



# Source Test Report

The Chemours Company, FC, LLC  
22828 Highway 87W  
Fayetteville, NC 28306

Sources Tested: VEN Carbon Bed  
Test Date: February 10, 2022

AST Project No. 2022-0930

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Prepared By  
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**SOURCE TESTING**  
[stacktest.com](http://stacktest.com)

**EMISSIONS MONITORING**  
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**ANALYTICAL SERVICES**  
[allianceanalyticalservices.com](http://allianceanalyticalservices.com)

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**Regulatory Information**

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*Permit No.* Title V Permit No. 03735T48

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**Source Information**

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<i>Source Name</i>	<i>Target Parameter</i>
VEN Carbon Bed (Inlet / Outlet)	HFPO-DA

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**Contact Information**

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<i>Test Location</i>	<i>Test Company</i>	<i>Analytical Laboratory</i>
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Alliance Source Testing, LLC (AST) has completed the source testing as described in this report. Results apply only to the source(s) tested and operating condition(s) for the specific test date(s) and time(s) identified within this report. All results are intended to be considered in their entirety, and AST is not responsible for use of less than the complete test report without written consent. This report shall not be reproduced in full or in part without written approval from the customer.

To the best of my knowledge and abilities, all information, facts and test data are correct. Data presented in this report has been checked for completeness and is accurate, error-free and legible. Onsite testing was conducted in accordance with approved internal Standard Operating Procedures. Any deviations or problems are detailed in the relevant sections on the test report.

This report is only considered valid once an authorized representative of AST has signed in the space provided below; any other version is considered draft. This document was prepared in portable document format (.pdf) and contains pages as identified in the bottom footer of this document.

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**Patrick Grady, QSTI**  
**Project Manager**  
**Alliance Source Testing, LLC**

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Date

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## Introduction

**1.0 Introduction**

Alliance Source Testing, LLC (AST) was retained by The Chemours Company (Chemours) to conduct compliance testing at the Fayetteville Works facility in Fayetteville, North Carolina. The facility operates under Title V Permit No. 03735T48. Source emissions testing was conducted at the inlet and outlet of the Vinyl Ethers North (VEN) carbon bed. The testing was conducted to evaluate emissions of hexafluoro-propylene oxide-dimer acid (HFPO-DA).

**1.1 Source and Control System Descriptions**

VEN is part of the fluoromonomer area at the Fayetteville facility. This area produces fluorocarbon compounds used to produce Chemours products, such as Nafion® Krytox® and Viton®. Indoor air fugitive emissions from VEN are vented to a carbon bed which is then vented to atmosphere through the Division Stack. Process emissions from VEN are directed to a thermal oxidizer.

**1.2 Project Team**

Personnel involved in this project are identified in the following table.

**Table 1-1  
Project Team**

<b>Chemours Personnel</b>	Christel Compton Eddie Vega
<b>AST Personnel</b>	Patrick Grady Antonio Anderson Kathleen DeMong Brian Goodhile Steve Milo Jeffrey Sheldon

## Summary of Results

**2.0 Summary of Results**

AST conducted compliance testing at the Fayetteville Works facility in Fayetteville, North Carolina on February 10, 2022. Testing consisted of determining the emission rates of HFPO-DA at the inlet and outlet of the VEN carbon bed. The VEN unit was running a campaign of PPVE during the test program.

Table 2-1 provides a summary of the emission testing results. Any difference between the summary results listed in the following tables and the detailed results contained in appendices is due to rounding for presentation.

**Table 2-1  
Summary of Results – VEN**

<b>Run Number</b>	<b>Run 1</b>	<b>Run 2</b>	<b>Run 3</b>	<b>Average</b>
<b>Date</b>	<b>2/10/22</b>	<b>2/10/22</b>	<b>2/10/22</b>	<b>--</b>
<b>HFPO-DA Data</b>				
Outlet Emission Rate, lb/hr	1.3E-03	6.3E-04	1.2E-03	1.1E-03
Inlet Emission Rate, lb/hr	3.6E-02	3.2E-02	3.1E-02	3.3E-02
Reduction Efficiency, %	96.3	98.0	96.0	96.8

## Testing Methodology

### 3.0 Testing Methodology

The emission testing program was conducted in accordance with the test methods listed in Table 3-1. Method descriptions are provided below while quality assurance/quality control data is provided in Appendix C.

**Table 3-1**  
**Source Testing Methodology**

Parameter	U.S. EPA Reference Test Methods	Notes/Remarks
Volumetric Flow Rate	1 & 2	Full Velocity Traverses
Moisture Content	4	Gravimetric Analysis
Hexafluoro-Propylene Oxide-Dimer Acid	Modified Method 0010	Isokinetic Sampling

#### 3.1 U.S. EPA Reference Test Methods 1 and 2 – Sampling/Traverse Points and Volumetric Flow Rate

The sampling location and number of traverse (sampling) points were selected in accordance with U.S. EPA Reference Test Method 1. To determine the minimum number of traverse points, the upstream and downstream distances were equated into equivalent diameters and compared to Figure 1-1 in U.S. EPA Reference Test Method 1.

Full velocity traverses were conducted in accordance with U.S. EPA Reference Test Method 2 to determine the average stack gas velocity pressure, static pressure and temperature. The velocity and static pressure measurement system consisted of a pitot tube and inclined manometer. The stack gas temperature was measured with a K-type thermocouple and pyrometer.

#### 3.2 U.S. EPA Reference Test Method 4 – Moisture Content

The stack gas moisture content was determined in accordance with U.S. EPA Reference Test Method 4. The gas conditioning train consisted of a series of chilled impingers. Prior to testing, each impinger was filled with a known quantity of water or silica gel. Each impinger was analyzed gravimetrically before and after each test run on the same balance to determine the amount of moisture condensed.

#### 3.3 Modified Method 0010 – Hexafluoro-Propylene Oxide-Dimer Acid

HFPO-DA emissions were evaluated in accordance with Modified Method 0010. Testing followed the submitted protocol in the execution of our onsite sampling and analysis activities. Modified Method 0010 procedure was followed as outlined in the protocol submitted to NC Division of Air Quality. Modified Method 0010 sampling and analysis procedures performed for this project are consistent with OTM-45, which was released by EPA in January 2021, subsequent to Chemours submittal of plans to DAQ.

The sample train consisted of a borosilicate glass nozzle attached directly to a heated borosilicate glass-lined probe. The probe was connected directly to a heated borosilicate glass filter holder containing a solvent-extracted glass fiber filter. In order to minimize possible thermal degradation of the HFPO-DA, the probe and particulate filter were heated to just above stack temperature to minimize water vapor condensation before the filter. The filter holder exit was connected to a water-cooled coil condenser followed by a water-cooled sorbent module containing approximately 40 grams of XAD-2 resin. The XAD-2 inlet temperature was monitored to ensure that the module is maintained at a temperature below 20°C.

The XAD-2 resin trap was followed by a condensate knockout impinger and a series of three impingers each containing 100-ml of high purity deionized water. The water impingers were followed by another condensate knockout impinger equipped with a second XAD-2 resin trap to account for any sample breakthrough. The final impinger contained approximately 250 grams of dry pre-weighed silica gel. The water impingers and condensate impingers were submerged in an ice bath through the duration of the testing. The water in the ice bath was also used to circulate around the coil condenser and the XAD-2 resin traps.

Exhaust gases were extracted from the sample locations isokinetically using a metering console equipped with a vacuum pump, a calibrated orifice, oil manometer and probe/filter heat controllers.

### **3.4 HFPO-DA Sample Train and Equipment Preparation**

Prior to conducting the field work the following procedures were conducted to prepare the field sampling glassware and sample recovery tools.

1. Wash all glassware, brushes, and ancillary tools with low residue soap and hot water.
2. Rinse all glassware, brushes, and ancillary tools three (3) times with D.I. H<sub>2</sub>O.
3. Bake glassware (with the exception of probe liners) at 450°C for approximately 2 hours, (XAD-2 resin tube glassware is cleaned by Eurofins/TestAmerica by this same procedure).
4. Solvent rinse three (3) times all glassware, brushes, and ancillary tools with the following sequence of solvents: acetone, methylene chloride, hexane, and methanol.
5. Clean glassware and tools will be sealed in plastic bags or aluminum foil for transport to the sampling site.
6. Squirt bottles will be new dedicated bottles of known history and dedicated to the D.I. Water and methanol/ammonium hydroxide (MeOH/ 5% NH<sub>4</sub>OH) solvent contents. Squirt bottles will be labelled with the solvent content it contains.

### **3.5 HFPO-DA Sample Train Recovery**

Following completion of each test run, the sample probe, nozzle and front-half of the filter holder were brushed and rinsed three times each with the MeOH/ 5% NH<sub>4</sub>OH solution (Container #1). The glass fiber filter was removed from its housing and transferred to a polyethylene bottle (Container #2). Any particulate matter and filter fibers which adhered to the filter holder and gasket were also placed in Container #2. The XAD-2 resin trap was sealed, labelled and placed in an iced sample cooler. The back-half of the filter holder, coil condenser condensate trap and connecting glassware were rinsed with the same MeOH/ 5% NH<sub>4</sub>OH solution and placed in Container #3.

The volume of water collected in all impingers was measured for moisture determinations and then placed in Container #4. All impingers and connecting glassware were then rinsed with the MeOH/ 5% NH<sub>4</sub>OH solution and placed in Container #5. The second (breakthrough) XAD-2 resin trap was sealed, labelled and placed in an iced sample cooler. The contents of the fifth impinger were placed in its original container and weighed for moisture determinations.

Containers were sealed and labeled with the appropriate sample information. Samples remained chilled until analysis. HFPO-DA analysis was conducted using liquid chromatography/dual mass spectrometry (LC/MS/MS).



## Appendix A

Location: Chemours Company - Fayetteville Works Facility, NC  
 Source: VEN Carbon Bed Outlet  
 Project No.: 2022-0930  
 Run No.: 1  
 Parameter: HFPO-DA

**Meter Pressure (Pm), in. Hg**

$$P_m = P_b + \frac{\Delta H}{13.6}$$

where,

$P_b \frac{30.10}{\text{in. Hg}}$  = barometric pressure, in. Hg  
 $\Delta H \frac{2.333}{\text{in. H}_2\text{O}}$  = pressure differential of orifice, in H<sub>2</sub>O  
 $P_m \frac{30.27}{\text{in. Hg}}$  = in. Hg

**Absolute Stack Gas Pressure (Ps), in. Hg**

$$P_s = P_b + \frac{P_g}{13.6}$$

where,

$P_b \frac{30.10}{\text{in. Hg}}$  = barometric pressure, in. Hg  
 $P_g \frac{2.80}{\text{in. H}_2\text{O}}$  = static pressure, in. H<sub>2</sub>O  
 $P_s \frac{30.31}{\text{in. Hg}}$  = in. Hg

**Standard Meter Volume (Vmstd), dscf**

$$V_{mstd} = \frac{17.636 \times Y \times V_m \times P_m}{T_m}$$

where,

$Y \frac{0.985}{\text{dimensionless}}$  = meter correction factor  
 $V_m \frac{79.674}{\text{cf}}$  = meter volume, cf  
 $P_m \frac{30.27}{\text{in. Hg}}$  = absolute meter pressure, in. Hg  
 $T_m \frac{515.4}{\text{°R}}$  = absolute meter temperature, °R  
 $V_{mstd} \frac{81.288}{\text{dscf}}$  = dscf

**Standard Wet Volume (Vwstd), scf**

$$V_{wstd} = 0.04716 \times V_{lc}$$

where,

$V_{lc} \frac{24.5}{\text{ml}}$  = volume of H<sub>2</sub>O collected, ml  
 $V_{wstd} \frac{1.155}{\text{scf}}$  = scf

**Moisture Fraction (BWSsat), dimensionless (theoretical at saturated conditions)**

$$BWS_{sat} = \frac{10^{6.37 - \left(\frac{2,827}{T_s + 365}\right)}}{P_s}$$

where,

$T_s \frac{77.2}{\text{°F}}$  = stack temperature, °F  
 $P_s \frac{30.31}{\text{in. Hg}}$  = absolute stack gas pressure, in. Hg  
 $BWS_{sat} \frac{0.031}{\text{dimensionless}}$  = dimensionless

**Moisture Fraction (BWS), dimensionless (measured)**

$$BWS = \frac{V_{wstd}}{(V_{wstd} + V_{mstd})}$$

where,

$V_{wstd} \frac{1.155}{\text{scf}}$  = standard wet volume, scf  
 $V_{mstd} \frac{81.288}{\text{dscf}}$  = standard meter volume, dscf  
 $BWS \frac{0.014}{\text{dimensionless}}$  = dimensionless

**Moisture Fraction (BWS), dimensionless**

$$BWS = BWS_{msd} \text{ unless } BWS_{sat} < BWS_{msd}$$

where,

$BWS_{sat} \frac{0.031}{\text{dimensionless}}$  = moisture fraction (theoretical at saturated conditions)  
 $BWS_{msd} \frac{0.014}{\text{dimensionless}}$  = moisture fraction (measured)  
 $BWS \frac{0.014}{\text{dimensionless}}$

**Location:** Chemours Company - Fayetteville Works Facility, NC  
**Source:** VEN Carbon Bed Outlet  
**Project No.:** 2022-0930  
**Run No.:** 1  
**Parameter:** HFPO-DA

**Molecular Weight (DRY) (Md), lb/lb-mole**

$$Md = (0.44 \times \% CO_2) + (0.32 \times \% O_2) + (0.28 (100 - \% CO_2 - \% O_2))$$

where,

$CO_2$	$\frac{0.1}{28.85}$	= carbon dioxide concentration, %
$O_2$	$\frac{20.9}{28.85}$	= oxygen concentration, %
$Md$	$\frac{28.85}{28.85}$	= lb/lb mol

**Molecular Weight (WET) (Ms), lb/lb-mole**

$$Ms = Md (1 - BWS) + 18.015 (BWS)$$

where,

$Md$	$\frac{28.85}{28.70}$	= molecular weight (DRY), lb/lb mol
$BWS$	$\frac{0.014}{28.70}$	= moisture fraction, dimensionless
$Ms$	$\frac{28.70}{28.70}$	= lb/lb mol

**Average Velocity (Vs), ft/sec**

$$Vs = 85.49 \times Cp \times (\Delta P^{1/2})_{avg} \times \sqrt{\frac{Ts}{Ps \times Ms}}$$

where,

$Cp$	$\frac{0.840}{0.727}$	= pitot tube coefficient
$\Delta P^{1/2}$	$\frac{0.727}{536.9}$	= velocity head of stack gas, (in. H <sub>2</sub> O) <sup>1/2</sup>
$Ts$	$\frac{536.9}{30.31}$	= absolute stack temperature, °R
$Ps$	$\frac{30.31}{28.70}$	= absolute stack gas pressure, in. Hg
$Ms$	$\frac{28.70}{41.0}$	= molecular weight of stack gas, lb/lb mol
$Vs$	$\frac{41.0}{41.0}$	= ft/sec

**Average Stack Gas Flow at Stack Conditions (Qa), acfm**

$$Qa = 60 \times Vs \times As$$

where,

$Vs$	$\frac{41.0}{17.407}$	= stack gas velocity, ft/sec
$As$	$\frac{7.07}{17.407}$	= cross-sectional area of stack, ft <sup>2</sup>
$Qa$	$\frac{17.407}{17.407}$	= acfm

**Average Stack Gas Flow at Standard Conditions (Qs), dscfm**

$$Qs = 17.636 \times Qa \times (1 - BWS) \times \frac{Ps}{Ts}$$

where,

$Qa$	$\frac{17.407}{17.087}$	= average stack gas flow at stack conditions, acfm
$BWS$	$\frac{0.014}{17.087}$	= moisture fraction, dimensionless
$Ps$	$\frac{30.31}{536.9}$	= absolute stack gas pressure, in. Hg
$Ts$	$\frac{536.9}{17.087}$	= absolute stack temperature, °R
$Qs$	$\frac{17.087}{17.087}$	= dscfm

**Dry Gas Meter Calibration Check (Yqa), dimensionless**

$$Yqa = \frac{Y - \left( \frac{\Theta}{Vm} \sqrt{\frac{0.0319 \times Tm \times 29}{\Delta H@ \times \left( Pb + \frac{\Delta H_{avg}}{13.6} \right) \times Md}} \sqrt{\Delta H_{avg}} \right)}{Y} \times 100$$

where,

$Y$	$\frac{0.985}{96}$	= meter correction factor, dimensionless
$\Theta$	$\frac{96}{79.674}$	= run time, min.
$Vm$	$\frac{79.674}{515.4}$	= total meter volume, dcf
$Tm$	$\frac{515.4}{1.827}$	= absolute meter temperature, °R
$\Delta H@$	$\frac{1.827}{30.10}$	= orifice meter calibration coefficient, in. H <sub>2</sub> O
$Pb$	$\frac{30.10}{2.333}$	= barometric pressure, in. Hg
$\Delta H_{avg}$	$\frac{2.333}{28.85}$	= average pressure differential of orifice, in H <sub>2</sub> O
$Md$	$\frac{28.85}{1.503}$	= molecular weight (DRY), lb/lb mol
$(\Delta H)^{1/2}$	$\frac{1.503}{-0.5}$	= average squareroot pressure differential of orifice, (in. H <sub>2</sub> O) <sup>1/2</sup>
$Yqa$	$\frac{-0.5}{-0.5}$	= dimensionless

**Location:** Chemours Company - Fayetteville Works Facility, NC  
**Source:** VEN Carbon Bed Outlet  
**Project No.:** 2022-0930  
**Run No.:** 1  
**Parameter:** HFPO-DA

Volume of Nozzle (Vn), ft<sup>3</sup>

$$V_n = \frac{T_s}{P_s} \left( 0.002669 \times V_{lc} + \frac{V_m \times P_m \times Y}{T_m} \right)$$

where,

Ts	536.9	= absolute stack temperature, °R
Ps	30.31	= absolute stack gas pressure, in. Hg
Vlc	24.5	= volume of H <sub>2</sub> O collected, ml
Vm	79.674	= meter volume, cf
Pm	30.27	= absolute meter pressure, in. Hg
Y	0.985	= meter correction factor, unitless
Tm	515.4	= absolute meter temperature, °R
Vn	82.812	= volume of nozzle, ft <sup>3</sup>

Isokinetic Sampling Rate (I), %

$$I = \left( \frac{V_n}{\theta \times 60 \times A_n \times V_s} \right) \times 100$$

where,

Vn	82.812	= nozzle volume, ft <sup>3</sup>
θ	96.0	= run time, minutes
An	0.00035	= area of nozzle, ft <sup>2</sup>
Vs	41.0	= average velocity, ft/sec
I	98.8	= %

HFPO-DA Concentration (C), ng/dscm

$$C = \frac{M \times 35.313}{V_{mstd}}$$

where,

M	47,684	= HFPO-DA mass, ng
Vmstd	81.288	= standard meter volume, dscf
C <sub>NH3</sub>	20715.66	= ng/dscm

HFPO-DA Emission Rate (ER), lb/hr

$$ER = \frac{M \times Q_s \times 60}{V_{mstd} \times 4.54E + 11}$$

where,

M	47,684	= HFPO-DA mass, ng
Qs	17,087	= average stack gas flow at standard conditions, dscfm
Vmstd	81.288	= standard meter volume, dscf
ER	1.33E-03	= lb/hr

## Appendix B

**Inlet**

**Location** Chemours Company - Fayetteville Works Facility, NC  
**Source** VEN Carbon Bed Inlet  
**Project No.** 2022-0930  
**Parameter** HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		2/10/22	2/10/22	2/10/22	--
Start Time		10:05	13:05	15:45	--
Stop Time		12:11	0:00	17:43	--
Run Time, min	( $\theta$ )	96.0	96.0	96.0	96.0
<b>INPUT DATA</b>					
Barometric Pressure, in. Hg	(Pb)	30.10	30.10	30.10	30.10
Meter Correction Factor	(Y)	0.990	0.990	0.990	0.990
Orifice Calibration Value	( $\Delta H @$ )	1.554	1.554	1.554	1.554
Meter Volume, ft <sup>3</sup>	(Vm)	83.363	78.899	79.202	80.488
Meter Temperature, °F	(Tm)	66.2	73.4	72.4	70.6
Meter Temperature, °R	(Tm)	525.8	533.0	532.0	530.3
Meter Orifice Pressure, in. WC	( $\Delta H$ )	2.200	1.933	1.950	2.028
Volume H <sub>2</sub> O Collected, mL	(Vlc)	25.2	32.1	33.2	30.2
Nozzle Diameter, in	(Dn)	0.256	0.256	0.256	0.256
Area of Nozzle, ft <sup>2</sup>	(An)	0.0004	0.0004	0.0004	0.0004
FH HFPO-DA Mass, ng	M <sub>(HFPODA)</sub>	330,000.0	317,000.0	233,000.0	293,333.3
BH HFPO-DA Mass, ng	M <sub>(HFPODA)</sub>	945,000.0	828,000.0	860,000.0	877,666.7
Imp HFPO-DA Mass, ng	M <sub>(HFPODA)</sub>	<u>72.5</u>	16.1	16.3	35.0
Breakthrough HFPO-DA Mass, ng	M <sub>(HFPODA)</sub>	1,750.0	3.93	6.62	586.85
Total HFPO-DA Mass, ng	M <sub>(HFPODA)</sub>	1,276,822.5	1,145,020.0	1,093,022.9	1,171,621.8
<b>ISOKINETIC DATA</b>					
Standard Meter Volume, ft <sup>3</sup>	(Vmstd)	83.763	78.155	78.606	80.174
Standard Water Volume, ft <sup>3</sup>	(Vwstd)	1.188	1.514	1.565	1.423
Moisture Fraction Measured	(BWSmsd)	0.014	0.019	0.020	0.018
Moisture Fraction @ Saturation	(BWSsat)	0.041	0.050	0.053	0.048
Moisture Fraction	(BWS)	0.014	0.019	0.020	0.018
Meter Pressure, in Hg	(Pm)	30.26	30.24	30.24	30.25
Volume at Nozzle, ft <sup>3</sup>	(Vn)	89.039	84.434	85.256	86.24
Isokinetic Sampling Rate, (%)	(I)	96.6	97.2	97.6	97.2
DGM Calibration Check Value, (+/- 5%)	(Y <sub>qa</sub> )	-2.8	-2.7	-2.6	-2.7
<b>EMISSION CALCULATIONS</b>					
HFPO-DA Concentration, ng/dscm	C <sub>(HFPODA)</sub>	5.4E+05	5.2E+05	4.9E+05	5.2E+05
HFPO-DA Emission Rate, lb/hr	ER <sub>(HFPODA)</sub>	3.6E-02	3.2E-02	3.1E-02	3.3E-02

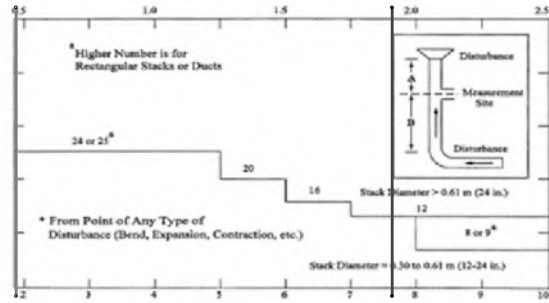
Underlined values are non-detected reported as the reporting limit.



Location Chemours Company - Fayetteville Works Facility, NC  
 Source VEN Carbon Bed Inlet  
 Project No. 2022-0930  
 Date: 02/10/22

**Stack Parameters**

Duct Orientation: Horizontal  
 Duct Design: Circular  
 Distance from Far Wall to Outside of Port: 51.13 in  
 Nipple Length: 15.13 in  
 Depth of Duct: 36.00 in  
 Cross Sectional Area of Duct: 7.07 ft<sup>2</sup>  
 No. of Test Ports: 2  
 Distance A: 5.7 ft  
 Distance A Duct Diameters: 1.9 (must be > 0.5)  
 Distance B: 5.7 ft  
 Distance B Duct Diameters: 1.9 (must be > 2)  
 Minimum Number of Traverse Points: 24  
 Actual Number of Traverse Points: 24  
 Number of Readings per Point: 1  
 Measurer (Initial and Date): PJG 2/10/22  
 Reviewer (Initial and Date): BAG 2/10/22



**CIRCULAR DUCT**

**LOCATION OF TRAVERSE POINTS**

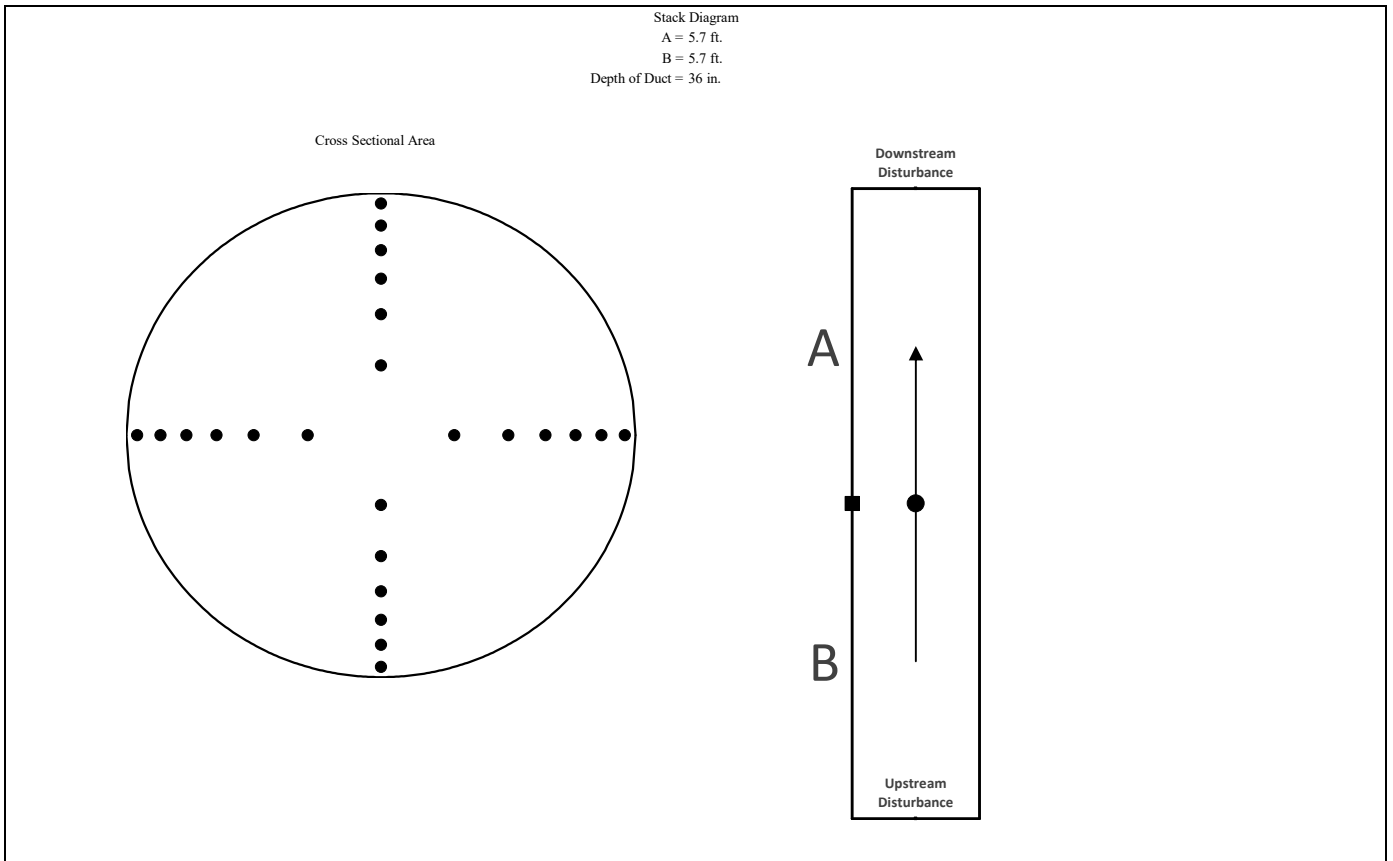
Number of traverse points on a diameter

	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--	--	--	89.5	--	77.4	--	64.4
8	--	--	--	--	--	--	96.8	--	85.4	--	75.0
9	--	--	--	--	--	--	--	--	91.8	--	82.3
10	--	--	--	--	--	--	--	--	97.4	--	88.2
11	--	--	--	--	--	--	--	--	--	--	93.3
12	--	--	--	--	--	--	--	--	--	--	97.9

Traverse Point	% of Diameter	Distance from inside wall	Distance from outside of port
1	2.1	1.00	16.13
2	6.7	2.41	17.54
3	11.8	4.25	19.37
4	17.7	6.37	21.50
5	25.0	9.00	24.13
6	35.6	12.82	27.94
7	44.4	16.13	31.13
8	51.1	19.00	33.63
9	56.7	21.50	35.63
10	61.7	23.63	37.13
11	66.3	25.37	38.13
12	70.6	26.75	38.75

\*Percent of stack diameter from inside wall to traverse point.

Stack Diagram  
 A = 5.7 ft.  
 B = 5.7 ft.  
 Depth of Duct = 36 in.



**Location** Chemours Company - Fayetteville Works Facility, NC  
**Source** VEN Carbon Bed Inlet  
**Project No.** 2022-0930  
**Parameter** HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		2/10/22	2/10/22	2/10/22	--
Start Time		10:05	13:05	15:45	--
Stop Time		12:11	0:00	17:43	--
Run Time, min		96.0	96.0	96.0	96.0
<b>VELOCITY HEAD, in. WC</b>					
Point 1		0.34	0.33	0.38	0.35
Point 2		0.50	0.43	0.41	0.45
Point 3		0.54	0.47	0.42	0.48
Point 4		0.54	0.48	0.43	0.48
Point 5		0.56	0.48	0.43	0.49
Point 6		0.61	0.48	0.45	0.51
Point 7		0.64	0.49	0.50	0.54
Point 8		0.68	0.51	0.51	0.57
Point 9		0.72	0.56	0.52	0.60
Point 10		0.72	0.59	0.54	0.62
Point 11		0.70	0.60	0.55	0.62
Point 12		0.70	0.62	0.54	0.62
Point 13		0.30	0.35	0.35	0.33
Point 14		0.54	0.44	0.46	0.48
Point 15		0.65	0.56	0.59	0.60
Point 16		0.70	0.62	0.64	0.65
Point 17		0.71	0.67	0.70	0.69
Point 18		0.68	0.68	0.71	0.69
Point 19		0.65	0.58	0.64	0.62
Point 20		0.63	0.56	0.62	0.60
Point 21		0.63	0.57	0.62	0.61
Point 22		0.63	0.56	0.63	0.61
Point 23		0.62	0.58	0.63	0.61
Point 24		0.62	0.57	0.63	0.61
<b>CALCULATED DATA</b>					
Square Root of $\Delta P$ , (in. WC) <sup>1/2</sup>	( $\Delta P$ )	0.777	0.727	0.730	0.744
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	30.10	30.10	30.10	30.10
Static Pressure, in. WC	(Pg)	-8.60	-8.60	-8.60	-8.60
Stack Pressure, in. Hg	(Ps)	29.47	29.47	29.47	29.47
Stack Cross-sectional Area, ft <sup>2</sup>	(As)	7.07	7.07	7.07	7.07
Temperature, °F	(Ts)	85.0	91.1	93.0	89.7
Temperature, °R	(Ts)	544.7	550.8	552.7	549.392
Moisture Fraction Measured	(BWSmsd)	0.014	0.019	0.020	0.018
Moisture Fraction @ Saturation	(BWSsat)	0.041	0.050	0.053	0.048
Moisture Fraction	(BWS)	0.014	0.019	0.020	0.018
O <sub>2</sub> Concentration, %	(O <sub>2</sub> )	20.9	20.9	20.9	20.9
CO <sub>2</sub> Concentration, %	(CO <sub>2</sub> )	0.1	0.1	0.1	0.1
Molecular Weight, lb/lb-mole (dry)	(Md)	28.85	28.85	28.85	28.85
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.70	28.65	28.64	28.66
Velocity, ft/sec	(Vs)	44.8	42.2	42.4	43.1
<b>VOLUMETRIC FLOW RATE</b>					
At Stack Conditions, acfm	(Qa)	18,983	17,888	17,986	18,285
At Standard Conditions, dscfm	(Qs)	17,857	16,557	16,582	16,999

**Location** Chemours Company - Fayetteville Works Facility, NC  
**Source** VEN Carbon Bed Inlet  
**Project No.** 2022-0930  
**Date** 02/10/22

Sample Point	Angle (AP=0)
1	8
2	10
3	10
4	12
5	15
6	12
7	15
8	15
9	10
10	12
11	10
12	8
13	8
14	5
15	8
16	10
17	10
18	12
19	12
20	8
21	8
22	5
23	5
24	5
<b>Average</b>	10

**Location** Chemours Company - Fayetteville Works Facility, NC  
**Source** VEN Carbon Bed Inlet  
**Project No.** 2022-0930  
**Parameter** HFPO-DA  
**Analysis** Gravimetric

Run 1	Date: 2/10/22								
Impinger No.	1	2	3	4	5	6	7	8	Total
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	303.6	478.0	756.8	782.7	758.7	490.9	316.7	833.4	4720.8
Final Mass, g	308.4	477.9	754.6	781.8	759.0	492.4	321.3	850.6	4746.0
Gain	4.8	-0.1	-2.2	-0.9	0.3	1.5	4.6	17.2	25.2
Run 2	Date: 2/10/22								
Impinger No.	1	2	3	4	5	6	7	8	Total
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	300.4	476.9	719.7	729.6	706.5	476.9	332.3	821.8	4564.1
Final Mass, g	311.2	476.9	715.1	729.6	706.7	478.6	342.8	835.3	4596.2
Gain	10.8	0.0	-4.6	0.0	0.2	1.7	10.5	13.5	32.1
Run 3	Date: 2/10/22								
Impinger No.	1	2	3	4	5	6	7	8	Total
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	316.2	478.3	753.3	783.9	760.2	491.4	312.5	850.5	4746.3
Final Mass, g	328.4	478.0	751.4	782.9	760.7	493.2	322.2	862.7	4779.5
Gain	12.2	-0.3	-1.9	-1.0	0.5	1.8	9.7	12.2	33.2



# Isokinetic Field Data

Location: Chemours Company - Fayetteville Works Facility, N		Start Time: 10:05		Source: VEN Carbon Bed Inlet	
Date: 2/10/22		End Time: 12:11		Project No.: 2022-0930	
Run 1		VALID		Parameter: HFPO-DA	
STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)	
Moisture: 2.5 % est.	Meter Box ID: MB 8	Y: 0.990	Est. Tm: 55 °F	Pb: 30.10 in. Hg	MOIST. DATA
Barometric: 30.40 in. Hg	Y: 0.990	Est. Ts: 82 °F	Est. ΔP: 0.62 in. WC	Pg: -8.60 in. WC	Vlc (ml)
Static Press: -6.80 in. WC	ΔH @ (in. WC): 1.554	Probe ID: TC 7D	Est. Dn: 0.242 in.	O <sub>2</sub> : 20.9 %	K-FACTOR
Stack Press: 29.90 in. Hg	Liner Material: glass	Pitot ID: P4-1	LEAK CHECK: Pre Mid 1 Mid 2 Mid 3 Post	CO <sub>2</sub> : 0.1 %	3.563
CO <sub>2</sub> : 0.1 %			Leak Rate (cfm): 0.009 0.007 0.008 -- 0.009	Check Pt. Initial Final	Corr.
O <sub>2</sub> : 20.9 %			Vacuum (in Hg): 8 10 10 -- 13	Mid 1 (cf) 5.464 5.580 0.116	
N <sub>2</sub> /CO: 79.0 %			Pitot Tube: Pass -- --	Mid 2 (cf) 5.580 5.836 0.256	
Md: 28.85 lb/lb-mole				Mid 3 (cf) --	
Ms: 28.58 lb/lb-mole				Mid-Point Leak Check Vol (cf): 0.372	

Sample Pt.	Sample Time (minutes)		Dry Gas Meter Reading (ft <sup>3</sup> )	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)			Vs (fps)		
	Begin	End			DGM Average	Stack	Amb.	Ideal		Actual	Probe	Filter		Imp Exit	Aux
A1	0:00	4:00	184.594	0.34	52	74	1.22	1.20	5	75	83	61	53	102.2	33.09
2	4:00	8:00	187.280	0.50	54	81	1.78	1.70	7	74	82	57	43	93.5	40.39
3	8:00	12:00	190.250	0.54	56	82	1.93	1.90	7	85	85	55	42	94.6	42.01
4	12:00	16:00	193.380	0.54	58	83	1.93	1.90	7	86	85	54	42	96.5	42.05
5	16:00	20:00	196.580	0.56	59	83	2.00	2.00	8	85	86	53	41	100.5	42.82
6	20:00	24:00	199.980	0.61	61	84	2.19	2.20	9	85	85	53	42	103.1	44.74
7	24:00	28:00	203.630	0.64	62	84	2.30	2.30	9	83	85	54	42	90.0	45.82
8	28:00	32:00	206.900	0.68	64	85	2.45	2.50	9	83	84	54	43	95.9	47.28
9	32:00	36:00	210.500	0.72	65	85	2.59	2.60	9	84	85	53	42	96.9	48.65
10	36:00	40:00	214.250	0.72	66	84	2.60	2.60	9	82	84	53	42	98.2	48.60
11	40:00	44:00	218.060	0.70	66	85	2.53	2.50	9	83	84	54	43	96.5	47.97
12	44:00	48:00	221.750	0.70	67	84	2.54	2.50	9	82	83	54	42	96.9	47.92
B1	48:00	52:00	225.836	0.30	67	80	1.10	1.10	5	80	84	57	43	102.2	31.26
2	52:00	56:00	228.420	0.54	68	87	1.95	2.00	7	81	86	51	41	99.7	42.21
3	56:00	60:00	231.780	0.65	69	87	2.35	2.40	9	84	82	47	39	96.5	46.31
4	60:00	64:00	235.350	0.70	70	88	2.53	2.50	9	82	84	48	39	99.7	48.10
5	64:00	68:00	239.180	0.71	71	88	2.57	2.60	9	84	83	49	39	93.4	48.44
6	68:00	72:00	242.800	0.68	72	88	2.47	2.50	9	83	82	50	41	100.0	47.41
7	72:00	76:00	246.600	0.65	73	88	2.37	2.40	9	84	82	50	42	96.7	46.35
8	76:00	80:00	250.200	0.63	73	88	2.29	2.30	9	84	82	50	45	100.9	45.63
9	80:00	84:00	253.900	0.63	73	88	2.29	2.30	9	84	82	50	50	98.2	45.63
10	84:00	88:00	257.500	0.63	74	89	2.29	2.30	9	84	82	51	51	100.8	45.67
11	88:00	92:00	261.200	0.62	74	88	2.26	2.25	9	84	82	51	43	104.3	45.27
12	92:00	96:00	265.000	0.62	74	88	2.26	2.25	9	84	82	51	43	91.3	45.27
<b>Final DGM:</b>			268.329												

RESULTS		Run Time	V <sub>m</sub>	ΔP	T <sub>m</sub>	T <sub>s</sub>	Max Vac	ΔH	%ISO	BWS	Y <sub>qa</sub>	
96.0	min	83.363	ft <sup>3</sup>	0.61	°F	66.2	°F	2.200	in. WC	96.6	0.014	-2.8



# Isokinetic Field Data

Location: Chemours Company - Fayetteville Works Facility, N		Start Time: 13:05		Source: VEN Carbon Bed Inlet		Parameter: HFPO-DA									
Date: 2/10/22		Run 2		VAL ID		Project No.: 2022-0930									
<b>STACK DATA (EST)</b> Moisture: 2.5 % est. Barometric: 30.40 in. Hg Static Press: -6.80 in. WC Stack Press: 29.90 in. Hg CO <sub>2</sub> : 0.1 % O <sub>2</sub> : 20.9 % N <sub>2</sub> /CO: 79.0 % Md: 28.85 lb/lb-mole Ms: 28.58 lb/lb-mole		<b>EQUIPMENT</b> Meter Box ID: MB 8 Y: 0.990 ΔH @ (in. WC): 1.554 Probe ID: TC 7D Liner Material: glass Pitot ID: P4-1 Pitot Cp/Type: 0.840 Nozzle ID: G-1 Nozzle Dn (in.): 0.256		<b>STACK DATA (EST)</b> Est. Tm: 66 °F Est. Ts: 85 °F Est. ΔP: 0.61 in. WC Est. Dn: 0.241 in. Target Rate: 0.78 scfm LEAK CHECK: Pre Mid 1 Mid 2 Mid 3 Post Leak Rate (cfm): 0.007 0.005 0.005 0.005 Vacuum (in Hg): 10 9 10 10 Pitot Tube: Pass -- -- Pass		<b>FILTER NO.</b> Pb: 30.10 in. Hg Pg: -8.60 in. WC O <sub>2</sub> : 20.9 % CO <sub>2</sub> : 0.1 %		<b>STACK DATA (FINAL)</b> Vlc (ml) 32.1 K-FACTOR 3.62 Check Pt. Initial Final Mid 1 (cf) 7.360 7.474 0.114 Mid 2 (cf) 7.474 7.862 0.388 Mid 3 (cf) 10 -- -- Mid-Point Leak Check Vol (cf): 0.502							
Sample Pt	Sample Time (minutes)		Dry Gas Meter Reading (ft <sup>3</sup> )	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)	Pump Vac (in. Hg)	Gas Temperatures (°F)			Vs (fps)			
	Begin	End			DGM Average	Stack			Probe	Filter	Imp Exit		Aux	Amb.	Amb.
A1	0.00	4.00	268.798	0.33	--	86	1.20	5	--	85	85	62	51	100.0	32.96
2	4.00	8.00	271.450	0.43	--	89	1.56	6	--	86	85	56	46	100.2	37.73
3	8.00	12.00	274.470	0.47	--	91	1.70	7	--	85	85	57	44	98.7	39.52
4	12.00	16.00	277.580	0.48	--	91	1.74	7	--	85	84	56	44	100.9	39.94
5	16.00	20.00	280.800	0.48	--	91	1.74	7	--	85	84	55	44	100.1	39.94
6	20.00	24.00	284.000	0.48	--	91	1.74	7	--	85	84	55	44	103.2	39.94
7	24.00	28.00	287.300	0.49	--	91	1.78	7	--	85	84	55	45	92.7	40.35
8	28.00	32.00	290.300	0.51	--	91	1.85	7	--	85	85	55	47	100.0	41.17
9	32.00	36.00	293.600	0.56	--	91	2.03	7	--	85	85	55	44	96.3	43.14
10	36.00	40.00	296.930	0.59	--	92	2.14	8	--	84	85	57	45	98.8	44.32
11	40.00	44.00	300.430	0.60	--	91	2.18	8	--	85	85	56	46	95.1	44.65
12	44.00	48.00	303.830	0.62	--	91	2.25	8	--	86	86	56	46	96.9	45.39
B1	48.00	52.00	307.862	0.35	--	87	1.27	6	--	80	91	58	49	98.0	33.98
2	52.00	56.00	310.540	0.44	--	91	1.59	6	--	81	88	54	50	99.4	38.24
3	56.00	60.00	313.570	0.56	--	92	2.02	7	--	84	85	54	48	98.5	43.18
4	60.00	64.00	316.960	0.62	--	93	2.24	8	--	84	85	55	47	96.9	45.47
5	64.00	68.00	320.470	0.67	--	93	2.42	8	--	85	85	55	47	95.7	47.27
6	68.00	72.00	324.080	0.68	--	93	2.46	9	--	86	87	55	48	98.6	47.62
7	72.00	76.00	327.830	0.58	--	92	2.11	8	--	87	86	55	50	102.0	43.94
8	76.00	80.00	331.420	0.56	--	92	2.03	7	--	87	87	56	50	100.0	43.18
9	80.00	84.00	334.880	0.57	--	92	2.07	8	--	87	85	55	49	90.8	43.56
10	84.00	88.00	338.050	0.56	--	92	2.04	8	--	88	85	55	49	96.1	43.18
11	88.00	92.00	341.380	0.58	--	92	2.11	7	--	88	85	55	48	100.0	43.94
12	92.00	96.00	344.900	0.57	--	92	2.07	7	--	88	85	55	48	94.5	43.56
<b>Final DGM:</b>			348.199												
Run Time		V <sub>m</sub>	ΔP	T <sub>m</sub>	T <sub>s</sub>	Max Vac	ΔH	%ISO	BWS	Y <sub>qa</sub>					
96.0 min	78.899 ft <sup>3</sup>	0.53 in. WC	73.4 °F	91.1 °F	9	1.933 in. WC	97.2	0.019	-2.7						
<b>RESULTS</b>															

Location: Chemours Company - Fayetteville Works Facility, N		Start Time: 15:45		Source: VEN Carbon Bed Inlet	
Date: 2/10/22		End Time: 17:43		Project No.: 2022-0930	
Run 3		VAL ID		Parameter: HFPO-DA	
STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)	
Moisture: 2.5 % est.	Meter Box ID: MB 8	Est. Tm: 73 °F	Est. Ts: 91 °F	Pb: 30.10 in. Hg	MOIST. DATA
Barometric: 30.40 in. Hg	Y: 0.990	Est. ΔP: 0.53 in. WC	Est. Dn: 0.248 in.	Pg: -8.60 in. WC	Vlc (ml)
Static Press: -6.80 in. WC	ΔH @ (in. WC): 1.554	Target Rate: 0.78 scfm	LEAK CHECK: Pre Mid 1 Mid 2 Mid 3 Post	O <sub>2</sub> : 20.9 %	K-FACTOR
Stack Press: 29.90 in. Hg	Probe ID: TC 7D		Leak Rate (cfm): 0.000 0.000 0.000 0.000	CO <sub>2</sub> : 0.1 %	3.629
CO <sub>2</sub> : 0.1 %	Liner Material: glass		Vacuum (in Hg): 10 10 10	Check Pt. Initial Final	Corr.
O <sub>2</sub> : 20.9 %	Pitot ID: P4-1		Pitot Tube: Pass	Mid 1 (cf) 5.820 5.961	0.141
N <sub>2</sub> /CO: 79.0 %	Pitot Cp/Type: 0.840 S-type			Mid 2 (cf) 5.961 6.069	0.108
Md: 28.85 lb/lb-mole	Nozzle ID: G-1 glass			Mid 3 (cf)	--
Ms: 28.58 lb/lb-mole	Nozzle Dn (in.): 0.256			Mid-Point Leak Check Vol (cf):	0.249

Sample Pt.	Sample Time (minutes)		Dry Gas Meter Reading (ft <sup>3</sup> )	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)			Vs (fps)		
	Begin	End			DGM Average	Stack	Ideal	Actual		Probe	Filter	Imp Exit		Aux	% ISO
A1	0:00	4:00	348.467	0.38	70	95	1.36	1.40	6	85	85	63	45	101.5	35.66
2	4:00	8:00	351.330	0.41	71	94	1.47	1.50	6	89	87	58	41	99.8	37.01
3	8:00	12:00	354.260	0.42	71	94	1.51	1.50	6	91	86	52	41	99.6	37.46
4	12:00	16:00	357.220	0.43	72	92	1.55	1.60	7	90	86	50	42	99.1	37.84
5	16:00	20:00	360.210	0.43	73	93	1.55	1.60	7	90	85	49	42	100.0	37.87
6	20:00	24:00	363.230	0.45	73	93	1.63	1.60	7	90	85	49	41	98.7	38.74
7	24:00	28:00	366.280	0.50	73	94	1.80	1.80	7	89	85	49	42	97.5	40.87
8	28:00	32:00	369.450	0.51	74	95	1.84	1.80	7	89	85	49	43	97.0	41.32
9	32:00	36:00	372.640	0.52	74	95	1.87	1.90	7	88	85	49	43	97.0	41.72
10	36:00	40:00	375.860	0.54	74	93	1.95	2.00	8	88	85	48	42	97.1	42.44
11	40:00	44:00	379.150	0.55	75	93	1.99	2.00	8	89	85	48	42	96.6	42.83
12	44:00	48:00	382.460	0.54	75	93	1.96	2.00	8	89	85	47	41	99.0	42.44
B1	48:00	52:00	386.069	0.35	70	89	1.27	1.30	6	80	88	53	53	100.3	34.04
2	52:00	56:00	388.800	0.46	71	90	1.66	1.70	7	80	89	49	55	101.0	39.06
3	56:00	60:00	391.950	0.59	71	92	2.13	2.10	8	83	88	49	57	96.2	44.32
4	60:00	64:00	395.340	0.64	72	93	2.30	2.30	9	93	85	50	56	95.3	46.20
5	64:00	68:00	398.840	0.70	72	93	2.52	2.50	9	93	84	50	40	98.2	48.32
6	68:00	72:00	402.610	0.71	72	93	2.55	2.60	9	95	87	50	39	99.1	48.66
7	72:00	76:00	406.440	0.64	72	93	2.30	2.30	9	93	87	50	39	99.4	46.20
8	76:00	80:00	410.090	0.62	72	93	2.23	2.20	9	90	86	50	39	99.3	45.47
9	80:00	84:00	413.680	0.62	72	93	2.23	2.20	9	90	86	49	39	96.3	45.47
10	84:00	88:00	417.160	0.63	72	93	2.27	2.30	9	88	86	49	39	99.6	45.84
11	88:00	92:00	420.790	0.63	73	93	2.27	2.30	9	90	86	48	39	97.0	45.84
12	92:00	96:00	424.330	0.63	73	93	2.27	2.30	9	90	86	48	39	98.3	45.84
<b>Final DGM:</b>			427.918												

RESULTS		Run Time	V <sub>m</sub>	ΔP	T <sub>m</sub>	T <sub>s</sub>	Max Vac	ΔH	%ISO	BWS	Y <sub>qa</sub>				
96.0	min	79.202	ft <sup>3</sup>	0.54	°F	72.4	°F	93.0	°F	9	1.950	in. WC	97.6	0.020	-2.6



Outlet

**Location** Chemours Company - Fayetteville Works Facility, NC  
**Source** VEN Carbon Bed Outlet  
**Project No.** 2022-0930  
**Parameter** HFPO-DA

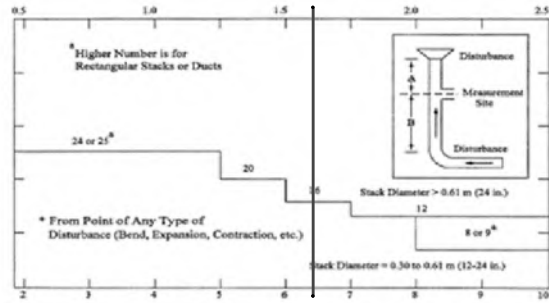
Run Number		Run 1	Run 2	Run 3	Average
Date		2/10/22	2/10/22	2/10/22	--
Start Time		10:05	13:05	15:45	--
Stop Time		12:11	15:10	17:43	--
Run Time, min	( $\theta$ )	96.0	96.0	96.0	96.0
<b>INPUT DATA</b>					
Barometric Pressure, in. Hg	(Pb)	30.10	30.10	30.10	30.10
Meter Correction Factor	(Y)	0.985	0.985	0.985	0.985
Orifice Calibration Value	( $\Delta H @$ )	1.827	1.827	1.827	1.827
Meter Volume, ft <sup>3</sup>	(Vm)	79.674	85.422	84.868	83.321
Meter Temperature, °F	(Tm)	55.8	66.2	67.8	63.3
Meter Temperature, °R	(Tm)	515.4	525.9	527.5	522.9
Meter Orifice Pressure, in. WC	( $\Delta H$ )	2.333	2.608	2.581	2.508
Volume H <sub>2</sub> O Collected, mL	(Vlc)	24.5	-2,566.4	34.4	-835.8
Nozzle Diameter, in	(Dn)	0.255	0.255	0.255	0.255
Area of Nozzle, ft <sup>2</sup>	(An)	0.0004	0.0004	0.0004	0.0004
FH HFPO-DA Mass, ng	M <sub>(HFPODA)</sub>	9,810.0	13,100.0	9,450.0	10,786.7
BH HFPO-DA Mass, ng	M <sub>(HFPODA)</sub>	22,500.0	9,950.0	35,000.0	22,483.3
Imp HFPO-DA Mass, ng	M <sub>(HFPODA)</sub>	<u>73.7</u>	<u>72.5</u>	<u>75.0</u>	73.7
Breakthrough HFPO-DA Mass, ng	M <sub>(HFPODA)</sub>	15,300.0	5.40	64.3	5,123.23
Total HFPO-DA Mass, ng	M <sub>(HFPODA)</sub>	47,683.7	23,127.9	44,589.3	38,467.0
<b>ISOKINETIC DATA</b>					
Standard Meter Volume, ft <sup>3</sup>	(Vmstd)	81.288	85.476	84.655	83.806
Standard Water Volume, ft <sup>3</sup>	(Vwstd)	1.155	-121.031	1.622	-39.418
Moisture Fraction Measured	(BWSmsd)	0.014	3.404	0.019	1.146
Moisture Fraction @ Saturation	(BWSsat)	0.031	0.039	0.042	0.037
Moisture Fraction	(BWS)	0.014	0.039	0.019	0.024
Meter Pressure, in Hg	(Pm)	30.27	30.29	30.29	30.28
Volume at Nozzle, ft <sup>3</sup>	(Vn)	82.812	-35.977	88.195	45.01
Isokinetic Sampling Rate, (%)	(I)	98.8	101.0	99.4	99.7
DGM Calibration Check Value, (+/- 5%)	(Y <sub>qa</sub> )	-0.5	-0.4	-0.5	-0.5
<b>EMISSION CALCULATIONS</b>					
HFPO-DA Concentration, ng/dscm	C <sub>(HFPODA)</sub>	2.1E+04	9.6E+03	1.9E+04	1.6E+04
HFPO-DA Emission Rate, lb/hr	ER <sub>(HFPODA)</sub>	1.3E-03	6.3E-04	1.2E-03	1.1E-03
<b>REDUCTION CALCULATIONS</b>					
Inlet HFPO-DA Emission Rate, lb/hr	ER <sub>(HFPODA)</sub>	3.6E-02	3.2E-02	3.1E-02	3.3E-02
HFPO-DA Reduction Efficiency, %	ER <sub>(HFPODA)</sub>	96.3	98.0	96.0	96.8

Underlined values are non-detected reported as the reporting limit.

Location Chemours Company - Fayetteville Works Facility, NC  
 Source VEN Carbon Bed Outlet  
 Project No. 2022-0930  
 Date: 02/10/22

**Stack Parameters**

Duct Orientation: Horizontal  
 Duct Design: Circular  
 Distance from Far Wall to Outside of Port: 51.13 in  
 Nipple Length: 15.13 in  
 Depth of Duct: 36.00 in  
 Cross Sectional Area of Duct: 7.07 ft<sup>2</sup>  
 No. of Test Ports: 2  
 Distance A: 4.8 ft  
 Distance A Duct Diameters: 1.6 (must be > 0.5)  
 Distance B: 4.8 ft  
 Distance B Duct Diameters: 1.6 (must be > 2)  
 Minimum Number of Traverse Points: 24  
 Actual Number of Traverse Points: 24  
 Number of Readings per Point: 1  
 Measurer (Initial and Date): AA 2/10/22  
 Reviewer (Initial and Date): PJG 2/10/22



**CIRCULAR DUCT**

**LOCATION OF TRAVERSE POINTS**

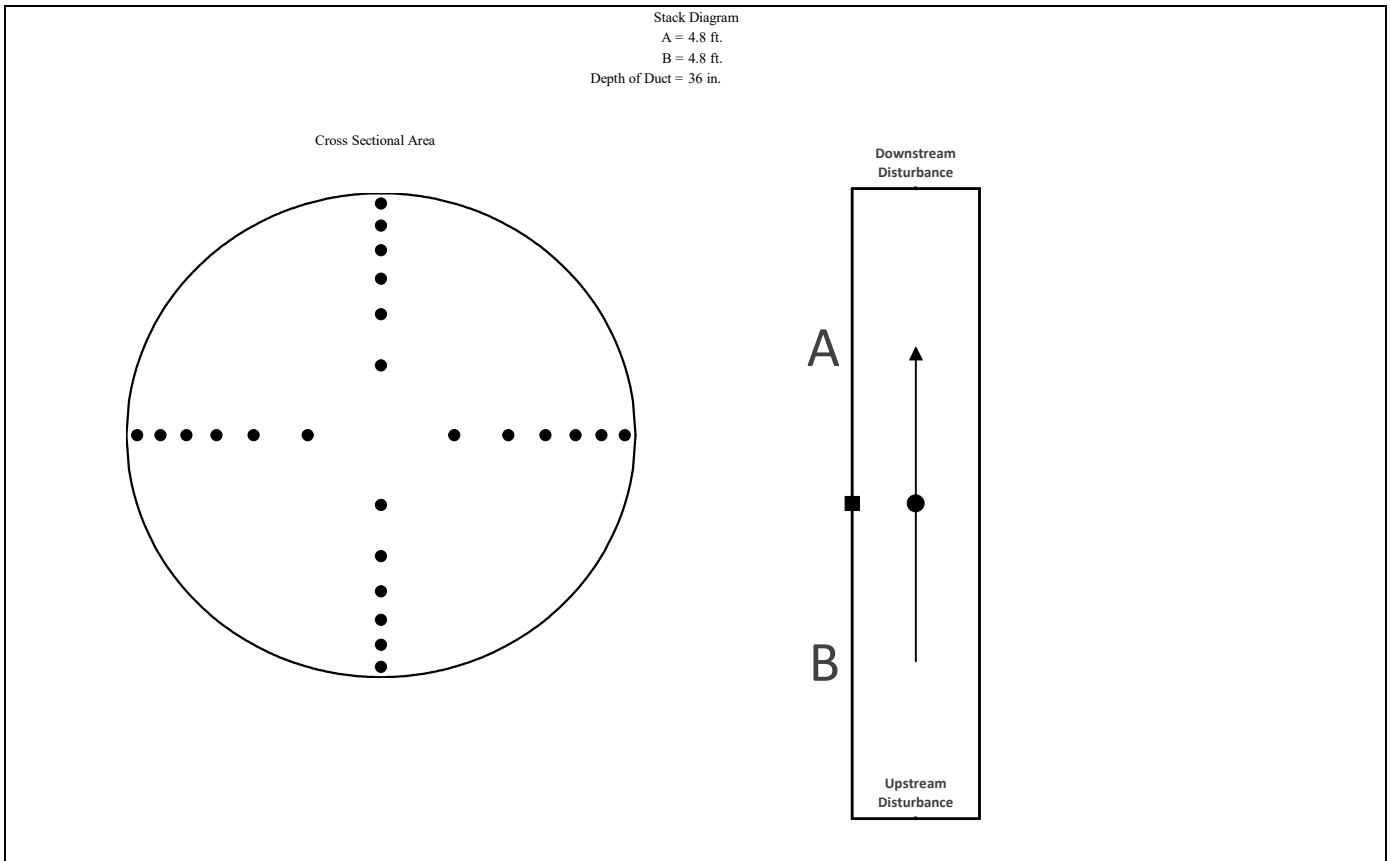
Number of traverse points on a diameter

	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--	--	--	89.5	--	77.4	--	64.4
8	--	--	--	--	--	--	96.8	--	85.4	--	75.0
9	--	--	--	--	--	--	--	--	91.8	--	82.3
10	--	--	--	--	--	--	--	--	97.4	--	88.2
11	--	--	--	--	--	--	--	--	--	--	93.3
12	--	--	--	--	--	--	--	--	--	--	97.9

Traverse Point	% of Diameter	Distance from inside wall	Distance from outside of port
1	2.1	1.00	16.13
2	6.7	2.41	17.54
3	11.8	4.25	19.37
4	17.7	6.37	21.50
5	25.0	9.00	24.13
6	35.6	12.82	27.94
7	44.4	16.13	31.13
8	51.1	18.94	33.64
9	56.7	21.25	35.67
10	61.7	23.13	37.27
11	66.3	24.64	38.54
12	70.6	25.87	39.57

\*Percent of stack diameter from inside wall to traverse point.

Stack Diagram  
 A = 4.8 ft.  
 B = 4.8 ft.  
 Depth of Duct = 36 in.



**Location** Chemours Company - Fayetteville Works Facility, NC  
**Source** VEN Carbon Bed Outlet  
**Project No.** 2022-0930  
**Parameter** HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		2/10/22	2/10/22	2/10/22	--
Start Time		10:05	13:05	15:45	--
Stop Time		12:11	15:10	17:43	--
Run Time, min		96.0	96.0	96.0	96.0
<b>VELOCITY HEAD, in. WC</b>					
Point 1		0.54	0.38	0.33	0.42
Point 2		0.56	0.40	0.34	0.43
Point 3		0.54	0.37	0.36	0.42
Point 4		0.55	0.37	0.39	0.44
Point 5		0.56	0.41	0.41	0.46
Point 6		0.45	0.47	0.44	0.45
Point 7		0.38	0.60	0.47	0.48
Point 8		0.35	0.62	0.63	0.53
Point 9		0.30	0.62	0.62	0.51
Point 10		0.27	0.61	0.61	0.50
Point 11		0.32	0.59	0.60	0.50
Point 12		0.30	0.60	0.62	0.51
Point 13		0.65	0.87	0.72	0.75
Point 14		0.65	0.86	1.00	0.84
Point 15		0.64	1.00	1.05	0.90
Point 16		0.96	1.00	1.00	0.99
Point 17		0.98	0.94	0.94	0.95
Point 18		0.93	0.84	0.84	0.87
Point 19		0.83	0.61	0.59	0.68
Point 20		0.59	0.52	0.54	0.55
Point 21		0.50	0.50	0.50	0.50
Point 22		0.45	0.49	0.48	0.47
Point 23		0.42	0.46	0.46	0.45
Point 24		0.41	0.45	0.45	0.44
<b>CALCULATED DATA</b>					
Square Root of $\Delta P$ , (in. WC) <sup>1/2</sup>	( $\Delta P$ )	0.727	0.770	0.763	0.753
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	30.10	30.10	30.10	30.10
Static Pressure, in. WC	(Pg)	2.80	2.80	2.80	2.80
Stack Pressure, in. Hg	(Ps)	30.31	30.31	30.31	30.31
Stack Cross-sectional Area, ft <sup>2</sup>	(As)	7.07	7.07	7.07	7.07
Temperature, °F	(Ts)	77.2	84.7	86.7	82.9
Temperature, °R	(Ts)	536.9	544.3	546.4	542.531
Moisture Fraction Measured	(BWSmsd)	0.014	3.404	0.019	1.146
Moisture Fraction @ Saturation	(BWSsat)	0.031	0.039	0.042	0.037
Moisture Fraction	(BWS)	0.014	0.039	0.019	0.024
O <sub>2</sub> Concentration, %	(O <sub>2</sub> )	20.9	20.9	20.9	20.9
CO <sub>2</sub> Concentration, %	(CO <sub>2</sub> )	0.1	0.1	0.1	0.1
Molecular Weight, lb/lb-mole (dry)	(Md)	28.85	28.85	28.85	28.85
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.70	28.43	28.65	28.59
Velocity, ft/sec	(Vs)	41.0	43.9	43.5	42.8
<b>VOLUMETRIC FLOW RATE</b>					
At Stack Conditions, acfm	(Qa)	17,407	18,630	18,429	18,156
At Standard Conditions, dscfm	(Qs)	17,087	17,574	17,689	17,450

**Location** Chemours Company - Fayetteville Works Facility, NC  
**Source** VEN Carbon Bed Outlet  
**Project No.** 2022-0930  
**Date** 02/10/22

Sample Point	Angle (AP=0)
1	12
2	10
3	18
4	15
5	12
6	10
7	10
8	8
9	12
10	10
11	10
12	8
13	10
14	15
15	15
16	12
17	12
18	15
19	10
20	8
21	8
22	5
23	5
24	5
<b>Average</b>	11

Location Chemours Company - Fayetteville Works Facility, NC

Source VEN Carbon Bed Outlet

Project No. 2022-0930

Parameter HFPO-DA

Analysis Gravimetric

Run 1	Date: 2/10/22							
Impinger No.	1	2	3	4	6	7	8	Total
Contents	XAD Trap	Empty	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	311.0	483.9	650.6	764.4	721.8	446.1	848.6	4226.4
Final Mass, g	322.0	483.9	648.4	762.8	722.2	448.1	863.5	4250.9
Gain	11.0	0.0	-2.2	-1.6	0.4	2.0	14.9	24.5
Run 2	Date: 2/10/22							
Impinger No.	1	2	3	4	6	7	8	Total
Contents	XAD Trap	Empty	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	2889.2	511.8	744.5	783.1	466.6	307.7	823.6	6526.5
Final Mass, g	299.5	511.7	743.8	782.9	469.1	312.3	840.8	3960.1
Gain	-2589.7	-0.1	-0.7	-0.2	2.5	4.6	17.2	-2566.4
Run 3	Date: 2/10/22							
Impinger No.	1	2	3	4	6	7	8	Total
Contents	XAD Trap	Empty	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	302.0	484.6	657.1	762.2	447.1	326.9	863.4	3843.3
Final Mass, g	313.5	484.3	655.6	760.8	449.8	335.3	878.4	3877.7
Gain	11.5	-0.3	-1.5	-1.4	2.7	8.4	15.0	34.4



# Isokinetic Field Data

Location: Chemours Company - Fayetteville Works Facility, N		Start Time: 10:05		Source: VEN Carbon Bed Outlet	
Date: 2/10/22		End Time: 12:11		Project No.: 2022-0930	
Run 1		VALID		Parameter: HFPO-DA	
<b>STACK DATA (EST)</b>		<b>EQUIPMENT</b>		<b>STACK DATA (FINAL)</b>	
Moisture: 2.5 % est.		Meter Box ID: MB-7		Pb: 30.10 in. Hg	
Barometric: 30.40 in. Hg		Y: 0.985		Pg: 2.80 in. WC	
Static Press: 2.80 in. WC		ΔH @ (in. WC): 1.827		O <sub>2</sub> : 20.9 %	
Stack Press: 30.61 in. Hg		Probe ID: TC 5D		CO <sub>2</sub> : 0.1 %	
CO <sub>2</sub> : 0.1 %		Liner Material: glass		Check Pt. Initial Final	
O <sub>2</sub> : 20.9 %		Pitot ID: P4-2		Mid 1 (cf) 5.600	
N <sub>2</sub> /CO: 79.0 %		Pitot Cp/Type: 0.840 S-type		Mid 2 (cf) 0.000	
Md: 28.85 lb/lb-mole		Nozzle ID: G-2		Mid 3 (cf) 9	
Ms: 28.58 lb/lb-mole		Nozzle Dn (in.): 0.255		Mid-Point Leak Check Vol (cf): 0.180	
		Pitot Tube: Pass		Pass	

Sample Pt	Sample Time (minutes)		Dry Gas Meter Reading (ft <sup>3</sup> )	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)			Vs (fps)		
	Begin	End			DGM Average	Stack	Ideal	Actual		Probe	Filter	Imp Exit		Aux	% ISO
A1	0:00	4:00	780.057	0.54	40	44	2.26	2.30	2	40	40	40	34	98.5	41.22
2	4:00	8:00	783.290	0.56	48	74	2.36	2.40	2	85	85	85	32	99.8	41.97
3	8:00	12:00	786.650	0.54	52	75	2.29	2.30	2	85	85	85	32	103.6	41.26
4	12:00	16:00	790.100	0.55	53	75	2.34	2.30	2	85	85	85	32	99.5	41.64
5	16:00	20:00	793.450	0.56	55	76	2.39	2.40	3	85	86	86	32	98.0	42.05
6	20:00	24:00	796.790	0.45	55	76	1.92	1.90	1	85	84	84	33	101.7	37.70
7	24:00	28:00	799.900	0.38	56	76	1.62	1.60	1	85	86	86	33	102.4	34.64
8	28:00	32:00	802.785	0.35	56	76	1.50	1.50	1	85	84	84	33	101.5	33.25
9	32:00	36:00	805.530	0.30	56	75	1.29	1.30	1	85	86	86	33	102.3	30.75
10	36:00	40:00	808.096	0.27	56	74	1.16	1.20	1	85	85	85	33	100.9	29.15
11	40:00	44:00	810.500	0.32	56	76	1.37	1.40	1	85	84	84	32	99.7	31.79
12	44:00	48:00	813.080	0.30	56	76	1.28	1.30	1	85	85	85	32	100.6	30.78
B1	48:00	52:00	815.600	0.65	51	78	2.73	2.70	2	85	85	85	35	98.0	45.39
2	52:00	56:00	819.160	0.65	53	78	2.75	2.80	3	85	85	85	31	99.6	45.39
3	56:00	60:00	822.790	0.64	54	78	2.71	2.70	3	85	84	84	34	101.2	45.04
4	60:00	64:00	826.460	0.96	55	79	4.05	4.10	6	85	85	85	35	98.4	55.21
5	64:00	68:00	830.820	0.98	57	79	4.15	4.20	7	85	85	85	36	99.5	55.79
6	68:00	72:00	835.290	0.93	58	79	3.95	4.00	7	85	85	85	36	100.5	54.34
7	72:00	76:00	839.700	0.83	58	79	3.53	3.50	6	85	86	86	37	100.7	51.34
8	76:00	80:00	843.880	0.59	60	79	2.52	2.50	4	85	86	86	37	100.3	43.29
9	80:00	84:00	847.410	0.50	61	80	2.14	2.10	3	85	86	86	37	101.9	39.88
10	84:00	88:00	850.720	0.45	62	80	1.93	1.90	2	85	85	85	36	102.0	37.84
11	88:00	92:00	853.870	0.42	63	80	1.81	1.80	1	85	85	85	36	102.7	36.55
12	92:00	96:00	856.940	0.41	63	81	1.76	1.80	1	85	85	85	37	100.7	36.15
<b>Final DGM:</b>			859.911												

RESULTS		Run Time	V <sub>m</sub>	ΔP	T <sub>m</sub>	T <sub>s</sub>	Max Vac	ΔH	%ISO	BWS	Y <sub>qa</sub>		
96.0	min	79.674	ft <sup>3</sup>	0.55	°F	77.2	°F	7	2.333	in. WC	98.8	0.014	-0.5





# Isokinetic Field Data

Location: Chemours Company - Fayetteville Works Facility, N		Start Time: 13:05		Source: VEN Carbon Bed Outlet		Parameter: HFPO-DA	
Date: 2/10/22		Run 2		VAL ID		Project No.: 2022-0930	
STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)		FILTRERNO.	
Moisture: 2.5 % est.		Meter Box ID: MB-7		Est. Tm: 56 °F		Pb: 30.10 in. Hg	
Barometric: 30.40 in. Hg		Y: 0.985		Est. Ts: 77 °F		Pg: 2.80 in. WC	
Static Press: 2.80 in. WC		ΔH @ (in. WC): 1.827		Est. ΔP: 0.55 in. WC		O <sub>2</sub> : 20.9 %	
Stack Press: 30.61 in. Hg		Probe ID: TC 5D		Est. Dn: 0.247 in.		CO <sub>2</sub> : 0.1 %	
CO <sub>2</sub> : 0.1 %		Liner Material: glass		Target Rate: 0.78 scfm		Check Pt. Initial Final	
O <sub>2</sub> : 20.9 %		Pitot ID: P4-2		LEAK CHECK: Pre Mid 1 Mid 2 Mid 3 Post		Mid 1 (cf) 1.456 1.802 0.346	
N <sub>2</sub> /CO: 79.0 %		Pitot Cp/Type: 0.840 S-type		Leak Rate (cfm): 0.010 0.010 0.001 0.001		Mid 2 (cf) --	
Md: 28.85 lb/lb-mole		Nozzle ID: G-2 glass		Vacuum (in Hg): 12 8 8		Mid 3 (cf) --	
Ms: 28.58 lb/lb-mole		Nozzle Dn (in.): 0.255		Pitot Tube: Pass -- --		Mid-Point Leak Check Vol (cf): 0.346	

Sample Pt	Sample Time (minutes)		Dry Gas Meter Reading (ft <sup>3</sup> )	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)			Vs (fps)	
	Begin	End			DGM Average	Stack	Ideal	Actual		Probe Amb.	Filter Amb.	Imp Exit Amb.		Aux Amb.
A1	0:00	4:00	862.142	0.38	56	82	1.61	1.60	3	85	85	50	35	103.1
2	4:00	8:00	865.030	0.40	59	82	1.70	1.70	3	85	86	40	31	102.1
3	8:00	12:00	867.980	0.37	62	82	1.58	1.60	3	85	86	41	30	100.7
4	12:00	16:00	870.797	0.37	63	82	1.59	1.60	3	85	85	40	29	103.2
5	16:00	20:00	873.690	0.41	65	82	1.76	1.80	3	85	87	38	27	101.4
6	20:00	24:00	876.690	0.47	65	83	2.02	2.00	4	85	86	37	29	98.3
7	24:00	28:00	879.800	0.60	65	84	2.57	2.60	6	85	84	36	28	100.1
8	28:00	32:00	883.370	0.62	66	85	2.65	2.70	6	85	86	37	28	101.4
9	32:00	36:00	887.050	0.62	67	85	2.66	2.70	6	85	86	37	29	99.6
10	36:00	40:00	890.670	0.61	67	85	2.61	2.60	6	85	84	37	29	101.2
11	40:00	44:00	894.320	0.59	67	85	2.53	2.50	6	85	84	37	30	101.2
12	44:00	48:00	897.910	0.60	68	85	2.58	2.60	6	85	86	39	30	98.9
B1	48:00	52:00	901.456	0.87	65	85	3.70	3.70	10	85	83	45	29	102.0
2	52:00	56:00	905.820	0.86	68	85	3.68	3.70	10	85	87	36	28	100.3
3	56:00	60:00	910.110	1.00	69	86	4.28	4.30	11	85	85	39	28	99.5
4	60:00	64:00	914.700	1.00	69	86	4.28	4.30	11	85	86	40	28	99.5
5	64:00	68:00	919.290	0.94	68	86	4.01	4.00	11	85	84	39	28	99.2
6	68:00	72:00	923.720	0.84	68	86	3.59	3.60	11	85	87	40	29	99.1
7	72:00	76:00	927.910	0.61	68	86	2.61	2.60	7	85	83	40	29	101.7
8	76:00	80:00	931.580	0.52	68	86	2.23	2.20	5	85	85	40	29	102.2
9	80:00	84:00	934.990	0.50	69	86	2.15	2.20	5	85	83	40	30	100.7
10	84:00	88:00	938.290	0.49	69	86	2.11	2.10	5	85	87	40	29	103.8
11	88:00	92:00	941.660	0.46	69	86	1.98	2.00	5	85	84	40	29	100.1
12	92:00	96:00	944.810	0.45	69	86	1.94	1.90	4	85	87	40	29	99.6
Final DGM: 947.910														

Run Time	V <sub>m</sub>	ΔP	T <sub>m</sub>	T <sub>s</sub>	Max Vac	ΔH	%ISO	BWS	Y <sub>qa</sub>
96.0 min	85.422 ft <sup>3</sup>	0.61 in. WC	66.2 °F	84.7 °F	11	2.608 in. WC	101.0	0.039	-0.4

**RESULTS**



# Isokinetic Field Data

Location: Chemours Company - Fayetteville Works Facility, N Run 3 VAL ID      Start Time: 15:45      Source: VEN Carbon Bed Outlet      Parameter: HFPO-DA  
 Date: 2/10/22      Project No.: 2022-0930      End Time: 17:43

STACK DATA (EST)		EQUIPMENT		STACK DATA (EST)		FILTER NO.		STACK DATA (FINAL)		MOIST. DATA	
Moisture:	2.5 % est.	Meter Box ID:	MB-7	Est. Tm:	66 °F	Pb:	30.10 in. Hg	Pb:	30.10 in. Hg	Vlc (ml)	
Barometric:	30.40 in. Hg	Y:	0.985	Est. Ts:	85 °F	Pg:	2.80 in. WC	Pg:	2.80 in. WC	K-FACTOR	34.4
Static Press:	2.80 in. WC	ΔH @ (in. WC):	1.827	Est. ΔP:	0.61 in. WC	O <sub>2</sub> :	20.9 %	O <sub>2</sub> :	20.9 %	CO <sub>2</sub> :	4.289
Stack Press:	30.61 in. Hg	Probe ID:	TC 5D	Est. Dn:	0.239 in.	Target Rate:	0.78 scfm	CO <sub>2</sub> :	0.1 %	Check Pt. Initial	Final
CO <sub>2</sub> :	0.1 %	Liner Material:	glass	LEAK CHECK:	Pre Mid 1 Mid 2 Mid 3 Post	Mid 1 (cf)	8.080	Mid 2 (cf)	8.321	Mid 3 (cf)	0.241
O <sub>2</sub> :	20.9 %	Pitot ID:	P4-2	Leak Rate (cfm):	0.010 0.010 0.010	Mid 1	0.010	Mid 2	0.010	Mid 3	0.010
N <sub>2</sub> /CO:	79.0 %	Pitot Cp/Type:	0.840 S-type	Vacuum (in Hg):	10 9 9	9	9	11	11	Pass	Pass
Md:	28.85 lb/lb-mole	Nozzle ID:	G-2 glass	Pitot Tube:	Pass	--	--	--	--	Mid-Point Leak	Check Vol (cf): 0.241
Ms:	28.58 lb/lb-mole	Nozzle Dn (in.):	0.255								

Sample Pt.	Sample Time (minutes)		Dry Gas Meter Reading (ft <sup>3</sup> )	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)			Vs (fps)		
	Begin	End			DGM Average	Stack	Ideal	Actual		Probe	Filter	Imp Exit		Aux	% ISO
A1	0:00	4:00	949.405	0.33	64	87	1.40	1.40	2	85	89	52	41	99.4	32.61
2	4:00	8:00	952.030	0.34	65	87	1.45	1.50	2	85	86	45	37	101.7	33.10
3	8:00	12:00	954.760	0.36	68	88	1.54	1.60	2	85	84	43	35	102.3	34.09
4	12:00	16:00	957.600	0.39	68	87	1.67	1.70	3	85	86	41	34	100.3	35.45
5	16:00	20:00	960.500	0.41	69	87	1.76	1.80	3	85	85	40	37	102.4	36.35
6	20:00	24:00	963.540	0.44	70	87	1.89	1.90	3	85	86	40	35	101.0	37.66
7	24:00	28:00	966.650	0.47	70	87	2.02	2.00	4	85	85	40	36	98.7	38.92
8	28:00	32:00	969.790	0.63	70	87	2.70	2.70	6	85	84	38	35	100.3	45.06
9	32:00	36:00	973.480	0.62	70	88	2.66	2.70	6	85	86	38	34	101.5	44.74
10	36:00	40:00	977.180	0.61	70	87	2.62	2.60	6	85	85	38	33	100.3	44.34
11	40:00	44:00	980.810	0.60	70	87	2.58	2.60	6	85	85	38	32	100.4	43.97
12	44:00	48:00	984.415	0.62	70	87	2.66	2.70	6	85	84	38	33	100.4	44.70
B1	48:00	52:00	988.080	0.72	62	86	3.05	3.10	7	85	84	53	39	105.1	48.13
2	52:00	56:00	992.150	1.00	63	87	4.22	4.25	8	85	85	36	35	98.1	56.77
3	56:00	60:00	996.620	1.05	64	87	4.44	4.50	10	85	84	38	34	100.1	58.17
4	60:00	64:00	1001.300	1.00	68	87	4.26	4.30	10	85	86	39	34	99.4	56.77
5	64:00	68:00	1005.870	0.94	68	86	4.01	4.00	10	85	85	39	33	100.5	54.99
6	68:00	72:00	1010.360	0.84	68	86	3.59	3.60	9	85	86	38	33	100.8	51.98
7	72:00	76:00	1014.620	0.59	68	86	2.53	2.50	6	85	84	38	68	100.8	43.57
8	76:00	80:00	1018.200	0.54	68	86	2.32	2.30	5	85	86	37	32	99.7	41.68
9	80:00	84:00	1021.590	0.50	69	86	2.15	2.20	5	85	83	38	32	102.2	40.11
10	84:00	88:00	1024.940	0.48	69	86	2.06	2.10	4	85	86	37	33	101.8	39.30
11	88:00	92:00	1028.210	0.46	69	86	1.98	2.00	4	85	84	38	32	101.4	38.47
12	92:00	96:00	1031.400	0.45	68	86	1.93	1.90	3	85	86	37	32	100.3	38.05
Final DGM:			1034.514												

RESULTS		Run Time	V <sub>m</sub>	ΔP	T <sub>m</sub>	T <sub>s</sub>	Max Vac	ΔH	%ISO	BWS	Y <sub>qa</sub>			
96.0	min	84.868	ft <sup>3</sup>	0.60	°F	86.7	°F	10	in. WC	2.581	in. WC	99.4	0.019	-0.5

## Appendix C

## ANALYTICAL REPORT

Job Number: 140-26390-1

Job Description: VEN Carbon Bed Inlet

Contract Number: LBIO-67048

For:

The Chemours Company FC, LLC

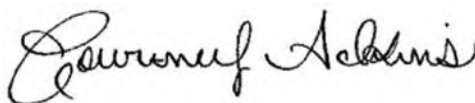
c/o AECOM

Sabre Building, Suite 300

4051 Ogletown Road

Newark, DE 19713

Attention: Michael Aucoin



Approved for release.  
Courtney M Adkins  
Project Manager II  
2/27/2022 10:35 AM

---

Courtney M Adkins, Project Manager II  
5815 Middlebrook Pike, Knoxville, TN, 37921  
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02/27/2022

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

### Eurofins Knoxville

5815 Middlebrook Pike, Knoxville, TN 37921

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# Definitions/Glossary

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

## Qualifiers

### LCMS

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Method Summary

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

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<b>Method</b>	<b>Method Description</b>	<b>Protocol</b>	<b>Laboratory</b>
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL KNX
Dilution	Dilution and Re-fortification of Standards	None	TAL KNX
None	Leaching Procedure	TAL SOP	TAL KNX
None	Leaching Procedure for Filter	TAL SOP	TAL KNX
PFAS Prep	Preparation, Direct Inject PFAS	TAL-SAC	TAL KNX
Split	Source Air Split	None	TAL KNX

**Protocol References:**

- EPA = US Environmental Protection Agency
- None = None
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure
- TAL-SAC = Eurofins Sacramento, Facility Standard Operating Procedure.

**Laboratory References:**

- TAL KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Sample Summary

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-26390-1	T-2166,2165 VEN CARBON BED INLET R1 OTM-45 FH	Air	02/10/22 00:00	02/11/22 12:50
140-26390-2	T-2164,2163,2161 VEN CARBON BED INLET R1 OTM-45 BH	Air	02/10/22 00:00	02/11/22 12:50
140-26390-3	T-2162 VEN CARBON BED INLET R1 OTM-45 IMPINGERS 1,2&3 COND	Air	02/10/22 00:00	02/11/22 12:50
140-26390-4	T-2160 VEN CARBON BED INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	02/10/22 00:00	02/11/22 12:50
140-26390-5	T-2159,2158 VEN CARBON BED INLET R2 OTM-45 FH	Air	02/10/22 00:00	02/11/22 12:50
140-26390-6	T-2157,2156,2154 VEN CARBON BED INLET R2 OTM-45 BH	Air	02/10/22 00:00	02/11/22 12:50
140-26390-7	T-2155 VEN CARBON BED INLET R2 OTM-45 IMPINGERS 1,2&3 COND	Air	02/10/22 00:00	02/11/22 12:50
140-26390-8	T-2153 VEN CARBON BED INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	02/10/22 00:00	02/11/22 12:50
140-26390-9	T-2152,2151 VEN CARBON BED INLET R3 OTM-45 FH	Air	02/10/22 00:00	02/11/22 12:50
140-26390-10	T-2150,2149,2147 VEN CARBON BED INLET R3 OTM-45 BH	Air	02/10/22 00:00	02/11/22 12:50
140-26390-11	T-2148 VEN CARBON BED INLET R3 OTM-45 IMPINGERS 1,2&3 COND	Air	02/10/22 00:00	02/11/22 12:50
140-26390-12	T-2146 VEN CARBON BED INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	02/10/22 00:00	02/11/22 12:50



**Job Narrative**  
**140-26390-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 2/11/2022 12:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.6° C.

**LCMS**

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: T-2166,2165 VEN CARBON BED INLET R1 OTM-45 FH (140-26390-1), T-2159,2158 VEN CARBON BED INLET R2 OTM-45 FH (140-26390-5) and T-2152,2151 VEN CARBON BED INLET R3 OTM-45 FH (140-26390-9). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): T-2166,2165 VEN CARBON BED INLET R1 OTM-45 FH (140-26390-1), T-2159,2158 VEN CARBON BED INLET R2 OTM-45 FH (140-26390-5) and T-2152,2151 VEN CARBON BED INLET R3 OTM-45 FH (140-26390-9). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): The method blank for preparation batch 140-58905 and 140-58961 contained HFPO-DA above the reporting limit (RL). The entire sample was consumed during analysis or extraction, therefore, the data have been reported.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: T-2150,2149,2147 VEN CARBON BED INLET R3 OTM-45 BH (140-26390-10). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): T-2150,2149,2147 VEN CARBON BED INLET R3 OTM-45 BH (140-26390-10). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: T-2164,2163,2161 VEN CARBON BED INLET R1 OTM-45 BH (140-26390-2), T-2160 VEN CARBON BED INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-26390-4) and T-2157,2156,2154 VEN CARBON BED INLET R2 OTM-45 BH (140-26390-6). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): T-2164,2163,2161 VEN CARBON BED INLET R1 OTM-45 BH (140-26390-2) and T-2157,2156,2154 VEN CARBON BED INLET R2 OTM-45 BH (140-26390-6). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): Results for sample T-2160 VEN CARBON BED INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-26390-4) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# QC Association Summary

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

## LCMS

### Prep Batch: 58905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26390-2	T-2164,2163,2161 VEN CARBON BED INLET R	Total/NA	Air	None	
140-26390-4	T-2160 VEN CARBON BED INLET R1 OTM-45 E	Total/NA	Air	None	
140-26390-6	T-2157,2156,2154 VEN CARBON BED INLET R2	Total/NA	Air	None	
140-26390-8	T-2153 VEN CARBON BED INLET R2 OTM-45 E	Total/NA	Air	None	
140-26390-10	T-2150,2149,2147 VEN CARBON BED INLET R3	Total/NA	Air	None	
140-26390-12	T-2146 VEN CARBON BED INLET R3 OTM-45 E	Total/NA	Air	None	
MB 140-58905/1-B	Method Blank	Total/NA	Air	None	
LCS 140-58905/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-58905/3-B	Lab Control Sample Dup	Total/NA	Air	None	

### Prep Batch: 58914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26390-1	T-2166,2165 VEN CARBON BED INLET R1 OTM	Total/NA	Air	None	
140-26390-5	T-2159,2158 VEN CARBON BED INLET R2 OTM	Total/NA	Air	None	
140-26390-9	T-2152,2151 VEN CARBON BED INLET R3 OTM	Total/NA	Air	None	
MB 140-58914/1-B	Method Blank	Total/NA	Air	None	
LCS 140-58914/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-58914/3-B	Lab Control Sample Dup	Total/NA	Air	None	

### Cleanup Batch: 58961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26390-2	T-2164,2163,2161 VEN CARBON BED INLET R	Total/NA	Air	Split	58905
140-26390-4	T-2160 VEN CARBON BED INLET R1 OTM-45 E	Total/NA	Air	Split	58905
140-26390-6	T-2157,2156,2154 VEN CARBON BED INLET R2	Total/NA	Air	Split	58905
140-26390-8	T-2153 VEN CARBON BED INLET R2 OTM-45 E	Total/NA	Air	Split	58905
140-26390-10	T-2150,2149,2147 VEN CARBON BED INLET R3	Total/NA	Air	Split	58905
140-26390-12	T-2146 VEN CARBON BED INLET R3 OTM-45 E	Total/NA	Air	Split	58905
MB 140-58905/1-B	Method Blank	Total/NA	Air	Split	58905
LCS 140-58905/2-B	Lab Control Sample	Total/NA	Air	Split	58905
LCSD 140-58905/3-B	Lab Control Sample Dup	Total/NA	Air	Split	58905

### Cleanup Batch: 58963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26390-1	T-2166,2165 VEN CARBON BED INLET R1 OTM	Total/NA	Air	Split	58914
140-26390-5	T-2159,2158 VEN CARBON BED INLET R2 OTM	Total/NA	Air	Split	58914
140-26390-9	T-2152,2151 VEN CARBON BED INLET R3 OTM	Total/NA	Air	Split	58914
MB 140-58914/1-B	Method Blank	Total/NA	Air	Split	58914
LCS 140-58914/2-B	Lab Control Sample	Total/NA	Air	Split	58914
LCSD 140-58914/3-B	Lab Control Sample Dup	Total/NA	Air	Split	58914

### Prep Batch: 58967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26390-3	T-2162 VEN CARBON BED INLET R1 OTM-45 II	Total/NA	Air	PFAS Prep	
140-26390-7	T-2155 VEN CARBON BED INLET R2 OTM-45 II	Total/NA	Air	PFAS Prep	
140-26390-11	T-2148 VEN CARBON BED INLET R3 OTM-45 II	Total/NA	Air	PFAS Prep	
MB 140-58967/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-58967/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-58967/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

# QC Association Summary

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

## LCMS

### Analysis Batch: 59045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26390-3	T-2162 VEN CARBON BED INLET R1 OTM-45 II	Total/NA	Air	537 (modified)	58967
140-26390-7	T-2155 VEN CARBON BED INLET R2 OTM-45 II	Total/NA	Air	537 (modified)	58967
140-26390-11	T-2148 VEN CARBON BED INLET R3 OTM-45 II	Total/NA	Air	537 (modified)	58967
MB 140-58914/1-B	Method Blank	Total/NA	Air	537 (modified)	58963
MB 140-58967/1-A	Method Blank	Total/NA	Air	537 (modified)	58967
LCS 140-58914/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	58963
LCS 140-58967/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	58967
LCSD 140-58914/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	58963
LCSD 140-58967/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	58967

### Analysis Batch: 59059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26390-1	T-2166,2165 VEN CARBON BED INLET R1 OTM	Total/NA	Air	537 (modified)	59061
140-26390-5	T-2159,2158 VEN CARBON BED INLET R2 OTM	Total/NA	Air	537 (modified)	59061
140-26390-9	T-2152,2151 VEN CARBON BED INLET R3 OTM	Total/NA	Air	537 (modified)	59061
140-26390-12	T-2146 VEN CARBON BED INLET R3 OTM-45 E	Total/NA	Air	537 (modified)	58961
MB 140-58905/1-B	Method Blank	Total/NA	Air	537 (modified)	58961
LCS 140-58905/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	58961
LCSD 140-58905/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	58961

### Cleanup Batch: 59061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26390-1	T-2166,2165 VEN CARBON BED INLET R1 OTM	Total/NA	Air	Dilution	58963
140-26390-5	T-2159,2158 VEN CARBON BED INLET R2 OTM	Total/NA	Air	Dilution	58963
140-26390-9	T-2152,2151 VEN CARBON BED INLET R3 OTM	Total/NA	Air	Dilution	58963

### Analysis Batch: 59064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26390-2	T-2164,2163,2161 VEN CARBON BED INLET R	Total/NA	Air	537 (modified)	59065
140-26390-4	T-2160 VEN CARBON BED INLET R1 OTM-45 E	Total/NA	Air	537 (modified)	58961
140-26390-6	T-2157,2156,2154 VEN CARBON BED INLET R2	Total/NA	Air	537 (modified)	59065
140-26390-8	T-2153 VEN CARBON BED INLET R2 OTM-45 E	Total/NA	Air	537 (modified)	58961

### Cleanup Batch: 59065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26390-2	T-2164,2163,2161 VEN CARBON BED INLET R	Total/NA	Air	Dilution	58961
140-26390-6	T-2157,2156,2154 VEN CARBON BED INLET R2	Total/NA	Air	Dilution	58961

### Analysis Batch: 59072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26390-10	T-2150,2149,2147 VEN CARBON BED INLET R2	Total/NA	Air	537 (modified)	59074

### Cleanup Batch: 59074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26390-10	T-2150,2149,2147 VEN CARBON BED INLET R2	Total/NA	Air	Dilution	58961

# Client Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

**Client Sample ID: T-2166,2165 VEN CARBON BED INLET R1**

**Lab Sample ID: 140-26390-1**

**OTM-45 FH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	330		2.50	1.45	ug/Sample		02/16/22 07:38	02/20/22 00:29	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	90		25 - 150				02/16/22 07:38	02/20/22 00:29	1

**Client Sample ID: T-2164,2163,2161 VEN CARBON BED INLET**

**Lab Sample ID: 140-26390-2**

**R1 OTM-45 BH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	945	B	8.00	7.00	ug/Sample		02/15/22 14:06	02/20/22 14:15	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	86		25 - 150				02/15/22 14:06	02/20/22 14:15	1

**Client Sample ID: T-2162 VEN CARBON BED INLET R1**

**Lab Sample ID: 140-26390-3**

**OTM-45 IMPINGERS 1,2&3 COND**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0725	0.0126	ug/Sample		02/17/22 09:59	02/18/22 22:46	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	76		25 - 150				02/17/22 09:59	02/18/22 22:46	1

**Client Sample ID: T-2160 VEN CARBON BED INLET R1**

**Lab Sample ID: 140-26390-4**

**OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	1.75	B	0.0320	0.0280	ug/Sample		02/15/22 14:06	02/20/22 14:24	20
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	92		25 - 150				02/15/22 14:06	02/20/22 14:24	20

# Client Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

**Client Sample ID: T-2159,2158 VEN CARBON BED INLET R2**

**Lab Sample ID: 140-26390-5**

**OTM-45 FH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	317		2.50	1.45	ug/Sample		02/16/22 07:38	02/20/22 00:38	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	87		25 - 150				02/16/22 07:38	02/20/22 00:38	1

**Client Sample ID: T-2157,2156,2154 VEN CARBON BED INLET**

**Lab Sample ID: 140-26390-6**

**R2 OTM-45 BH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	828	B	8.00	7.00	ug/Sample		02/15/22 14:06	02/20/22 14:32	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	86		25 - 150				02/15/22 14:06	02/20/22 14:32	1

**Client Sample ID: T-2155 VEN CARBON BED INLET R2**

**Lab Sample ID: 140-26390-7**

**OTM-45 IMPINGERS 1,2&3 COND**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0161	J	0.0737	0.0128	ug/Sample		02/17/22 09:59	02/18/22 22:55	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	74		25 - 150				02/17/22 09:59	02/18/22 22:55	1

**Client Sample ID: T-2153 VEN CARBON BED INLET R2**

**Lab Sample ID: 140-26390-8**

**OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.00393	B	0.00160	0.00140	ug/Sample		02/15/22 14:06	02/20/22 14:06	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	84		25 - 150				02/15/22 14:06	02/20/22 14:06	1

# Client Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

**Client Sample ID: T-2152,2151 VEN CARBON BED INLET R3**

**Lab Sample ID: 140-26390-9**

**OTM-45 FH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	233		2.47	1.43	ug/Sample		02/16/22 07:38	02/20/22 00:47	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	84		25 - 150				02/16/22 07:38	02/20/22 00:47	1

**Client Sample ID: T-2150,2149,2147 VEN CARBON BED INLET**

**Lab Sample ID: 140-26390-10**

**R3 OTM-45 BH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	860	B	16.0	14.0	ug/Sample		02/15/22 14:06	02/21/22 10:28	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	82		25 - 150				02/15/22 14:06	02/21/22 10:28	1

**Client Sample ID: T-2148 VEN CARBON BED INLET R3**

**Lab Sample ID: 140-26390-11**

**OTM-45 IMPINGERS 1,2&3 COND**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0163	J	0.0750	0.0130	ug/Sample		02/17/22 09:59	02/18/22 23:03	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	73		25 - 150				02/17/22 09:59	02/18/22 23:03	1

**Client Sample ID: T-2146 VEN CARBON BED INLET R3**

**Lab Sample ID: 140-26390-12**

**OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.00662	B	0.00160	0.00140	ug/Sample		02/15/22 14:06	02/19/22 21:42	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	79		25 - 150				02/15/22 14:06	02/19/22 21:42	1

# Default Detection Limits

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: None

Analyte	RL	MDL	Units
HFPO-DA	0.00100	0.000580	ug/Sample
HFPO-DA	0.00160	0.00140	ug/Sample

## Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: PFAS Prep

Analyte	RL	MDL	Units
HFPO-DA	0.000500	0.0000870	ug/Sample

# Isotope Dilution Summary

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Air

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	HFPODA (25-150)			
140-26390-1	T-2166,2165 VEN CARBON BE	90			
140-26390-2	T-2164,2163,2161 VEN CARBON BED INLET R1	86			
140-26390-3	OTM-45 BH T-2162 VEN CARBON BED INLET R1 OTM-45 IMPINGERS	76			
140-26390-4	1,2&3 COND T-2160 VEN CARBON BED INLET R1 OTM-45	92			
140-26390-5	BREAKTHROUGH XAD-2 RESI TUBE T-2159,2158 VEN CARBON BED INLET R2 OTM-45 FH	87			
140-26390-6	T-2157,2156,2154 VEN CARBON BED INLET R2	86			
140-26390-7	OTM-45 BH T-2155 VEN CARBON BED INLET R2 OTM-45 IMPINGERS	74			
140-26390-8	1,2&3 COND T-2153 VEN CARBON BED INLET R2 OTM-45	84			
140-26390-9	BREAKTHROUGH XAD-2 RESI TUBE T-2152,2151 VEN CARBON BED INLET R3 OTM-45 FH	84			
140-26390-10	T-2150,2149,2147 VEN CARBON BED INLET R3	82			
140-26390-11	OTM-45 BH T-2148 VEN CARBON BED INLET R3 OTM-45 IMPINGERS	73			
140-26390-12	1,2&3 COND T-2146 VEN CARBON BED INLET R3 OTM-45	79			
LCS 140-58905/2-B	Lab Control Sample	89			
LCS 140-58914/2-B	Lab Control Sample	87			
LCS 140-58967/2-A	Lab Control Sample	79			
LCSD 140-58905/3-B	Lab Control Sample Dup	83			
LCSD 140-58914/3-B	Lab Control Sample Dup	82			
LCSD 140-58967/3-A	Lab Control Sample Dup	81			
MB 140-58905/1-B	Method Blank	89			
MB 140-58914/1-B	Method Blank	82			
MB 140-58967/1-A	Method Blank	84			

**Surrogate Legend**

HFPODA = 13C3 HFPO-DA



# QC Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

**Lab Sample ID: MB 140-58905/1-B**  
**Matrix: Air**  
**Analysis Batch: 59059**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 58905**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.002651		0.00160	0.00140	ug/Sample		02/15/22 14:06	02/19/22 20:40	1
Isotope Dilution	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	89		25 - 150				02/15/22 14:06	02/19/22 20:40	1

**Lab Sample ID: LCS 140-58905/2-B**  
**Matrix: Air**  
**Analysis Batch: 59059**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58905**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HFPO-DA	0.0200	0.02421		ug/Sample		121	60 - 140
Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits				
13C3 HFPO-DA	89		25 - 150				

**Lab Sample ID: LCSD 140-58905/3-B**  
**Matrix: Air**  
**Analysis Batch: 59059**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 58905**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HFPO-DA	0.0200	0.02594		ug/Sample		130	60 - 140	7	30
Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits						
13C3 HFPO-DA	83		25 - 150						

**Lab Sample ID: MB 140-58914/1-B**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 58914**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00104	0.000604	ug/Sample		02/16/22 07:38	02/19/22 00:31	1
Isotope Dilution	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	82		25 - 150				02/16/22 07:38	02/19/22 00:31	1

**Lab Sample ID: LCS 140-58914/2-B**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58914**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HFPO-DA	0.0200	0.02100		ug/Sample		105	60 - 140
Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits				
13C3 HFPO-DA	87		25 - 150				

# QC Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: LCSD 140-58914/3-B**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 58914**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HFPO-DA	0.0200	0.02215		ug/Sample		111	60 - 140	5	30
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>						<i>Limits</i>
<i>13C3 HFPO-DA</i>		<i>82</i>							<i>25 - 150</i>

**Lab Sample ID: MB 140-58967/1-A**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 58967**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.0000870	ug/Sample		02/17/22 09:59	02/18/22 22:19	1
<i>Isotope Dilution</i>		<i>%Recovery</i>					<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>13C3 HFPO-DA</i>		<i>84</i>					<i>02/17/22 09:59</i>	<i>02/18/22 22:19</i>	<i>1</i>

**Lab Sample ID: LCS 140-58967/2-A**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58967**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HFPO-DA	0.0100	0.01237		ug/Sample		124	60 - 140
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>				<i>Limits</i>
<i>13C3 HFPO-DA</i>		<i>79</i>					<i>25 - 150</i>

**Lab Sample ID: LCSD 140-58967/3-A**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 58967**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HFPO-DA	0.0100	0.01188		ug/Sample		119	60 - 140	4	30
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>						<i>Limits</i>
<i>13C3 HFPO-DA</i>		<i>81</i>							<i>25 - 150</i>

# Lab Chronicle

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

**Client Sample ID: T-2166,2165 VEN CARBON BED INLET R1**

**Lab Sample ID: 140-26390-1**

**OTM-45 FH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	98 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			49 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Cleanup	Dilution			4 uL	10000 uL	59061	02/19/22 20:00	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/20/22 00:29	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2164,2163,2161 VEN CARBON BED INLET R1 OTM-45 BH**

**Lab Sample ID: 140-26390-2**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Cleanup	Dilution			2 uL	10000 uL	59065	02/20/22 13:04	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59064	02/20/22 14:15	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2162 VEN CARBON BED INLET R1 OTM-45 IMPINGERS 1,2&3 COND**

**Lab Sample ID: 140-26390-3**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			0.0069 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 22:46	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2160 VEN CARBON BED INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE**

**Lab Sample ID: 140-26390-4**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		20			59064	02/20/22 14:24	JRC	TAL KNX
Instrument ID: LCA										

# Lab Chronicle

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

**Client Sample ID: T-2159,2158 VEN CARBON BED INLET R2**

**Lab Sample ID: 140-26390-5**

**OTM-45 FH**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	66 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			33 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Cleanup	Dilution			4 uL	10000 uL	59061	02/19/22 20:00	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/20/22 00:38	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2157,2156,2154 VEN CARBON BED INLET**

**Lab Sample ID: 140-26390-6**

**R2 OTM-45 BH**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Cleanup	Dilution			2 uL	10000 uL	59065	02/20/22 13:04	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59064	02/20/22 14:32	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2155 VEN CARBON BED INLET R2**

**Lab Sample ID: 140-26390-7**

**OTM-45 IMPINGERS 1,2&3 COND**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			0.00678 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 22:55	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2153 VEN CARBON BED INLET R2**

**Lab Sample ID: 140-26390-8**

**OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59064	02/20/22 14:06	JRC	TAL KNX
Instrument ID: LCA										

# Lab Chronicle

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

**Client Sample ID: T-2152,2151 VEN CARBON BED INLET R3**

**Lab Sample ID: 140-26390-9**

**OTM-45 FH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	83 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			42 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Cleanup	Dilution			4 uL	10000 uL	59061	02/19/22 20:00	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/20/22 00:47	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2150,2149,2147 VEN CARBON BED INLET**

**Lab Sample ID: 140-26390-10**

**R3 OTM-45 BH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Cleanup	Dilution			1 uL	10000 uL	59074	02/21/22 09:09	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59072	02/21/22 10:28	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2148 VEN CARBON BED INLET R3**

**Lab Sample ID: 140-26390-11**

**OTM-45 IMPINGERS 1,2&3 COND**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			0.00667 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 23:03	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2146 VEN CARBON BED INLET R3**

**Lab Sample ID: 140-26390-12**

**OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 21:42	JRC	TAL KNX
Instrument ID: LCA										

# Lab Chronicle

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 140-58905/1-B**

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 20:40	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 140-58914/1-B**

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			24 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/19/22 00:31	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 140-58967/1-A**

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 22:19	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 140-58905/2-B**

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 20:49	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 140-58914/2-B**

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/19/22 00:40	JRC	TAL KNX
Instrument ID: LCA										

# Lab Chronicle

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-58967/2-A

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 22:28	JRC	TAL KNX
Instrument ID: LCA										

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-58905/3-B

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 20:58	JRC	TAL KNX
Instrument ID: LCA										

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-58914/3-B

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			21 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/19/22 00:49	JRC	TAL KNX
Instrument ID: LCA										

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-58967/3-A

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 22:37	JRC	TAL KNX
Instrument ID: LCA										

### Laboratory References:

TAL KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Accreditation/Certification Summary

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Inlet

Job ID: 140-26390-1

## Laboratory: Eurofins Knoxville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-17-22
California	State	2423	06-30-22
Colorado	State	TN00009	02-28-22
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-22
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-22
Kansas	NELAP	E-10349	10-31-22
Kentucky (DW)	State	90101	12-31-22
Louisiana	NELAP	83979	06-30-22
Louisiana (DW)	State	LA019	12-31-22
Maryland	State	277	03-31-22
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-31-22
New Hampshire	NELAP	299919	01-17-23
New Jersey	NELAP	TN001	06-30-22
New York	NELAP	10781	03-31-22
North Carolina (DW)	State	21705	07-31-22
North Carolina (WW/SW)	State	64	12-31-22
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-22
Oregon	NELAP	TNI0189	12-31-22
Pennsylvania	NELAP	68-00576	12-31-22
Tennessee	State	02014	12-11-22
Texas	NELAP	T104704380-18-12	08-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-19-00236	08-20-22
Utah	NELAP	TN00009	07-31-22
Virginia	NELAP	460176	09-14-22
Washington	State	C593	01-19-23
West Virginia (DW)	State	9955C	12-31-22
West Virginia DEP	State	345	04-30-22
Wisconsin	State	998044300	08-31-22



PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: IC 140-59044/4 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:00 Lab File ID: 004.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	2.80	Baseline	cochranj	02/18/22 18:39
3:3 FTCA	3.12	Baseline	cochranj	02/18/22 18:38
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 18:40
5:3 FTCA	3.85	Baseline	cochranj	02/18/22 18:40
6:2 FTUCA	3.89	Baseline	cochranj	02/18/22 18:38
6:2 FTCA	3.91	Baseline	cochranj	02/18/22 18:38
Perfluoroheptanesulfonic Acid (PFHpS)	4.11	Baseline	cochranj	02/18/22 18:41
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 18:42
8:2 FTCA	4.56	Baseline	cochranj	02/18/22 18:42
Perfluorodecanoic acid (PFDA)	4.73	Baseline	cochranj	02/18/22 18:43
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/18/22 18:44
Perfluoroundecanoic acid (PFUnA)	5.00	Baseline	cochranj	02/18/22 18:44
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/18/22 18:44
10:2 FTCA	5.11	Split Peak	cochranj	02/18/22 18:45
Perfluorododecanoic acid (PFDoA)	5.23	Split Peak	cochranj	02/18/22 18:45
2-(N-methylperfluoro-1-octanesulfon amido) ethanol	5.29	Baseline	cochranj	02/18/22 18:45
NMeFOSA	5.29	Baseline	cochranj	02/18/22 18:45
Perfluorotridecanoic acid (PFTriA)	5.44	Baseline	cochranj	02/18/22 18:45
2-(N-ethylperfluoro-1-octanesulfona mido) ethanol	5.45	Baseline	cochranj	02/18/22 18:45
N-ethylperfluoro-1-octanesulfonam ide	5.46	Baseline	cochranj	02/18/22 18:46
Perfluorooctadecanoic acid	6.19	Baseline	cochranj	02/18/22 18:46

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: IC 140-59044/5 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:09 Lab File ID: 005.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
3:3 FTCA	3.13	Baseline	cochranj	02/18/22 18:51
Perfluorohexanoic acid (PFHxA)	3.45	Split Peak	cochranj	02/18/22 18:51
Perfluorohexanesulfonic acid (PFHxS)	3.79	Baseline	cochranj	02/18/22 18:51
6:2 FTCA	3.92	Baseline	cochranj	02/18/22 18:52
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 18:52
8:2 FTUCA	4.55	Split Peak	cochranj	02/18/22 18:53
8:2 FTCA	4.56	Baseline	cochranj	02/18/22 18:53
Perfluorodecanoic acid (PFDA)	4.73	Baseline	cochranj	02/18/22 18:53
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	4.88	Baseline	cochranj	02/18/22 18:53
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/18/22 18:54
N-ethylperfluoro-1-octanesulfonamide	5.46	Baseline	cochranj	02/18/22 18:54
Perfluorooctadecanoic acid	6.19	Baseline	cochranj	02/18/22 18:54

Lab Sample ID: IC 140-59044/6 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:18 Lab File ID: 006.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 18:55
6:2 FTCA	3.91	Baseline	cochranj	02/18/22 18:55
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 18:56
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/18/22 18:56

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: ICIS 140-59044/7 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:27 Lab File ID: 007.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.79	Baseline	cochranj	02/18/22 19:07
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 19:07
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	4.88	Baseline	cochranj	02/18/22 19:08
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/18/22 19:08

Lab Sample ID: IC 140-59044/8 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:35 Lab File ID: 008.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 19:12
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/18/22 19:12
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/18/22 19:12

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: IC 140-59044/9 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:44 Lab File ID: \_009.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 19:13
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 19:13
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/18/22 19:14
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/18/22 19:14

Lab Sample ID: IC 140-59044/10 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:53 Lab File ID: \_010.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 19:15
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 19:15
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/18/22 19:15
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/18/22 19:16

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: ICV 140-59044/12 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 19:11 Lab File ID: \_012.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 19:33
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/18/22 19:34
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/18/22 19:34
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/18/22 19:34

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59045

Lab Sample ID: CCVL 140-59045/4 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 19:59 Lab File ID: 004.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	2.81	Baseline	cochranj	02/19/22 11:07
6:2 FTUCA	3.89	Baseline	cochranj	02/19/22 11:09
6:2 FTCA	3.90	Baseline	cochranj	02/19/22 11:09
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/19/22 11:10
8:2 FTCA	4.56	Baseline	cochranj	02/19/22 11:10
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/19/22 11:11
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/19/22 11:11
10:2 FTCA	5.10	Baseline	cochranj	02/19/22 11:11
Perfluorododecanoic acid (PFDoA)	5.23	Baseline	cochranj	02/19/22 11:12
NMeFOSA	5.28	Baseline	cochranj	02/19/22 11:12
2- (N-methylperfluoro-1-octanesulfon amido) ethanol	5.29	Baseline	cochranj	02/19/22 11:12
Perfluorooctadecanoic acid	6.19	Baseline	cochranj	02/19/22 11:13

Lab Sample ID: CCVIS 140-59045/5 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 20:07 Lab File ID: 005.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/19/22 11:14
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/19/22 11:14
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.88	Baseline	cochranj	02/19/22 11:15
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/19/22 11:15

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59045

Lab Sample ID: CCV 140-59045/17 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 21:53 Lab File ID: \_017.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/19/22 11:51
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/19/22 11:52
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/19/22 11:52
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/19/22 11:52

Lab Sample ID: 140-26390-7 Client Sample ID: T-2155 VEN CARBON BED INLET R2 OTM-45 IMPINGERS 1,2&3 COND

Date Analyzed: 02/18/22 22:55 Lab File ID: \_024.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HFPO-DA	3.54	Baseline	cochranj	02/19/22 12:18

Lab Sample ID: 140-26390-11 Client Sample ID: T-2148 VEN CARBON BED INLET R3 OTM-45 IMPINGERS 1,2&3 COND

Date Analyzed: 02/18/22 23:03 Lab File ID: \_025.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HFPO-DA	3.54	Baseline	cochranj	02/19/22 12:19

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59045

Lab Sample ID: CCV 140-59045/29 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 23:39 Lab File ID: \_029.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/19/22 12:20
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/19/22 12:21
Perfluorodecanoic acid (PFDA)	4.72	Baseline	cochranj	02/19/22 12:21
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/19/22 12:21

Lab Sample ID: CCV 140-59045/42 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 01:33 Lab File ID: \_042.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HFPO-DA	3.54	Baseline	cochranj	02/19/22 12:28
Perfluorohexanesulfonic acid (PFHxS)	3.77	Baseline	cochranj	02/19/22 12:28
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/19/22 12:28
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/19/22 12:29



PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59059

Lab Sample ID: CCVL 140-59059/6 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 18:34 Lab File ID: 006.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	2.80	Baseline	cochranj	02/19/22 18:49
Perfluorohexanesulfonic acid (PFHxS)	3.77	Baseline	cochranj	02/19/22 18:49
6:2 FTUCA	3.89	Baseline	cochranj	02/19/22 18:50
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/19/22 18:50
8:2 FTCA	4.55	Baseline	cochranj	02/19/22 18:50
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.86	Baseline	cochranj	02/19/22 18:51
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.00	Baseline	cochranj	02/19/22 18:51
NMeFOSA	5.27	Baseline	cochranj	02/19/22 18:51
N-ethylperfluoro-1-octanesulfonamide	5.45	Baseline	cochranj	02/19/22 18:52

Lab Sample ID: CCVIS 140-59059/7 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 18:43 Lab File ID: 007.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.77	Baseline	cochranj	02/19/22 18:54
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/19/22 18:54
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/19/22 18:55

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59059

Lab Sample ID: CCV 140-59059/19 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 20:31 Lab File ID: \_019.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/20/22 15:58
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/20/22 15:58
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/20/22 15:58

Lab Sample ID: CCV 140-59059/42 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 23:54 Lab File ID: \_042.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/20/22 16:16
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/20/22 16:16
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/20/22 16:16
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/20/22 16:16

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59059

Lab Sample ID: CCV 140-59059/50 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/20/22 01:04 Lab File ID: \_050.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.77	Baseline	cochranj	02/20/22 16:19
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/20/22 16:19
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/20/22 16:20
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.00	Baseline	cochranj	02/20/22 16:20

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59064

Lab Sample ID: CCVL 140-59064/4 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/20/22 13:31 Lab File ID: 004.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	2.81	Baseline	cochranj	02/20/22 13:42
3:3 FTCA	3.13	Baseline	cochranj	02/20/22 13:42
Perfluorohexanoic acid (PFHxA)	3.45	Baseline	cochranj	02/20/22 13:43
Perfluorohexanesulfonic acid (PFHxS)	3.79	Baseline	cochranj	02/20/22 13:43
5:3 FTCA	3.86	Baseline	cochranj	02/20/22 13:43
6:2 FTCA	3.92	Baseline	cochranj	02/20/22 13:43
Perfluorooctanesulfonic acid (PFOS)	4.43	Baseline	cochranj	02/20/22 13:44
8:2 FTCA	4.57	Baseline	cochranj	02/20/22 13:44
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.88	Baseline	cochranj	02/20/22 13:45
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/20/22 13:45
NMeFOSA	5.28	Baseline	cochranj	02/20/22 13:45
2-(N-methylperfluoro-1-octanesulfon amido) ethanol	5.29	Baseline	cochranj	02/20/22 13:45
2-(N-ethylperfluoro-1-octanesulfona mido) ethanol	5.45	Baseline	cochranj	02/20/22 13:46
N-ethylperfluoro-1-octanesulfonam ide	5.46	Baseline	cochranj	02/20/22 13:46
Perfluorooctadecanoic acid	6.19	Baseline	cochranj	02/20/22 13:46

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59064

Lab Sample ID: CCVIS 140-59064/5 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/20/22 13:40 Lab File ID: 005.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.79	Baseline	cochranj	02/20/22 14:03
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/20/22 14:03
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/20/22 14:04

Lab Sample ID: CCV 140-59064/19 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/20/22 15:43 Lab File ID: 019.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.76	Baseline	mcwhirter 1	02/21/22 00:07
Perfluorooctanesulfonic acid (PFOS)	4.40	Baseline	mcwhirter 1	02/21/22 00:13
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.86	Baseline	mcwhirter 1	02/21/22 00:09
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.00	Baseline	mcwhirter 1	02/21/22 00:09

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59072

Lab Sample ID: CCVL 140-59072/6 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/21/22 09:53 Lab File ID: 006.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	2.80	Baseline	cochranj	02/21/22 14:25
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/21/22 14:26
6:2 FTCA	3.90	Baseline	cochranj	02/21/22 14:26
6:2 FTUCA	3.90	Baseline	cochranj	02/21/22 14:26
Perfluorooctanesulfonic acid (PFOS)	4.43	Baseline	cochranj	02/21/22 14:26
8:2 FTUCA	4.55	Baseline	cochranj	02/21/22 14:27
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.88	Baseline	cochranj	02/21/22 14:27
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/21/22 14:27
10:2 FTCA	5.11	Split Peak	cochranj	02/21/22 14:27
NMeFOSA	5.27	Split Peak	cochranj	02/21/22 14:28
N-ethylperfluoro-1-octanesulfonamide	5.44	Baseline	cochranj	02/21/22 14:28

Lab Sample ID: CCVIS 140-59072/7 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/21/22 10:02 Lab File ID: 007.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.80	Baseline	cochranj	02/21/22 14:29
Perfluorooctanesulfonic acid (PFOS)	4.44	Baseline	cochranj	02/21/22 14:29
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.90	Baseline	cochranj	02/21/22 14:29
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.03	Baseline	cochranj	02/21/22 14:30

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59072

Lab Sample ID: CCV 140-59072/14 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/21/22 11:03 Lab File ID: \_014.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.79	Baseline	cochranj	02/21/22 14:31
Perfluorooctanesulfonic acid (PFOS)	4.43	Baseline	cochranj	02/21/22 14:31
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.89	Baseline	cochranj	02/21/22 14:31

# Method PFC IDA

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Fluorinated Hydrocarbons by Method  
PFAS IDA



FORM II  
PFAS SURROGATE RECOVERY

Lab Name: Eurofins Knoxville

Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Matrix: Air

Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	HFPODA #
T-2166,2165 VEN CARBON BED INLET R1 OTM-45 FH	140-26390-1	90
T-2164,2163,2161 VEN CARBON BED INLET R1 OTM-45 BH	140-26390-2	86
T-2162 VEN CARBON BED INLET R1 OTM-45 IMPINGERS 1,2&3 COND	140-26390-3	76
T-2160 VEN CARBON BED INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	140-26390-4	92
T-2159,2158 VEN CARBON BED INLET R2 OTM-45 FH	140-26390-5	87
T-2157,2156,2154 VEN CARBON BED INLET R2 OTM-45 BH	140-26390-6	86
T-2155 VEN CARBON BED INLET R2 OTM-45 IMPINGERS 1,2&3 COND	140-26390-7	74
T-2153 VEN CARBON BED INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	140-26390-8	84
T-2152,2151 VEN CARBON BED INLET R3 OTM-45 FH	140-26390-9	84
T-2150,2149,2147 VEN CARBON BED INLET R3 OTM-45 BH	140-26390-10	82
T-2148 VEN CARBON BED INLET R3 OTM-45 IMPINGERS 1,2&3 COND	140-26390-11	73
T-2146 VEN CARBON BED INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	140-26390-12	79
	MB 140-58905/1-B	89
	MB 140-58914/1-B	82
	MB 140-58967/1-A	84

HFPODA = 13C3 HFPO-DA

QC LIMITS  
25-150

# Column to be used to flag recovery values

FORM II 537 (modified)

FORM II  
PFAS SURROGATE RECOVERY

Lab Name: Eurofins Knoxville

Job No.: 140-26390-1

SDG No.: \_\_\_\_\_

Matrix: Air

Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	HFPODA #
	LCS 140-58905/2-B	89
	LCS 140-58914/2-B	87
	LCS 140-58967/2-A	79
	LCSD 140-58905/3-B	83
	LCSD 140-58914/3-B	82
	LCSD 140-58967/3-A	81

HFPODA = 13C3 HFPO-DA

QC LIMITS  
25-150

# Column to be used to flag recovery values

FORM II 537 (modified)

FORM III  
PFAS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_021.d  
 Lab ID: LCS 140-58905/2-B Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCS CONCENTRATION (ug/Sample)	LCS % REC	QC LIMITS REC	#
HFPO-DA	0.0200	0.02421	121	60-140	
13C3 HFPO-DA	0.0250	0.02236	89	25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
PFAS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_036.d  
 Lab ID: LCS 140-58914/2-B Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCS CONCENTRATION (ug/Sample)	LCS % REC	QC LIMITS REC	#
HFPO-DA	0.0200	0.02100	105	60-140	
13C3 HFPO-DA	0.0250	0.02163	87	25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
PFAS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_021.d  
 Lab ID: LCS 140-58967/2-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCS CONCENTRATION (ug/Sample)	LCS % REC	QC LIMITS REC	#
HFPO-DA	0.0100	0.01237	124	60-140	
13C3 HFPO-DA	0.0125	0.009894	79	25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
 PFAS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_022.d  
 Lab ID: LCSD 140-58905/3-B Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCSD CONCENTRATION (ug/Sample)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
HFPO-DA	0.0200	0.02594	130	7	30	60-140	
13C3 HFPO-DA	0.0250	0.02067	83			25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
 PFAS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_037.d  
 Lab ID: LCSD 140-58914/3-B Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCSD CONCENTRATION (ug/Sample)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
HFPO-DA	0.0200	0.02215	111	5	30	60-140	
13C3 HFPO-DA	0.0250	0.02055	82			25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
 PFAS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_022.d  
 Lab ID: LCSD 140-58967/3-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCSD CONCENTRATION (ug/Sample)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
HFPO-DA	0.0100	0.01188	119	4	30	60-140	
13C3 HFPO-DA	0.0125	0.01011	81			25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)



FORM IV  
PFAS METHOD BLANK SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: \_020.d Lab Sample ID: MB 140-58905/1-B  
 Matrix: Air Date Extracted: 02/15/2022 14:06  
 Instrument ID: LCA Date Analyzed: 02/19/2022 20:40  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 140-58905/2-B	_021.d	02/19/2022 20:49
	LCSD 140-58905/3-B	_022.d	02/19/2022 20:58
T-2146 VEN CARBON BED INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	140-26390-12	_027.d	02/19/2022 21:42
T-2153 VEN CARBON BED INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	140-26390-8	_008.d	02/20/2022 14:06
T-2164,2163,2161 VEN CARBON BED INLET R1 OTM-45 BH	140-26390-2	_009.d	02/20/2022 14:15
T-2160 VEN CARBON BED INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	140-26390-4	_010.d	02/20/2022 14:24
T-2157,2156,2154 VEN CARBON BED INLET R2 OTM-45 BH	140-26390-6	_011.d	02/20/2022 14:32
T-2150,2149,2147 VEN CARBON BED INLET R3 OTM-45 BH	140-26390-10	_010.d	02/21/2022 10:28

FORM IV  
PFAS METHOD BLANK SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: \_035.d Lab Sample ID: MB 140-58914/1-B  
 Matrix: Air Date Extracted: 02/16/2022 07:38  
 Instrument ID: LCA Date Analyzed: 02/19/2022 00:31  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 140-58914/2-B	_036.d	02/19/2022 00:40
	LCSD 140-58914/3-B	_037.d	02/19/2022 00:49
T-2166,2165 VEN CARBON BED INLET R1 OTM-45 FH	140-26390-1	_046.d	02/20/2022 00:29
T-2159,2158 VEN CARBON BED INLET R2 OTM-45 FH	140-26390-5	_047.d	02/20/2022 00:38
T-2152,2151 VEN CARBON BED INLET R3 OTM-45 FH	140-26390-9	_048.d	02/20/2022 00:47

FORM IV  
PFAS METHOD BLANK SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: \_020.d Lab Sample ID: MB 140-58967/1-A  
 Matrix: Air Date Extracted: 02/17/2022 09:59  
 Instrument ID: LCA Date Analyzed: 02/18/2022 22:19  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 140-58967/2-A	_021.d	02/18/2022 22:28
	LCSD 140-58967/3-A	_022.d	02/18/2022 22:37
T-2162 VEN CARBON BED INLET R1 OTM-45 IMPINGERS 1,2&3 COND	140-26390-3	_023.d	02/18/2022 22:46
T-2155 VEN CARBON BED INLET R2 OTM-45 IMPINGERS 1,2&3 COND	140-26390-7	_024.d	02/18/2022 22:55
T-2148 VEN CARBON BED INLET R3 OTM-45 IMPINGERS 1,2&3 COND	140-26390-11	_025.d	02/18/2022 23:03

FORM VIII  
PFAS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 140-59044/7 Date Analyzed: 02/18/2022 18:27  
 Instrument ID: LCA GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 007.d Heated Purge: (Y/N) N  
 Calibration ID: 3582

	13PFOA		#	RT #	#	RT #
	AREA #	RT #				
INITIAL CALIBRATION MID-POINT	5334710	4.13				
UPPER LIMIT	8002065	4.33				
LOWER LIMIT	2667355	3.93				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 140-59044/12		4677658	4.12			
CCVIS 140-59045/5		5578839	4.13			
CCVIS 140-59059/7		5377493	4.12			
CCVIS 140-59064/5		4845593	4.14			
CCVIS 140-59072/7		4864253	4.15			

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
PFAS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 140-59045/5 Date Analyzed: 02/18/2022 20:07  
 Instrument ID: LCA GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 005.d Heated Purge: (Y/N) N  
 Calibration ID: 3582

		13PFOA					
		AREA #	RT #	#	RT #	#	RT #
12/24 HOUR STD		5578839	4.13				
UPPER LIMIT		8368259	4.33				
LOWER LIMIT		2789420	3.93				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 140-59045/17		5185600	4.13				
MB 140-58967/1-A		5487523	4.12				
LCS 140-58967/2-A		5448593	4.12				
LCSD 140-58967/3-A		5706850	4.12				
140-26390-3	T-2162 VEN CARBON BED INLET R1 OTM-45 IMPINGERS 1,2&3 COND	5785918	4.12				
140-26390-7	T-2155 VEN CARBON BED INLET R2 OTM-45 IMPINGERS 1,2&3 COND	6020665	4.13				
140-26390-11	T-2148 VEN CARBON BED INLET R3 OTM-45 IMPINGERS 1,2&3 COND	5712539	4.12				
CCV 140-59045/29		5461512	4.13				
MB 140-58914/1-B		5225624	4.12				
LCS 140-58914/2-B		5137439	4.12				
LCSD 140-58914/3-B		5162799	4.13				
CCV 140-59045/42		5241382	4.12				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
PFAS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 140-59059/7 Date Analyzed: 02/19/2022 18:43  
 Instrument ID: LCA GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 007.d Heated Purge: (Y/N) N  
 Calibration ID: 3582

		13PFOA					
		AREA #	RT #	#	RT #	#	RT #
12/24 HOUR STD		5377493	4.12				
UPPER LIMIT		8066240	4.32				
LOWER LIMIT		2688747	3.92				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 140-59059/19		4953682	4.13				
MB 140-58905/1-B		4933776	4.13				
LCS 140-58905/2-B		4749725	4.12				
LCSD 140-58905/3-B		4916917	4.12				
140-26390-12	T-2146 VEN CARBON BED INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	4549267	4.13				
CCV 140-59059/30		5562146	4.12				
CCV 140-59059/42		5061844	4.13				
140-26390-1	T-2166,2165 VEN CARBON BED INLET R1 OTM-45 FH	5101405	4.12				
140-26390-5	T-2159,2158 VEN CARBON BED INLET R2 OTM-45 FH	4862154	4.12				
140-26390-9	T-2152,2151 VEN CARBON BED INLET R3 OTM-45 FH	5151702	4.11				
CCV 140-59059/50		5042506	4.12				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
PFAS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 140-59064/5 Date Analyzed: 02/20/2022 13:40  
 Instrument ID: LCA GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 005.d Heated Purge: (Y/N) N  
 Calibration ID: 3582

	13PFOA		#	RT #	#	RT #
	AREA #	RT #				
12/24 HOUR STD	4845593	4.14				
UPPER LIMIT	7268390	4.34				
LOWER LIMIT	2422797	3.94				
LAB SAMPLE ID	CLIENT SAMPLE ID					
140-26390-8	T-2153 VEN CARBON BED INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	4218353	4.12			
140-26390-2	T-2164,2163,2161 VEN CARBON BED INLET R1 OTM-45 BH	4948428	4.13			
140-26390-4	T-2160 VEN CARBON BED INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	253483*3	4.13			
140-26390-6	T-2157,2156,2154 VEN CARBON BED INLET R2 OTM-45 BH	4903833	4.13			
CCV 140-59064/19		4663656	4.11			

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
PFAS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 140-59072/7 Date Analyzed: 02/21/2022 10:02  
 Instrument ID: LCA GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 007.d Heated Purge: (Y/N) N  
 Calibration ID: 3582

	13PFOA		#	RT #	#	RT #
	AREA #	RT #				
12/24 HOUR STD	4864253	4.15				
UPPER LIMIT	7296380	4.35				
LOWER LIMIT	2432127	3.95				
LAB SAMPLE ID	CLIENT SAMPLE ID					
140-26390-10	T-2150,2149,2147 VEN CARBON BED INLET R3 OTM-45 BH	4758514	4.14			
CCV 140-59072/14		4714351	4.14			

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII 537 (MODIFIED)





Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_046.d  
 Lims ID: 140-26390-B-1-D  
 Client ID: T-2166,2165 VEN CARBON BED INLET R1 OTM-45 FH  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 00:29:41 ALS Bottle#: 46 Worklist Smp#: 46  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-046 140-26390-b-1-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:34 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:18:39  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_042.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.543	3.542	0.001	1.000	15119607	6.61	Target=2.58		3723	
329.00 > 169.00	3.543	3.542	0.001	1.000	5223932		2.89(1.29-3.86)		2817	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.542	0.001	0.860	2276231	1.12		89.9	6950	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		5101405	1.25			10298	

**QC Flag Legend**  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_046.d

Injection Date: 20-Feb-2022 00:29:41

Instrument ID: LCA

Lims ID: 140-26390-B-1-D

Lab Sample ID: 140-26390-1

Client ID: T-2166,2165 VEN CARBON BED INLET R1 OTM-45 FH

Operator ID: Cochran, Bobby

ALS Bottle#: 46

Worklist Smp#: 46

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

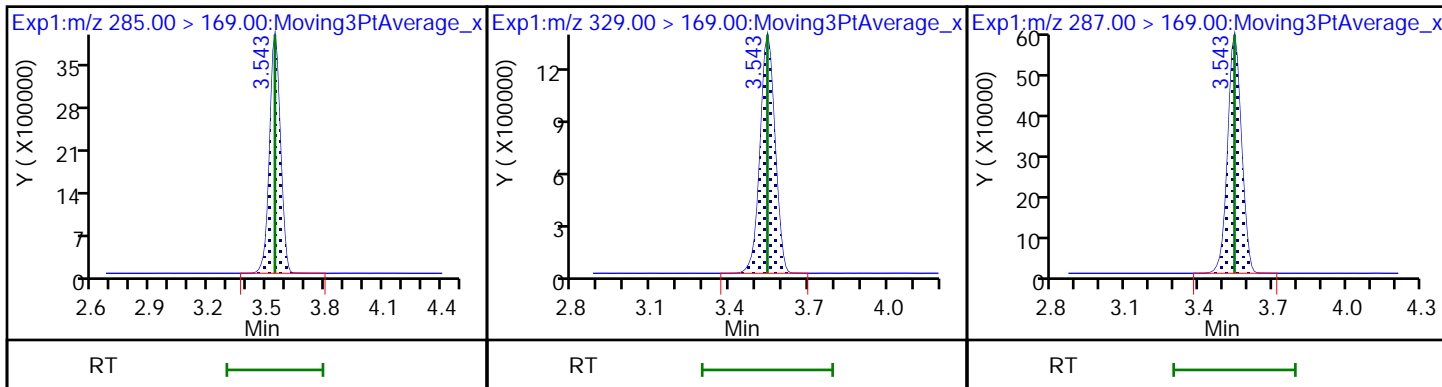
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

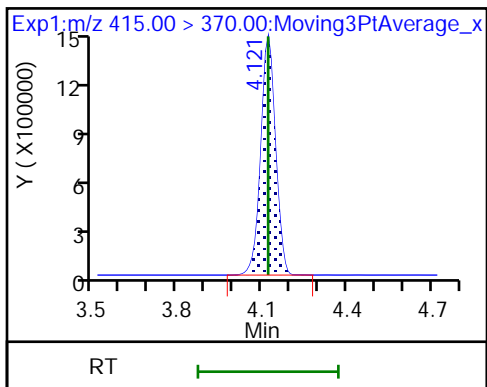
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2164,2163,2161 VEN Lab Sample ID: 140-26390-2  
                           CARBON BED INLET R1  
                           OTM-45 BH  
 Matrix: Air Lab File ID: \_009.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/20/2022 14:15  
 Con. Extract Vol.: 360(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59064 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	945	B	8.00	7.00

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	86		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_009.d  
 Lims ID: 140-26390-A-2-D  
 Client ID: T-2164,2163,2161 VEN CARBON BED INLET R1 OTM-45 BH  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 14:15:17 ALS Bottle#: 9 Worklist Smp#: 9  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022725-009 140-26390-a-2-d  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:50:51 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: cochranj Date: 20-Feb-2022 15:15:49  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_005.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										7
212.90 > 169.00	2.811	2.811	0.0	1.000	8082	-0.001546		2.6		7
LOD = 0.0100										
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.680	5613441	1.21		96.8	20717	
3 PFECA F										7M
229.00 > 85.00	2.866	2.919	-0.053	0.918	3075	0.001238		18.5		7M
LOD = 0.0500										
6 Perfluoropentanoic acid										7
262.90 > 219.00	3.122	3.123	0.0	1.000	22588	0.001711		9.1		7
LOD = 0.006500										
D 5 13C5 PFPeA										
267.90 > 223.00	3.122	3.123	0.0	0.756	4121537	1.13		90.6	15507	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.139	-0.008	0.758	2482725	1.08		92.7	9437	
4 3:3 FTCA										
241.00 > 177.10		3.139				ND				
241.00 > 116.90		3.139								
8 Perfluorobutanesulfonic acid										R7M
298.90 > 80.00	3.139	3.139	0.0	1.003	575	-0.003205	Target=2.64	3.0		R7M
298.90 > 99.00	3.139	3.139	0.0	1.003	457		1.26(1.32-3.96)	3.2		M
LOD = 0.004500										
9 PFECA A										
278.95 > 84.90		3.211				ND				
11 PES										
314.80 > 135.00		3.270				ND				
12 PFECA B										
295.22 > 201.00		3.395				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.426	3.427	0.0	0.829	792101	1.10		94.1	1642	
13 4:2 FTS										
327.00 > 307.00		3.427				ND				
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.448				ND				
349.00 > 99.00		3.448								
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	10220	-0.004382	Target=11.32	4.8		7M
313.00 > 119.00	3.448	3.448	0.0	1.000	1001		10.21(5.66-16.98)	1.0		M
LOD = 0.008600										
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.835	4655167	1.16		92.7	18990	
17 HFPO-DA										
285.00 > 169.00	3.552	3.553	-0.001	1.000	20145069	9.45	Target=2.52			6978
329.00 > 169.00	3.552	3.553	-0.001	1.000	7867601		2.56(1.26-3.78)			6118
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.552	3.553	-0.001	0.860	2119968	1.08		86.3	7848	
S 10 ADONA										
377.00 > 251.00		3.592				0				
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.792	-0.009	0.916	1784610	1.19		101	8569	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.793	3.792	0.001	1.003	5676	0.002716	Target=3.40			7
399.00 > 99.00	3.793	3.792	0.001	1.003	1634		3.47(1.70-5.10)			7
LOD = 0.005000										
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.803	-0.010	0.918	4032000	1.13		90.1	8575	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.793	3.803	-0.010	1.000	9135	-0.003752	Target=3.37			7
363.00 > 169.00	3.803	3.803	0.0	1.003	4005		2.28(1.68-5.05)			7
LOD = 0.0153										
25 DONA										
377.00 > 251.00		3.829				ND				
377.00 > 85.00		3.829								
26 5:3 FTCA										
340.88 > 236.90		3.861				ND				
340.88 > 216.90		3.861								
27 6:2 FTUCA										
356.86 > 292.90		3.895				ND				
356.86 > 243.00		3.895								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.895	3.895	0.0	0.943	1519502	1.14		91.0	3979	
29 6:2 FTCA										
377.10 > 63.00		3.912				ND				
377.10 > 313.10		3.912								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.913	3.912	0.001	0.947	120443	1.17		93.5	555	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
32 PFECBS										
460.80 > 380.90		4.074				ND				
460.80 > 98.90		4.074								
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.121				ND				
449.00 > 99.00		4.121								
37 Perfluorooctanoic acid										
413.00 > 369.00	4.139	4.130	0.009	1.002	16344	-0.002101	Target=2.46	12.8		7
413.00 > 169.00	4.139	4.130	0.009	1.002	5430		3.01(1.23-3.69)	8.8		7
LOD = 0.009500										
35 6:2 FTS										
427.00 > 407.00		4.130				ND				
\$ 36 13C8 PFOA										
421.00 > 376.00		4.130				ND				
D 34 M2-6:2 FTS										
429.00 > 81.00	4.131	4.130	0.001	1.000	901837	1.27		107	2461	
D 31 13C4 PFOA										
417.00 > 372.00	4.131	4.130	0.001	1.000	4491389	1.21		97.0	10750	
* 30 13C2 PFOA										
415.00 > 370.00	4.131	4.139	-0.008		4948428	1.25			10237	
\$ 38 13C8 PFOS										
507.00 > 99.00		4.421				ND				
40 Perfluorooctanesulfonic acid										
499.00 > 80.00		4.421				ND				
499.00 > 99.00		4.421								
D 39 13C4 PFOS										
503.00 > 80.00	4.422	4.421	0.001	1.070	2649422	1.19		99.8	3396	
D 41 13C5 PFNA										
468.00 > 423.00	4.448	4.448	0.0	1.077	6106013	1.22		97.3	11383	
42 Perfluorononanoic acid										
463.00 > 419.00		4.448				ND				
463.00 > 169.00		4.448								
43 7:3 FTCA										
441.00 > 337.00		4.528				ND				
441.00 > 317.00		4.528								
44 8:2 FTUCA										
456.86 > 392.90		4.553				ND				
456.86 > 343.00		4.553								
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.554	4.553	0.001	1.000	2346719	1.31		105	4519	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.570	4.570	0.0	1.106	149065	1.14		91.2	531	
46 8:2 FTCA										
477.00 > 393.10		4.570				ND				
477.00 > 63.20		4.570								
49 9CIFOS										
531.00 > 351.00		4.586				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.706				ND				
549.00 > 99.00		4.706								
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.714	-0.008	1.139	4192849	1.25		100.0	6858	
54 Perfluorooctanesulfonamide										
498.00 > 78.00		4.714				ND				
48 Perfluorodecanoic acid										
513.00 > 469.00	4.731	4.731	0.0	1.000	10152	-0.004498	Target=11.22	10.7	7	7
513.00 > 169.00	4.748	4.731	0.017	1.004	1094		9.28(5.61-16.84)	1.3		
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.731	4.731	0.0	1.145	5952451	1.24		99.4	12287	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.748	-0.008	1.147	915293	1.18		98.5	2155	
53 8:2 FTS										
527.00 > 507.00		4.748				ND				
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.880	-0.008	1.179	579647	1.29		103	1719	
57 NMeFOSAA										
570.00 > 419.00		4.880				ND				
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.966				ND				
599.00 > 99.00		4.966								
60 Perfluoroundecanoic acid										
563.00 > 519.00		4.995				ND				
563.00 > 169.00		4.995								
D 59 13C2 PFUnA										
565.00 > 520.00	4.995	4.995	0.0	1.209	5396640	1.17		93.4	9565	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.015	5.014	0.001	1.214	566723	1.23		98.4	2441	
62 NEtFOSAA										
584.00 > 419.00		5.024				ND				
65 10:2 FTUCA										
556.86 > 492.90		5.102				ND				
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.103	5.102	0.001	1.235	1896564	0.9436		75.5	3418	
63 11C1FOS										
631.00 > 451.00		5.102				ND				
66 10:2 FTCA										
576.80 > 493.00		5.111				ND				
576.80 > 63.10		5.111								
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.112	5.111	0.001	1.237	103337	0.8443		67.5	612	
D 69 13C2 PFDaA										
615.00 > 570.00	5.227	5.235	-0.008	1.265	5214628	1.14		91.4	12047	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
68 Perfluorododecanoic acid										
613.00 > 569.00		5.235				ND				
613.00 > 169.00		5.235								
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.251	5.251	0.0	1.271	664959	1.02		85.9	2892	
71 10:2 FTS										
627.00 > 607.00	5.251	5.251	0.0	1.000	5883	-0.001329		29.2		7
LOD = 0.008500										
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.284	5.283	0.001	1.279	602511	1.28		103	475	
74 NMeFOSA										
512.00 > 169.00		5.283				ND				
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.284	5.283	0.001	1.279	495271	1.24		99.2	48.7	
75 N-MeFOSE-M										
616.00 > 59.00	5.362	5.292	0.070	1.015	1100	-0.001905		2.3		7
LOD = 0.008600										
76 PFDoS										
699.00 > 80.00		5.408				ND				
699.00 > 99.00		5.408								
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.444	5.435	0.009	1.318	640170	1.31		105	337	
78 Perfluorotridecanoic acid										
663.00 > 619.00		5.443				ND				
663.00 > 169.00		5.443								
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.453	5.452	0.001	1.320	406695	1.27		102	728	
79 N-EtFOSE-M										
630.00 > 59.00		5.452				ND				
81 N-EtFOSA-M										
526.00 > 169.00		5.452				ND				
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.626	-0.009	1.360	3716528	1.02		81.5	9762	
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.626				ND				
713.00 > 219.00		5.626								
D 84 13C2 PFHxDA										
815.00 > 770.00	5.925	5.932	-0.007	1.434	2404300	1.01		81.0	5158	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.933	5.932	0.001	1.001	24941	-0.001208	Target=8.46	46.1		7
813.00 > 169.00	5.925	5.932	-0.007	1.000	3066		8.13(4.23-12.69)	8.6		
LOD = 0.009000										
86 Perfluorooctadecanoic acid										
913.00 > 869.00		6.190				ND				
913.00 > 169.00		6.190								
S 87 F-53B										
212.90 > 169.00		0.0				0				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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S 88 NaDONA

377.00 > 251.00            0.0

377.00 > 85.00            0.0

**QC Flag Legend**

Processing Flags

ND - Not Detected or Marked ND

R - Failed Signal Ratio Test

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_009.d

Injection Date: 20-Feb-2022 14:15:17

Instrument ID: LCA

Lims ID: 140-26390-A-2-D

Lab Sample ID: Client 140-59064/9-A

Client ID: T-2164,2163,2161 VEN CARBON BED INLET R1 OTM-45 BH

Operator ID: Cochran, Bobby

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

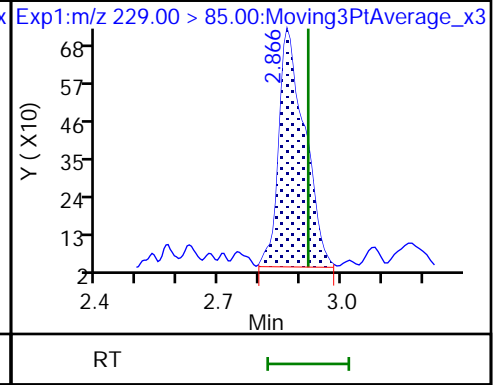
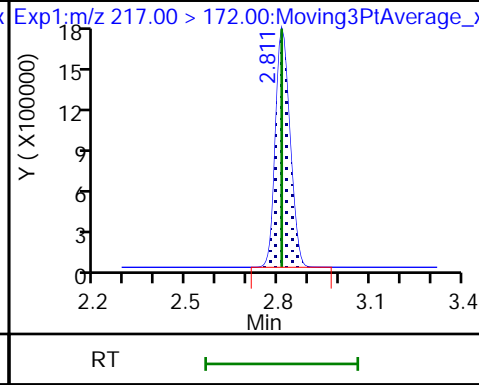
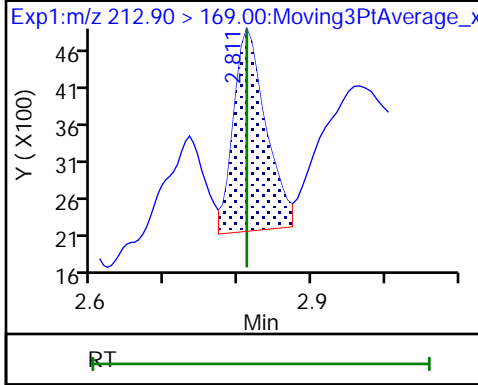
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

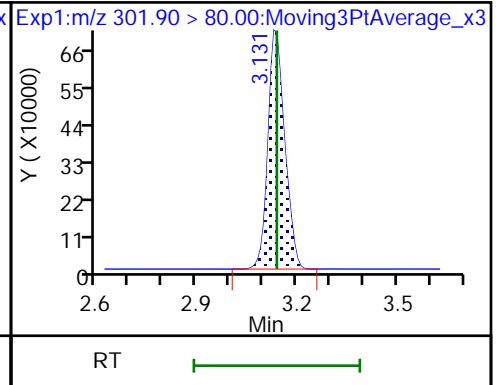
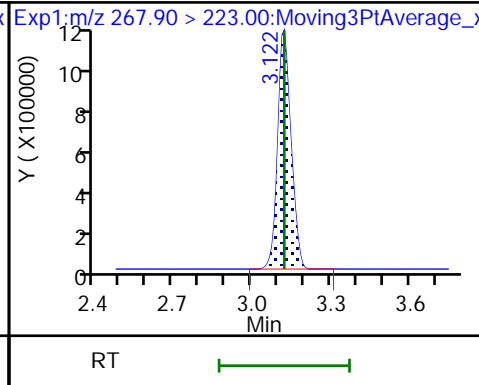
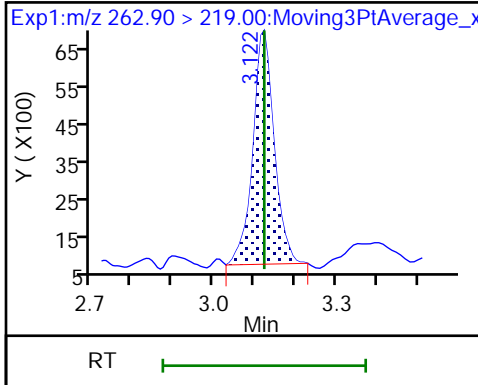
3 PFECA F (M)



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

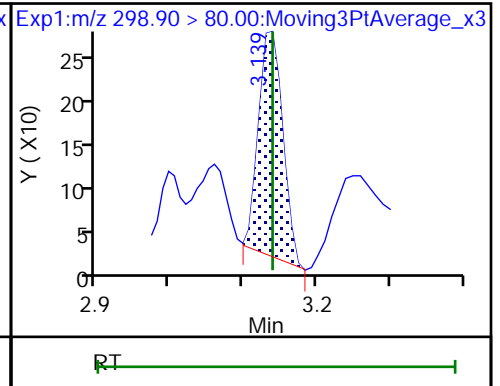
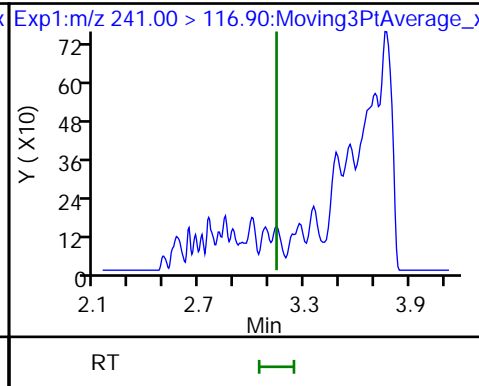
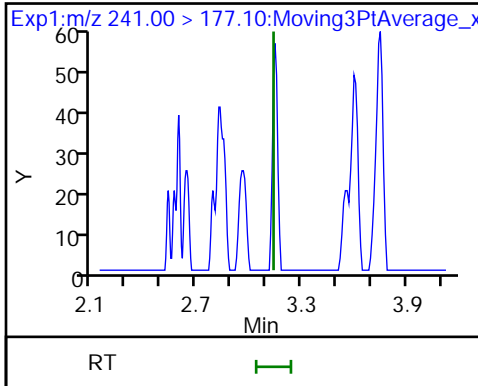
D 7 13C3 PFBS



4 3:3 FTCA (ND)

4 3:3 FTCA (ND)

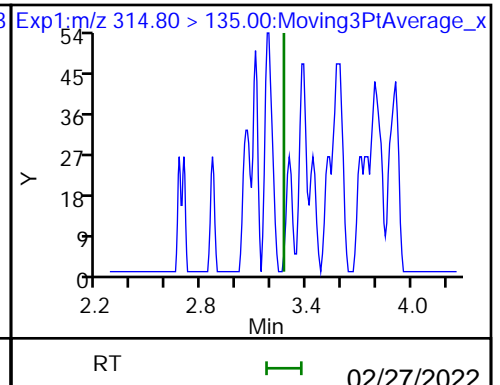
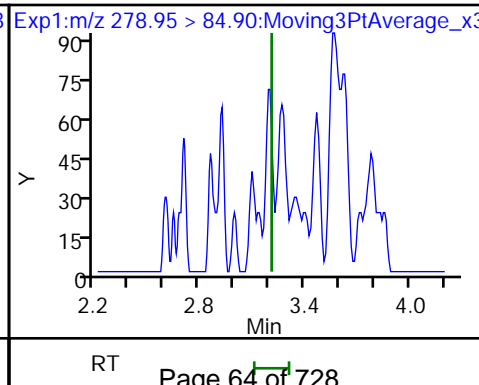
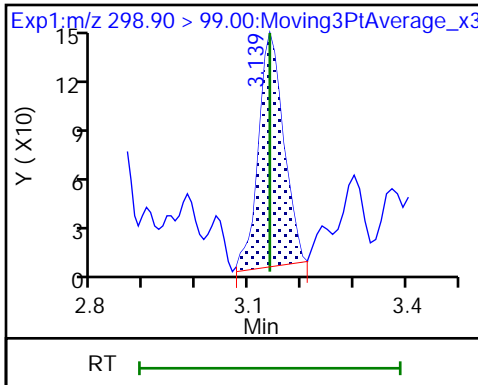
8 Perfluorobutanesulfonic acid (M)

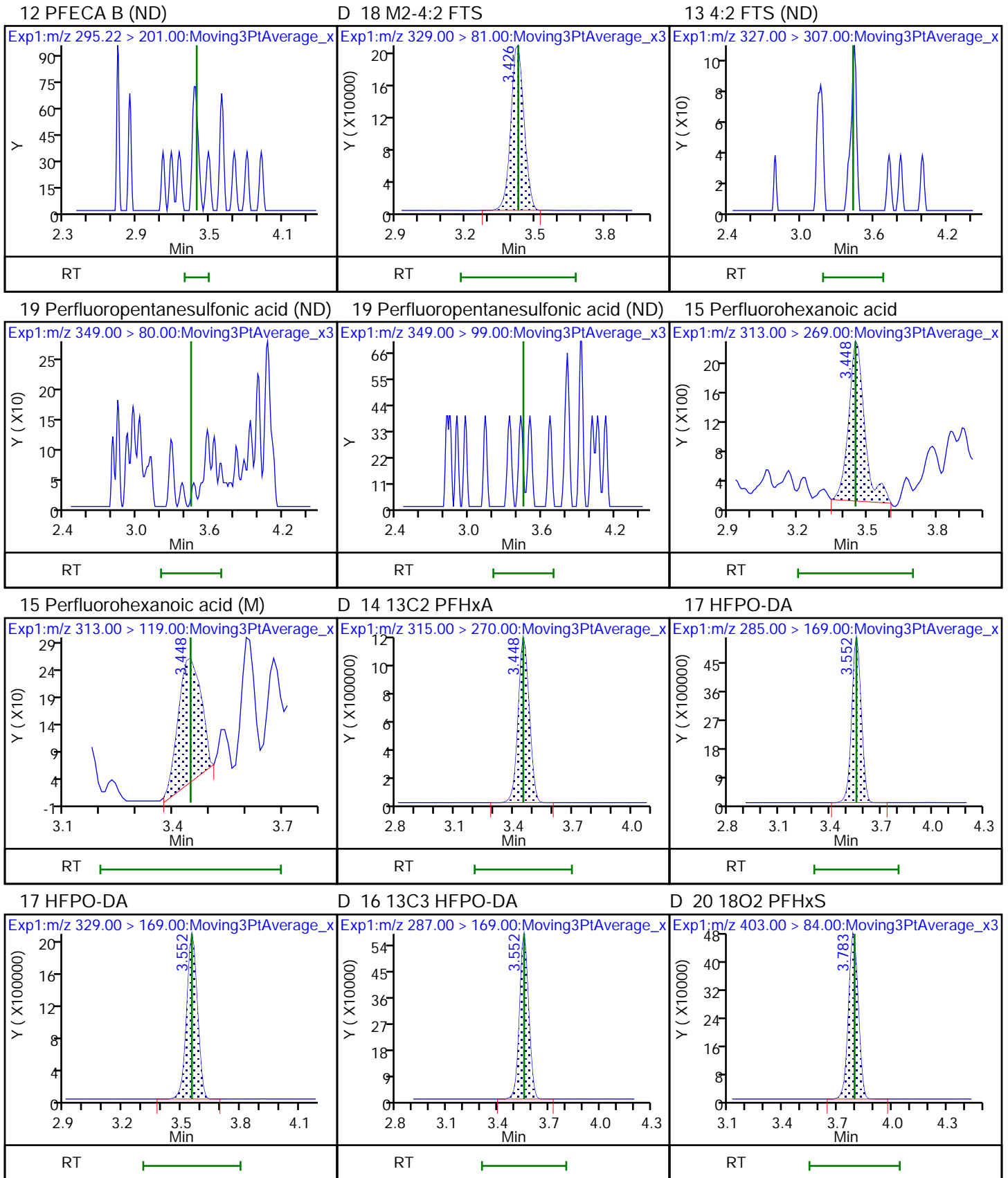


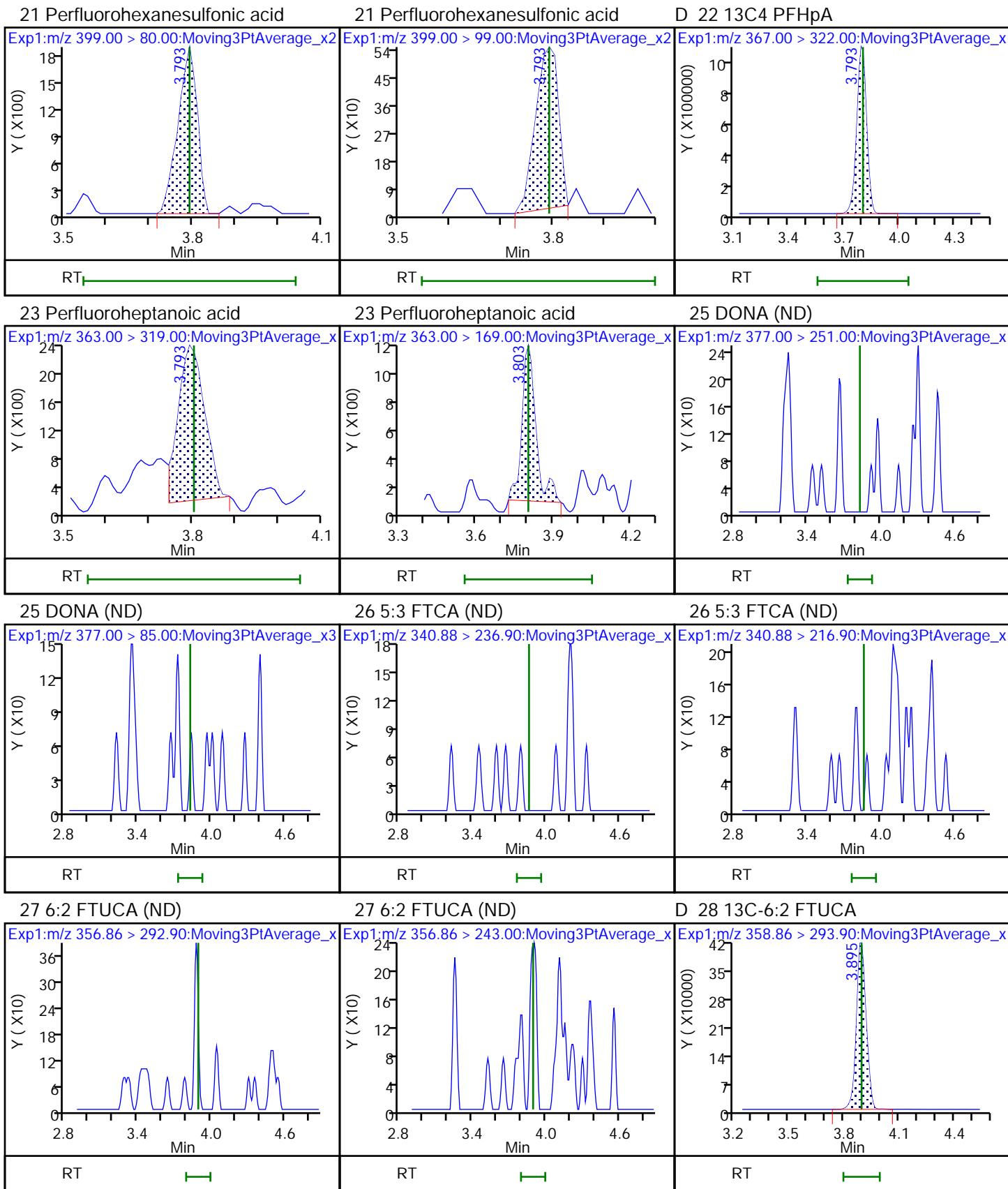
8 Perfluorobutanesulfonic acid (M)

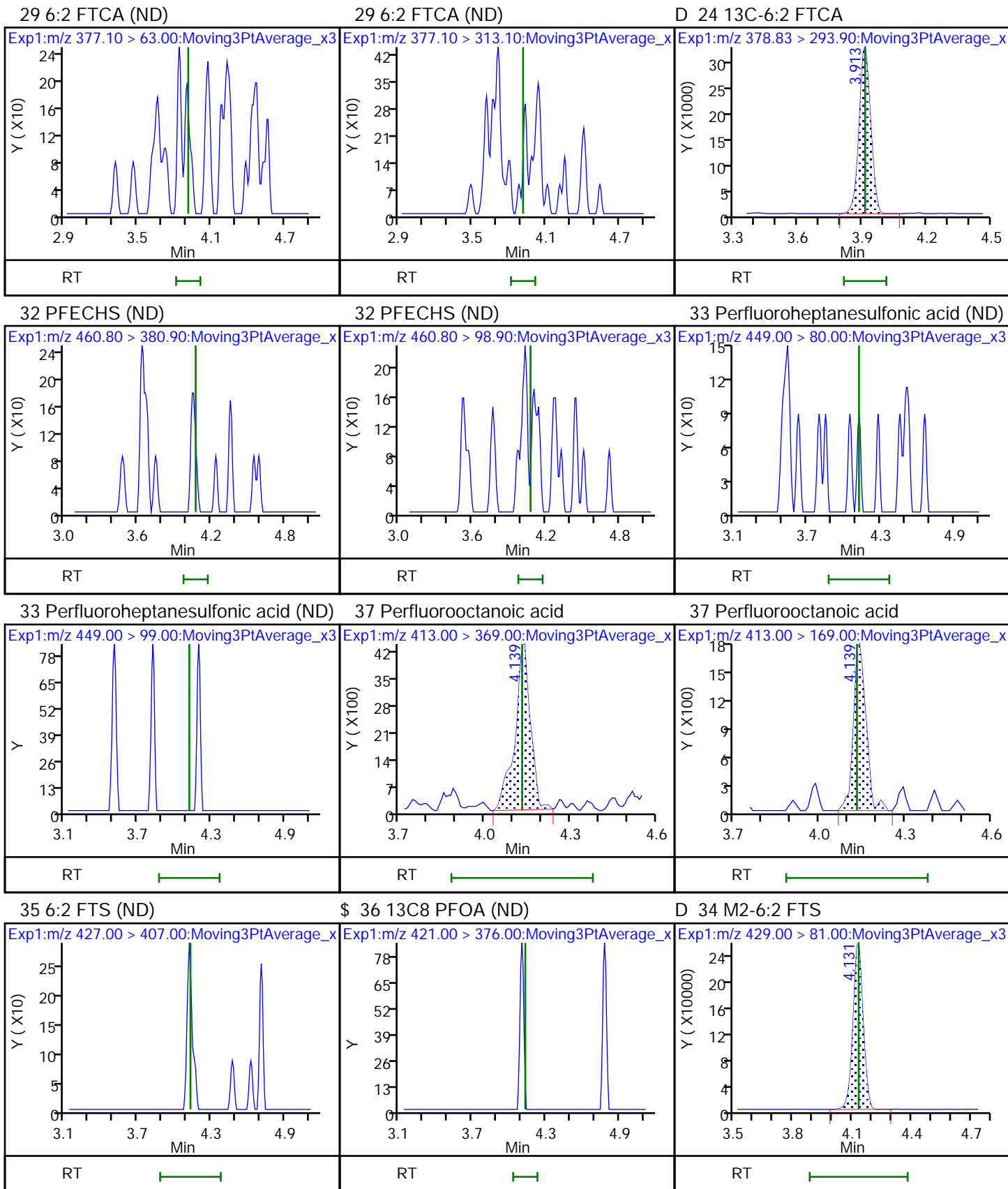
9 PFECA A (ND)

11 PES (ND)





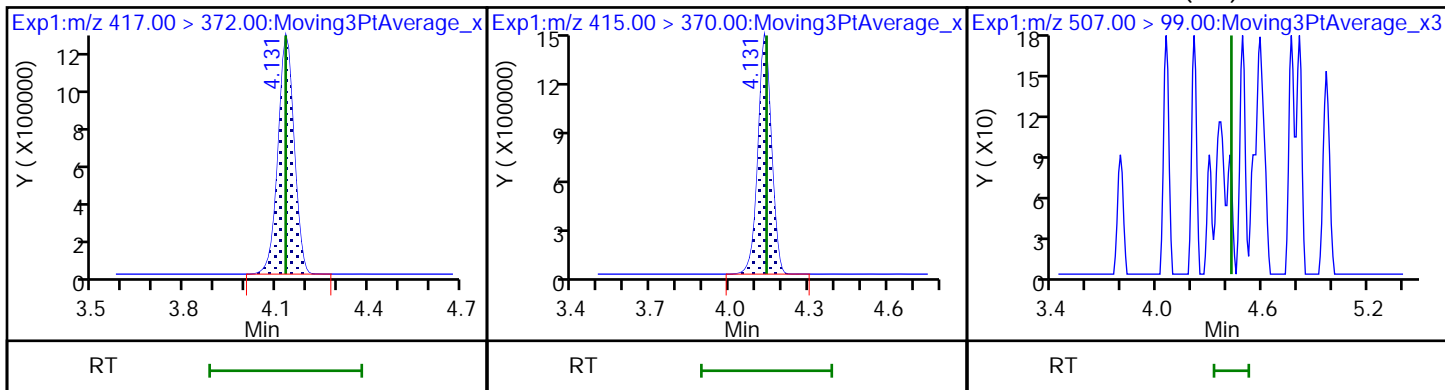




D 31 13C4 PFOA

\* 30 13C2 PFOA

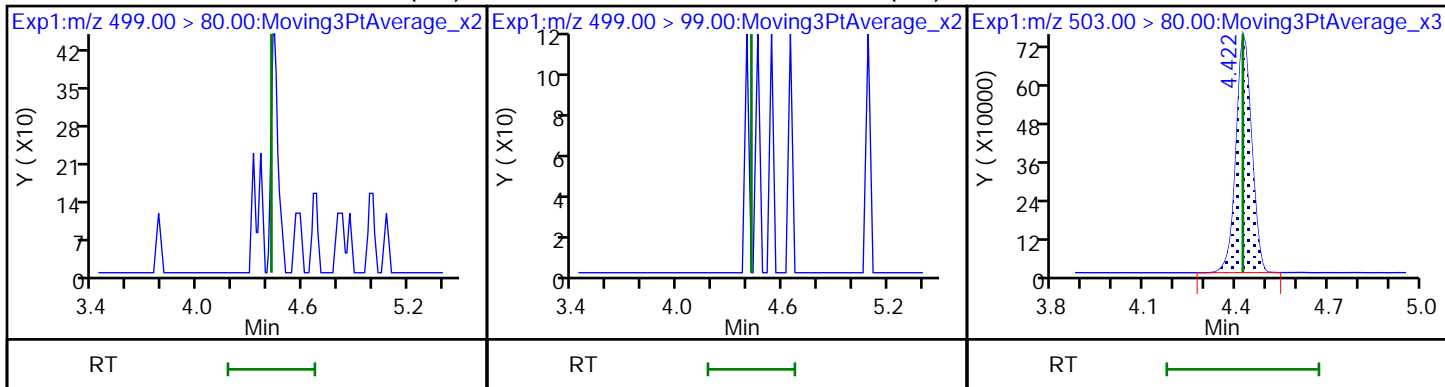
\$ 38 13C8 PFOS (ND)



40 Perfluorooctanesulfonic acid (ND)

40 Perfluorooctanesulfonic acid (ND)

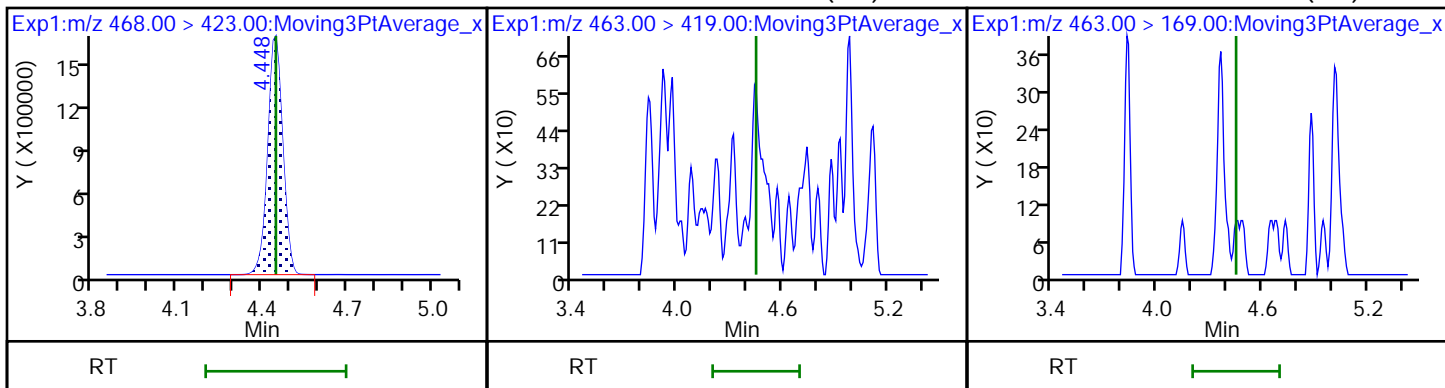
D 39 13C4 PFOS



D 41 13C5 PFNA

42 Perfluorononanoic acid (ND)

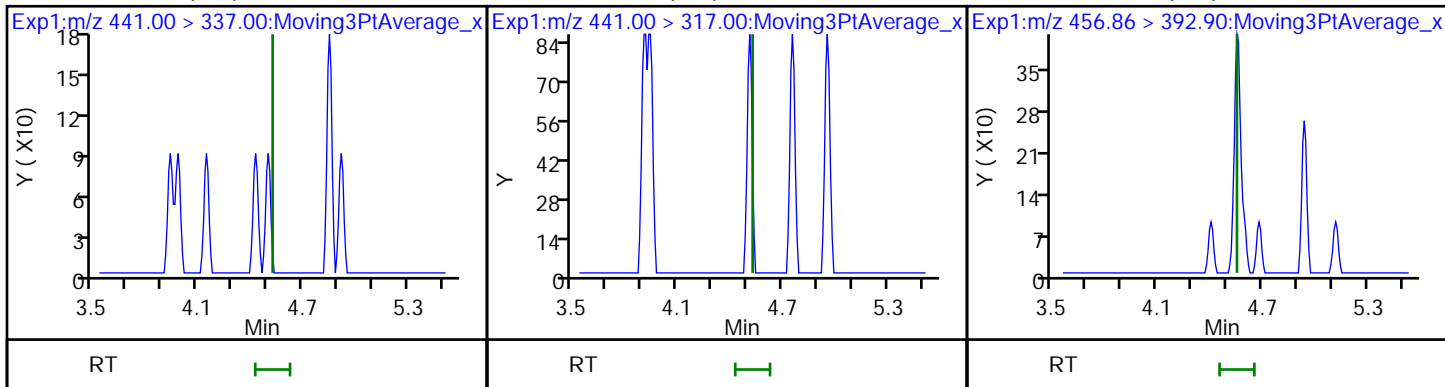
42 Perfluorononanoic acid (ND)

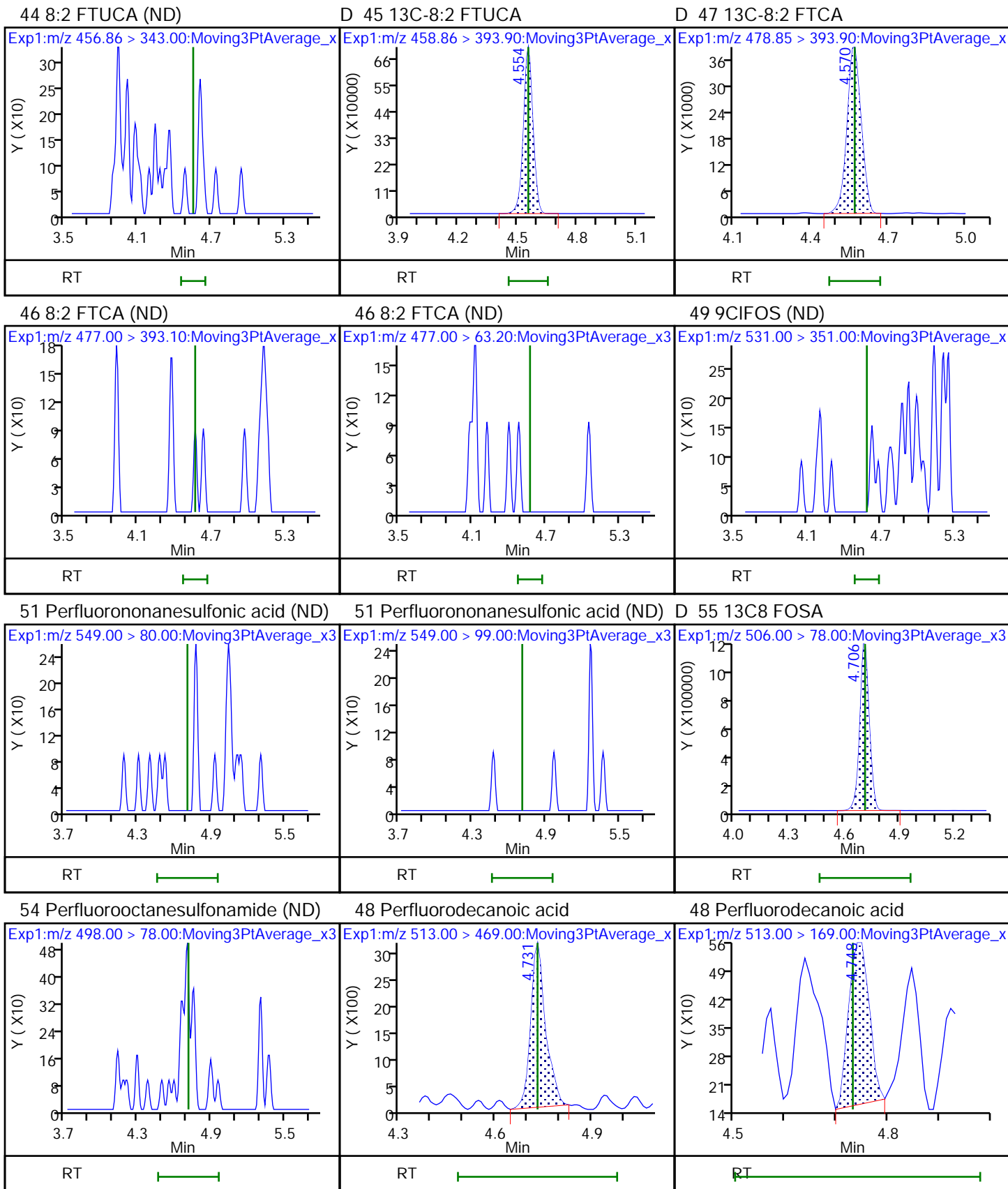


43 7:3 FTCA (ND)

43 7:3 FTCA (ND)

44 8:2 FTUCA (ND)



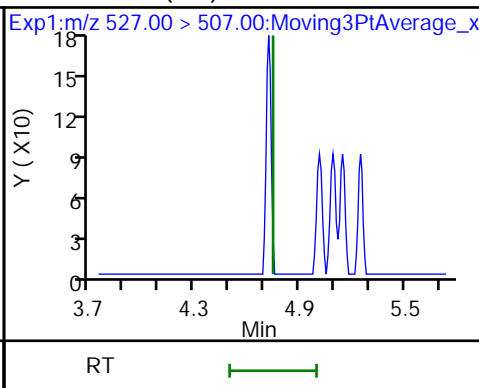
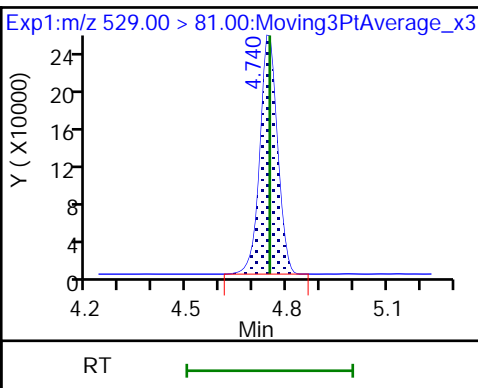
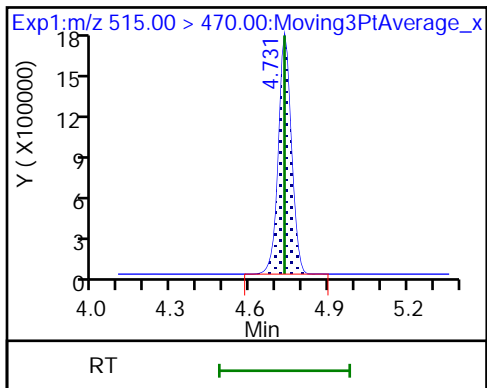




D 52 13C2 PFDA

D 50 M2-8:2 FTS

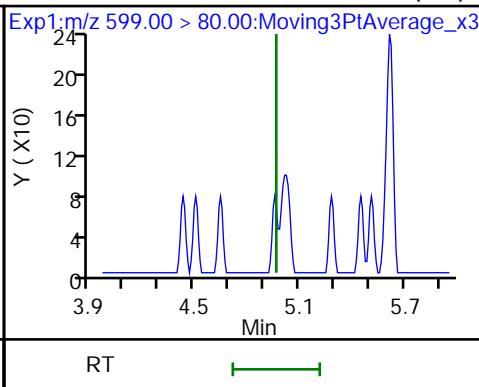
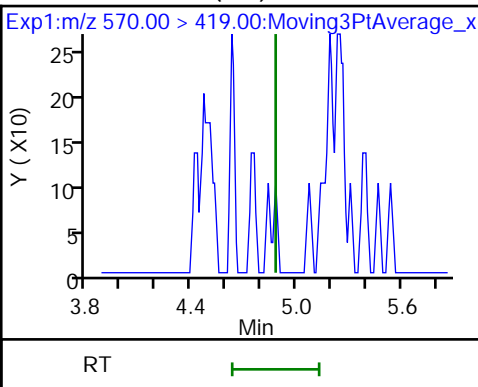
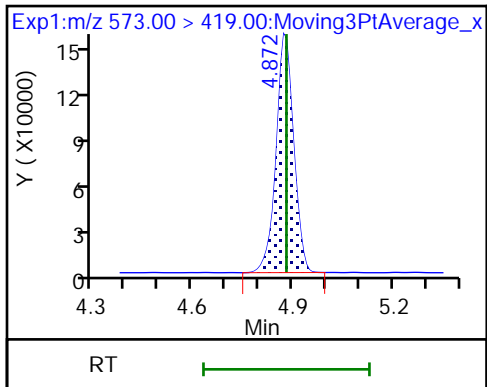
53 8:2 FTS (ND)



D 56 d3-NMeFOSAA

57 NMeFOSAA (ND)

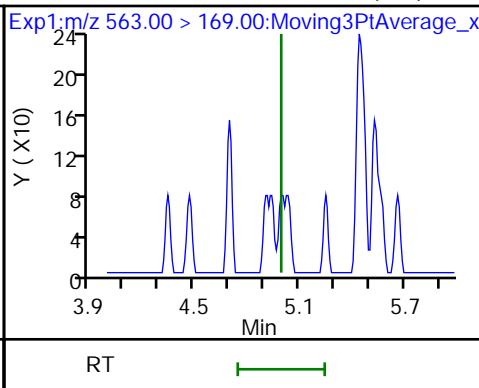
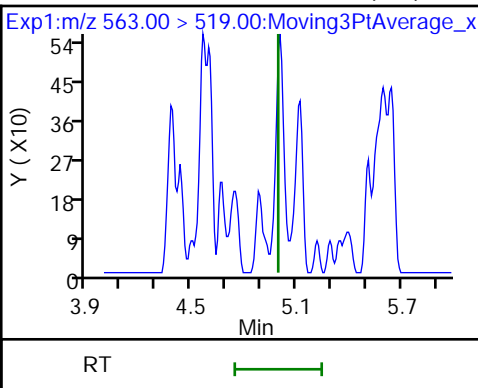
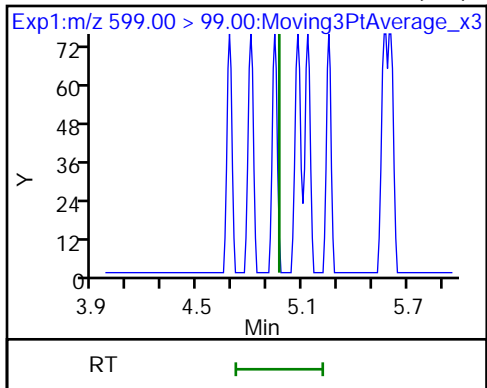
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid (ND)

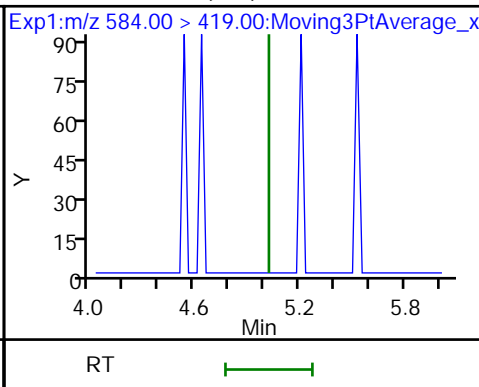
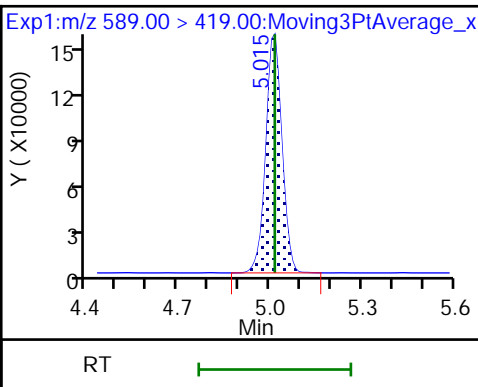
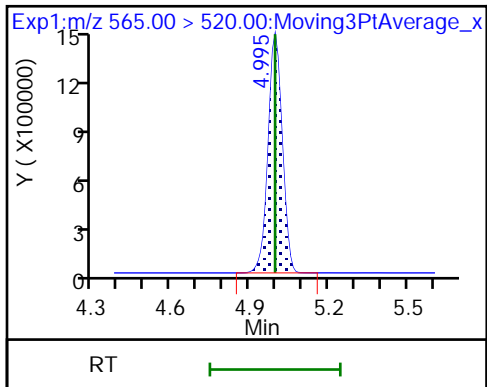
60 Perfluoroundecanoic acid (ND)

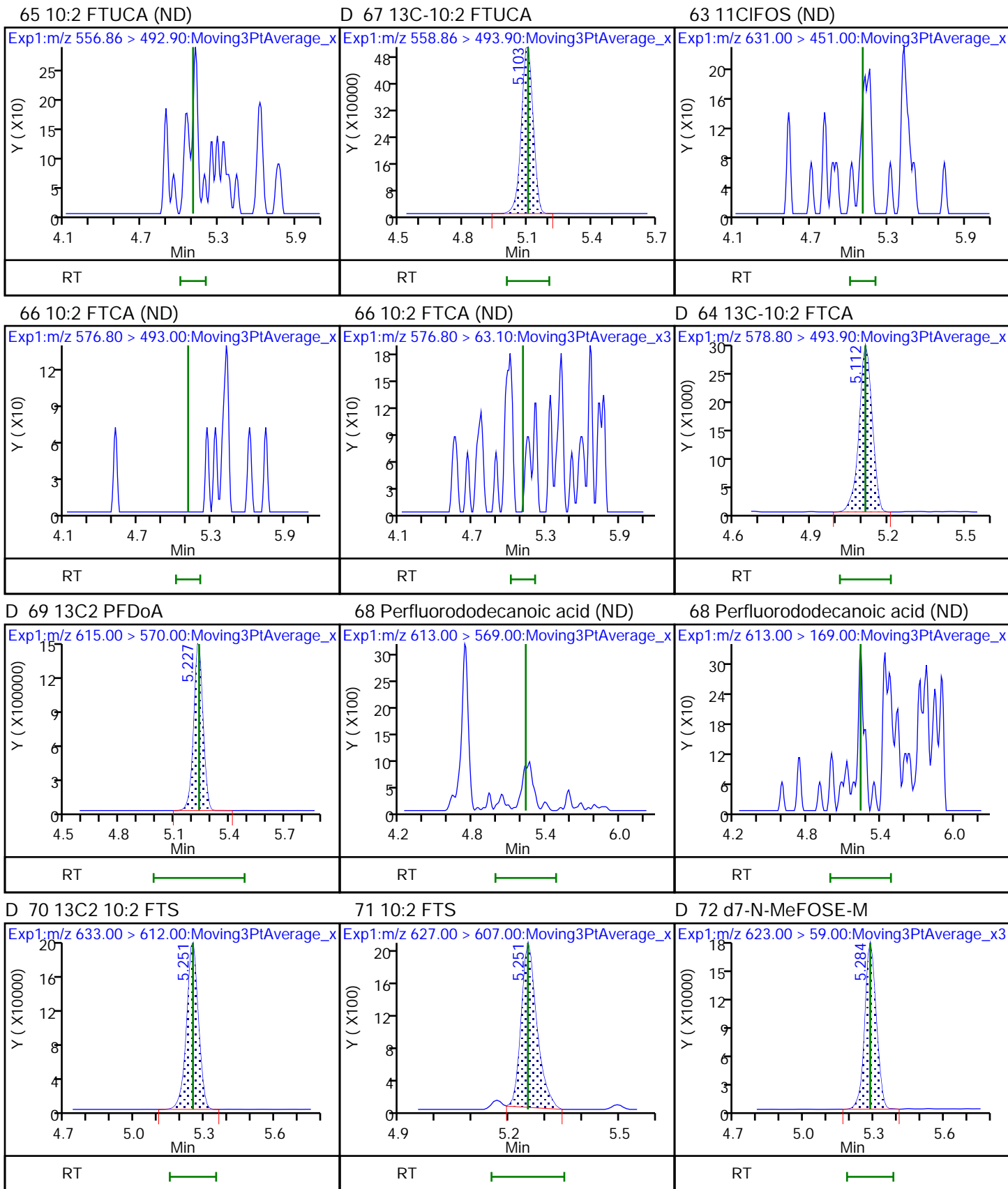


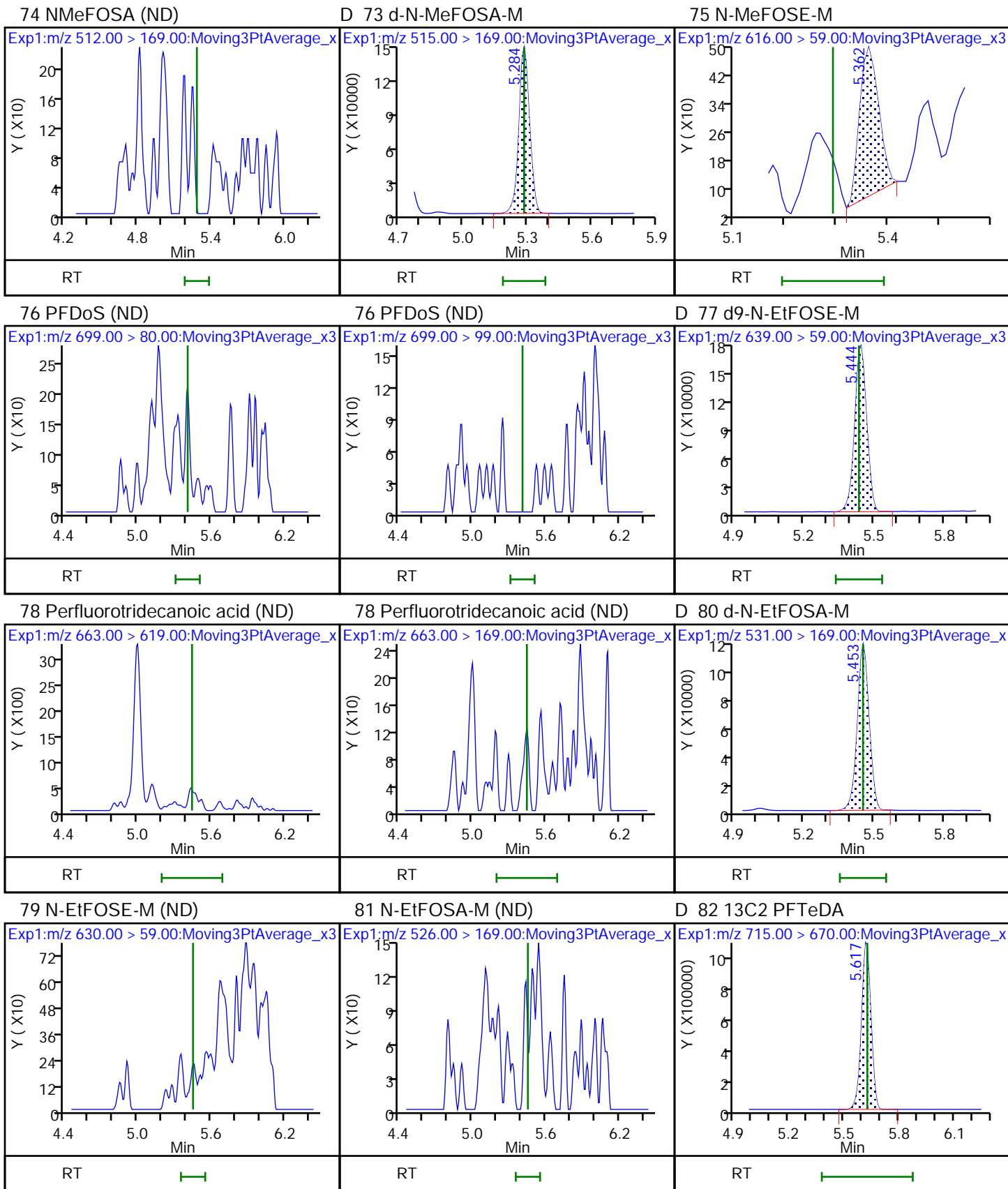
D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (ND)



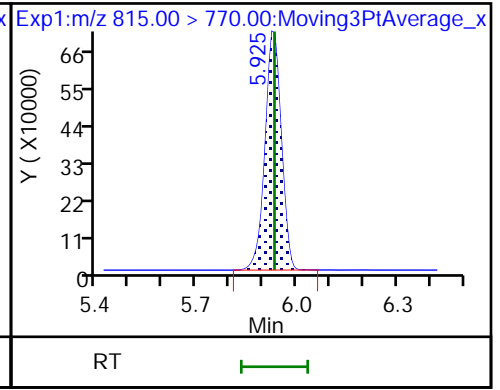
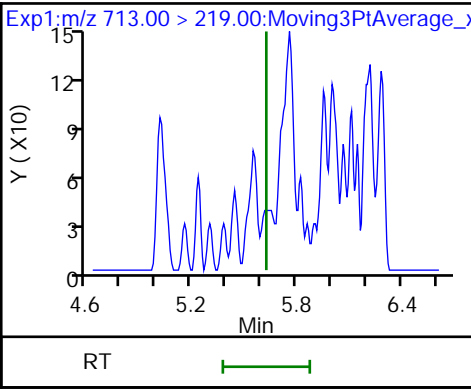
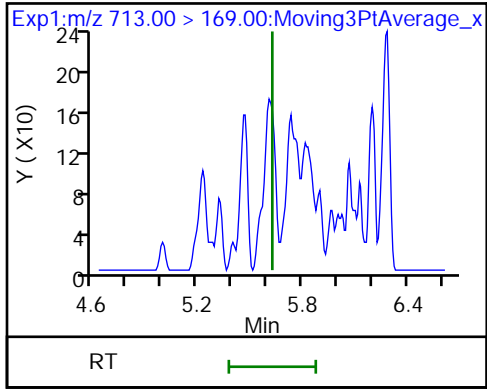




83 Perfluorotetradecanoic acid (ND)

83 Perfluorotetradecanoic acid (ND)

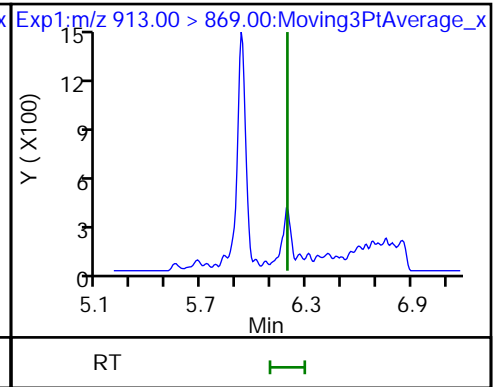
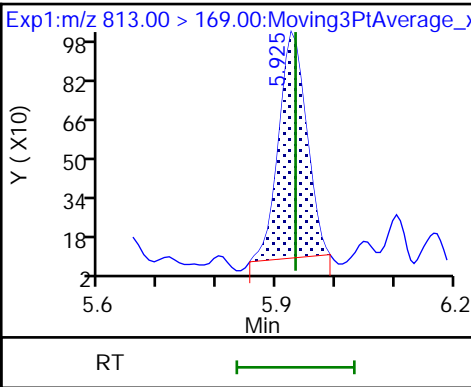
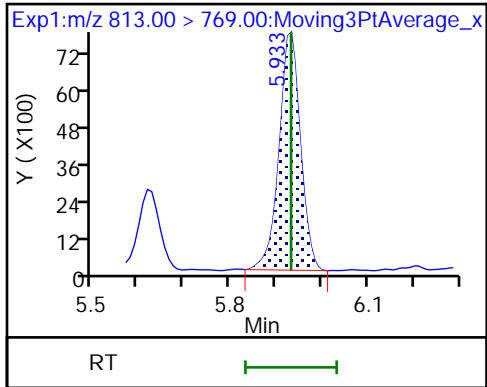
D 84 13C2 PFHxDA



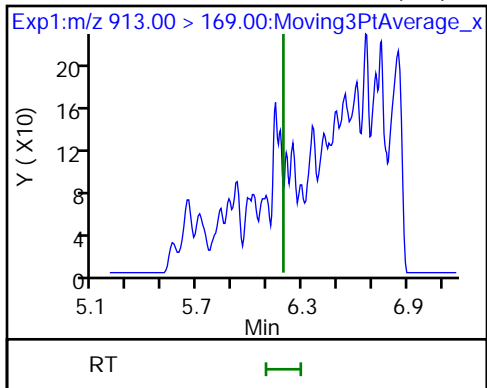
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2162 VEN CARBON BED Lab Sample ID: 140-26390-3  
                           INLET R1 OTM-45 IMPINGERS  
                           1,2&3 COND  
 Matrix: Air Lab File ID: 023.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 0.0069 (Sample) Date Analyzed: 02/18/2022 22:46  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.0725	0.0126

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	76		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_023.d  
 Lims ID: 140-26390-A-3-A  
 Client ID: T-2162 VEN CARBON BED INLET R1 OTM-45 IMPINGERS 1,2&3 COND  
 Sample Type: Client  
 Inject. Date: 18-Feb-2022 22:46:14 ALS Bottle#: 23 Worklist Smp#: 23  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-023 140-26390-a-3-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 10:10:43  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.860	2178912	0.9486		75.9	6135	
17 HFPO-DA										7
285.00 > 169.00	3.552	3.553	-0.001	1.003	23787	0.005837	Target=2.53		16.0	7
329.00 > 169.00	3.542	3.553	-0.011	1.000	10950		2.17(1.26-3.79)		15.8	
LOD = 0.008500										
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5785918	1.25			11213	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_023.d

Injection Date: 18-Feb-2022 22:46:14

Instrument ID: LCA

Lims ID: 140-26390-A-3-A

Lab Sample ID: 140-26390-3

Client ID: T-2162 VEN CARBON BED INLET R1 OTM-45 IMPINGERS 1,2&3 COND

Operator ID: Cochran, Bobby

ALS Bottle#: 23

Worklist Smp#: 23

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

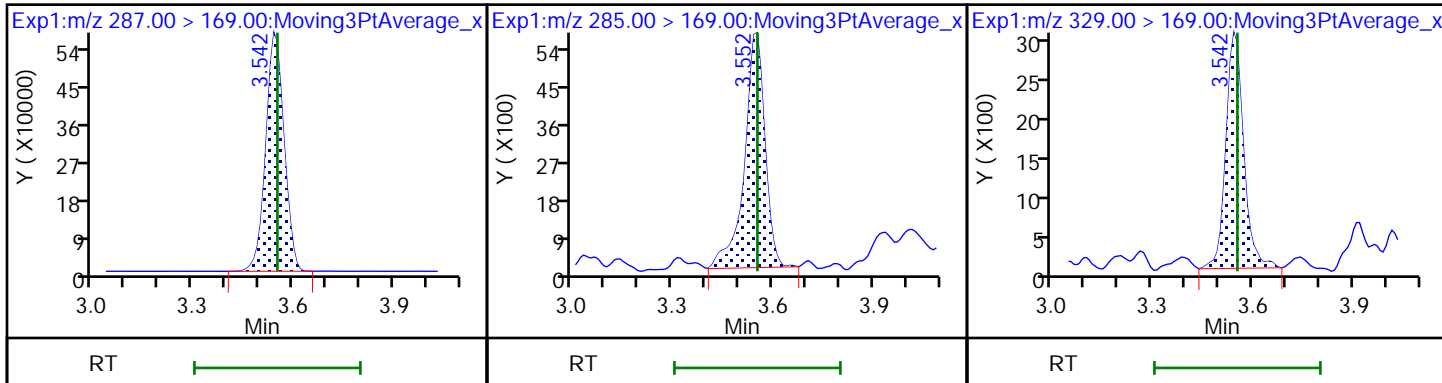
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

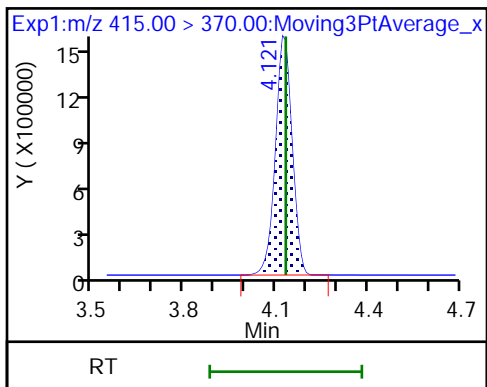
D 16 13C3 HFPO-DA

17 HFPO-DA

17 HFPO-DA



\* 30 13C2 PFOA



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_023.d  
 Lims ID: 140-26390-A-3-A  
 Client ID: T-2162 VEN CARBON BED INLET R1 OTM-45 IMPINGERS 1,2&3 COND  
 Sample Type: Client  
 Inject. Date: 18-Feb-2022 22:46:14 ALS Bottle#: 23 Worklist Smp#: 23  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-023 140-26390-a-3-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 10:10:43

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2160 VEN CARBON BED Lab Sample ID: 140-26390-4  
                           INLET R1 OTM-45  
                           BREAKTHROUGH XAD-2 RESIN  
                           TUBE  
 Matrix: Air Lab File ID: \_010.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/20/2022 14:24  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 20  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59064 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	1.75	B	0.0320	0.0280

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	92		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_010.d  
 Lims ID: 140-26390-A-4-B  
 Client ID: T-2160 VEN CARBON BED INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 14:24:05 ALS Bottle#: 10 Worklist Smp#: 10  
 Injection Vol: 1.0 ul Dil. Factor: 20.0000  
 Sample Info: 140-0022725-010 140-26390-a-4-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:50:51 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: mcwhirterl Date: 20-Feb-2022 23:27:13  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_005.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.556	3.553	0.003	1.003	10182625	4.38	Target=2.52		3922	
329.00 > 169.00	3.546	3.553	-0.007	1.000	3849288		2.65(1.26-3.78)		3250	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.546	3.553	-0.007	0.858	115382	0.0573		91.7	744	
* 30 13C2 PFOA										
415.00 > 370.00	4.134	4.139	-0.005		253483	0.0625			1397	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_010.d

Injection Date: 20-Feb-2022 14:24:05

Instrument ID: LCA

Lims ID: 140-26390-A-4-B

Lab Sample ID: 140-26390-4

Client ID: T-2160 VEN CARBON BED INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Operator ID: Cochran, Bobby

ALS Bottle#: 10 Worklist Smp#: 10

Injection Vol: 1.0 ul

Dil. Factor: 20.0000

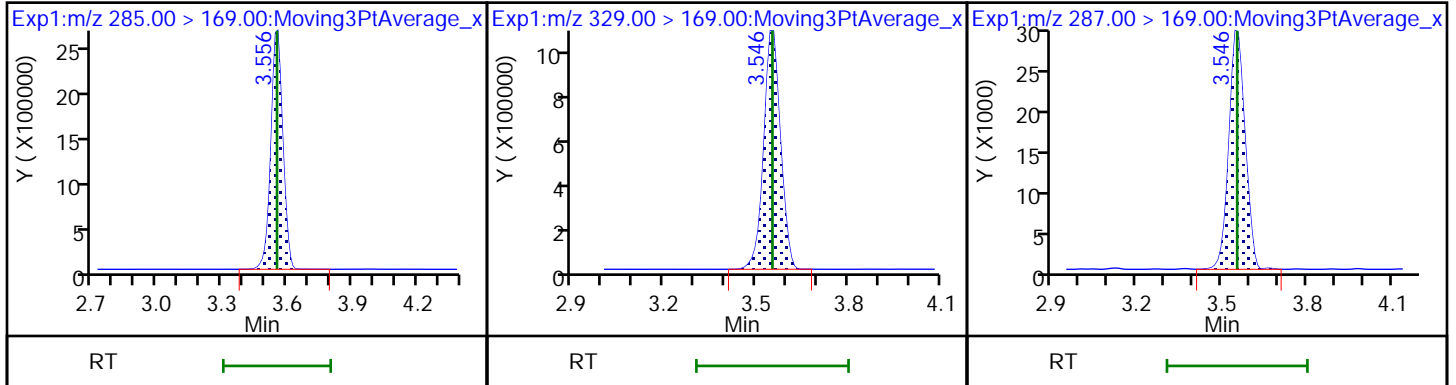
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

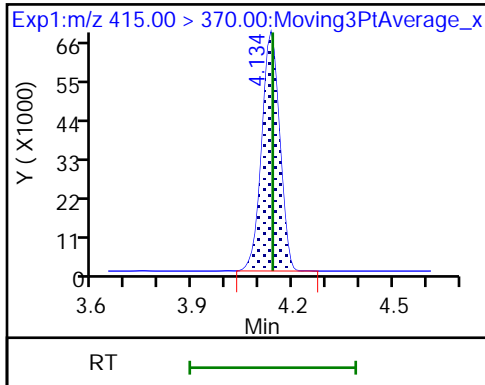
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



FORM I  
 PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2159,2158 VEN CARBON Lab Sample ID: 140-26390-5  
                           BED INLET R2 OTM-45 FH  
 Matrix: Air Lab File ID: \_047.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/16/2022 07:38  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/20/2022 00:38  
 Con. Extract Vol.: 66(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	317		2.50	1.45

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	87		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_047.d  
 Lims ID: 140-26390-B-5-D  
 Client ID: T-2159,2158 VEN CARBON BED INLET R2 OTM-45 FH  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 00:38:30 ALS Bottle#: 47 Worklist Smp#: 47  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-047 140-26390-b-5-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:34 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:18:51  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_042.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.543	3.542	0.001	1.000	13361512	6.35	Target=2.58		3867	
329.00 > 169.00	3.543	3.542	0.001	1.000	5277644		2.53(1.29-3.86)		3125	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.542	0.001	0.860	2092796	1.08		86.7	6937	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		4862154	1.25			10899	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_047.d

Injection Date: 20-Feb-2022 00:38:30

Instrument ID: LCA

Lims ID: 140-26390-B-5-D

Lab Sample ID: 140-26390-5

Client ID: T-2159,2158 VEN CARBON BED INLET R2 OTM-45 FH

Operator ID: Cochran, Bobby

ALS Bottle#: 47

Worklist Smp#: 47

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

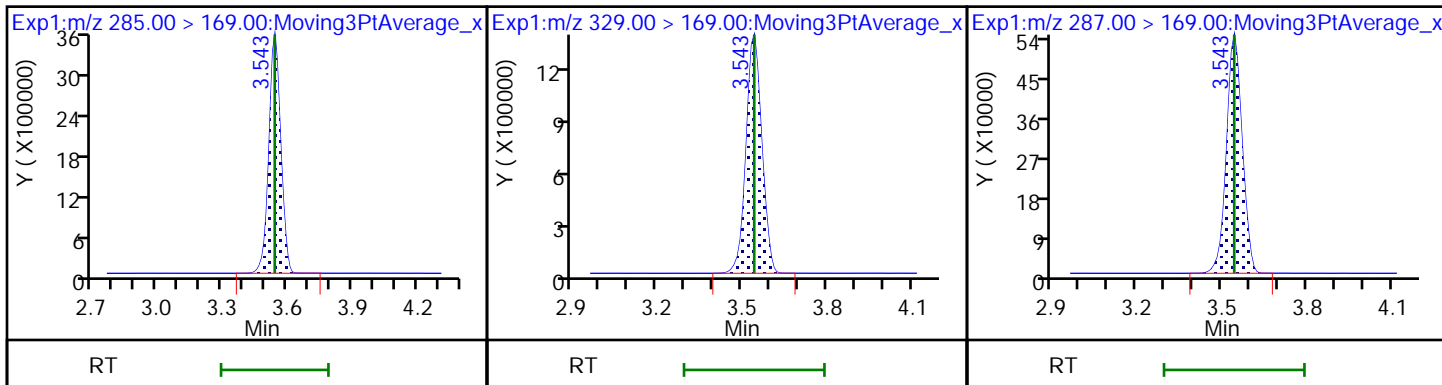
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

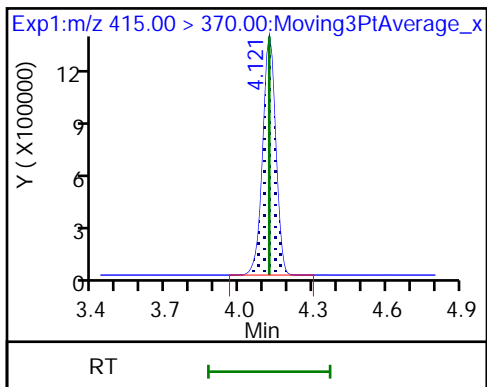
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2157,2156,2154 VEN Lab Sample ID: 140-26390-6  
                           CARBON BED INLET R2  
                           OTM-45 BH  
 Matrix: Air Lab File ID: \_011.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/20/2022 14:32  
 Con. Extract Vol.: 360(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59064 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	828	B	8.00	7.00

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	86		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_011.d  
 Lims ID: 140-26390-A-6-D  
 Client ID: T-2157,2156,2154 VEN CARBON BED INLET R2 OTM-45 BH  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 14:32:53 ALS Bottle#: 11 Worklist Smp#: 11  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022725-011 140-26390-a-6-d  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:50:51 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: mcwhirter Date: 20-Feb-2022 23:28:10  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_005.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										7
212.90 > 169.00	2.811	2.811	0.0	1.000	7748	-0.001609		3.5		7
LOD = 0.0100										
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.681	5533435	1.20		96.3	22122	
3 PFECA F										7
229.00 > 85.00	2.866	2.919	-0.053	0.918	2623	0.001096		20.6		7
LOD = 0.0500										
6 Perfluoropentanoic acid										7
262.90 > 219.00	3.122	3.123	0.0	1.000	28007	0.003815		12.8		7
LOD = 0.006500										
D 5 13C5 PFPeA										
267.90 > 223.00	3.122	3.123	0.0	0.756	3970055	1.10		88.0	19759	
D 7 13C3 PFBS										
301.90 > 80.00	3.139	3.139	0.0	0.760	2519925	1.10		95.0	11624	
4 3:3 FTCA										
241.00 > 177.10		3.139				ND				
241.00 > 116.90		3.139								
8 Perfluorobutanesulfonic acid										
298.90 > 80.00		3.139				ND				
298.90 > 99.00		3.139								
9 PFECA A										
278.95 > 84.90		3.211				ND				
11 PES										
314.80 > 135.00		3.270				ND				
12 PFECA B										
295.22 > 201.00		3.395				ND				



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.426	3.427	0.0	0.830	805722	1.13		96.6	1697	
13 4:2 FTS										
327.00 > 307.00		3.427				ND				
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.448				ND				
349.00 > 99.00		3.448								
15 Perfluorohexanoic acid										
313.00 > 269.00		3.448				ND				
313.00 > 119.00		3.448								
D 14 13C2 PFHxA										
315.00 > 270.00	3.447	3.448	-0.001	0.835	4486259	1.13		90.2	9942	
17 HFPO-DA										
285.00 > 169.00	3.552	3.553	-0.001	1.000	17381599	8.28	Target=2.52		5602	
329.00 > 169.00	3.552	3.553	-0.001	1.000	6608441		2.63(1.26-3.78)		6450	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.552	3.553	-0.001	0.860	2086567	1.07		85.7	7657	
S 10 ADONA										
377.00 > 251.00		3.592				0				
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.792	-0.010	0.916	1834115	1.24		105	7492	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00		3.792				ND				
399.00 > 99.00		3.792								
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.803	-0.011	0.918	3836974	1.08		86.5	7272	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.803	-0.011	1.000	10863	-0.003033	Target=3.37		9.9	7
363.00 > 169.00	3.792	3.803	-0.011	1.000	3104		3.50(1.68-5.05)		9.2	
LOD = 0.0153										
25 DONA										
377.00 > 251.00		3.829				ND				
377.00 > 85.00		3.829								
26 5:3 FTCA										
340.88 > 236.90		3.861				ND				
340.88 > 216.90		3.861								
27 6:2 FTUCA										
356.86 > 292.90		3.895				ND				
356.86 > 243.00		3.895								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.894	3.895	-0.001	0.943	1487417	1.12		89.9	3354	
29 6:2 FTCA										
377.10 > 63.00		3.912				ND				
377.10 > 313.10		3.912								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.912	3.912	0.0	0.947	132413	1.30		104	476	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
32 PFECHS										
460.80 > 380.90		4.074				ND				
460.80 > 98.90		4.074								
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.121				ND				
449.00 > 99.00		4.121								
37 Perfluorooctanoic acid										
413.00 > 369.00	4.130	4.130	0.0	1.000	11905	-0.003254	Target=2.46	8.0		7
413.00 > 169.00	4.120	4.130	-0.010	0.998	5185		2.30(1.23-3.69)	4.8		7
LOD = 0.009500										
35 6:2 FTS										
427.00 > 407.00		4.130				ND				
\$ 36 13C8 PFOA										
421.00 > 376.00		4.130				ND				
D 34 M2-6:2 FTS										
429.00 > 81.00	4.130	4.130	0.0	1.000	875332	1.24		104	2169	
D 31 13C4 PFOA										
417.00 > 372.00	4.130	4.130	0.0	1.000	4479547	1.22		97.6	9152	
* 30 13C2 PFOA										
415.00 > 370.00	4.130	4.139	-0.009		4903833	1.25			7352	
\$ 38 13C8 PFOS										
507.00 > 99.00		4.421				ND				
40 Perfluorooctanesulfonic acid										
499.00 > 80.00		4.421				ND				
499.00 > 99.00		4.421								
D 39 13C4 PFOS										
503.00 > 80.00	4.420	4.421	-0.001	1.070	2717109	1.23		103	4179	
D 41 13C5 PFNA										
468.00 > 423.00	4.447	4.448	-0.001	1.077	6089261	1.22		97.9	11005	
42 Perfluorononanoic acid										
463.00 > 419.00		4.448				ND				
463.00 > 169.00		4.448								
43 7:3 FTCA										
441.00 > 337.00		4.528				ND				
441.00 > 317.00		4.528								
44 8:2 FTUCA										
456.86 > 392.90		4.553				ND				
456.86 > 343.00		4.553								
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.553	4.553	0.0	1.000	2300709	1.30		104	3979	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.569	4.570	-0.001	1.106	157212	1.21		97.0	754	
46 8:2 FTCA										
477.00 > 393.10		4.570				ND				
477.00 > 63.20		4.570								
49 9CIFOS										
531.00 > 351.00		4.586				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.706				ND				
549.00 > 99.00		4.706								
D 55 13C8 FOSA										
506.00 > 78.00	4.714	4.714	0.0	1.141	4157019	1.25		100	3173	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.705	4.714	-0.009	0.998	1551	0.000488		4.9		7
LOD = 0.004400										
48 Perfluorodecanoic acid										
513.00 > 469.00	4.731	4.731	0.0	1.000	11318	-0.004240	Target=11.22	13.7		R7
513.00 > 169.00	4.731	4.731	0.0	1.000	565		20.03(5.61-16.84)	1.1		R7
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.731	4.731	0.0	1.146	5988769	1.26		101	13283	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.739	4.748	-0.009	1.148	836740	1.09		90.8	1974	
53 8:2 FTS										
527.00 > 507.00		4.748				ND				
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.880	4.880	0.0	1.182	555727	1.25		99.9	1671	
57 NMeFOSAA										
570.00 > 419.00	5.120	4.880	0.240	1.049	728	0.003329		2.9		7
LOD = 0.006000										
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.966				ND				
599.00 > 99.00		4.966								
60 Perfluoroundecanoic acid										
563.00 > 519.00		4.995				ND				
563.00 > 169.00		4.995								
D 59 13C2 PFUnA										
565.00 > 520.00	4.995	4.995	0.0	1.209	5117062	1.12		89.3	15090	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.014	5.014	0.0	1.214	573763	1.26		100	1902	
62 NEtFOSAA										
584.00 > 419.00		5.024				ND				
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.102	-0.010	0.998	1112	0.000605		5.9		7
LOD = 0.0500										
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.101	5.102	-0.001	1.235	1902397	0.9551		76.4	6120	
63 11C1FOS										
631.00 > 451.00		5.102				ND				
66 10:2 FTCA										
576.80 > 493.00		5.111				ND				
576.80 > 63.10		5.111								
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.120	5.111	0.009	1.240	105148	0.8669		69.3	487	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 69 13C2 PFDa										
615.00 > 570.00	5.234	5.235	-0.001	1.267	5016216	1.11		88.8	11688	
68 Perfluorododecanoic acid										
613.00 > 569.00		5.235				ND				
613.00 > 169.00		5.235								
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.250	5.251	-0.001	1.271	677400	1.05		88.3	3183	
71 10:2 FTS										
627.00 > 607.00	5.258	5.251	0.007	1.001	8025	0.000375		47.4	7	7
LOD = 0.008500										
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.283	5.283	0.0	1.279	603103	1.30		104	510	
74 NMeFOSA										
512.00 > 169.00		5.283				ND				
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.283	5.283	0.0	1.279	515014	1.30		104	46.2	
75 N-MeFOSE-M										
616.00 > 59.00		5.292				ND				
76 PFDoS										
699.00 > 80.00		5.408				ND				
699.00 > 99.00		5.408								
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.443	5.435	0.008	1.318	627866	1.30		104	358	
78 Perfluorotridecanoic acid										
663.00 > 619.00		5.443				ND				
663.00 > 169.00		5.443								
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.320	401255	1.26		101	919	
79 N-EtFOSE-M										
630.00 > 59.00		5.452				ND				
81 N-EtFOSA-M										
526.00 > 169.00		5.452				ND				
D 82 13C2 PFTeDA										
715.00 > 670.00	5.616	5.626	-0.010	1.360	3676944	1.02		81.4	9067	
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.626				ND				
713.00 > 219.00		5.626								
D 84 13C2 PFHxDA										
815.00 > 770.00	5.932	5.932	0.0	1.436	2353817	1.00		80.0	5639	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.932	5.932	0.0	1.000	23778	-0.001510	Target=8.46	43.2	7	7
813.00 > 169.00	5.924	5.932	-0.008	0.999	3011		7.90(4.23-12.69)	9.7		
LOD = 0.009000										
86 Perfluorooctadecanoic acid										
913.00 > 869.00		6.190				ND				
913.00 > 169.00		6.190								
S 87 F-53B										
212.90 > 169.00		0.0								

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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S 88 NaDONA

377.00 > 251.00 0.0

377.00 > 85.00 0.0

0

**QC Flag Legend**

Processing Flags

ND - Not Detected or Marked ND

R - Failed Signal Ratio Test

7 - Failed Limit of Detection

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_011.d

Injection Date: 20-Feb-2022 14:32:53

Instrument ID: LCA

Lims ID: 140-26390-A-6-D

Lab Sample ID: Client 140-59064/11-A

Client ID: T-2157,2156,2154 VEN CARBON BED INLET R2 OTM-45 BH

Operator ID: Cochran, Bobby

ALS Bottle#: 11

Worklist Smp#: 11

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

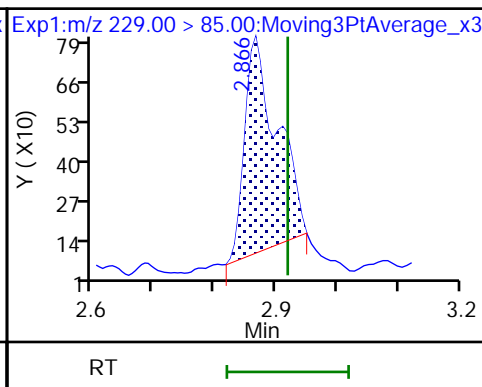
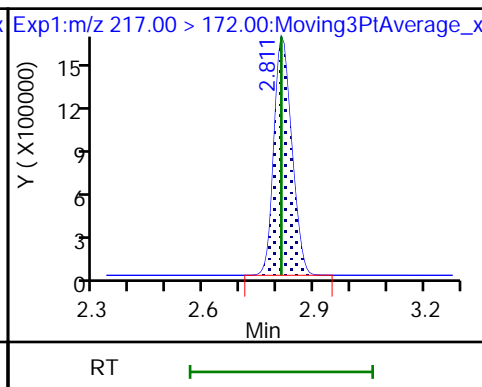
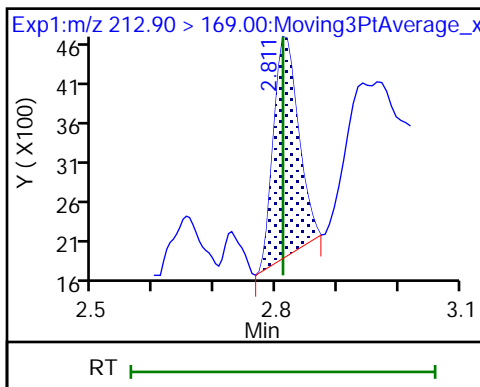
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

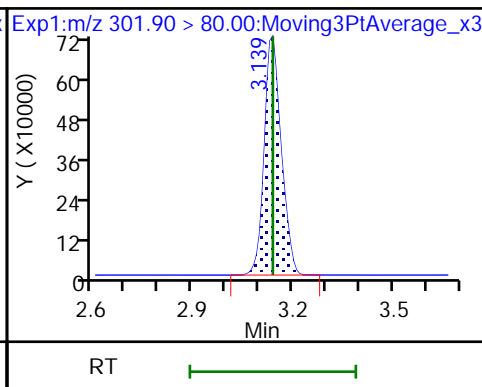
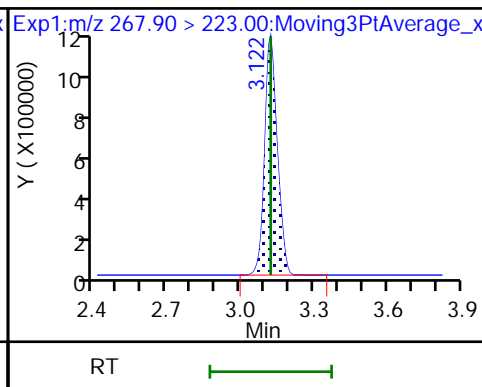
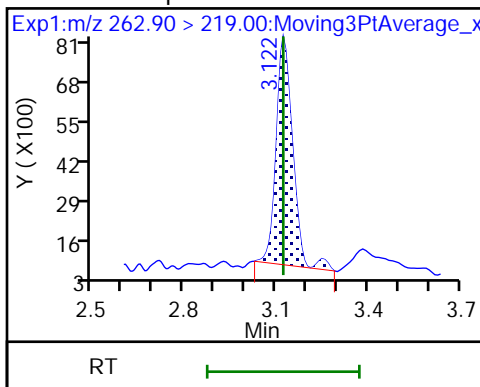
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

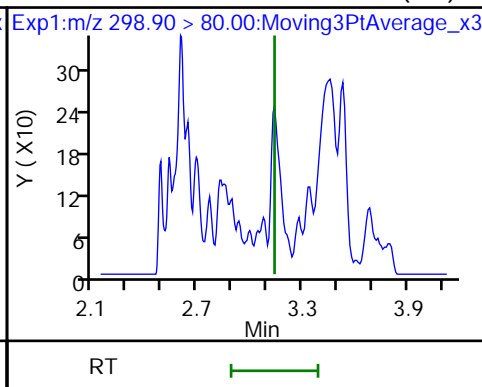
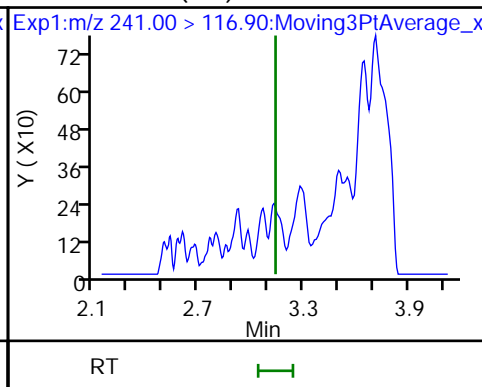
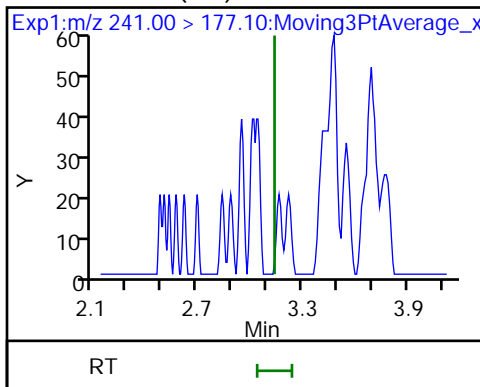
D 7 13C3 PFBS



4 3:3 FTCA (ND)

4 3:3 FTCA (ND)

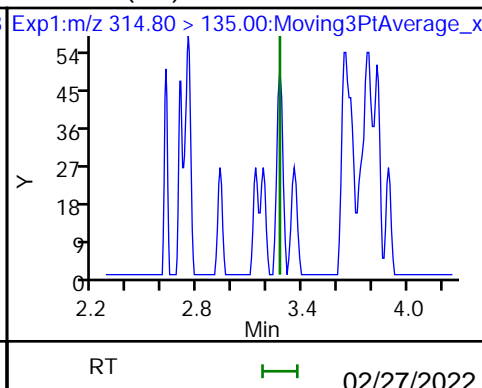
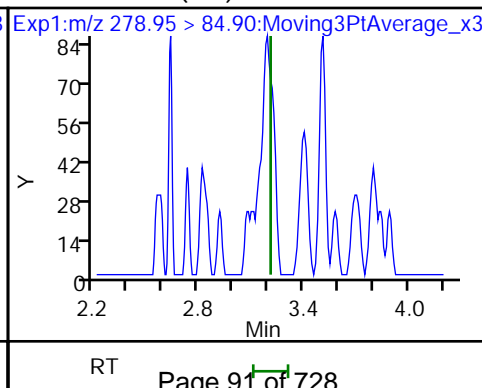
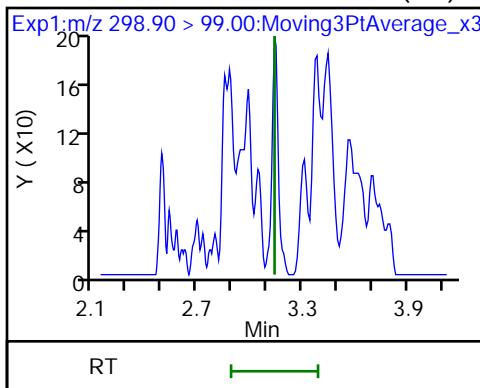
8 Perfluorobutanesulfonic acid (ND)

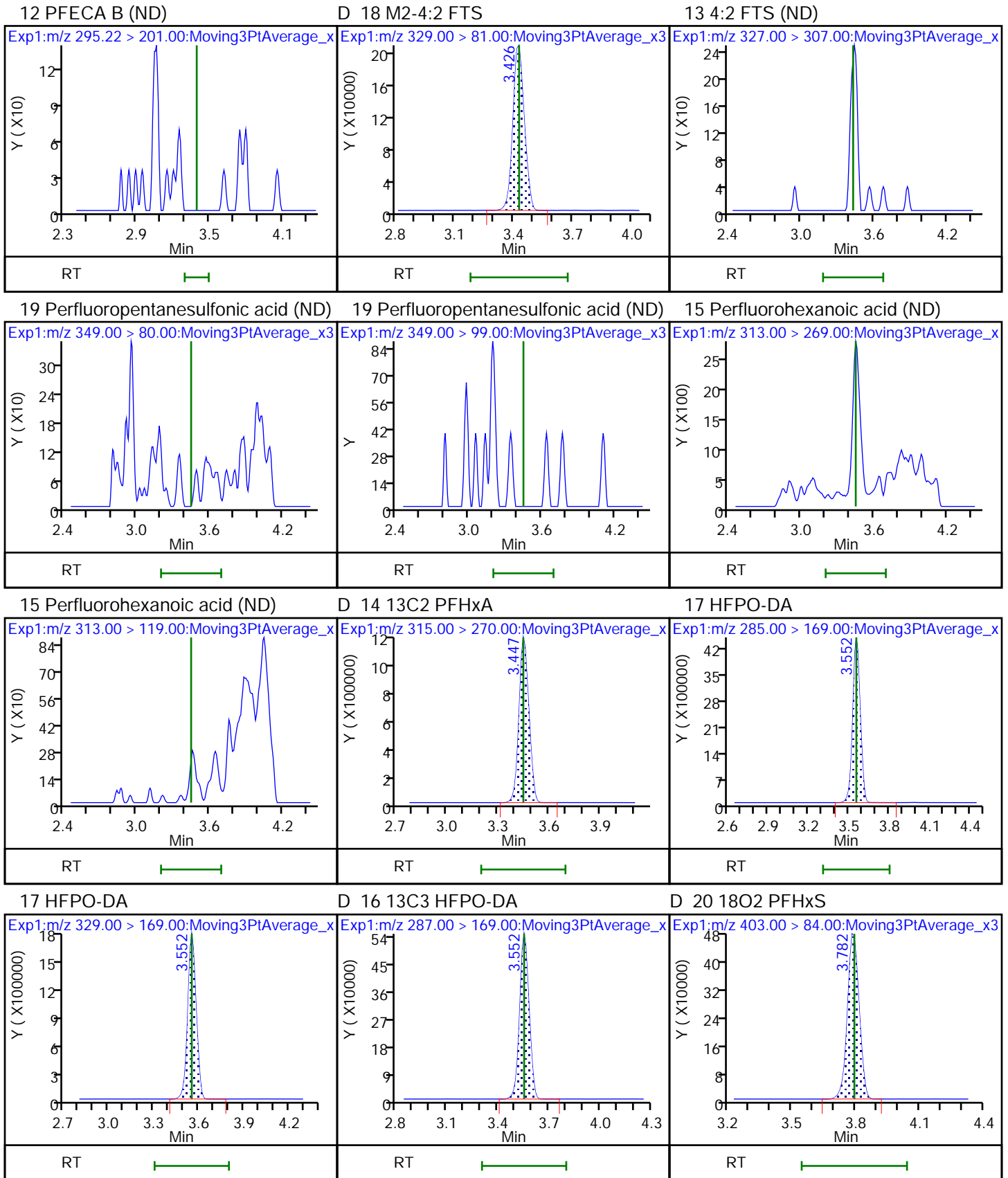


8 Perfluorobutanesulfonic acid (ND)

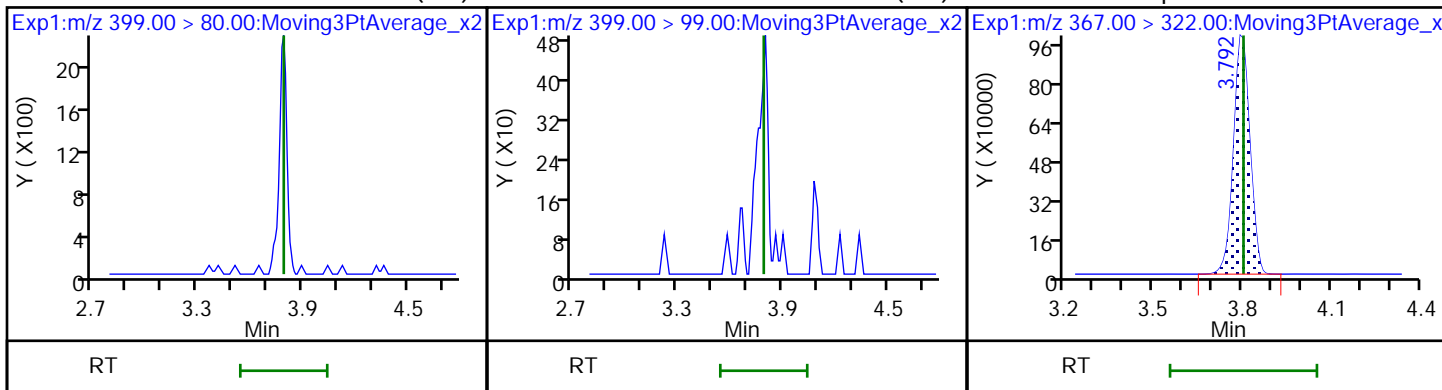
9 PFECA A (ND)

11 PES (ND)

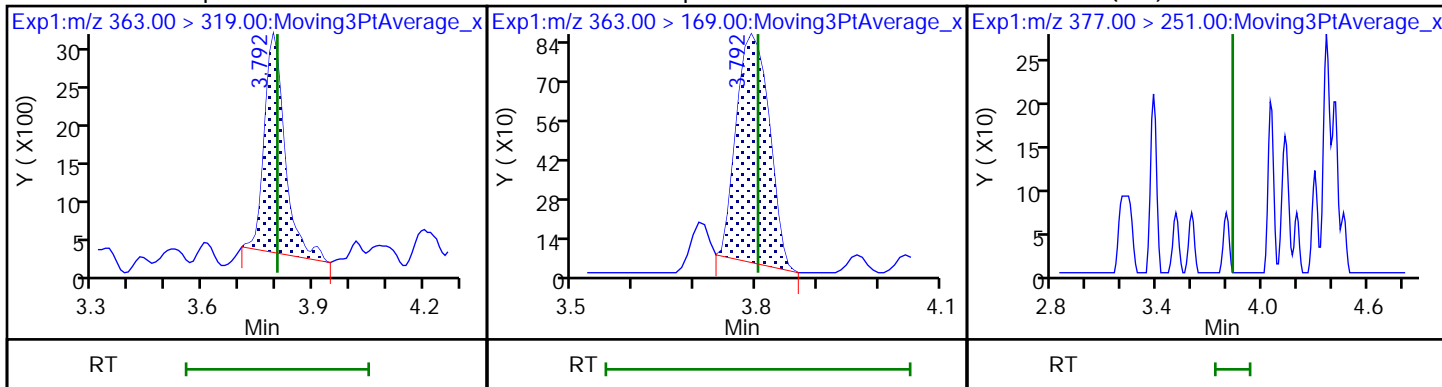




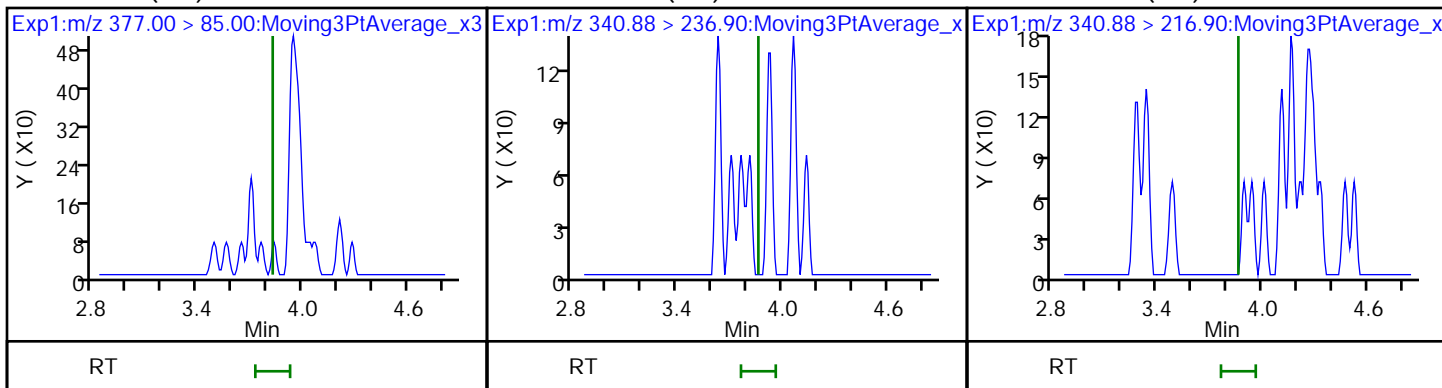
21 Perfluorohexanesulfonic acid (ND) 21 Perfluorohexanesulfonic acid (ND) D 22 13C4 PFHpA



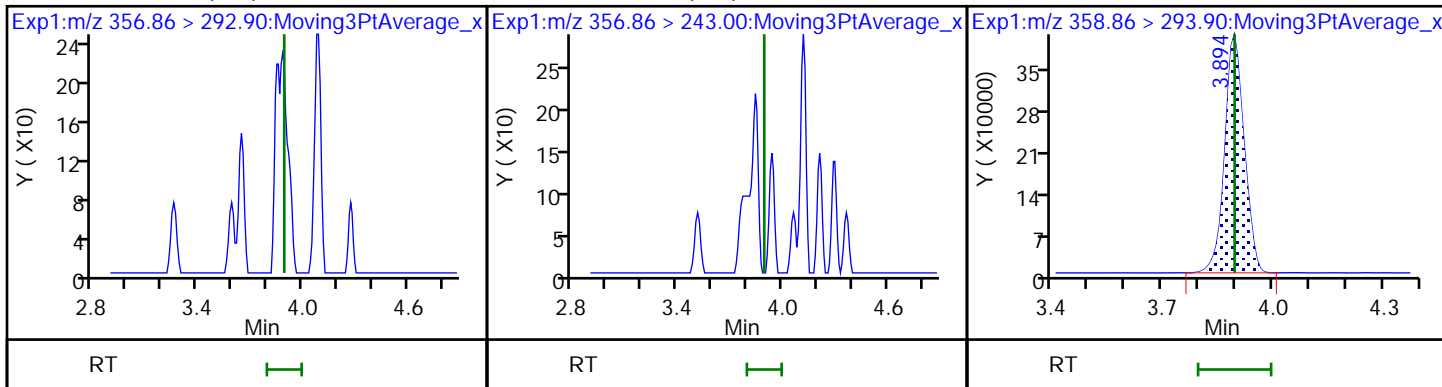
23 Perfluoroheptanoic acid 23 Perfluoroheptanoic acid 25 DONA (ND)



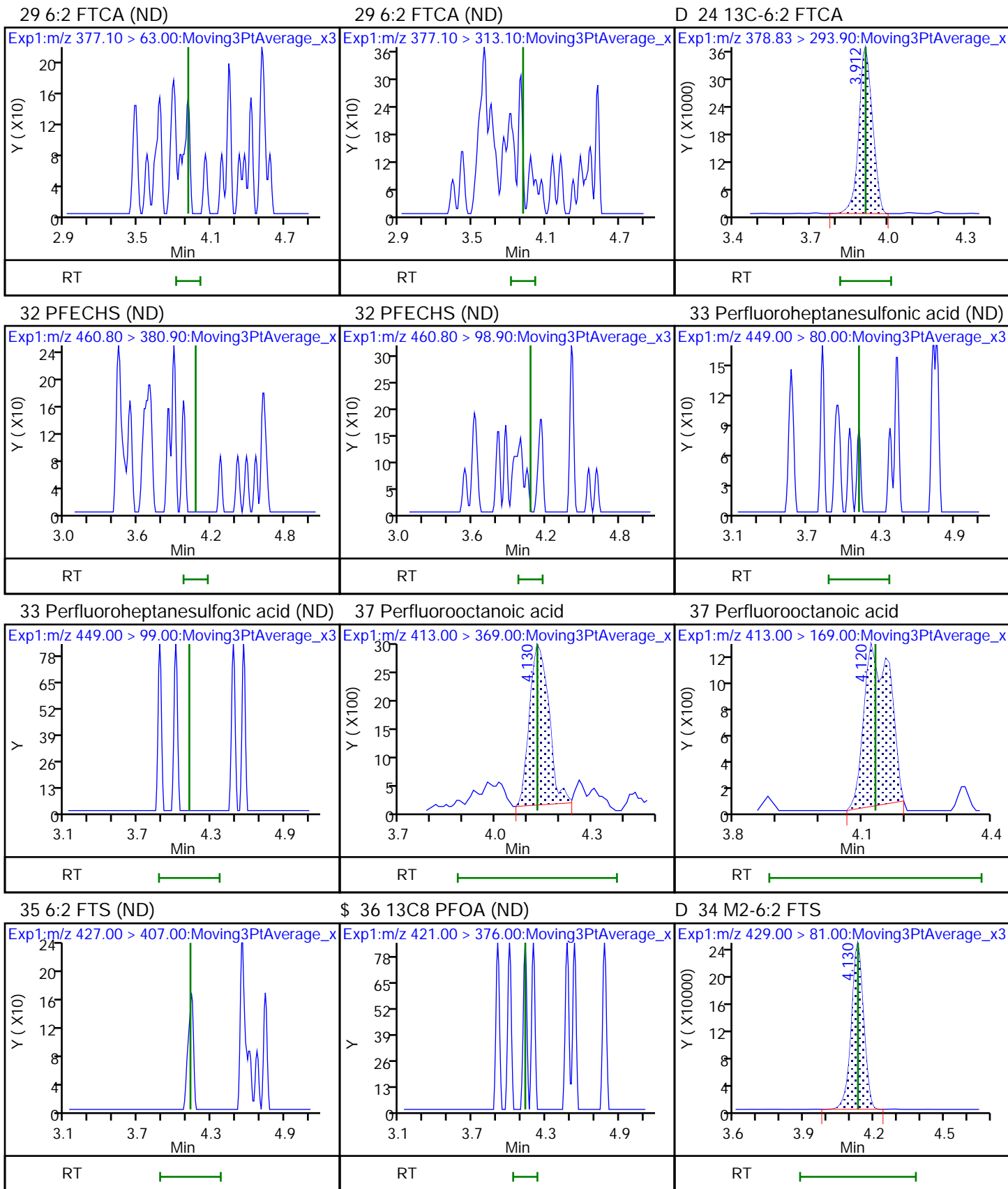
25 DONA (ND) 26 5:3 FTCA (ND) 26 5:3 FTCA (ND)



27 6:2 FTUCA (ND) 27 6:2 FTUCA (ND) D 28 13C-6:2 FTUCA



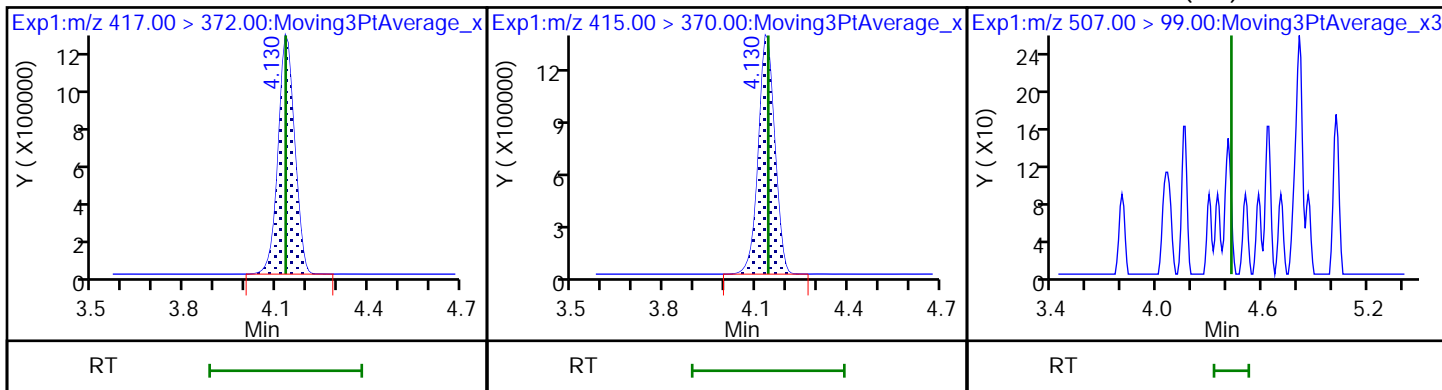




D 31 13C4 PFOA

\* 30 13C2 PFOA

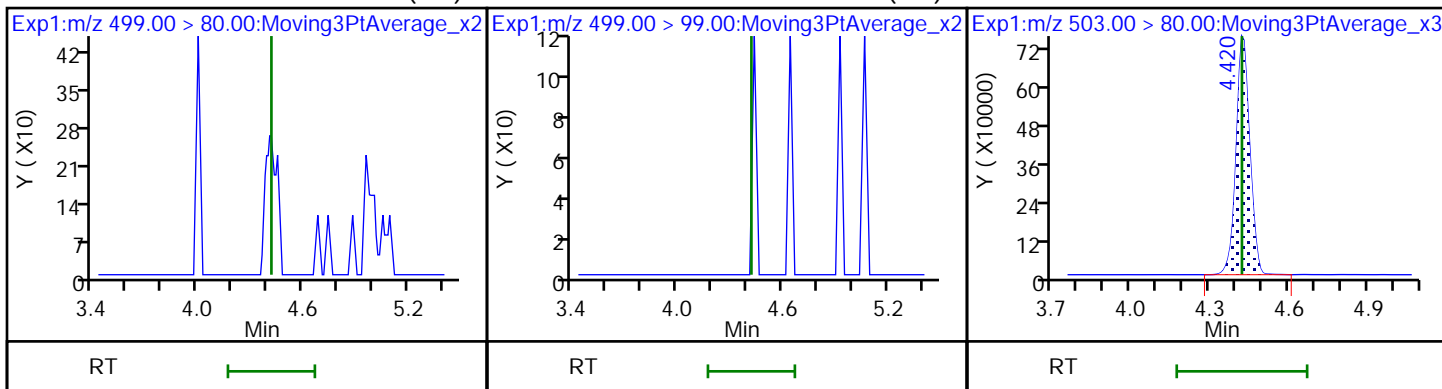
\$ 38 13C8 PFOS (ND)



40 Perfluorooctanesulfonic acid (ND)

40 Perfluorooctanesulfonic acid (ND)

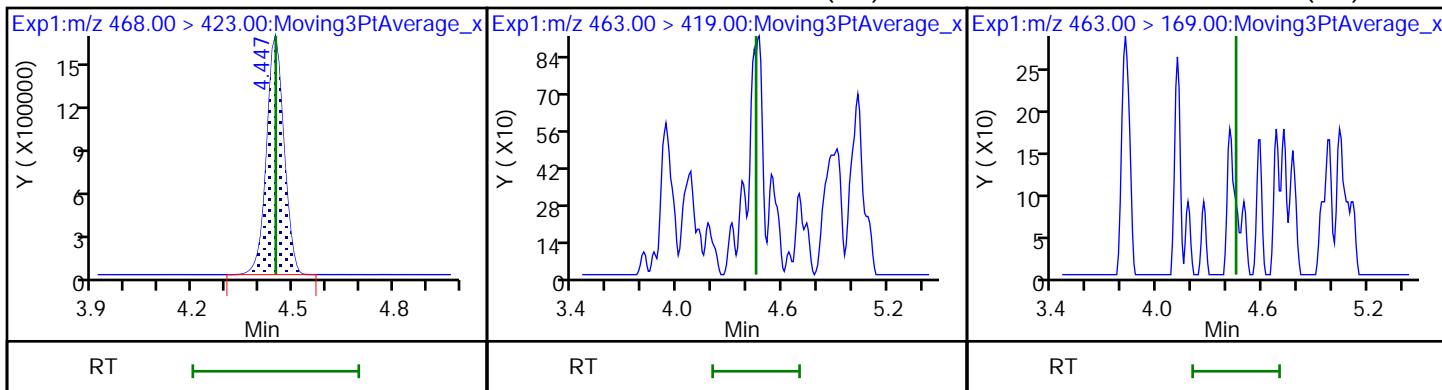
D 39 13C4 PFOS



D 41 13C5 PFNA

42 Perfluorononanoic acid (ND)

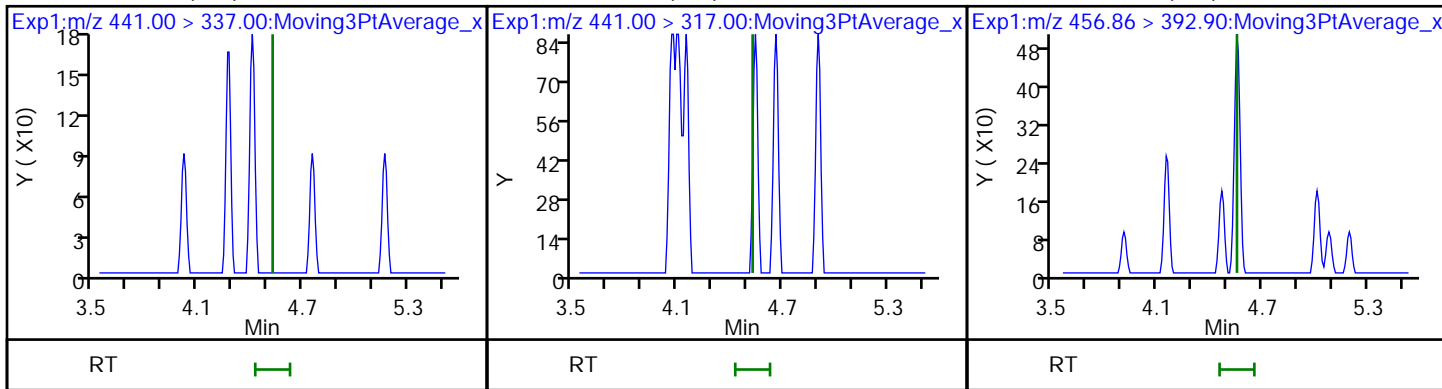
42 Perfluorononanoic acid (ND)

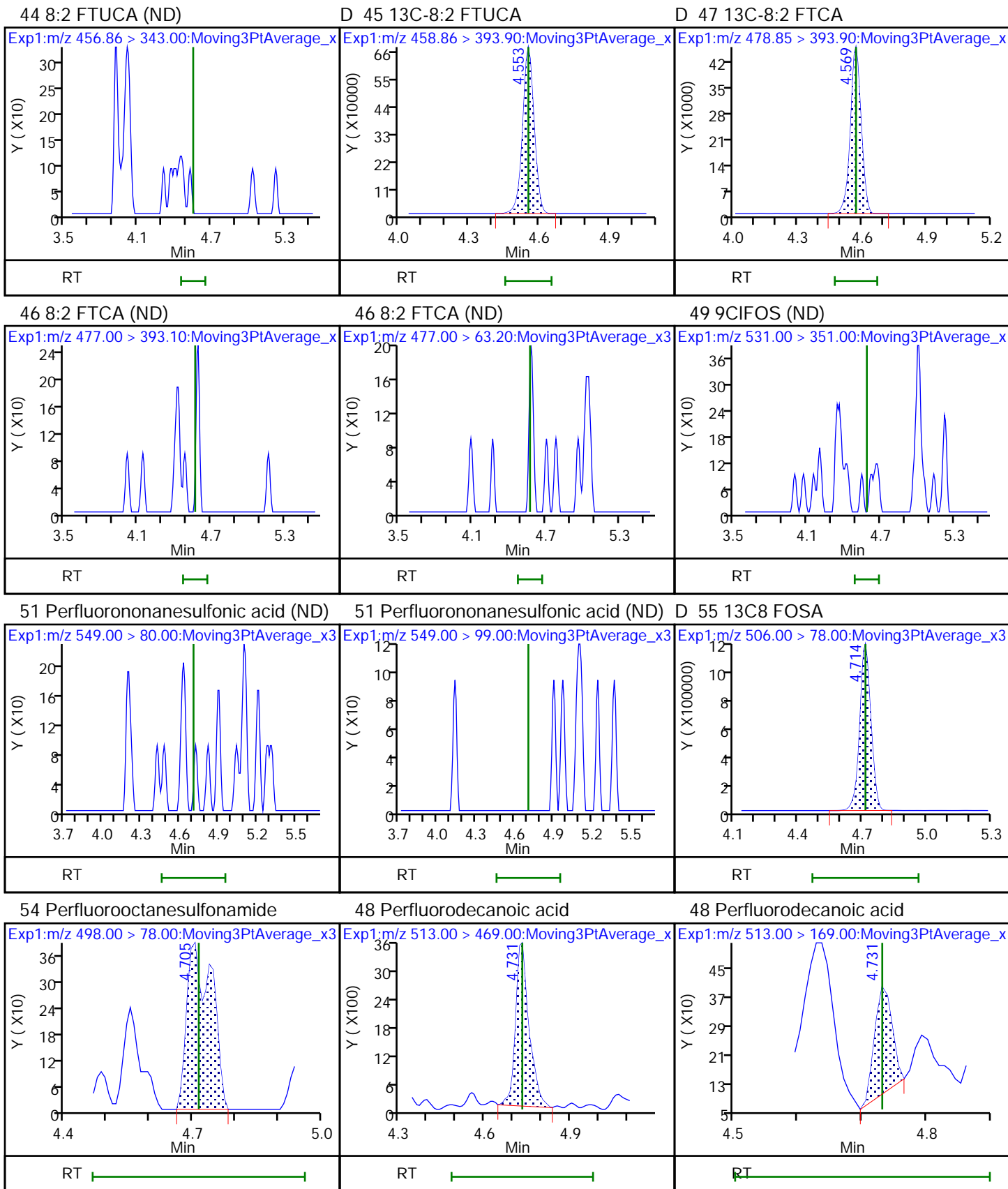


43 7:3 FTCA (ND)

43 7:3 FTCA (ND)

44 8:2 FTUCA (ND)

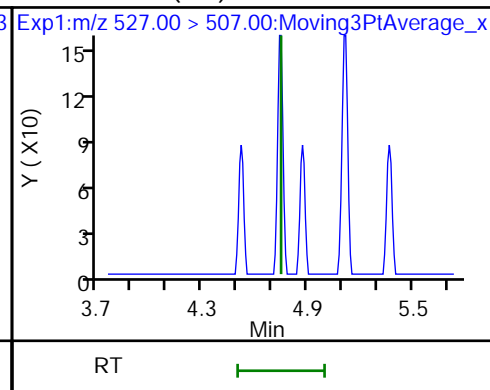
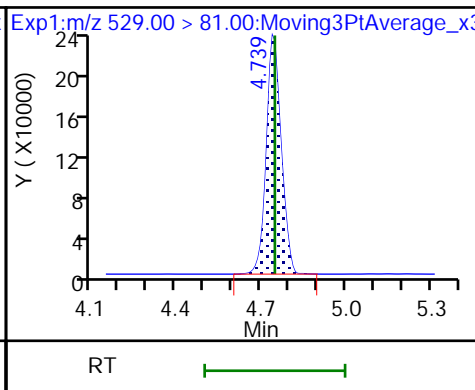
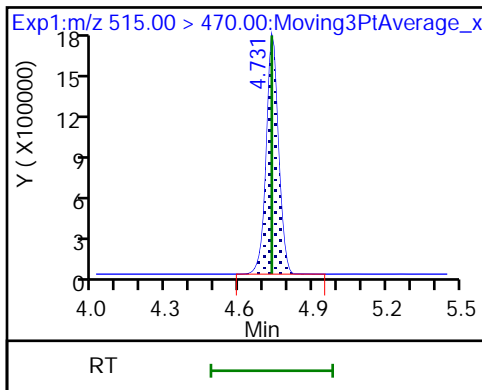




D 52 13C2 PFDA

D 50 M2-8:2 FTS

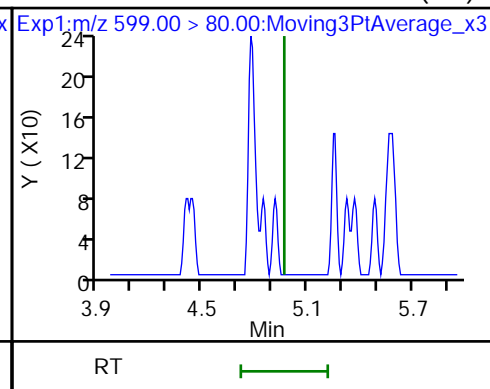
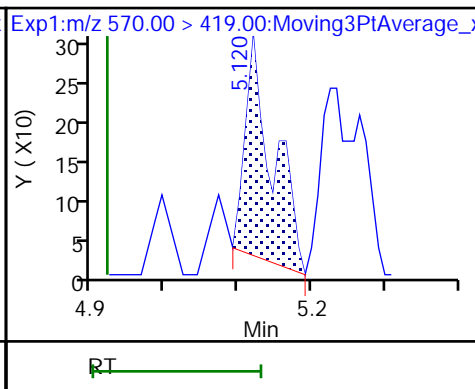
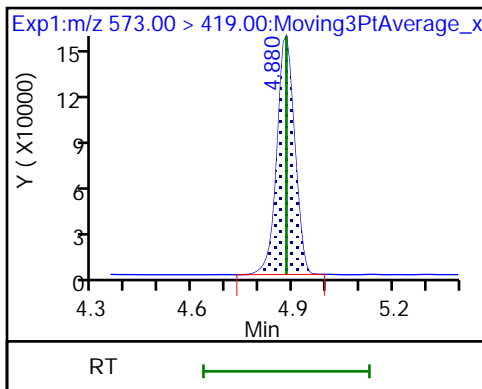
53 8:2 FTS (ND)



D 56 d3-NMeFOSAA

57 NMeFOSAA

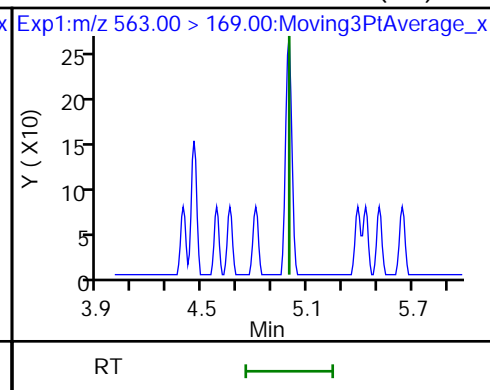
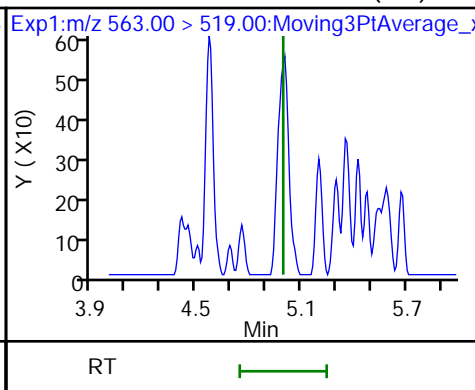
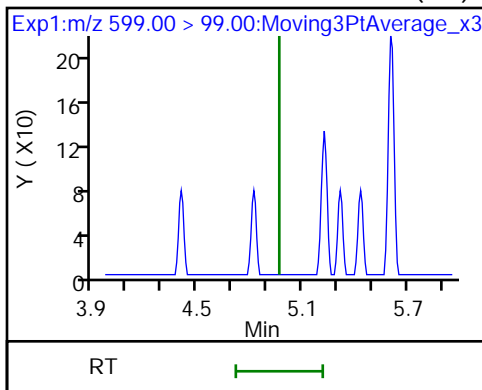
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid (ND)

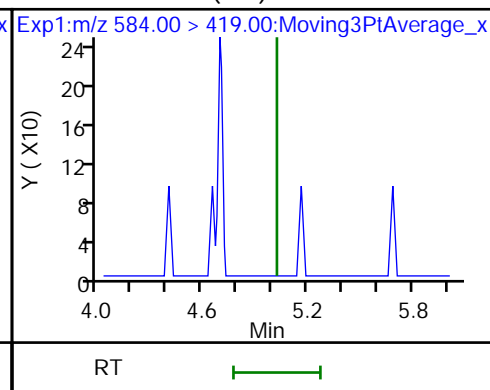
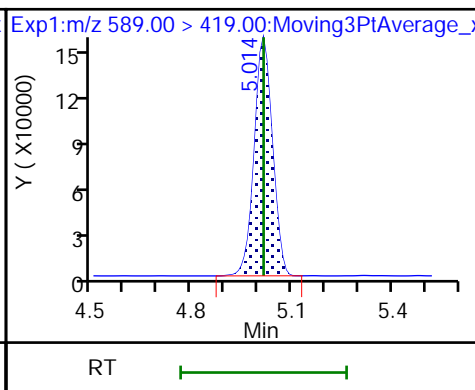
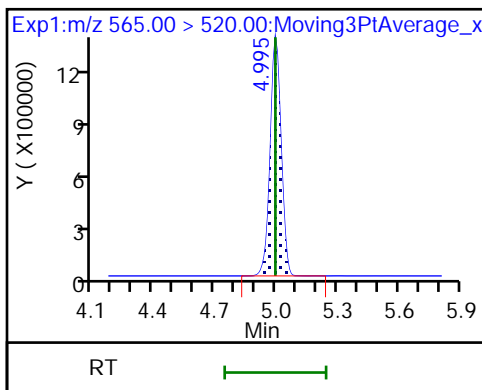
60 Perfluoroundecanoic acid (ND)

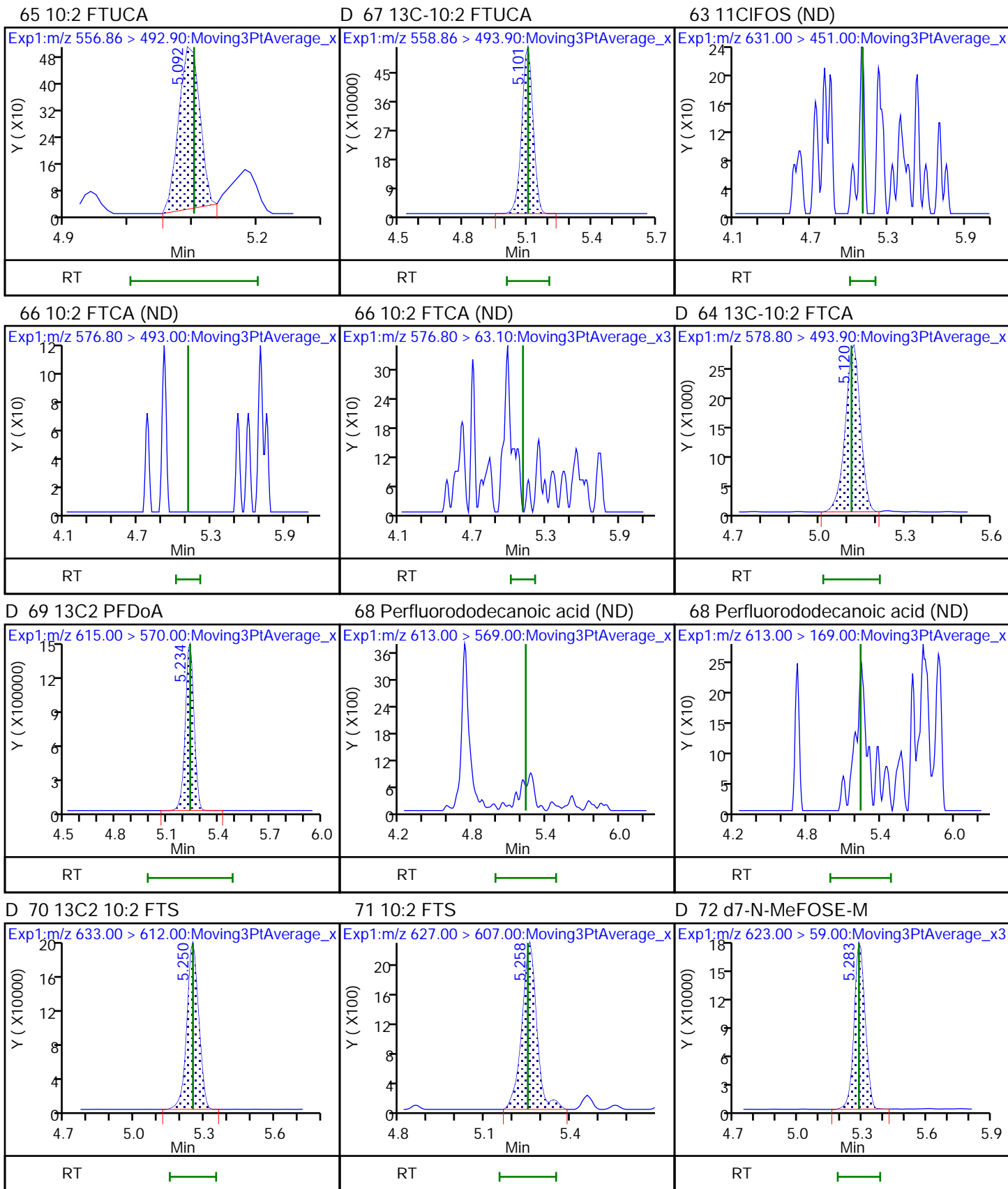


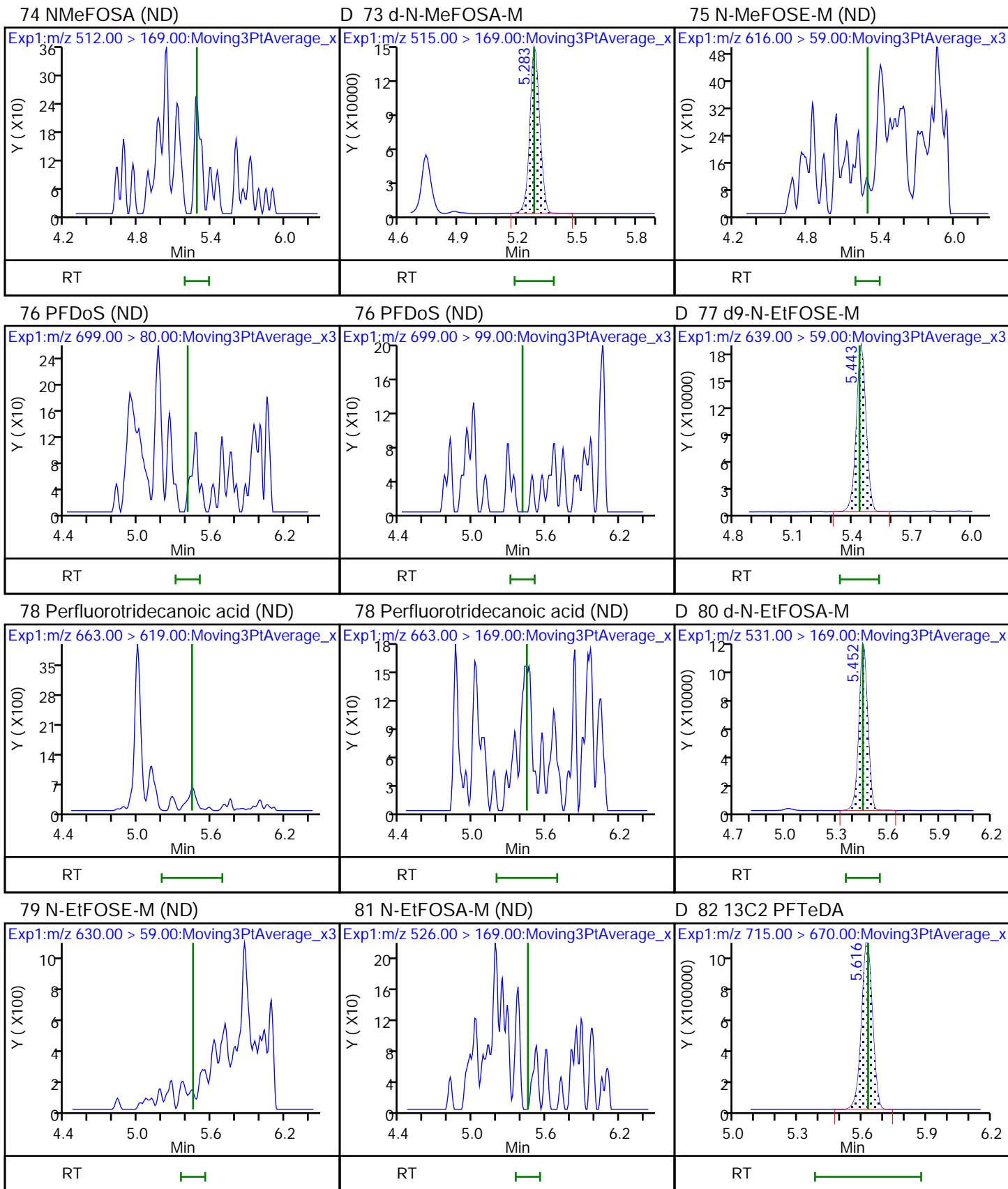
D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (ND)



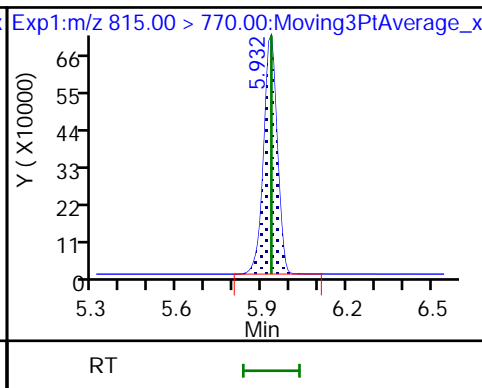
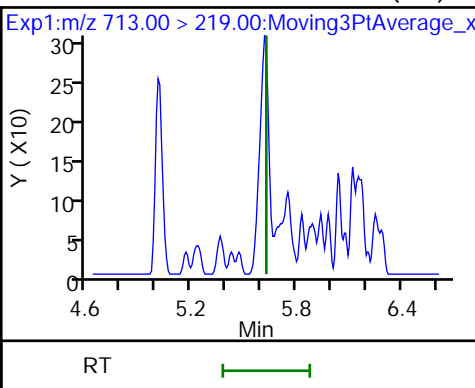
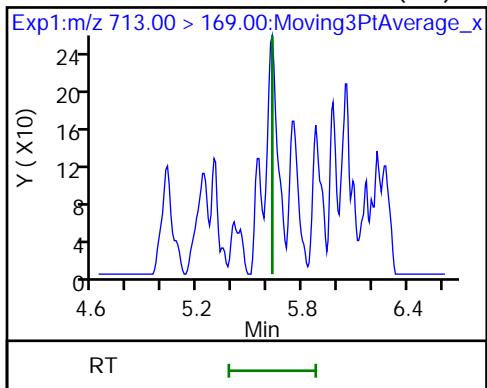




83 Perfluorotetradecanoic acid (ND)

83 Perfluorotetradecanoic acid (ND)

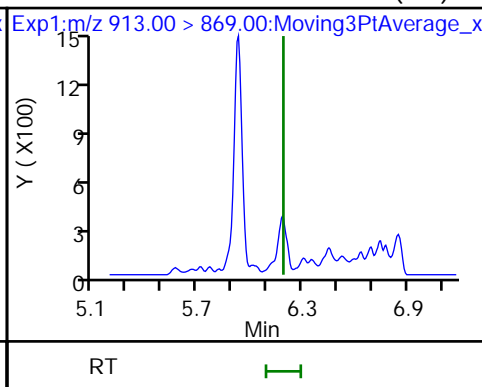
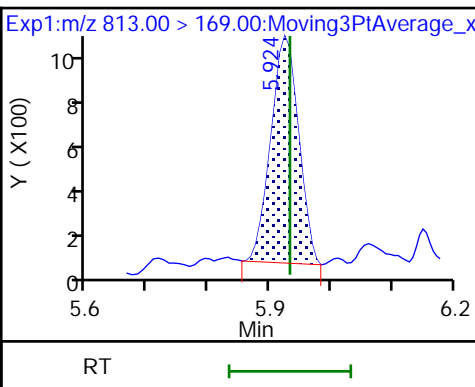
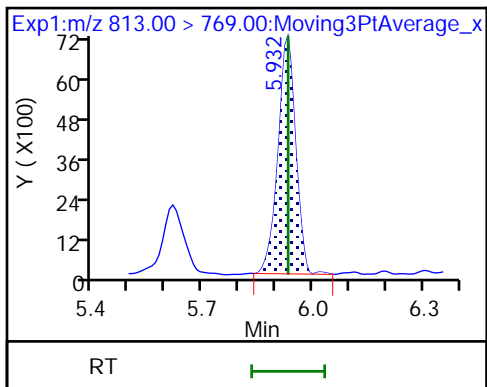
D 84 13C2 PFHxDA



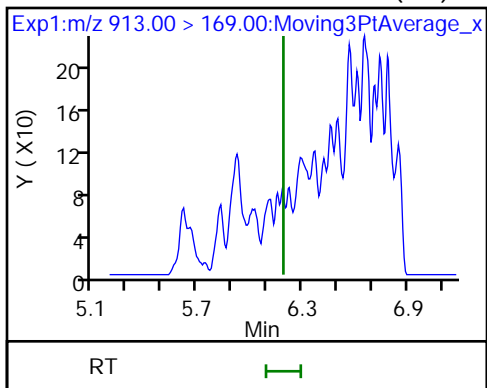
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2155 VEN CARBON BED Lab Sample ID: 140-26390-7  
                           INLET R2 OTM-45 IMPINGERS  
                           1,2&3 COND  
 Matrix: Air Lab File ID: 024.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 0.00678 (Sample) Date Analyzed: 02/18/2022 22:55  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.0161	J	0.0737	0.0128

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	74		25-150



Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_024.d  
 Lims ID: 140-26390-A-7-A  
 Client ID: T-2155 VEN CARBON BED INLET R2 OTM-45 IMPINGERS 1,2&3 COND  
 Sample Type: Client  
 Inject. Date: 18-Feb-2022 22:55:02 ALS Bottle#: 24 Worklist Smp#: 24  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-024 140-26390-a-7-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:18:58  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.858	2225780	0.9312		74.5	5166	
17 HFPO-DA										M
285.00 > 169.00	3.542	3.553	-0.011	1.000	35607	0.0109	Target=2.53		24.6	M
329.00 > 169.00	3.552	3.553	-0.001	1.003	11930		2.98(1.26-3.79)		18.8	M
* 30 13C2 PFOA										
415.00 > 370.00	4.129	4.131	-0.002		6020665	1.25			11135	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_024.d

Injection Date: 18-Feb-2022 22:55:02

Instrument ID: LCA

Lims ID: 140-26390-A-7-A

Lab Sample ID: 140-26390-7

Client ID: T-2155 VEN CARBON BED INLET R2 OTM-45 IMPINGERS 1,2&3 COND

Operator ID: Cochran, Bobby

ALS Bottle#: 24

Worklist Smp#: 24

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

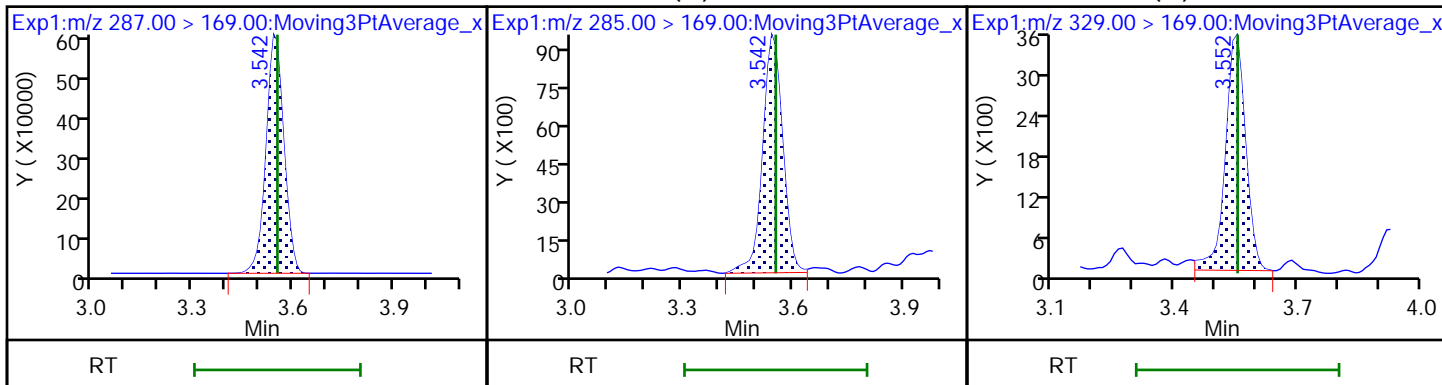
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

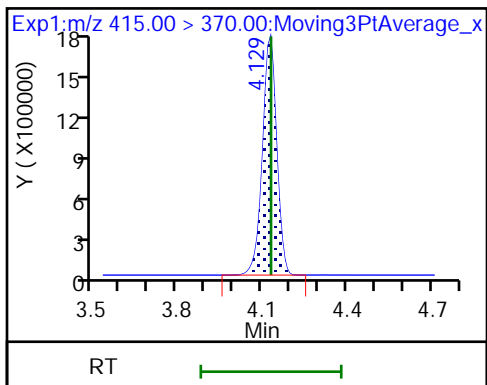
D 16 13C3 HFPO-DA

17 HFPO-DA (M)

17 HFPO-DA (M)



\* 30 13C2 PFOA



Eurofins Knoxville

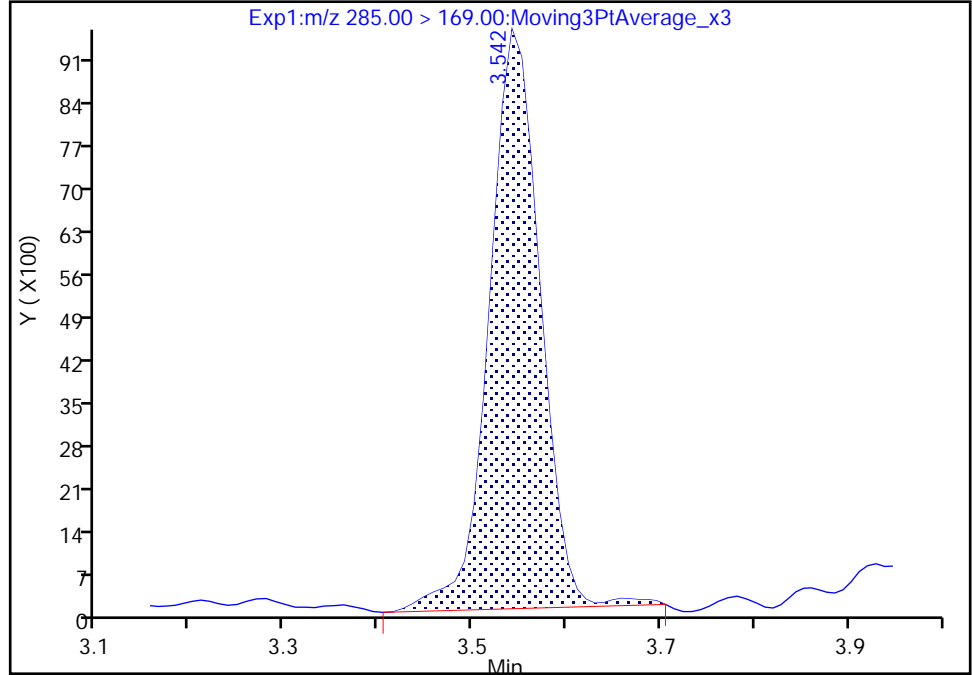
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_024.d  
Injection Date: 18-Feb-2022 22:55:02 Instrument ID: LCA  
Lims ID: 140-26390-A-7-A Lab Sample ID: 140-26390-7  
Client ID: T-2155 VEN CARBON BED INLET R2 OTM-45 IMPINGERS 1,2&3 COND  
Operator ID: Cochran, Bobby ALS Bottle#: 24 Worklist Smp#: 24  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

17 HFPO-DA, CAS: 13252-13-6

Signal: 1

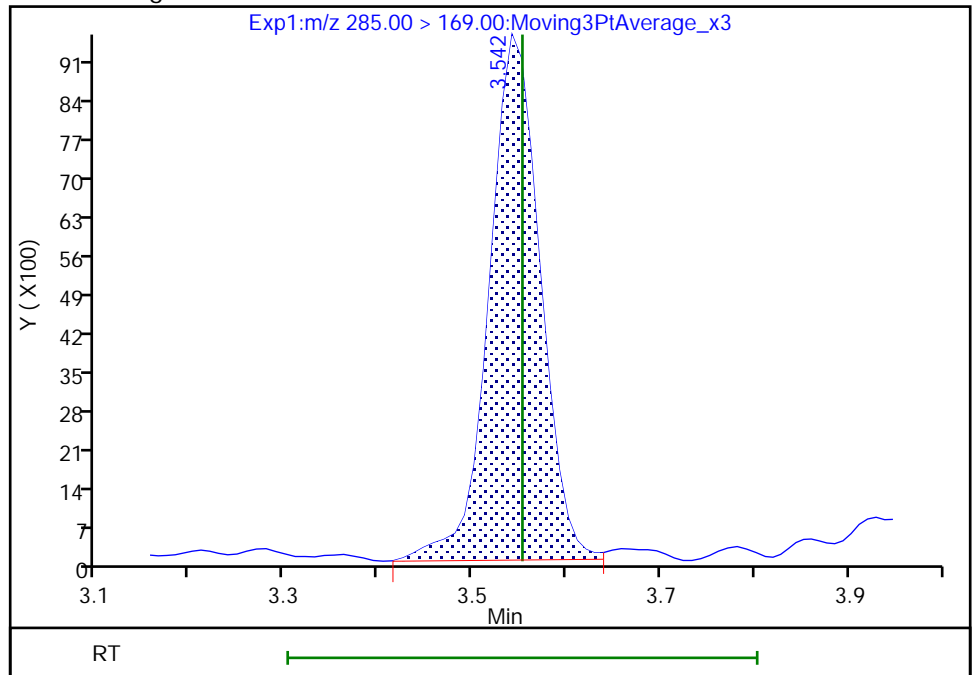
RT: 3.54  
Area: 35456  
Amount: 0.010824  
Amount Units: ng/ml

Processing Integration Results



RT: 3.54  
Area: 35607  
Amount: 0.010891  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:18:43  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

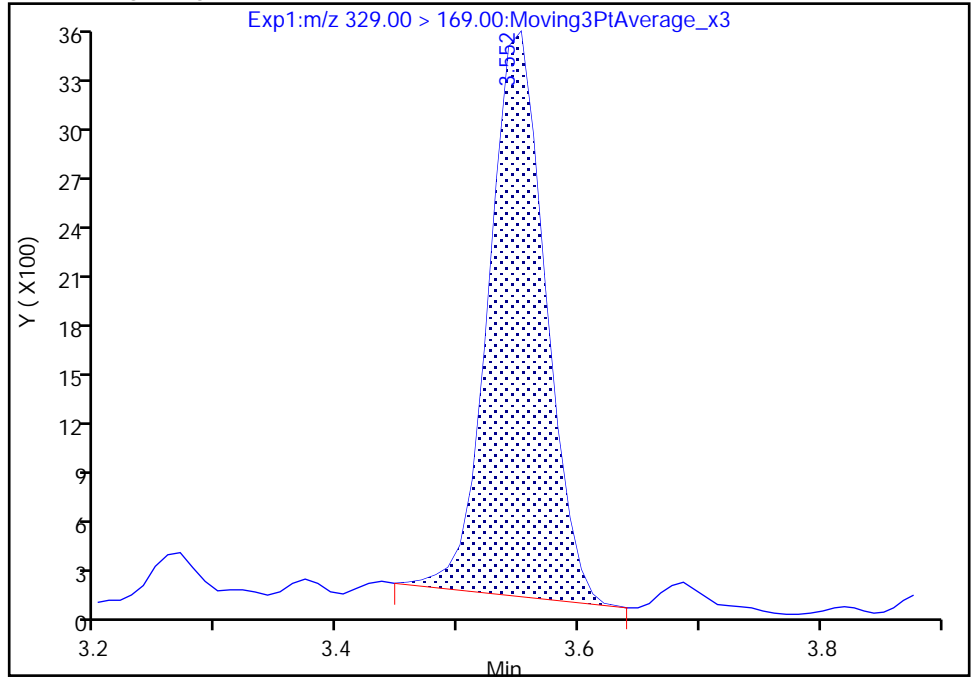
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_024.d  
Injection Date: 18-Feb-2022 22:55:02 Instrument ID: LCA  
Lims ID: 140-26390-A-7-A Lab Sample ID: 140-26390-7  
Client ID: T-2155 VEN CARBON BED INLET R2 OTM-45 IMPINGERS 1,2&3 COND  
Operator ID: Cochran, Bobby ALS Bottle#: 24 Worklist Smp#: 24  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

17 HFPO-DA, CAS: 13252-13-6

Signal: 2

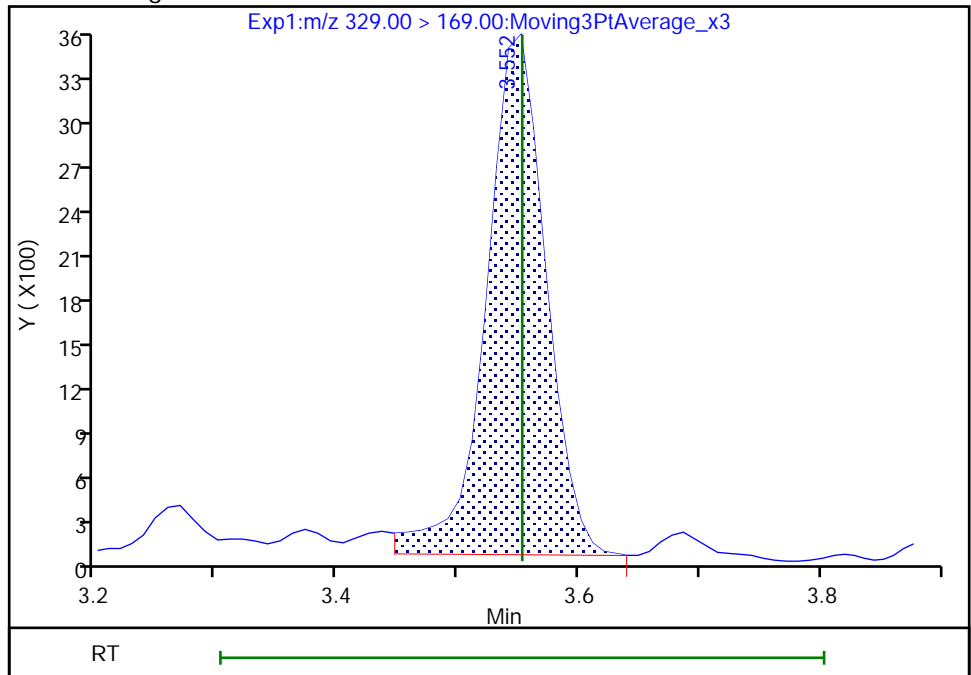
RT: 3.55  
Area: 11129  
Amount: 0.010824  
Amount Units: ng/ml

Processing Integration Results



RT: 3.55  
Area: 11930  
Amount: 0.010891  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:18:49

Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 105 of 728

02/27/2022

FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2153 VEN CARBON BED Lab Sample ID: 140-26390-8  
                           INLET R2 OTM-45  
                           BREAKTHROUGH XAD-2 RESIN  
                           TUBE  
 Matrix: Air Lab File ID: \_008.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/20/2022 14:06  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59064 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.00393	B	0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	84		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_008.d  
 Lims ID: 140-26390-A-8-B  
 Client ID: T-2153 VEN CARBON BED INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 14:06:29 ALS Bottle#: 8 Worklist Smp#: 8  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022725-008 140-26390-a-8-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:50:51 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: mcwhirterl Date: 20-Feb-2022 23:21:57  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_005.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.543	3.553	-0.010	1.000	357706	0.1967	Target=2.52		163	
329.00 > 169.00	3.543	3.553	-0.010	1.000	137965		2.59(1.26-3.78)		71.4	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.553	-0.010	0.860	1763781	1.05		84.3	6548	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.139	-0.018		4218353	1.25			8513	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_008.d

Injection Date: 20-Feb-2022 14:06:29

Instrument ID: LCA

Lims ID: 140-26390-A-8-B

Lab Sample ID: 140-26390-8

Client ID: T-2153 VEN CARBON BED INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Operator ID: Cochran, Bobby

ALS Bottle#: 8 Worklist Smp#: 8

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

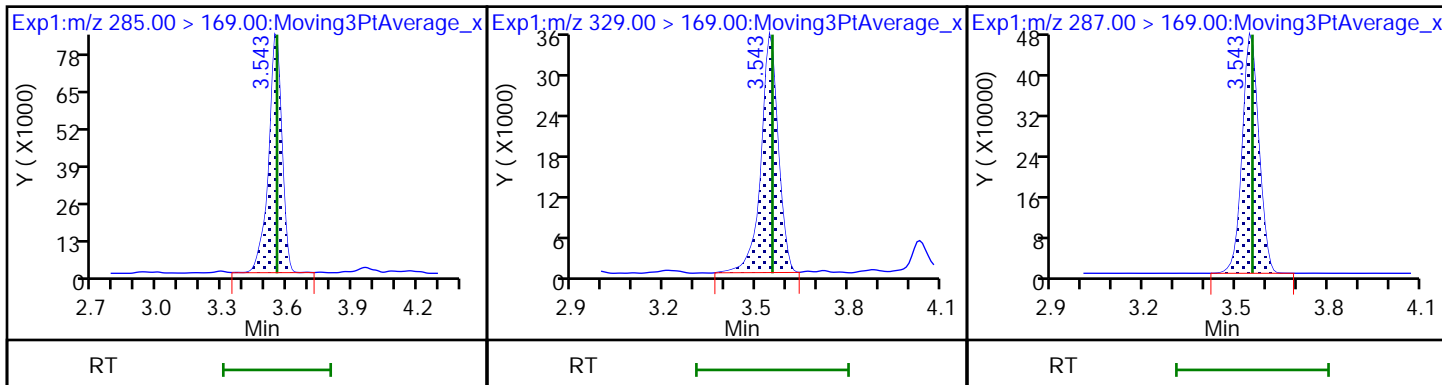
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

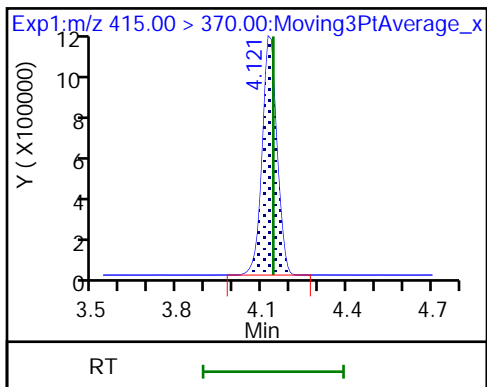
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA







Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_048.d  
 Lims ID: 140-26390-B-9-D  
 Client ID: T-2152,2151 VEN CARBON BED INLET R3 OTM-45 FH  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 00:47:21 ALS Bottle#: 48 Worklist Smp#: 48  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-048 140-26390-b-9-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:34 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:19:04  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_042.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.532	3.542	-0.010	1.000	10197987	4.72	Target=2.58		3150	
329.00 > 169.00	3.532	3.542	-0.010	1.000	3808052		2.68(1.29-3.86)		2376	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.532	3.542	-0.010	0.859	2148809	1.05		84.1	6315	
* 30 13C2 PFOA										
415.00 > 370.00	4.111	4.121	-0.010		5151702	1.25			12176	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_048.d

Injection Date: 20-Feb-2022 00:47:21

Instrument ID: LCA

Lims ID: 140-26390-B-9-D

Lab Sample ID: 140-26390-9

Client ID: T-2152,2151 VEN CARBON BED INLET R3 OTM-45 FH

Operator ID: Cochran, Bobby

ALS Bottle#: 48

Worklist Smp#: 48

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

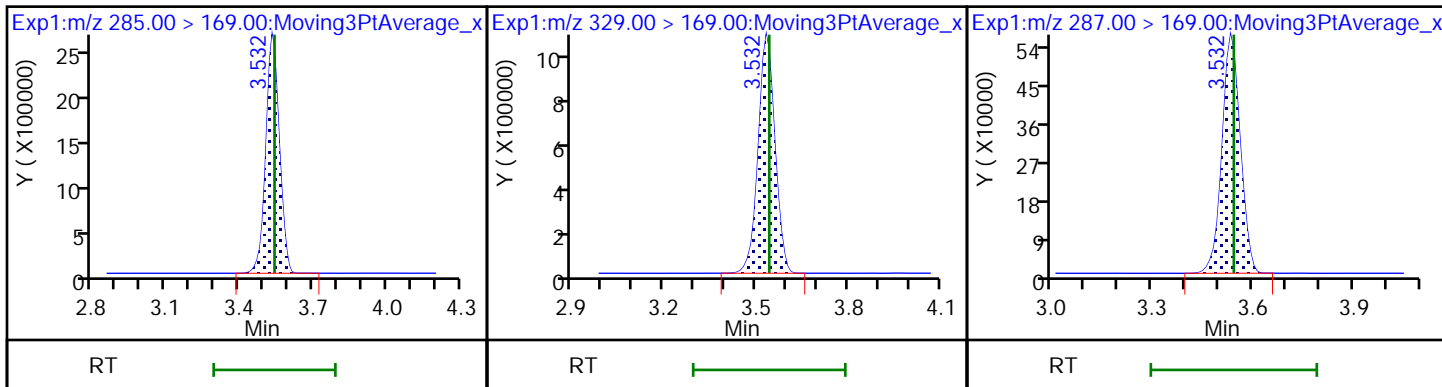
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

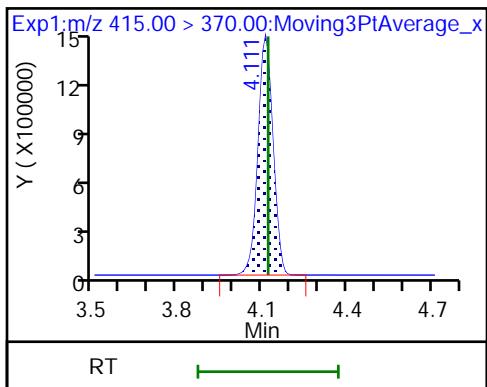
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_048.d  
 Lims ID: 140-26390-B-9-D  
 Client ID: T-2152,2151 VEN CARBON BED INLET R3 OTM-45 FH  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 00:47:21 ALS Bottle#: 48 Worklist Smp#: 48  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-048 140-26390-b-9-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:34 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:19:04

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2150,2149,2147 VEN Lab Sample ID: 140-26390-10  
                           CARBON BED INLET R3  
                           OTM-45 BH  
 Matrix: Air Lab File ID: 010.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/21/2022 10:28  
 Con. Extract Vol.: 360(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59072 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	860	B	16.0	14.0

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	82		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_010.d  
 Lims ID: 140-26390-A-10-E  
 Client ID: T-2150,2149,2147 VEN CARBON BED INLET R3 OTM-45 BH  
 Sample Type: Client  
 Inject. Date: 21-Feb-2022 10:28:29 ALS Bottle#: 10 Worklist Smp#: 10  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022728-010 140-26390-a-10-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 14:32:49 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: cochranj Date: 21-Feb-2022 11:39:12  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_007.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.563	3.572	-0.009	0.861	1947751	1.03		82.5	6822	
17 HFPO-DA										
285.00 > 169.00	3.563	3.572	-0.009	1.000	8431044	4.30	Target=2.61		2471	
329.00 > 169.00	3.563	3.572	-0.009	1.000	3103019		2.72(1.30-3.91)		2680	
* 30 13C2 PFOA										
415.00 > 370.00	4.139	4.147	-0.008		4758514	1.25			10526	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_010.d

Injection Date: 21-Feb-2022 10:28:29

Instrument ID: LCA

Lims ID: 140-26390-A-10-E

Lab Sample ID: 140-26390-10

Client ID: T-2150,2149,2147 VEN CARBON BED INLET R3 OTM-45 BH

Operator ID: Cochran, Bobby

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

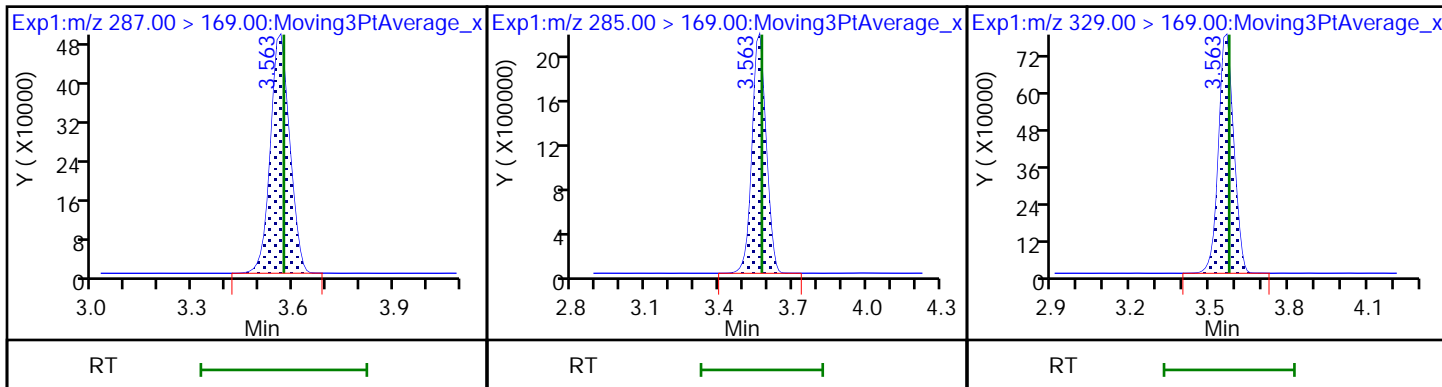
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

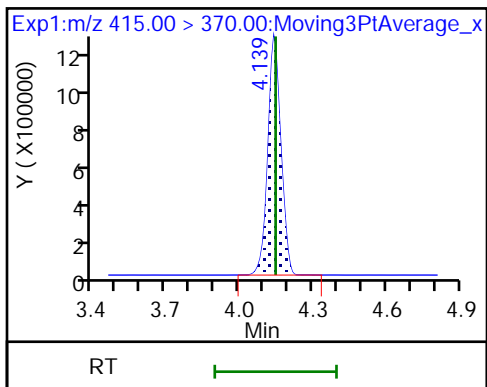
D 16 13C3 HFPO-DA

17 HFPO-DA

17 HFPO-DA



\* 30 13C2 PFOA



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2148 VEN CARBON BED Lab Sample ID: 140-26390-11  
                           INLET R3 OTM-45 IMPINGERS  
                           1,2&3 COND  
 Matrix: Air Lab File ID: \_025.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 0.00667 (Sample) Date Analyzed: 02/18/2022 23:03  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.0163	J	0.0750	0.0130

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	73		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_025.d  
 Lims ID: 140-26390-A-11-A  
 Client ID: T-2148 VEN CARBON BED INLET R3 OTM-45 IMPINGERS 1,2&3 COND  
 Sample Type: Client  
 Inject. Date: 18-Feb-2022 23:03:50 ALS Bottle#: 25 Worklist Smp#: 25  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-025 140-26390-a-11-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:19:48  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.860	2082887	0.9184		73.5	4947	
17 HFPO-DA										M
285.00 > 169.00	3.542	3.553	-0.011	1.000	33330	0.0109	Target=2.53		21.1	
329.00 > 169.00	3.542	3.553	-0.011	1.000	15712		2.12(1.26-3.79)		17.8	M
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5712539	1.25			9173	

QC Flag Legend

Processing Flags

Review Flags

M - Manually Integrated



Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_025.d

Injection Date: 18-Feb-2022 23:03:50

Instrument ID: LCA

Lims ID: 140-26390-A-11-A

Lab Sample ID: 140-26390-11

Client ID: T-2148 VEN CARBON BED INLET R3 OTM-45 IMPINGERS 1,2&3 COND

Operator ID: Cochran, Bobby

ALS Bottle#: 25 Worklist Smp#: 25

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

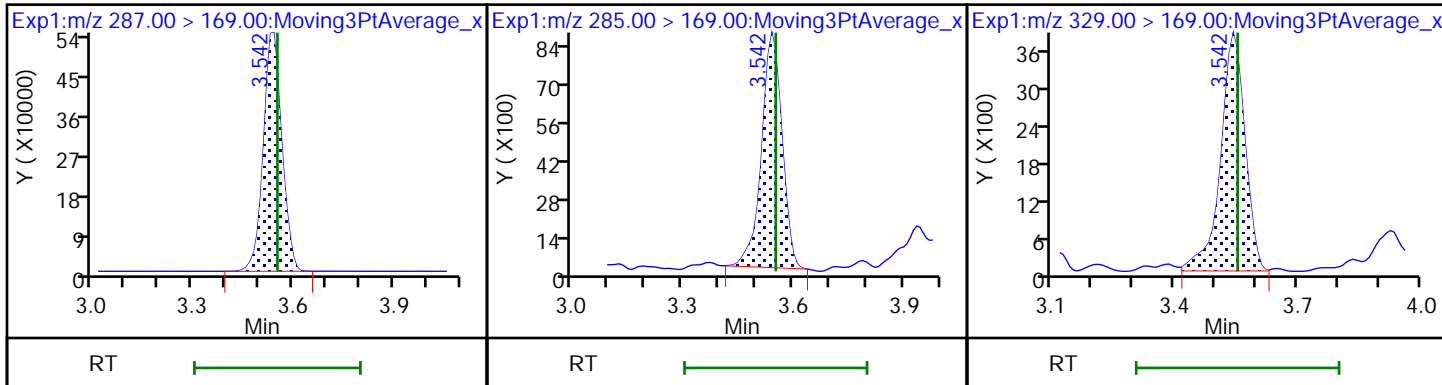
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

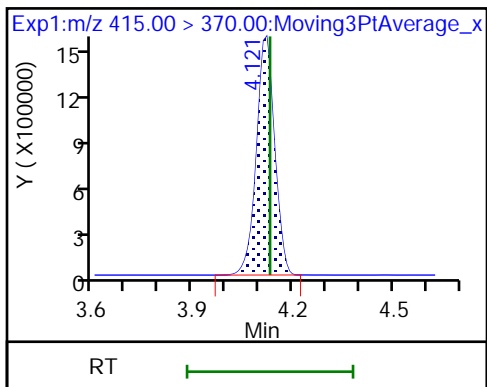
D 16 13C3 HFPO-DA

17 HFPO-DA

17 HFPO-DA (M)



\* 30 13C2 PFOA



Eurofins Knoxville

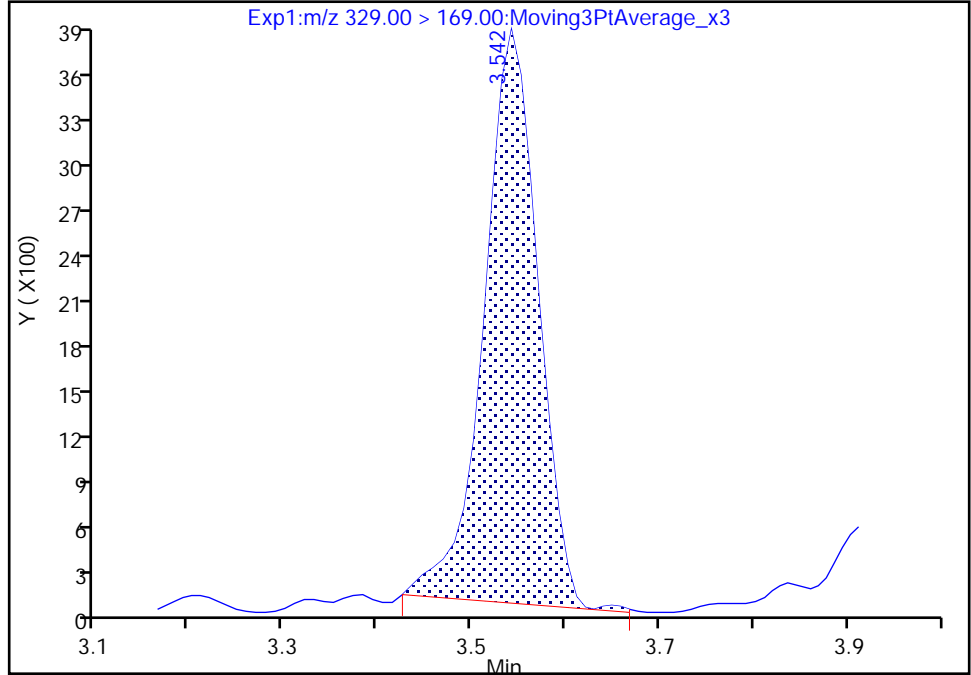
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_025.d  
Injection Date: 18-Feb-2022 23:03:50 Instrument ID: LCA  
Lims ID: 140-26390-A-11-A Lab Sample ID: 140-26390-11  
Client ID: T-2148 VEN CARBON BED INLET R3 OTM-45 IMPINGERS 1,2&3 COND  
Operator ID: Cochran, Bobby ALS Bottle#: 25 Worklist Smp#: 25  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

17 HFPO-DA, CAS: 13252-13-6

Signal: 2

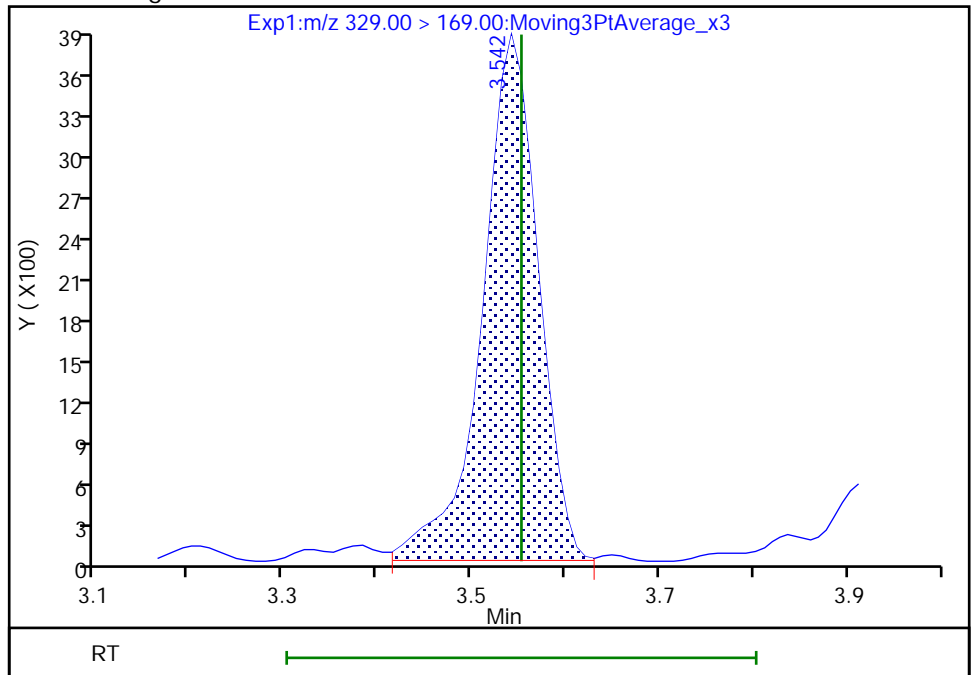
RT: 3.54  
Area: 14971  
Amount: 0.010896  
Amount Units: ng/ml

Processing Integration Results



RT: 3.54  
Area: 15712  
Amount: 0.010896  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:19:42  
Audit Action: Manually Integrated

Audit Reason: Baseline

FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2146 VEN CARBON BED Lab Sample ID: 140-26390-12  
                           INLET R3 OTM-45  
                           BREAKTHROUGH XAD-2 RESIN  
                           TUBE  
 Matrix: Air Lab File ID: \_027.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 21:42  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.00662	B	0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	79		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_027.d  
 Lims ID: 140-26390-A-12-B  
 Client ID: T-2146 VEN CARBON BED INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 21:42:15 ALS Bottle#: 27 Worklist Smp#: 27  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-027 140-26390-a-10-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1

Process Host: CTX1667

Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.543	3.542	0.001	1.000	600153	0.3310	Target=2.55		118	
329.00 > 169.00	3.543	3.542	0.001	1.000	204528		2.93(1.28-3.83)		58.1	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.542	0.001	0.858	1776955	0.9839		78.7	6762	
* 30 13C2 PFOA										
415.00 > 370.00	4.131	4.121	0.010		4549267	1.25			8013	

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_027.d

Injection Date: 19-Feb-2022 21:42:15

Instrument ID: LCA

Lims ID: 140-26390-A-12-B

Lab Sample ID: 140-26390-12

Client ID: T-2146 VEN CARBON BED INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Operator ID: Cochran, Bobby

ALS Bottle#: 27 Worklist Smp#: 27

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

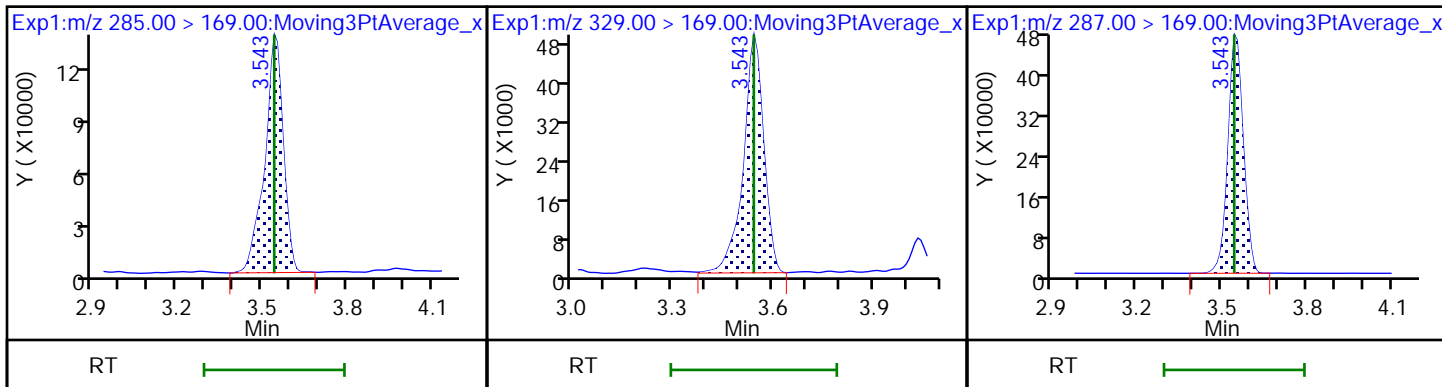
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

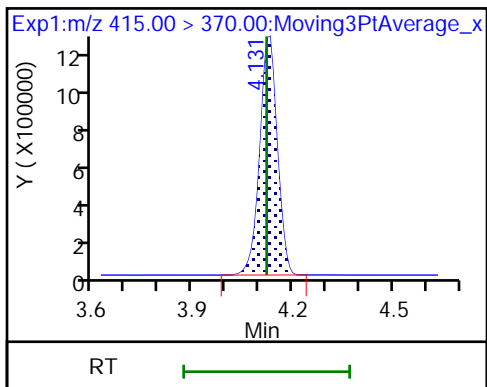
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_027.d  
 Lims ID: 140-26390-A-12-B  
 Client ID: T-2146 VEN CARBON BED INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 21:42:15 ALS Bottle#: 27 Worklist Smp#: 27  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-027 140-26390-a-10-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

Compound	Amount Added	Amount Recovered	% Rec.
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 140-59044/12 Calibration Date: 02/18/2022 19:11  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8413		2.16	2.03	6.3	40.0
PFECA F	AveID	0.7535	0.7034		2.10	2.25	-6.7	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.026		2.26	2.07	9.4	40.0
3:3 FTCA	QuaIF		0.0510		2.12	2.25	-6.0	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.167		2.36	2.25	4.8	40.0
PFECA A	Q2ID		1.194		2.26	2.25	0.5	40.0
PES	Q2ID		2.055		1.92	2.25	-14.6	40.0
PFECA B	Q2ID		0.4007		2.11	2.25	-6.1	40.0
4:2 FTS	L2ID		2.367		2.19	2.10	4.3	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.9319		2.65	2.25	17.7	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	0.9090		1.86	2.11	-12.0	40.0
HFPO-DA	L2ID		1.473		2.63	2.25	17.0	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.386		2.25	2.25	0.1	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.260		2.78	2.25	23.8	40.0
DONA	AveID	2.644	2.858		2.43	2.25	8.1	40.0
5:3 FTCA	L2ID		3.673		2.20	2.25	-2.3	40.0
6:2 FTUCA	AveID	1.046	1.025		2.21	2.25	-2.0	40.0
6:2 FTCA	L1ID		0.6586		2.14	2.25	-4.8	40.0
PFECHS	AveID	0.7426	0.7270		2.03	2.07	-2.1	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9289		2.02	2.14	-5.9	40.0
6:2 FTS	L2ID		1.760		2.06	2.14	-3.6	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.268		2.68	2.25	19.0	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.176		2.31	2.25	2.7	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.9416		2.79	2.25	23.8	40.0
7:3 FTCA	AveID	5.230	4.547		1.96	2.25	-13.1	40.0
8:2 FTUCA	AveID	0.9565	0.9280		2.18	2.25	-3.0	40.0
8:2 FTCA	AveID	1.811	1.539		1.91	2.25	-15.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.368		2.37	2.25	5.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9108		1.95	2.16	-9.9	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9066		2.14	2.25	-5.1	40.0
Perfluorodecanoic acid (PFDA)	L2ID		1.022		2.57	2.25	14.1	40.0
8:2 FTS	L2ID		1.397		2.07	2.22	-6.8	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		1.083		2.58	2.25	14.6	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8564		2.09	2.17	-3.6	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 140-59044/12 Calibration Date: 02/18/2022 19:11  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_012.d Conc. Units: ng/mL

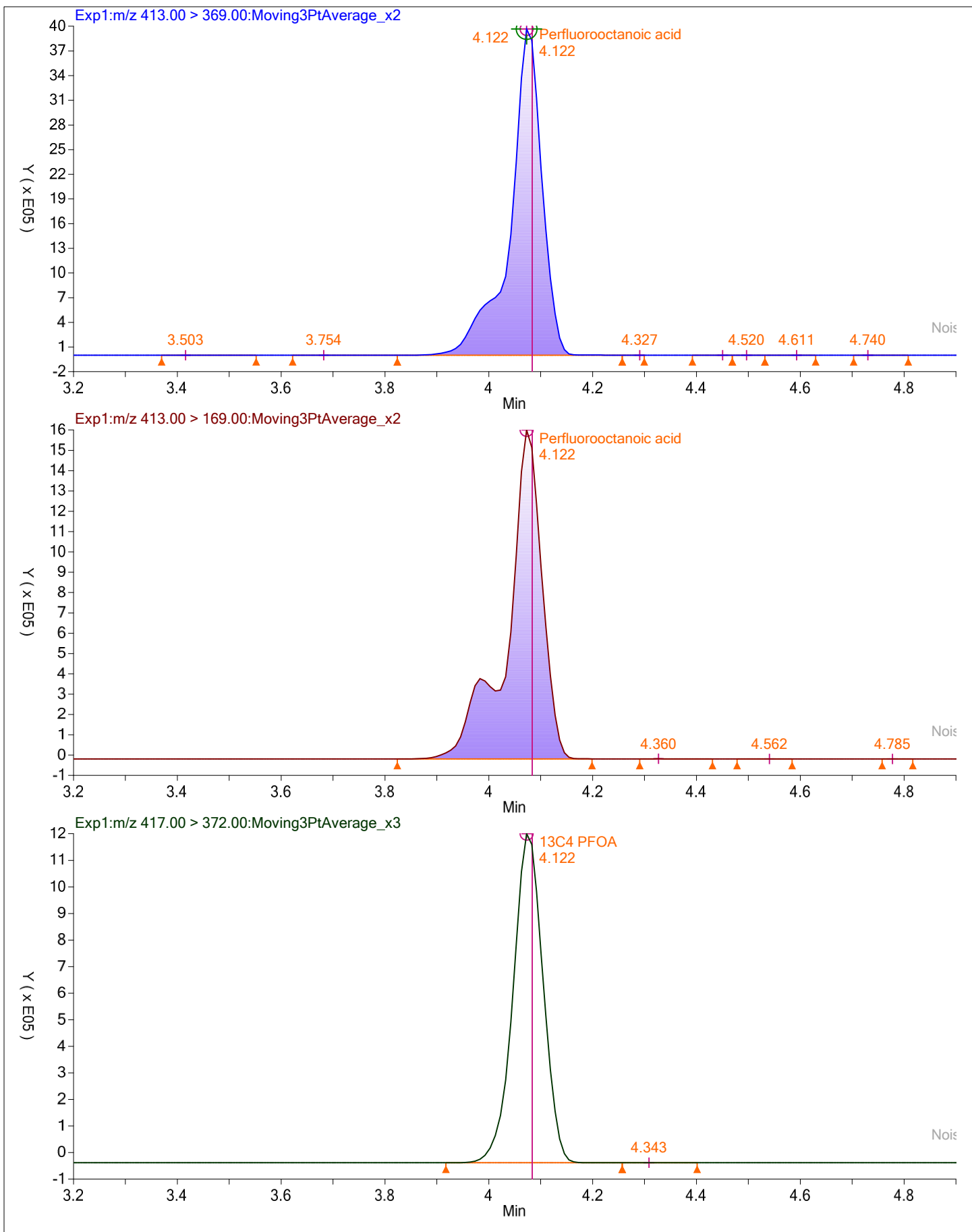
ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.134		2.64	2.25	17.3	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		1.093		2.70	2.25	19.8	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.875		2.43	2.25	7.9	50.0
10:2 FTUCA	AveID	1.208	1.084		2.02	2.25	-10.2	40.0
10:2 FTCA	Q2ID		1.017		2.41	2.25	7.1	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.143		2.49	2.25	10.6	40.0
10:2 FTS	L2ID		1.999		2.08	2.17	-4.4	50.0
NMeFOSA	L2ID		0.9828		2.05	2.25	-8.7	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.152		2.21	2.25	-1.7	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9124		2.10	2.18	-3.5	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.9514		2.42	2.25	7.7	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.280		2.03	2.25	-9.8	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.238		2.24	2.25	-0.6	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1535		2.68	2.25	19.3	40.0
Perfluorohexadecanoic acid	L1ID		1.059		2.11	2.25	-6.4	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9488		2.11	2.25	-6.3	40.0
13C4 PFBA	Ave	1.172	1.196		1.28	1.25	2.0	50.0
13C5 PFPeA	Ave	0.9197	0.9329		1.27	1.25	1.4	50.0
13C3 PFBS	Ave	0.5817	0.6073		1.21	1.16	4.4	50.0
M2-4:2 FTS	Ave	0.1821	0.1762		1.13	1.17	-3.2	50.0
13C2 PFHxA	Ave	1.015	1.084		1.34	1.25	6.8	50.0
13C3 HFPO-DA	Ave	0.4963	0.5057		1.27	1.25	1.9	50.0
18O2 PFHxS	Ave	0.3776	0.3978		1.25	1.18	5.4	50.0
13C4 PFHpA	Ave	0.9046	0.9130		1.26	1.25	0.9	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3479		1.29	1.25	3.1	50.0
13C-6:2 FTCA	Ave	0.0260	0.0271		1.30	1.25	4.3	50.0
13C4 PFOA	Ave	0.9356	0.9257		1.24	1.25	-1.1	50.0
M2-6:2 FTS	Ave	0.1799	0.1780		1.17	1.19	-1.1	50.0
13C4 PFOS	Ave	0.5610	0.5801		1.24	1.20	3.4	50.0
13C5 PFNA	Ave	1.268	1.251		1.23	1.25	-1.4	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4507		1.25	1.25	-0.3	50.0
13C-8:2 FTCA	Ave	0.0330	0.0353		1.34	1.25	6.9	50.0
13C8 FOSA	Ave	0.8475	0.8669		1.28	1.25	2.3	50.0
13C2 PFDA	Ave	1.210	1.271		1.31	1.25	5.1	50.0
M2-8:2 FTS	Ave	0.1961	0.2045		1.25	1.20	4.3	50.0



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 140-59044/12 Calibration Date: 02/18/2022 19:11  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1183		1.30	1.25	4.3	50.0
13C2 PFUnA	Ave	1.168	1.189		1.27	1.25	1.8	50.0
d5-NEtFOSAA	Ave	0.1164	0.1284		1.38	1.25	10.3	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5305		1.31	1.25	4.5	50.0
13C-10:2 FTCA	Ave	0.0309	0.0331		1.34	1.25	7.0	50.0
13C2 PFDoA	Ave	1.152	1.229		1.33	1.25	6.6	50.0
13C2 10:2 FTS	Ave	0.1652	0.1721		1.23	1.18	4.2	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1217		1.28	1.25	2.6	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1030		1.28	1.25	2.0	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1303		1.32	1.25	5.9	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0832		1.29	1.25	2.8	50.0
13C2 PFTeDA	Ave	0.9216	0.9361		1.27	1.25	1.6	50.0
13C2 PFHxDA	Ave	0.5997	0.6199		1.29	1.25	3.4	50.0
13C8 PFOA	AveID	0.9229	0.9368		1.27	1.25	1.5	50.0
13C8 PFOS	AveID	0.2212	0.2059		1.11	1.20	-6.9	50.0



Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_012.d  
 Lims ID: ICV  
 Client ID:  
 Sample Type: ICV  
 Inject. Date: 18-Feb-2022 19:11:11 ALS Bottle#: 12 Worklist Smp#: 12  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022713-012 icv  
 Misc. Info.: Plate: 11 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist:

Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:04:00 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 18-Feb-2022 19:35:02

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	7643925	2.16			2223	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.682	5592512	1.28		102	21502	
3 PFECA F										
229.00 > 85.00	2.919	2.919	0.0	0.937	5525282	2.10			14137	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.756	4363919	1.27		101	16464	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.115	0.0	1.000	7409360	2.26			3190	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.132	-0.001	1.000	260850	2.12	Target=1.13		2701	
241.00 > 116.90	3.131	3.132	-0.001	1.000	226008		1.15(0.56-1.69)		390	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.132	-0.001	0.760	2641960	1.21		104	11583	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.132	-0.001	1.000	5965512	2.36	Target=2.61		14780	
298.90 > 99.00	3.131	3.132	-0.001	1.000	2240132		2.66(1.31-3.92)		11740	
9 PFECA A										
278.95 > 84.90	3.211	3.212	-0.001	1.031	9376145	2.26			16044	
11 PES										
314.80 > 135.00	3.260	3.261	0.0	1.041	10509927	1.92			32422	
12 PFECA B										
295.22 > 201.00	3.384	3.385	-0.001	0.981	3655349	2.11			13372	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.829	769846	1.13		96.8	1540	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.416	3.416	0.0	1.000	3281506	2.19			10390	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.449	-0.001	0.837	5068481	1.33		107	15771	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.449	-0.001	1.101	4359803	1.86	Target=3.55		8380	
349.00 > 99.00	3.448	3.449	-0.001	1.101	1279567		3.41(1.78-5.33)		13170	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.449	-0.001	1.000	8501967	2.65	Target=11.60		4007	
313.00 > 119.00	3.448	3.449	-0.001	1.000	682435		12.46(5.80-17.40)		673	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.553	-0.010	0.860	2365604	1.27		102	7572	
17 HFPO-DA										
285.00 > 169.00	3.543	3.553	-0.010	1.000	6270673	2.63	Target=2.45		3719	
329.00 > 169.00	3.543	3.553	-0.010	1.000	2477028		2.53(1.23-3.68)		2677	
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.783	0.0	0.918	1760334	1.25		105	7401	
21 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.783	3.783	0.0	1.000	4643832	2.25	Target=3.44		7695	M
399.00 > 99.00	3.783	3.783	0.0	1.000	1315988		3.53(1.72-5.17)		3047	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.793	0.0	0.920	4270831	1.26		101	9502	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.793	3.793	0.0	1.000	9684829	2.78	Target=3.25		6330	
363.00 > 169.00	3.793	3.793	0.0	1.000	2942991		3.29(1.62-4.87)		5424	
25 DONA										
377.00 > 251.00	3.821	3.829	-0.008	0.866	13960804	2.43	Target=1.74		20261	
377.00 > 85.00	3.821	3.829	-0.008	0.866	7690725		1.82(0.87-2.61)		5493	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.854	-0.001	0.987	838920	2.20	Target=1.11		2893	
340.88 > 216.90	3.853	3.854	-0.001	0.987	738506		1.14(0.56-1.67)		1540	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	-0.001	0.943	1627341	1.29		103	4011	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.887	-0.001	1.000	3003482	2.20	Target=13.05		5429	
356.86 > 243.00	3.886	3.887	-0.001	1.000	198925		15.10(6.52-19.57)		718	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.904	0.0	0.947	126904	1.30		104	944	
29 6:2 FTCA										
377.10 > 63.00	3.904	3.904	0.0	1.000	150451	2.14	Target=1.29		464	
377.10 > 313.10	3.904	3.904	0.0	1.000	105593		1.42(0.65-1.94)		135	
32 PFECBS										
460.80 > 380.90	4.065	4.065	0.0	0.986	5224321	2.03	Target=1.75		14931	
460.80 > 98.90	4.055	4.065	-0.010	0.984	2937207		1.78(0.87-2.62)		6721	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.112	4.112	0.0	0.932	4319215	2.01	Target=3.72		13888	
449.00 > 99.00	4.112	4.112	0.0	0.932	1076285		4.01(1.86-5.57)		5112	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.122	-0.001	1.000	790889	1.17		98.9	2317	
35 6:2 FTS										
427.00 > 407.00	4.121	4.122	-0.001	1.000	2502549	2.06			7334	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.122	-0.001	1.000	4056360	1.27		102	17494	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.131	-0.010	1.000	4330014	1.24		98.9	9620	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		4677658	1.25			11851	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.131	-0.010	1.000	9886064	2.68	Target=2.51		7635	
413.00 > 169.00	4.121	4.131	-0.010	1.000	4193943		2.36(1.26-3.77)		6944	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.413	4.413	0.0	1.000	534193	1.11		93.1	1793	
D 39 13C4 PFOS										
503.00 > 80.00	4.413	4.422	-0.009	1.071	2594020	1.24		103	2870	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.413	4.422	-0.009	1.000	5743528	2.31	Target=4.30		3847	M
499.00 > 99.00	4.413	4.422	-0.009	1.000	1304650		4.40(2.15-6.45)		3106	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.440	-0.001	1.000	9919876	2.79	Target=3.60		8904	
463.00 > 169.00	4.439	4.440	-0.001	1.000	2496853		3.97(1.80-5.40)		5095	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.440	-0.001	1.077	5853058	1.23		98.6	9394	
43 7:3 FTCA										
441.00 > 337.00	4.520	4.529	-0.009	0.991	1353076	1.96	Target=1.42		1944	
441.00 > 317.00	4.520	4.529	-0.009	0.991	1022557		1.32(0.71-2.13)		2840	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.546	-0.001	1.000	3521662	2.18	Target=35.37		7060	
456.86 > 343.00	4.545	4.546	-0.001	1.000	112457		31.32(17.68-53.05)		380	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.546	-0.001	1.000	2108194	1.25		99.7	4511	
46 8:2 FTCA										
477.00 > 393.10	4.562	4.562	0.0	1.000	458023	1.91	Target=3.35		1405	
477.00 > 63.20	4.562	4.562	0.0	1.000	144944		3.16(1.68-5.03)		728	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.562	4.562	0.0	1.107	165323	1.34		107	519	
49 9CIFOS										
531.00 > 351.00	4.578	4.579	-0.001	1.111	11564638	2.37			11464	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.064	4269539	1.94	Target=3.99		6378	
549.00 > 99.00	4.697	4.697	0.0	1.064	1109105		3.85(2.00-5.99)		5015	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.714	-0.008	1.142	4055004	1.28		102	5043	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.714	-0.008	1.000	6617192	2.14			5311	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.731	-0.008	1.146	5946673	1.31		105	16995	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.731	-0.008	1.000	10943833	2.57	Target=10.58		6896	
513.00 > 169.00	4.723	4.731	-0.008	1.000	999546		10.95(5.29-15.88)		558	
53 8:2 FTS										
527.00 > 507.00	4.740	4.740	0.0	1.002	2374342	2.07			9935	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.740	-0.009	1.148	916448	1.25		104	2384	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.873	-0.001	1.182	553596	1.30		104	196	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.873	-0.001	1.000	1079070	2.58			1822	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.958	-0.001	1.123	4031978	2.09	Target=3.55		8231	
599.00 > 99.00	4.957	4.958	-0.001	1.123	1091002		3.70(1.78-5.33)		3179	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.987	-0.001	1.000	11355937	2.64	Target=8.26		14144	
563.00 > 169.00	4.986	4.987	-0.001	1.000	1333498		8.52(4.13-12.39)		4906	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.987	-0.001	1.210	5561292	1.27		102	16312	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.006	-0.001	1.214	600596	1.38		110	2155	
62 NEtFOSAA										
584.00 > 419.00	5.005	5.016	-0.011	1.000	1181793	2.69			1100	M
63 11CIFOS										
631.00 > 451.00	5.083	5.093	-0.010	1.152	9157481	2.43			9372	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.093	5.093	0.0	1.236	2481350	1.31		104	6419	
65 10:2 FTUCA										
556.86 > 492.90	5.093	5.093	0.0	1.000	4843453	2.02			6704	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.238	154736	1.34		107	1034	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	283353	2.41	Target=2.53		1572	
576.80 > 63.10	5.102	5.112	-0.010	1.000	113174		2.50(1.26-3.79)		333	
D 69 13C2 PFDoA										
615.00 > 570.00	5.218	5.227	-0.009	1.266	5747520	1.33		107	14585	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.218	5.227	-0.009	1.000	11821468	2.49	Target=6.85		13109	
613.00 > 169.00	5.226	5.227	-0.001	1.002	1685254		7.01(3.43-10.28)		2455	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.272	762341	1.23		104	3547	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.000	2793434	2.07			8739	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.280	481648	1.28		102	55.0	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.284	-0.009	1.280	569068	1.28		103	440	
74 NMeFOSA										
512.00 > 169.00	5.284	5.284	0.0	1.002	852095	2.05			687	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.293	-0.001	1.003	1179527	2.21			1649	
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.223	4313888	2.10	Target=4.22		7581	
699.00 > 99.00	5.399	5.399	0.0	1.223	947843		4.55(2.11-6.34)		4432	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.040	9843139	2.42	Target=6.32		8498	
663.00 > 169.00	5.426	5.435	-0.009	1.040	1610303		6.11(3.16-9.48)		6563	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.444	-0.009	1.319	609576	1.32		106	300	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.444	5.453	-0.009	1.321	389259	1.29		103	634	
79 N-EtFOSE-M										
630.00 > 59.00	5.444	5.453	-0.009	1.002	1404095	2.03			1374	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.461	-0.009	1.002	867493	2.24			559	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	1209535	2.68	Target=1.01		4508	
713.00 > 219.00	5.608	5.617	-0.009	0.998	1172960		1.03(0.51-1.52)		5302	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.363	4378899	1.27		102	11212	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.925	-0.009	1.435	2899828	1.29		103	7658	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.925	-0.001	1.001	5527539	2.11	Target=8.64		5121	
813.00 > 169.00	5.924	5.925	-0.001	1.001	675522		8.18(4.32-12.97)		2153	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.184	-0.005	1.044	4952594	2.11	Target=11.77		5604	
913.00 > 169.00	6.179	6.184	-0.005	1.044	414890		11.94(5.88-17.65)		1435	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63ICVPFC2\_FUL\_00005

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_012.d

Injection Date: 18-Feb-2022 19:11:11

Instrument ID: LCA

Lims ID: ICV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

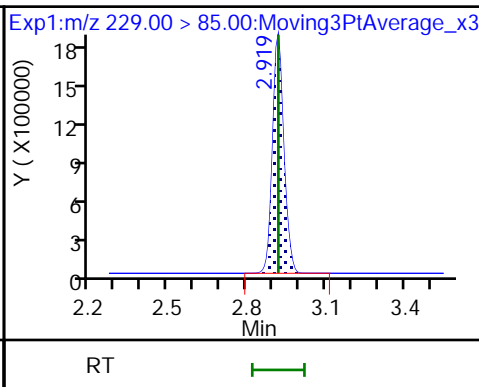
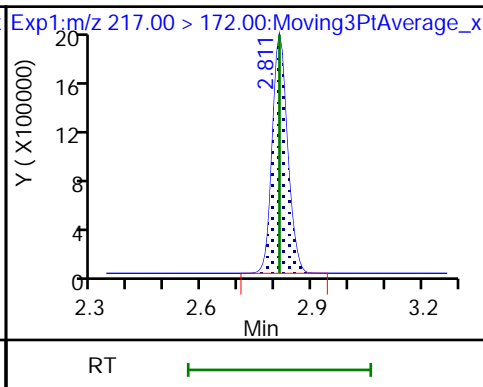
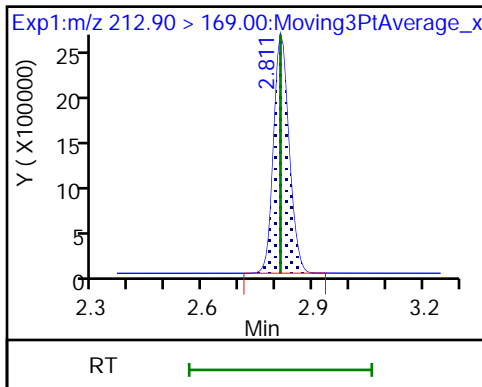
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

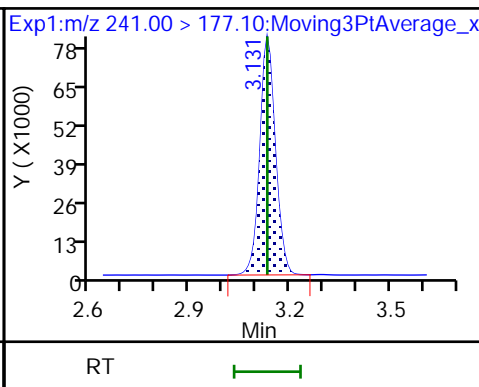
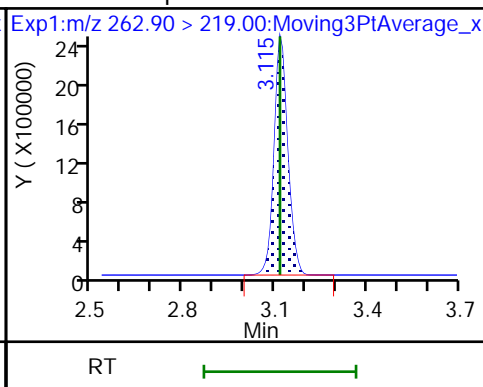
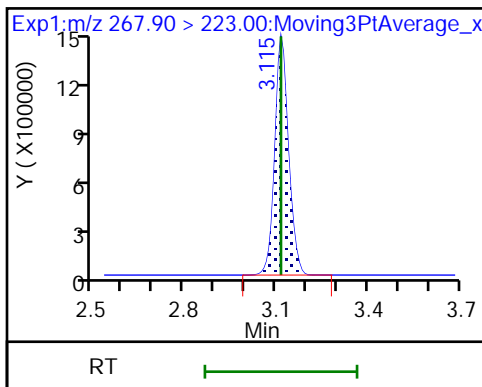
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

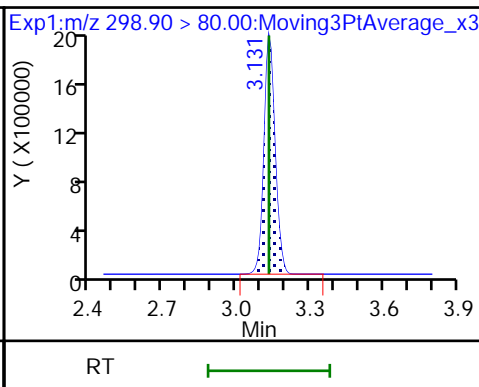
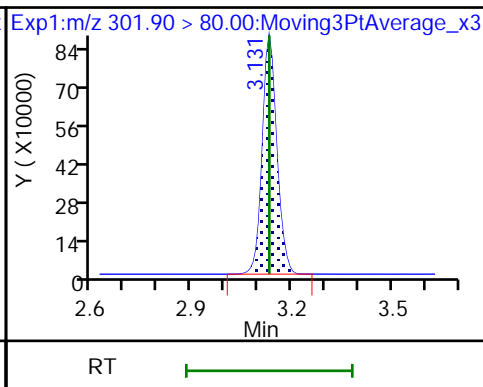
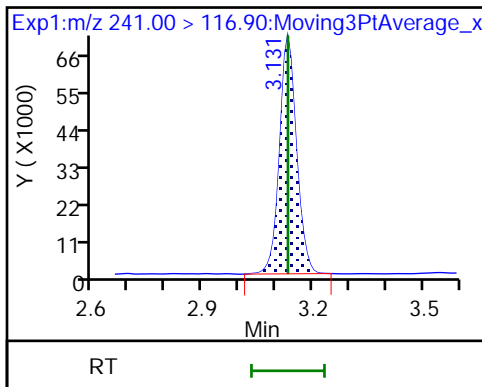
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

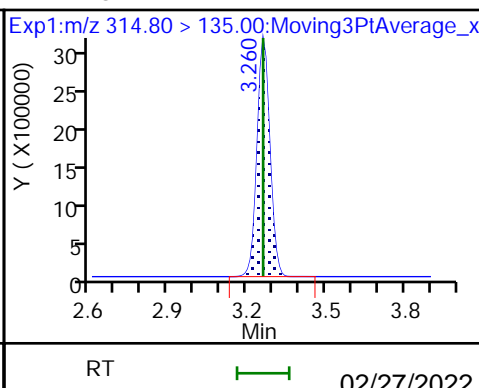
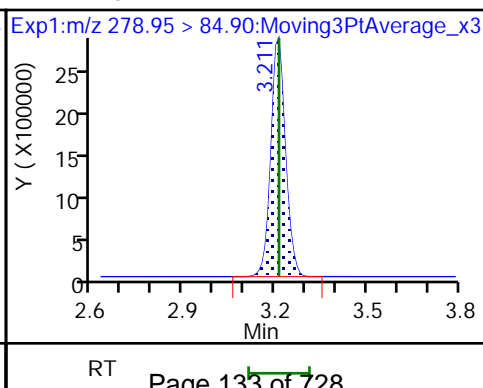
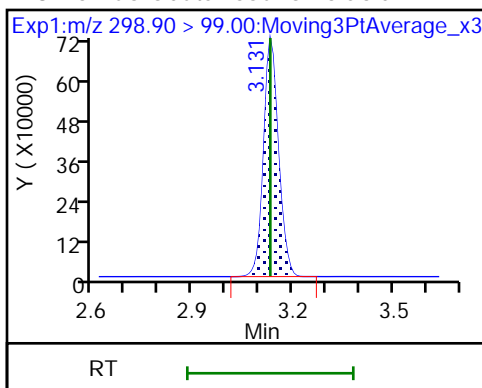
8 Perfluorobutanesulfonic acid



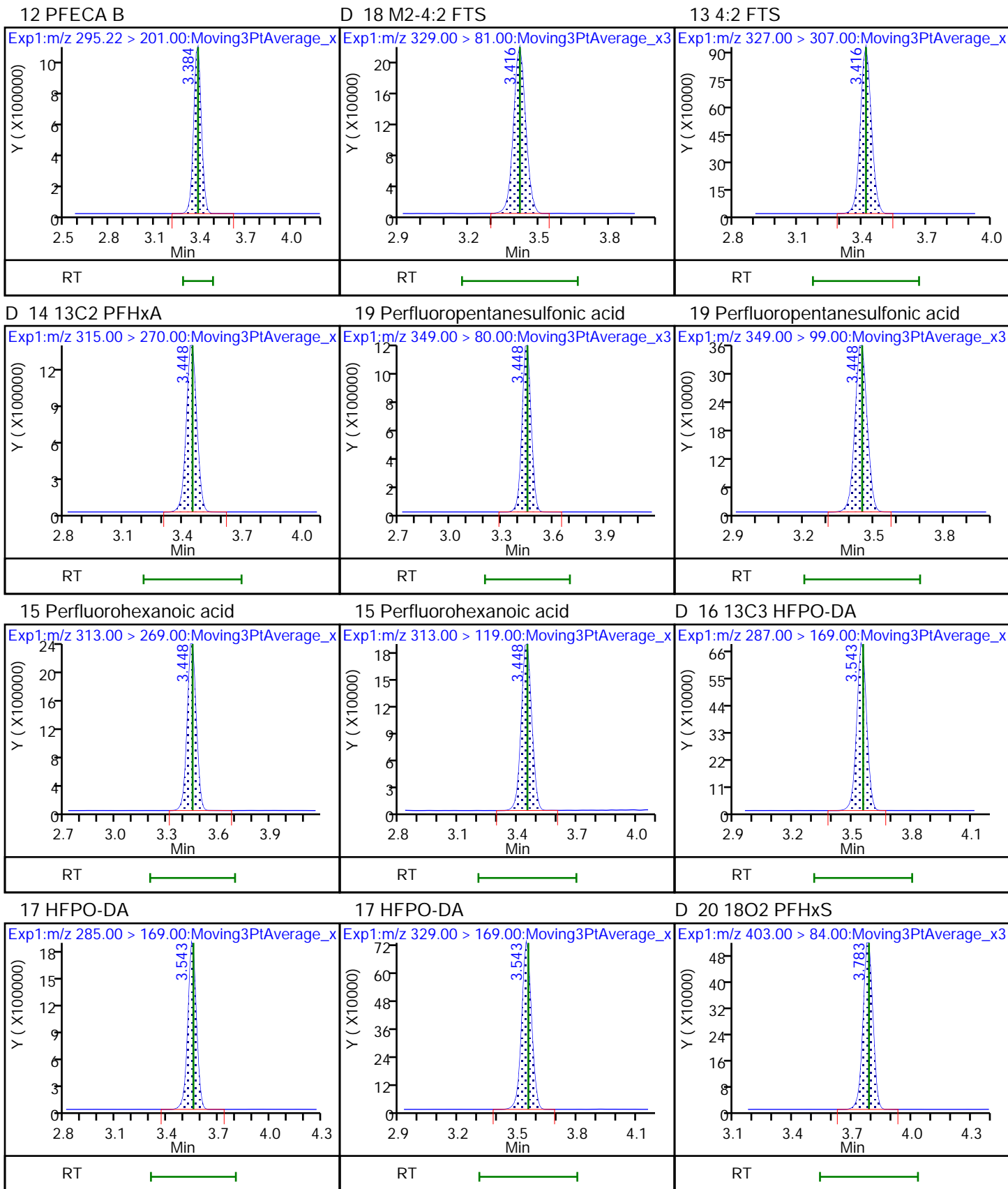
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



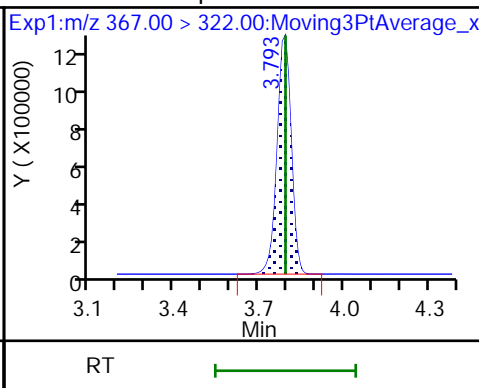
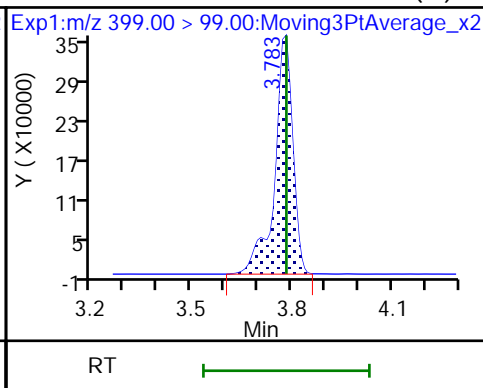
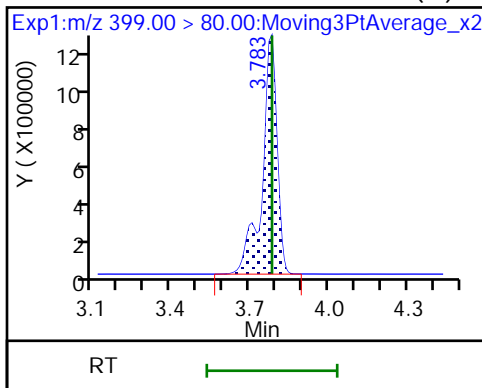




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

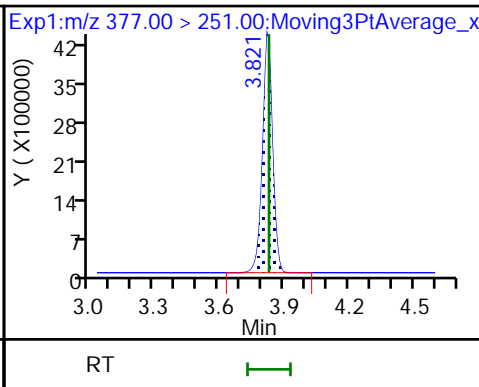
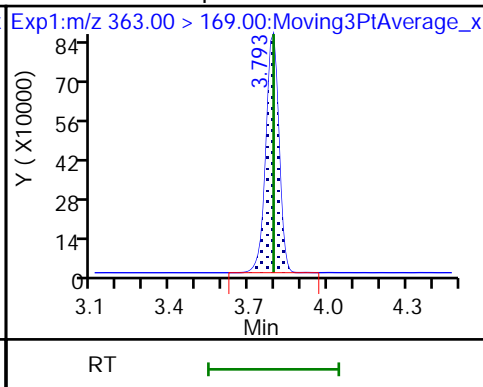
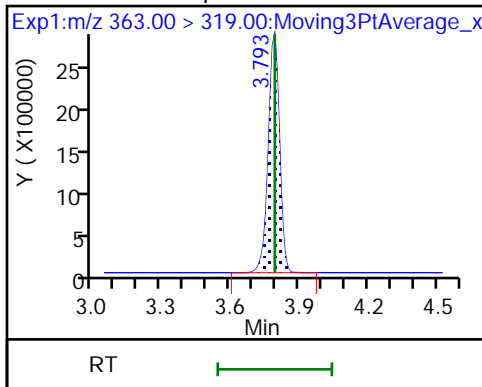
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

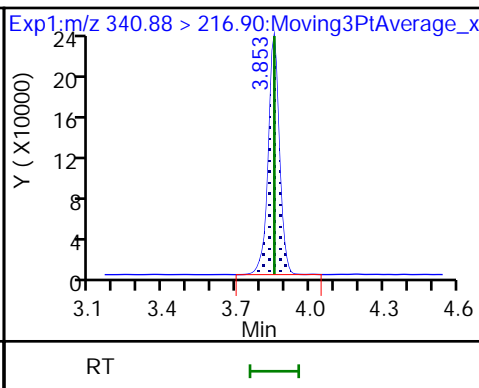
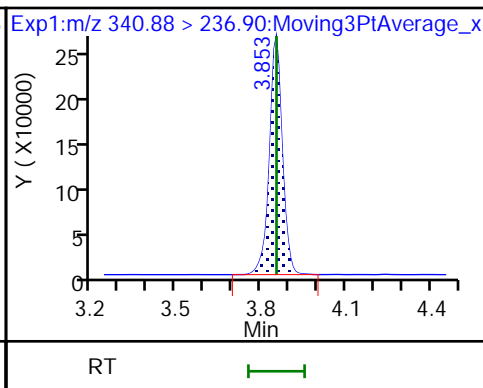
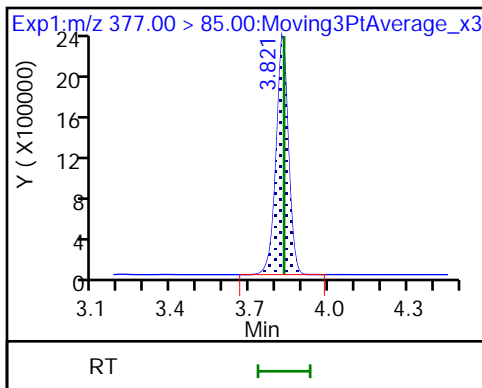
25 DONA



25 DONA

26 5:3 FTCA

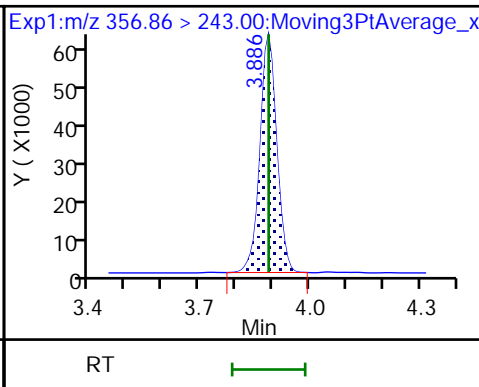
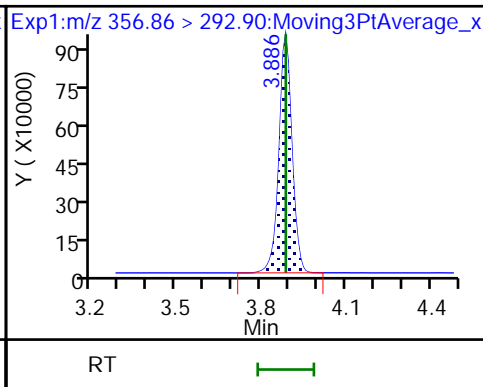
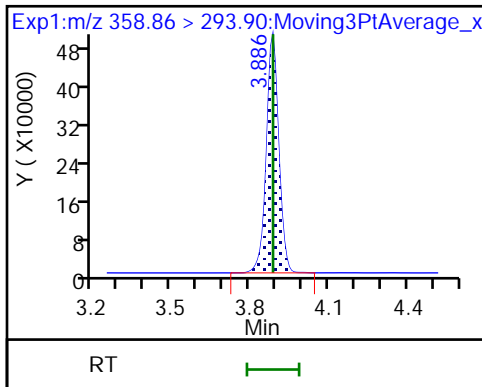
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

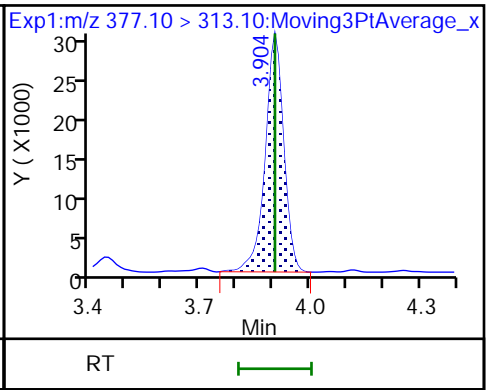
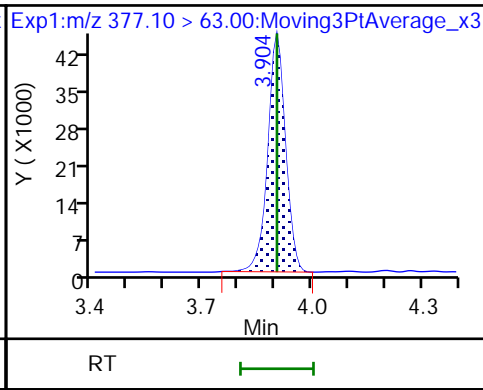
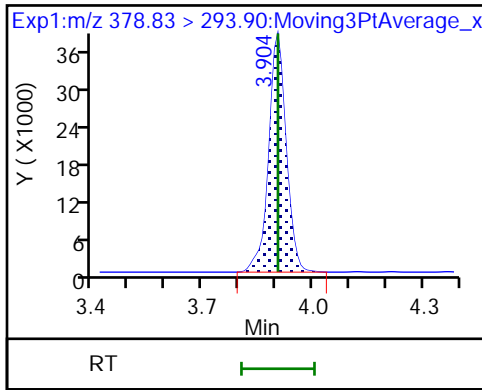
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

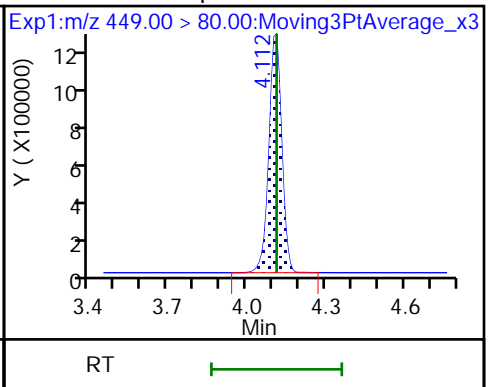
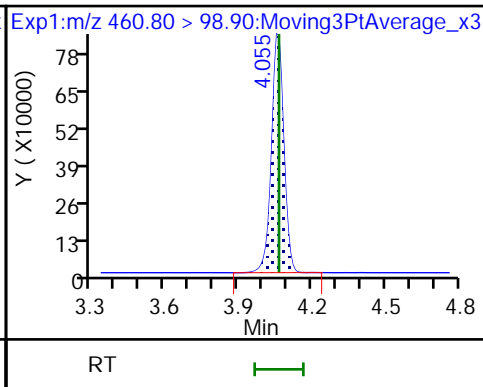
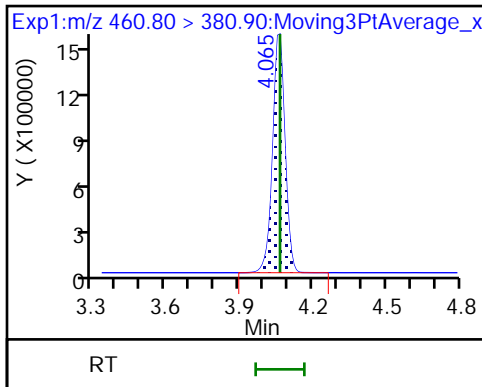
29 6:2 FTCA



32 PFECHS

32 PFECHS

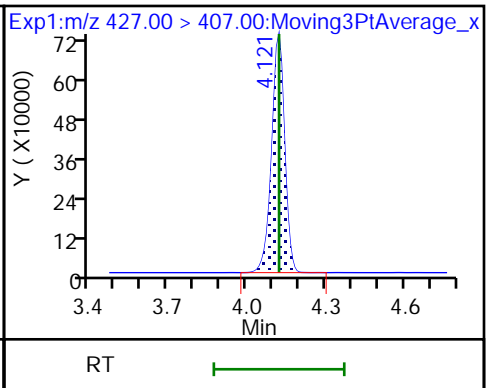
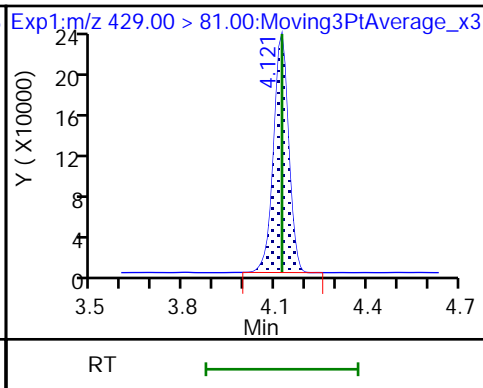
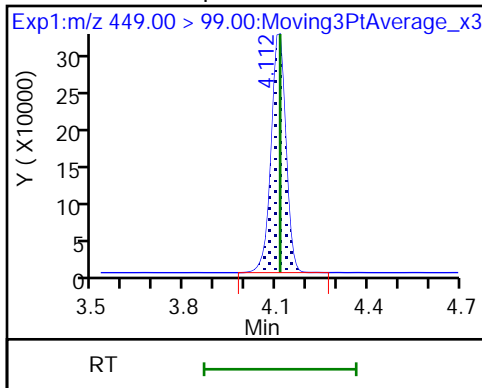
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

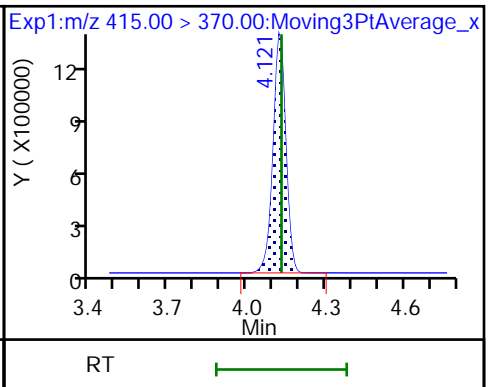
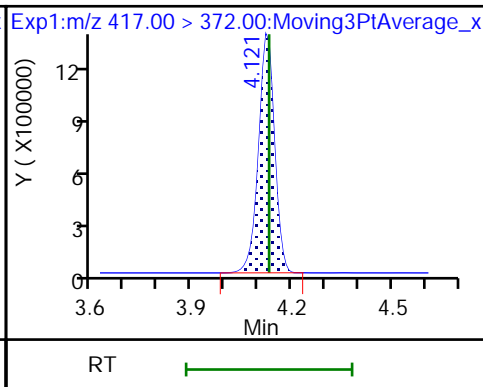
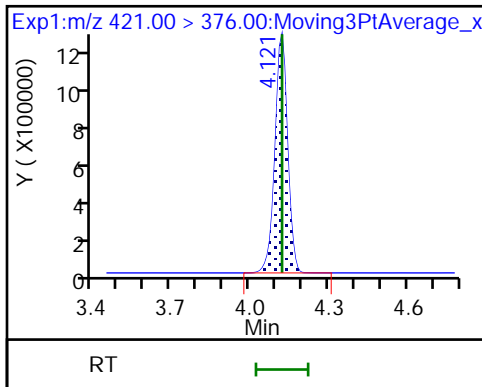
35 6:2 FTS

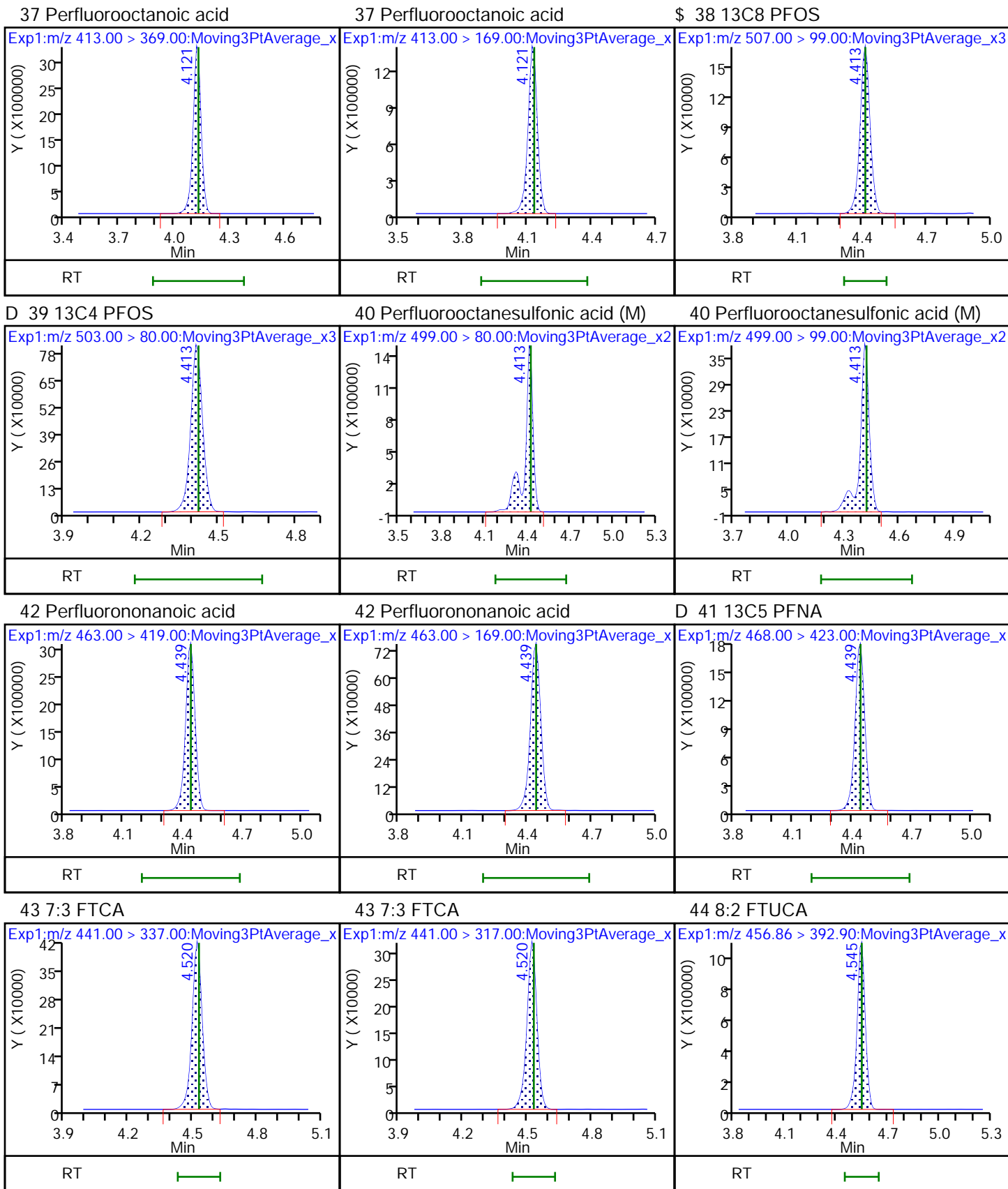


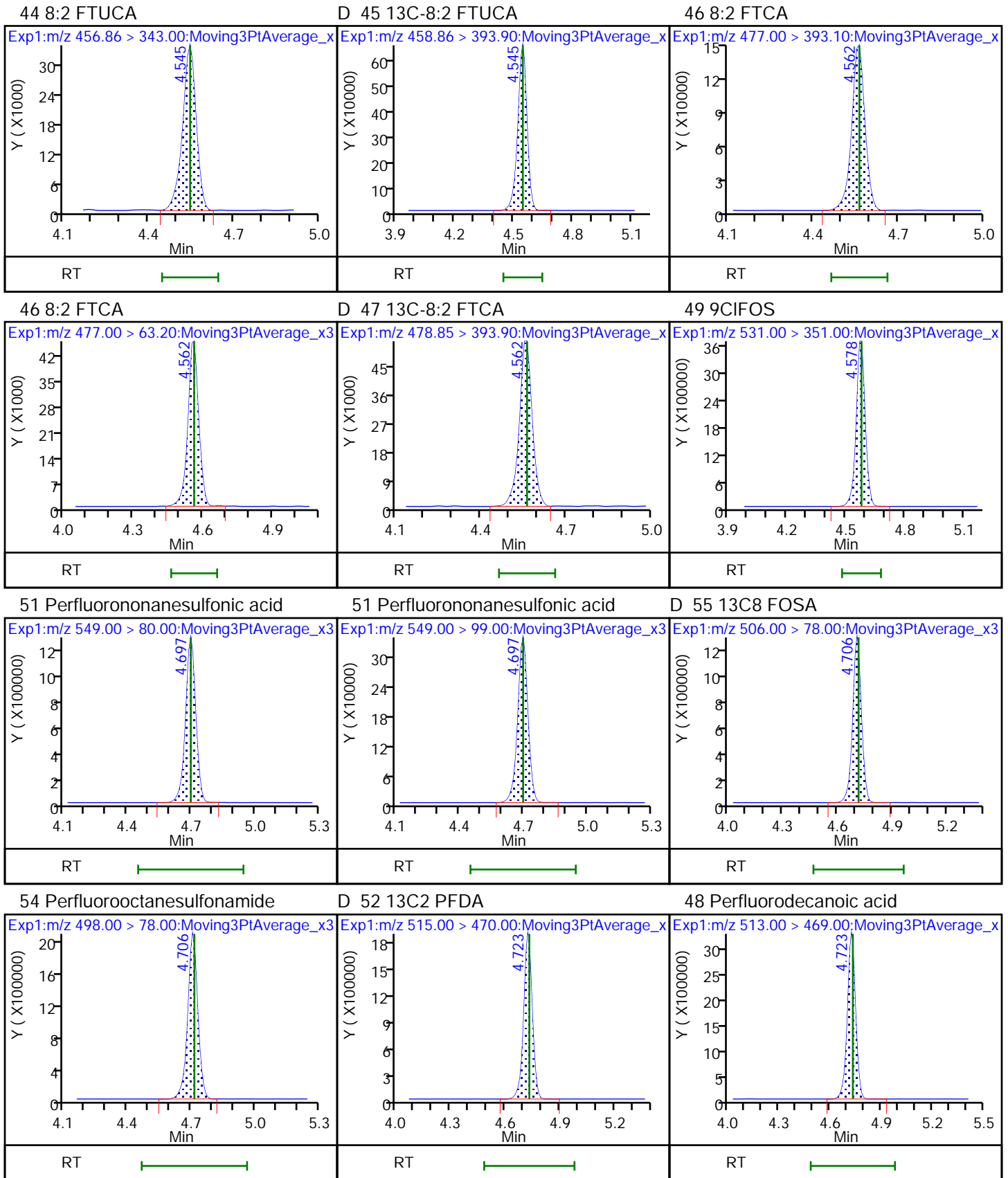
\$ 36 13C8 PFOA

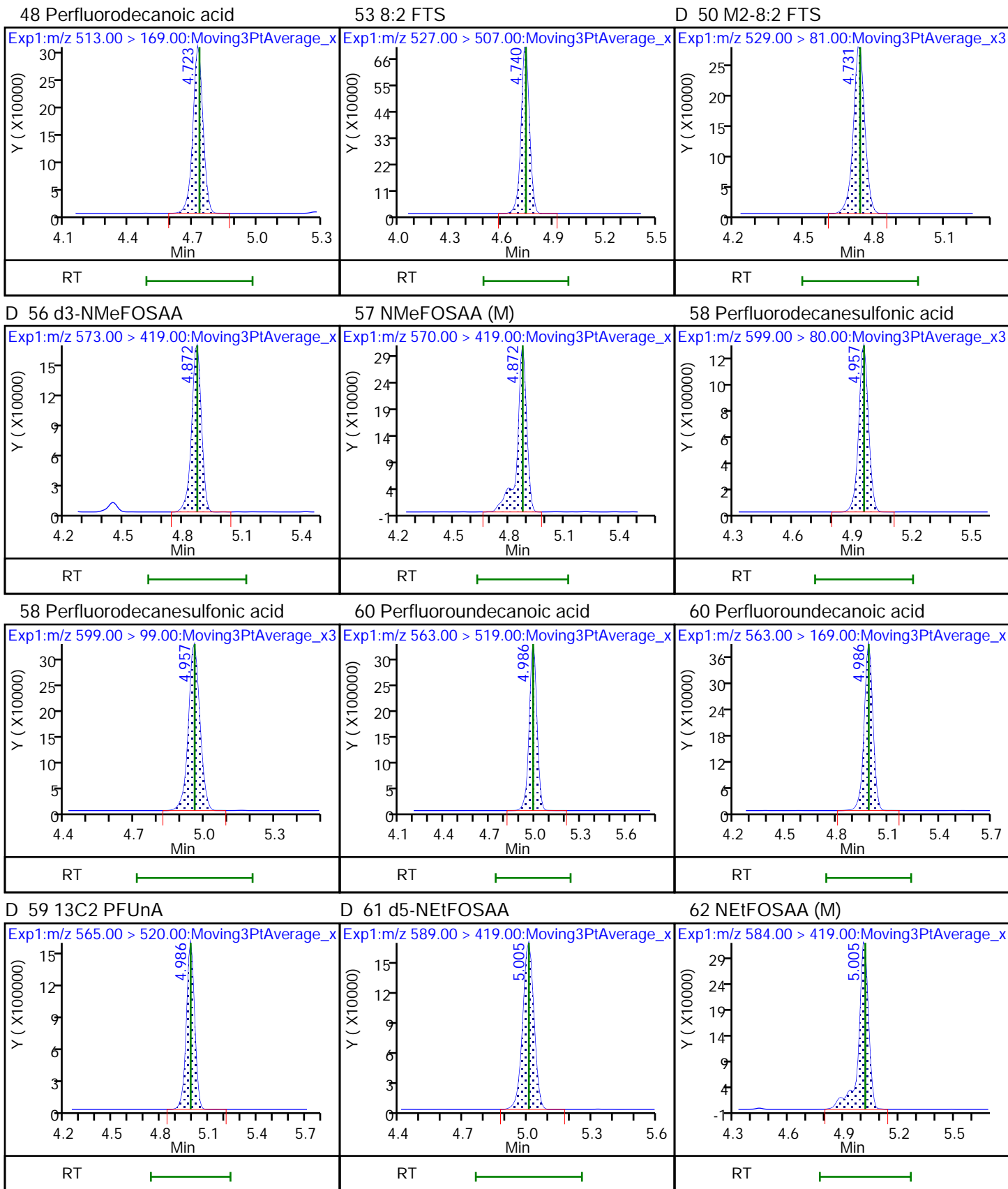
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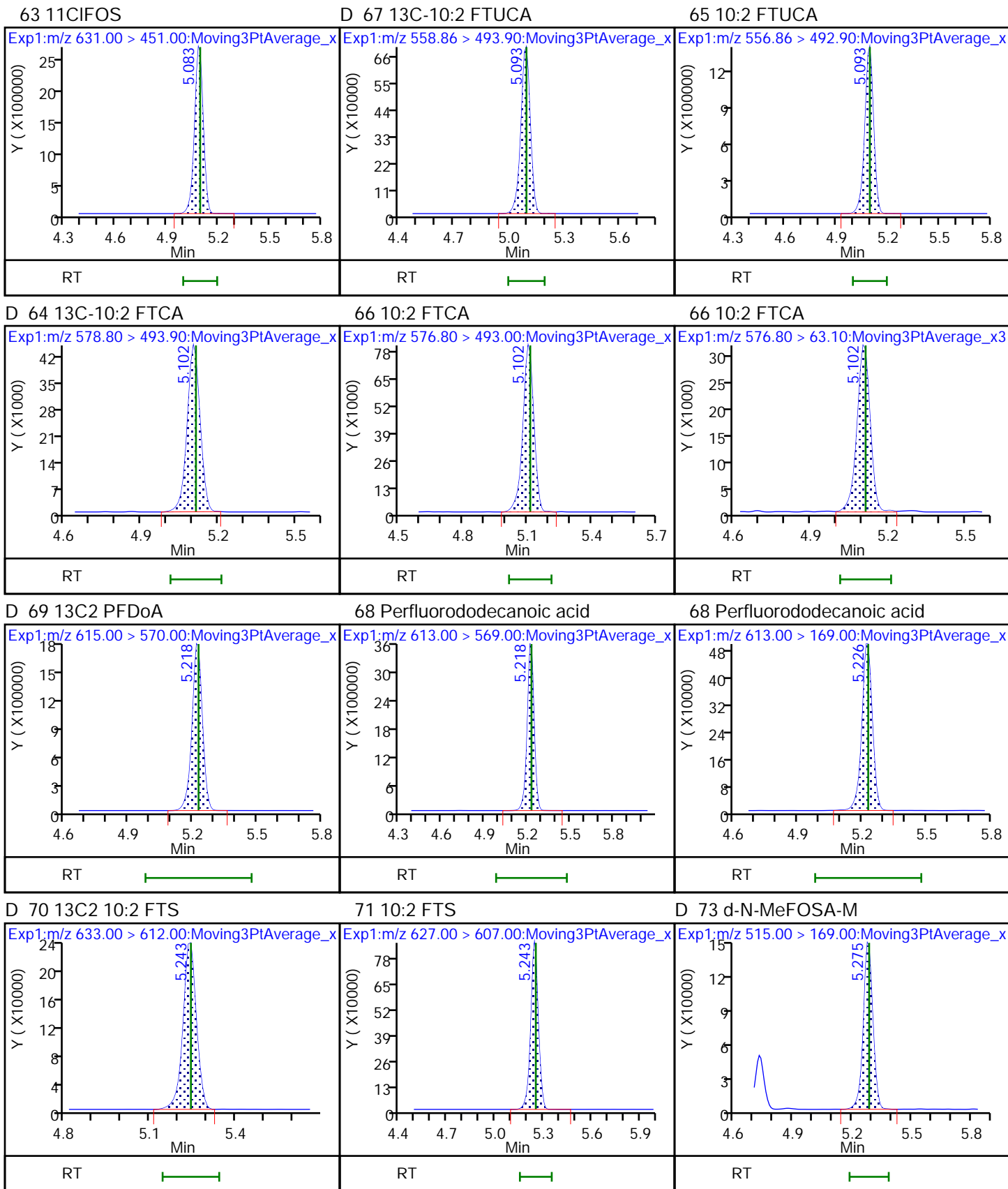
\* 30 13C2 PFOA







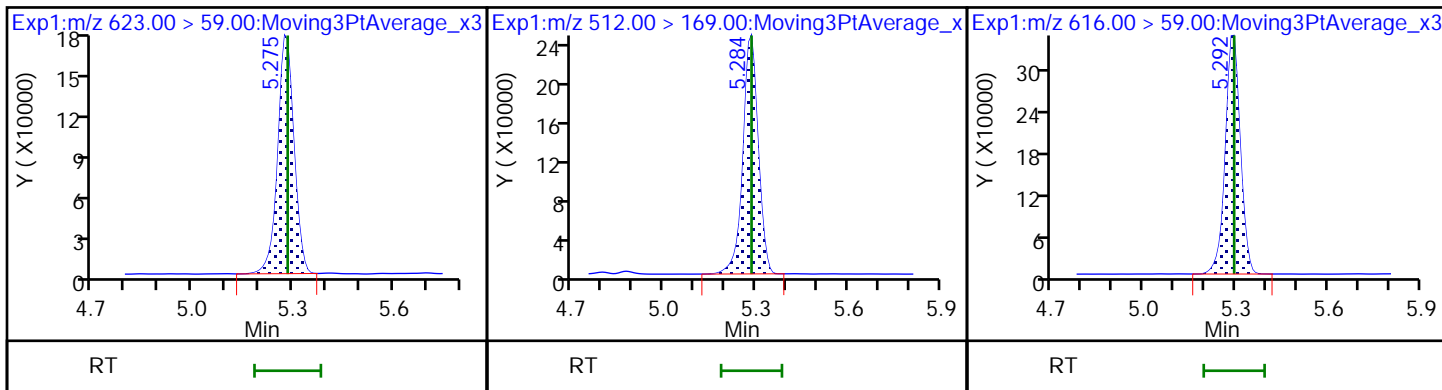




D 72 d7-N-MeFOSE-M

74 NMeFOSA

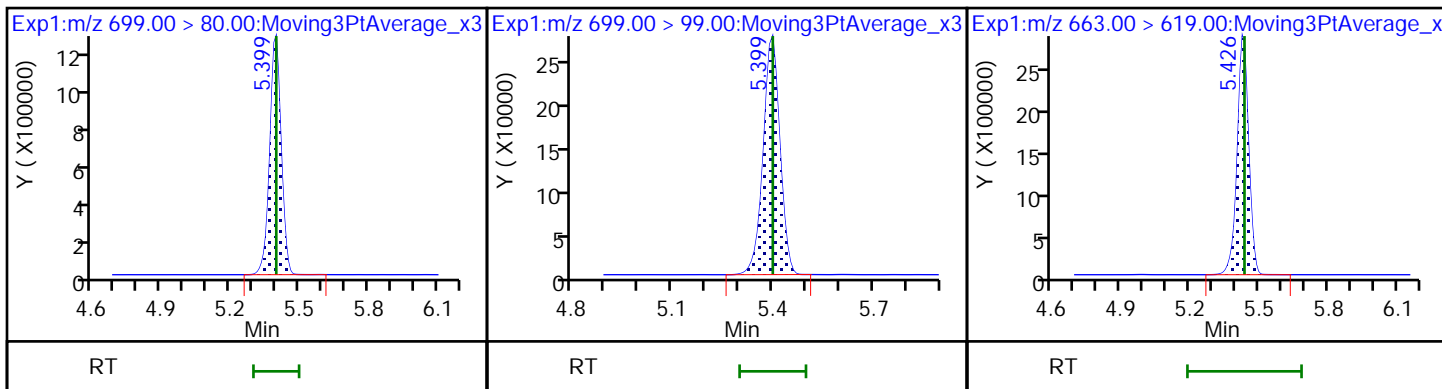
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

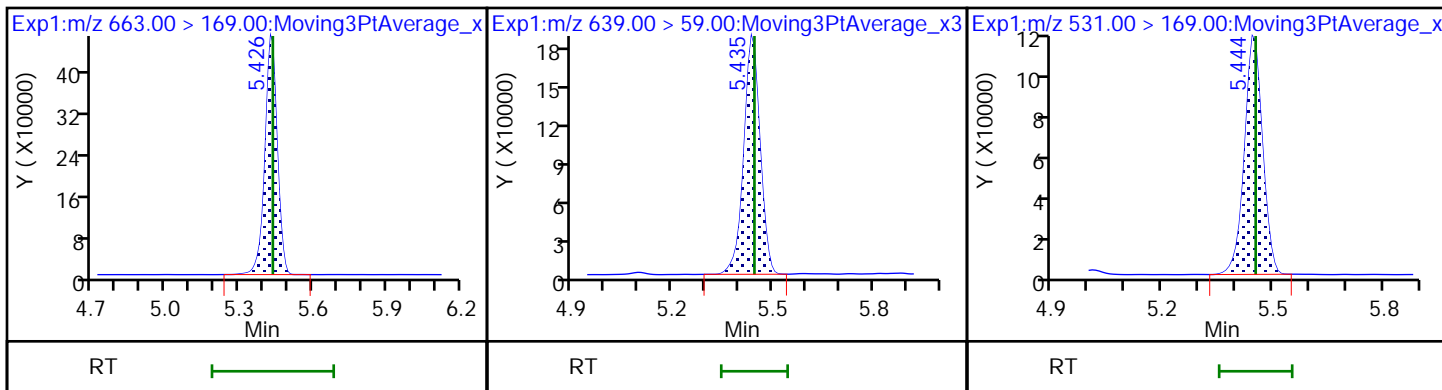
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

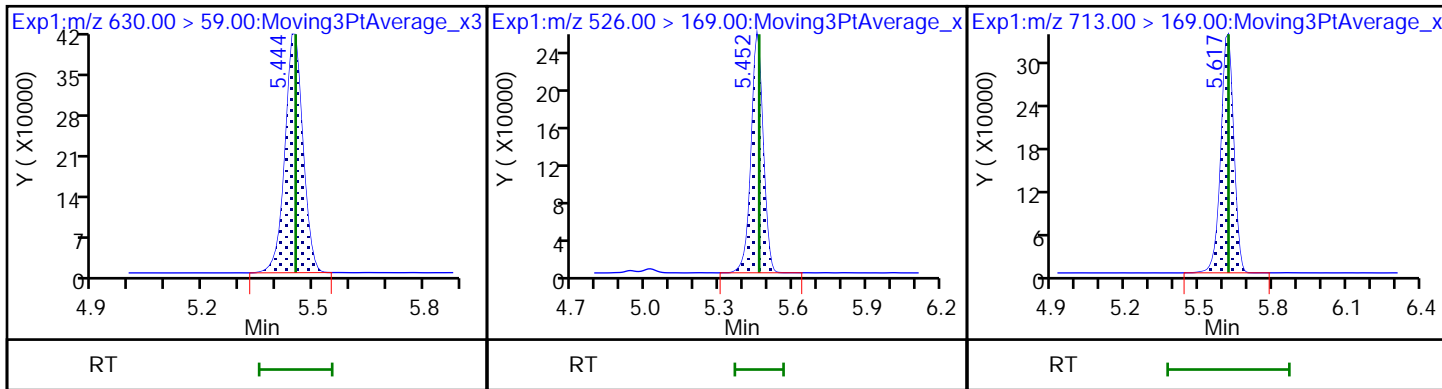
D 80 d-N-EtFOSA-M



79 N-EtFOSE-M

81 N-EtFOSA-M

83 Perfluorotetradecanoic acid

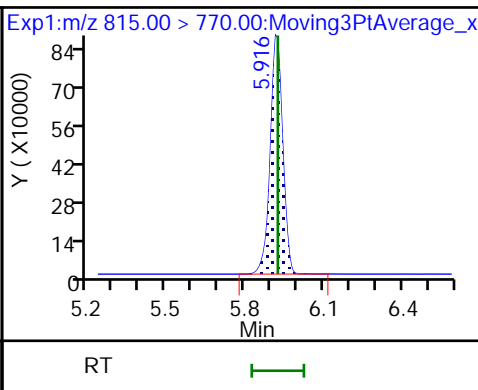
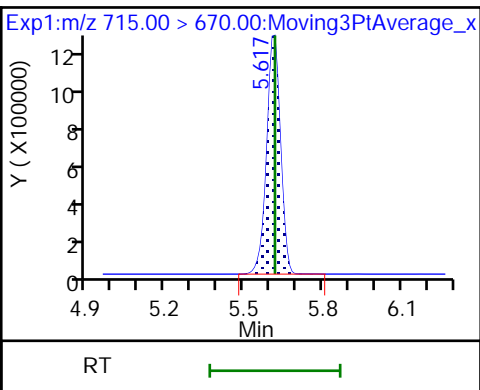
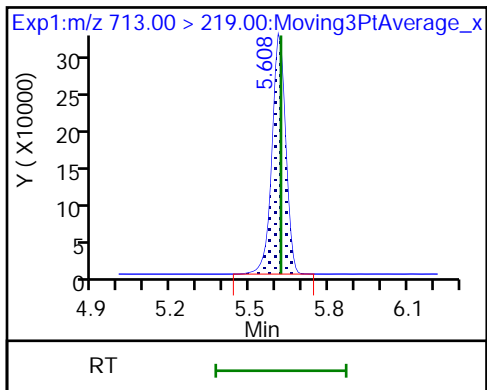




83 Perfluorotetradecanoic acid

D 82 13C2 PFTeDA

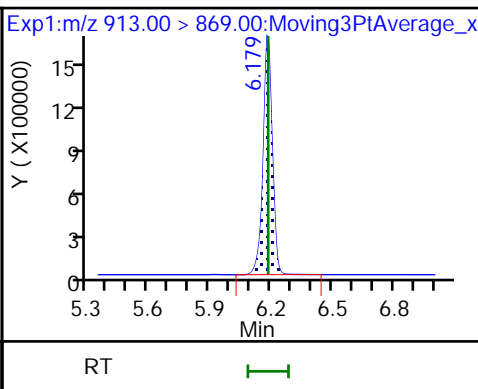
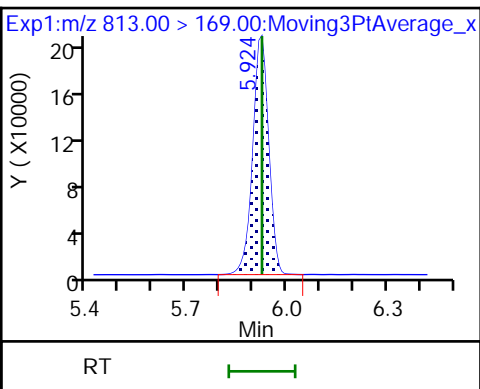
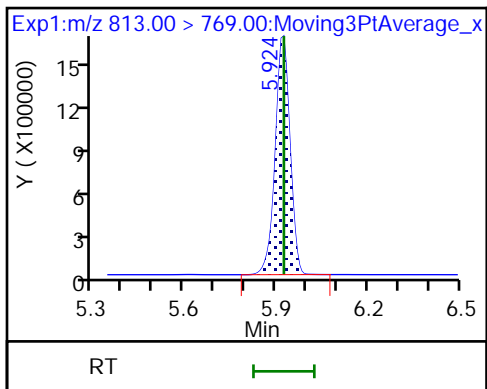
D 84 13C2 PFHxDA



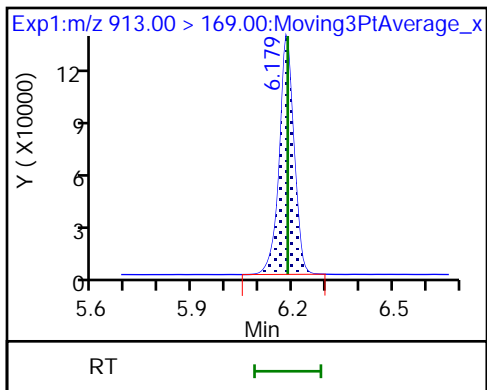
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid



86 Perfluorooctadecanoic acid



Eurofins Knoxville

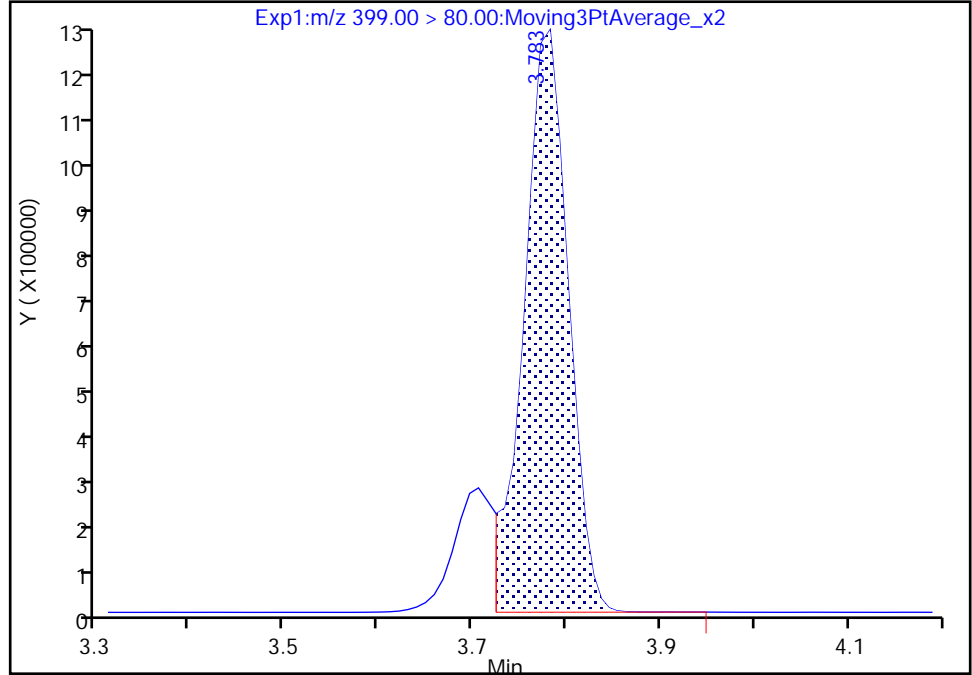
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Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

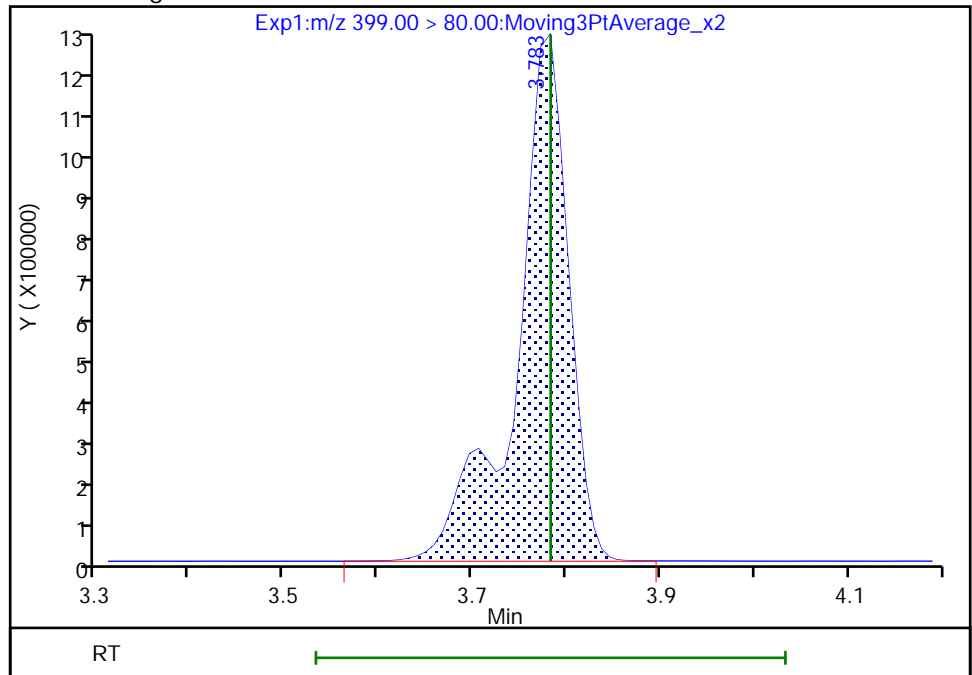
RT: 3.78  
Area: 3908900  
Amount: 1.895737  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 4643832  
Amount: 2.252165  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:33:56  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

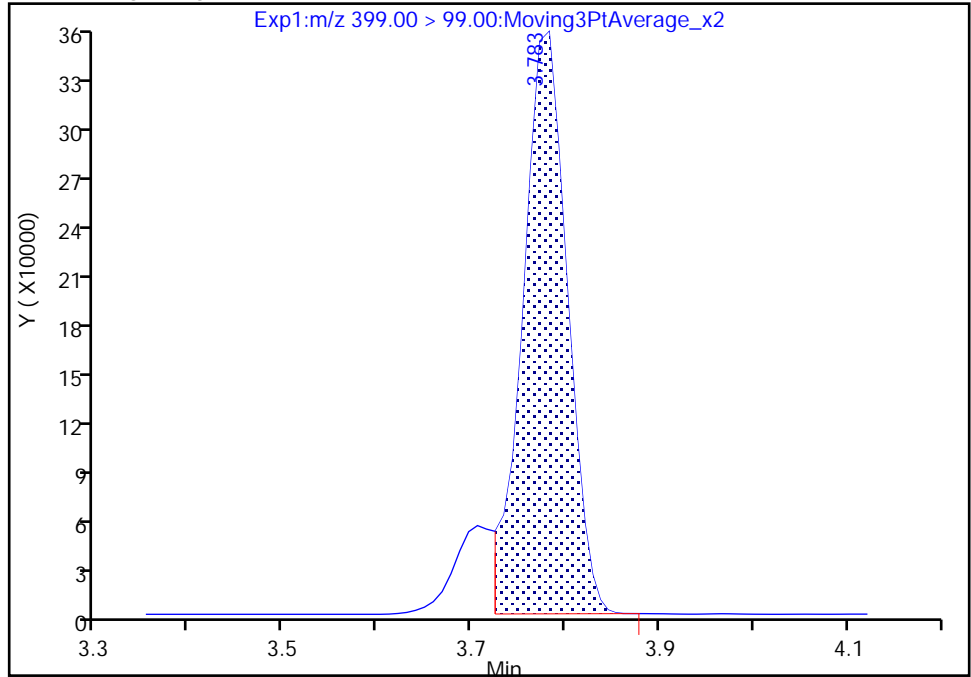
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Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

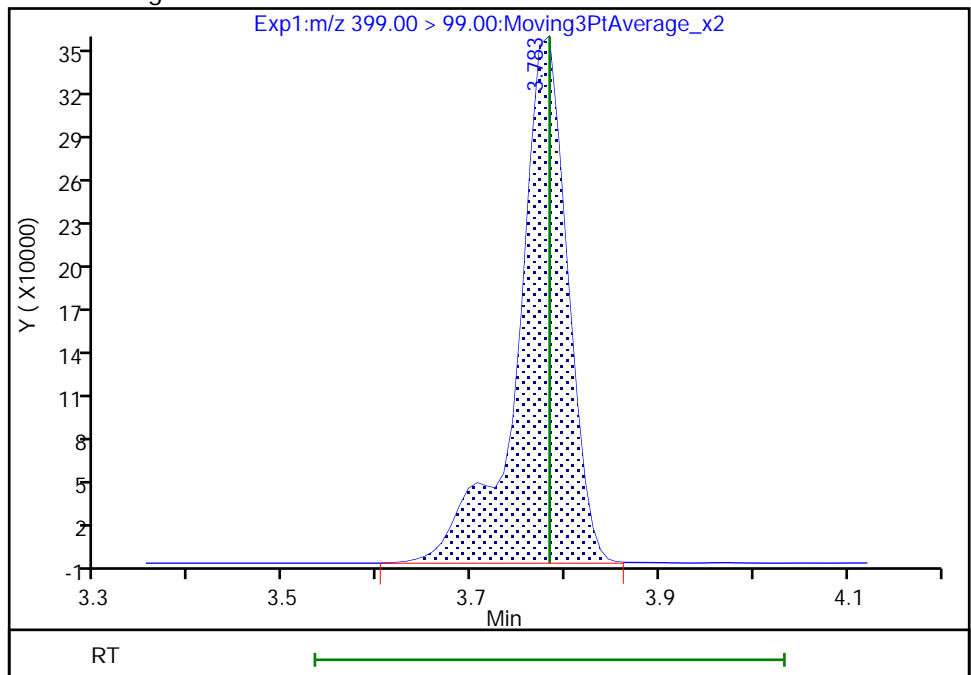
RT: 3.78  
Area: 1158722  
Amount: 1.895737  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
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Amount: 2.252165  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:04

Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 144 of 728

Eurofins Knoxville

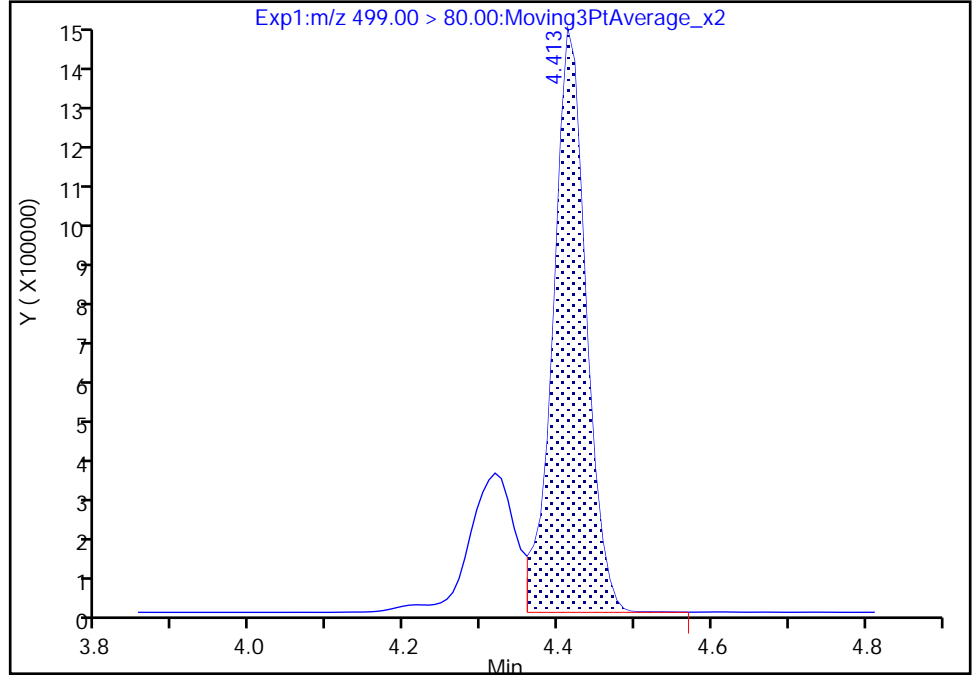
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Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

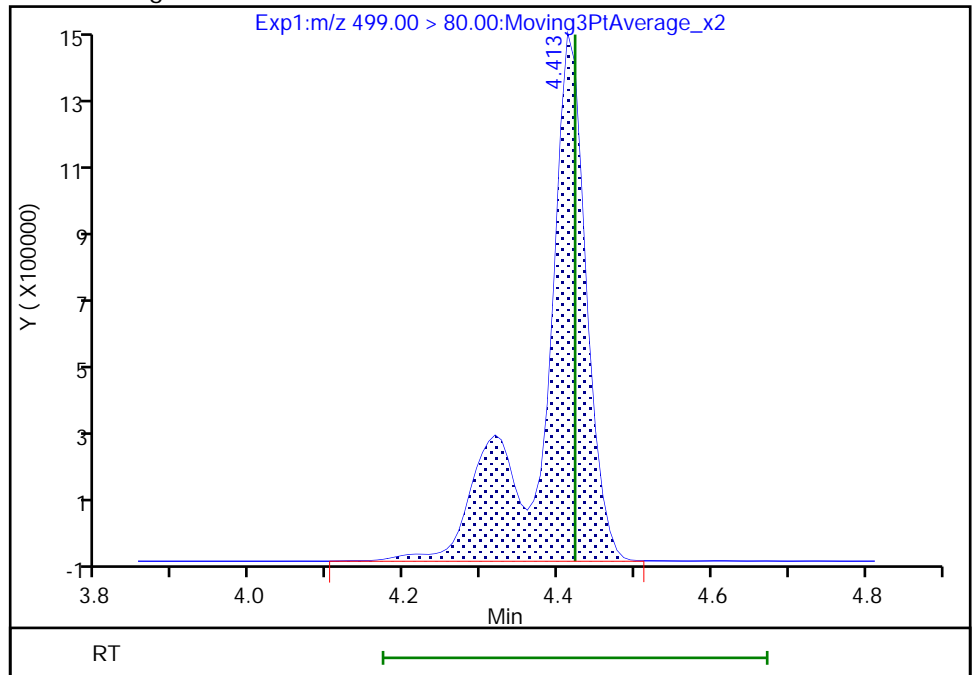
RT: 4.41  
Area: 4307768  
Amount: 1.732848  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 5743528  
Amount: 2.310398  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:18  
Audit Action: Manually Integrated

Eurofins Knoxville

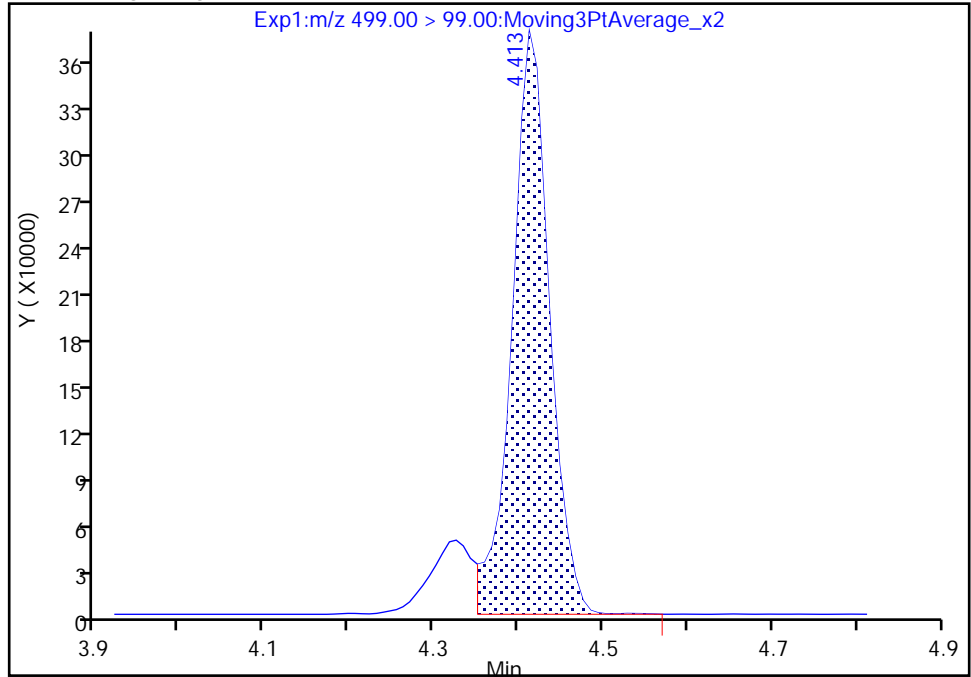
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Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

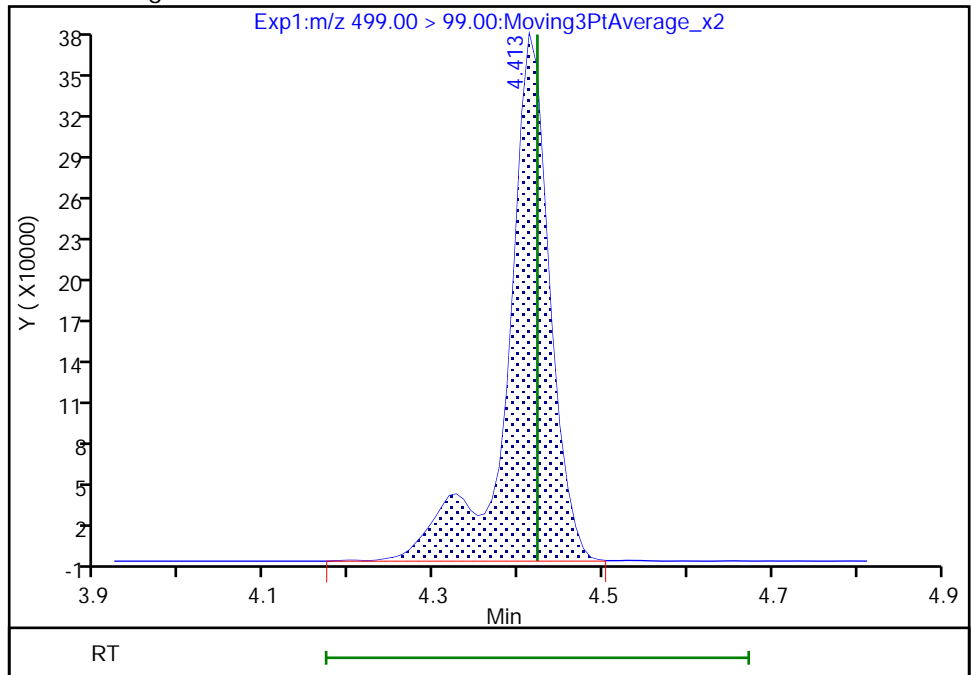
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Amount: 1.732848  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 1304650  
Amount: 2.310398  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:26

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

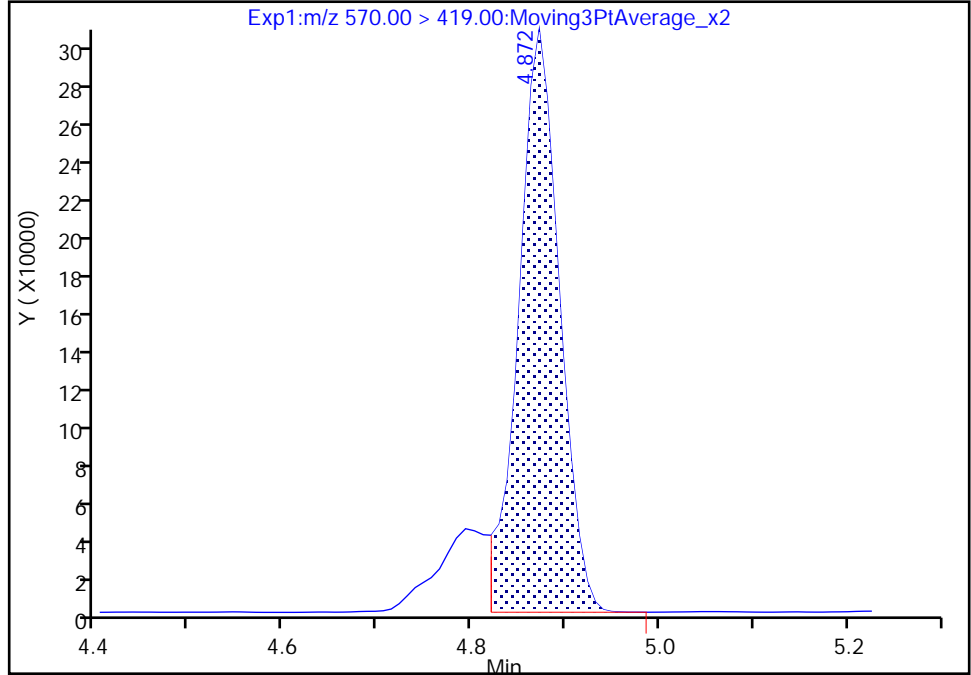
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_012.d  
Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

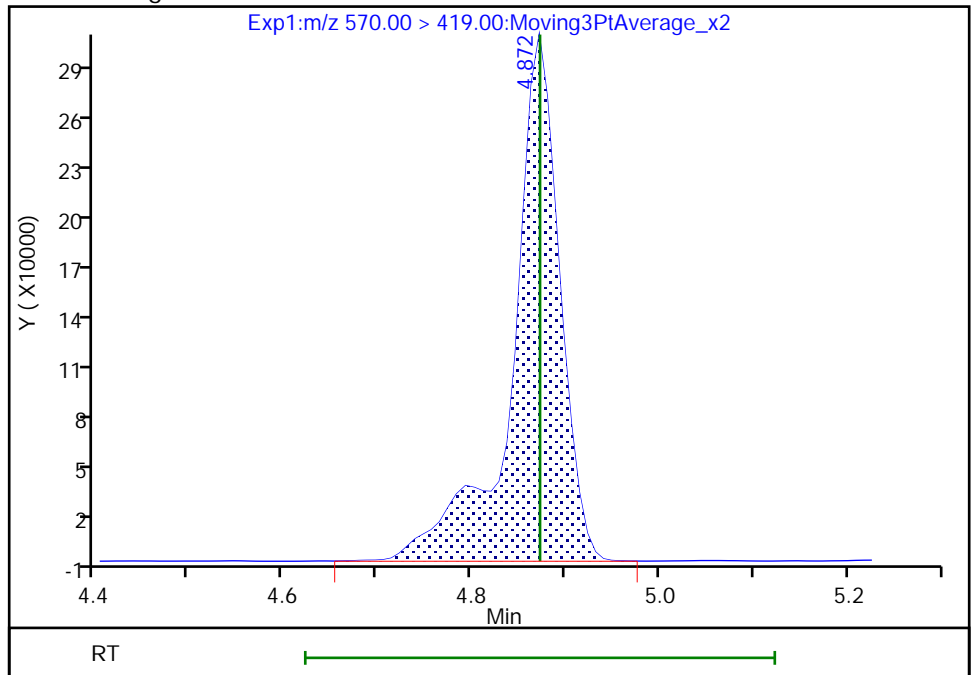
RT: 4.87  
Area: 913332  
Amount: 2.193824  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1079070  
Amount: 2.578369  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:39  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

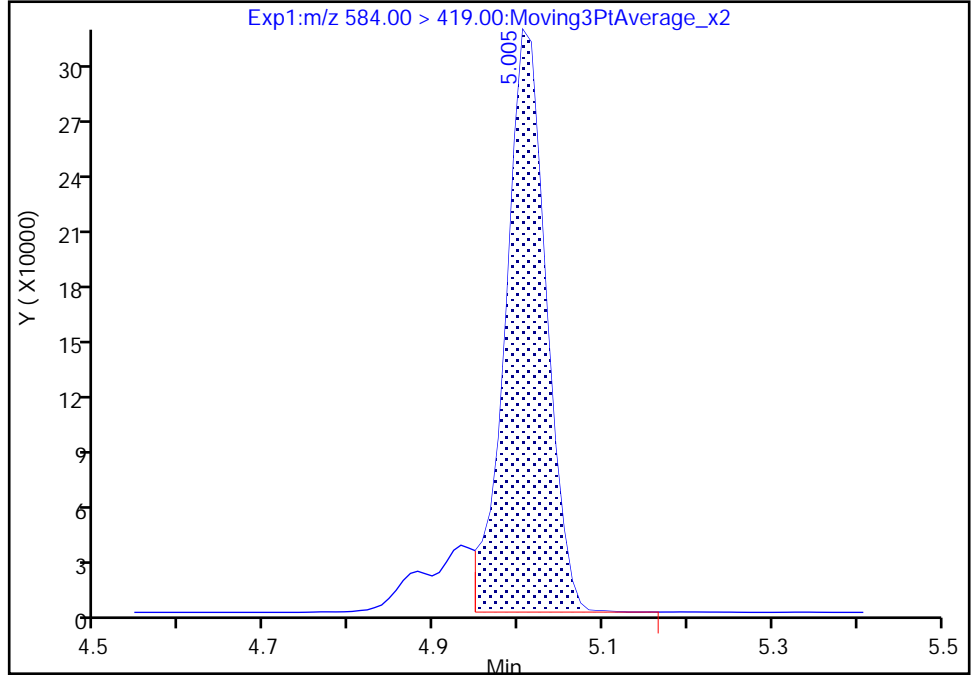
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_012.d  
Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

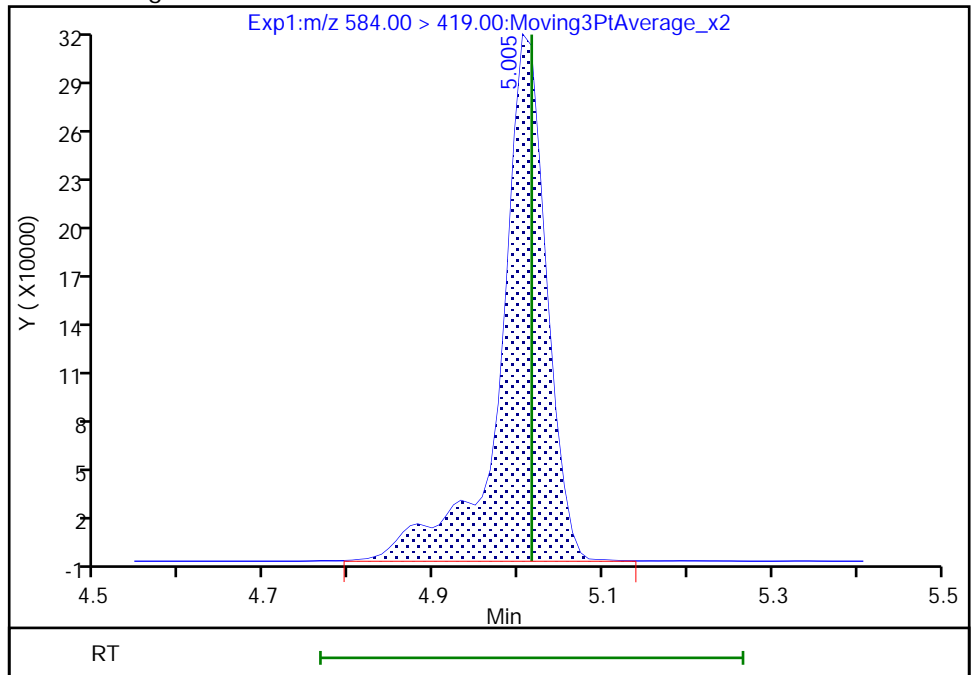
RT: 5.00  
Area: 1028266  
Amount: 2.363122  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 1181793  
Amount: 2.694842  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:49  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59045/4 Calibration Date: 02/18/2022 19:59  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.9515		0.0564	0.0500	12.8	50.0
PFECA F	AveID	0.7535	0.7647		0.0507	0.0500	1.5	50.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.065		0.0513	0.0500	2.6	50.0
3:3 FTCA	QuaIF		0.0632		0.0579	0.0500	15.7	50.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.218		0.0464	0.0442	4.9	50.0
PFECA A	Q2ID		1.317		0.0518	0.0500	3.6	50.0
PES	Q2ID		2.735		0.0491	0.0445	10.3	50.0
PFECA B	Q2ID		0.4820		0.0574	0.0500	14.7	50.0
4:2 FTS	L2ID		2.640		0.0519	0.0467	11.1	50.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.9402		0.0517	0.0500	3.4	50.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.115		0.0506	0.0469	8.0	50.0
HFPO-DA	L2ID		1.402		0.0508	0.0500	1.6	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.554		0.0511	0.0455	12.2	50.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.130		0.0508	0.0500	1.5	50.0
DONA	AveID	2.644	2.652		0.0472	0.0471	0.3	50.0
5:3 FTCA	L2ID		4.209		0.0517	0.0500	3.4	50.0
6:2 FTUCA	AveID	1.046	1.013		0.0484	0.0500	-3.2	50.0
6:2 FTCA	L1ID		0.7974		0.0509	0.0500	1.9	50.0
PFECHS	AveID	0.7426	0.8152		0.0506	0.0461	9.8	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	1.054		0.0508	0.0476	6.7	50.0
6:2 FTS	L2ID		1.956		0.0473	0.0474	-0.3	50.0
Perfluorooctanoic acid (PFOA)	L1ID		1.326		0.0560	0.0500	11.9	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.274		0.0516	0.0464	11.3	50.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8587		0.0565	0.0500	12.9	50.0
7:3 FTCA	AveID	5.230	5.617		0.0537	0.0500	7.4	50.0
8:2 FTUCA	AveID	0.9565	0.8887		0.0465	0.0500	-7.1	50.0
8:2 FTCA	AveID	1.811	1.783		0.0492	0.0500	-1.5	50.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.417		0.0501	0.0466	7.5	50.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.095		0.0520	0.0480	8.3	50.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	1.077		0.0564	0.0500	12.8	50.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9852		0.0483	0.0500	-3.5	50.0
8:2 FTS	L2ID		1.528		0.0416	0.0479	-13.1	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9348		0.0527	0.0500	5.4	50.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9881		0.0492	0.0482	2.1	50.0



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59045/4 Calibration Date: 02/18/2022 19:59  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.118		0.0578	0.0500	15.6	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8888		0.0422	0.0500	-15.7	50.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.984		0.0498	0.0471	5.7	50.0
10:2 FTUCA	AveID	1.208	1.307		0.0541	0.0500	8.2	50.0
10:2 FTCA	Q2ID		1.045		0.0501	0.0500	0.2	50.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.120		0.0542	0.0500	8.4	50.0
10:2 FTS	L2ID		2.491		0.0512	0.0482	6.3	50.0
NMeFOSA	L2ID		1.398		0.0593	0.0500	18.7	50.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.301		0.0518	0.0500	3.5	50.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	1.032		0.0529	0.0484	9.2	50.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.9518		0.0539	0.0500	7.8	50.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.425		0.0502	0.0500	0.5	50.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.449		0.0531	0.0500	6.2	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1445		0.0512	0.0500	2.3	50.0
Perfluorohexadecanoic acid	L1ID		1.414		0.0502	0.0500	0.3	50.0
Perfluorooctadecanoic acid	AveID	1.013	1.076		0.0531	0.0500	6.2	50.0
13C4 PFBA	Ave	1.172	1.134		1.21	1.25	-3.2	50.0
13C5 PFPeA	Ave	0.9197	0.9182		1.25	1.25	-0.2	50.0
13C3 PFBS	Ave	0.5817	0.5636		1.13	1.16	-3.1	50.0
M2-4:2 FTS	Ave	0.1821	0.2205		1.41	1.17	21.1	50.0
13C2 PFHxA	Ave	1.015	1.004		1.24	1.25	-1.1	50.0
13C3 HFPO-DA	Ave	0.4963	0.4605		1.16	1.25	-7.2	50.0
18O2 PFHxS	Ave	0.3776	0.3722		1.17	1.18	-1.4	50.0
13C4 PFHpA	Ave	0.9046	0.8824		1.22	1.25	-2.4	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3420		1.27	1.25	1.4	50.0
13C-6:2 FTCA	Ave	0.0260	0.0264		1.27	1.25	1.6	50.0
13C4 PFOA	Ave	0.9356	0.9024		1.21	1.25	-3.5	50.0
M2-6:2 FTS	Ave	0.1799	0.2139		1.41	1.19	18.8	50.0
13C4 PFOS	Ave	0.5610	0.5450		1.16	1.20	-2.9	50.0
13C5 PFNA	Ave	1.268	1.264		1.25	1.25	-0.4	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4934		1.37	1.25	9.2	50.0
13C-8:2 FTCA	Ave	0.0330	0.0325		1.23	1.25	-1.7	50.0
13C8 FOSA	Ave	0.8475	0.8656		1.28	1.25	2.1	50.0
13C2 PFDA	Ave	1.210	1.256		1.30	1.25	3.8	50.0
M2-8:2 FTS	Ave	0.1961	0.2357		1.44	1.20	20.2	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59045/4 Calibration Date: 02/18/2022 19:59  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1206		1.33	1.25	6.3	50.0
13C2 PFUnA	Ave	1.168	1.165		1.25	1.25	-0.2	50.0
d5-NEtFOSAA	Ave	0.1164	0.1258		1.35	1.25	8.0	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5465		1.35	1.25	7.6	50.0
13C-10:2 FTCA	Ave	0.0309	0.0335		1.35	1.25	8.2	50.0
13C2 PFDoA	Ave	1.152	1.145		1.24	1.25	-0.6	50.0
13C2 10:2 FTS	Ave	0.1652	0.1706		1.22	1.18	3.3	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1221		1.29	1.25	2.9	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0986		1.22	1.25	-2.2	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1262		1.28	1.25	2.6	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0806		1.25	1.25	-0.4	50.0
13C2 PFTeDA	Ave	0.9216	0.9070		1.23	1.25	-1.6	50.0
13C2 PFHxDA	Ave	0.5997	0.5859		1.22	1.25	-2.3	50.0
13C8 PFOA	AveID	0.9229	0.9440		1.28	1.25	2.3	50.0
13C8 PFOS	AveID	0.2212	0.2194		1.19	1.20	-0.8	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
 Lims ID: CCVL  
 Client ID:  
 Sample Type: CCVL  
 Inject. Date: 18-Feb-2022 19:59:01 ALS Bottle#: 4 Worklist Smp#: 4  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-004 ccvl  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:47:21 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 18-Feb-2022 20:11:13

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										M
212.90 > 169.00	2.811	2.811	0.0	1.002	211682	0.0564		113	61.9	M
D 2 13C4 PFBA										
217.00 > 172.00	2.804	2.811	-0.007	0.680	5562065	1.21		96.8	21263	
3 PFECA F										
229.00 > 85.00	2.911	2.919	-0.008	0.935	137770	0.0507		101	494	
D 5 13C5 PFPeA										
267.90 > 223.00	3.114	3.115	-0.001	0.756	4504085	1.25		99.8	15781	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.114	3.123	-0.009	1.000	191842	0.0513		103	49.5	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.131	0.0	1.000	6986	0.0579	Target=1.13	116	100	
241.00 > 116.90	3.122	3.131	-0.009	0.997	5422		1.29(0.56-1.69)		9.3	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.760	2571183	1.13		96.9	8324	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.140	-0.009	1.000	119106	0.0464	Target=2.61	105	172	
298.90 > 99.00	3.131	3.140	-0.009	1.000	42454		2.81(1.31-3.92)		125	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	237335	0.0518		104	1057	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	269177	0.0491		110	1747	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.982	94931	0.0574		115	424	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.415	3.416	-0.001	0.829	1009978	1.41		121	1053	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.415	3.416	-0.001	1.000	106665	0.0519		111	575	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.837	4923729	1.24		98.9	11179	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	115621	0.0506	Target=3.55	108	236	
349.00 > 99.00	3.448	3.448	0.0	1.101	34670		3.33(1.78-5.33)		235	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	185175	0.0517	Target=11.60	103	64.7	
313.00 > 119.00	3.448	3.448	0.0	1.000	14173		13.07(5.80-17.40)		14.0	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.860	2258587	1.16		92.8	6832	
17 HFPO-DA										
285.00 > 169.00	3.542	3.553	-0.011	1.000	126706	0.0508	Target=2.45	102	78.2	
329.00 > 169.00	3.542	3.553	-0.011	1.000	54776		2.31(1.23-3.68)		39.2	
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.783	-0.001	0.918	1727225	1.17		98.6	6183	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.782	3.783	-0.001	1.000	103286	0.0511	Target=3.44	112	169	
399.00 > 99.00	3.782	3.783	-0.001	1.000	27616		3.74(1.72-5.17)		118	
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.793	-0.001	0.920	4328491	1.22		97.6	10934	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.793	-0.001	1.000	195655	0.0508	Target=3.25	102	128	
363.00 > 169.00	3.792	3.793	-0.001	1.000	61264		3.19(1.62-4.87)		156	
25 DONA										
377.00 > 251.00	3.820	3.829	-0.009	0.866	267082	0.0472	Target=1.74	100	904	
377.00 > 85.00	3.820	3.829	-0.009	0.866	164513		1.62(0.87-2.61)		115	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	21833	0.0517	Target=1.11	103	82.9	
340.88 > 216.90	3.853	3.853	0.0	0.987	18345		1.19(0.56-1.67)		48.9	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	0.0	0.943	1677400	1.27		101	3237	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.895	-0.009	1.000	67943	0.0484	Target=13.05	96.8	283	M
356.86 > 243.00	3.886	3.895	-0.009	1.000	5129		13.25(6.52-19.57)		24.2	M
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.904	-0.001	0.947	129672	1.27		102	519	
29 6:2 FTCA										
377.10 > 63.00	3.895	3.913	-0.018	0.998	4136	0.0509	Target=1.29	102	11.4	M
377.10 > 313.10	3.903	3.913	-0.010	1.000	2490		1.66(0.65-1.94)		5.9	M
32 PFECBS										
460.80 > 380.90	4.064	4.065	0.0	0.986	133079	0.0506	Target=1.75	110	717	
460.80 > 98.90	4.064	4.065	0.0	0.986	81254		1.64(0.87-2.62)		295	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.111	4.112	-0.001	0.932	107297	0.0508	Target=3.72	107	373	
449.00 > 99.00	4.111	4.112	-0.001	0.932	26561		4.04(1.86-5.57)		129	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.120	4.121	-0.001	1.000	996568	1.41		119	2153	
35 6:2 FTS										
427.00 > 407.00	4.120	4.121	-0.001	1.000	77789	0.0473		99.7	267	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.120	4.121	-0.001	1.000	4178861	1.28		102	10239	
D 31 13C4 PFOA										
417.00 > 372.00	4.120	4.131	-0.011	1.000	4426528	1.21		96.5	6826	
* 30 13C2 PFOA										
415.00 > 370.00	4.120	4.131	-0.011		4905085	1.25			11115	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.120	4.131	-0.011	1.000	234706	0.0559	Target=2.51	112	134	
413.00 > 169.00	4.120	4.131	-0.011	1.000	92907		2.53(1.26-3.77)		169	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.412	4.421	-0.009	1.000	560733	1.19		99.2	2163	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.421	-0.009	1.071	2555556	1.16		97.1	2270	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.412	4.421	-0.009	1.000	126447	0.0516	Target=4.30	111	79.1	M
499.00 > 99.00	4.412	4.421	-0.009	1.000	30230		4.18(2.15-6.45)		90.1	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.438	4.439	-0.001	1.000	212888	0.0564	Target=3.60	113	235	
463.00 > 169.00	4.438	4.439	-0.001	1.000	49203		4.33(1.80-5.40)		112	
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.439	-0.001	1.077	6198227	1.25		99.6	14288	
43 7:3 FTCA										
441.00 > 337.00	4.519	4.529	-0.010	0.991	35809	0.0537	Target=1.42	107	210	
441.00 > 317.00	4.519	4.529	-0.010	0.991	26691		1.34(0.71-2.13)		124	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	86041	0.0465	Target=35.37	92.9	420	
456.86 > 343.00	4.545	4.545	0.0	1.000	3341		25.75(17.68-53.05)		7.9	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.553	-0.008	1.000	2420358	1.36		109	9328	
46 8:2 FTCA										M
477.00 > 393.10	4.561	4.562	-0.001	1.000	11368	0.0492	Target=3.35	98.5	35.3	M
477.00 > 63.20	4.553	4.562	-0.009	0.998	2641		4.30(1.68-5.03)		13.2	M
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.561	4.562	-0.001	1.107	159366	1.23		98.3	572	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.111	240855	0.0501		107	498	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	112429	0.0520	Target=3.99	108	126	
549.00 > 99.00	4.697	4.697	0.0	1.065	28973		3.88(2.00-5.99)		95.0	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.714	-0.008	1.142	4245637	1.28		102	3732	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.714	-0.008	1.000	182943	0.0564		113	470	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.731	-0.008	1.000	242713	0.0483	Target=10.58	96.5	266	
513.00 > 169.00	4.723	4.731	-0.008	1.000	29165		8.32(5.29-15.88)		18.0	
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.731	-0.008	1.146	6159009	1.30		104	15331	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.740	-0.009	1.148	1107383	1.44		120	2273	
53 8:2 FTS										
527.00 > 507.00	4.740	4.740	0.0	1.002	67702	0.0416		86.9	307	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.182	591622	1.33		106	1864	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.880	-0.008	1.000	22121	0.0527		105	32.0	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.124	101848	0.0492	Target=3.55	102	366	
599.00 > 99.00	4.957	4.957	0.0	1.124	28336		3.59(1.78-5.33)		153	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.995	-0.009	1.000	255599	0.0578	Target=8.26	116	429	
563.00 > 169.00	4.986	4.995	-0.009	1.000	27095		9.43(4.13-12.39)		147	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.995	-0.009	1.210	5715823	1.25		99.8	10185	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.215	616817	1.35		108	2486	
62 NEtFOSAA										
584.00 > 419.00	5.015	5.015	0.0	1.002	21929	0.0421		84.3	71.1	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.093	-0.001	1.236	2680434	1.35		108	9788	
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.093	-0.001	1.000	140100	0.0541		108	696	
63 11C1FOS										
631.00 > 451.00	5.083	5.093	-0.010	1.152	199793	0.0498		106	522	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.238	164132	1.35		108	952	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	6864	0.0501	Target=2.53	100	51.4	M
576.80 > 63.10	5.111	5.112	-0.001	1.002	3964		1.73(1.26-3.79)		16.3	M
D 69 13C2 PFDoA										
615.00 > 570.00	5.226	5.226	0.0	1.268	5617421	1.24		99.4	14746	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	251670	0.0542	Target=6.85	108	278	M
613.00 > 169.00	5.217	5.226	-0.009	0.998	34144		7.37(3.43-10.28)		65.7	M
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.272	792440	1.22		103	3887	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.000	80353	0.0512		106	333	
74 NMeFOSA										
512.00 > 169.00	5.275	5.284	-0.009	1.000	27062	0.0593		119	90.9	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M	515.00 > 169.00	5.275	5.284	-0.009	1.280	483873	1.22	97.8	52.0	
D 72 d7-N-MeFOSE-M	623.00 > 59.00	5.275	5.284	-0.009	1.280	598757	1.29	103	394	
75 N-MeFOSE-M	616.00 > 59.00	5.292	5.292	0.0	1.003	31148	0.0518	104	43.3	M
76 PFDoS	699.00 > 80.00	5.399	5.399	0.0	1.224	106862	0.0529	109	220	
	699.00 > 99.00	5.399	5.399	0.0	1.224	26649	Target=4.22 4.01(2.11-6.34)	206		
78 Perfluorotridecanoic acid	663.00 > 619.00	5.426	5.435	-0.009	1.038	213868	0.0539	108	309	
	663.00 > 169.00	5.426	5.435	-0.009	1.038	32054	Target=6.32 6.67(3.16-9.48)	162		
D 77 d9-N-EtFOSE-M	639.00 > 59.00	5.435	5.435	0.0	1.319	618954	1.28	103	298	
D 80 d-N-EtFOSA-M	531.00 > 169.00	5.443	5.452	-0.009	1.321	395306	1.24	99.6	646	
79 N-EtFOSE-M	630.00 > 59.00	5.443	5.452	-0.009	1.002	35292	0.0502	100	34.9	
81 N-EtFOSA-M	526.00 > 169.00	5.452	5.452	0.0	1.002	22908	0.0531	106	105	
83 Perfluorotetradecanoic acid	713.00 > 169.00	5.607	5.617	-0.010	0.998	25722	0.0512	102	113	
	713.00 > 219.00	5.607	5.617	-0.010	0.998	23706	Target=1.01 1.09(0.51-1.52)	146		
D 82 13C2 PFTeDA	715.00 > 670.00	5.617	5.617	0.0	1.363	4448731	1.23	98.4	12595	
85 Perfluorohexadecanoic acid	813.00 > 769.00	5.924	5.924	0.0	1.001	162568	0.0501	100	384	
	813.00 > 169.00	5.916	5.924	-0.008	1.000	21274	Target=8.64 7.64(4.32-12.97)	78.4		
D 84 13C2 PFHxDA	815.00 > 770.00	5.916	5.924	-0.008	1.436	2874051	1.22	97.7	6219	
86 Perfluorooctadecanoic acid	913.00 > 869.00	6.185	6.185	0.0	1.045	123643	0.0531	106	314	M
	913.00 > 169.00	6.185	6.185	0.0	1.045	10465	Target=11.77 11.81(5.88-17.65)	45.0		M

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L2PFC2T3\_00002

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d

Injection Date: 18-Feb-2022 19:59:01

Instrument ID: LCA

Lims ID: CCVL

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 4

Worklist Smp#: 4

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

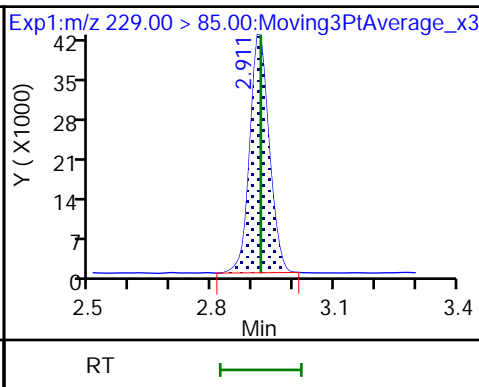
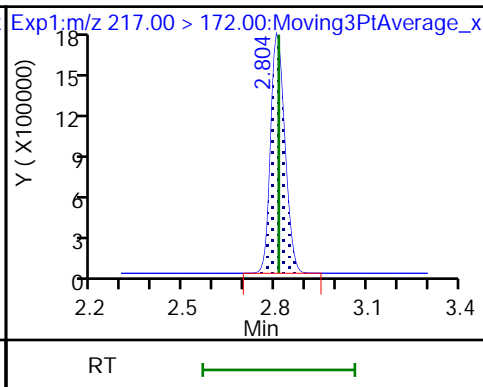
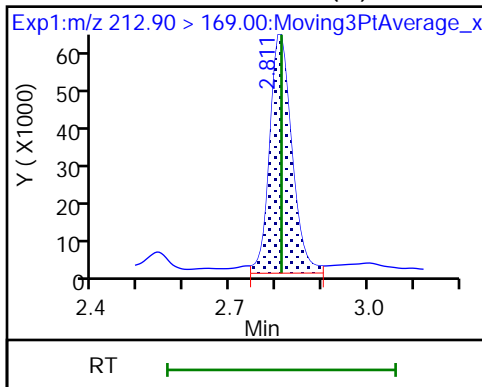
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid (M)

D 2 13C4 PFBA

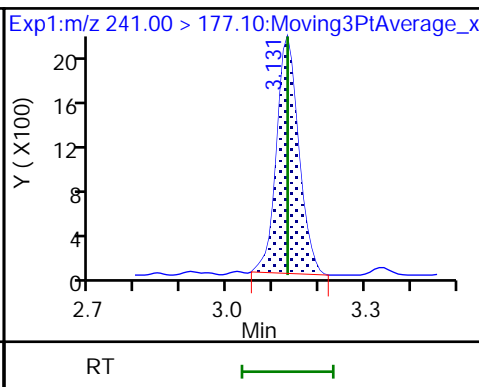
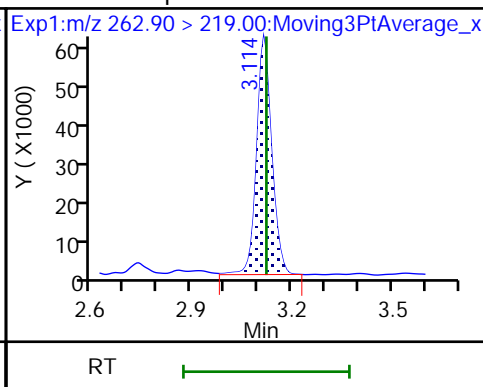
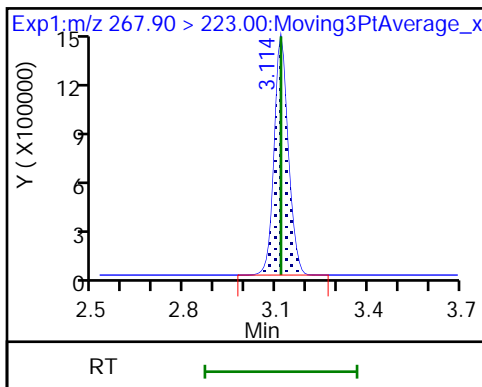
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

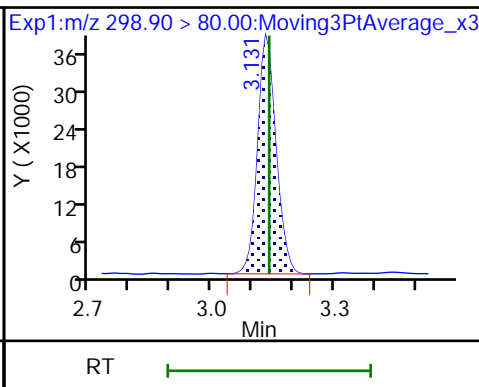
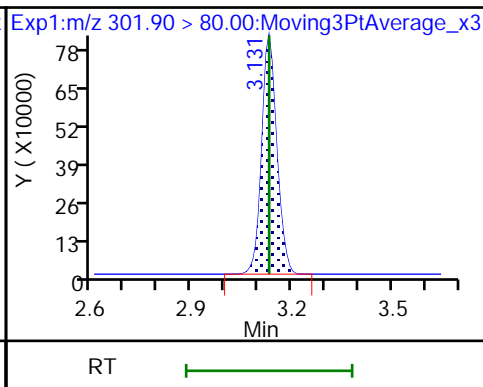
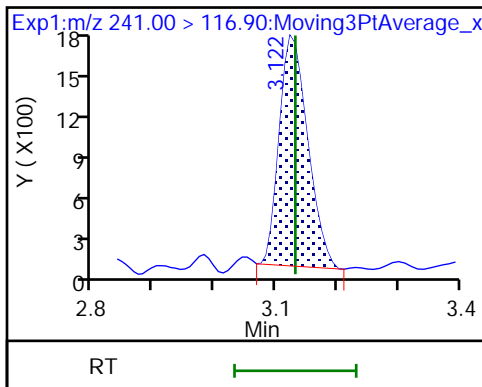
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

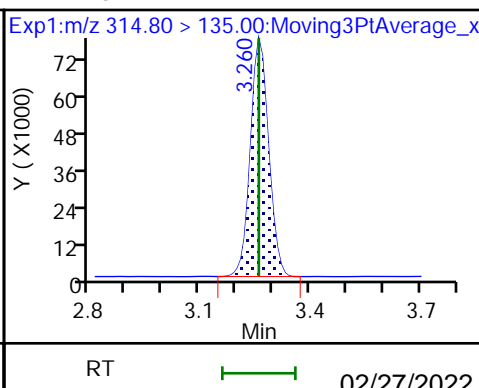
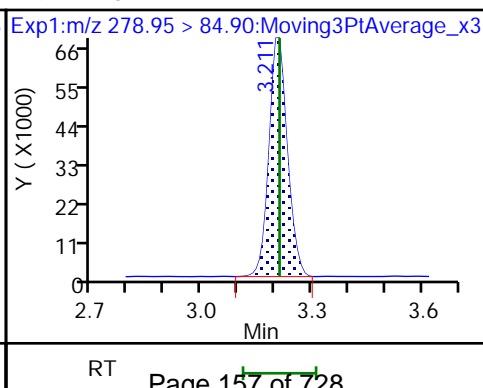
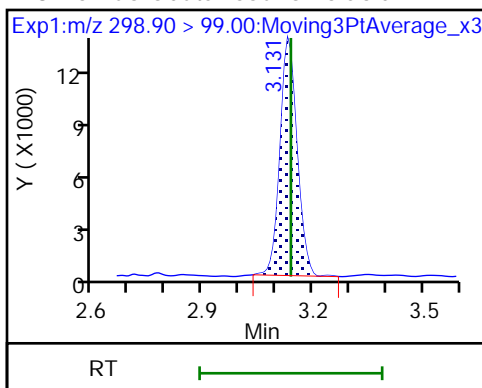
8 Perfluorobutanesulfonic acid



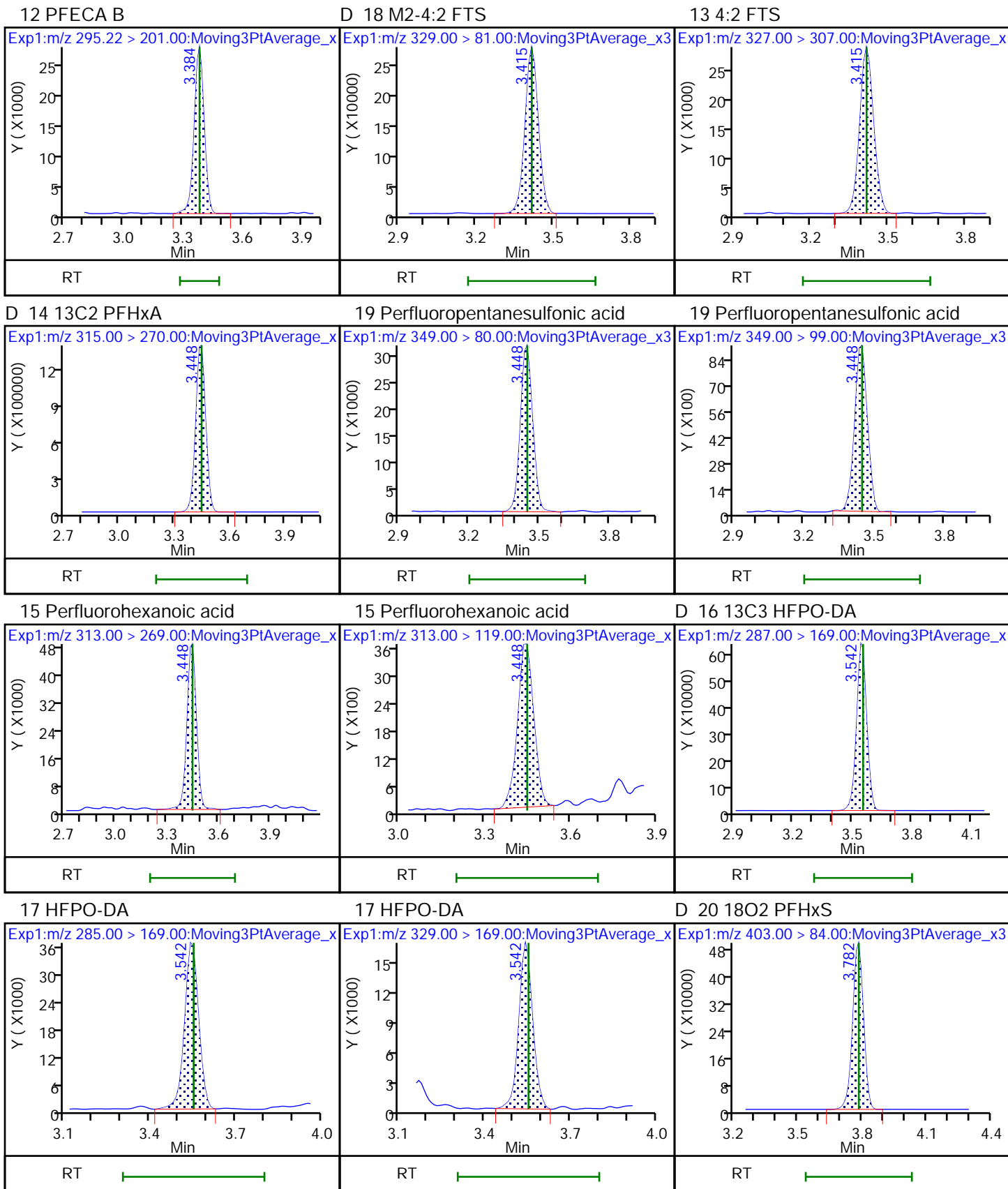
8 Perfluorobutanesulfonic acid

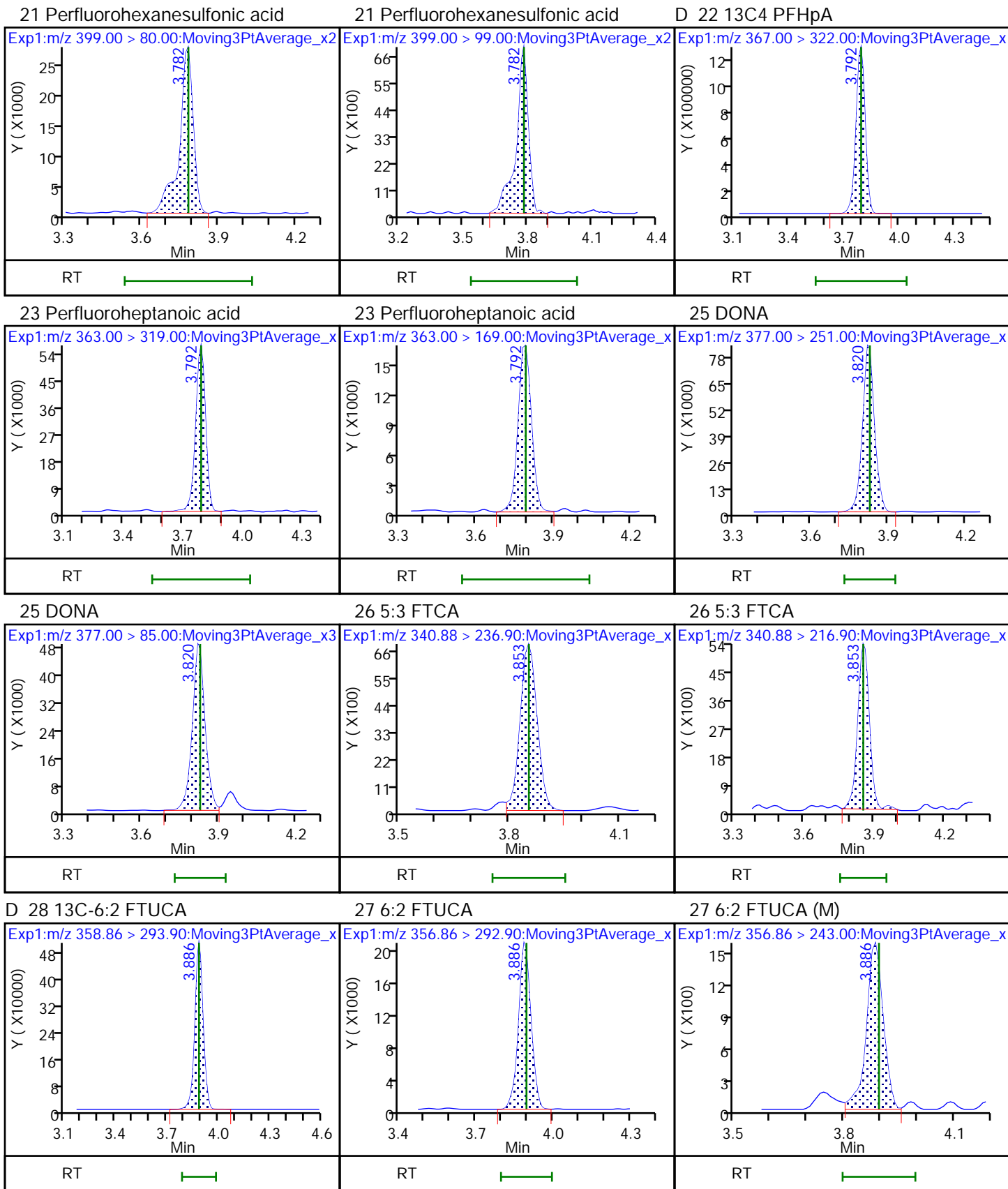
9 PFECA A

11 PES





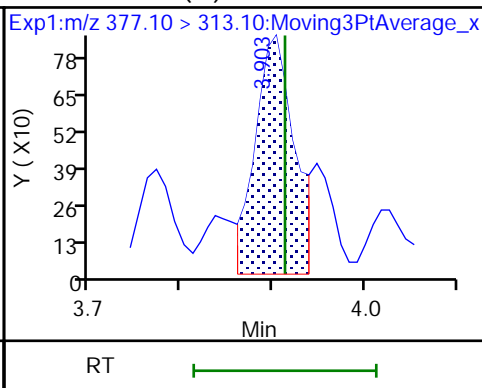
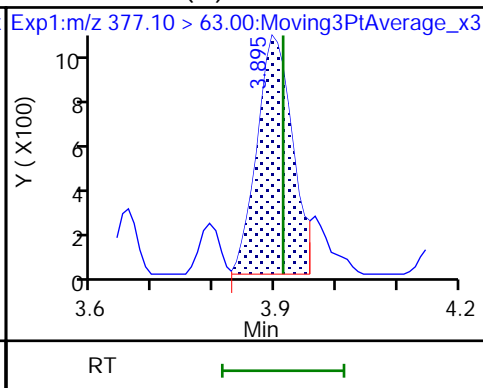
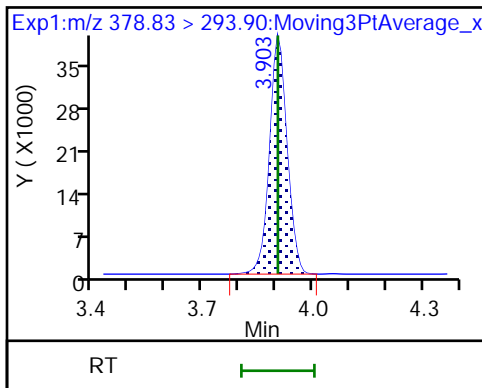




D 24 13C-6:2 FTCA

29 6:2 FTCA (M)

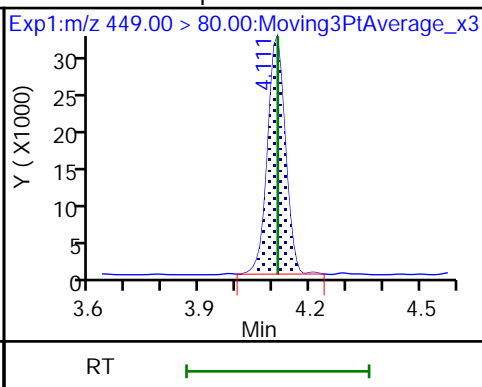
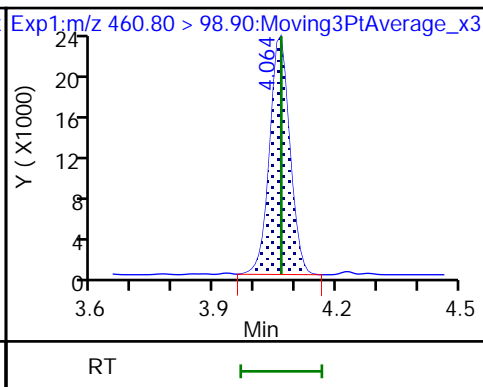
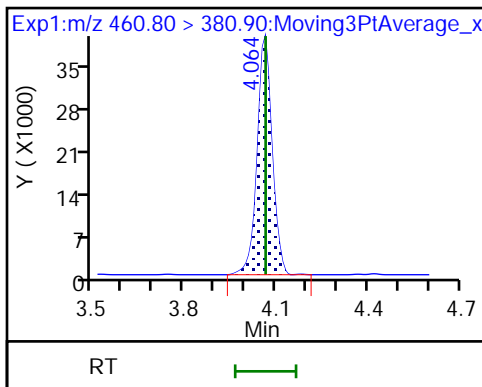
29 6:2 FTCA (M)



32 PFECHS

32 PFECHS

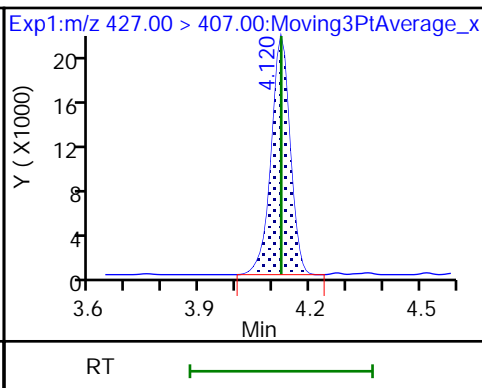
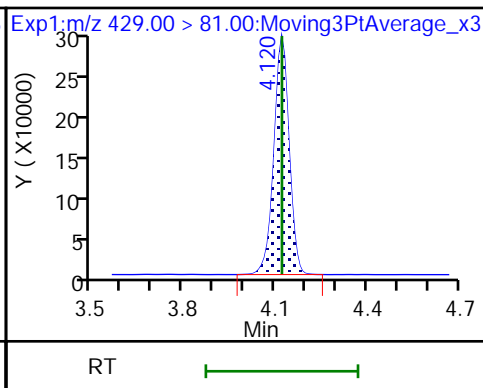
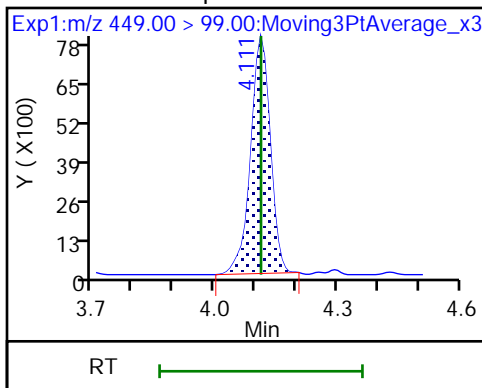
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

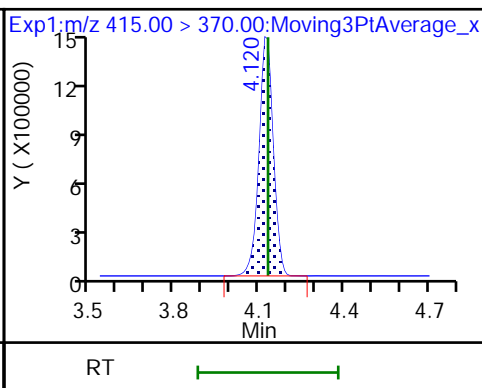
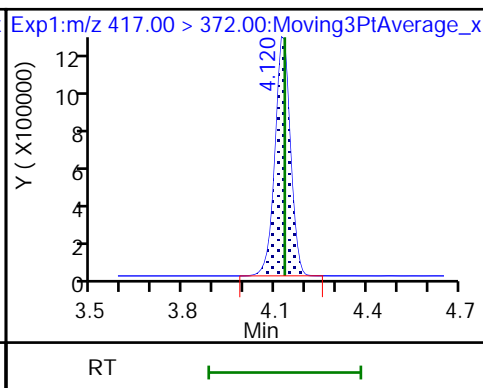
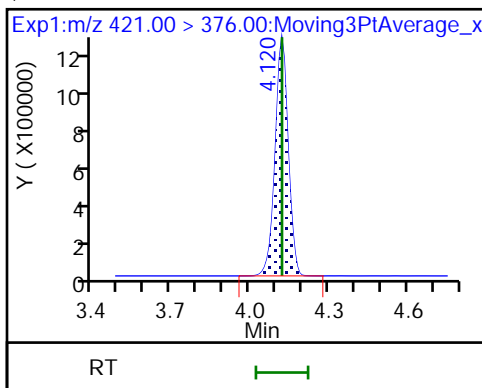
35 6:2 FTS

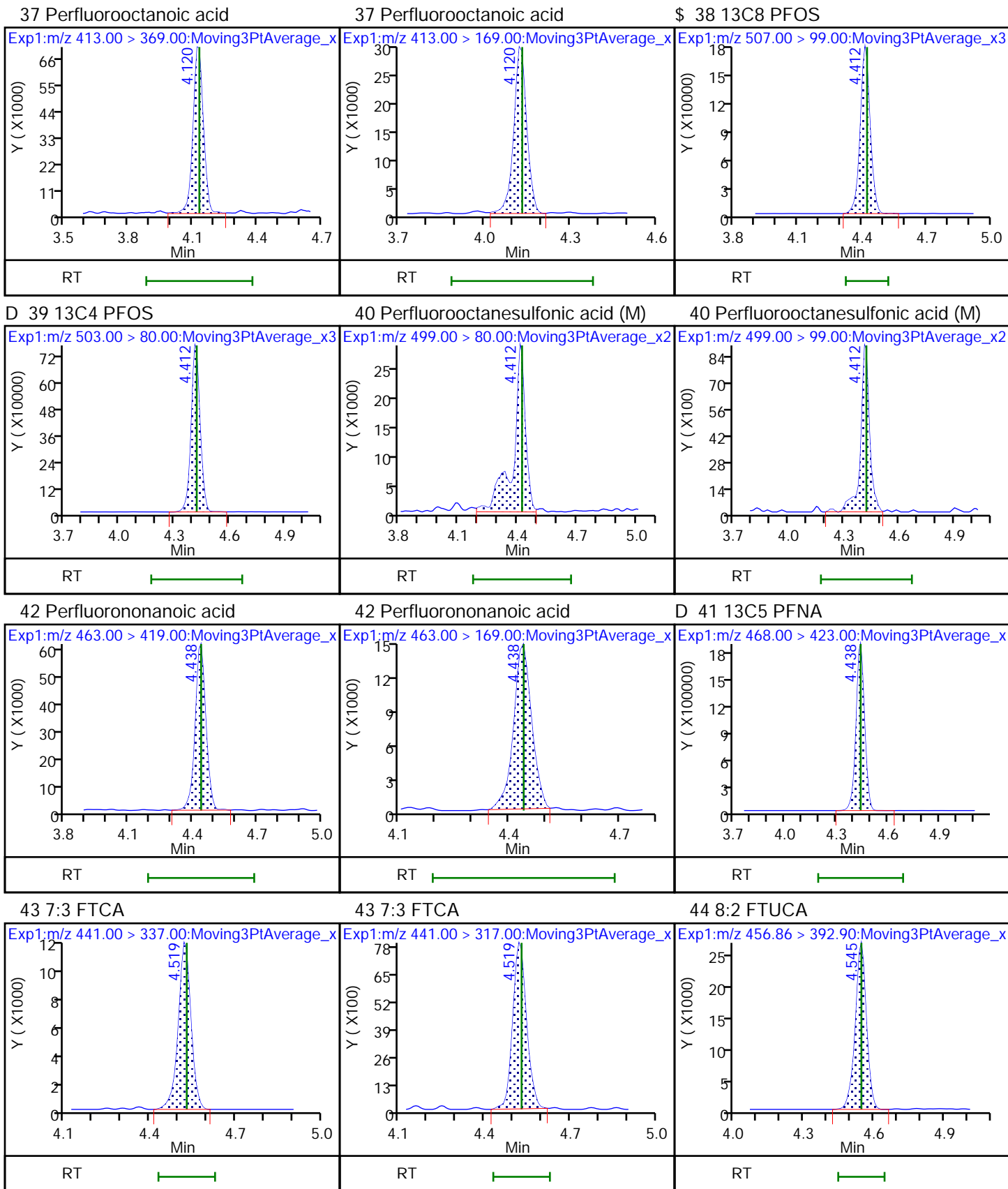


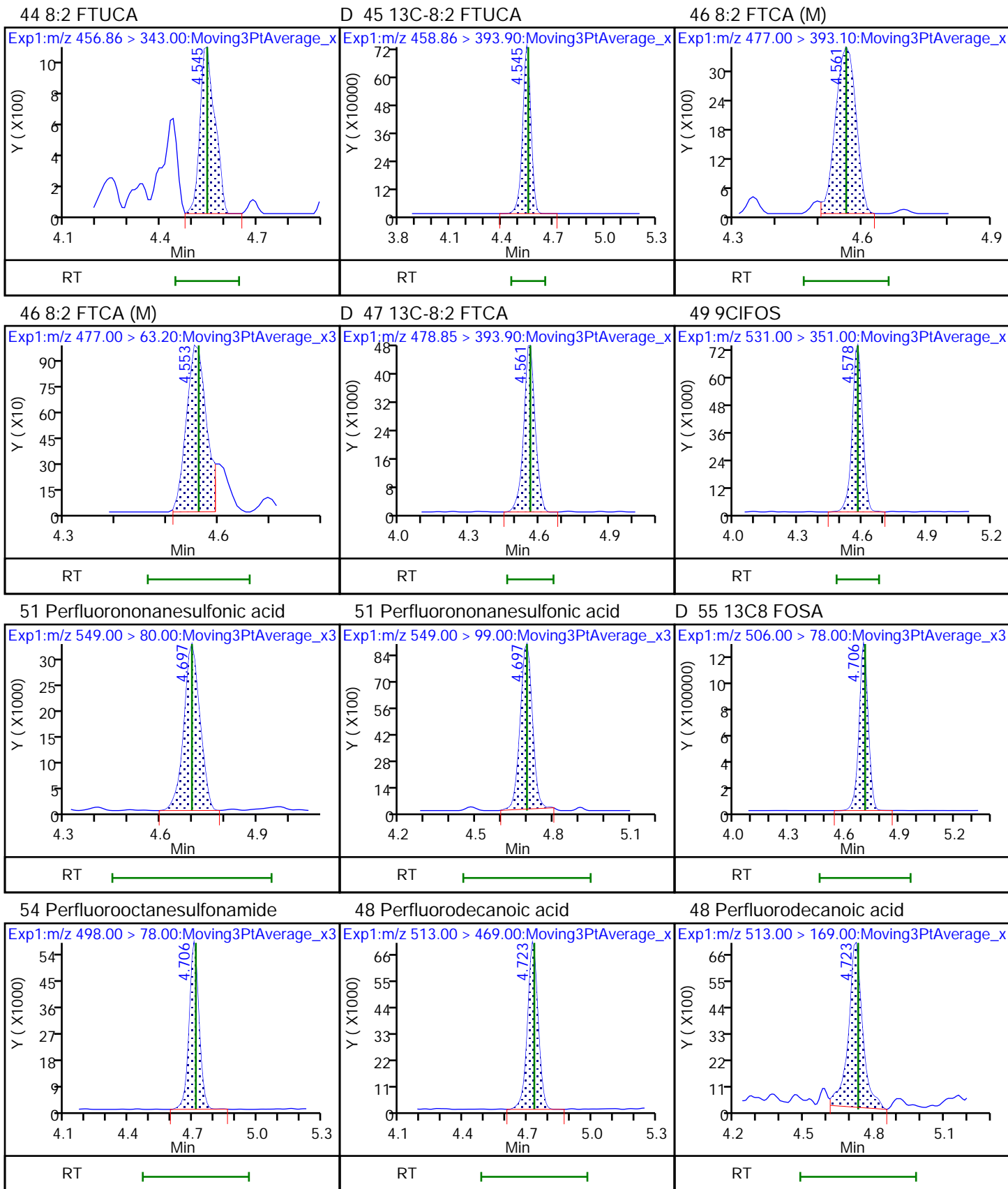
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



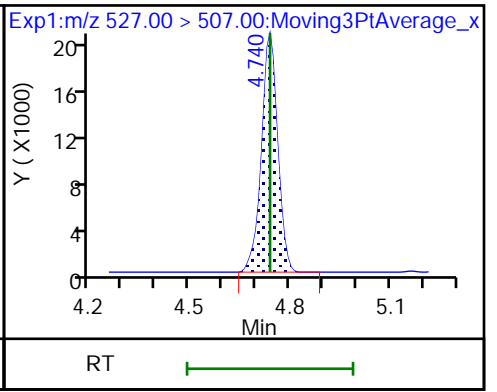
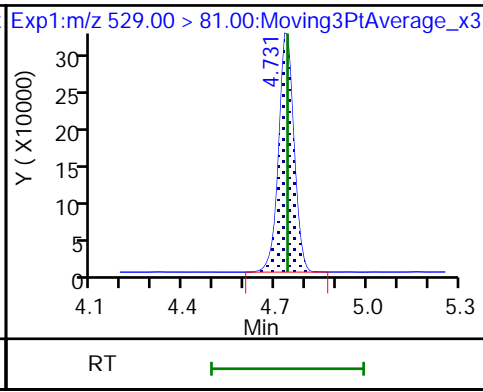
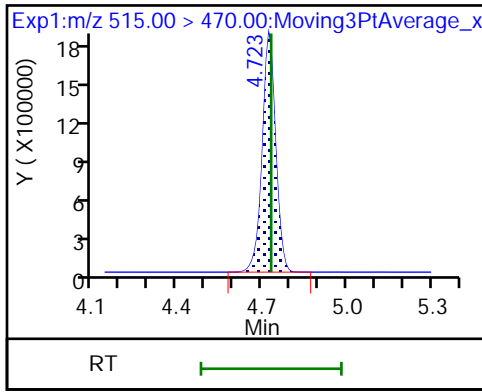




D 52 13C2 PFDA

D 50 M2-8:2 FTS

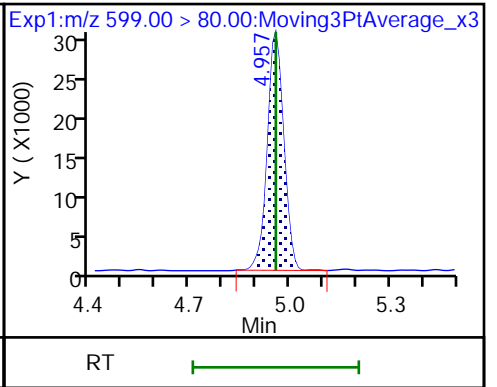
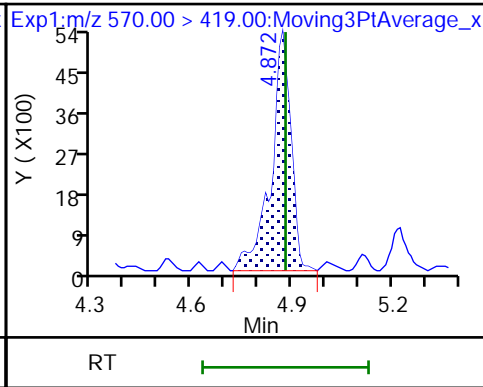
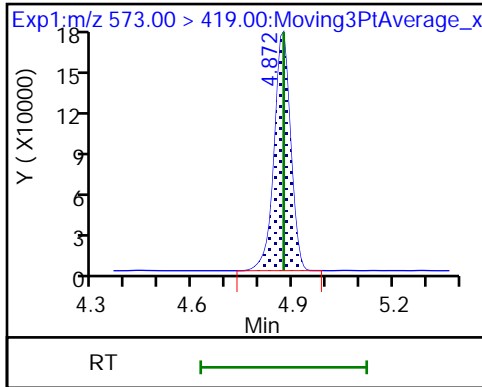
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

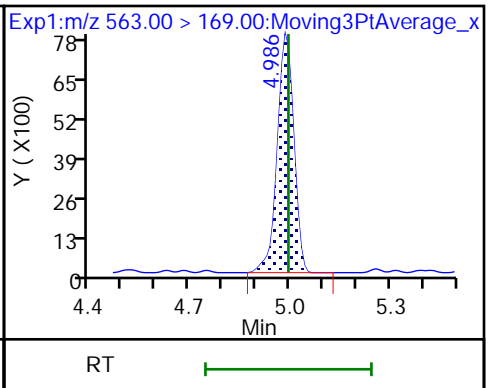
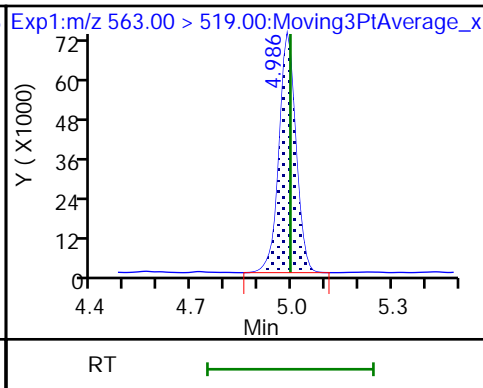
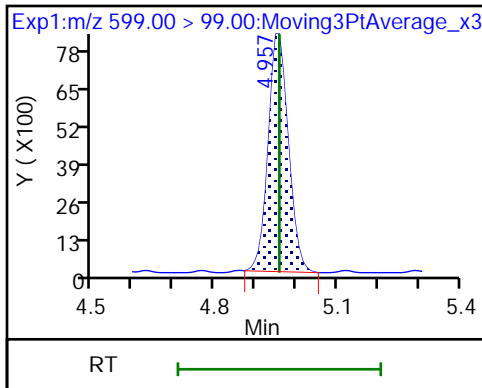
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

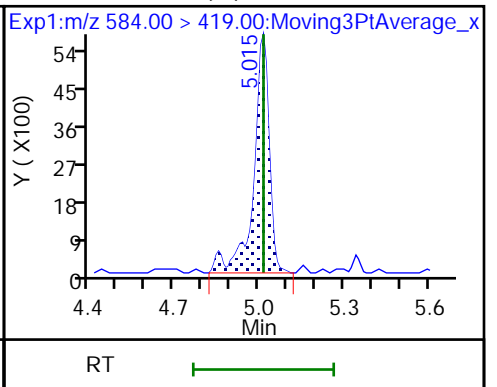
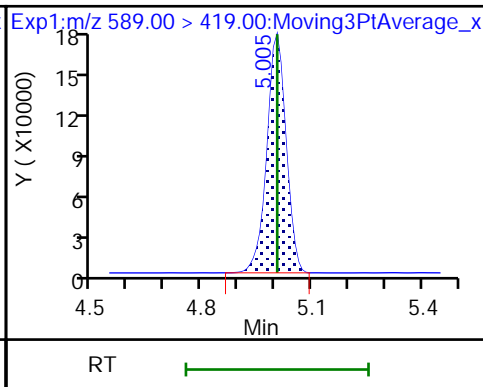
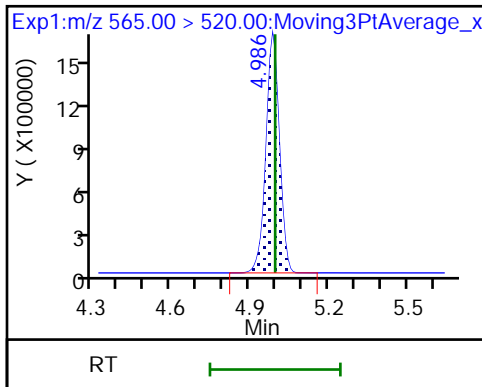
60 Perfluoroundecanoic acid



D 59 13C2 PUnA

D 61 d5-NEtFOSAA

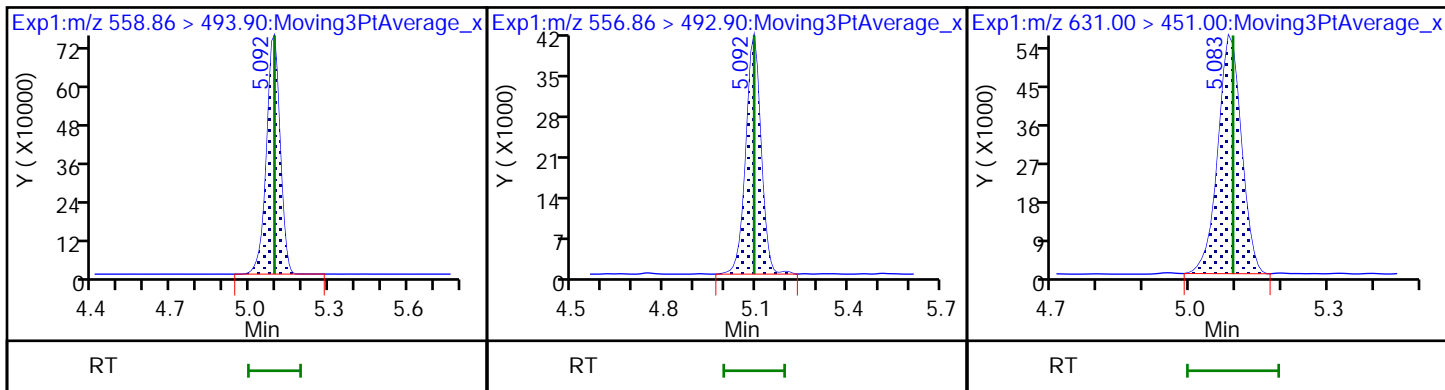
62 NEtFOSAA (M)



D 67 13C-10:2 FTUCA

65 10:2 FTUCA

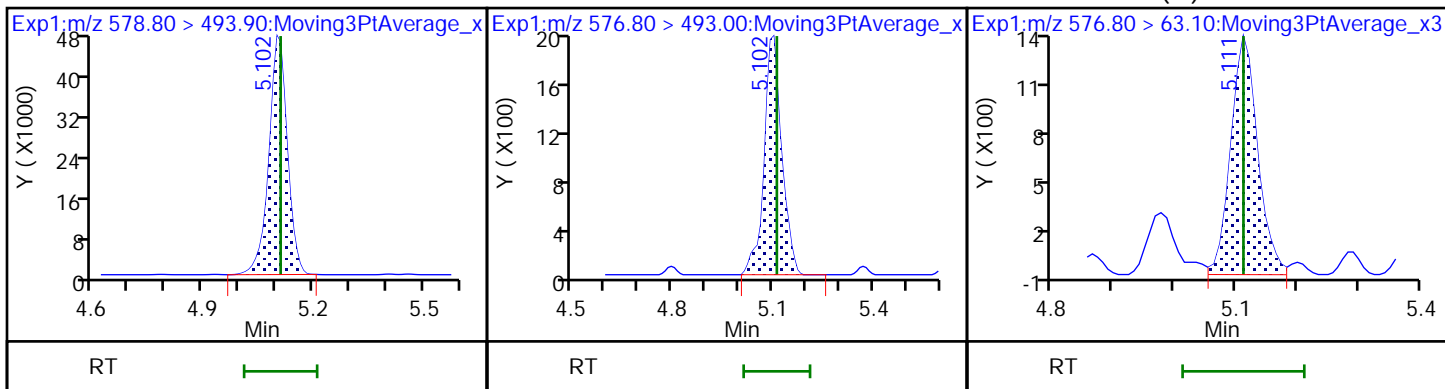
63 11CIFOS



D 64 13C-10:2 FTCA

66 10:2 FTCA

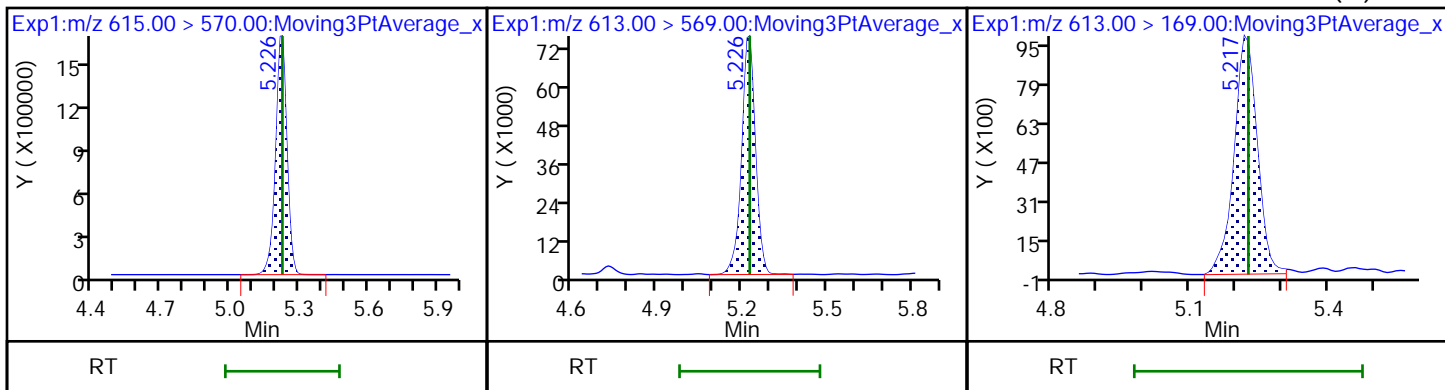
66 10:2 FTCA (M)



D 69 13C2 PFDaA

68 Perfluorododecanoic acid

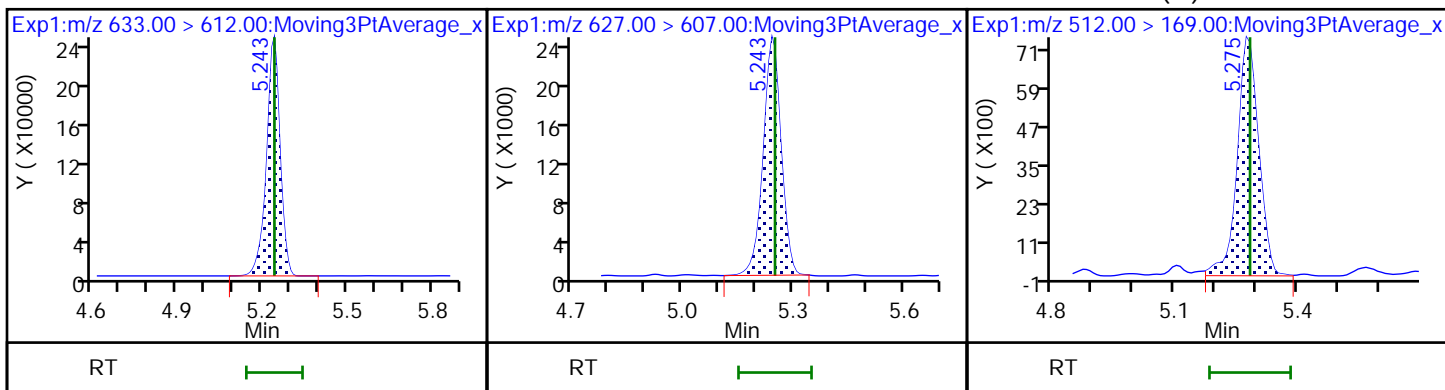
68 Perfluorododecanoic acid (M)



D 70 13C2 10:2 FTS

71 10:2 FTS

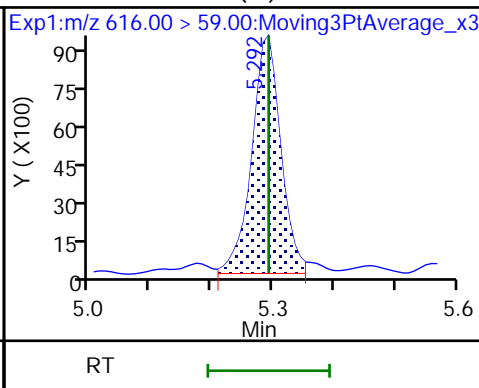
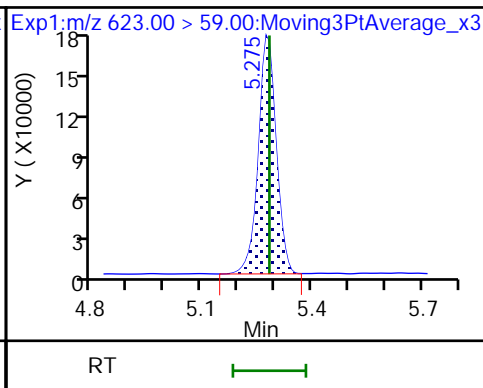
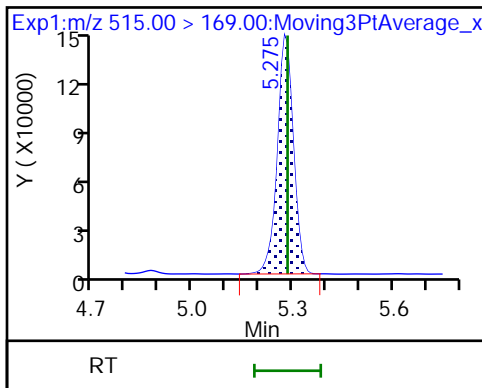
74 NMeFOSA (M)



D 73 d-N-MeFOSE-M

D 72 d7-N-MeFOSE-M

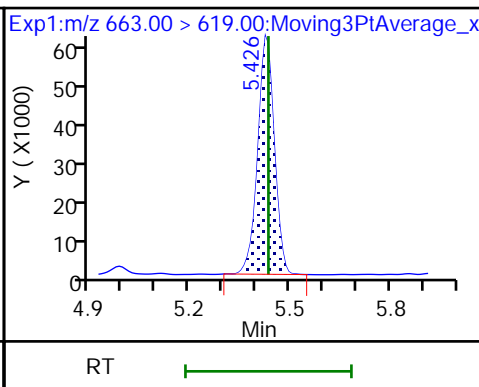
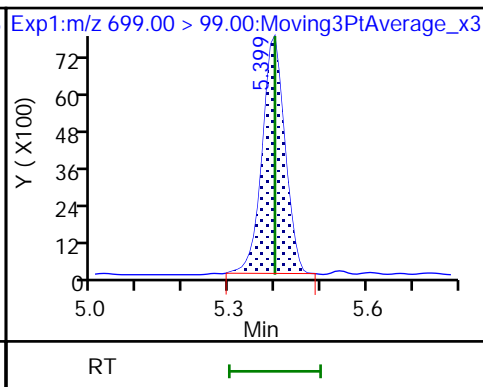
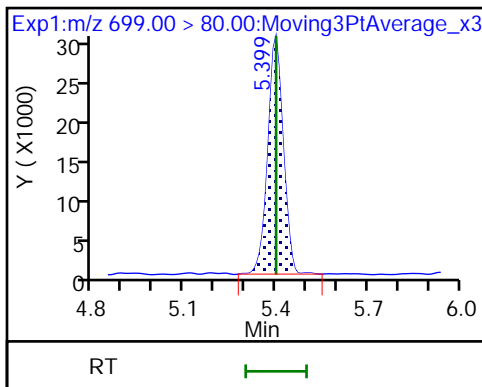
75 N-MeFOSE-M (M)



76 PFDoS

76 PFDoS

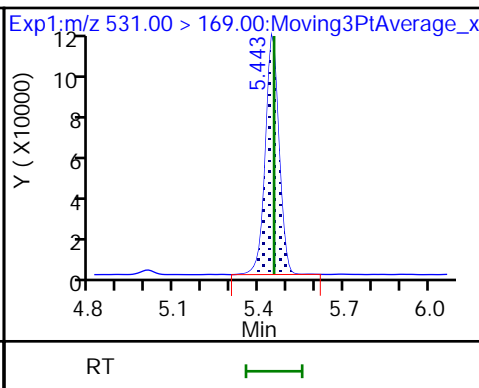
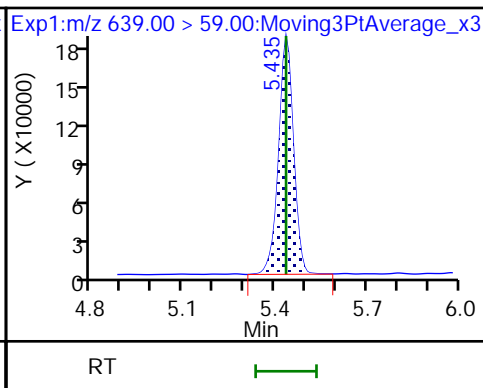
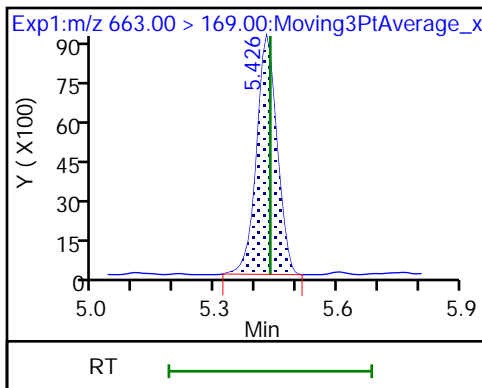
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

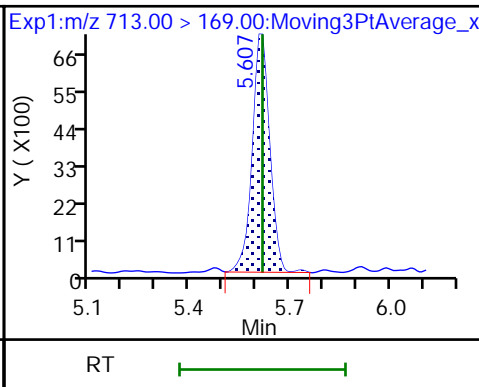
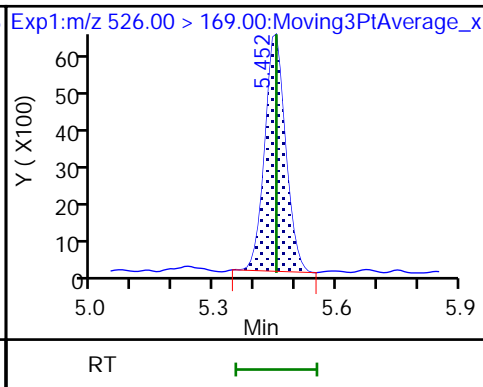
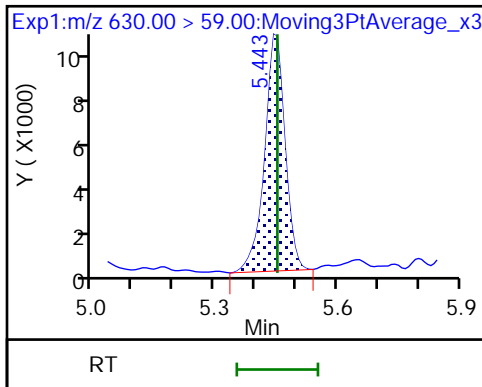
D 80 d-N-EtFOSE-M



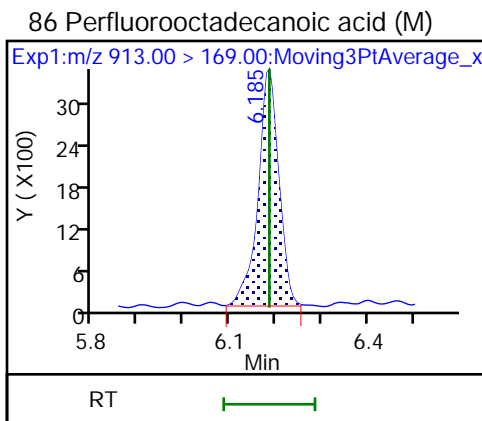
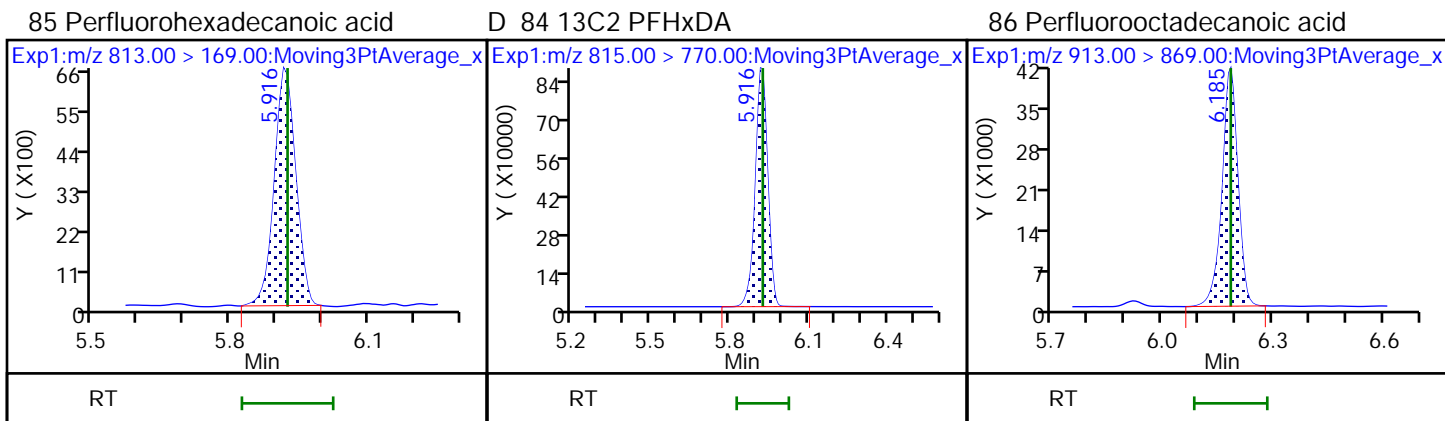
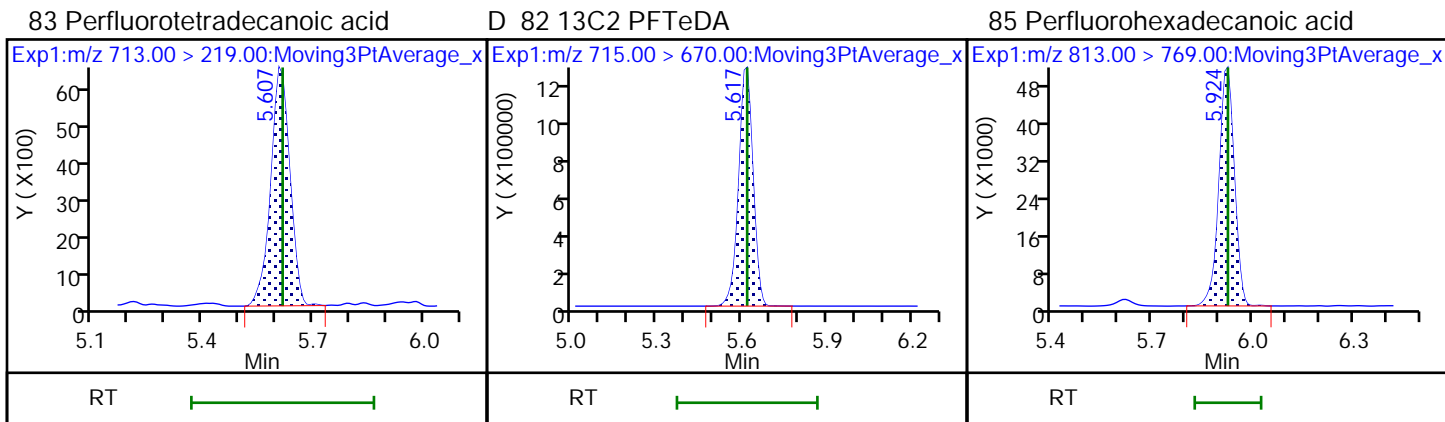
79 N-EtFOSE-M

81 N-EtFOSE-M

83 Perfluorotetradecanoic acid







Eurofins Knoxville

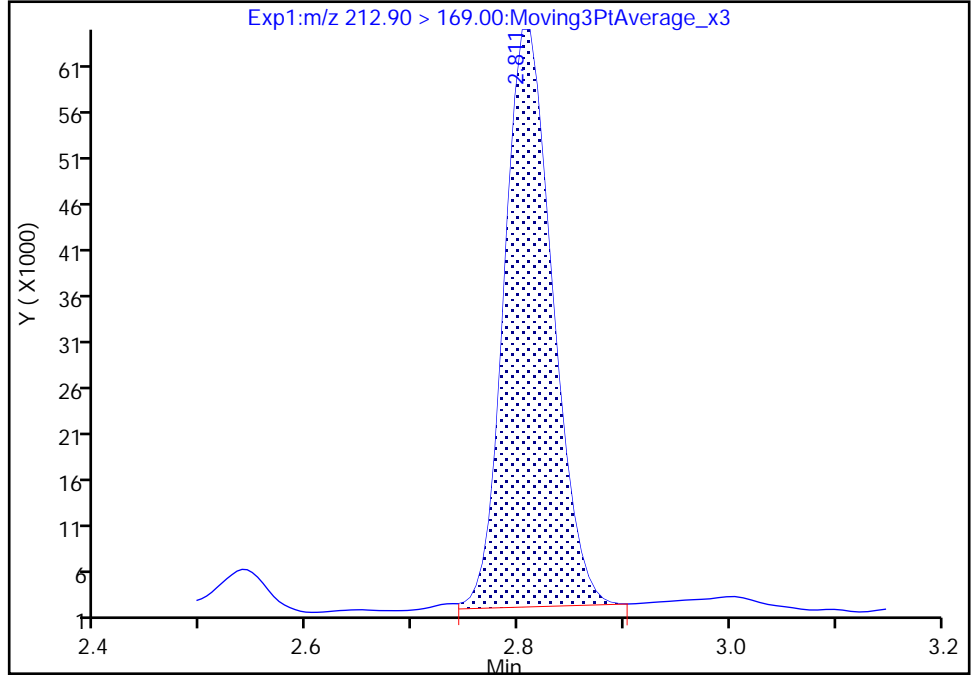
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

1 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

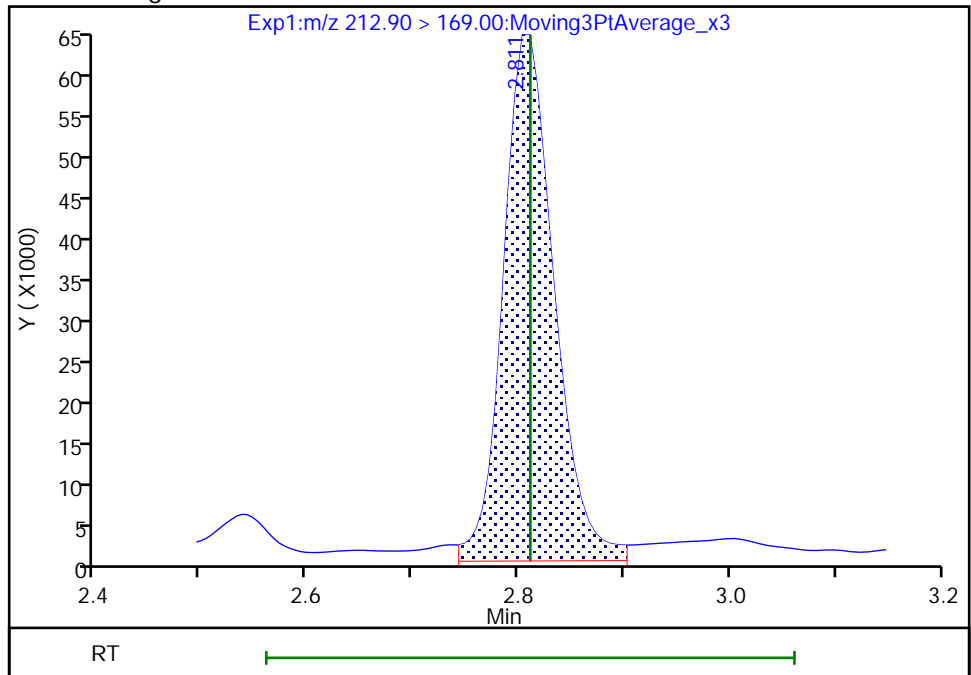
RT: 2.81  
Area: 196075  
Amount: 0.051956  
Amount Units: ng/ml

Processing Integration Results



RT: 2.81  
Area: 211682  
Amount: 0.056396  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:07:13  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

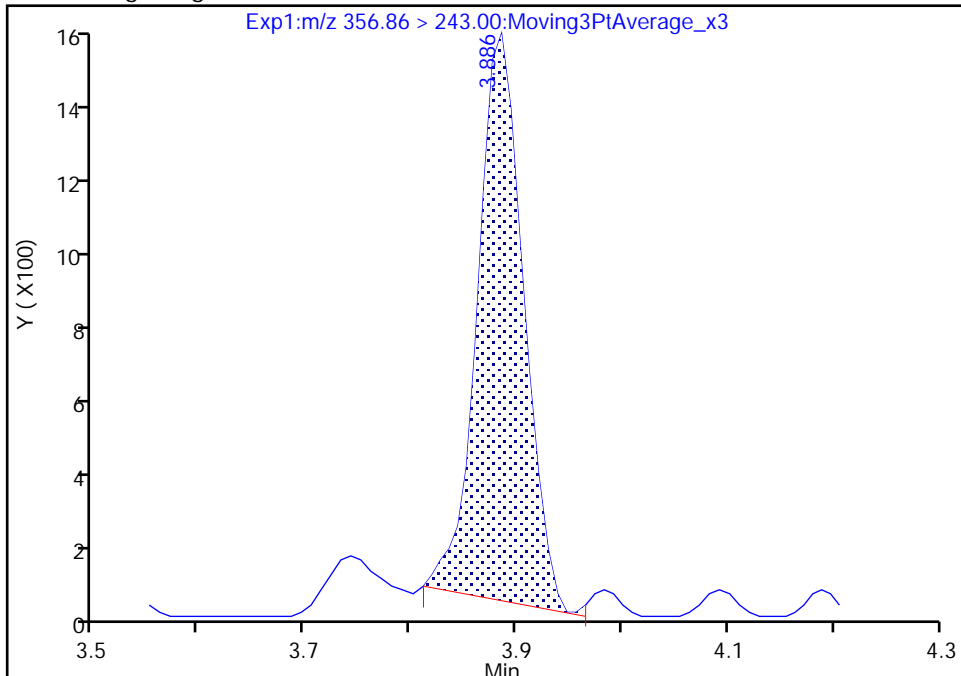
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

27 6:2 FTUCA, CAS: 70887-88-6

Signal: 2

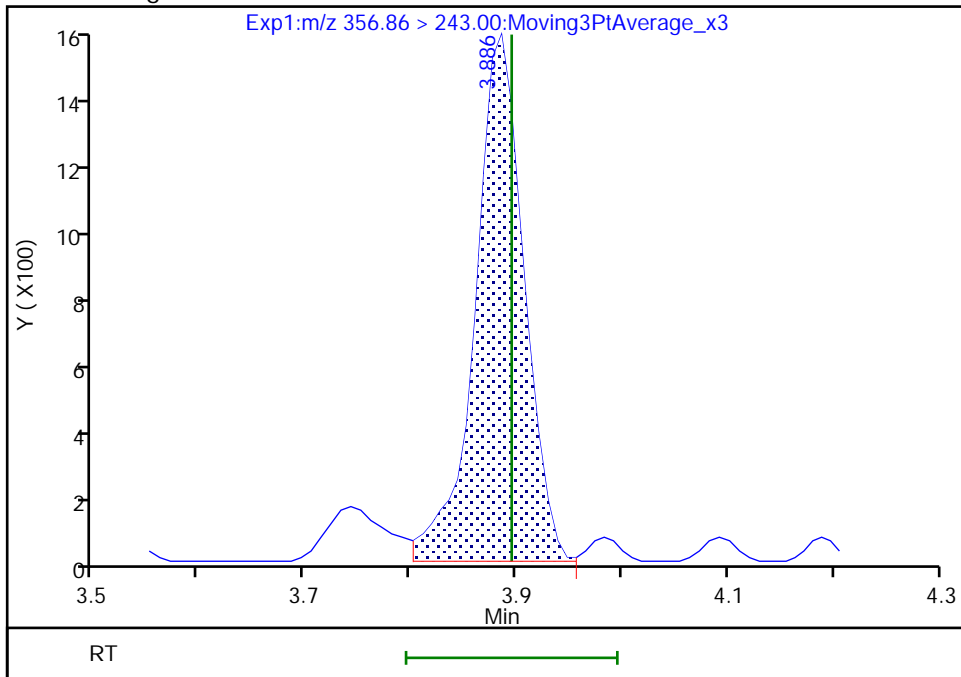
RT: 3.89  
Area: 4715  
Amount: 0.048386  
Amount Units: ng/ml

Processing Integration Results



RT: 3.89  
Area: 5129  
Amount: 0.048386  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:09:04  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

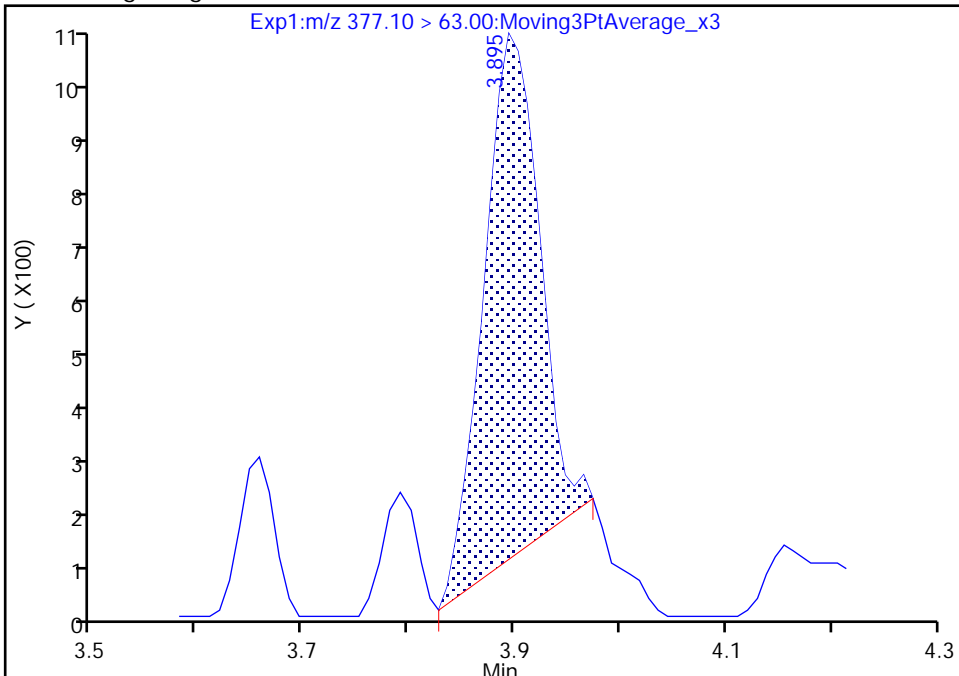
Data File:	\\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d		
Injection Date:	18-Feb-2022 19:59:01	Instrument ID:	LCA
Lims ID:	CCVL		
Client ID:			
Operator ID:	Cochran, Bobby	ALS Bottle#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	PFC_LCA	Limit Group:	LC - PFC- ICAL
Column:		Detector:	EXP1
		Worklist Smp#:	4

29 6:2 FTCA, CAS: 53826-12-3

Signal: 1

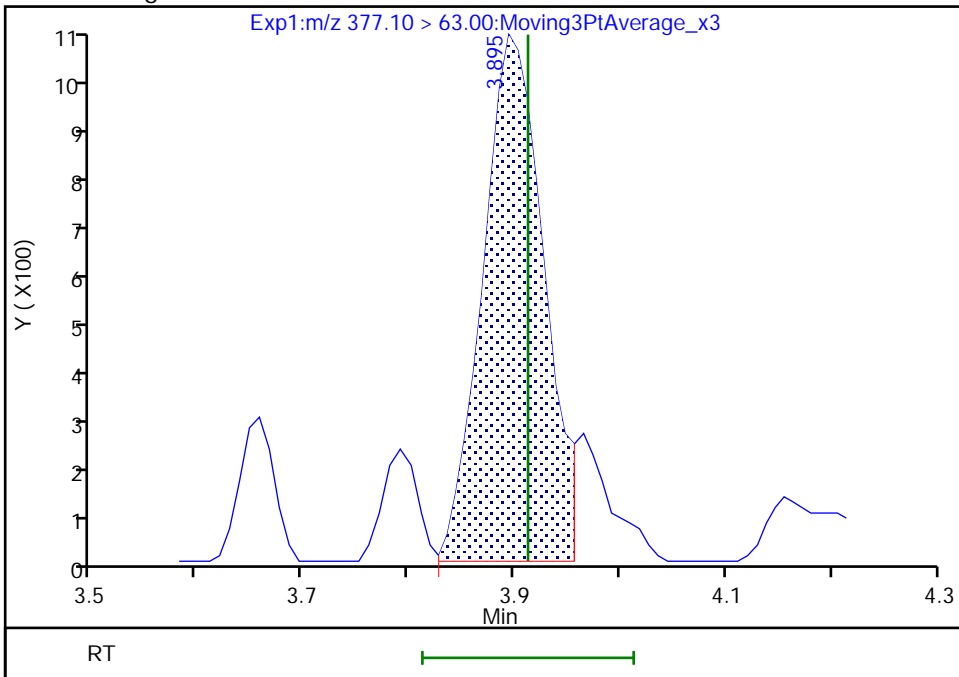
RT: 3.89  
 Area: 3418  
 Amount: 0.040889  
 Amount Units: ng/ml

Processing Integration Results



RT: 3.89  
 Area: 4136  
 Amount: 0.050928  
 Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:09:26  
 Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

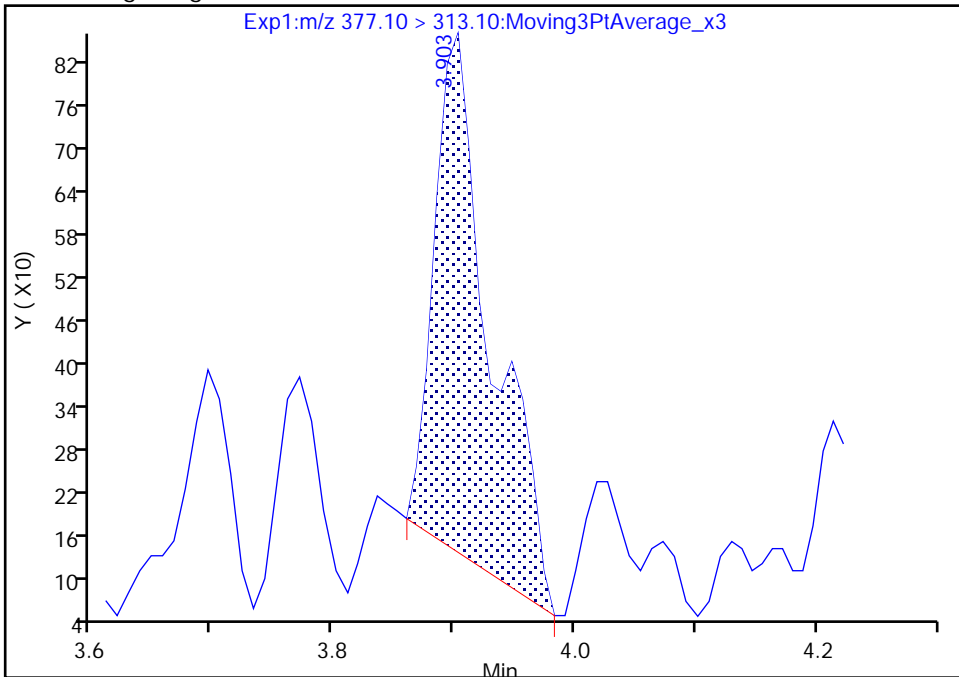
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

29 6:2 FTCA, CAS: 53826-12-3

Signal: 2

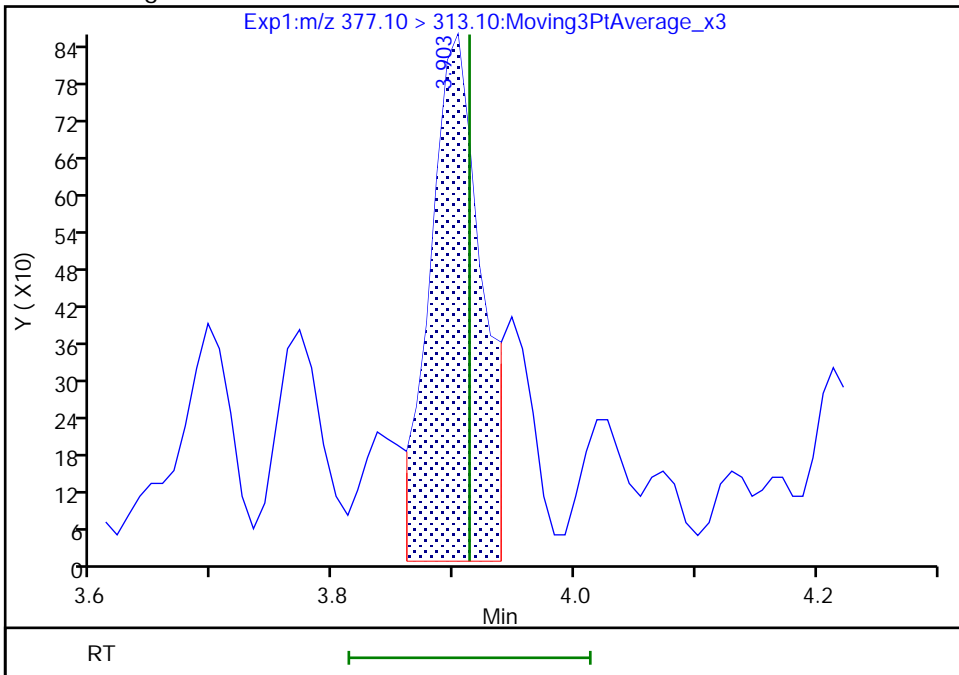
RT: 3.90  
Area: 2362  
Amount: 0.040889  
Amount Units: ng/ml

Processing Integration Results



RT: 3.90  
Area: 2490  
Amount: 0.050928  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:09:54

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

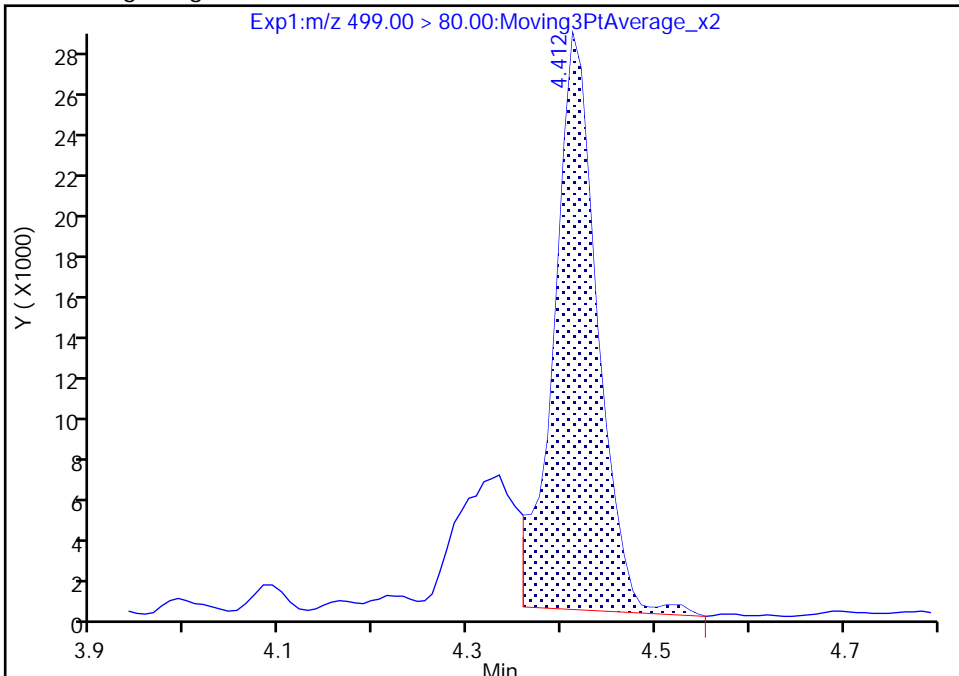
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

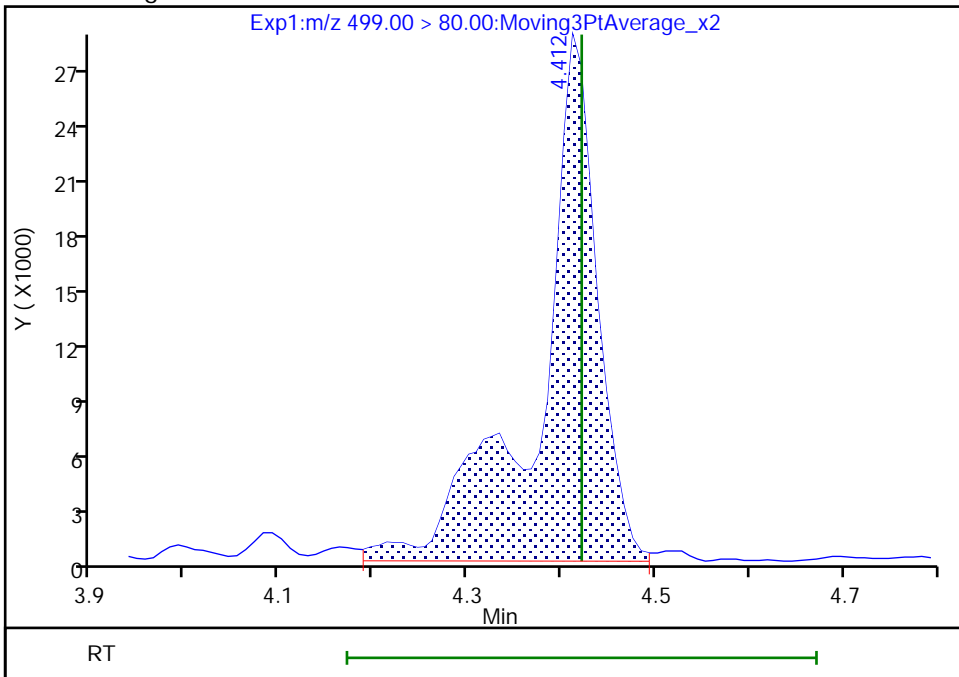
RT: 4.41  
Area: 91044  
Amount: 0.037175  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 126447  
Amount: 0.051630  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:10:09  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

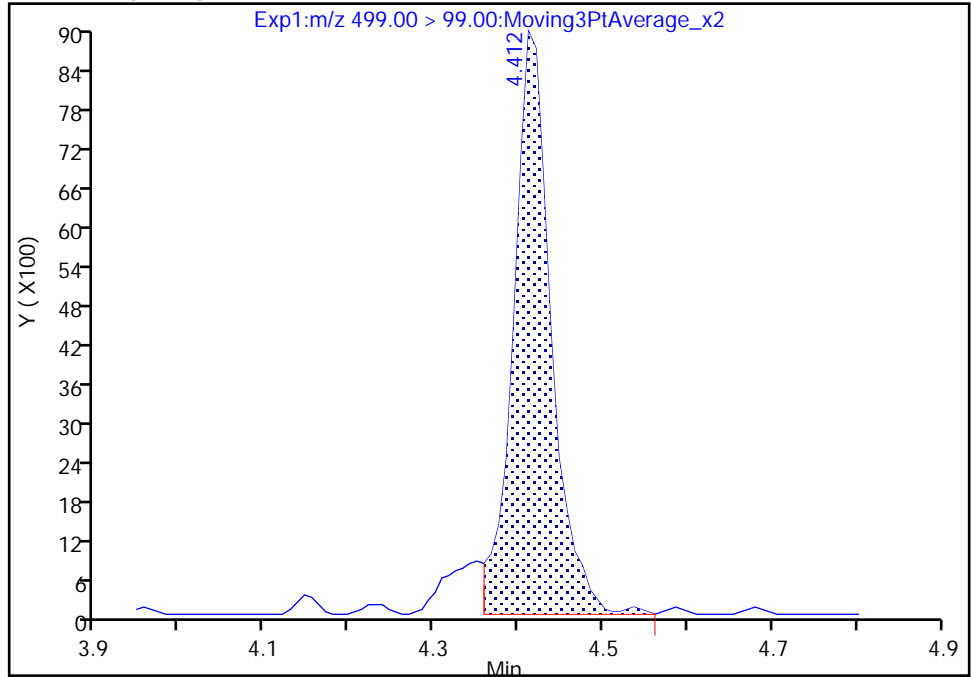
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

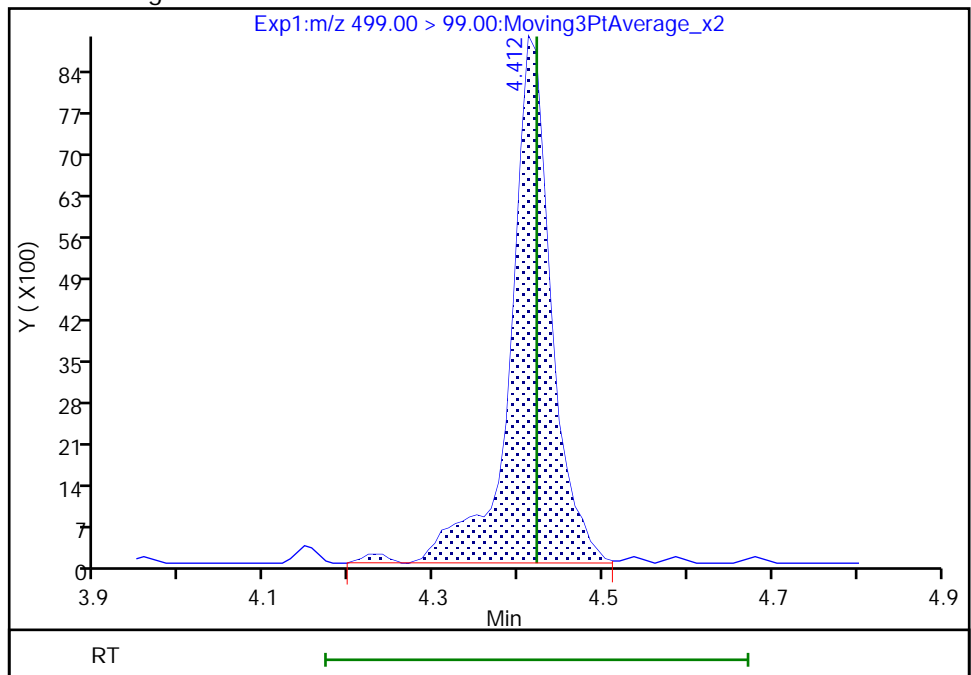
RT: 4.41  
Area: 27611  
Amount: 0.037175  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 30230  
Amount: 0.051630  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:10:16

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

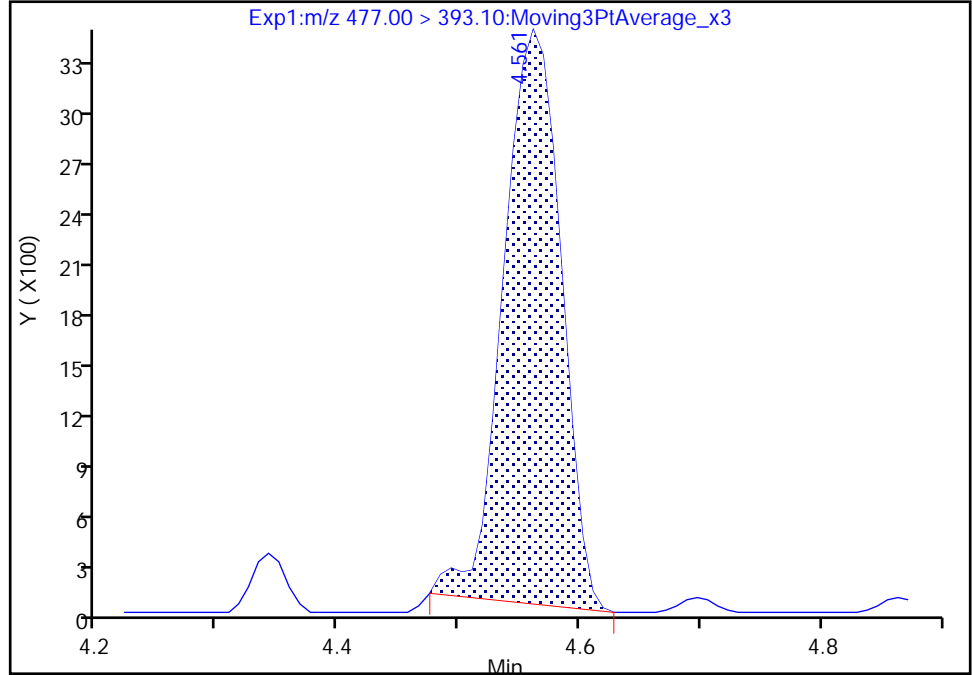
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 1

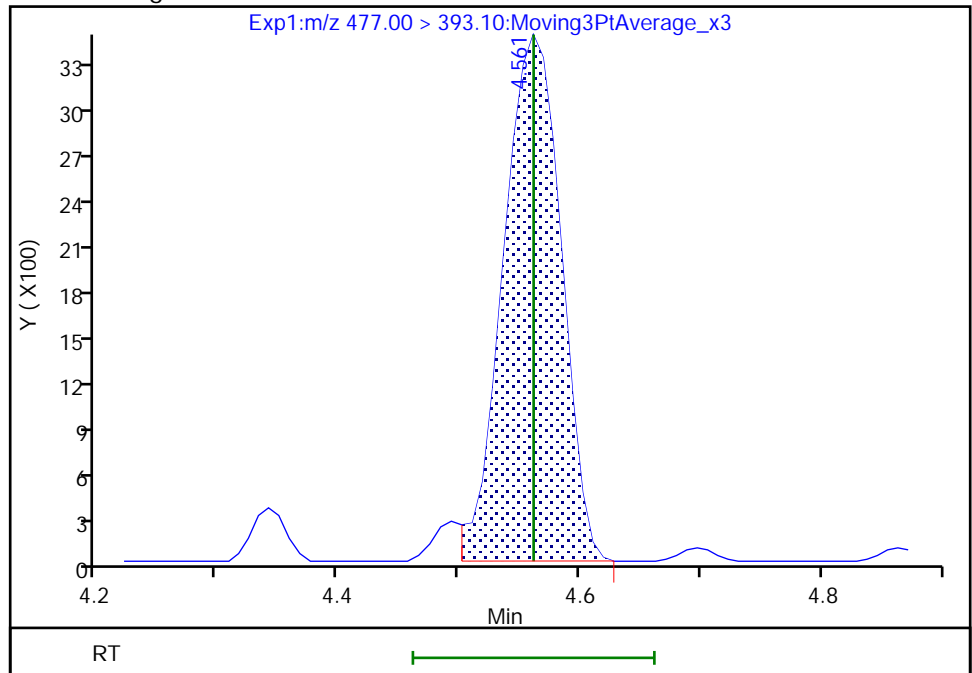
RT: 4.56  
Area: 11216  
Amount: 0.048579  
Amount Units: ng/ml

Processing Integration Results



RT: 4.56  
Area: 11368  
Amount: 0.049238  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:10:48  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

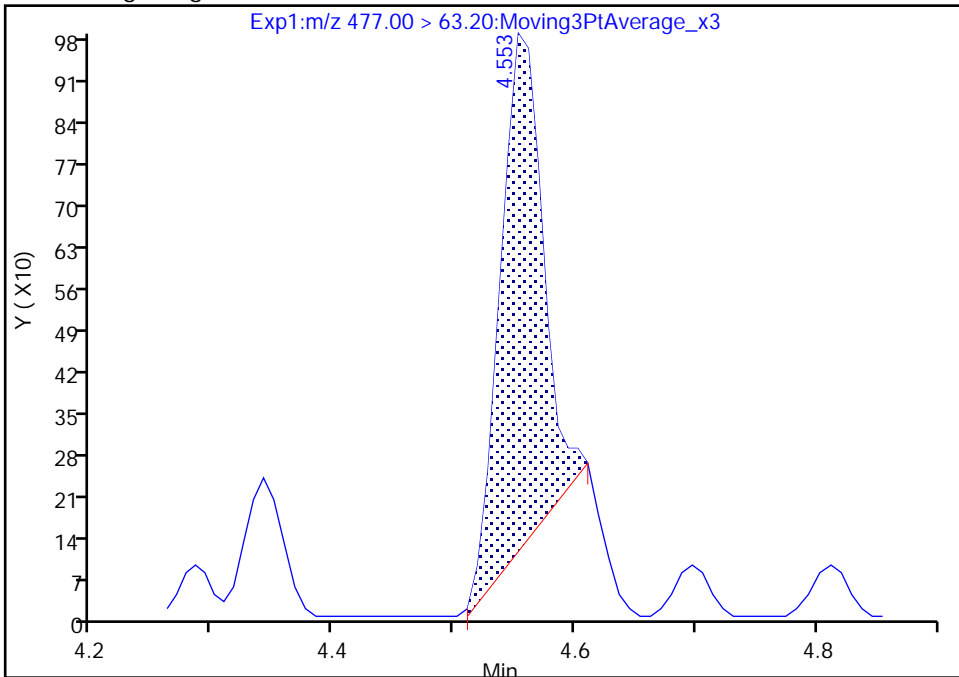
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 2

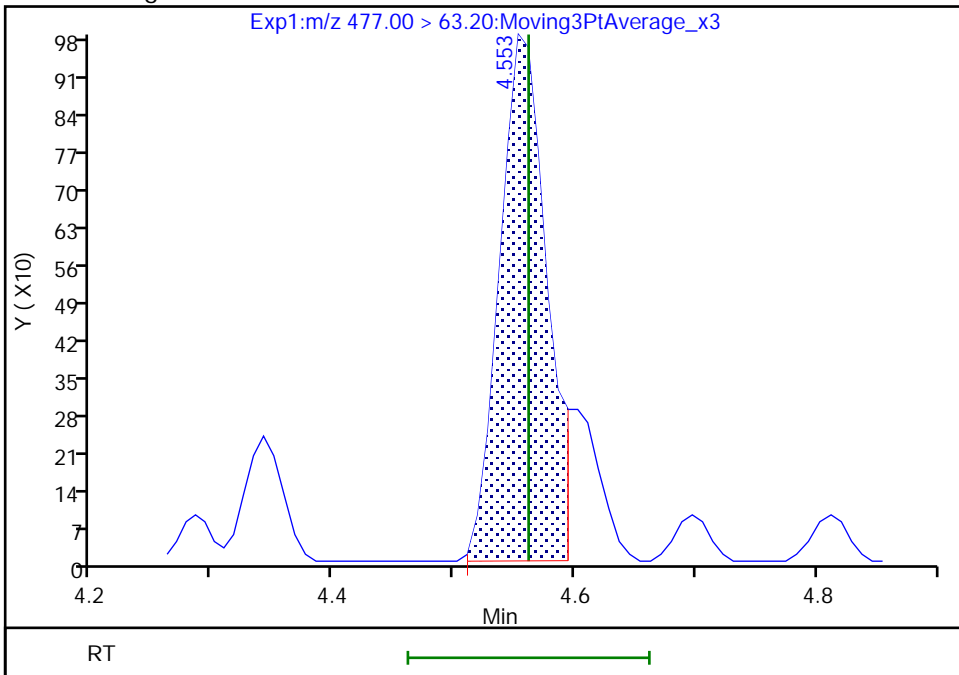
RT: 4.55  
Area: 2141  
Amount: 0.048579  
Amount Units: ng/ml

Processing Integration Results



RT: 4.55  
Area: 2641  
Amount: 0.049238  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:10:52

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

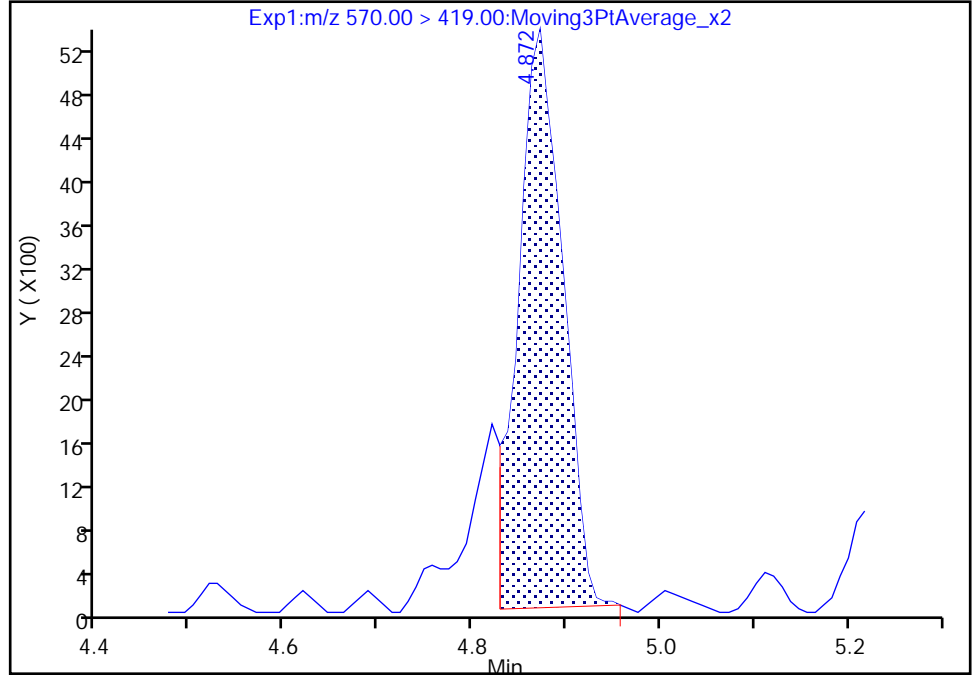
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

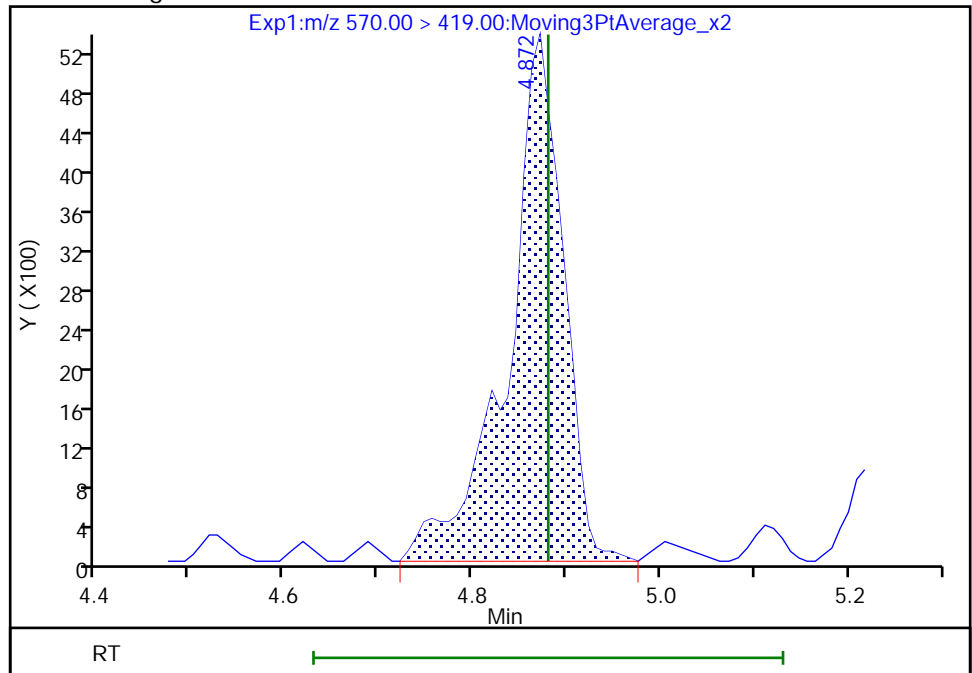
RT: 4.87  
Area: 17404  
Amount: 0.041786  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 22121  
Amount: 0.052688  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:11:10  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

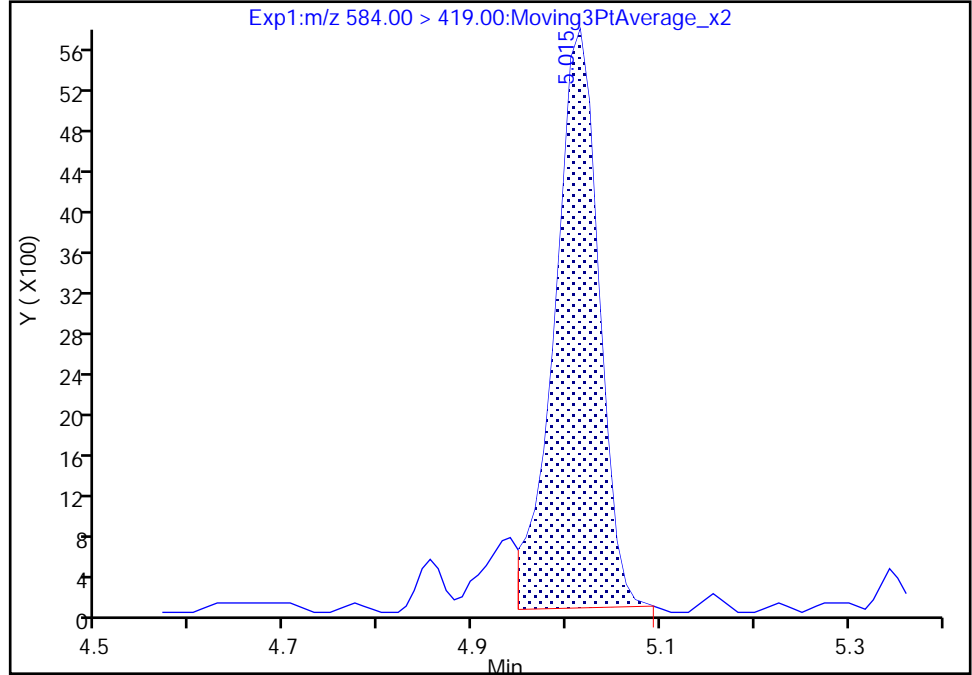
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

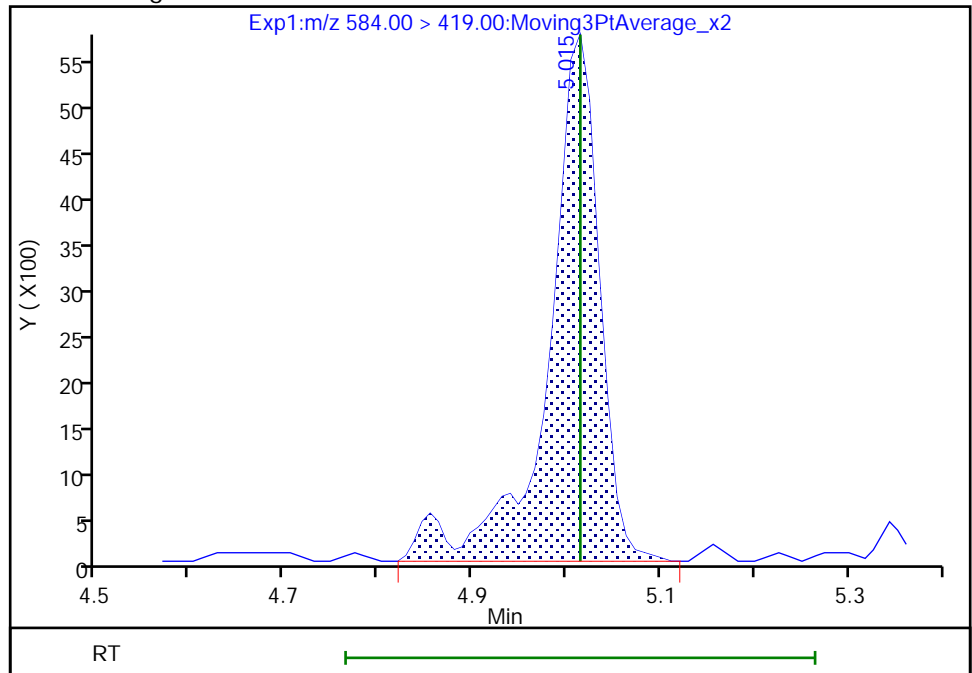
RT: 5.01  
Area: 18615  
Amount: 0.034244  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 21929  
Amount: 0.042146  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:11:24  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

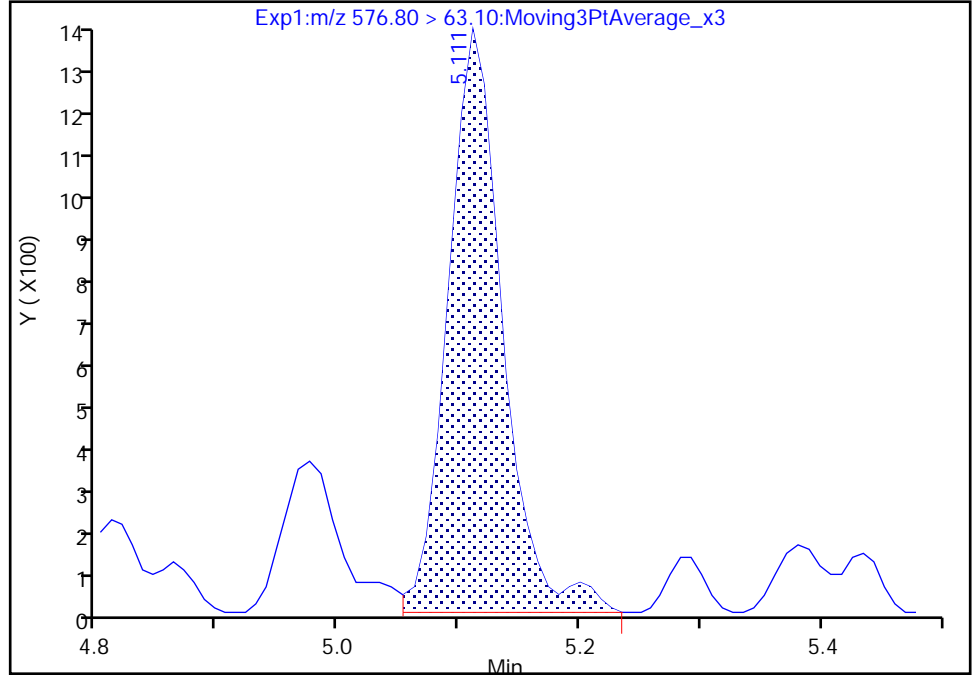
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

66 10:2 FTCA, CAS: 53826-13-4

Signal: 2

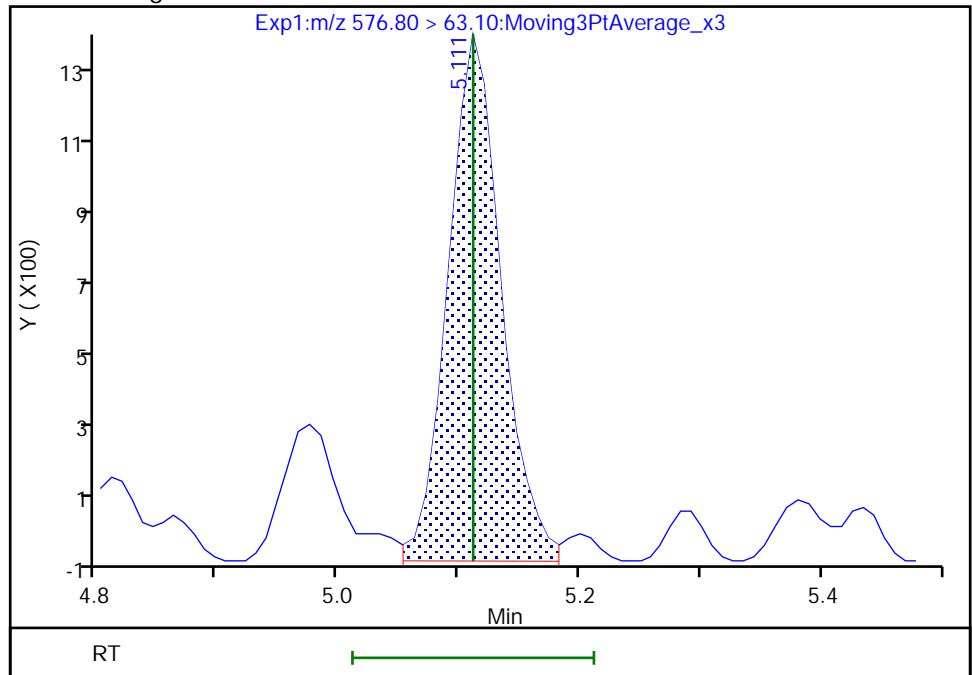
RT: 5.11  
Area: 4086  
Amount: 0.050105  
Amount Units: ng/ml

Processing Integration Results



RT: 5.11  
Area: 3964  
Amount: 0.050105  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:11:56  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

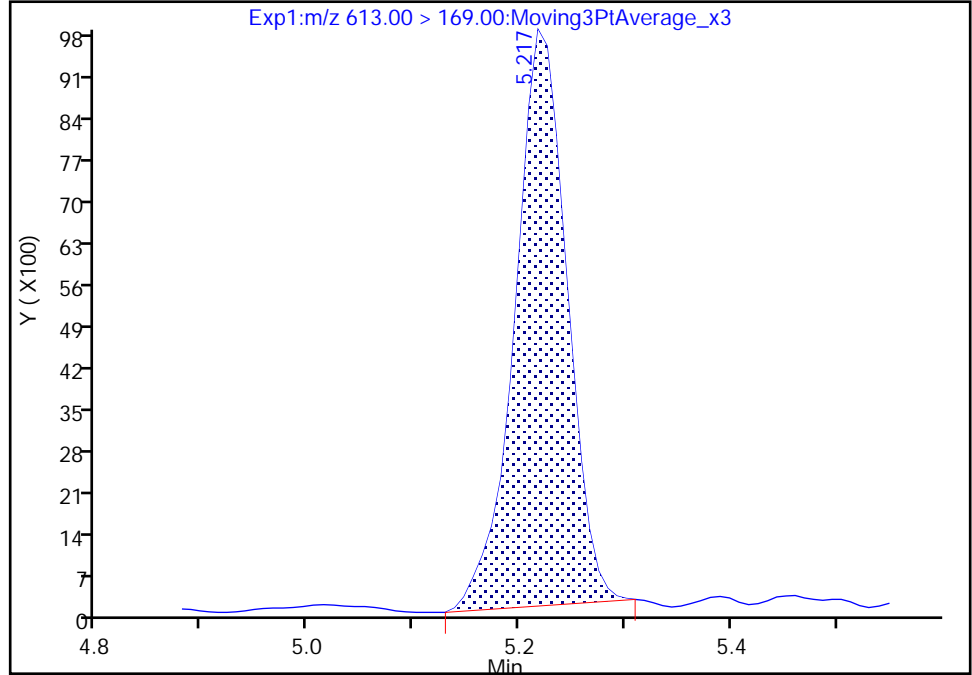
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

68 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 2

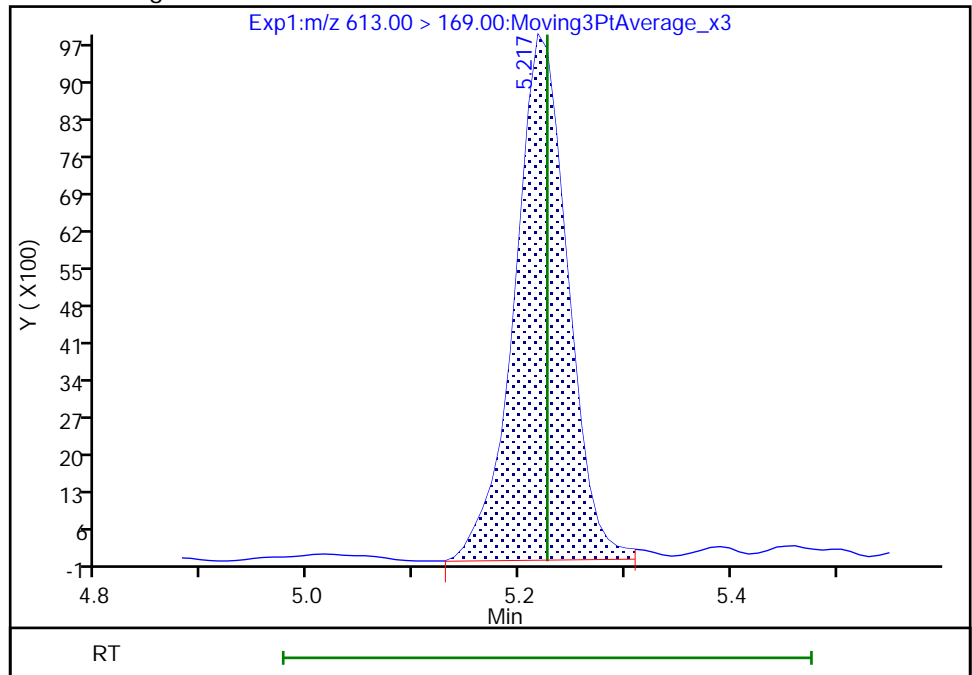
RT: 5.22  
Area: 33126  
Amount: 0.054211  
Amount Units: ng/ml

Processing Integration Results



RT: 5.22  
Area: 34144  
Amount: 0.054211  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:12:05  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

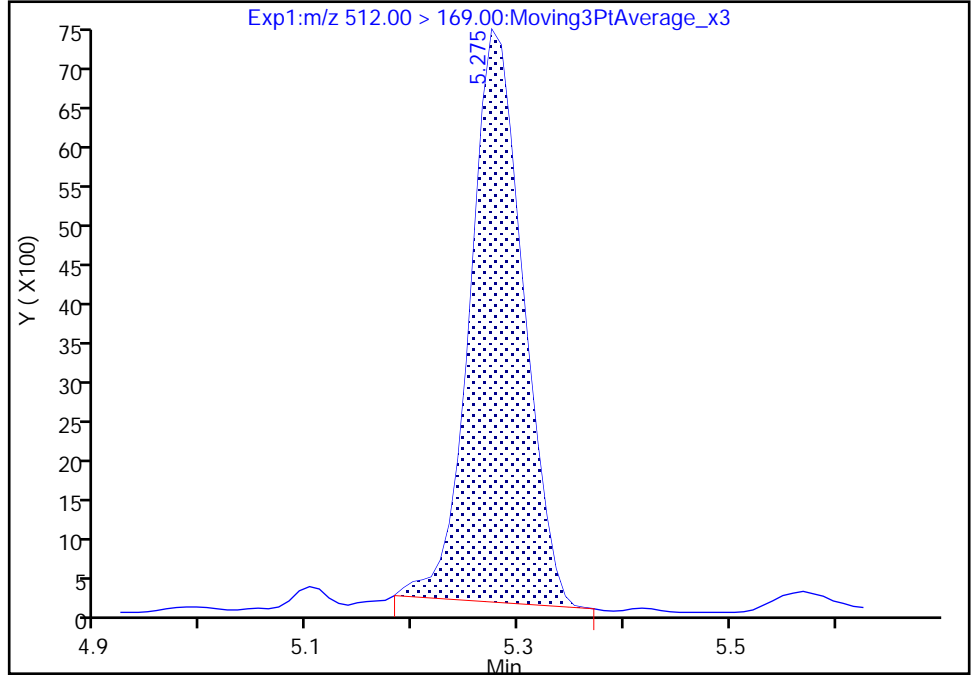
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

74 NMeFOSA, CAS: 31506-32-8

Signal: 1

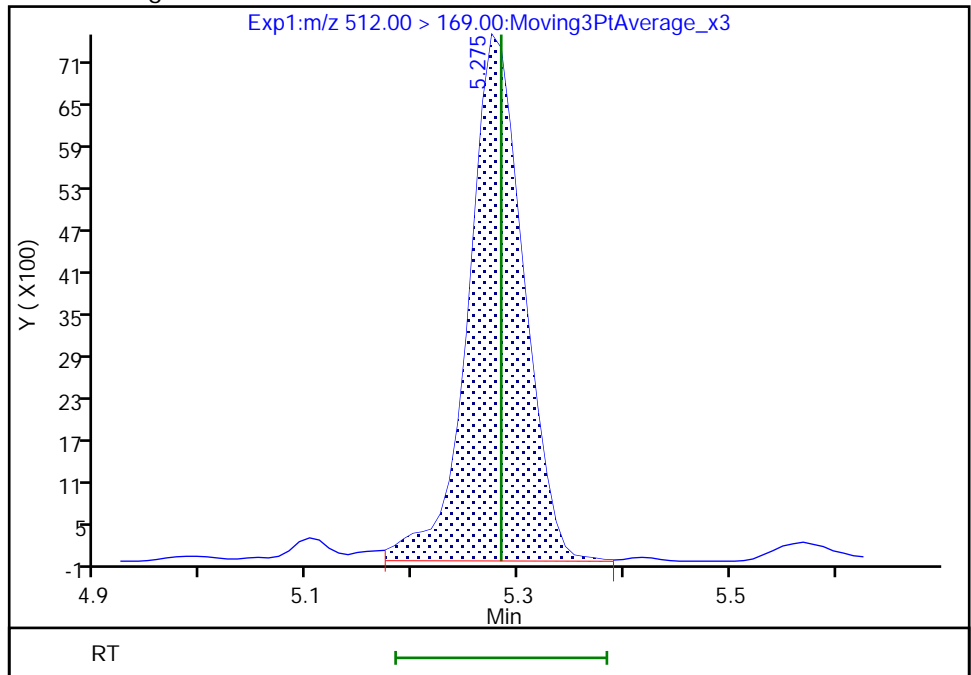
RT: 5.27  
Area: 25496  
Amount: 0.055559  
Amount Units: ng/ml

Processing Integration Results



RT: 5.27  
Area: 27062  
Amount: 0.059327  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:12:33  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

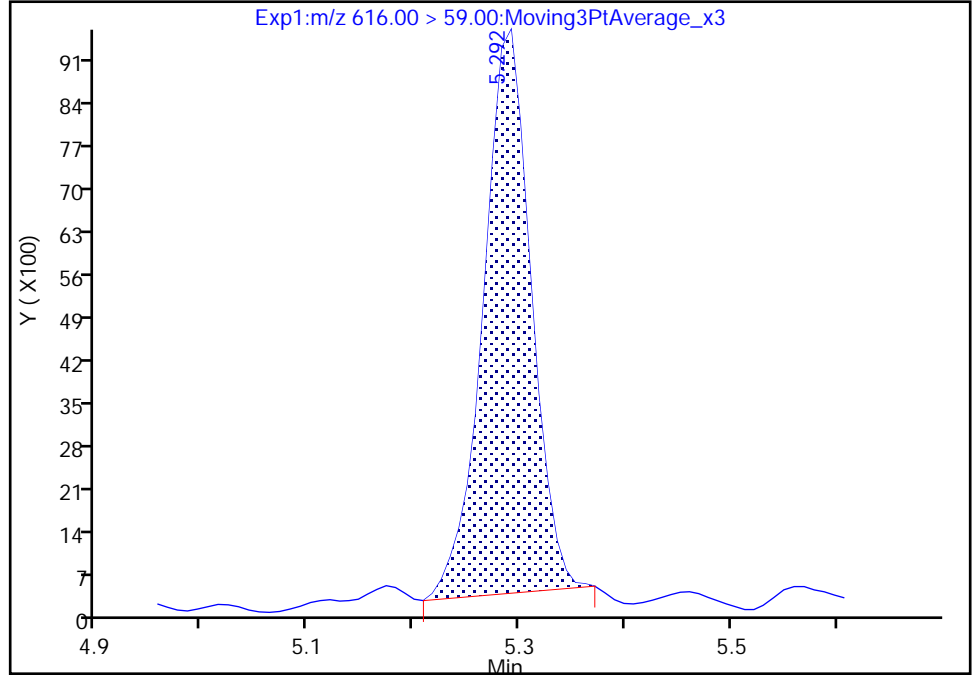
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

75 N-MeFOSE-M, CAS: 24448-09-7

Signal: 1

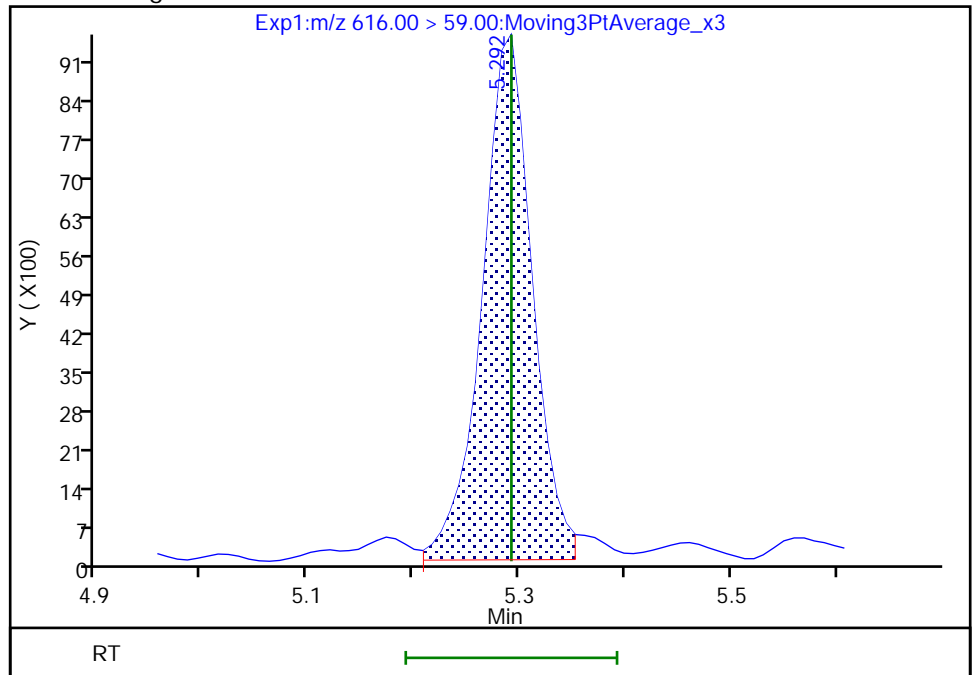
RT: 5.29  
Area: 28859  
Amount: 0.047684  
Amount Units: ng/ml

Processing Integration Results



RT: 5.29  
Area: 31148  
Amount: 0.051772  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:12:48  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

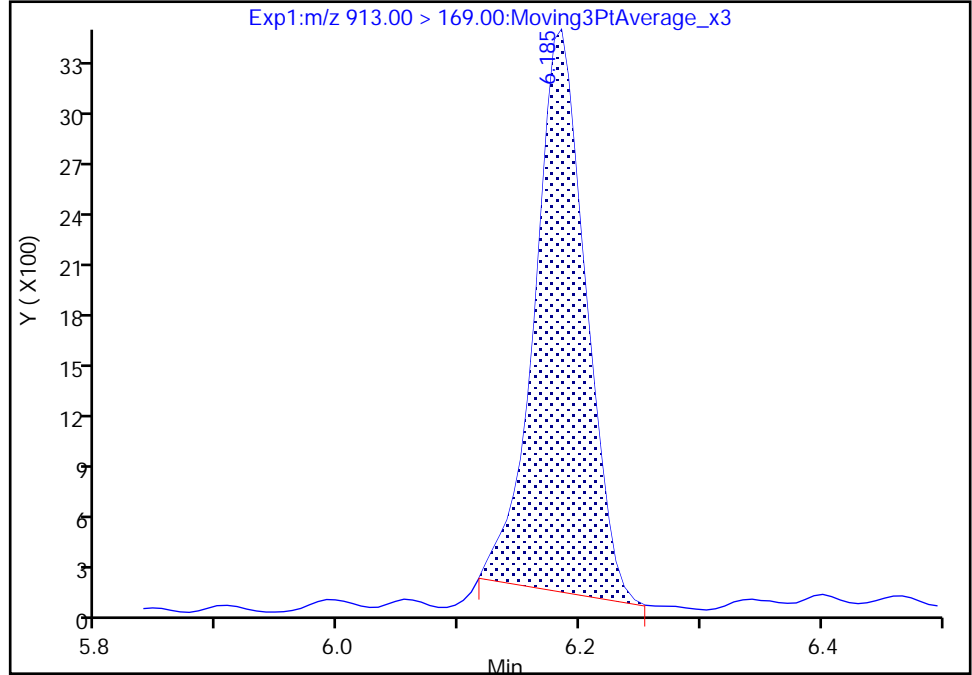
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

86 Perfluorooctadecanoic acid, CAS: 16517-11-6

Signal: 2

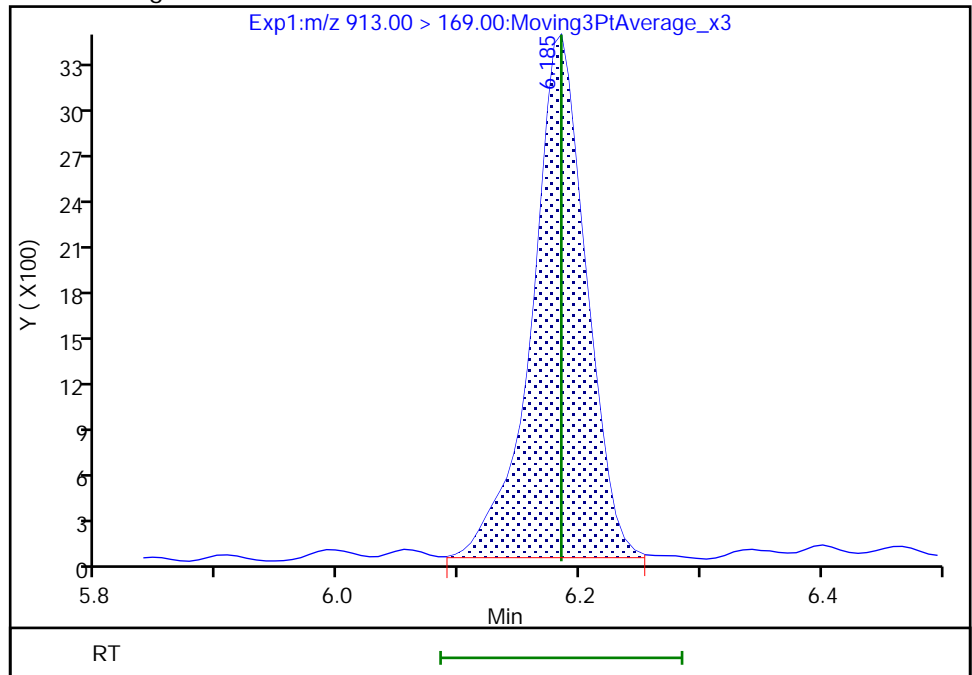
RT: 6.18  
Area: 9584  
Amount: 0.053091  
Amount Units: ng/ml

Processing Integration Results



RT: 6.18  
Area: 10465  
Amount: 0.053091  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:13:06  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59045/5 Calibration Date: 02/18/2022 20:07  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7612		0.960	1.00	-4.0	40.0
PFECA F	AveID	0.7535	0.6998		0.929	1.00	-7.1	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9075		0.965	1.00	-3.5	40.0
3:3 FTCA	QuaIF		0.0516		0.948	1.00	-5.2	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.075		0.867	0.884	-1.9	40.0
PFECA A	Q2ID		1.150		0.981	1.00	-1.9	40.0
PES	Q2ID		2.429		0.912	0.890	2.5	40.0
PFECA B	Q2ID		0.4167		1.01	1.00	0.7	40.0
4:2 FTS	L2ID		2.219		0.911	0.934	-2.4	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7592		0.954	1.00	-4.6	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	0.9275		0.843	0.938	-10.2	40.0
HFPO-DA	L2ID		1.269		1.01	1.00	0.5	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.234		0.811	0.910	-10.9	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.035		1.03	1.00	3.3	40.0
DONA	AveID	2.644	2.414		0.860	0.942	-8.7	40.0
5:3 FTCA	L2ID		3.250		0.862	1.00	-13.8	40.0
6:2 FTUCA	AveID	1.046	0.9822		0.939	1.00	-6.1	40.0
6:2 FTCA	L1ID		0.6398		0.921	1.00	-7.9	40.0
PFECHS	AveID	0.7426	0.6807		0.845	0.922	-8.3	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9012		0.869	0.952	-8.7	40.0
6:2 FTS	L2ID		1.738		0.901	0.948	-5.0	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.003		0.937	1.00	-6.3	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.023		0.829	0.928	-10.6	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7249		0.953	1.00	-4.7	40.0
7:3 FTCA	AveID	5.230	4.762		0.911	1.00	-8.9	40.0
8:2 FTUCA	AveID	0.9565	0.9551		0.999	1.00	-0.1	40.0
8:2 FTCA	AveID	1.811	1.601		0.884	1.00	-11.6	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.059		0.853	0.932	-8.4	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9475		0.899	0.960	-6.3	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9222		0.966	1.00	-3.4	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8690		0.966	1.00	-3.4	40.0
8:2 FTS	L2ID		1.483		0.943	0.958	-1.5	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9830		1.06	1.00	6.3	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8675		0.939	0.964	-2.6	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59045/5 Calibration Date: 02/18/2022 20:07  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9240		0.955	1.00	-4.5	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8751		0.995	1.00	-0.5	40.0
10:2 FTUCA	AveID	1.208	1.127		0.933	1.00	-6.7	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.705		0.922	0.942	-2.2	50.0
10:2 FTCA	Q2ID		0.8909		0.973	1.00	-2.7	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.004		0.972	1.00	-2.8	40.0
10:2 FTS	L2ID		1.955		0.898	0.964	-6.9	50.0
NMeFOSA	L2ID		1.023		0.947	1.00	-5.3	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.198		1.02	1.00	2.1	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8881		0.909	0.968	-6.1	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8280		0.938	1.00	-6.2	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.310		0.923	1.00	-7.7	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.197		0.958	1.00	-4.2	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1210		0.937	1.00	-6.3	40.0
Perfluorohexadecanoic acid	L1ID		1.061		0.931	1.00	-6.9	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9203		0.909	1.00	-9.1	40.0
13C4 PFBA	Ave	1.172	1.169		1.25	1.25	-0.3	50.0
13C5 PFPeA	Ave	0.9197	0.9247		1.26	1.25	0.5	50.0
13C3 PFBS	Ave	0.5817	0.5623		1.12	1.16	-3.3	50.0
M2-4:2 FTS	Ave	0.1821	0.1708		1.10	1.17	-6.2	50.0
13C2 PFHxA	Ave	1.015	1.015		1.25	1.25	0.0	50.0
13C3 HFPO-DA	Ave	0.4963	0.4860		1.22	1.25	-2.1	50.0
18O2 PFHxS	Ave	0.3776	0.3657		1.15	1.18	-3.2	50.0
13C4 PFHpA	Ave	0.9046	0.9043		1.25	1.25	-0.0	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3480		1.29	1.25	3.2	50.0
13C-6:2 FTCA	Ave	0.0260	0.0282		1.35	1.25	8.2	50.0
M2-6:2 FTS	Ave	0.1799	0.1817		1.20	1.19	1.0	50.0
13C4 PFOA	Ave	0.9356	0.9465		1.27	1.25	1.2	50.0
13C4 PFOS	Ave	0.5610	0.5491		1.17	1.20	-2.1	50.0
13C5 PFNA	Ave	1.268	1.258		1.24	1.25	-0.8	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4489		1.24	1.25	-0.7	50.0
13C-8:2 FTCA	Ave	0.0330	0.0328		1.24	1.25	-0.8	50.0
13C8 FOSA	Ave	0.8475	0.8256		1.22	1.25	-2.6	50.0
13C2 PFDA	Ave	1.210	1.213		1.25	1.25	0.3	50.0
M2-8:2 FTS	Ave	0.1961	0.1822		1.11	1.20	-7.1	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59045/5 Calibration Date: 02/18/2022 20:07  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1040		1.15	1.25	-8.3	50.0
13C2 PFUnA	Ave	1.168	1.179		1.26	1.25	1.0	50.0
d5-NEtFOSAA	Ave	0.1164	0.1230		1.32	1.25	5.6	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5162		1.27	1.25	1.7	50.0
13C-10:2 FTCA	Ave	0.0309	0.0314		1.27	1.25	1.6	50.0
13C2 PFDoA	Ave	1.152	1.163		1.26	1.25	0.9	50.0
13C2 10:2 FTS	Ave	0.1652	0.1646		1.18	1.18	-0.3	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1162		1.23	1.25	-2.0	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0944		1.17	1.25	-6.4	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1232		1.25	1.25	0.1	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0796		1.23	1.25	-1.7	50.0
13C2 PFTeDA	Ave	0.9216	0.9320		1.26	1.25	1.1	50.0
13C2 PFHxDA	Ave	0.5997	0.5896		1.23	1.25	-1.7	50.0
13C8 PFOA	AveID	0.9229	0.8708		1.18	1.25	-5.6	50.0
13C8 PFOS	AveID	0.2212	0.2141		1.16	1.20	-3.2	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_005.d  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 18-Feb-2022 20:07:49 ALS Bottle#: 5 Worklist Smp#: 5  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-005 ccvis  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:47:27 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 11:15:32

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	3971009	0.9597		96.0	1606	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.681	6521357	1.25		99.7	24257	
3 PFECA F										
229.00 > 85.00	2.919	2.919	0.0	0.937	2888116	0.9287		92.9	9485	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.754	5158663	1.26		101	22046	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.123	3.123	0.0	1.003	3745260	0.9648		96.5	1748	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.131	0.0	1.000	129569	0.9483	Target=1.13	94.8	1082	
241.00 > 116.90	3.131	3.131	0.0	1.000	111573		1.16(0.56-1.69)		197	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.758	2917651	1.12		96.7	12137	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.140	3.140	0.0	1.003	2384691	0.8671	Target=2.61	98.1	3802	
298.90 > 99.00	3.131	3.140	-0.009	1.000	904504		2.64(1.31-3.92)		3591	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	4746039	0.9811		98.1	11526	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	5426034	0.9120		102	16425	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.981	1886860	1.01		101	8095	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.827	890101	1.10		93.8	1758	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.416	3.416	0.0	1.000	1579966	0.9114		97.6	9878	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.835	5660776	1.25		100	15959	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	2183591	0.8428	Target=3.55	89.8	6370	
349.00 > 99.00	3.448	3.448	0.0	1.101	669127		3.26(1.78-5.33)		5905	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	3437908	0.9540	Target=11.60	95.4	1926	
313.00 > 119.00	3.448	3.448	0.0	1.000	315469		10.90(5.80-17.40)		388	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.553	3.553	0.0	0.860	2711553	1.22		97.9	12042	
17 HFPO-DA										
285.00 > 169.00	3.553	3.553	0.0	1.000	2752460	1.00	Target=2.45	100	1787	
329.00 > 169.00	3.553	3.553	0.0	1.000	1076483		2.56(1.23-3.68)		1814	
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.783	0.0	0.916	1929765	1.15		96.8	7561	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.783	3.783	0.0	1.000	1832050	0.8105	Target=3.44	89.1	3359	M
399.00 > 99.00	3.783	3.783	0.0	1.000	562452		3.26(1.72-5.17)		2372	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.793	0.0	0.918	5044718	1.25		100.0	13121	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.793	3.793	0.0	1.000	4178773	1.03	Target=3.25	103	3713	
363.00 > 169.00	3.793	3.793	0.0	1.000	1272988		3.28(1.62-4.87)		2092	
25 DONA										
377.00 > 251.00	3.829	3.829	0.0	0.866	5573555	0.8603	Target=1.74	91.3	14370	
377.00 > 85.00	3.829	3.829	0.0	0.866	3259235		1.71(0.87-2.61)		119	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	408355	0.8618	Target=1.11	86.2	1706	
340.88 > 216.90	3.853	3.853	0.0	0.987	385528		1.06(0.56-1.67)		979	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.887	3.887	0.0	0.941	1941704	1.29		103	3939	
27 6:2 FTUCA										
356.86 > 292.90	3.895	3.895	0.0	1.002	1525712	0.9387	Target=13.05	93.9	2741	
356.86 > 243.00	3.895	3.895	0.0	1.002	115635		13.19(6.52-19.57)		505	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.904	0.0	0.945	157054	1.35		108	1013	
29 6:2 FTCA										
377.10 > 63.00	3.913	3.913	0.0	1.002	80392	0.9212	Target=1.29	92.1	332	
377.10 > 313.10	3.913	3.913	0.0	1.002	59395		1.35(0.65-1.94)		88.3	
32 PFECBS										
460.80 > 380.90	4.065	4.065	0.0	0.984	2651076	0.8451	Target=1.75	91.7	6703	
460.80 > 98.90	4.065	4.065	0.0	0.984	1525294		1.74(0.87-2.62)		6530	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.112	4.112	0.0	0.930	2102741	0.8687	Target=3.72	91.3	5247	
449.00 > 99.00	4.112	4.112	0.0	0.930	521964		4.03(1.86-5.57)		2346	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	963015	1.20		101	2190	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	1336019	0.9005		95.0	7784	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	0.998	4598169	1.18		94.4	11792	
D 31 13C4 PFOA										
417.00 > 372.00	4.131	4.131	0.0	1.000	5280203	1.26		101	11468	
* 30 13C2 PFOA										
415.00 > 370.00	4.131	4.131	0.0		5578839	1.25			10220	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.131	4.131	0.0	1.000	4238732	0.9372	Target=2.51	93.7	3583	
413.00 > 169.00	4.131	4.131	0.0	1.000	1794763		2.36(1.26-3.77)		3585	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.421	4.421	0.0	1.000	627173	1.16		96.8	2260	
D 39 13C4 PFOS										
503.00 > 80.00	4.421	4.421	0.0	1.070	2928760	1.17		97.9	2844	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.421	4.421	0.0	1.000	2327763	0.8293	Target=4.30	89.4	3201	M
499.00 > 99.00	4.421	4.421	0.0	1.000	517142		4.50(2.15-6.45)		1636	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.439	0.0	1.000	4070770	0.9530	Target=3.60	95.3	4674	
463.00 > 169.00	4.439	4.439	0.0	1.000	1004659		4.05(1.80-5.40)		3452	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.439	0.0	1.075	7019882	1.24		99.2	9926	
43 7:3 FTCA										
441.00 > 337.00	4.529	4.529	0.0	0.993	696846	0.9106	Target=1.42	91.1	2089	
441.00 > 317.00	4.529	4.529	0.0	0.993	486795		1.43(0.71-2.13)		2019	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	0.998	1913317	1.00	Target=35.37	99.9	5000	
456.86 > 343.00	4.553	4.545	0.008	1.000	55830		34.27(17.68-53.05)		188	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.553	4.553	0.0	1.000	2504205	1.24		99.3	7044	
46 8:2 FTCA										
477.00 > 393.10	4.562	4.562	0.0	1.000	234303	0.8842	Target=3.35	88.4	1299	
477.00 > 63.20	4.562	4.562	0.0	1.000	74062		3.16(1.68-5.03)		347	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.562	4.562	0.0	1.104	182910	1.24		99.2	573	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.108	4702482	0.8534		91.6	6640	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.062	2229211	0.8993	Target=3.99	93.7	4175	
549.00 > 99.00	4.697	4.697	0.0	1.062	569671		3.91(2.00-5.99)		1649	
D 55 13C8 FOSA										
506.00 > 78.00	4.714	4.714	0.0	1.141	4605754	1.22		97.4	4676	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.714	4.714	0.0	1.000	3397888	0.9656		96.6	5284	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.731	4.731	0.0	1.000	4704878	0.9659	Target=10.58	96.6	3958	
513.00 > 169.00	4.731	4.731	0.0	1.000	422073		11.15(5.29-15.88)		305	
D 52 13C2 PFDA										
515.00 > 470.00	4.731	4.731	0.0	1.145	6767425	1.25		100	12692	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.740	0.0	1.147	973900	1.11		92.9	2172	
53 8:2 FTS										
527.00 > 507.00	4.740	4.740	0.0	1.000	1155178	0.9433		98.5	3146	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.179	580399	1.15		91.7	403	
57 NMeFOSAA										
570.00 > 419.00	4.880	4.880	0.0	1.002	456413	1.06		106	648	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.121	2049621	0.9388	Target=3.55	97.4	5437	
599.00 > 99.00	4.957	4.957	0.0	1.121	559691		3.66(1.78-5.33)		2234	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.995	4.995	0.0	1.000	4862863	0.9554	Target=8.26	95.5	8106	
563.00 > 169.00	4.986	4.995	-0.009	0.998	582534		8.35(4.13-12.39)		1441	
D 59 13C2 PFUnA										
565.00 > 520.00	4.995	4.995	0.0	1.209	6578848	1.26		101	11408	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.212	686174	1.32		106	3012	
62 NEtFOSAA										
584.00 > 419.00	5.015	5.015	0.0	1.002	480364	0.99		99.5	728	M
65 10:2 FTUCA										
556.86 > 492.90	5.093	5.093	0.0	1.000	2595501	0.9325		93.3	6172	
63 11C1FOS										
631.00 > 451.00	5.093	5.093	0.0	1.152	3935222	0.9217		97.8	10083	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.093	5.093	0.0	1.233	2879939	1.27		102	12599	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.112	5.112	0.0	1.237	175222	1.27		102	1140	
66 10:2 FTCA										
576.80 > 493.00	5.112	5.112	0.0	1.000	124883	0.9732	Target=2.53	97.3	612	
576.80 > 63.10	5.112	5.112	0.0	1.000	59704		2.09(1.26-3.79)		238	
D 69 13C2 PFDaA										
615.00 > 570.00	5.226	5.226	0.0	1.265	6489765	1.26		101	16030	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	5212239	0.9718	Target=6.85	97.2	4842	
613.00 > 169.00	5.226	5.226	0.0	1.000	696779		7.48(3.43-10.28)		1450	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.269	869975	1.18		99.7	5039	
71 10:2 FTS										
627.00 > 607.00	5.251	5.251	0.0	1.002	1384736	0.8976		93.1	5939	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.284	5.284	0.0	1.279	648313	1.23		98.0	571	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
74 NMeFOSA										
512.00 > 169.00	5.284	5.284	0.0	1.000	431271	0.9474		94.7	717	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.284	5.284	0.0	1.279	526854	1.17		93.6	52.3	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.002	621129	1.02		102	930	
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.221	2106996	0.9094	Target=4.22	93.9	4001	
699.00 > 99.00	5.399	5.399	0.0	1.221	493365		4.27(2.11-6.34)		2428	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.435	5.435	0.0	1.040	4299046	0.9377	Target=6.32	93.8	4556	
663.00 > 169.00	5.435	5.435	0.0	1.040	652365		6.59(3.16-9.48)		2348	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.316	687303	1.25		100	356	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.320	444089	1.23		98.3	822	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	720103	0.9230		92.3	874	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.000	425238	0.9582		95.8	671	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	503325	0.9371	Target=1.01	93.7	2125	
713.00 > 219.00	5.608	5.617	-0.009	0.998	499770		1.01(0.51-1.52)		3297	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.360	5199443	1.26		101	13941	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	2791573	0.9308	Target=8.64	93.1	3097	
813.00 > 169.00	5.924	5.924	0.0	1.000	339148		8.23(4.32-12.97)		1108	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.434	3289417	1.23		98.3	4792	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.185	6.185	0.0	1.044	2421759	0.9086	Target=11.77	90.9	3154	
913.00 > 169.00	6.185	6.185	0.0	1.044	209257		11.57(5.88-17.65)		874	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL



Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_005.d

Injection Date: 18-Feb-2022 20:07:49

Instrument ID: LCA

Lims ID: CCVIS

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 5

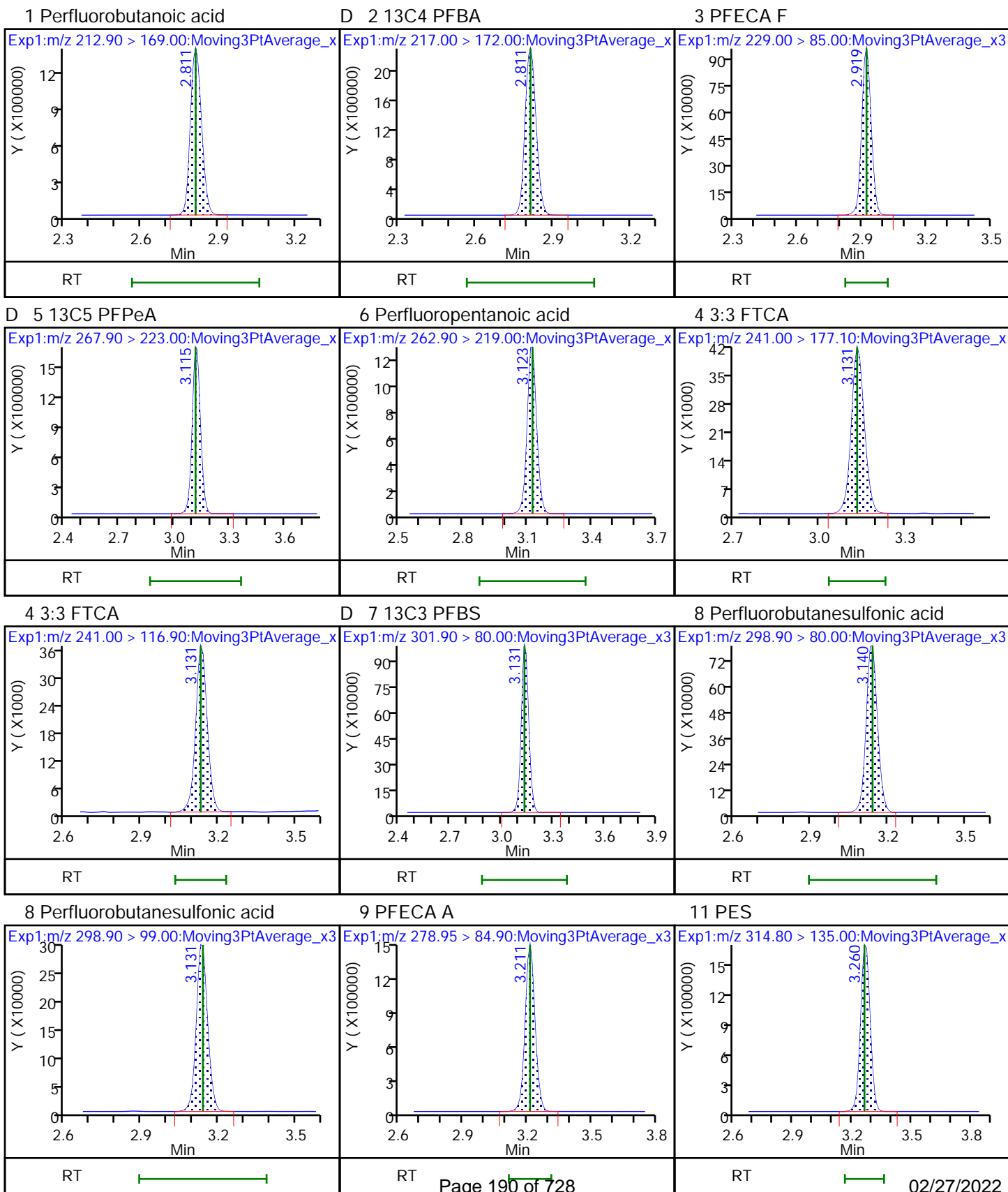
Worklist Smp#: 5

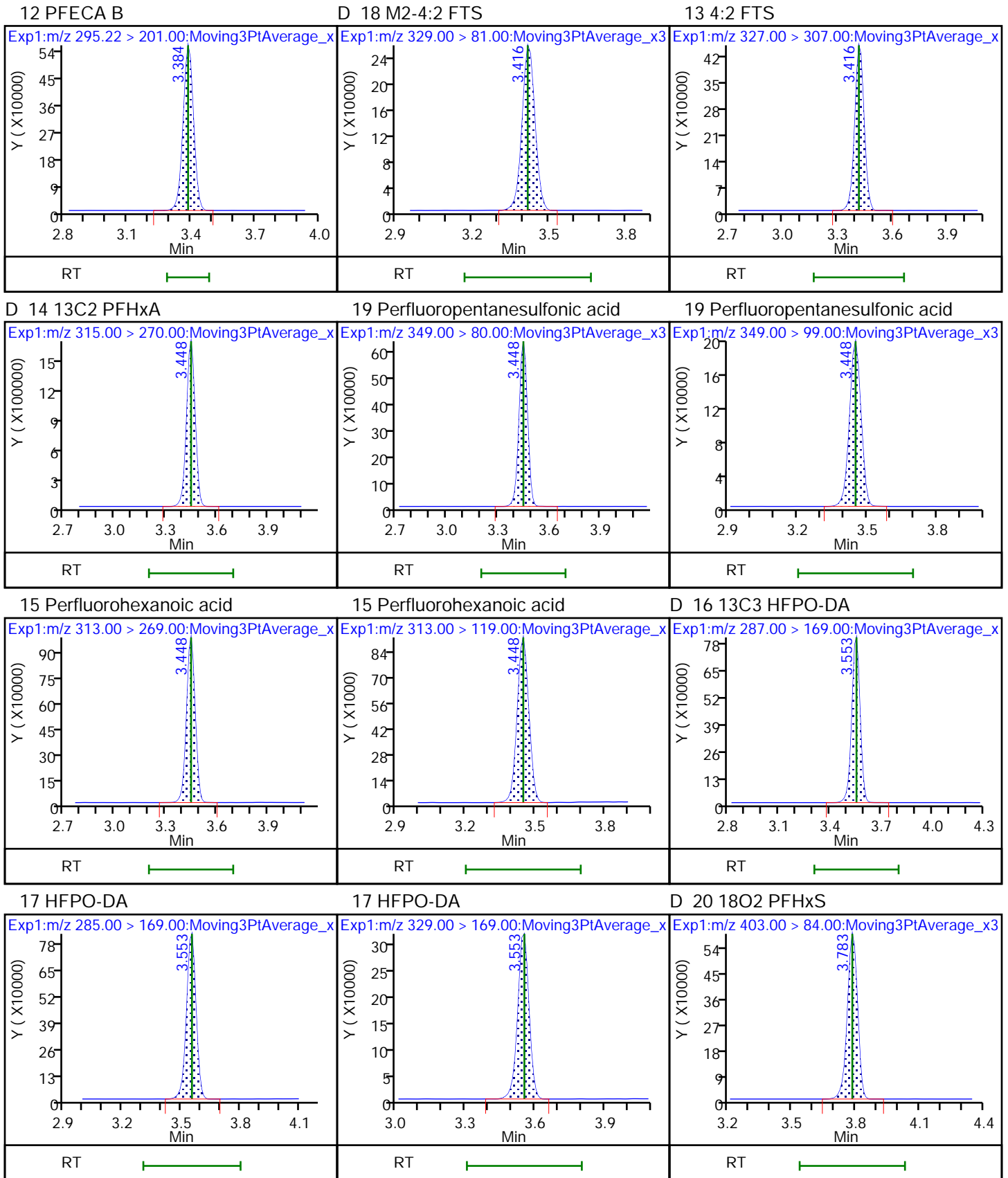
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

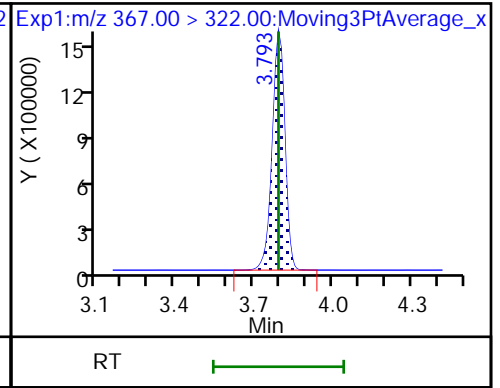
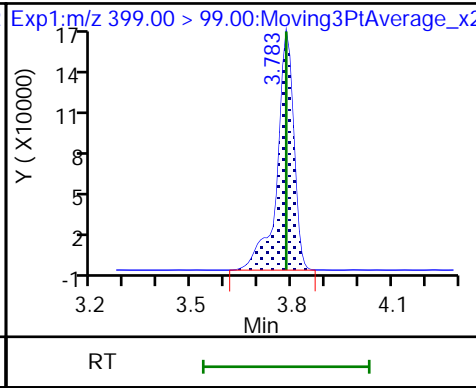
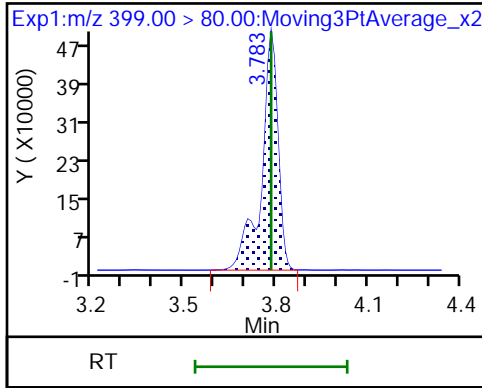




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

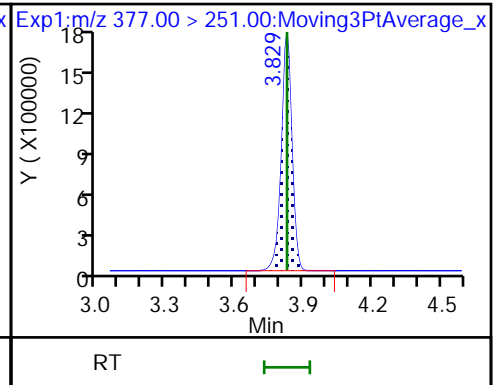
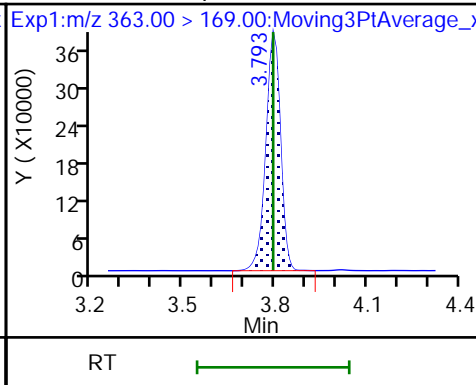
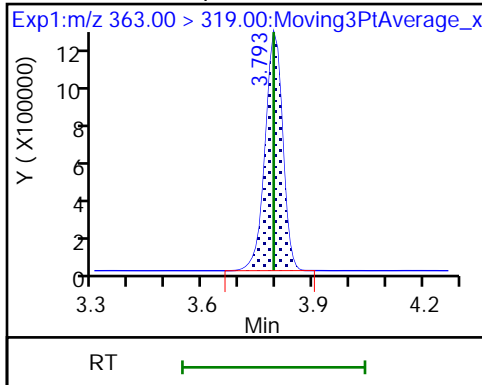
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

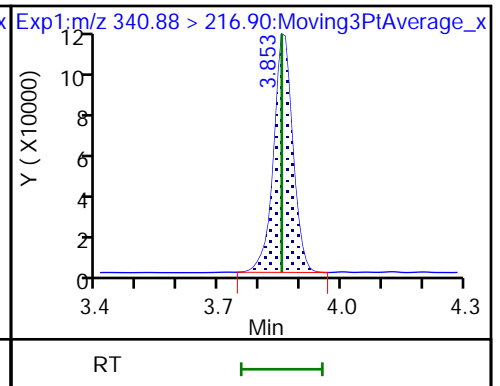
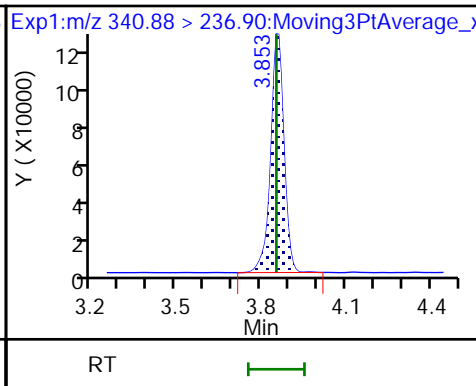
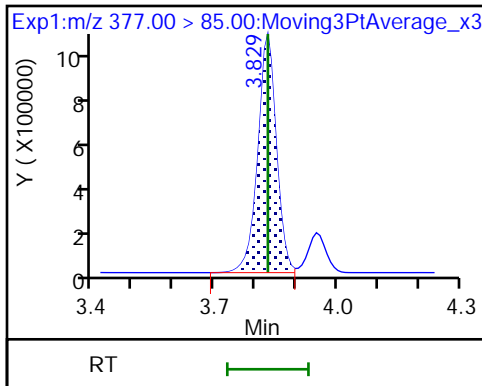
25 DONA



25 DONA

26 5:3 FTCA

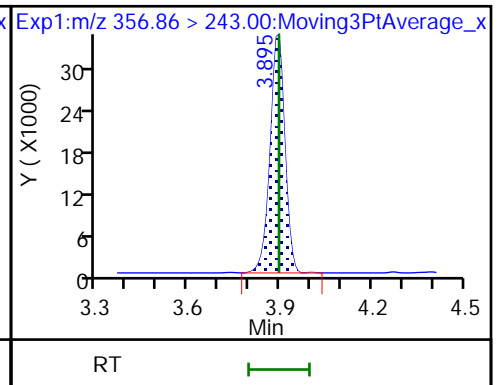
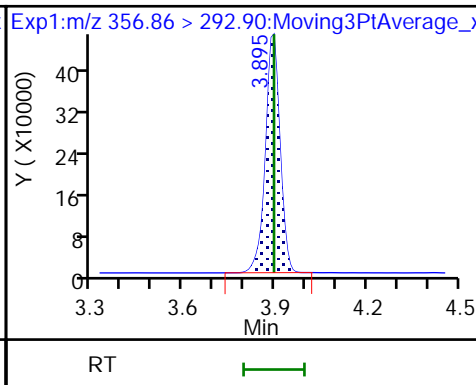
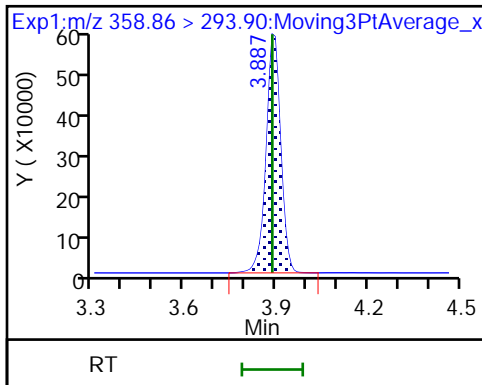
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

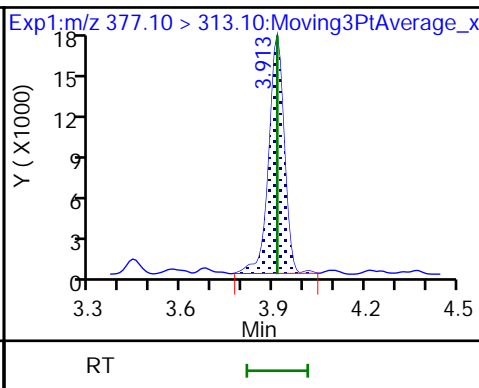
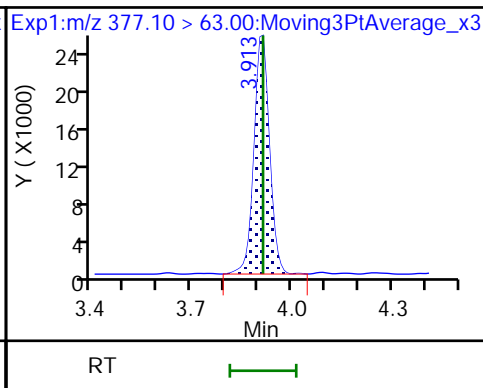
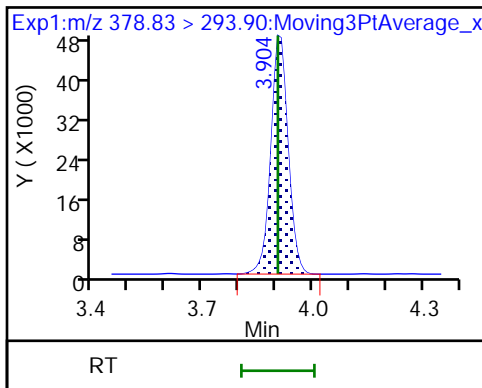
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

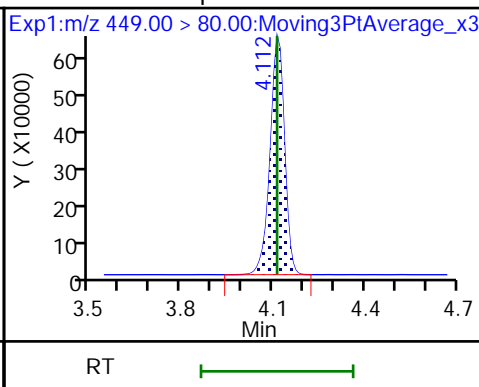
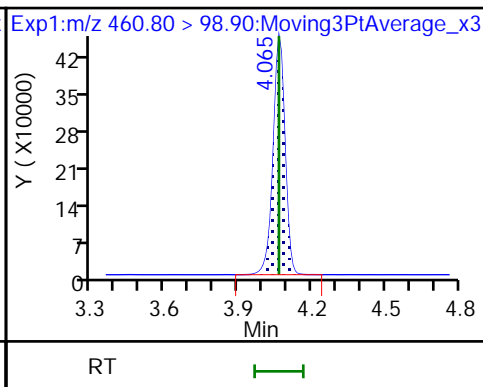
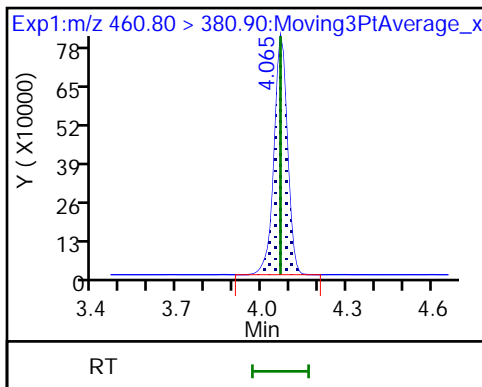
29 6:2 FTCA



32 PFECHS

32 PFECHS

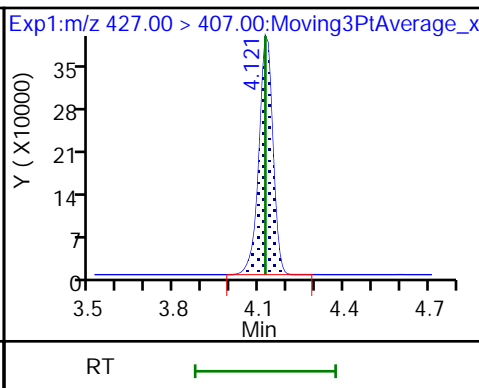
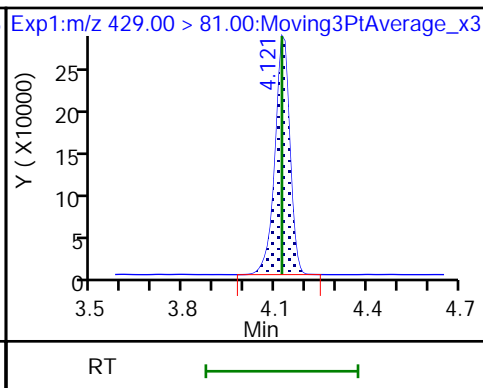
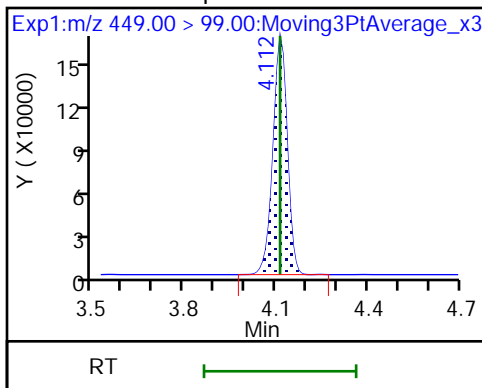
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

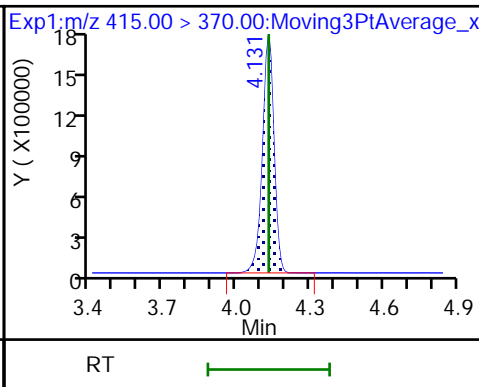
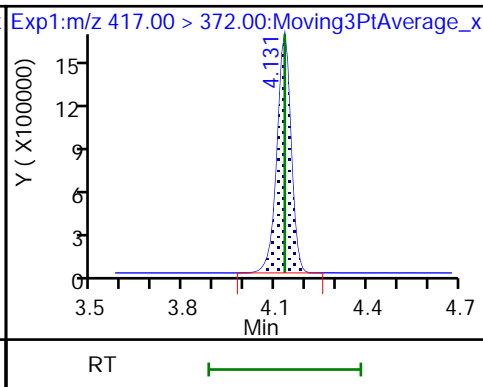
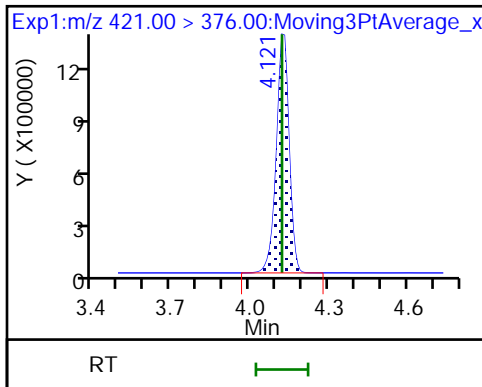
35 6:2 FTS

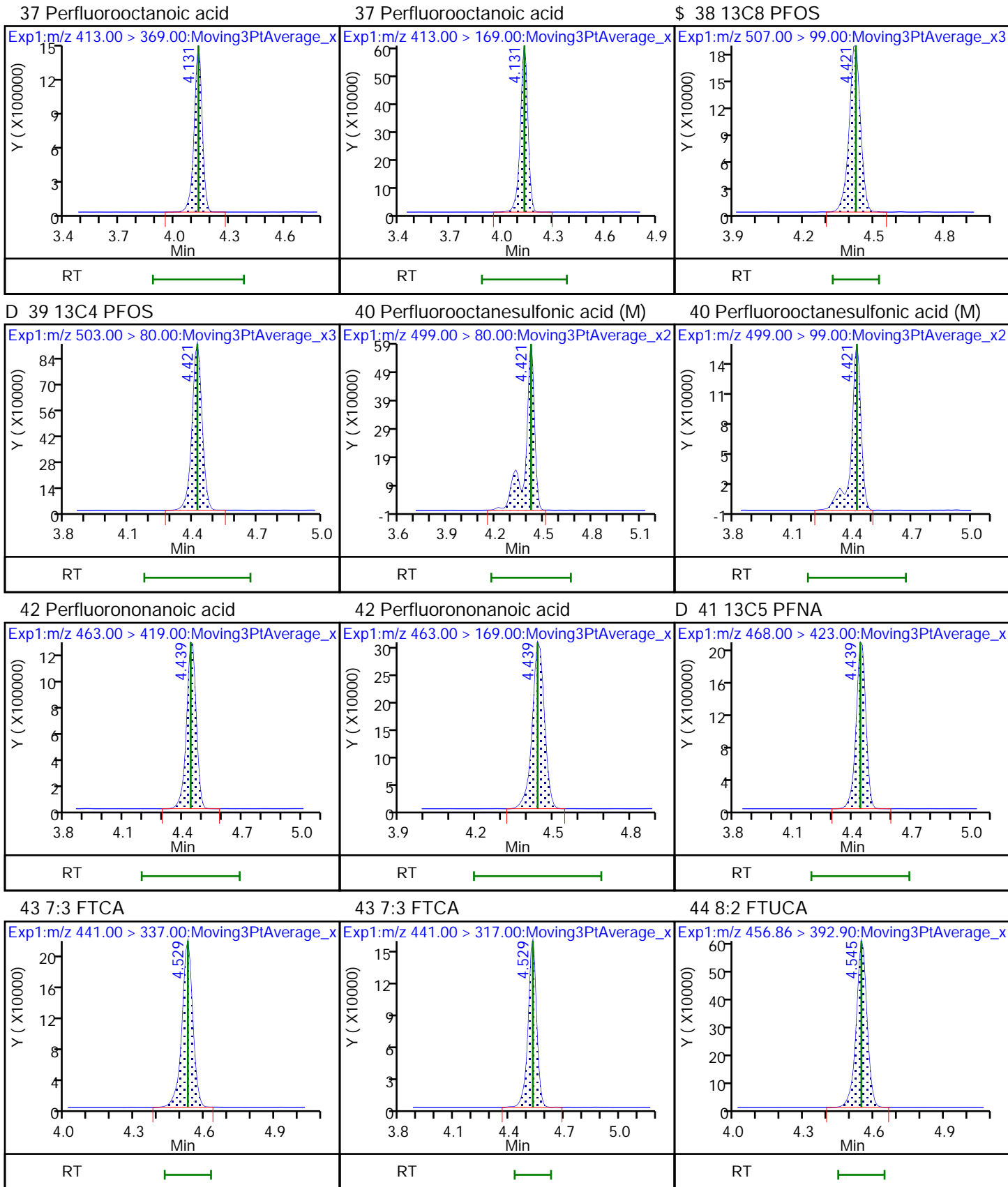


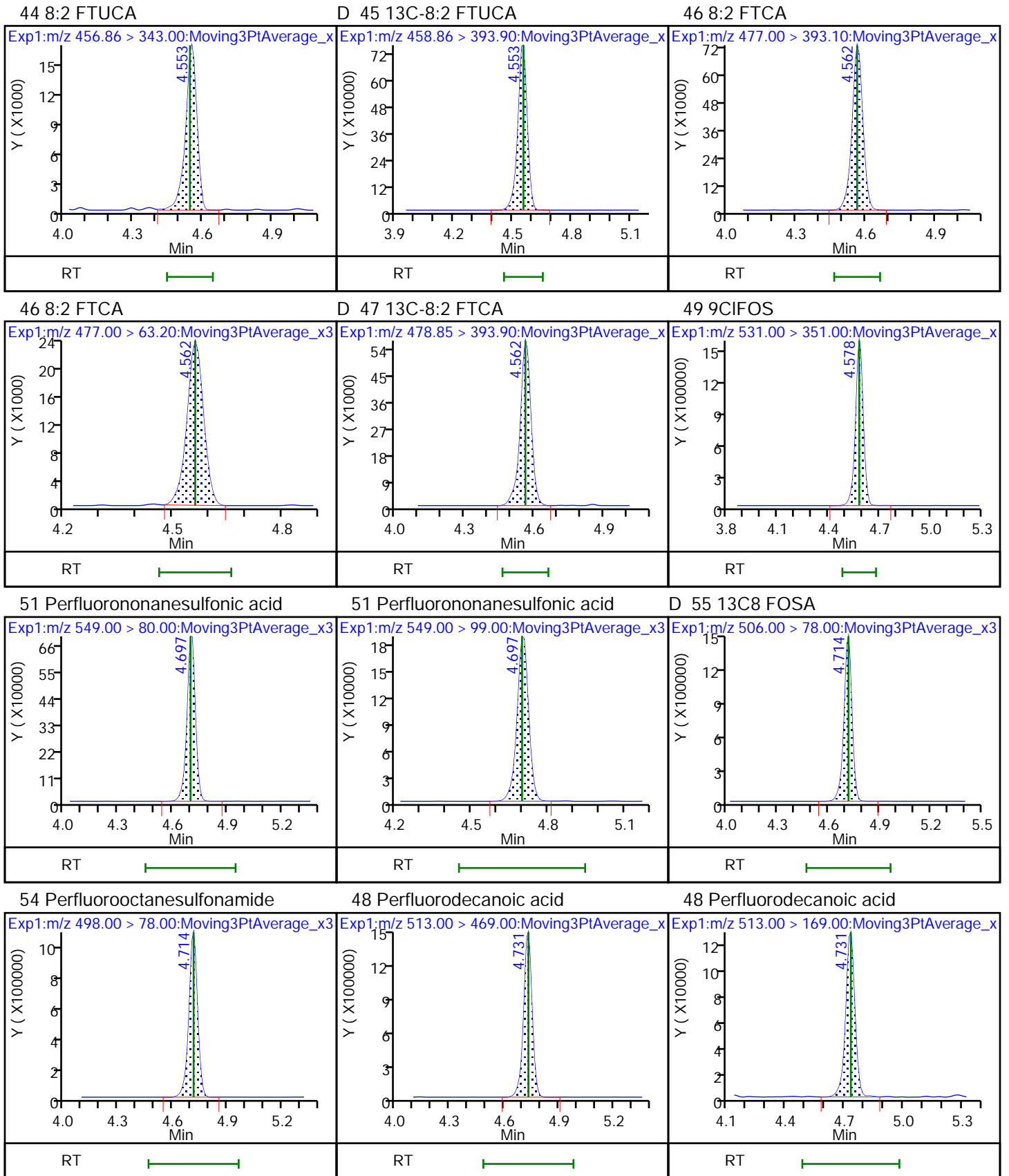
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



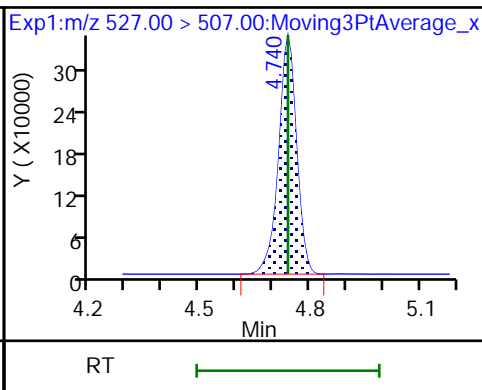
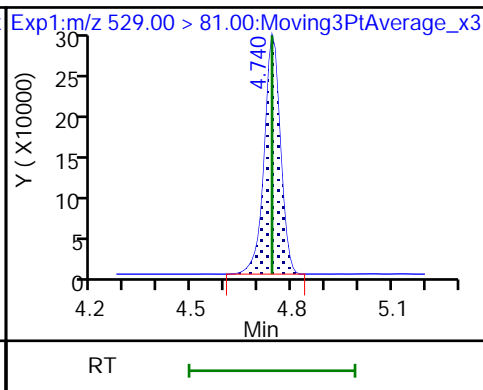
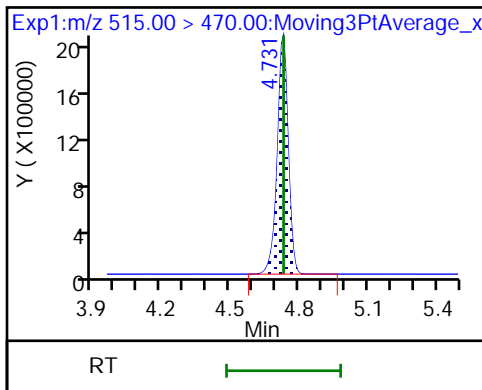




D 52 13C2 PFDA

D 50 M2-8:2 FTS

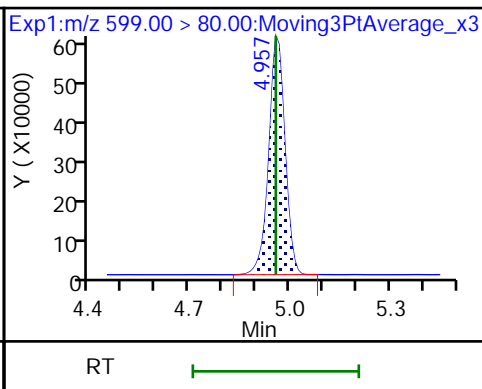
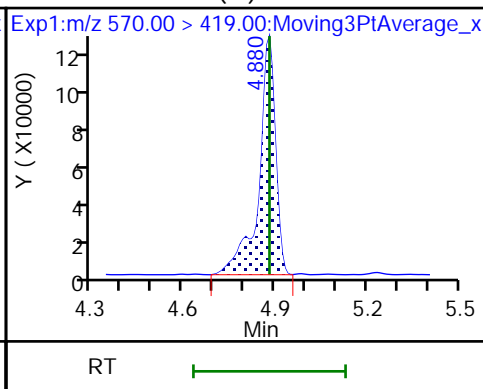
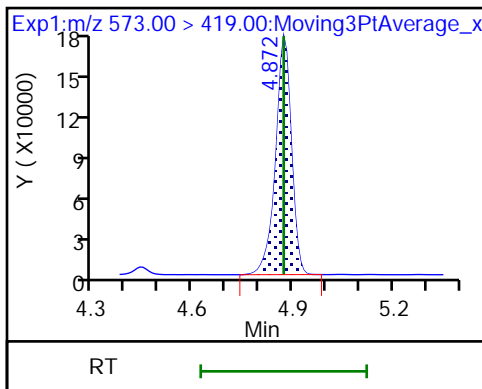
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

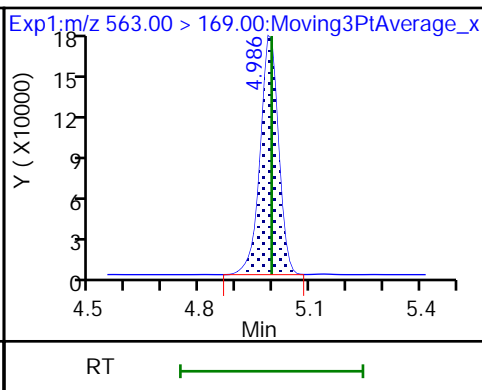
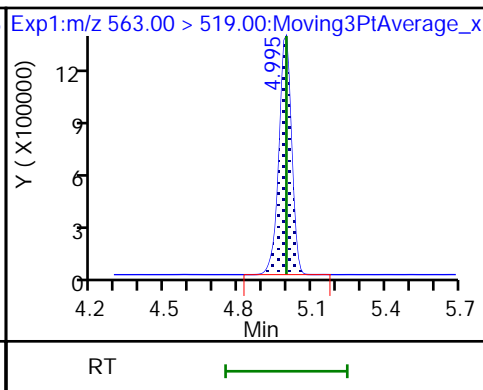
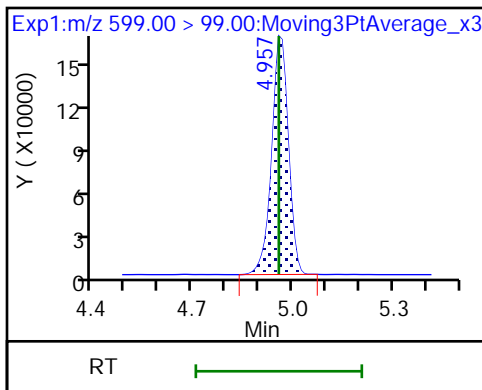
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

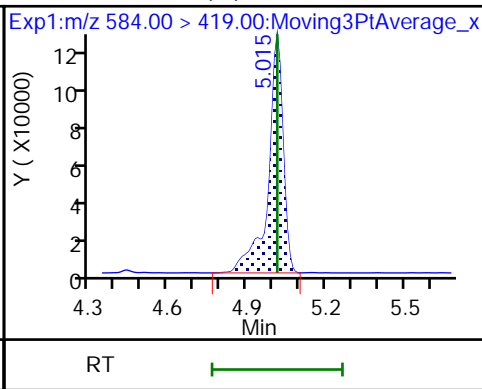
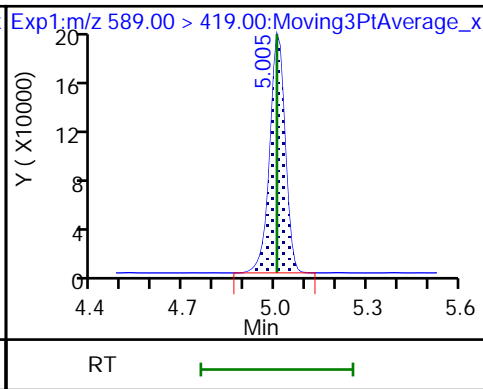
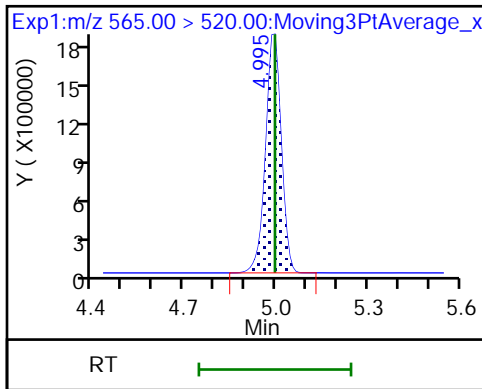
60 Perfluoroundecanoic acid

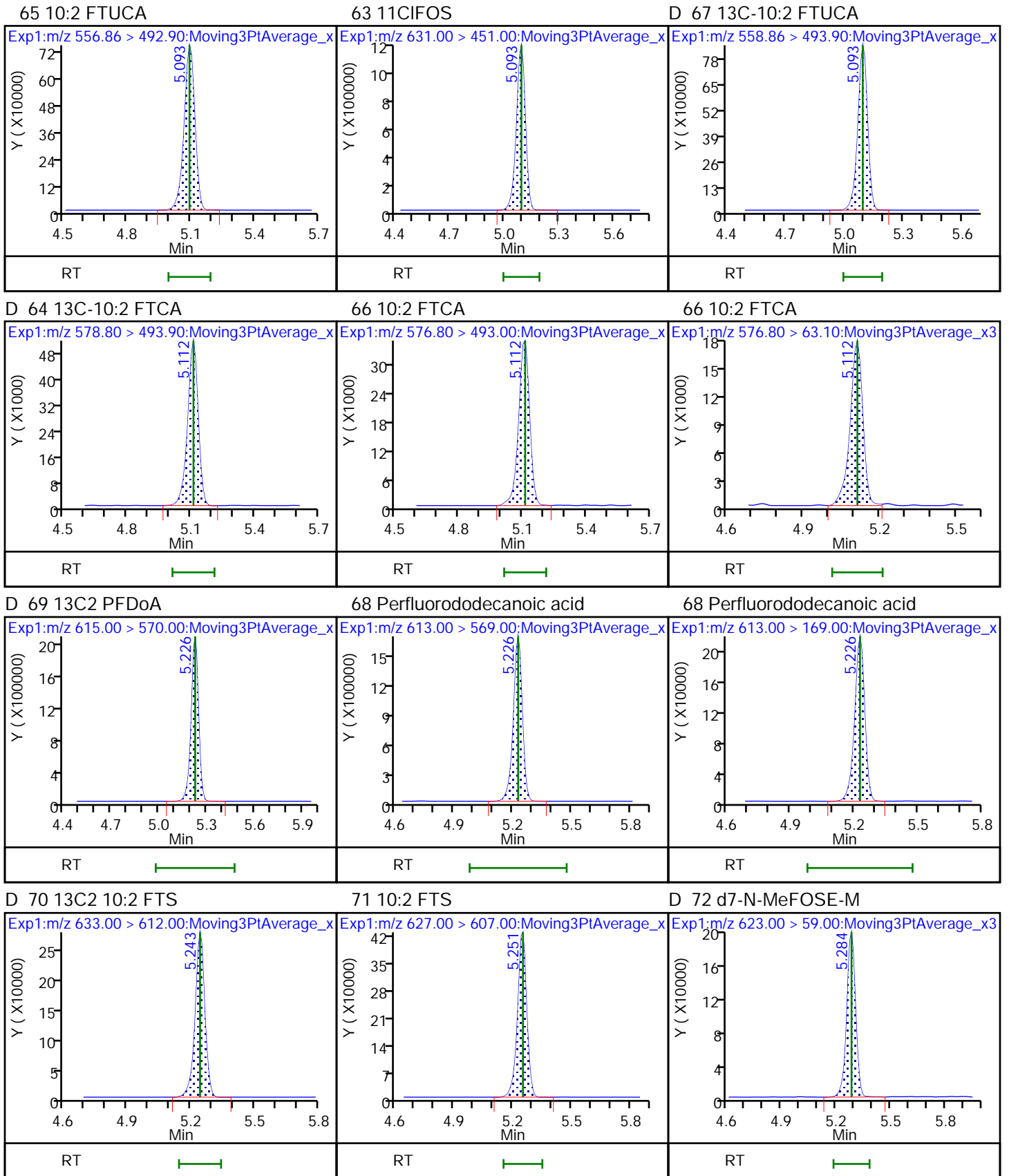


D 59 13C2 PUnA

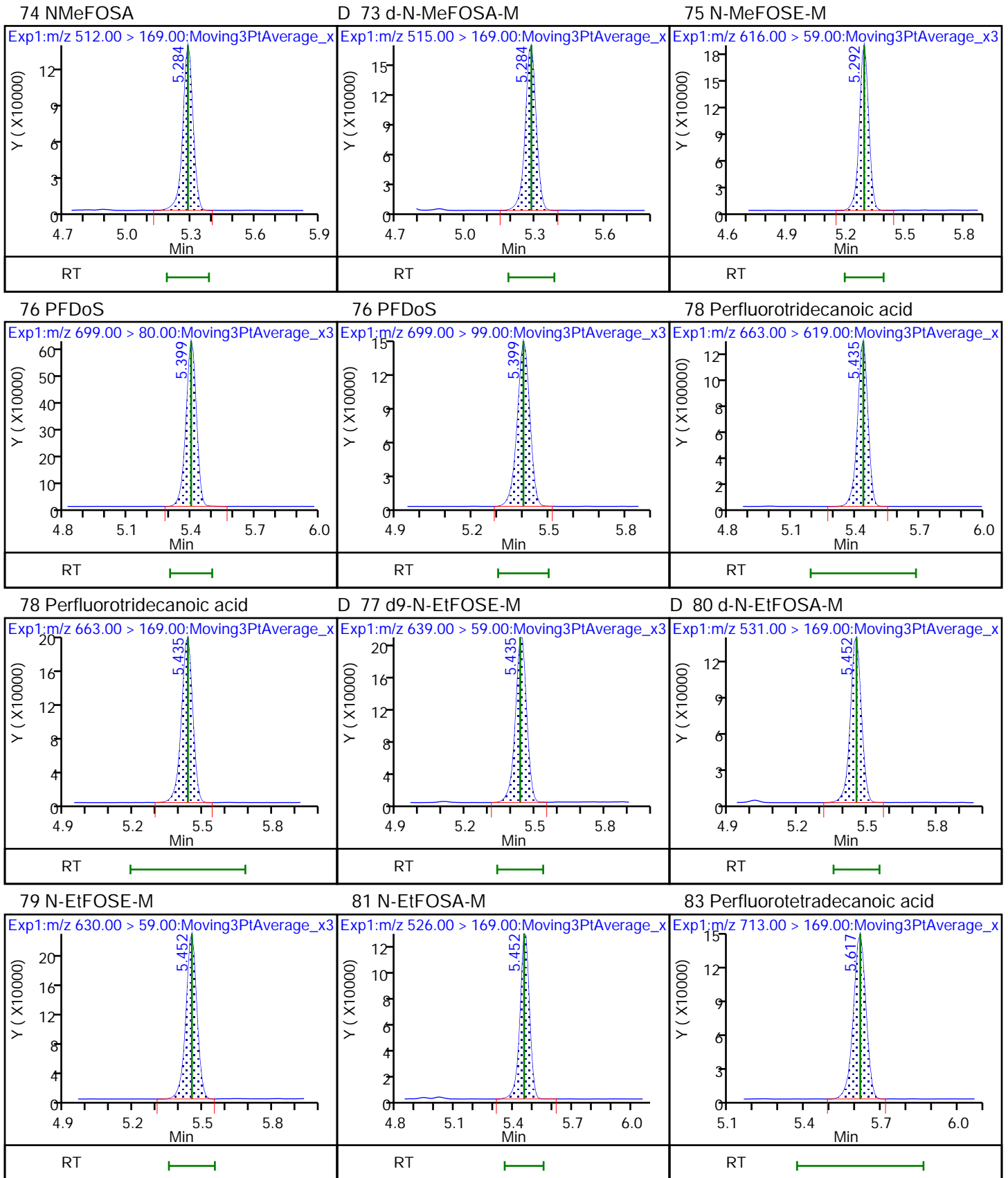
D 61 d5-NEtFOSAA

62 NEtFOSAA (M)





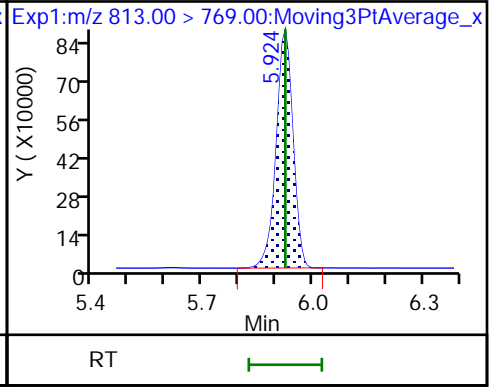
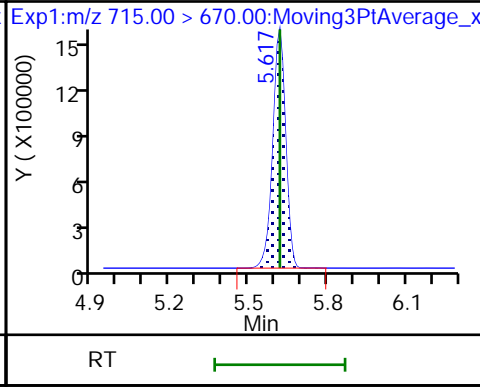
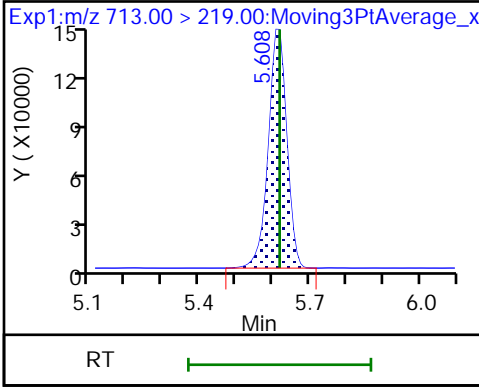




83 Perfluorotetradecanoic acid

D 82 13C2 PFTeDA

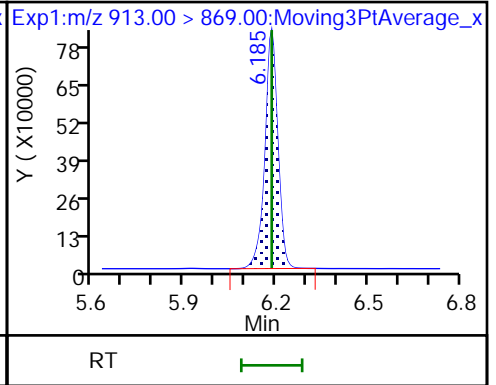
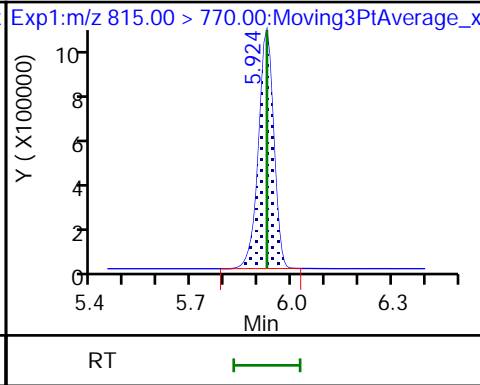
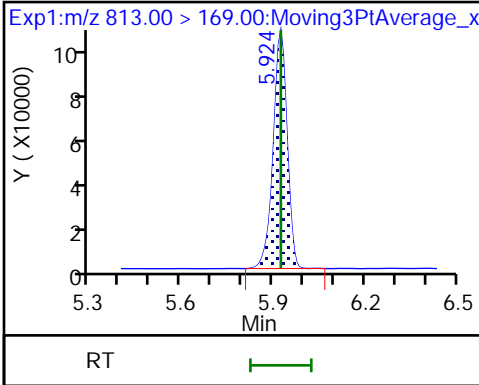
85 Perfluorohexadecanoic acid



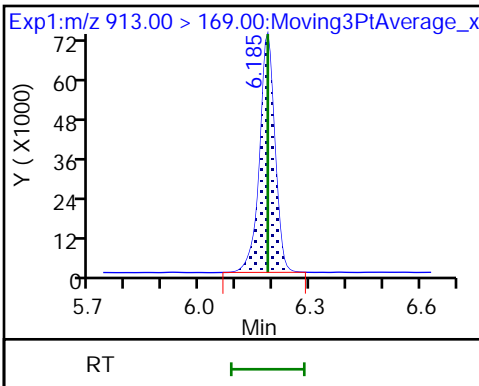
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid



86 Perfluorooctadecanoic acid



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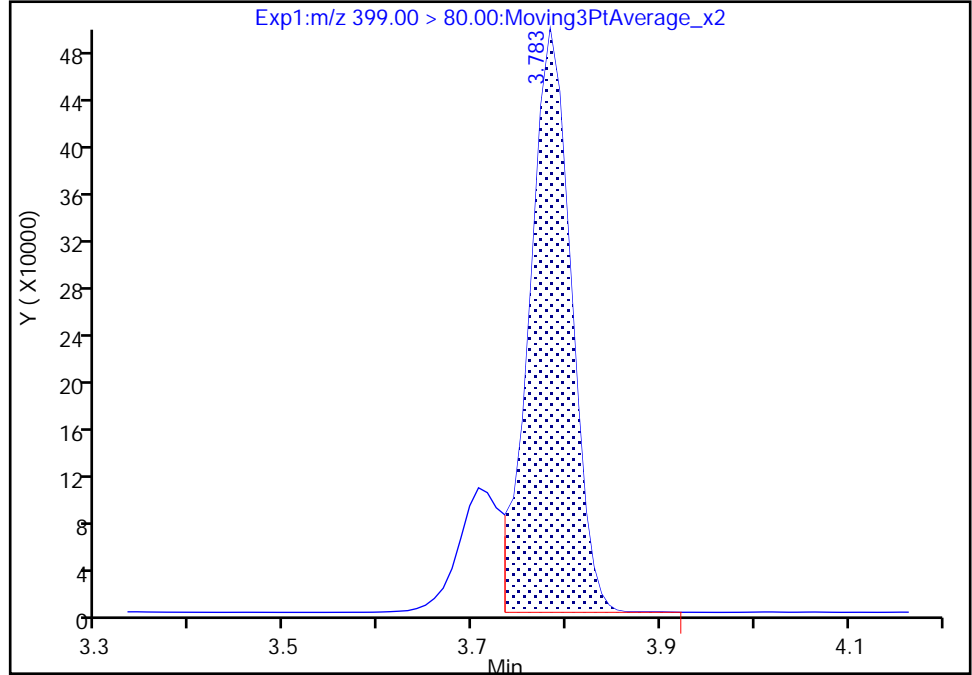
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Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

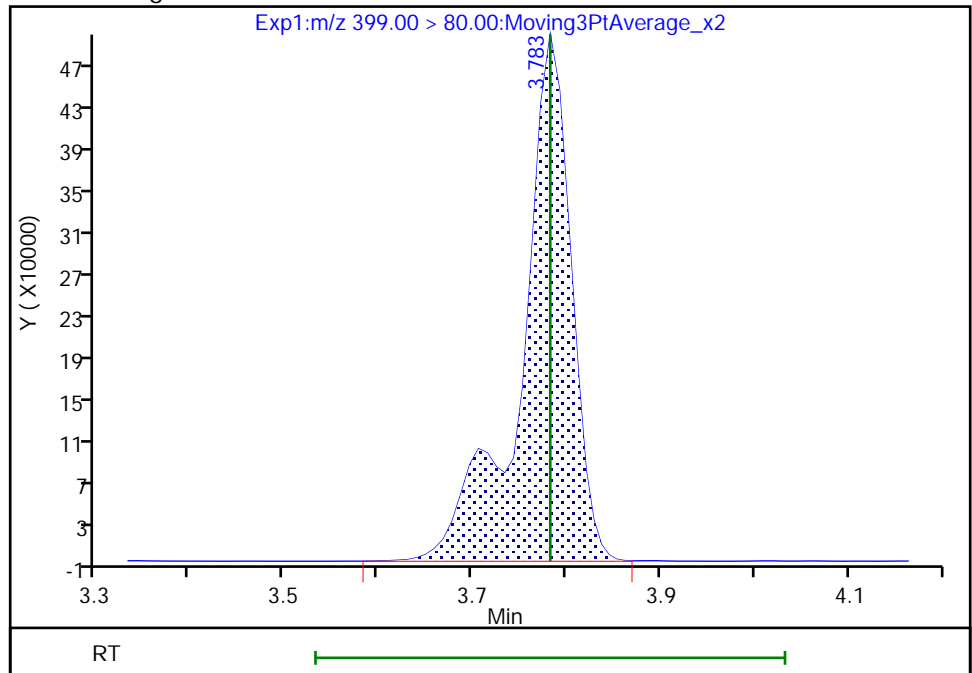
RT: 3.78  
Area: 1509240  
Amount: 0.667686  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 1832050  
Amount: 0.810497  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:14:04  
Audit Action: Manually Integrated

Eurofins Knoxville

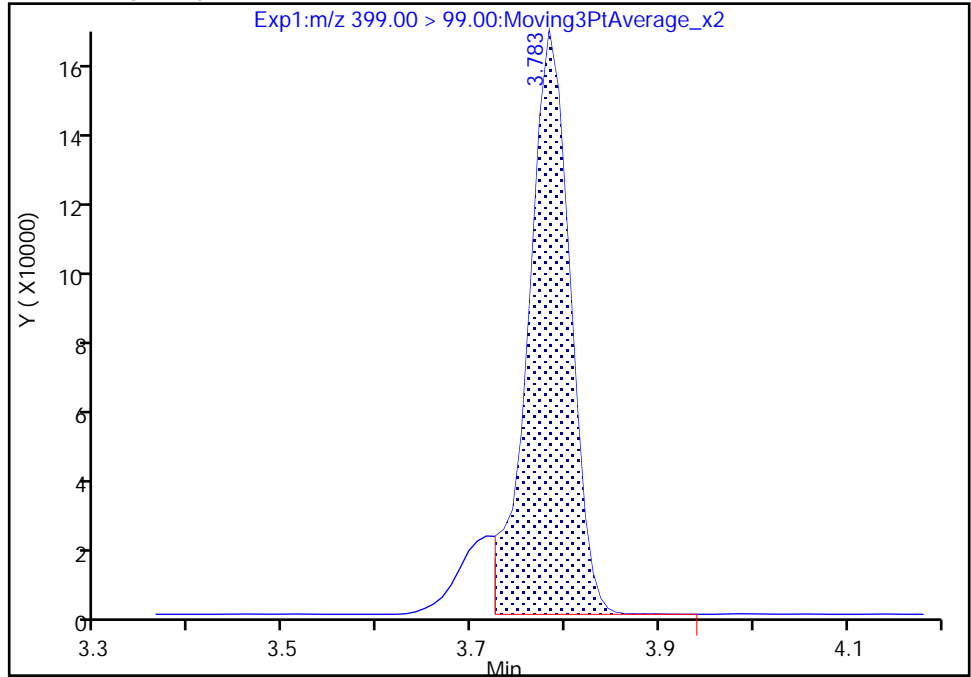
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Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

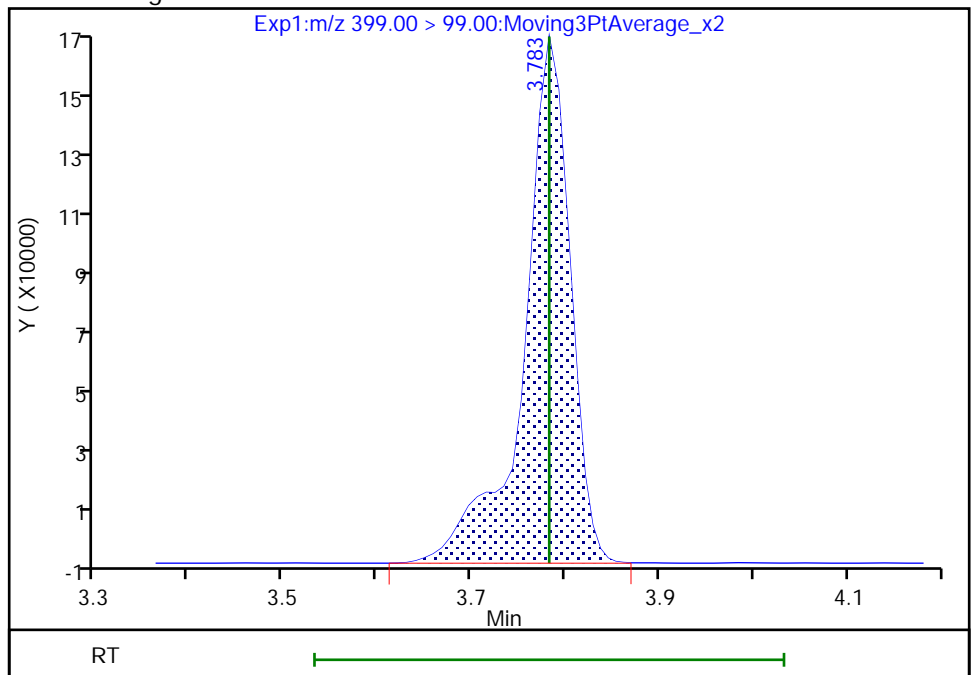
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Area: 504667  
Amount: 0.667686  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
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Amount: 0.810497  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:14:15

Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 201 of 728

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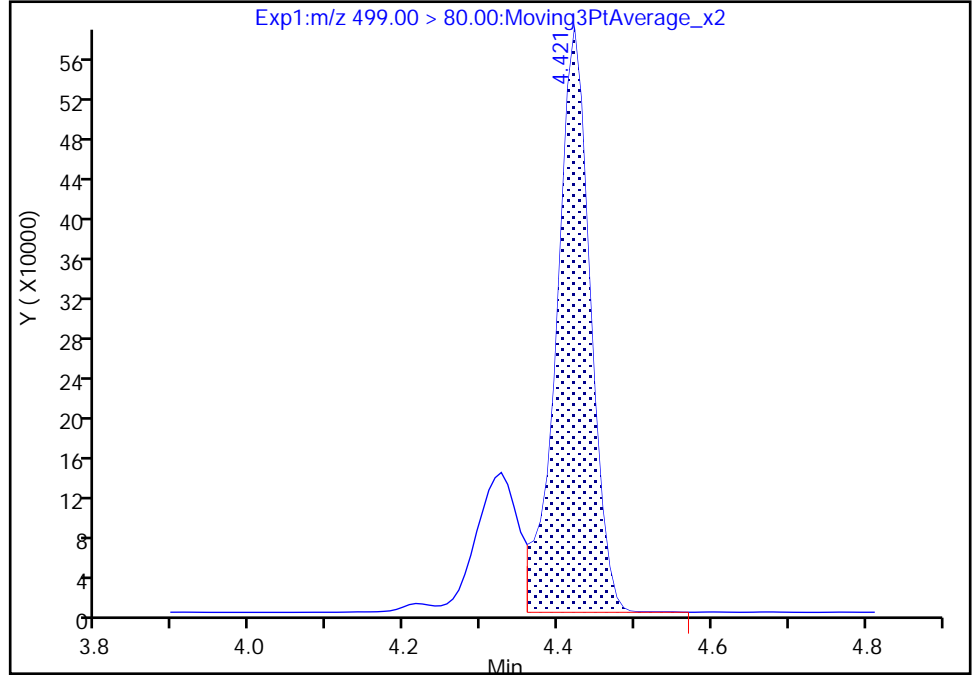
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Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

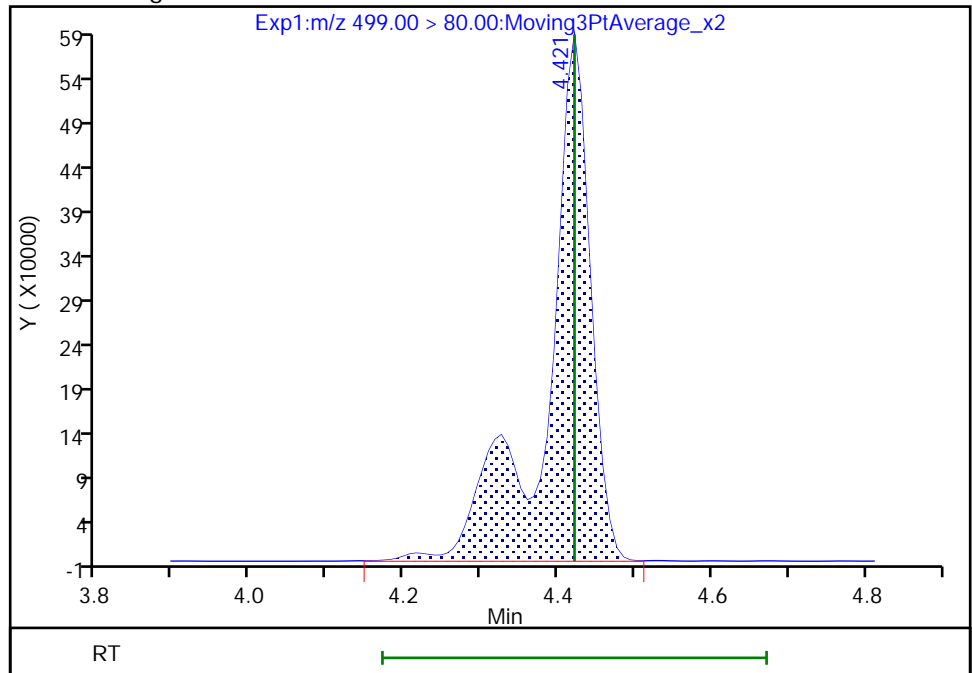
RT: 4.42  
Area: 1776954  
Amount: 0.633102  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 2327763  
Amount: 0.829347  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:14:41  
Audit Action: Manually Integrated

Eurofins Knoxville

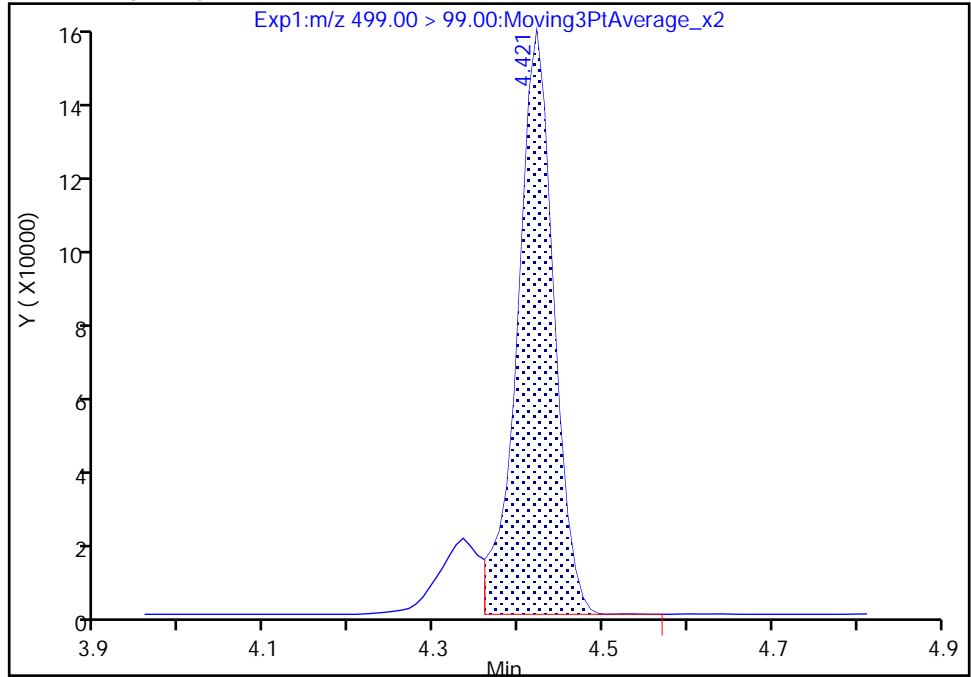
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_005.d  
Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

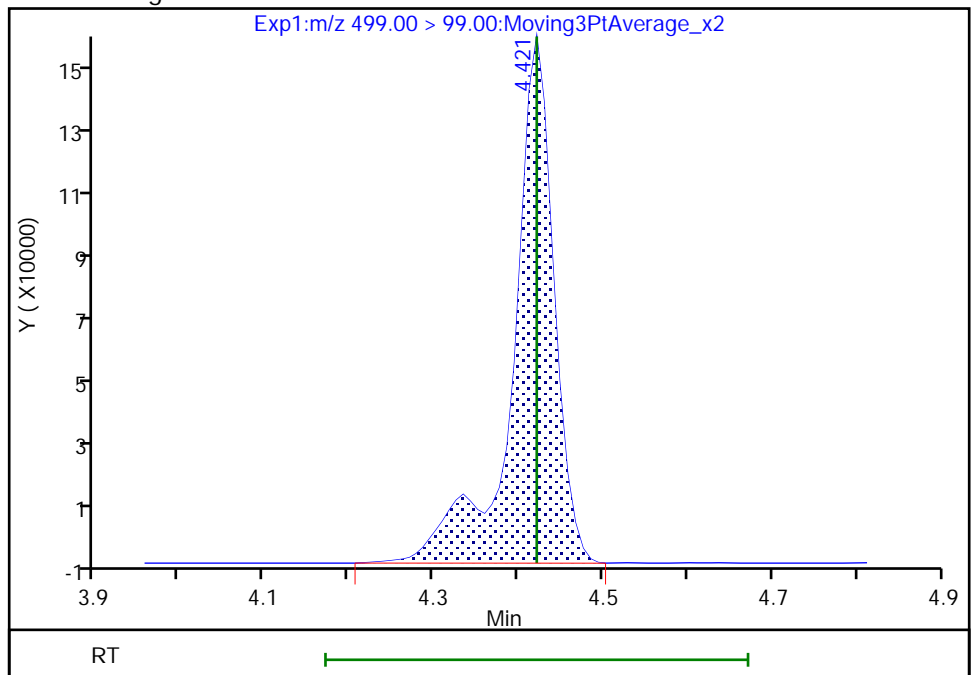
RT: 4.42  
Area: 450945  
Amount: 0.633102  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 517142  
Amount: 0.829347  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:14:52

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

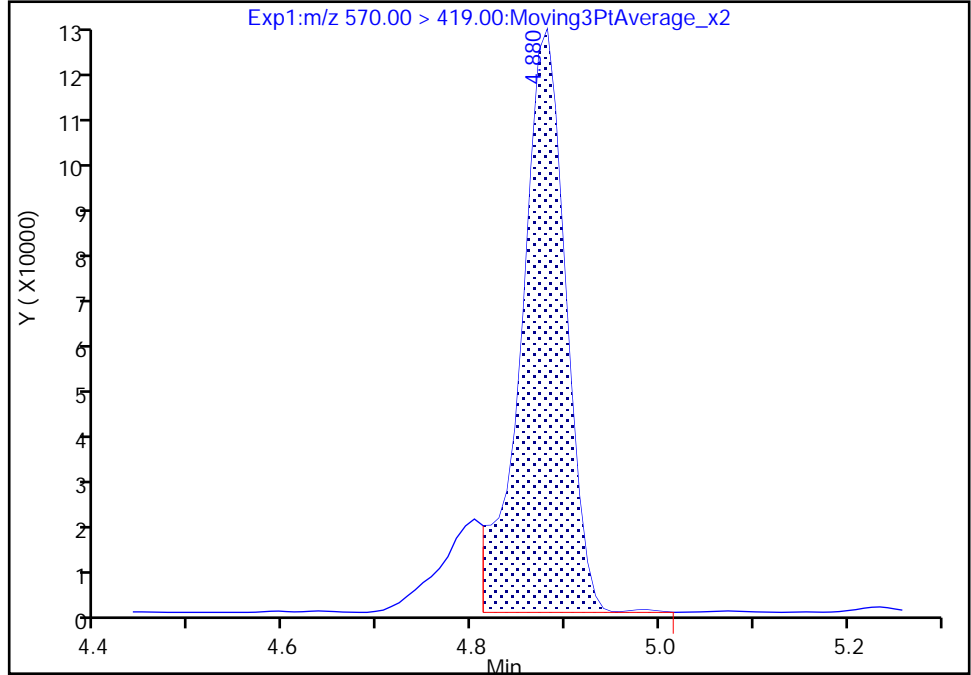
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_005.d  
Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

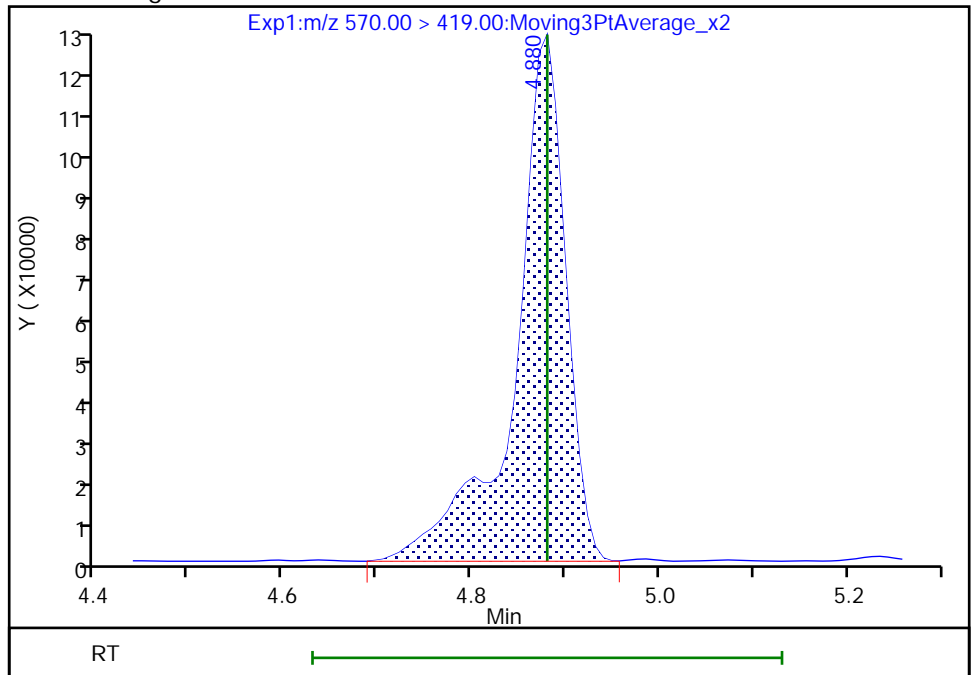
RT: 4.88  
Area: 398042  
Amount: 0.928561  
Amount Units: ng/ml

Processing Integration Results



RT: 4.88  
Area: 456413  
Amount: 1.062567  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:15:09  
Audit Action: Manually Integrated

Eurofins Knoxville

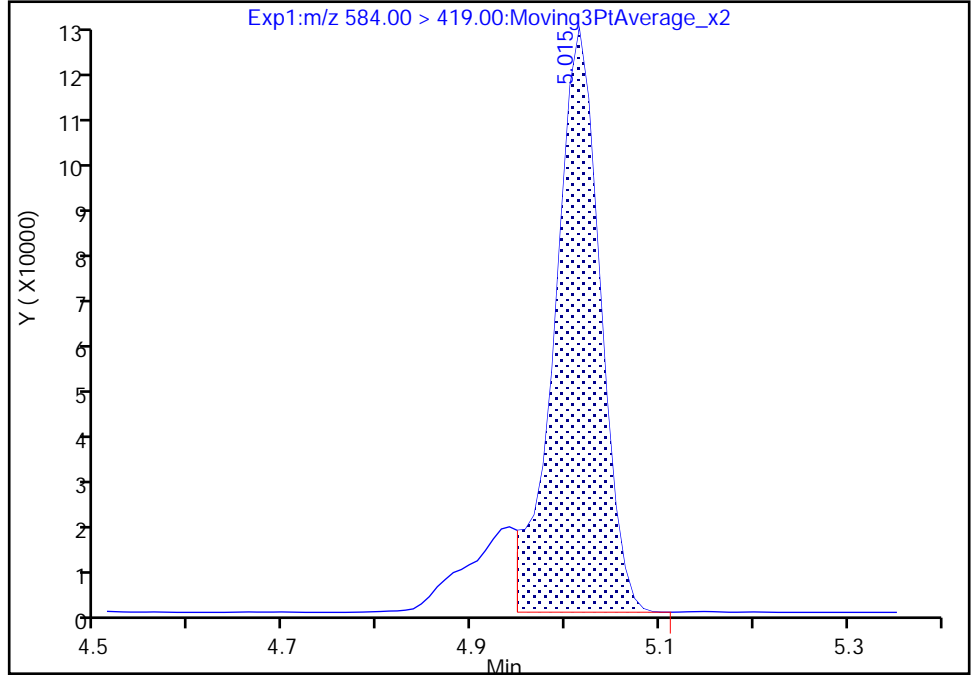
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_005.d  
Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

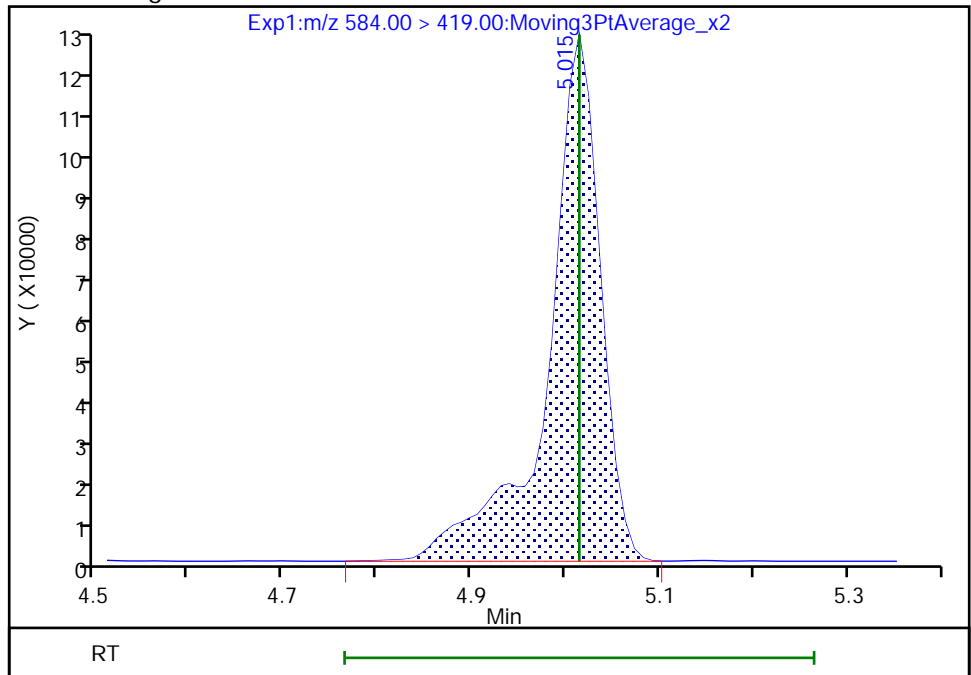
RT: 5.01  
Area: 412944  
Amount: 0.856981  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 480364  
Amount: 0.994928  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:15:21  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/17 Calibration Date: 02/18/2022 21:53  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_017.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7937		2.51	2.50	0.3	40.0
PFECA F	AveID	0.7535	0.7367		2.44	2.50	-2.2	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9823		2.62	2.50	4.8	40.0
3:3 FTCA	QuaIF		0.0559		2.58	2.50	3.1	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.127		2.24	2.21	1.4	40.0
PFECA A	Q2ID		1.205		2.53	2.50	1.1	40.0
PES	Q2ID		2.548		2.34	2.23	5.1	40.0
PFECA B	Q2ID		0.4506		2.60	2.50	4.2	40.0
4:2 FTS	L2ID		2.329		2.40	2.34	2.6	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7881		2.49	2.50	-0.5	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.031		2.34	2.35	-0.1	40.0
HFPO-DA	L2ID		1.316		2.61	2.50	4.5	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.333		2.19	2.28	-3.8	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.110		2.73	2.50	9.1	40.0
DONA	AveID	2.644	2.596		2.31	2.36	-1.8	40.0
5:3 FTCA	L2ID		4.038		2.69	2.50	7.4	40.0
6:2 FTUCA	AveID	1.046	1.055		2.52	2.50	0.8	40.0
6:2 FTCA	L1ID		0.7258		2.63	2.50	5.0	40.0
PFECHS	AveID	0.7426	0.7114		2.21	2.31	-4.2	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9424		2.27	2.38	-4.6	40.0
6:2 FTS	L2ID		1.865		2.42	2.37	2.2	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.058		2.48	2.50	-0.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.122		2.27	2.32	-2.0	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7579		2.49	2.50	-0.3	40.0
7:3 FTCA	AveID	5.230	4.988		2.38	2.50	-4.6	40.0
8:2 FTUCA	AveID	0.9565	0.9290		2.43	2.50	-2.9	40.0
8:2 FTCA	AveID	1.811	1.654		2.28	2.50	-8.6	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.151		2.23	2.33	-4.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9730		2.31	2.40	-3.8	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9887		2.59	2.50	3.5	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9095		2.54	2.50	1.5	40.0
8:2 FTS	L2ID		1.530		2.45	2.40	2.1	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9674		2.56	2.50	2.4	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9242		2.51	2.41	4.1	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/17 Calibration Date: 02/18/2022 21:53  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_017.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.003		2.59	2.50	3.8	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9867		2.70	2.50	8.1	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.734		2.35	2.36	-0.2	50.0
10:2 FTUCA	AveID	1.208	1.270		2.63	2.50	5.1	40.0
10:2 FTCA	Q2ID		1.081		2.82	2.50	12.6	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.021		2.47	2.50	-1.2	40.0
10:2 FTS	L2ID		2.124		2.45	2.41	1.6	50.0
NMeFOSA	L2ID		1.091		2.53	2.50	1.4	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.233		2.63	2.50	5.3	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9412		2.41	2.42	-0.4	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8721		2.47	2.50	-1.2	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.343		2.37	2.50	-5.3	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.320		2.65	2.50	6.1	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1302		2.53	2.50	1.2	40.0
Perfluorohexadecanoic acid	L1ID		1.112		2.46	2.50	-1.6	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9896		2.44	2.50	-2.3	40.0
13C4 PFBA	Ave	1.172	1.163		1.24	1.25	-0.7	50.0
13C5 PFPeA	Ave	0.9197	0.9046		1.23	1.25	-1.6	50.0
13C3 PFBS	Ave	0.5817	0.5774		1.15	1.16	-0.7	50.0
M2-4:2 FTS	Ave	0.1821	0.1745		1.12	1.17	-4.2	50.0
13C2 PFHxA	Ave	1.015	1.015		1.25	1.25	0.0	50.0
13C3 HFPO-DA	Ave	0.4963	0.4733		1.19	1.25	-4.6	50.0
18O2 PFHxS	Ave	0.3776	0.3753		1.18	1.18	-0.6	50.0
13C4 PFHpA	Ave	0.9046	0.8555		1.18	1.25	-5.4	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3537		1.31	1.25	4.8	50.0
13C-6:2 FTCA	Ave	0.0260	0.0253		1.22	1.25	-2.7	50.0
M2-6:2 FTS	Ave	0.1799	0.1778		1.17	1.19	-1.2	50.0
13C4 PFOA	Ave	0.9356	0.9265		1.24	1.25	-1.0	50.0
13C4 PFOS	Ave	0.5610	0.5757		1.23	1.20	2.6	50.0
13C5 PFNA	Ave	1.268	1.245		1.23	1.25	-1.8	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4799		1.33	1.25	6.2	50.0
13C-8:2 FTCA	Ave	0.0330	0.0360		1.36	1.25	9.0	50.0
13C8 FOSA	Ave	0.8475	0.8075		1.19	1.25	-4.7	50.0
13C2 PFDA	Ave	1.210	1.204		1.24	1.25	-0.5	50.0
M2-8:2 FTS	Ave	0.1961	0.1902		1.16	1.20	-3.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/17 Calibration Date: 02/18/2022 21:53  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_017.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1199		1.32	1.25	5.7	50.0
13C2 PFUnA	Ave	1.168	1.150		1.23	1.25	-1.5	50.0
d5-NEtFOSAA	Ave	0.1164	0.1186		1.27	1.25	1.9	50.0
13C-10:2 FTUCA	Ave	0.5078	0.4894		1.21	1.25	-3.6	50.0
13C-10:2 FTCA	Ave	0.0309	0.0298		1.20	1.25	-3.8	50.0
13C2 PFDoA	Ave	1.152	1.134		1.23	1.25	-1.6	50.0
13C2 10:2 FTS	Ave	0.1652	0.1601		1.15	1.18	-3.1	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1015		1.26	1.25	0.5	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1119		1.18	1.25	-5.6	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1209		1.23	1.25	-1.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0782		1.21	1.25	-3.4	50.0
13C2 PFTeDA	Ave	0.9216	0.9064		1.23	1.25	-1.6	50.0
13C2 PFHxDA	Ave	0.5997	0.6035		1.26	1.25	0.6	50.0
13C8 PFOA	AveID	0.9229	0.9196		1.25	1.25	-0.4	50.0
13C8 PFOS	AveID	0.2212	0.2142		1.16	1.20	-3.2	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 18-Feb-2022 21:53:25 ALS Bottle#: 17 Worklist Smp#: 17  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-017 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 10:10:03

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	9576768	2.51		100	3325	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.681	6032631	1.24		99.3	19510	
3 PFECA F										
229.00 > 85.00	2.919	2.919	-0.001	0.937	6910979	2.44		97.8	16004	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.754	4690758	1.23		98.4	14708	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.123	-0.008	1.000	9215024	2.62		105	3827	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.131	0.0	1.000	334512	2.58	Target=1.13	103	2253	
241.00 > 116.90	3.131	3.131	0.0	1.000	288085		1.16(0.56-1.69)		504	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.758	2784764	1.15		99.3	11140	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.140	-0.009	1.000	5966544	2.24	Target=2.61	101	4880	
298.90 > 99.00	3.131	3.140	-0.009	1.000	2175949		2.74(1.31-3.92)		4626	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	11304051	2.53		101	16403	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	13580594	2.34		105	20416	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.982	4745343	2.60		104	14989	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.415	3.416	-0.001	0.827	845053	1.12		95.8	1910	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.415	3.416	-0.001	1.000	3935561	2.40		103	11749	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.835	5265480	1.25		100	16869	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	5790445	2.34	Target=3.55	99.9	10305	
349.00 > 99.00	3.448	3.448	0.0	1.101	1661744		3.48(1.78-5.33)		10922	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	8299781	2.49	Target=11.60	99.5	3679	
313.00 > 119.00	3.448	3.448	0.0	1.000	686612		12.09(5.80-17.40)		870	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.858	2454321	1.19		95.4	7395	
17 HFPO-DA										
285.00 > 169.00	3.542	3.553	-0.011	1.000	6457655	2.61	Target=2.45	105	3351	
329.00 > 169.00	3.542	3.553	-0.011	1.000	2556366		2.53(1.23-3.68)		3144	
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.783	-0.001	0.916	1841100	1.18		99.4	5448	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.782	3.783	-0.001	1.000	4719951	2.19	Target=3.44	96.2	9192	M
399.00 > 99.00	3.782	3.783	-0.001	1.000	1425721		3.31(1.72-5.17)		4237	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.793	-0.001	0.918	4436039	1.18		94.6	8613	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.793	-0.001	1.000	9845585	2.73	Target=3.25	109	6231	
363.00 > 169.00	3.792	3.793	-0.001	1.000	2899057		3.40(1.62-4.87)		2783	
25 DONA										
377.00 > 251.00	3.828	3.829	-0.001	0.868	14604000	2.31	Target=1.74	98.2	20655	
377.00 > 85.00	3.828	3.829	-0.001	0.868	8404017		1.74(0.87-2.61)		139	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	1060387	2.69	Target=1.11	107	3380	
340.88 > 216.90	3.853	3.853	0.0	0.987	939091		1.13(0.56-1.67)		1938	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	0.0	0.941	1833915	1.31		105	4412	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.895	-0.009	1.000	3870207	2.52	Target=13.05	101	6342	
356.86 > 243.00	3.886	3.895	-0.009	1.000	273788		14.14(6.52-19.57)		1006	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.904	-0.001	0.945	131293	1.22		97.3	642	
29 6:2 FTCA										
377.10 > 63.00	3.903	3.913	-0.010	1.000	190585	2.63	Target=1.29	105	801	
377.10 > 313.10	3.903	3.913	-0.010	1.000	134184		1.42(0.65-1.94)		149	
32 PFECBS										
460.80 > 380.90	4.064	4.065	0.0	0.984	6302642	2.21	Target=1.75	95.8	15126	
460.80 > 98.90	4.064	4.065	0.0	0.984	3764669		1.67(0.87-2.62)		7266	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.111	4.112	-0.001	0.932	5357111	2.27	Target=3.72	95.4	17694	
449.00 > 99.00	4.111	4.112	-0.001	0.932	1361338		3.94(1.86-5.57)		6768	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	875821	1.17		98.8	2265	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	3259960	2.42		102	7756	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	0.998	4418387	1.25		99.6	8076	
D 31 13C4 PFOA										
417.00 > 372.00	4.130	4.131	-0.001	1.000	4804441	1.24		99.0	8542	
* 30 13C2 PFOA										
415.00 > 370.00	4.130	4.131	-0.001		5185600	1.25			11977	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.130	4.131	-0.001	1.000	10170278	2.48	Target=2.51	99.3	6690	
413.00 > 169.00	4.130	4.131	-0.001	1.000	4362903		2.33(1.26-3.77)		6680	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.412	4.421	-0.009	1.000	611398	1.16		96.8	2160	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.421	-0.009	1.068	2854095	1.23		103	3558	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.412	4.421	-0.009	1.000	6216154	2.27	Target=4.30	98.0	4445	M
499.00 > 99.00	4.412	4.421	-0.009	1.000	1405600		4.42(2.15-6.45)		2940	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.439	0.0	1.000	9790007	2.49	Target=3.60	99.7	9792	
463.00 > 169.00	4.439	4.439	0.0	1.000	2570739		3.81(1.80-5.40)		5713	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.439	0.0	1.075	6458357	1.23		98.2	15748	
43 7:3 FTCA										
441.00 > 337.00	4.520	4.529	-0.009	0.993	1864309	2.38	Target=1.42	95.4	3992	
441.00 > 317.00	4.520	4.529	-0.009	0.993	1296035		1.44(0.71-2.13)		2490	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	4623612	2.43	Target=35.37	97.1	7526	
456.86 > 343.00	4.545	4.545	0.0	1.000	136276		33.93(17.68-53.05)		308	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.553	-0.008	1.000	2488440	1.33		106	7326	
46 8:2 FTCA										
477.00 > 393.10	4.561	4.562	-0.001	1.002	618352	2.28	Target=3.35	91.4	2335	
477.00 > 63.20	4.561	4.562	-0.001	1.002	194050		3.19(1.68-5.03)		891	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.562	-0.009	1.102	186876	1.36		109	884	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.108	11970372	2.23		95.7	10887	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	5577414	2.31	Target=3.99	96.2	7177	
549.00 > 99.00	4.697	4.697	0.0	1.065	1404758		3.97(2.00-5.99)		4452	
D 55 13C8 FOSA										
506.00 > 78.00	4.705	4.714	-0.009	1.139	4187213	1.19		95.3	4736	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.705	4.714	-0.009	1.000	8279423	2.59		104	5858	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.722	4.731	-0.009	1.000	11355393	2.54	Target=10.58	102	7028	
513.00 > 169.00	4.722	4.731	-0.009	1.000	1020101		11.13(5.29-15.88)		486	
D 52 13C2 PFDA										
515.00 > 470.00	4.722	4.731	-0.009	1.143	6242735	1.24		99.5	9928	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.739	4.740	-0.001	1.148	944730	1.16		97.0	1564	
53 8:2 FTS										
527.00 > 507.00	4.739	4.740	-0.001	1.000	2891481	2.45		102	4837	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.871	4.872	-0.001	1.180	621910	1.32		106	184	
57 NMeFOSAA										
570.00 > 419.00	4.871	4.880	-0.009	1.000	1203219	2.56		102	1973	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.123	5319506	2.51	Target=3.55	104	9039	
599.00 > 99.00	4.957	4.957	0.0	1.123	1428303		3.72(1.78-5.33)		6721	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.985	4.995	-0.010	1.000	11973203	2.59	Target=8.26	104	11249	
563.00 > 169.00	4.985	4.995	-0.010	1.000	1413831		8.47(4.13-12.39)		6308	
D 59 13C2 PFUnA										
565.00 > 520.00	4.985	4.995	-0.010	1.207	5965796	1.23		98.5	12003	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.212	615098	1.27		102	1978	
62 NEtFOSAA										
584.00 > 419.00	5.005	5.015	-0.010	1.000	1213875	2.70		108	951	M
63 11CIFOS										
631.00 > 451.00	5.082	5.093	-0.011	1.152	9751852	2.35		99.8	14297	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.093	-0.001	1.233	2537907	1.20		96.4	6070	
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.093	-0.001	1.000	6447412	2.63		105	8776	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.235	154344	1.20		96.2	1020	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	333657	2.81	Target=2.53	113	1597	
576.80 > 63.10	5.102	5.112	-0.010	1.000	131349		2.54(1.26-3.79)		544	
D 69 13C2 PFDaA										
615.00 > 570.00	5.217	5.226	-0.009	1.263	5881116	1.23		98.4	17361	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.002	12010181	2.47	Target=6.85	98.8	9518	
613.00 > 169.00	5.217	5.226	-0.009	1.000	1710810		7.02(3.43-10.28)		3096	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.243	-0.008	1.267	786171	1.15		96.9	6379	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.002	3398471	2.45		102	9471	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.277	526084	1.26		101	53.0	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.283	5.284	-0.001	1.279	580213	1.18		94.4	469	
74 NMeFOSA										
512.00 > 169.00	5.283	5.284	-0.001	1.002	1147584	2.53		101	1030	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.002	1430746	2.63		105	1840	
76 PFDoS										
699.00 > 80.00	5.400	5.399	0.001	1.224	5439996	2.41	Target=4.22	99.6	6627	
699.00 > 99.00	5.400	5.399	0.001	1.224	1203409		4.52(2.11-6.34)		5357	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.427	5.435	-0.008	1.040	10258332	2.47	Target=6.32	98.8	9562	
663.00 > 169.00	5.427	5.435	-0.008	1.040	1721083		5.96(3.16-9.48)		8084	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.316	627175	1.23		98.3	302	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.453	5.452	0.001	1.320	405572	1.21		96.6	634	
79 N-EtFOSE-M										
630.00 > 59.00	5.453	5.452	0.001	1.003	1685078	2.37		94.7	1523	
81 N-EtFOSA-M										
526.00 > 169.00	5.453	5.452	0.001	1.000	1071029	2.65		106	684	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.608	5.617	-0.009	1.000	1224215	2.53	Target=1.01	101	4842	
713.00 > 219.00	5.608	5.617	-0.009	1.000	1237218		0.99(0.51-1.52)		6220	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.608	5.617	-0.009	1.358	4700280	1.23		98.4	11372	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.925	5.924	0.001	1.000	6961605	2.46	Target=8.64	98.4	6602	
813.00 > 169.00	5.925	5.924	0.001	1.000	846053		8.23(4.32-12.97)		2562	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.925	5.924	0.001	1.435	3129366	1.26		101	8249	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.184	6.185	-0.001	1.044	6193715	2.44	Target=11.77	97.7	6137	
913.00 > 169.00	6.178	6.185	-0.007	1.043	537463		11.52(5.88-17.65)		1898	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL



Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Injection Date: 18-Feb-2022 21:53:25

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 17

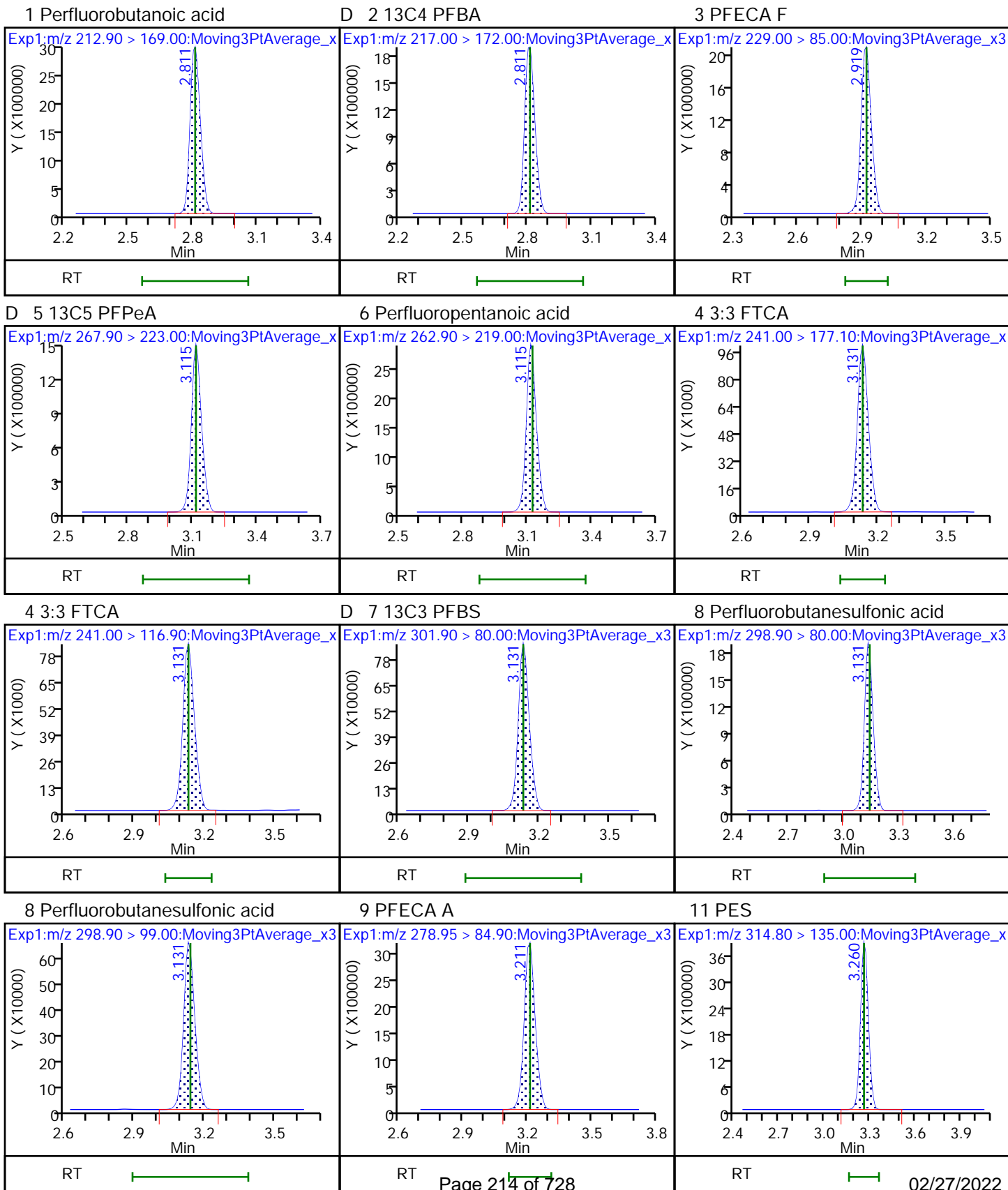
Worklist Smp#: 17

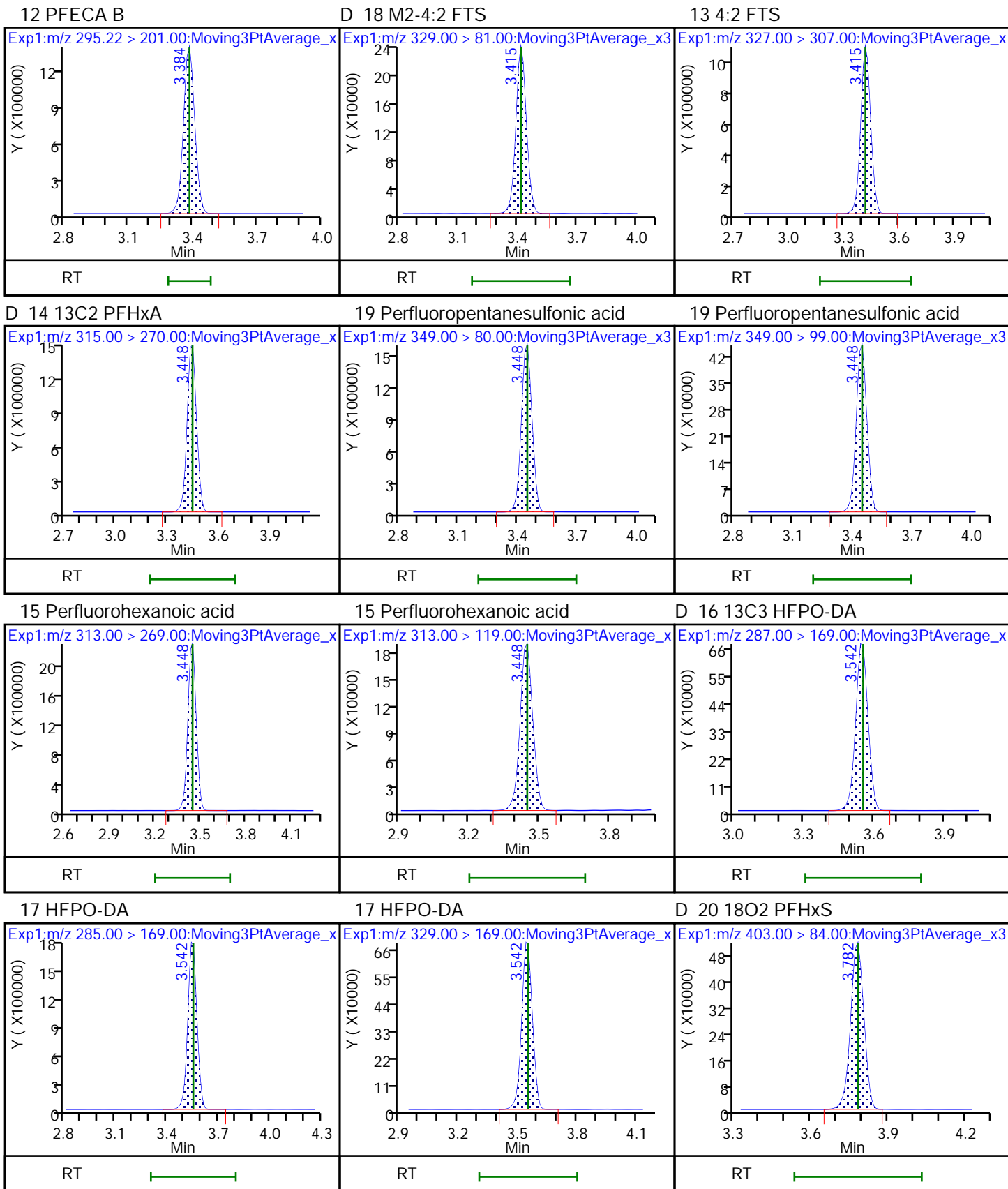
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

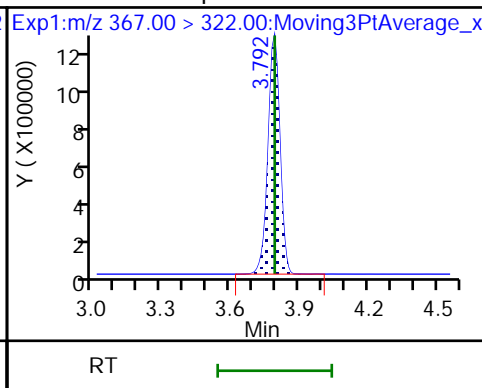
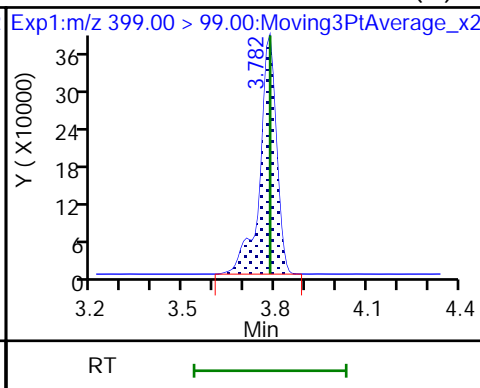
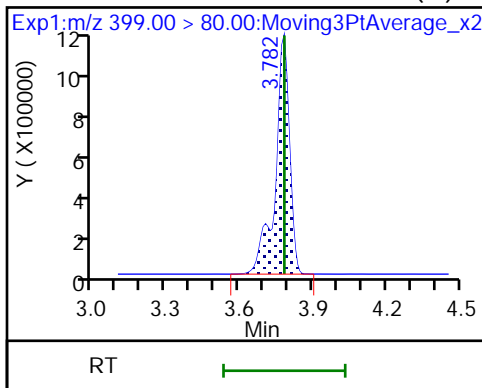




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

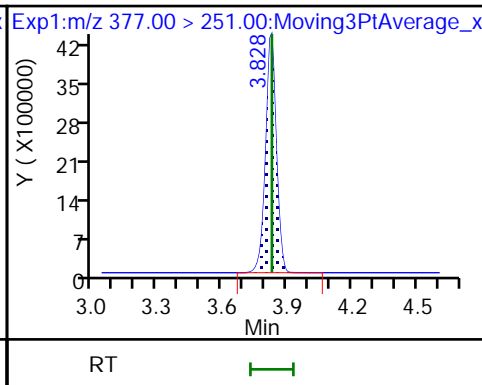
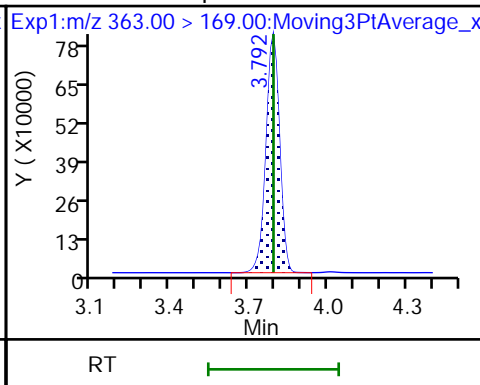
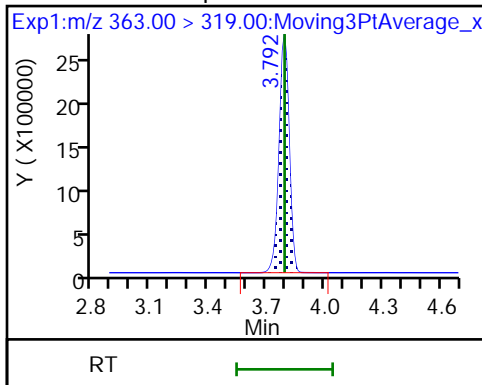
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

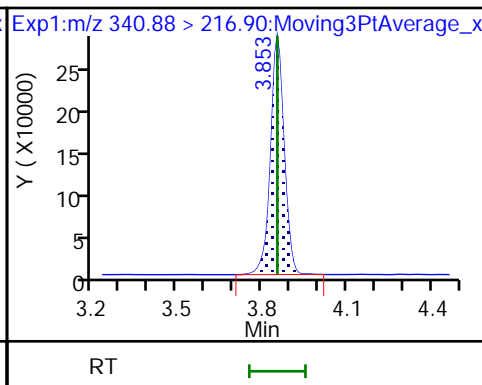
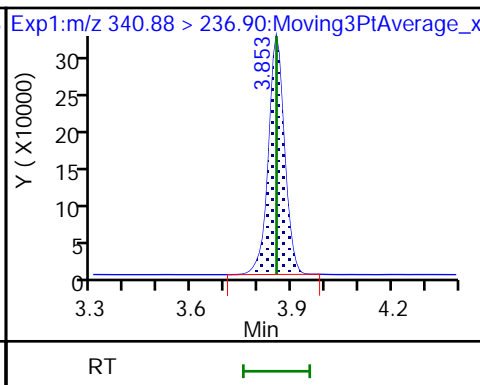
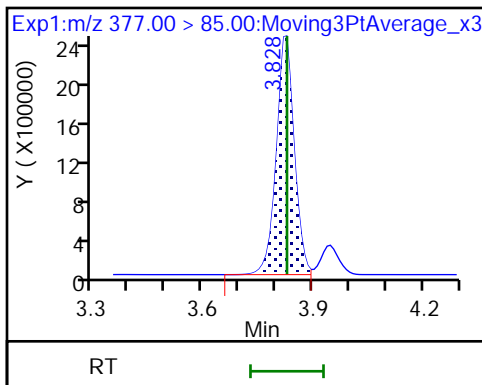
25 DONA



25 DONA

26 5:3 FTCA

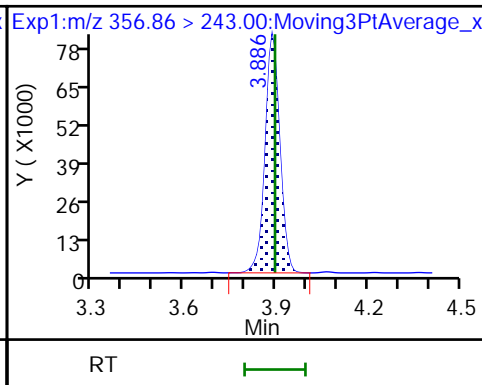
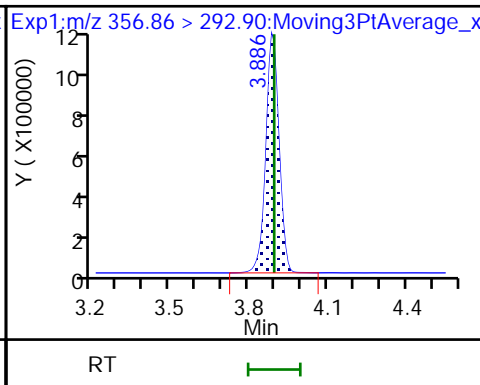
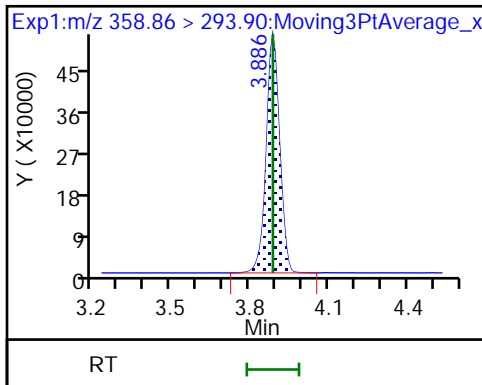
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

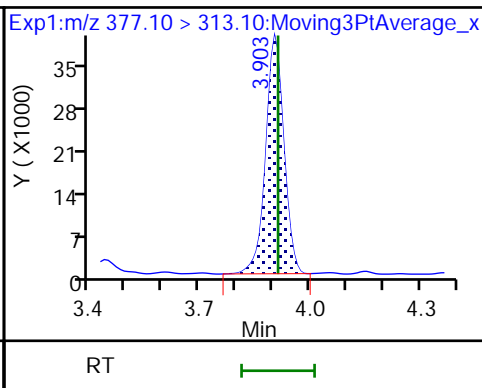
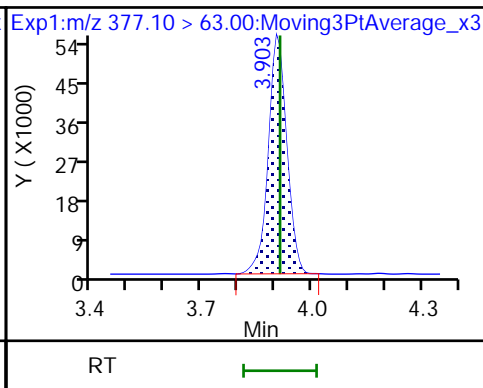
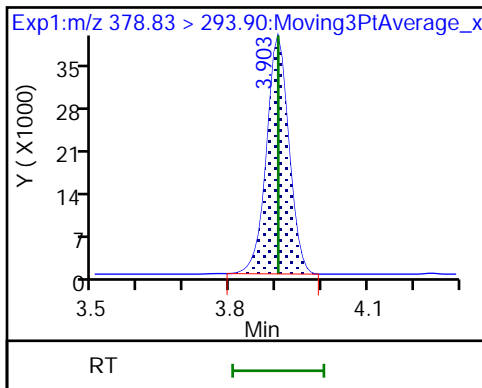
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

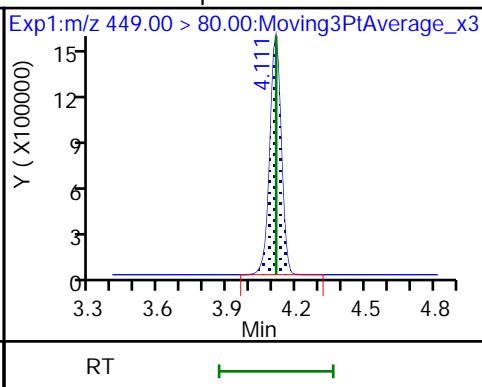
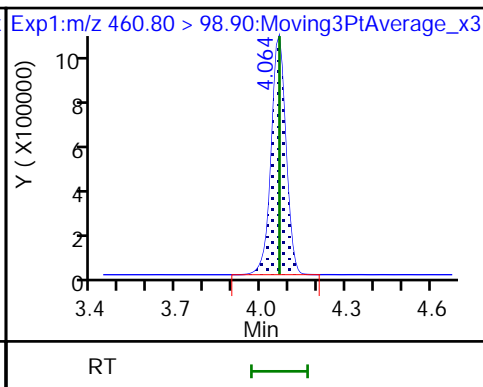
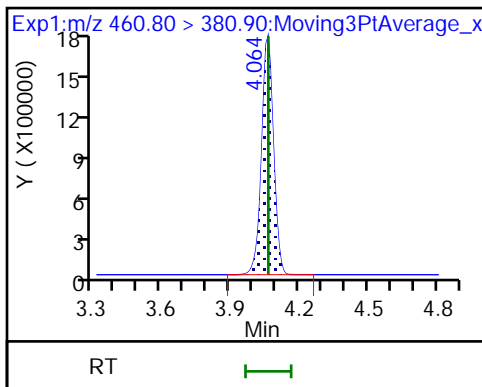
29 6:2 FTCA



32 PFECHS

32 PFECHS

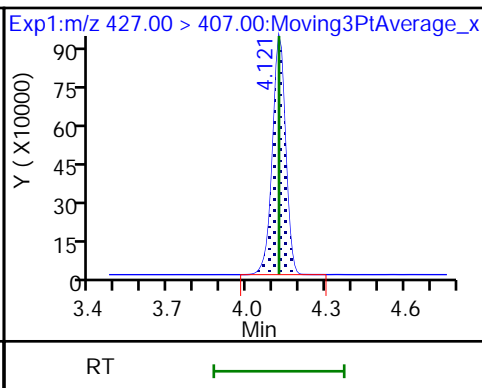
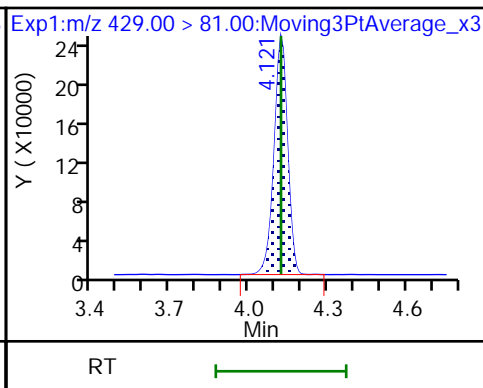
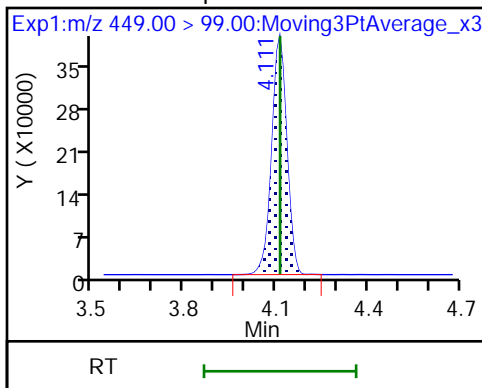
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

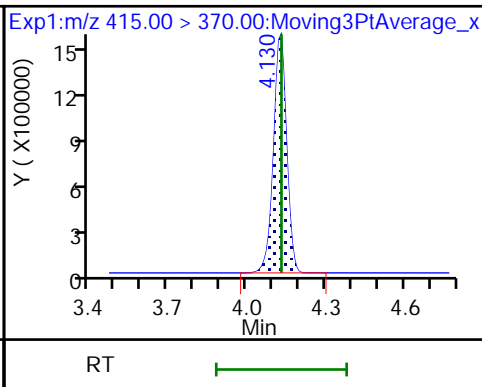
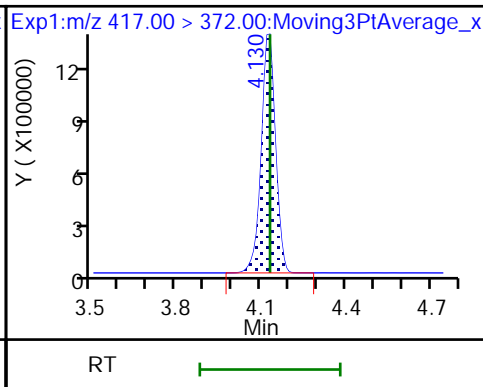
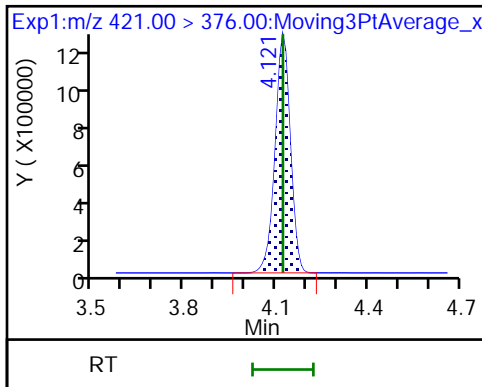
35 6:2 FTS

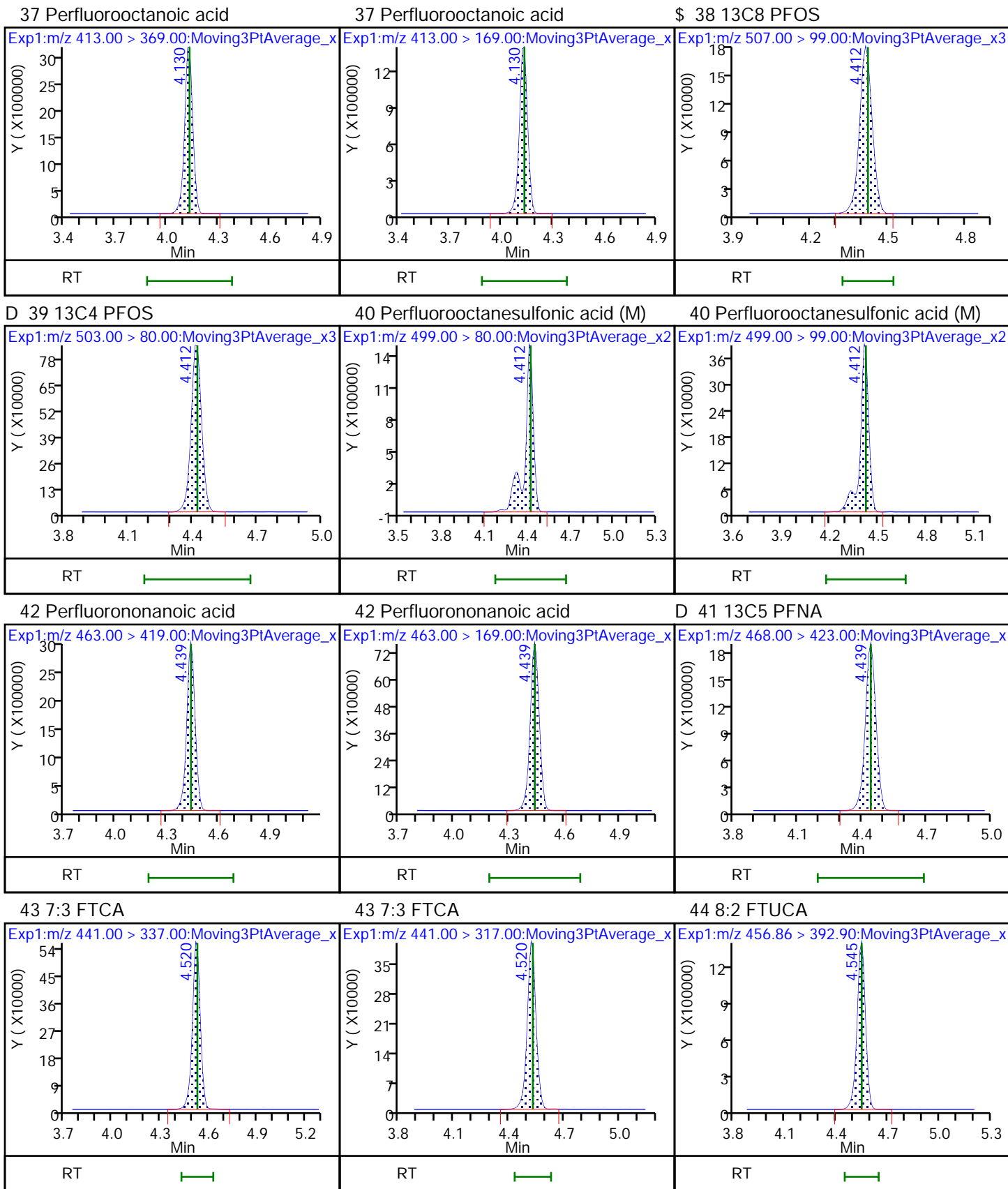


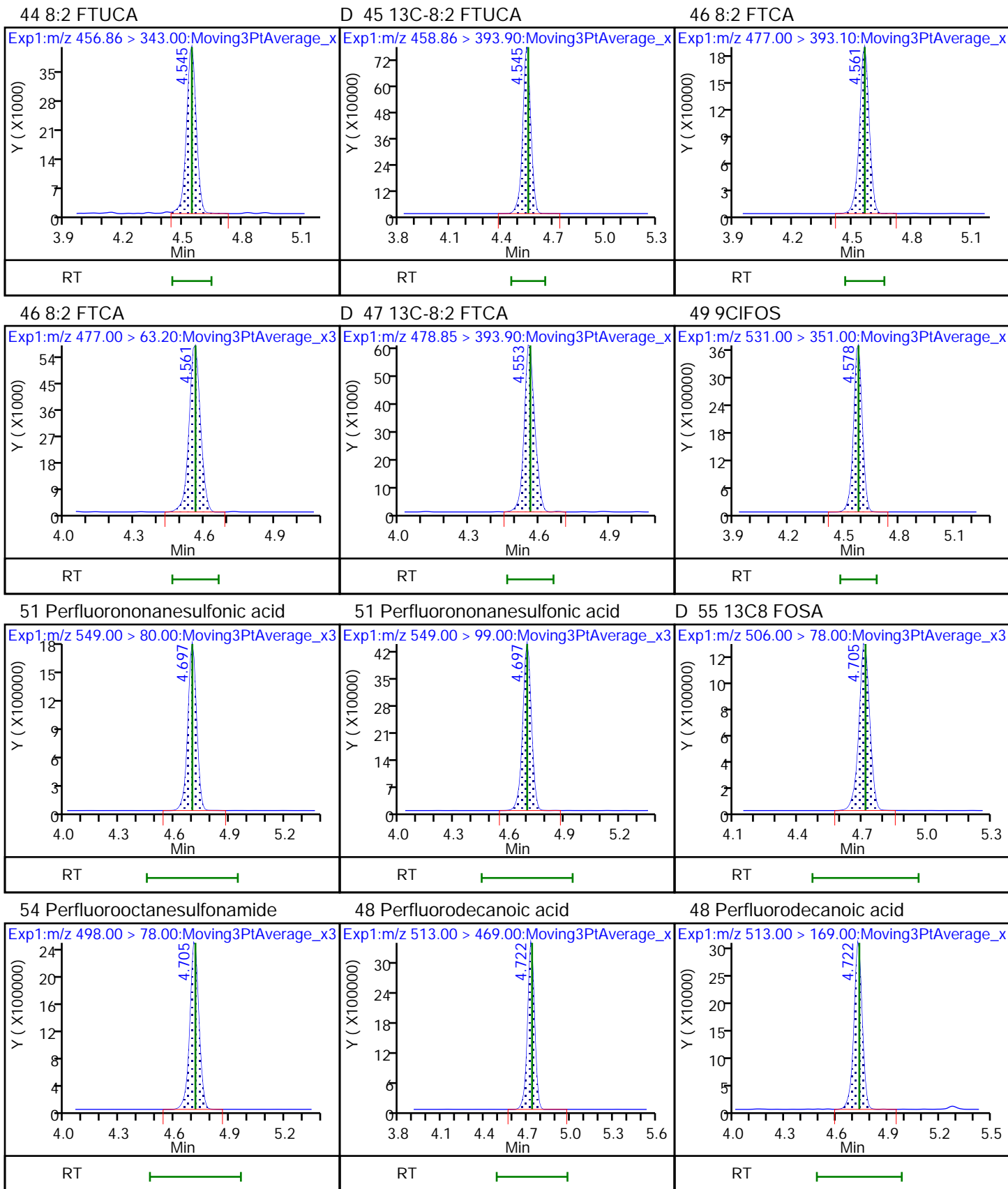
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



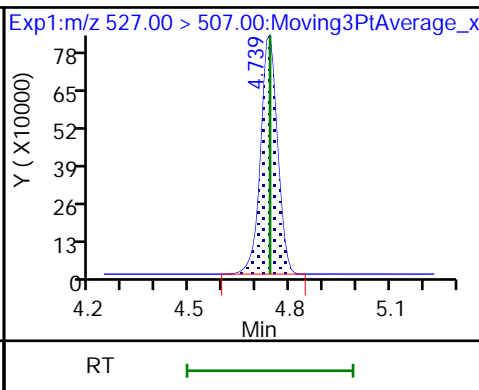
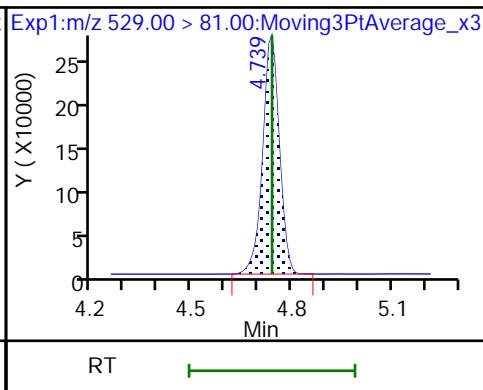
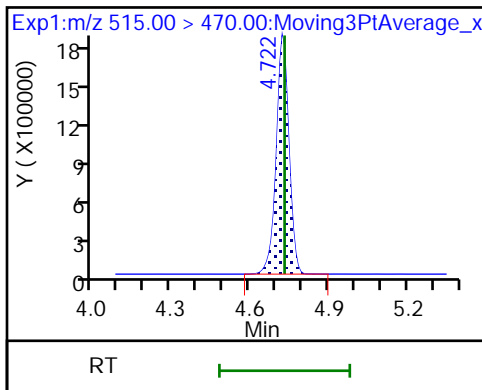




D 52 13C2 PFDA

D 50 M2-8:2 FTS

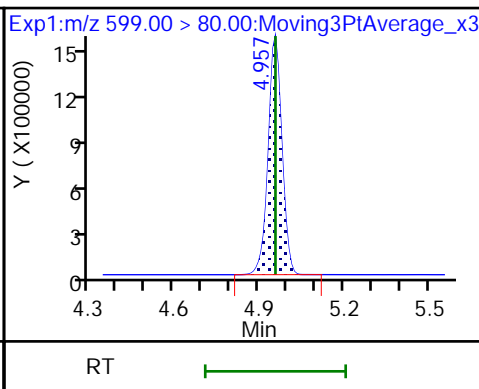
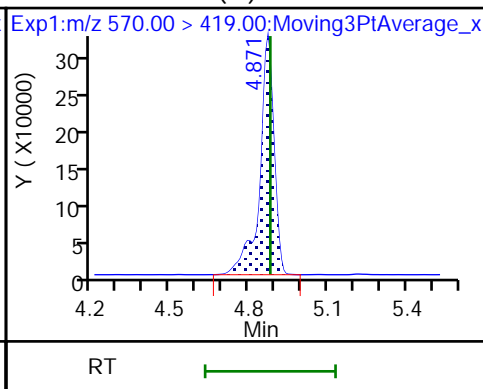
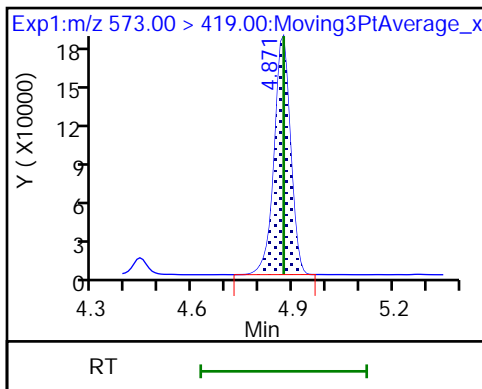
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

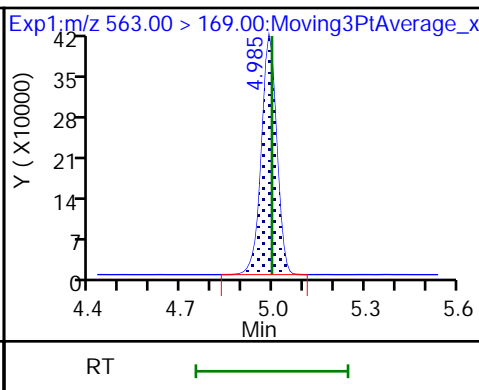
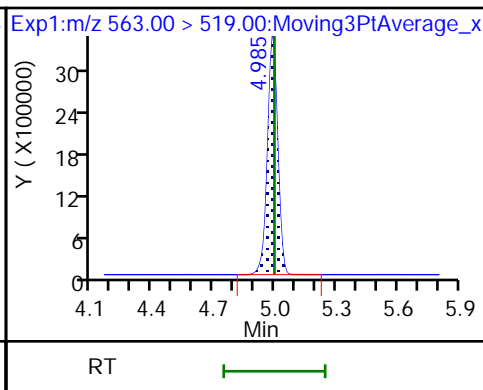
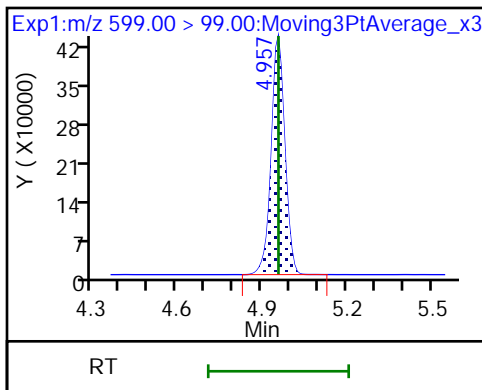
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

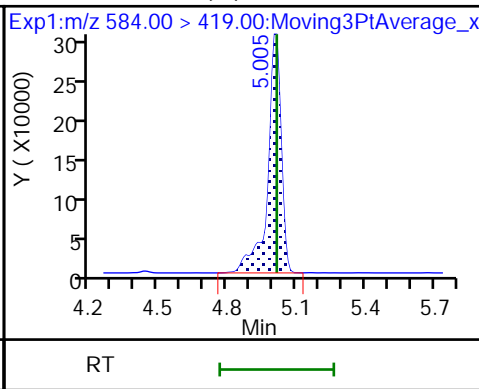
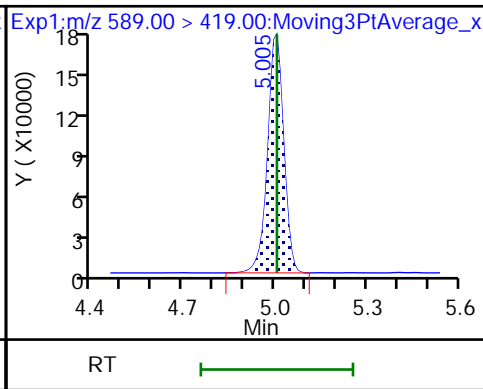
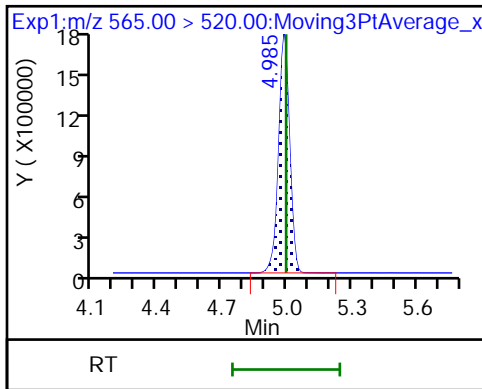
60 Perfluoroundecanoic acid

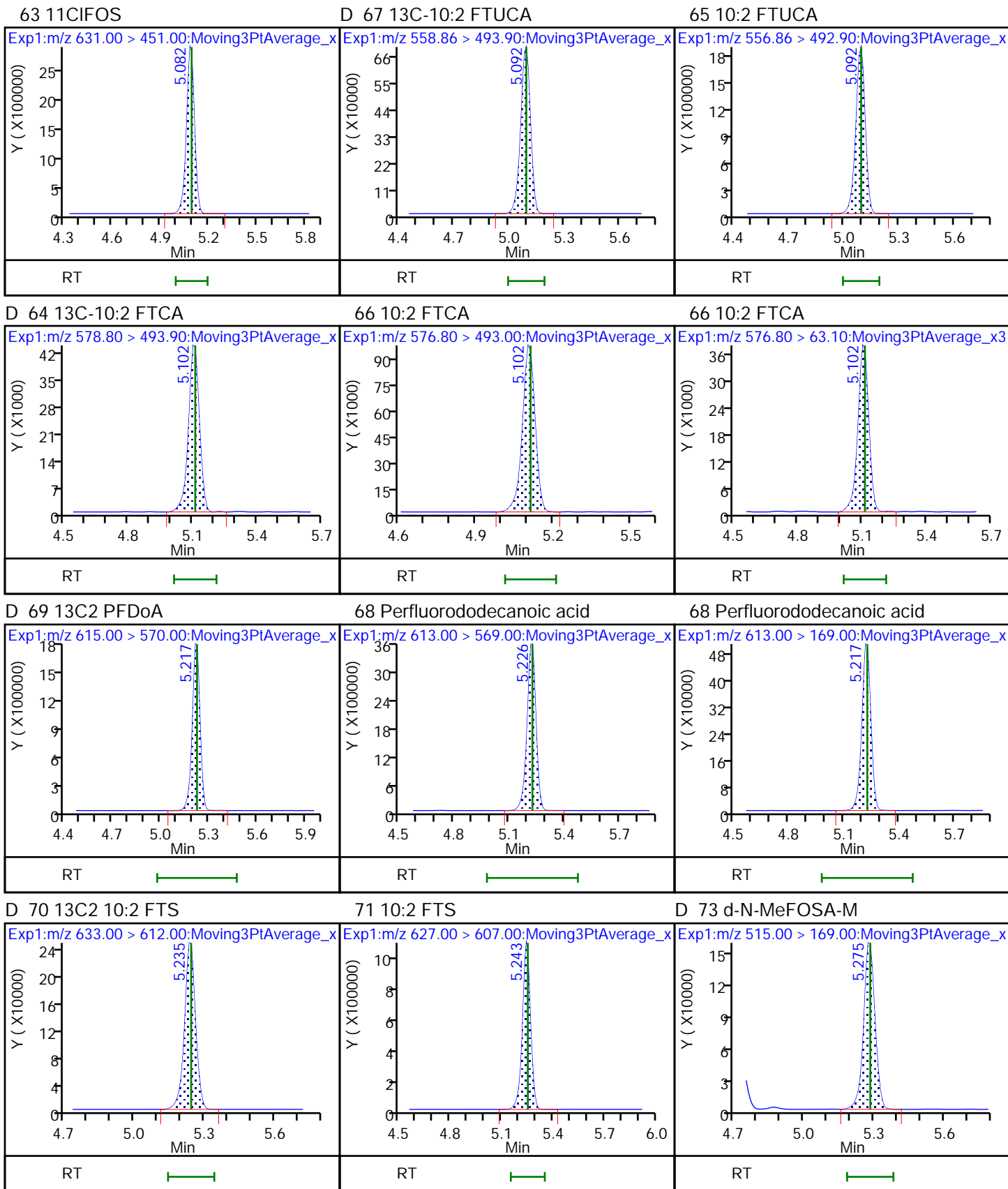


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)



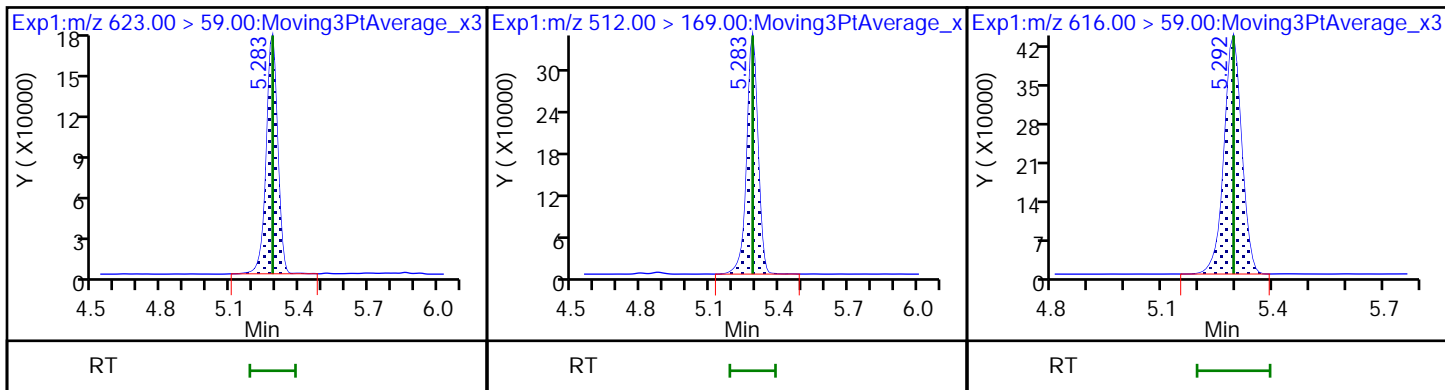




D 72 d7-N-MeFOSE-M

74 NMeFOSA

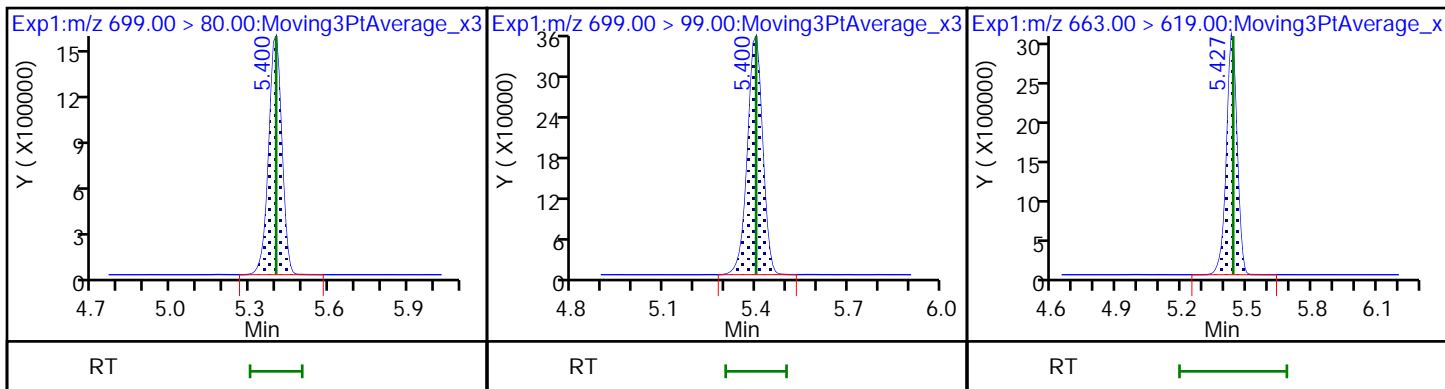
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

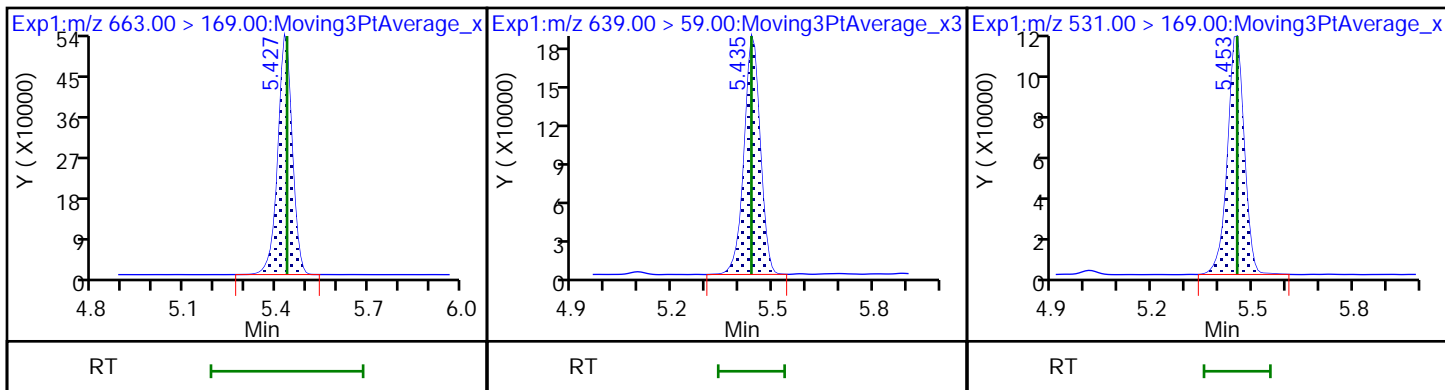
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

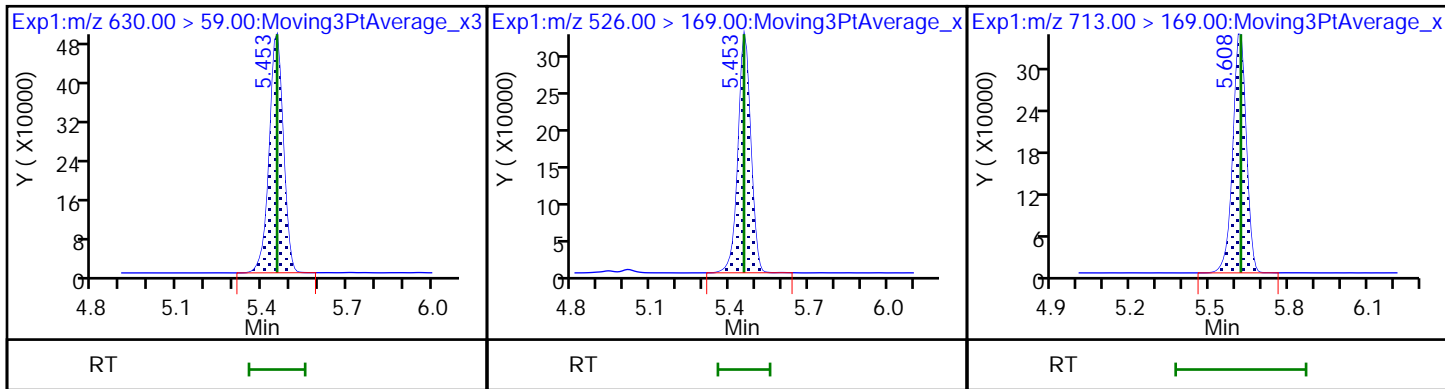
D 80 d-N-EtFOSA-M

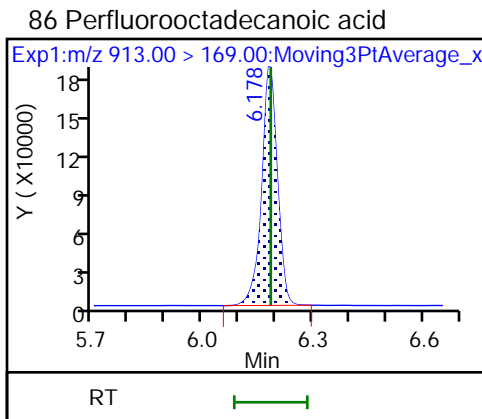
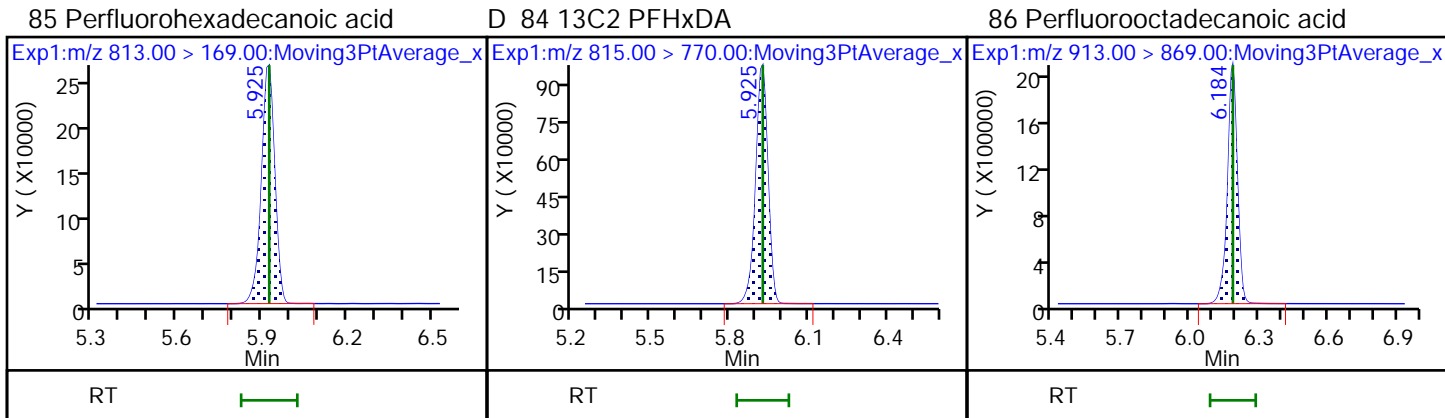
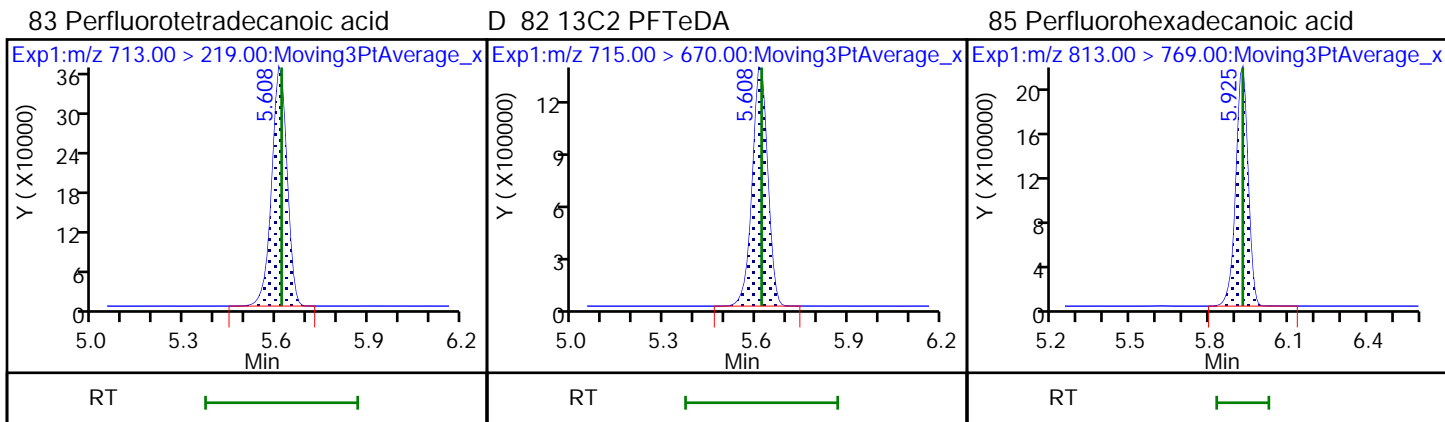


79 N-EtFOSE-M

81 N-EtFOSA-M

83 Perfluorotetradecanoic acid





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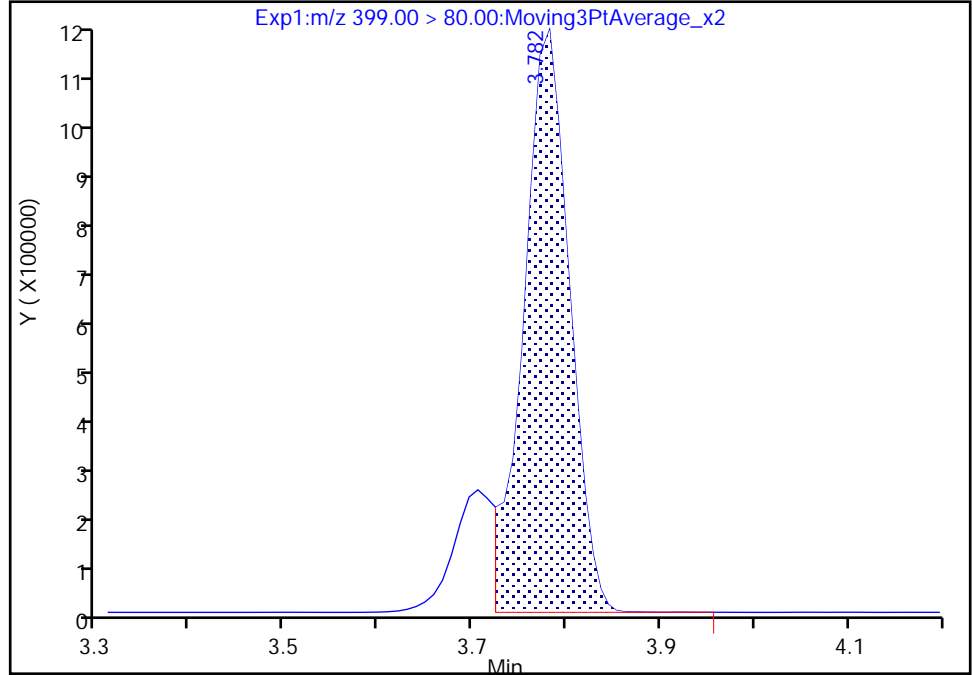
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Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

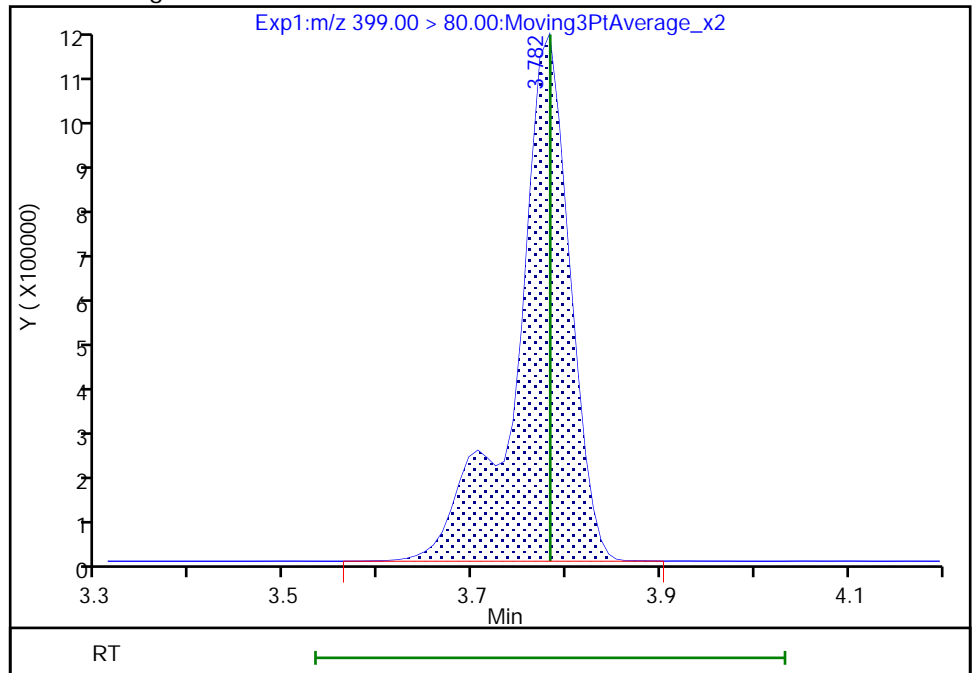
RT: 3.78  
Area: 4004075  
Amount: 1.856708  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 4719951  
Amount: 2.188663  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:51:43  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

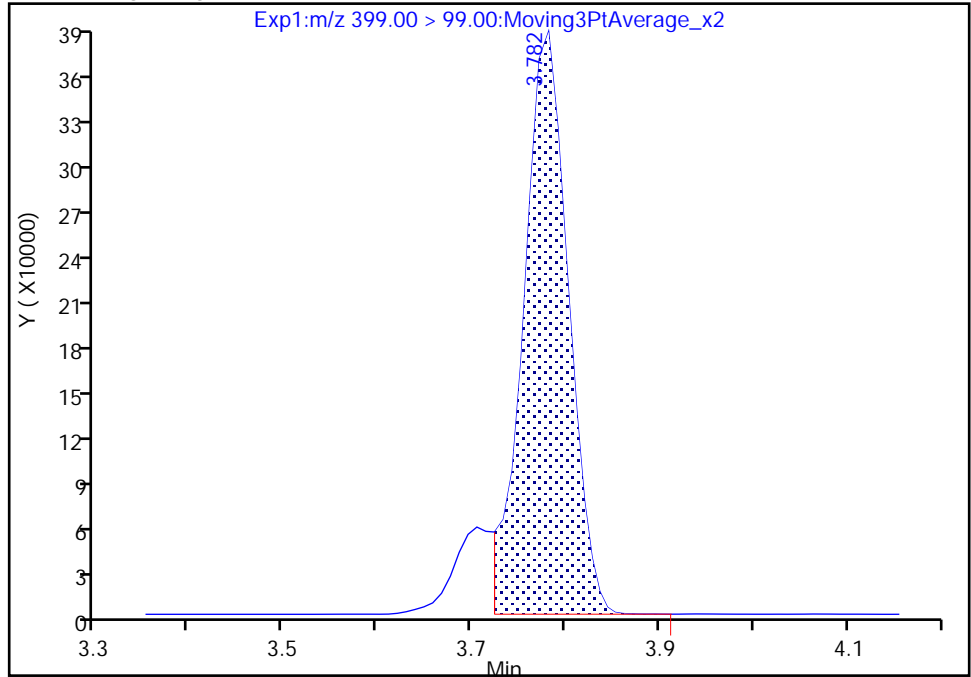
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Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

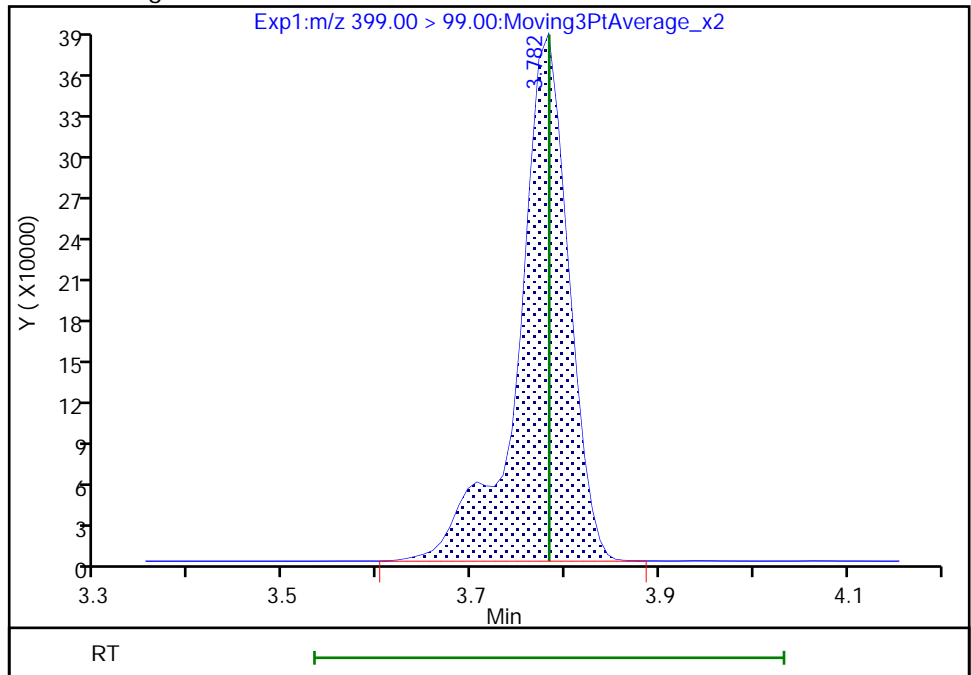
RT: 3.78  
Area: 1262804  
Amount: 1.856708  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 1425721  
Amount: 2.188663  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:51:49

Audit Action: Manually Integrated

Audit Reason: Baseline  
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02/27/2022

Eurofins Knoxville

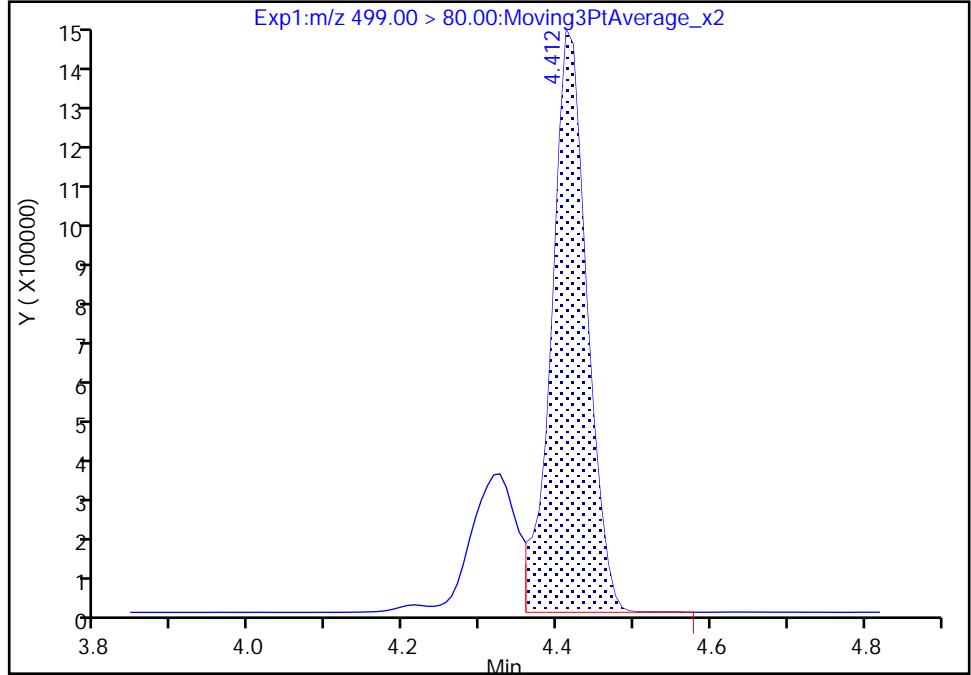
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Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
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Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

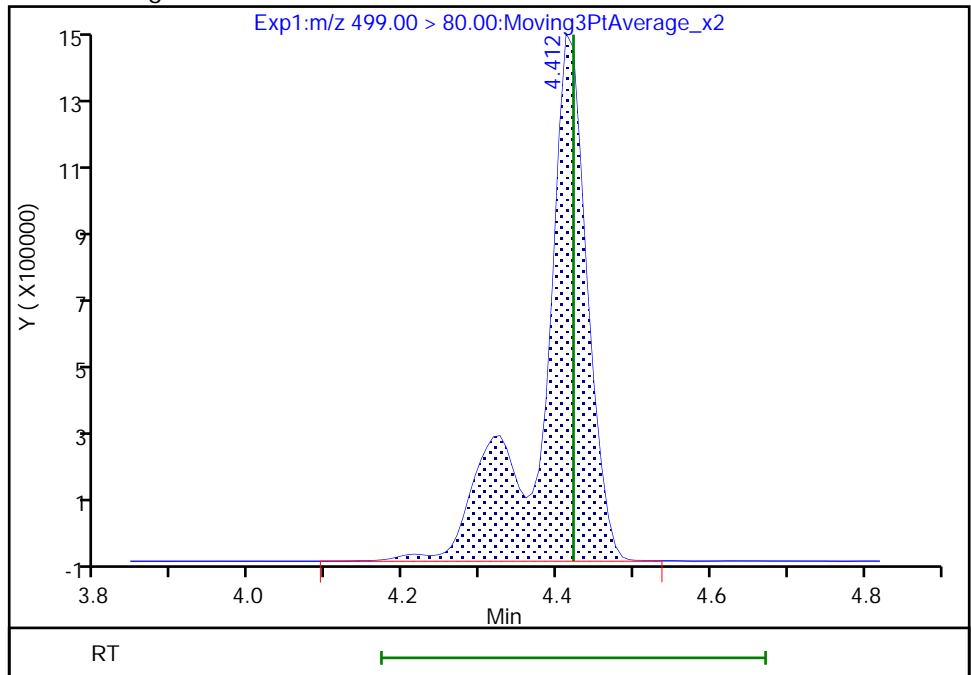
RT: 4.41  
Area: 4736982  
Amount: 1.731868  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 6216154  
Amount: 2.272661  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:52:03  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

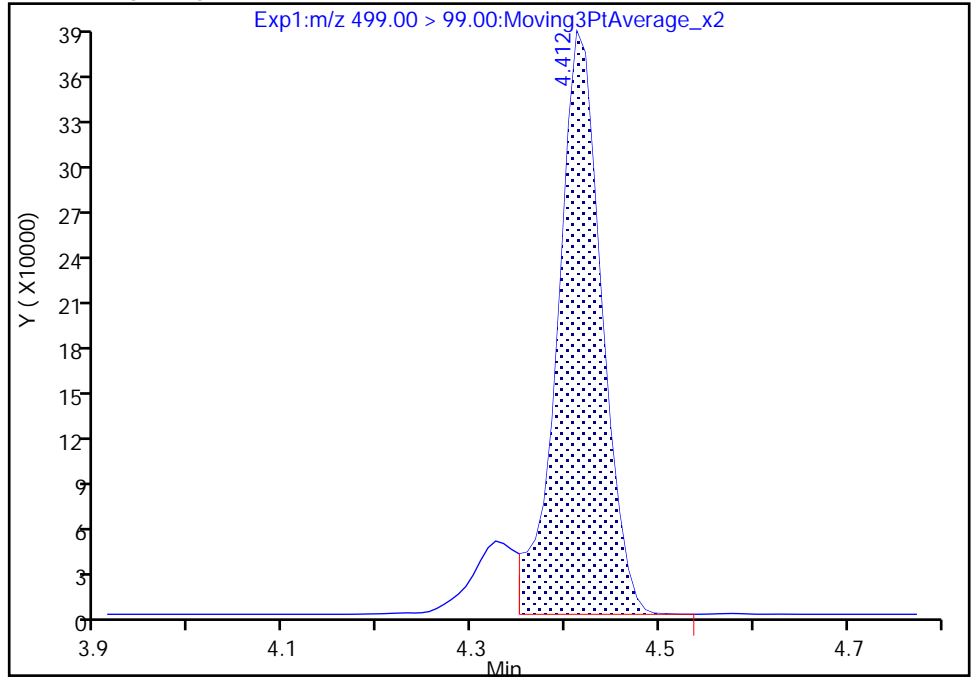
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Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

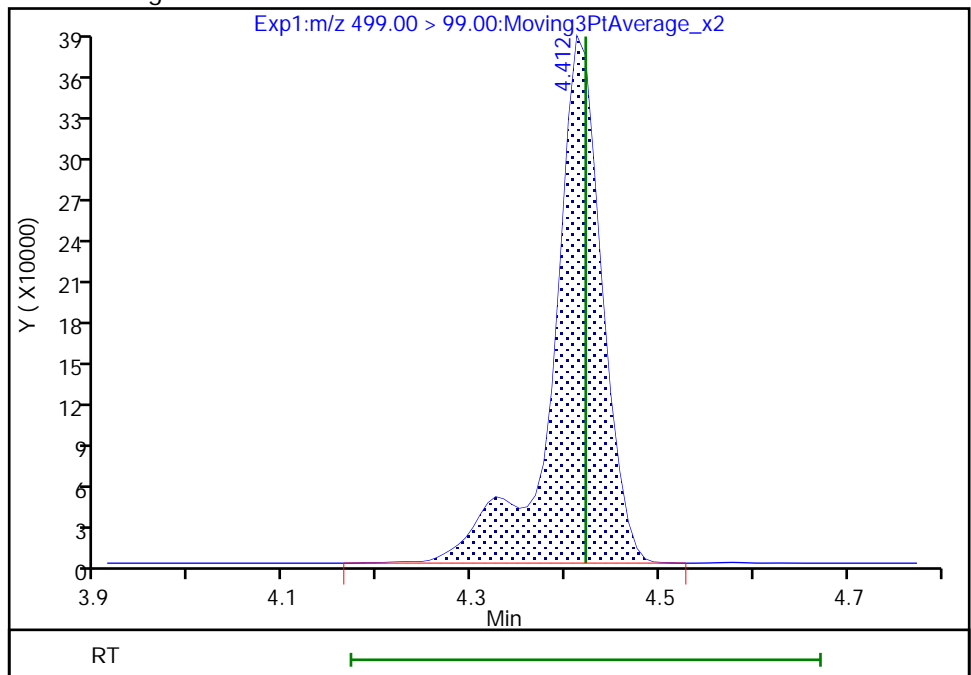
RT: 4.41  
Area: 1249502  
Amount: 1.731868  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 1405600  
Amount: 2.272661  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:52:10

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d  
Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

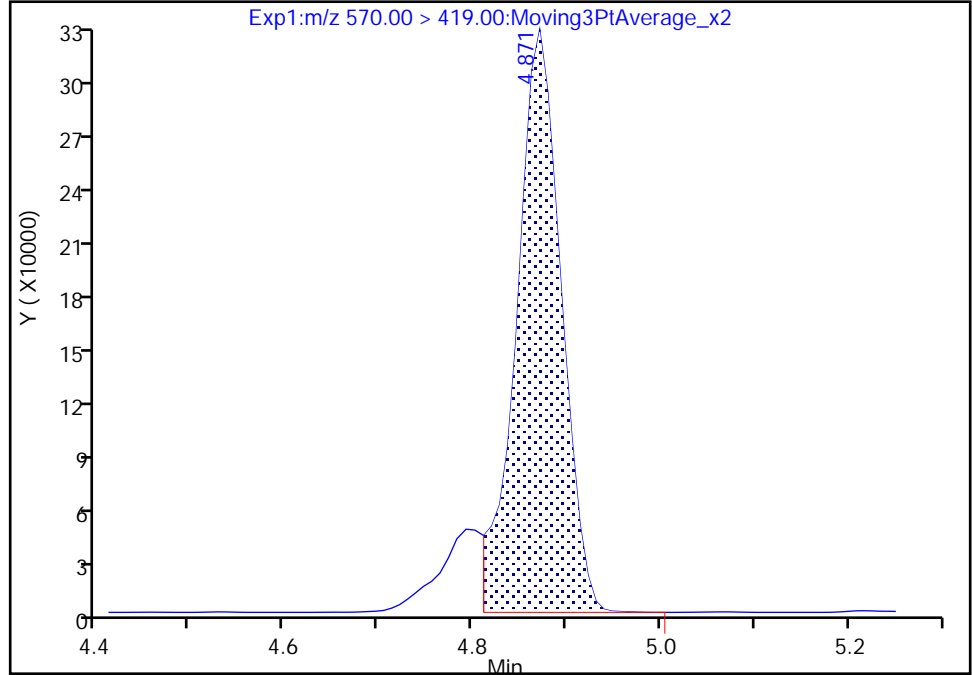
Worklist Smp#: 17

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

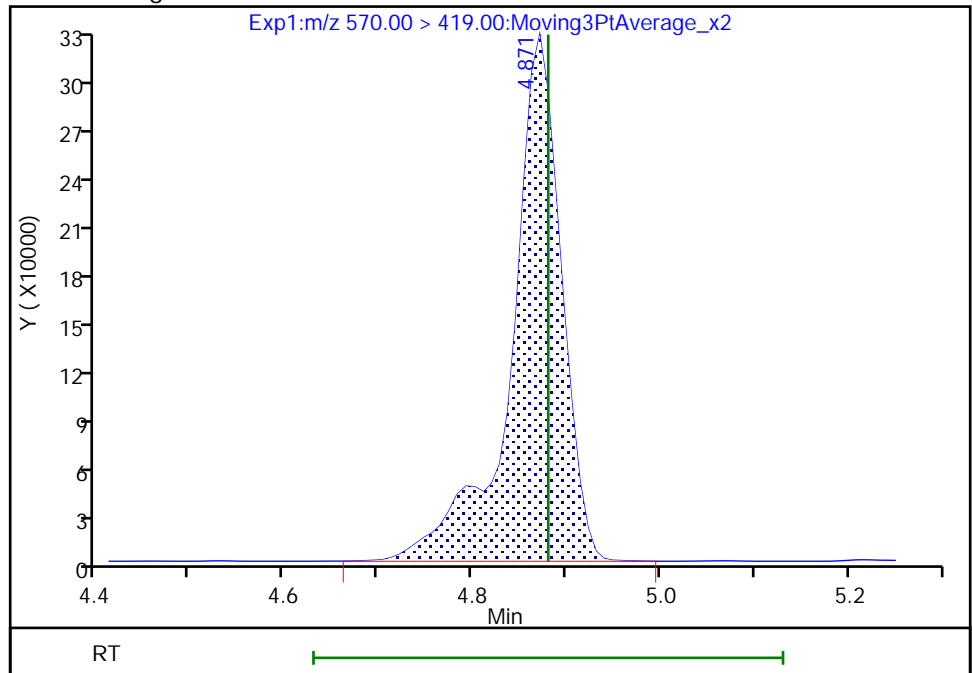
RT: 4.87  
Area: 1058645  
Amount: 2.261447  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1203219  
Amount: 2.559851  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:52:24  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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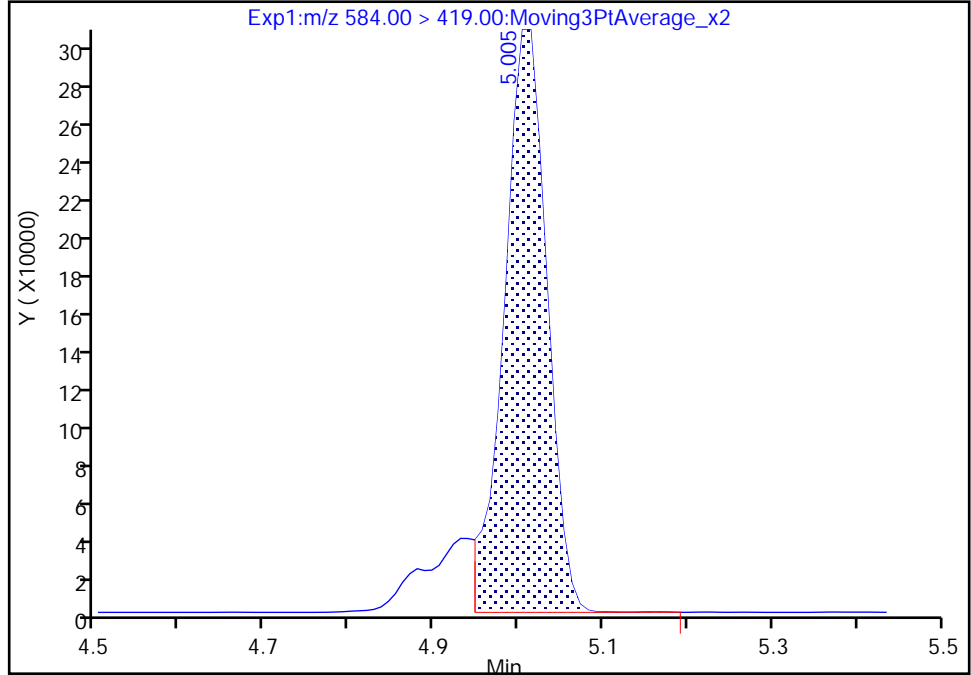
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Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

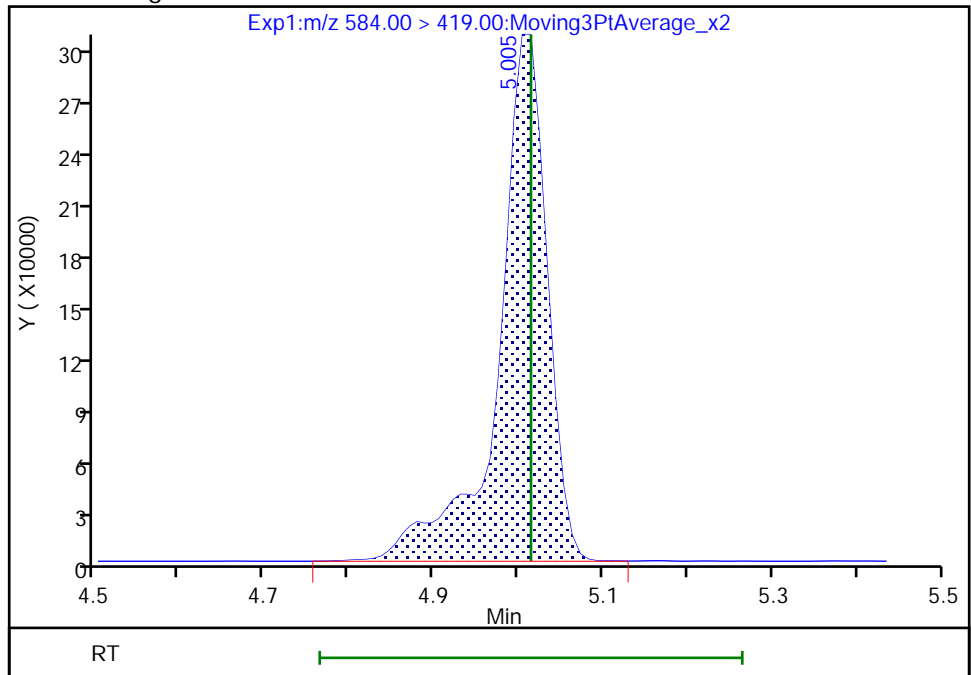
RT: 5.00  
Area: 1055510  
Amount: 2.368258  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 1213875  
Amount: 2.702265  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:52:35  
Audit Action: Manually Integrated

Audit Reason: Baseline



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/29 Calibration Date: 02/18/2022 23:39  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_029.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7617		0.960	1.00	-4.0	40.0
PFECA F	AveID	0.7535	0.7037		0.934	1.00	-6.6	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9518		1.01	1.00	1.2	40.0
3:3 FTCA	QuaIF		0.0553		1.02	1.00	1.5	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.077		0.869	0.884	-1.7	40.0
PFECA A	Q2ID		1.202		1.03	1.00	2.5	40.0
PES	Q2ID		2.308		0.867	0.890	-2.6	40.0
PFECA B	Q2ID		0.4213		1.02	1.00	1.8	40.0
4:2 FTS	L2ID		2.260		0.928	0.934	-0.6	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7767		0.976	1.00	-2.4	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	0.9552		0.868	0.938	-7.5	40.0
HFPO-DA	L2ID		1.234		0.977	1.00	-2.3	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.322		0.869	0.910	-4.6	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.016		1.01	1.00	1.4	40.0
DONA	AveID	2.644	2.449		0.873	0.942	-7.4	40.0
5:3 FTCA	L2ID		3.444		0.914	1.00	-8.6	40.0
6:2 FTUCA	AveID	1.046	1.003		0.959	1.00	-4.1	40.0
6:2 FTCA	L1ID		0.6573		0.947	1.00	-5.4	40.0
PFECHS	AveID	0.7426	0.6789		0.843	0.922	-8.6	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9015		0.869	0.952	-8.7	40.0
6:2 FTS	L2ID		1.708		0.885	0.948	-6.7	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.001		0.935	1.00	-6.5	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.034		0.838	0.928	-9.7	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7044		0.926	1.00	-7.4	40.0
7:3 FTCA	AveID	5.230	4.613		0.882	1.00	-11.8	40.0
8:2 FTUCA	AveID	0.9565	0.8475		0.886	1.00	-11.4	40.0
8:2 FTCA	AveID	1.811	1.630		0.900	1.00	-10.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.074		0.860	0.932	-7.8	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9525		0.904	0.960	-5.8	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9069		0.950	1.00	-5.0	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8722		0.969	1.00	-3.1	40.0
8:2 FTS	L2ID		1.441		0.916	0.958	-4.3	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9151		0.990	1.00	-1.0	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8559		0.926	0.964	-3.9	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/29 Calibration Date: 02/18/2022 23:39  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_029.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9103		0.941	1.00	-5.9	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8954		1.02	1.00	1.8	40.0
10:2 FTUCA	AveID	1.208	1.205		0.998	1.00	-0.2	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.696		0.917	0.942	-2.7	50.0
10:2 FTCA	Q2ID		0.9781		1.07	1.00	6.6	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9456		0.915	1.00	-8.5	40.0
10:2 FTS	L2ID		1.941		0.891	0.964	-7.6	50.0
NMeFOSA	L2ID		1.000		0.926	1.00	-7.4	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.166		0.994	1.00	-0.6	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8794		0.901	0.968	-7.0	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8301		0.940	1.00	-6.0	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.232		0.869	1.00	-13.1	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.228		0.983	1.00	-1.7	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1233		0.955	1.00	-4.5	40.0
Perfluorohexadecanoic acid	L1ID		1.067		0.936	1.00	-6.4	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9550		0.943	1.00	-5.7	40.0
13C4 PFBA	Ave	1.172	1.165		1.24	1.25	-0.6	50.0
13C5 PFPeA	Ave	0.9197	0.9205		1.25	1.25	0.0	50.0
13C3 PFBS	Ave	0.5817	0.5789		1.16	1.16	-0.5	50.0
M2-4:2 FTS	Ave	0.1821	0.1666		1.07	1.17	-8.5	50.0
13C2 PFHxA	Ave	1.015	1.041		1.28	1.25	2.6	50.0
13C3 HFPO-DA	Ave	0.4963	0.5014		1.26	1.25	1.0	50.0
18O2 PFHxS	Ave	0.3776	0.3633		1.14	1.18	-3.8	50.0
13C4 PFHpA	Ave	0.9046	0.9195		1.27	1.25	1.6	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3559		1.32	1.25	5.5	50.0
13C-6:2 FTCA	Ave	0.0260	0.0279		1.34	1.25	7.1	50.0
M2-6:2 FTS	Ave	0.1799	0.1755		1.16	1.19	-2.5	50.0
13C4 PFOA	Ave	0.9356	0.9445		1.26	1.25	1.0	50.0
13C4 PFOS	Ave	0.5610	0.5593		1.19	1.20	-0.3	50.0
13C5 PFNA	Ave	1.268	1.301		1.28	1.25	2.6	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4905		1.36	1.25	8.5	50.0
13C-8:2 FTCA	Ave	0.0330	0.0342		1.29	1.25	3.5	50.0
13C8 FOSA	Ave	0.8475	0.8446		1.25	1.25	-0.4	50.0
13C2 PFDA	Ave	1.210	1.260		1.30	1.25	4.1	50.0
M2-8:2 FTS	Ave	0.1961	0.2040		1.25	1.20	4.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/29 Calibration Date: 02/18/2022 23:39  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_029.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1182		1.30	1.25	4.1	50.0
13C2 PFUnA	Ave	1.168	1.223		1.31	1.25	4.8	50.0
d5-NEtFOSAA	Ave	0.1164	0.1230		1.32	1.25	5.7	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5055		1.24	1.25	-0.5	50.0
13C-10:2 FTCA	Ave	0.0309	0.0302		1.22	1.25	-2.4	50.0
13C2 PFDoA	Ave	1.152	1.196		1.30	1.25	3.8	50.0
13C2 10:2 FTS	Ave	0.1652	0.1723		1.24	1.18	4.3	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1164		1.23	1.25	-1.9	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0993		1.23	1.25	-1.6	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1297		1.32	1.25	5.4	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0796		1.23	1.25	-1.7	50.0
13C2 PFTeDA	Ave	0.9216	0.9013		1.22	1.25	-2.2	50.0
13C2 PFHxDA	Ave	0.5997	0.6025		1.26	1.25	0.5	50.0
13C8 PFOA	AveID	0.9229	0.9699		1.31	1.25	5.1	50.0
13C8 PFOS	AveID	0.2212	0.2241		1.21	1.20	1.3	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 18-Feb-2022 23:39:02 ALS Bottle#: 29 Worklist Smp#: 29  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-029 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:21:41

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	3876328	0.9604		96.0	1566	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.681	6361365	1.24		99.4	22768	
3 PFECA F										
229.00 > 85.00	2.919	2.919	0.0	0.936	2830288	0.9339		93.4	11984	
D 5 13C5 PFPeA										
267.90 > 223.00	3.118	3.115	0.003	0.756	5027233	1.25		100	17809	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.118	3.123	-0.005	1.000	3827879	1.01		101	1725	
4 3:3 FTCA										
241.00 > 177.10	3.126	3.131	-0.005	0.997	139776	1.02	Target=1.13	102	1156	
241.00 > 116.90	3.126	3.131	-0.005	0.997	117400		1.19(0.56-1.69)		206	
D 7 13C3 PFBS										
301.90 > 80.00	3.135	3.131	0.004	0.760	2940525	1.16		99.5	11689	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.135	3.140	-0.005	1.000	2408306	0.8688	Target=2.61	98.3	3255	
298.90 > 99.00	3.135	3.140	-0.005	1.000	905113		2.66(1.31-3.92)		3131	
9 PFECA A										
278.95 > 84.90	3.206	3.211	-0.005	1.028	4835517	1.03		103	12746	
11 PES										
314.80 > 135.00	3.264	3.260	0.004	1.041	5195330	0.8670		97.4	19176	
12 PFECA B										
295.22 > 201.00	3.378	3.384	-0.006	0.981	1916018	1.02		102	7820	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.420	3.416	0.004	0.829	849792	1.07		91.5	1558	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.420	3.416	0.004	1.000	1536303	0.9283		99.4	6459	
D 14 13C2 PFHxA										
315.00 > 270.00	3.441	3.448	-0.007	0.834	5684645	1.28		103	16627	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.441	3.448	-0.007	1.098	2266430	0.8679	Target=3.55	92.5	5926	
349.00 > 99.00	3.441	3.448	-0.007	1.098	653311		3.47(1.78-5.33)		5615	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.441	3.448	-0.007	1.000	3531988	0.9762	Target=11.60	97.6	1736	
313.00 > 119.00	3.441	3.448	-0.007	1.000	305630		11.56(5.80-17.40)		350	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.547	3.553	-0.006	0.860	2738446	1.26		101	9014	
17 HFPO-DA										
285.00 > 169.00	3.547	3.553	-0.006	1.000	2702507	0.9768	Target=2.45	97.7	1773	
329.00 > 169.00	3.547	3.553	-0.006	1.000	1077541		2.51(1.23-3.68)		1502	
D 20 18O2 PFHxS										
403.00 > 84.00	3.776	3.783	-0.007	0.915	1876931	1.14		96.2	4413	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.776	3.783	-0.007	1.000	1909410	0.8685	Target=3.44	95.4	5037	M
399.00 > 99.00	3.776	3.783	-0.007	1.000	550561		3.47(1.72-5.17)		2101	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.786	3.793	-0.007	0.918	5021773	1.27		102	7205	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.786	3.793	-0.007	1.000	4080850	1.01	Target=3.25	101	2911	
363.00 > 169.00	3.786	3.793	-0.007	1.000	1197544		3.41(1.62-4.87)		1460	
25 DONA										
377.00 > 251.00	3.824	3.829	-0.005	0.866	5636734	0.8726	Target=1.74	92.6	11211	
377.00 > 85.00	3.824	3.829	-0.005	0.866	3278809		1.72(0.87-2.61)		124	
26 5:3 FTCA										
340.88 > 236.90	3.849	3.853	-0.004	0.987	419194	0.9135	Target=1.11	91.4	1370	
340.88 > 216.90	3.849	3.853	-0.004	0.987	386016		1.09(0.56-1.67)		1186	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.882	3.887	-0.004	0.941	1943952	1.32		106	4166	
27 6:2 FTUCA										
356.86 > 292.90	3.882	3.895	-0.013	1.000	1560412	0.9589	Target=13.05	95.9	3756	
356.86 > 243.00	3.882	3.895	-0.013	1.000	104067		14.99(6.52-19.57)		427	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.899	3.904	-0.005	0.945	152136	1.34		107	583	
29 6:2 FTCA										
377.10 > 63.00	3.908	3.913	-0.005	1.002	79997	0.9465	Target=1.29	94.6	375	
377.10 > 313.10	3.908	3.913	-0.005	1.002	63443		1.26(0.65-1.94)		93.8	
32 PFECBS										
460.80 > 380.90	4.059	4.065	-0.005	0.984	2583273	0.8429	Target=1.75	91.4	7218	
460.80 > 98.90	4.059	4.065	-0.005	0.984	1476834		1.75(0.87-2.62)		3468	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.107	4.112	-0.005	0.930	2096967	0.8690	Target=3.72	91.3	5129	
449.00 > 99.00	4.107	4.112	-0.005	0.930	539140		3.89(1.86-5.57)		2573	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.116	4.121	-0.005	0.998	910629	1.16		97.5	2964	
35 6:2 FTS										
427.00 > 407.00	4.116	4.121	-0.005	1.000	1241526	0.8849		93.3	2850	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.116	4.121	-0.005	0.998	5003375	1.31		105	13108	
D 31 13C4 PFOA										
417.00 > 372.00	4.125	4.131	-0.006	1.000	5158486	1.26		101	11365	
* 30 13C2 PFOA										
415.00 > 370.00	4.125	4.131	-0.006		5461512	1.25			12229	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.125	4.131	-0.006	1.000	4132795	0.9354	Target=2.51	93.5	2973	
413.00 > 169.00	4.125	4.131	-0.006	1.000	1737405		2.38(1.26-3.77)		3018	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.408	4.421	-0.013	0.998	654503	1.21		101	1941	
D 39 13C4 PFOS										
503.00 > 80.00	4.417	4.421	-0.004	1.071	2919983	1.19		99.7	3217	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.417	4.421	-0.004	1.000	2345783	0.8383	Target=4.30	90.3	3374	M
499.00 > 99.00	4.417	4.421	-0.004	1.000	522439		4.49(2.15-6.45)		1601	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.434	4.439	-0.005	1.000	4003946	0.9261	Target=3.60	92.6	3698	
463.00 > 169.00	4.434	4.439	-0.005	1.000	1037224		3.86(1.80-5.40)		2361	
D 41 13C5 PFNA										
468.00 > 423.00	4.434	4.439	-0.005	1.075	7105740	1.28		103	16927	
43 7:3 FTCA										
441.00 > 337.00	4.524	4.529	-0.005	0.993	689673	0.8820	Target=1.42	88.2	1630	
441.00 > 317.00	4.524	4.529	-0.005	0.993	519769		1.33(0.71-2.13)		1953	
44 8:2 FTUCA										
456.86 > 392.90	4.541	4.545	-0.004	1.000	1816384	0.8861	Target=35.37	88.6	3638	
456.86 > 343.00	4.541	4.545	-0.004	1.000	60077		30.23(17.68-53.05)		233	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.541	4.553	-0.012	1.000	2678875	1.36		109	3931	
46 8:2 FTCA										
477.00 > 393.10	4.557	4.562	-0.005	1.000	243719	0.9001	Target=3.35	90.0	1200	
477.00 > 63.20	4.557	4.562	-0.005	1.000	72059		3.38(1.68-5.03)		383	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.557	4.562	-0.005	1.105	186890	1.29		104	621	
49 9CIFOS										
531.00 > 351.00	4.574	4.578	-0.004	1.109	4722951	0.8597		92.2	7679	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.693	4.697	-0.004	1.063	2234292	0.9041	Target=3.99	94.2	4981	
549.00 > 99.00	4.693	4.697	-0.004	1.063	577965		3.87(2.00-5.99)		1701	
D 55 13C8 FOSA										
506.00 > 78.00	4.710	4.714	-0.004	1.142	4612583	1.25		99.6	5436	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.710	4.714	-0.004	1.000	3346513	0.9496		95.0	6846	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										M
513.00 > 469.00	4.719	4.731	-0.012	1.000	4801027	0.9694	Target=10.58	96.9	3612	
513.00 > 169.00	4.719	4.731	-0.012	1.000	428952		11.19(5.29-15.88)		302	M
D 52 13C2 PFDA										
515.00 > 470.00	4.719	4.731	-0.012	1.144	6880600	1.30		104	12880	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.736	4.740	-0.004	1.148	1067126	1.25		104	2100	
53 8:2 FTS										
527.00 > 507.00	4.736	4.740	-0.004	1.000	1229831	0.9163		95.7	3492	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.867	4.872	-0.005	1.180	645407	1.30		104	338	
57 NMeFOSAA										
570.00 > 419.00	4.867	4.880	-0.013	1.000	472468	0.99		99.0	522	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.953	4.957	-0.004	1.121	2016136	0.9262	Target=3.55	96.1	5463	
599.00 > 99.00	4.953	4.957	-0.004	1.121	570745		3.53(1.78-5.33)		3220	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.990	4.995	-0.005	1.002	4865521	0.9412	Target=8.26	94.1	5706	
563.00 > 169.00	4.980	4.995	-0.015	1.000	587613		8.28(4.13-12.39)		2038	
D 59 13C2 PFUnA										
565.00 > 520.00	4.980	4.995	-0.015	1.207	6681399	1.31		105	18960	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.999	5.005	-0.006	1.212	671916	1.32		106	2752	
62 NEtFOSAA										M
584.00 > 419.00	5.009	5.015	-0.006	1.002	481285	1.02		102	644	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.087	5.093	-0.006	1.233	2760539	1.24		99.5	6610	
65 10:2 FTUCA										
556.86 > 492.90	5.087	5.093	-0.006	1.000	2661922	1.00		99.8	4881	
63 11C1FOS										
631.00 > 451.00	5.087	5.093	-0.006	1.152	3903447	0.9170		97.3	7193	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.106	5.112	-0.006	1.238	164813	1.22		97.6	932	
66 10:2 FTCA										
576.80 > 493.00	5.106	5.112	-0.006	1.000	128965	1.07	Target=2.53	107	528	
576.80 > 63.10	5.106	5.112	-0.006	1.000	53485		2.41(1.26-3.79)		174	
D 69 13C2 PFDoA										
615.00 > 570.00	5.222	5.226	-0.004	1.266	6532426	1.30		104	11178	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.222	5.226	-0.004	1.000	4941545	0.9153	Target=6.85	91.5	4219	
613.00 > 169.00	5.222	5.226	-0.004	1.000	718761		6.88(3.43-10.28)		1402	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.238	5.243	-0.005	1.270	891238	1.24		104	2517	
71 10:2 FTS										
627.00 > 607.00	5.246	5.251	-0.005	1.002	1408287	0.8910		92.4	6082	
74 NMeFOSA										
512.00 > 169.00	5.278	5.284	-0.006	1.000	434048	0.9257		92.6	655	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.278	5.284	-0.006	1.279	542574	1.23		98.4	43.1	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.278	5.284	-0.006	1.279	635535	1.23		98.1	426	
75 N-MeFOSE-M										
616.00 > 59.00	5.287	5.292	-0.005	1.002	593042	0.99		99.4	848	
76 PFDoS										
699.00 > 80.00	5.394	5.399	-0.005	1.221	2080148	0.9005	Target=4.22	93.0	4288	
699.00 > 99.00	5.394	5.399	-0.005	1.221	485372		4.29(2.11-6.34)		2667	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.430	5.435	-0.005	1.040	4337887	0.9400	Target=6.32	94.0	4571	
663.00 > 169.00	5.430	5.435	-0.005	1.040	680201		6.38(3.16-9.48)		2943	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.439	5.435	0.004	1.318	708355	1.32		105	333	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.447	5.452	-0.005	1.320	434731	1.23		98.3	626	
79 N-EtFOSE-M										
630.00 > 59.00	5.447	5.452	-0.005	1.002	698419	0.8686		86.9	750	
81 N-EtFOSA-M										
526.00 > 169.00	5.456	5.452	0.004	1.002	426939	0.9829		98.3	551	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.612	5.617	-0.005	1.000	485607	0.9551	Target=1.01	95.5	2099	
713.00 > 219.00	5.612	5.617	-0.005	1.000	475156		1.02(0.51-1.52)		2189	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.612	5.617	-0.005	1.360	4922418	1.22		97.8	12783	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.921	5.924	-0.003	1.000	2807562	0.9359	Target=8.64	93.6	3345	
813.00 > 169.00	5.921	5.924	-0.003	1.000	337316		8.32(4.32-12.97)		1167	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.921	5.924	-0.003	1.435	3290594	1.26		100	5529	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.181	6.185	-0.004	1.044	2513900	0.9428	Target=11.77	94.3	3618	
913.00 > 169.00	6.181	6.185	-0.004	1.044	210516		11.94(5.88-17.65)		852	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL



Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Injection Date: 18-Feb-2022 23:39:02

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 29

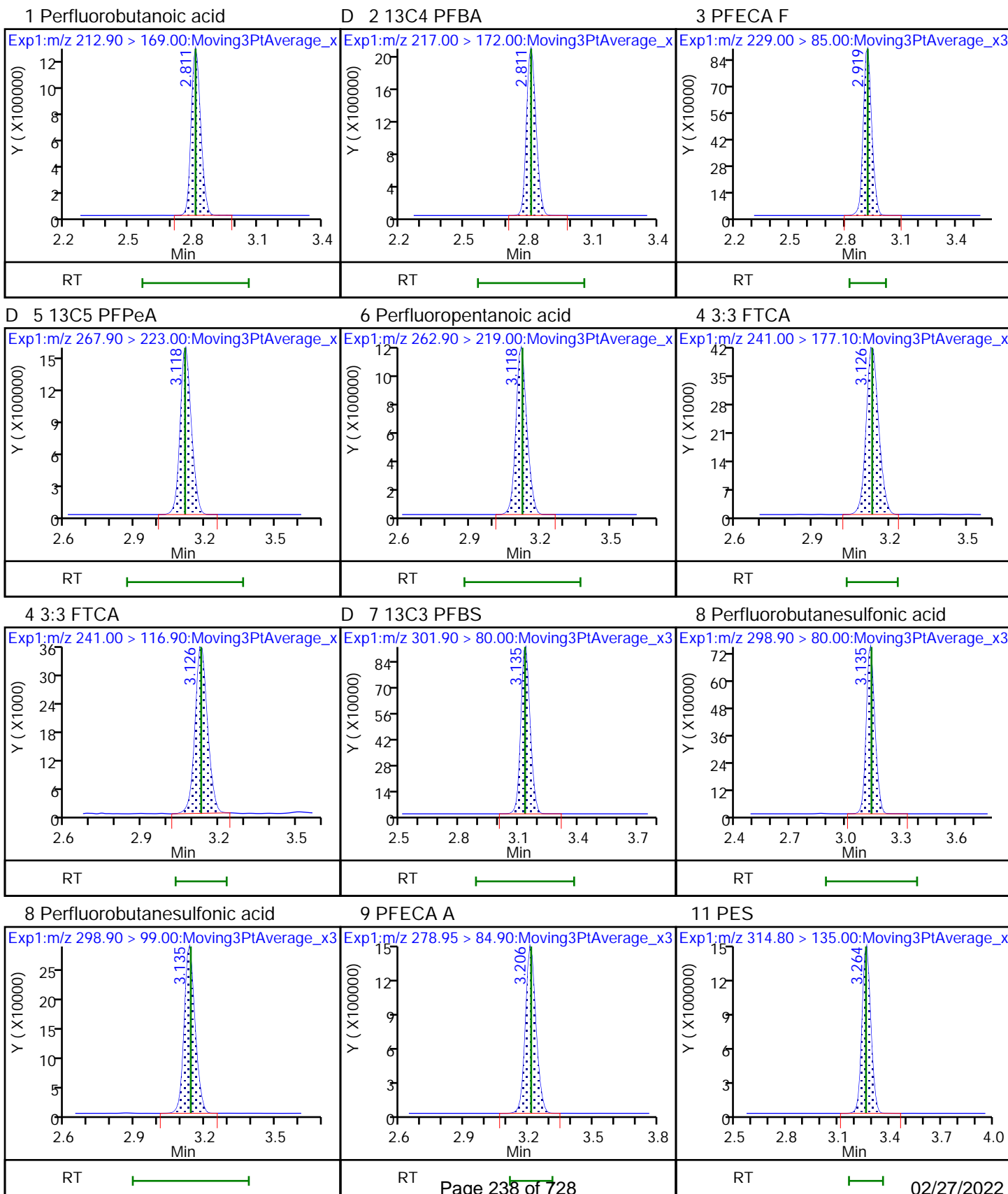
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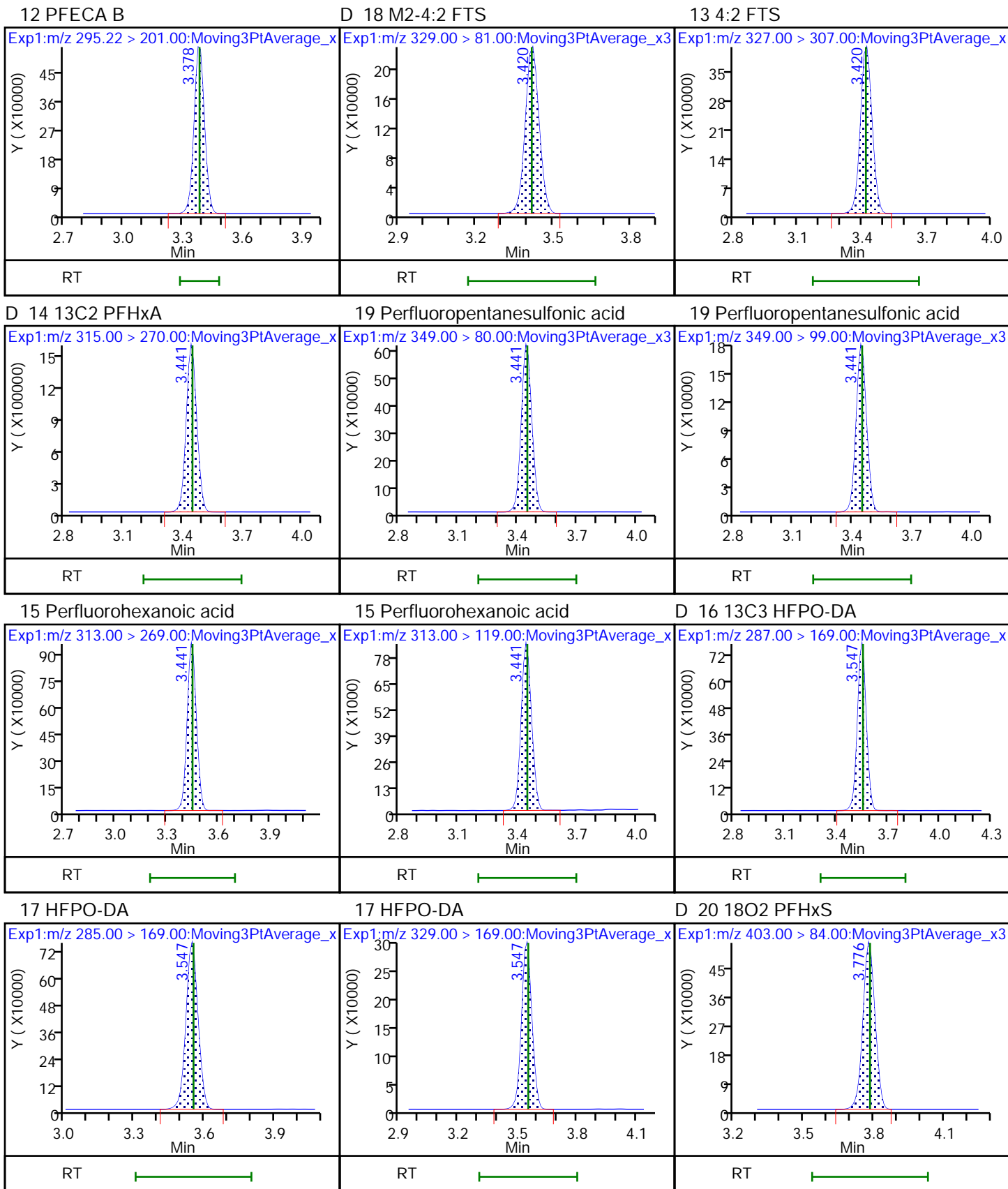
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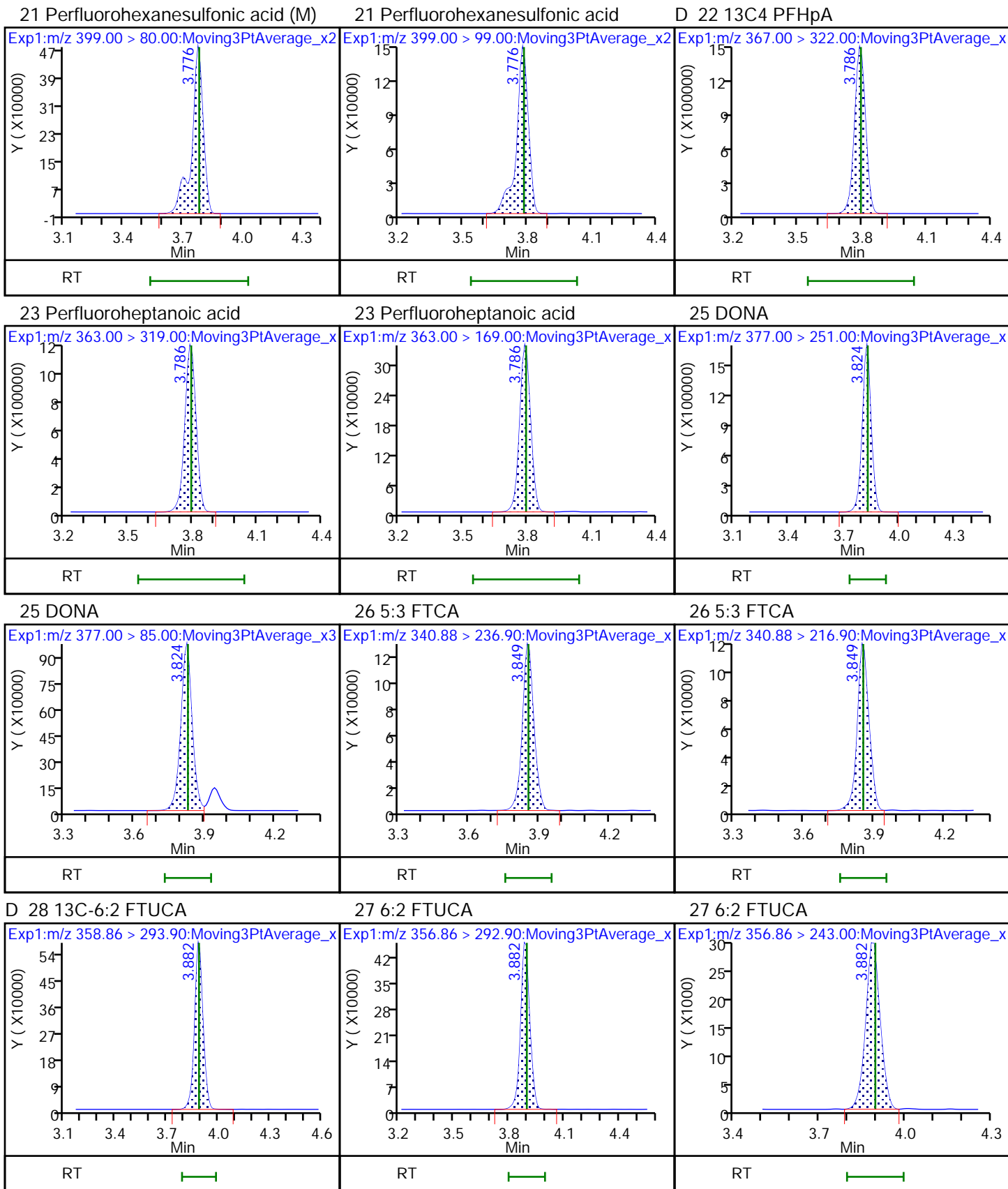
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Method: PFC\_LCA

Limit Group: LC - PFC- ICAL



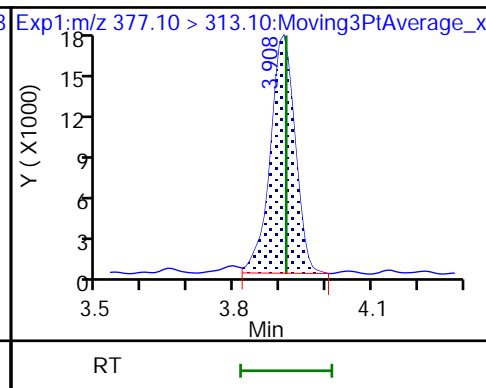
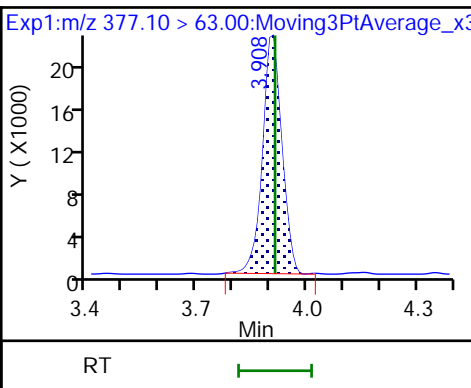
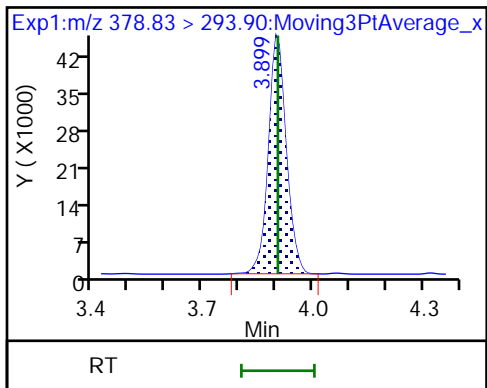




D 24 13C-6:2 FTCA

29 6:2 FTCA

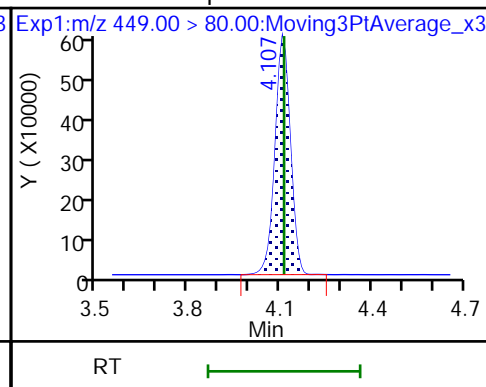
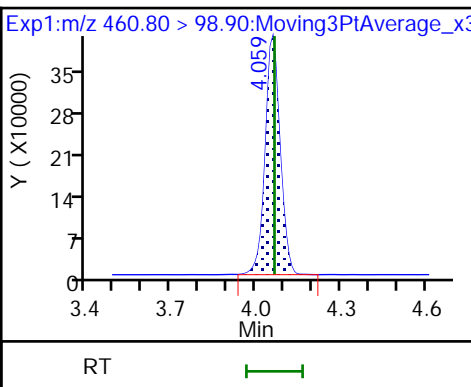
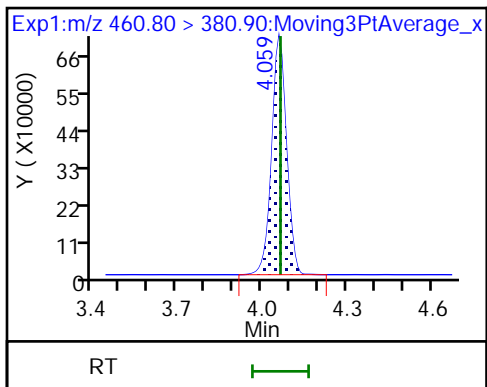
29 6:2 FTCA



32 PFECHS

32 PFECHS

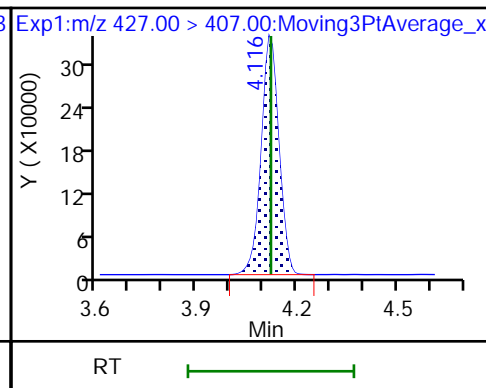
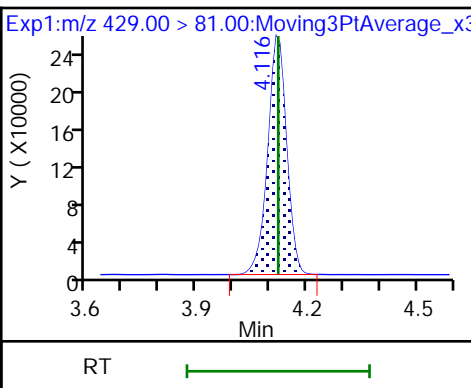
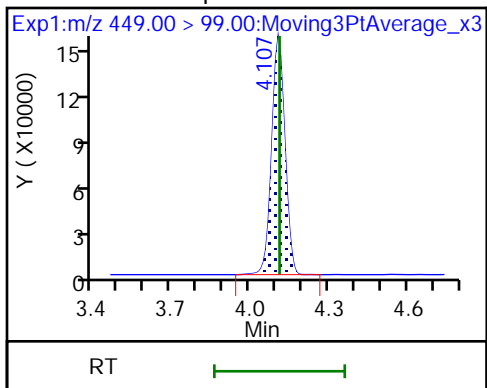
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

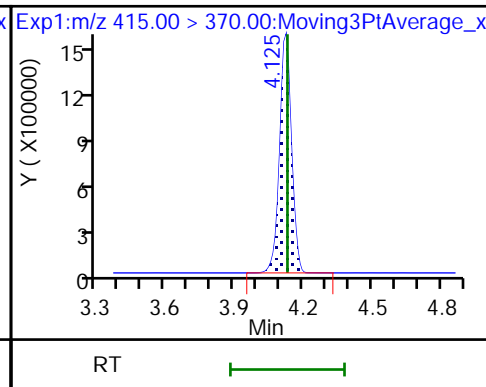
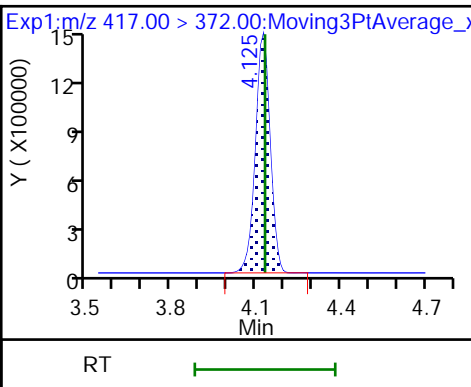
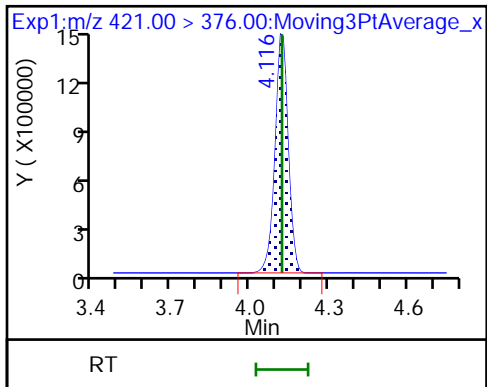
35 6:2 FTS

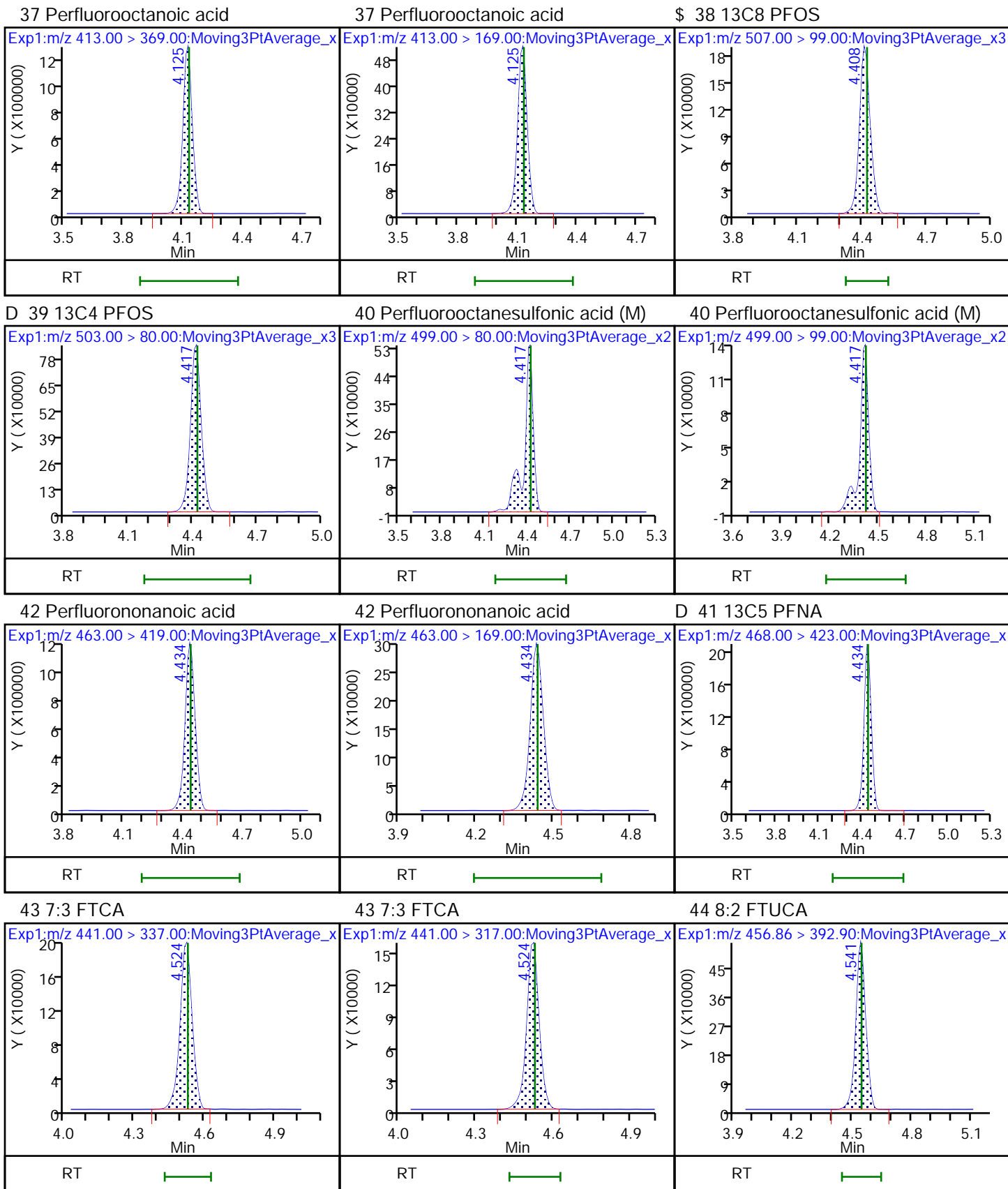


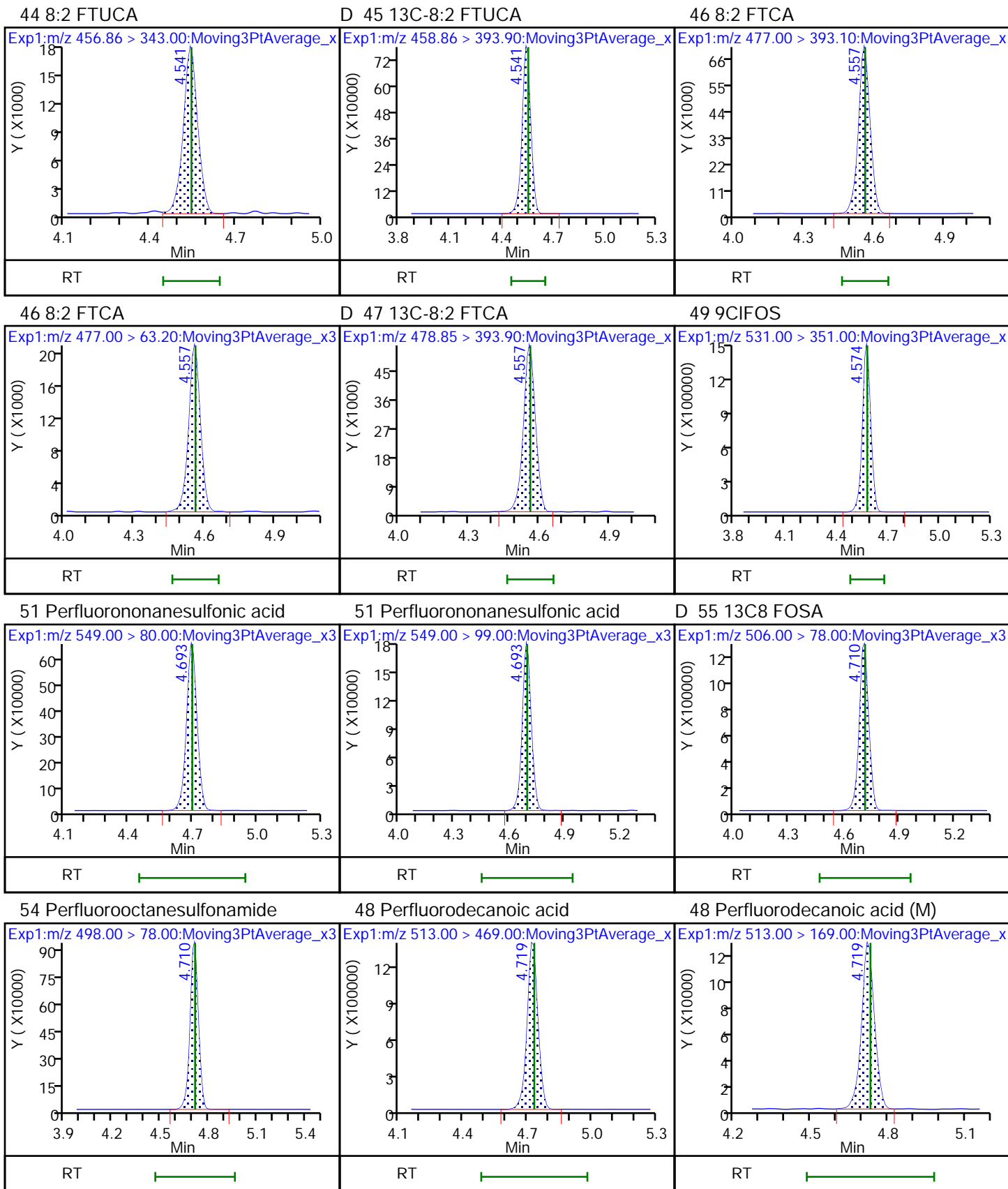
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



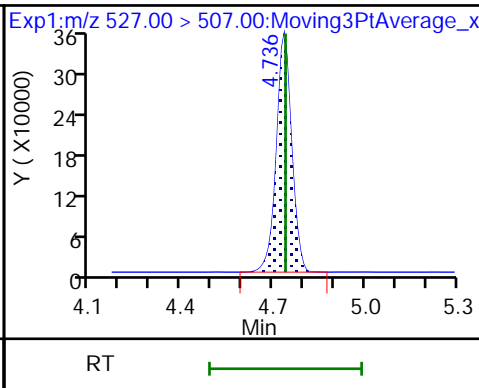
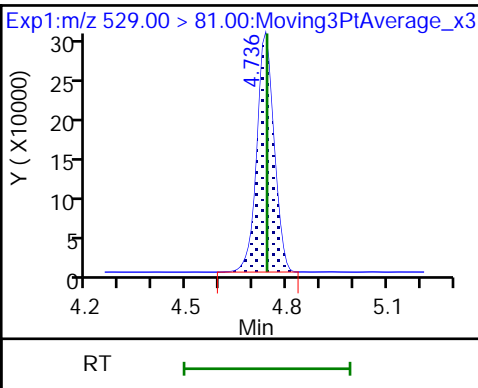
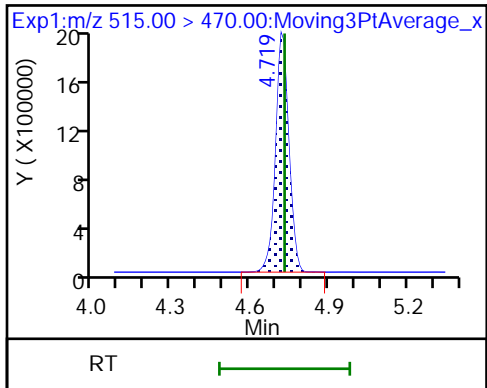




D 52 13C2 PFDA

D 50 M2-8:2 FTS

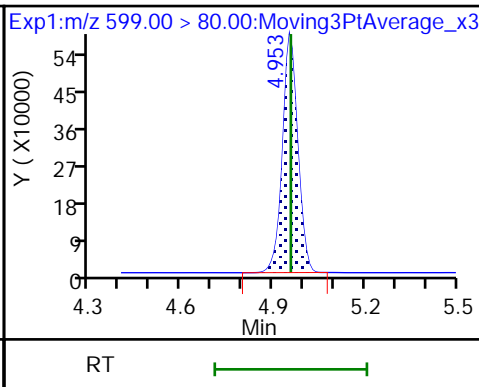
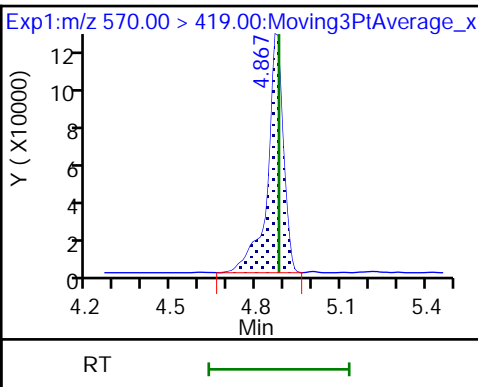
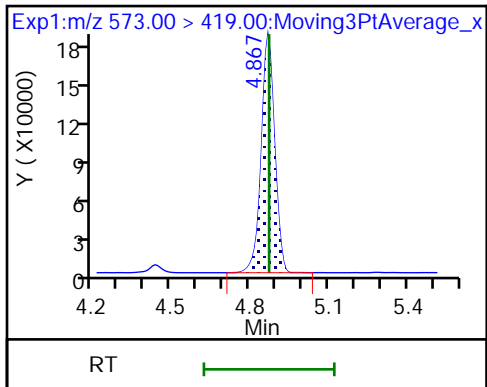
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA

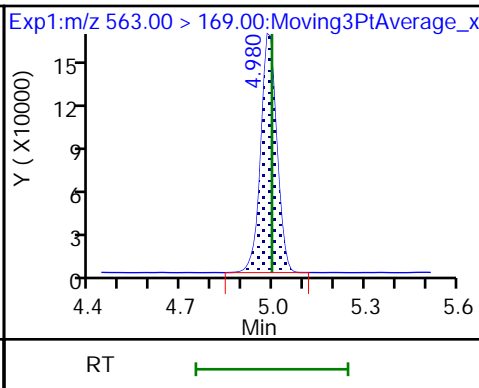
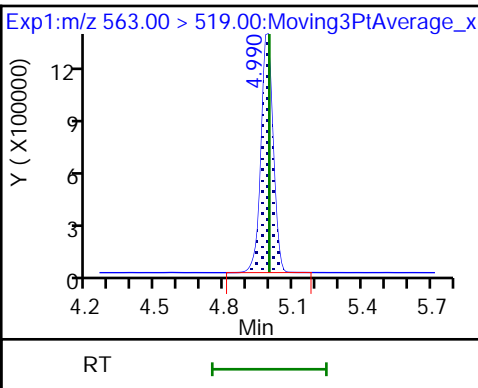
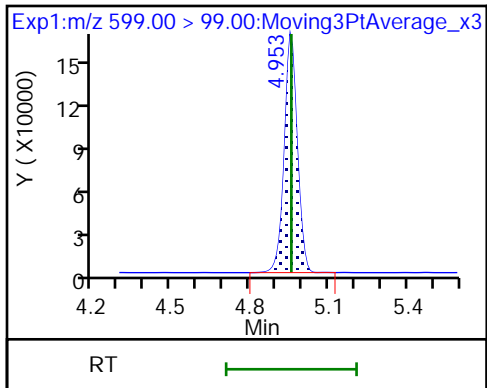
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

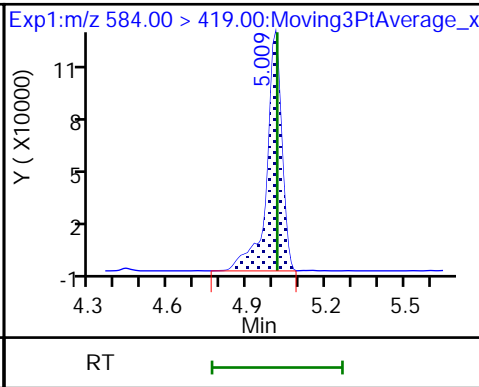
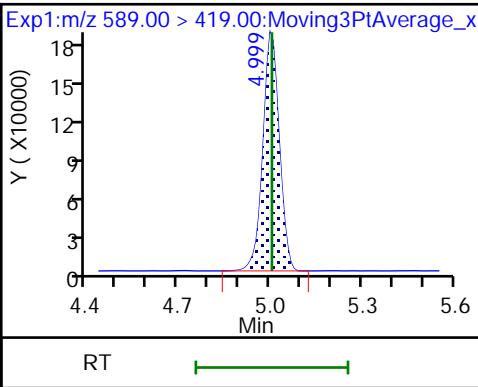
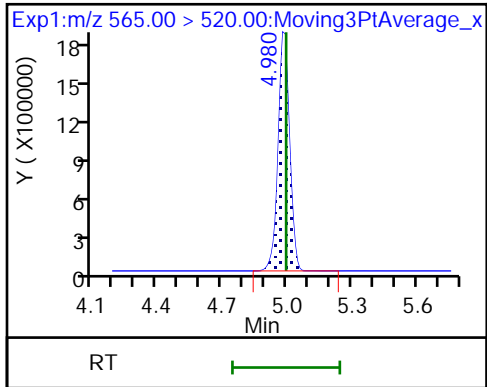
60 Perfluoroundecanoic acid



D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

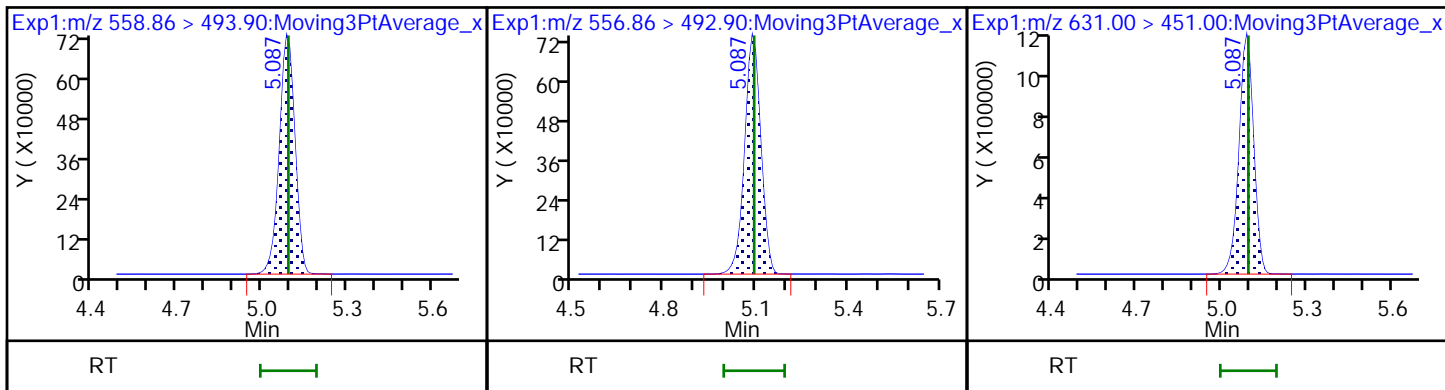
62 NEtFOSAA (M)



D 67 13C-10:2 FTUCA

65 10:2 FTUCA

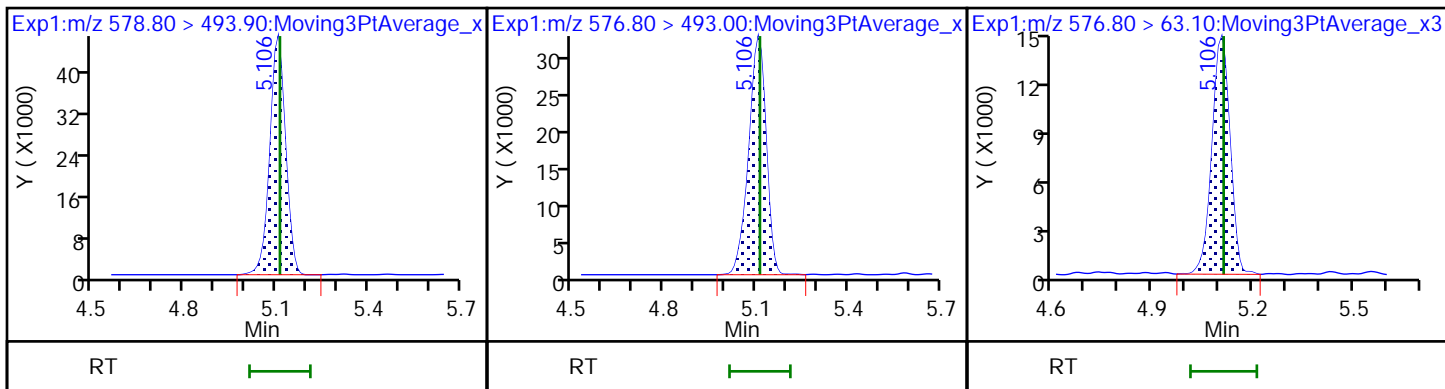
63 11CIFOS



D 64 13C-10:2 FTCA

66 10:2 FTCA

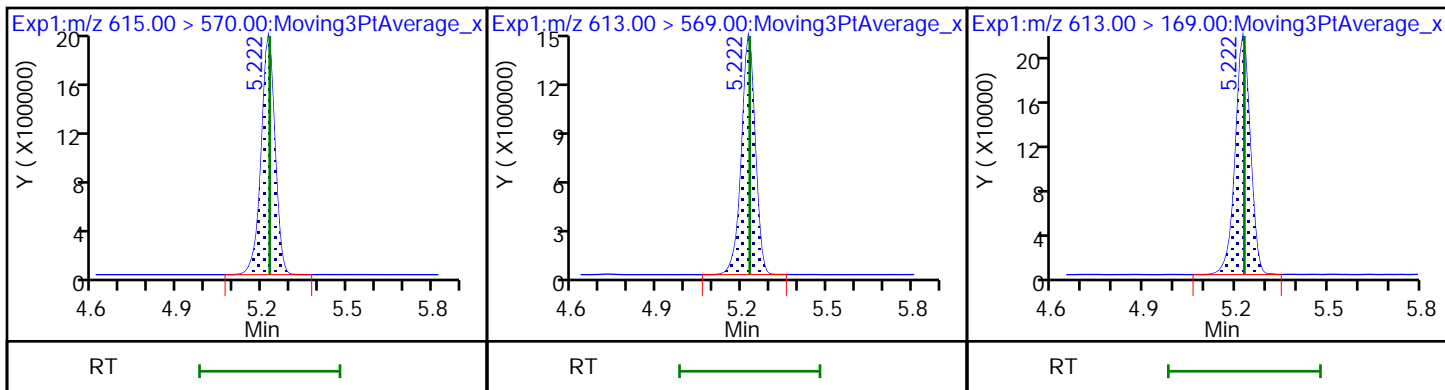
66 10:2 FTCA



D 69 13C2 PFDaA

68 Perfluorododecanoic acid

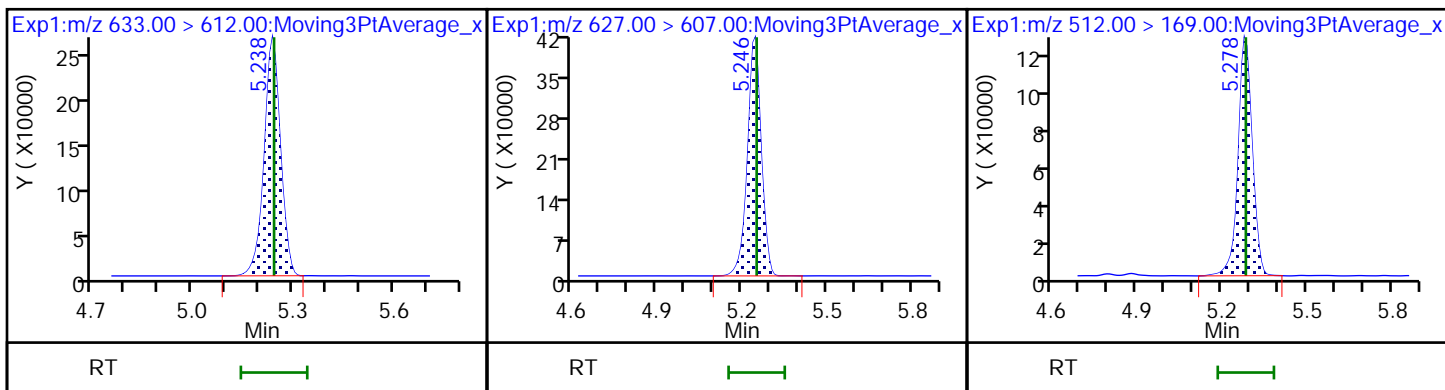
68 Perfluorododecanoic acid



D 70 13C2 10:2 FTS

71 10:2 FTS

74 NMeFOSA

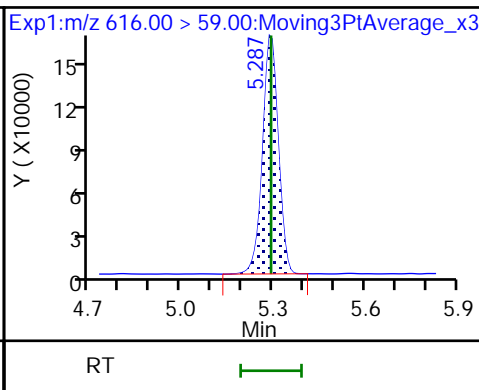
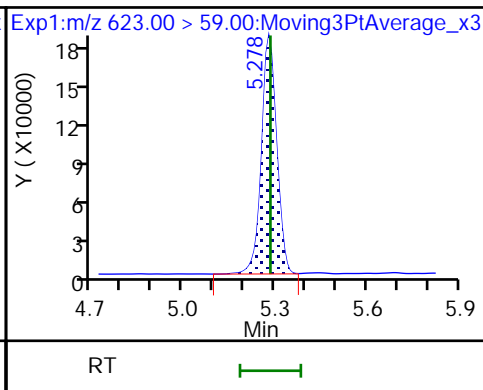
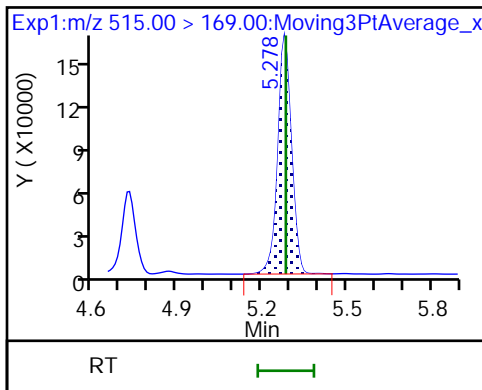




D 73 d-N-MeFOSE-M

D 72 d7-N-MeFOSE-M

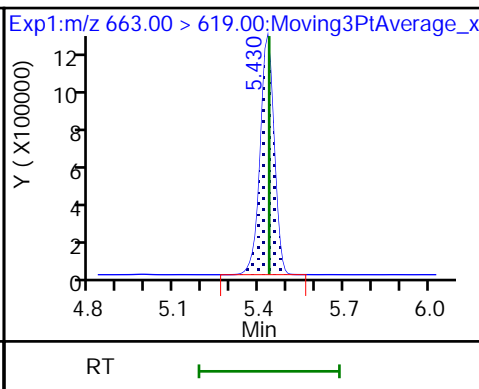
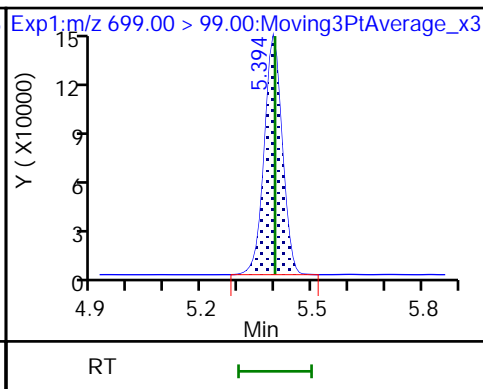
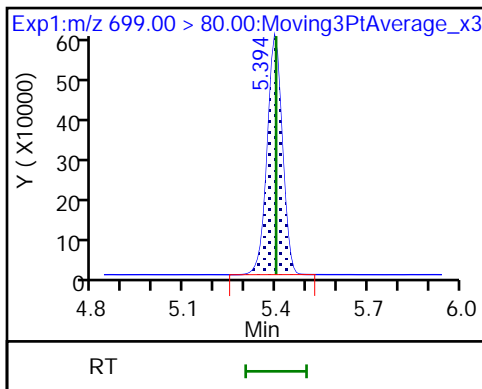
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

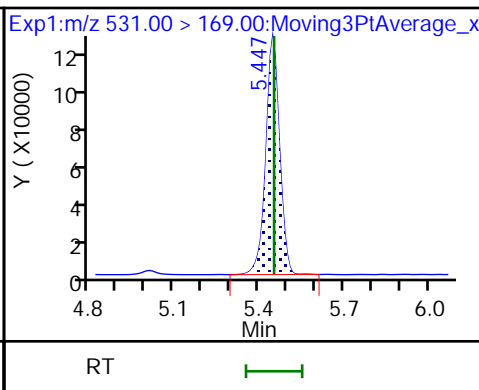
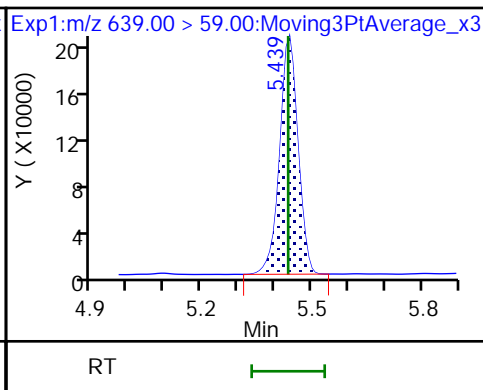
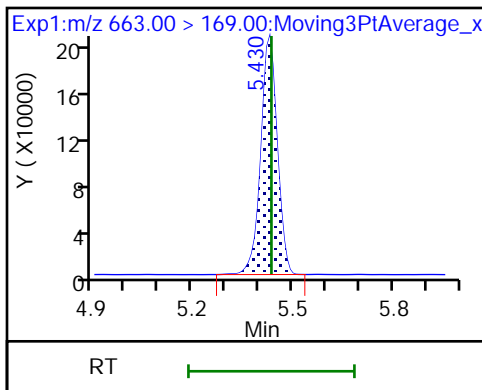
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

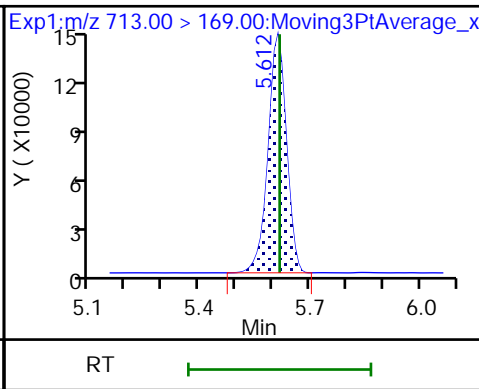
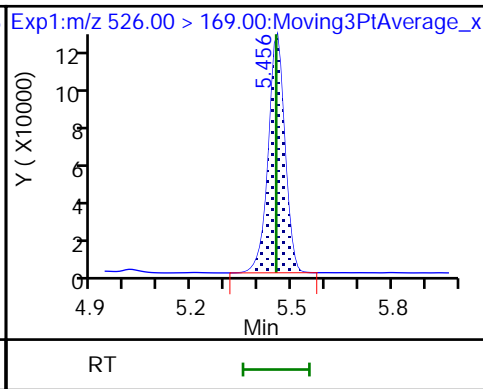
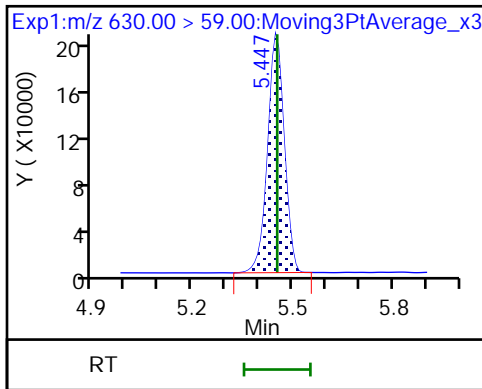
D 80 d-N-EtFOSE-M

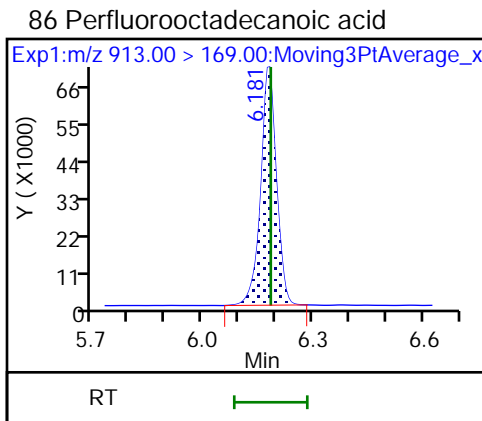
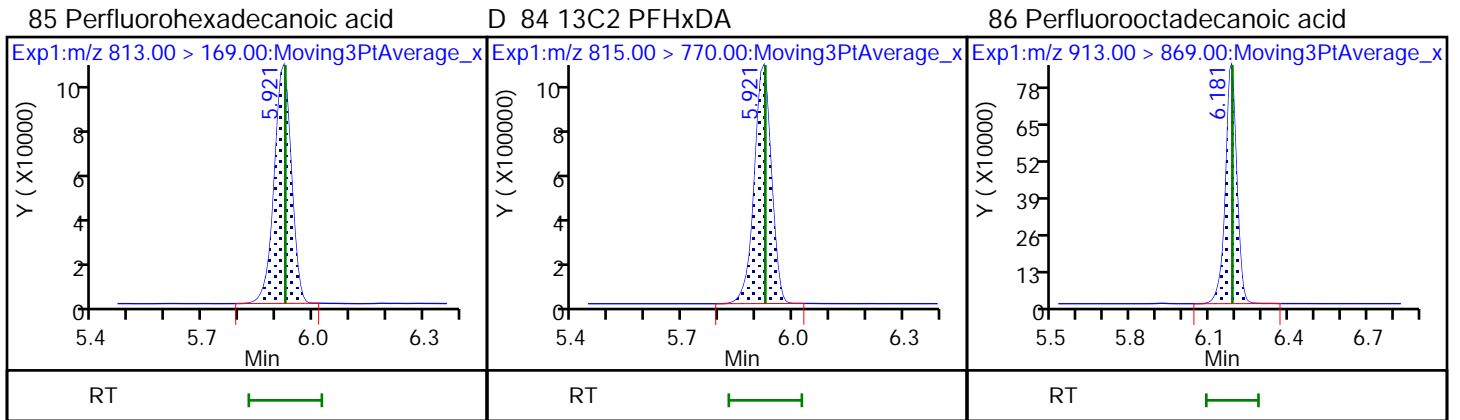
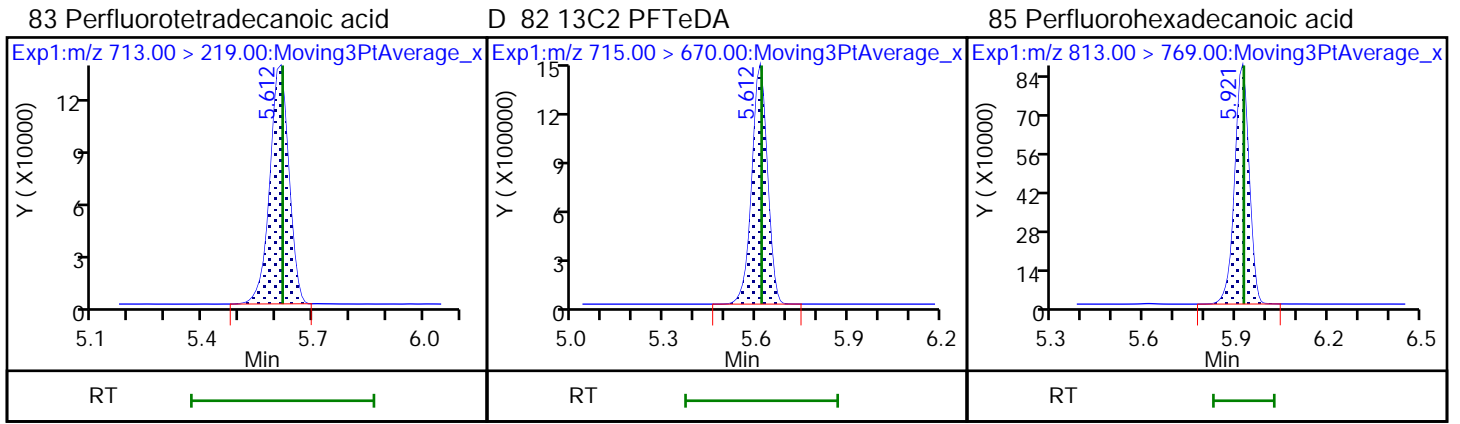


79 N-EtFOSE-M

81 N-EtFOSE-M

83 Perfluorotetradecanoic acid





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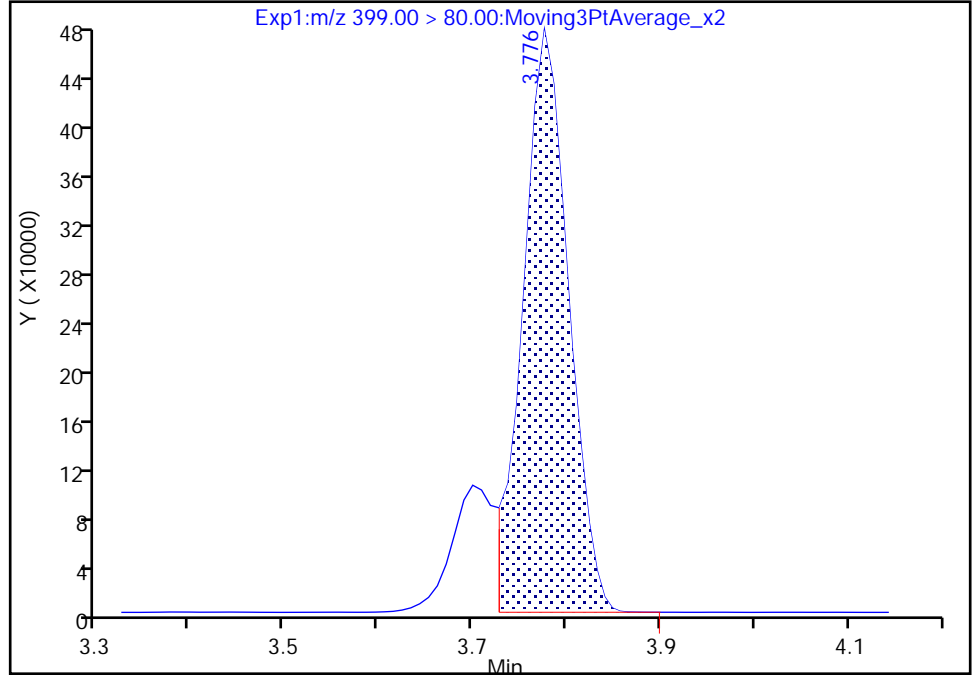
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Injection Date: 18-Feb-2022 23:39:02 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

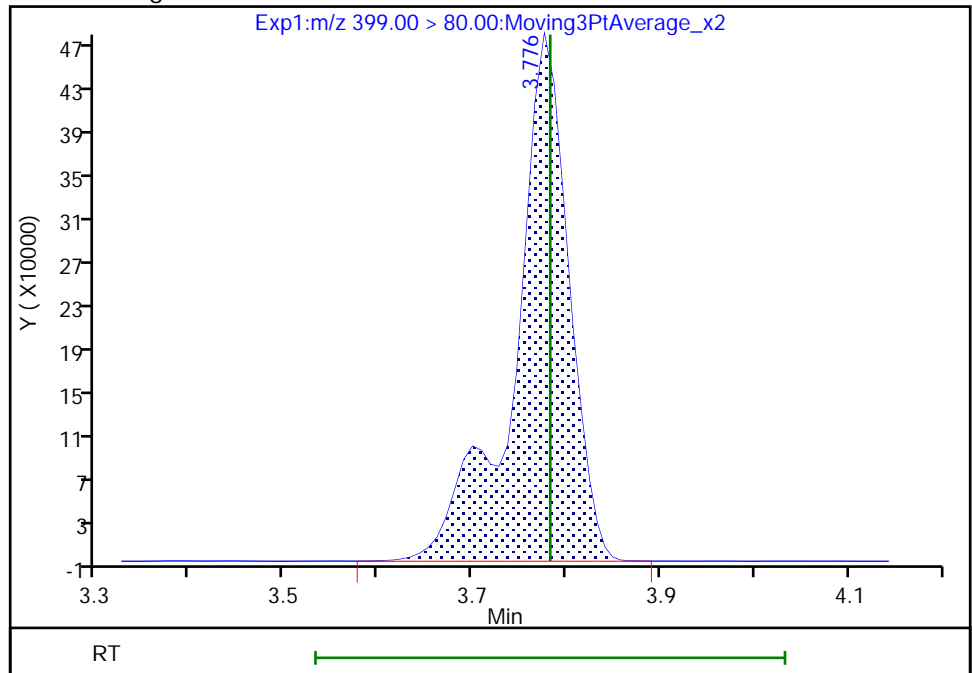
RT: 3.78  
Area: 1583964  
Amount: 0.720470  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 1909410  
Amount: 0.868500  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:20:48  
Audit Action: Manually Integrated

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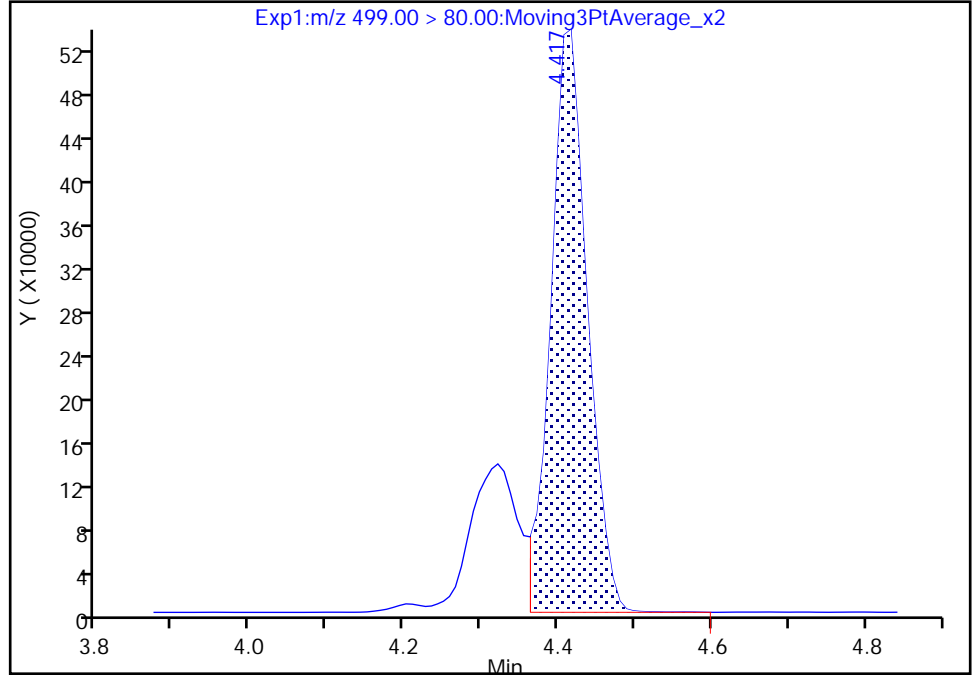
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

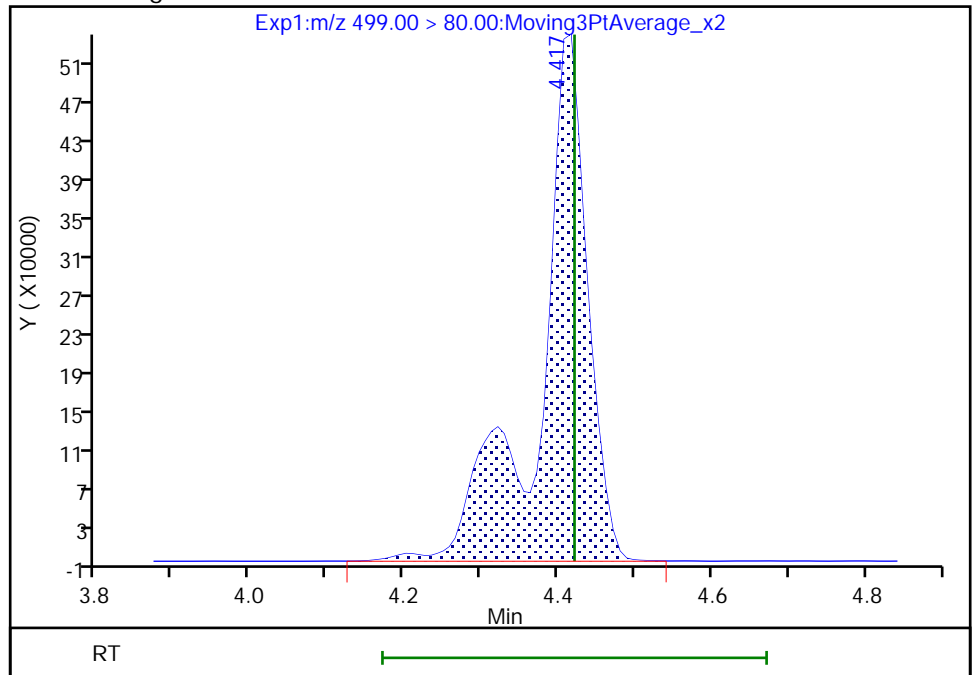
RT: 4.42  
Area: 1743095  
Amount: 0.622905  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 2345783  
Amount: 0.838280  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:21:01  
Audit Action: Manually Integrated

Eurofins Knoxville

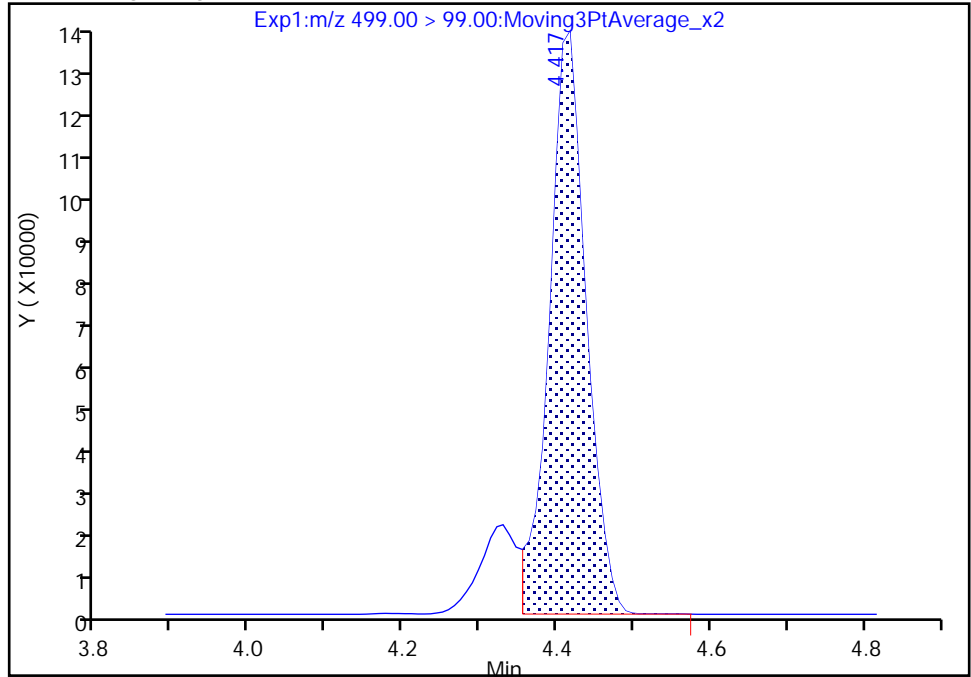
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

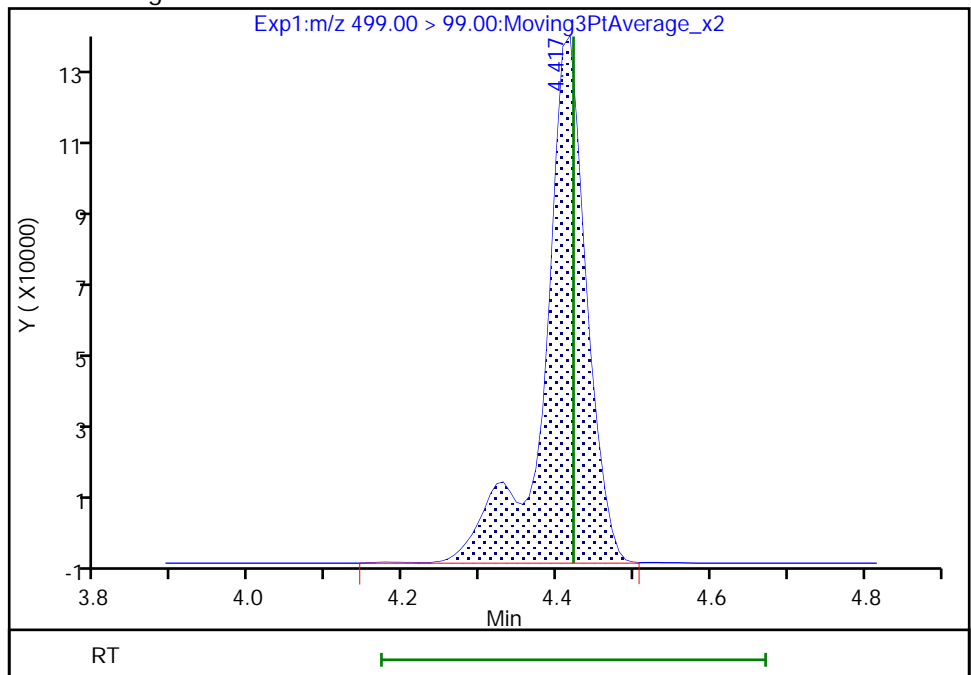
RT: 4.42  
Area: 450512  
Amount: 0.622905  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 522439  
Amount: 0.838280  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:21:08

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

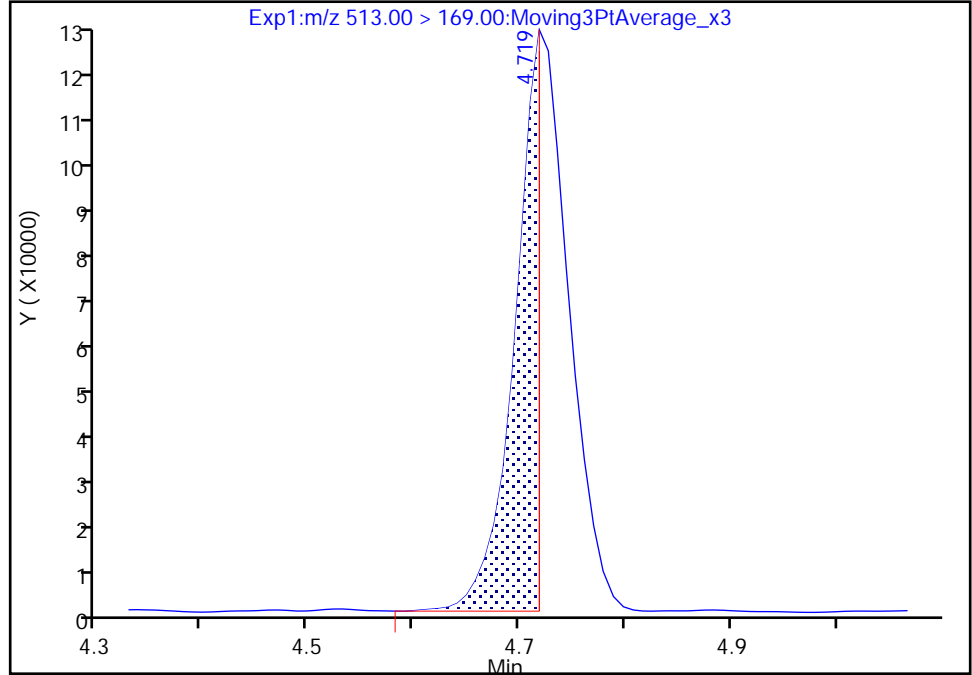
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

48 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 2

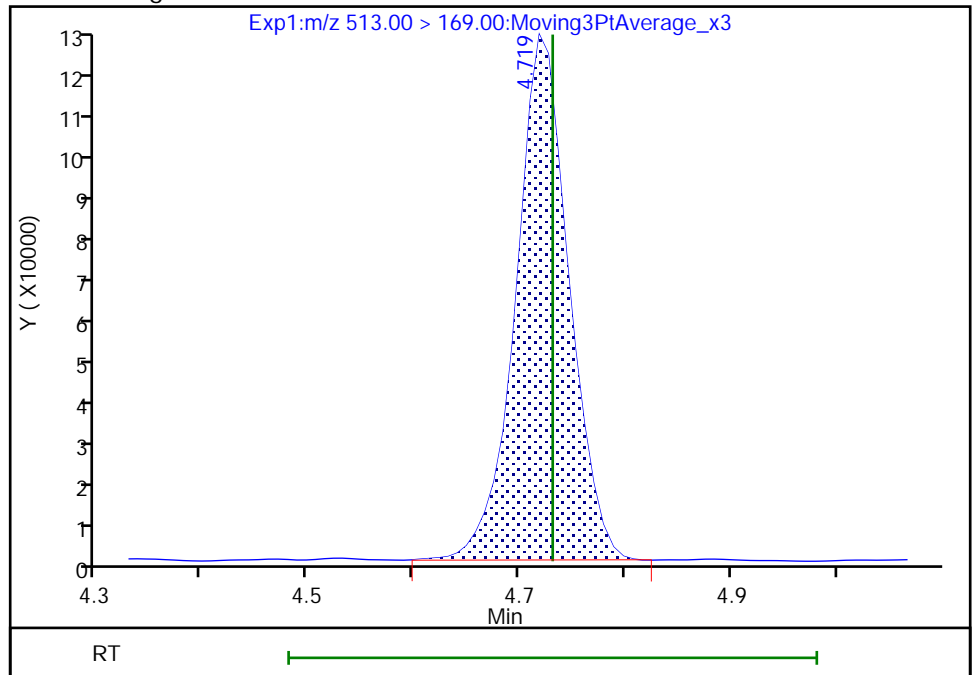
RT: 4.72  
Area: 191187  
Amount: 0.969406  
Amount Units: ng/ml

Processing Integration Results



RT: 4.72  
Area: 428952  
Amount: 0.969406  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:21:19  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

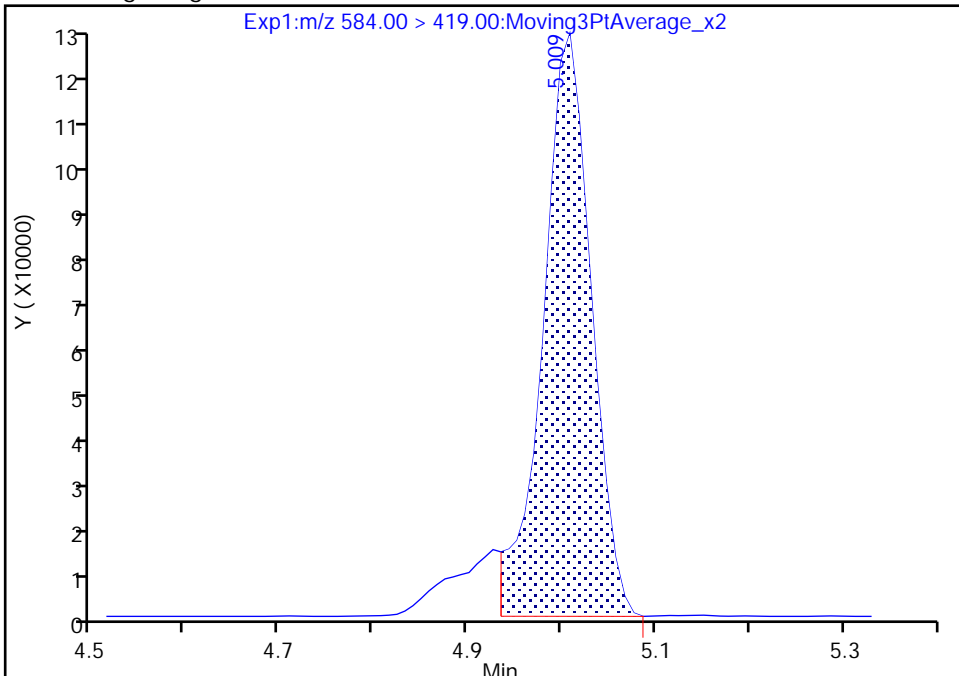
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Injection Date: 18-Feb-2022 23:39:02 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

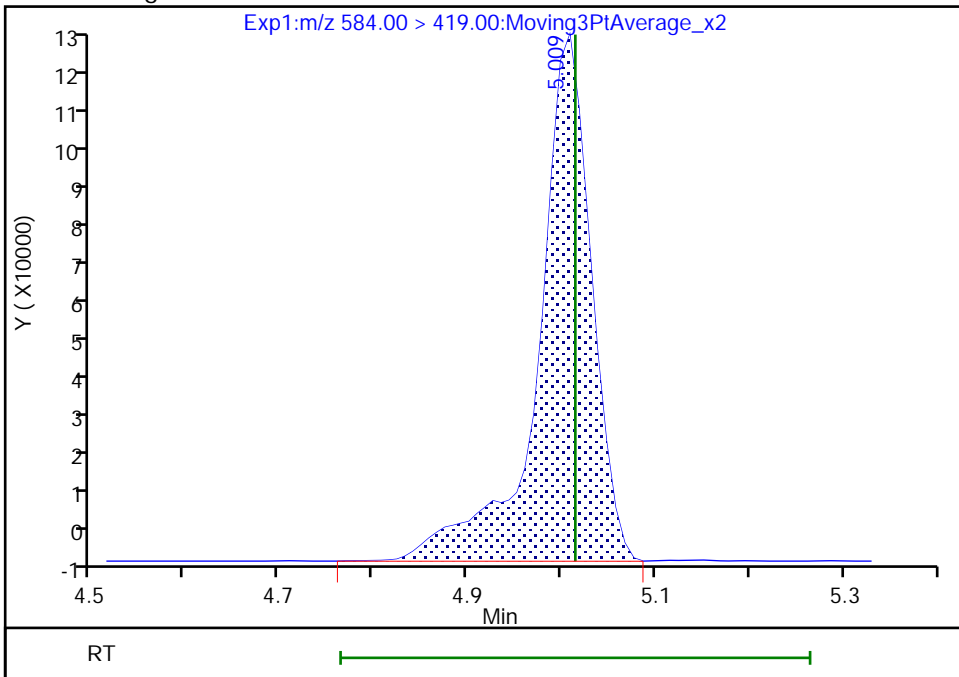
RT: 5.01  
Area: 430675  
Amount: 0.912076  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 481285  
Amount: 1.017616  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:21:31  
Audit Action: Manually Integrated

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/42 Calibration Date: 02/19/2022 01:33  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8268		2.61	2.50	4.5	40.0
PFECA F	AveID	0.7535	0.7617		2.53	2.50	1.1	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9847		2.63	2.50	5.1	40.0
3:3 FTCA	QuaIF		0.0567		2.62	2.50	4.7	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.135		2.26	2.21	2.1	40.0
PFECA A	Q2ID		1.227		2.57	2.50	2.9	40.0
PES	Q2ID		2.471		2.27	2.23	2.1	40.0
PFECA B	Q2ID		0.4720		2.72	2.50	8.8	40.0
4:2 FTS	L2ID		2.334		2.40	2.34	2.8	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8012		2.53	2.50	1.2	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.045		2.37	2.35	1.2	40.0
HFPO-DA	L2ID		1.414		2.81	2.50	12.3	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.322		2.17	2.28	-4.6	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.030		2.54	2.50	1.4	40.0
DONA	AveID	2.644	2.513		2.24	2.36	-4.9	40.0
5:3 FTCA	L2ID		3.758		2.50	2.50	-0.0	40.0
6:2 FTUCA	AveID	1.046	1.025		2.45	2.50	-2.1	40.0
6:2 FTCA	L1ID		0.6992		2.53	2.50	1.1	40.0
PFECHS	AveID	0.7426	0.7708		2.39	2.31	3.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9804		2.36	2.38	-0.7	40.0
6:2 FTS	L2ID		1.805		2.34	2.37	-1.1	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.037		2.43	2.50	-2.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.123		2.27	2.32	-2.0	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7645		2.51	2.50	0.5	40.0
7:3 FTCA	AveID	5.230	5.019		2.40	2.50	-4.0	40.0
8:2 FTUCA	AveID	0.9565	0.9687		2.53	2.50	1.3	40.0
8:2 FTCA	AveID	1.811	1.717		2.37	2.50	-5.2	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.191		2.27	2.33	-2.6	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.007		2.39	2.40	-0.5	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9586		2.51	2.50	0.4	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9333		2.61	2.50	4.2	40.0
8:2 FTS	L2ID		1.563		2.50	2.40	4.3	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9683		2.56	2.50	2.5	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9684		2.63	2.41	9.0	50.0



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/42 Calibration Date: 02/19/2022 01:33  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.019		2.63	2.50	5.4	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9635		2.64	2.50	5.7	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.760		2.39	2.36	1.3	50.0
10:2 FTUCA	AveID	1.208	1.212		2.51	2.50	0.4	40.0
10:2 FTCA	Q2ID		1.133		2.94	2.50	17.6	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.004		2.43	2.50	-2.8	40.0
10:2 FTS	L2ID		2.205		2.54	2.41	5.5	50.0
NMeFOSA	L2ID		1.007		2.34	2.50	-6.4	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.246		2.66	2.50	6.4	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9537		2.44	2.42	0.9	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8727		2.47	2.50	-1.2	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.434		2.53	2.50	1.1	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.279		2.57	2.50	2.7	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1324		2.57	2.50	2.9	40.0
Perfluorohexadecanoic acid	L1ID		1.131		2.50	2.50	0.0	40.0
Perfluorooctadecanoic acid	AveID	1.013	1.008		2.49	2.50	-0.5	40.0
13C4 PFBA	Ave	1.172	1.149		1.23	1.25	-2.0	50.0
13C5 PFPeA	Ave	0.9197	0.8802		1.20	1.25	-4.3	50.0
13C3 PFBS	Ave	0.5817	0.5708		1.14	1.16	-1.9	50.0
M2-4:2 FTS	Ave	0.1821	0.1612		1.03	1.17	-11.5	50.0
13C2 PFHxA	Ave	1.015	0.9749		1.20	1.25	-3.9	50.0
13C3 HFPO-DA	Ave	0.4963	0.4872		1.23	1.25	-1.8	50.0
18O2 PFHxS	Ave	0.3776	0.3739		1.17	1.18	-1.0	50.0
13C4 PFHpA	Ave	0.9046	0.8836		1.22	1.25	-2.3	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3486		1.29	1.25	3.3	50.0
13C-6:2 FTCA	Ave	0.0260	0.0269		1.29	1.25	3.2	50.0
13C4 PFOA	Ave	0.9356	0.9226		1.23	1.25	-1.4	50.0
M2-6:2 FTS	Ave	0.1799	0.1759		1.16	1.19	-2.3	50.0
13C4 PFOS	Ave	0.5610	0.5531		1.18	1.20	-1.4	50.0
13C5 PFNA	Ave	1.268	1.268		1.25	1.25	-0.0	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4624		1.28	1.25	2.3	50.0
13C-8:2 FTCA	Ave	0.0330	0.0354		1.34	1.25	7.0	50.0
13C8 FOSA	Ave	0.8475	0.8260		1.22	1.25	-2.5	50.0
13C2 PFDA	Ave	1.210	1.161		1.20	1.25	-4.0	50.0
M2-8:2 FTS	Ave	0.1961	0.1702		1.04	1.20	-13.2	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/42 Calibration Date: 02/19/2022 01:33  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1169		1.29	1.25	3.0	50.0
13C2 PFUnA	Ave	1.168	1.128		1.21	1.25	-3.4	50.0
d5-NEtFOSAA	Ave	0.1164	0.1167		1.25	1.25	0.2	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5134		1.26	1.25	1.1	50.0
13C-10:2 FTCA	Ave	0.0309	0.0260		1.05	1.25	-16.0	50.0
13C2 PFDoA	Ave	1.152	1.152		1.25	1.25	-0.0	50.0
13C2 10:2 FTS	Ave	0.1652	0.1554		1.11	1.18	-5.9	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1029		1.27	1.25	1.9	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1170		1.23	1.25	-1.3	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1182		1.20	1.25	-4.0	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0814		1.26	1.25	0.5	50.0
13C2 PFTeDA	Ave	0.9216	0.9113		1.24	1.25	-1.1	50.0
13C2 PFHxDA	Ave	0.5997	0.6043		1.26	1.25	0.8	50.0
13C8 PFOA	AveID	0.9229	0.9310		1.26	1.25	0.9	50.0
13C8 PFOS	AveID	0.2212	0.2280		1.23	1.20	3.1	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_042.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 19-Feb-2022 01:33:37 ALS Bottle#: 42 Worklist Smp#: 42  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-042 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:50:53 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:29:28

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.805	2.811	-0.006	1.000	9955124	2.61		105	2136	
D 2 13C4 PFBA										
217.00 > 172.00	2.805	2.811	-0.006	0.680	6020458	1.23		98.0	16994	
3 PFECA F										
229.00 > 85.00	2.912	2.919	-0.007	0.935	7028087	2.53		101	17447	
D 5 13C5 PFPeA										
267.90 > 223.00	3.116	3.115	0.001	0.756	4613374	1.20		95.7	17468	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.116	3.123	-0.007	1.000	9086038	2.63		105	3023	
4 3:3 FTCA										
241.00 > 177.10	3.124	3.131	-0.007	0.997	339307	2.62	Target=1.13	105	2663	
241.00 > 116.90	3.124	3.131	-0.007	0.997	288557		1.18(0.56-1.69)		533	
D 7 13C3 PFBS										
301.90 > 80.00	3.132	3.131	0.001	0.760	2782180	1.14		98.1	11010	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.132	3.140	-0.008	1.000	6004064	2.26	Target=2.61	102	5221	
298.90 > 99.00	3.132	3.140	-0.008	1.000	2211736		2.71(1.31-3.92)		5149	
9 PFECA A										
278.95 > 84.90	3.203	3.211	-0.008	1.028	11322413	2.57		103	21238	
11 PES										
314.80 > 135.00	3.261	3.260	0.001	1.041	13156253	2.27		102	22092	
12 PFECA B										
295.22 > 201.00	3.375	3.384	-0.009	0.981	4824148	2.72		109	14246	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.417	3.416	0.001	0.829	789127	1.03		88.5	1645	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.417	3.416	0.001	1.000	3684179	2.40		103	9435	
D 14 13C2 PFHxA										
315.00 > 270.00	3.439	3.448	-0.009	0.834	5110007	1.20		96.1	13536	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.439	3.448	-0.009	1.098	5862920	2.37	Target=3.55	101	12238	
349.00 > 99.00	3.439	3.448	-0.009	1.098	1641858		3.57(1.78-5.33)		11205	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.439	3.448	-0.009	1.000	8187791	2.53	Target=11.60	101	3546	
313.00 > 119.00	3.439	3.448	-0.009	1.000	726231		11.27(5.80-17.40)		740	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.553	-0.009	0.860	2553792	1.23		98.2	4798	
17 HFPO-DA										M
285.00 > 169.00	3.544	3.553	-0.009	1.000	7222689	2.81	Target=2.45	112	62.1	M
329.00 > 169.00	3.544	3.553	-0.009	1.000	2807667		2.57(1.23-3.68)		56.8	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.774	3.783	-0.009	0.915	1854071	1.17		99.0	5282	
21 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.774	3.783	-0.009	1.000	4713862	2.17	Target=3.44	95.4	9143	M
399.00 > 99.00	3.774	3.783	-0.009	1.000	1387551		3.40(1.72-5.17)		5162	
D 22 13C4 PFHpA										
367.00 > 322.00	3.784	3.793	-0.009	0.918	4631203	1.22		97.7	9211	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.784	3.793	-0.009	1.000	9536454	2.53	Target=3.25	101	5343	
363.00 > 169.00	3.784	3.793	-0.009	1.000	3009090		3.17(1.62-4.87)		2885	
25 DONA										
377.00 > 251.00	3.822	3.829	-0.007	0.866	13729129	2.24	Target=1.74	95.1	22033	
377.00 > 85.00	3.822	3.829	-0.007	0.866	8247917		1.66(0.87-2.61)		159	
26 5:3 FTCA										
340.88 > 236.90	3.855	3.853	0.002	0.987	1057909	2.50	Target=1.11	100.0	2516	
340.88 > 216.90	3.855	3.853	0.002	0.987	996454		1.06(0.56-1.67)		2167	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.887	-0.007	0.941	1827140	1.29		103	3015	
27 6:2 FTUCA										
356.86 > 292.90	3.888	3.895	-0.007	1.002	3744482	2.45	Target=13.05	97.9	4198	
356.86 > 243.00	3.888	3.895	-0.007	1.002	282729		13.24(6.52-19.57)		1040	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.905	3.904	0.001	0.947	140747	1.29		103	508	
29 6:2 FTCA										
377.10 > 63.00	3.905	3.913	-0.008	1.000	196824	2.53	Target=1.29	101	992	
377.10 > 313.10	3.905	3.913	-0.008	1.000	151723		1.30(0.65-1.94)		192	
32 PFECHS										
460.80 > 380.90	4.056	4.065	-0.008	0.984	6873320	2.39	Target=1.75	104	16412	
460.80 > 98.90	4.056	4.065	-0.008	0.984	3882362		1.77(0.87-2.62)		7400	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.113	4.112	0.001	0.932	5412225	2.36	Target=3.72	99.3	12501	
449.00 > 99.00	4.104	4.112	-0.008	0.930	1350076		4.01(1.86-5.57)		5048	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.123	4.121	0.002	1.000	875693	1.16		97.7	2117	
35 6:2 FTS										
427.00 > 407.00	4.123	4.121	0.002	1.000	3154395	2.34		98.9	4851	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.123	4.121	0.002	1.000	4501639	1.26		101	12113	
D 31 13C4 PFOA										
417.00 > 372.00	4.123	4.131	-0.008	1.000	4835529	1.23		98.6	8375	
* 30 13C2 PFOA										
415.00 > 370.00	4.123	4.131	-0.008		5241382	1.25			9525	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.123	4.131	-0.008	1.000	10031555	2.43	Target=2.51	97.3	5363	
413.00 > 169.00	4.123	4.131	-0.008	1.000	4361303		2.30(1.26-3.77)		6165	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.415	4.421	-0.006	1.000	631904	1.23		103	2566	
D 39 13C4 PFOS										
503.00 > 80.00	4.415	4.421	-0.006	1.071	2771683	1.18		98.6	2230	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.415	4.421	-0.006	1.000	6040932	2.27	Target=4.30	98.0	5480	M
499.00 > 99.00	4.415	4.421	-0.006	1.000	1384186		4.36(2.15-6.45)		3601	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.441	4.439	0.002	1.000	10162402	2.51	Target=3.60	101	9895	
463.00 > 169.00	4.441	4.439	0.002	1.000	2566834		3.96(1.80-5.40)		4429	
D 41 13C5 PFNA										
468.00 > 423.00	4.441	4.439	0.002	1.077	6646072	1.25		100.0	14122	
43 7:3 FTCA										
441.00 > 337.00	4.522	4.529	-0.007	0.993	1860297	2.40	Target=1.42	96.0	3865	
441.00 > 317.00	4.522	4.529	-0.007	0.993	1304512		1.43(0.71-2.13)		3276	
44 8:2 FTUCA										
456.86 > 392.90	4.547	4.545	0.002	1.000	4695103	2.53	Target=35.37	101	6084	
456.86 > 343.00	4.547	4.545	0.002	1.000	117776		39.86(17.68-53.05)		355	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.547	4.553	-0.006	1.000	2423385	1.28		102	6630	
46 8:2 FTCA										
477.00 > 393.10	4.555	4.562	-0.007	1.000	636602	2.37	Target=3.35	94.8	2585	
477.00 > 63.20	4.563	4.562	0.001	1.002	194387		3.27(1.68-5.03)		1119	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.555	4.562	-0.007	1.105	185341	1.34		107	733	
49 9CIFOS										
531.00 > 351.00	4.571	4.578	-0.007	1.109	11839814	2.27		97.4	12974	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.699	4.697	0.002	1.064	5603737	2.39	Target=3.99	99.5	8950	
549.00 > 99.00	4.699	4.697	0.002	1.064	1484940		3.77(2.00-5.99)		5817	
D 55 13C8 FOSA										
506.00 > 78.00	4.707	4.714	-0.007	1.142	4329308	1.22		97.5	4330	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.707	4.714	-0.007	1.000	8300245	2.51		100	7750	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.724	4.731	-0.007	1.000	11356673	2.60	Target=10.58	104	7860	
513.00 > 169.00	4.724	4.731	-0.007	1.000	1028448		11.04(5.29-15.88)		516	
D 52 13C2 PFDA										
515.00 > 470.00	4.724	4.731	-0.007	1.146	6084257	1.20		96.0	9892	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.733	4.740	-0.007	1.148	854537	1.04		86.8	1710	
53 8:2 FTS										
527.00 > 507.00	4.741	4.740	0.001	1.002	2670677	2.50		104	7298	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.866	4.872	-0.006	1.180	612604	1.29		103	193	
57 NMeFOSAA										
570.00 > 419.00	4.874	4.880	-0.006	1.002	1186416	2.56		102	1776	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.960	4.957	0.003	1.123	5413171	2.63	Target=3.55	109	14070	
599.00 > 99.00	4.960	4.957	0.003	1.123	1429917		3.79(1.78-5.33)		4268	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.988	4.995	-0.007	1.000	12051051	2.63	Target=8.26	105	9612	
563.00 > 169.00	4.988	4.995	-0.007	1.000	1395155		8.64(4.13-12.39)		4510	
D 59 13C2 PFUnA										
565.00 > 520.00	4.988	4.995	-0.007	1.210	5913464	1.21		96.6	10189	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.007	5.005	0.002	1.215	611440	1.25		100	1750	
62 NEtFOSAA										
584.00 > 419.00	5.007	5.015	-0.008	1.000	1178198	2.64		106	734	
65 10:2 FTUCA										
556.86 > 492.90	5.095	5.093	0.002	1.002	6524172	2.51		100	8839	
63 11CIFOS										
631.00 > 451.00	5.085	5.093	-0.008	1.152	9615792	2.39		101	16508	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.085	5.093	-0.008	1.233	2690693	1.26		101	5753	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.105	5.112	-0.007	1.238	136175	1.05		84.0	733	
66 10:2 FTCA										
576.80 > 493.00	5.105	5.112	-0.007	1.000	308485	2.94	Target=2.53	118	2010	
576.80 > 63.10	5.105	5.112	-0.007	1.000	134053		2.30(1.26-3.79)		497	
D 69 13C2 PFDaA										
615.00 > 570.00	5.220	5.226	-0.006	1.266	6039530	1.25		100.0	21595	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.220	5.226	-0.006	1.000	12124874	2.43	Target=6.85	97.2	8501	
613.00 > 169.00	5.220	5.226	-0.006	1.000	1735954		6.98(3.43-10.28)		2765	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.237	5.243	-0.006	1.270	771392	1.11		94.1	4400	
71 10:2 FTS										
627.00 > 607.00	5.245	5.251	-0.006	1.002	3461427	2.54		105	9140	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.285	5.284	0.001	1.282	613457	1.23		98.7	421	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
74 NMeFOSA										
512.00 > 169.00	5.285	5.284	0.001	1.002	1085816	2.34		93.6	956	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.277	5.284	-0.007	1.280	539210	1.27		102	52.5	
75 N-MeFOSE-M										
616.00 > 59.00	5.294	5.292	0.002	1.002	1528518	2.66		106	1815	
76 PFDoS										
699.00 > 80.00	5.401	5.399	0.002	1.223	5353018	2.44	Target=4.22	101	6450	
699.00 > 99.00	5.401	5.399	0.002	1.223	1238021		4.32(2.11-6.34)		5031	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.428	5.435	-0.007	1.040	10541541	2.47	Target=6.32	98.8	10246	
663.00 > 169.00	5.428	5.435	-0.007	1.040	1729982		6.09(3.16-9.48)		5996	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.437	5.435	0.002	1.319	619291	1.20		96.0	274	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.454	5.452	0.002	1.323	426390	1.26		101	561	
79 N-EtFOSE-M										
630.00 > 59.00	5.454	5.452	0.002	1.003	1776368	2.53		101	1840	
81 N-EtFOSA-M										
526.00 > 169.00	5.454	5.452	0.002	1.000	1090718	2.57		103	769	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.619	5.617	0.002	1.002	1264482	2.57	Target=1.01	103	280	
713.00 > 219.00	5.610	5.617	-0.007	1.000	1211406		1.04(0.51-1.52)		4954	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.610	5.617	-0.007	1.361	4776525	1.24		98.9	12505	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.926	5.924	0.002	1.000	7163338	2.50	Target=8.64	100	5972	
813.00 > 169.00	5.926	5.924	0.002	1.000	866120		8.27(4.32-12.97)		2422	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.926	5.924	0.002	1.437	3167576	1.26		101	6357	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.185	-0.006	1.043	6385850	2.49	Target=11.77	99.5	6396	
913.00 > 169.00	6.179	6.185	-0.006	1.043	544303		11.73(5.88-17.65)		1709	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220218-22714.b\_042.d

Injection Date: 19-Feb-2022 01:33:37

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 42

Worklist Smp#: 42

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

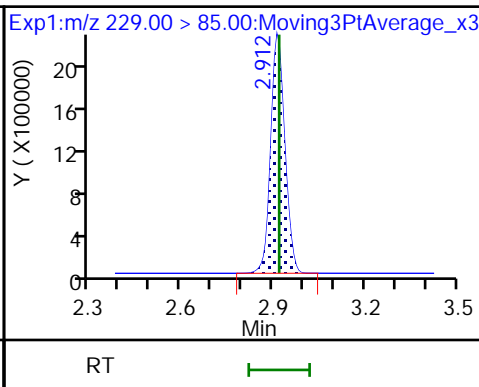
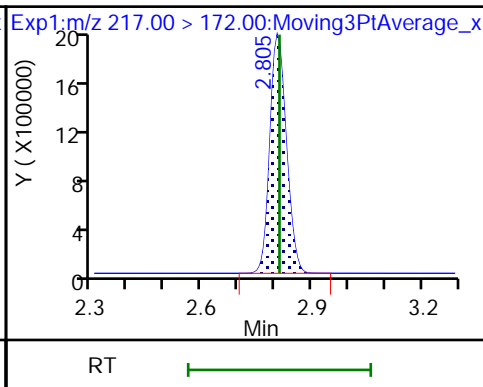
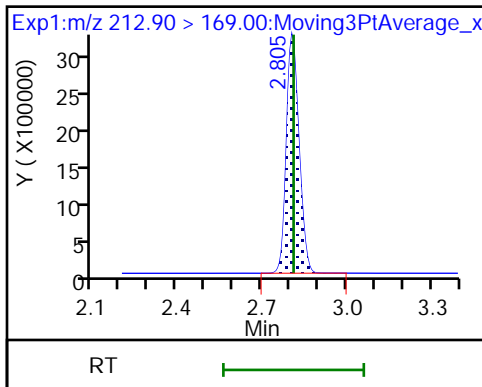
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

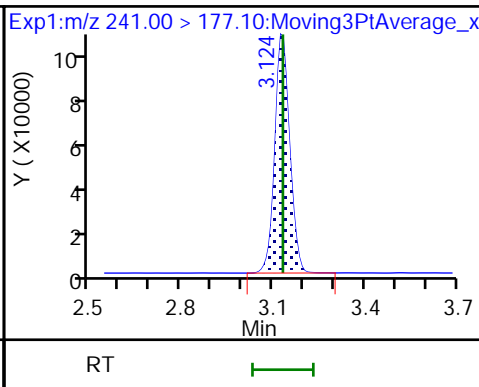
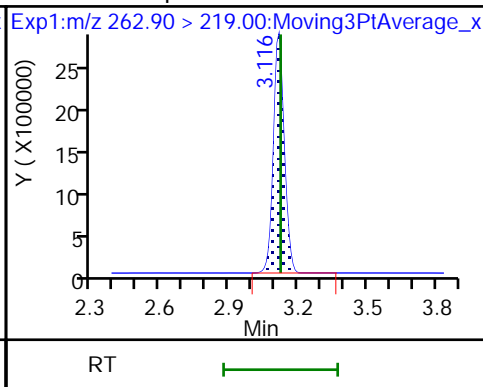
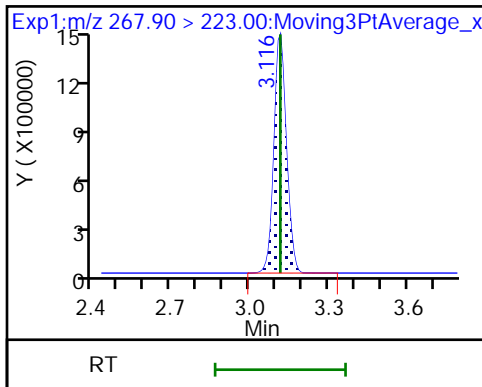
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

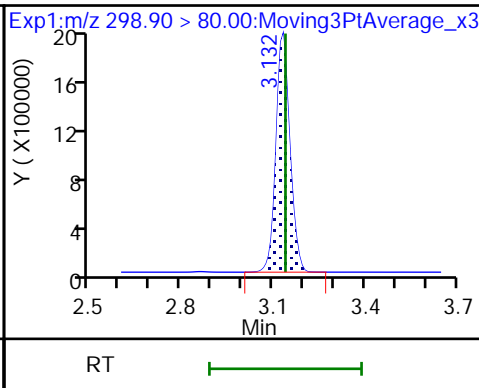
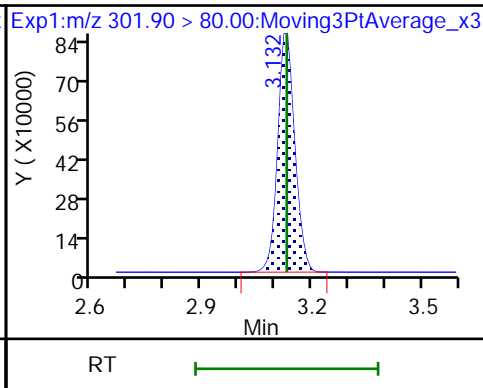
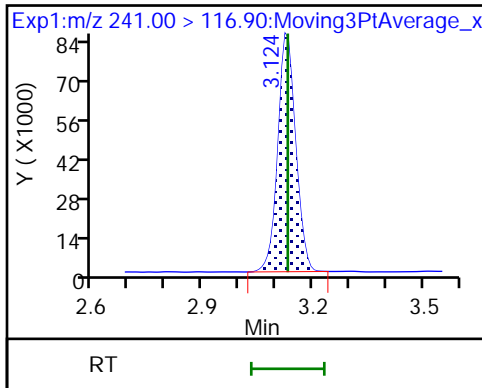
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

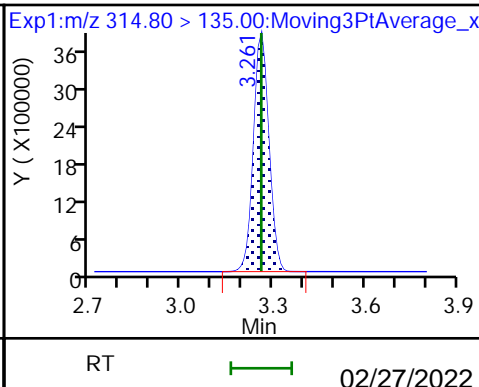
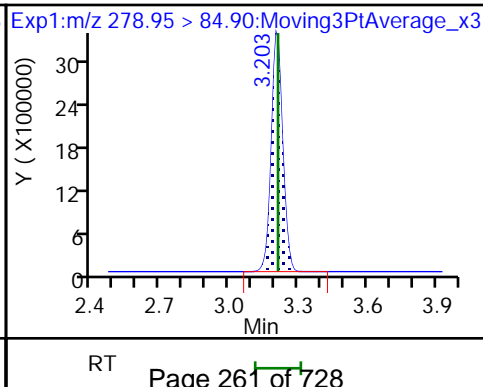
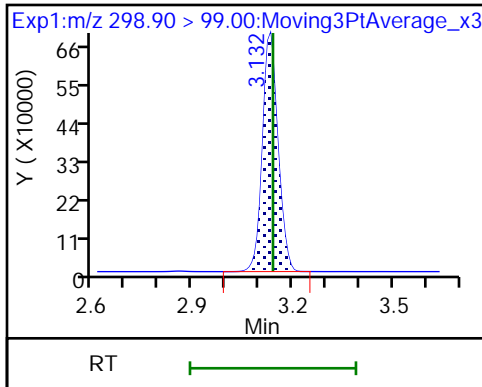
8 Perfluorobutanesulfonic acid



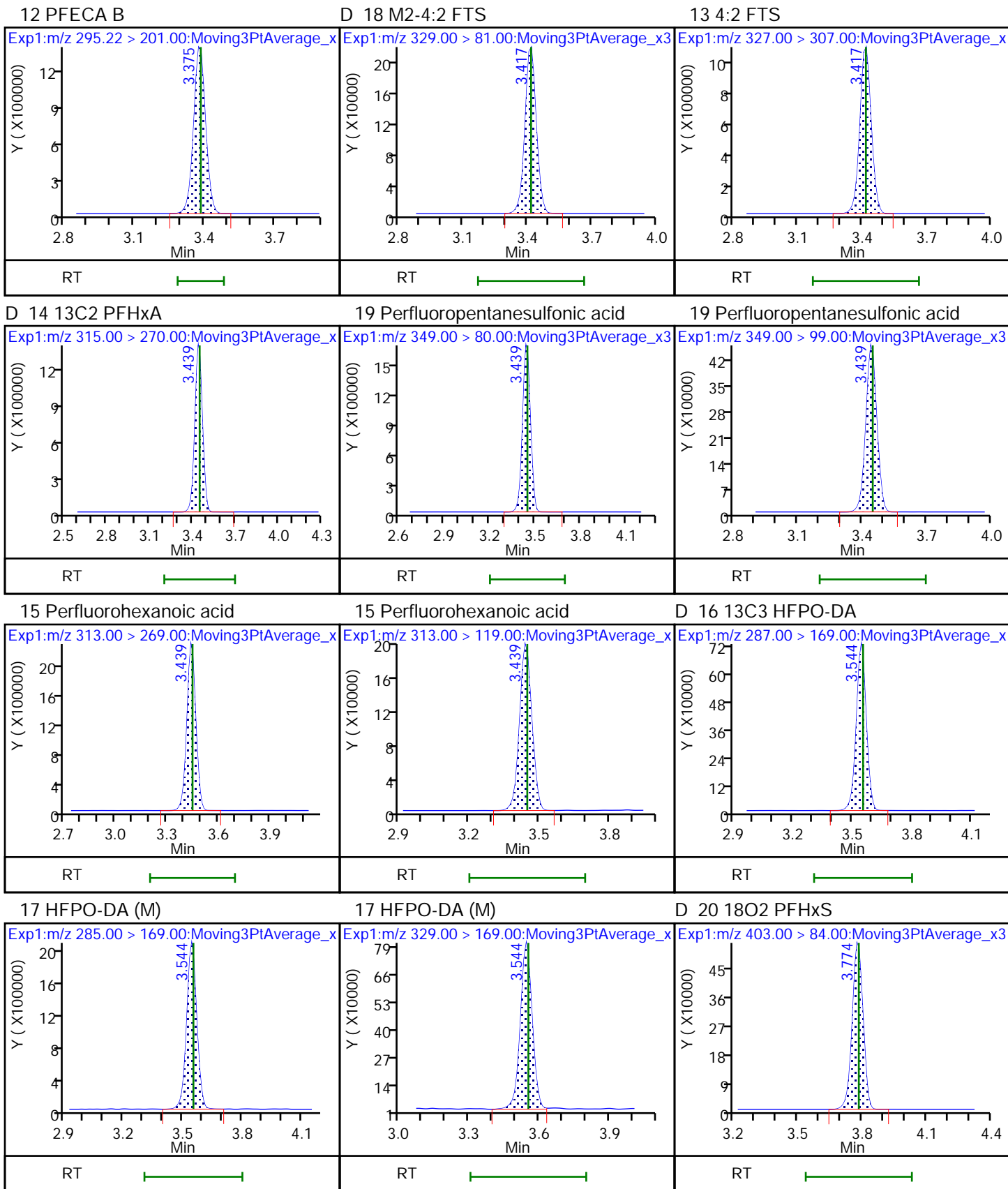
8 Perfluorobutanesulfonic acid

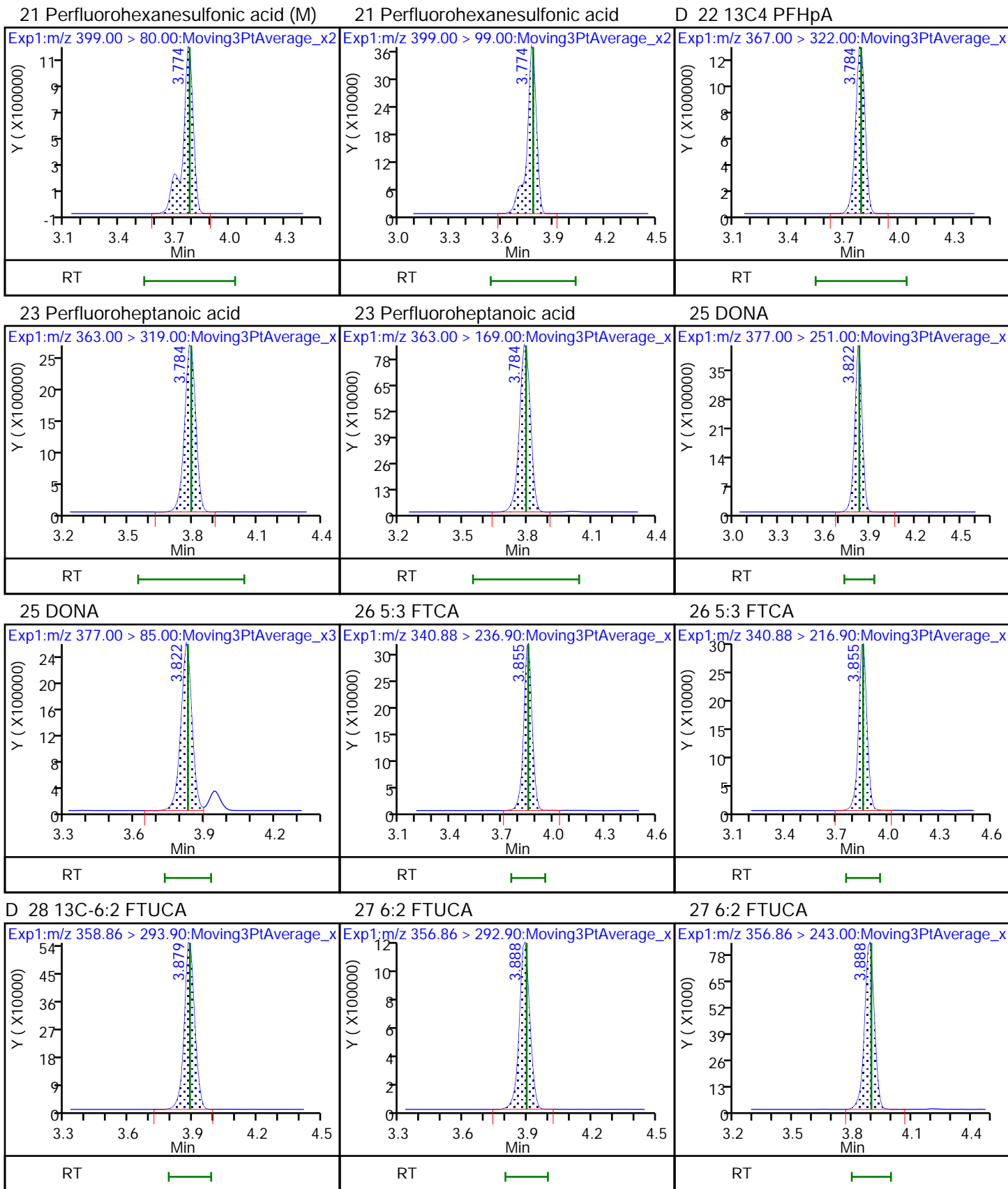
9 PFECA A

11 PES





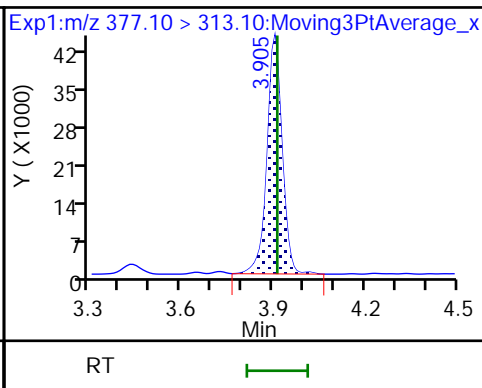
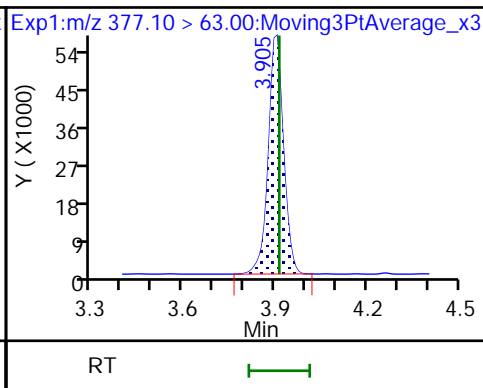
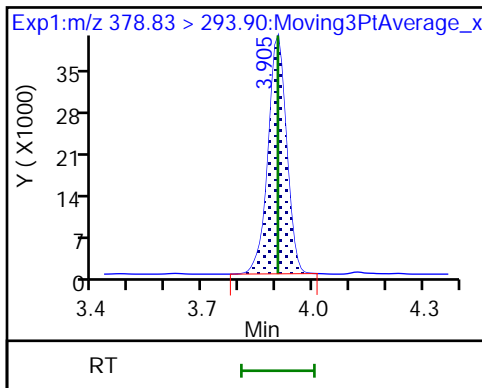




D 24 13C-6:2 FTCA

29 6:2 FTCA

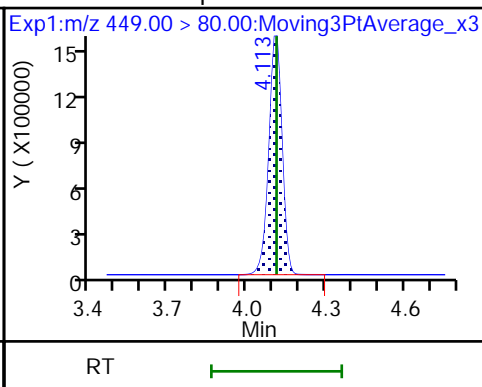
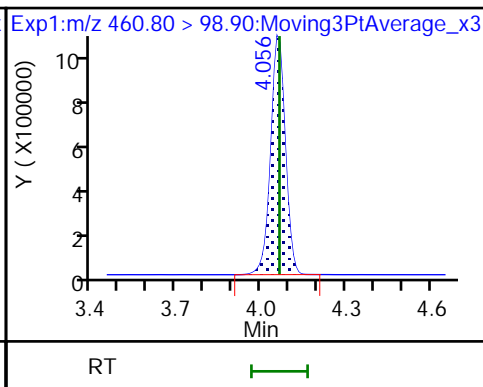
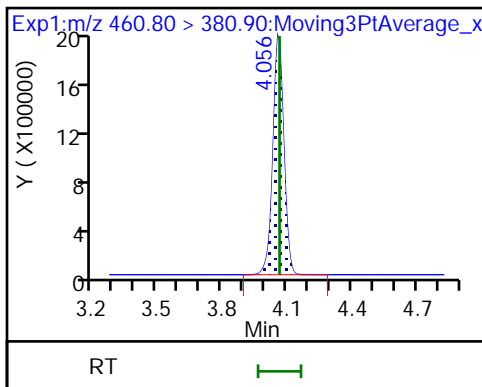
29 6:2 FTCA



32 PFECHS

32 PFECHS

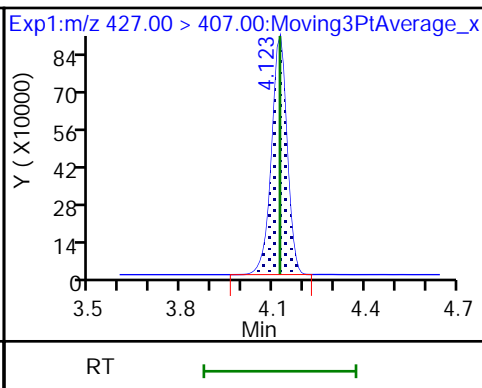
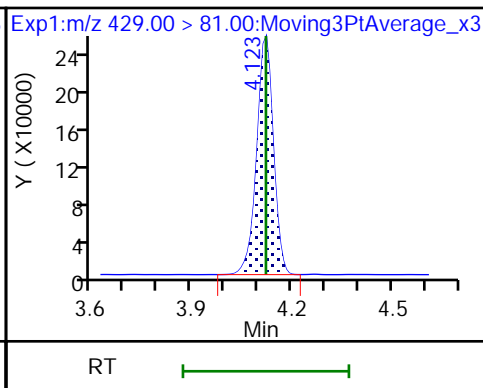
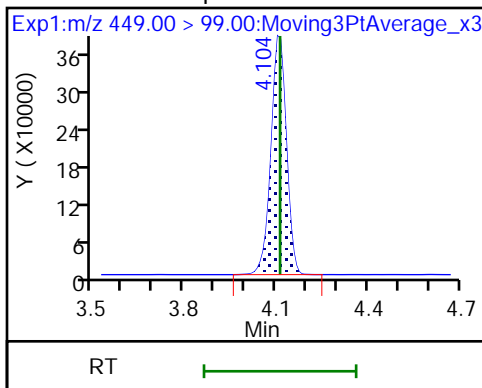
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

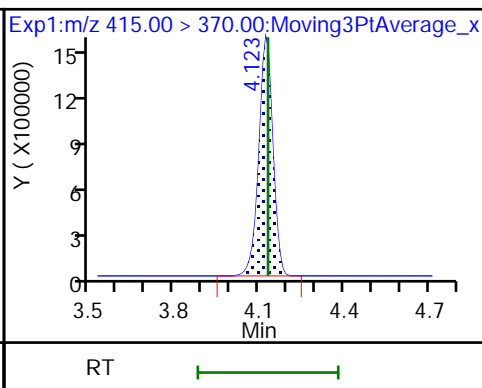
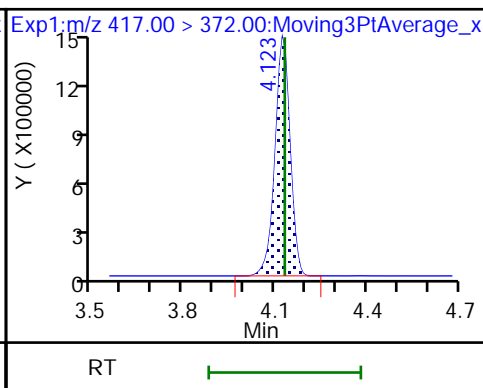
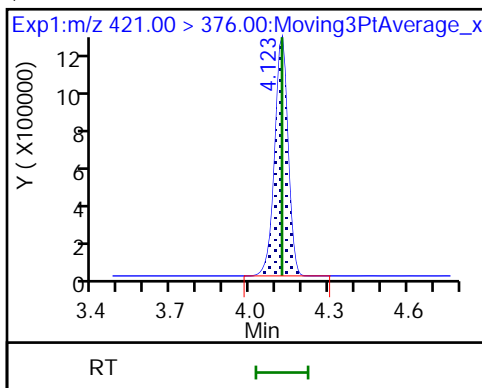
35 6:2 FTS

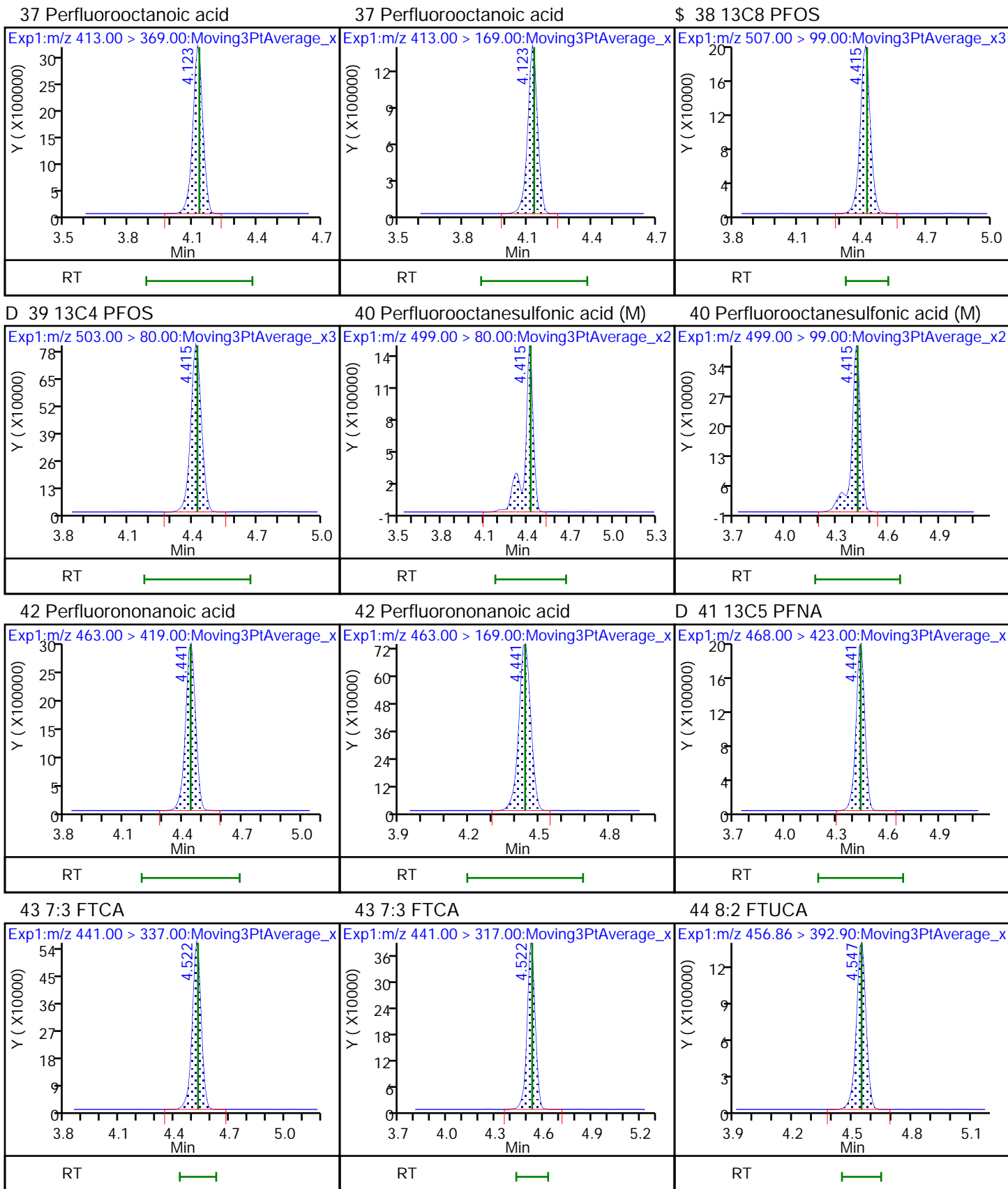


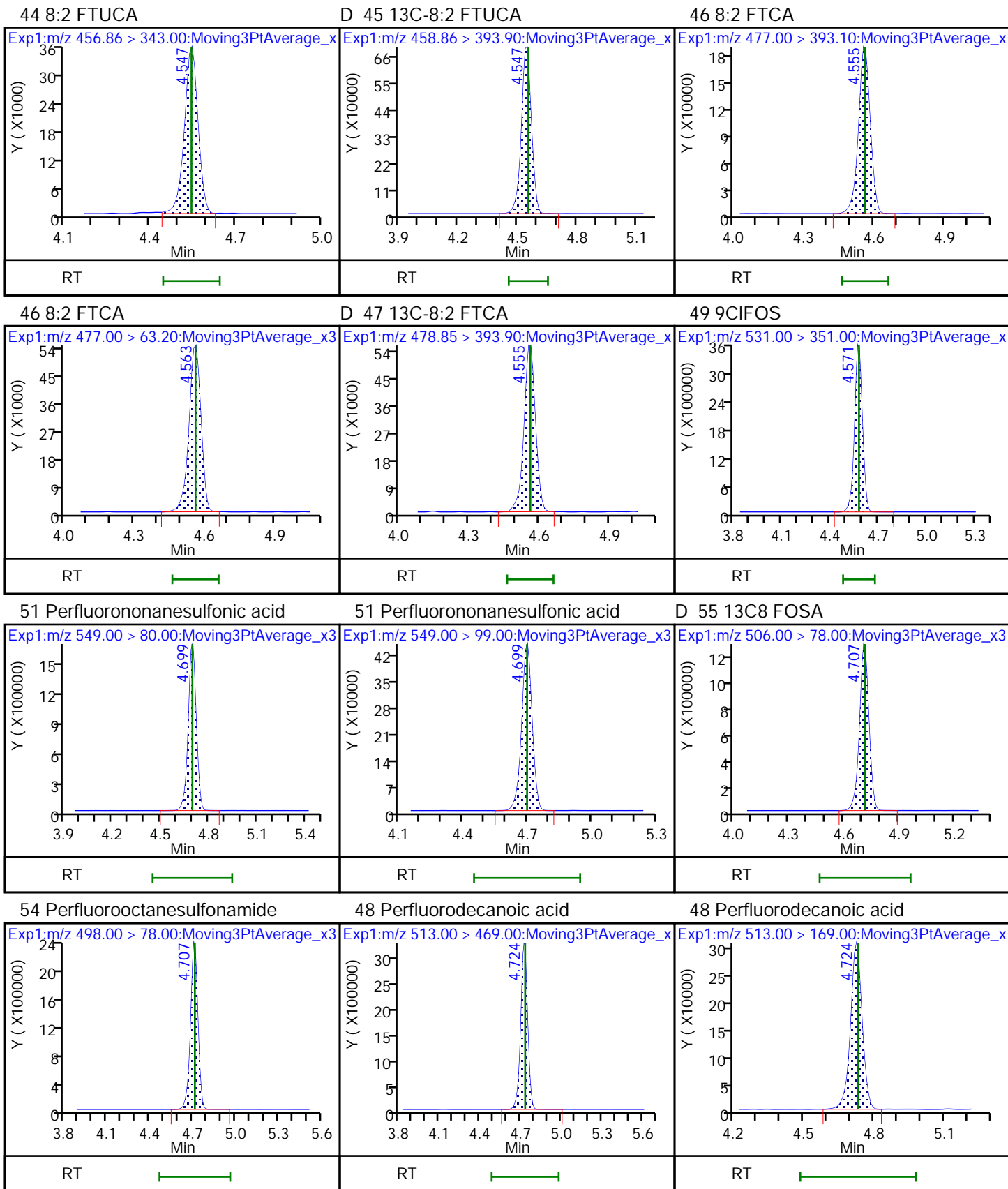
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



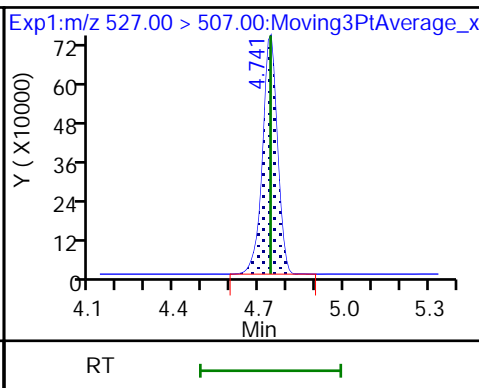
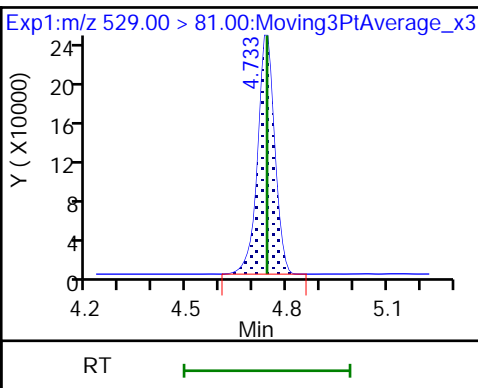
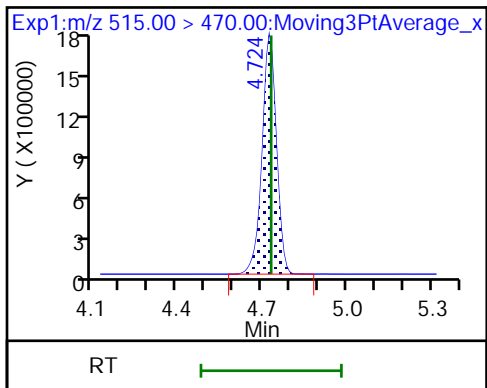




D 52 13C2 PFDA

D 50 M2-8:2 FTS

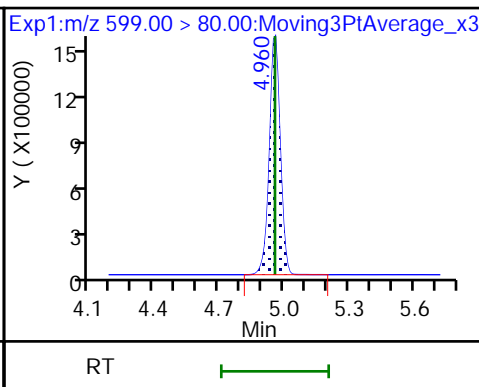
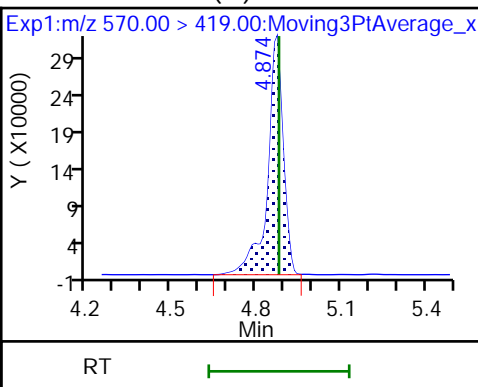
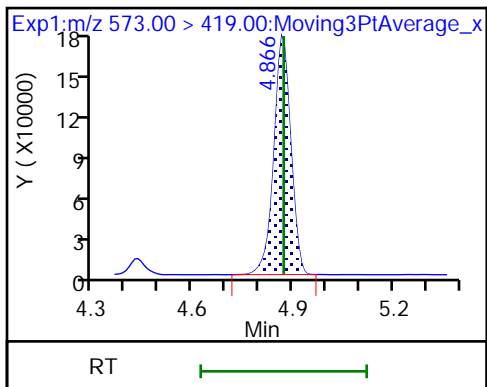
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

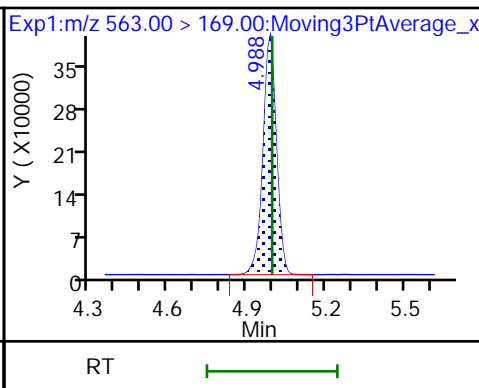
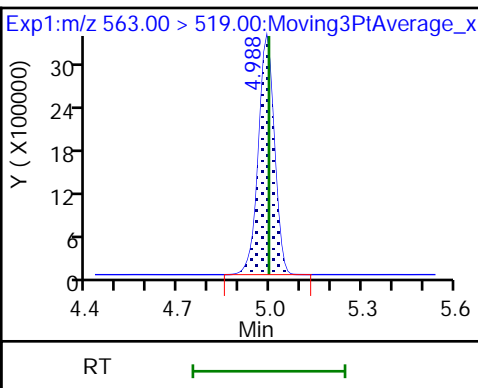
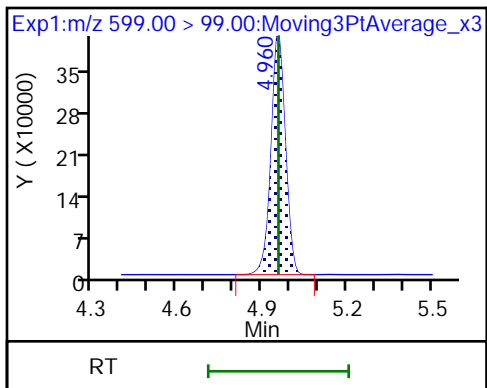
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

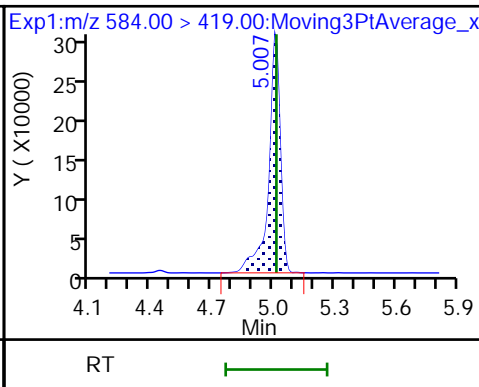
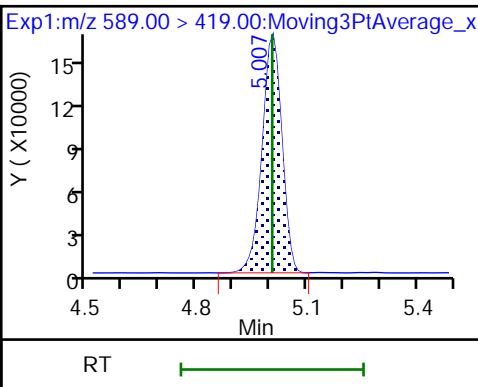
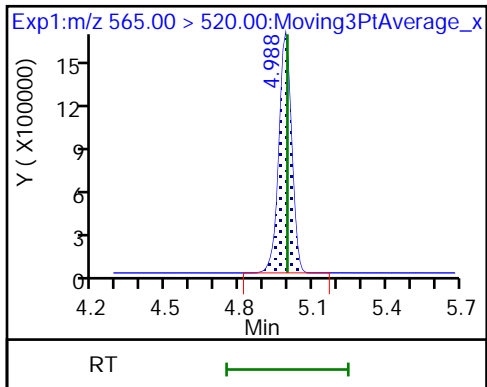
60 Perfluoroundecanoic acid

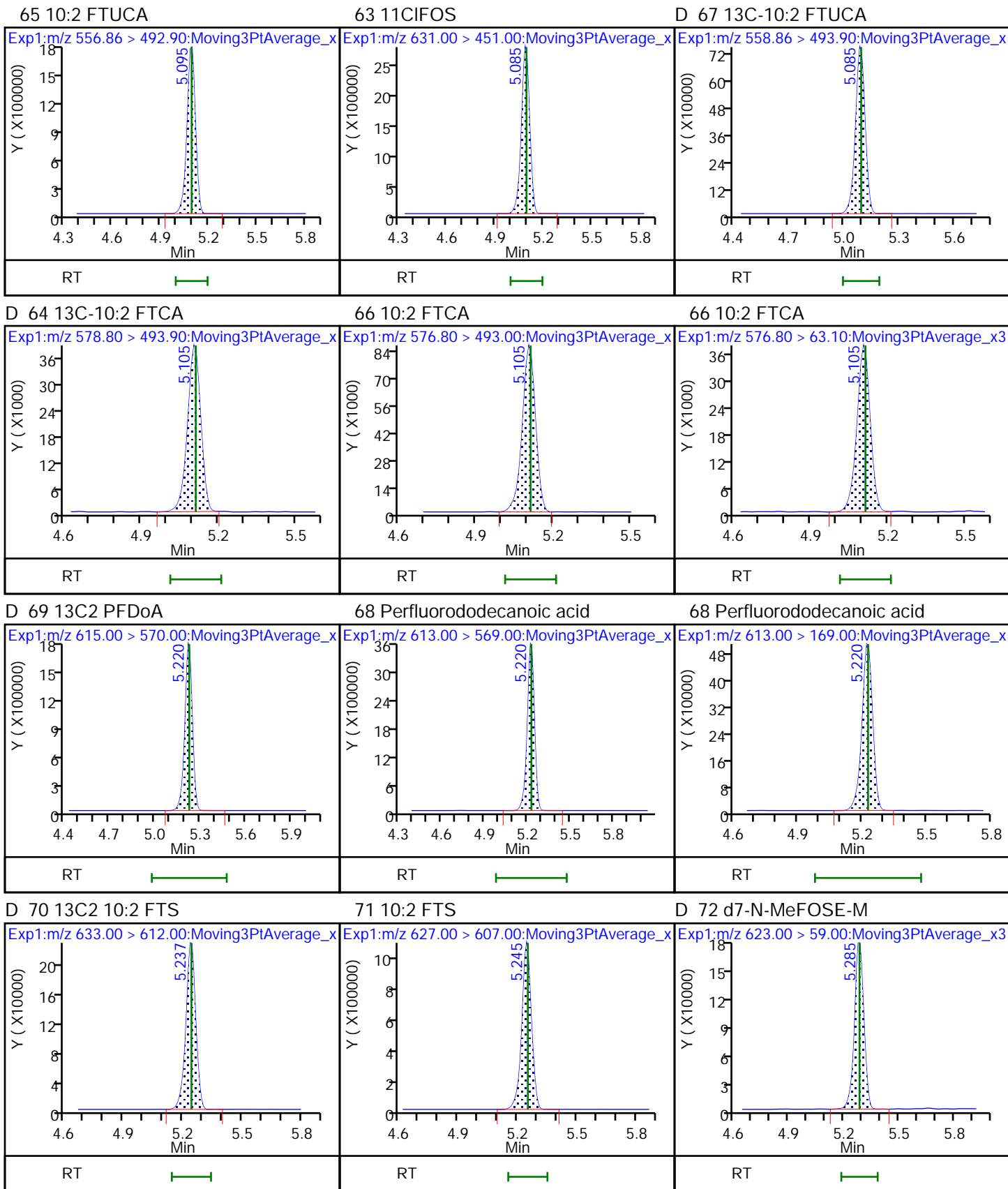


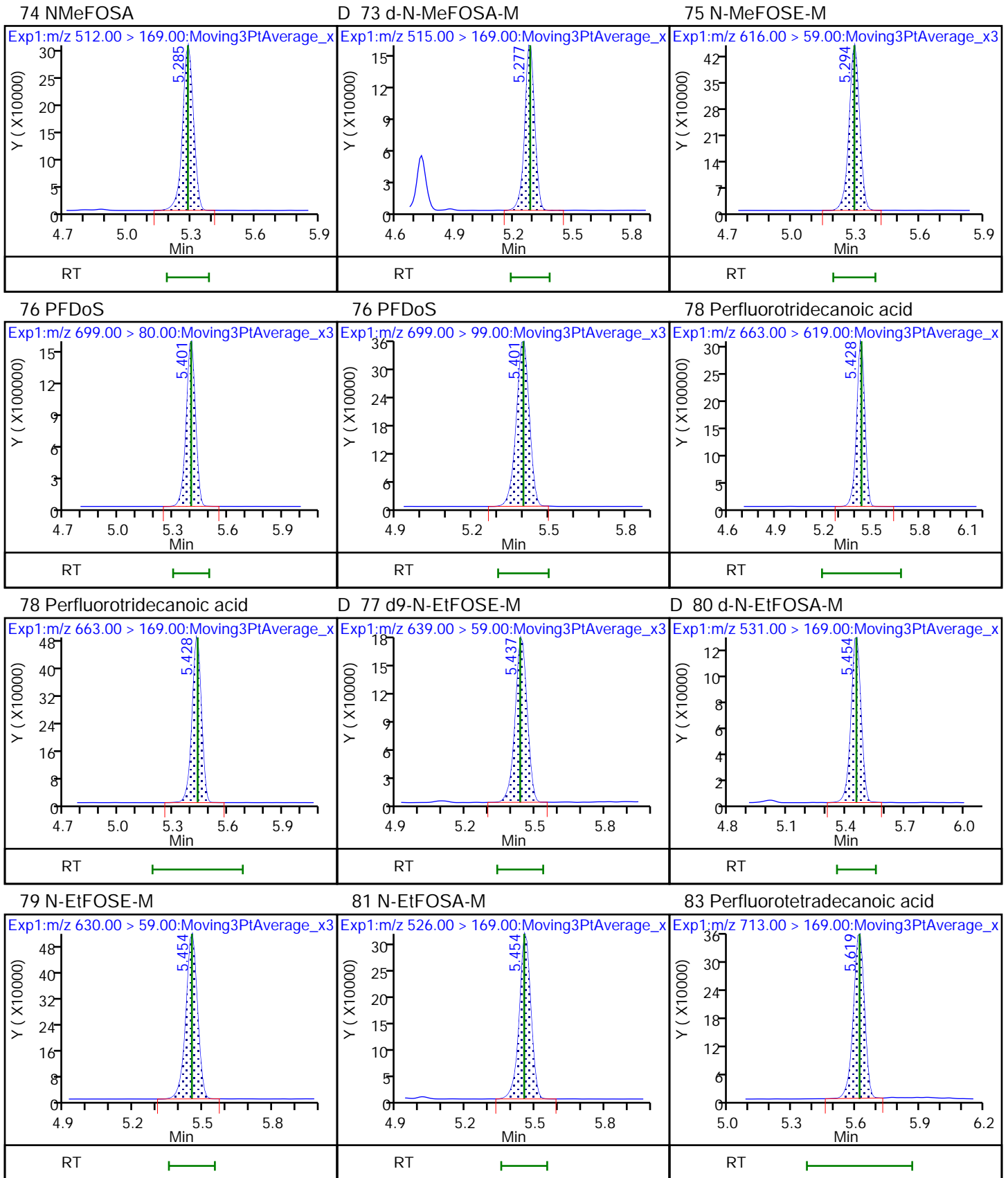
D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

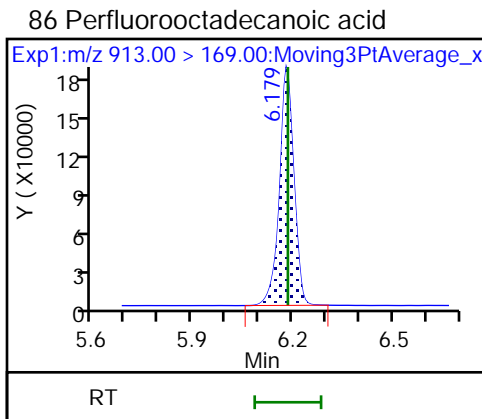
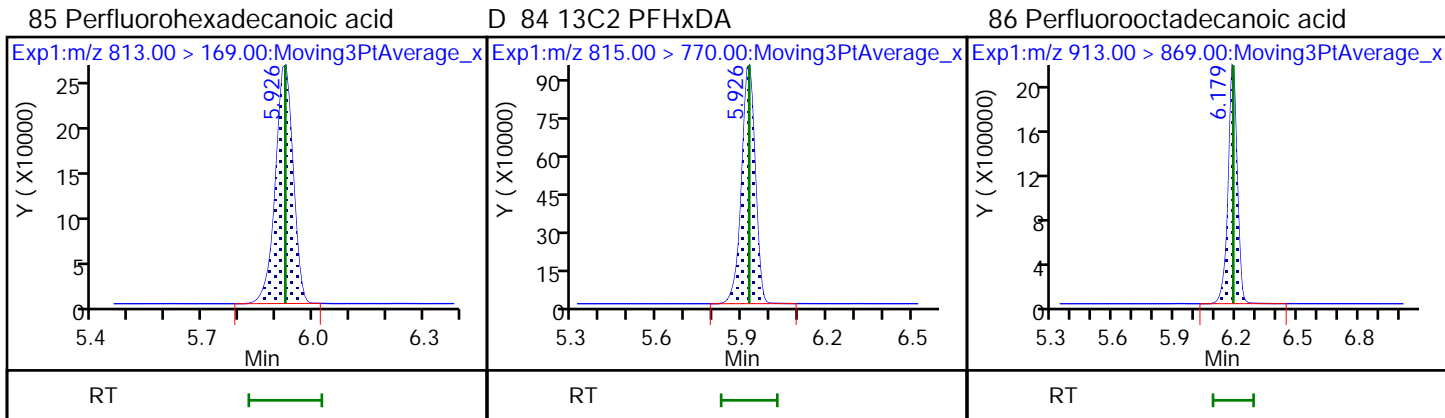
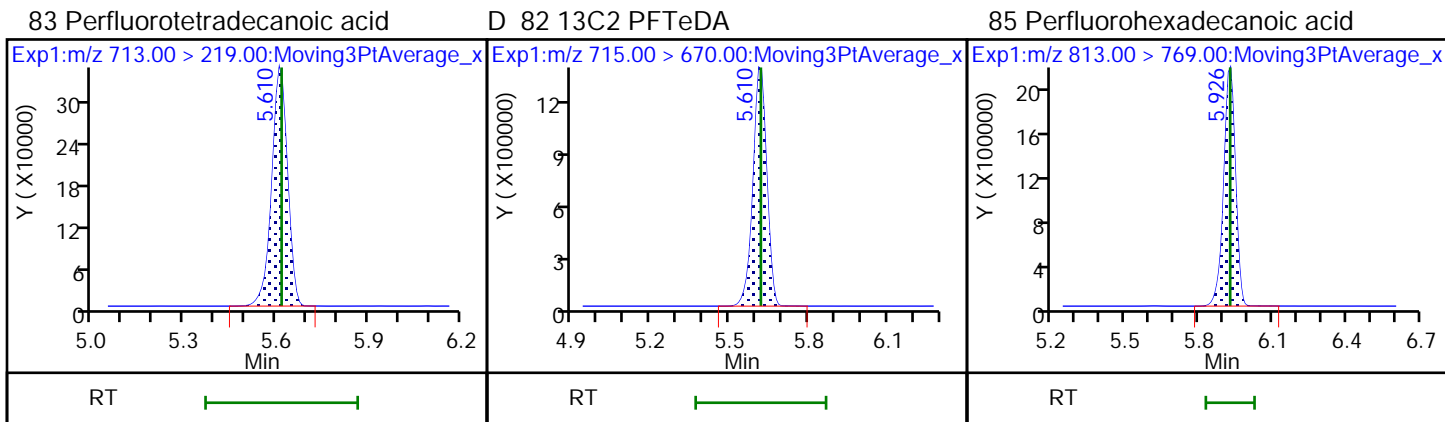
62 NEtFOSAA











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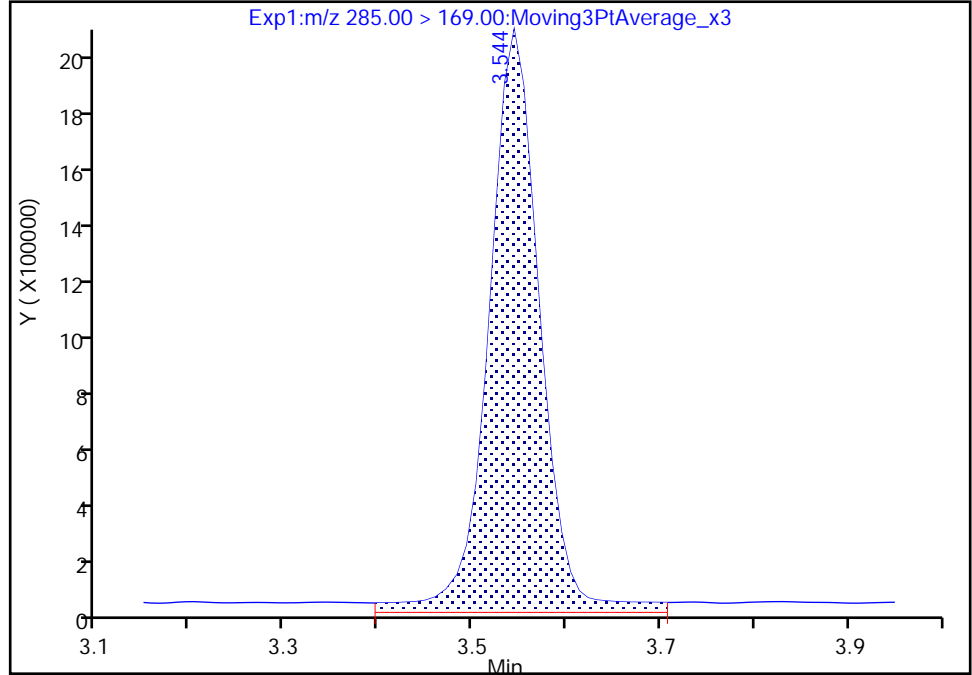
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Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

17 HFPO-DA, CAS: 13252-13-6

Signal: 1

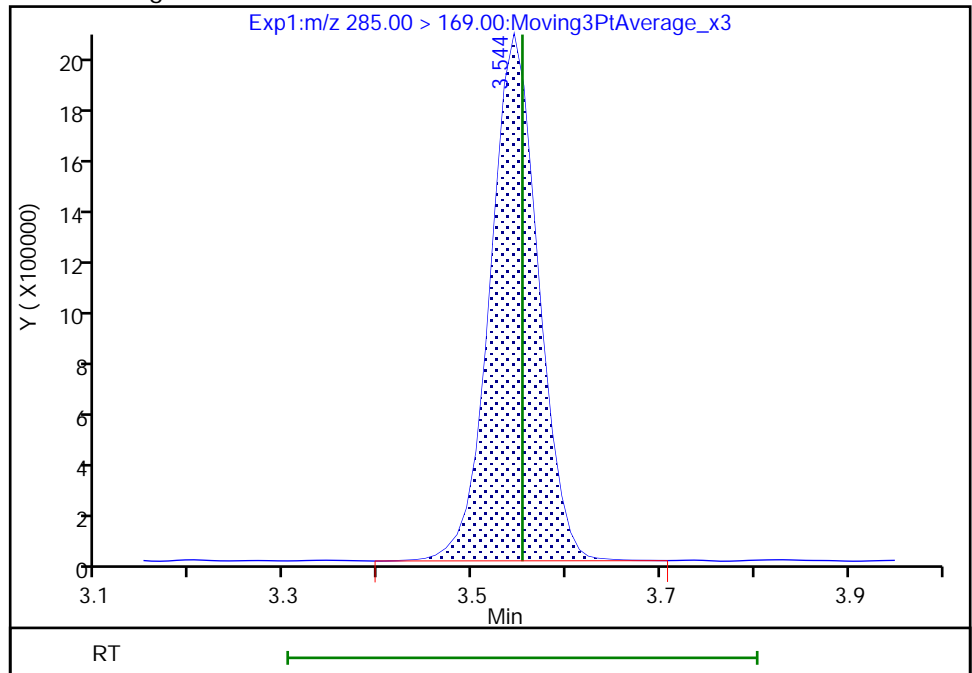
RT: 3.54  
Area: 7862871  
Amount: 3.057997  
Amount Units: ng/ml

Processing Integration Results



RT: 3.54  
Area: 7222689  
Amount: 2.808611  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:17  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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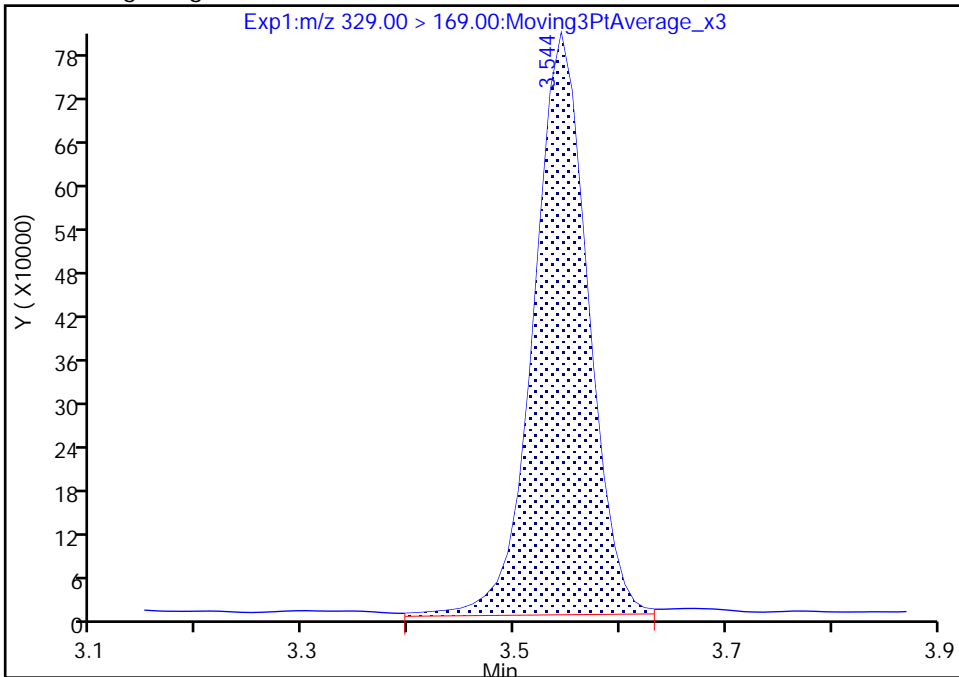
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Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

17 HFPO-DA, CAS: 13252-13-6

Signal: 2

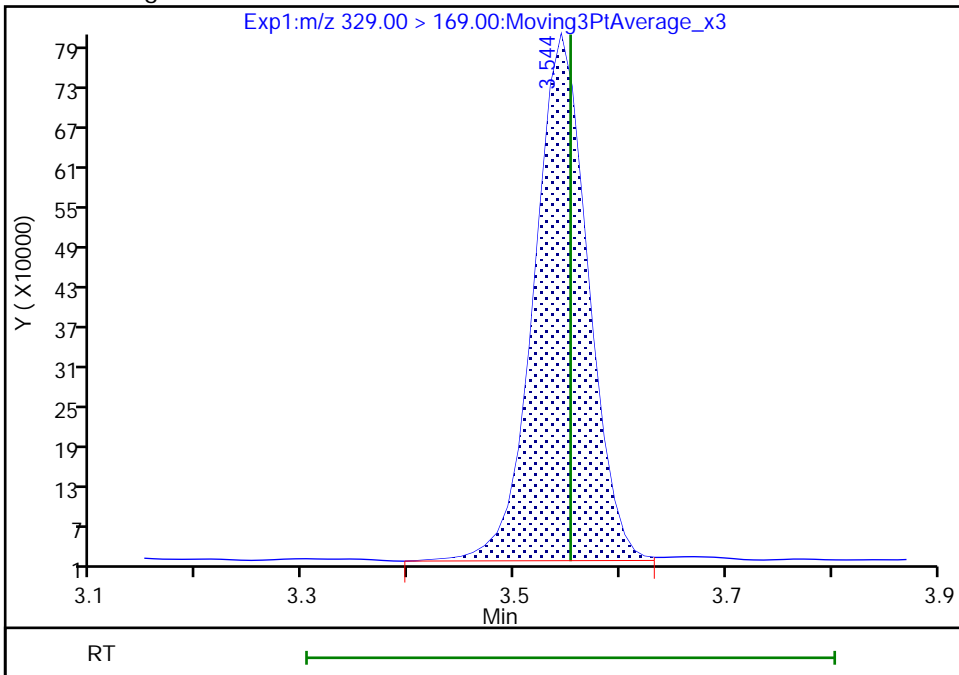
RT: 3.54  
Area: 2849974  
Amount: 3.057997  
Amount Units: ng/ml

Processing Integration Results



RT: 3.54  
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Amount: 2.808611  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:27

Audit Action: Manually Integrated

Audit Reason: Baseline  
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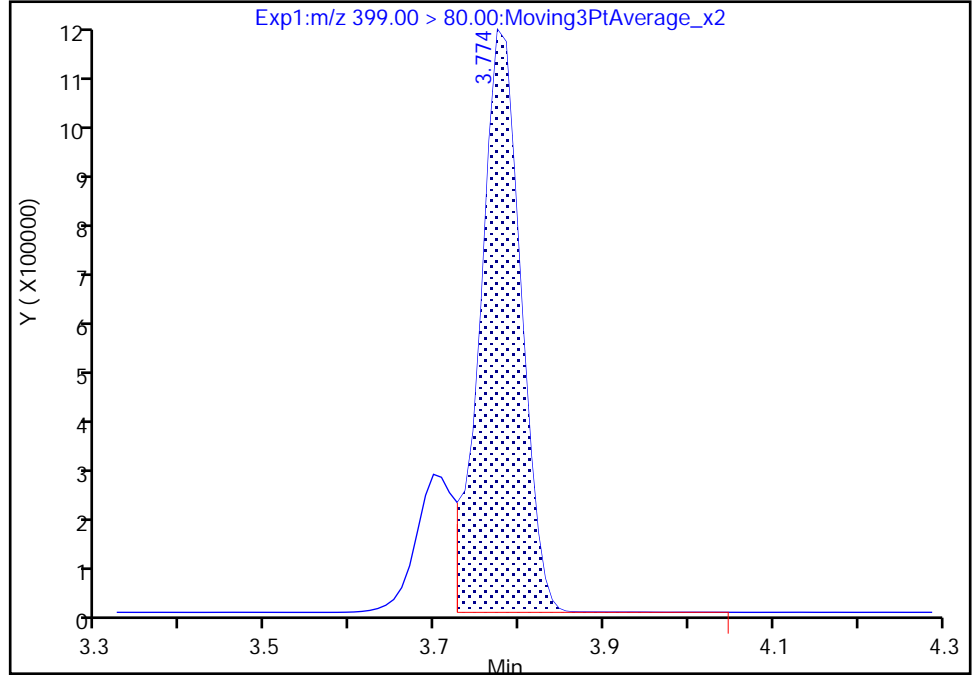
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Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

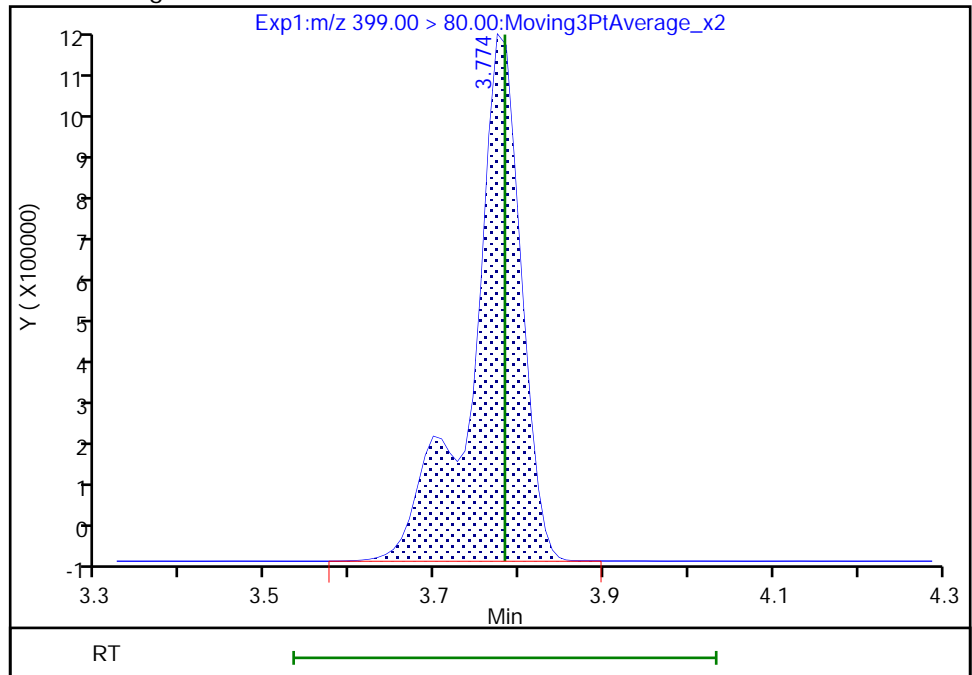
RT: 3.77  
Area: 3869832  
Amount: 1.781905  
Amount Units: ng/ml

Processing Integration Results



RT: 3.77  
Area: 4713862  
Amount: 2.170547  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:38  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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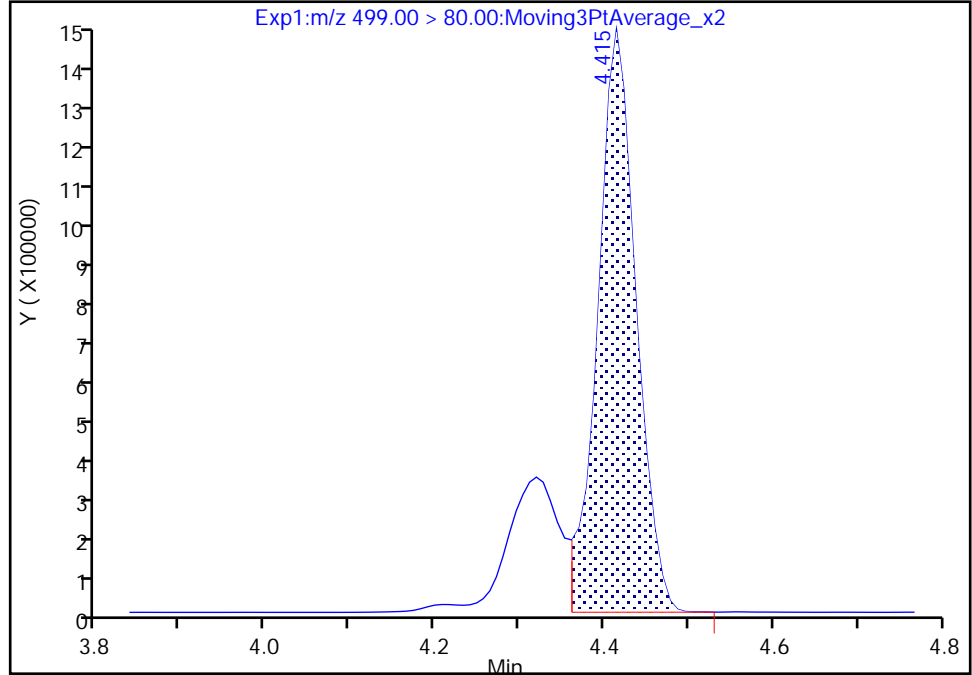
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

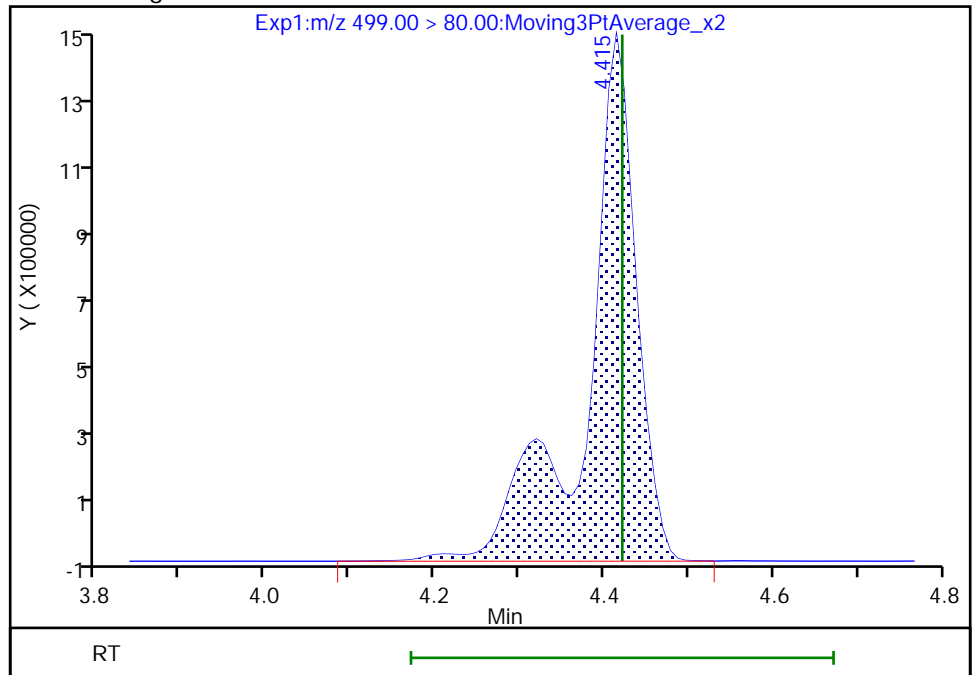
RT: 4.41  
Area: 4566081  
Amount: 1.719022  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 6040932  
Amount: 2.274269  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:50  
Audit Action: Manually Integrated

Eurofins Knoxville

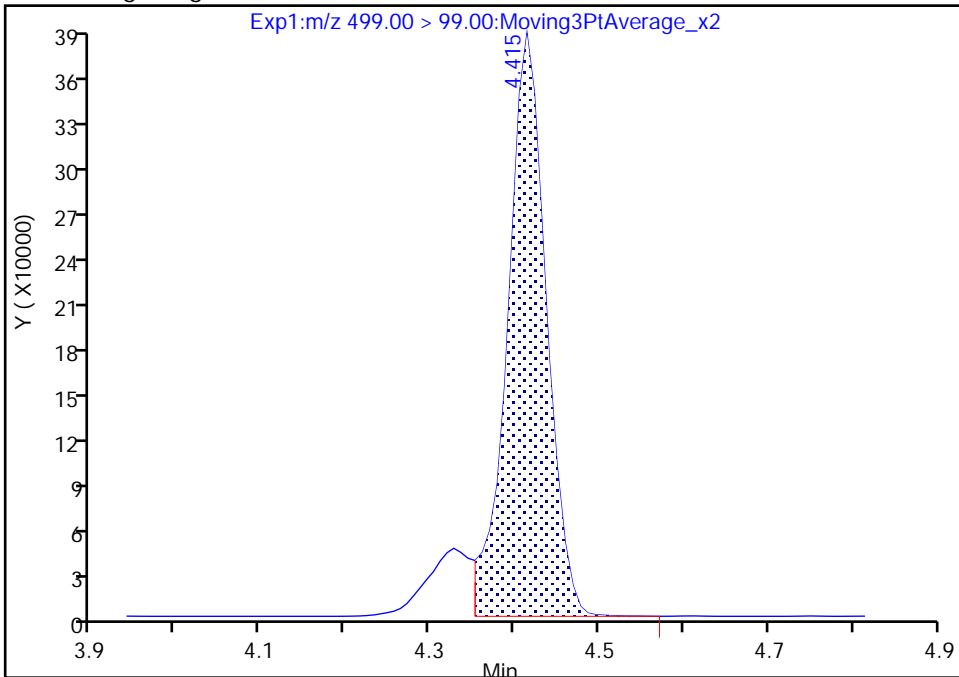
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Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

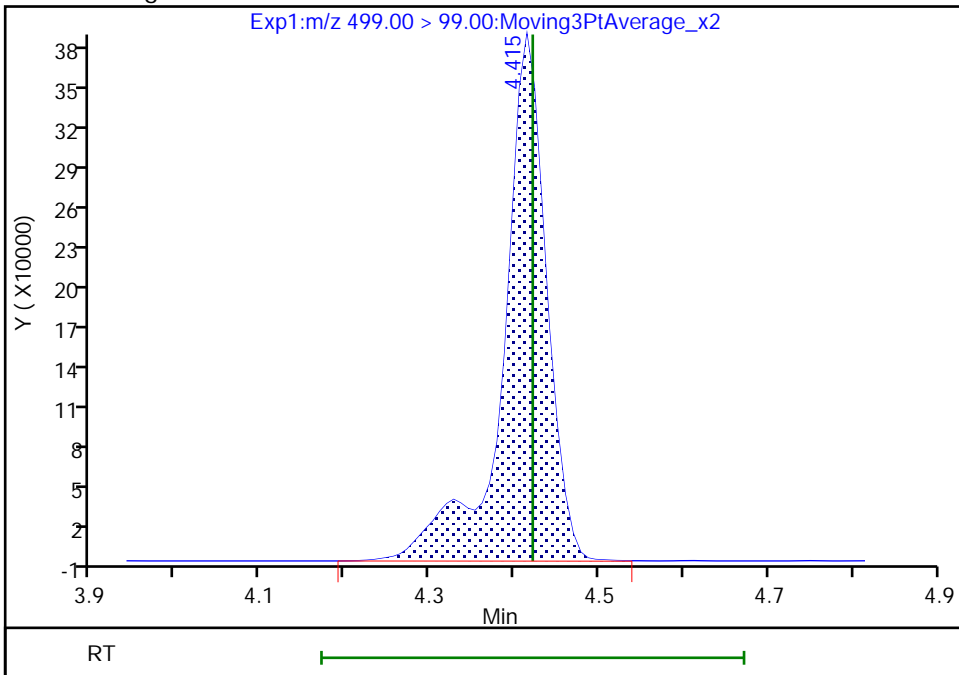
RT: 4.41  
Area: 1220653  
Amount: 1.719022  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 1384186  
Amount: 2.274269  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:58

Audit Action: Manually Integrated

Audit Reason: Baseline  
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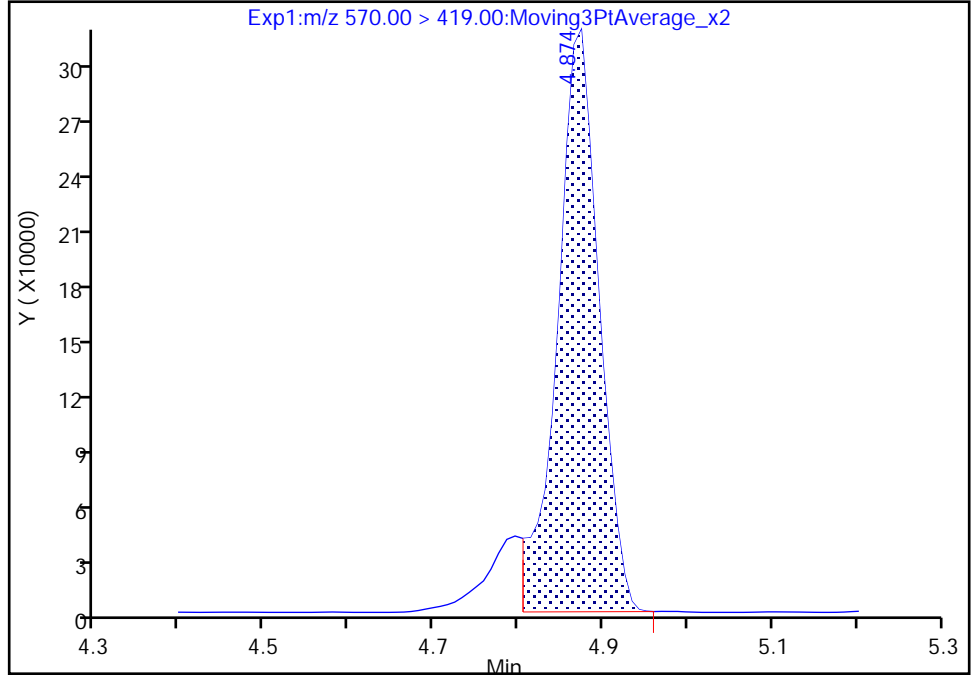
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Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

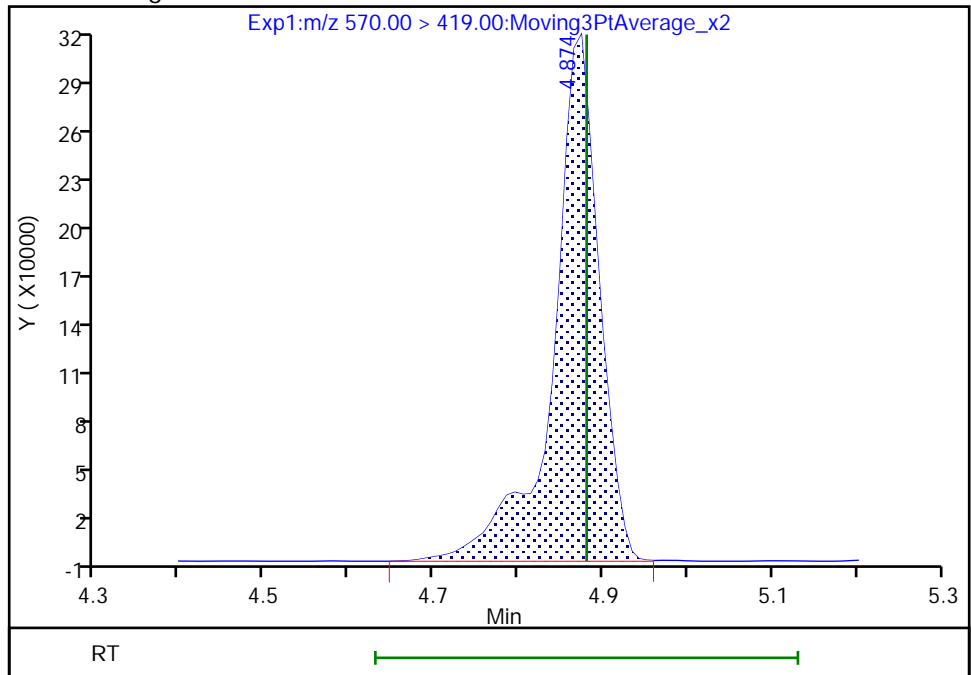
RT: 4.87  
Area: 1060234  
Amount: 2.298094  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1186416  
Amount: 2.562358  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:29:15  
Audit Action: Manually Integrated

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59059/6 Calibration Date: 02/19/2022 18:34  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_006.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8329		0.0489	0.0500	-2.2	50.0
PFECA F	AveID	0.7535	0.7996		0.0531	0.0500	6.1	50.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.087		0.0525	0.0500	5.0	50.0
3:3 FTCA	QuaIF		0.0737		0.0675	0.0500	35.0	50.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.271		0.0486	0.0442	9.8	50.0
PFECA A	Q2ID		1.311		0.0515	0.0500	3.0	50.0
PES	Q2ID		2.642		0.0473	0.0445	6.3	50.0
PFECA B	Q2ID		0.4522		0.0536	0.0500	7.3	50.0
4:2 FTS	L2ID		2.758		0.0543	0.0467	16.3	50.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8734		0.0475	0.0500	-5.1	50.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.162		0.0528	0.0469	12.5	50.0
HFPO-DA	L2ID		1.921		0.0714	0.0500	42.9	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.426		0.0469	0.0455	3.0	50.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.143		0.0514	0.0500	2.8	50.0
DONA	AveID	2.644	2.515		0.0448	0.0471	-4.9	50.0
5:3 FTCA	L2ID		3.299		0.0396	0.0500	-20.9	50.0
6:2 FTUCA	AveID	1.046	1.097		0.0524	0.0500	4.9	50.0
6:2 FTCA	L1ID		0.8210		0.0526	0.0500	5.3	50.0
PFECHS	AveID	0.7426	0.7014		0.0435	0.0461	-5.6	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	1.071		0.0516	0.0476	8.4	50.0
6:2 FTS	L2ID		2.004		0.0485	0.0474	2.4	50.0
Perfluorooctanoic acid (PFOA)	L1ID		1.208		0.0504	0.0500	0.9	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.187		0.0481	0.0464	3.7	50.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7959		0.0523	0.0500	4.6	50.0
7:3 FTCA	AveID	5.230	4.236		0.0405	0.0500	-19.0	50.0
8:2 FTUCA	AveID	0.9565	1.021		0.0534	0.0500	6.8	50.0
8:2 FTCA	AveID	1.811	1.702		0.0470	0.0500	-6.0	50.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.366		0.0490	0.0466	5.2	50.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.025		0.0486	0.0480	1.3	50.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	1.023		0.0536	0.0500	7.2	50.0
Perfluorodecanoic acid (PFDA)	L2ID		1.008		0.0496	0.0500	-0.9	50.0
8:2 FTS	L2ID		2.010		0.0570	0.0479	19.1	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		1.191		0.0667	0.0500	33.4	50.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9853		0.0490	0.0482	1.7	50.0



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59059/6 Calibration Date: 02/19/2022 18:34  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_006.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.085		0.0561	0.0500	12.2	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		1.043		0.0512	0.0500	2.5	50.0
11-Chloroeicosafuoro-3-oxaundecane-1-sulfonic acid	L2ID		1.840		0.0459	0.0471	-2.6	50.0
10:2 FTUCA	AveID	1.208	1.281		0.0530	0.0500	6.1	50.0
10:2 FTCA	Q2ID		1.192		0.0584	0.0500	16.8	50.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.076		0.0521	0.0500	4.1	50.0
10:2 FTS	L2ID		2.366		0.0484	0.0482	0.3	50.0
NMeFOSA	L2ID		1.170		0.0487	0.0500	-2.6	50.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.315		0.0524	0.0500	4.8	50.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	1.008		0.0516	0.0484	6.6	50.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.9632		0.0545	0.0500	9.1	50.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.414		0.0498	0.0500	-0.3	50.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.385		0.0505	0.0500	1.0	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1535		0.0547	0.0500	9.3	50.0
Perfluorohexadecanoic acid	L1ID		1.436		0.0511	0.0500	2.2	50.0
Perfluorooctadecanoic acid	AveID	1.013	1.056		0.0521	0.0500	4.2	50.0
13C4 PFBA	Ave	1.172	1.199		1.28	1.25	2.3	50.0
13C5 PFPeA	Ave	0.9197	0.8709		1.18	1.25	-5.3	50.0
13C3 PFBS	Ave	0.5817	0.5466		1.09	1.16	-6.0	50.0
M2-4:2 FTS	Ave	0.1821	0.1682		1.08	1.17	-7.6	50.0
13C2 PFHxA	Ave	1.015	0.9703		1.20	1.25	-4.4	50.0
13C3 HFPO-DA	Ave	0.4963	0.4419		1.11	1.25	-10.9	50.0
18O2 PFHxS	Ave	0.3776	0.3923		1.23	1.18	3.9	50.0
13C4 PFHpA	Ave	0.9046	0.8605		1.19	1.25	-4.9	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3431		1.27	1.25	1.7	50.0
13C-6:2 FTCA	Ave	0.0260	0.0297		1.43	1.25	14.1	50.0
13C4 PFOA	Ave	0.9356	0.9759		1.30	1.25	4.3	50.0
M2-6:2 FTS	Ave	0.1799	0.1977		1.31	1.19	9.9	50.0
13C4 PFOS	Ave	0.5610	0.6142		1.31	1.20	9.5	50.0
13C5 PFNA	Ave	1.268	1.285		1.27	1.25	1.3	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5108		1.41	1.25	13.0	50.0
13C-8:2 FTCA	Ave	0.0330	0.0396		1.50	1.25	19.7	50.0
13C8 FOSA	Ave	0.8475	0.9224		1.36	1.25	8.8	50.0
13C2 PFDA	Ave	1.210	1.230		1.27	1.25	1.6	50.0
M2-8:2 FTS	Ave	0.1961	0.2188		1.34	1.20	11.6	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59059/6 Calibration Date: 02/19/2022 18:34  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_006.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1448		1.60	1.25	27.6	50.0
13C2 PFUnA	Ave	1.168	1.182		1.27	1.25	1.2	50.0
d5-NEtFOSAA	Ave	0.1164	0.1429		1.53	1.25	22.7	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5069		1.25	1.25	-0.2	50.0
13C-10:2 FTCA	Ave	0.0309	0.0300		1.21	1.25	-3.0	50.0
13C2 PFDoA	Ave	1.152	1.125		1.22	1.25	-2.4	50.0
13C2 10:2 FTS	Ave	0.1652	0.1708		1.23	1.18	3.4	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1113		1.17	1.25	-6.2	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1013		1.26	1.25	0.4	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1184		1.20	1.25	-3.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0837		1.29	1.25	3.4	50.0
13C2 PFTeDA	Ave	0.9216	0.8754		1.19	1.25	-5.0	50.0
13C2 PFHxDA	Ave	0.5997	0.5543		1.16	1.25	-7.6	50.0
13C8 PFOA	AveID	0.9229	0.9185		1.24	1.25	-0.5	50.0
13C8 PFOS	AveID	0.2212	0.2111		1.14	1.20	-4.6	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_006.d  
 Lims ID: CCVL  
 Client ID:  
 Sample Type: CCVL  
 Inject. Date: 19-Feb-2022 18:34:56 ALS Bottle#: 6 Worklist Smp#: 6  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-006 ccvl  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:36 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 18:52:19

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										M
212.90 > 169.00	2.804	2.804	0.0	1.000	190065	0.0489		97.8	75.1	M
D 2 13C4 PFBA										
217.00 > 172.00	2.804	2.804	0.0	0.680	5704803	1.28		102	26218	
3 PFECA F										
229.00 > 85.00	2.911	2.911	0.0	0.935	132477	0.0531		106	1274	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.756	4141938	1.18		94.7	17977	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.115	0.0	1.000	180031	0.0525		105	77.9	
4 3:3 FTCA										
241.00 > 177.10	3.123	3.123	0.0	1.000	7660	0.0675	Target=1.13	135	87.6	
241.00 > 116.90	3.123	3.123	0.0	1.000	7414		1.03(0.56-1.69)		13.7	
D 7 13C3 PFBS										
301.90 > 80.00	3.123	3.123	0.0	0.758	2417731	1.09		94.0	9737	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.131	0.0	1.003	116858	0.0485	Target=2.61	110	345	
298.90 > 99.00	3.123	3.131	-0.008	1.000	42299		2.76(1.31-3.92)		312	
9 PFECA A										
278.95 > 84.90	3.202	3.202	0.0	1.028	217194	0.0515		103	1795	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.044	244524	0.0473		106	2683	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.985	83466	0.0536		107	723	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.415	3.415	0.0	0.829	747095	1.08		92.4	1238	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.415	3.415	0.0	1.000	82429	0.0543		116	721	
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.437	0.0	0.834	4614799	1.20		95.6	16100	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.437	3.437	0.0	1.101	113328	0.0528	Target=3.55	113	374	
349.00 > 99.00	3.437	3.437	0.0	1.101	33907		3.34(1.78-5.33)		280	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.437	0.0	1.000	161224	0.0475	Target=11.60	94.9	87.0	
313.00 > 119.00	3.437	3.437	0.0	1.000	14821		10.88(5.80-17.40)		13.8	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.542	0.0	0.860	2101966	1.11		89.1	7408	
17 HFPO-DA										
285.00 > 169.00	3.542	3.542	0.0	1.000	161555	0.0714	Target=2.45	143	40.3	
329.00 > 169.00	3.542	3.542	0.0	1.000	56550		2.86(1.23-3.68)		30.5	
D 20 18O2 PFHxS										
403.00 > 84.00	3.772	3.772	0.0	0.915	1765270	1.23		104	4061	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.772	3.772	0.0	1.000	96878	0.0469	Target=3.44	103	293	M
399.00 > 99.00	3.772	3.772	0.0	1.000	31881		3.04(1.72-5.17)		127	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.792	0.0	0.920	4092624	1.19		95.1	14420	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.792	0.0	1.000	187089	0.0514	Target=3.25	103	176	
363.00 > 169.00	3.792	3.792	0.0	1.000	58783		3.18(1.62-4.87)		148	
25 DONA										
377.00 > 251.00	3.820	3.820	0.0	0.866	276857	0.0448	Target=1.74	95.1	1594	
377.00 > 85.00	3.820	3.820	0.0	0.866	148359		1.87(0.87-2.61)		79.4	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	18638	0.0396	Target=1.11	79.1	111	
340.88 > 216.90	3.853	3.853	0.0	0.987	19300		0.97(0.56-1.67)		64.2	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.886	0.0	0.943	1632068	1.27		102	3528	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.886	0.0	1.000	71628	0.0524	Target=13.05	105	343	M
356.86 > 243.00	3.878	3.886	-0.008	0.998	4552		15.74(6.52-19.57)		16.6	M
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.903	0.0	0.947	141258	1.43		114	746	
29 6:2 FTCA										
377.10 > 63.00	3.903	3.903	0.0	1.000	4639	0.0526	Target=1.29	105	13.5	
377.10 > 313.10	3.895	3.903	-0.008	0.998	3651		1.27(0.65-1.94)		8.4	
32 PFECBS										
460.80 > 380.90	4.054	4.054	0.0	0.984	120059	0.0435	Target=1.75	94.4	513	
460.80 > 98.90	4.064	4.054	0.010	0.986	79221		1.52(0.87-2.62)		381	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.111	4.111	0.0	0.932	119124	0.0516	Target=3.72	108	317	
449.00 > 99.00	4.111	4.111	0.0	0.932	28276		4.21(1.86-5.57)		136	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	1.000	893278	1.30		110	2104	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	71462	0.0485		102	219	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	1.000	4263381	1.24		99.5	7270	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.121	0.0	1.000	4641588	1.30		104	14495	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		4756185	1.25			11095	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.121	0.0	1.000	224320	0.0504	Target=2.51	101	204	
413.00 > 169.00	4.121	4.121	0.0	1.000	94158		2.38(1.26-3.77)		175	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.412	4.412	0.0	1.000	589488	1.14		95.4	1301	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.412	0.0	1.071	2792682	1.31		109	3382	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.412	4.412	0.0	1.000	128757	0.0481	Target=4.30	104	282	M
499.00 > 99.00	4.412	4.412	0.0	1.000	28398		4.53(2.15-6.45)		116	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.438	4.438	0.0	1.000	194554	0.0523	Target=3.60	105	298	
463.00 > 169.00	4.438	4.438	0.0	1.000	45707		4.26(1.80-5.40)		188	
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.438	0.0	1.077	6111142	1.27		101	11097	
43 7:3 FTCA										
441.00 > 337.00	4.520	4.520	0.0	0.991	31878	0.0405	Target=1.42	81.0	155	
441.00 > 317.00	4.520	4.520	0.0	0.991	24494		1.30(0.71-2.13)		117	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	99254	0.0534	Target=35.37	107	535	
456.86 > 343.00	4.553	4.545	0.008	1.002	4167		23.82(17.68-53.05)		9.9	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.545	0.0	1.000	2429463	1.41		113	4302	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.561	4.561	0.0	1.107	188125	1.50		120	706	
46 8:2 FTCA										
477.00 > 393.10	4.553	4.553	0.0	0.998	12807	0.0470	Target=3.35	94.0	50.6	M
477.00 > 63.20	4.561	4.553	0.008	1.000	4163		3.08(1.68-5.03)		15.8	M
49 9CIFOS										
531.00 > 351.00	4.570	4.570	0.0	1.109	257658	0.0490		105	825	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	114970	0.0486	Target=3.99	101	381	
549.00 > 99.00	4.697	4.697	0.0	1.065	34520		3.33(2.00-5.99)		159	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.706	0.0	1.142	4386940	1.36		109	4348	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.706	0.0	1.000	179566	0.0536		107	621	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.723	0.0	1.000	235914	0.0496	Target=10.58	99.1	239	
513.00 > 169.00	4.723	4.723	0.0	1.000	21418		11.01(5.29-15.88)		23.5	
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.723	0.0	1.146	5848266	1.27		102	19370	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.740	0.0	1.150	997085	1.34		112	2122	
53 8:2 FTS										
527.00 > 507.00	4.731	4.731	0.0	0.998	80160	0.0570		119	336	
57 NMeFOSAA										
570.00 > 419.00	4.863	4.863	0.0	0.998	32822	0.0667		133	78.4	M
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.182	688805	1.60		128	2143	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.124	110989	0.0490	Target=3.55	102	403	
599.00 > 99.00	4.957	4.957	0.0	1.124	28315		3.92(1.78-5.33)		130	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.985	4.985	0.0	1.000	244055	0.0561	Target=8.26	112	364	
563.00 > 169.00	4.985	4.985	0.0	1.000	29714		8.21(4.13-12.39)		155	
D 59 13C2 PFUnA										
565.00 > 520.00	4.985	4.985	0.0	1.210	5623258	1.27		101	10997	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.004	5.004	0.0	1.214	679583	1.53		123	4327	
62 NEtFOSAA										
584.00 > 419.00	5.004	5.004	0.0	1.000	28362	0.0512		102	100	M
63 11CIFOS										
631.00 > 451.00	5.082	5.082	0.0	1.152	202478	0.0459		97.4	553	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.092	0.0	1.236	2410808	1.25		99.8	5470	
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.092	0.0	1.000	123577	0.0530		106	575	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.102	0.0	1.000	6808	0.0584	Target=2.53	117	31.2	
576.80 > 63.10	5.092	5.102	-0.010	0.998	2944		2.31(1.26-3.79)		9.8	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.102	0.0	1.238	142740	1.21		97.0	556	
D 69 13C2 PFDoA										
615.00 > 570.00	5.226	5.226	0.0	1.268	5348629	1.22		97.6	15166	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	230158	0.0521	Target=6.85	104	217	
613.00 > 169.00	5.217	5.226	-0.009	0.998	36415		6.32(3.43-10.28)		91.5	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.242	5.242	0.0	1.272	769650	1.22		103	3873	
71 10:2 FTS										
627.00 > 607.00	5.242	5.242	0.0	1.000	74141	0.0484		100	391	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.274	5.274	0.0	1.280	529222	1.17		93.8	465	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.274	5.274	0.0	1.280	481844	1.25		100	46.1	
74 NMeFOSA										
512.00 > 169.00	5.274	5.274	0.0	1.000	22549	0.0487		97.4	72.6	M
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.003	27834	0.0524		105	44.6	
76 PFDoS										
699.00 > 80.00	5.398	5.398	0.0	1.224	114005	0.0516	Target=4.22	107	281	
699.00 > 99.00	5.398	5.398	0.0	1.224	28225		4.04(2.11-6.34)		139	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.426	0.0	1.038	206078	0.0545	Target=6.32	109	289	
663.00 > 169.00	5.426	5.426	0.0	1.038	31887		6.46(3.16-9.48)		206	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	563273	1.20		96.3	239	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.443	5.443	0.0	1.321	398095	1.29		103	611	
79 N-EtFOSE-M										
630.00 > 59.00	5.443	5.443	0.0	1.002	31869	0.0498		99.7	32.0	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.002	22048	0.0505		101	91.9	M
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.607	5.607	0.0	1.000	25565	0.0547	Target=1.01	109	86.0	
713.00 > 219.00	5.607	5.607	0.0	1.000	22011		1.16(0.51-1.52)		140	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.607	5.607	0.0	1.361	4163393	1.19		95.0	10247	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	151440	0.0511	Target=8.64	102	326	
813.00 > 169.00	5.924	5.924	0.0	1.000	20329		7.45(4.32-12.97)		81.0	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.438	2636333	1.16		92.4	4853	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.178	6.178	0.0	1.043	111338	0.0521	Target=11.77	104	261	
913.00 > 169.00	6.178	6.178	0.0	1.043	8301		13.41(5.88-17.65)		38.5	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L2PFC2T3\_00002

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220219-22723.b\_006.d

Injection Date: 19-Feb-2022 18:34:56

Instrument ID: LCA

Lims ID: CCVL

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 6

Worklist Smp#: 6

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

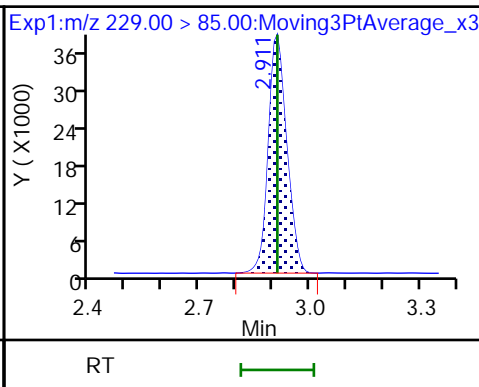
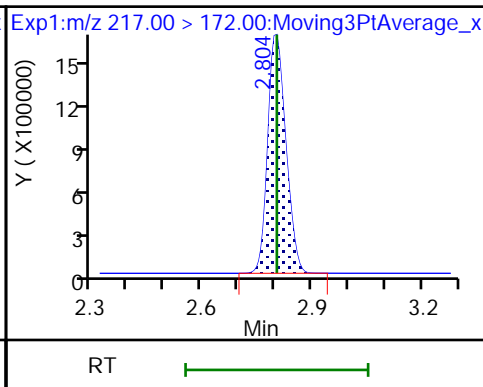
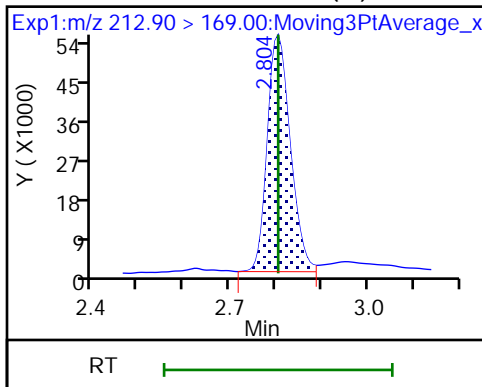
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid (M)

D 2 13C4 PFBA

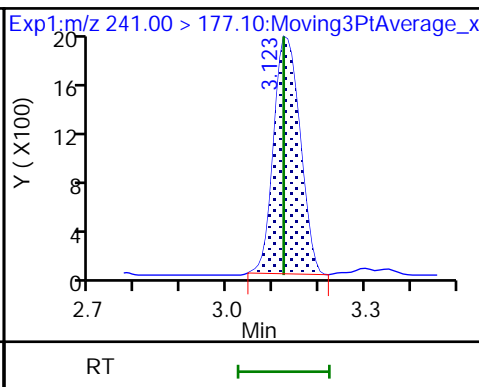
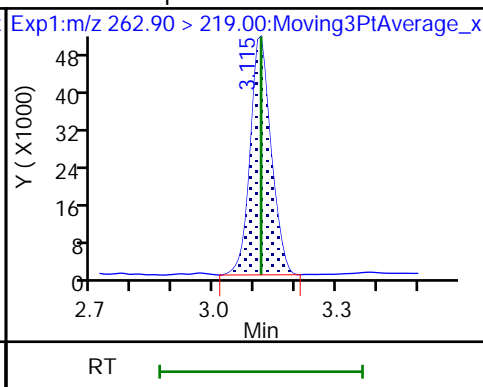
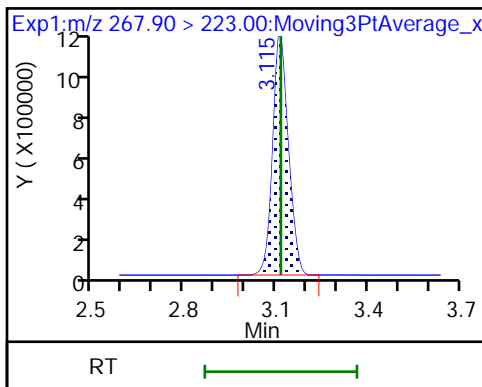
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

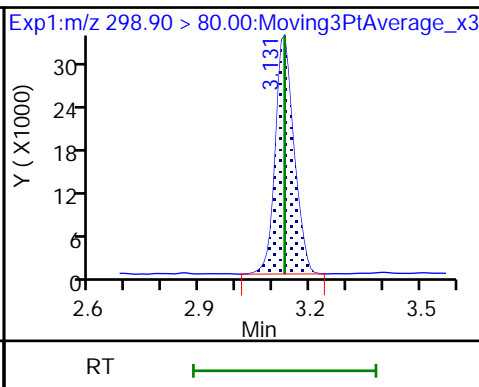
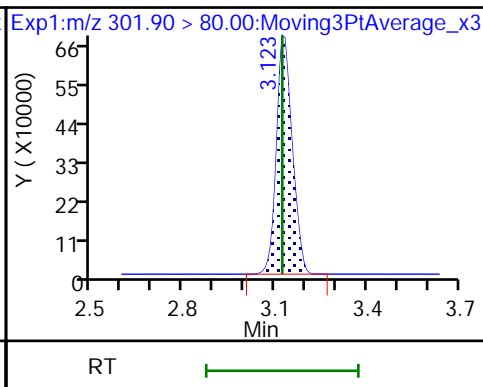
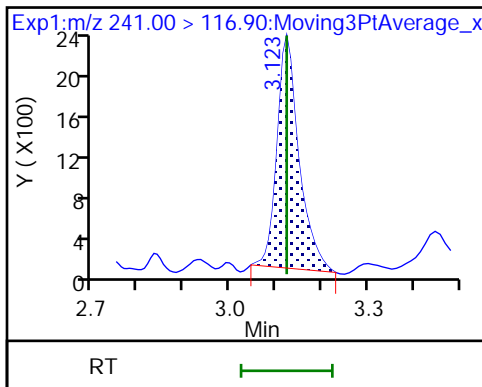
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

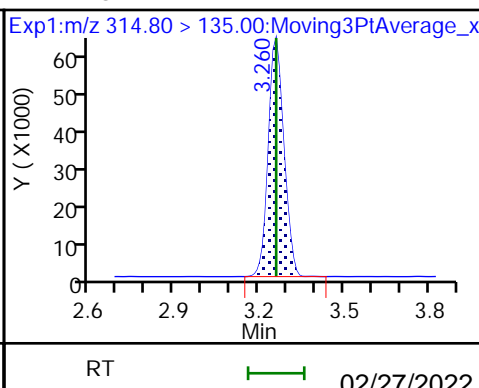
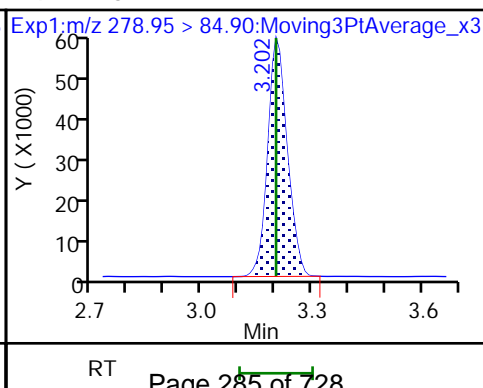
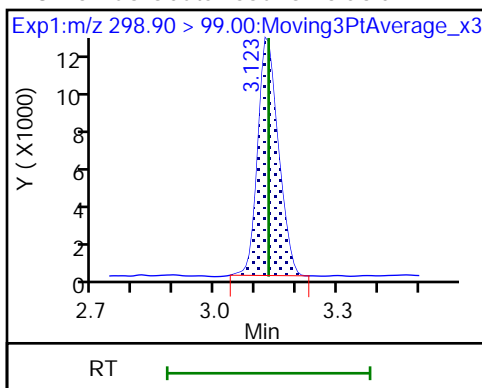
8 Perfluorobutanesulfonic acid



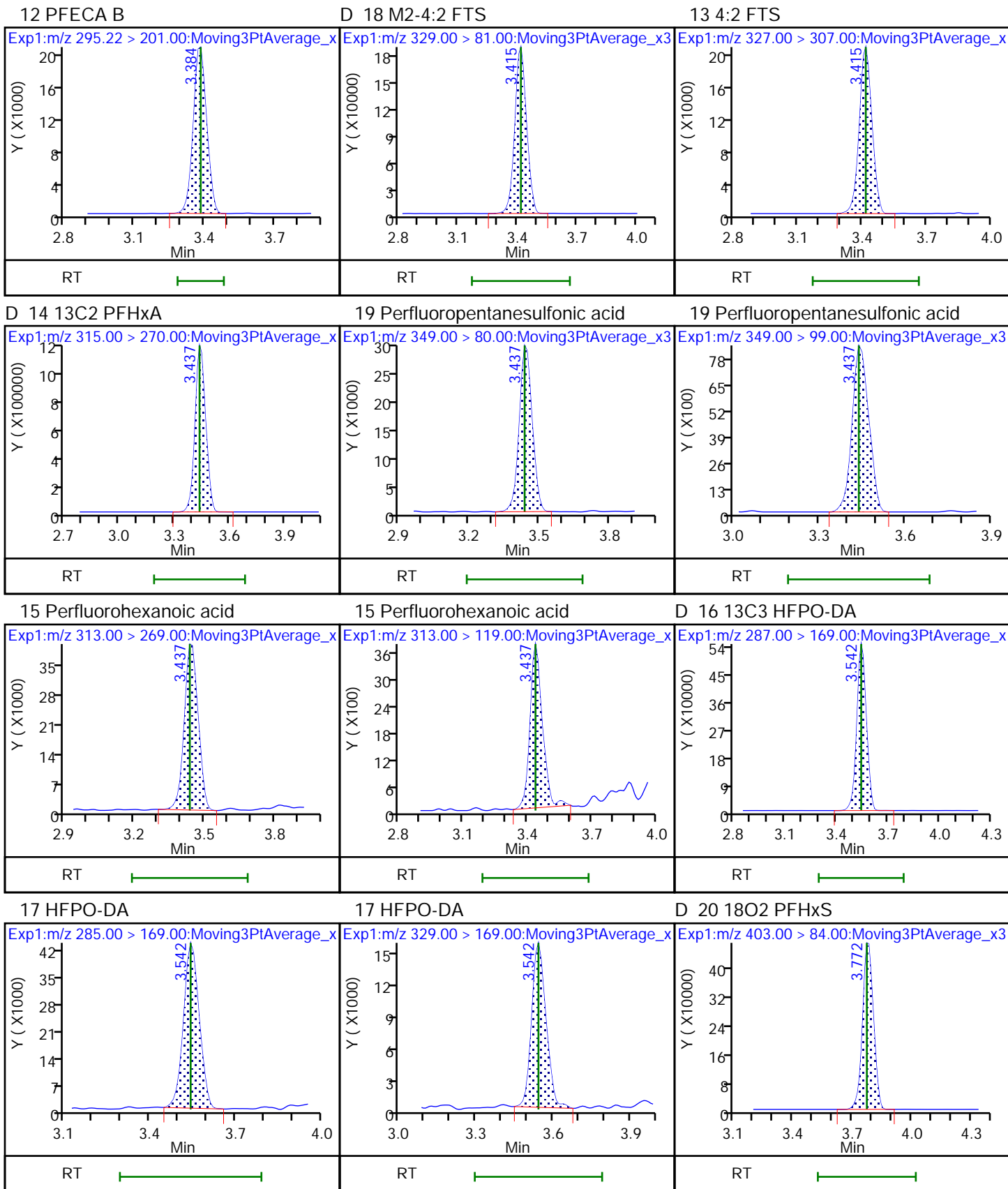
8 Perfluorobutanesulfonic acid

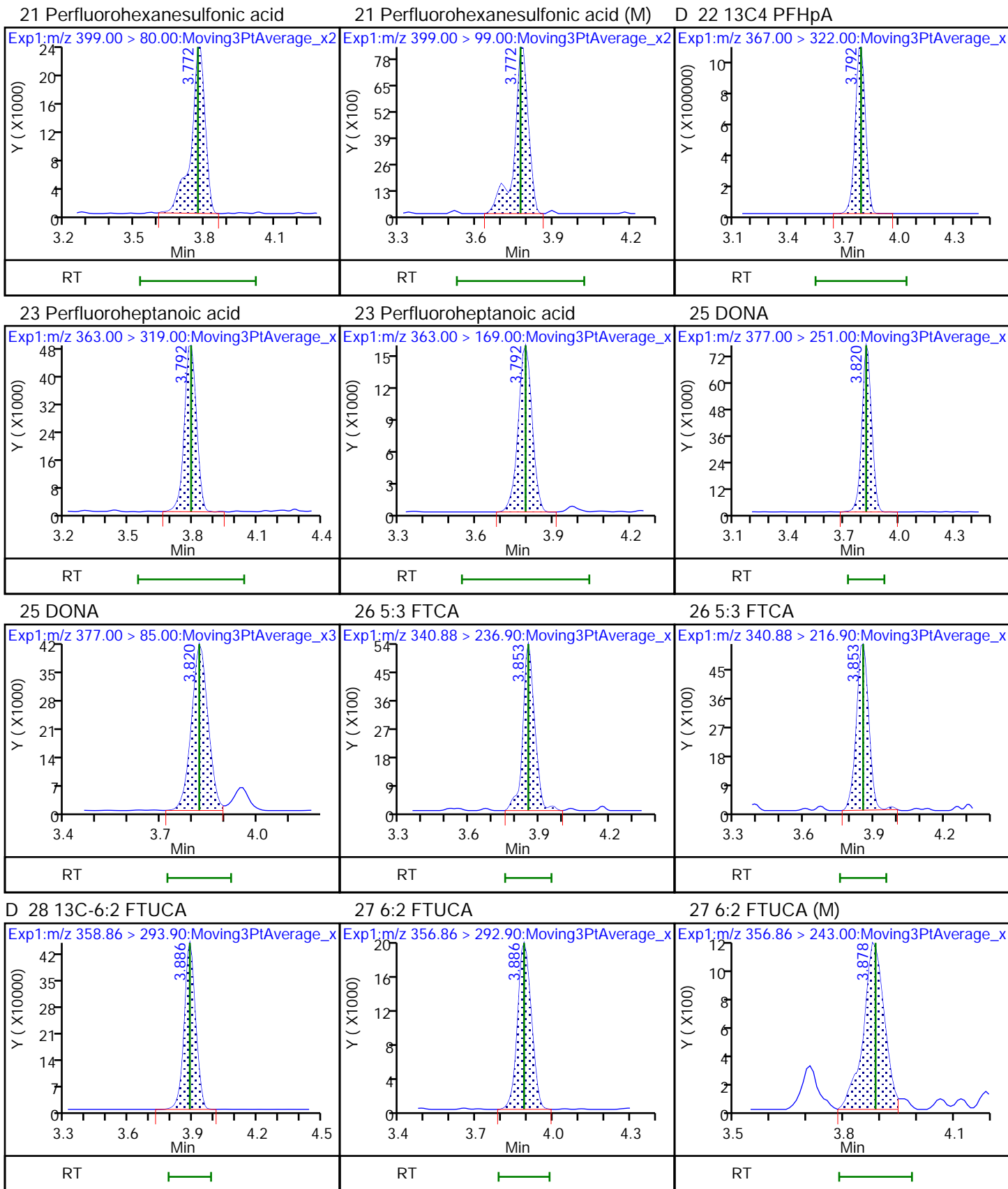
9 PFECA A

11 PES





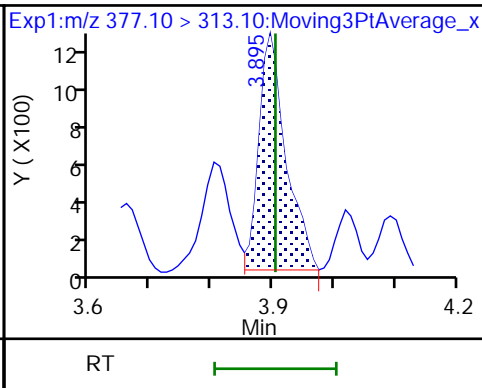
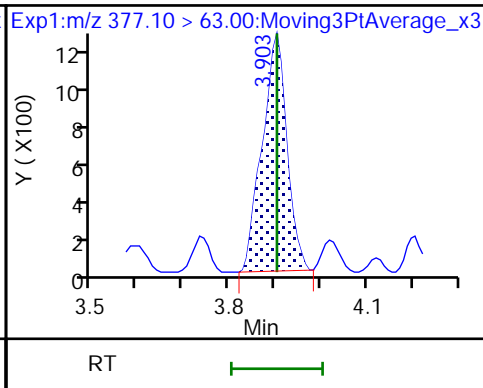
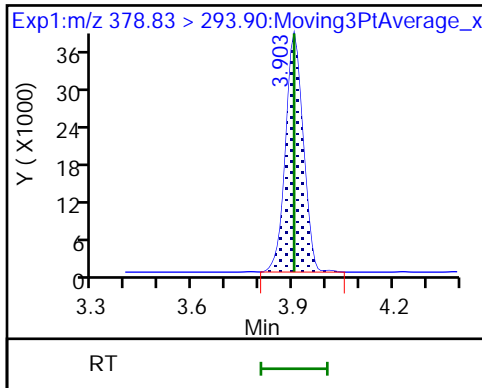




D 24 13C-6:2 FTCA

29 6:2 FTCA

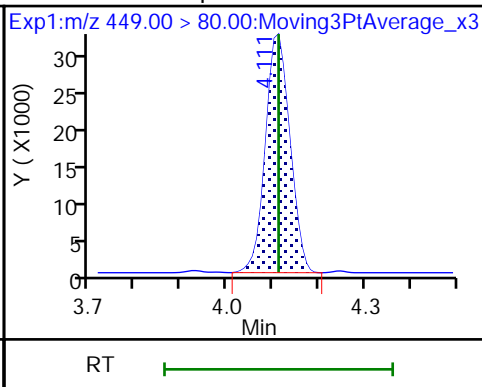
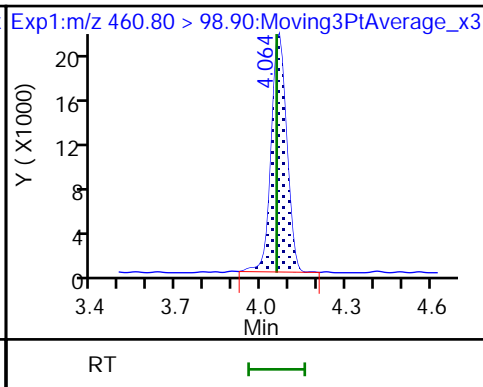
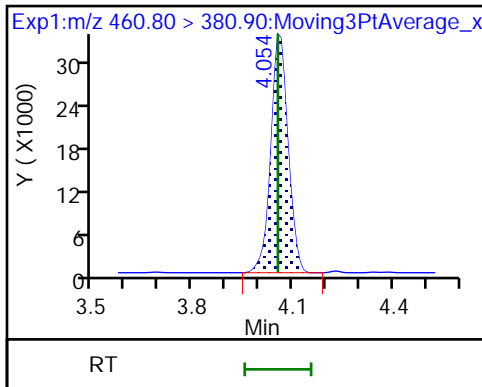
29 6:2 FTCA



32 PFECHS

32 PFECHS

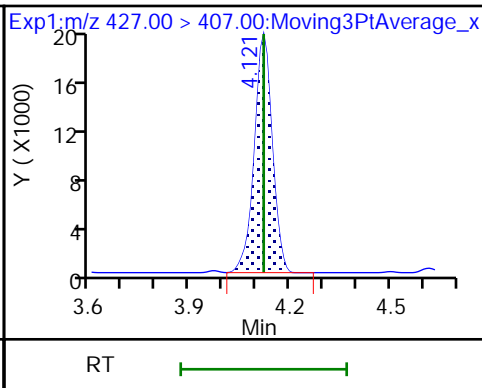
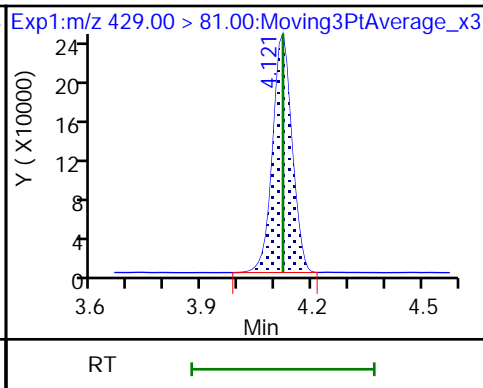
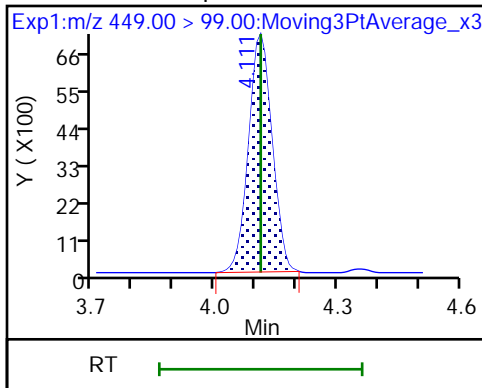
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

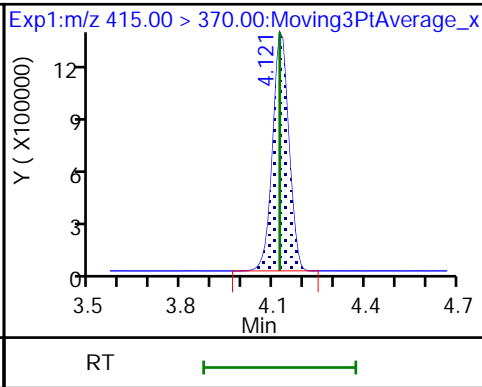
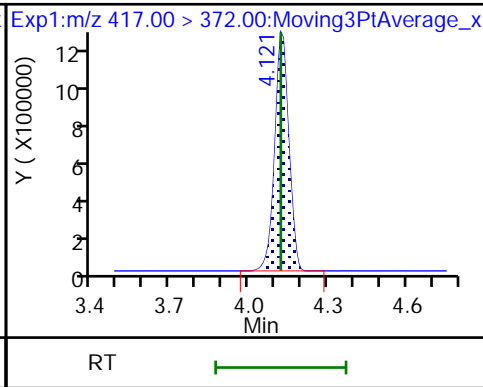
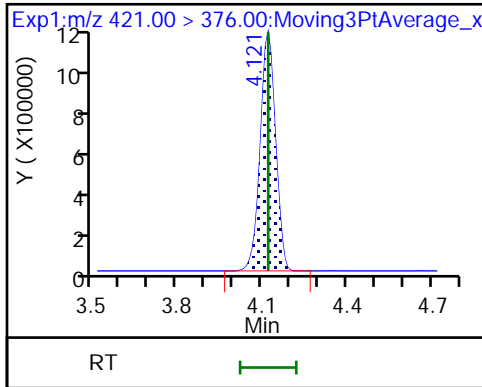
35 6:2 FTS

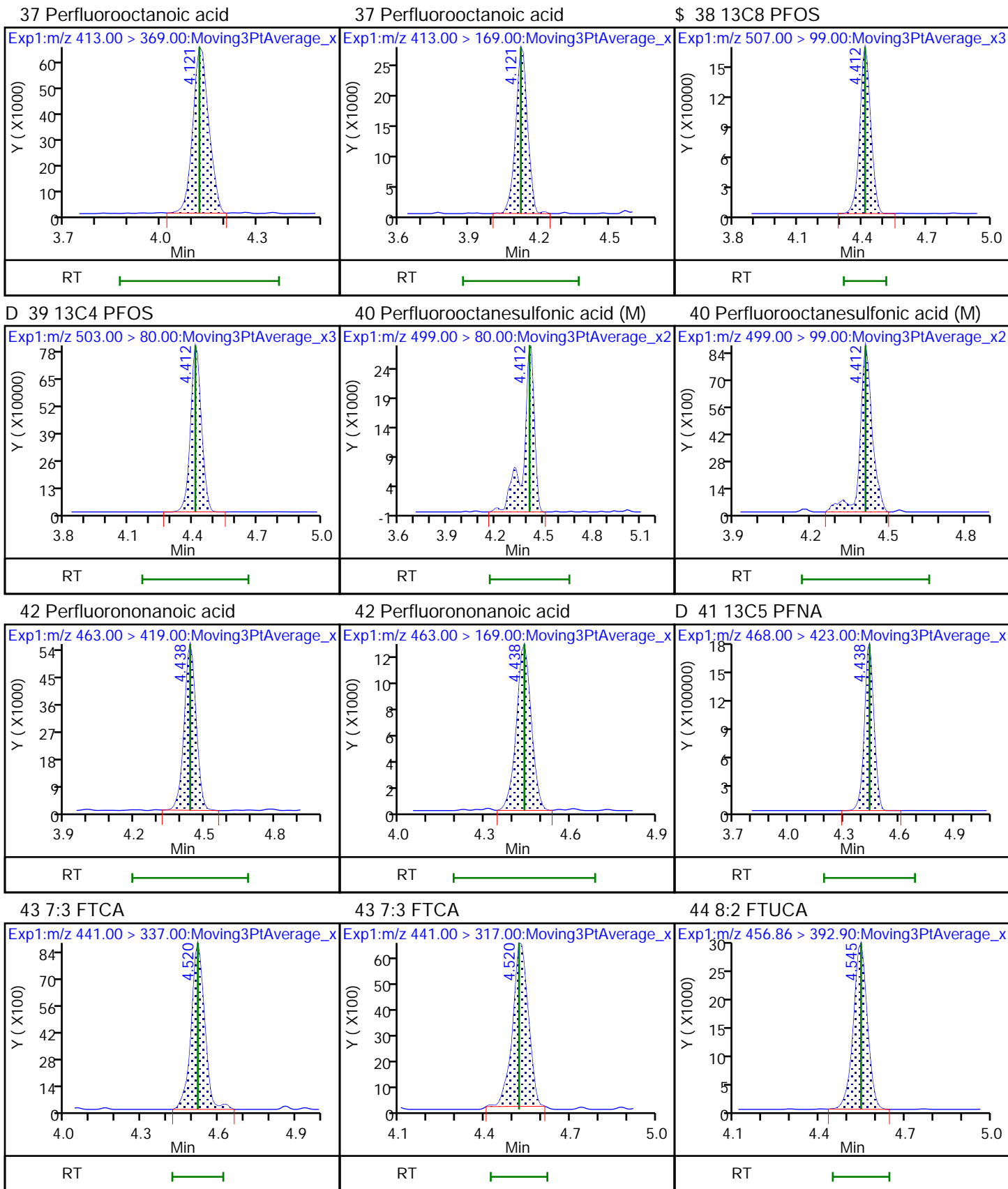


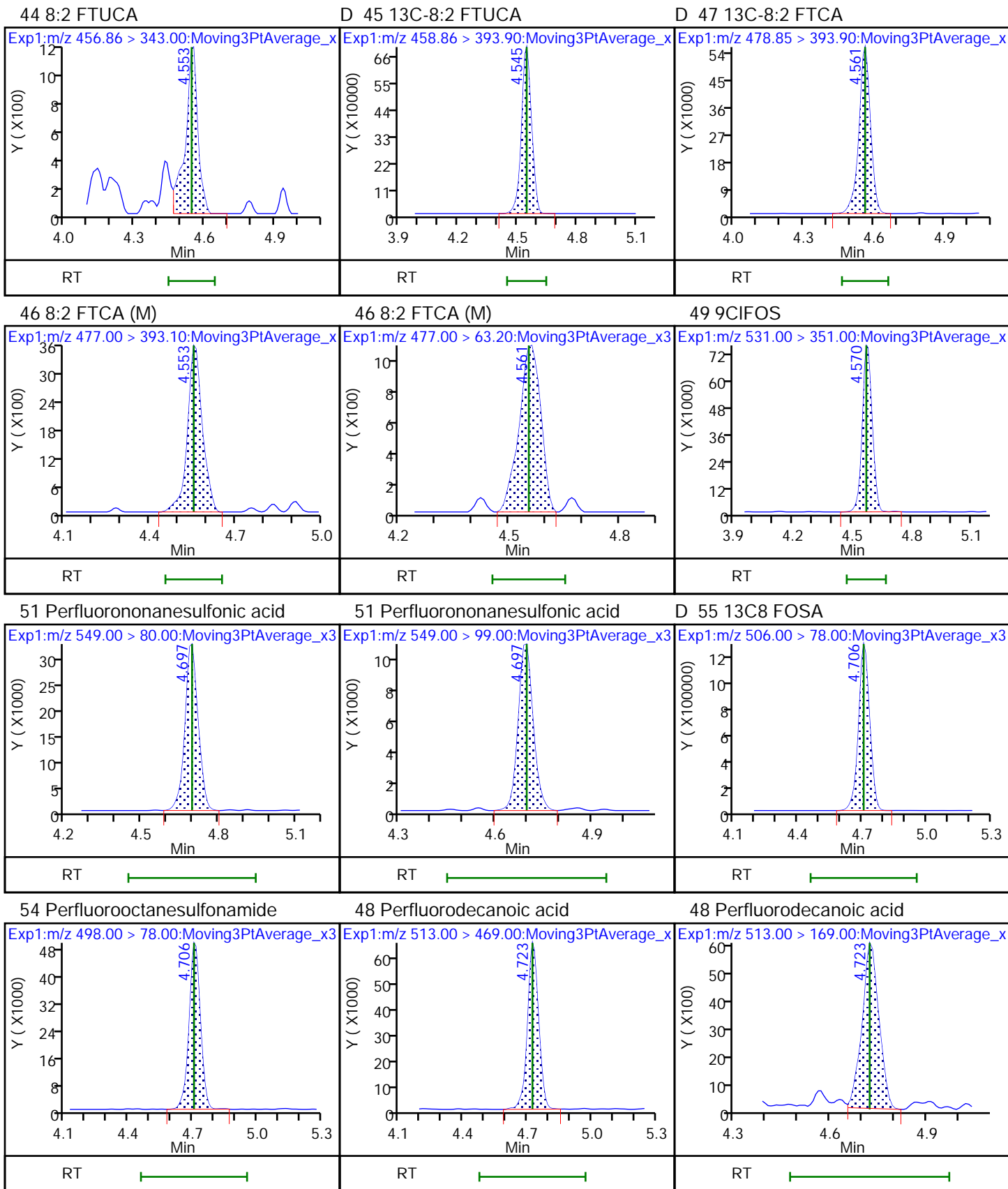
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



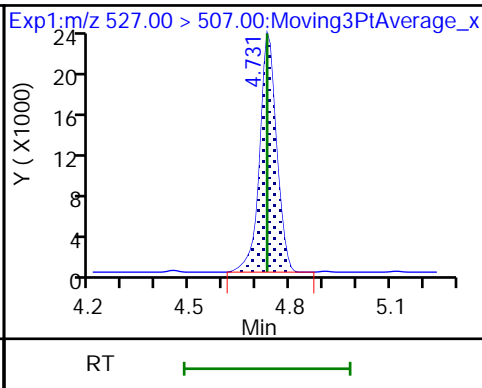
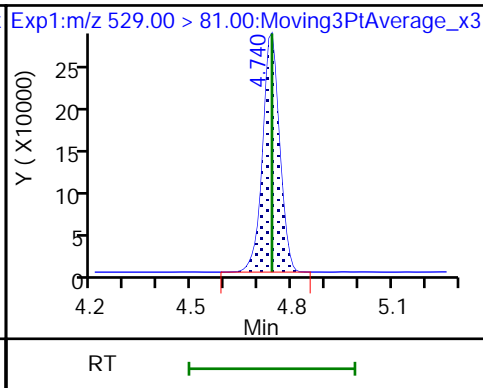
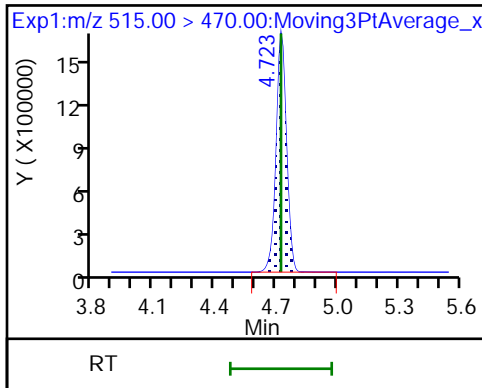




D 52 13C2 PFDA

D 50 M2-8:2 FTS

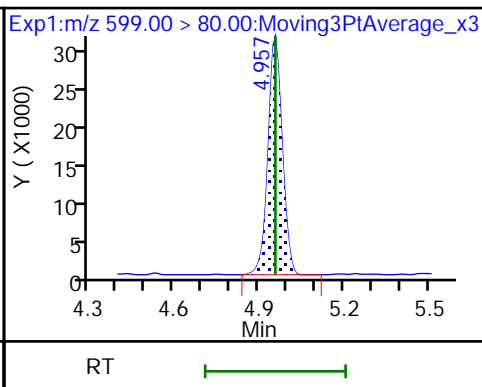
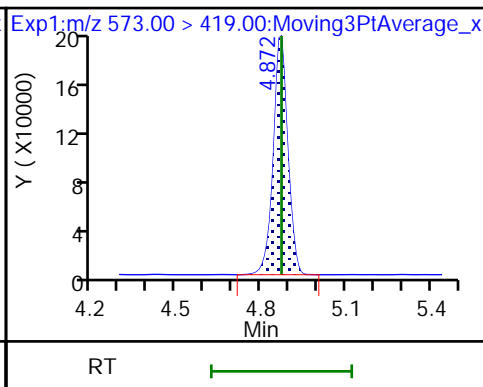
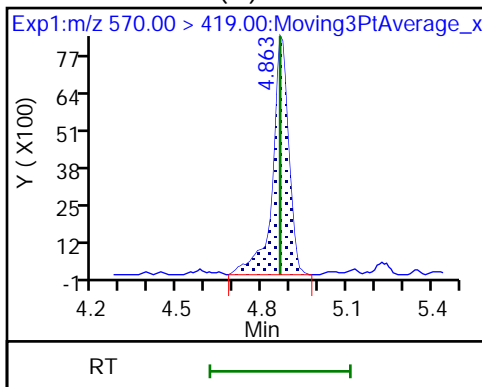
53 8:2 FTS



57 NMeFOSAA (M)

D 56 d3-NMeFOSAA

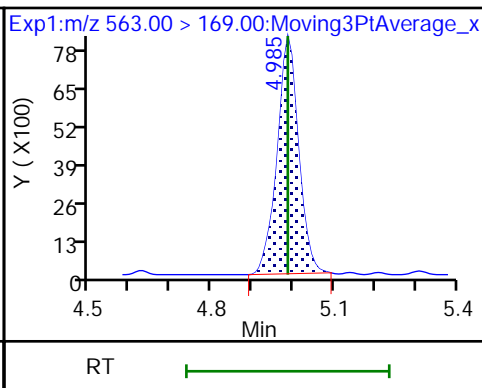
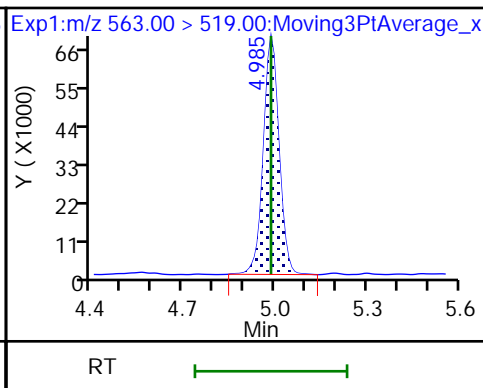
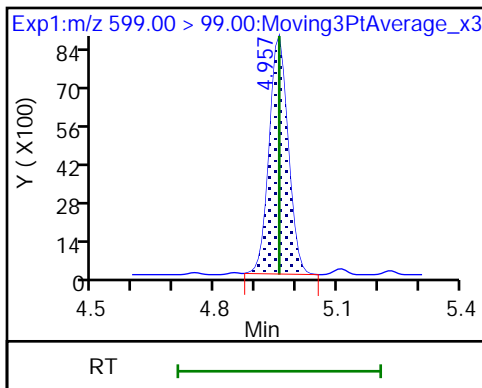
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

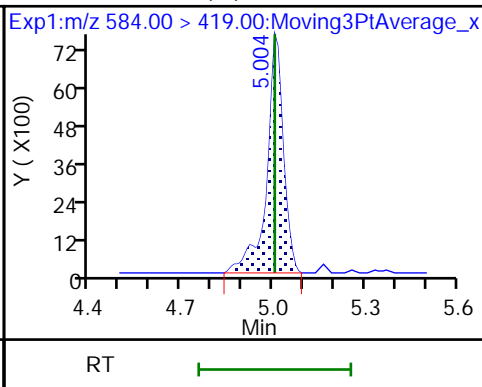
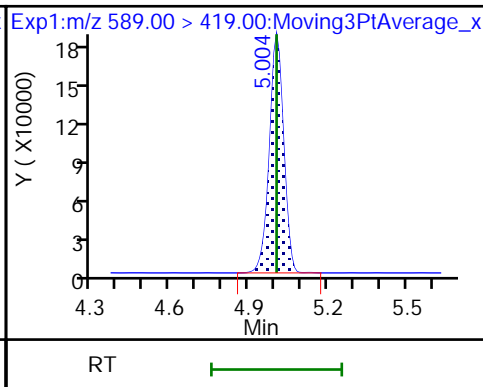
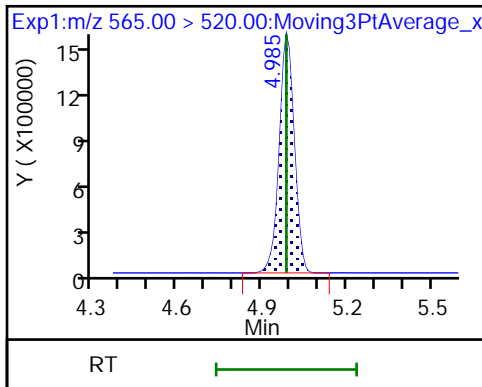
60 Perfluoroundecanoic acid

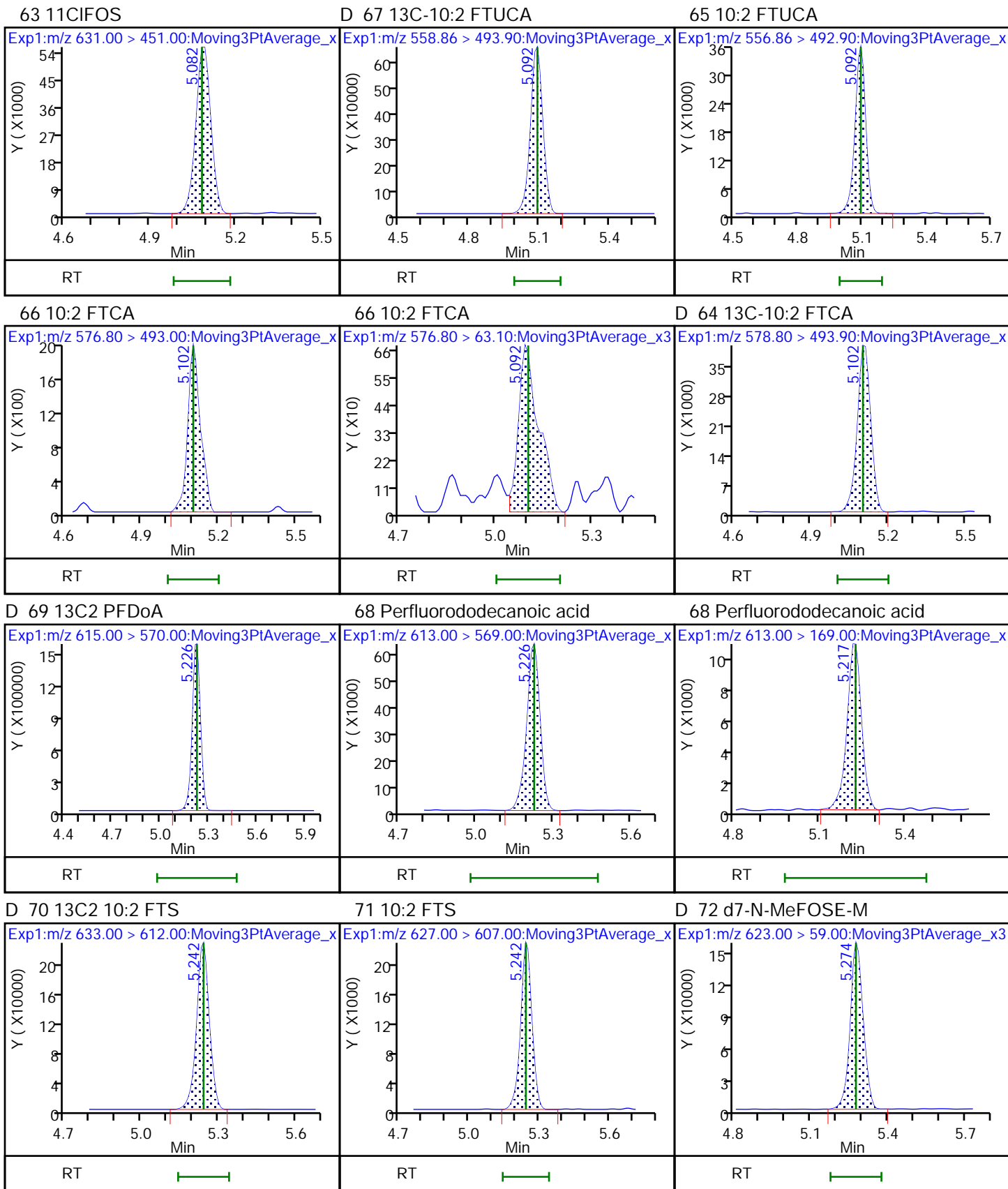


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)

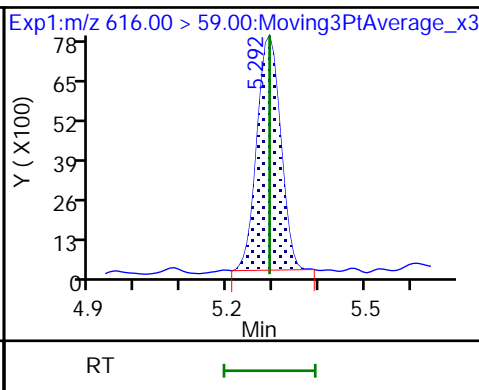
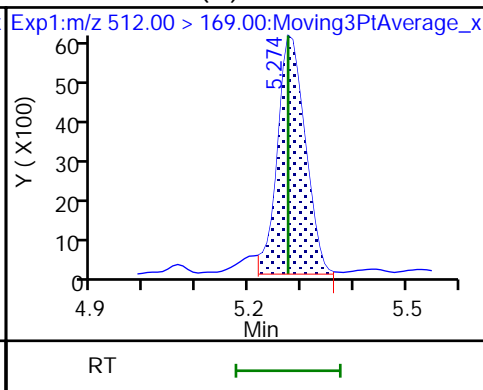
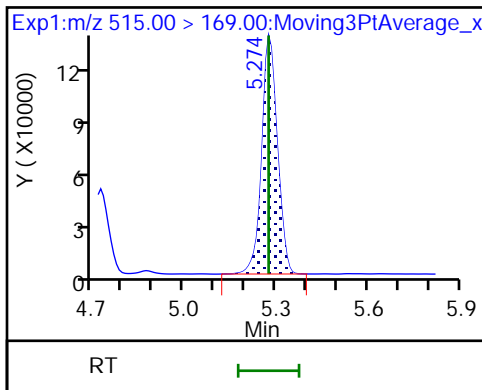




D 73 d-N-MeFOSEA-M

74 NMeFOSEA (M)

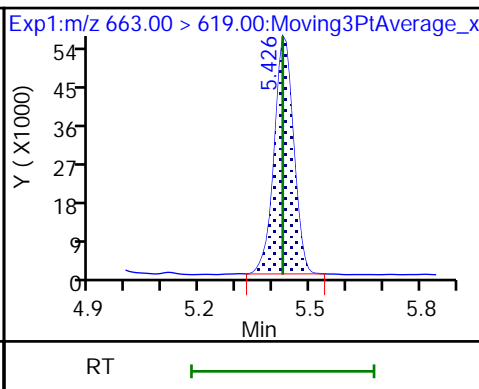
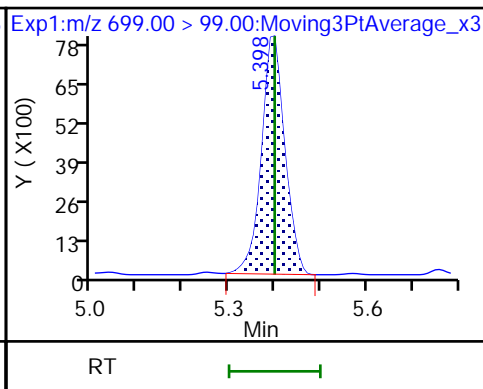
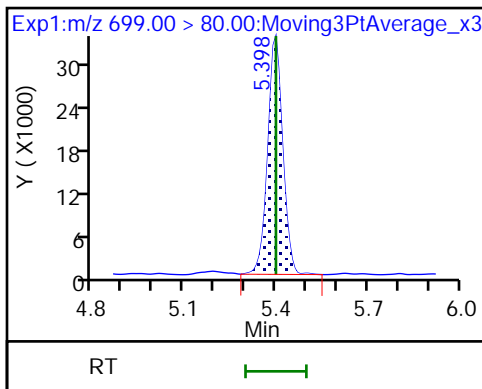
75 N-MeFOSEA-M



76 PFDoS

76 PFDoS

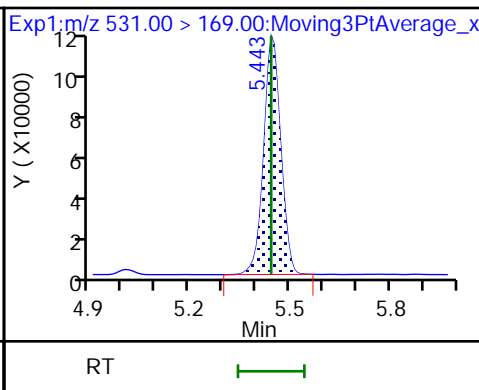
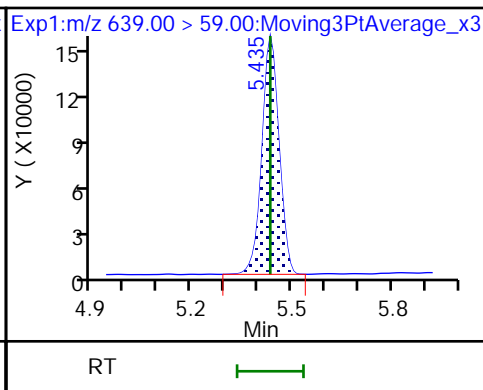
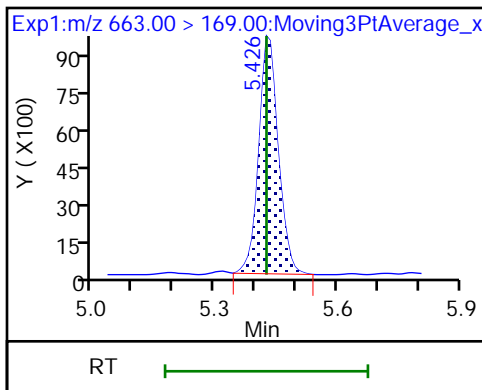
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSEA-M

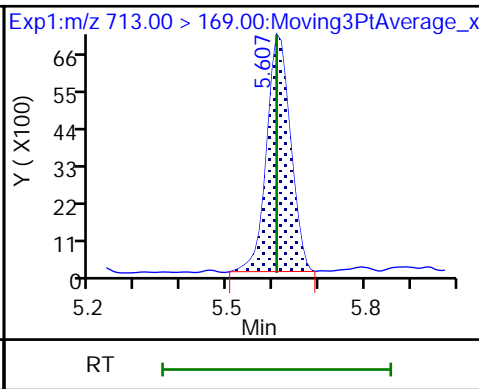
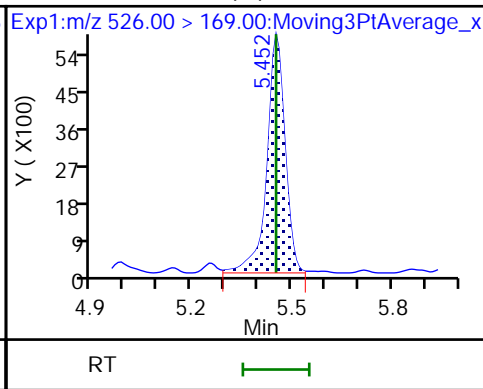
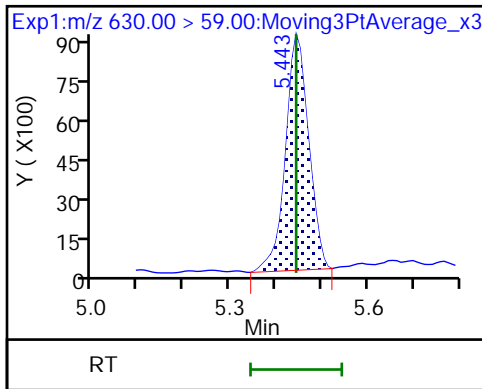
D 80 d-N-EtFOSEA-M



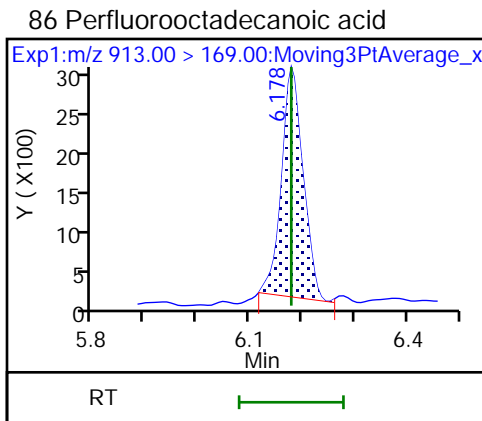
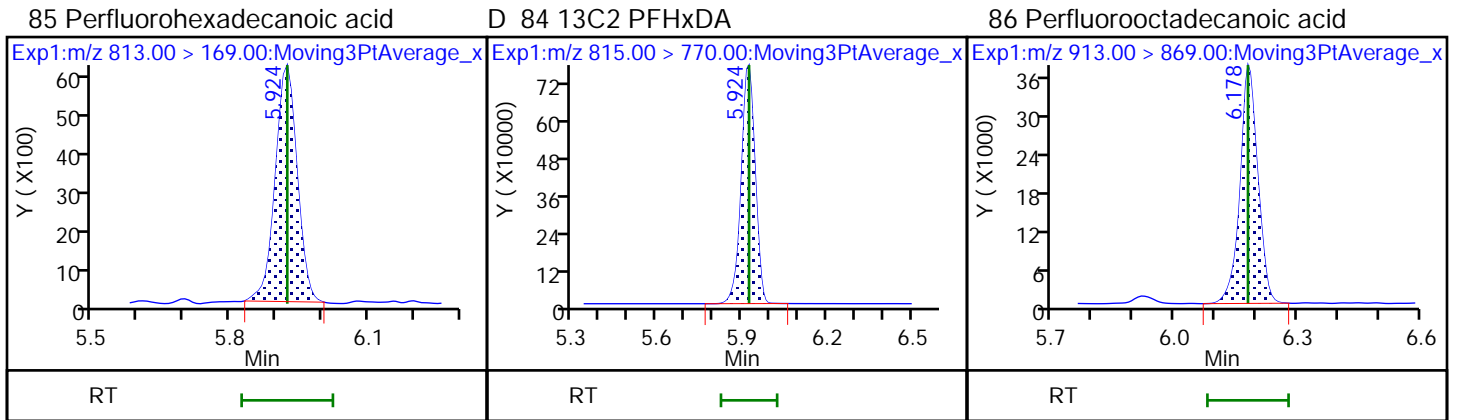
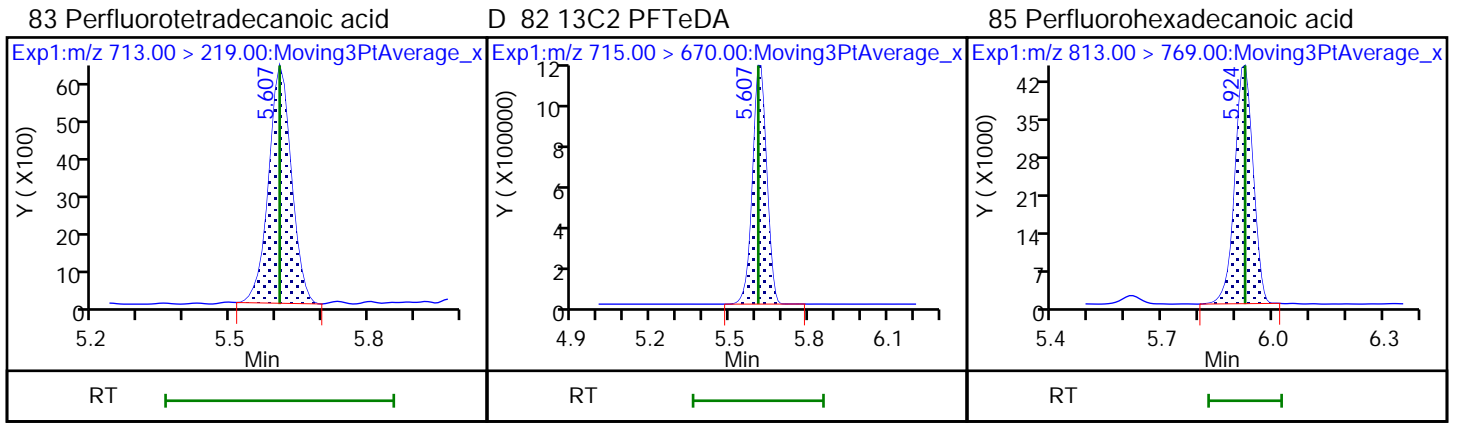
79 N-EtFOSEA-M

81 N-EtFOSEA-M (M)

83 Perfluorotetradecanoic acid







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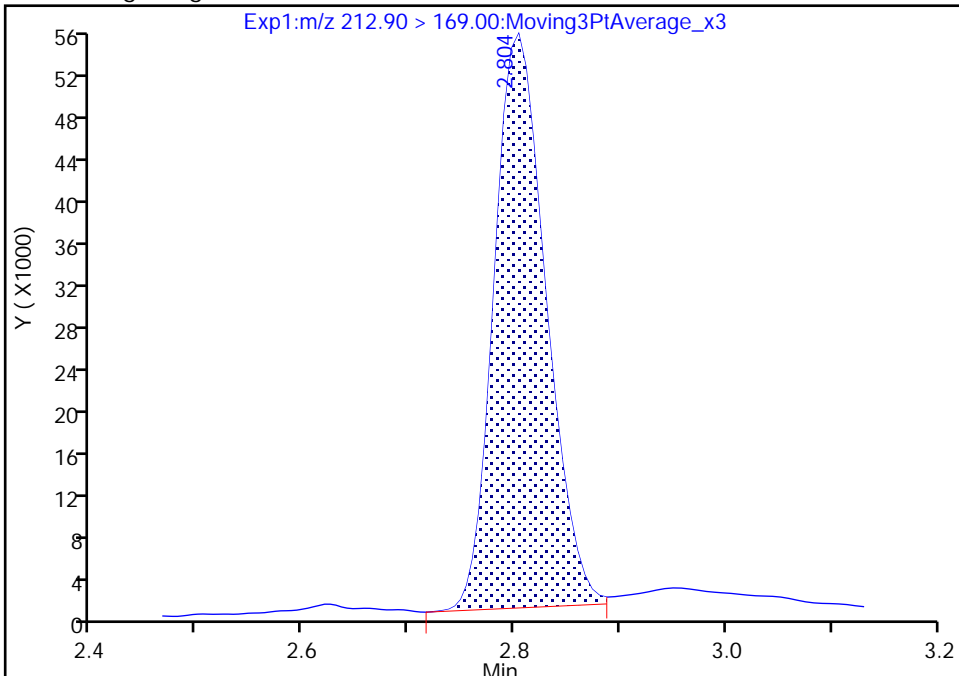
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Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

1 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

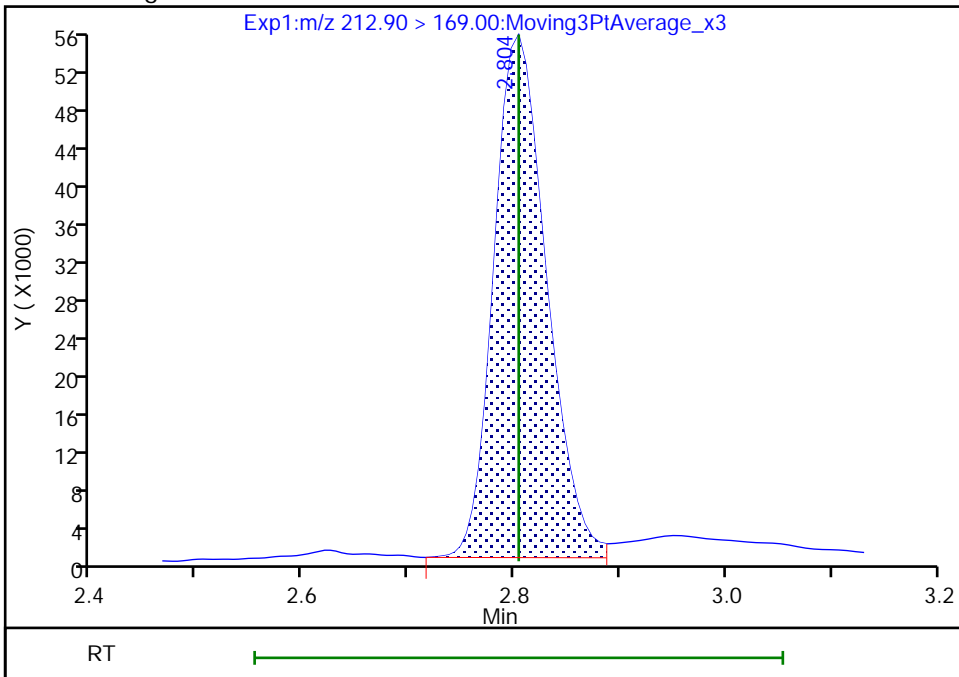
RT: 2.80  
Area: 185877  
Amount: 0.047731  
Amount Units: ng/ml

Processing Integration Results



RT: 2.80  
Area: 190065  
Amount: 0.048893  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:49:30  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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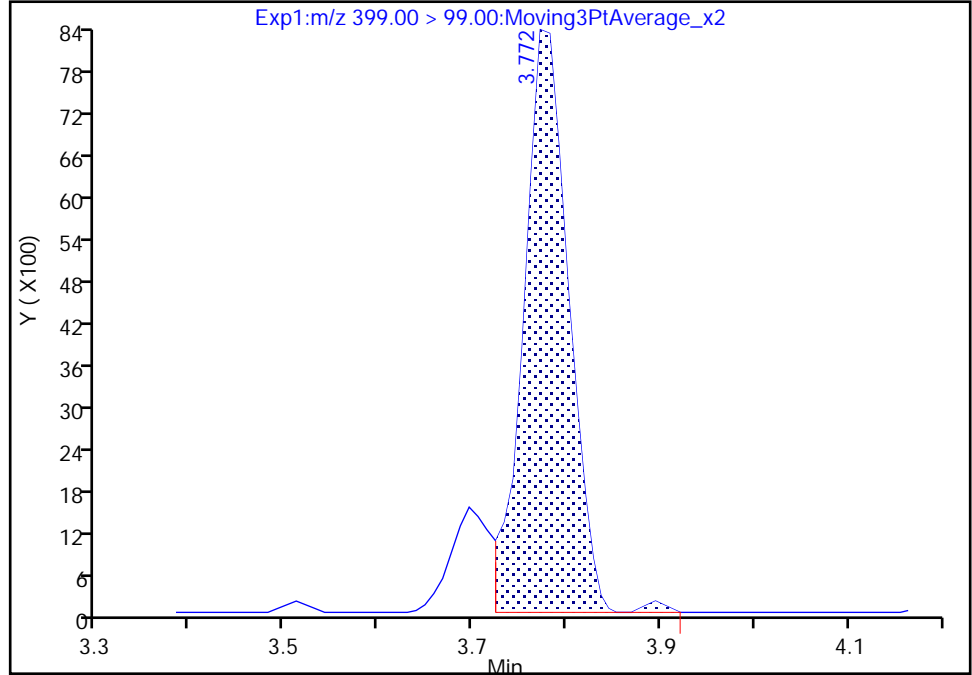
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Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

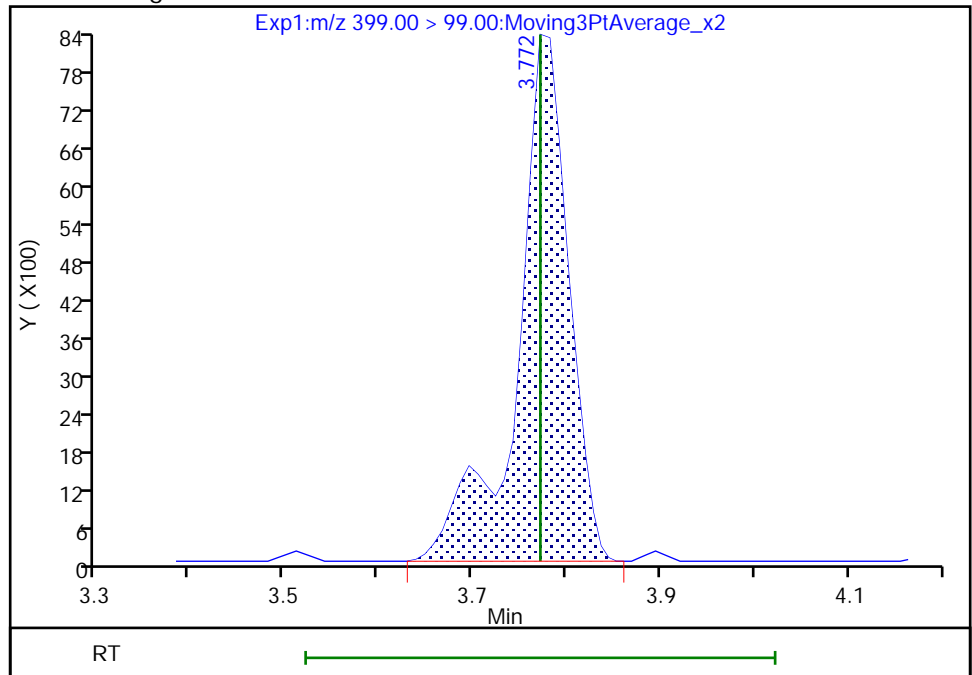
RT: 3.77  
Area: 27848  
Amount: 0.046852  
Amount Units: ng/ml

Processing Integration Results



RT: 3.77  
Area: 31881  
Amount: 0.046852  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:49:54  
Audit Action: Manually Integrated

Eurofins Knoxville

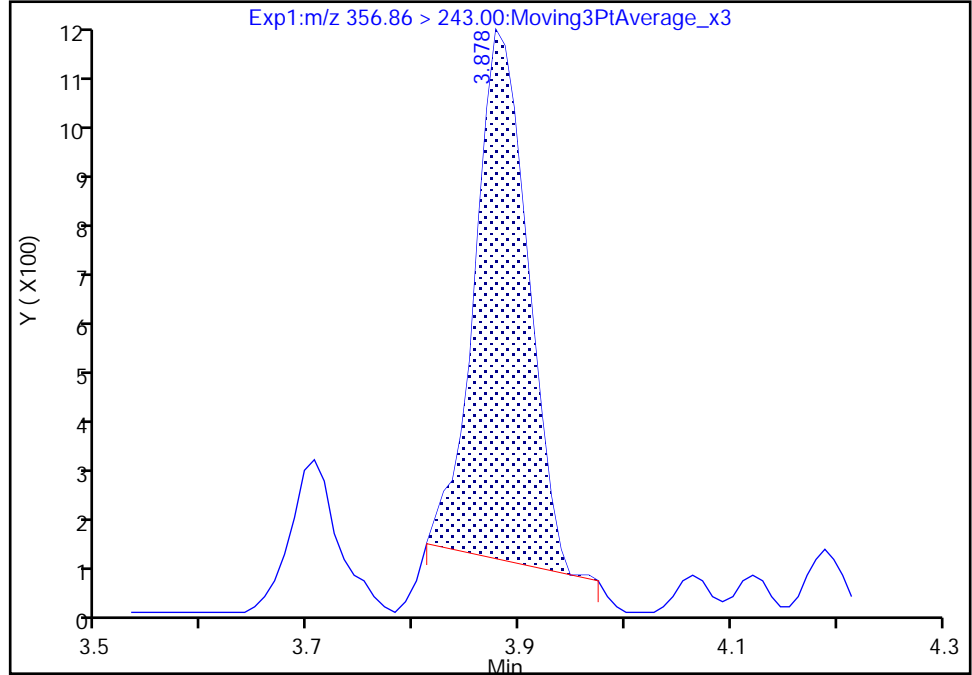
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Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

27 6:2 FTUCA, CAS: 70887-88-6

Signal: 2

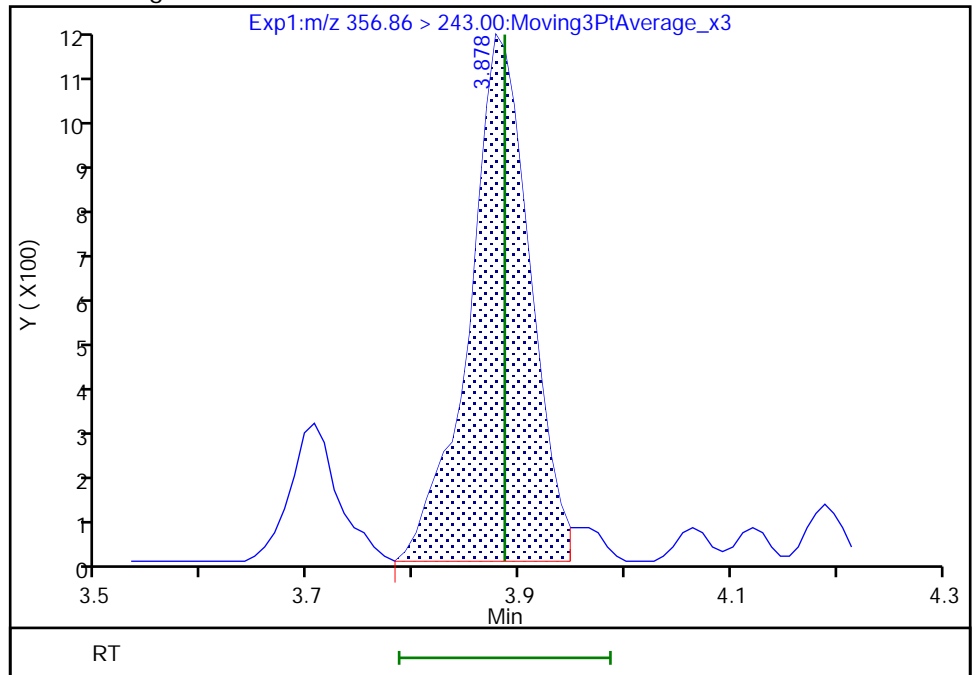
RT: 3.88  
Area: 3616  
Amount: 0.052428  
Amount Units: ng/ml

Processing Integration Results



RT: 3.88  
Area: 4552  
Amount: 0.052428  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:05  
Audit Action: Manually Integrated

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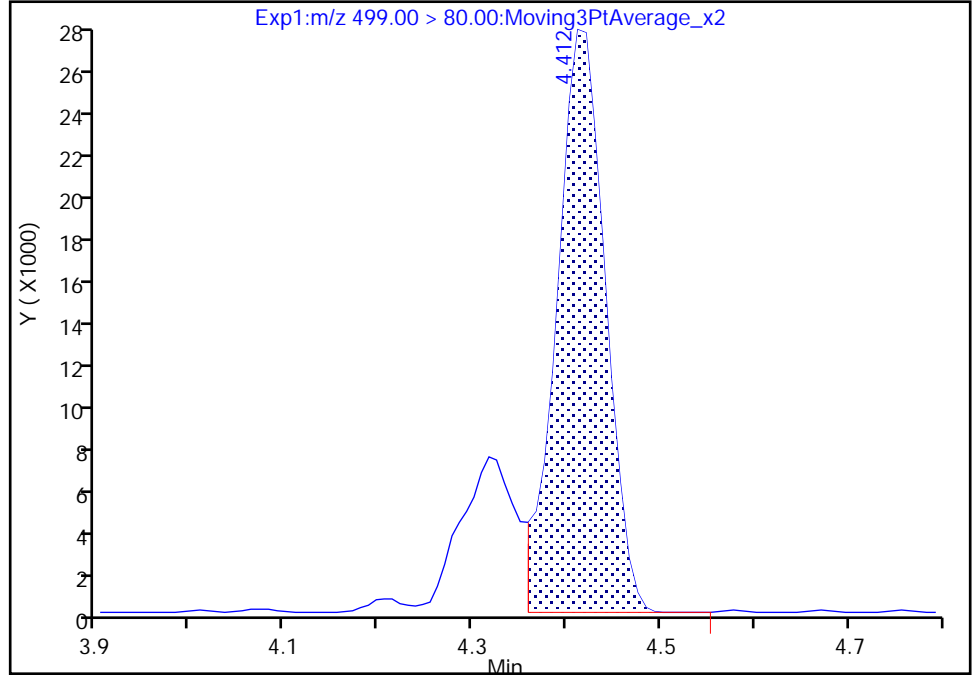
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Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

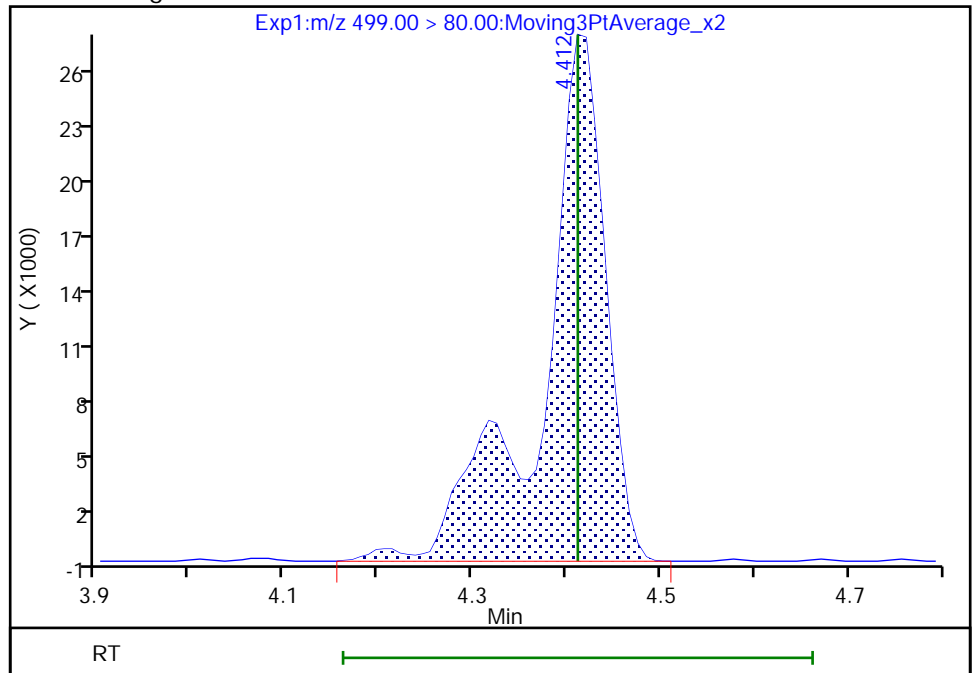
RT: 4.41  
Area: 97359  
Amount: 0.036378  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 128757  
Amount: 0.048109  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:21  
Audit Action: Manually Integrated

Eurofins Knoxville

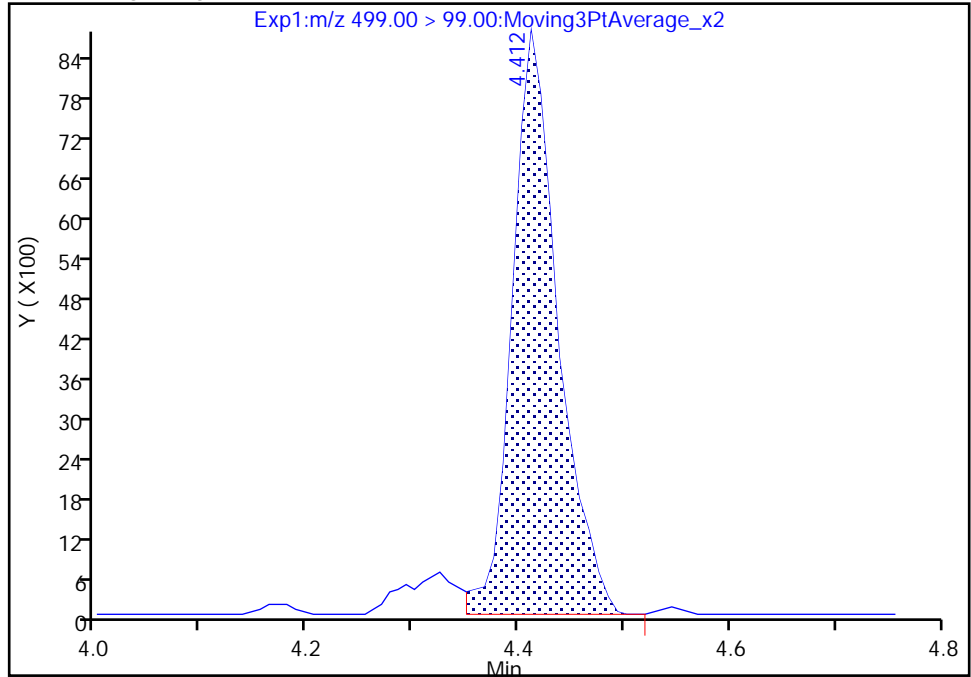
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

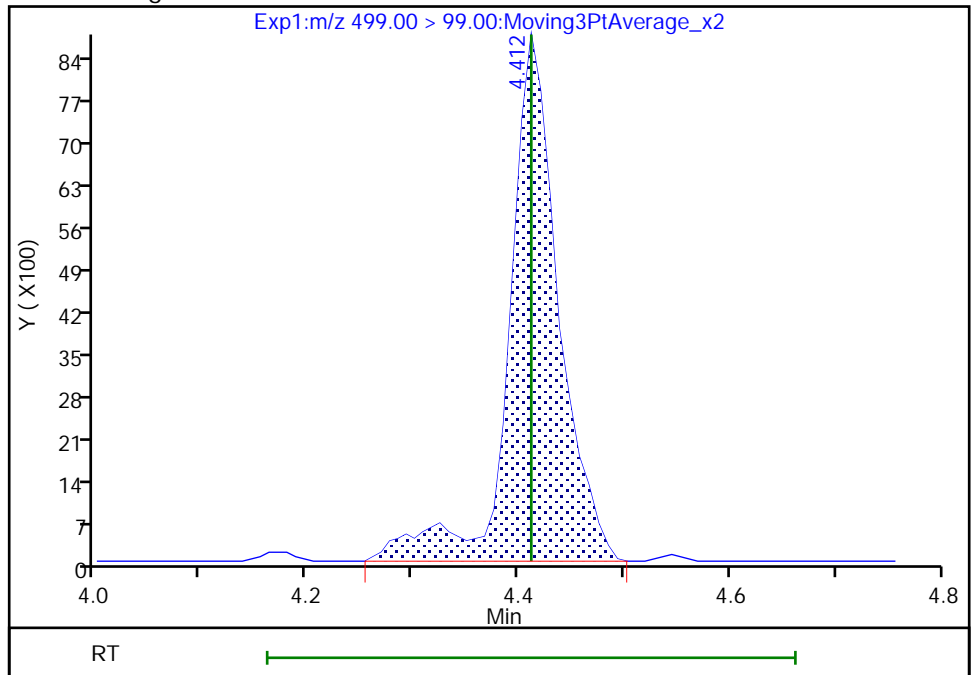
RT: 4.41  
Area: 26236  
Amount: 0.036378  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 28398  
Amount: 0.048109  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:27

Audit Action: Manually Integrated

Audit Reason: Baseline  
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02/27/2022

Eurofins Knoxville

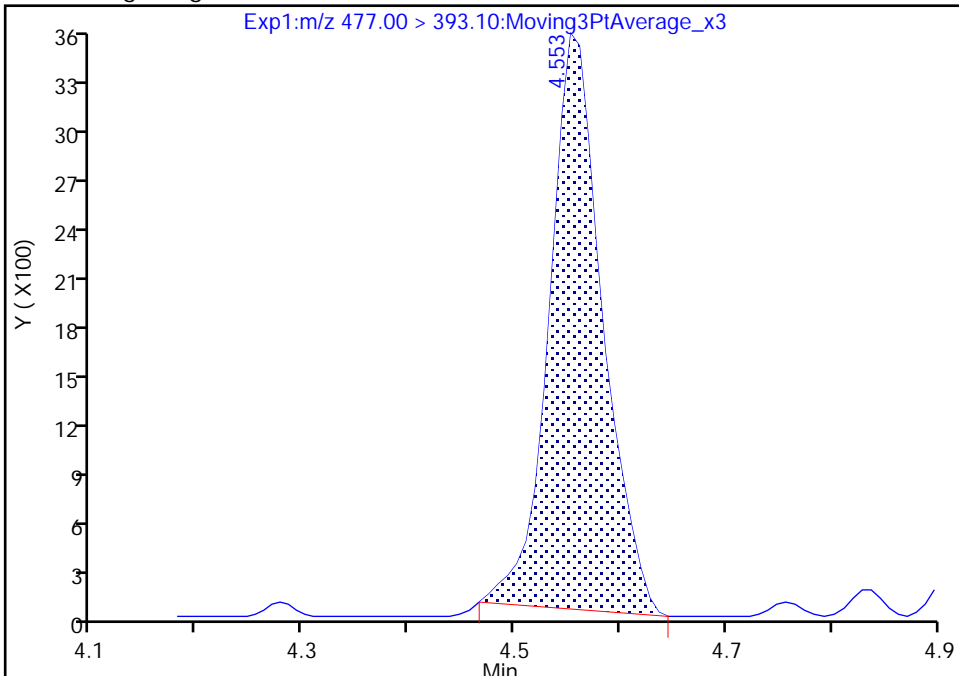
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 1

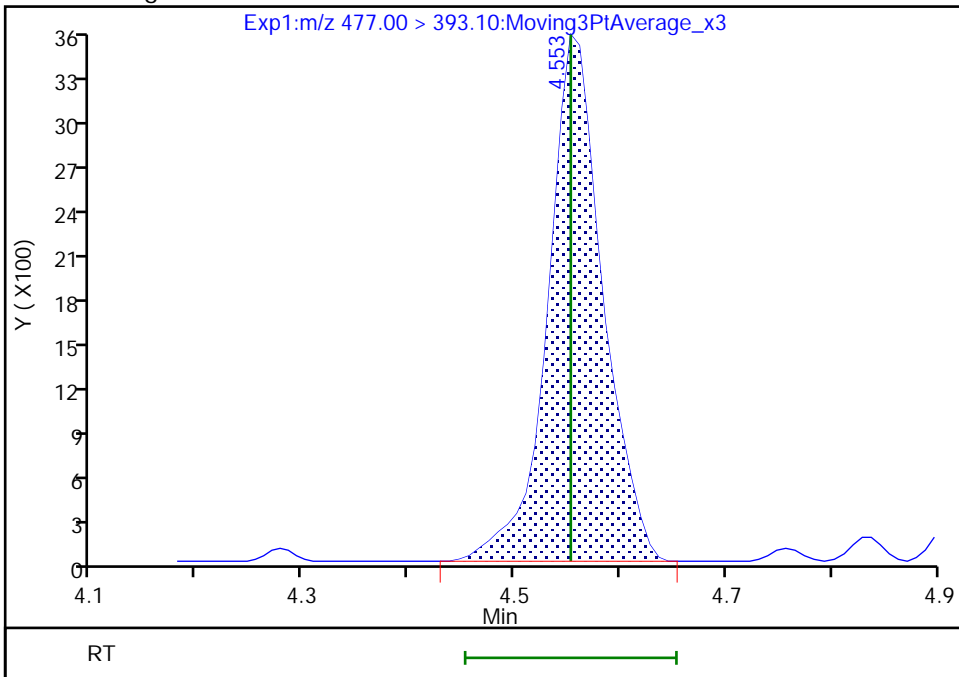
RT: 4.55  
Area: 12288  
Amount: 0.045086  
Amount Units: ng/ml

Processing Integration Results



RT: 4.55  
Area: 12807  
Amount: 0.046991  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:49  
Audit Action: Manually Integrated

Eurofins Knoxville

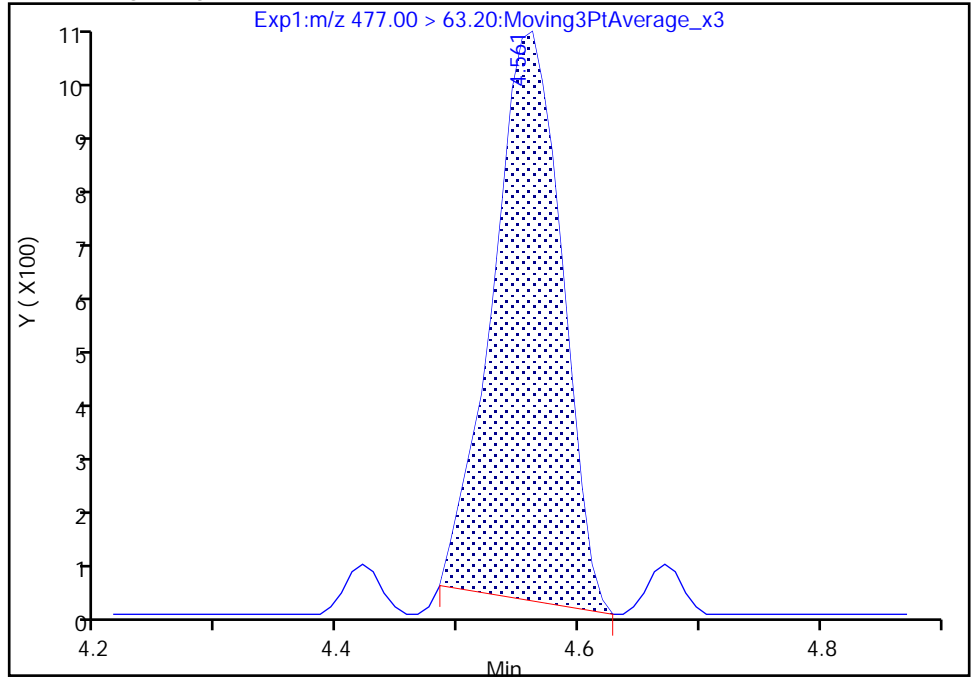
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Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 2

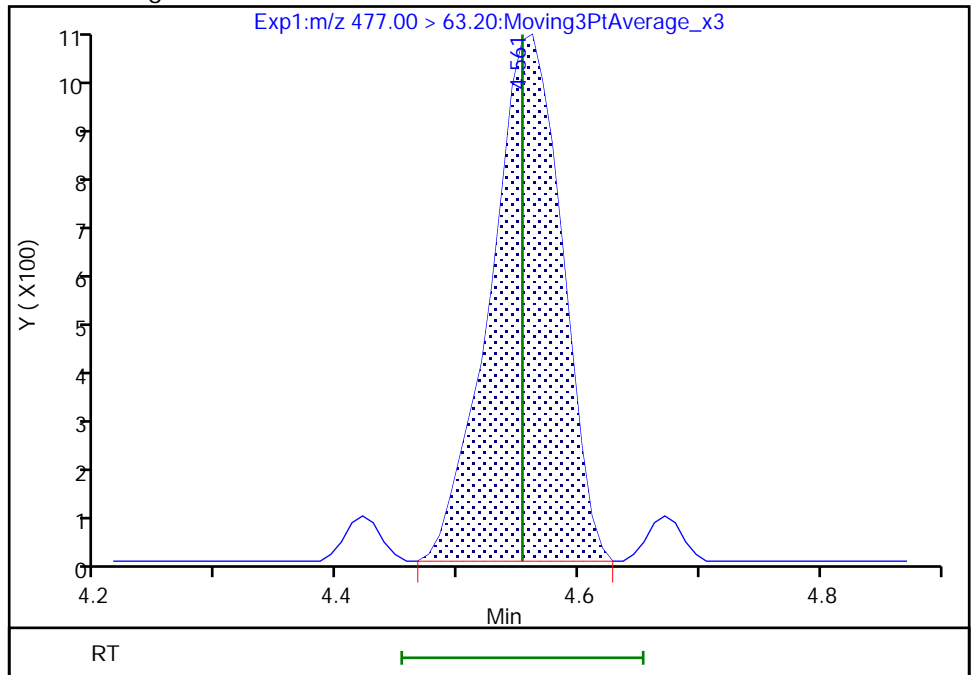
RT: 4.56  
Area: 3928  
Amount: 0.045086  
Amount Units: ng/ml

Processing Integration Results



RT: 4.56  
Area: 4163  
Amount: 0.046991  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:57

Audit Action: Manually Integrated



Eurofins Knoxville

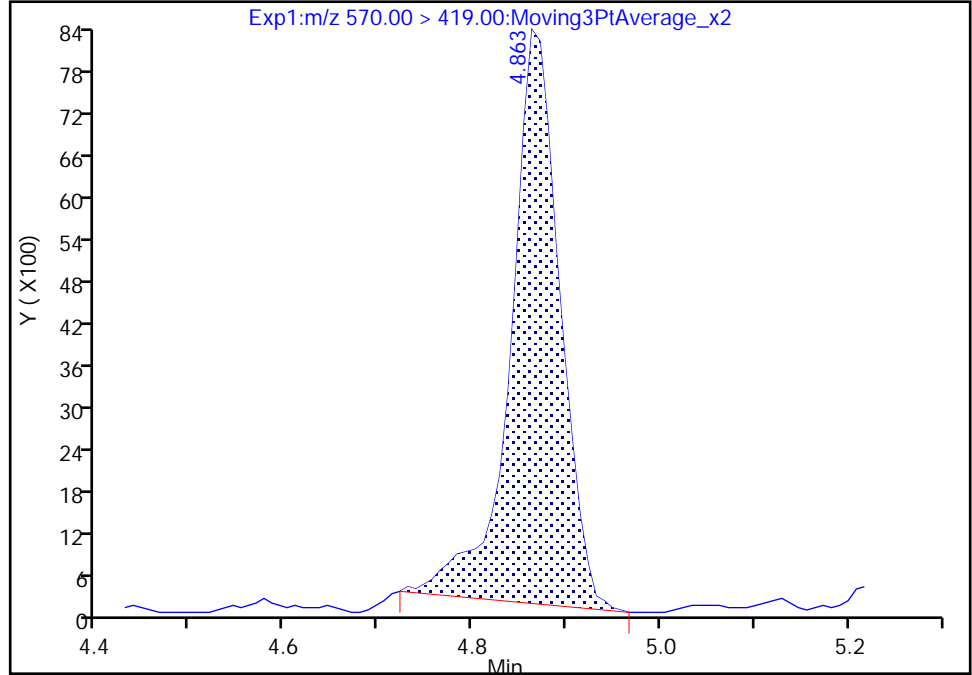
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Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

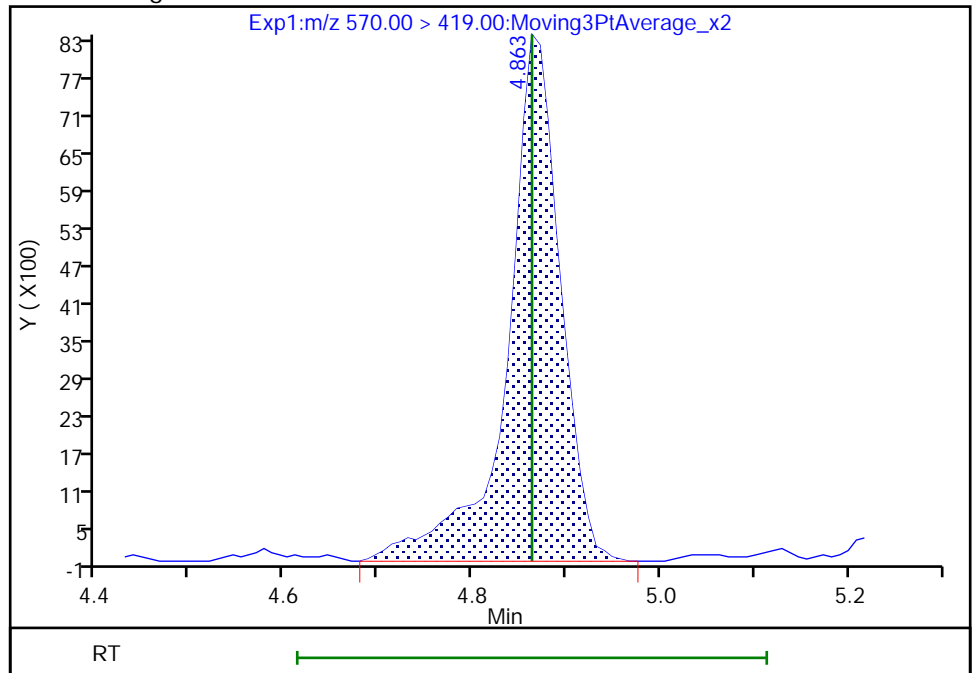
RT: 4.86  
Area: 30216  
Amount: 0.061541  
Amount Units: ng/ml

Processing Integration Results



RT: 4.86  
Area: 32822  
Amount: 0.066712  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:51:11  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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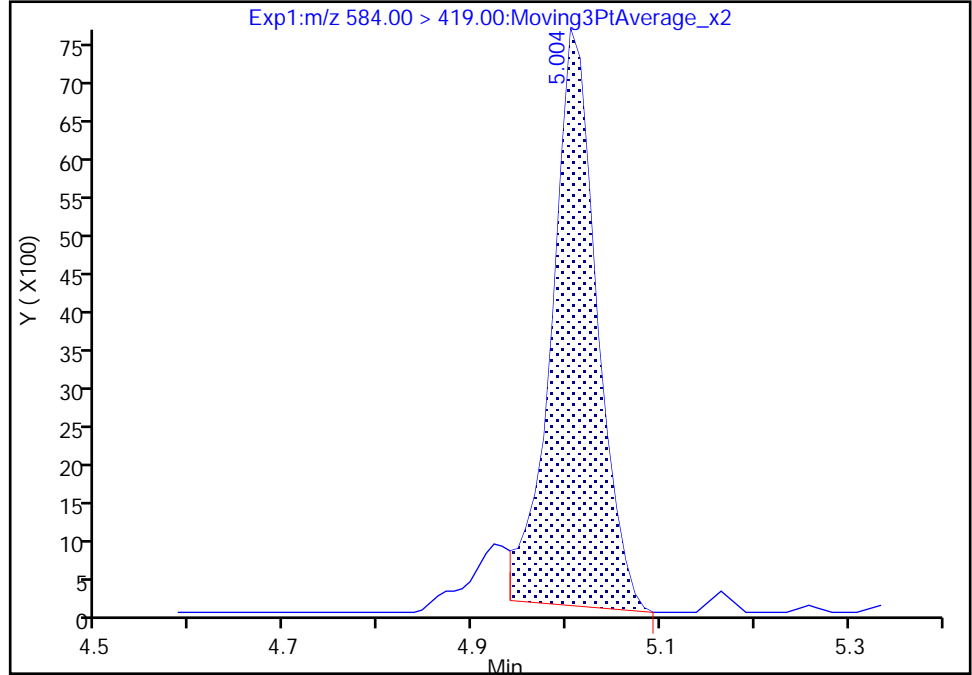
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Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

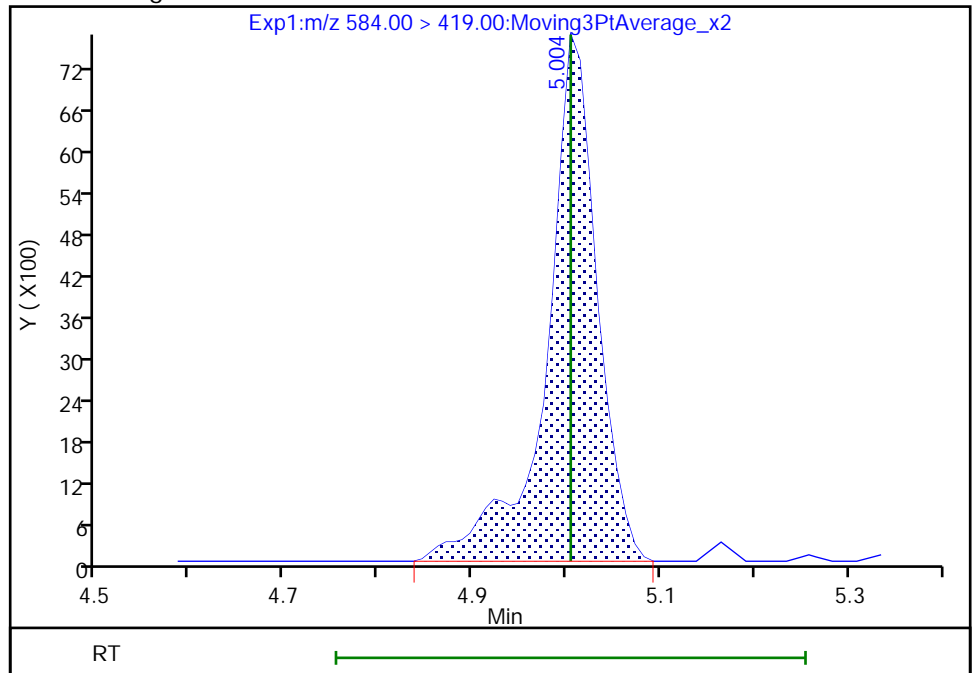
RT: 5.00  
Area: 25022  
Amount: 0.044010  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 28362  
Amount: 0.051234  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:51:24  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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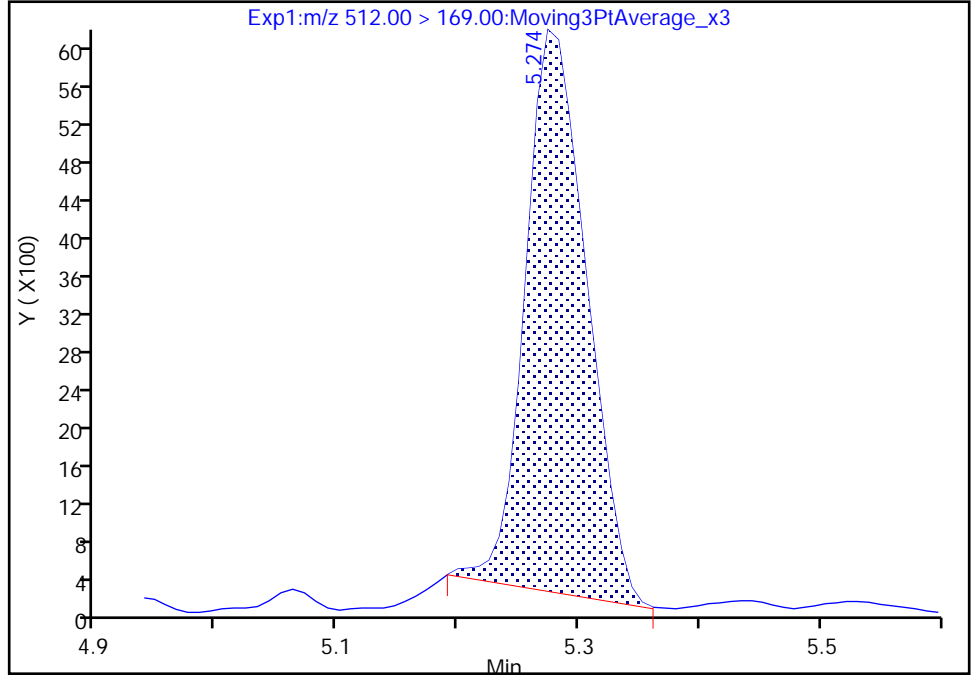
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Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

74 NMeFOSA, CAS: 31506-32-8

Signal: 1

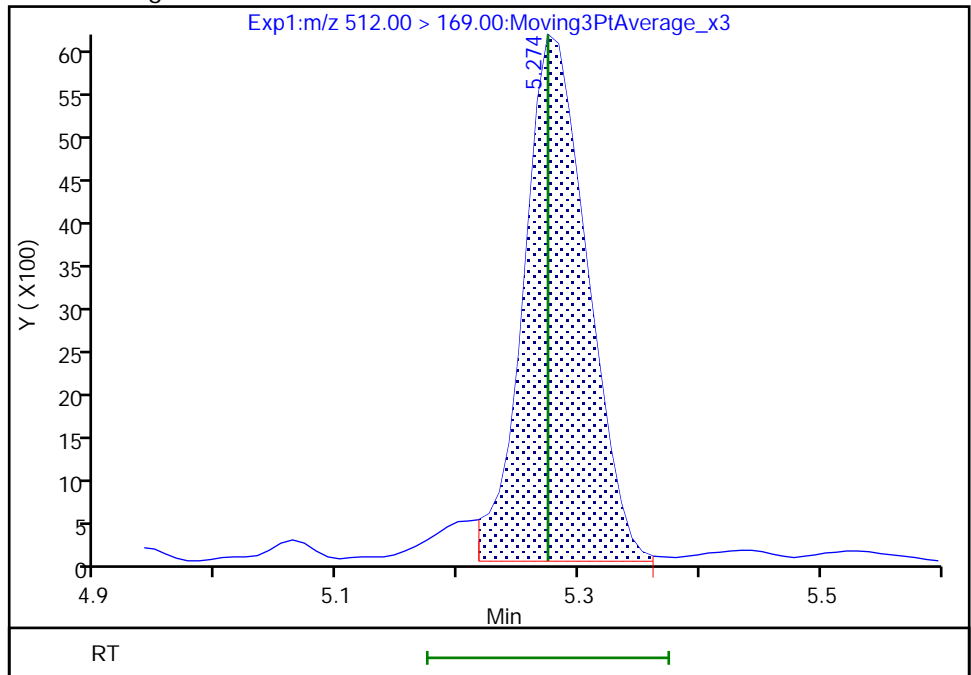
RT: 5.27  
Area: 20995  
Amount: 0.044940  
Amount Units: ng/ml

Processing Integration Results



RT: 5.27  
Area: 22549  
Amount: 0.048695  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:51:47  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

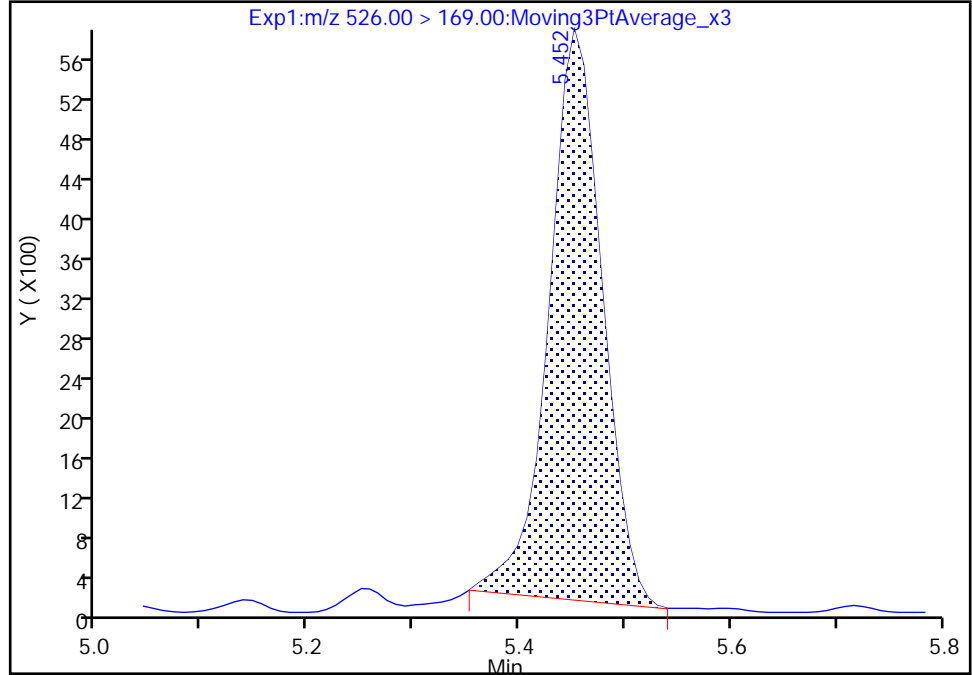
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

81 N-EtFOSA-M, CAS: 4151-50-2

Signal: 1

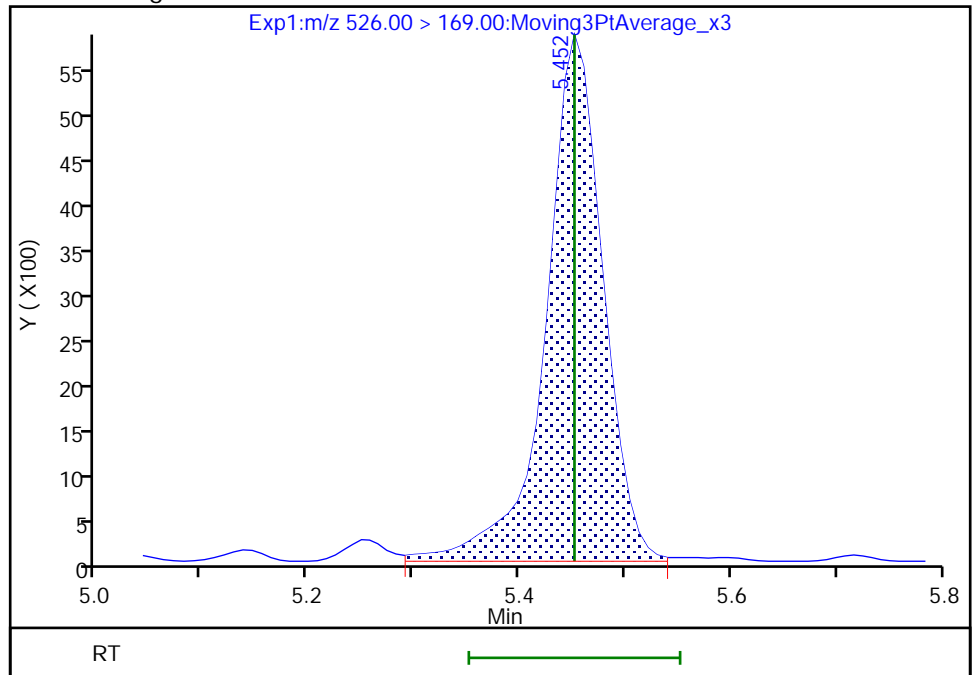
RT: 5.45  
Area: 20178  
Amount: 0.045787  
Amount Units: ng/ml

Processing Integration Results



RT: 5.45  
Area: 22048  
Amount: 0.050513  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:52:05  
Audit Action: Manually Integrated

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59059/7 Calibration Date: 02/19/2022 18:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_007.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7367		0.929	1.00	-7.1	40.0
PFECA F	AveID	0.7535	0.7235		0.960	1.00	-4.0	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9201		0.978	1.00	-2.2	40.0
3:3 FTCA	QuaIF		0.0544		0.999	1.00	-0.1	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.073		0.866	0.884	-2.0	40.0
PFECA A	Q2ID		1.160		0.990	1.00	-1.0	40.0
PES	Q2ID		2.313		0.869	0.890	-2.4	40.0
PFECA B	Q2ID		0.3815		0.924	1.00	-7.6	40.0
4:2 FTS	L2ID		2.134		0.876	0.934	-6.2	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7814		0.982	1.00	-1.8	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.042		0.947	0.938	1.0	40.0
HFPO-DA	L2ID		1.273		1.01	1.00	0.8	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.249		0.821	0.910	-9.8	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.005		1.00	1.00	0.3	40.0
DONA	AveID	2.644	2.296		0.818	0.942	-13.1	40.0
5:3 FTCA	L2ID		3.317		0.880	1.00	-12.1	40.0
6:2 FTUCA	AveID	1.046	1.034		0.988	1.00	-1.2	40.0
6:2 FTCA	L1ID		0.7179		1.03	1.00	3.4	40.0
PFECHS	AveID	0.7426	0.7025		0.872	0.922	-5.4	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.8804		0.849	0.952	-10.9	40.0
6:2 FTS	L2ID		1.731		0.897	0.948	-5.4	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.020		0.953	1.00	-4.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.047		0.849	0.928	-8.6	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7277		0.957	1.00	-4.3	40.0
7:3 FTCA	AveID	5.230	5.288		1.01	1.00	1.1	40.0
8:2 FTUCA	AveID	0.9565	0.9209		0.963	1.00	-3.7	40.0
8:2 FTCA	AveID	1.811	2.018		1.11	1.00	11.4	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.146		0.890	0.932	-4.6	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9450		0.897	0.960	-6.6	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9279		0.972	1.00	-2.8	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8660		0.963	1.00	-3.8	40.0
8:2 FTS	L2ID		1.455		0.926	0.958	-3.4	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8694		0.942	1.00	-5.9	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8629		0.934	0.964	-3.1	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59059/7 Calibration Date: 02/19/2022 18:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_007.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9175		0.949	1.00	-5.1	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9830		1.12	1.00	11.5	40.0
10:2 FTUCA	AveID	1.208	1.177		0.974	1.00	-2.6	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.725		0.933	0.942	-1.0	50.0
10:2 FTCA	Q2ID		0.9849		1.07	1.00	7.4	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9885		0.957	1.00	-4.3	40.0
10:2 FTS	L2ID		1.933		0.887	0.964	-7.9	50.0
NMeFOSA	L2ID		1.038		0.961	1.00	-3.9	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.106		0.942	1.00	-5.8	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8686		0.889	0.968	-8.1	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8264		0.936	1.00	-6.4	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.256		0.885	1.00	-11.5	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.156		0.926	1.00	-7.5	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1263		0.979	1.00	-2.2	40.0
Perfluorohexadecanoic acid	L1ID		1.062		0.932	1.00	-6.8	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.8981		0.887	1.00	-11.3	40.0
13C4 PFBA	Ave	1.172	1.171		1.25	1.25	-0.0	50.0
13C5 PFPeA	Ave	0.9197	0.8665		1.18	1.25	-5.8	50.0
13C3 PFBS	Ave	0.5817	0.5723		1.14	1.16	-1.6	50.0
M2-4:2 FTS	Ave	0.1821	0.1801		1.16	1.17	-1.1	50.0
13C2 PFHxA	Ave	1.015	0.9578		1.18	1.25	-5.6	50.0
13C3 HFPO-DA	Ave	0.4963	0.4587		1.16	1.25	-7.6	50.0
18O2 PFHxS	Ave	0.3776	0.3979		1.25	1.18	5.4	50.0
13C4 PFHpA	Ave	0.9046	0.8544		1.18	1.25	-5.6	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3431		1.27	1.25	1.7	50.0
13C-6:2 FTCA	Ave	0.0260	0.0266		1.28	1.25	2.1	50.0
13C4 PFOA	Ave	0.9356	0.9378		1.25	1.25	0.2	50.0
M2-6:2 FTS	Ave	0.1799	0.1923		1.27	1.19	6.9	50.0
13C4 PFOS	Ave	0.5610	0.5923		1.26	1.20	5.6	50.0
13C5 PFNA	Ave	1.268	1.264		1.25	1.25	-0.4	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5084		1.41	1.25	12.5	50.0
13C-8:2 FTCA	Ave	0.0330	0.0339		1.28	1.25	2.4	50.0
13C8 FOSA	Ave	0.8475	0.8944		1.32	1.25	5.5	50.0
13C2 PFDA	Ave	1.210	1.241		1.28	1.25	2.6	50.0
M2-8:2 FTS	Ave	0.1961	0.2018		1.23	1.20	2.9	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59059/7 Calibration Date: 02/19/2022 18:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_007.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1491		1.64	1.25	31.4	50.0
13C2 PFUnA	Ave	1.168	1.147		1.23	1.25	-1.7	50.0
d5-NEtFOSAA	Ave	0.1164	0.1333		1.43	1.25	14.5	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5044		1.24	1.25	-0.7	50.0
13C-10:2 FTCA	Ave	0.0309	0.0282		1.14	1.25	-8.9	50.0
13C2 PFDoA	Ave	1.152	1.124		1.22	1.25	-2.5	50.0
13C2 10:2 FTS	Ave	0.1652	0.1696		1.22	1.18	2.7	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1106		1.17	1.25	-6.7	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0974		1.21	1.25	-3.5	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1146		1.16	1.25	-6.9	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0804		1.24	1.25	-0.6	50.0
13C2 PFTeDA	Ave	0.9216	0.8673		1.18	1.25	-5.9	50.0
13C2 PFHxDA	Ave	0.5997	0.5591		1.17	1.25	-6.8	50.0
13C8 PFOA	AveID	0.9229	0.8863		1.20	1.25	-4.0	50.0
13C8 PFOS	AveID	0.2212	0.2146		1.16	1.20	-3.0	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_007.d  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 19-Feb-2022 18:43:45 ALS Bottle#: 7 Worklist Smp#: 7  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-007 ccvis  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:40 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 18:55:40

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	217.00 > 172.00	2.804	2.804	0.0	0.680	6298236	1.25	99.9	31405	
1 Perfluorobutanoic acid	212.90 > 169.00	2.804	2.804	0.0	1.000	3712089	0.9288	92.9	1392	
3 PFECA F	229.00 > 85.00	2.911	2.911	0.0	0.935	2696838	0.9601	96.0	14959	
D 5 13C5 PFPeA	267.90 > 223.00	3.115	3.115	0.0	0.756	4659599	1.18	94.2	18798	
6 Perfluoropentanoic acid	262.90 > 219.00	3.115	3.115	0.0	1.000	3429739	0.9783	97.8	1491	
D 7 13C3 PFBS	301.90 > 80.00	3.122	3.122	0.0	0.758	2861909	1.14	98.4	9835	
4 3:3 FTCA	241.00 > 177.10	3.122	3.122	0.0	1.000	133850	1.00	Target=1.13	99.9	1026
	241.00 > 116.90	3.122	3.122	0.0	1.000	106586	1.26(0.56-1.69)			164
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.131	3.131	0.0	1.003	2336067	0.8659	Target=2.61	98.0	3347
	298.90 > 99.00	3.131	3.131	0.0	1.003	881398	2.65(1.31-3.92)			2844
9 PFECA A	278.95 > 84.90	3.202	3.202	0.0	1.028	4325082	0.9897		99.0	18070
11 PES	314.80 > 135.00	3.260	3.260	0.0	1.044	5068871	0.8691		97.6	22782
12 PFECA B	295.22 > 201.00	3.373	3.373	0.0	0.982	1571935	0.9239		92.4	7652
D 18 M2-4:2 FTS	329.00 > 81.00	3.415	3.415	0.0	0.829	904548	1.15		98.9	1696



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.415	3.415	0.0	1.000	1543942	0.8763		93.8	7767	
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.437	0.0	0.834	5150810	1.18		94.4	12705	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.437	3.437	0.0	1.101	2407299	0.9472	Target=3.55	101	6896	
349.00 > 99.00	3.437	3.437	0.0	1.101	690578		3.49(1.78-5.33)		5117	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.437	0.0	1.000	3220013	0.9823	Target=11.60	98.2	1621	
313.00 > 119.00	3.437	3.437	0.0	1.000	275698		11.68(5.80-17.40)		247	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.542	0.0	0.860	2466641	1.16		92.4	7418	
17 HFPO-DA										
285.00 > 169.00	3.542	3.542	0.0	1.000	2512173	1.01	Target=2.45	101	594	
329.00 > 169.00	3.542	3.542	0.0	1.000	1002369		2.51(1.23-3.68)		592	
D 20 18O2 PFHxS										
403.00 > 84.00	3.772	3.772	0.0	0.915	2024014	1.25		105	5550	
21 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.772	3.772	0.0	1.000	1946103	0.8209	Target=3.44	90.2	4614	M
399.00 > 99.00	3.772	3.772	0.0	1.000	588194		3.31(1.72-5.17)		2697	
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.792	0.0	0.920	4594303	1.18		94.4	11124	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.792	0.0	1.000	3694620	1.00	Target=3.25	100	2926	
363.00 > 169.00	3.792	3.792	0.0	1.000	1176143		3.14(1.62-4.87)		1857	
25 DONA										
377.00 > 251.00	3.820	3.820	0.0	0.866	5511012	0.8181	Target=1.74	86.9	18007	
377.00 > 85.00	3.820	3.820	0.0	0.866	3094907		1.78(0.87-2.61)		104	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	379217	0.8795	Target=1.11	87.9	1345	
340.88 > 216.90	3.853	3.853	0.0	0.987	345845		1.10(0.56-1.67)		739	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.886	0.0	0.943	1845248	1.27		102	4231	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.886	0.0	1.000	1526295	0.9881	Target=13.05	98.8	4660	
356.86 > 243.00	3.886	3.886	0.0	1.000	108731		14.04(6.52-19.57)		604	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.903	0.0	0.947	142928	1.28		102	793	
29 6:2 FTCA										
377.10 > 63.00	3.903	3.903	0.0	1.000	82084	1.03	Target=1.29	103	353	
377.10 > 313.10	3.903	3.903	0.0	1.000	61727		1.33(0.65-1.94)		90.4	
32 PFECHS										
460.80 > 380.90	4.054	4.054	0.0	0.984	2613087	0.8722	Target=1.75	94.6	5877	
460.80 > 98.90	4.054	4.054	0.0	0.984	1584726		1.65(0.87-2.62)		3815	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.111	4.111	0.0	0.932	2135774	0.8487	Target=3.72	89.1	6023	
449.00 > 99.00	4.111	4.111	0.0	0.932	556411		3.84(1.86-5.57)		2740	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	1.000	982552	1.27		107	2625	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.121	0.0	1.000	5043064	1.25		100	11291	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	1.000	4469517	1.20		96.0	7460	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		5377493	1.25			11243	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.121	0.0	1.000	4114611	0.9527	Target=2.51	95.3	2894	
413.00 > 169.00	4.121	4.121	0.0	1.000	1686188		2.44(1.26-3.77)		3412	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	1357982	0.8971		94.6	4541	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.412	0.0	1.071	3044992	1.26		106	3350	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.412	4.412	0.0	1.000	653576	1.16		97.0	1894	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.412	4.412	0.0	1.000	2475991	0.8485	Target=4.30	91.4	2250	M
499.00 > 99.00	4.412	4.412	0.0	1.000	568244		4.36(2.15-6.45)		1526	M
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.438	0.0	1.077	6796647	1.25		99.6	15393	
42 Perfluorononanoic acid										
463.00 > 419.00	4.438	4.438	0.0	1.000	3956498	0.9567	Target=3.60	95.7	4704	
463.00 > 169.00	4.438	4.438	0.0	1.000	1004215		3.94(1.80-5.40)		2744	
43 7:3 FTCA										
441.00 > 337.00	4.519	4.519	0.0	0.993	770071	1.01	Target=1.42	101	1890	
441.00 > 317.00	4.519	4.519	0.0	0.993	573131		1.34(0.71-2.13)		1487	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.545	0.0	1.000	2734046	1.41		112	10287	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	2014297	0.9629	Target=35.37	96.3	5292	
456.86 > 343.00	4.545	4.545	0.0	1.000	61755		32.62(17.68-53.05)		151	
46 8:2 FTCA										
477.00 > 393.10	4.561	4.561	0.0	1.002	293863	1.11	Target=3.35	111	1255	
477.00 > 63.20	4.561	4.561	0.0	1.002	80022		3.67(1.68-5.03)		380	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.553	0.0	1.105	182038	1.28		102	755	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.111	5095631	0.8895		95.4	6666	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	2311622	0.8970	Target=3.99	93.4	4582	
549.00 > 99.00	4.697	4.697	0.0	1.065	593601		3.89(2.00-5.99)		1795	
D 55 13C8 FOSA										
506.00 > 78.00	4.705	4.705	0.0	1.142	4809529	1.32		106	4985	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.705	4.705	0.0	1.000	3570018	0.9716		97.2	5496	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 52 13C2 PFDA										
515.00 > 470.00	4.722	4.722	0.0	1.146	6672611	1.28		103	13098	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.722	4.722	0.0	1.000	4622966	0.9625	Target=10.58	96.3	3033	
513.00 > 169.00	4.722	4.722	0.0	1.000	400408		11.55(5.29-15.88)		314	
53 8:2 FTS										
527.00 > 507.00	4.739	4.739	0.0	1.002	1210501	0.9258		96.6	4566	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.731	0.0	1.148	1039725	1.23		103	2313	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.872	0.0	1.000	557581	0.9415		94.1	618	M
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.182	801710	1.64		131	452	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.124	2119568	0.9338	Target=3.55	96.9	5935	
599.00 > 99.00	4.957	4.957	0.0	1.124	605591		3.50(1.78-5.33)		2825	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.985	4.985	0.0	1.000	4529211	0.9488	Target=8.26	94.9	6048	
563.00 > 169.00	4.985	4.985	0.0	1.000	561415		8.07(4.13-12.39)		2212	
D 59 13C2 PFUnA										
565.00 > 520.00	4.985	4.985	0.0	1.210	6170305	1.23		98.3	14501	
62 NEtFOSAA										
584.00 > 419.00	5.005	5.005	0.0	1.000	563506	1.12		112	829	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.215	716560	1.43		114	2592	
63 11C1FOS										
631.00 > 451.00	5.092	5.092	0.0	1.154	4141488	0.9330		99.0	8123	
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.092	0.0	1.000	2554079	0.9743		97.4	8204	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.092	0.0	1.236	2712588	1.24		99.3	6888	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.102	0.0	0.998	119371	1.07	Target=2.53	107	459	
576.80 > 63.10	5.111	5.102	0.009	1.000	44024		2.71(1.26-3.79)		156	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.111	5.111	0.0	1.240	151503	1.14		91.1	805	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	4780357	0.9569	Target=6.85	95.7	4080	
613.00 > 169.00	5.226	5.226	0.0	1.000	655913		7.29(3.43-10.28)		1647	
D 69 13C2 PFDaA										
615.00 > 570.00	5.226	5.226	0.0	1.268	6045115	1.22		97.5	16644	
71 10:2 FTS										
627.00 > 607.00	5.251	5.251	0.0	1.002	1359186	0.8874		92.1	4562	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.272	863633	1.22		103	5526	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.275	0.0	1.280	594899	1.17		93.3	589	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.283	5.283	0.0	1.282	523864	1.21		96.5	44.2	
74 NMeFOSA										
512.00 > 169.00	5.283	5.283	0.0	1.000	434853	0.9608		96.1	649	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.003	526248	0.9421		94.2	780	
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.224	2142505	0.8894	Target=4.22	91.9	3174	
699.00 > 99.00	5.399	5.399	0.0	1.224	514978		4.16(2.11-6.34)		2466	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.435	5.435	0.0	1.040	3996591	0.9358	Target=6.32	93.6	3750	
663.00 > 169.00	5.435	5.435	0.0	1.040	649673		6.15(3.16-9.48)		1888	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	616216	1.16		93.1	297	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	619316	0.8854		88.5	584	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.323	432452	1.24		99.4	691	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.000	400022	0.9255		92.5	478	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	471317	0.9785	Target=1.01	97.8	1371	
713.00 > 219.00	5.607	5.617	-0.010	0.998	465368		1.01(0.51-1.52)		1874	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.363	4664054	1.18		94.1	15396	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	2554686	0.9320	Target=8.64	93.2	3298	
813.00 > 169.00	5.924	5.924	0.0	1.000	322068		7.93(4.32-12.97)		1063	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.438	3006548	1.17		93.2	5575	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.184	6.184	0.0	1.044	2160226	0.8867	Target=11.77	88.7	2868	
913.00 > 169.00	6.184	6.184	0.0	1.044	189769		11.38(5.88-17.65)		650	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220219-22723.b\_007.d

Injection Date: 19-Feb-2022 18:43:45

Instrument ID: LCA

Lims ID: CCVIS

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 7

Worklist Smp#: 7

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

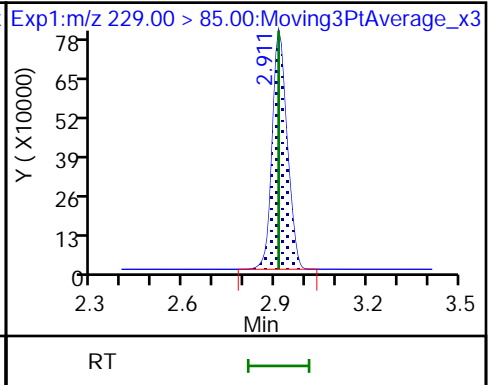
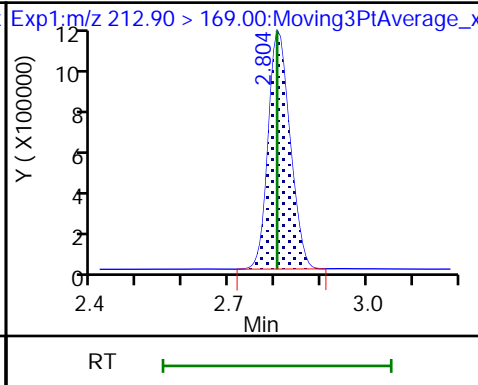
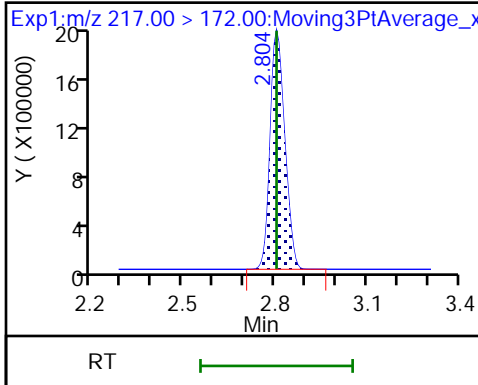
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

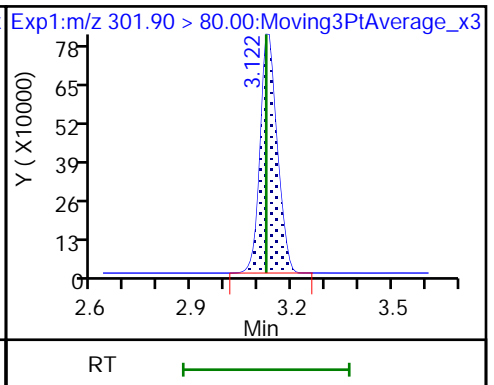
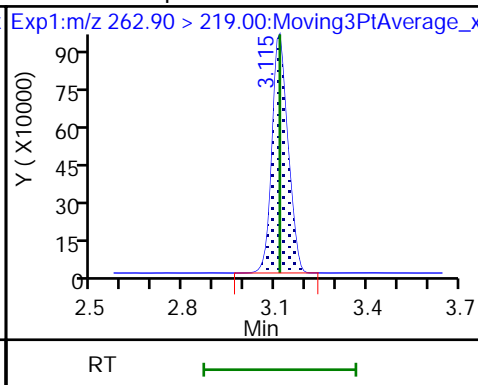
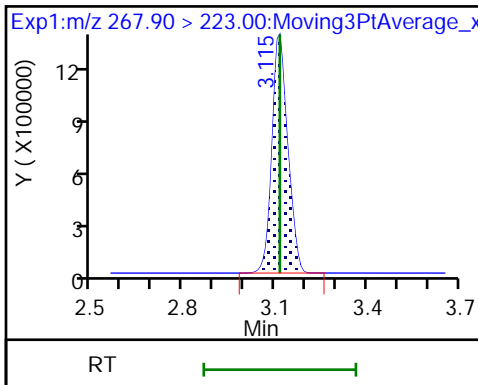
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

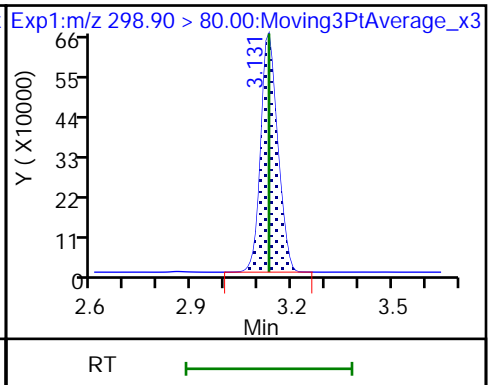
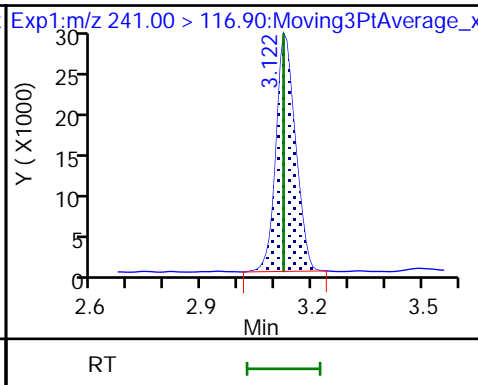
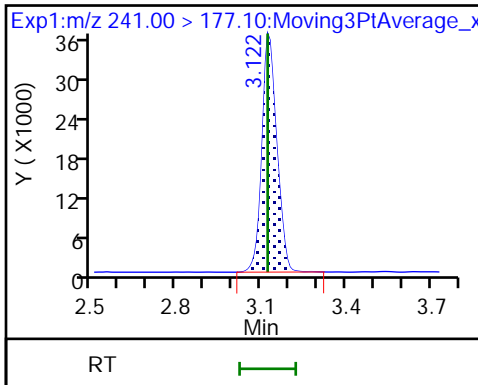
D 7 13C3 PFBS



4 3:3 FTCA

4 3:3 FTCA

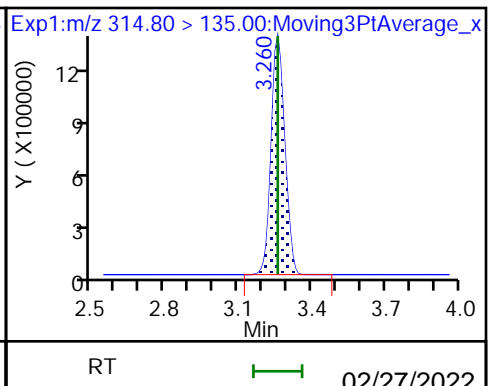
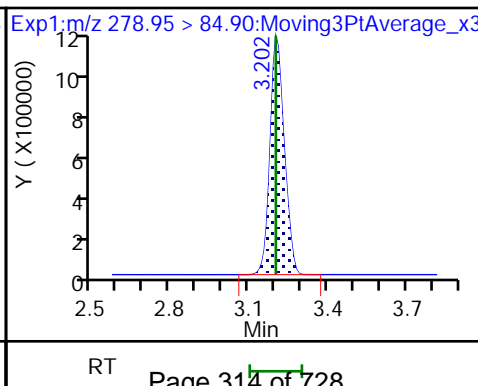
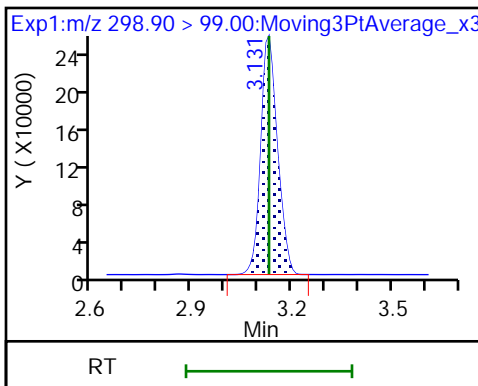
8 Perfluorobutanesulfonic acid

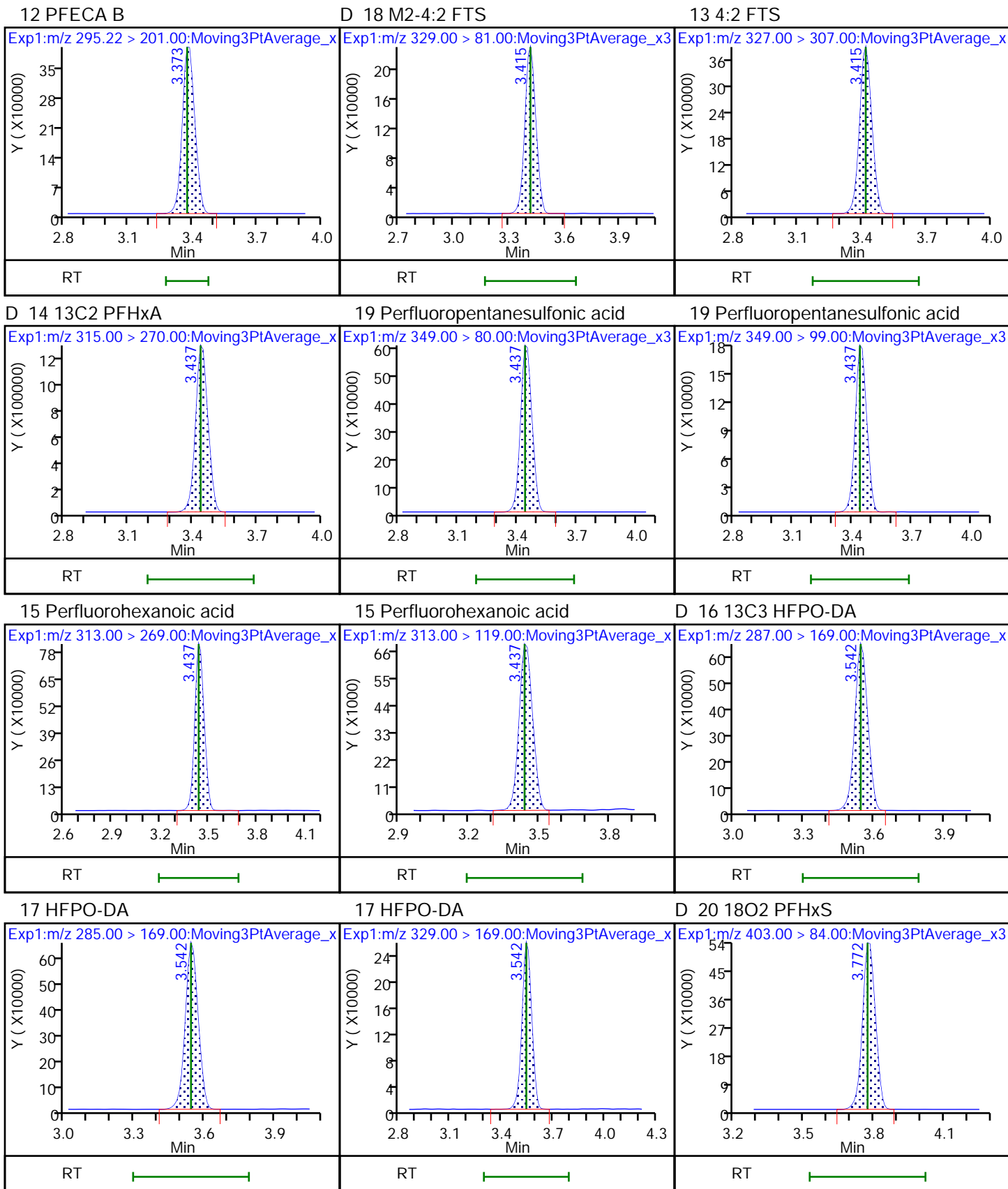


8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES

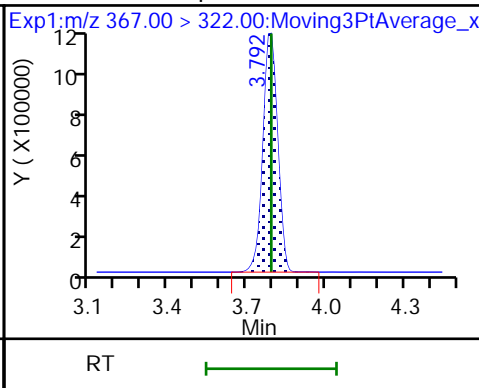
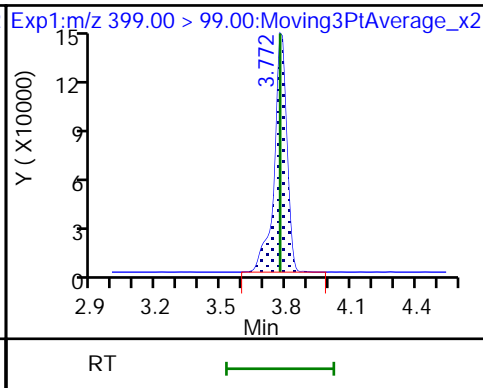
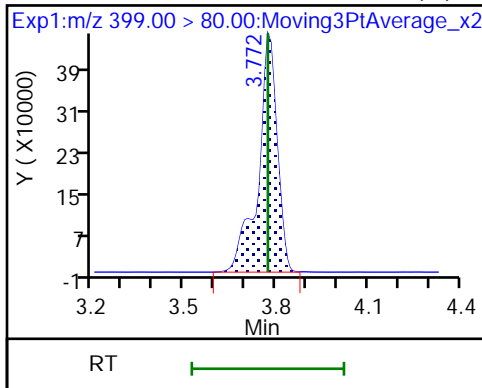




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid

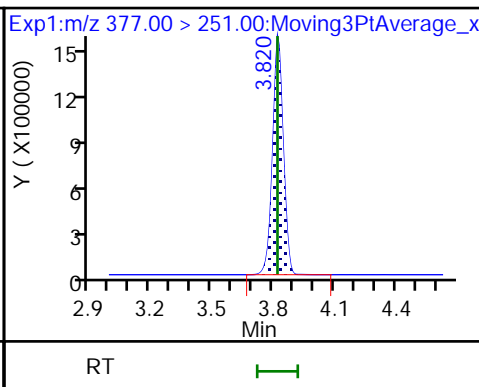
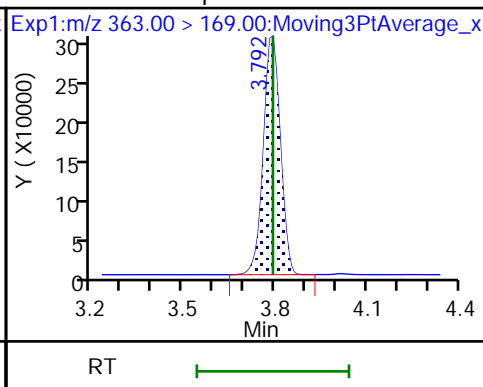
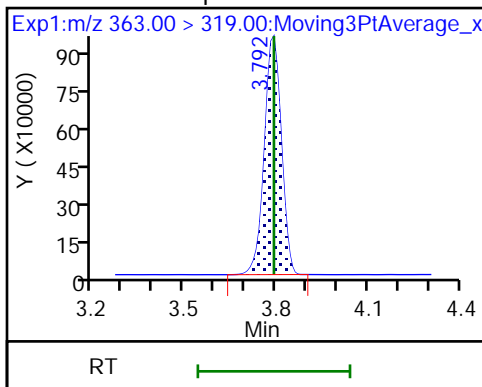
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

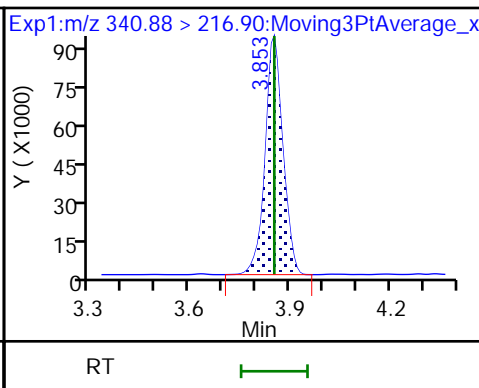
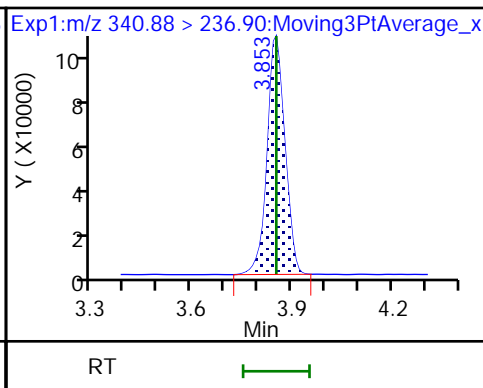
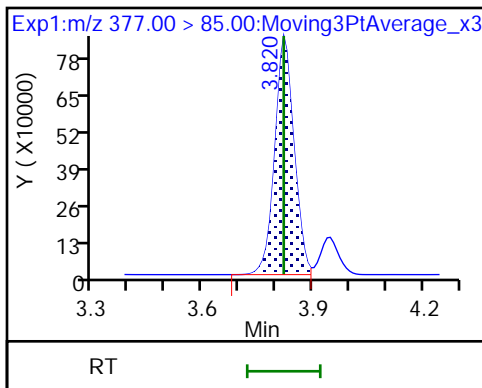
25 DONA



25 DONA

26 5:3 FTCA

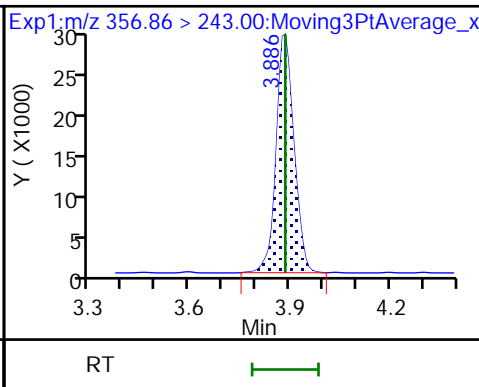
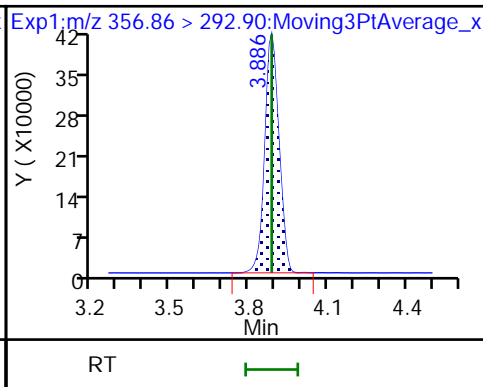
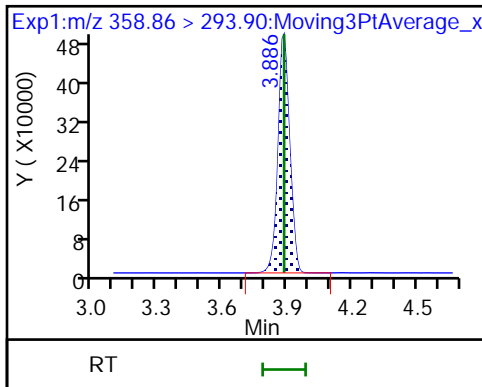
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D 28 13C-6:2 FTUCA

27 6:2 FTUCA

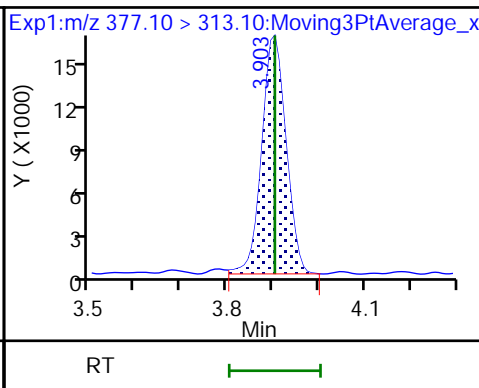
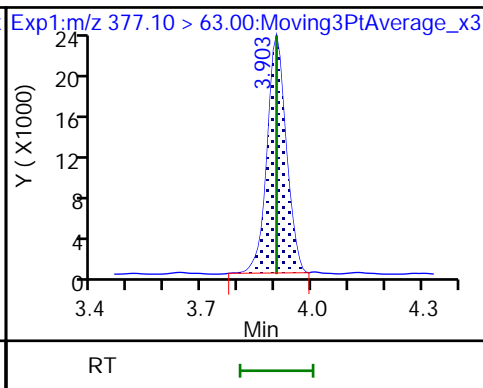
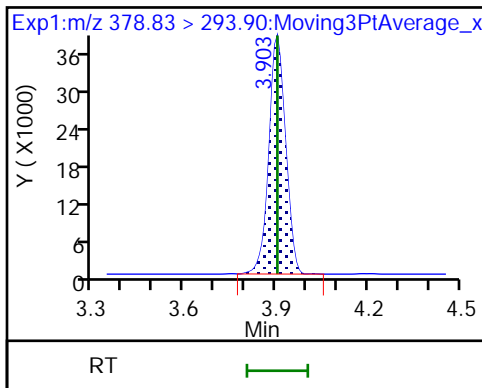
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D 24 13C-6:2 FTCA

29 6:2 FTCA

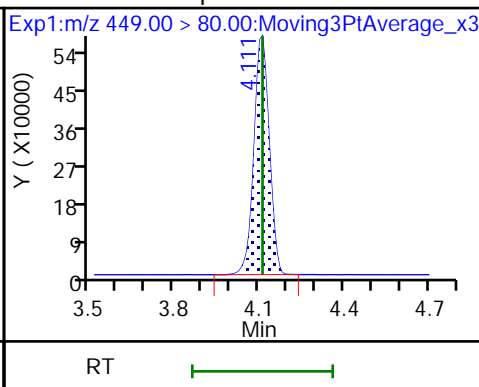
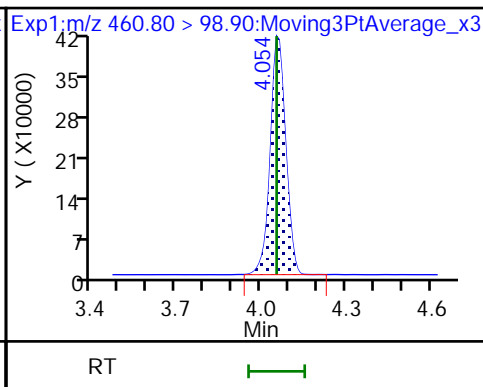
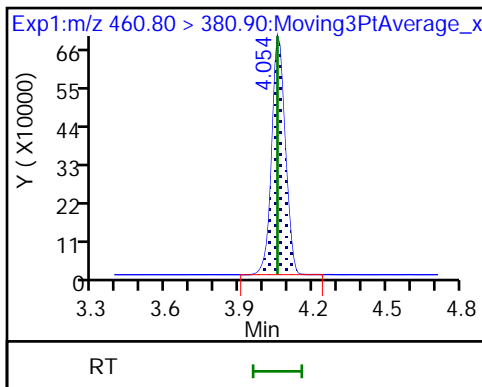
29 6:2 FTCA



32 PFECHS

32 PFECHS

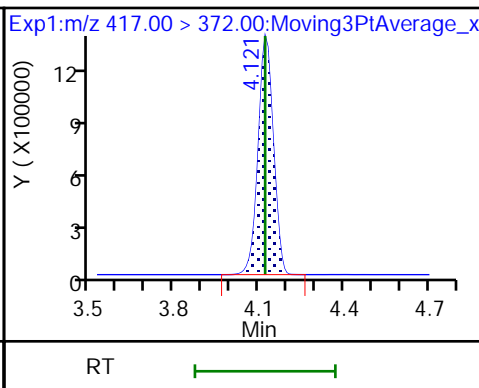
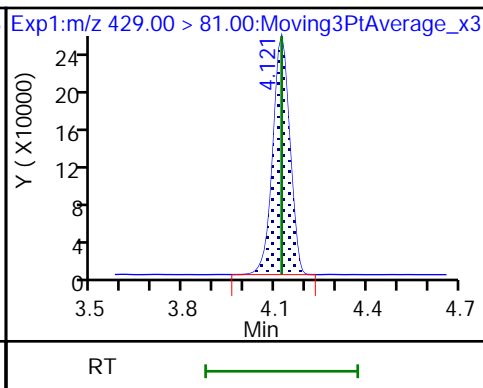
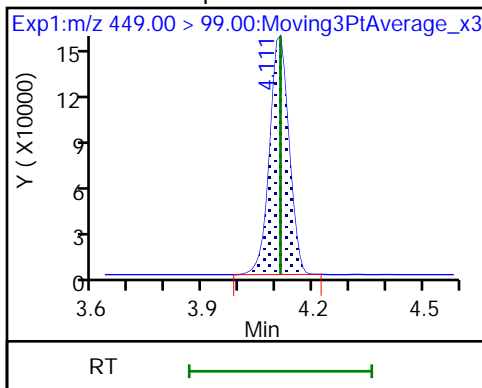
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

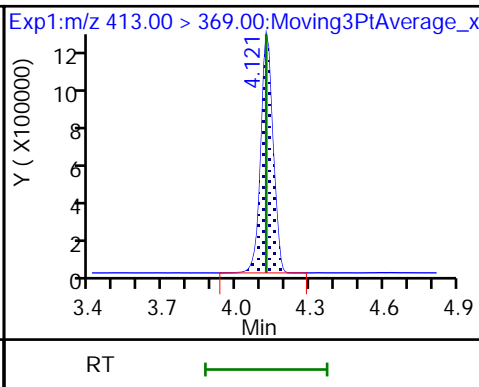
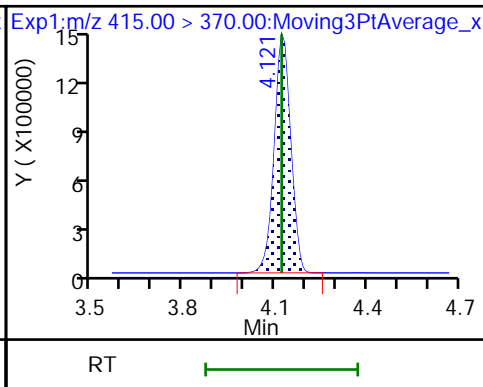
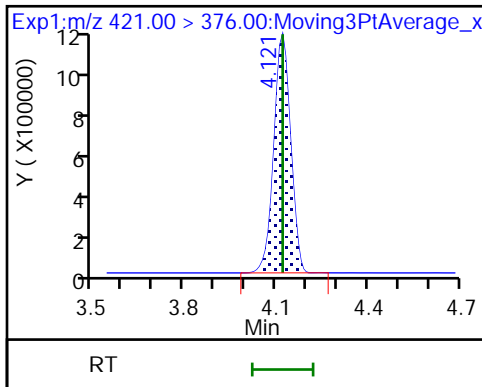
D 31 13C4 PFOA



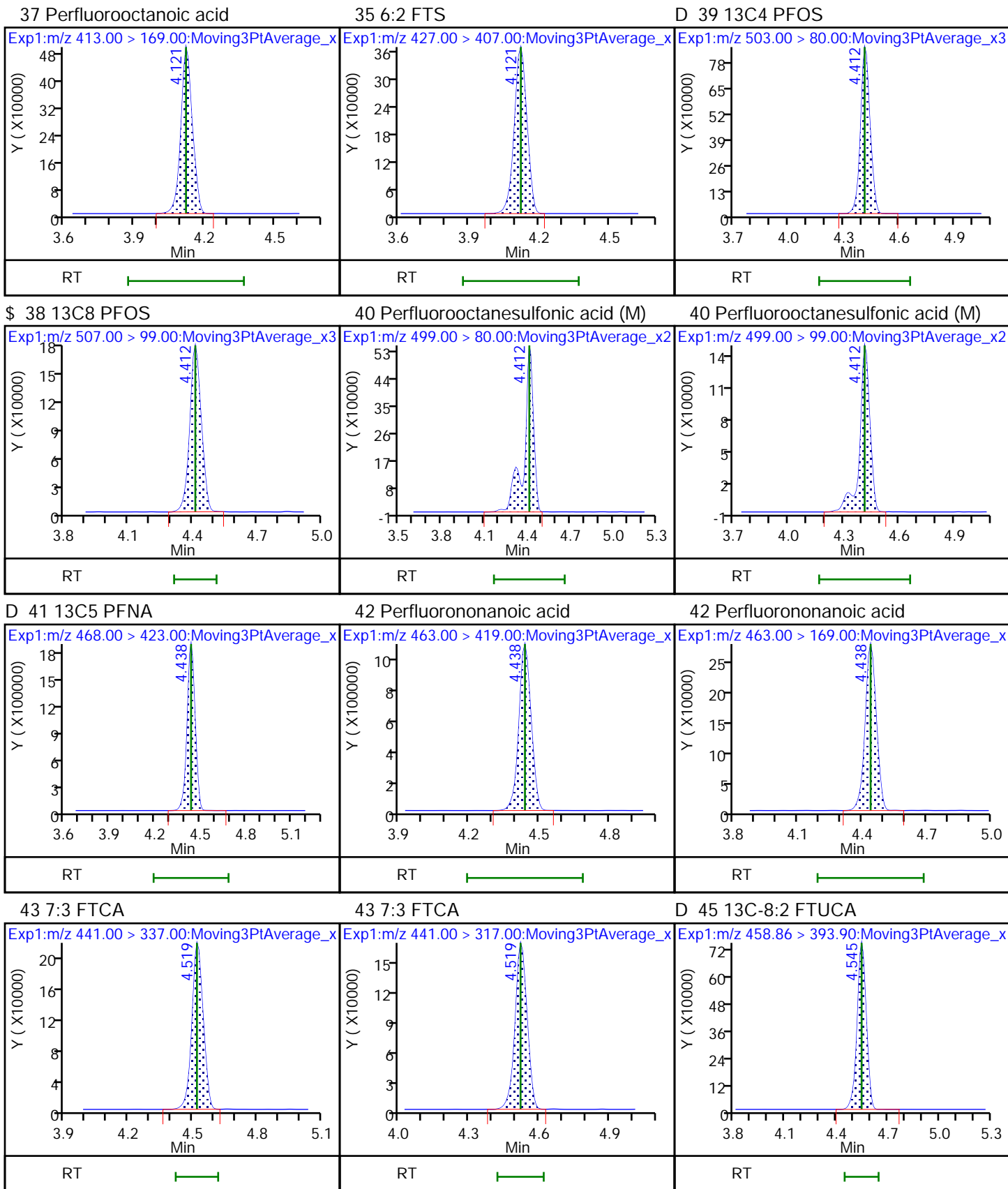
\$ 36 13C8 PFOA

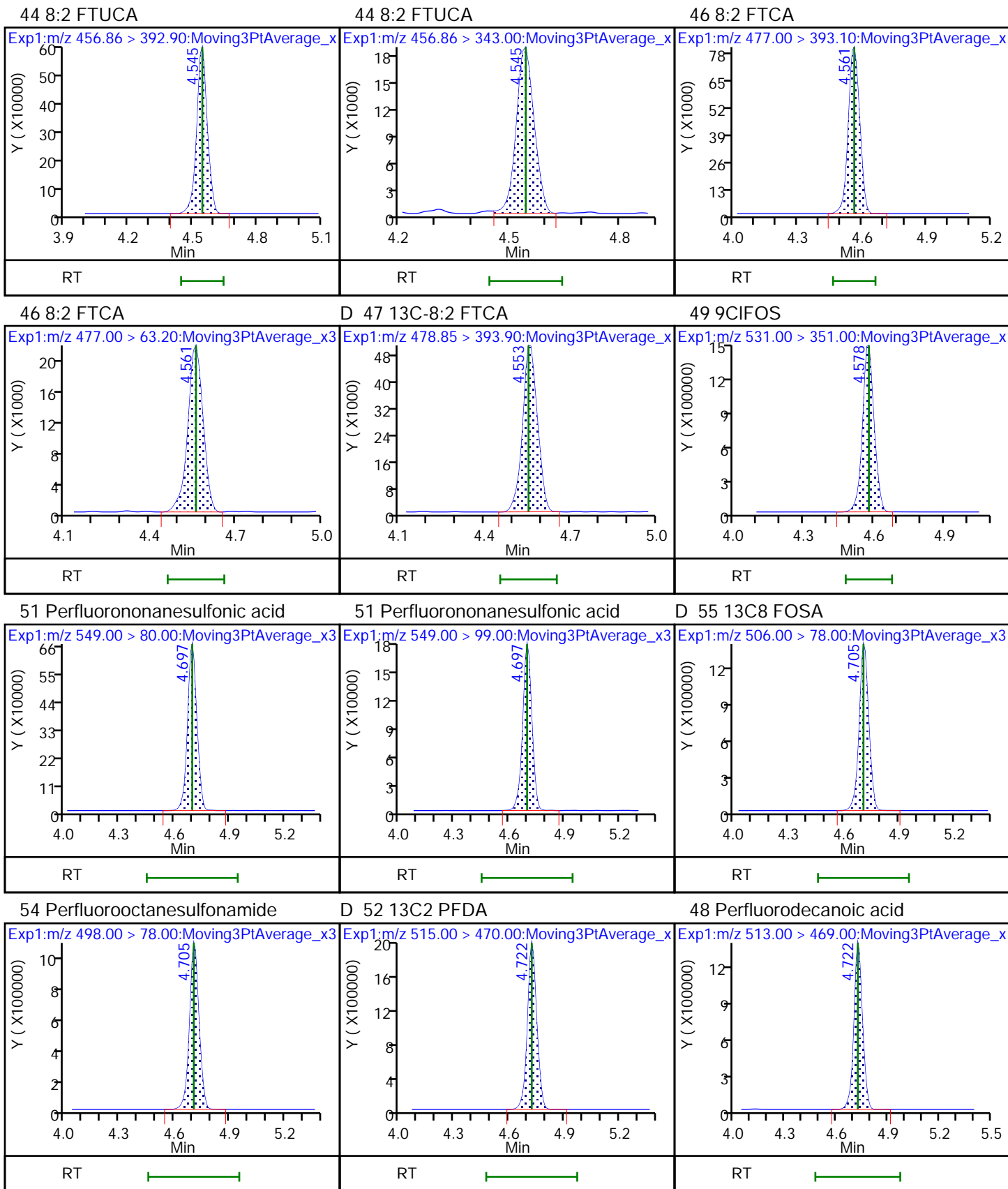
\* 30 13C2 PFOA

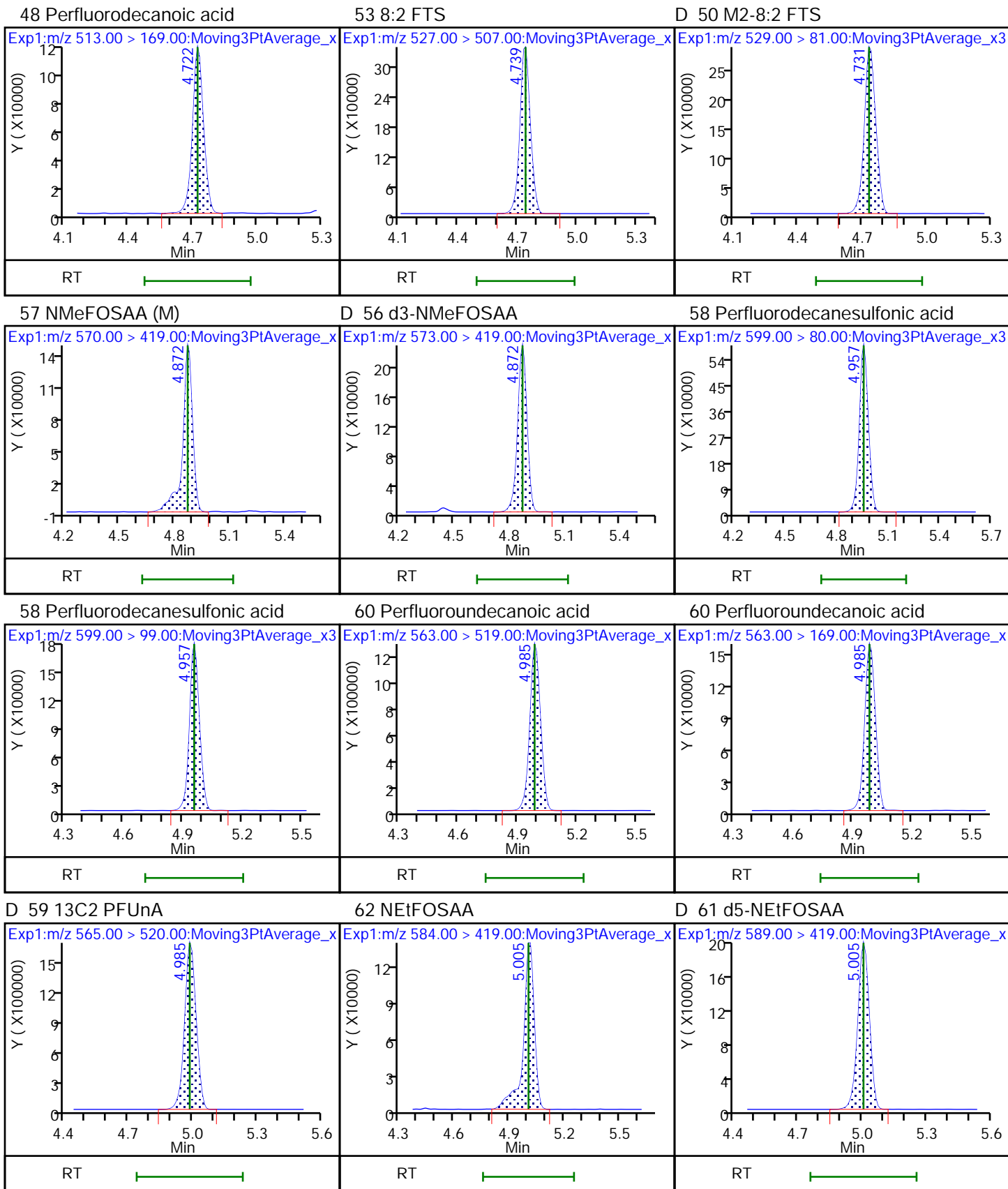
37 Perfluorooctanoic acid

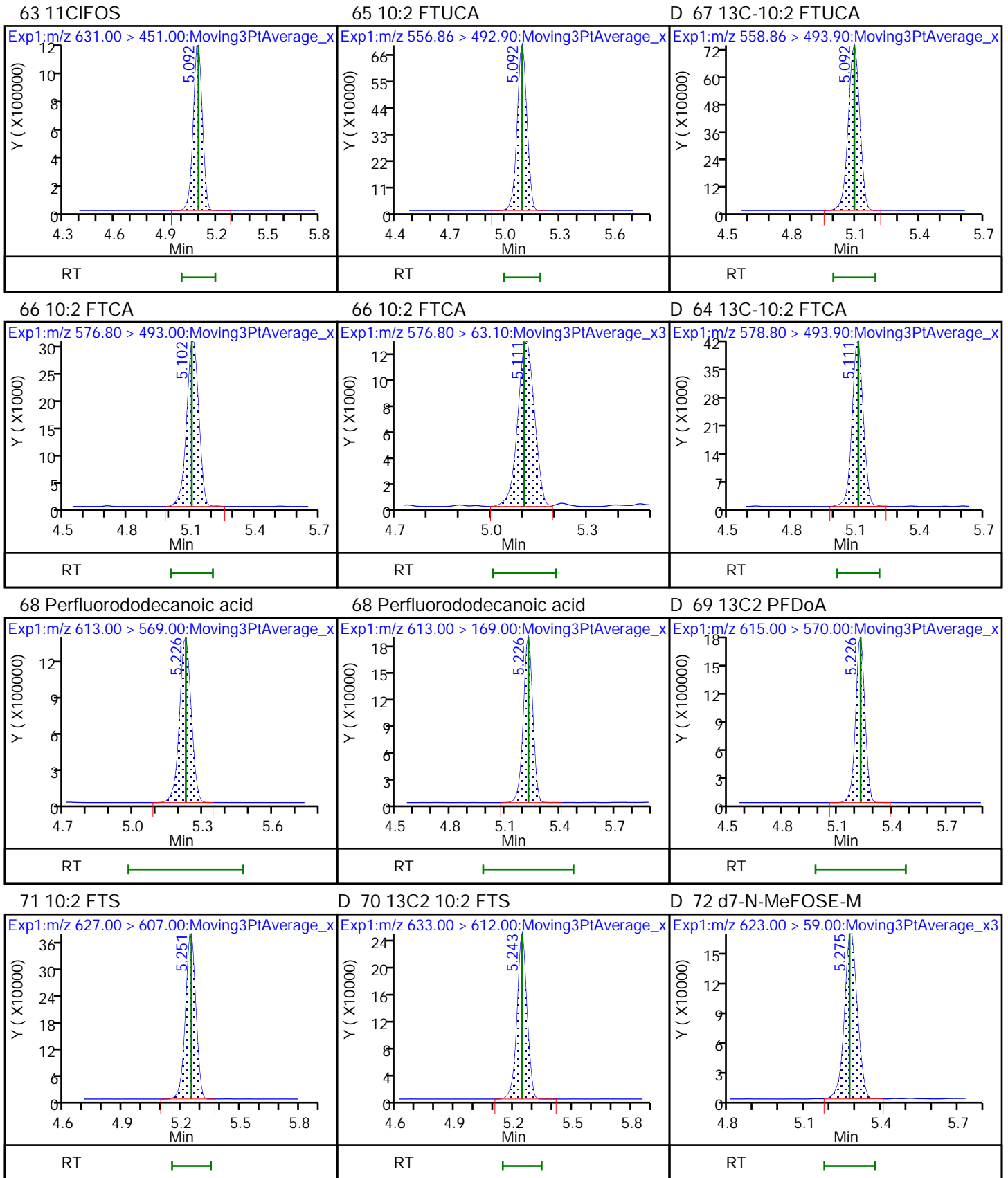








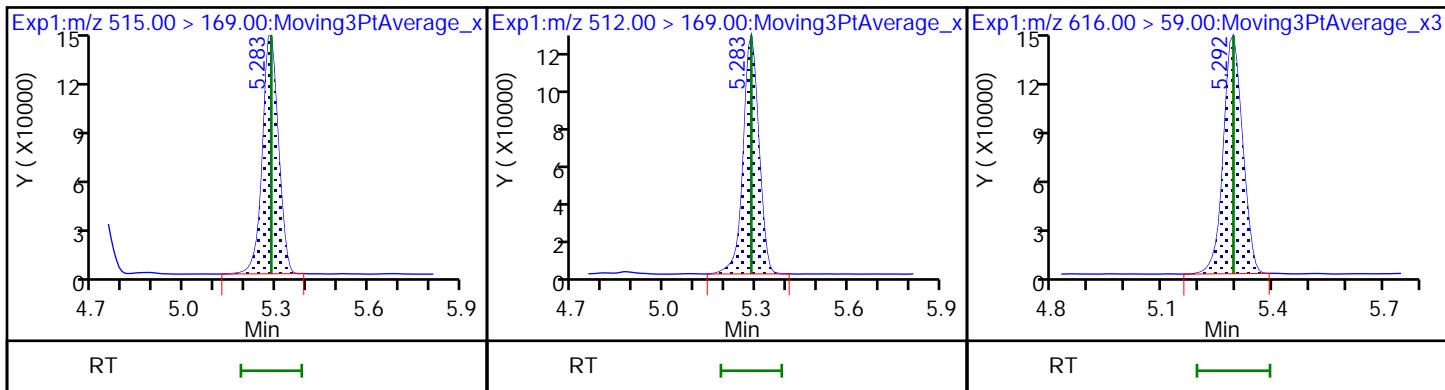




D 73 d-N-MeFOSE-M

74 NMeFOSE

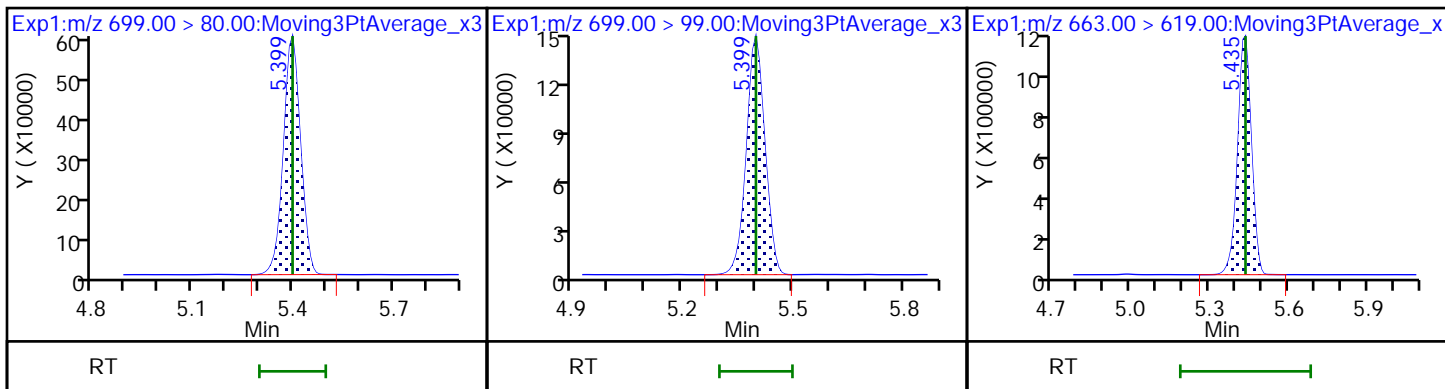
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

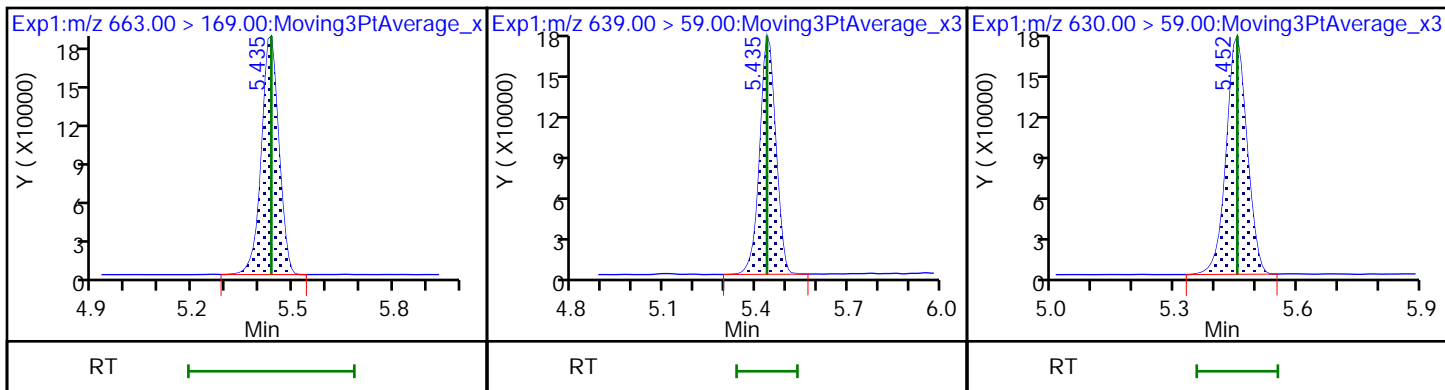
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

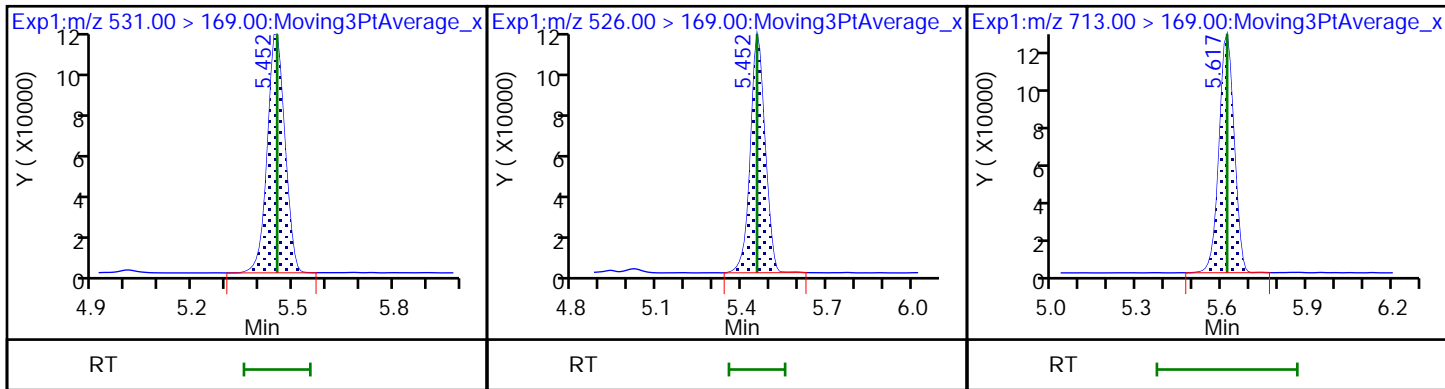
79 N-EtFOSE-M



D 80 d-N-EtFOSE-M

81 N-EtFOSE-M

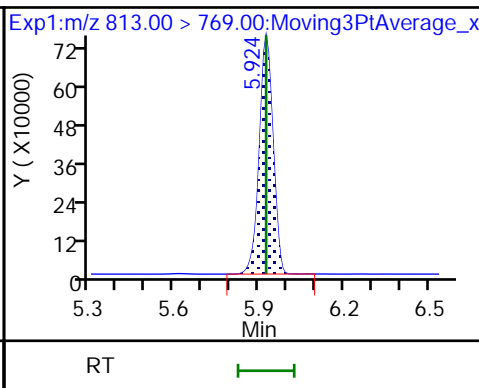
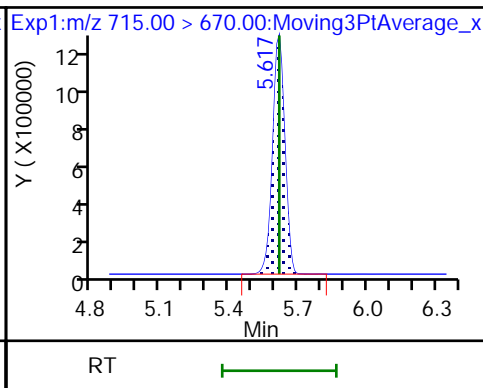
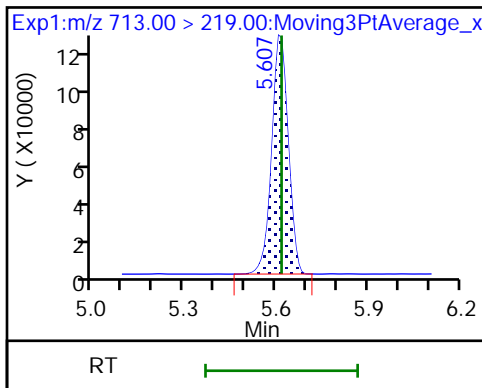
83 Perfluorotetradecanoic acid



83 Perfluorotetradecanoic acid

D 82 13C2 PFTeDA

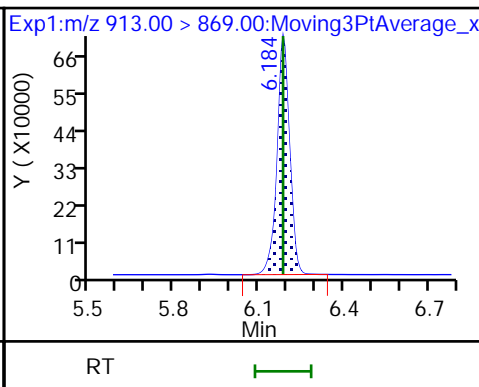
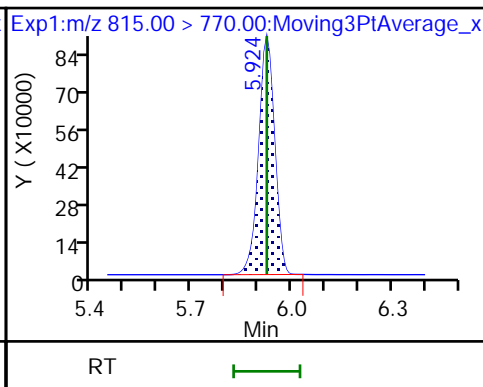
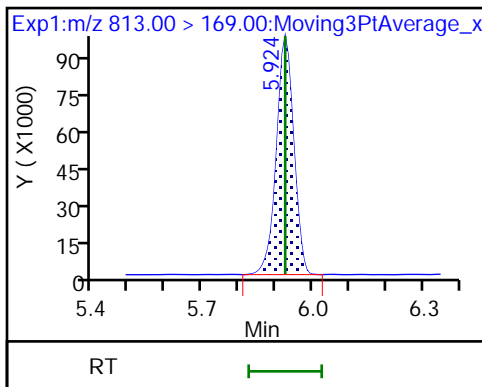
85 Perfluorohexadecanoic acid



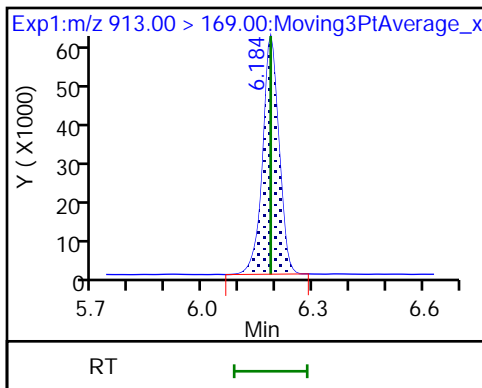
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid



86 Perfluorooctadecanoic acid



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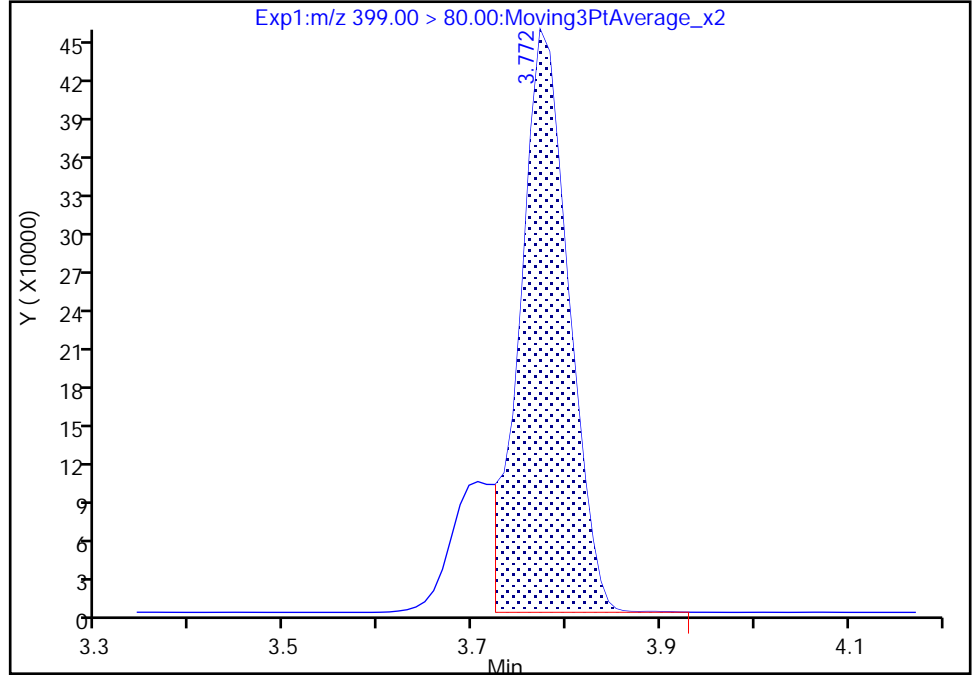
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_007.d  
Injection Date: 19-Feb-2022 18:43:45 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

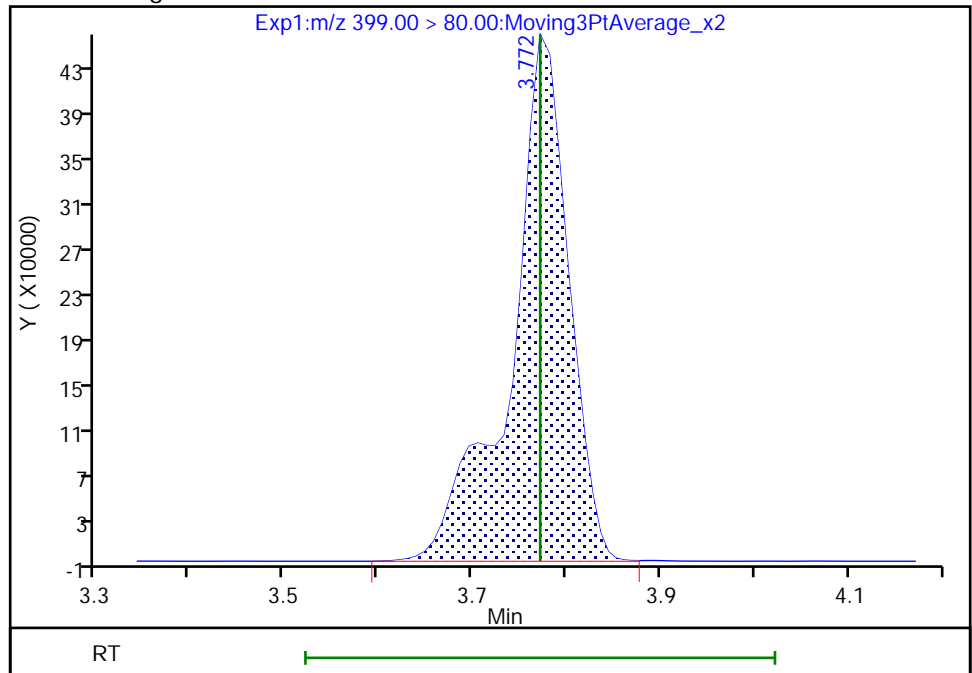
RT: 3.77  
Area: 1628640  
Amount: 0.686958  
Amount Units: ng/ml

Processing Integration Results



RT: 3.77  
Area: 1946103  
Amount: 0.820864  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:54:18  
Audit Action: Manually Integrated

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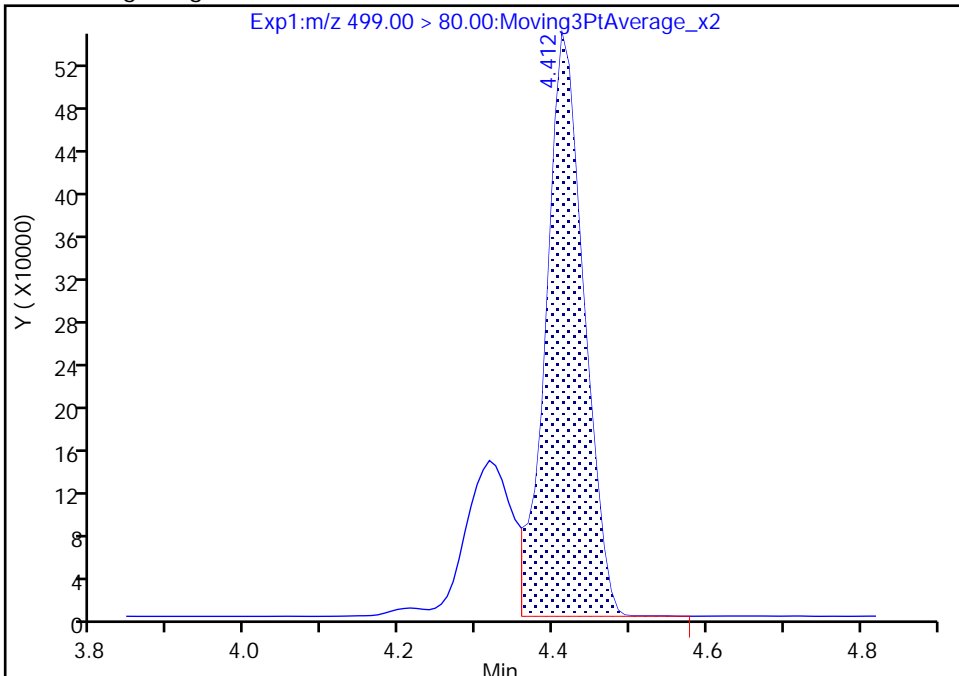
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Injection Date: 19-Feb-2022 18:43:45 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

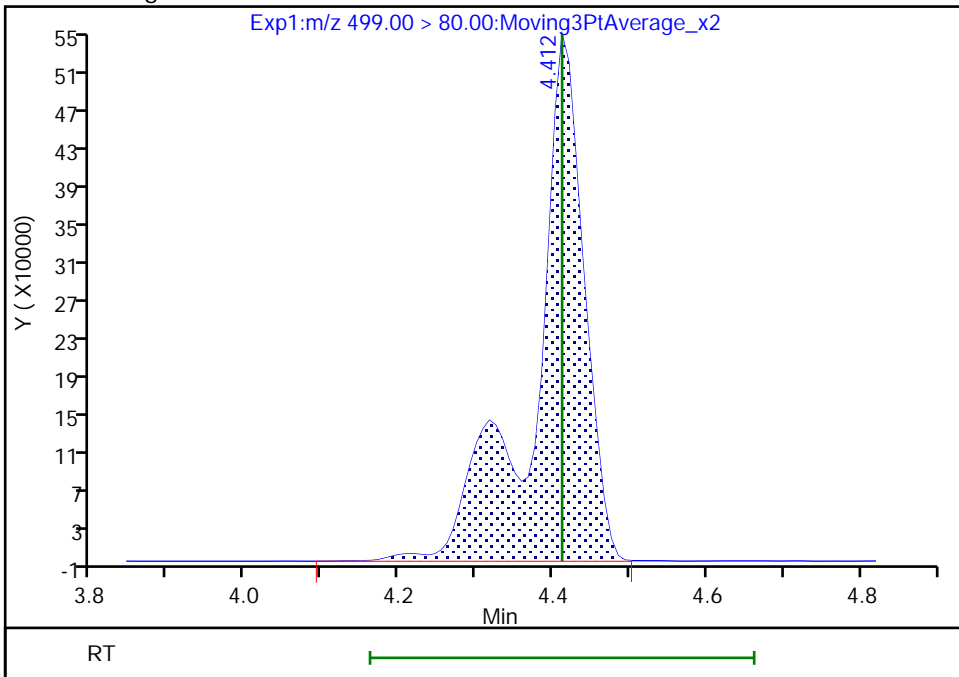
RT: 4.41  
Area: 1856195  
Amount: 0.636090  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 2475991  
Amount: 0.848485  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:54:34  
Audit Action: Manually Integrated



Eurofins Knoxville

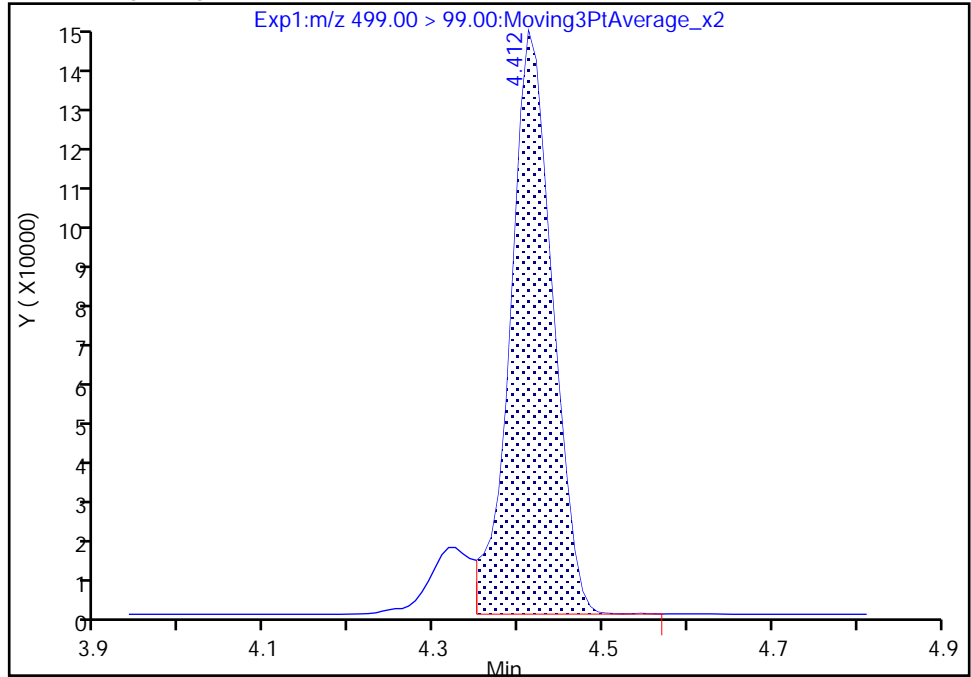
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Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

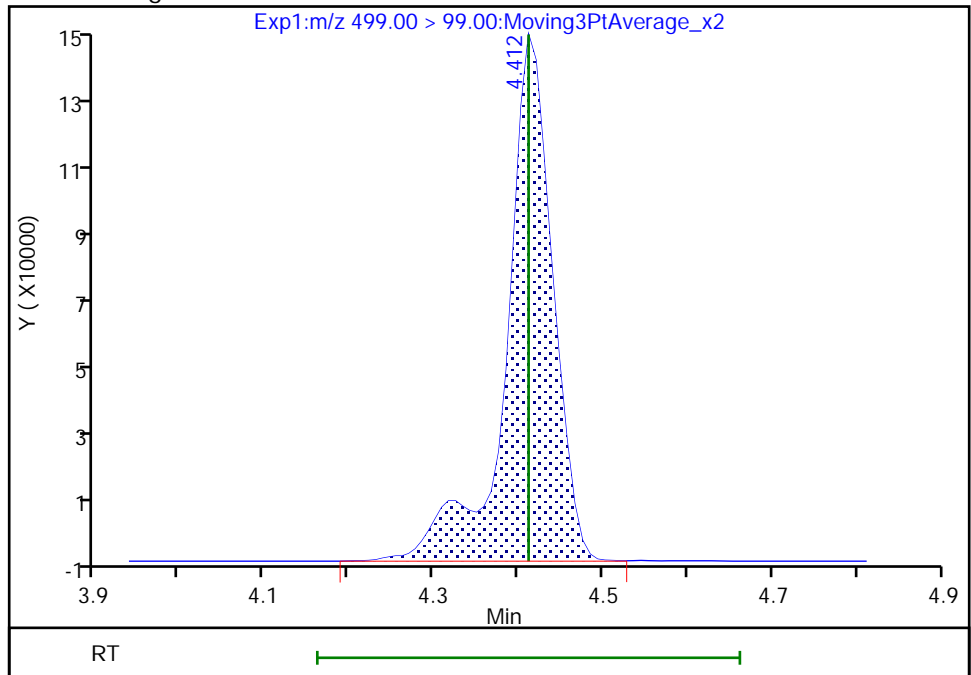
RT: 4.41  
Area: 508262  
Amount: 0.636090  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 568244  
Amount: 0.848485  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:54:42

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

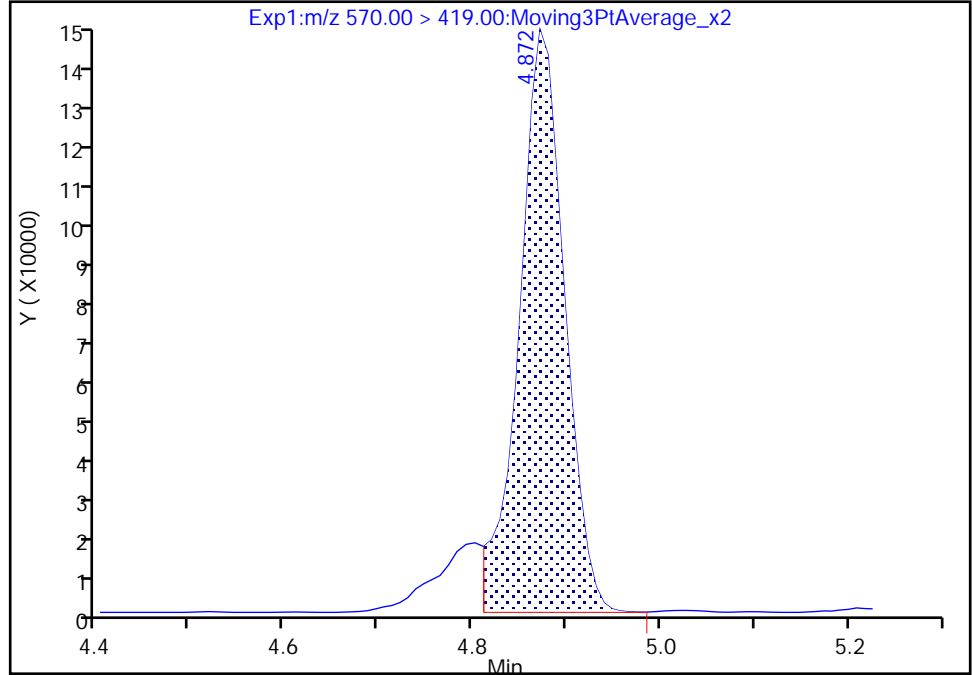
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_007.d  
Injection Date: 19-Feb-2022 18:43:45 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

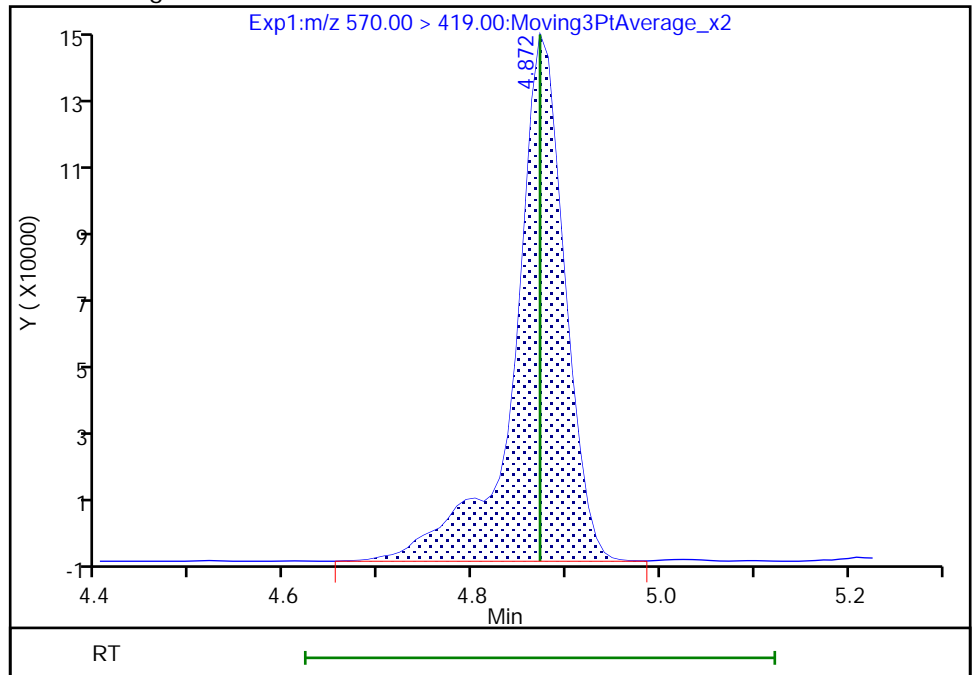
RT: 4.87  
Area: 495844  
Amount: 0.838583  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 557581  
Amount: 0.941483  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:55:25  
Audit Action: Manually Integrated

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/19 Calibration Date: 02/19/2022 20:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7921		2.50	2.50	0.1	40.0
PFECA F	AveID	0.7535	0.7424		2.46	2.50	-1.5	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.999		2.67	2.50	6.6	40.0
3:3 FTCA	QuaIF		0.0555		2.56	2.50	2.5	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.134		2.25	2.21	2.0	40.0
PFECA A	Q2ID		1.218		2.55	2.50	2.2	40.0
PES	Q2ID		2.382		2.19	2.23	-1.5	40.0
PFECA B	Q2ID		0.4537		2.62	2.50	4.8	40.0
4:2 FTS	L2ID		2.392		2.46	2.34	5.4	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8157		2.58	2.50	3.0	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.081		2.46	2.35	4.7	40.0
HFPO-DA	L2ID		1.361		2.70	2.50	8.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.339		2.20	2.28	-3.3	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.066		2.62	2.50	4.9	40.0
DONA	AveID	2.644	2.462		2.19	2.36	-6.9	40.0
5:3 FTCA	L2ID		3.869		2.57	2.50	2.9	40.0
6:2 FTUCA	AveID	1.046	0.9599		2.29	2.50	-8.3	40.0
6:2 FTCA	L1ID		0.8294		3.00	2.50	20.0	40.0
PFECHS	AveID	0.7426	0.7782		2.42	2.31	4.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9465		2.28	2.38	-4.2	40.0
6:2 FTS	L2ID		1.835		2.38	2.37	0.5	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.096		2.57	2.50	2.8	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.134		2.30	2.32	-1.0	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8234		2.71	2.50	8.3	40.0
7:3 FTCA	AveID	5.230	5.535		2.65	2.50	5.8	40.0
8:2 FTUCA	AveID	0.9565	0.9150		2.39	2.50	-4.3	40.0
8:2 FTCA	AveID	1.811	2.046		2.82	2.50	13.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.240		2.32	2.33	-0.4	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.001		2.38	2.40	-1.0	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9500		2.49	2.50	-0.5	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9245		2.58	2.50	3.2	40.0
8:2 FTS	L2ID		1.504		2.40	2.40	0.3	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8638		2.29	2.50	-8.2	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9135		2.48	2.41	2.9	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/19 Calibration Date: 02/19/2022 20:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9467		2.45	2.50	-2.1	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9183		2.53	2.50	1.0	40.0
10:2 FTUCA	AveID	1.208	1.223		2.53	2.50	1.2	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.792		2.43	2.36	3.1	50.0
10:2 FTCA	Q2ID		1.027		2.68	2.50	7.3	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.006		2.44	2.50	-2.6	40.0
10:2 FTS	L2ID		2.210		2.55	2.41	5.7	50.0
NMeFOSA	L2ID		1.081		2.51	2.50	0.5	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.242		2.65	2.50	6.1	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9891		2.53	2.42	4.6	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8450		2.39	2.50	-4.3	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.376		2.42	2.50	-3.0	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.243		2.50	2.50	-0.2	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1368		2.66	2.50	6.3	40.0
Perfluorohexadecanoic acid	L1ID		1.138		2.52	2.50	0.7	40.0
Perfluorooctadecanoic acid	AveID	1.013	1.011		2.50	2.50	-0.2	40.0
13C4 PFBA	Ave	1.172	1.185		1.26	1.25	1.1	50.0
13C5 PFPeA	Ave	0.9197	0.8962		1.22	1.25	-2.6	50.0
13C3 PFBS	Ave	0.5817	0.5816		1.16	1.16	-0.0	50.0
M2-4:2 FTS	Ave	0.1821	0.1792		1.15	1.17	-1.6	50.0
13C2 PFHxA	Ave	1.015	0.9772		1.20	1.25	-3.7	50.0
13C3 HFPO-DA	Ave	0.4963	0.4705		1.19	1.25	-5.2	50.0
18O2 PFHxS	Ave	0.3776	0.3908		1.22	1.18	3.5	50.0
13C4 PFHpA	Ave	0.9046	0.8693		1.20	1.25	-3.9	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3844		1.42	1.25	13.9	50.0
13C-6:2 FTCA	Ave	0.0260	0.0256		1.23	1.25	-1.7	50.0
M2-6:2 FTS	Ave	0.1799	0.1835		1.21	1.19	2.0	50.0
13C4 PFOA	Ave	0.9356	0.9182		1.23	1.25	-1.9	50.0
13C4 PFOS	Ave	0.5610	0.6015		1.28	1.20	7.2	50.0
13C5 PFNA	Ave	1.268	1.277		1.26	1.25	0.7	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5625		1.56	1.25	24.5	50.0
13C-8:2 FTCA	Ave	0.0330	0.0350		1.33	1.25	6.0	50.0
13C8 FOSA	Ave	0.8475	0.8925		1.32	1.25	5.3	50.0
13C2 PFDA	Ave	1.210	1.248		1.29	1.25	3.2	50.0
M2-8:2 FTS	Ave	0.1961	0.2059		1.26	1.20	5.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/19 Calibration Date: 02/19/2022 20:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1576		1.74	1.25	38.9	50.0
13C2 PFUnA	Ave	1.168	1.218		1.30	1.25	4.3	50.0
d5-NEtFOSAA	Ave	0.1164	0.1425		1.53	1.25	22.4	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5117		1.26	1.25	0.8	50.0
13C-10:2 FTCA	Ave	0.0309	0.0286		1.16	1.25	-7.4	50.0
13C2 PFDoA	Ave	1.152	1.176		1.28	1.25	2.1	50.0
13C2 10:2 FTS	Ave	0.1652	0.1735		1.24	1.18	5.1	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1150		1.21	1.25	-3.0	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1033		1.28	1.25	2.3	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1203		1.22	1.25	-2.2	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0844		1.30	1.25	4.2	50.0
13C2 PFTeDA	Ave	0.9216	0.8787		1.19	1.25	-4.7	50.0
13C2 PFHxDA	Ave	0.5997	0.5704		1.19	1.25	-4.9	50.0
13C8 PFOA	AveID	0.9229	0.9728		1.32	1.25	5.4	50.0
13C8 PFOS	AveID	0.2212	0.2297		1.24	1.20	3.8	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 19-Feb-2022 20:31:46 ALS Bottle#: 19 Worklist Smp#: 19  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-019 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 15:59:13

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.812	2.804	0.008	1.000	9302624	2.50		100	3352	
D 2 13C4 PFBA										
217.00 > 172.00	2.812	2.804	0.008	0.680	5872349	1.26		101	24333	
3 PFECA F										
229.00 > 85.00	2.920	2.911	0.009	0.937	6591291	2.46		98.5	20934	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.116	3.115	0.002	1.000	8870448	2.67		107	3546	
D 5 13C5 PFPeA										
267.90 > 223.00	3.116	3.115	0.002	0.754	4439376	1.22		97.4	20837	
4 3:3 FTCA										
241.00 > 177.10	3.132	3.122	0.010	1.000	319994	2.56	Target=1.13	102	2730	
241.00 > 116.90	3.132	3.122	0.010	1.000	275168		1.16(0.56-1.69)		410	
D 7 13C3 PFBS										
301.90 > 80.00	3.132	3.122	0.010	0.758	2679375	1.16		100.0	11008	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.132	3.131	0.001	1.000	5776908	2.25	Target=2.61	102	4875	
298.90 > 99.00	3.132	3.131	0.001	1.000	2183084		2.65(1.31-3.92)		5054	
9 PFECA A										
278.95 > 84.90	3.212	3.202	0.010	1.031	10815743	2.55		102	24457	
11 PES										
314.80 > 135.00	3.261	3.260	0.001	1.041	12213307	2.19		98.5	20758	
12 PFECA B										
295.22 > 201.00	3.385	3.373	0.012	0.981	4392210	2.62		105	20431	
13 4:2 FTS										
327.00 > 307.00	3.417	3.415	0.002	1.000	3966732	2.46		105	8423	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.417	3.415	0.002	0.827	829028	1.15		98.4	1780	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.449	3.437	0.012	1.101	5841195	2.45	Target=3.55	105	12279	
349.00 > 99.00	3.449	3.437	0.012	1.101	1719843		3.40(1.78-5.33)		7452	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.449	3.437	0.012	1.000	7896967	2.58	Target=11.60	103	3518	
313.00 > 119.00	3.449	3.437	0.012	1.000	656644		12.03(5.80-17.40)		639	
D 14 13C2 PFHxA										
315.00 > 270.00	3.449	3.437	0.012	0.835	4840509	1.20		96.3	11272	
17 HFPO-DA										
285.00 > 169.00	3.554	3.542	0.012	1.000	6342444	2.70	Target=2.45	108	1563	
329.00 > 169.00	3.554	3.542	0.012	1.000	2486647		2.55(1.23-3.68)		1555	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.554	3.542	0.012	0.860	2330673	1.19		94.8	5732	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.784	3.772	0.012	1.000	4716462	2.20	Target=3.44	96.7	7310	M
399.00 > 99.00	3.784	3.772	0.012	1.000	1368397		3.45(1.72-5.17)		4868	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.784	3.772	0.012	0.916	1831159	1.22		103	5583	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.794	3.792	0.002	1.000	9177798	2.62	Target=3.25	105	5946	
363.00 > 169.00	3.794	3.792	0.002	1.000	2852596		3.22(1.62-4.87)		2534	
D 22 13C4 PFHpA										
367.00 > 322.00	3.794	3.792	0.002	0.918	4306163	1.20		96.1	12274	
25 DONA										
377.00 > 251.00	3.830	3.820	0.010	0.866	13820411	2.19	Target=1.74	93.1	18304	
377.00 > 85.00	3.830	3.820	0.010	0.866	8045575		1.72(0.87-2.61)		143	
26 5:3 FTCA										
340.88 > 236.90	3.854	3.853	0.001	0.987	980059	2.57	Target=1.11	103	3300	
340.88 > 216.90	3.854	3.853	0.001	0.987	907723		1.08(0.56-1.67)		2350	
27 6:2 FTUCA										
356.86 > 292.90	3.888	3.886	0.002	1.000	3655657	2.29	Target=13.05	91.7	4500	
356.86 > 243.00	3.888	3.886	0.002	1.000	260183		14.05(6.52-19.57)		602	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.888	3.886	0.002	0.941	1904104	1.42		114	2623	
29 6:2 FTCA										
377.10 > 63.00	3.905	3.903	0.002	1.000	210095	3.00	Target=1.29	120	949	
377.10 > 313.10	3.913	3.903	0.010	1.002	151765		1.38(0.65-1.94)		120	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.905	3.903	0.002	0.945	126659	1.23		98.3	795	
32 PFECHS										
460.80 > 380.90	4.065	4.054	0.011	0.984	6526696	2.42	Target=1.75	105	14843	
460.80 > 98.90	4.065	4.054	0.011	0.984	3875248		1.68(0.87-2.62)		7763	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.113	4.111	0.002	0.930	5369835	2.28	Target=3.72	95.8	7231	
449.00 > 99.00	4.113	4.111	0.002	0.930	1427253		3.76(1.86-5.57)		3690	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.123	4.121	0.002	1.000	3162405	2.38		101	8422	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.132	4.121	0.011	1.000	9972323	2.57	Target=2.51	103	5717	
413.00 > 169.00	4.132	4.121	0.011	1.000	4160199		2.40(1.26-3.77)		4939	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.123	4.121	0.002	0.998	4424670	1.32		105	10217	
* 30 13C2 PFOA										
415.00 > 370.00	4.132	4.121	0.011		4953682	1.25			6200	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.123	4.121	0.002	0.998	863537	1.21		102	2450	
D 31 13C4 PFOA										
417.00 > 372.00	4.132	4.121	0.011	1.000	4548425	1.23		98.1	6043	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.414	4.412	0.002	0.998	654383	1.24		104	1496	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.423	4.412	0.011	1.000	6272429	2.30	Target=4.30	99.0	4845	M
499.00 > 99.00	4.423	4.412	0.011	1.000	1423263		4.41(2.15-6.45)		4239	M
D 39 13C4 PFOS										
503.00 > 80.00	4.423	4.412	0.011	1.070	2848747	1.28		107	3069	
42 Perfluorononanoic acid										
463.00 > 419.00	4.441	4.438	0.003	1.000	10416485	2.71	Target=3.60	108	8444	
463.00 > 169.00	4.441	4.438	0.003	1.000	2514437		4.14(1.80-5.40)		4563	
D 41 13C5 PFNA										
468.00 > 423.00	4.441	4.438	0.003	1.075	6325320	1.26		101	12159	
43 7:3 FTCA										
441.00 > 337.00	4.530	4.519	0.011	0.993	1921444	2.65	Target=1.42	106	3937	
441.00 > 317.00	4.530	4.519	0.011	0.993	1388484		1.38(0.71-2.13)		3279	
44 8:2 FTUCA										
456.86 > 392.90	4.547	4.545	0.002	1.000	5099764	2.39	Target=35.37	95.7	5017	
456.86 > 343.00	4.547	4.545	0.002	1.000	142816		35.71(17.68-53.05)		463	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.547	4.545	0.002	1.000	2786693	1.56		124	6348	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.563	4.553	0.010	1.104	173564	1.33		106	824	
46 8:2 FTCA										
477.00 > 393.10	4.563	4.561	0.002	1.000	710186	2.82	Target=3.35	113	2968	
477.00 > 63.20	4.563	4.561	0.002	1.000	206836		3.43(1.68-5.03)		661	
49 9CIFOS										
531.00 > 351.00	4.579	4.578	0.001	1.108	12439899	2.32		99.6	11833	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.699	4.697	0.002	1.062	5725834	2.37	Target=3.99	99.0	8208	
549.00 > 99.00	4.699	4.697	0.002	1.062	1484188		3.86(2.00-5.99)		4952	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.716	4.705	0.011	1.000	8400516	2.49		99.5	5180	
D 55 13C8 FOSA										
506.00 > 78.00	4.716	4.705	0.011	1.141	4421387	1.32		105	4783	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.733	4.722	0.011	1.000	11429872	2.58	Target=10.58	103	8781	
513.00 > 169.00	4.733	4.722	0.011	1.000	1016177		11.25(5.29-15.88)		434	
D 52 13C2 PFDA										
515.00 > 470.00	4.733	4.722	0.011	1.145	6181568	1.29		103	11404	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.741	4.731	0.010	1.147	976918	1.26		105	1984	
53 8:2 FTS										
527.00 > 507.00	4.741	4.739	0.002	1.000	2937623	2.40		100	7515	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.874	4.872	0.002	1.180	780923	1.74		139	299	
57 NMeFOSAA										
570.00 > 419.00	4.874	4.872	0.002	1.000	1349103	2.29		91.8	2079	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.959	4.957	0.002	1.121	5248355	2.48	Target=3.55	103	5056	
599.00 > 99.00	4.959	4.957	0.002	1.121	1423349		3.69(1.78-5.33)		5206	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.997	4.985	0.012	1.002	11421218	2.45	Target=8.26	97.9	9637	
563.00 > 169.00	4.988	4.985	0.003	1.000	1327862		8.60(4.13-12.39)		3512	
D 59 13C2 PFUnA										
565.00 > 520.00	4.988	4.985	0.003	1.207	6032193	1.30		104	10805	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.007	5.005	0.002	1.212	706053	1.53		122	2471	
62 NEtFOSAA										
584.00 > 419.00	5.017	5.005	0.012	1.002	1296745	2.53		101	1568	
65 10:2 FTUCA										
556.86 > 492.90	5.095	5.092	0.003	1.000	6199010	2.53		101	8099	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.095	5.092	0.003	1.233	2534953	1.26		101	7247	
63 11C1FOS										
631.00 > 451.00	5.095	5.092	0.003	1.152	10058631	2.43		103	14158	
66 10:2 FTCA										
576.80 > 493.00	5.114	5.102	0.012	1.000	291152	2.68	Target=2.53	107	2200	
576.80 > 63.10	5.104	5.102	0.002	0.998	120845		2.41(1.26-3.79)		388	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.114	5.111	0.003	1.238	141797	1.16		92.6	807	
D 69 13C2 PFDoA										
615.00 > 570.00	5.228	5.226	0.002	1.265	5827832	1.28		102	9432	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.228	5.226	0.002	1.000	11726821	2.43	Target=6.85	97.4	7666	
613.00 > 169.00	5.228	5.226	0.002	1.000	1742494		6.73(3.43-10.28)		2454	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.245	5.243	0.002	1.269	814277	1.24		105	4807	
71 10:2 FTS										
627.00 > 607.00	5.245	5.251	-0.006	1.000	3662252	2.55		106	9043	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.285	5.275	0.010	1.279	569760	1.21		97.0	472	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.285	5.283	0.002	1.279	511629	1.28		102	47.1	
74 NMeFOSA										
512.00 > 169.00	5.285	5.283	0.002	1.000	1106019	2.51		100	864	
75 N-MeFOSE-M										
616.00 > 59.00	5.294	5.292	0.002	1.002	1415571	2.65		106	2253	
76 PFDoS										
699.00 > 80.00	5.401	5.399	0.002	1.221	5706260	2.53	Target=4.22	105	8146	
699.00 > 99.00	5.401	5.399	0.002	1.221	1310842		4.35(2.11-6.34)		5289	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.437	5.435	0.002	1.316	595992	1.22		97.8	256	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.437	5.435	0.002	1.040	9849286	2.39	Target=6.32	95.7	8157	
663.00 > 169.00	5.437	5.435	0.002	1.040	1635280		6.02(3.16-9.48)		4485	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.454	5.452	0.002	1.320	417952	1.30		104	722	
79 N-EtFOSE-M										
630.00 > 59.00	5.454	5.452	0.002	1.003	1639773	2.42		97.0	1379	
81 N-EtFOSA-M										
526.00 > 169.00	5.463	5.452	0.011	1.002	1038708	2.50		99.8	663	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.619	5.617	0.002	1.360	4352783	1.19		95.3	8645	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.619	5.617	0.002	1.000	1190861	2.66	Target=1.01	106	3303	
713.00 > 219.00	5.609	5.617	-0.008	0.998	1111446		1.07(0.51-1.52)		4208	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.925	5.924	0.001	1.434	2825340	1.19		95.1	5876	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.925	5.924	0.001	1.000	6431691	2.52	Target=8.64	101	6591	
813.00 > 169.00	5.925	5.924	0.001	1.000	781535		8.23(4.32-12.97)		2229	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.184	-0.005	1.043	5711973	2.49	Target=11.77	99.8	6408	
913.00 > 169.00	6.179	6.184	-0.005	1.043	487376		11.72(5.88-17.65)		1602	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Injection Date: 19-Feb-2022 20:31:46

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

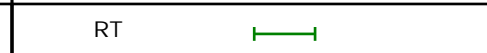
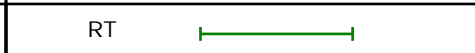
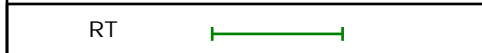
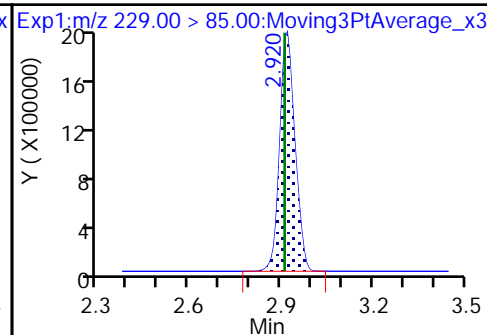
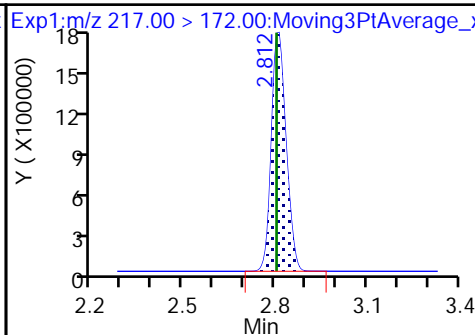
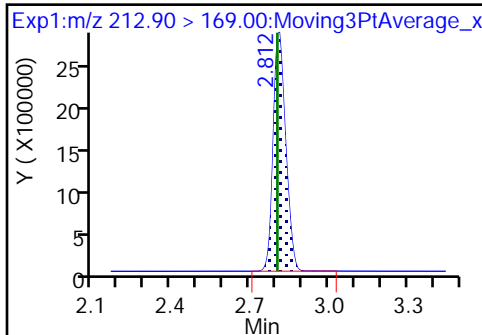
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

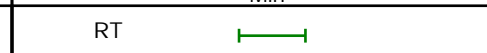
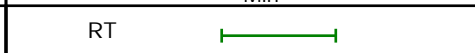
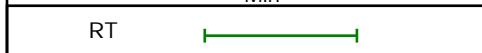
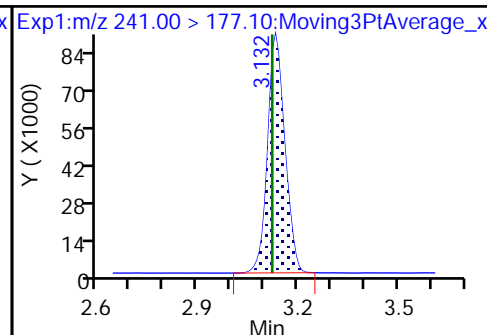
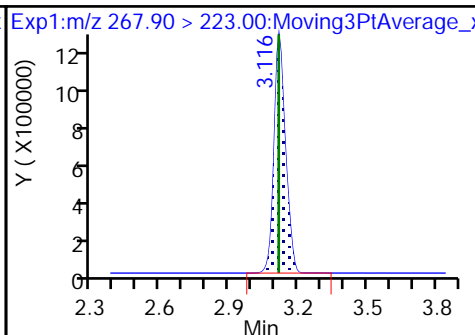
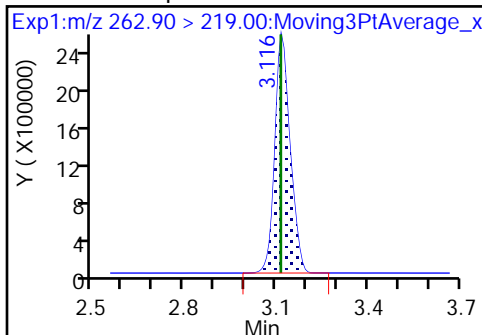
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

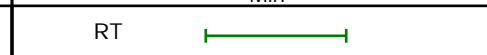
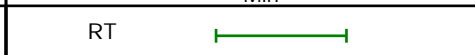
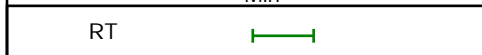
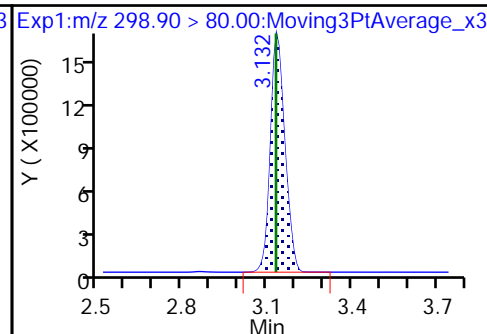
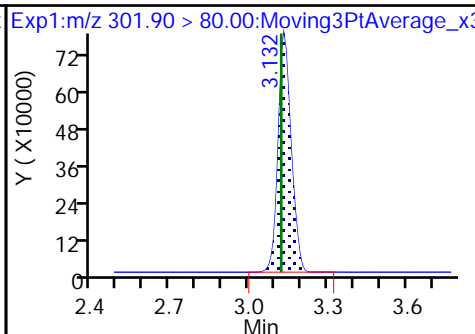
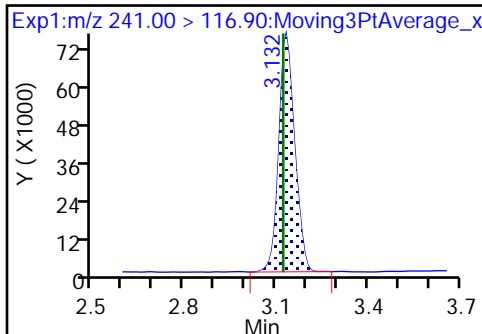
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

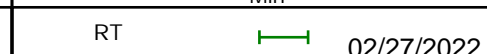
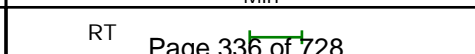
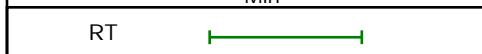
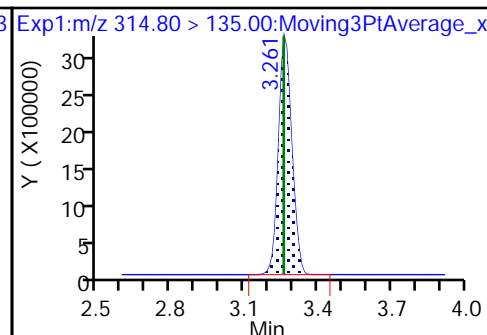
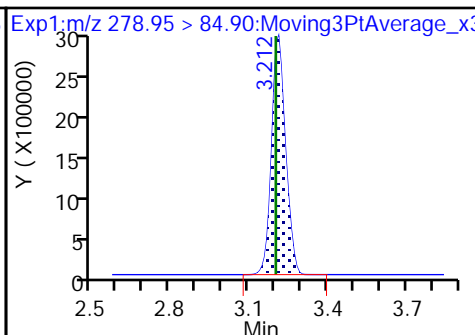
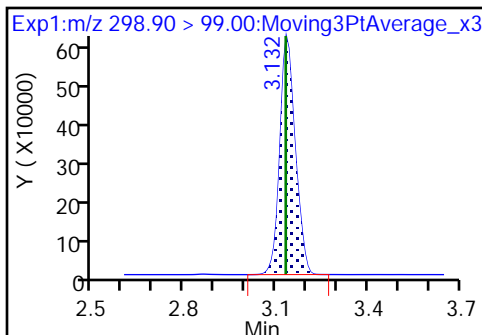
8 Perfluorobutanesulfonic acid

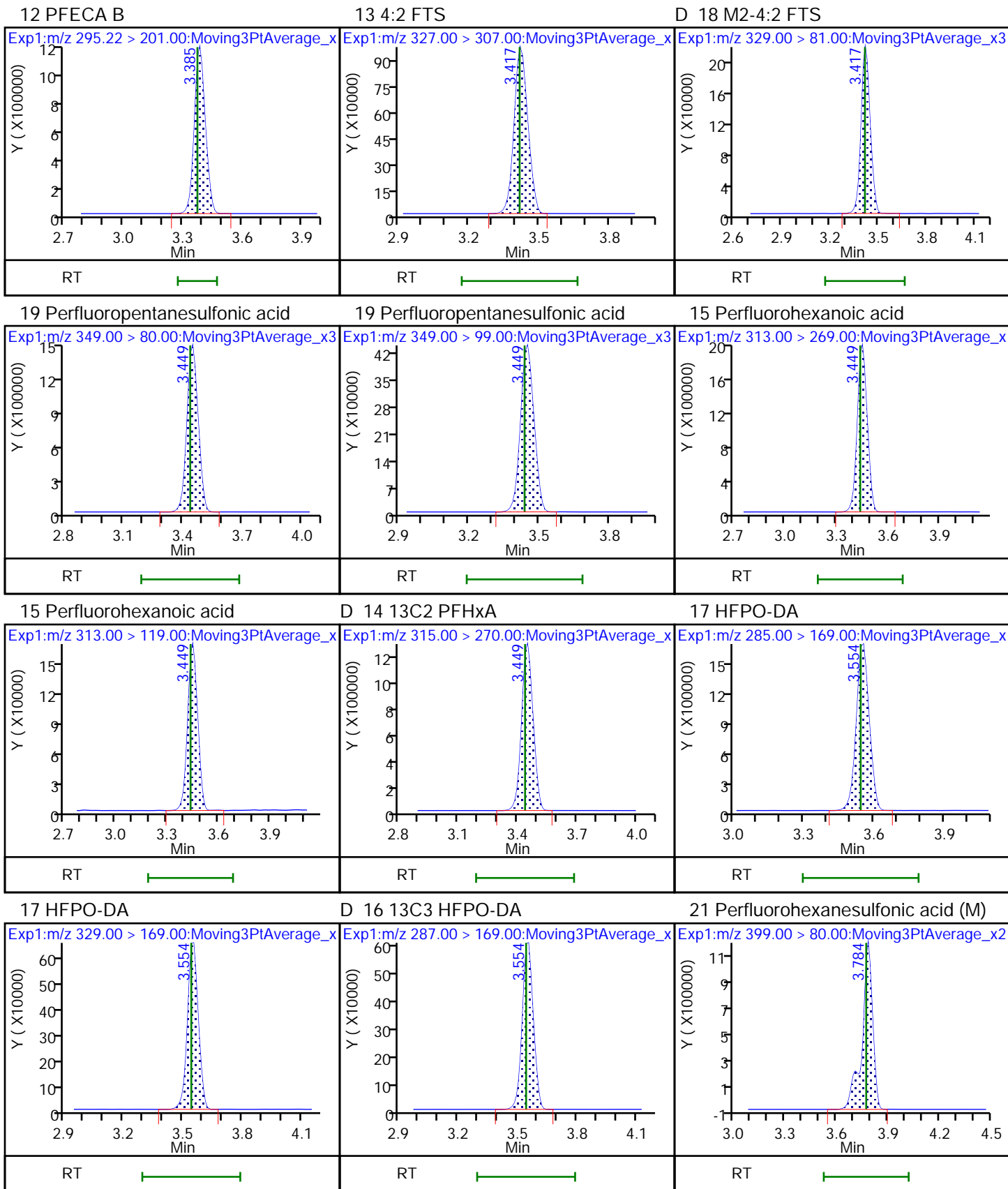


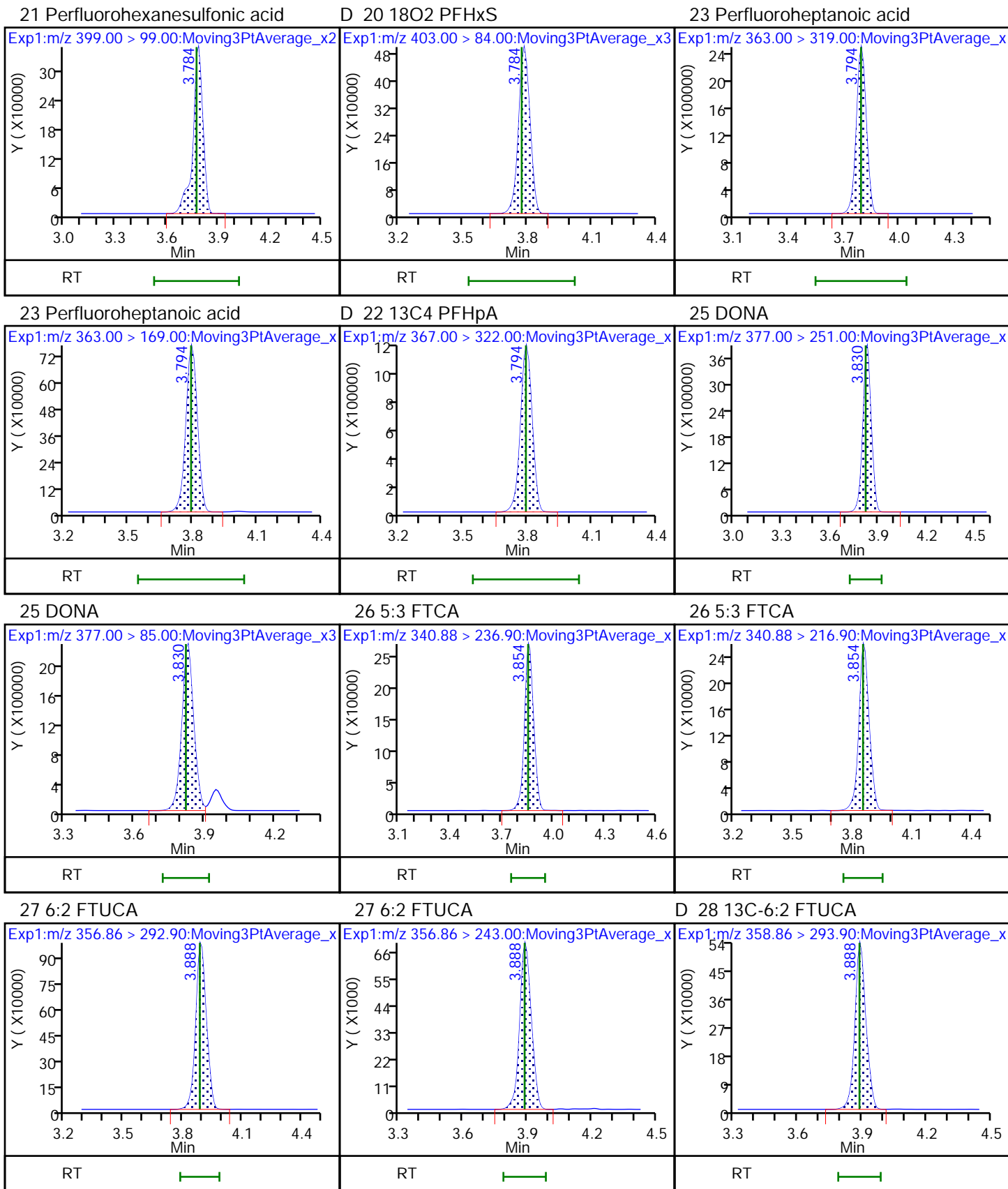
8 Perfluorobutanesulfonic acid

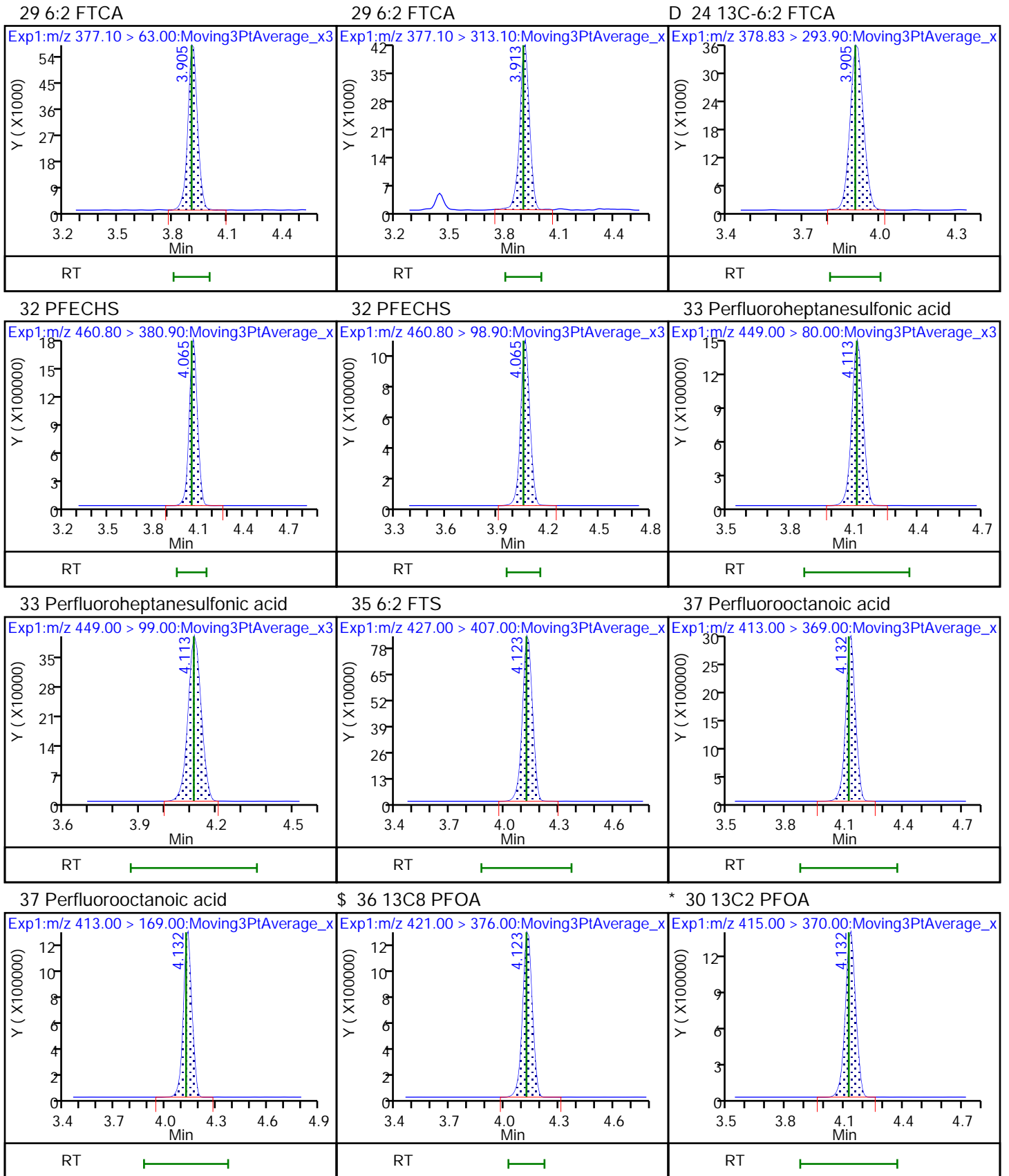
9 PFECA A

11 PES





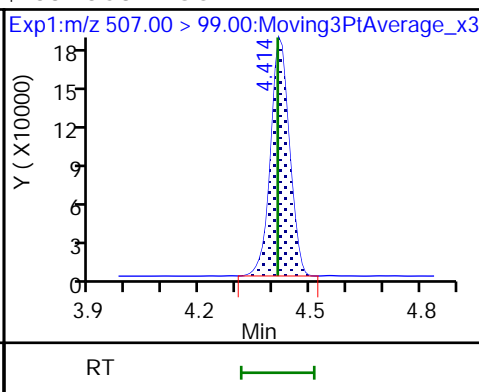
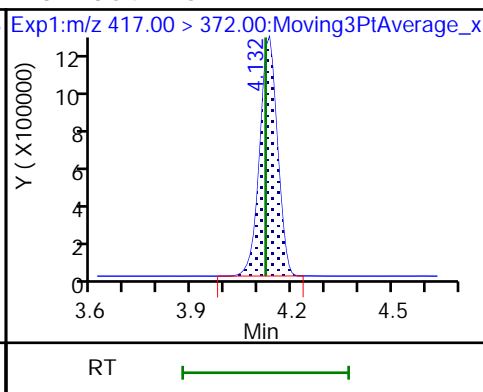
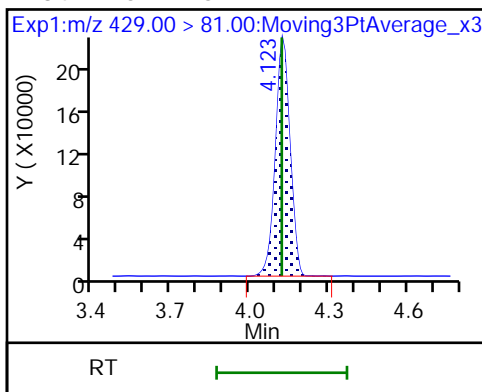




D 34 M2-6:2 FTS

D 31 13C4 PFOA

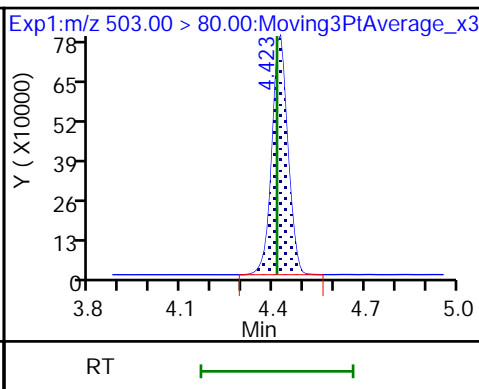
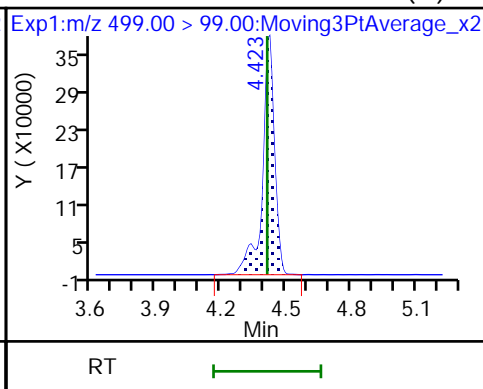
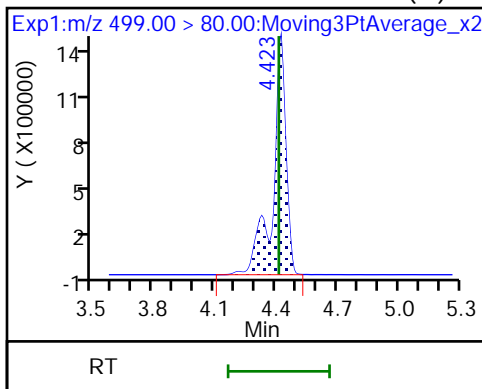
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid (M)

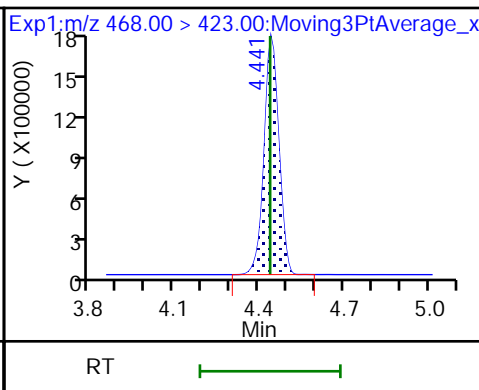
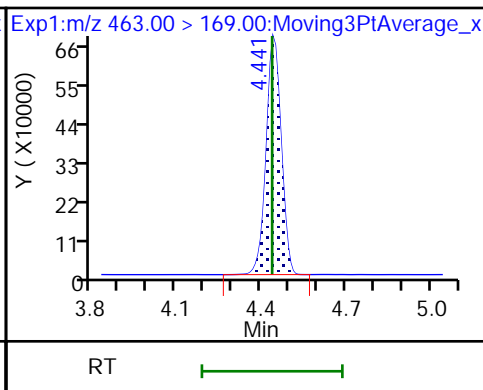
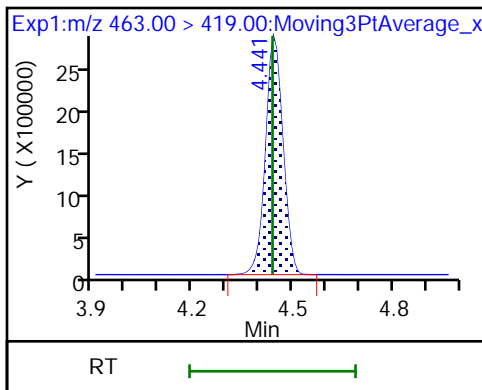
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

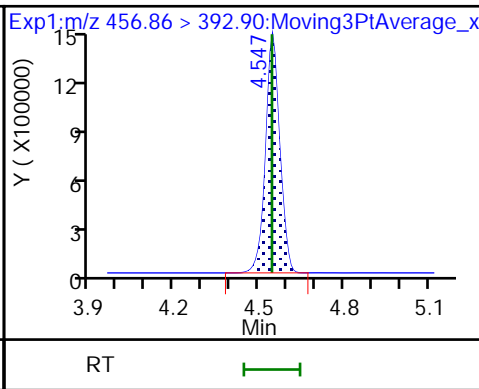
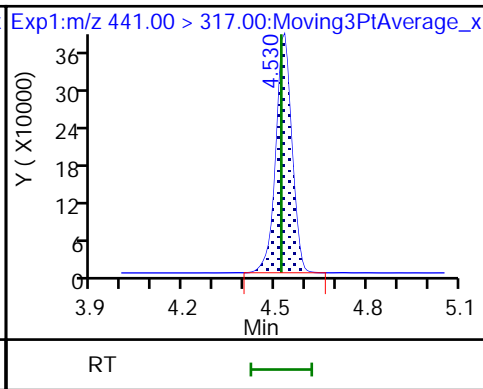
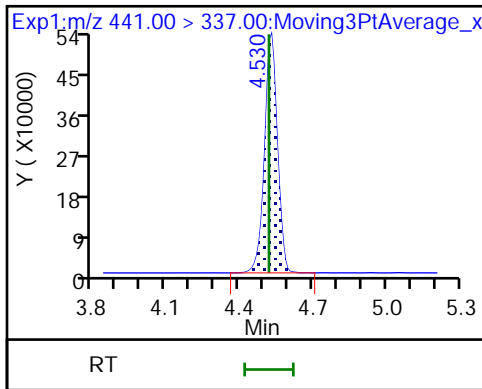
D 41 13C5 PFNA

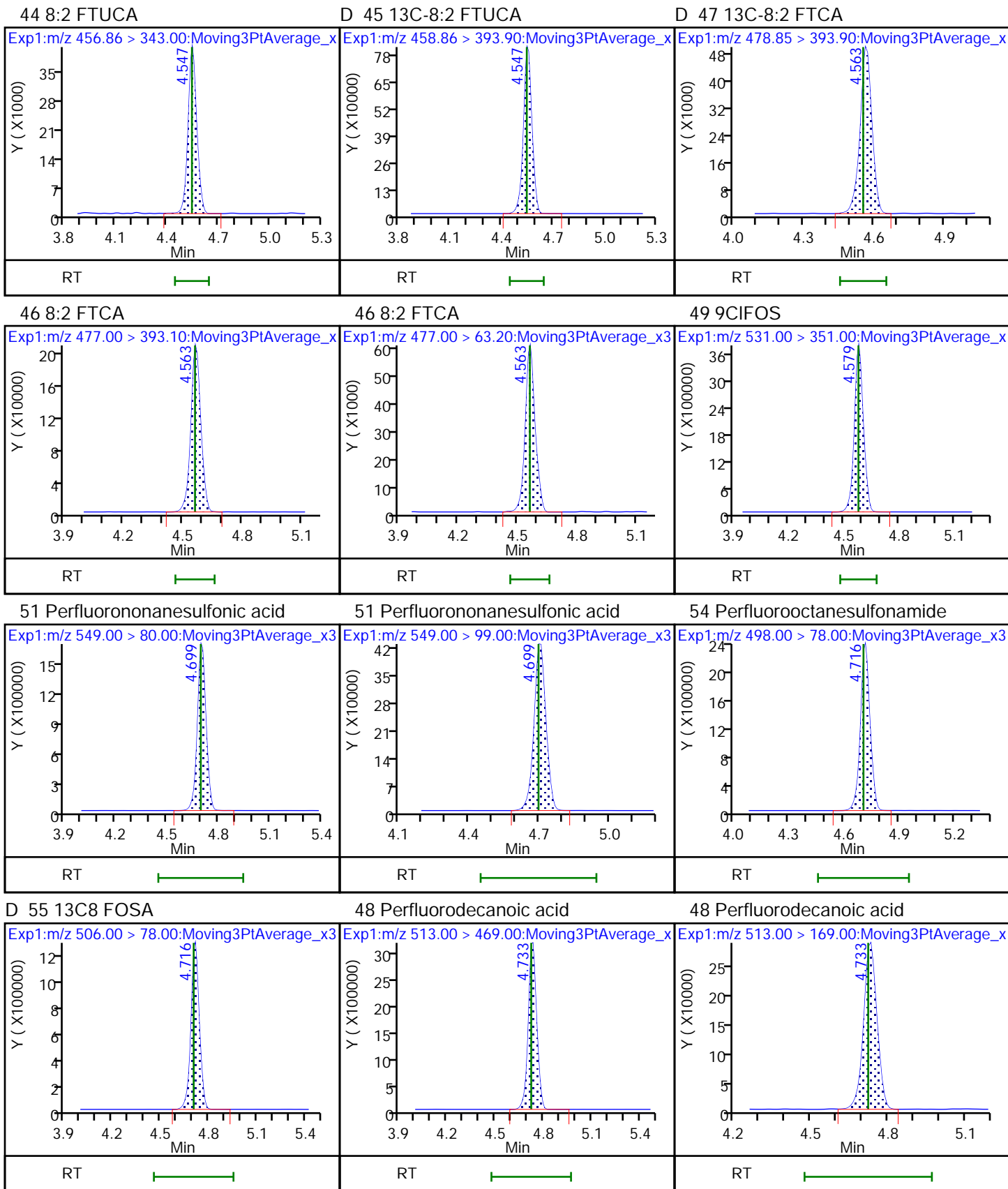


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA



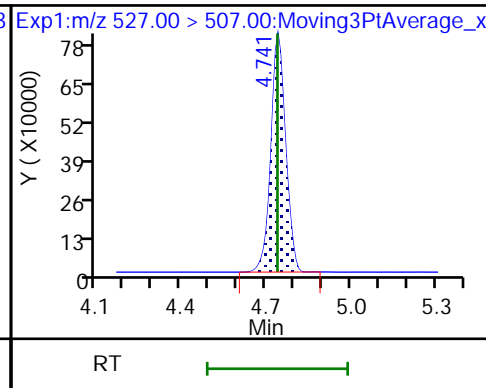
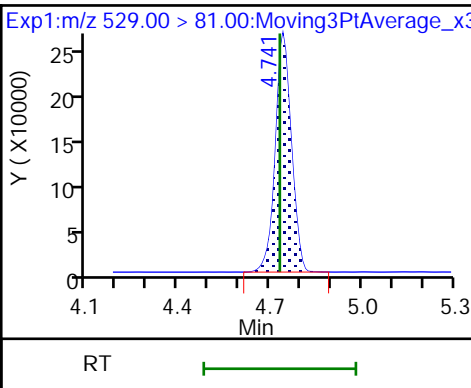
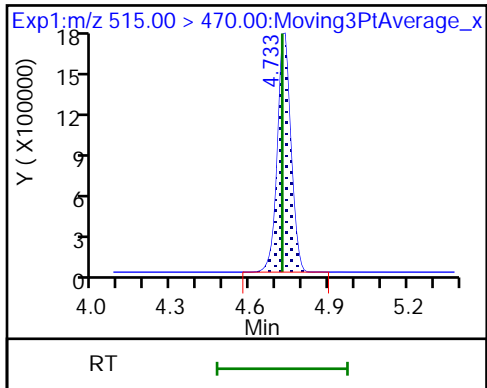




D 52 13C2 PFDA

D 50 M2-8:2 FTS

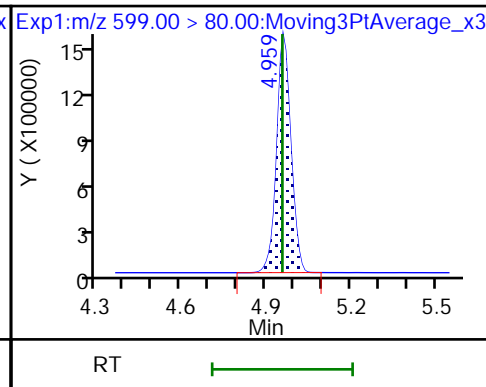
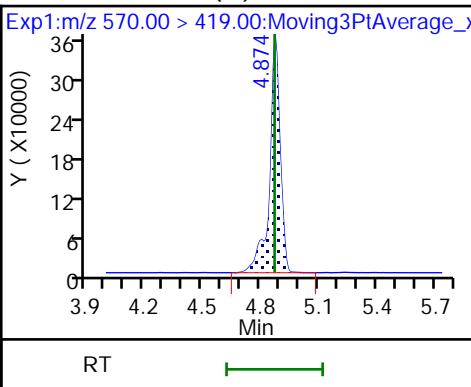
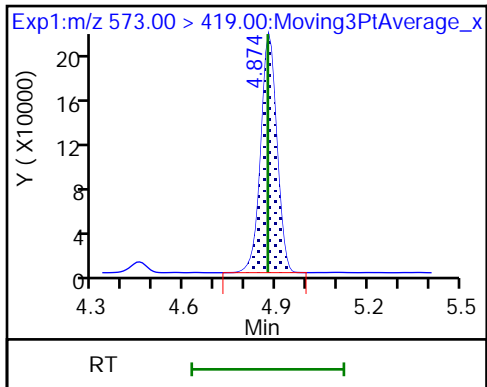
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

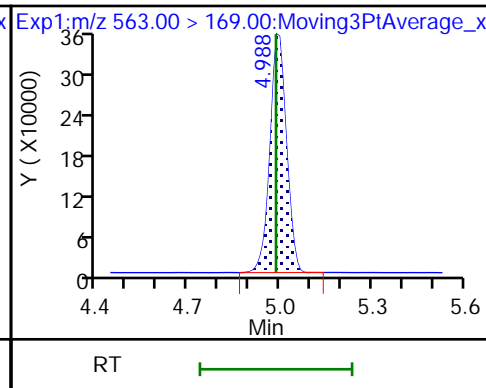
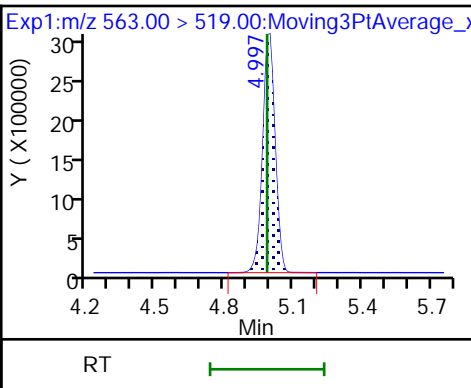
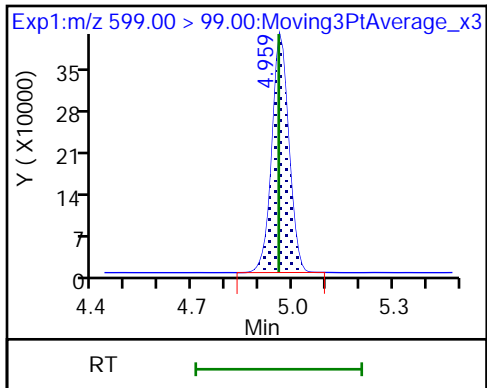
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

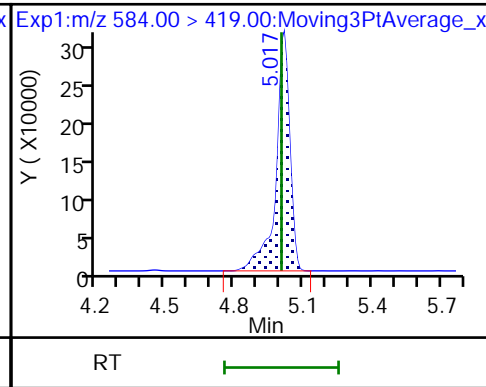
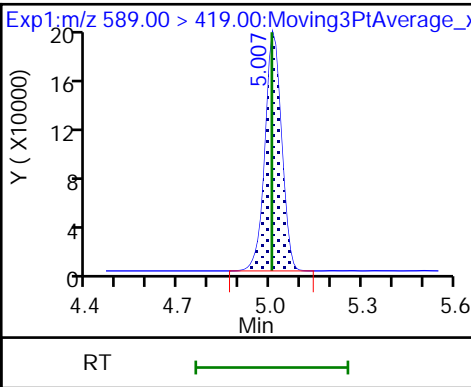
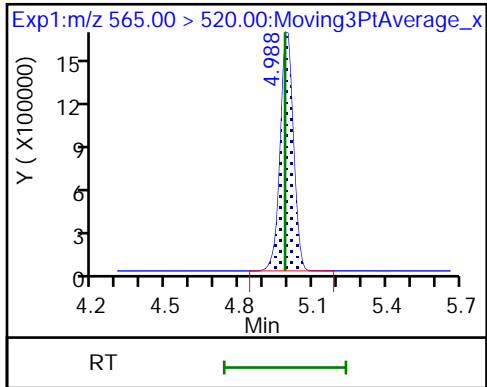
60 Perfluoroundecanoic acid

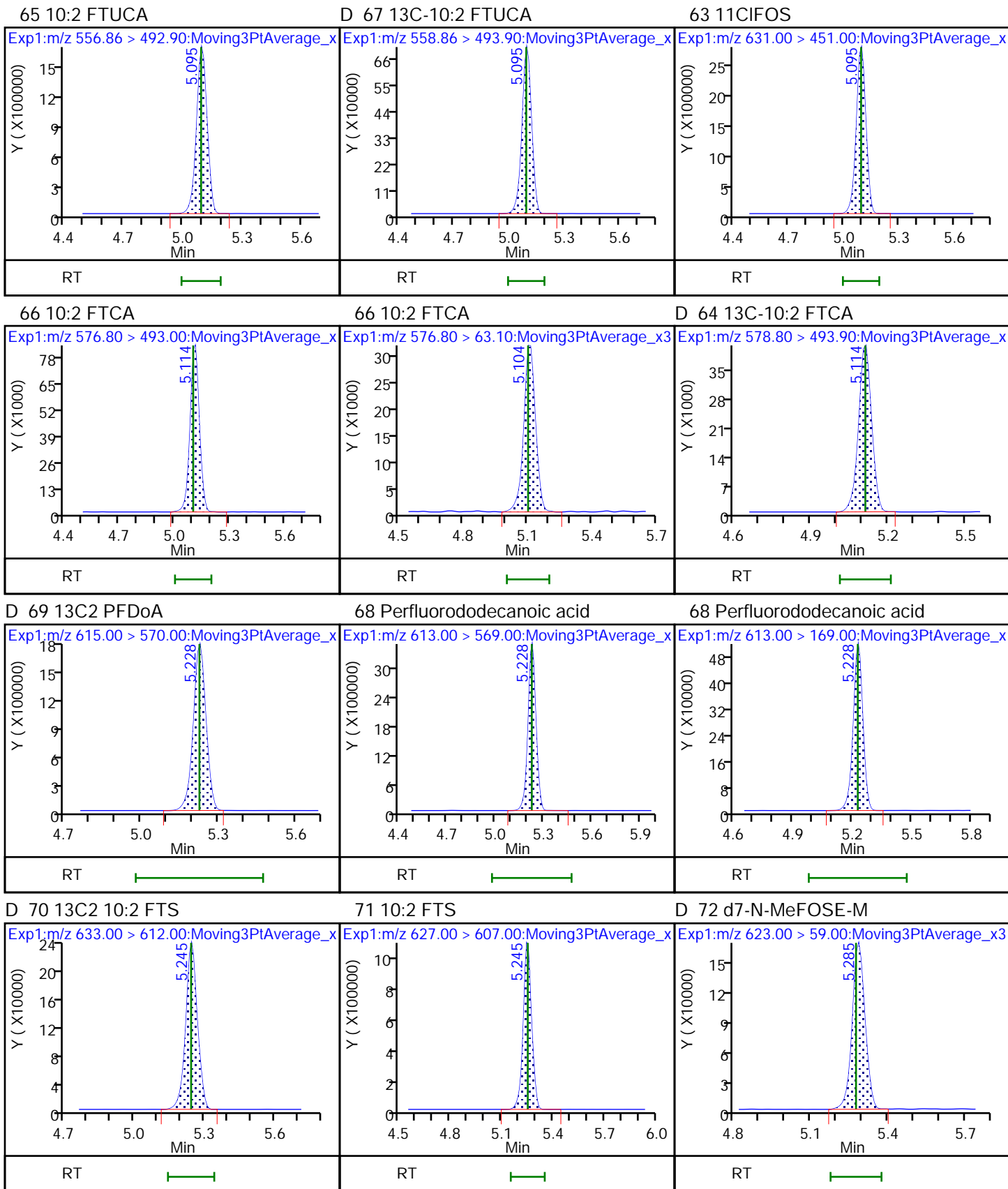


D 59 13C2 PUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA

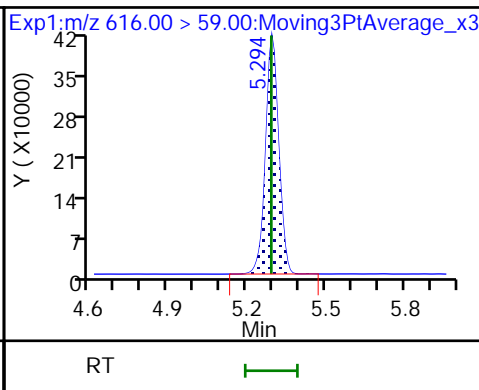
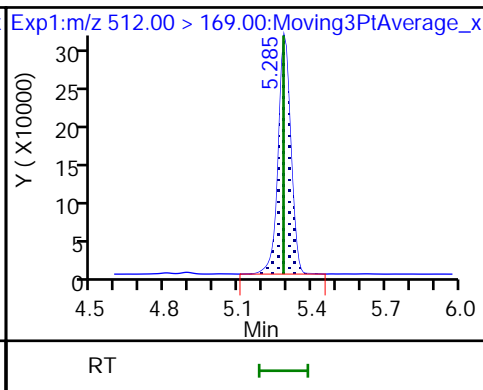
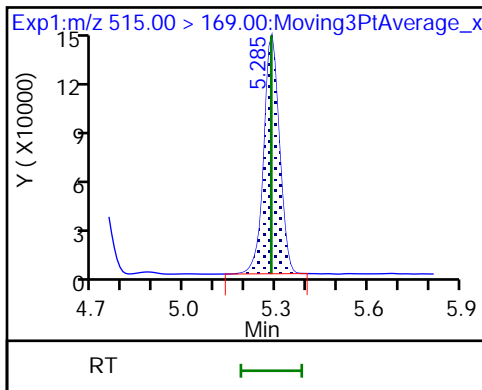




D 73 d-N-MeFOSA-M

74 NMeFOSA

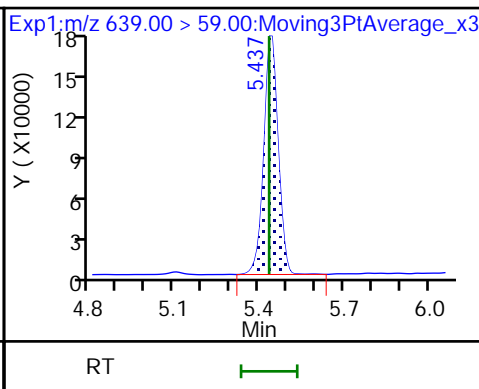
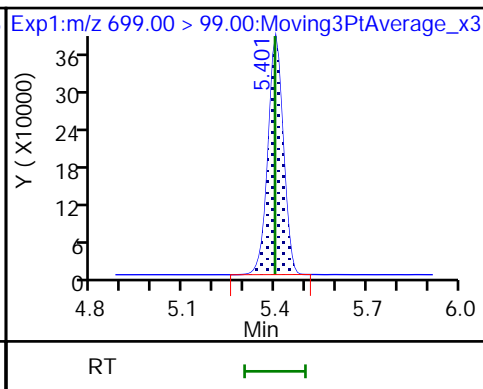
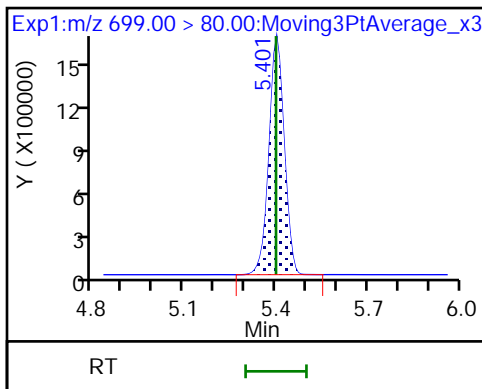
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

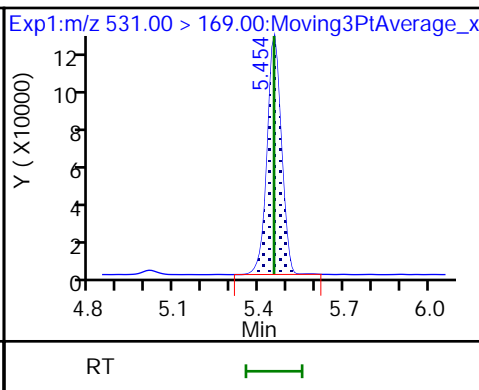
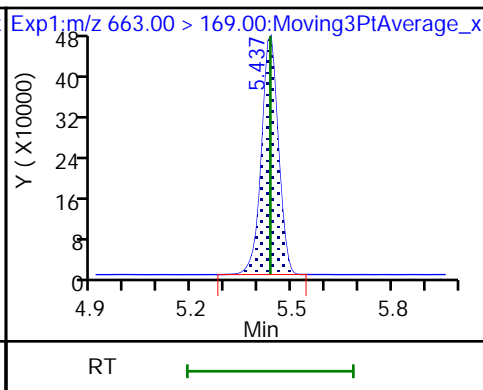
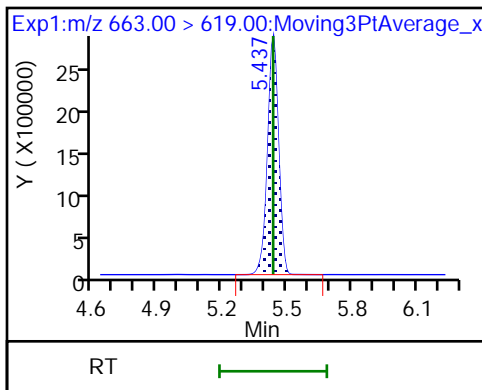
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

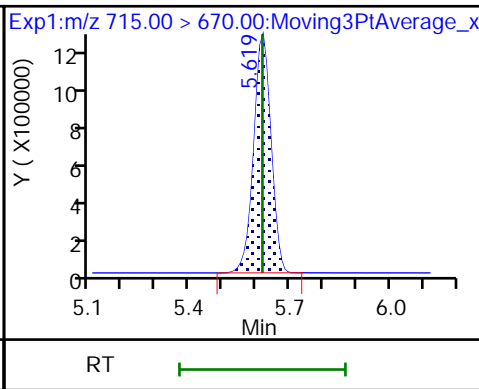
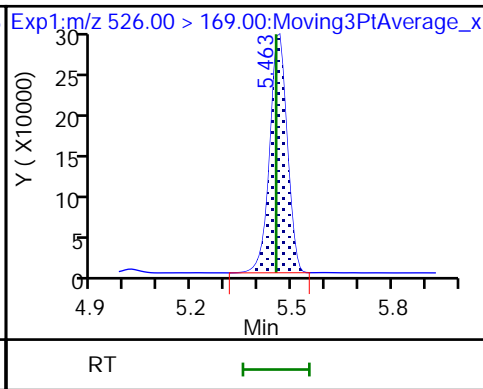
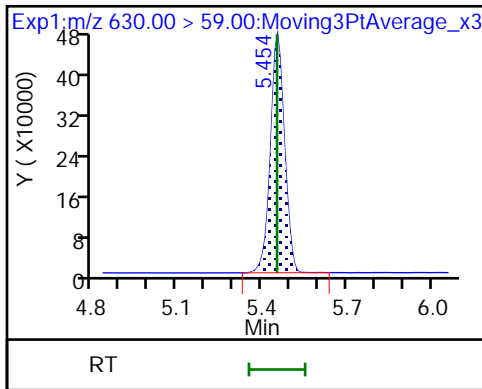
D 80 d-N-EtFOSA-M

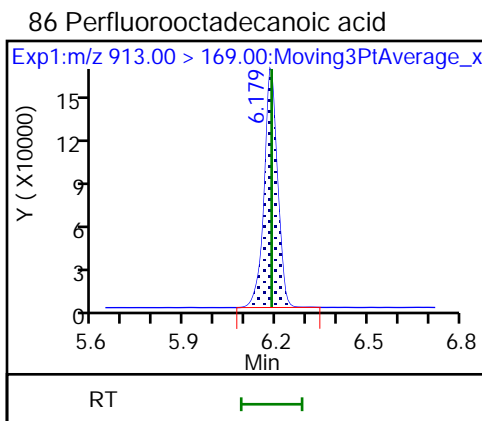
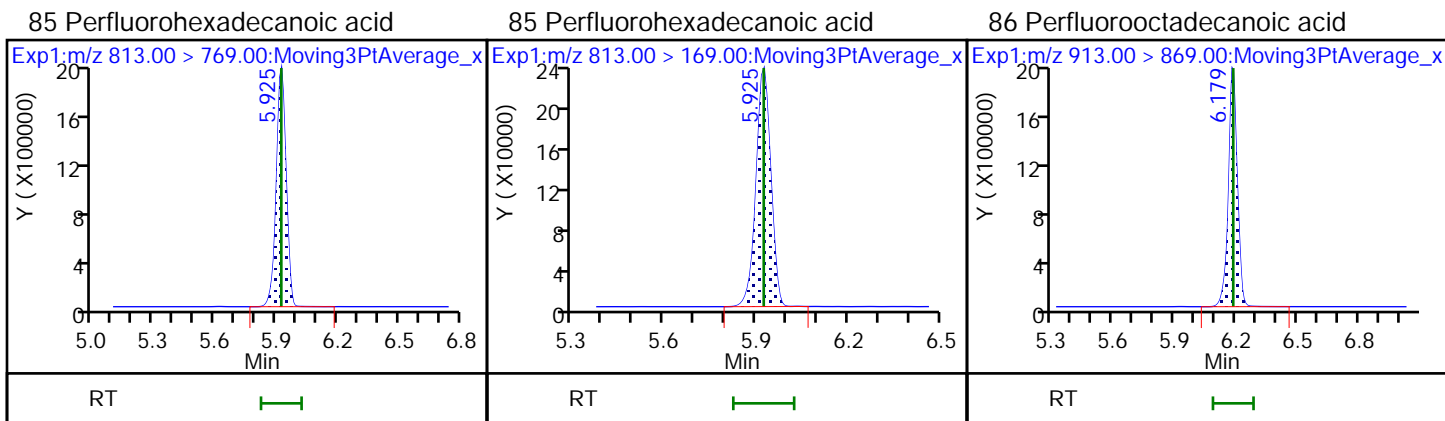
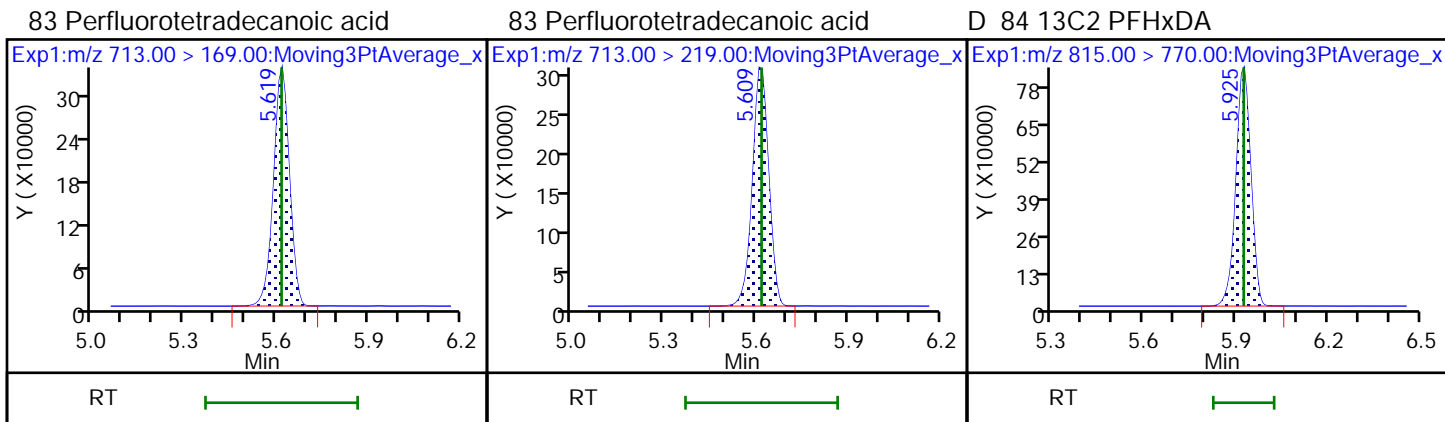


79 N-EtFOSE-M

81 N-EtFOSA-M

D 82 13C2 PFTeDA





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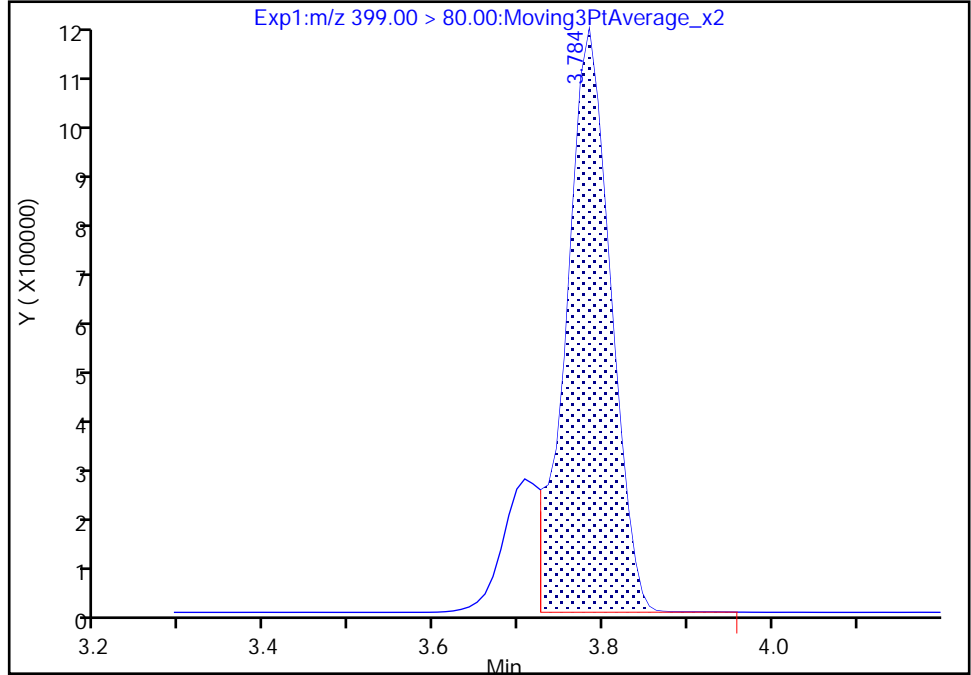
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d  
Injection Date: 19-Feb-2022 20:31:46 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

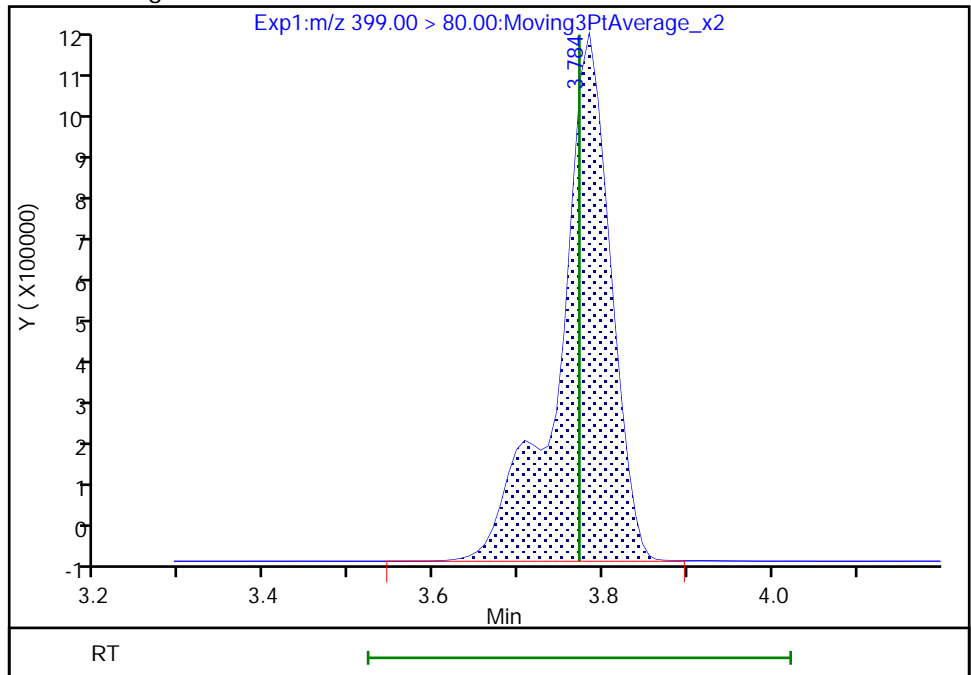
RT: 3.78  
Area: 3985568  
Amount: 1.858159  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 4716462  
Amount: 2.198918  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 15:58:19  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

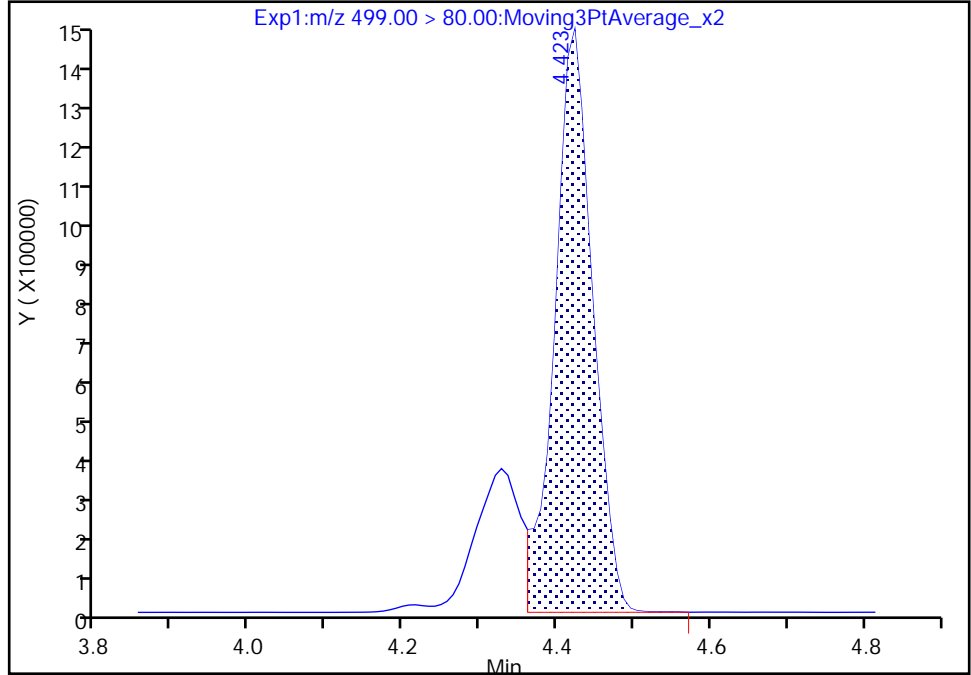
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Injection Date: 19-Feb-2022 20:31:46 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

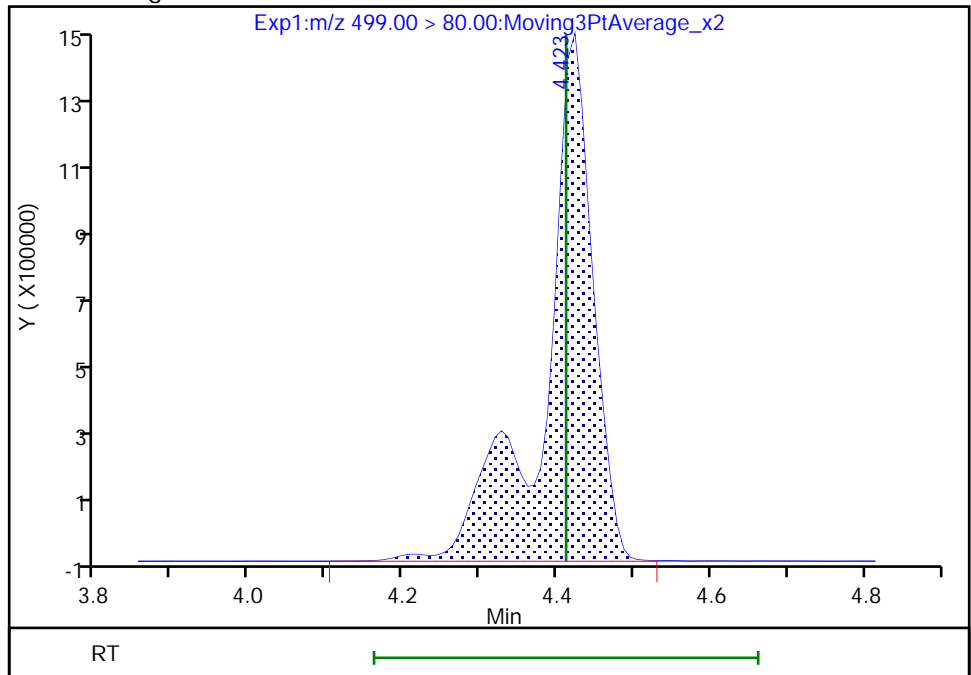
RT: 4.42  
Area: 4832624  
Amount: 1.770152  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 6272429  
Amount: 2.297541  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 15:58:36  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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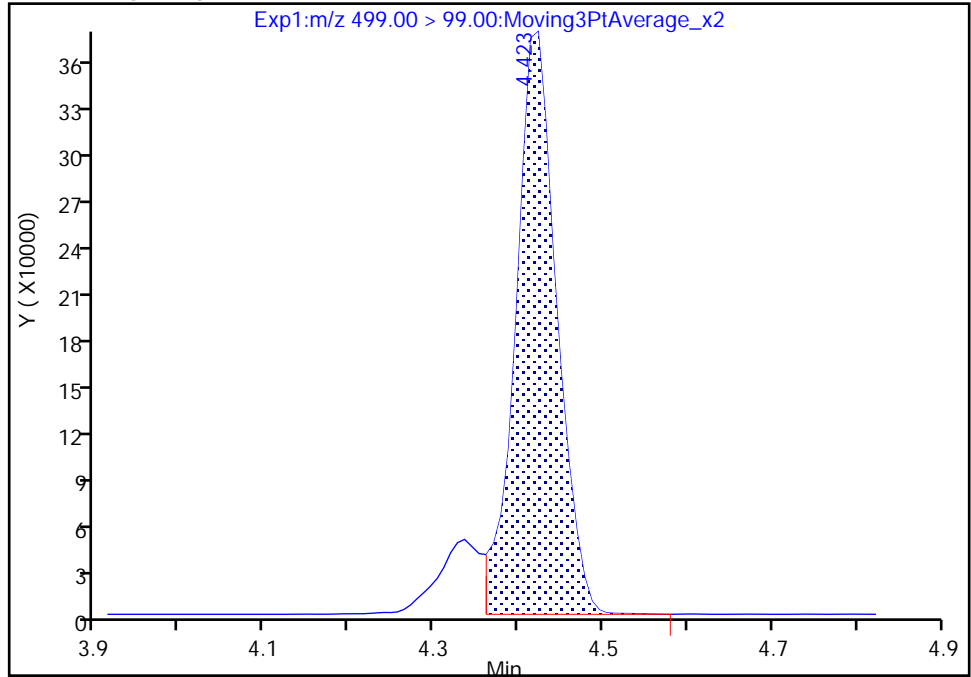
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Injection Date: 19-Feb-2022 20:31:46 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

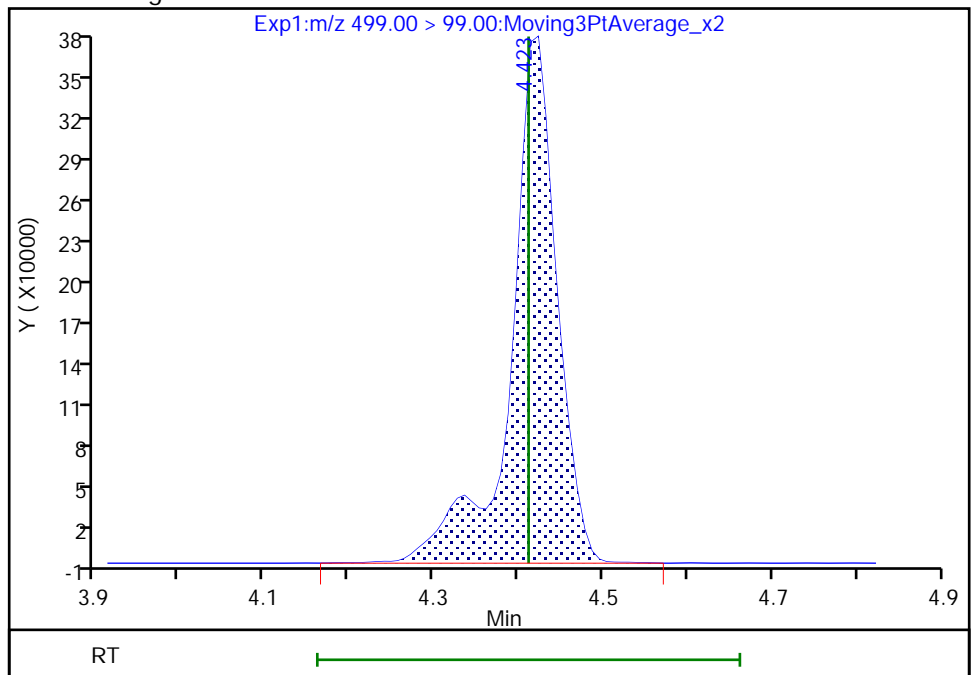
RT: 4.42  
Area: 1252164  
Amount: 1.770152  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 1423263  
Amount: 2.297541  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 15:58:42

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

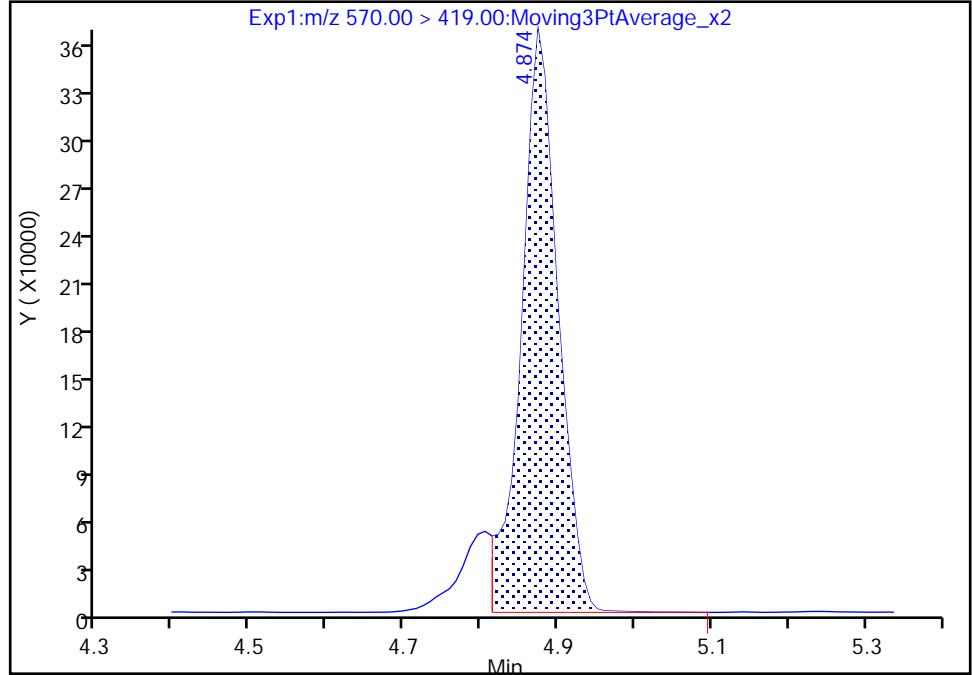
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d  
Injection Date: 19-Feb-2022 20:31:46 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

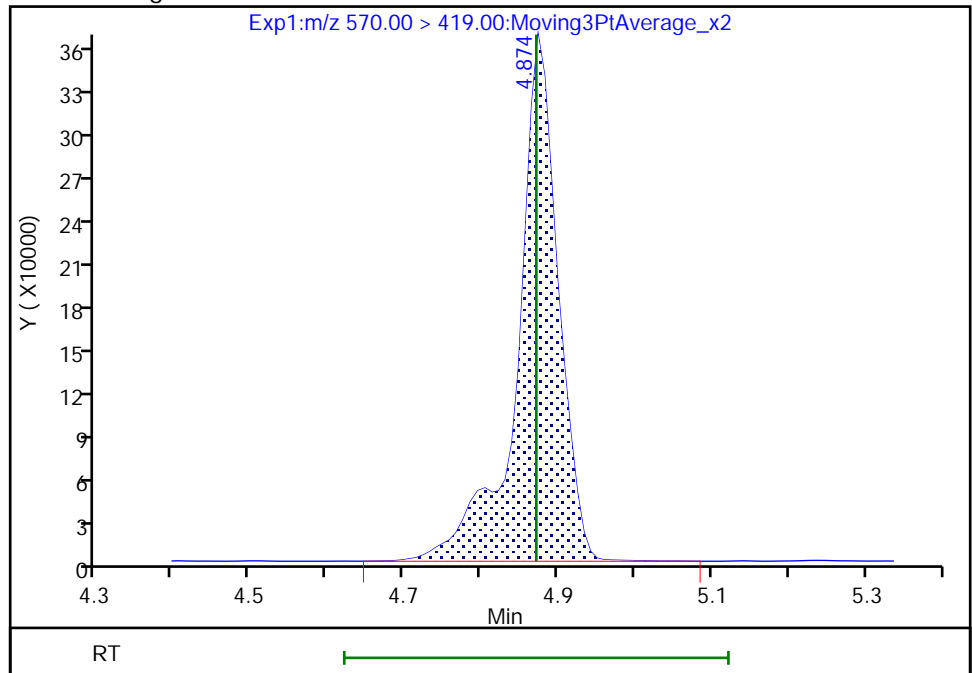
RT: 4.87  
Area: 1201850  
Amount: 2.050521  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1349103  
Amount: 2.294070  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 15:58:58  
Audit Action: Manually Integrated



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/30 Calibration Date: 02/19/2022 22:08  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_030.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7472		0.942	1.00	-5.8	40.0
PFECA F	AveID	0.7535	0.7260		0.964	1.00	-3.7	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9323		0.991	1.00	-0.9	40.0
3:3 FTCA	QuaIF		0.0530		0.974	1.00	-2.6	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.051		0.848	0.884	-4.0	40.0
PFECA A	Q2ID		1.158		0.988	1.00	-1.2	40.0
PES	Q2ID		2.320		0.872	0.890	-2.1	40.0
PFECA B	Q2ID		0.4319		1.04	1.00	4.3	40.0
4:2 FTS	L2ID		2.256		0.927	0.934	-0.8	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7486		0.941	1.00	-5.9	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	0.998		0.907	0.938	-3.3	40.0
HFPO-DA	L2ID		1.265		1.00	1.00	0.2	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.039		0.683	0.910	-25.0	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.020		1.02	1.00	1.8	40.0
DONA	AveID	2.644	2.187		0.779	0.942	-17.3	40.0
5:3 FTCA	L2ID		3.077		0.816	1.00	-18.4	40.0
6:2 FTUCA	AveID	1.046	0.9585		0.916	1.00	-8.4	40.0
6:2 FTCA	L1ID		0.6998		1.01	1.00	0.8	40.0
PFECHS	AveID	0.7426	0.7361		0.914	0.922	-0.9	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9057		0.873	0.952	-8.3	40.0
6:2 FTS	L2ID		1.673		0.867	0.948	-8.5	40.0
Perfluorooctanoic acid (PFOA)	L1ID		0.9569		0.893	1.00	-10.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	0.7655		0.620	0.928	-33.2	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7551		0.993	1.00	-0.7	40.0
7:3 FTCA	AveID	5.230	4.559		0.872	1.00	-12.8	40.0
8:2 FTUCA	AveID	0.9565	0.8356		0.874	1.00	-12.6	40.0
8:2 FTCA	AveID	1.811	1.703		0.941	1.00	-5.9	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.040		0.846	0.932	-9.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9154		0.869	0.960	-9.5	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9391		0.983	1.00	-1.7	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8739		0.971	1.00	-2.9	40.0
8:2 FTS	L2ID		1.453		0.924	0.958	-3.5	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8142		0.883	1.00	-11.7	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8818		0.954	0.964	-1.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/30 Calibration Date: 02/19/2022 22:08  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_030.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9318		0.964	1.00	-3.7	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8815		1.00	1.00	0.2	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.658		0.896	0.942	-4.9	50.0
10:2 FTUCA	AveID	1.208	1.203		0.996	1.00	-0.4	40.0
10:2 FTCA	Q2ID		1.078		1.17	1.00	17.2	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9730		0.942	1.00	-5.8	40.0
10:2 FTS	L2ID		2.111		0.970	0.964	0.6	50.0
NMeFOSA	L2ID		1.068		0.989	1.00	-1.1	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.145		0.976	1.00	-2.4	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9124		0.934	0.968	-3.5	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8660		0.981	1.00	-1.9	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.235		0.870	1.00	-13.0	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.263		1.01	1.00	1.2	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1233		0.955	1.00	-4.5	40.0
Perfluorohexadecanoic acid	L1ID		1.121		0.984	1.00	-1.6	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9557		0.944	1.00	-5.6	40.0
13C4 PFBA	Ave	1.172	1.135		1.21	1.25	-3.1	50.0
13C5 PFPeA	Ave	0.9197	0.8274		1.12	1.25	-10.0	50.0
13C3 PFBS	Ave	0.5817	0.5555		1.11	1.16	-4.5	50.0
M2-4:2 FTS	Ave	0.1821	0.1724		1.11	1.17	-5.3	50.0
13C2 PFHxA	Ave	1.015	0.8952		1.10	1.25	-11.8	50.0
13C3 HFPO-DA	Ave	0.4963	0.4309		1.09	1.25	-13.2	50.0
18O2 PFHxS	Ave	0.3776	0.3924		1.23	1.18	3.9	50.0
13C4 PFHpA	Ave	0.9046	0.8154		1.13	1.25	-9.9	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3562		1.32	1.25	5.6	50.0
13C-6:2 FTCA	Ave	0.0260	0.0277		1.33	1.25	6.6	50.0
13C4 PFOA	Ave	0.9356	0.9036		1.21	1.25	-3.4	50.0
M2-6:2 FTS	Ave	0.1799	0.1859		1.23	1.19	3.3	50.0
13C4 PFOS	Ave	0.5610	0.5825		1.24	1.20	3.8	50.0
13C5 PFNA	Ave	1.268	1.172		1.16	1.25	-7.6	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5433		1.50	1.25	20.2	50.0
13C-8:2 FTCA	Ave	0.0330	0.0367		1.39	1.25	11.2	50.0
13C8 FOSA	Ave	0.8475	0.8578		1.27	1.25	1.2	50.0
13C2 PFDA	Ave	1.210	1.167		1.21	1.25	-3.6	50.0
M2-8:2 FTS	Ave	0.1961	0.1925		1.18	1.20	-1.8	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/30 Calibration Date: 02/19/2022 22:08  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_030.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1425		1.57	1.25	25.6	50.0
13C2 PFUnA	Ave	1.168	1.094		1.17	1.25	-6.3	50.0
d5-NEtFOSAA	Ave	0.1164	0.1437		1.54	1.25	23.5	50.0
13C-10:2 FTUCA	Ave	0.5078	0.4732		1.17	1.25	-6.8	50.0
13C-10:2 FTCA	Ave	0.0309	0.0256		1.03	1.25	-17.3	50.0
13C2 PFDoA	Ave	1.152	1.069		1.16	1.25	-7.2	50.0
13C2 10:2 FTS	Ave	0.1652	0.1653		1.19	1.18	0.0	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1083		1.14	1.25	-8.7	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0953		1.18	1.25	-5.5	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1111		1.13	1.25	-9.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0763		1.18	1.25	-5.8	50.0
13C2 PFTeDA	Ave	0.9216	0.8501		1.15	1.25	-7.8	50.0
13C2 PFHxDA	Ave	0.5997	0.5296		1.10	1.25	-11.7	50.0
13C8 PFOA	AveID	0.9229	0.9409		1.27	1.25	1.9	50.0
13C8 PFOS	AveID	0.2212	0.2103		1.14	1.20	-4.9	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_030.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 19-Feb-2022 22:08:41 ALS Bottle#: 30 Worklist Smp#: 30  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-030 rb 06  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 10:08:59

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.799	2.804	-0.005	1.000	3774368	0.9421		94.2	1157	
D 2 13C4 PFBA										
217.00 > 172.00	2.799	2.804	-0.005	0.680	6313848	1.21		96.9	21626	
3 PFECA F										
229.00 > 85.00	2.905	2.911	-0.006	0.934	2672742	0.9635		96.3	15112	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.109	3.115	-0.005	1.000	3432236	0.99		99.1	1340	
D 5 13C5 PFPeA										
267.90 > 223.00	3.109	3.115	-0.005	0.755	4601861	1.12		90.0	14083	
4 3:3 FTCA										
241.00 > 177.10	3.125	3.122	0.003	1.000	131023	0.9737	Target=1.13	97.4	1374	
241.00 > 116.90	3.117	3.122	-0.005	0.997	113619		1.15(0.56-1.69)		174	
D 7 13C3 PFBS										
301.90 > 80.00	3.125	3.122	0.003	0.759	2873541	1.11		95.5	10337	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.125	3.131	-0.006	1.000	2297253	0.8482	Target=2.61	96.0	3116	
298.90 > 99.00	3.125	3.131	-0.006	1.000	846758		2.71(1.31-3.92)		2426	
9 PFECA A										
278.95 > 84.90	3.205	3.202	0.002	1.031	4262375	0.9876		98.8	17124	
11 PES										
314.80 > 135.00	3.252	3.260	-0.008	1.041	5103747	0.8715		97.9	20368	
12 PFECA B										
295.22 > 201.00	3.377	3.373	0.003	0.981	1720287	1.04		104	7851	
13 4:2 FTS										
327.00 > 307.00	3.408	3.415	-0.007	1.000	1616888	0.9268		99.2	8176	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.408	3.415	-0.007	0.828	895854	1.11		94.7	1621	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.440	3.437	0.003	1.101	2314993	0.9072	Target=3.55	96.7	7056	
349.00 > 99.00	3.440	3.437	0.003	1.101	661015		3.50(1.78-5.33)		5458	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.440	3.437	0.003	1.000	2981764	0.9406	Target=11.60	94.1	1357	
313.00 > 119.00	3.440	3.437	0.003	1.000	255206		11.68(5.80-17.40)		297	
D 14 13C2 PFHxA										
315.00 > 270.00	3.440	3.437	0.003	0.836	4979127	1.10		88.2	11854	
17 HFPO-DA										
285.00 > 169.00	3.535	3.542	-0.007	1.000	2426064	1.00	Target=2.45	100	616	
329.00 > 169.00	3.535	3.542	-0.007	1.000	941582		2.58(1.23-3.68)		536	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.535	3.542	-0.007	0.859	2396760	1.09		86.8	8669	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.766	3.772	-0.006	0.997	1651262	0.6827	Target=3.44	75.0	81.5	
399.00 > 99.00	3.766	3.772	-0.006	0.997	587972		2.81(1.72-5.17)		1863	
D 20 18O2 PFHxS										
403.00 > 84.00	3.776	3.772	0.004	0.917	2064871	1.23		104	6049	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.786	3.792	-0.006	1.000	3701652	1.02	Target=3.25	102	2339	
363.00 > 169.00	3.786	3.792	-0.006	1.000	1165096		3.18(1.62-4.87)		1756	
D 22 13C4 PFHpA										
367.00 > 322.00	3.786	3.792	-0.006	0.920	4535218	1.13		90.1	10640	
25 DONA										
377.00 > 251.00	3.816	3.820	-0.004	0.866	5338970	0.7792	Target=1.74	82.7	10725	
377.00 > 85.00	3.816	3.820	-0.004	0.866	3252113		1.64(0.87-2.61)		143	
26 5:3 FTCA										
340.88 > 236.90	3.849	3.853	-0.004	0.987	379871	0.8156	Target=1.11	81.6	1614	
340.88 > 216.90	3.849	3.853	-0.004	0.987	347400		1.09(0.56-1.67)		755	
27 6:2 FTUCA										
356.86 > 292.90	3.874	3.886	-0.012	0.998	1519431	0.9160	Target=13.05	91.6	4873	
356.86 > 243.00	3.882	3.886	-0.004	1.000	106772		14.23(6.52-19.57)		546	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.882	3.886	-0.004	0.943	1981432	1.32		106	5862	
29 6:2 FTCA										
377.10 > 63.00	3.899	3.903	-0.004	1.000	86406	1.01	Target=1.29	101	342	
377.10 > 313.10	3.899	3.903	-0.004	1.000	58712		1.47(0.65-1.94)		118	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.899	3.903	-0.004	0.947	154334	1.33		107	786	
32 PFECHS										
460.80 > 380.90	4.050	4.054	-0.004	0.984	2728823	0.9139	Target=1.75	99.1	5971	
460.80 > 98.90	4.050	4.054	-0.004	0.984	1553362		1.76(0.87-2.62)		4323	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.097	4.111	-0.014	0.929	2234652	0.8730	Target=3.72	91.7	5266	
449.00 > 99.00	4.097	4.111	-0.014	0.929	565613		3.95(1.86-5.57)		2040	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.116	4.121	-0.005	1.000	1312680	0.8671		91.5	3767	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.116	4.121	-0.005	1.000	3847241	0.8934	Target=2.51	89.3	2529	
413.00 > 169.00	4.116	4.121	-0.005	1.000	1631101		2.36(1.26-3.77)		3172	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.116	4.121	-0.005	1.000	4728657	1.27		102	7213	
* 30 13C2 PFOA										
415.00 > 370.00	4.116	4.121	-0.005		5562146	1.25			12956	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.116	4.121	-0.005	1.000	982565	1.23		103	2515	
D 31 13C4 PFOA										
417.00 > 372.00	4.116	4.121	-0.005	1.000	5025751	1.21		96.6	15048	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.408	4.412	-0.004	1.000	651438	1.14		95.1	1779	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.408	4.412	-0.004	1.000	1841168	0.6203	Target=4.30	66.8	41.4	
499.00 > 99.00	4.408	4.412	-0.004	1.000	523751		3.52(2.15-6.45)		68.2	
D 39 13C4 PFOS										
503.00 > 80.00	4.408	4.412	-0.004	1.071	3097224	1.24		104	4486	
42 Perfluorononanoic acid										
463.00 > 419.00	4.426	4.438	-0.012	0.998	3937716	0.99	Target=3.60	99.3	4689	
463.00 > 169.00	4.426	4.438	-0.012	0.998	1000561		3.94(1.80-5.40)		2718	
D 41 13C5 PFNA										
468.00 > 423.00	4.435	4.438	-0.003	1.077	6518350	1.15		92.4	10956	
43 7:3 FTCA										
441.00 > 337.00	4.515	4.519	-0.004	0.993	745422	0.8718	Target=1.42	87.2	1683	
441.00 > 317.00	4.515	4.519	-0.004	0.993	589614		1.26(0.71-2.13)		1379	
44 8:2 FTUCA										
456.86 > 392.90	4.532	4.545	-0.013	0.998	2019967	0.8736	Target=35.37	87.4	4031	
456.86 > 343.00	4.541	4.545	-0.004	1.000	56683		35.64(17.68-53.05)		173	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.541	4.545	-0.004	1.000	3021704	1.50		120	6633	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.549	4.553	-0.004	1.105	204363	1.39		111	698	
46 8:2 FTCA										
477.00 > 393.10	4.549	4.561	-0.012	1.000	278482	0.9406	Target=3.35	94.1	1418	
477.00 > 63.20	4.549	4.561	-0.012	1.000	86724		3.21(1.68-5.03)		442	
49 9CIFOS										
531.00 > 351.00	4.565	4.578	-0.013	1.109	4927218	0.8456		90.7	8854	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.693	4.697	-0.004	1.065	2277573	0.8688	Target=3.99	90.5	4339	
549.00 > 99.00	4.684	4.697	-0.013	1.063	587825		3.87(2.00-5.99)		2013	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.702	4.705	-0.003	1.000	3584801	0.9834		98.3	5579	
D 55 13C8 FOSA										
506.00 > 78.00	4.702	4.705	-0.003	1.142	4771343	1.27		101	4715	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.719	4.722	-0.003	1.000	4536605	0.9713	Target=10.58	97.1	3845	
513.00 > 169.00	4.719	4.722	-0.003	1.000	404227		11.22(5.29-15.88)		302	
D 52 13C2 PFDA										
515.00 > 470.00	4.719	4.722	-0.003	1.146	6489378	1.21		96.4	12077	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.727	4.731	-0.004	1.149	1025915	1.18		98.2	1952	
53 8:2 FTS										
527.00 > 507.00	4.727	4.739	-0.012	1.000	1192279	0.9241		96.5	3914	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.859	4.872	-0.013	1.180	792475	1.57		126	574	
57 NMeFOSAA										
570.00 > 419.00	4.867	4.872	-0.005	1.002	516168	0.8825		88.3	123	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.953	4.957	-0.004	1.124	2203114	0.9543	Target=3.55	99.0	6047	
599.00 > 99.00	4.953	4.957	-0.004	1.124	574884		3.83(1.78-5.33)		2517	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.980	4.985	-0.005	1.000	4537507	0.9635	Target=8.26	96.3	4884	
563.00 > 169.00	4.980	4.985	-0.005	1.000	537126		8.45(4.13-12.39)		2143	
D 59 13C2 PFUnA										
565.00 > 520.00	4.980	4.985	-0.005	1.210	6087135	1.17		93.7	10459	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.999	5.005	-0.006	1.215	799475	1.54		123	3213	
62 NEtFOSAA										
584.00 > 419.00	4.999	5.005	-0.006	1.000	563776	1.00		100	192	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.087	5.092	-0.005	1.236	2631812	1.16		93.2	6198	
63 11C1FOS										
631.00 > 451.00	5.077	5.092	-0.015	1.152	4047339	0.8963		95.1	7367	
65 10:2 FTUCA										
556.86 > 492.90	5.087	5.092	-0.005	1.000	2533674	1.00		99.6	5806	
66 10:2 FTCA										
576.80 > 493.00	5.097	5.102	-0.005	0.998	122675	1.17	Target=2.53	117	586	
576.80 > 63.10	5.097	5.102	-0.005	0.998	49051		2.50(1.26-3.79)		164	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.106	5.111	-0.005	1.241	142309	1.03		82.7	730	
D 69 13C2 PFDoA										
615.00 > 570.00	5.213	5.226	-0.013	1.267	5948058	1.16		92.8	11781	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.213	5.226	-0.013	1.000	4629745	0.9418	Target=6.85	94.2	4319	
613.00 > 169.00	5.213	5.226	-0.013	1.000	659469		7.02(3.43-10.28)		1375	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.230	5.243	-0.013	1.271	870646	1.18		100	4394	
71 10:2 FTS										
627.00 > 607.00	5.238	5.251	-0.013	1.002	1496311	0.9696		101	5418	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.270	5.275	-0.005	1.280	602372	1.14		91.3	566	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.270	5.283	-0.013	1.280	530197	1.18		94.5	40.6	
74 NMeFOSA										
512.00 > 169.00	5.278	5.283	-0.005	1.002	452907	0.9889		98.9	621	
75 N-MeFOSE-M										
616.00 > 59.00	5.287	5.292	-0.005	1.003	552000	0.9761		97.6	887	
76 PFDoS										
699.00 > 80.00	5.394	5.399	-0.005	1.224	2289223	0.9343	Target=4.22	96.5	4964	
699.00 > 99.00	5.394	5.399	-0.005	1.224	504125		4.54(2.11-6.34)		2388	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.430	5.435	-0.005	1.319	617998	1.13		90.3	274	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.421	5.435	-0.014	1.040	4120650	0.9806	Target=6.32	98.1	4400	
663.00 > 169.00	5.421	5.435	-0.014	1.040	691459		5.96(3.16-9.48)		2469	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.439	5.452	-0.013	1.321	424175	1.18		94.2	580	
79 N-EtFOSE-M										
630.00 > 59.00	5.439	5.452	-0.013	1.002	610464	0.8702		87.0	604	
81 N-EtFOSA-M										
526.00 > 169.00	5.448	5.452	-0.004	1.002	428697	1.01		101	517	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.603	5.617	-0.014	1.361	4728110	1.15		92.2	11666	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.603	5.617	-0.014	1.000	466335	0.9549	Target=1.01	95.5	1434	
713.00 > 219.00	5.603	5.617	-0.014	1.000	452132		1.03(0.51-1.52)		2125	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.913	5.924	-0.012	1.436	2945506	1.10		88.3	5364	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.913	5.924	-0.012	1.000	2641651	0.9844	Target=8.64	98.4	3057	
813.00 > 169.00	5.913	5.924	-0.012	1.000	319907		8.26(4.32-12.97)		1256	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.176	6.184	-0.008	1.045	2252046	0.9435	Target=11.77	94.4	3098	
913.00 > 169.00	6.176	6.184	-0.008	1.045	194234		11.59(5.88-17.65)		785	

**QC Flag Legend**

Processing Flags

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL



Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220219-22723.b\_030.d

Injection Date: 19-Feb-2022 22:08:41

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 30

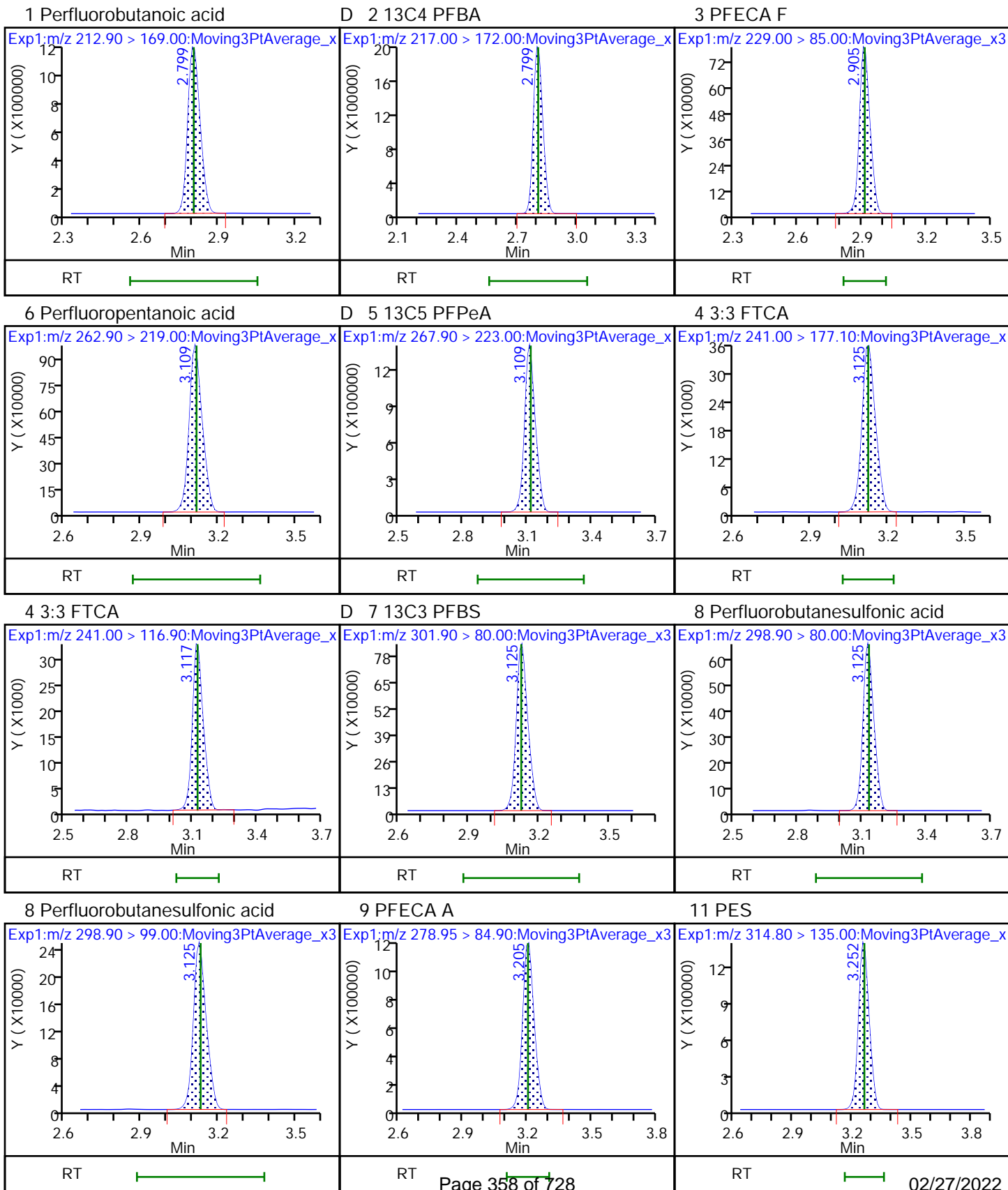
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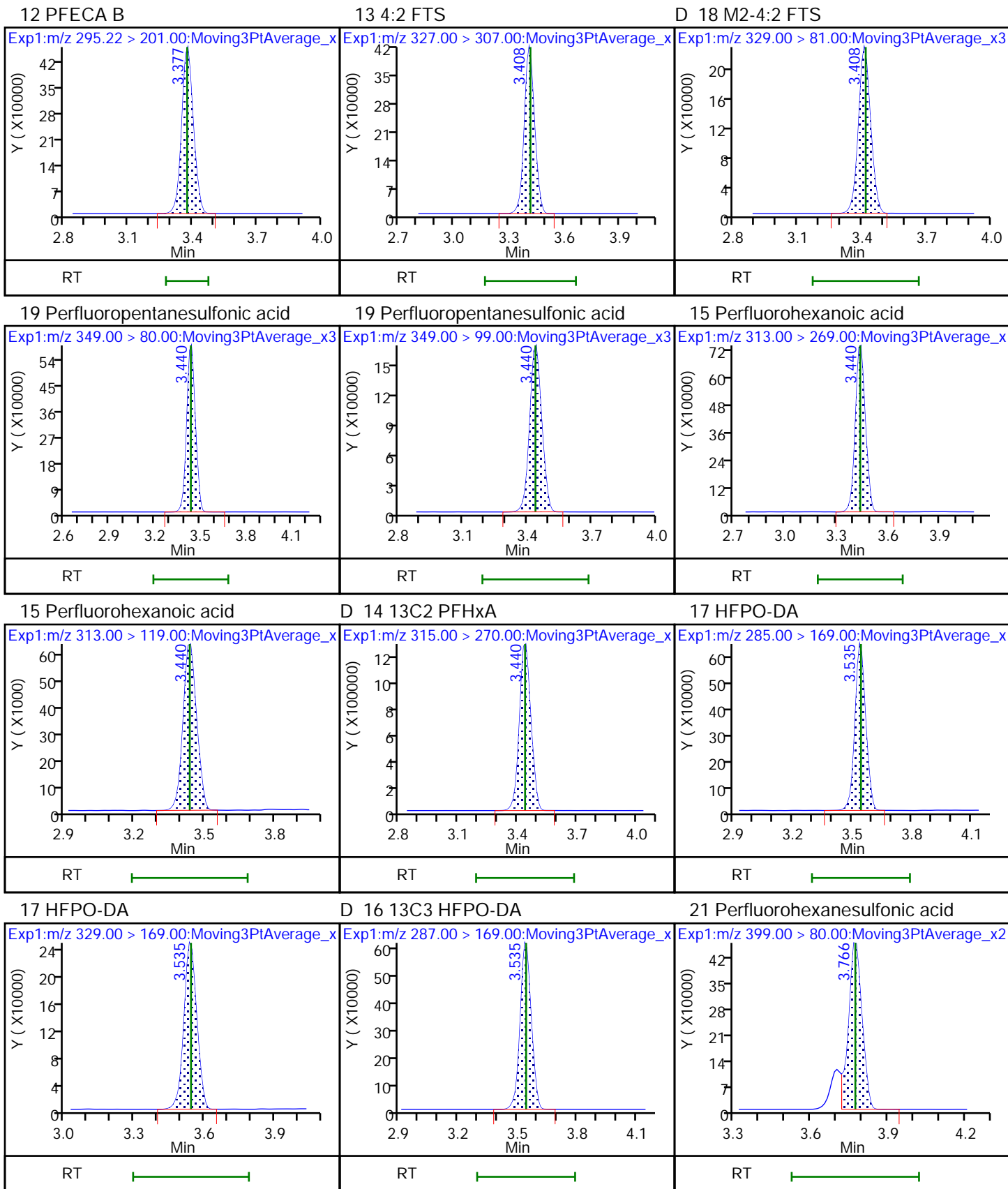
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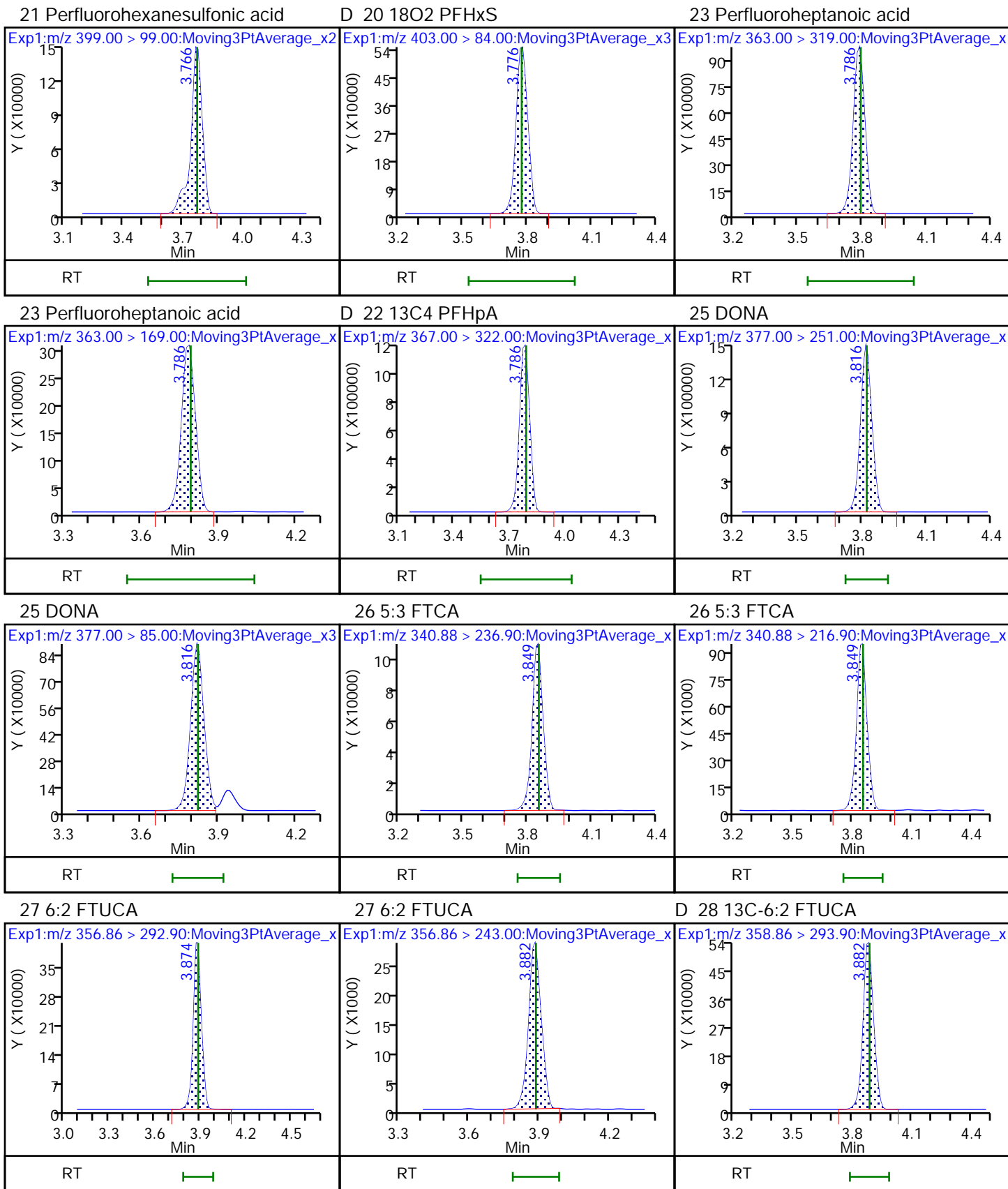
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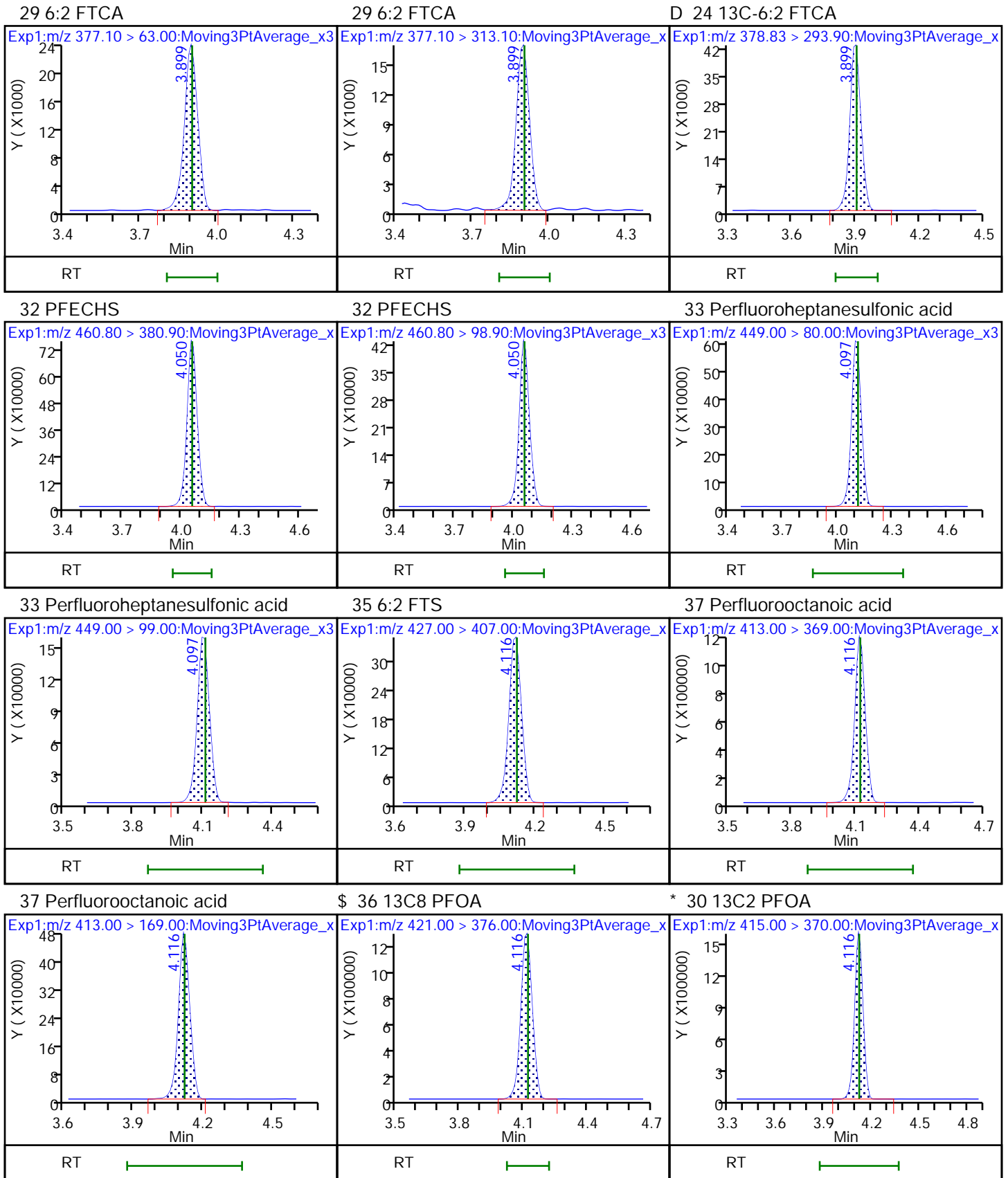
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Limit Group: LC - PFC- ICAL





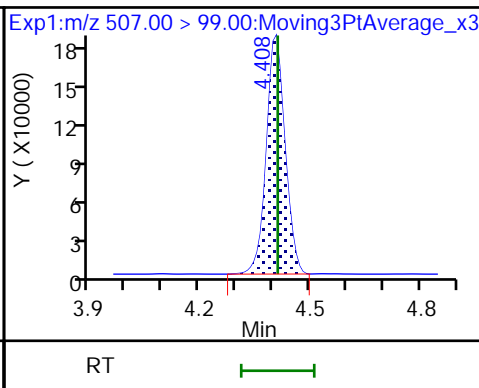
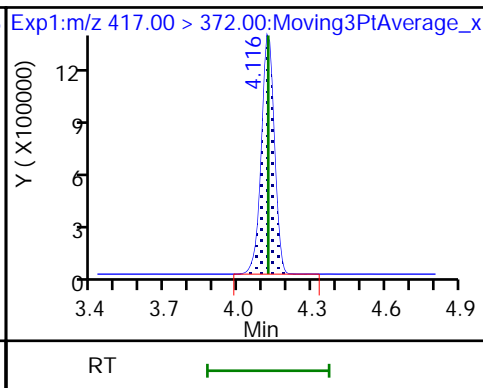
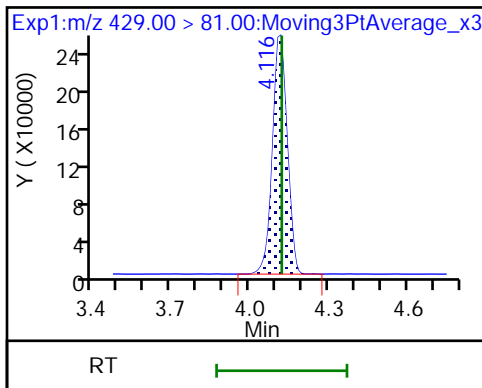




D 34 M2-6:2 FTS

D 31 13C4 PFOA

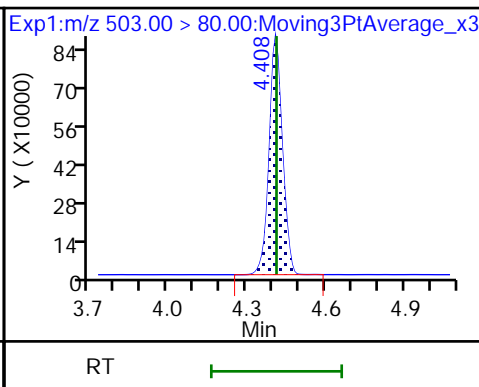
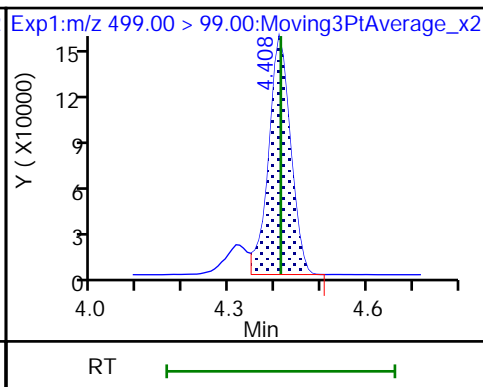
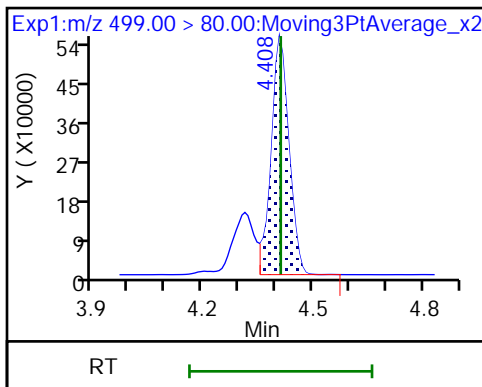
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid

40 Perfluorooctanesulfonic acid

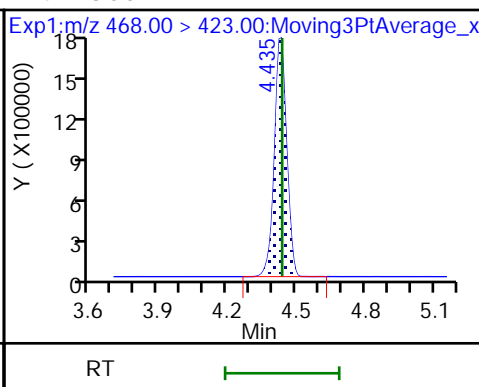
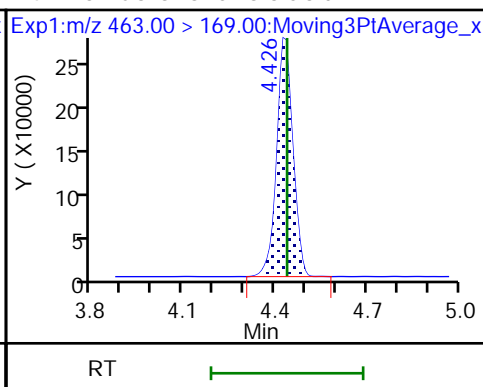
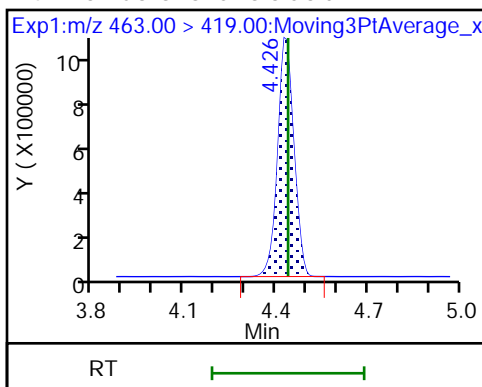
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

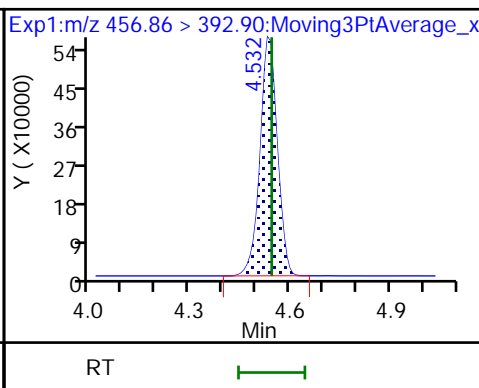
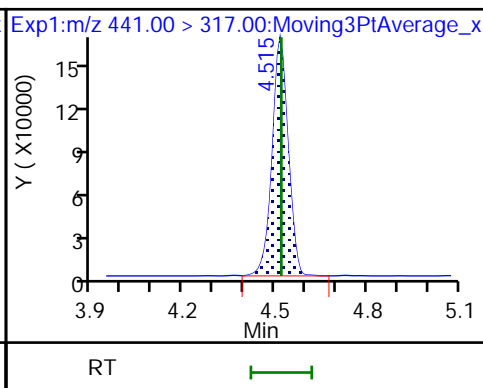
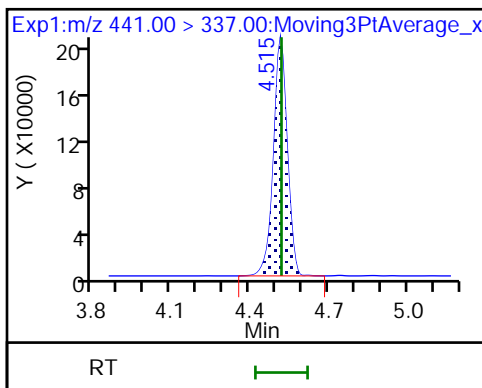
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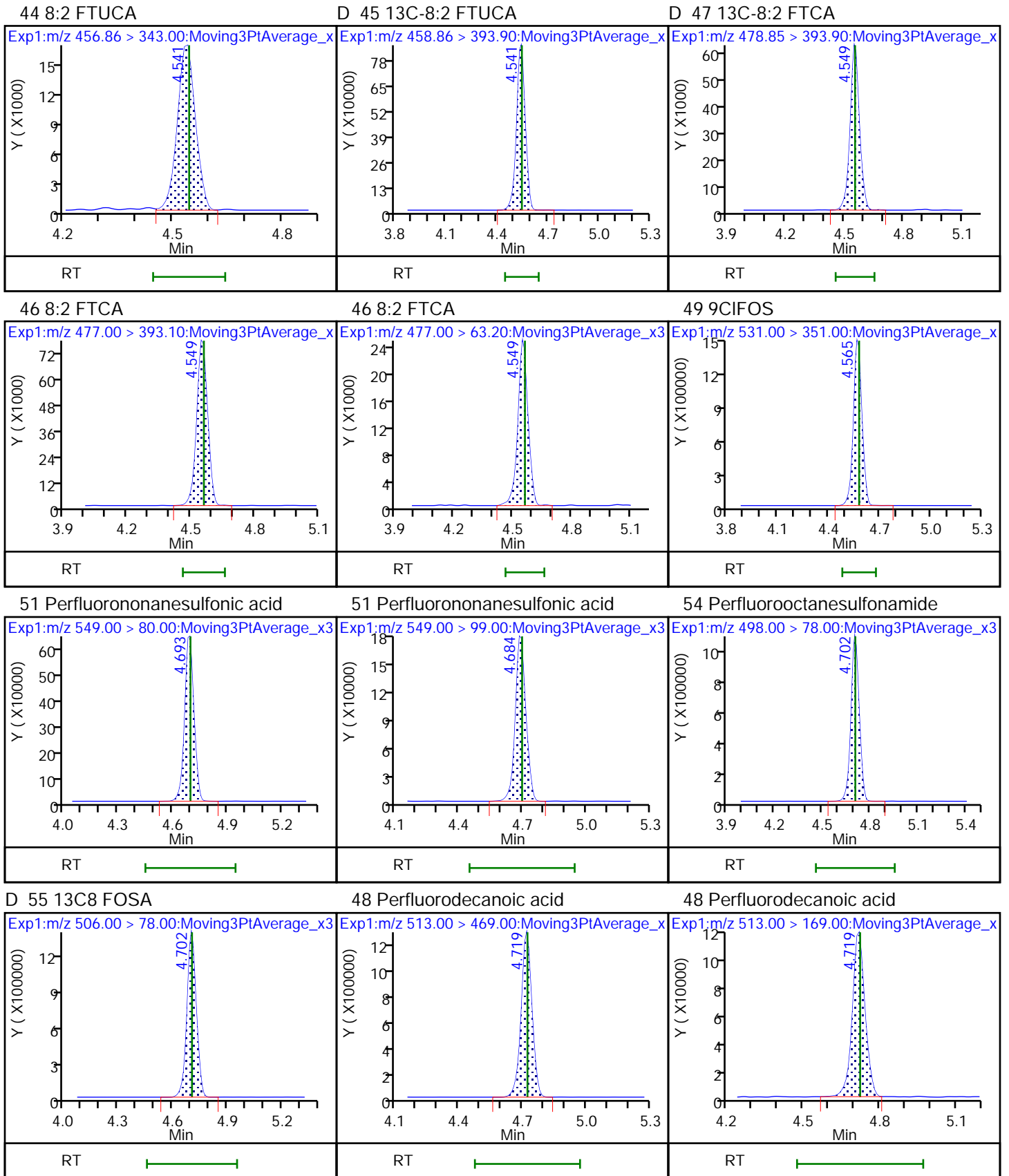


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA

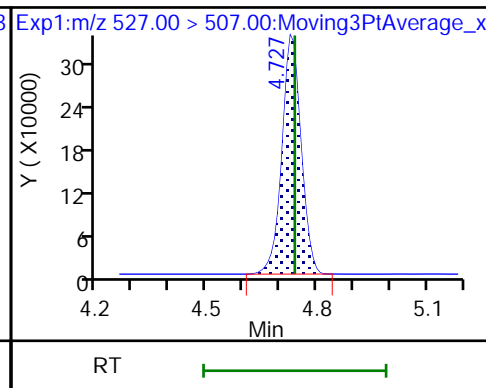
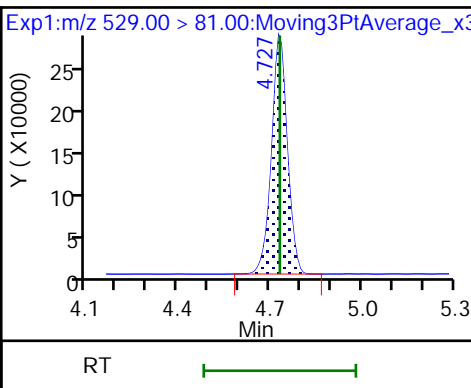
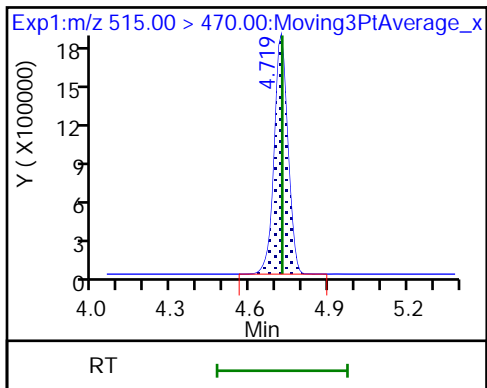




D 52 13C2 PFDA

D 50 M2-8:2 FTS

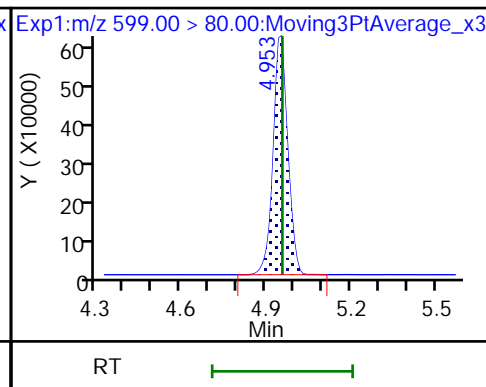
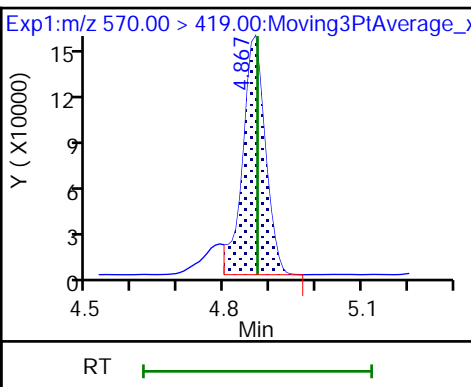
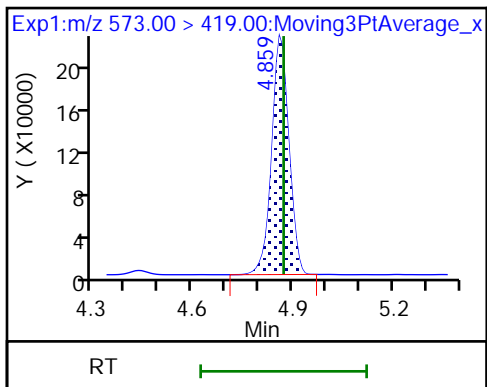
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA

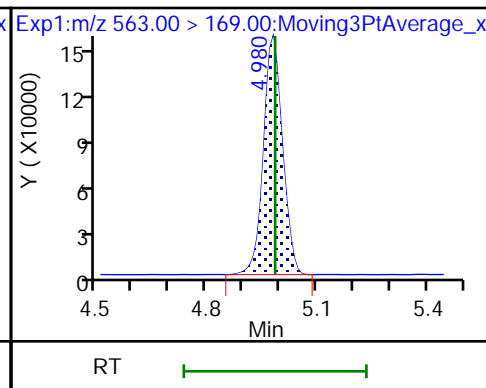
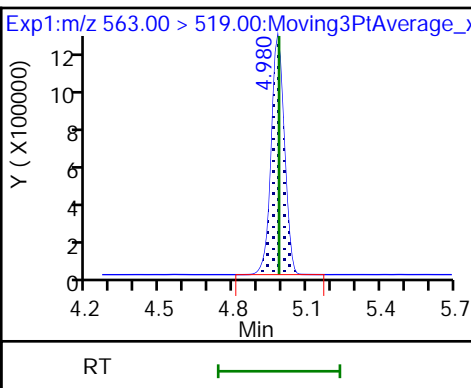
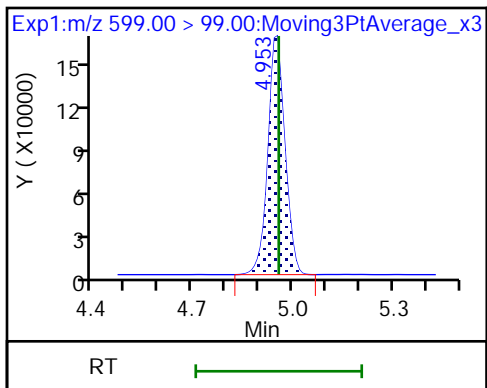
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

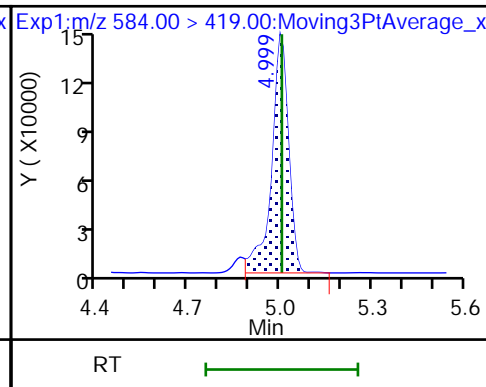
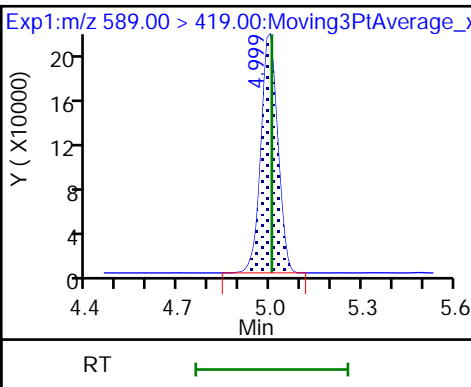
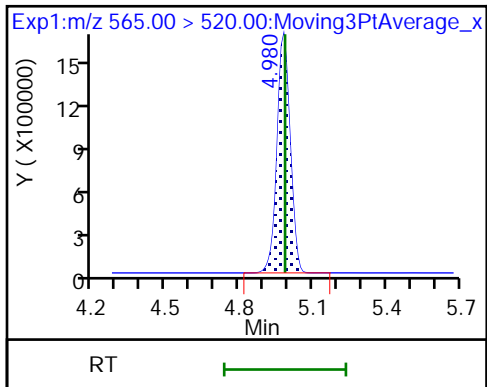
60 Perfluoroundecanoic acid



D 59 13C2 PUnA

D 61 d5-NEtFOSAA

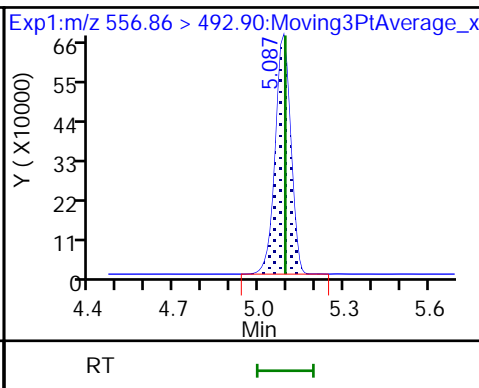
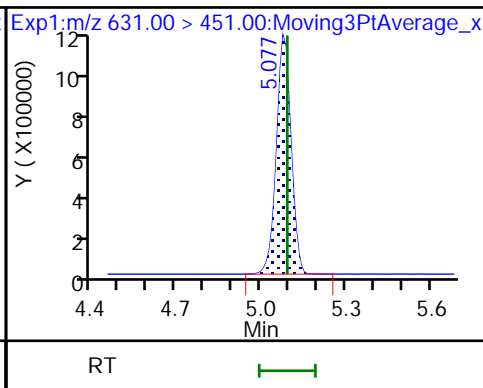
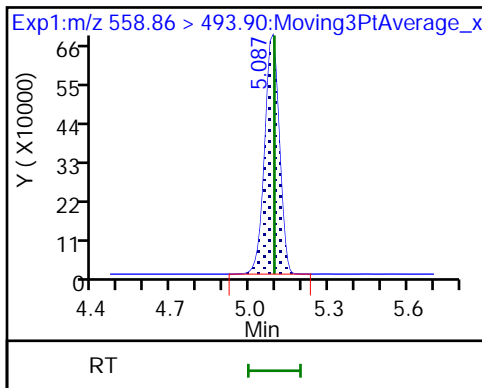
62 NEtFOSAA



D 67 13C-10:2 FTUCA

63 11CIFOS

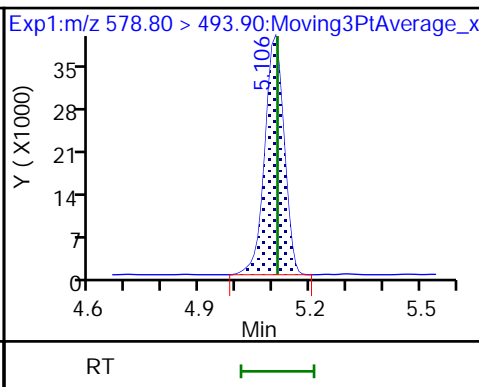
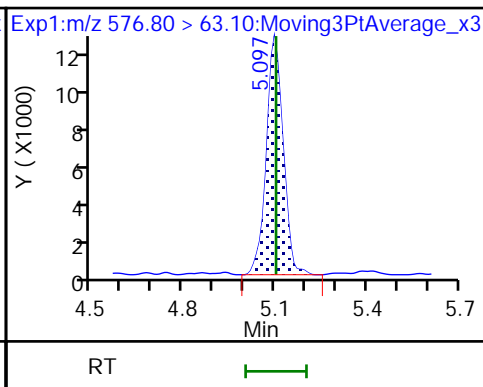
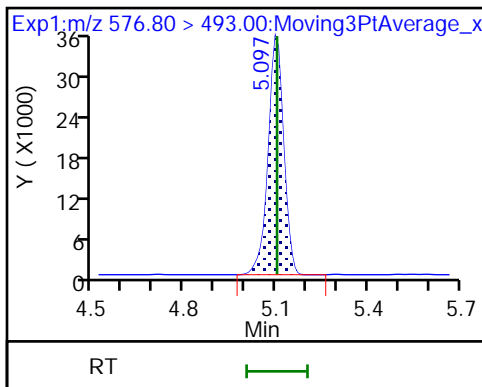
65 10:2 FTUCA



66 10:2 FTCA

66 10:2 FTCA

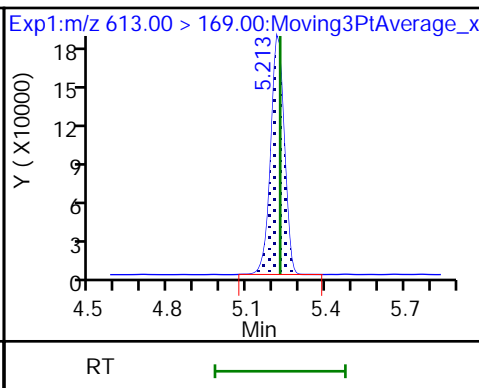
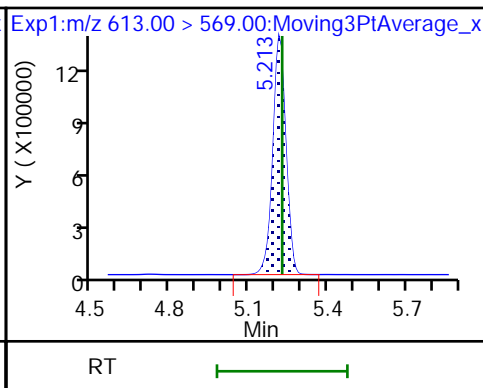
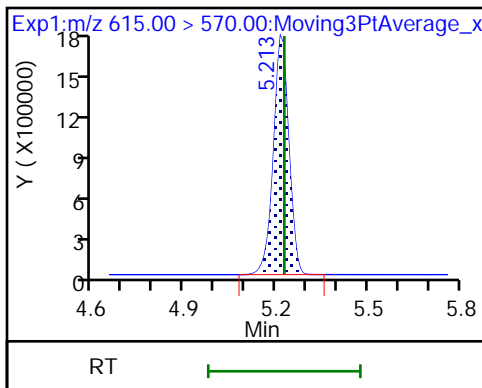
D 64 13C-10:2 FTCA



D 69 13C2 PFDaA

68 Perfluorododecanoic acid

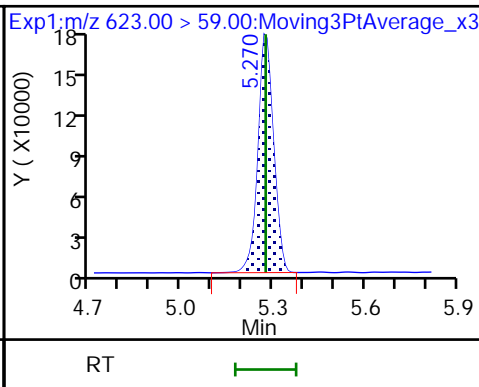
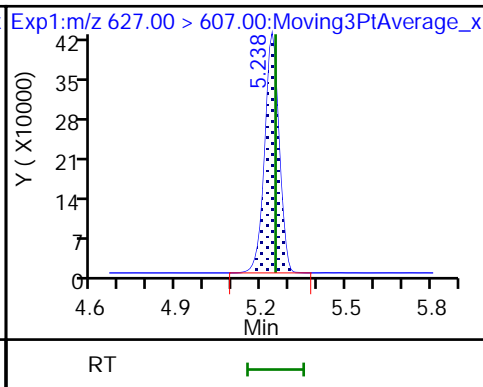
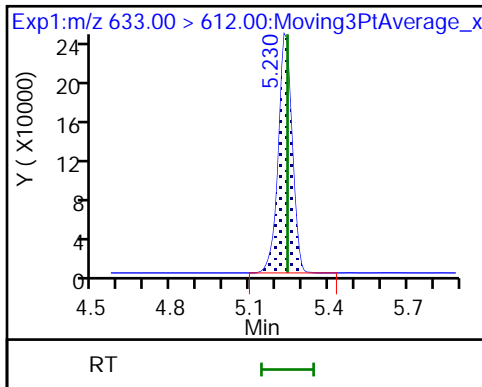
68 Perfluorododecanoic acid



D 70 13C2 10:2 FTS

71 10:2 FTS

D 72 d7-N-MeFOSE-M

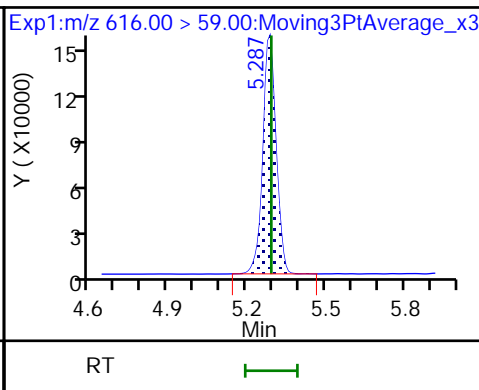
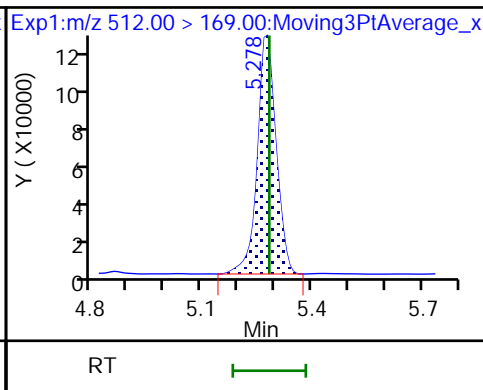
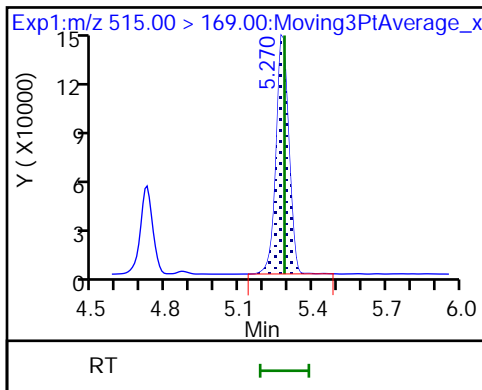




D 73 d-N-MeFOSA-M

74 NMeFOSA

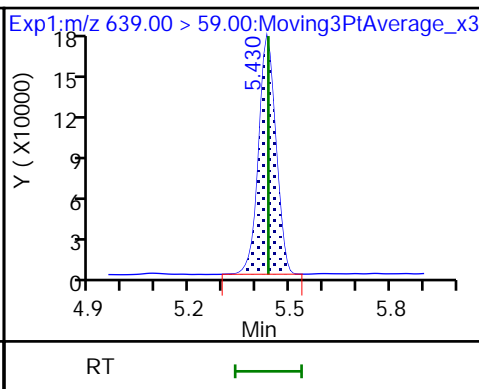
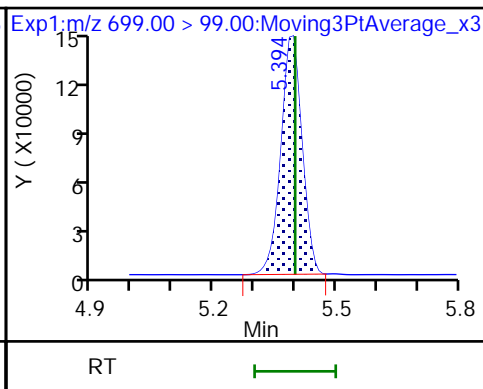
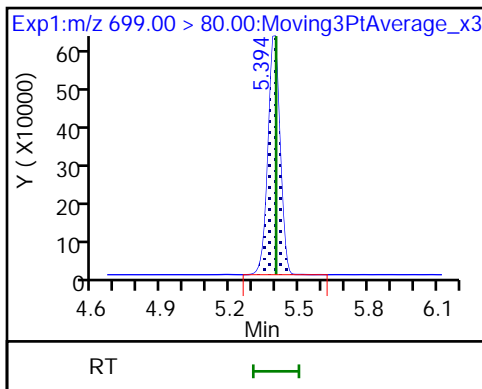
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

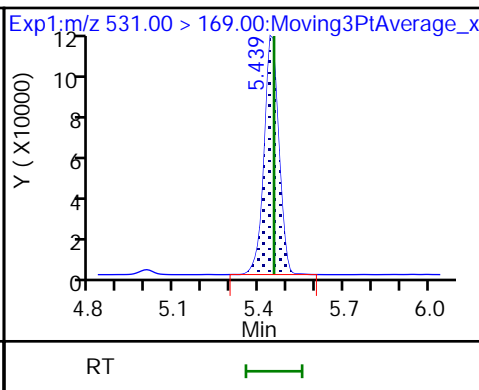
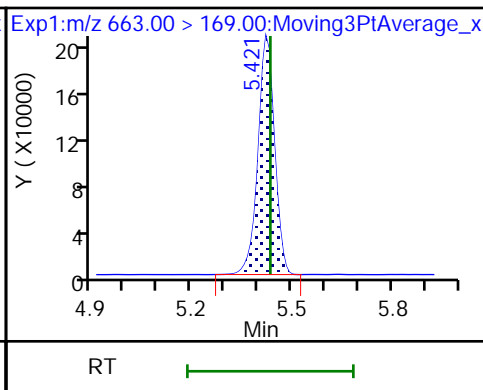
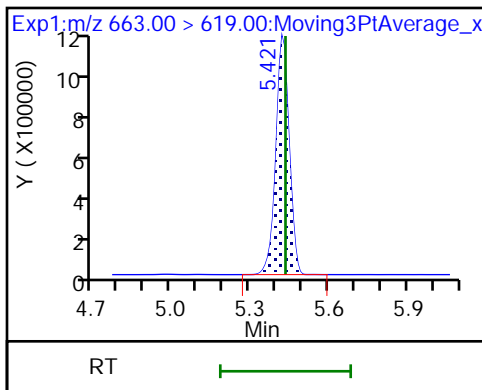
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

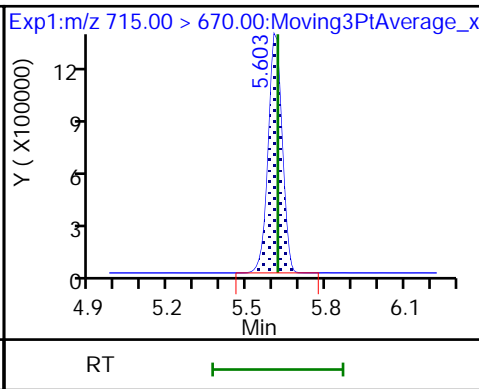
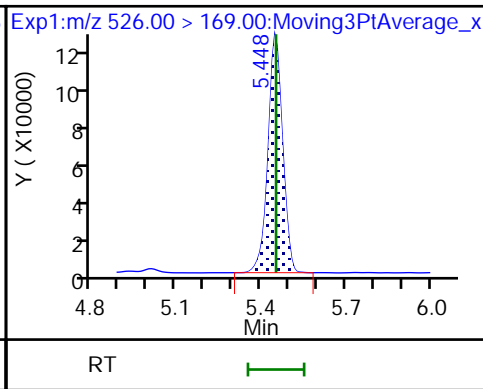
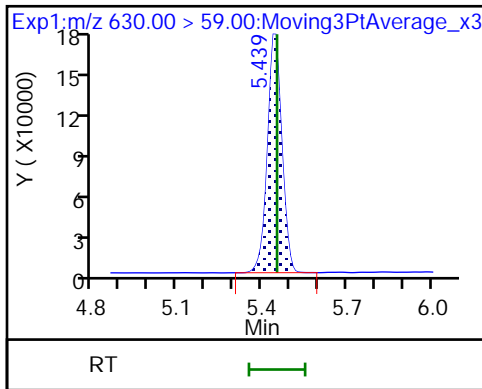
D 80 d-N-EtFOSA-M

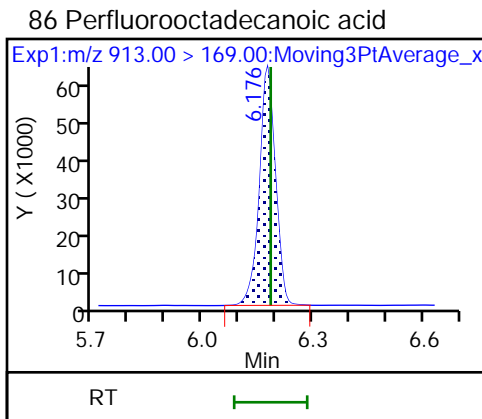
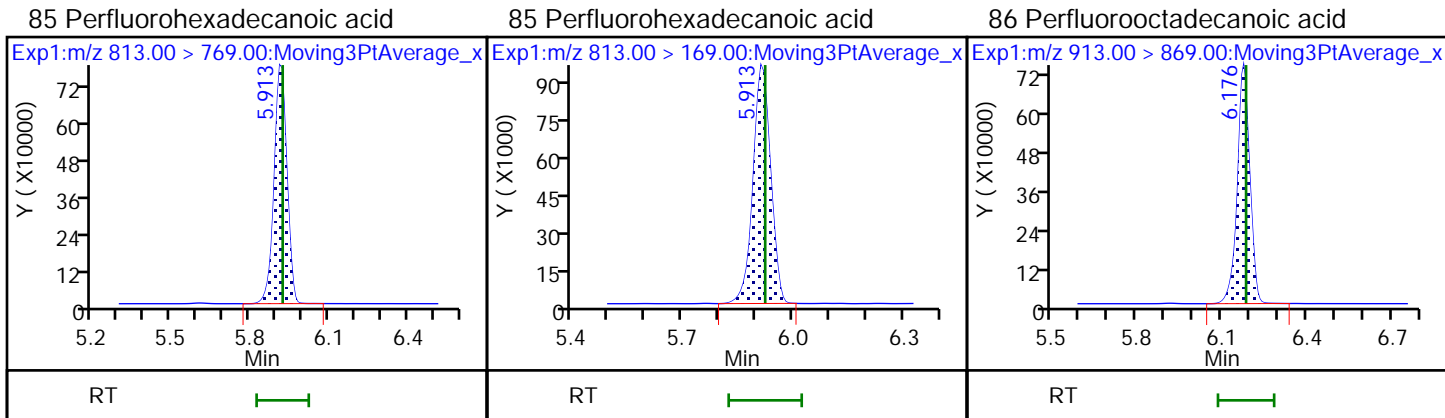
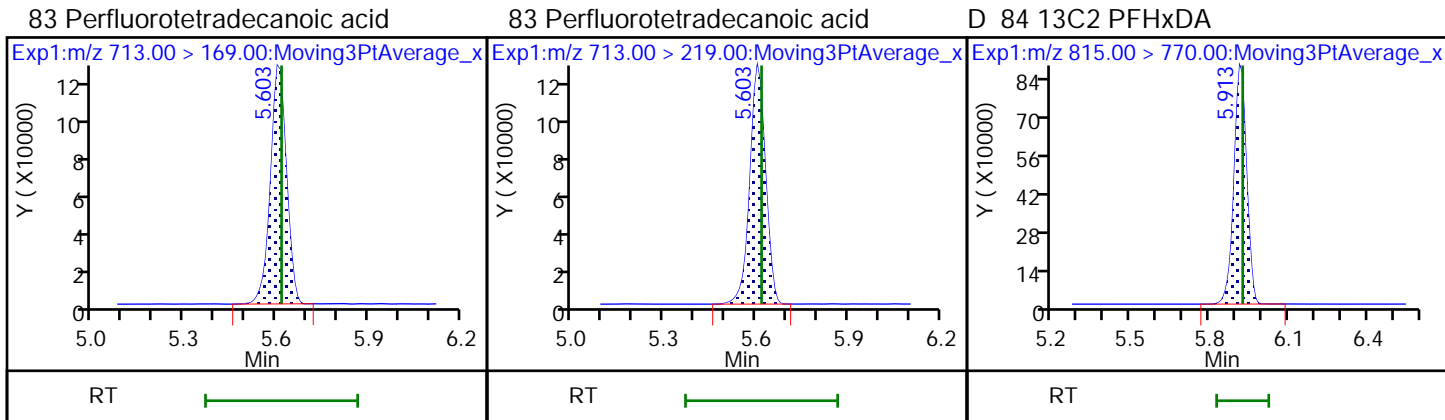


79 N-EtFOSE-M

81 N-EtFOSA-M

D 82 13C2 PFTeDA





FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/42 Calibration Date: 02/19/2022 23:54  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7860		2.48	2.50	-0.7	40.0
PFECA F	AveID	0.7535	0.7733		2.57	2.50	2.6	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9851		2.63	2.50	5.1	40.0
3:3 FTCA	QuaIF		0.0579		2.67	2.50	6.9	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.154		2.29	2.21	3.8	40.0
PFECA A	Q2ID		1.220		2.56	2.50	2.4	40.0
PES	Q2ID		2.441		2.25	2.23	0.9	40.0
PFECA B	Q2ID		0.4264		2.47	2.50	-1.1	40.0
4:2 FTS	L2ID		2.372		2.44	2.34	4.5	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7973		2.52	2.50	0.7	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.116		2.53	2.35	8.1	40.0
HFPO-DA	L2ID		1.308		2.60	2.50	3.9	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.351		2.22	2.28	-2.5	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.024		2.52	2.50	0.9	40.0
DONA	AveID	2.644	2.427		2.16	2.36	-8.2	40.0
5:3 FTCA	L2ID		3.537		2.35	2.50	-5.9	40.0
6:2 FTUCA	AveID	1.046	1.027		2.45	2.50	-1.8	40.0
6:2 FTCA	L1ID		0.7951		2.88	2.50	15.1	40.0
PFECHS	AveID	0.7426	0.7825		2.43	2.31	5.4	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9843		2.37	2.38	-0.3	40.0
6:2 FTS	L2ID		1.726		2.24	2.37	-5.4	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.102		2.58	2.50	3.4	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.125		2.28	2.32	-1.7	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8040		2.64	2.50	5.7	40.0
7:3 FTCA	AveID	5.230	5.538		2.65	2.50	5.9	40.0
8:2 FTUCA	AveID	0.9565	1.004		2.63	2.50	5.0	40.0
8:2 FTCA	AveID	1.811	1.913		2.64	2.50	5.7	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.256		2.34	2.33	0.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.016		2.41	2.40	0.4	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	1.011		2.65	2.50	5.8	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9056		2.53	2.50	1.1	40.0
8:2 FTS	L2ID		1.492		2.39	2.40	-0.4	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8923		2.37	2.50	-5.3	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9773		2.65	2.41	10.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/42 Calibration Date: 02/19/2022 23:54  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.004		2.60	2.50	3.8	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9527		2.61	2.50	4.6	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.742		2.36	2.36	0.3	50.0
10:2 FTUCA	AveID	1.208	1.226		2.54	2.50	1.5	40.0
10:2 FTCA	Q2ID		1.008		2.64	2.50	5.5	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.005		2.43	2.50	-2.8	40.0
10:2 FTS	L2ID		2.287		2.64	2.41	9.4	50.0
NMeFOSA	L2ID		1.060		2.46	2.50	-1.4	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.224		2.61	2.50	4.6	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9642		2.47	2.42	2.0	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8809		2.49	2.50	-0.2	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.371		2.42	2.50	-3.4	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.310		2.63	2.50	5.3	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1296		2.52	2.50	0.7	40.0
Perfluorohexadecanoic acid	L1ID		1.154		2.55	2.50	2.1	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9868		2.44	2.50	-2.6	40.0
13C4 PFBA	Ave	1.172	1.154		1.23	1.25	-1.6	50.0
13C5 PFPeA	Ave	0.9197	0.8422		1.15	1.25	-8.4	50.0
13C3 PFBS	Ave	0.5817	0.5522		1.10	1.16	-5.1	50.0
M2-4:2 FTS	Ave	0.1821	0.1653		1.06	1.17	-9.2	50.0
13C2 PFHxA	Ave	1.015	0.9514		1.17	1.25	-6.2	50.0
13C3 HFPO-DA	Ave	0.4963	0.4626		1.17	1.25	-6.8	50.0
18O2 PFHxS	Ave	0.3776	0.3934		1.23	1.18	4.2	50.0
13C4 PFHpA	Ave	0.9046	0.8703		1.20	1.25	-3.8	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3651		1.35	1.25	8.2	50.0
13C-6:2 FTCA	Ave	0.0260	0.0270		1.30	1.25	3.9	50.0
13C4 PFOA	Ave	0.9356	0.9087		1.21	1.25	-2.9	50.0
M2-6:2 FTS	Ave	0.1799	0.1908		1.26	1.19	6.0	50.0
13C4 PFOS	Ave	0.5610	0.5829		1.24	1.20	3.9	50.0
13C5 PFNA	Ave	1.268	1.231		1.21	1.25	-3.0	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5182		1.43	1.25	14.7	50.0
13C-8:2 FTCA	Ave	0.0330	0.0362		1.37	1.25	9.4	50.0
13C8 FOSA	Ave	0.8475	0.8286		1.22	1.25	-2.2	50.0
13C2 PFDA	Ave	1.210	1.200		1.24	1.25	-0.8	50.0
M2-8:2 FTS	Ave	0.1961	0.1897		1.16	1.20	-3.3	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/42 Calibration Date: 02/19/2022 23:54  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1661		1.83	1.25	46.4	50.0
13C2 PFUnA	Ave	1.168	1.127		1.21	1.25	-3.5	50.0
d5-NEtFOSAA	Ave	0.1164	0.1394		1.50	1.25	19.7	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5023		1.24	1.25	-1.1	50.0
13C-10:2 FTCA	Ave	0.0309	0.0265		1.07	1.25	-14.3	50.0
13C2 PFDoA	Ave	1.152	1.124		1.22	1.25	-2.4	50.0
13C2 10:2 FTS	Ave	0.1652	0.1647		1.18	1.18	-0.3	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1090		1.15	1.25	-8.1	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1010		1.25	1.25	0.0	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1098		1.12	1.25	-10.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0782		1.21	1.25	-3.4	50.0
13C2 PFTeDA	Ave	0.9216	0.8888		1.21	1.25	-3.6	50.0
13C2 PFHxDA	Ave	0.5997	0.5684		1.19	1.25	-5.2	50.0
13C8 PFOA	AveID	0.9229	0.9769		1.32	1.25	5.8	50.0
13C8 PFOS	AveID	0.2212	0.2208		1.19	1.20	-0.2	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_042.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 19-Feb-2022 23:54:25 ALS Bottle#: 42 Worklist Smp#: 42  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-042 rb 07  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:34 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:16:57

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.804	2.804	0.0	1.000	9180486	2.48		99.3	2730	
D 2 13C4 PFBA										
217.00 > 172.00	2.804	2.804	0.0	0.679	5839903	1.23		98.4	19614	
3 PFECA F										
229.00 > 85.00	2.911	2.911	0.0	0.935	6593235	2.57		103	22186	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.115	0.001	1.000	8398951	2.63		105	3322	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.001	0.754	4263024	1.14		91.6	15786	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.122	0.009	1.000	323792	2.67	Target=1.13	107	2272	
241.00 > 116.90	3.131	3.122	0.009	1.000	270791		1.20(0.56-1.69)		402	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.122	0.009	0.758	2599397	1.10		94.9	10522	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.131	0.0	1.000	5705107	2.29	Target=2.61	104	5005	
298.90 > 99.00	3.131	3.131	0.0	1.000	2094382		2.72(1.31-3.92)		4804	
9 PFECA A										
278.95 > 84.90	3.211	3.202	0.009	1.031	10405622	2.56		102	22312	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	12146200	2.24		101	26237	
12 PFECA B										
295.22 > 201.00	3.384	3.373	0.011	0.981	4107253	2.47		98.9	13262	
13 4:2 FTS										
327.00 > 307.00	3.416	3.415	0.001	1.000	3707867	2.44		104	16395	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.415	0.001	0.827	781575	1.06		90.8	1612	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.437	0.011	1.101	5850306	2.53	Target=3.55	108	11283	
349.00 > 99.00	3.448	3.437	0.011	1.101	1671191		3.50(1.78-5.33)		9178	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.437	0.011	1.000	7679117	2.52	Target=11.60	101	3374	
313.00 > 119.00	3.448	3.437	0.011	1.000	662237		11.60(5.80-17.40)		621	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.437	0.011	0.835	4815791	1.17		93.8	16910	
17 HFPO-DA										
285.00 > 169.00	3.543	3.542	0.001	1.000	6126805	2.60	Target=2.45	104	1715	
329.00 > 169.00	3.543	3.542	0.001	1.000	2379244		2.58(1.23-3.68)		1759	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.542	0.001	0.858	2341730	1.17		93.2	7400	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.783	3.772	0.011	1.000	4896031	2.22	Target=3.44	97.5	8361	M
399.00 > 99.00	3.773	3.772	0.001	0.997	1407420		3.48(1.72-5.17)		5024	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.772	0.011	0.916	1883717	1.23		104	9420	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.793	3.792	0.001	1.000	9022781	2.52	Target=3.25	101	4887	
363.00 > 169.00	3.793	3.792	0.001	1.000	2945623		3.06(1.62-4.87)		2260	
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.792	0.001	0.918	4405102	1.20		96.2	11107	
25 DONA										
377.00 > 251.00	3.821	3.820	0.001	0.866	13487766	2.16	Target=1.74	91.8	16569	
377.00 > 85.00	3.821	3.820	0.001	0.866	7823705		1.72(0.87-2.61)		131	
26 5:3 FTCA										
340.88 > 236.90	3.854	3.853	0.001	0.987	968115	2.35	Target=1.11	94.1	1683	
340.88 > 216.90	3.854	3.853	0.001	0.987	910011		1.06(0.56-1.67)		2330	
27 6:2 FTUCA										
356.86 > 292.90	3.887	3.886	0.001	1.000	3796578	2.45	Target=13.05	98.2	4207	
356.86 > 243.00	3.887	3.886	0.001	1.000	264001		14.38(6.52-19.57)		1073	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.887	3.886	0.001	0.941	1847883	1.35		108	5893	
29 6:2 FTCA										
377.10 > 63.00	3.904	3.903	0.001	1.000	217636	2.88	Target=1.29	115	723	
377.10 > 313.10	3.904	3.903	0.001	1.000	151139		1.44(0.65-1.94)		154	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.903	0.001	0.945	136859	1.30		104	615	
32 PFECBS										
460.80 > 380.90	4.064	4.054	0.010	0.986	6636865	2.43	Target=1.75	105	12978	
460.80 > 98.90	4.064	4.054	0.010	0.986	3889975		1.71(0.87-2.62)		8769	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.112	4.111	0.001	0.932	5529328	2.37	Target=3.72	99.7	9859	
449.00 > 99.00	4.112	4.111	0.001	0.932	1405853		3.93(1.86-5.57)		3171	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	3161336	2.24		94.6	4896	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.121	0.0	1.000	10136421	2.58	Target=2.51	103	5230	
413.00 > 169.00	4.121	4.121	0.0	1.000	4042027		2.51(1.26-3.77)		7101	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	1.000	4493150	1.32		106	11248	
* 30 13C2 PFOA										
415.00 > 370.00	4.131	4.121	0.010		5061844	1.25			10102	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	917676	1.26		106	2530	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.121	0.0	0.998	4599532	1.21		97.1	7981	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.413	4.412	0.001	1.000	622893	1.19		99.8	2886	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.413	4.412	0.001	1.000	6162814	2.28	Target=4.30	98.3	6645	M
499.00 > 99.00	4.413	4.412	0.001	1.000	1367857		4.51(2.15-6.45)		3026	M
D 39 13C4 PFOS										
503.00 > 80.00	4.413	4.412	0.001	1.068	2820493	1.24		104	3786	
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.438	0.001	1.000	10019342	2.64	Target=3.60	106	7744	
463.00 > 169.00	4.439	4.438	0.001	1.000	2491397		4.02(1.80-5.40)		6207	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.438	0.001	1.075	6231255	1.21		97.0	16417	
43 7:3 FTCA										
441.00 > 337.00	4.520	4.519	0.001	0.991	2027450	2.65	Target=1.42	106	4927	
441.00 > 317.00	4.520	4.519	0.001	0.991	1439661		1.41(0.71-2.13)		4900	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	5269244	2.63	Target=35.37	105	8821	
456.86 > 343.00	4.545	4.545	0.0	1.000	156183		33.74(17.68-53.05)		549	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.545	0.0	1.000	2623104	1.43		115	4085	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.562	4.553	0.009	1.104	183064	1.37		109	472	
46 8:2 FTCA										
477.00 > 393.10	4.562	4.561	0.001	1.000	700582	2.64	Target=3.35	106	2289	
477.00 > 63.20	4.562	4.561	0.001	1.000	196458		3.57(1.68-5.03)		955	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.108	12405649	2.34		100	14878	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	5754425	2.41	Target=3.99	100	10533	
549.00 > 99.00	4.697	4.697	0.0	1.065	1440413		3.99(2.00-5.99)		5818	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.714	4.705	0.009	1.002	8479184	2.65		106	6409	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.705	0.001	1.139	4194438	1.22		97.8	4240	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.722	0.001	1.000	11002326	2.53	Target=10.58	101	8124	
513.00 > 169.00	4.723	4.722	0.001	1.000	1003295		10.97(5.29-15.88)		528	
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.722	0.001	1.143	6074826	1.24		99.2	11289	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.731	0.009	1.147	919929	1.16		96.7	2715	
53 8:2 FTS										
527.00 > 507.00	4.740	4.739	0.001	1.000	2745960	2.39		99.6	4799	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.864	4.872	-0.008	1.177	840825	1.83		146	314	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.872	0.0	1.002	1500582	2.37		94.7	2634	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.123	5558888	2.65	Target=3.55	110	11602	
599.00 > 99.00	4.957	4.957	0.0	1.123	1444782		3.85(1.78-5.33)		3831	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.985	0.001	1.000	11453715	2.60	Target=8.26	104	12292	
563.00 > 169.00	4.986	4.985	0.001	1.000	1375812		8.33(4.13-12.39)		5720	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.985	0.001	1.207	5702818	1.21		96.5	8449	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.212	705598	1.50		120	2189	
62 NEtFOSAA										
584.00 > 419.00	5.015	5.005	0.010	1.002	1344382	2.61		105	1238	M
63 11CIFOS										
631.00 > 451.00	5.083	5.092	-0.009	1.152	9681516	2.36		100	10345	
65 10:2 FTUCA										
556.86 > 492.90	5.093	5.092	0.001	1.000	6236121	2.54		102	15083	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.093	5.092	0.001	1.233	2542477	1.24		98.9	6474	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.102	0.0	1.000	270474	2.64	Target=2.53	105	1240	
576.80 > 63.10	5.102	5.102	0.0	1.000	115692		2.34(1.26-3.79)		423	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.111	-0.009	1.235	134187	1.07		85.7	958	
D 69 13C2 PFDoA										
615.00 > 570.00	5.226	5.226	0.0	1.265	5690745	1.22		97.6	12891	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	11433577	2.43	Target=6.85	97.2	9900	
613.00 > 169.00	5.226	5.226	0.0	1.000	1627227		7.03(3.43-10.28)		3958	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.269	789636	1.18		99.7	6025	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.000	3675280	2.64		109	7847	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.284	5.275	0.009	1.279	551644	1.15		91.9	529	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.284	5.283	0.001	1.279	510999	1.25		100	49.8	
74 NMeFOSA										
512.00 > 169.00	5.284	5.283	0.001	1.000	1083785	2.46		98.6	642	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.002	1350673	2.61		105	2128	
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.224	5507200	2.47	Target=4.22	102	10562	
699.00 > 99.00	5.399	5.399	0.0	1.224	1299256		4.24(2.11-6.34)		4897	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.316	556009	1.12		89.3	281	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.435	5.435	0.0	1.040	10025828	2.49	Target=6.32	99.8	8252	
663.00 > 169.00	5.435	5.435	0.0	1.040	1650522		6.07(3.16-9.48)		5968	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.320	395863	1.21		96.6	645	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	1524627	2.42		96.6	1342	
81 N-EtFOSA-M										
526.00 > 169.00	5.461	5.452	0.009	1.002	1037484	2.63		105	639	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.360	4498796	1.21		96.4	10105	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	1165749	2.52	Target=1.01	101	3244	
713.00 > 219.00	5.608	5.617	-0.009	0.998	1151446		1.01(0.51-1.52)		5954	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.434	2876976	1.18		94.8	6446	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	6640845	2.55	Target=8.64	102	6364	
813.00 > 169.00	5.924	5.924	0.0	1.000	802753		8.27(4.32-12.97)		2875	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.184	6.184	0.0	1.044	5678206	2.44	Target=11.77	97.4	6203	
913.00 > 169.00	6.179	6.184	-0.005	1.043	483699		11.74(5.88-17.65)		1704	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220219-22723.b\_042.d

Injection Date: 19-Feb-2022 23:54:25

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 42

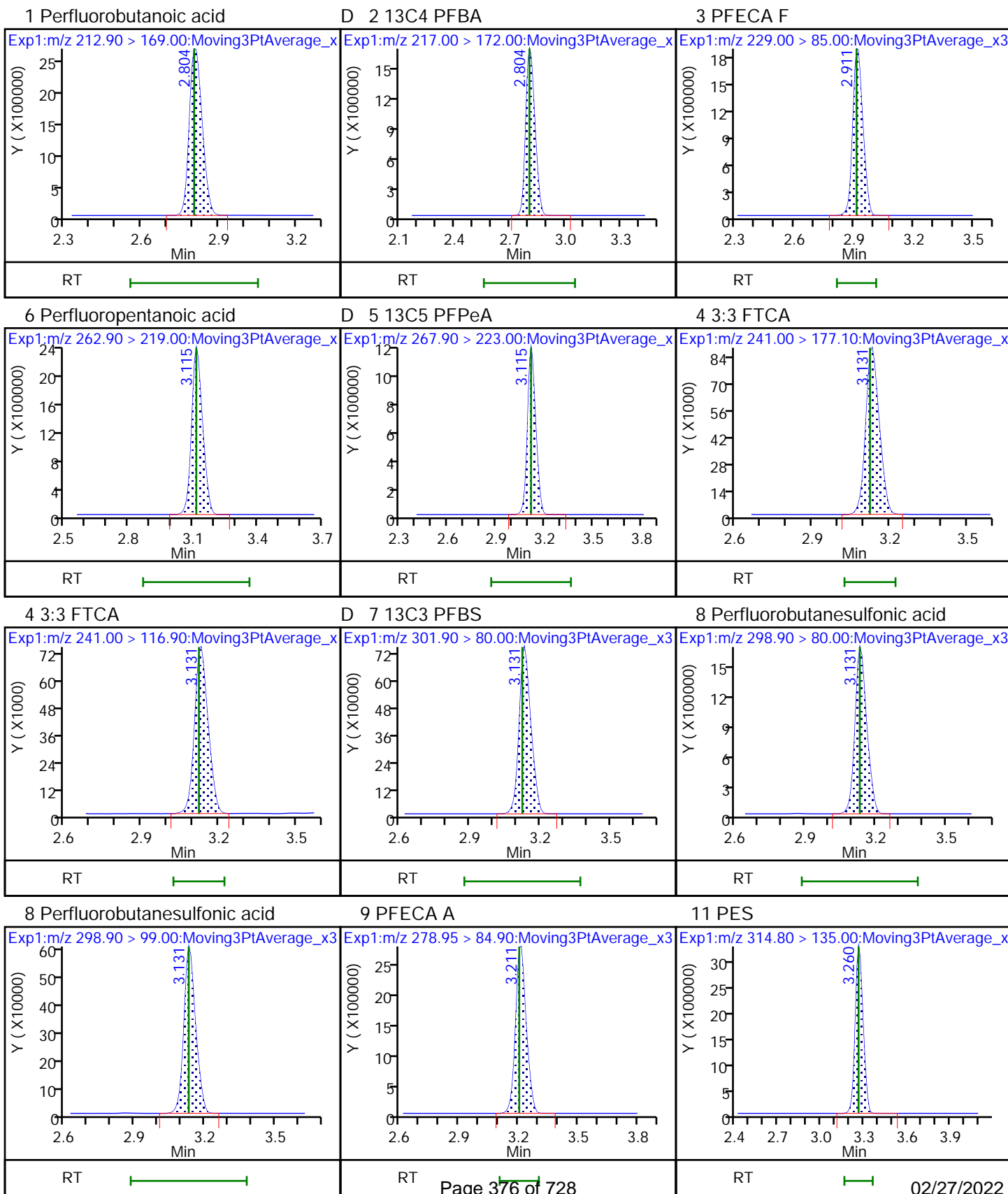
Worklist Smp#: 42

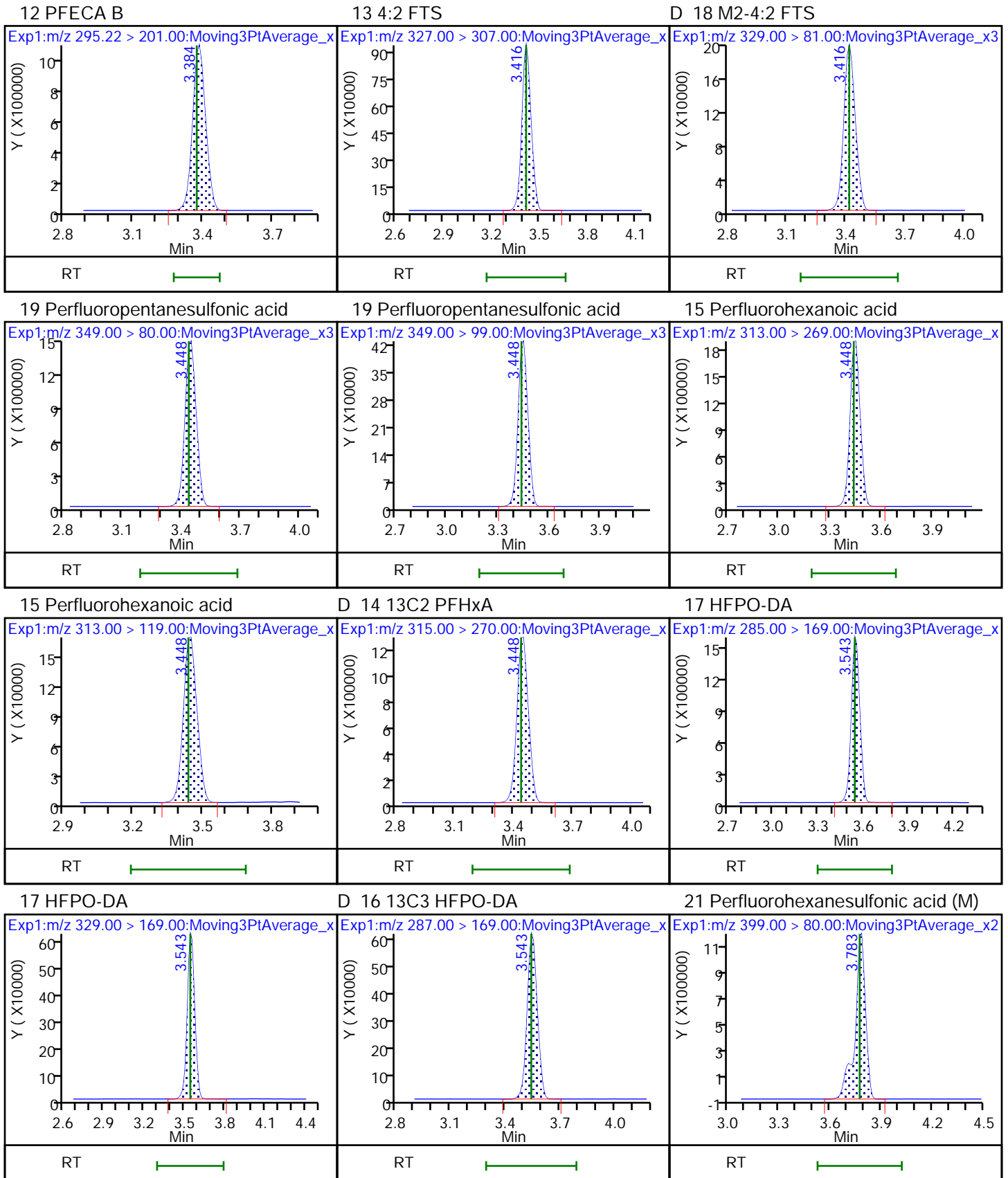
Injection Vol: 1.0 ul

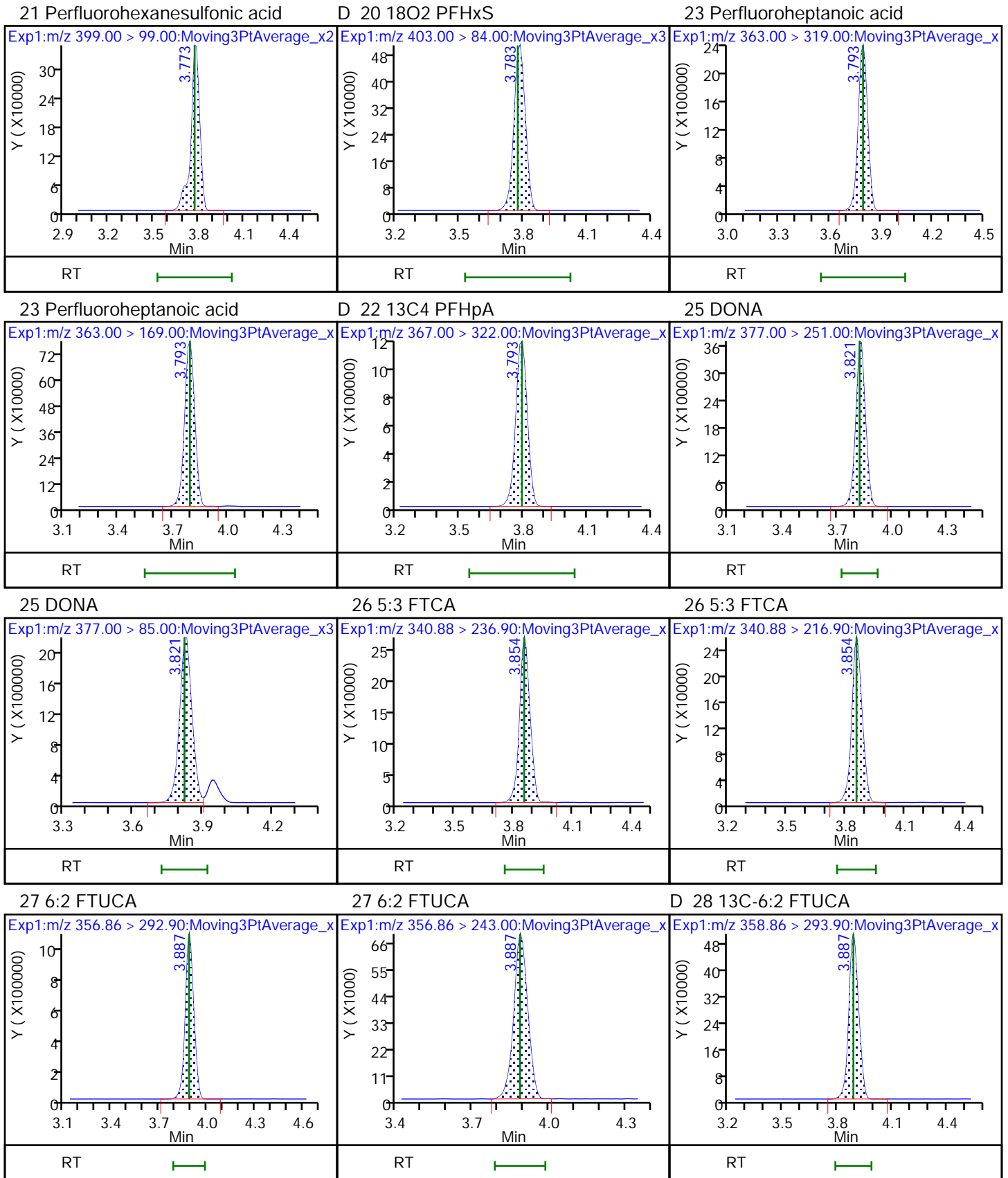
Dil. Factor: 1.0000

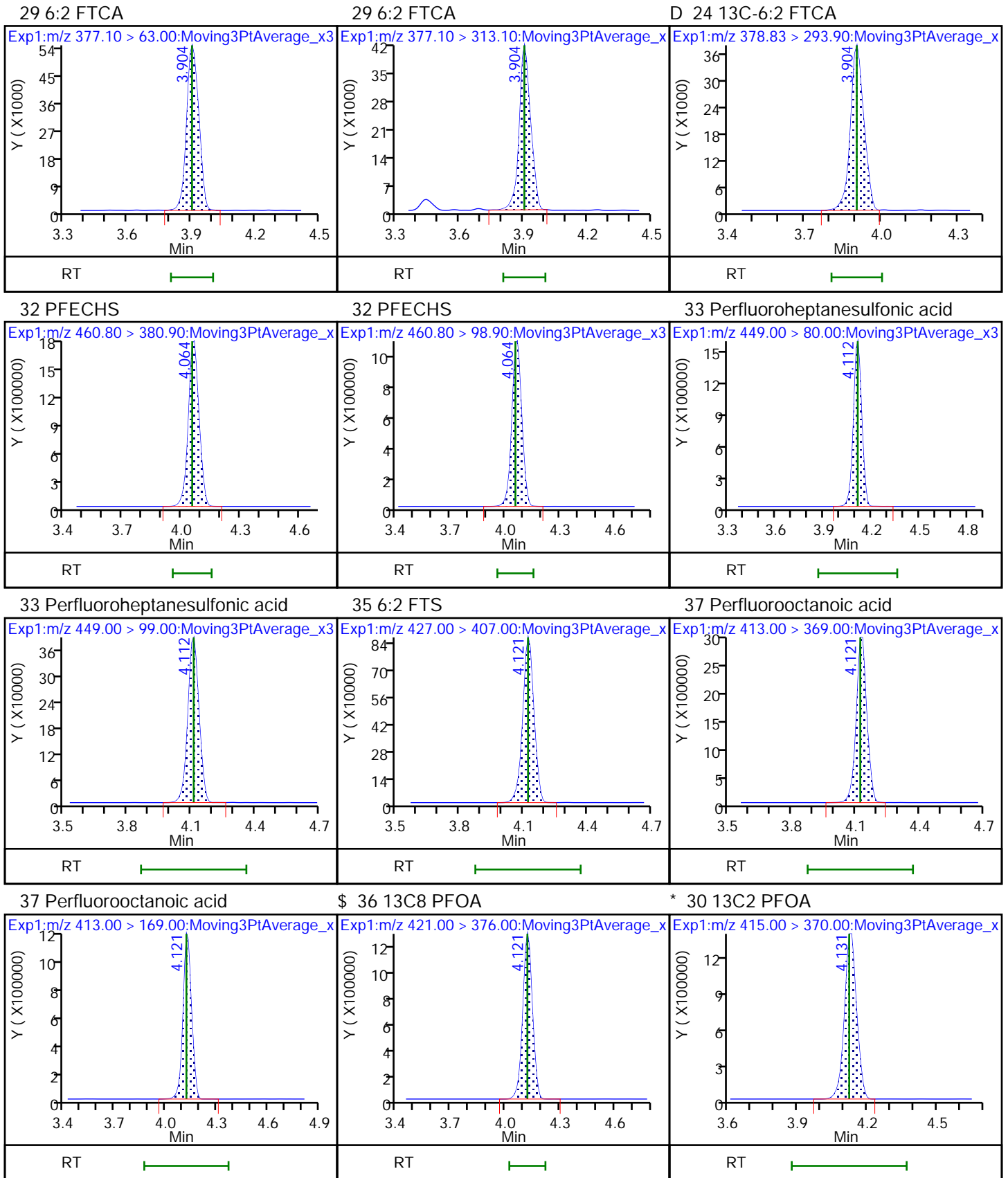
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL





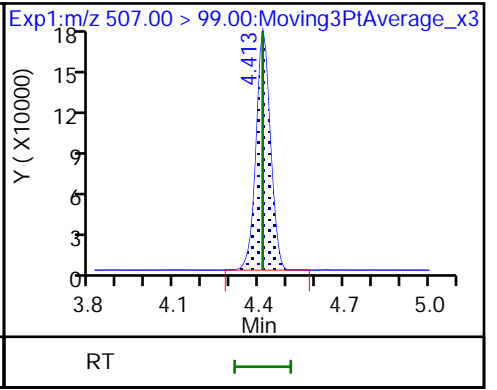
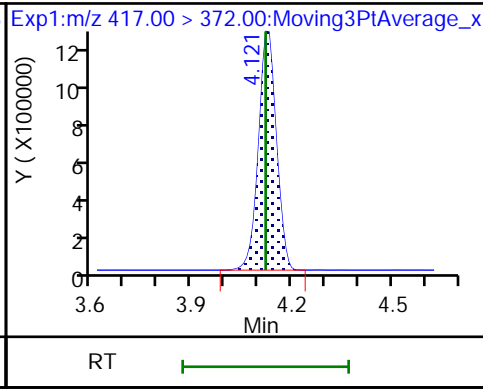
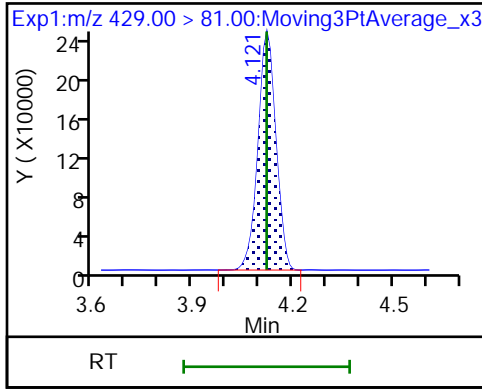




D 34 M2-6:2 FTS

D 31 13C4 PFOA

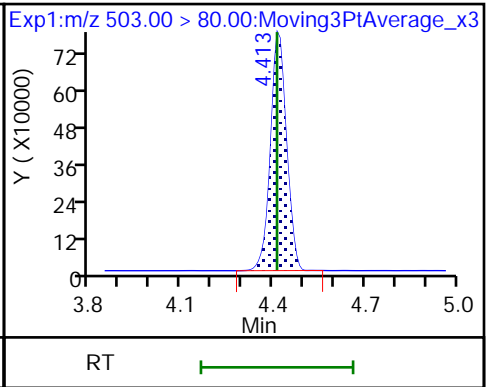
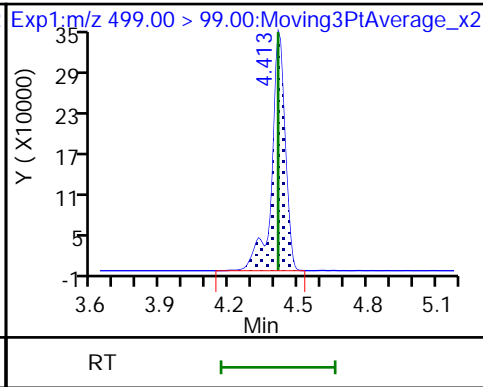
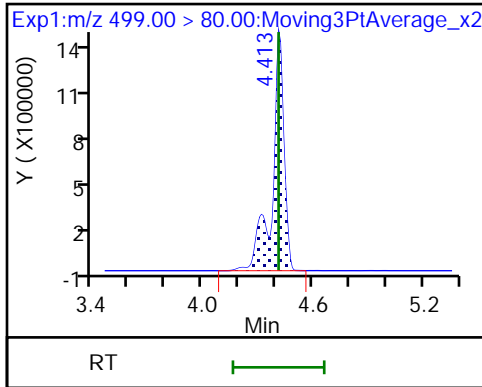
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid (M)

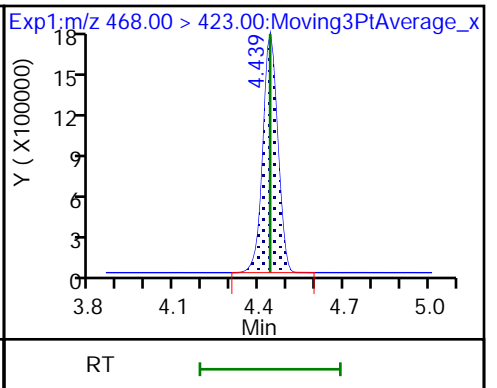
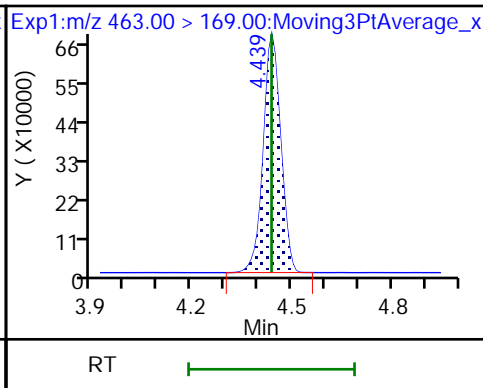
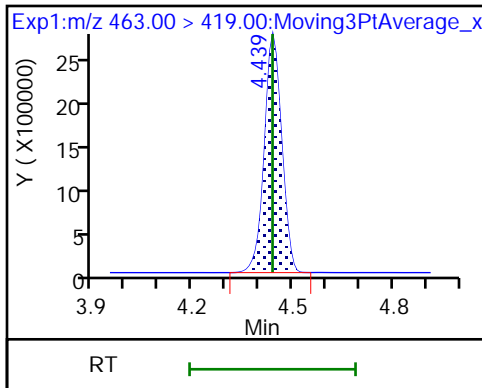
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

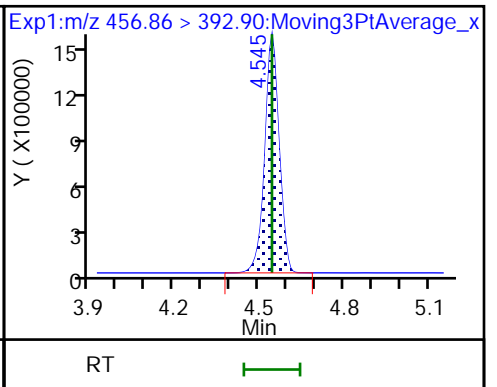
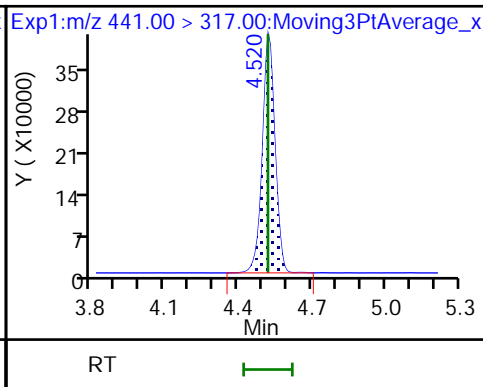
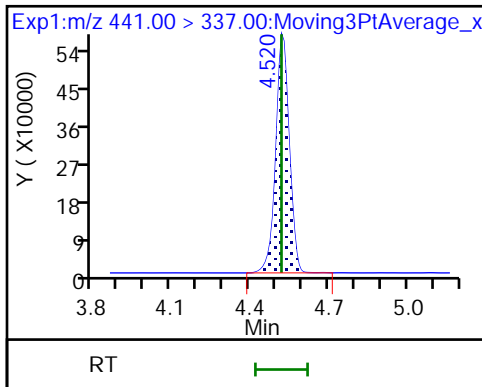
D 41 13C5 PFNA

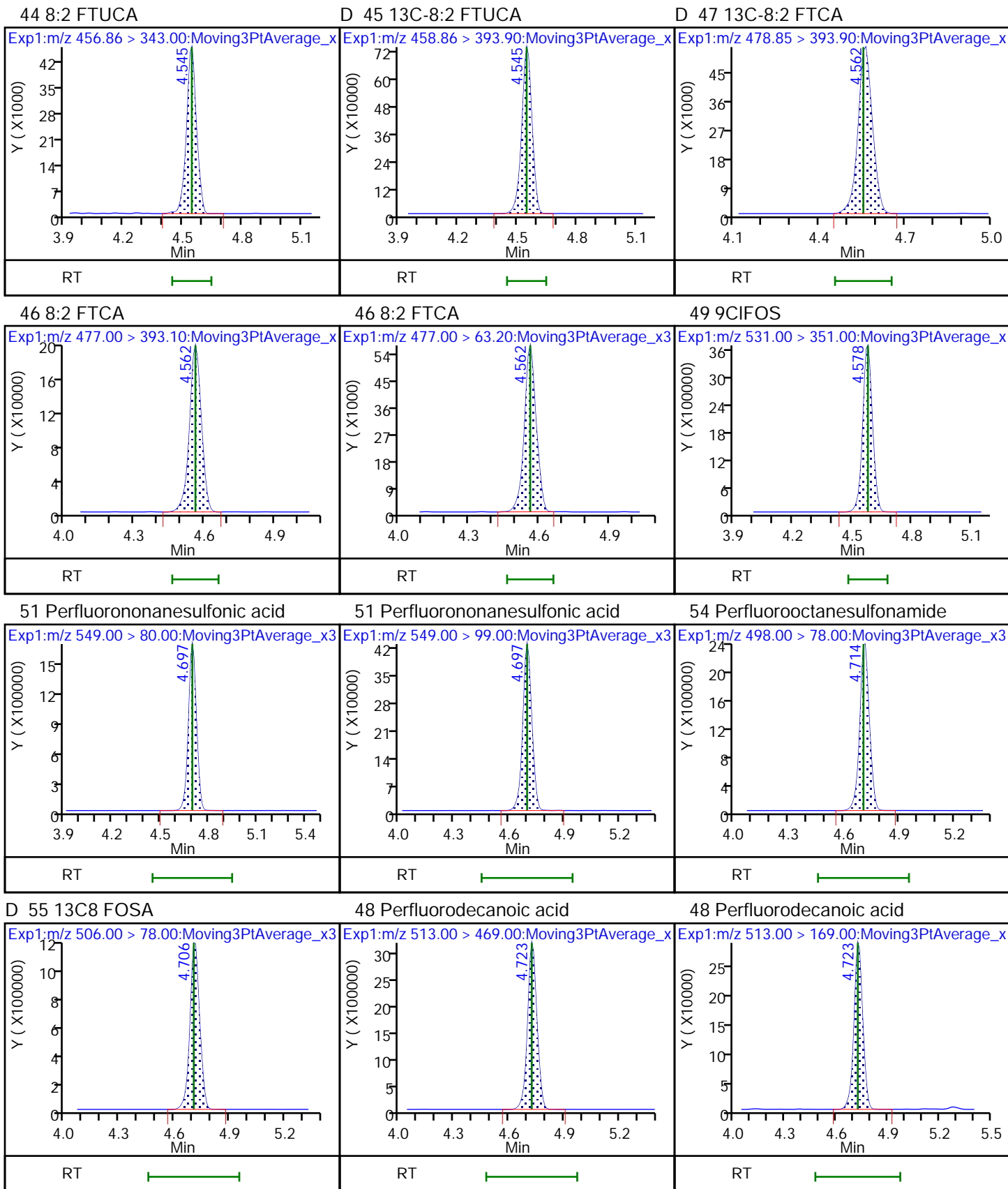


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA



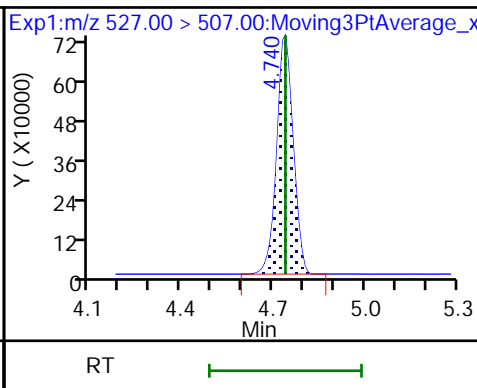
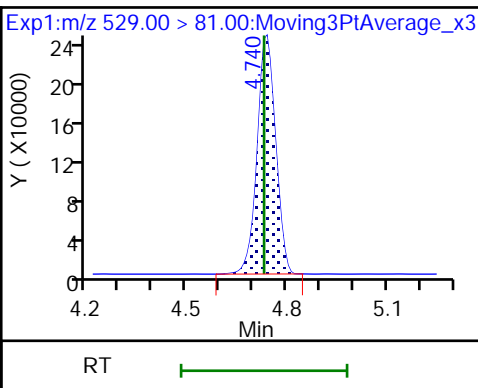
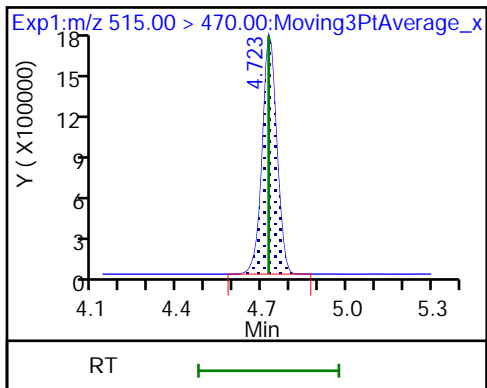




D 52 13C2 PFDA

D 50 M2-8:2 FTS

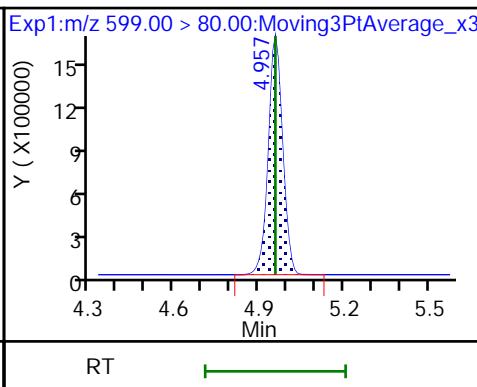
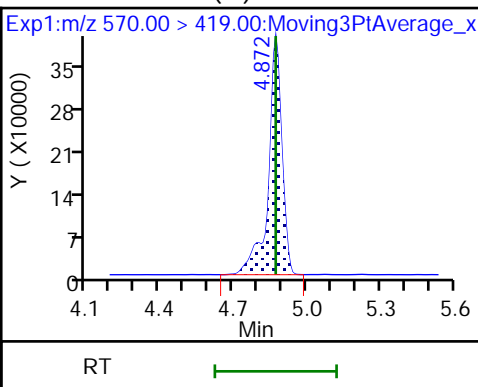
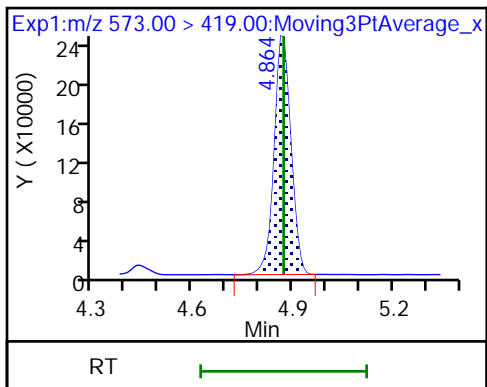
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

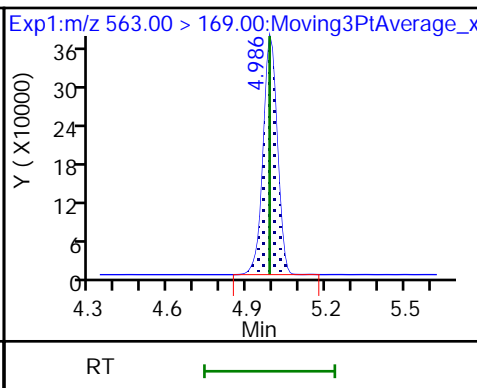
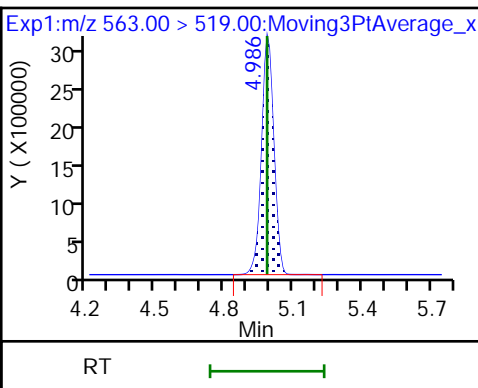
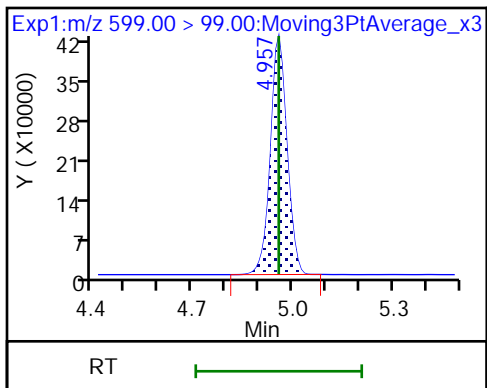
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

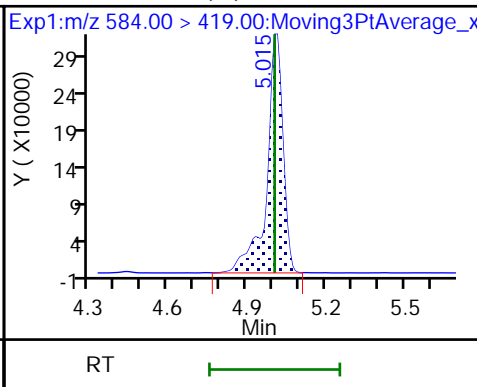
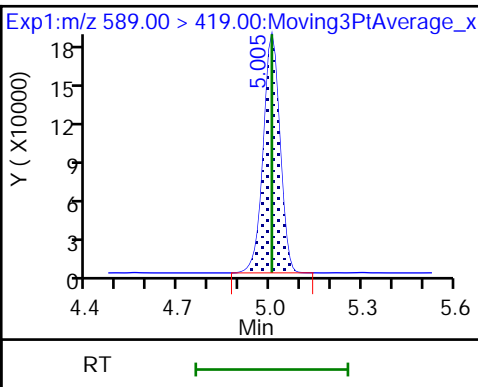
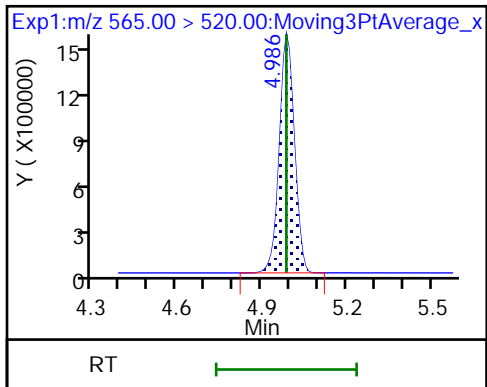
60 Perfluoroundecanoic acid

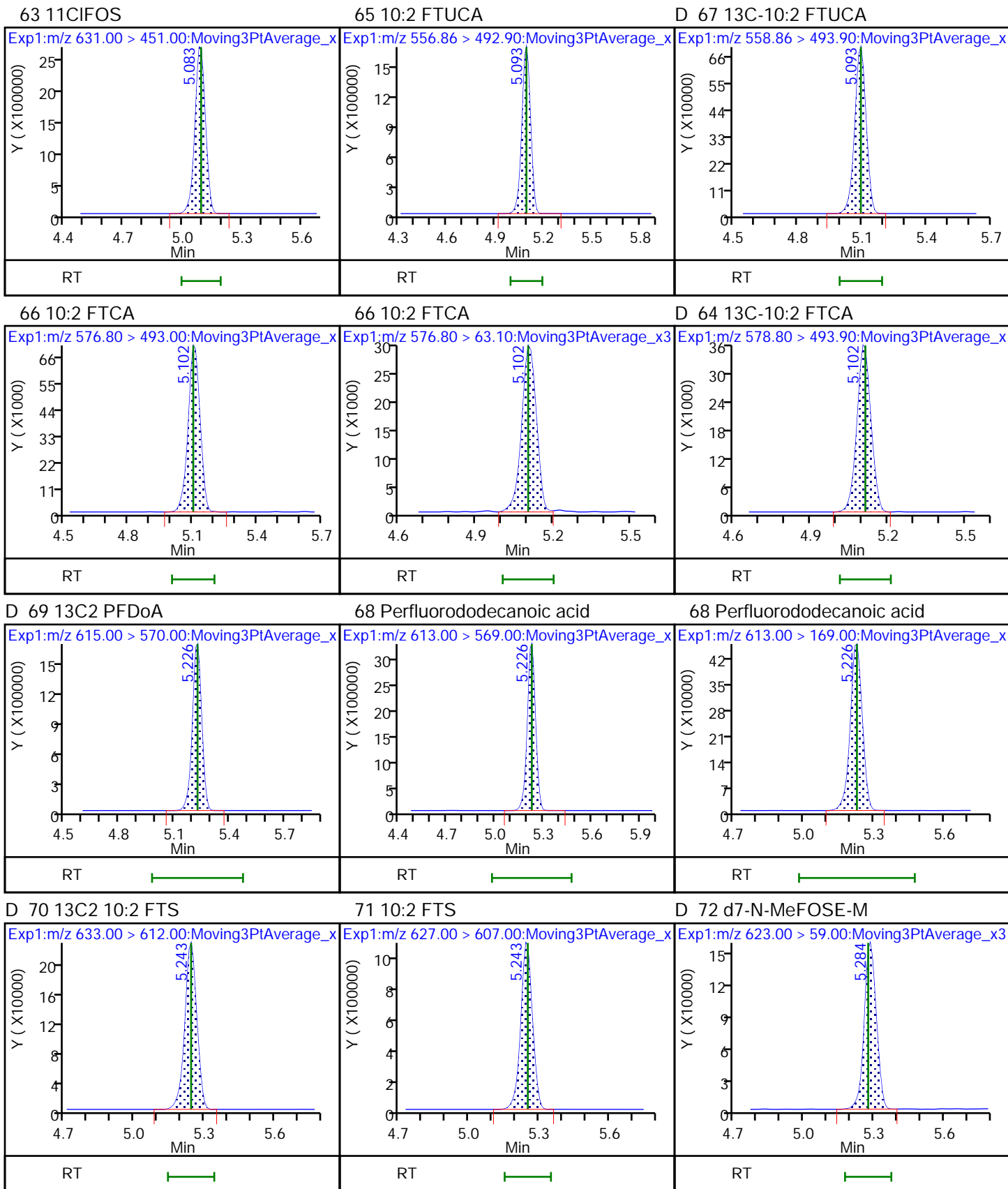


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)

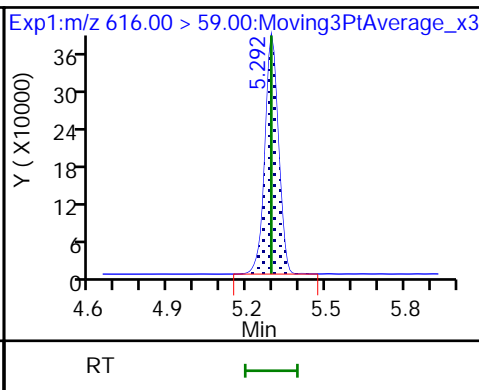
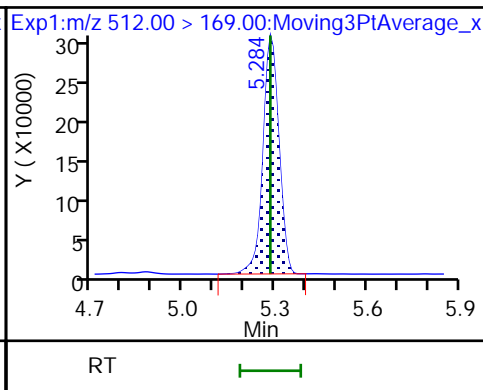
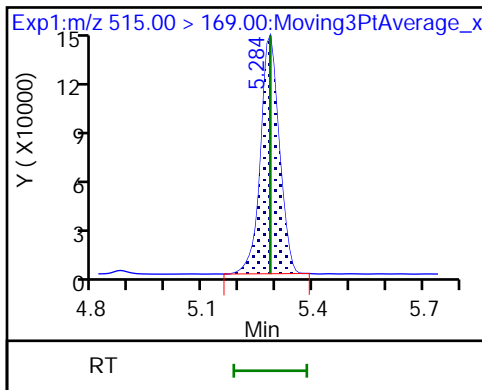




D 73 d-N-MeFOSA-M

74 NMeFOSA

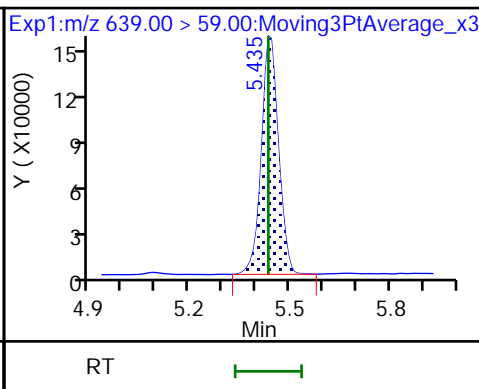
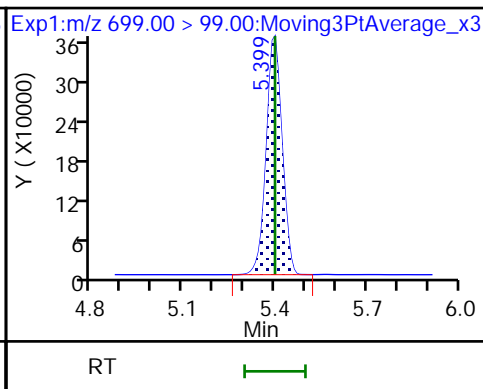
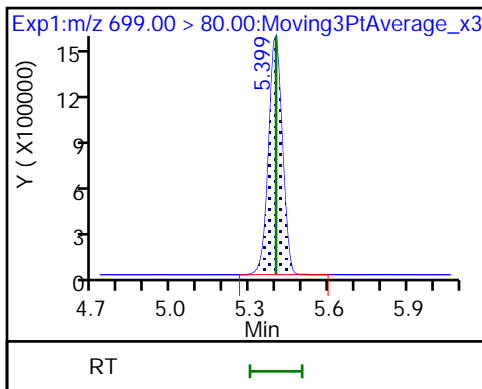
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

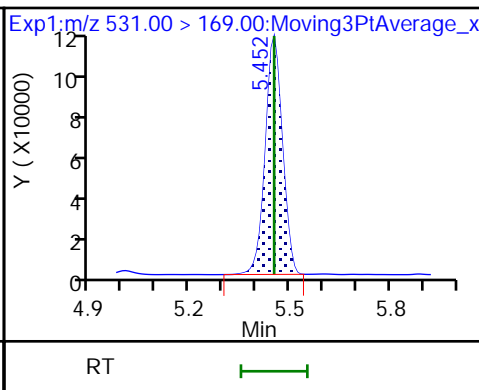
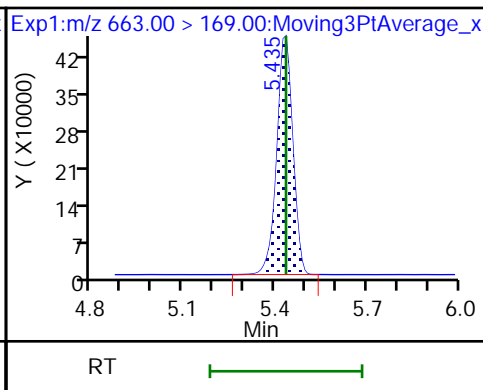
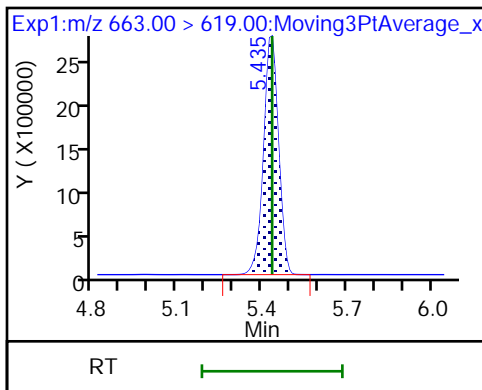
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

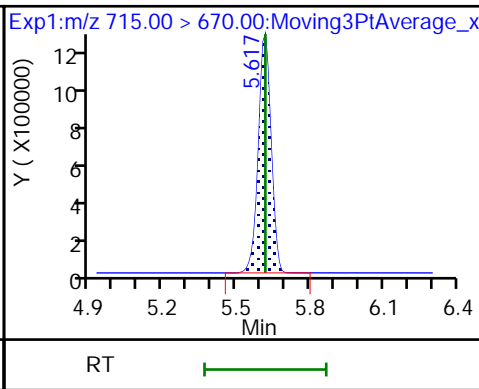
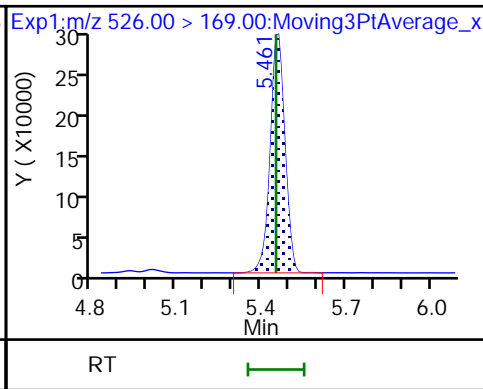
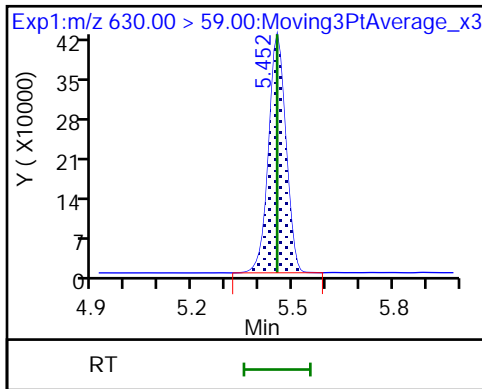
D 80 d-N-EtFOSA-M

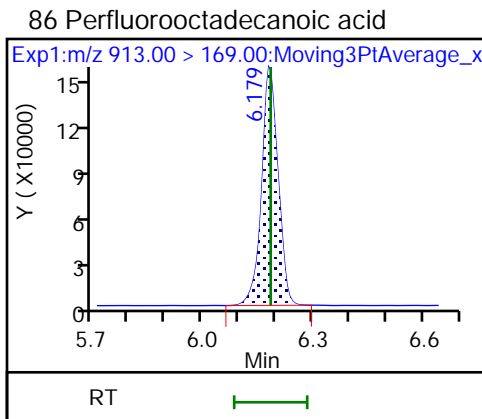
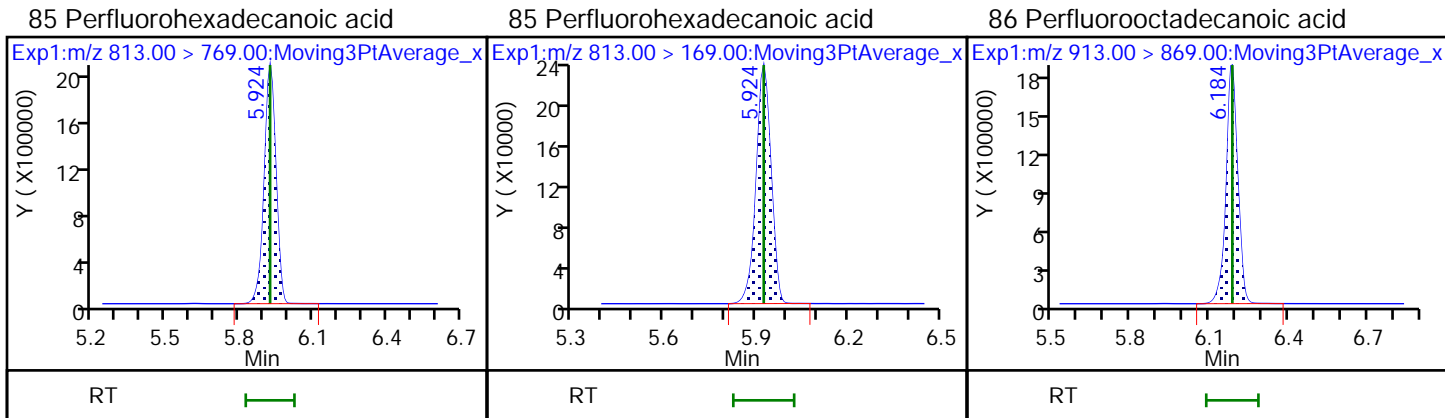
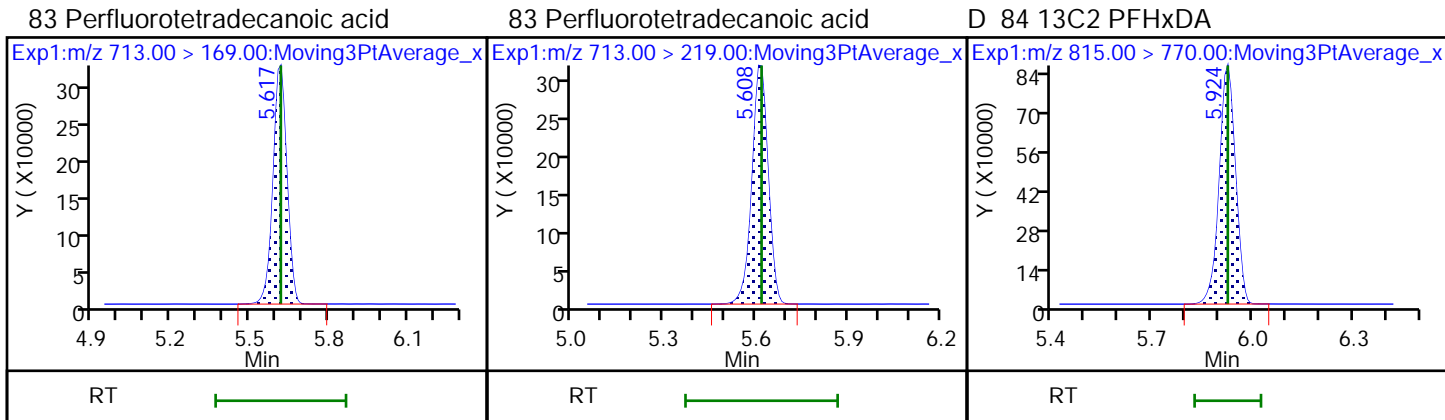


79 N-EtFOSE-M

81 N-EtFOSA-M

D 82 13C2 PFTeDA





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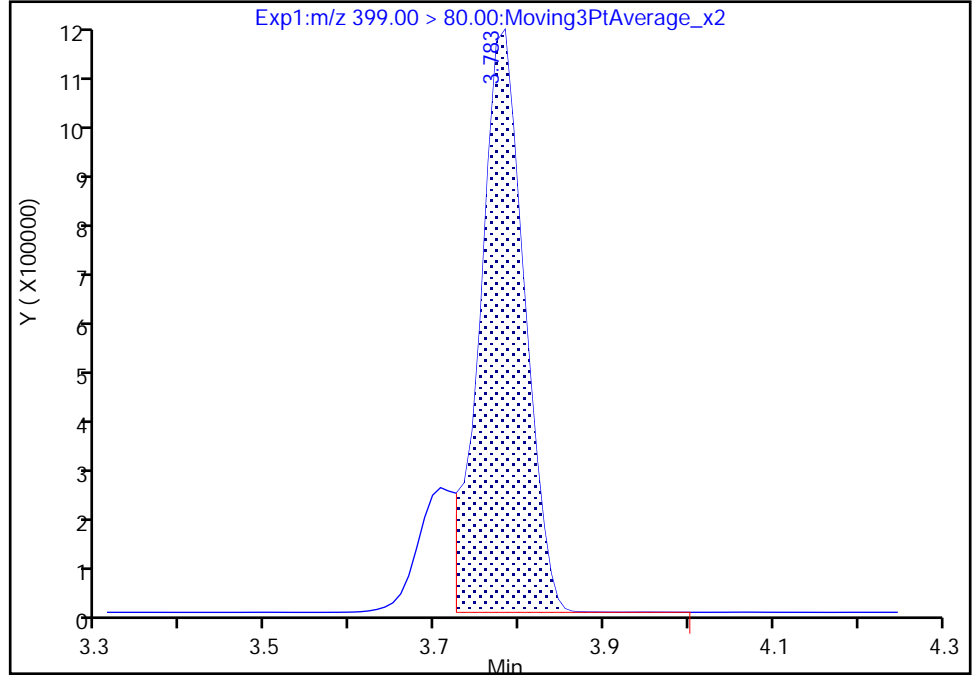
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Injection Date: 19-Feb-2022 23:54:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

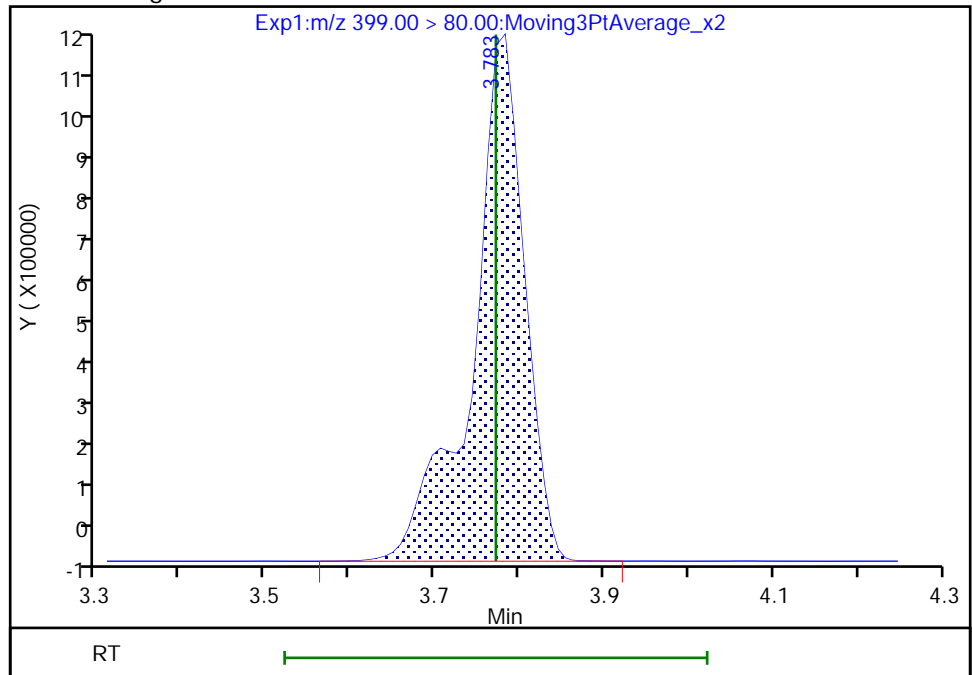
RT: 3.78  
Area: 4162164  
Amount: 1.886350  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 4896031  
Amount: 2.218948  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:05  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

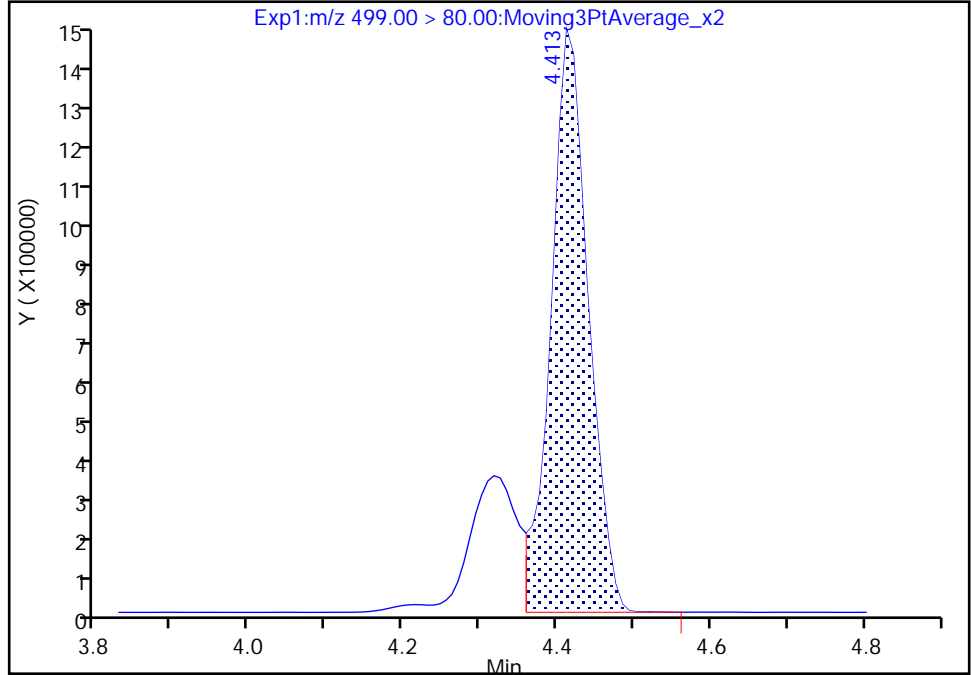
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

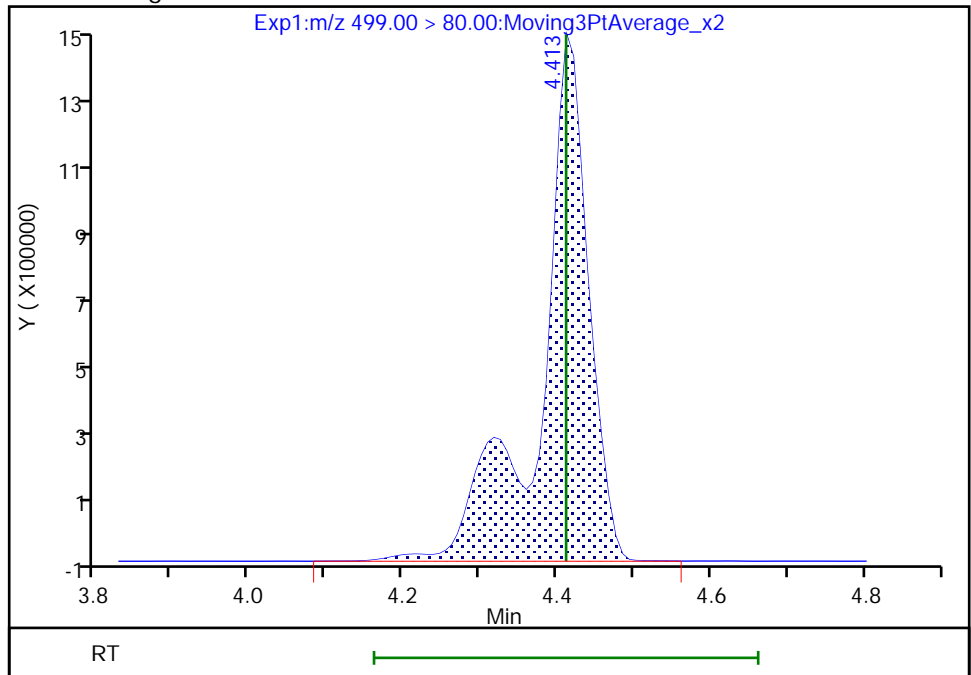
RT: 4.41  
Area: 4718991  
Amount: 1.745844  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 6162814  
Amount: 2.280003  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:16  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

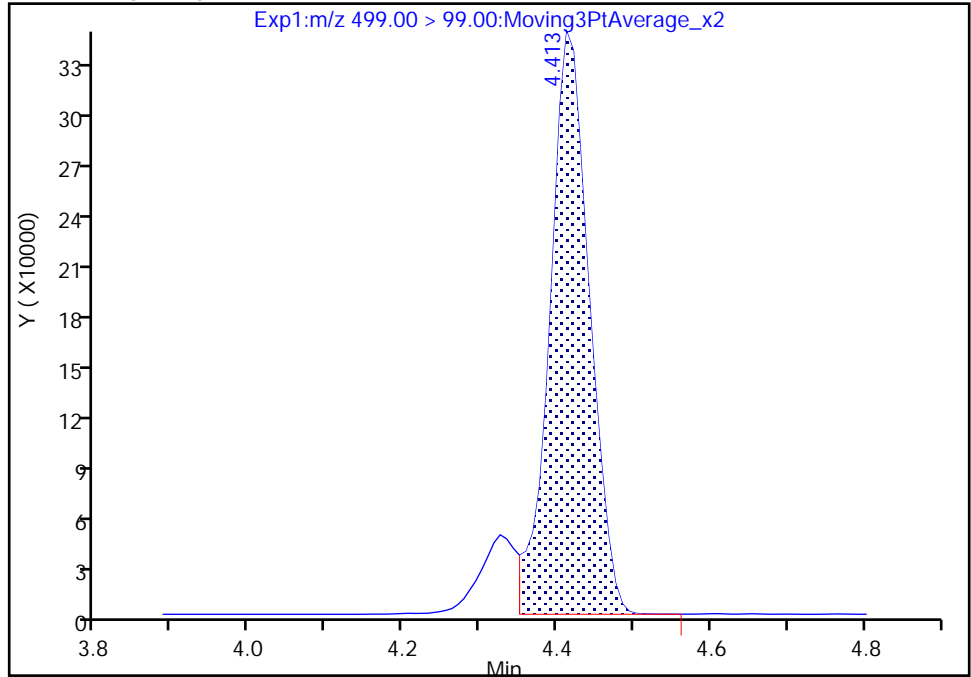
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Injection Date: 19-Feb-2022 23:54:25 Instrument ID: LCA  
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Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

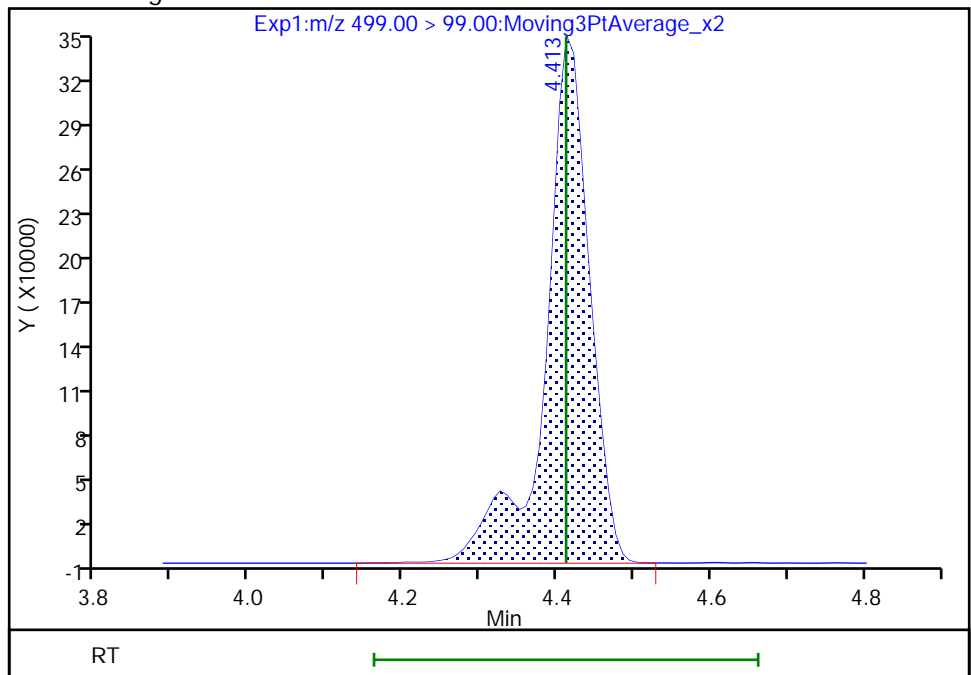
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Area: 1216511  
Amount: 1.745844  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 1367857  
Amount: 2.280003  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:25

Audit Action: Manually Integrated

Audit Reason: Baseline  
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02/27/2022

Eurofins Knoxville

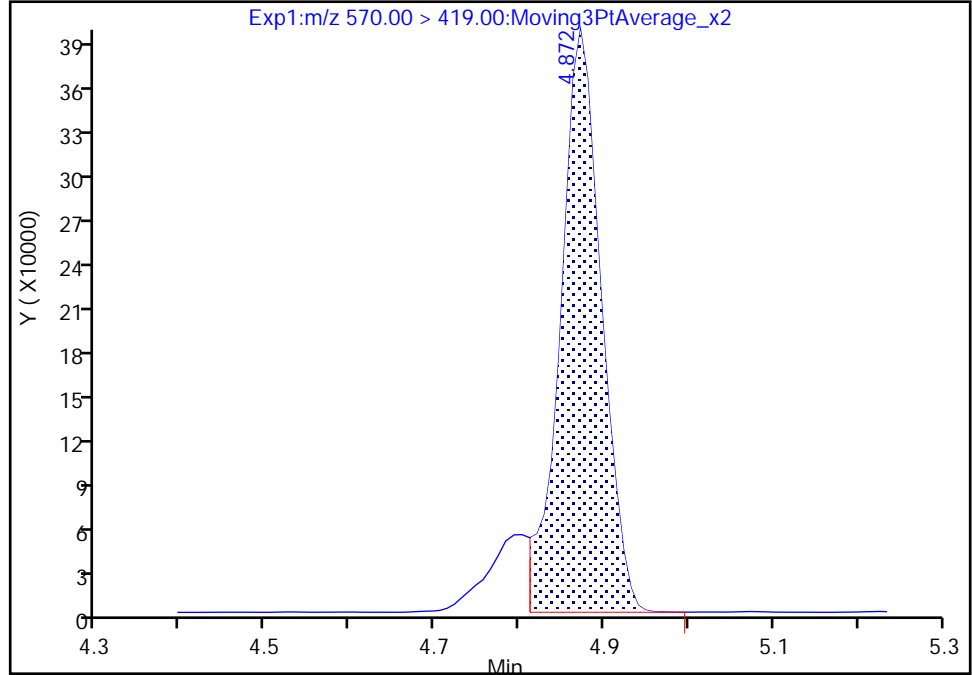
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

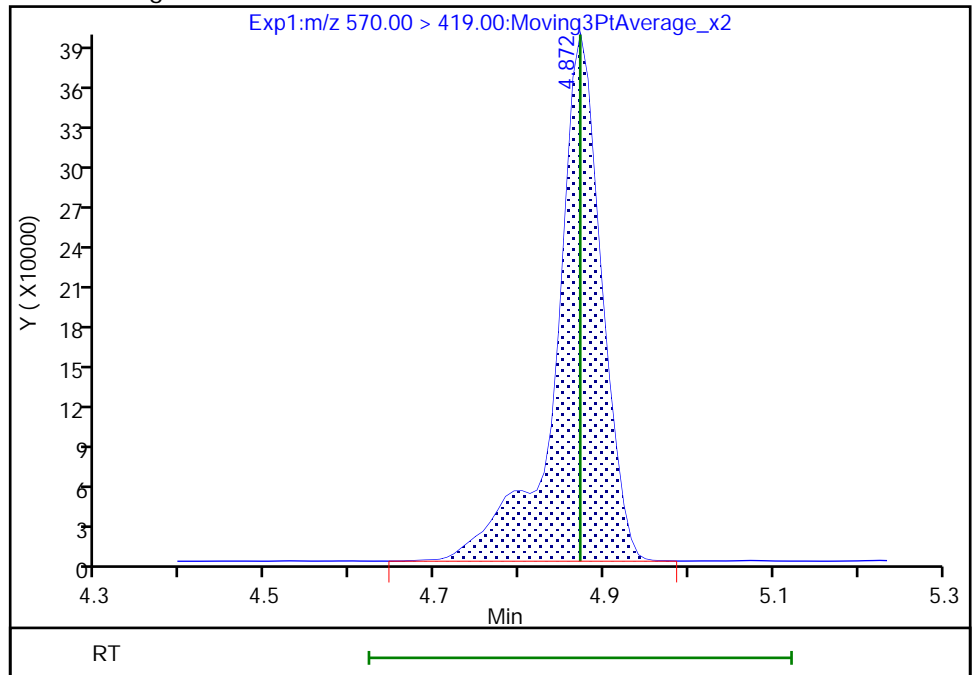
RT: 4.87  
Area: 1322986  
Amount: 2.095102  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1500582  
Amount: 2.367491  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:38  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

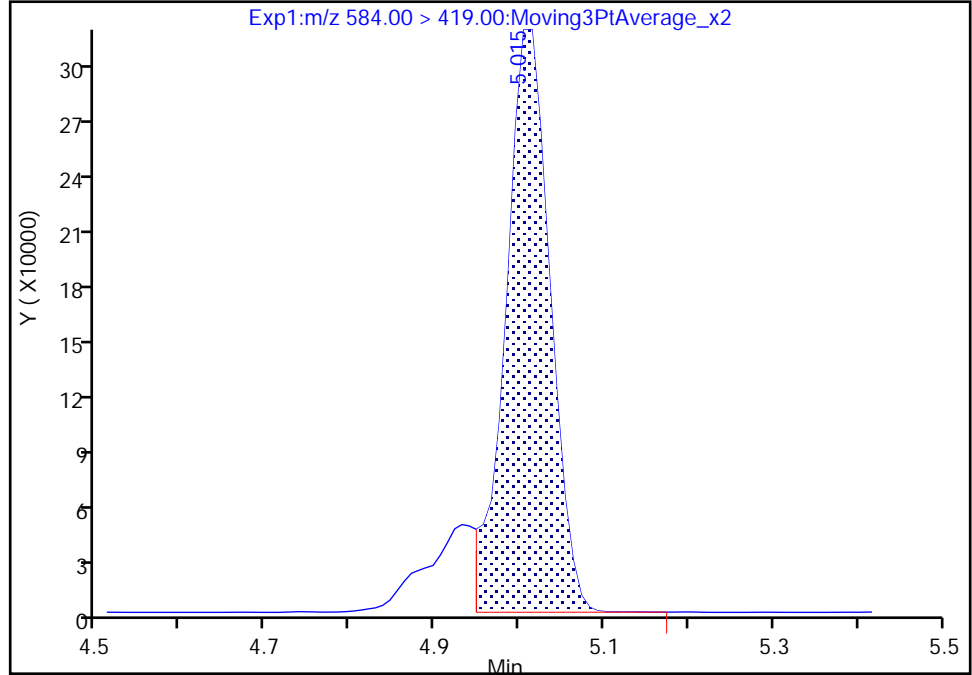
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Injection Date: 19-Feb-2022 23:54:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

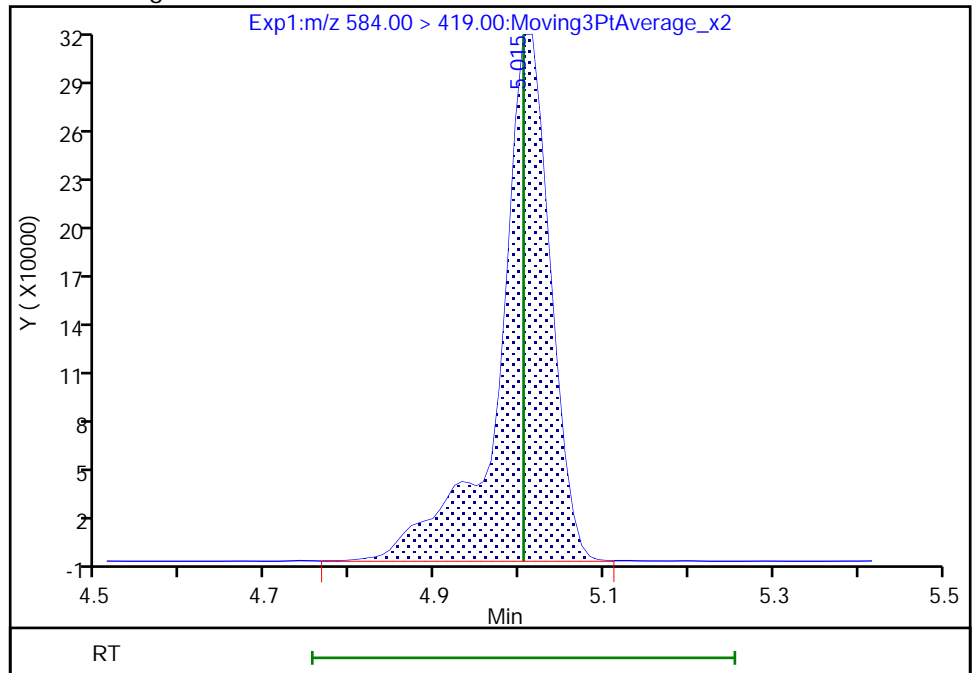
RT: 5.01  
Area: 1153649  
Amount: 2.262062  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 1344382  
Amount: 2.614355  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:49  
Audit Action: Manually Integrated

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/50 Calibration Date: 02/20/2022 01:04  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_050.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7334		0.925	1.00	-7.5	40.0
PFECA F	AveID	0.7535	0.6985		0.927	1.00	-7.3	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9080		0.965	1.00	-3.5	40.0
3:3 FTCA	QuaIF		0.0554		1.02	1.00	1.7	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.096		0.884	0.884	0.0	40.0
PFECA A	Q2ID		1.151		0.982	1.00	-1.8	40.0
PES	Q2ID		2.303		0.865	0.890	-2.8	40.0
PFECA B	Q2ID		0.3980		0.963	1.00	-3.7	40.0
4:2 FTS	L2ID		2.276		0.935	0.934	0.1	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7538		0.947	1.00	-5.3	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.040		0.945	0.938	0.7	40.0
HFPO-DA	L2ID		1.377		1.09	1.00	9.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.238		0.813	0.910	-10.6	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.068		1.07	1.00	6.5	40.0
DONA	AveID	2.644	2.296		0.818	0.942	-13.2	40.0
5:3 FTCA	L2ID		3.214		0.852	1.00	-14.8	40.0
6:2 FTUCA	AveID	1.046	1.033		0.987	1.00	-1.3	40.0
6:2 FTCA	L1ID		0.6353		0.915	1.00	-8.5	40.0
PFECHS	AveID	0.7426	0.6907		0.858	0.922	-7.0	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9227		0.890	0.952	-6.6	40.0
6:2 FTS	L2ID		1.668		0.864	0.948	-8.9	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.006		0.939	1.00	-6.1	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.049		0.850	0.928	-8.4	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7196		0.946	1.00	-5.4	40.0
7:3 FTCA	AveID	5.230	4.656		0.890	1.00	-11.0	40.0
8:2 FTUCA	AveID	0.9565	0.9020		0.943	1.00	-5.7	40.0
8:2 FTCA	AveID	1.811	1.619		0.894	1.00	-10.6	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.081		0.863	0.932	-7.4	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9423		0.894	0.960	-6.8	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9155		0.959	1.00	-4.1	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8747		0.972	1.00	-2.8	40.0
8:2 FTS	L2ID		1.539		0.980	0.958	2.2	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9290		1.01	1.00	0.5	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8334		0.902	0.964	-6.5	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/50 Calibration Date: 02/20/2022 01:04  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_050.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9624		0.995	1.00	-0.5	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9404		1.07	1.00	6.8	40.0
10:2 FTUCA	AveID	1.208	1.154		0.956	1.00	-4.5	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.684		0.911	0.942	-3.3	50.0
10:2 FTCA	Q2ID		1.020		1.11	1.00	11.1	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9327		0.903	1.00	-9.7	40.0
10:2 FTS	L2ID		2.055		0.944	0.964	-2.1	50.0
NMeFOSA	L2ID		1.030		0.954	1.00	-4.6	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.203		1.03	1.00	2.6	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9293		0.952	0.968	-1.7	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8154		0.923	1.00	-7.7	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.250		0.881	1.00	-11.9	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.249		1.00	1.00	0.0	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1278		0.990	1.00	-1.0	40.0
Perfluorohexadecanoic acid	L1ID		1.085		0.952	1.00	-4.8	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9266		0.915	1.00	-8.5	40.0
13C4 PFBA	Ave	1.172	1.220		1.30	1.25	4.1	50.0
13C5 PFPeA	Ave	0.9197	0.8985		1.22	1.25	-2.3	50.0
13C3 PFBS	Ave	0.5817	0.5811		1.16	1.16	-0.1	50.0
M2-4:2 FTS	Ave	0.1821	0.1822		1.17	1.17	0.0	50.0
13C2 PFHxA	Ave	1.015	1.005		1.24	1.25	-1.0	50.0
13C3 HFPO-DA	Ave	0.4963	0.4552		1.15	1.25	-8.3	50.0
18O2 PFHxS	Ave	0.3776	0.4164		1.30	1.18	10.3	50.0
13C4 PFHpA	Ave	0.9046	0.8638		1.19	1.25	-4.5	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3673		1.36	1.25	8.9	50.0
13C-6:2 FTCA	Ave	0.0260	0.0304		1.46	1.25	16.9	50.0
M2-6:2 FTS	Ave	0.1799	0.2000		1.32	1.19	11.1	50.0
13C4 PFOA	Ave	0.9356	0.9934		1.33	1.25	6.2	50.0
13C4 PFOS	Ave	0.5610	0.6192		1.32	1.20	10.4	50.0
13C5 PFNA	Ave	1.268	1.356		1.34	1.25	6.9	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5772		1.60	1.25	27.7	50.0
13C-8:2 FTCA	Ave	0.0330	0.0418		1.58	1.25	26.4	50.0
13C8 FOSA	Ave	0.8475	0.9241		1.36	1.25	9.0	50.0
13C2 PFDA	Ave	1.210	1.269		1.31	1.25	4.9	50.0
M2-8:2 FTS	Ave	0.1961	0.2125		1.30	1.20	8.3	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/50 Calibration Date: 02/20/2022 01:04  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_050.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1517		1.67	1.25	33.7	50.0
13C2 PFUnA	Ave	1.168	1.179		1.26	1.25	0.9	50.0
d5-NEtFOSAA	Ave	0.1164	0.1477		1.59	1.25	26.9	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5239		1.29	1.25	3.2	50.0
13C-10:2 FTCA	Ave	0.0309	0.0275		1.11	1.25	-10.9	50.0
13C2 PFDoA	Ave	1.152	1.211		1.31	1.25	5.0	50.0
13C2 10:2 FTS	Ave	0.1652	0.1738		1.25	1.18	5.2	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1131		1.19	1.25	-4.6	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1078		1.34	1.25	6.8	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1191		1.21	1.25	-3.2	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0797		1.23	1.25	-1.5	50.0
13C2 PFTeDA	Ave	0.9216	0.8842		1.20	1.25	-4.1	50.0
13C2 PFHxDA	Ave	0.5997	0.5828		1.22	1.25	-2.8	50.0
13C8 PFOA	AveID	0.9229	0.9413		1.28	1.25	2.0	50.0
13C8 PFOS	AveID	0.2212	0.2215		1.20	1.20	0.1	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_050.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 20-Feb-2022 01:04:57 ALS Bottle#: 50 Worklist Smp#: 50  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-050 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:48 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:20:25

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.798	2.804	-0.006	1.000	3609070	0.9246		92.5	1398	
D 2 13C4 PFBA										
217.00 > 172.00	2.798	2.804	-0.006	0.679	6151054	1.30		104	18554	
3 PFECA F										
229.00 > 85.00	2.912	2.911	0.001	0.937	2531628	0.9270		92.7	12252	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.108	3.115	-0.006	1.000	3290824	0.9653		96.5	1327	
D 5 13C5 PFPeA										
267.90 > 223.00	3.108	3.115	-0.006	0.754	4530490	1.22		97.7	17363	
4 3:3 FTCA										
241.00 > 177.10	3.124	3.122	0.002	1.000	129808	1.02	Target=1.13	102	1422	
241.00 > 116.90	3.124	3.122	0.002	1.000	104552		1.24(0.56-1.69)		150	
D 7 13C3 PFBS										
301.90 > 80.00	3.124	3.122	0.002	0.758	2725182	1.16		99.9	10037	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.124	3.131	-0.007	1.000	2271531	0.8841	Target=2.61	100	3739	
298.90 > 99.00	3.124	3.131	-0.007	1.000	854047		2.66(1.31-3.92)		2405	
9 PFECA A										
278.95 > 84.90	3.203	3.202	0.001	1.031	4172637	0.9821		98.2	18055	
11 PES										
314.80 > 135.00	3.251	3.260	-0.009	1.041	4805169	0.8652		97.2	17731	
12 PFECA B										
295.22 > 201.00	3.375	3.373	0.002	0.981	1613685	0.9630		96.3	9445	
13 4:2 FTS										
327.00 > 307.00	3.406	3.415	-0.009	1.000	1562742	0.9352		100	8155	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.406	3.415	-0.009	0.826	858103	1.17		100	1704	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.439	3.437	0.002	1.101	2286651	0.9449	Target=3.55	101	5691	
349.00 > 99.00	3.439	3.437	0.002	1.101	623835		3.67(1.78-5.33)		5427	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.439	3.437	0.002	1.000	3055974	0.9473	Target=11.60	94.7	1680	
313.00 > 119.00	3.439	3.437	0.002	1.000	278707		10.96(5.80-17.40)		283	
D 14 13C2 PFHxA										
315.00 > 270.00	3.439	3.437	0.002	0.834	5067479	1.24		99.0	16292	
17 HFPO-DA										
285.00 > 169.00	3.544	3.542	0.002	1.000	2528264	1.09	Target=2.45	109	801	
329.00 > 169.00	3.544	3.542	0.002	1.000	946197		2.67(1.23-3.68)		814	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.542	0.002	0.860	2295567	1.15		91.7	8053	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.774	3.772	0.002	1.000	1892358	0.8133	Target=3.44	89.4	3152	M
399.00 > 99.00	3.774	3.772	0.002	1.000	561110		3.37(1.72-5.17)		1536	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.774	3.772	0.002	0.915	1986332	1.30		110	8867	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.784	3.792	-0.008	1.000	3719864	1.07	Target=3.25	107	2819	
363.00 > 169.00	3.784	3.792	-0.008	1.000	1090327		3.41(1.62-4.87)		1721	
D 22 13C4 PFHpA										
367.00 > 322.00	3.784	3.792	-0.008	0.918	4355554	1.19		95.5	10710	
25 DONA										
377.00 > 251.00	3.822	3.820	0.002	0.867	5401414	0.8180	Target=1.74	86.8	11016	
377.00 > 85.00	3.822	3.820	0.002	0.867	3044688		1.77(0.87-2.61)		129	
26 5:3 FTCA										
340.88 > 236.90	3.846	3.853	-0.007	0.987	394256	0.8521	Target=1.11	85.2	1652	
340.88 > 216.90	3.846	3.853	-0.007	0.987	348350		1.13(0.56-1.67)		975	
27 6:2 FTUCA										
356.86 > 292.90	3.879	3.886	-0.007	1.000	1530538	0.9872	Target=13.05	98.7	3137	
356.86 > 243.00	3.879	3.886	-0.007	1.000	103971		14.72(6.52-19.57)		422	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.886	-0.007	0.941	1852142	1.36		109	3445	
29 6:2 FTCA										
377.10 > 63.00	3.896	3.903	-0.007	1.000	77934	0.9146	Target=1.29	91.5	293	
377.10 > 313.10	3.905	3.903	0.002	1.002	60258		1.29(0.65-1.94)		128	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.896	3.903	-0.007	0.945	153338	1.46		117	1022	
32 PFECHS										
460.80 > 380.90	4.056	4.054	0.002	0.984	2552074	0.8576	Target=1.75	93.0	5571	
460.80 > 98.90	4.056	4.054	0.002	0.984	1535373		1.66(0.87-2.62)		3710	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.104	4.111	-0.007	0.931	2194217	0.8895	Target=3.72	93.4	7273	
449.00 > 99.00	4.104	4.111	-0.007	0.931	556917		3.94(1.86-5.57)		2027	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.113	4.121	-0.008	1.000	1275453	0.8640		91.1	2738	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.123	4.121	0.002	1.000	4029667	0.9393	Target=2.51	93.9	2621	
413.00 > 169.00	4.123	4.121	0.002	1.000	1618509		2.49(1.26-3.77)		2064	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.113	4.121	-0.008	0.998	4714907	1.27		102	8249	
* 30 13C2 PFOA										
415.00 > 370.00	4.123	4.121	0.002		5042506	1.25			8748	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.113	4.121	-0.008	0.998	958067	1.32		111	2716	
D 31 13C4 PFOA										
417.00 > 372.00	4.123	4.121	0.002	1.000	5009018	1.33		106	12041	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.406	4.412	-0.006	1.000	661060	1.20		100	1876	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.406	4.412	-0.006	1.000	2431562	0.8500	Target=4.30	91.6	3892	M
499.00 > 99.00	4.406	4.412	-0.006	1.000	545421		4.46(2.15-6.45)		1552	M
D 39 13C4 PFOS										
503.00 > 80.00	4.406	4.412	-0.006	1.069	2984960	1.32		110	3798	
42 Perfluorononanoic acid										
463.00 > 419.00	4.432	4.438	-0.006	1.000	3937383	0.9462	Target=3.60	94.6	3914	
463.00 > 169.00	4.432	4.438	-0.006	1.000	998536		3.94(1.80-5.40)		2960	
D 41 13C5 PFNA										
468.00 > 423.00	4.432	4.438	-0.006	1.075	6839122	1.34		107	8153	
43 7:3 FTCA										
441.00 > 337.00	4.522	4.519	0.003	0.993	784715	0.8903	Target=1.42	89.0	1767	
441.00 > 317.00	4.513	4.519	-0.006	0.991	579595		1.35(0.71-2.13)		2308	
44 8:2 FTUCA										
456.86 > 392.90	4.539	4.545	-0.006	1.000	2100351	0.9431	Target=35.37	94.3	5421	
456.86 > 343.00	4.539	4.545	-0.006	1.000	54081		38.84(17.68-53.05)		194	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.539	4.545	-0.006	1.000	2910646	1.60		128	8604	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.555	4.553	0.002	1.105	210680	1.58		126	712	
46 8:2 FTCA										
477.00 > 393.10	4.555	4.561	-0.006	1.000	272858	0.8940	Target=3.35	89.4	973	
477.00 > 63.20	4.555	4.561	-0.006	1.000	82619		3.30(1.68-5.03)		360	
49 9CIFOS										
531.00 > 351.00	4.571	4.578	-0.007	1.109	4844469	0.8626		92.6	6855	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.690	4.697	-0.007	1.065	2259652	0.8944	Target=3.99	93.2	5286	
549.00 > 99.00	4.690	4.697	-0.007	1.065	561842		4.02(2.00-5.99)		1836	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.707	4.705	0.002	1.000	3412734	0.9586		95.9	7046	
D 55 13C8 FOSA										
506.00 > 78.00	4.707	4.705	0.002	1.142	4659590	1.36		109	4484	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.716	4.722	-0.006	1.000	4478362	0.9722	Target=10.58	97.2	4079	
513.00 > 169.00	4.716	4.722	-0.006	1.000	397261		11.27(5.29-15.88)		318	
D 52 13C2 PFDA										
515.00 > 470.00	4.716	4.722	-0.006	1.144	6400087	1.31		105	11875	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.733	4.731	0.002	1.148	1026378	1.30		108	1697	
53 8:2 FTS										
527.00 > 507.00	4.733	4.739	-0.006	1.000	1263804	0.9795		102	4638	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.857	4.872	-0.015	1.178	765027	1.67		134	563	
57 NMeFOSAA										
570.00 > 419.00	4.866	4.872	-0.006	1.002	568574	1.01		101	1004	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.951	4.957	-0.006	1.124	2006773	0.9017	Target=3.55	93.5	6214	
599.00 > 99.00	4.951	4.957	-0.006	1.124	532553		3.77(1.78-5.33)		2459	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.978	4.985	-0.007	1.000	4577094	1.00	Target=8.26	99.5	5358	
563.00 > 169.00	4.978	4.985	-0.007	1.000	522830		8.75(4.13-12.39)		2257	
D 59 13C2 PFUnA										
565.00 > 520.00	4.978	4.985	-0.007	1.208	5944812	1.26		101	8595	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.997	5.005	-0.008	1.212	744829	1.59		127	2430	
62 NEtFOSAA										
584.00 > 419.00	4.997	5.005	-0.008	1.000	560326	1.07		107	661	M
65 10:2 FTUCA										
556.86 > 492.90	5.085	5.092	-0.007	1.000	2439227	0.9555		95.5	8046	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.085	5.092	-0.007	1.233	2641550	1.29		103	6294	
63 11CIFOS										
631.00 > 451.00	5.085	5.092	-0.007	1.154	3962895	0.9106		96.7	7704	
66 10:2 FTCA										
576.80 > 493.00	5.104	5.102	0.002	1.002	113321	1.11	Target=2.53	111	494	
576.80 > 63.10	5.095	5.102	-0.007	1.000	47017		2.41(1.26-3.79)		234	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.095	5.111	-0.016	1.236	138895	1.11		89.1	714	
D 69 13C2 PFDaA										
615.00 > 570.00	5.220	5.226	-0.006	1.266	6104178	1.31		105	18373	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.220	5.226	-0.006	1.000	4554869	0.9029	Target=6.85	90.3	4020	
613.00 > 169.00	5.220	5.226	-0.006	1.000	668811		6.81(3.43-10.28)		1549	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.237	5.243	-0.007	1.270	830254	1.25		105	4081	
71 10:2 FTS										
627.00 > 607.00	5.237	5.251	-0.015	1.000	1389402	0.9440		97.9	4856	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.277	5.275	0.002	1.280	570235	1.19		95.4	491	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.277	5.283	-0.006	1.280	543569	1.34		107	40.3	
74 NMeFOSA										
512.00 > 169.00	5.277	5.283	-0.006	1.000	448058	0.9541		95.4	609	
75 N-MeFOSE-M										
616.00 > 59.00	5.285	5.292	-0.007	1.002	548999	1.03		103	919	
76 PFDoS										
699.00 > 80.00	5.392	5.399	-0.007	1.224	2246884	0.9515	Target=4.22	98.3	3986	
699.00 > 99.00	5.392	5.399	-0.007	1.224	521129		4.31(2.11-6.34)		3210	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.437	5.435	0.002	1.319	600543	1.21		96.8	314	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.428	5.435	-0.007	1.040	3981775	0.9234	Target=6.32	92.3	3945	
663.00 > 169.00	5.419	5.435	-0.016	1.038	621769		6.40(3.16-9.48)		2736	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.446	5.452	-0.006	1.321	401950	1.23		98.5	649	
79 N-EtFOSE-M										
630.00 > 59.00	5.446	5.452	-0.006	1.002	600521	0.8809		88.1	540	
81 N-EtFOSA-M										
526.00 > 169.00	5.446	5.452	-0.006	1.000	401600	1.00		100	496	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.609	5.617	-0.008	1.361	4458345	1.20		95.9	12137	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.609	5.617	-0.008	1.000	455999	0.99	Target=1.01	99.0	1690	
713.00 > 219.00	5.600	5.617	-0.017	0.998	441657		1.03(0.51-1.52)		1876	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.917	5.924	-0.007	1.435	2938534	1.21		97.2	6559	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.917	5.924	-0.007	1.000	2550288	0.9522	Target=8.64	95.2	3412	
813.00 > 169.00	5.917	5.924	-0.007	1.000	314987		8.10(4.32-12.97)		1154	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.174	6.184	-0.010	1.043	2178326	0.9148	Target=11.77	91.5	3205	
913.00 > 169.00	6.174	6.184	-0.010	1.043	189376		11.50(5.88-17.65)		779	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_050.d

Injection Date: 20-Feb-2022 01:04:57

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 50

Worklist Smp#: 50

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

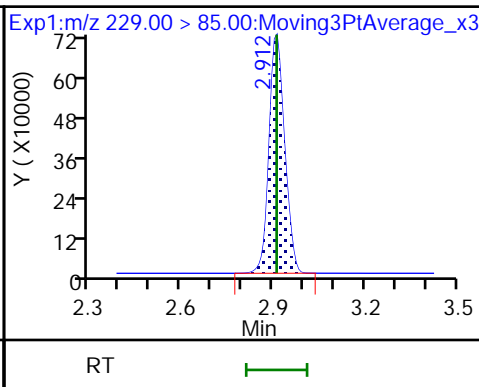
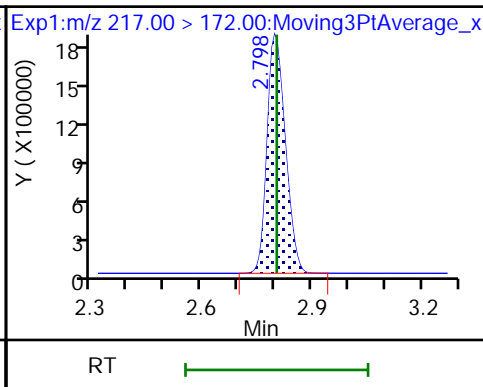
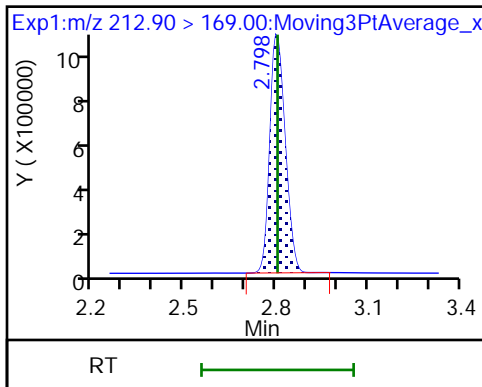
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

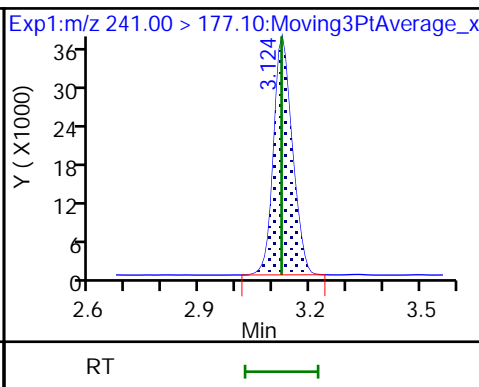
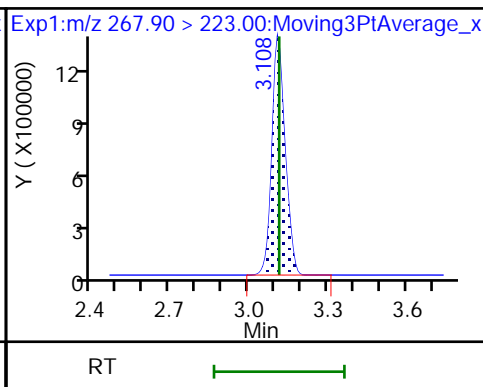
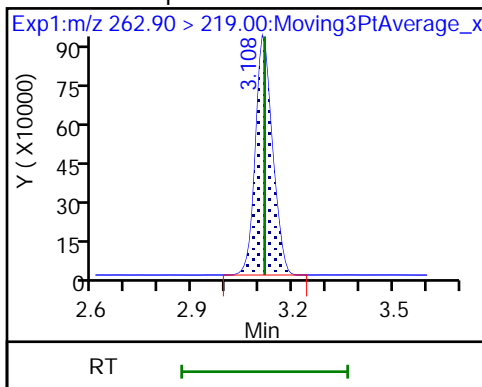
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

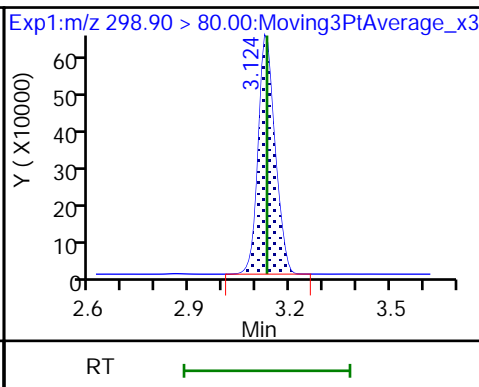
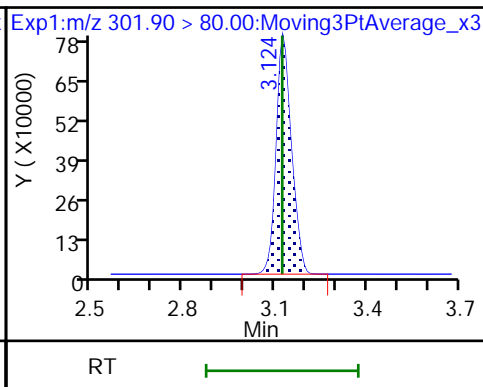
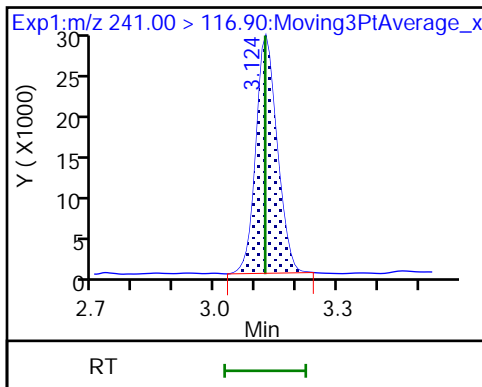
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

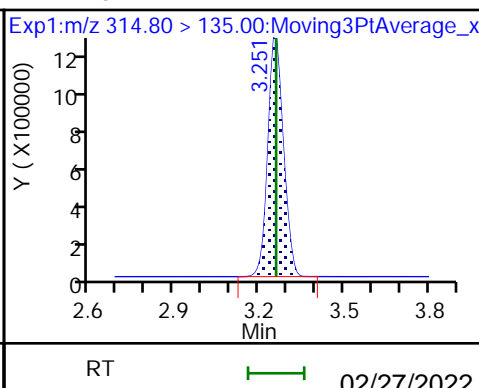
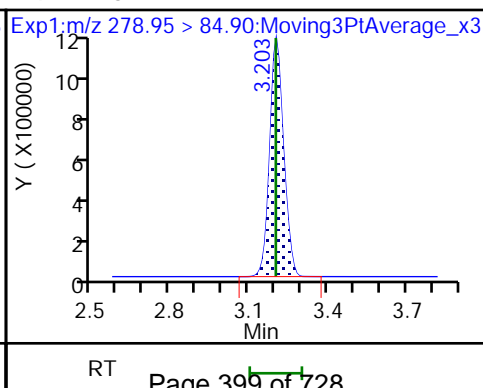
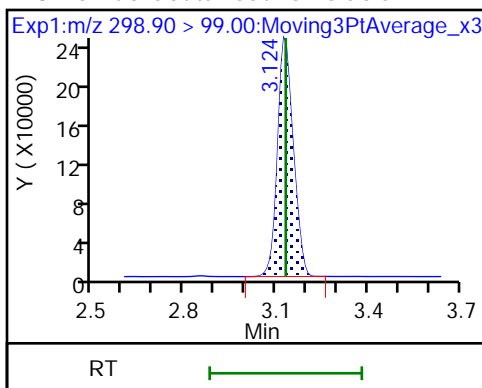
8 Perfluorobutanesulfonic acid

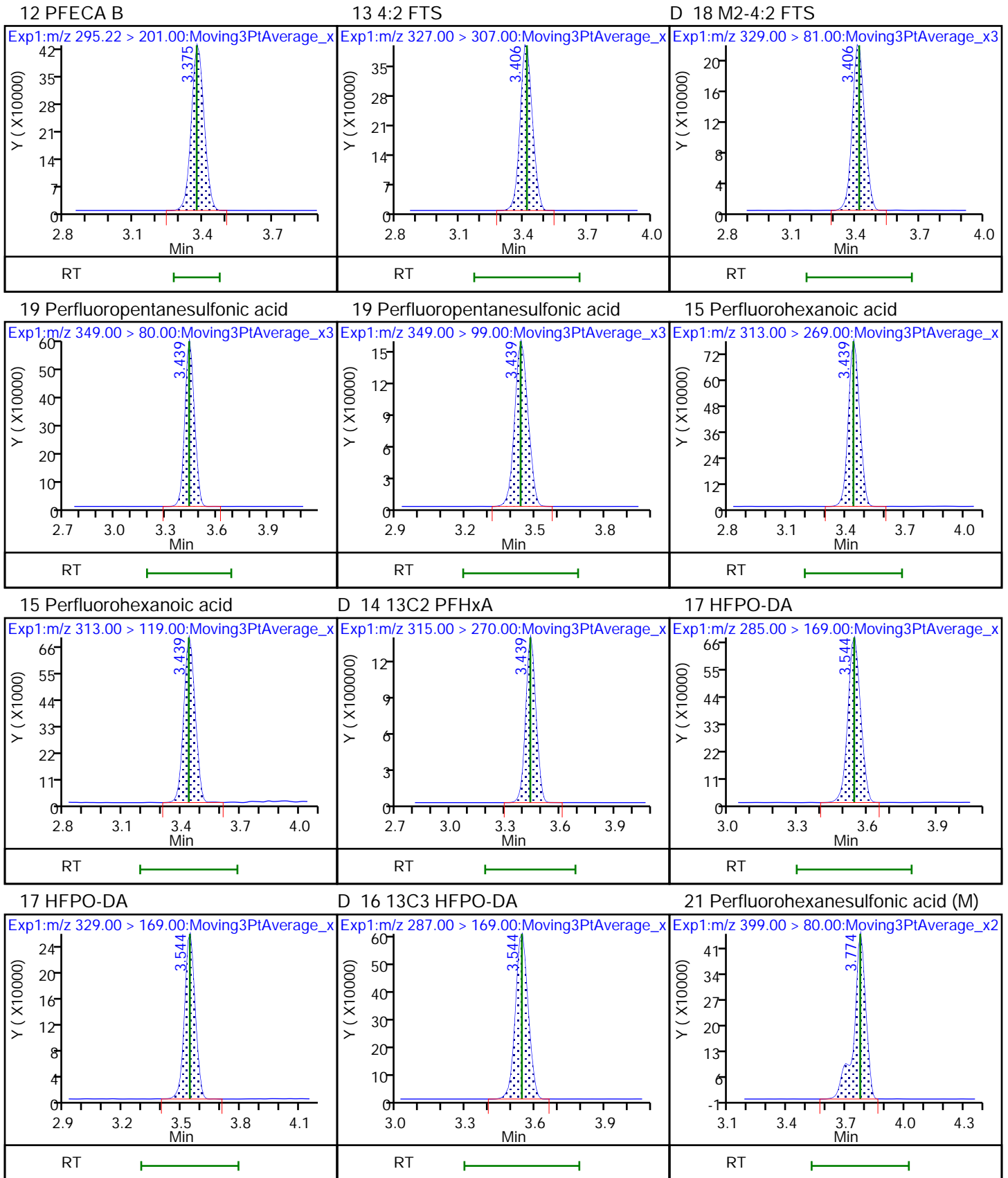


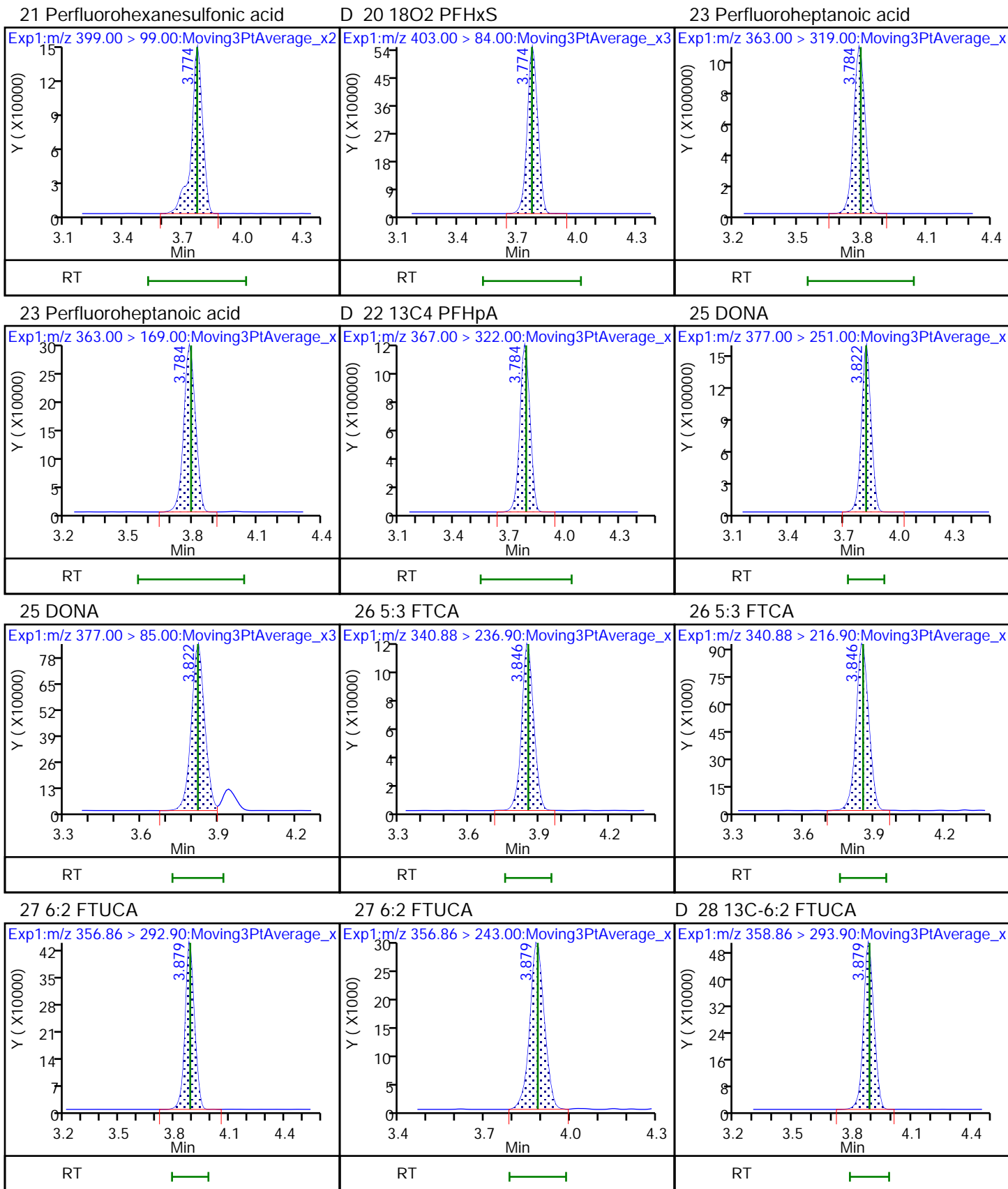
8 Perfluorobutanesulfonic acid

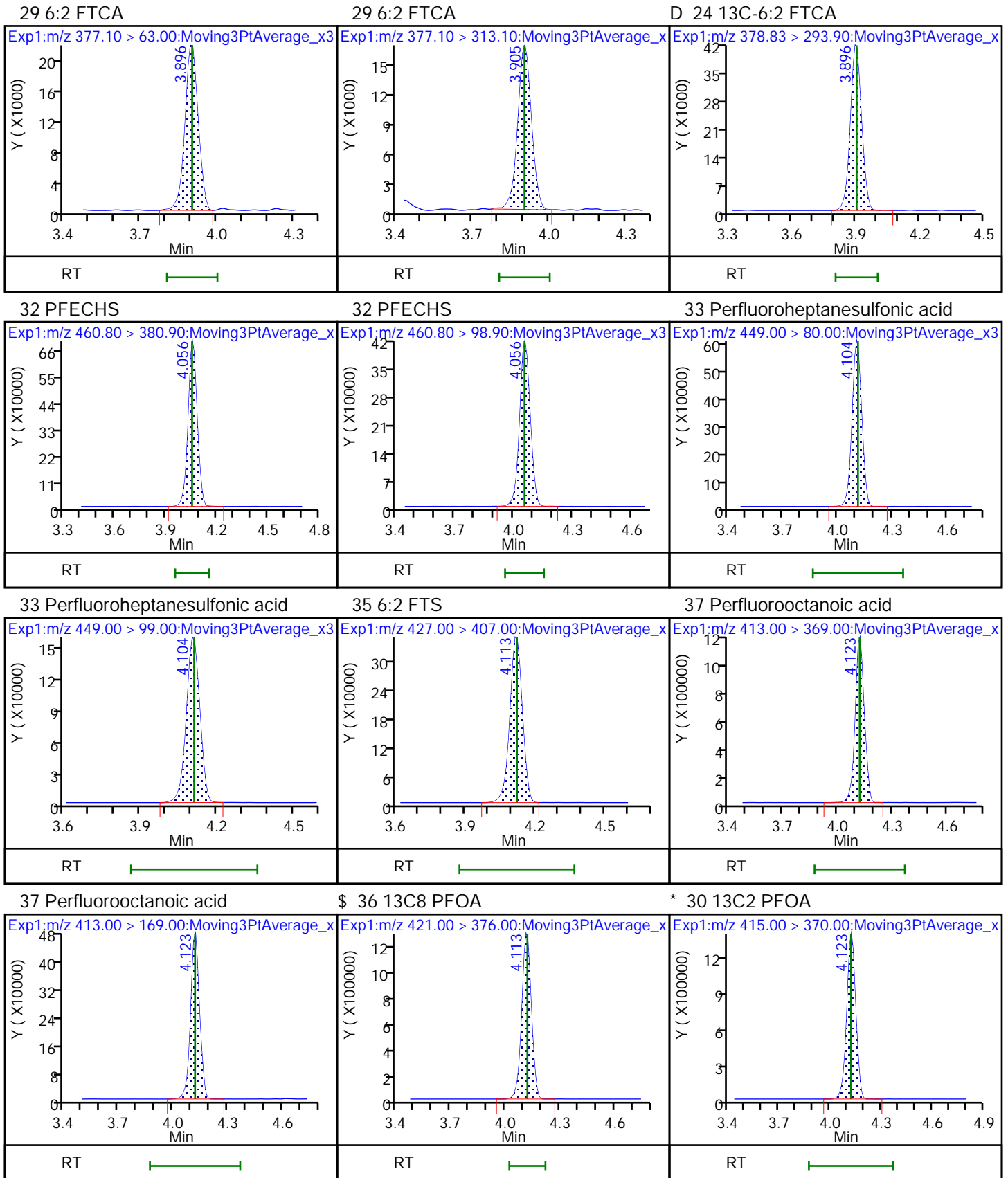
9 PFECA A

11 PES





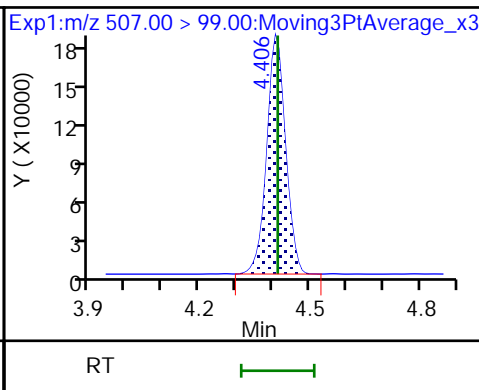
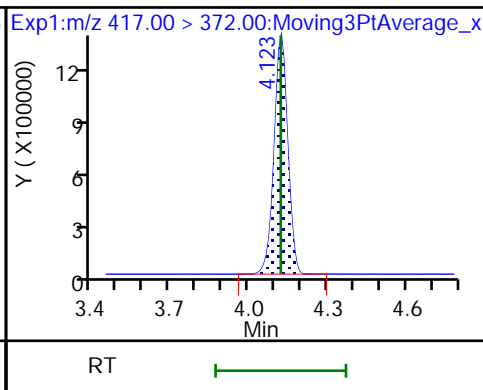
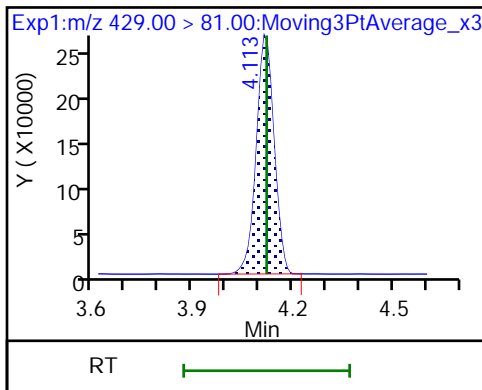




D 34 M2-6:2 FTS

D 31 13C4 PFOA

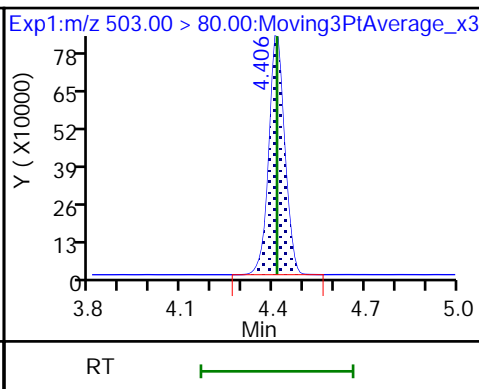
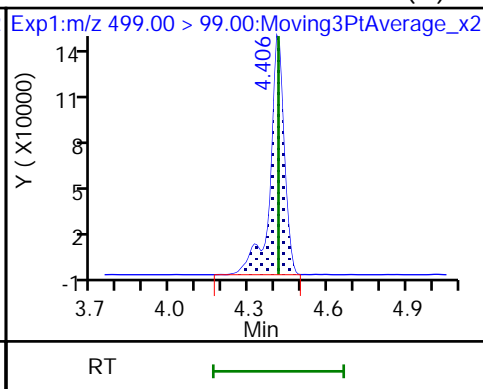
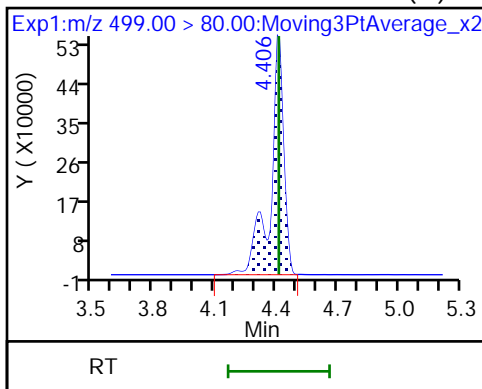
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid (M)

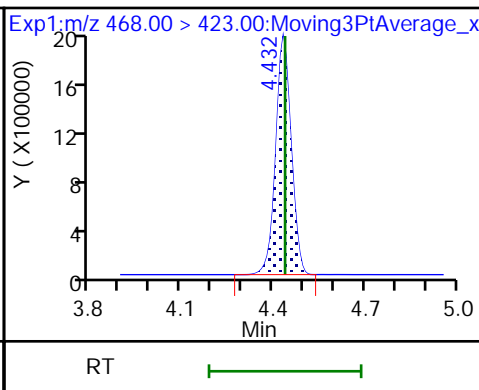
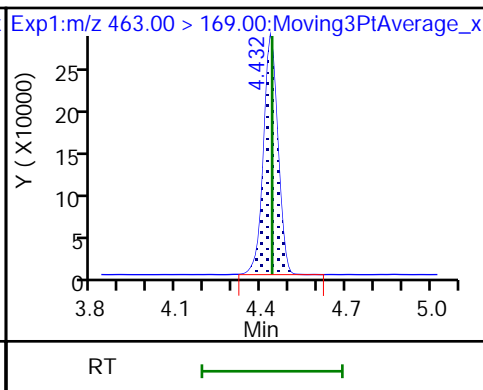
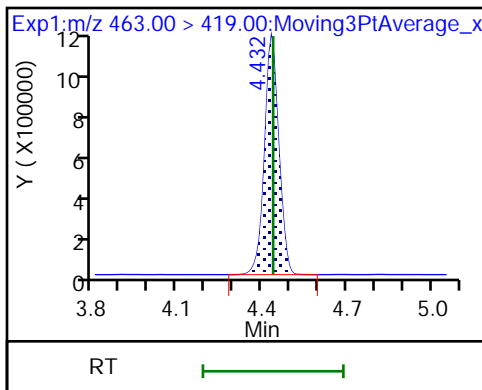
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

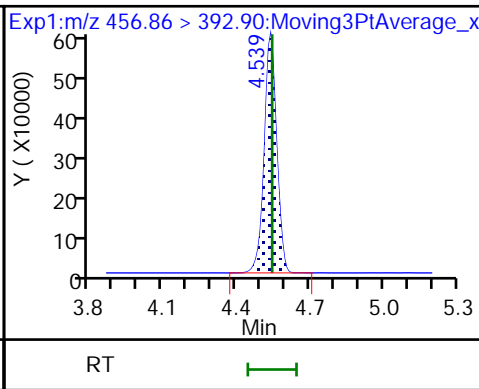
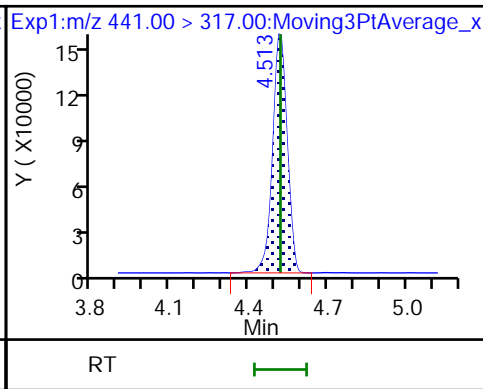
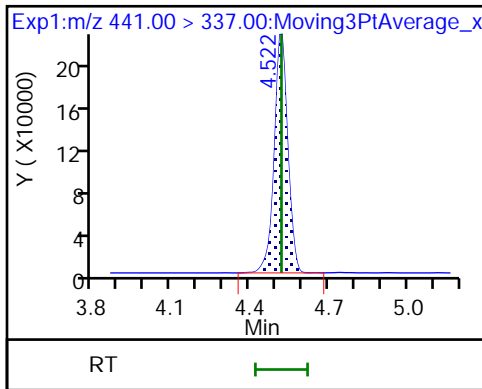
D 41 13C5 PFNA

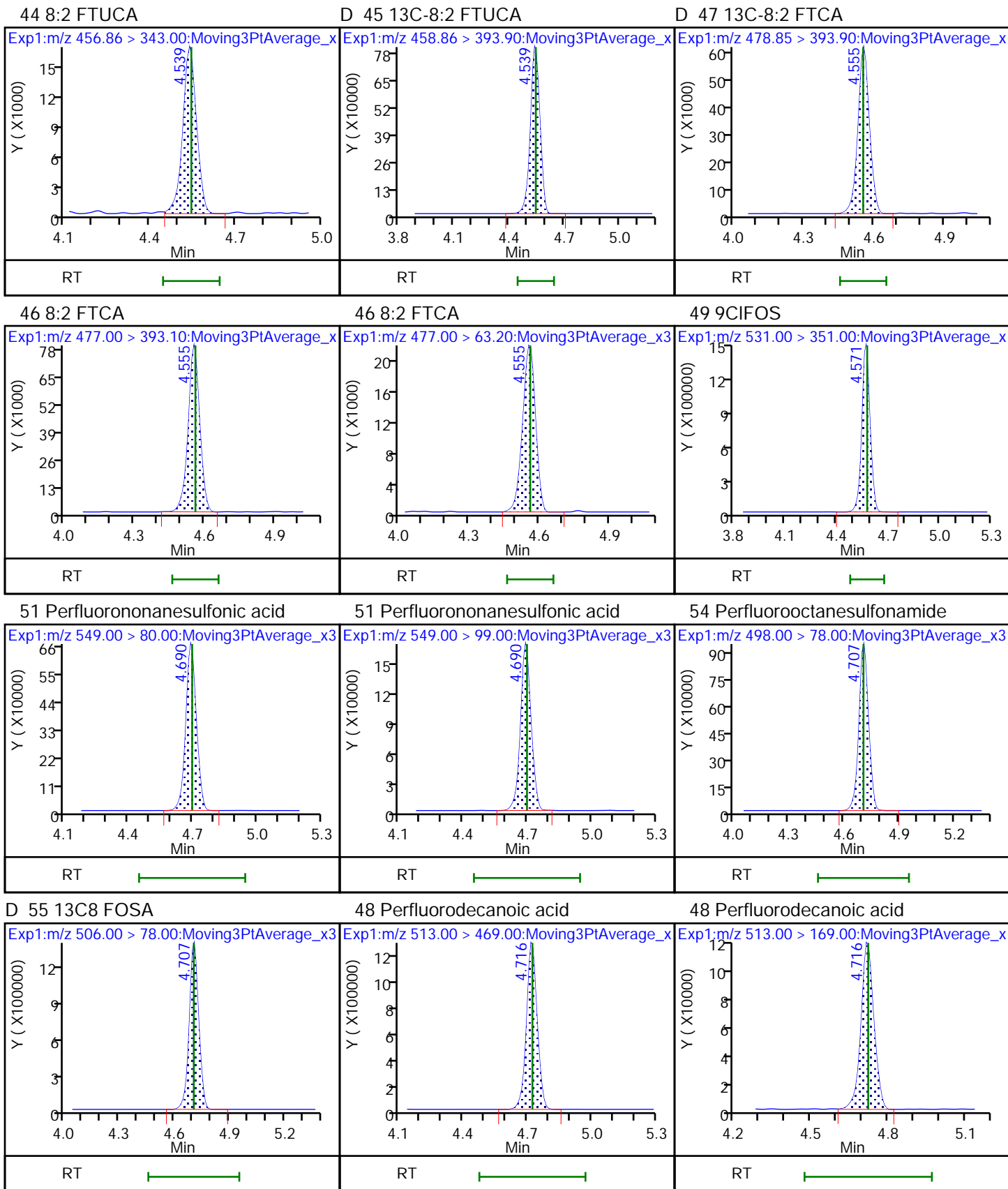


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA

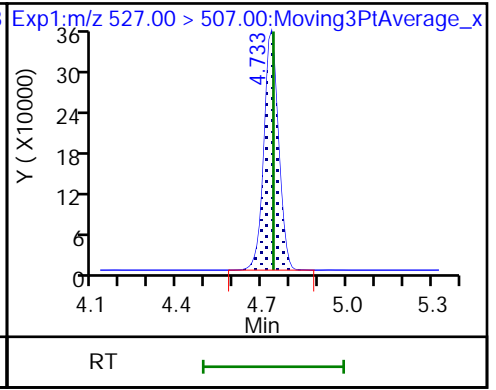
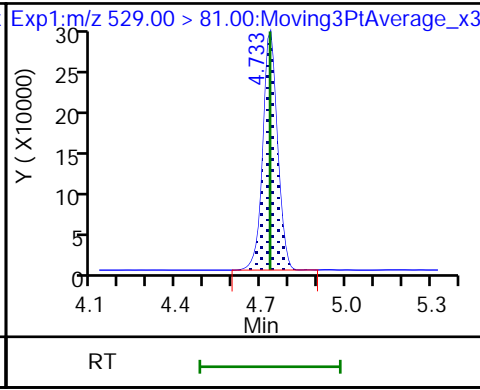
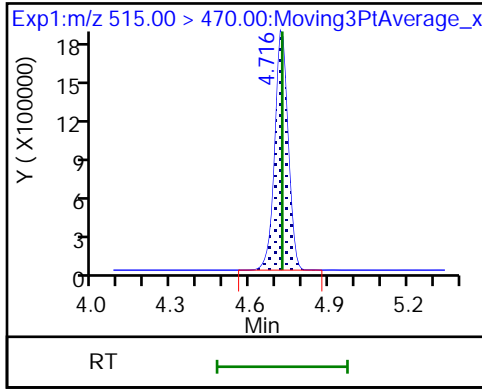




D 52 13C2 PFDA

D 50 M2-8:2 FTS

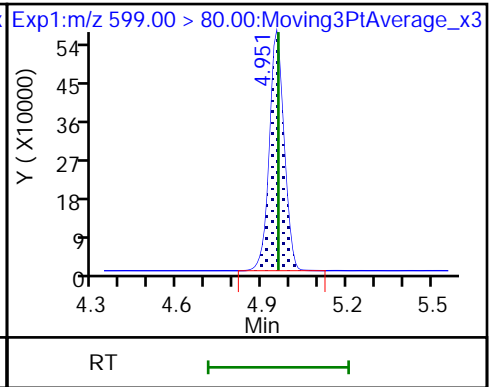
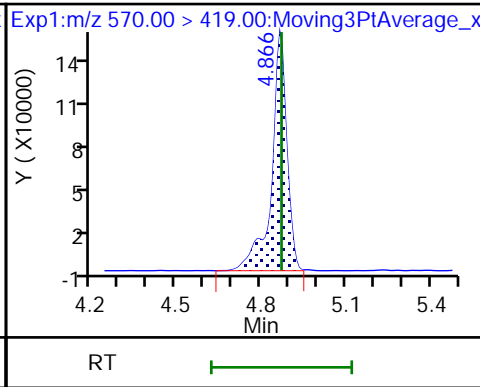
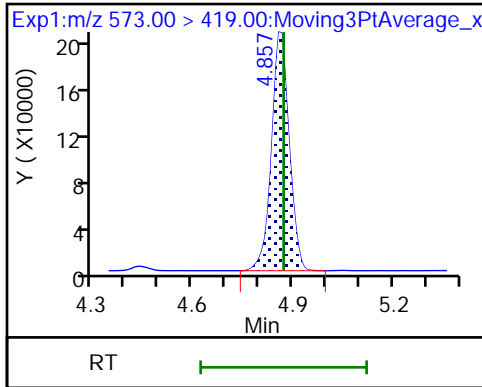
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

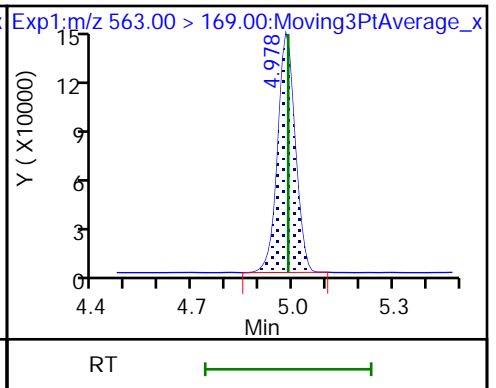
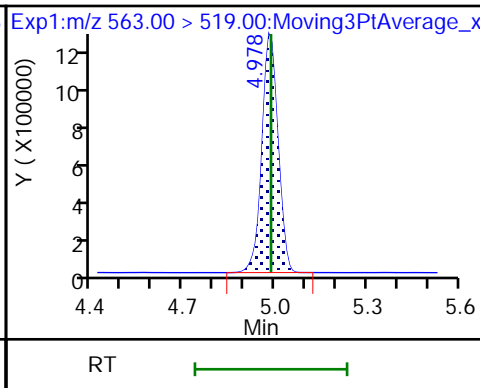
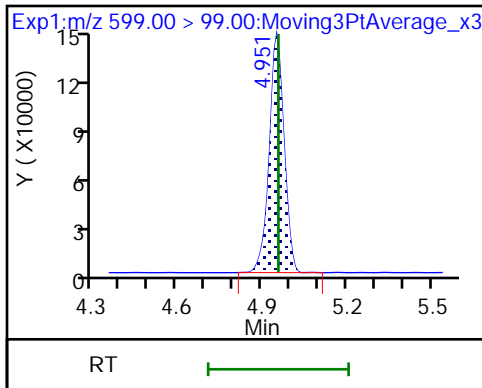
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

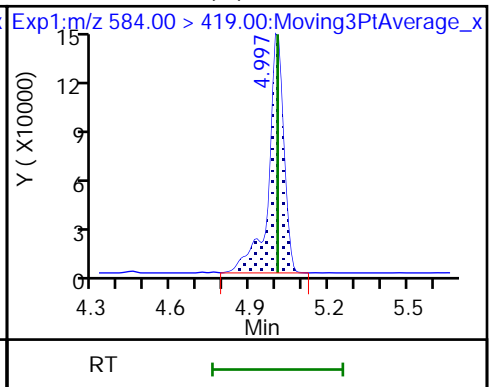
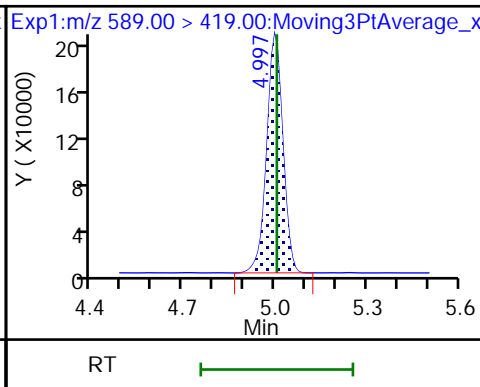
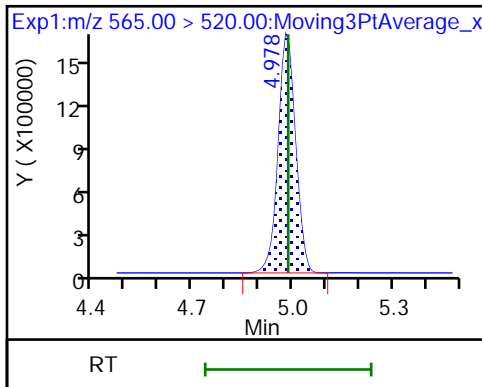
60 Perfluoroundecanoic acid



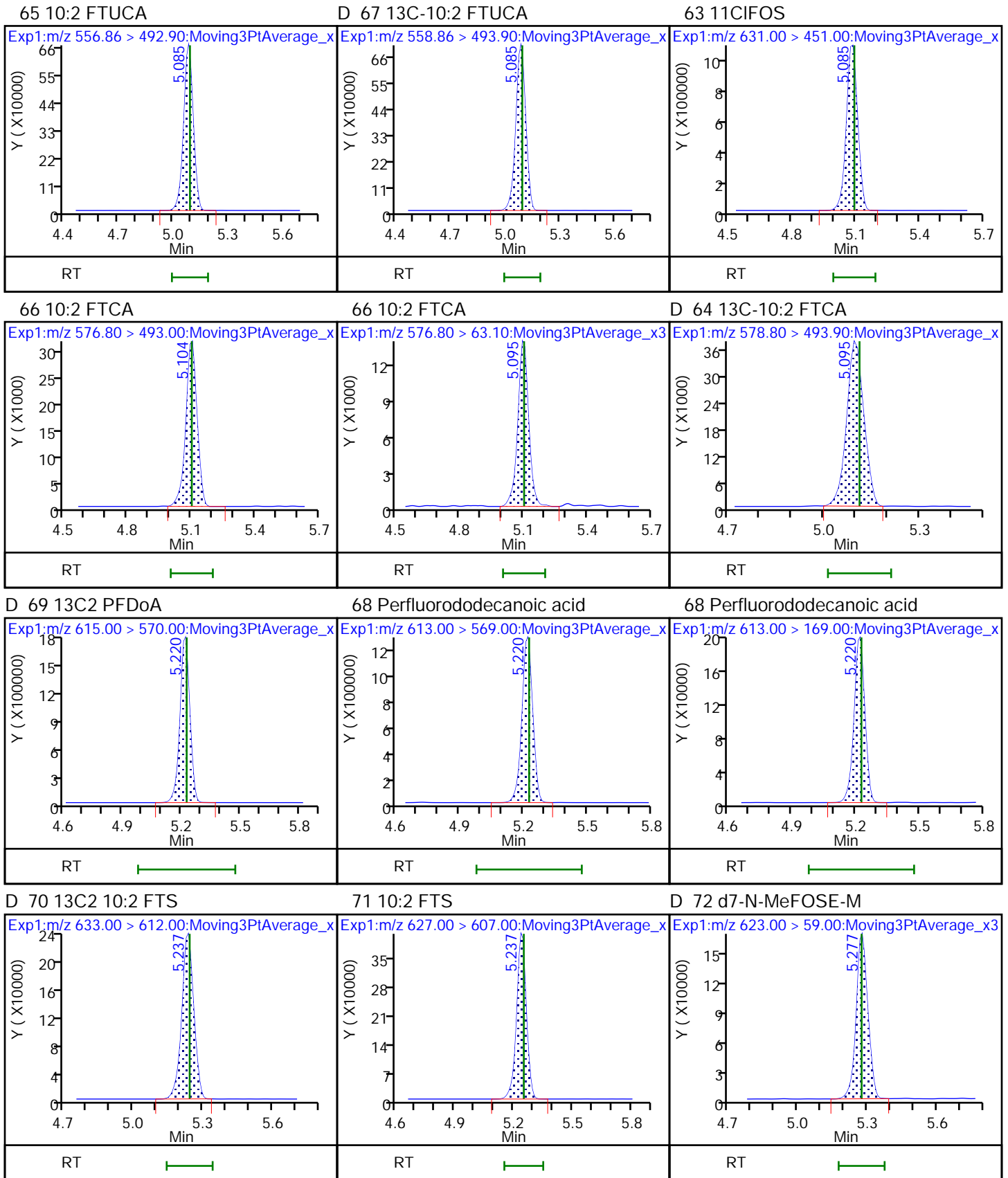
D 59 13C2 PUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)



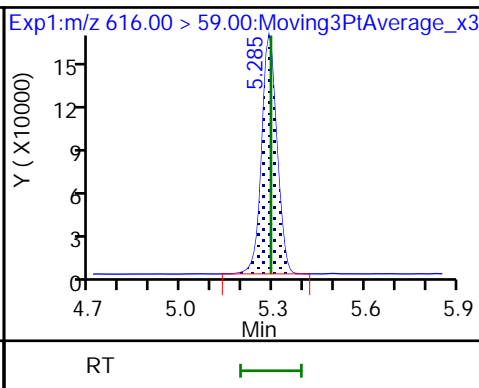
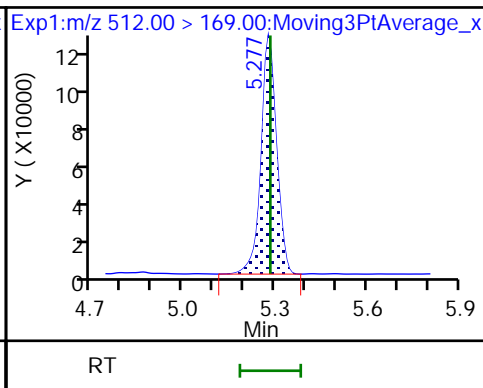
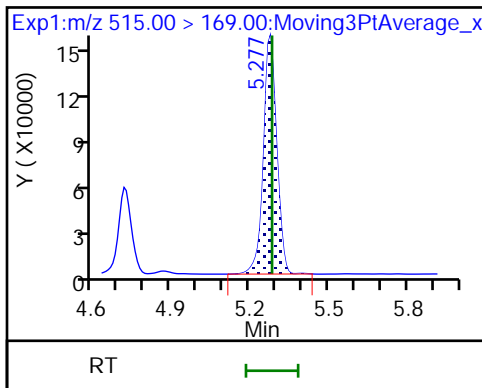




D 73 d-N-MeFOSA-M

74 NMeFOSA

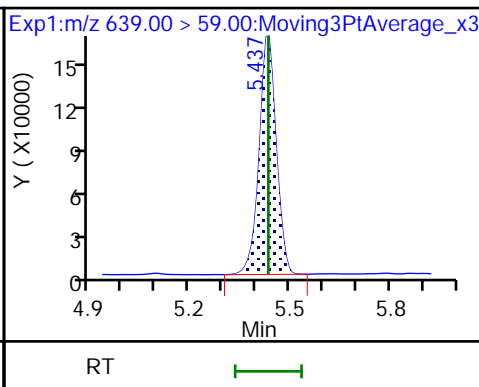
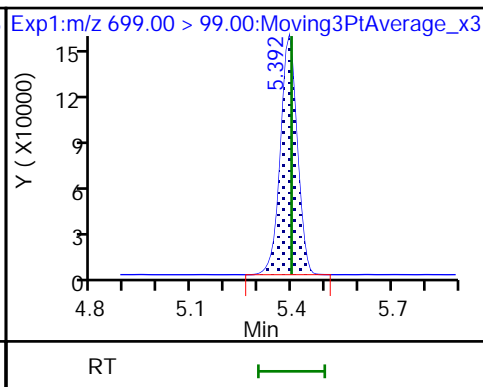
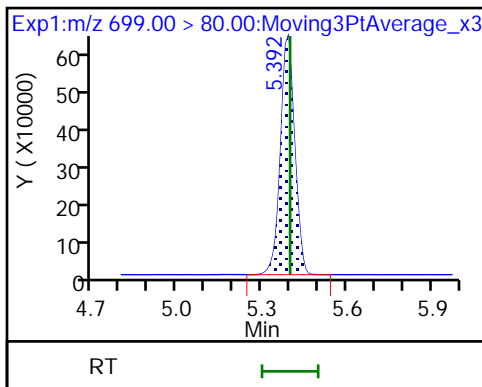
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

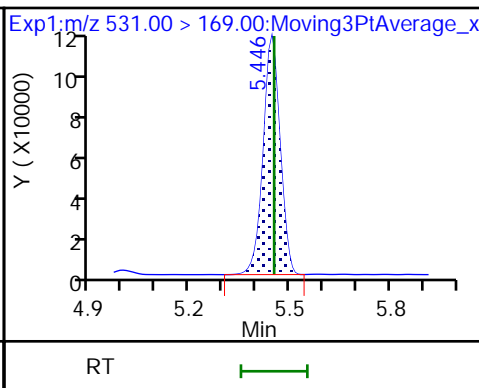
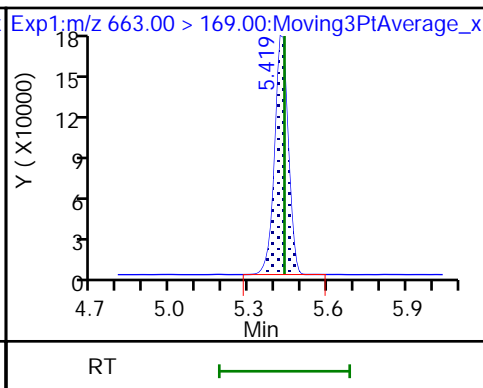
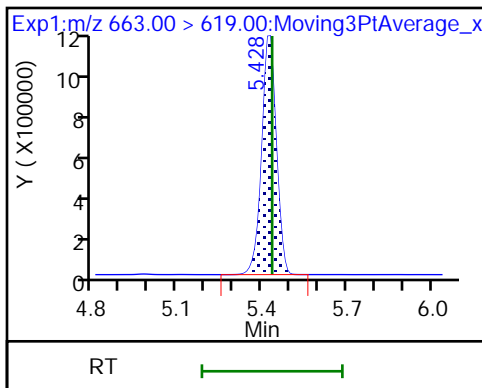
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

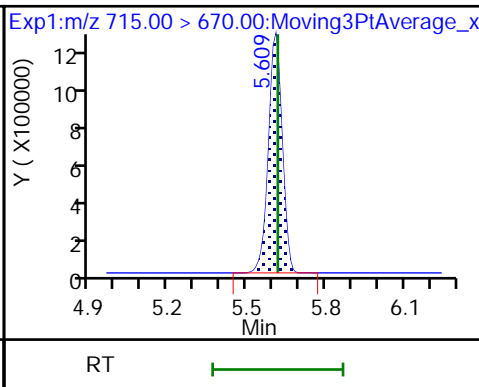
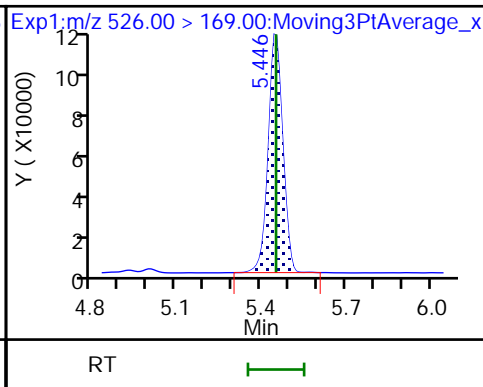
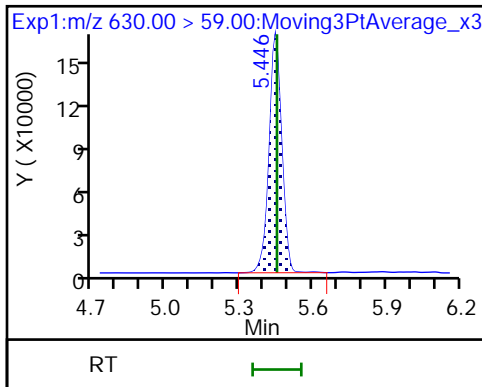
D 80 d-N-EtFOSA-M

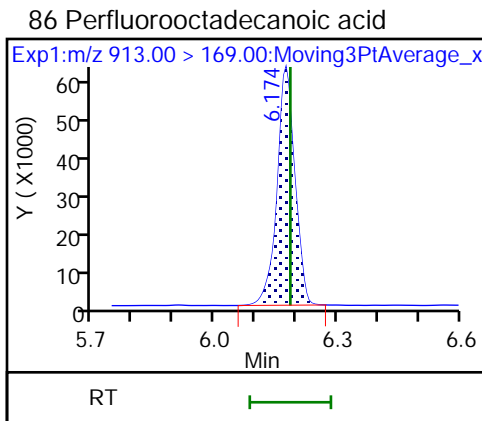
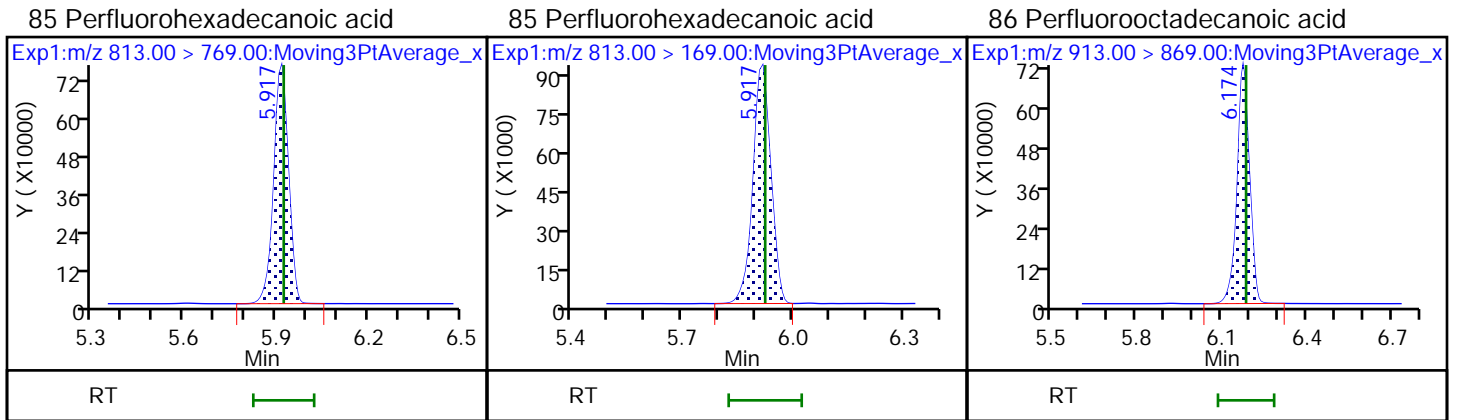
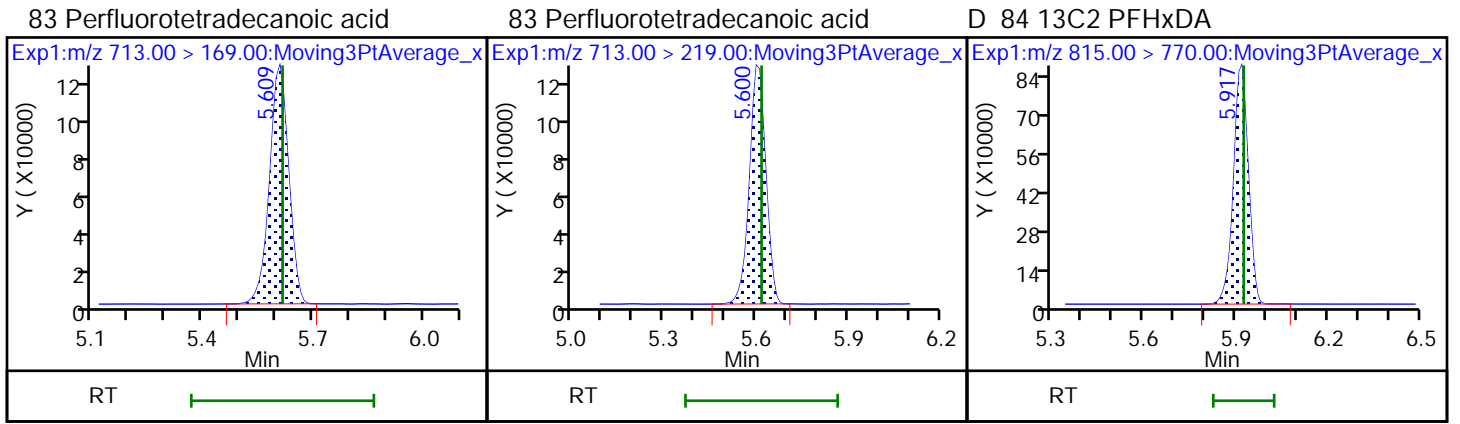


79 N-EtFOSE-M

81 N-EtFOSA-M

D 82 13C2 PFTeDA





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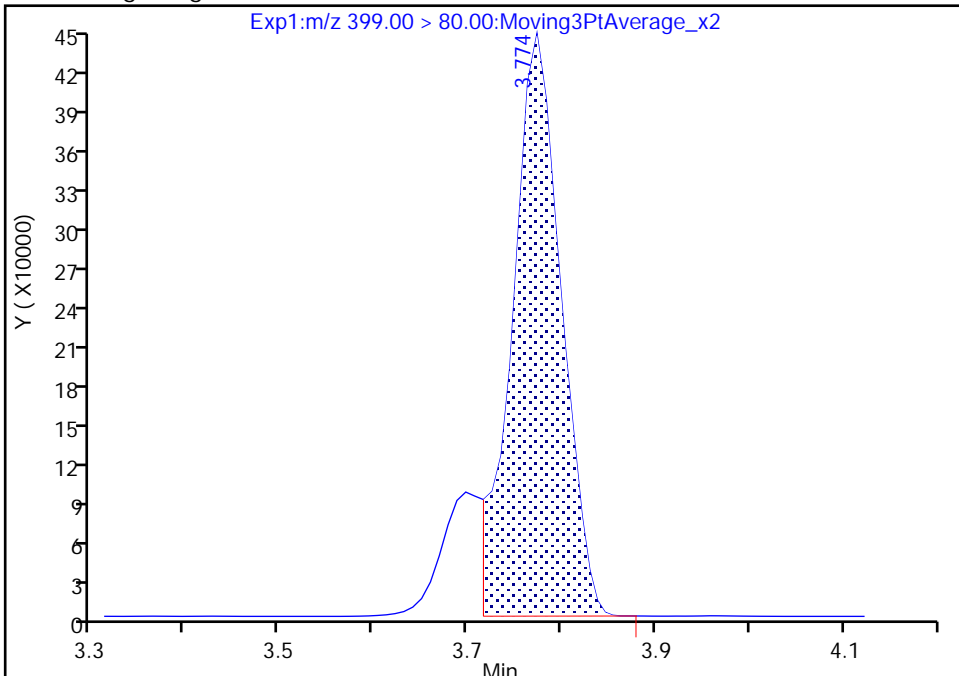
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Injection Date: 20-Feb-2022 01:04:57 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 50 Worklist Smp#: 50  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

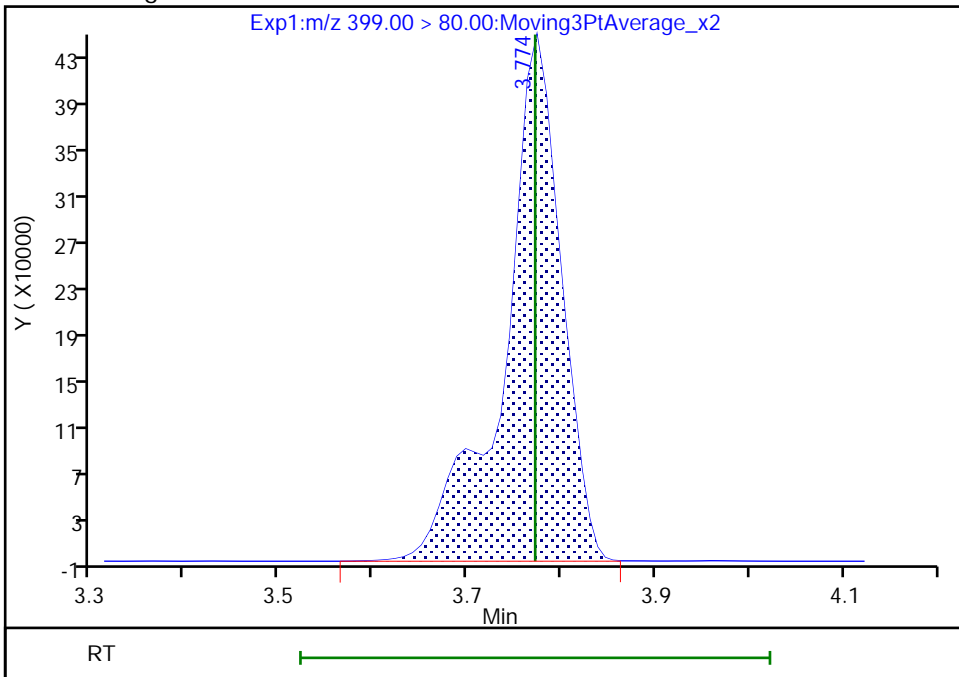
RT: 3.77  
Area: 1611939  
Amount: 0.692812  
Amount Units: ng/ml

Processing Integration Results



RT: 3.77  
Area: 1892358  
Amount: 0.813336  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:19:31  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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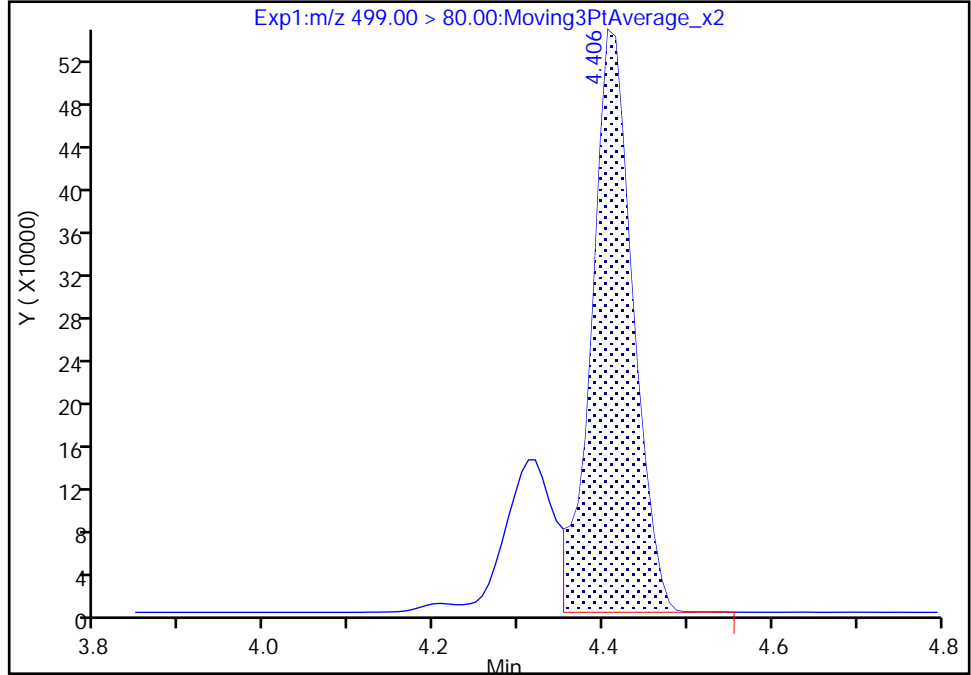
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Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 50 Worklist Smp#: 50  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

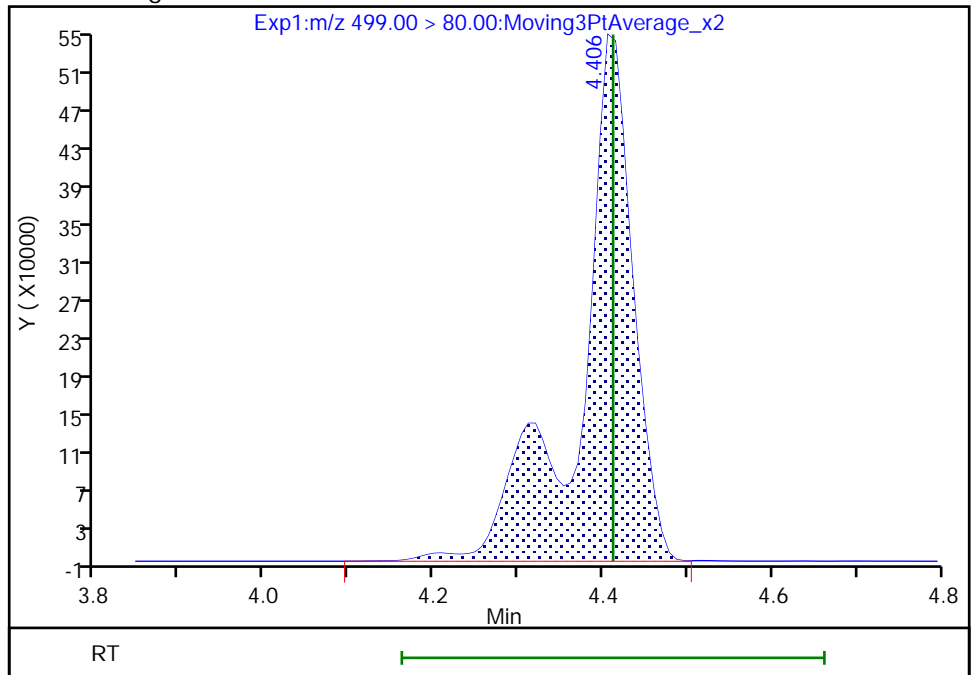
RT: 4.41  
Area: 1847293  
Amount: 0.645771  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
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Amount: 0.850018  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:19:44  
Audit Action: Manually Integrated

Eurofins Knoxville

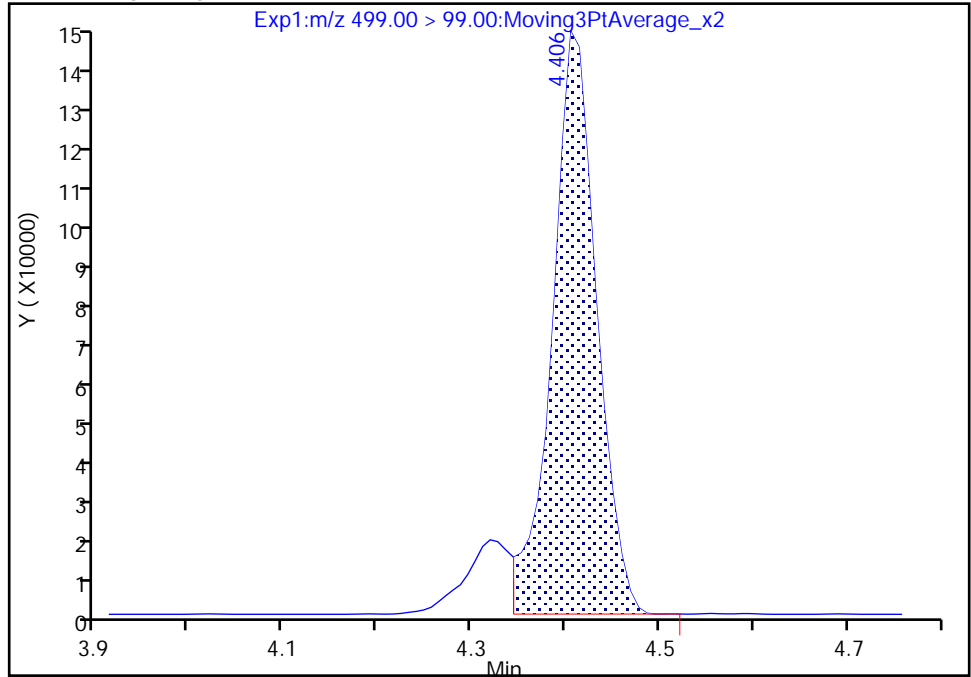
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Injection Date: 20-Feb-2022 01:04:57 Instrument ID: LCA  
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Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 50 Worklist Smp#: 50  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

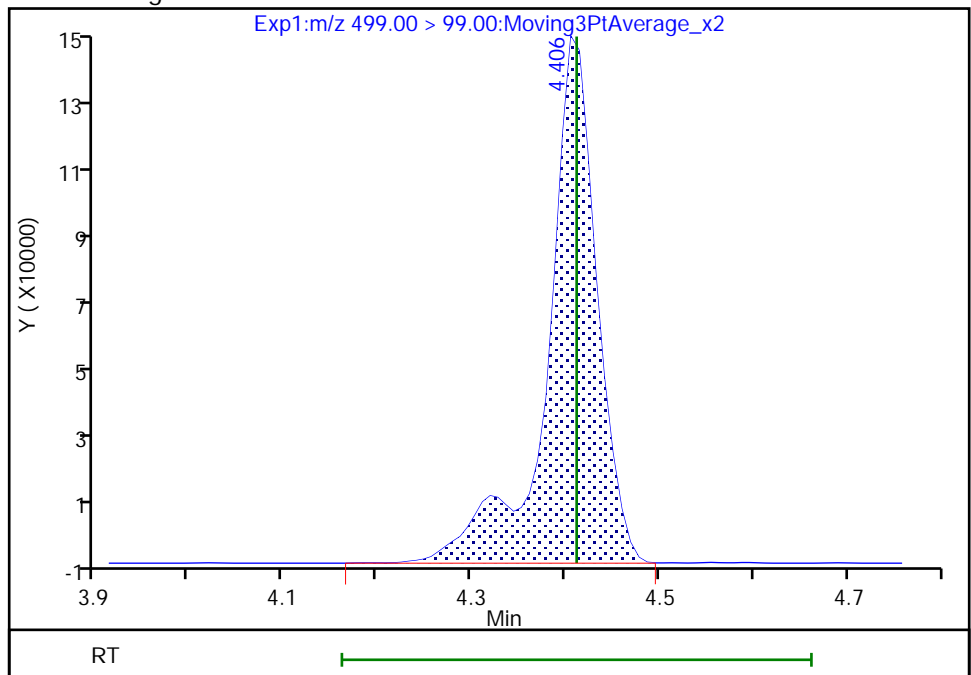
RT: 4.41  
Area: 483004  
Amount: 0.645771  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 545421  
Amount: 0.850018  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:19:50

Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 411 of 728

Eurofins Knoxville

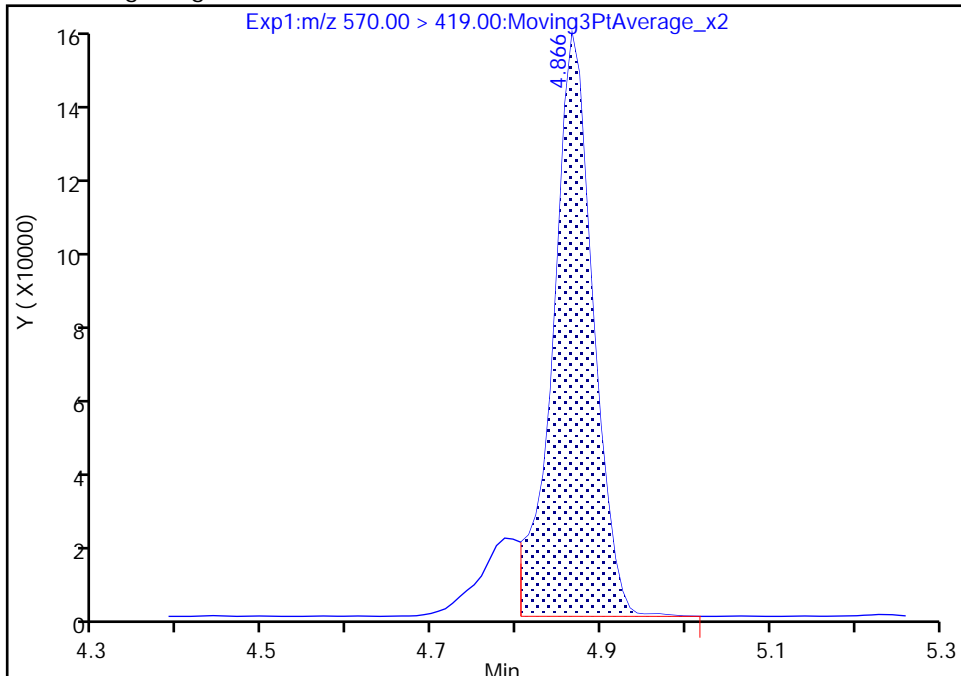
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_050.d  
Injection Date: 20-Feb-2022 01:04:57 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 50 Worklist Smp#: 50  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

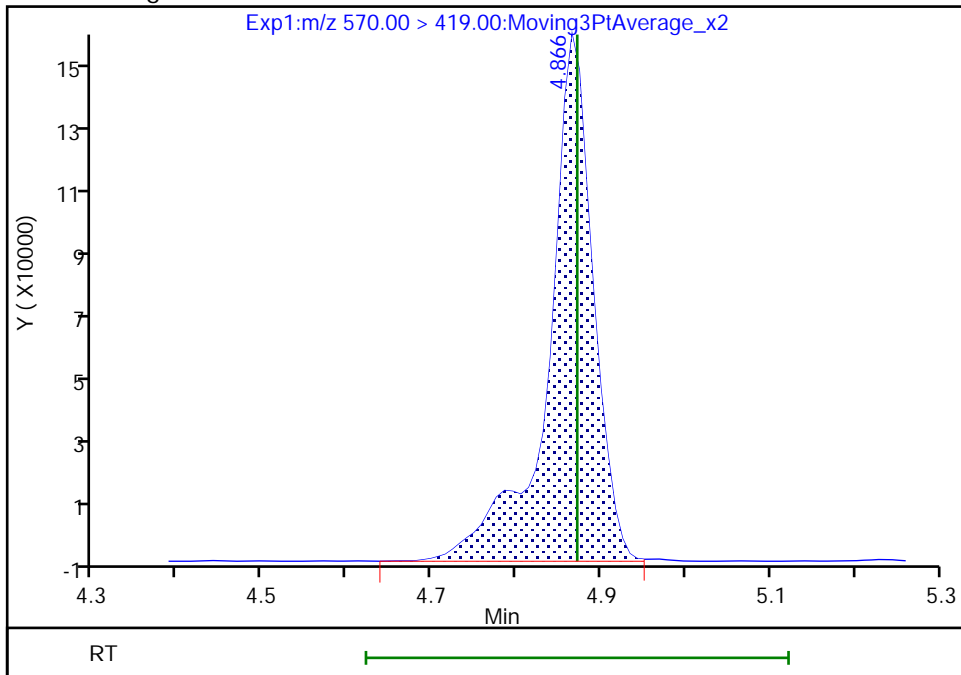
RT: 4.87  
Area: 501775  
Amount: 0.888606  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 568574  
Amount: 1.005103  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:20:05  
Audit Action: Manually Integrated

Eurofins Knoxville

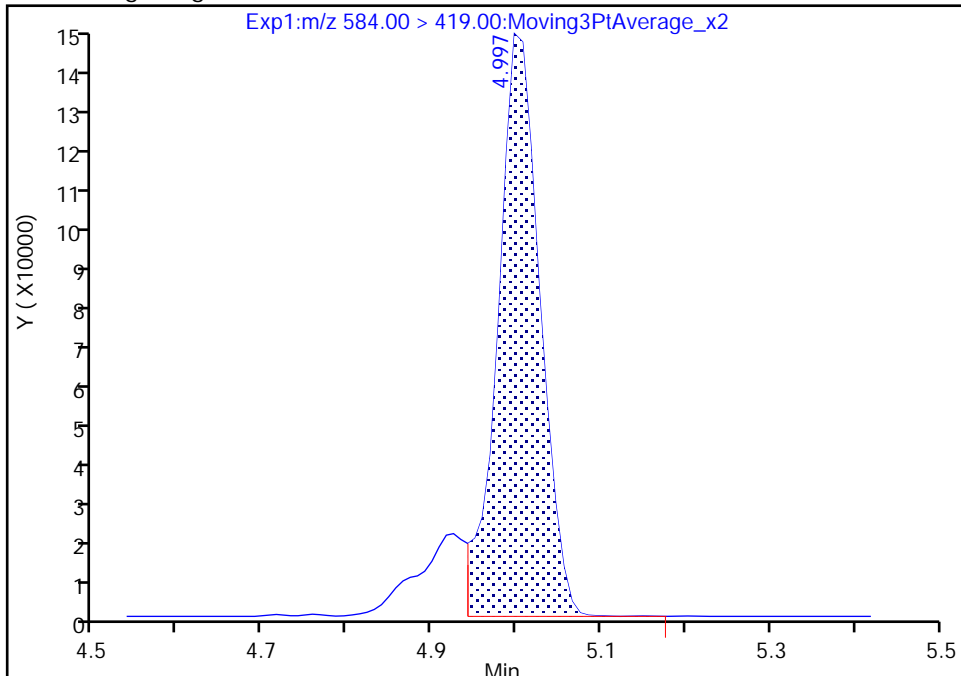
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_050.d  
Injection Date: 20-Feb-2022 01:04:57 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 50 Worklist Smp#: 50  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

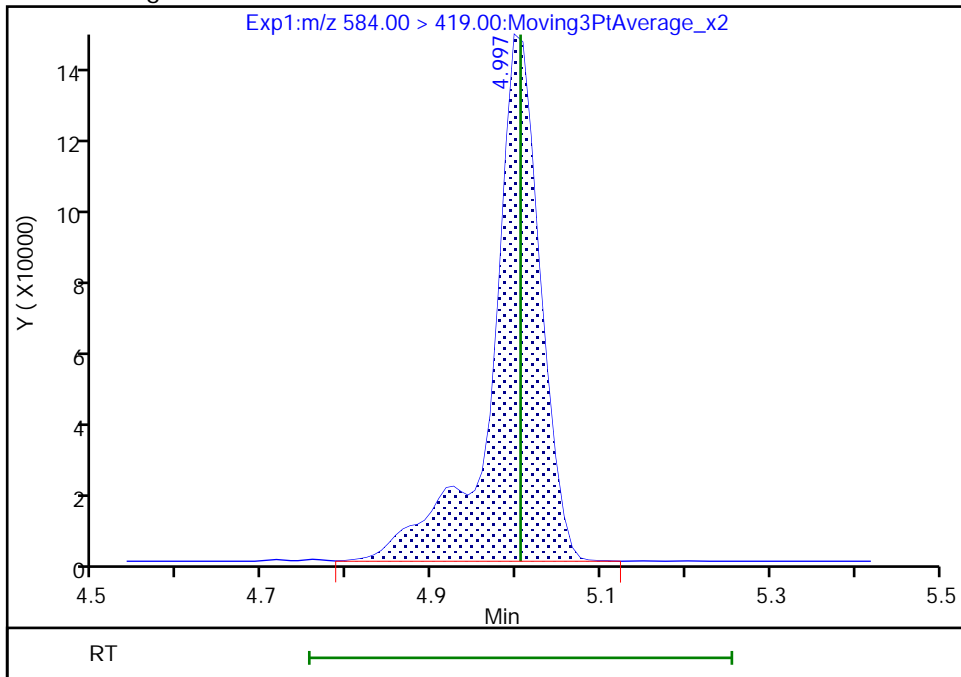
RT: 5.00  
Area: 482048  
Amount: 0.920823  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 560326  
Amount: 1.067860  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:20:15  
Audit Action: Manually Integrated



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59064/4 Calibration Date: 02/20/2022 13:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8307		0.0488	0.0500	-2.5	50.0
PFECA F	AveID	0.7535	0.8120		0.0539	0.0500	7.8	50.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.069		0.0515	0.0500	3.1	50.0
3:3 FTCA	QuaIF		0.0565		0.0518	0.0500	3.5	50.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.175		0.0446	0.0442	1.0	50.0
PFECA A	Q2ID		1.365		0.0539	0.0500	7.7	50.0
PES	Q2ID		2.533		0.0452	0.0445	1.6	50.0
PFECA B	Q2ID		0.4764		0.0567	0.0500	13.3	50.0
4:2 FTS	L2ID		2.639		0.0519	0.0467	11.1	50.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.9632		0.0532	0.0500	6.3	50.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.088		0.0494	0.0469	5.4	50.0
HFPO-DA	L2ID		1.506		0.0549	0.0500	9.8	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.439		0.0473	0.0455	3.9	50.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.122		0.0503	0.0500	0.7	50.0
DONA	AveID	2.644	2.377		0.0424	0.0471	-10.1	50.0
5:3 FTCA	L2ID		4.576		0.0566	0.0500	13.2	50.0
6:2 FTUCA	AveID	1.046	1.059		0.0506	0.0500	1.2	50.0
6:2 FTCA	L1ID		0.6586		0.0409	0.0500	-18.3	50.0
PFECHS	AveID	0.7426	0.7943		0.0493	0.0461	7.0	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9899		0.0477	0.0476	0.2	50.0
6:2 FTS	L2ID		2.119		0.0515	0.0474	8.7	50.0
Perfluorooctanoic acid (PFOA)	L1ID		1.276		0.0536	0.0500	7.2	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.242		0.0503	0.0464	8.5	50.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8235		0.0541	0.0500	8.3	50.0
7:3 FTCA	AveID	5.230	6.089		0.0582	0.0500	16.4	50.0
8:2 FTUCA	AveID	0.9565	0.9463		0.0495	0.0500	-1.1	50.0
8:2 FTCA	AveID	1.811	2.159		0.0596	0.0500	19.2	50.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.174		0.0451	0.0466	-3.3	50.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9868		0.0468	0.0480	-2.4	50.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	1.033		0.0541	0.0500	8.2	50.0
Perfluorodecanoic acid (PFDA)	L2ID		1.067		0.0528	0.0500	5.7	50.0
8:2 FTS	L2ID		1.569		0.0429	0.0479	-10.4	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		1.141		0.0640	0.0500	27.9	50.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8951		0.0441	0.0482	-8.4	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59064/4 Calibration Date: 02/20/2022 13:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.037		0.0536	0.0500	7.2	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8082		0.0374	0.0500	-25.2	50.0
10:2 FTUCA	AveID	1.208	1.254		0.0519	0.0500	3.8	50.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.738		0.0431	0.0471	-8.4	50.0
10:2 FTCA	Q2ID		1.097		0.0530	0.0500	6.0	50.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.127		0.0546	0.0500	9.1	50.0
10:2 FTS	L2ID		2.350		0.0480	0.0482	-0.5	50.0
NMeFOSA	L2ID		1.127		0.0467	0.0500	-6.6	50.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.428		0.0572	0.0500	14.5	50.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9923		0.0508	0.0484	5.0	50.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.9046		0.0512	0.0500	2.4	50.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.458		0.0514	0.0500	2.8	50.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.331		0.0483	0.0500	-3.3	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1584		0.0566	0.0500	13.1	50.0
Perfluorohexadecanoic acid	L1ID		1.513		0.0546	0.0500	9.1	50.0
Perfluorooctadecanoic acid	AveID	1.013	1.035		0.0511	0.0500	2.2	50.0
13C4 PFBA	Ave	1.172	1.107		1.18	1.25	-5.5	50.0
13C5 PFPeA	Ave	0.9197	0.7961		1.08	1.25	-13.4	50.0
13C3 PFBS	Ave	0.5817	0.5133		1.03	1.16	-11.8	50.0
M2-4:2 FTS	Ave	0.1821	0.1629		1.05	1.17	-10.5	50.0
13C2 PFHxA	Ave	1.015	0.8968		1.11	1.25	-11.6	50.0
13C3 HFPO-DA	Ave	0.4963	0.4251		1.07	1.25	-14.3	50.0
18O2 PFHxS	Ave	0.3776	0.3746		1.17	1.18	-0.8	50.0
13C4 PFHpA	Ave	0.9046	0.7819		1.08	1.25	-13.6	50.0
13C-6:2 FTUCA	Ave	0.3374	0.2926		1.08	1.25	-13.3	50.0
13C-6:2 FTCA	Ave	0.0260	0.0215		1.03	1.25	-17.4	50.0
13C4 PFOA	Ave	0.9356	0.9099		1.22	1.25	-2.7	50.0
M2-6:2 FTS	Ave	0.1799	0.1801		1.19	1.19	0.1	50.0
13C4 PFOS	Ave	0.5610	0.5914		1.26	1.20	5.4	50.0
13C5 PFNA	Ave	1.268	1.195		1.18	1.25	-5.8	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4267		1.18	1.25	-5.6	50.0
13C-8:2 FTCA	Ave	0.0330	0.0309		1.17	1.25	-6.4	50.0
13C8 FOSA	Ave	0.8475	0.8004		1.18	1.25	-5.6	50.0
13C2 PFDA	Ave	1.210	1.204		1.24	1.25	-0.4	50.0
M2-8:2 FTS	Ave	0.1961	0.1810		1.11	1.20	-7.7	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59064/4 Calibration Date: 02/20/2022 13:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1066		1.17	1.25	-6.1	50.0
13C2 PFUnA	Ave	1.168	1.060		1.14	1.25	-9.2	50.0
d5-NEtFOSAA	Ave	0.1164	0.1118		1.20	1.25	-3.9	50.0
13C-10:2 FTUCA	Ave	0.5078	0.3685		0.907	1.25	-27.4	50.0
13C-10:2 FTCA	Ave	0.0309	0.0226		0.913	1.25	-27.0	50.0
13C2 PFDoA	Ave	1.152	1.003		1.09	1.25	-13.0	50.0
13C2 10:2 FTS	Ave	0.1652	0.1480		1.06	1.18	-10.4	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1157		1.22	1.25	-2.4	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0982		1.22	1.25	-2.7	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1260		1.28	1.25	2.4	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0820		1.27	1.25	1.3	50.0
13C2 PFTeDA	Ave	0.9216	0.7380		1.00	1.25	-19.9	50.0
13C2 PFHxDA	Ave	0.5997	0.4587		0.956	1.25	-23.5	50.0
13C8 PFOA	AveID	0.9229	0.9598		1.30	1.25	4.0	50.0
13C8 PFOS	AveID	0.2212	0.1949		1.05	1.20	-11.9	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
 Lims ID: CCVL  
 Client ID:  
 Sample Type: CCVL  
 Inject. Date: 20-Feb-2022 13:31:16 ALS Bottle#: 4 Worklist Smp#: 4  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022725-004 ccvl  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:50:45 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: cochranj Date: 20-Feb-2022 13:46:35

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										M
212.90 > 169.00	2.813	2.809	0.004	1.000	171753	0.0488		97.5	66.6	M
D 2 13C4 PFBA										
217.00 > 172.00	2.813	2.813	0.0	0.681	5168834	1.18		94.5	24101	
3 PFECA F										
229.00 > 85.00	2.921	2.917	0.004	0.935	120726	0.0539		108	1044	
D 5 13C5 PFPeA										
267.90 > 223.00	3.125	3.125	0.0	0.756	3717125	1.08		86.6	16338	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.125	3.117	0.008	1.000	158933	0.0515		103	70.3	
4 3:3 FTCA										M
241.00 > 177.10	3.134	3.131	0.003	1.000	5417	0.0518	Target=1.13	104	63.8	M
241.00 > 116.90	3.134	3.131	0.003	1.000	5856		0.93(0.56-1.69)		8.9	M
D 7 13C3 PFBS										
301.90 > 80.00	3.134	3.134	0.0	0.758	2228944	1.03		88.2	10040	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.134	3.134	0.0	1.000	99603	0.0446	Target=2.61	101	329	
298.90 > 99.00	3.134	3.134	0.0	1.000	38115		2.61(1.31-3.92)		263	
9 PFECA A										
278.95 > 84.90	3.214	3.210	0.004	1.028	203023	0.0539		108	1856	
11 PES										
314.80 > 135.00	3.273	3.263	0.010	1.045	216138	0.0452		102	1863	
12 PFECA B										
295.22 > 201.00	3.387	3.385	0.002	0.981	79790	0.0567		113	777	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.419	3.419	0.0	0.827	710399	1.04		89.5	1326	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.430	3.419	0.011	1.003	74978	0.0519		111	666	
D 14 13C2 PFHxA										
315.00 > 270.00	3.451	3.451	0.0	0.835	4187287	1.10		88.4	11519	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.451	3.447	0.004	1.101	97851	0.0494	Target=3.55	105	355	
349.00 > 99.00	3.451	3.447	0.004	1.101	28567		3.43(1.78-5.33)		163	
15 Perfluorohexanoic acid										M
313.00 > 269.00	3.451	3.447	0.004	1.000	161324	0.0532	Target=11.60	106	96.5	
313.00 > 119.00	3.451	3.447	0.004	1.000	16235		9.94(5.80-17.40)		17.3	M
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.556	3.556	0.0	0.860	1985078	1.07		85.7	5076	
17 HFPO-DA										
285.00 > 169.00	3.556	3.552	0.004	1.000	119606	0.0549	Target=2.45	110	65.0	
329.00 > 169.00	3.556	3.552	0.004	1.000	49829		2.40(1.23-3.68)		66.8	
D 20 18O2 PFHxS										
403.00 > 84.00	3.786	3.786	0.0	0.916	1654554	1.17		99.2	9018	
21 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.786	3.785	0.001	1.000	91642	0.0473	Target=3.44	104	305	M
399.00 > 99.00	3.786	3.785	0.001	1.000	25950		3.53(1.72-5.17)		89.1	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.796	3.796	0.0	0.918	3650964	1.08		86.4	9487	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.796	3.795	0.001	1.000	163817	0.0503	Target=3.25	101	175	
363.00 > 169.00	3.807	3.795	0.012	1.003	46274		3.54(1.62-4.87)		148	
25 DONA										
377.00 > 251.00	3.831	3.827	0.004	0.866	247335	0.0424	Target=1.74	89.9	943	
377.00 > 85.00	3.831	3.827	0.004	0.866	139603		1.77(0.87-2.61)		55.8	
26 5:3 FTCA										RM
340.88 > 236.90	3.864	3.856	0.008	0.987	18370	0.0566	Target=1.11	113	96.9	R
340.88 > 216.90	3.856	3.856	0.0	0.985	9666		1.90(0.56-1.67)		28.6	M
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.897	3.897	0.0	0.943	1366303	1.08		86.7	2808	
27 6:2 FTUCA										
356.86 > 292.90	3.897	3.890	0.007	1.000	57901	0.0506	Target=13.05	101	314	
356.86 > 243.00	3.897	3.890	0.007	1.000	4241		13.65(6.52-19.57)		22.7	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.915	3.915	0.0	0.947	100360	1.03		82.6	738	
29 6:2 FTCA										M
377.10 > 63.00	3.924	3.911	0.013	1.002	2644	0.0409	Target=1.29	81.7	10.2	M
377.10 > 313.10	3.915	3.911	0.004	1.000	3648		0.72(0.65-1.94)		7.7	M
32 PFECBS										
460.80 > 380.90	4.067	4.064	0.003	0.984	124456	0.0493	Target=1.75	107	517	
460.80 > 98.90	4.067	4.064	0.003	0.984	72457		1.72(0.87-2.62)		277	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.115	4.114	0.001	0.930	104091	0.0477	Target=3.72	100	319	
449.00 > 99.00	4.115	4.114	0.001	0.930	26452		3.94(1.86-5.57)		161	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.134	4.134	0.0	1.000	799086	1.19		100	2574	
35 6:2 FTS										
427.00 > 407.00	4.124	4.126	-0.002	0.998	67579	0.0515		109	240	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.134	4.126	0.008	1.000	4077729	1.30		104	10411	
D 31 13C4 PFOA										
417.00 > 372.00	4.134	4.134	0.0	1.000	4248619	1.22		97.3	8221	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.134	4.129	0.005	1.000	216783	0.0536	Target=2.51	107	204	
413.00 > 169.00	4.134	4.129	0.005	1.000	91894		2.36(1.26-3.77)		219	
* 30 13C2 PFOA										
415.00 > 370.00	4.134	4.129	0.005		4669191	1.25			11824	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.425	4.419	0.006	1.000	514621	1.05		88.1	2220	
D 39 13C4 PFOS										
503.00 > 80.00	4.425	4.425	0.0	1.071	2640002	1.26		105	4251	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.425	4.420	0.005	1.000	127364	0.0503	Target=4.30	108	220	M
499.00 > 99.00	4.417	4.420	-0.003	0.998	31411		4.05(2.15-6.45)		101	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.443	4.443	0.0	1.000	183733	0.0541	Target=3.60	108	208	
463.00 > 169.00	4.443	4.443	0.0	1.000	48409		3.80(1.80-5.40)		123	
D 41 13C5 PFNA										
468.00 > 423.00	4.443	4.443	0.0	1.075	5577848	1.18		94.2	7859	
43 7:3 FTCA										
441.00 > 337.00	4.532	4.527	0.005	0.993	35189	0.0582	Target=1.42	116	105	
441.00 > 317.00	4.532	4.527	0.005	0.993	28567		1.23(0.71-2.13)		116	
44 8:2 FTUCA										
456.86 > 392.90	4.557	4.548	0.009	1.000	75409	0.0495	Target=35.37	98.9	281	
456.86 > 343.00	4.549	4.548	0.001	0.998	3342		22.56(17.68-53.05)		12.4	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.557	4.557	0.0	1.000	1992177	1.18		94.4	5069	
46 8:2 FTCA										M
477.00 > 393.10	4.565	4.562	0.003	1.000	12475	0.0596	Target=3.35	119	43.9	
477.00 > 63.20	4.557	4.562	-0.005	0.998	3162		3.95(1.68-5.03)		15.1	M
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.565	4.565	0.0	1.104	144484	1.17		93.6	487	
49 9CIFOS										
531.00 > 351.00	4.582	4.580	0.002	1.108	223834	0.0451		96.7	461	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.702	4.702	0.0	1.062	104638	0.0468	Target=3.99	97.6	324	
549.00 > 99.00	4.702	4.702	0.0	1.062	28629		3.65(2.00-5.99)		180	
D 55 13C8 FOSA										
506.00 > 78.00	4.710	4.710	0.0	1.139	3737056	1.18		94.4	7511	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.710	4.713	-0.003	1.000	154463	0.0541		108	384	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.736	4.730	0.006	1.000	240012	0.0528	Target=10.58	106	221	
513.00 > 169.00	4.736	4.730	0.006	1.000	21277		11.28(5.29-15.88)		25.3	
D 52 13C2 PFDA										
515.00 > 470.00	4.736	4.736	0.0	1.146	5623149	1.24		99.6	14278	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.744	4.744	0.0	1.148	809471	1.10		92.3	1898	
53 8:2 FTS										
527.00 > 507.00	4.744	4.742	0.002	1.000	50816	0.0429		89.6	246	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.876	4.876	0.0	1.180	497614	1.17		93.9	1780	
57 NMeFOSAA										
570.00 > 419.00	4.884	4.874	0.010	1.002	22709	0.0640		128	44.1	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.961	4.963	-0.002	1.121	95312	0.0441	Target=3.55	91.6	529	
599.00 > 99.00	4.971	4.963	0.008	1.123	22010		4.33(1.78-5.33)		124	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.999	4.992	0.007	1.000	205282	0.0536	Target=8.26	107	304	
563.00 > 169.00	4.999	4.992	0.007	1.000	24228		8.47(4.13-12.39)		136	
D 59 13C2 PFUnA										
565.00 > 520.00	4.999	4.999	0.0	1.209	4950597	1.13		90.8	10110	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.009	5.009	0.0	1.212	522206	1.20		96.1	2950	
62 NEtFOSAA										
584.00 > 419.00	5.018	5.013	0.005	1.002	16881	0.0374		74.8	76.1	M
63 11CIFOS										
631.00 > 451.00	5.096	5.091	0.005	1.152	180882	0.0431		91.6	568	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.096	5.096	0.0	1.233	1720728	0.9071		72.6	6030	
65 10:2 FTUCA										
556.86 > 492.90	5.096	5.098	-0.002	1.000	86300	0.0519		104	228	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.115	5.115	0.0	1.237	105475	0.9131		73.0	722	
66 10:2 FTCA										
576.80 > 493.00	5.124	5.111	0.013	1.002	4628	0.0530	Target=2.53	106	21.4	
576.80 > 63.10	5.115	5.111	0.004	1.000	2542		1.82(1.26-3.79)		13.4	
D 69 13C2 PFDaA										
615.00 > 570.00	5.230	5.230	0.0	1.265	4682403	1.09		87.0	9816	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.230	5.228	0.002	1.000	211138	0.0546	Target=6.85	109	272	
613.00 > 169.00	5.230	5.228	0.002	1.000	27337		7.72(3.43-10.28)		99.1	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.246	5.246	0.0	1.269	654556	1.06		89.6	4548	
71 10:2 FTS										
627.00 > 607.00	5.254	5.249	0.005	1.002	62619	0.0480		99.5	303	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.278	5.278	0.0	1.277	458564	1.22		97.3	50.4	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.278	5.278	0.0	1.277	540315	1.22		97.6	521	
74 NMeFOSA										M
512.00 > 169.00	5.278	5.287	-0.009	1.000	20669	0.0467		93.4	72.2	M
75 N-MeFOSE-M										M
616.00 > 59.00	5.287	5.294	-0.007	1.002	30870	0.0572		114	39.9	M
76 PFDoS										
699.00 > 80.00	5.403	5.401	0.002	1.221	106104	0.0508	Target=4.22	105	368	
699.00 > 99.00	5.403	5.401	0.002	1.221	20670		5.13(2.11-6.34)		134	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.439	5.439	0.0	1.316	588489	1.28		102	320	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.439	5.433	0.006	1.040	169424	0.0512	Target=6.32	102	199	
663.00 > 169.00	5.439	5.433	0.006	1.040	28765		5.89(3.16-9.48)		120	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.447	5.447	0.0	1.318	382825	1.27		101	813	
79 N-EtFOSE-M										M
630.00 > 59.00	5.447	5.454	-0.007	1.002	34326	0.0514		103	37.6	M
81 N-EtFOSA-M										M
526.00 > 169.00	5.456	5.459	-0.003	1.002	20377	0.0483		96.7	114	M
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.622	5.617	0.005	1.000	21837	0.0566	Target=1.01	113	73.2	
713.00 > 219.00	5.622	5.617	0.005	1.000	18588		1.17(0.51-1.52)		121	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.622	5.622	0.0	1.360	3446002	1.00		80.1	8887	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.929	5.926	0.003	1.000	129668	0.0546	Target=8.64	109	264	
813.00 > 169.00	5.929	5.926	0.003	1.000	14934		8.68(4.32-12.97)		43.0	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.929	5.929	0.0	1.434	2141969	0.9563		76.5	3823	
86 Perfluorooctadecanoic acid										M
913.00 > 869.00	6.187	6.186	0.001	1.044	88653	0.0511	Target=11.77	102	185	
913.00 > 169.00	6.187	6.186	0.001	1.044	8122		10.92(5.88-17.65)		23.8	M

**QC Flag Legend**

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

**Reagents:**

63L2PFC2T3\_00002

Amount Added: 1.00

Units: mL



Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d

Injection Date: 20-Feb-2022 13:31:16

Instrument ID: LCA

Lims ID: CCVL

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 4

Worklist Smp#: 4

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

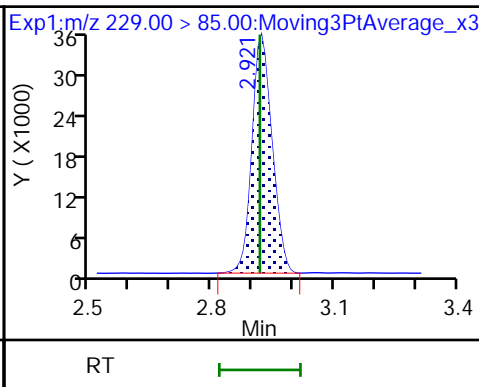
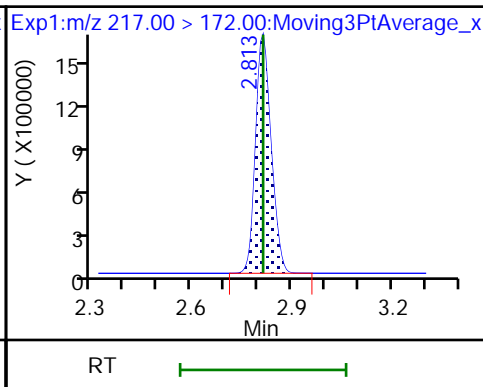
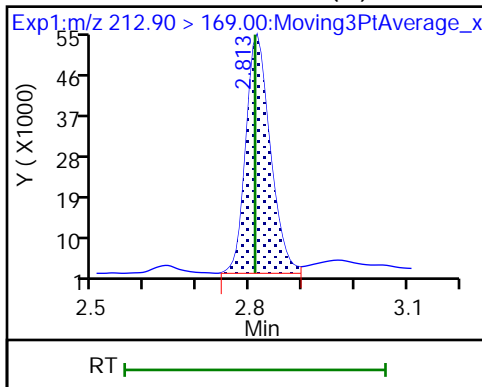
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid (M)

D 2 13C4 PFBA

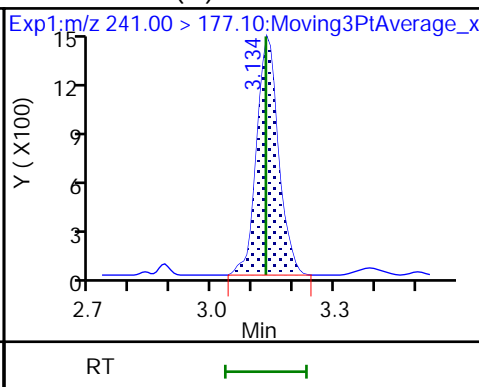
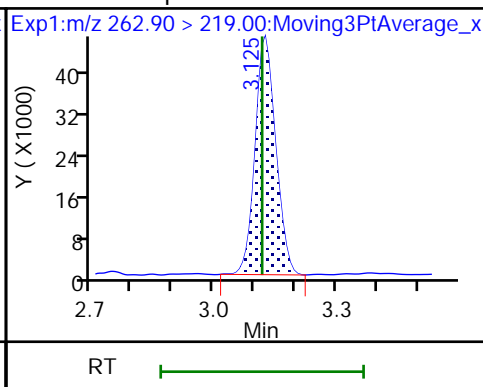
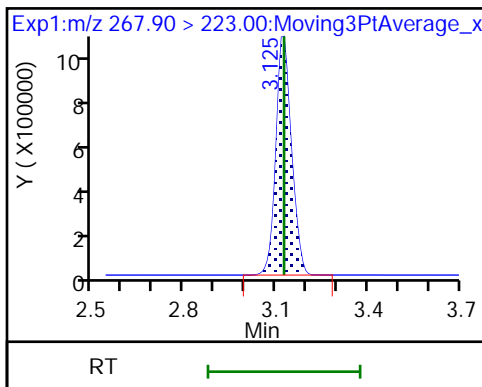
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

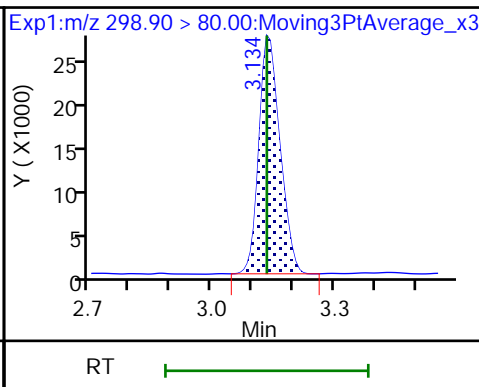
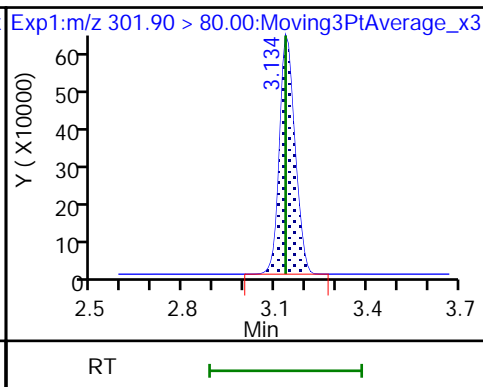
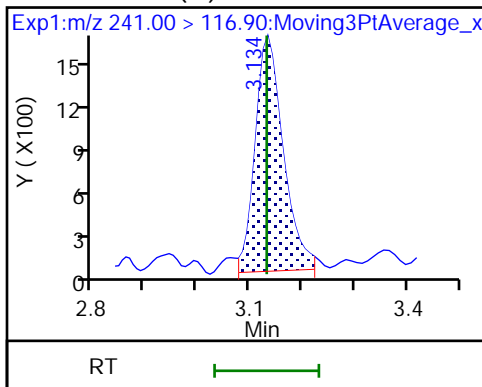
4 3:3 FTCA (M)



4 3:3 FTCA (M)

D 7 13C3 PFBS

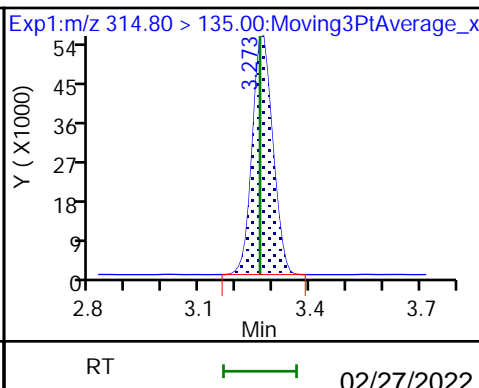
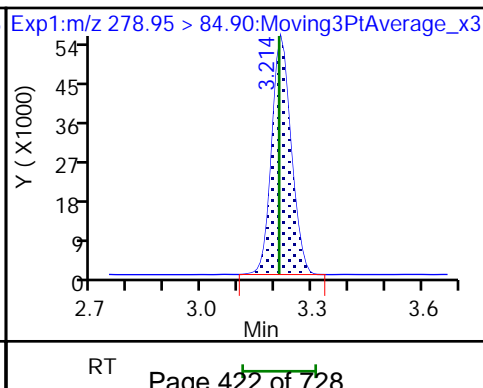
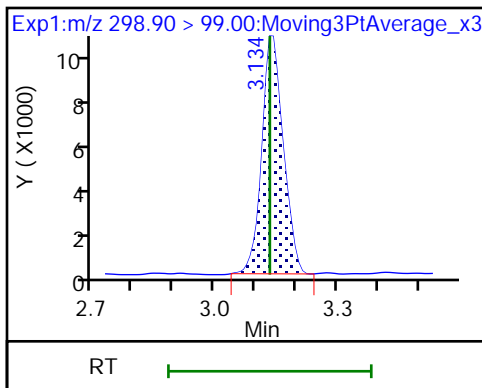
8 Perfluorobutanesulfonic acid

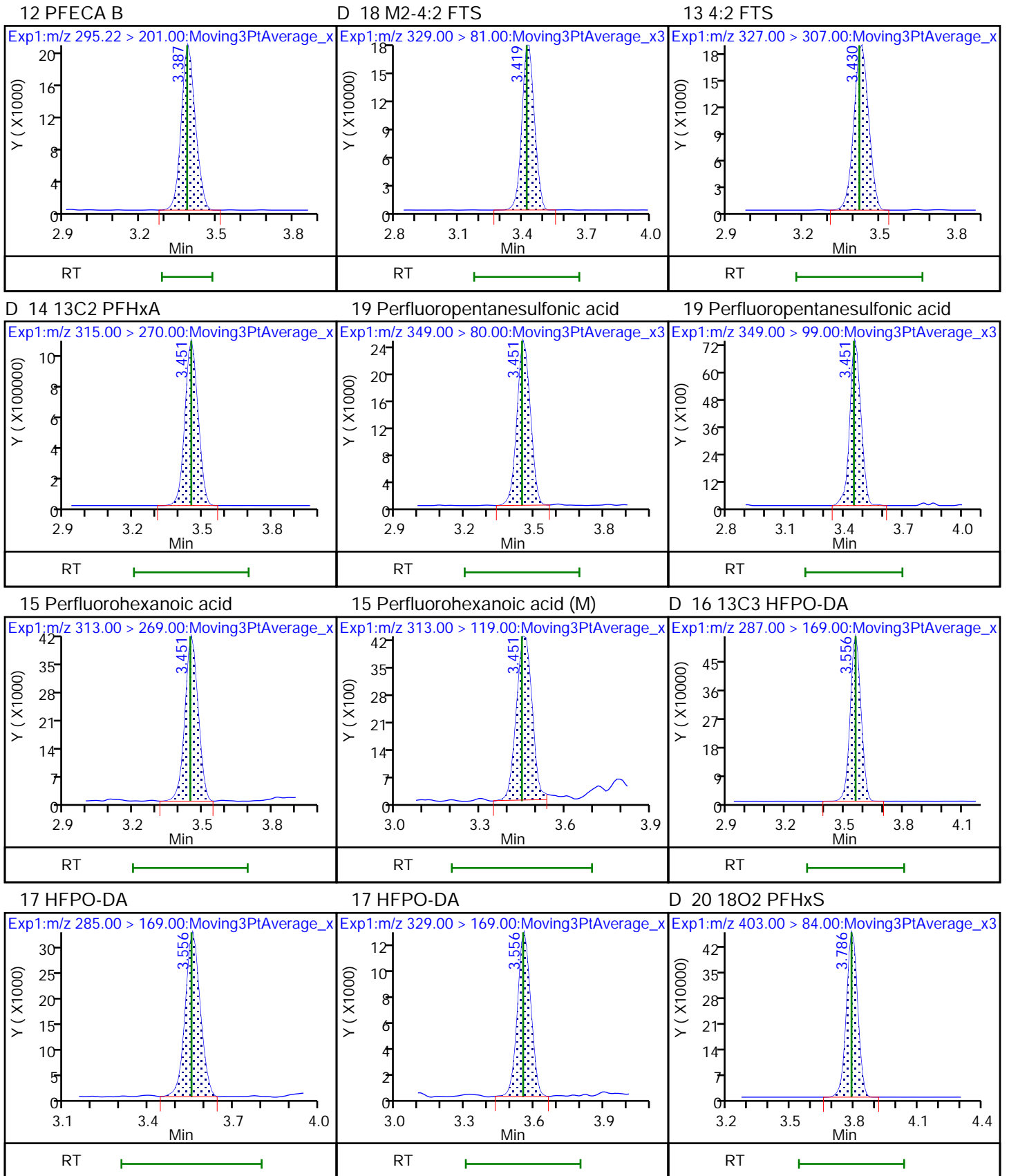


8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES

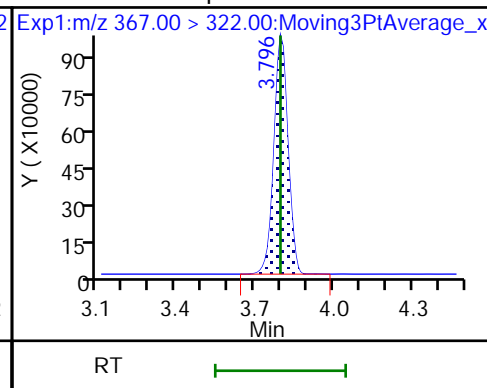
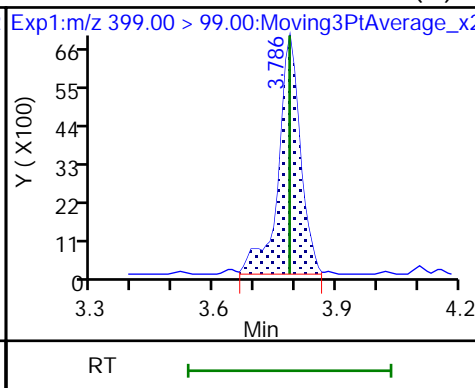
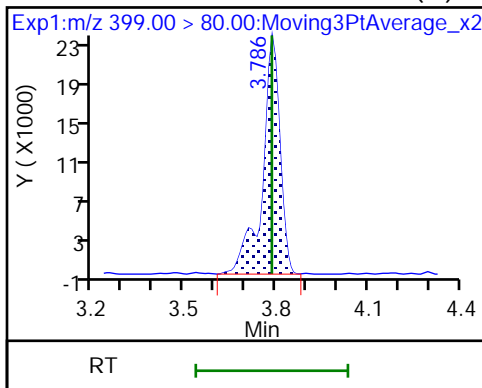




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

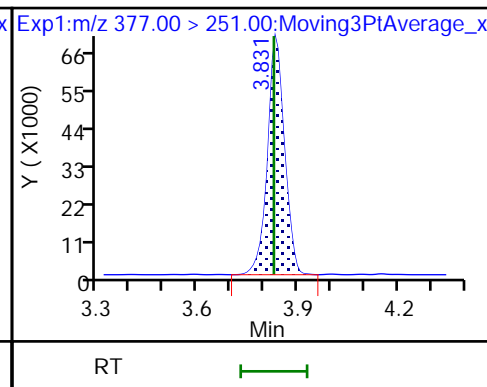
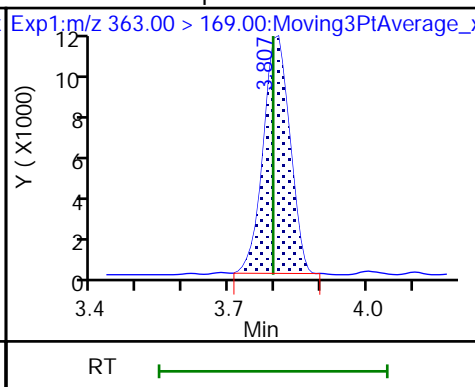
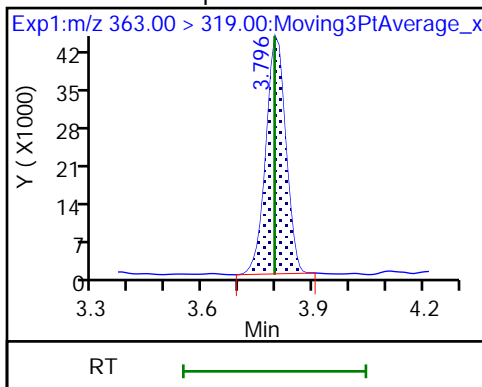
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

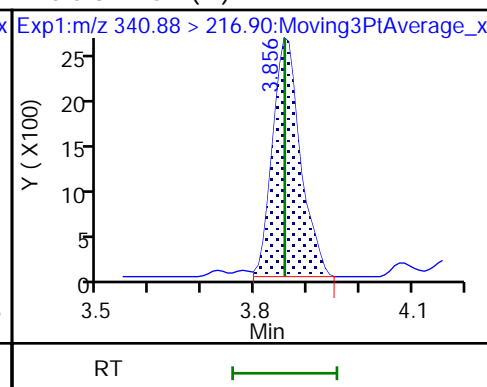
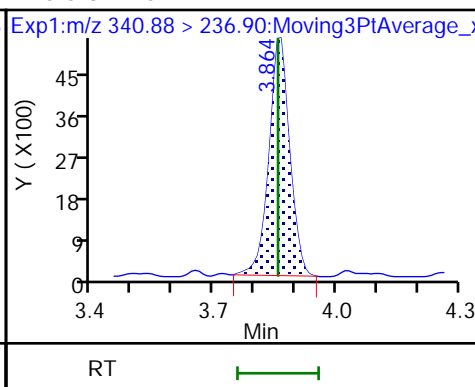
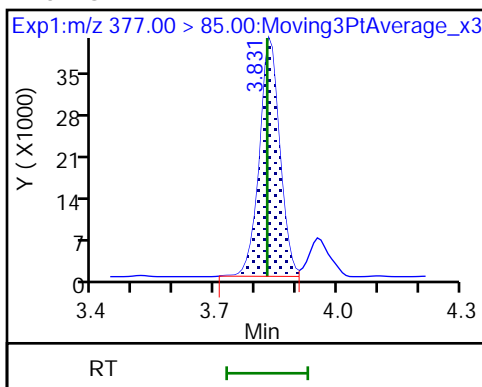
25 DONA



25 DONA

26 5:3 FTCA

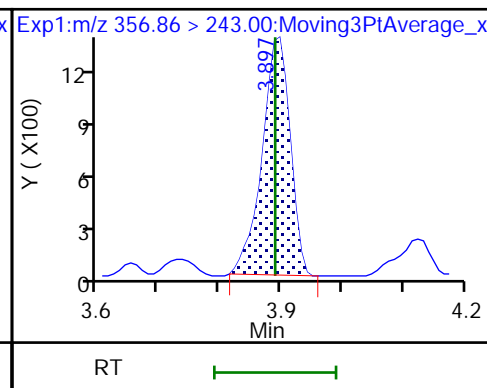
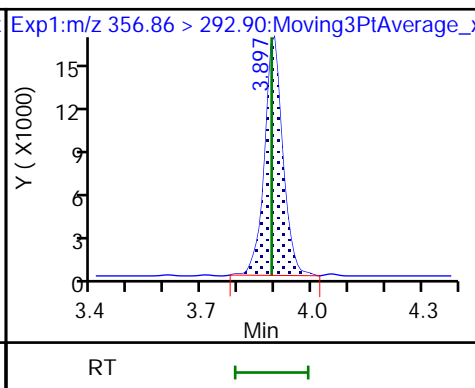
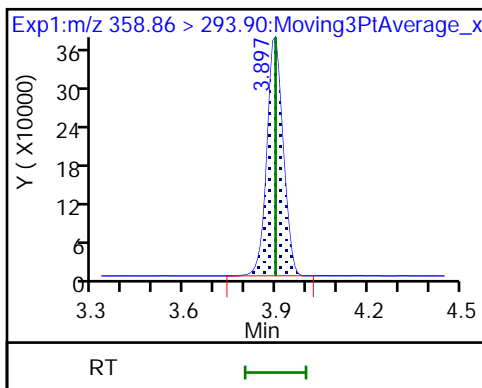
26 5:3 FTCA (M)



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

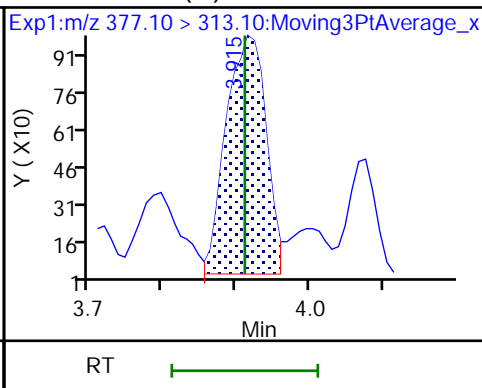
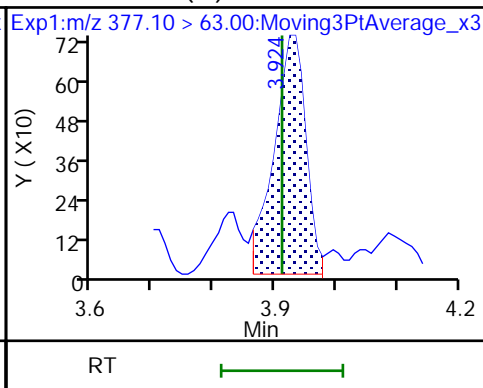
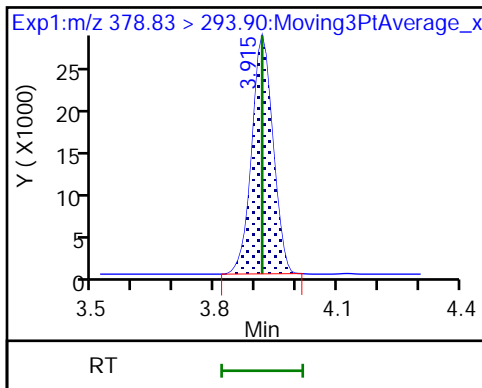
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA (M)

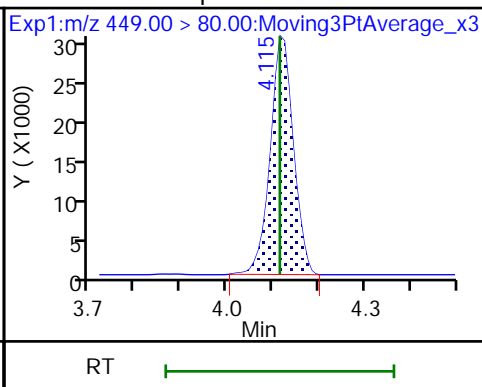
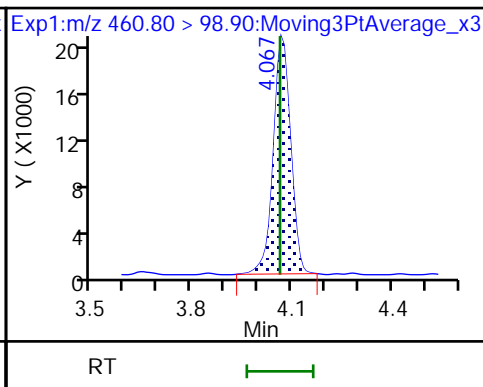
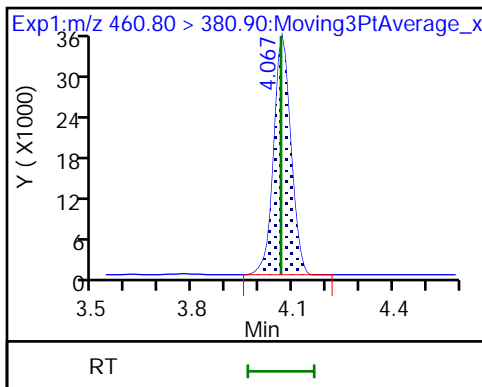
29 6:2 FTCA (M)



32 PFECHS

32 PFECHS

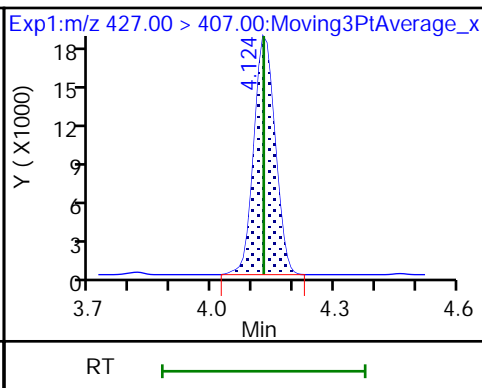
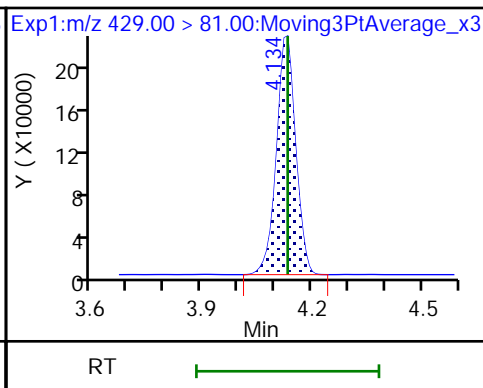
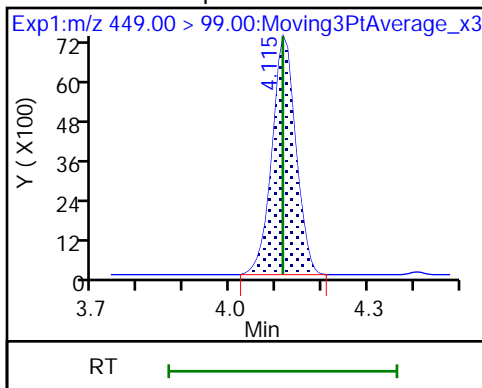
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

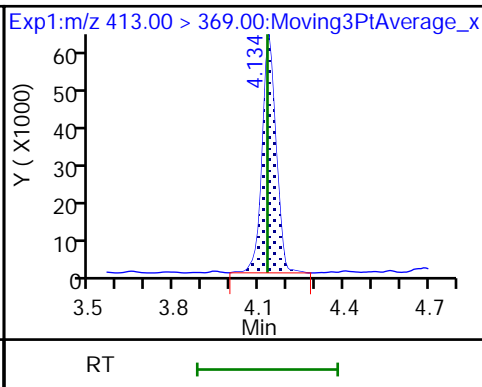
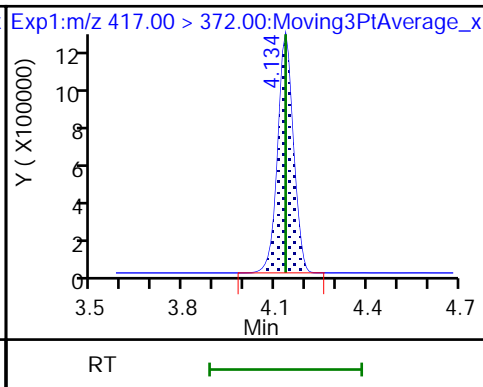
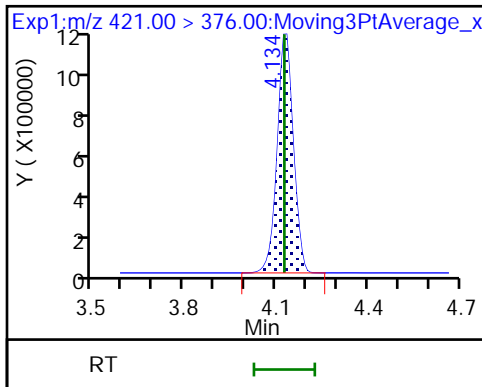
35 6:2 FTS



\$ 36 13C8 PFOA

D 31 13C4 PFOA

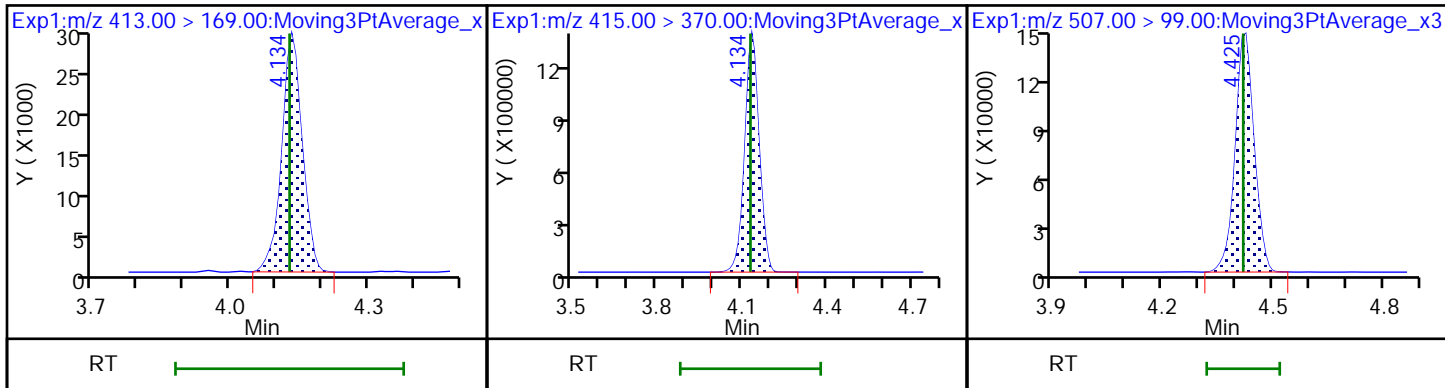
37 Perfluorooctanoic acid



37 Perfluorooctanoic acid

\* 30 13C2 PFOA

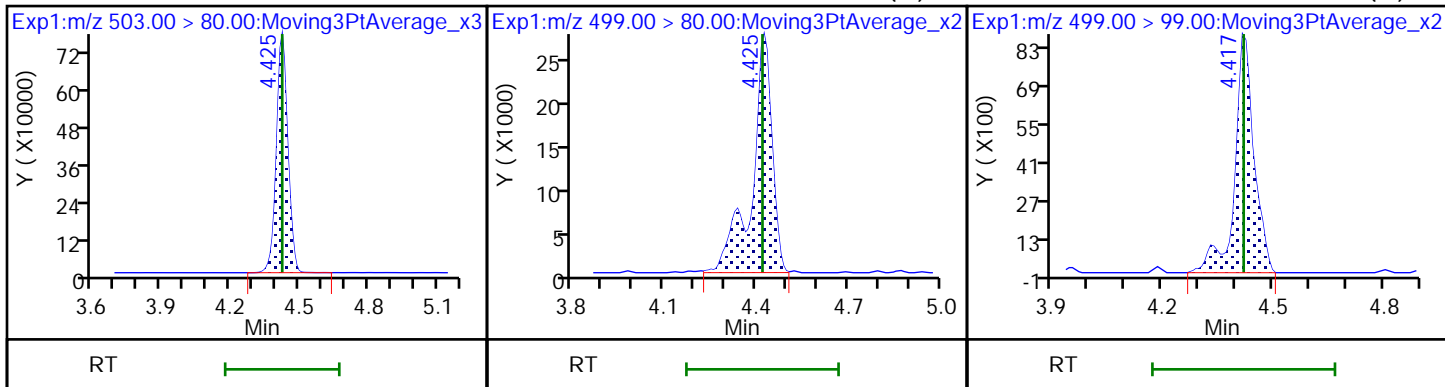
\$ 38 13C8 PFOS



D 39 13C4 PFOS

40 Perfluorooctanesulfonic acid (M)

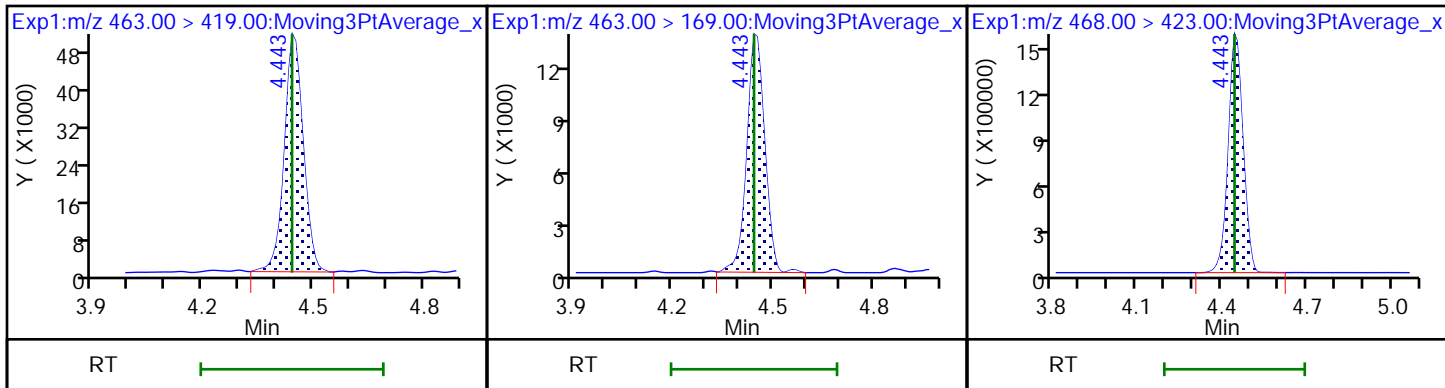
40 Perfluorooctanesulfonic acid (M)



42 Perfluorononanoic acid

42 Perfluorononanoic acid

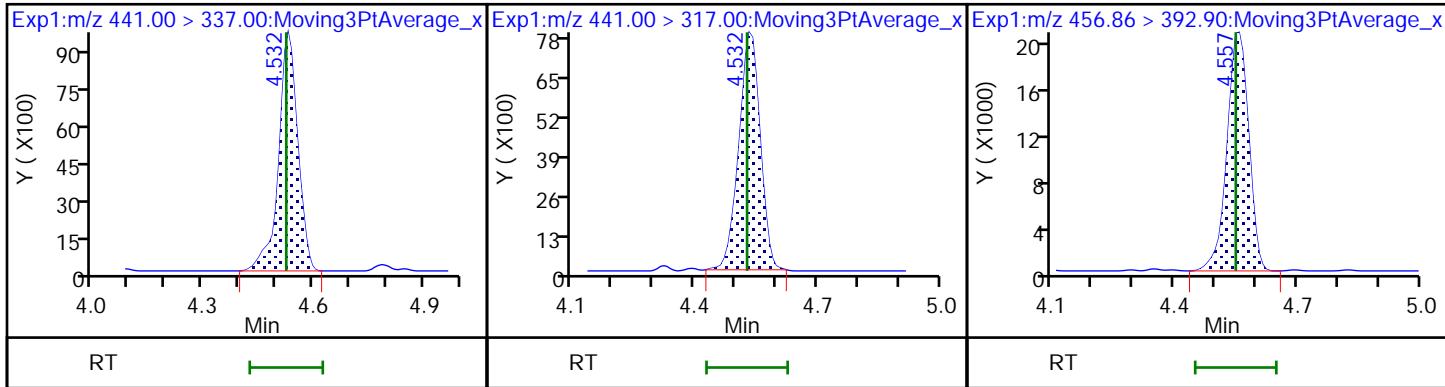
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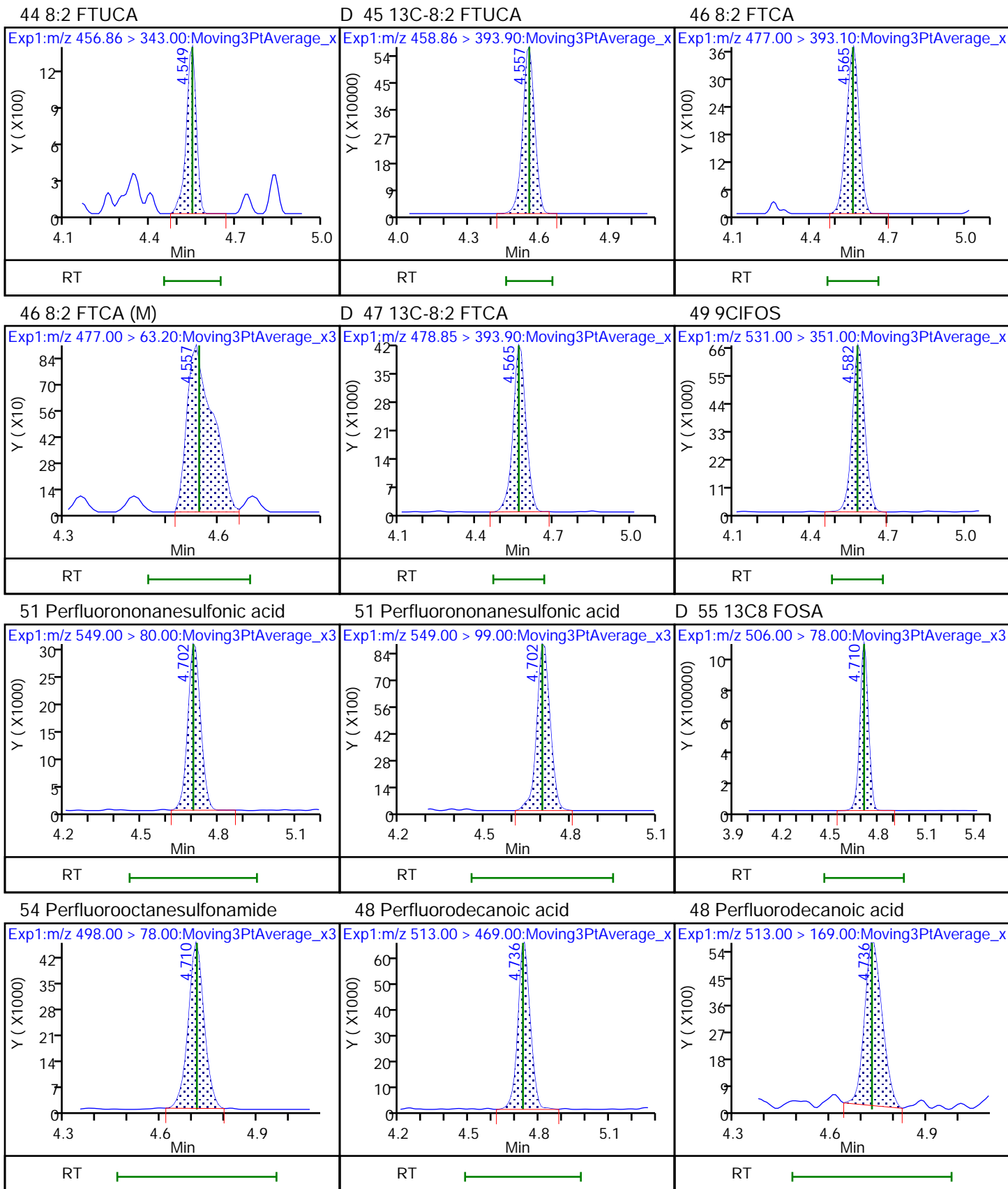


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA

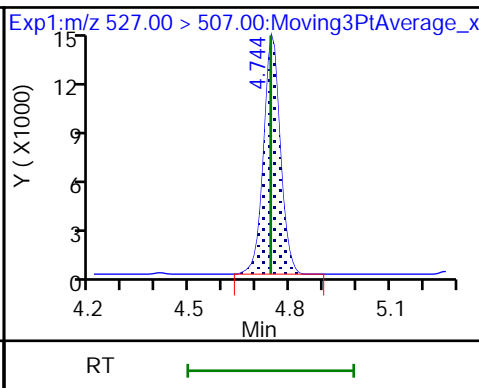
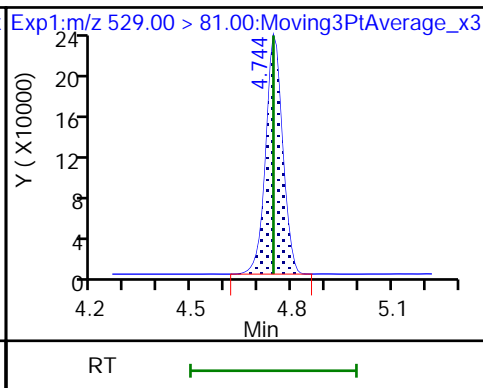
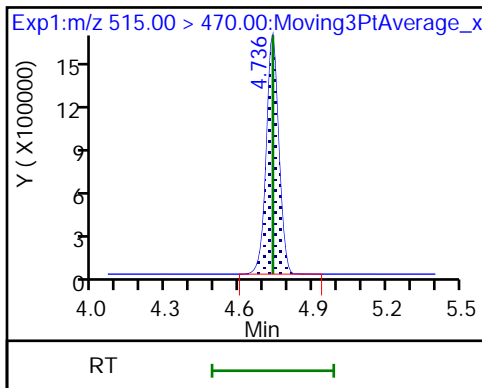




D 52 13C2 PFDA

D 50 M2-8:2 FTS

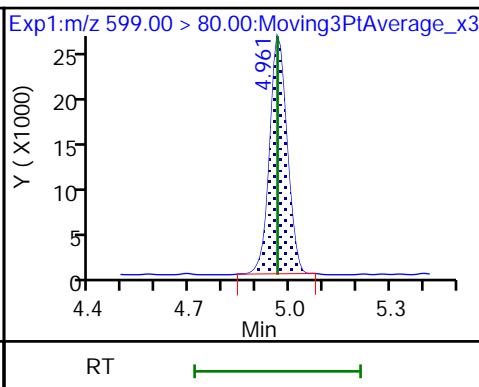
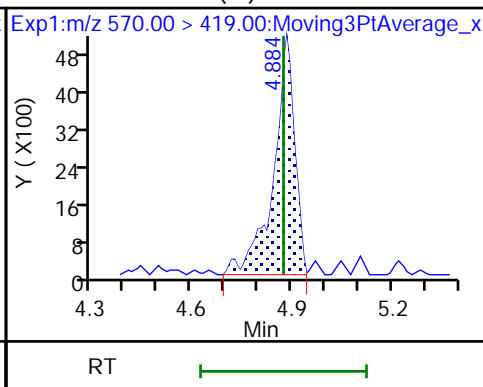
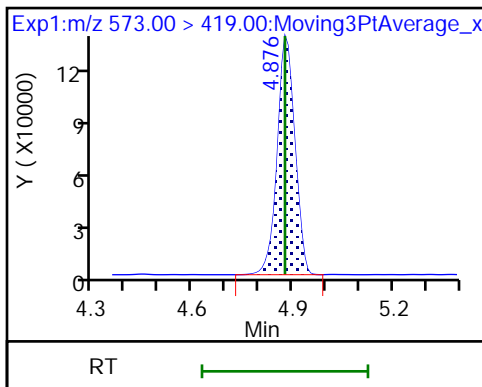
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

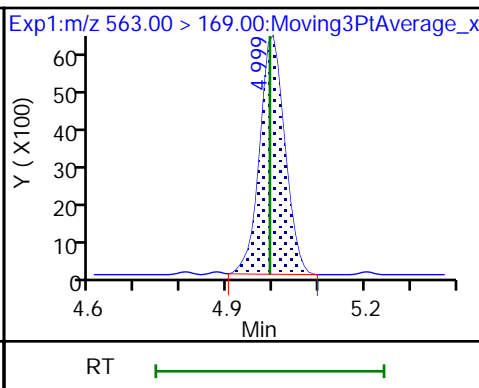
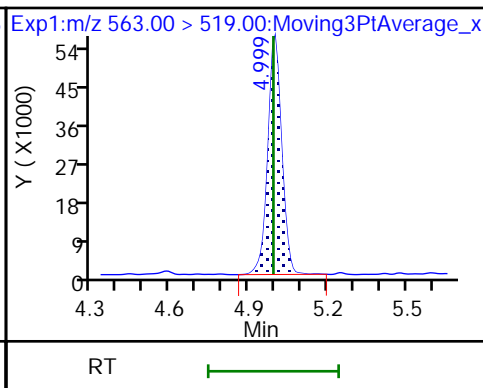
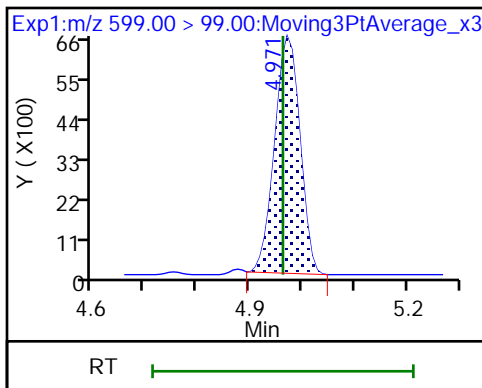
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

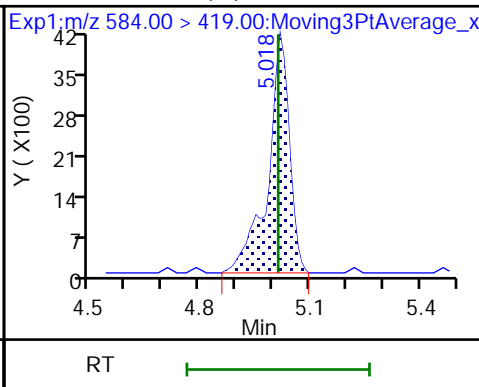
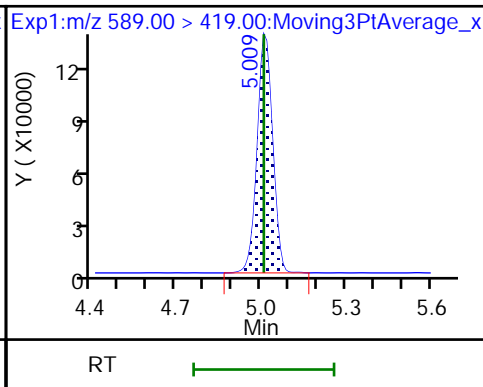
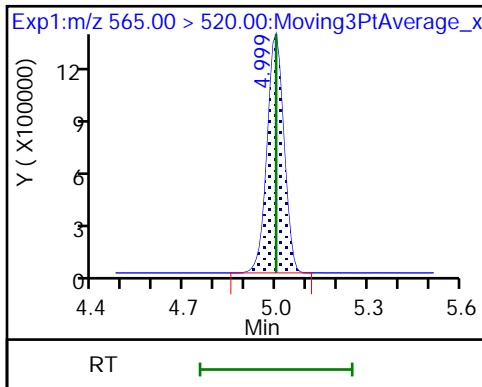
60 Perfluoroundecanoic acid

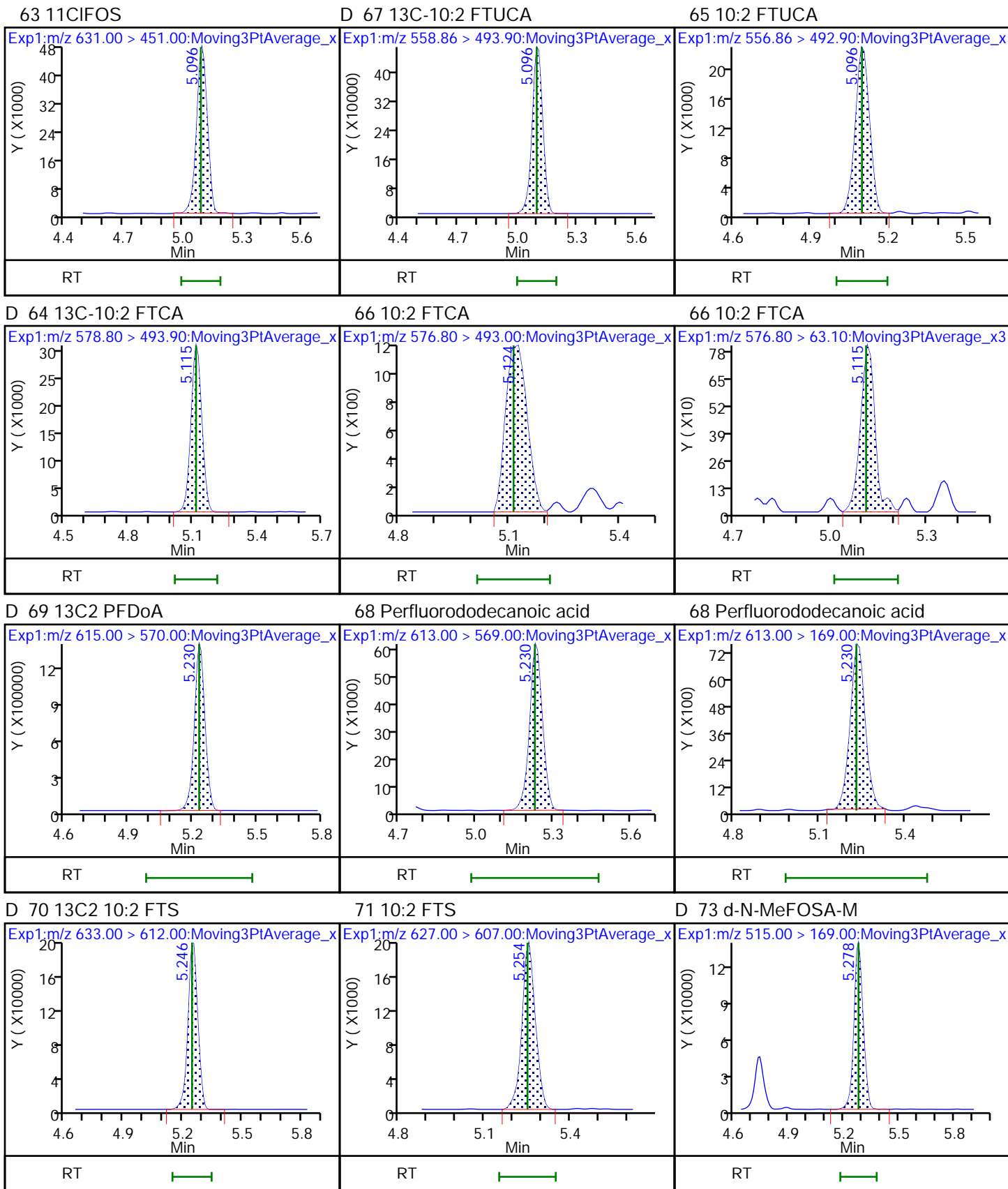


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)



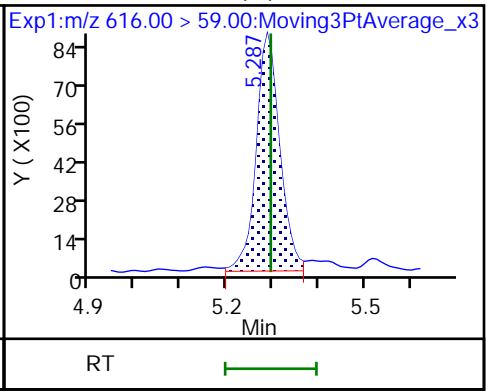
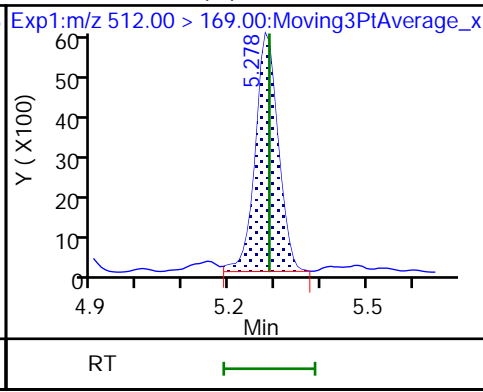
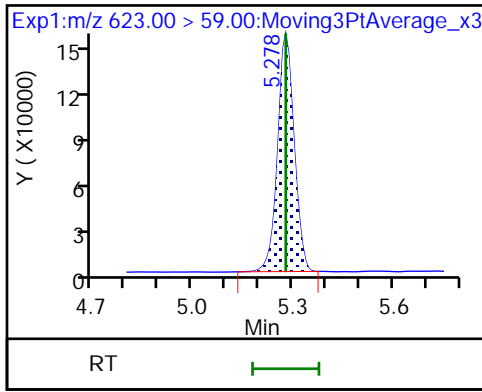




D 72 d7-N-MeFOSE-M

74 NMeFOSA (M)

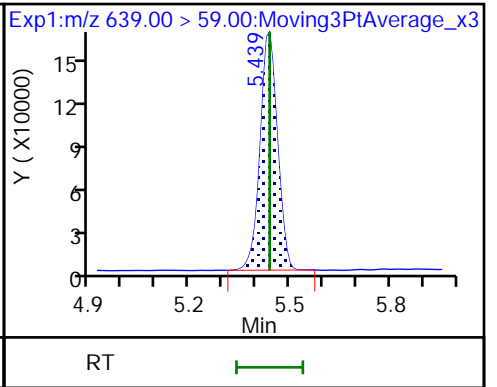
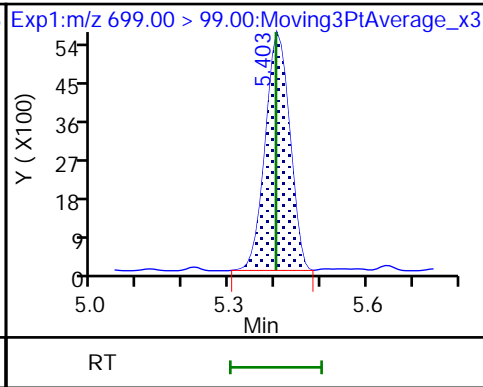
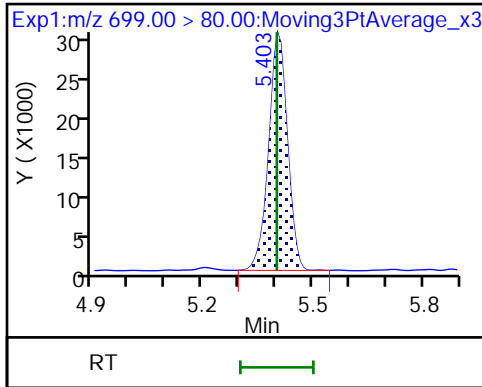
75 N-MeFOSE-M (M)



76 PFDoS

76 PFDoS

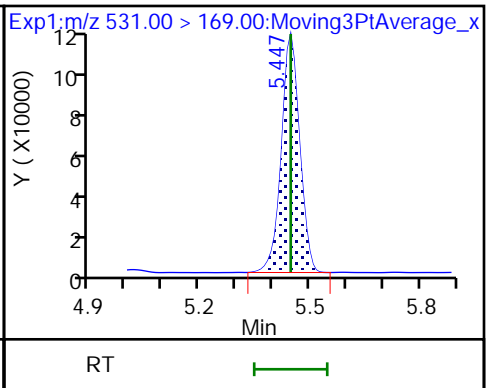
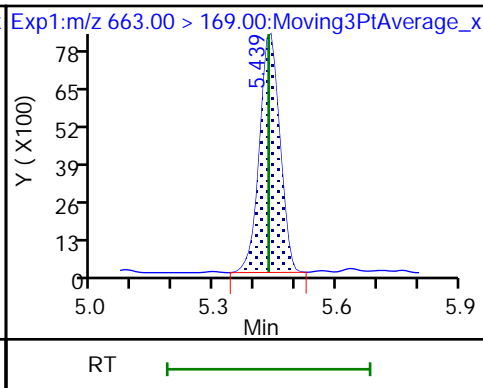
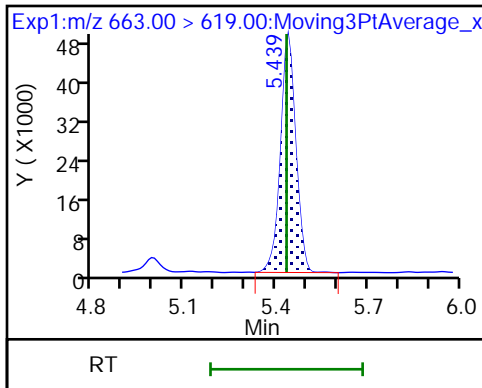
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

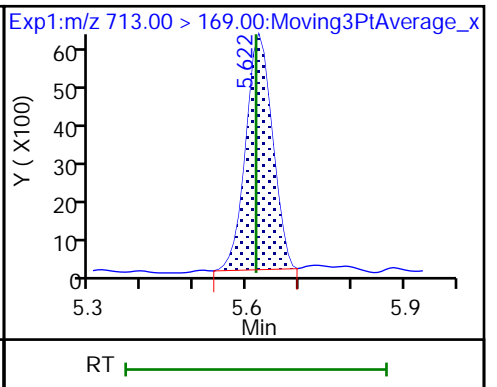
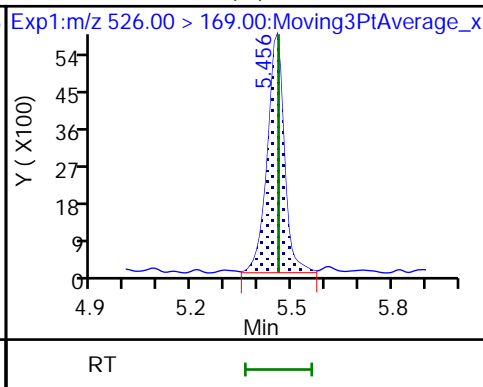
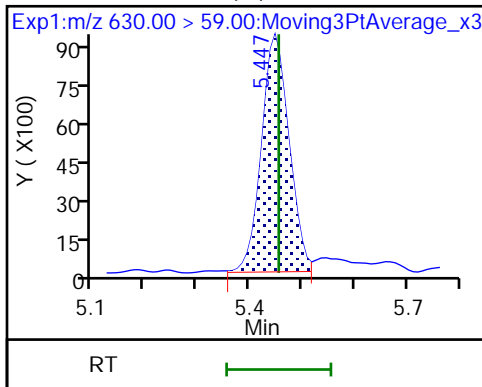
D 80 d-N-EtFOFA-M

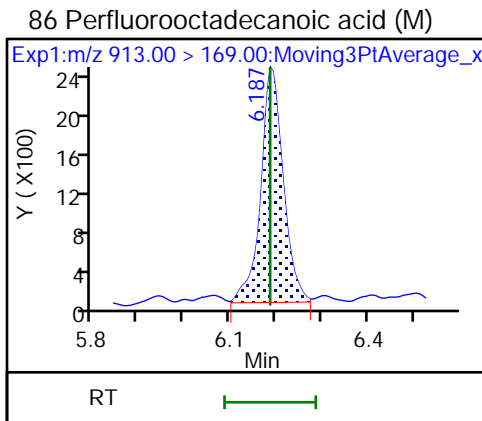
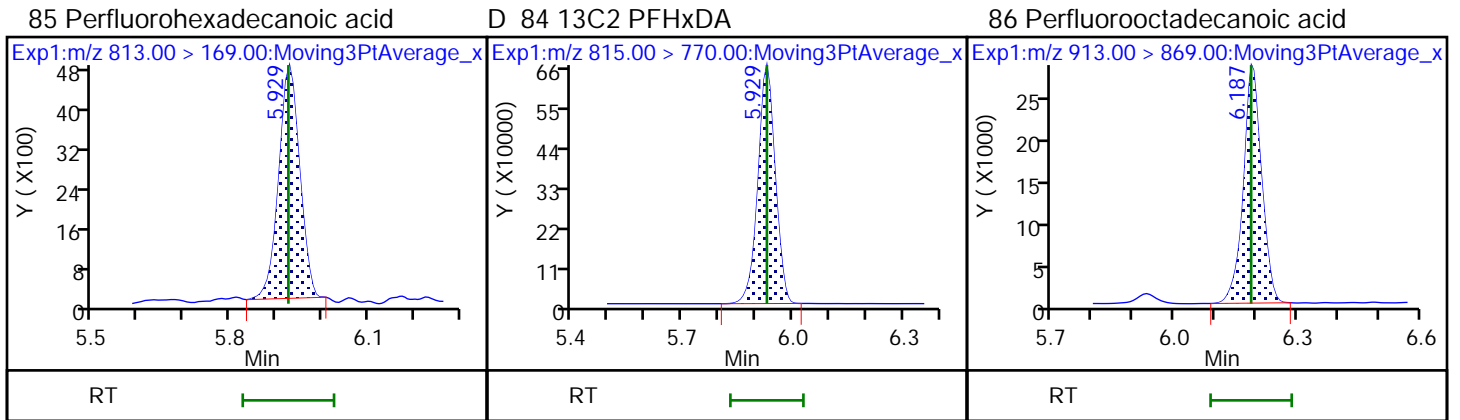
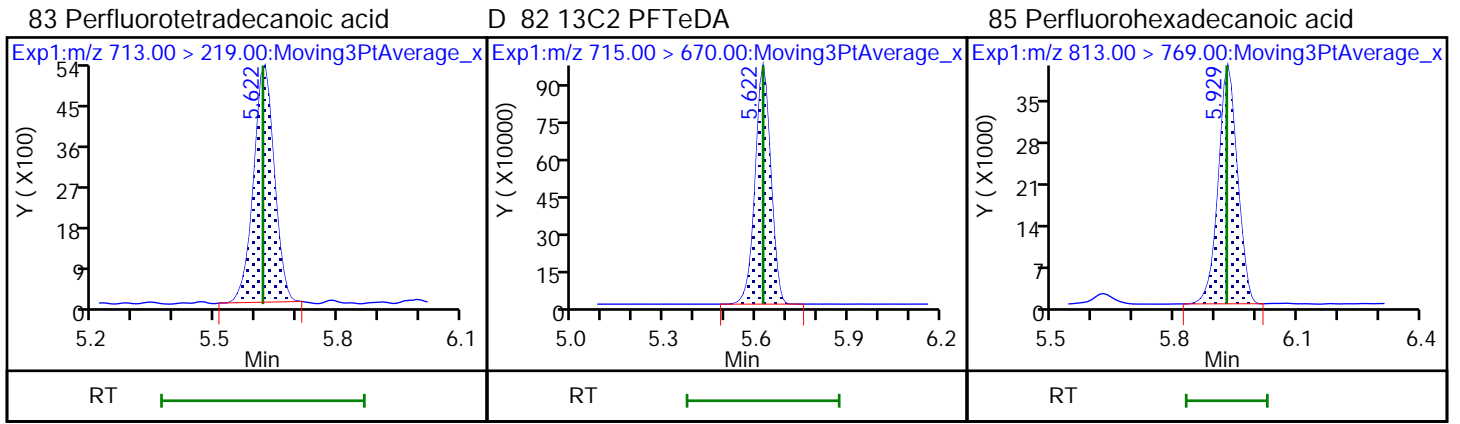


79 N-EtFOSE-M (M)

81 N-EtFOFA-M (M)

83 Perfluorotetradecanoic acid





Eurofins Knoxville

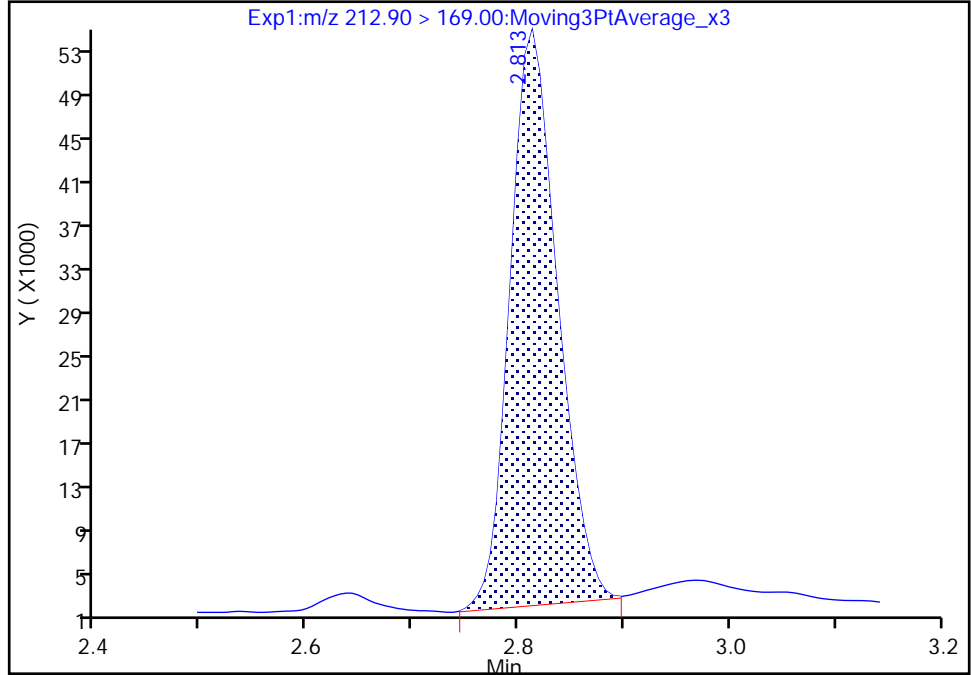
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

1 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

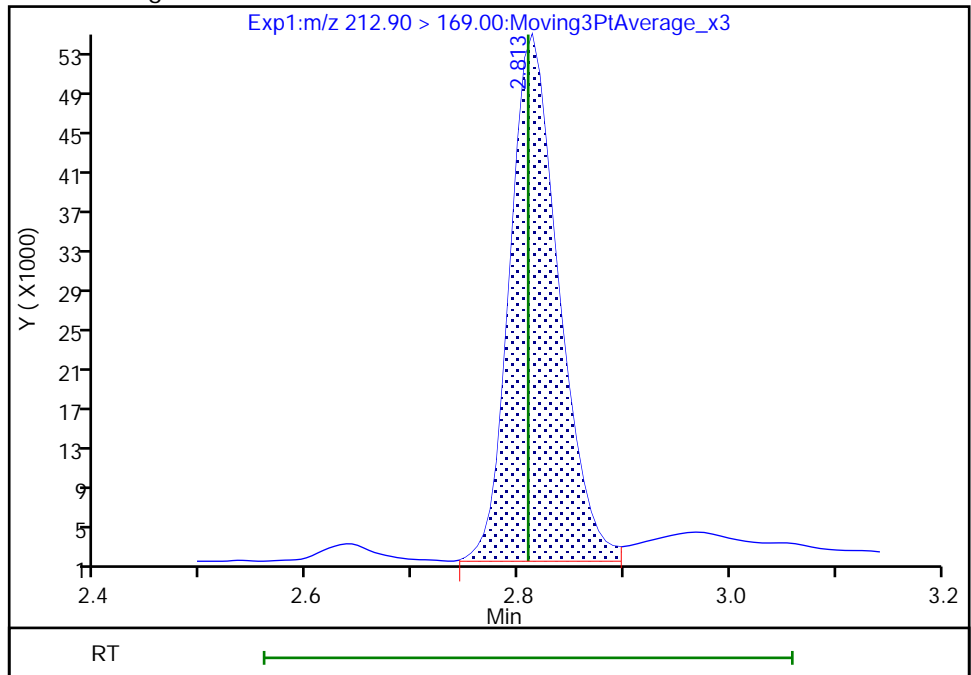
RT: 2.81  
Area: 165513  
Amount: 0.046843  
Amount Units: ng/ml

Processing Integration Results



RT: 2.81  
Area: 171753  
Amount: 0.048754  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:42:28  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

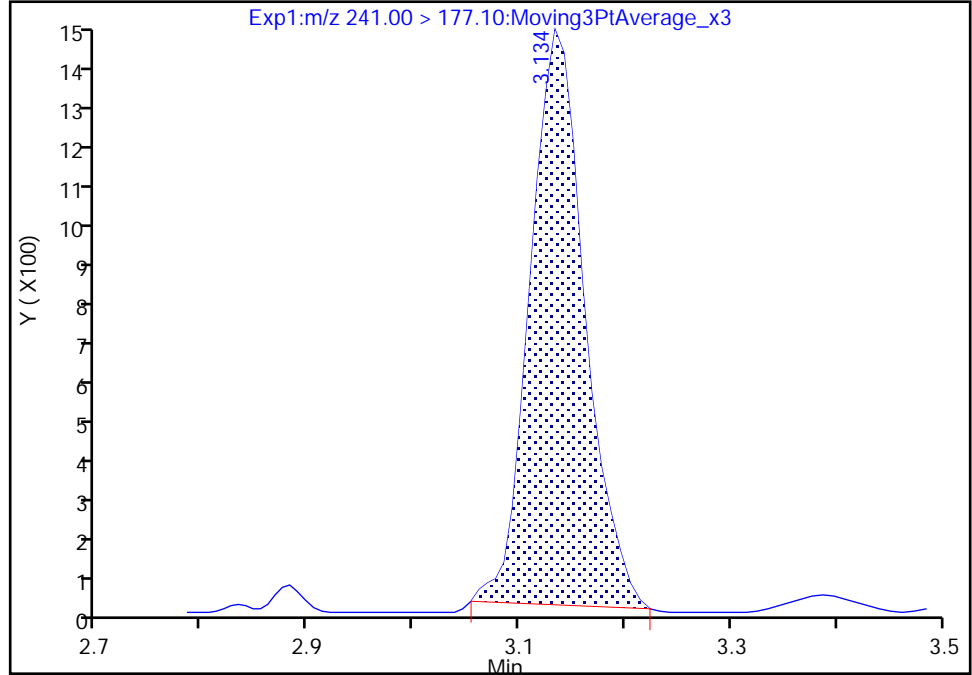
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

4 3:3 FTCA, CAS: 356-02-5

Signal: 1

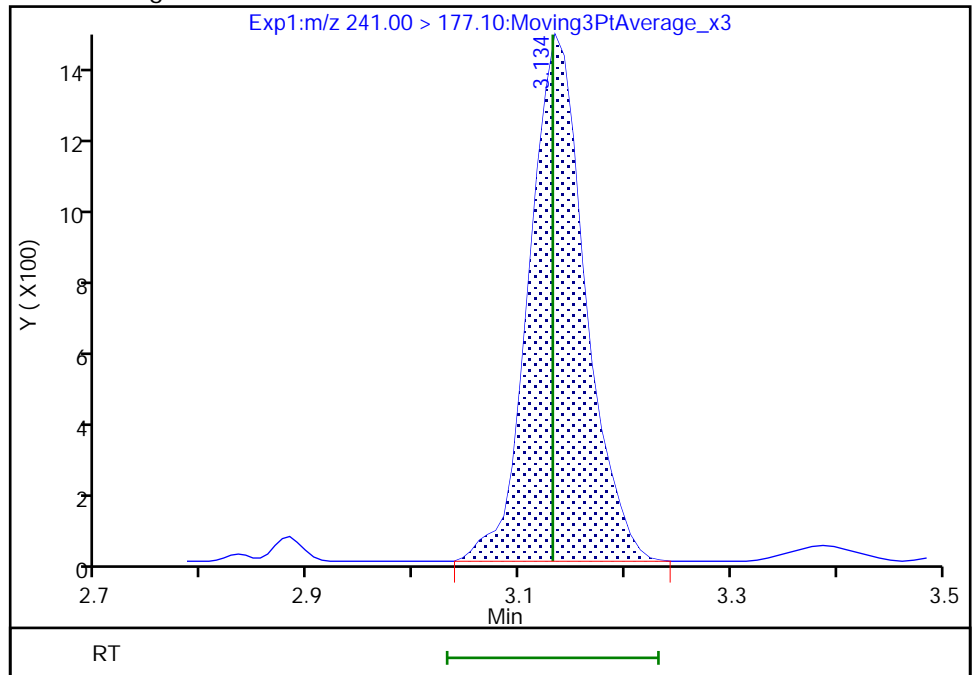
RT: 3.13  
Area: 5214  
Amount: 0.049821  
Amount Units: ng/ml

Processing Integration Results



RT: 3.13  
Area: 5417  
Amount: 0.051761  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:42:42  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

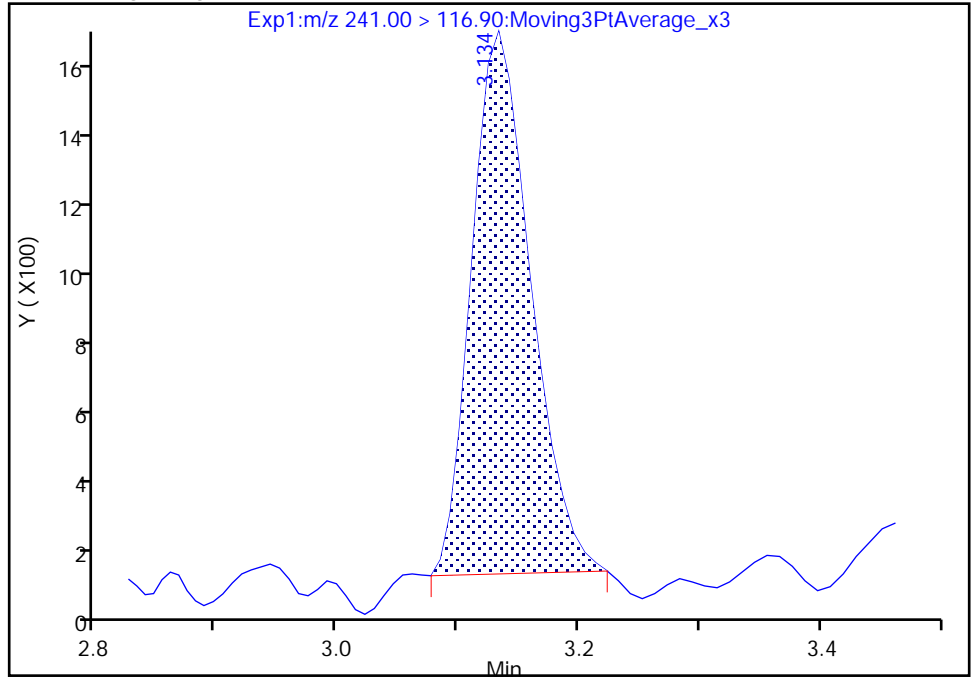
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

4 3:3 FTCA, CAS: 356-02-5

Signal: 2

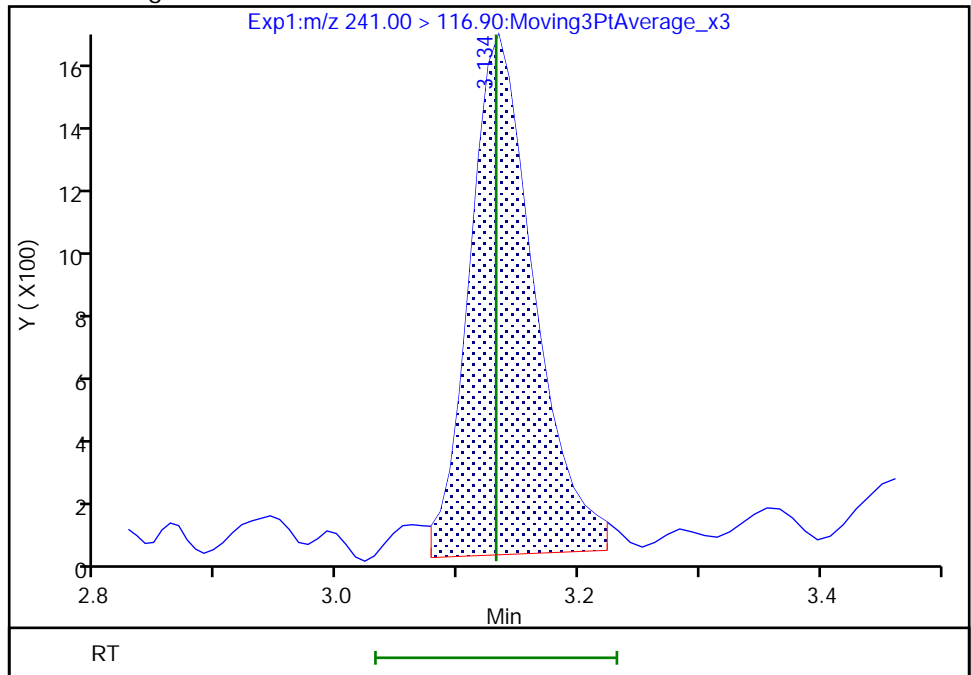
RT: 3.13  
Area: 5064  
Amount: 0.049821  
Amount Units: ng/ml

Processing Integration Results



RT: 3.13  
Area: 5856  
Amount: 0.051761  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:42:50

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

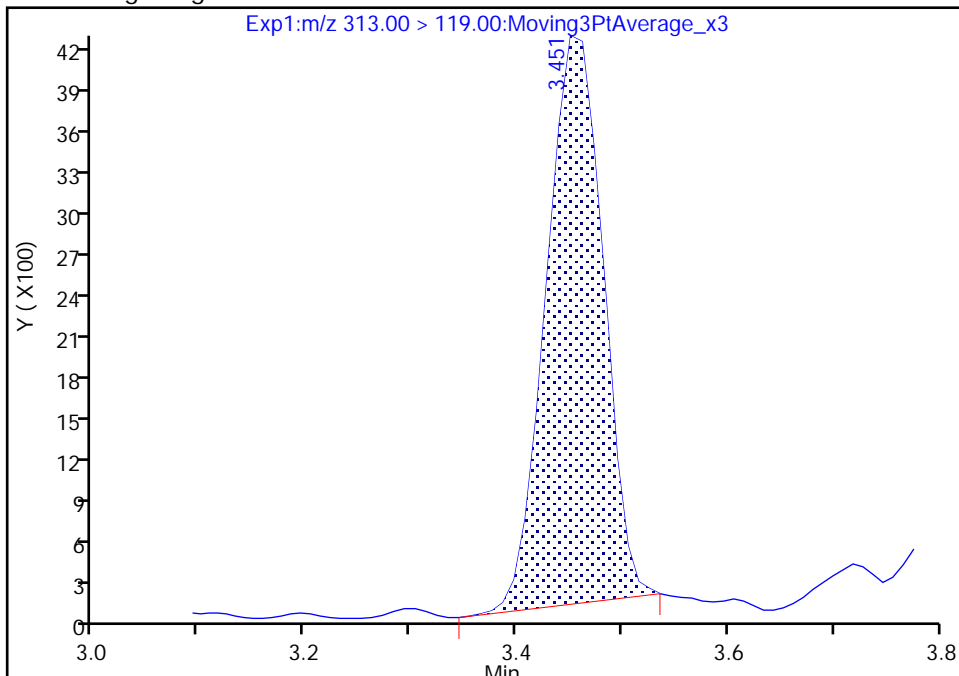
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

15 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

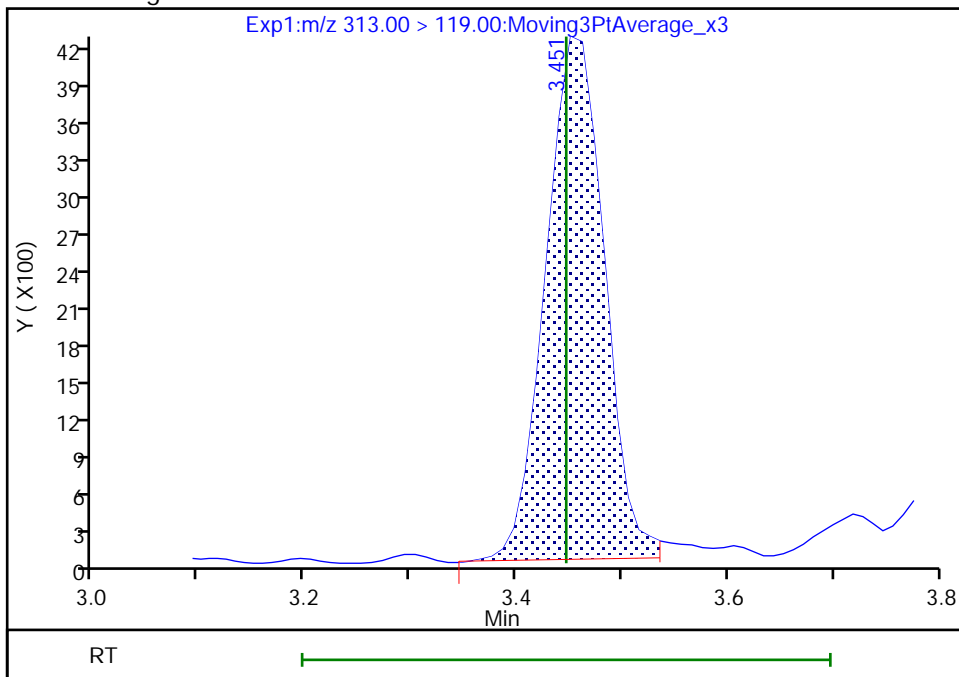
RT: 3.45  
Area: 15516  
Amount: 0.053160  
Amount Units: ng/ml

Processing Integration Results



RT: 3.45  
Area: 16235  
Amount: 0.053160  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:43:02  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

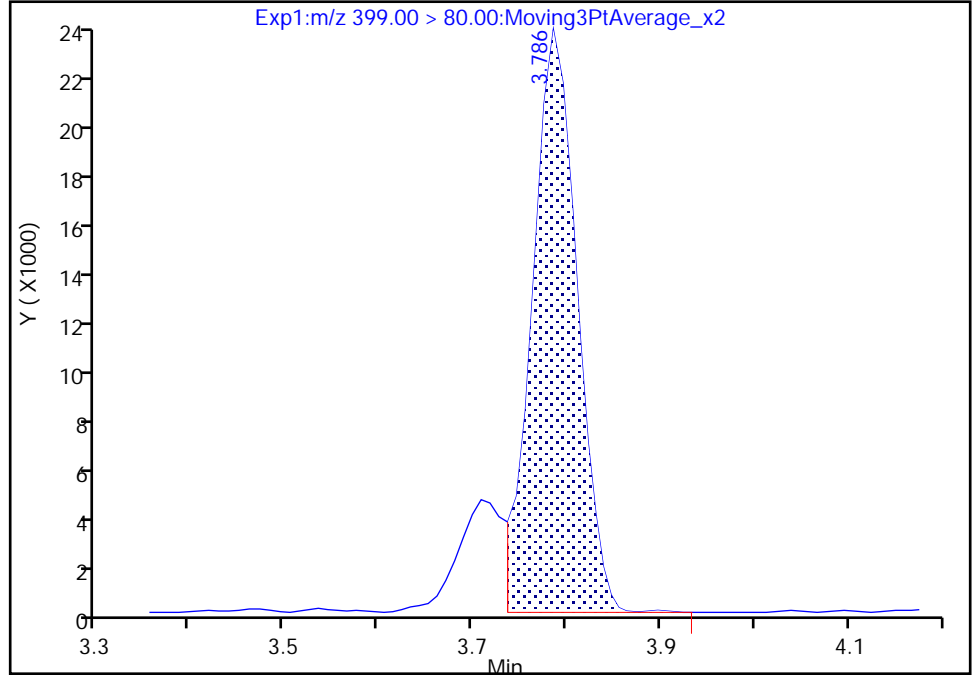
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

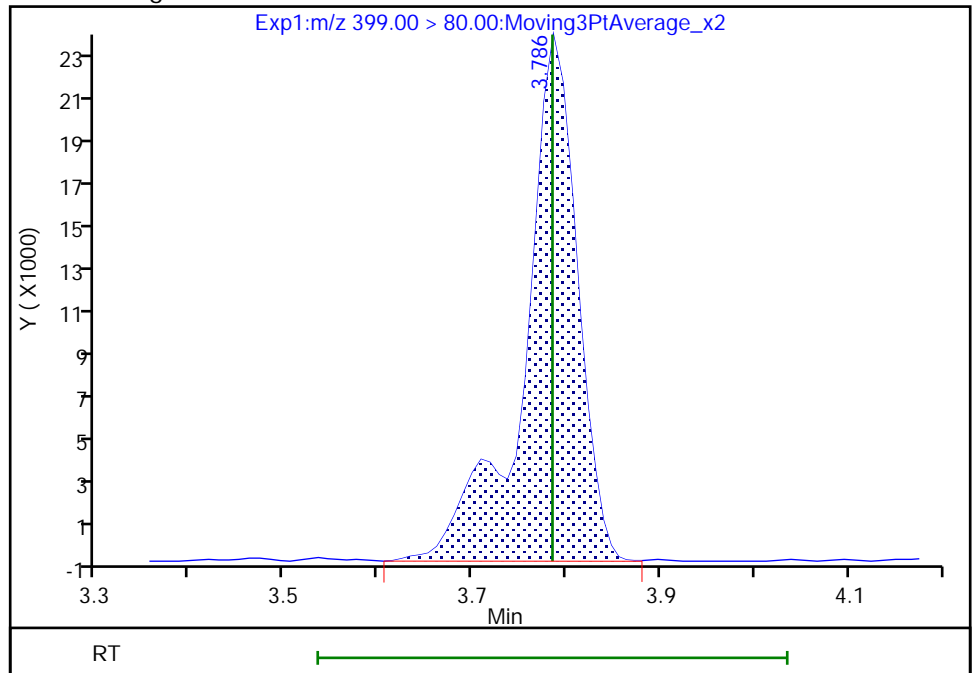
RT: 3.79  
Area: 76920  
Amount: 0.039690  
Amount Units: ng/ml

Processing Integration Results



RT: 3.79  
Area: 91642  
Amount: 0.047286  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:43:14  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

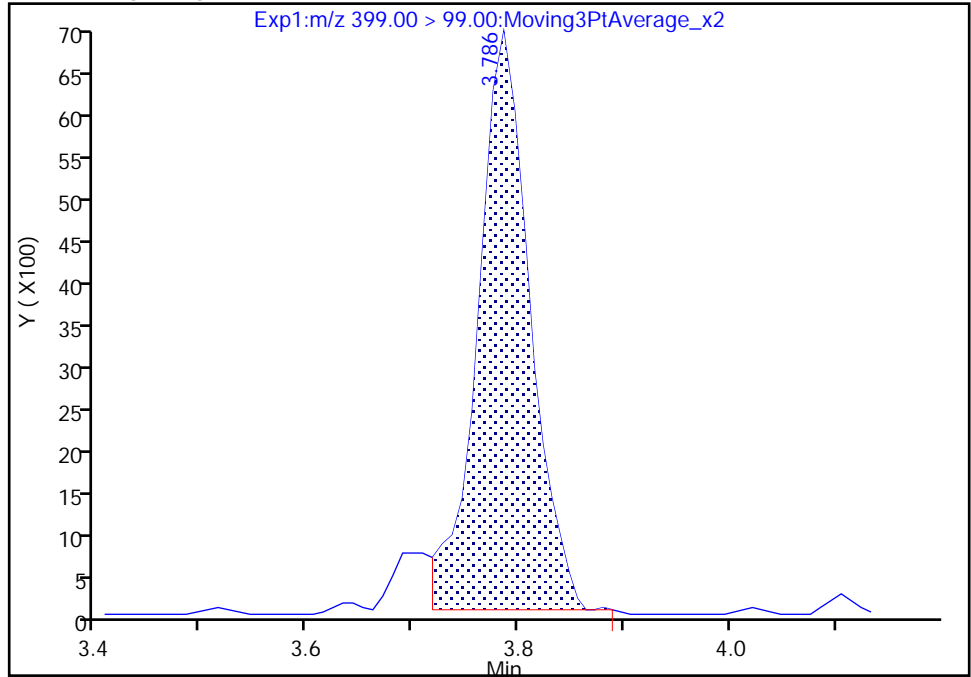
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

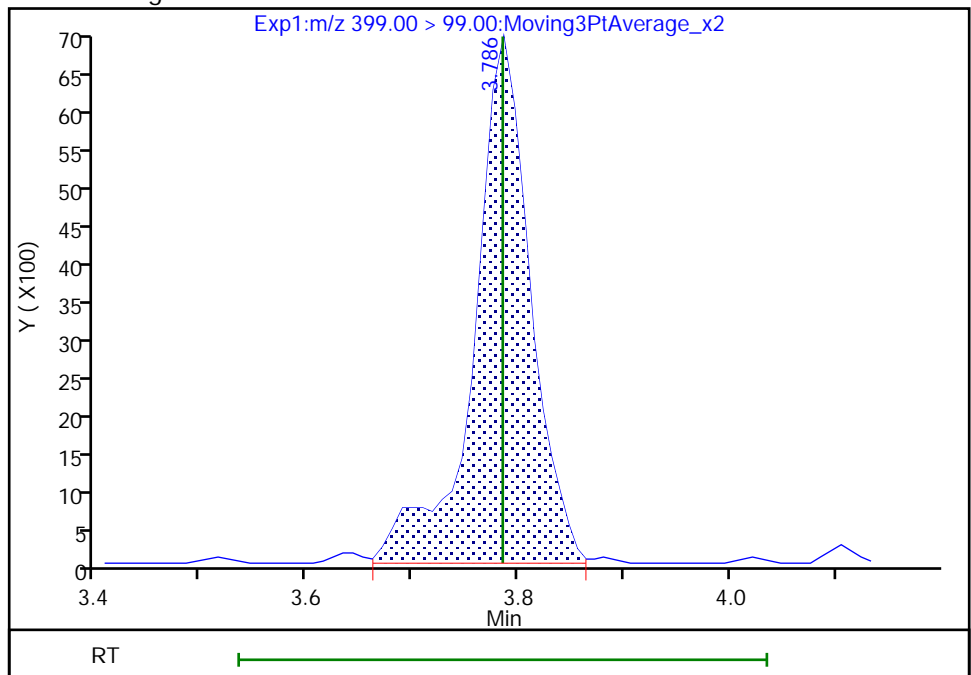
RT: 3.79  
Area: 23666  
Amount: 0.039690  
Amount Units: ng/ml

Processing Integration Results



RT: 3.79  
Area: 25950  
Amount: 0.047286  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:43:21

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

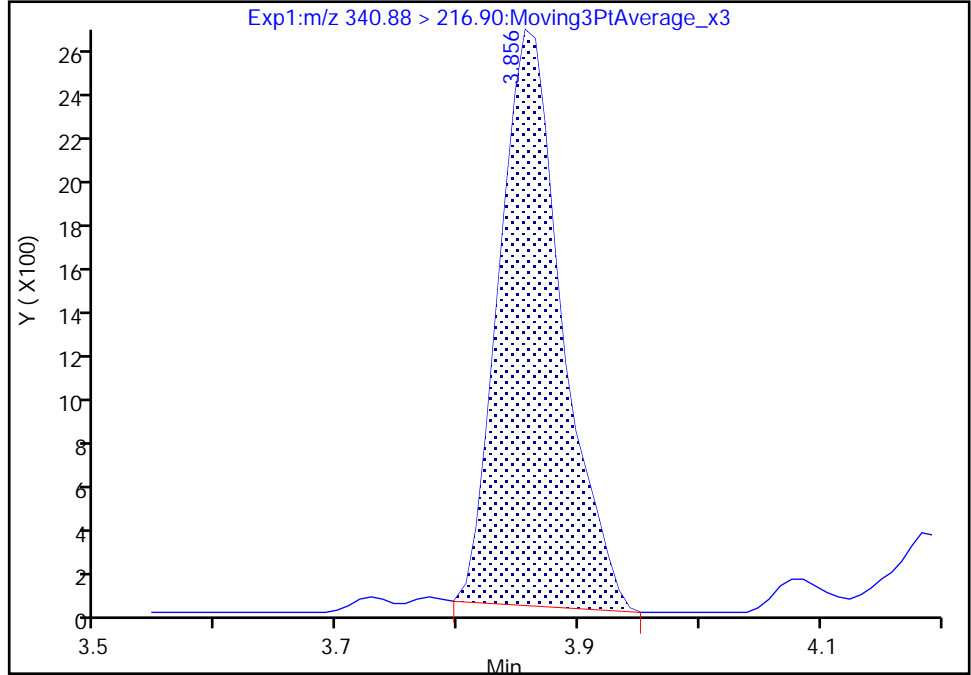
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

26 5:3 FTCA, CAS: 914637-49-3

Signal: 2

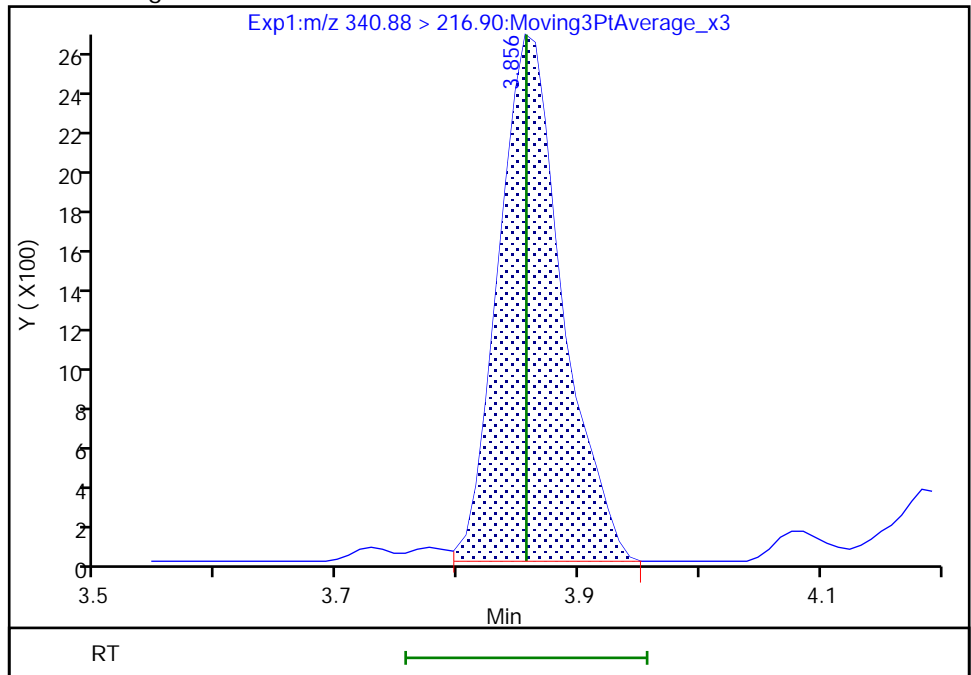
RT: 3.86  
Area: 9434  
Amount: 0.056585  
Amount Units: ng/ml

Processing Integration Results



RT: 3.86  
Area: 9666  
Amount: 0.056585  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:43:35  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

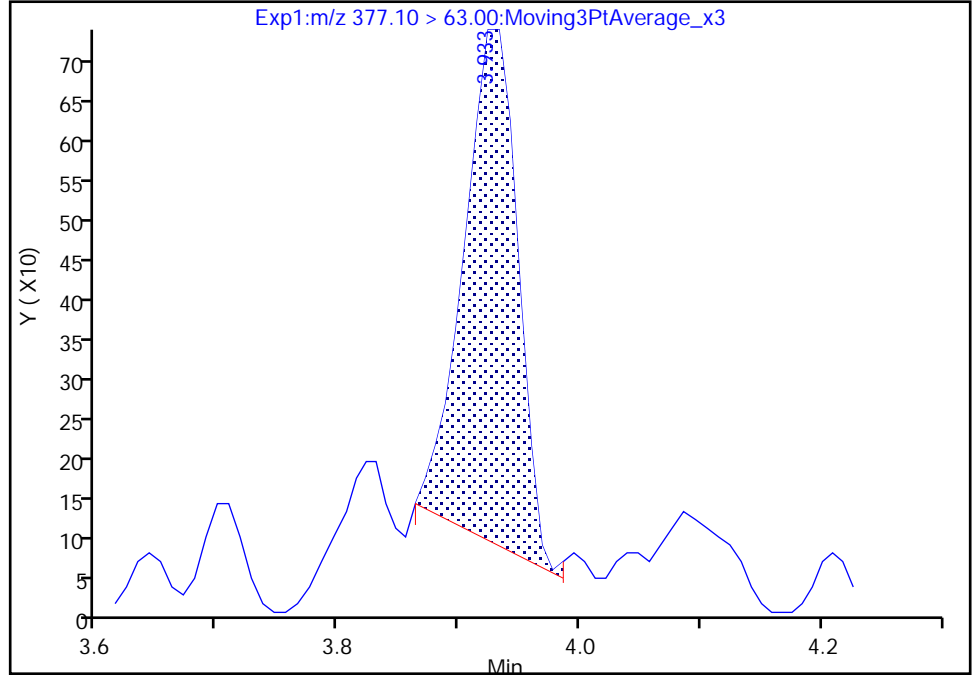
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

29 6:2 FTCA, CAS: 53826-12-3

Signal: 1

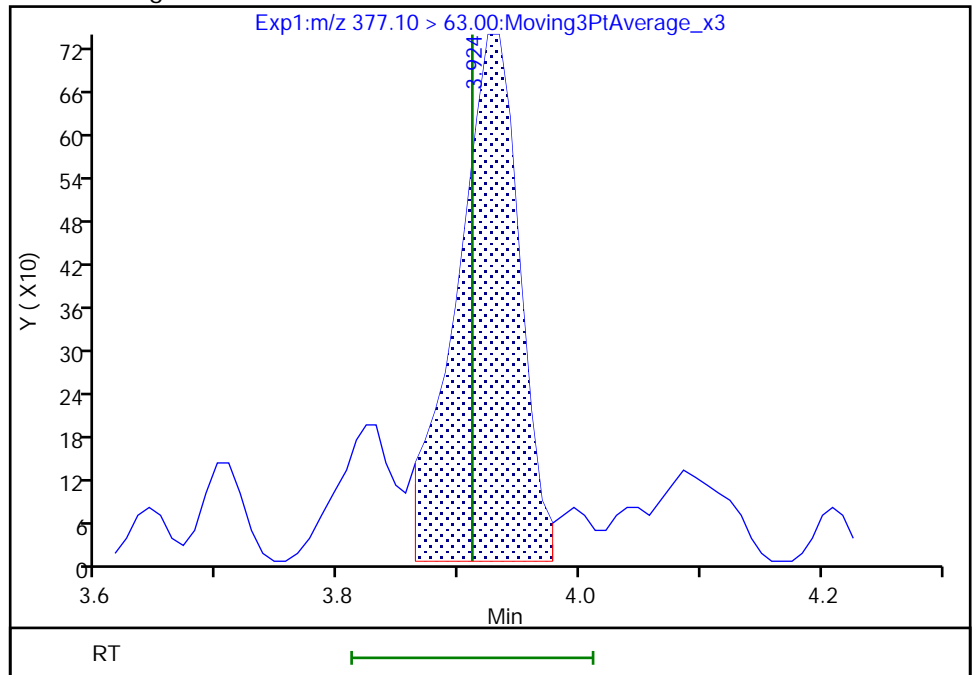
RT: 3.93  
Area: 2014  
Amount: 0.029482  
Amount Units: ng/ml

Processing Integration Results



RT: 3.92  
Area: 2644  
Amount: 0.040864  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:43:53  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

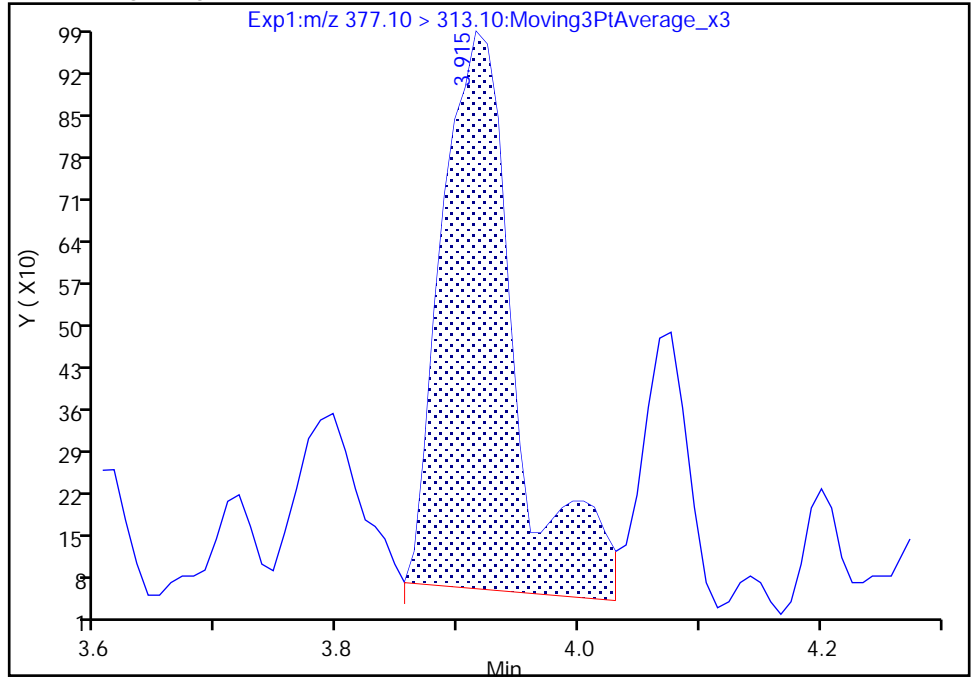
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

29 6:2 FTCA, CAS: 53826-12-3

Signal: 2

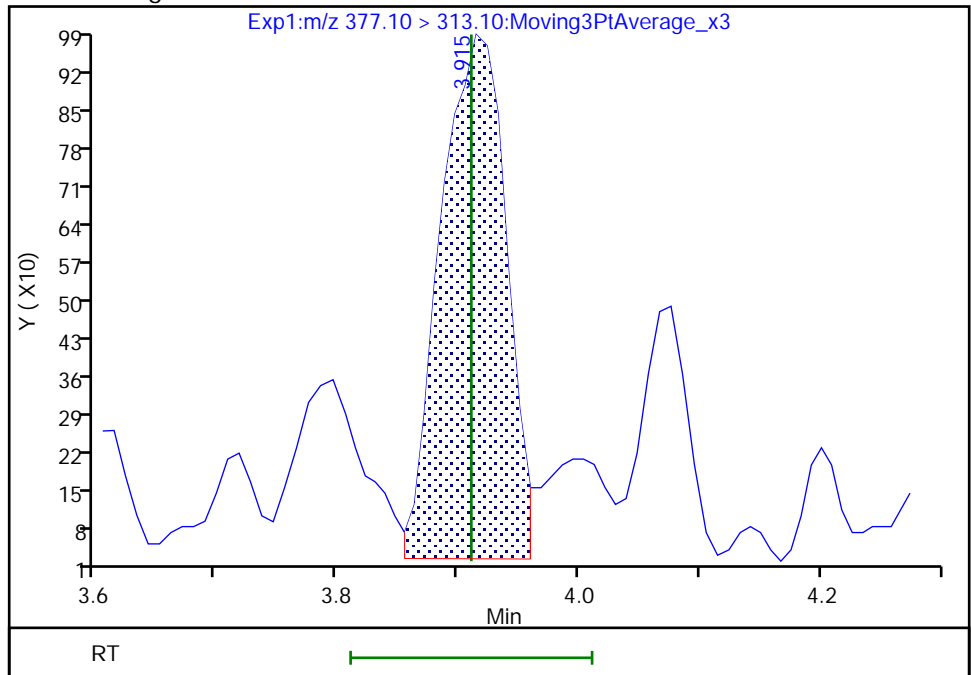
RT: 3.91  
Area: 3957  
Amount: 0.029482  
Amount Units: ng/ml

Processing Integration Results



RT: 3.91  
Area: 3648  
Amount: 0.040864  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:44:08

Audit Action: Manually Integrated

Audit Reason: Baseline  
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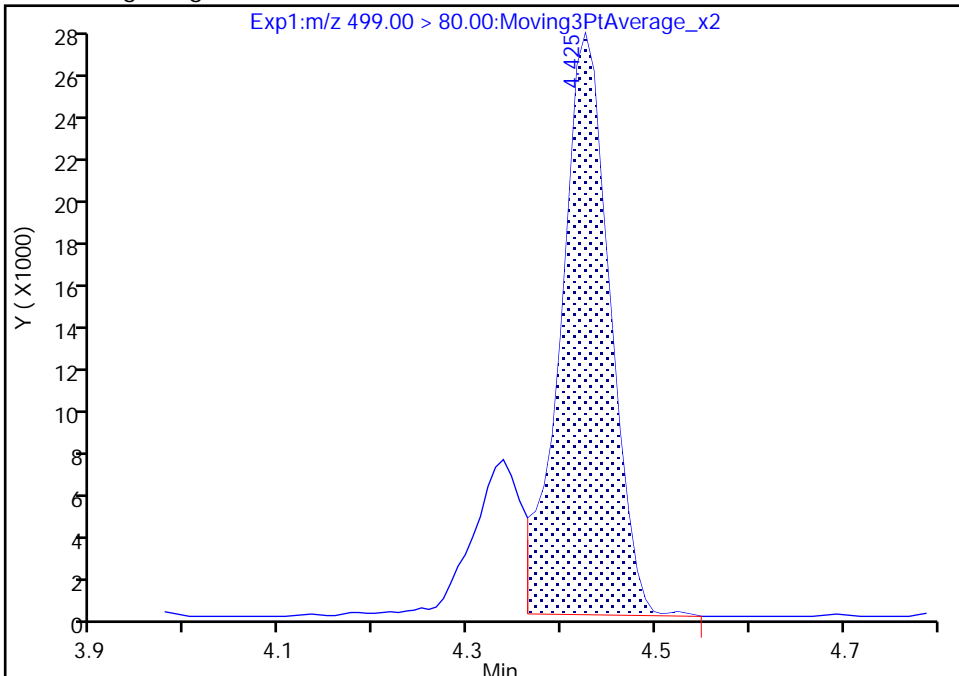
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

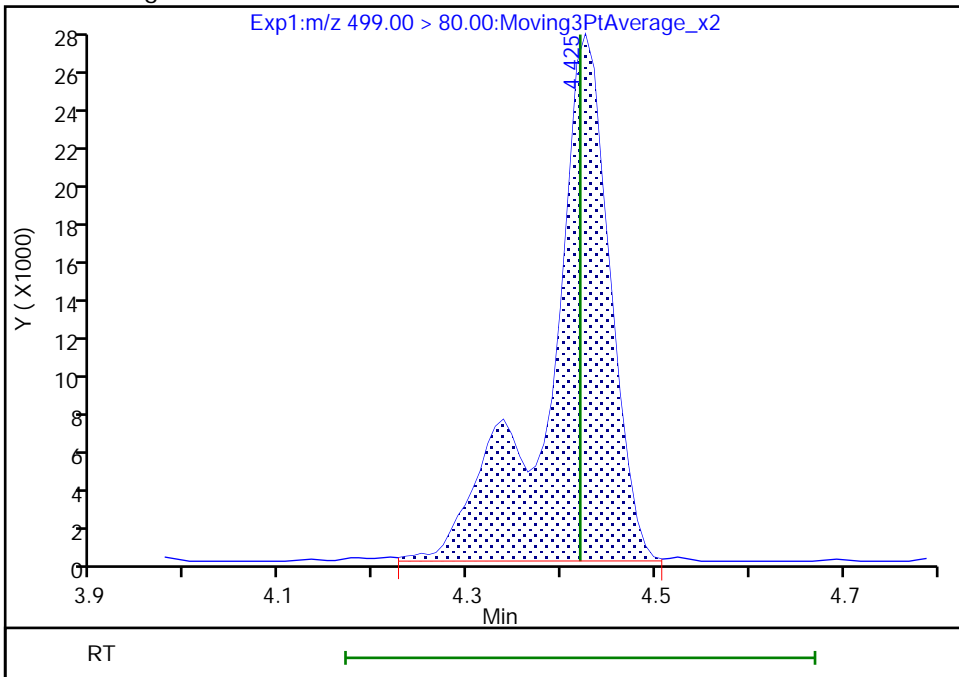
RT: 4.43  
Area: 100611  
Amount: 0.039767  
Amount Units: ng/ml

Processing Integration Results



RT: 4.43  
Area: 127364  
Amount: 0.050341  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:44:39  
Audit Action: Manually Integrated

Eurofins Knoxville

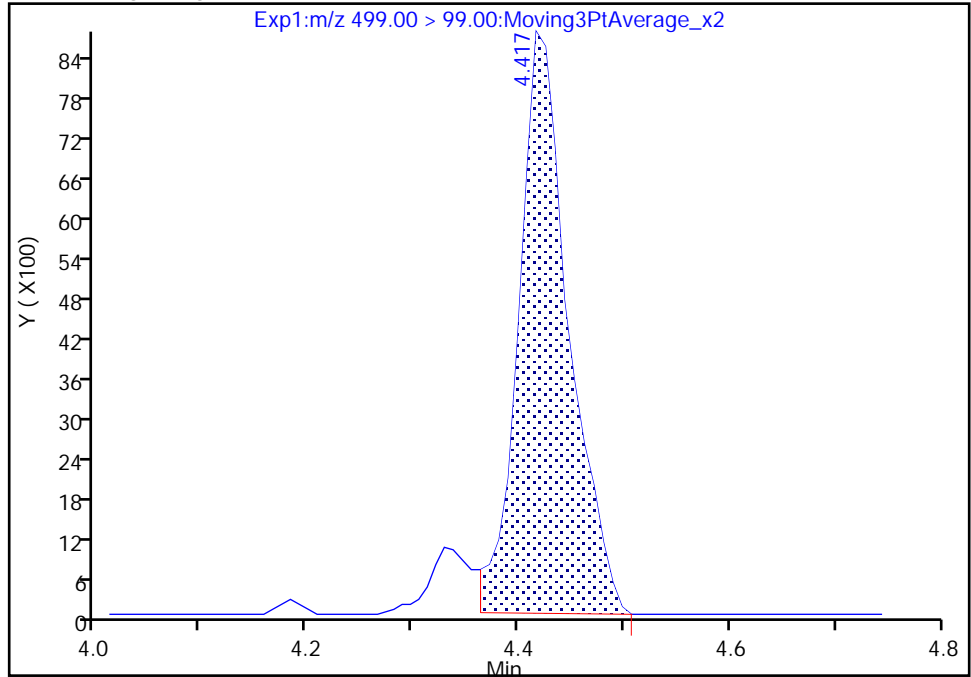
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

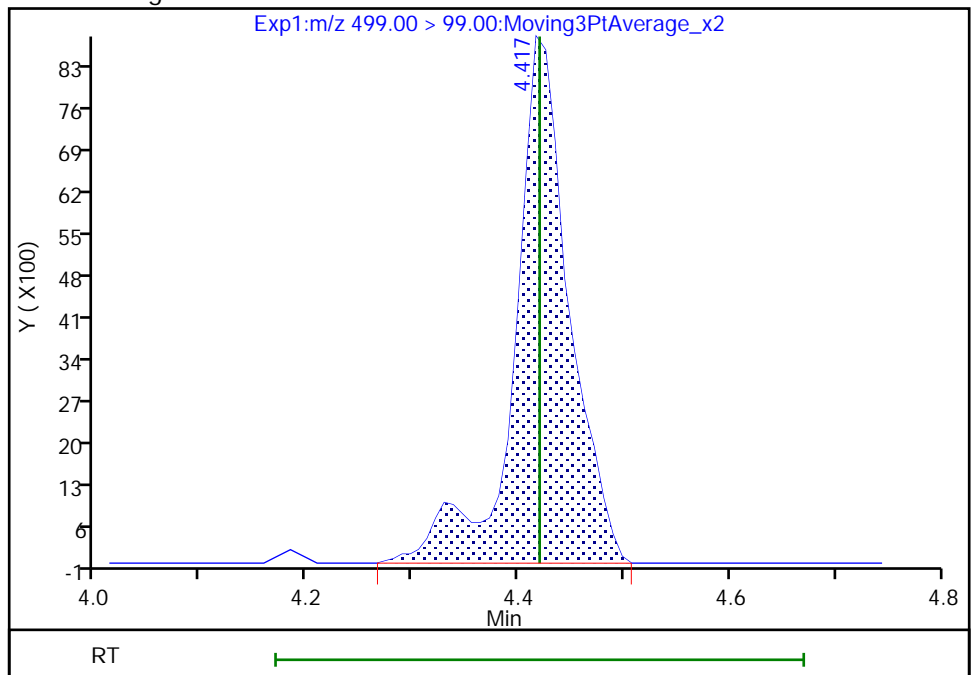
RT: 4.42  
Area: 28517  
Amount: 0.039767  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 31411  
Amount: 0.050341  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:44:47

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

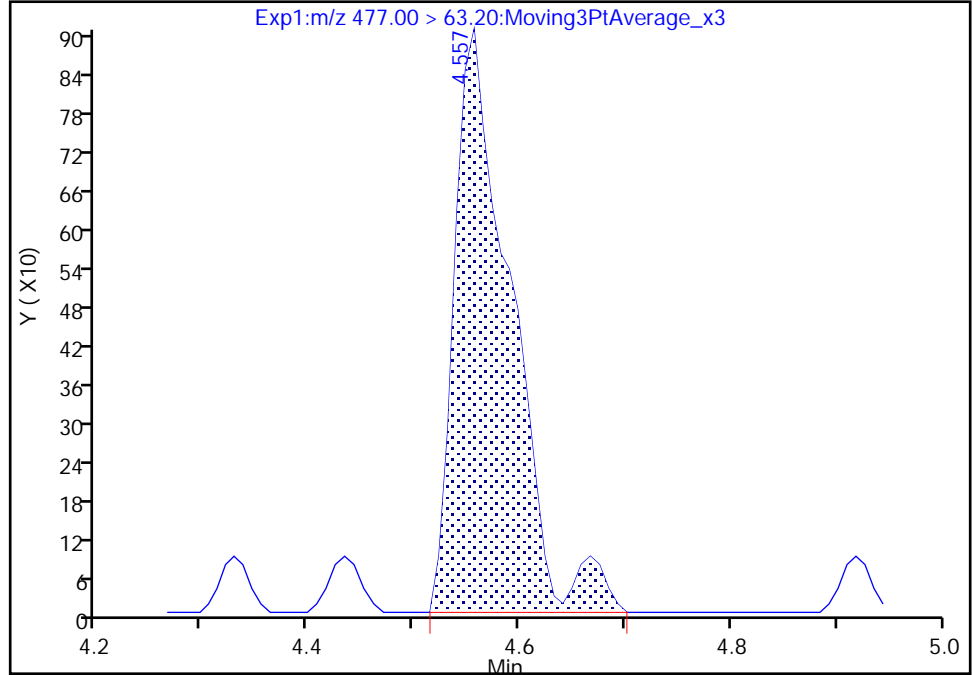
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 2

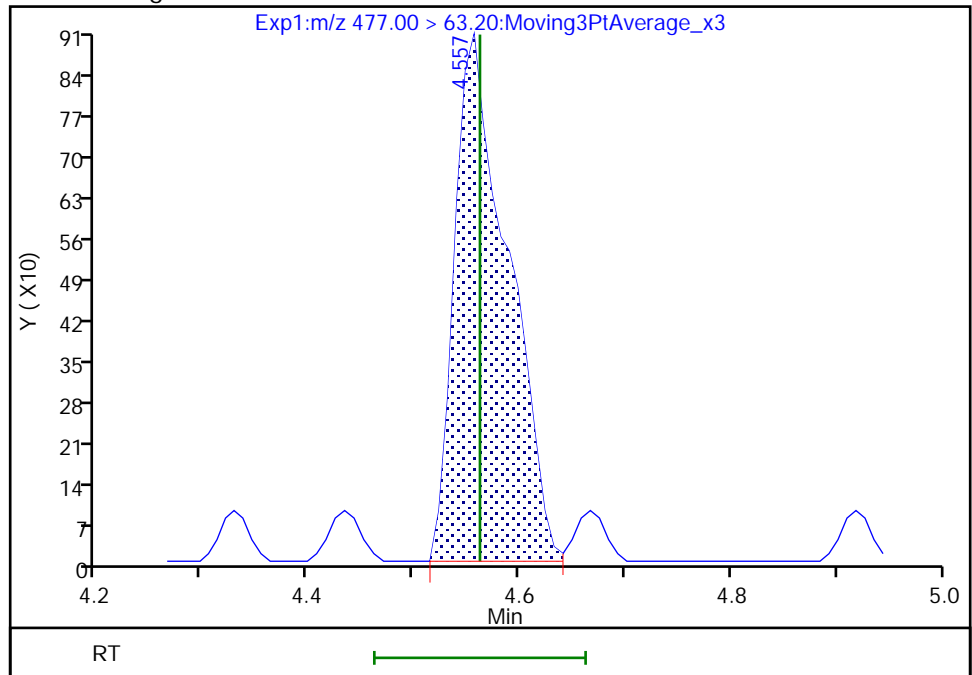
RT: 4.56  
Area: 3333  
Amount: 0.059598  
Amount Units: ng/ml

Processing Integration Results



RT: 4.56  
Area: 3162  
Amount: 0.059598  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:44:59  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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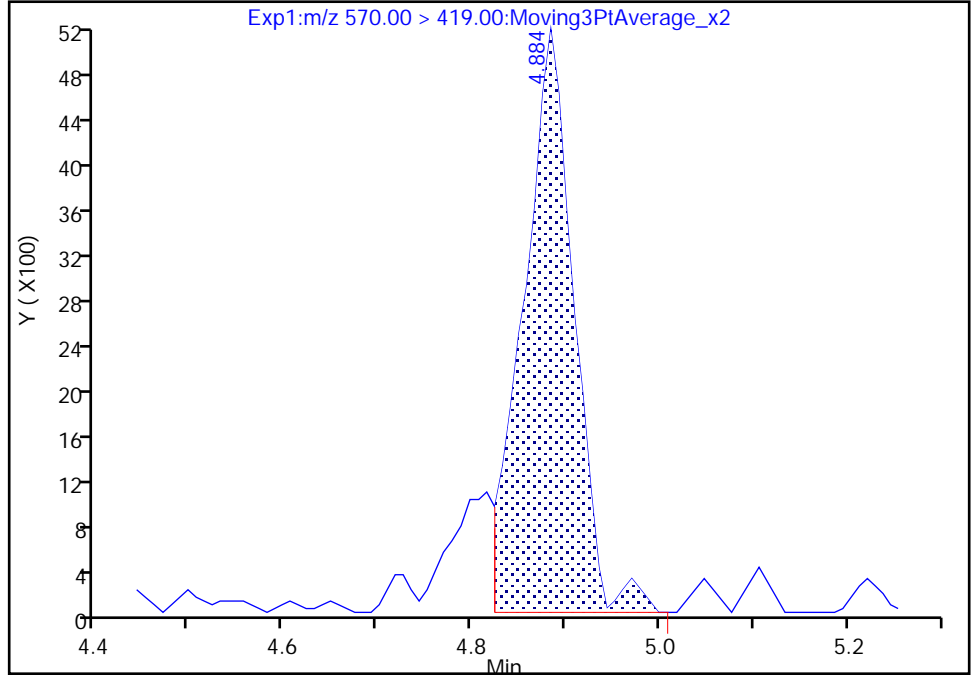
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

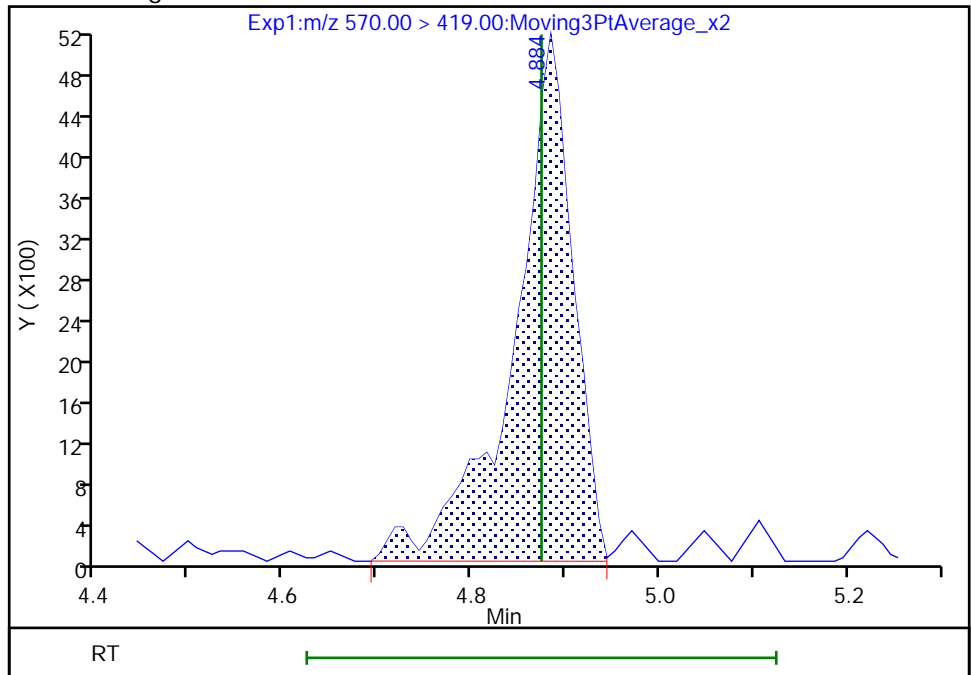
RT: 4.88  
Area: 19316  
Amount: 0.054638  
Amount Units: ng/ml

Processing Integration Results



RT: 4.88  
Area: 22709  
Amount: 0.063958  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:45:14  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

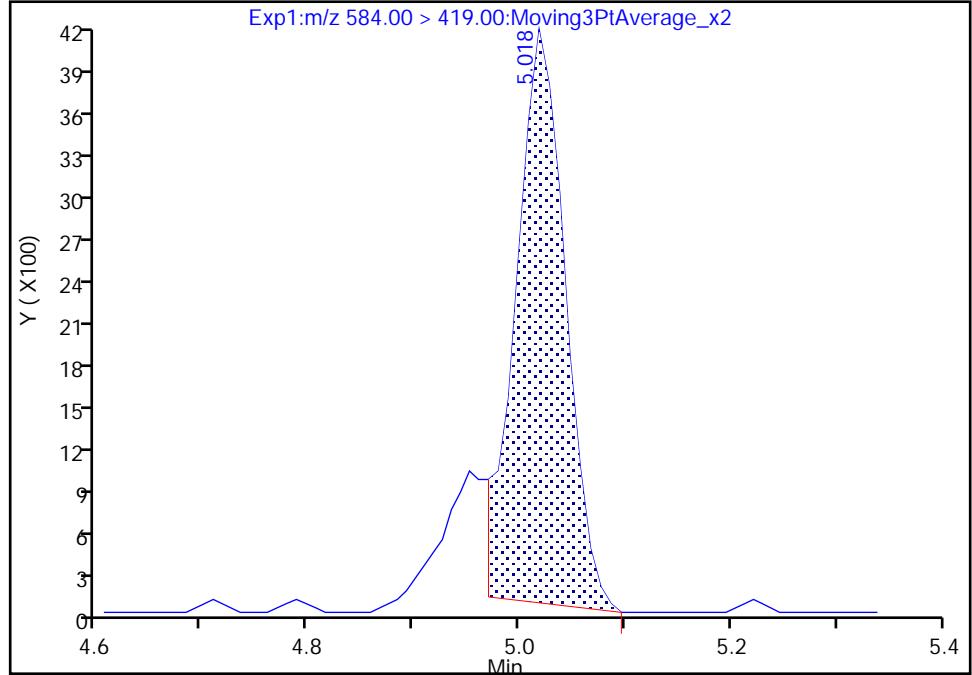
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

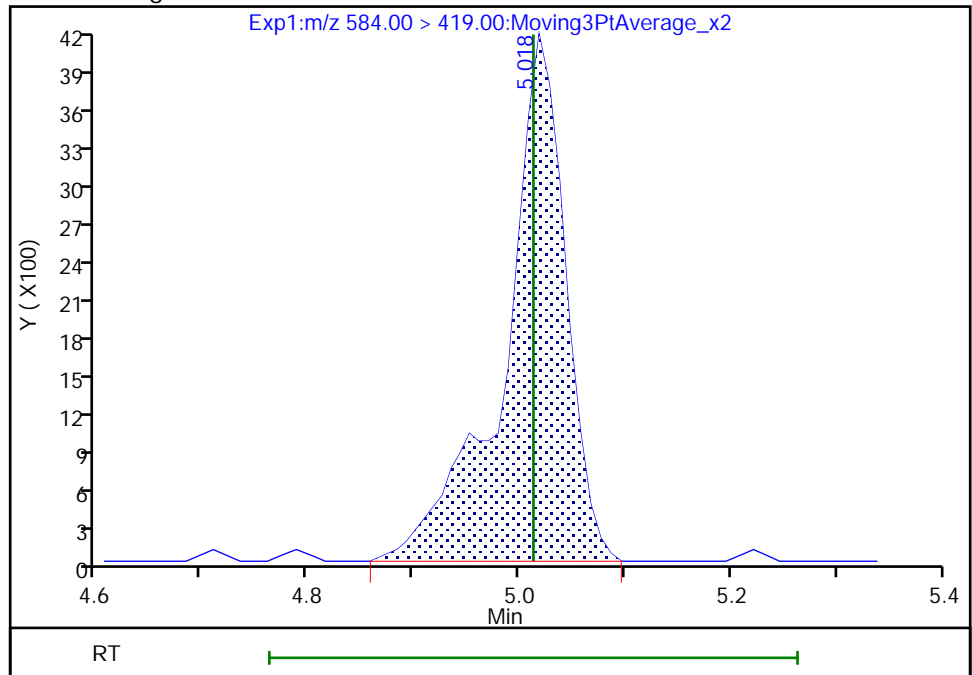
RT: 5.02  
Area: 13371  
Amount: 0.027514  
Amount Units: ng/ml

Processing Integration Results



RT: 5.02  
Area: 16881  
Amount: 0.037403  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:45:26  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

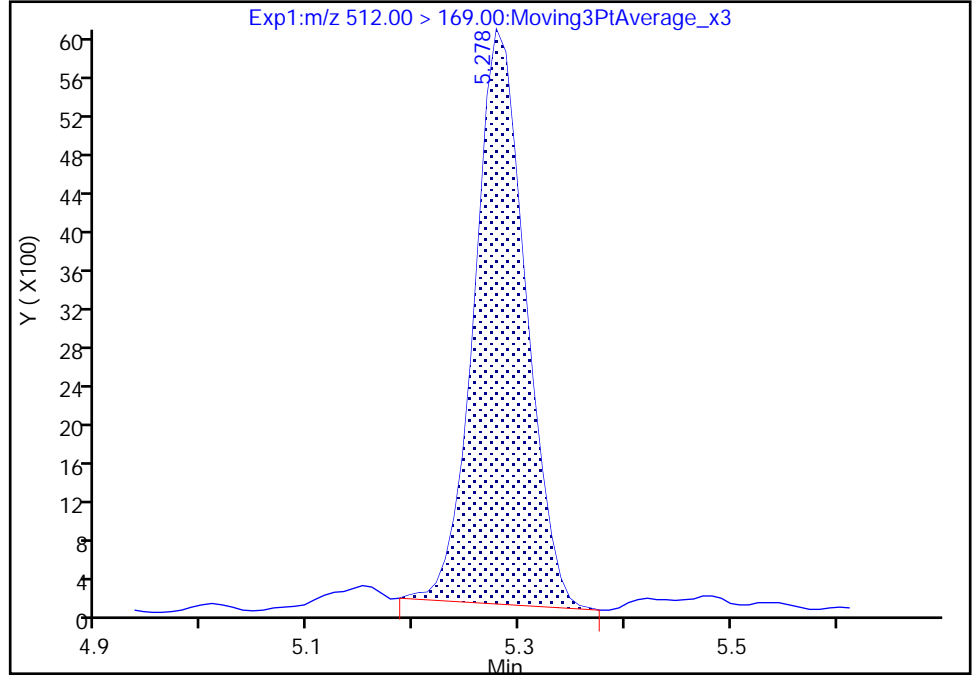
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

74 NMeFOSA, CAS: 31506-32-8

Signal: 1

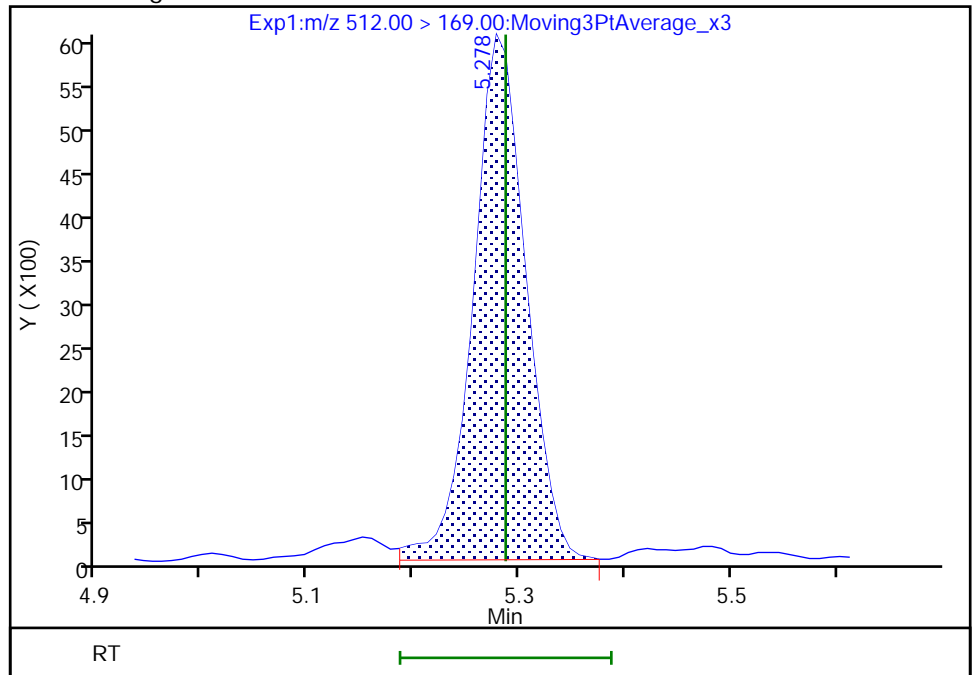
RT: 5.28  
Area: 19898  
Amount: 0.044730  
Amount Units: ng/ml

Processing Integration Results



RT: 5.28  
Area: 20669  
Amount: 0.046688  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:45:43  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

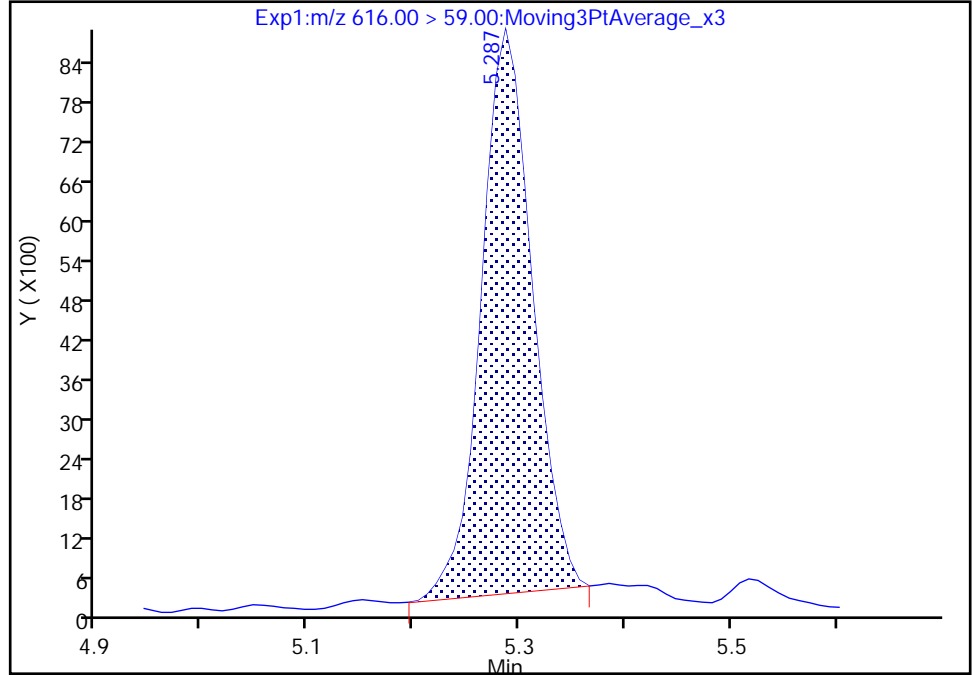
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

75 N-MeFOSE-M, CAS: 24448-09-7

Signal: 1

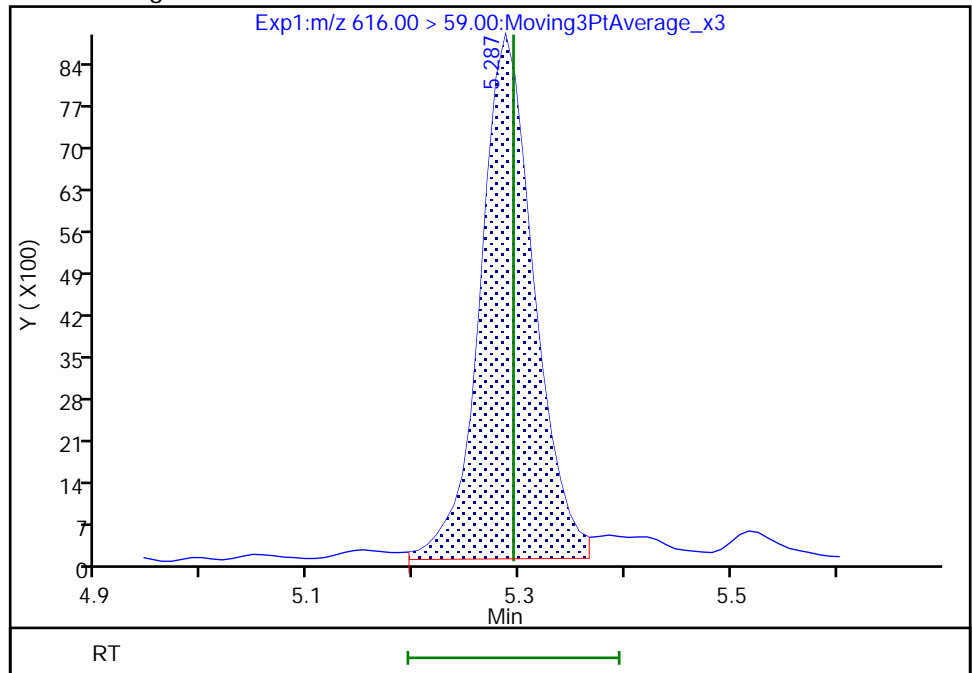
RT: 5.29  
Area: 28495  
Amount: 0.052538  
Amount Units: ng/ml

Processing Integration Results



RT: 5.29  
Area: 30870  
Amount: 0.057238  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:45:52  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

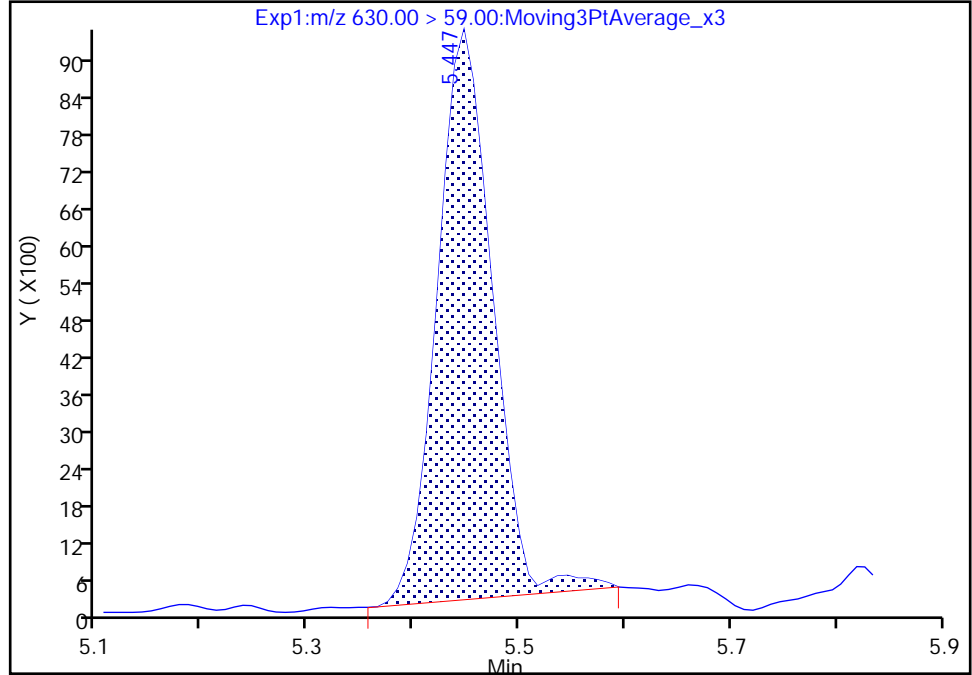
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Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

79 N-EtFOSE-M, CAS: 1691-99-2

Signal: 1

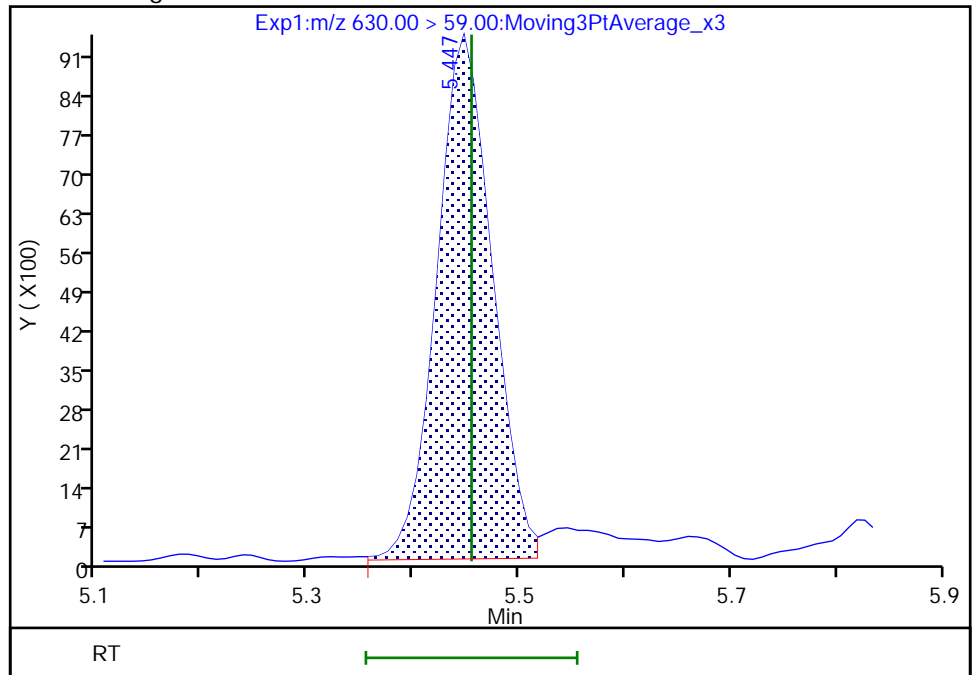
RT: 5.45  
Area: 33659  
Amount: 0.050387  
Amount Units: ng/ml

Processing Integration Results



RT: 5.45  
Area: 34326  
Amount: 0.051386  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:46:06  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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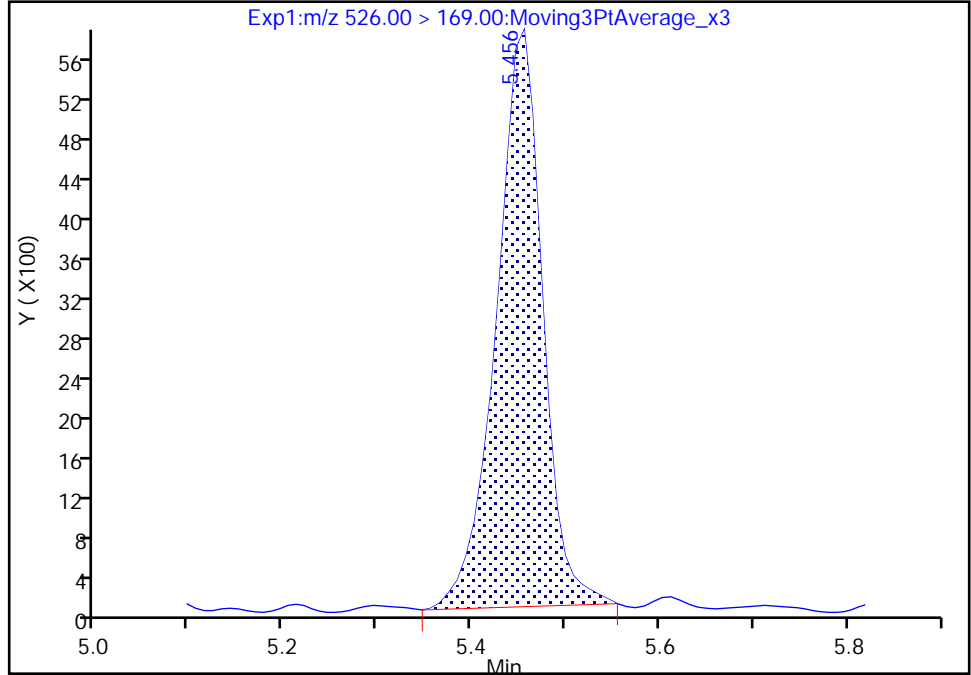
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

81 N-EtFOSA-M, CAS: 4151-50-2

Signal: 1

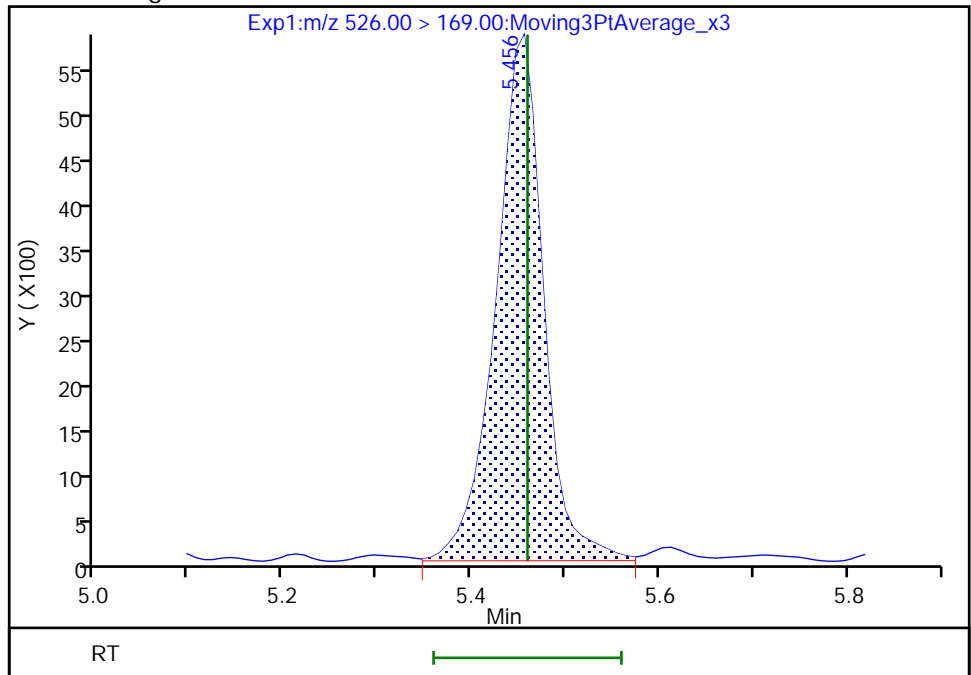
RT: 5.46  
Area: 19688  
Amount: 0.046533  
Amount Units: ng/ml

Processing Integration Results



RT: 5.46  
Area: 20377  
Amount: 0.048344  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:46:19  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

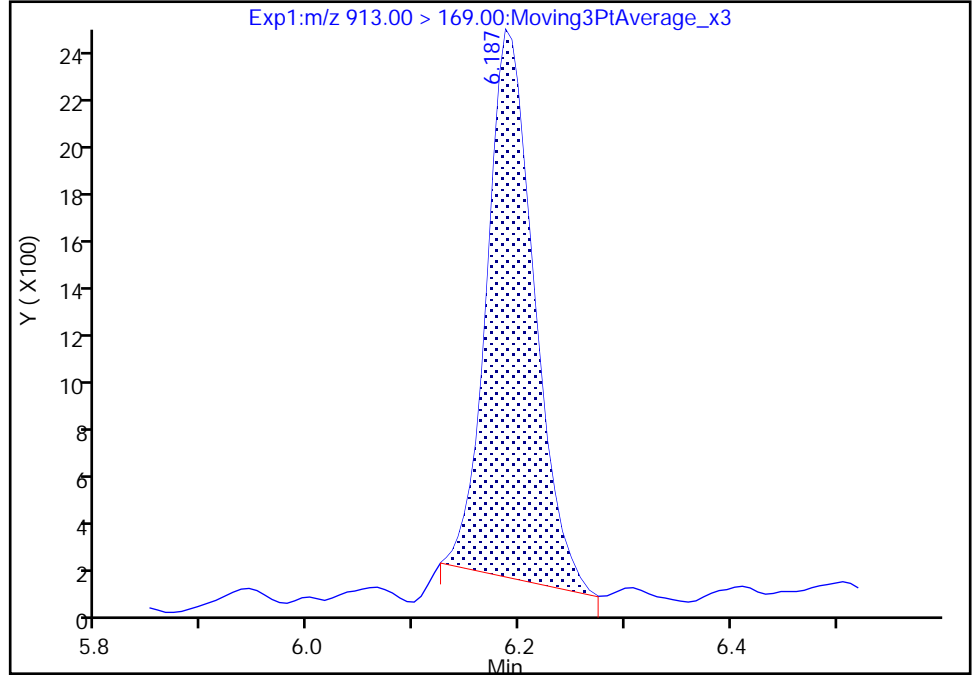
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Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

86 Perfluorooctadecanoic acid, CAS: 16517-11-6

Signal: 2

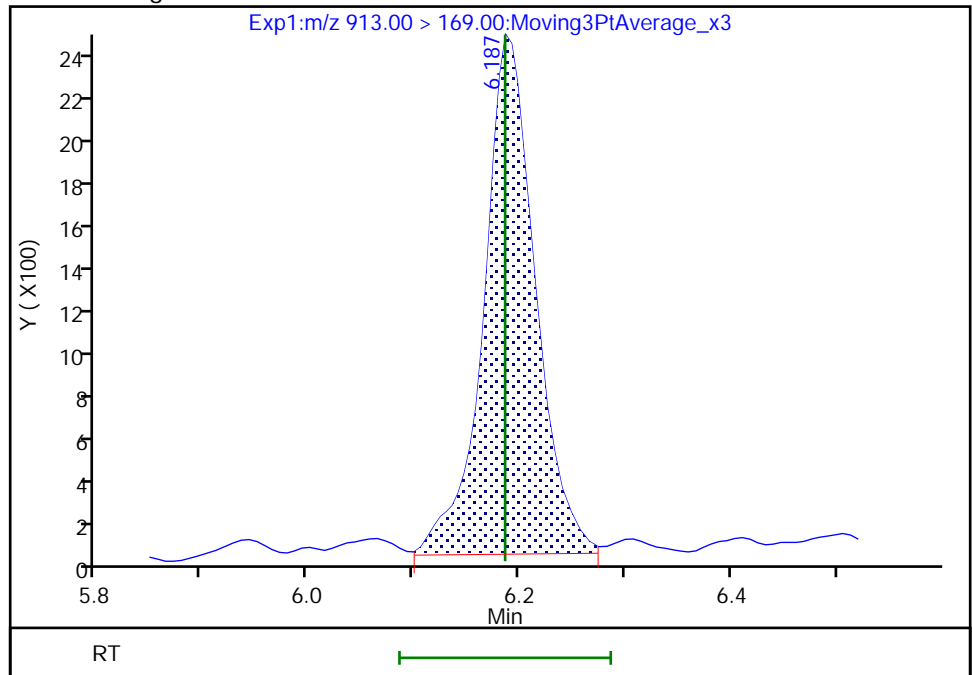
RT: 6.19  
Area: 7076  
Amount: 0.051077  
Amount Units: ng/ml

Processing Integration Results



RT: 6.19  
Area: 8122  
Amount: 0.051077  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:46:28  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59064/5 Calibration Date: 02/20/2022 13:40  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7300		0.920	1.00	-8.0	40.0
PFECA F	AveID	0.7535	0.7219		0.958	1.00	-4.2	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9271		0.986	1.00	-1.4	40.0
3:3 FTCA	QuaIF		0.0557		1.02	1.00	2.3	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.068		0.861	0.884	-2.6	40.0
PFECA A	Q2ID		1.213		1.03	1.00	3.4	40.0
PES	Q2ID		2.295		0.862	0.890	-3.1	40.0
PFECA B	Q2ID		0.4185		1.01	1.00	1.1	40.0
4:2 FTS	L2ID		2.296		0.943	0.934	1.0	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7320		0.920	1.00	-8.0	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.055		0.959	0.938	2.2	40.0
HFPO-DA	L2ID		1.319		1.04	1.00	4.4	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.332		0.875	0.910	-3.8	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.009		1.01	1.00	0.7	40.0
DONA	AveID	2.644	2.289		0.816	0.942	-13.4	40.0
5:3 FTCA	L2ID		3.610		0.958	1.00	-4.2	40.0
6:2 FTUCA	AveID	1.046	0.9809		0.937	1.00	-6.3	40.0
6:2 FTCA	L1ID		0.7158		1.03	1.00	3.1	40.0
PFECHS	AveID	0.7426	0.7369		0.915	0.922	-0.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.8846		0.853	0.952	-10.4	40.0
6:2 FTS	L2ID		1.606		0.832	0.948	-12.2	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.046		0.978	1.00	-2.2	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.003		0.813	0.928	-12.4	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7429		0.977	1.00	-2.3	40.0
7:3 FTCA	AveID	5.230	5.529		1.06	1.00	5.7	40.0
8:2 FTUCA	AveID	0.9565	0.9476		0.991	1.00	-0.9	40.0
8:2 FTCA	AveID	1.811	2.199		1.21	1.00	21.4	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.079		0.862	0.932	-7.5	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9294		0.882	0.960	-8.1	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9219		0.965	1.00	-3.5	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8903		0.990	1.00	-1.0	40.0
8:2 FTS	L2ID		1.318		0.838	0.958	-12.5	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8924		0.966	1.00	-3.4	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8864		0.959	0.964	-0.5	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59064/5 Calibration Date: 02/20/2022 13:40  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9124		0.943	1.00	-5.7	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9350		1.06	1.00	6.2	40.0
10:2 FTUCA	AveID	1.208	1.176		0.973	1.00	-2.7	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.687		0.912	0.942	-3.2	50.0
10:2 FTCA	Q2ID		1.113		1.21	1.00	20.9	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9601		0.929	1.00	-7.1	40.0
10:2 FTS	L2ID		1.903		0.874	0.964	-9.4	50.0
NMeFOSA	L2ID		1.119		1.04	1.00	3.7	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.219		1.04	1.00	3.9	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8690		0.890	0.968	-8.1	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.7817		0.885	1.00	-11.5	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.326		0.935	1.00	-6.5	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.236		0.990	1.00	-1.0	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1230		0.953	1.00	-4.7	40.0
Perfluorohexadecanoic acid	L1ID		1.084		0.951	1.00	-4.9	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9559		0.944	1.00	-5.6	40.0
13C4 PFBA	Ave	1.172	1.185		1.26	1.25	1.1	50.0
13C5 PFPeA	Ave	0.9197	0.8561		1.16	1.25	-6.9	50.0
13C3 PFBS	Ave	0.5817	0.5666		1.13	1.16	-2.6	50.0
M2-4:2 FTS	Ave	0.1821	0.1801		1.16	1.17	-1.1	50.0
13C2 PFHxA	Ave	1.015	0.9769		1.20	1.25	-3.7	50.0
13C3 HFPO-DA	Ave	0.4963	0.4513		1.14	1.25	-9.1	50.0
18O2 PFHxS	Ave	0.3776	0.3842		1.20	1.18	1.8	50.0
13C4 PFHpA	Ave	0.9046	0.8467		1.17	1.25	-6.4	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3206		1.19	1.25	-5.0	50.0
13C-6:2 FTCA	Ave	0.0260	0.0232		1.12	1.25	-10.7	50.0
13C4 PFOA	Ave	0.9356	0.9451		1.26	1.25	1.0	50.0
M2-6:2 FTS	Ave	0.1799	0.1879		1.24	1.19	4.4	50.0
13C4 PFOS	Ave	0.5610	0.6070		1.29	1.20	8.2	50.0
13C5 PFNA	Ave	1.268	1.293		1.27	1.25	1.9	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4684		1.30	1.25	3.6	50.0
13C-8:2 FTCA	Ave	0.0330	0.0300		1.13	1.25	-9.3	50.0
13C8 FOSA	Ave	0.8475	0.8633		1.27	1.25	1.9	50.0
13C2 PFDA	Ave	1.210	1.242		1.28	1.25	2.7	50.0
M2-8:2 FTS	Ave	0.1961	0.1969		1.20	1.20	0.4	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59064/5 Calibration Date: 02/20/2022 13:40  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1236		1.36	1.25	8.9	50.0
13C2 PFUnA	Ave	1.168	1.171		1.25	1.25	0.3	50.0
d5-NEtFOSAA	Ave	0.1164	0.1145		1.23	1.25	-1.6	50.0
13C-10:2 FTUCA	Ave	0.5078	0.4051		0.997	1.25	-20.2	50.0
13C-10:2 FTCA	Ave	0.0309	0.0203		0.821	1.25	-34.3	50.0
13C2 PFDoA	Ave	1.152	1.105		1.20	1.25	-4.1	50.0
13C2 10:2 FTS	Ave	0.1652	0.1516		1.09	1.18	-8.2	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1237		1.30	1.25	4.3	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1001		1.24	1.25	-0.8	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1356		1.38	1.25	10.2	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0835		1.29	1.25	3.1	50.0
13C2 PFTeDA	Ave	0.9216	0.8137		1.10	1.25	-11.7	50.0
13C2 PFHxDA	Ave	0.5997	0.4893		1.02	1.25	-18.4	50.0
13C8 PFOA	AveID	0.9229	0.9754		1.32	1.25	5.7	50.0
13C8 PFOS	AveID	0.2212	0.2232		1.21	1.20	0.9	50.0



Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_005.d  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 20-Feb-2022 13:40:04 ALS Bottle#: 5 Worklist Smp#: 5  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022725-005 ccvis  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:50:51 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: cochranj Date: 20-Feb-2022 14:04:14

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	3354433	0.9202		92.0	1227	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.679	5743947	1.26		101	23975	
3 PFECA F										
229.00 > 85.00	2.919	2.919	0.0	0.935	2395779	0.9580		95.8	13182	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.123	3.123	0.0	1.000	3076735	0.9857		98.6	1427	
D 5 13C5 PFPeA										
267.90 > 223.00	3.123	3.123	0.0	0.754	4148477	1.16		93.1	16755	
4 3:3 FTCA										
241.00 > 177.10	3.139	3.139	0.0	1.000	122274	1.02	Target=1.13	102	1436	
241.00 > 116.90	3.139	3.139	0.0	1.000	96942		1.26(0.56-1.69)		151	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.139	3.139	0.0	1.000	2073131	0.8614	Target=2.61	97.4	3758	
298.90 > 99.00	3.139	3.139	0.0	1.000	785873		2.64(1.31-3.92)		2819	
D 7 13C3 PFBS										
301.90 > 80.00	3.139	3.139	0.0	0.758	2553303	1.13		97.4	8981	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.028	4025285	1.03		103	24024	
11 PES										
314.80 > 135.00	3.270	3.270	0.0	1.042	4486753	0.8623		96.9	21639	
12 PFECA B										
295.22 > 201.00	3.395	3.395	0.0	0.984	1584814	1.01		101	11278	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.427	3.427	0.0	0.828	815312	1.16		98.9	1934	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.427	3.427	0.0	1.000	1497507	0.9432		101	10885	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.098	2174523	0.9590	Target=3.55	102	6232	
349.00 > 99.00	3.448	3.448	0.0	1.098	639219		3.40(1.78-5.33)		6063	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	2772059	0.9196	Target=11.60	92.0	1623	
313.00 > 119.00	3.448	3.448	0.0	1.000	244880		11.32(5.80-17.40)		238	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.833	4733660	1.20		96.3	12165	
17 HFPO-DA										
285.00 > 169.00	3.553	3.553	0.0	1.000	2306703	1.04	Target=2.45	104	1208	
329.00 > 169.00	3.553	3.553	0.0	1.000	916392		2.52(1.23-3.68)		1242	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.553	3.553	0.0	0.858	2186586	1.14		90.9	7643	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.792	3.792	0.0	1.000	1805815	0.8753	Target=3.44	96.2	4539	M
399.00 > 99.00	3.792	3.792	0.0	1.000	531432		3.40(1.72-5.17)		1721	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.792	3.792	0.0	0.916	1761259	1.20		102	6266	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.803	3.803	0.0	1.000	3310368	1.01	Target=3.25	101	2511	
363.00 > 169.00	3.803	3.803	0.0	1.000	982711		3.37(1.62-4.87)		1786	
D 22 13C4 PFHpA										
367.00 > 322.00	3.803	3.803	0.0	0.919	4102702	1.17		93.6	8495	
25 DONA										
377.00 > 251.00	3.829	3.829	0.0	0.866	5074368	0.8157	Target=1.74	86.6	8029	
377.00 > 85.00	3.829	3.829	0.0	0.866	2880082		1.76(0.87-2.61)		134	
26 5:3 FTCA										
340.88 > 236.90	3.861	3.861	0.0	0.987	325267	0.9576	Target=1.11	95.8	1544	
340.88 > 216.90	3.861	3.861	0.0	0.987	305998		1.06(0.56-1.67)		1143	
27 6:2 FTUCA										
356.86 > 292.90	3.895	3.895	0.0	1.000	1218955	0.9374	Target=13.05	93.7	2919	
356.86 > 243.00	3.895	3.895	0.0	1.000	84791		14.38(6.52-19.57)		420	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.895	3.895	0.0	0.941	1553316	1.19		95.0	4282	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.912	3.912	0.0	0.945	112633	1.12		89.3	698	
29 6:2 FTCA										
377.10 > 63.00	3.912	3.912	0.0	1.000	64497	1.03	Target=1.29	103	211	
377.10 > 313.10	3.912	3.912	0.0	1.000	56926		1.13(0.65-1.94)		107	
32 PFECHS										
460.80 > 380.90	4.074	4.074	0.0	0.986	2489152	0.9149	Target=1.75	99.2	6261	
460.80 > 98.90	4.074	4.074	0.0	0.986	1341428		1.86(0.87-2.62)		3412	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.121	4.121	0.0	0.932	1981787	0.8527	Target=3.72	89.6	5719	
449.00 > 99.00	4.121	4.121	0.0	0.932	518517		3.82(1.86-5.57)		1857	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.130	4.130	0.0	1.000	1108819	0.8320		87.8	3639	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.130	4.130	0.0	1.000	4467061	1.32		106	9473	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.130	4.130	0.0	1.000	3833362	0.9775	Target=2.51	97.8	3575	
413.00 > 169.00	4.130	4.130	0.0	1.000	1556636		2.46(1.26-3.77)		2827	
* 30 13C2 PFOA										
415.00 > 370.00	4.139	4.139	0.0		4845593	1.25			9349	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.130	4.130	0.0	0.998	864846	1.24		104	2771	
D 31 13C4 PFOA										
417.00 > 372.00	4.130	4.130	0.0	0.998	4579767	1.26		101	8767	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.421	4.421	0.0	1.000	627751	1.21		101	2321	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.421	4.421	0.0	1.000	2191358	0.8132	Target=4.30	87.6	3161	M
499.00 > 99.00	4.421	4.421	0.0	1.000	535918		4.09(2.15-6.45)		1646	M
D 39 13C4 PFOS										
503.00 > 80.00	4.421	4.421	0.0	1.068	2812031	1.29		108	3866	
42 Perfluorononanoic acid										
463.00 > 419.00	4.448	4.448	0.0	1.000	3722626	0.9767	Target=3.60	97.7	3422	
463.00 > 169.00	4.448	4.448	0.0	1.000	977463		3.81(1.80-5.40)		2469	
D 41 13C5 PFNA										
468.00 > 423.00	4.448	4.448	0.0	1.075	6263969	1.27		102	13905	
43 7:3 FTCA										
441.00 > 337.00	4.528	4.528	0.0	0.991	642541	1.06	Target=1.42	106	1702	
441.00 > 317.00	4.528	4.528	0.0	0.991	459816		1.40(0.71-2.13)		1695	
44 8:2 FTUCA										
456.86 > 392.90	4.553	4.553	0.0	1.000	1720476	0.99	Target=35.37	99.1	5480	
456.86 > 343.00	4.553	4.553	0.0	1.000	45494		37.82(17.68-53.05)		99.9	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.553	4.553	0.0	1.000	2269558	1.30		104	7644	
46 8:2 FTCA										
477.00 > 393.10	4.570	4.570	0.0	1.000	255535	1.21	Target=3.35	121	1200	
477.00 > 63.20	4.570	4.570	0.0	1.000	67162		3.80(1.68-5.03)		301	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.570	4.570	0.0	1.104	145263	1.13		90.7	602	
49 9CIFOS										
531.00 > 351.00	4.586	4.586	0.0	1.108	4560421	0.8620		92.5	7795	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.706	4.706	0.0	1.064	2099638	0.8822	Target=3.99	91.9	4659	
549.00 > 99.00	4.706	4.706	0.0	1.064	534071		3.93(2.00-5.99)		1730	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.714	4.714	0.0	1.000	3085260	0.9654		96.5	5267	
D 55 13C8 FOSA										
506.00 > 78.00	4.714	4.714	0.0	1.139	4183094	1.27		102	4192	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.731	4.731	0.0	1.000	4285956	0.9896	Target=10.58	99.0	3147	
513.00 > 169.00	4.731	4.731	0.0	1.000	381879		11.22(5.29-15.88)		278	
D 52 13C2 PFDA										
515.00 > 470.00	4.731	4.731	0.0	1.143	6017793	1.28		103	18475	
53 8:2 FTS										
527.00 > 507.00	4.748	4.748	0.0	1.000	963883	0.8378		87.5	3205	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.748	4.748	0.0	1.147	914034	1.20		100	3045	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.880	4.880	0.0	1.179	598944	1.36		109	224	
57 NMeFOSAA										
570.00 > 419.00	4.880	4.880	0.0	1.000	427613	0.9661		96.6	1134	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.966	4.966	0.0	1.123	2010795	0.9594	Target=3.55	99.5	6102	
599.00 > 99.00	4.966	4.966	0.0	1.123	540056		3.72(1.78-5.33)		2585	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.995	4.995	0.0	1.000	4141912	0.9434	Target=8.26	94.3	4410	
563.00 > 169.00	4.995	4.995	0.0	1.000	486043		8.52(4.13-12.39)		2221	
D 59 13C2 PFUnA										
565.00 > 520.00	4.995	4.995	0.0	1.207	5674595	1.25		100	13101	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.014	5.014	0.0	1.212	554853	1.23		98.4	1409	
62 NEtFOSAA										
584.00 > 419.00	5.024	5.024	0.0	1.002	415025	1.06		106	482	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.102	5.102	0.0	1.233	1963139	1.00		79.8	6090	
63 11CIFOS										
631.00 > 451.00	5.102	5.102	0.0	1.154	3739575	0.9122		96.8	10903	
65 10:2 FTUCA										
556.86 > 492.90	5.102	5.102	0.0	1.000	1846529	0.9733		97.3	7015	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.111	5.111	0.0	1.235	98415	0.8210		65.7	582	
66 10:2 FTCA										
576.80 > 493.00	5.111	5.111	0.0	1.000	87598	1.21	Target=2.53	121	484	
576.80 > 63.10	5.111	5.111	0.0	1.000	35550		2.46(1.26-3.79)		112	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.235	5.235	0.0	1.000	4113409	0.9294	Target=6.85	92.9	2973	
613.00 > 169.00	5.235	5.235	0.0	1.000	582837		7.06(3.43-10.28)		1423	
D 69 13C2 PFDa										
615.00 > 570.00	5.235	5.235	0.0	1.265	5355512	1.20		95.9	13183	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.251	5.251	0.0	1.269	696023	1.09		91.8	3216	
71 10:2 FTS										
627.00 > 607.00	5.251	5.251	0.0	1.000	1078534	0.8736		90.6	4881	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.283	5.283	0.0	1.277	599224	1.30		104	508	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
74 NMeFOSA										
512.00 > 169.00	5.283	5.283	0.0	1.000	434316	1.04		104	672	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.283	5.283	0.0	1.277	485125	1.24		99.2	49.6	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.002	584129	1.04		104	755	
76 PFDoS										
699.00 > 80.00	5.408	5.408	0.0	1.223	1979366	0.8897	Target=4.22	91.9	4087	
699.00 > 99.00	5.408	5.408	0.0	1.223	460687		4.30(2.11-6.34)		2451	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.443	5.443	0.0	1.040	3349075	0.8852	Target=6.32	88.5	2752	
663.00 > 169.00	5.435	5.443	-0.008	1.038	561838		5.96(3.16-9.48)		2289	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.313	657222	1.38		110	314	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.317	404428	1.29		103	851	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	697206	0.9346		93.5	822	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.000	399871	0.9896		99.0	573	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.626	5.626	0.0	1.000	387995	0.9527	Target=1.01	95.3	1491	
713.00 > 219.00	5.617	5.626	-0.009	0.998	373844		1.04(0.51-1.52)		1423	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.626	5.626	0.0	1.359	3942733	1.10		88.3	11879	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.932	5.932	0.0	1.000	2055675	0.9513	Target=8.64	95.1	2645	
813.00 > 169.00	5.932	5.932	0.0	1.000	242999		8.46(4.32-12.97)		616	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.932	5.932	0.0	1.433	2370935	1.02		81.6	4912	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.190	6.190	0.0	1.043	1813068	0.9437	Target=11.77	94.4	2467	
913.00 > 169.00	6.190	6.190	0.0	1.043	156958		11.55(5.88-17.65)		504	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_005.d

Injection Date: 20-Feb-2022 13:40:04

Instrument ID: LCA

Lims ID: CCVIS

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 5

Worklist Smp#: 5

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

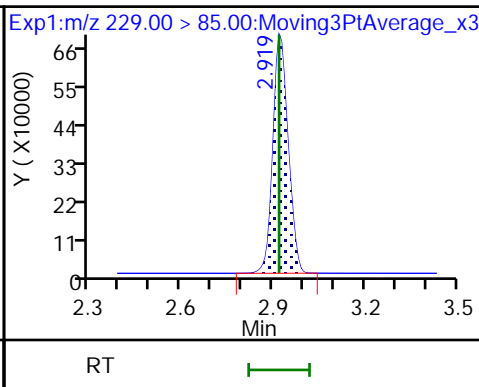
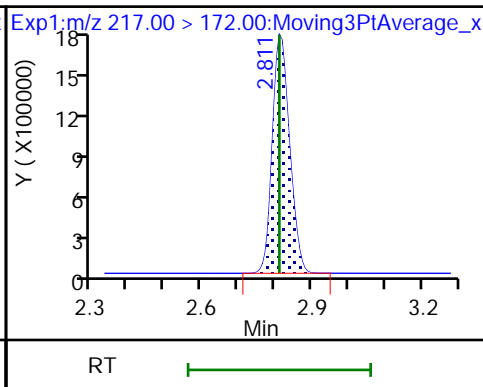
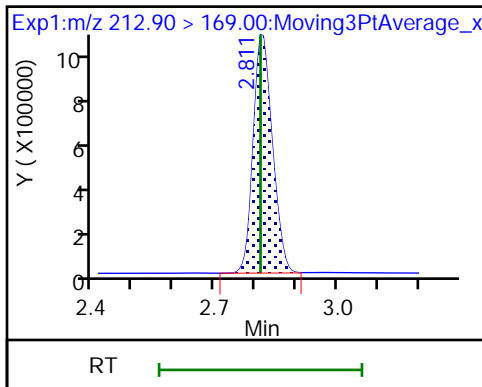
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

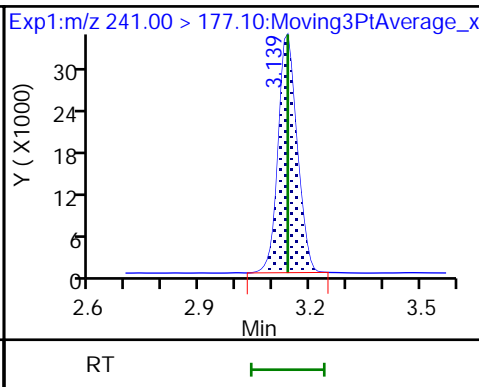
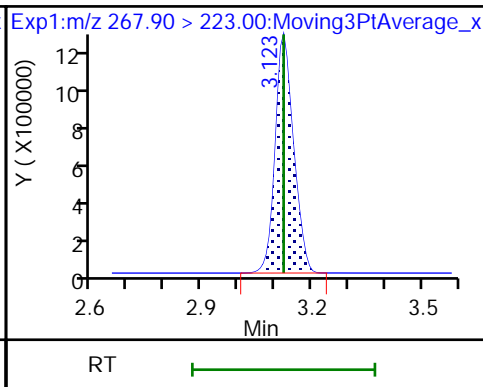
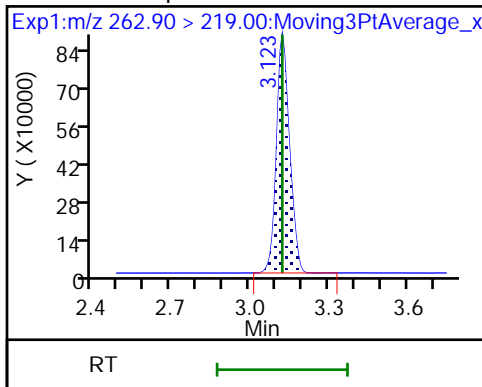
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

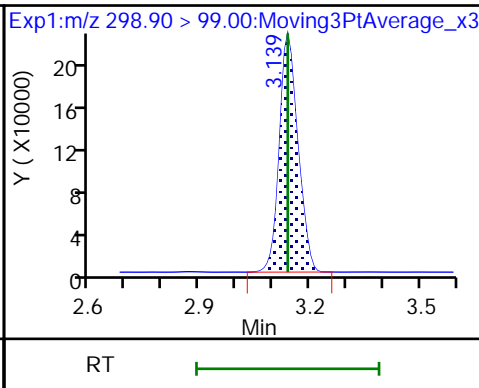
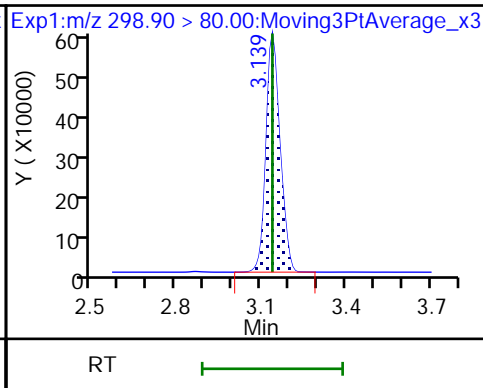
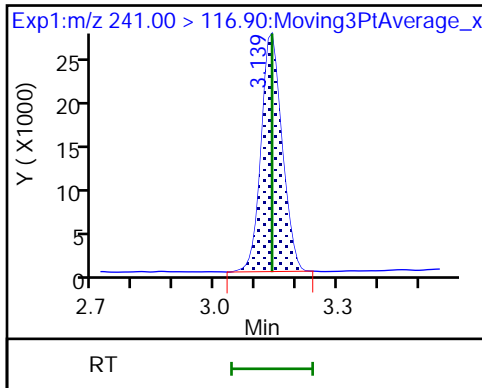
4 3:3 FTCA



4 3:3 FTCA

8 Perfluorobutanesulfonic acid

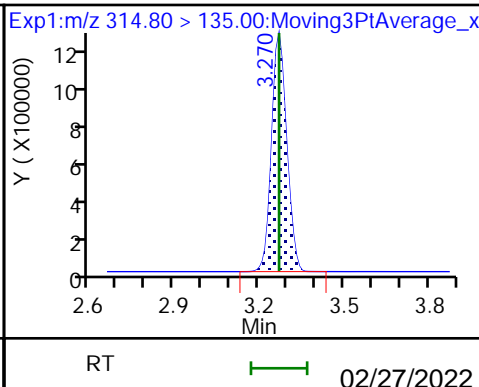
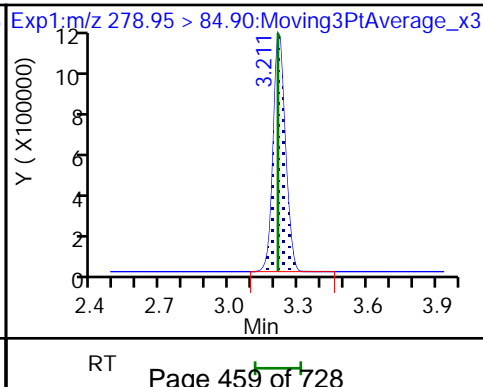
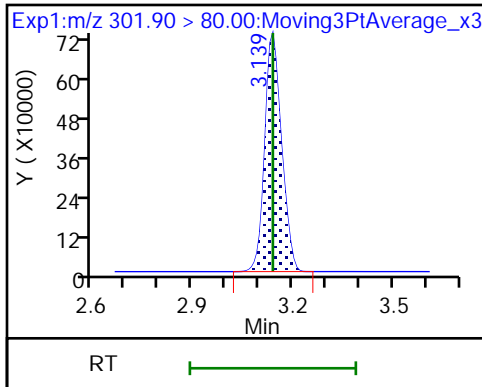
8 Perfluorobutanesulfonic acid

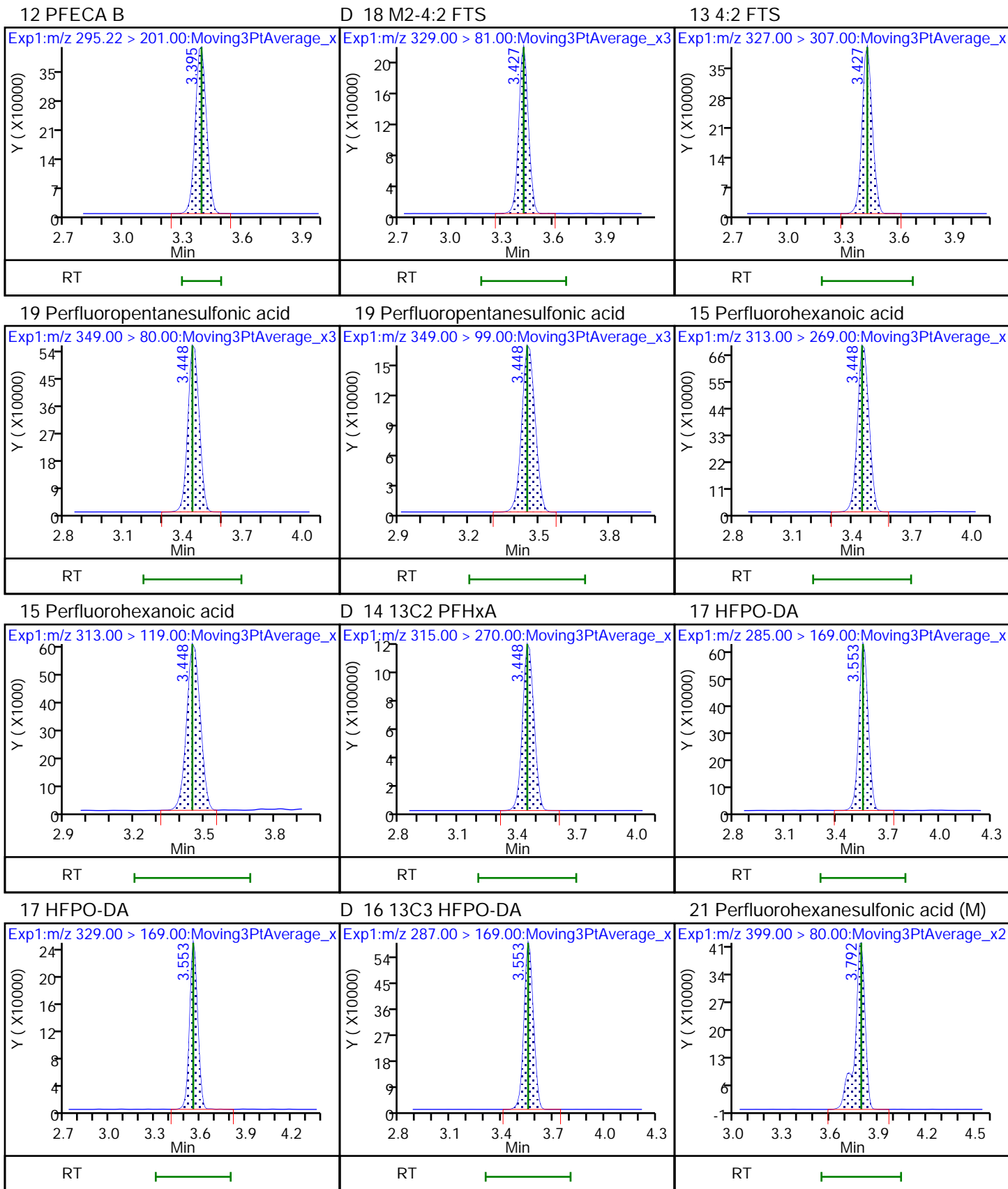


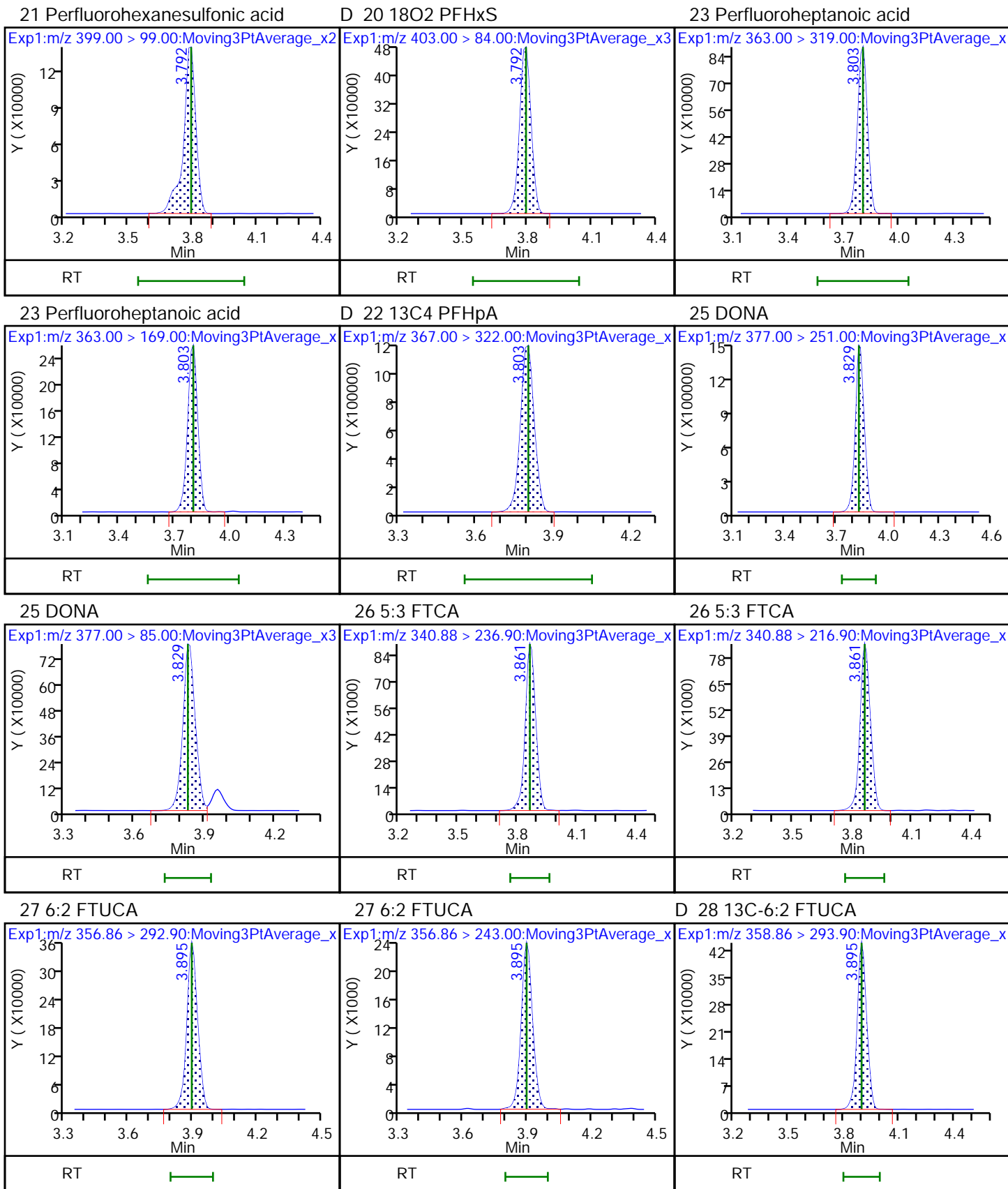
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9 PFECA A

11 PES





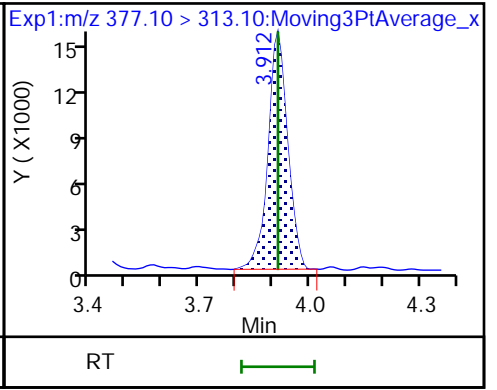
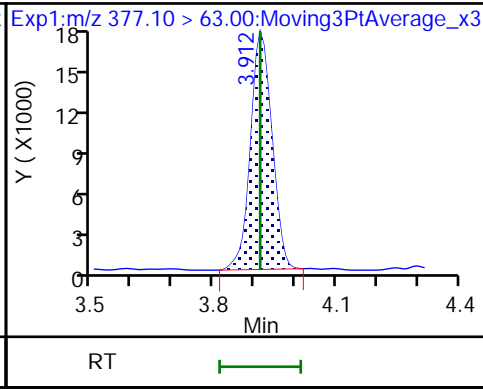
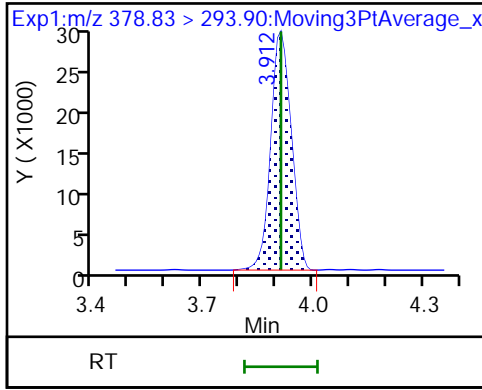




D 24 13C-6:2 FTCA

29 6:2 FTCA

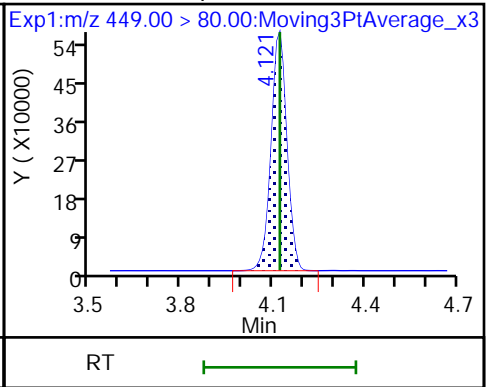
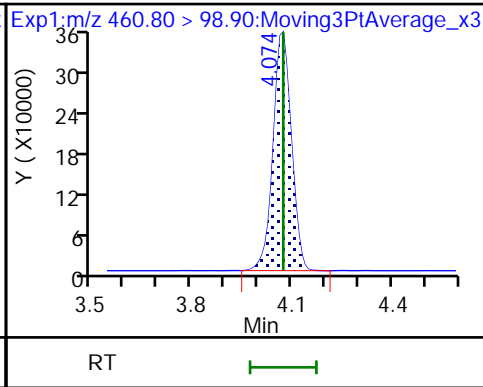
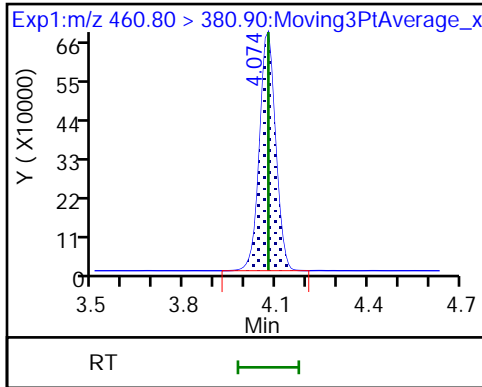
29 6:2 FTCA



32 PFECHS

32 PFECHS

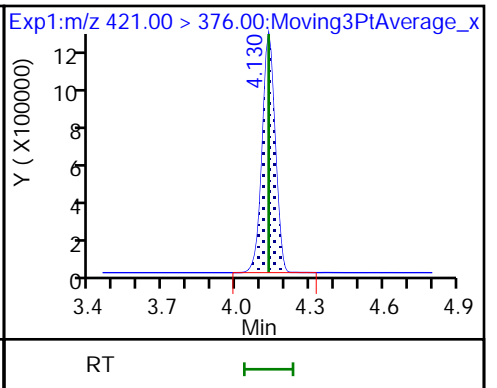
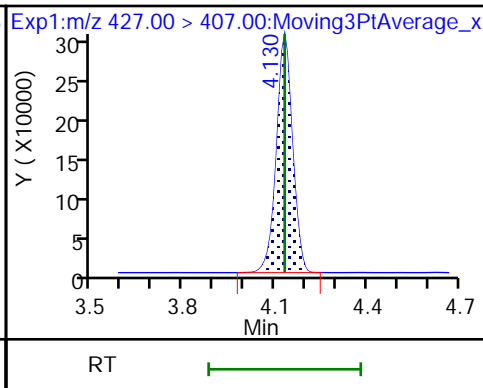
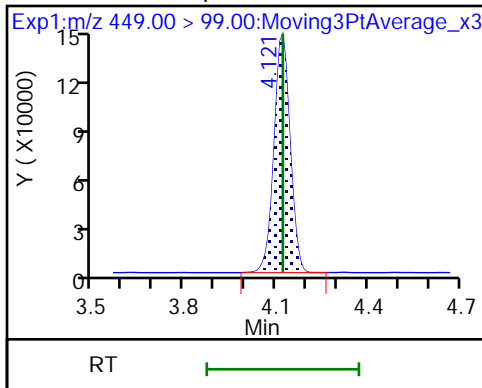
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

35 6:2 FTS

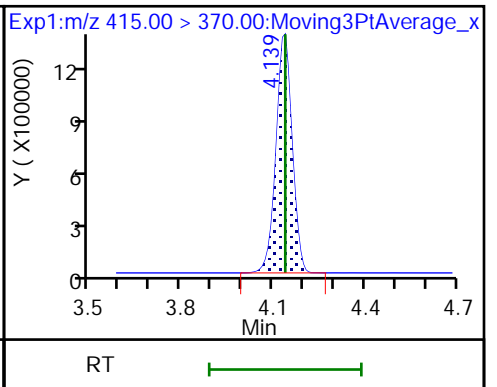
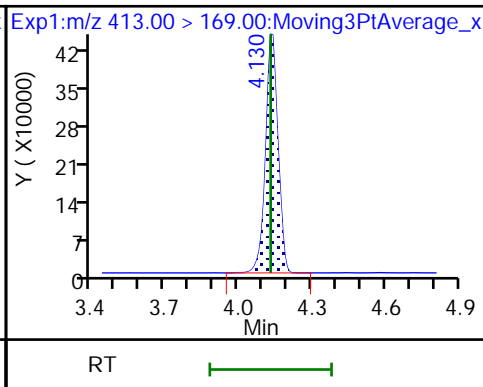
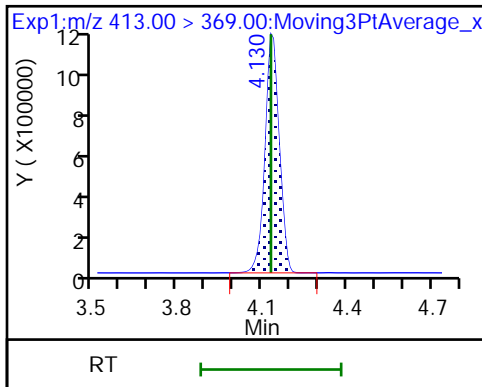
\$ 36 13C8 PFOA



37 Perfluorooctanoic acid

37 Perfluorooctanoic acid

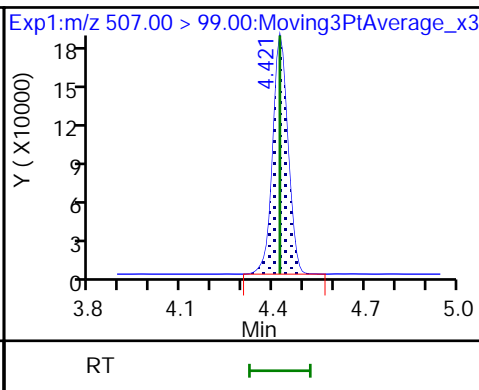
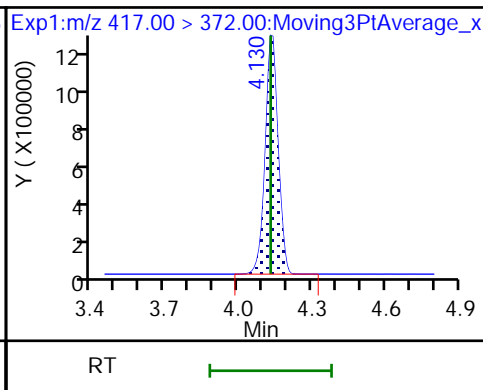
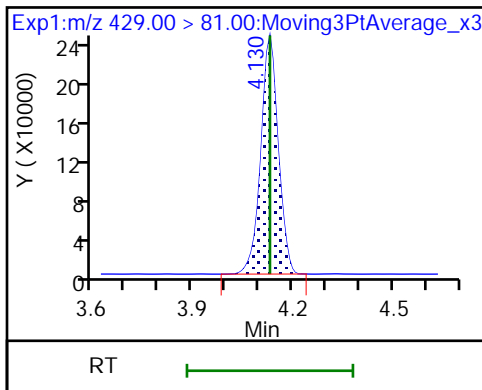
\* 30 13C2 PFOA



D 34 M2-6:2 FTS

D 31 13C4 PFOA

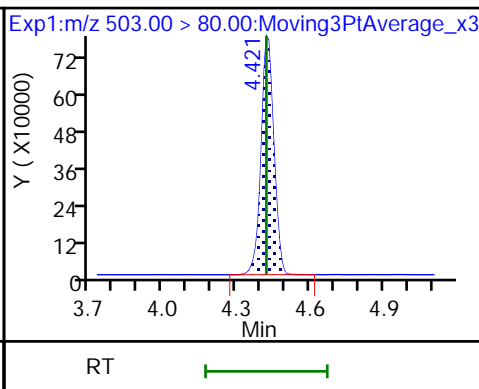
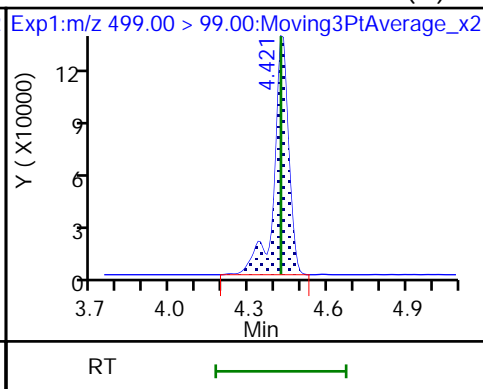
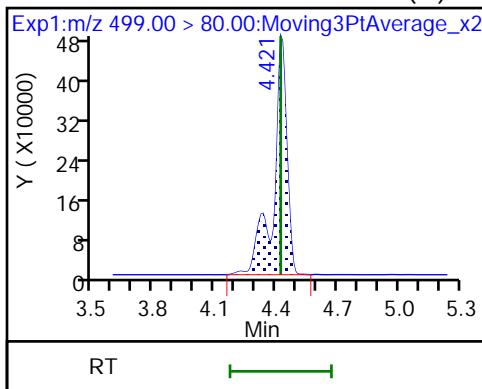
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid (M)

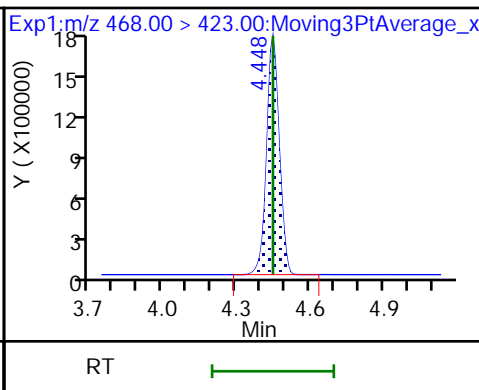
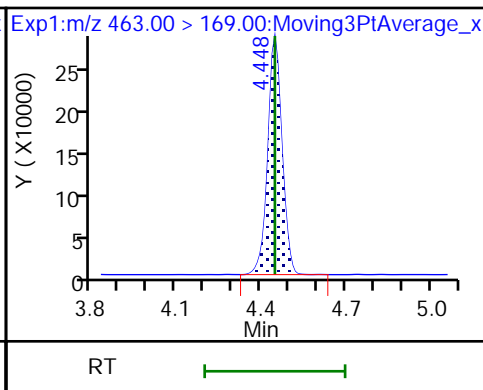
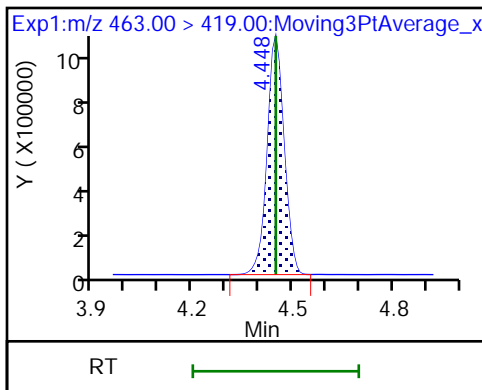
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

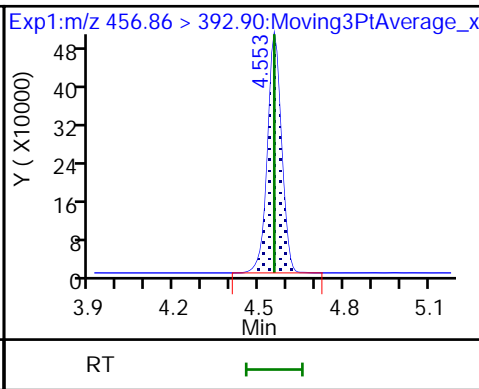
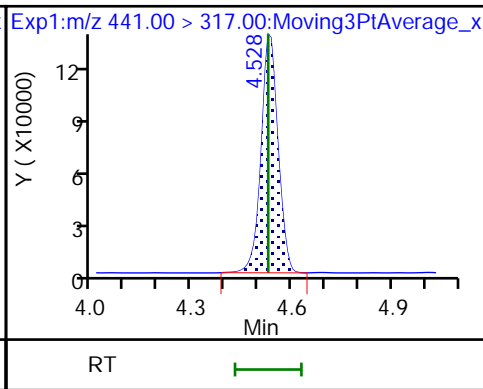
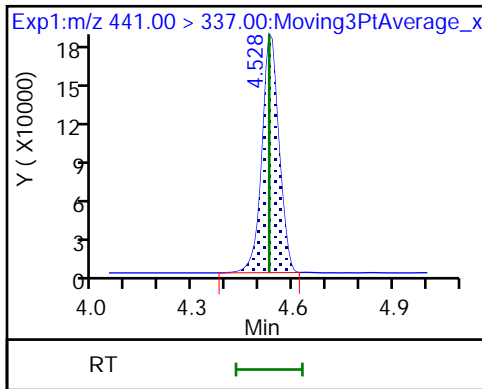
D 41 13C5 PFNA

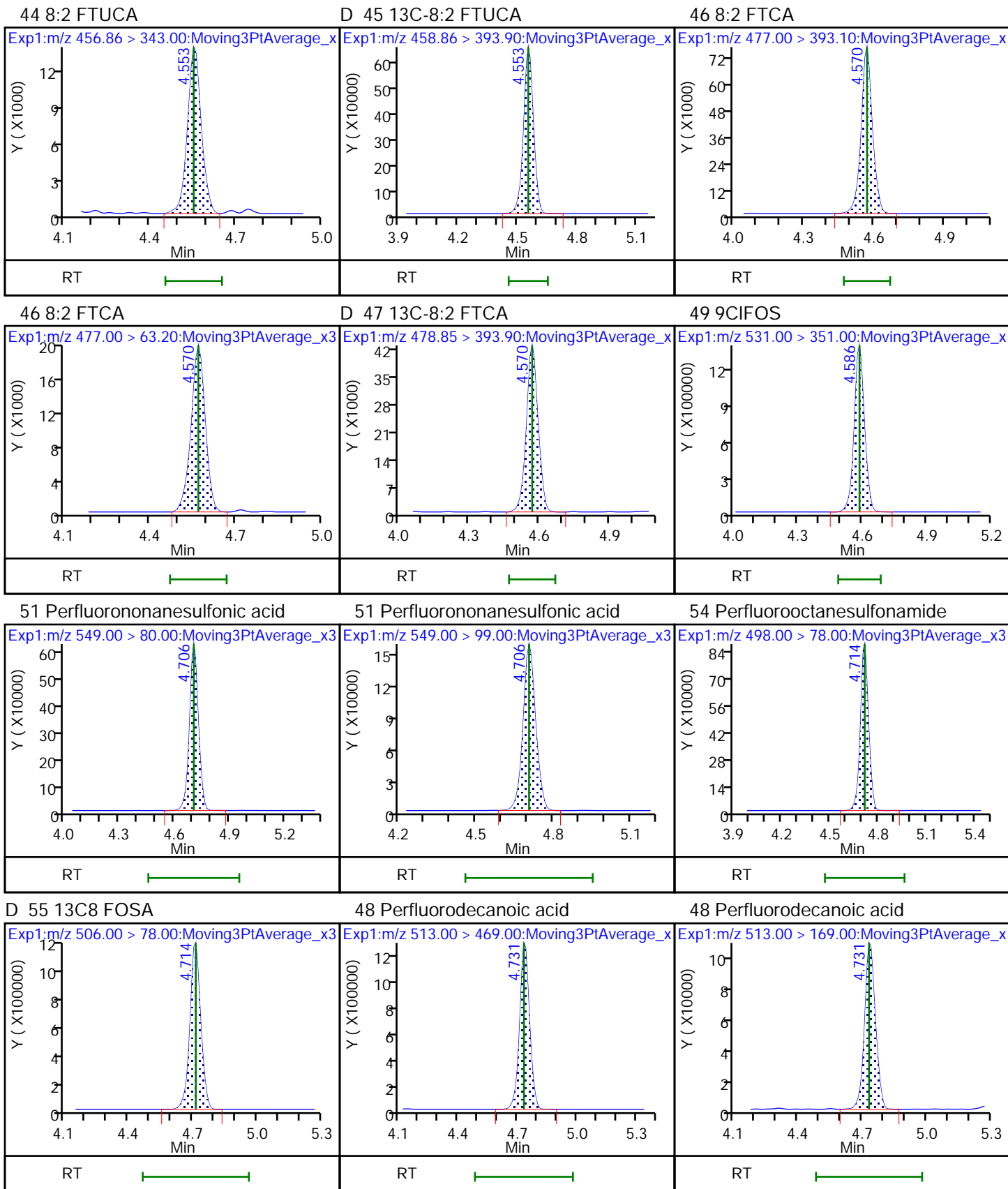


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA

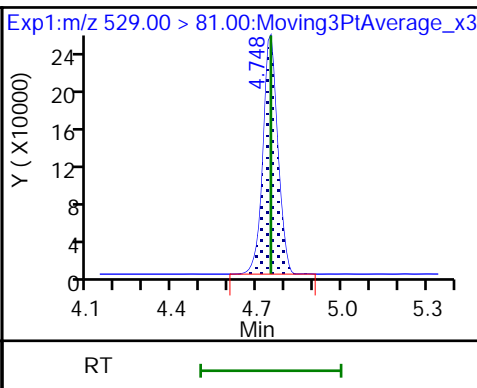
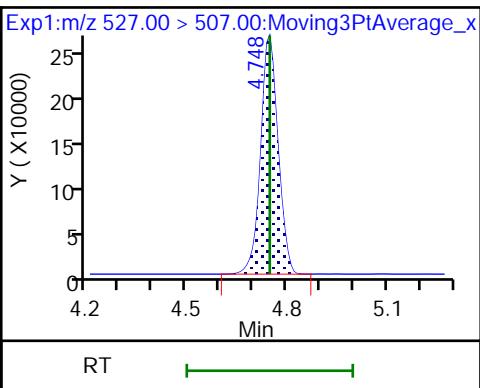
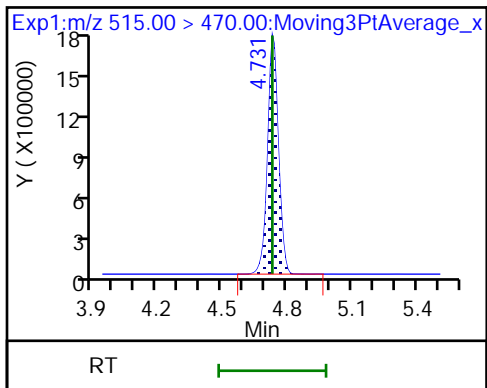




D 52 13C2 PFDA

53 8:2 FTS

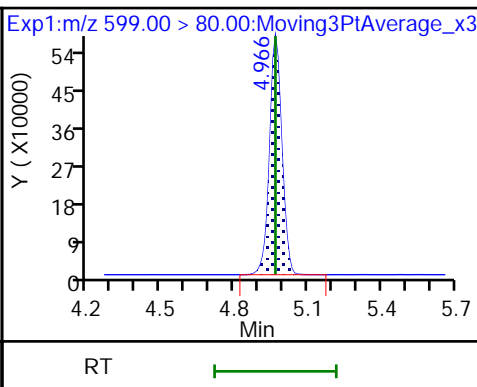
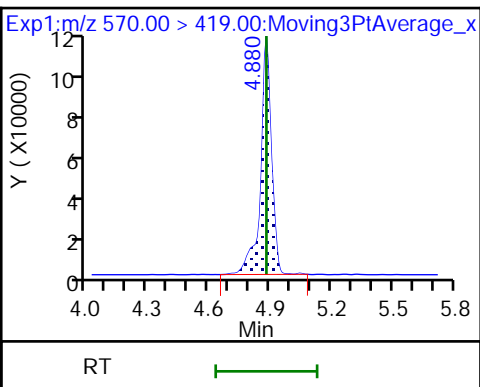
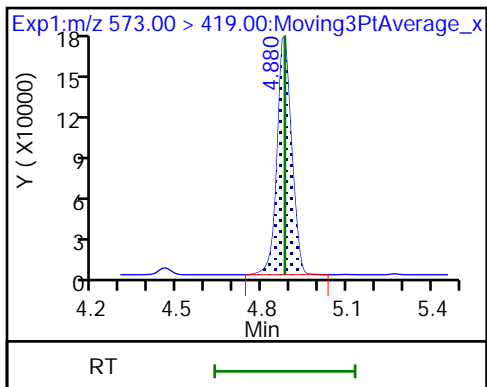
D 50 M2-8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA

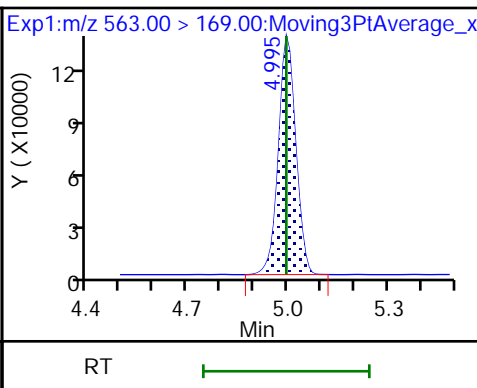
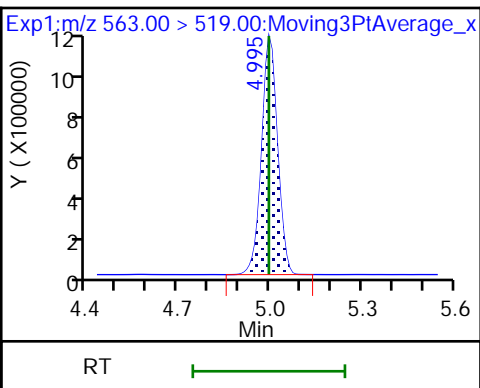
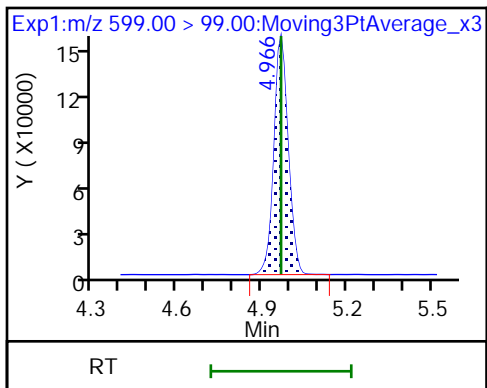
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

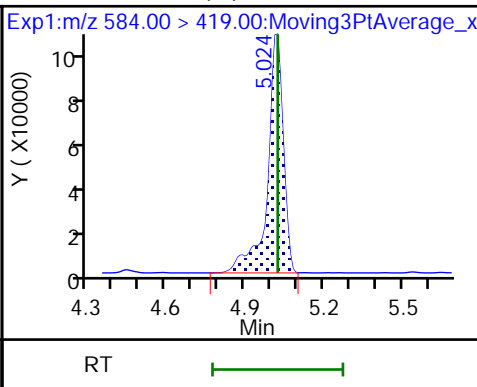
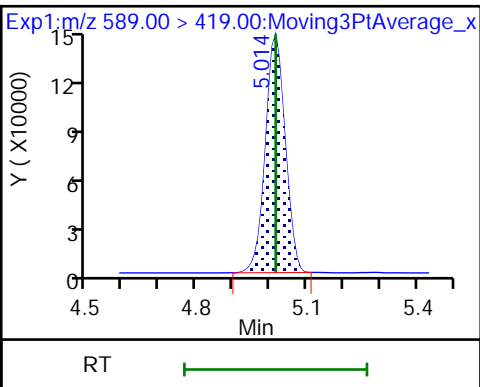
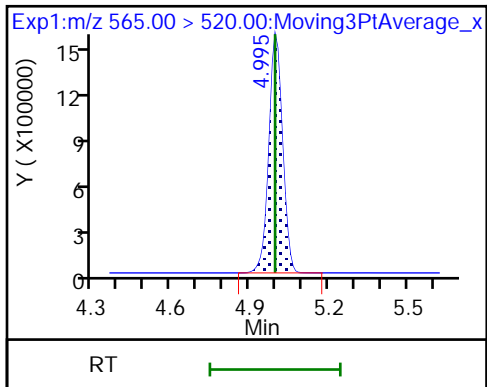
60 Perfluoroundecanoic acid



D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

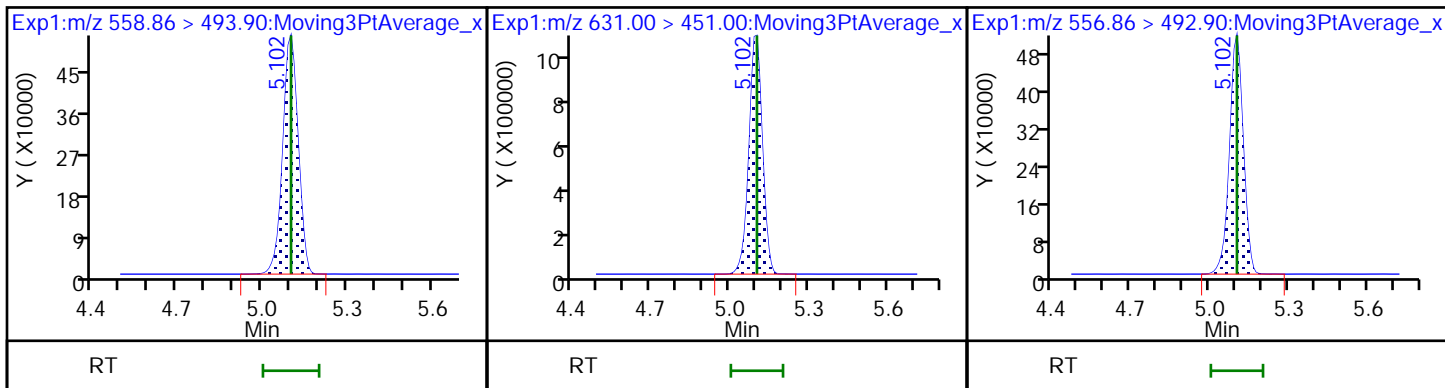
62 NEtFOSAA (M)



D 67 13C-10:2 FTUCA

63 11CIFOS

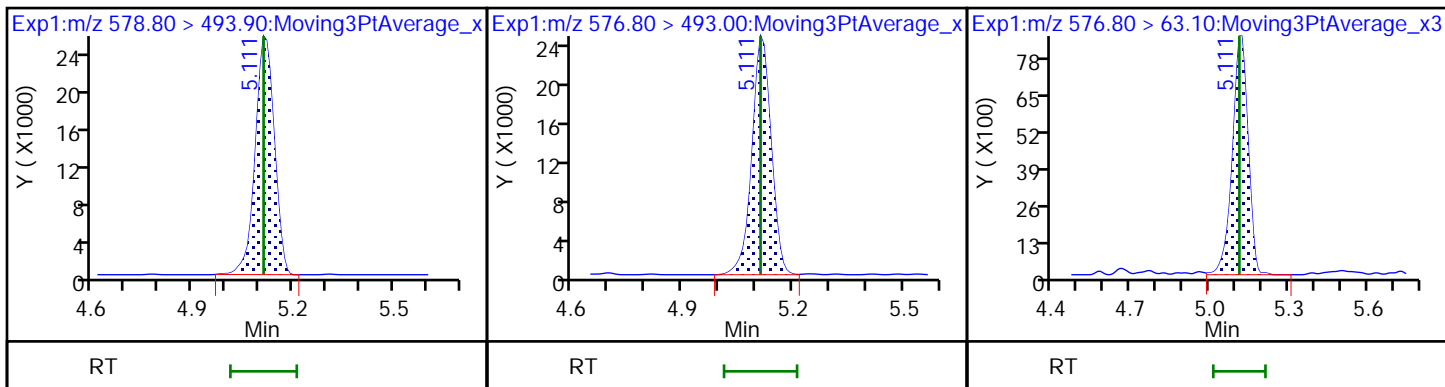
65 10:2 FTUCA



D 64 13C-10:2 FTCA

66 10:2 FTCA

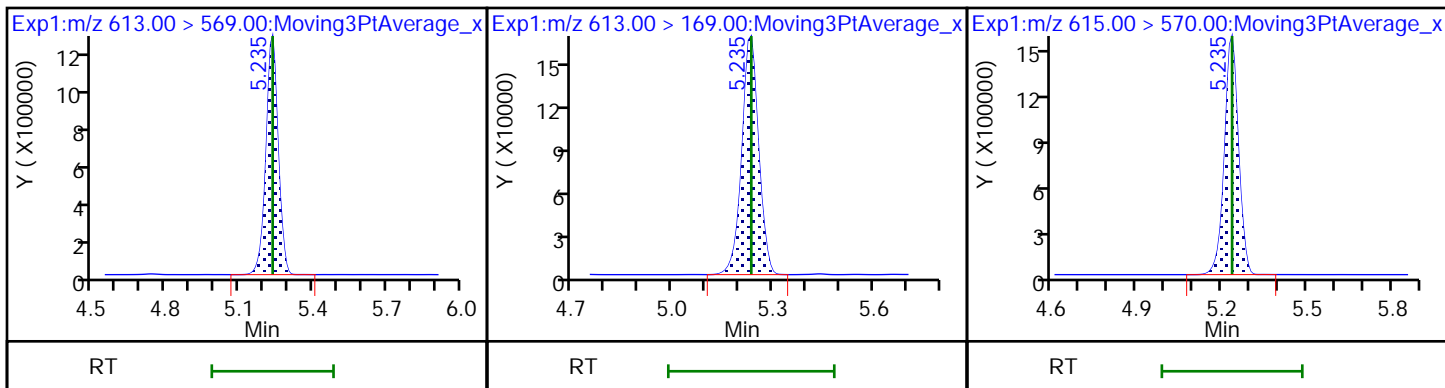
66 10:2 FTCA



68 Perfluorododecanoic acid

68 Perfluorododecanoic acid

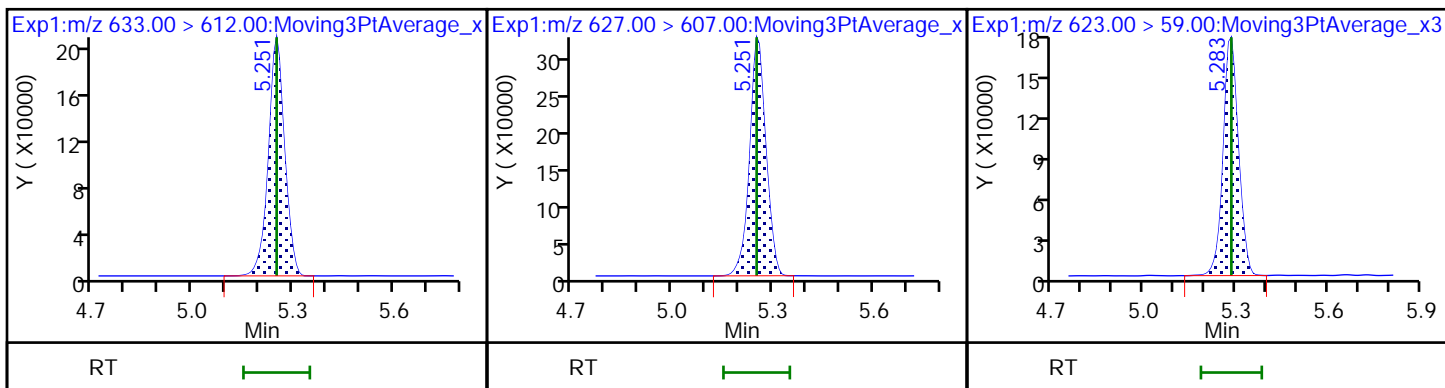
D 69 13C2 PFDaA

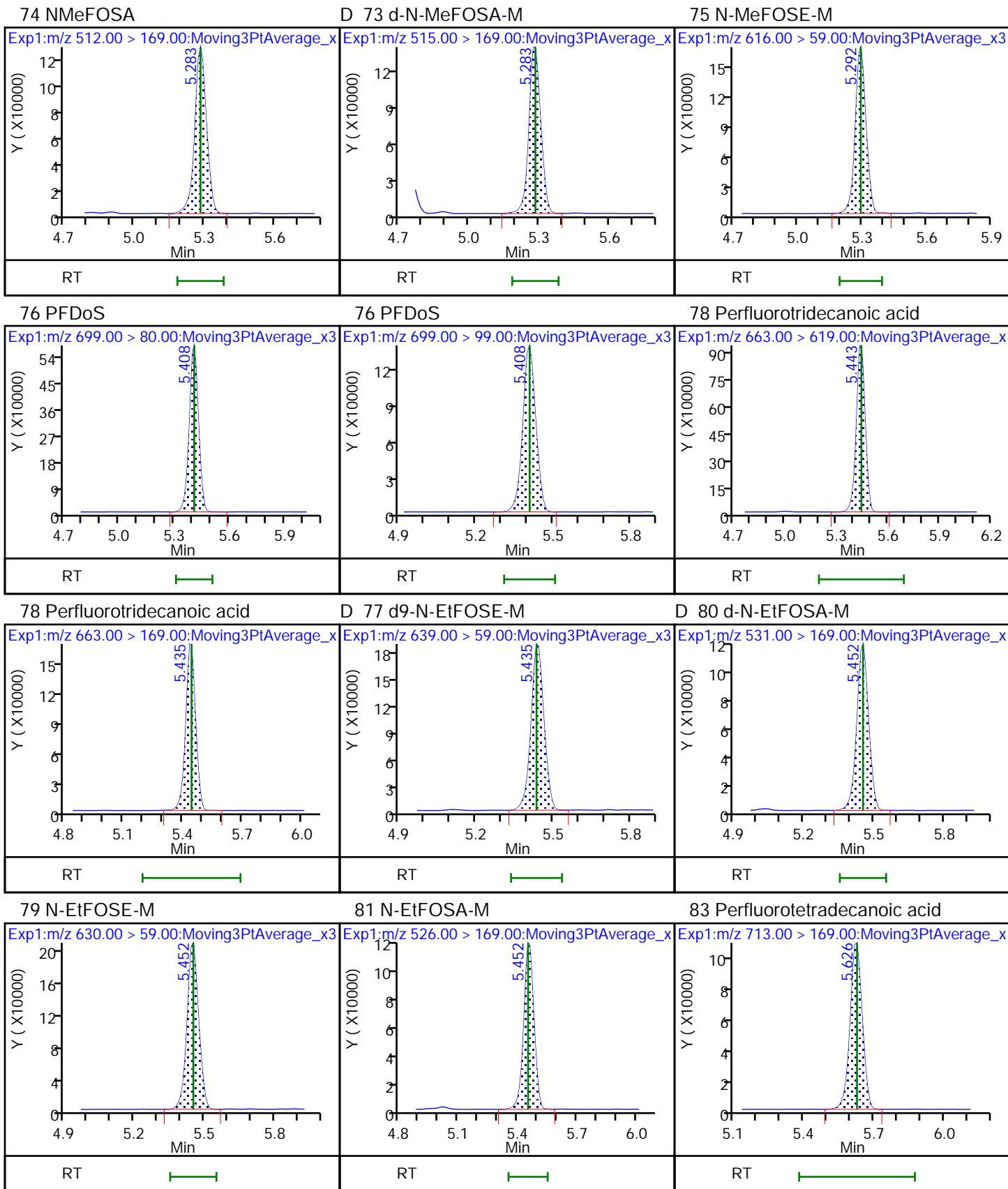


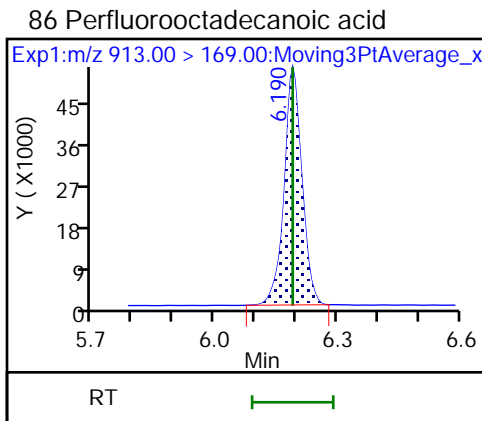
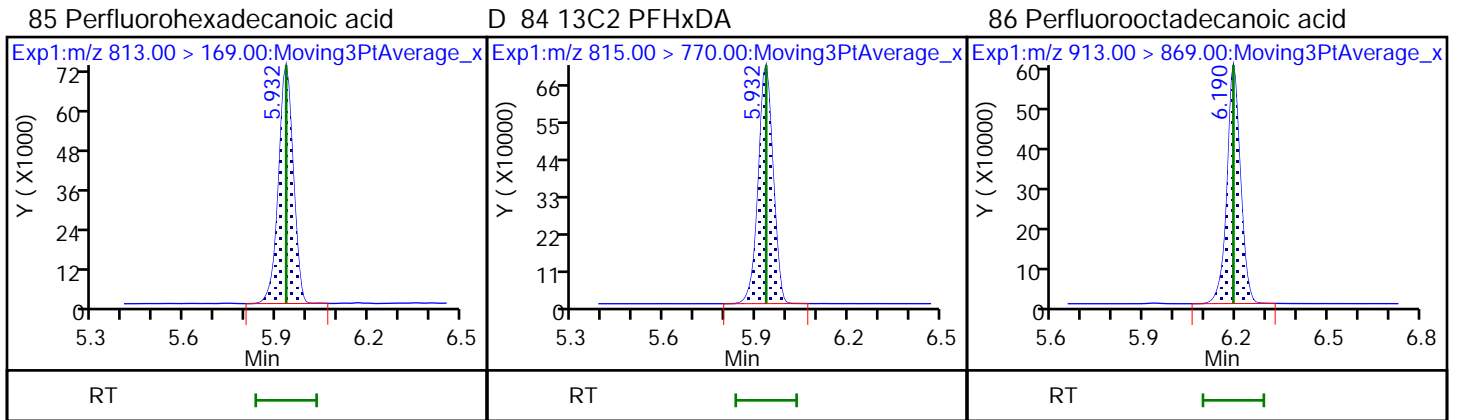
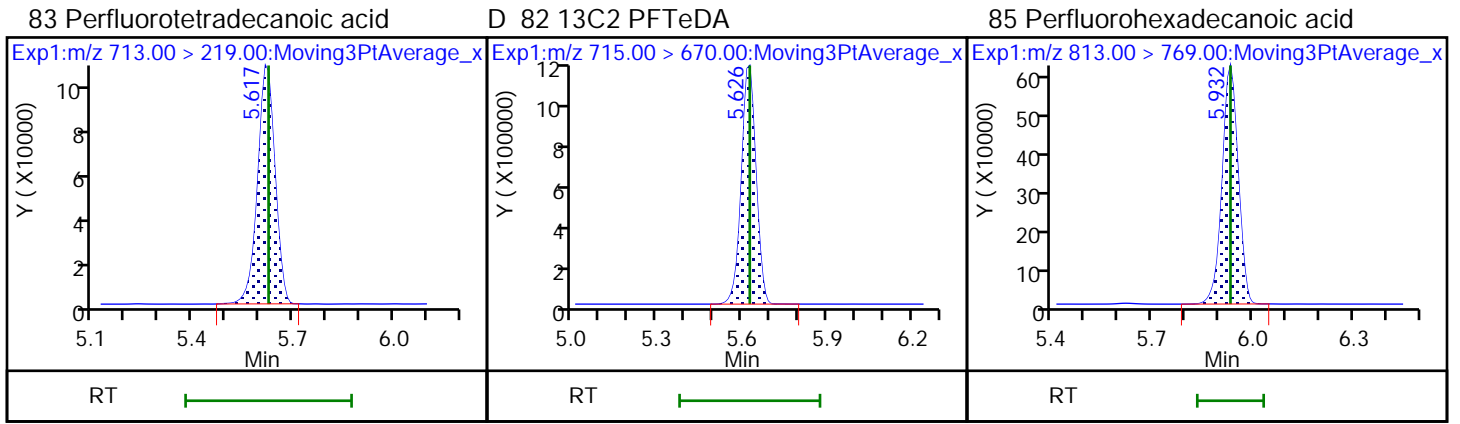
D 70 13C2 10:2 FTS

71 10:2 FTS

D 72 d7-N-MeFOSE-M







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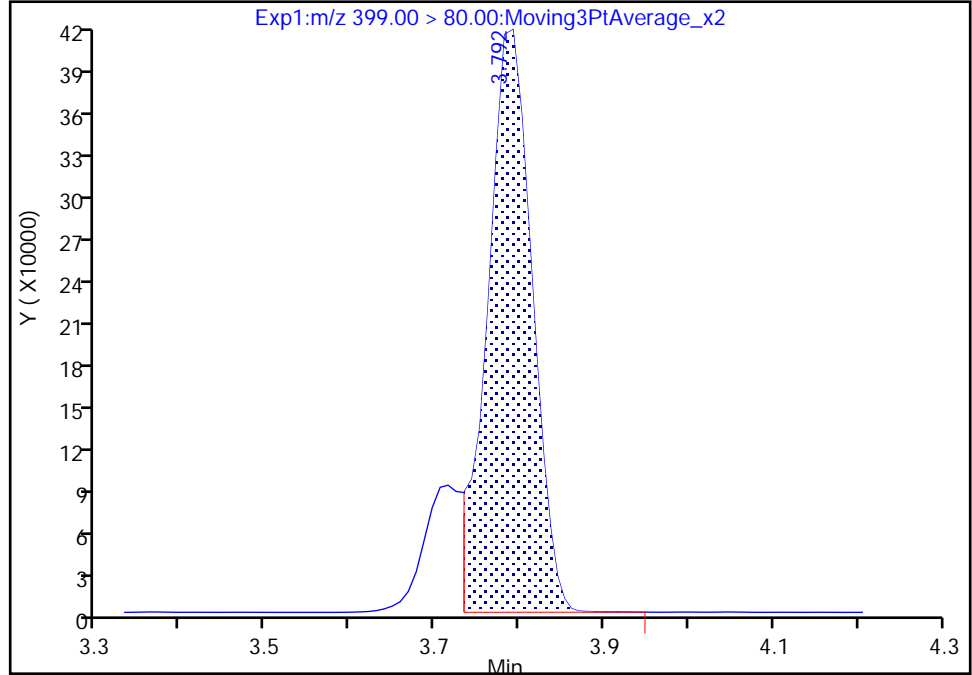
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_005.d  
Injection Date: 20-Feb-2022 13:40:04 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

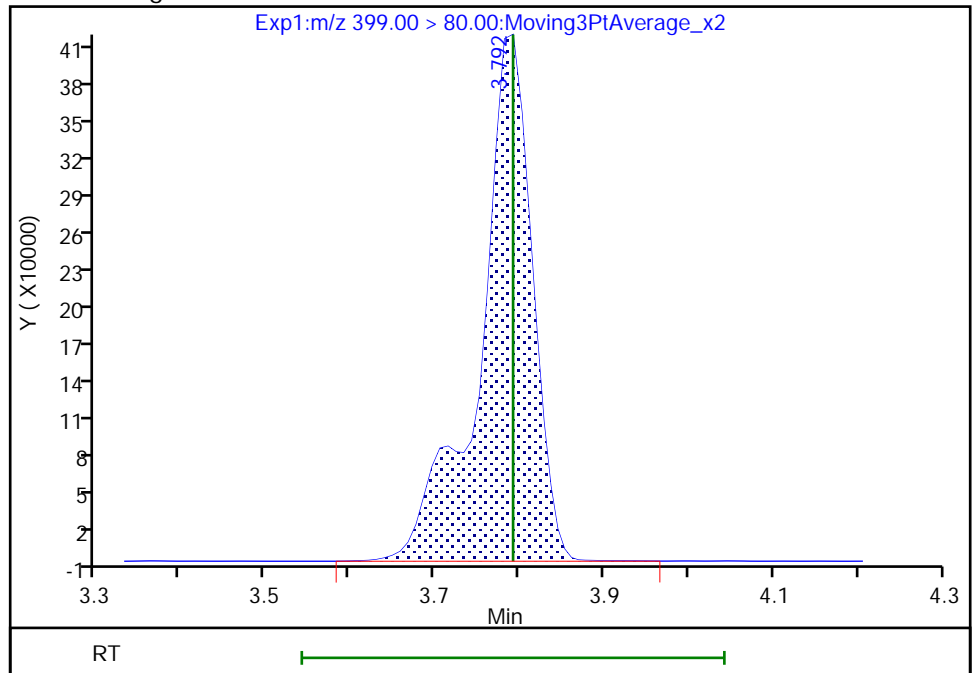
RT: 3.79  
Area: 1522810  
Amount: 0.738144  
Amount Units: ng/ml

Processing Integration Results



RT: 3.79  
Area: 1805815  
Amount: 0.875324  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 14:03:22  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

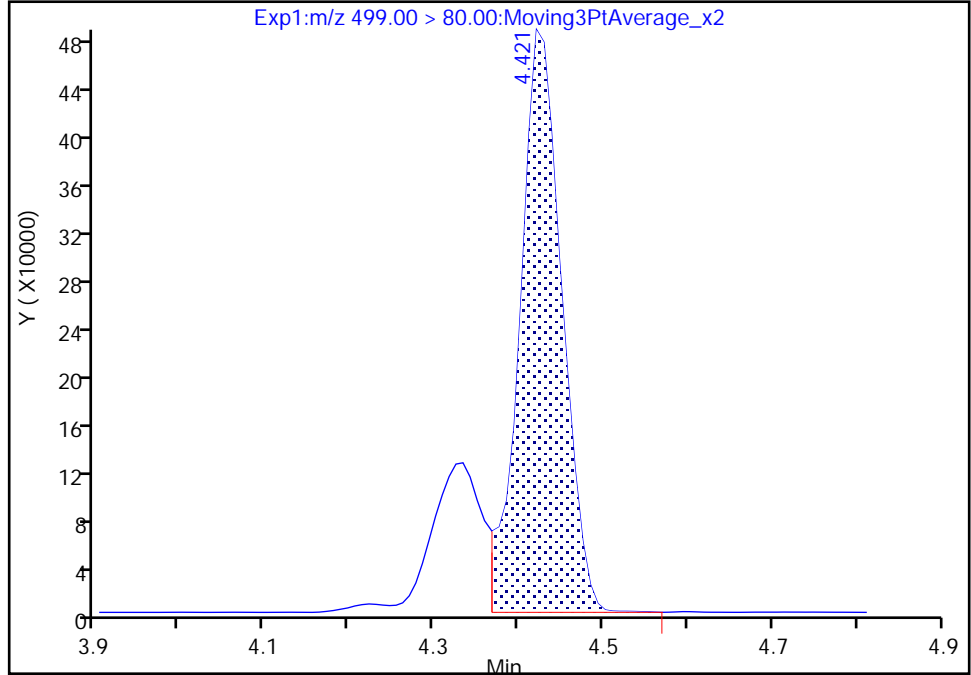
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Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

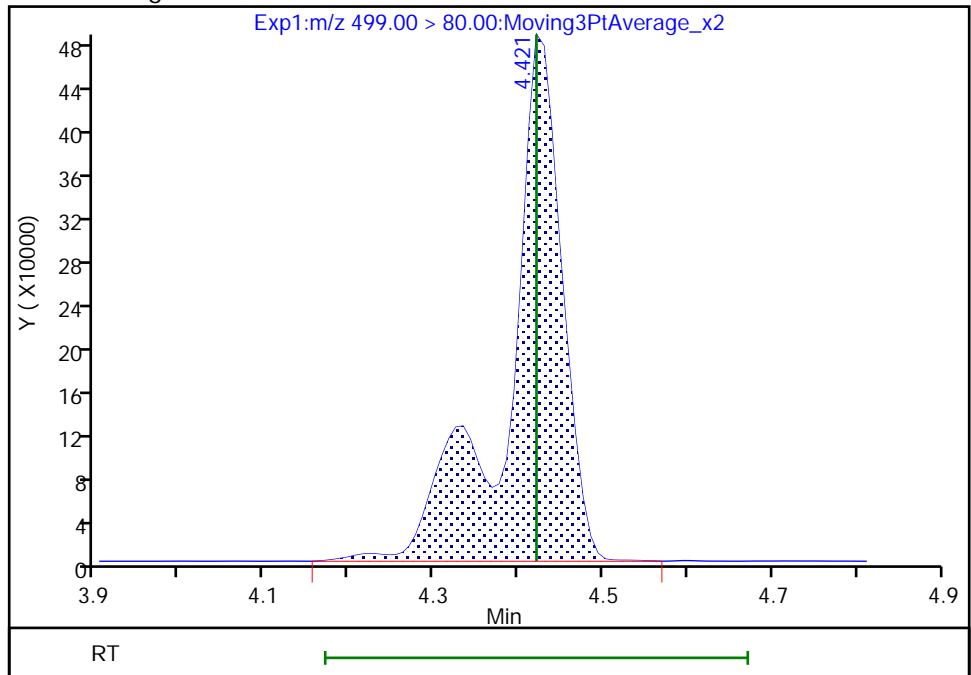
RT: 4.42  
Area: 1669567  
Amount: 0.619534  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 2191358  
Amount: 0.813157  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 14:03:35  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

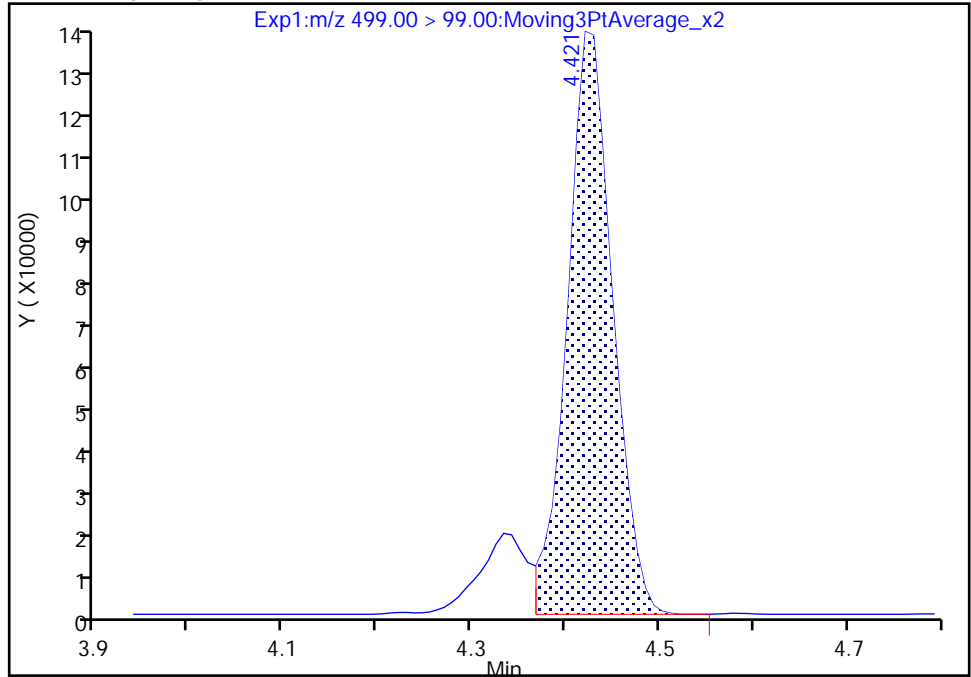
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Injection Date: 20-Feb-2022 13:40:04 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

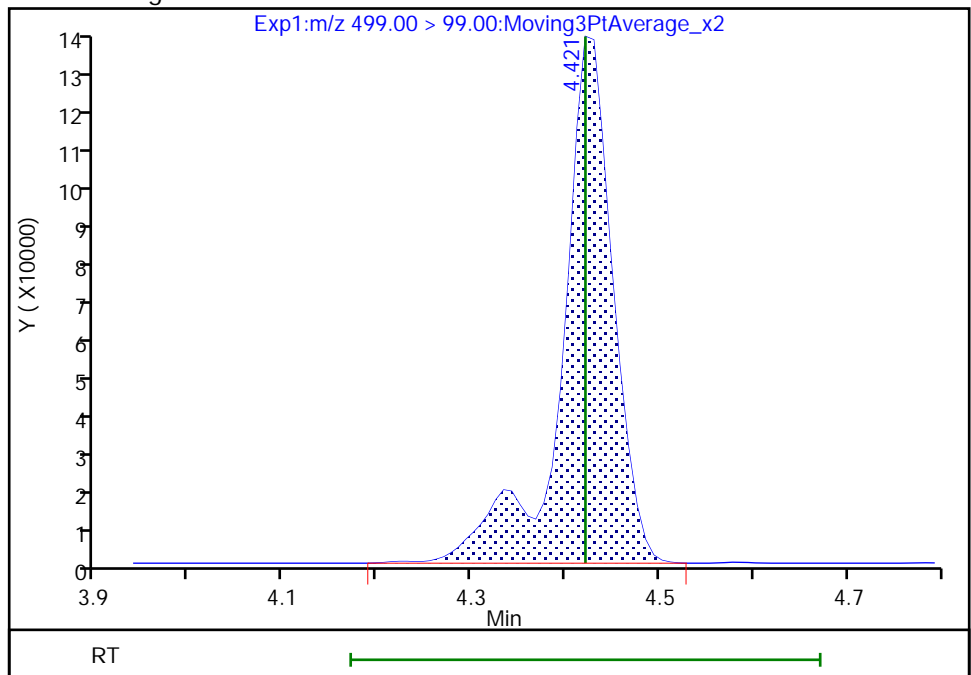
RT: 4.42  
Area: 466861  
Amount: 0.619534  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 535918  
Amount: 0.813157  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 14:03:46

Audit Action: Manually Integrated

Audit Reason: Baseline  
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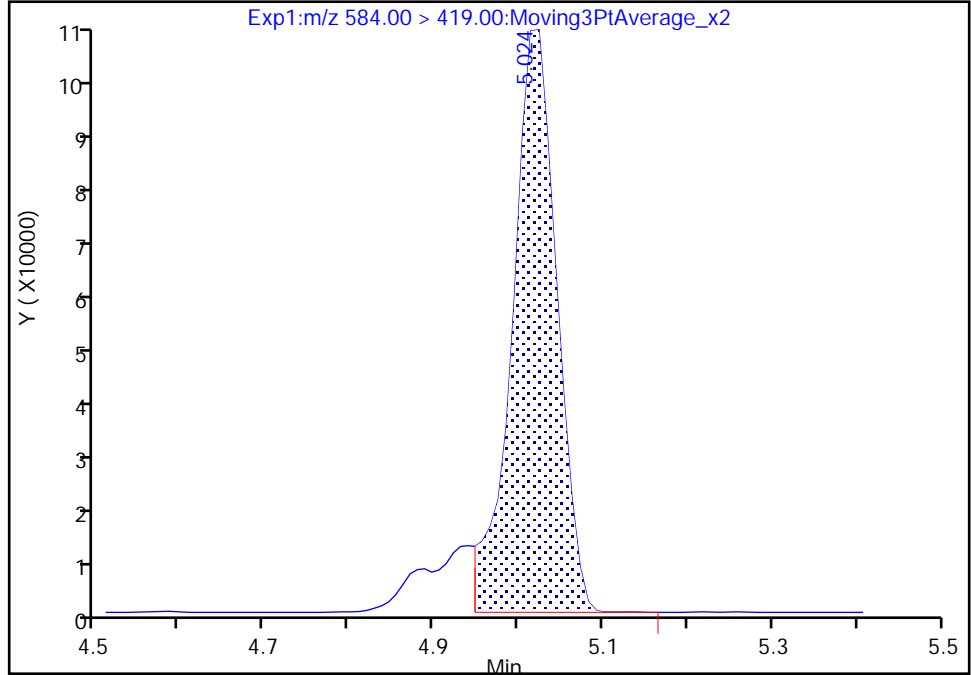
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Injection Date: 20-Feb-2022 13:40:04 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

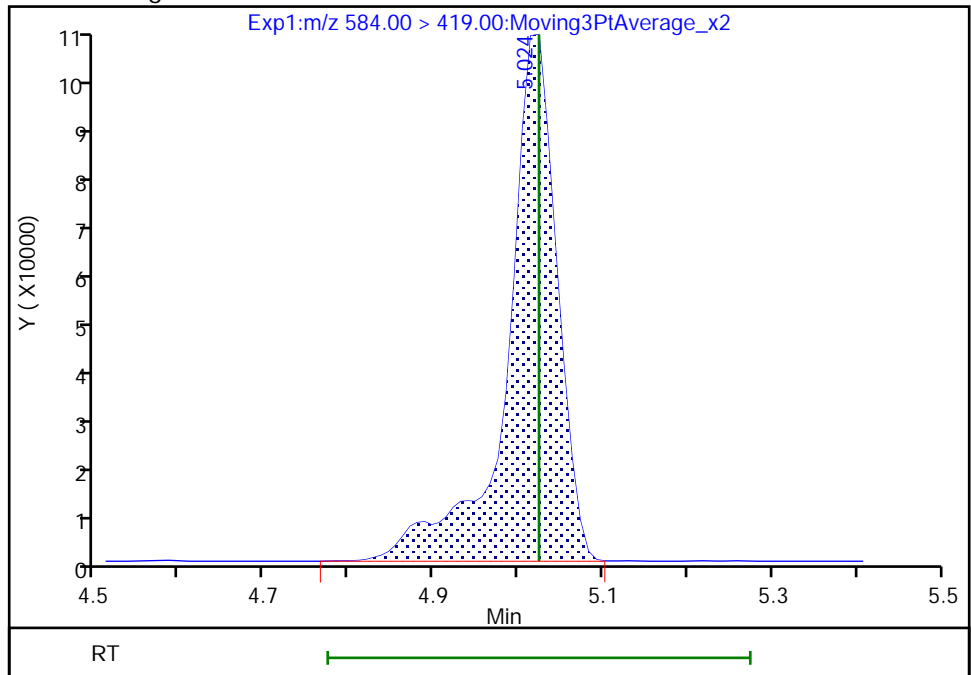
RT: 5.02  
Area: 366386  
Amount: 0.939263  
Amount Units: ng/ml

Processing Integration Results



RT: 5.02  
Area: 415025  
Amount: 1.061869  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 14:04:05  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59064/19 Calibration Date: 02/20/2022 15:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7753		2.45	2.50	-2.0	40.0
PFECA F	AveID	0.7535	0.7825		2.60	2.50	3.8	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.998		2.66	2.50	6.5	40.0
3:3 FTCA	QuaIF		0.0591		2.73	2.50	9.2	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.152		2.29	2.21	3.6	40.0
PFECA A	Q2ID		1.247		2.61	2.50	4.5	40.0
PES	Q2ID		2.472		2.27	2.23	2.1	40.0
PFECA B	Q2ID		0.4549		2.63	2.50	5.1	40.0
4:2 FTS	L2ID		2.387		2.46	2.34	5.2	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8058		2.55	2.50	1.8	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.119		2.54	2.35	8.4	40.0
HFPO-DA	L2ID		1.392		2.76	2.50	10.6	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.352		2.22	2.28	-2.4	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.060		2.61	2.50	4.4	40.0
DONA	AveID	2.644	2.282		2.03	2.36	-13.7	40.0
5:3 FTCA	L2ID		3.715		2.47	2.50	-1.2	40.0
6:2 FTUCA	AveID	1.046	1.061		2.53	2.50	1.4	40.0
6:2 FTCA	L1ID		0.7685		2.78	2.50	11.2	40.0
PFECHS	AveID	0.7426	0.7650		2.37	2.31	3.0	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9847		2.37	2.38	-0.3	40.0
6:2 FTS	L2ID		1.905		2.47	2.37	4.4	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.103		2.59	2.50	3.4	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.092		2.21	2.32	-4.6	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8375		2.75	2.50	10.1	40.0
7:3 FTCA	AveID	5.230	5.599		2.68	2.50	7.1	40.0
8:2 FTUCA	AveID	0.9565	0.9431		2.47	2.50	-1.4	40.0
8:2 FTCA	AveID	1.811	1.810		2.50	2.50	-0.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.197		2.28	2.33	-2.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.016		2.41	2.40	0.4	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9508		2.49	2.50	-0.4	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9337		2.61	2.50	4.2	40.0
8:2 FTS	L2ID		1.585		2.53	2.40	5.8	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9602		2.54	2.50	1.7	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9175		2.49	2.41	3.3	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59064/19 Calibration Date: 02/20/2022 15:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9617		2.49	2.50	-0.6	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9050		2.49	2.50	-0.4	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.776		2.41	2.36	2.2	50.0
10:2 FTUCA	AveID	1.208	1.185		2.45	2.50	-1.9	40.0
10:2 FTCA	Q2ID		1.047		2.73	2.50	9.3	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.996		2.41	2.50	-3.6	40.0
10:2 FTS	L2ID		2.151		2.48	2.41	2.9	50.0
NMeFOSA	L2ID		1.107		2.57	2.50	2.9	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.166		2.49	2.50	-0.4	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8885		2.27	2.42	-6.0	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8793		2.49	2.50	-0.4	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.366		2.41	2.50	-3.7	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.369		2.75	2.50	10.0	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1308		2.54	2.50	1.6	40.0
Perfluorohexadecanoic acid	L1ID		1.151		2.55	2.50	1.8	40.0
Perfluorooctadecanoic acid	AveID	1.013	1.025		2.53	2.50	1.2	40.0
13C4 PFBA	Ave	1.172	1.199		1.28	1.25	2.3	50.0
13C5 PFPeA	Ave	0.9197	0.8405		1.14	1.25	-8.6	50.0
13C3 PFBS	Ave	0.5817	0.5556		1.11	1.16	-4.5	50.0
M2-4:2 FTS	Ave	0.1821	0.1678		1.08	1.17	-7.8	50.0
13C2 PFHxA	Ave	1.015	0.9303		1.15	1.25	-8.3	50.0
13C3 HFPO-DA	Ave	0.4963	0.4674		1.18	1.25	-5.8	50.0
18O2 PFHxS	Ave	0.3776	0.3990		1.25	1.18	5.7	50.0
13C4 PFHpA	Ave	0.9046	0.8824		1.22	1.25	-2.5	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3119		1.16	1.25	-7.5	50.0
13C-6:2 FTCA	Ave	0.0260	0.0248		1.19	1.25	-4.8	50.0
13C4 PFOA	Ave	0.9356	0.9180		1.23	1.25	-1.9	50.0
M2-6:2 FTS	Ave	0.1799	0.1699		1.12	1.19	-5.6	50.0
13C4 PFOS	Ave	0.5610	0.6014		1.28	1.20	7.2	50.0
13C5 PFNA	Ave	1.268	1.274		1.26	1.25	0.5	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4991		1.38	1.25	10.4	50.0
13C-8:2 FTCA	Ave	0.0330	0.0329		1.25	1.25	-0.3	50.0
13C8 FOSA	Ave	0.8475	0.8517		1.26	1.25	0.5	50.0
13C2 PFDA	Ave	1.210	1.225		1.27	1.25	1.3	50.0
M2-8:2 FTS	Ave	0.1961	0.1679		1.03	1.20	-14.4	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59064/19 Calibration Date: 02/20/2022 15:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1275		1.41	1.25	12.4	50.0
13C2 PFUnA	Ave	1.168	1.120		1.20	1.25	-4.1	50.0
d5-NEtFOSAA	Ave	0.1164	0.1177		1.26	1.25	1.1	50.0
13C-10:2 FTUCA	Ave	0.5078	0.4090		1.01	1.25	-19.5	50.0
13C-10:2 FTCA	Ave	0.0309	0.0227		0.918	1.25	-26.6	50.0
13C2 PFDoA	Ave	1.152	1.105		1.20	1.25	-4.1	50.0
13C2 10:2 FTS	Ave	0.1652	0.1365		0.979	1.18	-17.4	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1322		1.39	1.25	11.5	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1067		1.32	1.25	5.7	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1355		1.38	1.25	10.1	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0808		1.25	1.25	-0.2	50.0
13C2 PFTeDA	Ave	0.9216	0.8299		1.13	1.25	-10.0	50.0
13C2 PFHxDA	Ave	0.5997	0.5061		1.06	1.25	-15.6	50.0
13C8 PFOA	AveID	0.9229	0.9845		1.33	1.25	6.7	50.0
13C8 PFOS	AveID	0.2212	0.2218		1.20	1.20	0.3	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_019.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 20-Feb-2022 15:43:18 ALS Bottle#: 19 Worklist Smp#: 19  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022725-019 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:51:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: mcwhirterl Date: 21-Feb-2022 00:08:31

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.790	2.811	-0.021	1.000	8668835	2.45		98.0	3601	
D 2 13C4 PFBA										
217.00 > 172.00	2.790	2.811	-0.021	0.678	5590758	1.28		102	20223	
3 PFECA F										
229.00 > 85.00	2.895	2.919	-0.024	0.934	6134638	2.60		104	20760	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.099	3.123	-0.023	1.000	7824070	2.66		106	3040	
D 5 13C5 PFPeA										
267.90 > 223.00	3.099	3.123	-0.023	0.754	3919862	1.14		91.4	14474	
D 7 13C3 PFBS										
301.90 > 80.00	3.115	3.139	-0.024	0.758	2409891	1.11		95.5	11697	
4 3:3 FTCA										
241.00 > 177.10	3.115	3.139	-0.024	1.000	306424	2.73	Target=1.13	109	1972	
241.00 > 116.90	3.115	3.139	-0.024	1.000	264421		1.16(0.56-1.69)		419	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.115	3.139	-0.024	1.000	5276323	2.29	Target=2.61	104	4934	
298.90 > 99.00	3.115	3.139	-0.024	1.000	1993133		2.65(1.31-3.92)		5095	
9 PFECA A										
278.95 > 84.90	3.193	3.211	-0.018	1.030	9776662	2.61		105	25164	
11 PES										
314.80 > 135.00	3.250	3.270	-0.020	1.043	11403855	2.27		102	17476	
12 PFECA B										
295.22 > 201.00	3.363	3.395	-0.032	0.981	3947124	2.63		105	25211	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.395	3.427	-0.031	0.826	731066	1.08		92.2	1759	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.405	3.427	-0.021	1.003	3490450	2.46		105	7687	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.427	3.448	-0.021	1.100	5437887	2.54	Target=3.55	108	10561	
349.00 > 99.00	3.427	3.448	-0.021	1.100	1556266		3.49(1.78-5.33)		8562	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.427	3.448	-0.021	1.000	6991979	2.54	Target=11.60	102	3548	
313.00 > 119.00	3.427	3.448	-0.021	1.000	587616		11.90(5.80-17.40)		666	
D 14 13C2 PFHxA										
315.00 > 270.00	3.427	3.448	-0.021	0.833	4338704	1.15		91.7	14085	
17 HFPO-DA										
285.00 > 169.00	3.533	3.553	-0.020	1.000	6066356	2.76	Target=2.45	111	2855	
329.00 > 169.00	3.533	3.553	-0.020	1.000	2397347		2.53(1.23-3.68)		2861	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.533	3.553	-0.020	0.859	2179574	1.18		94.2	7336	
D 20 18O2 PFHxS										
403.00 > 84.00	3.763	3.792	-0.029	0.915	1760143	1.25		106	9390	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.763	3.792	-0.029	1.000	4577700	2.22	Target=3.44	97.6	9662	M
399.00 > 99.00	3.763	3.792	-0.029	1.000	1318578		3.47(1.72-5.17)		4133	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.773	3.803	-0.030	0.917	4115102	1.22		97.5	9704	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.773	3.803	-0.030	1.000	8727781	2.61	Target=3.25	104	4956	
363.00 > 169.00	3.773	3.803	-0.030	1.000	2681723		3.25(1.62-4.87)		2027	
25 DONA										
377.00 > 251.00	3.813	3.829	-0.016	0.866	12060744	2.03	Target=1.74	86.3	11235	
377.00 > 85.00	3.813	3.829	-0.016	0.866	7063991		1.71(0.87-2.61)		132	
26 5:3 FTCA										
340.88 > 236.90	3.837	3.861	-0.024	0.987	858734	2.47	Target=1.11	98.8	2320	
340.88 > 216.90	3.837	3.861	-0.024	0.987	757975		1.13(0.56-1.67)		1521	
27 6:2 FTUCA										
356.86 > 292.90	3.870	3.895	-0.025	1.000	3086079	2.53	Target=13.05	101	4717	
356.86 > 243.00	3.870	3.895	-0.025	1.000	221240		13.95(6.52-19.57)		710	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.870	3.895	-0.025	0.941	1454685	1.16		92.5	3580	
29 6:2 FTCA										
377.10 > 63.00	3.887	3.912	-0.026	1.000	177645	2.78	Target=1.29	111	546	
377.10 > 313.10	3.887	3.912	-0.026	1.000	139180		1.28(0.65-1.94)		123	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.887	3.912	-0.026	0.945	115577	1.19		95.2	408	
32 PFECHS										
460.80 > 380.90	4.046	4.074	-0.028	0.984	6039020	2.37	Target=1.75	103	10615	
460.80 > 98.90	4.046	4.074	-0.028	0.984	3464903		1.74(0.87-2.62)		12015	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.093	4.121	-0.028	0.929	5258533	2.37	Target=3.72	99.7	8303	
449.00 > 99.00	4.093	4.121	-0.028	0.929	1390862		3.78(1.86-5.57)		5601	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
37 Perfluorooctanoic acid										
413.00 > 369.00	4.112	4.130	-0.018	1.000	9440230	2.59	Target=2.51	103	5921	
413.00 > 169.00	4.112	4.130	-0.018	1.000	3850357		2.45(1.26-3.77)		5896	
35 6:2 FTS										
427.00 > 407.00	4.112	4.130	-0.018	1.000	2862155	2.47		104	11860	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.112	4.130	-0.018	1.000	4214601	1.33		107	12362	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.112	4.130	-0.018	1.000	752916	1.12		94.4	2837	
D 31 13C4 PFOA										
417.00 > 372.00	4.112	4.130	-0.018	1.000	4281165	1.23		98.1	9290	
* 30 13C2 PFOA										
415.00 > 370.00	4.112	4.139	-0.027		4663656	1.25			10431	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.404	4.421	-0.017	1.000	594770	1.20		100	2519	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.404	4.421	-0.017	1.000	5686860	2.21	Target=4.30	95.4	6479	M
499.00 > 99.00	4.404	4.421	-0.017	1.000	1337349		4.25(2.15-6.45)		4999	M
D 39 13C4 PFOS										
503.00 > 80.00	4.404	4.421	-0.017	1.071	2681379	1.28		107	4268	
D 41 13C5 PFNA										
468.00 > 423.00	4.421	4.448	-0.027	1.075	5943338	1.26		100	15232	
42 Perfluorononanoic acid										
463.00 > 419.00	4.421	4.448	-0.027	1.000	9954620	2.75	Target=3.60	110	9407	
463.00 > 169.00	4.430	4.448	-0.018	1.002	2400474		4.15(1.80-5.40)		6008	
43 7:3 FTCA										
441.00 > 337.00	4.512	4.528	-0.016	0.993	1720227	2.68	Target=1.42	107	3475	
441.00 > 317.00	4.512	4.528	-0.016	0.993	1252762		1.37(0.71-2.13)		2286	
44 8:2 FTUCA										
456.86 > 392.90	4.529	4.553	-0.024	1.000	4390086	2.47	Target=35.37	98.6	8640	
456.86 > 343.00	4.529	4.553	-0.024	1.000	122642		35.80(17.68-53.05)		410	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.529	4.553	-0.024	1.000	2327420	1.38		110	5635	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.545	4.570	-0.025	1.105	153630	1.25		99.7	480	
46 8:2 FTCA										
477.00 > 393.10	4.545	4.570	-0.025	1.000	556011	2.50	Target=3.35	99.9	1905	
477.00 > 63.20	4.545	4.570	-0.025	1.000	182643		3.04(1.68-5.03)		739	
49 9CIFOS										
531.00 > 351.00	4.562	4.586	-0.024	1.109	11487485	2.28		97.7	14782	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.680	4.706	-0.026	1.063	5469504	2.41	Target=3.99	100	10319	
549.00 > 99.00	4.680	4.706	-0.026	1.063	1326899		4.12(2.00-5.99)		5787	
D 55 13C8 FOSA										
506.00 > 78.00	4.697	4.714	-0.017	1.142	3971854	1.26		100	5902	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.697	4.714	-0.017	1.000	7553218	2.49		99.6	6663	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.714	4.731	-0.017	1.000	10671465	2.61	Target=10.58	104	7881	
513.00 > 169.00	4.714	4.731	-0.017	1.000	973074		10.97(5.29-15.88)		557	
D 52 13C2 PFDA										
515.00 > 470.00	4.714	4.731	-0.017	1.146	5714512	1.27		101	12862	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.723	4.748	-0.025	1.149	750197	1.03		85.6	2086	
53 8:2 FTS										
527.00 > 507.00	4.723	4.748	-0.025	1.000	2378326	2.53		106	8464	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.855	4.880	-0.025	1.181	594713	1.40		112	212	
57 NMeFOSAA										
570.00 > 419.00	4.855	4.880	-0.025	1.000	1142058	2.54		102	2585	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.940	4.966	-0.026	1.122	4961500	2.49	Target=3.55	103	9103	
599.00 > 99.00	4.940	4.966	-0.026	1.122	1286175		3.86(1.78-5.33)		6510	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.976	4.995	-0.019	1.000	10048941	2.49	Target=8.26	99.4	8220	
563.00 > 169.00	4.976	4.995	-0.019	1.000	1249595		8.04(4.13-12.39)		3525	
D 59 13C2 PFUnA										
565.00 > 520.00	4.976	4.995	-0.019	1.210	5224491	1.20		95.9	8751	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.995	5.014	-0.019	1.215	548970	1.26		101	1803	
62 NEtFOSAA										
584.00 > 419.00	4.995	5.024	-0.029	1.000	993585	2.49		99.6	622	M
65 10:2 FTUCA										
556.86 > 492.90	5.083	5.102	-0.019	1.000	4519138	2.45		98.1	8171	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.083	5.102	-0.019	1.236	1907546	1.01		80.5	4632	
63 11C1FOS										
631.00 > 451.00	5.073	5.102	-0.029	1.152	9383531	2.41		102	16067	
66 10:2 FTCA										
576.80 > 493.00	5.093	5.111	-0.018	1.000	221855	2.73	Target=2.53	109	1499	
576.80 > 63.10	5.093	5.111	-0.018	1.000	87183		2.54(1.26-3.79)		452	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.093	5.111	-0.018	1.238	105900	0.9179		73.4	614	
D 69 13C2 PFDoA										
615.00 > 570.00	5.209	5.235	-0.026	1.267	5151595	1.20		95.9	12955	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.209	5.235	-0.026	1.000	10265235	2.41	Target=6.85	96.4	8033	
613.00 > 169.00	5.209	5.235	-0.026	1.000	1515166		6.77(3.43-10.28)		4349	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.226	5.251	-0.025	1.271	602932	0.9785		82.6	3435	
71 10:2 FTS										
627.00 > 607.00	5.235	5.251	-0.016	1.002	2639381	2.48		103	9709	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.266	5.283	-0.017	1.281	616549	1.39		111	471	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
74 NMeFOSA										
512.00 > 169.00	5.266	5.283	-0.017	1.000	1101821	2.57		103	946	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.266	5.283	-0.017	1.281	497480	1.32		106	48.6	
75 N-MeFOSE-M										
616.00 > 59.00	5.275	5.292	-0.017	1.002	1438148	2.49		99.6	2016	
76 PFDoS										
699.00 > 80.00	5.381	5.408	-0.027	1.222	4824780	2.27	Target=4.22	94.0	9390	
699.00 > 99.00	5.381	5.408	-0.027	1.222	1135131		4.25(2.11-6.34)		5403	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.426	5.435	-0.009	1.320	631855	1.38		110	286	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.417	5.443	-0.026	1.040	9059174	2.49	Target=6.32	99.6	7268	
663.00 > 169.00	5.417	5.443	-0.026	1.040	1423332		6.36(3.16-9.48)		6172	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.435	5.452	-0.017	1.322	376879	1.25		99.8	555	
79 N-EtFOSE-M										
630.00 > 59.00	5.435	5.452	-0.017	1.002	1726432	2.41		96.3	1600	
81 N-EtFOSA-M										
526.00 > 169.00	5.444	5.452	-0.008	1.002	1032216	2.75		110	724	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.598	5.626	-0.028	1.361	3870279	1.13		90.0	9157	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.598	5.626	-0.028	1.000	1012441	2.54	Target=1.01	102	3725	
713.00 > 219.00	5.598	5.626	-0.028	1.000	956793		1.06(0.51-1.52)		4312	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.908	5.932	-0.024	1.437	2360144	1.05		84.4	5775	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.908	5.932	-0.024	1.000	5430835	2.55	Target=8.64	102	4965	
813.00 > 169.00	5.908	5.932	-0.024	1.000	648797		8.37(4.32-12.97)		1703	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.168	6.190	-0.022	1.044	4837314	2.53	Target=11.77	101	5514	
913.00 > 169.00	6.168	6.190	-0.022	1.044	409199		11.82(5.88-17.65)		1187	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220220-22725.b\_019.d

Injection Date: 20-Feb-2022 15:43:18

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

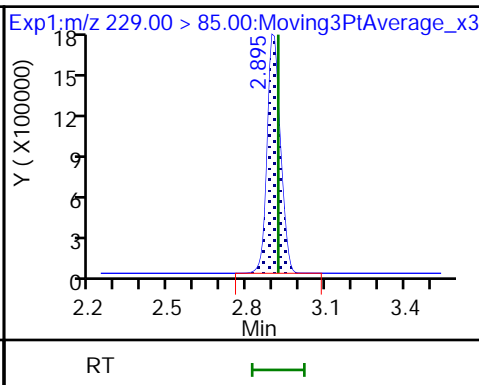
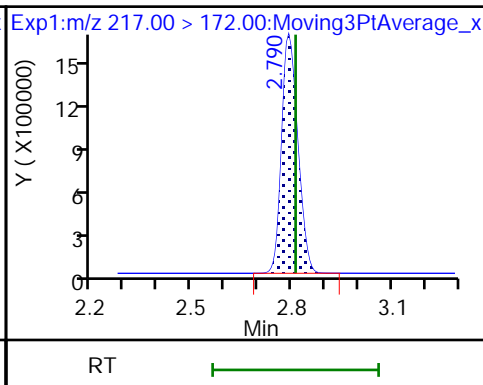
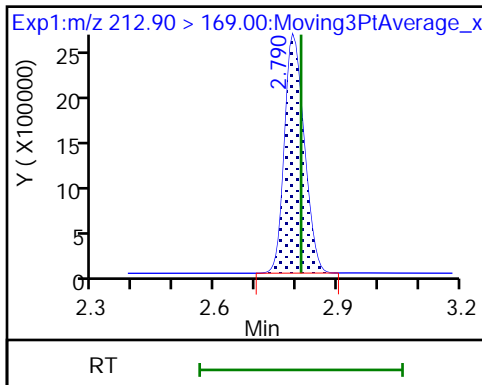
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

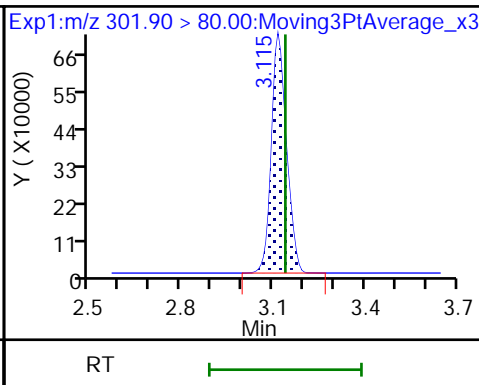
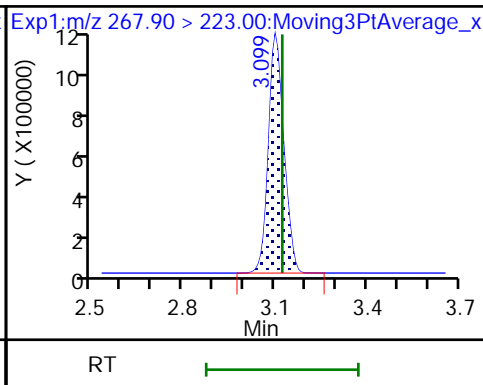
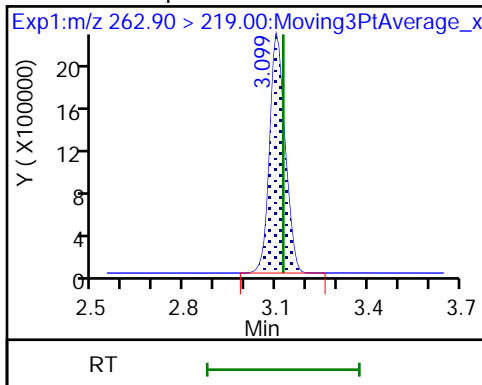
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

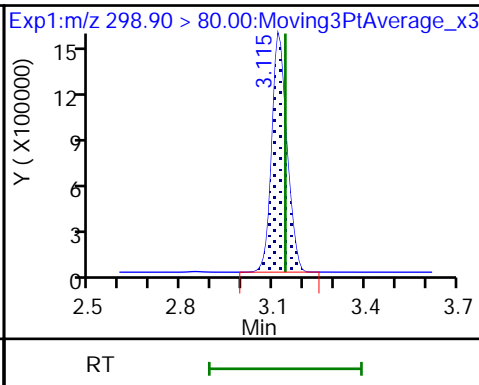
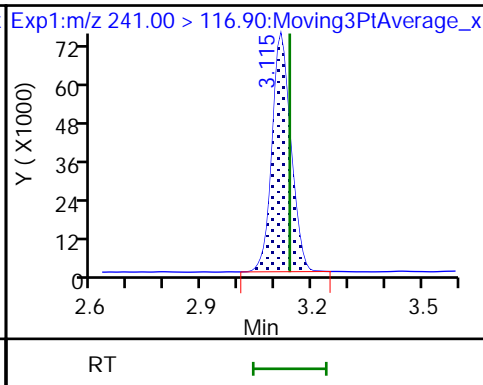
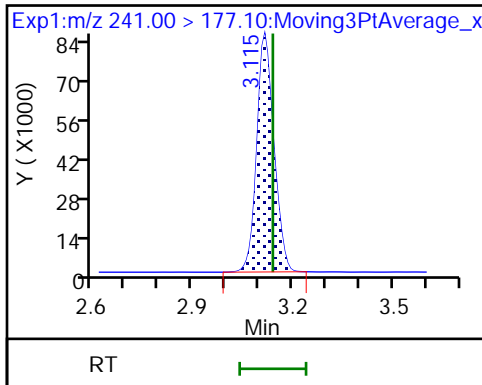
D 7 13C3 PFBS



4 3:3 FTCA

4 3:3 FTCA

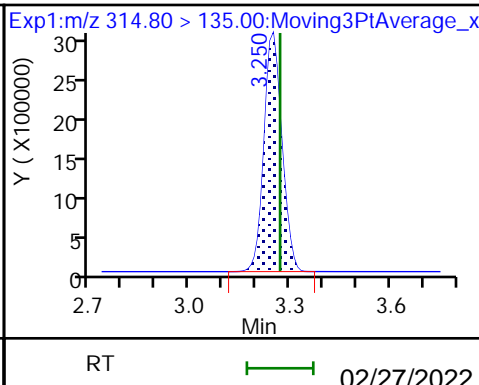
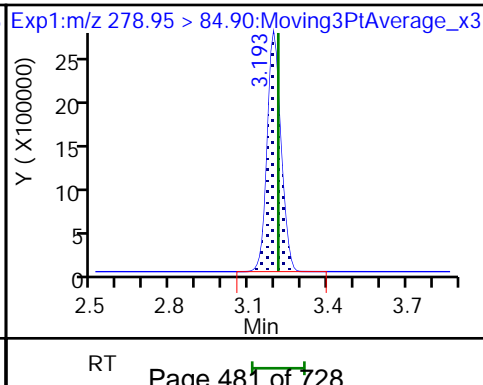
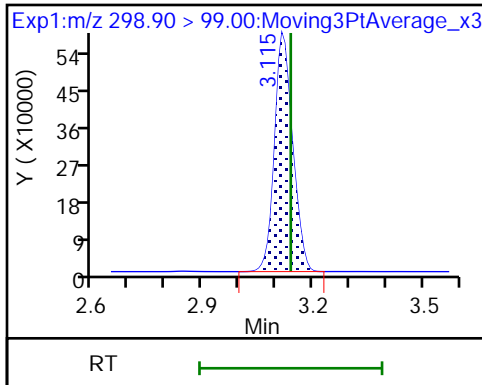
8 Perfluorobutanesulfonic acid

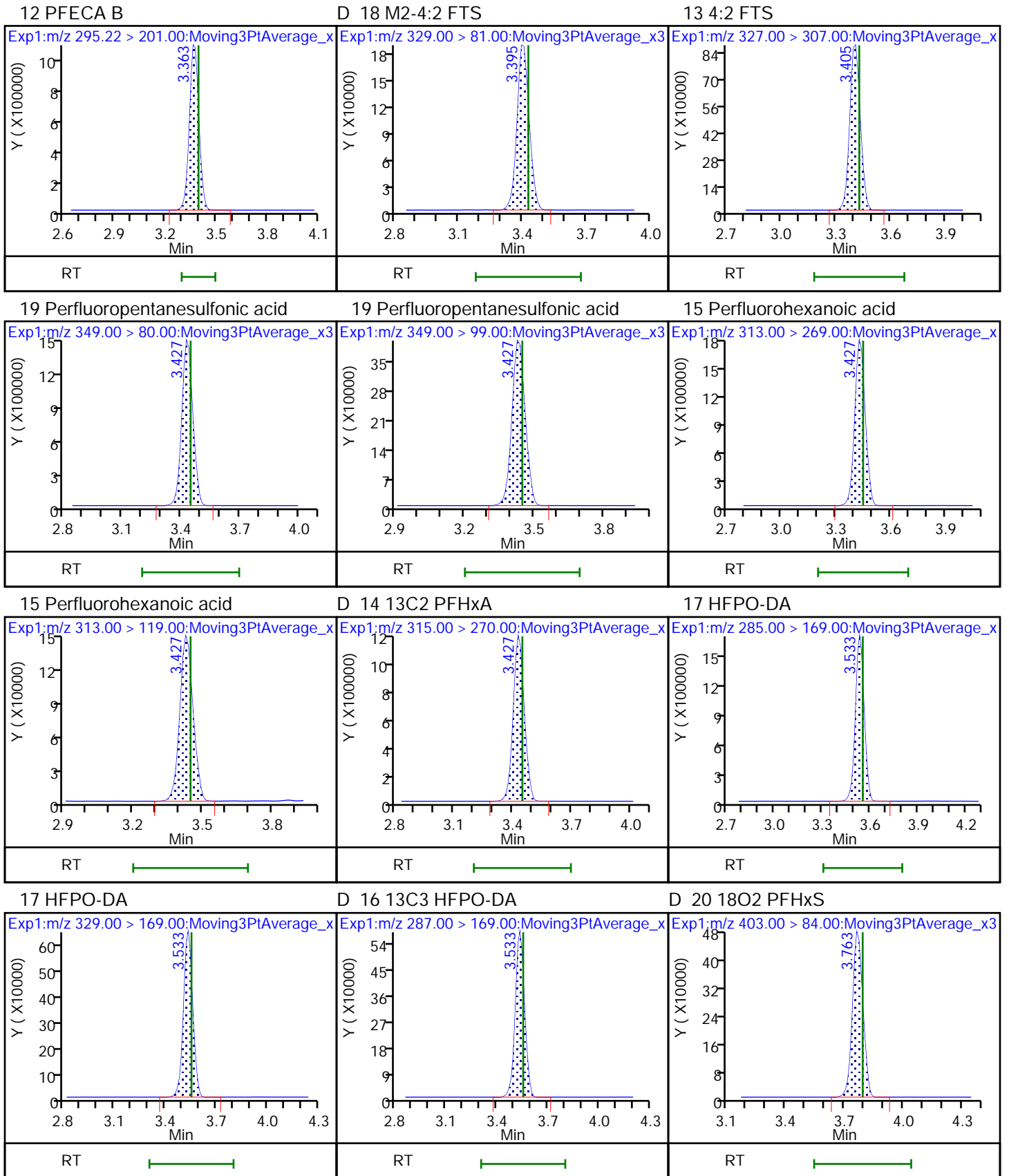


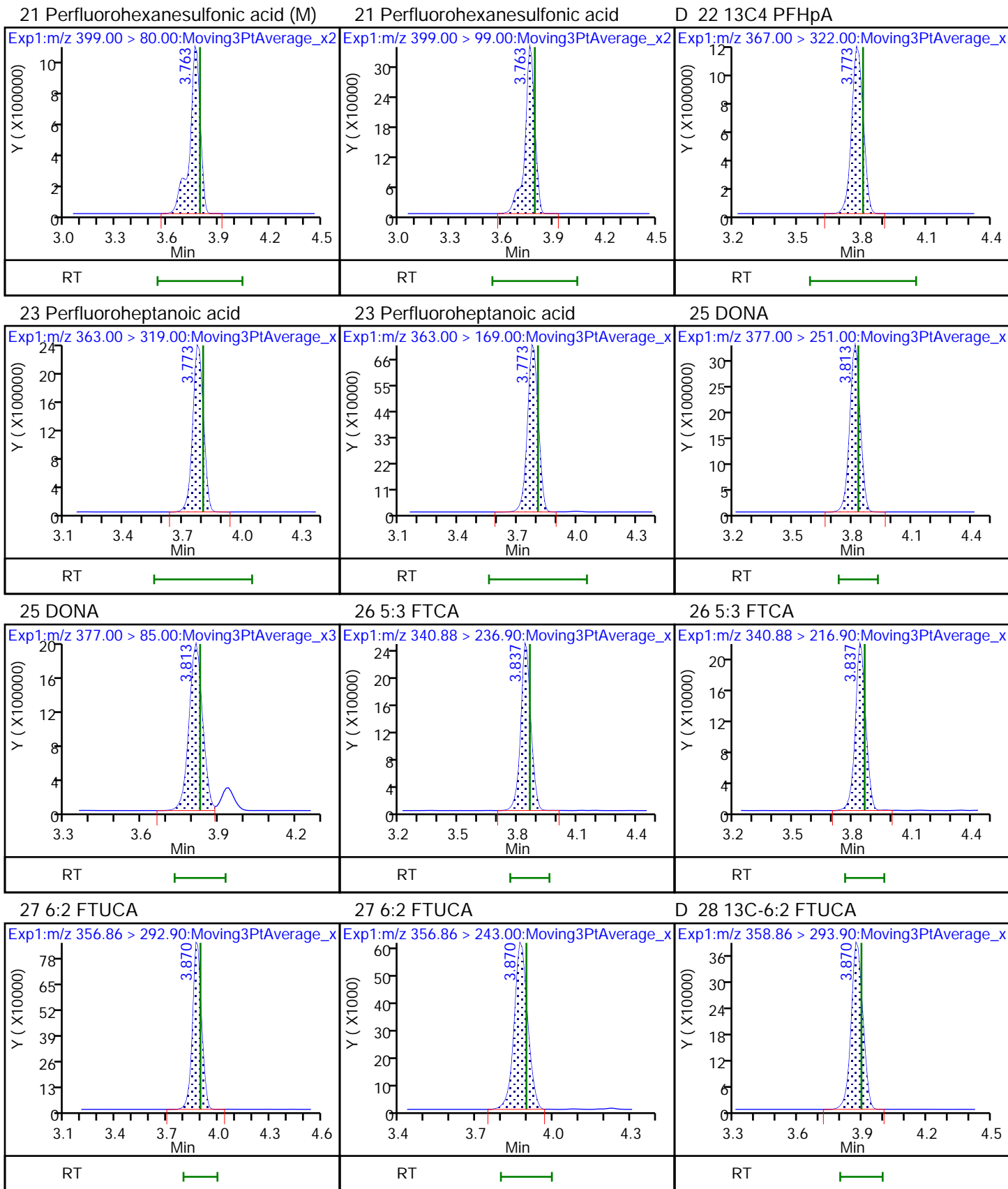
8 Perfluorobutanesulfonic acid

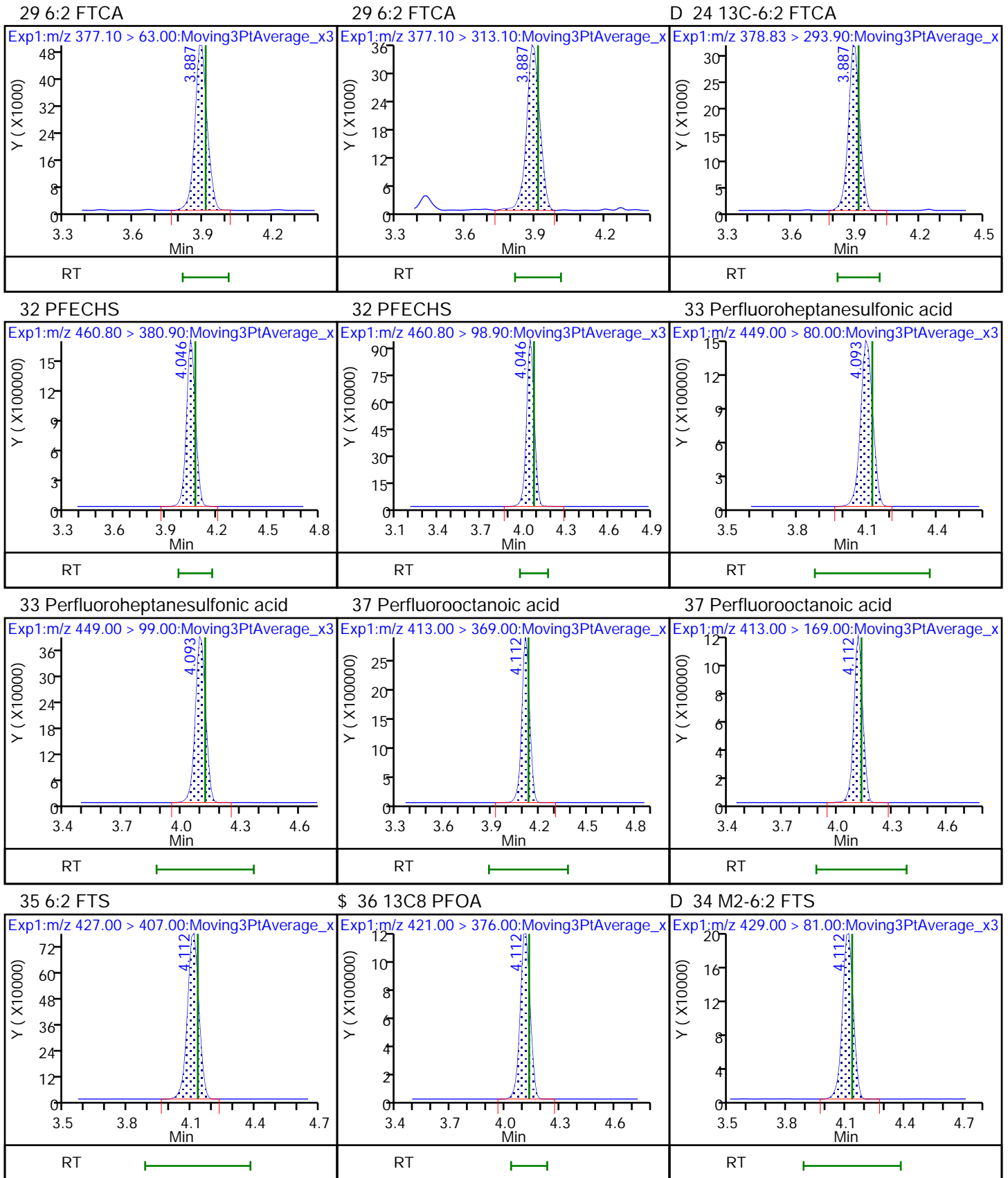
9 PFECA A

11 PES





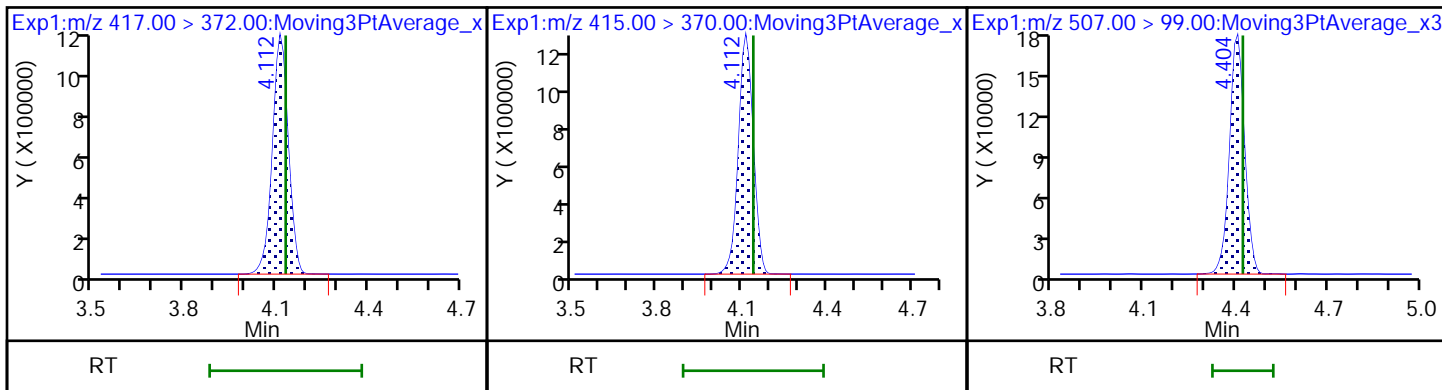




D 31 13C4 PFOA

\* 30 13C2 PFOA

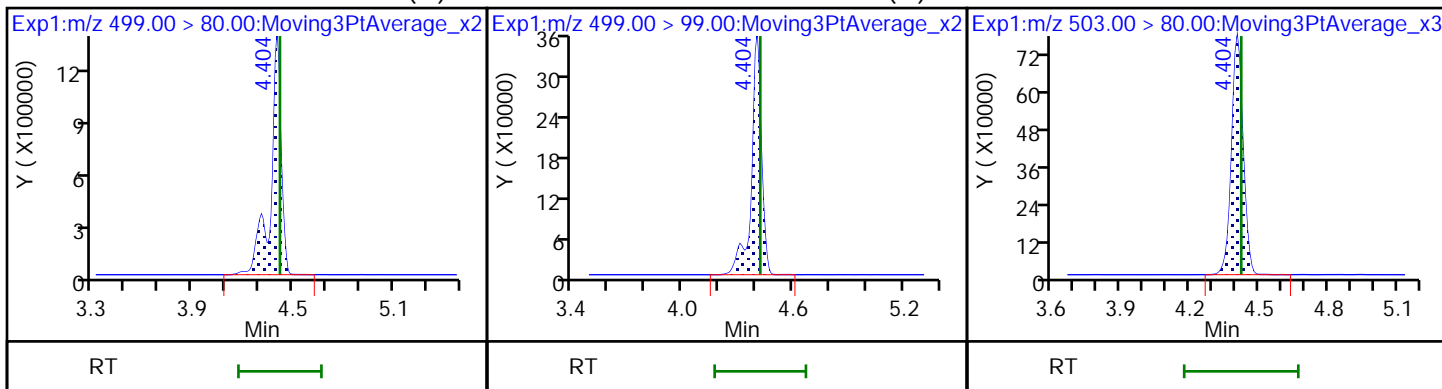
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid (M)

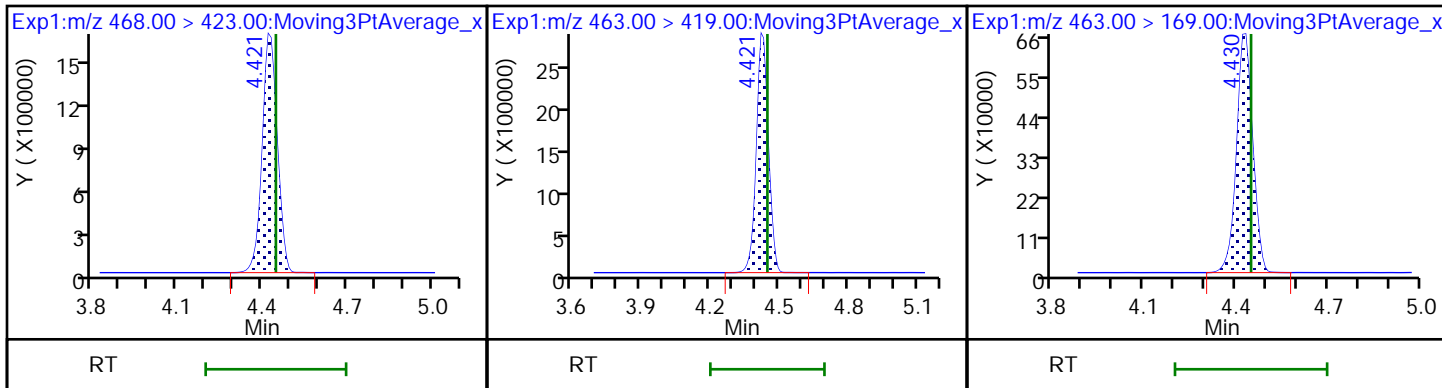
D 39 13C4 PFOS



D 41 13C5 PFNA

42 Perfluorononanoic acid

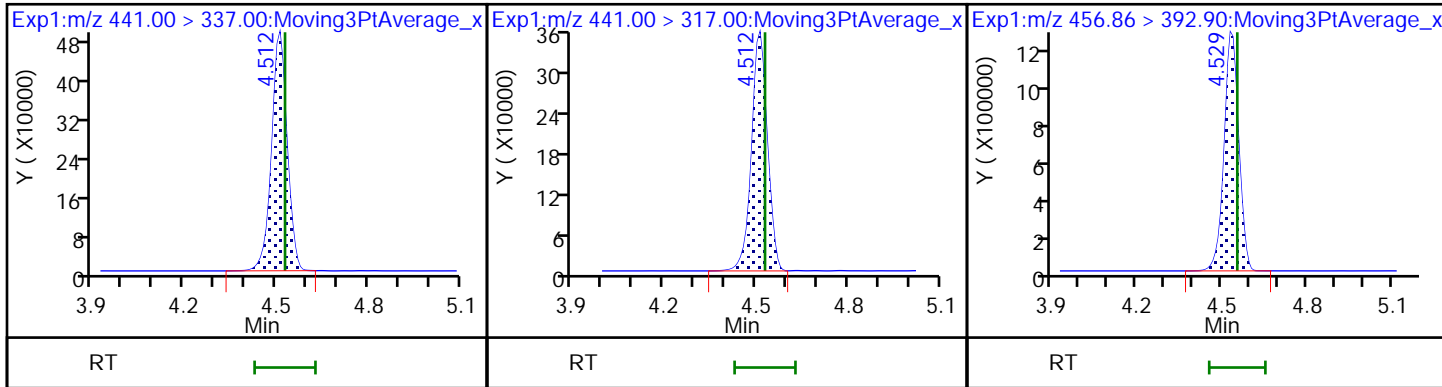
42 Perfluorononanoic acid



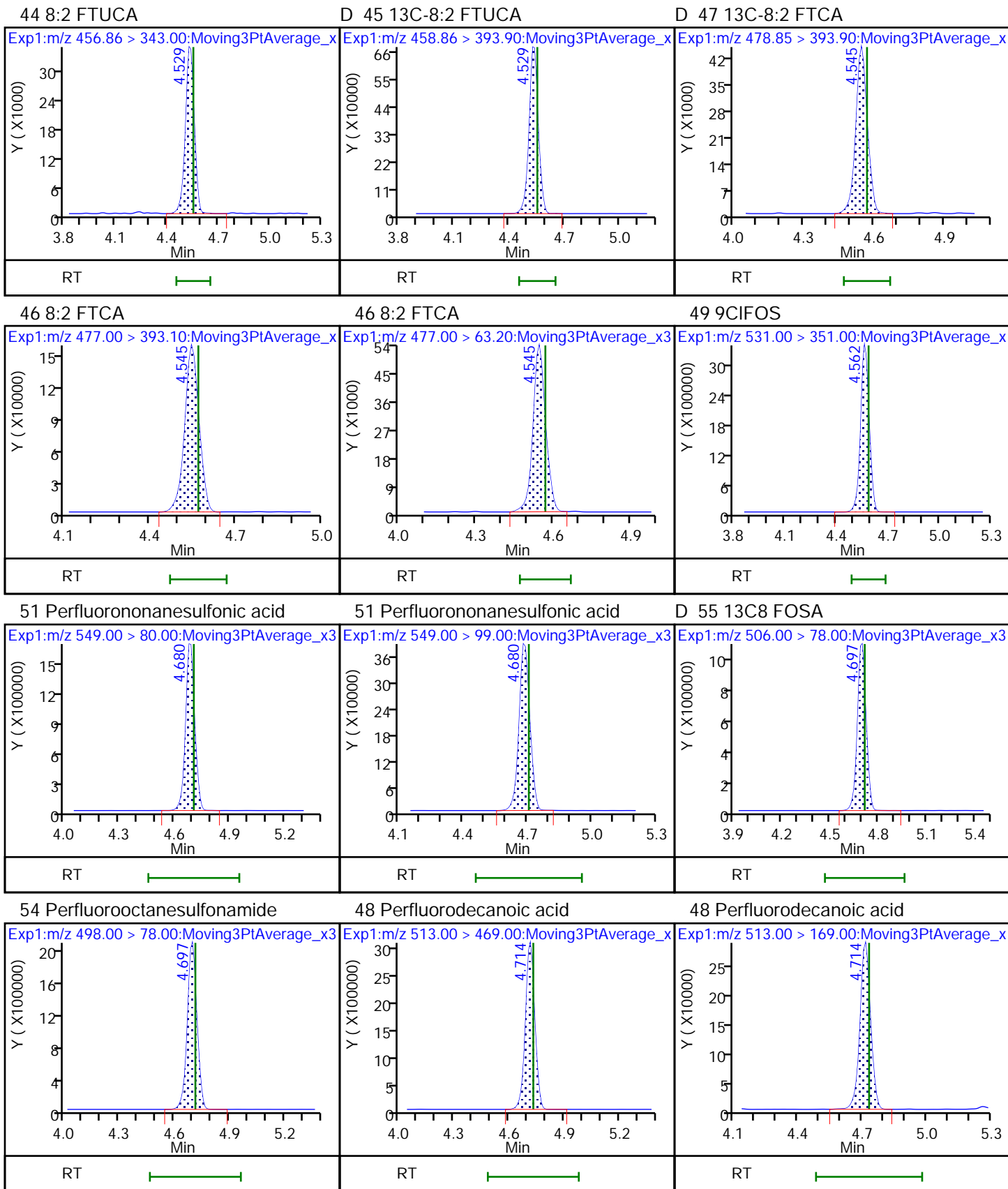
43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA



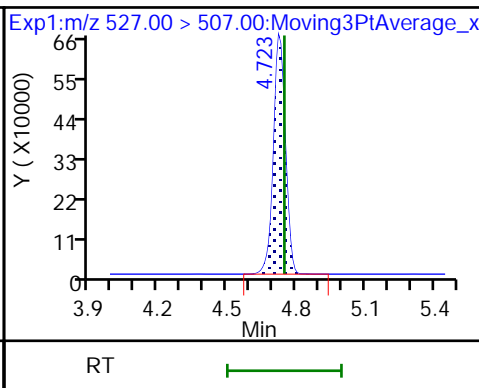
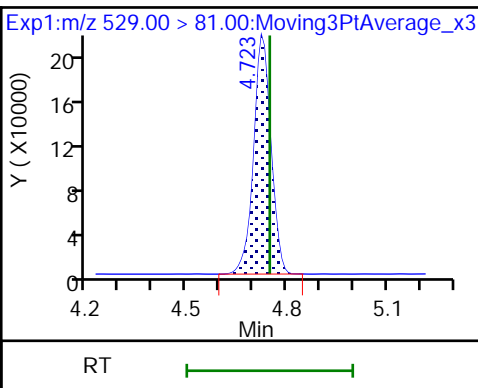
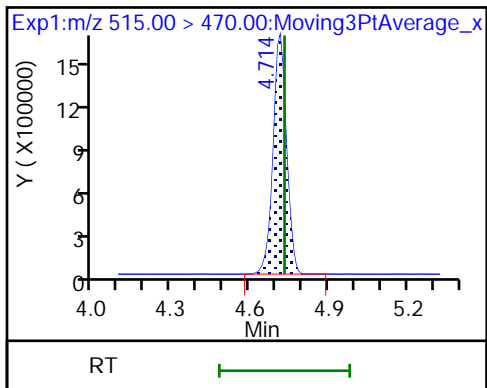




D 52 13C2 PFDA

D 50 M2-8:2 FTS

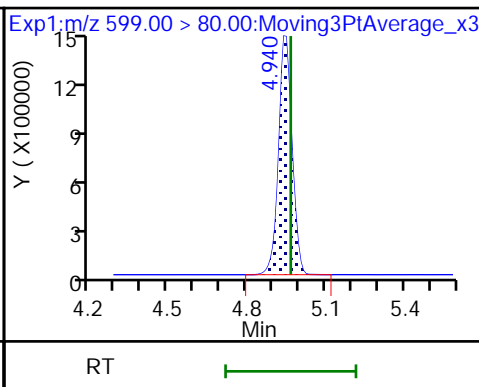
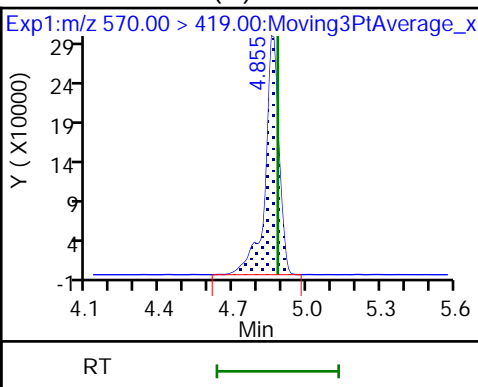
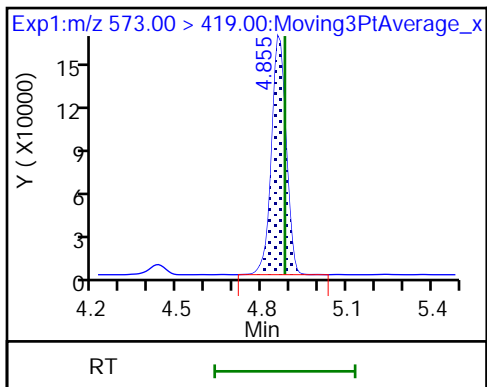
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

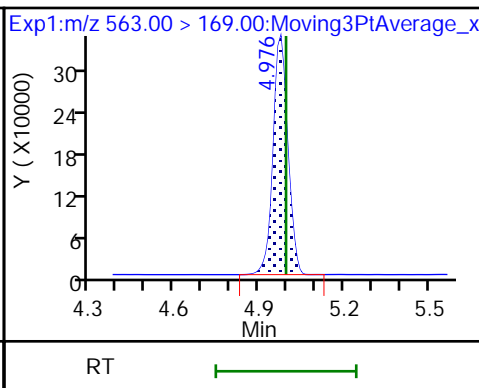
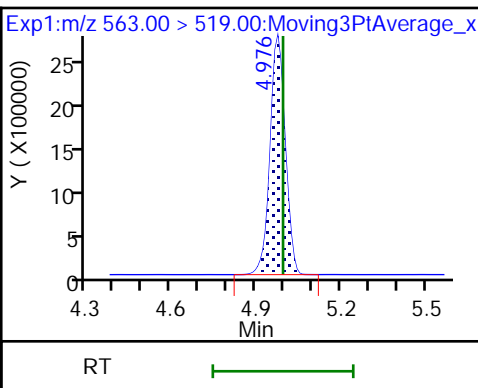
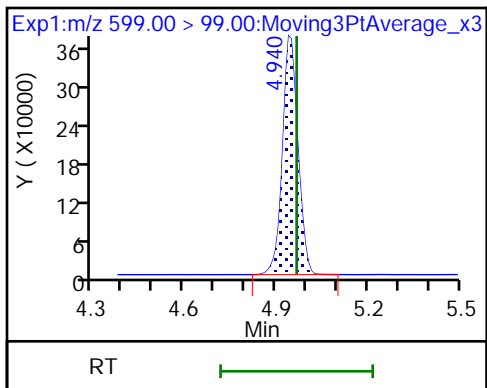
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

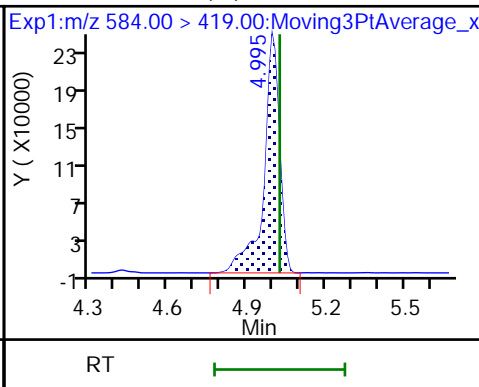
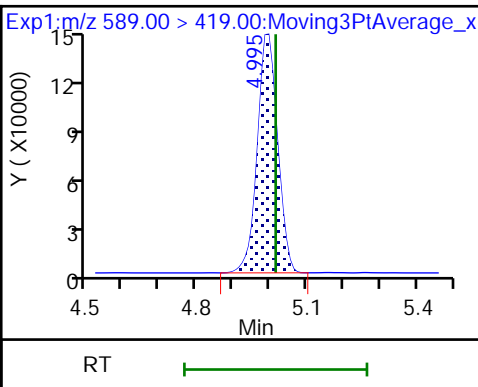
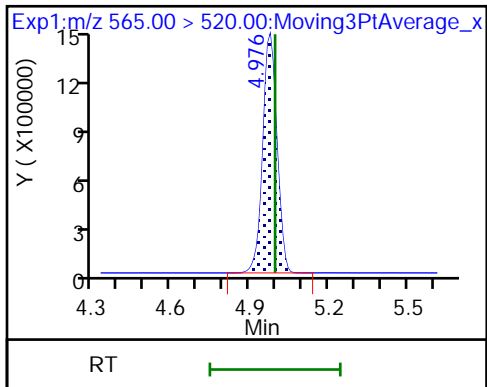
60 Perfluoroundecanoic acid

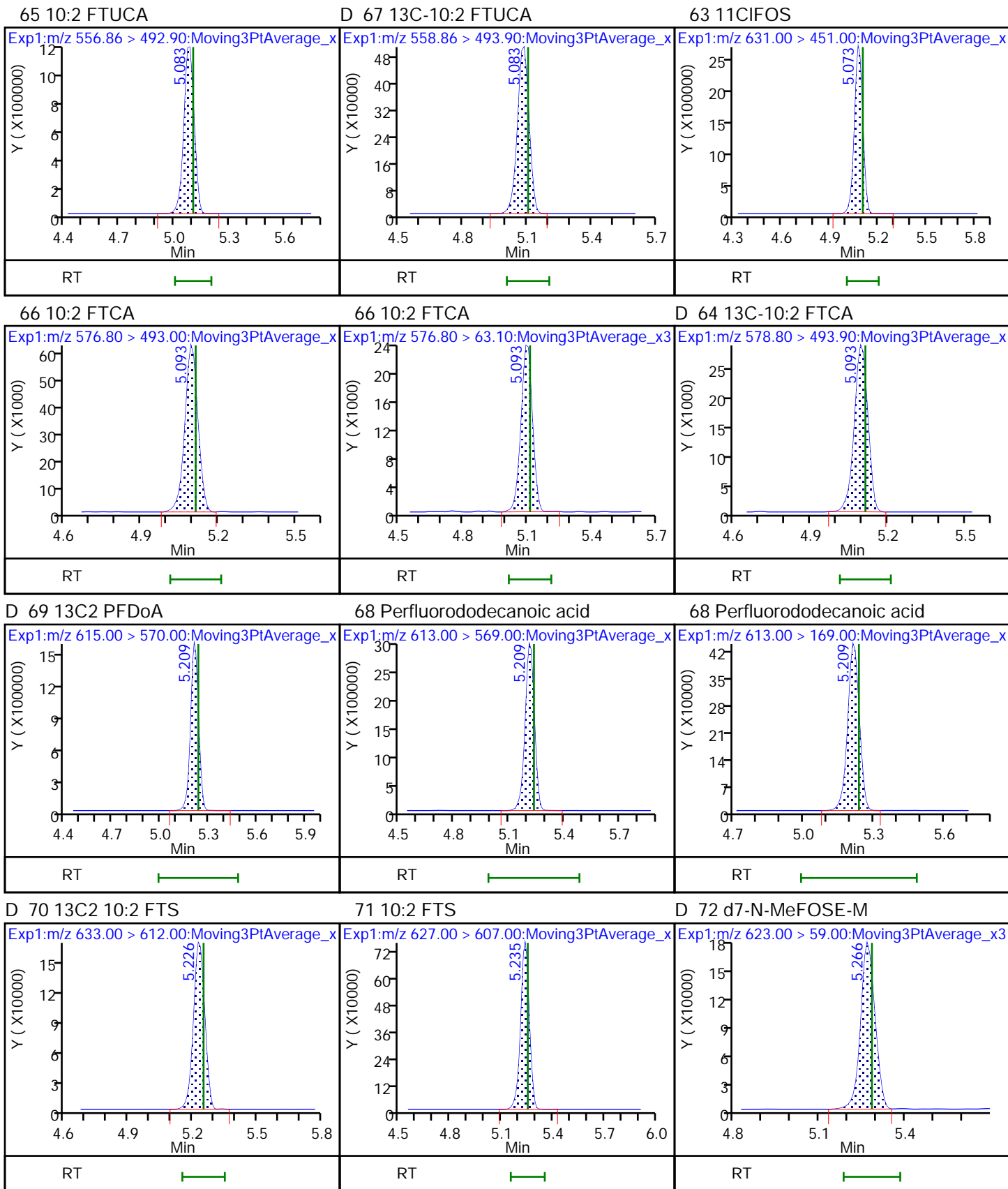


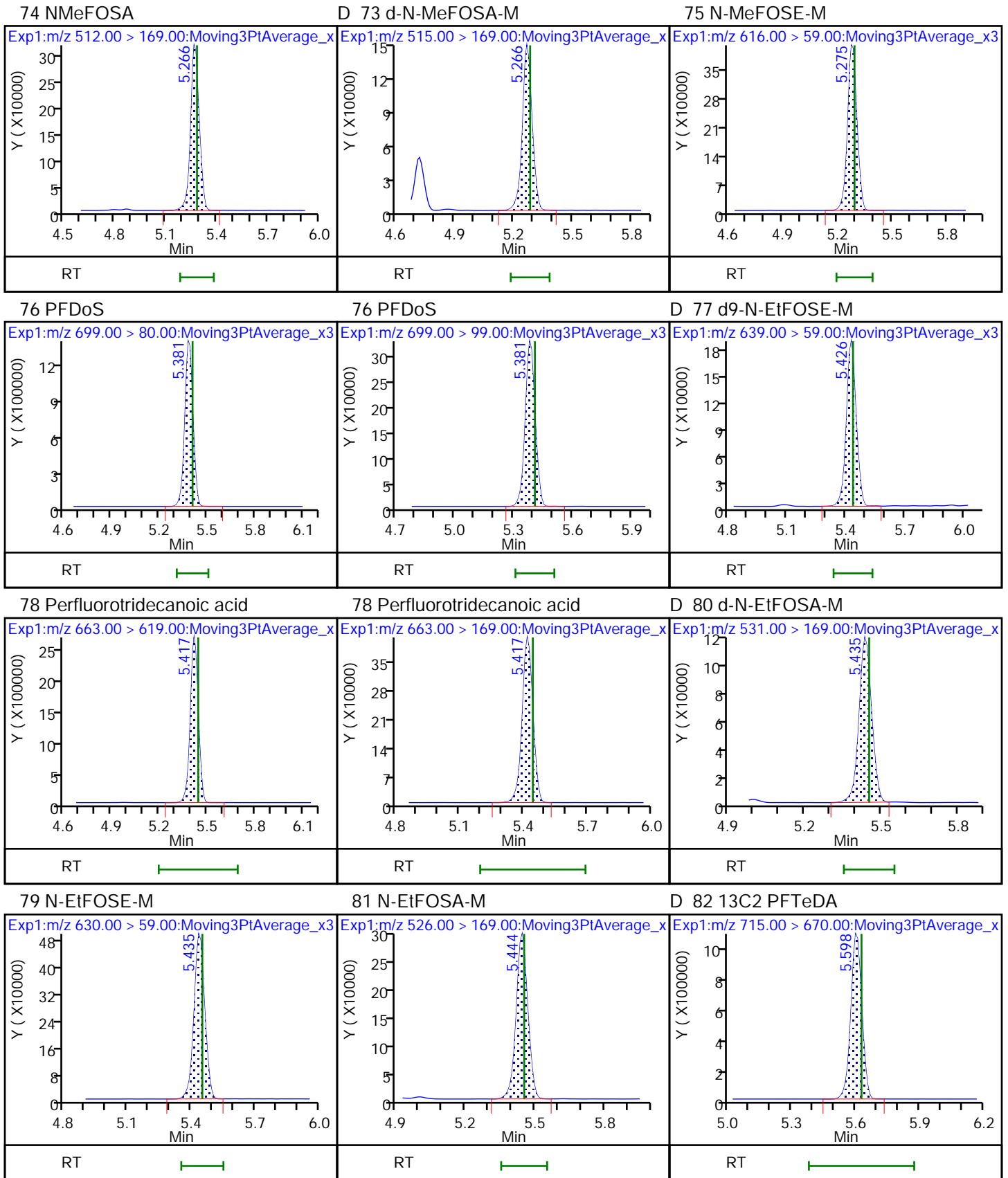
D 59 13C2 PFUnA

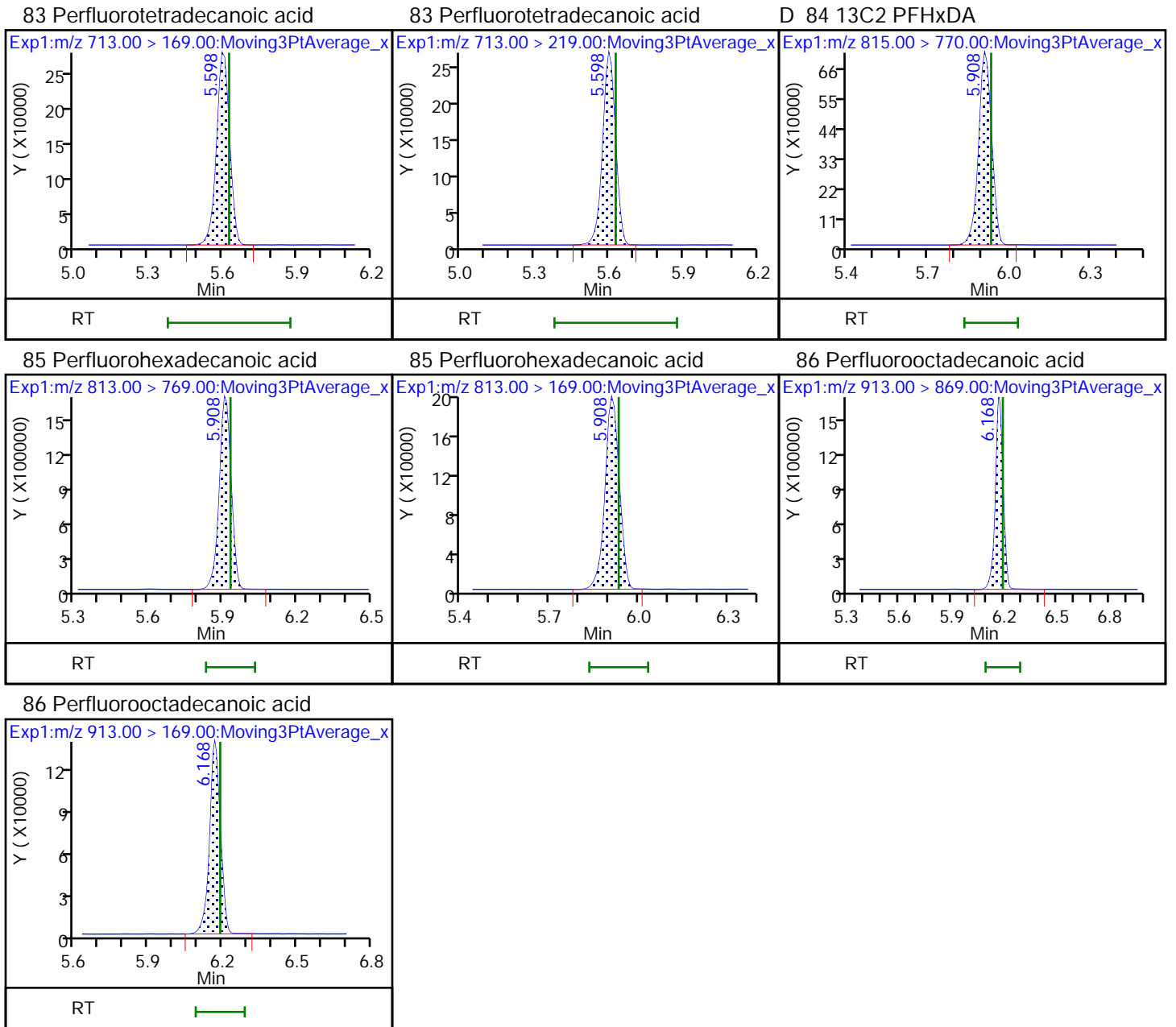
D 61 d5-NEtFOSAA

62 NEtFOSAA (M)









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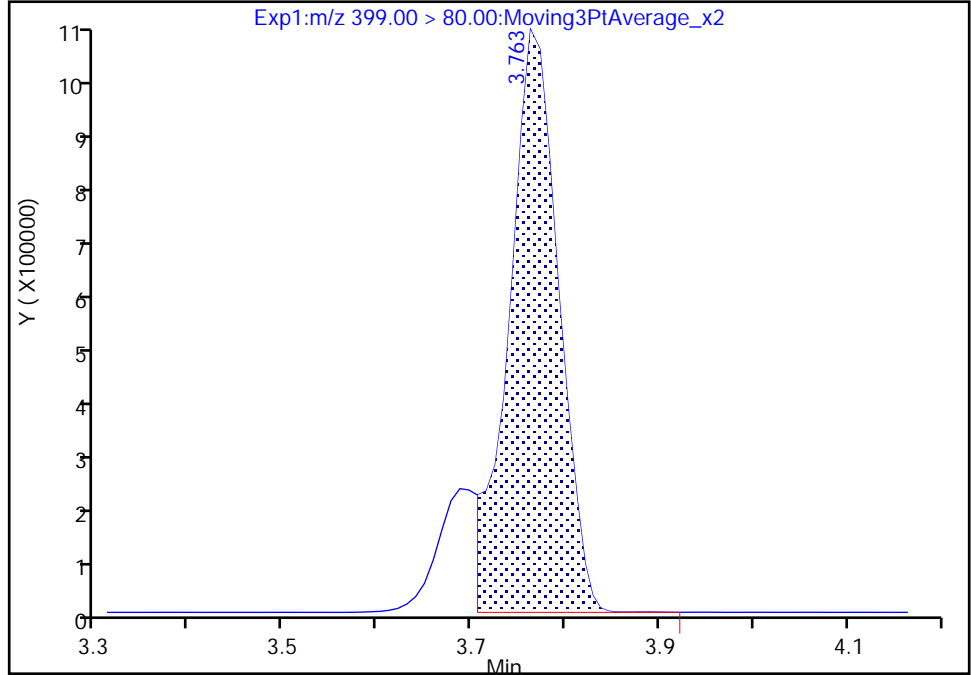
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Injection Date: 20-Feb-2022 15:43:18 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

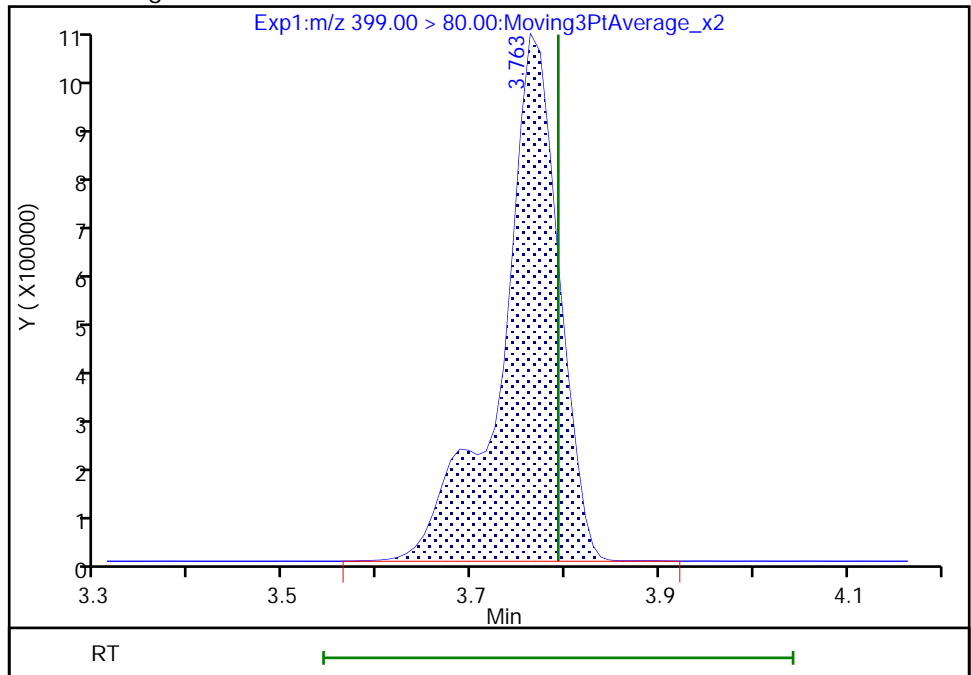
RT: 3.76  
Area: 3939108  
Amount: 1.910595  
Amount Units: ng/ml

Processing Integration Results



RT: 3.76  
Area: 4577700  
Amount: 2.220333  
Amount Units: ng/ml

Manual Integration Results



Reviewer: mcwhirterl, 21-Feb-2022 00:07:10  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_019.d  
Injection Date: 20-Feb-2022 15:43:18 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

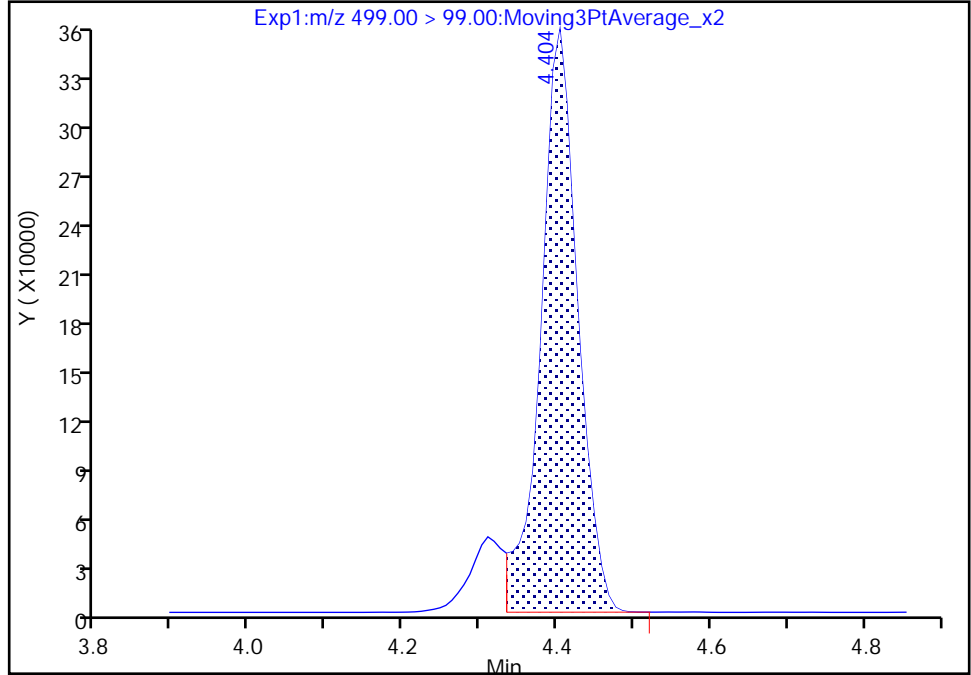
Worklist Smp#: 19

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

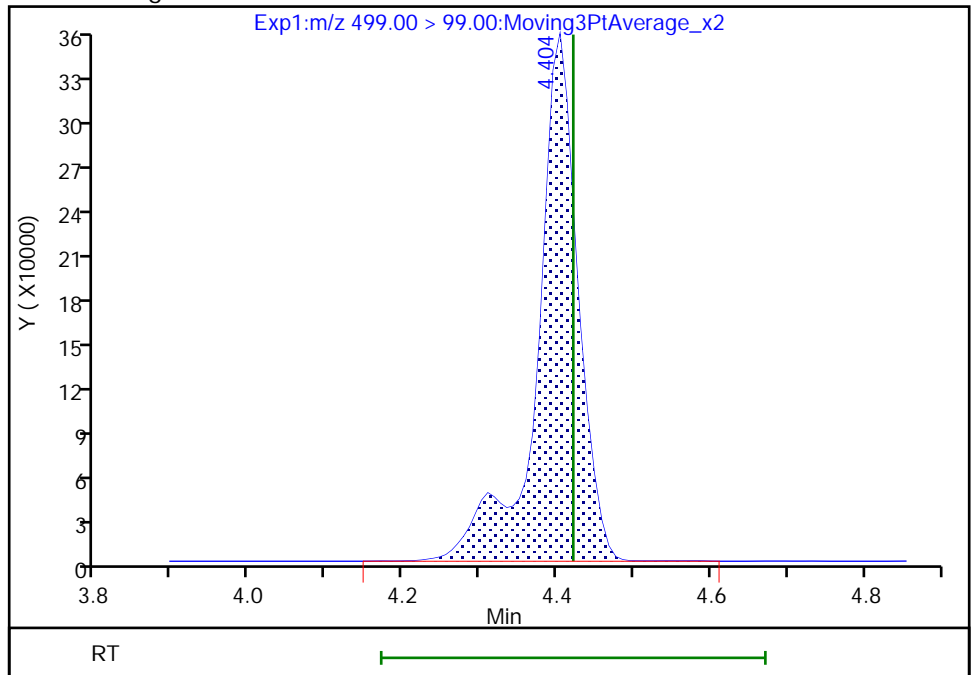
RT: 4.40  
Area: 1194137  
Amount: 1.699242  
Amount Units: ng/ml

Processing Integration Results



RT: 4.40  
Area: 1337349  
Amount: 2.213073  
Amount Units: ng/ml

Manual Integration Results



Reviewer: mcwhirterl, 21-Feb-2022 00:08:15  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

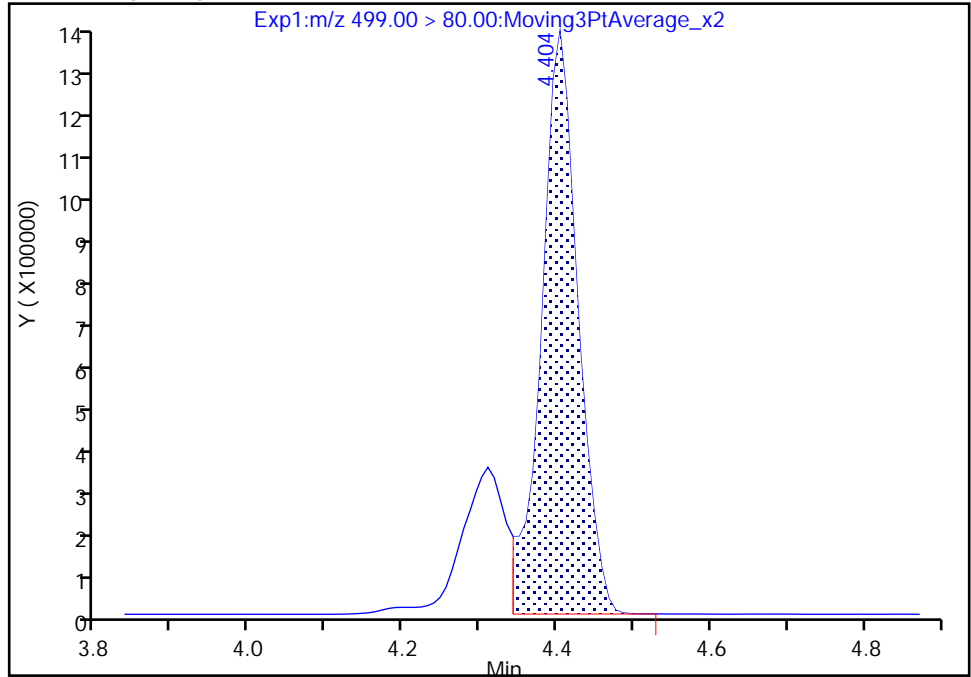
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Injection Date: 20-Feb-2022 15:43:18 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

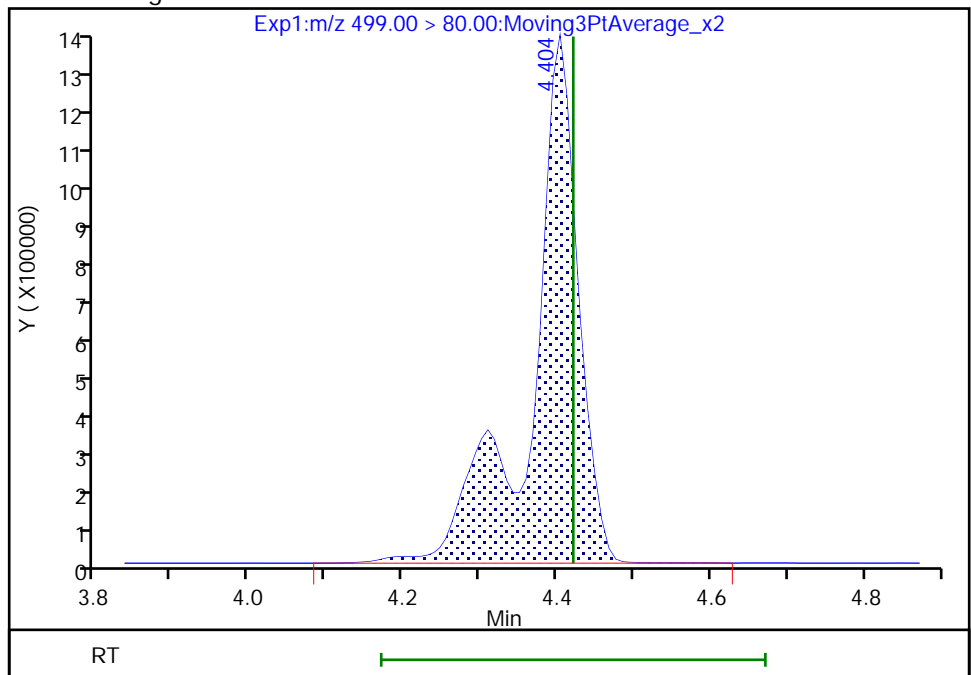
RT: 4.40  
Area: 4366486  
Amount: 1.699242  
Amount Units: ng/ml

Processing Integration Results



RT: 4.40  
Area: 5686860  
Amount: 2.213073  
Amount Units: ng/ml

Manual Integration Results



Reviewer: mcwhirterl, 21-Feb-2022 00:13:42

Audit Action: Manually Integrated



Eurofins Knoxville

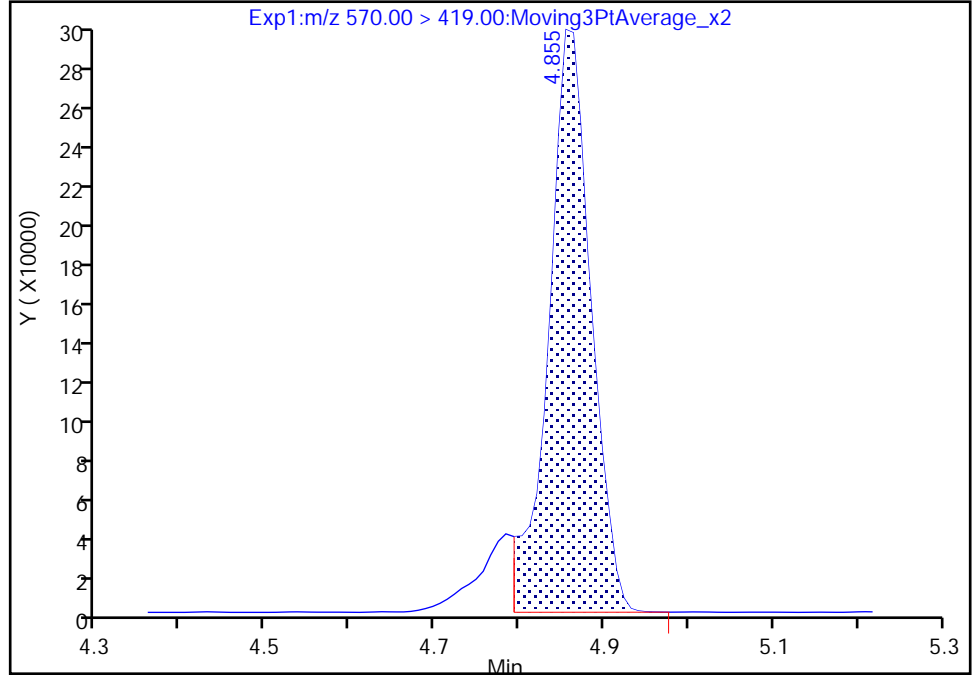
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Injection Date: 20-Feb-2022 15:43:18 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

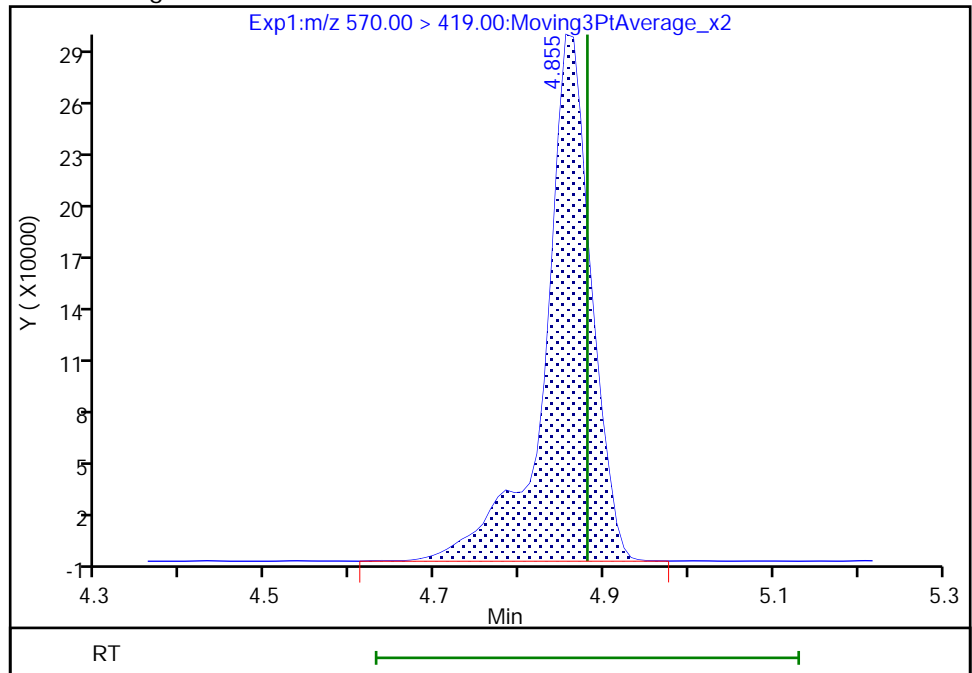
RT: 4.85  
Area: 1024984  
Amount: 2.288815  
Amount Units: ng/ml

Processing Integration Results



RT: 4.85  
Area: 1142058  
Amount: 2.541479  
Amount Units: ng/ml

Manual Integration Results



Reviewer: mcwhirterl, 21-Feb-2022 00:09:39  
Audit Action: Manually Integrated

Eurofins Knoxville

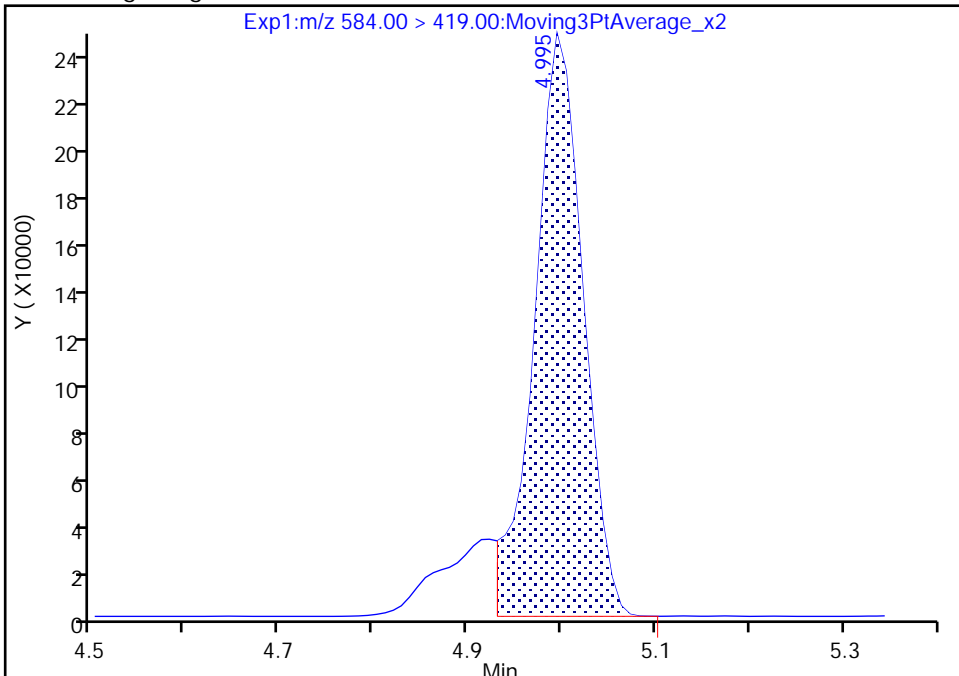
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Injection Date: 20-Feb-2022 15:43:18 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

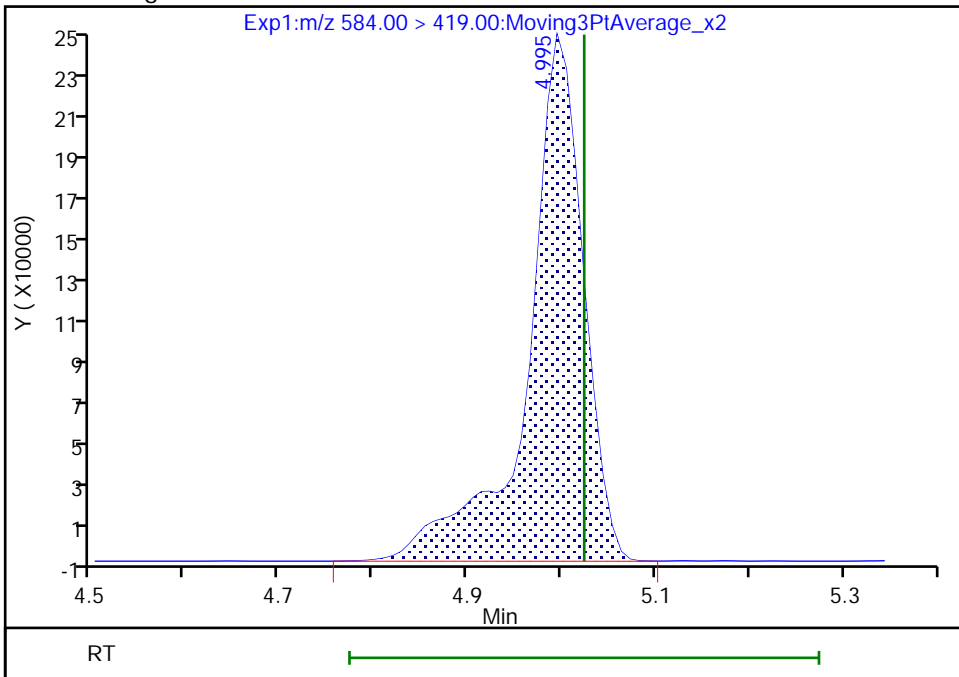
RT: 5.00  
Area: 860546  
Amount: 2.173253  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 993585  
Amount: 2.490692  
Amount Units: ng/ml

Manual Integration Results



Reviewer: mcwhirterl, 21-Feb-2022 00:09:57  
Audit Action: Manually Integrated

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59072/6 Calibration Date: 02/21/2022 09:53  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_006.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8435		0.0496	0.0500	-0.9	50.0
PFECA F	AveID	0.7535	0.8461		0.0561	0.0500	12.3	50.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.082		0.0522	0.0500	4.5	50.0
3:3 FTCA	QuaIF		0.0547		0.0501	0.0500	0.2	50.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.203		0.0457	0.0442	3.5	50.0
PFECA A	Q2ID		1.339		0.0527	0.0500	5.4	50.0
PES	Q2ID		2.429		0.0432	0.0445	-2.9	50.0
PFECA B	Q2ID		0.5008		0.0597	0.0500	19.4	50.0
4:2 FTS	L2ID		2.436		0.0477	0.0467	2.1	50.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.9833		0.0544	0.0500	8.9	50.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.238		0.0562	0.0469	19.9	50.0
HFPO-DA	L2ID		1.734		0.0640	0.0500	27.9	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.474		0.0484	0.0455	6.4	50.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.169		0.0527	0.0500	5.5	50.0
DONA	AveID	2.644	2.466		0.0439	0.0471	-6.7	50.0
5:3 FTCA	L2ID		4.133		0.0507	0.0500	1.4	50.0
6:2 FTUCA	AveID	1.046	1.196		0.0572	0.0500	14.3	50.0
6:2 FTCA	L1ID		1.173		0.0782	0.0500	56.4*	50.0
PFECHS	AveID	0.7426	0.7353		0.0457	0.0461	-1.0	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	1.022		0.0493	0.0476	3.5	50.0
6:2 FTS	L2ID		1.840		0.0443	0.0474	-6.6	50.0
Perfluorooctanoic acid (PFOA)	L1ID		1.260		0.0529	0.0500	5.7	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.233		0.0500	0.0464	7.7	50.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8510		0.0560	0.0500	11.9	50.0
7:3 FTCA	AveID	5.230	4.280		0.0409	0.0500	-18.2	50.0
8:2 FTUCA	AveID	0.9565	1.025		0.0536	0.0500	7.2	50.0
8:2 FTCA	AveID	1.811	2.726		0.0753	0.0500	50.5*	50.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.362		0.0490	0.0466	5.0	50.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9162		0.0435	0.0480	-9.4	50.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	1.101		0.0576	0.0500	15.2	50.0
Perfluorodecanoic acid (PFDA)	L2ID		1.063		0.0526	0.0500	5.2	50.0
8:2 FTS	L2ID		1.604		0.0440	0.0479	-8.1	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		1.211		0.0678	0.0500	35.6	50.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8900		0.0439	0.0482	-9.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59072/6 Calibration Date: 02/21/2022 09:53  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_006.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.060		0.0548	0.0500	9.6	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9766		0.0473	0.0500	-5.4	50.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.861		0.0465	0.0471	-1.4	50.0
10:2 FTUCA	AveID	1.208	1.317		0.0545	0.0500	9.0	50.0
10:2 FTCA	Q2ID		1.157		0.0564	0.0500	12.8	50.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.281		0.0620	0.0500	24.0	50.0
10:2 FTS	L2ID		2.495		0.0513	0.0482	6.5	50.0
NMeFOSA	L2ID		1.191		0.0497	0.0500	-0.7	50.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.262		0.0501	0.0500	0.2	50.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9613		0.0492	0.0484	1.7	50.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	1.002		0.0568	0.0500	13.5	50.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.362		0.0480	0.0500	-4.0	50.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.446		0.0530	0.0500	6.0	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1375		0.0484	0.0500	-3.2	50.0
Perfluorohexadecanoic acid	L1ID		1.477		0.0529	0.0500	5.9	50.0
Perfluorooctadecanoic acid	AveID	1.013	1.013		0.0500	0.0500	0.0	50.0
13C4 PFBA	Ave	1.172	1.071		1.14	1.25	-8.6	50.0
13C5 PFPeA	Ave	0.9197	0.7279		0.989	1.25	-20.9	50.0
13C3 PFBS	Ave	0.5817	0.4811		0.962	1.16	-17.3	50.0
M2-4:2 FTS	Ave	0.1821	0.1711		1.10	1.17	-6.0	50.0
13C2 PFHxA	Ave	1.015	0.8136		1.00	1.25	-19.8	50.0
13C3 HFPO-DA	Ave	0.4963	0.3933		0.991	1.25	-20.7	50.0
18O2 PFHxS	Ave	0.3776	0.3845		1.20	1.18	1.8	50.0
13C4 PFHpA	Ave	0.9046	0.7523		1.04	1.25	-16.8	50.0
13C-6:2 FTUCA	Ave	0.3374	0.2537		0.940	1.25	-24.8	50.0
13C-6:2 FTCA	Ave	0.0260	0.0211		1.01	1.25	-18.9	50.0
M2-6:2 FTS	Ave	0.1799	0.1821		1.20	1.19	1.2	50.0
13C4 PFOA	Ave	0.9356	0.9007		1.20	1.25	-3.7	50.0
13C4 PFOS	Ave	0.5610	0.5645		1.20	1.20	0.6	50.0
13C5 PFNA	Ave	1.268	1.176		1.16	1.25	-7.3	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4077		1.13	1.25	-9.8	50.0
13C-8:2 FTCA	Ave	0.0330	0.0325		1.23	1.25	-1.6	50.0
13C8 FOSA	Ave	0.8475	0.7514		1.11	1.25	-11.3	50.0
13C2 PFDA	Ave	1.210	1.170		1.21	1.25	-3.3	50.0
M2-8:2 FTS	Ave	0.1961	0.1757		1.07	1.20	-10.4	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59072/6 Calibration Date: 02/21/2022 09:53  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_006.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1049		1.16	1.25	-7.6	50.0
13C2 PFUnA	Ave	1.168	1.031		1.10	1.25	-11.8	50.0
d5-NEtFOSAA	Ave	0.1164	0.1055		1.13	1.25	-9.3	50.0
13C-10:2 FTUCA	Ave	0.5078	0.3604		0.887	1.25	-29.0	50.0
13C-10:2 FTCA	Ave	0.0309	0.0198		0.802	1.25	-35.9	50.0
13C2 PFDoA	Ave	1.152	0.9406		1.02	1.25	-18.4	50.0
13C2 10:2 FTS	Ave	0.1652	0.1417		1.02	1.18	-14.2	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1111		1.17	1.25	-6.3	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0970		1.20	1.25	-3.9	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1196		1.22	1.25	-2.8	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0730		1.13	1.25	-9.8	50.0
13C2 PFTeDA	Ave	0.9216	0.7023		0.953	1.25	-23.8	50.0
13C2 PFHxDA	Ave	0.5997	0.4307		0.898	1.25	-28.2	50.0
13C8 PFOA	AveID	0.9229	0.9863		1.34	1.25	6.9	50.0
13C8 PFOS	AveID	0.2212	0.2124		1.15	1.20	-4.0	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_006.d  
 Lims ID: CCVL  
 Client ID:  
 Sample Type: CCVL  
 Inject. Date: 21-Feb-2022 09:53:16 ALS Bottle#: 6 Worklist Smp#: 6  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022728-006 ccvl  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 14:32:43 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: cochranj Date: 21-Feb-2022 10:08:49

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										M
212.90 > 169.00	2.804	2.804	0.0	1.000	157942	0.0496		99.1	44.1	M
D 2 13C4 PFBA										
217.00 > 172.00	2.804	2.804	0.0	0.677	4680939	1.14		91.4	17663	
3 PFECA F										
229.00 > 85.00	2.911	2.911	0.0	0.935	107694	0.0561		112	793	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.753	3182233	0.9892		79.1	14983	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.115	0.0	1.000	137713	0.0522		104	68.3	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.756	1956210	0.9615		82.7	9376	
4 3:3 FTCA										
241.00 > 177.10	3.123	3.123	0.0	0.997	4600	0.0501	Target=1.13	100	68.1	
241.00 > 116.90	3.131	3.123	0.008	1.000	5001		0.92(0.56-1.69)		7.3	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.131	0.0	1.000	89447	0.0457	Target=2.61	103	366	
298.90 > 99.00	3.131	3.131	0.0	1.000	37021		2.42(1.31-3.92)		313	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	170383	0.0527		105	1467	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	181865	0.0432		97.1	1646	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.981	71256	0.0597		119	454	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.825	698510	1.10		94.0	1613	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.427	3.427	0.0	1.003	68049	0.0477		102	672	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.833	3556853	1.00		80.2	11990	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	97686	0.0562	Target=3.55	120	272	
349.00 > 99.00	3.448	3.448	0.0	1.101	25093		3.89(1.78-5.33)		201	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	139897	0.0544	Target=11.60	109	80.4	
313.00 > 119.00	3.448	3.448	0.0	1.000	10763		13.00(5.80-17.40)		10.2	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.553	3.553	0.0	0.858	1719501	0.99		79.3	7052	
17 HFPO-DA										
285.00 > 169.00	3.553	3.553	0.0	1.000	119253	0.0640	Target=2.45	128	49.3	
329.00 > 169.00	3.553	3.553	0.0	1.000	38001		3.14(1.23-3.68)		40.6	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.782	3.782	0.0	1.000	90207	0.0484	Target=3.44	106	299	M
399.00 > 99.00	3.782	3.782	0.0	1.000	23785		3.79(1.72-5.17)		118	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.782	0.0	0.914	1590061	1.20		102	5801	
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.792	0.0	0.916	3288854	1.04		83.2	6256	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.803	3.803	0.0	1.003	153764	0.0527	Target=3.25	105	140	
363.00 > 169.00	3.803	3.803	0.0	1.003	46408		3.31(1.62-4.87)		167	
25 DONA										
377.00 > 251.00	3.829	3.829	0.0	0.864	229305	0.0439	Target=1.74	93.3	906	
377.00 > 85.00	3.837	3.829	0.008	0.866	125610		1.83(0.87-2.61)		61.6	
26 5:3 FTCA										
340.88 > 236.90	3.861	3.861	0.0	0.987	15254	0.0507	Target=1.11	101	70.2	
340.88 > 216.90	3.861	3.861	0.0	0.987	12613		1.21(0.56-1.67)		39.9	
27 6:2 FTUCA										
356.86 > 292.90	3.895	3.895	0.0	1.000	53066	0.0572	Target=13.05	114	238	M
356.86 > 243.00	3.904	3.895	0.009	1.002	4983		10.65(6.52-19.57)		16.4	M
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.895	3.895	0.0	0.941	1109072	0.9399		75.2	3368	
29 6:2 FTCA										
377.10 > 63.00	3.904	3.904	0.0	0.998	4331	0.0782	Target=1.29	156	19.0	RM
377.10 > 313.10	3.895	3.904	-0.009	0.996	1997		2.17(0.65-1.94)		5.0	RM
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.913	3.913	0.0	0.945	92273	1.01		81.1	608	
32 PFECHS										
460.80 > 380.90	4.074	4.074	0.0	0.984	106779	0.0456	Target=1.75	99.0	365	
460.80 > 98.90	4.064	4.074	-0.010	0.982	67807		1.57(0.87-2.62)		295	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.121	4.121	0.0	0.930	96067	0.0493	Target=3.72	104	454	
449.00 > 99.00	4.121	4.121	0.0	0.930	24348		3.95(1.86-5.57)		125	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.131	4.131	0.0	0.998	756241	1.20		101	1959	
D 31 13C4 PFOA										
417.00 > 372.00	4.139	4.139	0.0	1.000	3937624	1.20		96.3	6760	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.131	4.131	0.0	0.998	3883851	1.34		107	6887	
35 6:2 FTS										
427.00 > 407.00	4.131	4.131	0.0	1.000	55550	0.0443		93.4	298	
* 30 13C2 PFOA										
415.00 > 370.00	4.139	4.139	0.0		4371911	1.25			9139	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.139	4.139	0.0	1.000	198444	0.0529	Target=2.51	106	172	
413.00 > 169.00	4.139	4.139	0.0	1.000	78066		2.54(1.26-3.77)		89.5	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.430	4.430	0.0	1.000	112958	0.0500	Target=4.30	108	223	M
499.00 > 99.00	4.430	4.430	0.0	1.000	24420		4.63(2.15-6.45)		74.5	M
D 39 13C4 PFOS										
503.00 > 80.00	4.430	4.430	0.0	1.070	2359164	1.20		101	3389	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.421	4.421	0.0	0.998	501037	1.15		96.0	1951	
D 41 13C5 PFNA										
468.00 > 423.00	4.448	4.448	0.0	1.075	5142430	1.16		92.7	11294	
42 Perfluorononanoic acid										
463.00 > 419.00	4.448	4.448	0.0	1.000	175056	0.0559	Target=3.60	112	282	
463.00 > 169.00	4.448	4.448	0.0	1.000	38705		4.52(1.80-5.40)		93.8	
43 7:3 FTCA										
441.00 > 337.00	4.537	4.537	0.0	0.993	24345	0.0409	Target=1.42	81.8	80.0	
441.00 > 317.00	4.529	4.537	-0.008	0.991	19320		1.26(0.71-2.13)		91.9	
44 8:2 FTUCA										M
456.86 > 392.90	4.553	4.553	0.0	1.000	73087	0.0536	Target=35.37	107	352	
456.86 > 343.00	4.562	4.553	0.009	1.002	1867		39.15(17.68-53.05)		7.1	M
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.553	4.553	0.0	1.000	1782402	1.13		90.2	5471	
46 8:2 FTCA										R
477.00 > 393.10	4.562	4.562	0.0	0.998	15506	0.0753	Target=3.35	151	36.5	R
477.00 > 63.20	4.570	4.562	0.008	1.000	2257		6.87(1.68-5.03)		9.7	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.570	4.570	0.0	1.104	142204	1.23		98.4	430	
49 9CIFOS										
531.00 > 351.00	4.586	4.586	0.0	1.108	217264	0.0489		105	582	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.706	0.0	1.137	3285126	1.11		88.7	4999	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.706	4.706	0.0	1.062	86825	0.0435	Target=3.99	90.6	252	
549.00 > 99.00	4.706	4.706	0.0	1.062	30080		2.89(2.00-5.99)		133	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.706	0.0	1.000	144613	0.0576		115	493	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 52 13C2 PFDA										
515.00 > 470.00	4.731	4.731	0.0	1.143	5114873	1.21		96.7	9443	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.731	4.731	0.0	1.000	217460	0.0526	Target=10.58	105	214	
513.00 > 169.00	4.740	4.731	0.009	1.002	17314		12.56(5.29-15.88)		24.4	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.748	4.748	0.0	1.147	735713	1.07		89.6	2777	
53 8:2 FTS										
527.00 > 507.00	4.748	4.748	0.0	1.000	47191	0.0440		91.9	230	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.880	4.880	0.0	1.179	458473	1.16		92.4	1269	
57 NMeFOSAA										
570.00 > 419.00	4.880	4.880	0.0	1.000	22215	0.0678		136	35.6	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.967	4.967	0.0	1.121	84685	0.0439	Target=3.55	91.0	319	
599.00 > 99.00	4.967	4.967	0.0	1.121	20351		4.16(1.78-5.33)		114	
D 59 13C2 PFUnA										
565.00 > 520.00	4.995	4.995	0.0	1.207	4505640	1.10		88.2	10103	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.995	4.995	0.0	1.000	191039	0.0548	Target=8.26	110	429	
563.00 > 169.00	4.995	4.995	0.0	1.000	27094		7.05(4.13-12.39)		177	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.015	5.015	0.0	1.212	461455	1.13		90.7	1785	
62 NEtFOSAA										
584.00 > 419.00	5.015	5.015	0.0	1.000	18026	0.0473		94.6	57.9	M
63 11CIFOS										
631.00 > 451.00	5.092	5.092	0.0	1.149	173055	0.0465		98.6	752	
65 10:2 FTUCA										
556.86 > 492.90	5.102	5.102	0.0	1.000	82968	0.0545		109	355	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.102	5.102	0.0	1.233	1575436	0.8870		71.0	4363	
66 10:2 FTCA										
576.80 > 493.00	5.112	5.112	0.0	0.998	4012	0.0564	Target=2.53	113	25.3	M
576.80 > 63.10	5.102	5.112	-0.010	0.996	2826		1.42(1.26-3.79)		12.6	M
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.121	5.121	0.0	1.237	86698	0.8016		64.1	424	
D 69 13C2 PFDaA										
615.00 > 570.00	5.235	5.235	0.0	1.265	4112355	1.02		81.6	10955	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.235	5.235	0.0	1.000	210752	0.0620	Target=6.85	124	232	
613.00 > 169.00	5.235	5.235	0.0	1.000	24231		8.70(3.43-10.28)		77.9	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.251	5.251	0.0	1.269	586584	1.02		85.8	2700	
71 10:2 FTS										
627.00 > 607.00	5.251	5.251	0.0	1.000	59578	0.0513		106	292	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.266	5.266	0.0	1.272	485836	1.17		93.7	475	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.266	5.266	0.0	1.272	424166	1.20		96.1	42.3	
74 NMeFOSA										
512.00 > 169.00	5.266	5.266	0.0	1.000	20199	0.0497		99.3	90.2	M
75 N-MeFOSE-M										
616.00 > 59.00	5.275	5.275	0.0	1.002	24522	0.0501		100	41.6	
76 PFDoS										
699.00 > 80.00	5.408	5.408	0.0	1.221	91851	0.0492	Target=4.22	102	303	
699.00 > 99.00	5.408	5.408	0.0	1.221	21672		4.24(2.11-6.34)		137	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.426	5.426	0.0	1.311	522730	1.21		97.2	309	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.435	5.435	0.0	1.038	164862	0.0567	Target=6.32	113	256	
663.00 > 169.00	5.435	5.435	0.0	1.038	25559		6.45(3.16-9.48)		113	
81 N-EtFOSA-M										
526.00 > 169.00	5.444	5.444	0.0	1.000	18472	0.0530		106	60.5	M
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.444	5.444	0.0	1.315	319257	1.13		90.2	666	
79 N-EtFOSE-M										
630.00 > 59.00	5.444	5.444	0.0	1.003	28480	0.0480		96.0	31.6	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.357	3070552	0.9526		76.2	8457	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	16884	0.0484	Target=1.01	96.8	60.2	
713.00 > 219.00	5.617	5.617	0.0	1.000	15815		1.07(0.51-1.52)		70.4	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.932	5.932	0.0	1.001	111247	0.0529	Target=8.64	106	218	
813.00 > 169.00	5.932	5.932	0.0	1.001	13409		8.30(4.32-12.97)		28.1	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.431	1883034	0.8978		71.8	3874	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.190	6.190	0.0	1.045	76328	0.0500	Target=11.77	100	151	
913.00 > 169.00	6.190	6.190	0.0	1.045	5652		13.50(5.88-17.65)		15.5	

**QC Flag Legend**

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

**Reagents:**

63L2PFC2T3\_00002

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220221-22728.b\\_006.d

Injection Date: 21-Feb-2022 09:53:16

Instrument ID: LCA

Lims ID: CCVL

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 6

Worklist Smp#: 6

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

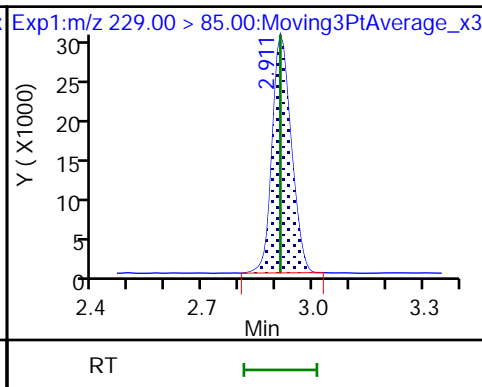
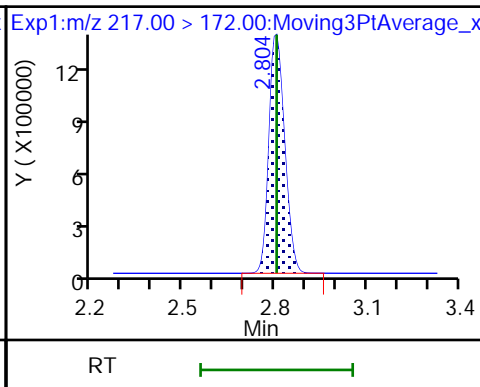
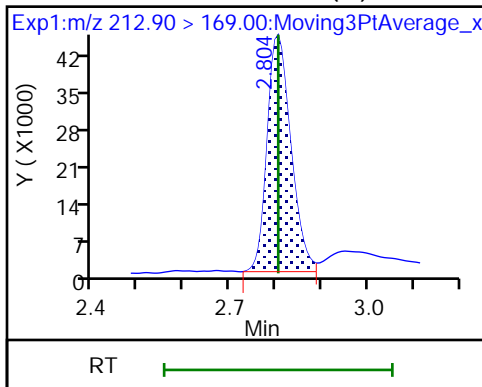
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid (M)

D 2 13C4 PFBA

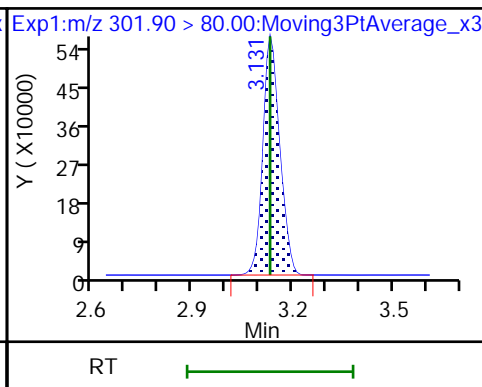
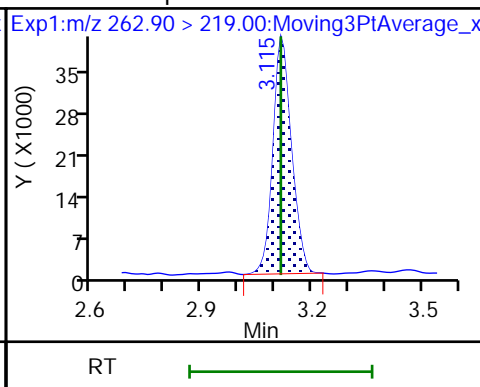
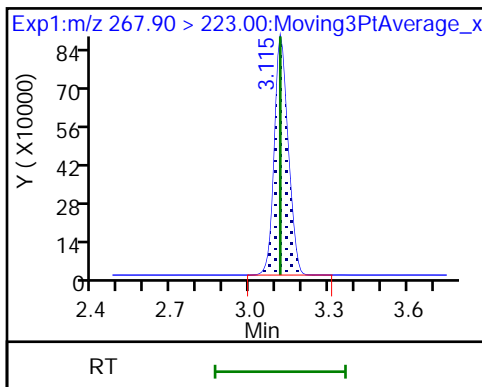
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

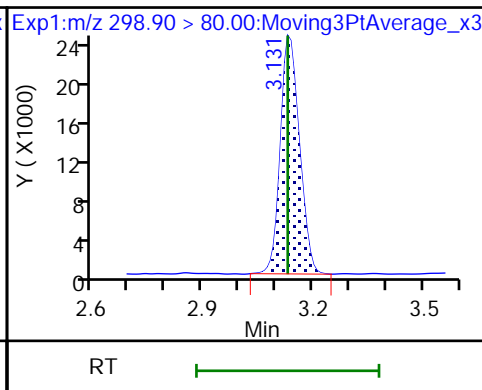
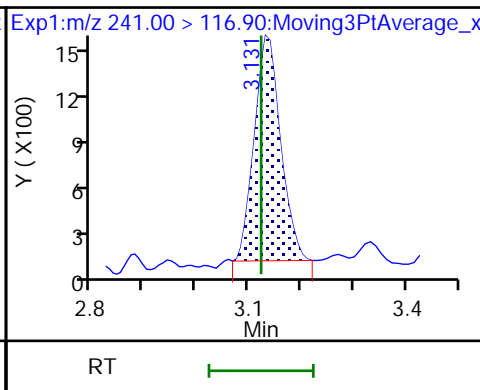
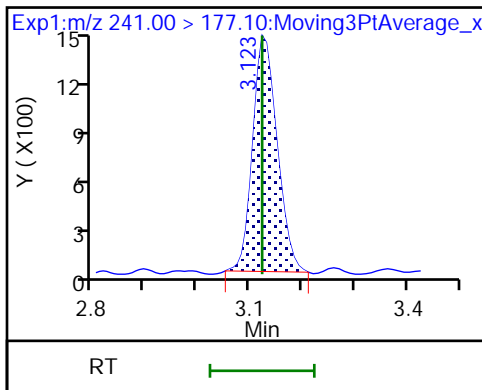
D 7 13C3 PFBS



4 3:3 FTCA

4 3:3 FTCA

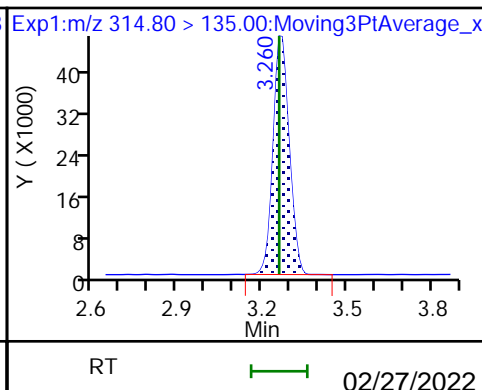
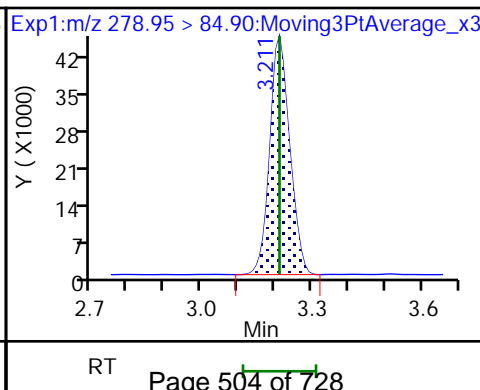
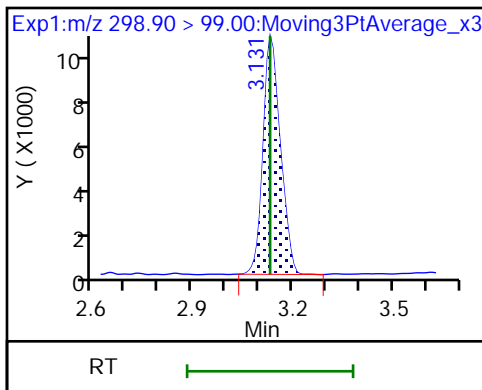
8 Perfluorobutanesulfonic acid

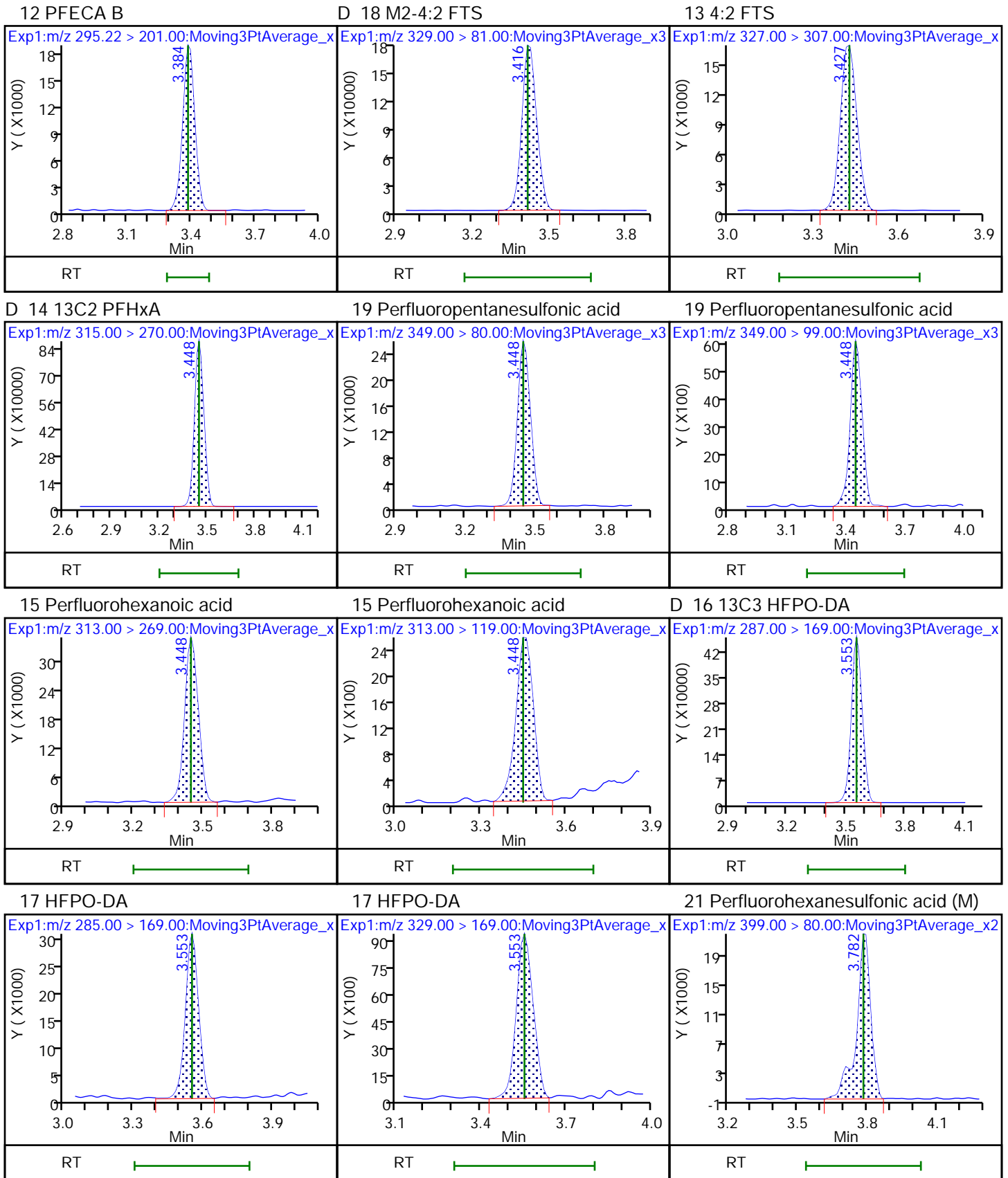


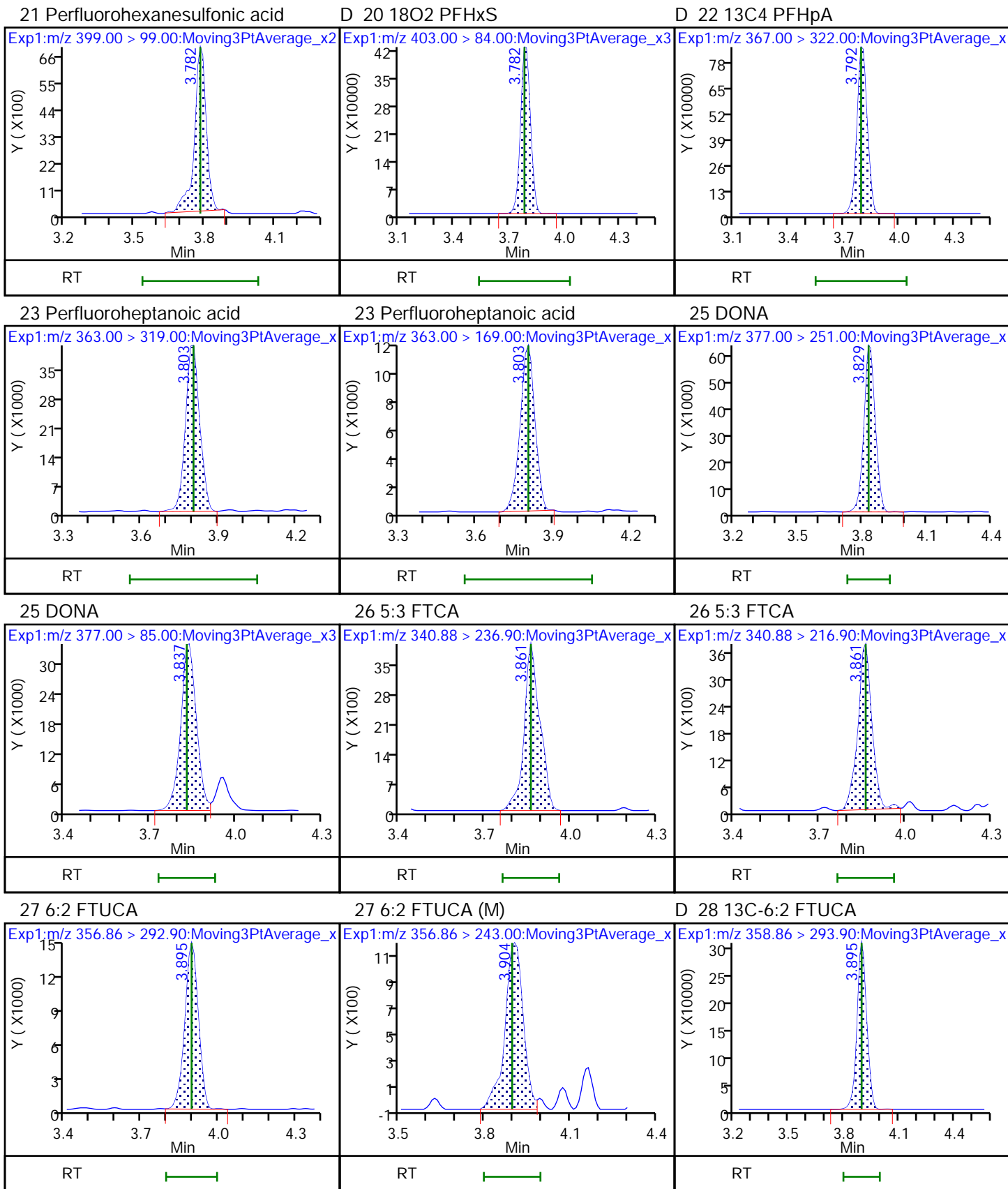
8 Perfluorobutanesulfonic acid

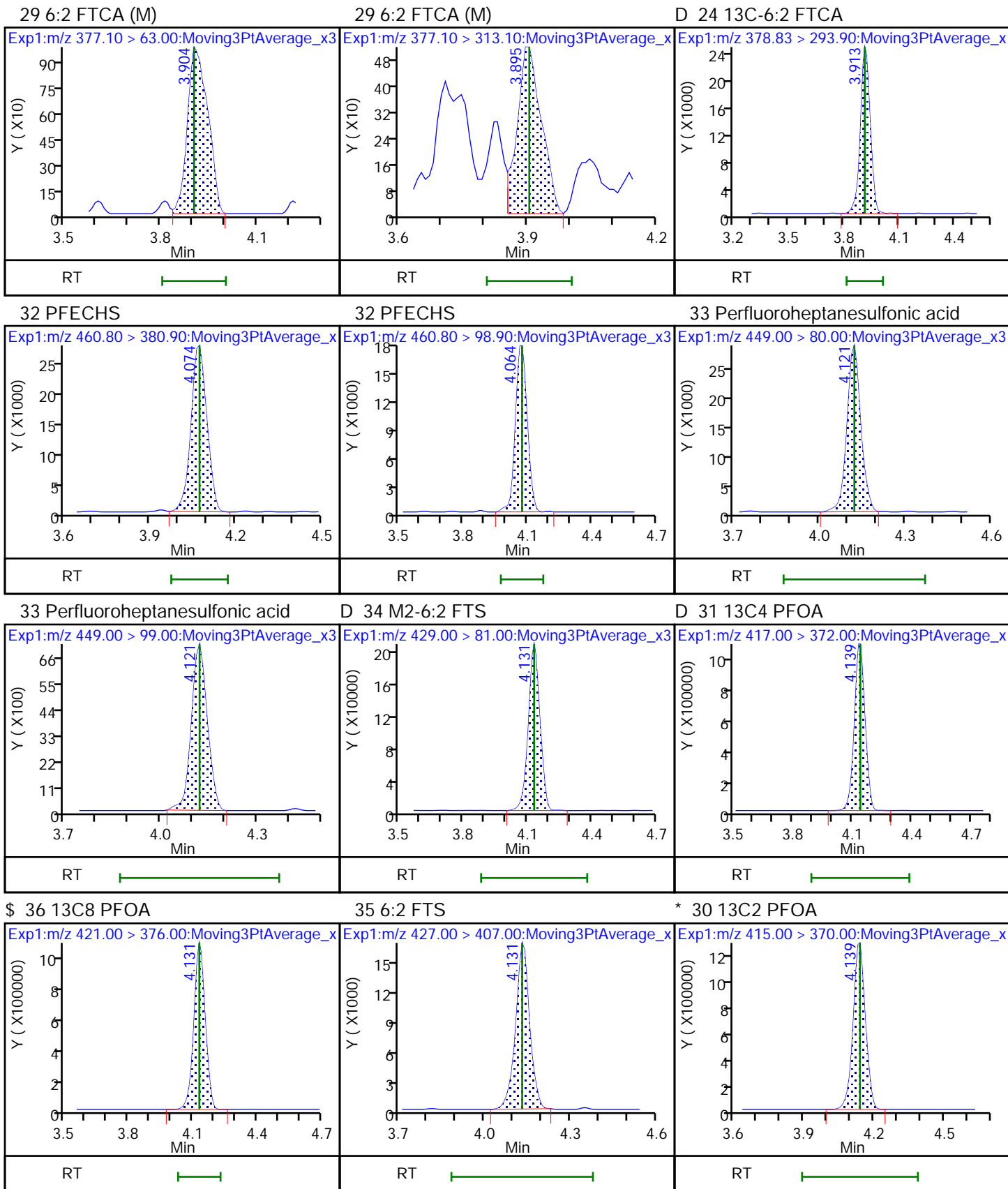
9 PFECA A

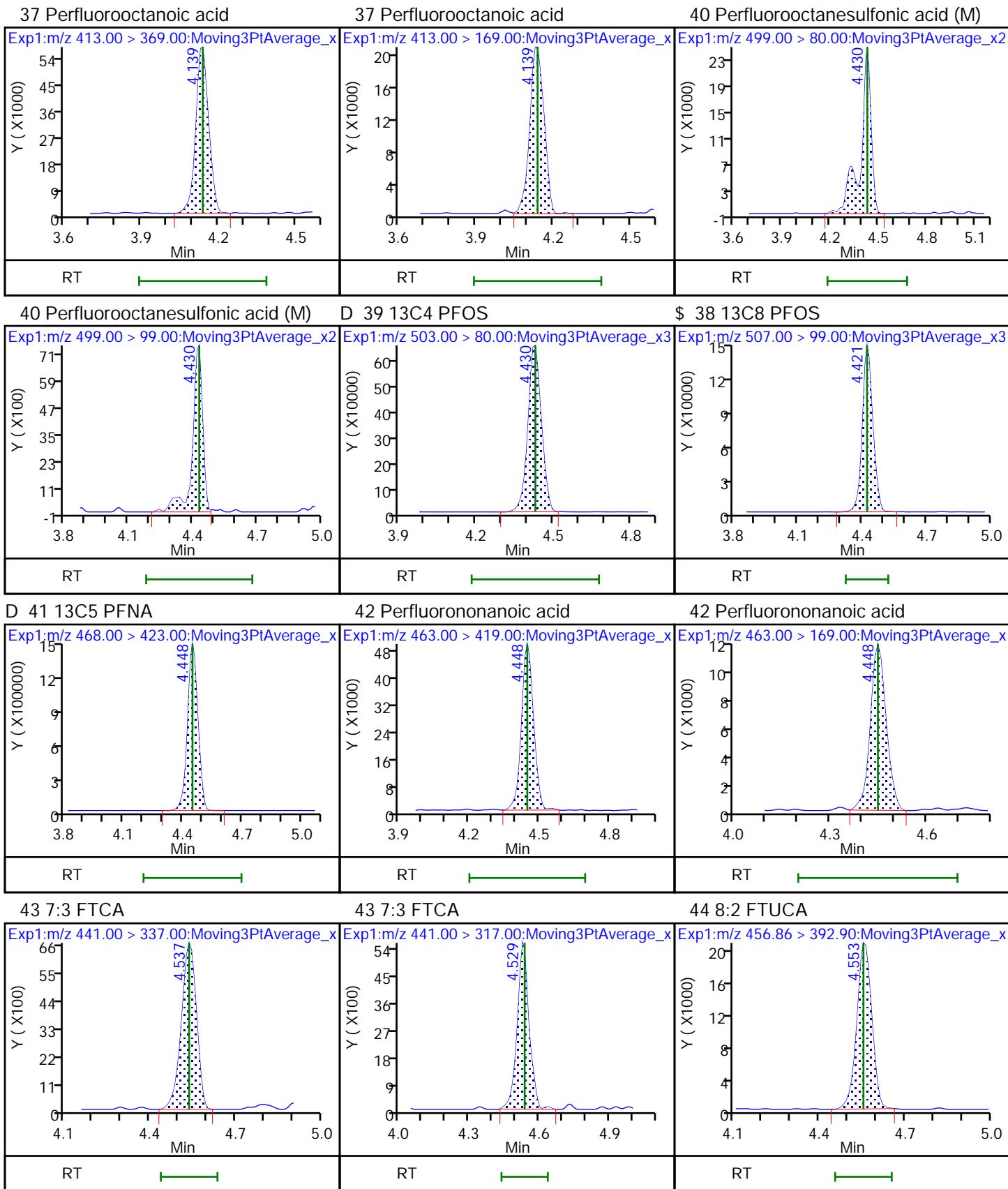
11 PES

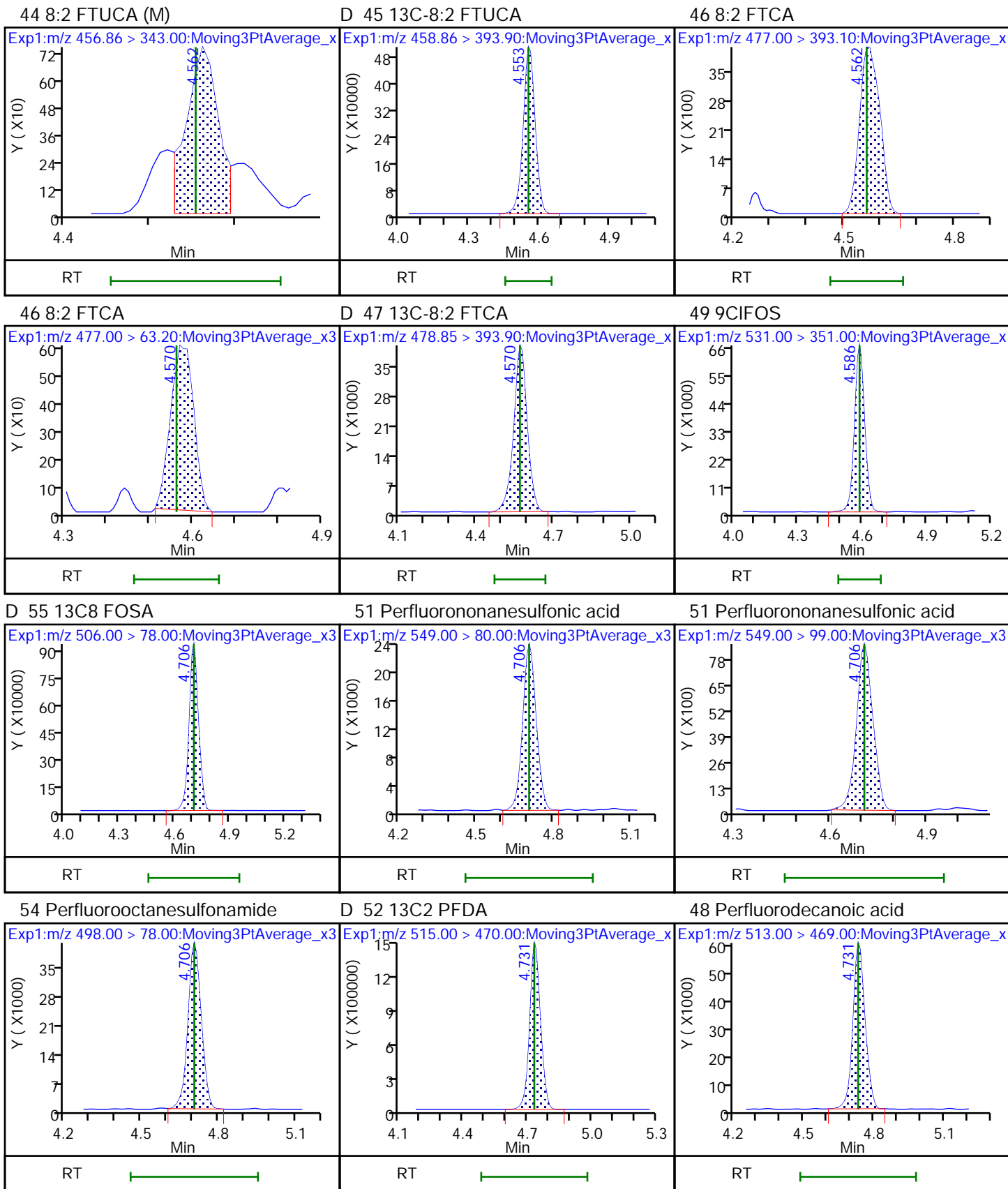




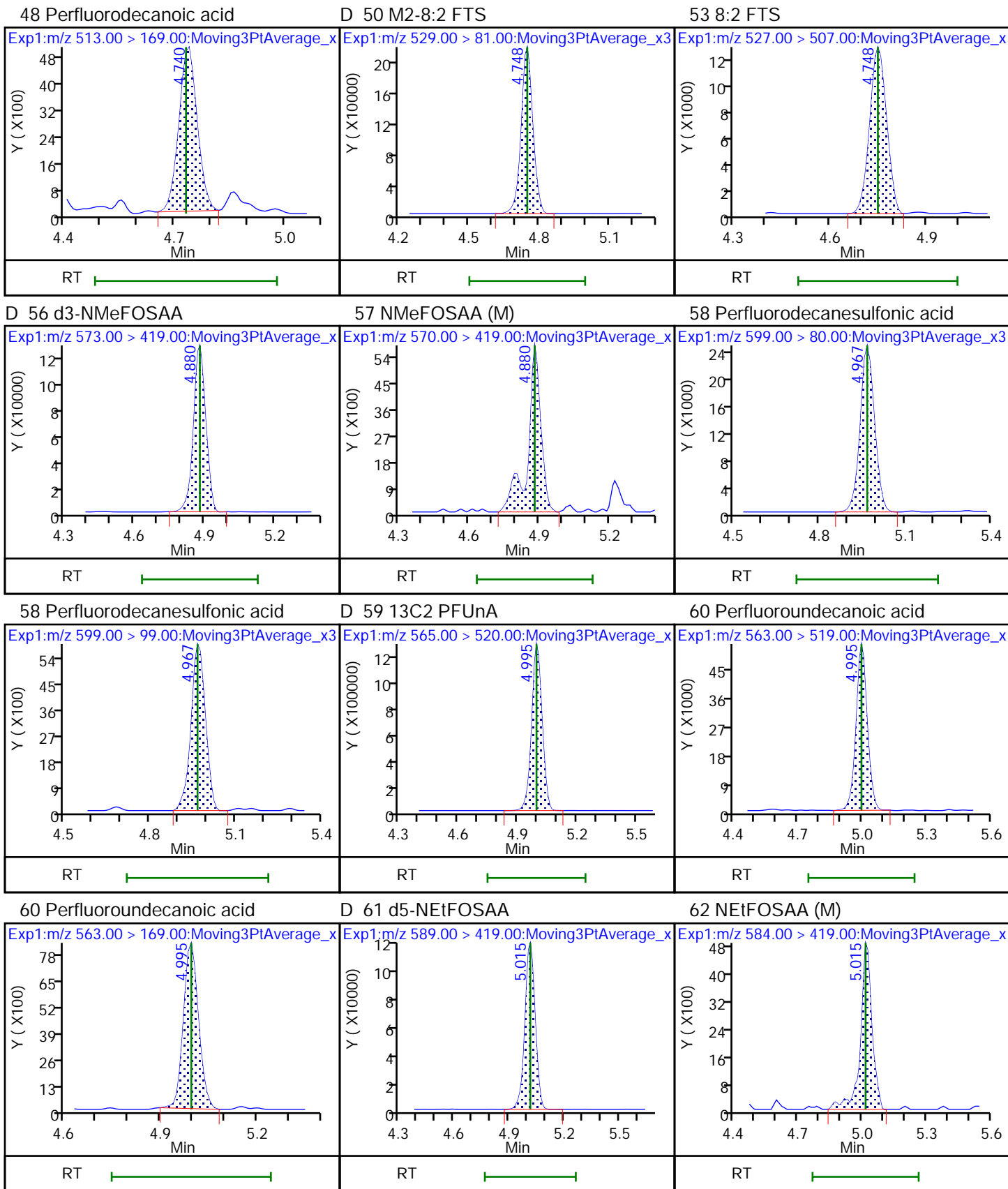


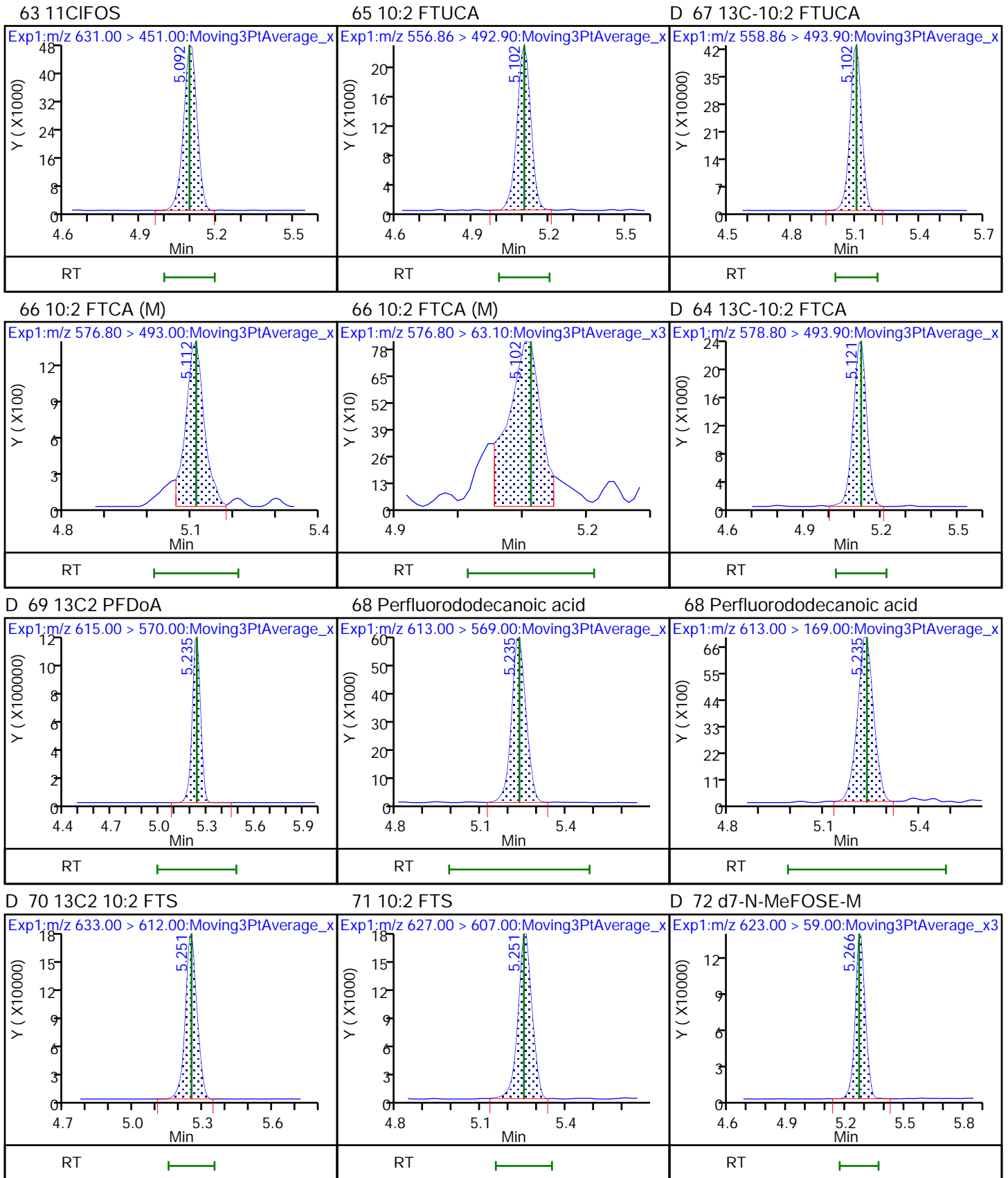








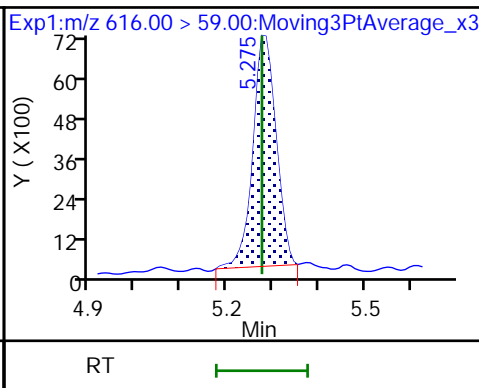
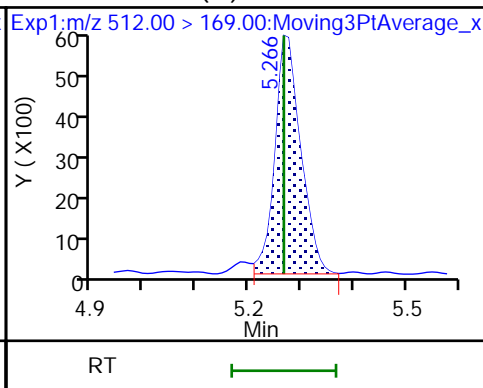
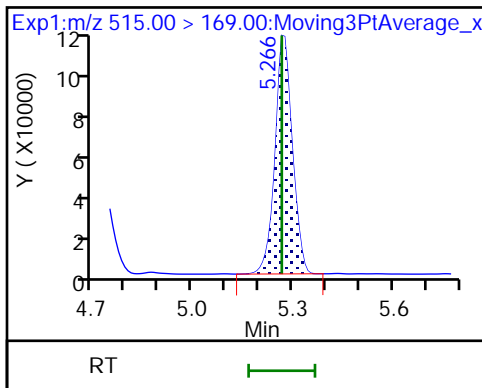




D 73 d-N-MeFOSA-M

74 NMeFOSA (M)

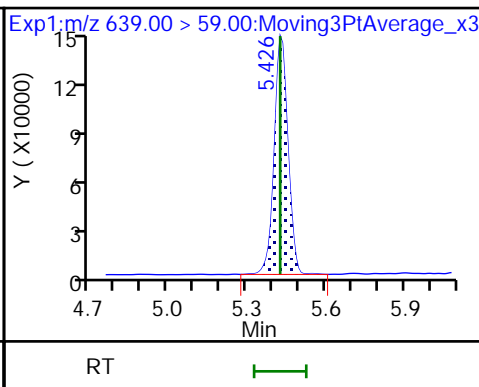
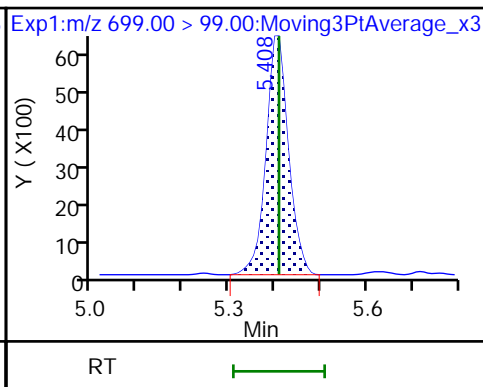
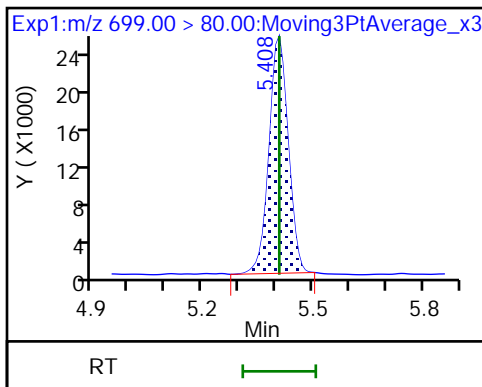
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

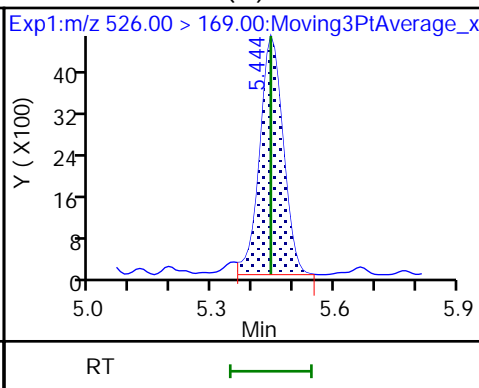
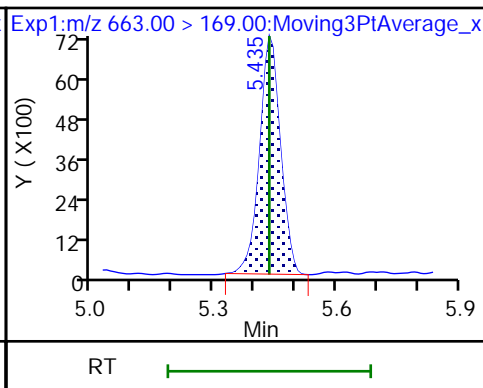
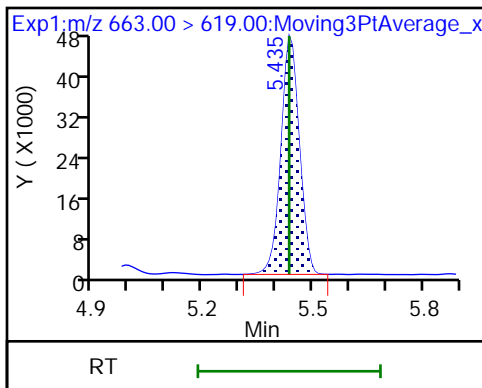
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

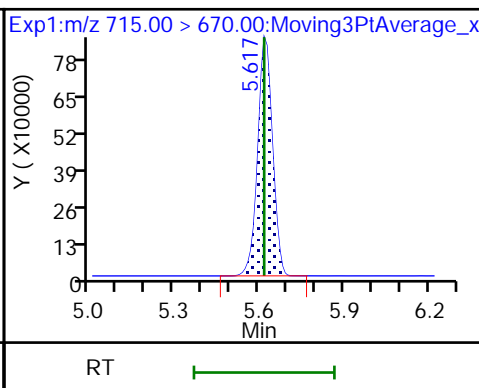
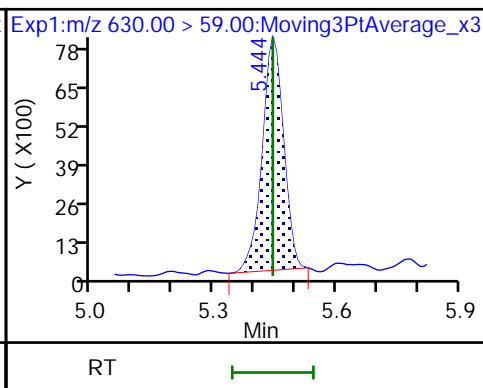
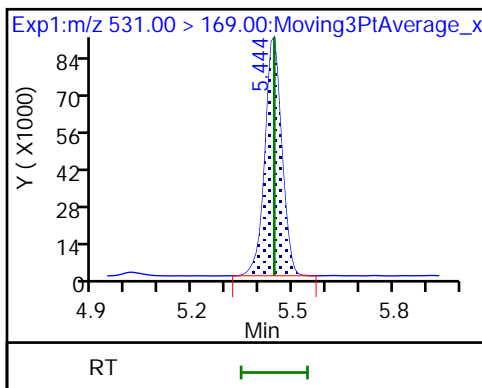
81 N-EtFOSA-M (M)

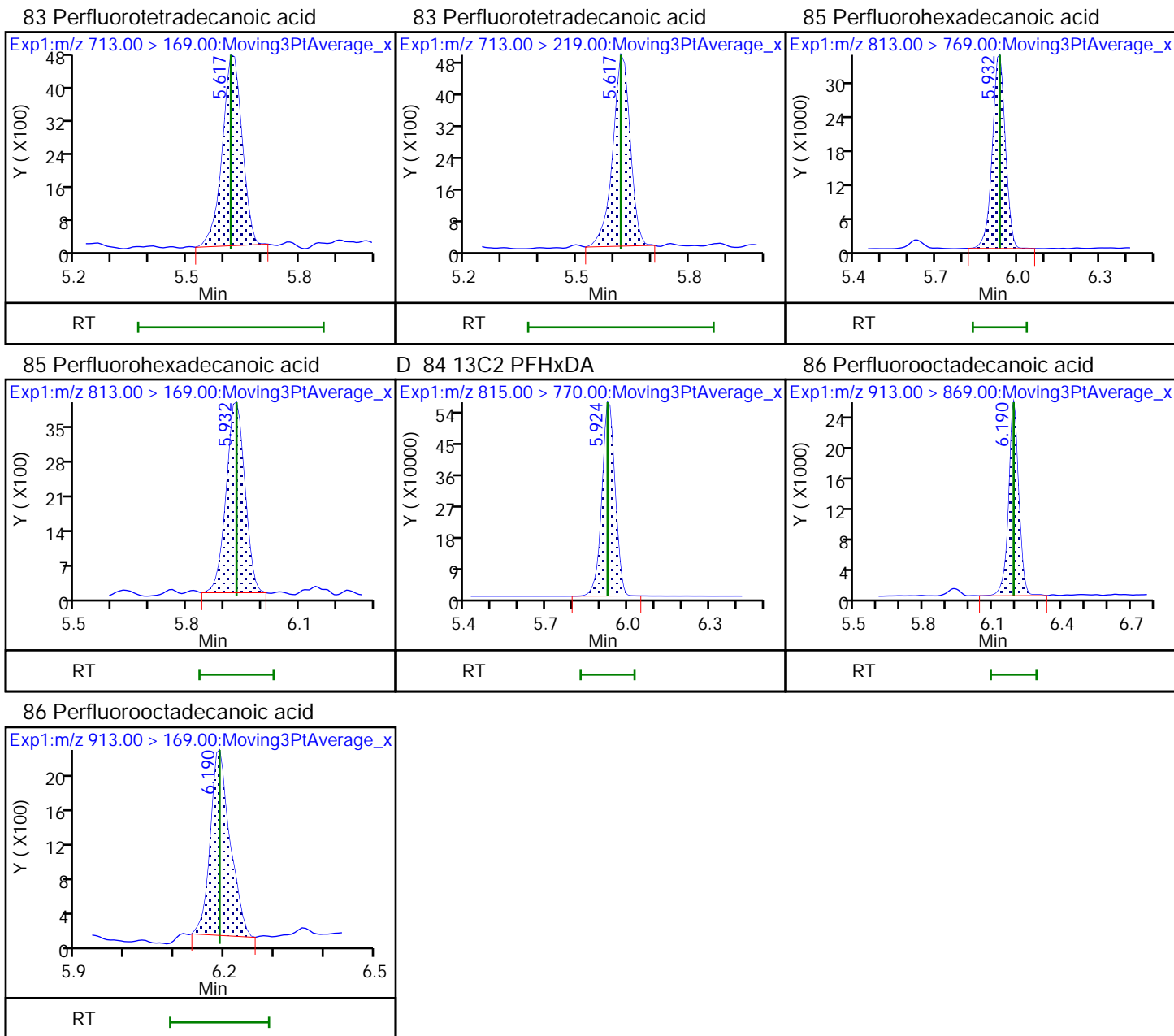


D 80 d-N-EtFOSA-M

79 N-EtFOSE-M

D 82 13C2 PFTeDA





Eurofins Knoxville

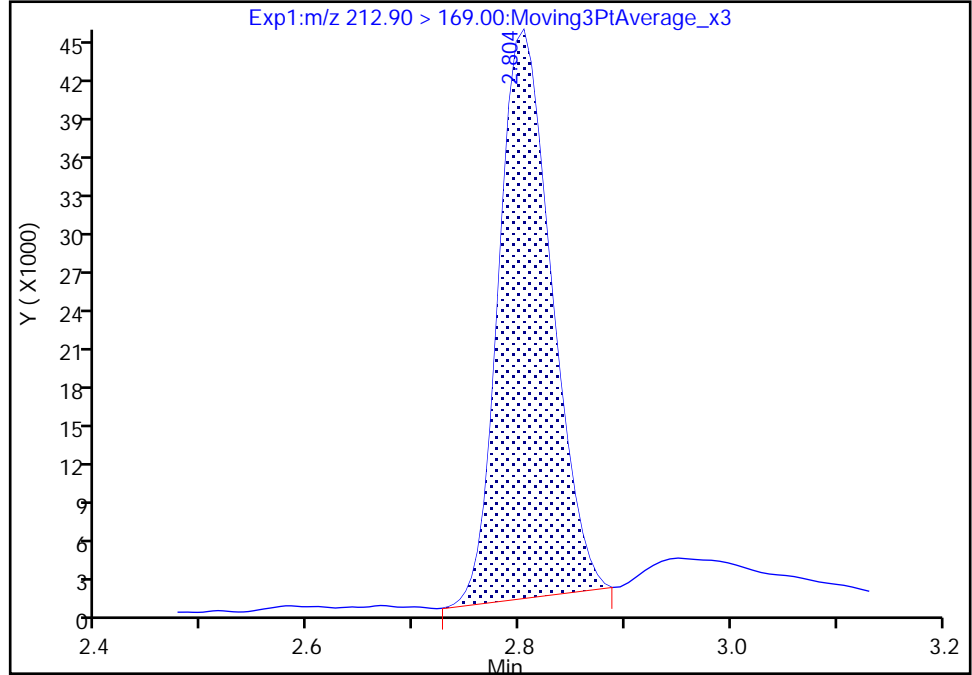
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

1 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

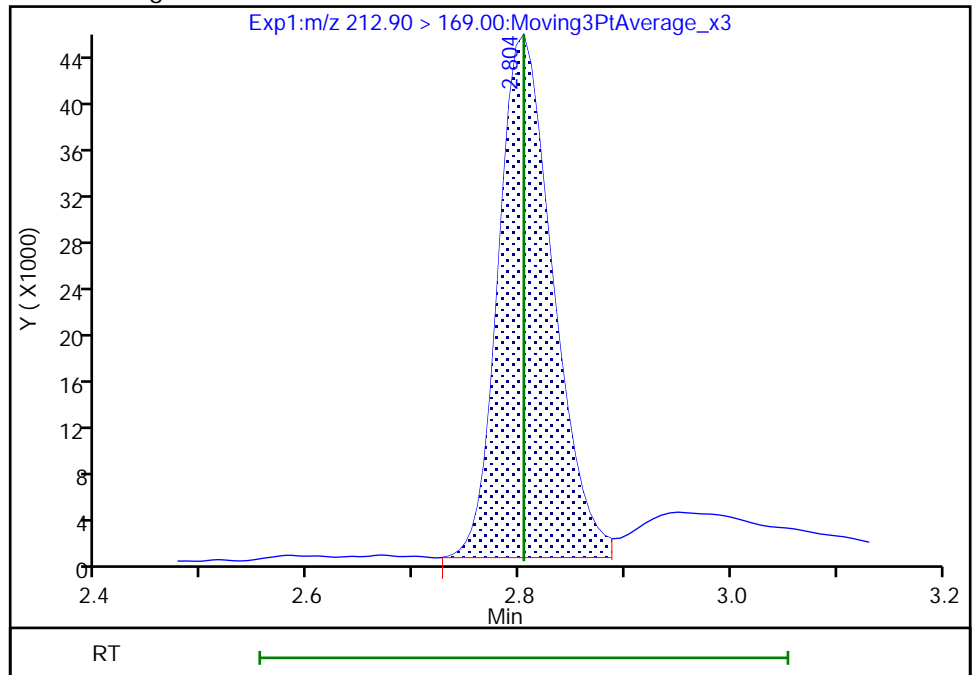
RT: 2.80  
Area: 150402  
Amount: 0.047017  
Amount Units: ng/ml

Processing Integration Results



RT: 2.80  
Area: 157942  
Amount: 0.049565  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:25:48  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

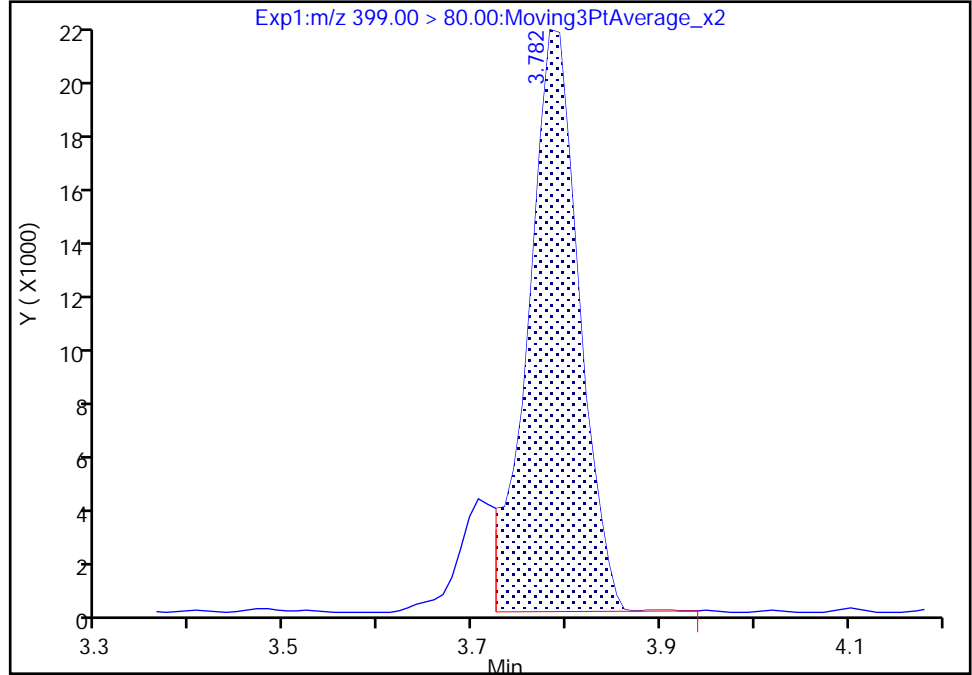
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

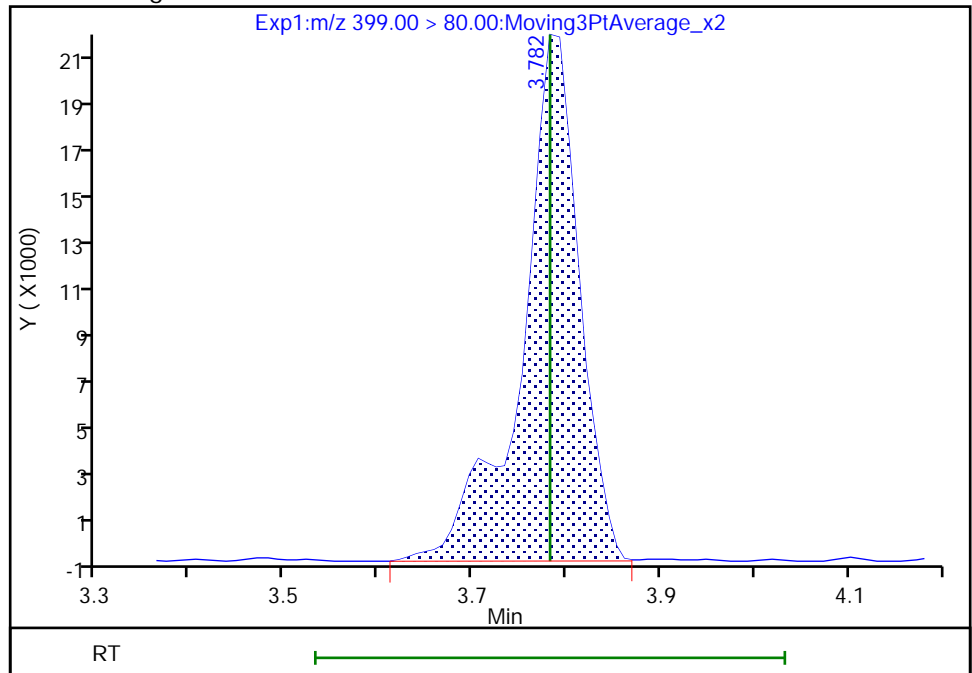
RT: 3.78  
Area: 79338  
Amount: 0.042598  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 90207  
Amount: 0.048433  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:26:07  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

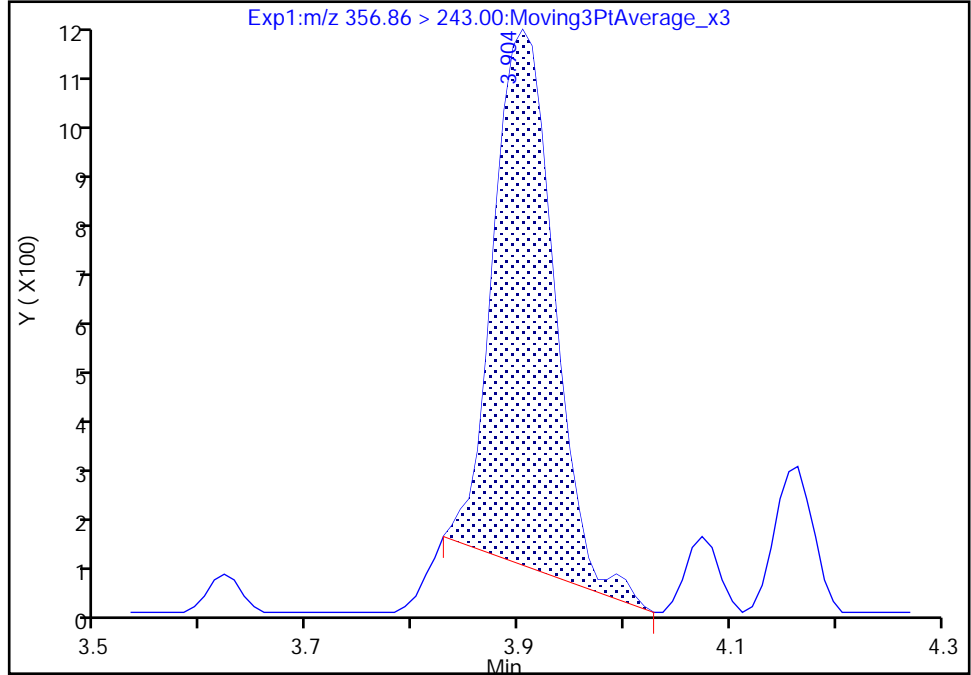
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

27 6:2 FTUCA, CAS: 70887-88-6

Signal: 2

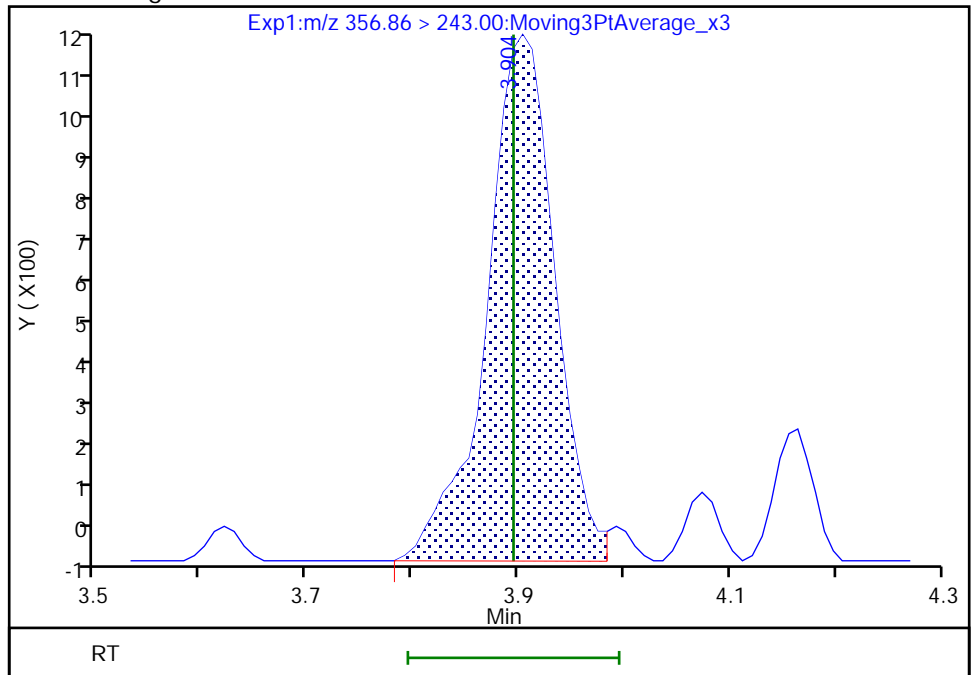
RT: 3.90  
Area: 4070  
Amount: 0.057157  
Amount Units: ng/ml

Processing Integration Results



RT: 3.90  
Area: 4983  
Amount: 0.057157  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:26:19  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

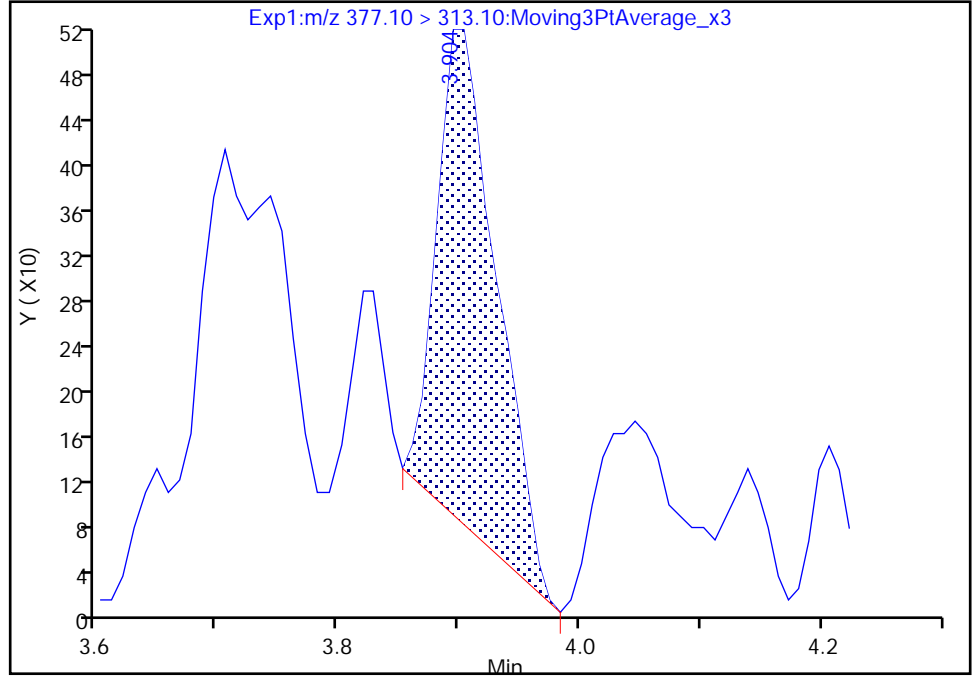
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

29 6:2 FTCA, CAS: 53826-12-3

Signal: 2

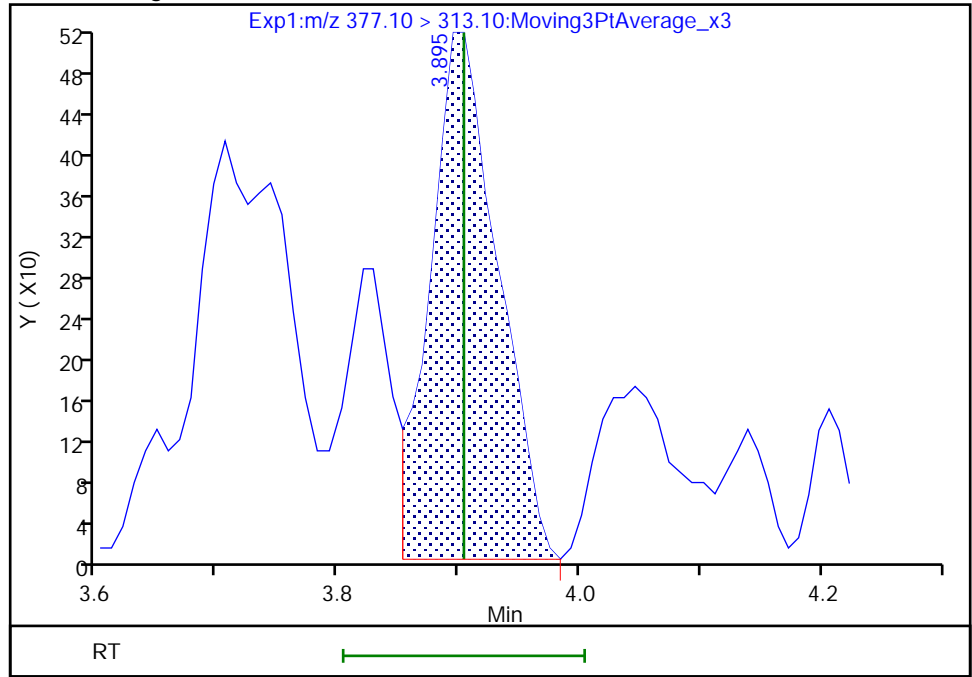
RT: 3.90  
Area: 1500  
Amount: 0.076057  
Amount Units: ng/ml

Processing Integration Results



RT: 3.90  
Area: 1997  
Amount: 0.078199  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 10:08:28  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

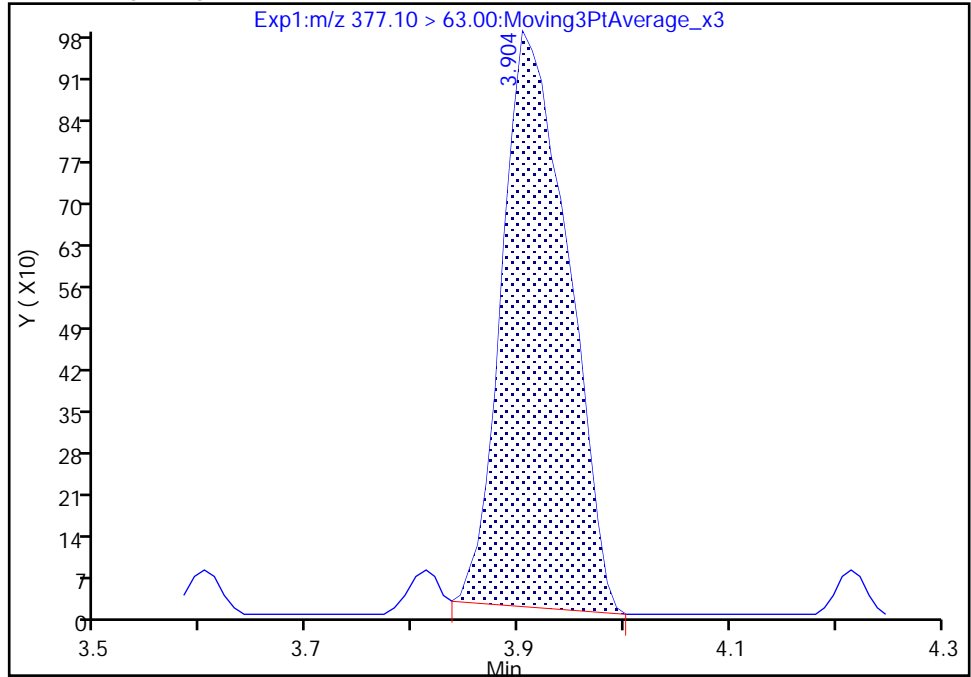
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

29 6:2 FTCA, CAS: 53826-12-3

Signal: 1

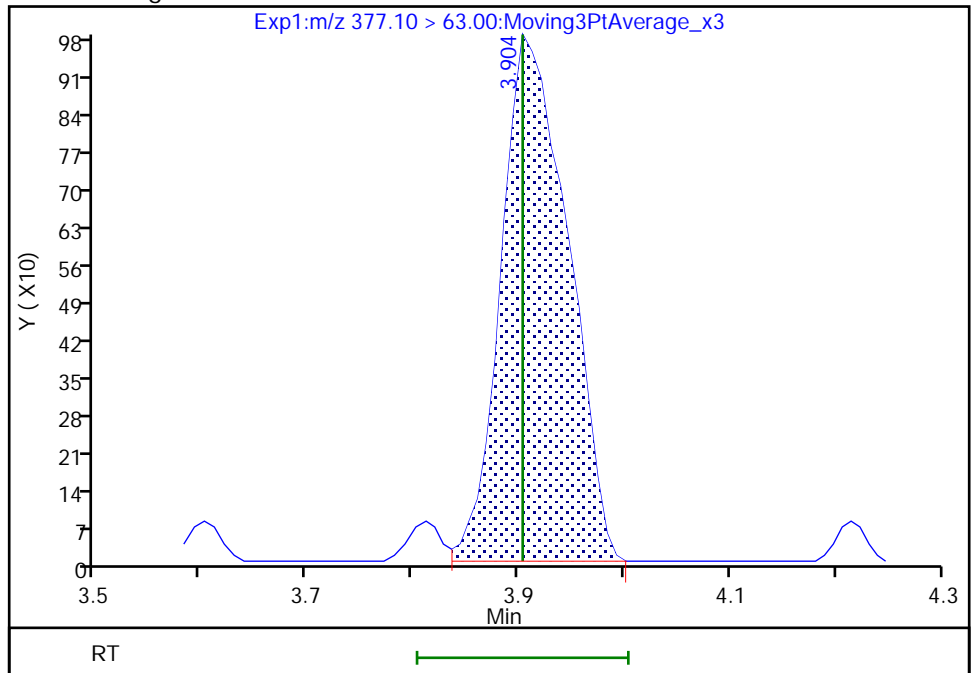
RT: 3.90  
Area: 4222  
Amount: 0.076057  
Amount Units: ng/ml

Processing Integration Results



RT: 3.90  
Area: 4331  
Amount: 0.078199  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:26:30

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

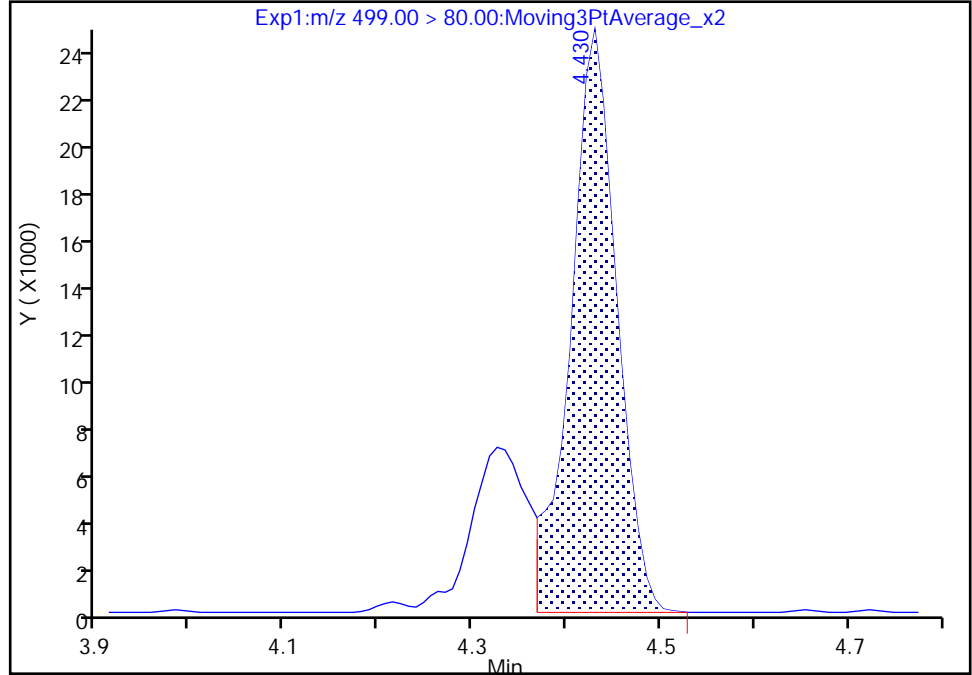
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

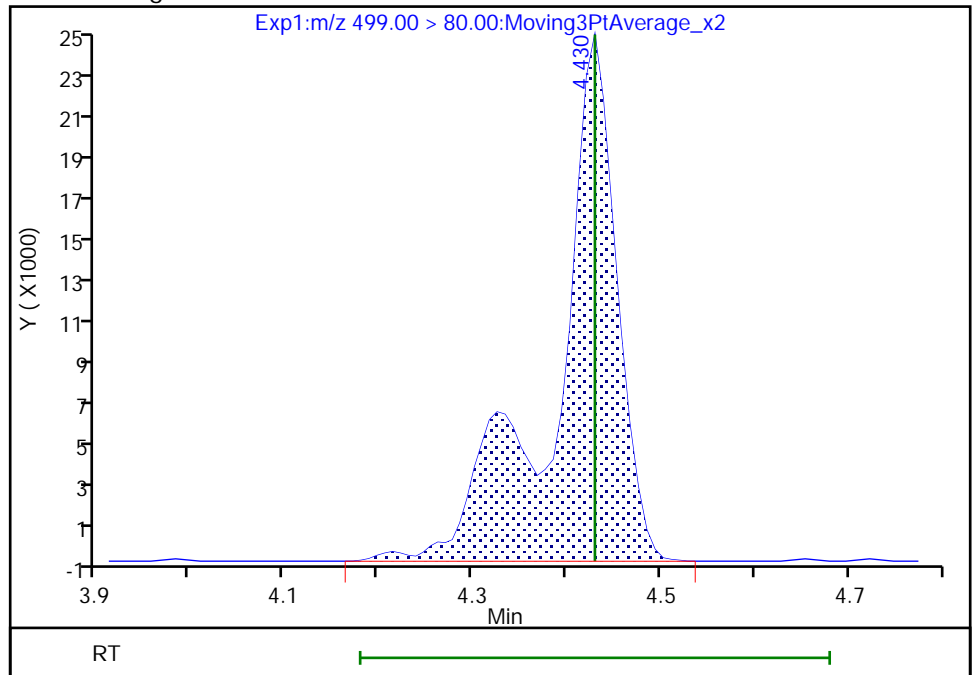
RT: 4.43  
Area: 83563  
Amount: 0.036960  
Amount Units: ng/ml

Processing Integration Results



RT: 4.43  
Area: 112958  
Amount: 0.049962  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:26:42  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

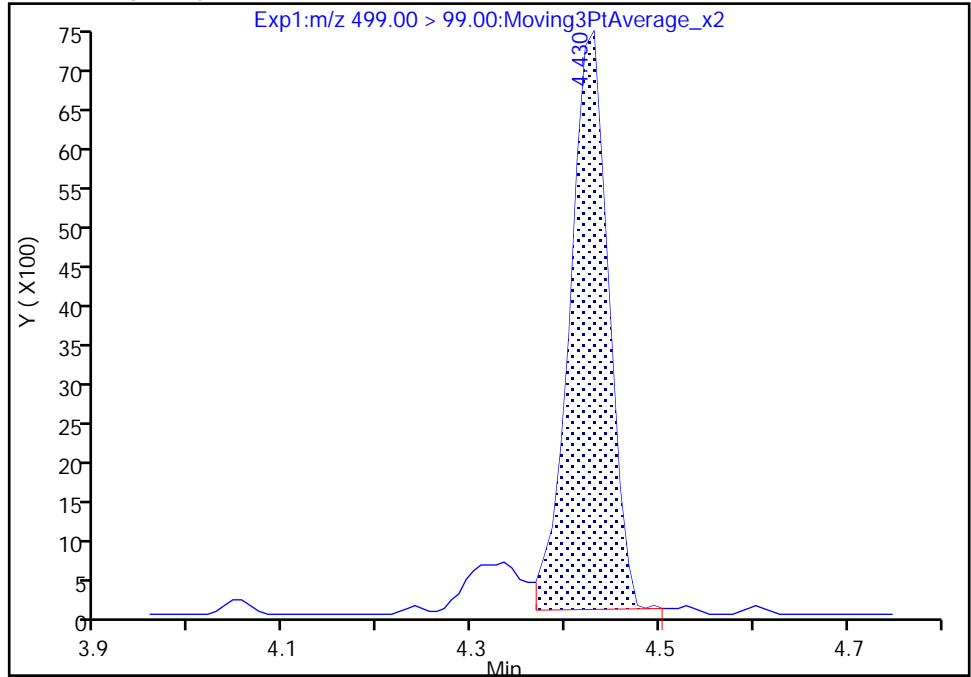
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

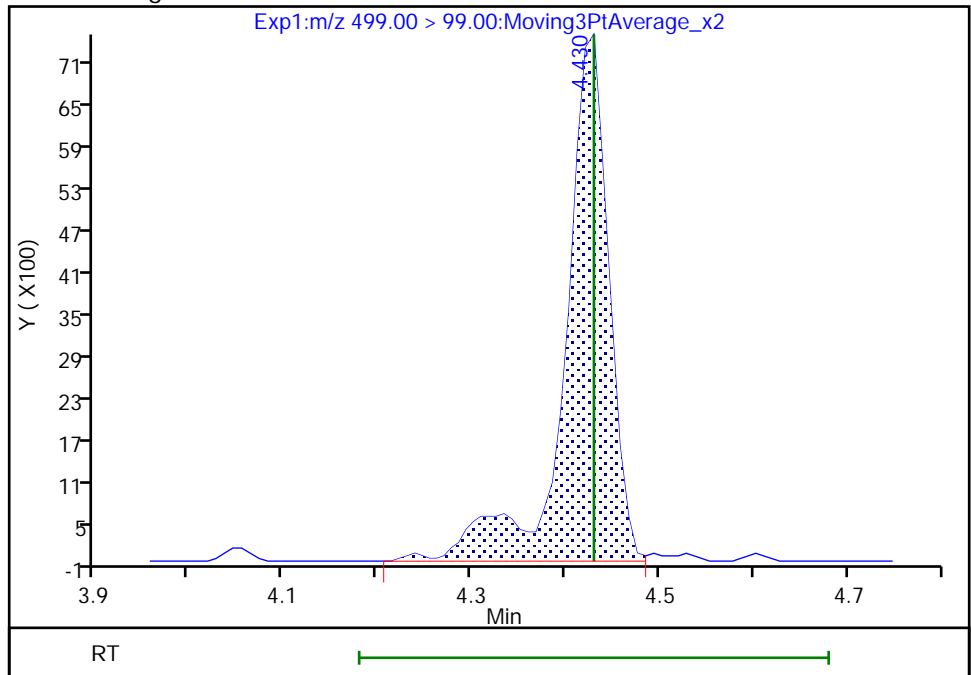
RT: 4.43  
Area: 21004  
Amount: 0.036960  
Amount Units: ng/ml

Processing Integration Results



RT: 4.43  
Area: 24420  
Amount: 0.049962  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:26:49

Audit Action: Manually Integrated

Eurofins Knoxville

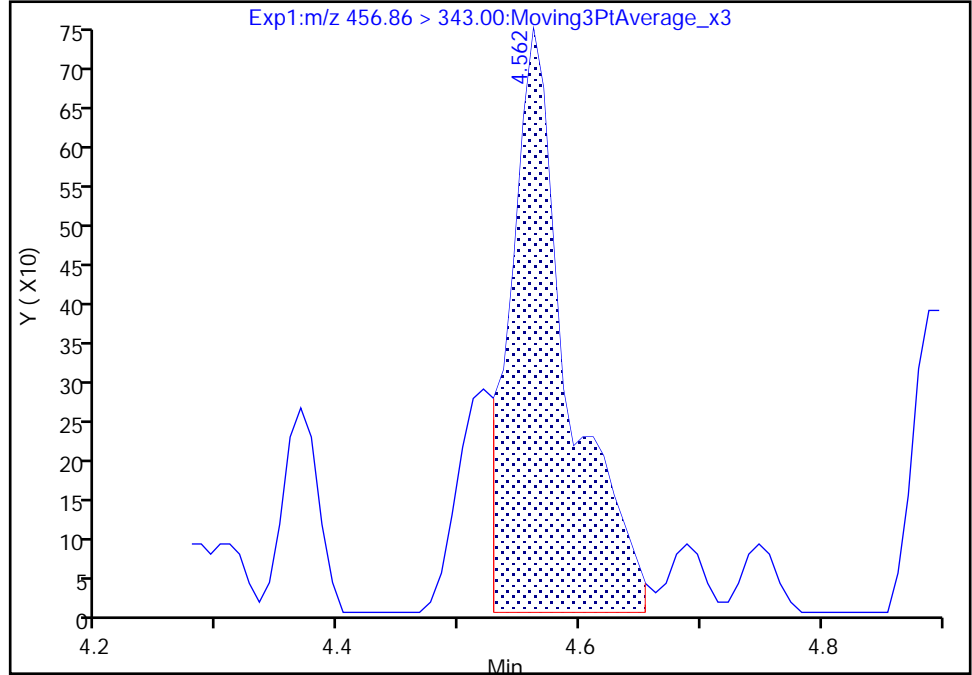
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

44 8:2 FTUCA, CAS: 70887-84-2

Signal: 2

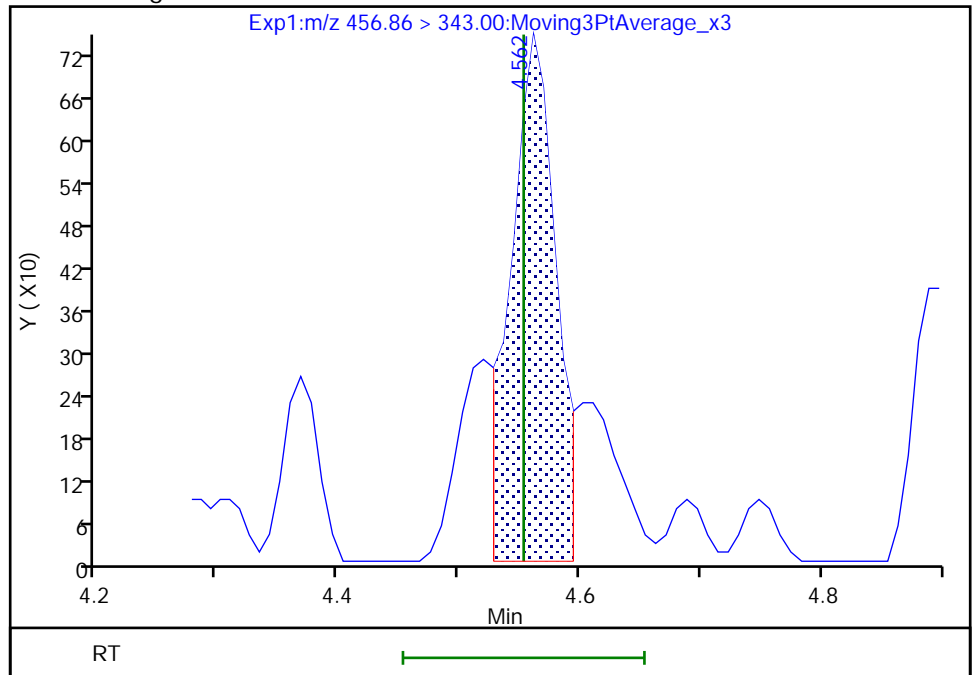
RT: 4.56  
Area: 2429  
Amount: 0.053589  
Amount Units: ng/ml

Processing Integration Results



RT: 4.56  
Area: 1867  
Amount: 0.053589  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:27:01  
Audit Action: Manually Integrated

Eurofins Knoxville

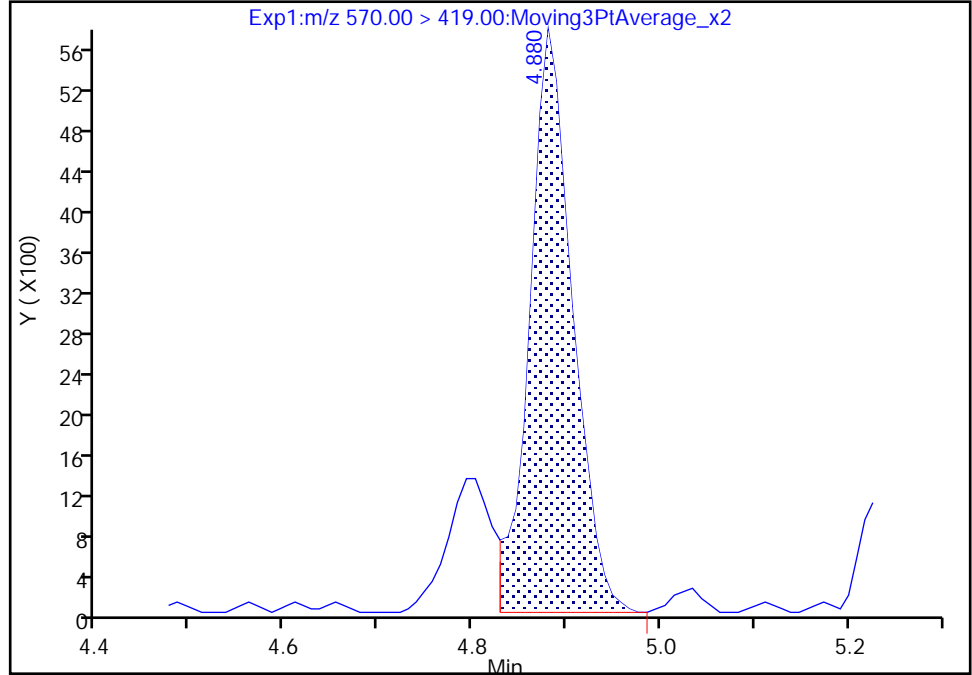
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

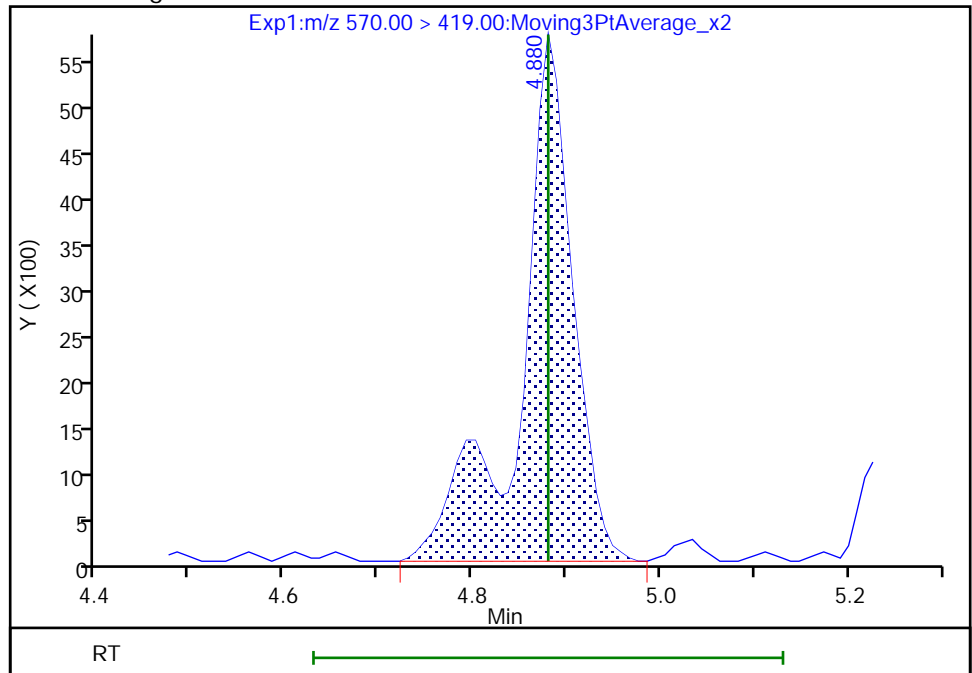
RT: 4.88  
Area: 17951  
Amount: 0.055099  
Amount Units: ng/ml

Processing Integration Results



RT: 4.88  
Area: 22215  
Amount: 0.067810  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:27:31  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

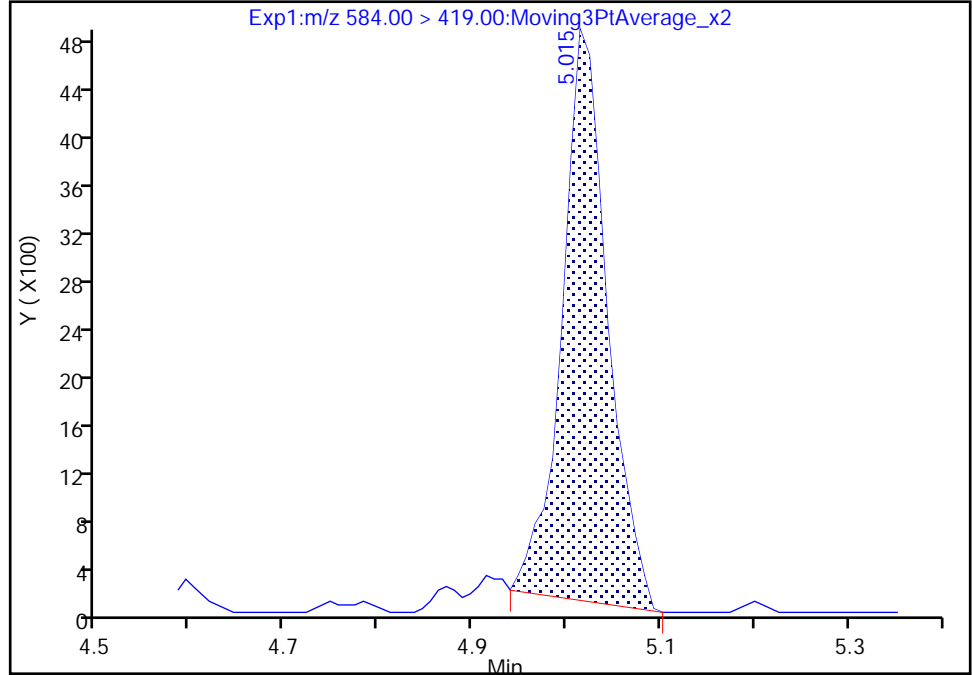
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

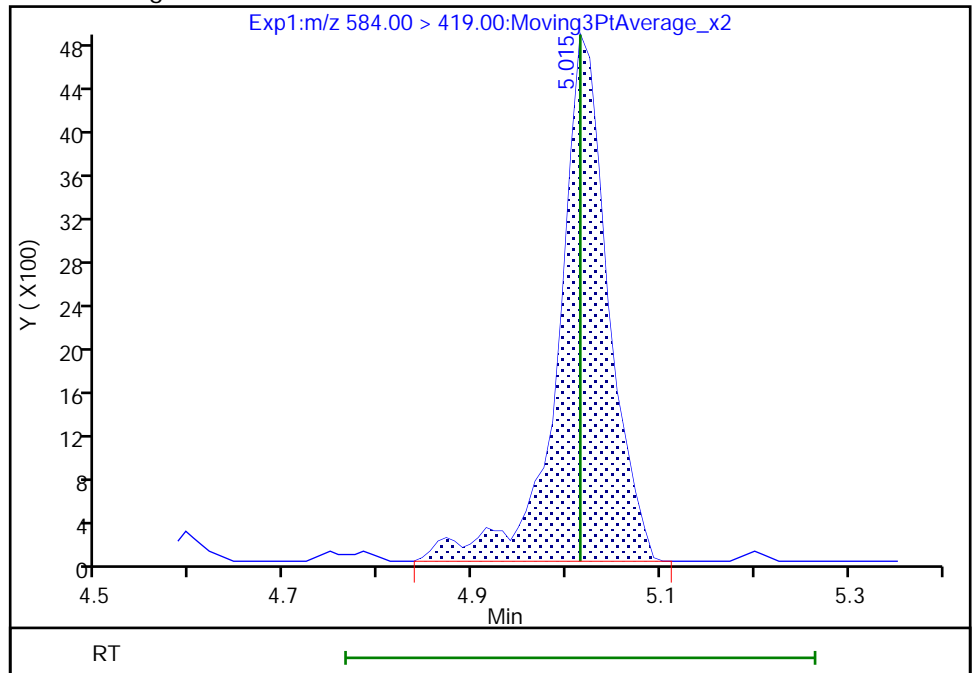
RT: 5.01  
Area: 16020  
Amount: 0.040917  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 18026  
Amount: 0.047308  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:27:44  
Audit Action: Manually Integrated

Eurofins Knoxville

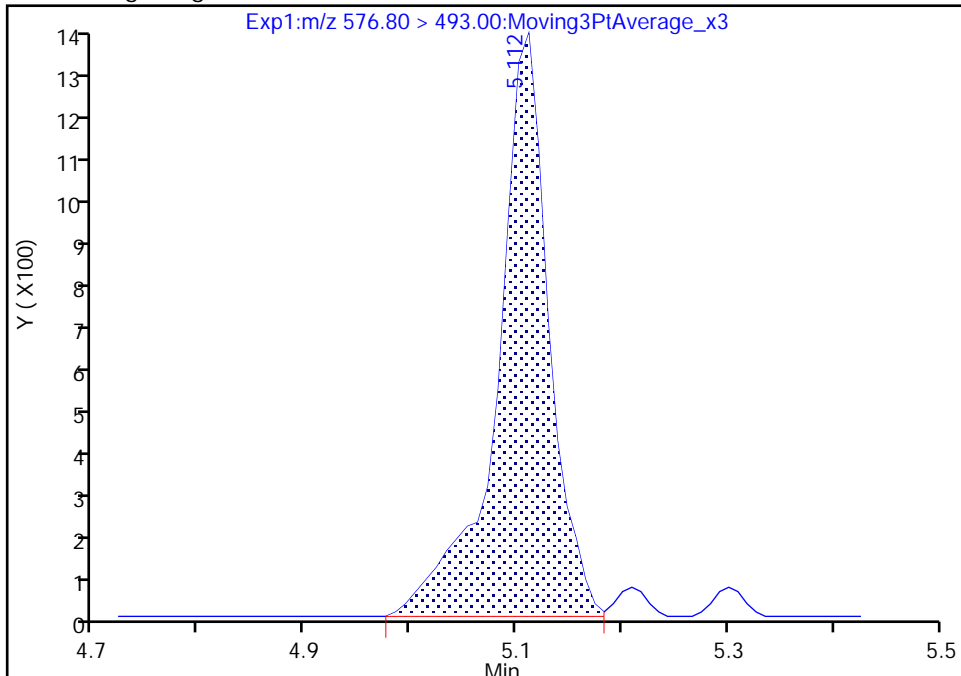
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

66 10:2 FTCA, CAS: 53826-13-4

Signal: 1

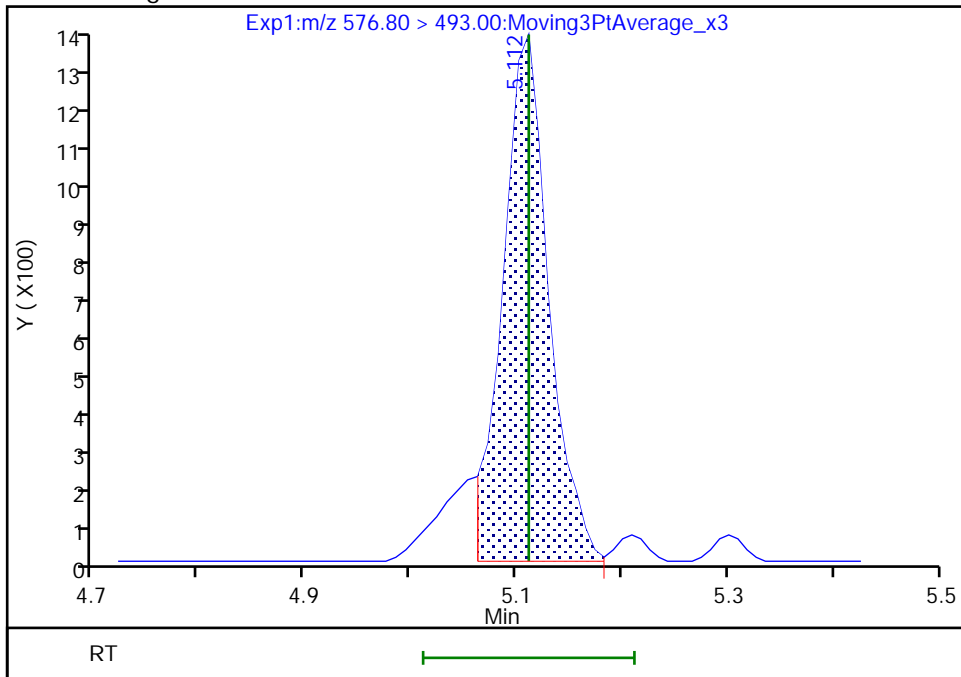
RT: 5.11  
Area: 4560  
Amount: 0.065348  
Amount Units: ng/ml

Processing Integration Results



RT: 5.11  
Area: 4012  
Amount: 0.056409  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:27:59  
Audit Action: Manually Integrated

Audit Reason: Split Peak

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_006.d

Injection Date: 21-Feb-2022 09:53:16

Instrument ID: LCA

Lims ID: CCVL

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 6

Worklist Smp#: 6

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

Column:

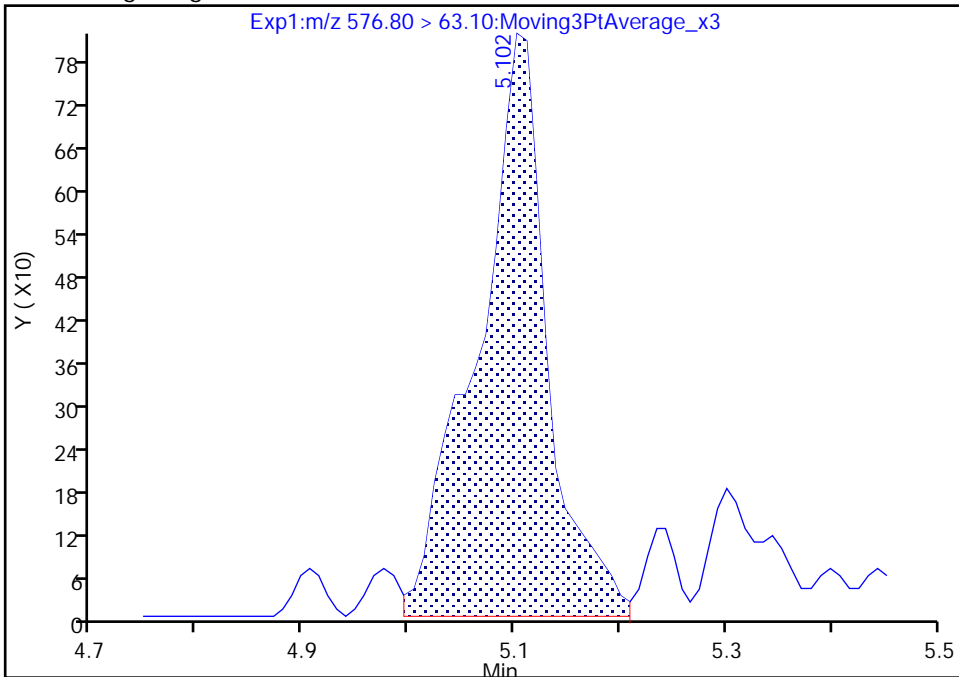
Detector: EXP1

66 10:2 FTCA, CAS: 53826-13-4

Signal: 2

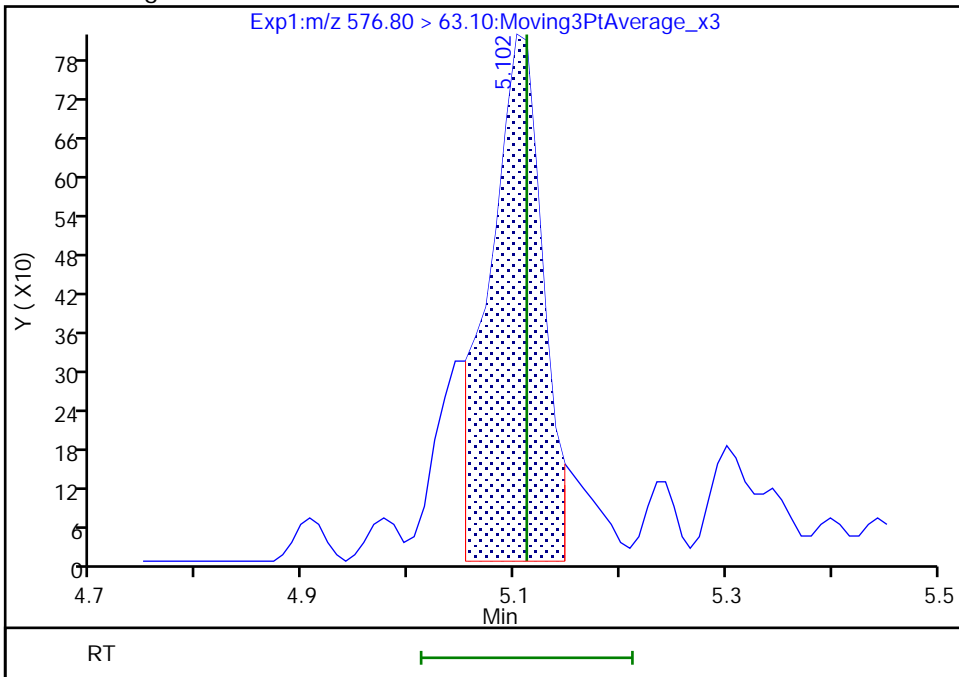
RT: 5.10  
Area: 3746  
Amount: 0.065348  
Amount Units: ng/ml

Processing Integration Results



RT: 5.10  
Area: 2826  
Amount: 0.056409  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:28:06

Audit Action: Manually Integrated

Audit Reason: Split Peak



Eurofins Knoxville

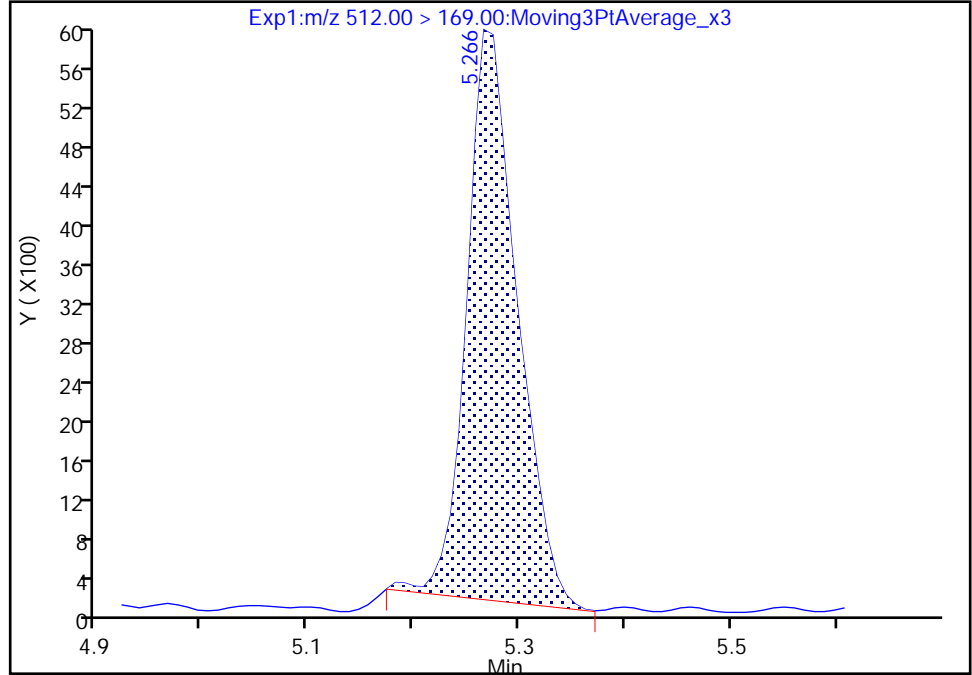
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

74 NMeFOSA, CAS: 31506-32-8

Signal: 1

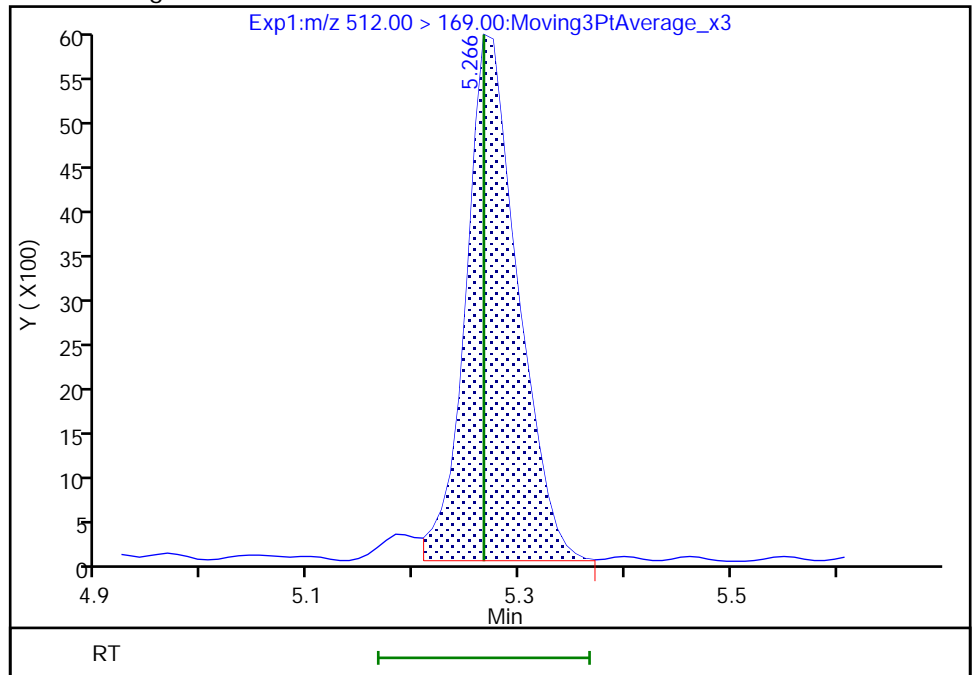
RT: 5.27  
Area: 19392  
Amount: 0.047438  
Amount Units: ng/ml

Processing Integration Results



RT: 5.27  
Area: 20199  
Amount: 0.049654  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:28:24  
Audit Action: Manually Integrated

Audit Reason: Split Peak

Eurofins Knoxville

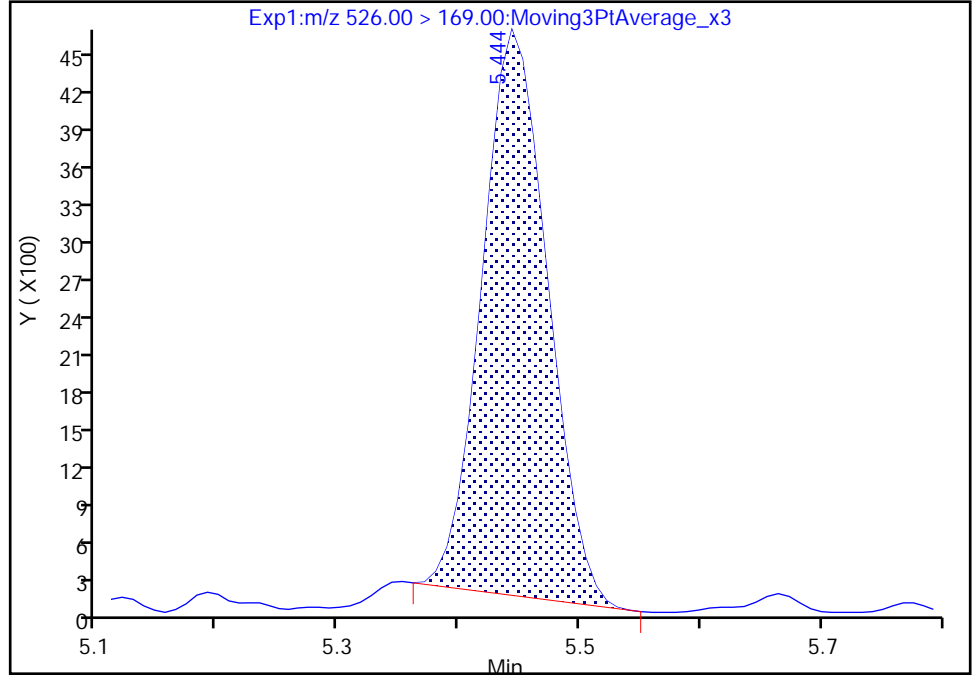
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\\_006.d  
Injection Date: 21-Feb-2022 09:53:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

81 N-EtFOSA-M, CAS: 4151-50-2

Signal: 1

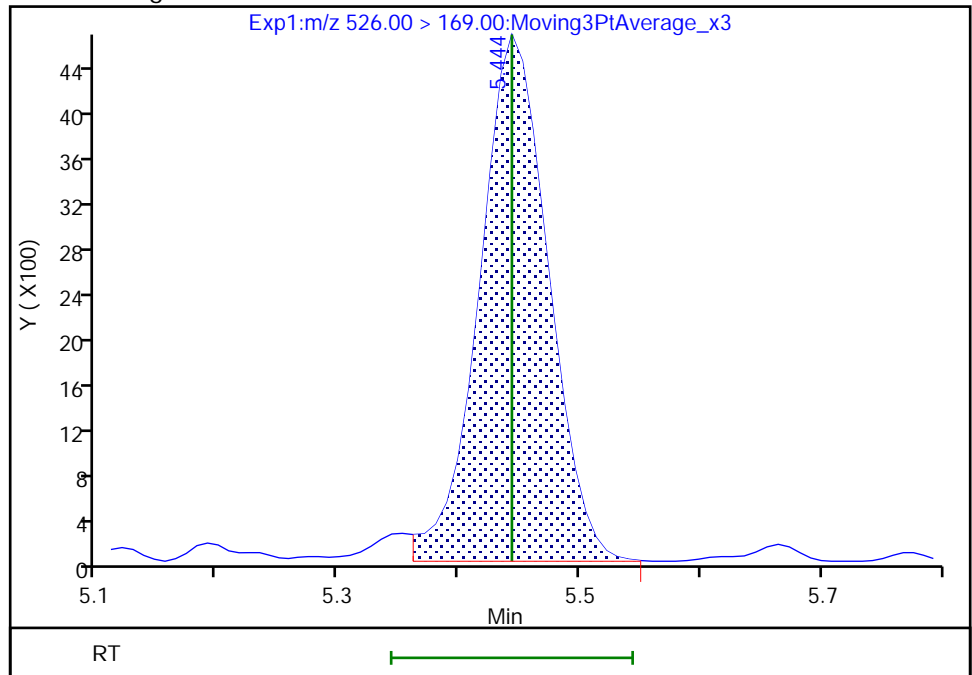
RT: 5.44  
Area: 17106  
Amount: 0.048699  
Amount Units: ng/ml

Processing Integration Results



RT: 5.44  
Area: 18472  
Amount: 0.053004  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:28:38  
Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 527 of 728

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59072/7 Calibration Date: 02/21/2022 10:02  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_007.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7158		0.902	1.00	-9.8	40.0
PFECA F	AveID	0.7535	0.7612		1.01	1.00	1.0	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9260		0.985	1.00	-1.5	40.0
3:3 FTCA	QuaIF		0.0564		1.04	1.00	3.7	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.072		0.865	0.884	-2.2	40.0
PFECA A	Q2ID		1.158		0.988	1.00	-1.2	40.0
PES	Q2ID		2.140		0.805	0.890	-9.6	40.0
PFECA B	Q2ID		0.4400		1.06	1.00	6.2	40.0
4:2 FTS	L2ID		2.359		0.969	0.934	3.8	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7677		0.965	1.00	-3.5	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.053		0.957	0.938	2.0	40.0
HFPO-DA	L2ID		1.346		1.07	1.00	6.6	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.230		0.808	0.910	-11.2	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.020		1.02	1.00	1.8	40.0
DONA	AveID	2.644	2.183		0.778	0.942	-17.4	40.0
5:3 FTCA	L2ID		3.198		0.848	1.00	-15.2	40.0
6:2 FTUCA	AveID	1.046	1.000		0.956	1.00	-4.4	40.0
6:2 FTCA	L1ID		0.7045		1.02	1.00	1.5	40.0
PFECHS	AveID	0.7426	0.6955		0.864	0.922	-6.3	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9325		0.899	0.952	-5.6	40.0
6:2 FTS	L2ID		1.758		0.911	0.948	-3.9	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.021		0.953	1.00	-4.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.062		0.861	0.928	-7.3	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7805		1.03	1.00	2.6	40.0
7:3 FTCA	AveID	5.230	4.790		0.916	1.00	-8.4	40.0
8:2 FTUCA	AveID	0.9565	0.9275		0.970	1.00	-3.0	40.0
8:2 FTCA	AveID	1.811	1.719		0.950	1.00	-5.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.092		0.867	0.932	-6.9	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9468		0.899	0.960	-6.4	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9307		0.975	1.00	-2.5	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8791		0.977	1.00	-2.3	40.0
8:2 FTS	L2ID		1.504		0.957	0.958	-0.1	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9292		1.01	1.00	0.5	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8348		0.903	0.964	-6.3	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59072/7 Calibration Date: 02/21/2022 10:02  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_007.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9349		0.967	1.00	-3.3	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8764		0.996	1.00	-0.4	40.0
10:2 FTUCA	AveID	1.208	1.176		0.973	1.00	-2.7	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.688		0.913	0.942	-3.1	50.0
10:2 FTCA	Q2ID		0.8445		0.924	1.00	-7.7	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9378		0.908	1.00	-9.2	40.0
10:2 FTS	L2ID		1.951		0.896	0.964	-7.1	50.0
NMeFOSA	L2ID		1.037		0.960	1.00	-4.0	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.143		0.974	1.00	-2.6	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9008		0.922	0.968	-4.7	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8079		0.915	1.00	-8.5	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.305		0.920	1.00	-8.0	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.232		0.987	1.00	-1.3	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1327		1.03	1.00	2.8	40.0
Perfluorohexadecanoic acid	L1ID		1.107		0.972	1.00	-2.8	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9188		0.907	1.00	-9.3	40.0
13C4 PFBA	Ave	1.172	1.085		1.16	1.25	-7.5	50.0
13C5 PFPeA	Ave	0.9197	0.7423		1.01	1.25	-19.3	50.0
13C3 PFBS	Ave	0.5817	0.4933		0.986	1.16	-15.2	50.0
M2-4:2 FTS	Ave	0.1821	0.1613		1.03	1.17	-11.4	50.0
13C2 PFHxA	Ave	1.015	0.8643		1.07	1.25	-14.8	50.0
13C3 HFPO-DA	Ave	0.4963	0.4034		1.02	1.25	-18.7	50.0
18O2 PFHxS	Ave	0.3776	0.3749		1.17	1.18	-0.7	50.0
13C4 PFHpA	Ave	0.9046	0.7441		1.03	1.25	-17.7	50.0
13C-6:2 FTUCA	Ave	0.3374	0.2731		1.01	1.25	-19.0	50.0
13C-6:2 FTCA	Ave	0.0260	0.0222		1.07	1.25	-14.6	50.0
13C4 PFOA	Ave	0.9356	0.9219		1.23	1.25	-1.5	50.0
M2-6:2 FTS	Ave	0.1799	0.1756		1.16	1.19	-2.4	50.0
13C4 PFOS	Ave	0.5610	0.5675		1.21	1.20	1.1	50.0
13C5 PFNA	Ave	1.268	1.120		1.10	1.25	-11.7	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4387		1.21	1.25	-2.9	50.0
13C-8:2 FTCA	Ave	0.0330	0.0317		1.20	1.25	-4.1	50.0
13C8 FOSA	Ave	0.8475	0.7801		1.15	1.25	-8.0	50.0
13C2 PFDA	Ave	1.210	1.155		1.19	1.25	-4.5	50.0
M2-8:2 FTS	Ave	0.1961	0.1792		1.09	1.20	-8.6	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59072/7 Calibration Date: 02/21/2022 10:02  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_007.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1121		1.24	1.25	-1.2	50.0
13C2 PFUnA	Ave	1.168	1.019		1.09	1.25	-12.7	50.0
d5-NEtFOSAA	Ave	0.1164	0.1093		1.17	1.25	-6.1	50.0
13C-10:2 FTUCA	Ave	0.5078	0.3389		0.834	1.25	-33.3	50.0
13C-10:2 FTCA	Ave	0.0309	0.0205		0.830	1.25	-33.6	50.0
13C2 PFDoA	Ave	1.152	0.9930		1.08	1.25	-13.8	50.0
13C2 10:2 FTS	Ave	0.1652	0.1406		1.01	1.18	-14.9	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1126		1.19	1.25	-5.0	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0946		1.17	1.25	-6.2	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1169		1.19	1.25	-5.0	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0751		1.16	1.25	-7.2	50.0
13C2 PFTeDA	Ave	0.9216	0.7030		0.954	1.25	-23.7	50.0
13C2 PFHxDA	Ave	0.5997	0.4316		0.900	1.25	-28.0	50.0
13C8 PFOA	AveID	0.9229	0.9630		1.30	1.25	4.3	50.0
13C8 PFOS	AveID	0.2212	0.2159		1.17	1.20	-2.4	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_007.d  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 21-Feb-2022 10:02:06 ALS Bottle#: 7 Worklist Smp#: 7  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022728-007 ccvis  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 14:32:49 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: cochranj Date: 21-Feb-2022 14:30:19

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.825	2.825	0.0	1.000	3020676	0.9022		90.2	878	
D 2 13C4 PFBA										
217.00 > 172.00	2.825	2.825	0.0	0.681	5275313	1.16		92.5	21774	
3 PFECA F										
229.00 > 85.00	2.934	2.934	0.0	0.935	2198819	1.01		101	10836	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.139	3.139	0.0	1.000	2674722	0.9846		98.5	1195	
D 5 13C5 PFPeA										
267.90 > 223.00	3.139	3.139	0.0	0.757	3610612	1.01		80.7	15250	
4 3:3 FTCA										
241.00 > 177.10	3.148	3.148	0.0	1.000	108288	1.04	Target=1.13	104	1443	
241.00 > 116.90	3.148	3.148	0.0	1.000	90536		1.20(0.56-1.69)		131	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.157	3.157	0.0	1.003	1819092	0.8649	Target=2.61	97.8	2863	
298.90 > 99.00	3.157	3.157	0.0	1.003	713279		2.55(1.31-3.92)		2653	
D 7 13C3 PFBS										
301.90 > 80.00	3.148	3.148	0.0	0.759	2231370	0.9857		84.8	11046	
9 PFECA A										
278.95 > 84.90	3.230	3.230	0.0	1.029	3346068	0.9882		98.8	11440	
11 PES										
314.80 > 135.00	3.280	3.280	0.0	1.042	3655686	0.8046		90.4	16733	
12 PFECA B										
295.22 > 201.00	3.405	3.405	0.0	0.981	1479936	1.06		106	7909	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.437	3.437	0.0	0.829	732917	1.03		88.6	2042	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.437	3.437	0.0	1.000	1383363	0.9693		104	6343	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.470	3.470	0.0	1.102	1895897	0.9568	Target=3.55	102	4602	
349.00 > 99.00	3.470	3.470	0.0	1.102	549832		3.45(1.78-5.33)		3884	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.470	3.470	0.0	1.000	2581766	0.9648	Target=11.60	96.5	1586	
313.00 > 119.00	3.470	3.470	0.0	1.000	220689		11.70(5.80-17.40)		233	
D 14 13C2 PFHxA										
315.00 > 270.00	3.470	3.470	0.0	0.837	4203968	1.06		85.2	12170	
17 HFPO-DA										
285.00 > 169.00	3.572	3.572	0.0	1.000	2112144	1.07	Target=2.45	107	872	
329.00 > 169.00	3.572	3.572	0.0	1.000	809541		2.61(1.23-3.68)		756	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.572	3.572	0.0	0.861	1962106	1.02		81.3	8390	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.802	3.802	0.0	1.000	1632319	0.8078	Target=3.44	88.8	4199	M
399.00 > 99.00	3.802	3.802	0.0	1.000	508498		3.21(1.72-5.17)		1558	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.802	3.802	0.0	0.917	1725107	1.17		99.3	3802	
D 22 13C4 PFHpA										
367.00 > 322.00	3.812	3.812	0.0	0.919	3619305	1.03		82.3	10928	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.812	3.812	0.0	1.000	2953555	1.02	Target=3.25	102	2105	
363.00 > 169.00	3.812	3.812	0.0	1.000	939844		3.14(1.62-4.87)		1930	
25 DONA										
377.00 > 251.00	3.844	3.844	0.0	0.866	4541215	0.7779	Target=1.74	82.6	13265	
377.00 > 85.00	3.844	3.844	0.0	0.866	2619010		1.73(0.87-2.61)		96.2	
26 5:3 FTCA										
340.88 > 236.90	3.877	3.877	0.0	0.987	276537	0.8479	Target=1.11	84.8	851	
340.88 > 216.90	3.877	3.877	0.0	0.987	253954		1.09(0.56-1.67)		507	
27 6:2 FTUCA										
356.86 > 292.90	3.912	3.912	0.0	1.000	1063098	0.9560	Target=13.05	95.6	2819	
356.86 > 243.00	3.912	3.912	0.0	1.000	72298		14.70(6.52-19.57)		288	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.912	3.912	0.0	0.943	1328416	1.01		81.0	1995	
29 6:2 FTCA										
377.10 > 63.00	3.930	3.930	0.0	1.000	60917	1.01	Target=1.29	101	224	
377.10 > 313.10	3.930	3.930	0.0	1.000	50442		1.21(0.65-1.94)		102	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.930	3.930	0.0	0.948	108088	1.07		85.4	457	
32 PFECHS										
460.80 > 380.90	4.082	4.082	0.0	0.984	2300606	0.8635	Target=1.75	93.7	7013	
460.80 > 98.90	4.082	4.082	0.0	0.984	1246294		1.85(0.87-2.62)		4068	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.130	4.130	0.0	0.931	1960321	0.8989	Target=3.72	94.4	10650	
449.00 > 99.00	4.130	4.130	0.0	0.931	517879		3.79(1.86-5.57)		1874	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
\$ 36 13C8 PFOA										
421.00 > 376.00	4.147	4.147	0.0	1.000	4318216	1.30		104	5924	
35 6:2 FTS										
427.00 > 407.00	4.147	4.147	0.0	1.000	1138747	0.9109		96.1	5298	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.147	4.147	0.0	1.000	811524	1.16		97.6	2747	
* 30 13C2 PFOA										
415.00 > 370.00	4.147	4.147	0.0		4864253	1.25			6591	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.147	4.147	0.0	1.000	3661165	0.9533	Target=2.51	95.3	2622	
413.00 > 169.00	4.147	4.147	0.0	1.000	1435772		2.55(1.26-3.77)		3506	
D 31 13C4 PFOA										
417.00 > 372.00	4.147	4.147	0.0	1.000	4484333	1.23		98.5	10420	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.438	4.438	0.0	1.000	569611	1.17		97.6	1634	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.438	4.438	0.0	1.000	2176539	0.8606	Target=4.30	92.7	4356	M
499.00 > 99.00	4.438	4.438	0.0	1.000	498862		4.36(2.15-6.45)		1288	M
D 39 13C4 PFOS										
503.00 > 80.00	4.438	4.438	0.0	1.070	2638907	1.21		101	3857	
42 Perfluorononanoic acid										
463.00 > 419.00	4.466	4.466	0.0	1.000	3401929	1.03	Target=3.60	103	3220	
463.00 > 169.00	4.466	4.466	0.0	1.000	875103		3.89(1.80-5.40)		1939	
D 41 13C5 PFNA										
468.00 > 423.00	4.466	4.466	0.0	1.077	5448278	1.10		88.3	7926	
43 7:3 FTCA										
441.00 > 337.00	4.545	4.545	0.0	0.991	590896	0.9158	Target=1.42	91.6	1663	
441.00 > 317.00	4.545	4.545	0.0	0.991	427853		1.38(0.71-2.13)		1260	
44 8:2 FTUCA										
456.86 > 392.90	4.569	4.569	0.0	1.000	1583238	0.9697	Target=35.37	97.0	4364	
456.86 > 343.00	4.569	4.569	0.0	1.000	43038		36.79(17.68-53.05)		135	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.569	4.569	0.0	1.000	2133848	1.21		97.1	5407	
46 8:2 FTCA										
477.00 > 393.10	4.578	4.578	0.0	0.998	212130	0.9495	Target=3.35	95.0	671	
477.00 > 63.20	4.586	4.578	0.008	1.000	64285		3.30(1.68-5.03)		361	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.586	4.586	0.0	1.106	154211	1.20		95.9	477	
49 9CIFOS										
531.00 > 351.00	4.594	4.594	0.0	1.108	4306025	0.8673		93.1	9563	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.722	4.722	0.0	1.064	2007121	0.8987	Target=3.99	93.6	4193	
549.00 > 99.00	4.722	4.722	0.0	1.064	515644		3.89(2.00-5.99)		2235	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.722	4.722	0.0	1.000	2825318	0.9745		97.5	3676	
D 55 13C8 FOSA										
506.00 > 78.00	4.722	4.722	0.0	1.139	3794654	1.15		92.0	6231	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.748	4.748	0.0	1.000	3952226	0.9771	Target=10.58	97.7	3934	
513.00 > 169.00	4.748	4.748	0.0	1.000	371169		10.65(5.29-15.88)		306	
D 52 13C2 PFDA										
515.00 > 470.00	4.748	4.748	0.0	1.145	5619843	1.19		95.5	9623	
53 8:2 FTS										
527.00 > 507.00	4.757	4.757	0.0	1.000	1004706	0.9569		99.9	3291	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.757	4.757	0.0	1.147	835155	1.09		91.4	1798	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.889	4.889	0.0	1.179	545272	1.23		98.8	287	
57 NMeFOSAA										
570.00 > 419.00	4.897	4.897	0.0	1.002	405327	1.01		101	999	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.985	4.985	0.0	1.123	1777081	0.9032	Target=3.55	93.7	5364	
599.00 > 99.00	4.985	4.985	0.0	1.123	503179		3.53(1.78-5.33)		2463	
60 Perfluoroundecanoic acid										
563.00 > 519.00	5.014	5.014	0.0	1.000	3707486	0.9667	Target=8.26	96.7	5369	
563.00 > 169.00	5.014	5.014	0.0	1.000	431679		8.59(4.13-12.39)		1628	
D 59 13C2 PFUnA										
565.00 > 520.00	5.014	5.014	0.0	1.209	4957316	1.09		87.3	12191	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.024	5.024	0.0	1.212	531847	1.17		93.9	2354	
62 NEtFOSAA										
584.00 > 419.00	5.034	5.034	0.0	1.002	372877	1.00		99.6	498	M
63 11C1FOS										
631.00 > 451.00	5.111	5.111	0.0	1.152	3511234	0.9127		96.9	9559	
65 10:2 FTUCA										
556.86 > 492.90	5.111	5.111	0.0	1.000	1550625	0.9733		97.3	4123	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.111	5.111	0.0	1.233	1648446	0.8342		66.7	3539	
66 10:2 FTCA										
576.80 > 493.00	5.130	5.130	0.0	1.000	67493	0.9235	Target=2.53	92.3	332	
576.80 > 63.10	5.130	5.130	0.0	1.000	30604		2.21(1.26-3.79)		125	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.130	5.130	0.0	1.237	99900	0.8302		66.4	427	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.243	5.243	0.0	1.000	3623688	0.9078	Target=6.85	90.8	3317	
613.00 > 169.00	5.243	5.243	0.0	1.000	527304		6.87(3.43-10.28)		1054	
D 69 13C2 PFDa										
615.00 > 570.00	5.243	5.243	0.0	1.264	4830091	1.08		86.2	14734	
71 10:2 FTS										
627.00 > 607.00	5.266	5.266	0.0	1.000	1028790	0.8957		92.9	3682	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.266	5.266	0.0	1.270	647682	1.01		85.1	5325	
74 NMeFOSA										
512.00 > 169.00	5.292	5.292	0.0	1.000	381861	0.9603		96.0	652	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M	515.00 > 169.00	5.292	5.292	0.0	1.276	460277	1.17	93.8	50.1	
D 72 d7-N-MeFOSE-M	623.00 > 59.00	5.292	5.292	0.0	1.276	547658	1.19	95.0	549	
75 N-MeFOSE-M	616.00 > 59.00	5.301	5.301	0.0	1.002	500698	0.9738	97.4	739	
76 PFDoS	699.00 > 80.00	5.417	5.417	0.0	1.220	1925631	0.9224	Target=4.22	95.3	3197
	699.00 > 99.00	5.417	5.417	0.0	1.220	446031		4.32(2.11-6.34)		2309
D 77 d9-N-EtFOSE-M	639.00 > 59.00	5.443	5.443	0.0	1.313	568517	1.19	95.0	420	
78 Perfluorotridecanoic acid	663.00 > 619.00	5.452	5.452	0.0	1.040	3121692	0.9149	Target=6.32	91.5	2965
	663.00 > 169.00	5.452	5.452	0.0	1.040	484236		6.45(3.16-9.48)		2185
81 N-EtFOSA-M	526.00 > 169.00	5.461	5.461	0.0	1.000	360042	0.9866		98.7	653
79 N-EtFOSE-M	630.00 > 59.00	5.461	5.461	0.0	1.003	593529	0.9197		92.0	615
D 80 d-N-EtFOSA-M	531.00 > 169.00	5.461	5.461	0.0	1.317	365234	1.16		92.8	519
83 Perfluorotetradecanoic acid	713.00 > 169.00	5.636	5.636	0.0	1.000	362990	1.03	Target=1.01	103	777
	713.00 > 219.00	5.636	5.636	0.0	1.000	322285		1.13(0.51-1.52)		1248
D 82 13C2 PFTeDA	715.00 > 670.00	5.636	5.636	0.0	1.359	3419762	0.9536		76.3	7723
D 84 13C2 PFHxDA	815.00 > 770.00	5.947	5.947	0.0	1.434	2099492	0.8997		72.0	3923
85 Perfluorohexadecanoic acid	813.00 > 769.00	5.940	5.940	0.0	0.999	1858755	0.9716	Target=8.64	97.2	2493
	813.00 > 169.00	5.940	5.940	0.0	0.999	227045		8.19(4.32-12.97)		430
86 Perfluorooctadecanoic acid	913.00 > 869.00	6.207	6.207	0.0	1.044	1543217	0.9071	Target=11.77	90.7	2133
	913.00 > 169.00	6.201	6.207	-0.006	1.043	136265		11.33(5.88-17.65)		357

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220221-22728.b\_007.d

Injection Date: 21-Feb-2022 10:02:06

Instrument ID: LCA

Lims ID: CCVIS

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 7

Worklist Smp#: 7

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

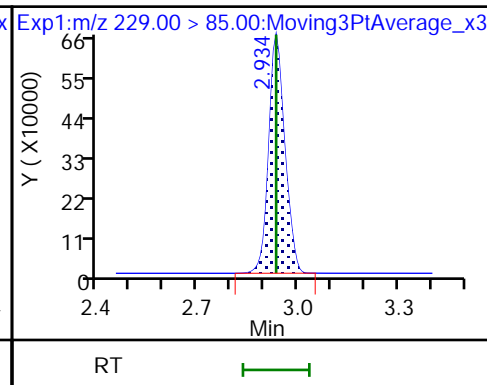
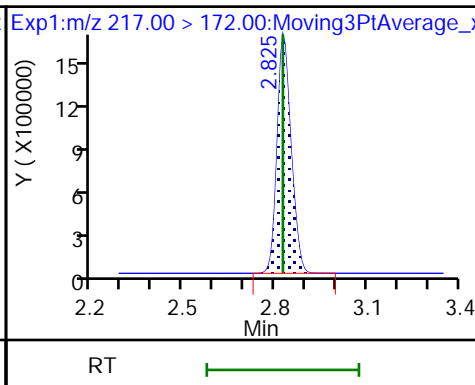
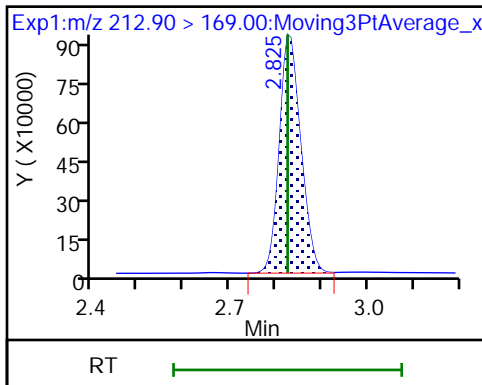
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

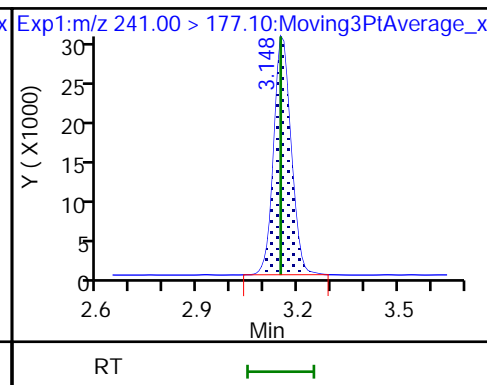
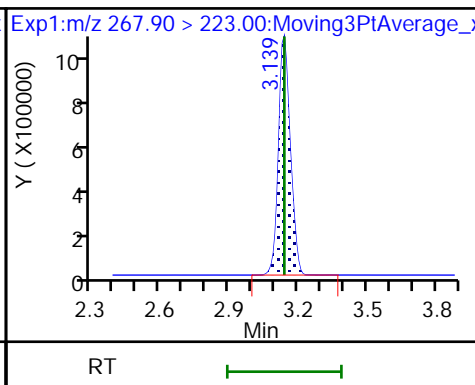
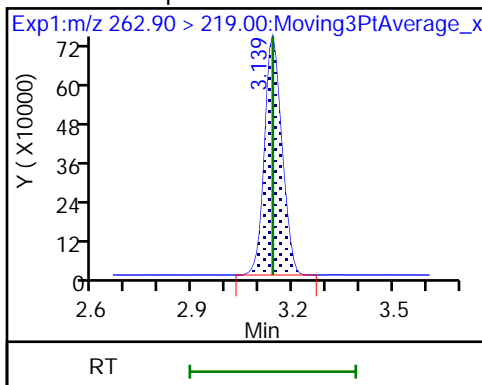
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

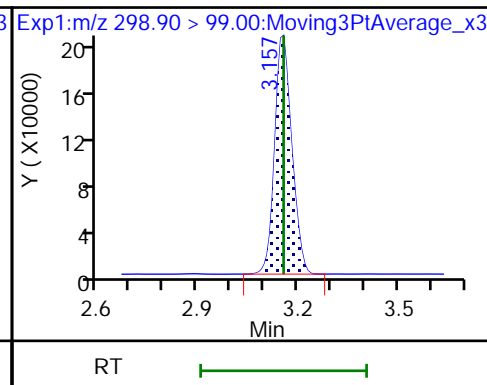
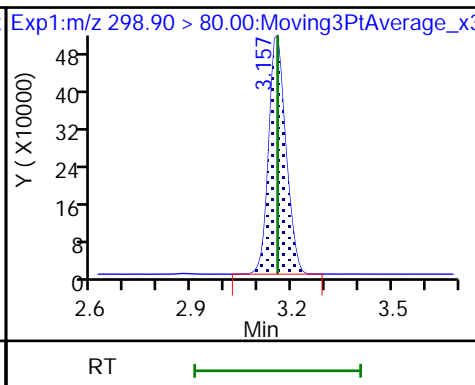
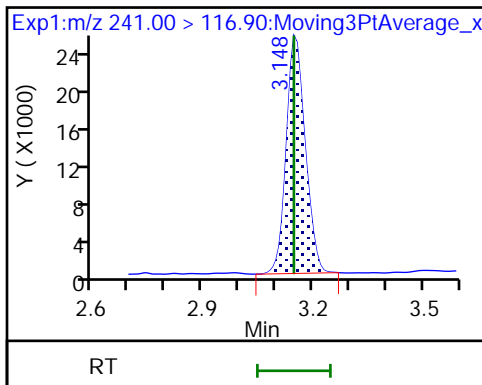
4 3:3 FTCA



4 3:3 FTCA

8 Perfluorobutanesulfonic acid

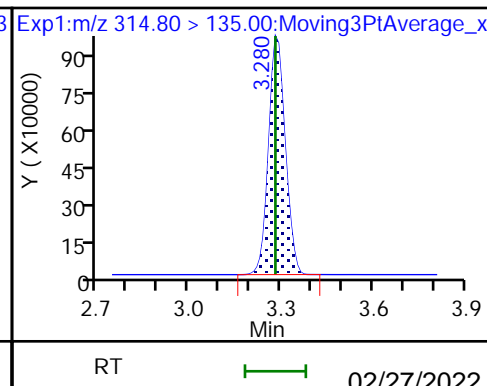
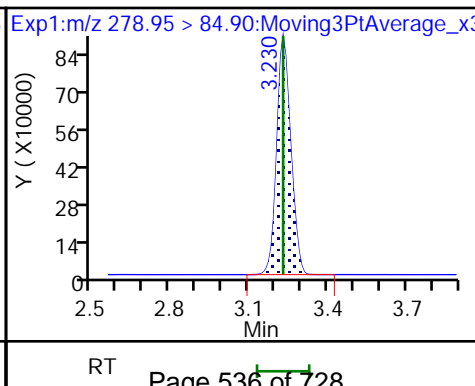
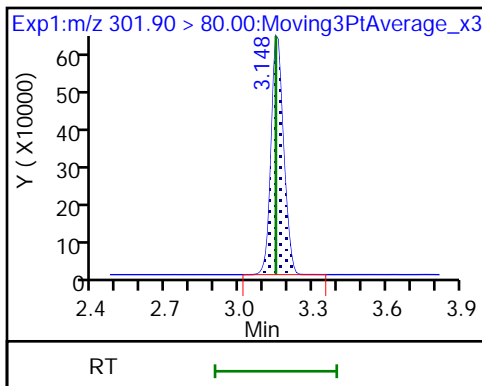
8 Perfluorobutanesulfonic acid

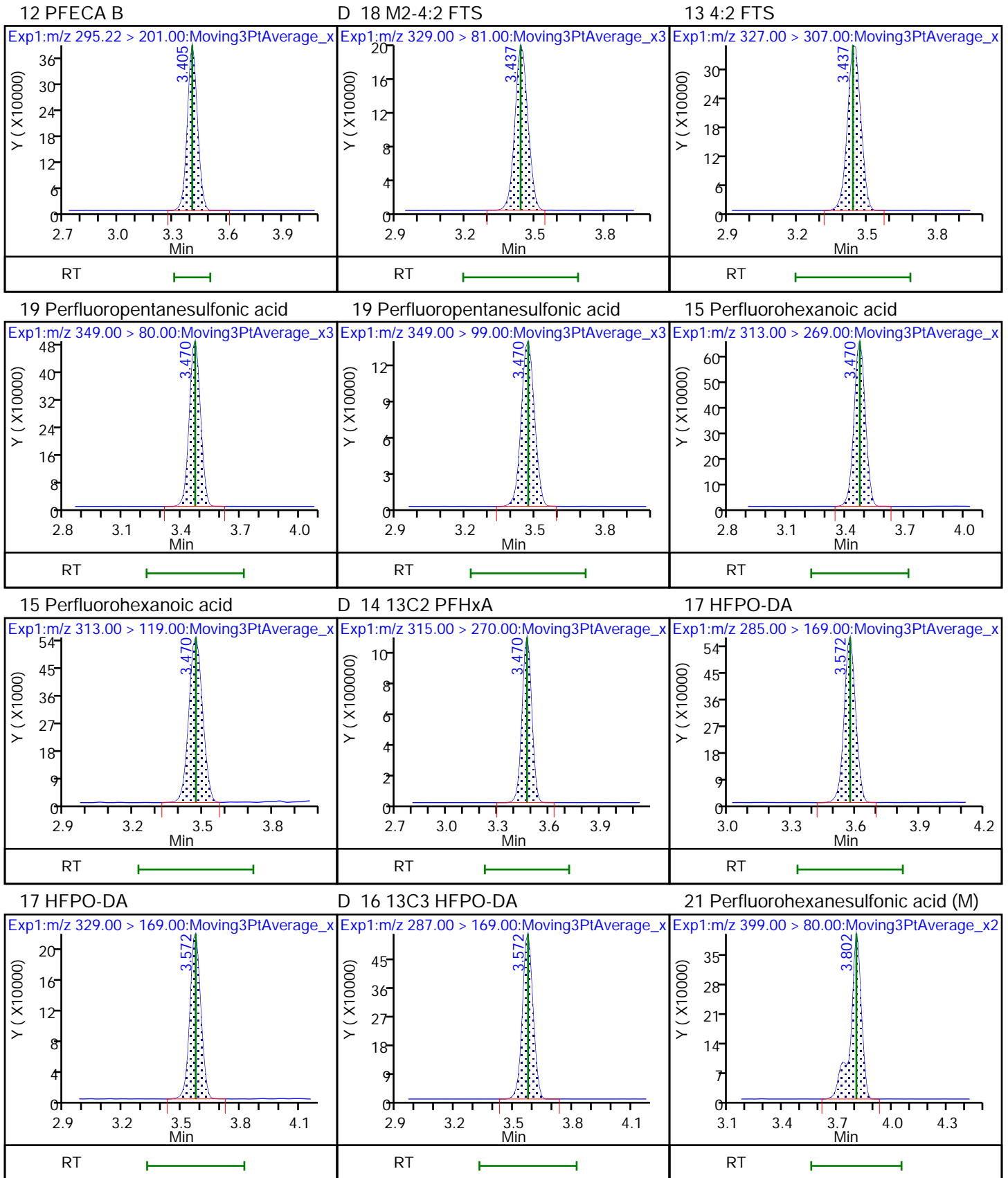


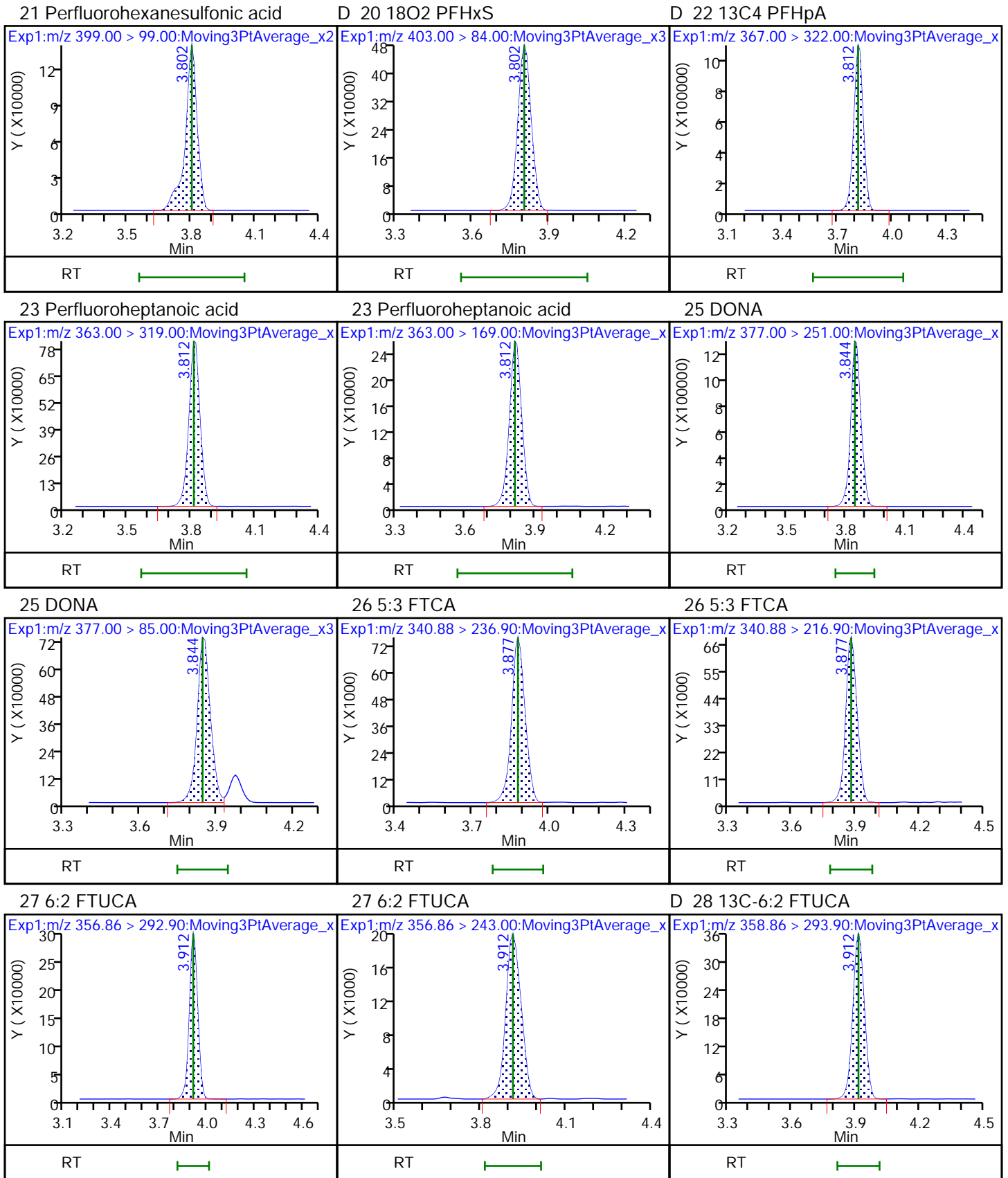
D 7 13C3 PFBS

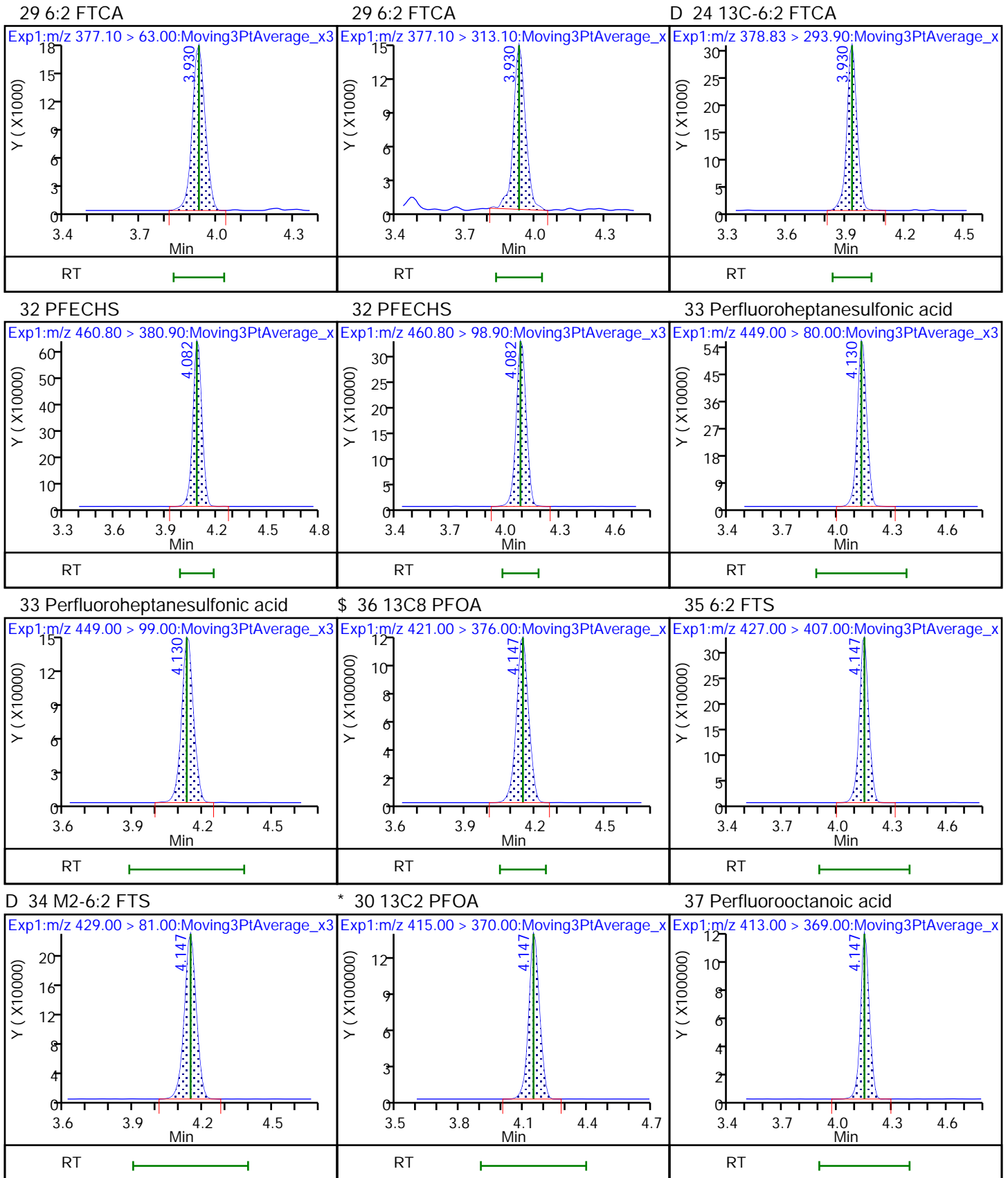
9 PFECA A

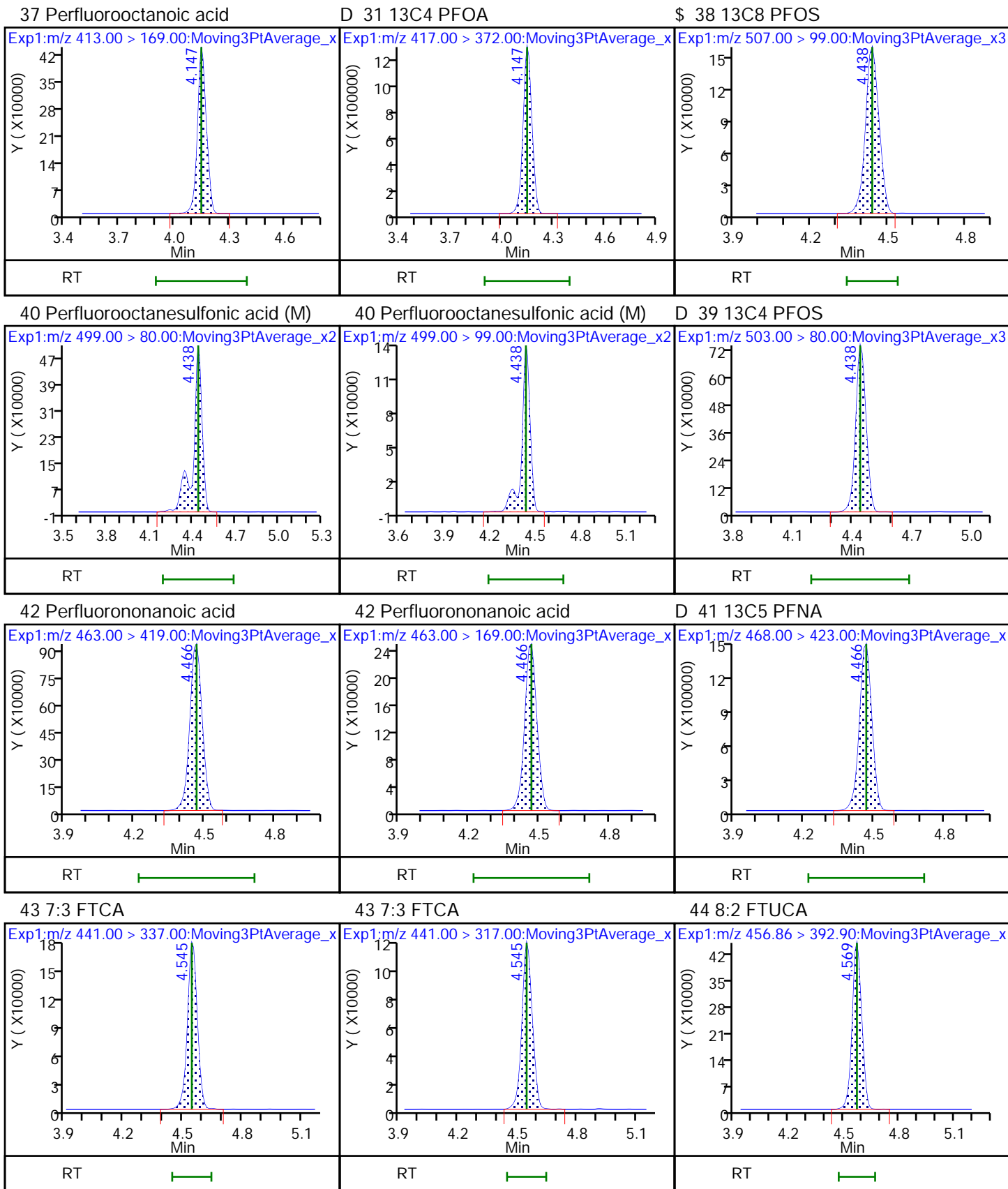
11 PES

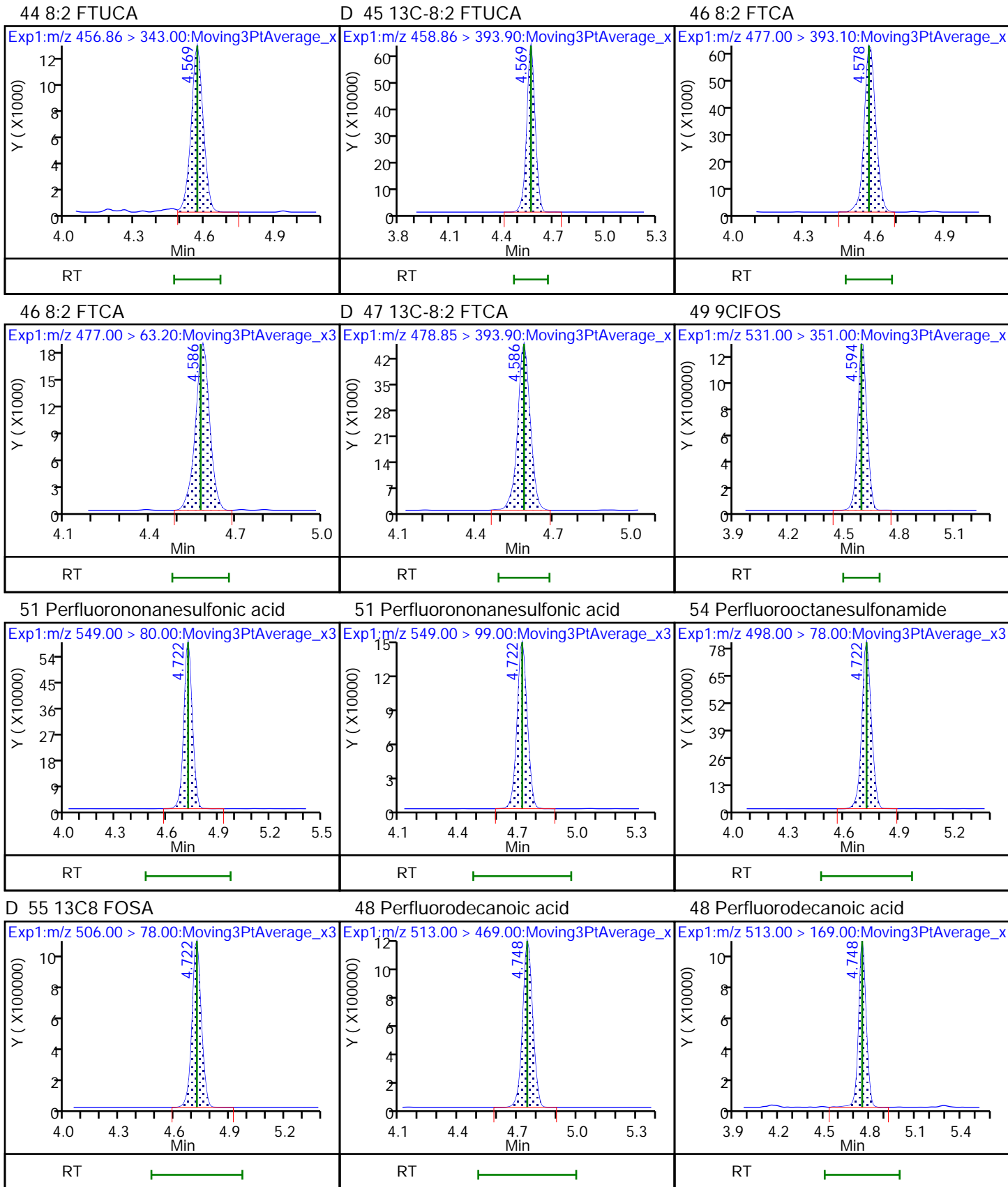










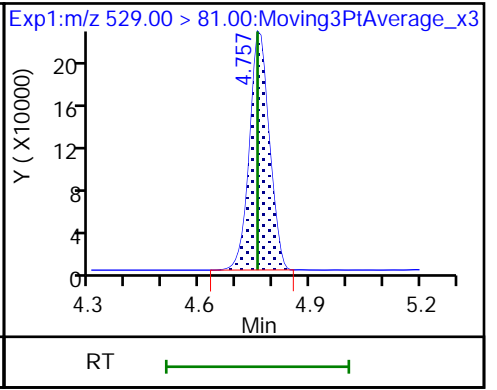
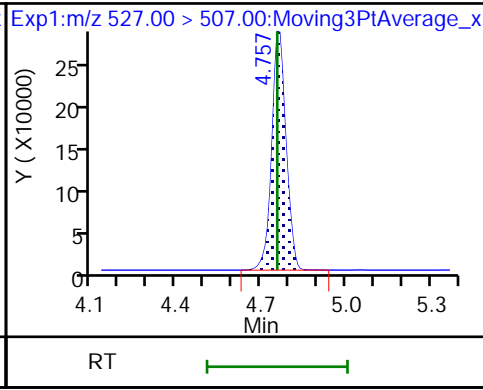
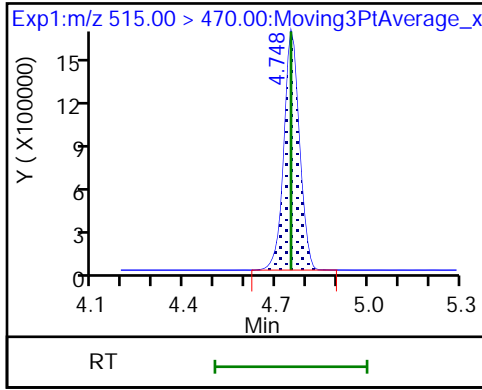




D 52 13C2 PFDA

53 8:2 FTS

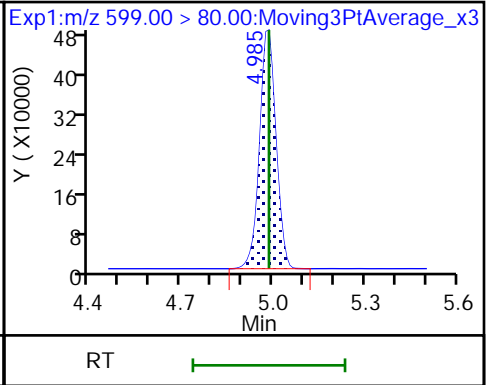
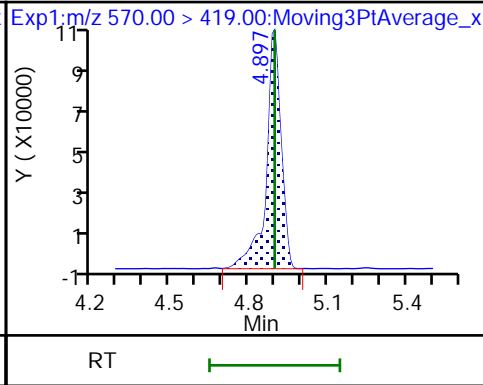
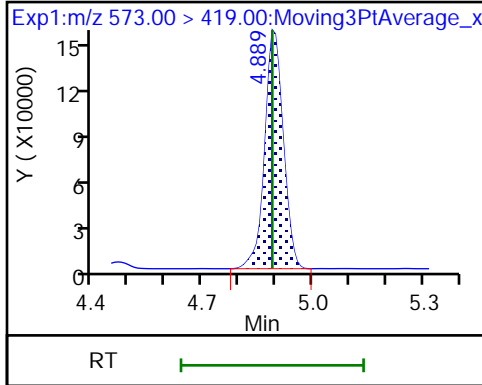
D 50 M2-8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

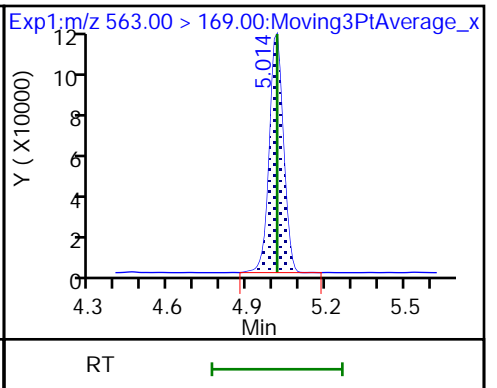
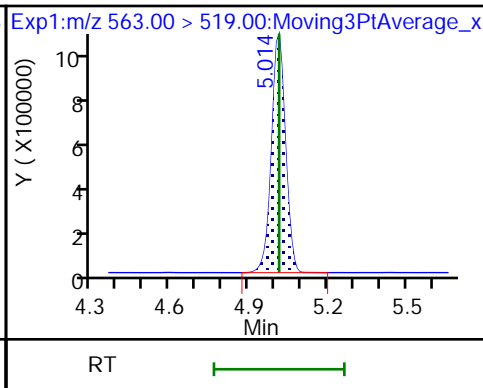
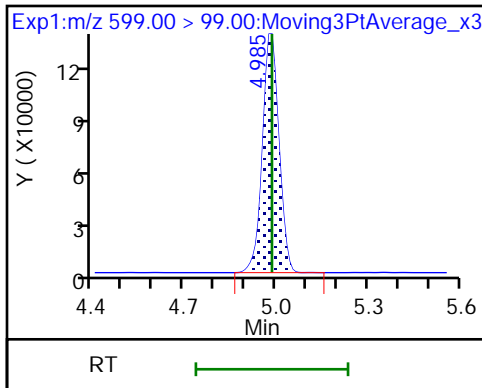
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

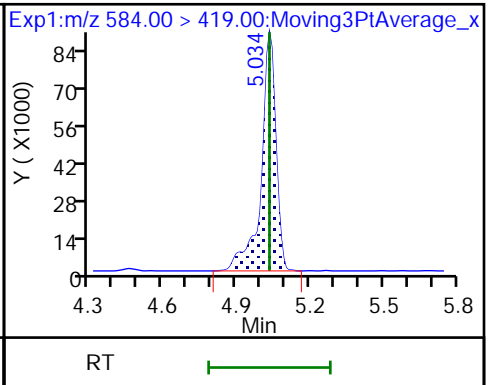
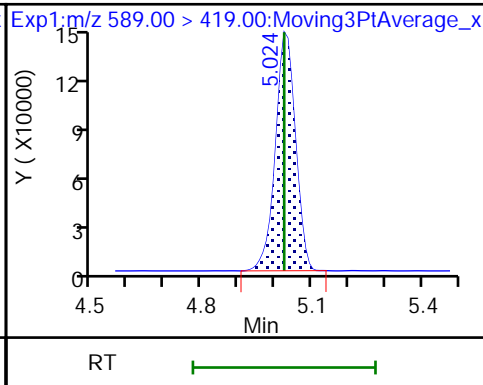
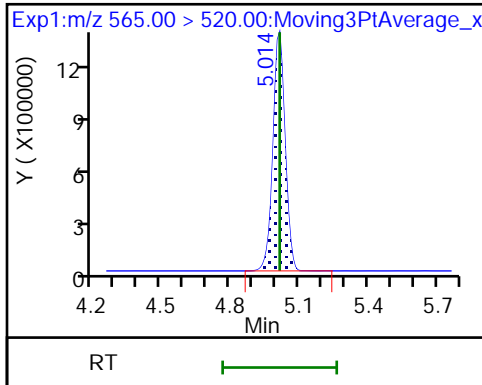
60 Perfluoroundecanoic acid

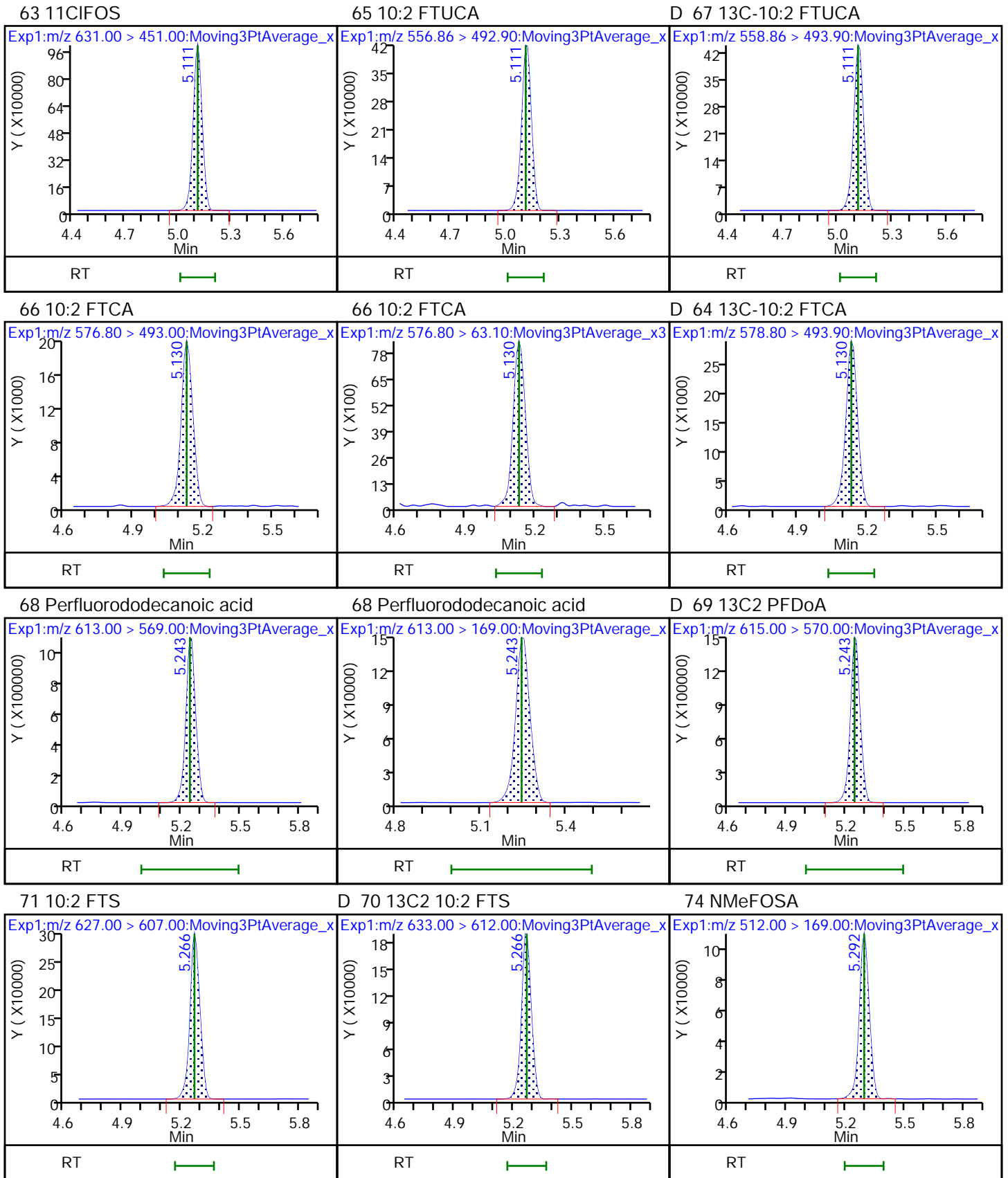


D 59 13C2 PUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)

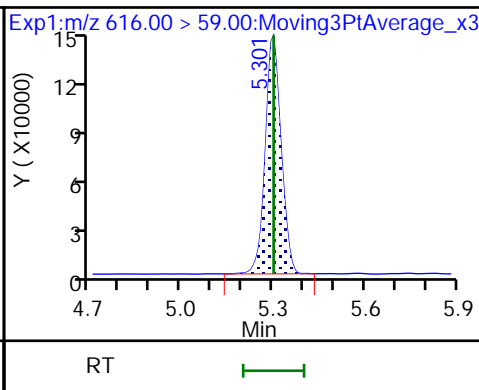
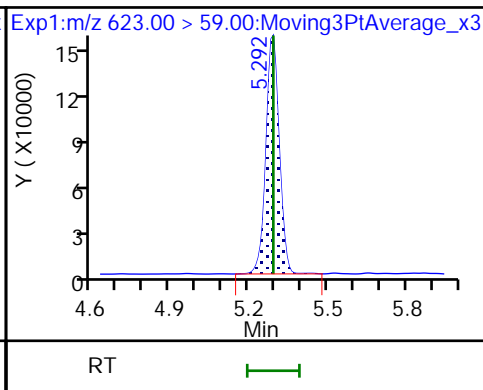
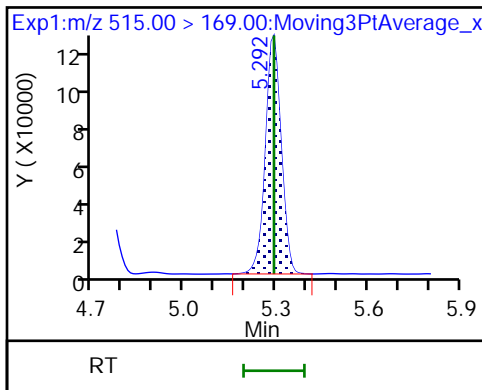




D 73 d-N-MeFOSE-M

D 72 d7-N-MeFOSE-M

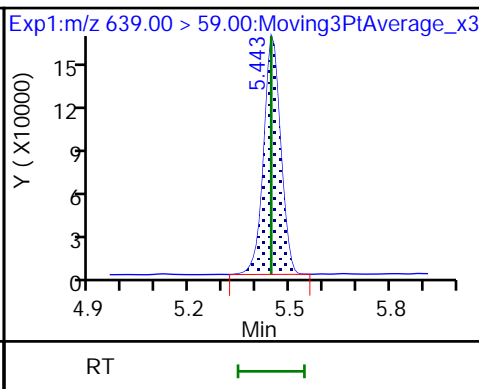
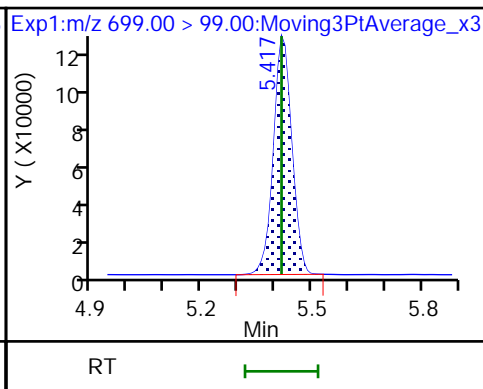
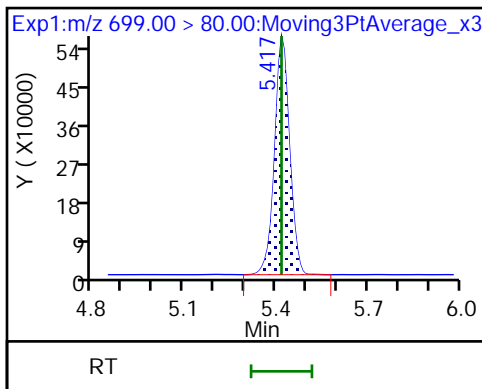
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

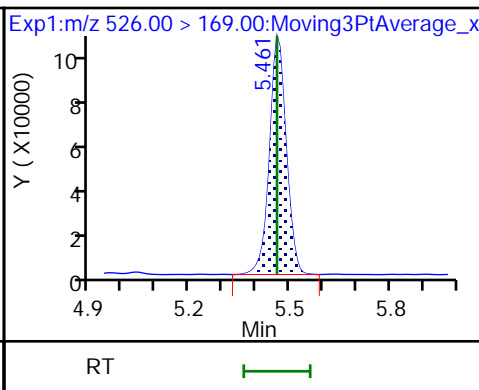
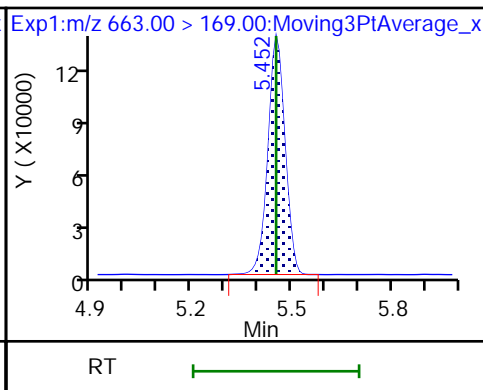
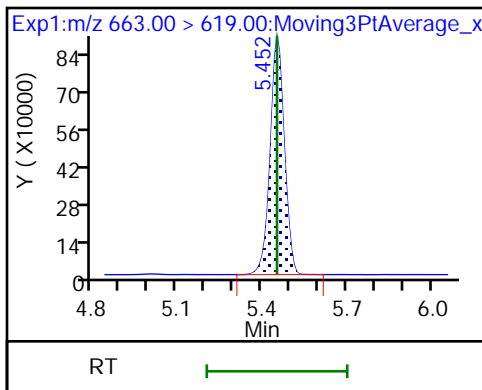
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

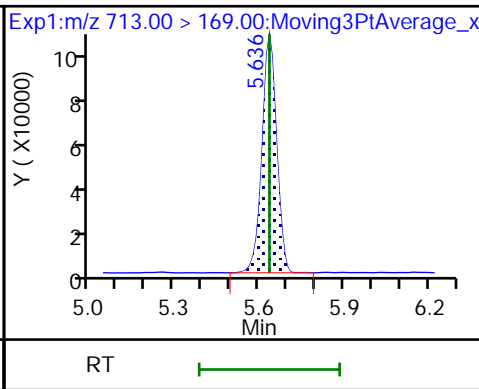
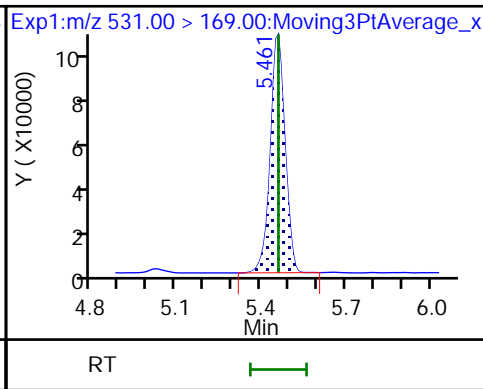
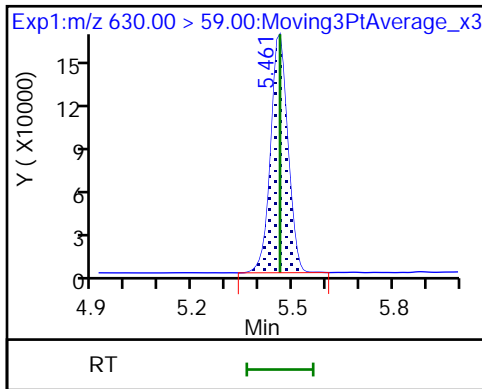
81 N-EtFOSE-M



79 N-EtFOSE-M

D 80 d-N-EtFOSE-M

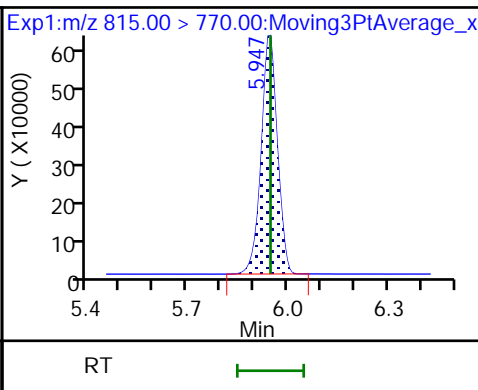
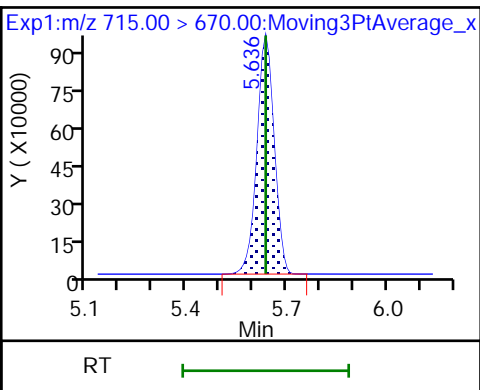
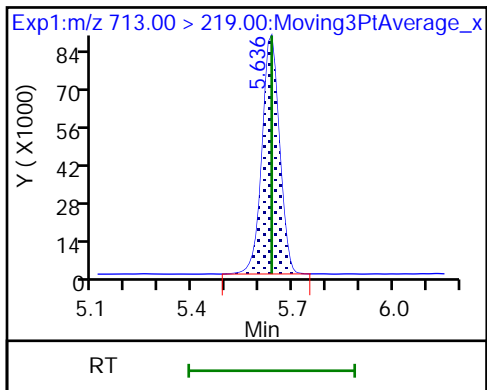
83 Perfluorotetradecanoic acid



83 Perfluorotetradecanoic acid

D 82 13C2 PFTeDA

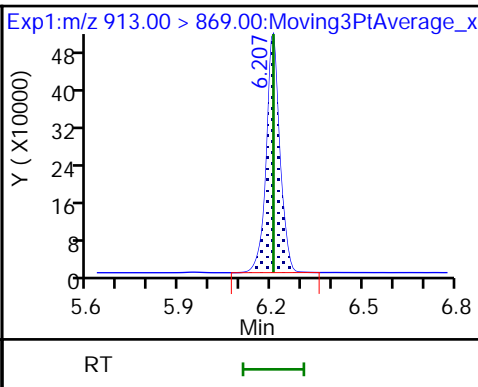
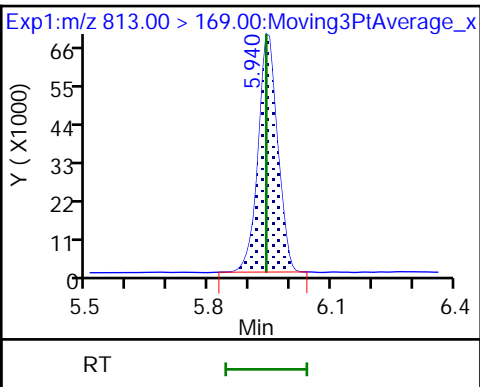
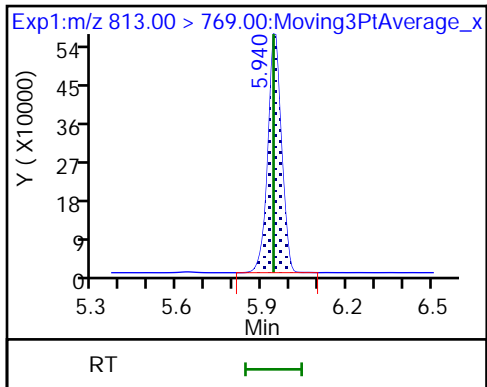
D 84 13C2 PFHxDA



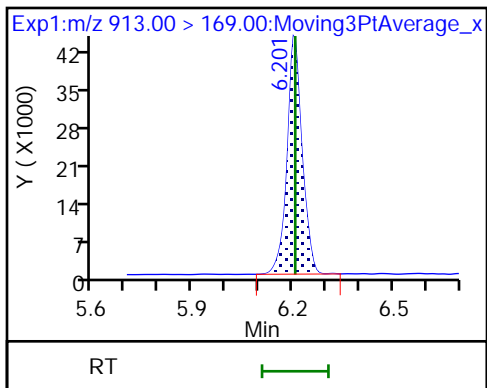
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid



86 Perfluorooctadecanoic acid



Eurofins Knoxville

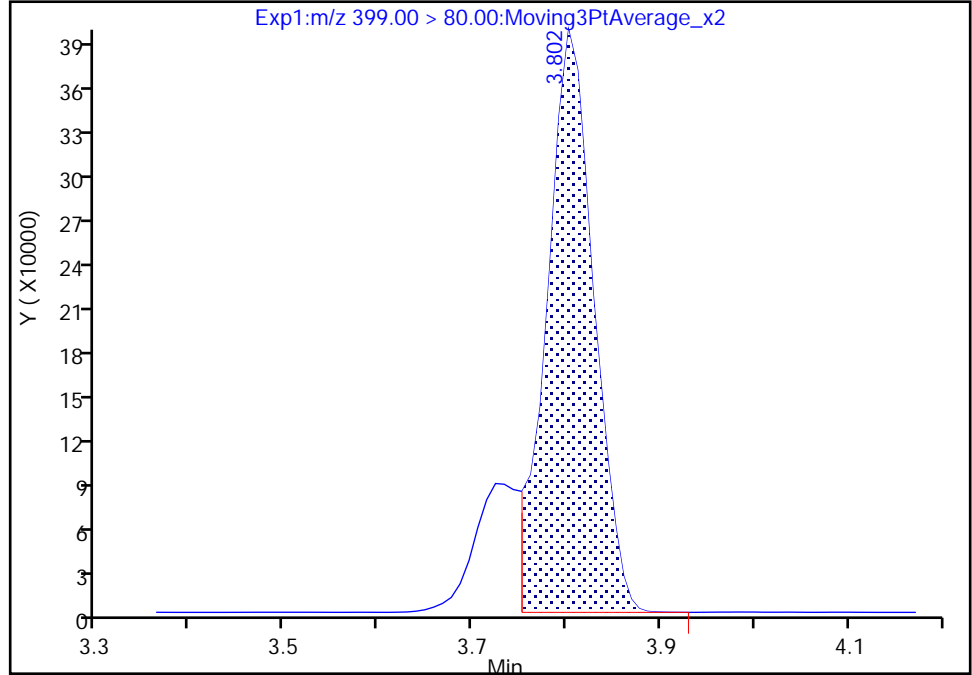
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Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

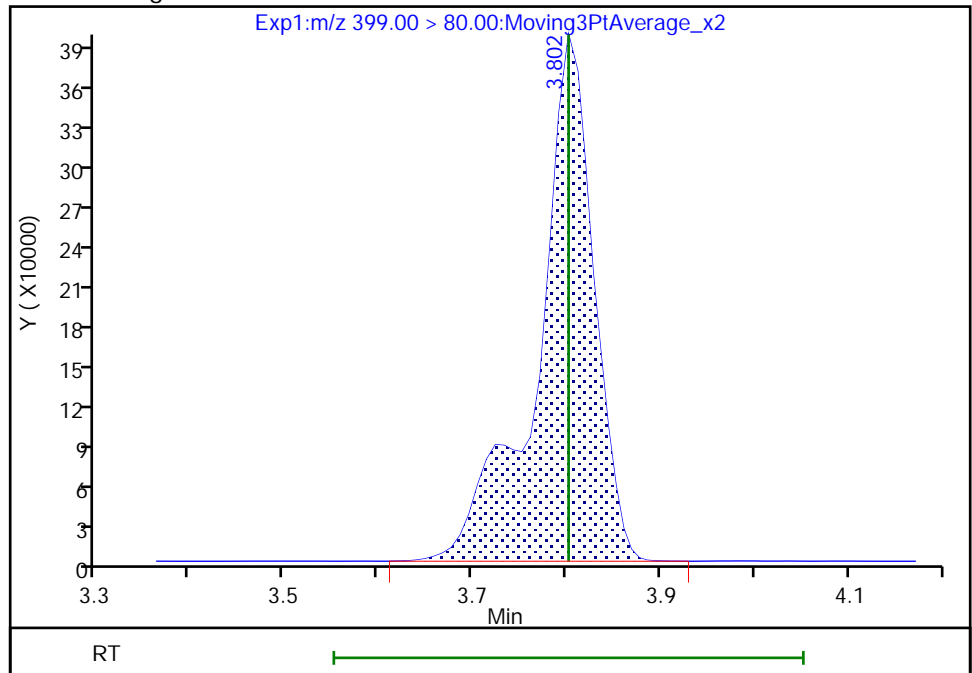
RT: 3.80  
Area: 1347964  
Amount: 0.667085  
Amount Units: ng/ml

Processing Integration Results



RT: 3.80  
Area: 1632319  
Amount: 0.807807  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:29:19  
Audit Action: Manually Integrated

Eurofins Knoxville

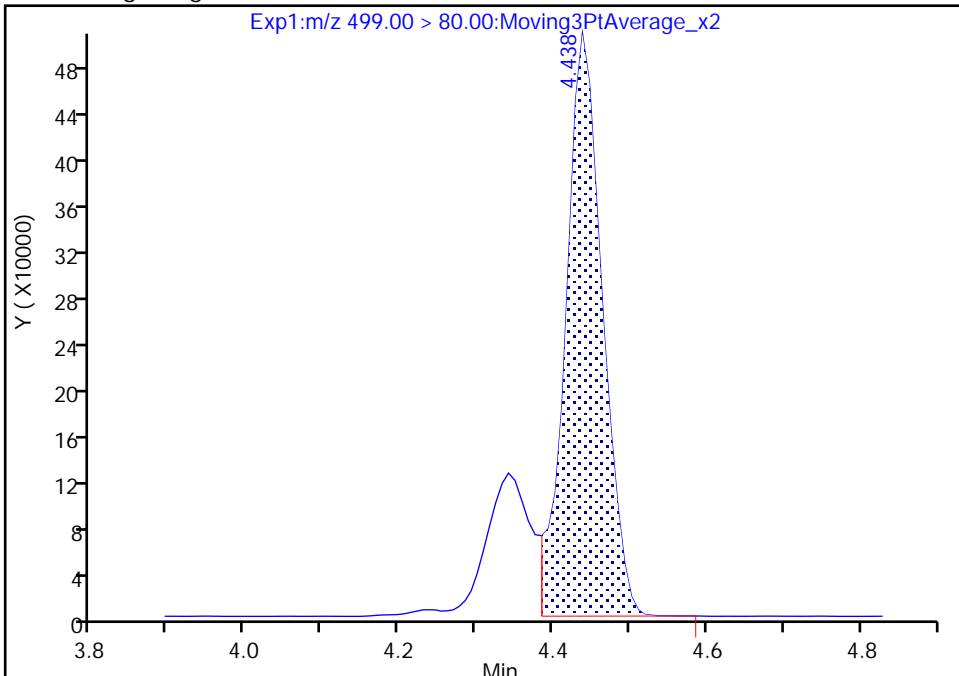
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_007.d  
Injection Date: 21-Feb-2022 10:02:06 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

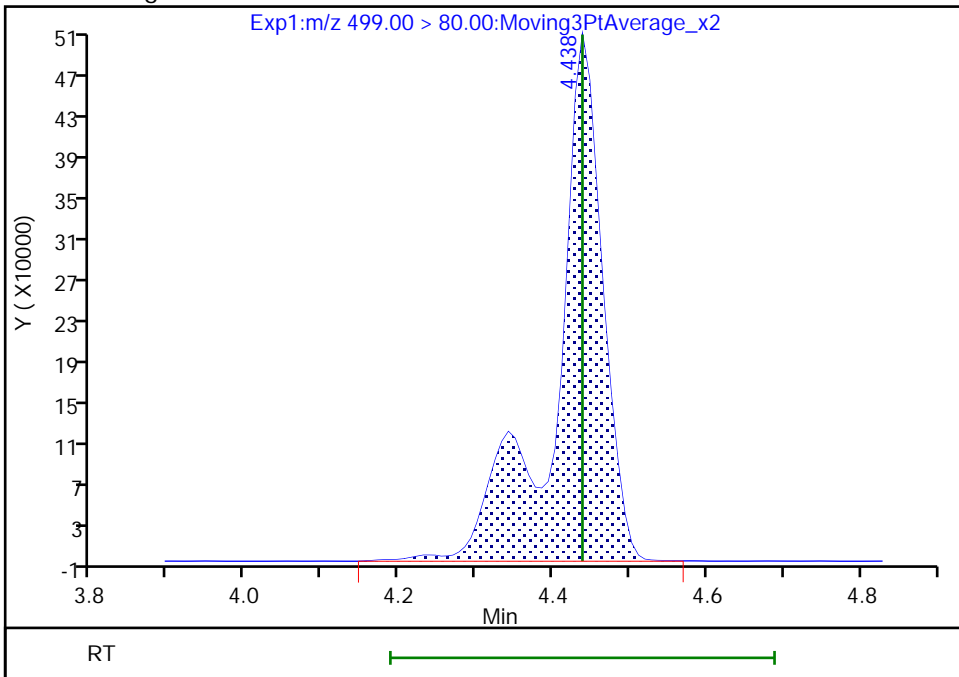
RT: 4.44  
Area: 1666265  
Amount: 0.658873  
Amount Units: ng/ml

Processing Integration Results



RT: 4.44  
Area: 2176539  
Amount: 0.860644  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:29:34  
Audit Action: Manually Integrated

Eurofins Knoxville

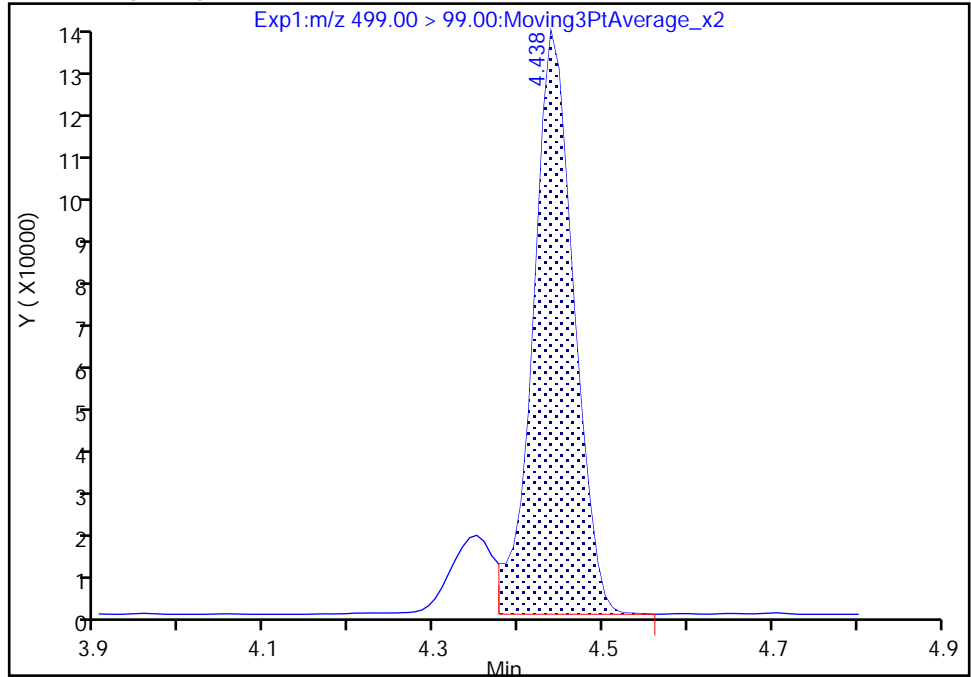
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_007.d  
Injection Date: 21-Feb-2022 10:02:06 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

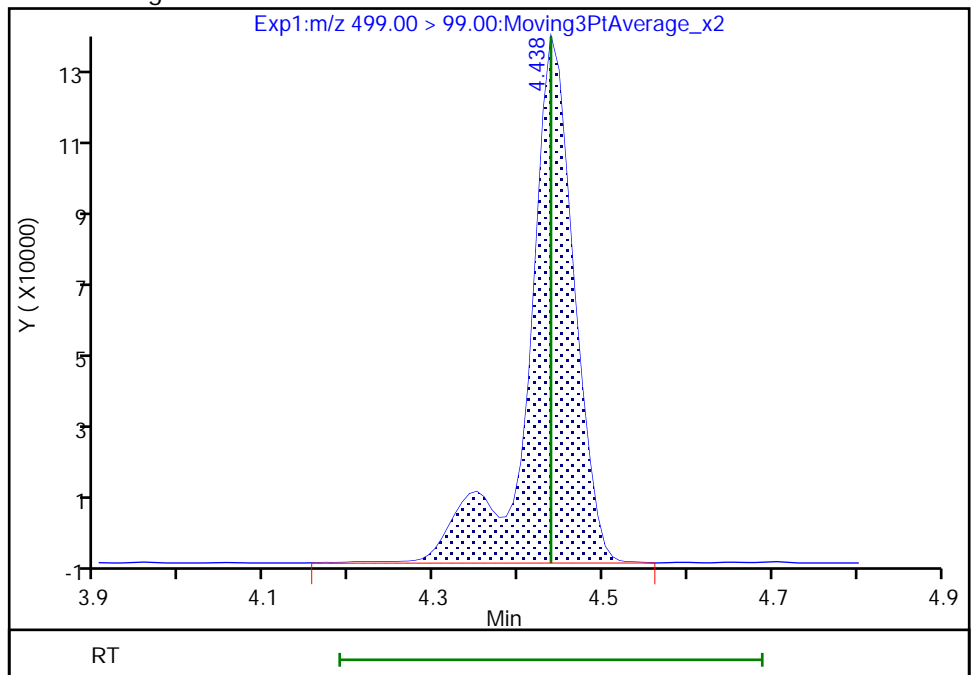
RT: 4.44  
Area: 435610  
Amount: 0.658873  
Amount Units: ng/ml

Processing Integration Results



RT: 4.44  
Area: 498862  
Amount: 0.860644  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:29:45

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

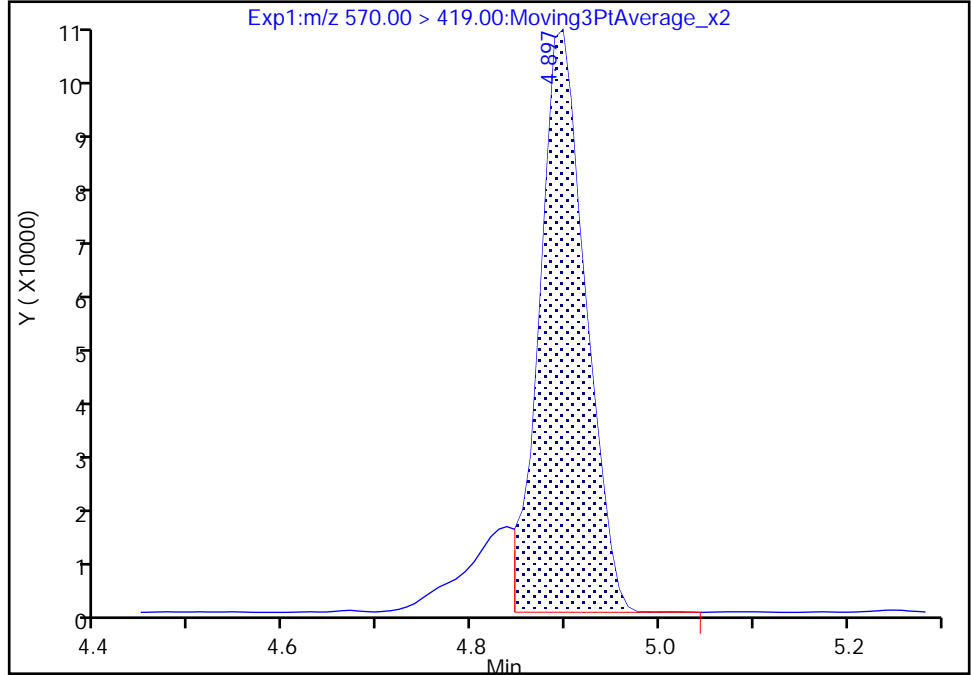
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\\_007.d  
Injection Date: 21-Feb-2022 10:02:06 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

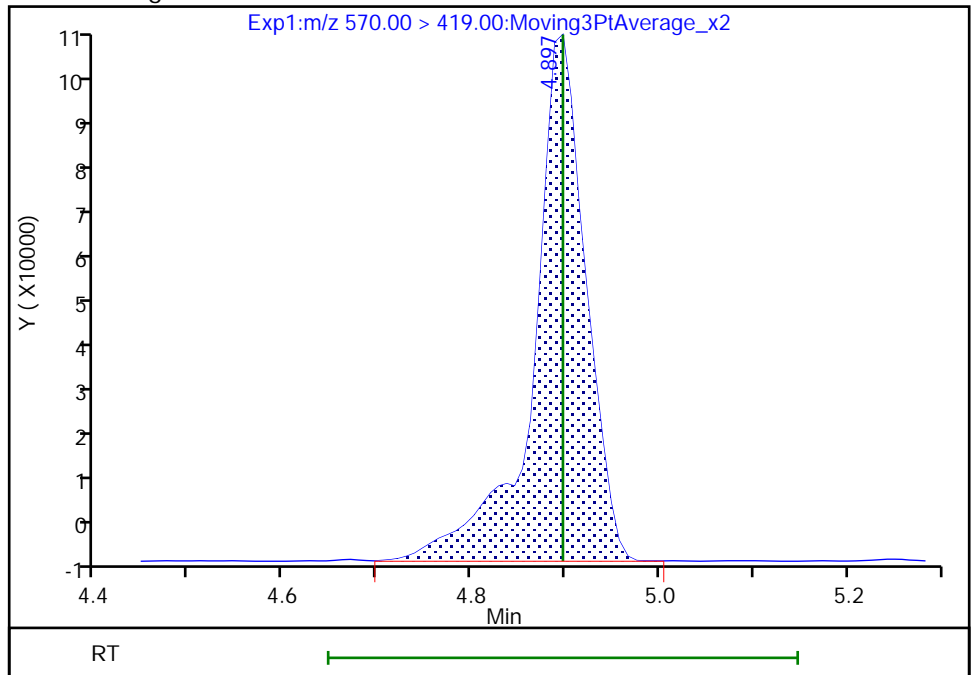
RT: 4.90  
Area: 350213  
Amount: 0.870402  
Amount Units: ng/ml

Processing Integration Results



RT: 4.90  
Area: 405327  
Amount: 1.005290  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:29:58  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

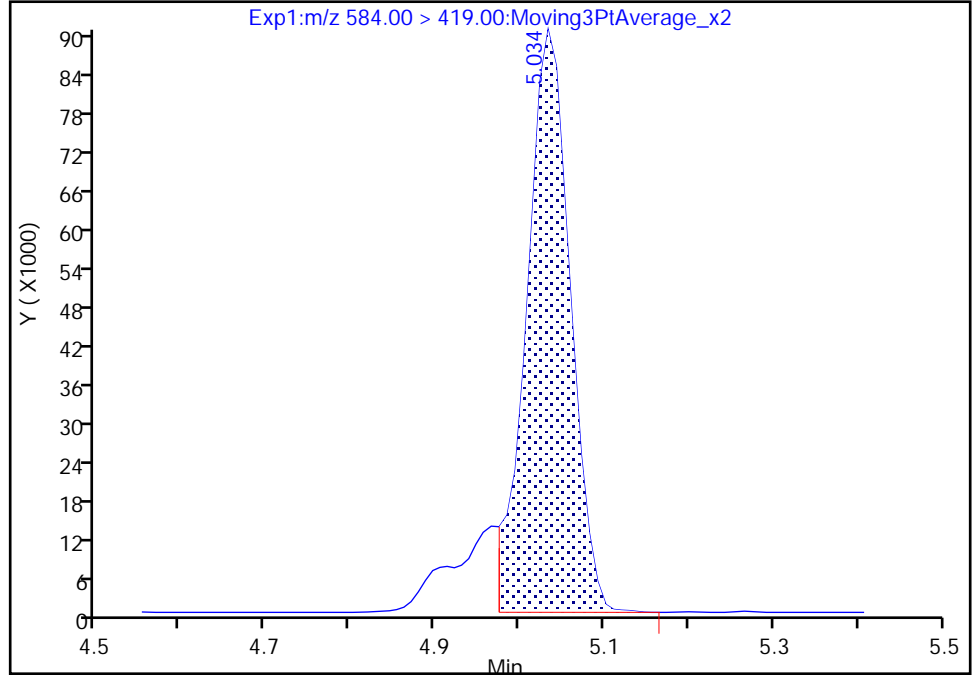
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\\_007.d  
Injection Date: 21-Feb-2022 10:02:06 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

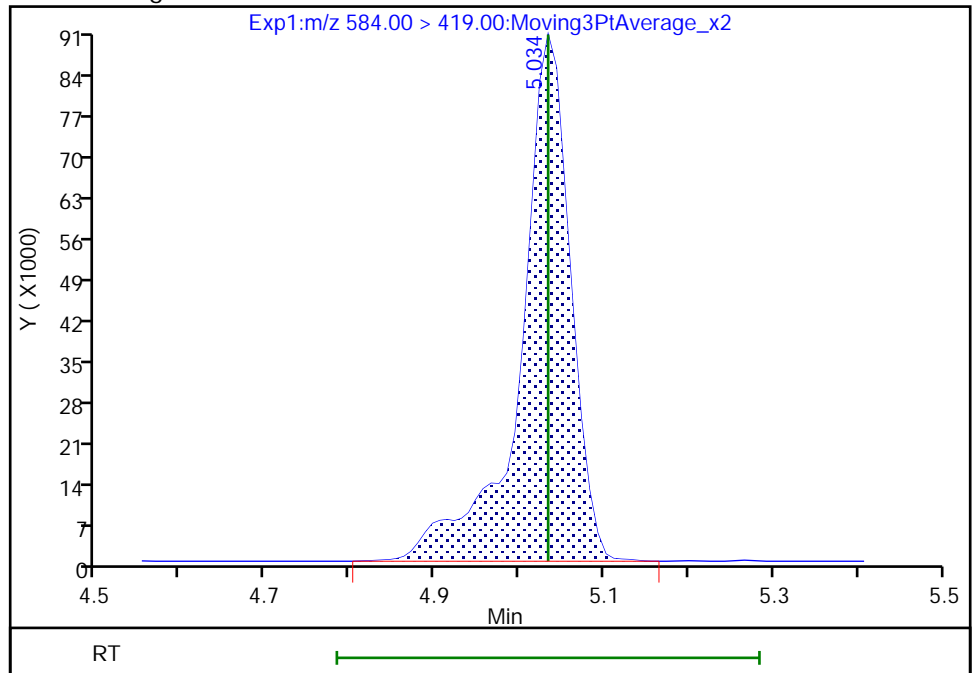
RT: 5.03  
Area: 321408  
Amount: 0.860528  
Amount Units: ng/ml

Processing Integration Results



RT: 5.03  
Area: 372877  
Amount: 0.996379  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:30:09  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59072/14 Calibration Date: 02/21/2022 11:03  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_014.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7599		2.40	2.50	-4.0	40.0
PFECA F	AveID	0.7535	0.8311		2.76	2.50	10.3	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.006		2.68	2.50	7.3	40.0
3:3 FTCA	QuaIF		0.0572		2.64	2.50	5.7	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.129		2.24	2.21	1.5	40.0
PFECA A	Q2ID		1.312		2.75	2.50	9.8	40.0
PES	Q2ID		2.394		2.20	2.23	-1.0	40.0
PFECA B	Q2ID		0.4744		2.73	2.50	9.3	40.0
4:2 FTS	L2ID		2.276		2.34	2.34	0.2	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8686		2.74	2.50	9.7	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.151		2.62	2.35	11.5	40.0
HFPO-DA	L2ID		1.433		2.85	2.50	13.8	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.335		2.19	2.28	-3.6	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.111		2.73	2.50	9.2	40.0
DONA	AveID	2.644	2.343		2.09	2.36	-11.4	40.0
5:3 FTCA	L2ID		3.570		2.37	2.50	-5.0	40.0
6:2 FTUCA	AveID	1.046	0.9808		2.34	2.50	-6.3	40.0
6:2 FTCA	L1ID		0.7552		2.73	2.50	9.3	40.0
PFECHS	AveID	0.7426	0.7617		2.36	2.31	2.6	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	1.035		2.49	2.38	4.8	40.0
6:2 FTS	L2ID		1.791		2.33	2.37	-1.8	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.132		2.65	2.50	6.2	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.169		2.37	2.32	2.1	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7840		2.58	2.50	3.1	40.0
7:3 FTCA	AveID	5.230	5.314		2.54	2.50	1.6	40.0
8:2 FTUCA	AveID	0.9565	0.9929		2.60	2.50	3.8	40.0
8:2 FTCA	AveID	1.811	1.902		2.63	2.50	5.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.277		2.36	2.33	1.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9874		2.34	2.40	-2.4	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9687		2.54	2.50	1.4	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9196		2.57	2.50	2.7	40.0
8:2 FTS	L2ID		1.631		2.61	2.40	8.8	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9878		2.61	2.50	4.5	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8955		2.43	2.41	0.8	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59072/14 Calibration Date: 02/21/2022 11:03  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_014.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9869		2.55	2.50	2.1	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9231		2.54	2.50	1.5	40.0
10:2 FTUCA	AveID	1.208	1.284		2.66	2.50	6.3	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.762		2.39	2.36	1.4	50.0
10:2 FTCA	Q2ID		1.186		3.07	2.50	22.7	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.043		2.52	2.50	0.9	40.0
10:2 FTS	L2ID		2.091		2.41	2.41	0.0	50.0
NMeFOSA	L2ID		1.122		2.61	2.50	4.3	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.194		2.55	2.50	2.0	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9850		2.52	2.42	4.2	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.9063		2.57	2.50	2.6	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.362		2.40	2.50	-4.0	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.261		2.53	2.50	1.3	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1261		2.45	2.50	-2.0	40.0
Perfluorohexadecanoic acid	L1ID		1.169		2.59	2.50	3.5	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9868		2.44	2.50	-2.6	40.0
13C4 PFBA	Ave	1.172	1.120		1.19	1.25	-4.5	50.0
13C5 PFPeA	Ave	0.9197	0.7359		1.00	1.25	-20.0	50.0
13C3 PFBS	Ave	0.5817	0.4977		0.995	1.16	-14.4	50.0
M2-4:2 FTS	Ave	0.1821	0.1624		1.04	1.17	-10.8	50.0
13C2 PFHxA	Ave	1.015	0.8163		1.01	1.25	-19.6	50.0
13C3 HFPO-DA	Ave	0.4963	0.4136		1.04	1.25	-16.6	50.0
18O2 PFHxS	Ave	0.3776	0.3847		1.21	1.18	1.9	50.0
13C4 PFHpA	Ave	0.9046	0.7643		1.06	1.25	-15.5	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3014		1.12	1.25	-10.7	50.0
13C-6:2 FTCA	Ave	0.0260	0.0234		1.12	1.25	-10.1	50.0
M2-6:2 FTS	Ave	0.1799	0.1704		1.13	1.19	-5.3	50.0
13C4 PFOA	Ave	0.9356	0.8798		1.18	1.25	-6.0	50.0
13C4 PFOS	Ave	0.5610	0.5620		1.20	1.20	0.2	50.0
13C5 PFNA	Ave	1.268	1.245		1.23	1.25	-1.8	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4529		1.25	1.25	0.2	50.0
13C-8:2 FTCA	Ave	0.0330	0.0326		1.23	1.25	-1.2	50.0
13C8 FOSA	Ave	0.8475	0.7612		1.12	1.25	-10.2	50.0
13C2 PFDA	Ave	1.210	1.131		1.17	1.25	-6.5	50.0
M2-8:2 FTS	Ave	0.1961	0.1590		0.971	1.20	-18.9	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59072/14 Calibration Date: 02/21/2022 11:03  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_014.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1182		1.30	1.25	4.1	50.0
13C2 PFUnA	Ave	1.168	1.065		1.14	1.25	-8.8	50.0
d5-NEtFOSAA	Ave	0.1164	0.1157		1.24	1.25	-0.7	50.0
13C-10:2 FTUCA	Ave	0.5078	0.3599		0.886	1.25	-29.1	50.0
13C-10:2 FTCA	Ave	0.0309	0.0186		0.753	1.25	-39.7	50.0
13C2 PFDoA	Ave	1.152	0.9711		1.05	1.25	-15.7	50.0
13C2 10:2 FTS	Ave	0.1652	0.1429		1.03	1.18	-13.5	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1115		1.18	1.25	-6.0	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0990		1.23	1.25	-1.9	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1184		1.20	1.25	-3.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0803		1.24	1.25	-0.7	50.0
13C2 PFTeDA	Ave	0.9216	0.7568		1.03	1.25	-17.9	50.0
13C2 PFHxDA	Ave	0.5997	0.4555		0.950	1.25	-24.0	50.0
13C8 PFOA	AveID	0.9229	0.9881		1.34	1.25	7.1	50.0
13C8 PFOS	AveID	0.2212	0.2110		1.14	1.20	-4.6	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_014.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 21-Feb-2022 11:03:45 ALS Bottle#: 14 Worklist Smp#: 14  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022728-014 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 14:32:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: cochranj Date: 21-Feb-2022 14:31:55

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	217.00 > 172.00	2.806	2.825	-0.018	0.679	5277734	1.19	95.5	18539	
1 Perfluorobutanoic acid	212.90 > 169.00	2.806	2.825	-0.018	1.000	8021412	2.40	96.0	2044	
3 PFECA F	229.00 > 85.00	2.913	2.934	-0.021	0.935	5766429	2.76	110	20168	
D 5 13C5 PFPeA	267.90 > 223.00	3.117	3.139	-0.022	0.754	3469118	1.00	80.0	14645	
6 Perfluoropentanoic acid	262.90 > 219.00	3.117	3.139	-0.022	1.000	6976931	2.68	107	2612	
D 7 13C3 PFBS	301.90 > 80.00	3.133	3.148	-0.015	0.758	2182075	0.99	85.6	8576	
4 3:3 FTCA	241.00 > 177.10	3.133	3.148	-0.015	1.000	268643	2.64	Target=1.13	106	2018
	241.00 > 116.90	3.133	3.148	-0.015	1.000	227117		1.18(0.56-1.69)		359
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.133	3.157	-0.024	1.000	4681381	2.24	Target=2.61	102	4310
	298.90 > 99.00	3.133	3.157	-0.024	1.000	1818844		2.57(1.31-3.92)		4171
9 PFECA A	278.95 > 84.90	3.214	3.230	-0.016	1.031	9102676	2.74		110	18136
11 PES	314.80 > 135.00	3.263	3.280	-0.017	1.041	9998934	2.20		99.0	29460
12 PFECA B	295.22 > 201.00	3.387	3.405	-0.018	0.981	3651006	2.73		109	14215
D 18 M2-4:2 FTS	329.00 > 81.00	3.419	3.437	-0.018	0.827	714879	1.04		89.2	2003

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.419	3.437	-0.018	1.000	3253547	2.34		100	10780	
D 14 13C2 PFHxA										
315.00 > 270.00	3.451	3.470	-0.019	0.835	3848116	1.01		80.4	10126	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.451	3.470	-0.019	1.101	5067254	2.61	Target=3.55	112	12160	
349.00 > 99.00	3.451	3.470	-0.019	1.101	1475421		3.43(1.78-5.33)		7554	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.451	3.470	-0.019	1.000	6685331	2.74	Target=11.60	110	3505	
313.00 > 119.00	3.451	3.470	-0.019	1.000	566517		11.80(5.80-17.40)		438	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.556	3.572	-0.016	0.860	1950054	1.04		83.4	6605	
17 HFPO-DA										
285.00 > 169.00	3.556	3.572	-0.016	1.000	5587672	2.85	Target=2.45	114	2469	
329.00 > 169.00	3.556	3.572	-0.016	1.000	2080782		2.69(1.23-3.68)		1903	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.786	3.802	-0.016	1.000	4407334	2.19	Target=3.44	96.4	5774	M
399.00 > 99.00	3.786	3.802	-0.016	1.000	1352939		3.26(1.72-5.17)		5068	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.786	3.802	-0.016	0.916	1715705	1.20		102	5821	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.796	3.812	-0.016	1.000	8006647	2.73	Target=3.25	109	4802	
363.00 > 169.00	3.796	3.812	-0.016	1.000	2445811		3.27(1.62-4.87)		1939	
D 22 13C4 PFHpA										
367.00 > 322.00	3.796	3.812	-0.016	0.918	3603064	1.06		84.5	8368	
25 DONA										
377.00 > 251.00	3.833	3.844	-0.011	0.866	11693207	2.09	Target=1.74	88.6	14347	
377.00 > 85.00	3.833	3.844	-0.011	0.866	6753154		1.73(0.87-2.61)		123	
26 5:3 FTCA										
340.88 > 236.90	3.857	3.877	-0.020	0.987	787728	2.37	Target=1.11	95.0	3261	
340.88 > 216.90	3.857	3.877	-0.020	0.987	691589		1.14(0.56-1.67)		1496	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.891	3.912	-0.021	0.941	1420938	1.12		89.3	2893	
27 6:2 FTUCA										
356.86 > 292.90	3.891	3.912	-0.021	1.000	2787374	2.34	Target=13.05	93.7	3920	
356.86 > 243.00	3.891	3.912	-0.021	1.000	205679		13.55(6.52-19.57)		638	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.908	3.930	-0.022	0.945	110336	1.12		89.9	517	
29 6:2 FTCA										
377.10 > 63.00	3.908	3.930	-0.022	1.000	166641	2.73	Target=1.29	109	612	
377.10 > 313.10	3.908	3.930	-0.022	1.000	121937		1.37(0.65-1.94)		144	
32 PFECHS										
460.80 > 380.90	4.069	4.082	-0.013	0.984	5825665	2.36	Target=1.75	103	12094	
460.80 > 98.90	4.069	4.082	-0.013	0.984	3372159		1.73(0.87-2.62)		7354	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.116	4.130	-0.014	0.930	5218967	2.49	Target=3.72	105	12376	
449.00 > 99.00	4.116	4.130	-0.014	0.930	1315030		3.97(1.86-5.57)		5087	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
37 Perfluorooctanoic acid										
413.00 > 369.00	4.135	4.147	-0.012	1.000	9387958	2.65	Target=2.51	106	5693	
413.00 > 169.00	4.135	4.147	-0.012	1.000	3724208		2.52(1.26-3.77)		6563	
* 30 13C2 PFOA										
415.00 > 370.00	4.135	4.147	-0.012		4714351	1.25			11119	
35 6:2 FTS										
427.00 > 407.00	4.126	4.147	-0.021	1.000	2728702	2.33		98.2	7493	
D 31 13C4 PFOA										
417.00 > 372.00	4.135	4.147	-0.012	1.000	4147871	1.18		94.0	9787	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.126	4.147	-0.021	0.998	763209	1.12		94.7	2020	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.126	4.147	-0.021	0.998	4098601	1.34		107	9753	
D 39 13C4 PFOS										
503.00 > 80.00	4.426	4.438	-0.012	1.070	2532826	1.20		100	3926	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.417	4.438	-0.021	0.998	534521	1.14		95.4	2531	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.426	4.438	-0.012	1.000	5746849	2.37	Target=4.30	102	5469	M
499.00 > 99.00	4.426	4.438	-0.012	1.000	1304530		4.41(2.15-6.45)		3657	M
D 41 13C5 PFNA										
468.00 > 423.00	4.444	4.466	-0.022	1.075	5871597	1.23		98.2	9932	
42 Perfluorononanoic acid										
463.00 > 419.00	4.444	4.466	-0.022	1.000	9206275	2.58	Target=3.60	103	7502	
463.00 > 169.00	4.444	4.466	-0.022	1.000	2130365		4.32(1.80-5.40)		4697	
43 7:3 FTCA										
441.00 > 337.00	4.532	4.545	-0.013	0.993	1635076	2.54	Target=1.42	102	4786	
441.00 > 317.00	4.532	4.545	-0.013	0.993	1141948		1.43(0.71-2.13)		2642	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.557	4.569	-0.012	1.000	2135173	1.25		100	5426	
44 8:2 FTUCA										
456.86 > 392.90	4.549	4.569	-0.020	0.998	4239873	2.60	Target=35.37	104	6418	
456.86 > 343.00	4.549	4.569	-0.020	0.998	109582		38.69(17.68-53.05)		350	
46 8:2 FTCA										
477.00 > 393.10	4.565	4.578	-0.013	1.000	585172	2.63	Target=3.35	105	2231	
477.00 > 63.20	4.565	4.578	-0.013	1.000	170483		3.43(1.68-5.03)		673	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.565	4.586	-0.021	1.104	153856	1.23		98.8	583	
49 9CIFOS										
531.00 > 351.00	4.582	4.594	-0.012	1.108	11243343	2.36		101	18883	
D 55 13C8 FOSA										
506.00 > 78.00	4.710	4.722	-0.012	1.139	3588433	1.12		89.8	3522	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.702	4.722	-0.020	1.062	5022882	2.34	Target=3.99	97.6	9630	
549.00 > 99.00	4.702	4.722	-0.020	1.062	1316727		3.81(2.00-5.99)		5344	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.710	4.722	-0.012	1.000	6952153	2.54		101	5976	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 52 13C2 PFDA										
515.00 > 470.00	4.736	4.748	-0.012	1.145	5329959	1.17		93.5	10144	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.736	4.748	-0.012	1.000	9802680	2.57	Target=10.58	103	7225	
513.00 > 169.00	4.736	4.748	-0.012	1.000	903954		10.84(5.29-15.88)		495	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.744	4.757	-0.013	1.147	718123	0.9709		81.1	2102	
53 8:2 FTS										
527.00 > 507.00	4.744	4.757	-0.013	1.000	2342135	2.61		109	8635	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.876	4.889	-0.013	1.179	557050	1.30		104	173	
57 NMeFOSAA										
570.00 > 419.00	4.885	4.897	-0.012	1.002	1100560	2.61		104	1698	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.961	4.985	-0.024	1.121	4574190	2.43	Target=3.55	101	13223	
599.00 > 99.00	4.961	4.985	-0.024	1.121	1280486		3.57(1.78-5.33)		6258	
D 59 13C2 PFUnA										
565.00 > 520.00	4.999	5.014	-0.015	1.209	5022256	1.14		91.2	13273	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.999	5.014	-0.015	1.000	9913431	2.55	Target=8.26	102	8743	
563.00 > 169.00	4.999	5.014	-0.015	1.000	1138506		8.71(4.13-12.39)		4093	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.009	5.024	-0.015	1.211	545243	1.24		99.3	1572	
62 NEtFOSAA										
584.00 > 419.00	5.019	5.034	-0.015	1.002	1006627	2.54		102	630	
65 10:2 FTUCA										
556.86 > 492.90	5.097	5.111	-0.014	1.000	4357618	2.66		106	6082	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.097	5.111	-0.014	1.233	1696707	0.8859		70.9	4426	
63 11CIFOS										
631.00 > 451.00	5.097	5.111	-0.014	1.152	8794884	2.39		101	9959	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.116	5.130	-0.014	1.237	87848	0.7532		60.3	528	
66 10:2 FTCA										
576.80 > 493.00	5.116	5.130	-0.014	1.000	208338	3.07	Target=2.53	123	1201	
576.80 > 63.10	5.116	5.130	-0.014	1.000	79336		2.63(1.26-3.79)		323	
D 69 13C2 PFDaA										
615.00 > 570.00	5.230	5.243	-0.013	1.265	4578174	1.05		84.3	10468	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.230	5.243	-0.013	1.000	9546870	2.52	Target=6.85	101	8199	
613.00 > 169.00	5.230	5.243	-0.013	1.000	1392771		6.85(3.43-10.28)		3078	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.246	5.266	-0.020	1.269	638291	1.02		86.5	4397	
71 10:2 FTS										
627.00 > 607.00	5.254	5.266	-0.012	1.002	2716308	2.41		100	7681	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.278	5.292	-0.014	1.277	525466	1.18		94.0	586	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
74 NMeFOSA										
512.00 > 169.00	5.287	5.292	-0.005	1.002	1047406	2.61		104	1240	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.278	5.292	-0.014	1.277	466885	1.23		98.1	49.8	
75 N-MeFOSE-M										
616.00 > 59.00	5.296	5.301	-0.005	1.003	1255240	2.55		102	1520	
76 PFDoS										
699.00 > 80.00	5.403	5.417	-0.014	1.221	5052046	2.52	Target=4.22	104	11267	
699.00 > 99.00	5.403	5.417	-0.014	1.221	1162833		4.34(2.11-6.34)		5455	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.439	5.443	-0.004	1.315	558258	1.20		96.3	272	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.439	5.452	-0.013	1.040	8298490	2.57	Target=6.32	103	8212	
663.00 > 169.00	5.439	5.452	-0.013	1.040	1388980		5.97(3.16-9.48)		4825	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.448	5.461	-0.013	1.317	378768	1.24		99.3	749	
81 N-EtFOSA-M										
526.00 > 169.00	5.456	5.461	-0.005	1.002	955372	2.53		101	778	
79 N-EtFOSE-M										
630.00 > 59.00	5.448	5.461	-0.013	1.002	1520684	2.40		96.0	1597	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.622	5.636	-0.014	1.360	3568046	1.03		82.1	8763	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.622	5.636	-0.014	1.000	900207	2.45	Target=1.01	98.0	2454	
713.00 > 219.00	5.622	5.636	-0.014	1.000	869576		1.04(0.51-1.52)		2955	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.929	5.940	-0.011	1.000	5022629	2.59	Target=8.64	104	5028	
813.00 > 169.00	5.929	5.940	-0.011	1.000	620745		8.09(4.32-12.97)		1329	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.929	5.947	-0.018	1.434	2147575	0.9496		76.0	5102	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.187	6.207	-0.020	1.044	4238252	2.44	Target=11.77	97.4	4631	
913.00 > 169.00	6.187	6.207	-0.020	1.044	372465		11.38(5.88-17.65)		932	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220221-22728.b\_014.d

Injection Date: 21-Feb-2022 11:03:45

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 14

Worklist Smp#: 14

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

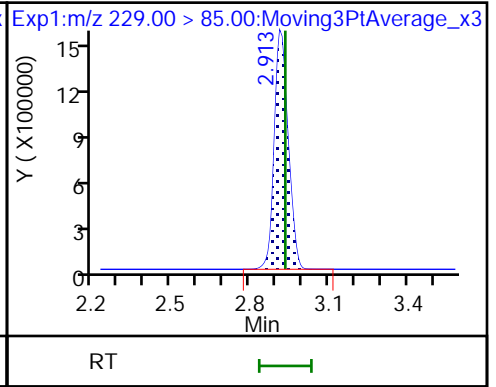
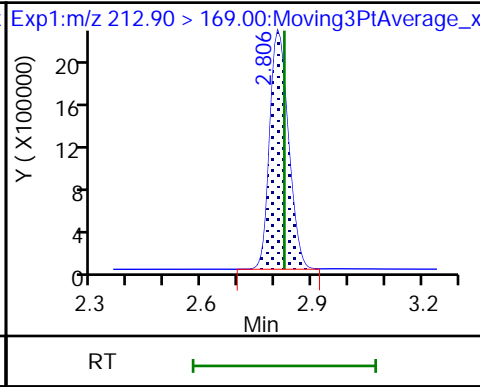
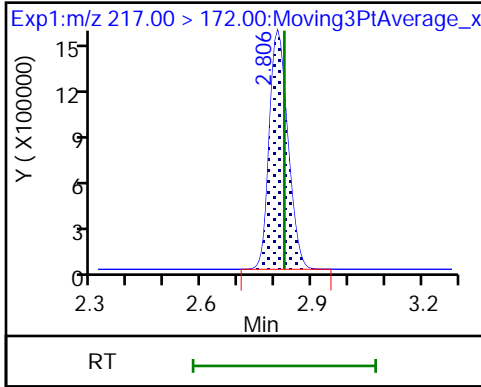
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

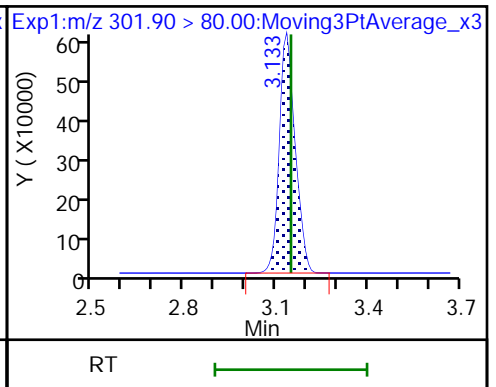
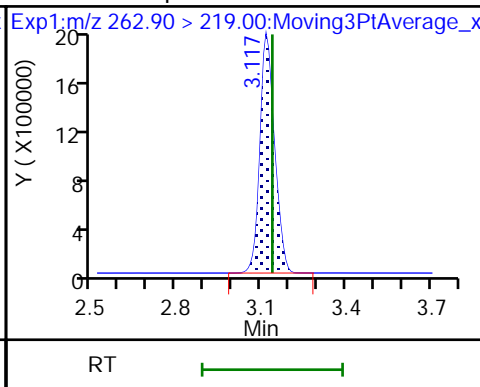
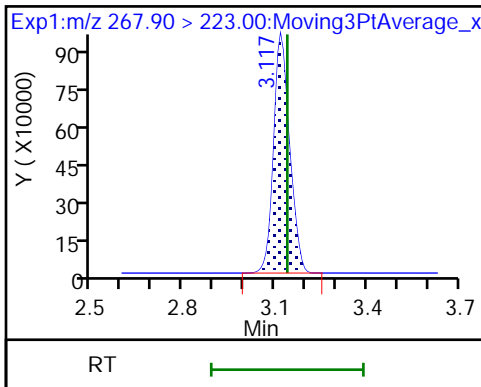
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

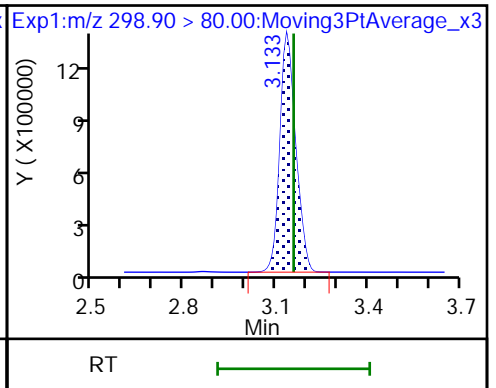
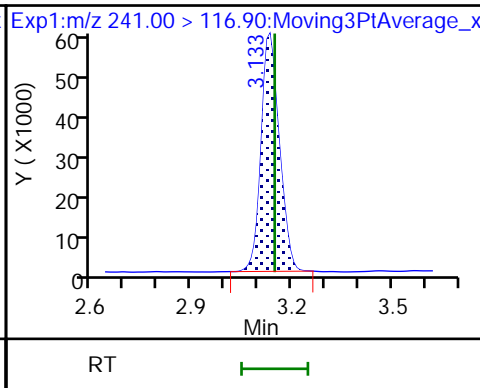
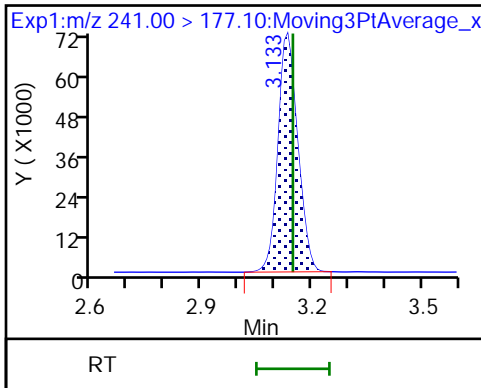
D 7 13C3 PFBS



4 3:3 FTCA

4 3:3 FTCA

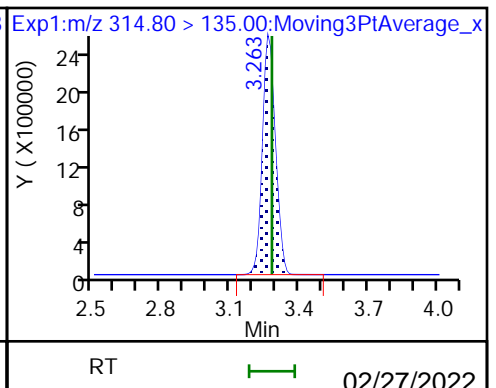
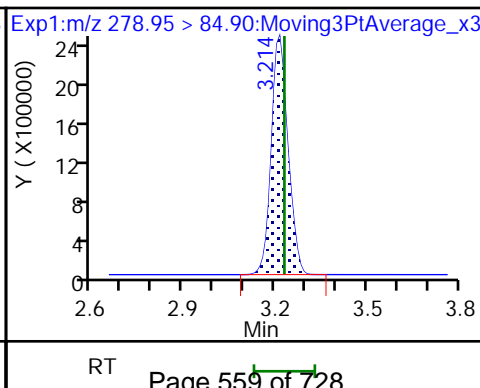
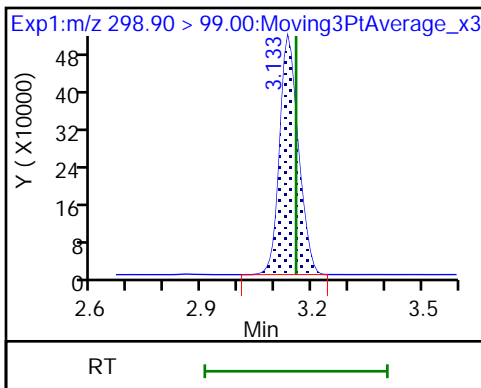
8 Perfluorobutanesulfonic acid

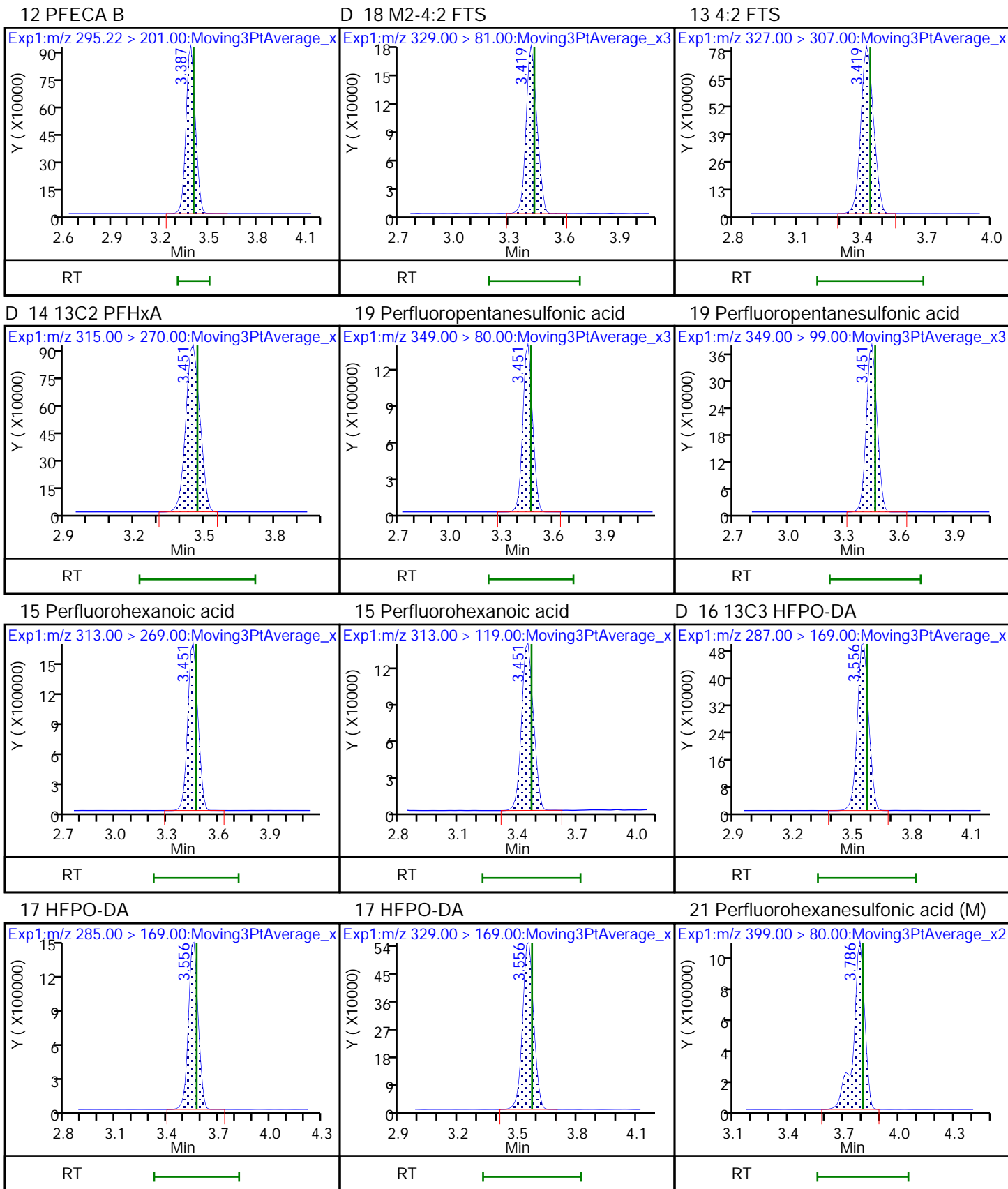


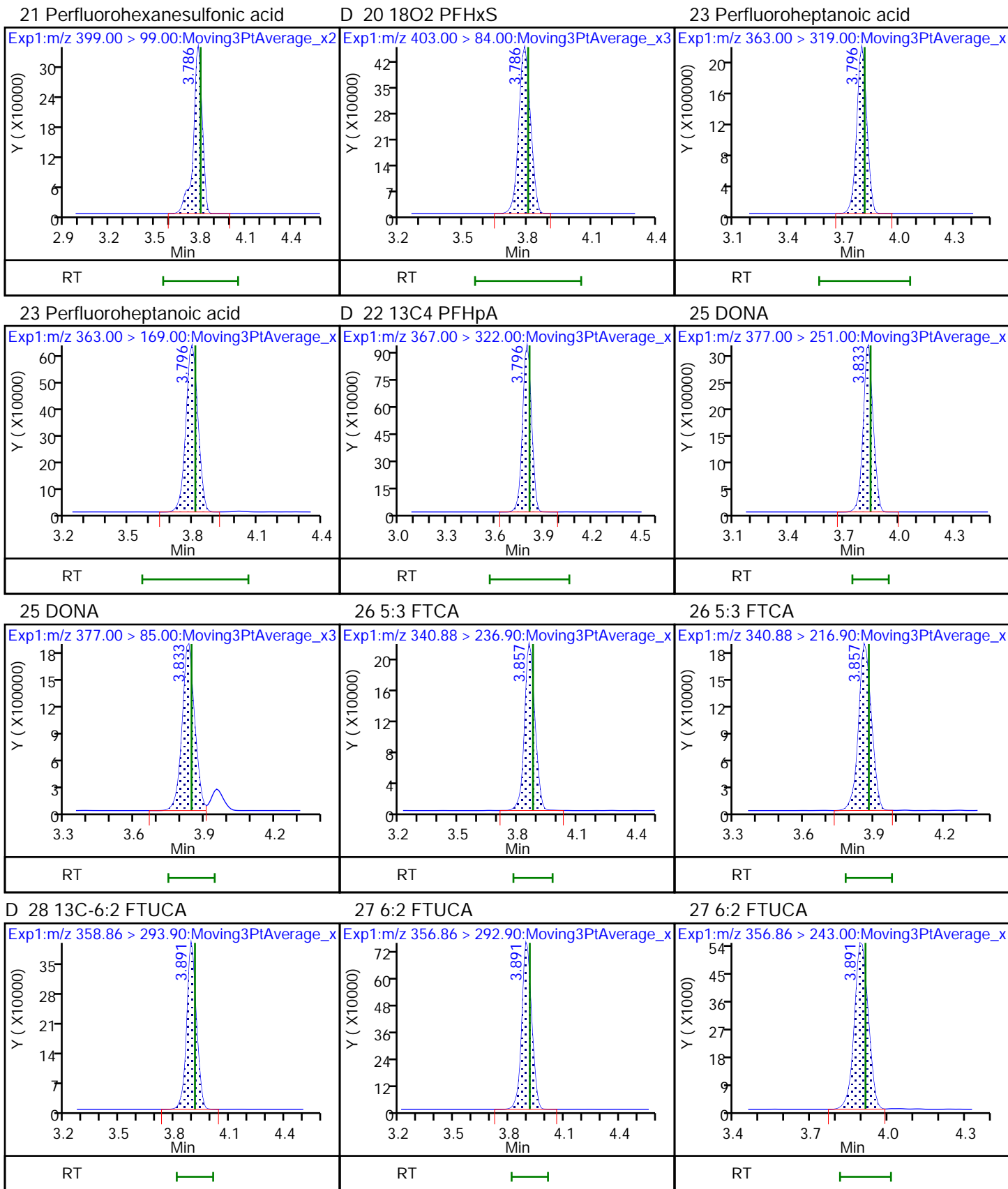
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



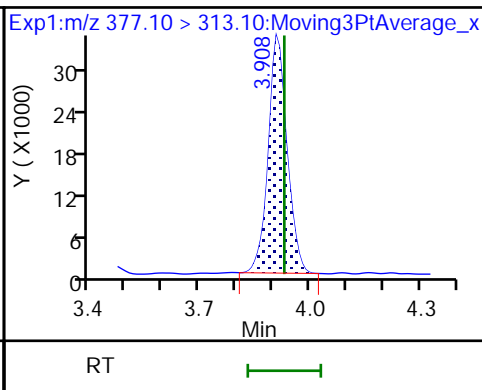
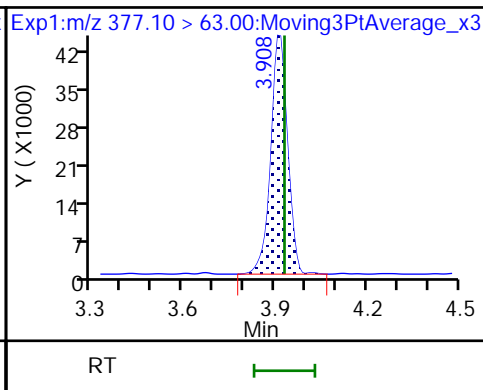
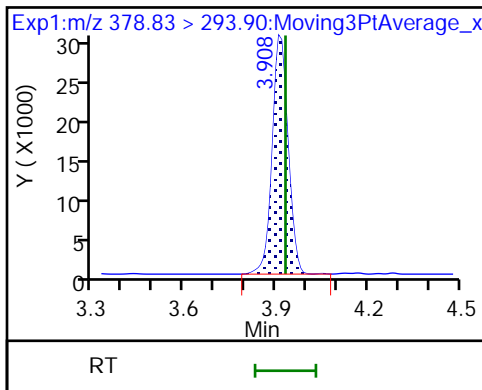




D 24 13C-6:2 FTCA

29 6:2 FTCA

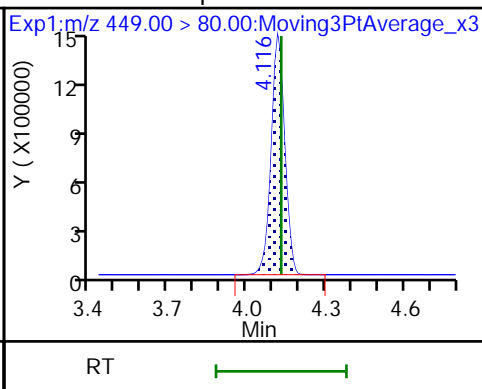
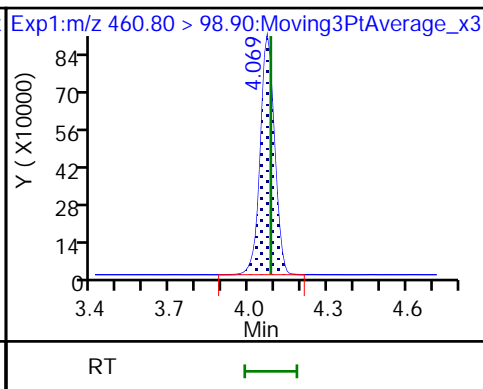
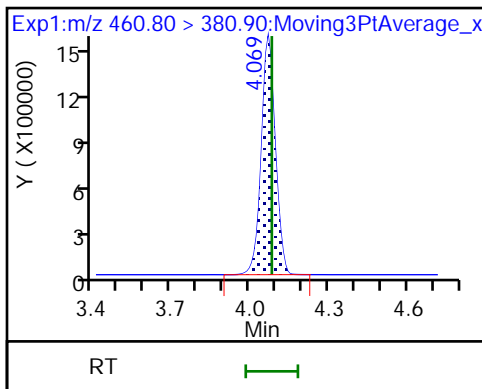
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32 PFECHS

32 PFECHS

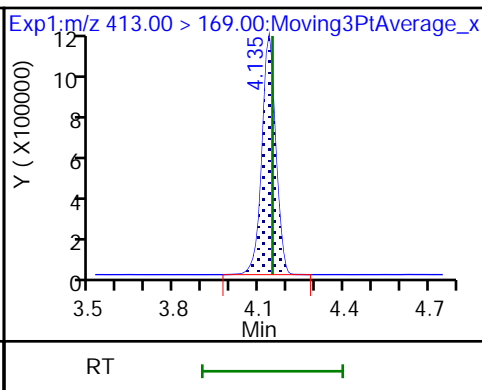
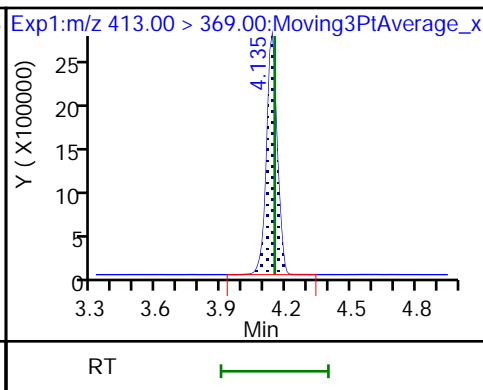
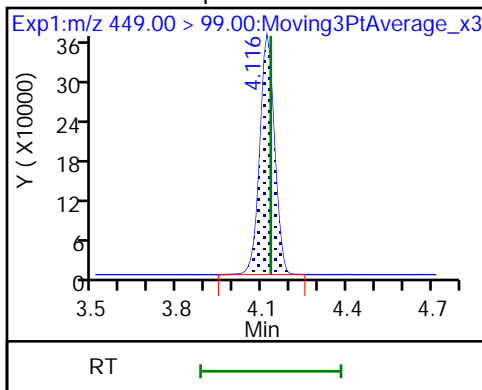
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

37 Perfluorooctanoic acid

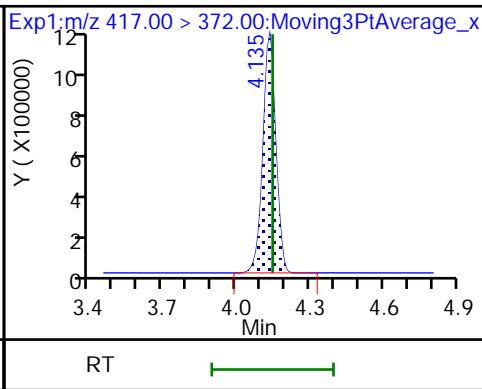
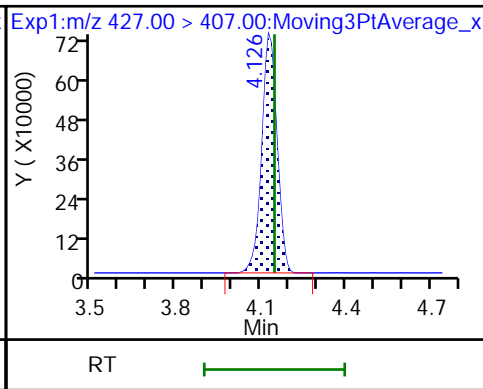
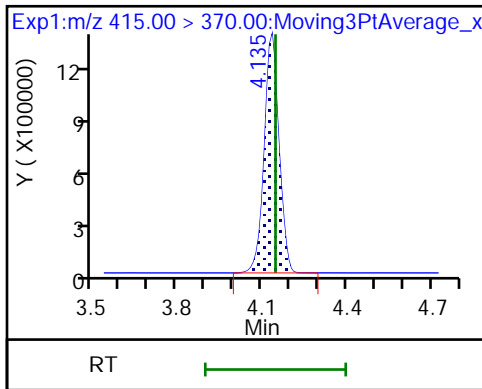
37 Perfluorooctanoic acid



\* 30 13C2 PFOA

35 6:2 FTS

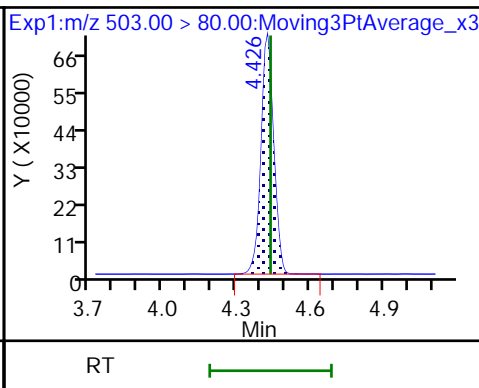
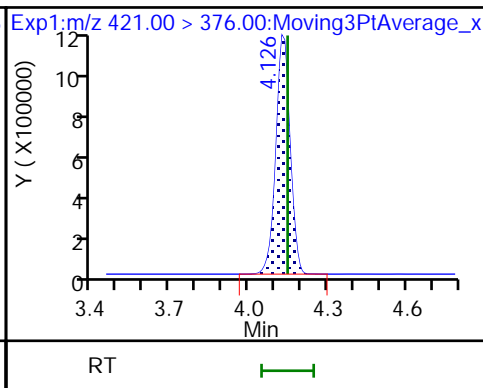
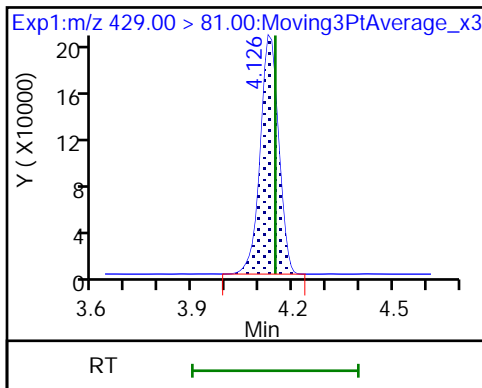
D 31 13C4 PFOA



D 34 M2-6:2 FTS

\$ 36 13C8 PFOA

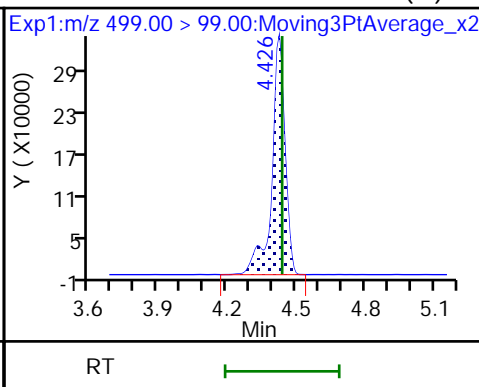
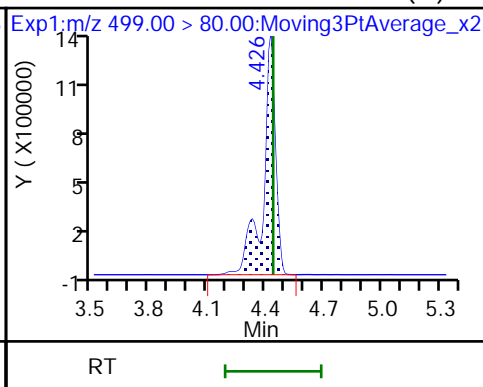
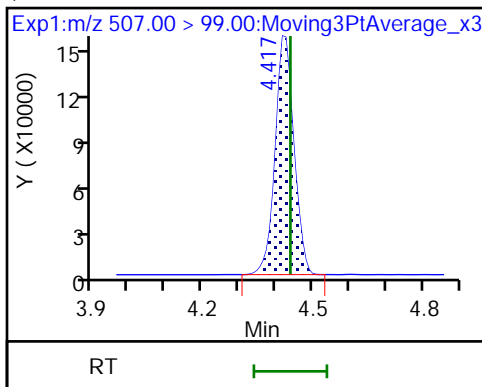
D 39 13C4 PFOS



\$ 38 13C8 PFOS

40 Perfluorooctanesulfonic acid (M)

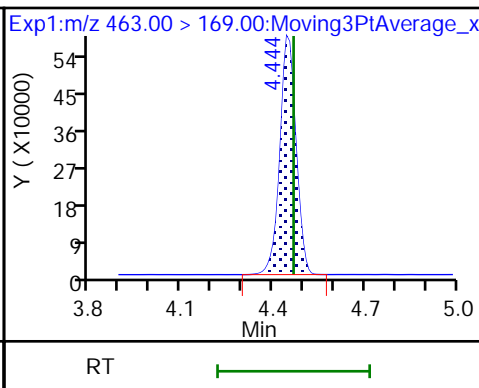
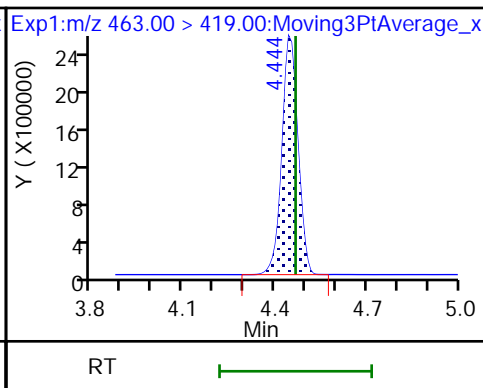
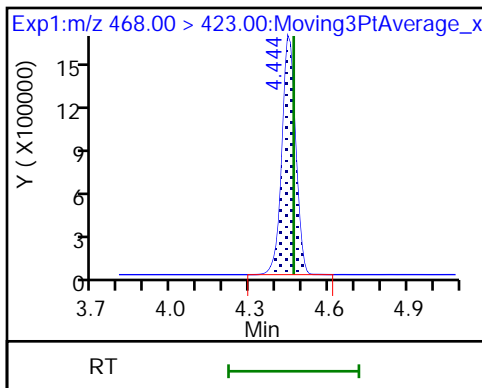
40 Perfluorooctanesulfonic acid (M)



D 41 13C5 PFNA

42 Perfluorononanoic acid

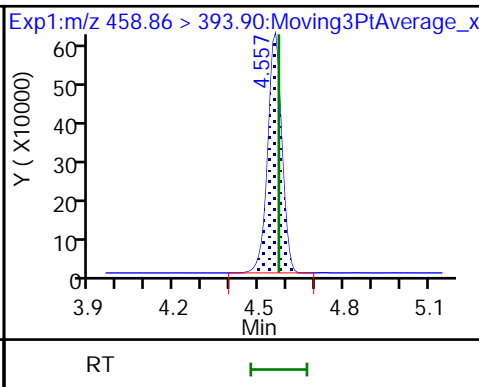
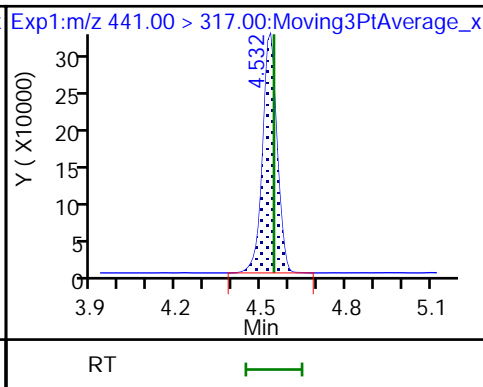
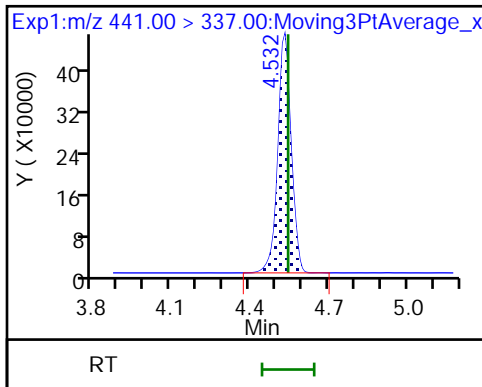
42 Perfluorononanoic acid

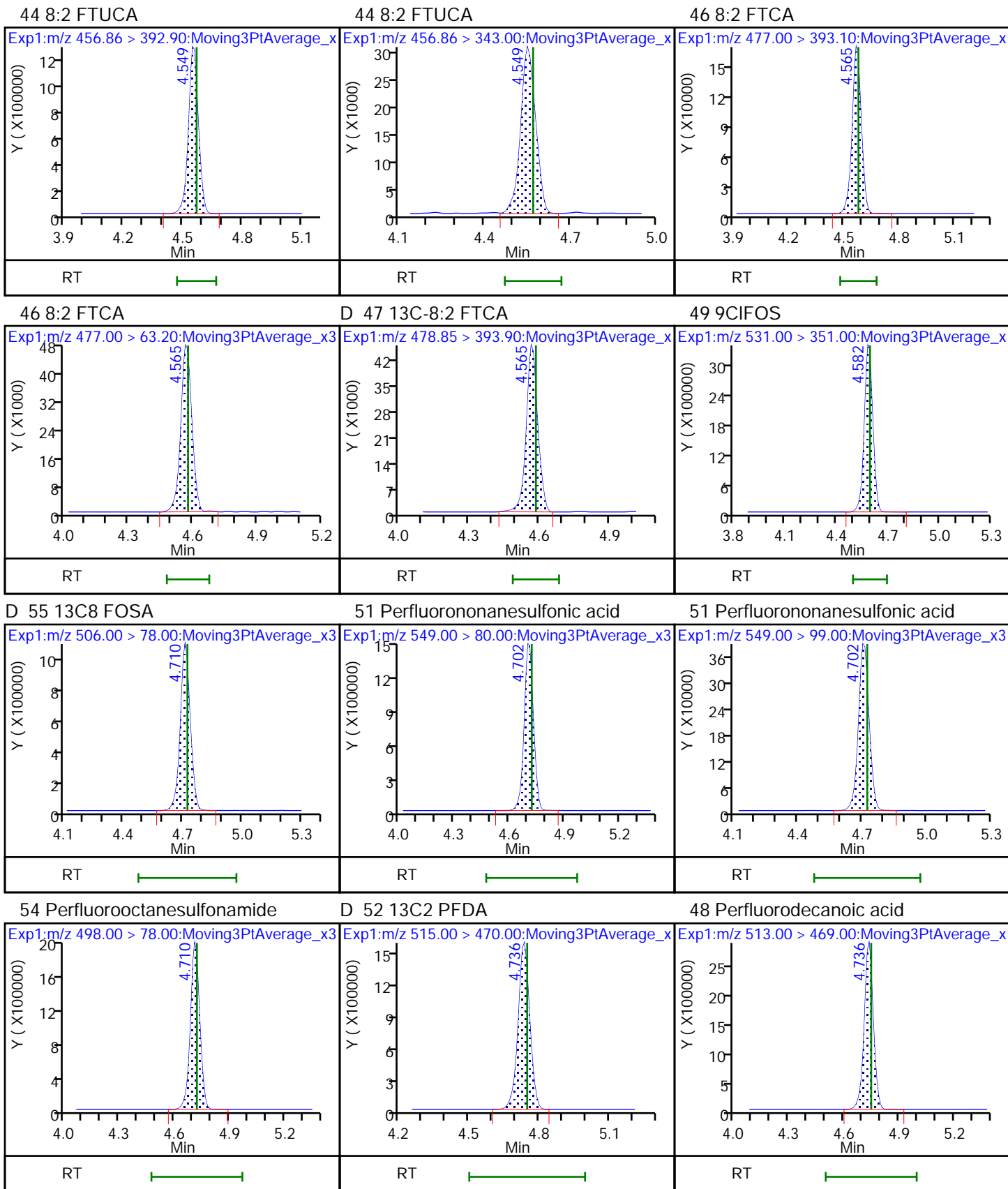


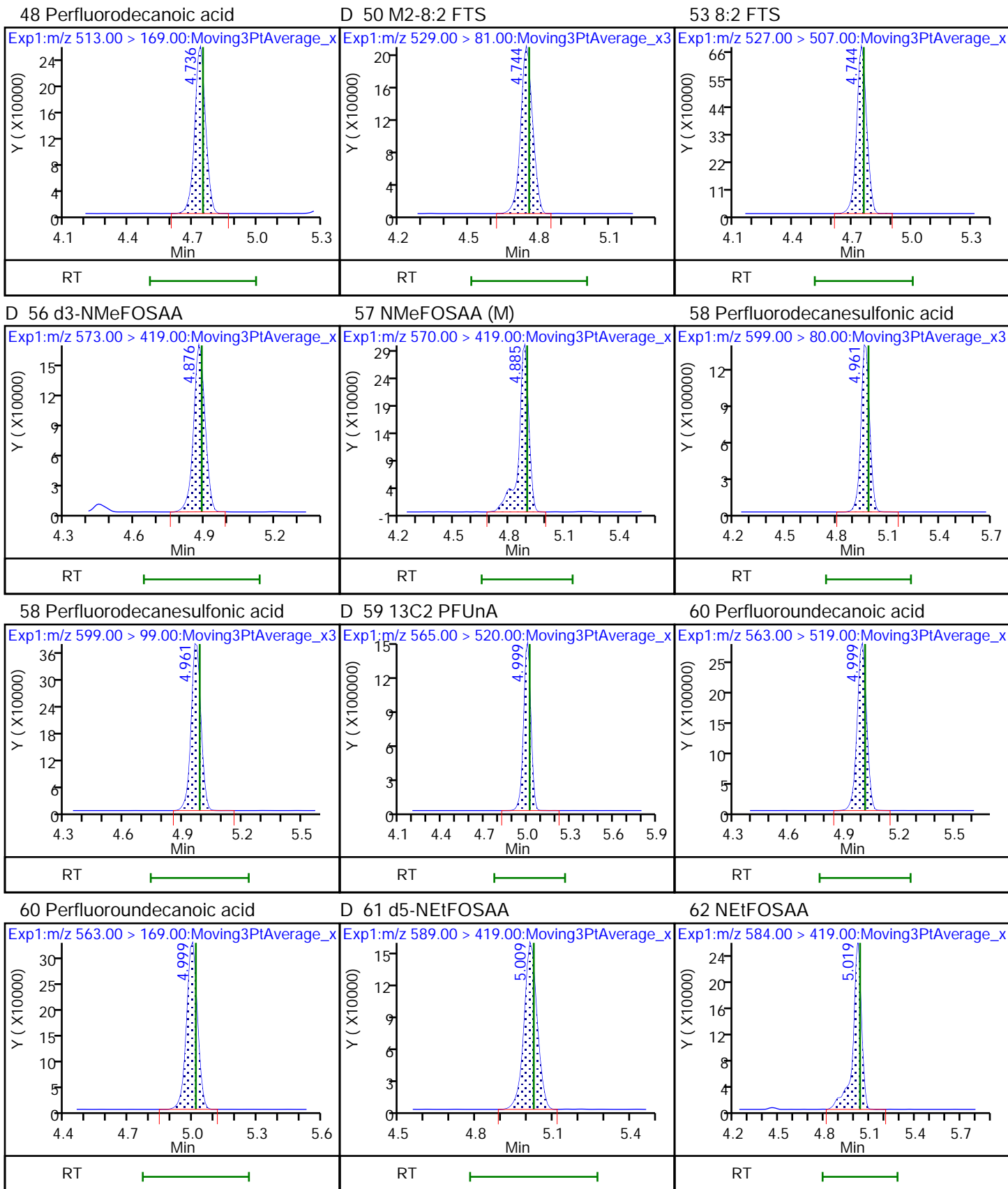
43 7:3 FTCA

43 7:3 FTCA

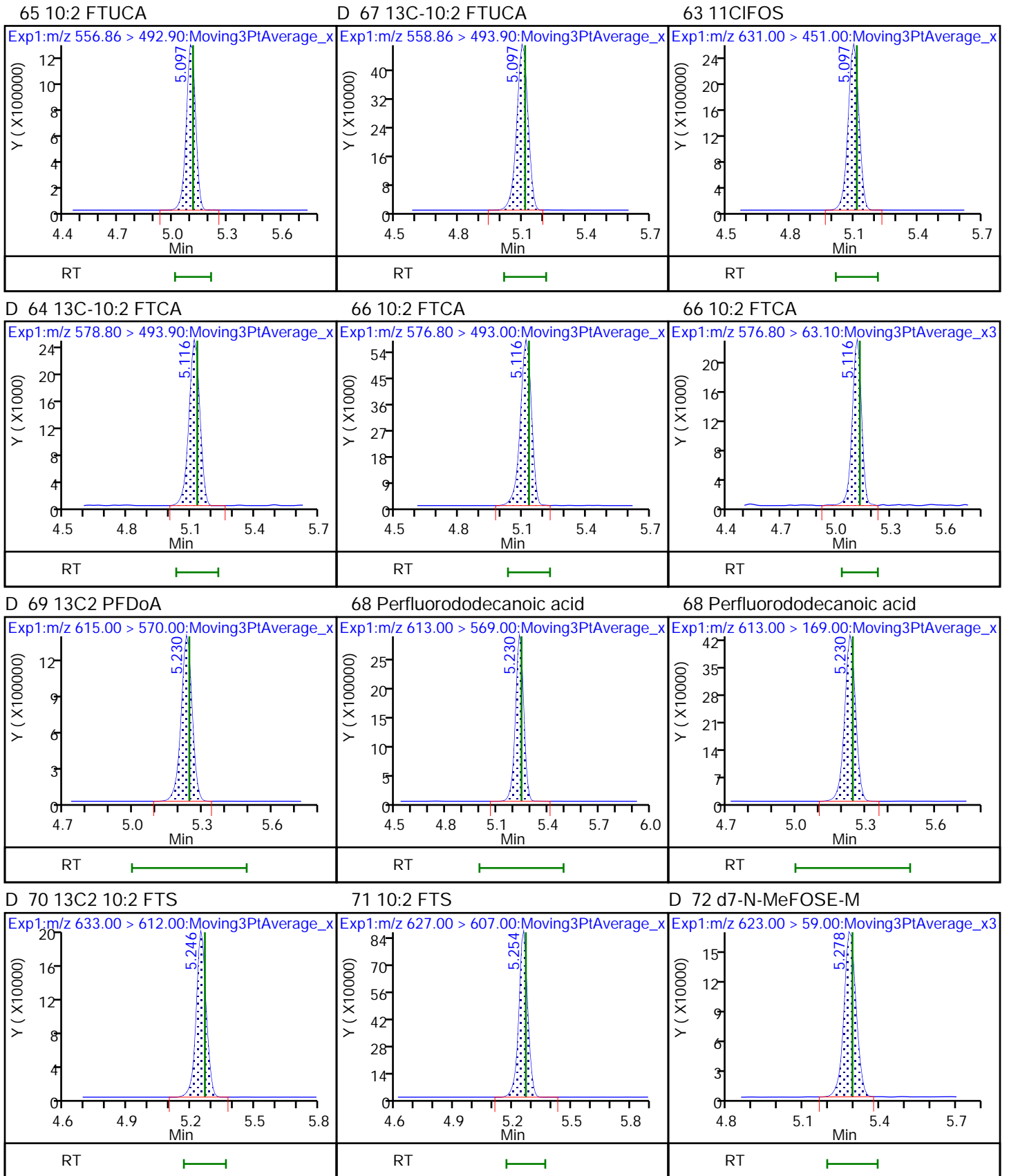
D 45 13C-8:2 FTUCA

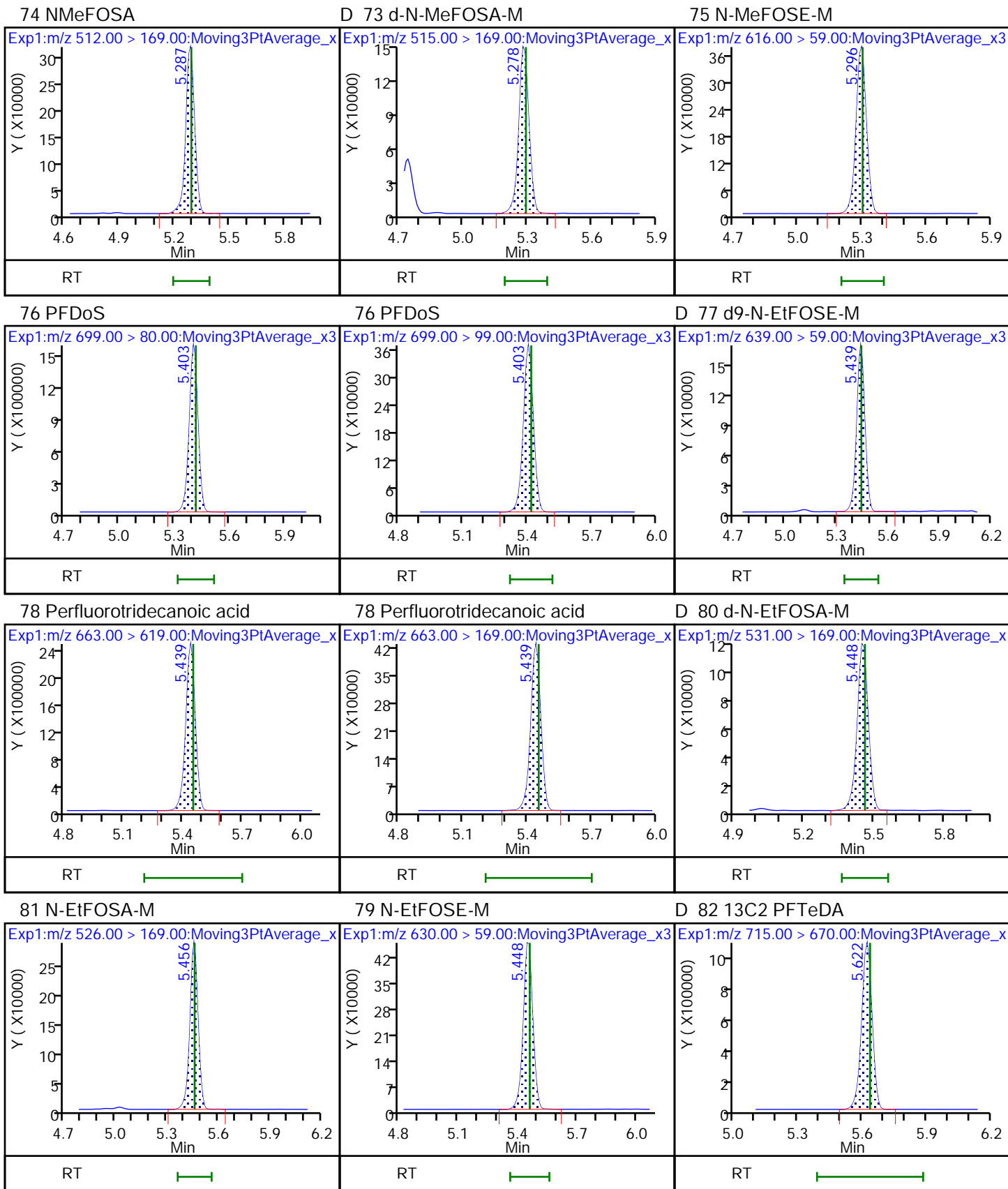


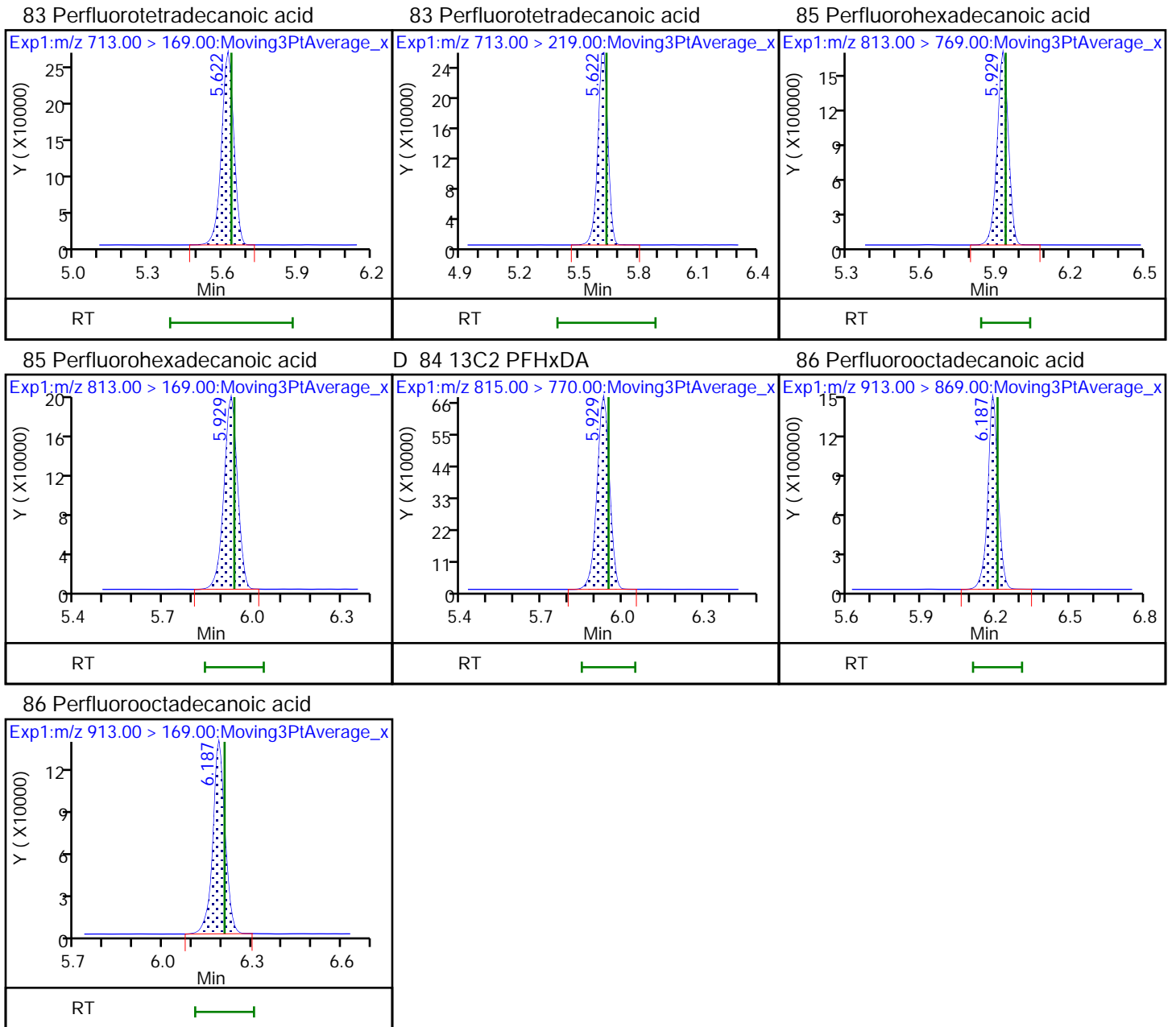












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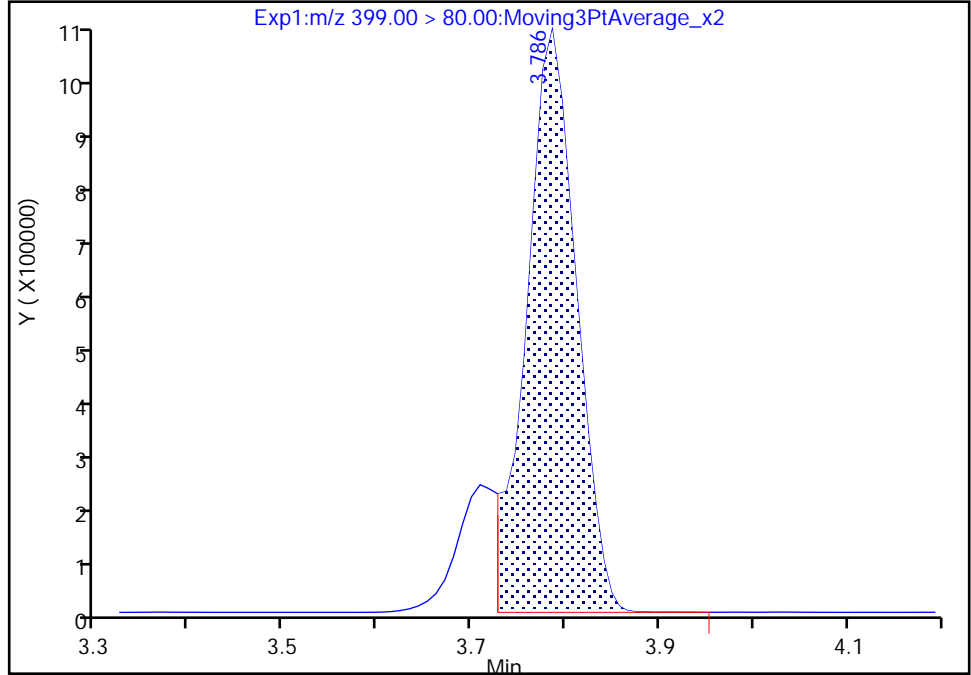
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_014.d  
Injection Date: 21-Feb-2022 11:03:45 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 14 Worklist Smp#: 14  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

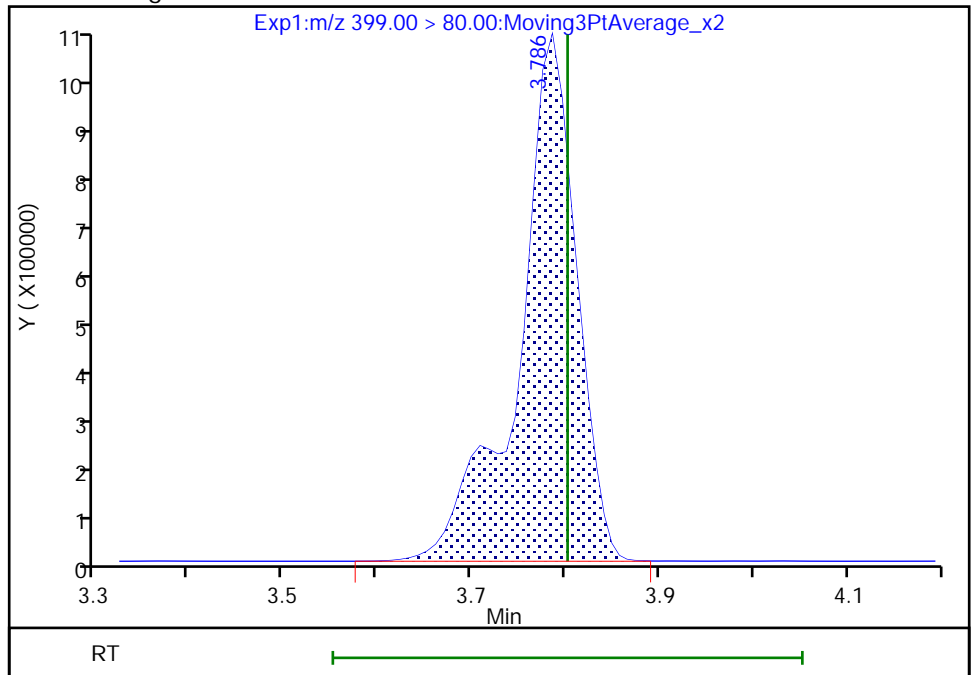
RT: 3.79  
Area: 3764478  
Amount: 1.873186  
Amount Units: ng/ml

Processing Integration Results



RT: 3.79  
Area: 4407334  
Amount: 2.193068  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:31:12  
Audit Action: Manually Integrated

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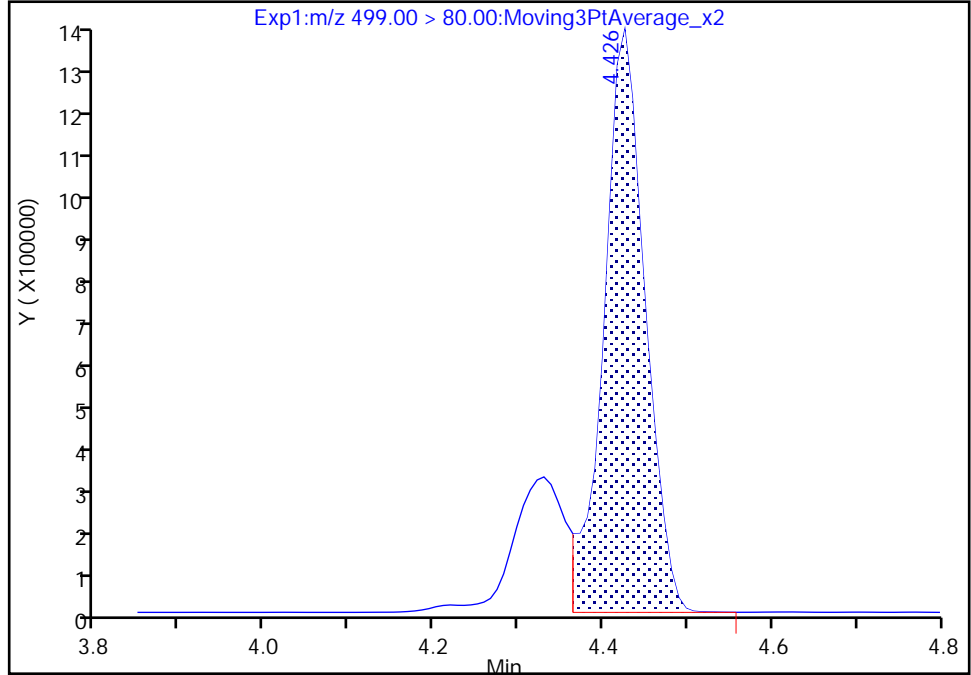
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_014.d  
Injection Date: 21-Feb-2022 11:03:45 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 14 Worklist Smp#: 14  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

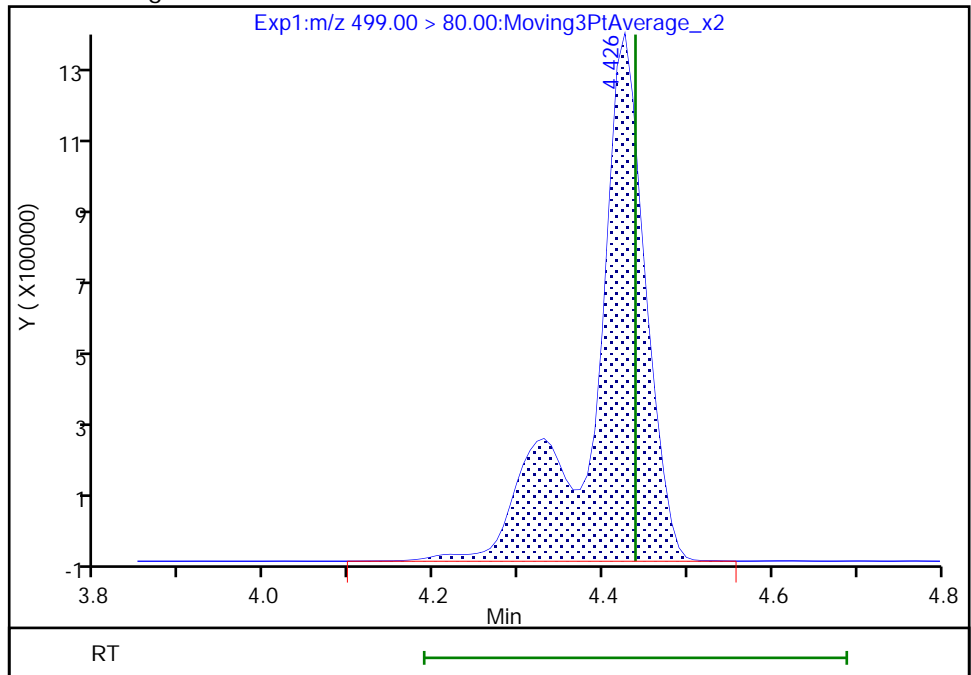
RT: 4.43  
Area: 4454533  
Amount: 1.835178  
Amount Units: ng/ml

Processing Integration Results



RT: 4.43  
Area: 5746849  
Amount: 2.367586  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:31:26  
Audit Action: Manually Integrated

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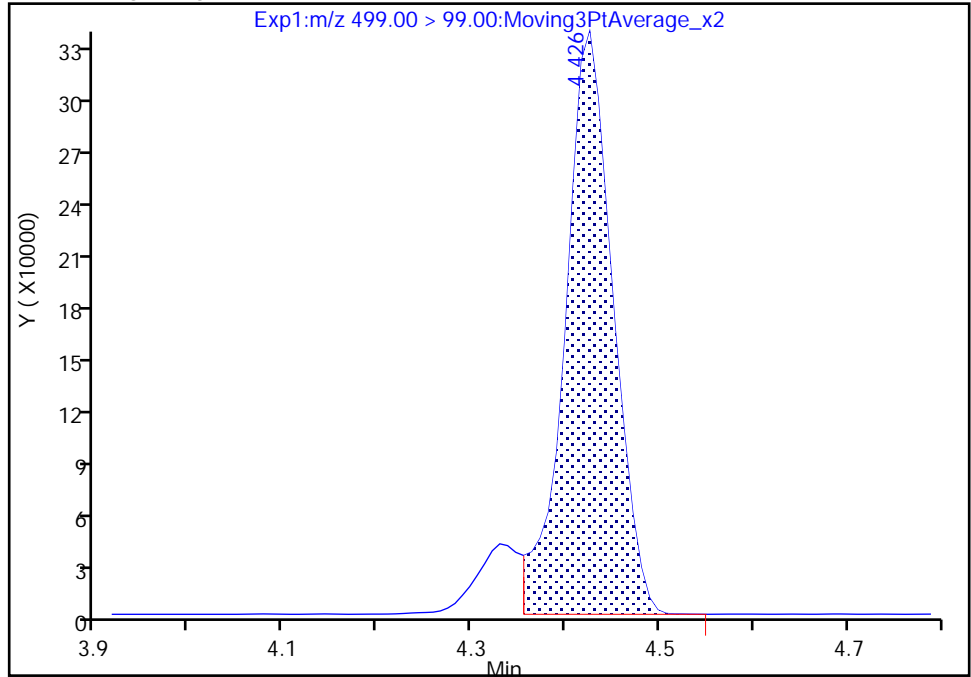
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_014.d  
Injection Date: 21-Feb-2022 11:03:45 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 14 Worklist Smp#: 14  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

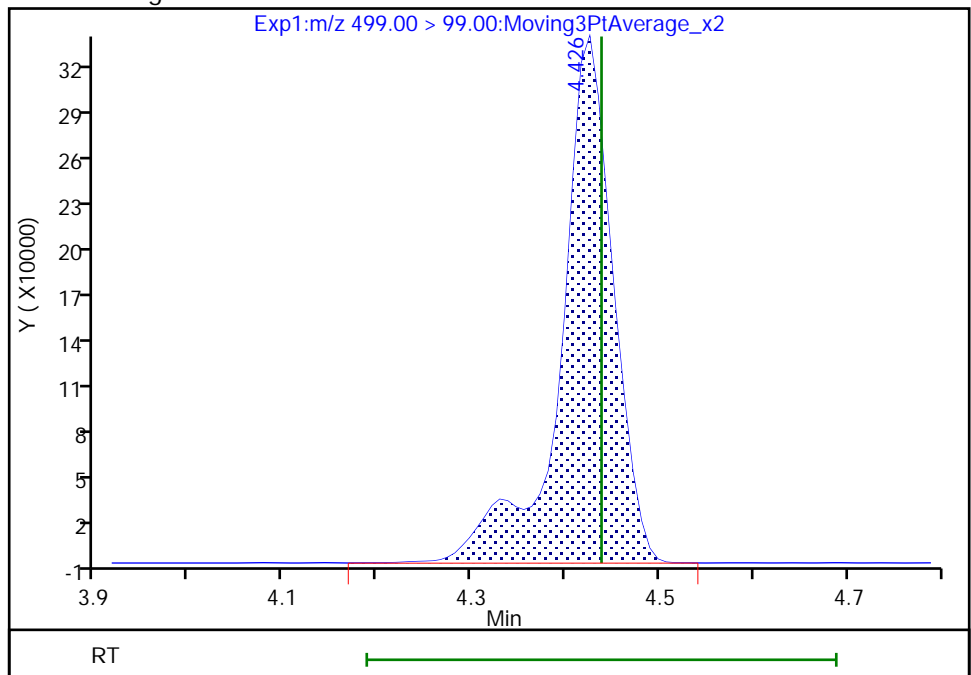
RT: 4.43  
Area: 1173300  
Amount: 1.835178  
Amount Units: ng/ml

Processing Integration Results



RT: 4.43  
Area: 1304530  
Amount: 2.367586  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:31:33

Audit Action: Manually Integrated

Audit Reason: Baseline  
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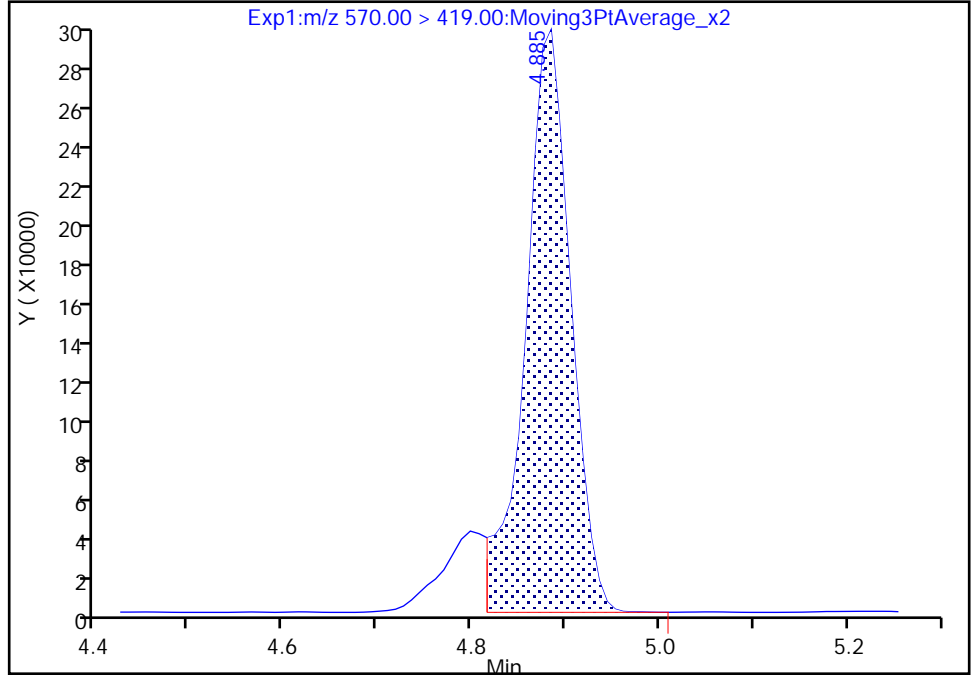
Data File: \\chromfs\Knoxville\ChromData\LCA\20220221-22728.b\_014.d  
Injection Date: 21-Feb-2022 11:03:45 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 14 Worklist Smp#: 14  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

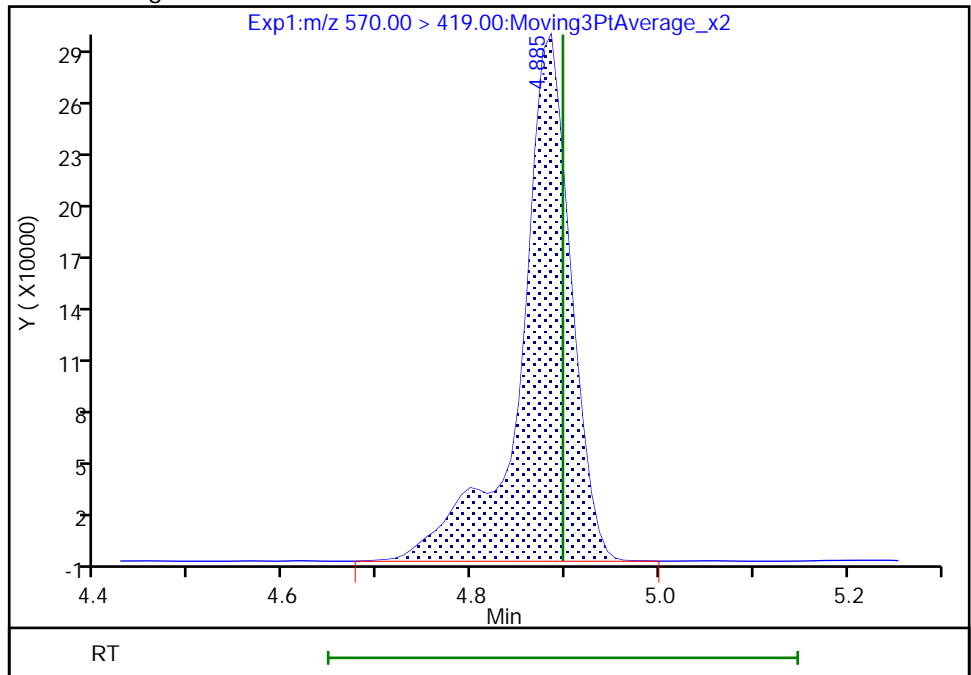
RT: 4.88  
Area: 970678  
Amount: 2.313324  
Amount Units: ng/ml

Processing Integration Results



RT: 4.88  
Area: 1100560  
Amount: 2.612213  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 21-Feb-2022 14:31:45  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 140-58905/1-B  
 Matrix: Air Lab File ID: \_020.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 20:40  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.002651		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	89		25-150



Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_020.d  
 Lims ID: MB 140-58905/1-B  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 19-Feb-2022 20:40:34 ALS Bottle#: 20 Worklist Smp#: 20  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-020 mb 140-58905/1-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 14:19:36  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.797	2.804	-0.007	0.995	156609	0.0400		17.9	
D 2 13C4 PFBA	217.00 > 172.00	2.811	2.804	0.007	0.681	5658180	1.22	97.9	15580	
3 PFECA F	229.00 > 85.00	2.911				ND				
6 Perfluoropentanoic acid	262.90 > 219.00	3.115	3.115	0.001	1.000	16453	-0.000697	1.8	7	7
	LOD = 0.006500									
D 5 13C5 PFPeA	267.90 > 223.00	3.115	3.115	0.001	0.754	4470098	1.23	98.5	11923	
4 3:3 FTCA	241.00 > 177.10	3.122				ND				
	241.00 > 116.90	3.122								
D 7 13C3 PFBS	301.90 > 80.00	3.131	3.122	0.009	0.758	2544408	1.11	95.3	4129	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.139	3.131	0.008	1.003	3456	-0.001992 Target=2.65	2.5	7	R7
	298.90 > 99.00	3.131	3.131	0.0	1.000	428	8.07(1.32-3.97)	0.8		R7
	LOD = 0.004500									
9 PFECA A	278.95 > 84.90	3.202				ND				
11 PES	314.80 > 135.00	3.260				ND				
12 PFECA B	295.22 > 201.00	3.373				ND				
13 4:2 FTS	327.00 > 307.00	3.426	3.415	0.011	1.000	1475	-0.001794	13.9	7	7
	LOD = 0.003200									

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.426	3.415	0.011	0.830	1111235	1.55		132	1300	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.437				ND				
349.00 > 99.00		3.437								
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.437	0.011	1.000	58761	0.0109	Target=12.03		14.0	
313.00 > 119.00	3.448	3.437	0.011	1.000	5001		11.75(6.01-18.04)		5.2	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.437	0.011	0.835	4954700	1.24		99.0	16880	
17 HFPO-DA										
285.00 > 169.00	3.552	3.542	0.010	1.000	301084	0.1326	Target=2.55		90.1	
329.00 > 169.00	3.552	3.542	0.010	1.000	109380		2.75(1.28-3.83)		66.8	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.552	3.542	0.010	0.860	2177206	1.11		88.9	7885	
S 10 ADONA										
377.00 > 251.00		3.592				0				
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.792	3.772	0.020	1.003	8263	0.003893	Target=3.45		26.8	7
399.00 > 99.00	3.782	3.772	0.010	1.000	2183		3.79(1.72-5.17)		12.8	
LOD = 0.005000										
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.772	0.010	0.916	1812048	1.22		103	7746	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.792	0.0	1.000	111321	0.0261	Target=3.22		40.0	
363.00 > 169.00	3.792	3.792	0.0	1.000	28832		3.86(1.61-4.83)		76.8	
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.792	0.0	0.918	4325933	1.21		96.9	13360	
25 DONA										
377.00 > 251.00		3.820				ND				
377.00 > 85.00		3.820								
26 5:3 FTCA										
340.88 > 236.90		3.853				ND				
340.88 > 216.90		3.853								
27 6:2 FTUCA										
356.86 > 292.90		3.886				ND				
356.86 > 243.00		3.886								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.886	0.0	0.941	2032108	1.53		122	3225	
29 6:2 FTCA										
377.10 > 63.00		3.903				ND				
377.10 > 313.10		3.903								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.912	3.903	0.009	0.947	96254	0.9372		75.0	546	
32 PFECHS										
460.80 > 380.90		4.054				ND				
460.80 > 98.90		4.054								

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.111				ND				
449.00 > 99.00		4.111								
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	328448	0.2011			627	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.130	4.121	0.009	1.000	23401	-0.000640	Target=2.40	18.6		7M
413.00 > 169.00	4.130	4.121	0.009	1.000	8245		2.84(1.20-3.60)	17.3		7M
LOD = 0.009500										
\$ 36 13C8 PFOA										
421.00 > 376.00		4.121				ND				
* 30 13C2 PFOA										
415.00 > 370.00	4.130	4.121	0.009		4933776	1.25			9786	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	1045598	1.47		124	1821	
D 31 13C4 PFOA										
417.00 > 372.00	4.130	4.121	0.009	1.000	4793309	1.30		104	8984	
\$ 38 13C8 PFOS										
507.00 > 99.00		4.412				ND				
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.421	4.412	0.009	1.000	4400	0.001750	Target=4.41	12.7		7M
499.00 > 99.00	4.412	4.412	0.0	0.000	0		0.00(2.20-6.61)			7M
LOD = 0.005500										
D 39 13C4 PFOS										
503.00 > 80.00	4.421	4.412	0.009	1.070	2623107	1.18		99.1	3048	
42 Perfluorononanoic acid										
463.00 > 419.00		4.438				ND				
463.00 > 169.00		4.438								
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.438	0.0	1.075	5964723	1.19		95.3	10497	
43 7:3 FTCA										
441.00 > 337.00		4.519				ND				
441.00 > 317.00		4.519								
44 8:2 FTUCA										
456.86 > 392.90		4.545				ND				
456.86 > 343.00		4.545								
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.553	4.545	0.008	1.000	2924661	1.64		131	5577	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.561	4.553	0.008	1.104	130987	1.00		80.3	775	
46 8:2 FTCA										
477.00 > 393.10		4.561				ND				
477.00 > 63.20		4.561								
49 9CIFOS										
531.00 > 351.00	4.528	4.578	-0.050	1.096	1431	0.000290		4.6		7M
LOD = 0.003500										

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.697				ND				
549.00 > 99.00		4.697								
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.705	0.001	0.998	4328	0.001396		12.1		7M
LOD = 0.004400										
D 55 13C8 FOSA										
506.00 > 78.00	4.714	4.705	0.009	1.141	4058120	1.21		97.0	6996	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.731	4.722	0.009	1.002	20597	-0.001905	Target=11.25	19.2		7M
513.00 > 169.00	4.706	4.722	-0.016	0.996	2053		10.03(5.62-16.87)	1.9		M
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.722	0.001	1.143	5787068	1.21		97.0	13601	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.731	0.009	1.148	1070973	1.38		116	2251	
53 8:2 FTS										
527.00 > 507.00	4.740	4.739	0.001	1.000	1864	-0.006003		10.5		7
LOD = 0.007000										
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.180	579591	1.29		104	1612	
57 NMeFOSAA										
570.00 > 419.00		4.872				ND				
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.957				ND				
599.00 > 99.00		4.957								
60 Perfluoroundecanoic acid										
563.00 > 519.00		4.985				ND				
563.00 > 169.00		4.985								
D 59 13C2 PFUnA										
565.00 > 520.00	4.985	4.985	0.0	1.207	5237451	1.14		90.9	10908	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.004	5.005	-0.001	1.212	533545	1.16		92.9	2450	
62 NEtFOSAA										
584.00 > 419.00		5.005				ND				
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.092	0.0	1.233	2550857	1.27		102	5801	
63 11C1FOS										
631.00 > 451.00	5.102	5.092	0.010	1.154	504	-0.003952		2.5		7
LOD = 0.007000										
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.092	0.0	1.000	2890	0.001172		13.8		7M
LOD = 0.0500										
66 10:2 FTCA										
576.80 > 493.00		5.102				ND				
576.80 > 63.10		5.102								
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.111	5.111	0.0	1.237	83129	0.6811		54.5	423	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 69 13C2 PFDa										
615.00 > 570.00	5.226	5.226	0.0	1.265	4653760	1.02		81.9	12333	
68 Perfluorododecanoic acid										
613.00 > 569.00		5.226				ND				
613.00 > 169.00		5.226								
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.242	5.243	-0.001	1.269	720124	1.10		93.3	4151	
71 10:2 FTS										
627.00 > 607.00	5.250	5.251	-0.001	1.002	7446	-0.000482		43.1	7	7
LOD = 0.008500										
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.283	5.275	0.008	1.279	435429	0.9304		74.4	354	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.283	5.283	0.0	1.279	377364	0.9474		75.8	38.8	
74 NMeFOSA										
512.00 > 169.00		5.283				ND				
75 N-MeFOSE-M										
616.00 > 59.00	5.242	5.292	-0.050	0.992	29154	0.0677		8.0		M
76 PFDoS										
699.00 > 80.00		5.399				ND				
699.00 > 99.00		5.399								
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.443	5.435	0.008	1.318	437220	0.9004		72.0	249	
78 Perfluorotridecanoic acid										
663.00 > 619.00		5.435				ND				
663.00 > 169.00		5.435								
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.320	285114	0.8925		71.4	437	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.002	395	0.000796		0.7	7	7
LOD = 0.006000										
81 N-EtFOSA-M										
526.00 > 169.00	5.478	5.452	0.026	1.005	742	-0.002592		4.1	7	7
LOD = 0.008000										
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.360	2855957	0.7851		62.8	9857	
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.617				ND				
713.00 > 219.00		5.617								
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.434	1025930	0.4335		34.7	3457	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	11121	-0.000692 Target=8.23		31.2	7	7
813.00 > 169.00	5.924	5.924	0.0	1.000	1214	9.16(4.11-12.34)		4.9		
LOD = 0.009000										

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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86 Perfluorooctadecanoic acid										
913.00 > 869.00		6.184				ND				
913.00 > 169.00		6.184								
S 87 F-53B										
212.90 > 169.00		0.0				0				
S 88 NaDONA										
377.00 > 251.00		0.0				0				
377.00 > 85.00		0.0								

**QC Flag Legend**

Processing Flags

- ND - Not Detected or Marked ND
- R - Failed Signal Ratio Test
- 7 - Failed Limit of Detection

Review Flags

- M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_020.d

Injection Date: 19-Feb-2022 20:40:34

Instrument ID: LCA

Lims ID: MB 140-58905/1-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 20

Worklist Smp#: 20

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

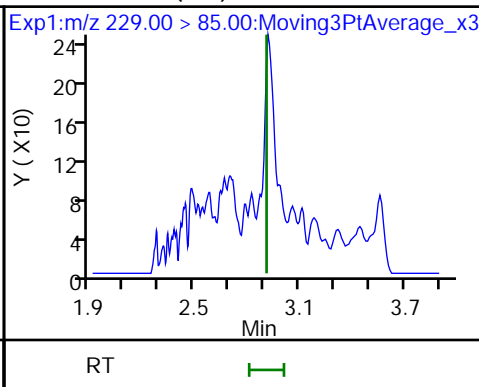
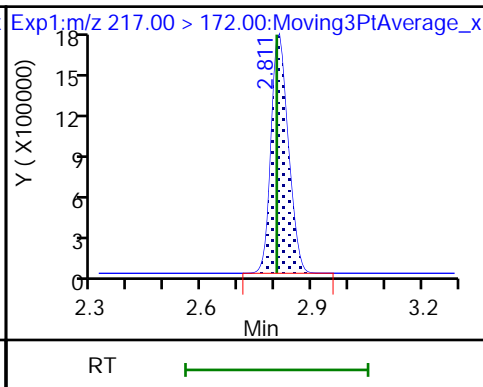
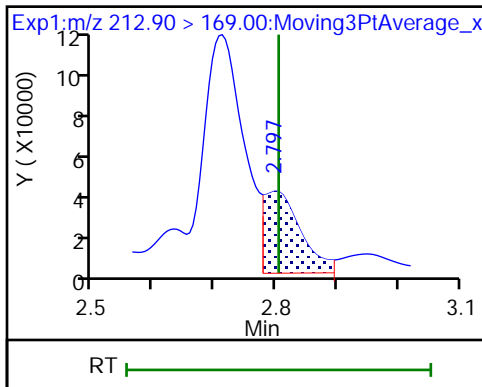
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

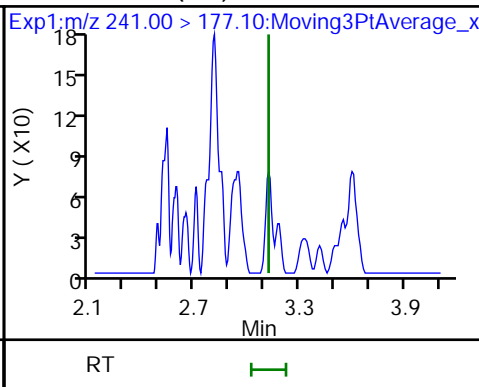
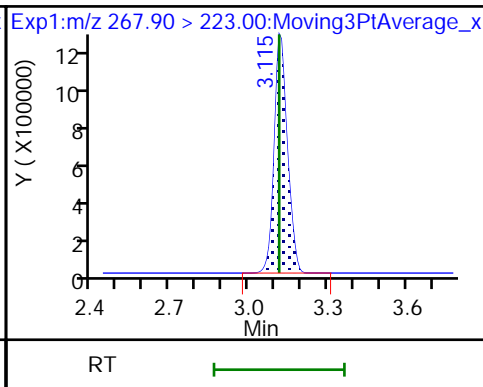
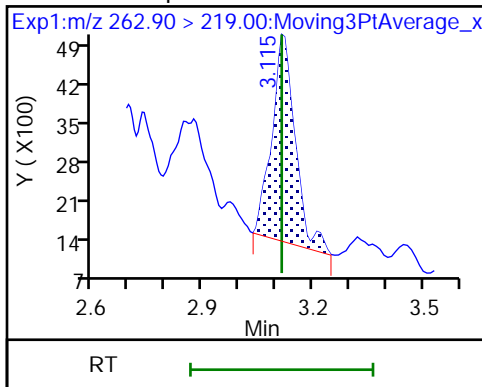
3 PFECA F (ND)



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

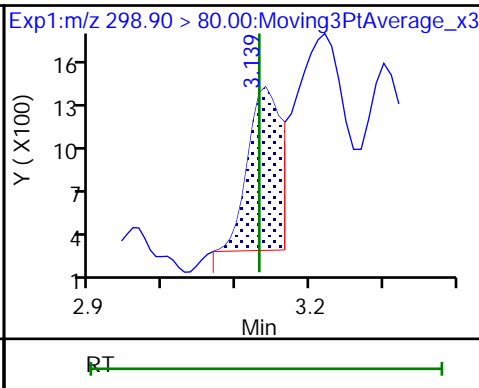
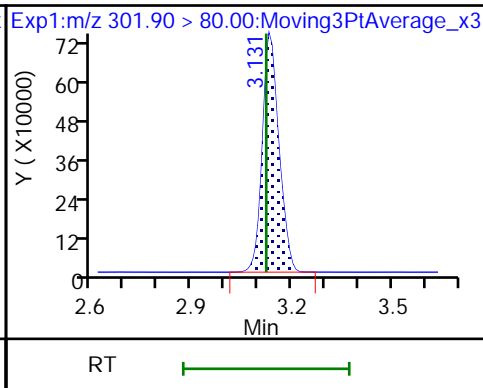
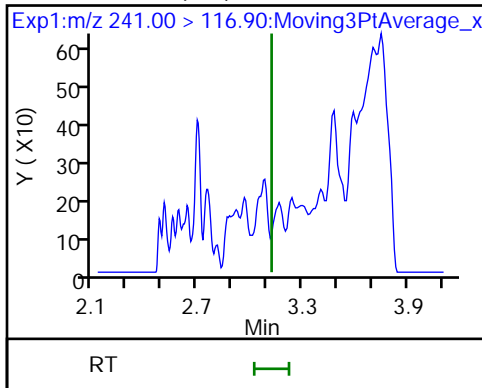
4 3:3 FTCA (ND)



4 3:3 FTCA (ND)

D 7 13C3 PFBS

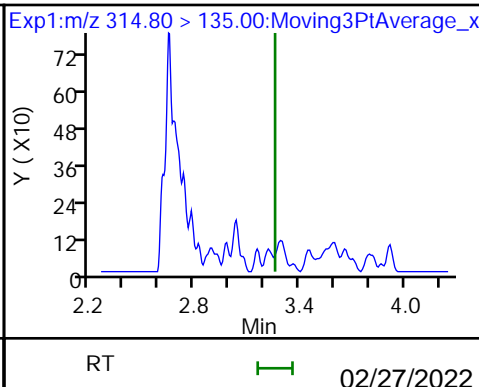
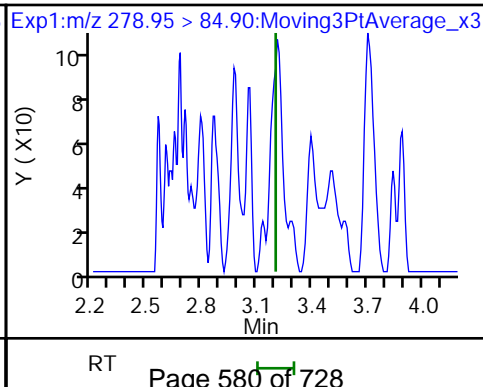
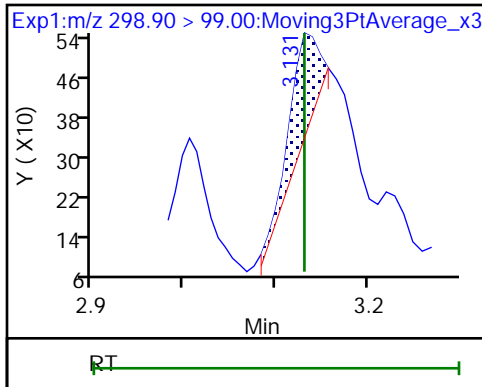
8 Perfluorobutanesulfonic acid

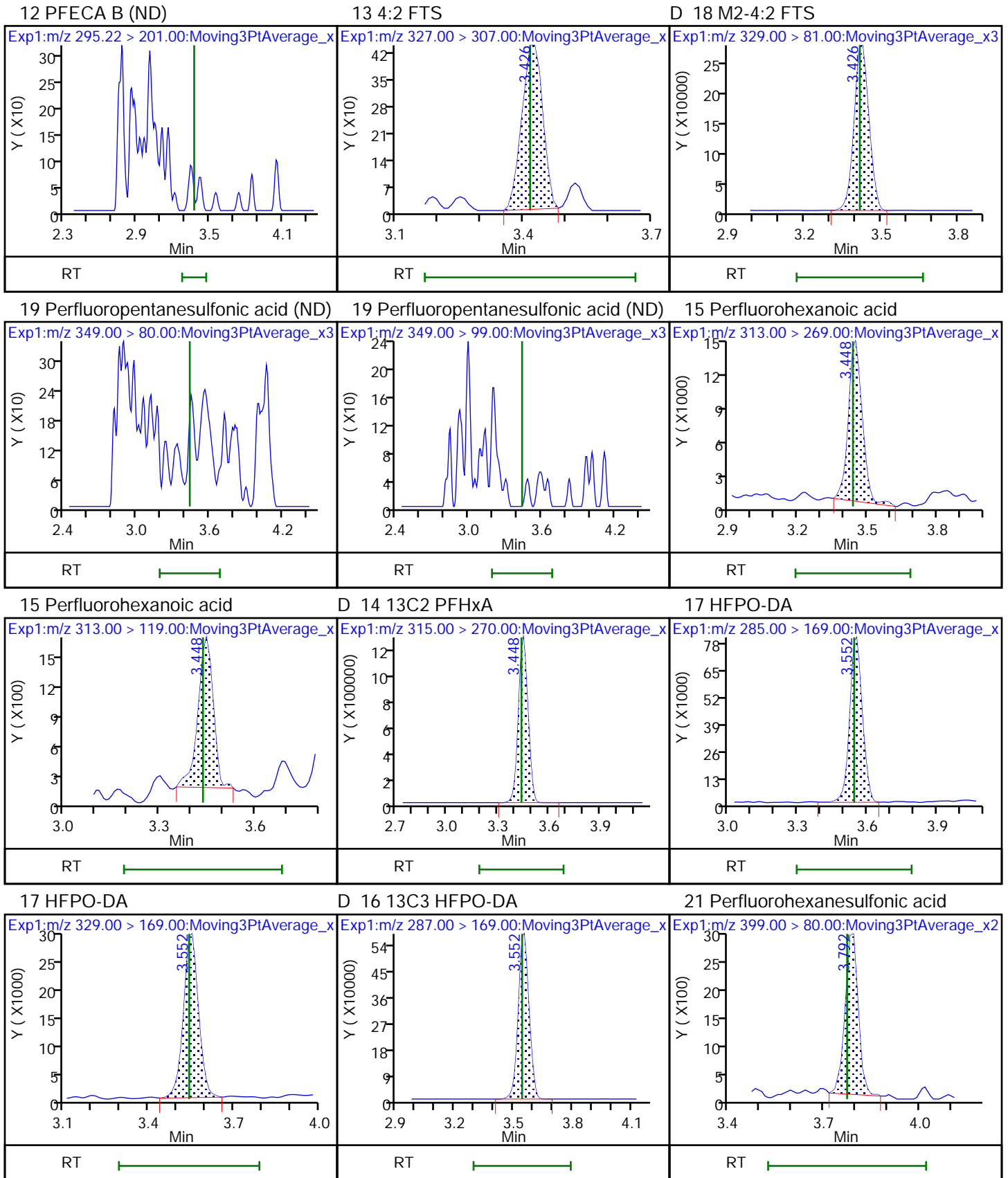


8 Perfluorobutanesulfonic acid

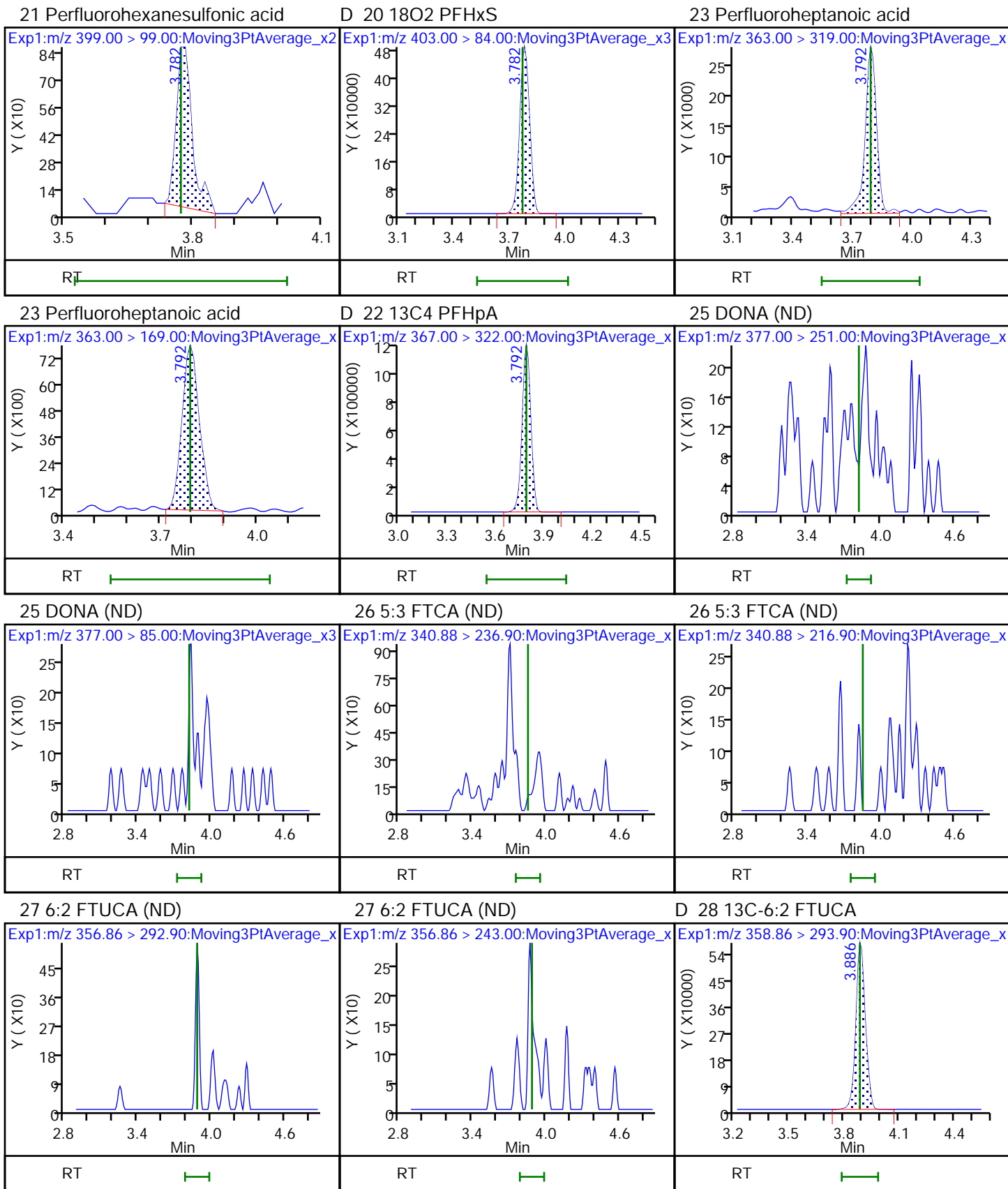
9 PFECA A (ND)

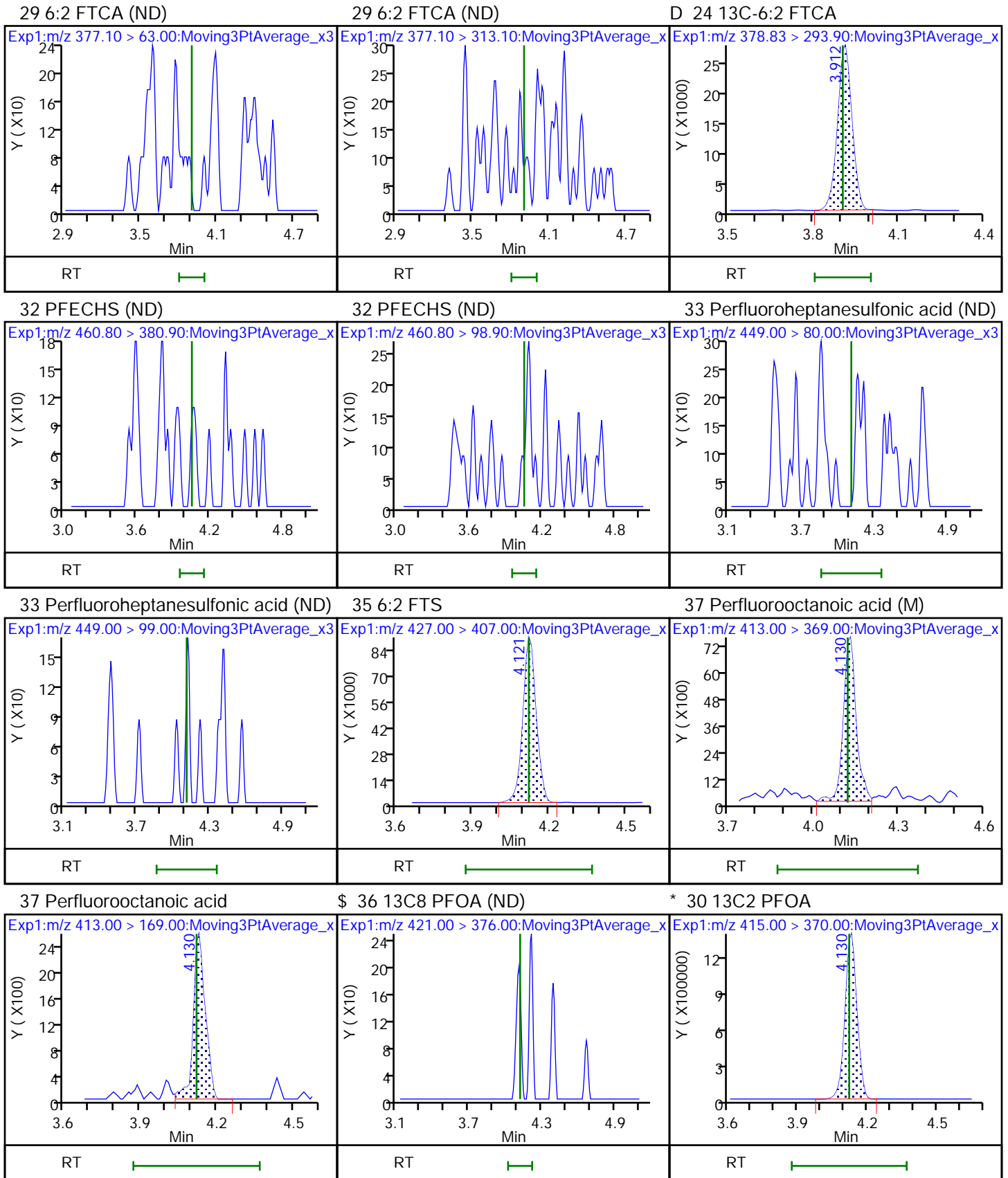
11 PES (ND)







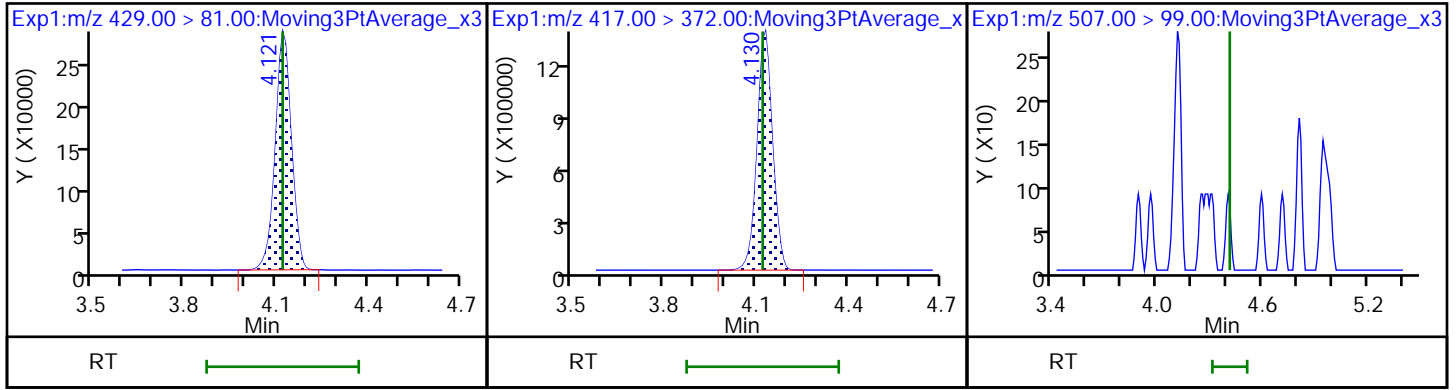




D 34 M2-6:2 FTS

D 31 13C4 PFOA

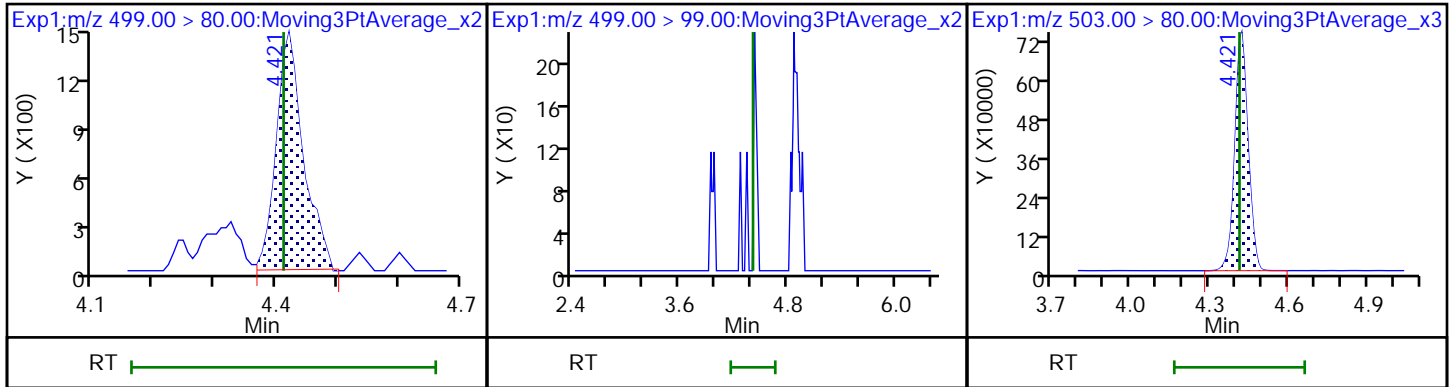
\$ 38 13C8 PFOS (ND)



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid

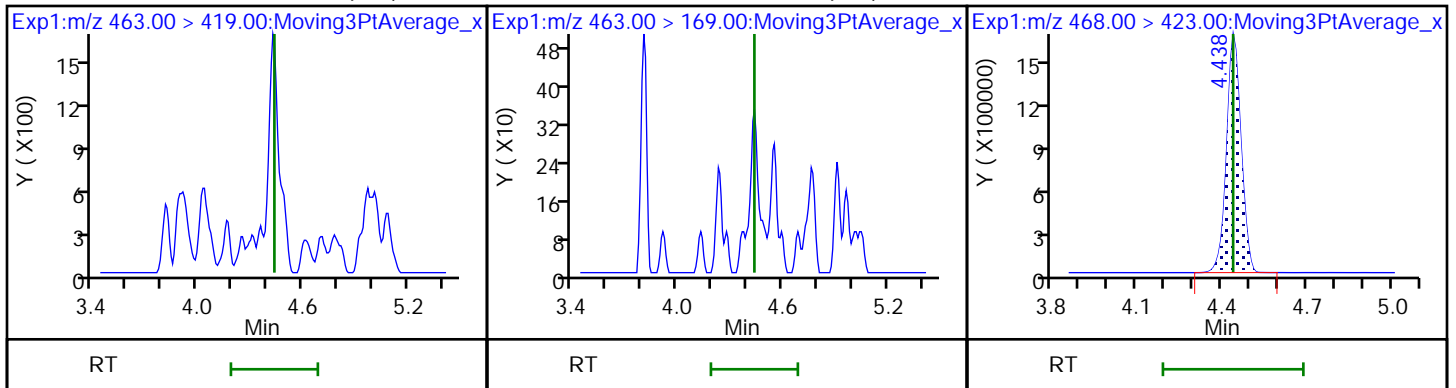
D 39 13C4 PFOS



42 Perfluorononanoic acid (ND)

42 Perfluorononanoic acid (ND)

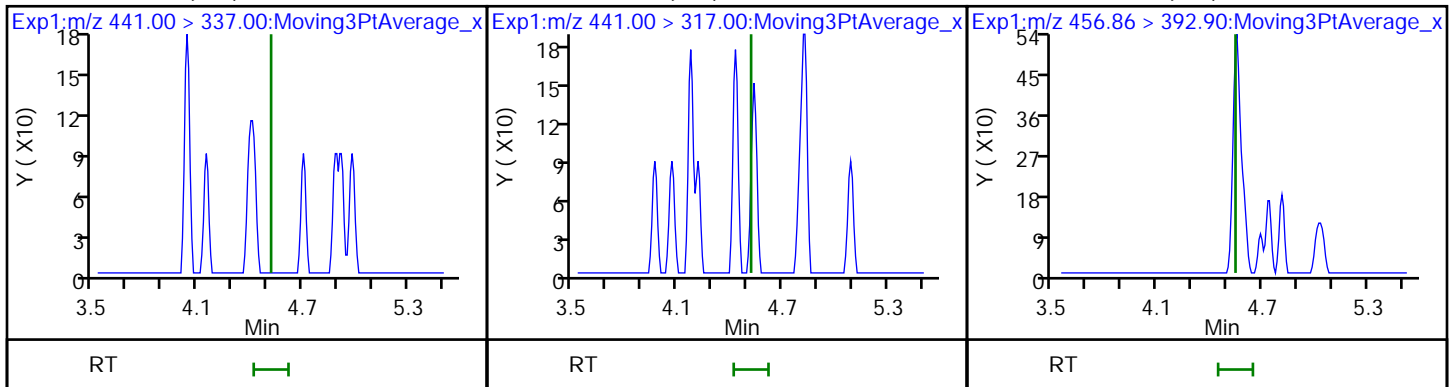
D 41 13C5 PFNA

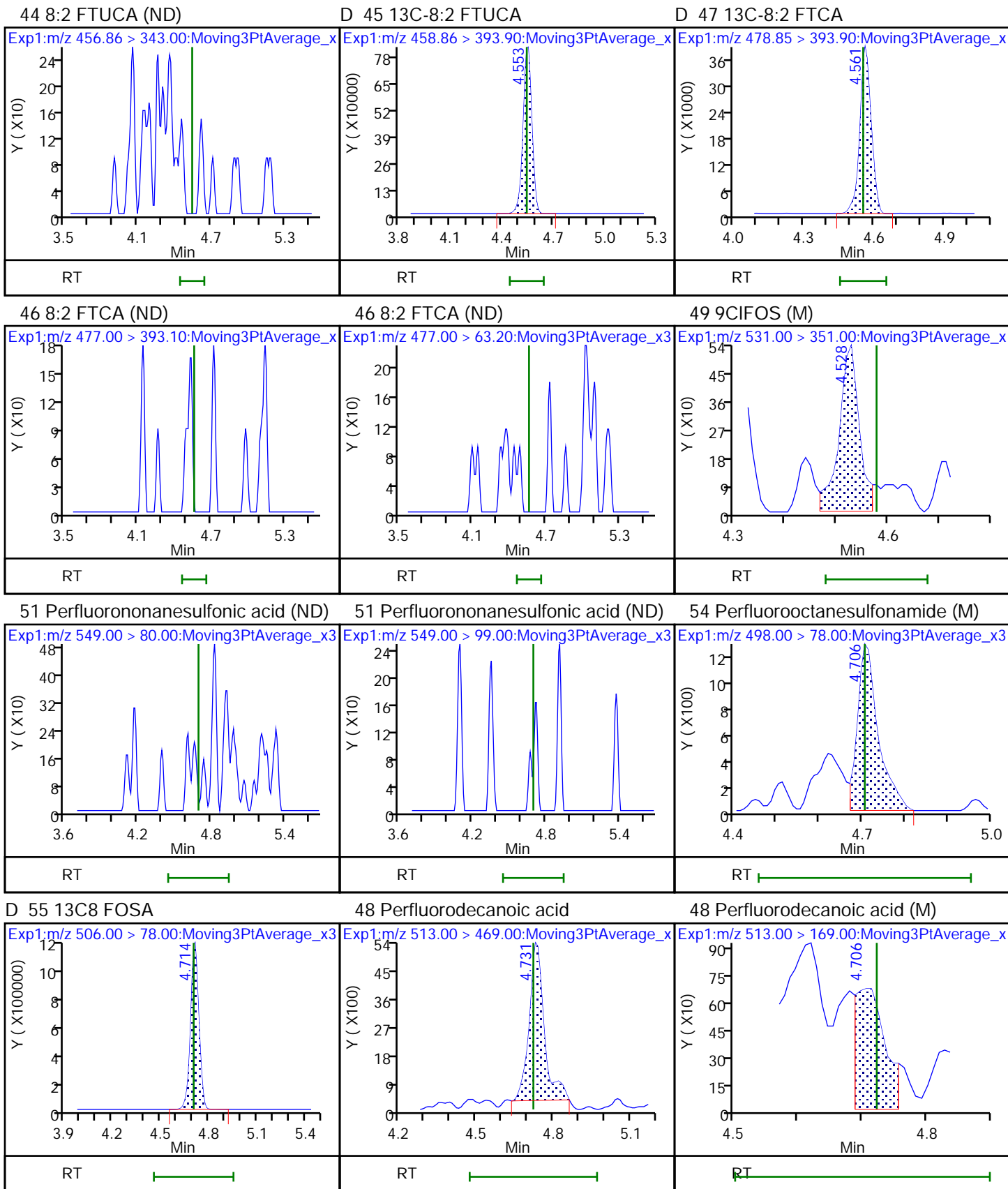


43 7:3 FTCA (ND)

43 7:3 FTCA (ND)

44 8:2 FTUCA (ND)

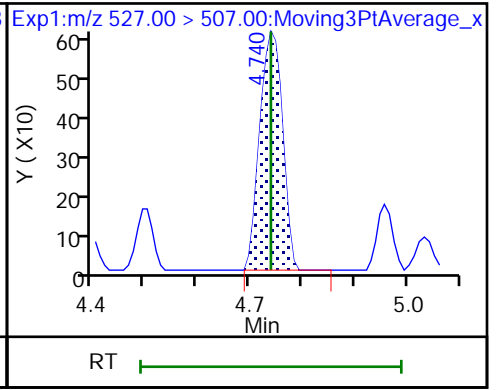
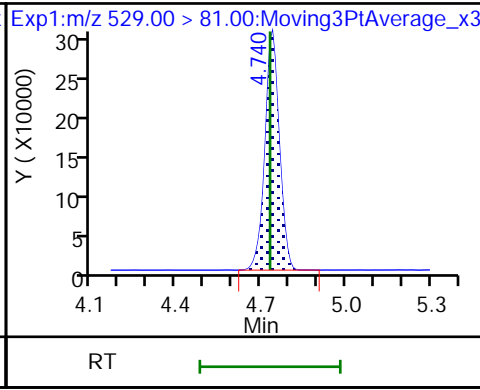
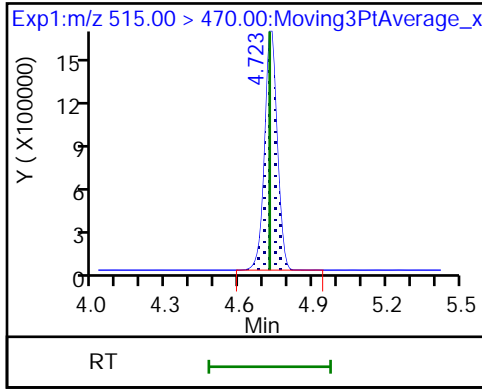




D 52 13C2 PFDA

D 50 M2-8:2 FTS

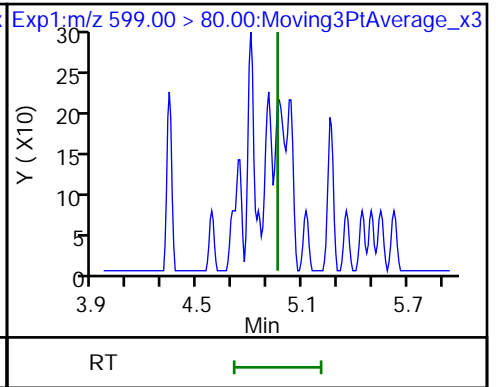
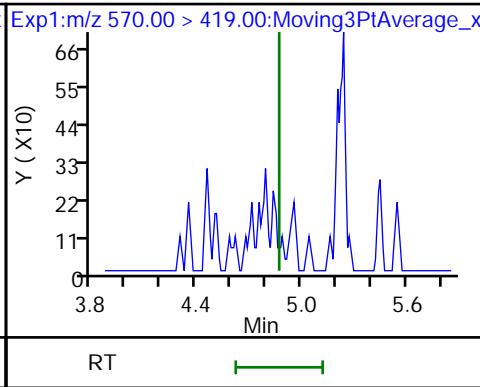
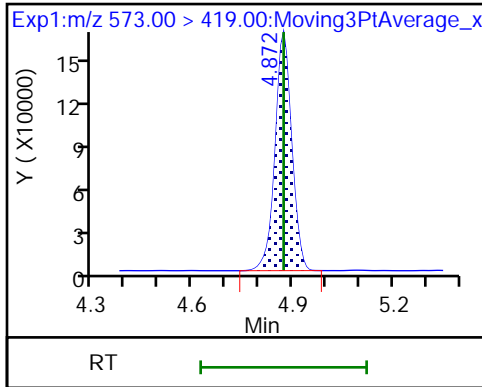
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (ND)

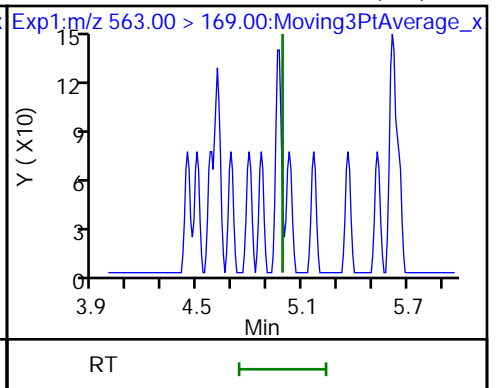
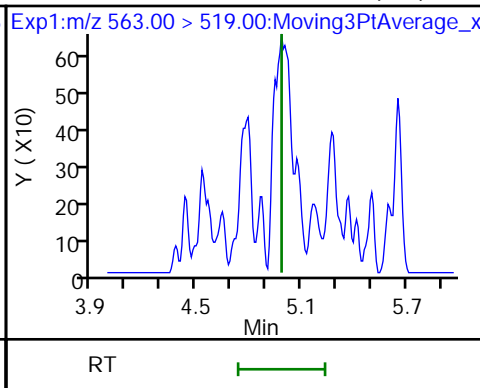
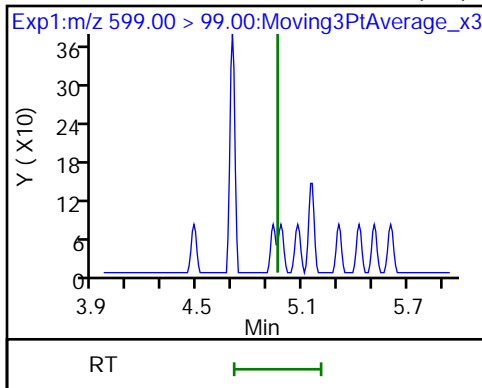
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid (ND)

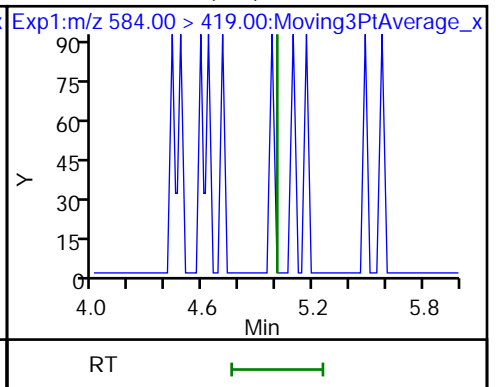
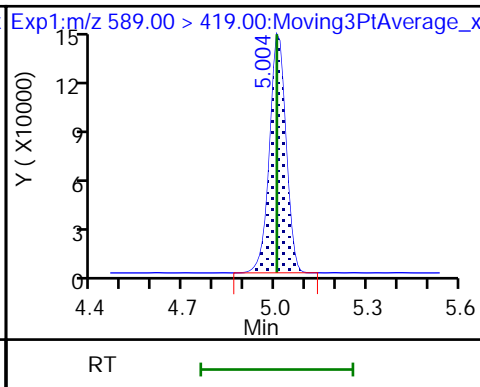
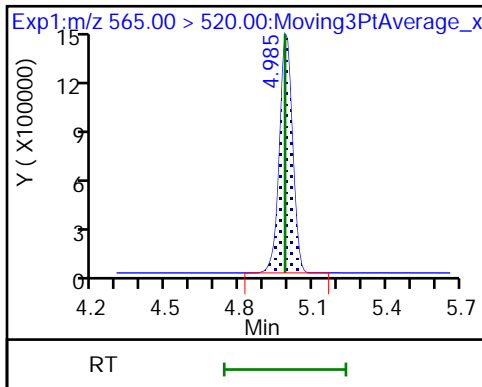
60 Perfluoroundecanoic acid (ND)



D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

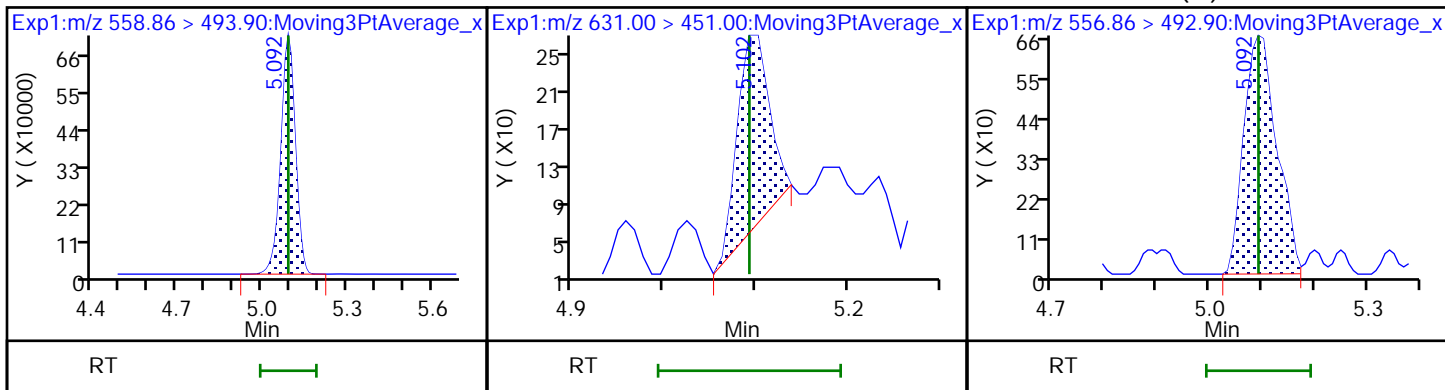
62 NEtFOSAA (ND)



D 67 13C-10:2 FTUCA

63 11CIFOS

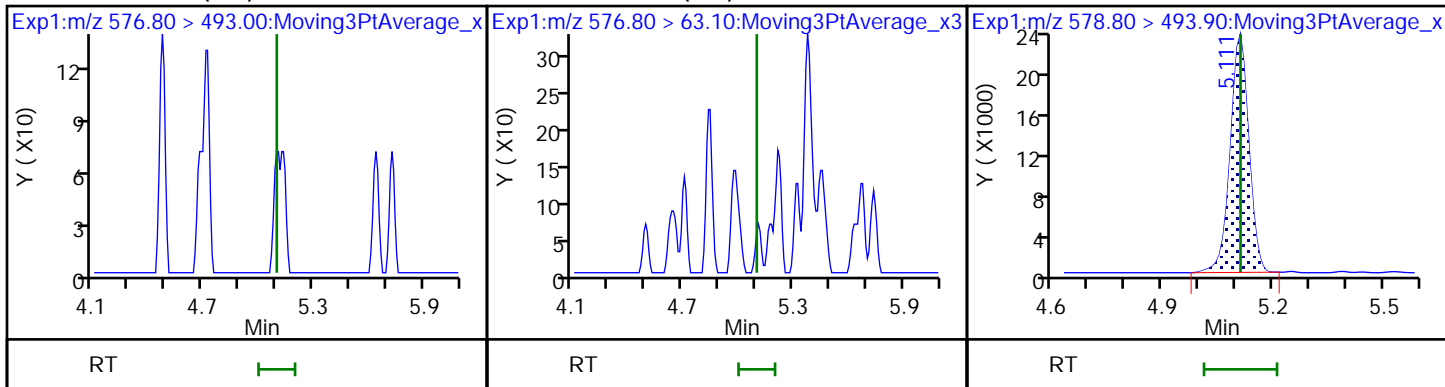
65 10:2 FTUCA (M)



66 10:2 FTCA (ND)

66 10:2 FTCA (ND)

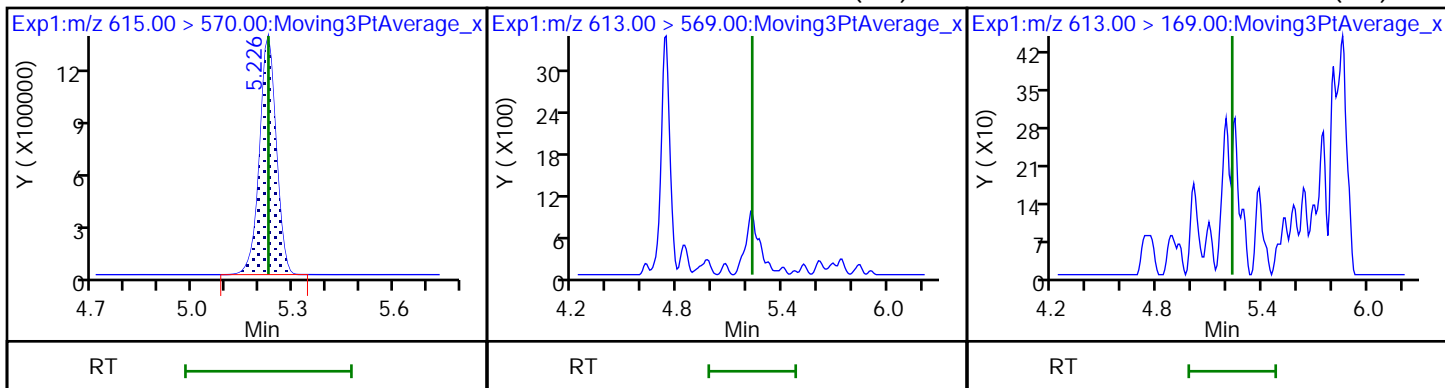
D 64 13C-10:2 FTCA



D 69 13C2 PFDaA

68 Perfluorododecanoic acid (ND)

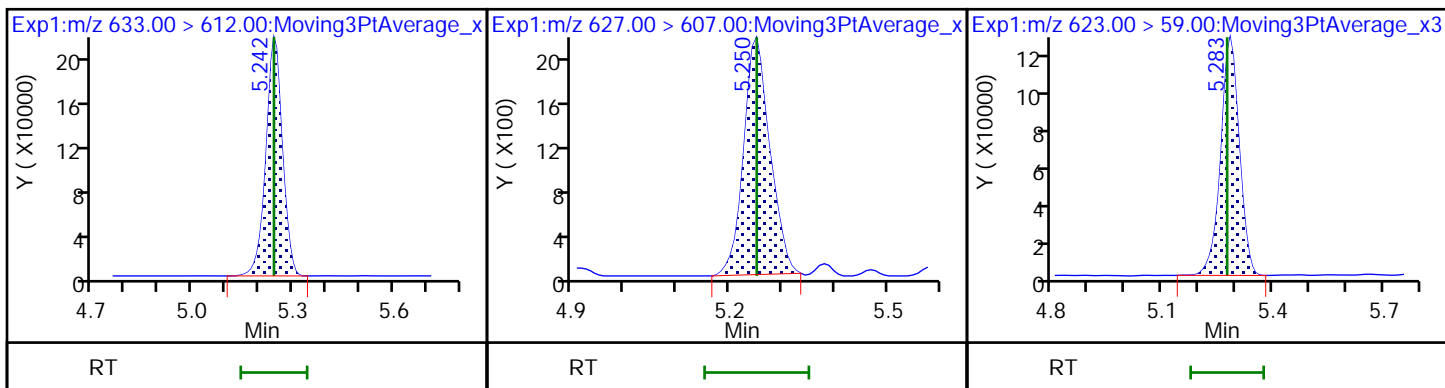
68 Perfluorododecanoic acid (ND)



D 70 13C2 10:2 FTS

71 10:2 FTS

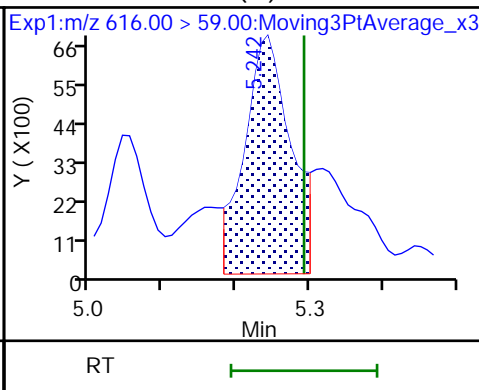
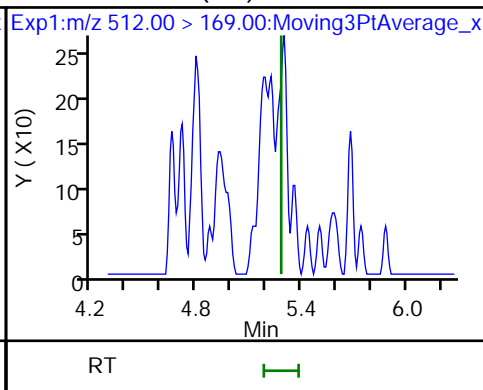
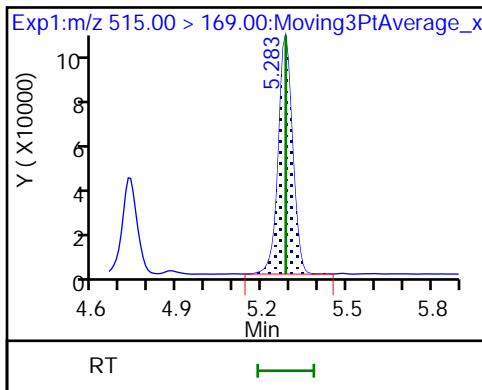
D 72 d7-N-MeFOSE-M



D 73 d-N-MeFOSA-M

74 NMeFOSA (ND)

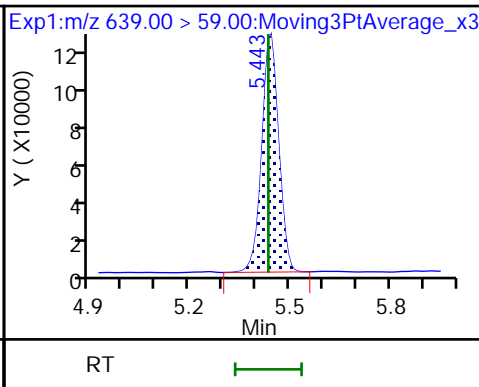
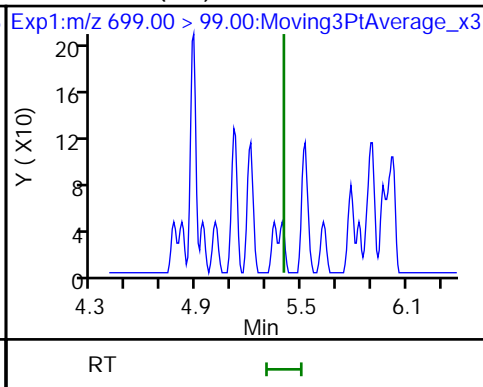
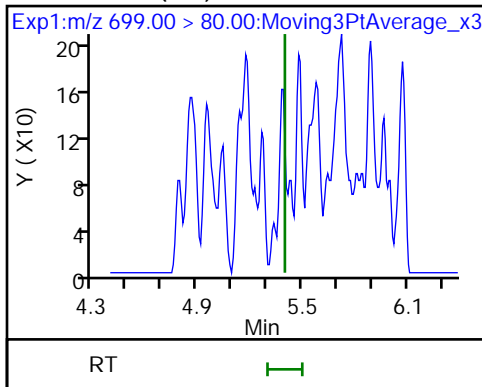
75 N-MeFOSE-M (M)



76 PFDoS (ND)

76 PFDoS (ND)

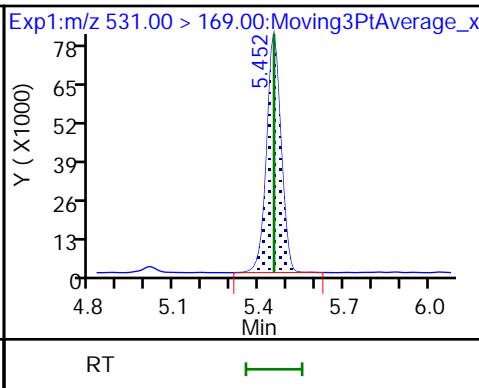
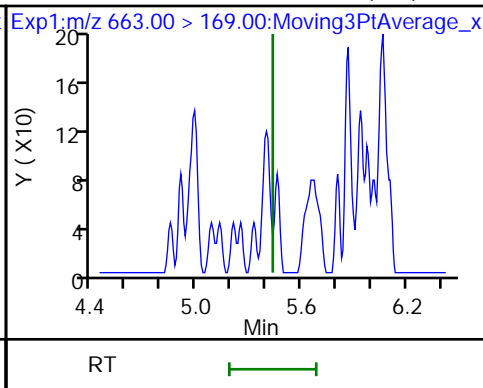
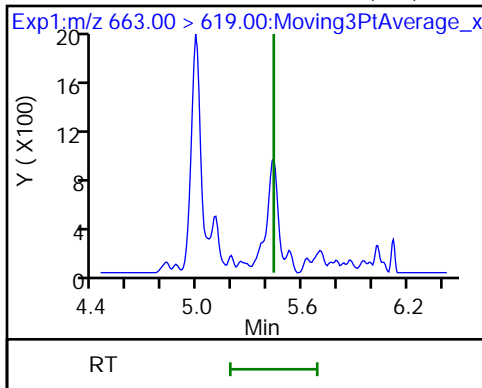
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid (ND)

78 Perfluorotridecanoic acid (ND)

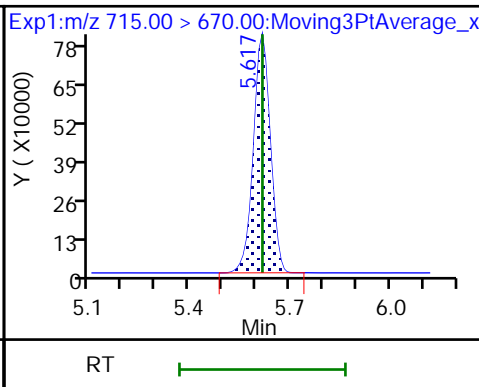
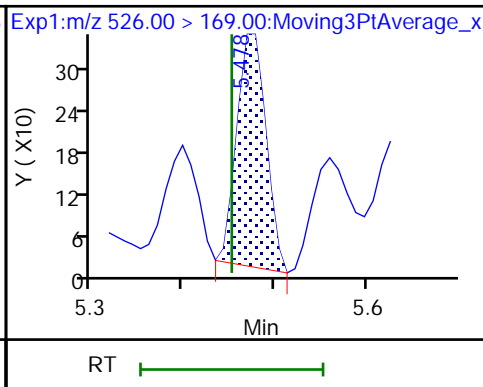
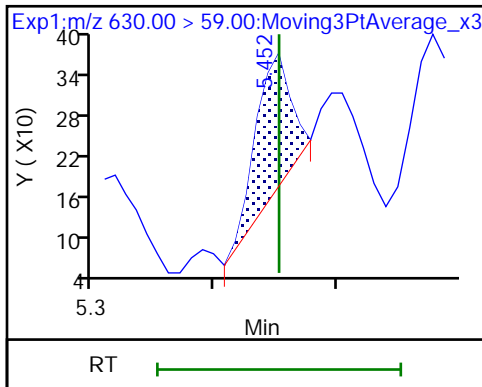
D 80 d-N-EtFOSA-M



79 N-EtFOSE-M

81 N-EtFOSA-M

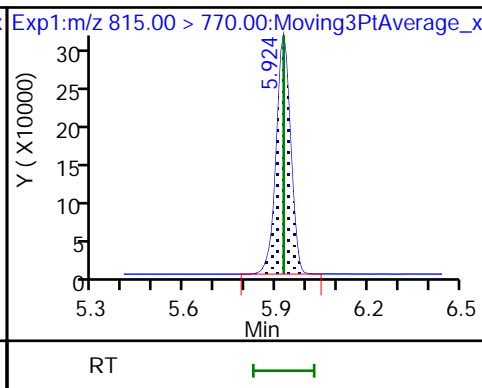
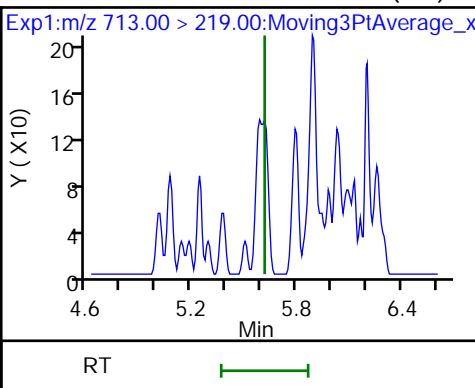
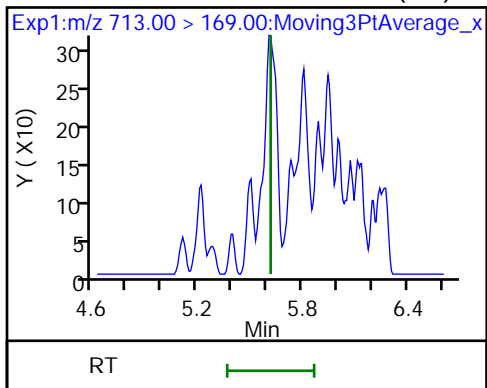
D 82 13C2 PFTeDA



83 Perfluorotetradecanoic acid (ND)

83 Perfluorotetradecanoic acid (ND)

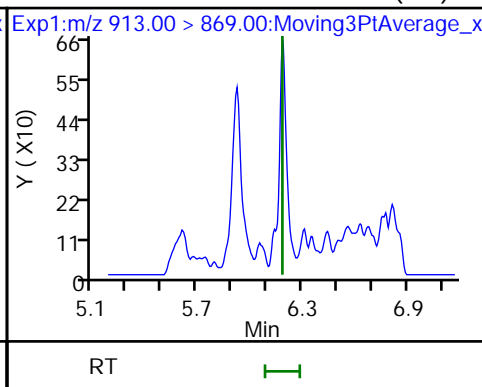
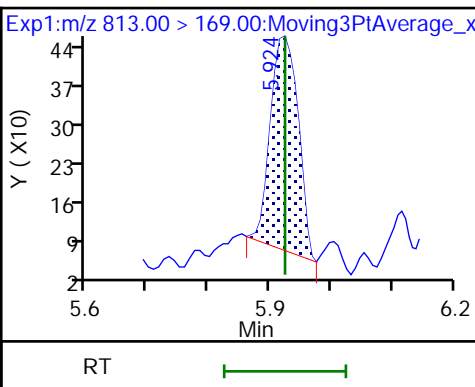
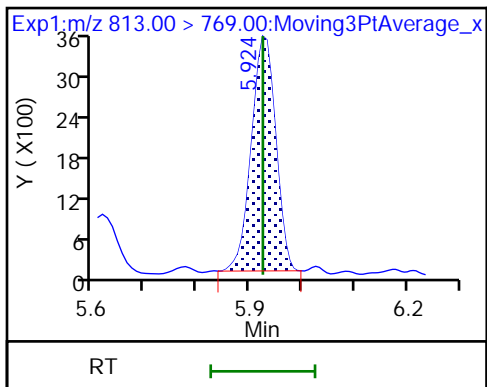
D 84 13C2 PFHxDA



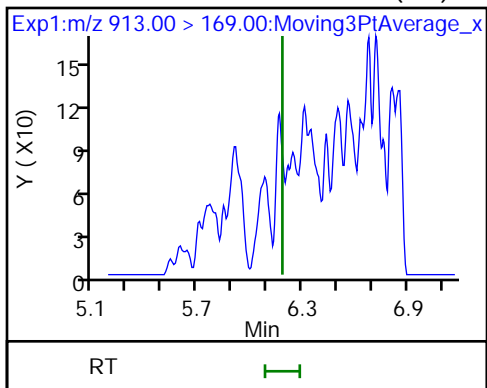
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)





FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 140-58914/1-B  
 Matrix: Air Lab File ID: \_035.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/16/2022 07:38  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 00:31  
 Con. Extract Vol.: 50 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.00104	0.000604

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	82		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_035.d  
 Lims ID: MB 140-58914/1-B  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 19-Feb-2022 00:31:54 ALS Bottle#: 35 Worklist Smp#: 35  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-035 mb 140-58914/1-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:24:57  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										7
212.90 > 169.00	2.811	2.811	0.0	1.000	9723	-0.000978		2.7		7
LOD = 0.0100										
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.682	5187530	1.06		88.2	20852	
3 PFECA F										
229.00 > 85.00		2.919				ND				
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.756	3919935	1.02		85.0	14711	
6 Perfluoropentanoic acid										7
262.90 > 219.00	3.115	3.123	-0.008	1.000	6545	-0.003474		2.0		7
LOD = 0.006500										
4 3:3 FTCA										
241.00 > 177.10		3.131				ND				
241.00 > 116.90		3.131								
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.760	2345266	0.9644		86.4	10218	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00		3.140				ND				
298.90 > 99.00		3.140								
9 PFECA A										
278.95 > 84.90		3.211				ND				
11 PES										
314.80 > 135.00		3.260				ND				
12 PFECA B										
295.22 > 201.00		3.384				ND				
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.829	743719	0.9771		87.2	1161	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00		3.416				ND				
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.837	4470500	1.05		87.8	9387	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.448				ND				
349.00 > 99.00		3.448								
15 Perfluorohexanoic acid										
313.00 > 269.00		3.448				ND				
313.00 > 119.00		3.448								
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.553	-0.010	0.860	2052365	0.9893		82.4	7042	
17 HFPO-DA										
285.00 > 169.00	3.543	3.553	-0.010	1.000	35543	0.0115	Target=2.51		27.5	
329.00 > 169.00	3.543	3.553	-0.010	1.000	12482		2.85(1.25-3.76)		16.5	
S 10 ADONA										
377.00 > 251.00		3.592				0				
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.783	0.0	0.918	1609391	1.02		89.8	6852	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.773	3.783	-0.010	0.997	5319	0.002709	Target=3.47		14.5	7M
399.00 > 99.00	3.783	3.783	0.0	1.000	2289		2.32(1.73-5.20)		15.8	7M
LOD = 0.005000										
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.793	0.0	0.920	4000156	1.06		88.1	8814	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.793	3.793	0.0	1.000	11594	-0.003096	Target=3.41		8.6	7
363.00 > 169.00	3.793	3.793	0.0	1.000	2575		4.50(1.70-5.11)		6.8	
LOD = 0.0153										
25 DONA										
377.00 > 251.00		3.829				ND				
377.00 > 85.00		3.829								
26 5:3 FTCA										
340.88 > 236.90		3.853				ND				
340.88 > 216.90		3.853								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.887	3.887	0.001	0.943	1486621	1.05		87.8	2802	
27 6:2 FTUCA										
356.86 > 292.90		3.895				ND				
356.86 > 243.00		3.895								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.904	0.0	0.947	99982	0.9191		76.6	320	
29 6:2 FTCA										
377.10 > 63.00		3.913				ND				
377.10 > 313.10		3.913								
32 PFECHS										
460.80 > 380.90		4.065				ND				
460.80 > 98.90		4.065								

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.112				ND				
449.00 > 99.00		4.112								
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	1.000	828034	1.10		96.6	1953	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	13328	0.006479		43.2		7
LOD = 0.0137										
\$ 36 13C8 PFOA										
421.00 > 376.00		4.121				ND				
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.131	-0.010	1.000	4293415	1.10		91.5	7811	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5225624	1.25			9676	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.131	-0.010	1.000	20028	-0.001115	Target=2.38	16.1		7
413.00 > 169.00	4.112	4.131	-0.019	0.998	8652		2.31(1.19-3.57)	12.7		7
LOD = 0.009500										
\$ 38 13C8 PFOS										
507.00 > 99.00		4.421				ND				
D 39 13C4 PFOS										
503.00 > 80.00	4.418	4.421	-0.003	1.072	2424217	1.03		90.1	2379	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.409	4.421	-0.012	0.998	16679	0.006892	Target=4.49	8.1		RM
499.00 > 99.00	4.418	4.421	-0.003	1.000	871		19.15(2.25-6.74)	3.6		M
42 Perfluorononanoic acid										
463.00 > 419.00		4.439				ND				
463.00 > 169.00		4.439								
D 41 13C5 PFNA										
468.00 > 423.00	4.436	4.439	-0.003	1.076	5686699	1.07		89.4	15899	
43 7:3 FTCA										
441.00 > 337.00		4.529				ND				
441.00 > 317.00		4.529								
44 8:2 FTUCA										
456.86 > 392.90	4.559	4.545	0.014	1.004	1334	0.000757	Target=30.23	5.8		R7
456.86 > 343.00	4.567	4.545	0.022	1.005	333		4.01(15.12-45.35)	1.6		R7
LOD = 0.0500										
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.542	4.553	-0.011	1.000	2210710	1.17		97.5	5947	
46 8:2 FTCA										
477.00 > 393.10		4.562				ND				
477.00 > 63.20		4.562								
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.559	4.562	-0.003	1.106	115771	0.8380		69.8	424	
49 9CIFOS										
531.00 > 351.00		4.578				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.697				ND				
549.00 > 99.00		4.697								
D 55 13C8 FOSA										
506.00 > 78.00	4.712	4.714	-0.002	1.143	3659816	1.03		86.1	4672	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.720	4.714	0.006	1.002	917	0.000315		5.8	7	7
LOD = 0.004400										
48 Perfluorodecanoic acid										
513.00 > 469.00	4.720	4.731	-0.011	1.000	14150	-0.003526	Target=11.19	15.9		R7
513.00 > 169.00	4.703	4.731	-0.028	0.996	3235		4.37(5.60-16.79)	3.5		R7
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.720	4.731	-0.011	1.145	5657649	1.12		93.2	15273	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.737	4.740	-0.003	1.149	947225	1.16		101	1917	
53 8:2 FTS										
527.00 > 507.00	4.729	4.740	-0.011	0.998	1185	-0.006436		9.1	7	7
LOD = 0.007000										
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.869	4.872	-0.003	1.181	505929	1.07		88.9	2092	
57 NMeFOSAA										
570.00 > 419.00		4.880				ND				
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.957				ND				
599.00 > 99.00		4.957								
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.982	4.995	-0.013	1.000	141202	0.0328	Target=8.28	259		
563.00 > 169.00	4.982	4.995	-0.013	1.000	17202		8.21(4.14-12.42)	48.7		
D 59 13C2 PFUnA										
565.00 > 520.00	4.982	4.995	-0.013	1.209	5342458	1.09		91.2	10401	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.001	5.005	-0.004	1.213	514377	1.06		88.1	1528	
62 NEtFOSAA										
584.00 > 419.00		5.015				ND				
65 10:2 FTUCA										
556.86 > 492.90		5.093				ND				
63 11C1FOS										
631.00 > 451.00		5.093				ND				
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.089	5.093	-0.004	1.235	2281780	1.07		89.6	6570	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.108	5.112	-0.004	1.239	107557	0.8320		69.3	513	
66 10:2 FTCA										
576.80 > 493.00		5.112				ND				
576.80 > 63.10		5.112								
D 69 13C2 PFDaA										
615.00 > 570.00	5.223	5.226	-0.003	1.267	5170460	1.07		89.4	11408	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
68 Perfluorododecanoic acid										7
613.00 > 569.00	5.214	5.226	-0.012	0.998	9198	0.002066	Target=6.88	10.2	7	
613.00 > 169.00	5.214	5.226	-0.012	0.998	1197		7.68(3.44-10.31)	3.0		
LOD = 0.005000										
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.240	5.243	-0.003	1.271	806875	1.17		103	5430	
71 10:2 FTS										7
627.00 > 607.00	5.248	5.251	-0.003	1.002	8935	-0.000317		65.3	7	
LOD = 0.008500										
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.279	5.284	-0.005	1.281	547592	1.10		92.1	456	
74 NMeFOSA										
512.00 > 169.00		5.284				ND				
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.279	5.284	-0.005	1.281	438607	1.04		86.6	52.2	
75 N-MeFOSE-M										
616.00 > 59.00		5.292				ND				
76 PFDoS										
699.00 > 80.00		5.399				ND				
699.00 > 99.00		5.399								
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.431	5.435	-0.004	1.040	193040	0.0507	Target=6.38	258		
663.00 > 169.00	5.431	5.435	-0.004	1.040	29057		6.64(3.19-9.57)	99.4		
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.440	5.435	0.005	1.320	497540	0.9674		80.6	293	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.449	5.452	-0.003	1.322	330371	0.9764		81.4	672	
79 N-EtFOSE-M										
630.00 > 59.00		5.452				ND				
81 N-EtFOSA-M										
526.00 > 169.00		5.452				ND				
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.617				ND				
713.00 > 219.00		5.617								
D 82 13C2 PFTeDA										
715.00 > 670.00	5.614	5.617	-0.003	1.362	4114710	1.07		89.0	10407	
85 Perfluorohexadecanoic acid										7
813.00 > 769.00	5.921	5.924	-0.003	1.000	28973	-0.001201	Target=8.32	67.8	7	
813.00 > 169.00	5.921	5.924	-0.003	1.000	3474		8.34(4.16-12.48)	12.9		
LOD = 0.009000										
D 84 13C2 PFHxDA										
815.00 > 770.00	5.921	5.924	-0.003	1.437	2679121	1.07		89.1	6378	
86 Perfluorooctadecanoic acid										
913.00 > 869.00		6.185				ND				
913.00 > 169.00		6.185								
S 87 F-53B										
212.90 > 169.00		0.0				0				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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S 88 NaDONA

377.00 > 251.00 0.0

377.00 > 85.00 0.0

**QC Flag Legend**

Processing Flags

ND - Not Detected or Marked ND

R - Failed Signal Ratio Test

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfms\Knoxville\ChromData\LCA\20220218-22714.b\_035.d

Injection Date: 19-Feb-2022 00:31:54

Instrument ID: LCA

Lims ID: MB 140-58914/1-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 35

Worklist Smp#: 35

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

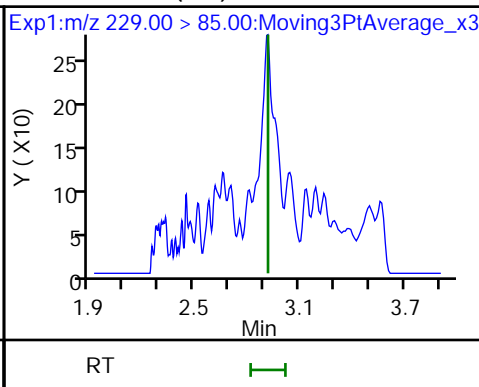
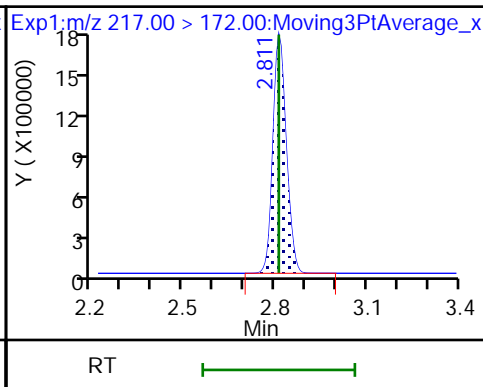
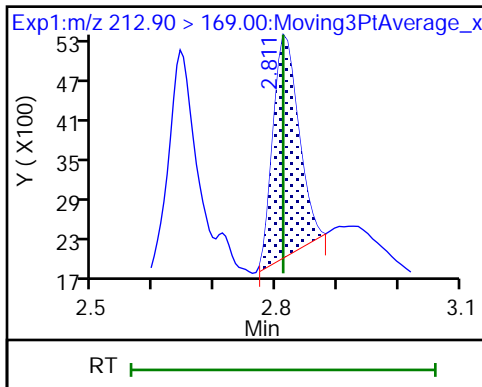
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

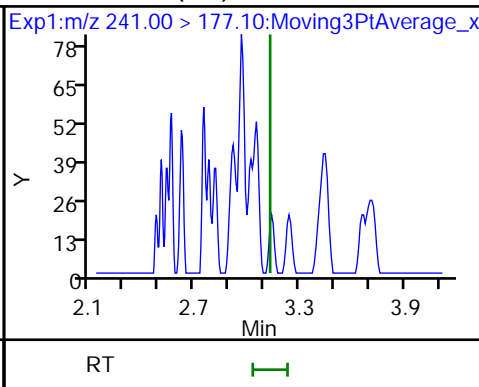
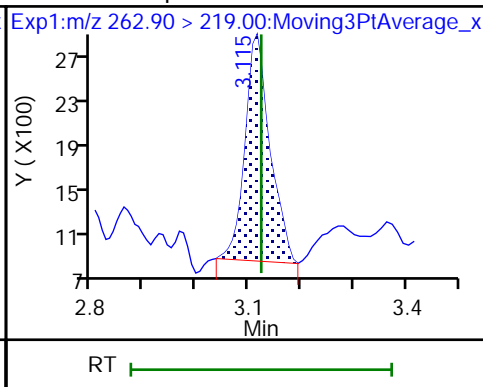
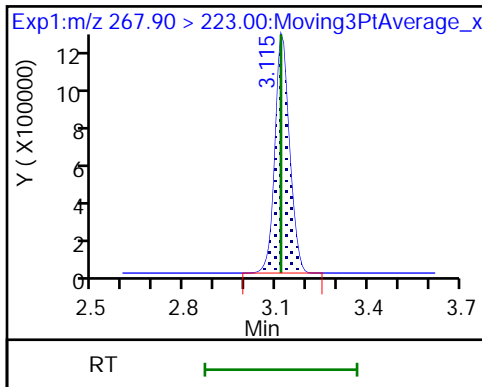
3 PFECA F (ND)



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

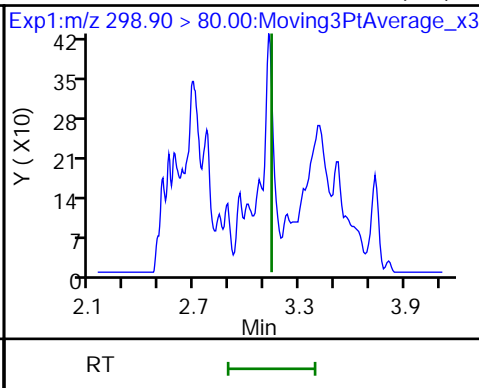
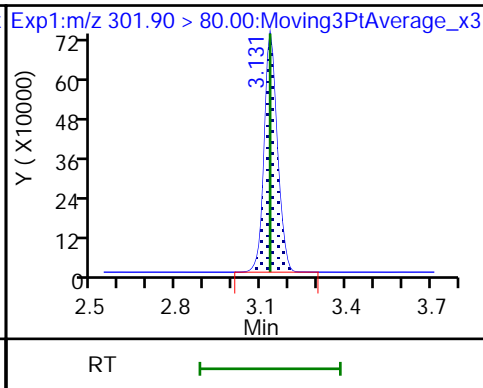
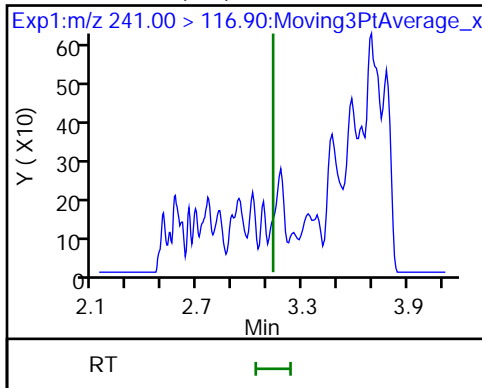
4 3:3 FTCA (ND)



4 3:3 FTCA (ND)

D 7 13C3 PFBS

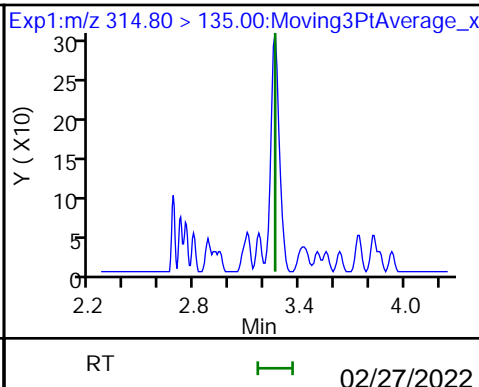
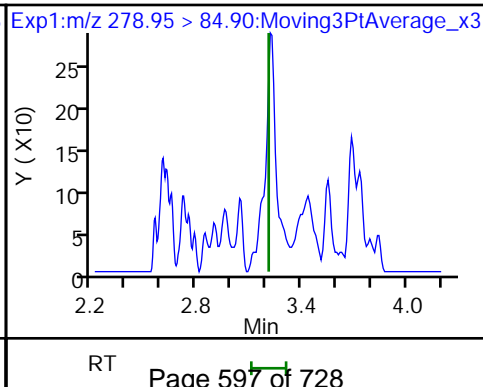
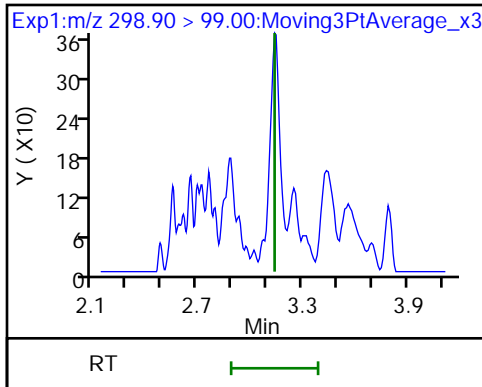
8 Perfluorobutanesulfonic acid (ND)



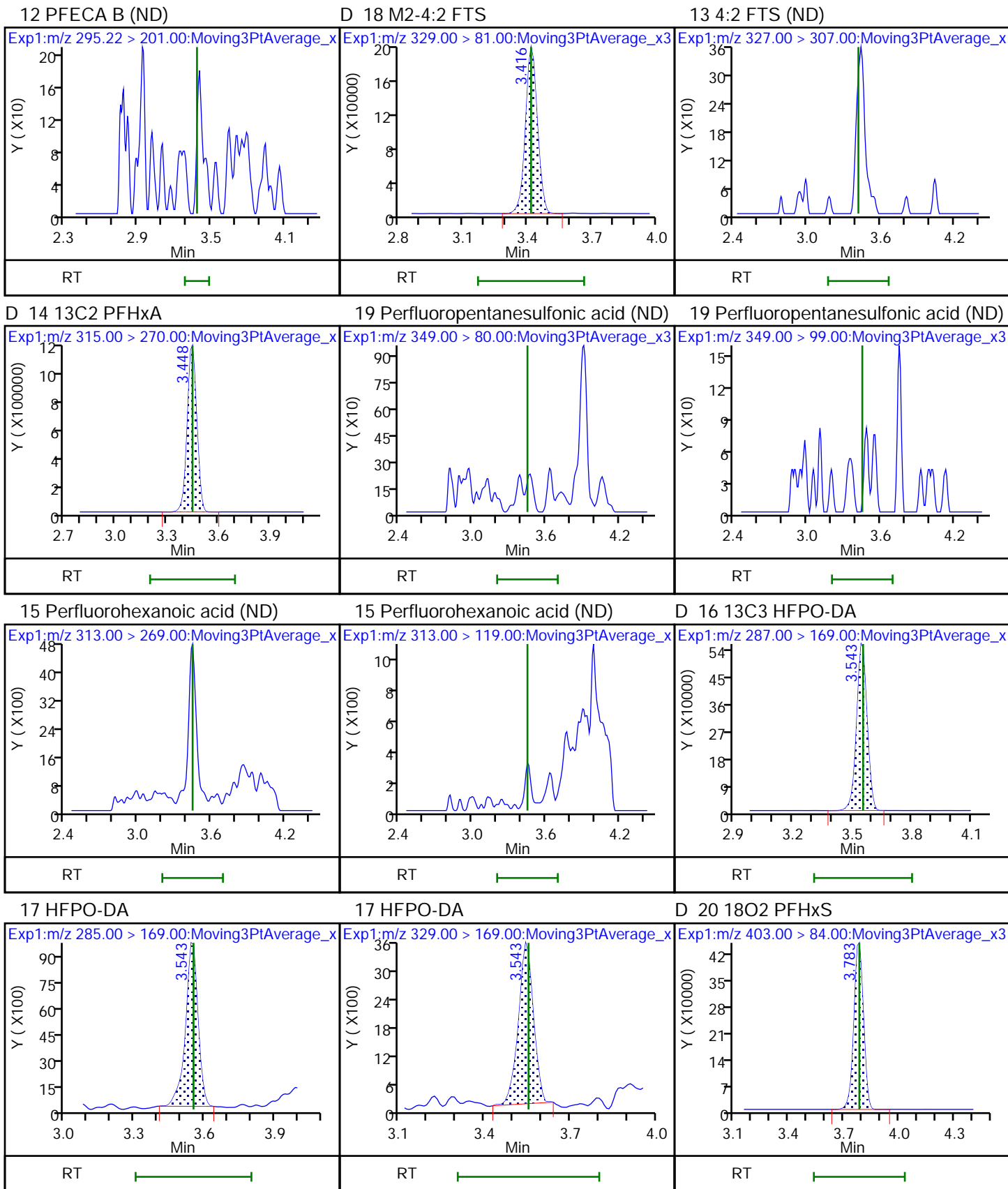
8 Perfluorobutanesulfonic acid (ND)

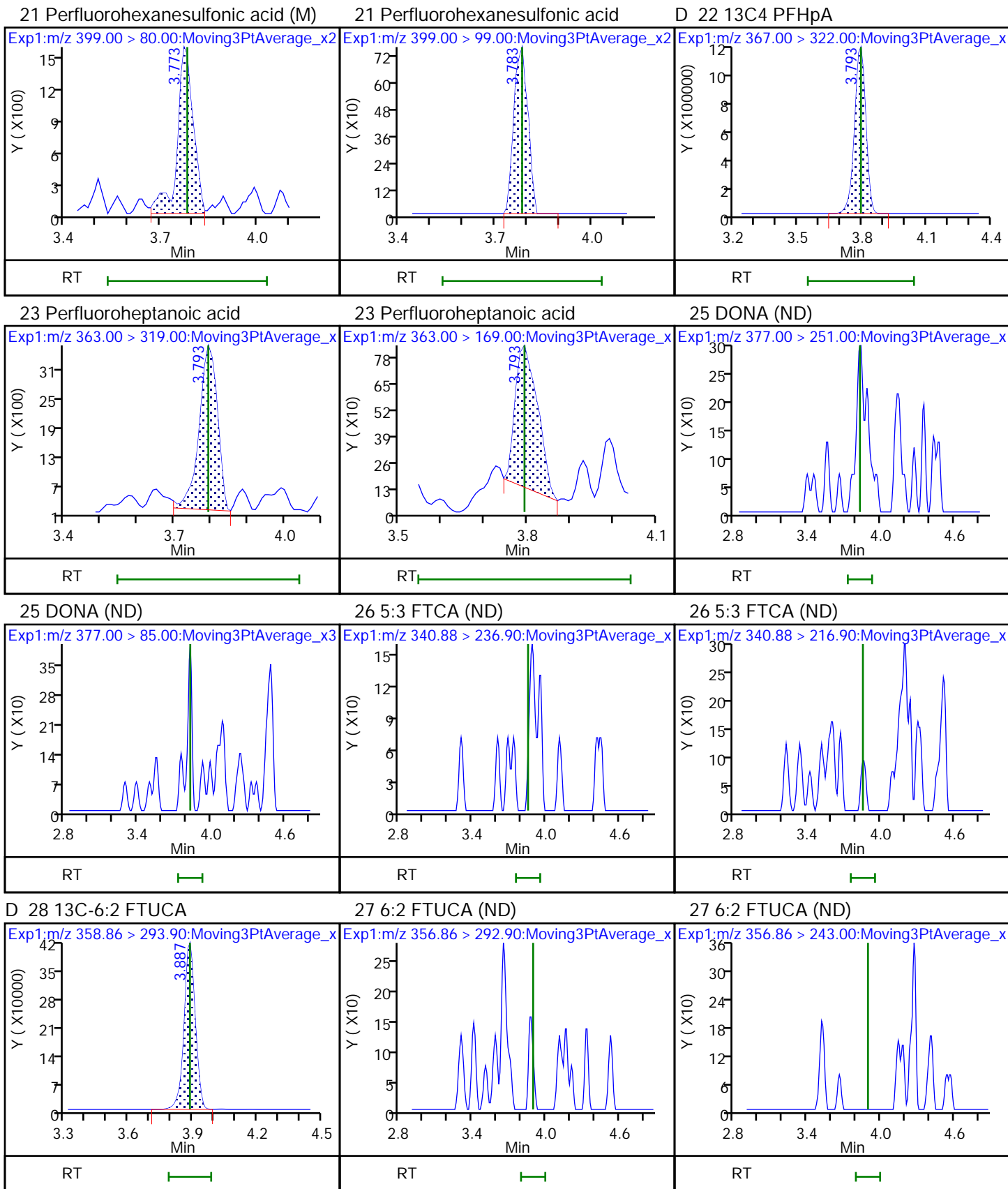
9 PFECA A (ND)

11 PES (ND)





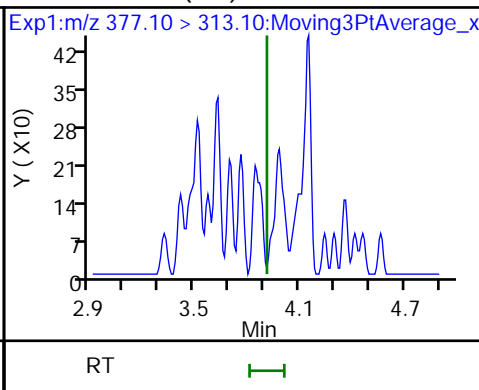
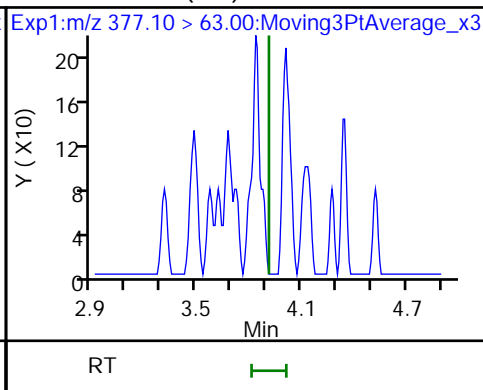
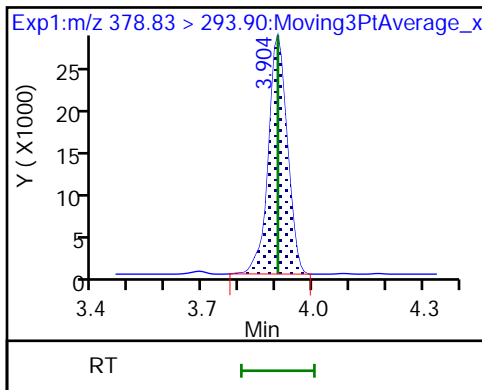




D 24 13C-6:2 FTCA

29 6:2 FTCA (ND)

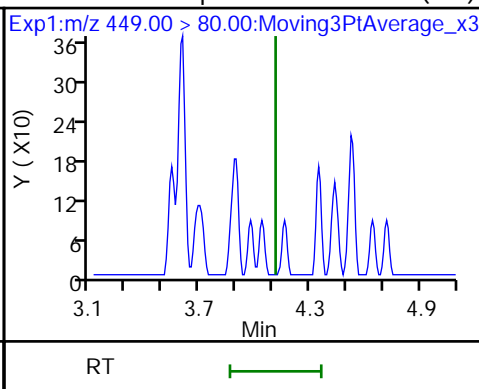
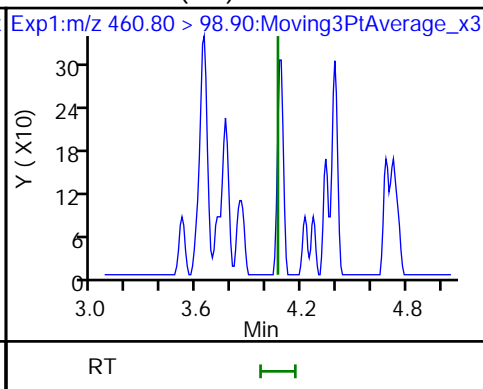
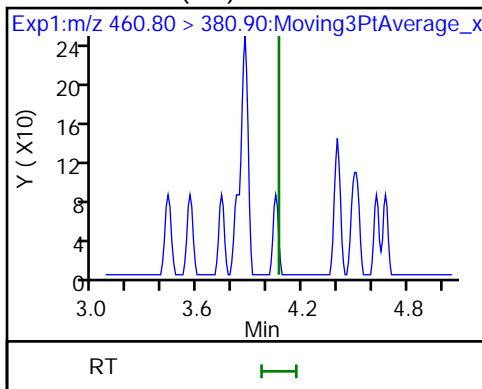
29 6:2 FTCA (ND)



32 PFECHS (ND)

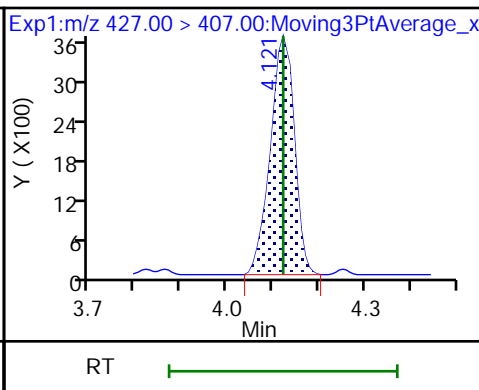
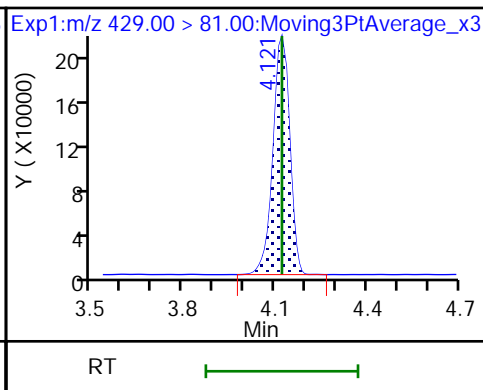
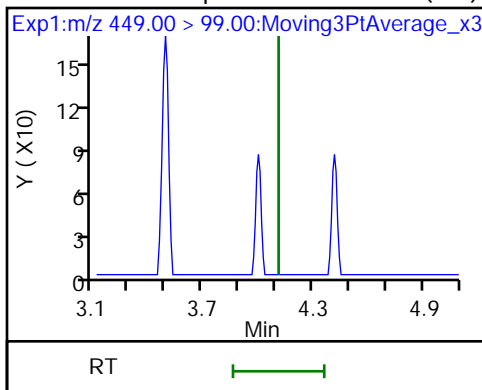
32 PFECHS (ND)

33 Perfluoroheptanesulfonic acid (ND)



33 Perfluoroheptanesulfonic acid (ND) D 34 M2-6:2 FTS

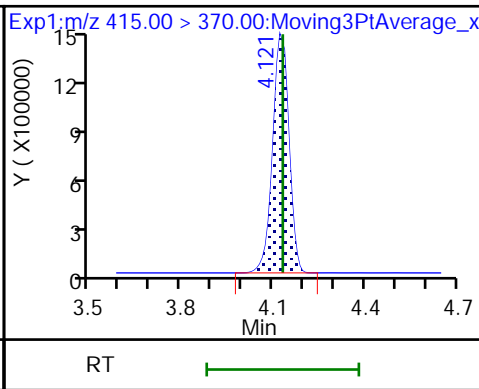
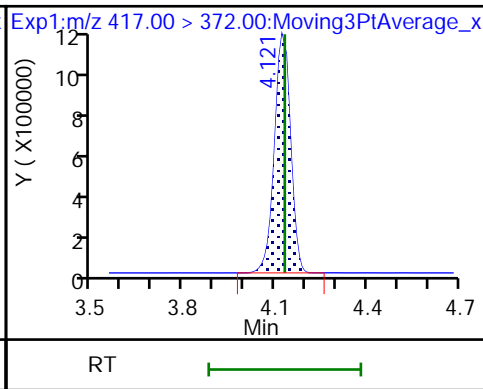
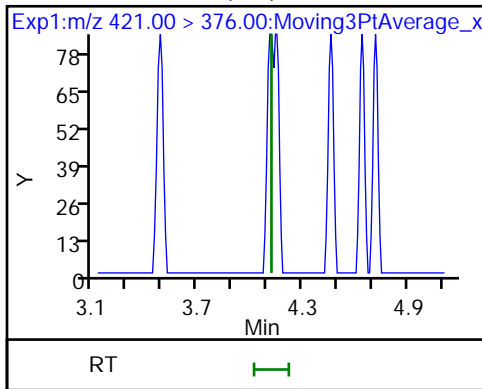
35 6:2 FTS

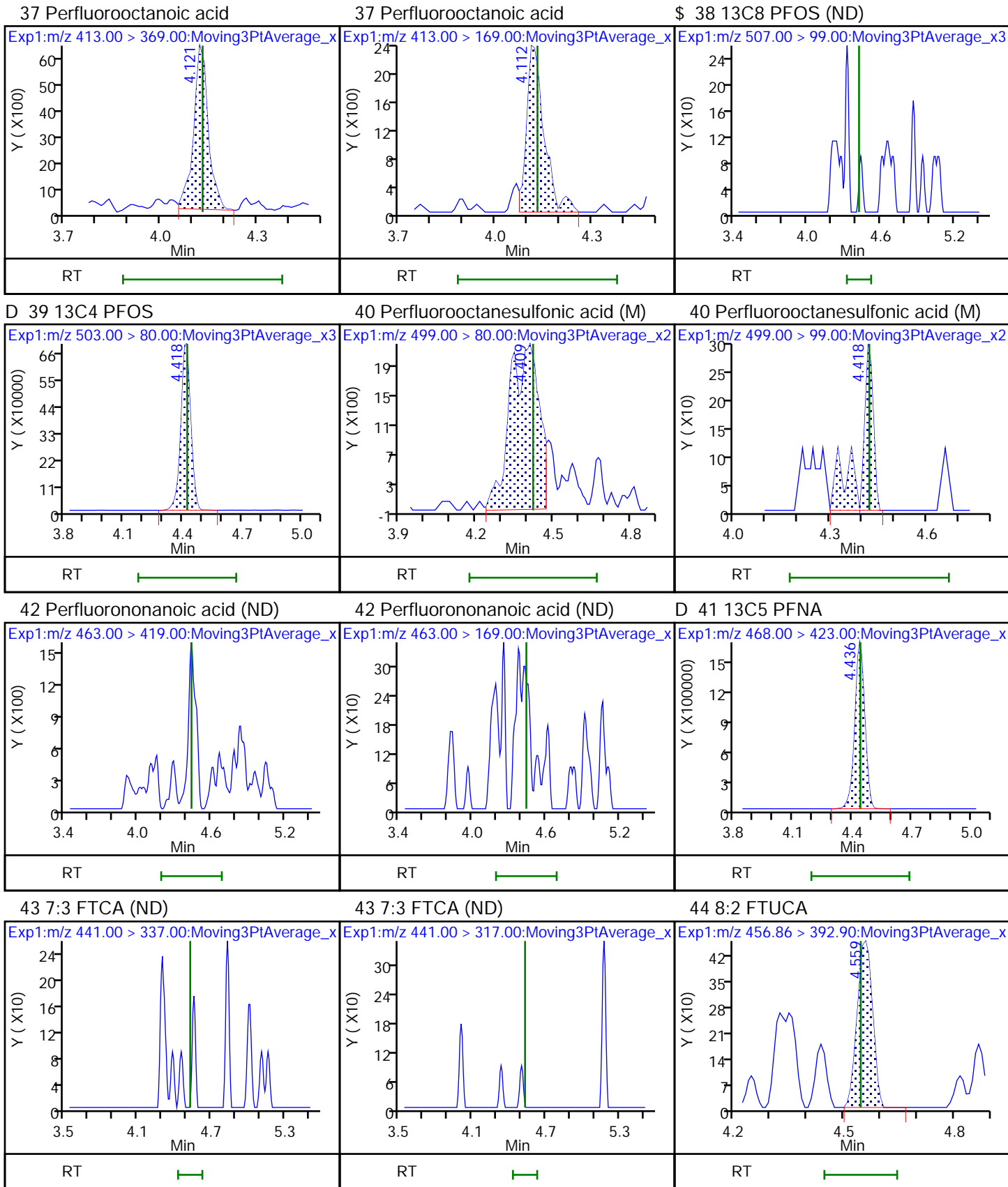


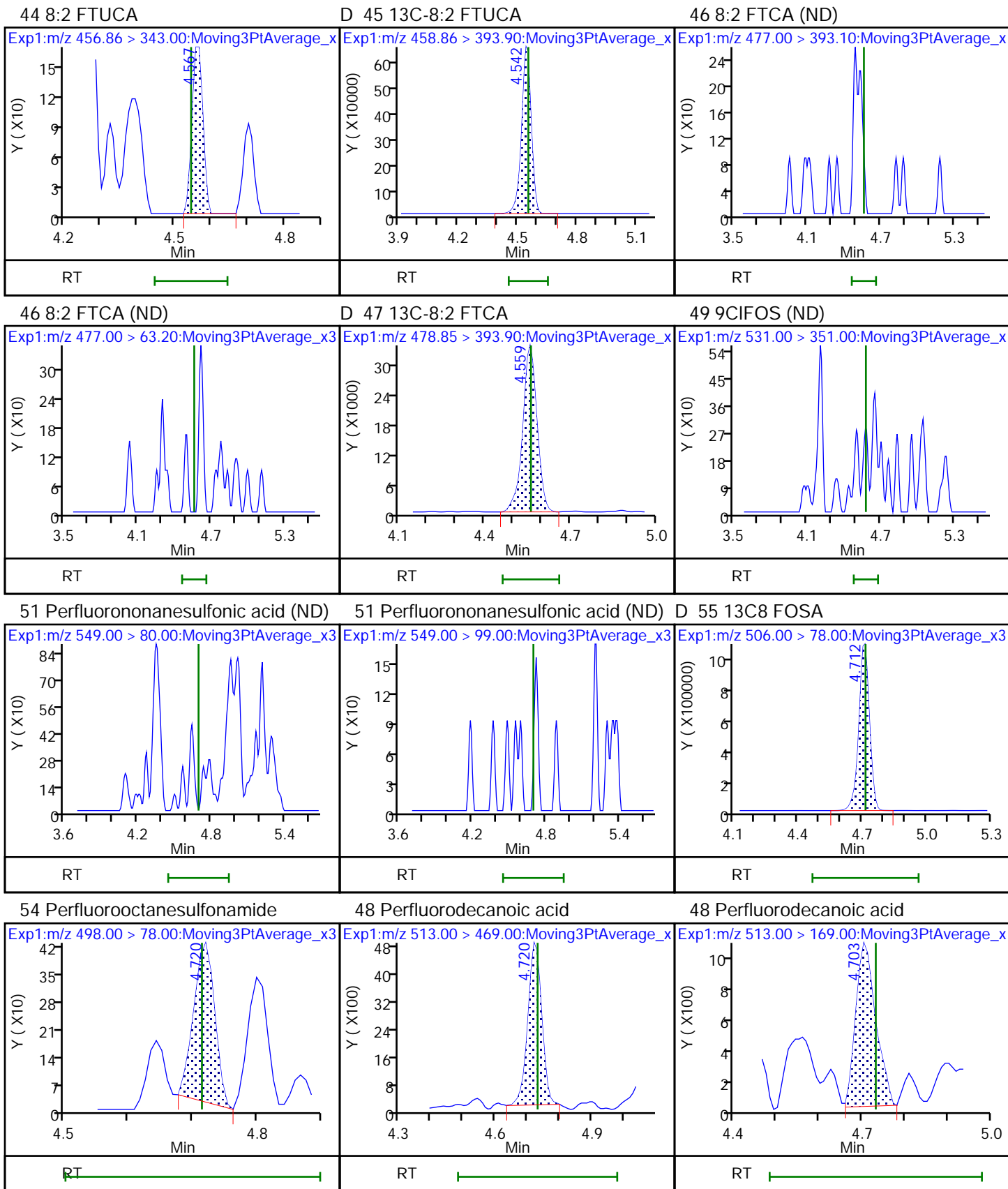
\$ 36 13C8 PFOA (ND)

D 31 13C4 PFOA

\* 30 13C2 PFOA



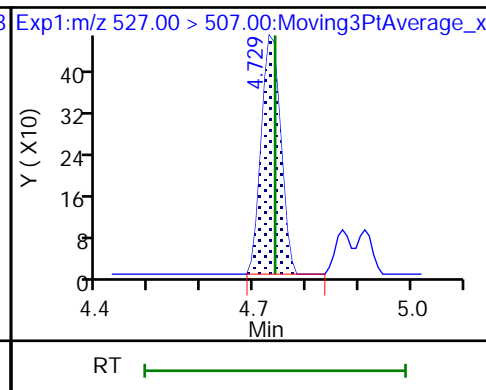
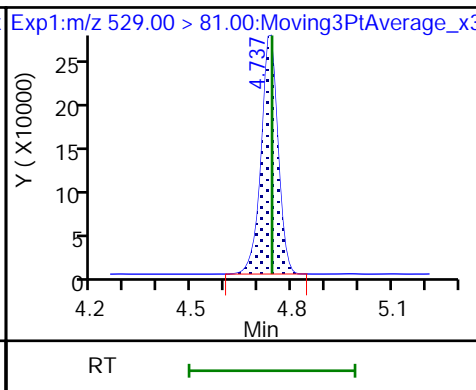
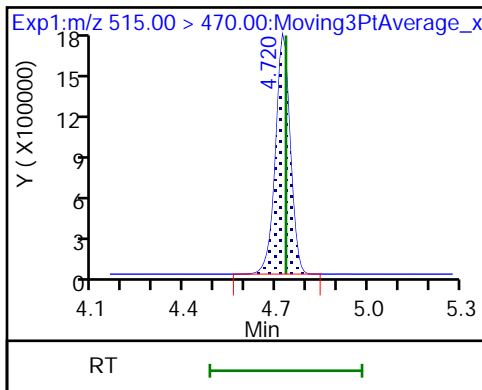




D 52 13C2 PFDA

D 50 M2-8:2 FTS

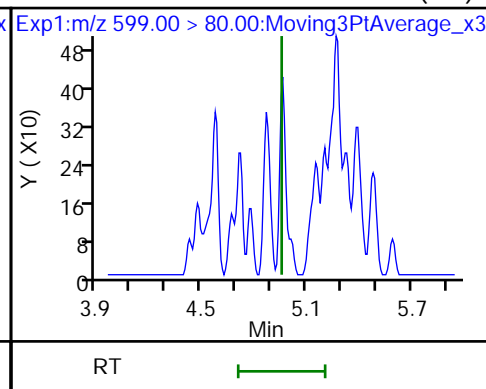
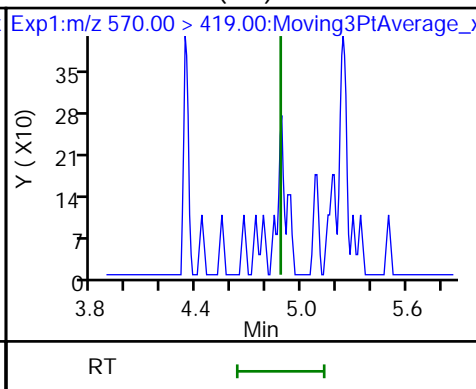
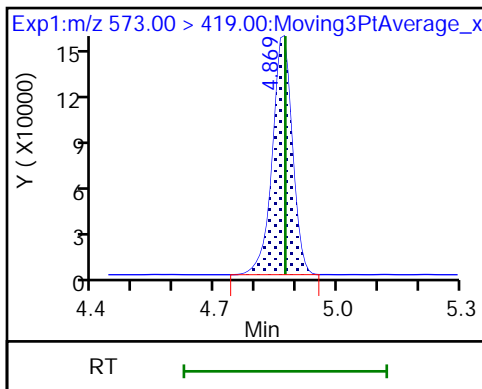
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (ND)

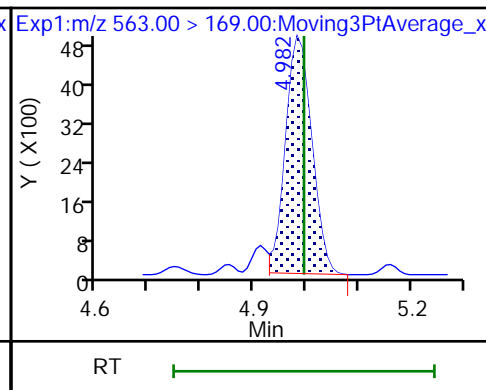
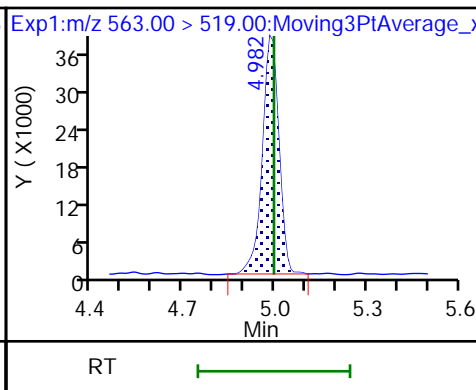
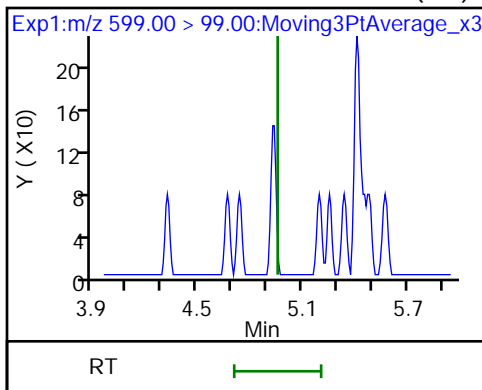
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid

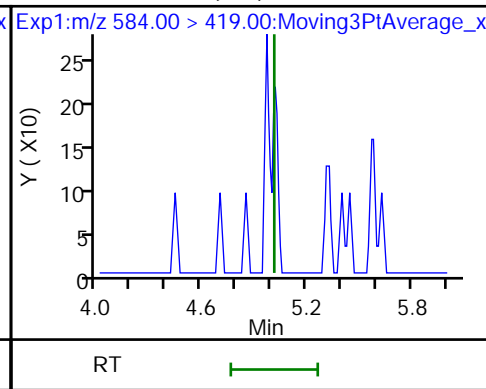
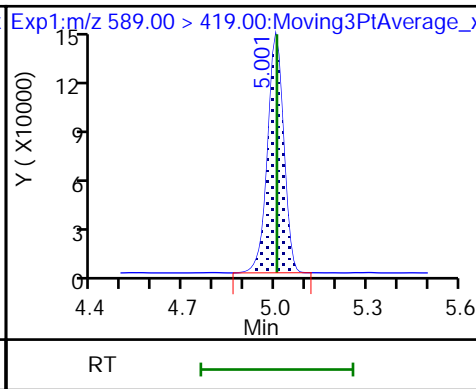
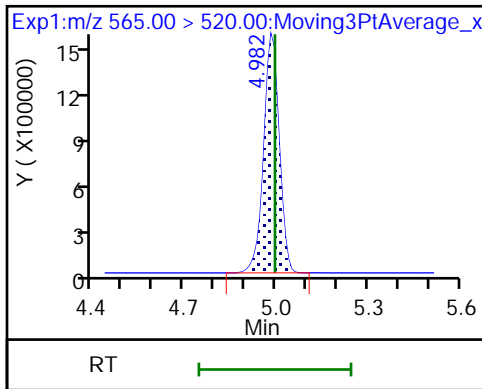
60 Perfluoroundecanoic acid

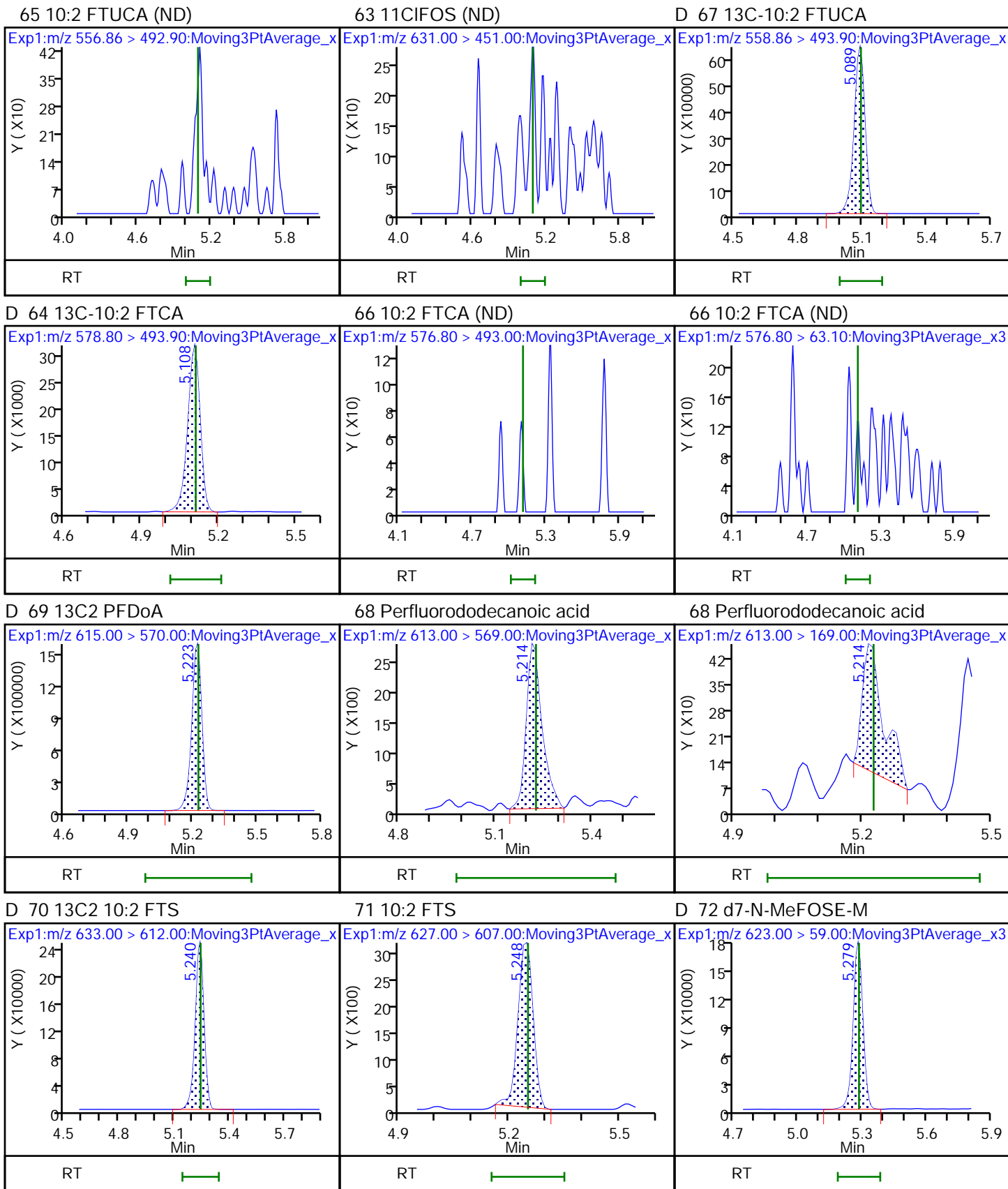


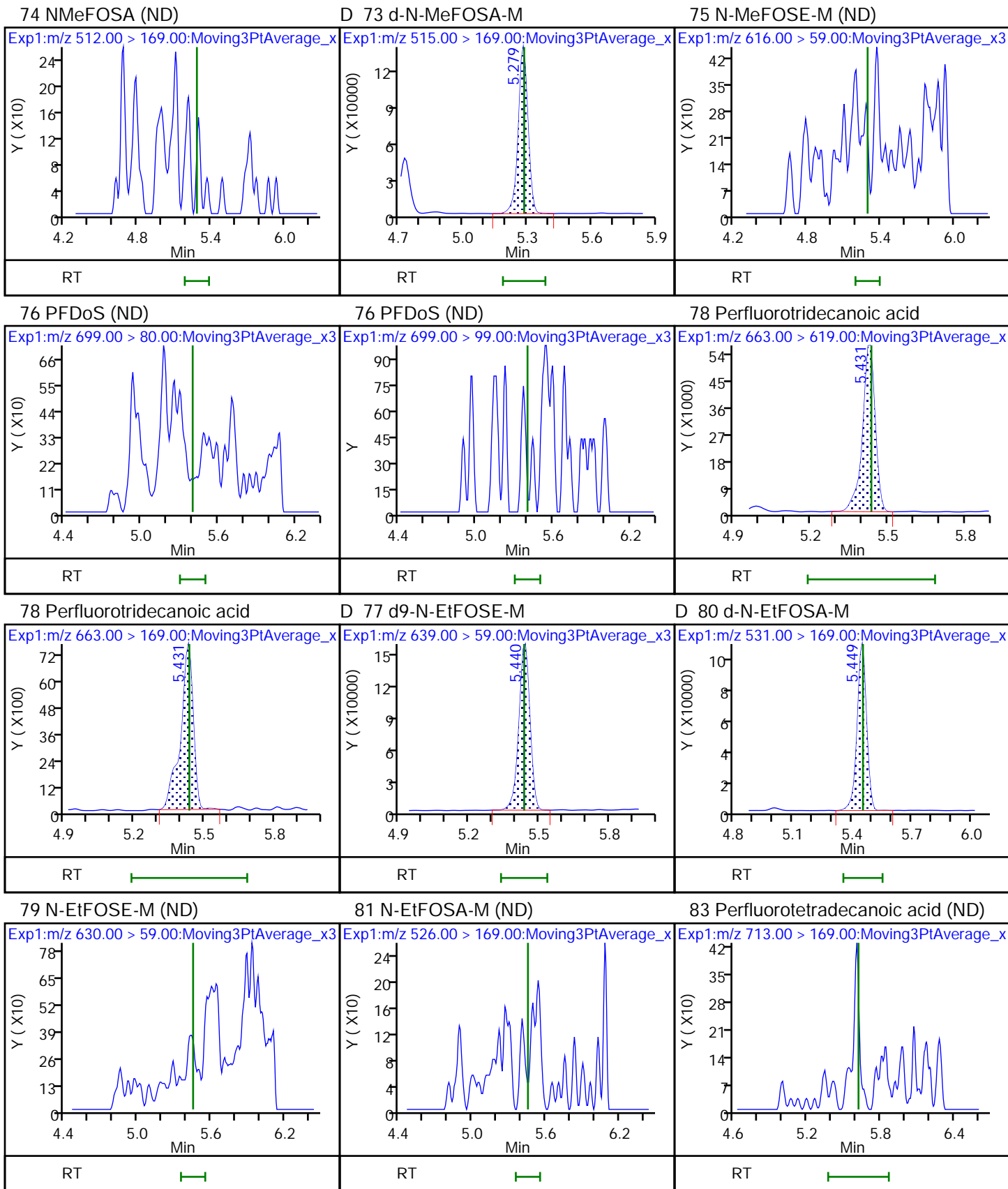
D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (ND)



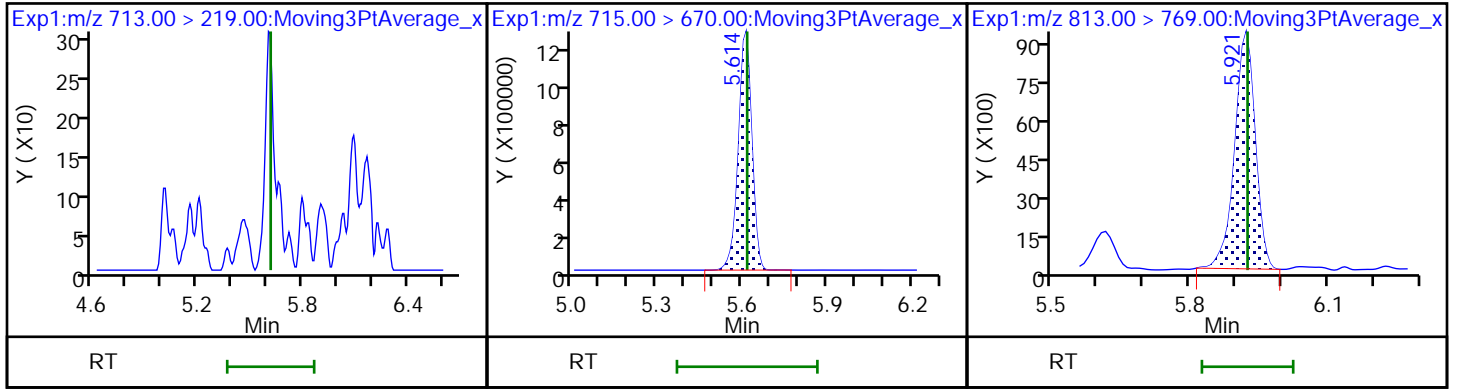






83 Perfluorotetradecanoic acid (ND) D 82 13C2 PFTeDA

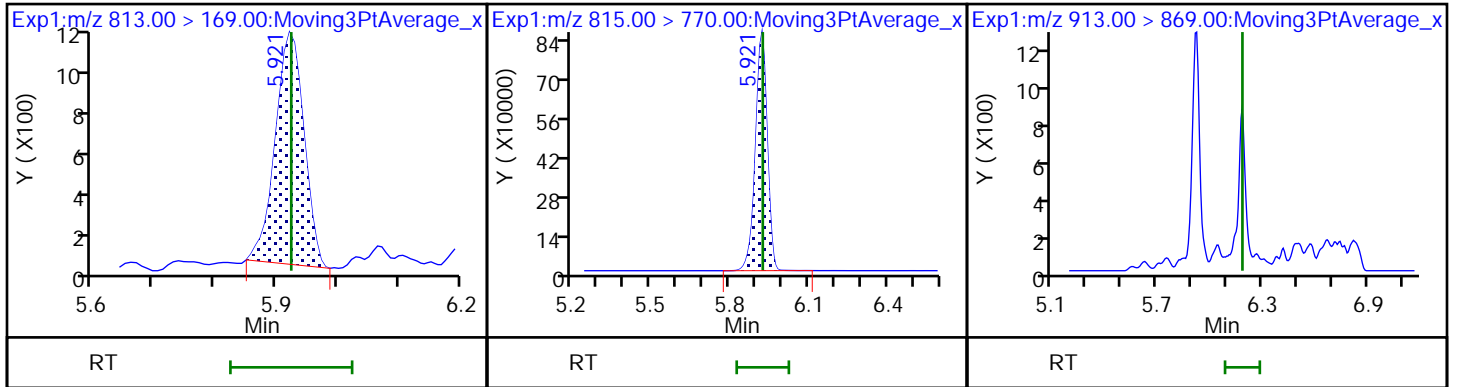
85 Perfluorohexadecanoic acid



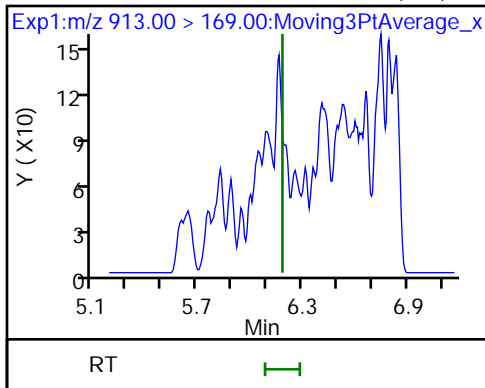
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 140-58967/1-A  
 Matrix: Air Lab File ID: \_020.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/18/2022 22:19  
 Con. Extract Vol.: 10(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.000500	0.0000870

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	84		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_020.d  
 Lims ID: MB 140-58967/1-A  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 18-Feb-2022 22:19:52 ALS Bottle#: 20 Worklist Smp#: 20  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-020 mb 140-58967/1-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:08:45  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										7
212.90 > 169.00	2.806	2.811	-0.005	0.998	1043	-0.003528		0.6		7
LOD = 0.0100										
D 2 13C4 PFBA										
217.00 > 172.00	2.813	2.811	0.002	0.682	5552622	1.08		86.3	19141	
3 PFECA F										
229.00 > 85.00		2.919				ND				
D 5 13C5 PFPeA										
267.90 > 223.00	3.117	3.115	0.002	0.756	4331764	1.07		85.8	14780	
6 Perfluoropentanoic acid										7
262.90 > 219.00	3.125	3.123	0.002	1.003	7393	-0.003335		3.0		7
LOD = 0.006500										
4 3:3 FTCA										
241.00 > 177.10		3.131				ND				
241.00 > 116.90		3.131								
D 7 13C3 PFBS										
301.90 > 80.00	3.134	3.131	0.003	0.760	2521421	0.9873		84.9	12649	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00		3.140				ND				
298.90 > 99.00		3.140								
9 PFECA A										
278.95 > 84.90		3.211				ND				
11 PES										7
314.80 > 135.00	3.252	3.260	-0.008	1.038	889	-0.003048		14.1		7
LOD = 0.0500										
12 PFECA B										
295.22 > 201.00		3.384				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.419	3.416	0.003	0.829	830744	1.04		89.0	1390	
13 4:2 FTS										
327.00 > 307.00		3.416				ND				
D 14 13C2 PFHxA										
315.00 > 270.00	3.440	3.448	-0.008	0.834	4732378	1.06		85.0	17073	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.448				ND				
349.00 > 99.00		3.448								
15 Perfluorohexanoic acid										
313.00 > 269.00	3.440	3.448	-0.008	1.000	12820	-0.003570	Target=12.09	6.6	7	7
313.00 > 119.00	3.440	3.448	-0.008	1.000	850		15.08(6.04-18.13)	1.3		
LOD = 0.008600										
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.546	3.553	-0.007	0.860	2291112	1.05		84.1	7452	
17 HFPO-DA										
285.00 > 169.00	3.556	3.553	0.003	1.003	7814	-0.001631	Target=2.53	5.0	7	7
329.00 > 169.00	3.546	3.553	-0.007	1.000	2426		3.22(1.26-3.79)	5.3		
LOD = 0.008500										
S 10 ADONA										
377.00 > 251.00		3.592				0				
D 20 18O2 PFHxS										
403.00 > 84.00	3.776	3.783	-0.007	0.916	1693933	1.02		86.4	9718	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.776	3.783	-0.007	1.000	7380	0.003719	Target=3.31	22.6	7	7
399.00 > 99.00	3.776	3.783	-0.007	1.000	2908		2.54(1.66-4.97)	11.1		
LOD = 0.005000										
D 22 13C4 PFHpA										
367.00 > 322.00	3.786	3.793	-0.007	0.918	4265284	1.07		85.9	11366	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.786	3.793	-0.007	1.000	4988	-0.005145	Target=3.40	4.4	7	7
363.00 > 169.00	3.807	3.793	0.014	1.005	1684		2.96(1.70-5.09)	6.3		
LOD = 0.0153										
25 DONA										
377.00 > 251.00		3.829				ND				
377.00 > 85.00		3.829								
26 5:3 FTCA										
340.88 > 236.90		3.853				ND				
340.88 > 216.90		3.853								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.880	3.887	-0.006	0.941	1636844	1.11		88.4	3827	
27 6:2 FTUCA										
356.86 > 292.90		3.895				ND				
356.86 > 243.00		3.895								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.906	3.904	0.002	0.947	131473	1.15		92.1	791	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
29 6:2 FTCA										
377.10 > 63.00		3.913				ND				
377.10 > 313.10		3.913								
32 PFECHS										
460.80 > 380.90		4.065				ND				
460.80 > 98.90		4.065								
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.112				ND				
449.00 > 99.00		4.112								
D 34 M2-6:2 FTS										
429.00 > 81.00	4.124	4.121	0.003	1.000	845845	1.07		90.2	1916	
35 6:2 FTS										
427.00 > 407.00	4.115	4.121	-0.006	0.998	9582	0.003791		50.3	7	7
LOD = 0.0137										
\$ 36 13C8 PFOA										
421.00 > 376.00	4.115	4.121	-0.006	0.998	911	0.000278		7.7		
D 31 13C4 PFOA										
417.00 > 372.00	4.124	4.131	-0.007	1.000	4431426	1.08		86.3	9103	
* 30 13C2 PFOA										
415.00 > 370.00	4.124	4.131	-0.007		5487523	1.25			10057	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.124	4.131	-0.007	1.000	18432	-0.001490	Target=2.33	15.2		R7
413.00 > 169.00	4.124	4.131	-0.007	1.000	5250		3.51(1.17-3.50)	14.5		R7
LOD = 0.009500										
\$ 38 13C8 PFOS										
507.00 > 99.00		4.421				ND				
D 39 13C4 PFOS										
503.00 > 80.00	4.417	4.421	-0.004	1.071	2549035	1.03		86.6	2702	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00		4.421				ND				
499.00 > 99.00		4.421								
42 Perfluorononanoic acid										
463.00 > 419.00	4.434	4.439	-0.005	1.000	5090	0.001369	Target=3.81	6.8		7
463.00 > 169.00	4.443	4.439	0.004	1.002	1588		3.21(1.90-5.71)	3.4		7
LOD = 0.004250										
D 41 13C5 PFNA										
468.00 > 423.00	4.434	4.439	-0.005	1.075	6109610	1.10		87.8	9985	
43 7:3 FTCA										
441.00 > 337.00		4.529				ND				
441.00 > 317.00		4.529								
44 8:2 FTUCA										
456.86 > 392.90		4.545				ND				
456.86 > 343.00		4.545								
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.549	4.553	-0.004	1.000	2348586	1.18		94.7	7236	
46 8:2 FTCA										
477.00 > 393.10		4.562				ND				
477.00 > 63.20		4.562								

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.557	4.562	-0.005	1.105	180228	1.24		99.4	920	
49 9CIFOS										
531.00 > 351.00	4.659	4.578	0.081	1.130	1042	0.000217		3.9	7	7
LOD = 0.003500										
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.697				ND				
549.00 > 99.00		4.697								
D 55 13C8 FOSA										
506.00 > 78.00	4.710	4.714	-0.004	1.142	4035730	1.08		86.8	5483	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.710	4.714	-0.004	1.000	3110	0.001009		7.9	7	7
LOD = 0.004400										
48 Perfluorodecanoic acid										
513.00 > 469.00	4.727	4.731	-0.004	1.000	17719	-0.002703	Target=11.13	17.2	7	7
513.00 > 169.00	4.808	4.731	0.077	1.017	1316		13.46(5.57-16.70)	1.9		
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.727	4.731	-0.004	1.146	5927224	1.12		89.3	17248	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.736	4.740	-0.004	1.148	887941	1.03		86.1	1265	
53 8:2 FTS										
527.00 > 507.00		4.740				ND				
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.867	4.872	-0.005	1.180	578266	1.16		92.9	1736	
57 NMeFOSAA										
570.00 > 419.00	4.833	4.880	-0.047	0.993	1266	0.004533		4.8	7	7
LOD = 0.006000										
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.957				ND				
599.00 > 99.00		4.957								
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.990	4.995	-0.005	1.000	3780	0.000899	Target=8.47	5.8	7	7M
563.00 > 169.00	4.990	4.995	-0.005	1.000	338		11.18(4.23-12.70)	2.3		M
LOD = 0.006000										
D 59 13C2 PFUnA										
565.00 > 520.00	4.990	4.995	-0.005	1.210	5436453	1.06		84.8	7457	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.999	5.005	-0.006	1.212	577341	1.13		90.4	2275	
62 NEtFOSAA										
584.00 > 419.00	4.999	5.015	-0.016	1.000	639	-0.008570		5.8	7	7
LOD = 0.007000										
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.087	5.093	-0.006	1.233	2474728	1.11		88.8	5812	
65 10:2 FTUCA										
556.86 > 492.90	5.087	5.093	-0.006	1.000	1817	0.000760		6.4	7M	7M
LOD = 0.0500										

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
63 11CIFOS										7M
631.00 > 451.00	5.058	5.093	-0.035	1.145	2051	-0.003530			6.0	7M
LOD = 0.007000										
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.106	5.112	-0.006	1.238	145410	1.07		85.7	654	
66 10:2 FTCA										
576.80 > 493.00		5.112				ND				
576.80 > 63.10		5.112								
D 69 13C2 PFDaA										
615.00 > 570.00	5.222	5.226	-0.004	1.266	5442324	1.08		86.1	12199	
68 Perfluorododecanoic acid										
613.00 > 569.00		5.226				ND				
613.00 > 169.00		5.226								
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.238	5.243	-0.005	1.270	730179	1.01		85.1	3640	
71 10:2 FTS										7
627.00 > 607.00	5.246	5.251	-0.005	1.002	5699	-0.001921		32.2	7	
LOD = 0.008500										
74 NMeFOSA										
512.00 > 169.00		5.284				ND				
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.278	5.284	-0.006	1.280	410279	0.9261		74.1	42.8	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.278	5.284	-0.006	1.280	515932	0.99		79.3	373	
75 N-MeFOSE-M										
616.00 > 59.00		5.292				ND				
76 PFDoS										
699.00 > 80.00		5.399				ND				
699.00 > 99.00		5.399								
78 Perfluorotridecanoic acid										
663.00 > 619.00		5.435				ND				
663.00 > 169.00		5.435								
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.439	5.435	0.004	1.319	515516	0.9545		76.4	256	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.448	5.452	-0.004	1.321	307571	0.8656		69.2	528	
79 N-EtFOSE-M										
630.00 > 59.00		5.452				ND				
81 N-EtFOSA-M										
526.00 > 169.00		5.452				ND				
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.617				ND				
713.00 > 219.00		5.617								
D 82 13C2 PFTeDA										
715.00 > 670.00	5.613	5.617	-0.004	1.361	4040699	1.00		79.9	9916	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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85 Perfluorohexadecanoic acid										7
813.00 > 769.00	5.921	5.924	-0.003	1.000	26267	-0.000981	Target=8.23		70.3	7
813.00 > 169.00	5.921	5.924	-0.003	1.000	3085		8.51(4.11-12.34)		12.7	
LOD = 0.009000										

D 84 13C2 PFHxDA

815.00 > 770.00	5.921	5.924	-0.003	1.436	2482791	0.9431			75.4	4118
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86 Perfluorooctadecanoic acid

913.00 > 869.00		6.185				ND				
913.00 > 169.00		6.185								

S 87 F-53B

212.90 > 169.00		0.0				0				
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S 88 NaDONA

377.00 > 251.00		0.0				0				
377.00 > 85.00		0.0								

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

R - Failed Signal Ratio Test

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated



Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_020.d

Injection Date: 18-Feb-2022 22:19:52

Instrument ID: LCA

Lims ID: MB 140-58967/1-A

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 20

Worklist Smp#: 20

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

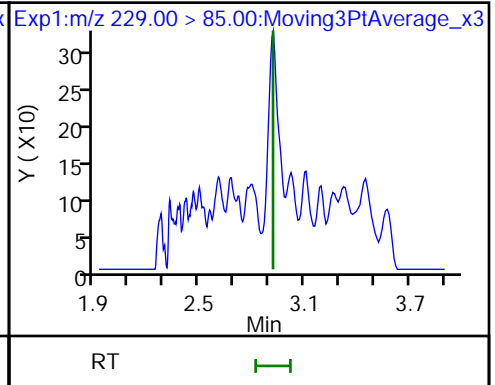
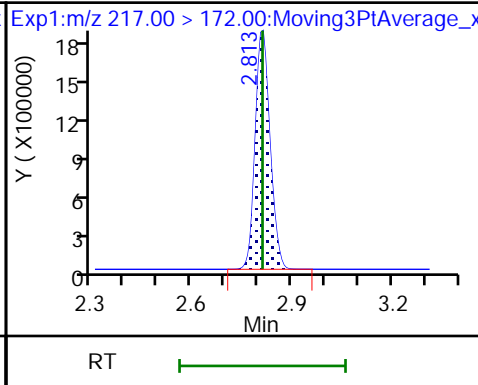
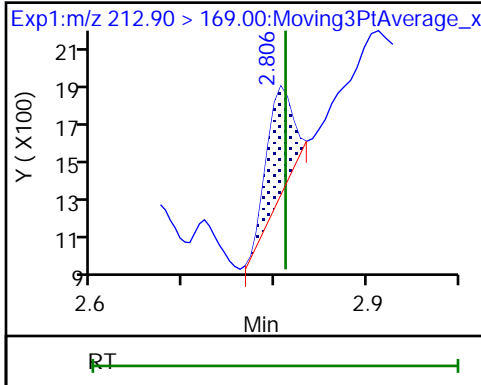
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

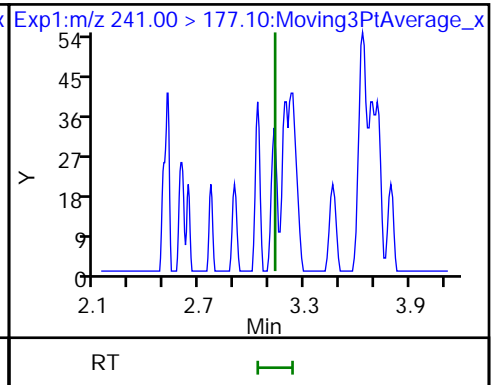
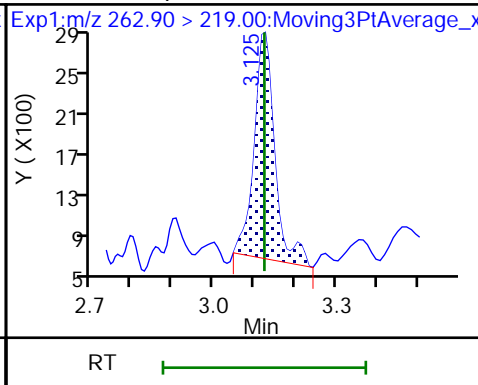
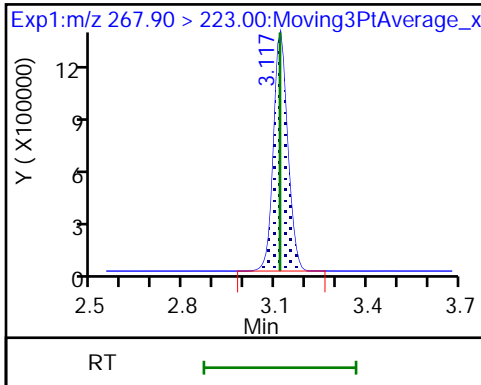
3 PFECA F (ND)



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

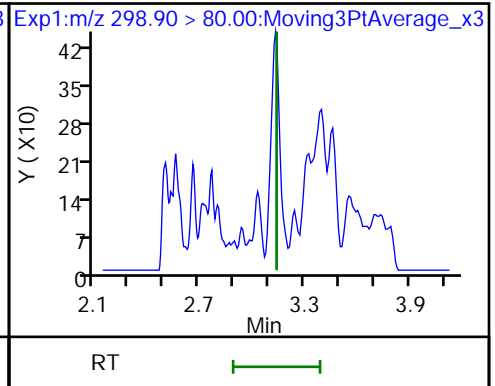
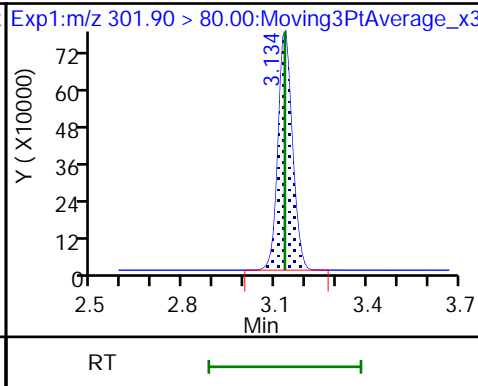
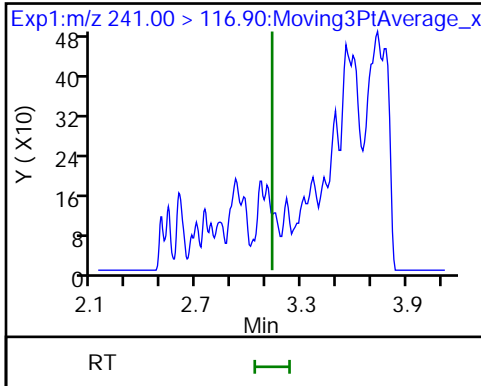
4 3:3 FTCA (ND)



4 3:3 FTCA (ND)

D 7 13C3 PFBS

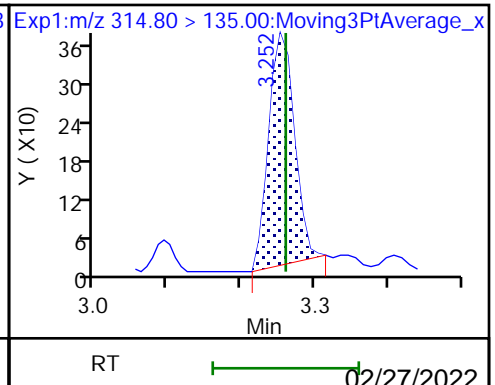
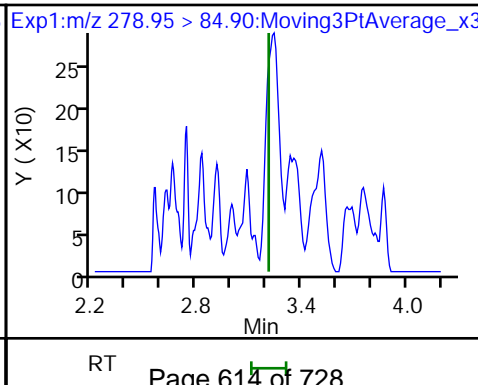
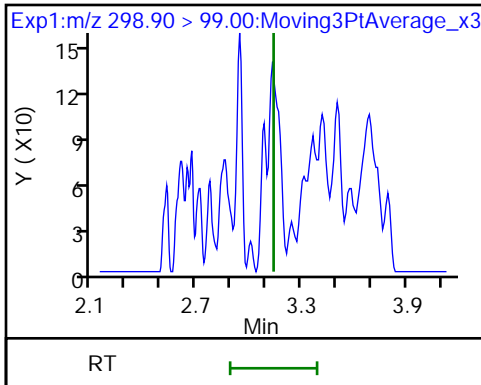
8 Perfluorobutanesulfonic acid (ND)

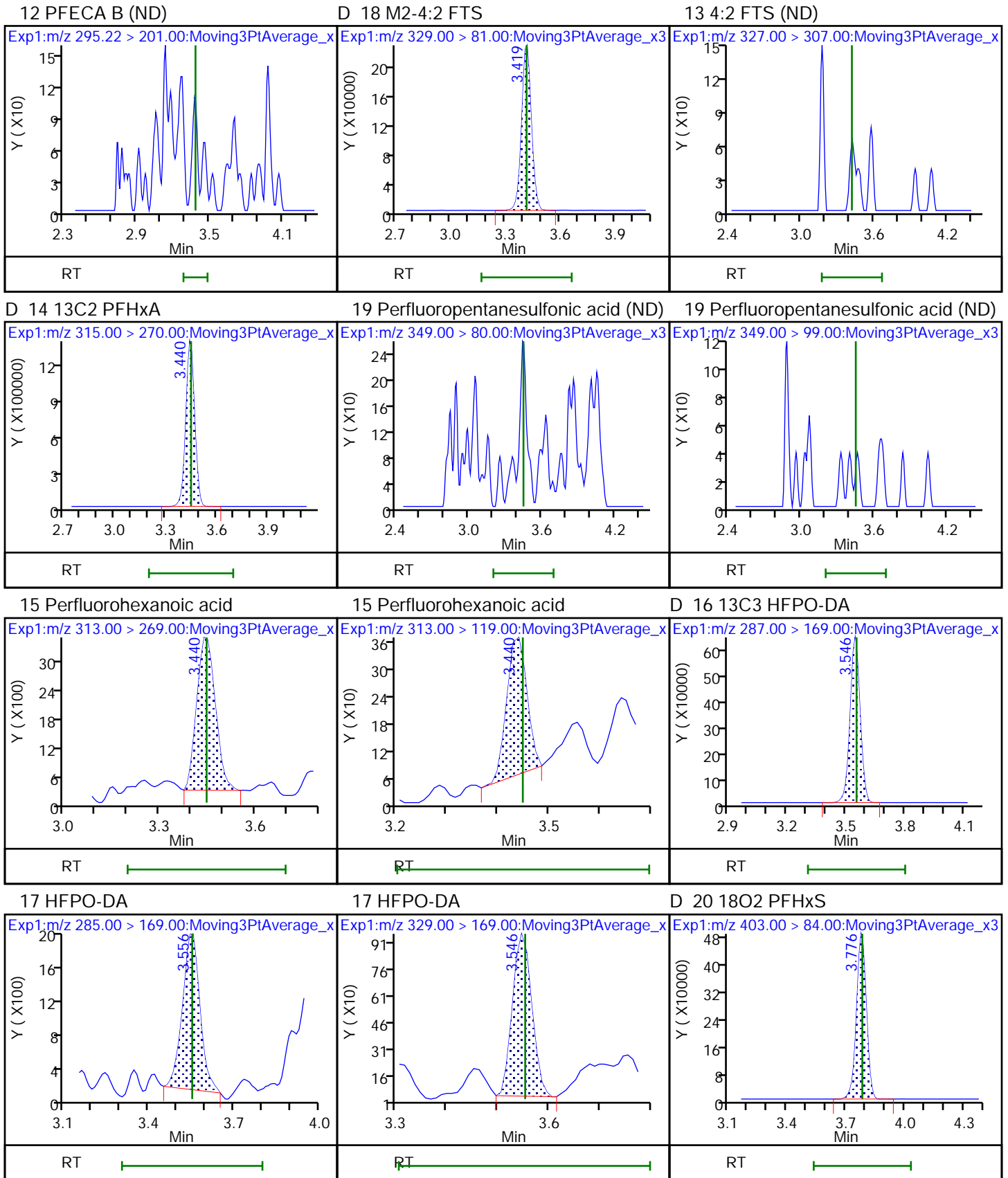


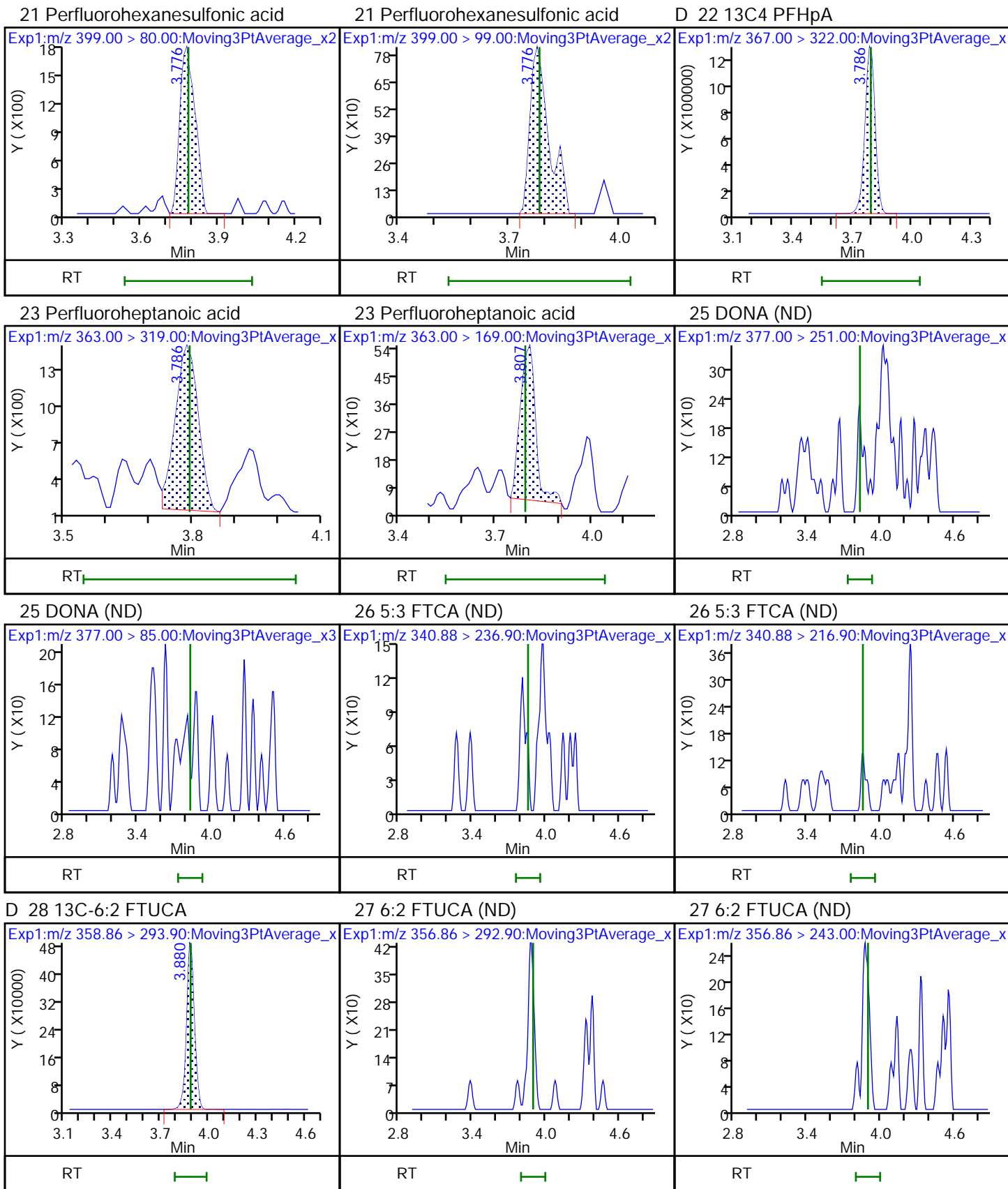
8 Perfluorobutanesulfonic acid (ND)

9 PFECA A (ND)

11 PES



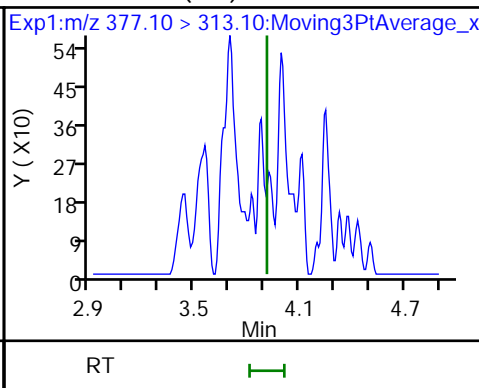
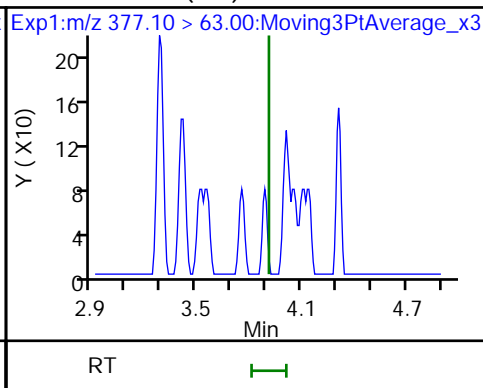
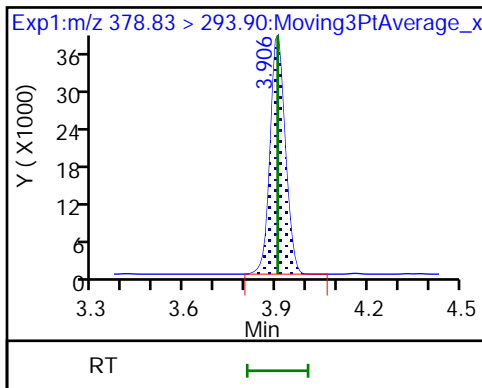




D 24 13C-6:2 FTCA

29 6:2 FTCA (ND)

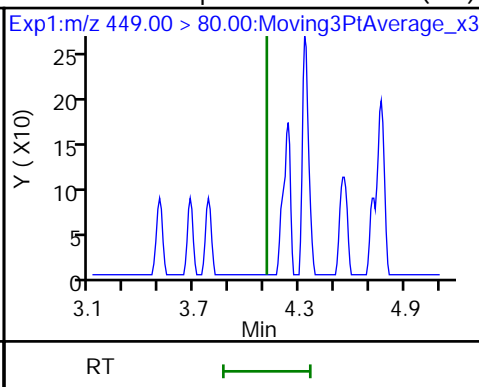
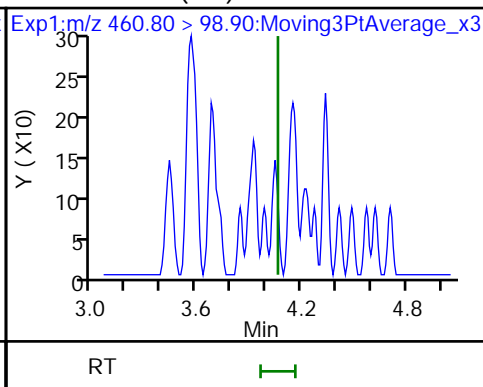
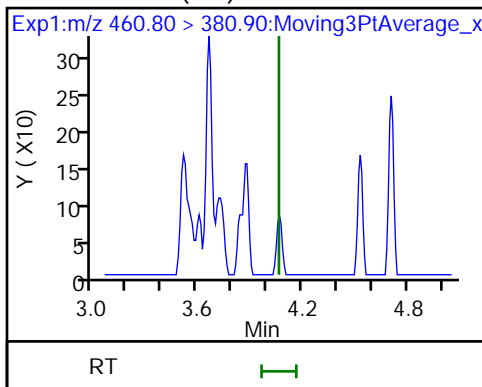
29 6:2 FTCA (ND)



32 PFECHS (ND)

32 PFECHS (ND)

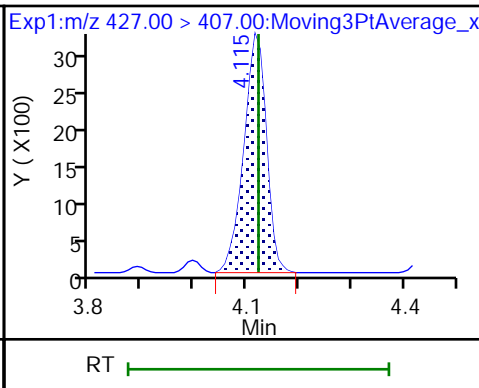
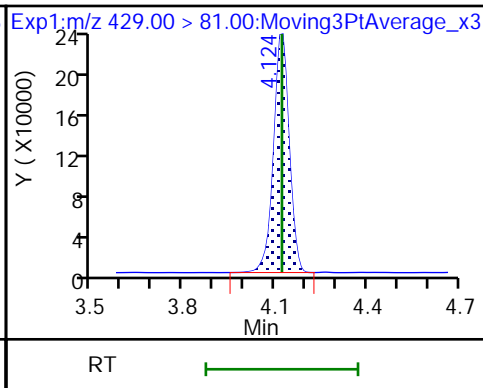
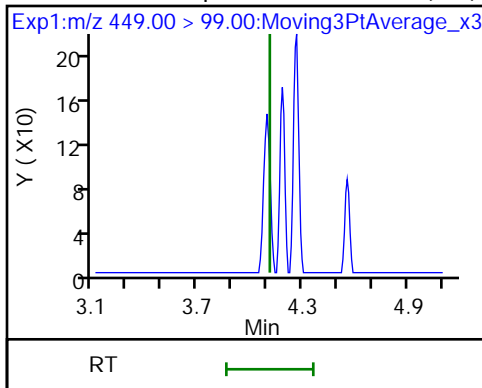
33 Perfluoroheptanesulfonic acid (ND)



33 Perfluoroheptanesulfonic acid (ND)

D 34 M2-6:2 FTS

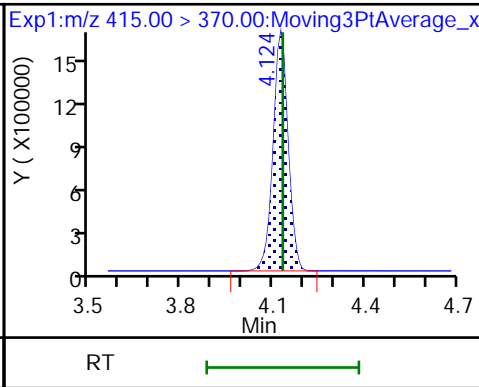
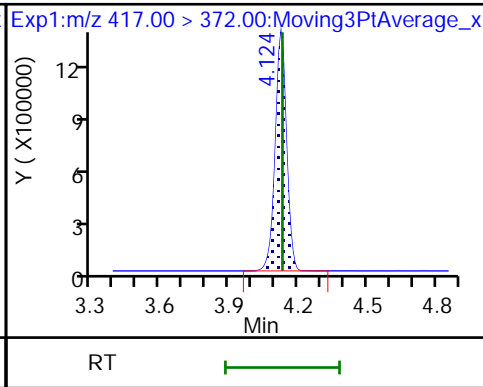
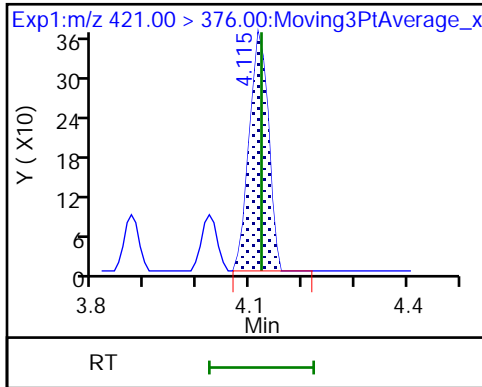
35 6:2 FTS

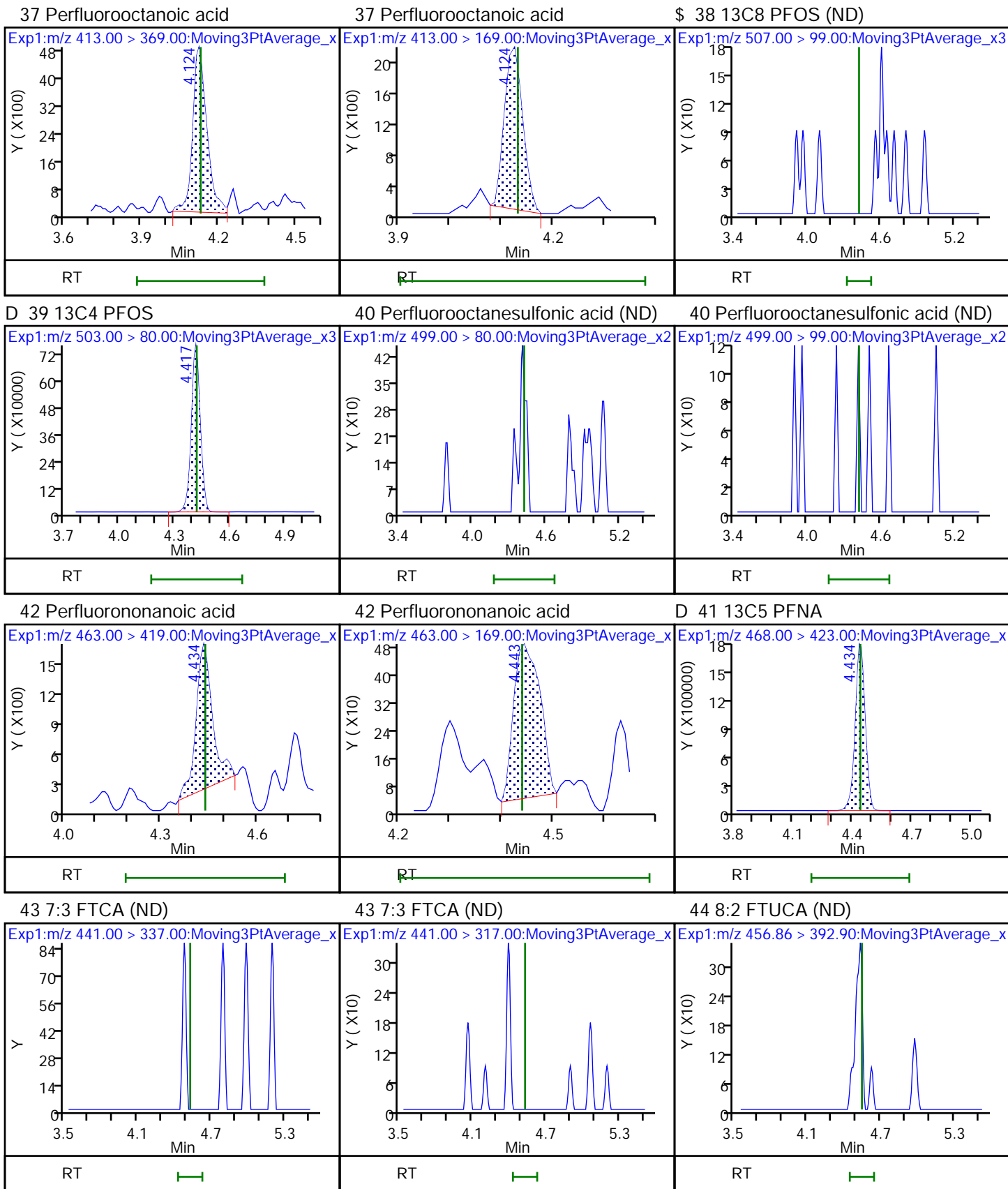


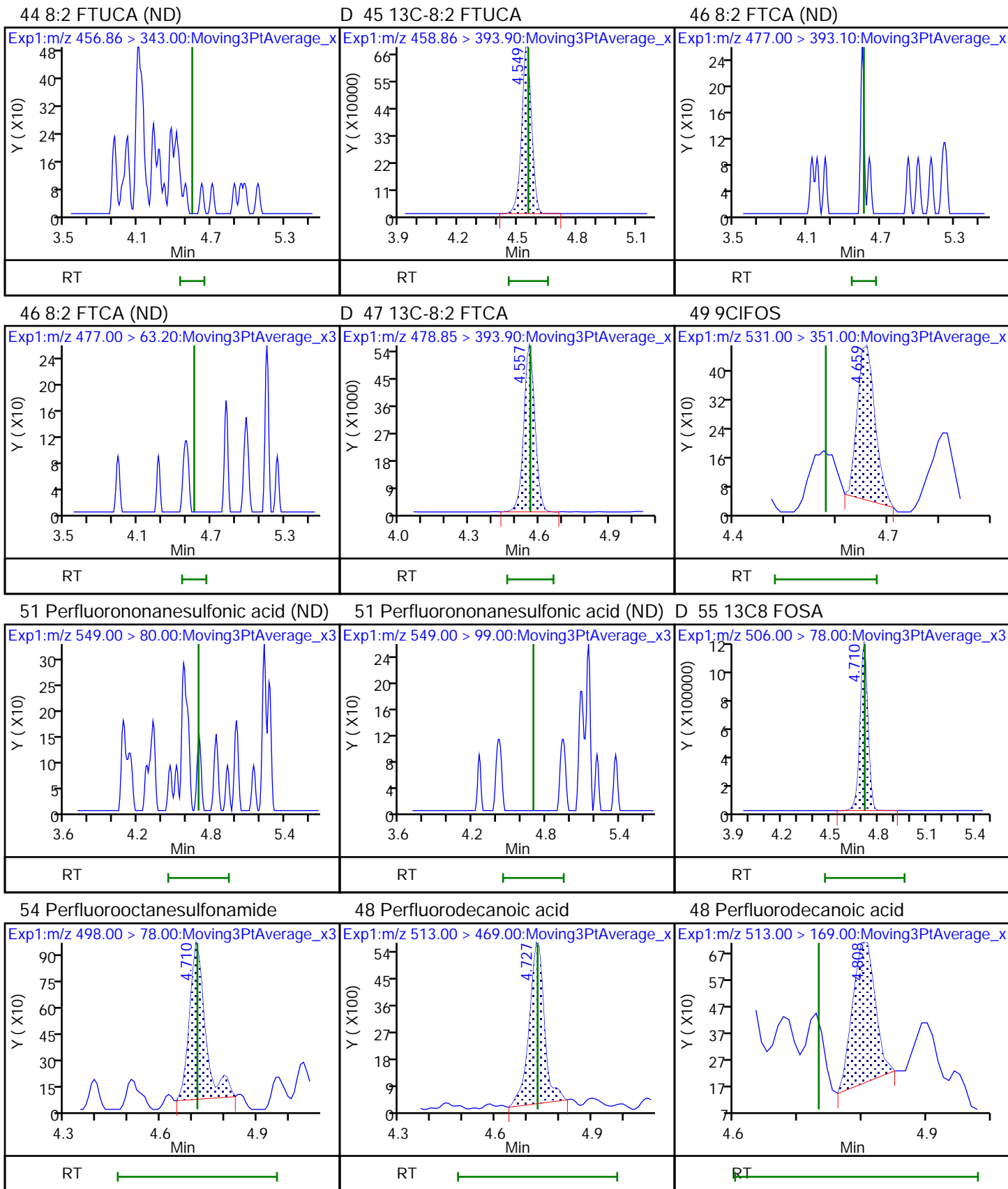
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



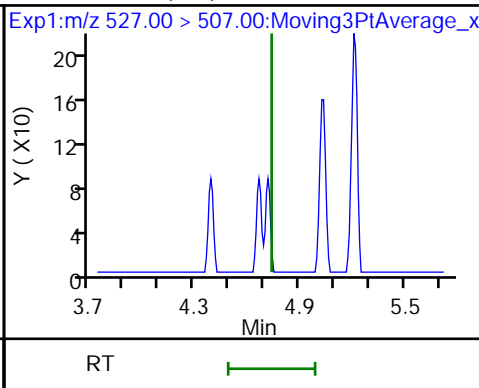
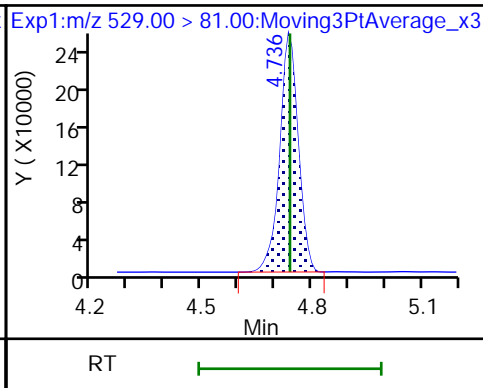
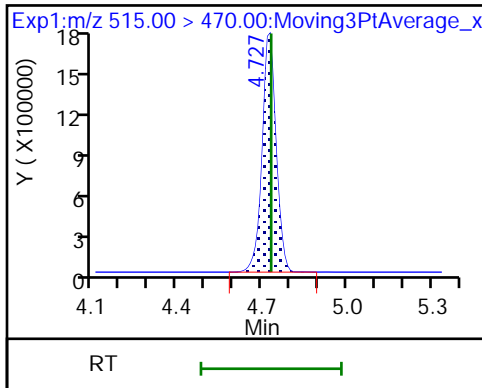




D 52 13C2 PFDA

D 50 M2-8:2 FTS

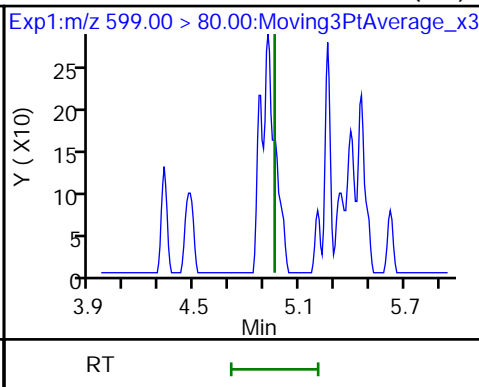
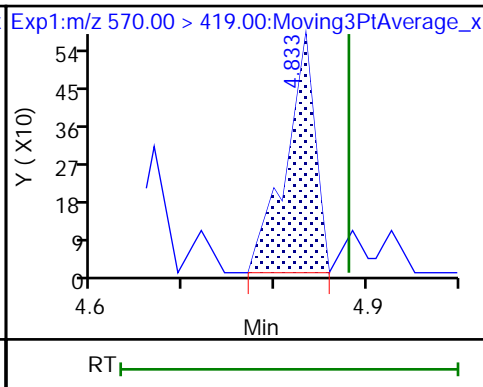
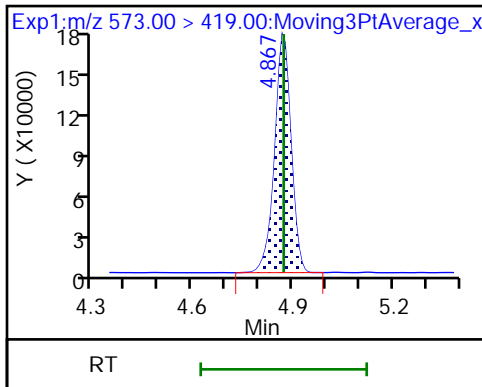
53 8:2 FTS (ND)



D 56 d3-NMeFOSAA

57 NMeFOSAA

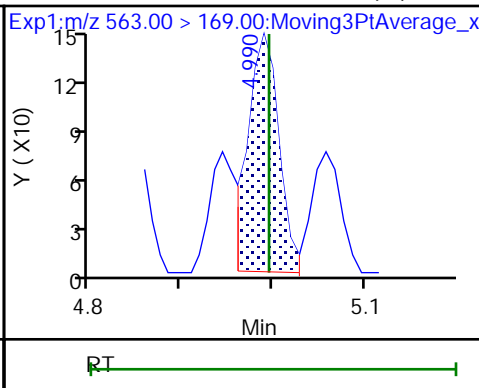
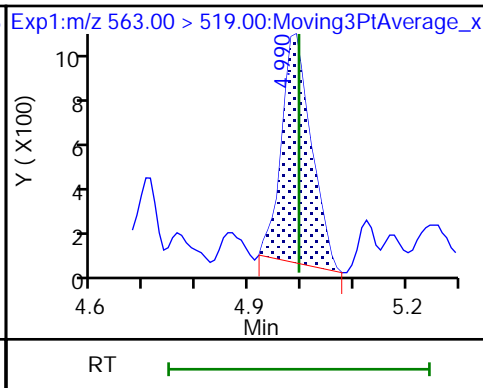
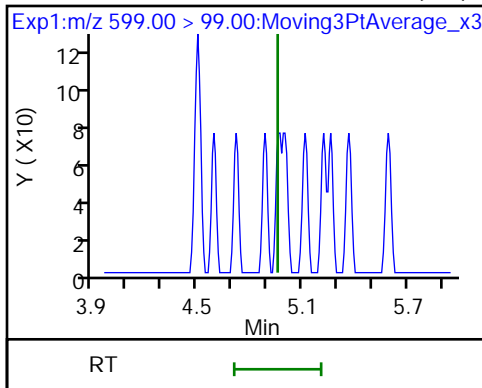
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid

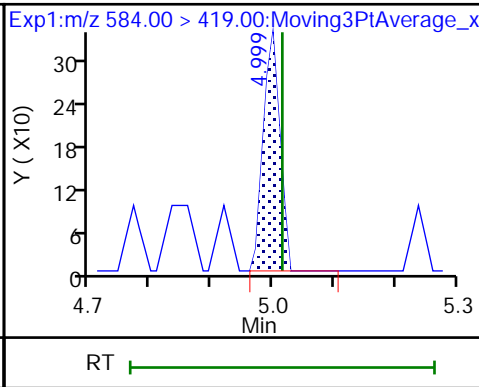
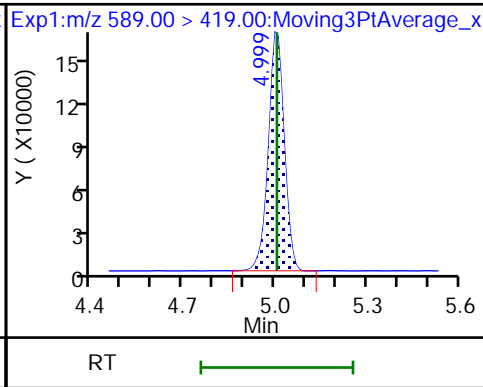
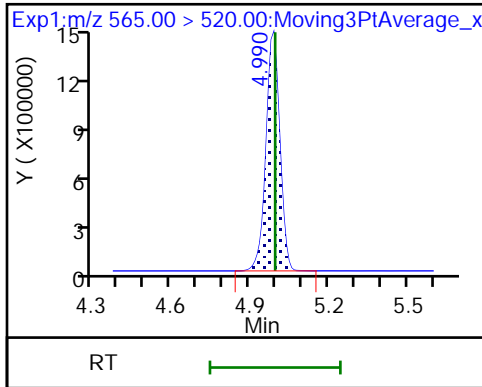
60 Perfluoroundecanoic acid (M)



D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

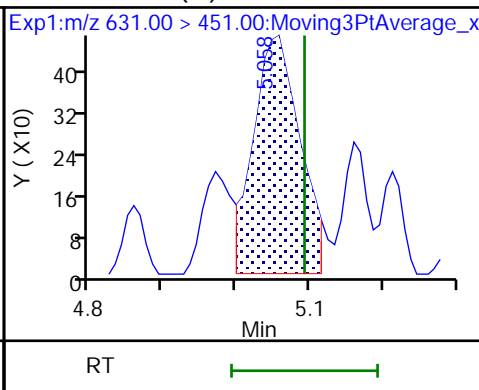
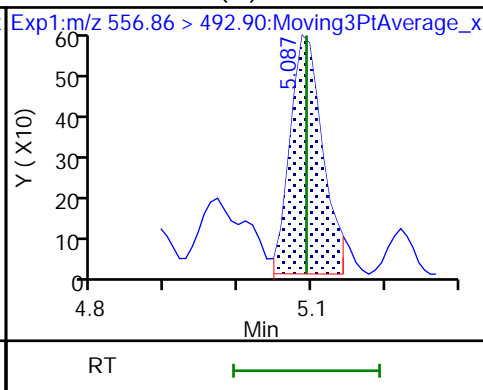
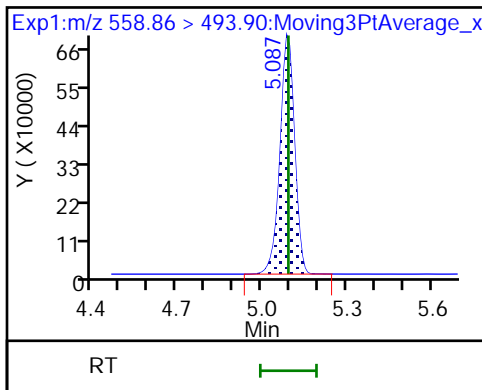
62 NEtFOSAA



D 67 13C-10:2 FTUCA

65 10:2 FTUCA (M)

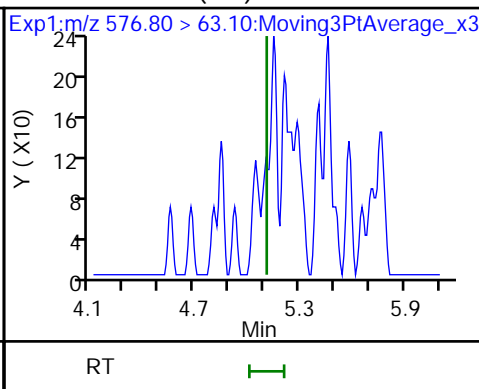
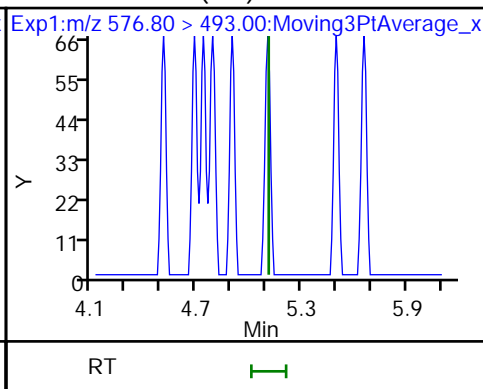
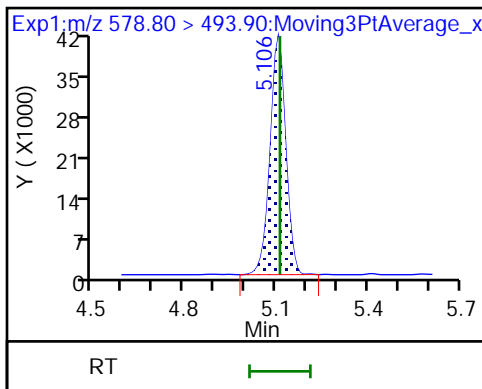
63 11CIFOS (M)



D 64 13C-10:2 FTCA

66 10:2 FTCA (ND)

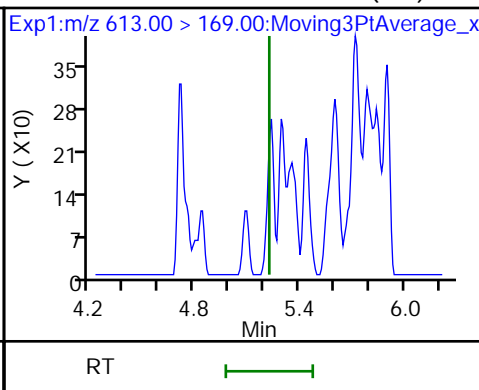
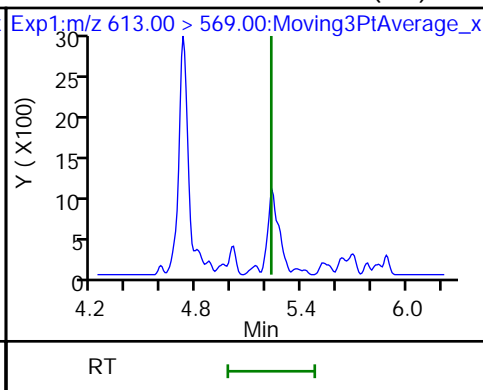
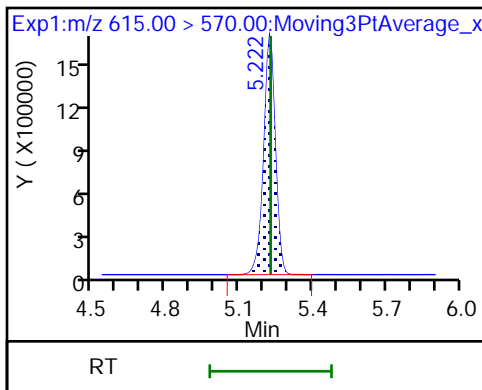
66 10:2 FTCA (ND)



D 69 13C2 PFDaA

68 Perfluorododecanoic acid (ND)

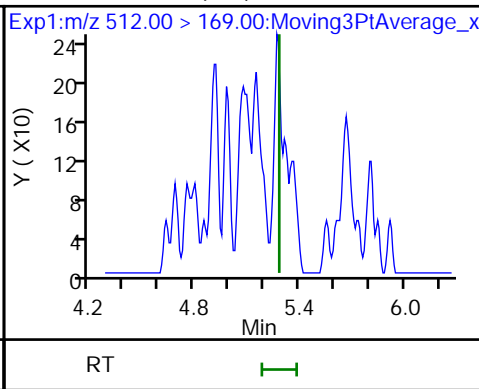
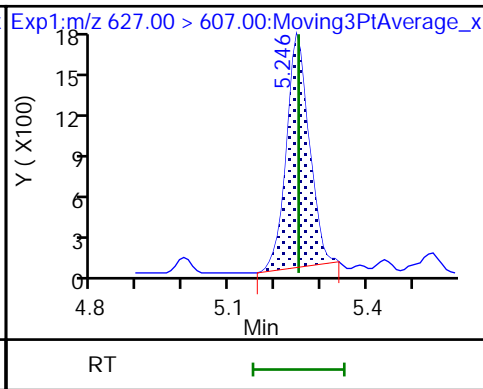
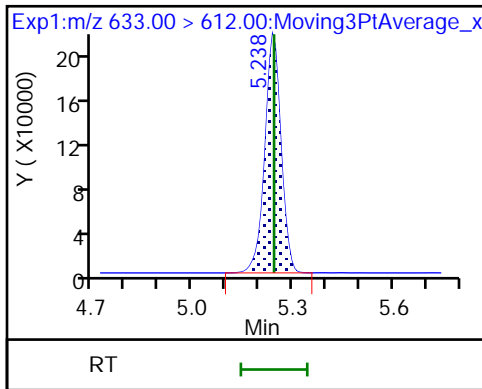
68 Perfluorododecanoic acid (ND)



D 70 13C2 10:2 FTS

71 10:2 FTS

74 NMeFOSA (ND)

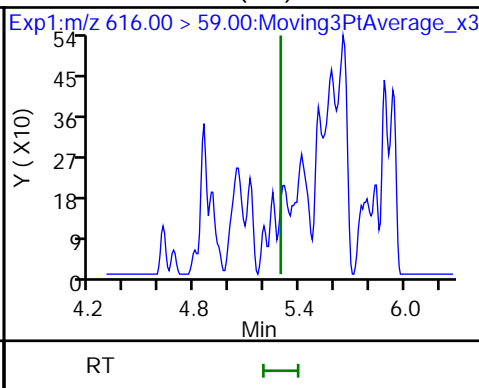
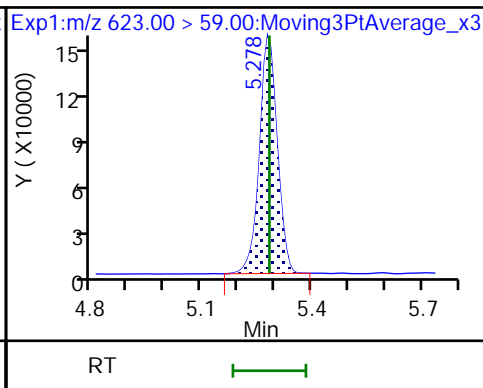
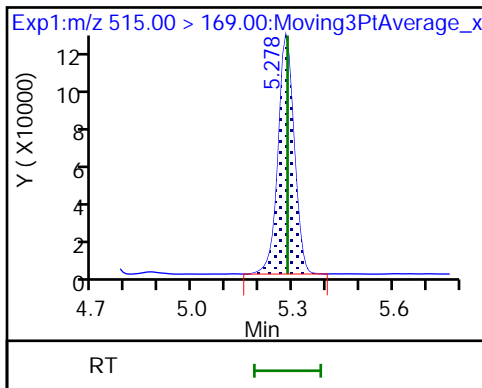




D 73 d-N-MeFOSE-M

D 72 d7-N-MeFOSE-M

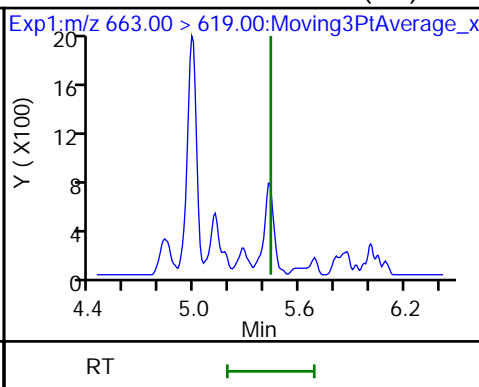
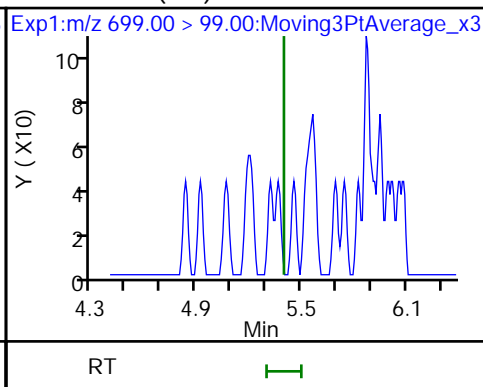
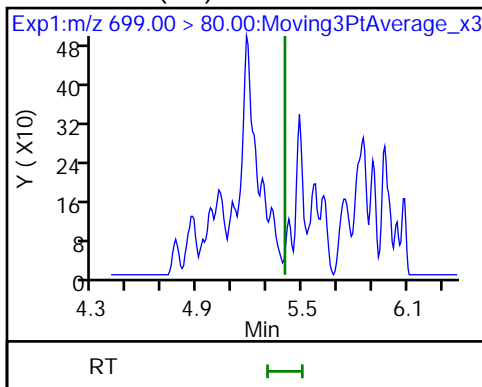
75 N-MeFOSE-M (ND)



76 PFDoS (ND)

76 PFDoS (ND)

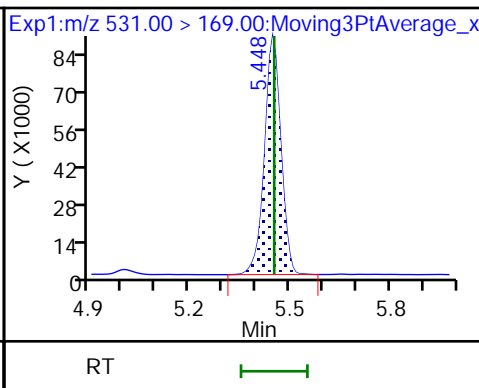
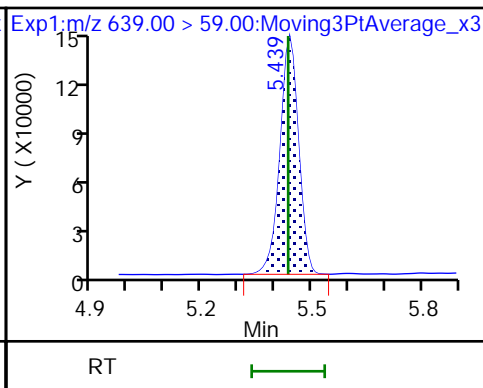
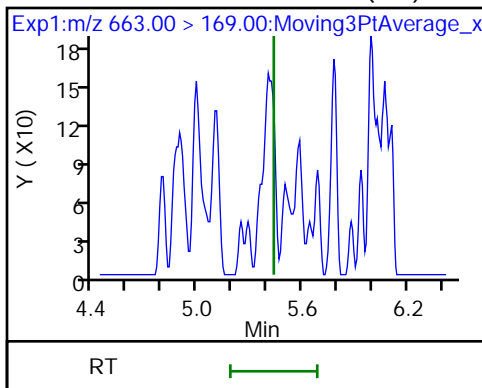
78 Perfluorotridecanoic acid (ND)



78 Perfluorotridecanoic acid (ND)

D 77 d9-N-EtFOSE-M

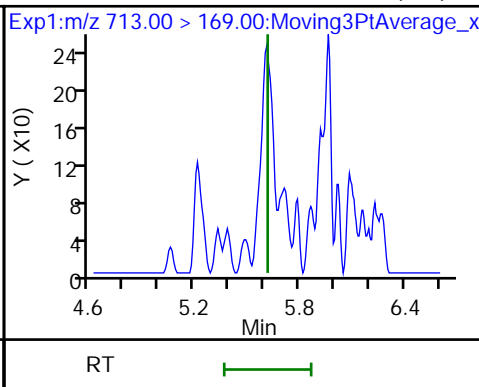
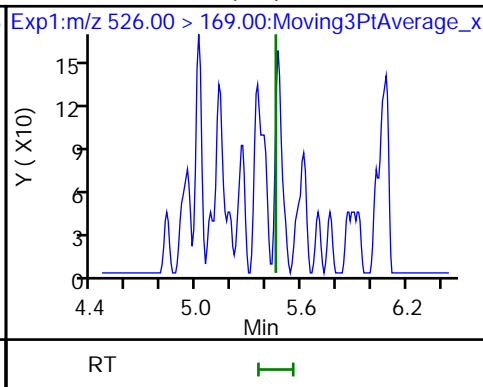
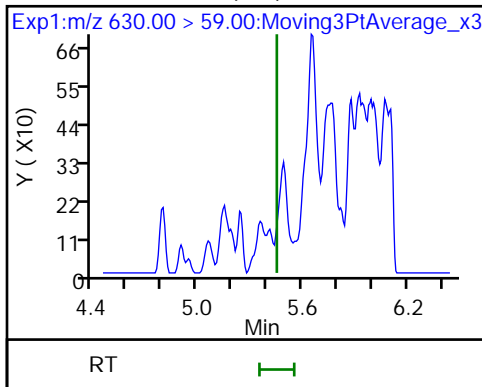
D 80 d-N-EtFOSE-M



79 N-EtFOSE-M (ND)

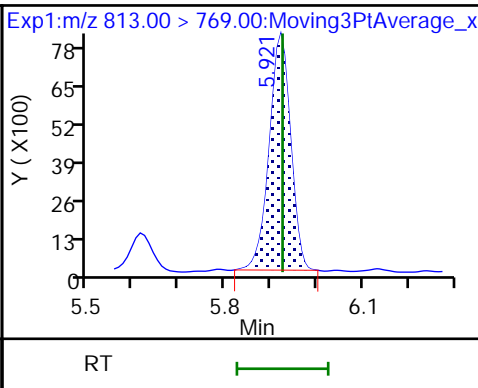
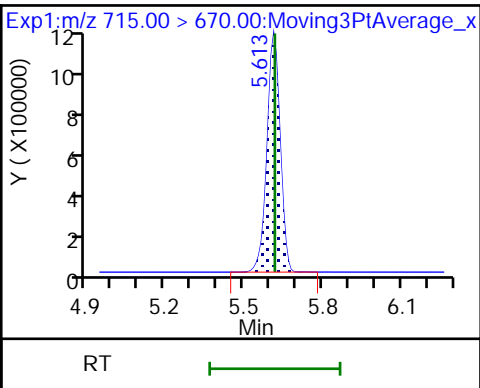
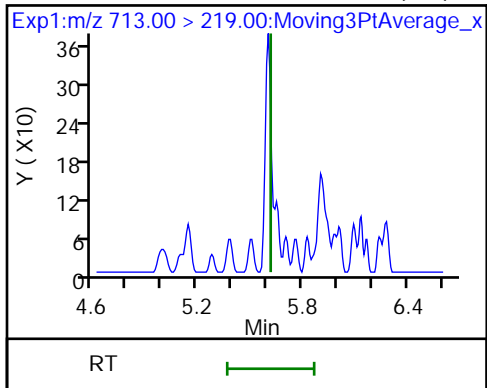
81 N-EtFOSE-M (ND)

83 Perfluorotetradecanoic acid (ND)



83 Perfluorotetradecanoic acid (ND) D 82 13C2 PFTeDA

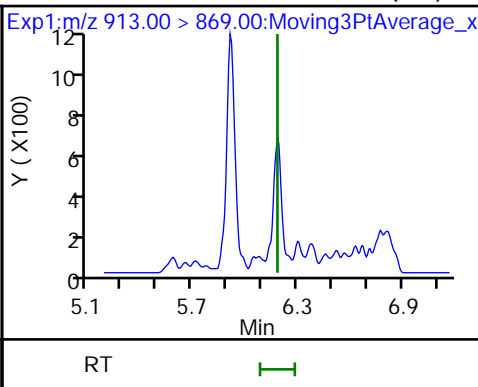
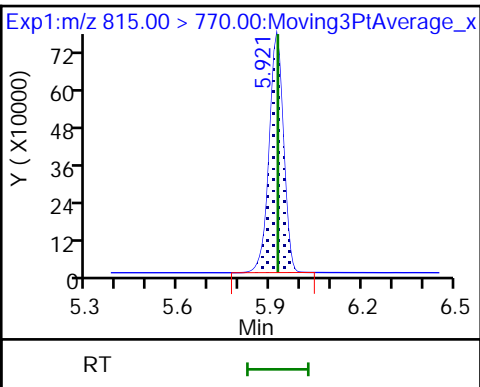
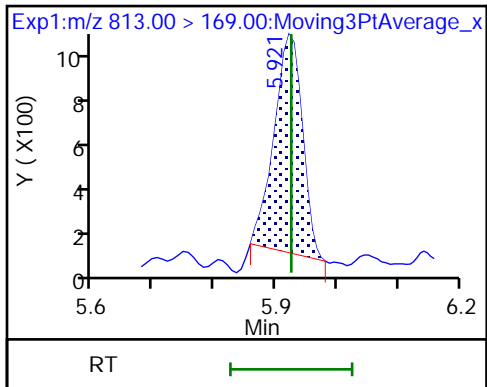
85 Perfluorohexadecanoic acid



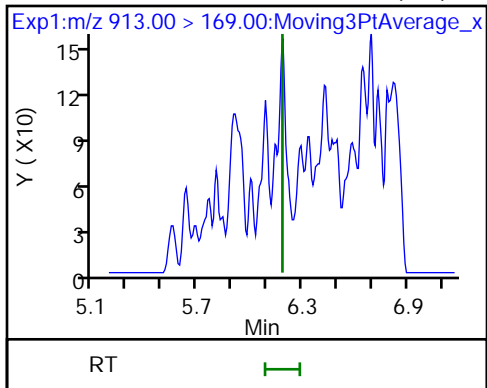
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_020.d  
 Lims ID: MB 140-58967/1-A  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 18-Feb-2022 22:19:52 ALS Bottle#: 20 Worklist Smp#: 20  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-020 mb 140-58967/1-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:08:45

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 140-58905/2-B  
 Matrix: Air Lab File ID: 021.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 20:49  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.02421		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	89		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_021.d  
 Lims ID: LCS 140-58905/2-B  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 19-Feb-2022 20:49:23 ALS Bottle#: 21 Worklist Smp#: 21  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-021 lcs 140-58905/2-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:06:20  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.805	2.804	0.001	1.000	3920888	1.13	113	673	
D 2 13C4 PFBA	217.00 > 172.00	2.805	2.804	0.001	0.680	5481234	1.23	98.5	16510	
3 PFECA F	229.00 > 85.00	2.912	2.911	0.001	0.935	2728235	1.07	107	12483	
6 Perfluoropentanoic acid	262.90 > 219.00	3.116	3.115	0.002	1.000	3518246	1.11	111	523	M
D 5 13C5 PFPeA	267.90 > 223.00	3.116	3.115	0.002	0.756	4212929	1.21	96.4	12226	
4 3:3 FTCA	241.00 > 177.10	3.124	3.122	0.002	1.000	140683	1.21	Target=1.16	121	666
	241.00 > 116.90	3.124	3.122	0.002	1.000	118647	1.19(0.58-1.74)		149	
D 7 13C3 PFBS	301.90 > 80.00	3.124	3.122	0.002	0.758	2482051	1.12	96.6	4055	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.132	3.131	0.001	1.003	2347242	1.00	Target=2.65	113	1806
	298.90 > 99.00	3.132	3.131	0.001	1.003	875347	2.68(1.32-3.97)		1113	
9 PFECA A	278.95 > 84.90	3.203	3.202	0.001	1.028	4532027	1.15	115	17356	
11 PES	314.80 > 135.00	3.261	3.260	0.001	1.044	5058305	1.00	112	10029	
12 PFECA B	295.22 > 201.00	3.375	3.373	0.002	0.981	1724367	1.08	108	5051	
13 4:2 FTS	327.00 > 307.00	3.417	3.415	0.002	1.003	2149752	1.04	112	8601	
D 18 M2-4:2 FTS	329.00 > 81.00	3.406	3.415	-0.009	0.826	1059442	1.53	131	1256	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.439	3.437	0.002	1.101	2389176	1.08	Target=3.40	116	3724	
349.00 > 99.00	3.439	3.437	0.002	1.101	687685		3.47(1.70-5.09)		3518	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.439	3.437	0.002	1.000	3380095	1.10	Target=12.03	110	890	
313.00 > 119.00	3.439	3.437	0.002	1.000	295568		11.44(6.01-18.04)		228	
D 14 13C2 PFHxA										
315.00 > 270.00	3.439	3.437	0.002	0.834	4833607	1.25		100	16985	
17 HFPO-DA										
285.00 > 169.00	3.544	3.542	0.002	1.000	2575582	1.21	Target=2.55	121	744	
329.00 > 169.00	3.544	3.542	0.002	1.000	1000507		2.57(1.28-3.83)		614	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.542	0.002	0.860	2108193	1.12		89.4	6465	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.774	3.772	0.002	1.000	2105048	0.9774	Target=3.45	107	4036	M
399.00 > 99.00	3.774	3.772	0.002	1.000	625176		3.37(1.72-5.17)		2058	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.774	3.772	0.002	0.915	1838670	1.28		108	10345	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.784	3.792	-0.008	1.000	3897038	1.16	Target=3.22	116	1400	
363.00 > 169.00	3.784	3.792	-0.008	1.000	1234555		3.16(1.61-4.83)		2797	
D 22 13C4 PFHpA										
367.00 > 322.00	3.784	3.792	-0.008	0.918	4179283	1.22		97.3	10174	
25 DONA										
377.00 > 251.00	3.822	3.820	0.002	0.866	5661954	0.8987	Target=1.72	95.4	11854	
377.00 > 85.00	3.822	3.820	0.002	0.866	3190090		1.77(0.86-2.58)		3981	
26 5:3 FTCA										
340.88 > 236.90	3.846	3.853	-0.007	0.987	416395	1.33	Target=1.08	133	839	
340.88 > 216.90	3.846	3.853	-0.007	0.987	371666		1.12(0.54-1.62)		1184	
27 6:2 FTUCA										
356.86 > 292.90	3.879	3.886	-0.007	1.000	1843034	1.07	Target=14.05	107	3949	
356.86 > 243.00	3.879	3.886	-0.007	1.000	127998		14.40(7.03-21.08)		688	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.886	-0.007	0.941	2054529	1.60		128	3986	
29 6:2 FTCA										
377.10 > 63.00	3.896	3.903	-0.007	1.000	60596	1.05	Target=1.38	105	157	
377.10 > 313.10	3.896	3.903	-0.007	1.000	46711		1.30(0.69-2.08)		68.7	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.896	3.903	-0.007	0.945	103617	1.05		83.8	311	
32 PFECHS										
460.80 > 380.90	4.056	4.054	0.002	0.984	2665254	1.01	Target=1.68	110	5792	
460.80 > 98.90	4.056	4.054	0.002	0.984	1506109		1.77(0.84-2.53)		4742	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.104	4.111	-0.007	0.930	2229308	0.9471	Target=3.76	99.5	4756	
449.00 > 99.00	4.104	4.111	-0.007	0.930	588473		3.79(1.88-5.64)		1689	
35 6:2 FTS										
427.00 > 407.00	4.113	4.121	-0.008	1.000	1888975	1.22		129	5082	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
37 Perfluorooctanoic acid										
413.00 > 369.00	4.123	4.121	0.002	1.000	4414888	1.16	Target=2.40	116	2989	
413.00 > 169.00	4.123	4.121	0.002	1.000	1792730		2.46(1.20-3.60)		2948	
* 30 13C2 PFOA										
415.00 > 370.00	4.123	4.121	0.002		4749725	1.25			14623	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.113	4.121	-0.008	0.998	1002987	1.47		124	2197	
D 31 13C4 PFOA										
417.00 > 372.00	4.123	4.121	0.002	1.000	4441381	1.25		99.9	7276	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.406	4.412	-0.006	0.998	2639208	0.9670	Target=4.41	104	3250	M
499.00 > 99.00	4.414	4.412	0.002	1.000	587021		4.50(2.20-6.61)		1736	M
D 39 13C4 PFOS										
503.00 > 80.00	4.414	4.412	0.002	1.071	2848068	1.34		112	2487	
42 Perfluorononanoic acid										
463.00 > 419.00	4.432	4.438	-0.006	1.000	4378756	1.17	Target=4.14	117	4763	
463.00 > 169.00	4.432	4.438	-0.006	1.000	1081640		4.05(2.07-6.21)		3160	
D 41 13C5 PFNA										
468.00 > 423.00	4.432	4.438	-0.006	1.075	6159196	1.28		102	8566	
43 7:3 FTCA										
441.00 > 337.00	4.522	4.519	0.003	0.993	882139	1.53	Target=1.38	153	2606	
441.00 > 317.00	4.513	4.519	-0.006	0.991	592492		1.49(0.69-2.08)		2977	
44 8:2 FTUCA										
456.86 > 392.90	4.539	4.545	-0.006	1.000	2660987	1.08	Target=35.71	108	6218	
456.86 > 343.00	4.539	4.545	-0.006	1.000	88568		30.04(17.85-53.56)		273	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.539	4.545	-0.006	1.000	3220234	1.88		150	4308	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.555	4.553	0.002	1.105	137842	1.10		87.8	695	
46 8:2 FTCA										
477.00 > 393.10	4.555	4.561	-0.006	1.000	218253	1.09	Target=3.43	109	506	
477.00 > 63.20	4.555	4.561	-0.006	1.000	60246		3.62(1.72-5.15)		230	
49 9CIFOS										
531.00 > 351.00	4.571	4.578	-0.007	1.109	5281135	0.9856		106	7201	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.690	4.697	-0.007	1.062	2285768	0.9483	Target=3.86	98.8	5013	
549.00 > 99.00	4.690	4.697	-0.007	1.062	575189		3.97(1.93-5.79)		2289	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.707	4.705	0.002	1.000	3563397	1.05		105	4761	
D 55 13C8 FOSA										
506.00 > 78.00	4.707	4.705	0.002	1.142	4433319	1.38		110	6105	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.716	4.722	-0.006	1.000	4877459	1.12	Target=11.25	112	3857	
513.00 > 169.00	4.716	4.722	-0.006	1.000	439954		11.09(5.62-16.87)		263	
D 52 13C2 PFDA										
515.00 > 470.00	4.716	4.722	-0.006	1.144	6081326	1.32		106	17929	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.733	4.731	0.002	1.148	4595801	1.47		123	2450	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.733	4.739	-0.006	1.000	1508130	1.10		114	4507	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.857	4.872	-0.015	1.178	723107	1.68		134	641	
57 NMeFOSAA										
570.00 > 419.00	4.866	4.872	-0.006	1.002	584541	1.09		109	758	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.951	4.957	-0.006	1.122	2080125	0.9800	Target=3.69	102	6333	
599.00 > 99.00	4.951	4.957	-0.006	1.122	560430		3.71(1.84-5.53)		2397	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.978	4.985	-0.007	1.000	5087840	1.13	Target=8.60	113	6732	
563.00 > 169.00	4.978	4.985	-0.007	1.000	599017		8.49(4.30-12.90)		1857	
D 59 13C2 PFUnA										
565.00 > 520.00	4.978	4.985	-0.007	1.208	5812475	1.31		105	12208	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.997	5.005	-0.008	1.212	726644	1.64		131	1773	
62 NEtFOSAA										
584.00 > 419.00	5.007	5.005	0.002	1.002	608763	1.19		119	1407	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.085	5.092	-0.007	1.233	3058978	1.59		127	9190	
63 11CIFOS										
631.00 > 451.00	5.085	5.092	-0.007	1.152	4044823	0.9744		103	8010	
65 10:2 FTUCA										
556.86 > 492.90	5.085	5.092	-0.007	1.000	3269524	1.11		111	7403	
66 10:2 FTCA										
576.80 > 493.00	5.104	5.102	0.002	1.000	82408	1.12	Target=2.41	112	588	
576.80 > 63.10	5.104	5.102	0.002	1.000	38433		2.14(1.20-3.61)		145	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.104	5.111	-0.007	1.238	99800	0.8493		67.9	534	
D 69 13C2 PFDaA										
615.00 > 570.00	5.220	5.226	-0.006	1.266	5571836	1.27		102	18511	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.220	5.226	-0.006	1.000	4911632	1.07	Target=6.73	107	4401	
613.00 > 169.00	5.220	5.226	-0.006	1.000	705418		6.96(3.36-10.09)		1527	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.236	5.243	-0.007	1.270	924355	1.47		124	7054	
71 10:2 FTS										
627.00 > 607.00	5.245	5.251	-0.006	1.002	1715876	1.05		109	9070	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.277	5.275	0.002	1.280	616286	1.37		109	416	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.277	5.283	-0.006	1.280	537056	1.40		112	50.6	
74 NMeFOSA										
512.00 > 169.00	5.277	5.283	-0.006	1.000	494354	1.07		107	737	
75 N-MeFOSE-M										
616.00 > 59.00	5.285	5.292	-0.007	1.002	655906	1.13		113	289	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.392	5.399	-0.007	1.221	1833605	0.8138	Target=4.35	84.1	4000	
699.00 > 99.00	5.392	5.399	-0.007	1.221	427842		4.29(2.18-6.53)		2265	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.428	5.435	-0.007	1.317	556746	1.19		95.3	269	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.428	5.435	-0.007	1.040	4148931	1.05	Target=6.02	105	4238	
663.00 > 169.00	5.428	5.435	-0.007	1.040	689640		6.02(3.01-9.03)		2548	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.445	5.452	-0.007	1.321	377603	1.23		98.2	638	
79 N-EtFOSE-M										
630.00 > 59.00	5.445	5.452	-0.007	1.003	644092	1.02		102	569	
81 N-EtFOSA-M										
526.00 > 169.00	5.445	5.452	-0.007	1.000	443237	1.18		118	609	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.609	5.617	-0.008	1.361	4186712	1.20		95.6	10994	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.609	5.617	-0.008	1.000	475236	1.10	Target=1.07	110	1367	
713.00 > 219.00	5.609	5.617	-0.008	1.000	459590		1.03(0.54-1.61)		2516	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.917	5.924	-0.007	1.435	1596464	0.7006		56.1	4291	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.917	5.924	-0.007	1.000	1585253	1.09	Target=8.23	109	2495	
813.00 > 169.00	5.917	5.924	-0.007	1.000	190548		8.32(4.11-12.34)		742	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.184	-0.005	1.044	70586	0.0546	Target=11.72	5.5	205	M
913.00 > 169.00	6.174	6.184	-0.010	1.043	6185		11.41(5.86-17.58)		24.5	M

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_021.d

Injection Date: 19-Feb-2022 20:49:23

Instrument ID: LCA

Lims ID: LCS 140-58905/2-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 21

Worklist Smp#: 21

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

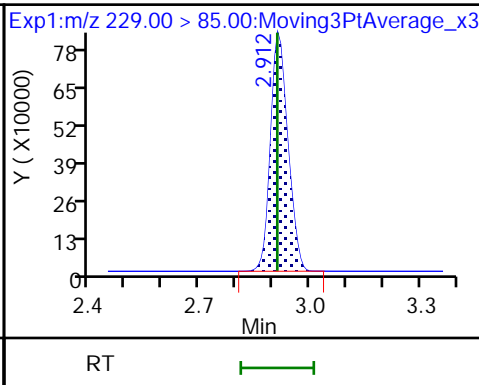
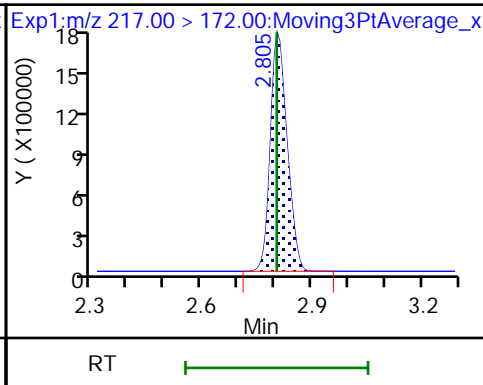
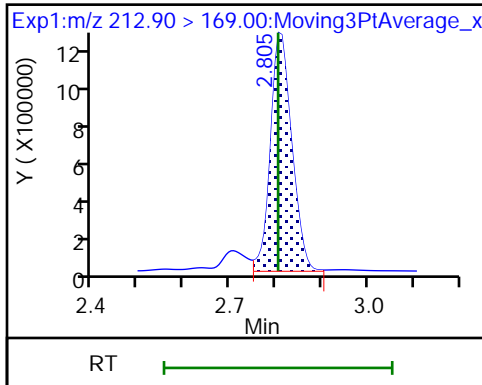
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

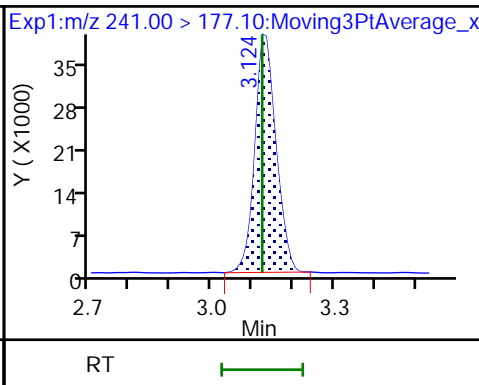
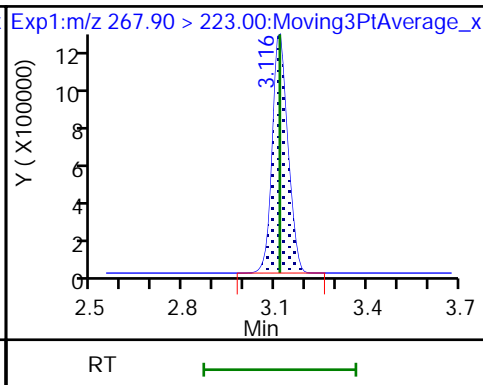
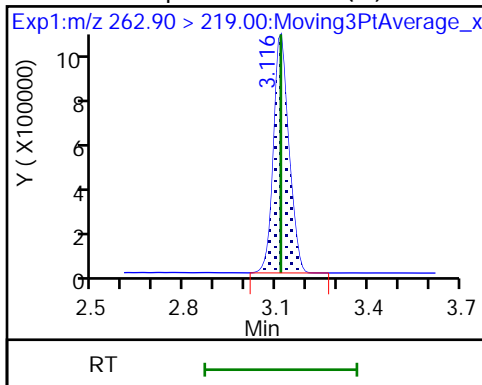
3 PFECA F



6 Perfluoropentanoic acid (M)

D 5 13C5 PFPeA

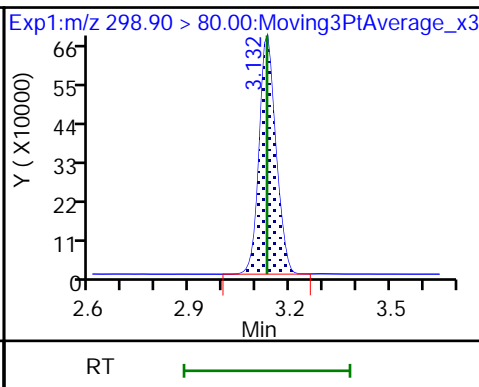
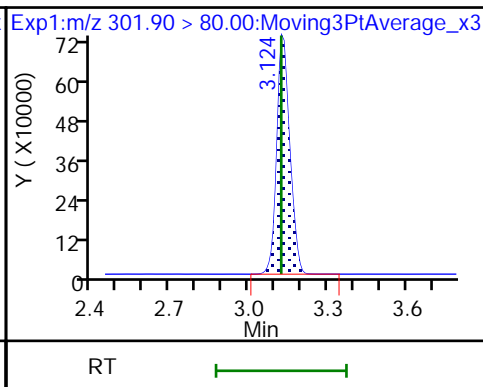
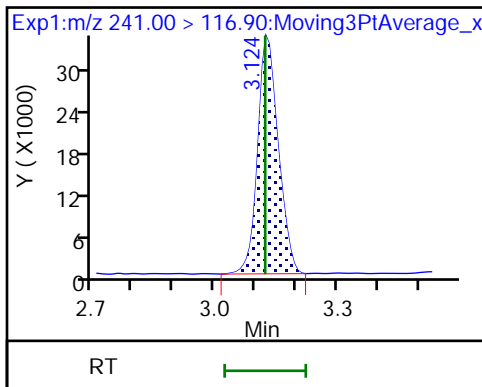
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

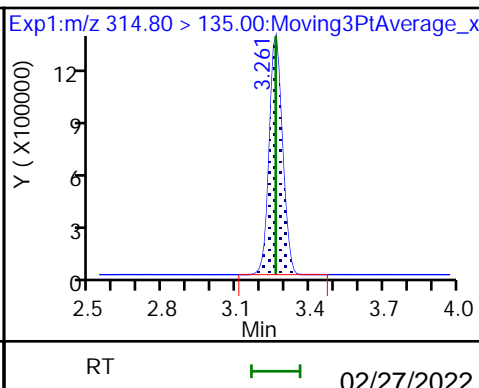
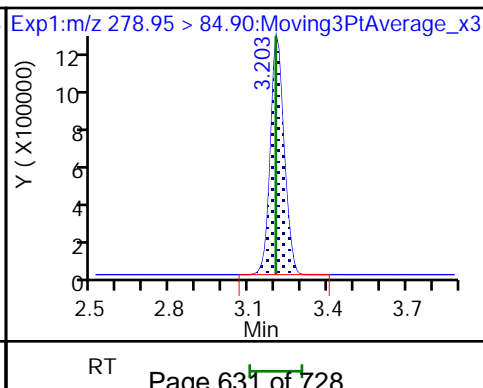
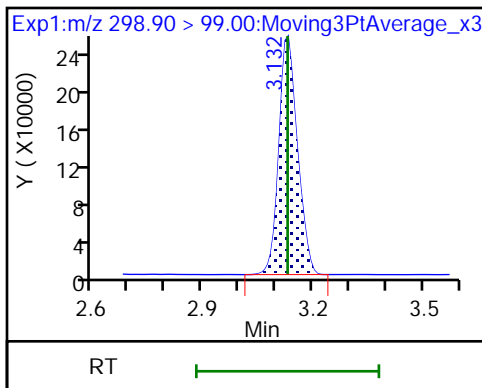
8 Perfluorobutanesulfonic acid

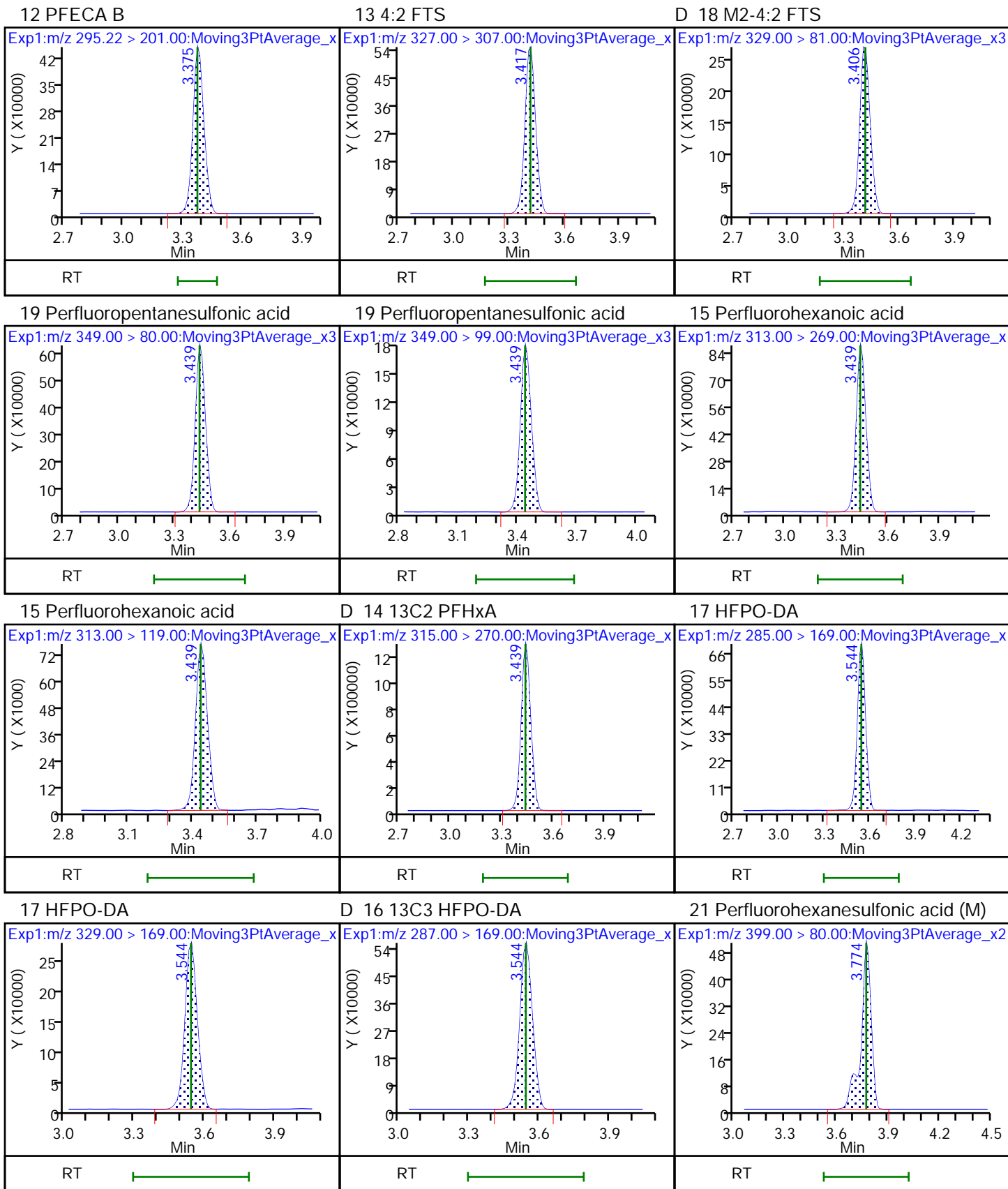


8 Perfluorobutanesulfonic acid

9 PFECA A

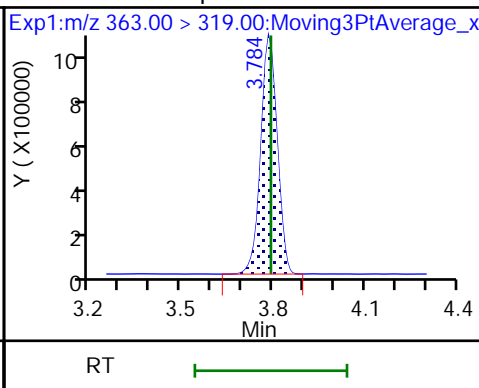
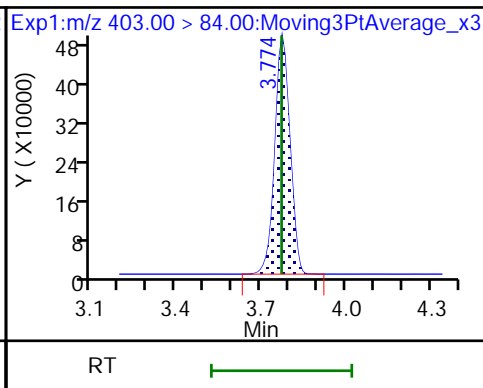
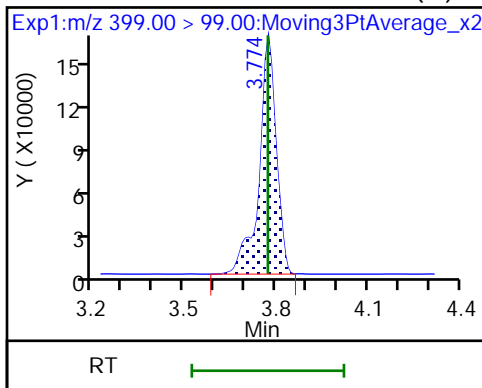
11 PES





21 Perfluorohexanesulfonic acid (M) D 20 18O2 PFHxS

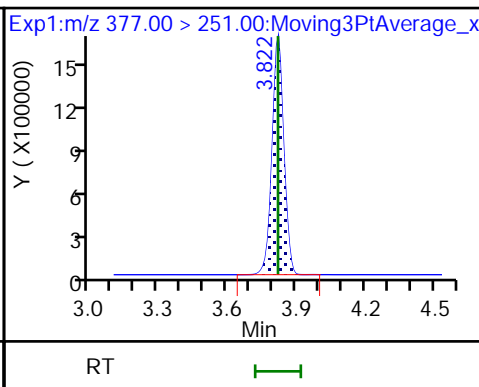
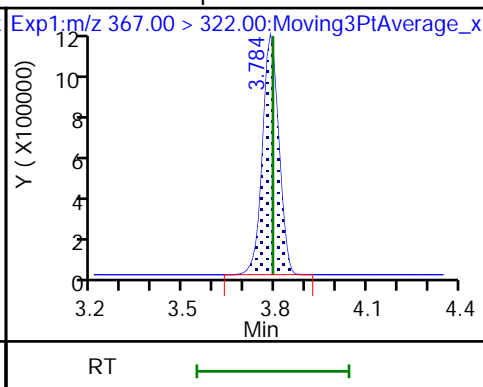
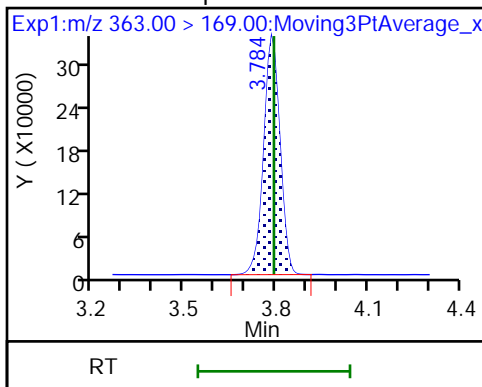
23 Perfluoroheptanoic acid



23 Perfluoroheptanoic acid

D 22 13C4 PFHpA

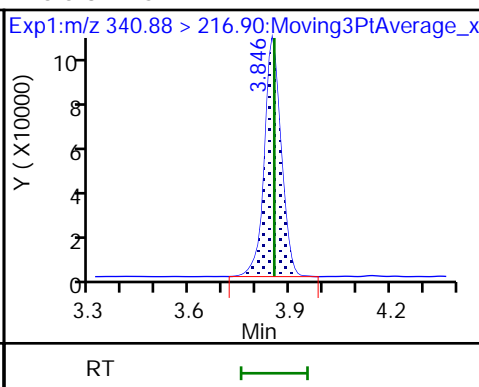
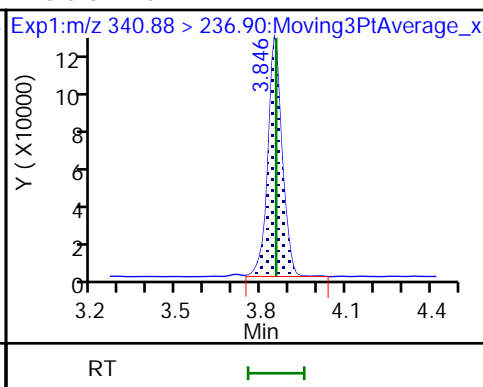
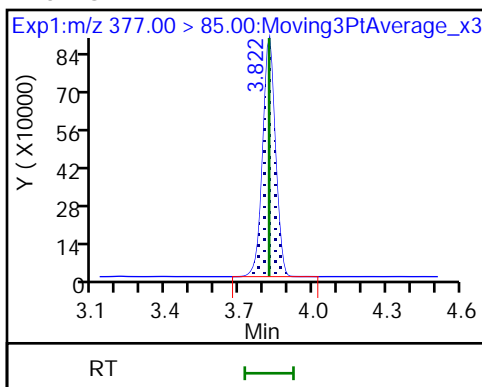
25 DONA



25 DONA

26 5:3 FTCA

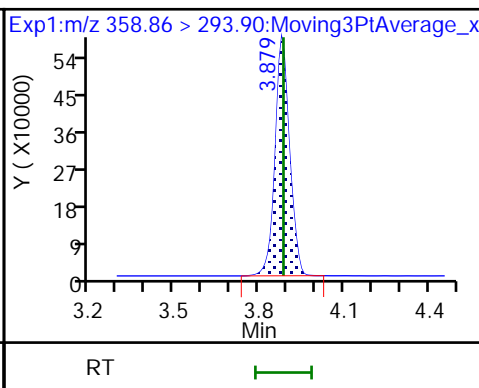
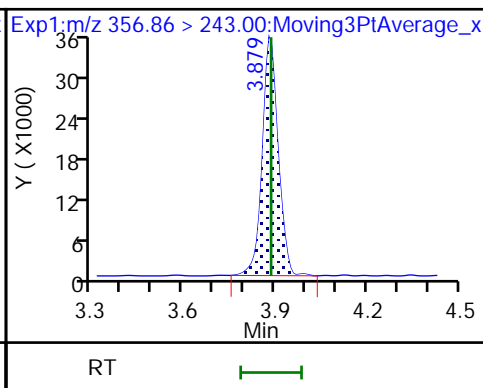
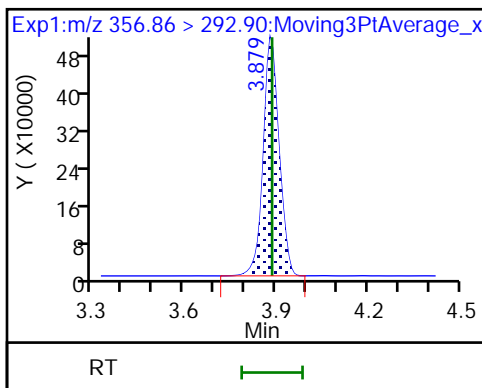
26 5:3 FTCA

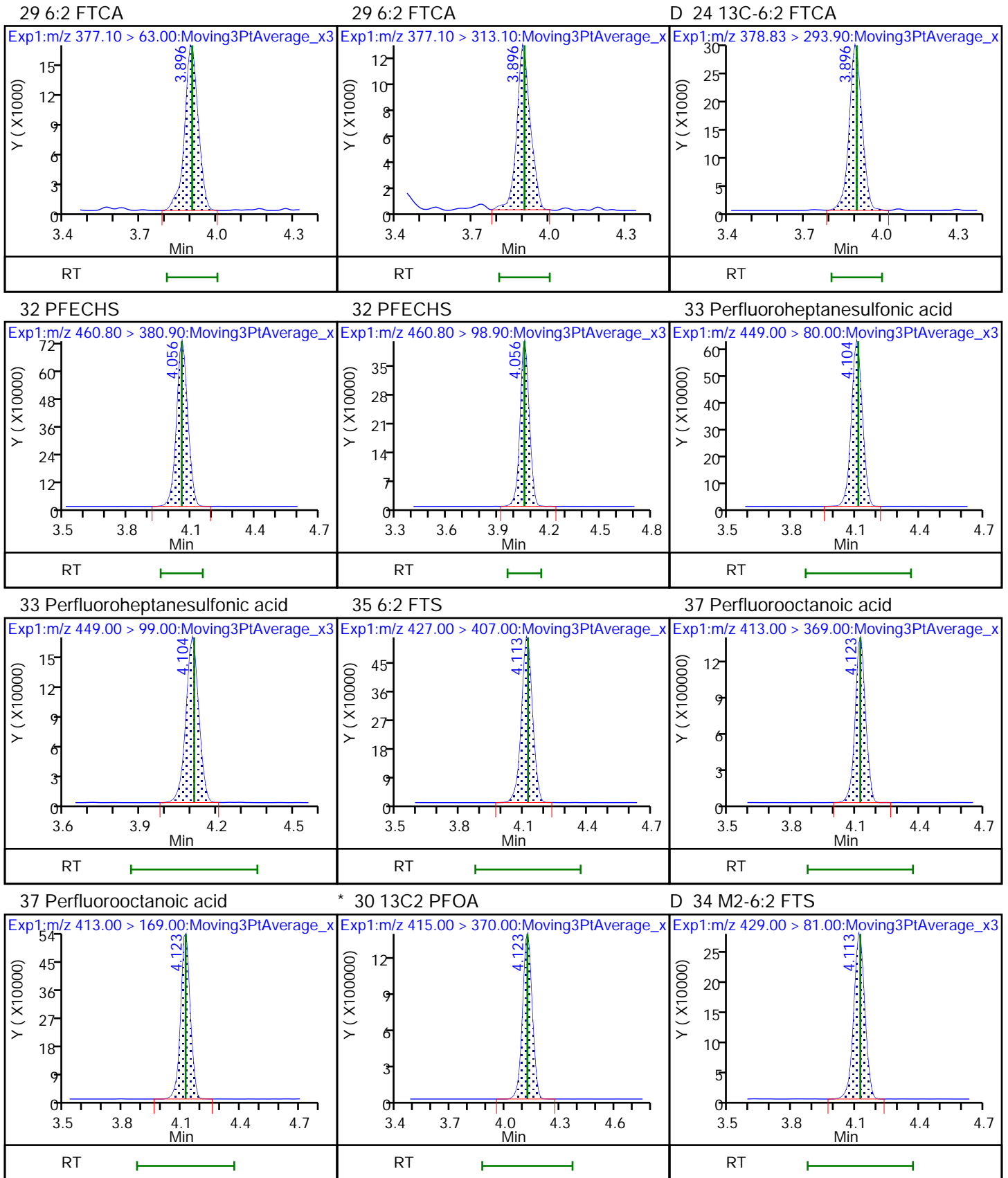


27 6:2 FTUCA

27 6:2 FTUCA

D 28 13C-6:2 FTUCA

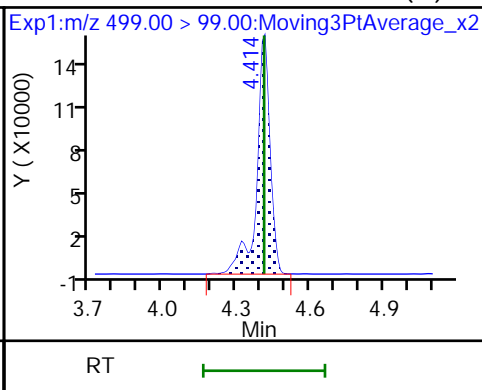
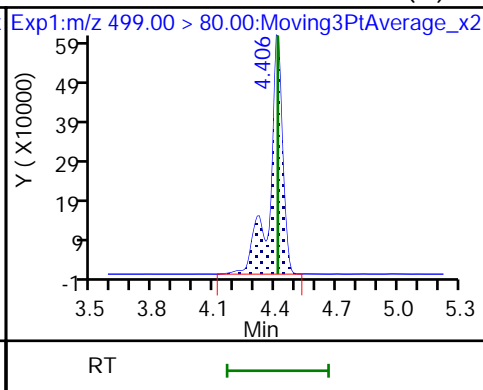
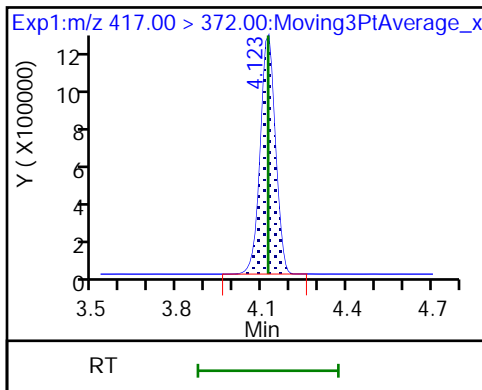




D 31 13C4 PFOA

40 Perfluorooctanesulfonic acid (M)

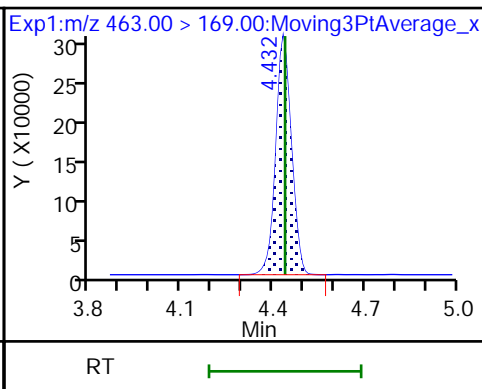
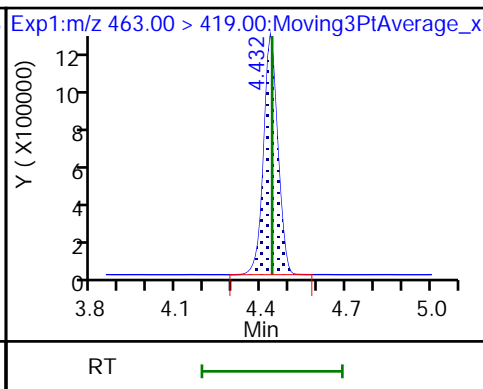
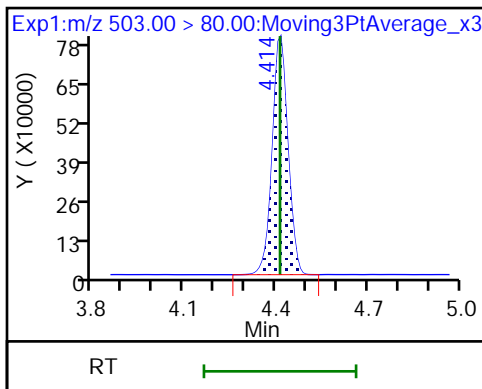
40 Perfluorooctanesulfonic acid (M)



D 39 13C4 PFOS

42 Perfluorononanoic acid

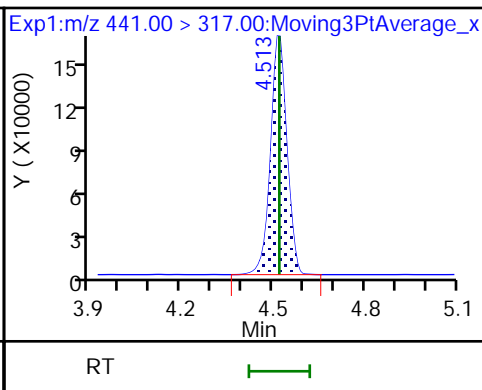
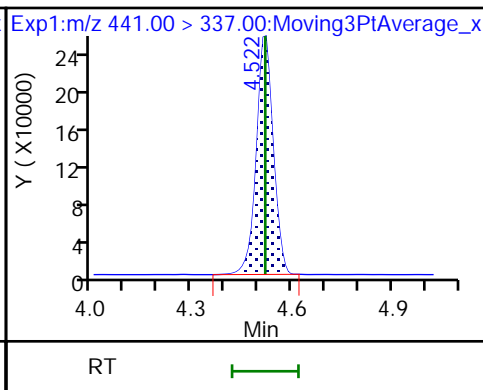
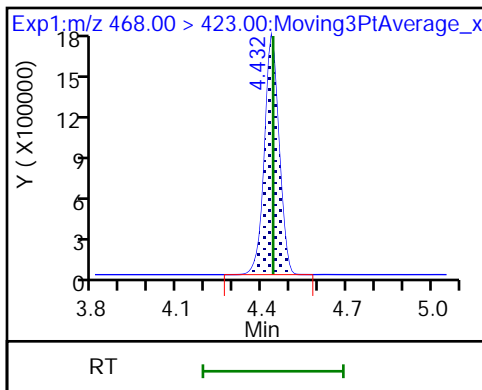
42 Perfluorononanoic acid



D 41 13C5 PFNA

43 7:3 FTCA

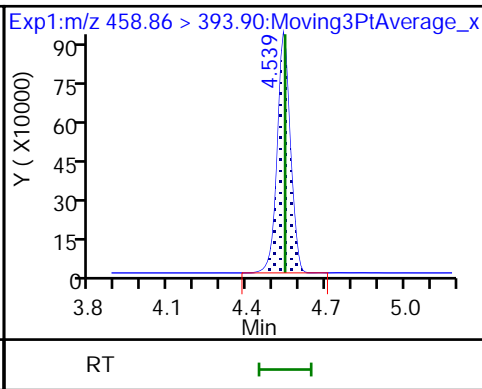
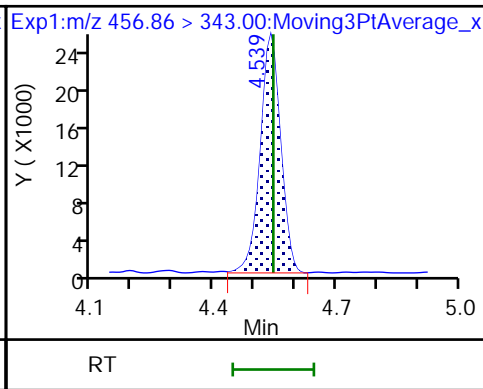
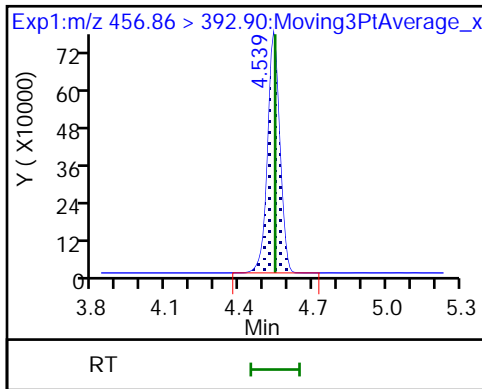
43 7:3 FTCA



44 8:2 FTUCA

44 8:2 FTUCA

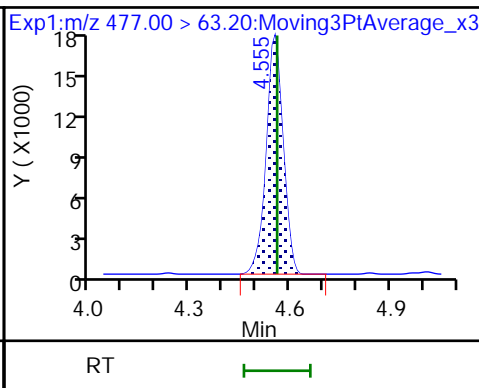
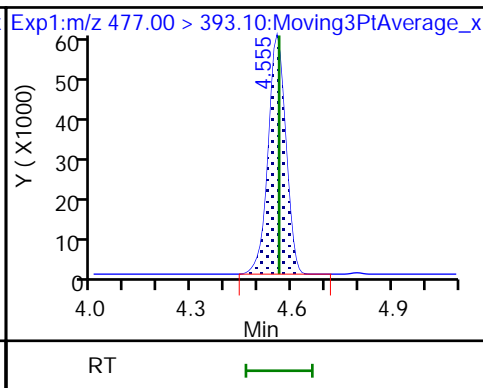
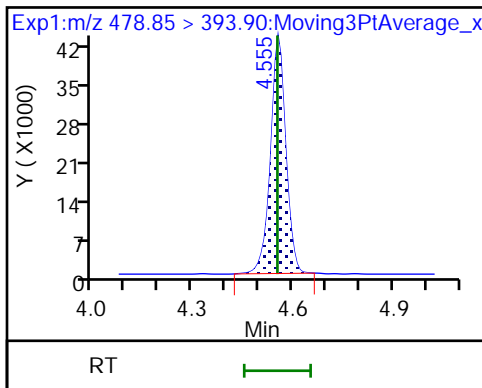
D 45 13C-8:2 FTUCA



D 47 13C-8:2 FTCA

46 8:2 FTCA

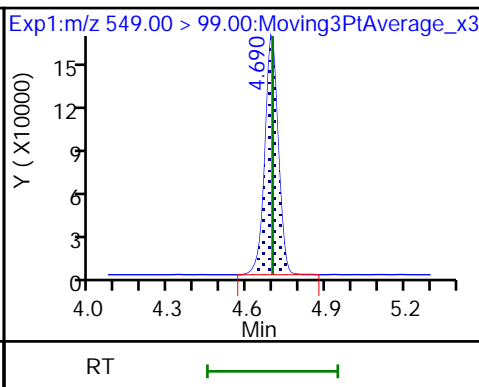
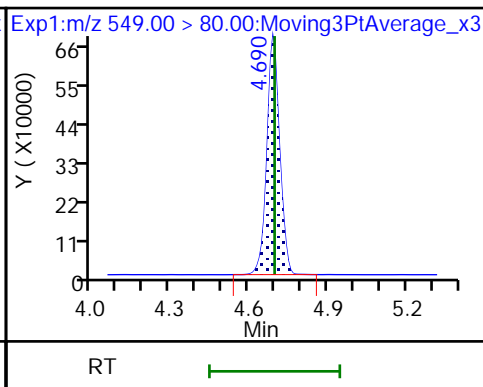
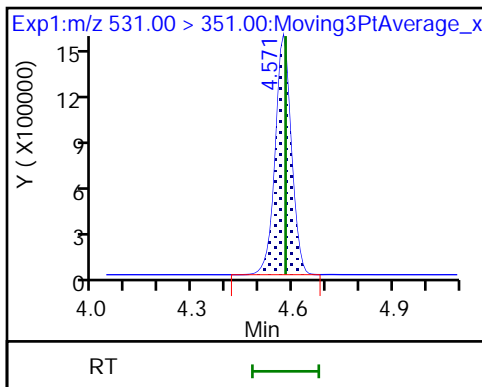
46 8:2 FTCA



49 9CIFOS

51 Perfluoronanesulfonic acid

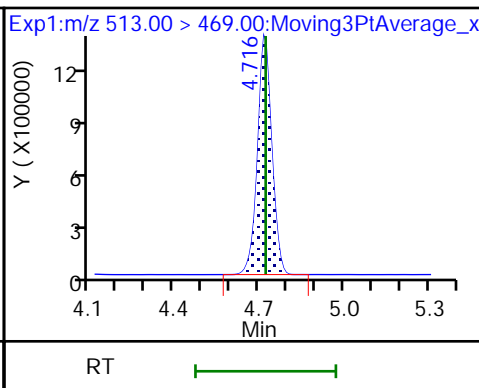
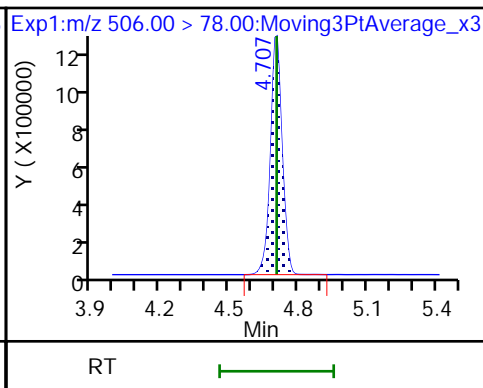
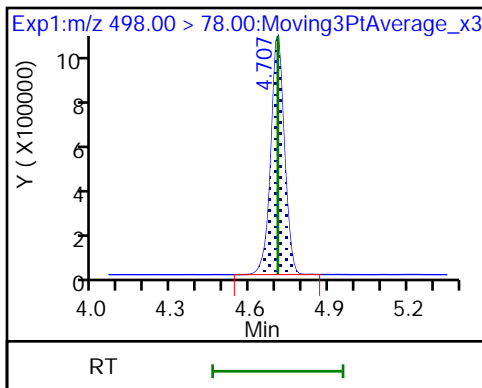
51 Perfluoronanesulfonic acid



54 Perfluorooctanesulfonamide

D 55 13C8 FOSA

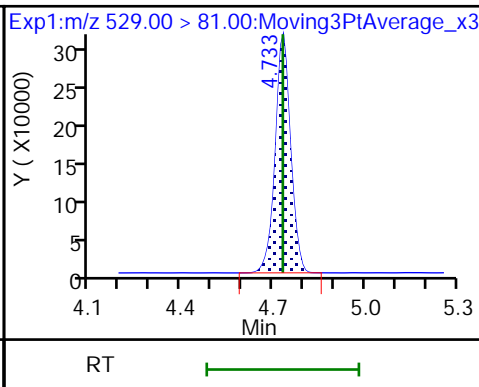
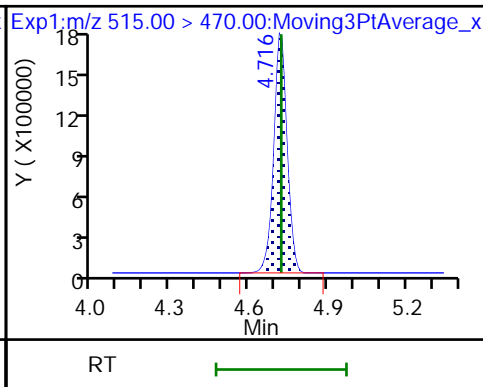
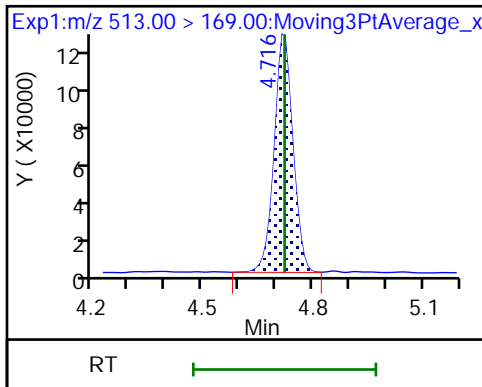
48 Perfluorodecanoic acid

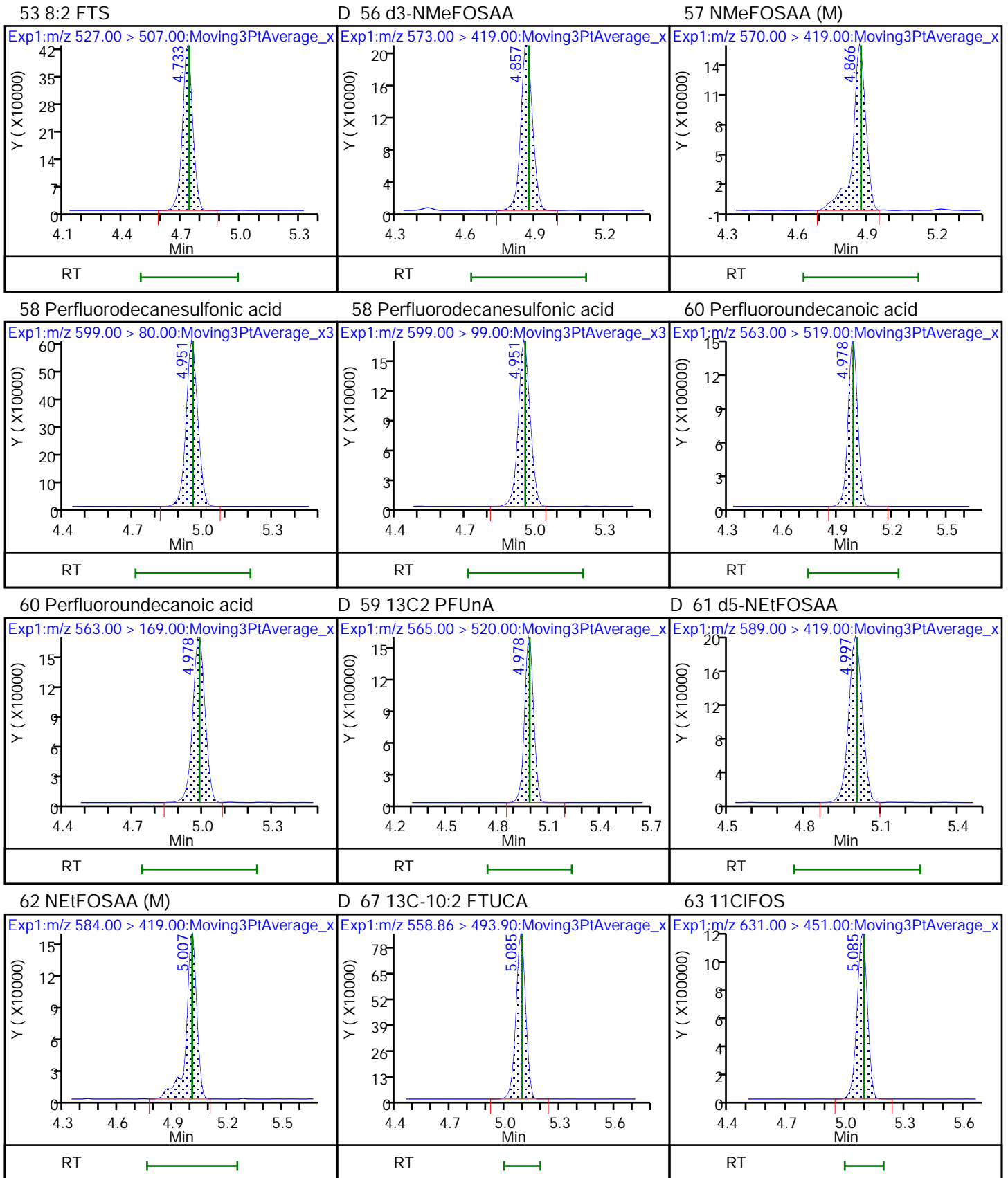


48 Perfluorodecanoic acid

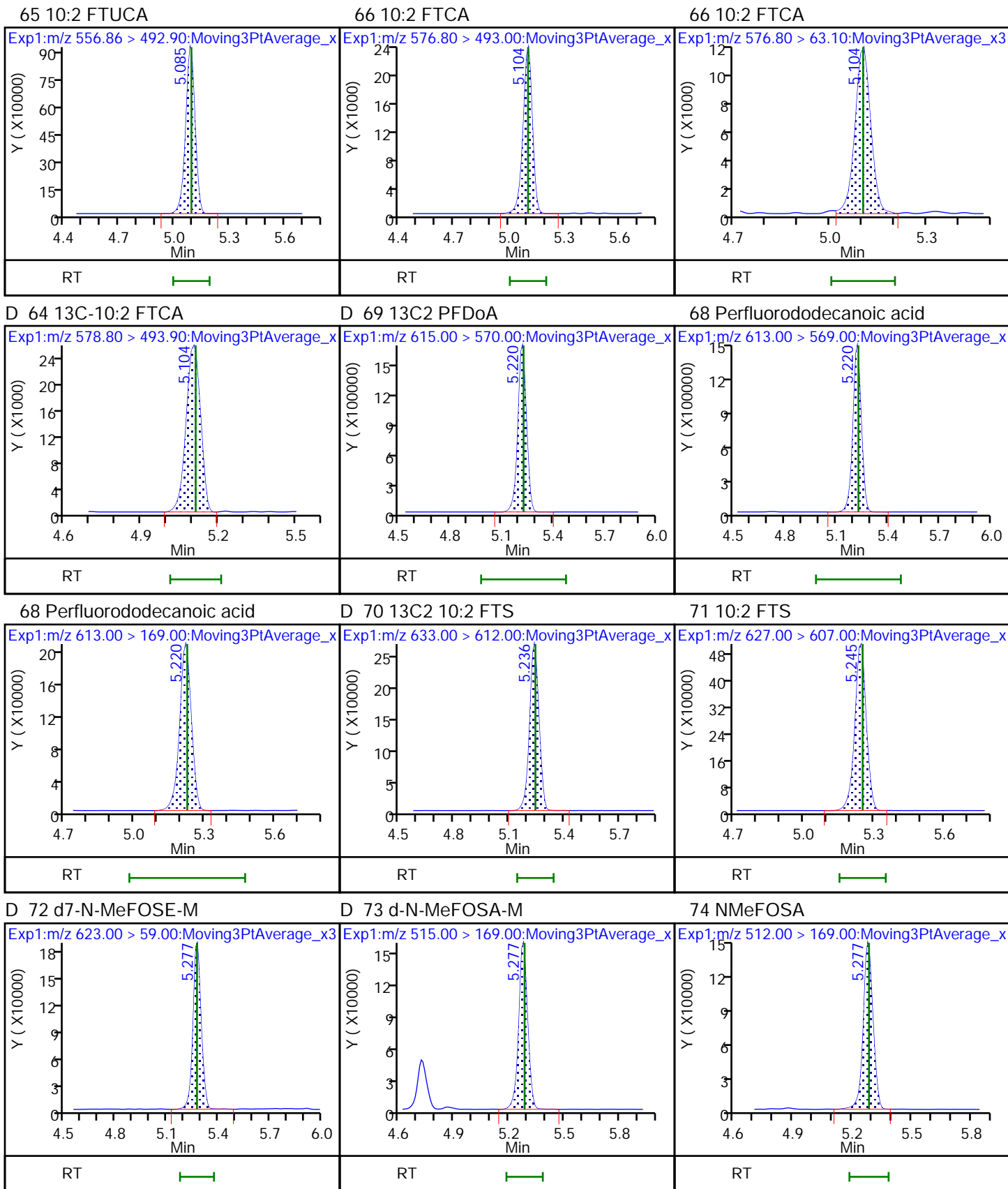
D 52 13C2 PFDA

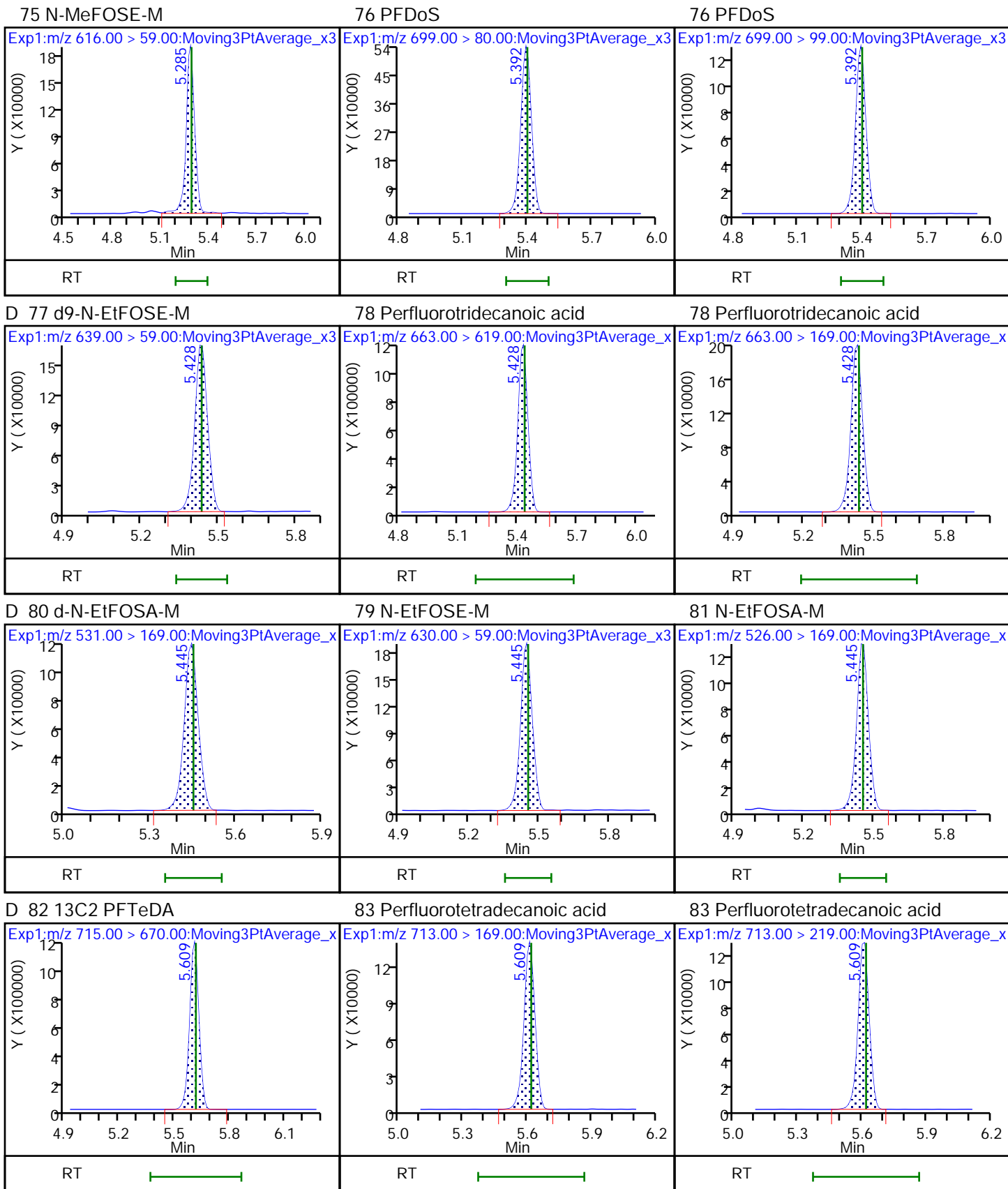
D 50 M2-8:2 FTS







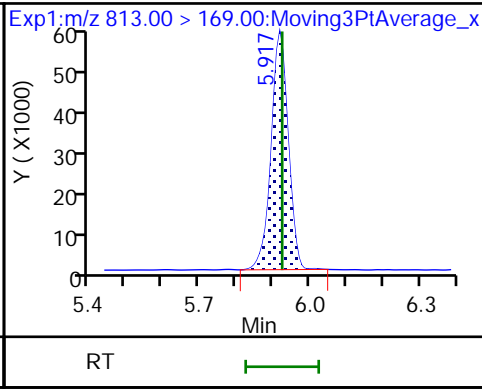
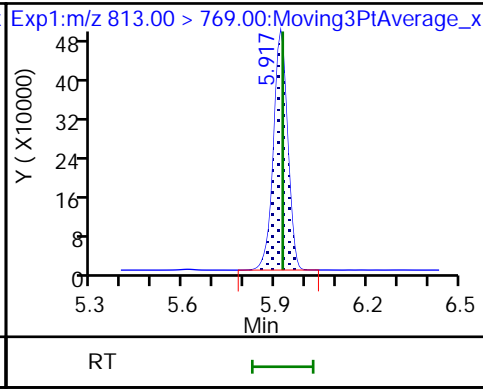
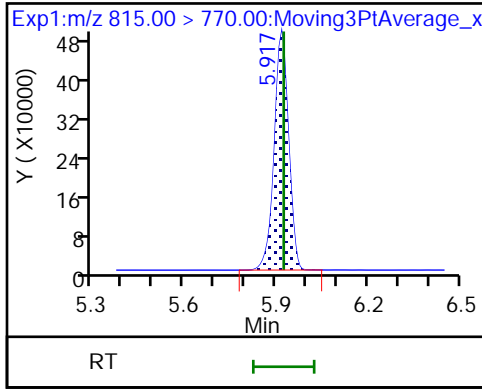




D 84 13C2 PFHxDA

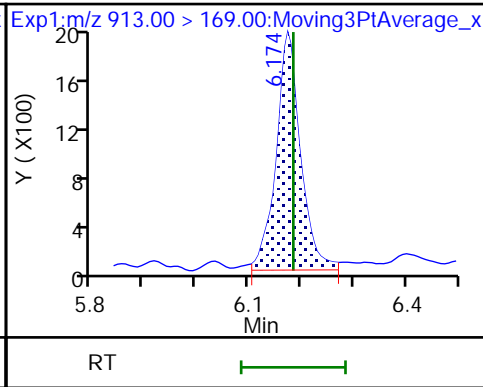
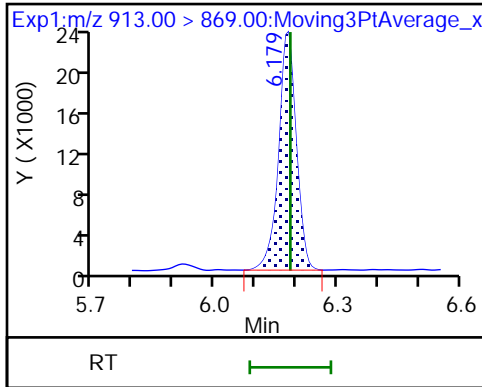
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid (M)



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 140-58914/2-B  
 Matrix: Air Lab File ID: \_036.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/16/2022 07:38  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 00:40  
 Con. Extract Vol.: 50 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.02100		0.00100	0.000580

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	87		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_036.d  
 Lims ID: LCS 140-58914/2-B  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 19-Feb-2022 00:40:43 ALS Bottle#: 36 Worklist Smp#: 36  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-036 lcs 140-58914/2-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:26:19  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.804	2.811	-0.007	1.000	3607898	1.04	104	983	
D 2 13C4 PFBA	217.00 > 172.00	2.804	2.811	-0.007	0.680	5466568	1.13	90.8	16743	
3 PFECA F	229.00 > 85.00	2.911	2.919	-0.008	0.937	2543338	1.03	103	8785	
D 5 13C5 PFPeA	267.90 > 223.00	3.107	3.115	-0.008	0.754	4109638	1.09	87.0	14962	
6 Perfluoropentanoic acid	262.90 > 219.00	3.107	3.123	-0.016	1.000	3352651	1.08	108	921	
4 3:3 FTCA	241.00 > 177.10	3.122	3.131	-0.009	1.000	112077	0.9635	Target=1.19	96.3	1099
	241.00 > 116.90	3.122	3.131	-0.009	1.000	98776		1.13(0.60-1.79)	137	
D 7 13C3 PFBS	301.90 > 80.00	3.122	3.131	-0.009	0.758	2484080	1.04	89.4	9222	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.122	3.140	-0.018	1.000	2194430	0.9366	Target=2.66	106	3850
	298.90 > 99.00	3.122	3.140	-0.018	1.000	815953		2.69(1.33-3.99)	2388	
9 PFECA A	278.95 > 84.90	3.202	3.211	-0.009	1.031	4266208	1.11	111	13054	
11 PES	314.80 > 135.00	3.260	3.260	0.0	1.044	4839923	0.9549	107	14602	
12 PFECA B	295.22 > 201.00	3.373	3.384	-0.011	0.982	1704852	1.11	111	6214	
D 18 M2-4:2 FTS	329.00 > 81.00	3.405	3.416	-0.011	0.826	761228	1.02	87.1	1366	
13 4:2 FTS	327.00 > 307.00	3.405	3.416	-0.011	1.000	1523873	1.03	110	9303	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.448	-0.011	0.834	4611471	1.11		88.5	16894	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.437	3.448	-0.011	1.101	2168517	0.9830	Target=3.47	105	4725	
349.00 > 99.00	3.437	3.448	-0.011	1.101	615198		3.52(1.73-5.20)		3297	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.448	-0.011	1.000	3159643	1.08	Target=11.56	108	1302	
313.00 > 119.00	3.437	3.448	-0.011	1.000	265663		11.89(5.78-17.33)		300	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.860	2205894	1.08		86.5	6420	
17 HFPO-DA										
285.00 > 169.00	3.542	3.553	-0.011	1.000	2339766	1.05	Target=2.51	105	1566	
329.00 > 169.00	3.542	3.553	-0.011	1.000	954852		2.45(1.25-3.76)		1391	
D 20 18O2 PFHxS										
403.00 > 84.00	3.772	3.783	-0.011	0.915	1652851	1.07		90.1	5263	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.772	3.783	-0.011	1.000	1794747	0.9270	Target=3.47	102	3887	M
399.00 > 99.00	3.772	3.783	-0.011	1.000	522250		3.44(1.73-5.20)		1970	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.782	3.793	-0.011	0.918	4085713	1.10		87.9	9186	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.782	3.793	-0.011	1.000	3715099	1.13	Target=3.41	113	2058	
363.00 > 169.00	3.782	3.793	-0.011	1.000	1136562		3.27(1.70-5.11)		2262	
25 DONA										
377.00 > 251.00	3.820	3.829	-0.009	0.866	5539078	0.9892	Target=1.72	105	9795	
377.00 > 85.00	3.820	3.829	-0.009	0.866	3026309		1.83(0.86-2.58)		3592	
26 5:3 FTCA										
340.88 > 236.90	3.845	3.853	-0.008	0.985	346003	1.19	Target=1.09	119	1011	
340.88 > 216.90	3.845	3.853	-0.008	0.985	315876		1.10(0.54-1.63)		683	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	0.0	0.943	1627771	1.17		93.9	4271	
27 6:2 FTUCA										
356.86 > 292.90	3.877	3.895	-0.018	0.998	1371573	1.01	Target=14.99	101	3288	
356.86 > 243.00	3.886	3.895	-0.009	1.000	109600		12.51(7.50-22.49)		366	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.904	-0.001	0.947	96413	0.9015		72.1	415	
29 6:2 FTCA										
377.10 > 63.00	3.903	3.913	-0.010	1.000	54529	1.02	Target=1.26	102	283	
377.10 > 313.10	3.895	3.913	-0.018	0.998	41202		1.32(0.63-1.89)		72.3	
32 PFECHS										
460.80 > 380.90	4.054	4.065	-0.010	0.984	2358351	0.9156	Target=1.75	99.3	5991	
460.80 > 98.90	4.054	4.065	-0.010	0.984	1386692		1.70(0.87-2.62)		3121	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.102	4.112	-0.010	0.930	2029734	0.9702	Target=3.89	102	5565	
449.00 > 99.00	4.102	4.112	-0.010	0.930	496434		4.09(1.94-5.83)		2354	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.111	4.121	-0.010	0.998	851509	1.15		97.0	1392	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.002	1286553	0.9811		103	4345	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.131	-0.010	1.000	4335413	1.13		90.2	11745	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5137439	1.25			10549	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.131	-0.010	1.000	3837573	1.03	Target=2.38	103	2454	
413.00 > 169.00	4.121	4.131	-0.010	1.000	1633644		2.35(1.19-3.57)		3822	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.421	-0.009	1.071	2531339	1.10		91.9	2114	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.412	4.421	-0.009	1.000	2272370	0.9367	Target=4.49	101	2685	M
499.00 > 99.00	4.412	4.421	-0.009	1.000	491218		4.63(2.25-6.74)		1830	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.438	4.439	-0.001	1.000	3836828	1.11	Target=3.86	111	3826	
463.00 > 169.00	4.429	4.439	-0.010	0.998	917826		4.18(1.93-5.79)		2568	
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.439	-0.001	1.077	5659148	1.09		86.8	10039	
43 7:3 FTCA										
441.00 > 337.00	4.519	4.529	-0.010	0.993	640198	1.27	Target=1.33	127	2073	
441.00 > 317.00	4.519	4.529	-0.010	0.993	466919		1.37(0.66-1.99)		1572	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	1868613	1.07	Target=30.23	107	5410	
456.86 > 343.00	4.536	4.545	-0.009	0.998	52253		35.76(15.12-45.35)		172	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.553	-0.008	1.000	2291236	1.23		98.7	6906	
46 8:2 FTCA										
477.00 > 393.10	4.553	4.562	-0.009	1.000	179937	1.03	Target=3.38	103	867	
477.00 > 63.20	4.553	4.562	-0.009	1.000	54091		3.33(1.69-5.07)		193	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.562	-0.009	1.105	120056	0.8839		70.7	447	
49 9CIFOS										
531.00 > 351.00	4.569	4.578	-0.009	1.109	4718485	0.99		106	7295	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	2133566	1.00	Target=3.87	104	2327	
549.00 > 99.00	4.697	4.697	0.0	1.065	536615		3.98(1.93-5.80)		2547	
D 55 13C8 FOSA										
506.00 > 78.00	4.705	4.714	-0.009	1.142	3739490	1.07		85.9	4397	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.705	4.714	-0.009	1.000	2952148	1.03		103	5076	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.722	4.731	-0.009	1.000	4540276	1.08	Target=11.19	108	3502	
513.00 > 169.00	4.722	4.731	-0.009	1.000	393218		11.55(5.60-16.79)		267	
D 52 13C2 PFDA										
515.00 > 470.00	4.722	4.731	-0.009	1.146	5847858	1.18		94.1	16322	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.740	-0.009	1.148	937965	1.16		97.2	1766	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.731	4.740	-0.009	1.000	1162925	0.9864		103	4914	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.863	4.872	-0.009	1.180	509967	1.09		87.5	373	
57 NMeFOSAA										
570.00 > 419.00	4.863	4.880	-0.017	1.000	439764	1.16		116	881	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.124	1926443	1.02	Target=3.53	106	3618	
599.00 > 99.00	4.957	4.957	0.0	1.124	515031		3.74(1.77-5.30)		2647	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.995	-0.009	1.000	4274683	1.01	Target=8.28	101	5247	
563.00 > 169.00	4.986	4.995	-0.009	1.000	503470		8.49(4.14-12.42)		2087	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.995	-0.009	1.210	5488746	1.14		91.5	13201	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.215	591934	1.24		99.0	1845	
62 NEtFOSAA										M
584.00 > 419.00	5.005	5.015	-0.010	1.000	459946	1.10		110	518	M
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.093	-0.001	1.002	2585061	1.05		105	5344	
63 11CIFOS										
631.00 > 451.00	5.083	5.093	-0.010	1.152	3607085	0.9777		104	7211	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.083	5.093	-0.010	1.233	2536968	1.22		97.2	10078	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.238	119187	0.9378		75.0	555	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	93643	1.07	Target=2.41	107	399	
576.80 > 63.10	5.102	5.112	-0.010	1.000	41516		2.26(1.21-3.62)		176	
D 69 13C2 PFDaA										
615.00 > 570.00	5.217	5.226	-0.009	1.266	5493686	1.16		92.8	12539	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.217	5.226	-0.009	1.000	4537746	1.00	Target=6.88	99.9	4624	
613.00 > 169.00	5.217	5.226	-0.009	1.000	628482		7.22(3.44-10.31)		1346	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.243	-0.009	1.270	856793	1.26		107	4485	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.002	1495808	0.9851		102	6677	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.284	-0.009	1.280	590549	1.21		96.9	436	
74 NMeFOSA										
512.00 > 169.00	5.283	5.284	-0.001	1.002	410851	1.02		102	719	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.280	465314	1.12		89.8	50.4	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.003	589595	1.06		106	815	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.390	5.399	-0.009	1.222	1915402	0.9565	Target=4.29	98.8	2129	
699.00 > 99.00	5.390	5.399	-0.009	1.222	449281		4.26(2.14-6.43)		3117	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.040	3911336	1.01	Target=6.38	101	4544	
663.00 > 169.00	5.426	5.435	-0.009	1.040	631471		6.19(3.19-9.57)		2022	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	540846	1.07		85.6	262	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.323	344859	1.04		82.9	768	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	598035	0.9741		97.4	613	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.000	362154	1.05		105	588	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.607	5.617	-0.010	1.000	461771	1.04	Target=1.02	104	1784	
713.00 > 219.00	5.607	5.617	-0.010	1.000	459119		1.01(0.51-1.53)		2655	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.607	5.617	-0.010	1.361	4288864	1.13		90.6	11011	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.916	5.924	-0.008	1.000	2617621	1.03	Target=8.32	103	4232	
813.00 > 169.00	5.916	5.924	-0.008	1.000	314910		8.31(4.16-12.48)		1096	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.436	2781847	1.13		90.3	5225	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.185	-0.006	1.044	2437349	1.08	Target=11.94	108	3792	
913.00 > 169.00	6.179	6.185	-0.006	1.044	201898		12.07(5.97-17.91)		851	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_036.d

Injection Date: 19-Feb-2022 00:40:43

Instrument ID: LCA

Lims ID: LCS 140-58914/2-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 36

Worklist Smp#: 36

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

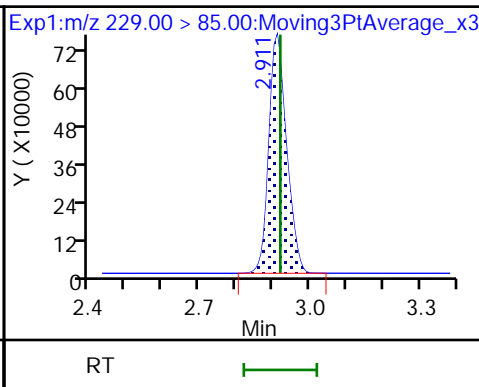
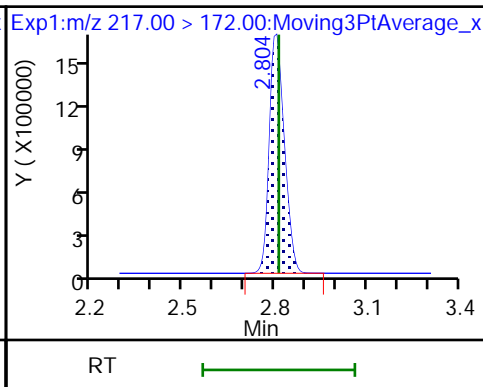
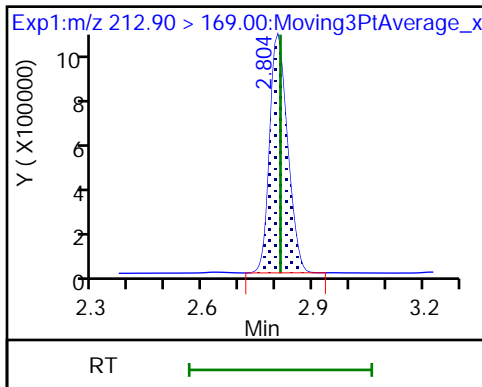
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

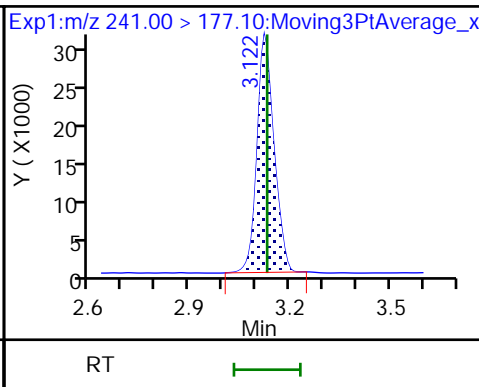
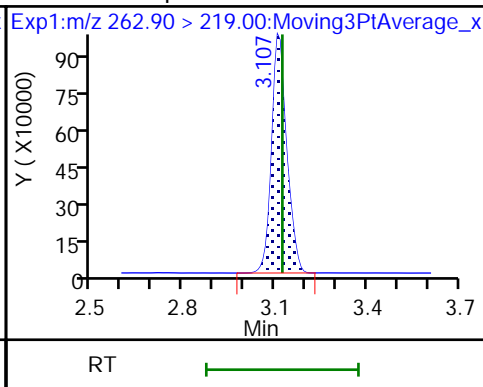
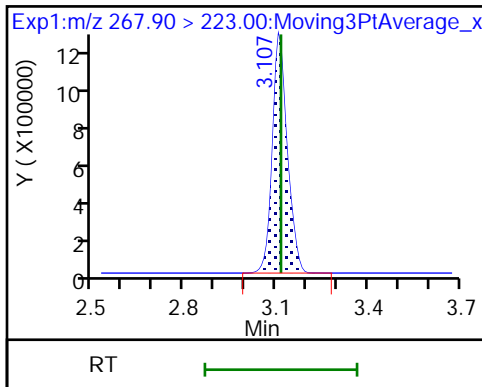
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

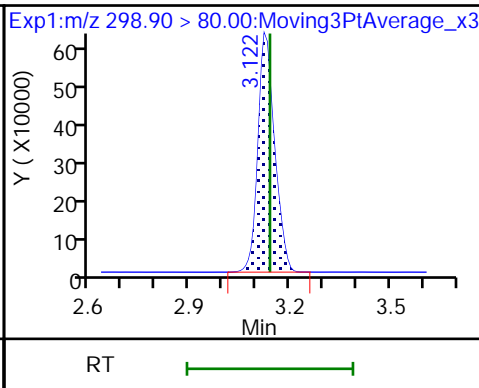
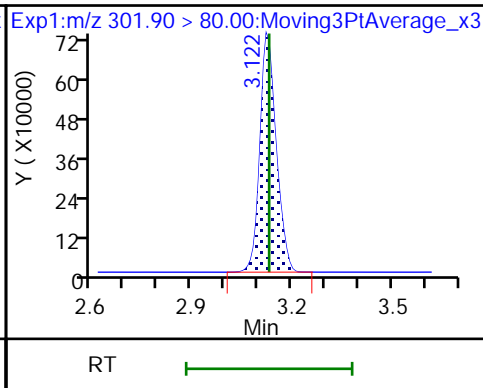
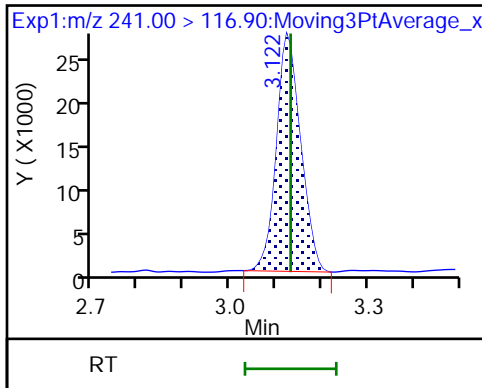
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

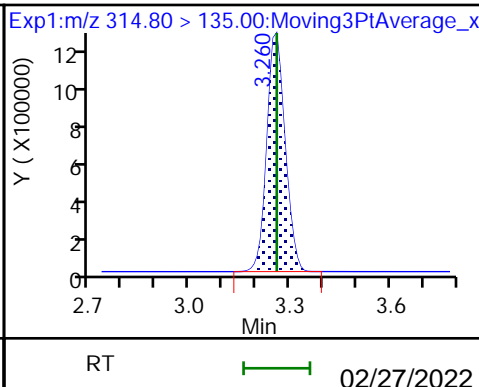
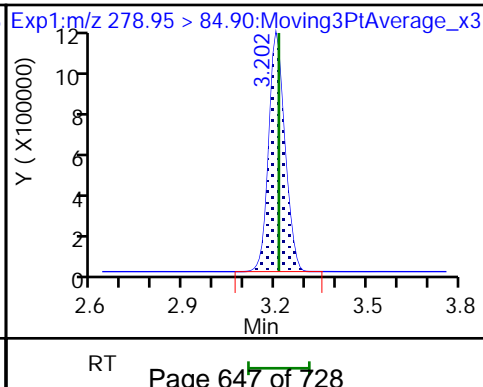
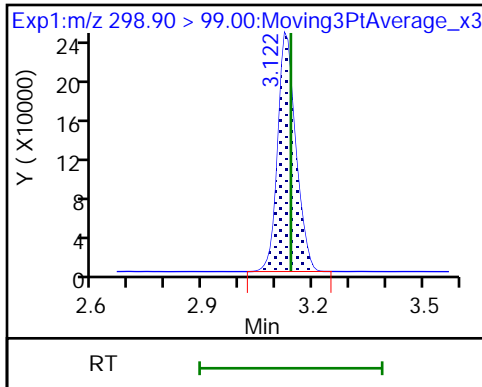
8 Perfluorobutanesulfonic acid

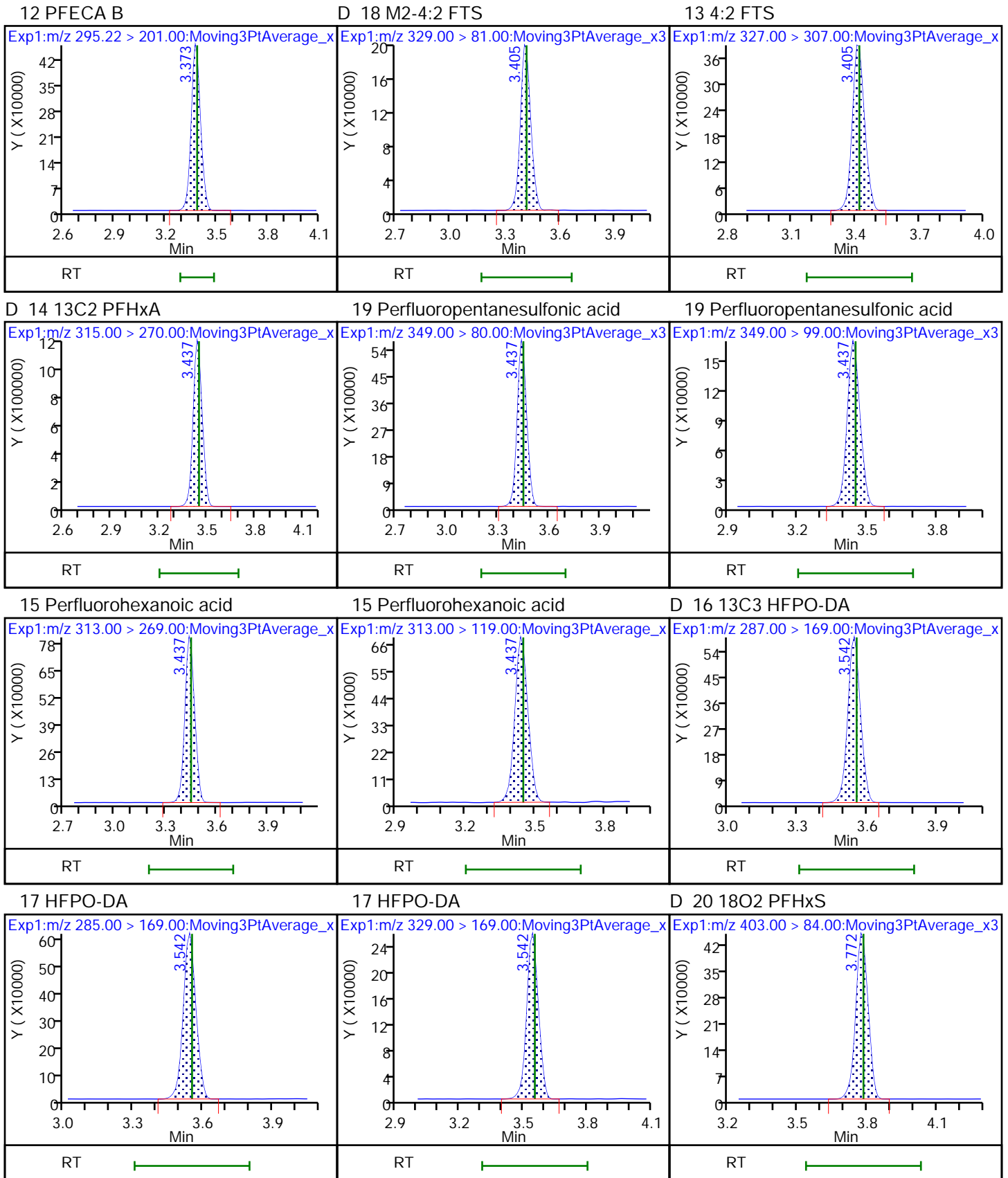


8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES

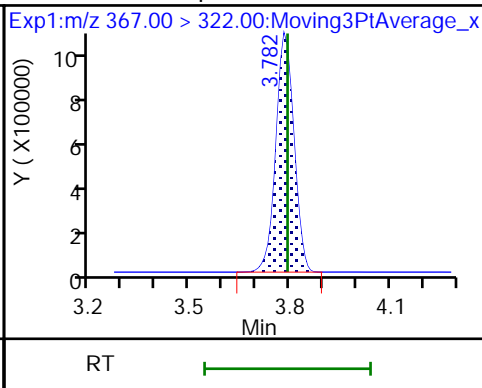
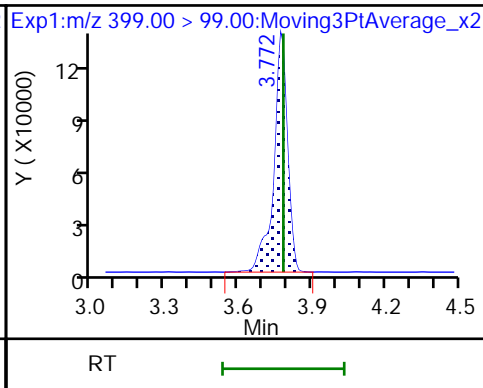
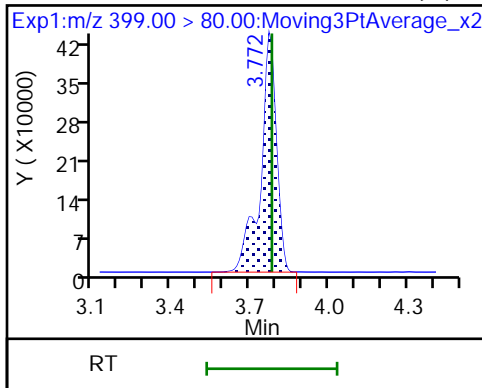




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid

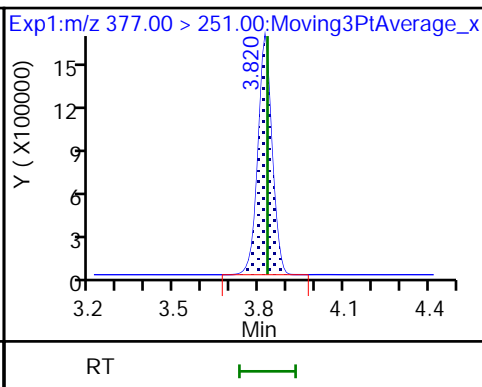
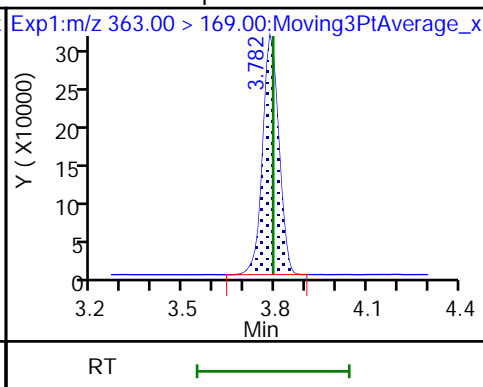
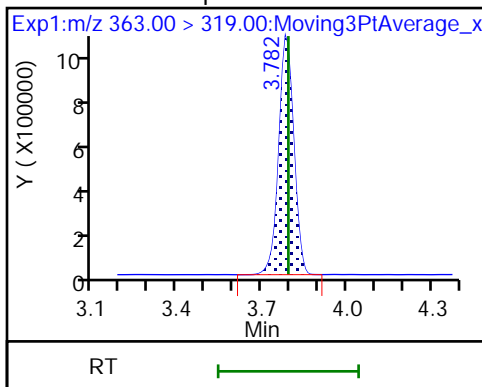
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

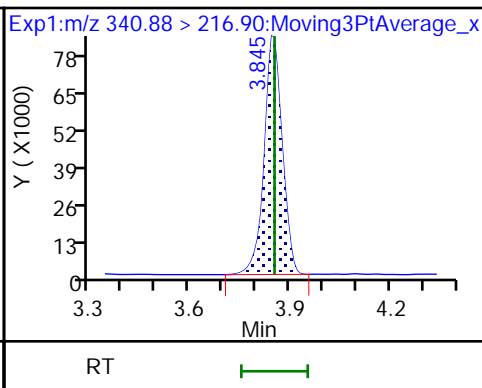
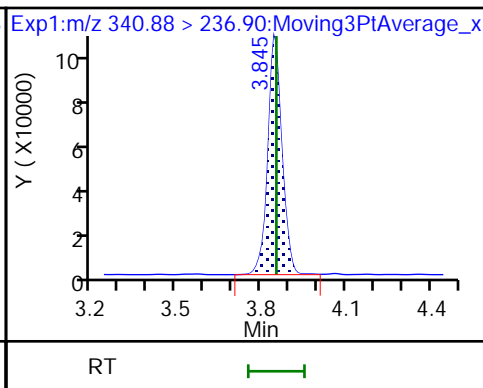
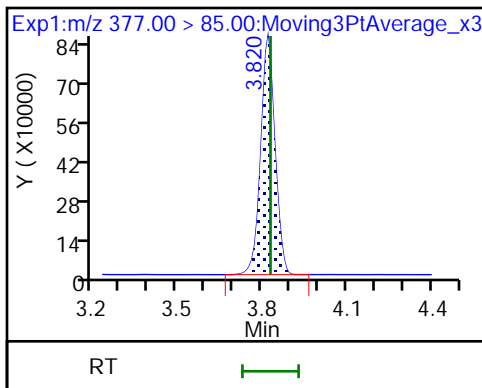
25 DONA



25 DONA

26 5:3 FTCA

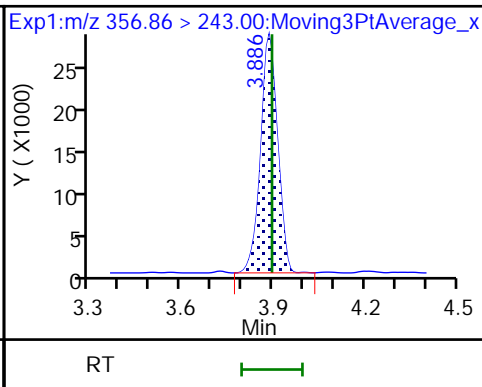
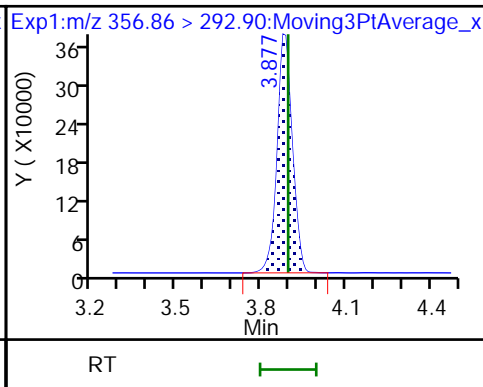
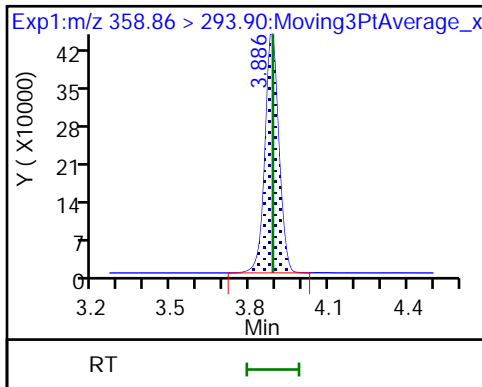
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

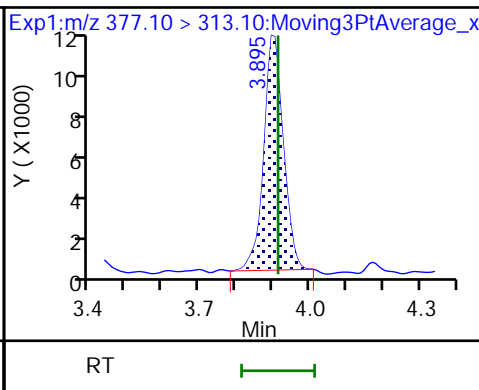
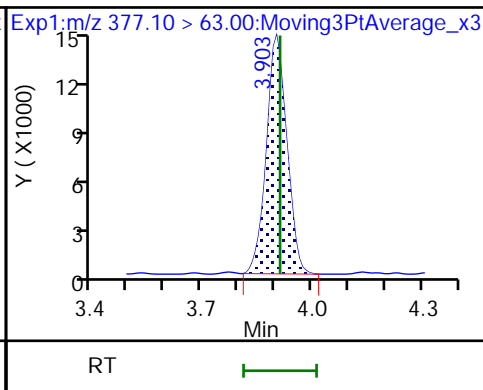
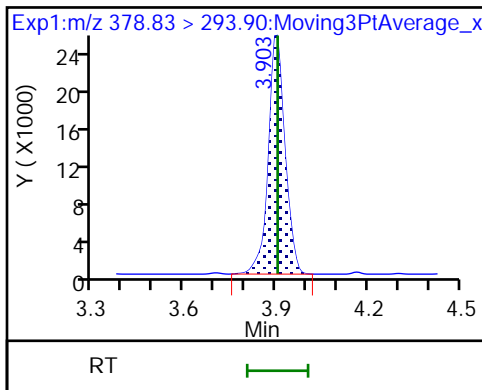
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

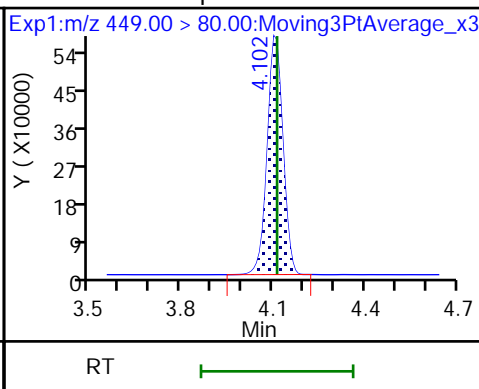
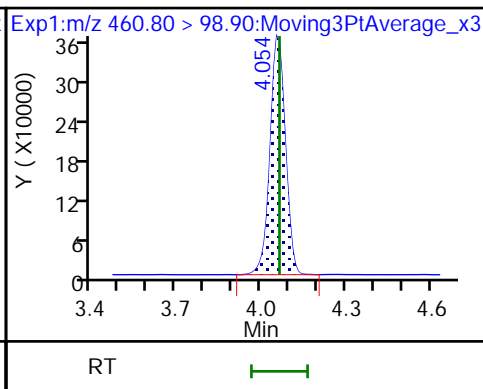
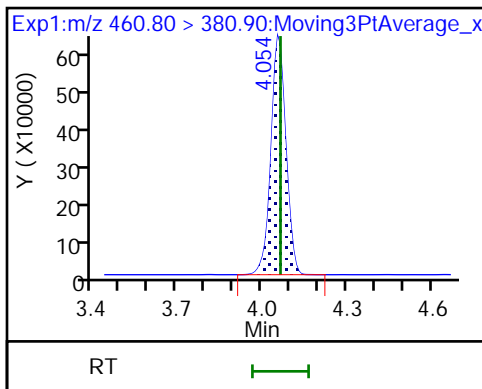
29 6:2 FTCA



32 PFECHS

32 PFECHS

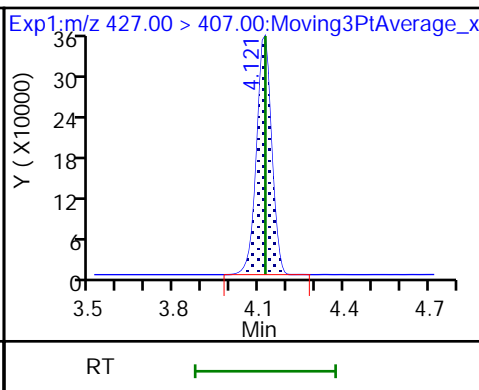
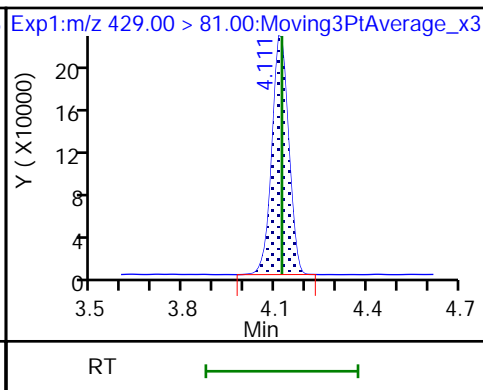
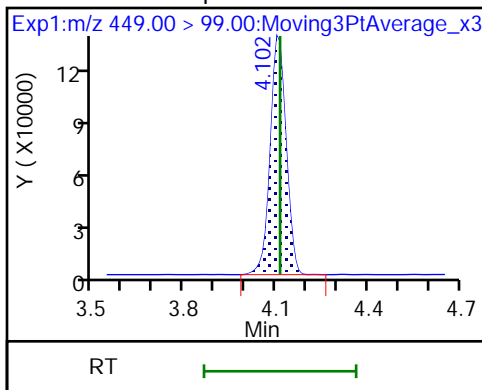
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

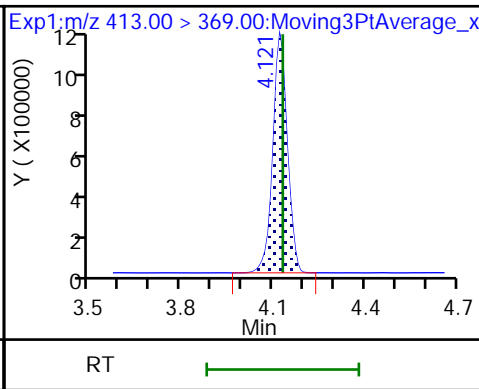
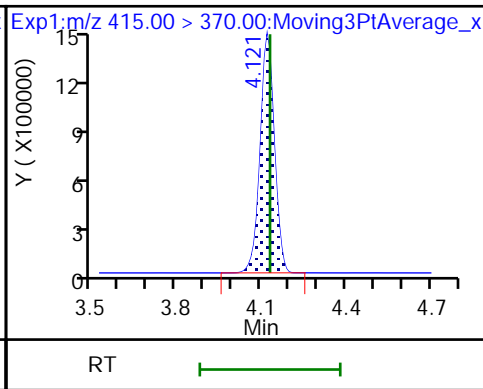
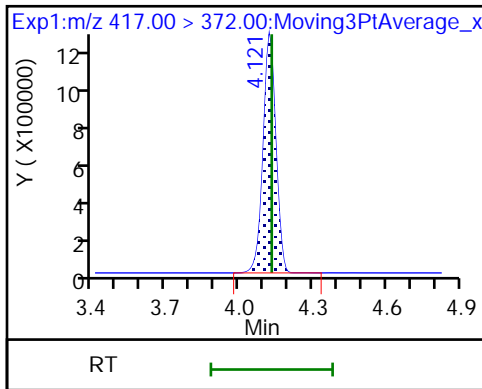
35 6:2 FTS

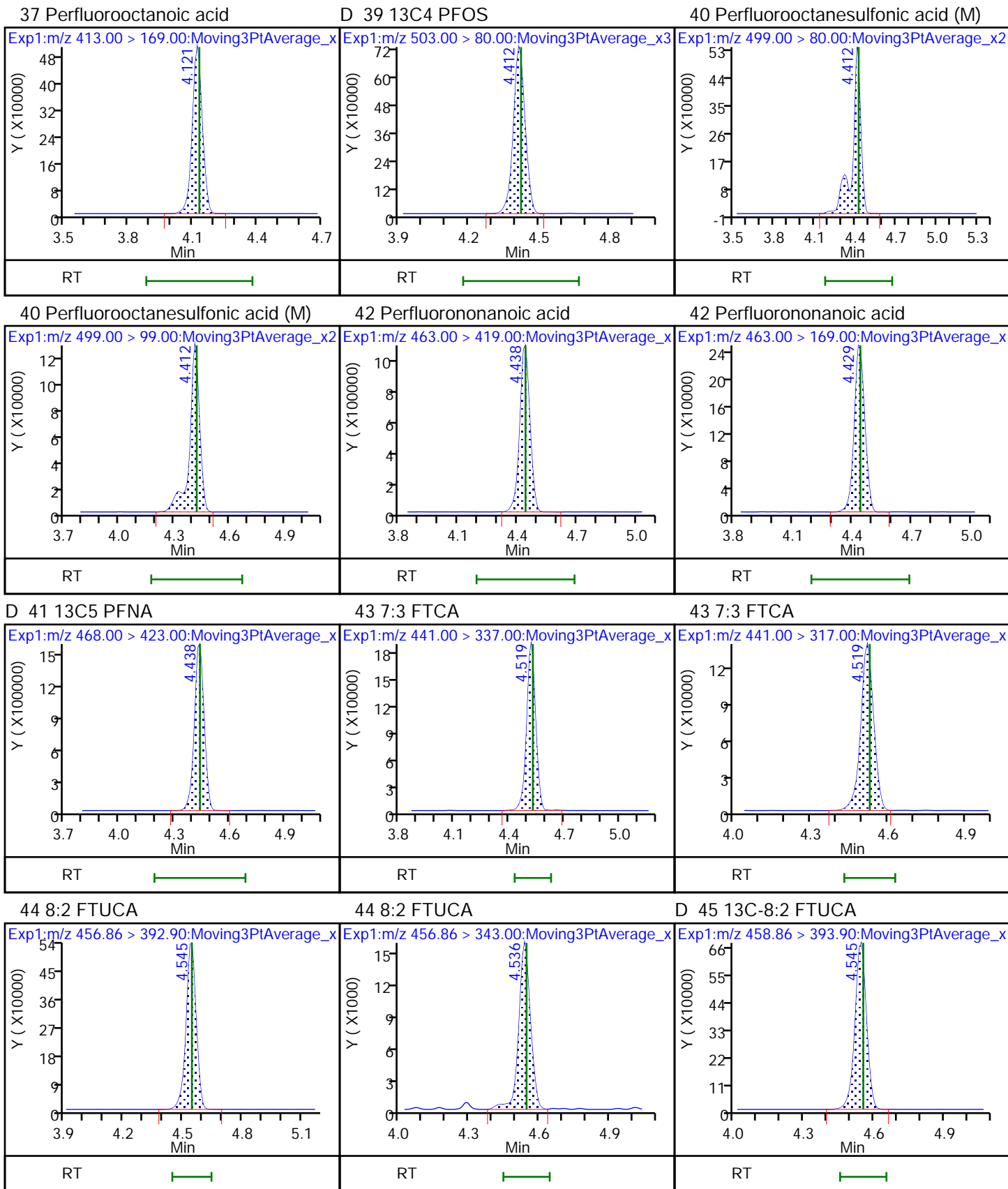


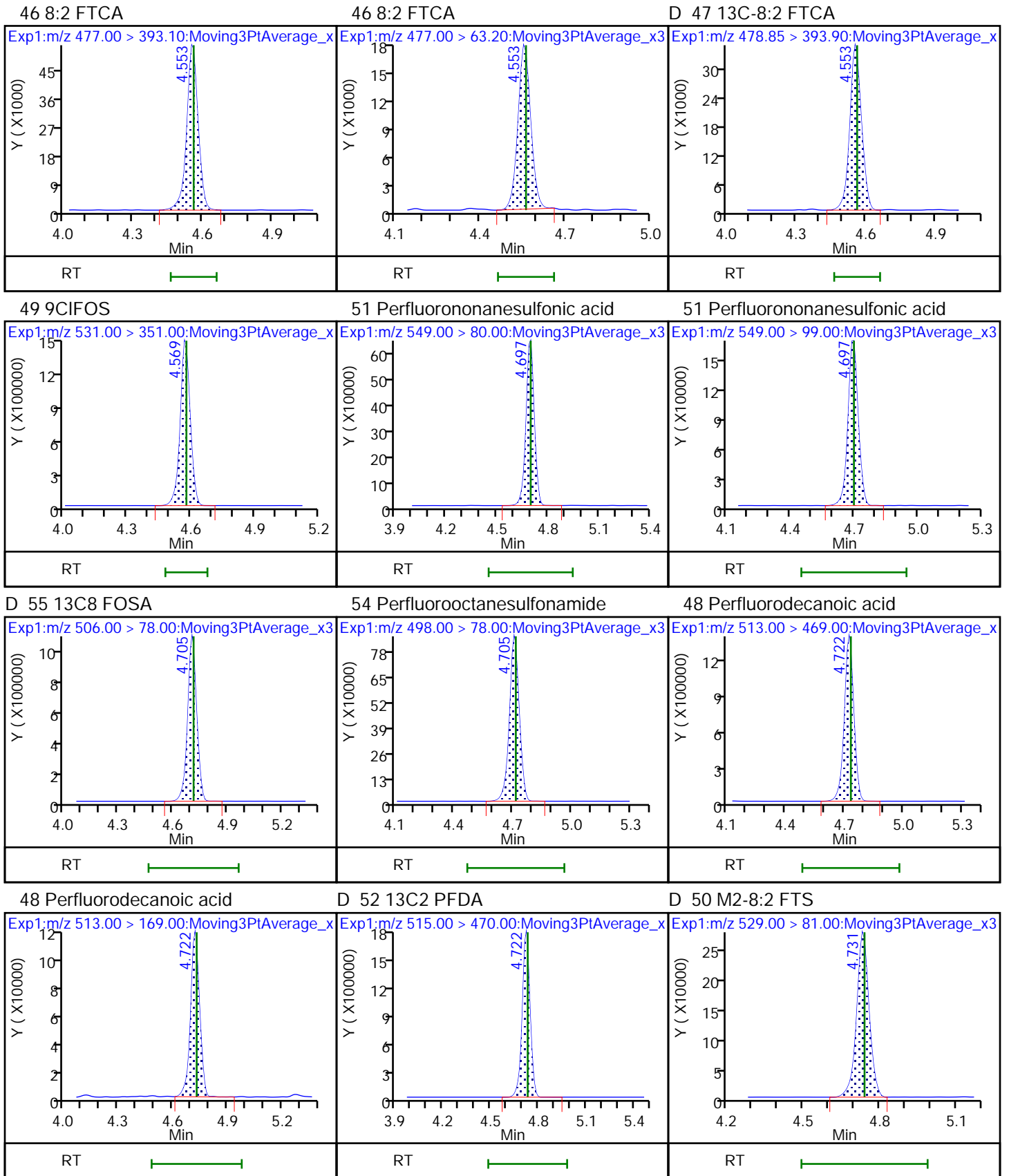
D 31 13C4 PFOA

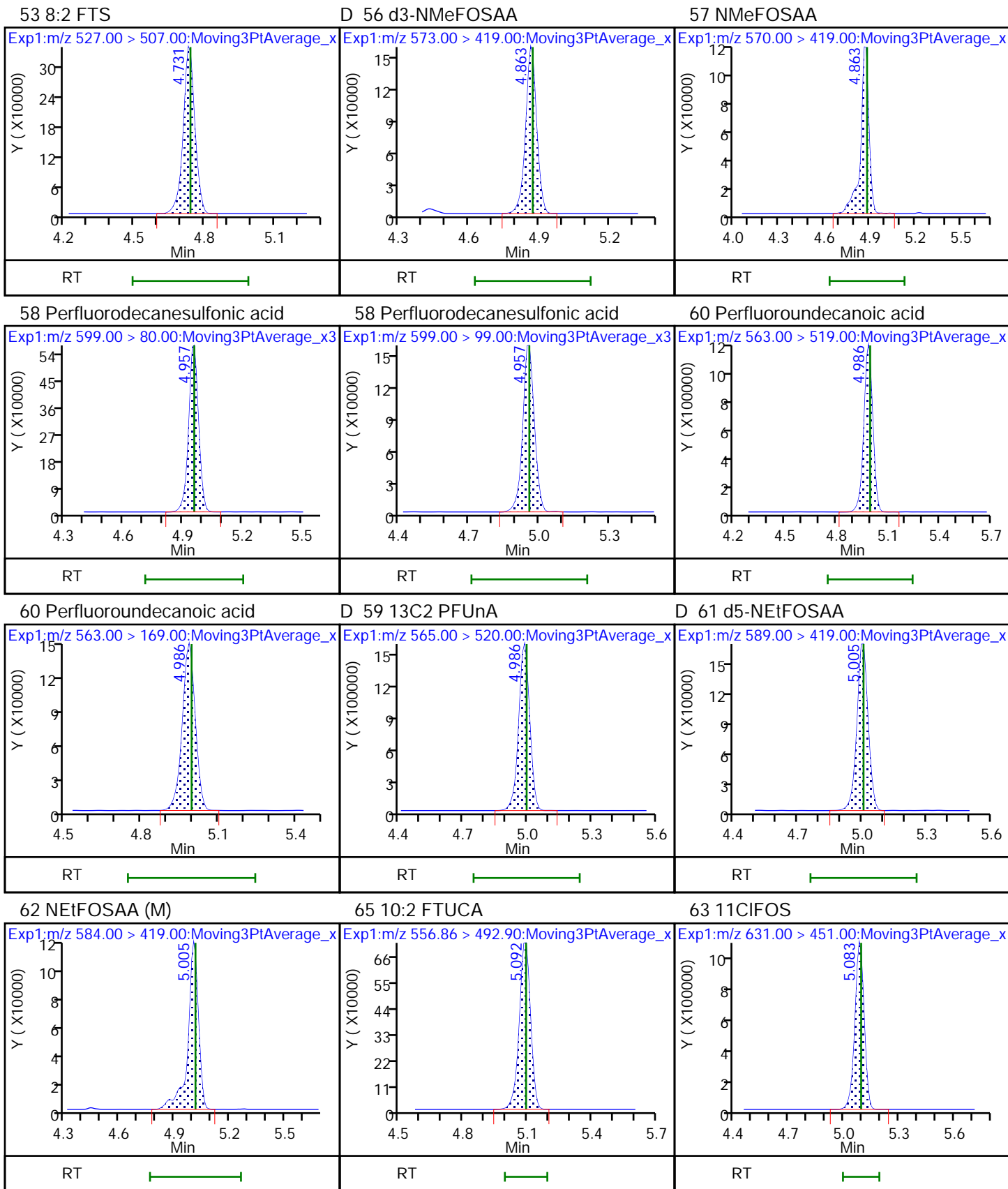
\* 30 13C2 PFOA

37 Perfluorooctanoic acid







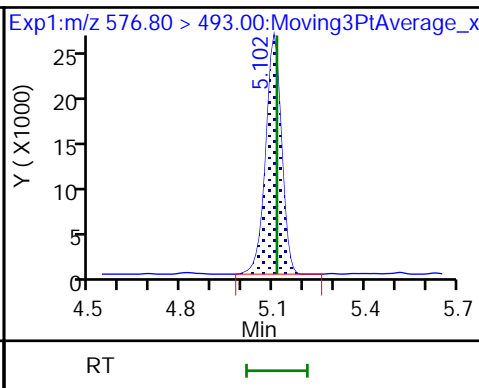
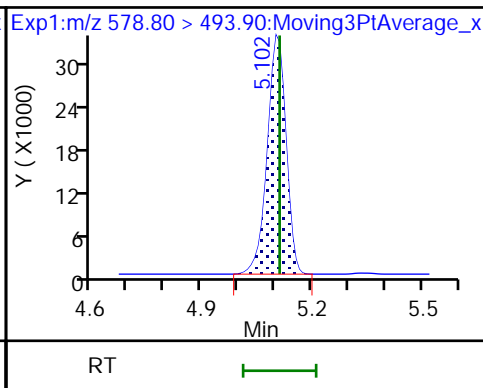
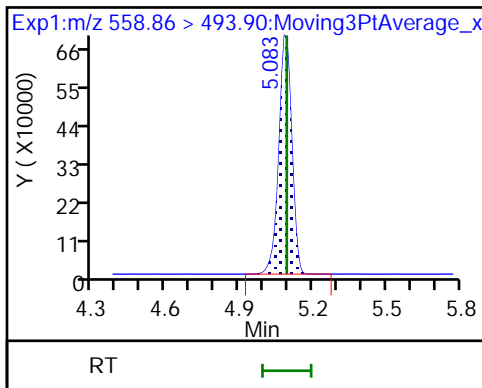




D 67 13C-10:2 FTUCA

D 64 13C-10:2 FTCA

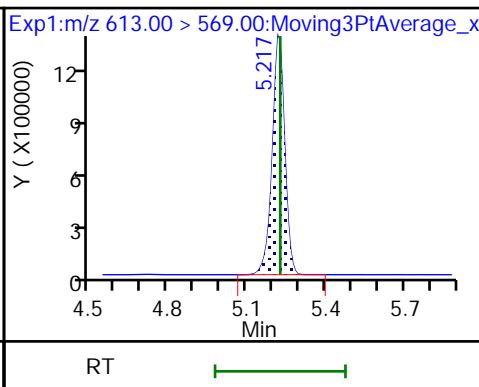
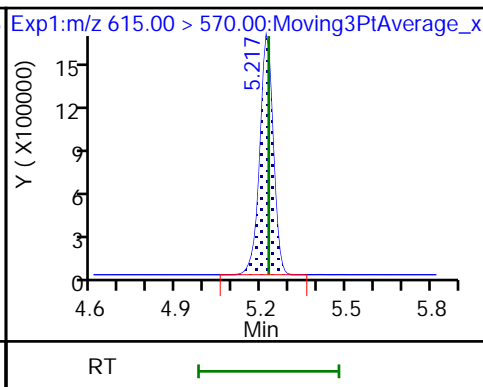
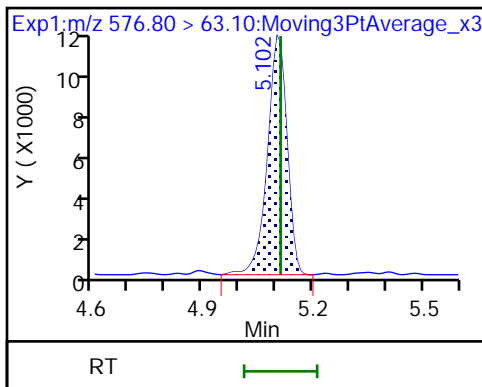
66 10:2 FTCA



66 10:2 FTCA

D 69 13C2 PFDaA

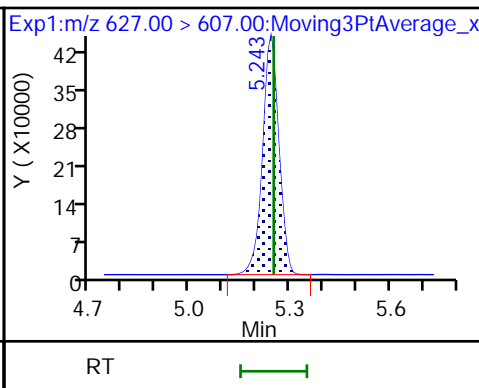
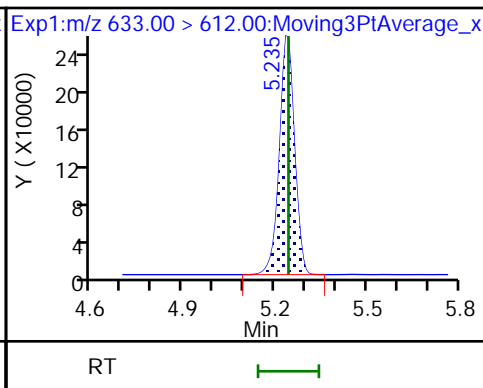
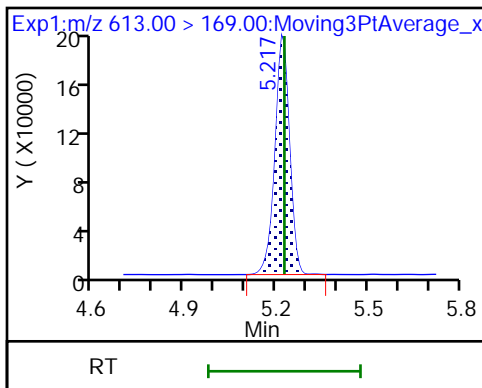
68 Perfluorododecanoic acid



68 Perfluorododecanoic acid

D 70 13C2 10:2 FTS

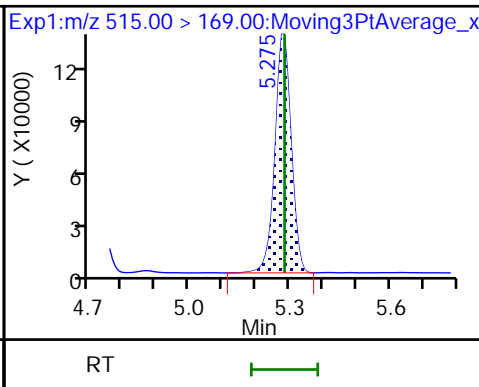
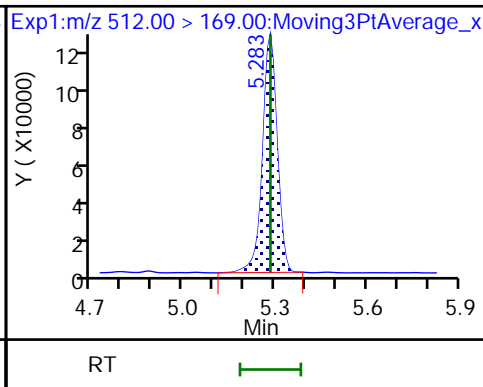
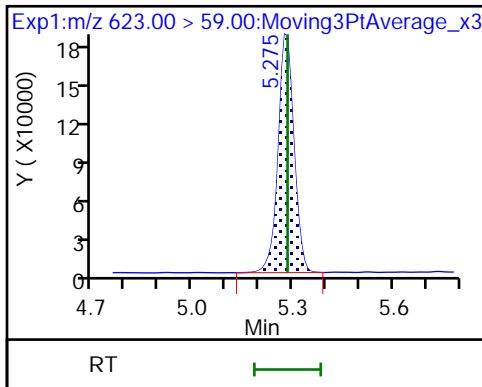
71 10:2 FTS

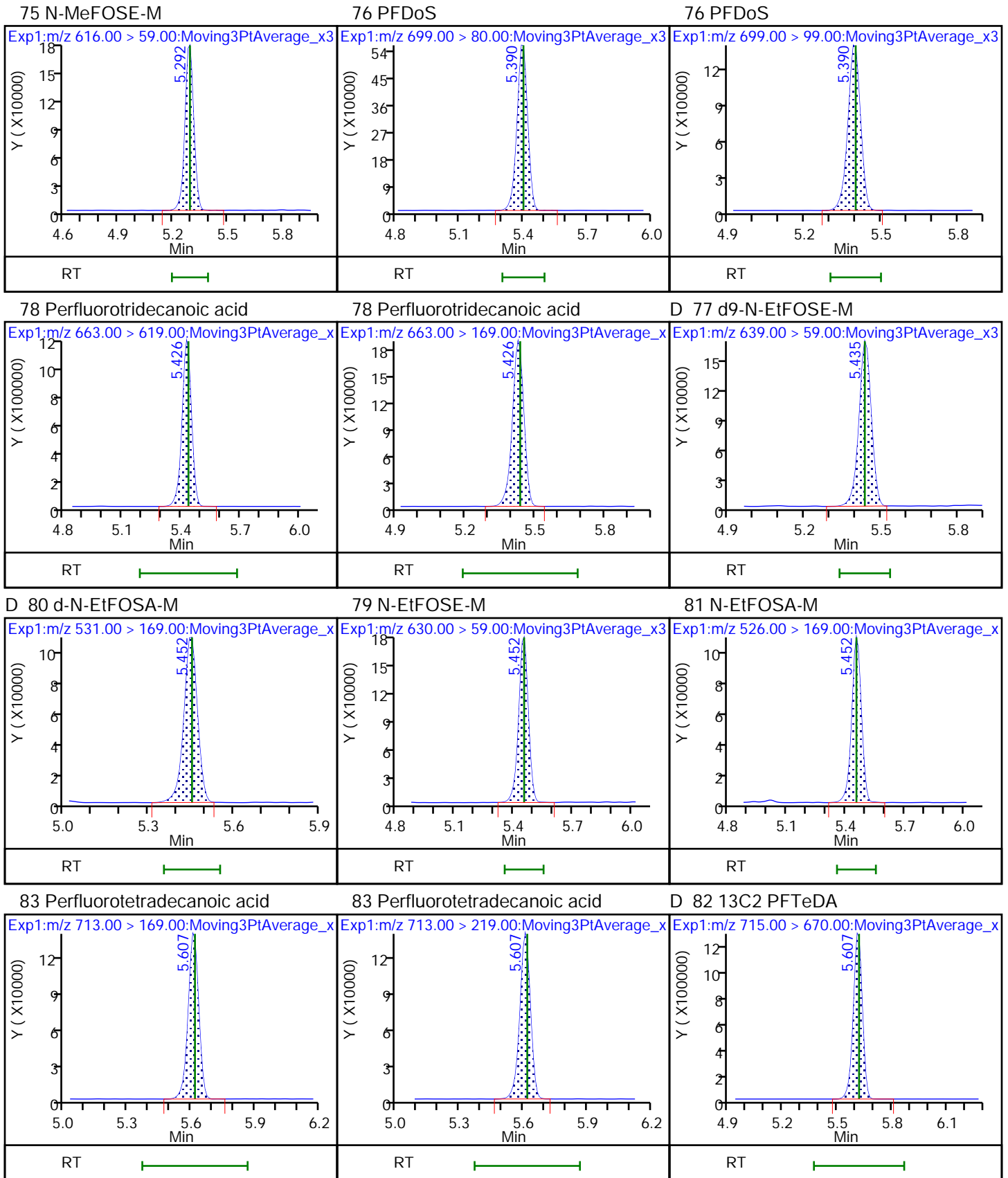


D 72 d7-N-MeFOSE-M

74 NMeFOSA

D 73 d-N-MeFOSA-M

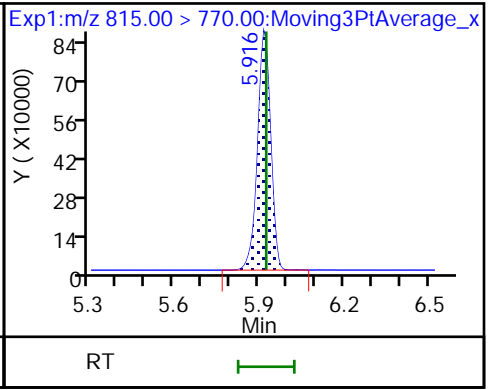
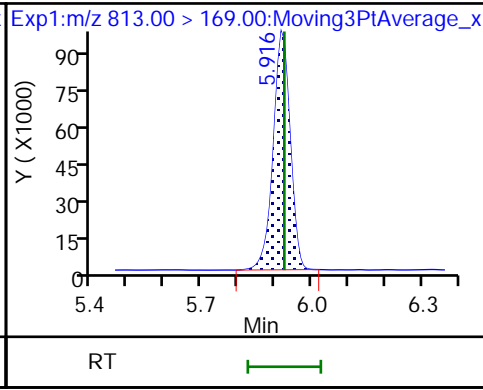
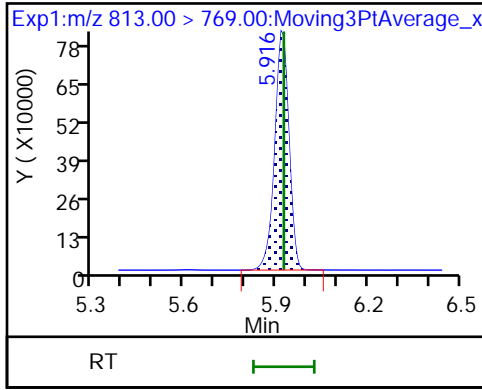




85 Perfluorohexadecanoic acid

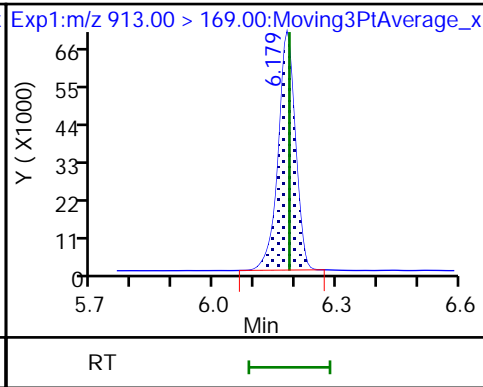
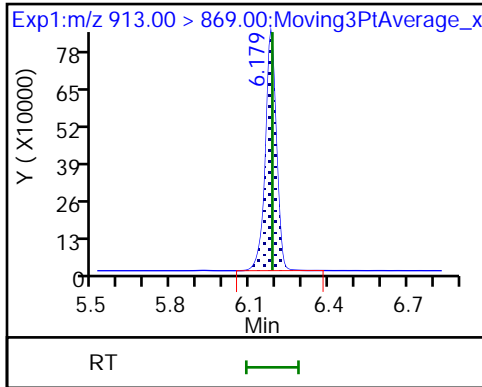
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 140-58967/2-A  
 Matrix: Air Lab File ID: 021.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/18/2022 22:28  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.01237		0.000500	0.0000870

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	79		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_021.d  
 Lims ID: LCS 140-58967/2-A  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 18-Feb-2022 22:28:41 ALS Bottle#: 21 Worklist Smp#: 21  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-021 lcs 140-58967/2-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:10:06  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.797	2.811	-0.014	1.000	3965825	1.20	120	1506	
D 2 13C4 PFBA	217.00 > 172.00	2.797	2.811	-0.014	0.679	5231791	1.02	81.9	15044	
3 PFECA F	229.00 > 85.00	2.903	2.919	-0.016	0.934	2768322	1.09	109	8825	
D 5 13C5 PFPeA	267.90 > 223.00	3.107	3.115	-0.008	0.754	4212656	1.05	84.1	15044	
6 Perfluoropentanoic acid	262.90 > 219.00	3.107	3.123	-0.016	1.000	3862053	1.22	122	1752	
4 3:3 FTCA	241.00 > 177.10	3.123	3.131	-0.008	1.000	141168	1.28	Target=1.16	128	1829
	241.00 > 116.90	3.123	3.131	-0.008	1.000	119564		1.18(0.58-1.74)		170
D 7 13C3 PFBS	301.90 > 80.00	3.123	3.131	-0.008	0.758	2357344	0.9297	80.0	10860	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.123	3.140	-0.017	1.000	2455754	1.10	Target=2.74	125	5776
	298.90 > 99.00	3.123	3.140	-0.017	1.000	932432		2.63(1.37-4.11)		4894
9 PFECA A	278.95 > 84.90	3.202	3.211	-0.009	1.031	4685955	1.18	118	14103	
11 PES	314.80 > 135.00	3.249	3.260	-0.011	1.041	5247339	1.09	122	19554	
12 PFECA B	295.22 > 201.00	3.374	3.384	-0.010	0.981	1800497	1.19	119	7549	
D 18 M2-4:2 FTS	329.00 > 81.00	3.405	3.416	-0.011	0.826	717842	0.9045	77.5	1389	
13 4:2 FTS	327.00 > 307.00	3.405	3.416	-0.011	1.000	1648896	1.18	126	7850	

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_021.d

Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.448	-0.011	0.834	4529689	1.02		81.9	12986	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.437	3.448	-0.011	1.101	2375371	1.13	Target=3.48	121	5831	
349.00 > 99.00	3.437	3.448	-0.011	1.101	676161		3.51(1.74-5.23)		4837	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.448	-0.011	1.000	3315477	1.15	Target=12.09	115	1637	
313.00 > 119.00	3.437	3.448	-0.011	1.000	301765		10.99(6.04-18.13)		282	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.533	3.553	-0.020	0.857	2140130	0.9894		79.1	6582	
17 HFPO-DA										
285.00 > 169.00	3.533	3.553	-0.020	1.000	2671385	1.24	Target=2.53	124	1720	
329.00 > 169.00	3.533	3.553	-0.020	1.000	1029658		2.59(1.26-3.79)		1143	
D 20 18O2 PFHxS										
403.00 > 84.00	3.773	3.783	-0.010	0.915	1598059	0.9710		82.1	5238	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.773	3.783	-0.010	1.000	1913121	1.02	Target=3.31	112	5107	M
399.00 > 99.00	3.773	3.783	-0.010	1.000	584263		3.27(1.66-4.97)		2369	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.782	3.793	-0.011	0.918	4097226	1.04		83.1	11674	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.782	3.793	-0.011	1.000	4157091	1.26	Target=3.40	126	3136	
363.00 > 169.00	3.782	3.793	-0.011	1.000	1289459		3.22(1.70-5.09)		3478	
25 DONA										
377.00 > 251.00	3.812	3.829	-0.017	0.864	5962160	1.14	Target=1.74	121	10888	
377.00 > 85.00	3.821	3.829	-0.008	0.866	3293926		1.81(0.87-2.61)		4584	
26 5:3 FTCA										
340.88 > 236.90	3.845	3.853	-0.008	0.987	422953	1.05	Target=1.13	105	1449	
340.88 > 216.90	3.845	3.853	-0.008	0.987	397185		1.06(0.56-1.69)		1004	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.878	3.887	-0.008	0.941	1584338	1.08		86.2	4371	
27 6:2 FTUCA										
356.86 > 292.90	3.878	3.895	-0.017	1.000	1565405	1.18	Target=14.14	118	3998	
356.86 > 243.00	3.878	3.895	-0.017	1.000	110743		14.14(7.07-21.20)		465	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.895	3.904	-0.009	0.945	133306	1.18		94.0	706	
29 6:2 FTCA										
377.10 > 63.00	3.895	3.913	-0.018	1.000	77807	1.05	Target=1.42	105	315	
377.10 > 313.10	3.895	3.913	-0.018	1.000	52860		1.47(0.71-2.13)		110	
32 PFECHS										
460.80 > 380.90	4.055	4.065	-0.009	0.984	2683248	1.08	Target=1.67	117	6710	
460.80 > 98.90	4.055	4.065	-0.009	0.984	1556053		1.72(0.84-2.51)		3963	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.102	4.112	-0.010	0.930	2189873	1.12	Target=3.94	118	4899	
449.00 > 99.00	4.102	4.112	-0.010	0.930	562417		3.89(1.97-5.90)		2965	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.112	4.121	-0.009	0.998	798260	1.02		85.7	1853	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.112	4.121	-0.009	1.000	1334784	1.09		115	3337	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.131	-0.010	1.000	4182108	1.03		82.0	8510	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5448593	1.25			9530	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.131	-0.010	1.000	4158806	1.16	Target=2.33	116	3444	
413.00 > 169.00	4.121	4.131	-0.010	1.000	1730788		2.40(1.17-3.50)		3111	
D 39 13C4 PFOS										
503.00 > 80.00	4.413	4.421	-0.008	1.071	2360270	0.9651		80.8	2852	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.413	4.421	-0.008	1.000	2434179	1.08	Target=4.42	116	2351	M
499.00 > 99.00	4.413	4.421	-0.008	1.000	553265		4.40(2.21-6.63)		1442	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.430	4.439	-0.009	1.000	4064389	1.21	Target=3.81	121	4200	
463.00 > 169.00	4.430	4.439	-0.009	1.000	1047224		3.88(1.90-5.71)		3374	
D 41 13C5 PFNA										
468.00 > 423.00	4.430	4.439	-0.009	1.075	5513928	1.00		79.8	11764	
43 7:3 FTCA										
441.00 > 337.00	4.511	4.529	-0.018	0.991	727641	0.9775	Target=1.44	97.8	2761	
441.00 > 317.00	4.511	4.529	-0.018	0.991	547916		1.33(0.72-2.16)		1444	
44 8:2 FTUCA										
456.86 > 392.90	4.537	4.545	-0.008	1.000	2006721	1.21	Target=33.93	121	4692	
456.86 > 343.00	4.537	4.545	-0.008	1.000	54969		36.51(16.96-50.89)		177	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.537	4.553	-0.016	1.000	2158915	1.10		87.7	4600	
46 8:2 FTCA										
477.00 > 393.10	4.553	4.562	-0.009	1.000	250273	0.9710	Target=3.19	97.1	1045	
477.00 > 63.20	4.553	4.562	-0.009	1.000	79110		3.16(1.59-4.78)		471	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.562	-0.009	1.105	177915	1.24		98.8	659	
49 9CIFOS										
531.00 > 351.00	4.570	4.578	-0.008	1.109	4797239	1.08		116	4863	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.689	4.697	-0.008	1.063	2174284	1.09	Target=3.97	113	3616	
549.00 > 99.00	4.689	4.697	-0.008	1.063	562646		3.86(1.99-5.96)		2254	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.714	-0.008	1.142	3900660	1.06		84.5	4320	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.714	-0.008	1.000	3477963	1.17		117	4929	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.714	4.731	-0.017	1.000	4747639	1.22	Target=11.13	122	4592	
513.00 > 169.00	4.714	4.731	-0.017	1.000	436712		10.87(5.57-16.70)		302	
D 52 13C2 PFDA										
515.00 > 470.00	4.714	4.731	-0.017	1.144	5409249	1.03		82.1	13723	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.740	-0.009	1.148	840284	0.9830		82.1	1525	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.731	4.740	-0.009	1.000	1173817	1.11		116	4104	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.863	4.872	-0.009	1.180	521636	1.05		84.4	427	
57 NMeFOSAA										
570.00 > 419.00	4.863	4.880	-0.017	1.000	507371	1.31		131	727	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.949	4.957	-0.008	1.121	2052731	1.17	Target=3.72	121	4781	
599.00 > 99.00	4.949	4.957	-0.008	1.121	562381		3.65(1.86-5.59)		1883	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.976	4.995	-0.019	1.000	4931710	1.18	Target=8.47	118	5571	
563.00 > 169.00	4.976	4.995	-0.019	1.000	564339		8.74(4.23-12.70)		2404	
D 59 13C2 PFUnA										
565.00 > 520.00	4.976	4.995	-0.019	1.207	5387499	1.06		84.7	8733	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.995	5.005	-0.010	1.212	604561	1.19		95.3	2256	
62 NEtFOSAA										M
584.00 > 419.00	5.005	5.015	-0.010	1.002	522545	1.22		122	557	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.083	5.093	-0.010	1.233	2336318	1.06		84.4	4527	
65 10:2 FTUCA										
556.86 > 492.90	5.083	5.093	-0.010	1.000	2894534	1.28		128	5511	
63 11CIFOS										
631.00 > 451.00	5.083	5.093	-0.010	1.152	3910385	1.14		121	6714	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.238	150848	1.12		89.5	733	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	136374	1.23	Target=2.54	123	577	
576.80 > 63.10	5.102	5.112	-0.010	1.000	64119		2.13(1.27-3.81)		226	
D 69 13C2 PFDaA										
615.00 > 570.00	5.217	5.226	-0.009	1.266	5300280	1.06		84.4	10790	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.217	5.226	-0.009	1.000	4897394	1.12	Target=7.02	112	4550	
613.00 > 169.00	5.217	5.226	-0.009	1.000	731809		6.69(3.51-10.53)		1499	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.243	-0.008	1.270	706446	0.9813		82.9	4577	
71 10:2 FTS										
627.00 > 607.00	5.235	5.251	-0.016	1.000	1397942	1.12		116	4553	
74 NMeFOSA										
512.00 > 169.00	5.275	5.284	-0.009	1.000	434285	1.18		118	610	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.280	424845	0.9658		77.3	42.8	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.284	-0.009	1.280	551385	1.07		85.3	476	
75 N-MeFOSE-M										
616.00 > 59.00	5.283	5.292	-0.009	1.002	591627	1.14		114	806	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.390	5.399	-0.009	1.221	2089080	1.12	Target=4.52	116	3864	
699.00 > 99.00	5.390	5.399	-0.009	1.221	500499		4.17(2.26-6.78)		1839	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.040	4364886	1.17	Target=5.96	117	4815	
663.00 > 169.00	5.426	5.435	-0.009	1.040	711417		6.14(2.98-8.94)		2951	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	527906	0.9844		78.8	261	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.443	5.452	-0.009	1.321	325092	0.9214		73.7	536	
79 N-EtFOSE-M										
630.00 > 59.00	5.443	5.452	-0.009	1.002	701239	1.17		117	685	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.002	406530	1.25		125	526	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.607	5.617	-0.010	1.000	498236	1.17	Target=0.99	117	2005	
713.00 > 219.00	5.607	5.617	-0.010	1.000	487096		1.02(0.49-1.48)		2278	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.607	5.617	-0.010	1.361	4141692	1.03		82.5	9043	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.916	5.924	-0.008	1.000	2803615	1.14	Target=8.23	114	3421	
813.00 > 169.00	5.916	5.924	-0.008	1.000	351043		7.99(4.11-12.34)		977	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.435	2715687	1.04		83.1	5170	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.173	6.185	-0.012	1.043	2500718	1.14	Target=11.52	114	2907	
913.00 > 169.00	6.173	6.185	-0.012	1.043	218182		11.46(5.76-17.29)		853	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_021.d

Injection Date: 18-Feb-2022 22:28:41

Instrument ID: LCA

Lims ID: LCS 140-58967/2-A

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 21

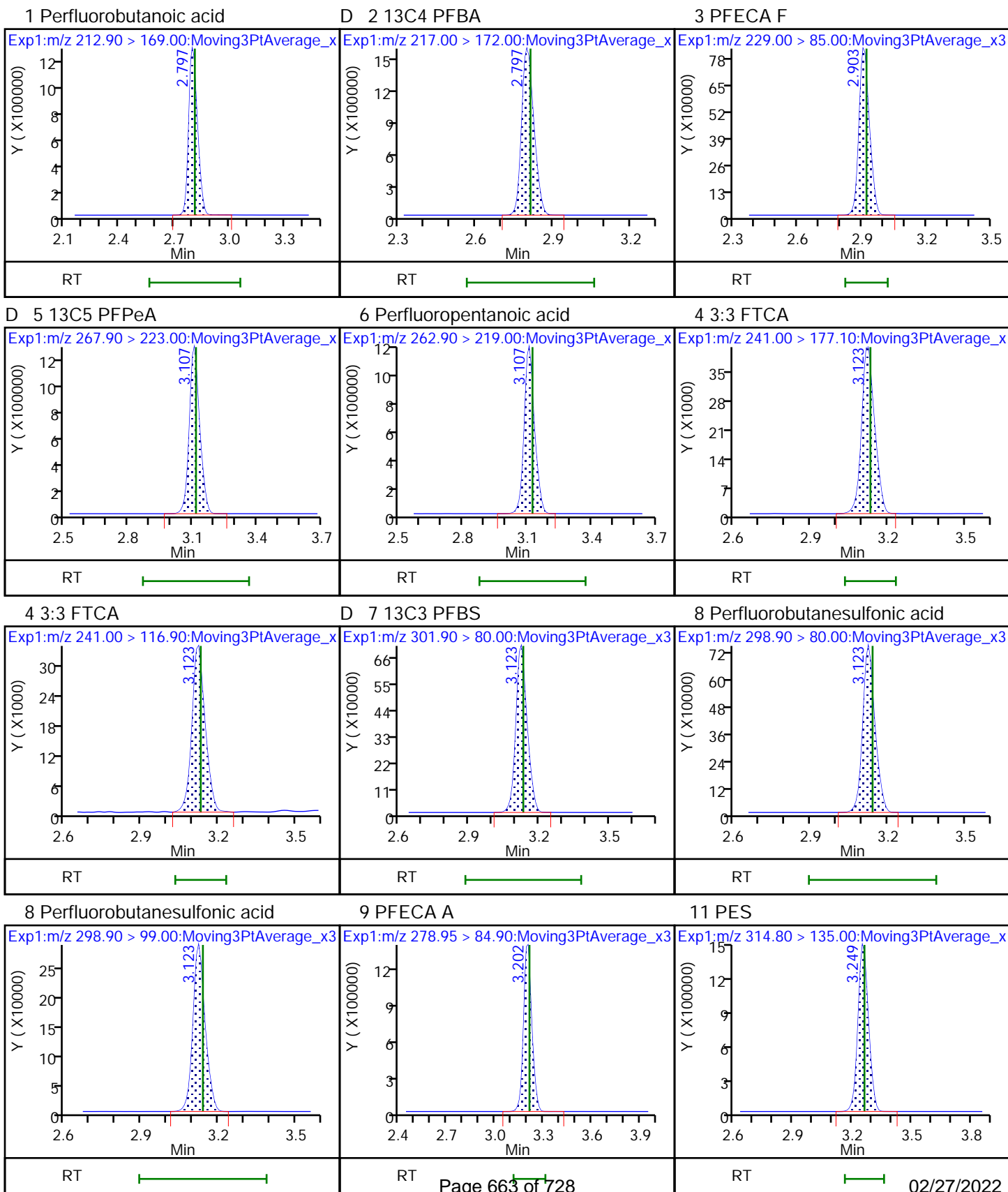
Worklist Smp#: 21

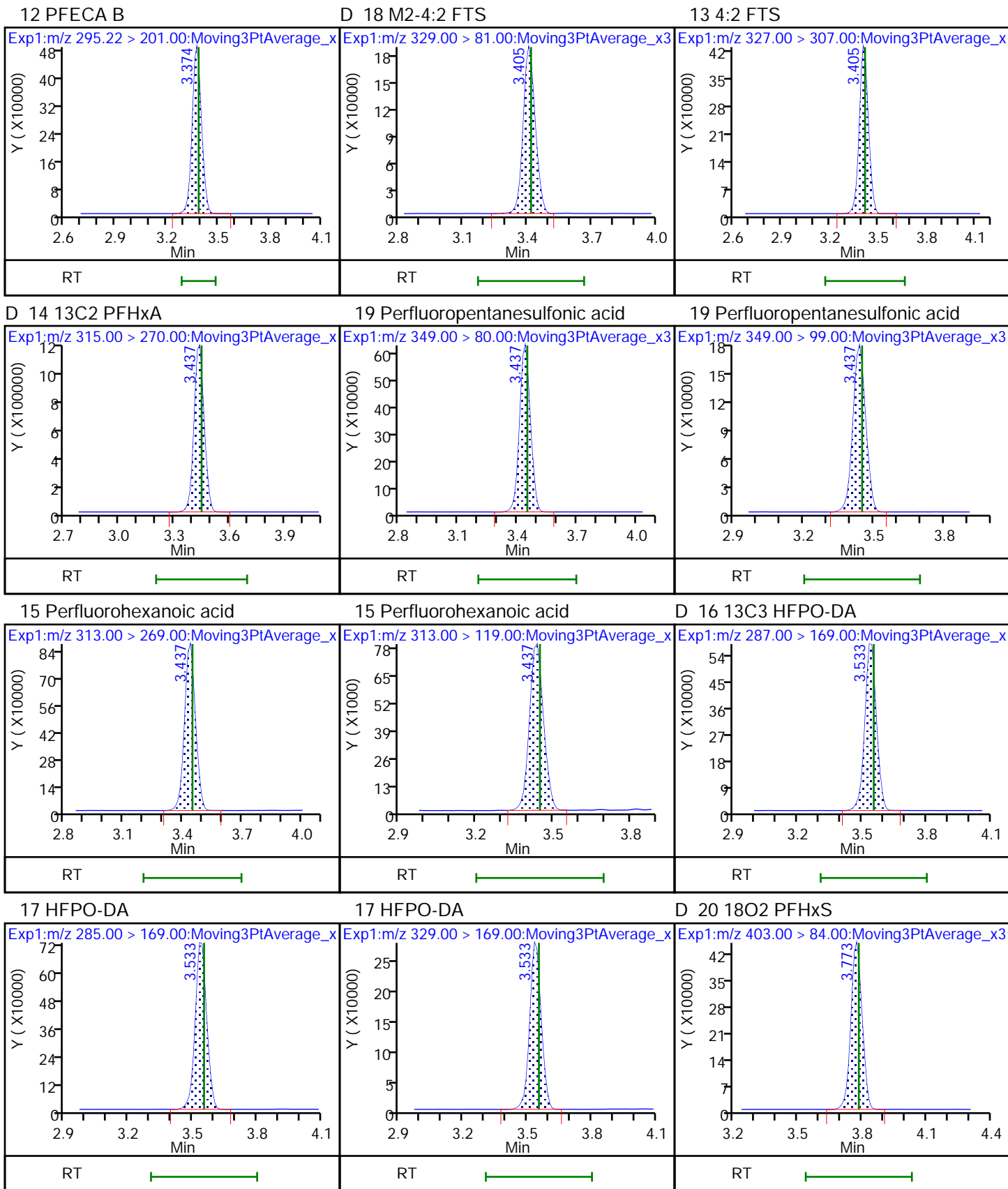
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

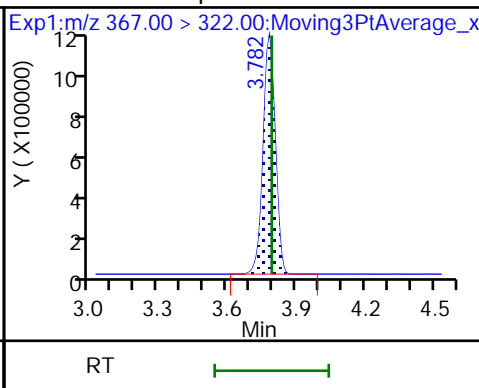
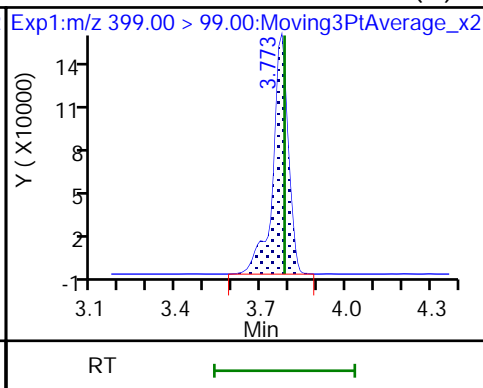
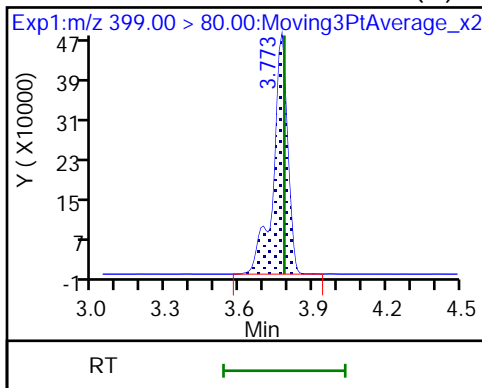




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

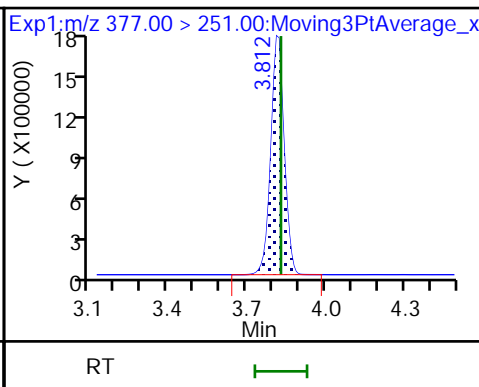
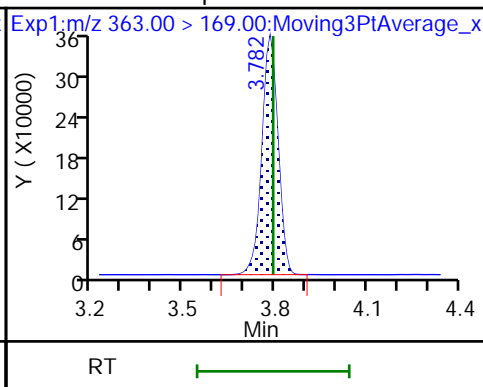
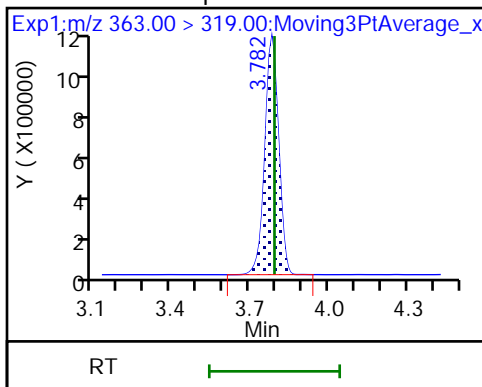
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

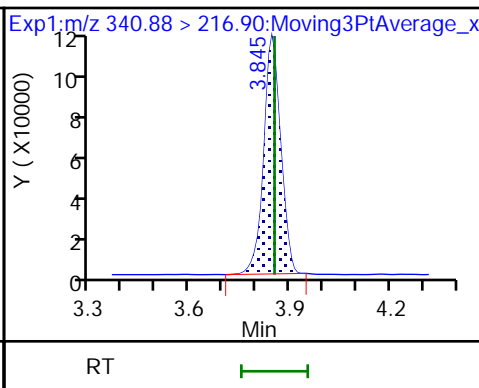
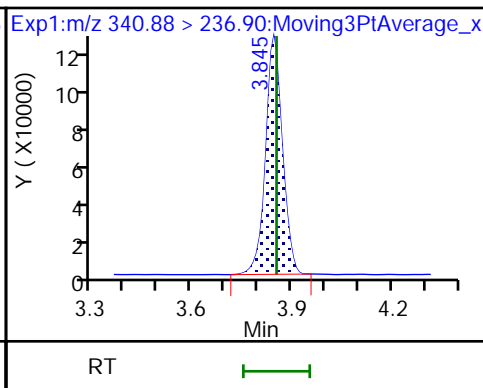
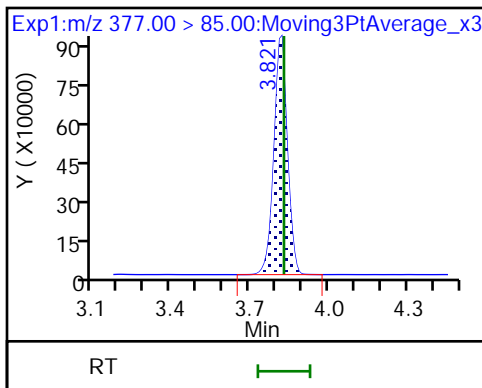
25 DONA



25 DONA

26 5:3 FTCA

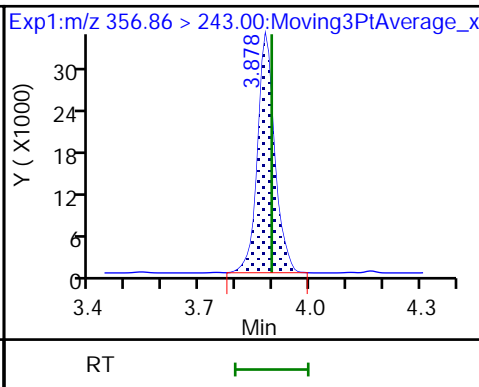
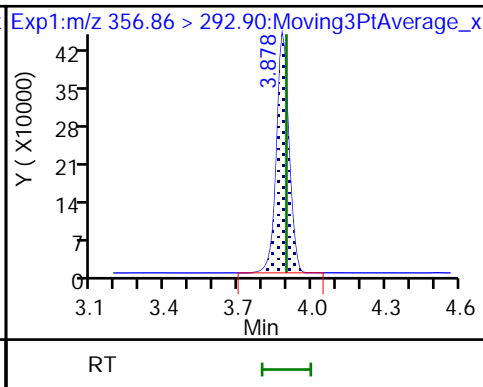
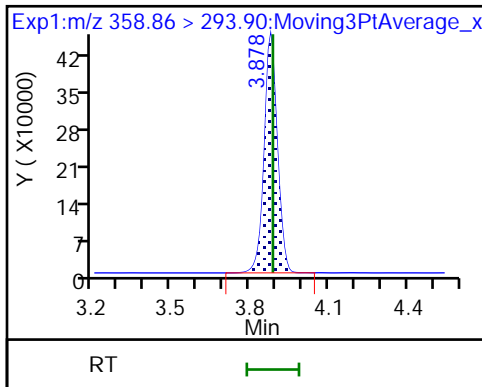
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

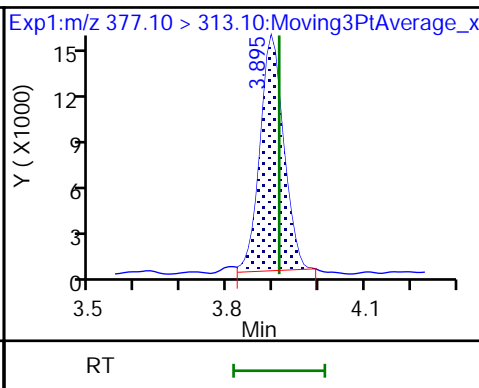
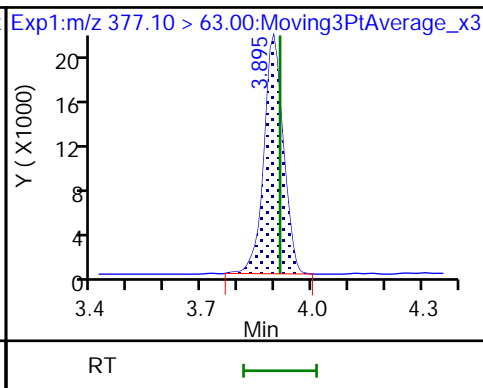
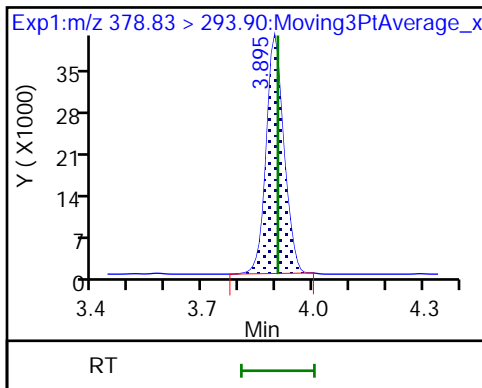
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

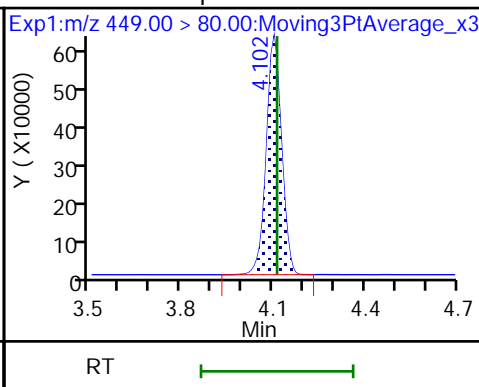
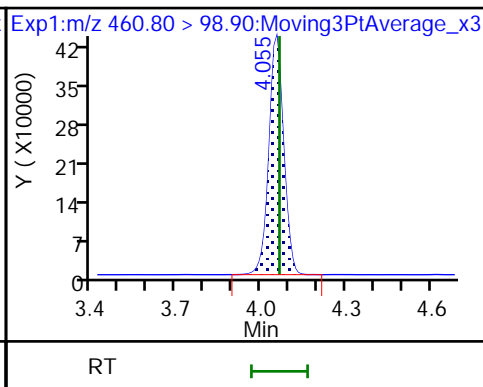
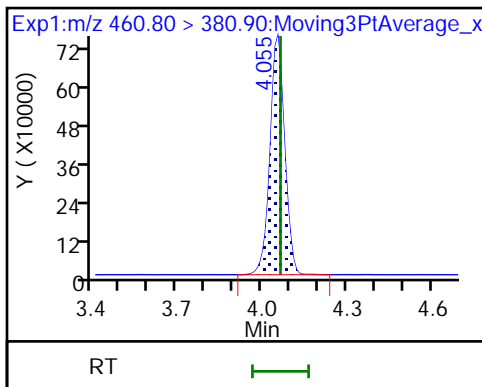
29 6:2 FTCA



32 PFECHS

32 PFECHS

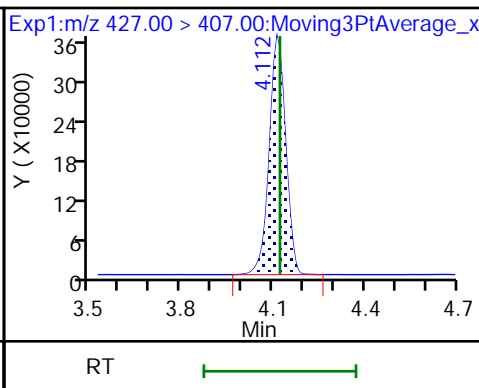
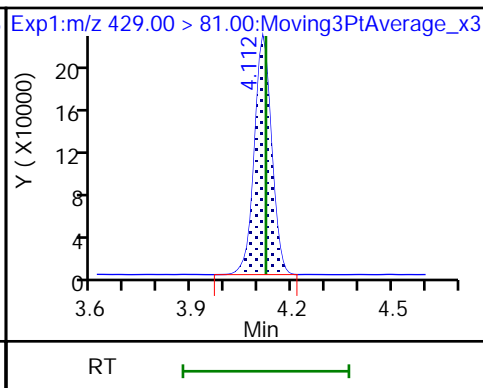
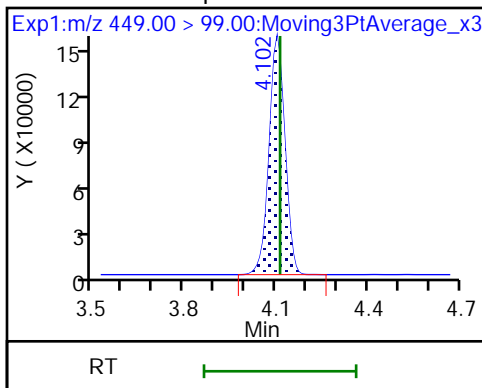
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

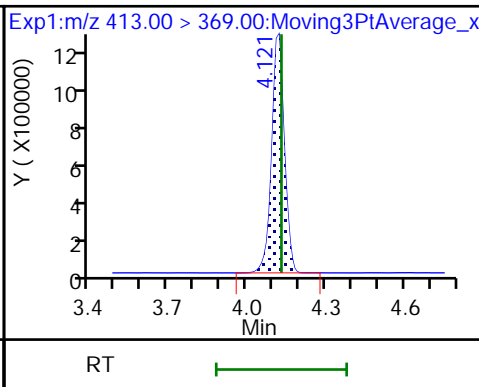
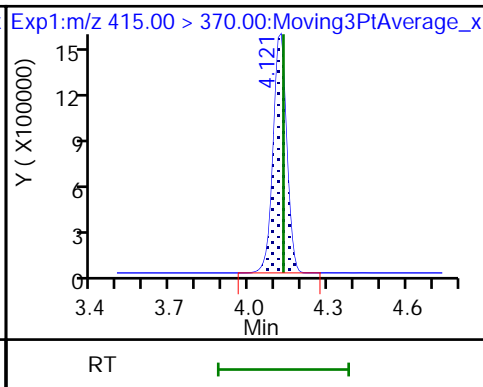
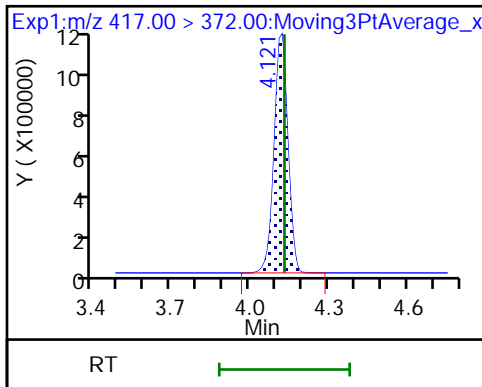
35 6:2 FTS

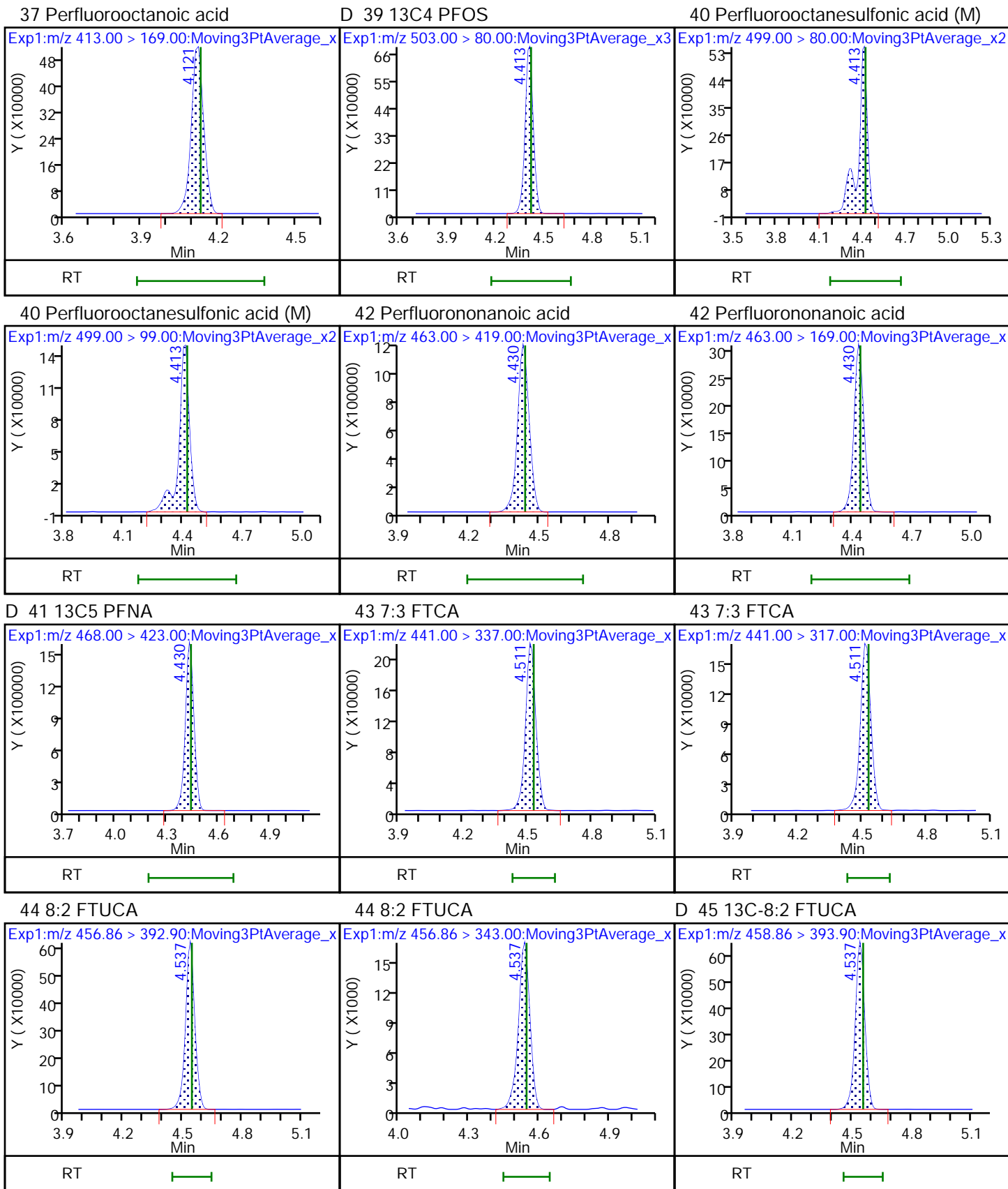


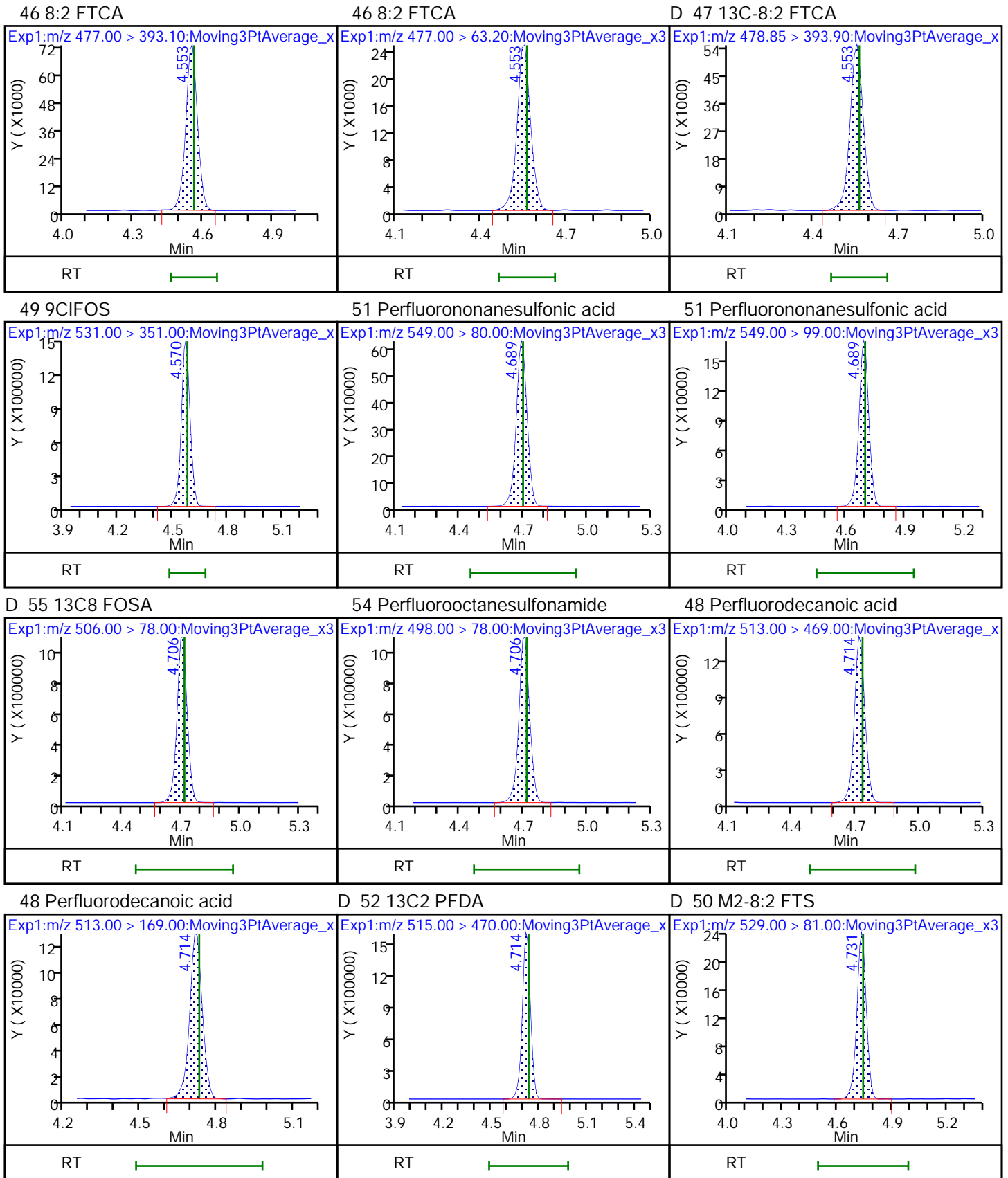
D 31 13C4 PFOA

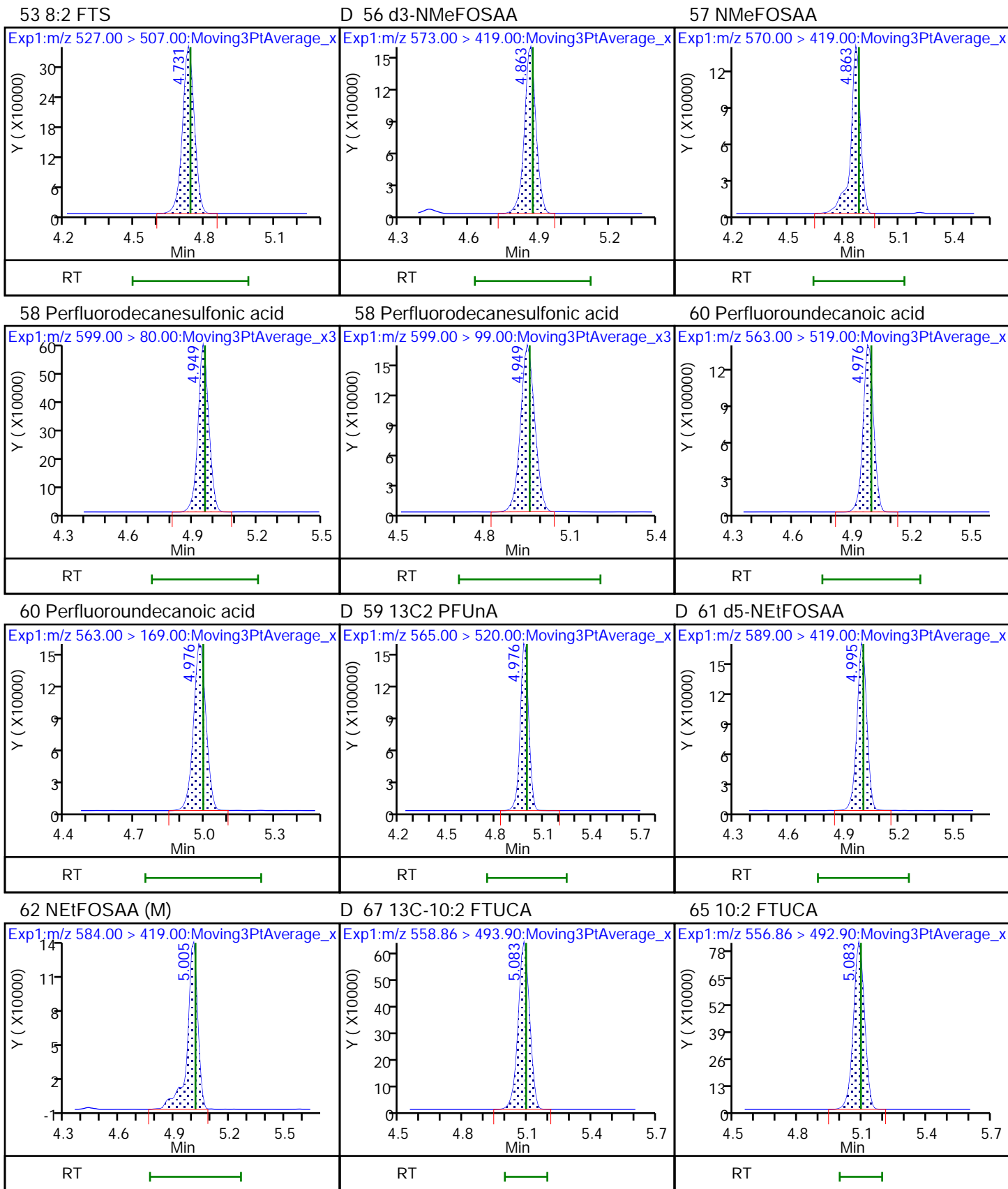
\* 30 13C2 PFOA

37 Perfluorooctanoic acid

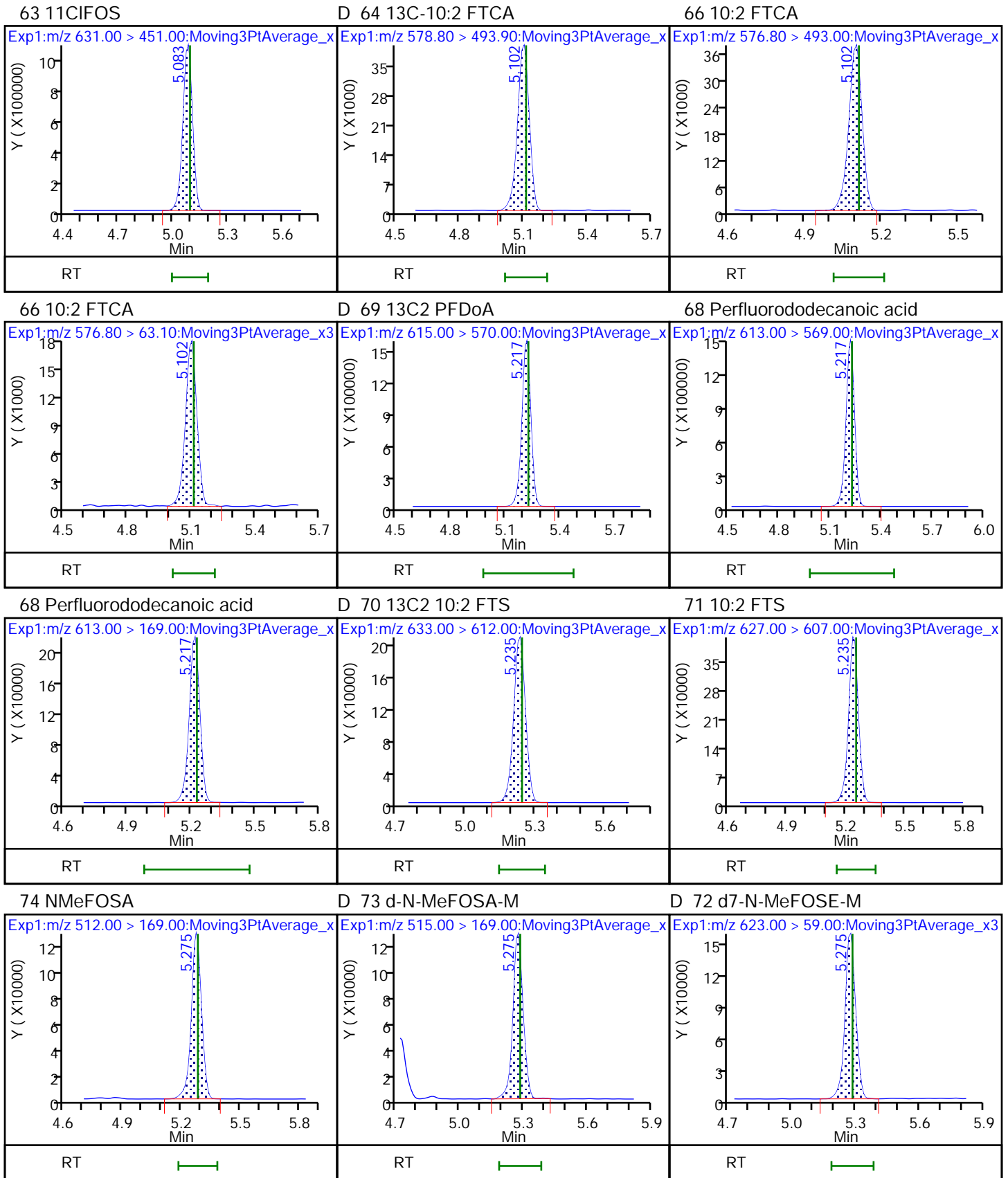


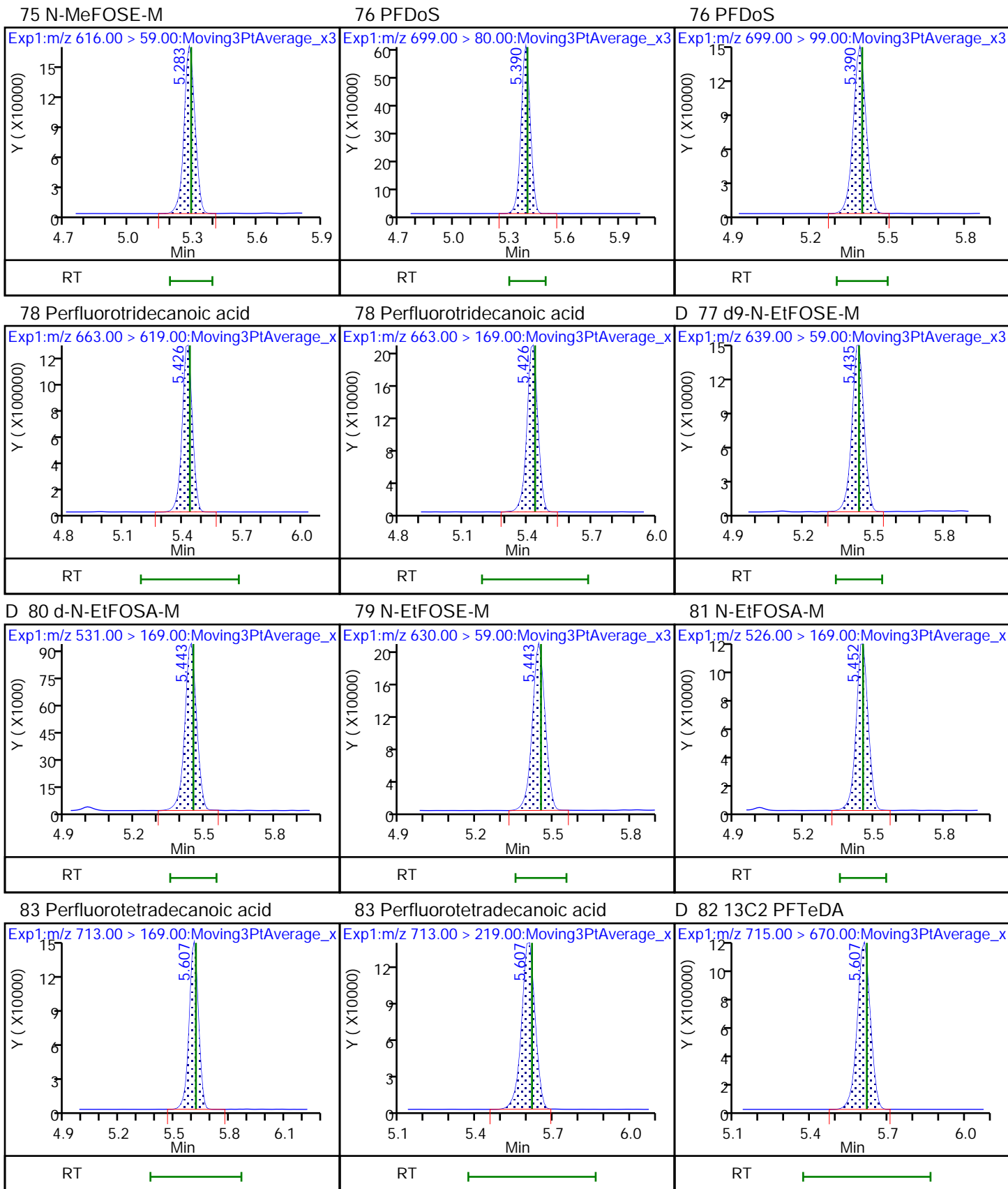








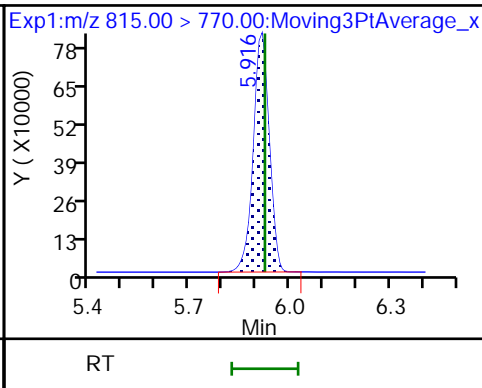
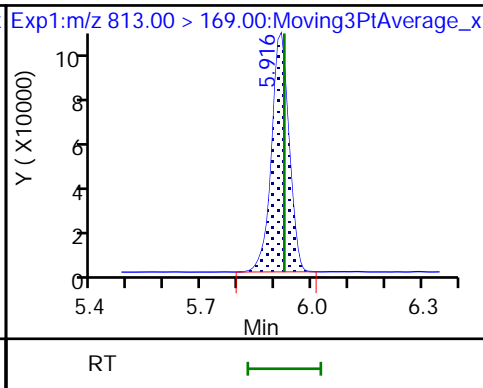
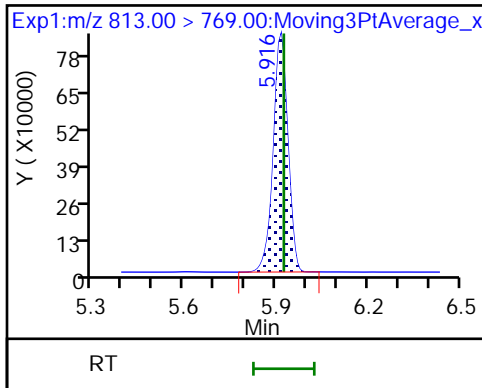




85 Perfluorohexadecanoic acid

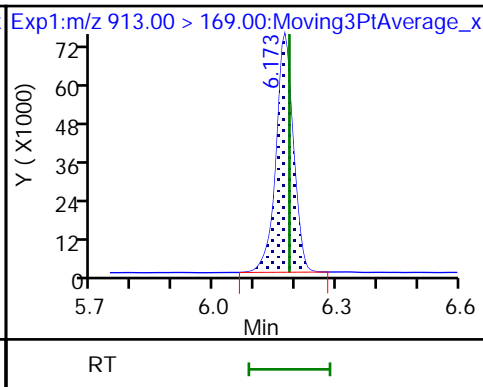
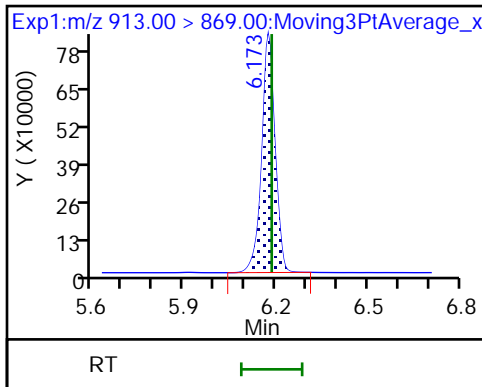
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 140-58905/3-B  
 Matrix: Air Lab File ID: 022.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 20:58  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.02594		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	83		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_022.d  
 Lims ID: LCSD 140-58905/3-B  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 19-Feb-2022 20:58:14 ALS Bottle#: 22 Worklist Smp#: 22  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-022 lcsd 140-58905/3-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:07:52  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.804	2.804	0.0	1.000	4034225	1.14	114	734	
D 2 13C4 PFBA	217.00 > 172.00	2.804	2.804	0.0	0.680	5578508	1.21	96.8	16463	
3 PFECA F	229.00 > 85.00	2.911	2.911	0.0	0.935	2943166	1.14	114	12699	
6 Perfluoropentanoic acid	262.90 > 219.00	3.115	3.115	0.001	1.000	3827734	1.19	119	656	
D 5 13C5 PFPeA	267.90 > 223.00	3.115	3.115	0.001	0.756	4277638	1.18	94.6	12995	
4 3:3 FTCA	241.00 > 177.10	3.132	3.122	0.010	1.000	144862	1.21	Target=1.16	121	837
	241.00 > 116.90	3.123	3.122	0.001	0.997	117963		1.23(0.58-1.74)		172
D 7 13C3 PFBS	301.90 > 80.00	3.132	3.122	0.010	0.760	2552821	1.12	96.0	4691	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.132	3.131	0.001	1.000	2471713	1.03	Target=2.65	116	2183
	298.90 > 99.00	3.132	3.131	0.001	1.000	925499		2.67(1.32-3.97)		1365
9 PFECA A	278.95 > 84.90	3.203	3.202	0.001	1.028	4650917	1.16	116	16846	
11 PES	314.80 > 135.00	3.261	3.260	0.001	1.041	5364135	1.03	116	10941	
12 PFECA B	295.22 > 201.00	3.385	3.373	0.012	0.985	1847889	1.20	120	5518	
13 4:2 FTS	327.00 > 307.00	3.417	3.415	0.002	1.000	2179465	1.17	125	9450	
D 18 M2-4:2 FTS	329.00 > 81.00	3.417	3.415	0.002	0.829	959002	1.34	115	1285	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.438	3.437	0.001	1.098	2481973	1.09	Target=3.40	117	3282	
349.00 > 99.00	3.438	3.437	0.001	1.098	724748		3.42(1.70-5.09)		3878	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.438	3.437	0.001	1.000	3497541	1.18	Target=12.03	118	967	
313.00 > 119.00	3.438	3.437	0.001	1.000	295804		11.82(6.01-18.04)		240	
D 14 13C2 PFHxA										
315.00 > 270.00	3.438	3.437	0.001	0.834	4646469	1.16		93.1	18118	
17 HFPO-DA										
285.00 > 169.00	3.544	3.542	0.002	1.000	2639984	1.30	Target=2.55	130	694	
329.00 > 169.00	3.544	3.542	0.002	1.000	1000007		2.64(1.28-3.83)		591	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.542	0.002	0.860	2017244	1.03		82.7	5339	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.773	3.772	0.001	1.000	2193097	1.08	Target=3.45	118	3711	M
399.00 > 99.00	3.773	3.772	0.001	1.000	624951		3.51(1.72-5.17)		2554	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.773	3.772	0.001	0.915	1739610	1.17		99.1	5663	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.783	3.792	-0.009	1.000	4039250	1.24	Target=3.22	124	1926	
363.00 > 169.00	3.783	3.792	-0.009	1.000	1242963		3.25(1.61-4.83)		3526	
D 22 13C4 PFHpA										
367.00 > 322.00	3.783	3.792	-0.009	0.918	4071374	1.14		91.5	8213	
25 DONA										
377.00 > 251.00	3.821	3.820	0.001	0.866	5787701	0.9781	Target=1.72	104	12176	
377.00 > 85.00	3.821	3.820	0.001	0.866	3272820		1.77(0.86-2.58)		4751	
26 5:3 FTCA										
340.88 > 236.90	3.854	3.853	0.001	0.987	418278	1.68	Target=1.08	168	965	
340.88 > 216.90	3.846	3.853	-0.007	0.985	366117		1.14(0.54-1.62)		1123	
27 6:2 FTUCA										
356.86 > 292.90	3.887	3.886	0.001	1.002	1976857	1.18	Target=14.05	118	4429	
356.86 > 243.00	3.879	3.886	-0.007	1.000	131068		15.08(7.03-21.08)		361	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.886	-0.007	0.941	2006283	1.51		121	5372	
29 6:2 FTCA										
377.10 > 63.00	3.904	3.903	0.001	1.000	54304	1.18	Target=1.38	118	233	
377.10 > 313.10	3.904	3.903	0.001	1.000	48965		1.11(0.69-2.08)		85.1	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.903	0.001	0.947	82897	0.8099		64.8	303	
32 PFECHS										
460.80 > 380.90	4.056	4.054	0.002	0.984	2856240	1.12	Target=1.68	121	9912	
460.80 > 98.90	4.056	4.054	0.002	0.984	1700991		1.68(0.84-2.53)		5024	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.103	4.111	-0.008	0.930	2357164	1.07	Target=3.76	112	5540	
449.00 > 99.00	4.103	4.111	-0.008	0.930	570803		4.13(1.88-5.64)		3236	
35 6:2 FTS										
427.00 > 407.00	4.112	4.121	-0.009	1.000	1879136	1.21		127	5811	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
37 Perfluorooctanoic acid										
413.00 > 369.00	4.122	4.121	0.001	1.000	4560421	1.24	Target=2.40	124	3487	
413.00 > 169.00	4.122	4.121	0.001	1.000	1909369		2.39(1.20-3.60)		5068	
* 30 13C2 PFOA										
415.00 > 370.00	4.122	4.121	0.001		4916917	1.25			8442	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.112	4.121	-0.009	0.998	1011982	1.43		120	2096	
D 31 13C4 PFOA										
417.00 > 372.00	4.122	4.121	0.001	1.000	4294512	1.17		93.4	10088	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.414	4.412	0.002	1.000	2606875	1.02	Target=4.41	110	3426	M
499.00 > 99.00	4.414	4.412	0.002	1.000	593692		4.39(2.20-6.61)		1322	M
D 39 13C4 PFOS										
503.00 > 80.00	4.414	4.412	0.002	1.071	2674759	1.21		101	3069	
42 Perfluorononanoic acid										
463.00 > 419.00	4.431	4.438	-0.007	1.000	4359291	1.24	Target=4.14	124	3373	
463.00 > 169.00	4.431	4.438	-0.007	1.000	1058904		4.12(2.07-6.21)		3006	
D 41 13C5 PFNA										
468.00 > 423.00	4.431	4.438	-0.007	1.075	5788897	1.16		92.8	10708	
43 7:3 FTCA										
441.00 > 337.00	4.521	4.519	0.002	0.993	855026	1.84	Target=1.38	184	2314	
441.00 > 317.00	4.521	4.519	0.002	0.993	594165		1.44(0.69-2.08)		1941	
44 8:2 FTUCA										
456.86 > 392.90	4.538	4.545	-0.007	1.000	2803886	1.12	Target=35.71	112	6514	
456.86 > 343.00	4.538	4.545	-0.007	1.000	79338		35.34(17.85-53.56)		233	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.538	4.545	-0.007	1.000	3282746	1.85		148	8685	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.554	4.553	0.001	1.105	110962	0.8536		68.3	453	
46 8:2 FTCA										
477.00 > 393.10	4.554	4.561	-0.007	1.000	207421	1.29	Target=3.43	129	1198	
477.00 > 63.20	4.562	4.561	0.001	1.002	58985		3.52(1.72-5.15)		193	
49 9CIFOS										
531.00 > 351.00	4.570	4.578	-0.008	1.109	5301507	1.05		113	6989	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.064	2440772	1.08	Target=3.86	112	4519	
549.00 > 99.00	4.697	4.697	0.0	1.064	609553		4.00(1.93-5.79)		2816	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.705	0.001	1.000	3743554	1.19		119	6486	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.705	0.001	1.142	4127234	1.24		99.0	4141	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.722	0.001	1.000	5108020	1.16	Target=11.25	116	4323	
513.00 > 169.00	4.723	4.722	0.001	1.000	445111		11.48(5.62-16.87)		322	
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.722	0.001	1.146	6102074	1.28		103	14900	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.731	0.0	1.148	1151676	1.49		125	1581	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.731	4.739	-0.008	1.000	1528514	1.06		110	4318	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.864	4.872	-0.008	1.180	654290	1.47		117	576	
57 NMeFOSAA										M
570.00 > 419.00	4.872	4.872	0.0	1.002	571886	1.18		118	689	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.949	4.957	-0.008	1.121	2103061	1.06	Target=3.69	109	5826	
599.00 > 99.00	4.949	4.957	-0.008	1.121	556635		3.78(1.84-5.53)		2361	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.985	0.001	1.000	5010520	1.15	Target=8.60	115	5332	
563.00 > 169.00	4.986	4.985	0.001	1.000	572285		8.76(4.30-12.90)		2210	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.985	0.001	1.210	5619872	1.22		97.9	10441	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.214	646426	1.41		113	2709	
62 NEtFOSAA										M
584.00 > 419.00	5.005	5.005	0.0	1.000	606987	1.33		133	1500	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.083	5.092	-0.009	1.233	3188344	1.60		128	7290	
63 11CIFOS										
631.00 > 451.00	5.083	5.092	-0.009	1.152	4115149	1.06		112	7292	
65 10:2 FTUCA										
556.86 > 492.90	5.093	5.092	0.001	1.002	3504933	1.14		114	6376	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.102	0.0	1.000	90995	1.23	Target=2.41	123	531	
576.80 > 63.10	5.102	5.102	0.0	1.000	35551		2.56(1.20-3.61)		102	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.111	-0.009	1.238	100113	0.8230		65.8	545	
D 69 13C2 PFDaA										
615.00 > 570.00	5.218	5.226	-0.008	1.266	5379770	1.19		94.9	7968	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.218	5.226	-0.008	1.000	5144718	1.16	Target=6.73	116	4506	
613.00 > 169.00	5.218	5.226	-0.008	1.000	737171		6.98(3.36-10.09)		1616	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.243	-0.008	1.270	930236	1.43		121	4302	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.002	2039869	1.24		129	9576	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.275	0.0	1.280	688916	1.48		118	546	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.283	-0.008	1.280	532176	1.34		107	56.9	
74 NMeFOSA										
512.00 > 169.00	5.284	5.283	0.001	1.002	520912	1.13		113	725	
75 N-MeFOSE-M										
616.00 > 59.00	5.284	5.292	-0.008	1.002	806155	1.25		125	416	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.390	5.399	-0.009	1.221	1716044	0.8110	Target=4.35	83.8	3310	
699.00 > 99.00	5.390	5.399	-0.009	1.221	409840		4.19(2.18-6.53)		1958	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	552420	1.14		91.3	277	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.040	4349836	1.14	Target=6.02	114	4588	
663.00 > 169.00	5.426	5.435	-0.009	1.040	704800		6.17(3.01-9.03)		4225	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.444	5.452	-0.008	1.321	352259	1.11		88.5	641	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	680882	1.09		109	630	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.002	408056	1.16		116	442	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.608	5.617	-0.009	1.360	3897719	1.08		86.0	9735	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.608	5.617	-0.009	1.000	470124	1.17	Target=1.07	117	1536	
713.00 > 219.00	5.608	5.617	-0.009	1.000	447626		1.05(0.54-1.61)		2724	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.435	1012259	0.4291		34.3	2911	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.916	5.924	-0.008	1.000	1014598	1.10	Target=8.23	110	1648	
813.00 > 169.00	5.916	5.924	-0.008	1.000	128241		7.91(4.11-12.34)		384	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.184	-0.005	1.044	77471	0.0944	Target=11.72	9.4	248	M
913.00 > 169.00	6.179	6.184	-0.005	1.044	6238		12.42(5.86-17.58)		23.6	M

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfms\Knoxville\ChromData\LCA\20220219-22723.b\_022.d

Injection Date: 19-Feb-2022 20:58:14

Instrument ID: LCA

Lims ID: LCSD 140-58905/3-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 22

Worklist Smp#: 22

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

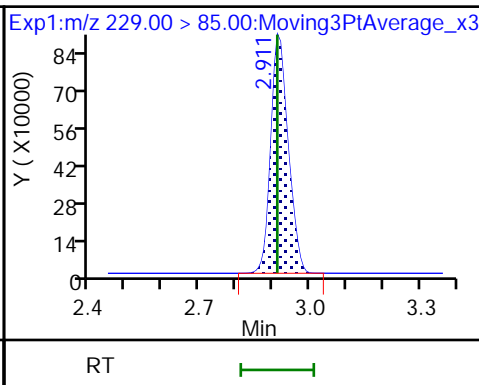
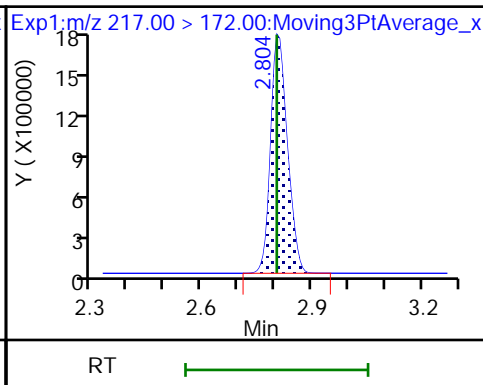
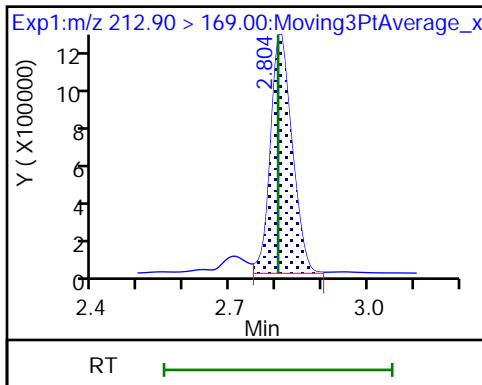
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

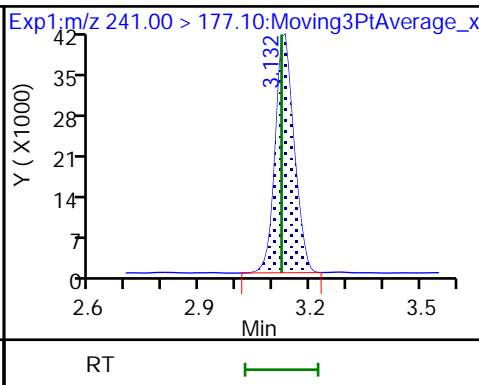
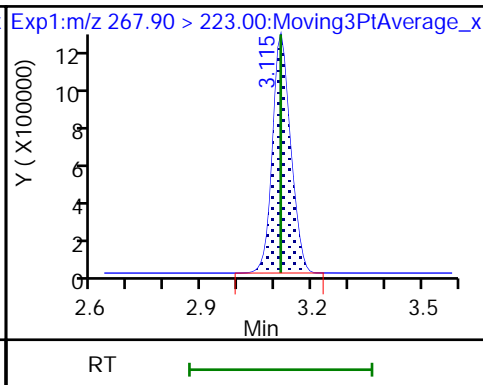
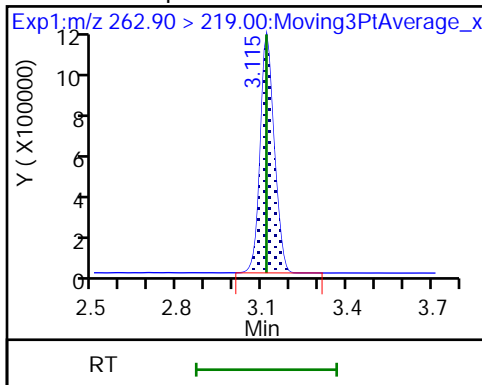
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

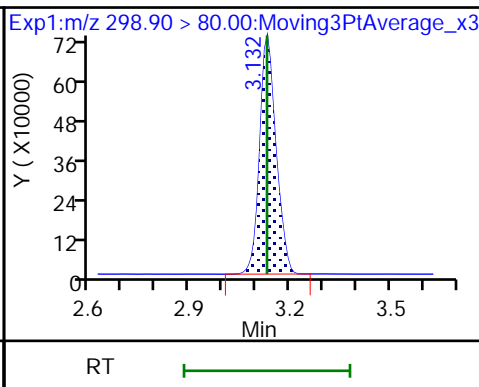
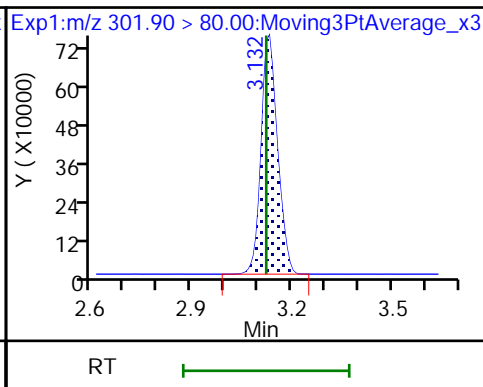
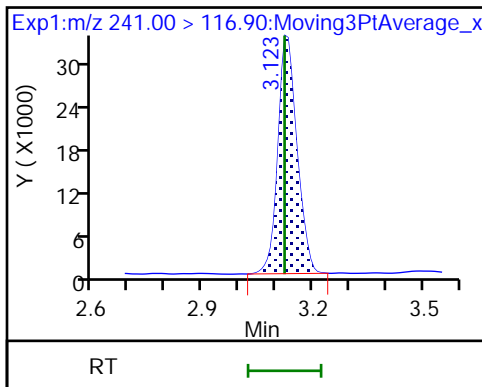
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

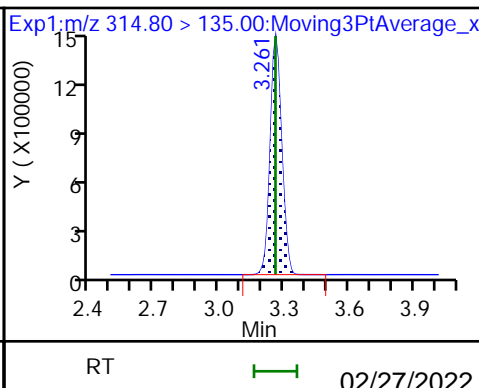
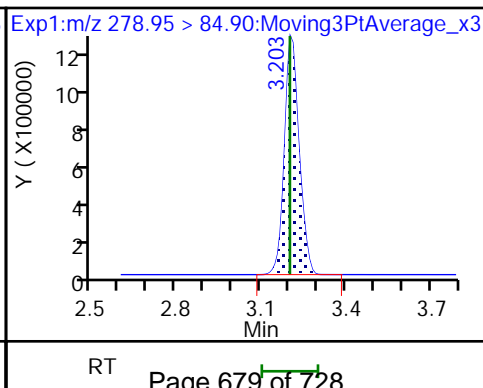
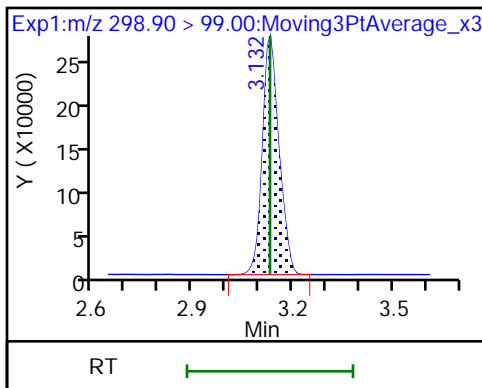
8 Perfluorobutanesulfonic acid

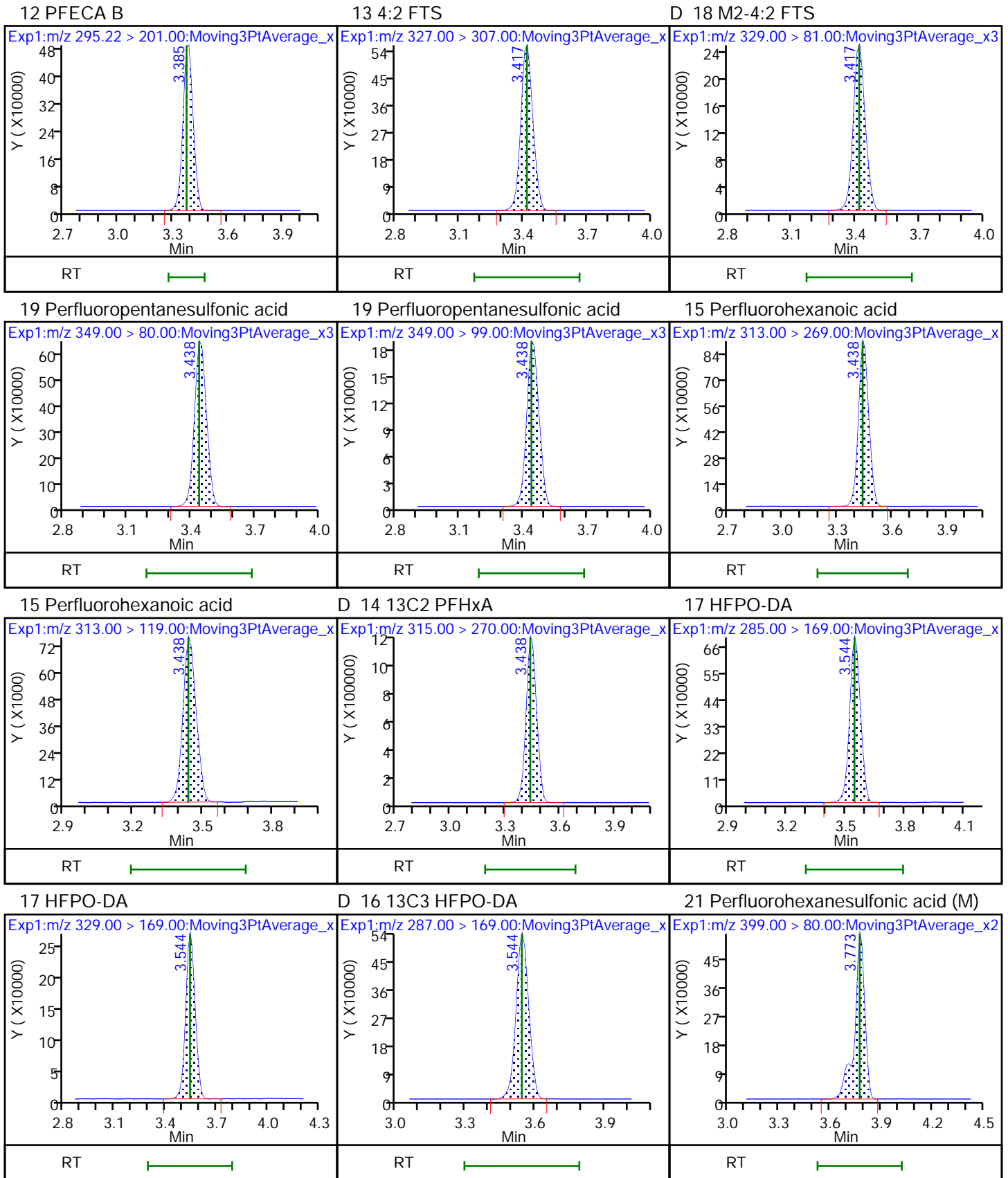


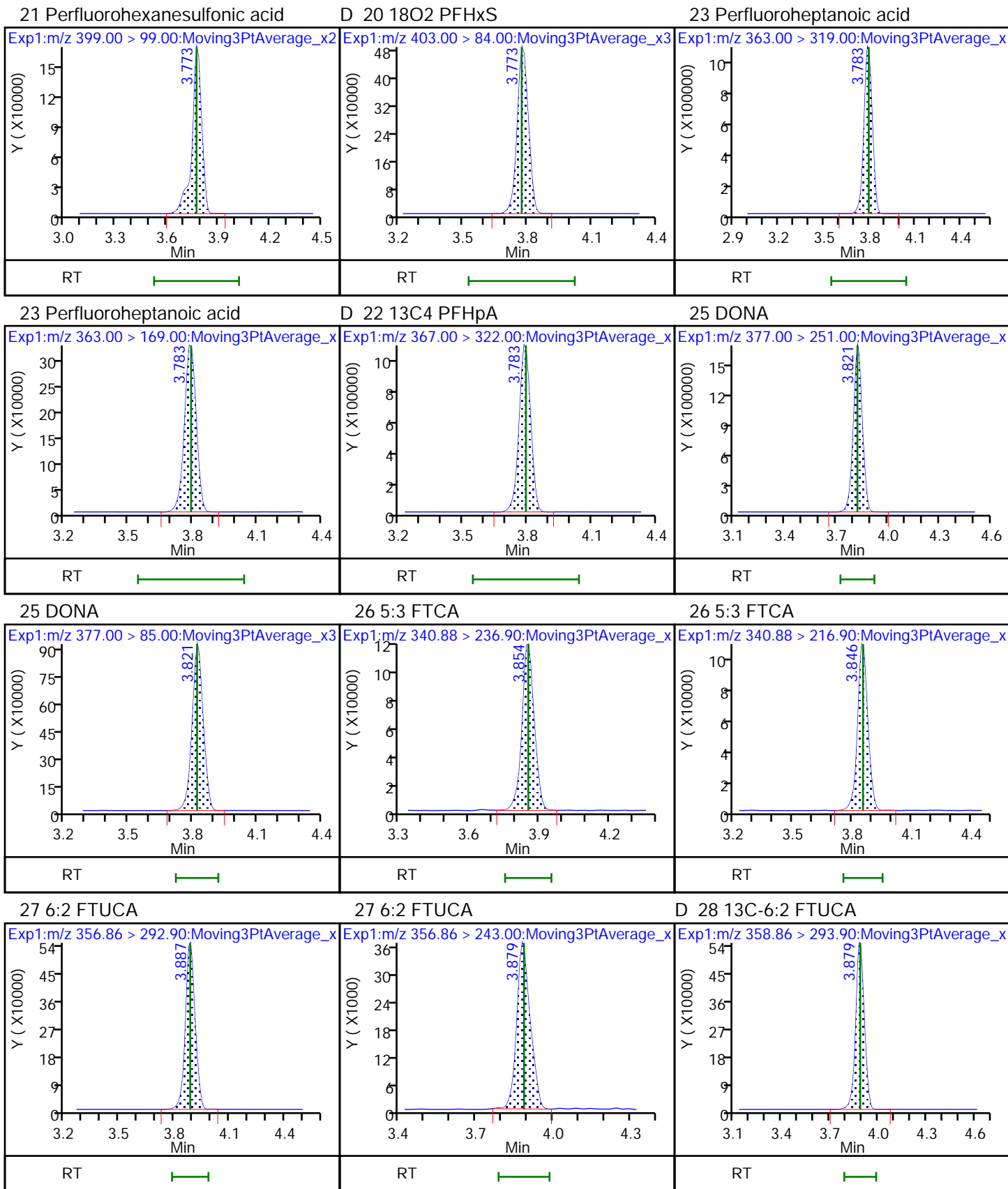
8 Perfluorobutanesulfonic acid

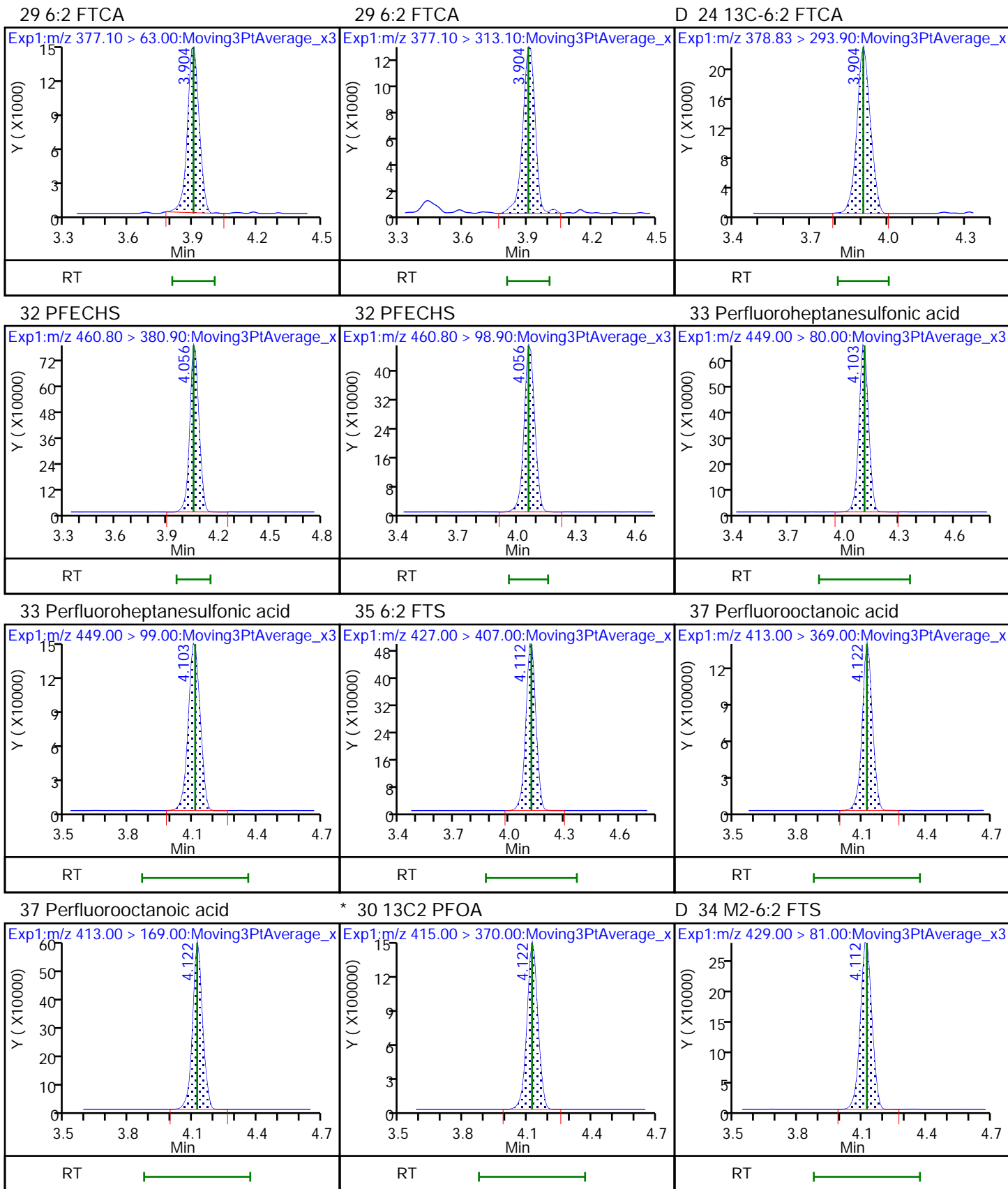
9 PFECA A

11 PES





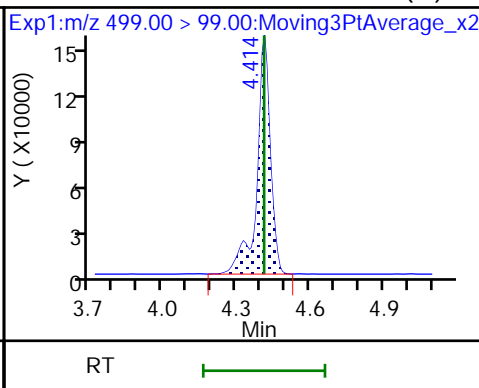
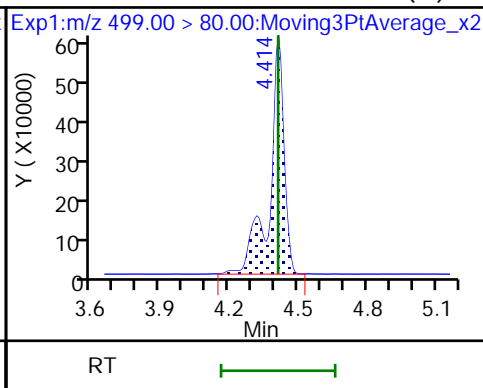
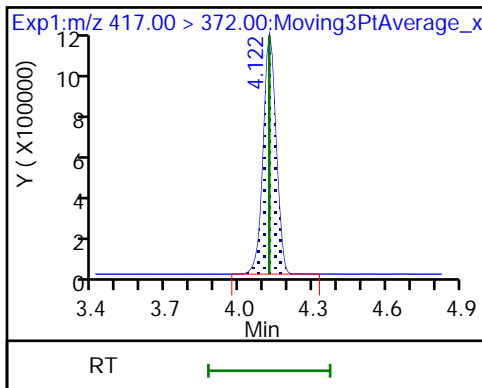




D 31 13C4 PFOA

40 Perfluorooctanesulfonic acid (M)

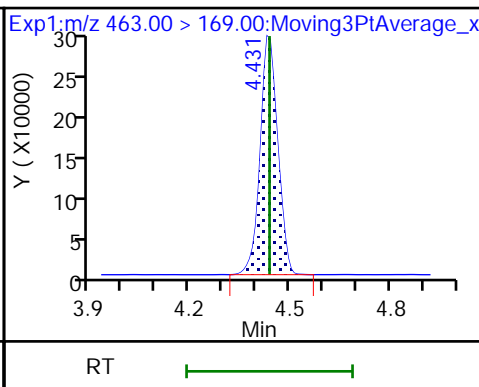
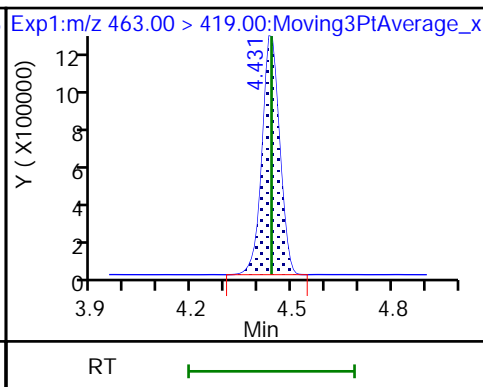
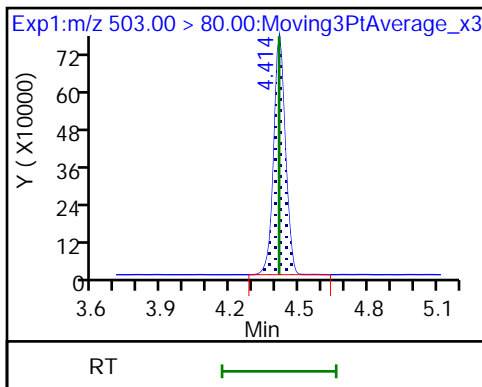
40 Perfluorooctanesulfonic acid (M)



D 39 13C4 PFOS

42 Perfluorononanoic acid

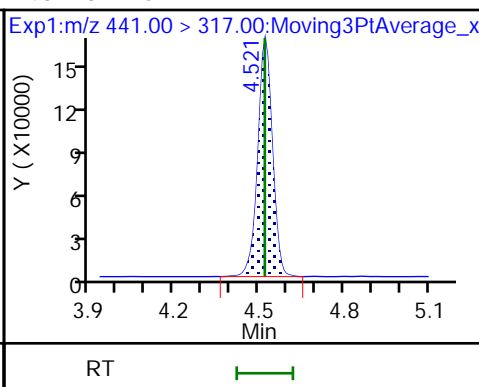
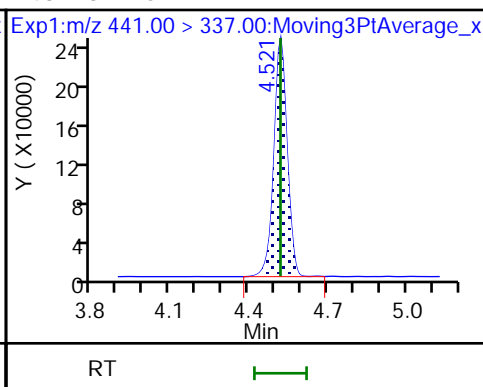
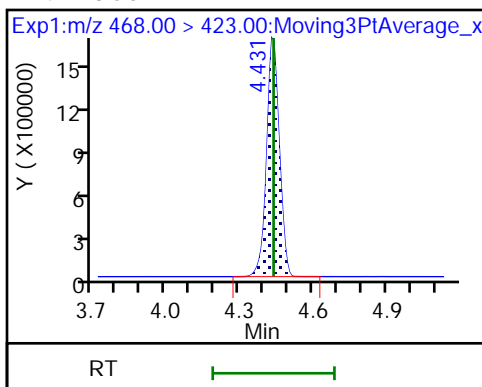
42 Perfluorononanoic acid



D 41 13C5 PFNA

43 7:3 FTCA

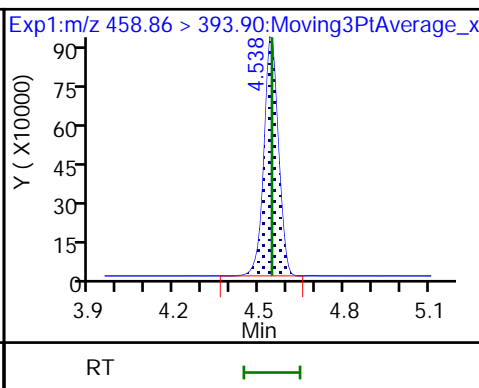
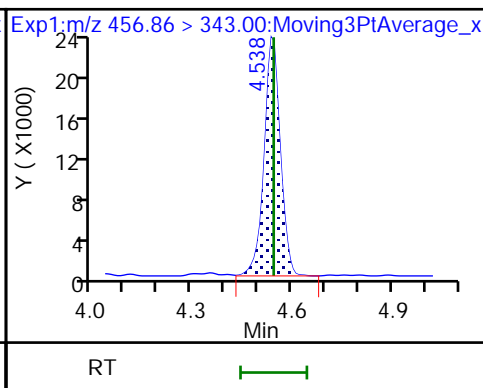
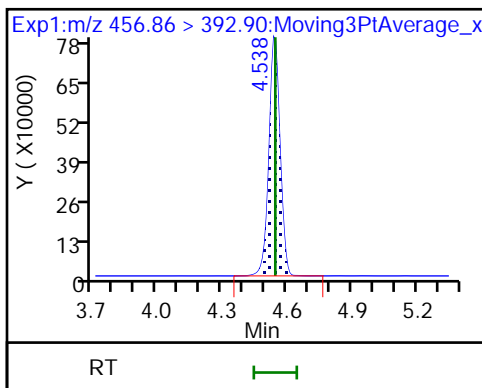
43 7:3 FTCA



44 8:2 FTUCA

44 8:2 FTUCA

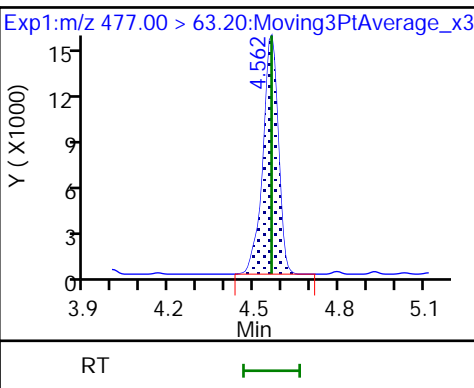
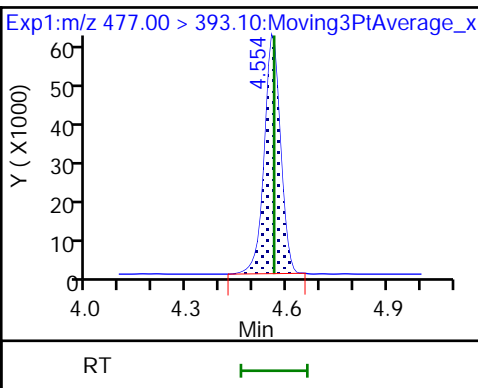
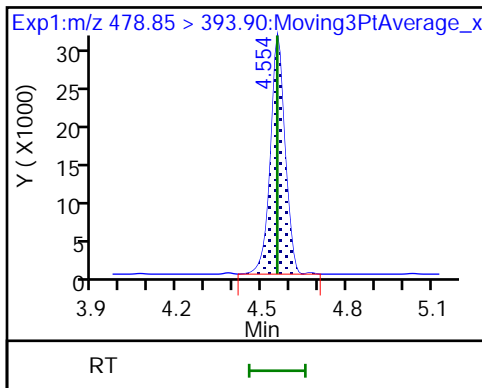
D 45 13C-8:2 FTUCA



D 47 13C-8:2 FTCA

46 8:2 FTCA

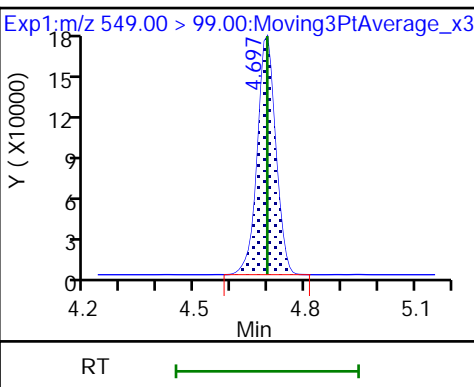
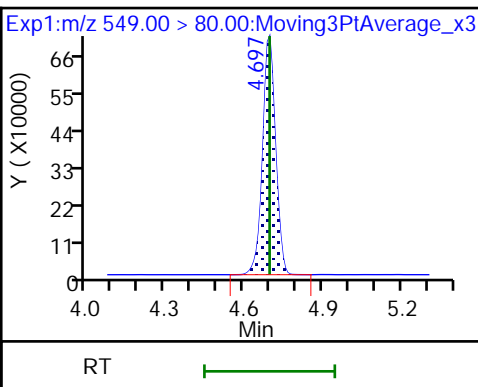
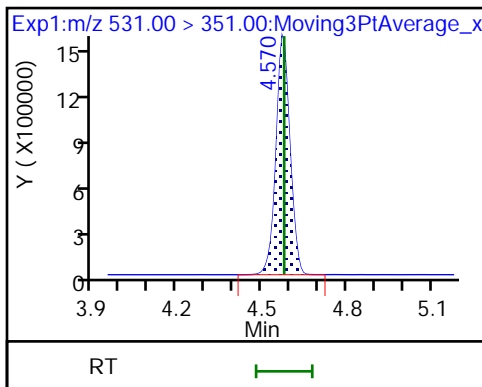
46 8:2 FTCA



49 9CIFOS

51 Perfluoronanesulfonic acid

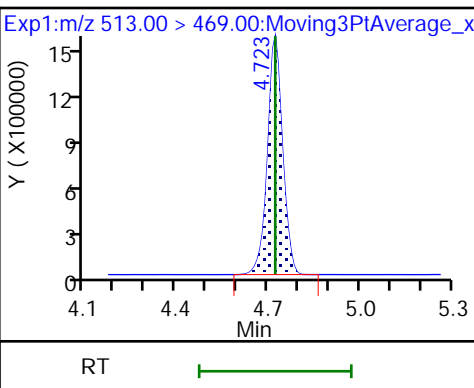
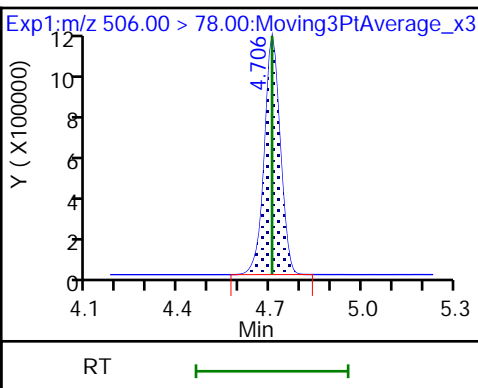
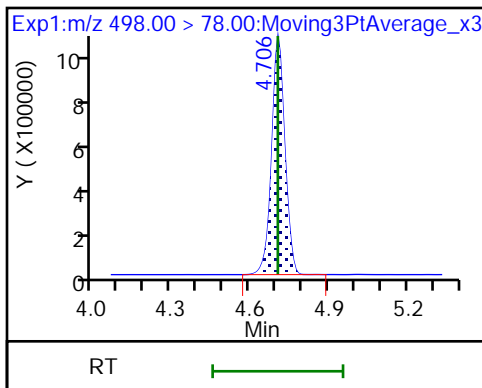
51 Perfluoronanesulfonic acid



54 Perfluorooctanesulfonamide

D 55 13C8 FOSA

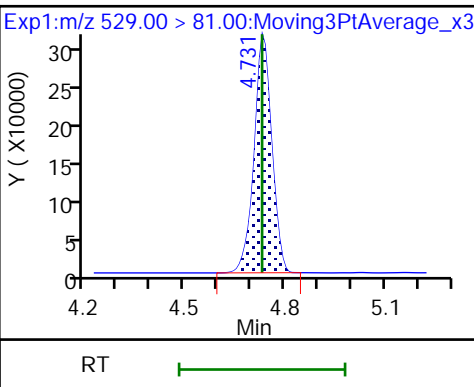
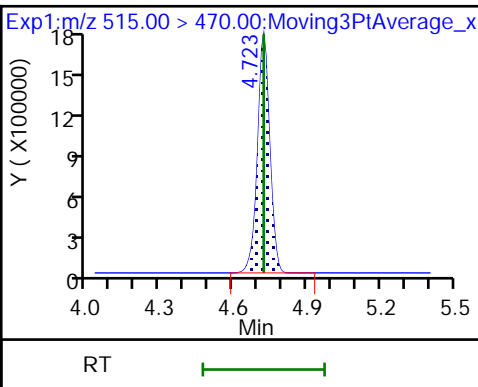
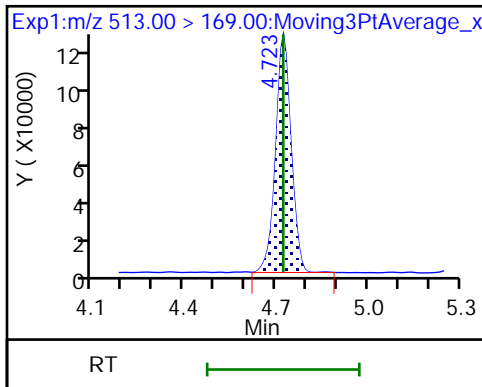
48 Perfluorodecanoic acid

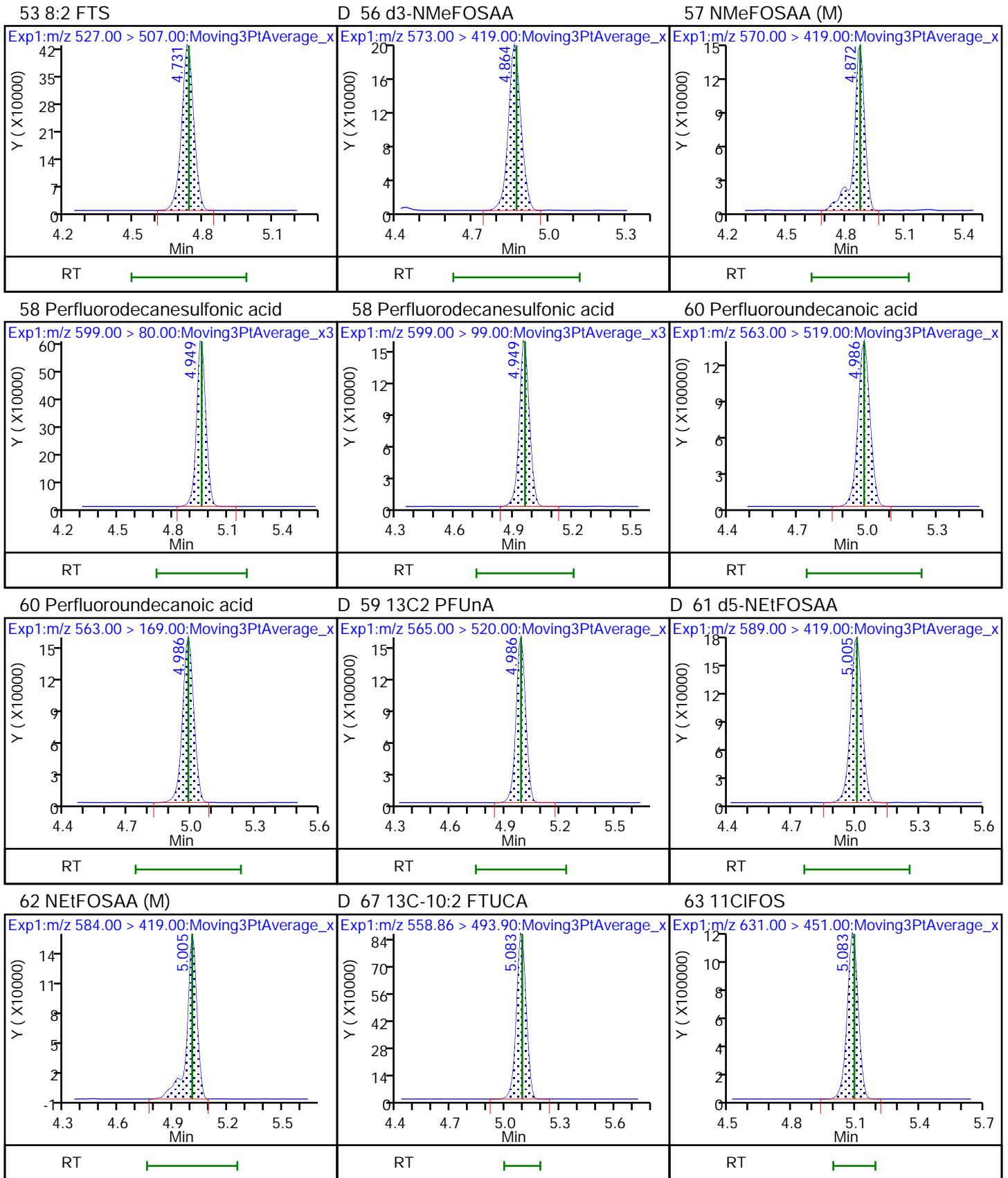


48 Perfluorodecanoic acid

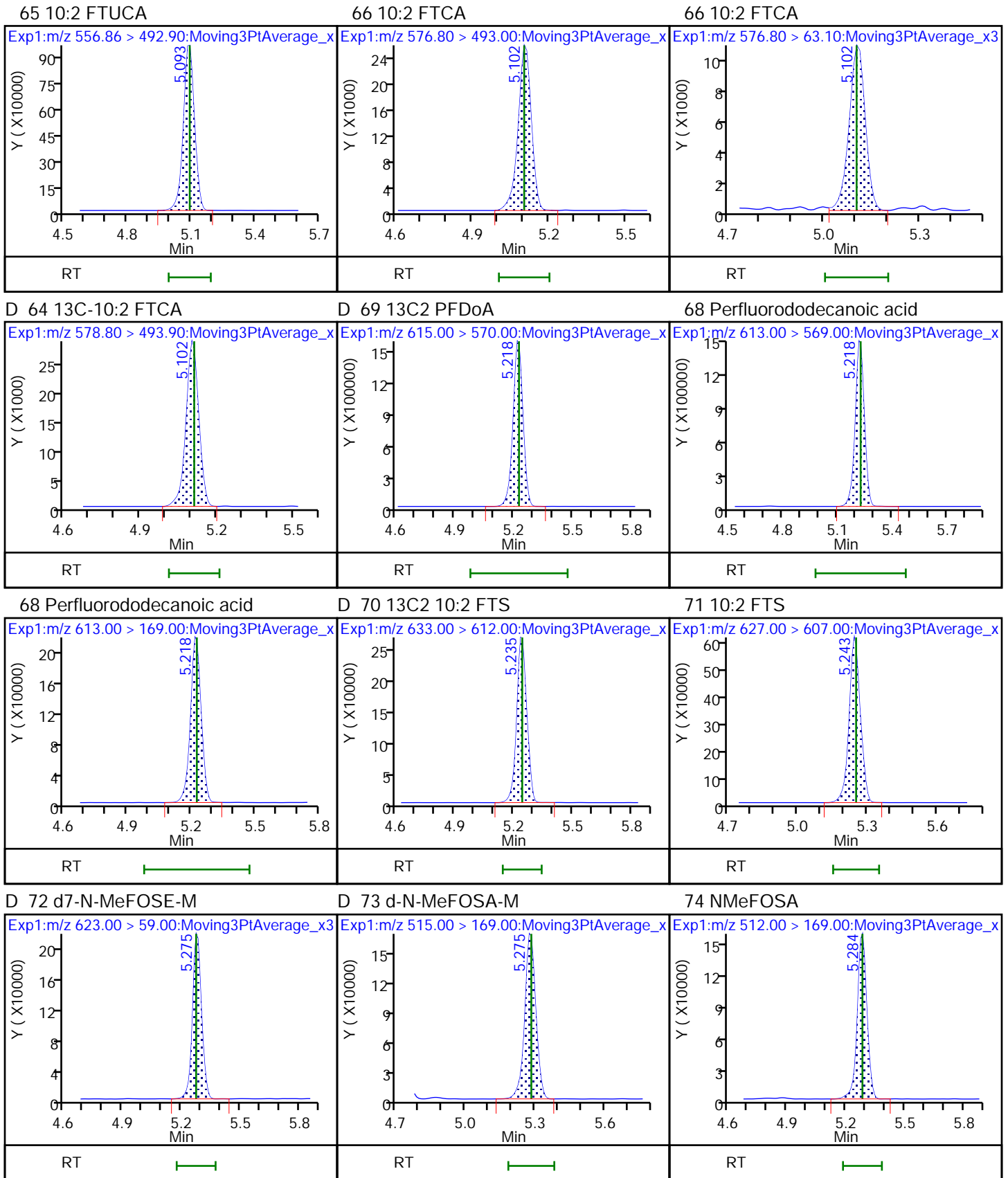
D 52 13C2 PFDA

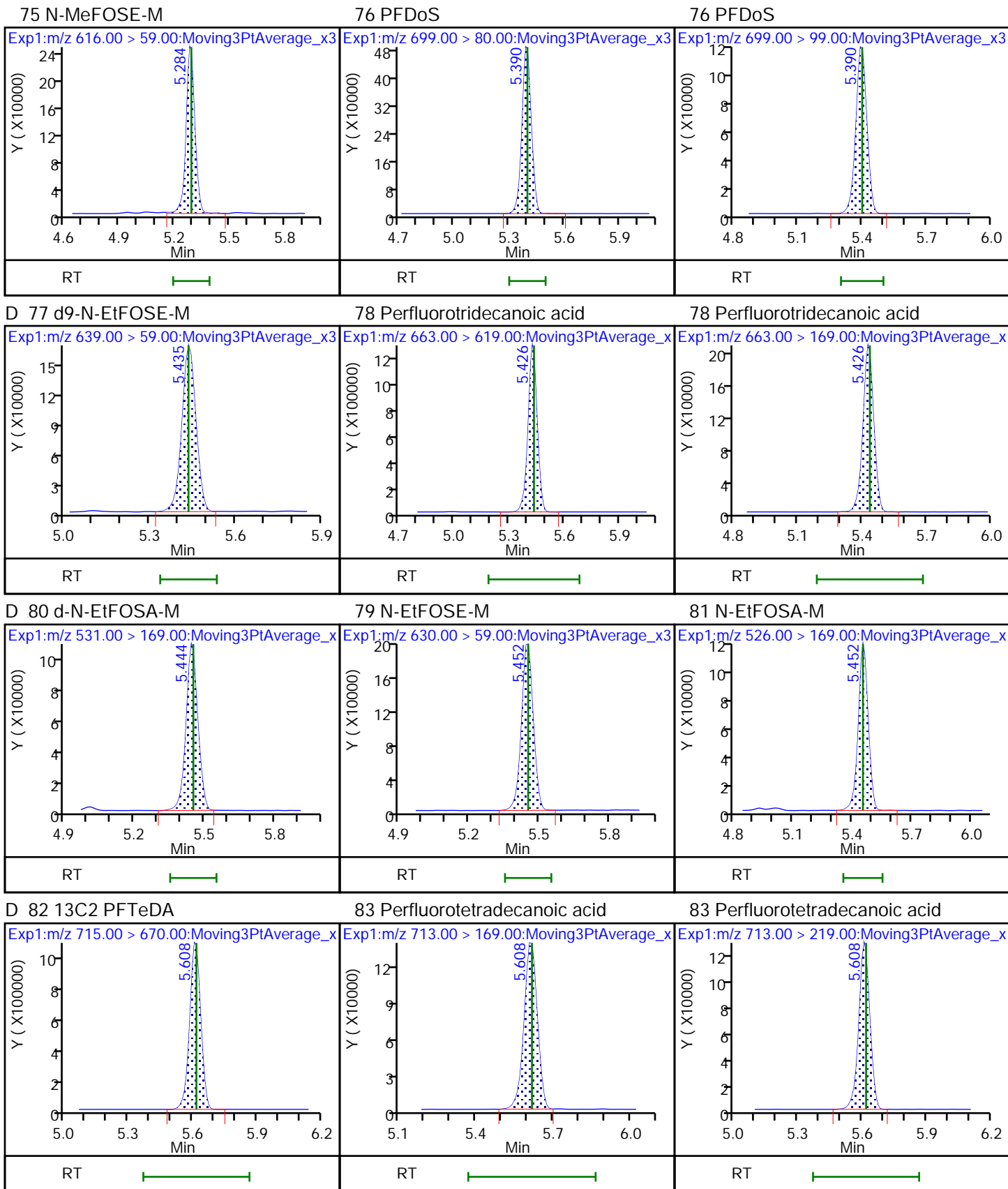
D 50 M2-8:2 FTS







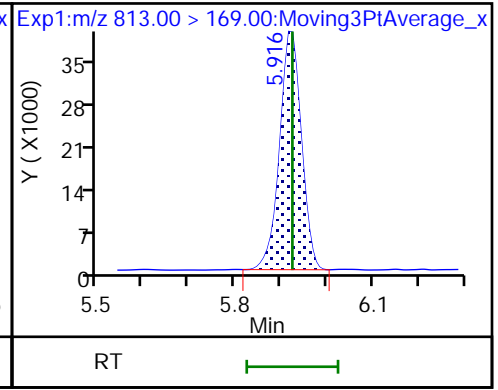
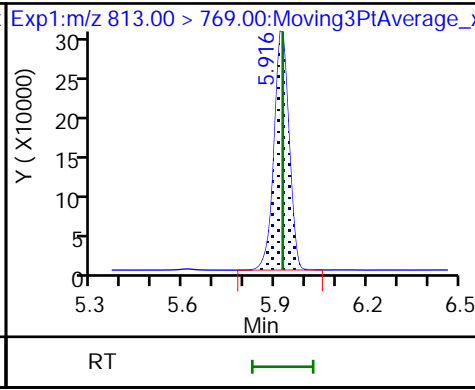
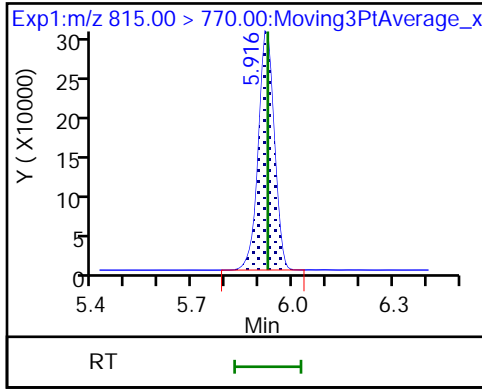




D 84 13C2 PFHxDA

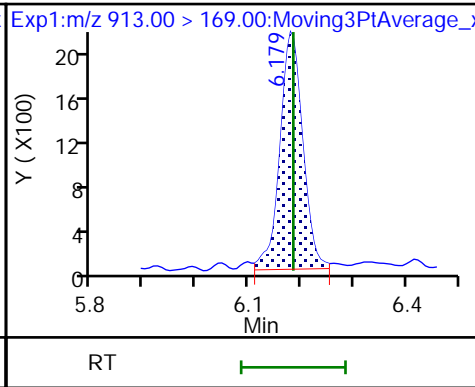
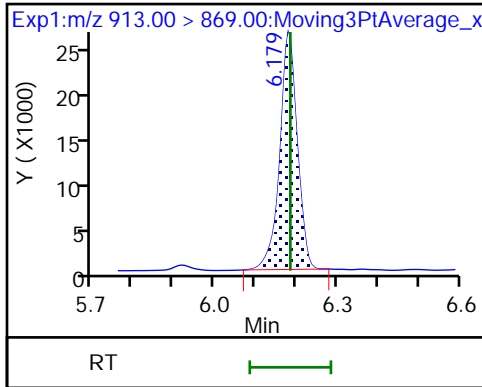
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid (M)



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 140-58914/3-B  
 Matrix: Air Lab File ID: \_037.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/16/2022 07:38  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/19/2022 00:49  
 Con. Extract Vol.: 50(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.02215		0.00119	0.000690

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	82		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_037.d  
 Lims ID: LCSD 140-58914/3-B  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 19-Feb-2022 00:49:32 ALS Bottle#: 37 Worklist Smp#: 37  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-037 lcsd 140-58914/3-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:27:27  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	3147119	0.9310		111	1033	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.680	4474727	0.9244		88.0	16885	
3 PFECA F										
229.00 > 85.00	2.918	2.919	-0.001	0.937	2140887	0.8898		106	9134	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.754	3352802	0.8826		84.1	14229	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.123	-0.008	1.000	2833320	0.9432		112	897	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.131	0.0	1.000	106295	0.9312	Target=1.19	111	1193	
241.00 > 116.90	3.131	3.131	0.0	1.000	86641		1.23(0.60-1.79)		141	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.758	2047488	0.8522		87.3	8361	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.140	-0.009	1.000	1868266	0.8134	Target=2.66	110	3743	
298.90 > 99.00	3.131	3.140	-0.009	1.000	695385		2.69(1.33-3.99)		2921	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	3504596	0.9366		111	12364	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	4069481	0.8197		110	21200	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.981	1410967	0.9455		113	6769	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.827	640921	0.8523		86.9	1017	
13 4:2 FTS										
327.00 > 307.00	3.416	3.416	0.0	1.000	1218011	0.8194		104	7995	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.835	3792543	0.9050		86.2	13968	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	1820342	0.8410	Target=3.47	107	3989	
349.00 > 99.00	3.448	3.448	0.0	1.101	525153		3.47(1.73-5.20)		3373	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	2608159	0.9071	Target=11.56	108	1140	
313.00 > 119.00	3.448	3.448	0.0	1.000	234248		11.13(5.78-17.33)		261	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.553	3.553	0.0	0.860	1768920	0.8630		82.2	5847	
17 HFPO-DA										
285.00 > 169.00	3.553	3.553	0.0	1.000	1979863	0.9303	Target=2.51	111	1418	
329.00 > 169.00	3.553	3.553	0.0	1.000	786975		2.52(1.25-3.76)		983	
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.783	-0.001	0.916	1375085	0.8818		88.8	4355	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.782	3.783	-0.001	1.000	1458547	0.7607	Target=3.47	99.5	4140	M
399.00 > 99.00	3.782	3.783	-0.001	1.000	456310		3.20(1.73-5.20)		1584	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.793	-0.001	0.918	3390456	0.9075		86.4	9803	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.793	-0.001	1.000	3021659	0.9343	Target=3.41	111	2276	
363.00 > 169.00	3.792	3.793	-0.001	1.000	924387		3.27(1.70-5.11)		2489	
25 DONA										
377.00 > 251.00	3.829	3.829	0.0	0.866	4274570	0.8054	Target=1.72	102	11383	
377.00 > 85.00	3.829	3.829	0.0	0.866	2411862		1.77(0.86-2.58)		3084	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	326684	1.20	Target=1.09	143	1125	
340.88 > 216.90	3.853	3.853	0.0	0.987	287641		1.14(0.54-1.63)		653	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	0.0	0.941	1234475	0.8860		84.4	3069	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.895	-0.009	1.000	1237165	1.01	Target=14.99	120	3756	
356.86 > 243.00	3.886	3.895	-0.009	1.000	87771		14.10(7.50-22.49)		325	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.904	0.0	0.945	76083	0.7079		67.4	369	
29 6:2 FTCA										
377.10 > 63.00	3.912	3.913	-0.001	1.002	51037	1.01	Target=1.26	121	227	
377.10 > 313.10	3.904	3.913	-0.009	1.000	38729		1.32(0.63-1.89)		47.1	
32 PFECHS										
460.80 > 380.90	4.064	4.065	0.0	0.984	2148197	0.8816	Target=1.75	114	7352	
460.80 > 98.90	4.064	4.065	0.0	0.984	1236831		1.74(0.87-2.62)		2878	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.112	4.112	0.0	0.930	1671825	0.8432	Target=3.89	105	3725	
449.00 > 99.00	4.112	4.112	0.0	0.930	428881		3.90(1.94-5.83)		2696	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	686135	0.9232		92.5	1220	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	1088674	0.8650		109	3193	
D 31 13C4 PFOA										
417.00 > 372.00	4.131	4.131	0.0	1.000	3445159	0.8915		84.9	7886	
* 30 13C2 PFOA										
415.00 > 370.00	4.131	4.131	0.0		5162799	1.25			9800	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.131	4.131	0.0	1.000	3281591	0.9341	Target=2.38	111	2626	
413.00 > 169.00	4.131	4.131	0.0	1.000	1394666		2.35(1.19-3.57)		2478	
D 39 13C4 PFOS										
503.00 > 80.00	4.422	4.421	0.001	1.070	2015346	0.8697		86.6	2036	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.413	4.421	-0.008	0.998	1891412	0.8226	Target=4.49	106	2568	M
499.00 > 99.00	4.422	4.421	0.001	1.000	414761		4.56(2.25-6.74)		1300	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.439	0.0	1.000	3104891	0.8846	Target=3.86	105	2986	
463.00 > 169.00	4.439	4.439	0.0	1.000	777531		3.99(1.93-5.79)		1708	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.439	0.0	1.075	4845288	0.9248		88.1	8163	
43 7:3 FTCA										
441.00 > 337.00	4.524	4.529	-0.005	0.993	529533	0.9351	Target=1.33	111	1732	
441.00 > 317.00	4.524	4.529	-0.005	0.993	392743		1.35(0.66-1.99)		1235	
44 8:2 FTUCA										
456.86 > 392.90	4.549	4.545	0.004	1.000	1593549	0.9454	Target=30.23	113	3582	
456.86 > 343.00	4.549	4.545	0.004	1.000	49866		31.96(15.12-45.35)		176	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.549	4.553	-0.004	1.000	1850474	0.99		94.4	4631	
46 8:2 FTCA										
477.00 > 393.10	4.557	4.562	-0.005	1.000	170211	0.8680	Target=3.38	103	955	
477.00 > 63.20	4.557	4.562	-0.005	1.000	55852		3.05(1.69-5.07)		192	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.557	4.562	-0.005	1.103	113694	0.8330		79.3	431	
49 9CIFOS										
531.00 > 351.00	4.574	4.578	-0.004	1.107	3879532	0.8595		110	6643	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.702	4.697	0.005	1.063	1753458	0.8635	Target=3.87	107	3023	
549.00 > 99.00	4.702	4.697	0.005	1.063	470332		3.73(1.93-5.80)		1792	
D 55 13C8 FOSA										
506.00 > 78.00	4.710	4.714	-0.004	1.140	3080277	0.8799		83.8	5170	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.710	4.714	-0.004	1.000	2466360	0.8803		105	4502	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.727	4.731	-0.004	1.000	3808395	0.9388	Target=11.19	112	2963	
513.00 > 169.00	4.727	4.731	-0.004	1.000	337743		11.28(5.60-16.79)		281	
D 52 13C2 PFDA										
515.00 > 470.00	4.727	4.731	-0.004	1.144	4733331	0.9474		90.2	15414	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.736	4.740	-0.004	1.146	768444	0.9487		94.3	1642	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.736	4.740	-0.004	1.000	995886	0.8652		108	2038	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.867	4.872	-0.005	1.178	438514	0.9357		89.1	314	
57 NMeFOSAA										
570.00 > 419.00	4.876	4.880	-0.004	1.002	338422	0.8784		105	452	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.952	4.957	-0.005	1.120	1597908	0.8932	Target=3.53	110	3475	
599.00 > 99.00	4.952	4.957	-0.005	1.120	455948		3.50(1.77-5.30)		1812	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.989	4.995	-0.006	1.000	3900859	0.9129	Target=8.28	109	5765	
563.00 > 169.00	4.989	4.995	-0.006	1.000	435599		8.96(4.14-12.42)		1480	
D 59 13C2 PFUnA										
565.00 > 520.00	4.989	4.995	-0.006	1.208	4639154	0.9618		91.6	14028	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.999	5.005	-0.006	1.210	473942	0.9856		93.9	1418	
62 NEtFOSAA										
584.00 > 419.00	5.009	5.015	-0.006	1.002	378439	0.9539		114	686	
65 10:2 FTUCA										
556.86 > 492.90	5.087	5.093	-0.006	1.000	2222107	0.99		118	4448	
63 11CIFOS										
631.00 > 451.00	5.087	5.093	-0.006	1.150	3186243	0.9109		115	6621	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.087	5.093	-0.006	1.231	1949720	0.9296		88.5	4628	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.106	5.112	-0.006	1.236	99606	0.7799		74.3	756	
66 10:2 FTCA										
576.80 > 493.00	5.106	5.112	-0.006	1.000	84088	0.9685	Target=2.41	115	648	
576.80 > 63.10	5.106	5.112	-0.006	1.000	36355		2.31(1.21-3.62)		127	
D 69 13C2 PFDaA										
615.00 > 570.00	5.221	5.226	-0.005	1.264	4407010	0.9259		88.2	11503	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.221	5.226	-0.005	1.000	3903124	0.9002	Target=6.88	107	3679	
613.00 > 169.00	5.221	5.226	-0.005	1.000	544976		7.16(3.44-10.31)		1133	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.238	5.243	-0.005	1.268	690558	1.01		102	4029	
71 10:2 FTS										
627.00 > 607.00	5.246	5.251	-0.005	1.002	1327517	0.9107		112	8444	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.278	5.284	-0.006	1.278	500501	1.02		97.3	380	
74 NMeFOSA										
512.00 > 169.00	5.287	5.284	0.003	1.002	356106	0.9511		113	626	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.278	5.284	-0.006	1.278	364027	0.8734		83.2	42.8	
75 N-MeFOSE-M										
616.00 > 59.00	5.287	5.292	-0.005	1.002	493709	0.8822		105	743	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.394	5.399	-0.005	1.220	1721344	0.9069	Target=4.29	112	1902	
699.00 > 99.00	5.394	5.399	-0.005	1.220	375855		4.58(2.14-6.43)		1723	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.430	5.435	-0.005	1.040	3416015	0.9217	Target=6.38	110	3737	
663.00 > 169.00	5.430	5.435	-0.005	1.040	535632		6.38(3.19-9.57)		2193	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.439	5.435	0.004	1.317	457645	0.9007		85.8	202	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.447	5.452	-0.005	1.319	293115	0.8768		83.5	516	
79 N-EtFOSE-M										
630.00 > 59.00	5.447	5.452	-0.005	1.002	519016	0.8392		99.9	553	
81 N-EtFOSA-M										
526.00 > 169.00	5.456	5.452	0.004	1.002	332449	0.9534		113	597	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.612	5.617	-0.005	1.000	392867	0.9110	Target=1.02	108	1396	
713.00 > 219.00	5.612	5.617	-0.005	1.000	388663		1.01(0.51-1.53)		1952	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.612	5.617	-0.005	1.359	3506321	0.9212		87.7	9048	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.921	5.924	-0.004	1.000	2207994	0.9039	Target=8.32	108	3071	
813.00 > 169.00	5.921	5.924	-0.004	1.000	275495		8.01(4.16-12.48)		873	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.921	5.924	-0.004	1.433	2249738	0.9083		86.5	4780	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.181	6.185	-0.004	1.044	2049496	0.9444	Target=11.94	112	3009	
913.00 > 169.00	6.181	6.185	-0.004	1.044	171756		11.93(5.97-17.91)		691	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_037.d

Injection Date: 19-Feb-2022 00:49:32

Instrument ID: LCA

Lims ID: LCSD 140-58914/3-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 37

Worklist Smp#: 37

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

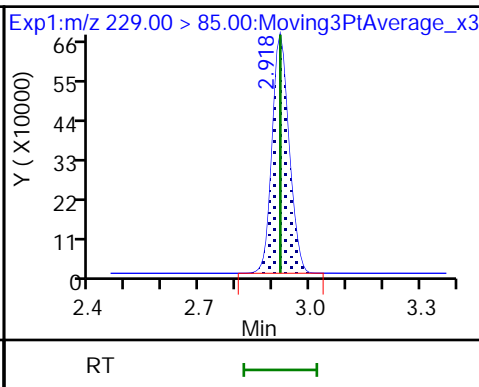
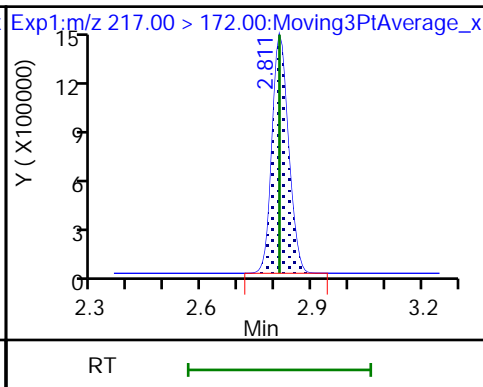
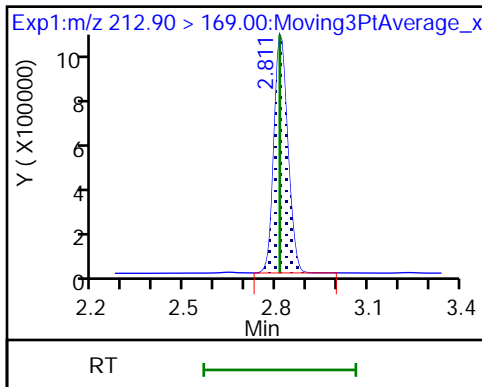
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Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

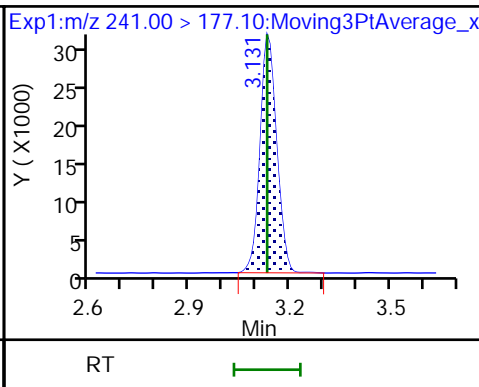
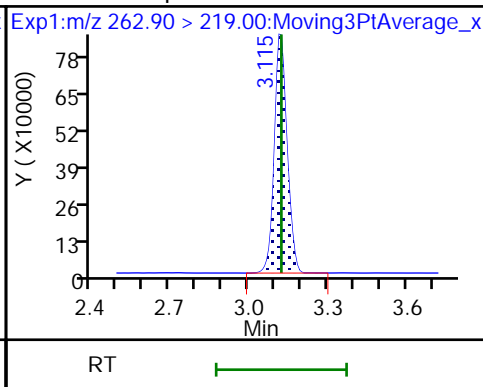
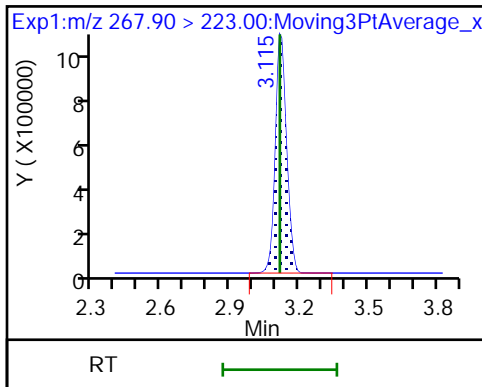
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

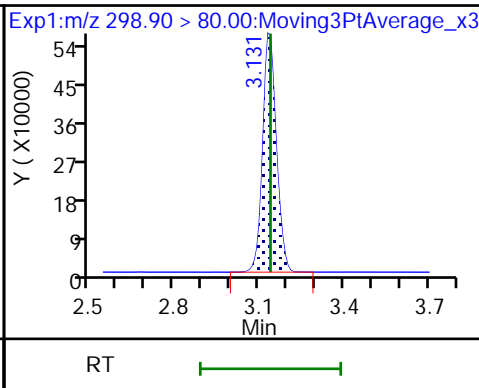
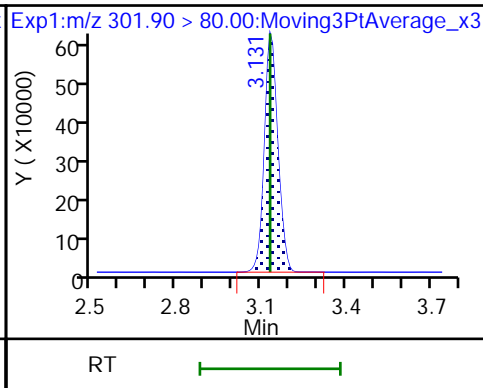
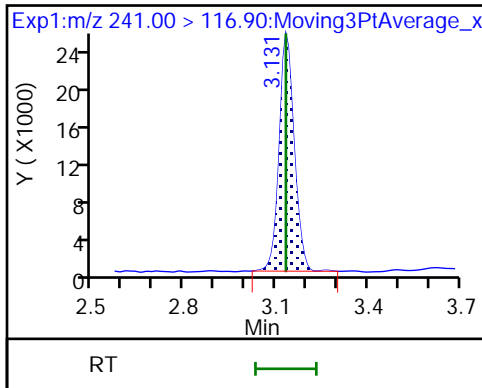
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

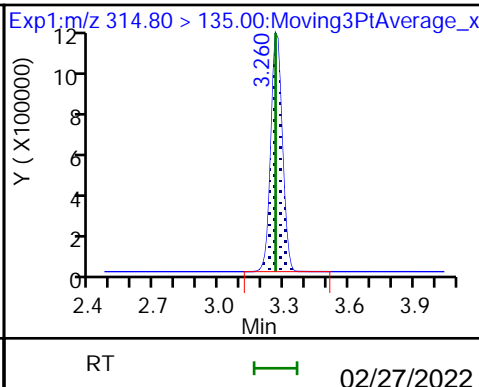
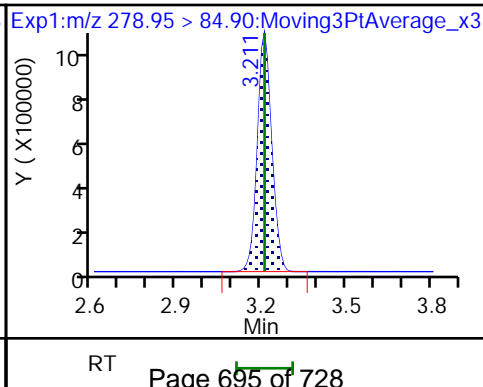
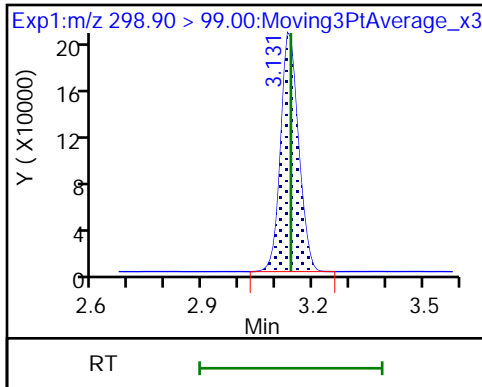
8 Perfluorobutanesulfonic acid

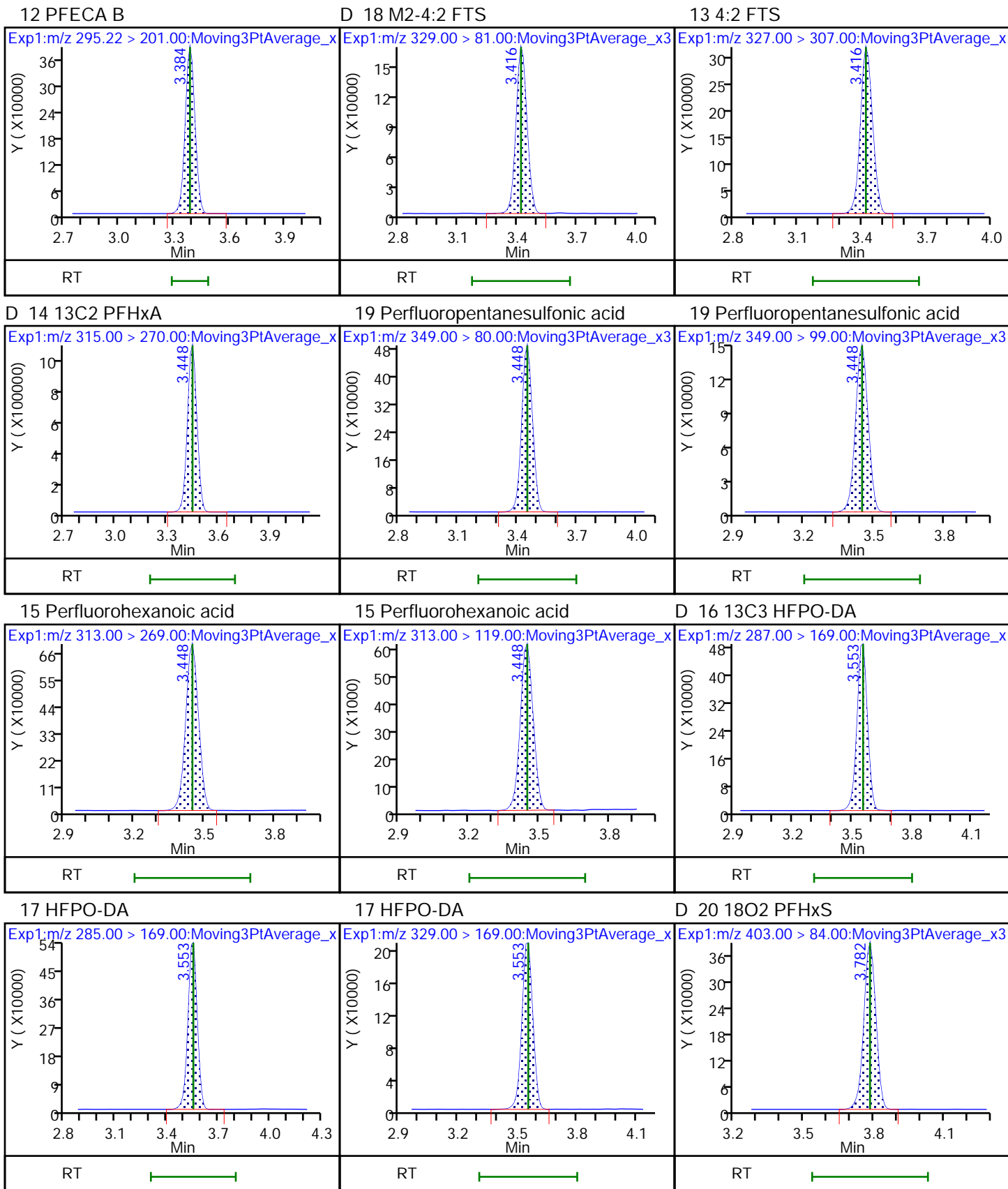


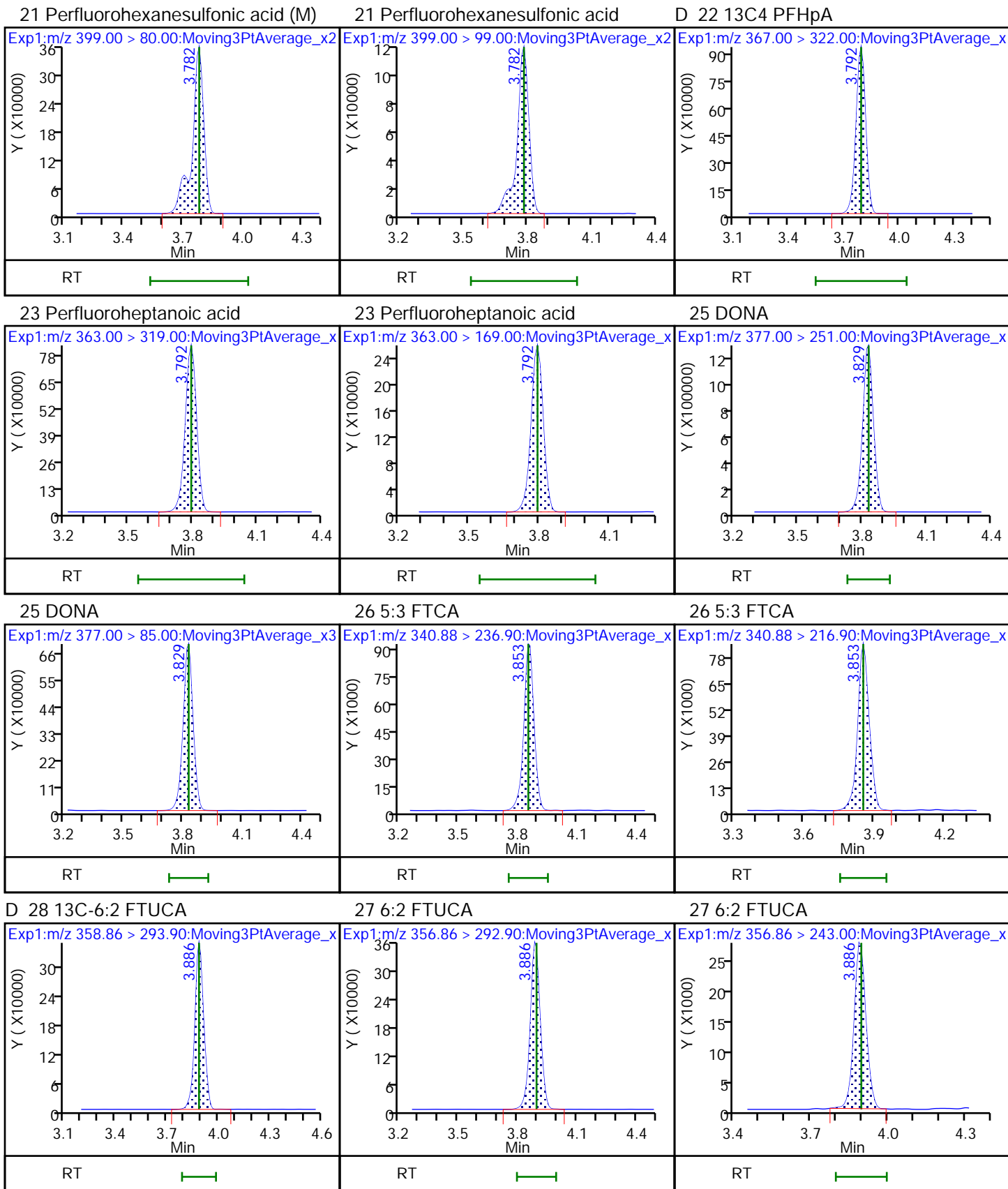
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



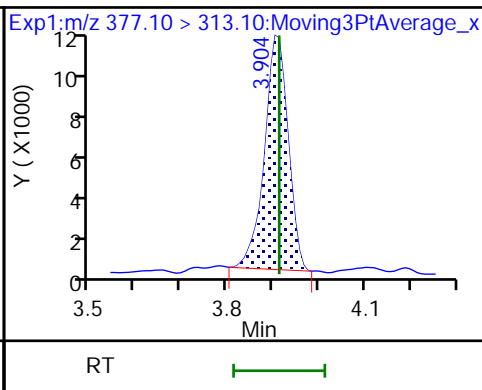
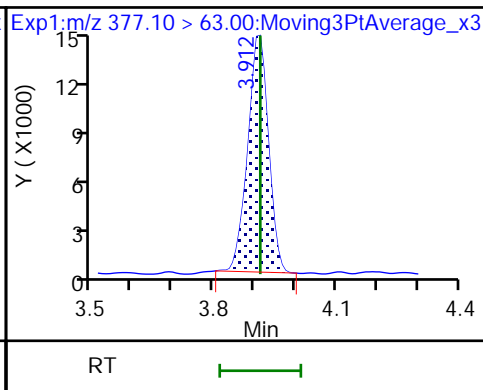
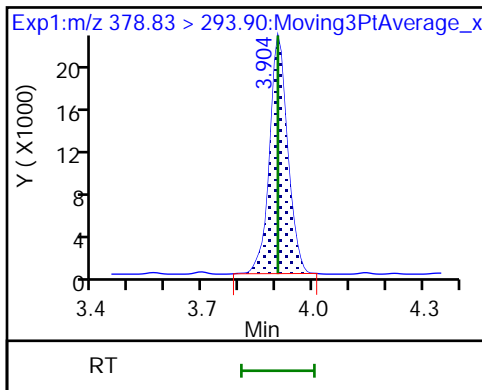




D 24 13C-6:2 FTCA

29 6:2 FTCA

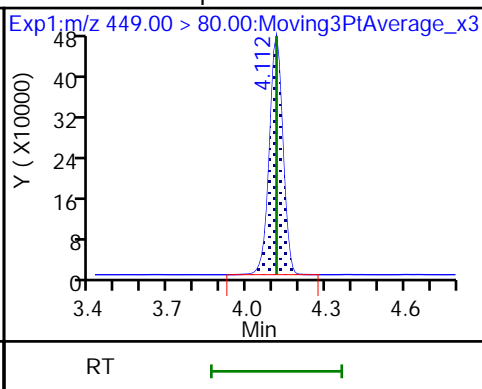
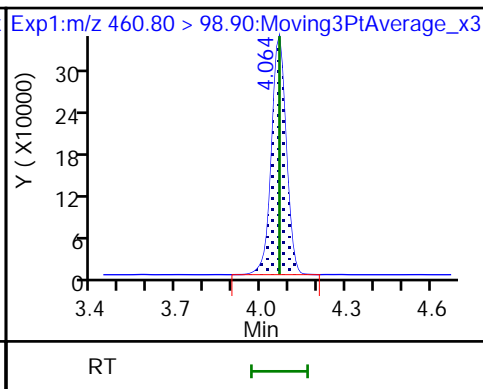
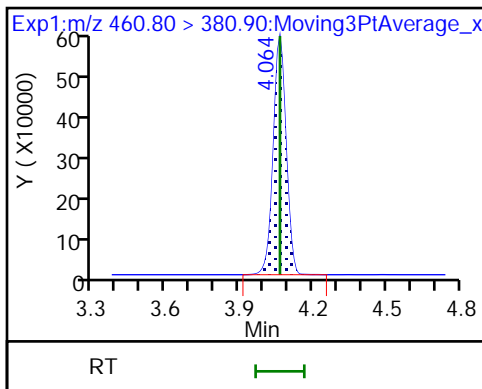
29 6:2 FTCA



32 PFECHS

32 PFECHS

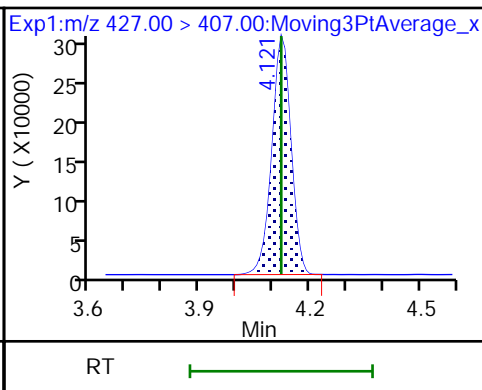
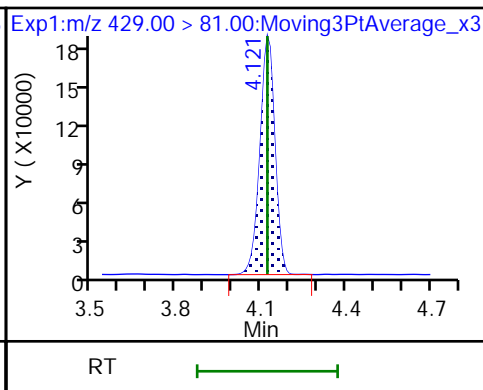
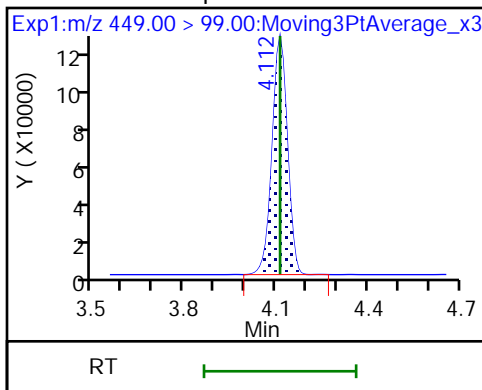
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

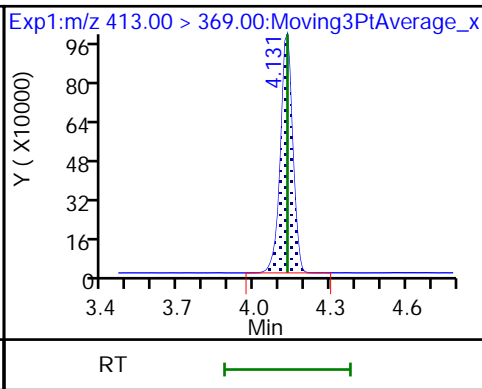
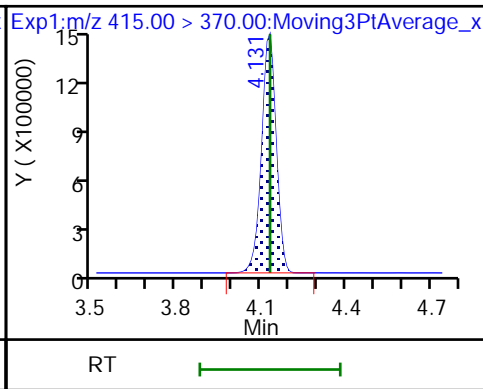
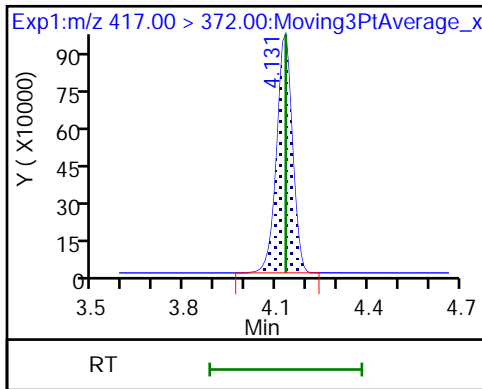
35 6:2 FTS

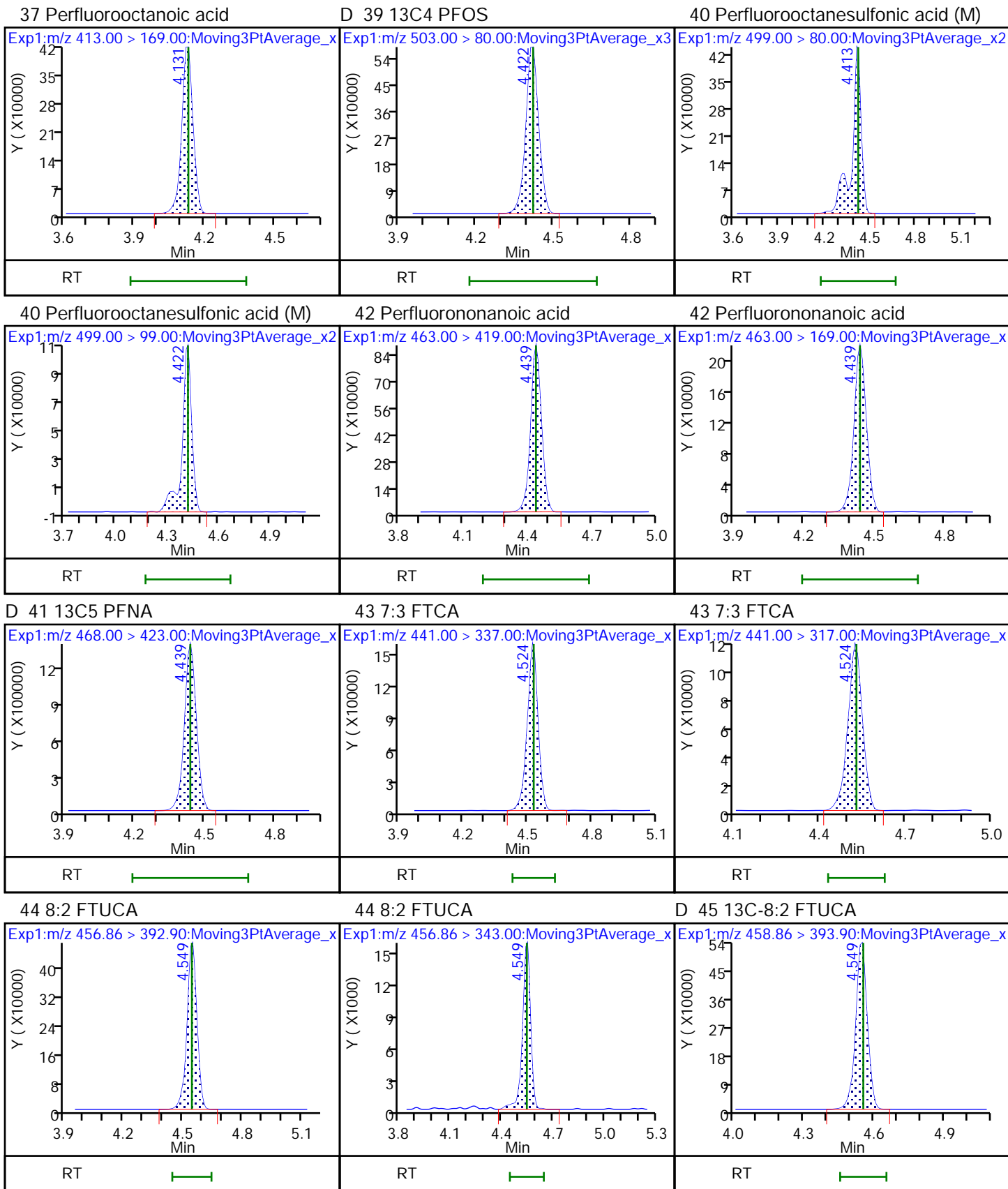


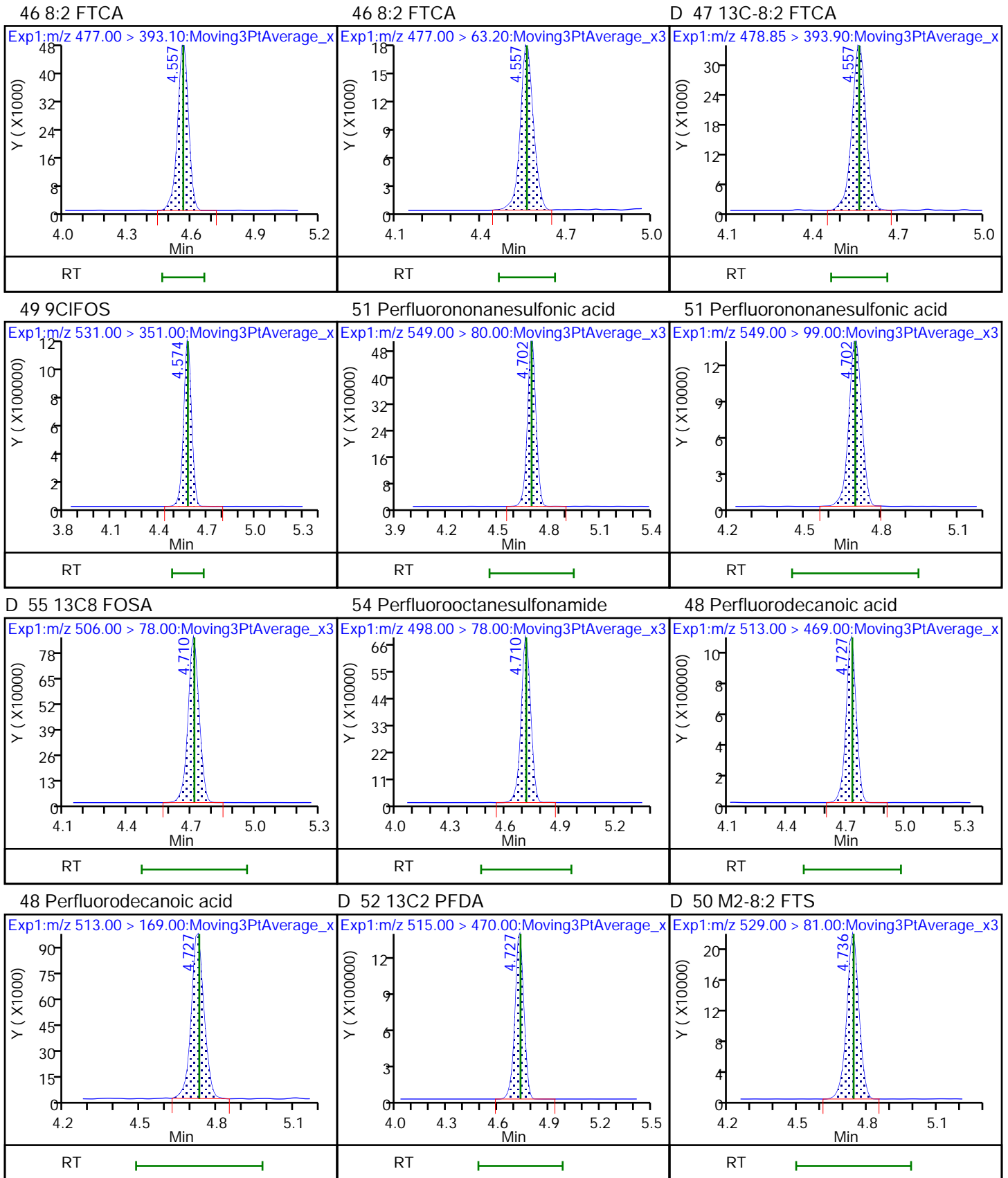
D 31 13C4 PFOA

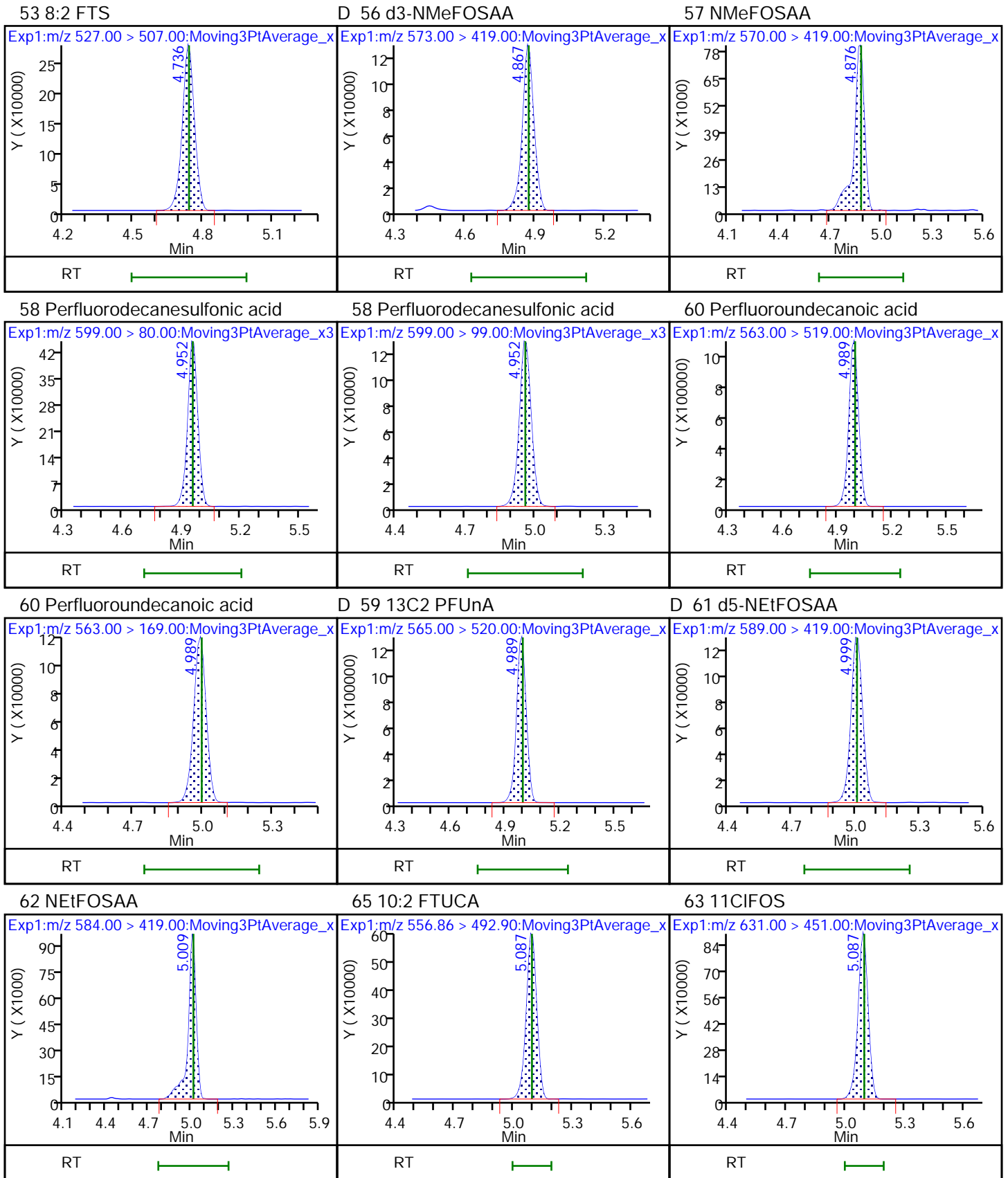
\* 30 13C2 PFOA

37 Perfluorooctanoic acid







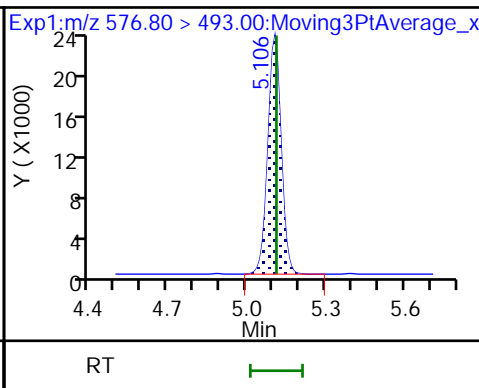
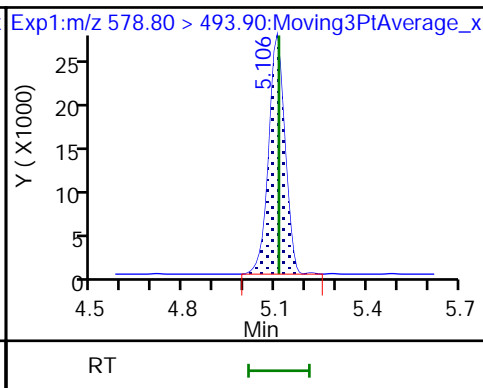
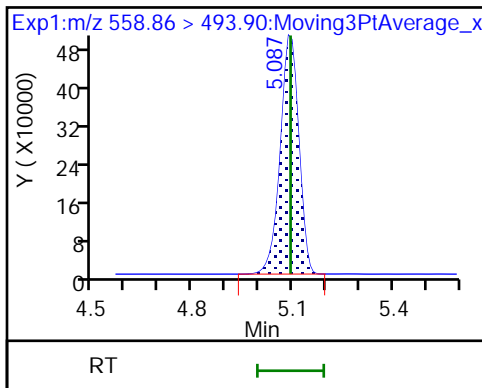




D 67 13C-10:2 FTUCA

D 64 13C-10:2 FTCA

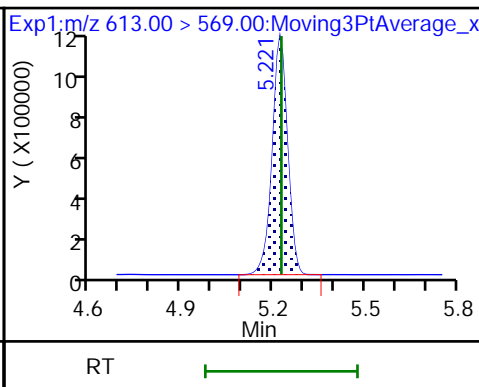
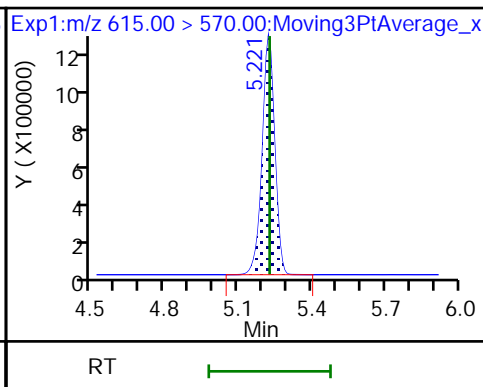
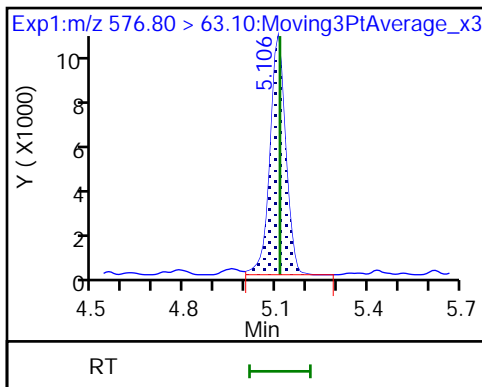
66 10:2 FTCA



66 10:2 FTCA

D 69 13C2 PFDaA

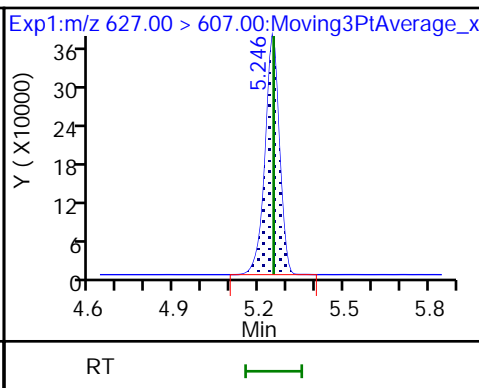
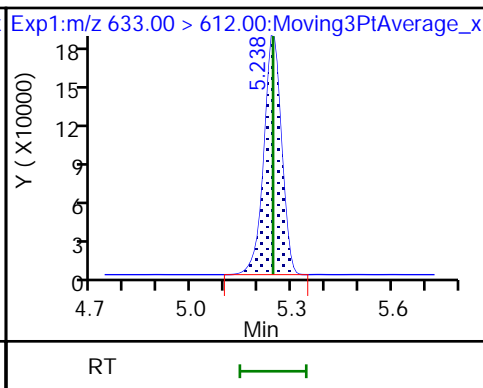
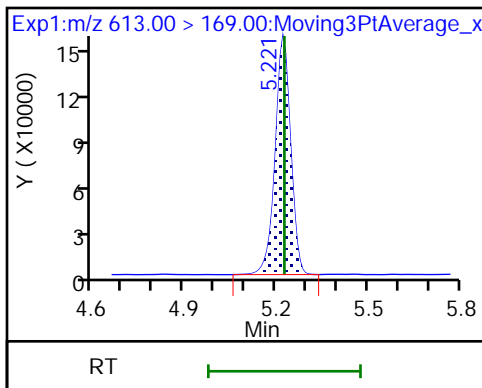
68 Perfluorododecanoic acid



68 Perfluorododecanoic acid

D 70 13C2 10:2 FTS

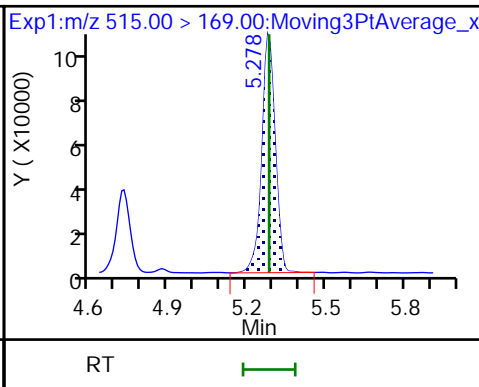
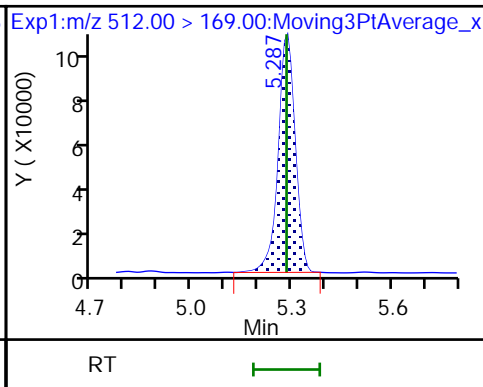
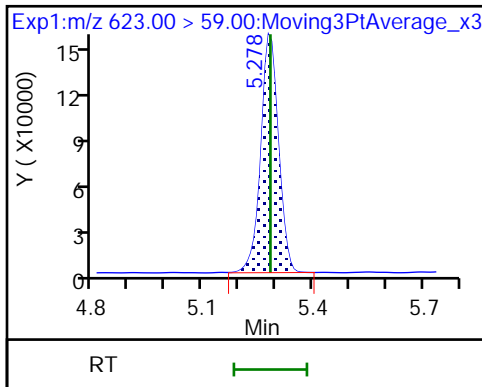
71 10:2 FTS

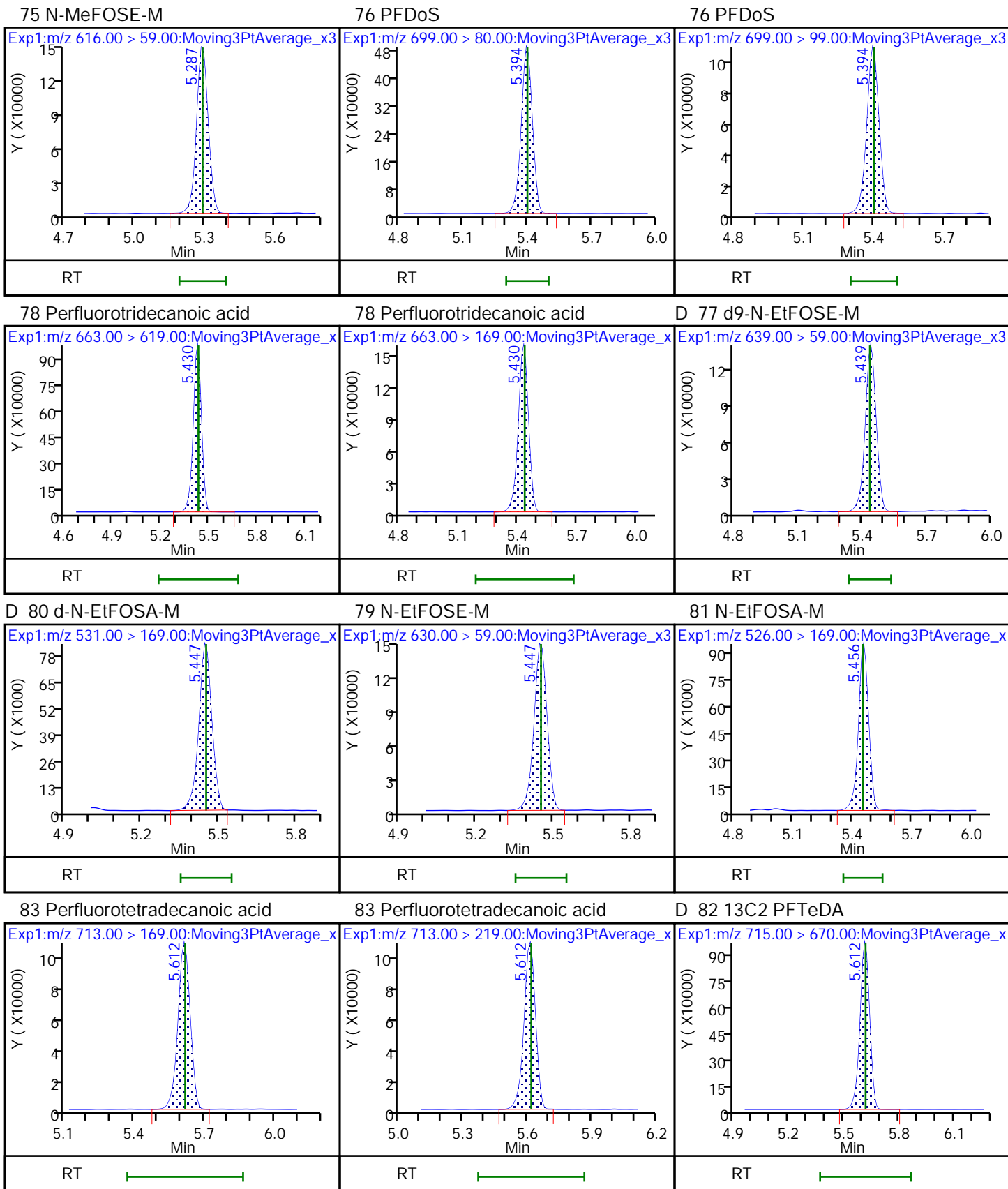


D 72 d7-N-MeFOSE-M

74 NMeFOSA

D 73 d-N-MeFOSA-M

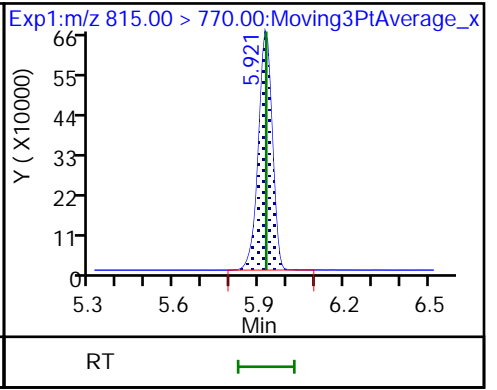
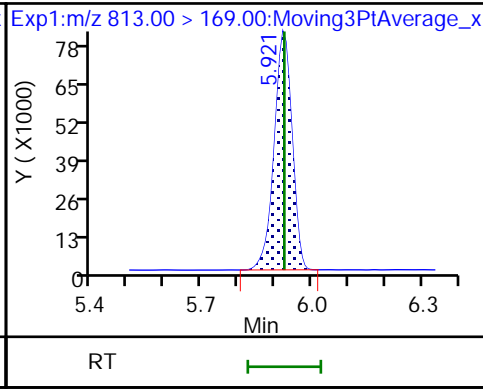
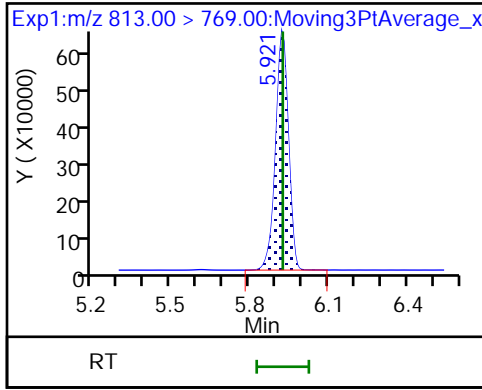




85 Perfluorohexadecanoic acid

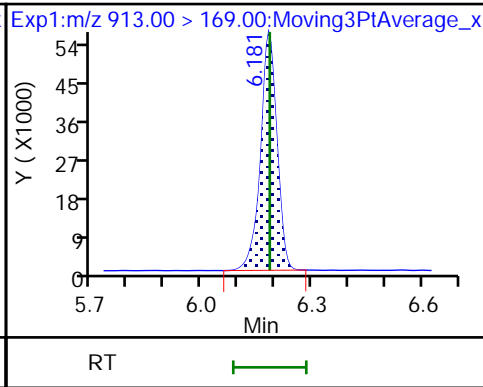
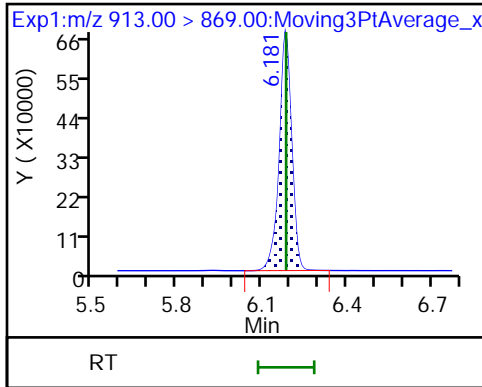
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26390-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 140-58967/3-A  
 Matrix: Air Lab File ID: 022.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/18/2022 22:37  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.01188		0.000500	0.0000870

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	81		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_022.d  
 Lims ID: LCSD 140-58967/3-A  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 18-Feb-2022 22:37:28 ALS Bottle#: 22 Worklist Smp#: 22  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-022 lcsd 140-58967/3-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:13:28  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.805	2.811	-0.006	1.000	4163425	1.15	115	1473	
D 2 13C4 PFBA	217.00 > 172.00	2.805	2.811	-0.006	0.680	5716222	1.07	85.5	16150	
3 PFECA F	229.00 > 85.00	2.912	2.919	-0.007	0.937	3000860	1.13	113	9371	
D 5 13C5 PFPeA	267.90 > 223.00	3.108	3.115	-0.007	0.754	4420761	1.05	84.2	17350	
6 Perfluoropentanoic acid	262.90 > 219.00	3.108	3.123	-0.015	1.000	3925157	1.18	118	1614	
4 3:3 FTCA	241.00 > 177.10	3.124	3.131	-0.007	1.000	138812	1.18	Target=1.16	118	1493
	241.00 > 116.90	3.124	3.131	-0.007	1.000	118361	1.17(0.58-1.74)		179	
D 7 13C3 PFBS	301.90 > 80.00	3.124	3.131	-0.007	0.758	2516201	0.9474	81.5	10704	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.124	3.140	-0.016	1.000	2448298	1.03	Target=2.74	117	6072
	298.90 > 99.00	3.124	3.140	-0.016	1.000	950012	2.58(1.37-4.11)		4498	
9 PFECA A	278.95 > 84.90	3.203	3.211	-0.008	1.031	4971332	1.20	120	14922	
11 PES	314.80 > 135.00	3.261	3.260	0.001	1.044	5477589	1.07	120	12466	
12 PFECA B	295.22 > 201.00	3.375	3.384	-0.009	0.981	1996897	1.22	122	7271	
D 18 M2-4:2 FTS	329.00 > 81.00	3.406	3.416	-0.010	0.826	756543	0.9101	78.0	1670	
13 4:2 FTS	327.00 > 307.00	3.406	3.416	-0.010	1.000	1765625	1.20	128	9470	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C2 PFHxA										
315.00 > 270.00	3.439	3.448	-0.009	0.834	4922437	1.06		85.0	15277	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.439	3.448	-0.009	1.101	2403135	1.08	Target=3.48	115	6337	
349.00 > 99.00	3.439	3.448	-0.009	1.101	693804		3.46(1.74-5.23)		4153	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.439	3.448	-0.009	1.000	3457730	1.10	Target=12.09	110	1794	
313.00 > 119.00	3.439	3.448	-0.009	1.000	311652		11.09(6.04-18.13)		286	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.553	-0.009	0.860	2291131	1.01		80.9	6621	
17 HFPO-DA										
285.00 > 169.00	3.544	3.553	-0.009	1.000	2747145	1.19	Target=2.53	119	1720	
329.00 > 169.00	3.544	3.553	-0.009	1.000	1064483		2.58(1.26-3.79)		1717	
D 20 18O2 PFHxS										
403.00 > 84.00	3.774	3.783	-0.009	0.915	1697632	0.9848		83.3	4309	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.774	3.783	-0.009	1.000	2041074	1.03	Target=3.31	113	4283	M
399.00 > 99.00	3.774	3.783	-0.009	1.000	606633		3.36(1.66-4.97)		2542	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.784	3.793	-0.009	0.918	4274373	1.03		82.8	12350	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.784	3.793	-0.009	1.000	4268961	1.24	Target=3.40	124	3670	
363.00 > 169.00	3.784	3.793	-0.009	1.000	1298587		3.29(1.70-5.09)		2502	
25 DONA										
377.00 > 251.00	3.822	3.829	-0.007	0.866	6153457	1.07	Target=1.74	114	12241	
377.00 > 85.00	3.822	3.829	-0.007	0.866	3497944		1.76(0.87-2.61)		5073	
26 5:3 FTCA										
340.88 > 236.90	3.846	3.853	-0.007	0.987	460223	1.11	Target=1.13	111	2086	
340.88 > 216.90	3.854	3.853	0.001	0.989	402678		1.14(0.56-1.69)		941	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.887	-0.007	0.941	1664556	1.08		86.5	4058	
27 6:2 FTUCA										
356.86 > 292.90	3.888	3.895	-0.007	1.002	1596606	1.15	Target=14.14	115	2659	
356.86 > 243.00	3.888	3.895	-0.007	1.002	118133		13.52(7.07-21.20)		349	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.896	3.904	-0.008	0.945	137619	1.16		92.7	454	
29 6:2 FTCA										
377.10 > 63.00	3.905	3.913	-0.008	1.002	86432	1.13	Target=1.42	113	372	
377.10 > 313.10	3.896	3.913	-0.017	1.000	69691		1.24(0.71-2.13)		97.7	
32 PFECHS										
460.80 > 380.90	4.056	4.065	-0.008	0.984	2761406	1.02	Target=1.67	111	5166	
460.80 > 98.90	4.056	4.065	-0.008	0.984	1620558		1.70(0.84-2.51)		4587	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.104	4.112	-0.008	0.930	2218067	1.03	Target=3.94	108	5037	
449.00 > 99.00	4.104	4.112	-0.008	0.930	579586		3.83(1.97-5.90)		2165	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.123	4.121	0.002	1.000	800338	0.9742		82.0	2017	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.123	4.121	0.002	1.000	1360921	1.10		117	3979	
D 31 13C4 PFOA										
417.00 > 372.00	4.123	4.131	-0.008	1.000	4560952	1.07		85.4	16112	
* 30 13C2 PFOA										
415.00 > 370.00	4.123	4.131	-0.008		5706850	1.25			10453	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.123	4.131	-0.008	1.000	4344271	1.11	Target=2.33	111	3716	
413.00 > 169.00	4.123	4.131	-0.008	1.000	1804619		2.41(1.17-3.50)		3848	
D 39 13C4 PFOS										
503.00 > 80.00	4.414	4.421	-0.007	1.071	2598522	1.01		84.9	2483	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.414	4.421	-0.007	1.000	2511793	1.01	Target=4.42	109	2742	M
499.00 > 99.00	4.414	4.421	-0.007	1.000	592923		4.24(2.21-6.63)		1290	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.432	4.439	-0.007	1.000	4152641	1.11	Target=3.81	111	4209	
463.00 > 169.00	4.432	4.439	-0.007	1.000	1064615		3.90(1.90-5.71)		1885	
D 41 13C5 PFNA										
468.00 > 423.00	4.432	4.439	-0.007	1.075	6165564	1.06		85.2	9743	
43 7:3 FTCA										
441.00 > 337.00	4.522	4.529	-0.007	0.993	726674	1.07	Target=1.44	107	1836	
441.00 > 317.00	4.522	4.529	-0.007	0.993	507472		1.43(0.72-2.16)		1860	
44 8:2 FTUCA										
456.86 > 392.90	4.539	4.545	-0.006	1.000	2007315	1.15	Target=33.93	115	4577	
456.86 > 343.00	4.539	4.545	-0.006	1.000	55705		36.03(16.96-50.89)		242	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.539	4.553	-0.014	1.000	2272664	1.10		88.1	4086	
46 8:2 FTCA										
477.00 > 393.10	4.555	4.562	-0.007	1.000	250726	1.07	Target=3.19	107	1128	
477.00 > 63.20	4.555	4.562	-0.007	1.000	77931		3.22(1.59-4.78)		180	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.555	4.562	-0.007	1.105	161793	1.07		85.8	522	
49 9CIFOS										
531.00 > 351.00	4.571	4.578	-0.007	1.109	5131376	1.05		113	8298	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.699	4.697	0.002	1.064	2366243	1.08	Target=3.97	112	4909	
549.00 > 99.00	4.699	4.697	0.002	1.064	590689		4.01(1.99-5.96)		2135	
D 55 13C8 FOSA										
506.00 > 78.00	4.707	4.714	-0.007	1.142	4162735	1.08		86.1	5507	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.707	4.714	-0.007	1.000	3558771	1.12		112	5149	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.724	4.731	-0.007	1.000	5066547	1.18	Target=11.13	118	4403	
513.00 > 169.00	4.724	4.731	-0.007	1.000	465384		10.89(5.57-16.70)		303	
D 52 13C2 PFDA										
515.00 > 470.00	4.724	4.731	-0.007	1.146	5978385	1.08		86.6	7050	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.733	4.740	-0.007	1.148	8824208	1.08		82.4	1294	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.733	4.740	-0.007	1.000	1274517	1.15		120	4129	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.866	4.872	-0.006	1.180	559099	1.08		86.3	325	
57 NMeFOSAA										M
570.00 > 419.00	4.866	4.880	-0.014	1.000	509123	1.23		123	753	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.951	4.957	-0.006	1.122	2120989	1.10	Target=3.72	114	5993	
599.00 > 99.00	4.951	4.957	-0.006	1.122	578334		3.67(1.86-5.59)		2822	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.988	4.995	-0.007	1.000	4944276	1.17	Target=8.47	117	5229	
563.00 > 169.00	4.988	4.995	-0.007	1.000	594488		8.32(4.23-12.70)		2312	
D 59 13C2 PFUnA										
565.00 > 520.00	4.988	4.995	-0.007	1.210	5481607	1.03		82.2	6732	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.997	5.005	-0.008	1.212	587226	1.10		88.4	1870	
62 NEtFOSAA										M
584.00 > 419.00	5.007	5.015	-0.008	1.002	495079	1.19		119	624	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.085	5.093	-0.008	1.233	2406832	1.04		83.0	7634	
65 10:2 FTUCA										
556.86 > 492.90	5.085	5.093	-0.008	1.000	2744721	1.18		118	6064	
63 11CIFOS										
631.00 > 451.00	5.085	5.093	-0.008	1.152	4014990	1.06		113	10154	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.104	5.112	-0.008	1.238	159845	1.13		90.6	852	
66 10:2 FTCA										
576.80 > 493.00	5.104	5.112	-0.008	1.000	136815	1.16	Target=2.54	116	709	
576.80 > 63.10	5.104	5.112	-0.008	1.000	57138		2.39(1.27-3.81)		193	
D 69 13C2 PFDaA										
615.00 > 570.00	5.220	5.226	-0.006	1.266	5328026	1.01		81.0	10533	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.220	5.226	-0.006	1.000	5228110	1.19	Target=7.02	119	4671	
613.00 > 169.00	5.220	5.226	-0.006	1.000	749365		6.98(3.51-10.53)		1732	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.237	5.243	-0.006	1.270	686507	0.9104		76.9	4299	
71 10:2 FTS										
627.00 > 607.00	5.245	5.251	-0.006	1.002	1503685	1.24		128	5049	
74 NMeFOSA										
512.00 > 169.00	5.277	5.284	-0.007	1.000	463443	1.22		122	866	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.277	5.284	-0.007	1.280	441389	0.9580		76.6	46.2	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.277	5.284	-0.007	1.280	557135	1.03		82.3	450	
75 N-MeFOSE-M										
616.00 > 59.00	5.285	5.292	-0.007	1.002	610895	1.17		117	880	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.393	5.399	-0.006	1.222	2200309	1.07	Target=4.52	111	3481	
699.00 > 99.00	5.393	5.399	-0.006	1.222	526132		4.18(2.26-6.78)		2748	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.429	5.435	-0.006	1.040	4547918	1.21	Target=5.96	121	5849	
663.00 > 169.00	5.429	5.435	-0.006	1.040	720864		6.31(2.98-8.94)		3261	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.437	5.435	0.002	1.319	563490	1.00		80.3	263	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.446	5.452	-0.006	1.321	342556	0.9270		74.2	558	
79 N-EtFOSE-M										
630.00 > 59.00	5.446	5.452	-0.006	1.002	714951	1.12		112	675	
81 N-EtFOSA-M										
526.00 > 169.00	5.455	5.452	0.003	1.002	424415	1.24		124	630	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.610	5.617	-0.007	1.000	522574	1.18	Target=0.99	118	2404	
713.00 > 219.00	5.610	5.617	-0.007	1.000	501171		1.04(0.49-1.48)		3563	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.610	5.617	-0.007	1.361	4300430	1.02		81.8	9111	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.918	5.924	-0.006	1.000	2841145	1.22	Target=8.23	122	3336	
813.00 > 169.00	5.918	5.924	-0.006	1.000	349613		8.13(4.11-12.34)		1210	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.918	5.924	-0.006	1.435	2565198	0.9370		75.0	4930	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.174	6.185	-0.011	1.043	2483123	1.19	Target=11.52	119	3520	
913.00 > 169.00	6.174	6.185	-0.011	1.043	210031		11.82(5.76-17.29)		903	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_022.d

Injection Date: 18-Feb-2022 22:37:28

Instrument ID: LCA

Lims ID: LCSD 140-58967/3-A

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 22

Worklist Smp#: 22

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

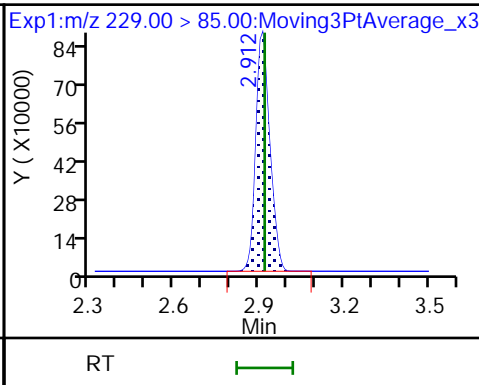
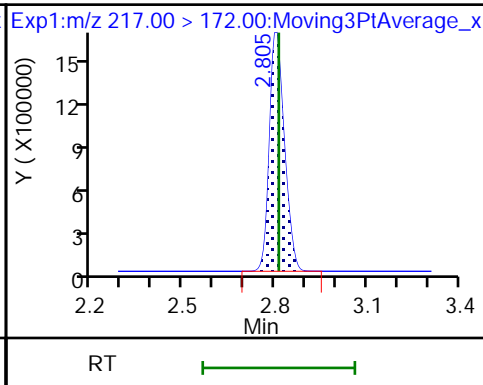
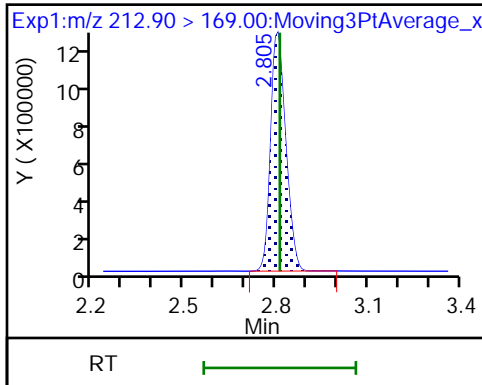
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

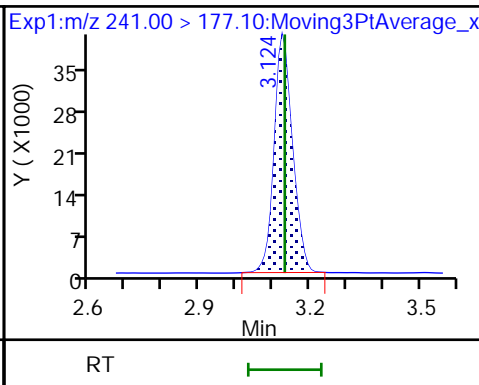
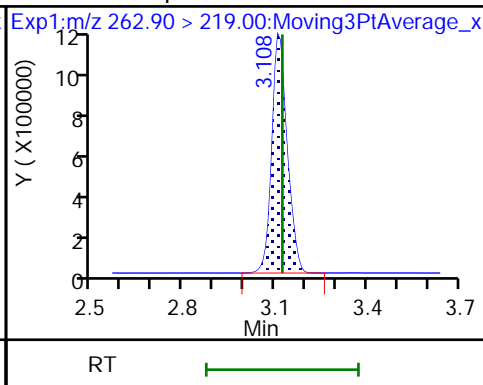
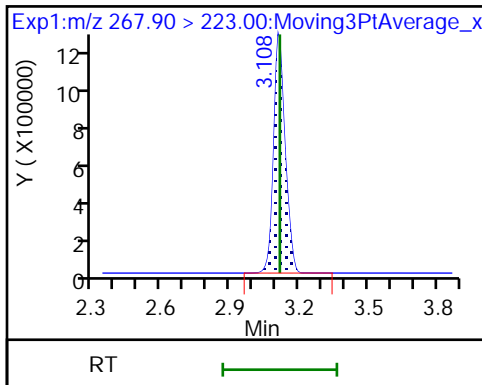
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

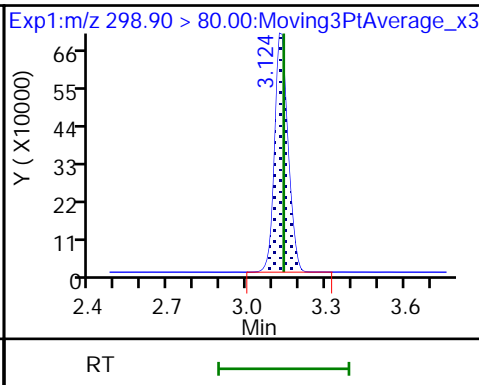
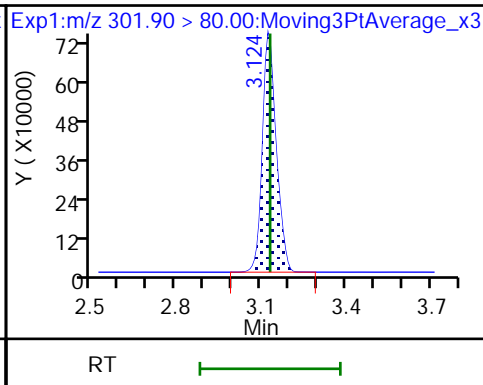
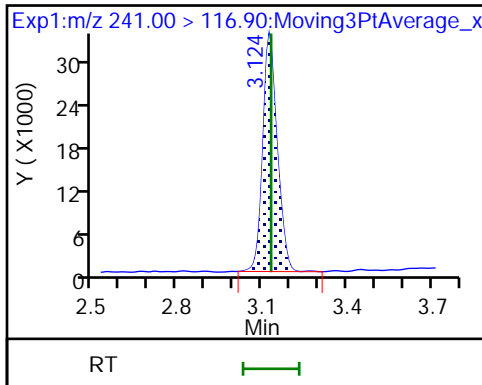
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

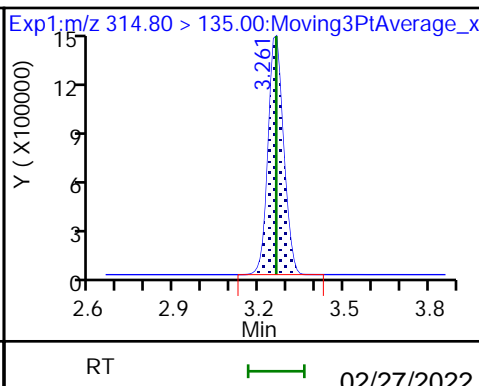
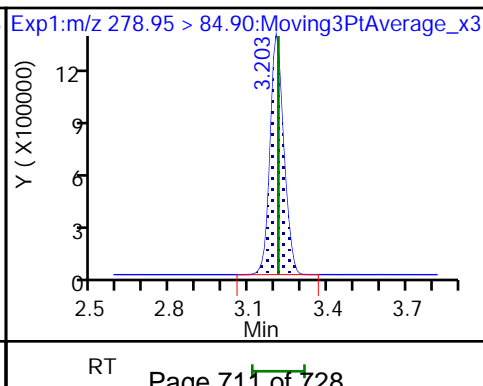
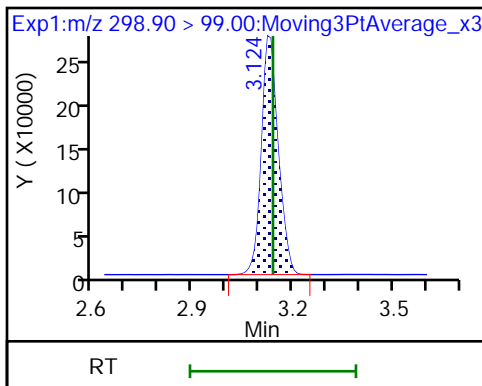
8 Perfluorobutanesulfonic acid

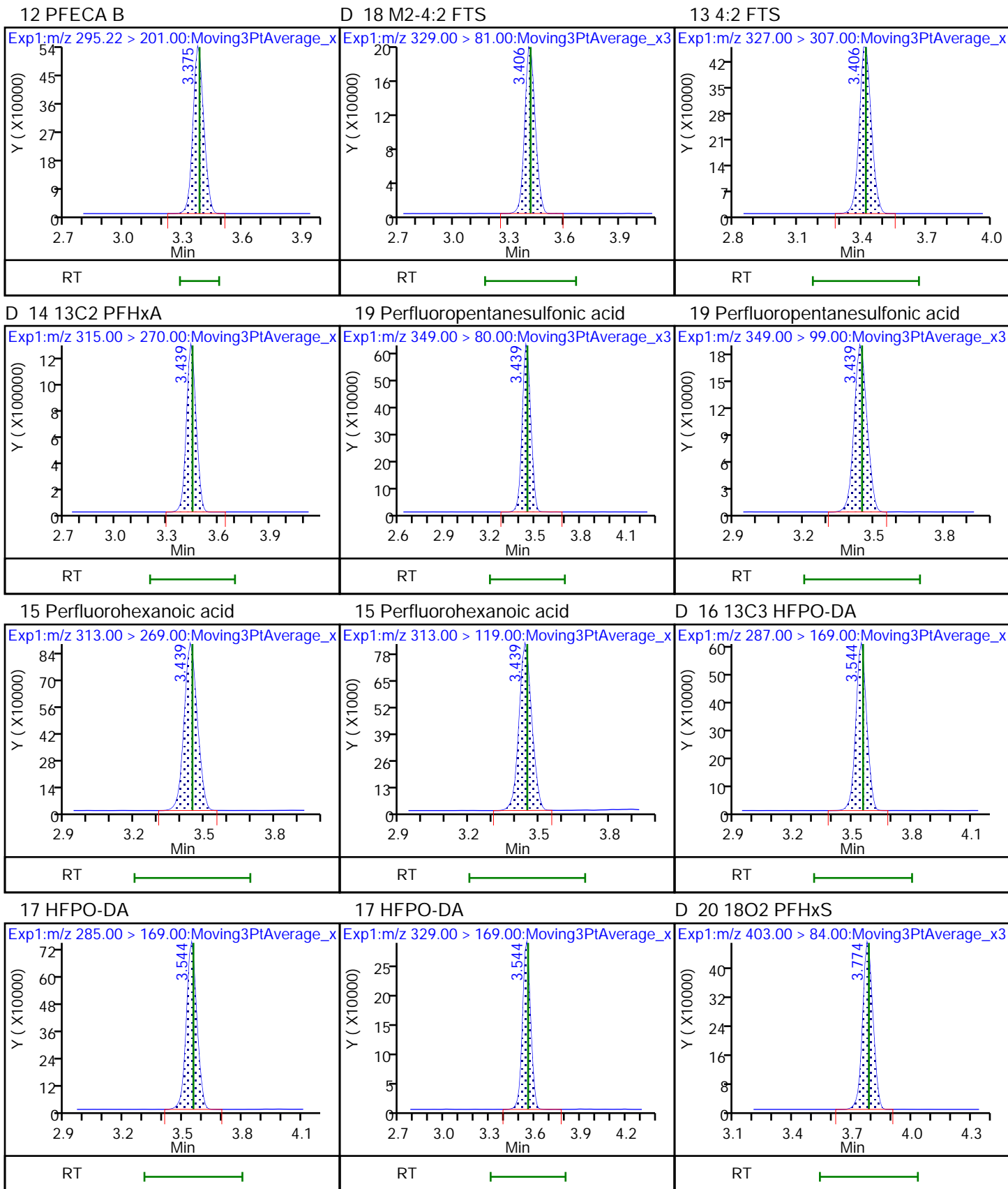


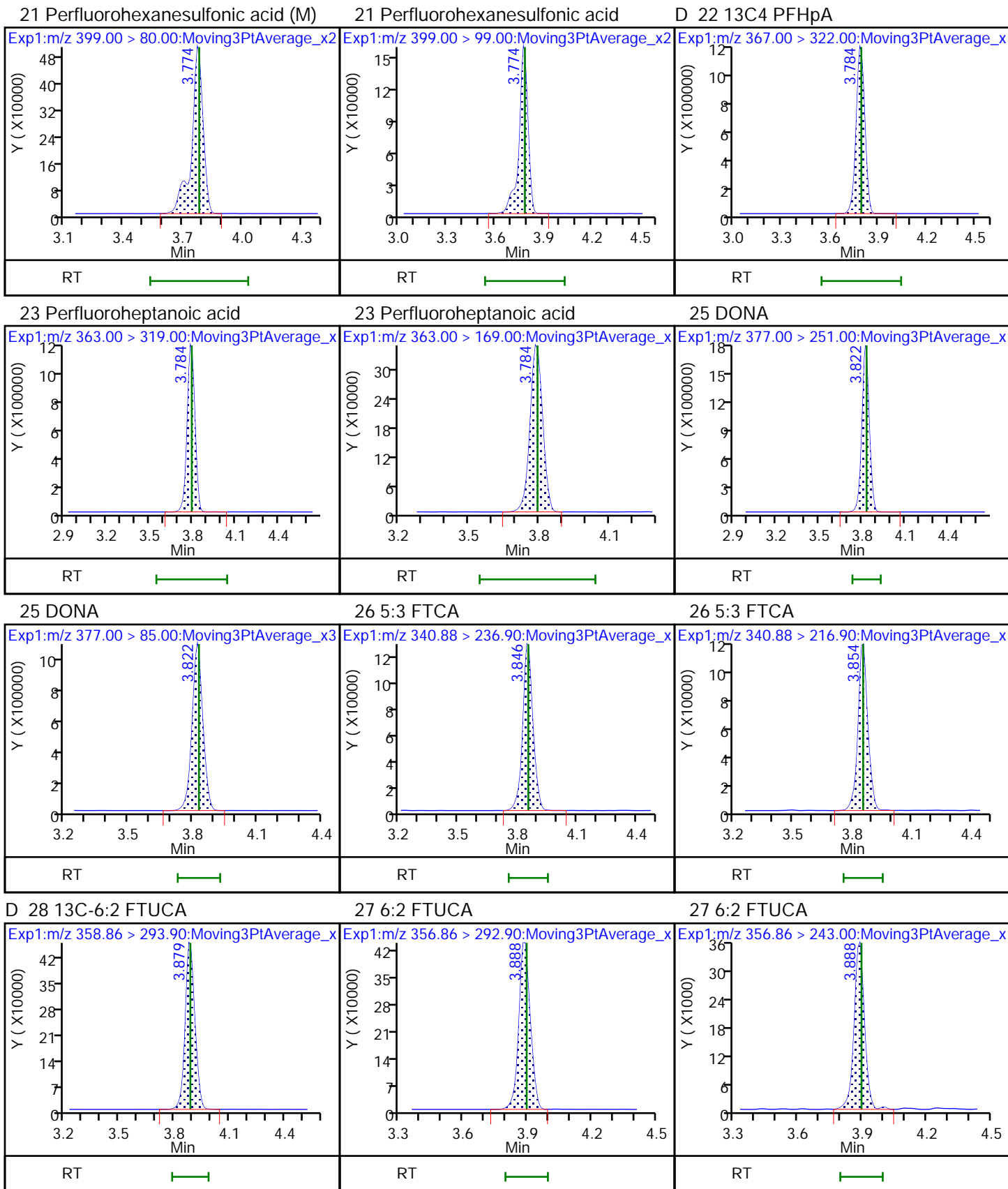
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



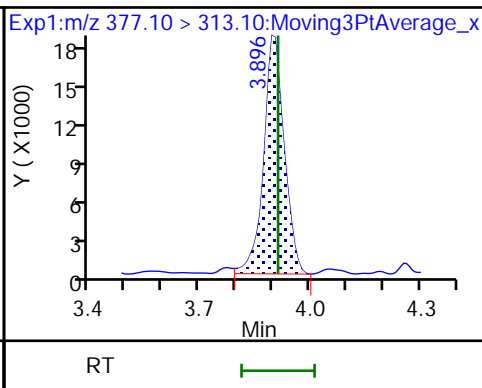
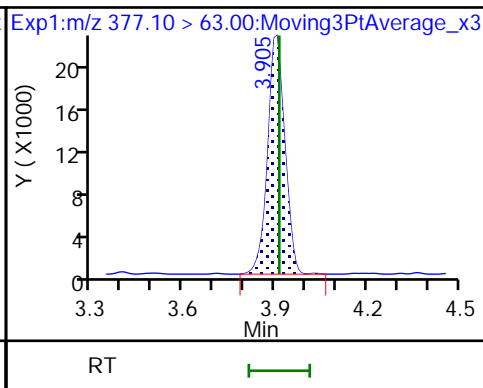
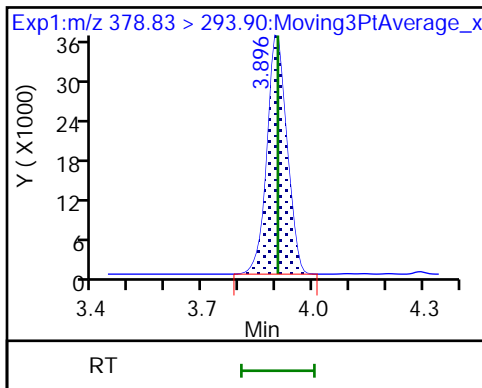




D 24 13C-6:2 FTCA

29 6:2 FTCA

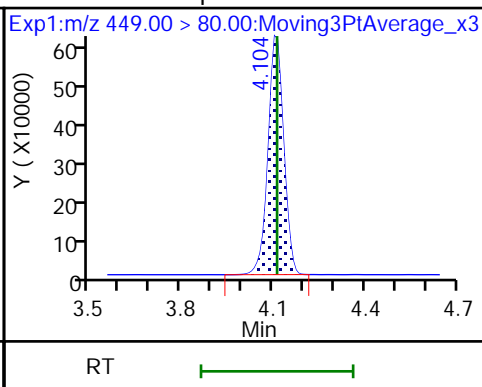
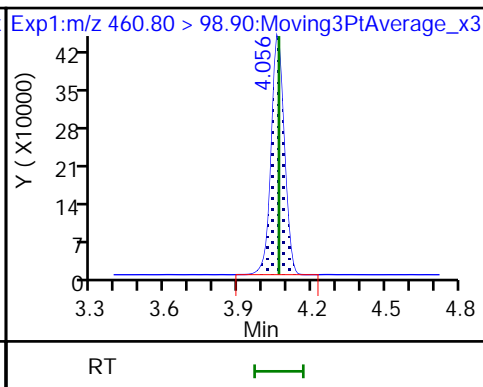
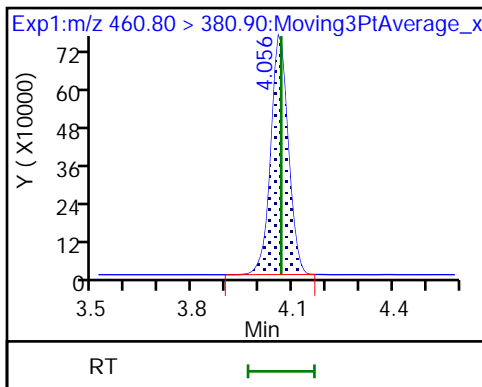
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32 PFECHS

32 PFECHS

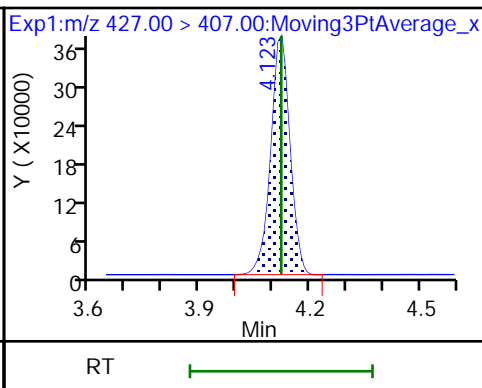
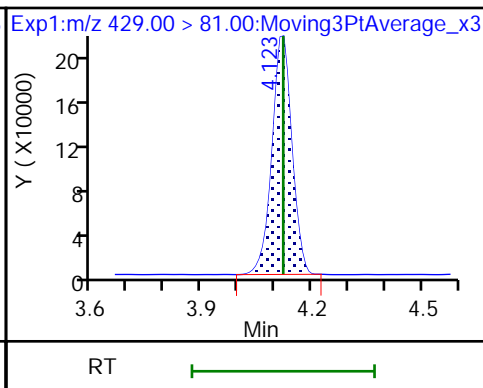
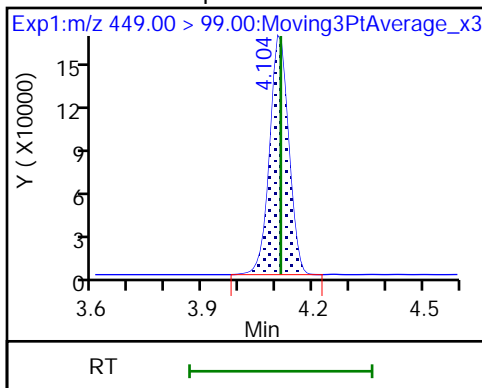
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

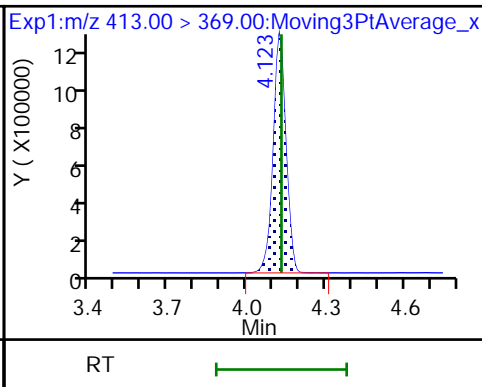
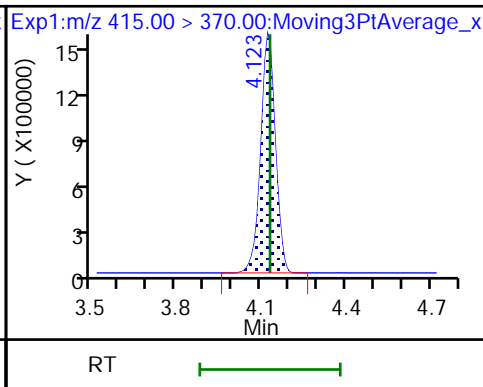
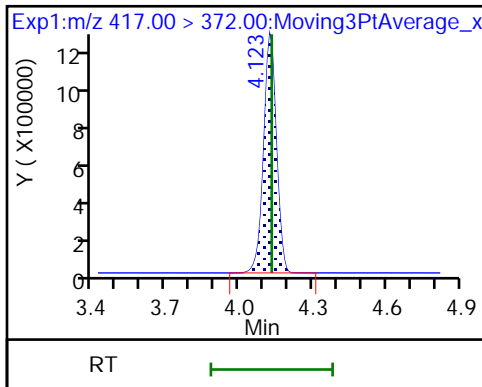
35 6:2 FTS

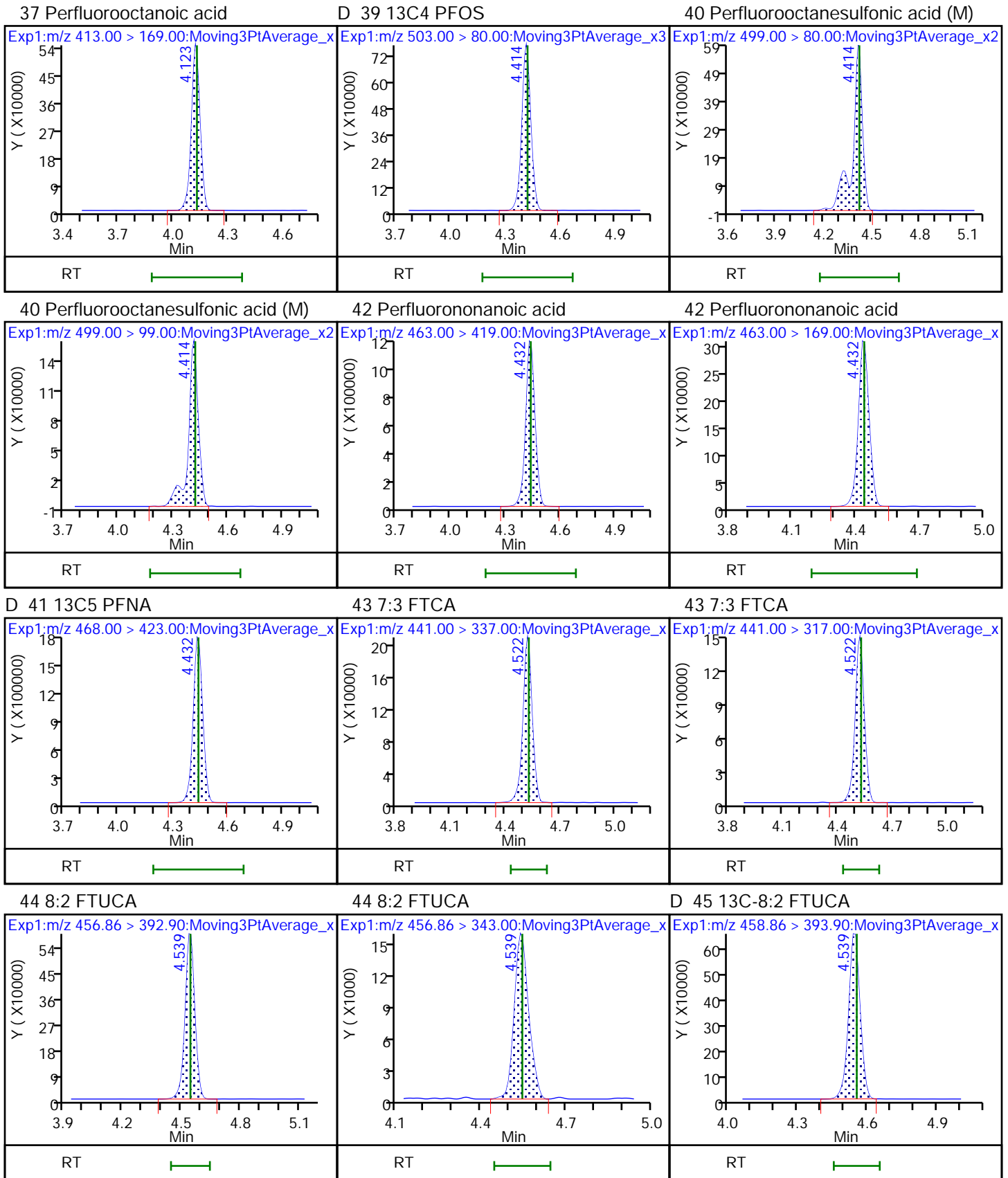


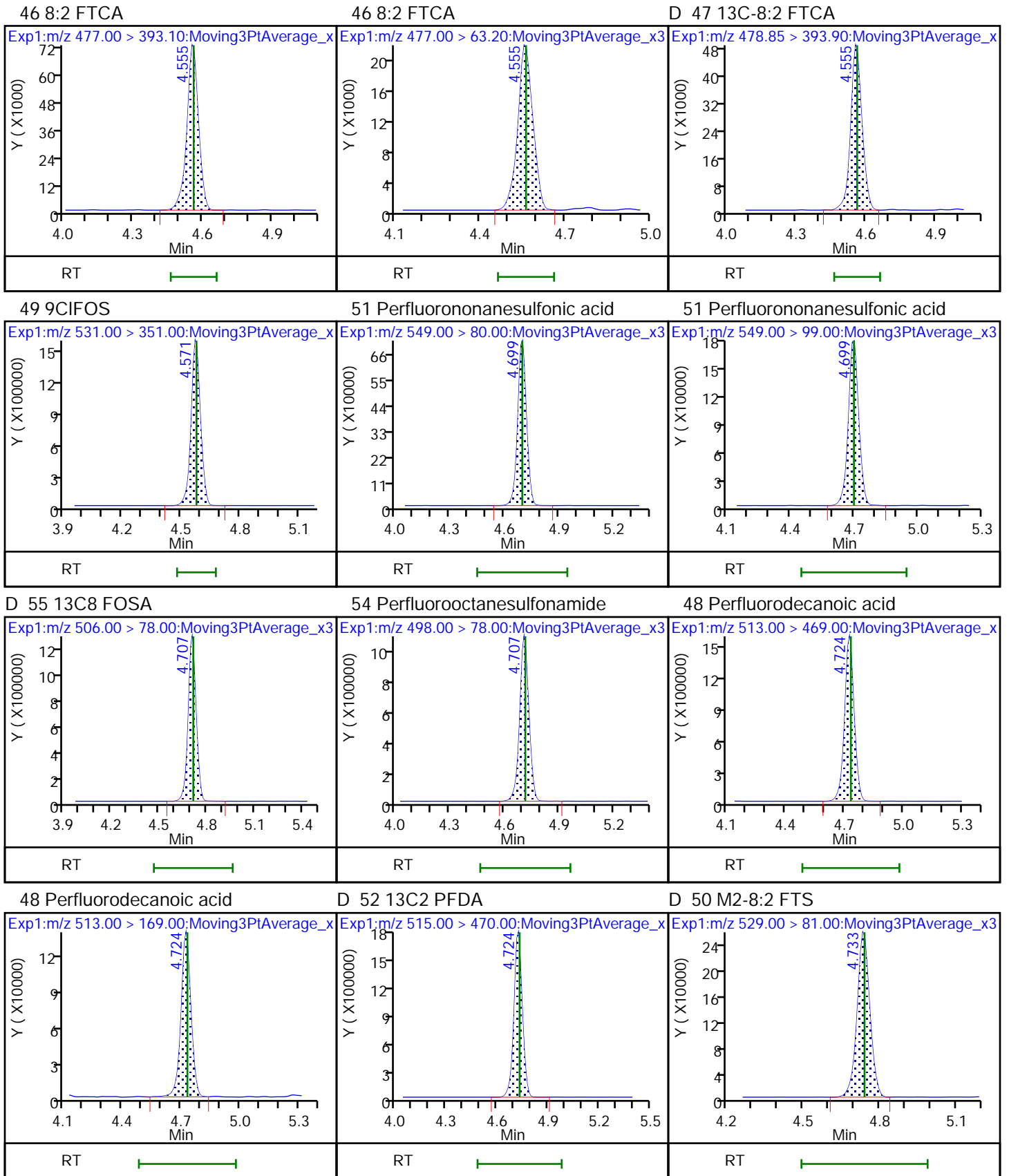
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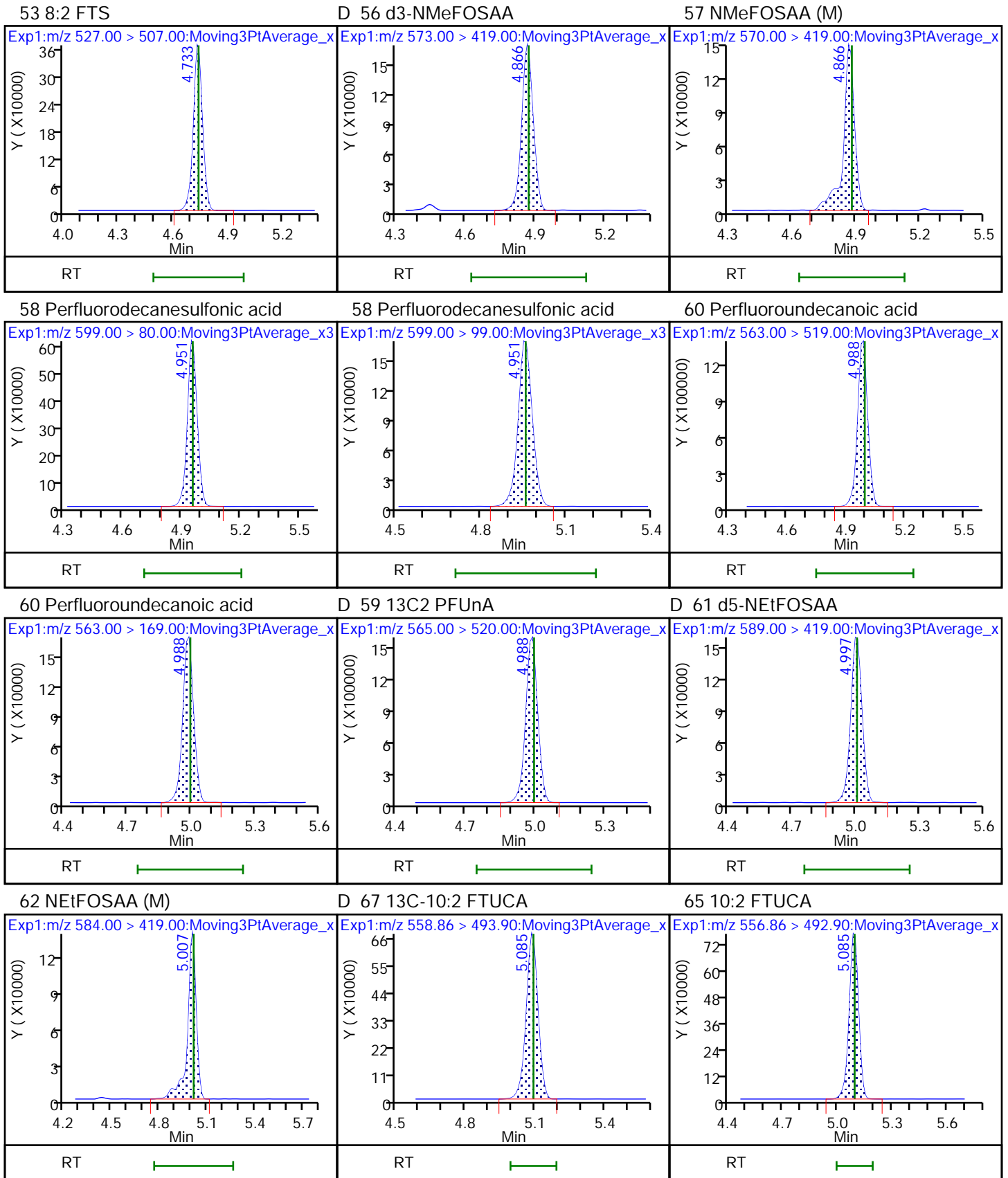
\* 30 13C2 PFOA

37 Perfluorooctanoic acid

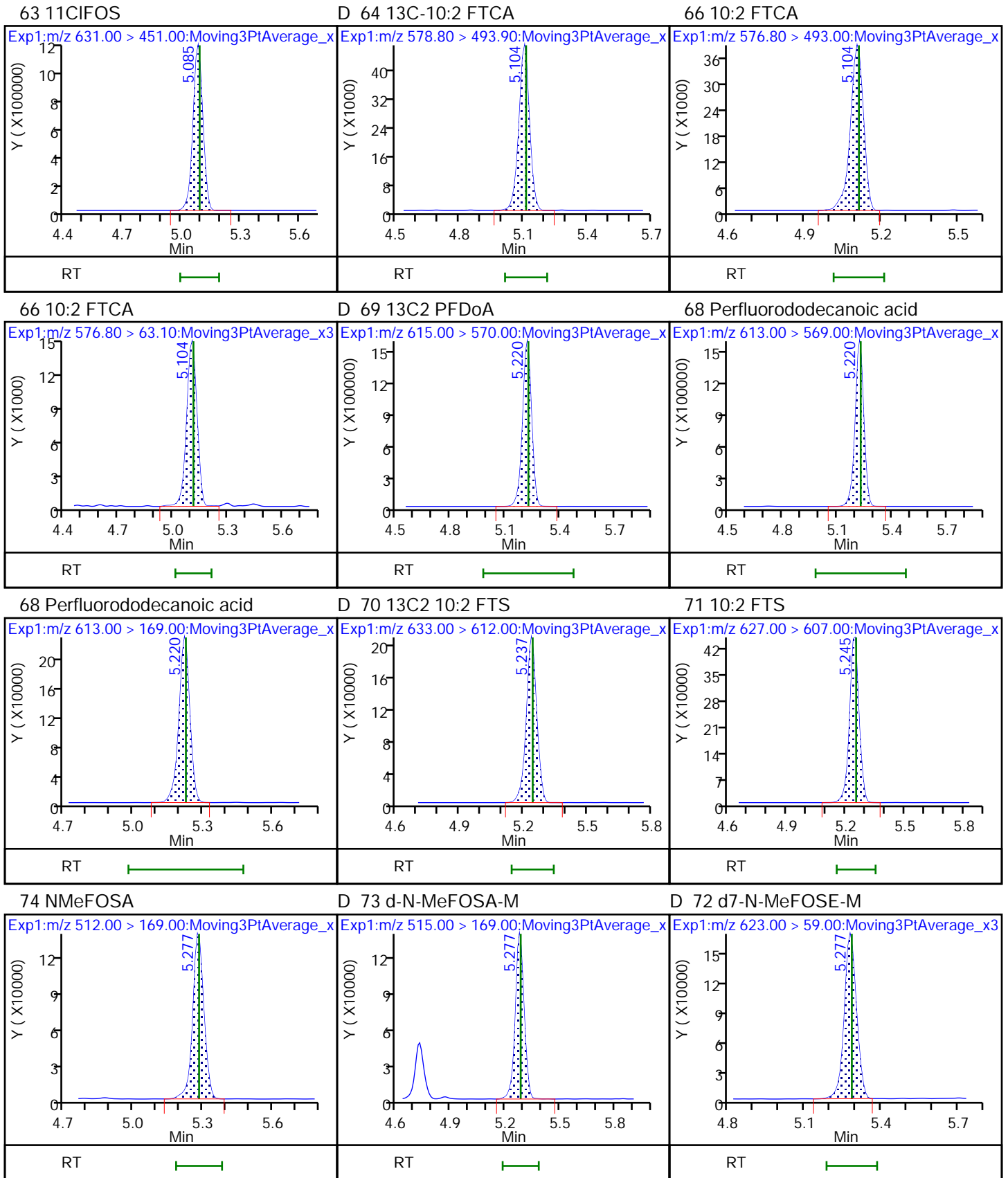


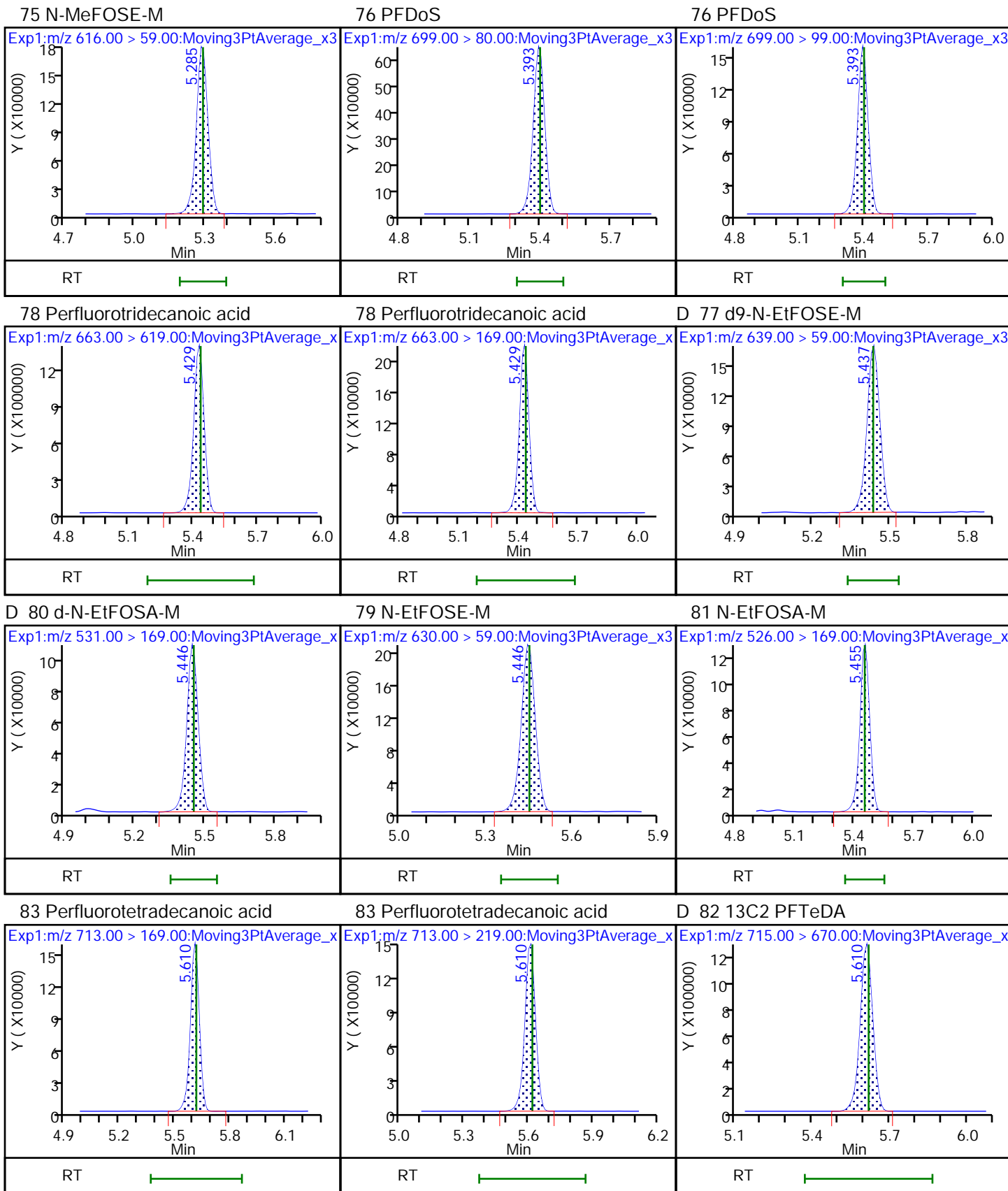








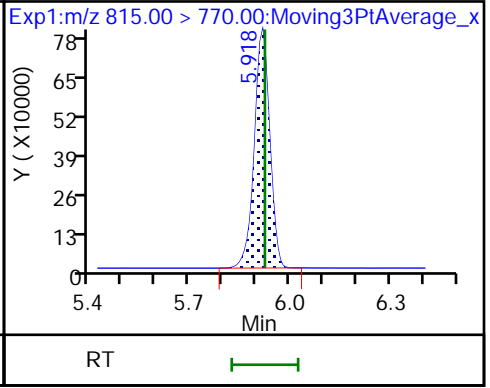
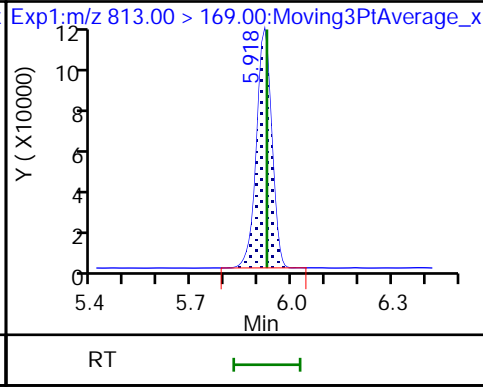
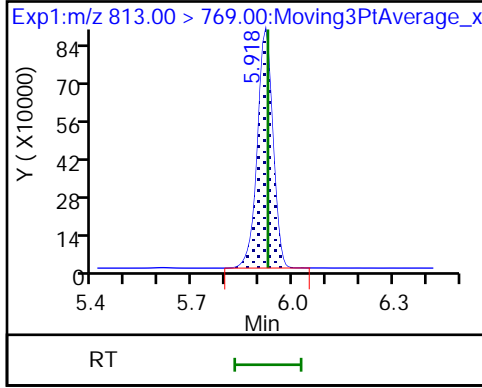




85 Perfluorohexadecanoic acid

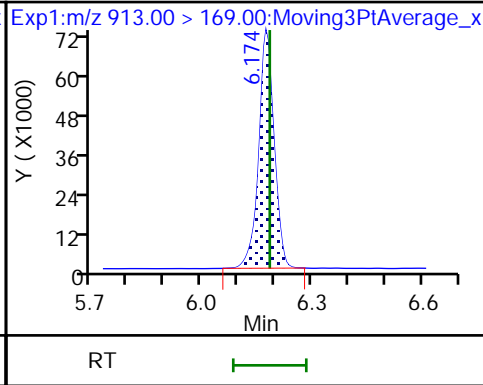
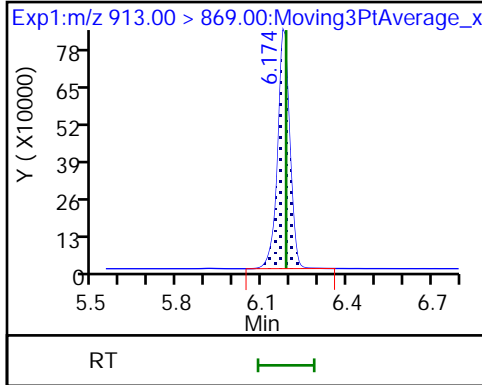
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid



# Shipping and Receiving Documents

**Request for Analysis/Chain-of-Custody – RFA/COC #001**  
**The Chemours Company – Fayetteville NC**  
**VEN Carbon Bed Inlet Repeat**



Environment Testing  
 TestAmerica


<b>Project Identification:</b>	<b>Chemours Emissions Test</b>
Client Name:	Chemours Company
Client Contact:	Christel Compton (910) 678-1213
TestAmerica Contact:	Courtney Adkins (865) 291-3019
TestAmerica Project Manager:	Billy Anderson (865) 291-3080

<b>Laboratory Deliverable Turnaround Requirements:</b>	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	28 Days from Lab Receipt
<b>Laboratory Destination:</b>	
TestAmerica Laboratories, Inc. 5815 Middlebrook Pike Knoxville, TN 37921	
<b>Lab Phone Number:</b>	865.291.3000
<b>Courier:</b>	Hand Deliver

**Analytical Testing QC Requirements:**  
 The Legend for Project-Specific Quality Control Testing is designated in the "QC" column as follows: "BT" = Blank Train, "RB" = Reagent Blank, "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, "PB" = Proof Blank, "TB" = Trip Blank

**Project Deliverables:**  
 Report analytical results on TALS Reports and in data packages. Include "Field Sample Number", "Sample Type", and "Run Number" on all TALS Reports.

<b>Analytical Parameter:</b>	<b>Holding Time Requirements:</b>	<b>Preservation Requirements:</b>
HFPO-DA (CAS No. 13252-13-6)	14 Days to Extraction; 40 Days to Analysis	Cool, 4°C

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2166 VEN Carbon Bed Inlet R1 OTM-45 Particulate Filter  (Combine with T-2165)	1	2/10/22		125 mL HDPE Wide-Mouth Bottle	Particulate Filter (82.6 mm Whatman Glass Microfiber)  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using method 8321A-HFPO.
T-2165 VEN Carbon Bed Inlet R1 OTM-45 FH of Filter Holder & Probe Methanol Rinse  (Combine with T-2166)	1	2/10/22		125 mL HDPE Wide-Mouth Bottle	Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the Particulate Filter extraction.   140-26390 Chain of Custody
T-2164 VEN Carbon Bed Inlet R1 OTM-45 XAD-2 Resin Tube	1	2/10/22		XAD-2 Resin Tube	XAD-2 Resin Tube  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the BacT-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using method 8321A-HFPO.

Request for Analysis/Chain-of-Custody – RFA/COC #001  
 The Chemours Company – Fayetteville NC  
 VEN Carbon Bed Inlet Repeat



Environment Testing  
 TestAmerica

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2163 VEN Carbon Bed Inlet R1 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse  (Combine with T-2164)	1	2/10/22		125 mL HDPE Wide- Mouth Bottle	<b>Back Half of Filter Holder &amp; Coil Condenser Methanol/5% Ammonium Hydroxide Rinse</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.
T-2162 VEN Carbon Bed Inlet R1 OTM-45 Impingers 1,2 & 3 Condensate	1	2/10/22		500 mL HDPE Wide- Mouth Bottle	<b>Impinger #1, #2 &amp; #3 Condensate</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Analyze the sample for HFPO-DA.
T-2161 VEN Carbon Bed Inlet R1 OTM-45 Impinger Glassware MeOH Rinse  (Combine with T-2164)	1	2/10/22		250 mL HDPE Wide- Mouth Bottle	<b>Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the XAD-2 Resin Extraction.
T-2160 VEN Carbon Bed Inlet R1 OTM-45 Breakthrough XAD-2 Resin Tube	1	2/10/22		XAD-2 Resin Tube	<b>Breakthrough XAD-2 Resin Tube</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.
T-2159 VEN Carbon Bed Inlet R2 OTM-45 Particulate Filter  (Combine with T-2158)	2	2/10/22		125 mL HDPE Wide- Mouth Bottle	<b>Particulate Filter (82.6 mm Whatman Glass Microfiber)</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using method 8321A-HFPO.
T-2158 VEN Carbon Bed Inlet R2 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse  (Combine with T-2159)	2	2/10/22		125 mL HDPE Wide- Mouth Bottle	<b>Front Half of Filter Holder &amp; Probe Methanol/5% Ammonium Hydroxide Rinse</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the Particulate Filter extraction.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2157 VEN Carbon Bed Inlet R2 OTM-45 XAD-2 Resin Tube	2	2/10/22		XAD-2 Resin Tube	XAD-2 Resin Tube OTM-45 Train HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the BacT-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using method 8321A-HFPO. Analyze.
T-2156 VEN Carbon Bed Inlet R2 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse  (Combine with T-2157)	2	2/10/22		125 mL HDPE Wide-Mouth Bottle	Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse OTM-45 Train HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.
T-2155 VEN Carbon Bed Inlet R2 OTM-45 Impingers 1,2 & 3 Condensate	2	2/10/22		500 mL HDPE Wide-Mouth Bottle	Impinger #1, #2 & #3 Condensate OTM-45 Train HFPO-DA Analysis	<b>Knoxville:</b> Analyze the sample for HFPO-DA.
T-2154 VEN Carbon Bed Inlet R2 OTM-45 Impinger Glassware MeOH Rinse  (Combine with T-2157)	2	2/10/22		250 mL HDPE Wide-Mouth Bottle	Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse OTM-45 Train HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the XAD-2 Resin Extraction.
T-2153 VEN Carbon Bed Inlet R2 OTM-45 Breakthrough XAD-2 Resin Tube	2	2/10/22		XAD-2 Resin Tube	Breakthrough XAD-2 Resin Tube OTM-45 Train HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.



Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2152 VEN Carbon Bed Inlet R3 OTM-45 Particulate Filter  (Combine with T-2151)	3	2/10/22		125 mL HDPE Wide-Mouth Bottle	<b>Particulate Filter (82.6 mm Whatman Glass Microfiber)</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using method 8321A-HFPO.
T-2151 VEN Carbon Bed Inlet R3 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse  (Combine with T-2152)	3	2/10/22		125 mL HDPE Wide-Mouth Bottle	<b>Front Half of Filter Holder &amp; Probe Methanol/5% Ammonium Hydroxide Rinse</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the Particulate Filter extraction.
T-2150 VEN Carbon Bed Inlet R3 OTM-45 XAD-2 Resin Tube	3	2/10/22		XAD-2 Resin Tube	<b>XAD-2 Resin Tube</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the BacT-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using method 8321A-HFPO.
T-2149 VEN Carbon Bed Inlet R3 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse  (Combine with T-2150)	3	2/10/22		125 mL HDPE Wide-Mouth Bottle	<b>Back Half of Filter Holder &amp; Coil Condenser Methanol/5% Ammonium Hydroxide Rinse</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using method 8321A-HFPO.
T-2148 VEN Carbon Bed Inlet R3 OTM-45 Impingers 1,2 & 3 Condensate	3	2/10/22		500 mL HDPE Wide-Mouth Bottle	<b>Impinger #1, #2 &amp; #3 Condensate</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Analyze the sample for HFPO-DA.
T-2147 VEN Carbon Bed Inlet R3 OTM-45 Impinger Glassware MeOH Rinse  (Combine with T-2150)	3	2/10/22		250 mL HDPE Wide-Mouth Bottle	<b>Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the XAD-2 Resin Extraction.



Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2146 VEN Carbon Bed Inlet R3 OTM-45 Breakthrough XAD-2 Resin Tube	3	2/10/22		XAD-2 Resin Tube	Breakthrough XAD-2 Resin Tube  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.

### Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:

Comments

(Please write "NONE" if no comment applicable)

- (1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment. NONE
- (2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA: RT.0.7 / CT 0.6°C
- (3) Record any apparent sample loss/breakage. NONE
- (4) Record any unidentified samples transported with this shipment of samples: NONE
- (5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances): HAND DELIVERED, NO CUSTODY SEALS

### Custody Transfer:

Relinquished By:	<u>Cathy May</u> Name	<u>Alliance</u> Company	<u>2/10/22/2015</u> Date/Time
Accepted By:	<u>Day Colill</u> Name	<u>ETA KNOX</u> Company	<u>2/14/22 2015</u> Date/Time
Relinquished By:	<u>Day Colill</u> Name	<u>ETA KNOX</u> Company	<u>2/11/22 1250</u> Date/Time
Accepted By:	<u>Ryan [Signature]</u> Name	<u>ETA KNOX</u> Company	<u>2-11-22 12:50</u> Date/Time
Relinquished By:	_____ Name	_____ Company	_____ Date/Time
Accepted By:	_____ Name	_____ Company	_____ Date/Time
Relinquished By:	_____ Name	_____ Company	_____ Date/Time
Accepted By:	_____ Name	_____ Company	_____ Date/Time

EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Log In Number:

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Are the shipping containers intact?	/			<input type="checkbox"/> Containers, Broken	
2. Were ambient air containers received intact?	/			<input type="checkbox"/> Checked in lab	
3. The coolers/containers custody seal if present, is it intact?	/			<input type="checkbox"/> Yes <input type="checkbox"/> NA	
4. Is the cooler temperature within limits? (> freezing temp. of water to 6°C, VOST: 10°C) Thermometer ID : <u>SL72</u> Correction factor: <u>-0.1°C</u>	/			<input type="checkbox"/> Cooler Out of Temp, Client Contacted, Proceed/Cancel <input type="checkbox"/> Cooler Out of Temp, Same Day Receipt	
5. Were all of the sample containers received intact?	/			<input type="checkbox"/> Containers, Broken	
6. Were samples received in appropriate containers?	/			<input type="checkbox"/> Containers, Improper; Client Contacted; Proceed/Cancel	
7. Do sample container labels match COC? (IDs, Dates, Times)	/			<input type="checkbox"/> COC & Samples Do Not Match <input type="checkbox"/> COC Incorrect/Incomplete <input type="checkbox"/> COC Not Received	
8. Were all of the samples listed on the COC received?	/			<input type="checkbox"/> Sample Received, Not on COC <input type="checkbox"/> Sample on COC, Not Received	
9. Is the date/time of sample collection noted?	/			<input type="checkbox"/> COC; No Date/Time; Client Contacted	
10. Was the sampler identified on the COC?	/			<input type="checkbox"/> Sampler Not Listed on COC	
11. Is the client and project name/# identified?	/			<input type="checkbox"/> COC Incorrect/Incomplete	
12. Are tests/parameters listed for each sample?	/			<input type="checkbox"/> COC No tests on COC	
13. Is the matrix of the samples noted?	/			<input type="checkbox"/> COC Incorrect/Incomplete	
14. Was COC relinquished? (Signed/Dated/Timed)	/			<input type="checkbox"/> COC Incorrect/Incomplete	
15. Were samples received within holding time?	/			<input type="checkbox"/> Holding Time - Receipt	
16. Were samples received with correct chemical preservative (excluding Encore)?	/			<input type="checkbox"/> pH Adjusted, pH Included (See box 16A) <input type="checkbox"/> Incorrect Preservative	
17. Were VOA samples received without headspace?	/			<input type="checkbox"/> Headspace (VOA only) <input type="checkbox"/> Residual Chlorine	
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:	/				
19. For 1613B water samples is pH<9?	/			<input type="checkbox"/> If no, notify lab to adjust	
20. For rad samples was sample activity info. Provided?	/			<input type="checkbox"/> Project missing info	
Project #: _____ PM Instructions: _____					
Labeling Verified by: _____ Date: _____ pH test strip lot number: _____ Box 16A: pH Preservation _____ Box 18A: Residual Chlorine _____ Preservative: _____ Lot Number: _____ Exp Date: _____ Analyst: _____ Date: _____ Time: _____					

Sample Receiving Associate: [Signature] Date: 2-14-22 QA026R32.doc, 062719

## ANALYTICAL REPORT

Job Number: 140-26391-1

Job Description: VEN Carbon Bed Outlet

Contract Number: LBIO-67048

For:

The Chemours Company FC, LLC

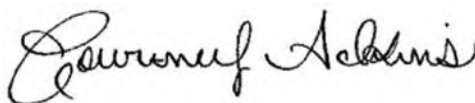
c/o AECOM

Sabre Building, Suite 300

4051 Ogletown Road

Newark, DE 19713

Attention: Michael Aucoin



Approved for release.  
Courtney M Adkins  
Project Manager II  
2/27/2022 10:34 AM

---

Courtney M Adkins, Project Manager II  
5815 Middlebrook Pike, Knoxville, TN, 37921  
(865)291-3019  
courtney.adkins@eurofinset.com  
02/27/2022

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

### **Eurofins Knoxville**

5815 Middlebrook Pike, Knoxville, TN 37921

Tel (865) 291-3000 Fax (865) 584-4315 [www.testamericainc.com](http://www.testamericainc.com)



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# Definitions/Glossary

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

## Qualifiers

### LCMS

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Method Summary

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

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<b>Method</b>	<b>Method Description</b>	<b>Protocol</b>	<b>Laboratory</b>
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL KNX
Dilution	Dilution and Re-fortification of Standards	None	TAL KNX
None	Leaching Procedure	TAL SOP	TAL KNX
None	Leaching Procedure for Filter	TAL SOP	TAL KNX
PFAS Prep	Preparation, Direct Inject PFAS	TAL-SAC	TAL KNX
Split	Source Air Split	None	TAL KNX

**Protocol References:**

EPA = US Environmental Protection Agency

None = None

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

TAL-SAC = Eurofins Sacramento, Facility Standard Operating Procedure.

**Laboratory References:**

TAL KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Sample Summary

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-26391-1	T-2145,2144 VEN CB OUTLET R1 OTM-45 FH	Air	02/10/22 00:00	02/11/22 12:50
140-26391-2	T-2143,2142,2140 VEN CB OUTLET R1 OTM-45 BH	Air	02/10/22 00:00	02/11/22 12:50
140-26391-3	T-2141 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 COND	Air	02/10/22 00:00	02/11/22 12:50
140-26391-4	T-2139 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	02/10/22 00:00	02/11/22 12:50
140-26391-5	T-2138,2137 VEN CB OUTLET R2 OTM-45 FH	Air	02/10/22 00:00	02/11/22 12:50
140-26391-6	T-2136,2135,2133 VEN CB OUTLET R2 OTM-45 BH	Air	02/10/22 00:00	02/11/22 12:50
140-26391-7	T-2134 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 COND	Air	02/10/22 00:00	02/11/22 12:50
140-26391-8	T-2132 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	02/10/22 00:00	02/11/22 12:50
140-26391-9	T-2131,2130 VEN CB OUTLET R3 OTM-45 FH	Air	02/10/22 00:00	02/11/22 12:50
140-26391-10	T-2129,2128,2126 VEN CB OUTLET R3 OTM-45 BH	Air	02/10/22 00:00	02/11/22 12:50
140-26391-11	T-2127 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 COND	Air	02/10/22 00:00	02/11/22 12:50
140-26391-12	T-2125 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	02/10/22 00:00	02/11/22 12:50



**Job Narrative**  
**140-26391-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 2/11/2022 12:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.3° C.

**LCMS**

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: T-2145,2144 VEN CB OUTLET R1 OTM-45 FH (140-26391-1), T-2138,2137 VEN CB OUTLET R2 OTM-45 FH (140-26391-5), T-2131,2130 VEN CB OUTLET R3 OTM-45 FH (140-26391-9) and T-2129,2128,2126 VEN CB OUTLET R3 OTM-45 BH (140-26391-10). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): T-2145,2144 VEN CB OUTLET R1 OTM-45 FH (140-26391-1), T-2138,2137 VEN CB OUTLET R2 OTM-45 FH (140-26391-5), T-2131,2130 VEN CB OUTLET R3 OTM-45 FH (140-26391-9) and T-2129,2128,2126 VEN CB OUTLET R3 OTM-45 BH (140-26391-10). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): The method blank for preparation batch 140-58905 and 140-58961 contained HFPO-DA above the reporting limit (RL). The entire sample was consumed during analysis or extraction, therefore, the data have been reported.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: T-2139 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-26391-4) and T-2136,2135,2133 VEN CB OUTLET R2 OTM-45 BH (140-26391-6). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): T-2139 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-26391-4) and T-2136,2135,2133 VEN CB OUTLET R2 OTM-45 BH (140-26391-6). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# QC Association Summary

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

## LCMS

### Prep Batch: 58905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26391-2	T-2143,2142,2140 VEN CB OUTLET R1 OTM-45	Total/NA	Air	None	
140-26391-4	T-2139 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	None	
140-26391-6	T-2136,2135,2133 VEN CB OUTLET R2 OTM-45	Total/NA	Air	None	
140-26391-8	T-2132 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	None	
140-26391-10	T-2129,2128,2126 VEN CB OUTLET R3 OTM-45	Total/NA	Air	None	
140-26391-12	T-2125 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	None	
MB 140-58905/14-B	Method Blank	Total/NA	Air	None	
MB 140-58905/1-B	Method Blank	Total/NA	Air	None	
LCS 140-58905/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-58905/3-B	Lab Control Sample Dup	Total/NA	Air	None	

### Prep Batch: 58914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26391-1	T-2145,2144 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	None	
140-26391-5	T-2138,2137 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	None	
140-26391-9	T-2131,2130 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	None	
MB 140-58914/1-B	Method Blank	Total/NA	Air	None	
LCS 140-58914/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-58914/3-B	Lab Control Sample Dup	Total/NA	Air	None	

### Cleanup Batch: 58961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26391-2	T-2143,2142,2140 VEN CB OUTLET R1 OTM-45	Total/NA	Air	Split	58905
140-26391-4	T-2139 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	Split	58905
140-26391-6	T-2136,2135,2133 VEN CB OUTLET R2 OTM-45	Total/NA	Air	Split	58905
140-26391-8	T-2132 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	Split	58905
140-26391-10	T-2129,2128,2126 VEN CB OUTLET R3 OTM-45	Total/NA	Air	Split	58905
140-26391-12	T-2125 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	Split	58905
MB 140-58905/14-B	Method Blank	Total/NA	Air	Split	58905
MB 140-58905/1-B	Method Blank	Total/NA	Air	Split	58905
LCS 140-58905/2-B	Lab Control Sample	Total/NA	Air	Split	58905
LCSD 140-58905/3-B	Lab Control Sample Dup	Total/NA	Air	Split	58905

### Cleanup Batch: 58963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26391-1	T-2145,2144 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	Split	58914
140-26391-5	T-2138,2137 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	Split	58914
140-26391-9	T-2131,2130 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	Split	58914
MB 140-58914/1-B	Method Blank	Total/NA	Air	Split	58914
LCS 140-58914/2-B	Lab Control Sample	Total/NA	Air	Split	58914
LCSD 140-58914/3-B	Lab Control Sample Dup	Total/NA	Air	Split	58914

### Prep Batch: 58967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26391-3	T-2141 VEN CB OUTLET R1 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
140-26391-7	T-2134 VEN CB OUTLET R2 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
140-26391-11	T-2127 VEN CB OUTLET R3 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
MB 140-58967/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-58967/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-58967/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

# QC Association Summary

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

## LCMS

### Analysis Batch: 59045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26391-3	T-2141 VEN CB OUTLET R1 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	58967
140-26391-7	T-2134 VEN CB OUTLET R2 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	58967
140-26391-11	T-2127 VEN CB OUTLET R3 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	58967
MB 140-58914/1-B	Method Blank	Total/NA	Air	537 (modified)	58963
MB 140-58967/1-A	Method Blank	Total/NA	Air	537 (modified)	58967
LCS 140-58914/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	58963
LCS 140-58967/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	58967
LCSD 140-58914/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	58963
LCSD 140-58967/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	58967

### Analysis Batch: 59059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26391-1	T-2145,2144 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	537 (modified)	59060
140-26391-2	T-2143,2142,2140 VEN CB OUTLET R1 OTM-45	Total/NA	Air	537 (modified)	59060
140-26391-5	T-2138,2137 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	537 (modified)	59060
140-26391-9	T-2131,2130 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	537 (modified)	59060
140-26391-10	T-2129,2128,2126 VEN CB OUTLET R3 OTM-45	Total/NA	Air	537 (modified)	59060
140-26391-12	T-2125 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	58961
MB 140-58905/14-B	Method Blank	Total/NA	Air	537 (modified)	58961
MB 140-58905/1-B	Method Blank	Total/NA	Air	537 (modified)	58961
LCS 140-58905/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	58961
LCSD 140-58905/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	58961

### Cleanup Batch: 59060

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26391-1	T-2145,2144 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	Dilution	58963
140-26391-2	T-2143,2142,2140 VEN CB OUTLET R1 OTM-45	Total/NA	Air	Dilution	58961
140-26391-5	T-2138,2137 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	Dilution	58963
140-26391-6	T-2136,2135,2133 VEN CB OUTLET R2 OTM-45	Total/NA	Air	Dilution	58961
140-26391-9	T-2131,2130 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	Dilution	58963
140-26391-10	T-2129,2128,2126 VEN CB OUTLET R3 OTM-45	Total/NA	Air	Dilution	58961

### Analysis Batch: 59064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26391-4	T-2139 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	59065
140-26391-6	T-2136,2135,2133 VEN CB OUTLET R2 OTM-45	Total/NA	Air	537 (modified)	59060
140-26391-8	T-2132 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	58961

### Cleanup Batch: 59065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26391-4	T-2139 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	Dilution	58961

# Client Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

**Client Sample ID: T-2145,2144 VEN CB OUTLET R1 OTM-45**

**Lab Sample ID: 140-26391-1**

**FH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	9.81		0.100	0.0580	ug/Sample		02/16/22 07:38	02/19/22 19:54	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	87		25 - 150				02/16/22 07:38	02/19/22 19:54	1

**Client Sample ID: T-2143,2142,2140 VEN CB OUTLET R1**

**Lab Sample ID: 140-26391-2**

**OTM-45 BH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	22.5	B	0.320	0.280	ug/Sample		02/15/22 14:06	02/19/22 21:51	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	89		25 - 150				02/15/22 14:06	02/19/22 21:51	1

**Client Sample ID: T-2141 VEN CB OUTLET R1 OTM-45**

**Lab Sample ID: 140-26391-3**

**IMPINGERS 1,2&3 COND**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0737	0.0128	ug/Sample		02/17/22 09:59	02/18/22 23:12	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	77		25 - 150				02/17/22 09:59	02/18/22 23:12	1

**Client Sample ID: T-2139 VEN CB OUTLET R1 OTM-45**

**Lab Sample ID: 140-26391-4**

**BREAKTHROUGH XAD-2 RESIN TUBE**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	15.3	B	0.320	0.280	ug/Sample		02/15/22 14:06	02/20/22 14:41	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	96		25 - 150				02/15/22 14:06	02/20/22 14:41	1

# Client Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

**Client Sample ID: T-2138,2137 VEN CB OUTLET R2 OTM-45**

**Lab Sample ID: 140-26391-5**

**FH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	13.1		0.0983	0.0570	ug/Sample		02/16/22 07:38	02/19/22 20:04	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	85		25 - 150				02/16/22 07:38	02/19/22 20:04	1

**Client Sample ID: T-2136,2135,2133 VEN CB OUTLET R2**

**Lab Sample ID: 140-26391-6**

**OTM-45 BH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	9.95	B	0.320	0.280	ug/Sample		02/15/22 14:06	02/20/22 14:59	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	91		25 - 150				02/15/22 14:06	02/20/22 14:59	1

**Client Sample ID: T-2134 VEN CB OUTLET R2 OTM-45**

**Lab Sample ID: 140-26391-7**

**IMPINGERS 1,2&3 COND**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0725	0.0126	ug/Sample		02/17/22 09:59	02/18/22 23:21	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	73		25 - 150				02/17/22 09:59	02/18/22 23:21	1

**Client Sample ID: T-2132 VEN CB OUTLET R2 OTM-45**

**Lab Sample ID: 140-26391-8**

**BREAKTHROUGH XAD-2 RESIN TUBE**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.00540	B	0.00160	0.00140	ug/Sample		02/15/22 14:06	02/20/22 15:08	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	85		25 - 150				02/15/22 14:06	02/20/22 15:08	1

# Client Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

**Client Sample ID: T-2131,2130 VEN CB OUTLET R3 OTM-45**

**Lab Sample ID: 140-26391-9**

**FH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	9.45		0.100	0.0580	ug/Sample		02/16/22 07:38	02/19/22 20:14	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	95		25 - 150				02/16/22 07:38	02/19/22 20:14	1

**Client Sample ID: T-2129,2128,2126 VEN CB OUTLET R3**

**Lab Sample ID: 140-26391-10**

**OTM-45 BH**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	35.0		0.320	0.280	ug/Sample		02/15/22 14:06	02/19/22 22:52	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	86		25 - 150				02/15/22 14:06	02/19/22 22:52	1

**Client Sample ID: T-2127 VEN CB OUTLET R3 OTM-45**

**Lab Sample ID: 140-26391-11**

**IMPINGERS 1,2&3 COND**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0750	0.0130	ug/Sample		02/17/22 09:59	02/18/22 23:47	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	74		25 - 150				02/17/22 09:59	02/18/22 23:47	1

**Client Sample ID: T-2125 VEN CB OUTLET R3 OTM-45**

**Lab Sample ID: 140-26391-12**

**BREAKTHROUGH XAD-2 RESIN TUBE**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0643		0.00160	0.00140	ug/Sample		02/15/22 14:06	02/19/22 23:01	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	84		25 - 150				02/15/22 14:06	02/19/22 23:01	1

# Default Detection Limits

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: None

Analyte	RL	MDL	Units
HFPO-DA	0.00100	0.000580	ug/Sample
HFPO-DA	0.00160	0.00140	ug/Sample

## Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: PFAS Prep

Analyte	RL	MDL	Units
HFPO-DA	0.000500	0.0000870	ug/Sample

# Isotope Dilution Summary

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Air

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	HFPODA (25-150)	Percent Isotope Dilution Recovery (Acceptance Limits)			
140-26391-1	T-2145,2144 VEN CB OUTLET	87				
140-26391-2	T-2143,2142,2140 VEN CB OUTLET R1 OTM-45 BH	89				
140-26391-3	T-2141 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 COND	77				
140-26391-4	T-2139 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	96				
140-26391-5	T-2138,2137 VEN CB OUTLET R2 OTM-45 FH	85				
140-26391-6	T-2136,2135,2133 VEN CB OUTLET R2 OTM-45 BH	91				
140-26391-7	T-2134 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 COND	73				
140-26391-8	T-2132 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	85				
140-26391-9	T-2131,2130 VEN CB OUTLET R3 OTM-45 FH	95				
140-26391-10	T-2129,2128,2126 VEN CB OUTLET R3 OTM-45 BH	86				
140-26391-11	T-2127 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 COND	74				
140-26391-12	T-2125 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	84				
LCS 140-58905/2-B	Lab Control Sample	89				
LCS 140-58914/2-B	Lab Control Sample	87				
LCS 140-58967/2-A	Lab Control Sample	79				
LCSD 140-58905/3-B	Lab Control Sample Dup	83				
LCSD 140-58914/3-B	Lab Control Sample Dup	82				
LCSD 140-58967/3-A	Lab Control Sample Dup	81				
MB 140-58905/14-B	Method Blank	84				
MB 140-58905/1-B	Method Blank	89				
MB 140-58914/1-B	Method Blank	82				
MB 140-58967/1-A	Method Blank	84				

**Surrogate Legend**

HFPODA = 13C3 HFPO-DA



# QC Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

**Lab Sample ID: MB 140-58905/14-B**  
**Matrix: Air**  
**Analysis Batch: 59059**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 58905**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00160	0.00140	ug/Sample		02/15/22 14:06	02/19/22 22:43	1
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA		84		25 - 150			02/15/22 14:06	02/19/22 22:43	1

**Lab Sample ID: MB 140-58905/1-B**  
**Matrix: Air**  
**Analysis Batch: 59059**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 58905**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.002651		0.00160	0.00140	ug/Sample		02/15/22 14:06	02/19/22 20:40	1
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA		89		25 - 150			02/15/22 14:06	02/19/22 20:40	1

**Lab Sample ID: LCS 140-58905/2-B**  
**Matrix: Air**  
**Analysis Batch: 59059**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58905**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HFPO-DA	0.0200	0.02421		ug/Sample		121	60 - 140
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			
13C3 HFPO-DA		89		25 - 150			

**Lab Sample ID: LCSD 140-58905/3-B**  
**Matrix: Air**  
**Analysis Batch: 59059**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 58905**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HFPO-DA	0.0200	0.02594		ug/Sample		130	60 - 140	7	30
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>					
13C3 HFPO-DA		83		25 - 150					

**Lab Sample ID: MB 140-58914/1-B**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 58914**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00104	0.000604	ug/Sample		02/16/22 07:38	02/19/22 00:31	1
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>			<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA		82		25 - 150			02/16/22 07:38	02/19/22 00:31	1

# QC Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: LCS 140-58914/2-B**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58914**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HFPO-DA	0.0200	0.02100		ug/Sample		105	60 - 140
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>				<i>Limits</i>
13C3 HFPO-DA		87					25 - 150

**Lab Sample ID: LCSD 140-58914/3-B**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 58914**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HFPO-DA	0.0200	0.02215		ug/Sample		111	60 - 140	5	30
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>				<i>Limits</i>		
13C3 HFPO-DA		82					25 - 150		

**Lab Sample ID: MB 140-58967/1-A**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 58967**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.0000870	ug/Sample		02/17/22 09:59	02/18/22 22:19	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	84		25 - 150				02/17/22 09:59	02/18/22 22:19	1

**Lab Sample ID: LCS 140-58967/2-A**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58967**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HFPO-DA	0.0100	0.01237		ug/Sample		124	60 - 140
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>				<i>Limits</i>
13C3 HFPO-DA		79					25 - 150

**Lab Sample ID: LCSD 140-58967/3-A**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 58967**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HFPO-DA	0.0100	0.01188		ug/Sample		119	60 - 140	4	30
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>				<i>Limits</i>		
13C3 HFPO-DA		81					25 - 150		

# Lab Chronicle

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

**Client Sample ID: T-2145,2144 VEN CB OUTLET R1 OTM-45**

**Lab Sample ID: 140-26391-1**

**FH**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	86 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			43 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	59060	02/19/22 16:57	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 19:54	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2143,2142,2140 VEN CB OUTLET R1 OTM-45 BH**

**Lab Sample ID: 140-26391-2**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Cleanup	Dilution			50 uL	10000 uL	59060	02/19/22 16:57	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 21:51	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2141 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 COND**

**Lab Sample ID: 140-26391-3**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			0.00678 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 23:12	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2139 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE**

**Lab Sample ID: 140-26391-4**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Cleanup	Dilution			50 uL	10000 uL	59065	02/20/22 13:04	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59064	02/20/22 14:41	JRC	TAL KNX
Instrument ID: LCA										

# Lab Chronicle

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

**Client Sample ID: T-2138,2137 VEN CB OUTLET R2 OTM-45**

**Lab Sample ID: 140-26391-5**

**FH**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	57 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			29 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	59060	02/19/22 16:57	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 20:04	JRC	TAL KNX

Instrument ID: LCA

**Client Sample ID: T-2136,2135,2133 VEN CB OUTLET R2**

**Lab Sample ID: 140-26391-6**

**OTM-45 BH**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Cleanup	Dilution			50 uL	10000 uL	59060	02/19/22 16:57	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59064	02/20/22 14:59	JRC	TAL KNX

Instrument ID: LCA

**Client Sample ID: T-2134 VEN CB OUTLET R2 OTM-45**

**Lab Sample ID: 140-26391-7**

**IMPINGERS 1,2&3 COND**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			0.0069 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 23:21	JRC	TAL KNX

Instrument ID: LCA

**Client Sample ID: T-2132 VEN CB OUTLET R2 OTM-45**

**Lab Sample ID: 140-26391-8**

**BREAKTHROUGH XAD-2 RESIN TUBE**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59064	02/20/22 15:08	JRC	TAL KNX

Instrument ID: LCA

# Lab Chronicle

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

**Client Sample ID: T-2131,2130 VEN CB OUTLET R3 OTM-45**

**Lab Sample ID: 140-26391-9**

**FH**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	96 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			48 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	59060	02/19/22 16:57	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 20:14	JRC	TAL KNX

Instrument ID: LCA

**Client Sample ID: T-2129,2128,2126 VEN CB OUTLET R3**

**Lab Sample ID: 140-26391-10**

**OTM-45 BH**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Cleanup	Dilution			50 uL	10000 uL	59060	02/19/22 16:57	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 22:52	JRC	TAL KNX

Instrument ID: LCA

**Client Sample ID: T-2127 VEN CB OUTLET R3 OTM-45**

**Lab Sample ID: 140-26391-11**

**IMPINGERS 1,2&3 COND**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			0.00667 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 23:47	JRC	TAL KNX

Instrument ID: LCA

**Client Sample ID: T-2125 VEN CB OUTLET R3 OTM-45**

**Lab Sample ID: 140-26391-12**

**BREAKTHROUGH XAD-2 RESIN TUBE**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 23:01	JRC	TAL KNX

Instrument ID: LCA

# Lab Chronicle

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 140-58905/14-B**

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 22:43	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 140-58905/1-B**

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 20:40	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 140-58914/1-B**

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			24 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/19/22 00:31	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 140-58967/1-A**

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 22:19	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 140-58905/2-B**

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 20:49	JRC	TAL KNX
Instrument ID: LCA										

# Lab Chronicle

Client: The Chemours Company FC, LLC  
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-58914/2-B

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/19/22 00:40	JRC	TAL KNX
Instrument ID: LCA										

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-58967/2-A

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 22:28	JRC	TAL KNX
Instrument ID: LCA										

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-58905/3-B

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 20:58	JRC	TAL KNX
Instrument ID: LCA										

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-58914/3-B

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			21 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/19/22 00:49	JRC	TAL KNX
Instrument ID: LCA										

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-58967/3-A

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 22:37	JRC	TAL KNX
Instrument ID: LCA										

### Laboratory References:

TAL KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Accreditation/Certification Summary

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Carbon Bed Outlet

Job ID: 140-26391-1

## Laboratory: Eurofins Knoxville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-17-22
California	State	2423	06-30-22
Colorado	State	TN00009	02-28-22
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-22
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-22
Kansas	NELAP	E-10349	10-31-22
Kentucky (DW)	State	90101	12-31-22
Louisiana	NELAP	83979	06-30-22
Louisiana (DW)	State	LA019	12-31-22
Maryland	State	277	03-31-22
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-31-22
New Hampshire	NELAP	299919	01-17-23
New Jersey	NELAP	TN001	06-30-22
New York	NELAP	10781	03-31-22
North Carolina (DW)	State	21705	07-31-22
North Carolina (WW/SW)	State	64	12-31-22
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-22
Oregon	NELAP	TNI0189	12-31-22
Pennsylvania	NELAP	68-00576	12-31-22
Tennessee	State	02014	12-11-22
Texas	NELAP	T104704380-18-12	08-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-19-00236	08-20-22
Utah	NELAP	TN00009	07-31-22
Virginia	NELAP	460176	09-14-22
Washington	State	C593	01-19-23
West Virginia (DW)	State	9955C	12-31-22
West Virginia DEP	State	345	04-30-22
Wisconsin	State	998044300	08-31-22



PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: IC 140-59044/4 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:00 Lab File ID: 004.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	2.80	Baseline	cochranj	02/18/22 18:39
3:3 FTCA	3.12	Baseline	cochranj	02/18/22 18:38
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 18:40
5:3 FTCA	3.85	Baseline	cochranj	02/18/22 18:40
6:2 FTUCA	3.89	Baseline	cochranj	02/18/22 18:38
6:2 FTCA	3.91	Baseline	cochranj	02/18/22 18:38
Perfluoroheptanesulfonic Acid (PFHpS)	4.11	Baseline	cochranj	02/18/22 18:41
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 18:42
8:2 FTCA	4.56	Baseline	cochranj	02/18/22 18:42
Perfluorodecanoic acid (PFDA)	4.73	Baseline	cochranj	02/18/22 18:43
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/18/22 18:44
Perfluoroundecanoic acid (PFUnA)	5.00	Baseline	cochranj	02/18/22 18:44
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/18/22 18:44
10:2 FTCA	5.11	Split Peak	cochranj	02/18/22 18:45
Perfluorododecanoic acid (PFDoA)	5.23	Split Peak	cochranj	02/18/22 18:45
2-(N-methylperfluoro-1-octanesulfon amido) ethanol	5.29	Baseline	cochranj	02/18/22 18:45
NMeFOSA	5.29	Baseline	cochranj	02/18/22 18:45
Perfluorotridecanoic acid (PFTriA)	5.44	Baseline	cochranj	02/18/22 18:45
2-(N-ethylperfluoro-1-octanesulfona mido) ethanol	5.45	Baseline	cochranj	02/18/22 18:45
N-ethylperfluoro-1-octanesulfonam ide	5.46	Baseline	cochranj	02/18/22 18:46
Perfluorooctadecanoic acid	6.19	Baseline	cochranj	02/18/22 18:46

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: IC 140-59044/5 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:09 Lab File ID: 005.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
3:3 FTCA	3.13	Baseline	cochranj	02/18/22 18:51
Perfluorohexanoic acid (PFHxA)	3.45	Split Peak	cochranj	02/18/22 18:51
Perfluorohexanesulfonic acid (PFHxS)	3.79	Baseline	cochranj	02/18/22 18:51
6:2 FTCA	3.92	Baseline	cochranj	02/18/22 18:52
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 18:52
8:2 FTUCA	4.55	Split Peak	cochranj	02/18/22 18:53
8:2 FTCA	4.56	Baseline	cochranj	02/18/22 18:53
Perfluorodecanoic acid (PFDA)	4.73	Baseline	cochranj	02/18/22 18:53
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.88	Baseline	cochranj	02/18/22 18:53
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/18/22 18:54
N-ethylperfluoro-1-octanesulfonamide	5.46	Baseline	cochranj	02/18/22 18:54
Perfluorooctadecanoic acid	6.19	Baseline	cochranj	02/18/22 18:54

Lab Sample ID: IC 140-59044/6 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:18 Lab File ID: 006.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 18:55
6:2 FTCA	3.91	Baseline	cochranj	02/18/22 18:55
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 18:56
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/18/22 18:56

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: ICIS 140-59044/7 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:27 Lab File ID: \_\_007.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.79	Baseline	cochranj	02/18/22 19:07
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 19:07
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	4.88	Baseline	cochranj	02/18/22 19:08
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/18/22 19:08

Lab Sample ID: IC 140-59044/8 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:35 Lab File ID: \_\_008.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 19:12
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/18/22 19:12
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/18/22 19:12

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: IC 140-59044/9 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:44 Lab File ID: \_009.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 19:13
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 19:13
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/18/22 19:14
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/18/22 19:14

Lab Sample ID: IC 140-59044/10 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:53 Lab File ID: \_010.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 19:15
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 19:15
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/18/22 19:15
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/18/22 19:16

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: ICV 140-59044/12 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 19:11 Lab File ID: \_012.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 19:33
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/18/22 19:34
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/18/22 19:34
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/18/22 19:34

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59045

Lab Sample ID: CCVL 140-59045/4 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 19:59 Lab File ID: 004.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	2.81	Baseline	cochranj	02/19/22 11:07
6:2 FTUCA	3.89	Baseline	cochranj	02/19/22 11:09
6:2 FTCA	3.90	Baseline	cochranj	02/19/22 11:09
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/19/22 11:10
8:2 FTCA	4.56	Baseline	cochranj	02/19/22 11:10
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/19/22 11:11
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/19/22 11:11
10:2 FTCA	5.10	Baseline	cochranj	02/19/22 11:11
Perfluorododecanoic acid (PFDoA)	5.23	Baseline	cochranj	02/19/22 11:12
NMeFOSA	5.28	Baseline	cochranj	02/19/22 11:12
2- (N-methylperfluoro-1-octanesulfon amido) ethanol	5.29	Baseline	cochranj	02/19/22 11:12
Perfluorooctadecanoic acid	6.19	Baseline	cochranj	02/19/22 11:13

Lab Sample ID: CCVIS 140-59045/5 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 20:07 Lab File ID: 005.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/19/22 11:14
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/19/22 11:14
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.88	Baseline	cochranj	02/19/22 11:15
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/19/22 11:15

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59045

Lab Sample ID: CCV 140-59045/17 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 21:53 Lab File ID: \_017.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/19/22 11:51
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/19/22 11:52
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/19/22 11:52
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/19/22 11:52

Lab Sample ID: CCV 140-59045/29 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 23:39 Lab File ID: \_029.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/19/22 12:20
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/19/22 12:21
Perfluorodecanoic acid (PFDA)	4.72	Baseline	cochranj	02/19/22 12:21
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/19/22 12:21

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59045

Lab Sample ID: CCV 140-59045/42 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 01:33 Lab File ID: \_042.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HFPO-DA	3.54	Baseline	cochranj	02/19/22 12:28
Perfluorohexanesulfonic acid (PFHxS)	3.77	Baseline	cochranj	02/19/22 12:28
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/19/22 12:28
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/19/22 12:29



PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59059

Lab Sample ID: CCVL 140-59059/6 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 18:34 Lab File ID: 006.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	2.80	Baseline	cochranj	02/19/22 18:49
Perfluorohexanesulfonic acid (PFHxS)	3.77	Baseline	cochranj	02/19/22 18:49
6:2 FTUCA	3.89	Baseline	cochranj	02/19/22 18:50
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/19/22 18:50
8:2 FTCA	4.55	Baseline	cochranj	02/19/22 18:50
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.86	Baseline	cochranj	02/19/22 18:51
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.00	Baseline	cochranj	02/19/22 18:51
NMeFOSA	5.27	Baseline	cochranj	02/19/22 18:51
N-ethylperfluoro-1-octanesulfonamide	5.45	Baseline	cochranj	02/19/22 18:52

Lab Sample ID: CCVIS 140-59059/7 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 18:43 Lab File ID: 007.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.77	Baseline	cochranj	02/19/22 18:54
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/19/22 18:54
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/19/22 18:55

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59059

Lab Sample ID: CCV 140-59059/19 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 20:31 Lab File ID: \_019.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/20/22 15:58
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/20/22 15:58
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/20/22 15:58

Lab Sample ID: CCV 140-59059/42 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 23:54 Lab File ID: \_042.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/20/22 16:16
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/20/22 16:16
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/20/22 16:16
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/20/22 16:16

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59064

Lab Sample ID: CCVL 140-59064/4 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/20/22 13:31 Lab File ID: 004.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	2.81	Baseline	cochranj	02/20/22 13:42
3:3 FTCA	3.13	Baseline	cochranj	02/20/22 13:42
Perfluorohexanoic acid (PFHxA)	3.45	Baseline	cochranj	02/20/22 13:43
Perfluorohexanesulfonic acid (PFHxS)	3.79	Baseline	cochranj	02/20/22 13:43
5:3 FTCA	3.86	Baseline	cochranj	02/20/22 13:43
6:2 FTCA	3.92	Baseline	cochranj	02/20/22 13:43
Perfluorooctanesulfonic acid (PFOS)	4.43	Baseline	cochranj	02/20/22 13:44
8:2 FTCA	4.57	Baseline	cochranj	02/20/22 13:44
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.88	Baseline	cochranj	02/20/22 13:45
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/20/22 13:45
NMeFOSA	5.28	Baseline	cochranj	02/20/22 13:45
2- (N-methylperfluoro-1-octanesulfon amido) ethanol	5.29	Baseline	cochranj	02/20/22 13:45
2- (N-ethylperfluoro-1-octanesulfona mido) ethanol	5.45	Baseline	cochranj	02/20/22 13:46
N-ethylperfluoro-1-octanesulfonam ide	5.46	Baseline	cochranj	02/20/22 13:46
Perfluorooctadecanoic acid	6.19	Baseline	cochranj	02/20/22 13:46

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59064

Lab Sample ID: CCVIS 140-59064/5 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/20/22 13:40 Lab File ID: \_005.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.79	Baseline	cochranj	02/20/22 14:03
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/20/22 14:03
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/20/22 14:04

Lab Sample ID: CCV 140-59064/19 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/20/22 15:43 Lab File ID: \_019.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.76	Baseline	mcwhirter 1	02/21/22 00:07
Perfluorooctanesulfonic acid (PFOS)	4.40	Baseline	mcwhirter 1	02/21/22 00:13
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.86	Baseline	mcwhirter 1	02/21/22 00:09
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.00	Baseline	mcwhirter 1	02/21/22 00:09

# Method PFC IDA

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Fluorinated Hydrocarbons by Method  
PFAS IDA

FORM II  
PFAS SURROGATE RECOVERY

Lab Name: Eurofins Knoxville

Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Matrix: Air

Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	HFPODA #
T-2145,2144 VEN CB OUTLET R1 OTM-45 FH	140-26391-1	87
T-2143,2142,2140 VEN CB OUTLET R1 OTM-45 BH	140-26391-2	89
T-2141 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 COND	140-26391-3	77
T-2139 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	140-26391-4	96
T-2138,2137 VEN CB OUTLET R2 OTM-45 FH	140-26391-5	85
T-2136,2135,2133 VEN CB OUTLET R2 OTM-45 BH	140-26391-6	91
T-2134 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 COND	140-26391-7	73
T-2132 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	140-26391-8	85
T-2131,2130 VEN CB OUTLET R3 OTM-45 FH	140-26391-9	95
T-2129,2128,2126 VEN CB OUTLET R3 OTM-45 BH	140-26391-10	86
T-2127 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 COND	140-26391-11	74
T-2125 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	140-26391-12	84
	MB 140-58905/1-B	89
	MB 140-58905/14-B	84
	MB 140-58914/1-B	82
	MB 140-58967/1-A	84

HFPODA = 13C3 HFPO-DA

QC LIMITS  
25-150

# Column to be used to flag recovery values

FORM II 537 (modified)

FORM II  
PFAS SURROGATE RECOVERY

Lab Name: Eurofins Knoxville

Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Matrix: Air

Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	HFPODA #
	LCS 140-58905/2-B	89
	LCS 140-58914/2-B	87
	LCS 140-58967/2-A	79
	LCSD 140-58905/3-B	83
	LCSD 140-58914/3-B	82
	LCSD 140-58967/3-A	81

HFPODA = 13C3 HFPO-DA

QC LIMITS  
25-150

# Column to be used to flag recovery values

FORM II 537 (modified)

FORM III  
PFAS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_021.d  
 Lab ID: LCS 140-58905/2-B Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCS CONCENTRATION (ug/Sample)	LCS % REC	QC LIMITS REC	#
HFPO-DA	0.0200	0.02421	121	60-140	
13C3 HFPO-DA	0.0250	0.02236	89	25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)



FORM III  
PFAS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_036.d  
 Lab ID: LCS 140-58914/2-B Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCS CONCENTRATION (ug/Sample)	LCS % REC	QC LIMITS REC	#
HFPO-DA	0.0200	0.02100	105	60-140	
13C3 HFPO-DA	0.0250	0.02163	87	25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
PFAS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_021.d  
 Lab ID: LCS 140-58967/2-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCS CONCENTRATION (ug/Sample)	LCS % REC	QC LIMITS REC	#
HFPO-DA	0.0100	0.01237	124	60-140	
13C3 HFPO-DA	0.0125	0.009894	79	25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
 PFAS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_022.d  
 Lab ID: LCSD 140-58905/3-B Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCSD CONCENTRATION (ug/Sample)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
HFPO-DA	0.0200	0.02594	130	7	30	60-140	
13C3 HFPO-DA	0.0250	0.02067	83			25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
 PFAS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_037.d  
 Lab ID: LCSD 140-58914/3-B Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCSD CONCENTRATION (ug/Sample)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
HFPO-DA	0.0200	0.02215	111	5	30	60-140	
13C3 HFPO-DA	0.0250	0.02055	82			25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
 PFAS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_022.d  
 Lab ID: LCSD 140-58967/3-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCSD CONCENTRATION (ug/Sample)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
HFPO-DA	0.0100	0.01188	119	4	30	60-140	
13C3 HFPO-DA	0.0125	0.01011	81			25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM IV  
PFAS METHOD BLANK SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: \_020.d Lab Sample ID: MB 140-58905/1-B  
 Matrix: Air Date Extracted: 02/15/2022 14:06  
 Instrument ID: LCA Date Analyzed: 02/19/2022 20:40  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 140-58905/2-B	_021.d	02/19/2022 20:49
	LCSD 140-58905/3-B	_022.d	02/19/2022 20:58
T-2143,2142,2140 VEN CB OUTLET R1 OTM-45 BH	140-26391-2	_028.d	02/19/2022 21:51
T-2139 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	140-26391-4	_012.d	02/20/2022 14:41
T-2136,2135,2133 VEN CB OUTLET R2 OTM-45 BH	140-26391-6	_014.d	02/20/2022 14:59
T-2132 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	140-26391-8	_015.d	02/20/2022 15:08

FORM IV  
PFAS METHOD BLANK SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: \_034.d Lab Sample ID: MB 140-58905/14-B  
 Matrix: Air Date Extracted: 02/15/2022 14:06  
 Instrument ID: LCA Date Analyzed: 02/19/2022 22:43  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
T-2129,2128,2126 VEN CB OUTLET R3 OTM-45 BH	140-26391-10	_035.d	02/19/2022 22:52
T-2125 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	140-26391-12	_036.d	02/19/2022 23:01

FORM IV  
PFAS METHOD BLANK SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: \_035.d Lab Sample ID: MB 140-58914/1-B  
 Matrix: Air Date Extracted: 02/16/2022 07:38  
 Instrument ID: LCA Date Analyzed: 02/19/2022 00:31  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 140-58914/2-B	_036.d	02/19/2022 00:40
	LCSD 140-58914/3-B	_037.d	02/19/2022 00:49
T-2145,2144 VEN CB OUTLET R1 OTM-45 FH	140-26391-1	_015.d	02/19/2022 19:54
T-2138,2137 VEN CB OUTLET R2 OTM-45 FH	140-26391-5	_016.d	02/19/2022 20:04
T-2131,2130 VEN CB OUTLET R3 OTM-45 FH	140-26391-9	_017.d	02/19/2022 20:14



FORM IV  
PFAS METHOD BLANK SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: \_020.d Lab Sample ID: MB 140-58967/1-A  
 Matrix: Air Date Extracted: 02/17/2022 09:59  
 Instrument ID: LCA Date Analyzed: 02/18/2022 22:19  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 140-58967/2-A	_021.d	02/18/2022 22:28
	LCSD 140-58967/3-A	_022.d	02/18/2022 22:37
T-2141 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 COND	140-26391-3	_026.d	02/18/2022 23:12
T-2134 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 COND	140-26391-7	_027.d	02/18/2022 23:21
T-2127 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 COND	140-26391-11	_030.d	02/18/2022 23:47

FORM VIII  
PFAS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 140-59044/7 Date Analyzed: 02/18/2022 18:27  
 Instrument ID: LCA GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): \_007.d Heated Purge: (Y/N) N  
 Calibration ID: 3582

	13PFOA		#	RT #	#	RT #
	AREA #	RT #				
INITIAL CALIBRATION MID-POINT	5334710	4.13				
UPPER LIMIT	8002065	4.33				
LOWER LIMIT	2667355	3.93				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 140-59044/12		4677658	4.12			
CCVIS 140-59045/5		5578839	4.13			
CCVIS 140-59059/7		5377493	4.12			
CCVIS 140-59064/5		4845593	4.14			

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
PFAS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 140-59045/5 Date Analyzed: 02/18/2022 20:07  
 Instrument ID: LCA GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 005.d Heated Purge: (Y/N) N  
 Calibration ID: 3582

		13PFOA					
		AREA #	RT #	#	RT #	#	RT #
12/24 HOUR STD		5578839	4.13				
UPPER LIMIT		8368259	4.33				
LOWER LIMIT		2789420	3.93				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 140-59045/17		5185600	4.13				
MB 140-58967/1-A		5487523	4.12				
LCS 140-58967/2-A		5448593	4.12				
LCSD 140-58967/3-A		5706850	4.12				
140-26391-3	T-2141 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 COND	5645022	4.12				
140-26391-7	T-2134 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 COND	6086420	4.11				
CCV 140-59045/29		5461512	4.13				
140-26391-11	T-2127 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 COND	5893284	4.12				
MB 140-58914/1-B		5225624	4.12				
LCS 140-58914/2-B		5137439	4.12				
LCSD 140-58914/3-B		5162799	4.13				
CCV 140-59045/42		5241382	4.12				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
PFAS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 140-59059/7 Date Analyzed: 02/19/2022 18:43  
 Instrument ID: LCA GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 007.d Heated Purge: (Y/N) N  
 Calibration ID: 3582

		13PFOA					
		AREA #	RT #	#	RT #	#	RT #
12/24 HOUR STD		5377493	4.12				
UPPER LIMIT		8066240	4.32				
LOWER LIMIT		2688747	3.92				
LAB SAMPLE ID	CLIENT SAMPLE ID						
140-26391-1	T-2145,2144 VEN CB OUTLET R1 OTM-45 FH	5326895	4.13				
140-26391-5	T-2138,2137 VEN CB OUTLET R2 OTM-45 FH	5175538	4.13				
140-26391-9	T-2131,2130 VEN CB OUTLET R3 OTM-45 FH	5344681	4.12				
CCV 140-59059/19		4953682	4.13				
MB 140-58905/1-B		4933776	4.13				
LCS 140-58905/2-B		4749725	4.12				
LCSD 140-58905/3-B		4916917	4.12				
140-26391-2	T-2143,2142,2140 VEN CB OUTLET R1 OTM-45 BH	5350844	4.12				
CCV 140-59059/30		5562146	4.12				
MB 140-58905/14-B		5059964	4.12				
140-26391-10	T-2129,2128,2126 VEN CB OUTLET R3 OTM-45 BH	5309612	4.12				
140-26391-12	T-2125 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	4473814	4.11				
CCV 140-59059/42		5061844	4.13				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
PFAS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 140-59064/5 Date Analyzed: 02/20/2022 13:40  
 Instrument ID: LCA GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 005.d Heated Purge: (Y/N) N  
 Calibration ID: 3582

	13PFOA		#	RT #	#	RT #
	AREA #	RT #				
12/24 HOUR STD	4845593	4.14				
UPPER LIMIT	7268390	4.34				
LOWER LIMIT	2422797	3.94				
LAB SAMPLE ID	CLIENT SAMPLE ID					
140-26391-4	T-2139 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	4559678	4.12			
140-26391-6	T-2136,2135,2133 VEN CB OUTLET R2 OTM-45 BH	4967039	4.12			
140-26391-8	T-2132 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	4292175	4.12			
CCV 140-59064/19		4663656	4.11			

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM I  
 PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>Eurofins Knoxville</u>	Job No.: <u>140-26391-1</u>
SDG No.: _____	
Client Sample ID: <u>T-2145,2144 VEN CB OUTLET R1 OTM-45 FH</u>	Lab Sample ID: <u>140-26391-1</u>
Matrix: <u>Air</u>	Lab File ID: <u>_015.d</u>
Analysis Method: <u>537 (modified)</u>	Date Collected: <u>02/10/2022 00:00</u>
Extraction Method: <u>None</u>	Date Extracted: <u>02/16/2022 07:38</u>
Sample wt/vol: <u>1 (Sample)</u>	Date Analyzed: <u>02/19/2022 19:54</u>
Con. Extract Vol.: <u>86 (mL)</u>	Dilution Factor: <u>1</u>
Injection Volume: <u>1 (uL)</u>	GC Column: <u>GeminiC18 3x100 ID: 3 (mm)</u>
% Moisture: _____	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>59059</u>	Units: <u>ug/Sample</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	9.81		0.100	0.0580

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	87		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_015.d  
 Lims ID: 140-26391-B-1-C  
 Client ID: T-2145,2144 VEN CB OUTLET R1 OTM-45 FH  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 19:54:09 ALS Bottle#: 15 Worklist Smp#: 15  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-015 140-26391-b-1-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:40 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 11:49:20  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_007.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.552	3.542	0.010	1.000	11276118	4.90	Target=2.51		2415	
329.00 > 169.00	3.552	3.542	0.010	1.000	4698274		2.40(1.25-3.76)		2158	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.552	3.542	0.010	0.860	2308486	1.10		87.3	11164	
* 30 13C2 PFOA										
415.00 > 370.00	4.130	4.121	0.009		5326895	1.26			11650	

**QC Flag Legend**  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_015.d

Injection Date: 19-Feb-2022 19:54:09

Instrument ID: LCA

Lims ID: 140-26391-B-1-C

Lab Sample ID: 140-26391-1

Client ID: T-2145,2144 VEN CB OUTLET R1 OTM-45 FH

Operator ID: Cochran, Bobby

ALS Bottle#: 15

Worklist Smp#: 15

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

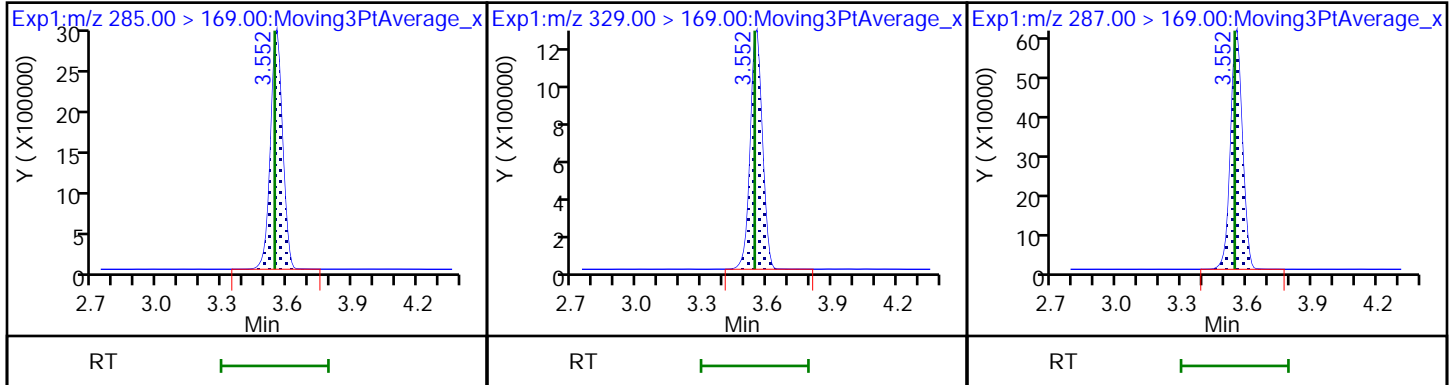
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

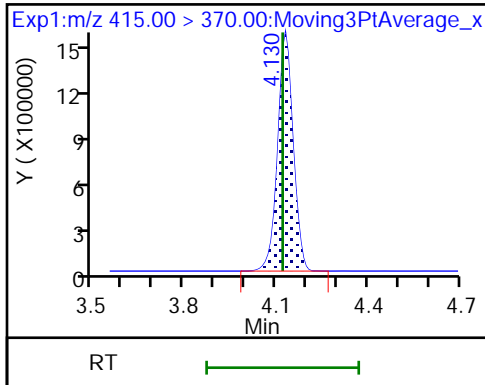
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA







Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_028.d  
 Lims ID: 140-26391-A-2-C  
 Client ID: T-2143,2142,2140 VEN CB OUTLET R1 OTM-45 BH  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 21:51:02 ALS Bottle#: 28 Worklist Smp#: 28  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-028 140-26390-a-12-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 17:54:10 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 17:54:10  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.543	3.542	0.001	1.000	13262261	5.61	Target=2.55		2912	
329.00 > 169.00	3.543	3.542	0.001	1.000	4981895		2.66(1.28-3.83)		2725	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.542	0.001	0.860	2359796	1.12		88.9	7853	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		5350844	1.26			12000	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_028.d

Injection Date: 19-Feb-2022 21:51:02

Instrument ID: LCA

Lims ID: 140-26391-A-2-C

Lab Sample ID: 140-26391-2

Client ID: T-2143,2142,2140 VEN CB OUTLET R1 OTM-45 BH

Operator ID: Cochran, Bobby

ALS Bottle#: 28

Worklist Smp#: 28

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

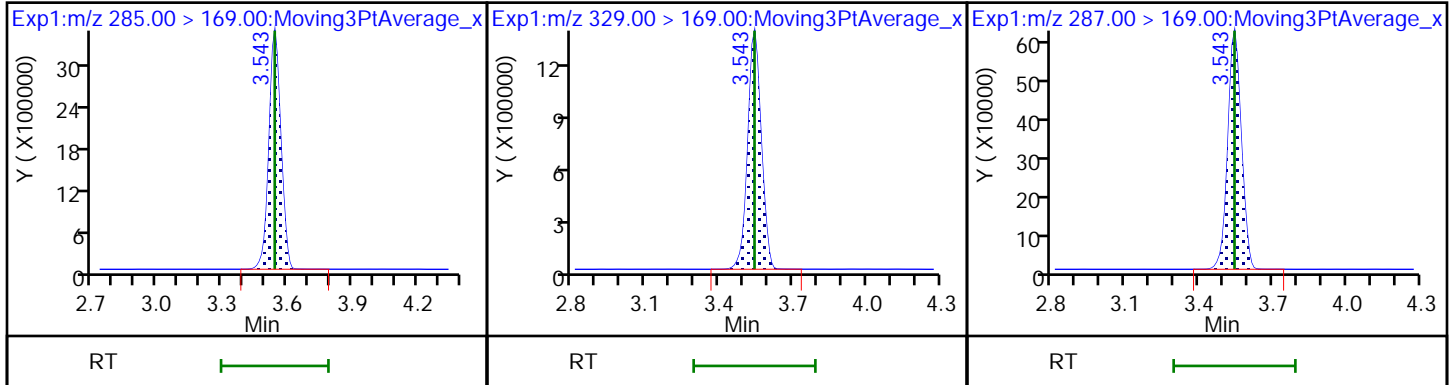
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

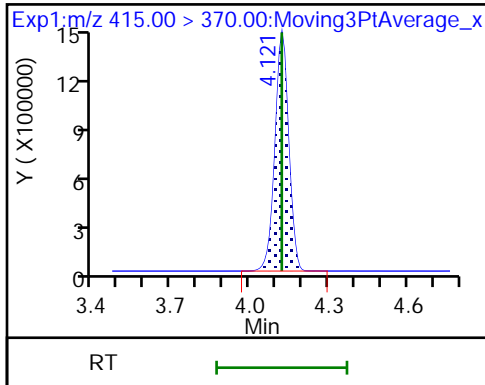
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_028.d  
 Lims ID: 140-26391-A-2-C  
 Client ID: T-2143,2142,2140 VEN CB OUTLET R1 OTM-45 BH  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 21:51:02 ALS Bottle#: 28 Worklist Smp#: 28  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-028 140-26390-a-12-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 17:54:10 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 17:54:10

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2141 VEN CB OUTLET R1 Lab Sample ID: 140-26391-3  
                           OTM-45 IMPINGERS 1,2&3  
                           COND  
 Matrix: Air Lab File ID: 026.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 0.00678 (Sample) Date Analyzed: 02/18/2022 23:12  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.0737	0.0128

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	77		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_026.d  
 Lims ID: 140-26391-A-3-A  
 Client ID: T-2141 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 COND  
 Sample Type: Client  
 Inject. Date: 18-Feb-2022 23:12:38 ALS Bottle#: 26 Worklist Smp#: 26  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-026 140-26391-a-3-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:20:05  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.553	-0.010	0.860	2143792	0.9566		76.5	5632	
17 HFPO-DA										7
285.00 > 169.00	3.543	3.553	-0.010	1.000	8731	-0.000972	Target=2.53	5.6	7	
329.00 > 169.00	3.543	3.553	-0.010	1.000	3191		2.74(1.26-3.79)	6.1		
LOD = 0.008500										
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5645022	1.25			9077	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_026.d

Injection Date: 18-Feb-2022 23:12:38

Instrument ID: LCA

Lims ID: 140-26391-A-3-A

Lab Sample ID: 140-26391-3

Client ID: T-2141 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 COND

Operator ID: Cochran, Bobby

ALS Bottle#: 26

Worklist Smp#: 26

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

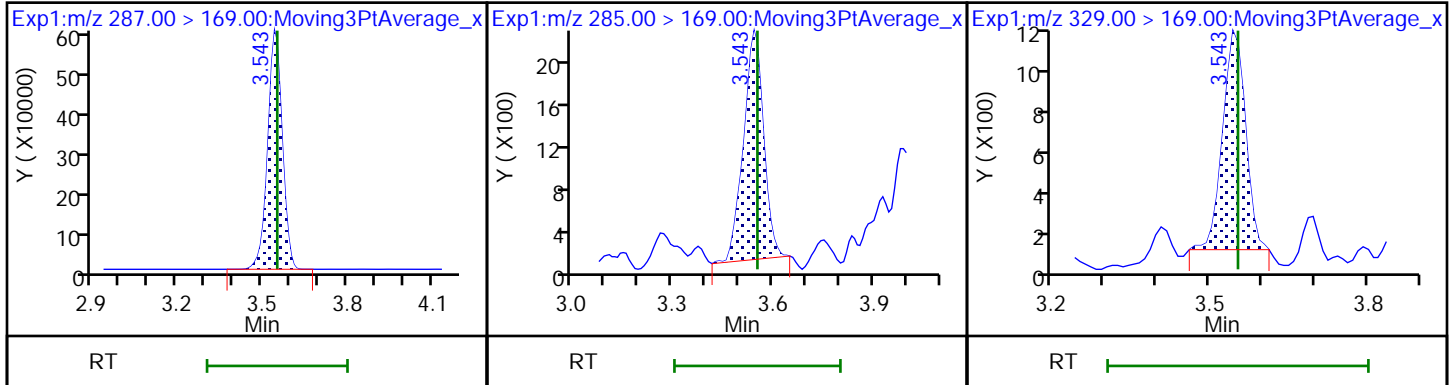
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

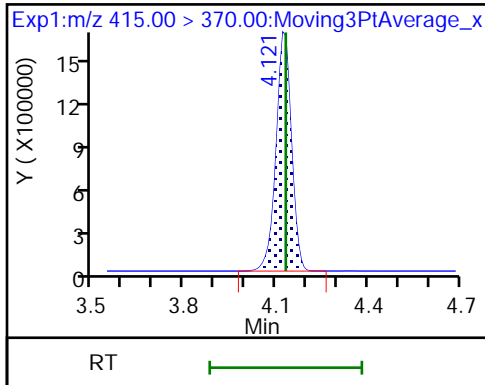
D 16 13C3 HFPO-DA

17 HFPO-DA

17 HFPO-DA



\* 30 13C2 PFOA



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_026.d  
 Lims ID: 140-26391-A-3-A  
 Client ID: T-2141 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 COND  
 Sample Type: Client  
 Inject. Date: 18-Feb-2022 23:12:38 ALS Bottle#: 26 Worklist Smp#: 26  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-026 140-26391-a-3-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:20:05

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2139 VEN CB OUTLET R1 Lab Sample ID: 140-26391-4  
                           OTM-45 BREAKTHROUGH XAD-2  
                           RESIN TUBE  
 Matrix: Air Lab File ID: 012.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/20/2022 14:41  
 Con. Extract Vol.: 360(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59064 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	15.3	B	0.320	0.280

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	96		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_012.d  
 Lims ID: 140-26391-A-4-C  
 Client ID: T-2139 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 14:41:42 ALS Bottle#: 12 Worklist Smp#: 12  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022725-012 140-26391-a-4-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:50:51 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: mcwhirter Date: 20-Feb-2022 23:40:58  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_005.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										7
212.90 > 169.00	2.797	2.811	-0.014	1.000	18970	0.001476		5.6	7	
LOD = 0.0100										
D 2 13C4 PFBA										
217.00 > 172.00	2.797	2.811	-0.014	0.679	5691330	1.34		107	19351	
3 PFECA F										7M
229.00 > 85.00	2.903	2.919	-0.016	0.934	705	0.000294		6.5	7M	
LOD = 0.0500										
6 Perfluoropentanoic acid										
262.90 > 219.00	3.107	3.123	-0.015	1.000	44227	0.009249		18.0		
D 5 13C5 PFPeA										
267.90 > 223.00	3.107	3.123	-0.015	0.754	3996824	1.20		95.3	17216	
D 7 13C3 PFBS										
301.90 > 80.00	3.123	3.139	-0.016	0.758	2463019	1.17		99.8	10001	
4 3:3 FTCA										
241.00 > 177.10		3.139				ND				
241.00 > 116.90		3.139								
8 Perfluorobutanesulfonic acid										
298.90 > 80.00		3.139				ND				
298.90 > 99.00		3.139								
9 PFECA A										
278.95 > 84.90		3.211				ND				
11 PES										
314.80 > 135.00		3.270				ND				
12 PFECA B										7M
295.22 > 201.00	3.384	3.395	-0.011	0.985	545	-0.002353		5.6	7M	
LOD = 0.0500										

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.427	-0.010	0.829	772670	1.17		99.6	1569	
13 4:2 FTS										
327.00 > 307.00	3.437	3.427	0.011	1.006	362	-0.002235		4.5	7M	7M
LOD = 0.003200										
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.448				ND				
349.00 > 99.00		3.448								
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.448	-0.011	1.000	17433	-0.001699	Target=11.32	10.1		R7
313.00 > 119.00	3.416	3.448	-0.032	0.994	797		21.87(5.66-16.98)	1.3		R7
LOD = 0.008600										
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.448	-0.011	0.834	4503753	1.22		97.3	9731	
17 HFPO-DA										
285.00 > 169.00	3.542	3.553	-0.011	1.000	8320600	3.83	Target=2.52		3991	
329.00 > 169.00	3.542	3.553	-0.011	1.000	3285970		2.53(1.26-3.78)		3698	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.860	2169307	1.20		95.9	10245	
S 10 ADONA										
377.00 > 251.00		3.592				0				
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.792	-0.010	0.918	1885099	1.38		116	8171	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.782	3.792	-0.010	1.000	10002	0.004552	Target=3.40		34.9	7
399.00 > 99.00	3.772	3.792	-0.020	0.997	2118		4.72(1.70-5.10)		12.5	
LOD = 0.005000										
D 22 13C4 PFHpA										
367.00 > 322.00	3.782	3.803	-0.021	0.918	4107987	1.25		99.6	9216	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.803	-0.011	1.003	116630	0.0296	Target=3.37		102	
363.00 > 169.00	3.782	3.803	-0.021	1.000	31944		3.65(1.68-5.05)		85.3	
25 DONA										
377.00 > 251.00		3.829				ND				
377.00 > 85.00		3.829								
26 5:3 FTCA										
340.88 > 236.90		3.861				ND				
340.88 > 216.90		3.861								
27 6:2 FTUCA										
356.86 > 292.90		3.895				ND				
356.86 > 243.00		3.895								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.895	-0.009	0.943	1523854	1.24		99.1	2938	
29 6:2 FTCA										
377.10 > 63.00		3.912				ND				
377.10 > 313.10		3.912								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.895	3.912	-0.017	0.945	110002	1.16		92.7	518	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
32 PFECBS										
460.80 > 380.90		4.074				ND				
460.80 > 98.90		4.074								
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.121				ND				
449.00 > 99.00		4.121								
37 Perfluorooctanoic acid										
413.00 > 369.00	4.130	4.130	0.0	1.002	18511	-0.001706	Target=2.46	13.9		7
413.00 > 169.00	4.130	4.130	0.0	1.002	6668		2.78(1.23-3.69)	13.5		7
LOD = 0.009500										
35 6:2 FTS										
427.00 > 407.00	4.130	4.130	0.0	1.002	1403	-0.002536		6.0		7M
LOD = 0.0137										
\$ 36 13C8 PFOA										
421.00 > 376.00		4.130				ND				
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.130	-0.009	1.000	870130	1.33		112		3085
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.130	-0.009	1.000	4679243	1.38		110		10966
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.139	-0.018		4559678	1.26				5313
\$ 38 13C8 PFOS										
507.00 > 99.00		4.421				ND				
40 Perfluorooctanesulfonic acid										
499.00 > 80.00		4.421				ND				
499.00 > 99.00		4.421								
D 39 13C4 PFOS										
503.00 > 80.00	4.413	4.421	-0.008	1.071	2697181	1.32		110		4055
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.448	-0.009	1.077	6081417	1.32		105		8801
42 Perfluorononanoic acid										
463.00 > 419.00		4.448				ND				
463.00 > 169.00		4.448								
43 7:3 FTCA										
441.00 > 337.00		4.528				ND				
441.00 > 317.00		4.528								
44 8:2 FTUCA										
456.86 > 392.90		4.553				ND				
456.86 > 343.00		4.553								
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.553	-0.008	1.000	2391419	1.46		116		7880
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.562	4.570	-0.008	1.107	169644	1.41		113		533
46 8:2 FTCA										
477.00 > 393.10		4.570				ND				
477.00 > 63.20		4.570								
49 9CIFOS										
531.00 > 351.00		4.586				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.706				ND				
549.00 > 99.00		4.706								
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.714	-0.008	1.142	4326624	1.41		112	4784	
54 Perfluorooctanesulfonamide										
498.00 > 78.00		4.714				ND				
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.731	-0.008	1.000	16854	-0.002756	Target=11.22	14.7		R7
513.00 > 169.00	4.748	4.731	0.017	1.005	962		17.52(5.61-16.84)	2.0		R7
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.731	-0.008	1.146	5739886	1.31		104	11292	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.748	-0.017	1.148	885319	1.24		103	2647	
53 8:2 FTS										
527.00 > 507.00		4.748				ND				
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.864	4.880	-0.016	1.180	575426	1.40		111	2940	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.880	-0.008	1.002	774	0.003386		2.9		7
LOD = 0.006000										
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.966				ND				
599.00 > 99.00		4.966								
60 Perfluoroundecanoic acid										
563.00 > 519.00		4.995				ND				
563.00 > 169.00		4.995								
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.995	-0.009	1.210	5458614	1.29		103	9340	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.014	-0.009	1.215	558088	1.32		105	2119	
62 NEtFOSAA										
584.00 > 419.00		5.024				ND				
65 10:2 FTUCA										
556.86 > 492.90	5.083	5.102	-0.019	1.000	2001	0.001084		10.4		7
LOD = 0.0500										
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.083	5.102	-0.019	1.234	1919801	1.04		82.9	5469	
63 11C1FOS										
631.00 > 451.00		5.102				ND				
66 10:2 FTCA										
576.80 > 493.00		5.111				ND				
576.80 > 63.10		5.111								
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.111	-0.009	1.238	105434	0.9394		74.8	568	
D 69 13C2 PFDoA										
615.00 > 570.00	5.218	5.235	-0.017	1.266	5216810	1.25		99.3	7890	02/27/2022

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
68 Perfluorododecanoic acid										
613.00 > 569.00		5.235				ND				
613.00 > 169.00		5.235								
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.251	-0.016	1.270	645725	1.08		90.5	4407	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.002	7222	0.00002949		20.3		7
LOD = 0.008500										
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.283	-0.008	1.280	596429	1.39		110	524	
74 NMeFOSA										
512.00 > 169.00		5.283				ND				
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.283	-0.008	1.280	523417	1.43		114	46.4	
75 N-MeFOSE-M										
616.00 > 59.00		5.292				ND				
76 PFDoS										
699.00 > 80.00		5.408				ND				
699.00 > 99.00		5.408								
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	669069	1.50		119	362	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.443	-0.017	1.040	3804	0.001037	Target=5.96	3.7		7
663.00 > 169.00	5.426	5.443	-0.017	1.040	1254		3.03(2.98-8.94)	7.3		
LOD = 0.007000										
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.444	5.452	-0.008	1.321	410245	1.40		111	707	
79 N-EtFOSE-M										
630.00 > 59.00		5.452				ND				
81 N-EtFOSA-M										
526.00 > 169.00		5.452				ND				
D 82 13C2 PFTeDA										
715.00 > 670.00	5.608	5.626	-0.018	1.361	3858419	1.15		91.8	10068	
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.626				ND				
713.00 > 219.00		5.626								
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.932	-0.016	1.436	2414813	1.11		88.3	5119	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.916	5.932	-0.016	1.000	24784	-0.001276	Target=8.46	50.5		7
813.00 > 169.00	5.916	5.932	-0.016	1.000	2507		9.89(4.23-12.69)	8.3		
LOD = 0.009000										
86 Perfluorooctadecanoic acid										
913.00 > 869.00		6.190				ND				
913.00 > 169.00		6.190								
S 87 F-53B										
212.90 > 169.00		0.0				0				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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S 88 NaDONA

377.00 > 251.00 0.0

0

377.00 > 85.00 0.0

**QC Flag Legend**

Processing Flags

ND - Not Detected or Marked ND

R - Failed Signal Ratio Test

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_012.d

Injection Date: 20-Feb-2022 14:41:42

Instrument ID: LCA

Lims ID: 140-26391-A-4-C

Lab Sample ID: Client 140-59064/12-A

Client ID: T-2139 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Operator ID: Cochran, Bobby

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

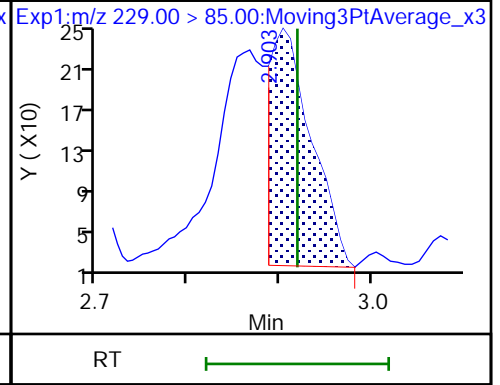
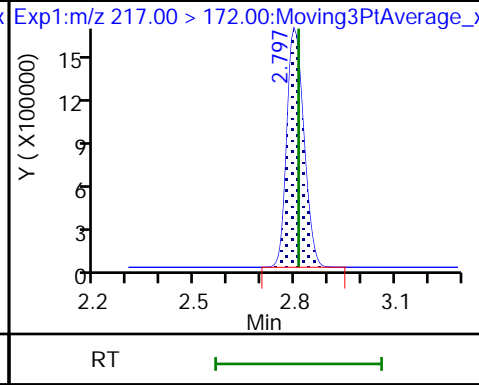
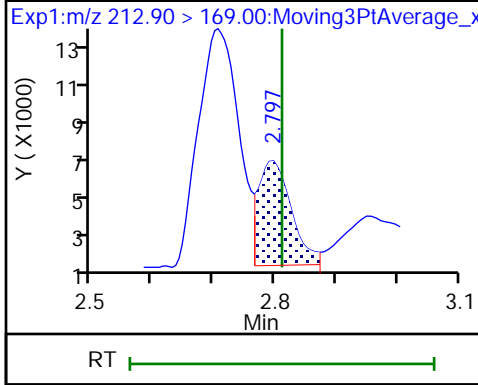
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

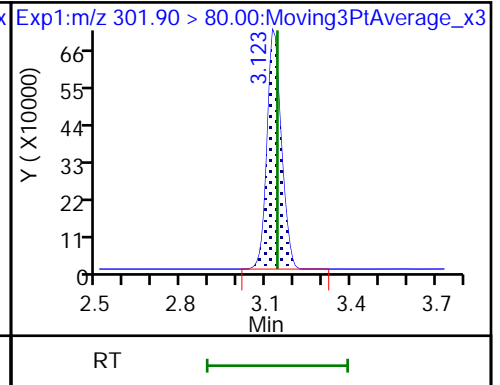
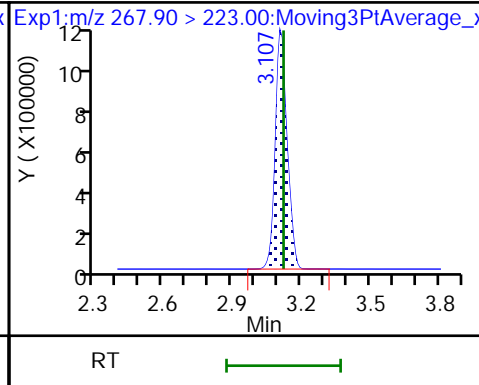
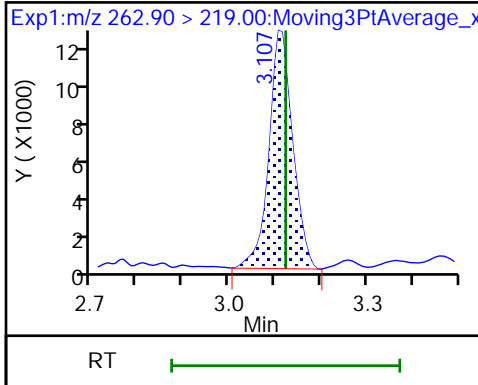
3 PFECA F (M)



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

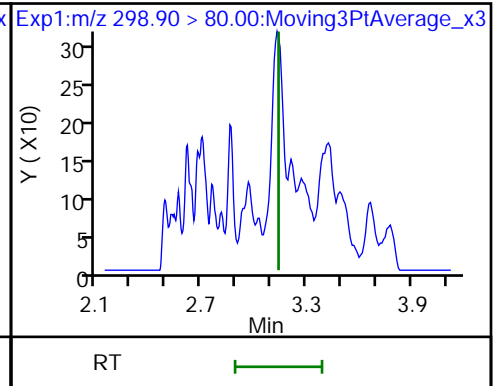
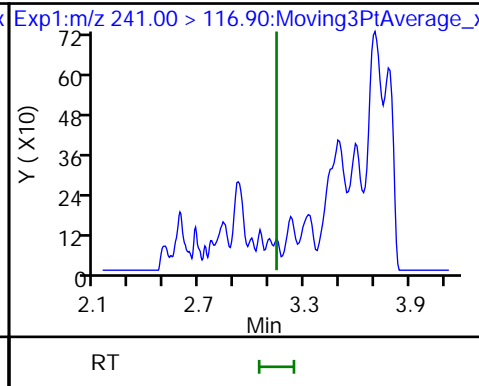
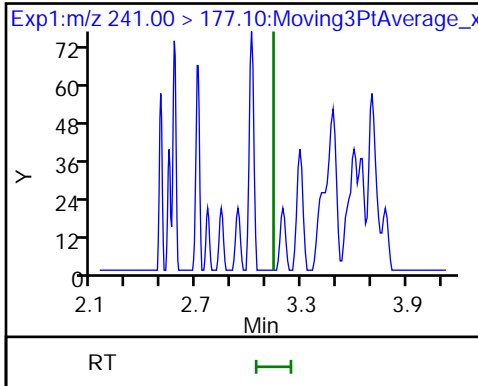
D 7 13C3 PFBS



4 3:3 FTCA (ND)

4 3:3 FTCA (ND)

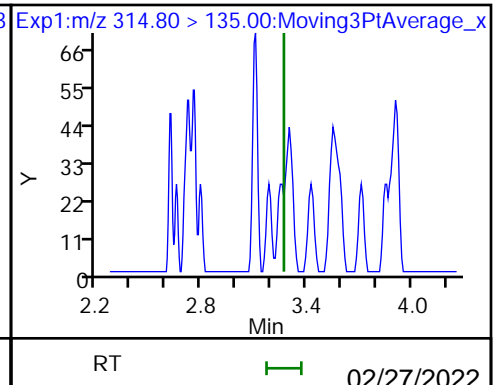
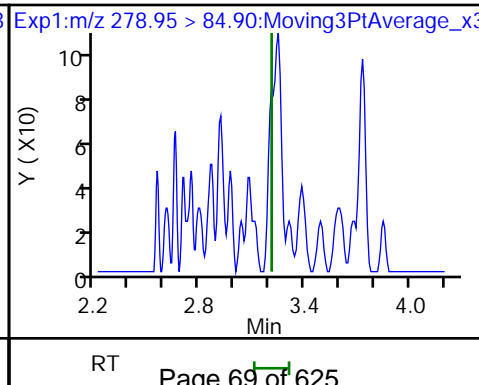
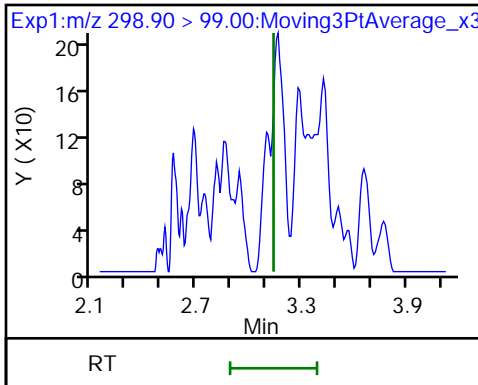
8 Perfluorobutanesulfonic acid (ND)



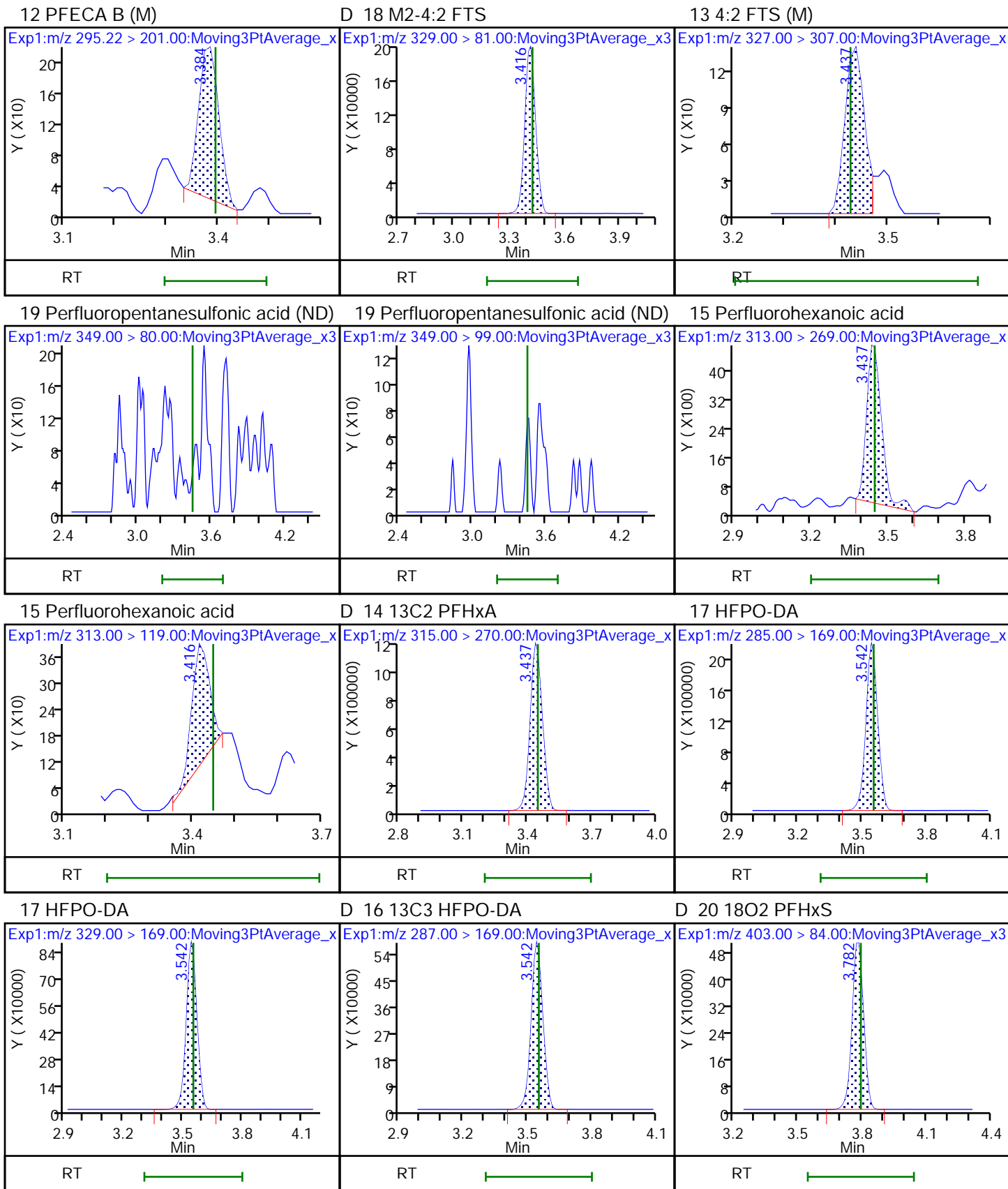
8 Perfluorobutanesulfonic acid (ND)

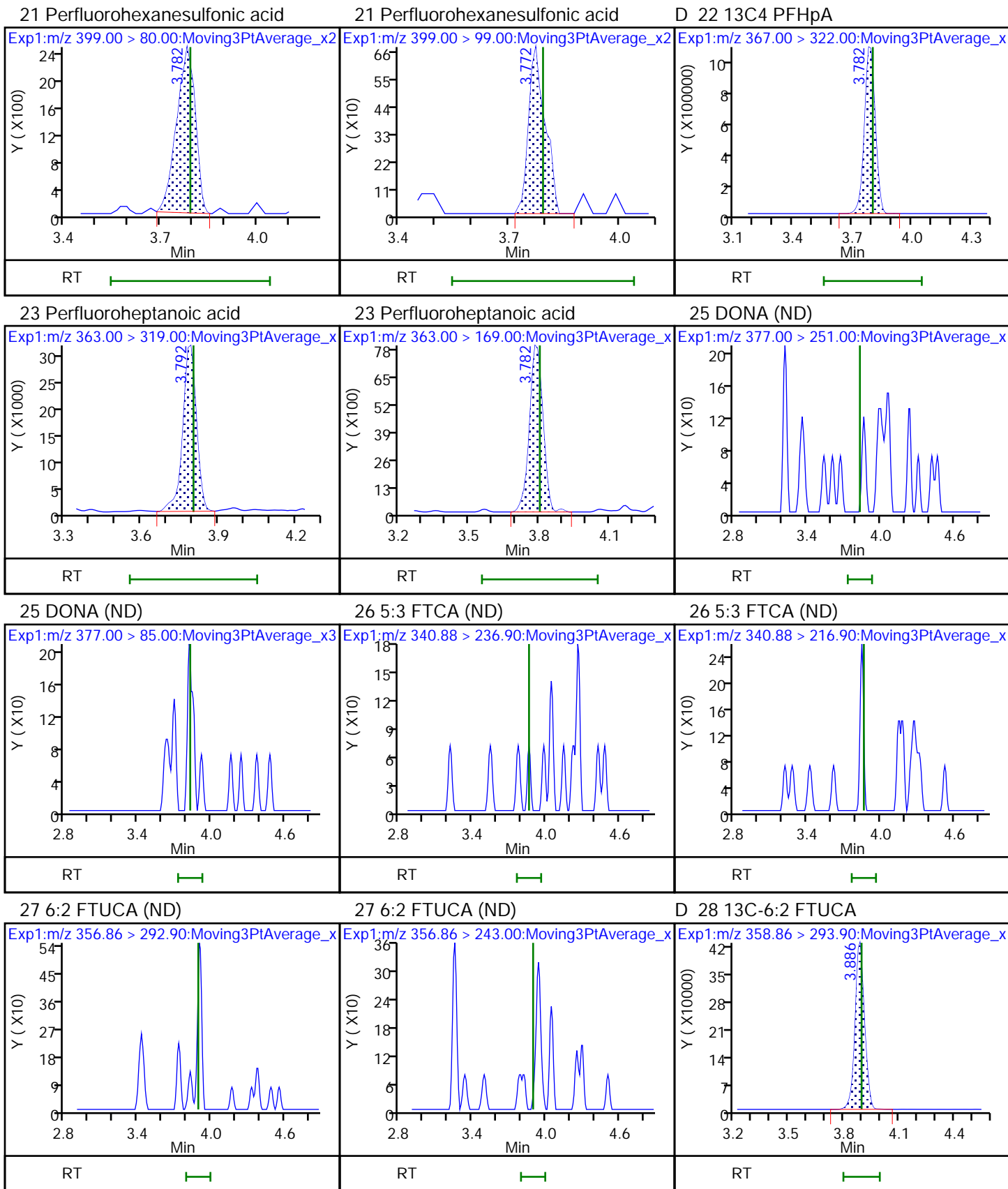
9 PFECA A (ND)

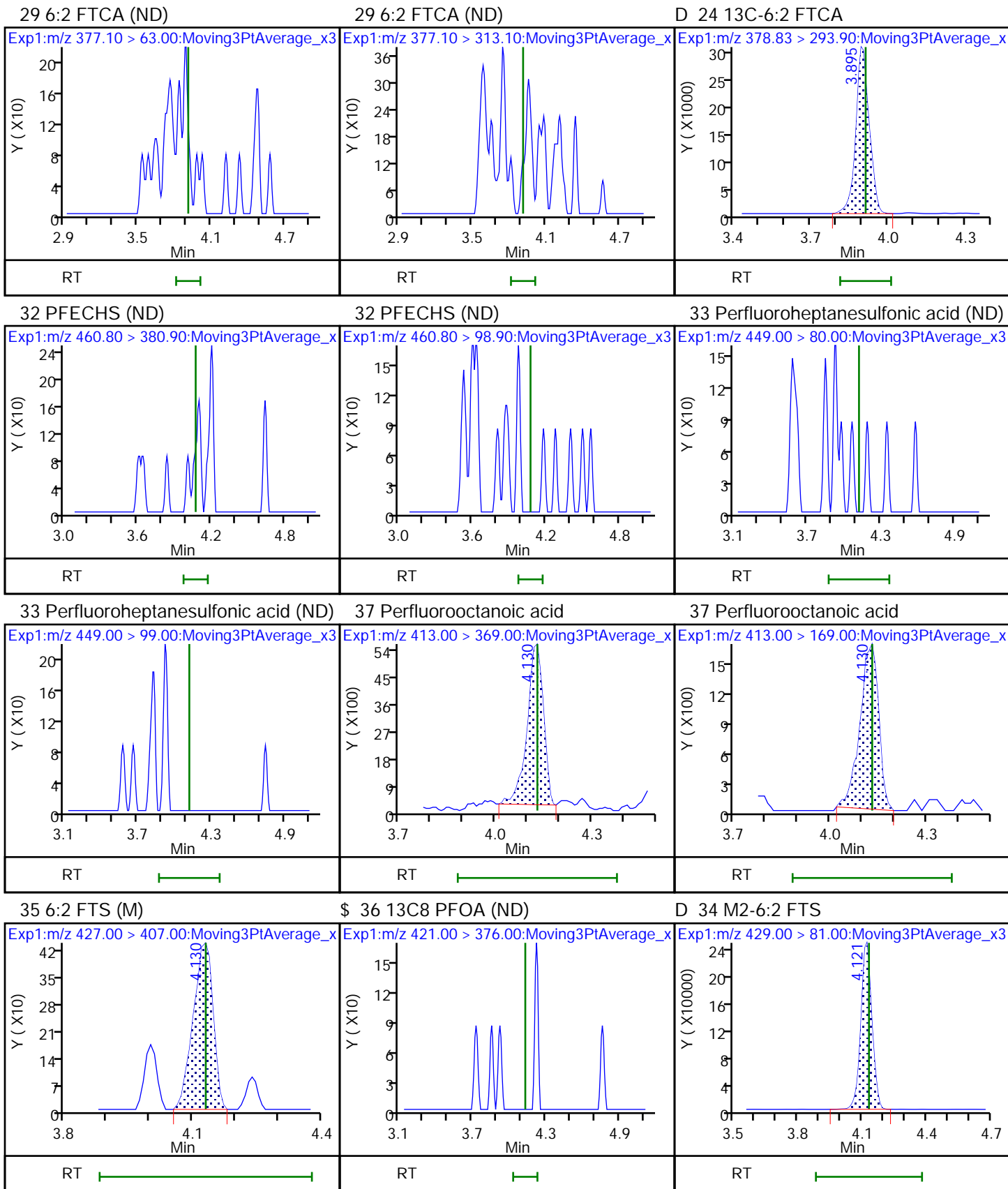
11 PES (ND)







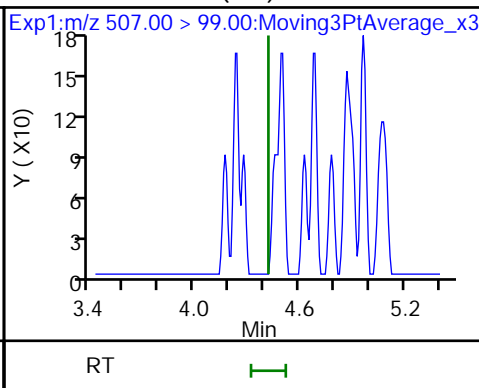
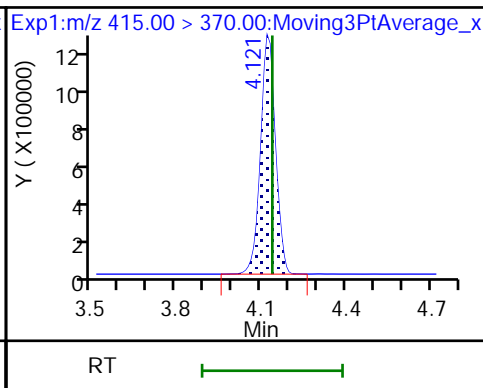
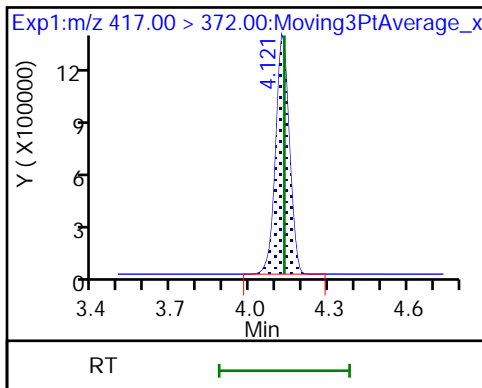




D 31 13C4 PFOA

\* 30 13C2 PFOA

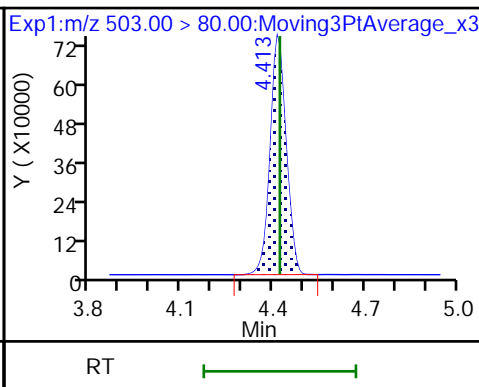
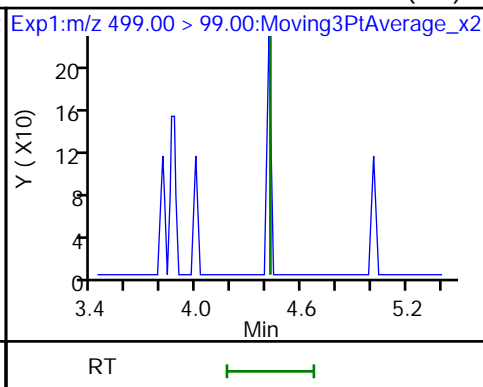
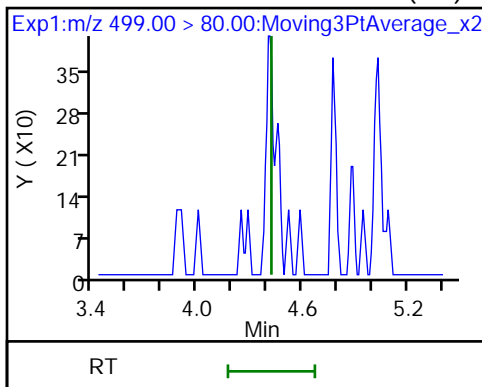
\$ 38 13C8 PFOS (ND)



40 Perfluorooctanesulfonic acid (ND)

40 Perfluorooctanesulfonic acid (ND)

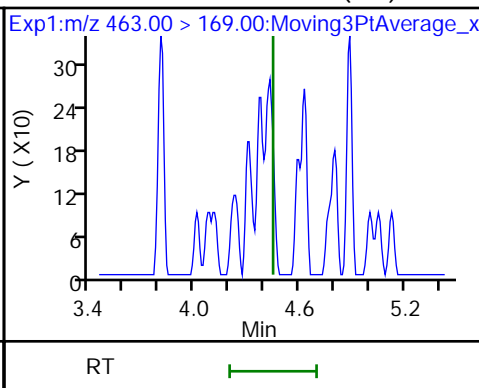
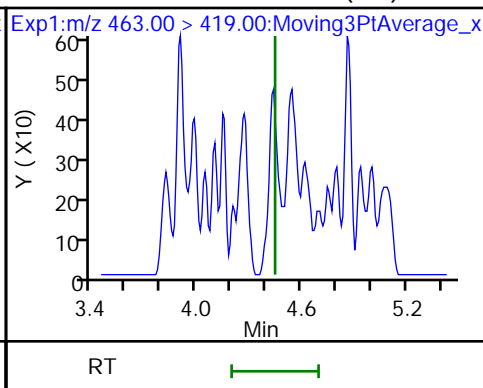
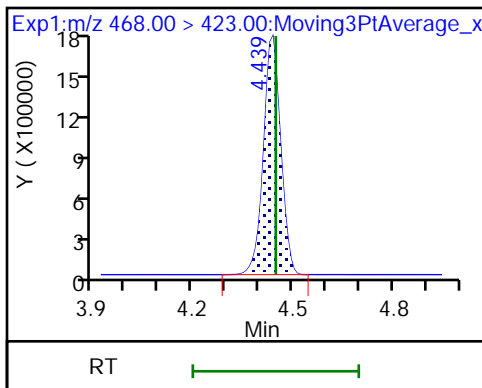
D 39 13C4 PFOS



D 41 13C5 PFNA

42 Perfluorononanoic acid (ND)

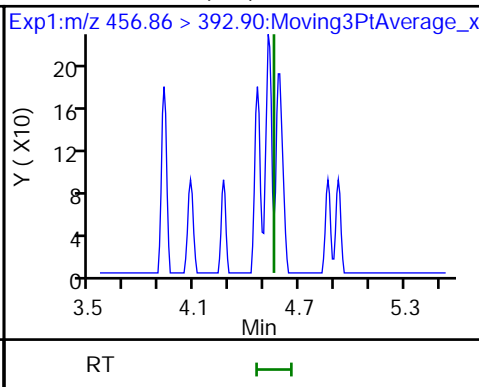
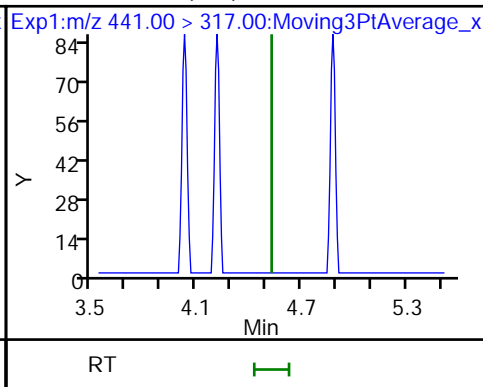
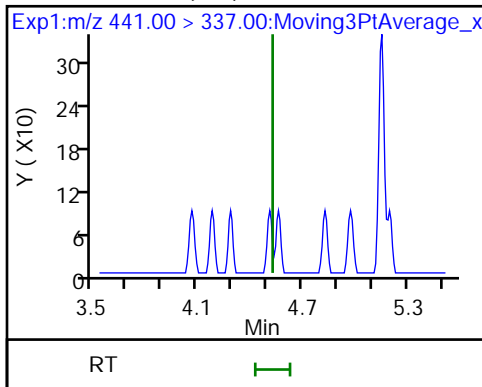
42 Perfluorononanoic acid (ND)

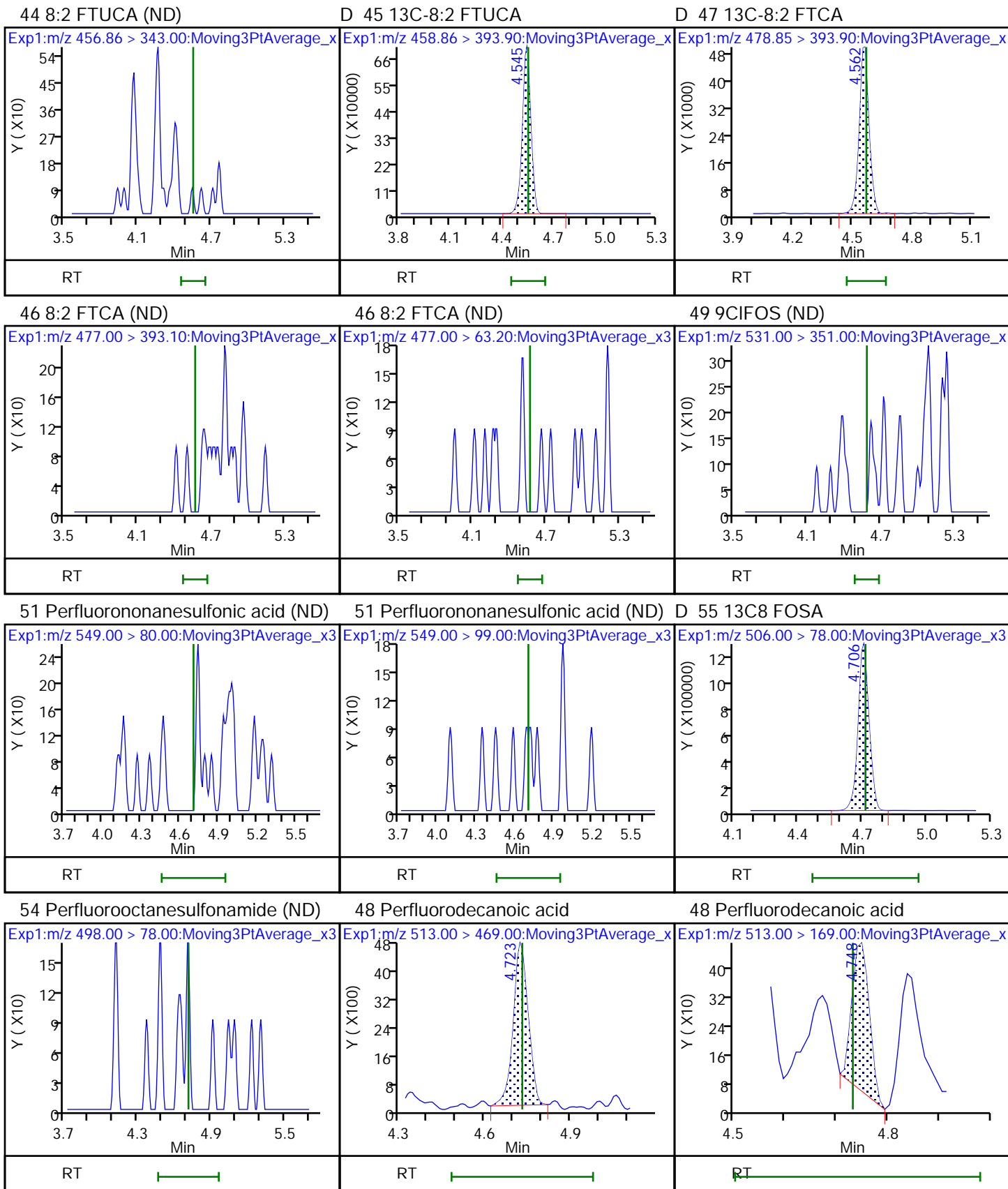


43 7:3 FTCA (ND)

43 7:3 FTCA (ND)

44 8:2 FTUCA (ND)

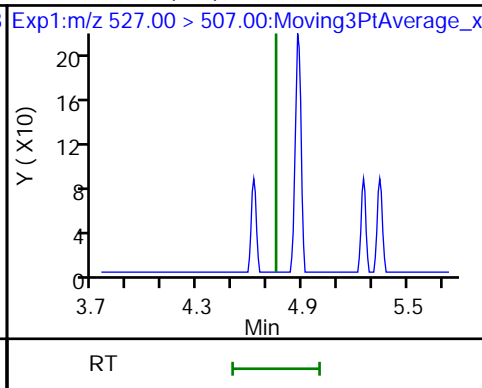
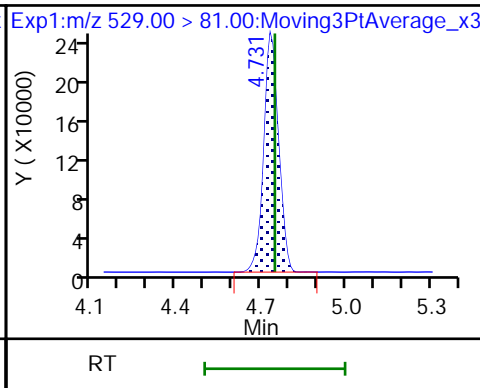
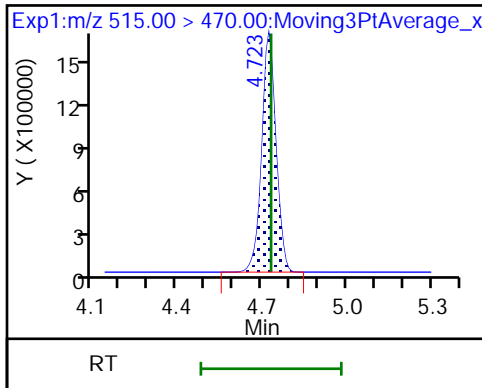




D 52 13C2 PFDA

D 50 M2-8:2 FTS

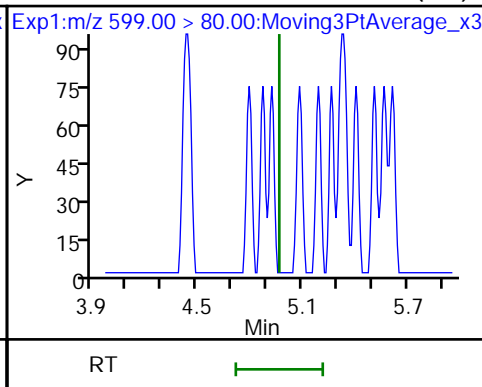
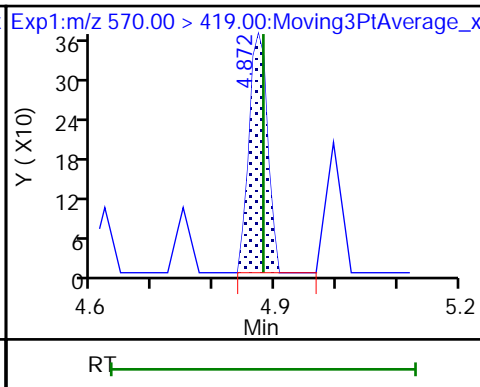
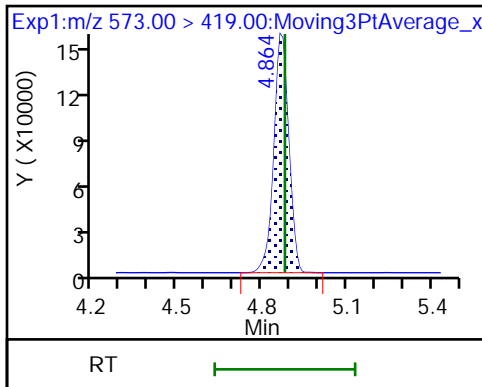
53 8:2 FTS (ND)



D 56 d3-NMeFOSAA

57 NMeFOSAA

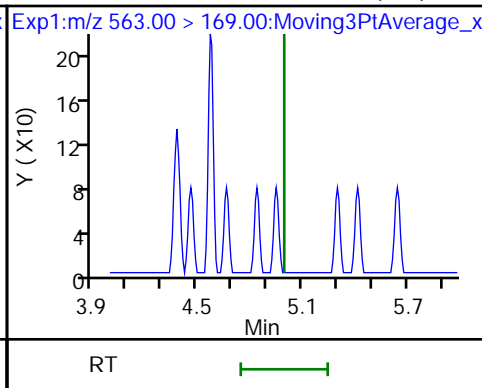
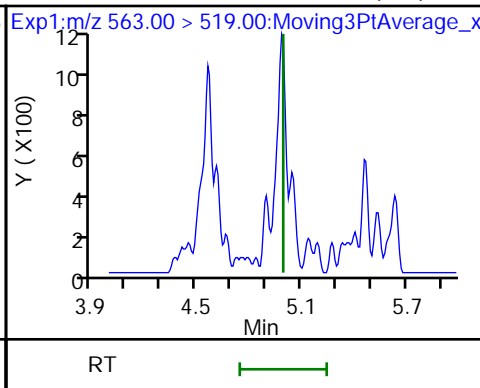
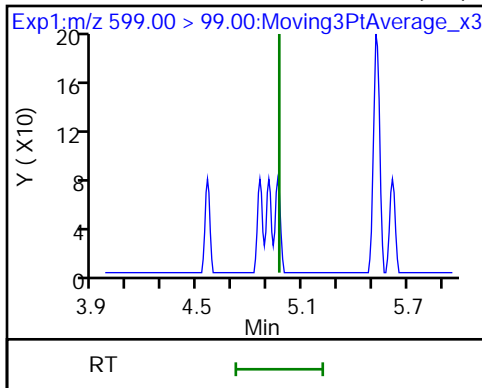
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid (ND)

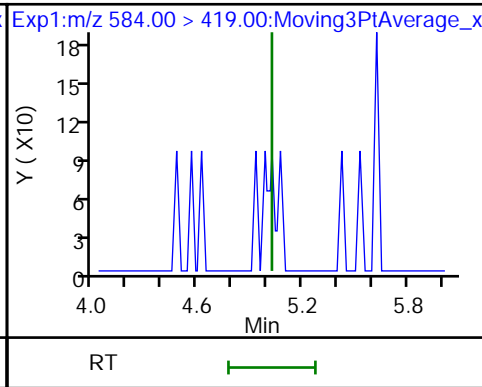
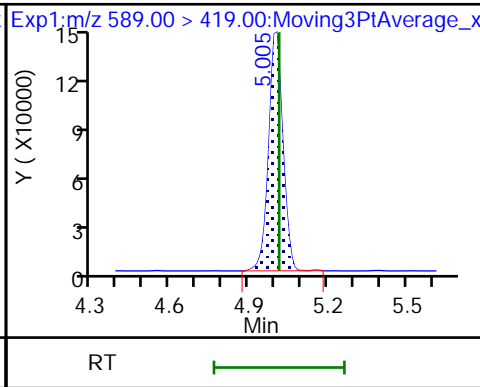
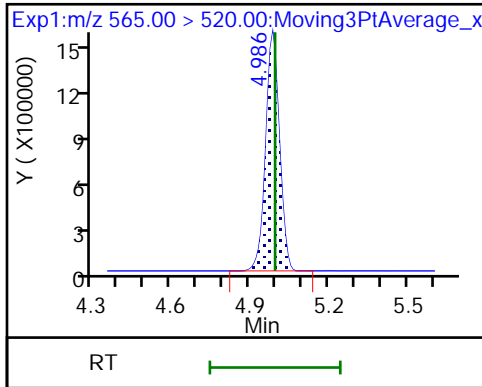
60 Perfluoroundecanoic acid (ND)

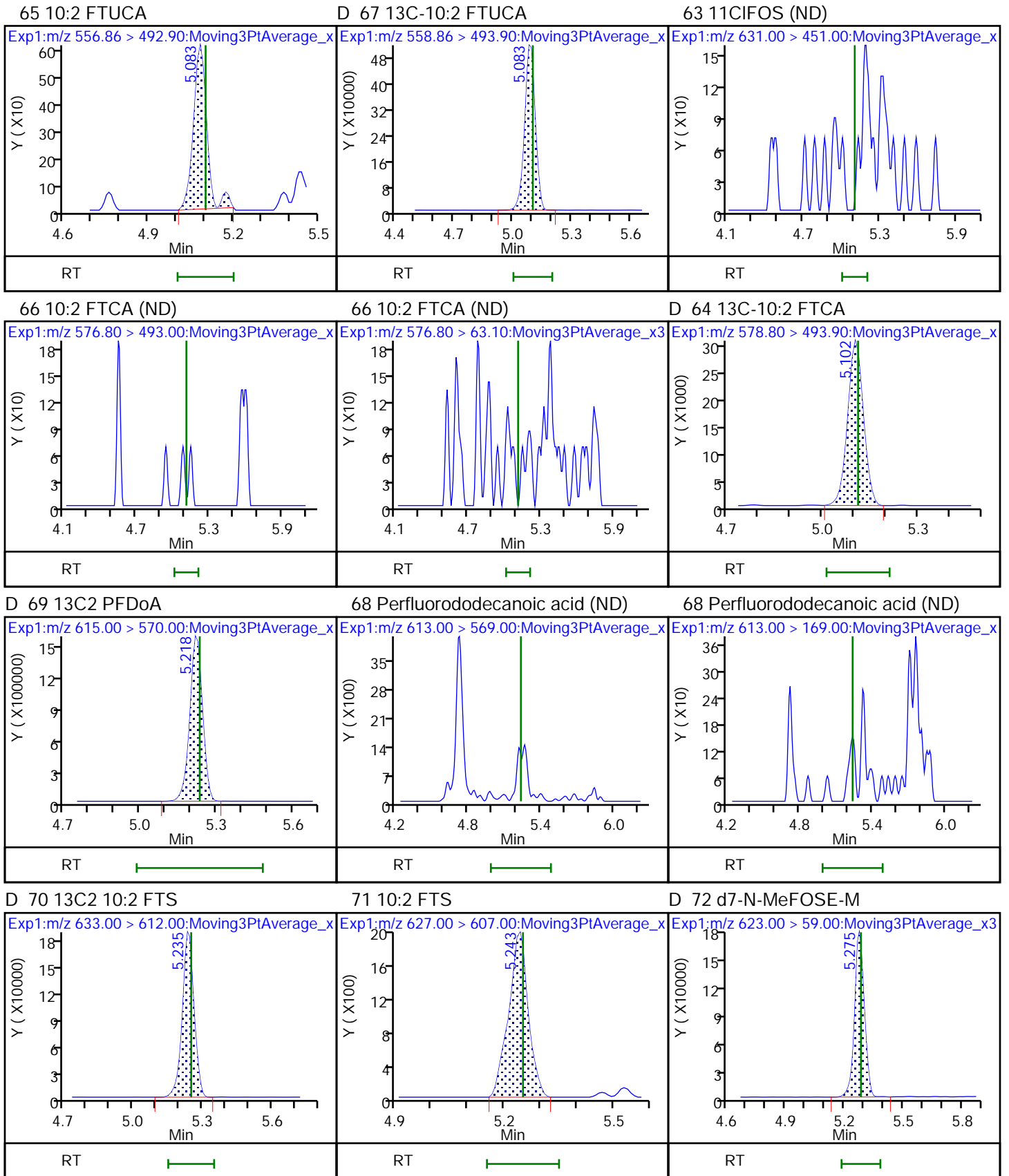


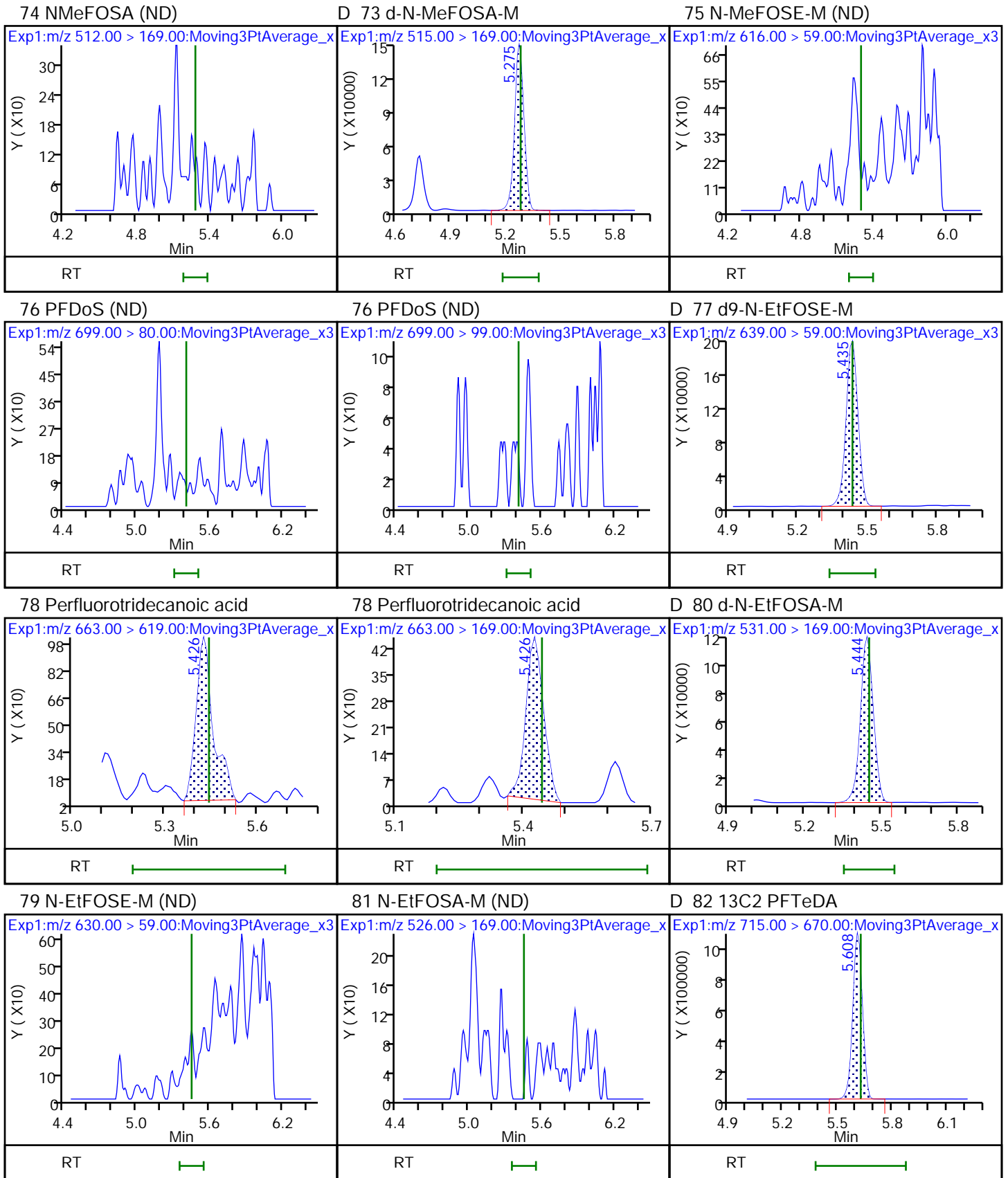
D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (ND)





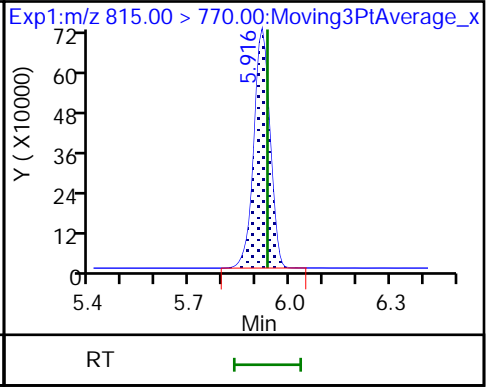
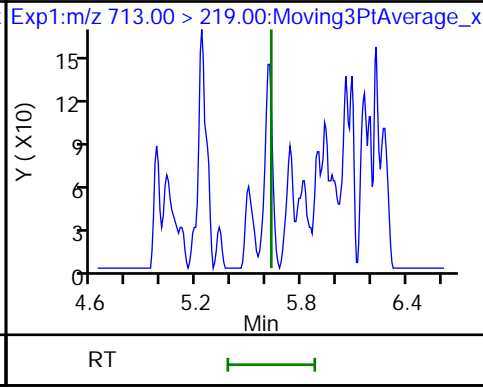
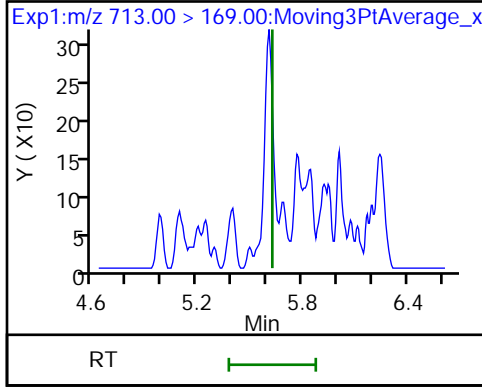




83 Perfluorotetradecanoic acid (ND)

83 Perfluorotetradecanoic acid (ND)

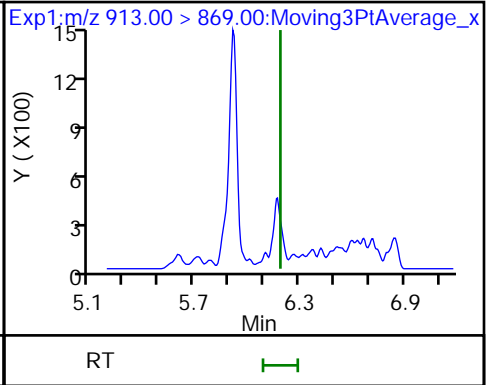
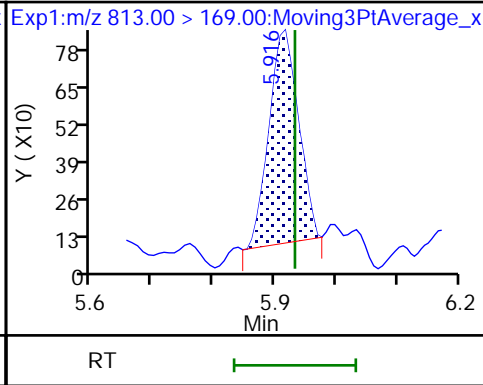
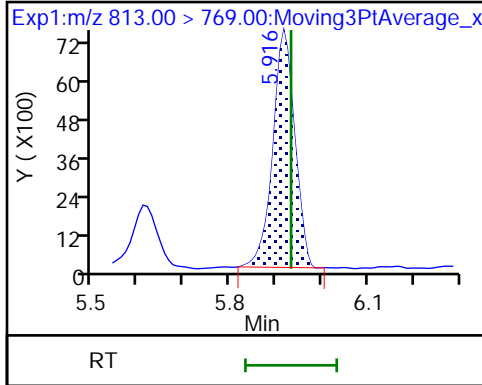
D 84 13C2 PFHxDA



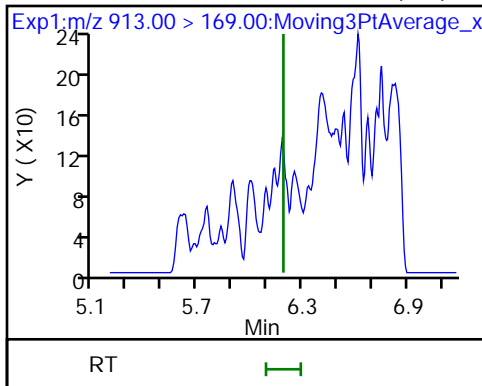
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: T-2138,2137 VEN CB OUTLET Lab Sample ID: 140-26391-5  
R2 OTM-45 FH  
Matrix: Air Lab File ID: \_016.d  
Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
Extraction Method: None Date Extracted: 02/16/2022 07:38  
Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 20:04  
Con. Extract Vol.: 57 (mL) Dilution Factor: 1  
Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
% Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	13.1		0.0983	0.0570

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	85		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_016.d  
 Lims ID: 140-26391-B-5-C  
 Client ID: T-2138,2137 VEN CB OUTLET R2 OTM-45 FH  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 20:04:11 ALS Bottle#: 16 Worklist Smp#: 16  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-016 140-26391-b-5-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:40 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 15:57:37  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_007.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.542	3.542	0.0	1.000	14505842	6.66	Target=2.51		2736	
329.00 > 169.00	3.542	3.542	0.0	1.000	5703364		2.54(1.25-3.76)		2807	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.542	0.0	0.858	2186334	1.07		85.1	5273	
* 30 13C2 PFOA										
415.00 > 370.00	4.130	4.121	0.009		5175538	1.26			11336	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_016.d

Injection Date: 19-Feb-2022 20:04:11

Instrument ID: LCA

Lims ID: 140-26391-B-5-C

Lab Sample ID: 140-26391-5

Client ID: T-2138,2137 VEN CB OUTLET R2 OTM-45 FH

Operator ID: Cochran, Bobby

ALS Bottle#: 16

Worklist Smp#: 16

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

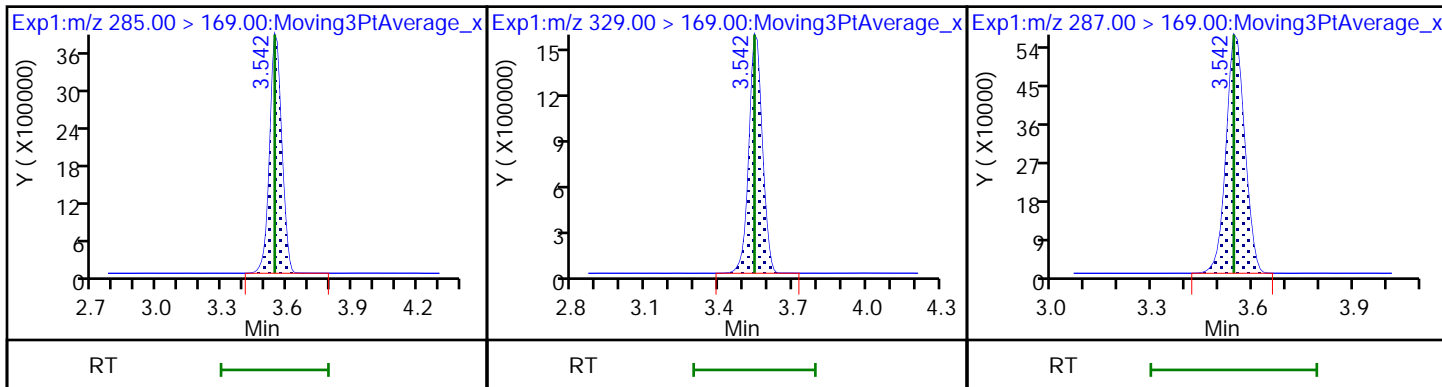
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

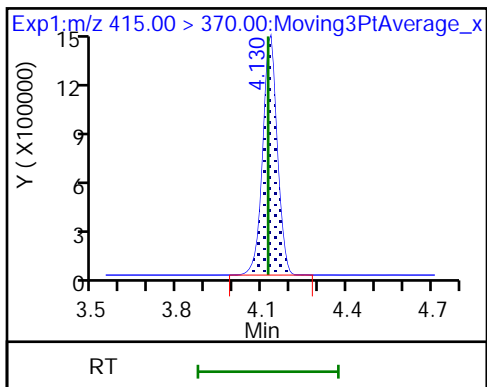
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2136,2135,2133 VEN CB Lab Sample ID: 140-26391-6  
OUTLET R2 OTM-45 BH  
 Matrix: Air Lab File ID: \_014.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/20/2022 14:59  
 Con. Extract Vol.: 360(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59064 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	9.95	B	0.320	0.280

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	91		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_014.d  
 Lims ID: 140-26391-A-6-C  
 Client ID: T-2136,2135,2133 VEN CB OUTLET R2 OTM-45 BH  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 14:59:18 ALS Bottle#: 14 Worklist Smp#: 14  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022725-014 140-26391-a-6-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:50:51 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: mcwhirterl Date: 20-Feb-2022 23:41:17  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_005.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.543	3.553	-0.010	1.000	5586064	2.49	Target=2.52		2597	
329.00 > 169.00	3.543	3.553	-0.010	1.000	2135924		2.62(1.26-3.78)		2156	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.553	-0.010	0.860	2240661	1.14		90.9	6028	
* 30 13C2 PFOA										
415.00 > 370.00	4.122	4.139	-0.017		4967039	1.26			10999	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_014.d

Injection Date: 20-Feb-2022 14:59:18

Instrument ID: LCA

Lims ID: 140-26391-A-6-C

Lab Sample ID: 140-26391-6

Client ID: T-2136,2135,2133 VEN CB OUTLET R2 OTM-45 BH

Operator ID: Cochran, Bobby

ALS Bottle#: 14

Worklist Smp#: 14

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

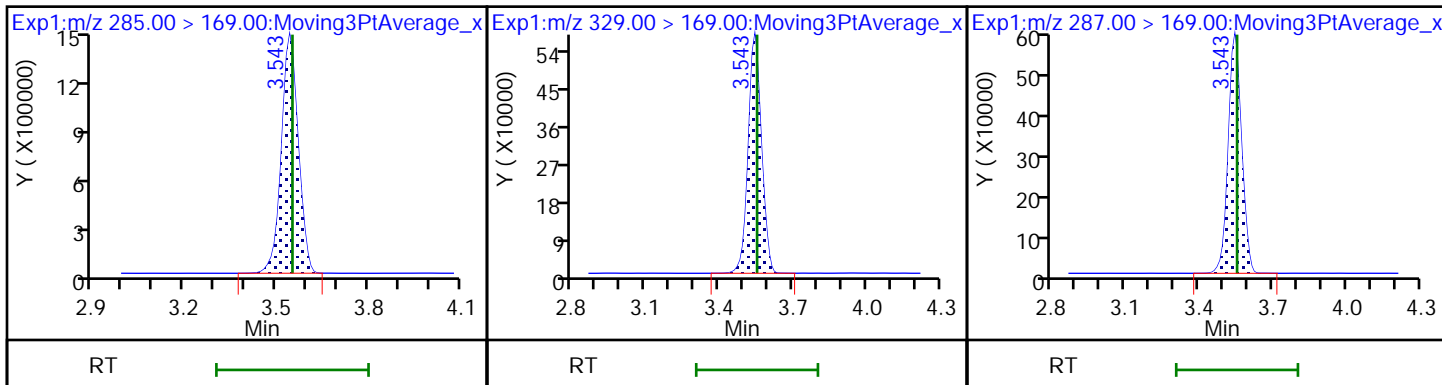
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

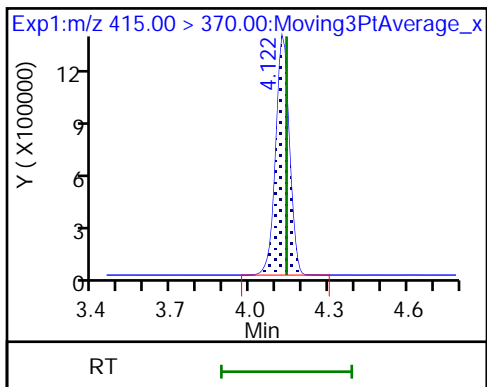
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2134 VEN CB OUTLET R2 Lab Sample ID: 140-26391-7  
                           OTM-45 IMPINGERS 1,2&3  
                           COND  
 Matrix: Air Lab File ID: \_027.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 0.0069 (Sample) Date Analyzed: 02/18/2022 23:21  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.0725	0.0126

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	73		25-150



Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_027.d  
 Lims ID: 140-26391-A-7-A  
 Client ID: T-2134 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 COND  
 Sample Type: Client  
 Inject. Date: 18-Feb-2022 23:21:26 ALS Bottle#: 27 Worklist Smp#: 27  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-027 140-26391-a-7-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:20:18  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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D 16 13C3 HFPO-DA										
287.00 > 169.00	3.532	3.553	-0.021	0.859	2215093	0.9167		73.3	7466	
17 HFPO-DA										7
285.00 > 169.00	3.532	3.553	-0.021	1.000	9118	-0.000929	Target=2.53	5.9	7	
329.00 > 169.00	3.522	3.553	-0.031	0.997	3984		2.29(1.26-3.79)	6.0		
LOD = 0.008500										
* 30 13C2 PFOA										
415.00 > 370.00	4.111	4.131	-0.020		6086420	1.25			13113	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_027.d

Injection Date: 18-Feb-2022 23:21:26

Instrument ID: LCA

Lims ID: 140-26391-A-7-A

Lab Sample ID: 140-26391-7

Client ID: T-2134 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 COND

Operator ID: Cochran, Bobby

ALS Bottle#: 27

Worklist Smp#: 27

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

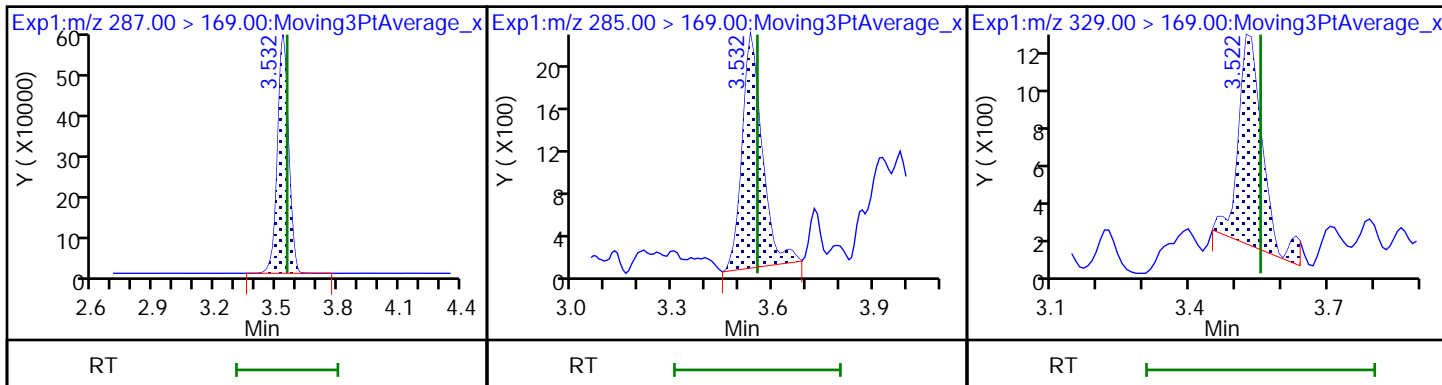
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

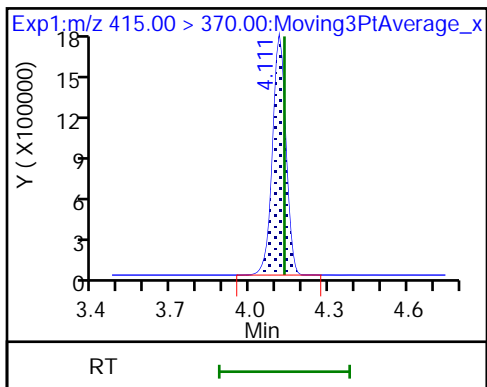
D 16 13C3 HFPO-DA

17 HFPO-DA

17 HFPO-DA



\* 30 13C2 PFOA



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2132 VEN CB OUTLET R2 Lab Sample ID: 140-26391-8  
                           OTM-45 BREAKTHROUGH XAD-2  
                           RESIN TUBE  
 Matrix: Air Lab File ID: 015.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/20/2022 15:08  
 Con. Extract Vol.: 360(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59064 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.00540	B	0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	85		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_015.d  
 Lims ID: 140-26391-A-8-B  
 Client ID: T-2132 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 15:08:06 ALS Bottle#: 15 Worklist Smp#: 15  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022725-015 140-26391-a-8-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:50:51 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: mcwhirterl Date: 20-Feb-2022 23:41:28  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_005.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.533	3.553	-0.020	1.000	501104	0.2702	Target=2.52		349	
329.00 > 169.00	3.533	3.553	-0.020	1.000	193244		2.59(1.26-3.78)		98.6	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.533	3.553	-0.020	0.857	1811349	1.06		85.0	6572	
* 30 13C2 PFOA										
415.00 > 370.00	4.122	4.139	-0.017		4292175	1.25			6664	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_015.d

Injection Date: 20-Feb-2022 15:08:06

Instrument ID: LCA

Lims ID: 140-26391-A-8-B

Lab Sample ID: 140-26391-8

Client ID: T-2132 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Operator ID: Cochran, Bobby

ALS Bottle#: 15

Worklist Smp#: 15

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

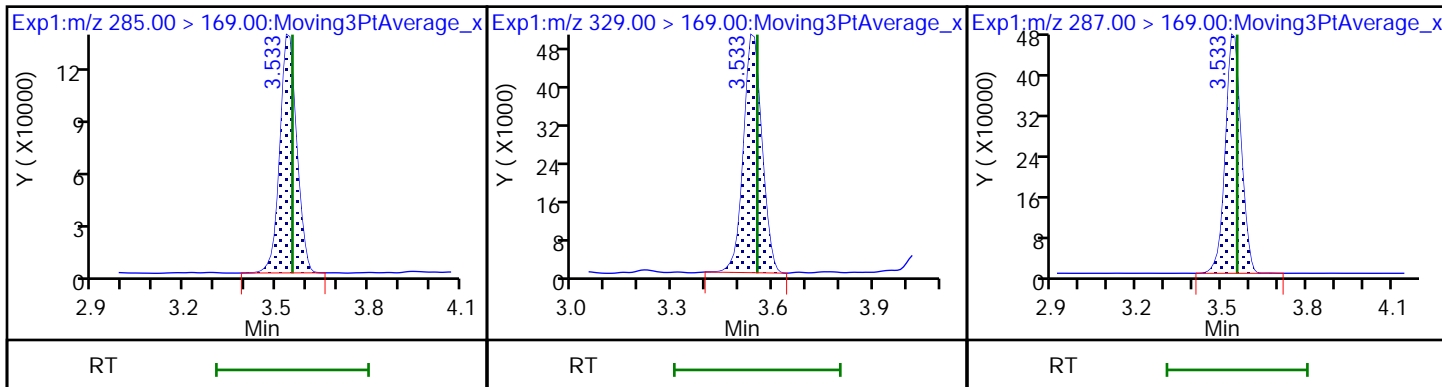
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

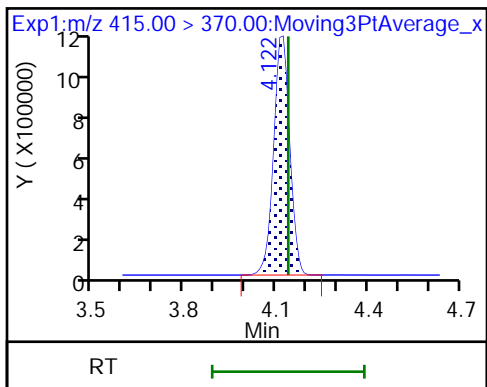
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: T-2131,2130 VEN CB OUTLET Lab Sample ID: 140-26391-9  
R3 OTM-45 FH  
Matrix: Air Lab File ID: \_017.d  
Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
Extraction Method: None Date Extracted: 02/16/2022 07:38  
Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 20:14  
Con. Extract Vol.: 96 (mL) Dilution Factor: 1  
Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
% Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	9.45		0.100	0.0580

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	95		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_017.d  
 Lims ID: 140-26391-B-9-C  
 Client ID: T-2131,2130 VEN CB OUTLET R3 OTM-45 FH  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 20:14:09 ALS Bottle#: 17 Worklist Smp#: 17  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-017 140-26391-b-9-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:40 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 15:57:50  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_007.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.543	3.542	0.001	1.000	11837736	4.73	Target=2.51		2678	
329.00 > 169.00	3.543	3.542	0.001	1.000	4716495		2.51(1.25-3.76)		2601	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.542	0.001	0.860	2513523	1.20		94.8	8546	
* 30 13C2 PFOA										
415.00 > 370.00	4.122	4.121	0.001		5344681	1.26			9073	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_017.d

Injection Date: 19-Feb-2022 20:14:09

Instrument ID: LCA

Lims ID: 140-26391-B-9-C

Lab Sample ID: 140-26391-9

Client ID: T-2131,2130 VEN CB OUTLET R3 OTM-45 FH

Operator ID: Cochran, Bobby

ALS Bottle#: 17

Worklist Smp#: 17

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

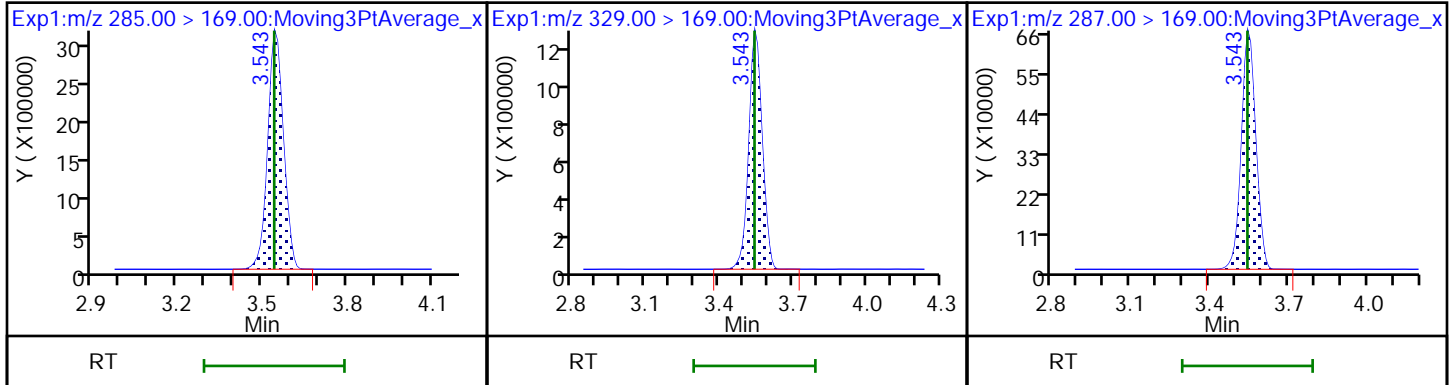
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

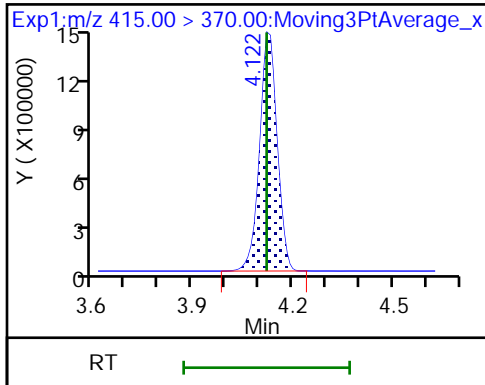
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA





FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville

Job No.: 140-26391-1

SDG No.: \_\_\_\_\_

Client Sample ID: T-2129,2128,2126 VEN CB  
OUTLET R3 OTM-45 BH

Lab Sample ID: 140-26391-10

Matrix: Air

Lab File ID: \_035.d

Analysis Method: 537 (modified)

Date Collected: 02/10/2022 00:00

Extraction Method: None

Date Extracted: 02/15/2022 14:06

Sample wt/vol: 1 (Sample)

Date Analyzed: 02/19/2022 22:52

Con. Extract Vol.: 360 (mL)

Dilution Factor: 1

Injection Volume: 1 (uL)

GC Column: GeminiC18 3x100 ID: 3 (mm)

% Moisture: \_\_\_\_\_

GPC Cleanup: (Y/N) N

Analysis Batch No.: 59059

Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	35.0		0.320	0.280

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	86		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_035.d  
 Lims ID: 140-26391-A-10-C  
 Client ID: T-2129,2128,2126 VEN CB OUTLET R3 OTM-45 BH  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 22:52:46 ALS Bottle#: 35 Worklist Smp#: 35  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-035 mb 140-58905/14-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:14:25  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_030.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.543	3.542	0.001	1.000	19864340	8.74	Target=2.58		3573	
329.00 > 169.00	3.543	3.542	0.001	1.000	7699419		2.58(1.29-3.86)		3073	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.542	0.001	0.860	2271576	1.08		86.2	4855	
* 30 13C2 PFOA										
415.00 > 370.00	4.122	4.121	0.001		5309612	1.26			10462	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_035.d

Injection Date: 19-Feb-2022 22:52:46

Instrument ID: LCA

Lims ID: 140-26391-A-10-C

Lab Sample ID: 140-26391-10

Client ID: T-2129,2128,2126 VEN CB OUTLET R3 OTM-45 BH

Operator ID: Cochran, Bobby

ALS Bottle#: 35

Worklist Smp#: 35

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

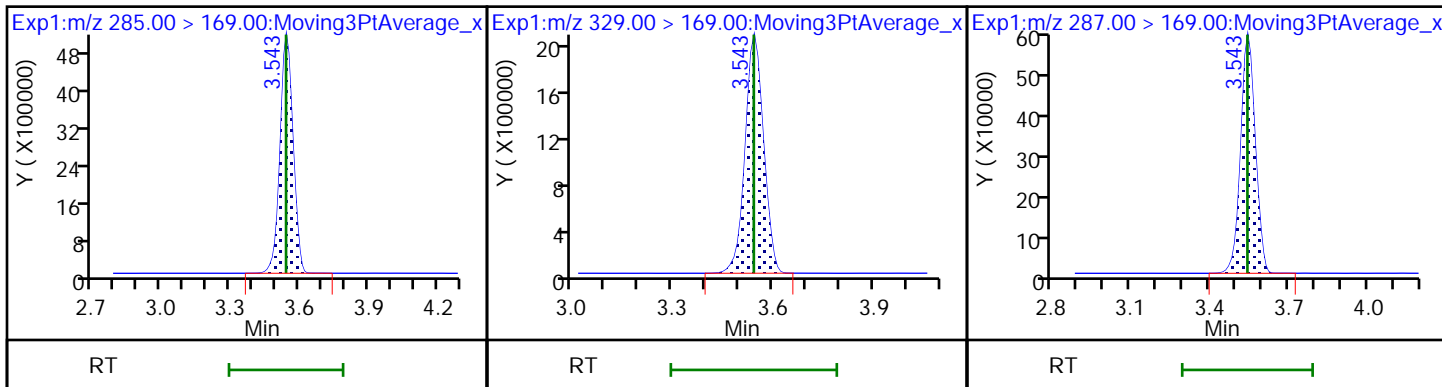
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

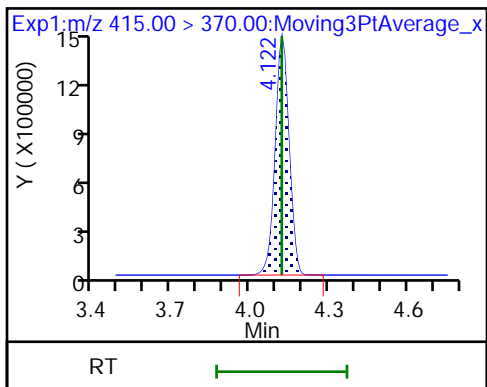
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2127 VEN CB OUTLET R3 Lab Sample ID: 140-26391-11  
                           OTM-45 IMPINGERS 1,2&3  
                           COND  
 Matrix: Air Lab File ID: \_030.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 0.00667 (Sample) Date Analyzed: 02/18/2022 23:47  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.0750	0.0130

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	74		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_030.d  
 Lims ID: 140-26391-A-11-A  
 Client ID: T-2127 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 COND  
 Sample Type: Client  
 Inject. Date: 18-Feb-2022 23:47:54 ALS Bottle#: 30 Worklist Smp#: 30  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-030 140-26391-a-11-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:22:10  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.860	2172310	0.9285		74.3	5218	
17 HFPO-DA										7
285.00 > 169.00	3.542	3.553	-0.011	1.000	10199	-0.000353	Target=2.51	7.3	7	
329.00 > 169.00	3.542	3.553	-0.011	1.000	4893		2.08(1.25-3.76)	7.5		
LOD = 0.008500										
* 30 13C2 PFOA										
415.00 > 370.00	4.120	4.131	-0.011		5893284	1.25			11997	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_030.d

Injection Date: 18-Feb-2022 23:47:54

Instrument ID: LCA

Lims ID: 140-26391-A-11-A

Lab Sample ID: 140-26391-11

Client ID: T-2127 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 COND

Operator ID: Cochran, Bobby

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

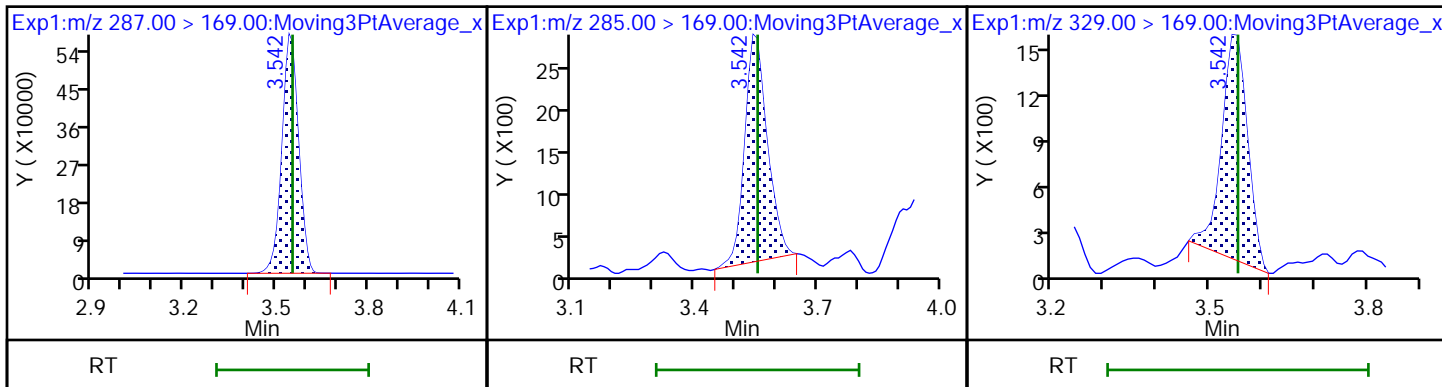
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

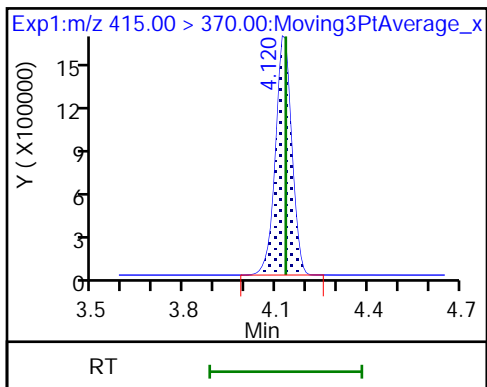
D 16 13C3 HFPO-DA

17 HFPO-DA

17 HFPO-DA



\* 30 13C2 PFOA



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2125 VEN CB OUTLET R3 Lab Sample ID: 140-26391-12  
                           OTM-45 BREAKTHROUGH XAD-2  
                           RESIN TUBE  
 Matrix: Air Lab File ID: \_036.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/19/2022 23:01  
 Con. Extract Vol.: 360(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.0643		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	84		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_036.d  
 Lims ID: 140-26391-A-12-B  
 Client ID: T-2125 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 23:01:33 ALS Bottle#: 36 Worklist Smp#: 36  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-036 140-26391-a-10-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:14:41  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_030.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.533	3.542	-0.009	1.000	6003698	3.21	Target=2.58		1309	
329.00 > 169.00	3.544	3.542	0.002	1.003	2219758		2.70(1.29-3.86)		648	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.533	3.542	-0.009	0.859	1855566	1.04		83.6	7201	
* 30 13C2 PFOA										
415.00 > 370.00	4.112	4.121	-0.009		4473814	1.25			6337	

QC Flag Legend  
Processing Flags



Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_036.d

Injection Date: 19-Feb-2022 23:01:33

Instrument ID: LCA

Lims ID: 140-26391-A-12-B

Lab Sample ID: 140-26391-12

Client ID: T-2125 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Operator ID: Cochran, Bobby

ALS Bottle#: 36

Worklist Smp#: 36

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

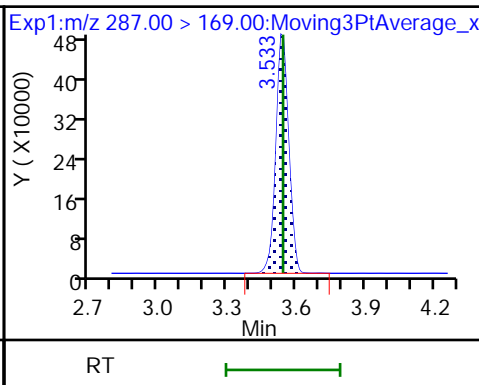
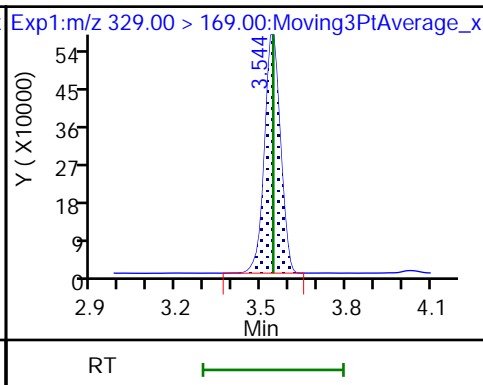
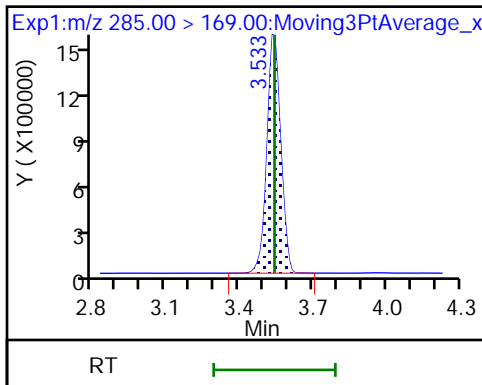
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

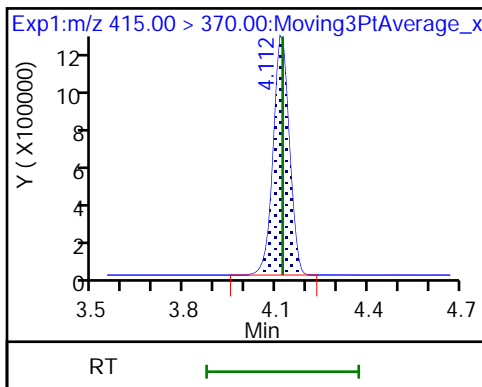
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_036.d  
 Lims ID: 140-26391-A-12-B  
 Client ID: T-2125 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 23:01:33 ALS Bottle#: 36 Worklist Smp#: 36  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-036 140-26391-a-10-c  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:14:41

Compound	Amount Added	Amount Recovered	% Rec.
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 140-59044/12 Calibration Date: 02/18/2022 19:11  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8413		2.16	2.03	6.3	40.0
PFECA F	AveID	0.7535	0.7034		2.10	2.25	-6.7	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.026		2.26	2.07	9.4	40.0
3:3 FTCA	QuaIF		0.0510		2.12	2.25	-6.0	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.167		2.36	2.25	4.8	40.0
PFECA A	Q2ID		1.194		2.26	2.25	0.5	40.0
PES	Q2ID		2.055		1.92	2.25	-14.6	40.0
PFECA B	Q2ID		0.4007		2.11	2.25	-6.1	40.0
4:2 FTS	L2ID		2.367		2.19	2.10	4.3	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.9319		2.65	2.25	17.7	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	0.9090		1.86	2.11	-12.0	40.0
HFPO-DA	L2ID		1.473		2.63	2.25	17.0	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.386		2.25	2.25	0.1	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.260		2.78	2.25	23.8	40.0
DONA	AveID	2.644	2.858		2.43	2.25	8.1	40.0
5:3 FTCA	L2ID		3.673		2.20	2.25	-2.3	40.0
6:2 FTUCA	AveID	1.046	1.025		2.21	2.25	-2.0	40.0
6:2 FTCA	L1ID		0.6586		2.14	2.25	-4.8	40.0
PFECHS	AveID	0.7426	0.7270		2.03	2.07	-2.1	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9289		2.02	2.14	-5.9	40.0
6:2 FTS	L2ID		1.760		2.06	2.14	-3.6	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.268		2.68	2.25	19.0	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.176		2.31	2.25	2.7	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.9416		2.79	2.25	23.8	40.0
7:3 FTCA	AveID	5.230	4.547		1.96	2.25	-13.1	40.0
8:2 FTUCA	AveID	0.9565	0.9280		2.18	2.25	-3.0	40.0
8:2 FTCA	AveID	1.811	1.539		1.91	2.25	-15.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.368		2.37	2.25	5.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9108		1.95	2.16	-9.9	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9066		2.14	2.25	-5.1	40.0
Perfluorodecanoic acid (PFDA)	L2ID		1.022		2.57	2.25	14.1	40.0
8:2 FTS	L2ID		1.397		2.07	2.22	-6.8	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		1.083		2.58	2.25	14.6	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8564		2.09	2.17	-3.6	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

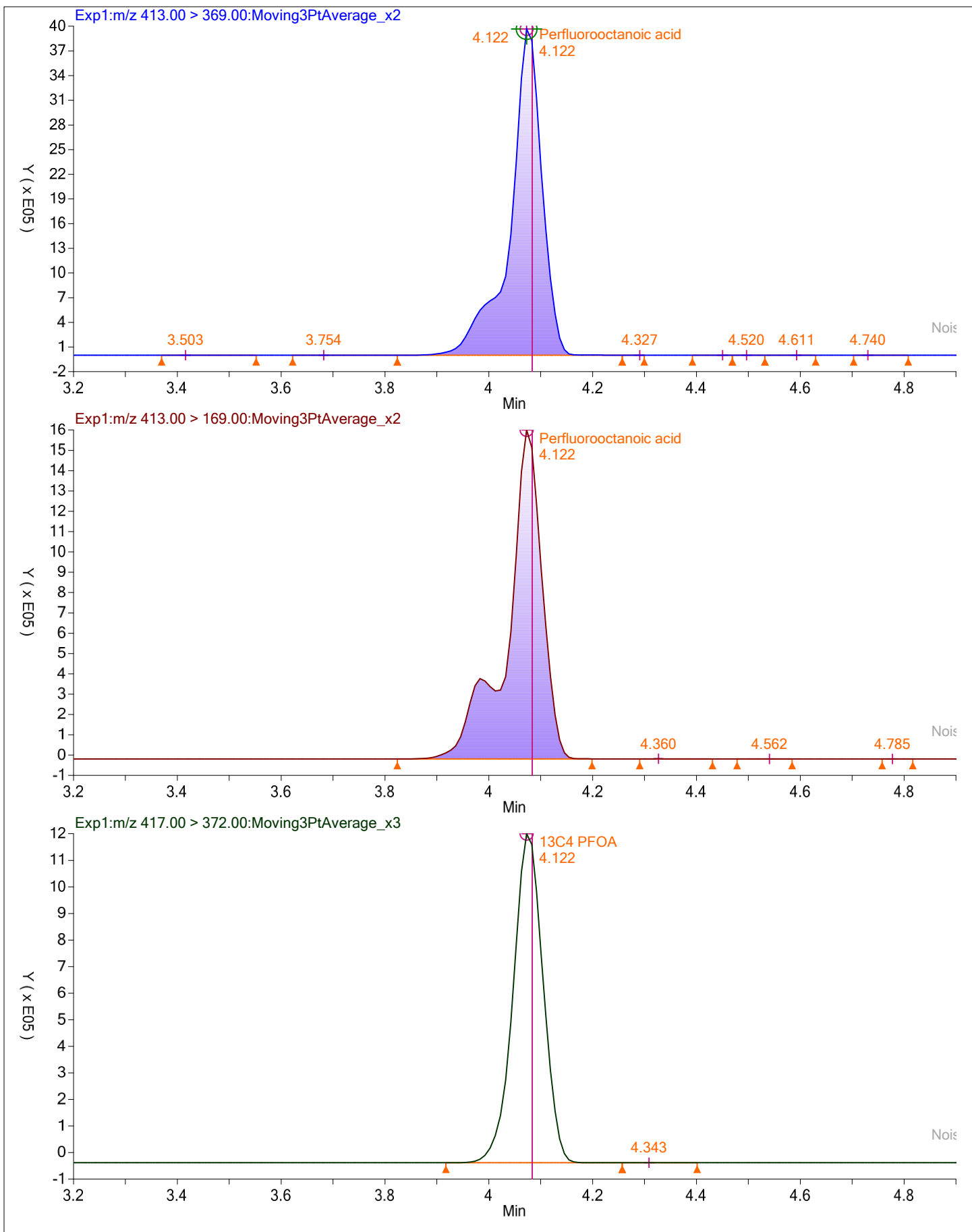
Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 140-59044/12 Calibration Date: 02/18/2022 19:11  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.134		2.64	2.25	17.3	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		1.093		2.70	2.25	19.8	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.875		2.43	2.25	7.9	50.0
10:2 FTUCA	AveID	1.208	1.084		2.02	2.25	-10.2	40.0
10:2 FTCA	Q2ID		1.017		2.41	2.25	7.1	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.143		2.49	2.25	10.6	40.0
10:2 FTS	L2ID		1.999		2.08	2.17	-4.4	50.0
NMeFOSA	L2ID		0.9828		2.05	2.25	-8.7	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.152		2.21	2.25	-1.7	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9124		2.10	2.18	-3.5	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.9514		2.42	2.25	7.7	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.280		2.03	2.25	-9.8	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.238		2.24	2.25	-0.6	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1535		2.68	2.25	19.3	40.0
Perfluorohexadecanoic acid	L1ID		1.059		2.11	2.25	-6.4	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9488		2.11	2.25	-6.3	40.0
13C4 PFBA	Ave	1.172	1.196		1.28	1.25	2.0	50.0
13C5 PFPeA	Ave	0.9197	0.9329		1.27	1.25	1.4	50.0
13C3 PFBS	Ave	0.5817	0.6073		1.21	1.16	4.4	50.0
M2-4:2 FTS	Ave	0.1821	0.1762		1.13	1.17	-3.2	50.0
13C2 PFHxA	Ave	1.015	1.084		1.34	1.25	6.8	50.0
13C3 HFPO-DA	Ave	0.4963	0.5057		1.27	1.25	1.9	50.0
18O2 PFHxS	Ave	0.3776	0.3978		1.25	1.18	5.4	50.0
13C4 PFHpA	Ave	0.9046	0.9130		1.26	1.25	0.9	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3479		1.29	1.25	3.1	50.0
13C-6:2 FTCA	Ave	0.0260	0.0271		1.30	1.25	4.3	50.0
13C4 PFOA	Ave	0.9356	0.9257		1.24	1.25	-1.1	50.0
M2-6:2 FTS	Ave	0.1799	0.1780		1.17	1.19	-1.1	50.0
13C4 PFOS	Ave	0.5610	0.5801		1.24	1.20	3.4	50.0
13C5 PFNA	Ave	1.268	1.251		1.23	1.25	-1.4	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4507		1.25	1.25	-0.3	50.0
13C-8:2 FTCA	Ave	0.0330	0.0353		1.34	1.25	6.9	50.0
13C8 FOSA	Ave	0.8475	0.8669		1.28	1.25	2.3	50.0
13C2 PFDA	Ave	1.210	1.271		1.31	1.25	5.1	50.0
M2-8:2 FTS	Ave	0.1961	0.2045		1.25	1.20	4.3	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 140-59044/12 Calibration Date: 02/18/2022 19:11  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1183		1.30	1.25	4.3	50.0
13C2 PFUnA	Ave	1.168	1.189		1.27	1.25	1.8	50.0
d5-NEtFOSAA	Ave	0.1164	0.1284		1.38	1.25	10.3	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5305		1.31	1.25	4.5	50.0
13C-10:2 FTCA	Ave	0.0309	0.0331		1.34	1.25	7.0	50.0
13C2 PFDoA	Ave	1.152	1.229		1.33	1.25	6.6	50.0
13C2 10:2 FTS	Ave	0.1652	0.1721		1.23	1.18	4.2	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1217		1.28	1.25	2.6	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1030		1.28	1.25	2.0	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1303		1.32	1.25	5.9	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0832		1.29	1.25	2.8	50.0
13C2 PFTeDA	Ave	0.9216	0.9361		1.27	1.25	1.6	50.0
13C2 PFHxDA	Ave	0.5997	0.6199		1.29	1.25	3.4	50.0
13C8 PFOA	AveID	0.9229	0.9368		1.27	1.25	1.5	50.0
13C8 PFOS	AveID	0.2212	0.2059		1.11	1.20	-6.9	50.0



Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_012.d  
 Lims ID: ICV  
 Client ID:  
 Sample Type: ICV  
 Inject. Date: 18-Feb-2022 19:11:11 ALS Bottle#: 12 Worklist Smp#: 12  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022713-012 icv  
 Misc. Info.: Plate: 11 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist:

Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:04:00 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 18-Feb-2022 19:35:02

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	7643925	2.16			2223	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.682	5592512	1.28		102	21502	
3 PFECA F										
229.00 > 85.00	2.919	2.919	0.0	0.937	5525282	2.10			14137	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.756	4363919	1.27		101	16464	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.115	0.0	1.000	7409360	2.26			3190	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.132	-0.001	1.000	260850	2.12	Target=1.13		2701	
241.00 > 116.90	3.131	3.132	-0.001	1.000	226008		1.15(0.56-1.69)		390	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.132	-0.001	0.760	2641960	1.21		104	11583	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.132	-0.001	1.000	5965512	2.36	Target=2.61		14780	
298.90 > 99.00	3.131	3.132	-0.001	1.000	2240132		2.66(1.31-3.92)		11740	
9 PFECA A										
278.95 > 84.90	3.211	3.212	-0.001	1.031	9376145	2.26			16044	
11 PES										
314.80 > 135.00	3.260	3.261	0.0	1.041	10509927	1.92			32422	
12 PFECA B										
295.22 > 201.00	3.384	3.385	-0.001	0.981	3655349	2.11			13372	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.829	769846	1.13		96.8	1540	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.416	3.416	0.0	1.000	3281506	2.19			10390	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.449	-0.001	0.837	5068481	1.33		107	15771	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.449	-0.001	1.101	4359803	1.86	Target=3.55		8380	
349.00 > 99.00	3.448	3.449	-0.001	1.101	1279567		3.41(1.78-5.33)		13170	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.449	-0.001	1.000	8501967	2.65	Target=11.60		4007	
313.00 > 119.00	3.448	3.449	-0.001	1.000	682435		12.46(5.80-17.40)		673	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.553	-0.010	0.860	2365604	1.27		102	7572	
17 HFPO-DA										
285.00 > 169.00	3.543	3.553	-0.010	1.000	6270673	2.63	Target=2.45		3719	
329.00 > 169.00	3.543	3.553	-0.010	1.000	2477028		2.53(1.23-3.68)		2677	
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.783	0.0	0.918	1760334	1.25		105	7401	
21 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.783	3.783	0.0	1.000	4643832	2.25	Target=3.44		7695	M
399.00 > 99.00	3.783	3.783	0.0	1.000	1315988		3.53(1.72-5.17)		3047	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.793	0.0	0.920	4270831	1.26		101	9502	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.793	3.793	0.0	1.000	9684829	2.78	Target=3.25		6330	
363.00 > 169.00	3.793	3.793	0.0	1.000	2942991		3.29(1.62-4.87)		5424	
25 DONA										
377.00 > 251.00	3.821	3.829	-0.008	0.866	13960804	2.43	Target=1.74		20261	
377.00 > 85.00	3.821	3.829	-0.008	0.866	7690725		1.82(0.87-2.61)		5493	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.854	-0.001	0.987	838920	2.20	Target=1.11		2893	
340.88 > 216.90	3.853	3.854	-0.001	0.987	738506		1.14(0.56-1.67)		1540	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	-0.001	0.943	1627341	1.29		103	4011	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.887	-0.001	1.000	3003482	2.20	Target=13.05		5429	
356.86 > 243.00	3.886	3.887	-0.001	1.000	198925		15.10(6.52-19.57)		718	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.904	0.0	0.947	126904	1.30		104	944	
29 6:2 FTCA										
377.10 > 63.00	3.904	3.904	0.0	1.000	150451	2.14	Target=1.29		464	
377.10 > 313.10	3.904	3.904	0.0	1.000	105593		1.42(0.65-1.94)		135	
32 PFECBS										
460.80 > 380.90	4.065	4.065	0.0	0.986	5224321	2.03	Target=1.75		14931	
460.80 > 98.90	4.055	4.065	-0.010	0.984	2937207		1.78(0.87-2.62)		6721	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.112	4.112	0.0	0.932	4319215	2.01	Target=3.72		13888	
449.00 > 99.00	4.112	4.112	0.0	0.932	1076285		4.01(1.86-5.57)		5112	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.122	-0.001	1.000	790889	1.17		98.9	2317	
35 6:2 FTS										
427.00 > 407.00	4.121	4.122	-0.001	1.000	2502549	2.06			7334	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.122	-0.001	1.000	4056360	1.27		102	17494	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.131	-0.010	1.000	4330014	1.24		98.9	9620	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		4677658	1.25			11851	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.131	-0.010	1.000	9886064	2.68	Target=2.51		7635	
413.00 > 169.00	4.121	4.131	-0.010	1.000	4193943		2.36(1.26-3.77)		6944	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.413	4.413	0.0	1.000	534193	1.11		93.1	1793	
D 39 13C4 PFOS										
503.00 > 80.00	4.413	4.422	-0.009	1.071	2594020	1.24		103	2870	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.413	4.422	-0.009	1.000	5743528	2.31	Target=4.30		3847	M
499.00 > 99.00	4.413	4.422	-0.009	1.000	1304650		4.40(2.15-6.45)		3106	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.440	-0.001	1.000	9919876	2.79	Target=3.60		8904	
463.00 > 169.00	4.439	4.440	-0.001	1.000	2496853		3.97(1.80-5.40)		5095	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.440	-0.001	1.077	5853058	1.23		98.6	9394	
43 7:3 FTCA										
441.00 > 337.00	4.520	4.529	-0.009	0.991	1353076	1.96	Target=1.42		1944	
441.00 > 317.00	4.520	4.529	-0.009	0.991	1022557		1.32(0.71-2.13)		2840	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.546	-0.001	1.000	3521662	2.18	Target=35.37		7060	
456.86 > 343.00	4.545	4.546	-0.001	1.000	112457		31.32(17.68-53.05)		380	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.546	-0.001	1.000	2108194	1.25		99.7	4511	
46 8:2 FTCA										
477.00 > 393.10	4.562	4.562	0.0	1.000	458023	1.91	Target=3.35		1405	
477.00 > 63.20	4.562	4.562	0.0	1.000	144944		3.16(1.68-5.03)		728	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.562	4.562	0.0	1.107	165323	1.34		107	519	
49 9CIFOS										
531.00 > 351.00	4.578	4.579	-0.001	1.111	11564638	2.37			11464	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.064	4269539	1.94	Target=3.99		6378	
549.00 > 99.00	4.697	4.697	0.0	1.064	1109105		3.85(2.00-5.99)		5015	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.714	-0.008	1.142	4055004	1.28		102	5043	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.714	-0.008	1.000	6617192	2.14			5311	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.731	-0.008	1.146	5946673	1.31		105	16995	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.731	-0.008	1.000	10943833	2.57	Target=10.58		6896	
513.00 > 169.00	4.723	4.731	-0.008	1.000	999546		10.95(5.29-15.88)		558	
53 8:2 FTS										
527.00 > 507.00	4.740	4.740	0.0	1.002	2374342	2.07			9935	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.740	-0.009	1.148	916448	1.25		104	2384	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.873	-0.001	1.182	553596	1.30		104	196	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.873	-0.001	1.000	1079070	2.58			1822	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.958	-0.001	1.123	4031978	2.09	Target=3.55		8231	
599.00 > 99.00	4.957	4.958	-0.001	1.123	1091002		3.70(1.78-5.33)		3179	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.987	-0.001	1.000	11355937	2.64	Target=8.26		14144	
563.00 > 169.00	4.986	4.987	-0.001	1.000	1333498		8.52(4.13-12.39)		4906	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.987	-0.001	1.210	5561292	1.27		102	16312	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.006	-0.001	1.214	600596	1.38		110	2155	
62 NEtFOSAA										
584.00 > 419.00	5.005	5.016	-0.011	1.000	1181793	2.69			1100	M
63 11CIFOS										
631.00 > 451.00	5.083	5.093	-0.010	1.152	9157481	2.43			9372	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.093	5.093	0.0	1.236	2481350	1.31		104	6419	
65 10:2 FTUCA										
556.86 > 492.90	5.093	5.093	0.0	1.000	4843453	2.02			6704	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.238	154736	1.34		107	1034	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	283353	2.41	Target=2.53		1572	
576.80 > 63.10	5.102	5.112	-0.010	1.000	113174		2.50(1.26-3.79)		333	
D 69 13C2 PFDoA										
615.00 > 570.00	5.218	5.227	-0.009	1.266	5747520	1.33		107	14585	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.218	5.227	-0.009	1.000	11821468	2.49	Target=6.85		13109	
613.00 > 169.00	5.226	5.227	-0.001	1.002	1685254		7.01(3.43-10.28)		2455	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.272	762341	1.23		104	3547	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.000	2793434	2.07			8739	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.280	481648	1.28		102	55.0	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.284	-0.009	1.280	569068	1.28		103	440	
74 NMeFOSA										
512.00 > 169.00	5.284	5.284	0.0	1.002	852095	2.05			687	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.293	-0.001	1.003	1179527	2.21			1649	
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.223	4313888	2.10	Target=4.22		7581	
699.00 > 99.00	5.399	5.399	0.0	1.223	947843		4.55(2.11-6.34)		4432	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.040	9843139	2.42	Target=6.32		8498	
663.00 > 169.00	5.426	5.435	-0.009	1.040	1610303		6.11(3.16-9.48)		6563	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.444	-0.009	1.319	609576	1.32		106	300	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.444	5.453	-0.009	1.321	389259	1.29		103	634	
79 N-EtFOSE-M										
630.00 > 59.00	5.444	5.453	-0.009	1.002	1404095	2.03			1374	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.461	-0.009	1.002	867493	2.24			559	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	1209535	2.68	Target=1.01		4508	
713.00 > 219.00	5.608	5.617	-0.009	0.998	1172960		1.03(0.51-1.52)		5302	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.363	4378899	1.27		102	11212	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.925	-0.009	1.435	2899828	1.29		103	7658	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.925	-0.001	1.001	5527539	2.11	Target=8.64		5121	
813.00 > 169.00	5.924	5.925	-0.001	1.001	675522		8.18(4.32-12.97)		2153	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.184	-0.005	1.044	4952594	2.11	Target=11.77		5604	
913.00 > 169.00	6.179	6.184	-0.005	1.044	414890		11.94(5.88-17.65)		1435	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63ICVPFC2\_FUL\_00005

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220218-22713.b\_012.d

Injection Date: 18-Feb-2022 19:11:11

Instrument ID: LCA

Lims ID: ICV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

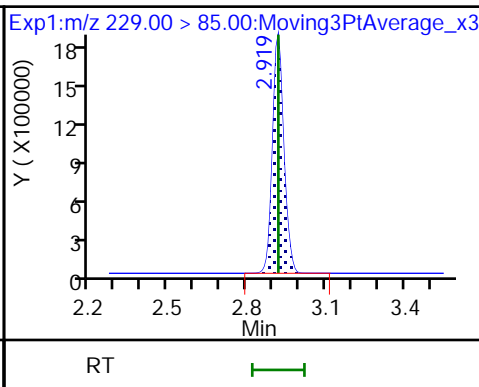
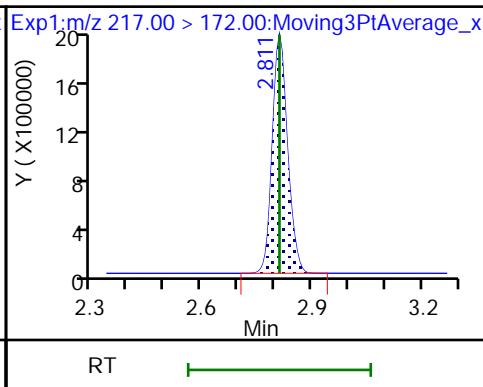
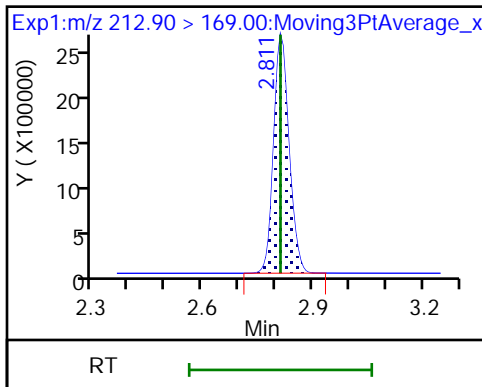
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

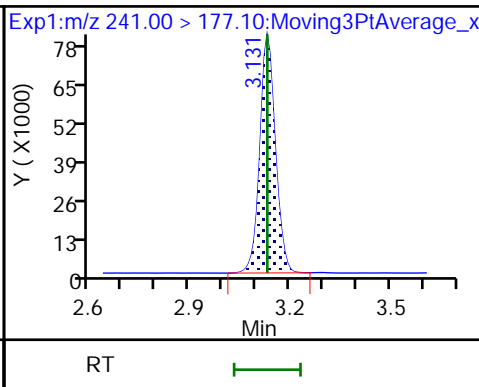
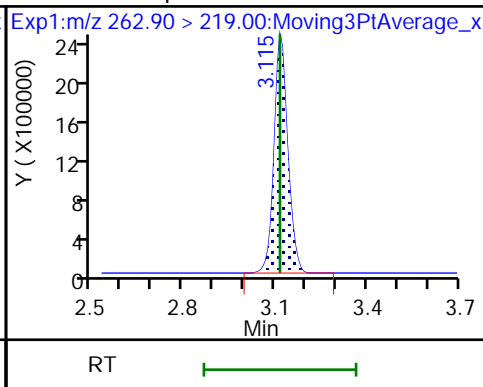
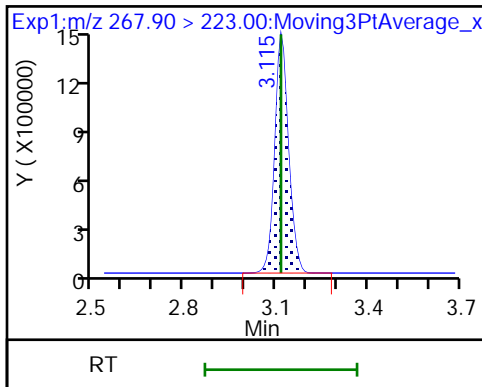
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

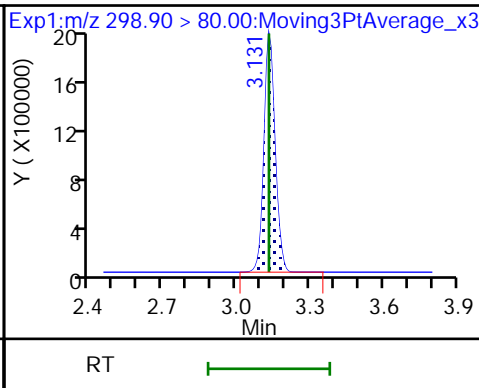
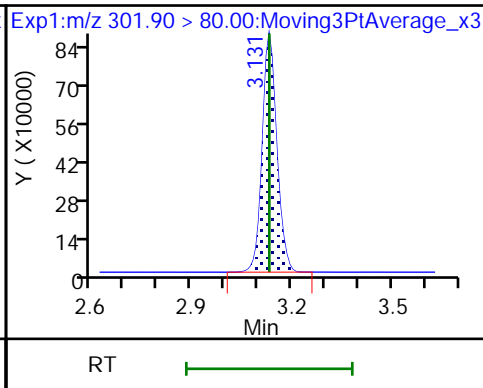
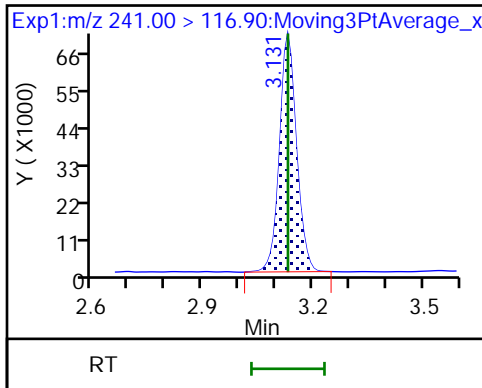
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

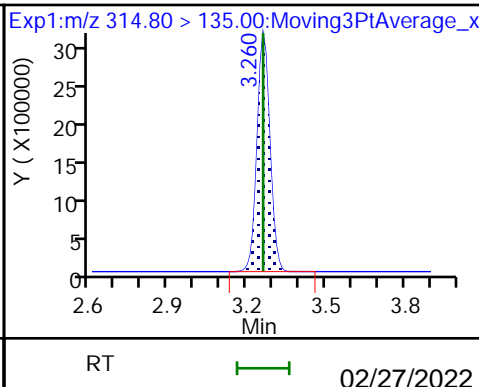
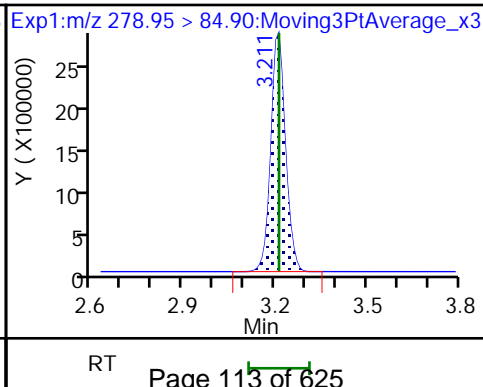
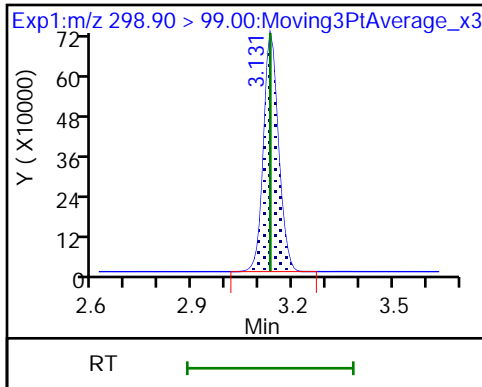
8 Perfluorobutanesulfonic acid

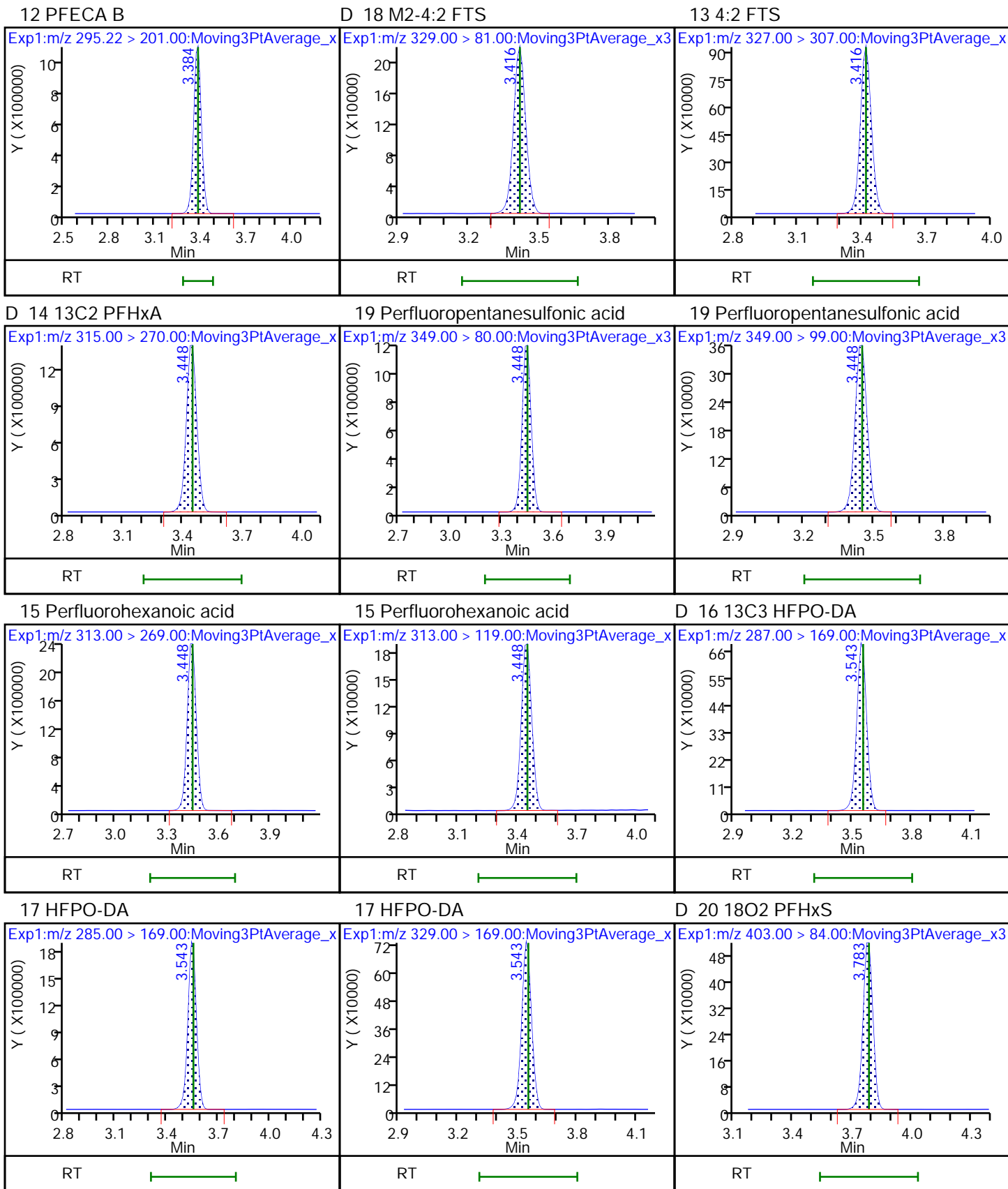


8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES

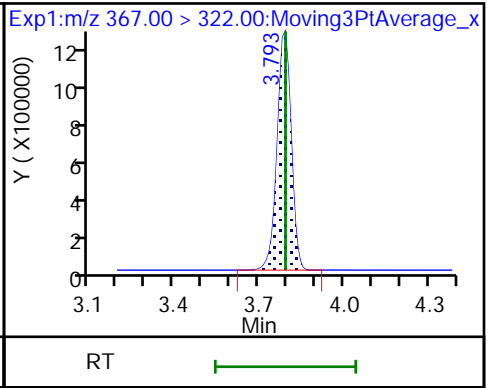
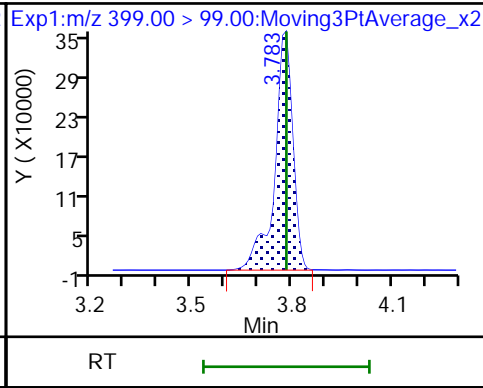
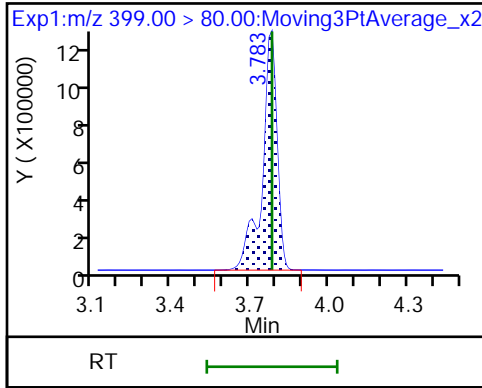




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

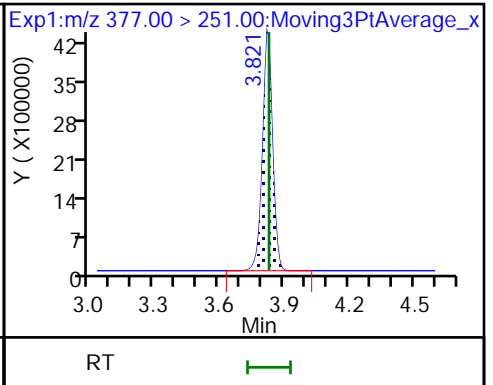
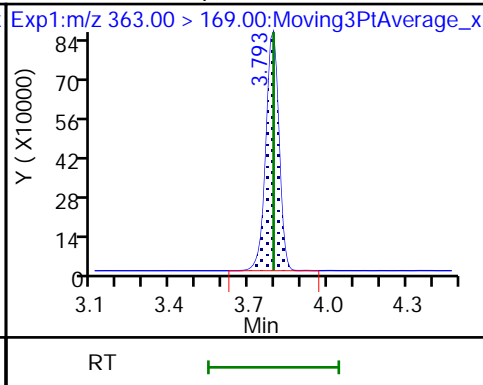
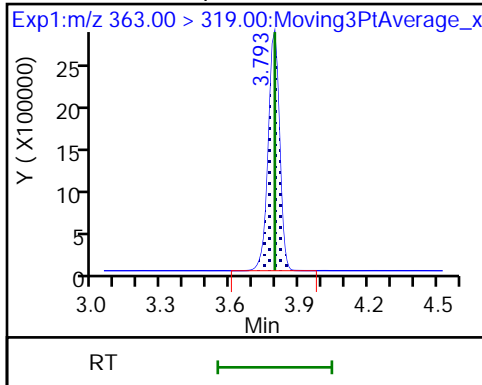
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

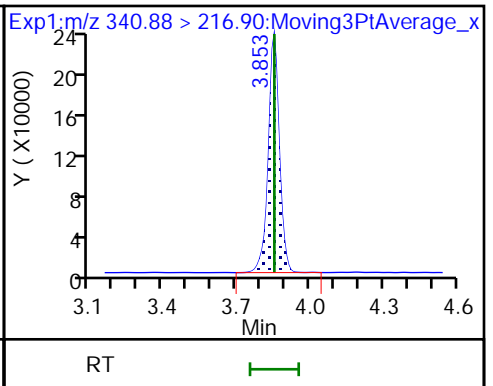
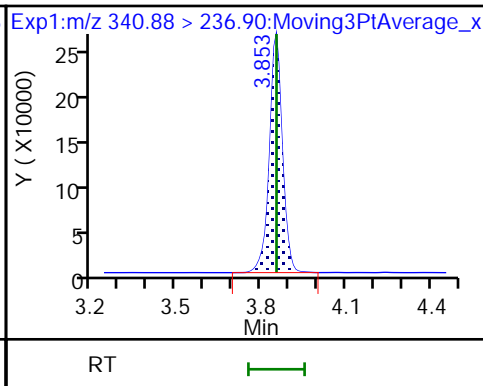
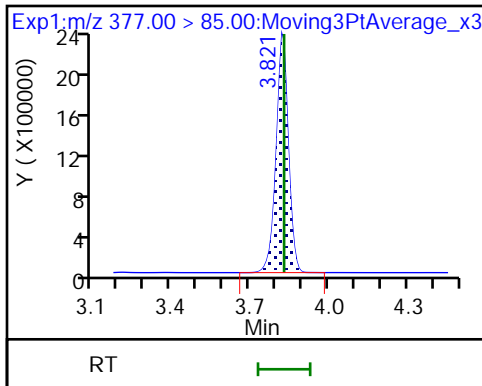
25 DONA



25 DONA

26 5:3 FTCA

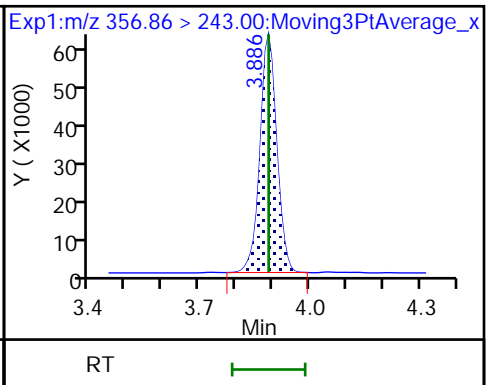
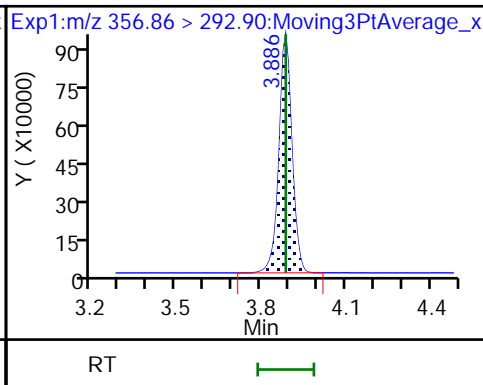
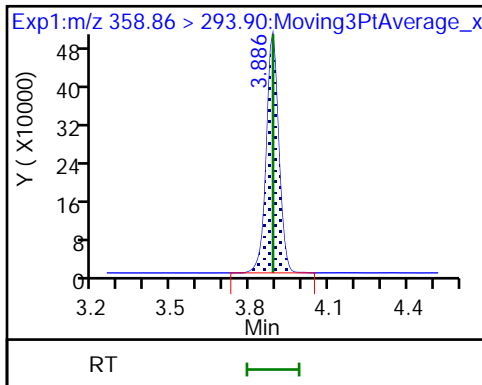
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

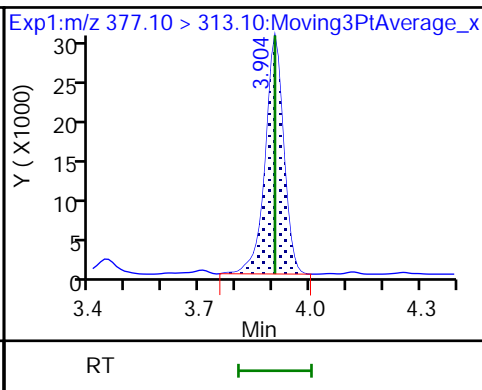
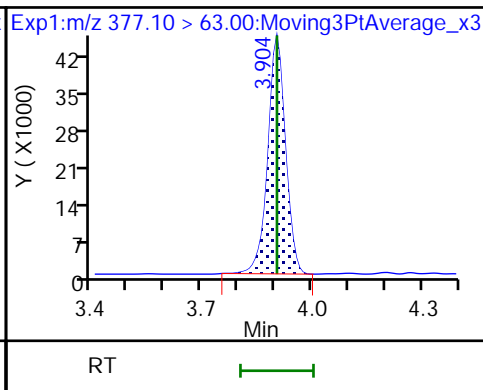
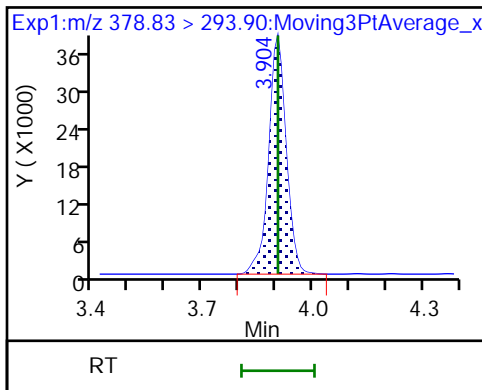
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

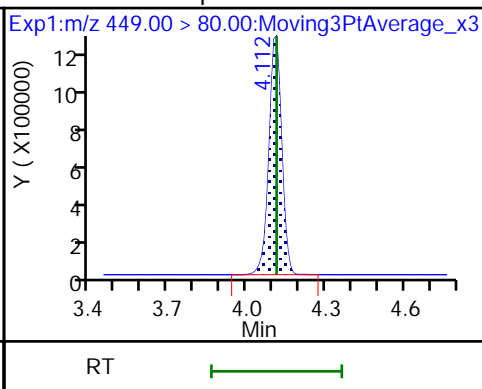
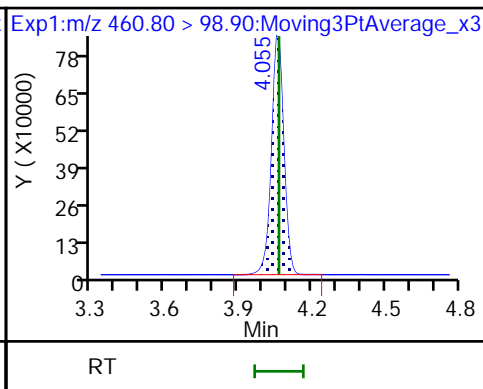
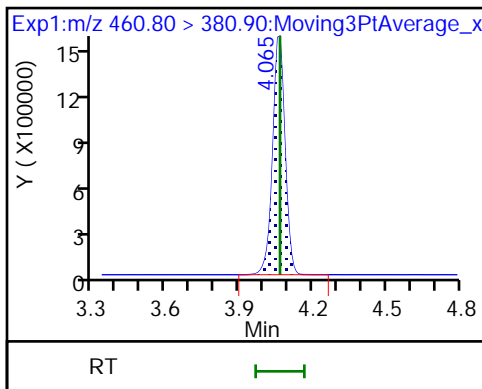
29 6:2 FTCA



32 PFECHS

32 PFECHS

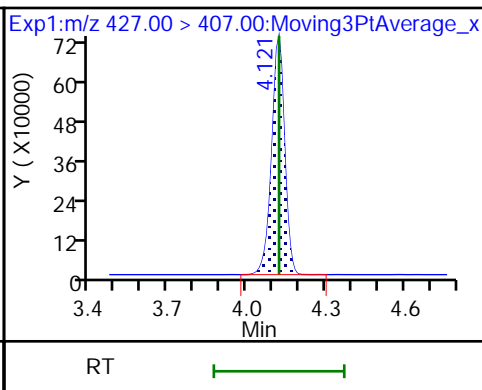
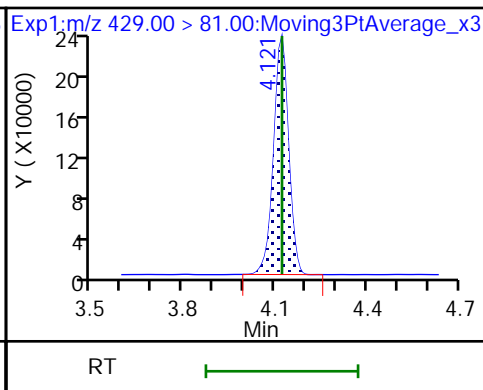
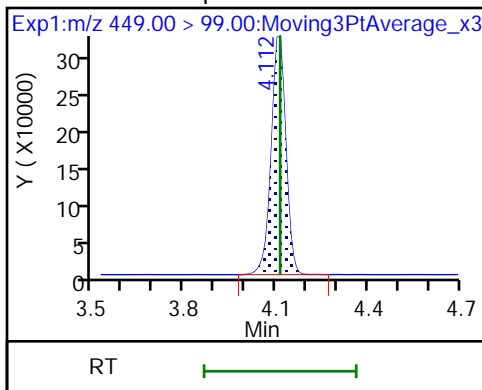
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

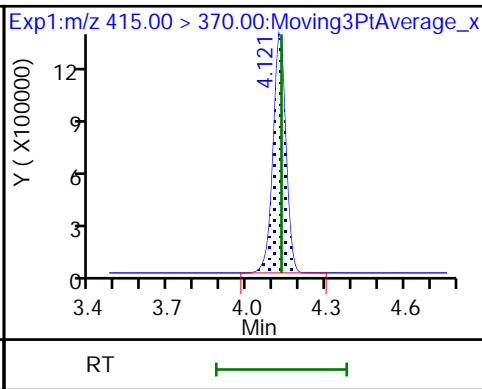
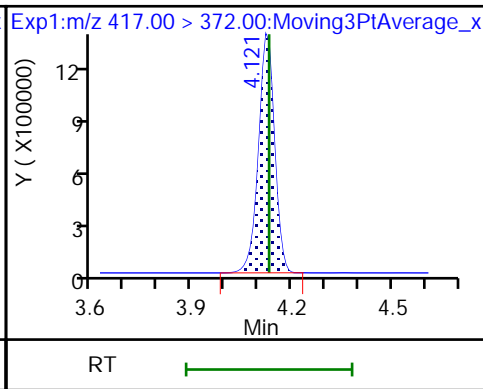
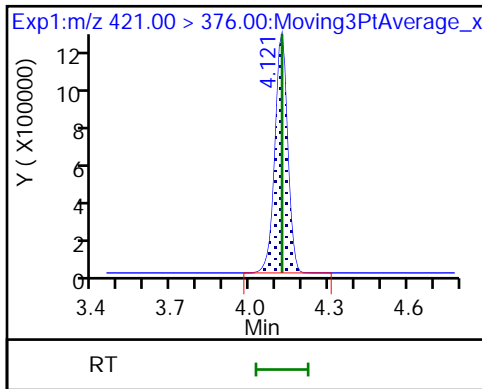
35 6:2 FTS

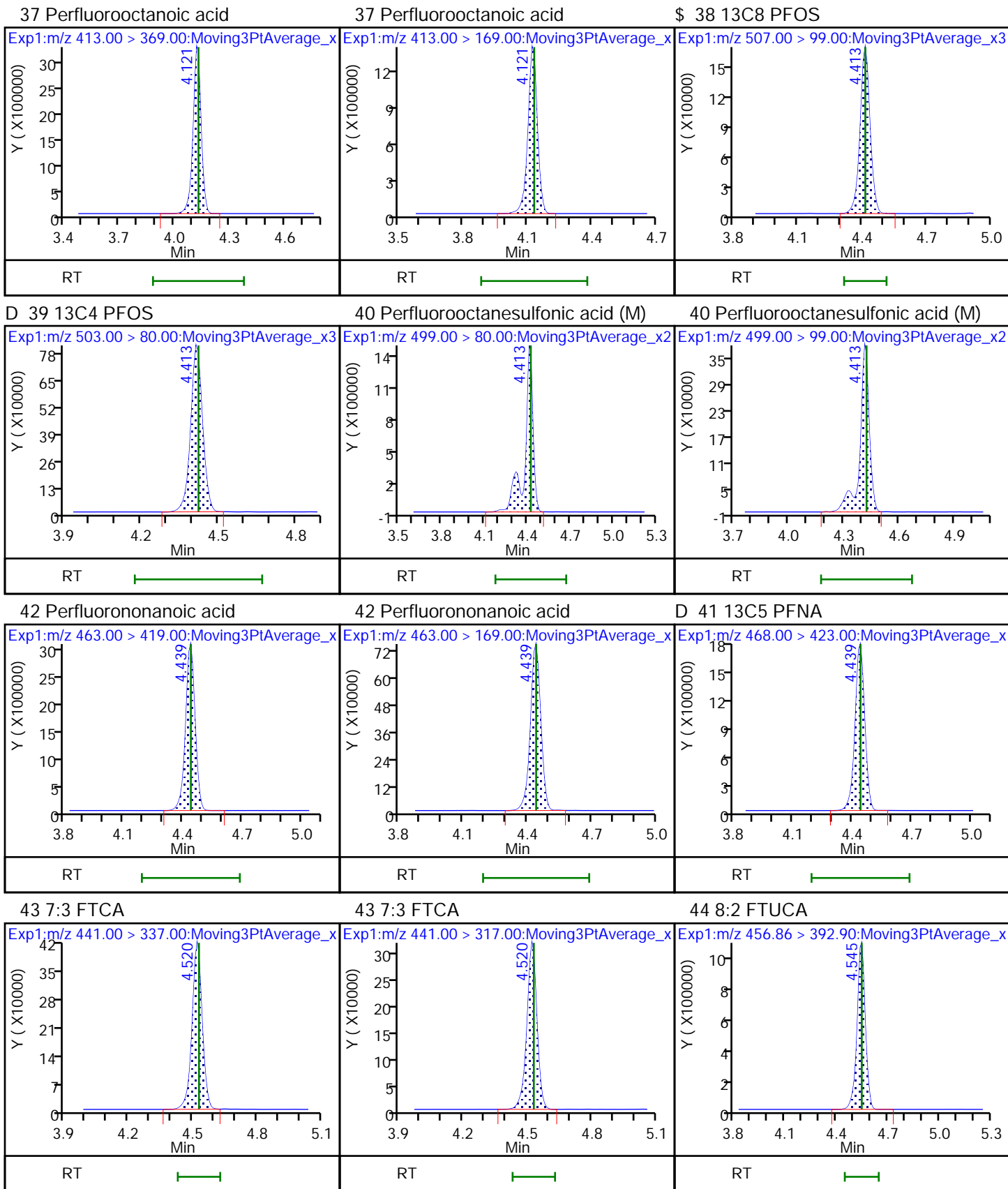


\$ 36 13C8 PFOA

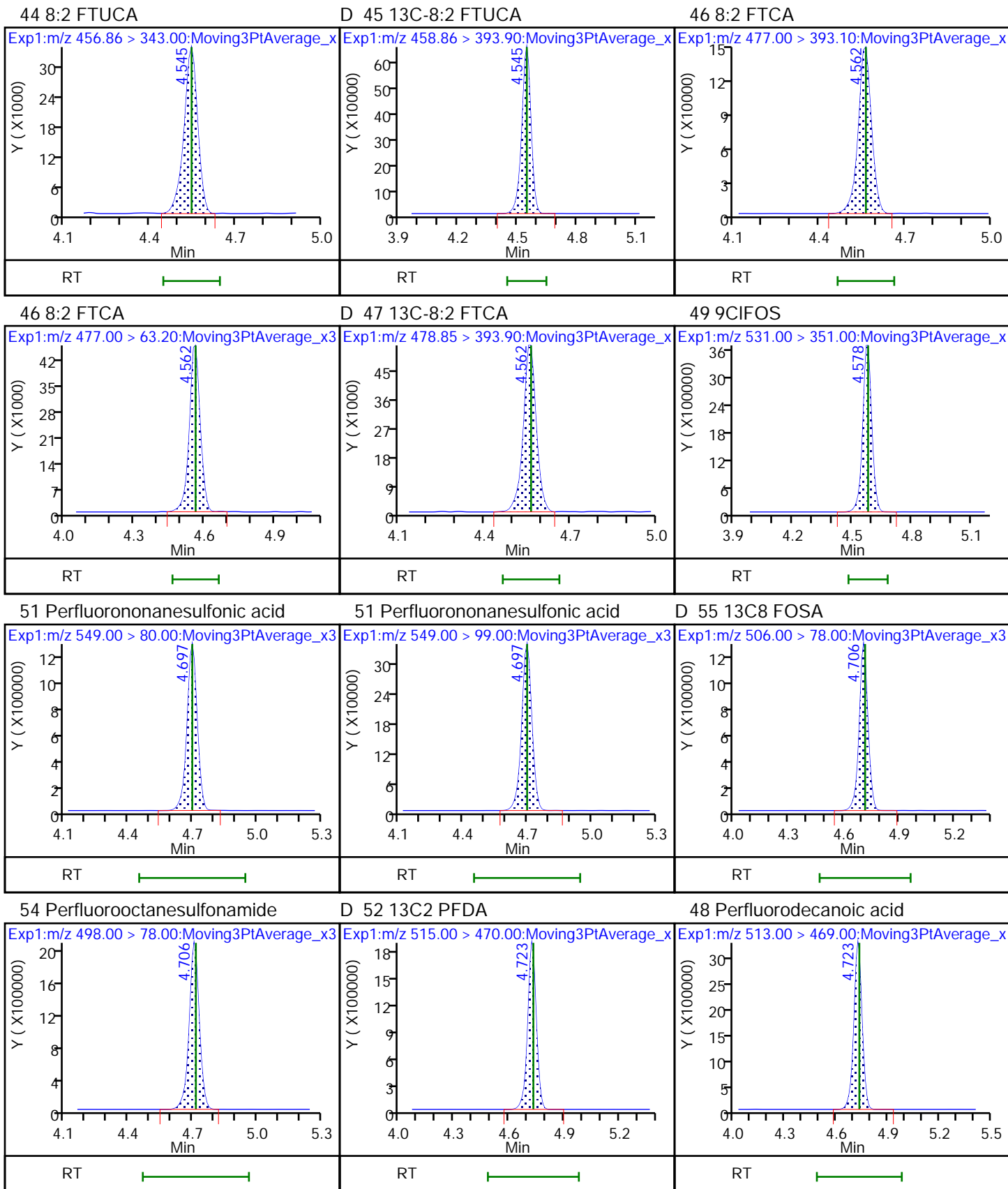
D 31 13C4 PFOA

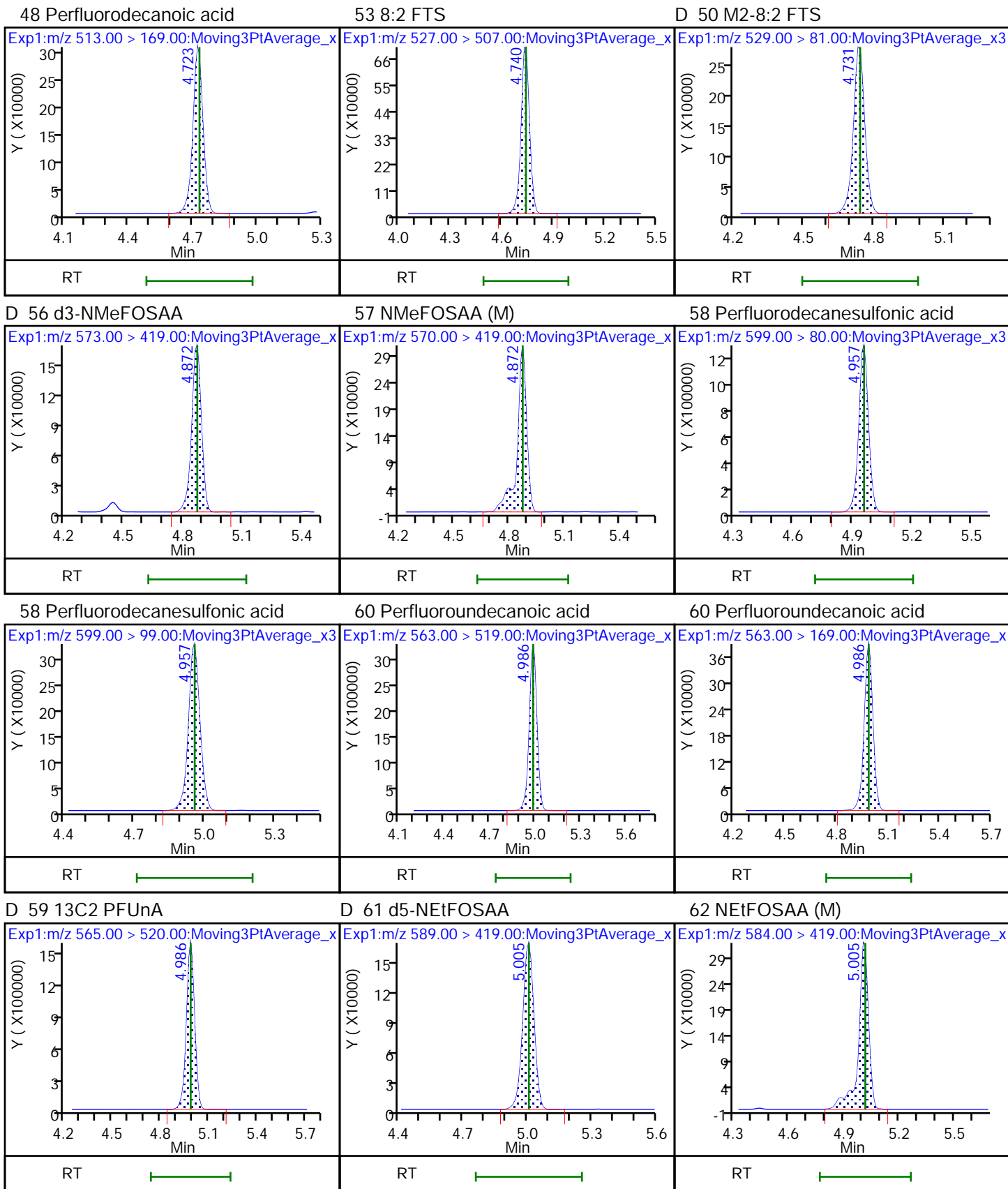
\* 30 13C2 PFOA

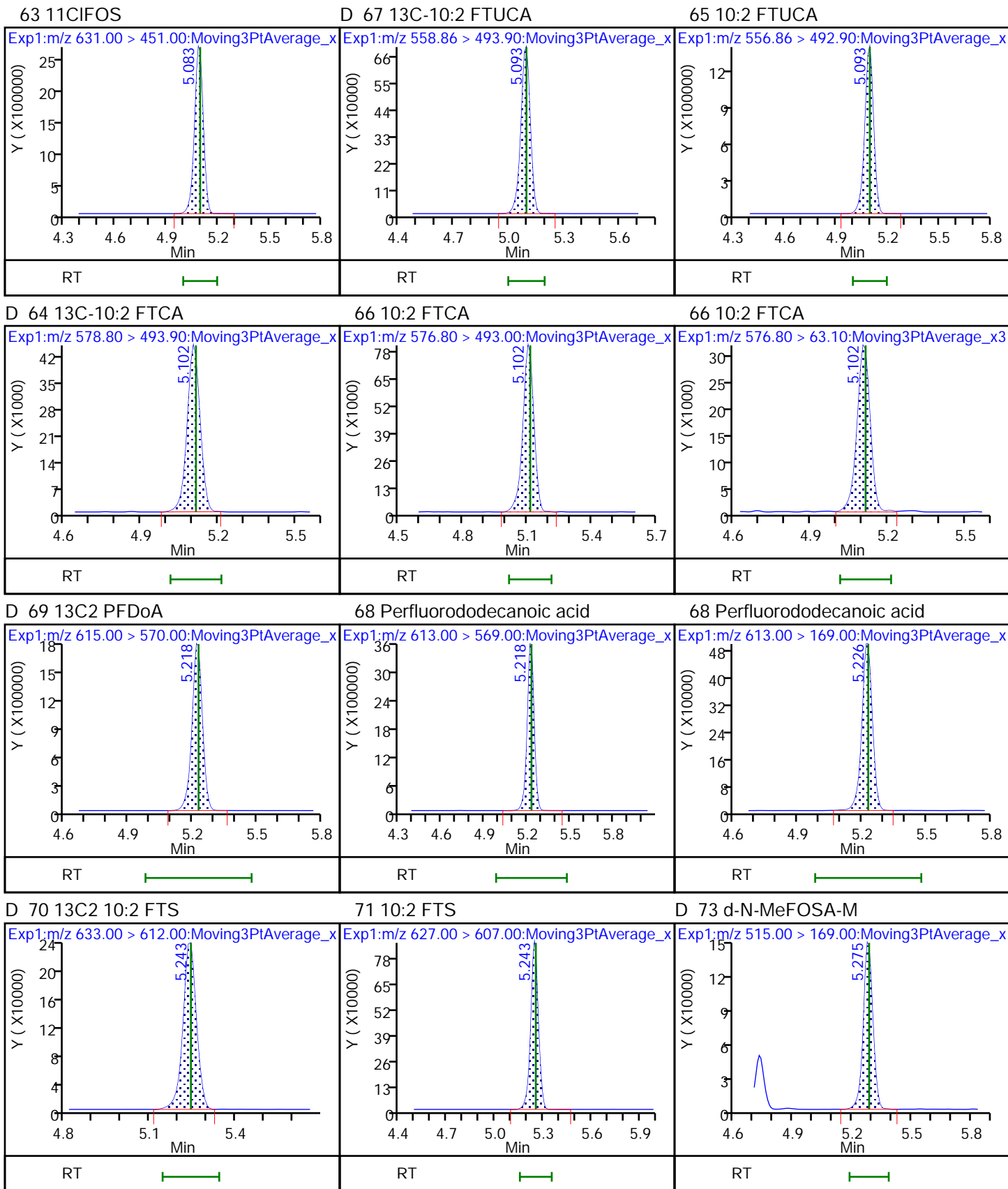








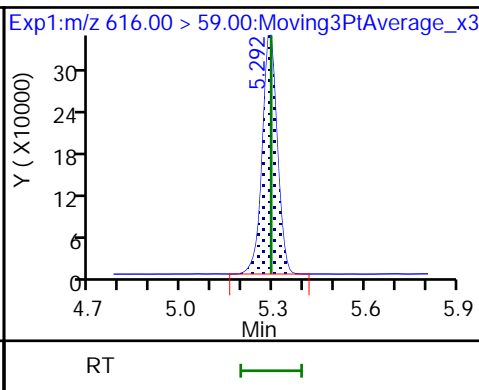
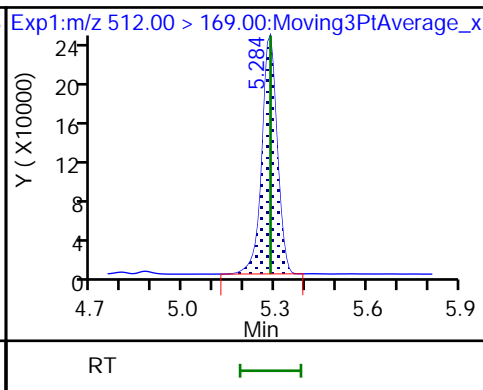
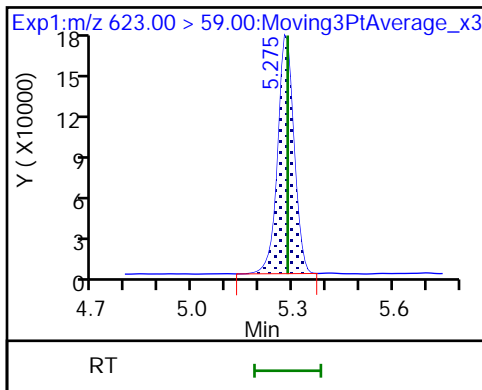




D 72 d7-N-MeFOSE-M

74 NMeFOSA

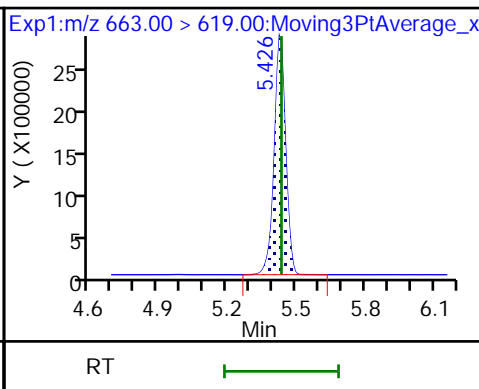
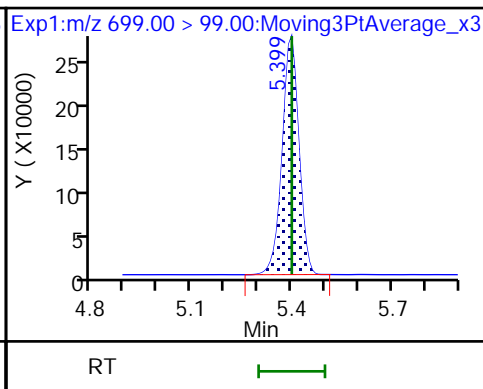
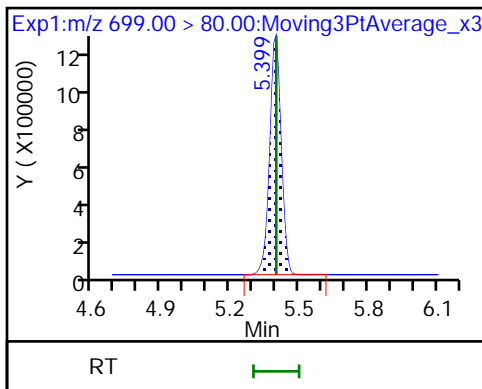
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

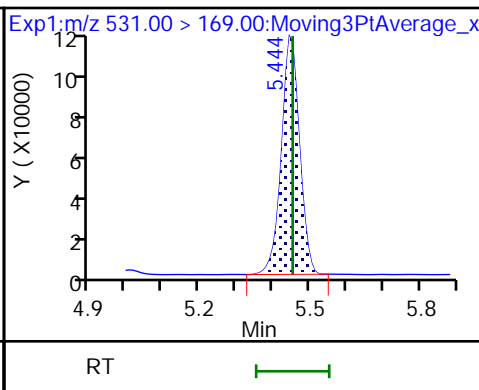
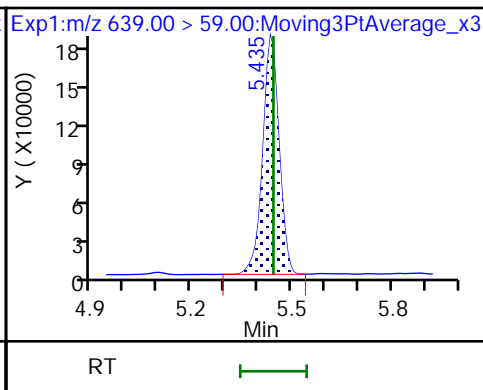
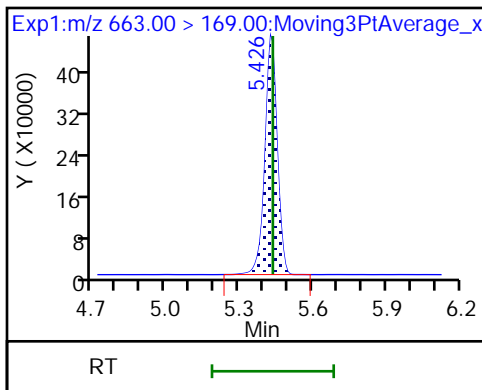
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

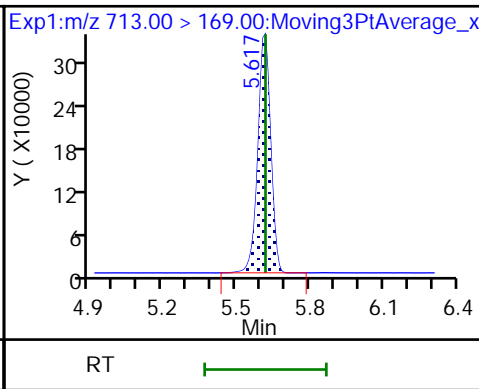
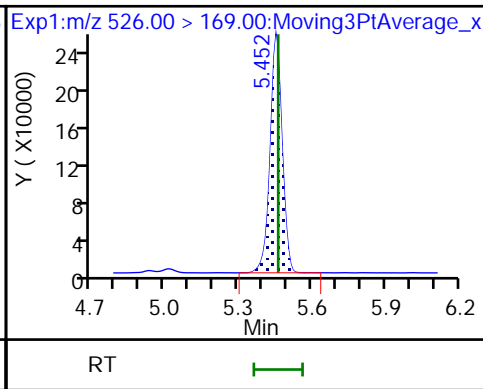
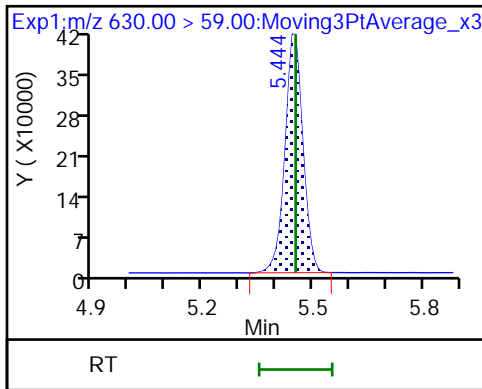
D 80 d-N-EtFOSA-M



79 N-EtFOSE-M

81 N-EtFOSA-M

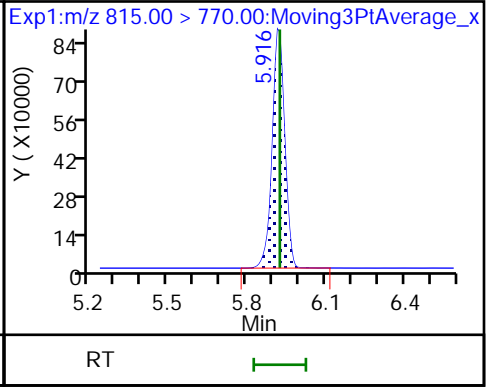
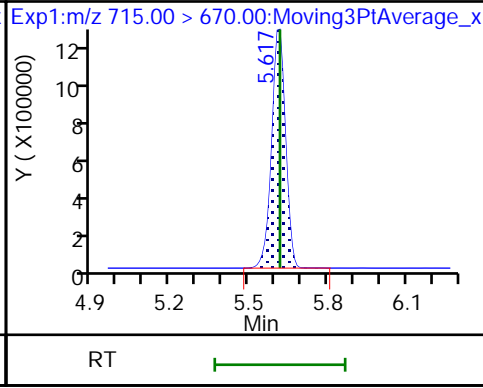
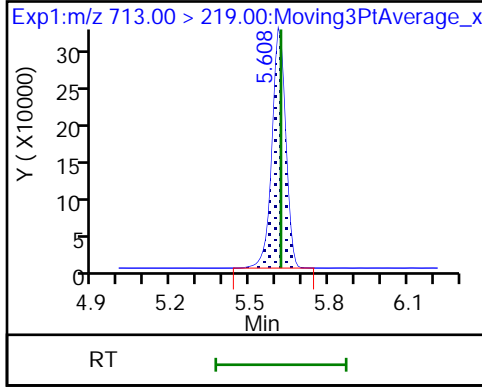
83 Perfluorotetradecanoic acid



83 Perfluorotetradecanoic acid

D 82 13C2 PFTeDA

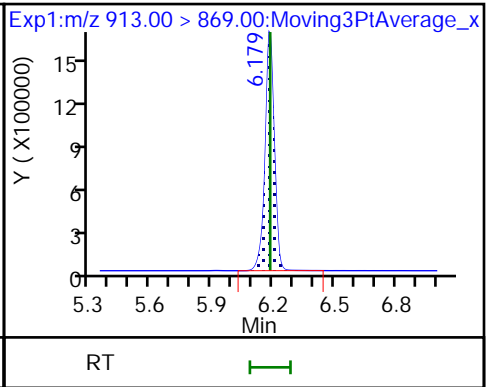
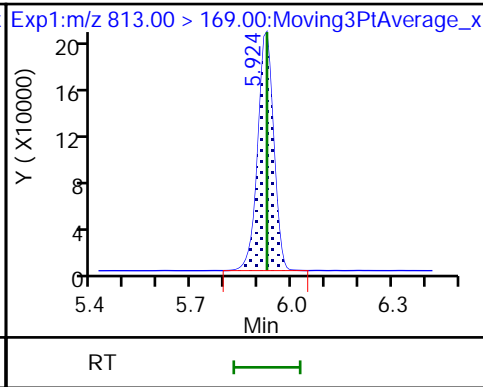
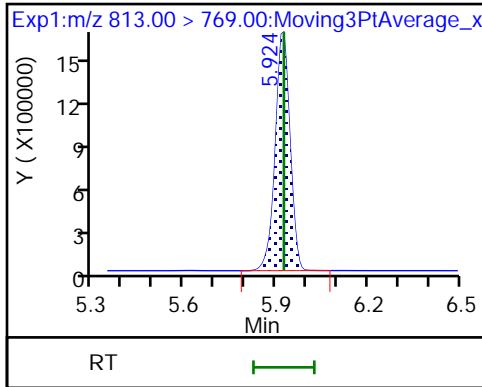
D 84 13C2 PFHxDA



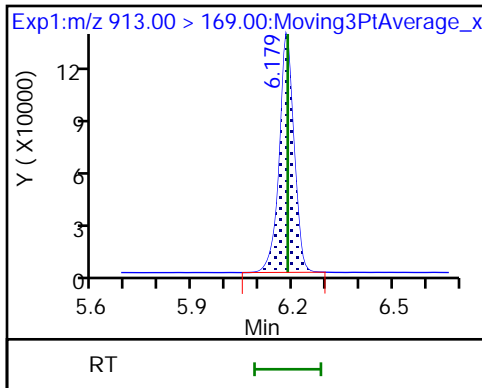
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid



86 Perfluorooctadecanoic acid



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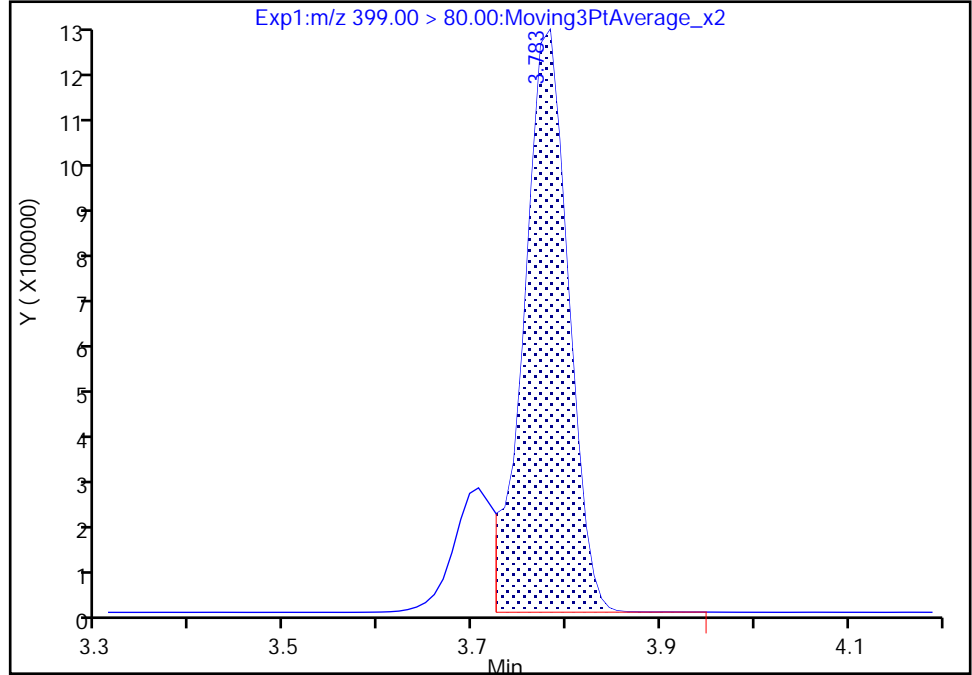
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Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

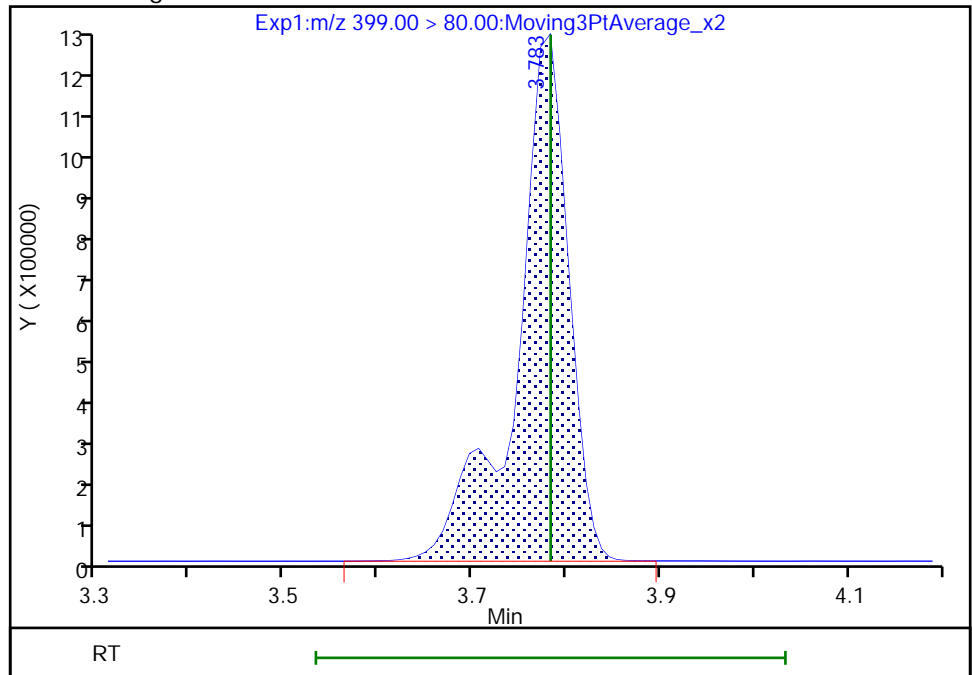
RT: 3.78  
Area: 3908900  
Amount: 1.895737  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 4643832  
Amount: 2.252165  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:33:56  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

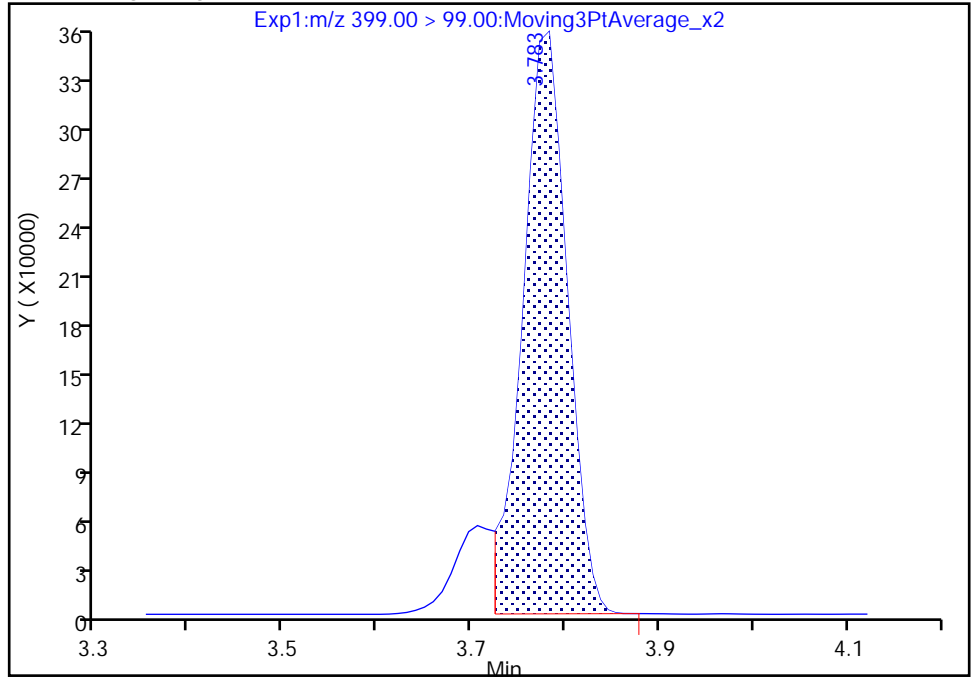
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Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

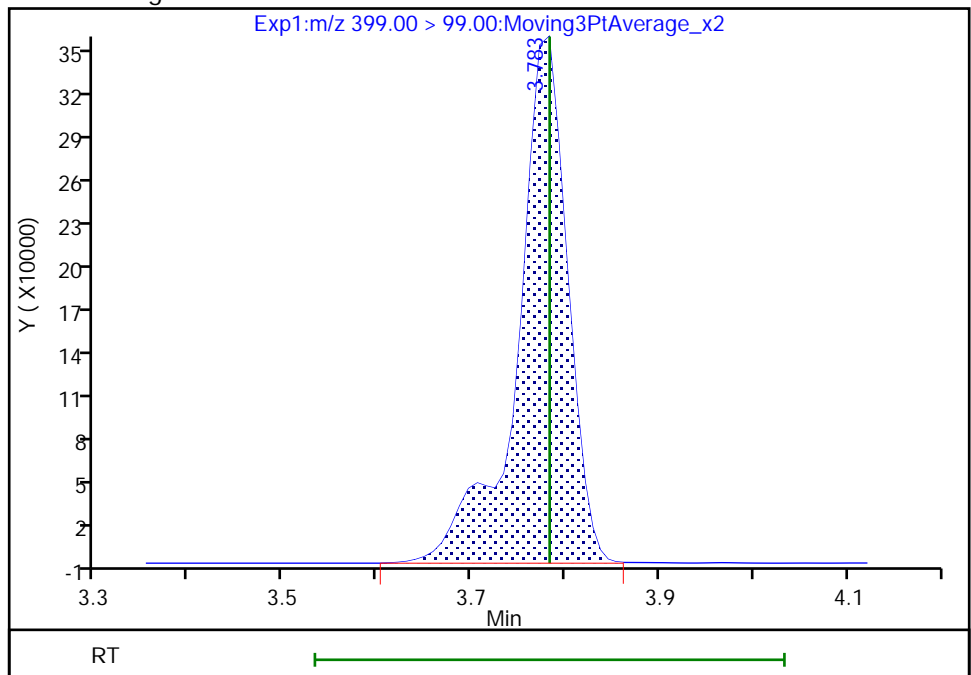
RT: 3.78  
Area: 1158722  
Amount: 1.895737  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 1315988  
Amount: 2.252165  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:04

Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 124 of 625

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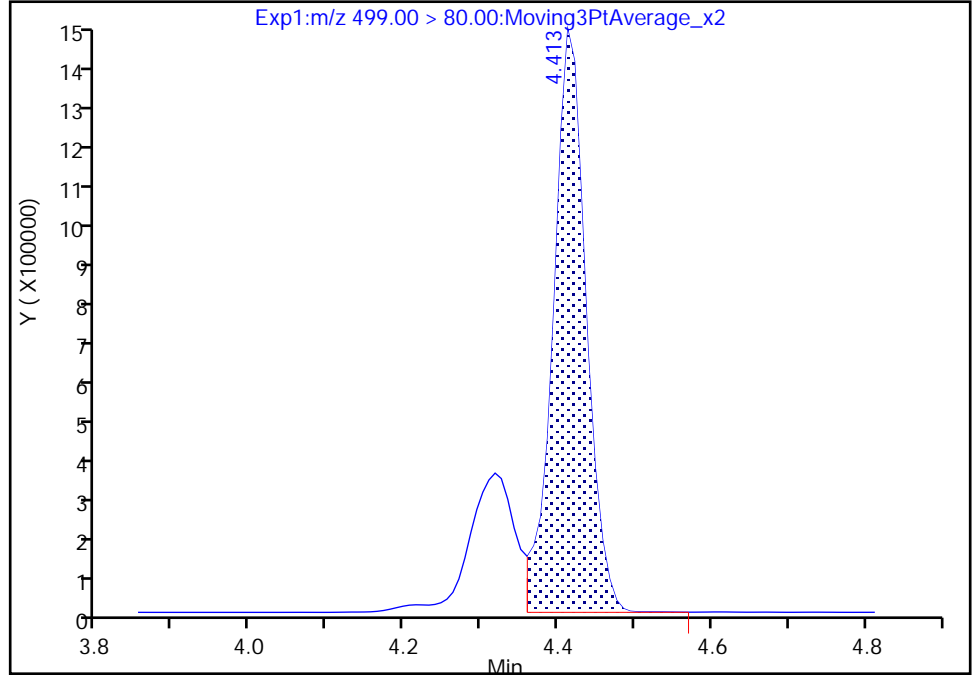
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Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

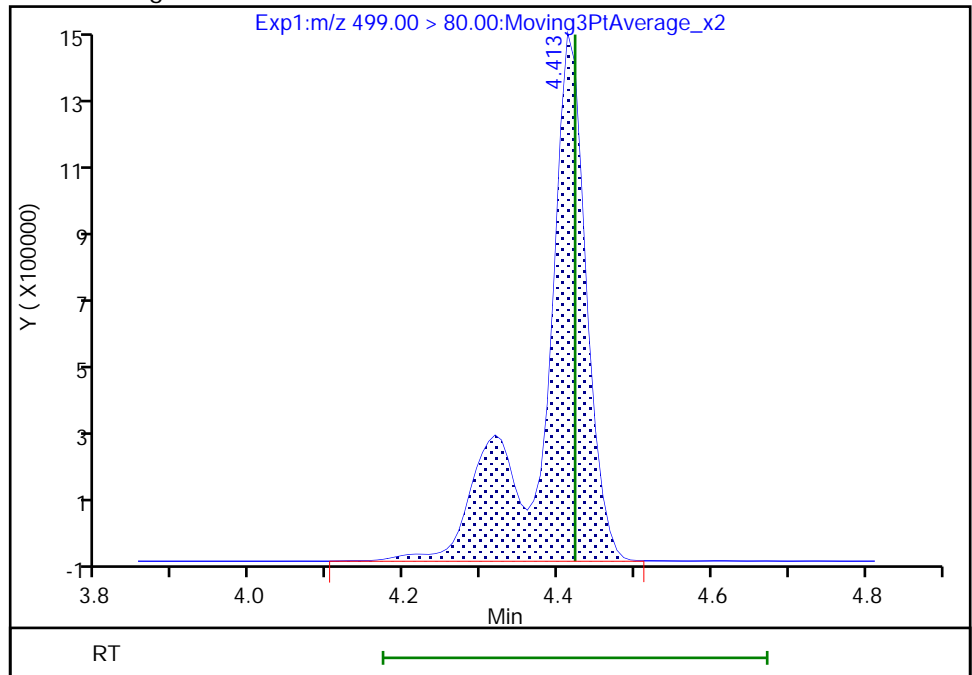
RT: 4.41  
Area: 4307768  
Amount: 1.732848  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 5743528  
Amount: 2.310398  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:18  
Audit Action: Manually Integrated

Audit Reason: Baseline



Eurofins Knoxville

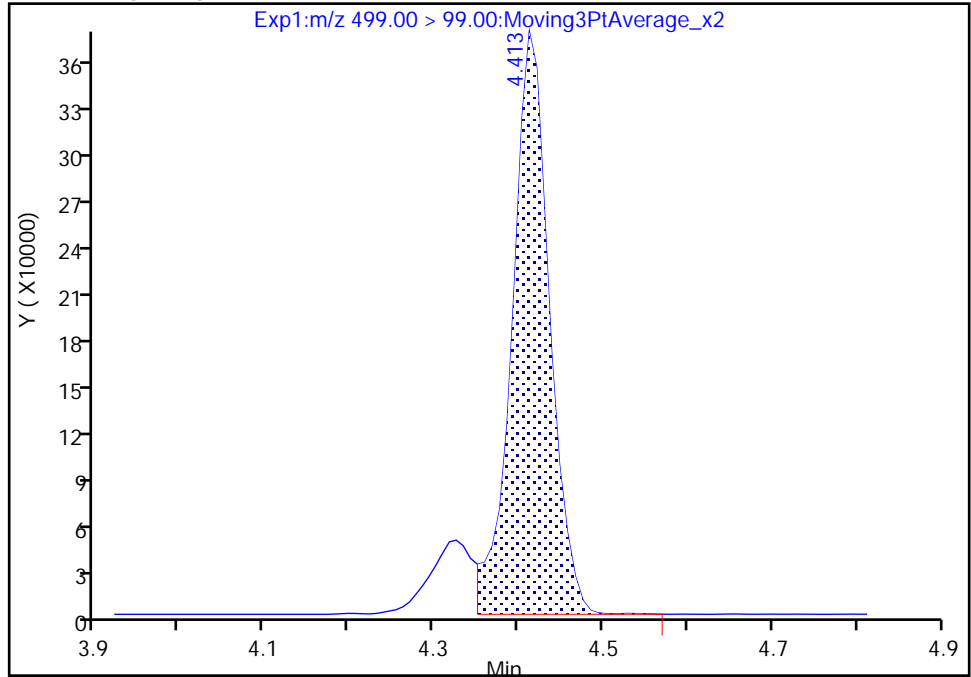
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_012.d  
Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

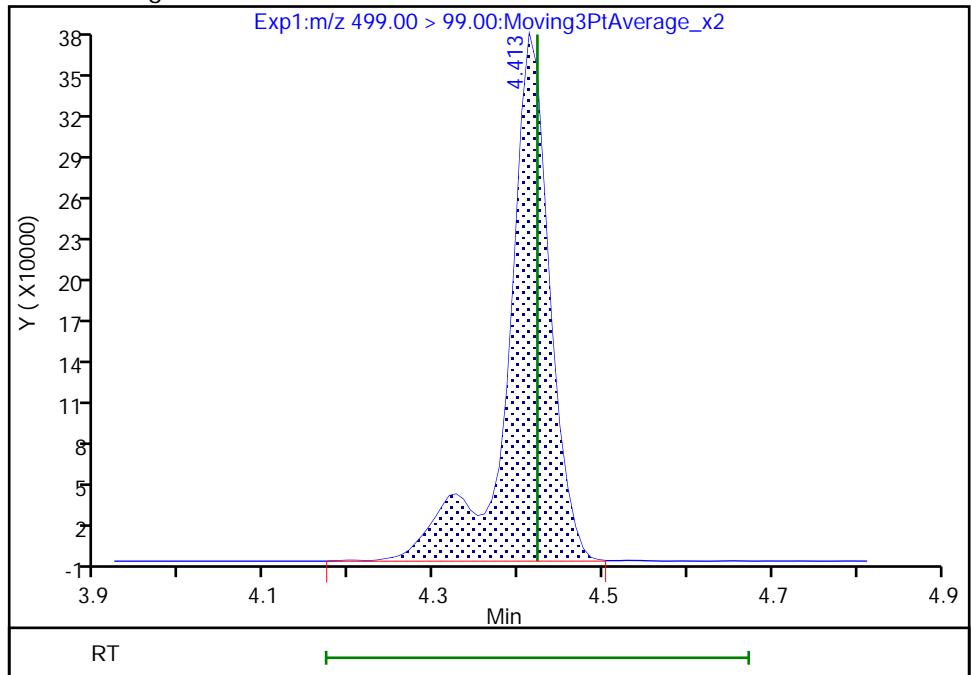
RT: 4.41  
Area: 1141847  
Amount: 1.732848  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 1304650  
Amount: 2.310398  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:26

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

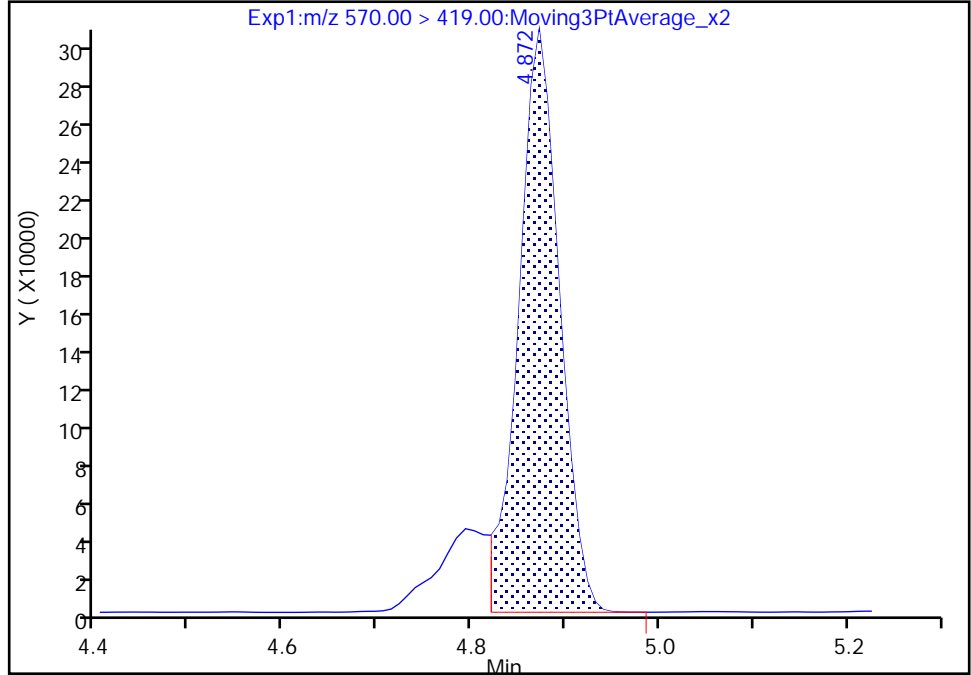
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_012.d  
Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

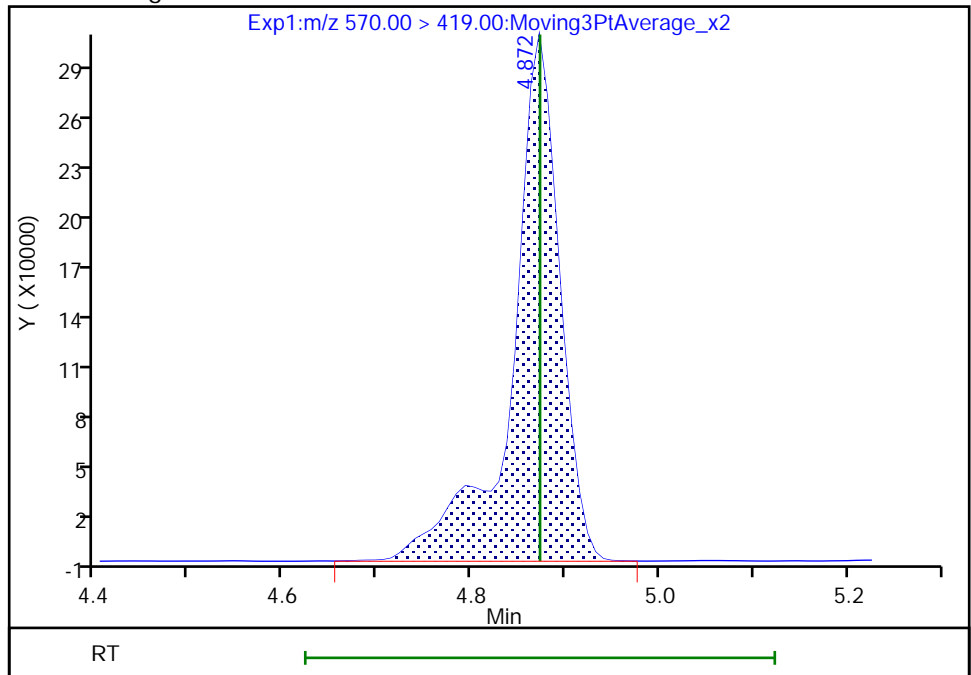
RT: 4.87  
Area: 913332  
Amount: 2.193824  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1079070  
Amount: 2.578369  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:39  
Audit Action: Manually Integrated

Eurofins Knoxville

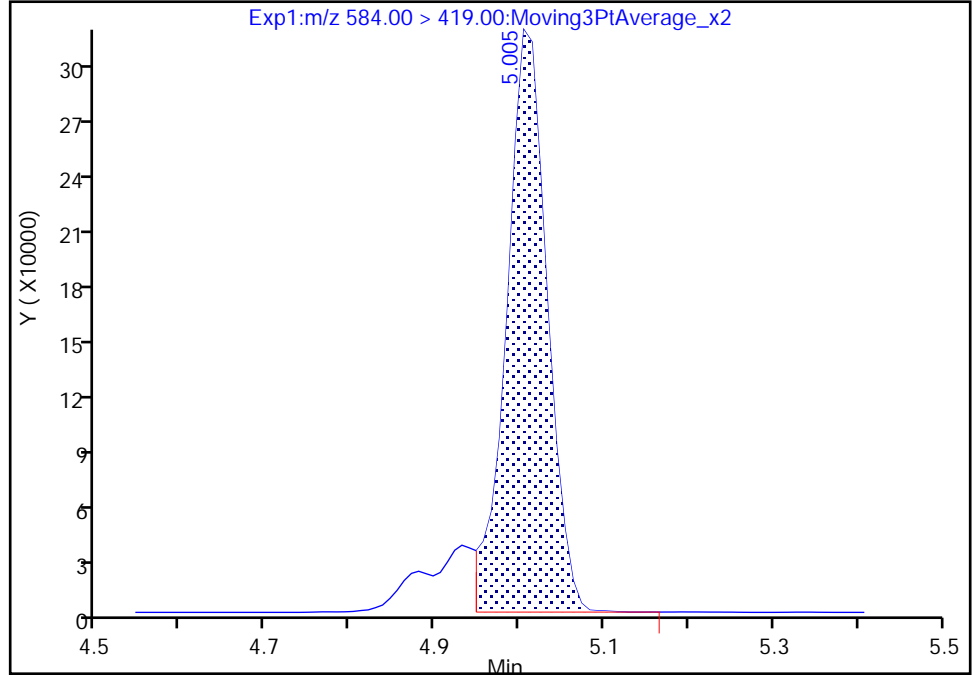
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_012.d  
Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

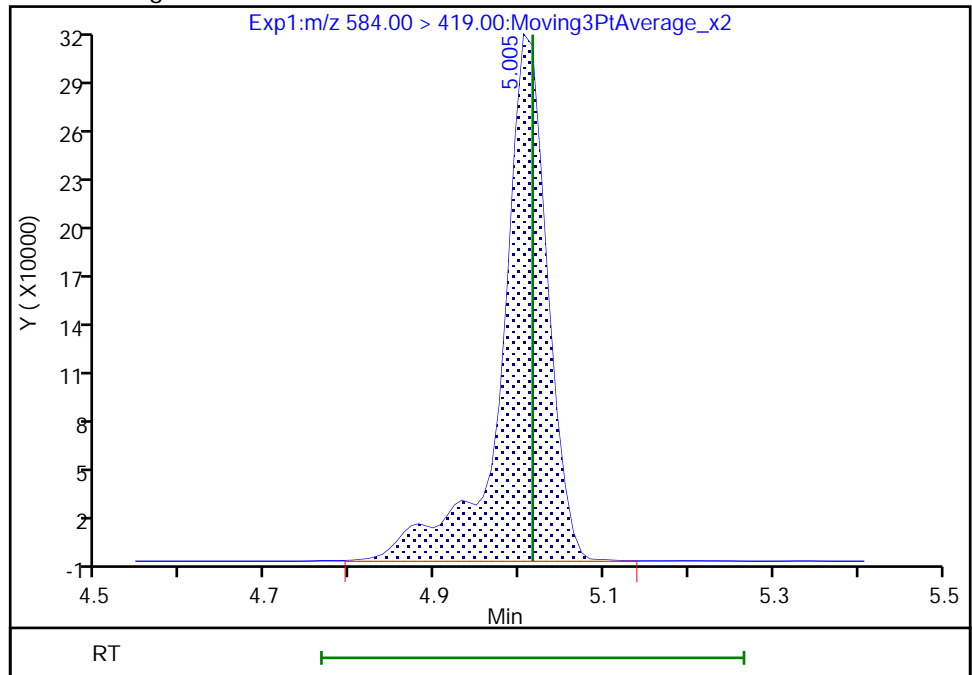
RT: 5.00  
Area: 1028266  
Amount: 2.363122  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 1181793  
Amount: 2.694842  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:49  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59045/4 Calibration Date: 02/18/2022 19:59  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.9515		0.0564	0.0500	12.8	50.0
PFECA F	AveID	0.7535	0.7647		0.0507	0.0500	1.5	50.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.065		0.0513	0.0500	2.6	50.0
3:3 FTCA	QuaIF		0.0632		0.0579	0.0500	15.7	50.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.218		0.0464	0.0442	4.9	50.0
PFECA A	Q2ID		1.317		0.0518	0.0500	3.6	50.0
PES	Q2ID		2.735		0.0491	0.0445	10.3	50.0
PFECA B	Q2ID		0.4820		0.0574	0.0500	14.7	50.0
4:2 FTS	L2ID		2.640		0.0519	0.0467	11.1	50.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.9402		0.0517	0.0500	3.4	50.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.115		0.0506	0.0469	8.0	50.0
HFPO-DA	L2ID		1.402		0.0508	0.0500	1.6	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.554		0.0511	0.0455	12.2	50.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.130		0.0508	0.0500	1.5	50.0
DONA	AveID	2.644	2.652		0.0472	0.0471	0.3	50.0
5:3 FTCA	L2ID		4.209		0.0517	0.0500	3.4	50.0
6:2 FTUCA	AveID	1.046	1.013		0.0484	0.0500	-3.2	50.0
6:2 FTCA	L1ID		0.7974		0.0509	0.0500	1.9	50.0
PFECHS	AveID	0.7426	0.8152		0.0506	0.0461	9.8	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	1.054		0.0508	0.0476	6.7	50.0
6:2 FTS	L2ID		1.956		0.0473	0.0474	-0.3	50.0
Perfluorooctanoic acid (PFOA)	L1ID		1.326		0.0560	0.0500	11.9	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.274		0.0516	0.0464	11.3	50.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8587		0.0565	0.0500	12.9	50.0
7:3 FTCA	AveID	5.230	5.617		0.0537	0.0500	7.4	50.0
8:2 FTUCA	AveID	0.9565	0.8887		0.0465	0.0500	-7.1	50.0
8:2 FTCA	AveID	1.811	1.783		0.0492	0.0500	-1.5	50.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.417		0.0501	0.0466	7.5	50.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.095		0.0520	0.0480	8.3	50.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	1.077		0.0564	0.0500	12.8	50.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9852		0.0483	0.0500	-3.5	50.0
8:2 FTS	L2ID		1.528		0.0416	0.0479	-13.1	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9348		0.0527	0.0500	5.4	50.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9881		0.0492	0.0482	2.1	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59045/4 Calibration Date: 02/18/2022 19:59  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.118		0.0578	0.0500	15.6	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8888		0.0422	0.0500	-15.7	50.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.984		0.0498	0.0471	5.7	50.0
10:2 FTUCA	AveID	1.208	1.307		0.0541	0.0500	8.2	50.0
10:2 FTCA	Q2ID		1.045		0.0501	0.0500	0.2	50.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.120		0.0542	0.0500	8.4	50.0
10:2 FTS	L2ID		2.491		0.0512	0.0482	6.3	50.0
NMeFOSA	L2ID		1.398		0.0593	0.0500	18.7	50.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.301		0.0518	0.0500	3.5	50.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	1.032		0.0529	0.0484	9.2	50.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.9518		0.0539	0.0500	7.8	50.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.425		0.0502	0.0500	0.5	50.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.449		0.0531	0.0500	6.2	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1445		0.0512	0.0500	2.3	50.0
Perfluorohexadecanoic acid	L1ID		1.414		0.0502	0.0500	0.3	50.0
Perfluorooctadecanoic acid	AveID	1.013	1.076		0.0531	0.0500	6.2	50.0
13C4 PFBA	Ave	1.172	1.134		1.21	1.25	-3.2	50.0
13C5 PFPeA	Ave	0.9197	0.9182		1.25	1.25	-0.2	50.0
13C3 PFBS	Ave	0.5817	0.5636		1.13	1.16	-3.1	50.0
M2-4:2 FTS	Ave	0.1821	0.2205		1.41	1.17	21.1	50.0
13C2 PFHxA	Ave	1.015	1.004		1.24	1.25	-1.1	50.0
13C3 HFPO-DA	Ave	0.4963	0.4605		1.16	1.25	-7.2	50.0
18O2 PFHxS	Ave	0.3776	0.3722		1.17	1.18	-1.4	50.0
13C4 PFHpA	Ave	0.9046	0.8824		1.22	1.25	-2.4	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3420		1.27	1.25	1.4	50.0
13C-6:2 FTCA	Ave	0.0260	0.0264		1.27	1.25	1.6	50.0
13C4 PFOA	Ave	0.9356	0.9024		1.21	1.25	-3.5	50.0
M2-6:2 FTS	Ave	0.1799	0.2139		1.41	1.19	18.8	50.0
13C4 PFOS	Ave	0.5610	0.5450		1.16	1.20	-2.9	50.0
13C5 PFNA	Ave	1.268	1.264		1.25	1.25	-0.4	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4934		1.37	1.25	9.2	50.0
13C-8:2 FTCA	Ave	0.0330	0.0325		1.23	1.25	-1.7	50.0
13C8 FOSA	Ave	0.8475	0.8656		1.28	1.25	2.1	50.0
13C2 PFDA	Ave	1.210	1.256		1.30	1.25	3.8	50.0
M2-8:2 FTS	Ave	0.1961	0.2357		1.44	1.20	20.2	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59045/4 Calibration Date: 02/18/2022 19:59  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1206		1.33	1.25	6.3	50.0
13C2 PFUnA	Ave	1.168	1.165		1.25	1.25	-0.2	50.0
d5-NEtFOSAA	Ave	0.1164	0.1258		1.35	1.25	8.0	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5465		1.35	1.25	7.6	50.0
13C-10:2 FTCA	Ave	0.0309	0.0335		1.35	1.25	8.2	50.0
13C2 PFDoA	Ave	1.152	1.145		1.24	1.25	-0.6	50.0
13C2 10:2 FTS	Ave	0.1652	0.1706		1.22	1.18	3.3	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1221		1.29	1.25	2.9	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0986		1.22	1.25	-2.2	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1262		1.28	1.25	2.6	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0806		1.25	1.25	-0.4	50.0
13C2 PFTeDA	Ave	0.9216	0.9070		1.23	1.25	-1.6	50.0
13C2 PFHxDA	Ave	0.5997	0.5859		1.22	1.25	-2.3	50.0
13C8 PFOA	AveID	0.9229	0.9440		1.28	1.25	2.3	50.0
13C8 PFOS	AveID	0.2212	0.2194		1.19	1.20	-0.8	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
 Lims ID: CCVL  
 Client ID:  
 Sample Type: CCVL  
 Inject. Date: 18-Feb-2022 19:59:01 ALS Bottle#: 4 Worklist Smp#: 4  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-004 ccvl  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:47:21 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 18-Feb-2022 20:11:13

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										M
212.90 > 169.00	2.811	2.811	0.0	1.002	211682	0.0564		113	61.9	M
D 2 13C4 PFBA										
217.00 > 172.00	2.804	2.811	-0.007	0.680	5562065	1.21		96.8	21263	
3 PFECA F										
229.00 > 85.00	2.911	2.919	-0.008	0.935	137770	0.0507		101	494	
D 5 13C5 PFPeA										
267.90 > 223.00	3.114	3.115	-0.001	0.756	4504085	1.25		99.8	15781	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.114	3.123	-0.009	1.000	191842	0.0513		103	49.5	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.131	0.0	1.000	6986	0.0579	Target=1.13	116	100	
241.00 > 116.90	3.122	3.131	-0.009	0.997	5422		1.29(0.56-1.69)		9.3	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.760	2571183	1.13		96.9	8324	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.140	-0.009	1.000	119106	0.0464	Target=2.61	105	172	
298.90 > 99.00	3.131	3.140	-0.009	1.000	42454		2.81(1.31-3.92)		125	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	237335	0.0518		104	1057	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	269177	0.0491		110	1747	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.982	94931	0.0574		115	424	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.415	3.416	-0.001	0.829	1009978	1.41		121	1053	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.415	3.416	-0.001	1.000	106665	0.0519		111	575	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.837	4923729	1.24		98.9	11179	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	115621	0.0506	Target=3.55	108	236	
349.00 > 99.00	3.448	3.448	0.0	1.101	34670		3.33(1.78-5.33)		235	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	185175	0.0517	Target=11.60	103	64.7	
313.00 > 119.00	3.448	3.448	0.0	1.000	14173		13.07(5.80-17.40)		14.0	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.860	2258587	1.16		92.8	6832	
17 HFPO-DA										
285.00 > 169.00	3.542	3.553	-0.011	1.000	126706	0.0508	Target=2.45	102	78.2	
329.00 > 169.00	3.542	3.553	-0.011	1.000	54776		2.31(1.23-3.68)		39.2	
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.783	-0.001	0.918	1727225	1.17		98.6	6183	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.782	3.783	-0.001	1.000	103286	0.0511	Target=3.44	112	169	
399.00 > 99.00	3.782	3.783	-0.001	1.000	27616		3.74(1.72-5.17)		118	
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.793	-0.001	0.920	4328491	1.22		97.6	10934	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.793	-0.001	1.000	195655	0.0508	Target=3.25	102	128	
363.00 > 169.00	3.792	3.793	-0.001	1.000	61264		3.19(1.62-4.87)		156	
25 DONA										
377.00 > 251.00	3.820	3.829	-0.009	0.866	267082	0.0472	Target=1.74	100	904	
377.00 > 85.00	3.820	3.829	-0.009	0.866	164513		1.62(0.87-2.61)		115	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	21833	0.0517	Target=1.11	103	82.9	
340.88 > 216.90	3.853	3.853	0.0	0.987	18345		1.19(0.56-1.67)		48.9	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	0.0	0.943	1677400	1.27		101	3237	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.895	-0.009	1.000	67943	0.0484	Target=13.05	96.8	283	M
356.86 > 243.00	3.886	3.895	-0.009	1.000	5129		13.25(6.52-19.57)		24.2	M
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.904	-0.001	0.947	129672	1.27		102	519	
29 6:2 FTCA										
377.10 > 63.00	3.895	3.913	-0.018	0.998	4136	0.0509	Target=1.29	102	11.4	M
377.10 > 313.10	3.903	3.913	-0.010	1.000	2490		1.66(0.65-1.94)		5.9	M
32 PFECBS										
460.80 > 380.90	4.064	4.065	0.0	0.986	133079	0.0506	Target=1.75	110	717	
460.80 > 98.90	4.064	4.065	0.0	0.986	81254		1.64(0.87-2.62)		295	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.111	4.112	-0.001	0.932	107297	0.0508	Target=3.72	107	373	
449.00 > 99.00	4.111	4.112	-0.001	0.932	26561		4.04(1.86-5.57)		129	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.120	4.121	-0.001	1.000	996568	1.41		119	2153	
35 6:2 FTS										
427.00 > 407.00	4.120	4.121	-0.001	1.000	77789	0.0473		99.7	267	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.120	4.121	-0.001	1.000	4178861	1.28		102	10239	
D 31 13C4 PFOA										
417.00 > 372.00	4.120	4.131	-0.011	1.000	4426528	1.21		96.5	6826	
* 30 13C2 PFOA										
415.00 > 370.00	4.120	4.131	-0.011		4905085	1.25			11115	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.120	4.131	-0.011	1.000	234706	0.0559	Target=2.51	112	134	
413.00 > 169.00	4.120	4.131	-0.011	1.000	92907		2.53(1.26-3.77)		169	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.412	4.421	-0.009	1.000	560733	1.19		99.2	2163	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.421	-0.009	1.071	2555556	1.16		97.1	2270	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.412	4.421	-0.009	1.000	126447	0.0516	Target=4.30	111	79.1	M
499.00 > 99.00	4.412	4.421	-0.009	1.000	30230		4.18(2.15-6.45)		90.1	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.438	4.439	-0.001	1.000	212888	0.0564	Target=3.60	113	235	
463.00 > 169.00	4.438	4.439	-0.001	1.000	49203		4.33(1.80-5.40)		112	
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.439	-0.001	1.077	6198227	1.25		99.6	14288	
43 7:3 FTCA										
441.00 > 337.00	4.519	4.529	-0.010	0.991	35809	0.0537	Target=1.42	107	210	
441.00 > 317.00	4.519	4.529	-0.010	0.991	26691		1.34(0.71-2.13)		124	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	86041	0.0465	Target=35.37	92.9	420	
456.86 > 343.00	4.545	4.545	0.0	1.000	3341		25.75(17.68-53.05)		7.9	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.553	-0.008	1.000	2420358	1.36		109	9328	
46 8:2 FTCA										
477.00 > 393.10	4.561	4.562	-0.001	1.000	11368	0.0492	Target=3.35	98.5	35.3	M
477.00 > 63.20	4.553	4.562	-0.009	0.998	2641		4.30(1.68-5.03)		13.2	M
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.561	4.562	-0.001	1.107	159366	1.23		98.3	572	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.111	240855	0.0501		107	498	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	112429	0.0520	Target=3.99	108	126	
549.00 > 99.00	4.697	4.697	0.0	1.065	28973		3.88(2.00-5.99)		95.0	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.714	-0.008	1.142	4245637	1.28		102	3732	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.714	-0.008	1.000	182943	0.0564		113	470	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.731	-0.008	1.000	242713	0.0483	Target=10.58	96.5	266	
513.00 > 169.00	4.723	4.731	-0.008	1.000	29165		8.32(5.29-15.88)		18.0	
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.731	-0.008	1.146	6159009	1.30		104	15331	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.740	-0.009	1.148	1107383	1.44		120	2273	
53 8:2 FTS										
527.00 > 507.00	4.740	4.740	0.0	1.002	67702	0.0416		86.9	307	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.182	591622	1.33		106	1864	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.880	-0.008	1.000	22121	0.0527		105	32.0	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.124	101848	0.0492	Target=3.55	102	366	
599.00 > 99.00	4.957	4.957	0.0	1.124	28336		3.59(1.78-5.33)		153	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.995	-0.009	1.000	255599	0.0578	Target=8.26	116	429	
563.00 > 169.00	4.986	4.995	-0.009	1.000	27095		9.43(4.13-12.39)		147	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.995	-0.009	1.210	5715823	1.25		99.8	10185	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.215	616817	1.35		108	2486	
62 NEtFOSAA										
584.00 > 419.00	5.015	5.015	0.0	1.002	21929	0.0421		84.3	71.1	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.093	-0.001	1.236	2680434	1.35		108	9788	
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.093	-0.001	1.000	140100	0.0541		108	696	
63 11C1FOS										
631.00 > 451.00	5.083	5.093	-0.010	1.152	199793	0.0498		106	522	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.238	164132	1.35		108	952	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	6864	0.0501	Target=2.53	100	51.4	M
576.80 > 63.10	5.111	5.112	-0.001	1.002	3964		1.73(1.26-3.79)		16.3	M
D 69 13C2 PFDoA										
615.00 > 570.00	5.226	5.226	0.0	1.268	5617421	1.24		99.4	14746	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	251670	0.0542	Target=6.85	108	278	M
613.00 > 169.00	5.217	5.226	-0.009	0.998	34144		7.37(3.43-10.28)		65.7	M
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.272	792440	1.22		103	3887	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.000	80353	0.0512		106	333	
74 NMeFOSA										
512.00 > 169.00	5.275	5.284	-0.009	1.000	27062	0.0593		119	90.9	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.280	483873	1.22		97.8	52.0	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.284	-0.009	1.280	598757	1.29		103	394	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.003	31148	0.0518		104	43.3	M
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.224	106862	0.0529	Target=4.22	109	220	
699.00 > 99.00	5.399	5.399	0.0	1.224	26649		4.01(2.11-6.34)		206	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.038	213868	0.0539	Target=6.32	108	309	
663.00 > 169.00	5.426	5.435	-0.009	1.038	32054		6.67(3.16-9.48)		162	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	618954	1.28		103	298	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.443	5.452	-0.009	1.321	395306	1.24		99.6	646	
79 N-EtFOSE-M										
630.00 > 59.00	5.443	5.452	-0.009	1.002	35292	0.0502		100	34.9	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.002	22908	0.0531		106	105	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.607	5.617	-0.010	0.998	25722	0.0512	Target=1.01	102	113	
713.00 > 219.00	5.607	5.617	-0.010	0.998	23706		1.09(0.51-1.52)		146	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.363	4448731	1.23		98.4	12595	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.001	162568	0.0501	Target=8.64	100	384	
813.00 > 169.00	5.916	5.924	-0.008	1.000	21274		7.64(4.32-12.97)		78.4	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.436	2874051	1.22		97.7	6219	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.185	6.185	0.0	1.045	123643	0.0531	Target=11.77	106	314	M
913.00 > 169.00	6.185	6.185	0.0	1.045	10465		11.81(5.88-17.65)		45.0	M

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L2PFC2T3\_00002

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d

Injection Date: 18-Feb-2022 19:59:01

Instrument ID: LCA

Lims ID: CCVL

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 4

Worklist Smp#: 4

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

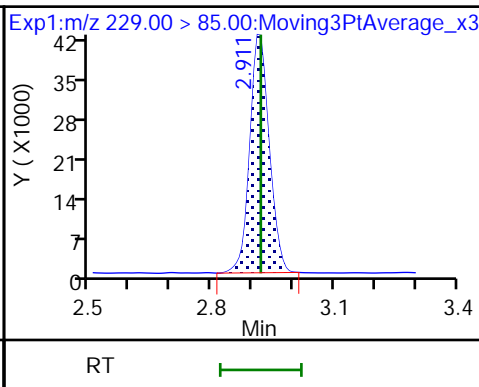
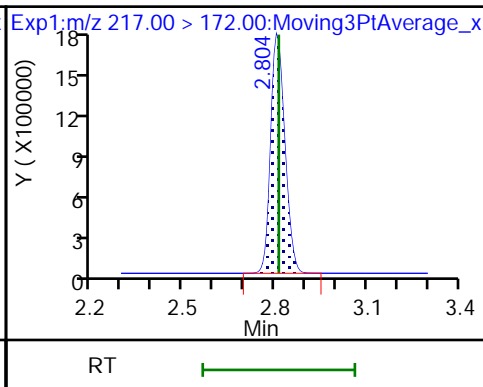
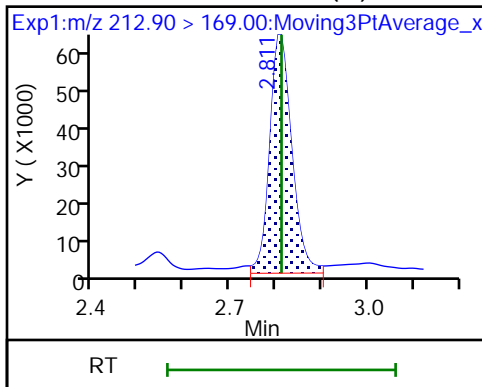
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid (M)

D 2 13C4 PFBA

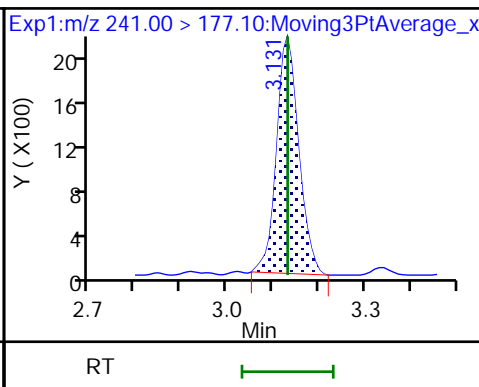
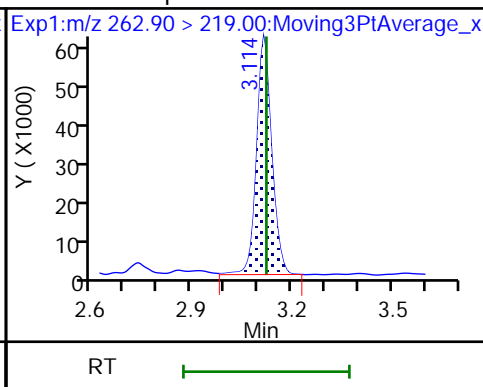
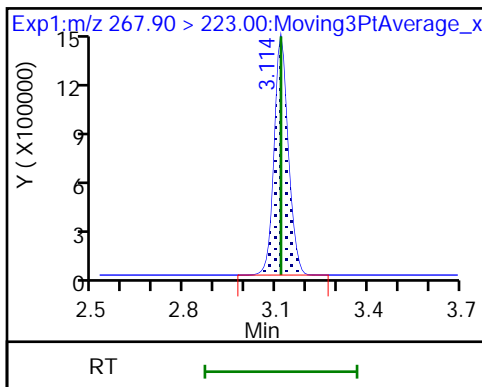
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

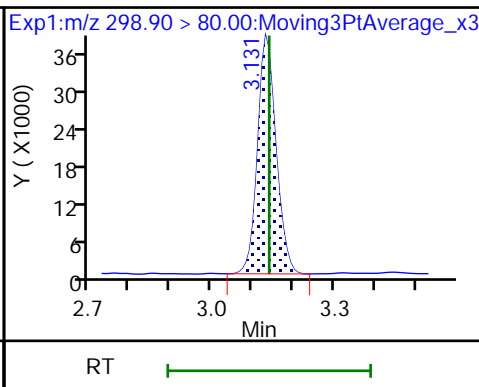
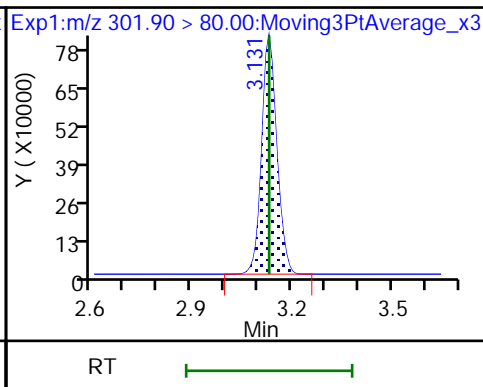
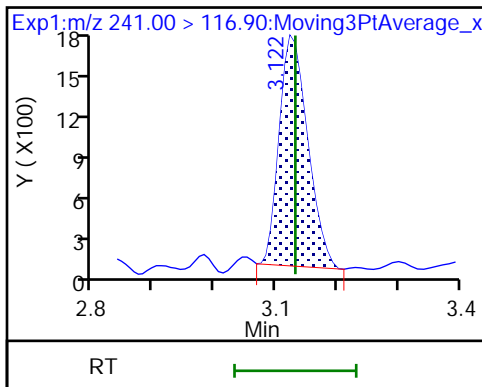
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

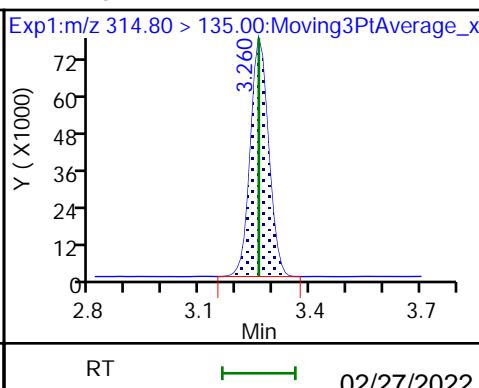
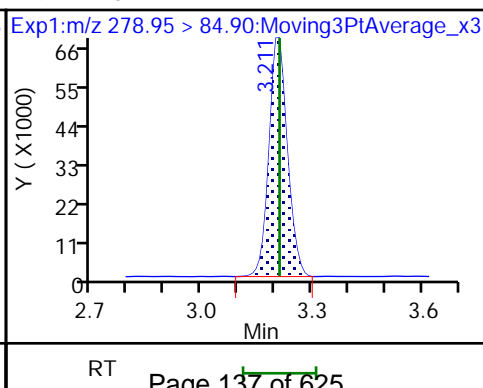
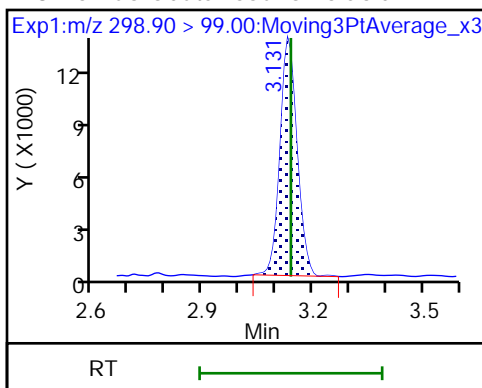
8 Perfluorobutanesulfonic acid

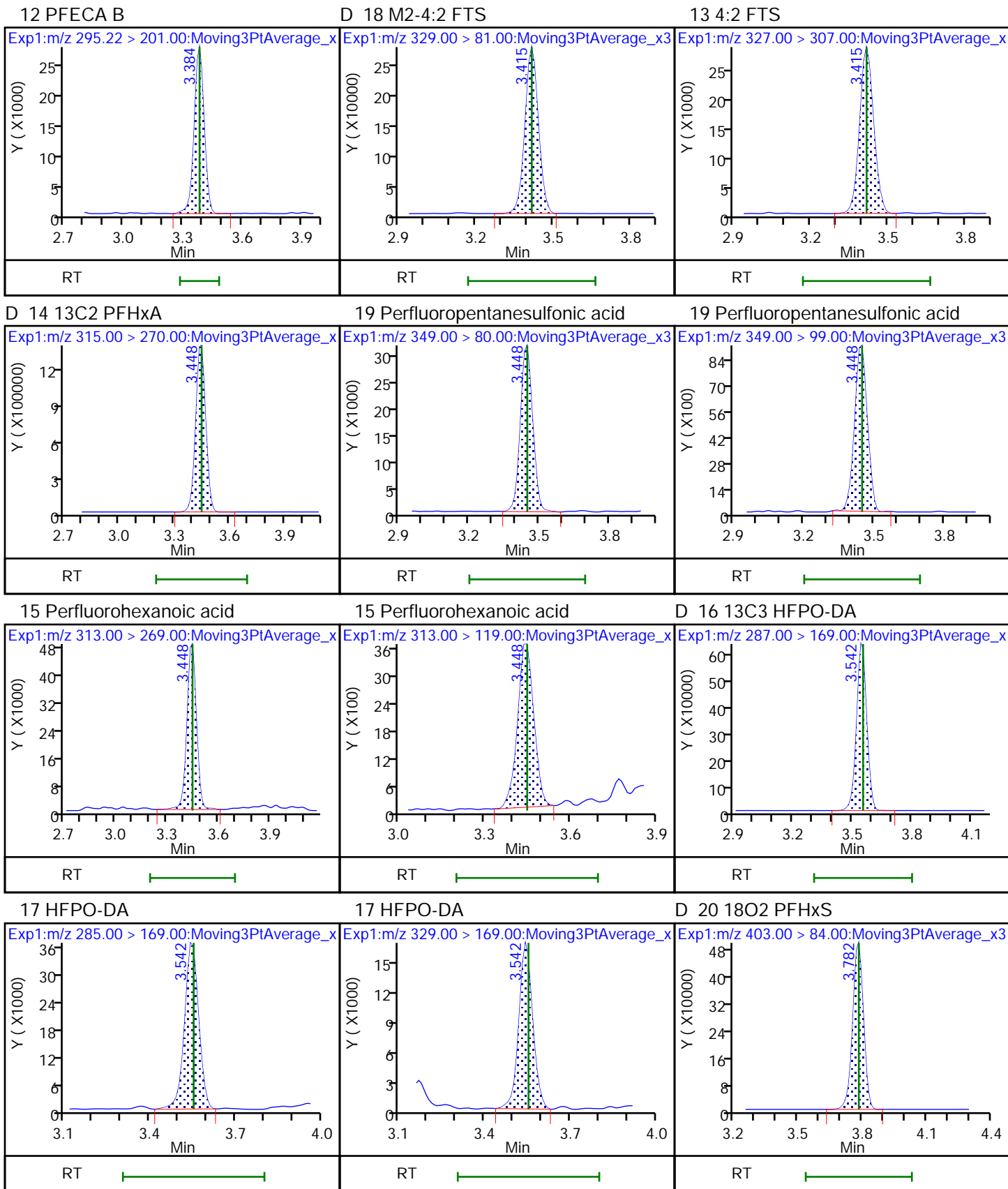


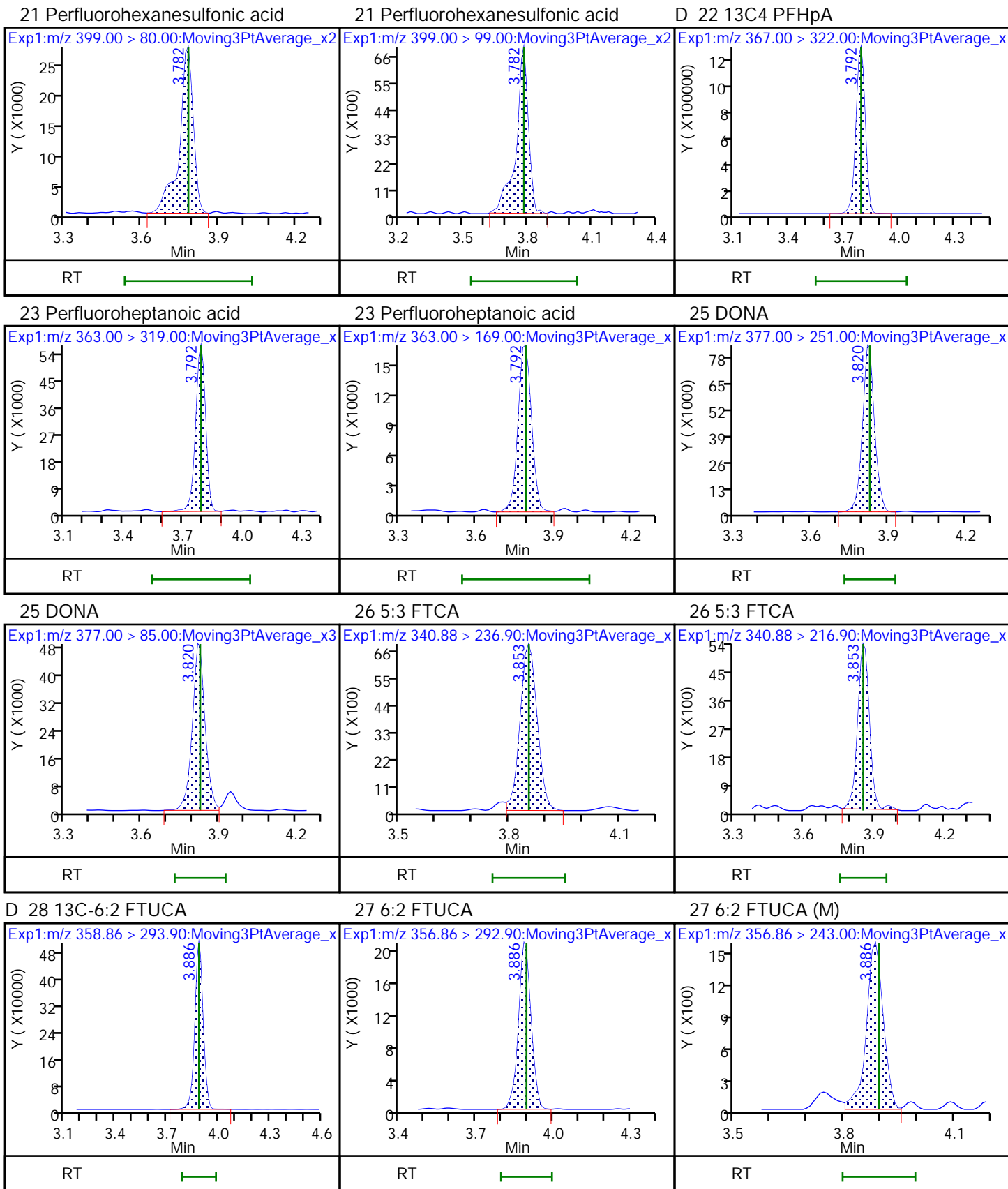
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



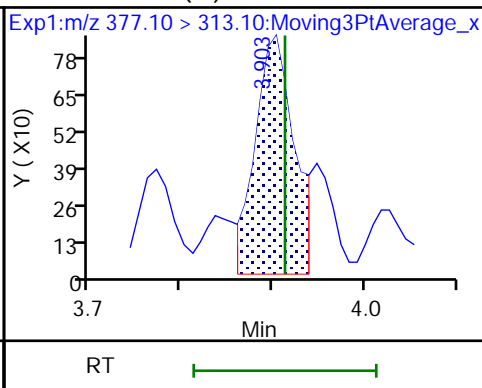
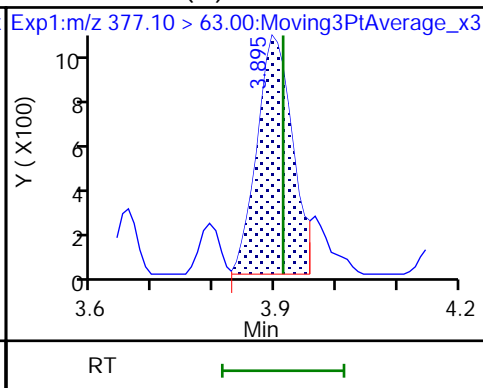
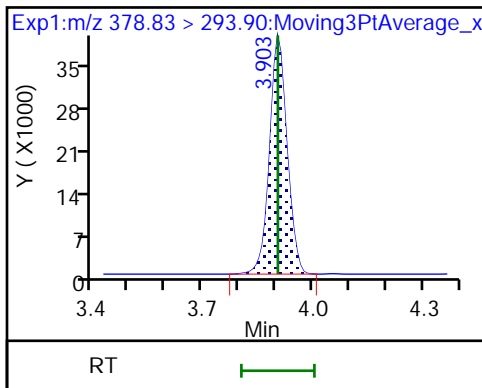




D 24 13C-6:2 FTCA

29 6:2 FTCA (M)

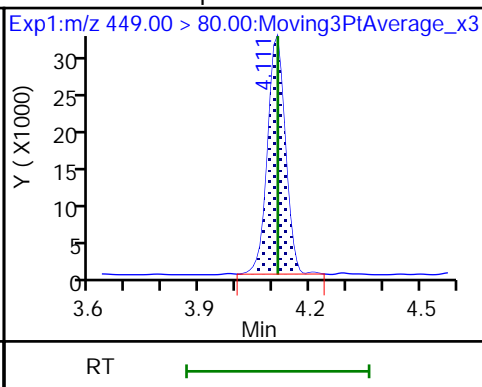
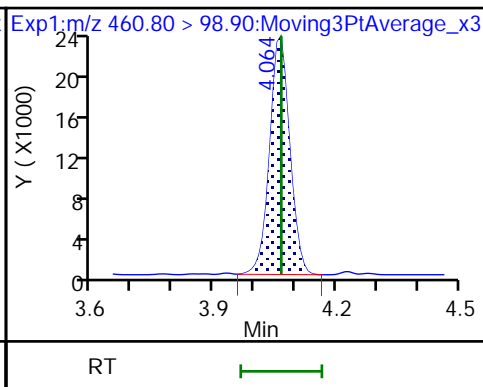
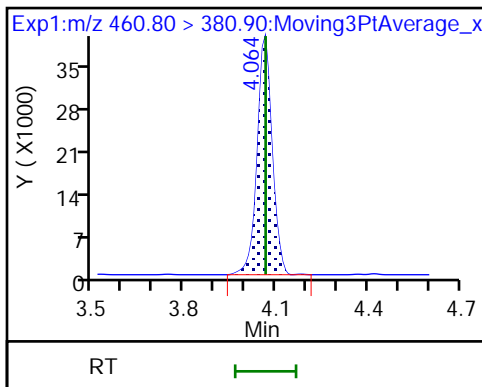
29 6:2 FTCA (M)



32 PFECHS

32 PFECHS

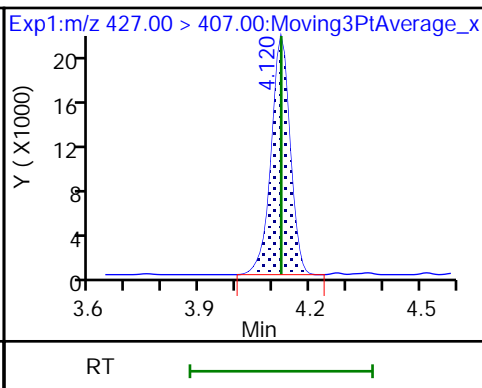
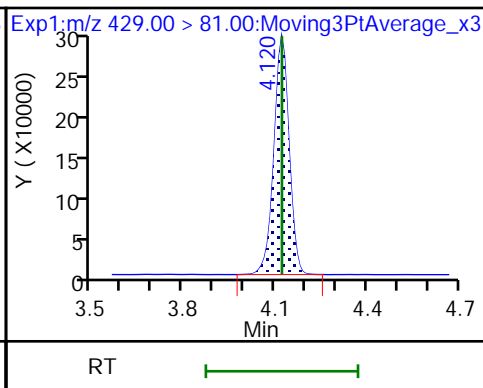
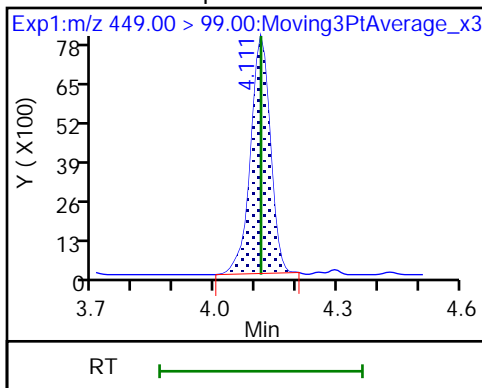
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

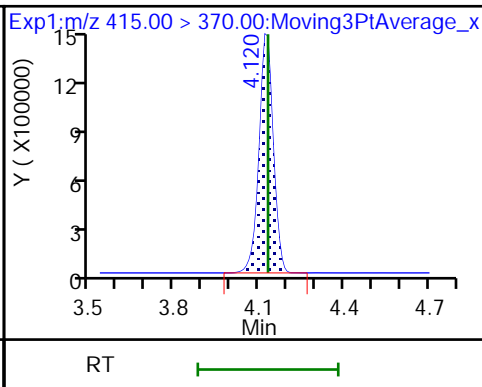
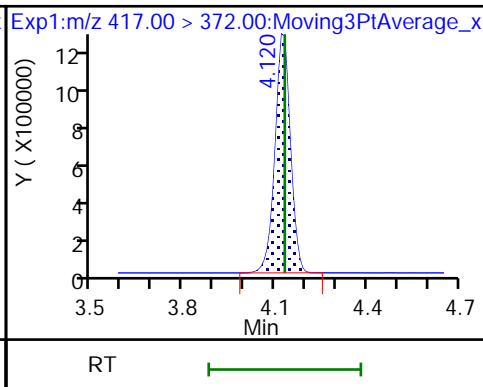
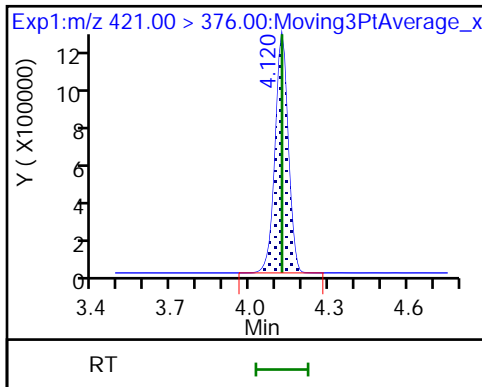
35 6:2 FTS

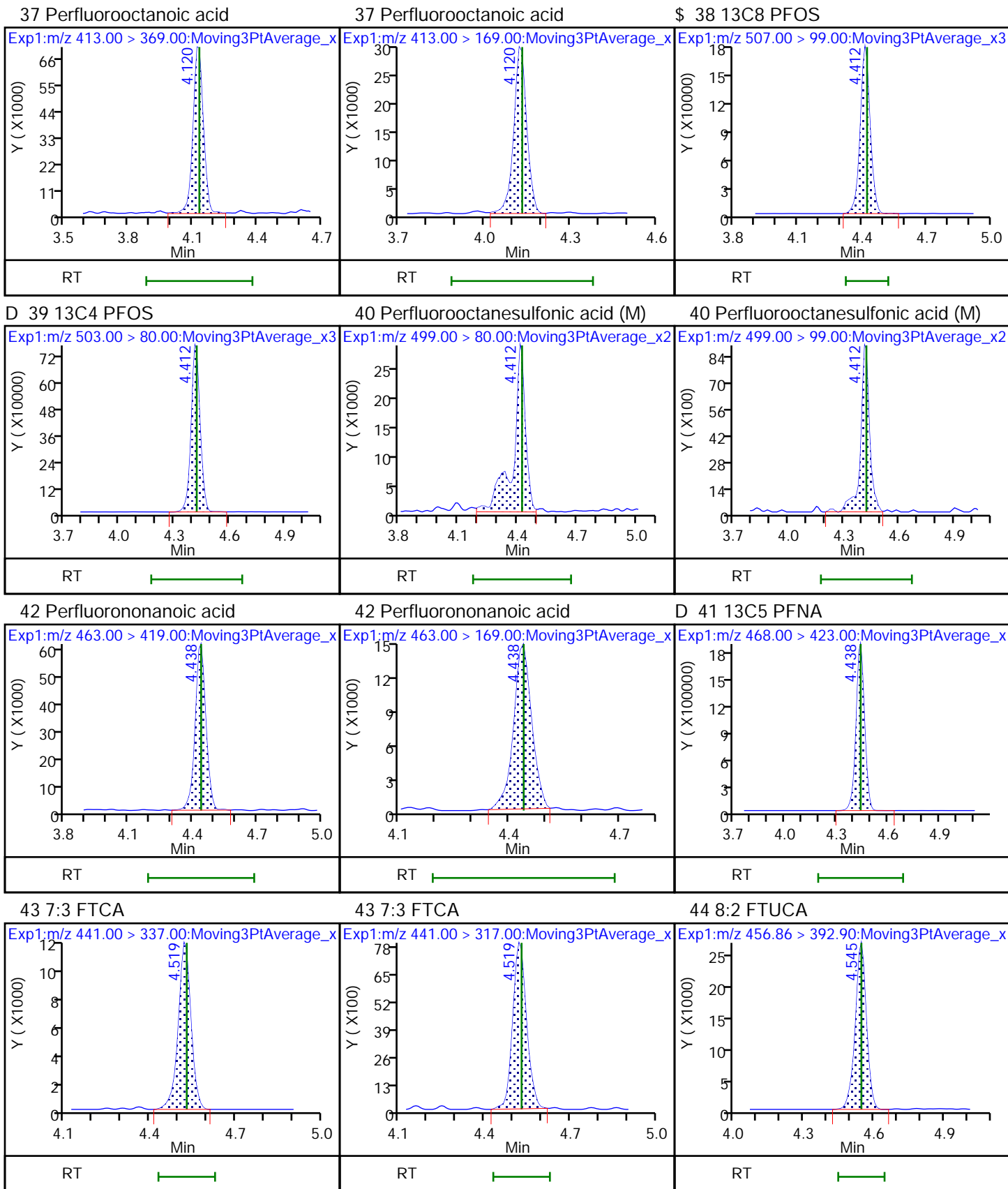


\$ 36 13C8 PFOA

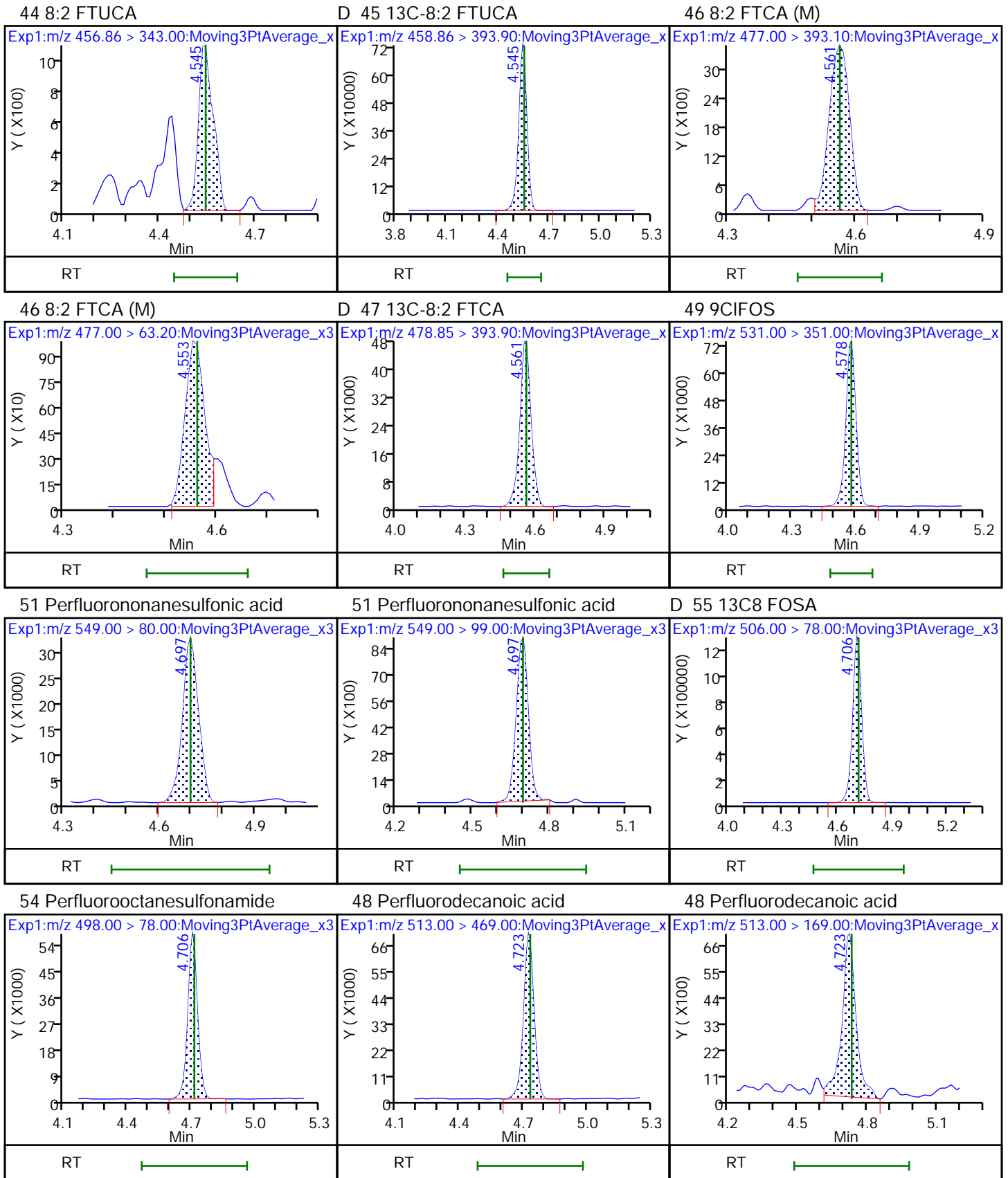
D 31 13C4 PFOA

\* 30 13C2 PFOA





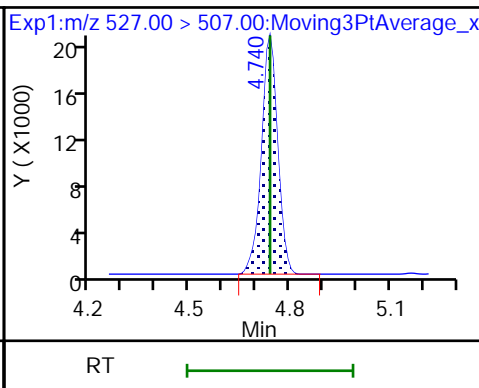
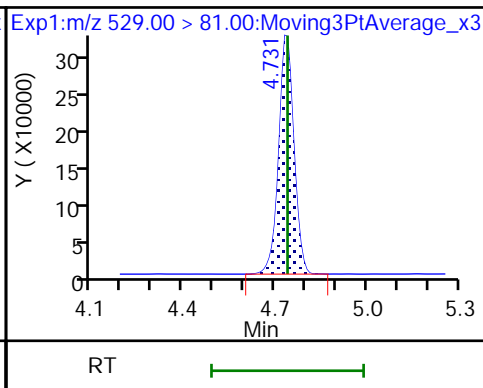
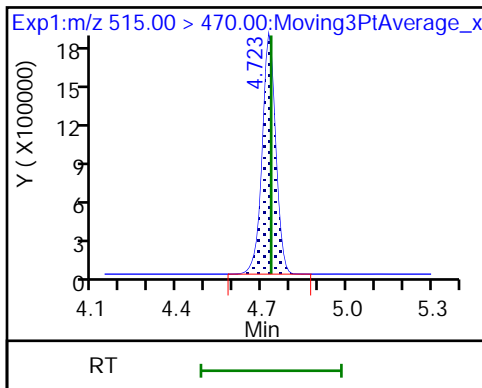




D 52 13C2 PFDA

D 50 M2-8:2 FTS

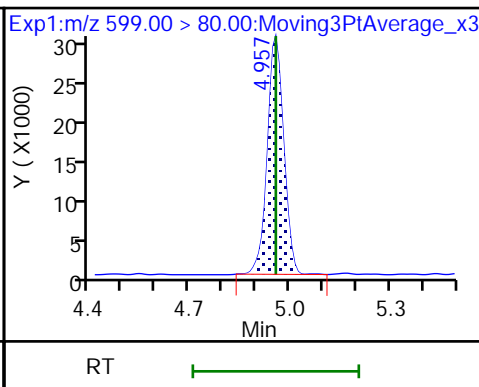
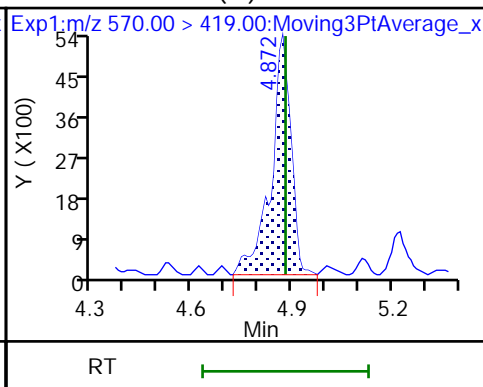
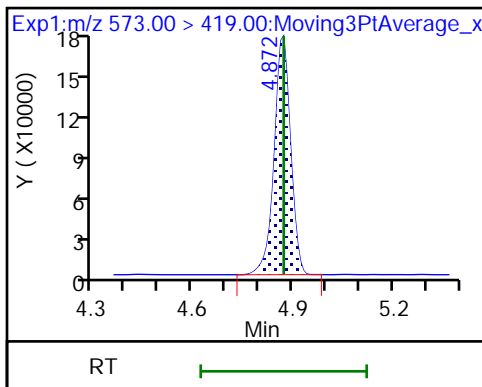
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

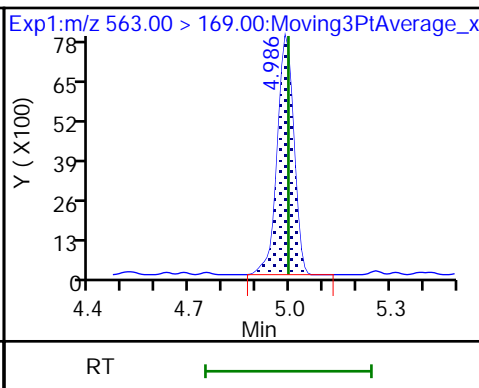
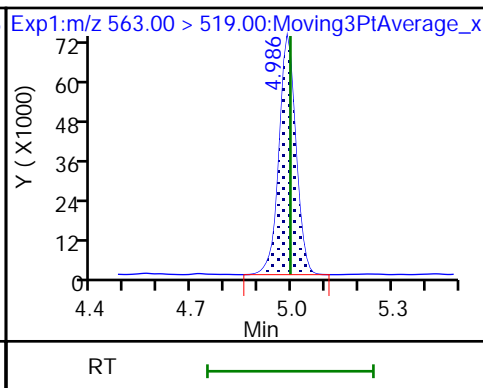
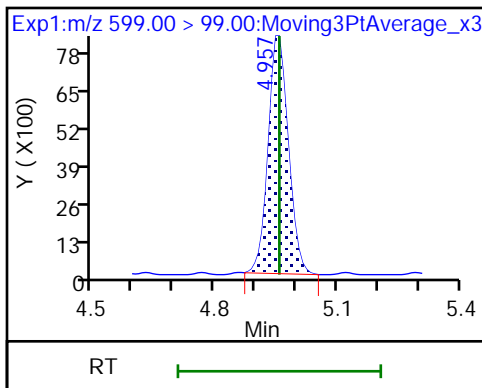
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

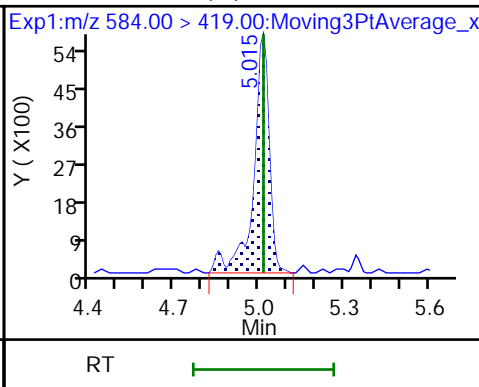
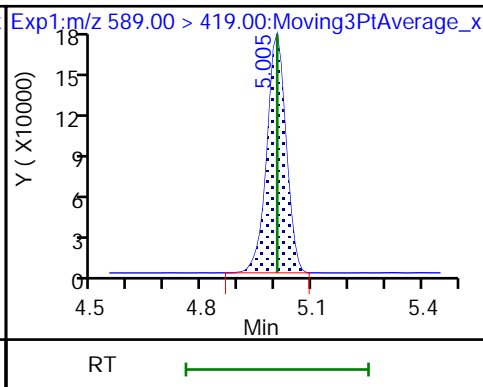
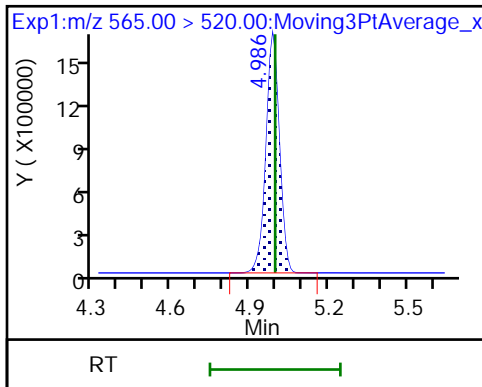
60 Perfluoroundecanoic acid



D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

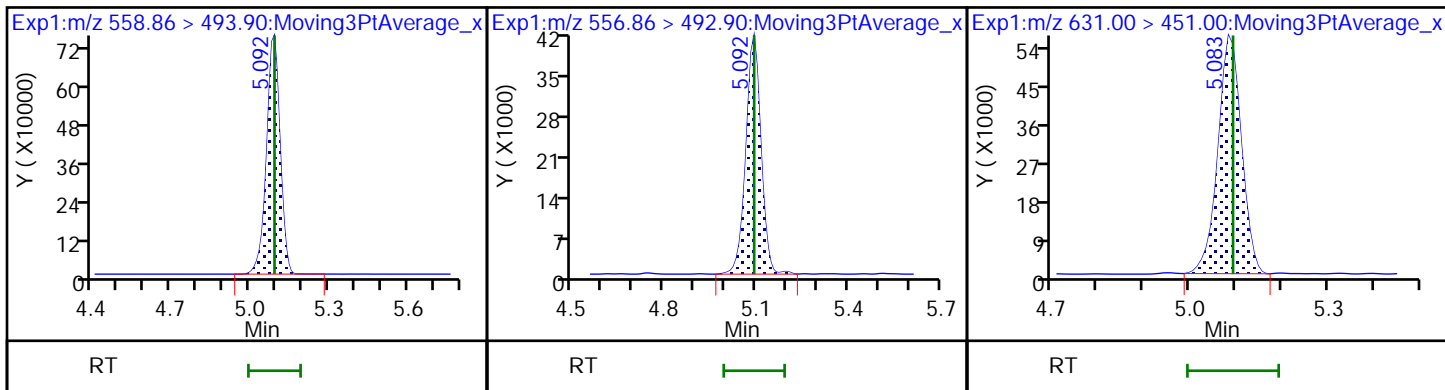
62 NEtFOSAA (M)



D 67 13C-10:2 FTUCA

65 10:2 FTUCA

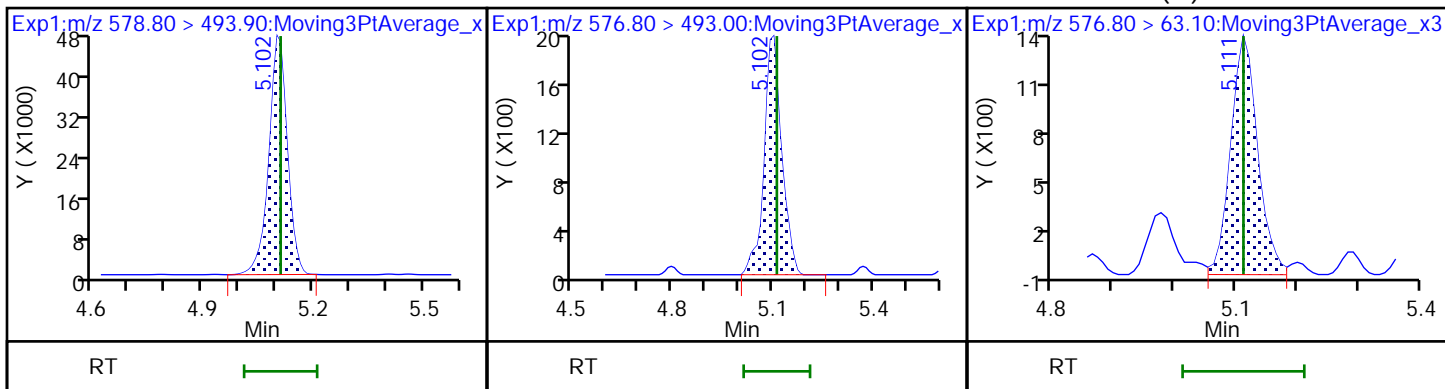
63 11CIFOS



D 64 13C-10:2 FTCA

66 10:2 FTCA

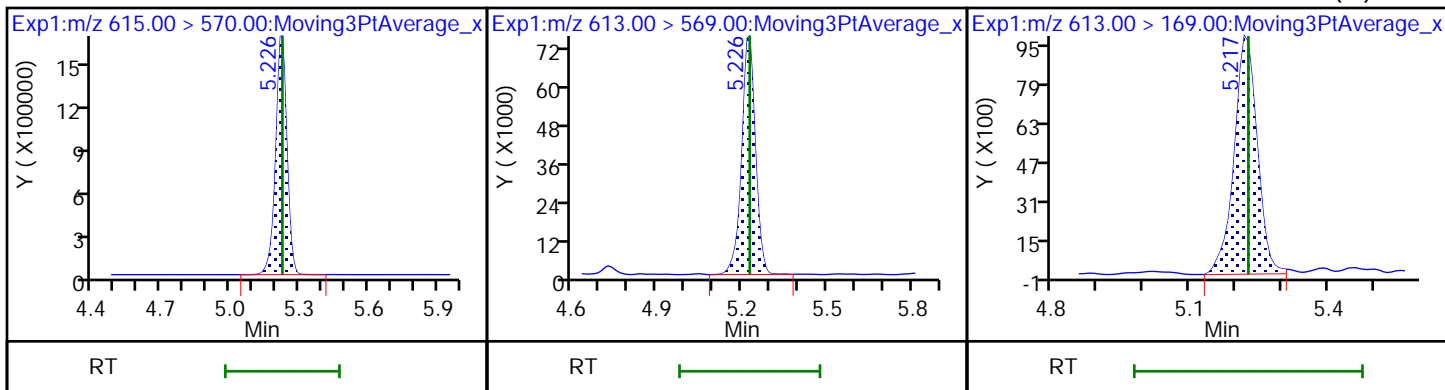
66 10:2 FTCA (M)



D 69 13C2 PFDaA

68 Perfluorododecanoic acid

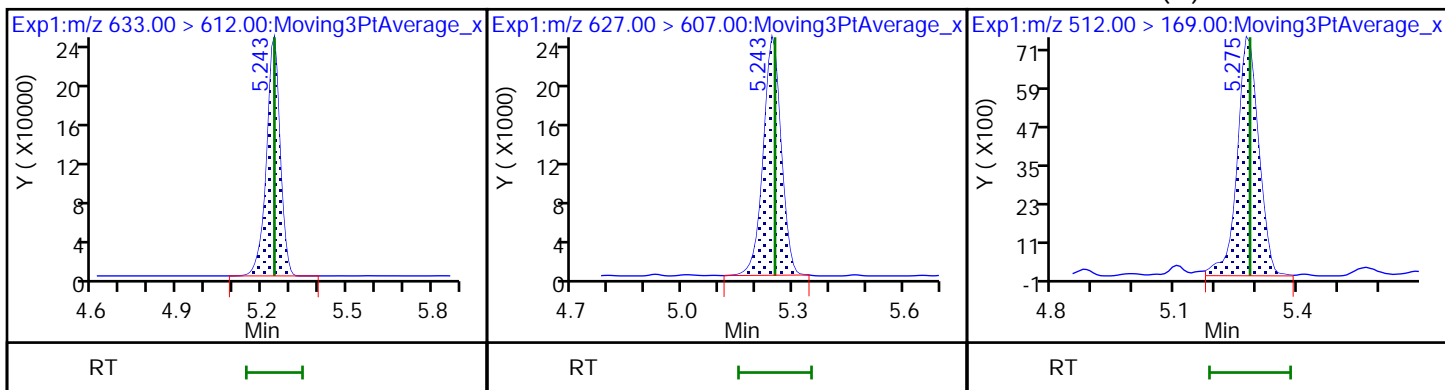
68 Perfluorododecanoic acid (M)



D 70 13C2 10:2 FTS

71 10:2 FTS

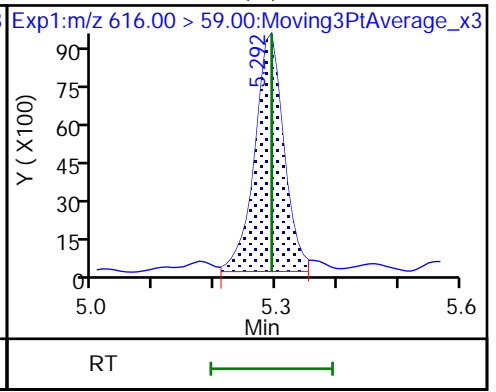
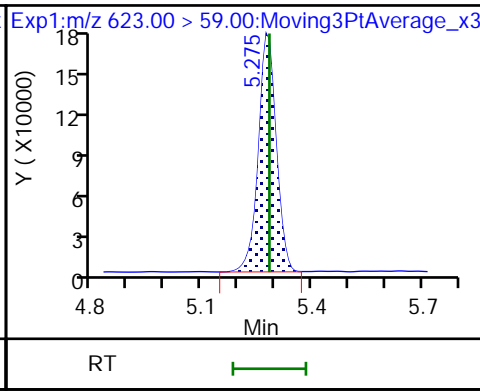
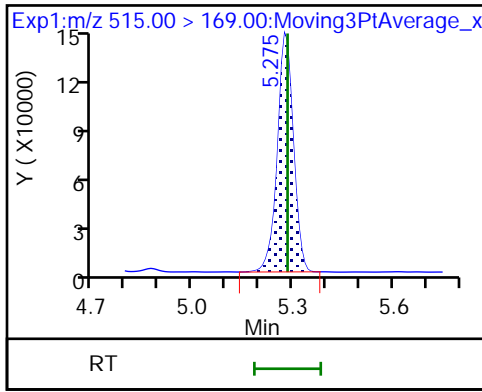
74 NMeFOSA (M)



D 73 d-N-MeFOSE-M

D 72 d7-N-MeFOSE-M

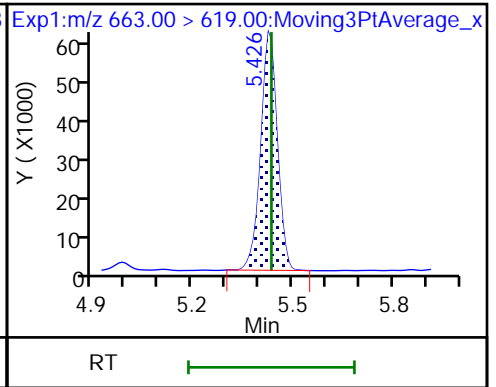
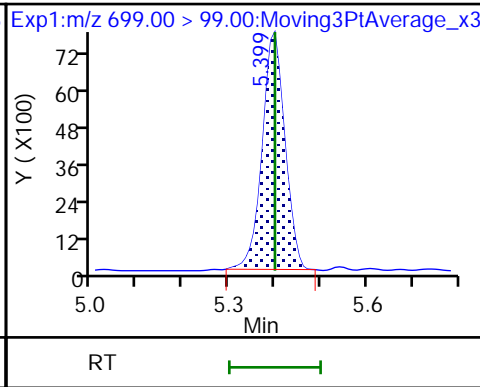
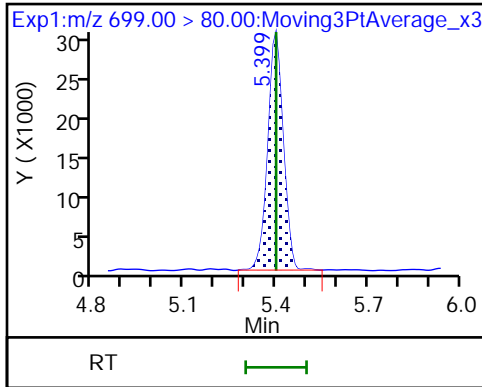
75 N-MeFOSE-M (M)



76 PFDoS

76 PFDoS

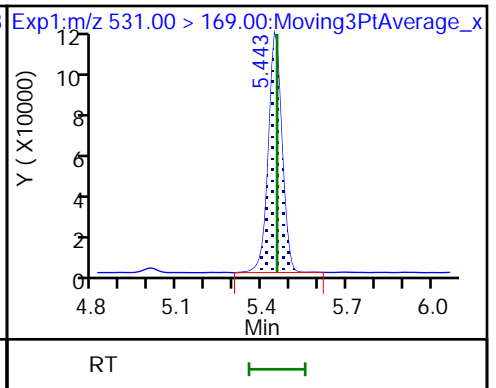
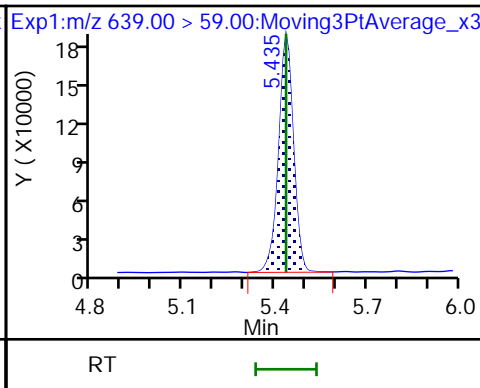
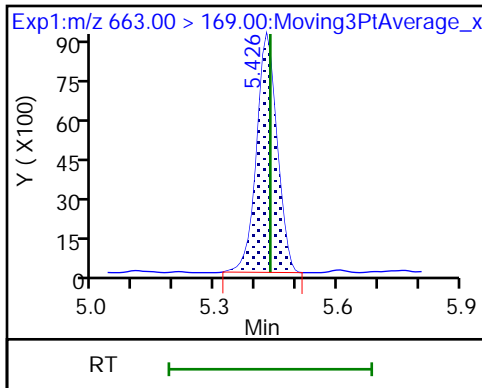
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

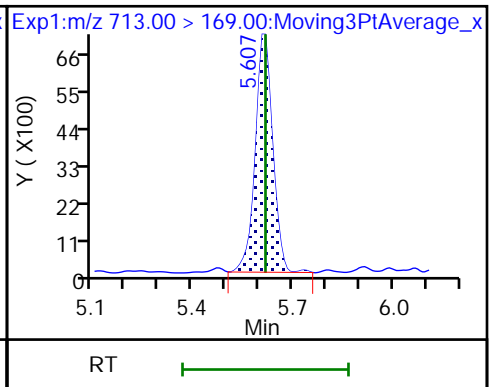
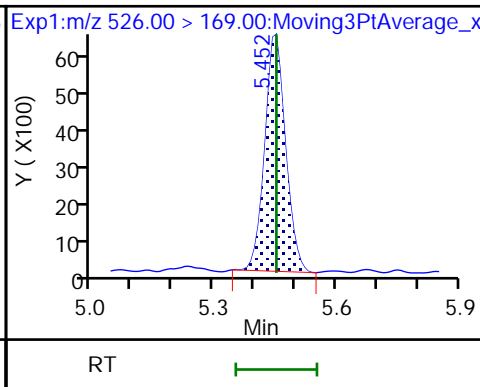
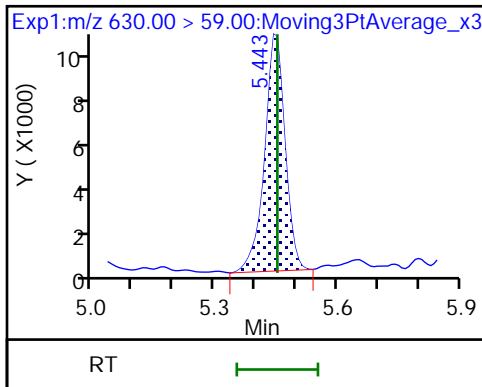
D 80 d-N-EtFOSE-M

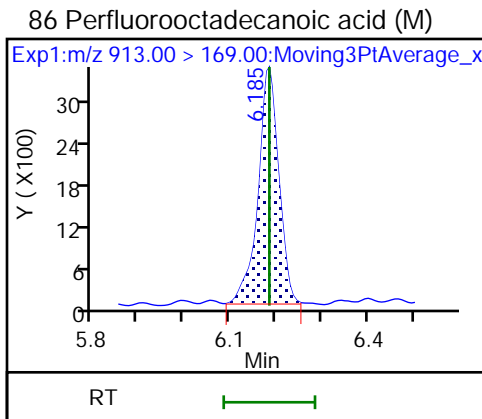
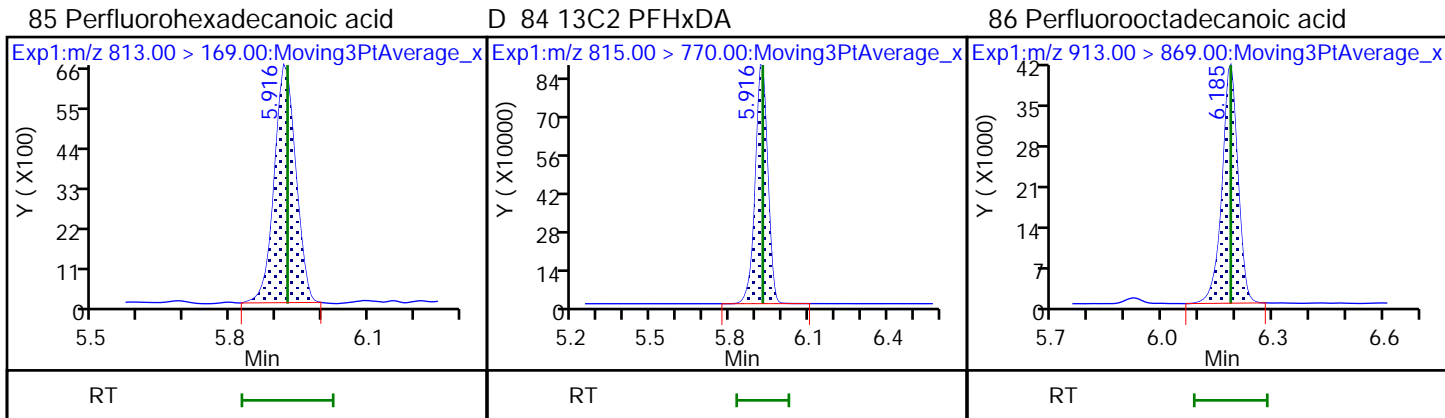
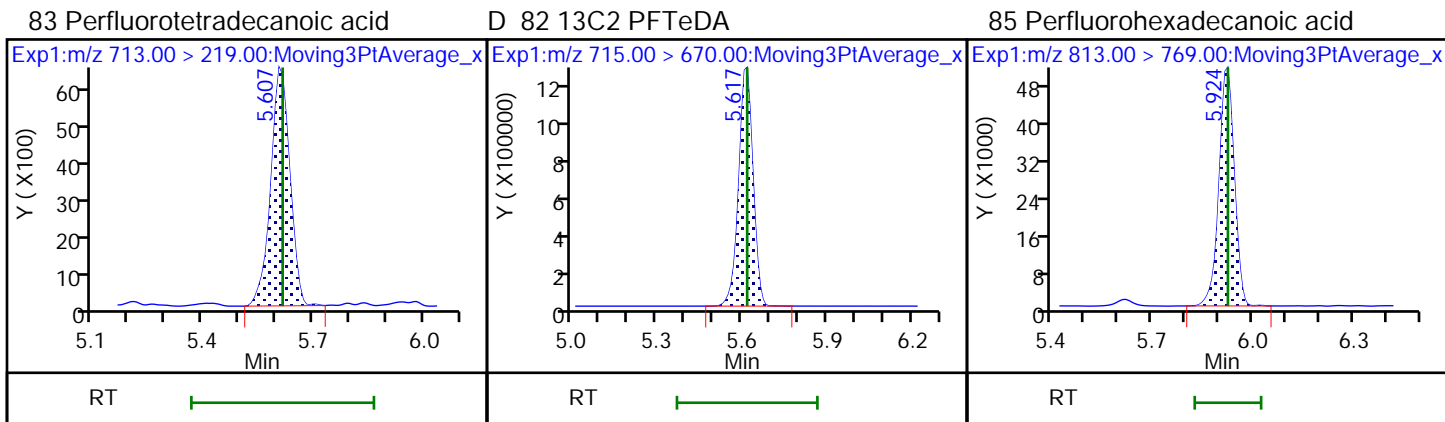


79 N-EtFOSE-M

81 N-EtFOSE-M

83 Perfluorotetradecanoic acid





Eurofins Knoxville

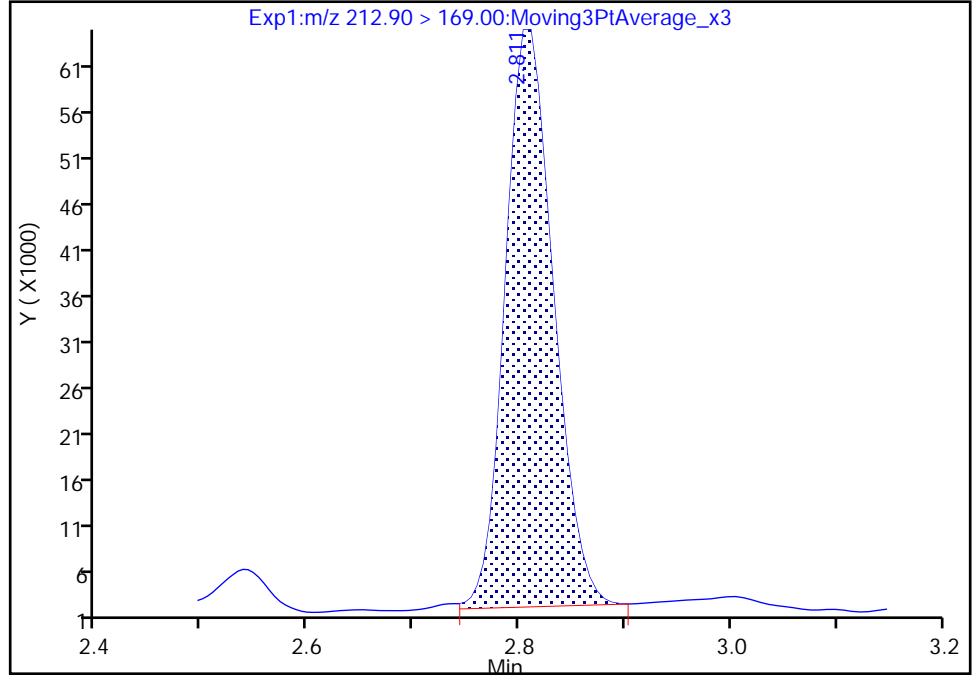
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

1 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

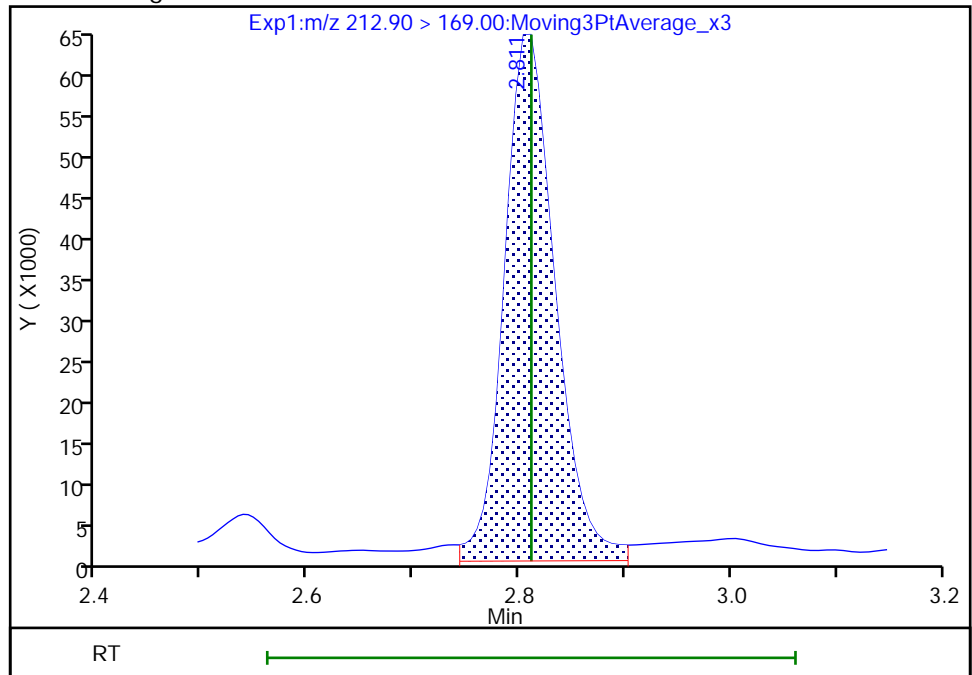
RT: 2.81  
Area: 196075  
Amount: 0.051956  
Amount Units: ng/ml

Processing Integration Results



RT: 2.81  
Area: 211682  
Amount: 0.056396  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:07:13  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

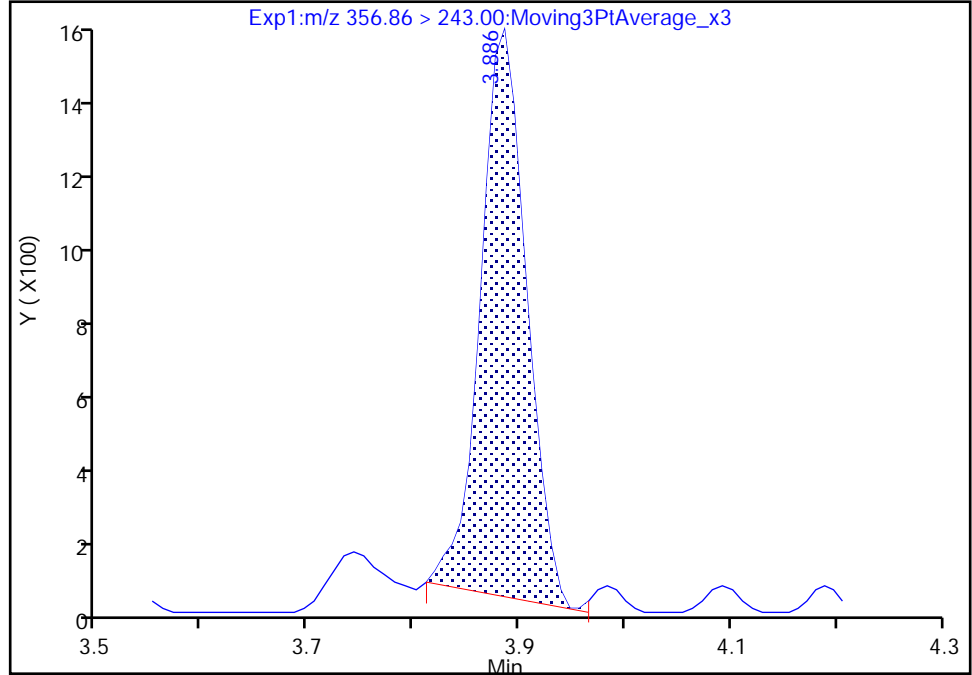
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

27 6:2 FTUCA, CAS: 70887-88-6

Signal: 2

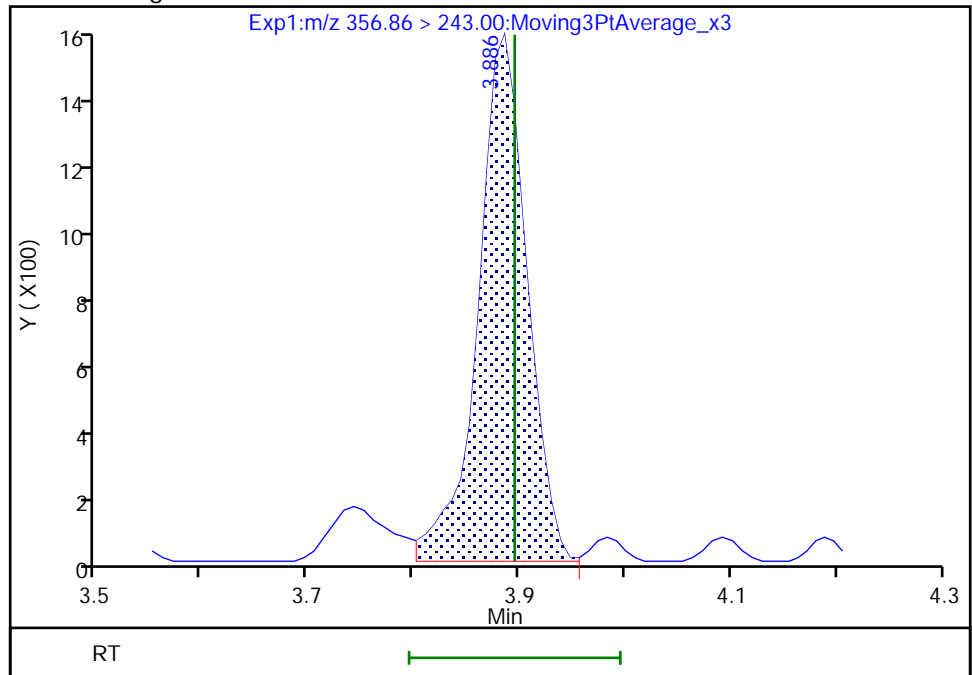
RT: 3.89  
Area: 4715  
Amount: 0.048386  
Amount Units: ng/ml

Processing Integration Results



RT: 3.89  
Area: 5129  
Amount: 0.048386  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:09:04  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

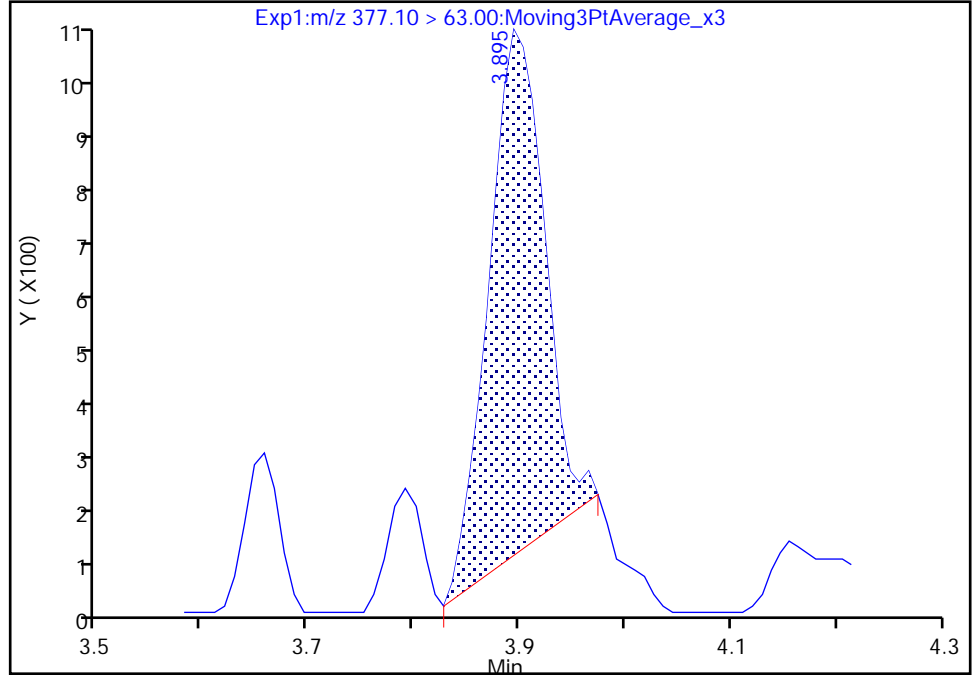
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

29 6:2 FTCA, CAS: 53826-12-3

Signal: 1

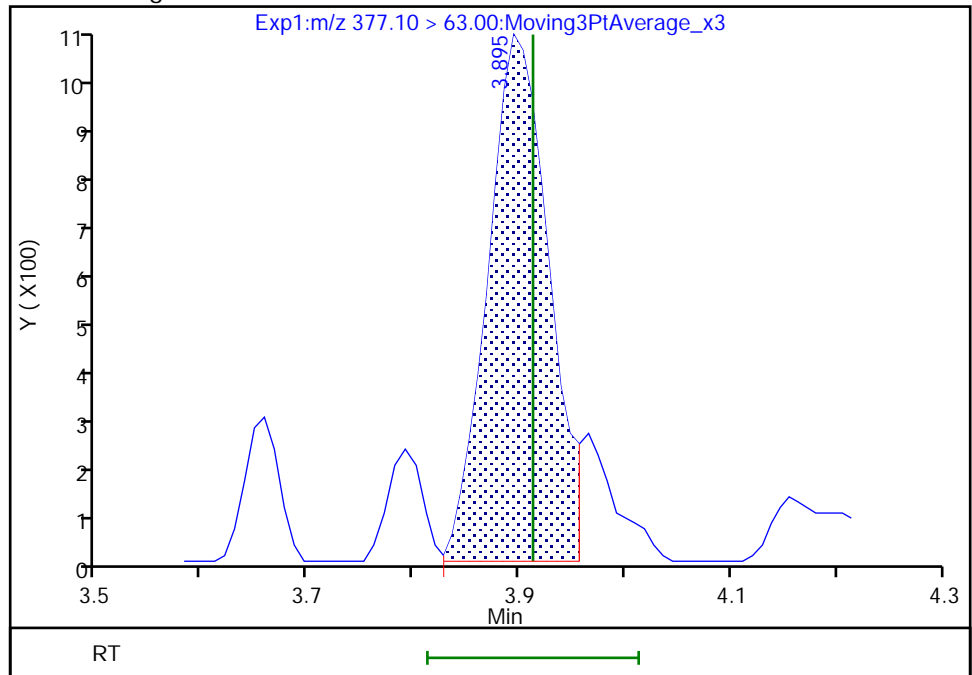
RT: 3.89  
Area: 3418  
Amount: 0.040889  
Amount Units: ng/ml

Processing Integration Results



RT: 3.89  
Area: 4136  
Amount: 0.050928  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:09:26  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

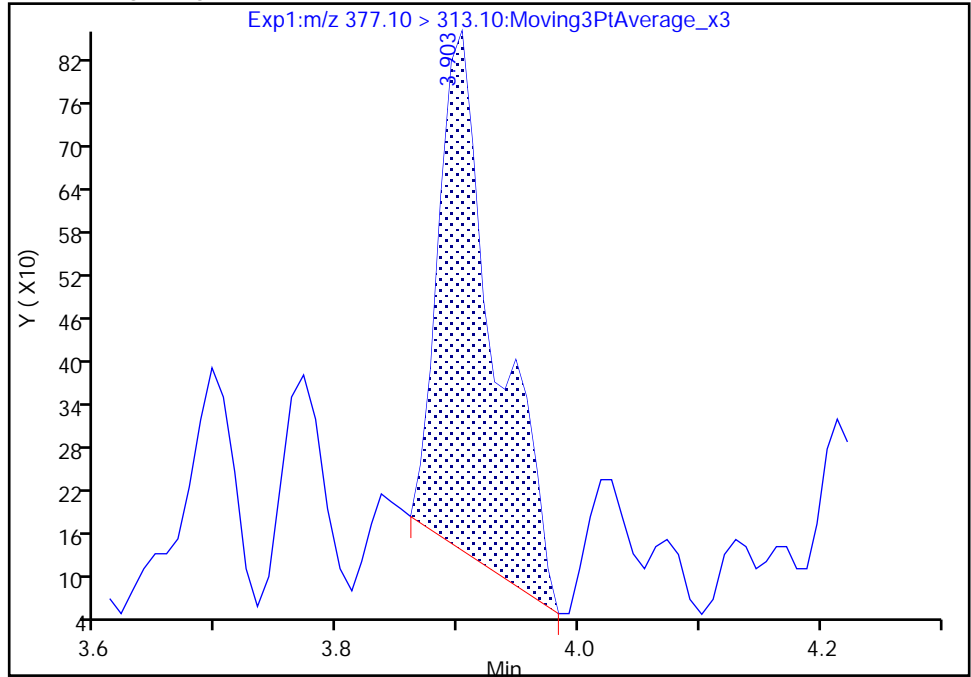
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

29 6:2 FTCA, CAS: 53826-12-3

Signal: 2

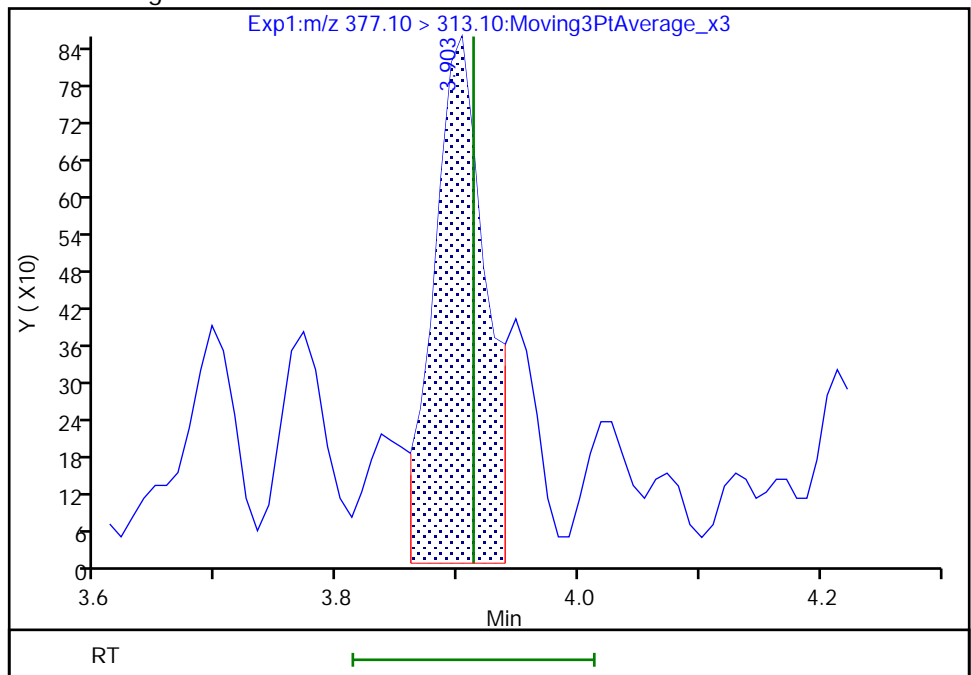
RT: 3.90  
Area: 2362  
Amount: 0.040889  
Amount Units: ng/ml

Processing Integration Results



RT: 3.90  
Area: 2490  
Amount: 0.050928  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:09:54

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

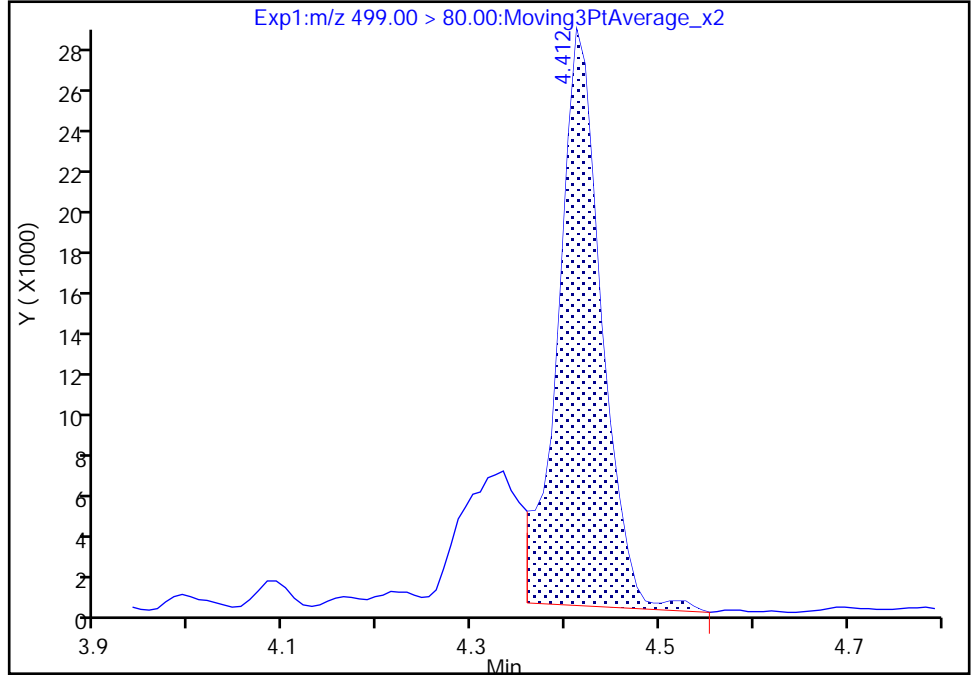
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

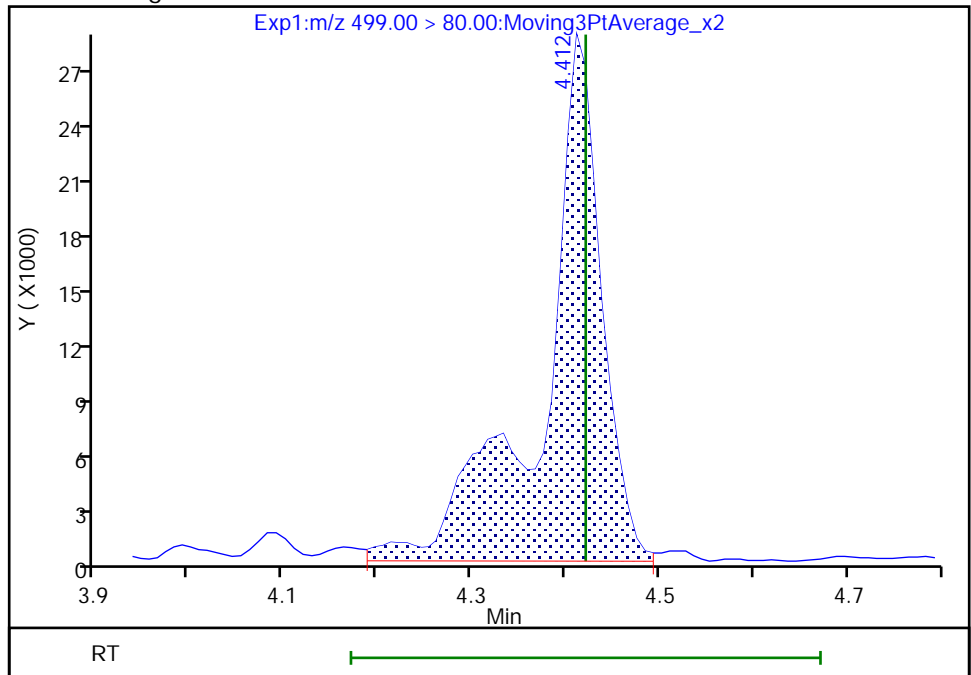
RT: 4.41  
Area: 91044  
Amount: 0.037175  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 126447  
Amount: 0.051630  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:10:09  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

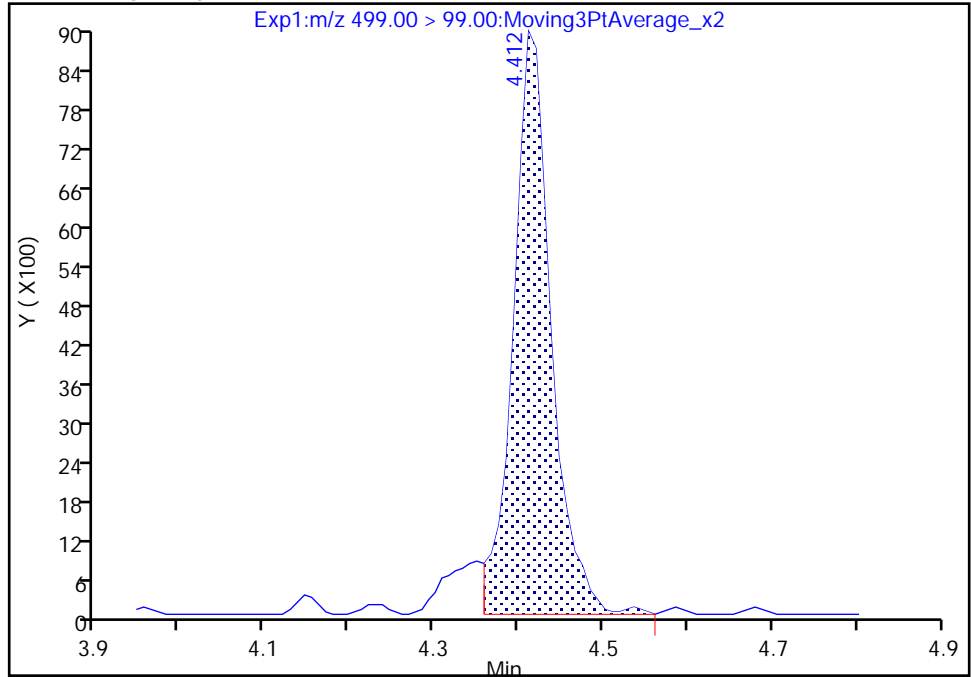
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

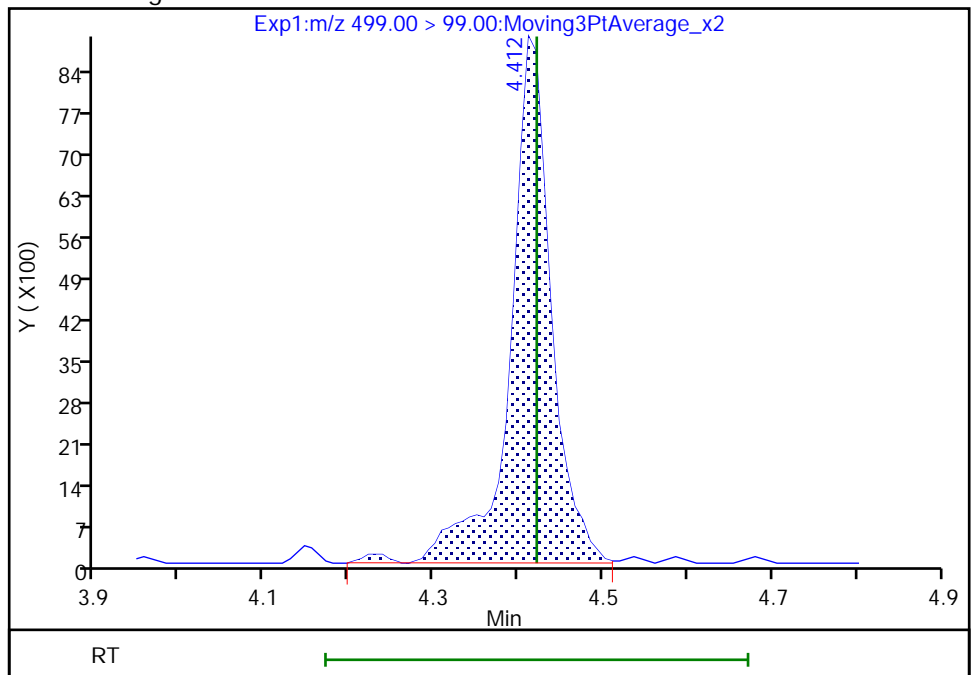
RT: 4.41  
Area: 27611  
Amount: 0.037175  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 30230  
Amount: 0.051630  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:10:16

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

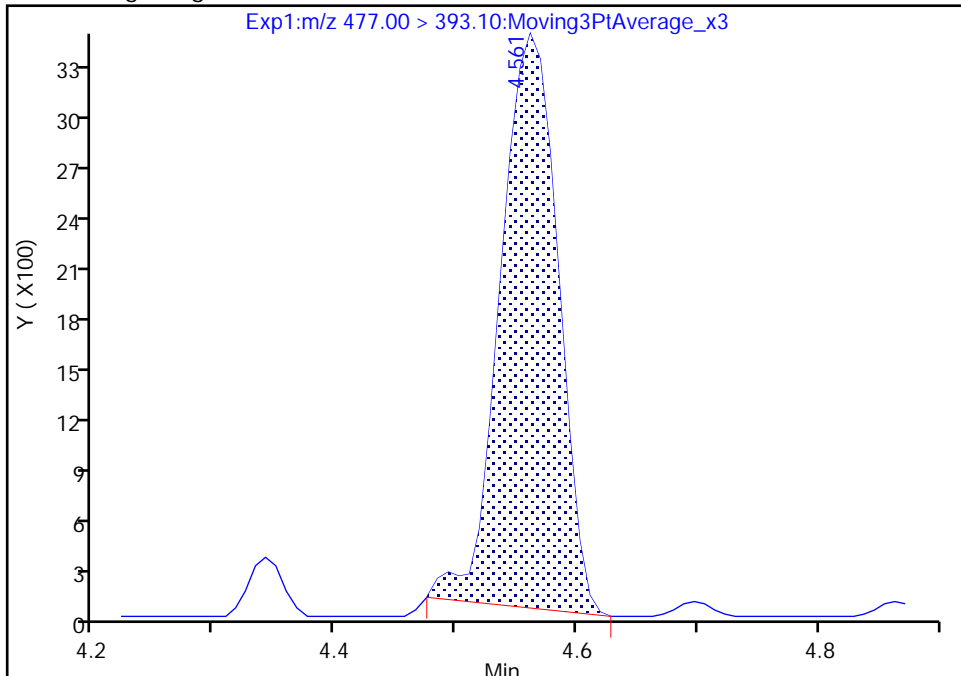
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 1

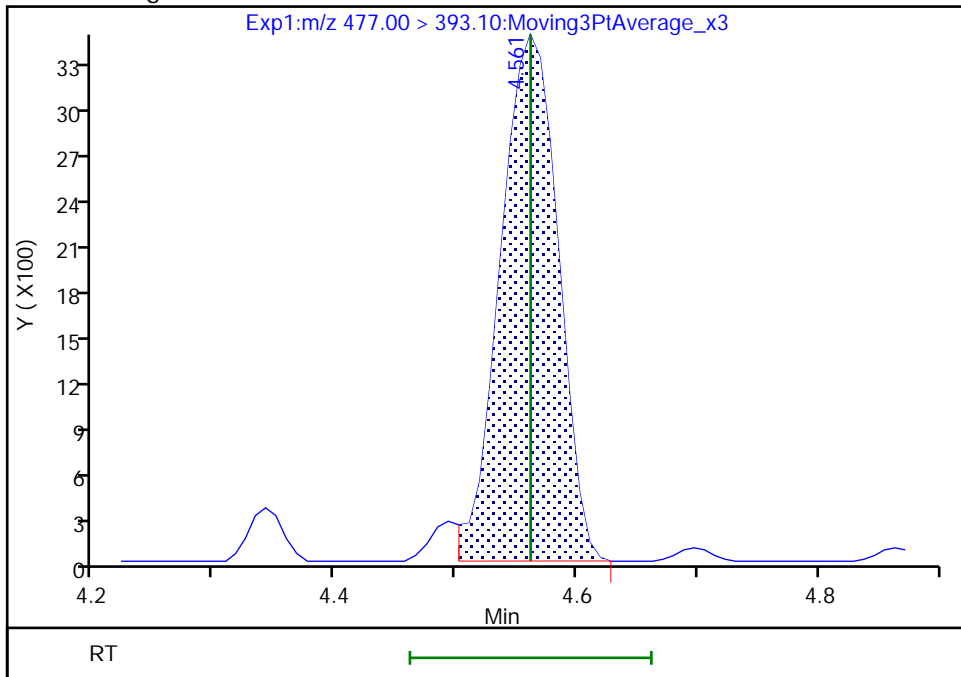
RT: 4.56  
Area: 11216  
Amount: 0.048579  
Amount Units: ng/ml

Processing Integration Results



RT: 4.56  
Area: 11368  
Amount: 0.049238  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:10:48  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

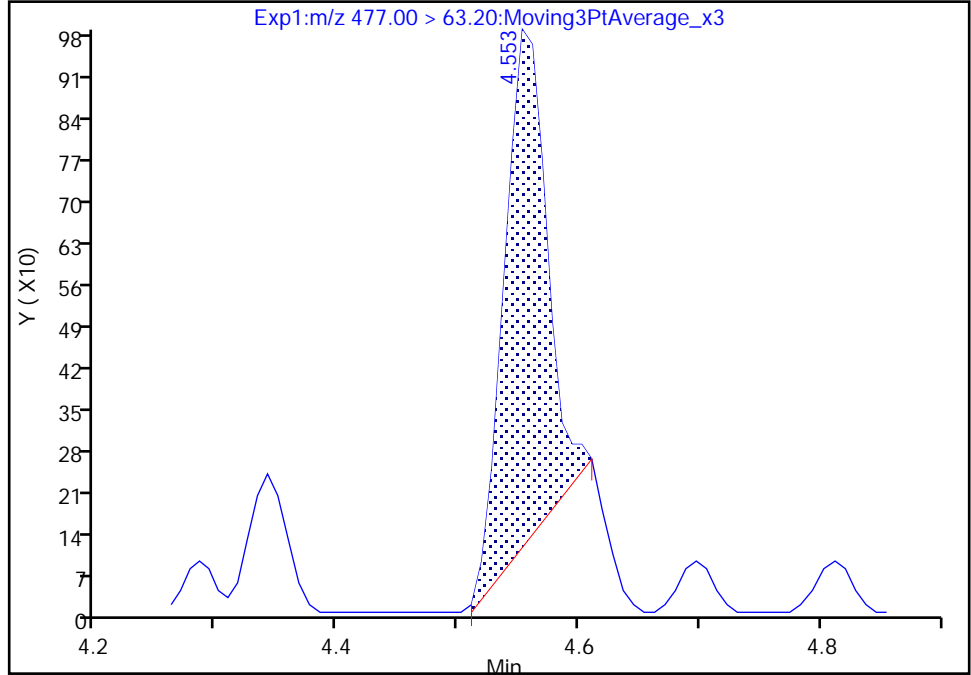
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 2

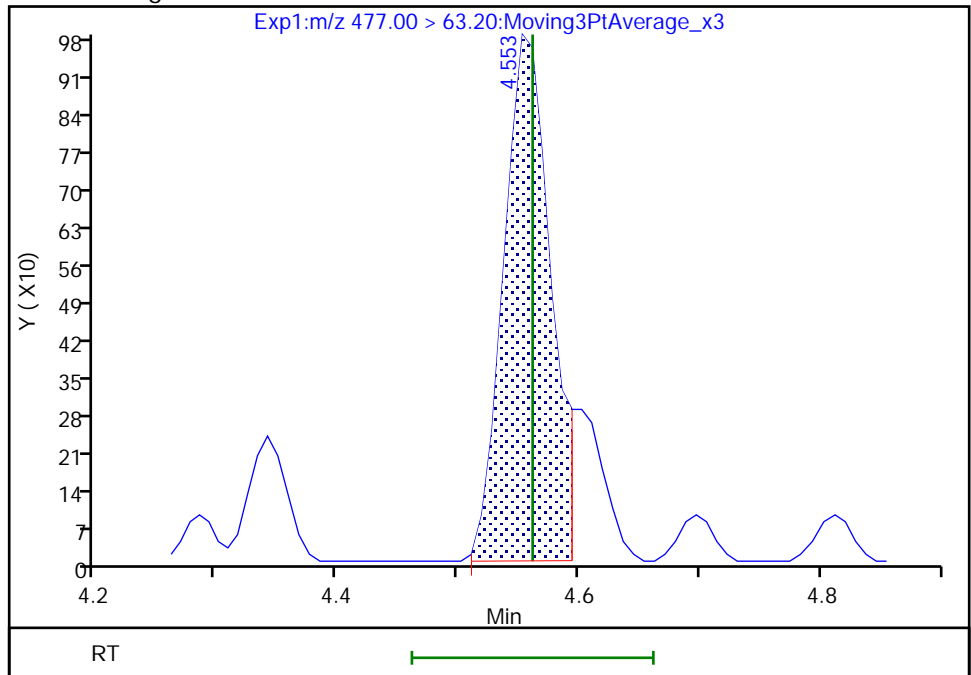
RT: 4.55  
Area: 2141  
Amount: 0.048579  
Amount Units: ng/ml

Processing Integration Results



RT: 4.55  
Area: 2641  
Amount: 0.049238  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:10:52

Audit Action: Manually Integrated

Audit Reason: Baseline  
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02/27/2022

Eurofins Knoxville

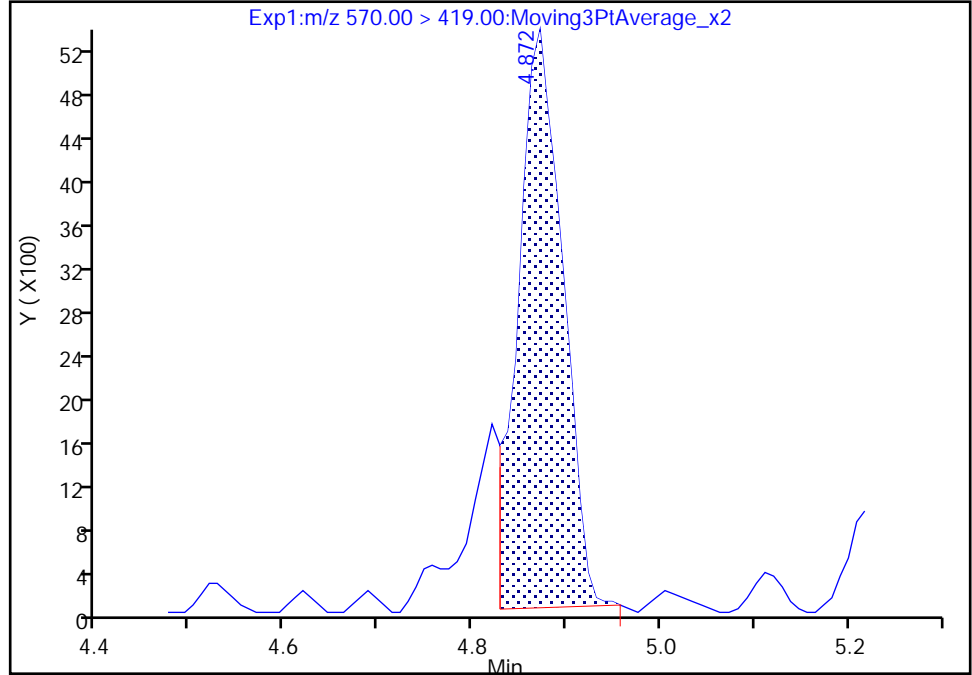
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

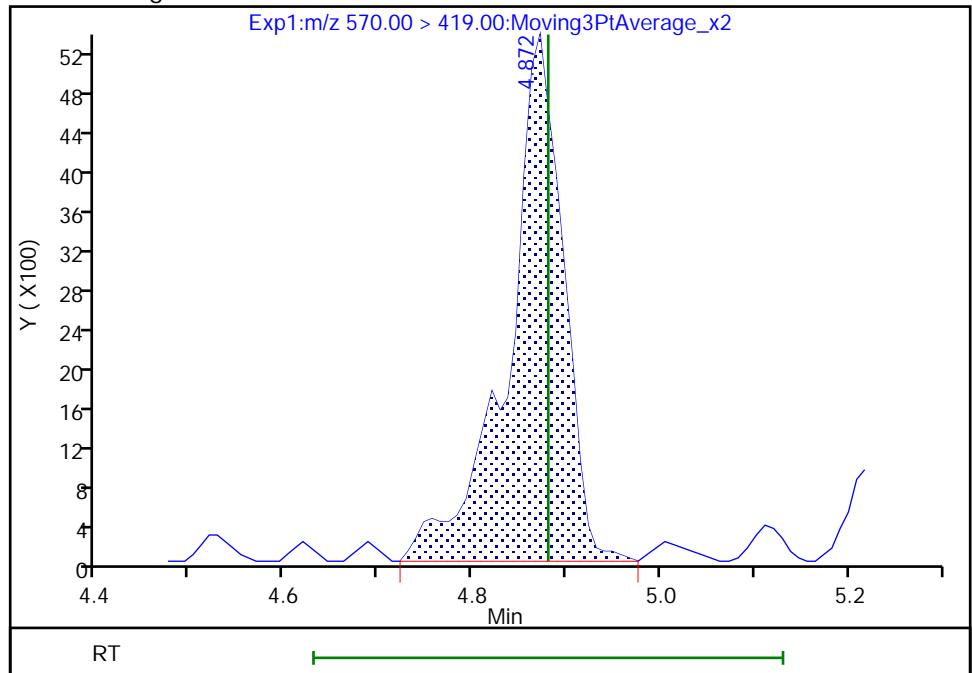
RT: 4.87  
Area: 17404  
Amount: 0.041786  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 22121  
Amount: 0.052688  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:11:10  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

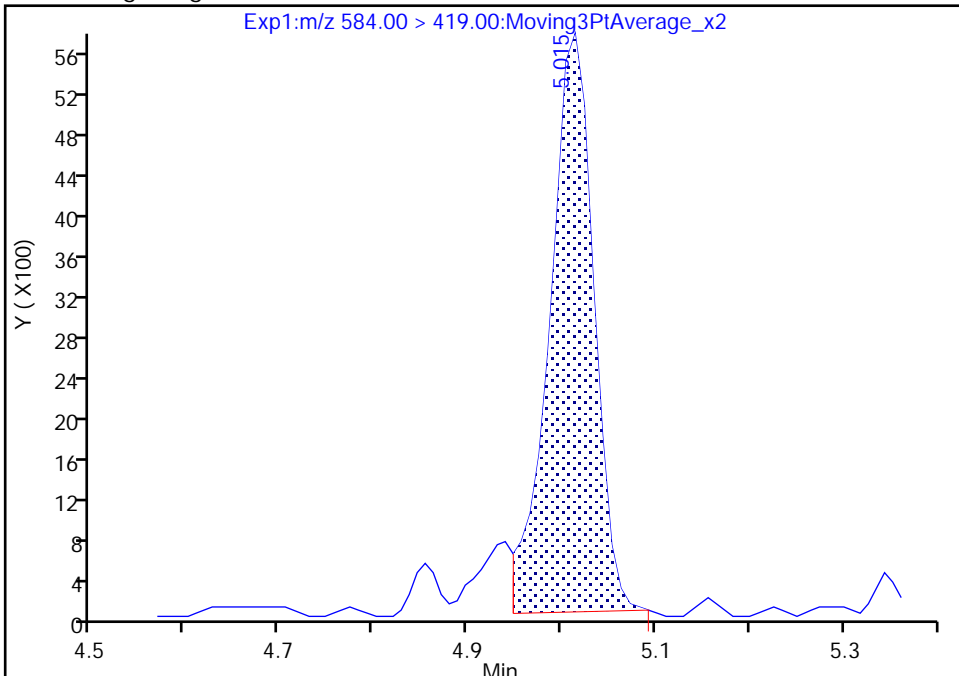
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

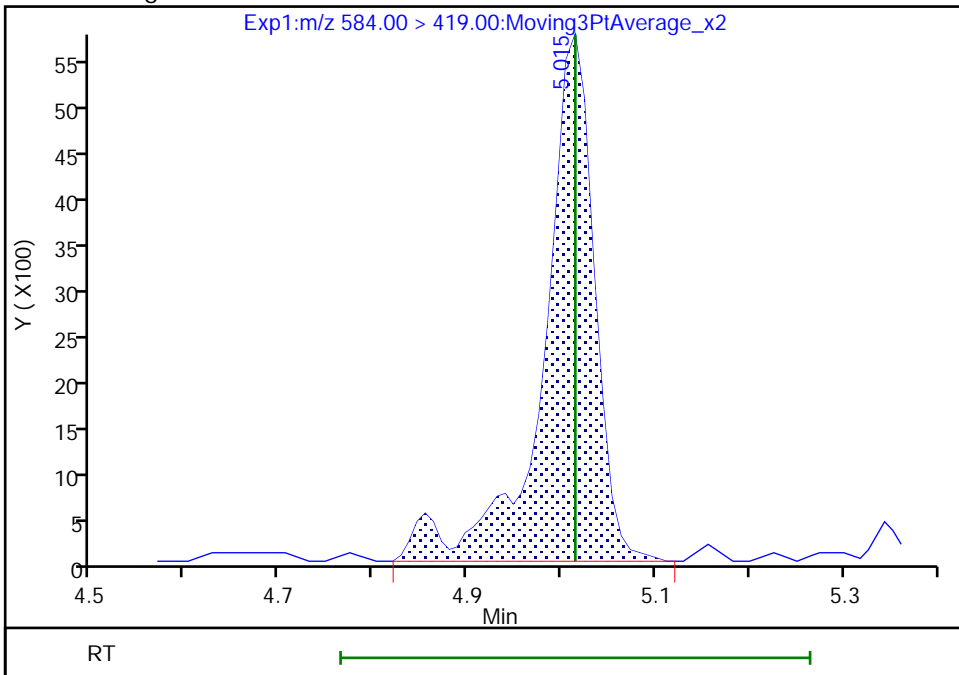
RT: 5.01  
Area: 18615  
Amount: 0.034244  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 21929  
Amount: 0.042146  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:11:24  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

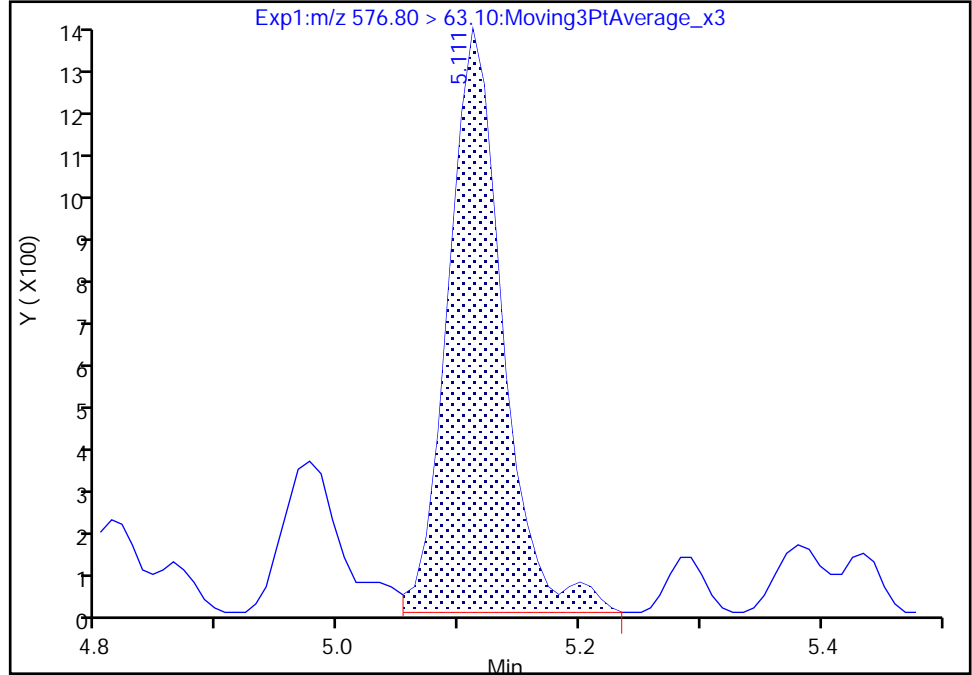
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

66 10:2 FTCA, CAS: 53826-13-4

Signal: 2

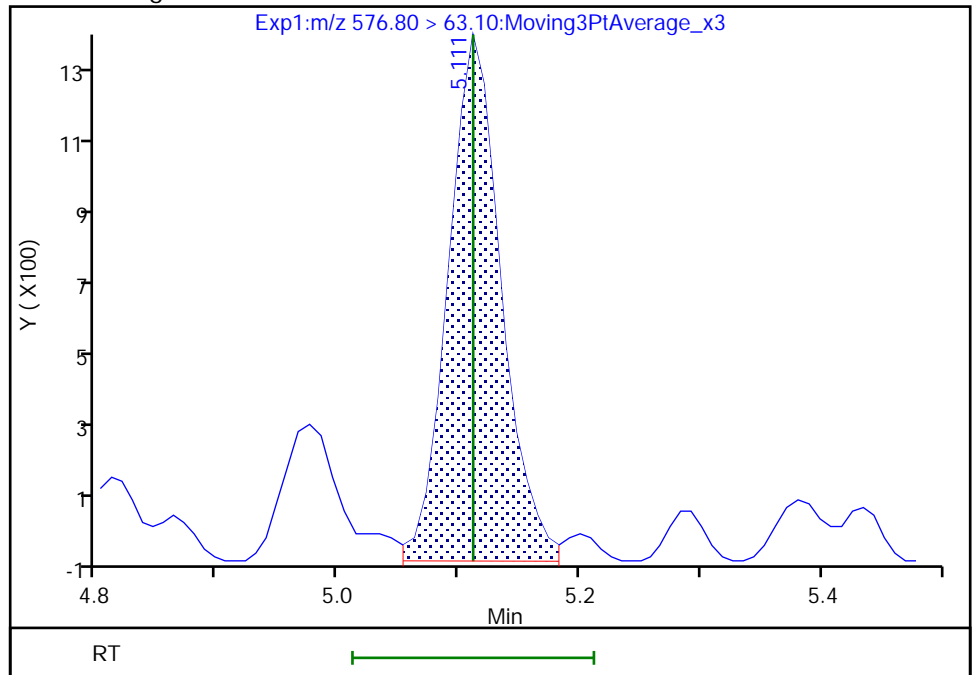
RT: 5.11  
Area: 4086  
Amount: 0.050105  
Amount Units: ng/ml

Processing Integration Results



RT: 5.11  
Area: 3964  
Amount: 0.050105  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:11:56  
Audit Action: Manually Integrated

Audit Reason: Baseline



Eurofins Knoxville

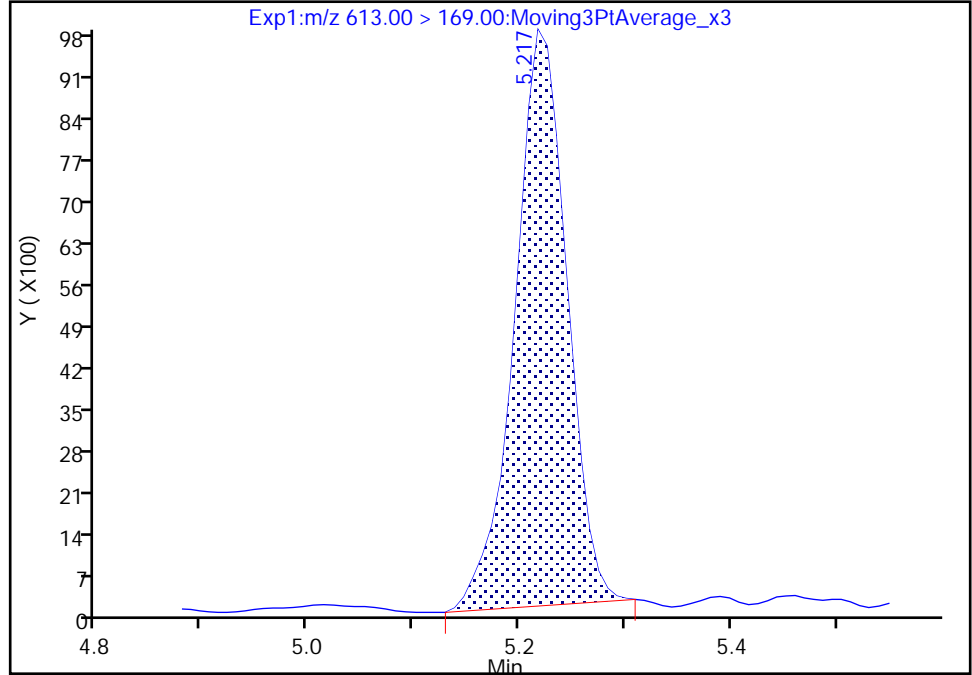
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

68 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 2

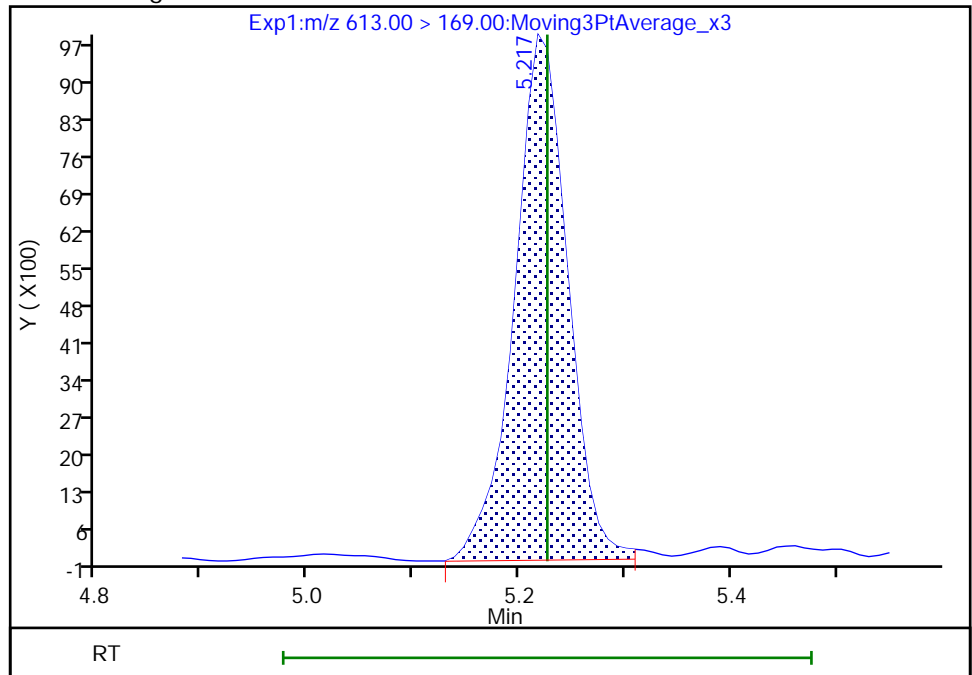
RT: 5.22  
Area: 33126  
Amount: 0.054211  
Amount Units: ng/ml

Processing Integration Results



RT: 5.22  
Area: 34144  
Amount: 0.054211  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:12:05  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

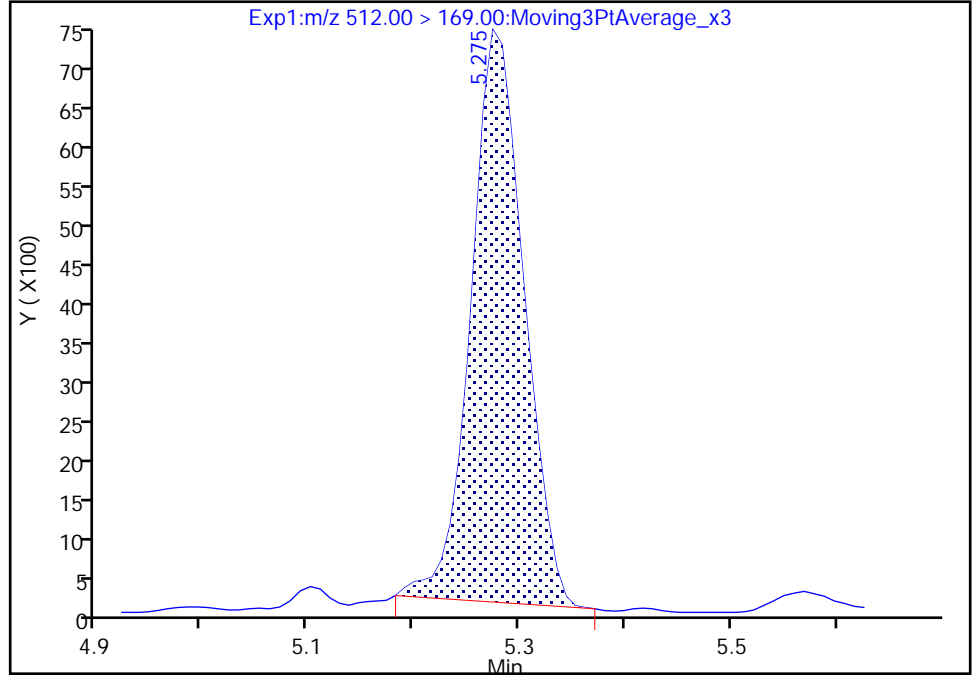
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

74 NMeFOSA, CAS: 31506-32-8

Signal: 1

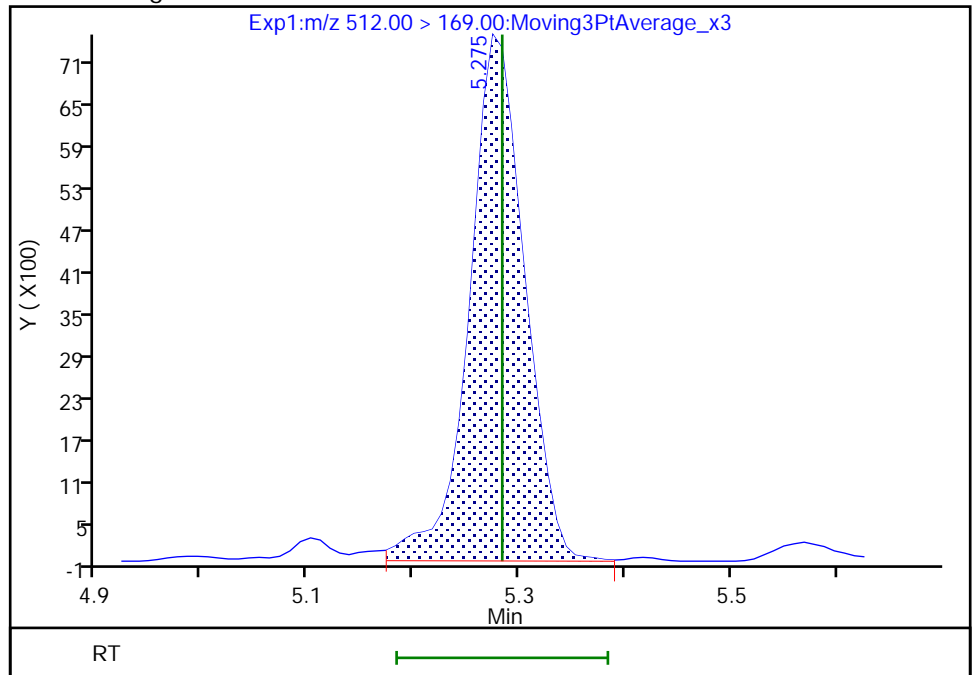
RT: 5.27  
Area: 25496  
Amount: 0.055559  
Amount Units: ng/ml

Processing Integration Results



RT: 5.27  
Area: 27062  
Amount: 0.059327  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:12:33  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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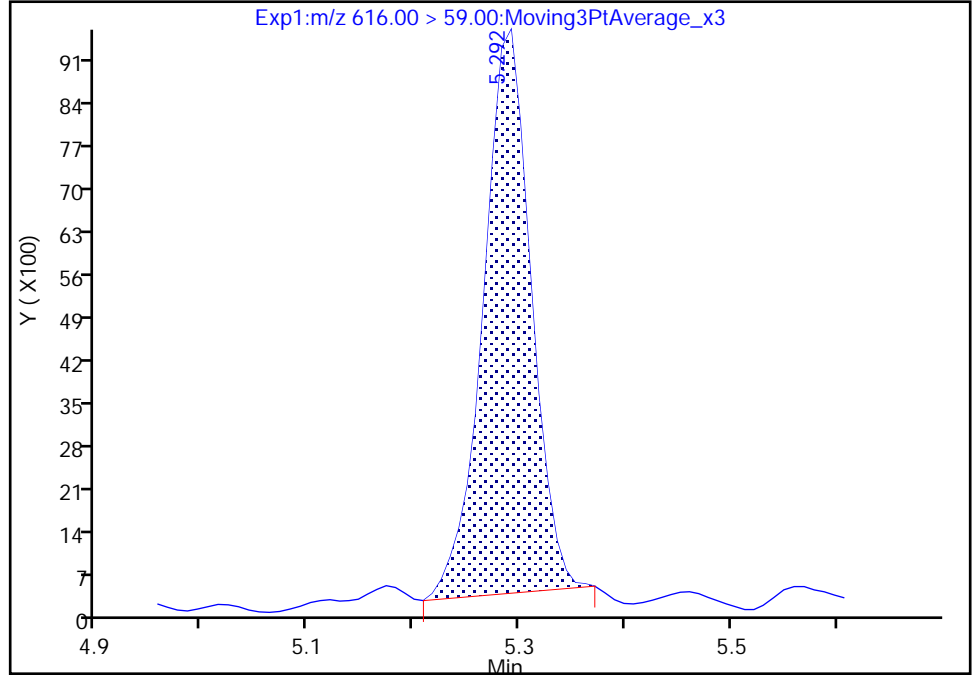
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

75 N-MeFOSE-M, CAS: 24448-09-7

Signal: 1

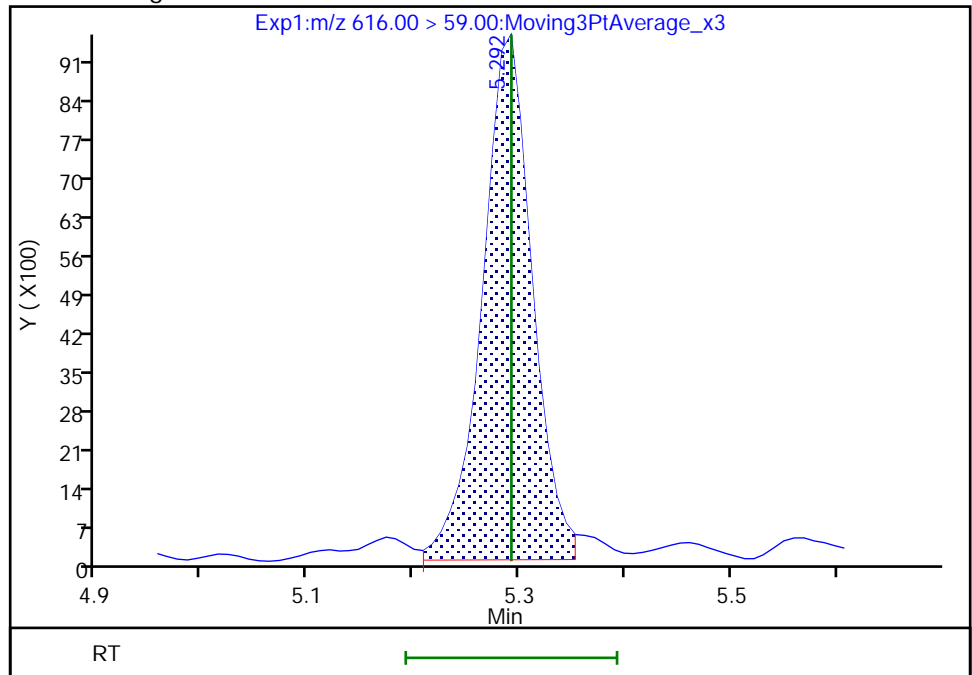
RT: 5.29  
Area: 28859  
Amount: 0.047684  
Amount Units: ng/ml

Processing Integration Results



RT: 5.29  
Area: 31148  
Amount: 0.051772  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:12:48  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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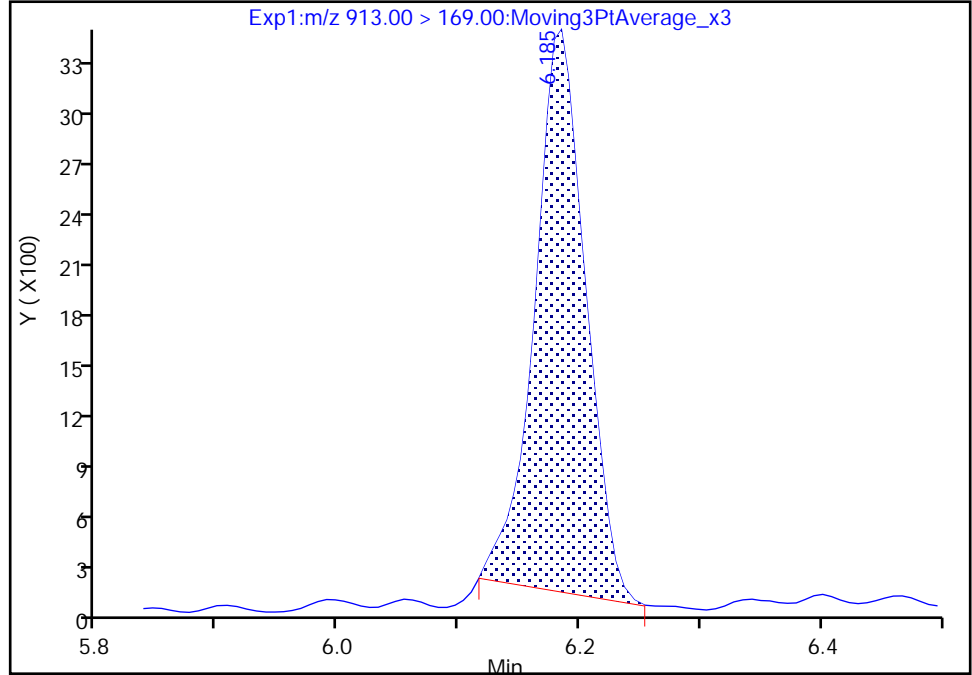
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

86 Perfluorooctadecanoic acid, CAS: 16517-11-6

Signal: 2

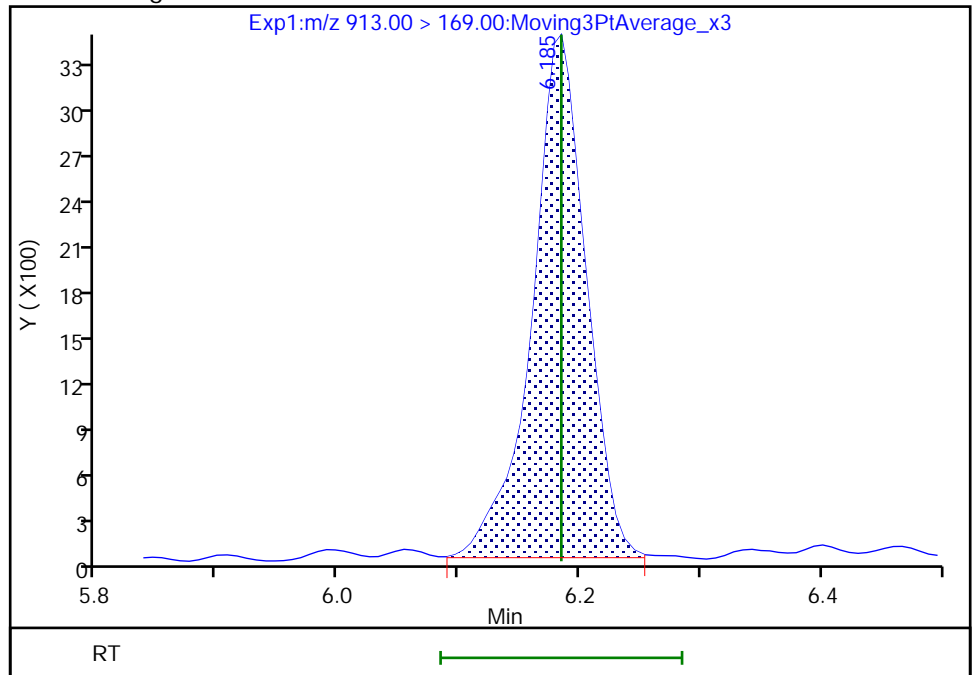
RT: 6.18  
Area: 9584  
Amount: 0.053091  
Amount Units: ng/ml

Processing Integration Results



RT: 6.18  
Area: 10465  
Amount: 0.053091  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:13:06  
Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 161 of 625

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59045/5 Calibration Date: 02/18/2022 20:07  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7612		0.960	1.00	-4.0	40.0
PFECA F	AveID	0.7535	0.6998		0.929	1.00	-7.1	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9075		0.965	1.00	-3.5	40.0
3:3 FTCA	QuaIF		0.0516		0.948	1.00	-5.2	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.075		0.867	0.884	-1.9	40.0
PFECA A	Q2ID		1.150		0.981	1.00	-1.9	40.0
PES	Q2ID		2.429		0.912	0.890	2.5	40.0
PFECA B	Q2ID		0.4167		1.01	1.00	0.7	40.0
4:2 FTS	L2ID		2.219		0.911	0.934	-2.4	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7592		0.954	1.00	-4.6	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	0.9275		0.843	0.938	-10.2	40.0
HFPO-DA	L2ID		1.269		1.01	1.00	0.5	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.234		0.811	0.910	-10.9	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.035		1.03	1.00	3.3	40.0
DONA	AveID	2.644	2.414		0.860	0.942	-8.7	40.0
5:3 FTCA	L2ID		3.250		0.862	1.00	-13.8	40.0
6:2 FTUCA	AveID	1.046	0.9822		0.939	1.00	-6.1	40.0
6:2 FTCA	L1ID		0.6398		0.921	1.00	-7.9	40.0
PFECHS	AveID	0.7426	0.6807		0.845	0.922	-8.3	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9012		0.869	0.952	-8.7	40.0
6:2 FTS	L2ID		1.738		0.901	0.948	-5.0	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.003		0.937	1.00	-6.3	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.023		0.829	0.928	-10.6	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7249		0.953	1.00	-4.7	40.0
7:3 FTCA	AveID	5.230	4.762		0.911	1.00	-8.9	40.0
8:2 FTUCA	AveID	0.9565	0.9551		0.999	1.00	-0.1	40.0
8:2 FTCA	AveID	1.811	1.601		0.884	1.00	-11.6	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.059		0.853	0.932	-8.4	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9475		0.899	0.960	-6.3	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9222		0.966	1.00	-3.4	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8690		0.966	1.00	-3.4	40.0
8:2 FTS	L2ID		1.483		0.943	0.958	-1.5	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9830		1.06	1.00	6.3	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8675		0.939	0.964	-2.6	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59045/5 Calibration Date: 02/18/2022 20:07  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9240		0.955	1.00	-4.5	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8751		0.995	1.00	-0.5	40.0
10:2 FTUCA	AveID	1.208	1.127		0.933	1.00	-6.7	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.705		0.922	0.942	-2.2	50.0
10:2 FTCA	Q2ID		0.8909		0.973	1.00	-2.7	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.004		0.972	1.00	-2.8	40.0
10:2 FTS	L2ID		1.955		0.898	0.964	-6.9	50.0
NMeFOSA	L2ID		1.023		0.947	1.00	-5.3	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.198		1.02	1.00	2.1	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8881		0.909	0.968	-6.1	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8280		0.938	1.00	-6.2	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.310		0.923	1.00	-7.7	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.197		0.958	1.00	-4.2	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1210		0.937	1.00	-6.3	40.0
Perfluorohexadecanoic acid	L1ID		1.061		0.931	1.00	-6.9	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9203		0.909	1.00	-9.1	40.0
13C4 PFBA	Ave	1.172	1.169		1.25	1.25	-0.3	50.0
13C5 PFPeA	Ave	0.9197	0.9247		1.26	1.25	0.5	50.0
13C3 PFBS	Ave	0.5817	0.5623		1.12	1.16	-3.3	50.0
M2-4:2 FTS	Ave	0.1821	0.1708		1.10	1.17	-6.2	50.0
13C2 PFHxA	Ave	1.015	1.015		1.25	1.25	0.0	50.0
13C3 HFPO-DA	Ave	0.4963	0.4860		1.22	1.25	-2.1	50.0
18O2 PFHxS	Ave	0.3776	0.3657		1.15	1.18	-3.2	50.0
13C4 PFHpA	Ave	0.9046	0.9043		1.25	1.25	-0.0	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3480		1.29	1.25	3.2	50.0
13C-6:2 FTCA	Ave	0.0260	0.0282		1.35	1.25	8.2	50.0
M2-6:2 FTS	Ave	0.1799	0.1817		1.20	1.19	1.0	50.0
13C4 PFOA	Ave	0.9356	0.9465		1.27	1.25	1.2	50.0
13C4 PFOS	Ave	0.5610	0.5491		1.17	1.20	-2.1	50.0
13C5 PFNA	Ave	1.268	1.258		1.24	1.25	-0.8	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4489		1.24	1.25	-0.7	50.0
13C-8:2 FTCA	Ave	0.0330	0.0328		1.24	1.25	-0.8	50.0
13C8 FOSA	Ave	0.8475	0.8256		1.22	1.25	-2.6	50.0
13C2 PFDA	Ave	1.210	1.213		1.25	1.25	0.3	50.0
M2-8:2 FTS	Ave	0.1961	0.1822		1.11	1.20	-7.1	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59045/5 Calibration Date: 02/18/2022 20:07  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1040		1.15	1.25	-8.3	50.0
13C2 PFUnA	Ave	1.168	1.179		1.26	1.25	1.0	50.0
d5-NEtFOSAA	Ave	0.1164	0.1230		1.32	1.25	5.6	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5162		1.27	1.25	1.7	50.0
13C-10:2 FTCA	Ave	0.0309	0.0314		1.27	1.25	1.6	50.0
13C2 PFDoA	Ave	1.152	1.163		1.26	1.25	0.9	50.0
13C2 10:2 FTS	Ave	0.1652	0.1646		1.18	1.18	-0.3	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1162		1.23	1.25	-2.0	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0944		1.17	1.25	-6.4	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1232		1.25	1.25	0.1	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0796		1.23	1.25	-1.7	50.0
13C2 PFTeDA	Ave	0.9216	0.9320		1.26	1.25	1.1	50.0
13C2 PFHxDA	Ave	0.5997	0.5896		1.23	1.25	-1.7	50.0
13C8 PFOA	AveID	0.9229	0.8708		1.18	1.25	-5.6	50.0
13C8 PFOS	AveID	0.2212	0.2141		1.16	1.20	-3.2	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_005.d  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 18-Feb-2022 20:07:49 ALS Bottle#: 5 Worklist Smp#: 5  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-005 ccvis  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:47:27 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 11:15:32

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	3971009	0.9597		96.0	1606	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.681	6521357	1.25		99.7	24257	
3 PFECA F										
229.00 > 85.00	2.919	2.919	0.0	0.937	2888116	0.9287		92.9	9485	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.754	5158663	1.26		101	22046	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.123	3.123	0.0	1.003	3745260	0.9648		96.5	1748	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.131	0.0	1.000	129569	0.9483	Target=1.13	94.8	1082	
241.00 > 116.90	3.131	3.131	0.0	1.000	111573		1.16(0.56-1.69)		197	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.758	2917651	1.12		96.7	12137	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.140	3.140	0.0	1.003	2384691	0.8671	Target=2.61	98.1	3802	
298.90 > 99.00	3.131	3.140	-0.009	1.000	904504		2.64(1.31-3.92)		3591	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	4746039	0.9811		98.1	11526	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	5426034	0.9120		102	16425	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.981	1886860	1.01		101	8095	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.827	890101	1.10		93.8	1758	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.416	3.416	0.0	1.000	1579966	0.9114		97.6	9878	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.835	5660776	1.25		100	15959	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	2183591	0.8428	Target=3.55	89.8	6370	
349.00 > 99.00	3.448	3.448	0.0	1.101	669127		3.26(1.78-5.33)		5905	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	3437908	0.9540	Target=11.60	95.4	1926	
313.00 > 119.00	3.448	3.448	0.0	1.000	315469		10.90(5.80-17.40)		388	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.553	3.553	0.0	0.860	2711553	1.22		97.9	12042	
17 HFPO-DA										
285.00 > 169.00	3.553	3.553	0.0	1.000	2752460	1.00	Target=2.45	100	1787	
329.00 > 169.00	3.553	3.553	0.0	1.000	1076483		2.56(1.23-3.68)		1814	
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.783	0.0	0.916	1929765	1.15		96.8	7561	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.783	3.783	0.0	1.000	1832050	0.8105	Target=3.44	89.1	3359	M
399.00 > 99.00	3.783	3.783	0.0	1.000	562452		3.26(1.72-5.17)		2372	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.793	0.0	0.918	5044718	1.25		100.0	13121	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.793	3.793	0.0	1.000	4178773	1.03	Target=3.25	103	3713	
363.00 > 169.00	3.793	3.793	0.0	1.000	1272988		3.28(1.62-4.87)		2092	
25 DONA										
377.00 > 251.00	3.829	3.829	0.0	0.866	5573555	0.8603	Target=1.74	91.3	14370	
377.00 > 85.00	3.829	3.829	0.0	0.866	3259235		1.71(0.87-2.61)		119	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	408355	0.8618	Target=1.11	86.2	1706	
340.88 > 216.90	3.853	3.853	0.0	0.987	385528		1.06(0.56-1.67)		979	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.887	3.887	0.0	0.941	1941704	1.29		103	3939	
27 6:2 FTUCA										
356.86 > 292.90	3.895	3.895	0.0	1.002	1525712	0.9387	Target=13.05	93.9	2741	
356.86 > 243.00	3.895	3.895	0.0	1.002	115635		13.19(6.52-19.57)		505	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.904	0.0	0.945	157054	1.35		108	1013	
29 6:2 FTCA										
377.10 > 63.00	3.913	3.913	0.0	1.002	80392	0.9212	Target=1.29	92.1	332	
377.10 > 313.10	3.913	3.913	0.0	1.002	59395		1.35(0.65-1.94)		88.3	
32 PFECHS										
460.80 > 380.90	4.065	4.065	0.0	0.984	2651076	0.8451	Target=1.75	91.7	6703	
460.80 > 98.90	4.065	4.065	0.0	0.984	1525294		1.74(0.87-2.62)		6530	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.112	4.112	0.0	0.930	2102741	0.8687	Target=3.72	91.3	5247	
449.00 > 99.00	4.112	4.112	0.0	0.930	521964		4.03(1.86-5.57)		2346	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	963015	1.20		101	2190	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	1336019	0.9005		95.0	7784	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	0.998	4598169	1.18		94.4	11792	
D 31 13C4 PFOA										
417.00 > 372.00	4.131	4.131	0.0	1.000	5280203	1.26		101	11468	
* 30 13C2 PFOA										
415.00 > 370.00	4.131	4.131	0.0		5578839	1.25			10220	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.131	4.131	0.0	1.000	4238732	0.9372	Target=2.51	93.7	3583	
413.00 > 169.00	4.131	4.131	0.0	1.000	1794763		2.36(1.26-3.77)		3585	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.421	4.421	0.0	1.000	627173	1.16		96.8	2260	
D 39 13C4 PFOS										
503.00 > 80.00	4.421	4.421	0.0	1.070	2928760	1.17		97.9	2844	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.421	4.421	0.0	1.000	2327763	0.8293	Target=4.30	89.4	3201	M
499.00 > 99.00	4.421	4.421	0.0	1.000	517142		4.50(2.15-6.45)		1636	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.439	0.0	1.000	4070770	0.9530	Target=3.60	95.3	4674	
463.00 > 169.00	4.439	4.439	0.0	1.000	1004659		4.05(1.80-5.40)		3452	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.439	0.0	1.075	7019882	1.24		99.2	9926	
43 7:3 FTCA										
441.00 > 337.00	4.529	4.529	0.0	0.993	696846	0.9106	Target=1.42	91.1	2089	
441.00 > 317.00	4.529	4.529	0.0	0.993	486795		1.43(0.71-2.13)		2019	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	0.998	1913317	1.00	Target=35.37	99.9	5000	
456.86 > 343.00	4.553	4.545	0.008	1.000	55830		34.27(17.68-53.05)		188	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.553	4.553	0.0	1.000	2504205	1.24		99.3	7044	
46 8:2 FTCA										
477.00 > 393.10	4.562	4.562	0.0	1.000	234303	0.8842	Target=3.35	88.4	1299	
477.00 > 63.20	4.562	4.562	0.0	1.000	74062		3.16(1.68-5.03)		347	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.562	4.562	0.0	1.104	182910	1.24		99.2	573	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.108	4702482	0.8534		91.6	6640	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.062	2229211	0.8993	Target=3.99	93.7	4175	
549.00 > 99.00	4.697	4.697	0.0	1.062	569671		3.91(2.00-5.99)		1649	
D 55 13C8 FOSA										
506.00 > 78.00	4.714	4.714	0.0	1.141	4605754	1.22		97.4	4676	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.714	4.714	0.0	1.000	3397888	0.9656		96.6	5284	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.731	4.731	0.0	1.000	4704878	0.9659	Target=10.58	96.6	3958	
513.00 > 169.00	4.731	4.731	0.0	1.000	422073		11.15(5.29-15.88)		305	
D 52 13C2 PFDA										
515.00 > 470.00	4.731	4.731	0.0	1.145	6767425	1.25		100	12692	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.740	0.0	1.147	973900	1.11		92.9	2172	
53 8:2 FTS										
527.00 > 507.00	4.740	4.740	0.0	1.000	1155178	0.9433		98.5	3146	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.179	580399	1.15		91.7	403	
57 NMeFOSAA										
570.00 > 419.00	4.880	4.880	0.0	1.002	456413	1.06		106	648	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.121	2049621	0.9388	Target=3.55	97.4	5437	
599.00 > 99.00	4.957	4.957	0.0	1.121	559691		3.66(1.78-5.33)		2234	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.995	4.995	0.0	1.000	4862863	0.9554	Target=8.26	95.5	8106	
563.00 > 169.00	4.986	4.995	-0.009	0.998	582534		8.35(4.13-12.39)		1441	
D 59 13C2 PFUnA										
565.00 > 520.00	4.995	4.995	0.0	1.209	6578848	1.26		101	11408	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.212	686174	1.32		106	3012	
62 NEtFOSAA										
584.00 > 419.00	5.015	5.015	0.0	1.002	480364	0.99		99.5	728	M
65 10:2 FTUCA										
556.86 > 492.90	5.093	5.093	0.0	1.000	2595501	0.9325		93.3	6172	
63 11CIFOS										
631.00 > 451.00	5.093	5.093	0.0	1.152	3935222	0.9217		97.8	10083	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.093	5.093	0.0	1.233	2879939	1.27		102	12599	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.112	5.112	0.0	1.237	175222	1.27		102	1140	
66 10:2 FTCA										
576.80 > 493.00	5.112	5.112	0.0	1.000	124883	0.9732	Target=2.53	97.3	612	
576.80 > 63.10	5.112	5.112	0.0	1.000	59704		2.09(1.26-3.79)		238	
D 69 13C2 PFDaA										
615.00 > 570.00	5.226	5.226	0.0	1.265	6489765	1.26		101	16030	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	5212239	0.9718	Target=6.85	97.2	4842	
613.00 > 169.00	5.226	5.226	0.0	1.000	696779		7.48(3.43-10.28)		1450	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.269	869975	1.18		99.7	5039	
71 10:2 FTS										
627.00 > 607.00	5.251	5.251	0.0	1.002	1384736	0.8976		93.1	5939	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.284	5.284	0.0	1.279	648313	1.23		98.0	571	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
74 NMeFOSA										
512.00 > 169.00	5.284	5.284	0.0	1.000	431271	0.9474		94.7	717	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.284	5.284	0.0	1.279	526854	1.17		93.6	52.3	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.002	621129	1.02		102	930	
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.221	2106996	0.9094	Target=4.22	93.9	4001	
699.00 > 99.00	5.399	5.399	0.0	1.221	493365		4.27(2.11-6.34)		2428	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.435	5.435	0.0	1.040	4299046	0.9377	Target=6.32	93.8	4556	
663.00 > 169.00	5.435	5.435	0.0	1.040	652365		6.59(3.16-9.48)		2348	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.316	687303	1.25		100	356	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.320	444089	1.23		98.3	822	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	720103	0.9230		92.3	874	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.000	425238	0.9582		95.8	671	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	503325	0.9371	Target=1.01	93.7	2125	
713.00 > 219.00	5.608	5.617	-0.009	0.998	499770		1.01(0.51-1.52)		3297	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.360	5199443	1.26		101	13941	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	2791573	0.9308	Target=8.64	93.1	3097	
813.00 > 169.00	5.924	5.924	0.0	1.000	339148		8.23(4.32-12.97)		1108	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.434	3289417	1.23		98.3	4792	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.185	6.185	0.0	1.044	2421759	0.9086	Target=11.77	90.9	3154	
913.00 > 169.00	6.185	6.185	0.0	1.044	209257		11.57(5.88-17.65)		874	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_005.d

Injection Date: 18-Feb-2022 20:07:49

Instrument ID: LCA

Lims ID: CCVIS

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 5

Worklist Smp#: 5

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

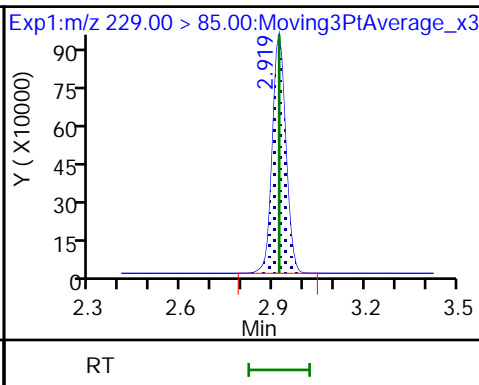
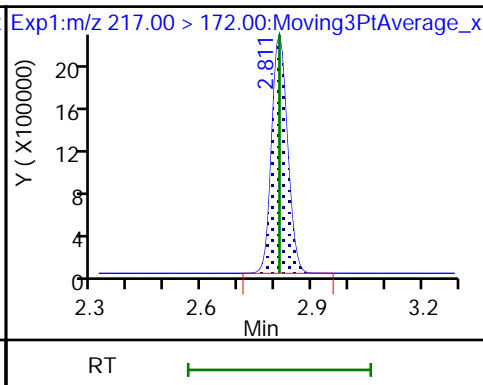
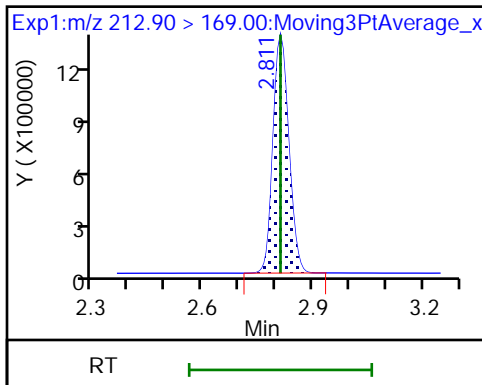
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

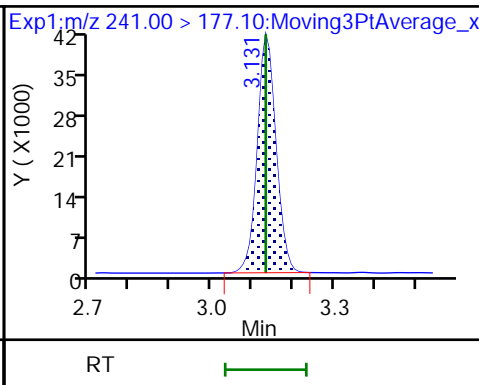
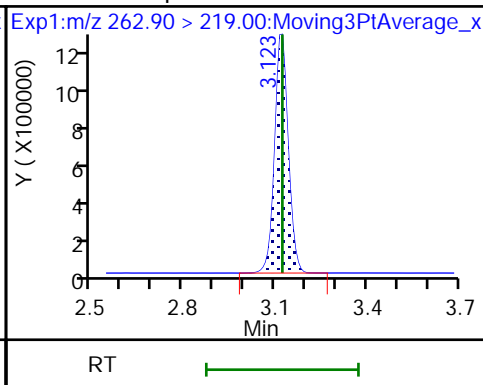
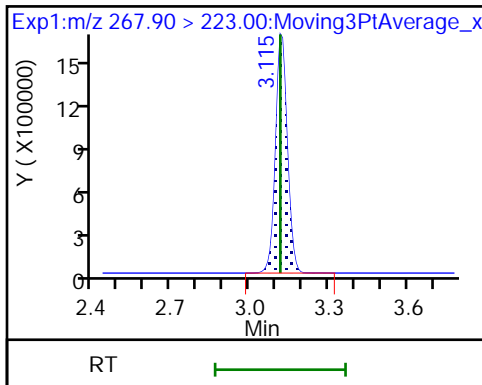
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

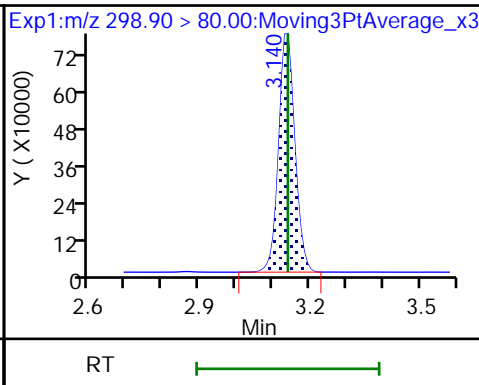
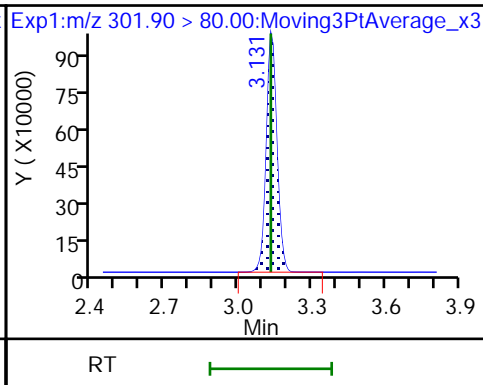
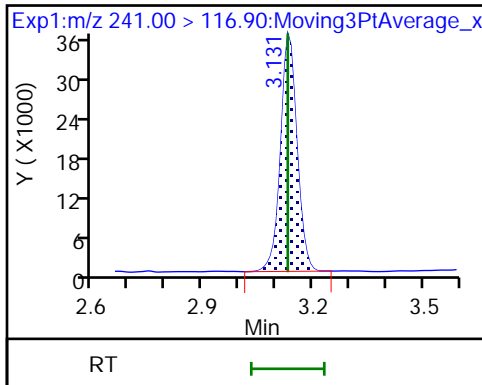
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

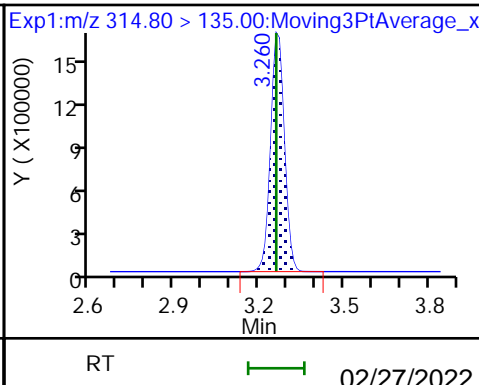
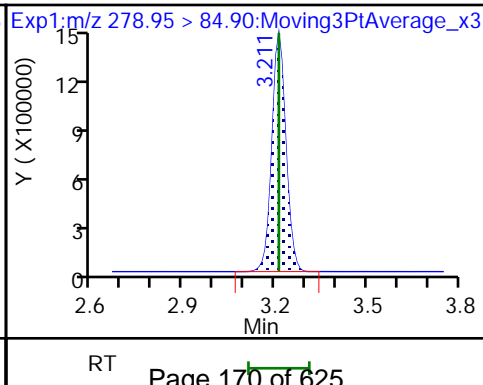
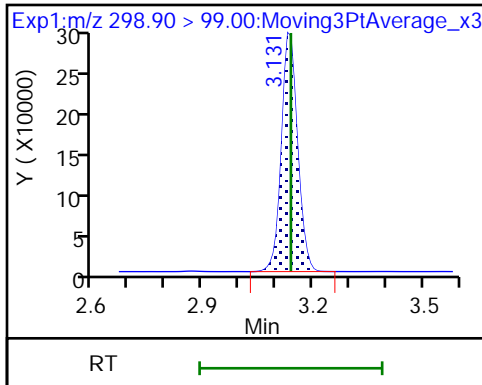
8 Perfluorobutanesulfonic acid

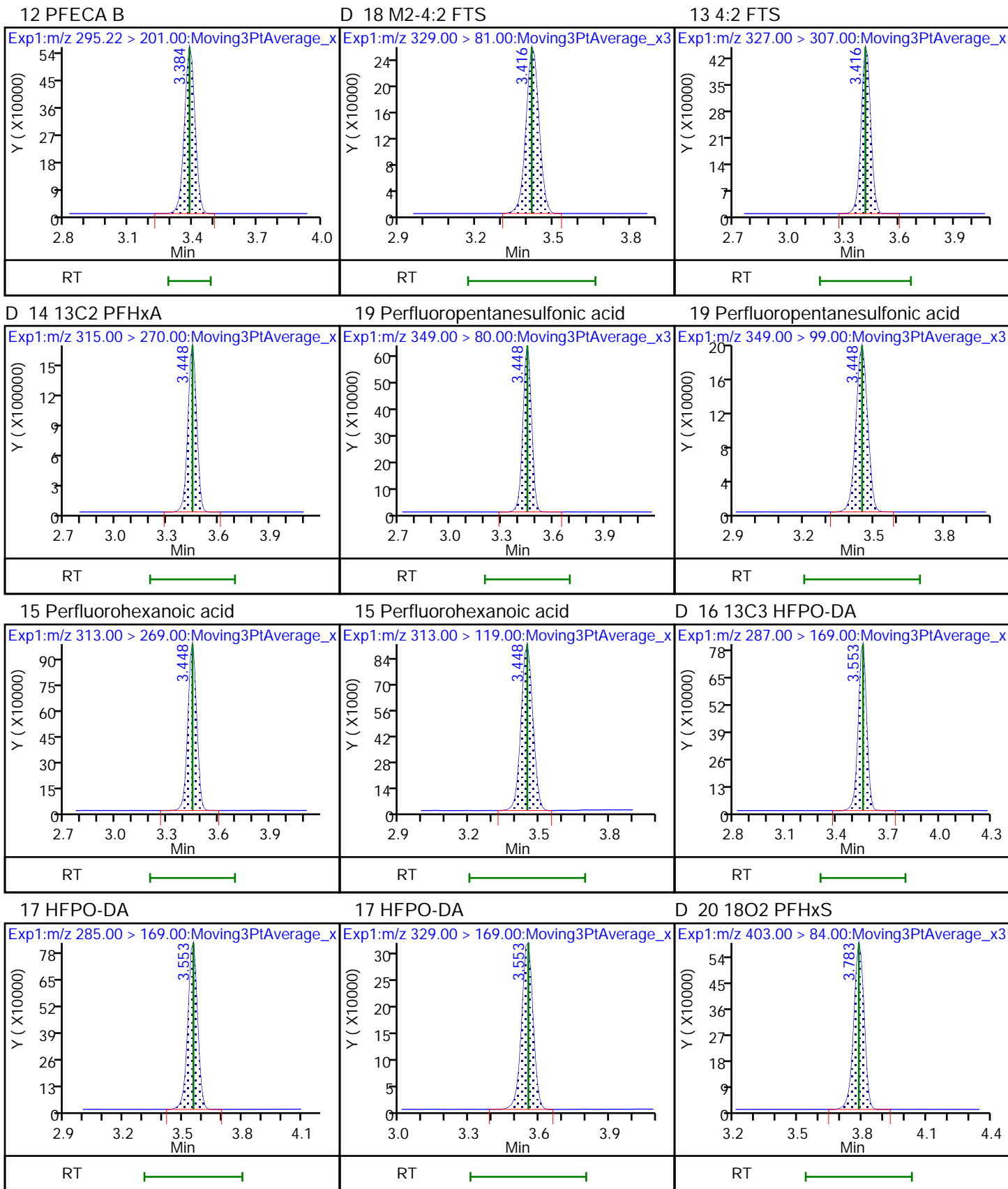


8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES

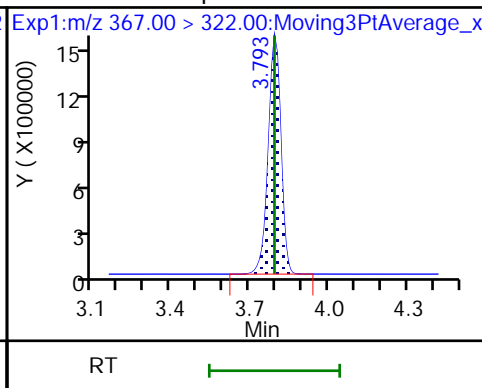
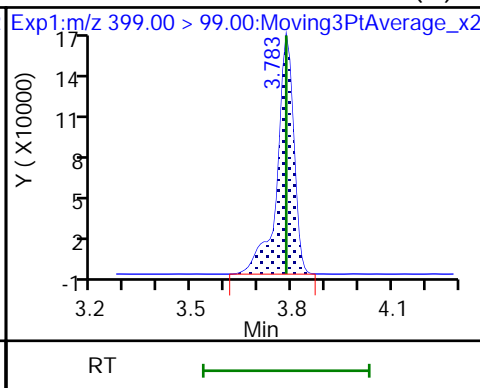
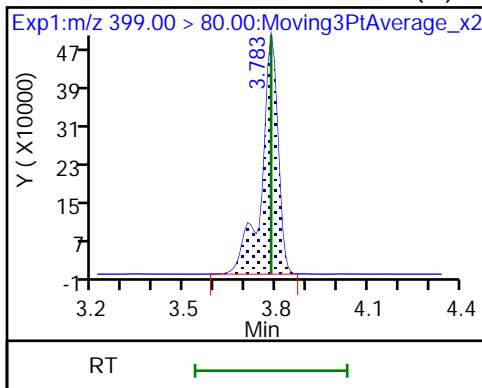




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

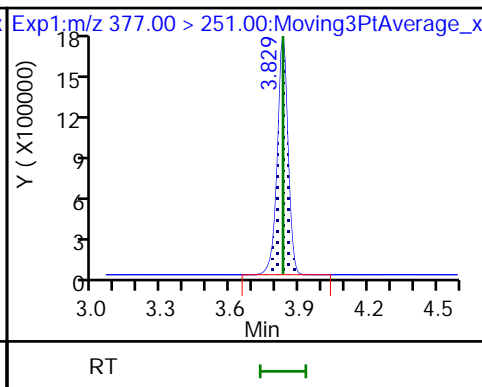
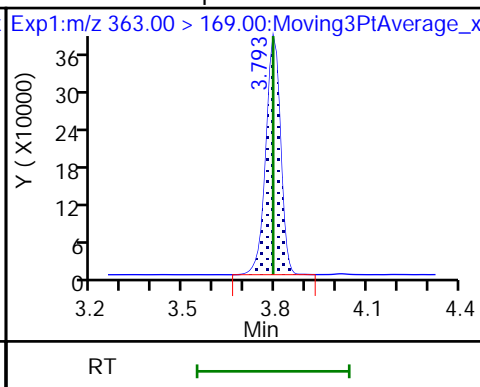
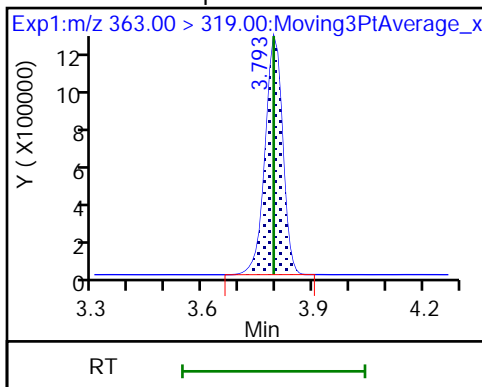
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

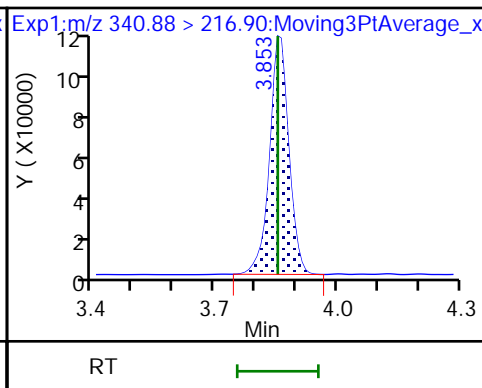
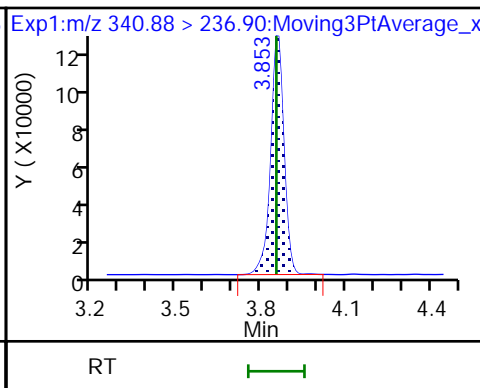
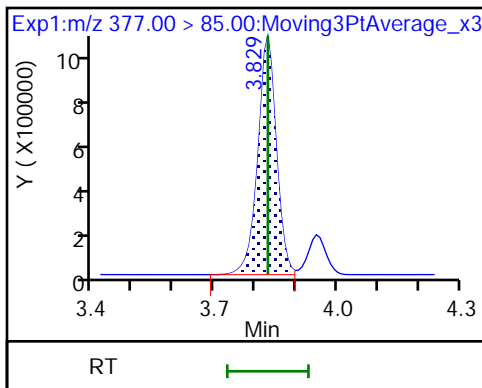
25 DONA



25 DONA

26 5:3 FTCA

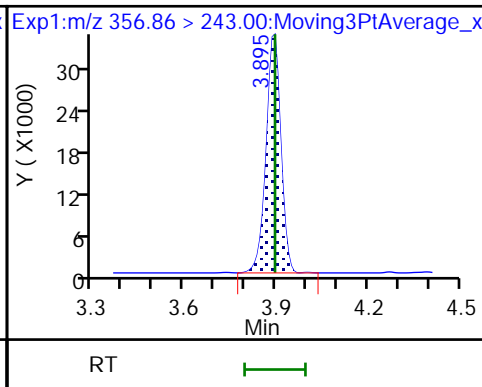
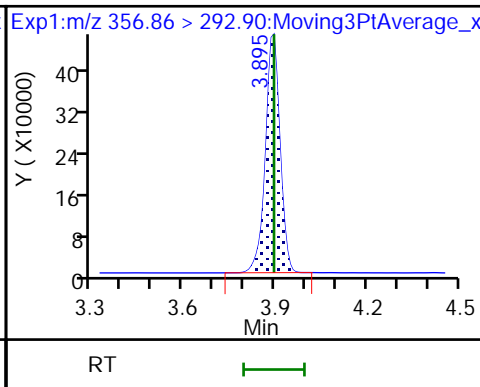
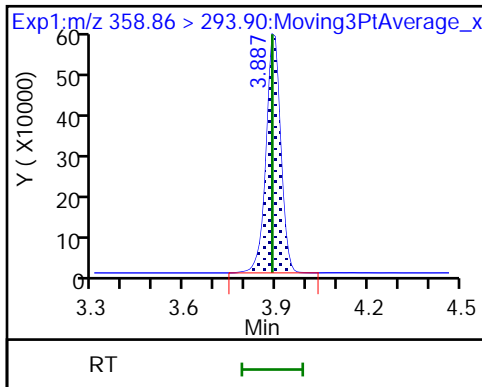
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

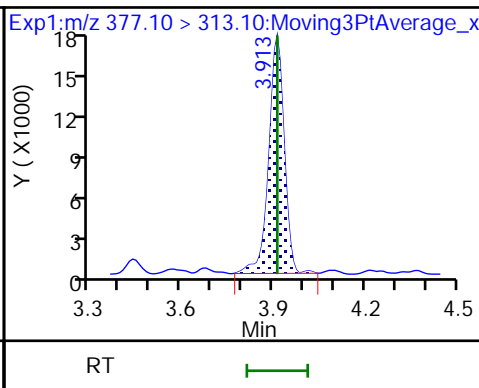
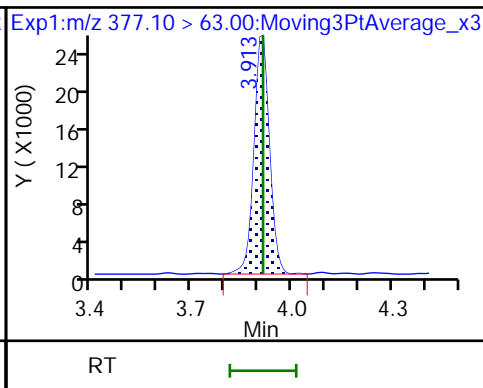
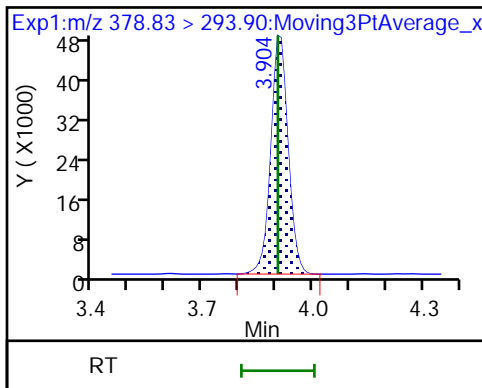
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

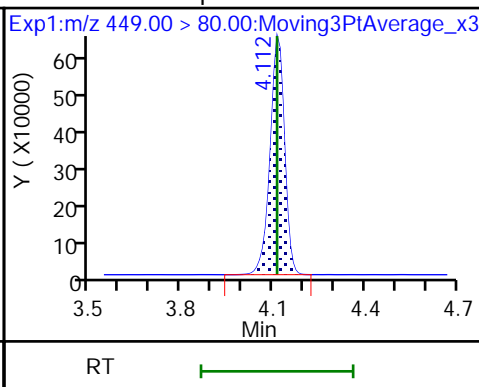
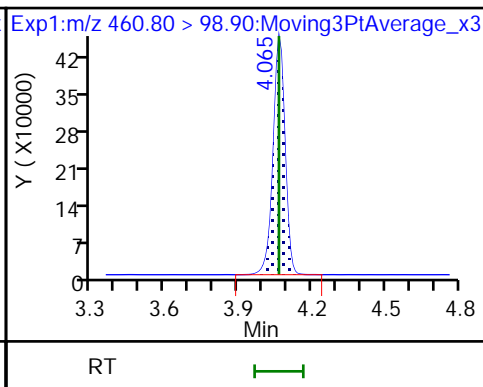
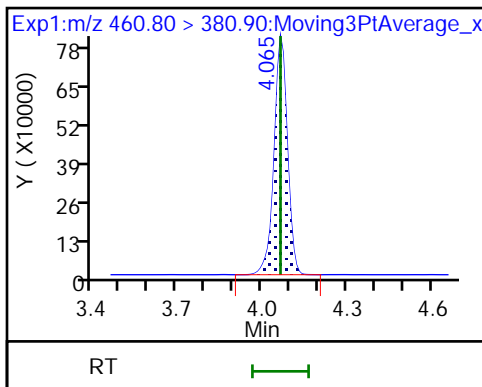
29 6:2 FTCA



32 PFECHS

32 PFECHS

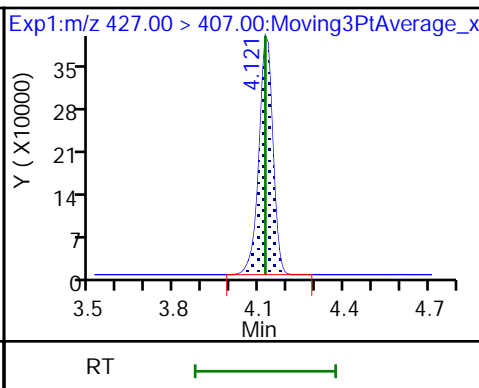
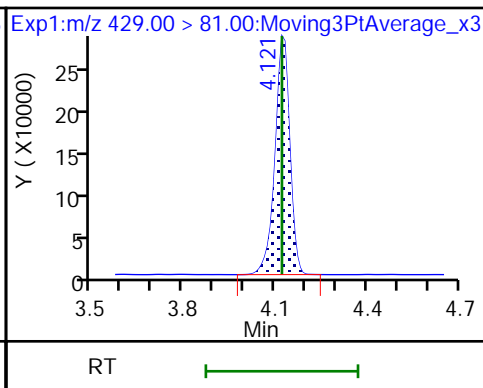
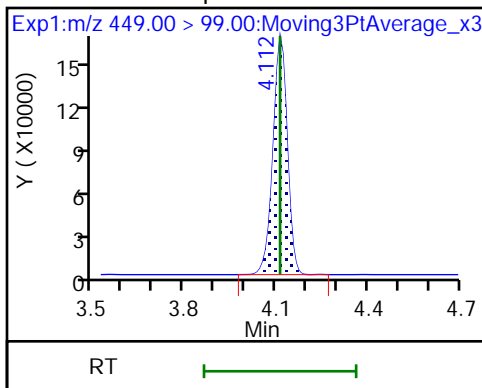
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

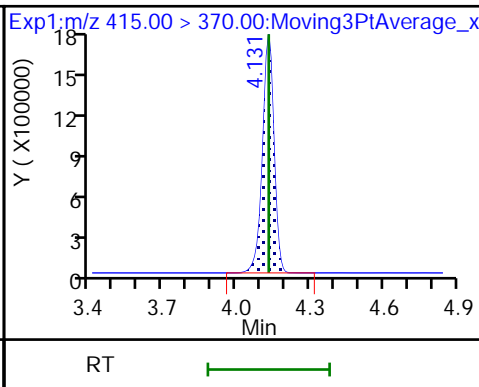
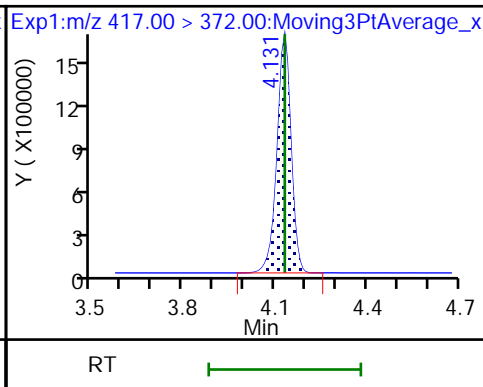
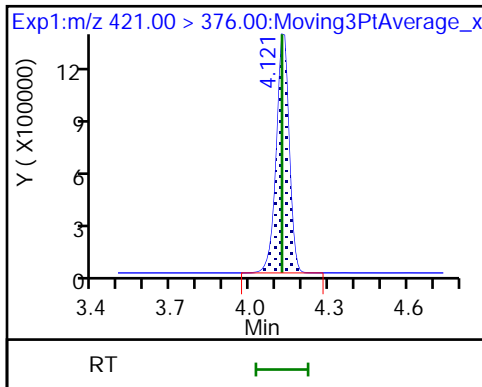
35 6:2 FTS



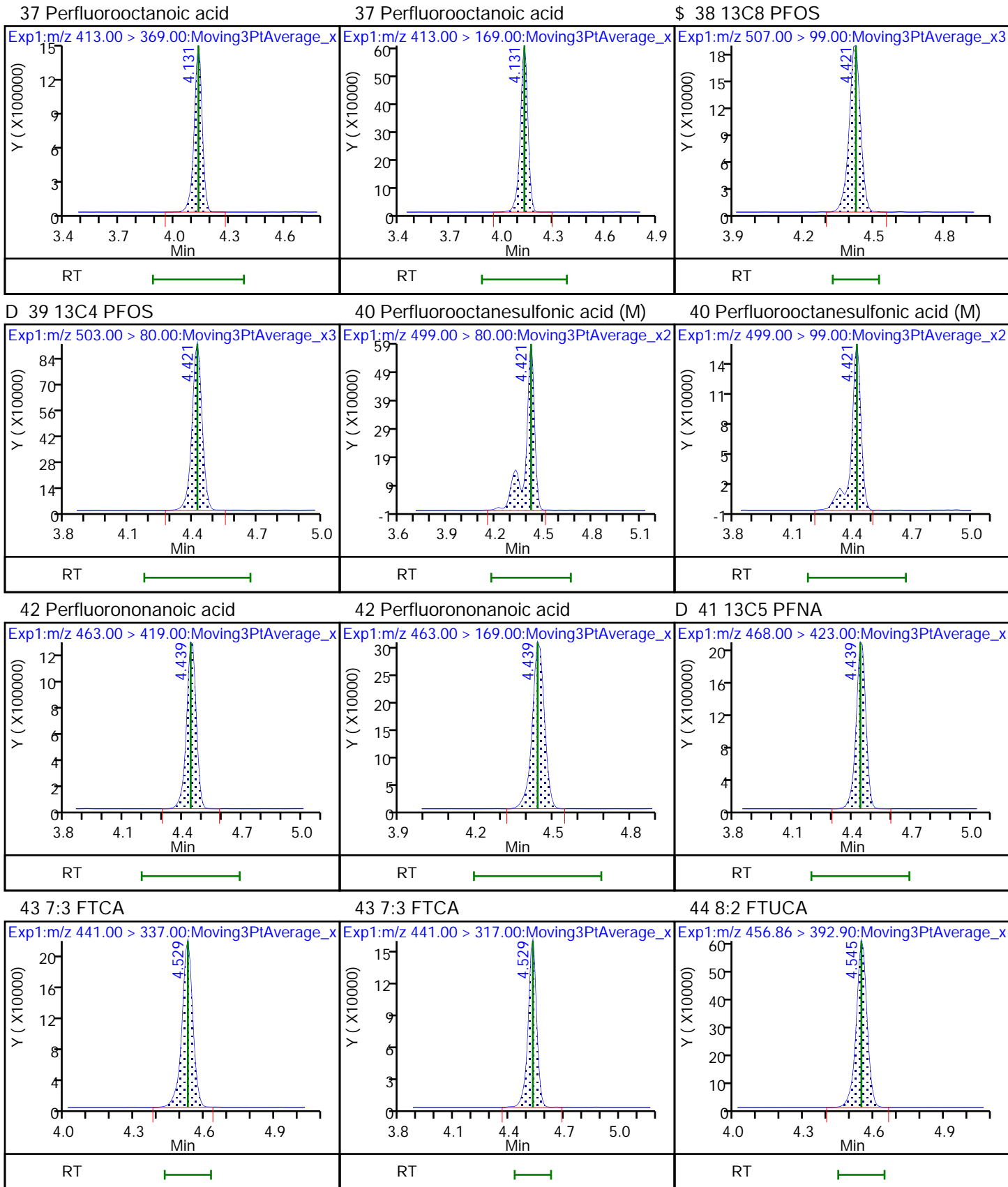
\$ 36 13C8 PFOA

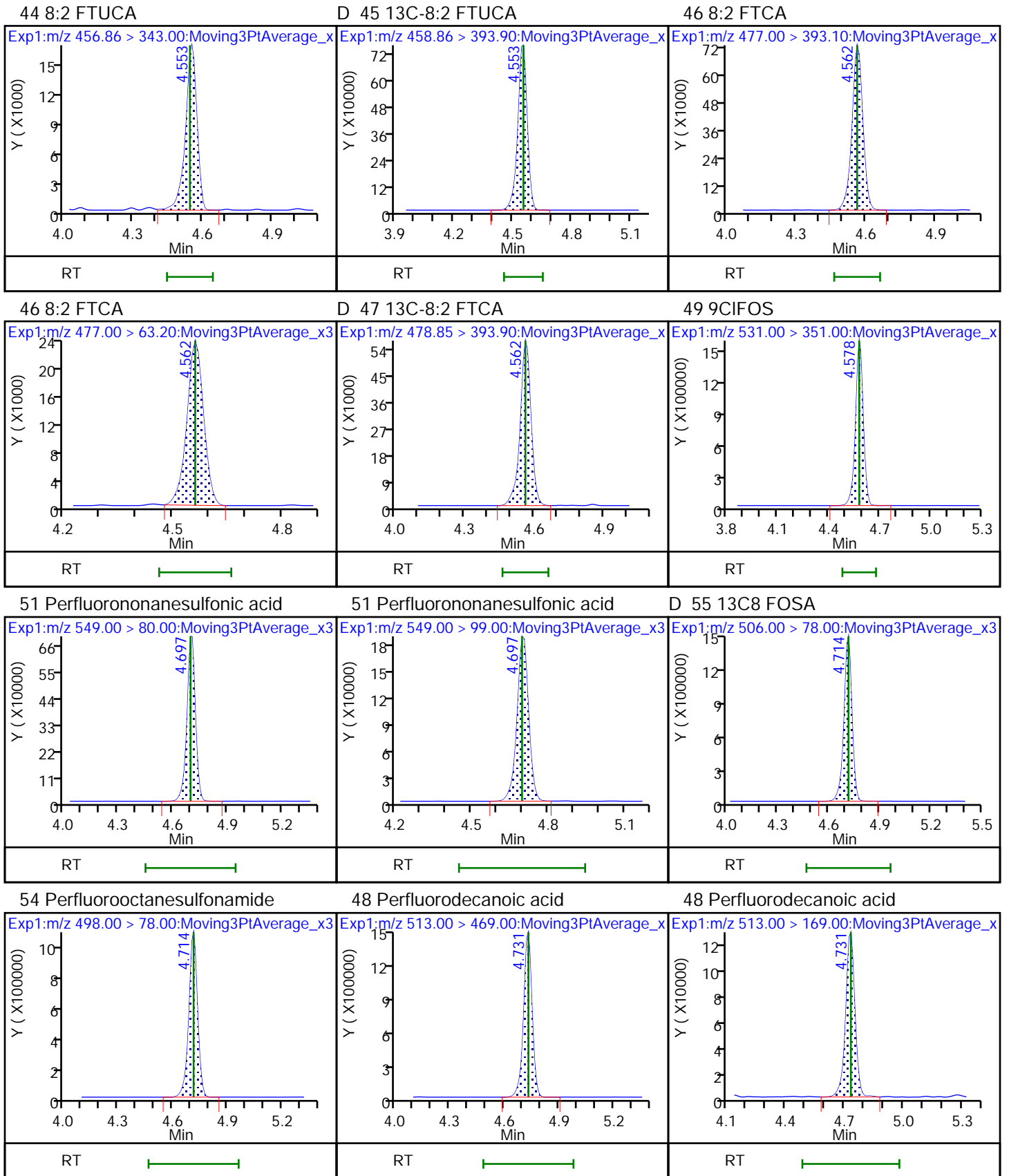
D 31 13C4 PFOA

\* 30 13C2 PFOA





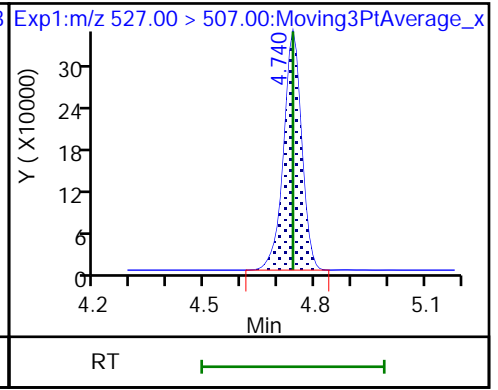
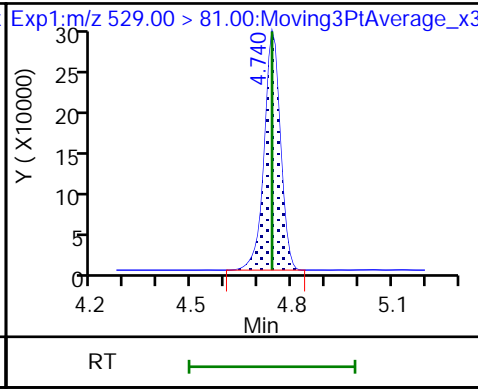
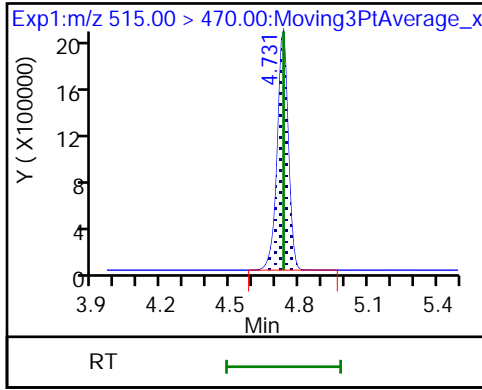




D 52 13C2 PFDA

D 50 M2-8:2 FTS

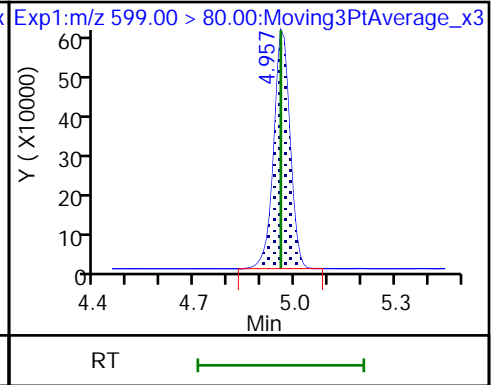
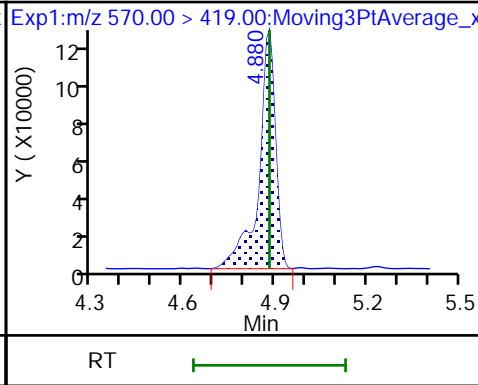
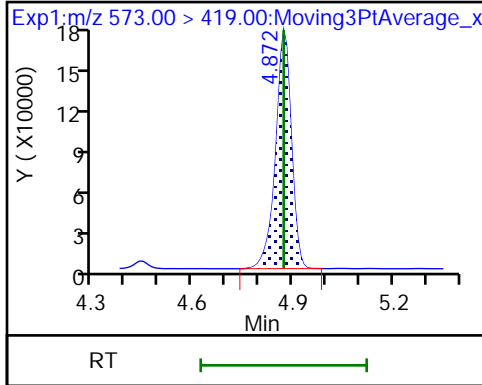
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

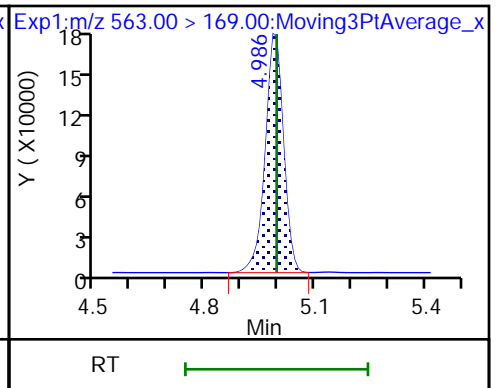
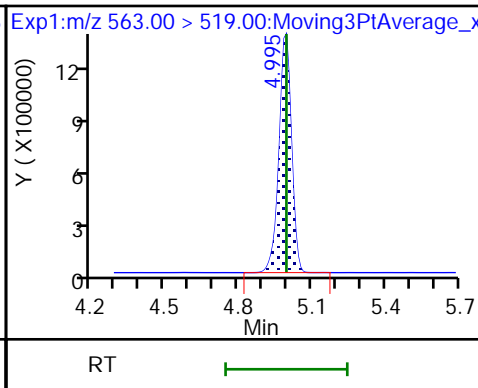
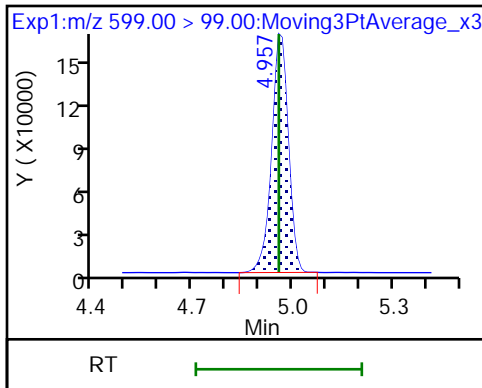
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

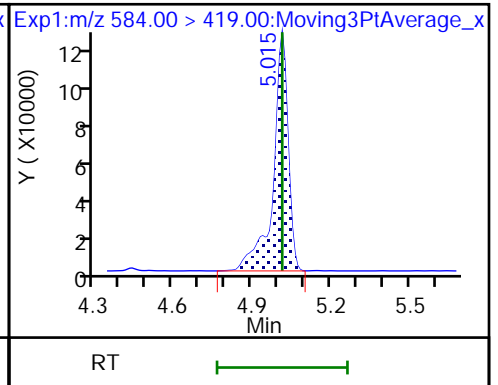
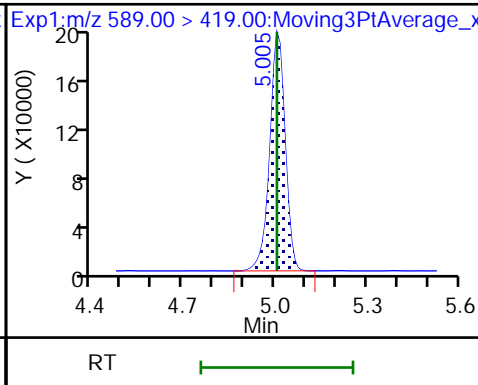
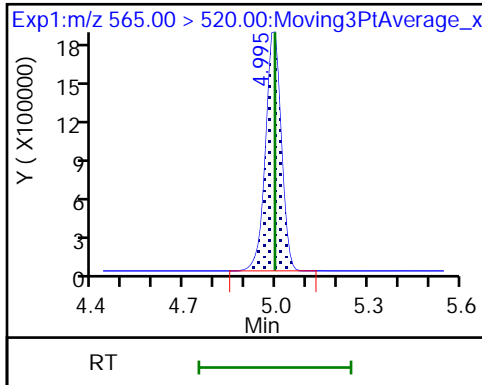
60 Perfluoroundecanoic acid

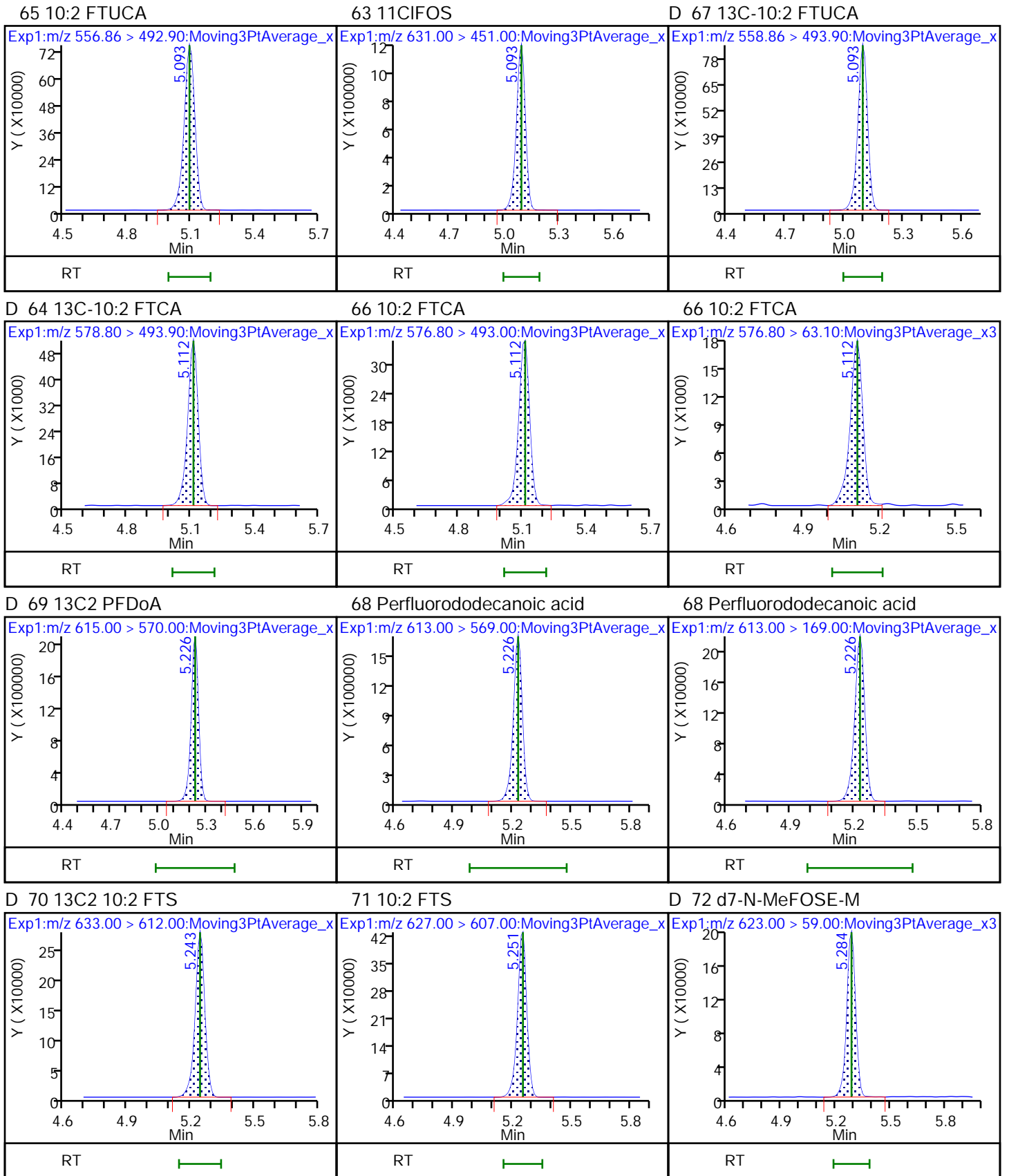


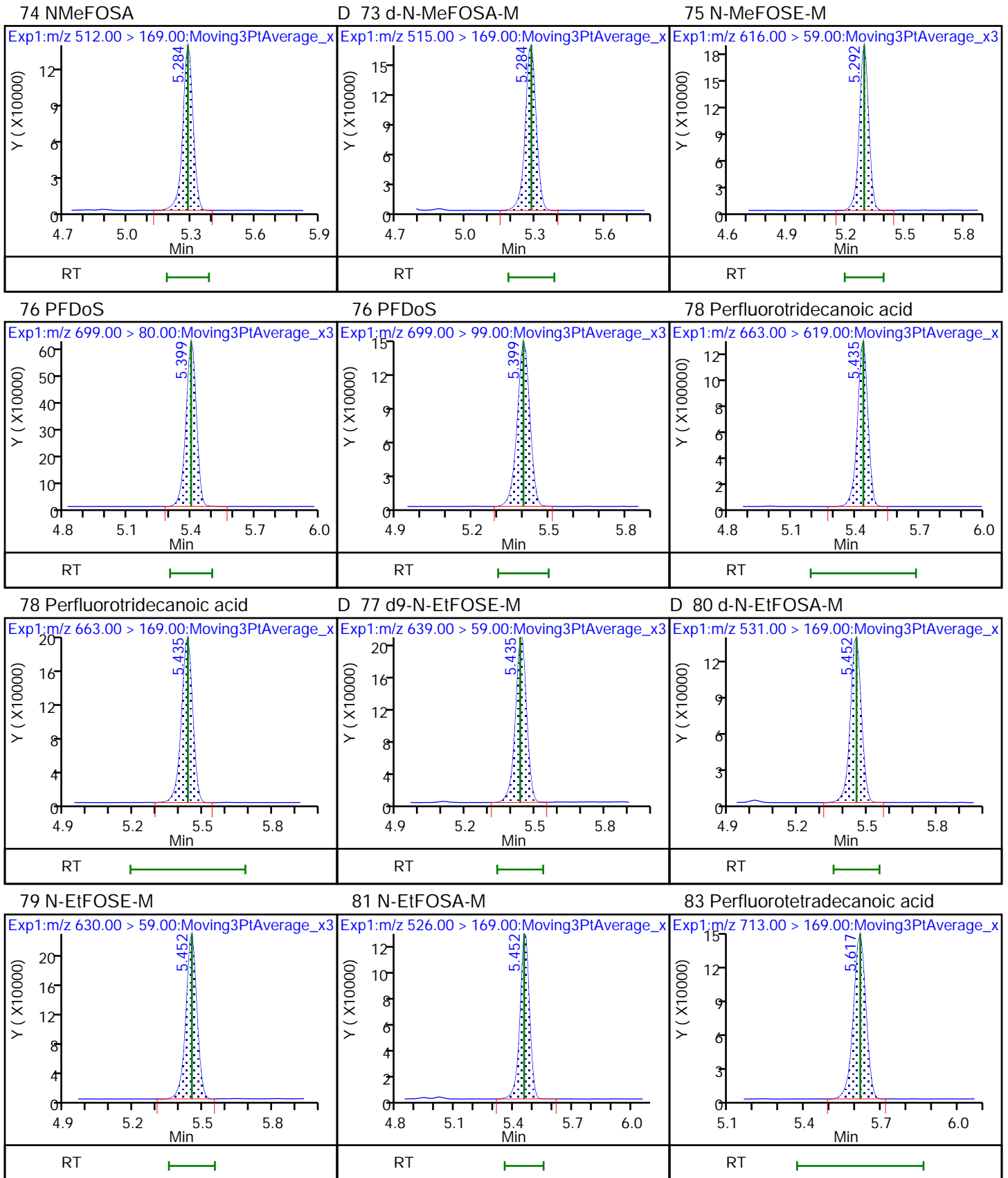
D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)



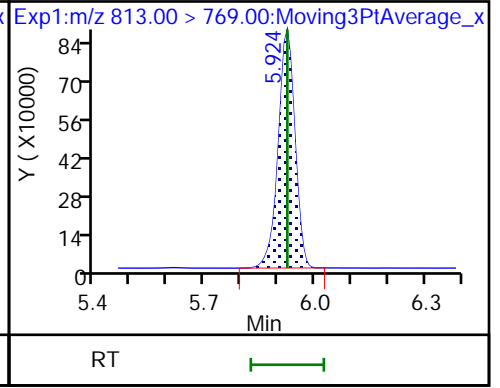
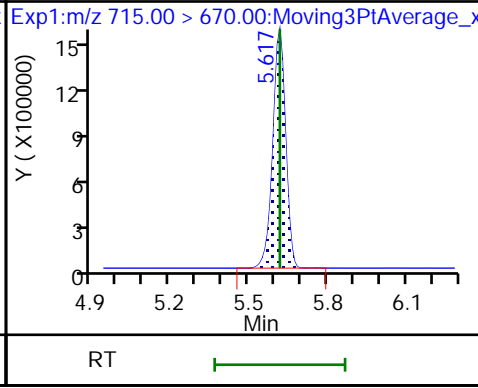
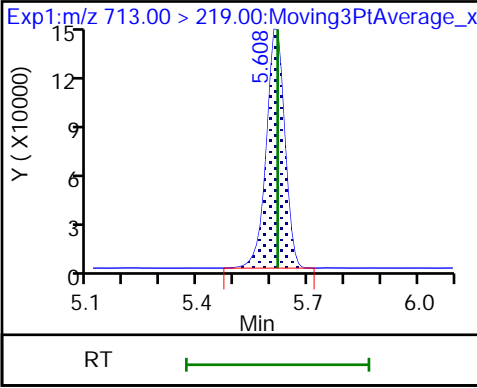




83 Perfluorotetradecanoic acid

D 82 13C2 PFTeDA

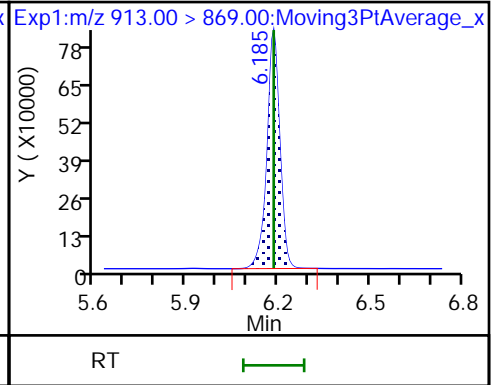
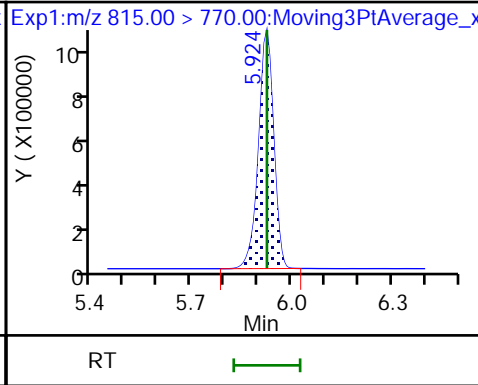
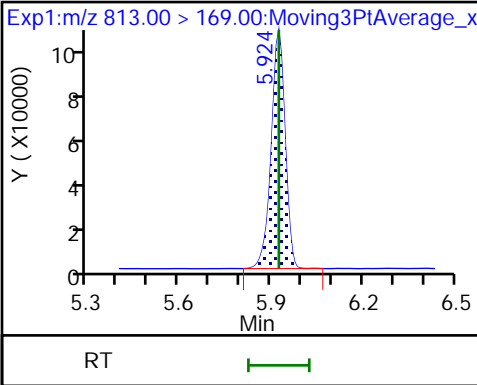
85 Perfluorohexadecanoic acid



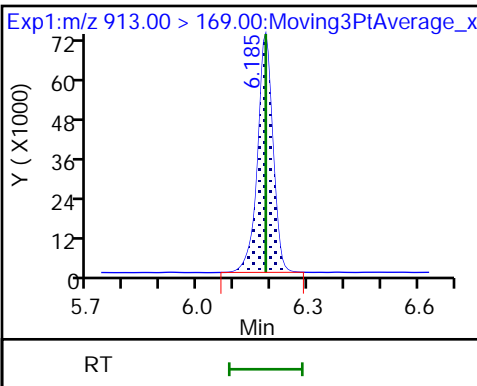
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid



86 Perfluorooctadecanoic acid



Eurofins Knoxville

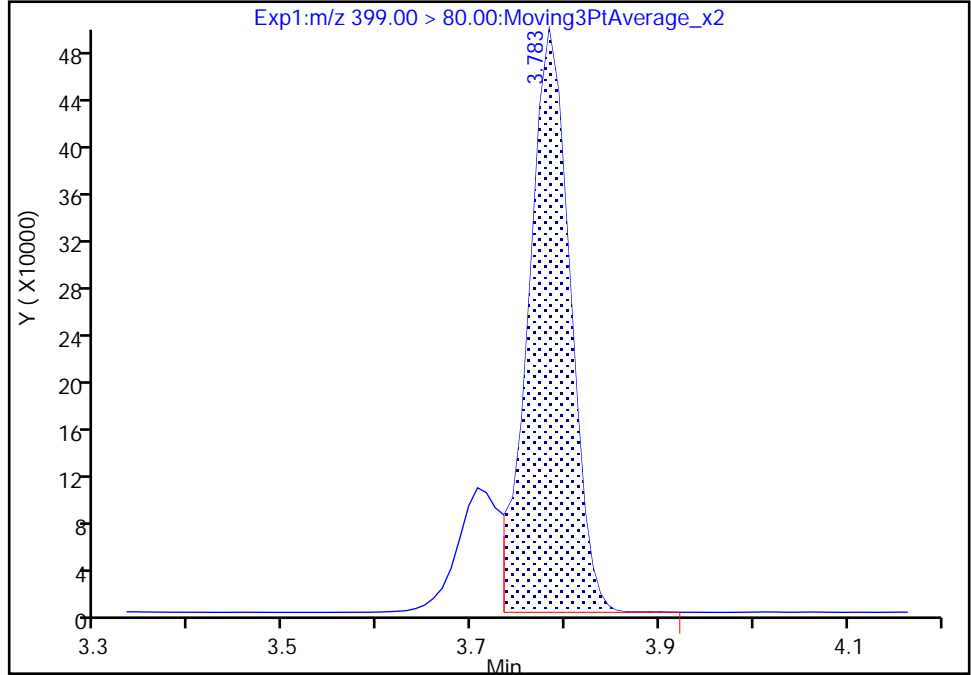
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Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

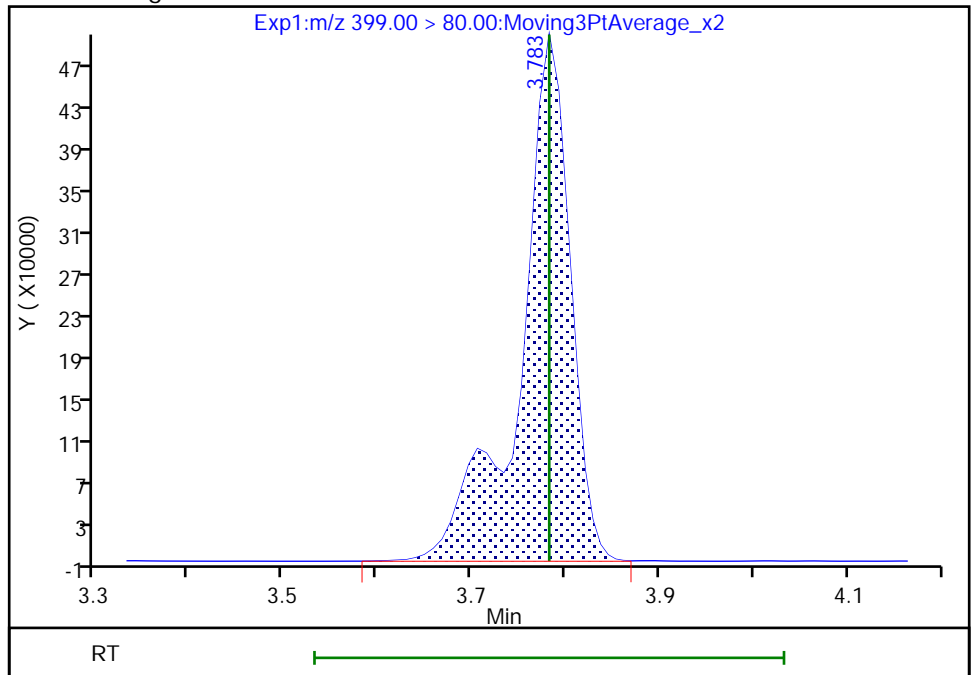
RT: 3.78  
Area: 1509240  
Amount: 0.667686  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 1832050  
Amount: 0.810497  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:14:04  
Audit Action: Manually Integrated

Eurofins Knoxville

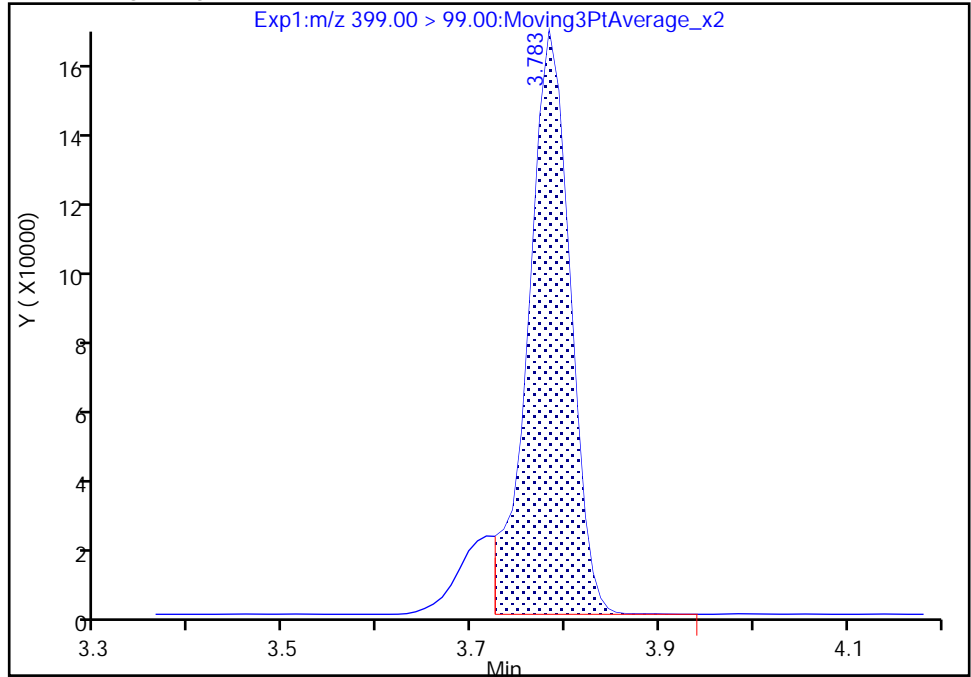
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Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

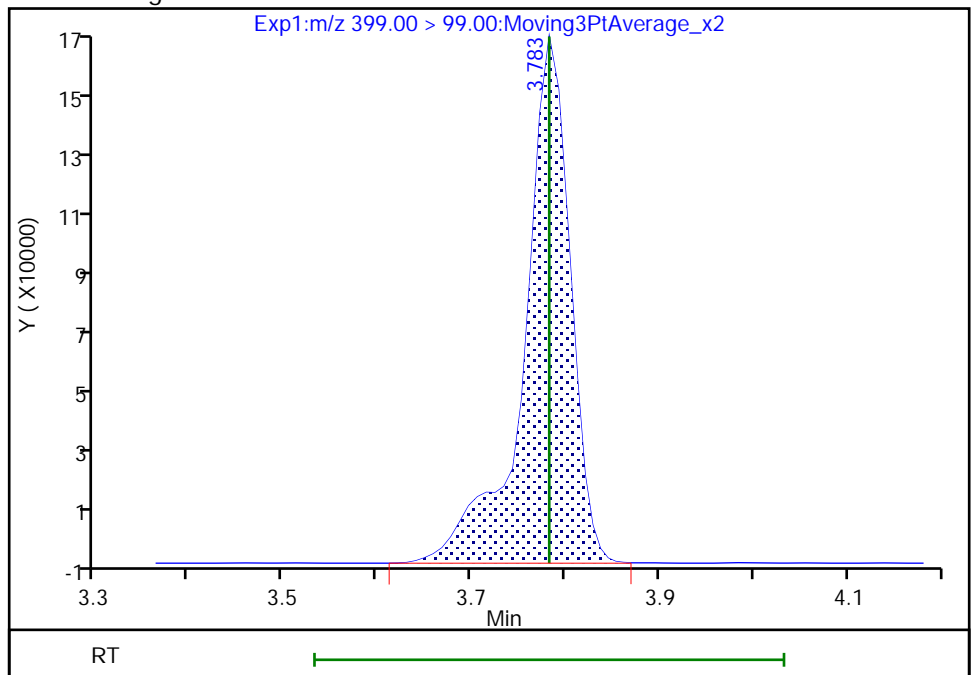
RT: 3.78  
Area: 504667  
Amount: 0.667686  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 562452  
Amount: 0.810497  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:14:15

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

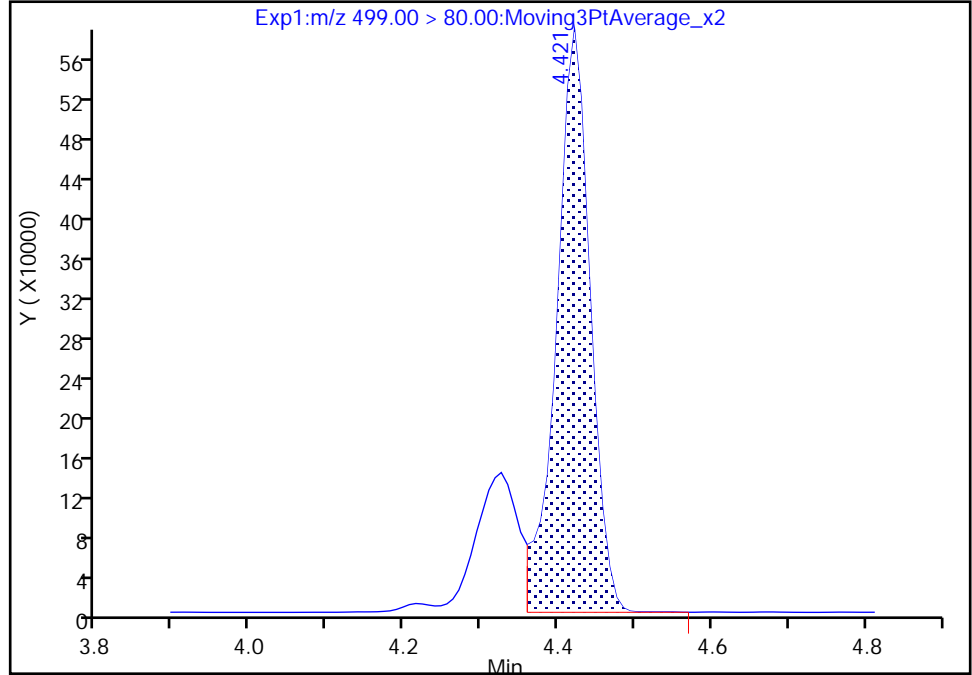
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Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

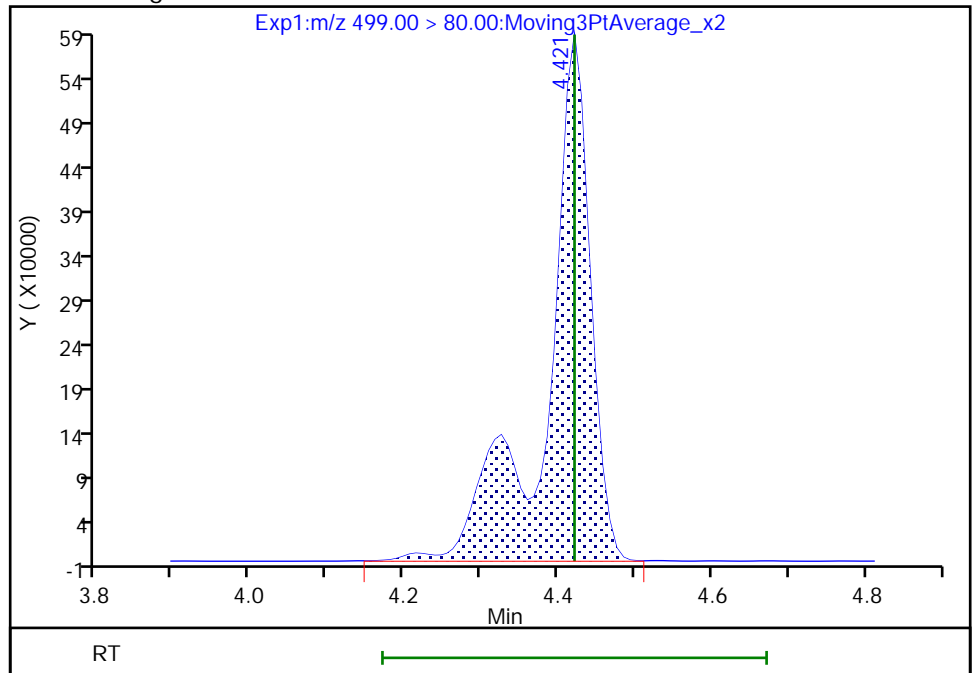
RT: 4.42  
Area: 1776954  
Amount: 0.633102  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 2327763  
Amount: 0.829347  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:14:41  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

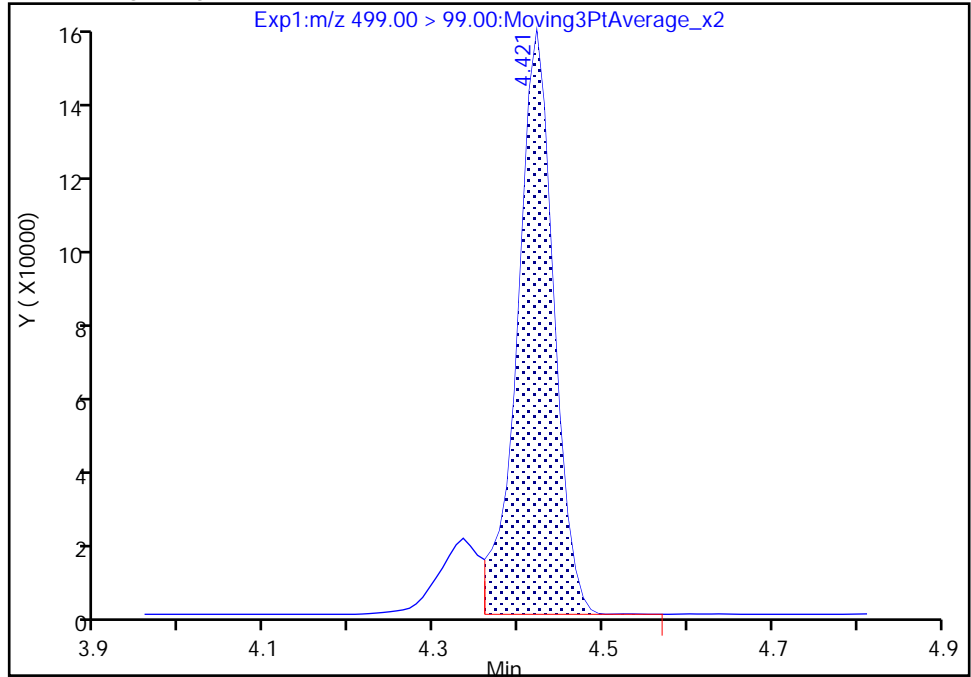
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Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

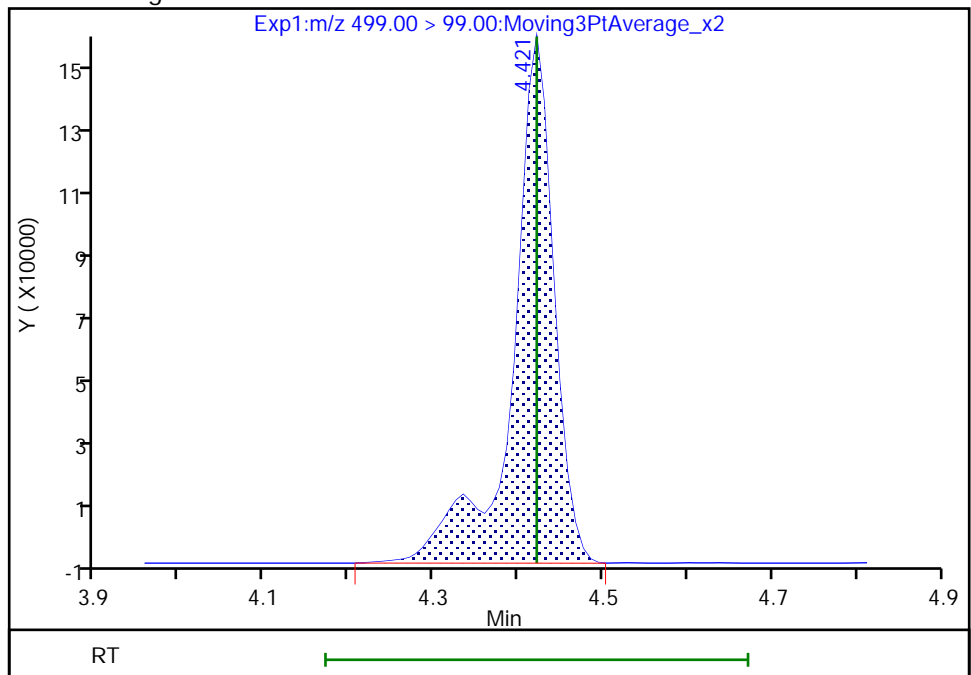
RT: 4.42  
Area: 450945  
Amount: 0.633102  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 517142  
Amount: 0.829347  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:14:52

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

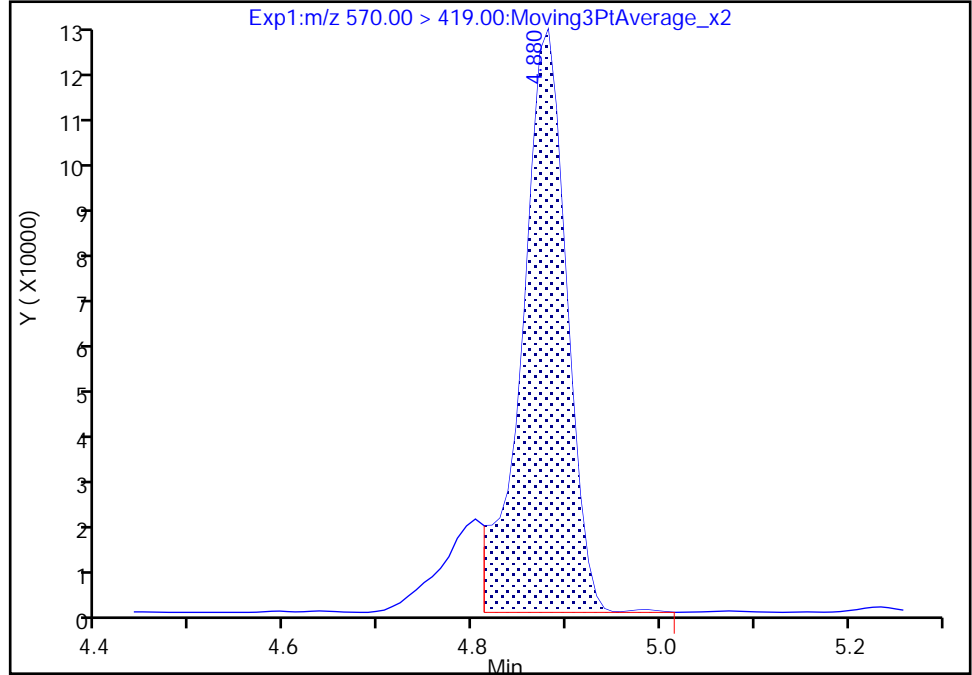
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Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

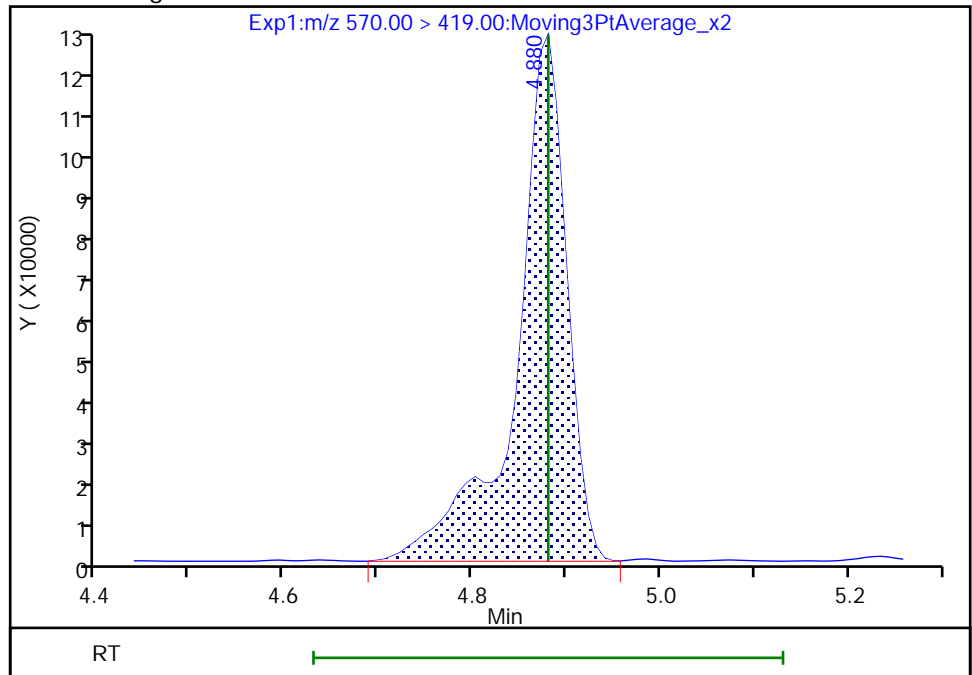
RT: 4.88  
Area: 398042  
Amount: 0.928561  
Amount Units: ng/ml

Processing Integration Results



RT: 4.88  
Area: 456413  
Amount: 1.062567  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:15:09  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

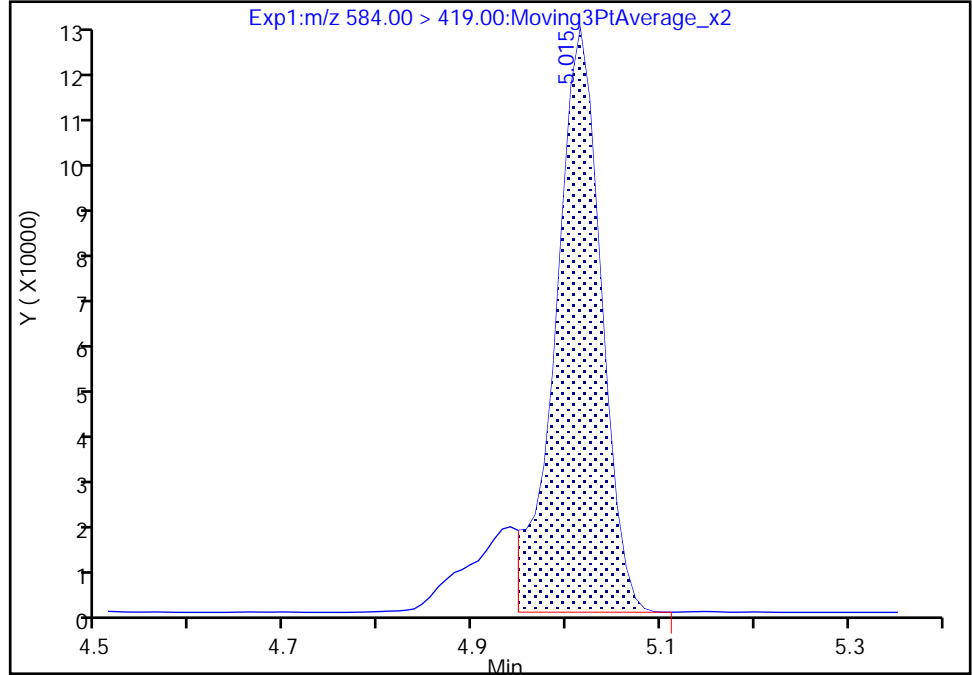
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Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

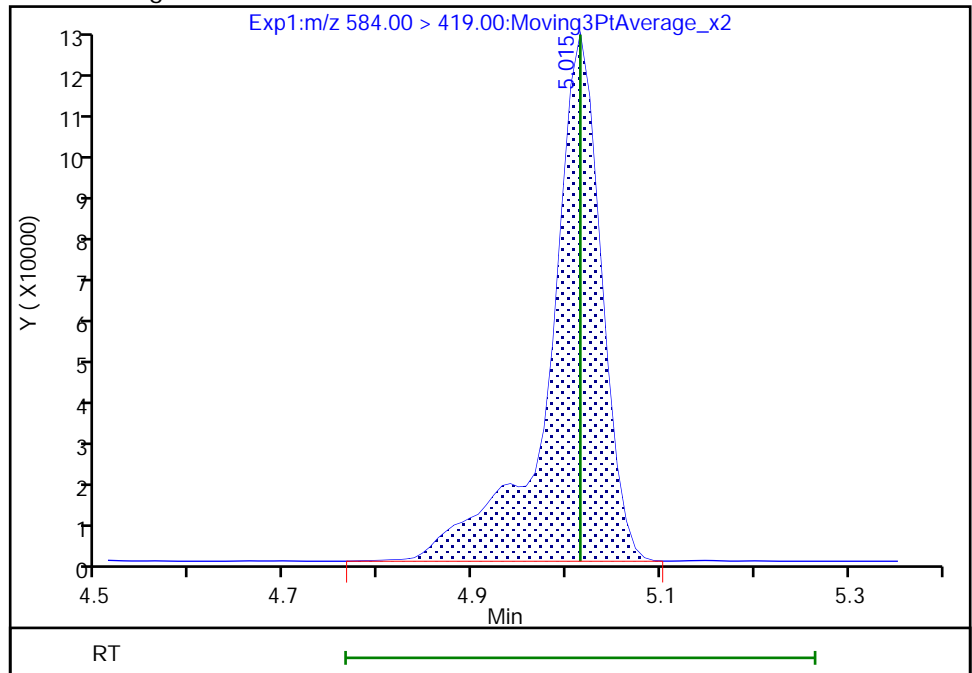
RT: 5.01  
Area: 412944  
Amount: 0.856981  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 480364  
Amount: 0.994928  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:15:21  
Audit Action: Manually Integrated

Audit Reason: Baseline

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/17 Calibration Date: 02/18/2022 21:53  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_017.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7937		2.51	2.50	0.3	40.0
PFECA F	AveID	0.7535	0.7367		2.44	2.50	-2.2	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9823		2.62	2.50	4.8	40.0
3:3 FTCA	QuaIF		0.0559		2.58	2.50	3.1	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.127		2.24	2.21	1.4	40.0
PFECA A	Q2ID		1.205		2.53	2.50	1.1	40.0
PES	Q2ID		2.548		2.34	2.23	5.1	40.0
PFECA B	Q2ID		0.4506		2.60	2.50	4.2	40.0
4:2 FTS	L2ID		2.329		2.40	2.34	2.6	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7881		2.49	2.50	-0.5	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.031		2.34	2.35	-0.1	40.0
HFPO-DA	L2ID		1.316		2.61	2.50	4.5	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.333		2.19	2.28	-3.8	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.110		2.73	2.50	9.1	40.0
DONA	AveID	2.644	2.596		2.31	2.36	-1.8	40.0
5:3 FTCA	L2ID		4.038		2.69	2.50	7.4	40.0
6:2 FTUCA	AveID	1.046	1.055		2.52	2.50	0.8	40.0
6:2 FTCA	L1ID		0.7258		2.63	2.50	5.0	40.0
PFECHS	AveID	0.7426	0.7114		2.21	2.31	-4.2	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9424		2.27	2.38	-4.6	40.0
6:2 FTS	L2ID		1.865		2.42	2.37	2.2	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.058		2.48	2.50	-0.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.122		2.27	2.32	-2.0	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7579		2.49	2.50	-0.3	40.0
7:3 FTCA	AveID	5.230	4.988		2.38	2.50	-4.6	40.0
8:2 FTUCA	AveID	0.9565	0.9290		2.43	2.50	-2.9	40.0
8:2 FTCA	AveID	1.811	1.654		2.28	2.50	-8.6	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.151		2.23	2.33	-4.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9730		2.31	2.40	-3.8	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9887		2.59	2.50	3.5	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9095		2.54	2.50	1.5	40.0
8:2 FTS	L2ID		1.530		2.45	2.40	2.1	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9674		2.56	2.50	2.4	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9242		2.51	2.41	4.1	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/17 Calibration Date: 02/18/2022 21:53  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_017.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.003		2.59	2.50	3.8	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9867		2.70	2.50	8.1	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.734		2.35	2.36	-0.2	50.0
10:2 FTUCA	AveID	1.208	1.270		2.63	2.50	5.1	40.0
10:2 FTCA	Q2ID		1.081		2.82	2.50	12.6	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.021		2.47	2.50	-1.2	40.0
10:2 FTS	L2ID		2.124		2.45	2.41	1.6	50.0
NMeFOSA	L2ID		1.091		2.53	2.50	1.4	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.233		2.63	2.50	5.3	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9412		2.41	2.42	-0.4	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8721		2.47	2.50	-1.2	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.343		2.37	2.50	-5.3	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.320		2.65	2.50	6.1	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1302		2.53	2.50	1.2	40.0
Perfluorohexadecanoic acid	L1ID		1.112		2.46	2.50	-1.6	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9896		2.44	2.50	-2.3	40.0
13C4 PFBA	Ave	1.172	1.163		1.24	1.25	-0.7	50.0
13C5 PFPeA	Ave	0.9197	0.9046		1.23	1.25	-1.6	50.0
13C3 PFBS	Ave	0.5817	0.5774		1.15	1.16	-0.7	50.0
M2-4:2 FTS	Ave	0.1821	0.1745		1.12	1.17	-4.2	50.0
13C2 PFHxA	Ave	1.015	1.015		1.25	1.25	0.0	50.0
13C3 HFPO-DA	Ave	0.4963	0.4733		1.19	1.25	-4.6	50.0
18O2 PFHxS	Ave	0.3776	0.3753		1.18	1.18	-0.6	50.0
13C4 PFHpA	Ave	0.9046	0.8555		1.18	1.25	-5.4	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3537		1.31	1.25	4.8	50.0
13C-6:2 FTCA	Ave	0.0260	0.0253		1.22	1.25	-2.7	50.0
M2-6:2 FTS	Ave	0.1799	0.1778		1.17	1.19	-1.2	50.0
13C4 PFOA	Ave	0.9356	0.9265		1.24	1.25	-1.0	50.0
13C4 PFOS	Ave	0.5610	0.5757		1.23	1.20	2.6	50.0
13C5 PFNA	Ave	1.268	1.245		1.23	1.25	-1.8	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4799		1.33	1.25	6.2	50.0
13C-8:2 FTCA	Ave	0.0330	0.0360		1.36	1.25	9.0	50.0
13C8 FOSA	Ave	0.8475	0.8075		1.19	1.25	-4.7	50.0
13C2 PFDA	Ave	1.210	1.204		1.24	1.25	-0.5	50.0
M2-8:2 FTS	Ave	0.1961	0.1902		1.16	1.20	-3.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/17 Calibration Date: 02/18/2022 21:53  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_017.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1199		1.32	1.25	5.7	50.0
13C2 PFUnA	Ave	1.168	1.150		1.23	1.25	-1.5	50.0
d5-NEtFOSAA	Ave	0.1164	0.1186		1.27	1.25	1.9	50.0
13C-10:2 FTUCA	Ave	0.5078	0.4894		1.21	1.25	-3.6	50.0
13C-10:2 FTCA	Ave	0.0309	0.0298		1.20	1.25	-3.8	50.0
13C2 PFDoA	Ave	1.152	1.134		1.23	1.25	-1.6	50.0
13C2 10:2 FTS	Ave	0.1652	0.1601		1.15	1.18	-3.1	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1015		1.26	1.25	0.5	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1119		1.18	1.25	-5.6	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1209		1.23	1.25	-1.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0782		1.21	1.25	-3.4	50.0
13C2 PFTeDA	Ave	0.9216	0.9064		1.23	1.25	-1.6	50.0
13C2 PFHxDA	Ave	0.5997	0.6035		1.26	1.25	0.6	50.0
13C8 PFOA	AveID	0.9229	0.9196		1.25	1.25	-0.4	50.0
13C8 PFOS	AveID	0.2212	0.2142		1.16	1.20	-3.2	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 18-Feb-2022 21:53:25 ALS Bottle#: 17 Worklist Smp#: 17  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-017 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 10:10:03

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	9576768	2.51		100	3325	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.681	6032631	1.24		99.3	19510	
3 PFECA F										
229.00 > 85.00	2.919	2.919	-0.001	0.937	6910979	2.44		97.8	16004	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.754	4690758	1.23		98.4	14708	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.123	-0.008	1.000	9215024	2.62		105	3827	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.131	0.0	1.000	334512	2.58	Target=1.13	103	2253	
241.00 > 116.90	3.131	3.131	0.0	1.000	288085		1.16(0.56-1.69)		504	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.758	2784764	1.15		99.3	11140	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.140	-0.009	1.000	5966544	2.24	Target=2.61	101	4880	
298.90 > 99.00	3.131	3.140	-0.009	1.000	2175949		2.74(1.31-3.92)		4626	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	11304051	2.53		101	16403	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	13580594	2.34		105	20416	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.982	4745343	2.60		104	14989	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.415	3.416	-0.001	0.827	845053	1.12		95.8	1910	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.415	3.416	-0.001	1.000	3935561	2.40		103	11749	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.835	5265480	1.25		100	16869	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	5790445	2.34	Target=3.55	99.9	10305	
349.00 > 99.00	3.448	3.448	0.0	1.101	1661744		3.48(1.78-5.33)		10922	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	8299781	2.49	Target=11.60	99.5	3679	
313.00 > 119.00	3.448	3.448	0.0	1.000	686612		12.09(5.80-17.40)		870	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.858	2454321	1.19		95.4	7395	
17 HFPO-DA										
285.00 > 169.00	3.542	3.553	-0.011	1.000	6457655	2.61	Target=2.45	105	3351	
329.00 > 169.00	3.542	3.553	-0.011	1.000	2556366		2.53(1.23-3.68)		3144	
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.783	-0.001	0.916	1841100	1.18		99.4	5448	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.782	3.783	-0.001	1.000	4719951	2.19	Target=3.44	96.2	9192	M
399.00 > 99.00	3.782	3.783	-0.001	1.000	1425721		3.31(1.72-5.17)		4237	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.793	-0.001	0.918	4436039	1.18		94.6	8613	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.793	-0.001	1.000	9845585	2.73	Target=3.25	109	6231	
363.00 > 169.00	3.792	3.793	-0.001	1.000	2899057		3.40(1.62-4.87)		2783	
25 DONA										
377.00 > 251.00	3.828	3.829	-0.001	0.868	14604000	2.31	Target=1.74	98.2	20655	
377.00 > 85.00	3.828	3.829	-0.001	0.868	8404017		1.74(0.87-2.61)		139	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	1060387	2.69	Target=1.11	107	3380	
340.88 > 216.90	3.853	3.853	0.0	0.987	939091		1.13(0.56-1.67)		1938	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	0.0	0.941	1833915	1.31		105	4412	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.895	-0.009	1.000	3870207	2.52	Target=13.05	101	6342	
356.86 > 243.00	3.886	3.895	-0.009	1.000	273788		14.14(6.52-19.57)		1006	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.904	-0.001	0.945	131293	1.22		97.3	642	
29 6:2 FTCA										
377.10 > 63.00	3.903	3.913	-0.010	1.000	190585	2.63	Target=1.29	105	801	
377.10 > 313.10	3.903	3.913	-0.010	1.000	134184		1.42(0.65-1.94)		149	
32 PFECBS										
460.80 > 380.90	4.064	4.065	0.0	0.984	6302642	2.21	Target=1.75	95.8	15126	
460.80 > 98.90	4.064	4.065	0.0	0.984	3764669		1.67(0.87-2.62)		7266	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.111	4.112	-0.001	0.932	5357111	2.27	Target=3.72	95.4	17694	
449.00 > 99.00	4.111	4.112	-0.001	0.932	1361338		3.94(1.86-5.57)		6768	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	875821	1.17		98.8	2265	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	3259960	2.42		102	7756	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	0.998	4418387	1.25		99.6	8076	
D 31 13C4 PFOA										
417.00 > 372.00	4.130	4.131	-0.001	1.000	4804441	1.24		99.0	8542	
* 30 13C2 PFOA										
415.00 > 370.00	4.130	4.131	-0.001		5185600	1.25			11977	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.130	4.131	-0.001	1.000	10170278	2.48	Target=2.51	99.3	6690	
413.00 > 169.00	4.130	4.131	-0.001	1.000	4362903		2.33(1.26-3.77)		6680	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.412	4.421	-0.009	1.000	611398	1.16		96.8	2160	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.421	-0.009	1.068	2854095	1.23		103	3558	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.412	4.421	-0.009	1.000	6216154	2.27	Target=4.30	98.0	4445	M
499.00 > 99.00	4.412	4.421	-0.009	1.000	1405600		4.42(2.15-6.45)		2940	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.439	0.0	1.000	9790007	2.49	Target=3.60	99.7	9792	
463.00 > 169.00	4.439	4.439	0.0	1.000	2570739		3.81(1.80-5.40)		5713	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.439	0.0	1.075	6458357	1.23		98.2	15748	
43 7:3 FTCA										
441.00 > 337.00	4.520	4.529	-0.009	0.993	1864309	2.38	Target=1.42	95.4	3992	
441.00 > 317.00	4.520	4.529	-0.009	0.993	1296035		1.44(0.71-2.13)		2490	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	4623612	2.43	Target=35.37	97.1	7526	
456.86 > 343.00	4.545	4.545	0.0	1.000	136276		33.93(17.68-53.05)		308	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.553	-0.008	1.000	2488440	1.33		106	7326	
46 8:2 FTCA										
477.00 > 393.10	4.561	4.562	-0.001	1.002	618352	2.28	Target=3.35	91.4	2335	
477.00 > 63.20	4.561	4.562	-0.001	1.002	194050		3.19(1.68-5.03)		891	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.562	-0.009	1.102	186876	1.36		109	884	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.108	11970372	2.23		95.7	10887	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	5577414	2.31	Target=3.99	96.2	7177	
549.00 > 99.00	4.697	4.697	0.0	1.065	1404758		3.97(2.00-5.99)		4452	
D 55 13C8 FOSA										
506.00 > 78.00	4.705	4.714	-0.009	1.139	4187213	1.19		95.3	4736	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.705	4.714	-0.009	1.000	8279423	2.59		104	5858	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.722	4.731	-0.009	1.000	11355393	2.54	Target=10.58	102	7028	
513.00 > 169.00	4.722	4.731	-0.009	1.000	1020101		11.13(5.29-15.88)		486	
D 52 13C2 PFDA										
515.00 > 470.00	4.722	4.731	-0.009	1.143	6242735	1.24		99.5	9928	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.739	4.740	-0.001	1.148	944730	1.16		97.0	1564	
53 8:2 FTS										
527.00 > 507.00	4.739	4.740	-0.001	1.000	2891481	2.45		102	4837	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.871	4.872	-0.001	1.180	621910	1.32		106	184	
57 NMeFOSAA										
570.00 > 419.00	4.871	4.880	-0.009	1.000	1203219	2.56		102	1973	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.123	5319506	2.51	Target=3.55	104	9039	
599.00 > 99.00	4.957	4.957	0.0	1.123	1428303		3.72(1.78-5.33)		6721	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.985	4.995	-0.010	1.000	11973203	2.59	Target=8.26	104	11249	
563.00 > 169.00	4.985	4.995	-0.010	1.000	1413831		8.47(4.13-12.39)		6308	
D 59 13C2 PFUnA										
565.00 > 520.00	4.985	4.995	-0.010	1.207	5965796	1.23		98.5	12003	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.212	615098	1.27		102	1978	
62 NEtFOSAA										
584.00 > 419.00	5.005	5.015	-0.010	1.000	1213875	2.70		108	951	M
63 11CIFOS										
631.00 > 451.00	5.082	5.093	-0.011	1.152	9751852	2.35		99.8	14297	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.093	-0.001	1.233	2537907	1.20		96.4	6070	
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.093	-0.001	1.000	6447412	2.63		105	8776	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.235	154344	1.20		96.2	1020	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	333657	2.81	Target=2.53	113	1597	
576.80 > 63.10	5.102	5.112	-0.010	1.000	131349		2.54(1.26-3.79)		544	
D 69 13C2 PFDoA										
615.00 > 570.00	5.217	5.226	-0.009	1.263	5881116	1.23		98.4	17361	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.002	12010181	2.47	Target=6.85	98.8	9518	
613.00 > 169.00	5.217	5.226	-0.009	1.000	1710810		7.02(3.43-10.28)		3096	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.243	-0.008	1.267	786171	1.15		96.9	6379	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.002	3398471	2.45		102	9471	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.277	526084	1.26		101	53.0	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.283	5.284	-0.001	1.279	580213	1.18		94.4	469	
74 NMeFOSA										
512.00 > 169.00	5.283	5.284	-0.001	1.002	1147584	2.53		101	1030	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.002	1430746	2.63		105	1840	
76 PFDoS										
699.00 > 80.00	5.400	5.399	0.001	1.224	5439996	2.41	Target=4.22	99.6	6627	
699.00 > 99.00	5.400	5.399	0.001	1.224	1203409		4.52(2.11-6.34)		5357	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.427	5.435	-0.008	1.040	10258332	2.47	Target=6.32	98.8	9562	
663.00 > 169.00	5.427	5.435	-0.008	1.040	1721083		5.96(3.16-9.48)		8084	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.316	627175	1.23		98.3	302	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.453	5.452	0.001	1.320	405572	1.21		96.6	634	
79 N-EtFOSE-M										
630.00 > 59.00	5.453	5.452	0.001	1.003	1685078	2.37		94.7	1523	
81 N-EtFOSA-M										
526.00 > 169.00	5.453	5.452	0.001	1.000	1071029	2.65		106	684	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.608	5.617	-0.009	1.000	1224215	2.53	Target=1.01	101	4842	
713.00 > 219.00	5.608	5.617	-0.009	1.000	1237218		0.99(0.51-1.52)		6220	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.608	5.617	-0.009	1.358	4700280	1.23		98.4	11372	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.925	5.924	0.001	1.000	6961605	2.46	Target=8.64	98.4	6602	
813.00 > 169.00	5.925	5.924	0.001	1.000	846053		8.23(4.32-12.97)		2562	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.925	5.924	0.001	1.435	3129366	1.26		101	8249	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.184	6.185	-0.001	1.044	6193715	2.44	Target=11.77	97.7	6137	
913.00 > 169.00	6.178	6.185	-0.007	1.043	537463		11.52(5.88-17.65)		1898	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Injection Date: 18-Feb-2022 21:53:25

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 17

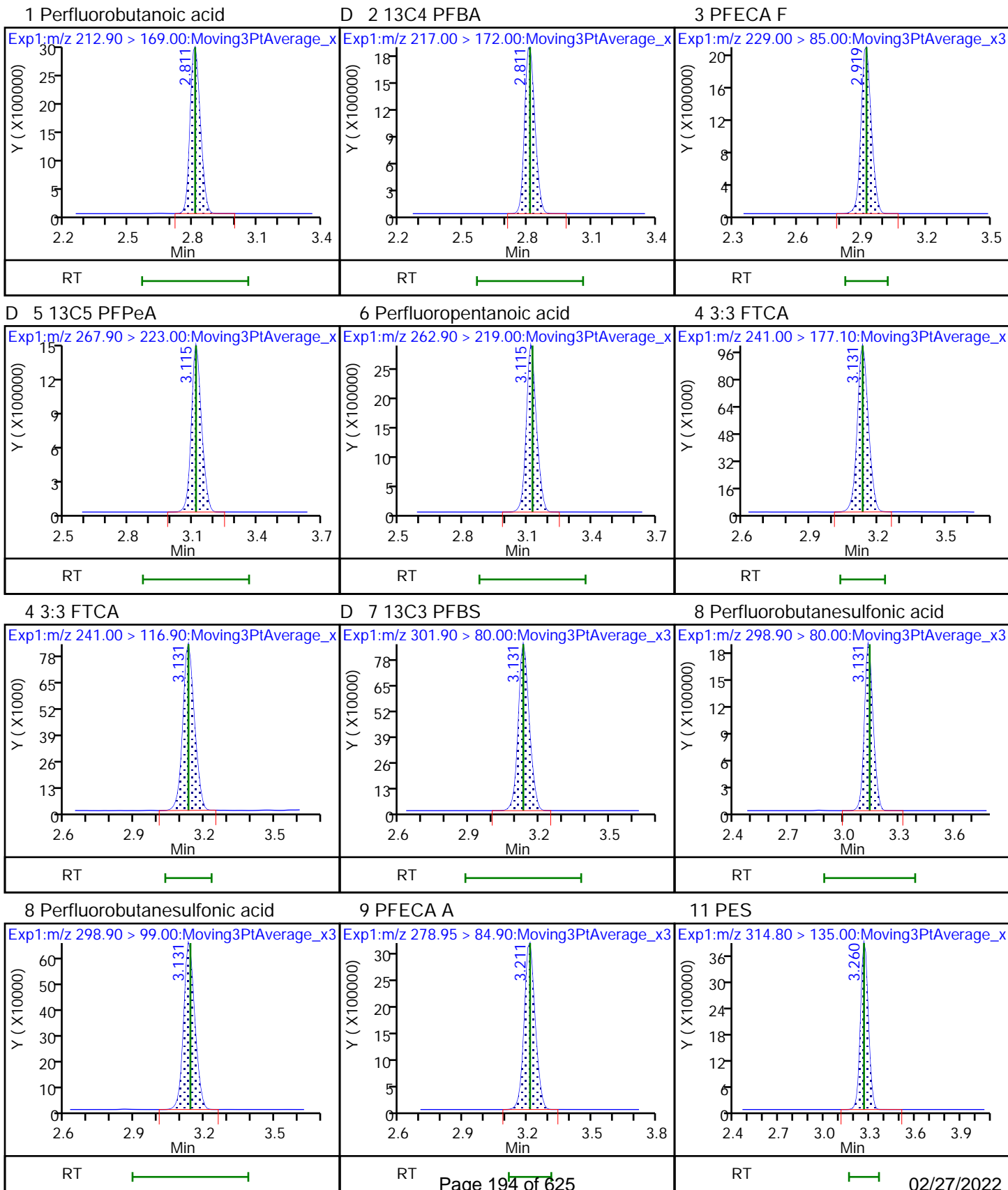
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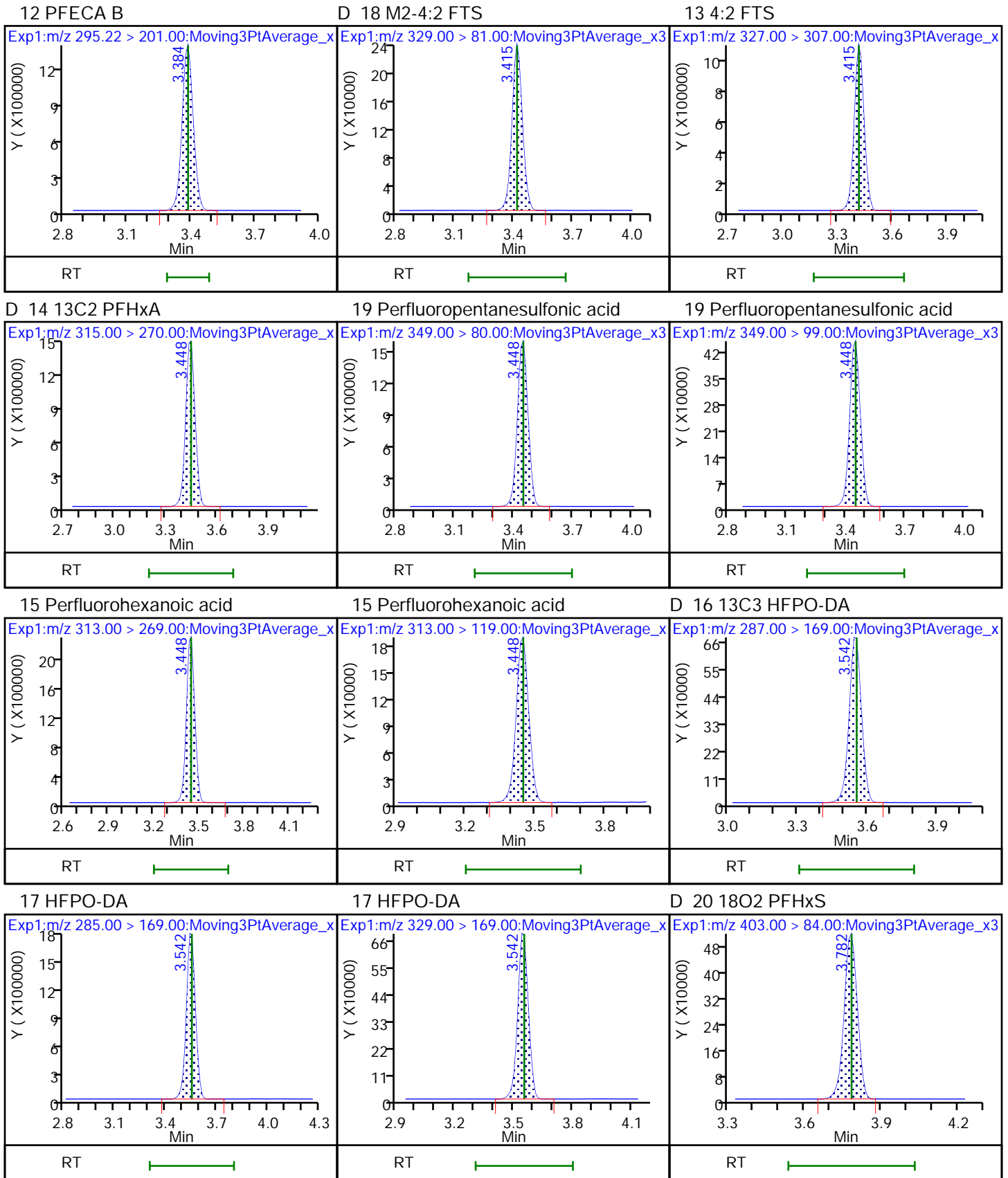
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

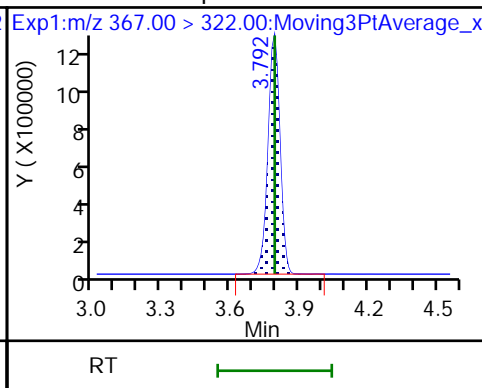
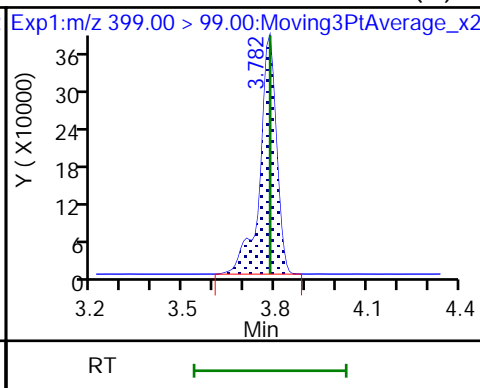
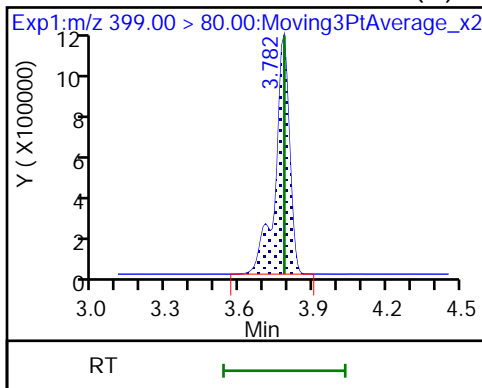




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

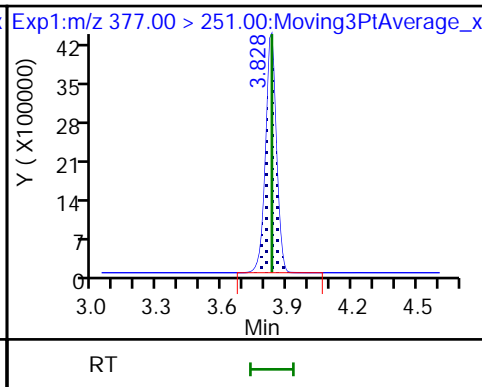
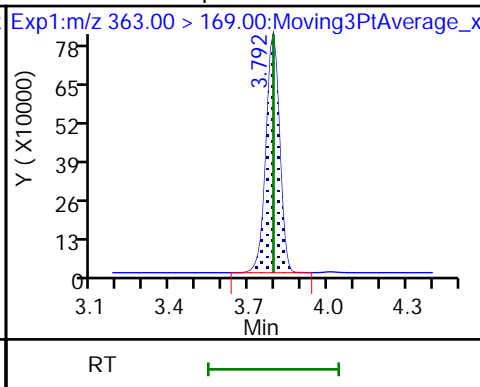
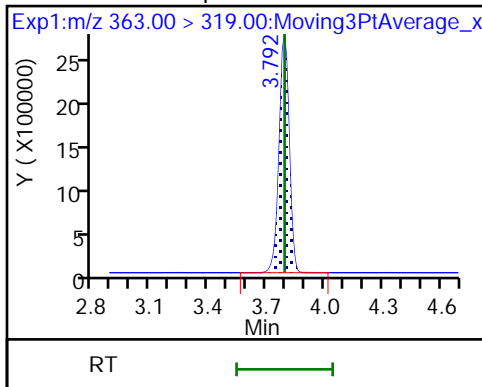
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

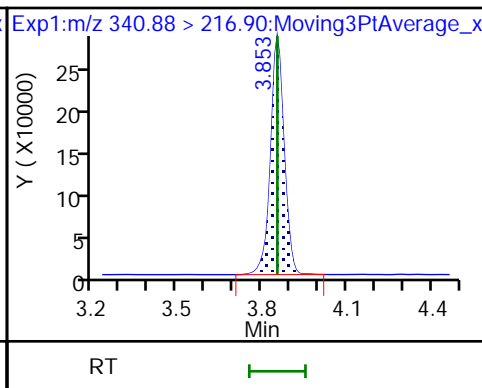
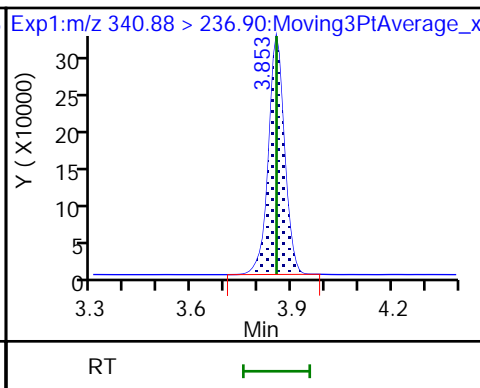
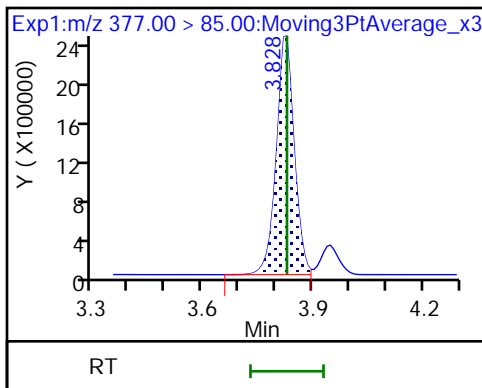
25 DONA



25 DONA

26 5:3 FTCA

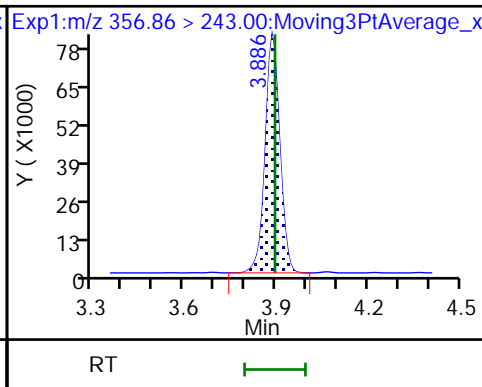
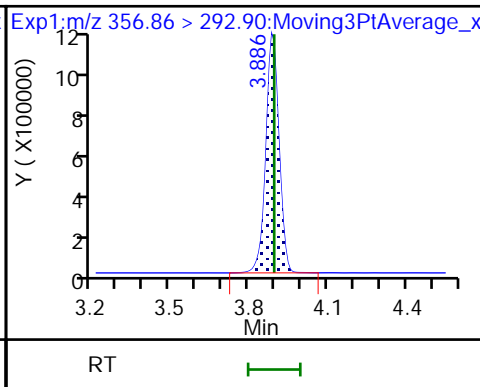
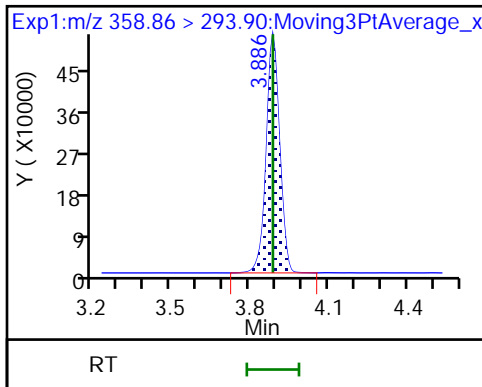
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D 28 13C-6:2 FTUCA

27 6:2 FTUCA

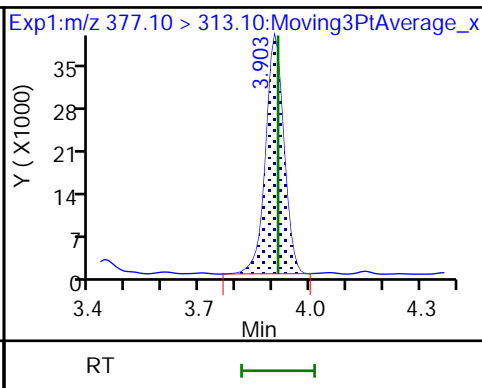
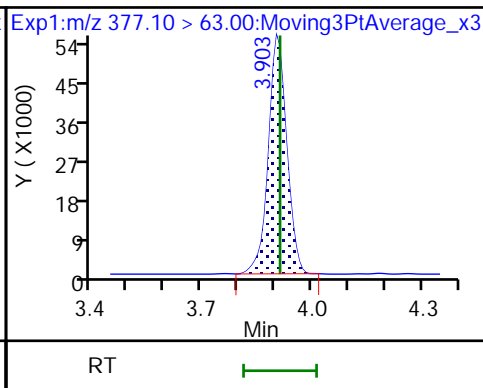
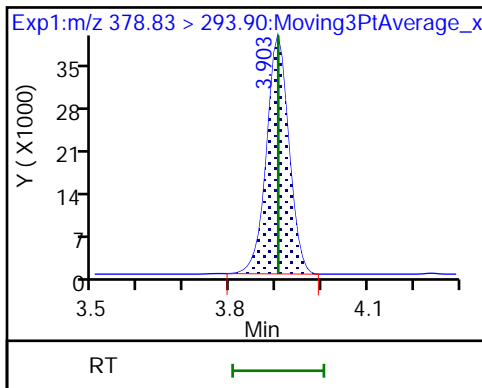
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D 24 13C-6:2 FTCA

29 6:2 FTCA

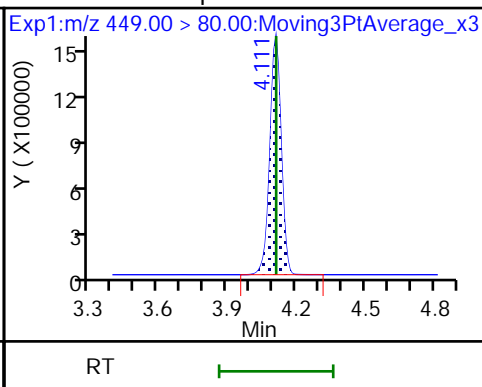
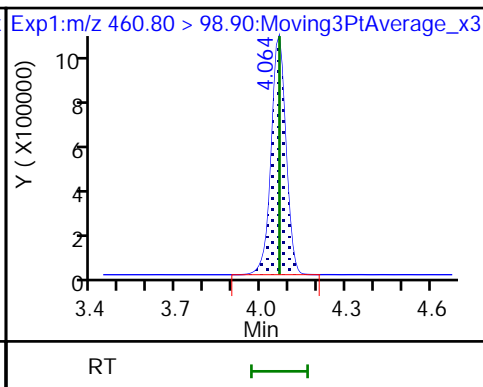
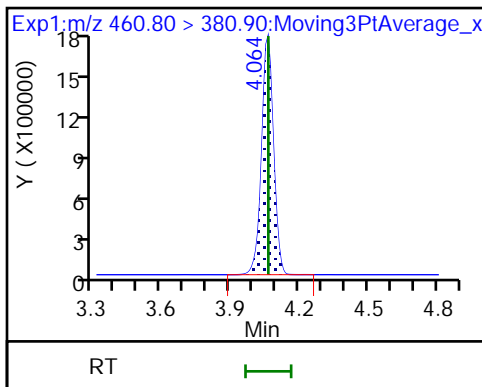
29 6:2 FTCA



32 PFECHS

32 PFECHS

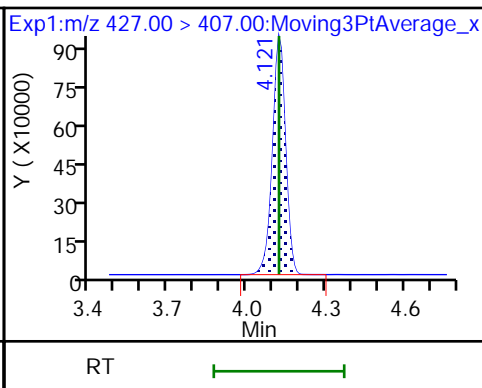
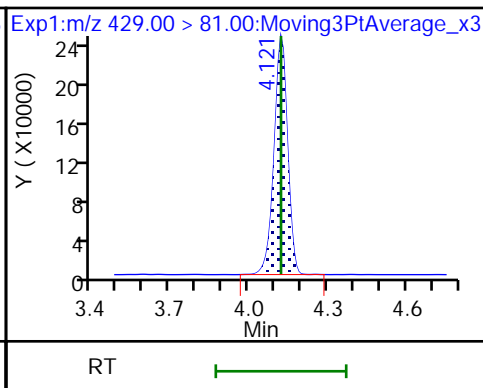
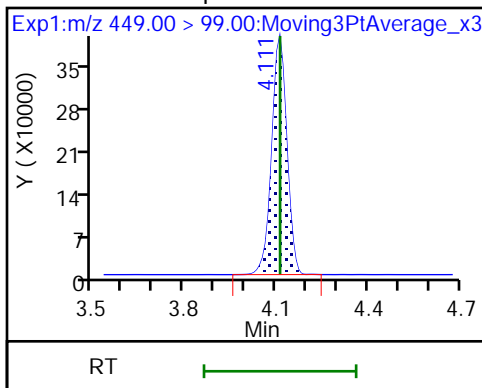
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

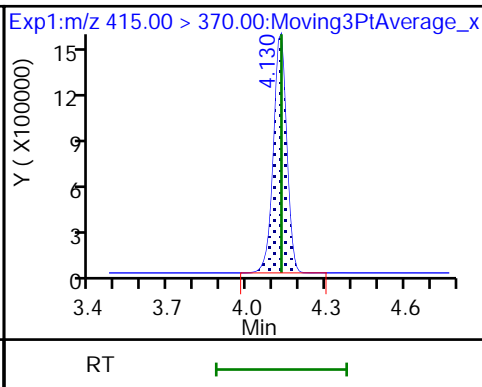
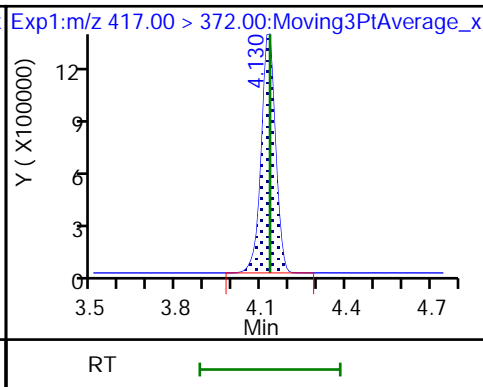
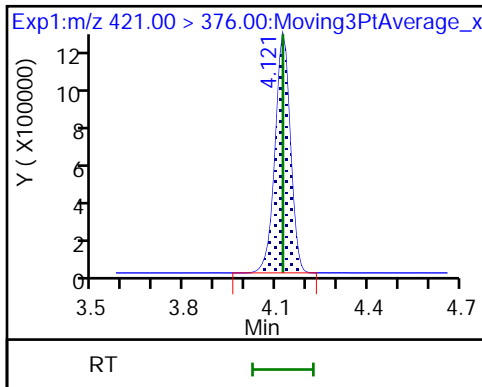
35 6:2 FTS



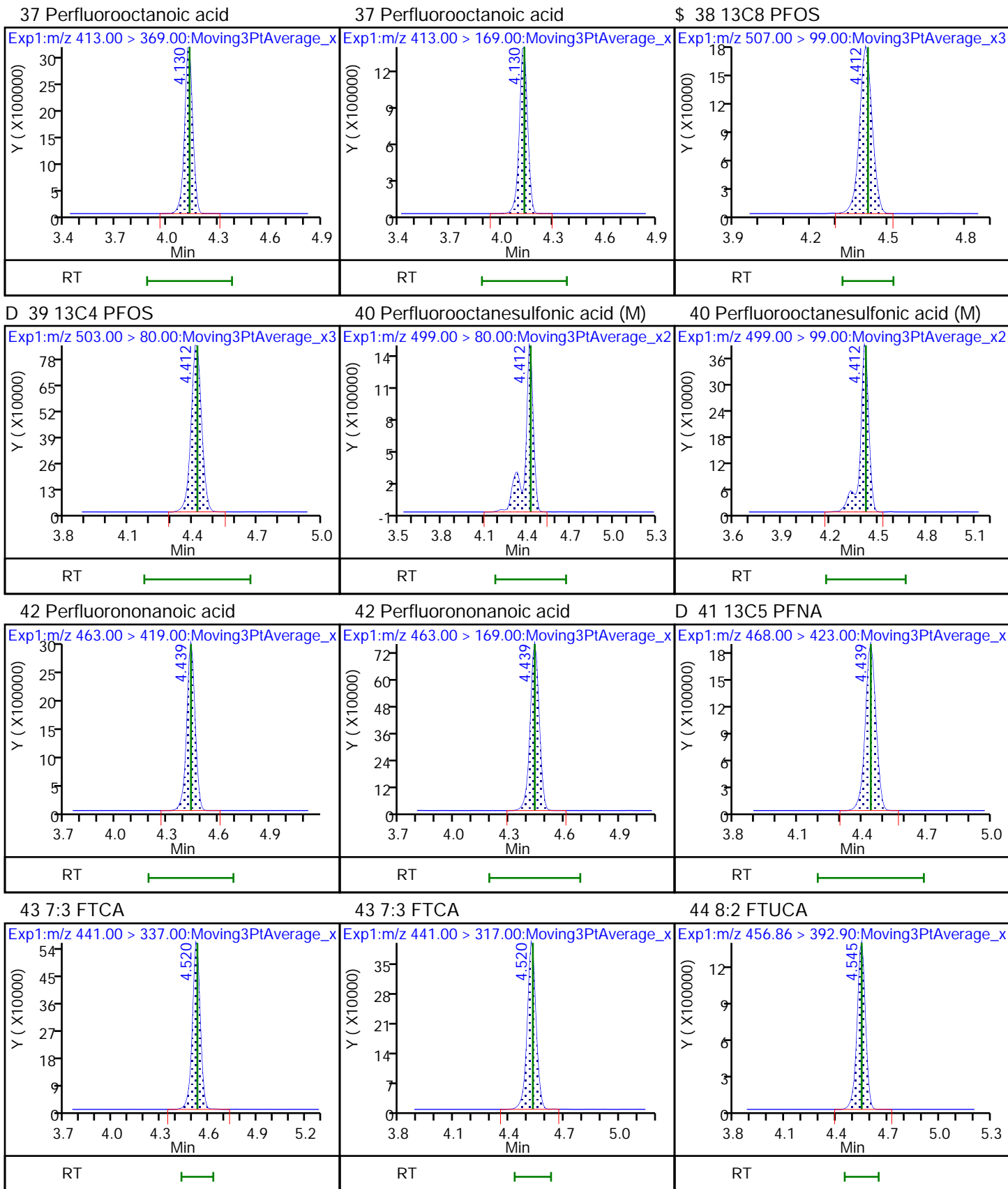
\$ 36 13C8 PFOA

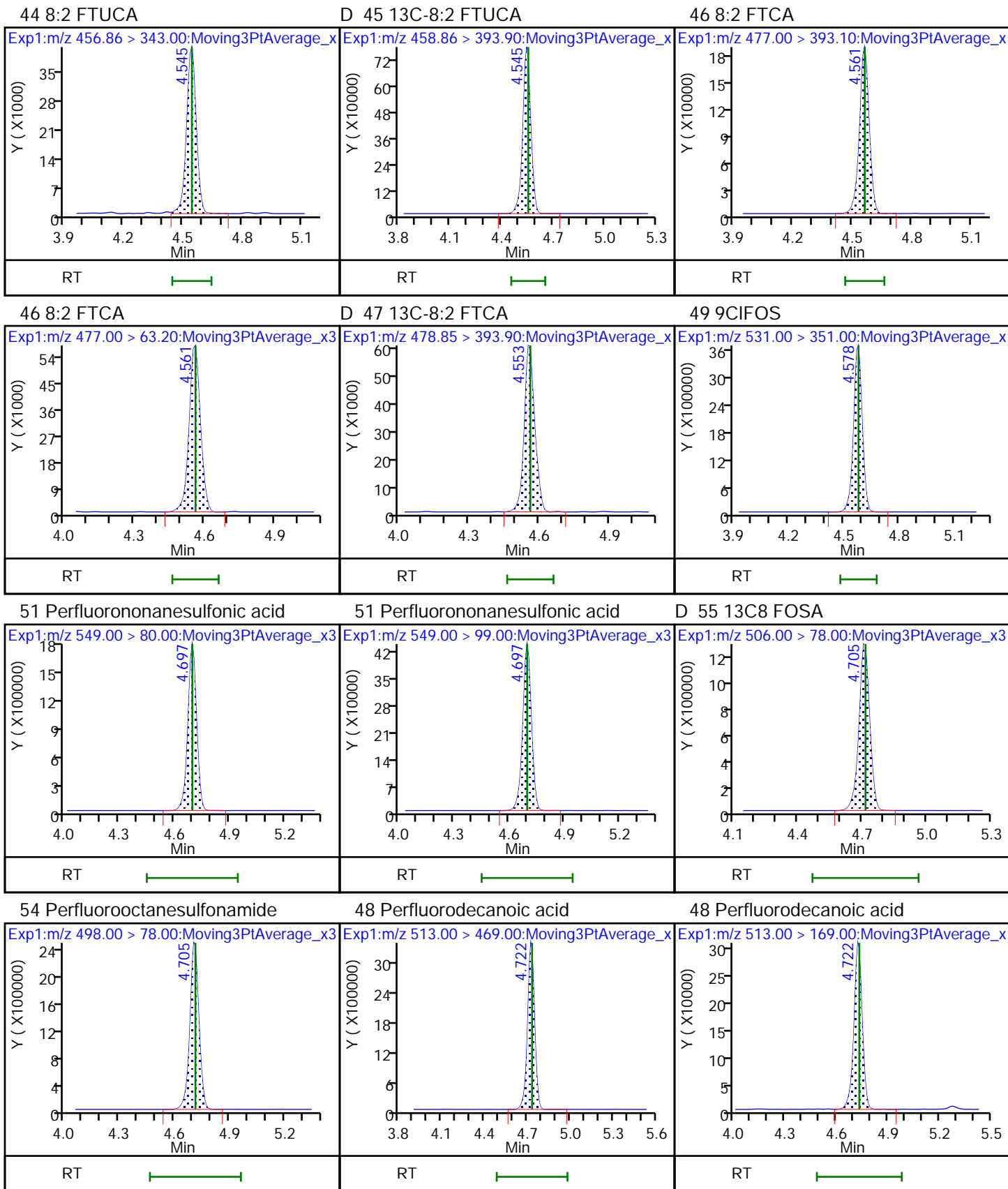
D 31 13C4 PFOA

\* 30 13C2 PFOA





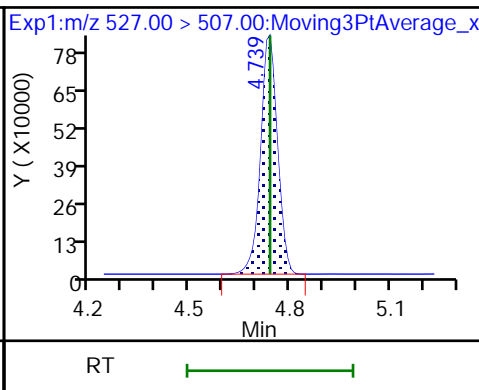
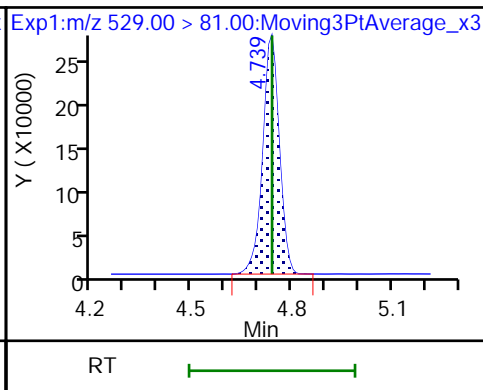
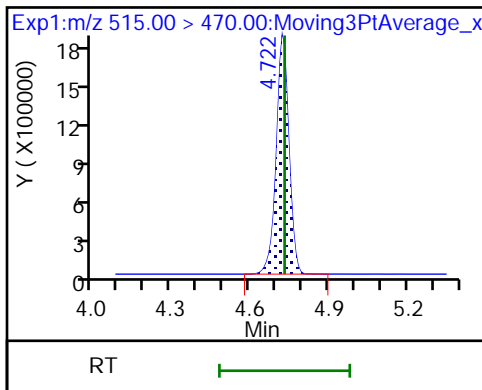




D 52 13C2 PFDA

D 50 M2-8:2 FTS

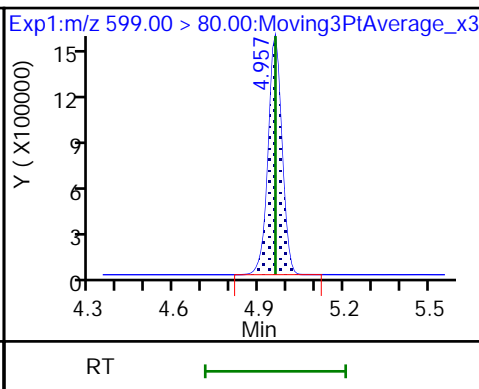
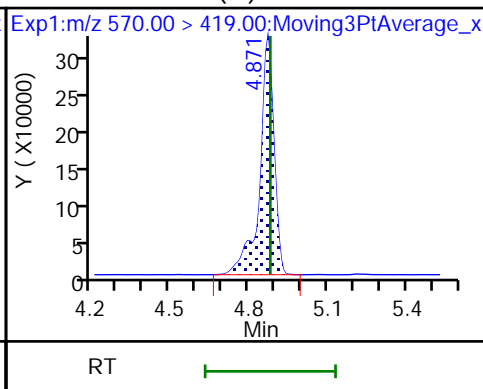
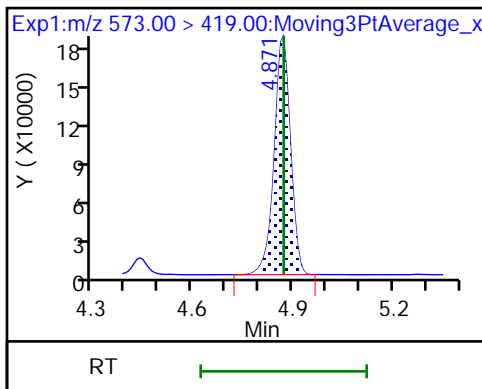
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

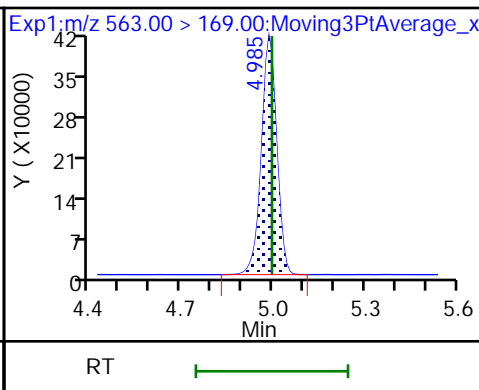
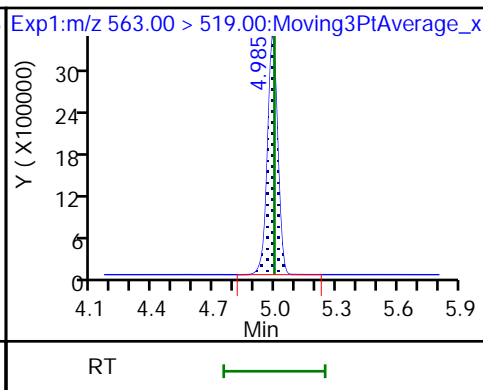
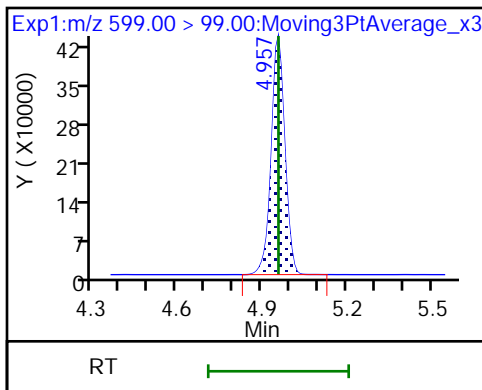
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

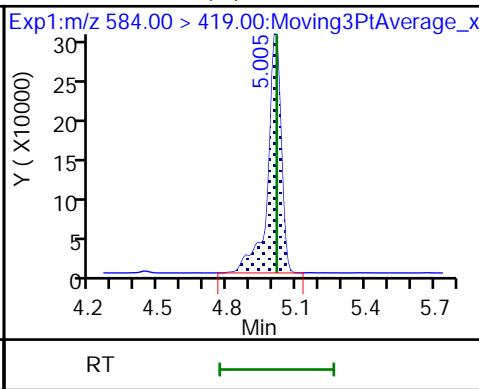
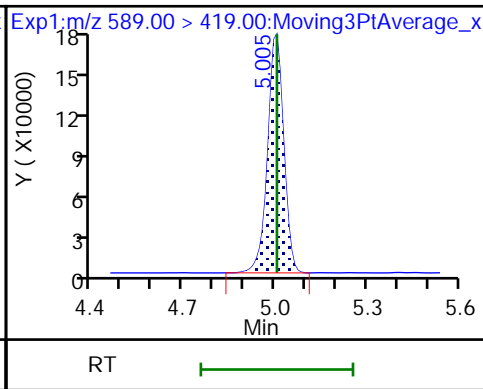
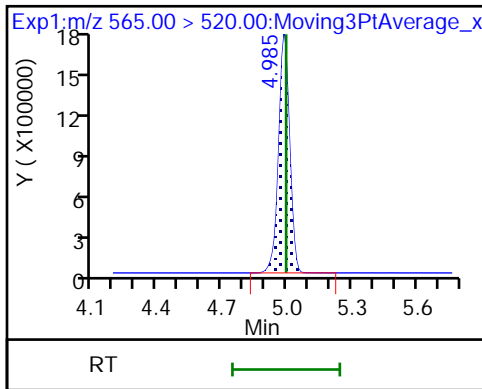
60 Perfluoroundecanoic acid

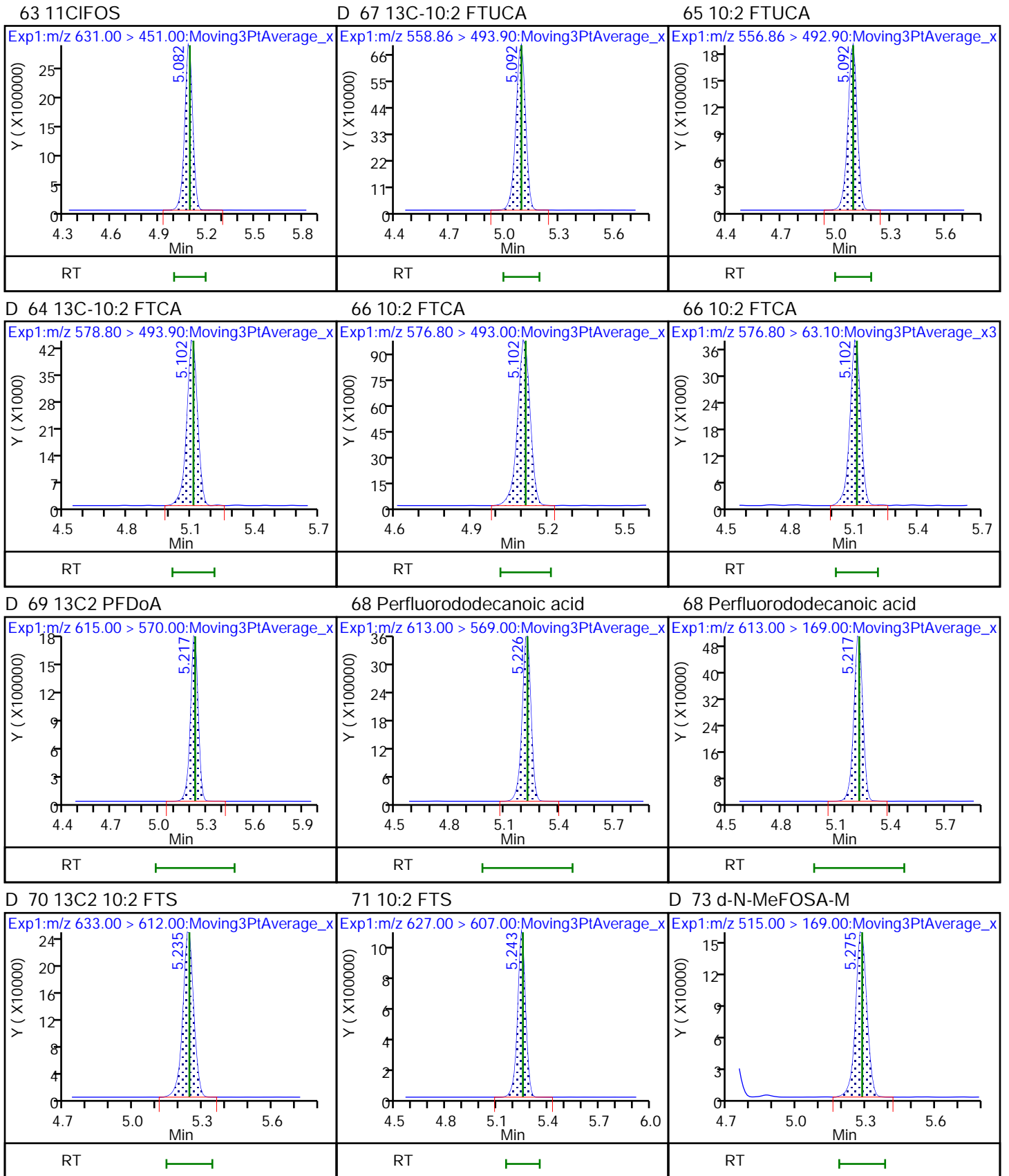


D 59 13C2 PUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)

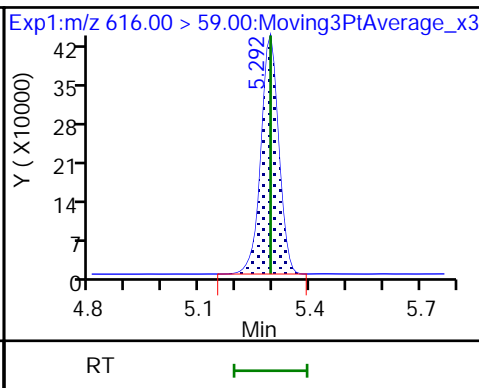
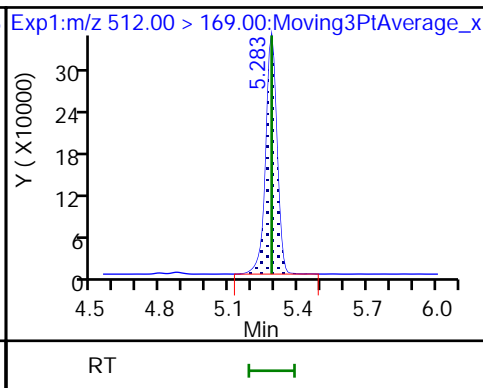
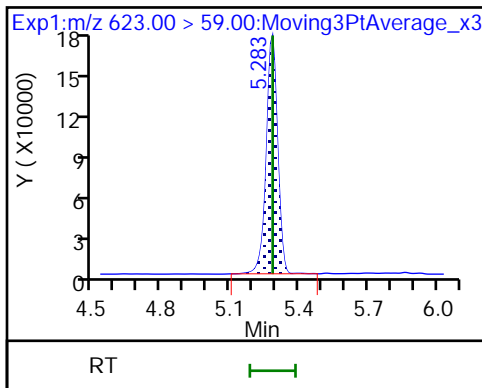




D 72 d7-N-MeFOSE-M

74 NMeFOSA

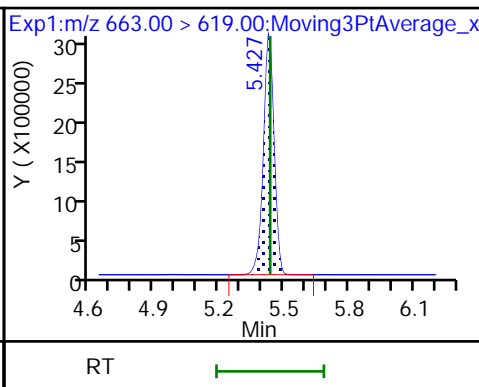
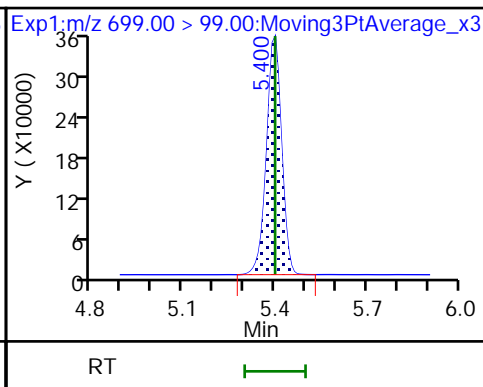
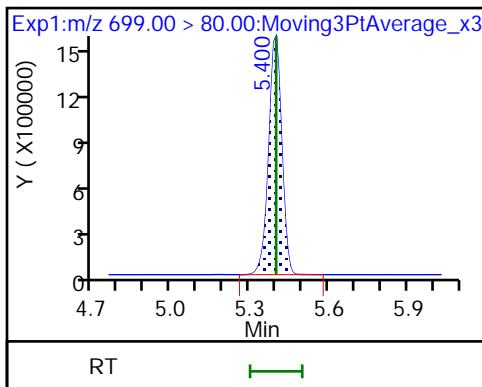
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

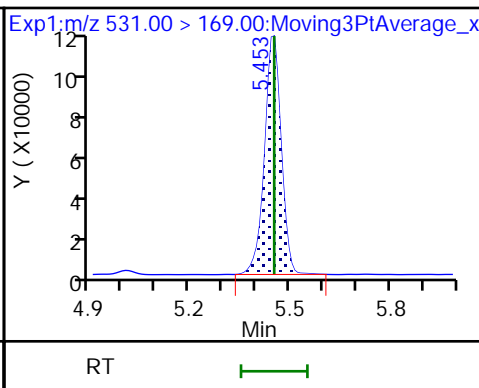
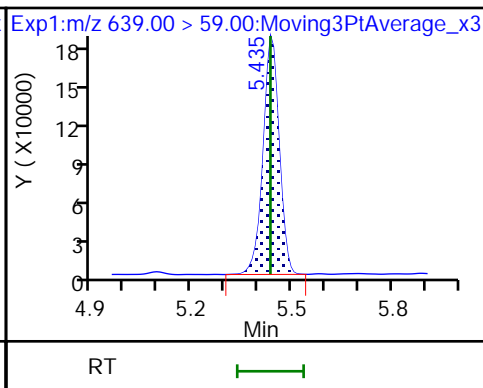
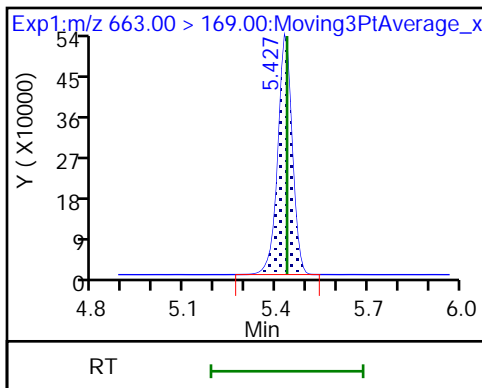
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

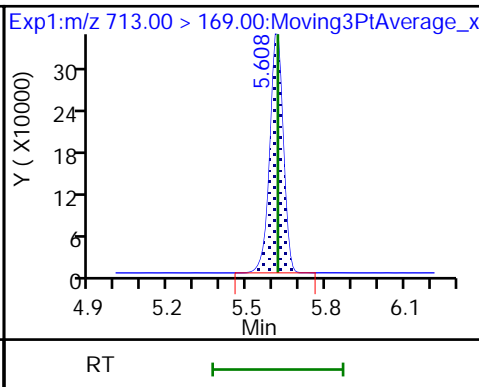
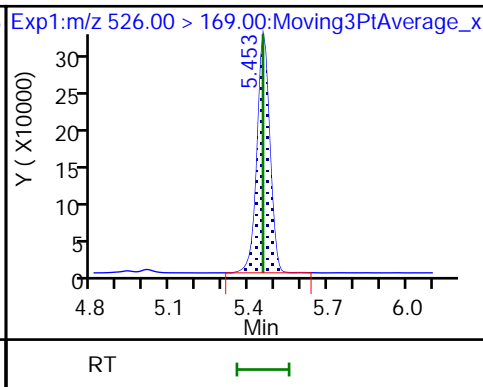
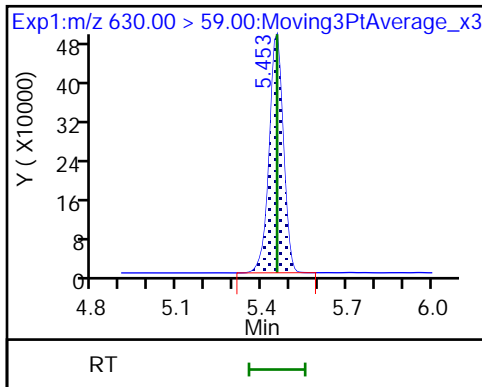
D 80 d-N-EtFOSA-M

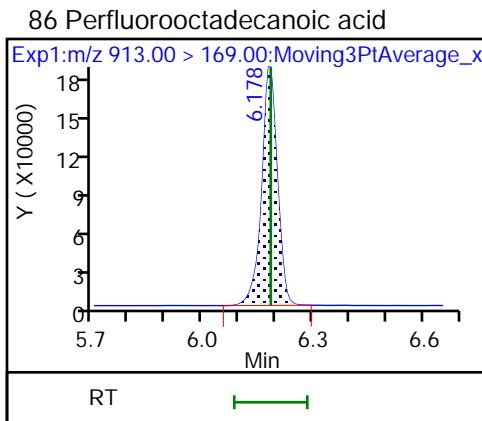
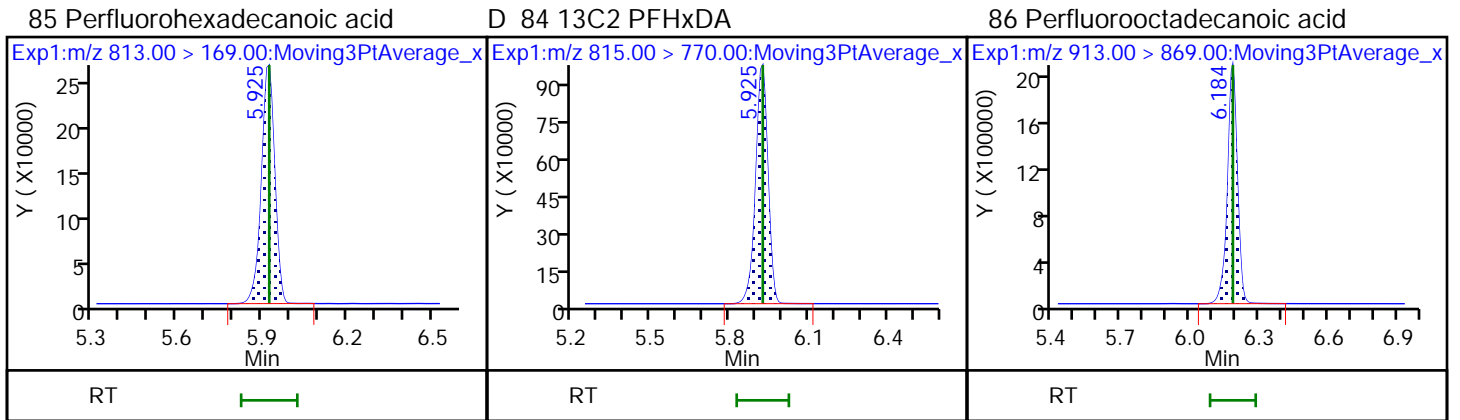
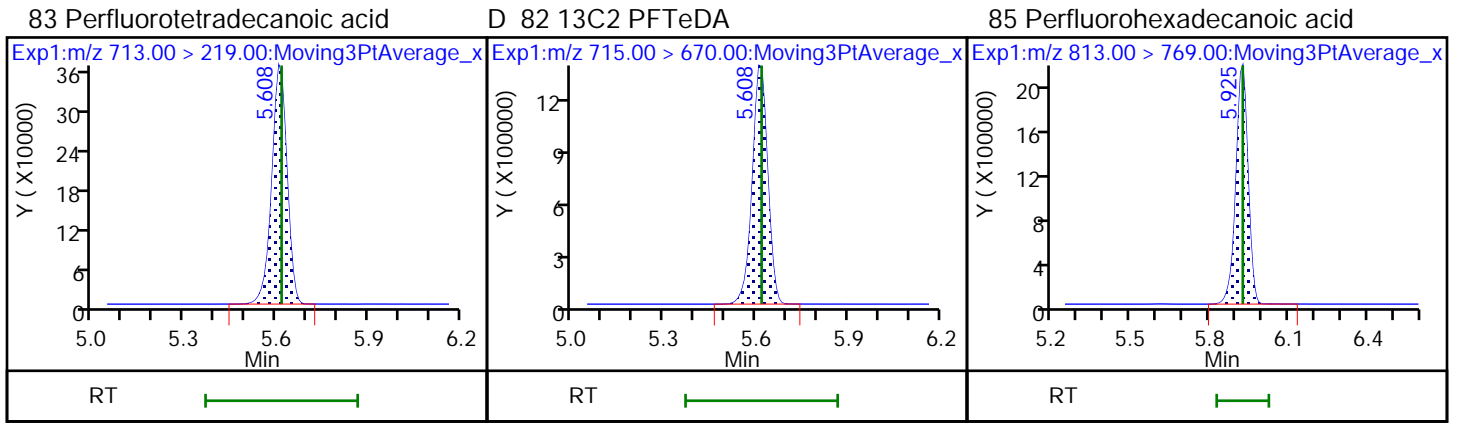


79 N-EtFOSE-M

81 N-EtFOSA-M

83 Perfluorotetradecanoic acid





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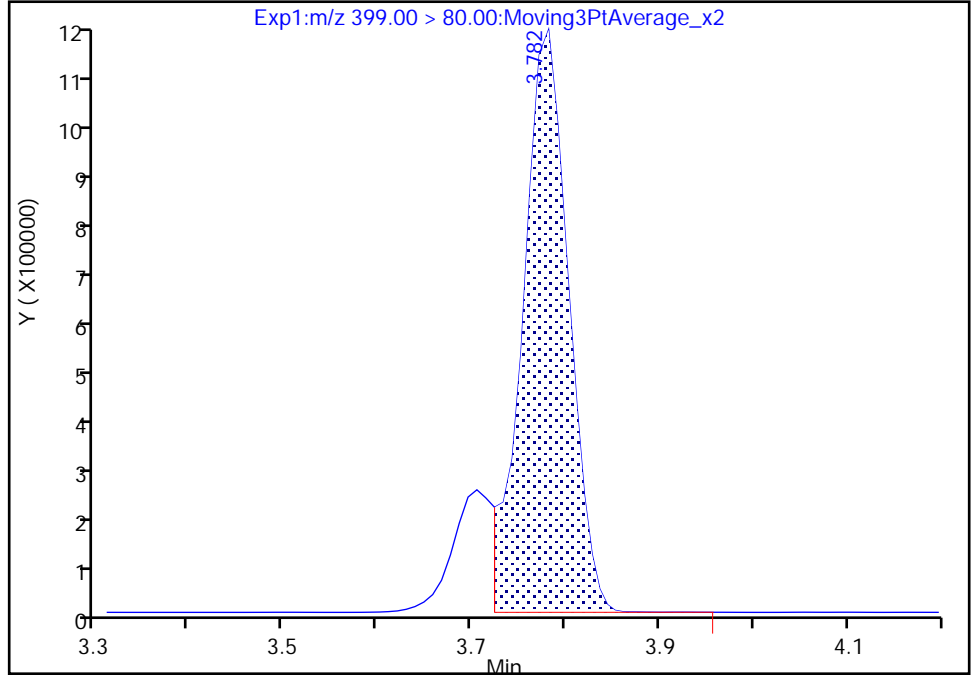
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Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

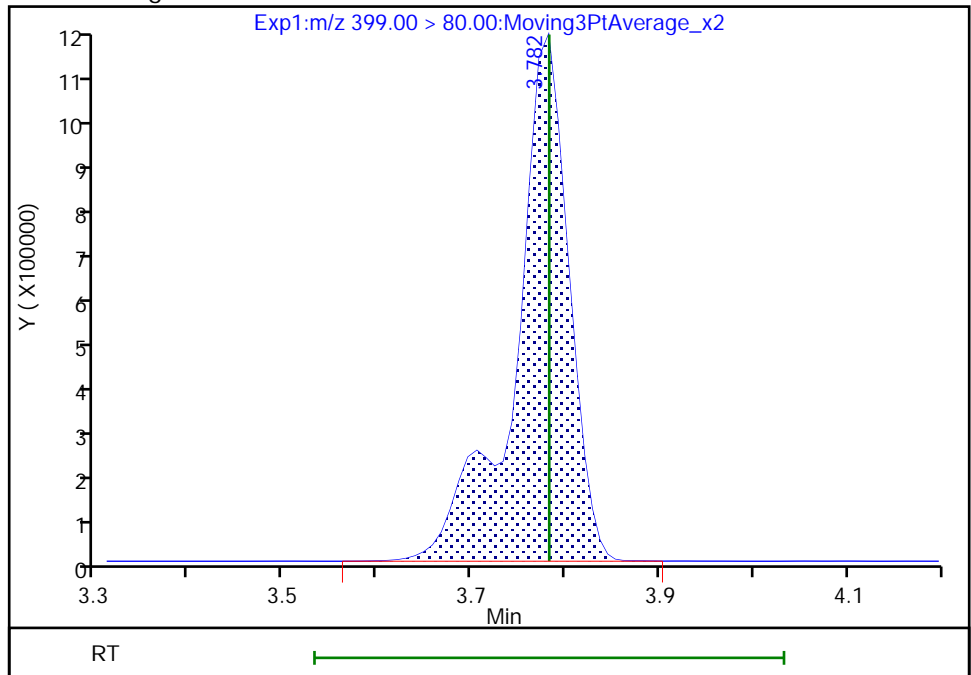
RT: 3.78  
Area: 4004075  
Amount: 1.856708  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 4719951  
Amount: 2.188663  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:51:43  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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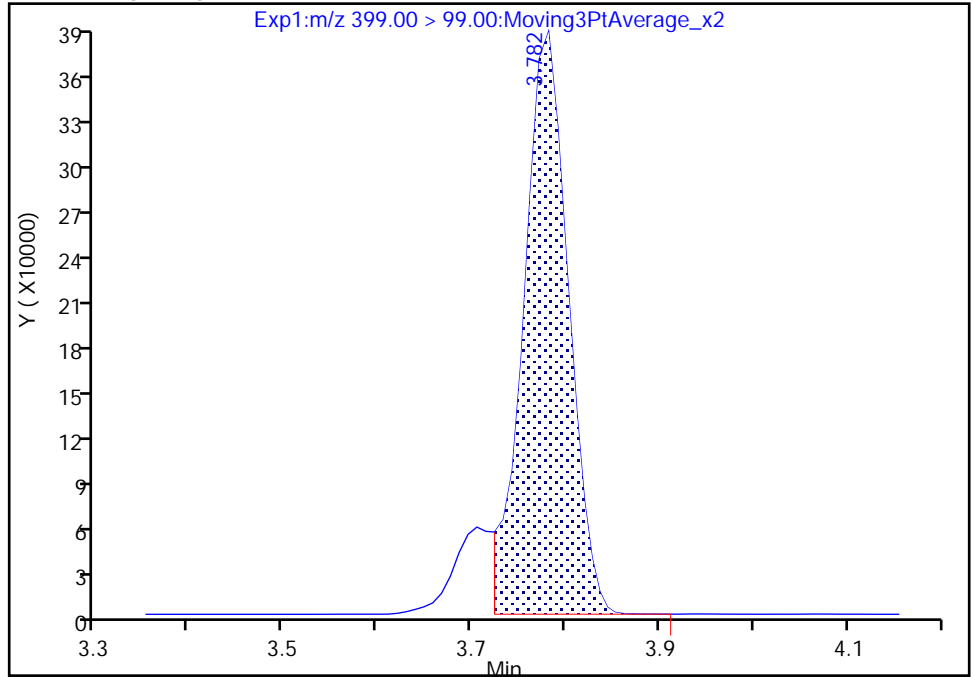
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Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

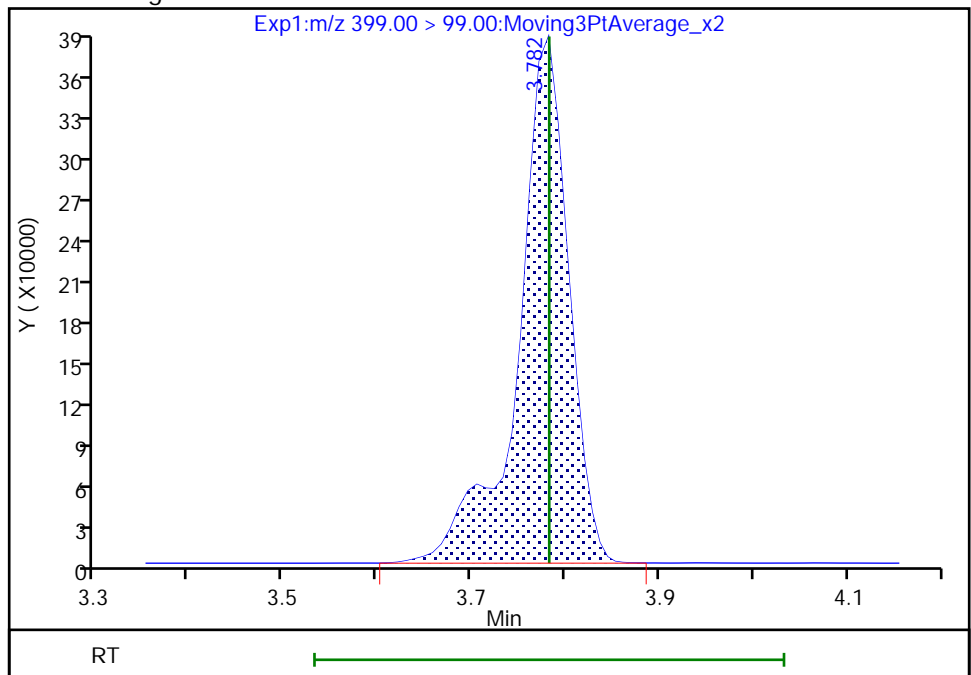
RT: 3.78  
Area: 1262804  
Amount: 1.856708  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 1425721  
Amount: 2.188663  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:51:49

Audit Action: Manually Integrated

Audit Reason: Baseline  
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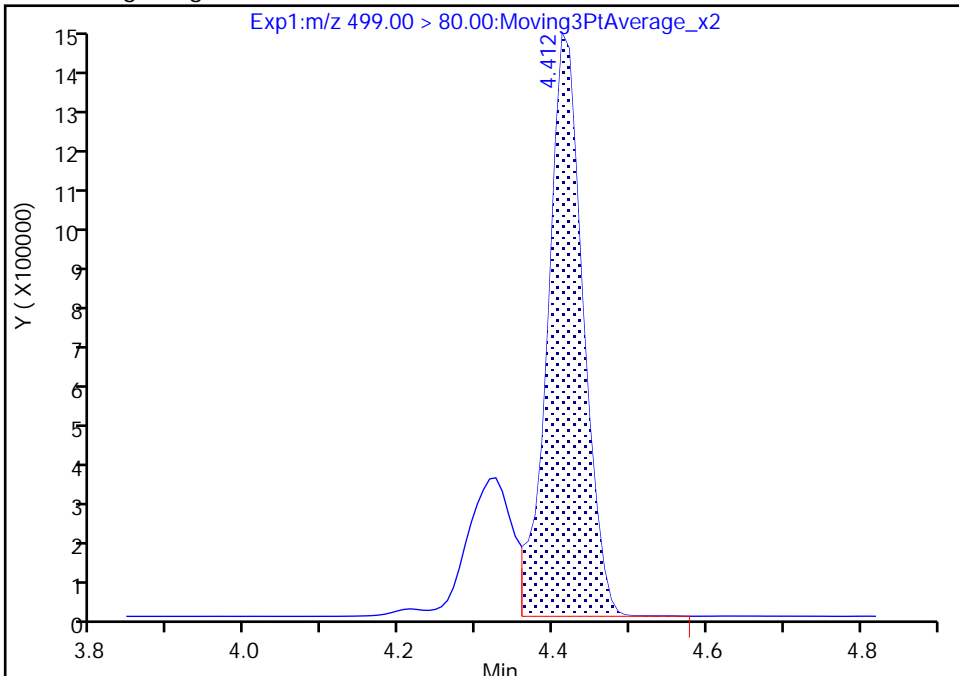
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Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

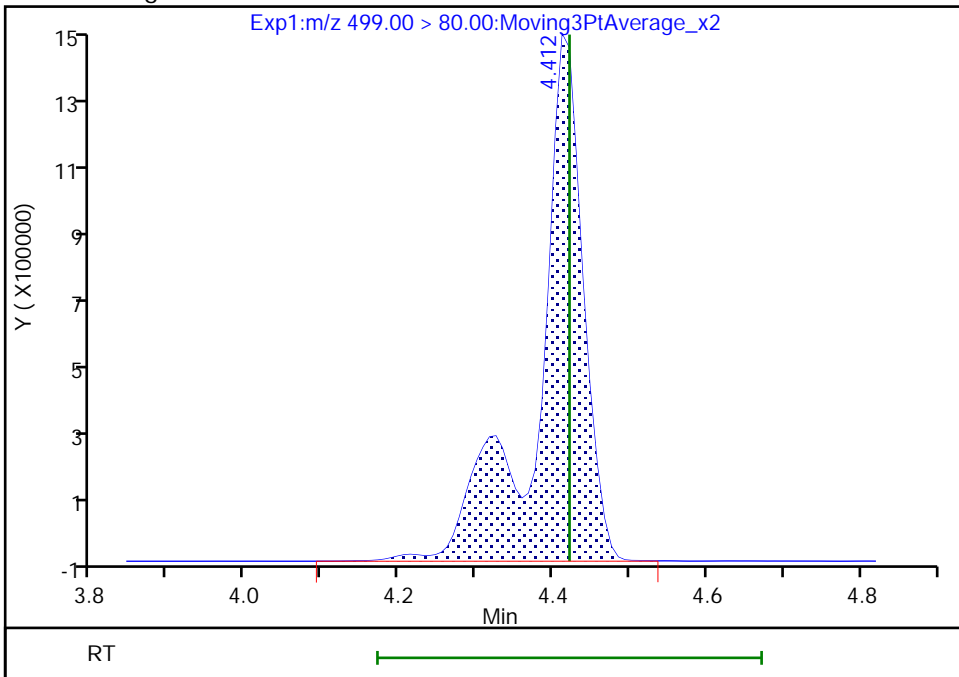
RT: 4.41  
Area: 4736982  
Amount: 1.731868  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 6216154  
Amount: 2.272661  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:52:03  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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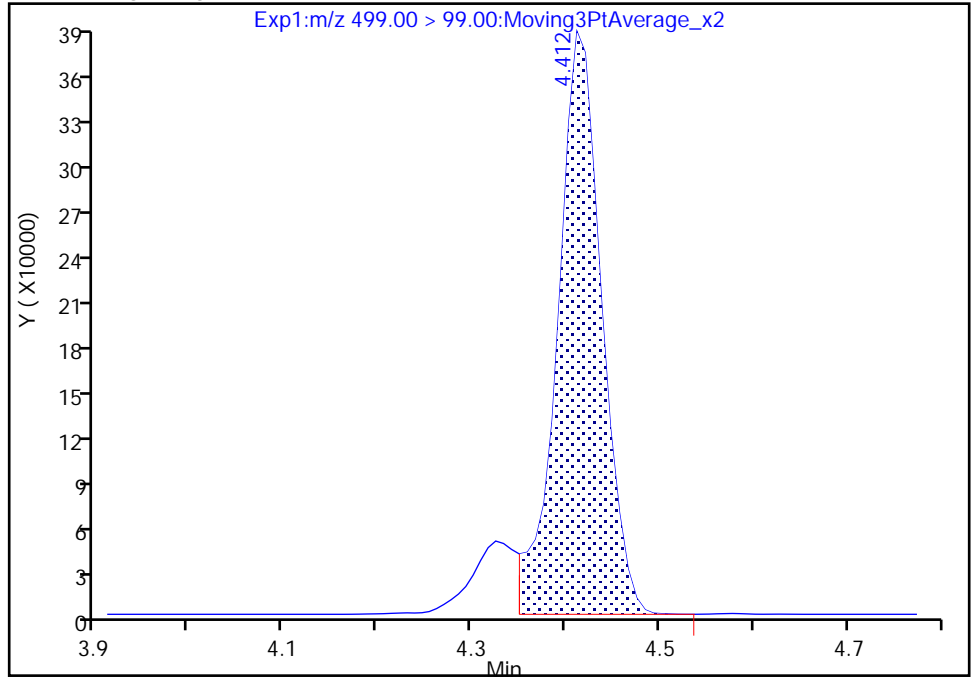
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

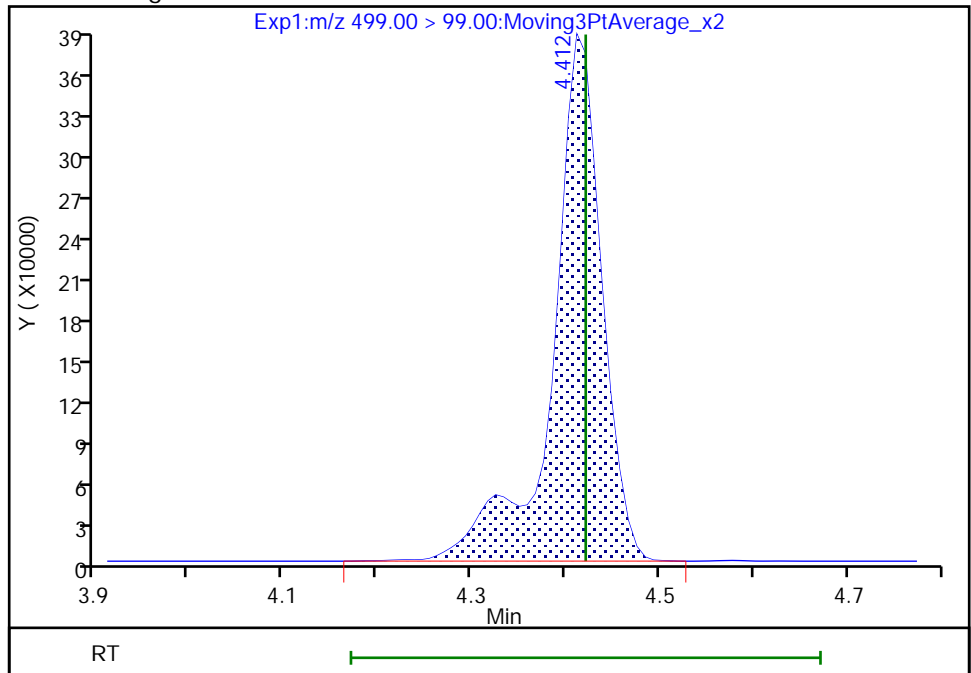
RT: 4.41  
Area: 1249502  
Amount: 1.731868  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 1405600  
Amount: 2.272661  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:52:10

Audit Action: Manually Integrated

Audit Reason: Baseline  
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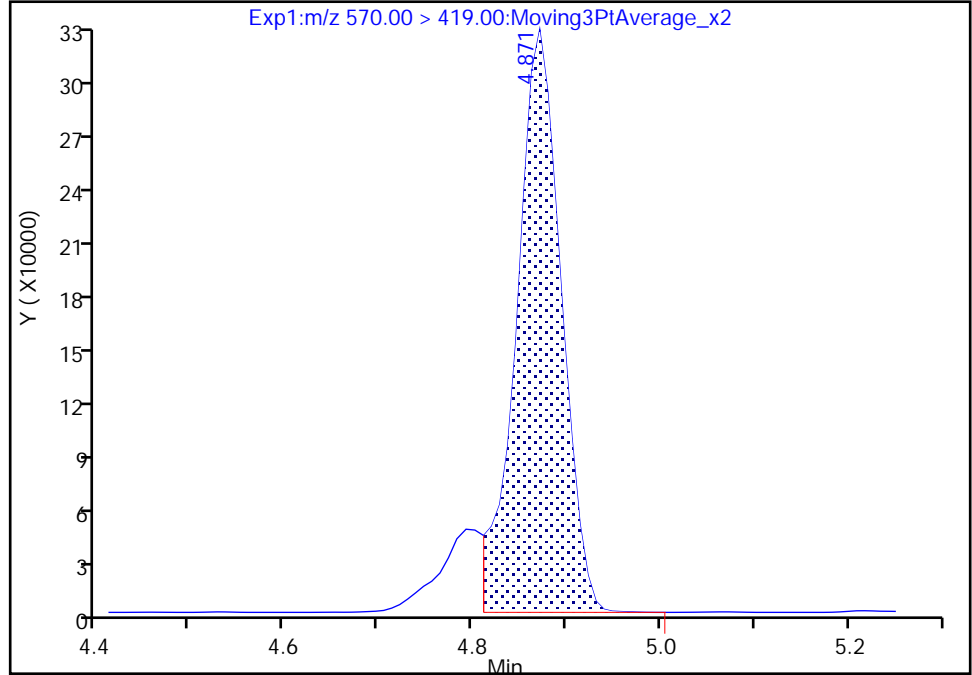
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Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

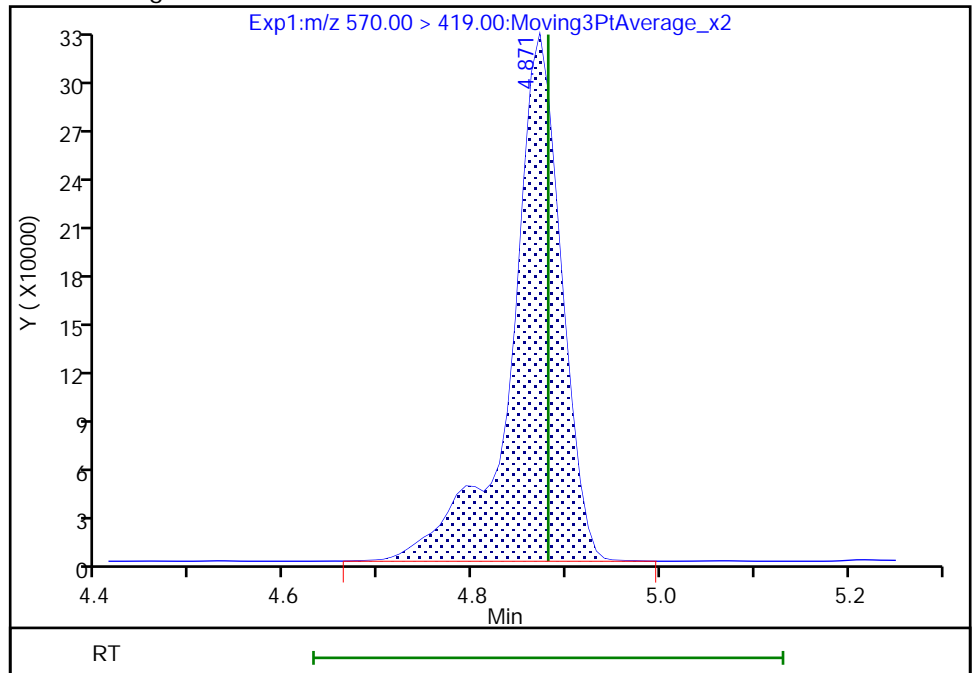
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Area: 1058645  
Amount: 2.261447  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1203219  
Amount: 2.559851  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:52:24  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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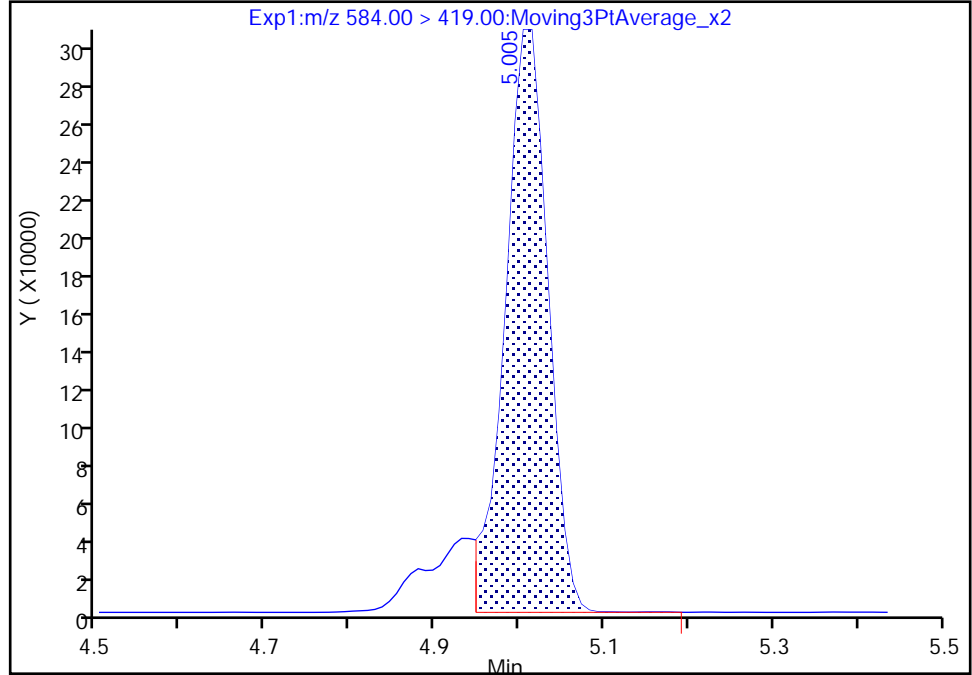
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Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

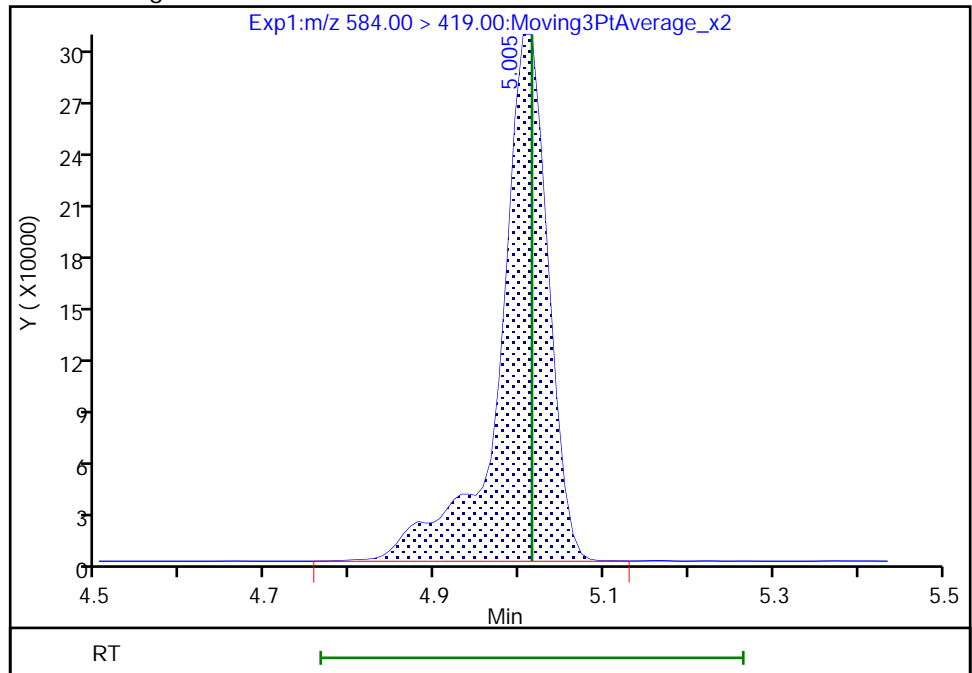
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Amount: 2.368258  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 1213875  
Amount: 2.702265  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:52:35  
Audit Action: Manually Integrated

Audit Reason: Baseline

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/29 Calibration Date: 02/18/2022 23:39  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_029.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7617		0.960	1.00	-4.0	40.0
PFECA F	AveID	0.7535	0.7037		0.934	1.00	-6.6	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9518		1.01	1.00	1.2	40.0
3:3 FTCA	QuaIF		0.0553		1.02	1.00	1.5	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.077		0.869	0.884	-1.7	40.0
PFECA A	Q2ID		1.202		1.03	1.00	2.5	40.0
PES	Q2ID		2.308		0.867	0.890	-2.6	40.0
PFECA B	Q2ID		0.4213		1.02	1.00	1.8	40.0
4:2 FTS	L2ID		2.260		0.928	0.934	-0.6	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7767		0.976	1.00	-2.4	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	0.9552		0.868	0.938	-7.5	40.0
HFPO-DA	L2ID		1.234		0.977	1.00	-2.3	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.322		0.869	0.910	-4.6	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.016		1.01	1.00	1.4	40.0
DONA	AveID	2.644	2.449		0.873	0.942	-7.4	40.0
5:3 FTCA	L2ID		3.444		0.914	1.00	-8.6	40.0
6:2 FTUCA	AveID	1.046	1.003		0.959	1.00	-4.1	40.0
6:2 FTCA	L1ID		0.6573		0.947	1.00	-5.4	40.0
PFECHS	AveID	0.7426	0.6789		0.843	0.922	-8.6	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9015		0.869	0.952	-8.7	40.0
6:2 FTS	L2ID		1.708		0.885	0.948	-6.7	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.001		0.935	1.00	-6.5	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.034		0.838	0.928	-9.7	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7044		0.926	1.00	-7.4	40.0
7:3 FTCA	AveID	5.230	4.613		0.882	1.00	-11.8	40.0
8:2 FTUCA	AveID	0.9565	0.8475		0.886	1.00	-11.4	40.0
8:2 FTCA	AveID	1.811	1.630		0.900	1.00	-10.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.074		0.860	0.932	-7.8	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9525		0.904	0.960	-5.8	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9069		0.950	1.00	-5.0	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8722		0.969	1.00	-3.1	40.0
8:2 FTS	L2ID		1.441		0.916	0.958	-4.3	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9151		0.990	1.00	-1.0	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8559		0.926	0.964	-3.9	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/29 Calibration Date: 02/18/2022 23:39  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_029.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9103		0.941	1.00	-5.9	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8954		1.02	1.00	1.8	40.0
10:2 FTUCA	AveID	1.208	1.205		0.998	1.00	-0.2	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.696		0.917	0.942	-2.7	50.0
10:2 FTCA	Q2ID		0.9781		1.07	1.00	6.6	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9456		0.915	1.00	-8.5	40.0
10:2 FTS	L2ID		1.941		0.891	0.964	-7.6	50.0
NMeFOSA	L2ID		1.000		0.926	1.00	-7.4	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.166		0.994	1.00	-0.6	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8794		0.901	0.968	-7.0	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8301		0.940	1.00	-6.0	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.232		0.869	1.00	-13.1	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.228		0.983	1.00	-1.7	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1233		0.955	1.00	-4.5	40.0
Perfluorohexadecanoic acid	L1ID		1.067		0.936	1.00	-6.4	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9550		0.943	1.00	-5.7	40.0
13C4 PFBA	Ave	1.172	1.165		1.24	1.25	-0.6	50.0
13C5 PFPeA	Ave	0.9197	0.9205		1.25	1.25	0.0	50.0
13C3 PFBS	Ave	0.5817	0.5789		1.16	1.16	-0.5	50.0
M2-4:2 FTS	Ave	0.1821	0.1666		1.07	1.17	-8.5	50.0
13C2 PFHxA	Ave	1.015	1.041		1.28	1.25	2.6	50.0
13C3 HFPO-DA	Ave	0.4963	0.5014		1.26	1.25	1.0	50.0
18O2 PFHxS	Ave	0.3776	0.3633		1.14	1.18	-3.8	50.0
13C4 PFHpA	Ave	0.9046	0.9195		1.27	1.25	1.6	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3559		1.32	1.25	5.5	50.0
13C-6:2 FTCA	Ave	0.0260	0.0279		1.34	1.25	7.1	50.0
M2-6:2 FTS	Ave	0.1799	0.1755		1.16	1.19	-2.5	50.0
13C4 PFOA	Ave	0.9356	0.9445		1.26	1.25	1.0	50.0
13C4 PFOS	Ave	0.5610	0.5593		1.19	1.20	-0.3	50.0
13C5 PFNA	Ave	1.268	1.301		1.28	1.25	2.6	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4905		1.36	1.25	8.5	50.0
13C-8:2 FTCA	Ave	0.0330	0.0342		1.29	1.25	3.5	50.0
13C8 FOSA	Ave	0.8475	0.8446		1.25	1.25	-0.4	50.0
13C2 PFDA	Ave	1.210	1.260		1.30	1.25	4.1	50.0
M2-8:2 FTS	Ave	0.1961	0.2040		1.25	1.20	4.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/29 Calibration Date: 02/18/2022 23:39  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_029.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1182		1.30	1.25	4.1	50.0
13C2 PFUnA	Ave	1.168	1.223		1.31	1.25	4.8	50.0
d5-NEtFOSAA	Ave	0.1164	0.1230		1.32	1.25	5.7	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5055		1.24	1.25	-0.5	50.0
13C-10:2 FTCA	Ave	0.0309	0.0302		1.22	1.25	-2.4	50.0
13C2 PFDoA	Ave	1.152	1.196		1.30	1.25	3.8	50.0
13C2 10:2 FTS	Ave	0.1652	0.1723		1.24	1.18	4.3	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1164		1.23	1.25	-1.9	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0993		1.23	1.25	-1.6	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1297		1.32	1.25	5.4	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0796		1.23	1.25	-1.7	50.0
13C2 PFTeDA	Ave	0.9216	0.9013		1.22	1.25	-2.2	50.0
13C2 PFHxDA	Ave	0.5997	0.6025		1.26	1.25	0.5	50.0
13C8 PFOA	AveID	0.9229	0.9699		1.31	1.25	5.1	50.0
13C8 PFOS	AveID	0.2212	0.2241		1.21	1.20	1.3	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 18-Feb-2022 23:39:02 ALS Bottle#: 29 Worklist Smp#: 29  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-029 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:21:41

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	3876328	0.9604		96.0	1566	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.681	6361365	1.24		99.4	22768	
3 PFECA F										
229.00 > 85.00	2.919	2.919	0.0	0.936	2830288	0.9339		93.4	11984	
D 5 13C5 PFPeA										
267.90 > 223.00	3.118	3.115	0.003	0.756	5027233	1.25		100	17809	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.118	3.123	-0.005	1.000	3827879	1.01		101	1725	
4 3:3 FTCA										
241.00 > 177.10	3.126	3.131	-0.005	0.997	139776	1.02	Target=1.13	102	1156	
241.00 > 116.90	3.126	3.131	-0.005	0.997	117400		1.19(0.56-1.69)		206	
D 7 13C3 PFBS										
301.90 > 80.00	3.135	3.131	0.004	0.760	2940525	1.16		99.5	11689	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.135	3.140	-0.005	1.000	2408306	0.8688	Target=2.61	98.3	3255	
298.90 > 99.00	3.135	3.140	-0.005	1.000	905113		2.66(1.31-3.92)		3131	
9 PFECA A										
278.95 > 84.90	3.206	3.211	-0.005	1.028	4835517	1.03		103	12746	
11 PES										
314.80 > 135.00	3.264	3.260	0.004	1.041	5195330	0.8670		97.4	19176	
12 PFECA B										
295.22 > 201.00	3.378	3.384	-0.006	0.981	1916018	1.02		102	7820	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.420	3.416	0.004	0.829	849792	1.07		91.5	1558	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.420	3.416	0.004	1.000	1536303	0.9283		99.4	6459	
D 14 13C2 PFHxA										
315.00 > 270.00	3.441	3.448	-0.007	0.834	5684645	1.28		103	16627	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.441	3.448	-0.007	1.098	2266430	0.8679	Target=3.55	92.5	5926	
349.00 > 99.00	3.441	3.448	-0.007	1.098	653311		3.47(1.78-5.33)		5615	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.441	3.448	-0.007	1.000	3531988	0.9762	Target=11.60	97.6	1736	
313.00 > 119.00	3.441	3.448	-0.007	1.000	305630		11.56(5.80-17.40)		350	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.547	3.553	-0.006	0.860	2738446	1.26		101	9014	
17 HFPO-DA										
285.00 > 169.00	3.547	3.553	-0.006	1.000	2702507	0.9768	Target=2.45	97.7	1773	
329.00 > 169.00	3.547	3.553	-0.006	1.000	1077541		2.51(1.23-3.68)		1502	
D 20 18O2 PFHxS										
403.00 > 84.00	3.776	3.783	-0.007	0.915	1876931	1.14		96.2	4413	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.776	3.783	-0.007	1.000	1909410	0.8685	Target=3.44	95.4	5037	M
399.00 > 99.00	3.776	3.783	-0.007	1.000	550561		3.47(1.72-5.17)		2101	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.786	3.793	-0.007	0.918	5021773	1.27		102	7205	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.786	3.793	-0.007	1.000	4080850	1.01	Target=3.25	101	2911	
363.00 > 169.00	3.786	3.793	-0.007	1.000	1197544		3.41(1.62-4.87)		1460	
25 DONA										
377.00 > 251.00	3.824	3.829	-0.005	0.866	5636734	0.8726	Target=1.74	92.6	11211	
377.00 > 85.00	3.824	3.829	-0.005	0.866	3278809		1.72(0.87-2.61)		124	
26 5:3 FTCA										
340.88 > 236.90	3.849	3.853	-0.004	0.987	419194	0.9135	Target=1.11	91.4	1370	
340.88 > 216.90	3.849	3.853	-0.004	0.987	386016		1.09(0.56-1.67)		1186	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.882	3.887	-0.004	0.941	1943952	1.32		106	4166	
27 6:2 FTUCA										
356.86 > 292.90	3.882	3.895	-0.013	1.000	1560412	0.9589	Target=13.05	95.9	3756	
356.86 > 243.00	3.882	3.895	-0.013	1.000	104067		14.99(6.52-19.57)		427	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.899	3.904	-0.005	0.945	152136	1.34		107	583	
29 6:2 FTCA										
377.10 > 63.00	3.908	3.913	-0.005	1.002	79997	0.9465	Target=1.29	94.6	375	
377.10 > 313.10	3.908	3.913	-0.005	1.002	63443		1.26(0.65-1.94)		93.8	
32 PFECHS										
460.80 > 380.90	4.059	4.065	-0.005	0.984	2583273	0.8429	Target=1.75	91.4	7218	
460.80 > 98.90	4.059	4.065	-0.005	0.984	1476834		1.75(0.87-2.62)		3468	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.107	4.112	-0.005	0.930	2096967	0.8690	Target=3.72	91.3	5129	
449.00 > 99.00	4.107	4.112	-0.005	0.930	539140		3.89(1.86-5.57)		2573	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.116	4.121	-0.005	0.998	910629	1.16		97.5	2964	
35 6:2 FTS										
427.00 > 407.00	4.116	4.121	-0.005	1.000	1241526	0.8849		93.3	2850	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.116	4.121	-0.005	0.998	5003375	1.31		105	13108	
D 31 13C4 PFOA										
417.00 > 372.00	4.125	4.131	-0.006	1.000	5158486	1.26		101	11365	
* 30 13C2 PFOA										
415.00 > 370.00	4.125	4.131	-0.006		5461512	1.25			12229	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.125	4.131	-0.006	1.000	4132795	0.9354	Target=2.51	93.5	2973	
413.00 > 169.00	4.125	4.131	-0.006	1.000	1737405		2.38(1.26-3.77)		3018	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.408	4.421	-0.013	0.998	654503	1.21		101	1941	
D 39 13C4 PFOS										
503.00 > 80.00	4.417	4.421	-0.004	1.071	2919983	1.19		99.7	3217	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.417	4.421	-0.004	1.000	2345783	0.8383	Target=4.30	90.3	3374	M
499.00 > 99.00	4.417	4.421	-0.004	1.000	522439		4.49(2.15-6.45)		1601	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.434	4.439	-0.005	1.000	4003946	0.9261	Target=3.60	92.6	3698	
463.00 > 169.00	4.434	4.439	-0.005	1.000	1037224		3.86(1.80-5.40)		2361	
D 41 13C5 PFNA										
468.00 > 423.00	4.434	4.439	-0.005	1.075	7105740	1.28		103	16927	
43 7:3 FTCA										
441.00 > 337.00	4.524	4.529	-0.005	0.993	689673	0.8820	Target=1.42	88.2	1630	
441.00 > 317.00	4.524	4.529	-0.005	0.993	519769		1.33(0.71-2.13)		1953	
44 8:2 FTUCA										
456.86 > 392.90	4.541	4.545	-0.004	1.000	1816384	0.8861	Target=35.37	88.6	3638	
456.86 > 343.00	4.541	4.545	-0.004	1.000	60077		30.23(17.68-53.05)		233	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.541	4.553	-0.012	1.000	2678875	1.36		109	3931	
46 8:2 FTCA										
477.00 > 393.10	4.557	4.562	-0.005	1.000	243719	0.9001	Target=3.35	90.0	1200	
477.00 > 63.20	4.557	4.562	-0.005	1.000	72059		3.38(1.68-5.03)		383	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.557	4.562	-0.005	1.105	186890	1.29		104	621	
49 9CIFOS										
531.00 > 351.00	4.574	4.578	-0.004	1.109	4722951	0.8597		92.2	7679	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.693	4.697	-0.004	1.063	2234292	0.9041	Target=3.99	94.2	4981	
549.00 > 99.00	4.693	4.697	-0.004	1.063	577965		3.87(2.00-5.99)		1701	
D 55 13C8 FOSA										
506.00 > 78.00	4.710	4.714	-0.004	1.142	4612583	1.25		99.6	5436	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.710	4.714	-0.004	1.000	3346513	0.9496		95.0	6846	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										M
513.00 > 469.00	4.719	4.731	-0.012	1.000	4801027	0.9694	Target=10.58	96.9	3612	
513.00 > 169.00	4.719	4.731	-0.012	1.000	428952		11.19(5.29-15.88)		302	M
D 52 13C2 PFDA										
515.00 > 470.00	4.719	4.731	-0.012	1.144	6880600	1.30		104	12880	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.736	4.740	-0.004	1.148	1067126	1.25		104	2100	
53 8:2 FTS										
527.00 > 507.00	4.736	4.740	-0.004	1.000	1229831	0.9163		95.7	3492	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.867	4.872	-0.005	1.180	645407	1.30		104	338	
57 NMeFOSAA										
570.00 > 419.00	4.867	4.880	-0.013	1.000	472468	0.99		99.0	522	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.953	4.957	-0.004	1.121	2016136	0.9262	Target=3.55	96.1	5463	
599.00 > 99.00	4.953	4.957	-0.004	1.121	570745		3.53(1.78-5.33)		3220	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.990	4.995	-0.005	1.002	4865521	0.9412	Target=8.26	94.1	5706	
563.00 > 169.00	4.980	4.995	-0.015	1.000	587613		8.28(4.13-12.39)		2038	
D 59 13C2 PFUnA										
565.00 > 520.00	4.980	4.995	-0.015	1.207	6681399	1.31		105	18960	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.999	5.005	-0.006	1.212	671916	1.32		106	2752	
62 NEtFOSAA										M
584.00 > 419.00	5.009	5.015	-0.006	1.002	481285	1.02		102	644	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.087	5.093	-0.006	1.233	2760539	1.24		99.5	6610	
65 10:2 FTUCA										
556.86 > 492.90	5.087	5.093	-0.006	1.000	2661922	1.00		99.8	4881	
63 11C1FOS										
631.00 > 451.00	5.087	5.093	-0.006	1.152	3903447	0.9170		97.3	7193	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.106	5.112	-0.006	1.238	164813	1.22		97.6	932	
66 10:2 FTCA										
576.80 > 493.00	5.106	5.112	-0.006	1.000	128965	1.07	Target=2.53	107	528	
576.80 > 63.10	5.106	5.112	-0.006	1.000	53485		2.41(1.26-3.79)		174	
D 69 13C2 PFDoA										
615.00 > 570.00	5.222	5.226	-0.004	1.266	6532426	1.30		104	11178	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.222	5.226	-0.004	1.000	4941545	0.9153	Target=6.85	91.5	4219	
613.00 > 169.00	5.222	5.226	-0.004	1.000	718761		6.88(3.43-10.28)		1402	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.238	5.243	-0.005	1.270	891238	1.24		104	2517	
71 10:2 FTS										
627.00 > 607.00	5.246	5.251	-0.005	1.002	1408287	0.8910		92.4	6082	
74 NMeFOSA										
512.00 > 169.00	5.278	5.284	-0.006	1.000	434048	0.9257		92.6	655	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.278	5.284	-0.006	1.279	542574	1.23		98.4	43.1	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.278	5.284	-0.006	1.279	635535	1.23		98.1	426	
75 N-MeFOSE-M										
616.00 > 59.00	5.287	5.292	-0.005	1.002	593042	0.99		99.4	848	
76 PFDoS										
699.00 > 80.00	5.394	5.399	-0.005	1.221	2080148	0.9005	Target=4.22	93.0	4288	
699.00 > 99.00	5.394	5.399	-0.005	1.221	485372		4.29(2.11-6.34)		2667	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.430	5.435	-0.005	1.040	4337887	0.9400	Target=6.32	94.0	4571	
663.00 > 169.00	5.430	5.435	-0.005	1.040	680201		6.38(3.16-9.48)		2943	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.439	5.435	0.004	1.318	708355	1.32		105	333	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.447	5.452	-0.005	1.320	434731	1.23		98.3	626	
79 N-EtFOSE-M										
630.00 > 59.00	5.447	5.452	-0.005	1.002	698419	0.8686		86.9	750	
81 N-EtFOSA-M										
526.00 > 169.00	5.456	5.452	0.004	1.002	426939	0.9829		98.3	551	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.612	5.617	-0.005	1.000	485607	0.9551	Target=1.01	95.5	2099	
713.00 > 219.00	5.612	5.617	-0.005	1.000	475156		1.02(0.51-1.52)		2189	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.612	5.617	-0.005	1.360	4922418	1.22		97.8	12783	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.921	5.924	-0.003	1.000	2807562	0.9359	Target=8.64	93.6	3345	
813.00 > 169.00	5.921	5.924	-0.003	1.000	337316		8.32(4.32-12.97)		1167	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.921	5.924	-0.003	1.435	3290594	1.26		100	5529	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.181	6.185	-0.004	1.044	2513900	0.9428	Target=11.77	94.3	3618	
913.00 > 169.00	6.181	6.185	-0.004	1.044	210516		11.94(5.88-17.65)		852	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Injection Date: 18-Feb-2022 23:39:02

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 29

Worklist Smp#: 29

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

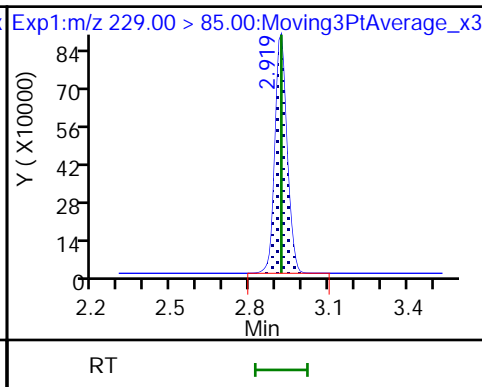
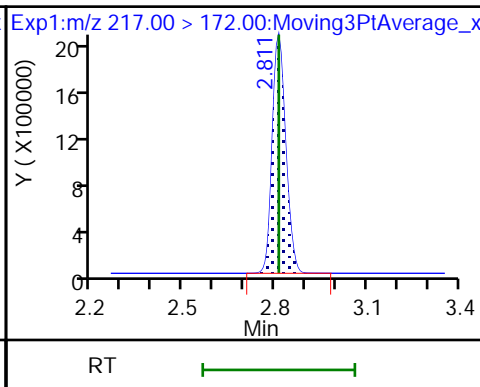
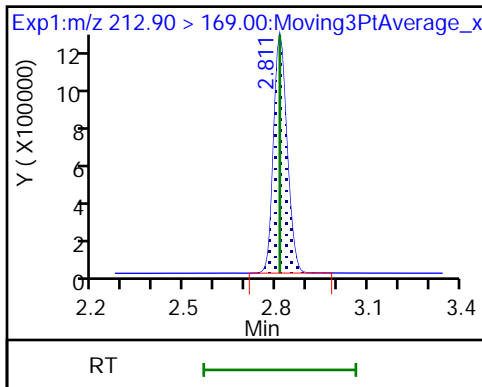
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

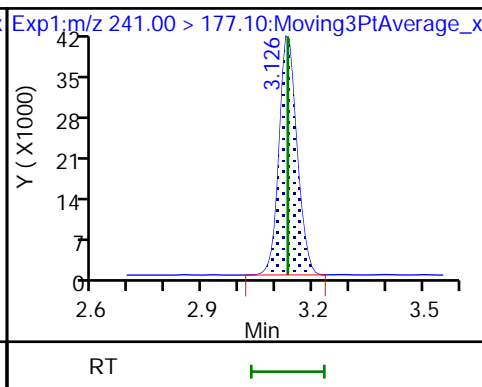
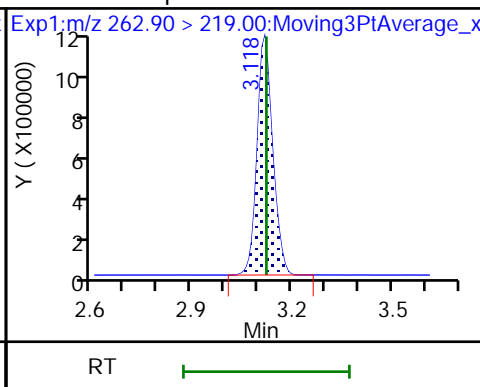
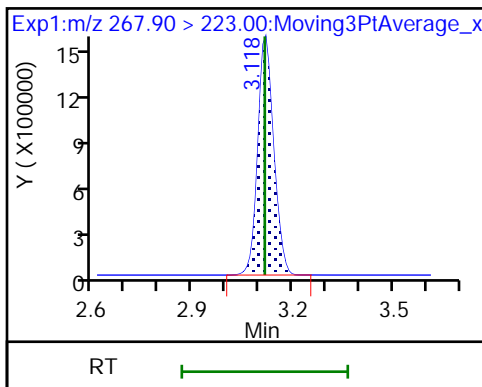
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

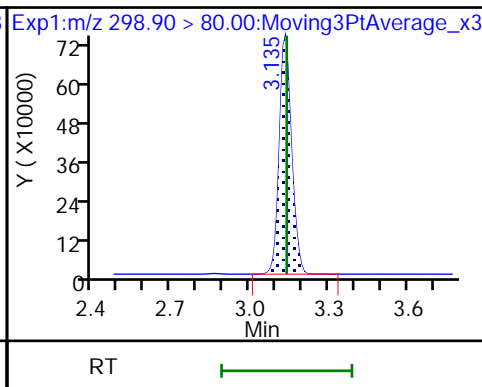
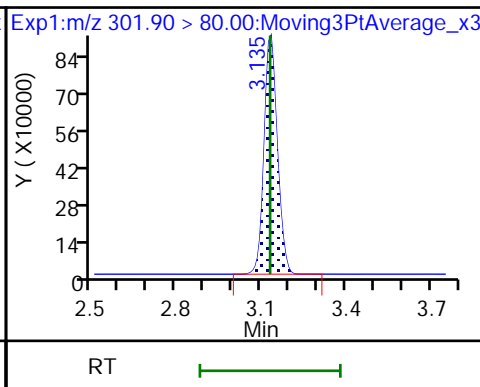
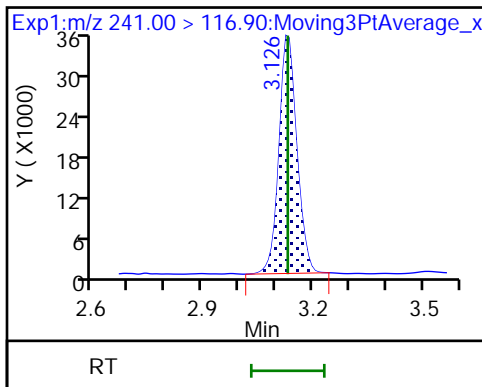
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

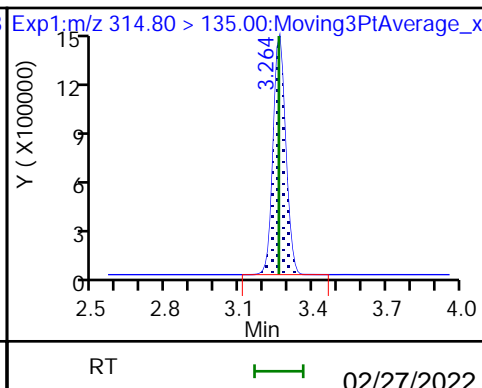
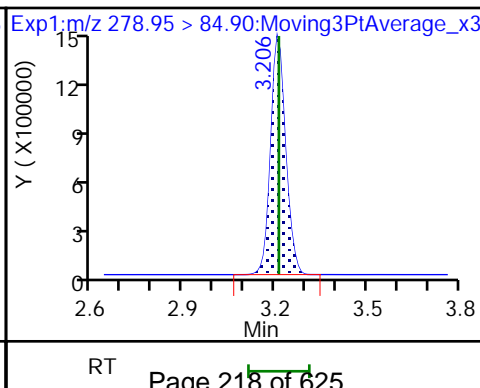
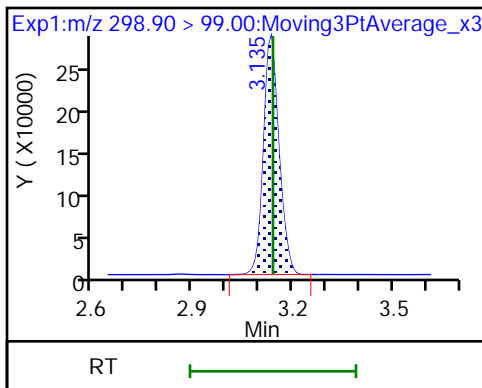
8 Perfluorobutanesulfonic acid

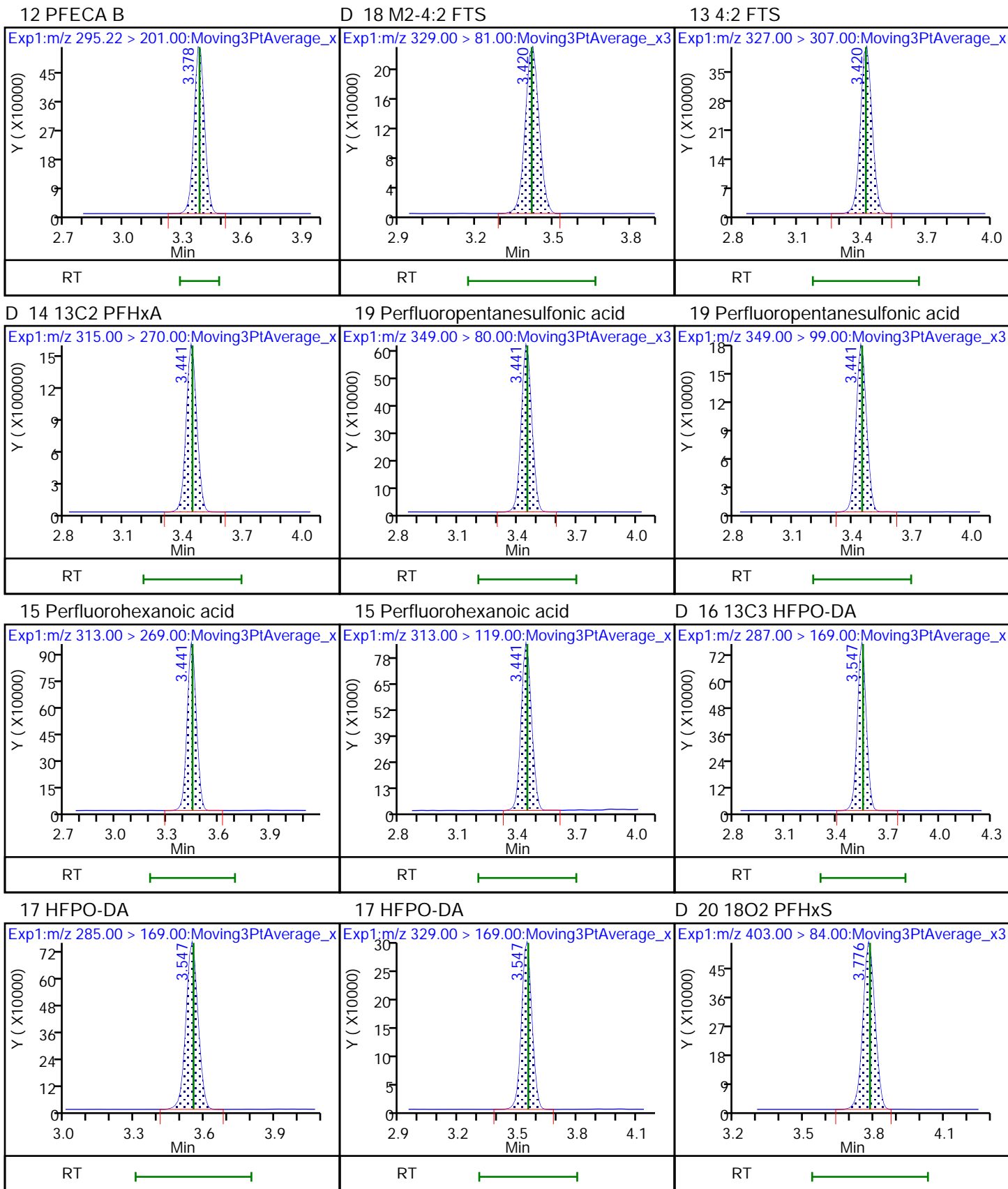


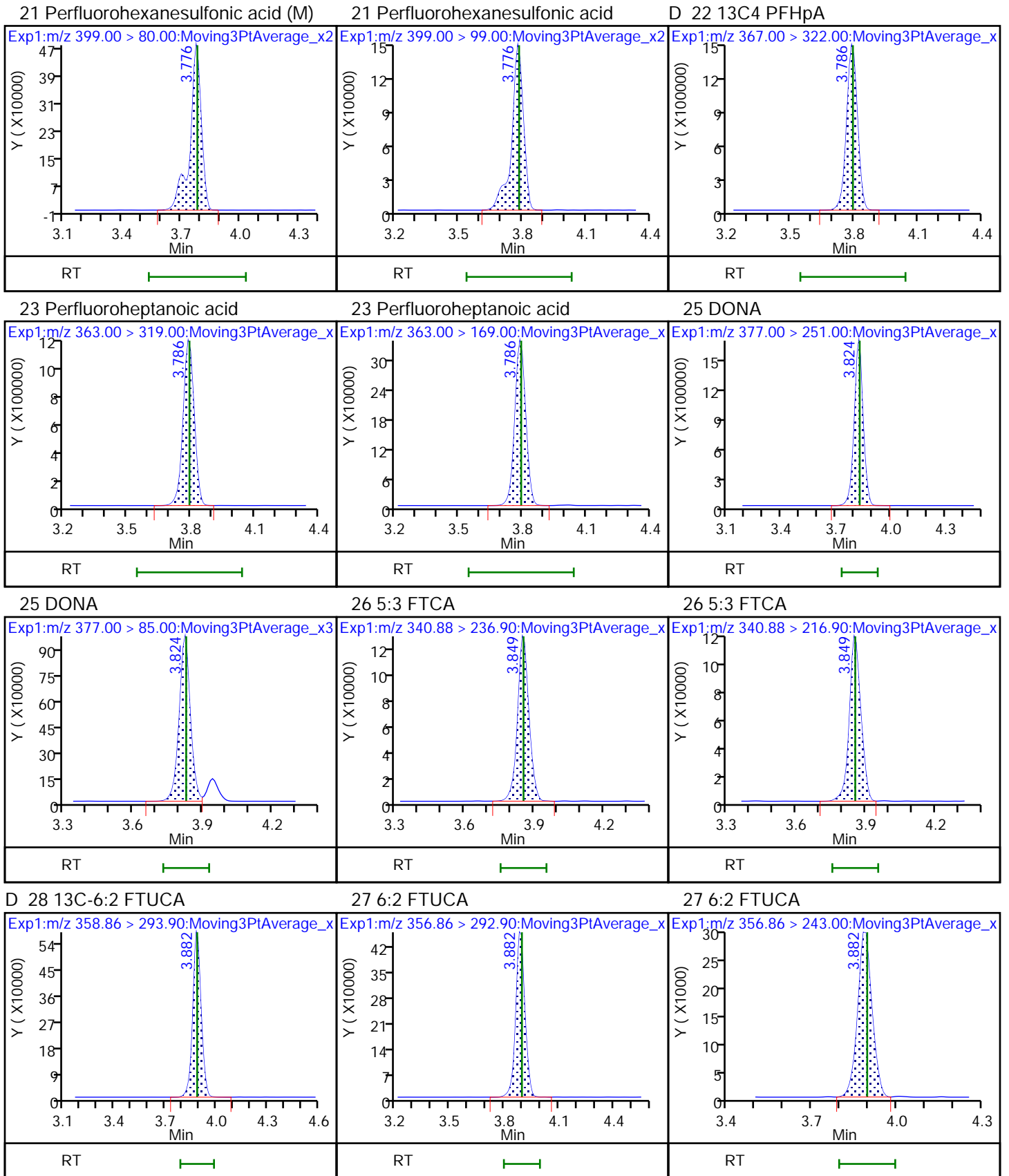
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



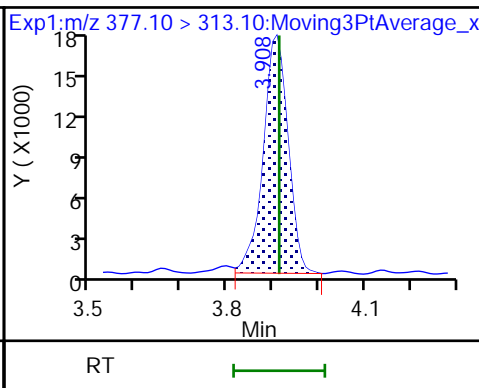
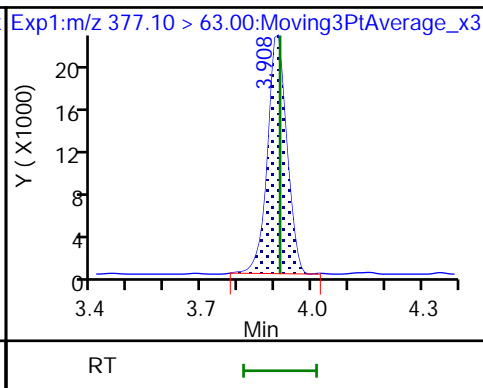
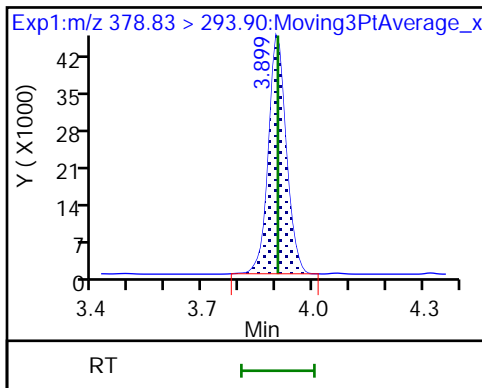




D 24 13C-6:2 FTCA

29 6:2 FTCA

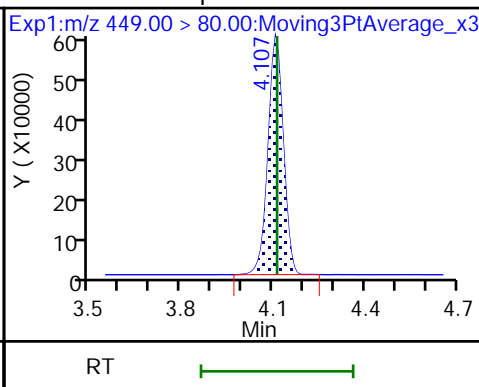
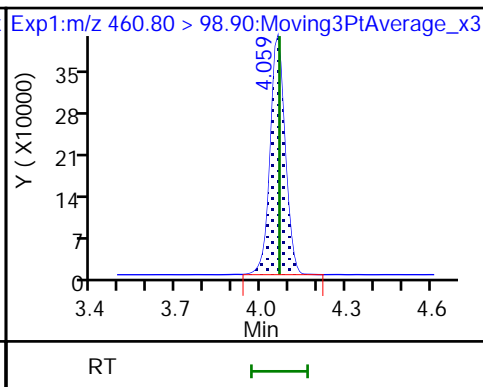
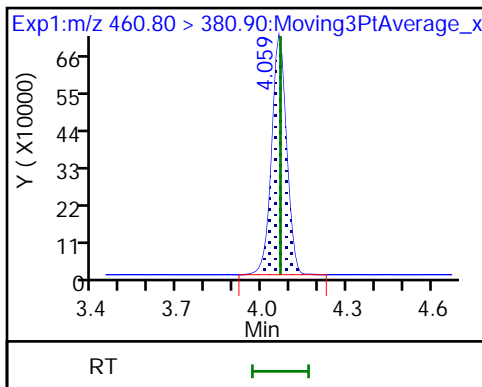
29 6:2 FTCA



32 PFECHS

32 PFECHS

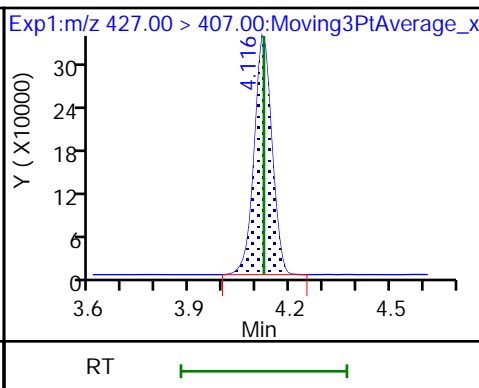
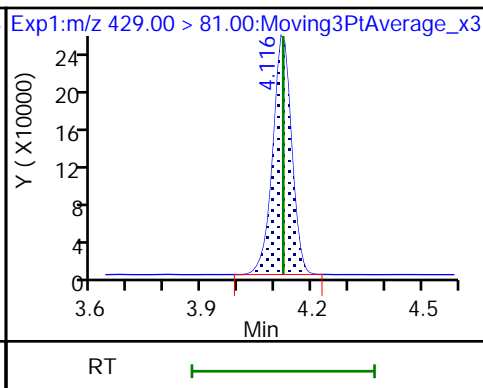
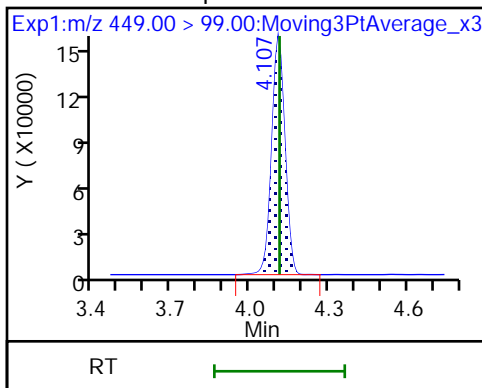
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

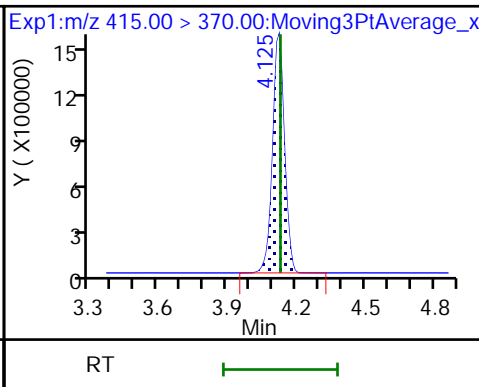
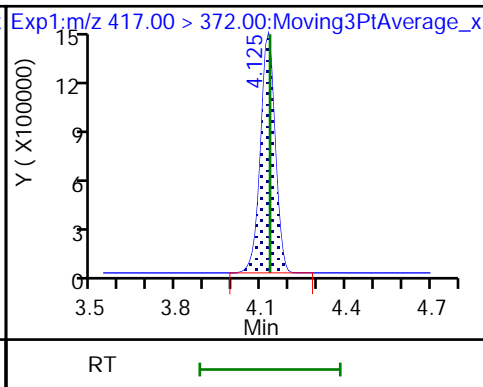
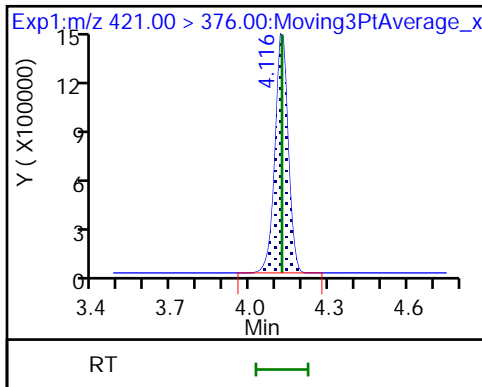
35 6:2 FTS



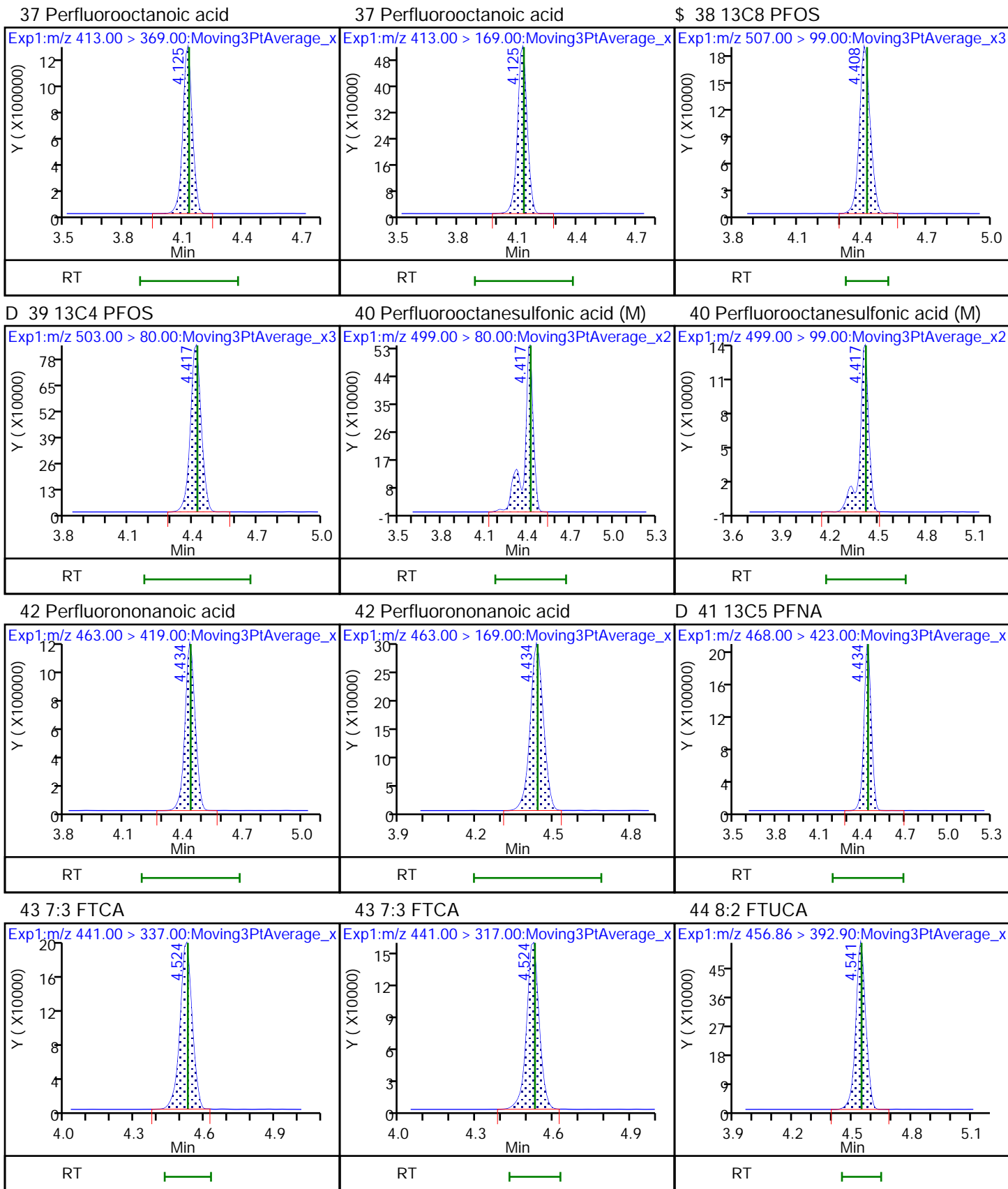
\$ 36 13C8 PFOA

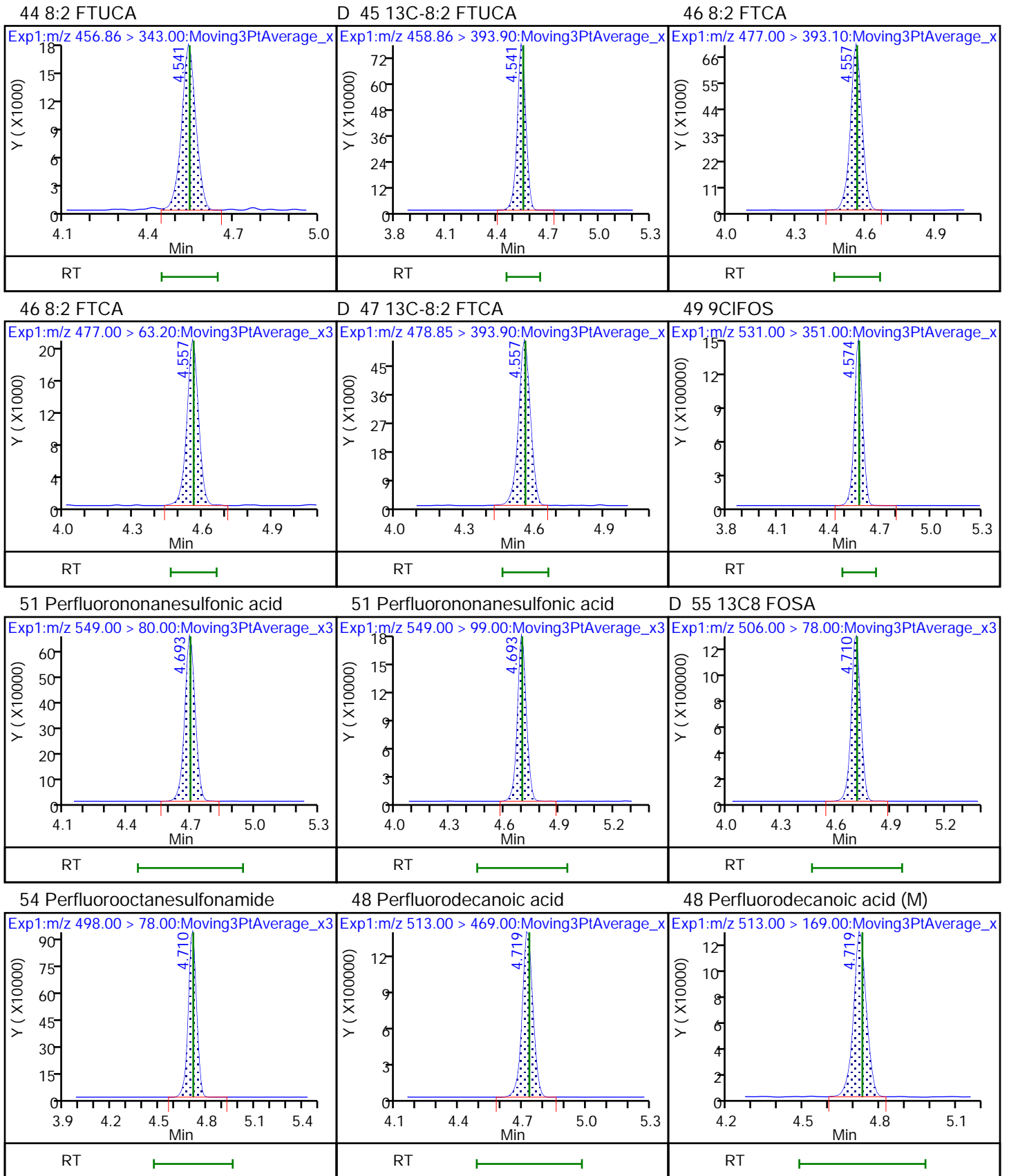
D 31 13C4 PFOA

\* 30 13C2 PFOA





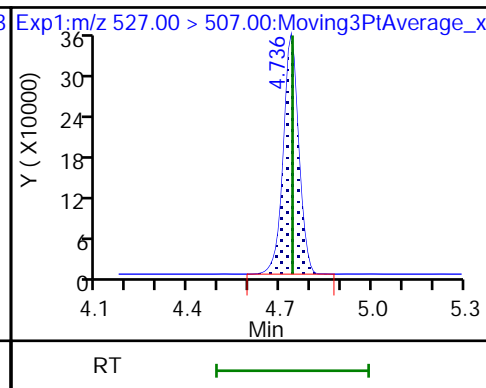
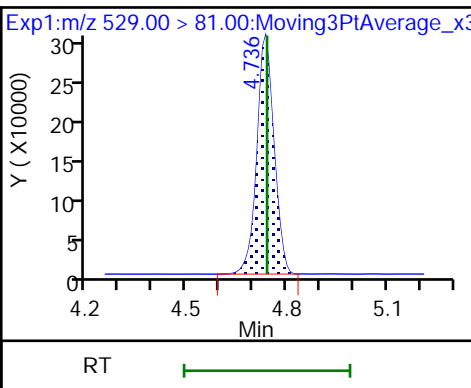
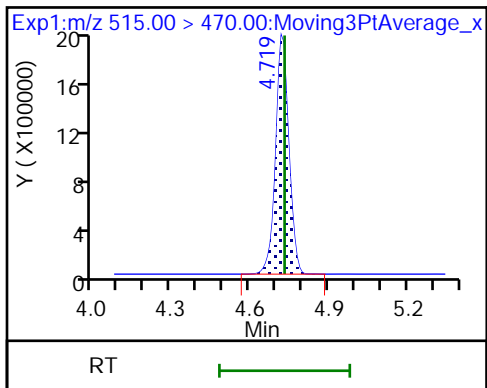




D 52 13C2 PFDA

D 50 M2-8:2 FTS

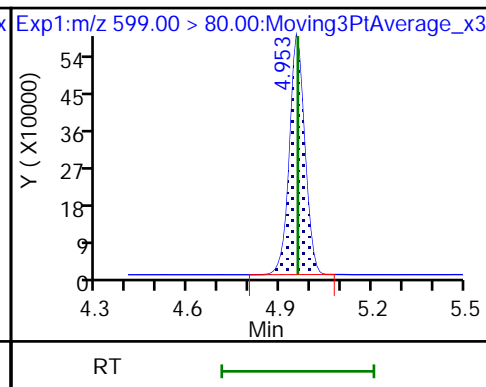
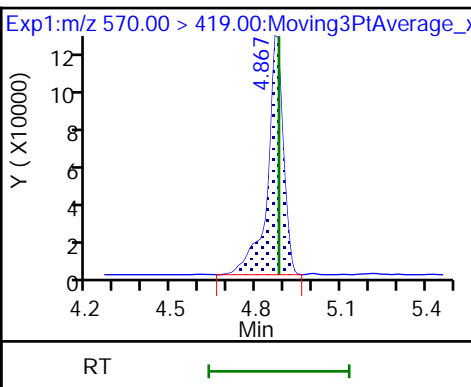
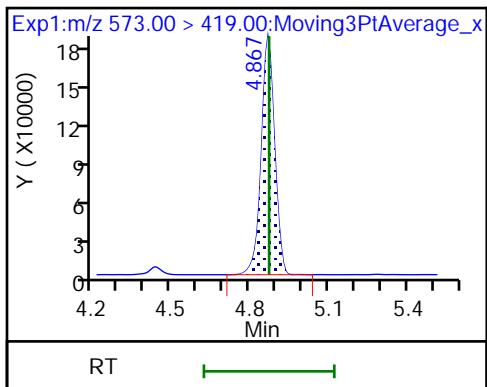
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA

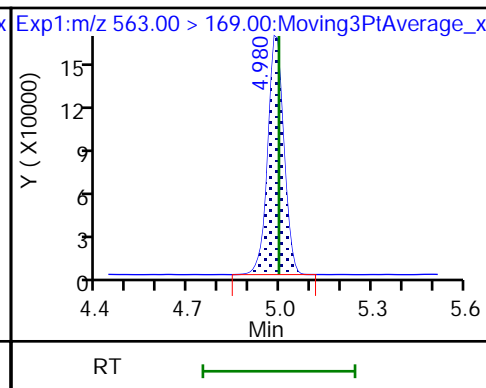
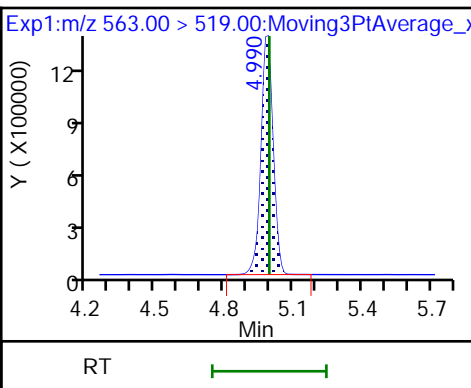
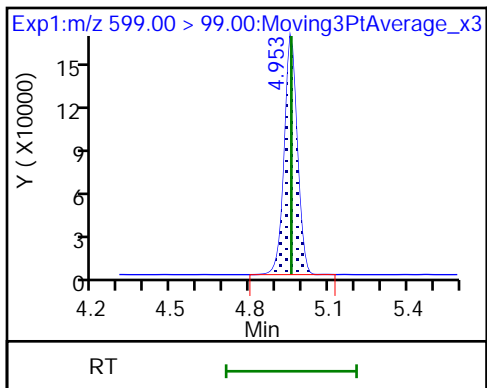
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

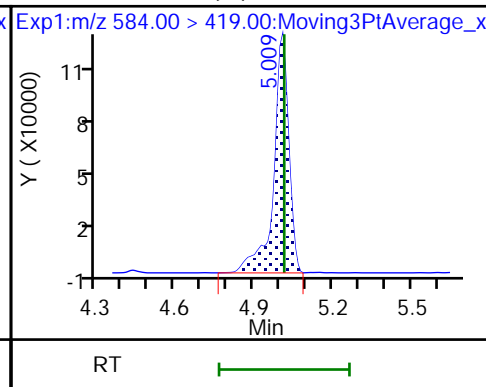
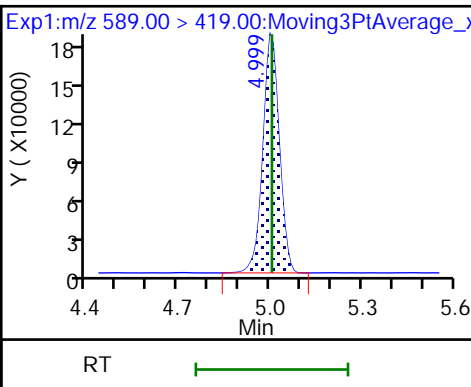
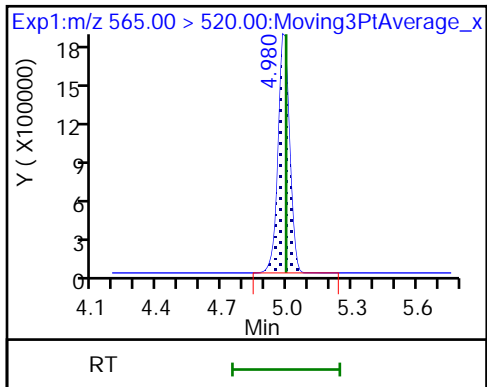
60 Perfluoroundecanoic acid



D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

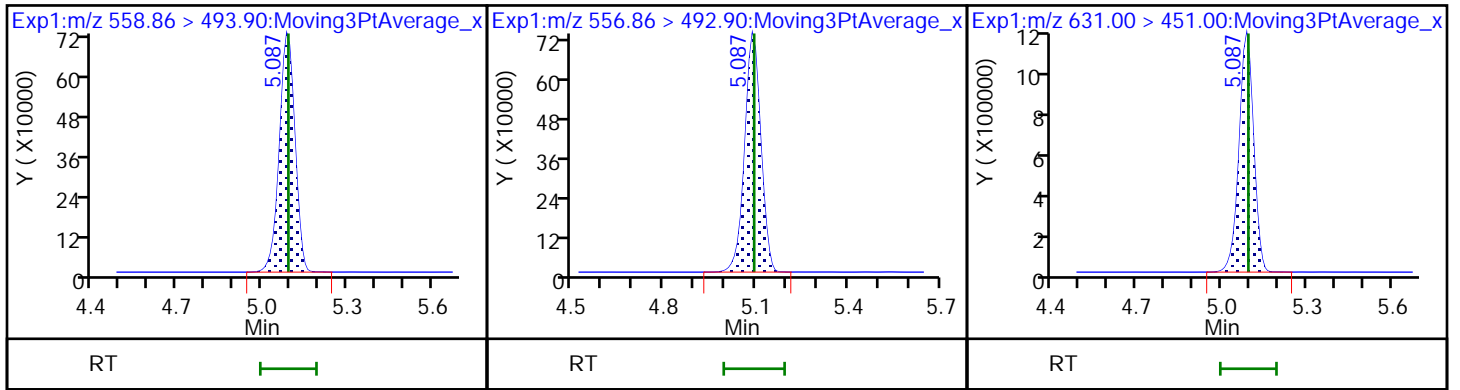
62 NEtFOSAA (M)



D 67 13C-10:2 FTUCA

65 10:2 FTUCA

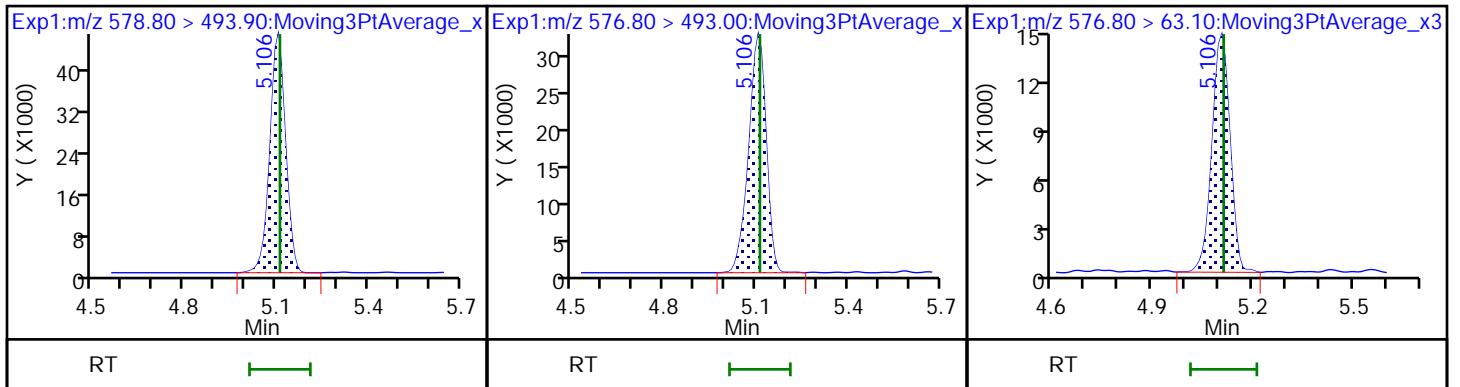
63 11CIFOS



D 64 13C-10:2 FTCA

66 10:2 FTCA

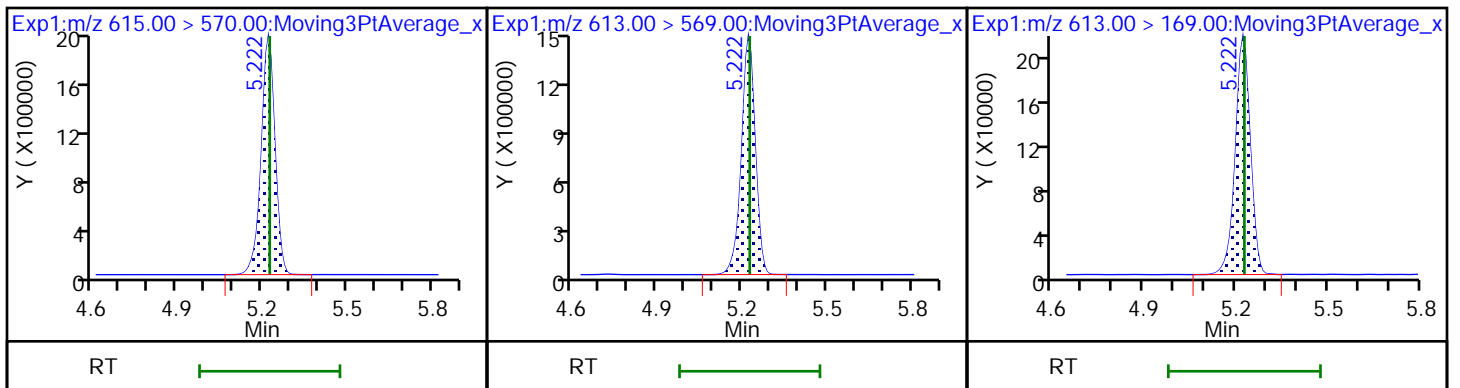
66 10:2 FTCA



D 69 13C2 PFDaA

68 Perfluorododecanoic acid

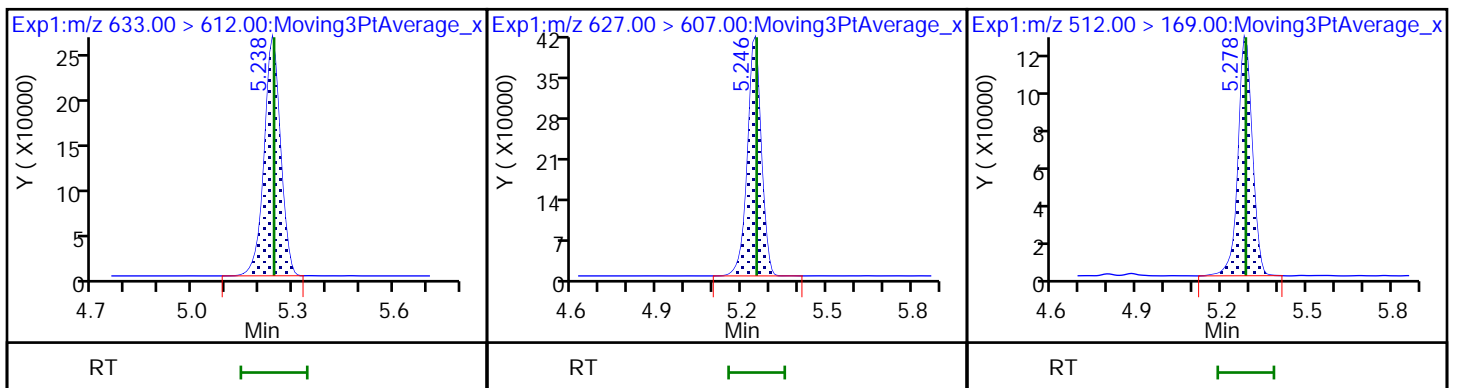
68 Perfluorododecanoic acid



D 70 13C2 10:2 FTS

71 10:2 FTS

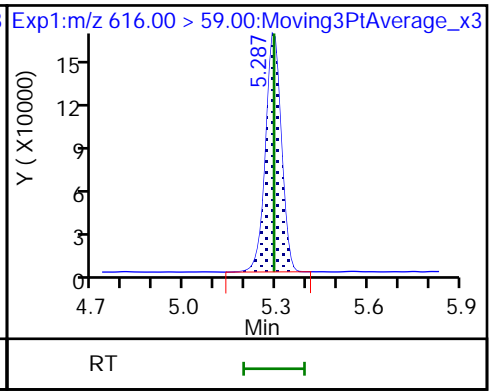
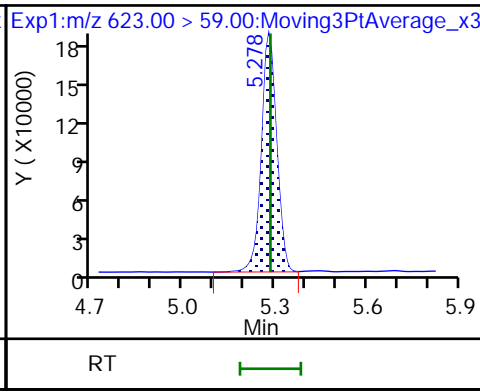
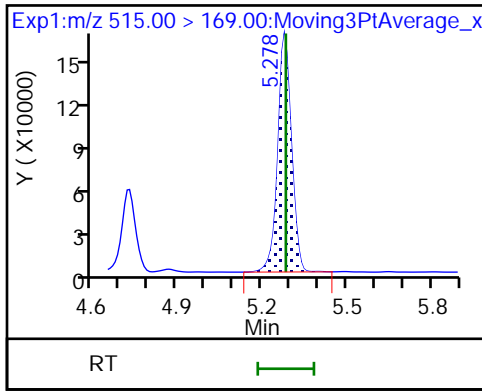
74 NMeFOSA



D 73 d-N-MeFOSE-M

D 72 d7-N-MeFOSE-M

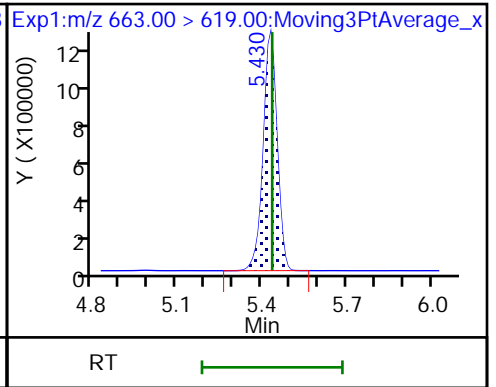
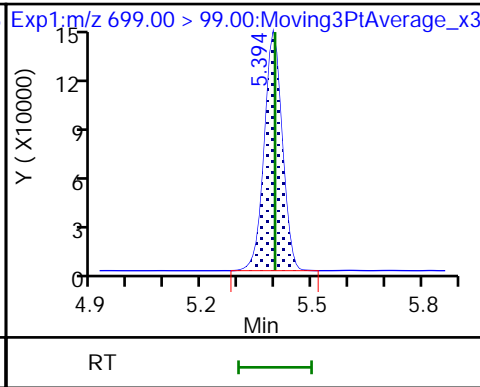
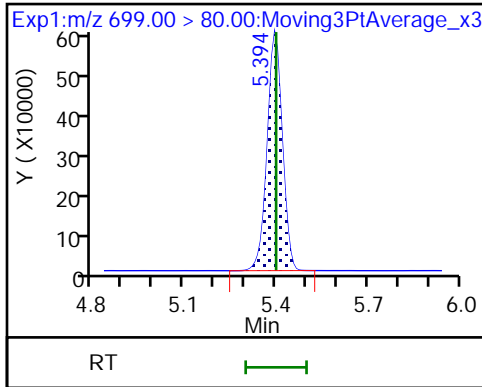
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

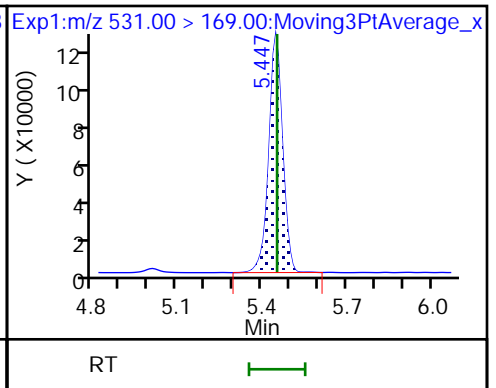
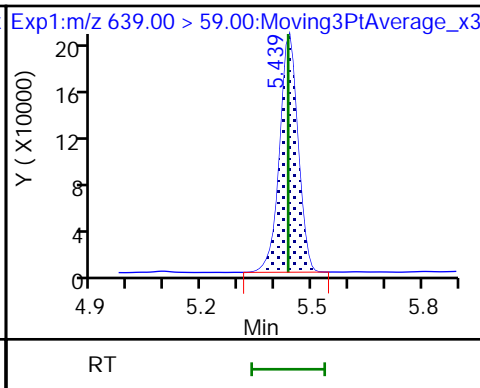
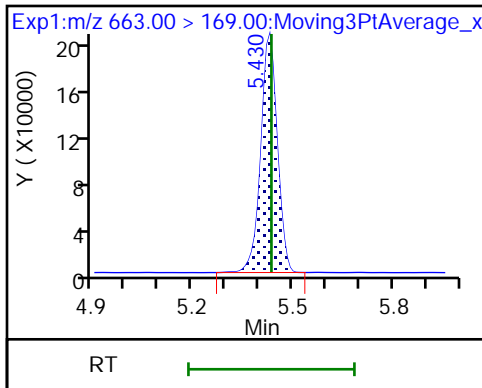
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

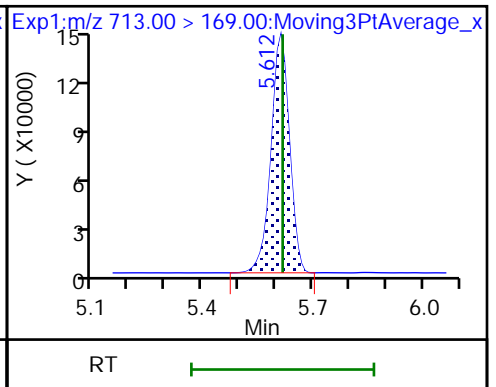
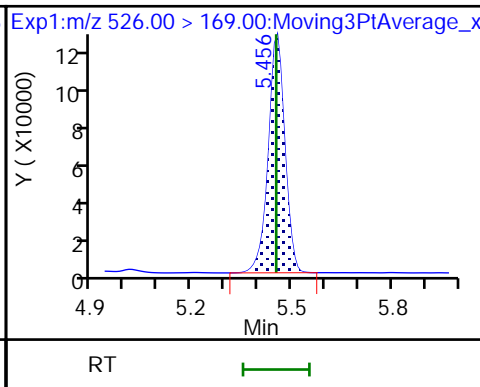
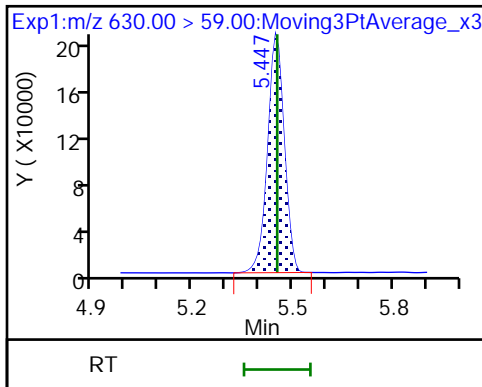
D 80 d-N-EtFOSE-M



79 N-EtFOSE-M

81 N-EtFOSE-M

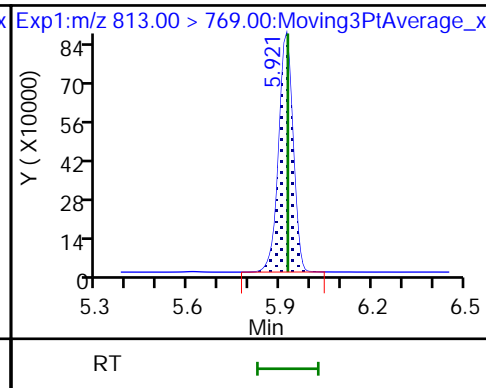
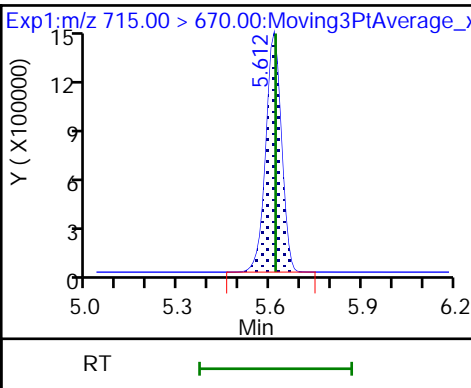
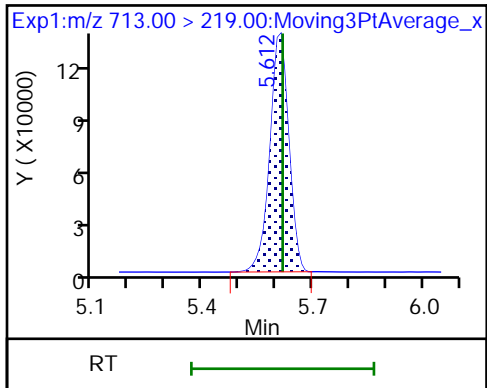
83 Perfluorotetradecanoic acid



83 Perfluorotetradecanoic acid

D 82 13C2 PFTeDA

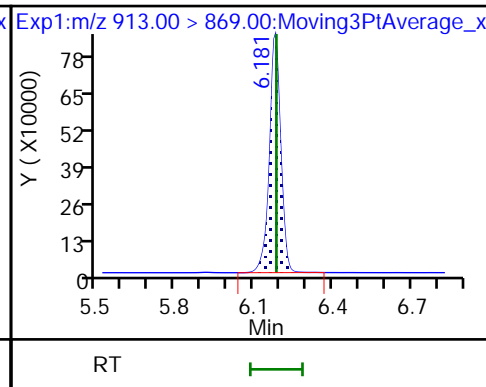
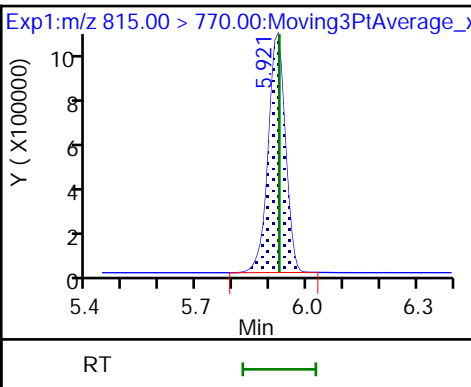
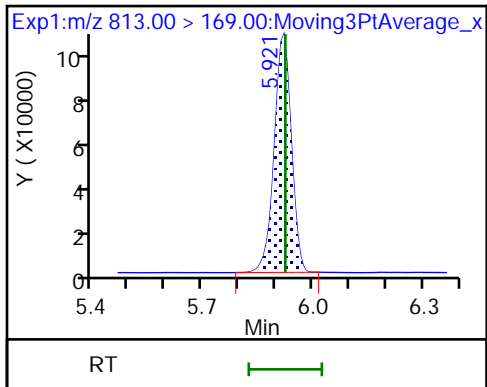
85 Perfluorohexadecanoic acid



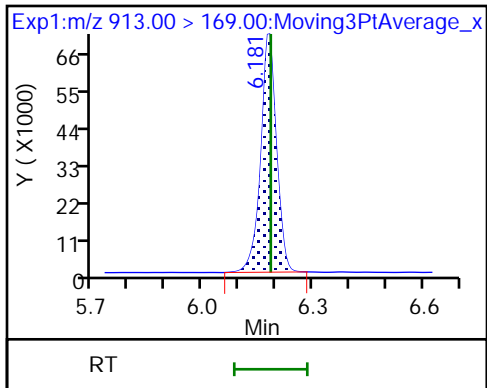
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid



86 Perfluorooctadecanoic acid



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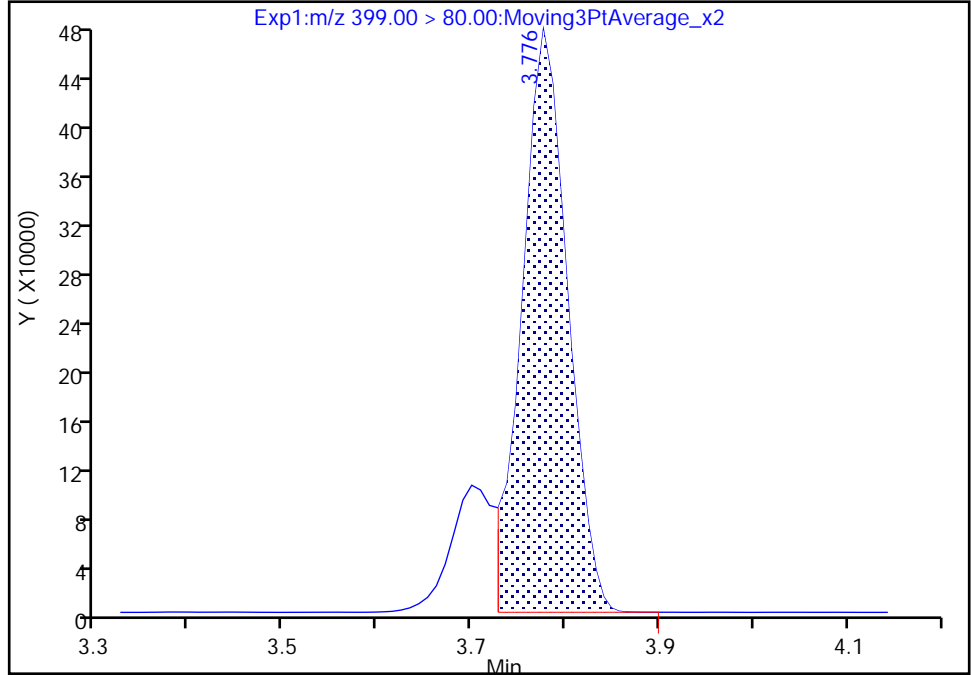
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Injection Date: 18-Feb-2022 23:39:02 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

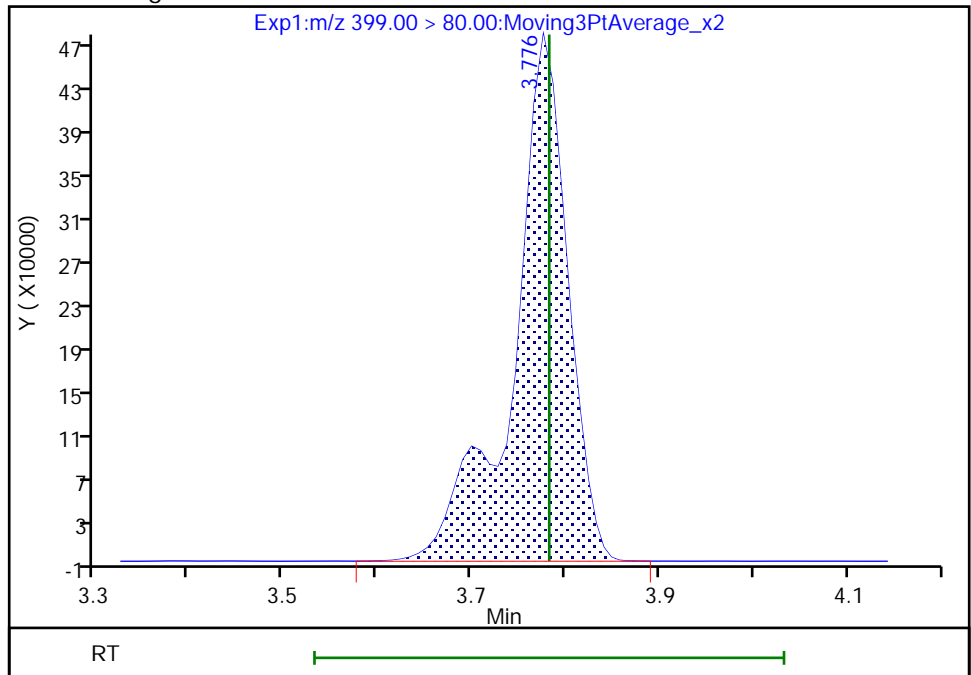
RT: 3.78  
Area: 1583964  
Amount: 0.720470  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 1909410  
Amount: 0.868500  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:20:48  
Audit Action: Manually Integrated

Eurofins Knoxville

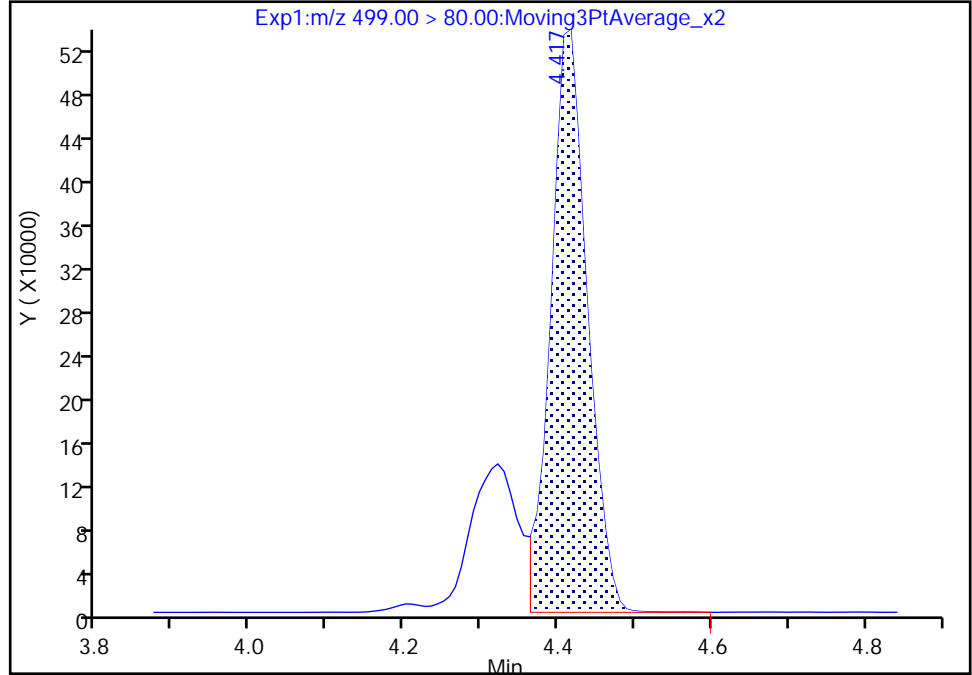
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

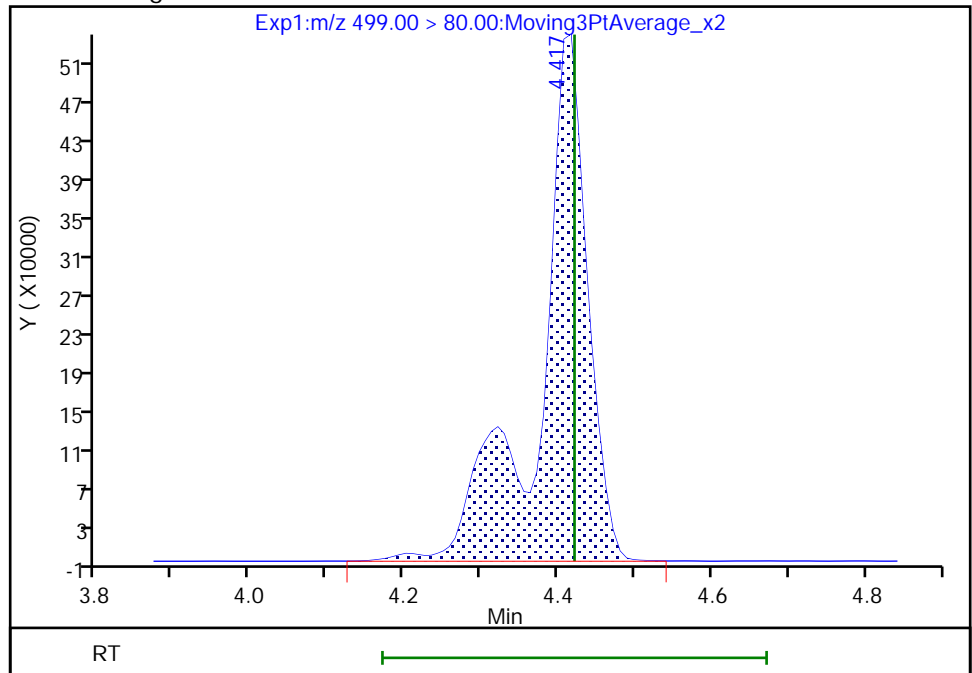
RT: 4.42  
Area: 1743095  
Amount: 0.622905  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 2345783  
Amount: 0.838280  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:21:01  
Audit Action: Manually Integrated



Eurofins Knoxville

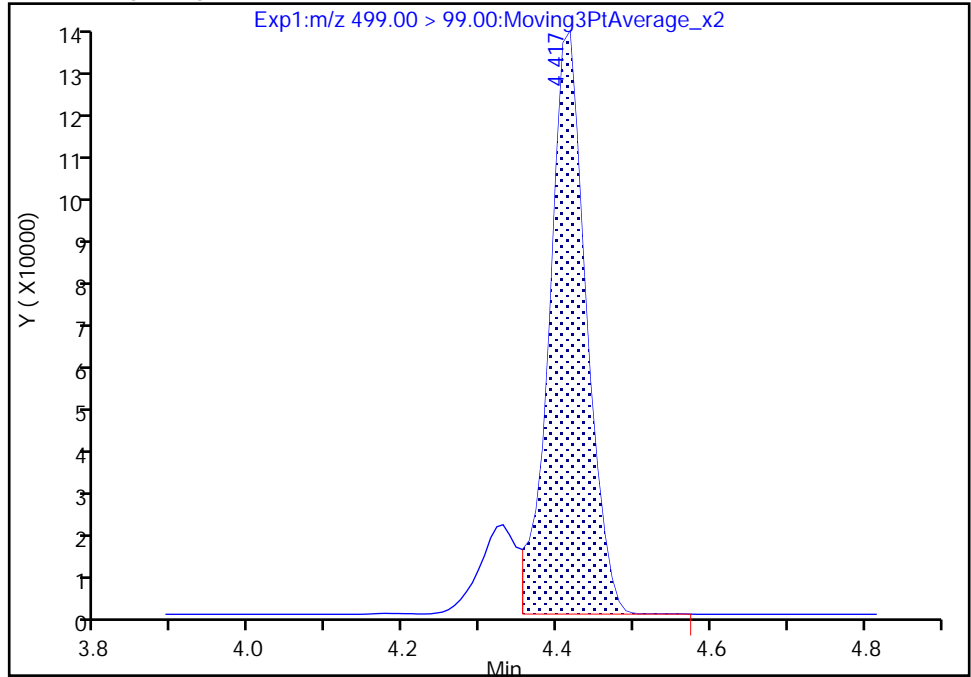
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Injection Date: 18-Feb-2022 23:39:02 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

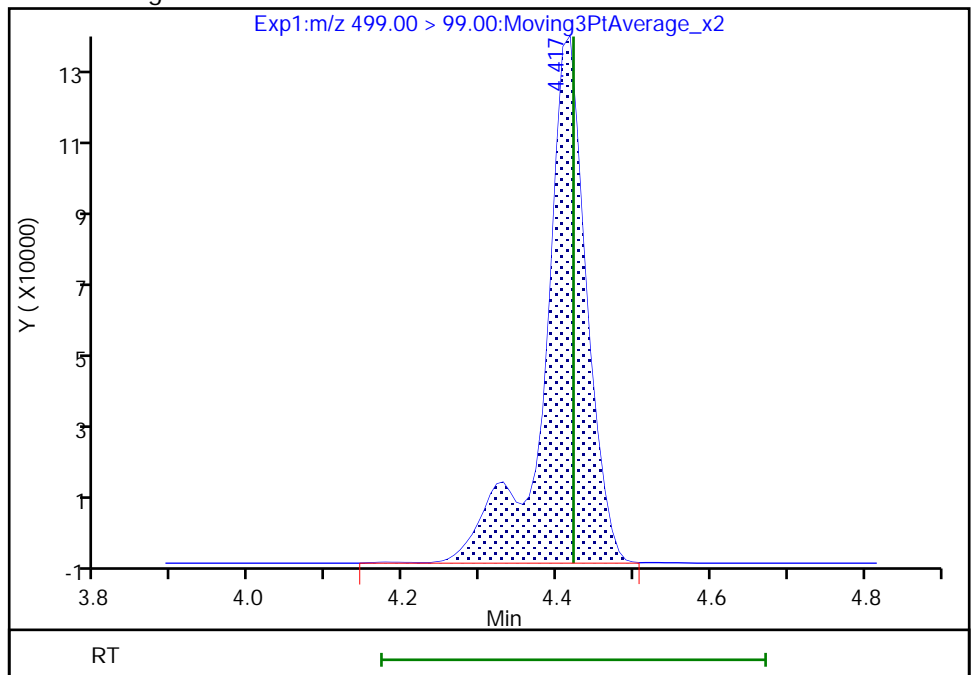
RT: 4.42  
Area: 450512  
Amount: 0.622905  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 522439  
Amount: 0.838280  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:21:08

Audit Action: Manually Integrated

Eurofins Knoxville

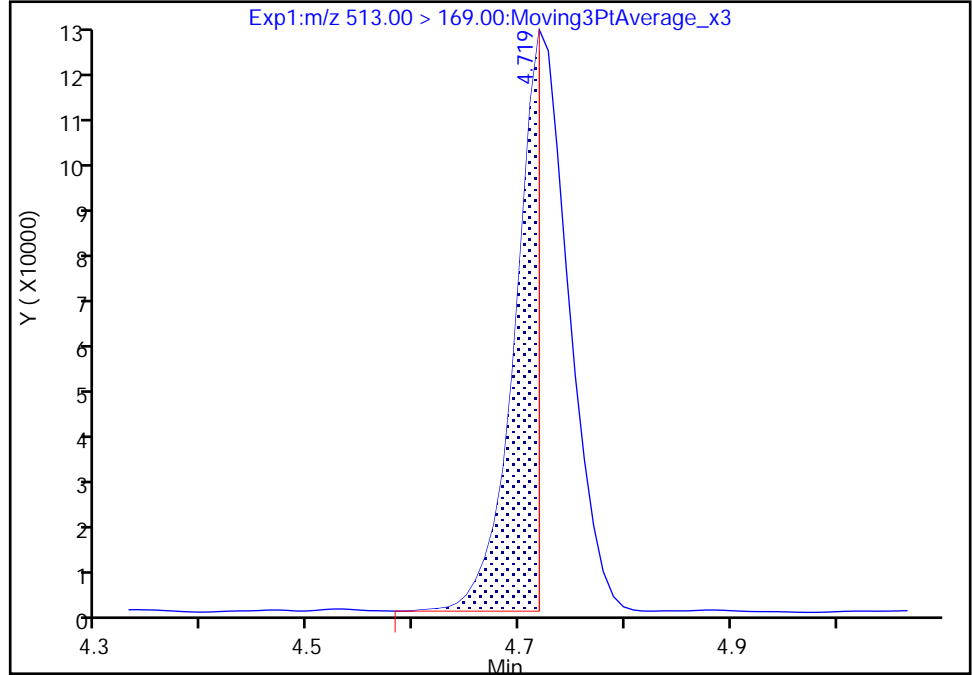
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Injection Date: 18-Feb-2022 23:39:02 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

48 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 2

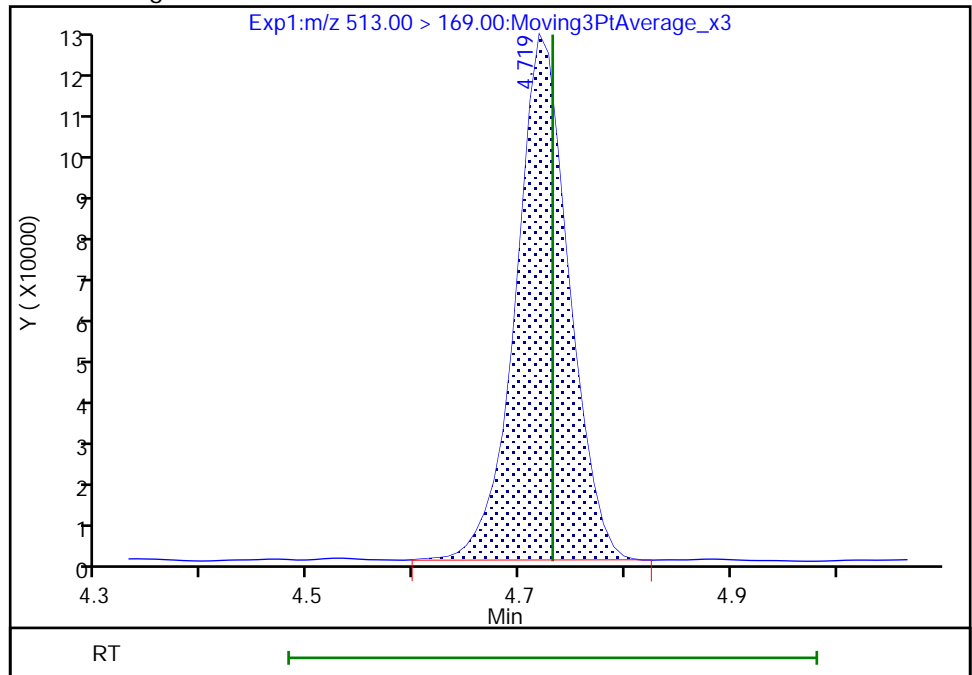
RT: 4.72  
Area: 191187  
Amount: 0.969406  
Amount Units: ng/ml

Processing Integration Results



RT: 4.72  
Area: 428952  
Amount: 0.969406  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:21:19  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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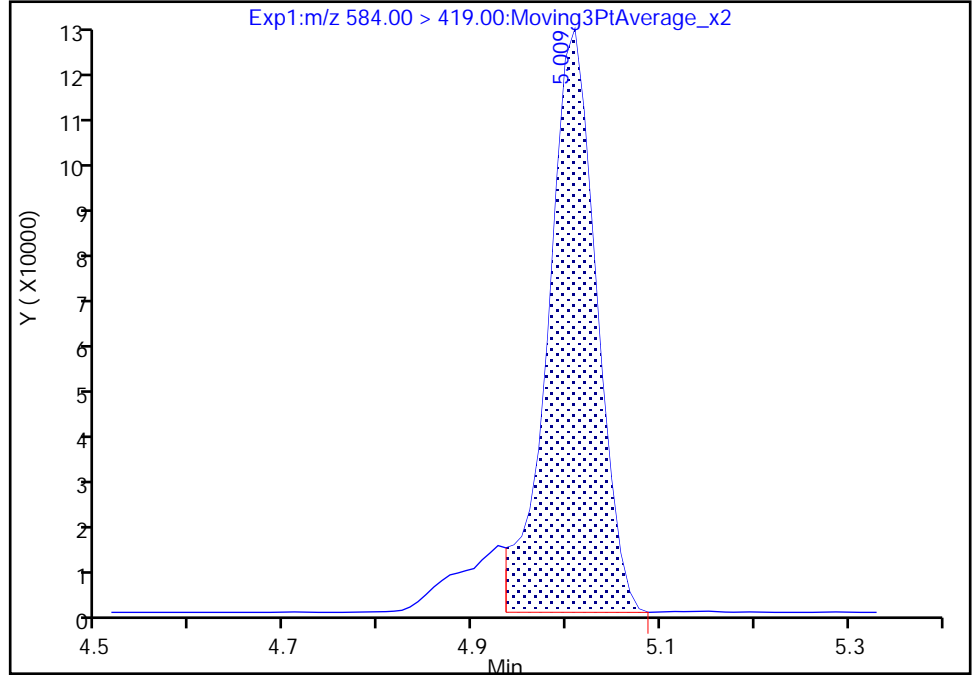
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Injection Date: 18-Feb-2022 23:39:02 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

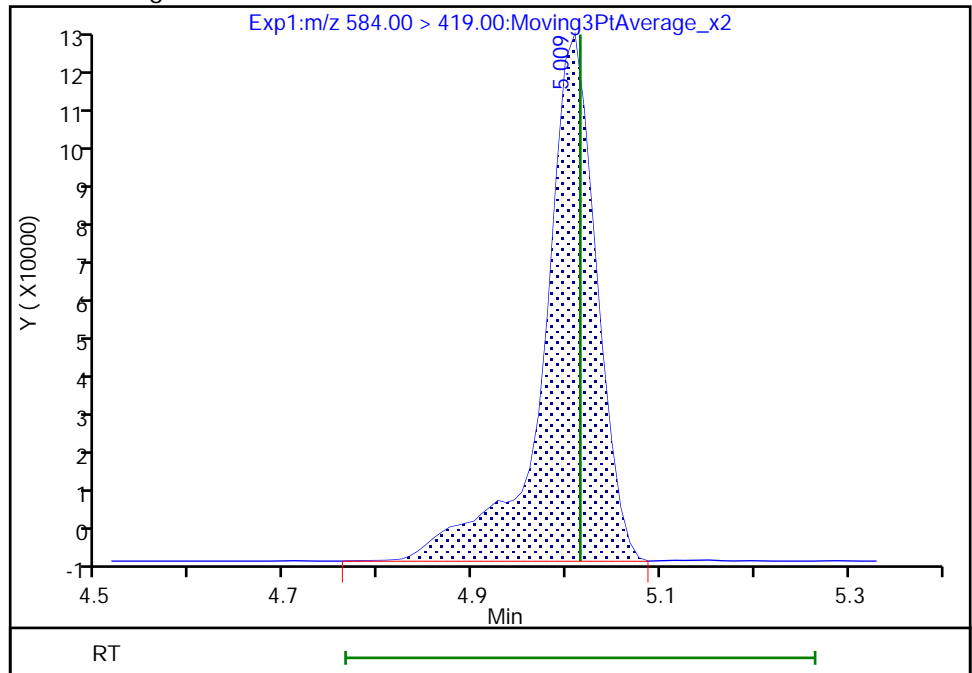
RT: 5.01  
Area: 430675  
Amount: 0.912076  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 481285  
Amount: 1.017616  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:21:31  
Audit Action: Manually Integrated

Audit Reason: Baseline

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/42 Calibration Date: 02/19/2022 01:33  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8268		2.61	2.50	4.5	40.0
PFECA F	AveID	0.7535	0.7617		2.53	2.50	1.1	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9847		2.63	2.50	5.1	40.0
3:3 FTCA	QuaIF		0.0567		2.62	2.50	4.7	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.135		2.26	2.21	2.1	40.0
PFECA A	Q2ID		1.227		2.57	2.50	2.9	40.0
PES	Q2ID		2.471		2.27	2.23	2.1	40.0
PFECA B	Q2ID		0.4720		2.72	2.50	8.8	40.0
4:2 FTS	L2ID		2.334		2.40	2.34	2.8	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8012		2.53	2.50	1.2	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.045		2.37	2.35	1.2	40.0
HFPO-DA	L2ID		1.414		2.81	2.50	12.3	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.322		2.17	2.28	-4.6	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.030		2.54	2.50	1.4	40.0
DONA	AveID	2.644	2.513		2.24	2.36	-4.9	40.0
5:3 FTCA	L2ID		3.758		2.50	2.50	-0.0	40.0
6:2 FTUCA	AveID	1.046	1.025		2.45	2.50	-2.1	40.0
6:2 FTCA	L1ID		0.6992		2.53	2.50	1.1	40.0
PFECHS	AveID	0.7426	0.7708		2.39	2.31	3.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9804		2.36	2.38	-0.7	40.0
6:2 FTS	L2ID		1.805		2.34	2.37	-1.1	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.037		2.43	2.50	-2.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.123		2.27	2.32	-2.0	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7645		2.51	2.50	0.5	40.0
7:3 FTCA	AveID	5.230	5.019		2.40	2.50	-4.0	40.0
8:2 FTUCA	AveID	0.9565	0.9687		2.53	2.50	1.3	40.0
8:2 FTCA	AveID	1.811	1.717		2.37	2.50	-5.2	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.191		2.27	2.33	-2.6	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.007		2.39	2.40	-0.5	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9586		2.51	2.50	0.4	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9333		2.61	2.50	4.2	40.0
8:2 FTS	L2ID		1.563		2.50	2.40	4.3	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9683		2.56	2.50	2.5	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9684		2.63	2.41	9.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/42 Calibration Date: 02/19/2022 01:33  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.019		2.63	2.50	5.4	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9635		2.64	2.50	5.7	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.760		2.39	2.36	1.3	50.0
10:2 FTUCA	AveID	1.208	1.212		2.51	2.50	0.4	40.0
10:2 FTCA	Q2ID		1.133		2.94	2.50	17.6	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.004		2.43	2.50	-2.8	40.0
10:2 FTS	L2ID		2.205		2.54	2.41	5.5	50.0
NMeFOSA	L2ID		1.007		2.34	2.50	-6.4	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.246		2.66	2.50	6.4	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9537		2.44	2.42	0.9	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8727		2.47	2.50	-1.2	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.434		2.53	2.50	1.1	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.279		2.57	2.50	2.7	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1324		2.57	2.50	2.9	40.0
Perfluorohexadecanoic acid	L1ID		1.131		2.50	2.50	0.0	40.0
Perfluorooctadecanoic acid	AveID	1.013	1.008		2.49	2.50	-0.5	40.0
13C4 PFBA	Ave	1.172	1.149		1.23	1.25	-2.0	50.0
13C5 PFPeA	Ave	0.9197	0.8802		1.20	1.25	-4.3	50.0
13C3 PFBS	Ave	0.5817	0.5708		1.14	1.16	-1.9	50.0
M2-4:2 FTS	Ave	0.1821	0.1612		1.03	1.17	-11.5	50.0
13C2 PFHxA	Ave	1.015	0.9749		1.20	1.25	-3.9	50.0
13C3 HFPO-DA	Ave	0.4963	0.4872		1.23	1.25	-1.8	50.0
18O2 PFHxS	Ave	0.3776	0.3739		1.17	1.18	-1.0	50.0
13C4 PFHpA	Ave	0.9046	0.8836		1.22	1.25	-2.3	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3486		1.29	1.25	3.3	50.0
13C-6:2 FTCA	Ave	0.0260	0.0269		1.29	1.25	3.2	50.0
13C4 PFOA	Ave	0.9356	0.9226		1.23	1.25	-1.4	50.0
M2-6:2 FTS	Ave	0.1799	0.1759		1.16	1.19	-2.3	50.0
13C4 PFOS	Ave	0.5610	0.5531		1.18	1.20	-1.4	50.0
13C5 PFNA	Ave	1.268	1.268		1.25	1.25	-0.0	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4624		1.28	1.25	2.3	50.0
13C-8:2 FTCA	Ave	0.0330	0.0354		1.34	1.25	7.0	50.0
13C8 FOSA	Ave	0.8475	0.8260		1.22	1.25	-2.5	50.0
13C2 PFDA	Ave	1.210	1.161		1.20	1.25	-4.0	50.0
M2-8:2 FTS	Ave	0.1961	0.1702		1.04	1.20	-13.2	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/42 Calibration Date: 02/19/2022 01:33  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1169		1.29	1.25	3.0	50.0
13C2 PFUnA	Ave	1.168	1.128		1.21	1.25	-3.4	50.0
d5-NEtFOSAA	Ave	0.1164	0.1167		1.25	1.25	0.2	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5134		1.26	1.25	1.1	50.0
13C-10:2 FTCA	Ave	0.0309	0.0260		1.05	1.25	-16.0	50.0
13C2 PFDoA	Ave	1.152	1.152		1.25	1.25	-0.0	50.0
13C2 10:2 FTS	Ave	0.1652	0.1554		1.11	1.18	-5.9	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1029		1.27	1.25	1.9	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1170		1.23	1.25	-1.3	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1182		1.20	1.25	-4.0	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0814		1.26	1.25	0.5	50.0
13C2 PFTeDA	Ave	0.9216	0.9113		1.24	1.25	-1.1	50.0
13C2 PFHxDA	Ave	0.5997	0.6043		1.26	1.25	0.8	50.0
13C8 PFOA	AveID	0.9229	0.9310		1.26	1.25	0.9	50.0
13C8 PFOS	AveID	0.2212	0.2280		1.23	1.20	3.1	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_042.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 19-Feb-2022 01:33:37 ALS Bottle#: 42 Worklist Smp#: 42  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-042 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:50:53 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:29:28

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.805	2.811	-0.006	1.000	9955124	2.61		105	2136	
D 2 13C4 PFBA										
217.00 > 172.00	2.805	2.811	-0.006	0.680	6020458	1.23		98.0	16994	
3 PFECA F										
229.00 > 85.00	2.912	2.919	-0.007	0.935	7028087	2.53		101	17447	
D 5 13C5 PFPeA										
267.90 > 223.00	3.116	3.115	0.001	0.756	4613374	1.20		95.7	17468	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.116	3.123	-0.007	1.000	9086038	2.63		105	3023	
4 3:3 FTCA										
241.00 > 177.10	3.124	3.131	-0.007	0.997	339307	2.62	Target=1.13	105	2663	
241.00 > 116.90	3.124	3.131	-0.007	0.997	288557		1.18(0.56-1.69)		533	
D 7 13C3 PFBS										
301.90 > 80.00	3.132	3.131	0.001	0.760	2782180	1.14		98.1	11010	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.132	3.140	-0.008	1.000	6004064	2.26	Target=2.61	102	5221	
298.90 > 99.00	3.132	3.140	-0.008	1.000	2211736		2.71(1.31-3.92)		5149	
9 PFECA A										
278.95 > 84.90	3.203	3.211	-0.008	1.028	11322413	2.57		103	21238	
11 PES										
314.80 > 135.00	3.261	3.260	0.001	1.041	13156253	2.27		102	22092	
12 PFECA B										
295.22 > 201.00	3.375	3.384	-0.009	0.981	4824148	2.72		109	14246	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.417	3.416	0.001	0.829	789127	1.03		88.5	1645	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.417	3.416	0.001	1.000	3684179	2.40		103	9435	
D 14 13C2 PFHxA										
315.00 > 270.00	3.439	3.448	-0.009	0.834	5110007	1.20		96.1	13536	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.439	3.448	-0.009	1.098	5862920	2.37	Target=3.55	101	12238	
349.00 > 99.00	3.439	3.448	-0.009	1.098	1641858		3.57(1.78-5.33)		11205	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.439	3.448	-0.009	1.000	8187791	2.53	Target=11.60	101	3546	
313.00 > 119.00	3.439	3.448	-0.009	1.000	726231		11.27(5.80-17.40)		740	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.553	-0.009	0.860	2553792	1.23		98.2	4798	
17 HFPO-DA										M
285.00 > 169.00	3.544	3.553	-0.009	1.000	7222689	2.81	Target=2.45	112	62.1	M
329.00 > 169.00	3.544	3.553	-0.009	1.000	2807667		2.57(1.23-3.68)		56.8	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.774	3.783	-0.009	0.915	1854071	1.17		99.0	5282	
21 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.774	3.783	-0.009	1.000	4713862	2.17	Target=3.44	95.4	9143	M
399.00 > 99.00	3.774	3.783	-0.009	1.000	1387551		3.40(1.72-5.17)		5162	
D 22 13C4 PFHpA										
367.00 > 322.00	3.784	3.793	-0.009	0.918	4631203	1.22		97.7	9211	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.784	3.793	-0.009	1.000	9536454	2.53	Target=3.25	101	5343	
363.00 > 169.00	3.784	3.793	-0.009	1.000	3009090		3.17(1.62-4.87)		2885	
25 DONA										
377.00 > 251.00	3.822	3.829	-0.007	0.866	13729129	2.24	Target=1.74	95.1	22033	
377.00 > 85.00	3.822	3.829	-0.007	0.866	8247917		1.66(0.87-2.61)		159	
26 5:3 FTCA										
340.88 > 236.90	3.855	3.853	0.002	0.987	1057909	2.50	Target=1.11	100.0	2516	
340.88 > 216.90	3.855	3.853	0.002	0.987	996454		1.06(0.56-1.67)		2167	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.887	-0.007	0.941	1827140	1.29		103	3015	
27 6:2 FTUCA										
356.86 > 292.90	3.888	3.895	-0.007	1.002	3744482	2.45	Target=13.05	97.9	4198	
356.86 > 243.00	3.888	3.895	-0.007	1.002	282729		13.24(6.52-19.57)		1040	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.905	3.904	0.001	0.947	140747	1.29		103	508	
29 6:2 FTCA										
377.10 > 63.00	3.905	3.913	-0.008	1.000	196824	2.53	Target=1.29	101	992	
377.10 > 313.10	3.905	3.913	-0.008	1.000	151723		1.30(0.65-1.94)		192	
32 PFECHS										
460.80 > 380.90	4.056	4.065	-0.008	0.984	6873320	2.39	Target=1.75	104	16412	
460.80 > 98.90	4.056	4.065	-0.008	0.984	3882362		1.77(0.87-2.62)		7400	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.113	4.112	0.001	0.932	5412225	2.36	Target=3.72	99.3	12501	
449.00 > 99.00	4.104	4.112	-0.008	0.930	1350076		4.01(1.86-5.57)		5048	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.123	4.121	0.002	1.000	875693	1.16		97.7	2117	
35 6:2 FTS										
427.00 > 407.00	4.123	4.121	0.002	1.000	3154395	2.34		98.9	4851	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.123	4.121	0.002	1.000	4501639	1.26		101	12113	
D 31 13C4 PFOA										
417.00 > 372.00	4.123	4.131	-0.008	1.000	4835529	1.23		98.6	8375	
* 30 13C2 PFOA										
415.00 > 370.00	4.123	4.131	-0.008		5241382	1.25			9525	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.123	4.131	-0.008	1.000	10031555	2.43	Target=2.51	97.3	5363	
413.00 > 169.00	4.123	4.131	-0.008	1.000	4361303		2.30(1.26-3.77)		6165	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.415	4.421	-0.006	1.000	631904	1.23		103	2566	
D 39 13C4 PFOS										
503.00 > 80.00	4.415	4.421	-0.006	1.071	2771683	1.18		98.6	2230	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.415	4.421	-0.006	1.000	6040932	2.27	Target=4.30	98.0	5480	M
499.00 > 99.00	4.415	4.421	-0.006	1.000	1384186		4.36(2.15-6.45)		3601	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.441	4.439	0.002	1.000	10162402	2.51	Target=3.60	101	9895	
463.00 > 169.00	4.441	4.439	0.002	1.000	2566834		3.96(1.80-5.40)		4429	
D 41 13C5 PFNA										
468.00 > 423.00	4.441	4.439	0.002	1.077	6646072	1.25		100.0	14122	
43 7:3 FTCA										
441.00 > 337.00	4.522	4.529	-0.007	0.993	1860297	2.40	Target=1.42	96.0	3865	
441.00 > 317.00	4.522	4.529	-0.007	0.993	1304512		1.43(0.71-2.13)		3276	
44 8:2 FTUCA										
456.86 > 392.90	4.547	4.545	0.002	1.000	4695103	2.53	Target=35.37	101	6084	
456.86 > 343.00	4.547	4.545	0.002	1.000	117776		39.86(17.68-53.05)		355	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.547	4.553	-0.006	1.000	2423385	1.28		102	6630	
46 8:2 FTCA										
477.00 > 393.10	4.555	4.562	-0.007	1.000	636602	2.37	Target=3.35	94.8	2585	
477.00 > 63.20	4.563	4.562	0.001	1.002	194387		3.27(1.68-5.03)		1119	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.555	4.562	-0.007	1.105	185341	1.34		107	733	
49 9CIFOS										
531.00 > 351.00	4.571	4.578	-0.007	1.109	11839814	2.27		97.4	12974	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.699	4.697	0.002	1.064	5603737	2.39	Target=3.99	99.5	8950	
549.00 > 99.00	4.699	4.697	0.002	1.064	1484940		3.77(2.00-5.99)		5817	
D 55 13C8 FOSA										
506.00 > 78.00	4.707	4.714	-0.007	1.142	4329308	1.22		97.5	4330	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.707	4.714	-0.007	1.000	8300245	2.51		100	7750	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.724	4.731	-0.007	1.000	11356673	2.60	Target=10.58	104	7860	
513.00 > 169.00	4.724	4.731	-0.007	1.000	1028448		11.04(5.29-15.88)		516	
D 52 13C2 PFDA										
515.00 > 470.00	4.724	4.731	-0.007	1.146	6084257	1.20		96.0	9892	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.733	4.740	-0.007	1.148	854537	1.04		86.8	1710	
53 8:2 FTS										
527.00 > 507.00	4.741	4.740	0.001	1.002	2670677	2.50		104	7298	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.866	4.872	-0.006	1.180	612604	1.29		103	193	
57 NMeFOSAA										
570.00 > 419.00	4.874	4.880	-0.006	1.002	1186416	2.56		102	1776	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.960	4.957	0.003	1.123	5413171	2.63	Target=3.55	109	14070	
599.00 > 99.00	4.960	4.957	0.003	1.123	1429917		3.79(1.78-5.33)		4268	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.988	4.995	-0.007	1.000	12051051	2.63	Target=8.26	105	9612	
563.00 > 169.00	4.988	4.995	-0.007	1.000	1395155		8.64(4.13-12.39)		4510	
D 59 13C2 PFUnA										
565.00 > 520.00	4.988	4.995	-0.007	1.210	5913464	1.21		96.6	10189	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.007	5.005	0.002	1.215	611440	1.25		100	1750	
62 NEtFOSAA										
584.00 > 419.00	5.007	5.015	-0.008	1.000	1178198	2.64		106	734	
65 10:2 FTUCA										
556.86 > 492.90	5.095	5.093	0.002	1.002	6524172	2.51		100	8839	
63 11CIFOS										
631.00 > 451.00	5.085	5.093	-0.008	1.152	9615792	2.39		101	16508	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.085	5.093	-0.008	1.233	2690693	1.26		101	5753	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.105	5.112	-0.007	1.238	136175	1.05		84.0	733	
66 10:2 FTCA										
576.80 > 493.00	5.105	5.112	-0.007	1.000	308485	2.94	Target=2.53	118	2010	
576.80 > 63.10	5.105	5.112	-0.007	1.000	134053		2.30(1.26-3.79)		497	
D 69 13C2 PFDaA										
615.00 > 570.00	5.220	5.226	-0.006	1.266	6039530	1.25		100.0	21595	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.220	5.226	-0.006	1.000	12124874	2.43	Target=6.85	97.2	8501	
613.00 > 169.00	5.220	5.226	-0.006	1.000	1735954		6.98(3.43-10.28)		2765	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.237	5.243	-0.006	1.270	771392	1.11		94.1	4400	
71 10:2 FTS										
627.00 > 607.00	5.245	5.251	-0.006	1.002	3461427	2.54		105	9140	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.285	5.284	0.001	1.282	613457	1.23		98.7	421	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
74 NMeFOSA										
512.00 > 169.00	5.285	5.284	0.001	1.002	1085816	2.34		93.6	956	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.277	5.284	-0.007	1.280	539210	1.27		102	52.5	
75 N-MeFOSE-M										
616.00 > 59.00	5.294	5.292	0.002	1.002	1528518	2.66		106	1815	
76 PFDoS										
699.00 > 80.00	5.401	5.399	0.002	1.223	5353018	2.44	Target=4.22	101	6450	
699.00 > 99.00	5.401	5.399	0.002	1.223	1238021		4.32(2.11-6.34)		5031	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.428	5.435	-0.007	1.040	10541541	2.47	Target=6.32	98.8	10246	
663.00 > 169.00	5.428	5.435	-0.007	1.040	1729982		6.09(3.16-9.48)		5996	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.437	5.435	0.002	1.319	619291	1.20		96.0	274	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.454	5.452	0.002	1.323	426390	1.26		101	561	
79 N-EtFOSE-M										
630.00 > 59.00	5.454	5.452	0.002	1.003	1776368	2.53		101	1840	
81 N-EtFOSA-M										
526.00 > 169.00	5.454	5.452	0.002	1.000	1090718	2.57		103	769	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.619	5.617	0.002	1.002	1264482	2.57	Target=1.01	103	280	
713.00 > 219.00	5.610	5.617	-0.007	1.000	1211406		1.04(0.51-1.52)		4954	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.610	5.617	-0.007	1.361	4776525	1.24		98.9	12505	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.926	5.924	0.002	1.000	7163338	2.50	Target=8.64	100	5972	
813.00 > 169.00	5.926	5.924	0.002	1.000	866120		8.27(4.32-12.97)		2422	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.926	5.924	0.002	1.437	3167576	1.26		101	6357	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.185	-0.006	1.043	6385850	2.49	Target=11.77	99.5	6396	
913.00 > 169.00	6.179	6.185	-0.006	1.043	544303		11.73(5.88-17.65)		1709	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220218-22714.b\_042.d

Injection Date: 19-Feb-2022 01:33:37

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 42

Worklist Smp#: 42

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

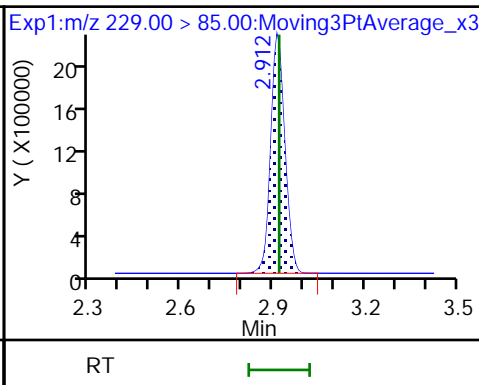
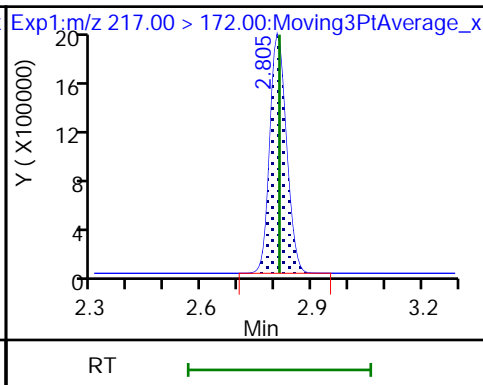
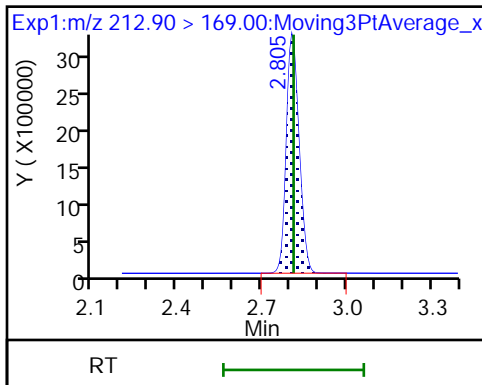
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

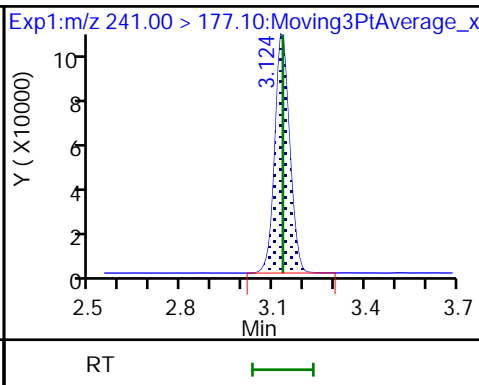
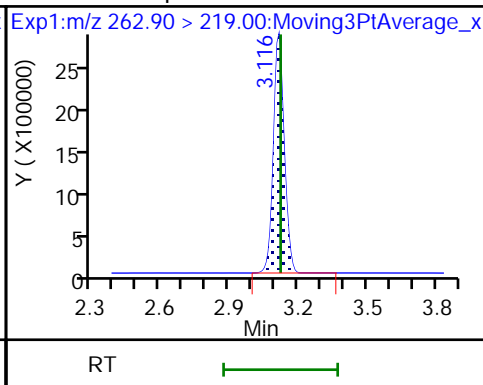
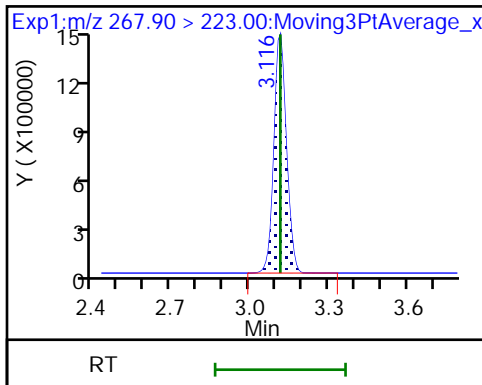
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

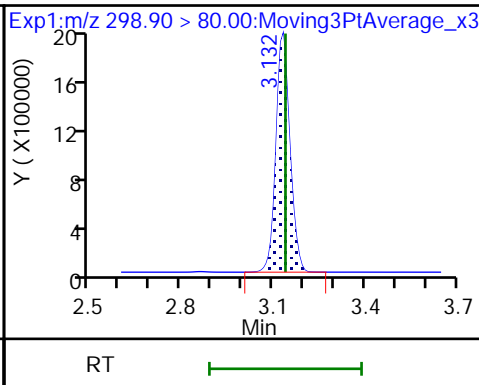
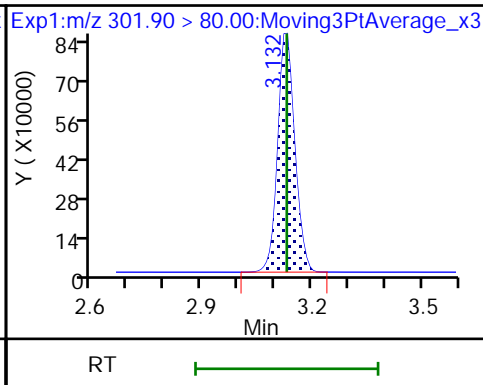
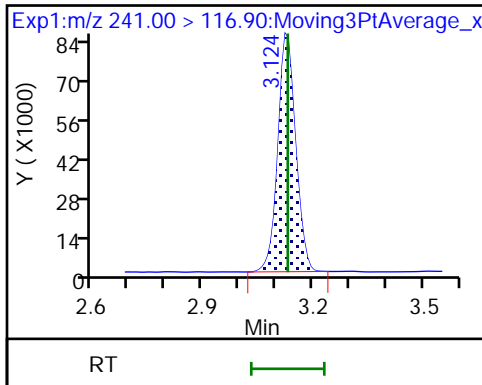
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

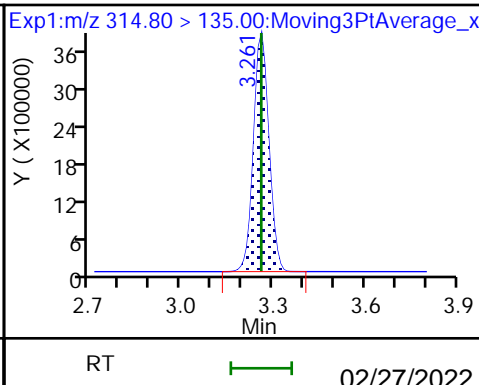
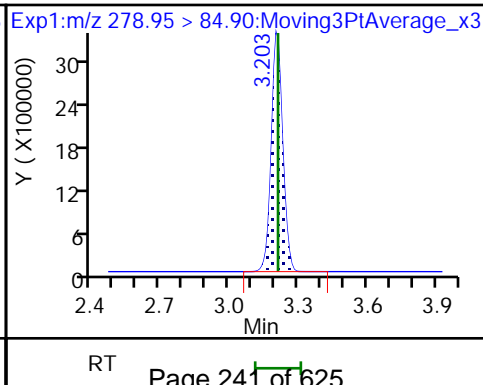
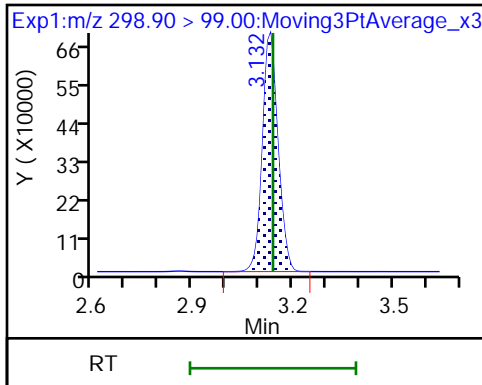
8 Perfluorobutanesulfonic acid

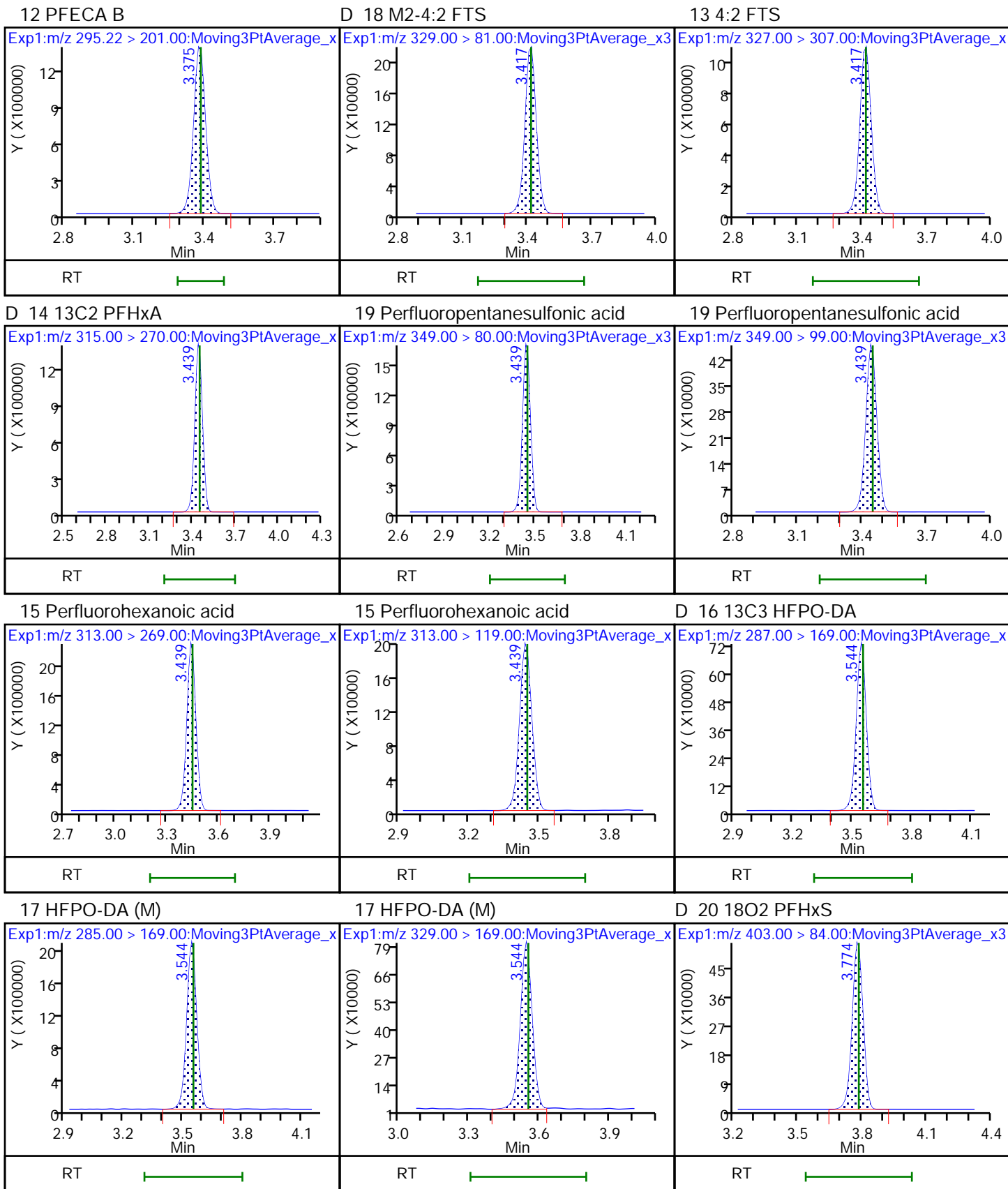


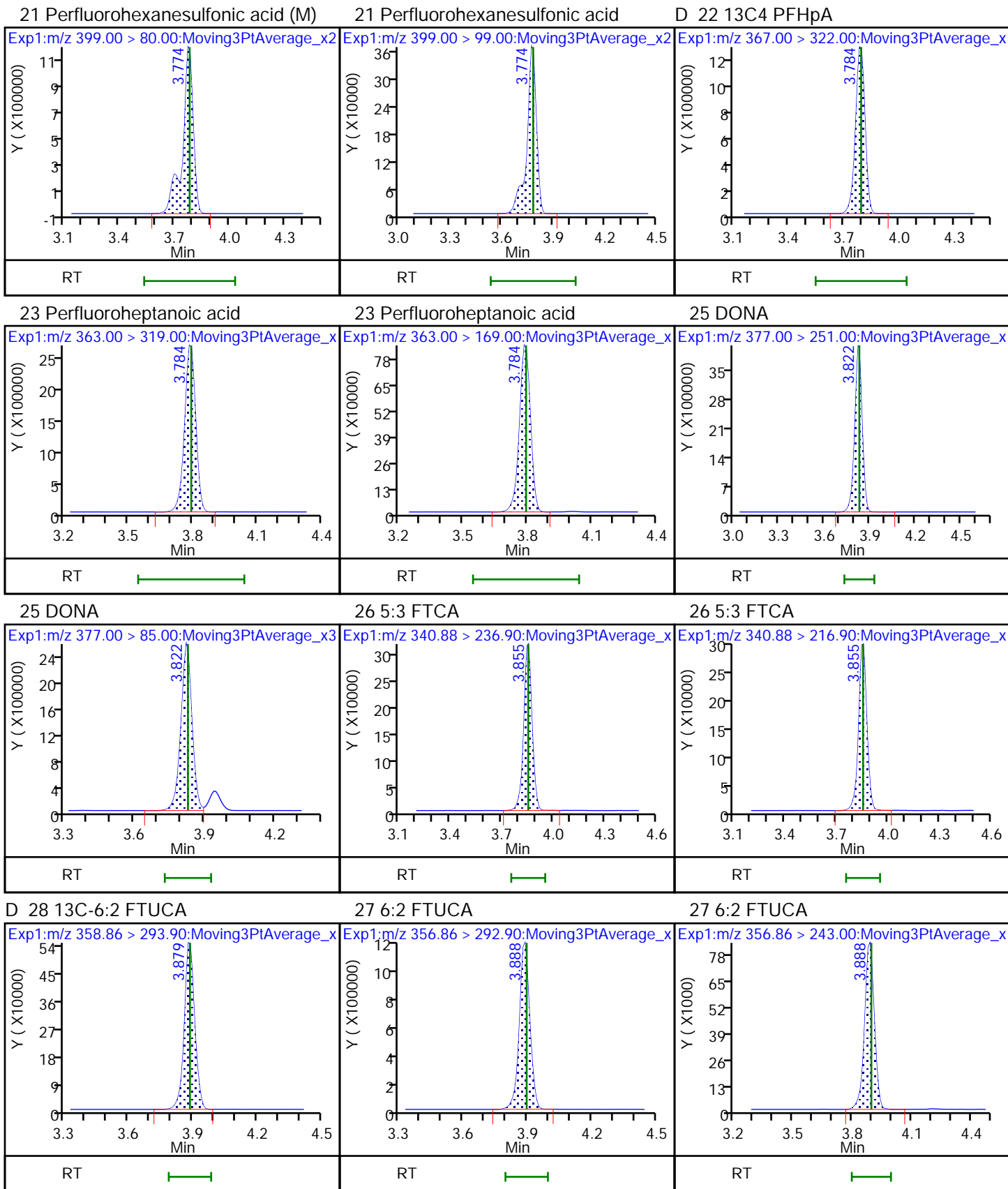
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



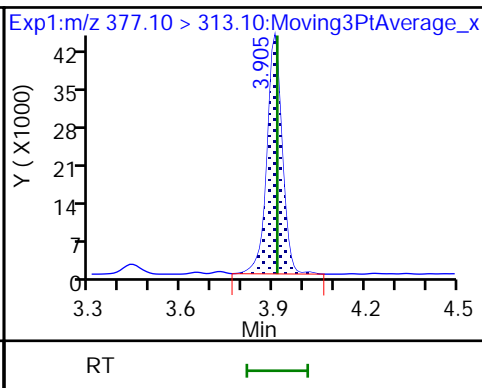
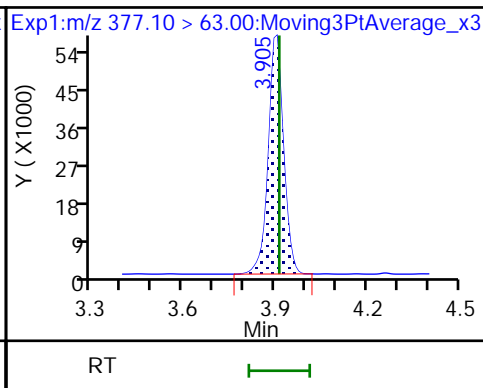
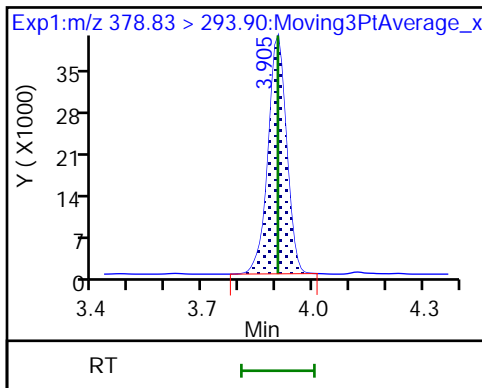




D 24 13C-6:2 FTCA

29 6:2 FTCA

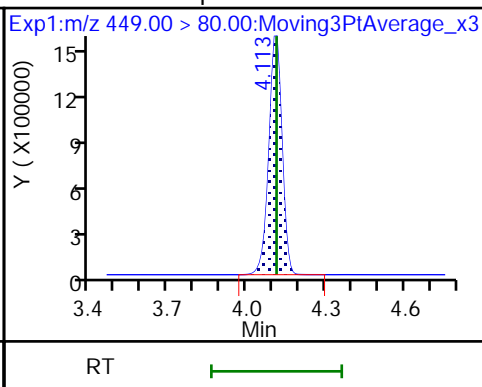
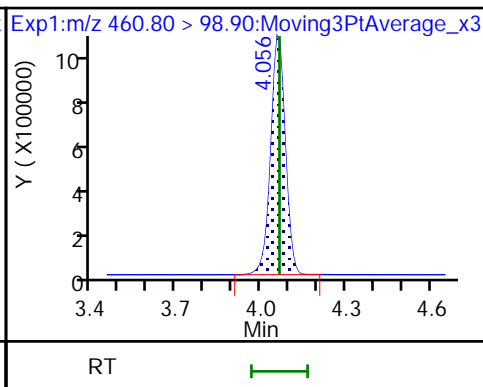
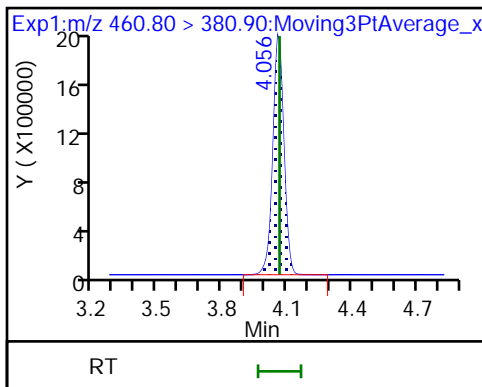
29 6:2 FTCA



32 PFECHS

32 PFECHS

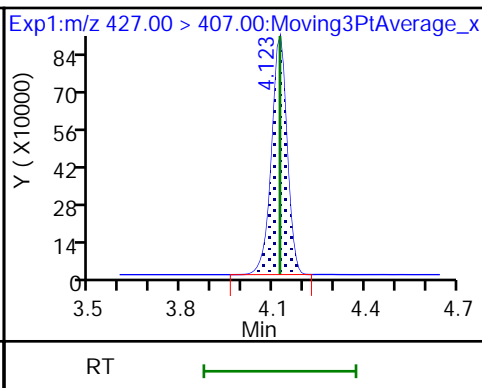
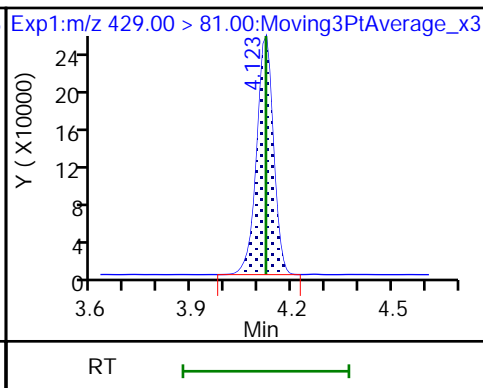
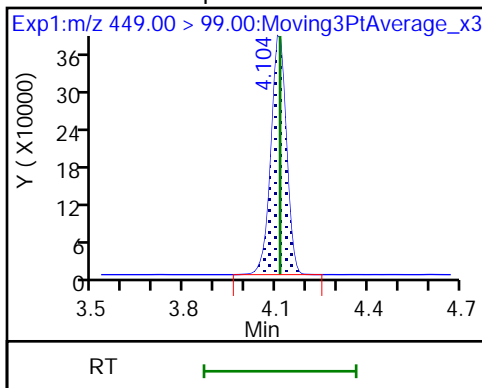
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

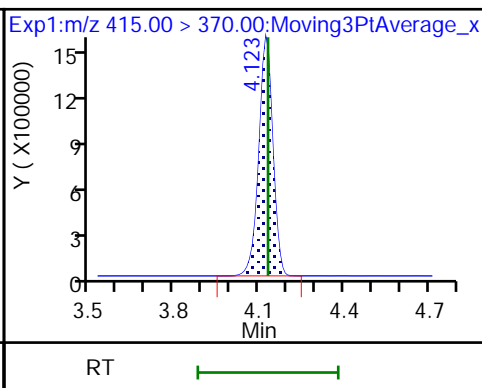
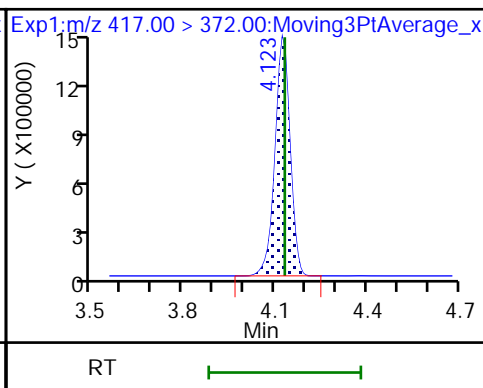
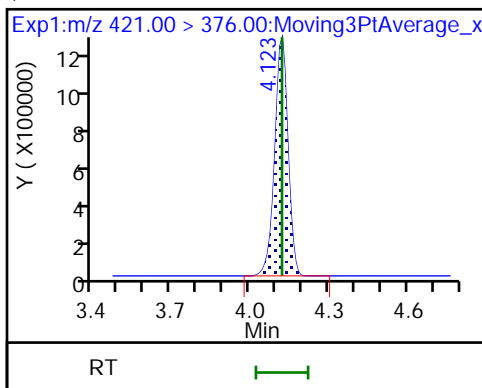
35 6:2 FTS

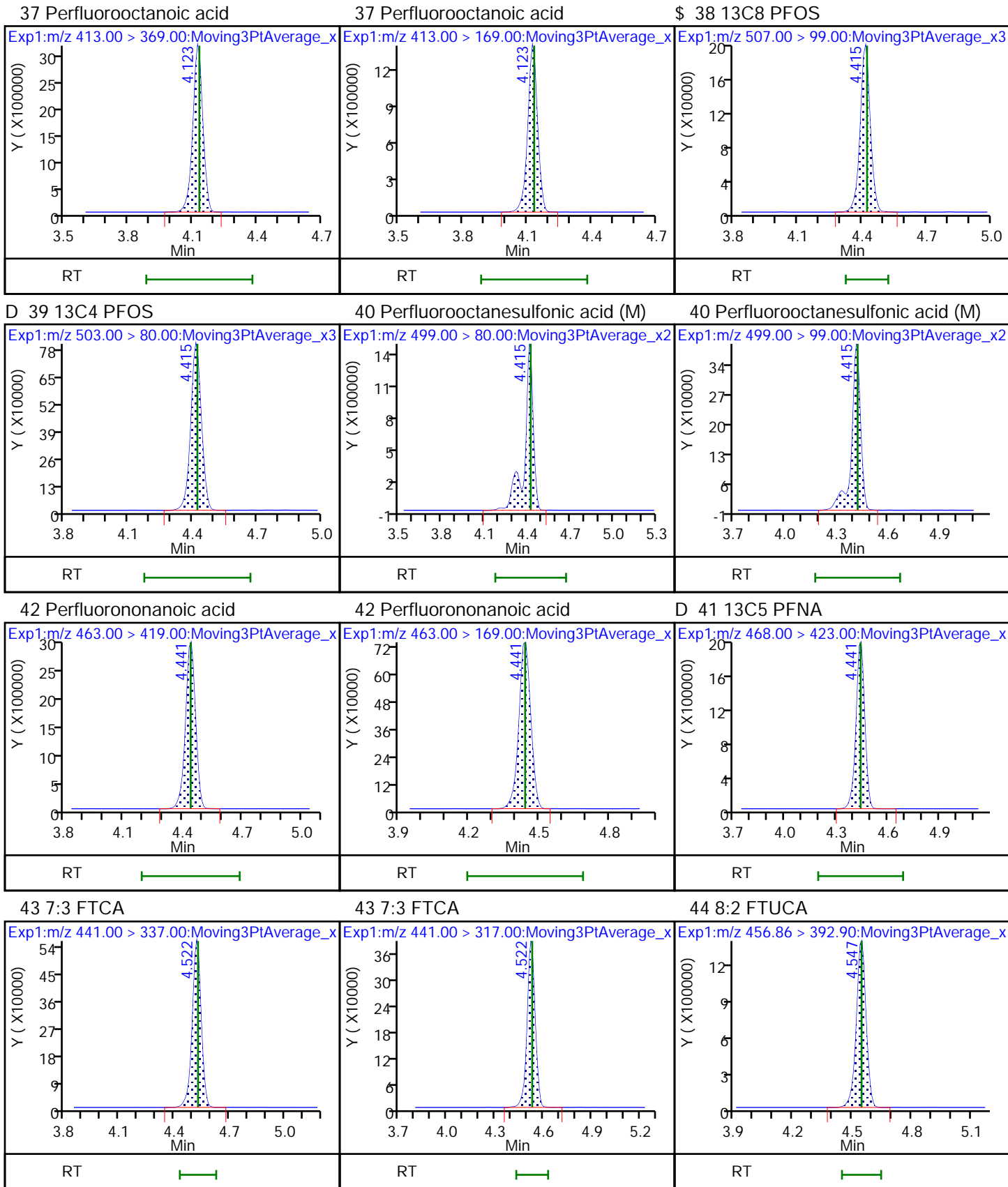


\$ 36 13C8 PFOA

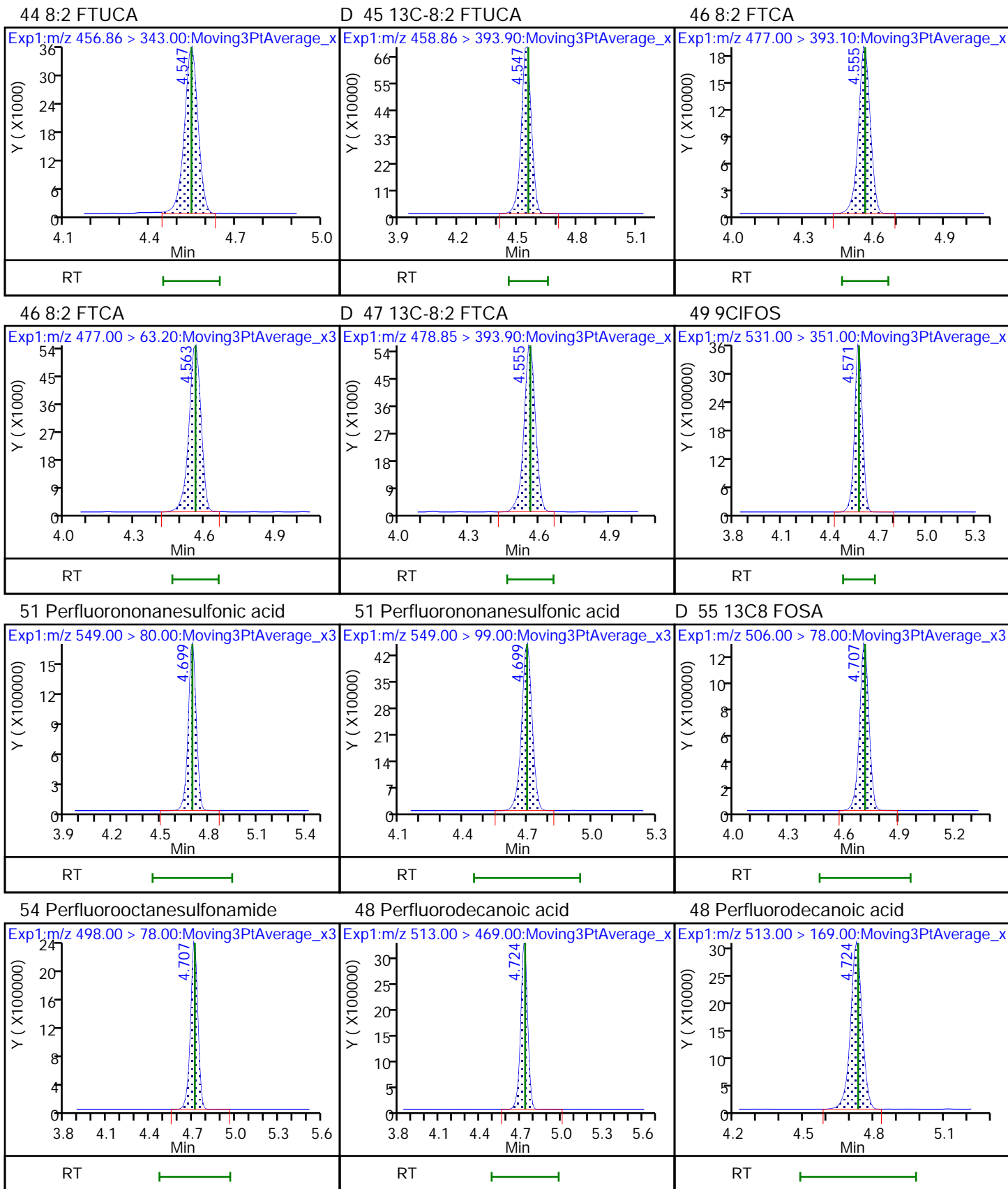
D 31 13C4 PFOA

\* 30 13C2 PFOA





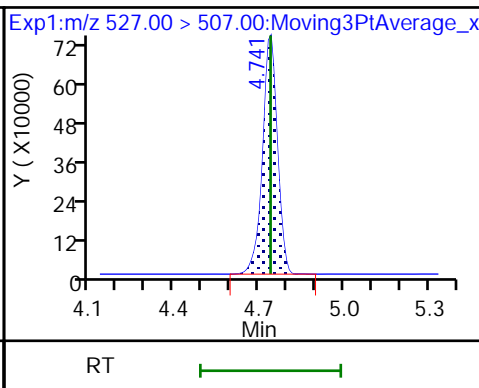
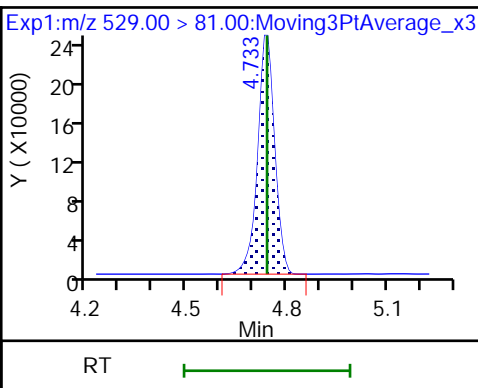
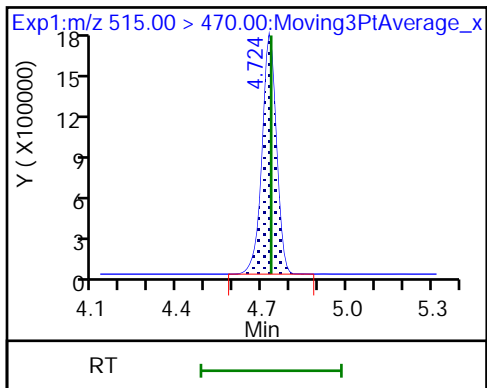




D 52 13C2 PFDA

D 50 M2-8:2 FTS

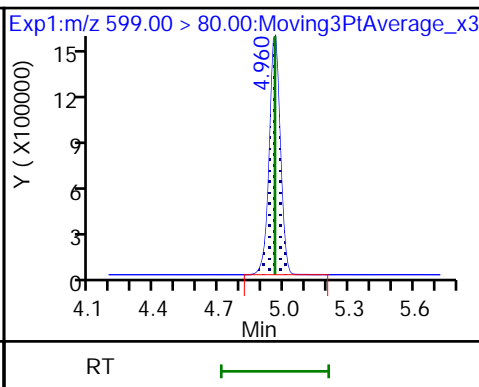
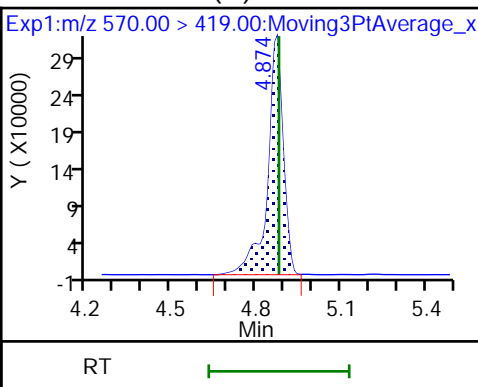
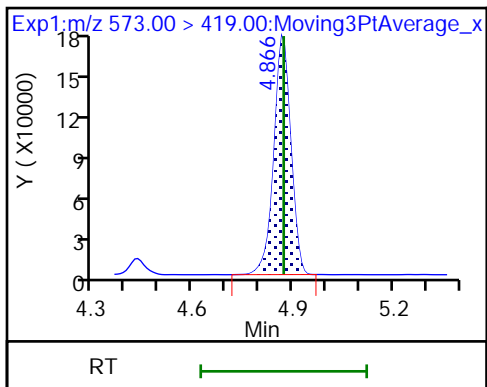
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

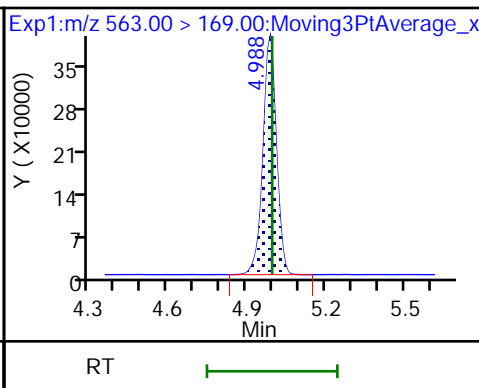
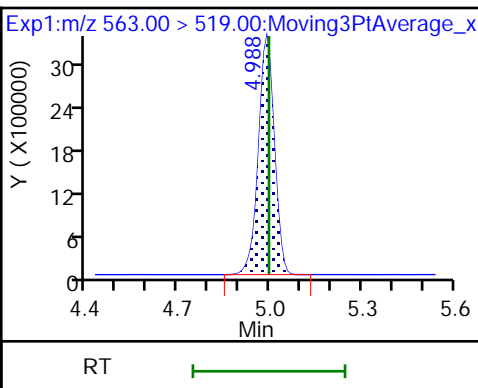
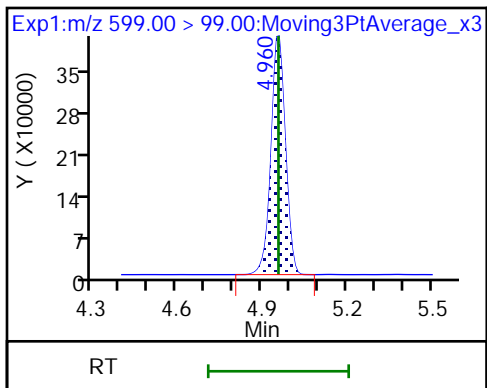
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

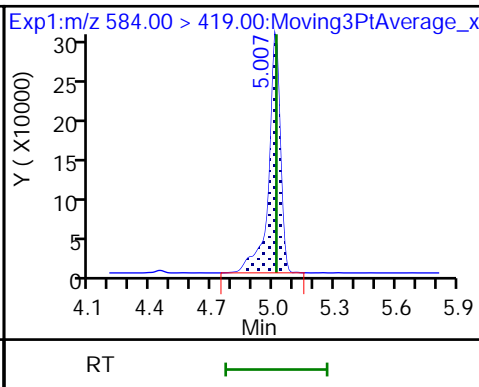
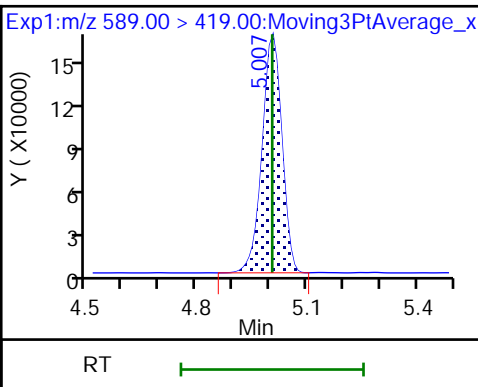
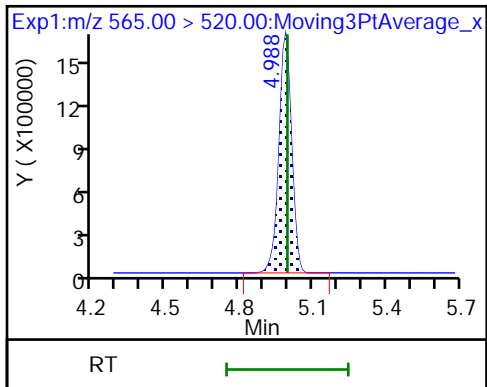
60 Perfluoroundecanoic acid

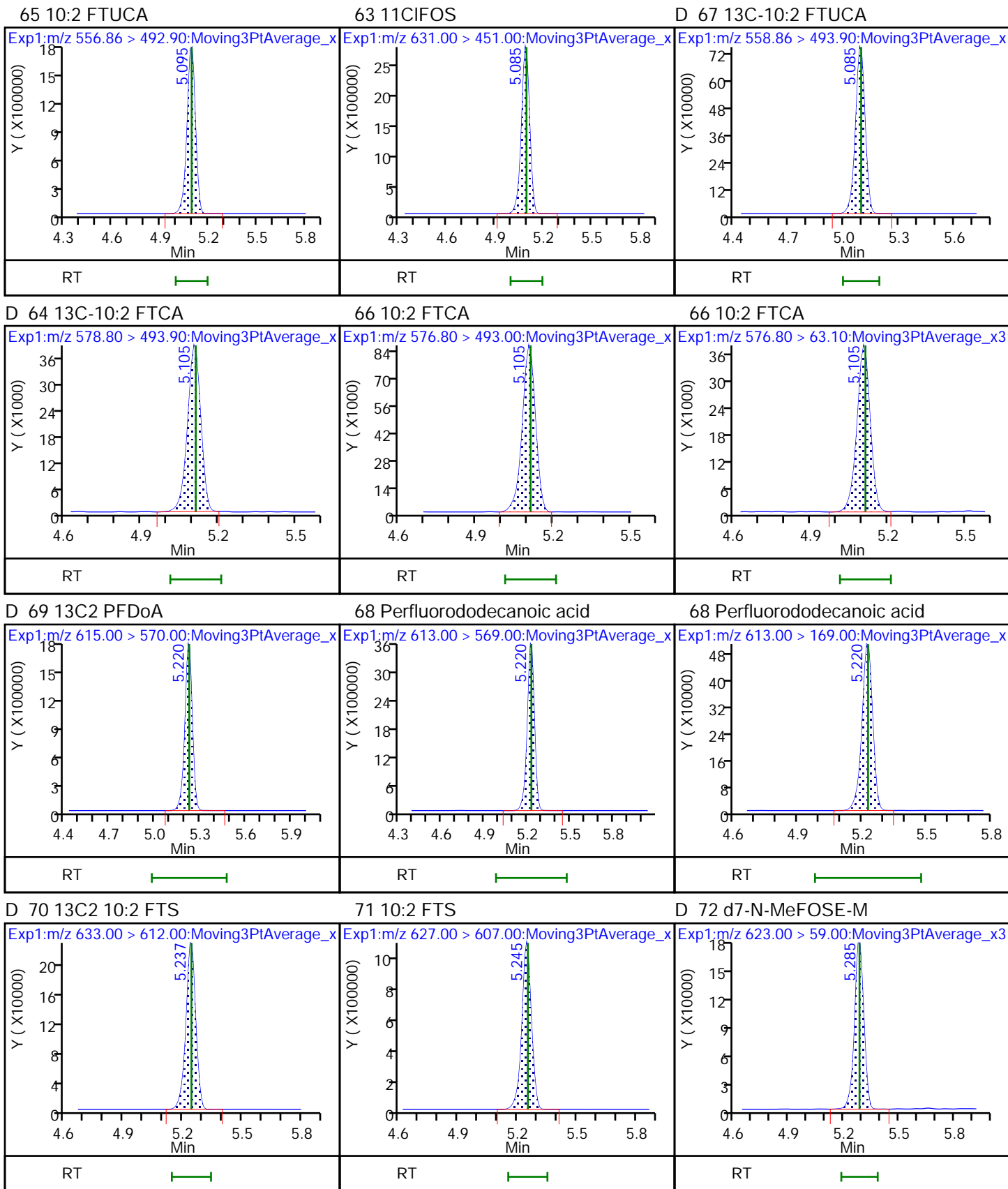


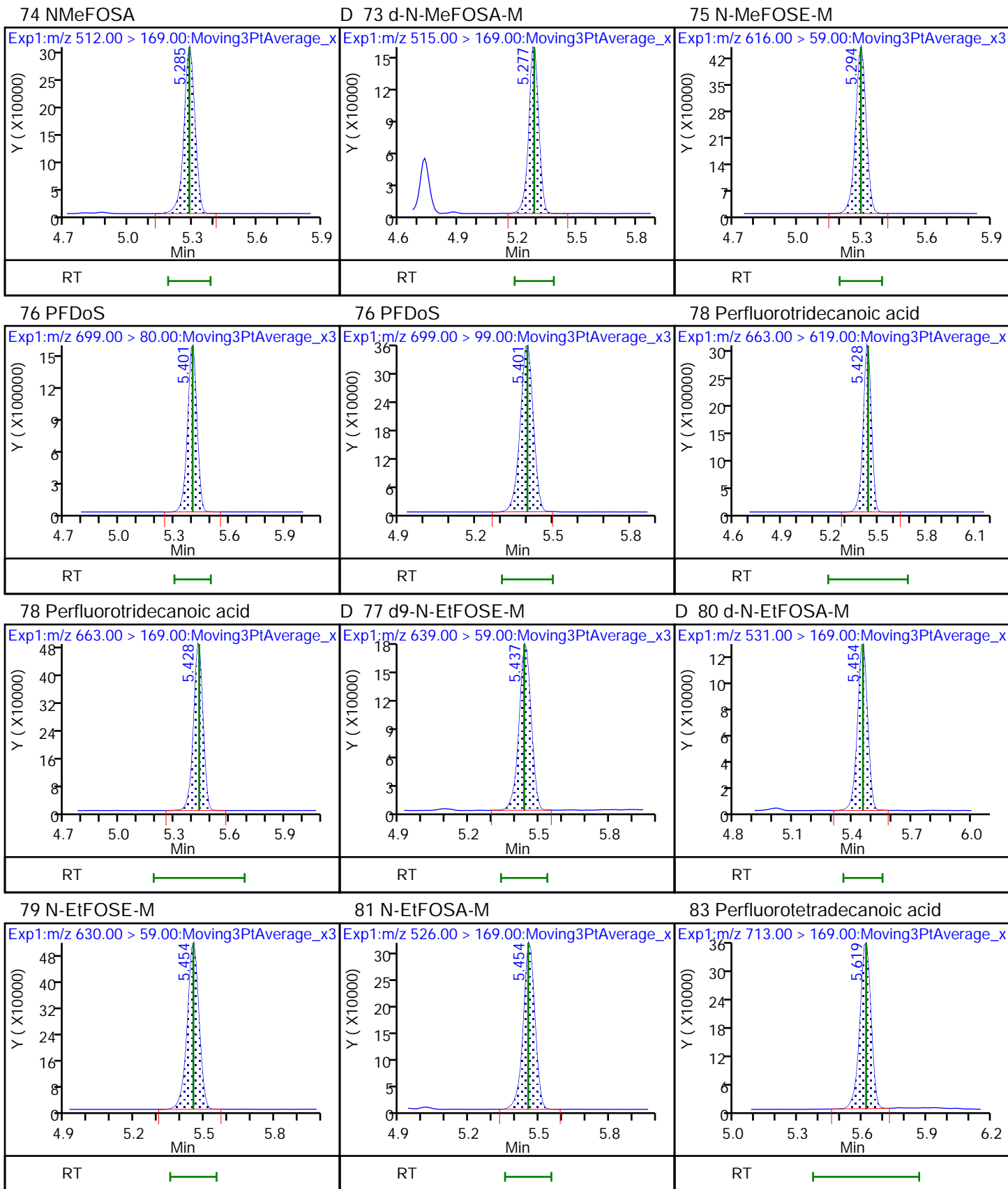
D 59 13C2 PUnA

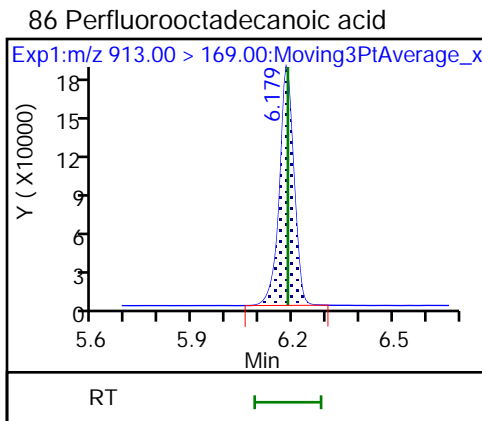
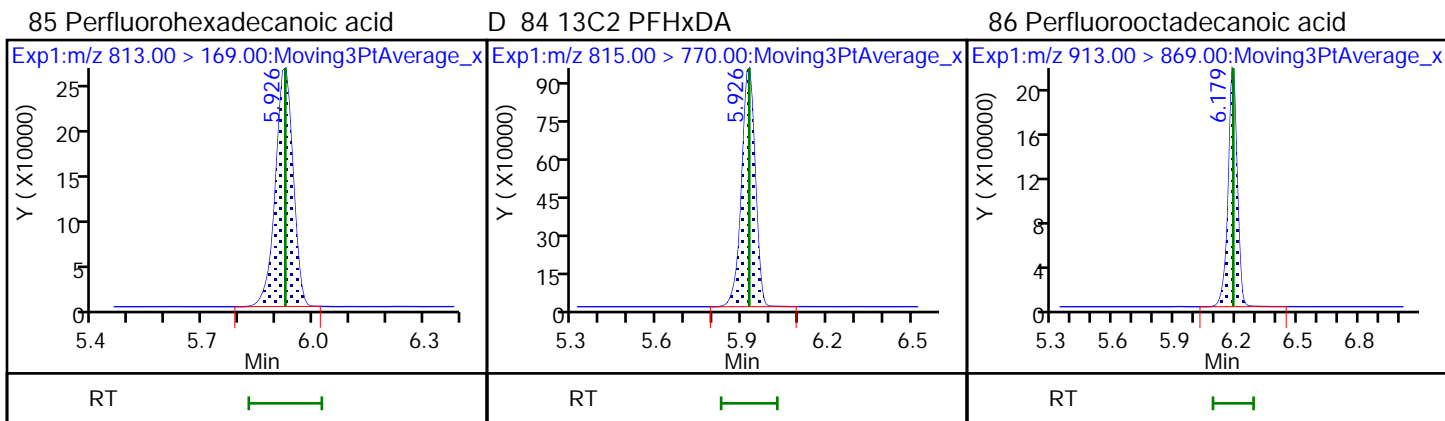
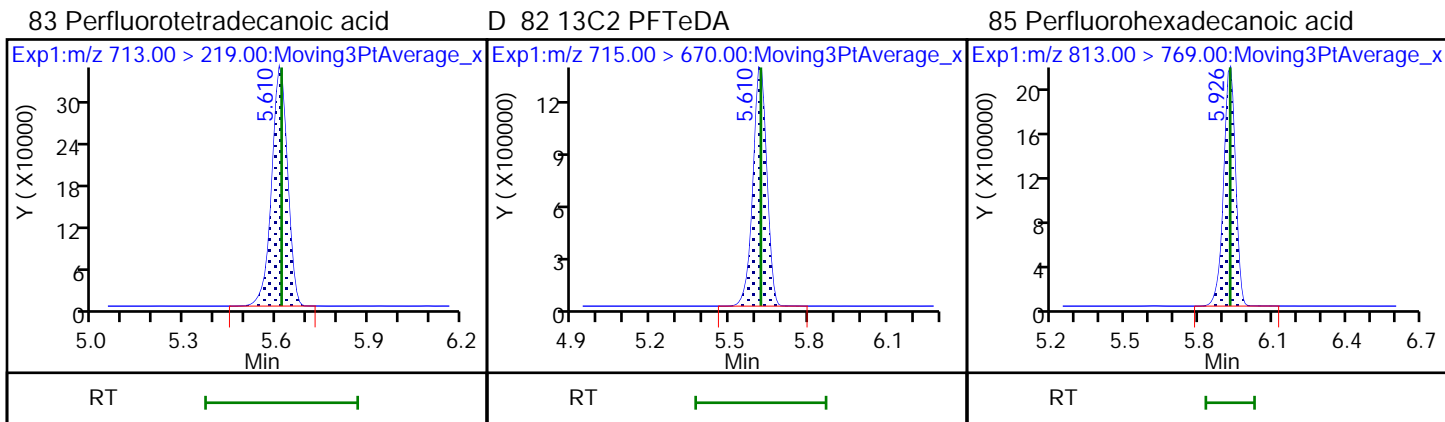
D 61 d5-NEtFOSAA

62 NEtFOSAA









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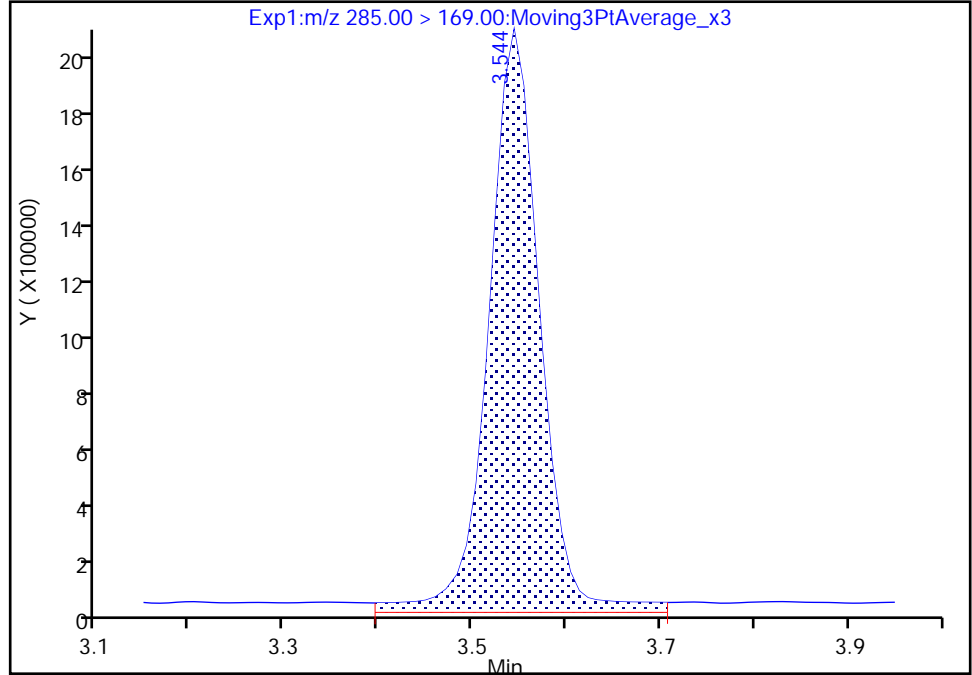
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

17 HFPO-DA, CAS: 13252-13-6

Signal: 1

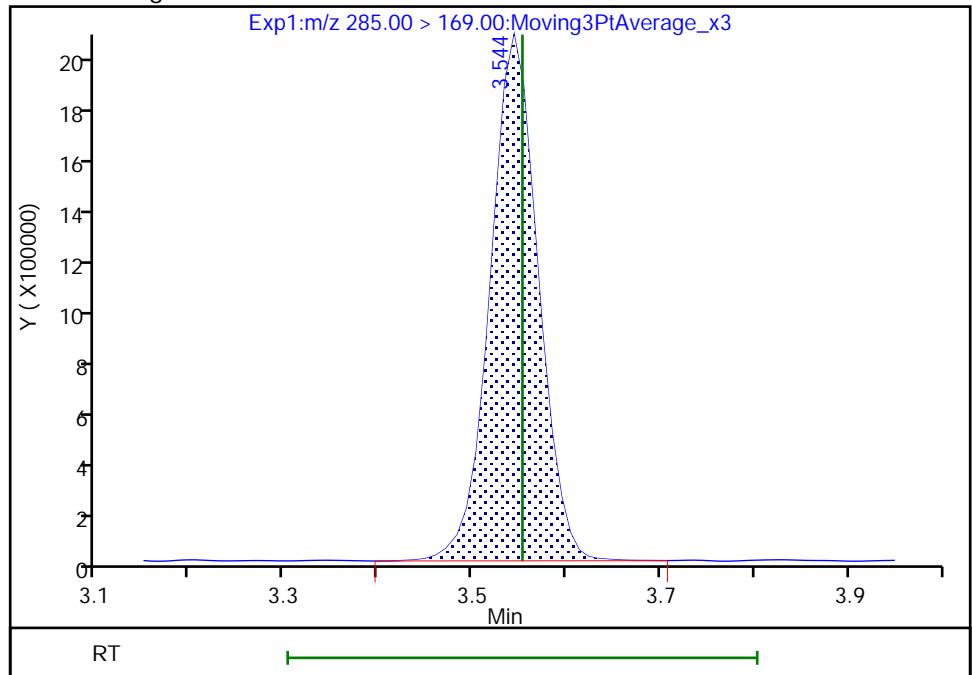
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Area: 7862871  
Amount: 3.057997  
Amount Units: ng/ml

Processing Integration Results



RT: 3.54  
Area: 7222689  
Amount: 2.808611  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:17  
Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 251 of 625

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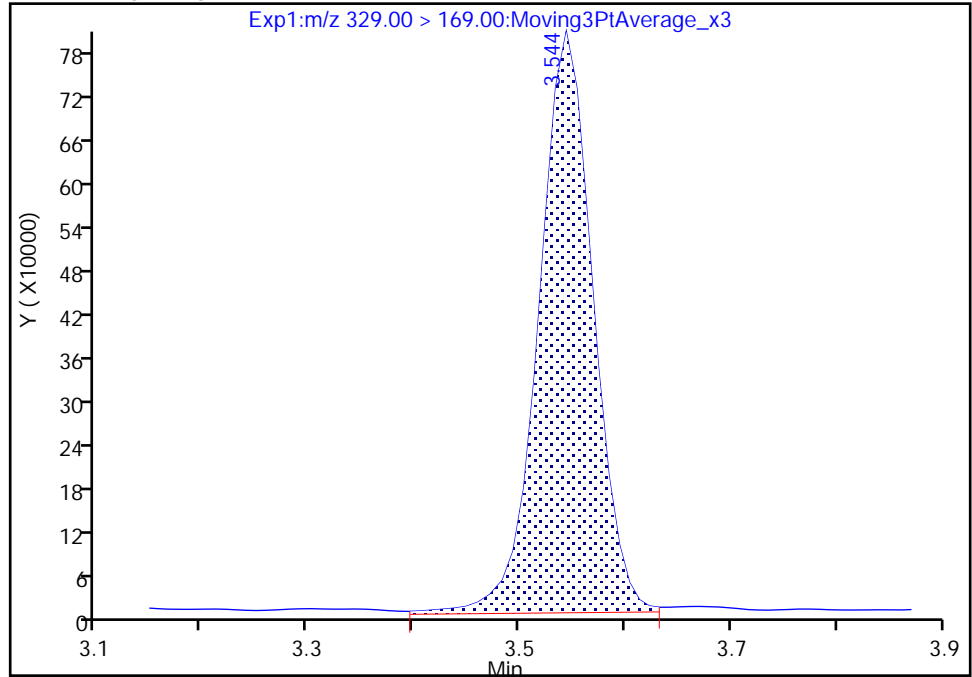
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

17 HFPO-DA, CAS: 13252-13-6

Signal: 2

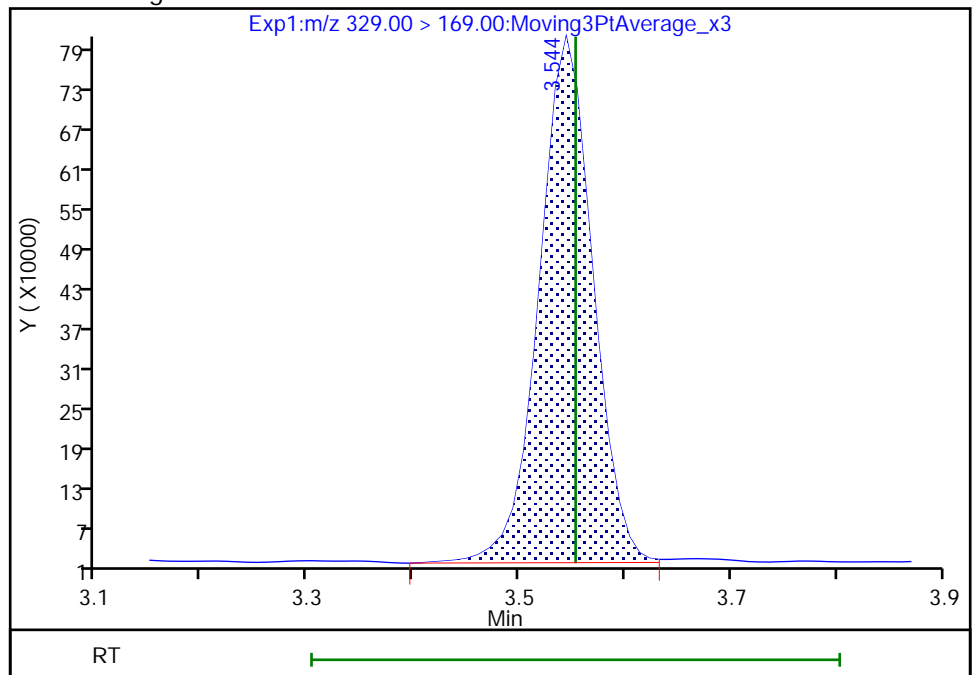
RT: 3.54  
Area: 2849974  
Amount: 3.057997  
Amount Units: ng/ml

Processing Integration Results



RT: 3.54  
Area: 2807667  
Amount: 2.808611  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:27

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

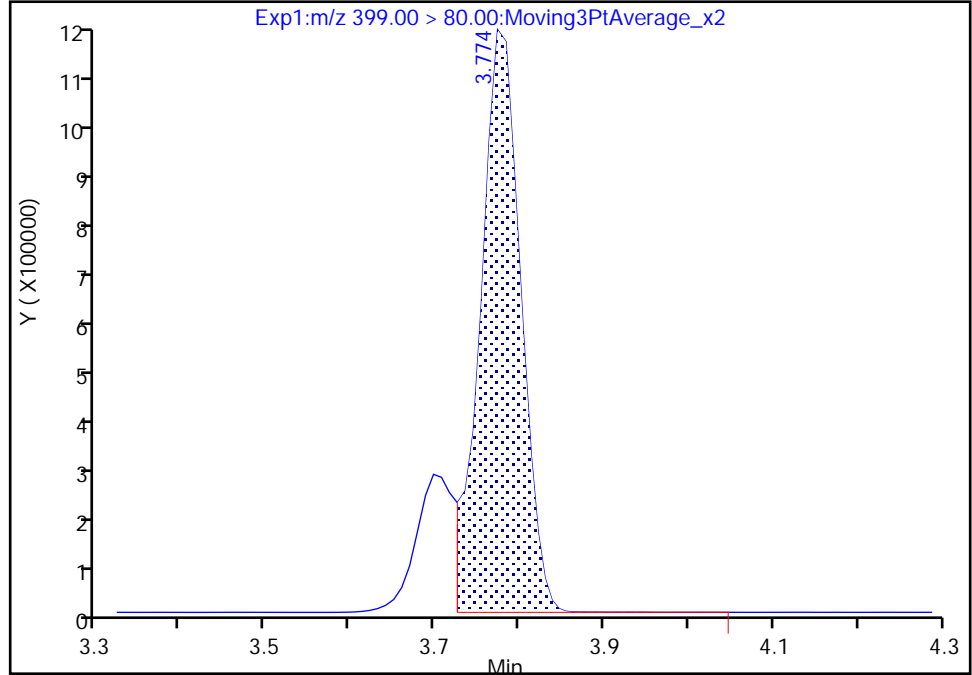
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Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

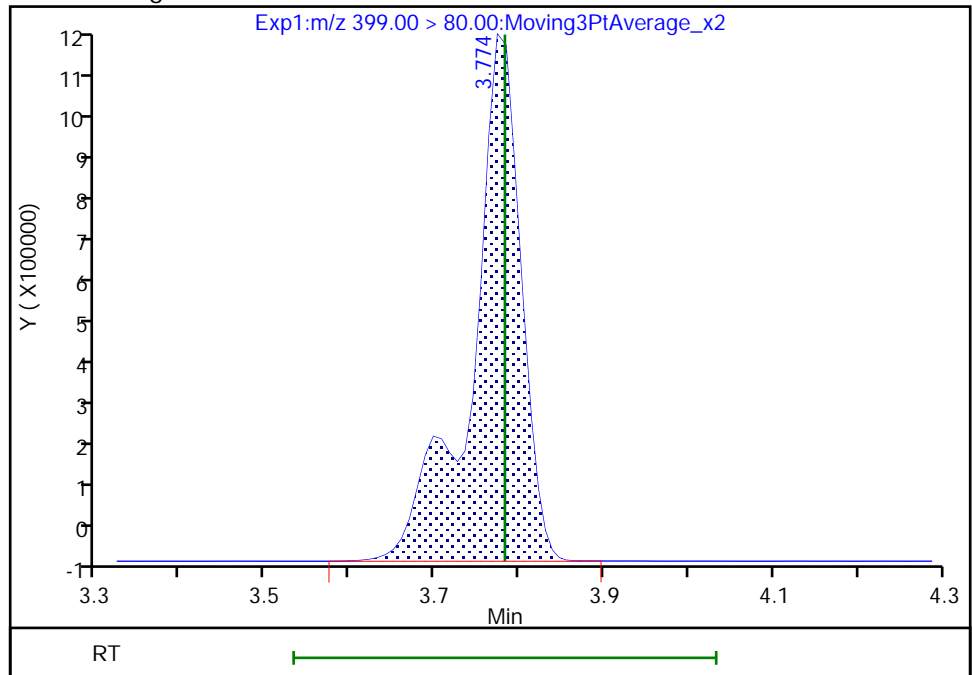
RT: 3.77  
Area: 3869832  
Amount: 1.781905  
Amount Units: ng/ml

Processing Integration Results



RT: 3.77  
Area: 4713862  
Amount: 2.170547  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:38  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

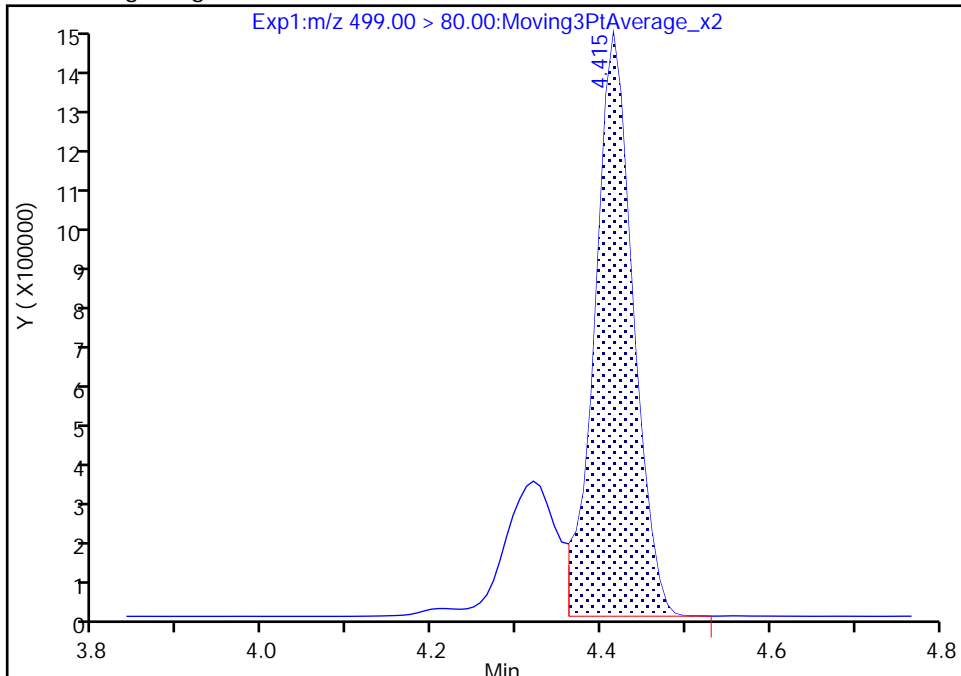
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_042.d  
Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

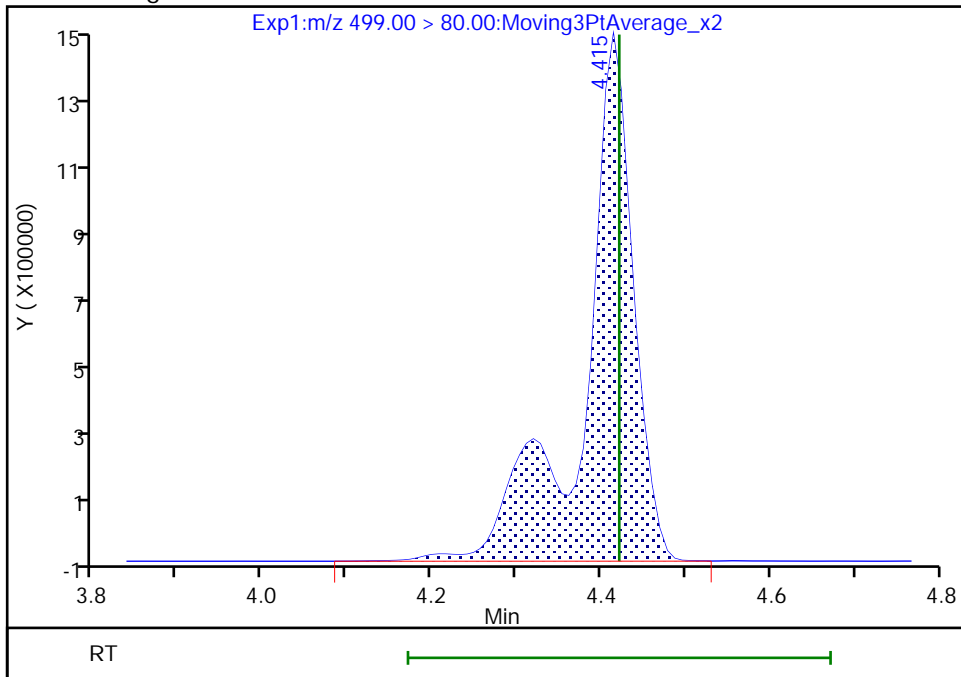
RT: 4.41  
Area: 4566081  
Amount: 1.719022  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 6040932  
Amount: 2.274269  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:50  
Audit Action: Manually Integrated

Eurofins Knoxville

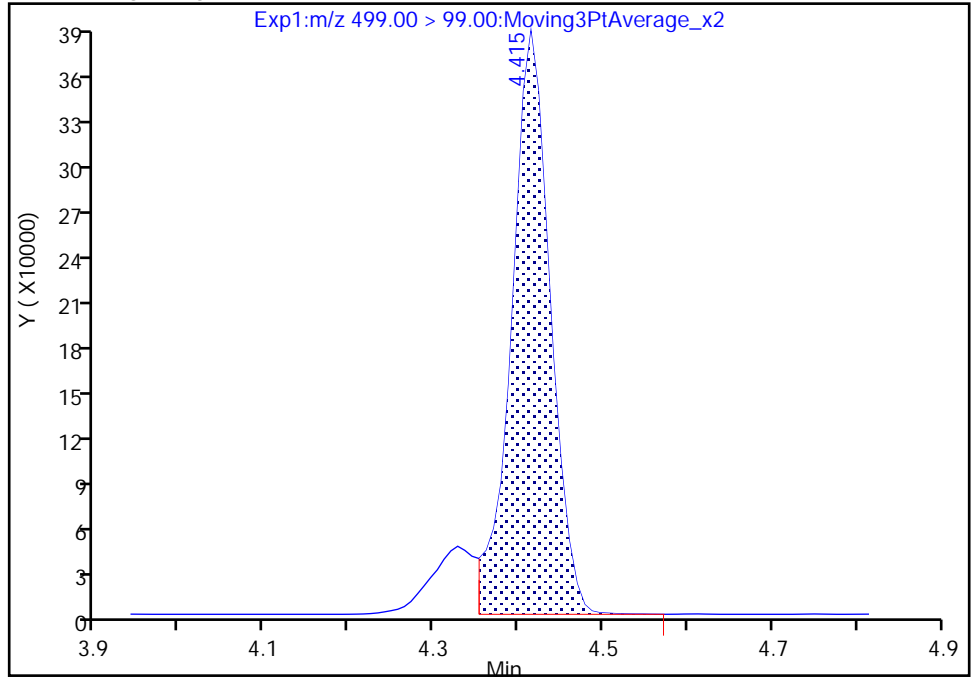
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_042.d  
Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

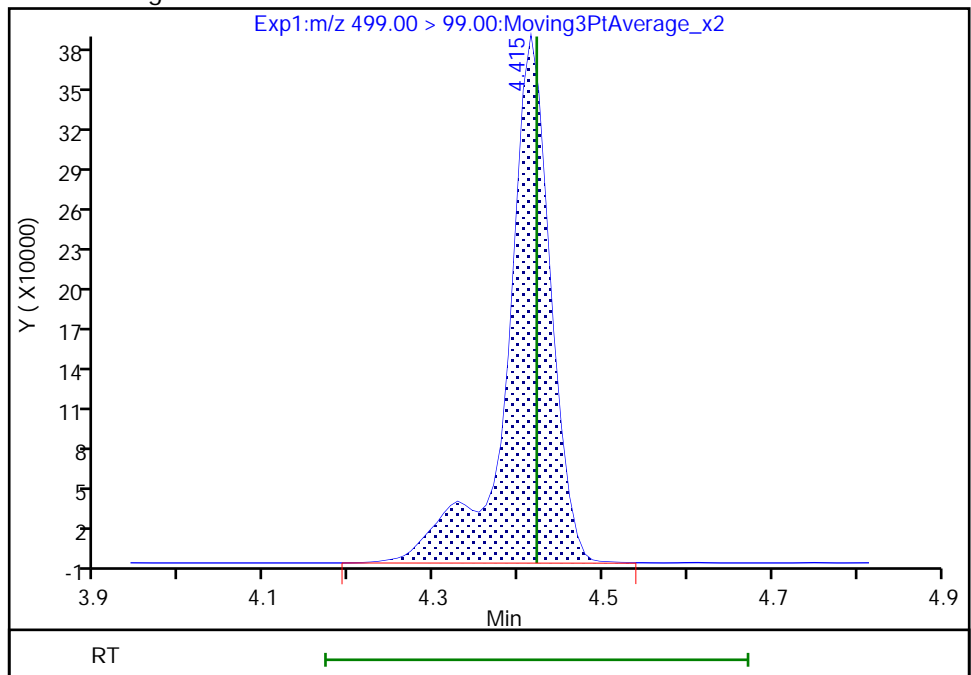
RT: 4.41  
Area: 1220653  
Amount: 1.719022  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 1384186  
Amount: 2.274269  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:58

Audit Action: Manually Integrated

Audit Reason: Baseline  
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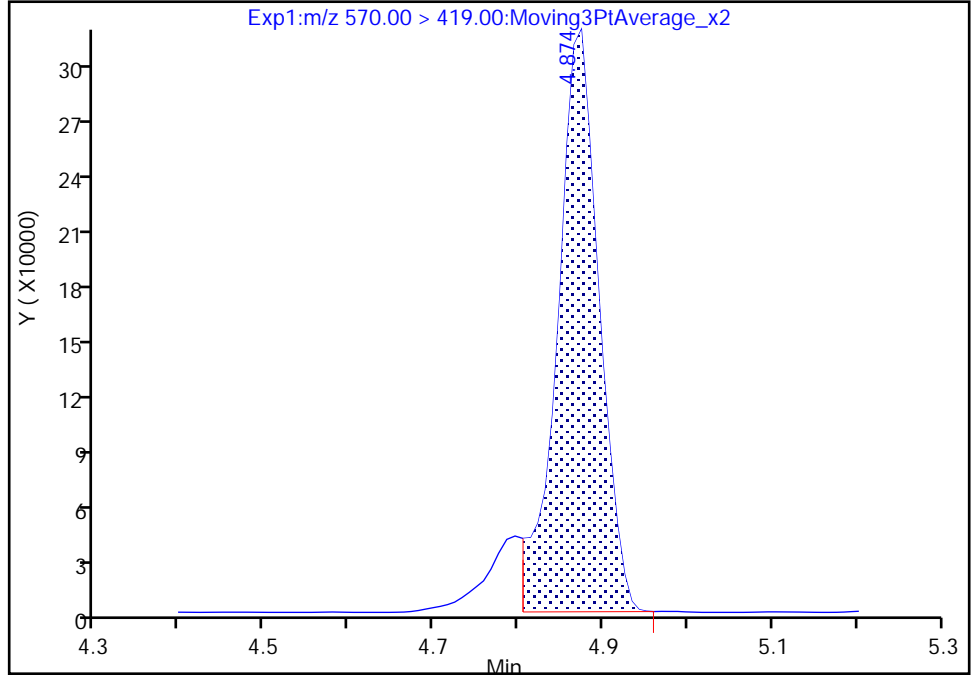
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_042.d  
Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

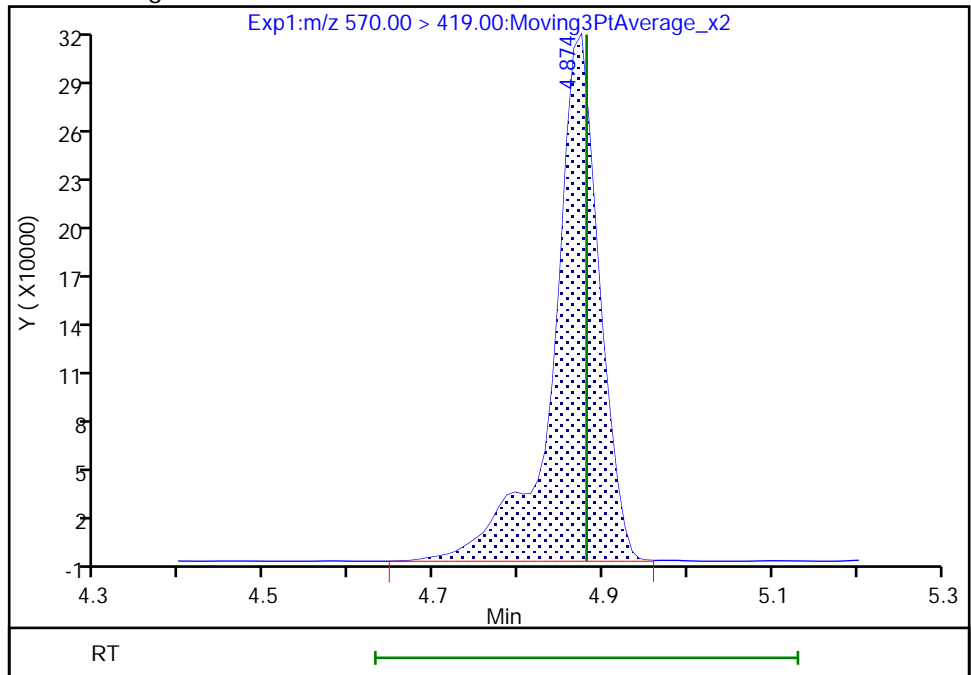
RT: 4.87  
Area: 1060234  
Amount: 2.298094  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1186416  
Amount: 2.562358  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:29:15  
Audit Action: Manually Integrated

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59059/6 Calibration Date: 02/19/2022 18:34  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_006.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8329		0.0489	0.0500	-2.2	50.0
PFECA F	AveID	0.7535	0.7996		0.0531	0.0500	6.1	50.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.087		0.0525	0.0500	5.0	50.0
3:3 FTCA	QuaIF		0.0737		0.0675	0.0500	35.0	50.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.271		0.0486	0.0442	9.8	50.0
PFECA A	Q2ID		1.311		0.0515	0.0500	3.0	50.0
PES	Q2ID		2.642		0.0473	0.0445	6.3	50.0
PFECA B	Q2ID		0.4522		0.0536	0.0500	7.3	50.0
4:2 FTS	L2ID		2.758		0.0543	0.0467	16.3	50.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8734		0.0475	0.0500	-5.1	50.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.162		0.0528	0.0469	12.5	50.0
HFPO-DA	L2ID		1.921		0.0714	0.0500	42.9	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.426		0.0469	0.0455	3.0	50.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.143		0.0514	0.0500	2.8	50.0
DONA	AveID	2.644	2.515		0.0448	0.0471	-4.9	50.0
5:3 FTCA	L2ID		3.299		0.0396	0.0500	-20.9	50.0
6:2 FTUCA	AveID	1.046	1.097		0.0524	0.0500	4.9	50.0
6:2 FTCA	L1ID		0.8210		0.0526	0.0500	5.3	50.0
PFECHS	AveID	0.7426	0.7014		0.0435	0.0461	-5.6	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	1.071		0.0516	0.0476	8.4	50.0
6:2 FTS	L2ID		2.004		0.0485	0.0474	2.4	50.0
Perfluorooctanoic acid (PFOA)	L1ID		1.208		0.0504	0.0500	0.9	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.187		0.0481	0.0464	3.7	50.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7959		0.0523	0.0500	4.6	50.0
7:3 FTCA	AveID	5.230	4.236		0.0405	0.0500	-19.0	50.0
8:2 FTUCA	AveID	0.9565	1.021		0.0534	0.0500	6.8	50.0
8:2 FTCA	AveID	1.811	1.702		0.0470	0.0500	-6.0	50.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.366		0.0490	0.0466	5.2	50.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.025		0.0486	0.0480	1.3	50.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	1.023		0.0536	0.0500	7.2	50.0
Perfluorodecanoic acid (PFDA)	L2ID		1.008		0.0496	0.0500	-0.9	50.0
8:2 FTS	L2ID		2.010		0.0570	0.0479	19.1	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		1.191		0.0667	0.0500	33.4	50.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9853		0.0490	0.0482	1.7	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59059/6 Calibration Date: 02/19/2022 18:34  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_006.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.085		0.0561	0.0500	12.2	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		1.043		0.0512	0.0500	2.5	50.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.840		0.0459	0.0471	-2.6	50.0
10:2 FTUCA	AveID	1.208	1.281		0.0530	0.0500	6.1	50.0
10:2 FTCA	Q2ID		1.192		0.0584	0.0500	16.8	50.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.076		0.0521	0.0500	4.1	50.0
10:2 FTS	L2ID		2.366		0.0484	0.0482	0.3	50.0
NMeFOSA	L2ID		1.170		0.0487	0.0500	-2.6	50.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.315		0.0524	0.0500	4.8	50.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	1.008		0.0516	0.0484	6.6	50.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.9632		0.0545	0.0500	9.1	50.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.414		0.0498	0.0500	-0.3	50.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.385		0.0505	0.0500	1.0	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1535		0.0547	0.0500	9.3	50.0
Perfluorohexadecanoic acid	L1ID		1.436		0.0511	0.0500	2.2	50.0
Perfluorooctadecanoic acid	AveID	1.013	1.056		0.0521	0.0500	4.2	50.0
13C4 PFBA	Ave	1.172	1.199		1.28	1.25	2.3	50.0
13C5 PFPeA	Ave	0.9197	0.8709		1.18	1.25	-5.3	50.0
13C3 PFBS	Ave	0.5817	0.5466		1.09	1.16	-6.0	50.0
M2-4:2 FTS	Ave	0.1821	0.1682		1.08	1.17	-7.6	50.0
13C2 PFHxA	Ave	1.015	0.9703		1.20	1.25	-4.4	50.0
13C3 HFPO-DA	Ave	0.4963	0.4419		1.11	1.25	-10.9	50.0
18O2 PFHxS	Ave	0.3776	0.3923		1.23	1.18	3.9	50.0
13C4 PFHpA	Ave	0.9046	0.8605		1.19	1.25	-4.9	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3431		1.27	1.25	1.7	50.0
13C-6:2 FTCA	Ave	0.0260	0.0297		1.43	1.25	14.1	50.0
13C4 PFOA	Ave	0.9356	0.9759		1.30	1.25	4.3	50.0
M2-6:2 FTS	Ave	0.1799	0.1977		1.31	1.19	9.9	50.0
13C4 PFOS	Ave	0.5610	0.6142		1.31	1.20	9.5	50.0
13C5 PFNA	Ave	1.268	1.285		1.27	1.25	1.3	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5108		1.41	1.25	13.0	50.0
13C-8:2 FTCA	Ave	0.0330	0.0396		1.50	1.25	19.7	50.0
13C8 FOSA	Ave	0.8475	0.9224		1.36	1.25	8.8	50.0
13C2 PFDA	Ave	1.210	1.230		1.27	1.25	1.6	50.0
M2-8:2 FTS	Ave	0.1961	0.2188		1.34	1.20	11.6	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59059/6 Calibration Date: 02/19/2022 18:34  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_006.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1448		1.60	1.25	27.6	50.0
13C2 PFUnA	Ave	1.168	1.182		1.27	1.25	1.2	50.0
d5-NEtFOSAA	Ave	0.1164	0.1429		1.53	1.25	22.7	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5069		1.25	1.25	-0.2	50.0
13C-10:2 FTCA	Ave	0.0309	0.0300		1.21	1.25	-3.0	50.0
13C2 PFDoA	Ave	1.152	1.125		1.22	1.25	-2.4	50.0
13C2 10:2 FTS	Ave	0.1652	0.1708		1.23	1.18	3.4	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1113		1.17	1.25	-6.2	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1013		1.26	1.25	0.4	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1184		1.20	1.25	-3.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0837		1.29	1.25	3.4	50.0
13C2 PFTeDA	Ave	0.9216	0.8754		1.19	1.25	-5.0	50.0
13C2 PFHxDA	Ave	0.5997	0.5543		1.16	1.25	-7.6	50.0
13C8 PFOA	AveID	0.9229	0.9185		1.24	1.25	-0.5	50.0
13C8 PFOS	AveID	0.2212	0.2111		1.14	1.20	-4.6	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_006.d  
 Lims ID: CCVL  
 Client ID:  
 Sample Type: CCVL  
 Inject. Date: 19-Feb-2022 18:34:56 ALS Bottle#: 6 Worklist Smp#: 6  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-006 ccvl  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:36 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 18:52:19

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										M
212.90 > 169.00	2.804	2.804	0.0	1.000	190065	0.0489		97.8	75.1	M
D 2 13C4 PFBA										
217.00 > 172.00	2.804	2.804	0.0	0.680	5704803	1.28		102	26218	
3 PFECA F										
229.00 > 85.00	2.911	2.911	0.0	0.935	132477	0.0531		106	1274	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.756	4141938	1.18		94.7	17977	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.115	0.0	1.000	180031	0.0525		105	77.9	
4 3:3 FTCA										
241.00 > 177.10	3.123	3.123	0.0	1.000	7660	0.0675	Target=1.13	135	87.6	
241.00 > 116.90	3.123	3.123	0.0	1.000	7414		1.03(0.56-1.69)		13.7	
D 7 13C3 PFBS										
301.90 > 80.00	3.123	3.123	0.0	0.758	2417731	1.09		94.0	9737	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.131	0.0	1.003	116858	0.0485	Target=2.61	110	345	
298.90 > 99.00	3.123	3.131	-0.008	1.000	42299		2.76(1.31-3.92)		312	
9 PFECA A										
278.95 > 84.90	3.202	3.202	0.0	1.028	217194	0.0515		103	1795	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.044	244524	0.0473		106	2683	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.985	83466	0.0536		107	723	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.415	3.415	0.0	0.829	747095	1.08		92.4	1238	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.415	3.415	0.0	1.000	82429	0.0543		116	721	
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.437	0.0	0.834	4614799	1.20		95.6	16100	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.437	3.437	0.0	1.101	113328	0.0528	Target=3.55	113	374	
349.00 > 99.00	3.437	3.437	0.0	1.101	33907		3.34(1.78-5.33)		280	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.437	0.0	1.000	161224	0.0475	Target=11.60	94.9	87.0	
313.00 > 119.00	3.437	3.437	0.0	1.000	14821		10.88(5.80-17.40)		13.8	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.542	0.0	0.860	2101966	1.11		89.1	7408	
17 HFPO-DA										
285.00 > 169.00	3.542	3.542	0.0	1.000	161555	0.0714	Target=2.45	143	40.3	
329.00 > 169.00	3.542	3.542	0.0	1.000	56550		2.86(1.23-3.68)		30.5	
D 20 18O2 PFHxS										
403.00 > 84.00	3.772	3.772	0.0	0.915	1765270	1.23		104	4061	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.772	3.772	0.0	1.000	96878	0.0469	Target=3.44	103	293	M
399.00 > 99.00	3.772	3.772	0.0	1.000	31881		3.04(1.72-5.17)		127	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.792	0.0	0.920	4092624	1.19		95.1	14420	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.792	0.0	1.000	187089	0.0514	Target=3.25	103	176	
363.00 > 169.00	3.792	3.792	0.0	1.000	58783		3.18(1.62-4.87)		148	
25 DONA										
377.00 > 251.00	3.820	3.820	0.0	0.866	276857	0.0448	Target=1.74	95.1	1594	
377.00 > 85.00	3.820	3.820	0.0	0.866	148359		1.87(0.87-2.61)		79.4	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	18638	0.0396	Target=1.11	79.1	111	
340.88 > 216.90	3.853	3.853	0.0	0.987	19300		0.97(0.56-1.67)		64.2	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.886	0.0	0.943	1632068	1.27		102	3528	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.886	0.0	1.000	71628	0.0524	Target=13.05	105	343	M
356.86 > 243.00	3.878	3.886	-0.008	0.998	4552		15.74(6.52-19.57)		16.6	M
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.903	0.0	0.947	141258	1.43		114	746	
29 6:2 FTCA										
377.10 > 63.00	3.903	3.903	0.0	1.000	4639	0.0526	Target=1.29	105	13.5	
377.10 > 313.10	3.895	3.903	-0.008	0.998	3651		1.27(0.65-1.94)		8.4	
32 PFECBS										
460.80 > 380.90	4.054	4.054	0.0	0.984	120059	0.0435	Target=1.75	94.4	513	
460.80 > 98.90	4.064	4.054	0.010	0.986	79221		1.52(0.87-2.62)		381	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.111	4.111	0.0	0.932	119124	0.0516	Target=3.72	108	317	
449.00 > 99.00	4.111	4.111	0.0	0.932	28276		4.21(1.86-5.57)		136	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	1.000	893278	1.30		110	2104	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	71462	0.0485		102	219	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	1.000	4263381	1.24		99.5	7270	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.121	0.0	1.000	4641588	1.30		104	14495	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		4756185	1.25			11095	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.121	0.0	1.000	224320	0.0504	Target=2.51	101	204	
413.00 > 169.00	4.121	4.121	0.0	1.000	94158		2.38(1.26-3.77)		175	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.412	4.412	0.0	1.000	589488	1.14		95.4	1301	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.412	0.0	1.071	2792682	1.31		109	3382	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.412	4.412	0.0	1.000	128757	0.0481	Target=4.30	104	282	M
499.00 > 99.00	4.412	4.412	0.0	1.000	28398		4.53(2.15-6.45)		116	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.438	4.438	0.0	1.000	194554	0.0523	Target=3.60	105	298	
463.00 > 169.00	4.438	4.438	0.0	1.000	45707		4.26(1.80-5.40)		188	
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.438	0.0	1.077	6111142	1.27		101	11097	
43 7:3 FTCA										
441.00 > 337.00	4.520	4.520	0.0	0.991	31878	0.0405	Target=1.42	81.0	155	
441.00 > 317.00	4.520	4.520	0.0	0.991	24494		1.30(0.71-2.13)		117	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	99254	0.0534	Target=35.37	107	535	
456.86 > 343.00	4.553	4.545	0.008	1.002	4167		23.82(17.68-53.05)		9.9	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.545	0.0	1.000	2429463	1.41		113	4302	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.561	4.561	0.0	1.107	188125	1.50		120	706	
46 8:2 FTCA										
477.00 > 393.10	4.553	4.553	0.0	0.998	12807	0.0470	Target=3.35	94.0	50.6	M
477.00 > 63.20	4.561	4.553	0.008	1.000	4163		3.08(1.68-5.03)		15.8	M
49 9CIFOS										
531.00 > 351.00	4.570	4.570	0.0	1.109	257658	0.0490		105	825	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	114970	0.0486	Target=3.99	101	381	
549.00 > 99.00	4.697	4.697	0.0	1.065	34520		3.33(2.00-5.99)		159	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.706	0.0	1.142	4386940	1.36		109	4348	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.706	0.0	1.000	179566	0.0536		107	621	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.723	0.0	1.000	235914	0.0496	Target=10.58	99.1	239	
513.00 > 169.00	4.723	4.723	0.0	1.000	21418		11.01(5.29-15.88)		23.5	
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.723	0.0	1.146	5848266	1.27		102	19370	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.740	0.0	1.150	997085	1.34		112	2122	
53 8:2 FTS										
527.00 > 507.00	4.731	4.731	0.0	0.998	80160	0.0570		119	336	
57 NMeFOSAA										
570.00 > 419.00	4.863	4.863	0.0	0.998	32822	0.0667		133	78.4	M
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.182	688805	1.60		128	2143	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.124	110989	0.0490	Target=3.55	102	403	
599.00 > 99.00	4.957	4.957	0.0	1.124	28315		3.92(1.78-5.33)		130	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.985	4.985	0.0	1.000	244055	0.0561	Target=8.26	112	364	
563.00 > 169.00	4.985	4.985	0.0	1.000	29714		8.21(4.13-12.39)		155	
D 59 13C2 PFUnA										
565.00 > 520.00	4.985	4.985	0.0	1.210	5623258	1.27		101	10997	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.004	5.004	0.0	1.214	679583	1.53		123	4327	
62 NEtFOSAA										
584.00 > 419.00	5.004	5.004	0.0	1.000	28362	0.0512		102	100	M
63 11CIFOS										
631.00 > 451.00	5.082	5.082	0.0	1.152	202478	0.0459		97.4	553	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.092	0.0	1.236	2410808	1.25		99.8	5470	
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.092	0.0	1.000	123577	0.0530		106	575	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.102	0.0	1.000	6808	0.0584	Target=2.53	117	31.2	
576.80 > 63.10	5.092	5.102	-0.010	0.998	2944		2.31(1.26-3.79)		9.8	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.102	0.0	1.238	142740	1.21		97.0	556	
D 69 13C2 PFDaA										
615.00 > 570.00	5.226	5.226	0.0	1.268	5348629	1.22		97.6	15166	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	230158	0.0521	Target=6.85	104	217	
613.00 > 169.00	5.217	5.226	-0.009	0.998	36415		6.32(3.43-10.28)		91.5	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.242	5.242	0.0	1.272	769650	1.22		103	3873	
71 10:2 FTS										
627.00 > 607.00	5.242	5.242	0.0	1.000	74141	0.0484		100	391	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.274	5.274	0.0	1.280	529222	1.17		93.8	465	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.274	5.274	0.0	1.280	481844	1.25		100	46.1	
74 NMeFOSA										
512.00 > 169.00	5.274	5.274	0.0	1.000	22549	0.0487		97.4	72.6	M
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.003	27834	0.0524		105	44.6	
76 PFDoS										
699.00 > 80.00	5.398	5.398	0.0	1.224	114005	0.0516	Target=4.22	107	281	
699.00 > 99.00	5.398	5.398	0.0	1.224	28225		4.04(2.11-6.34)		139	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.426	0.0	1.038	206078	0.0545	Target=6.32	109	289	
663.00 > 169.00	5.426	5.426	0.0	1.038	31887		6.46(3.16-9.48)		206	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	563273	1.20		96.3	239	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.443	5.443	0.0	1.321	398095	1.29		103	611	
79 N-EtFOSE-M										
630.00 > 59.00	5.443	5.443	0.0	1.002	31869	0.0498		99.7	32.0	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.002	22048	0.0505		101	91.9	M
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.607	5.607	0.0	1.000	25565	0.0547	Target=1.01	109	86.0	
713.00 > 219.00	5.607	5.607	0.0	1.000	22011		1.16(0.51-1.52)		140	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.607	5.607	0.0	1.361	4163393	1.19		95.0	10247	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	151440	0.0511	Target=8.64	102	326	
813.00 > 169.00	5.924	5.924	0.0	1.000	20329		7.45(4.32-12.97)		81.0	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.438	2636333	1.16		92.4	4853	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.178	6.178	0.0	1.043	111338	0.0521	Target=11.77	104	261	
913.00 > 169.00	6.178	6.178	0.0	1.043	8301		13.41(5.88-17.65)		38.5	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L2PFC2T3\_00002

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220219-22723.b\_006.d

Injection Date: 19-Feb-2022 18:34:56

Instrument ID: LCA

Lims ID: CCVL

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 6

Worklist Smp#: 6

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

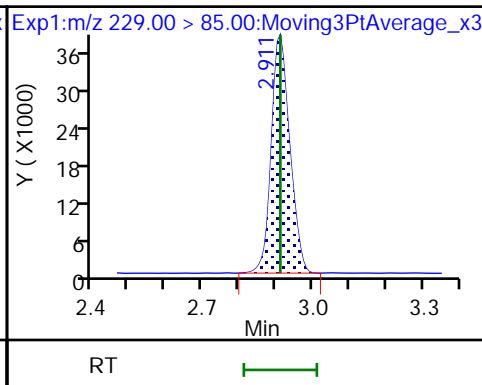
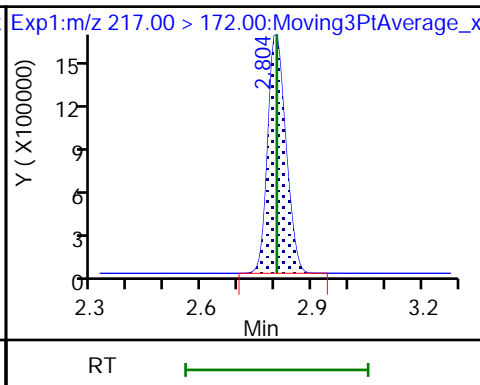
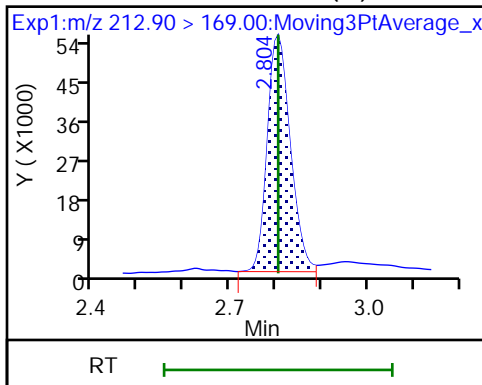
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid (M)

D 2 13C4 PFBA

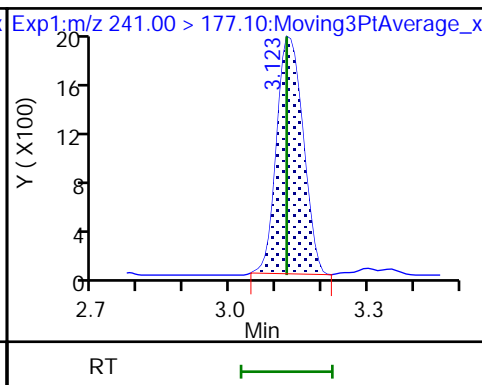
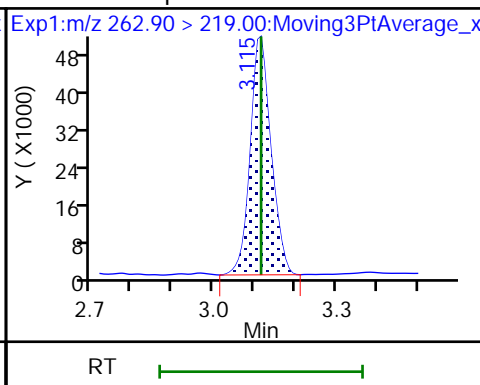
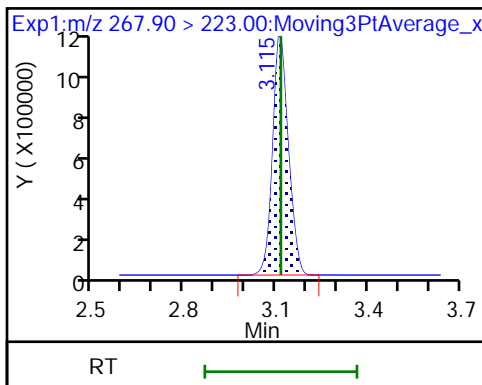
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

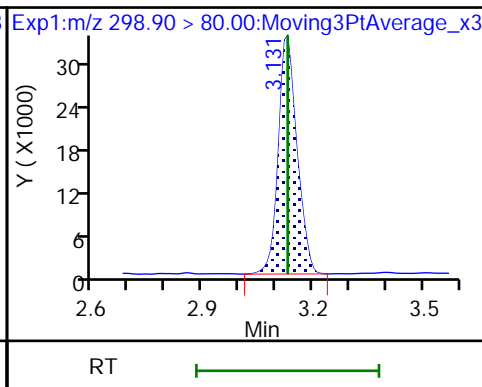
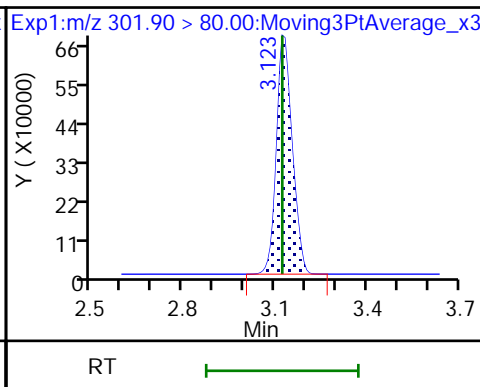
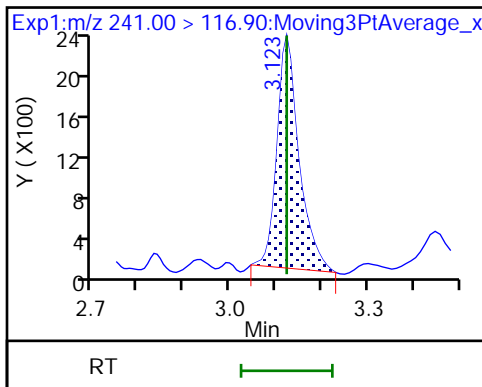
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

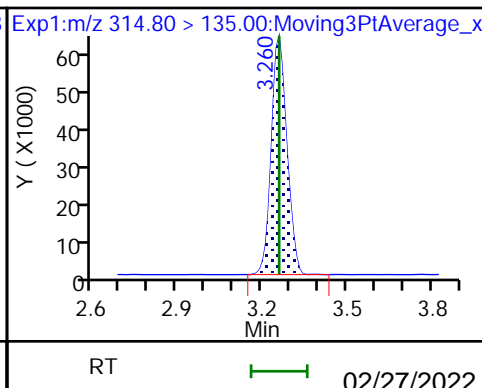
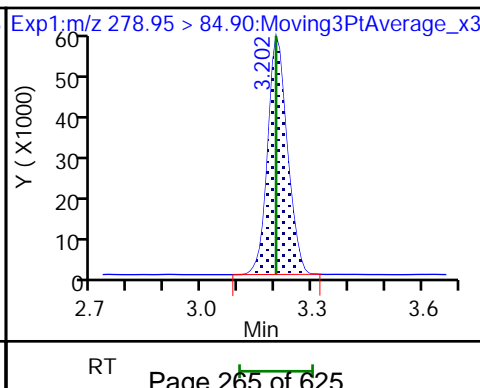
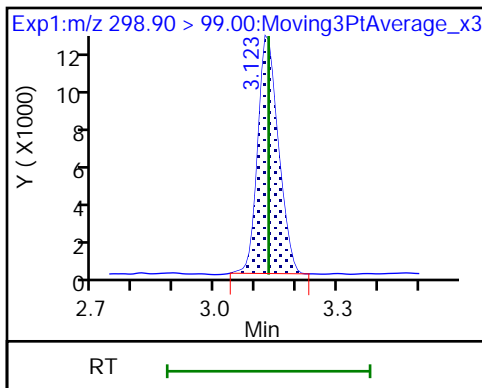
8 Perfluorobutanesulfonic acid

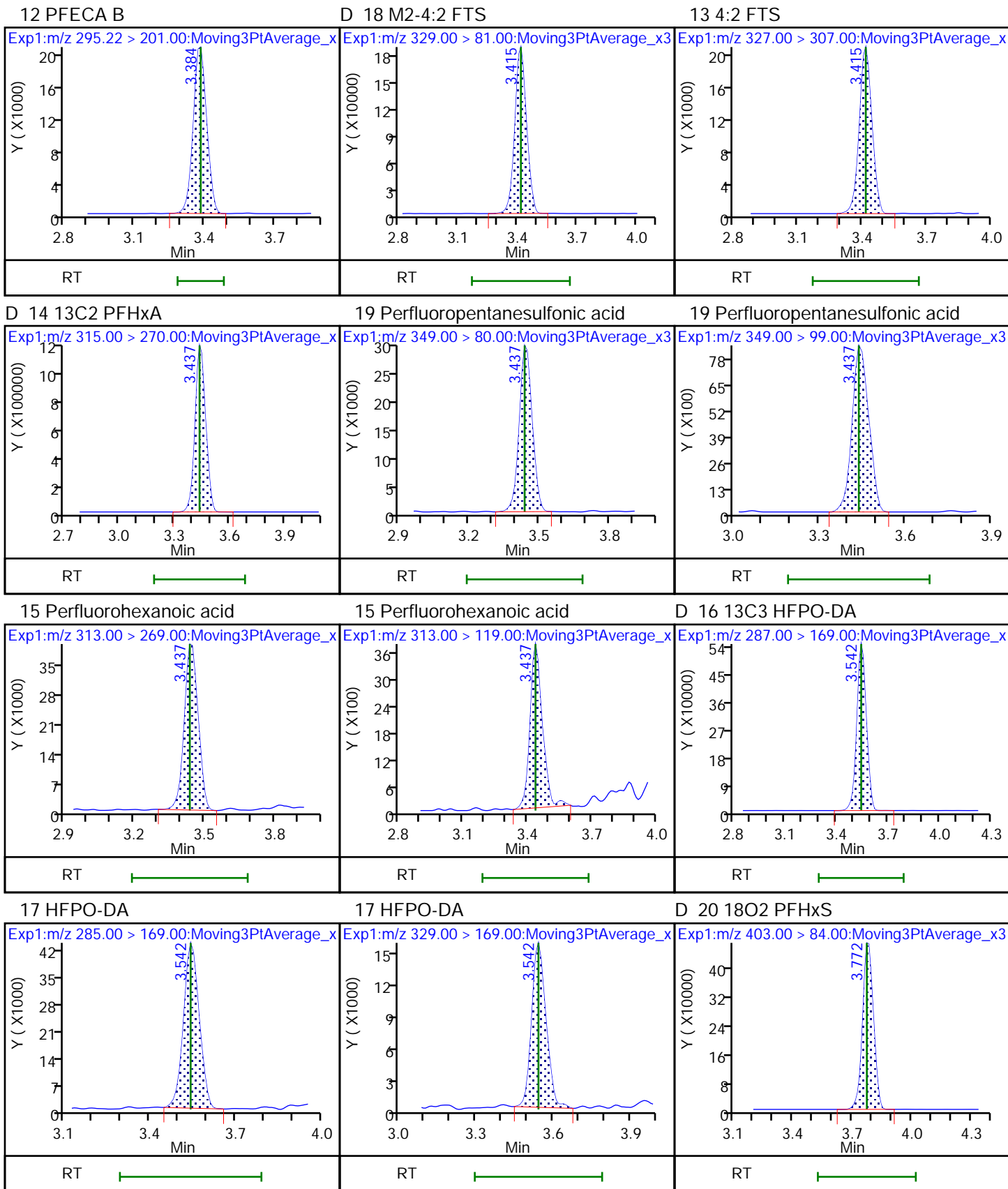


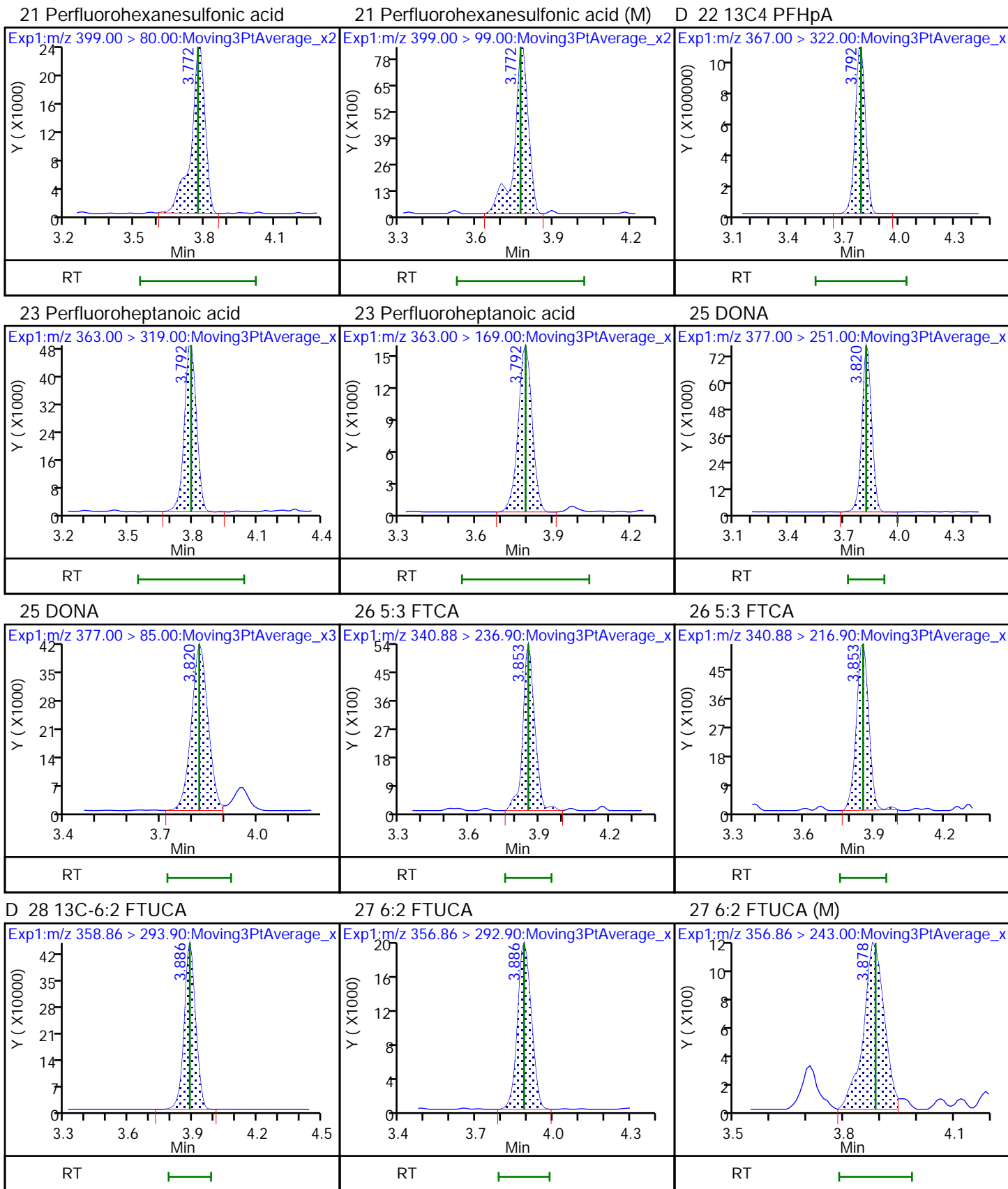
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



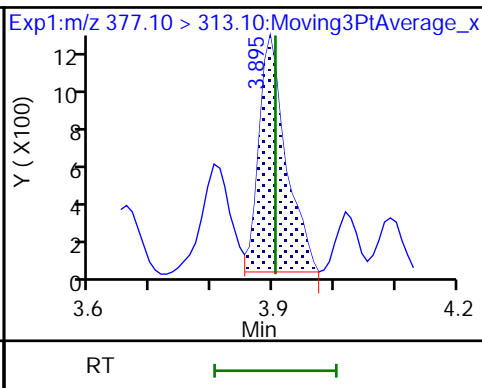
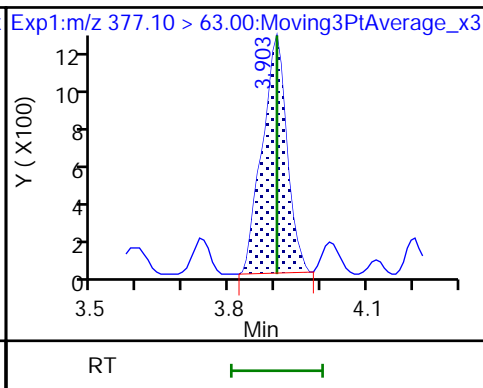
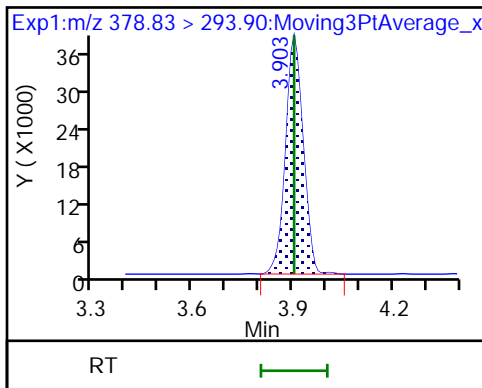




D 24 13C-6:2 FTCA

29 6:2 FTCA

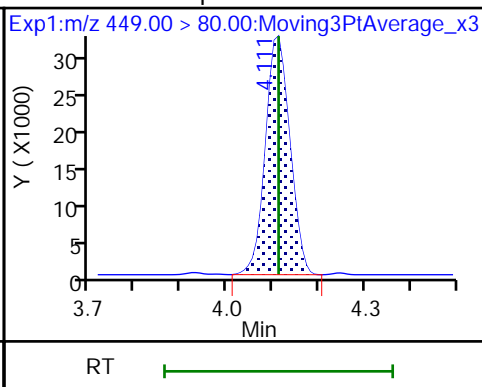
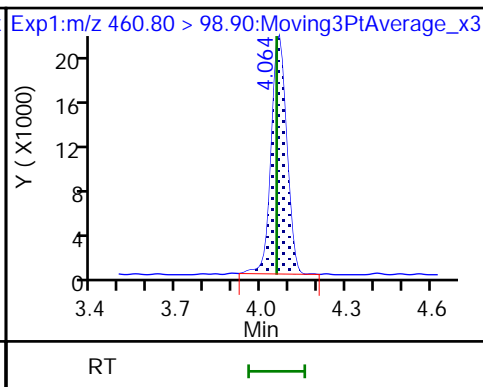
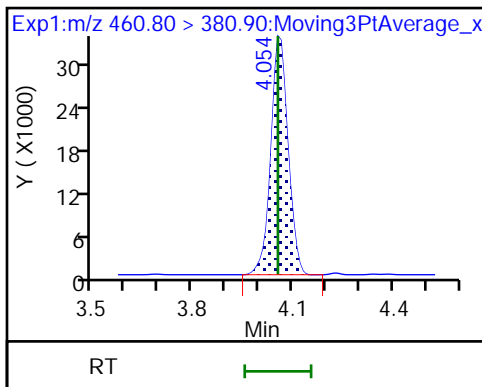
29 6:2 FTCA



32 PFECHS

32 PFECHS

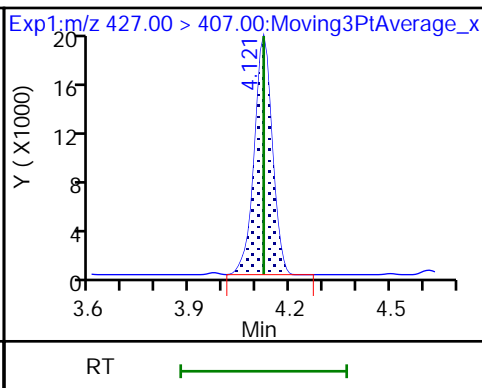
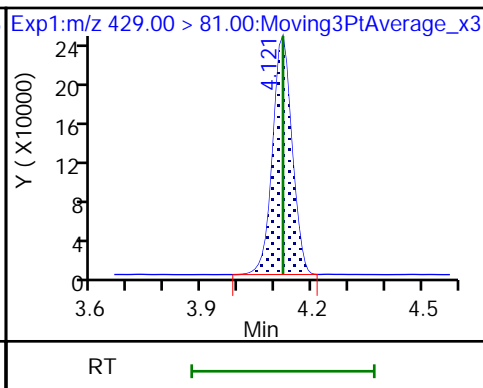
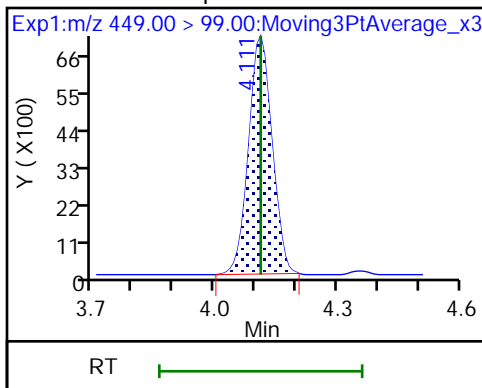
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

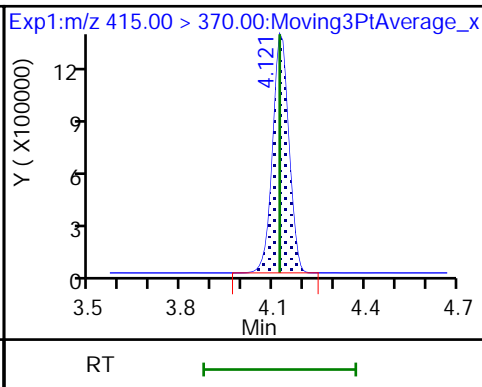
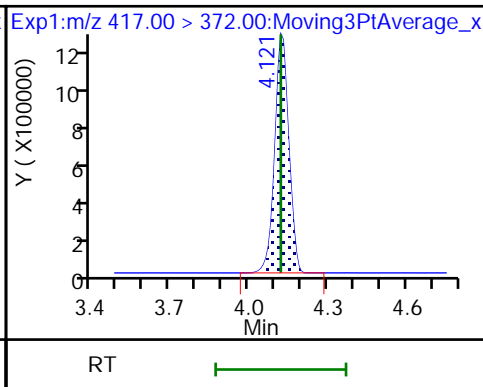
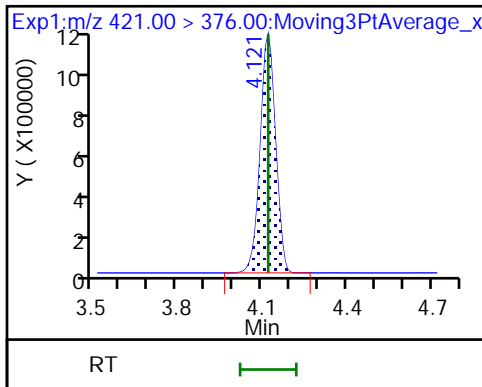
35 6:2 FTS

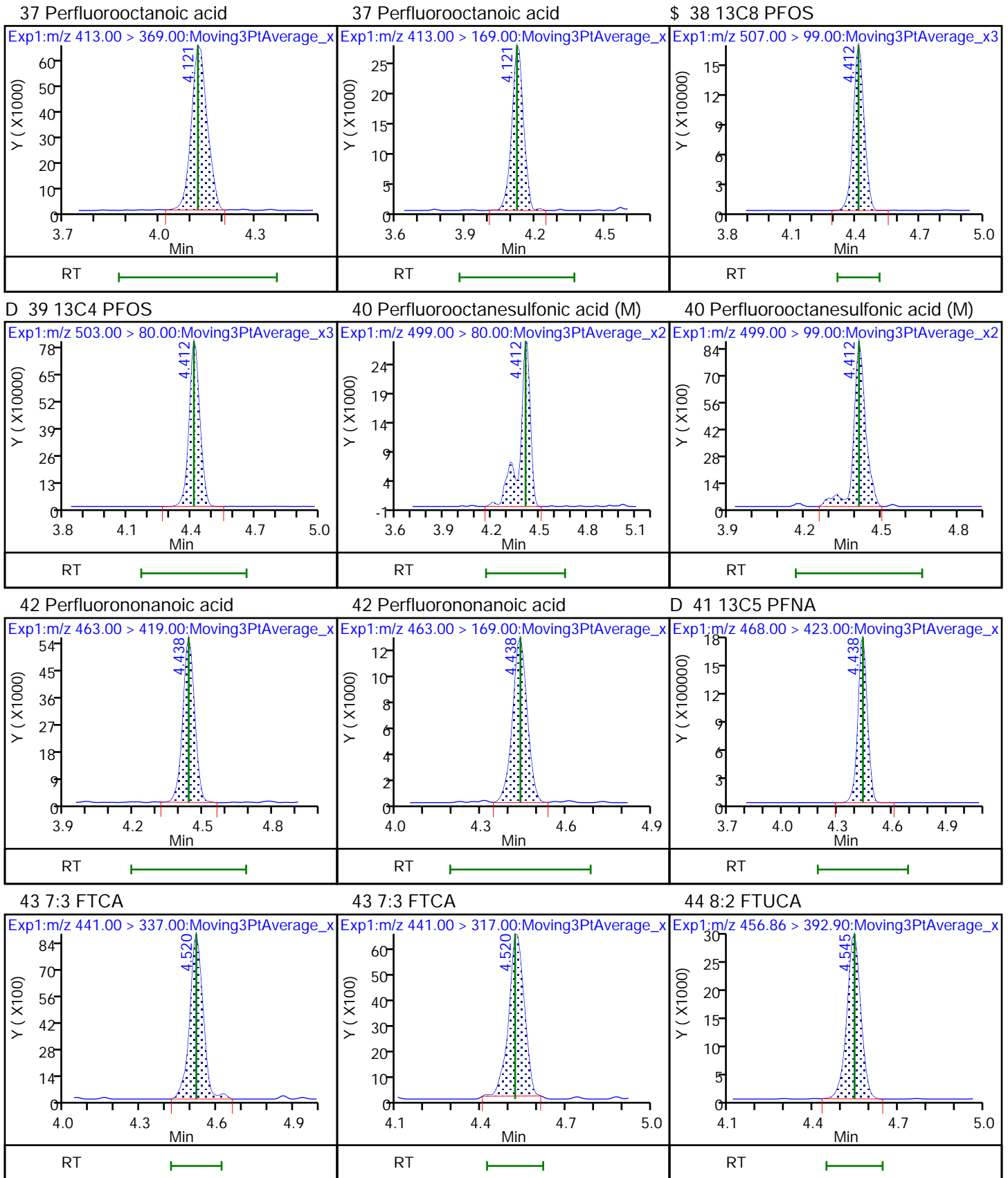


\$ 36 13C8 PFOA

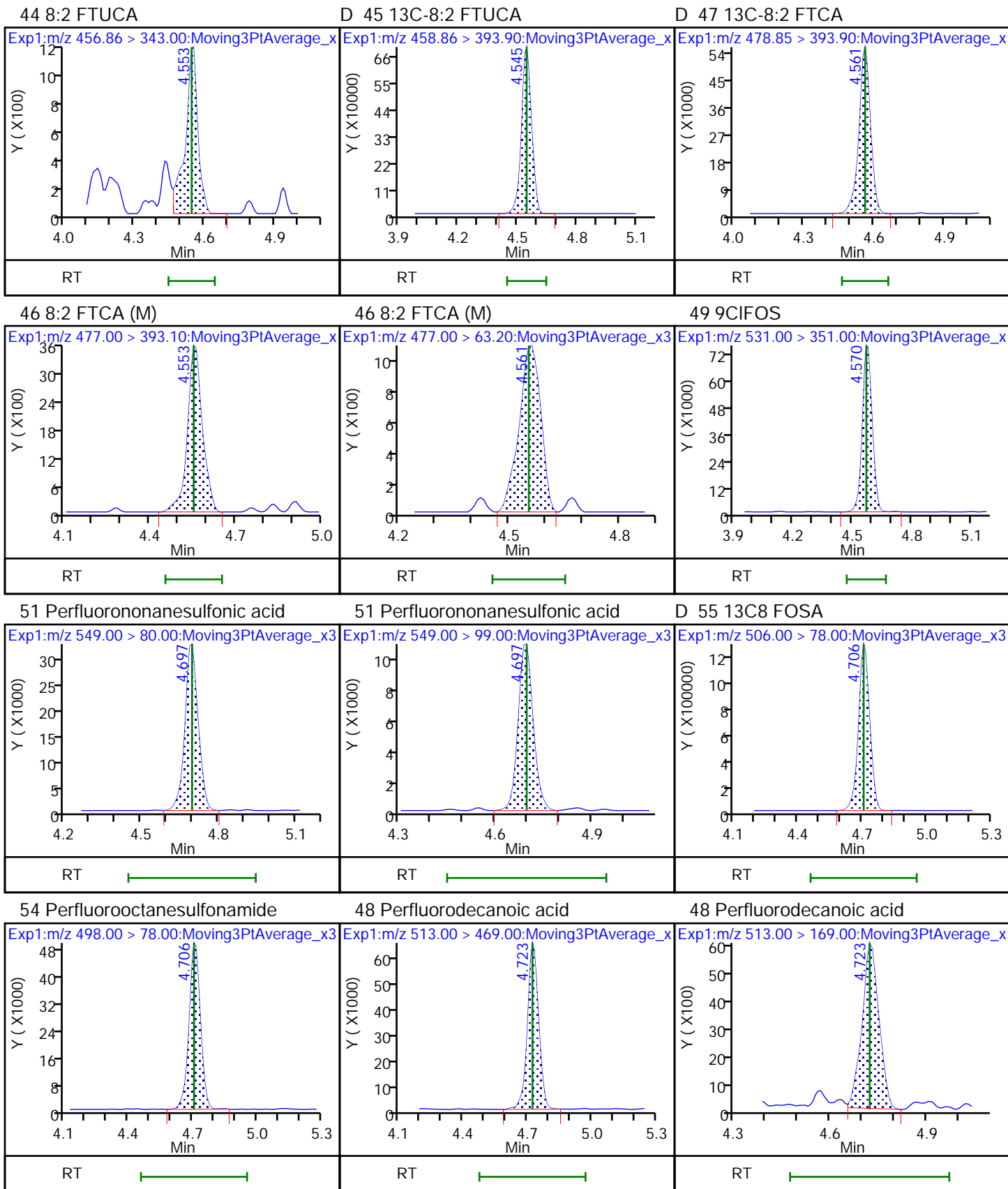
D 31 13C4 PFOA

\* 30 13C2 PFOA





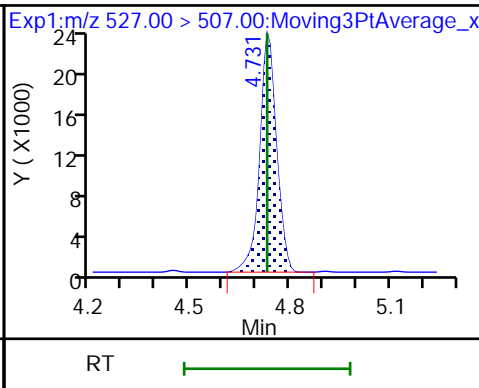
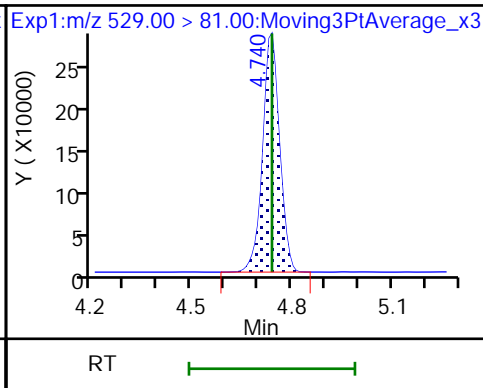
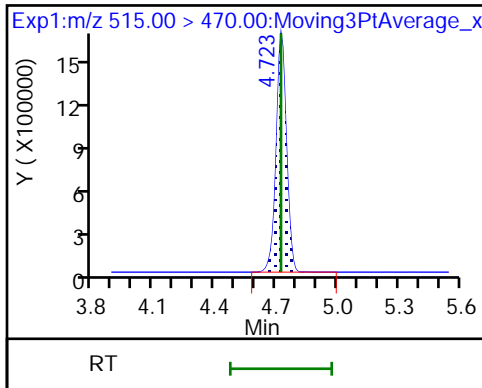




D 52 13C2 PFDA

D 50 M2-8:2 FTS

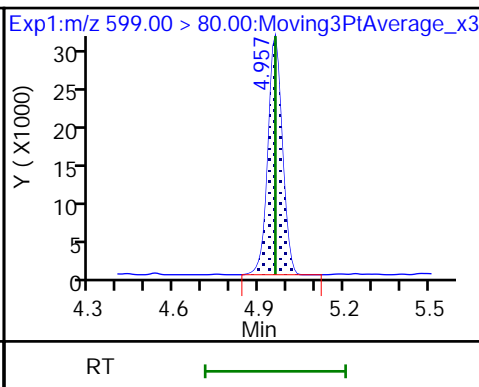
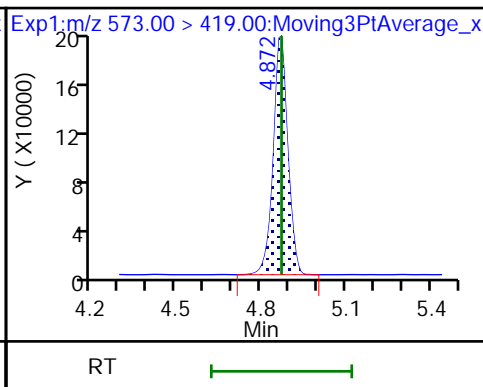
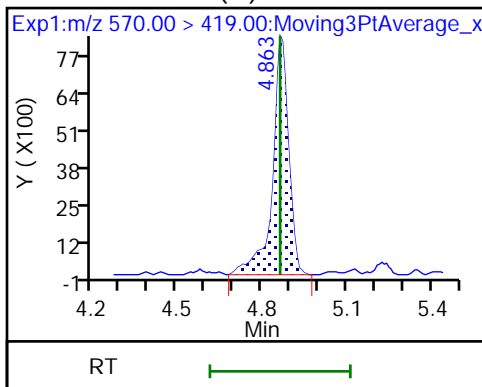
53 8:2 FTS



57 NMeFOSAA (M)

D 56 d3-NMeFOSAA

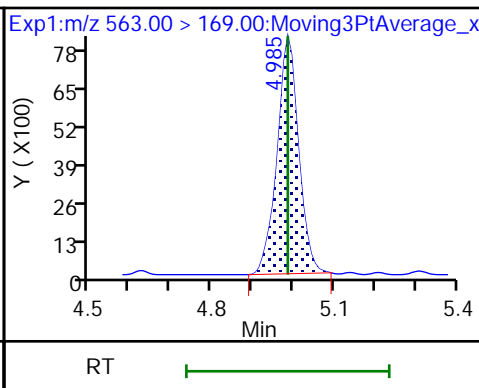
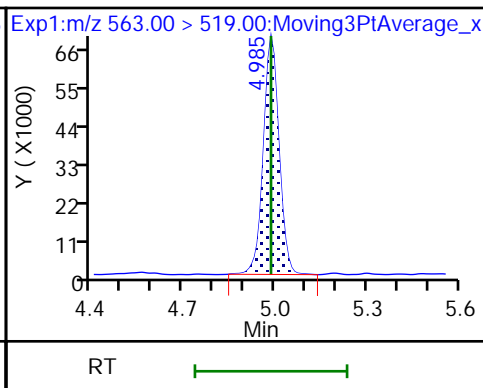
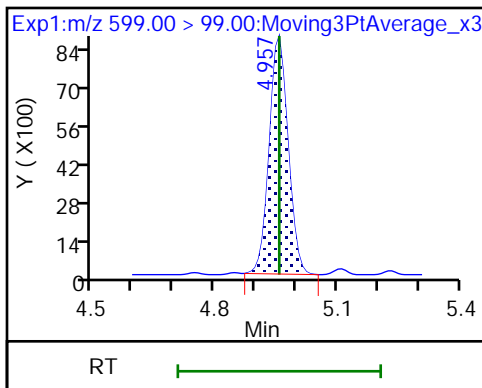
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

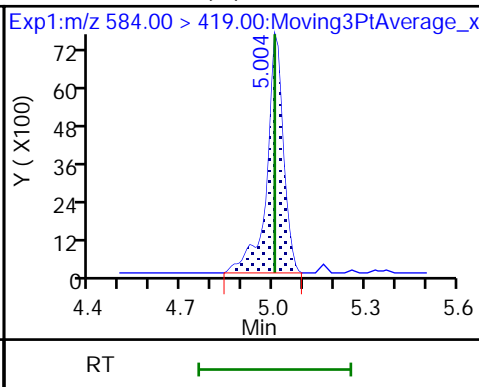
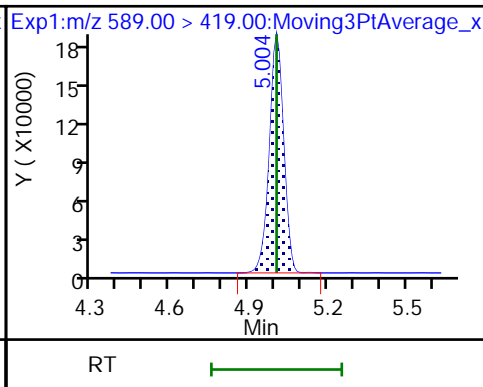
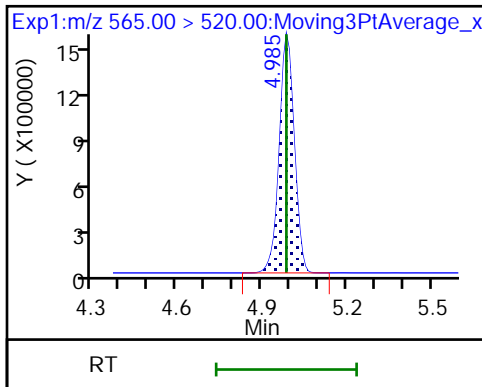
60 Perfluoroundecanoic acid

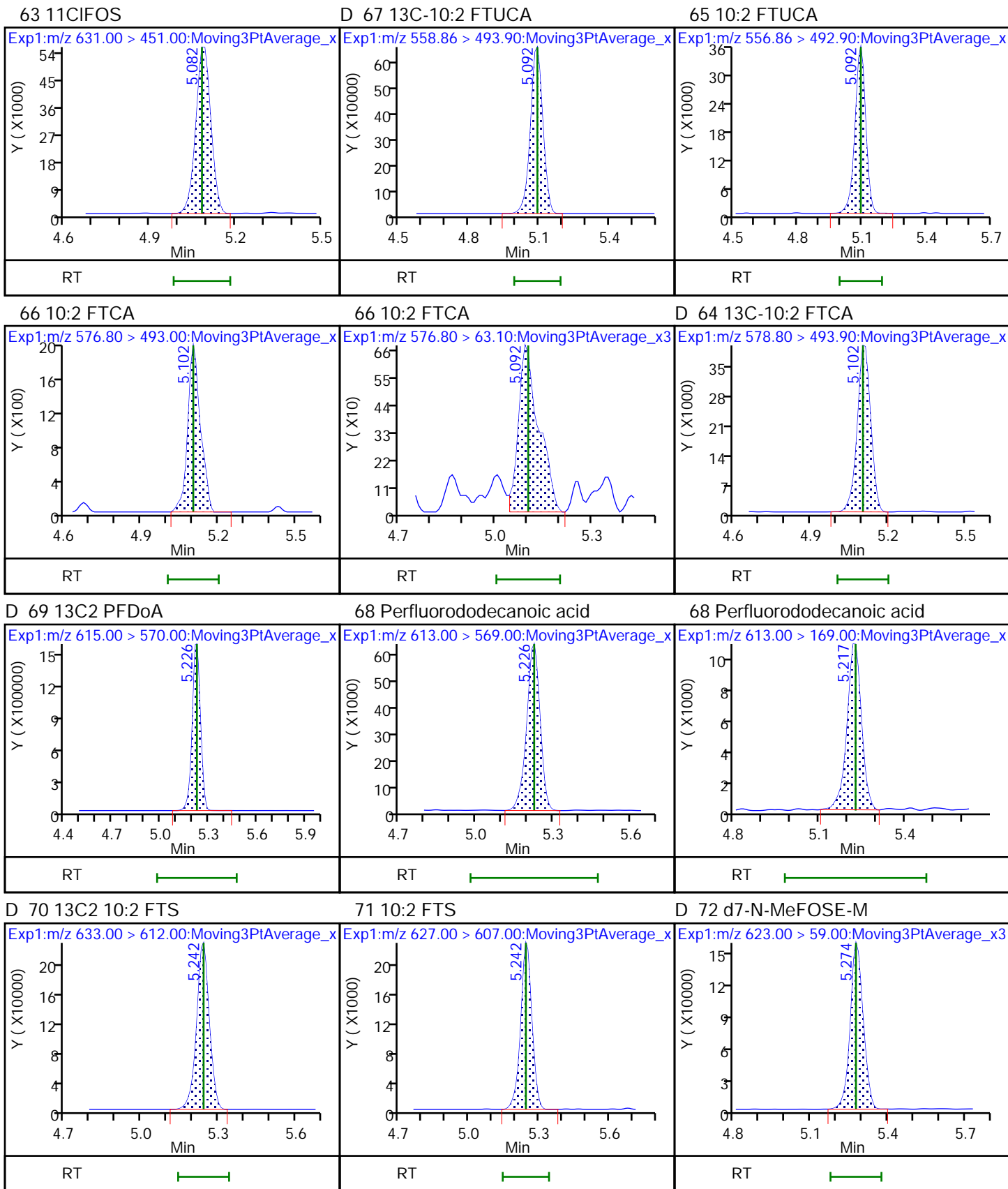


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)

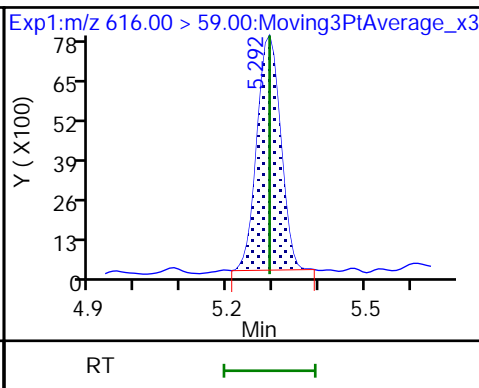
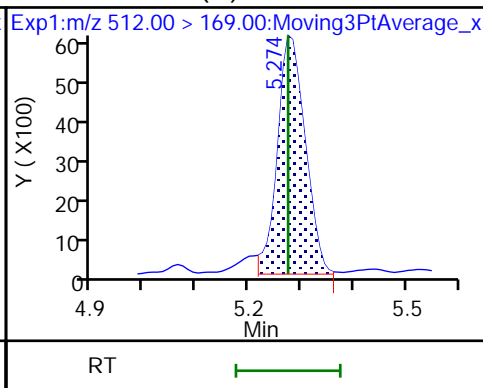
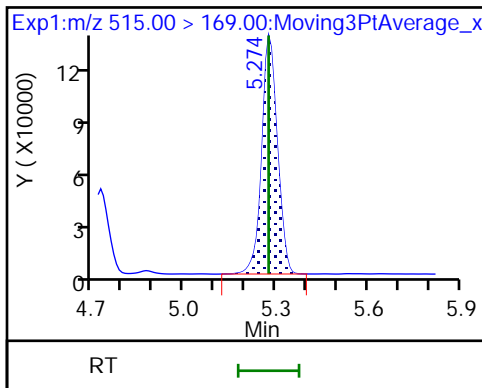




D 73 d-N-MeFOSEA-M

74 NMeFOSEA (M)

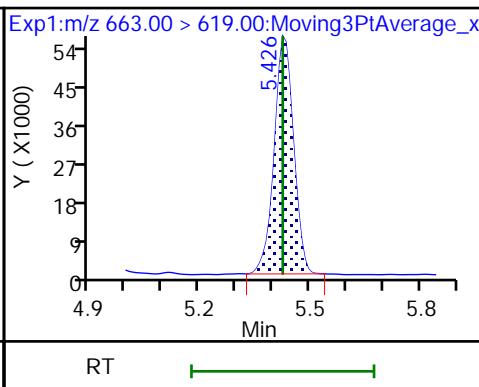
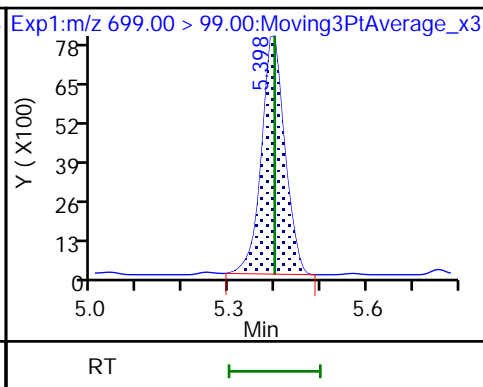
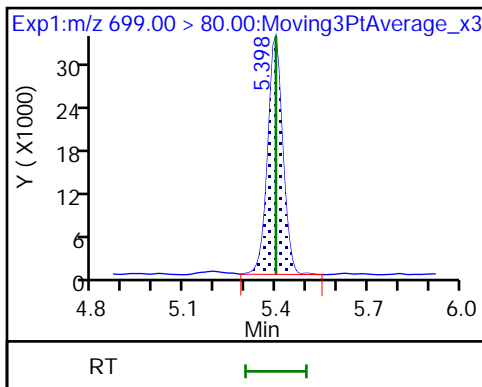
75 N-MeFOSEA-M



76 PFDoS

76 PFDoS

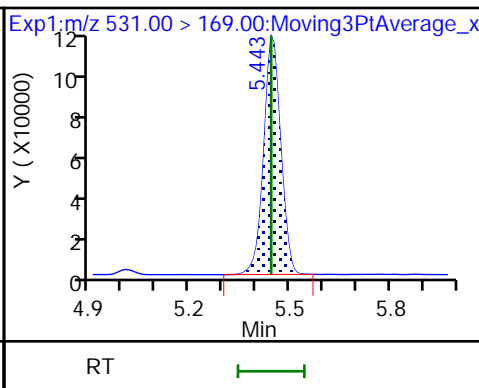
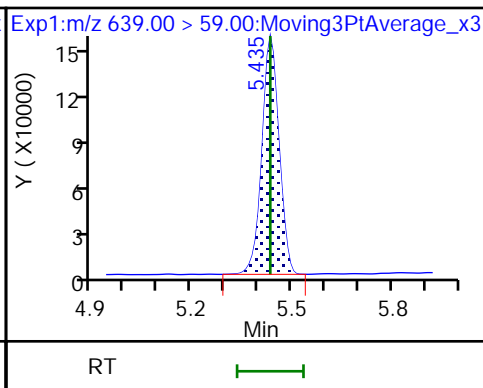
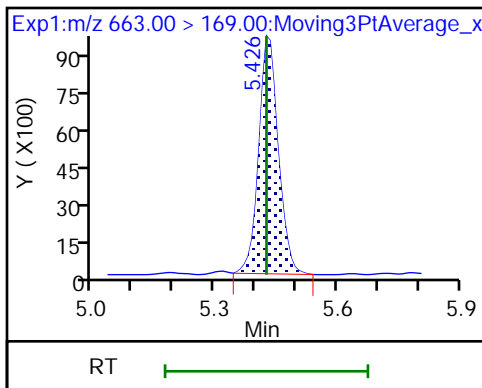
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSEA-M

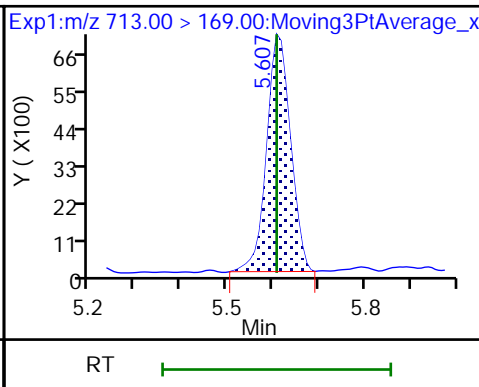
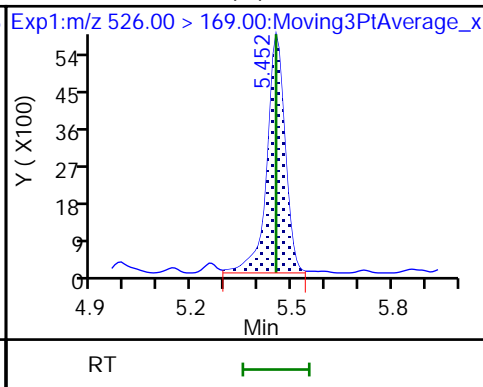
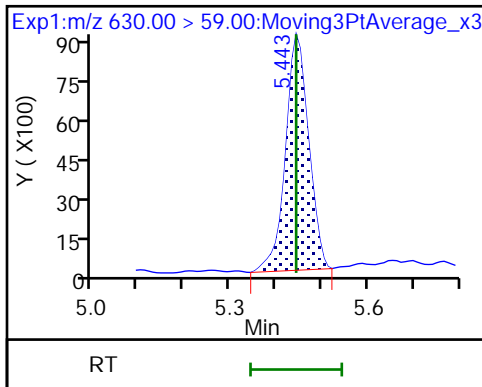
D 80 d-N-EtFOSEA-M

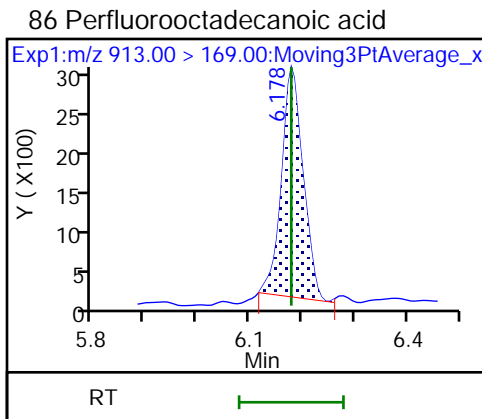
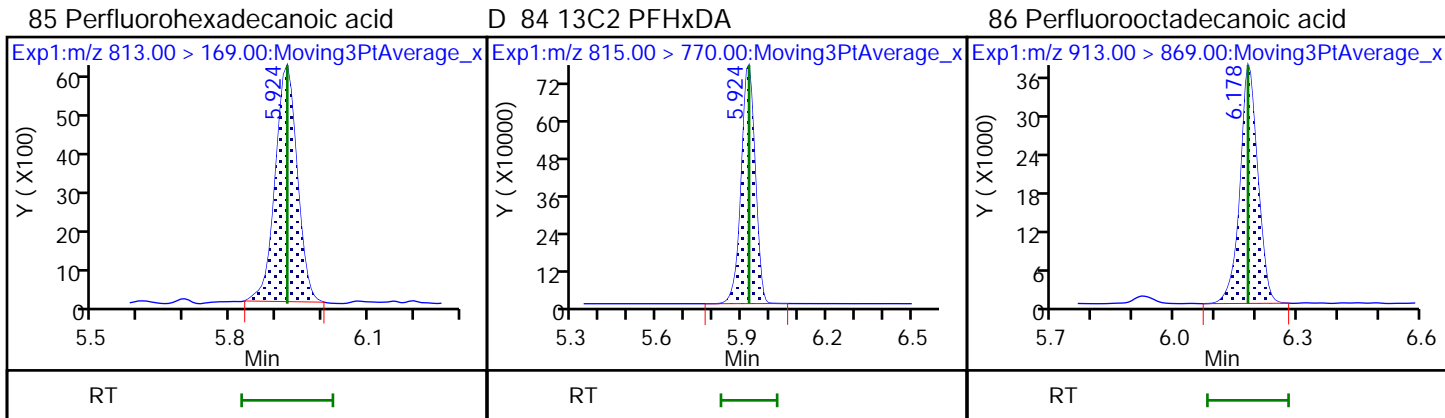
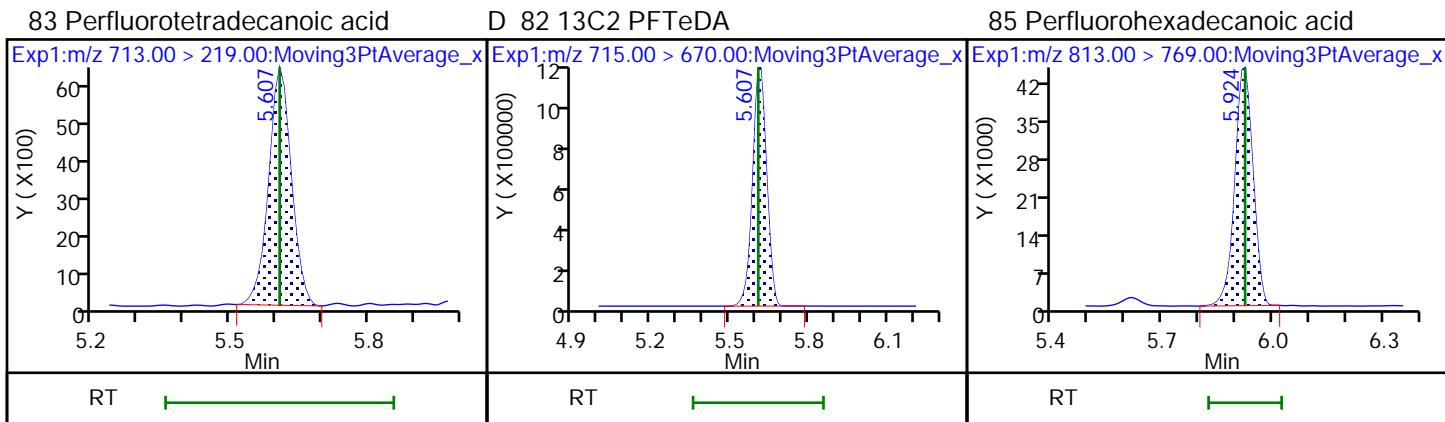


79 N-EtFOSEA-M

81 N-EtFOSEA-M (M)

83 Perfluorotetradecanoic acid





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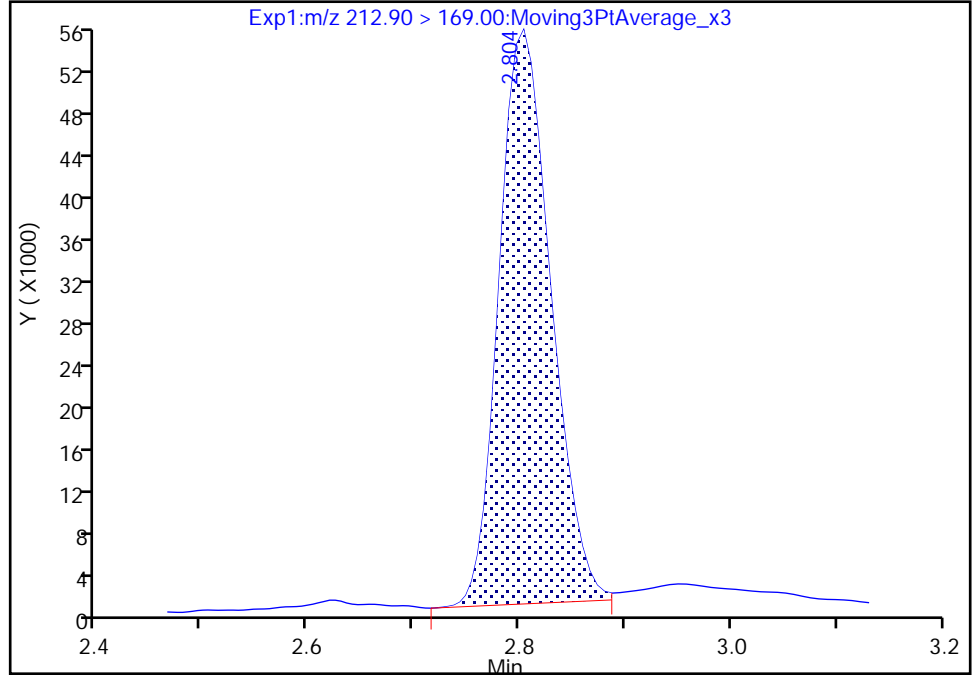
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

1 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

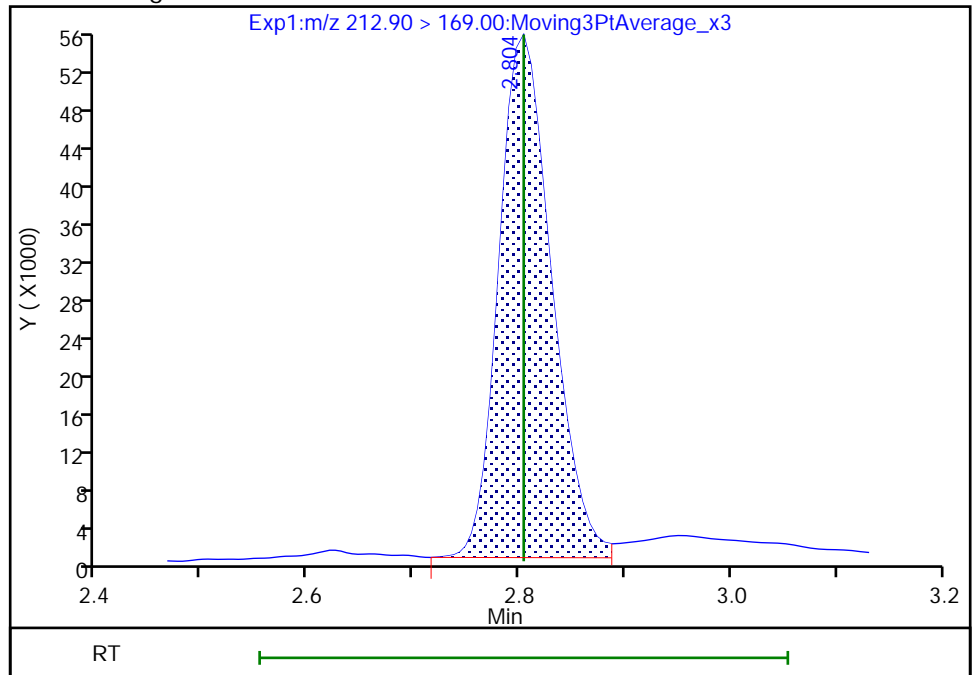
RT: 2.80  
Area: 185877  
Amount: 0.047731  
Amount Units: ng/ml

Processing Integration Results



RT: 2.80  
Area: 190065  
Amount: 0.048893  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:49:30  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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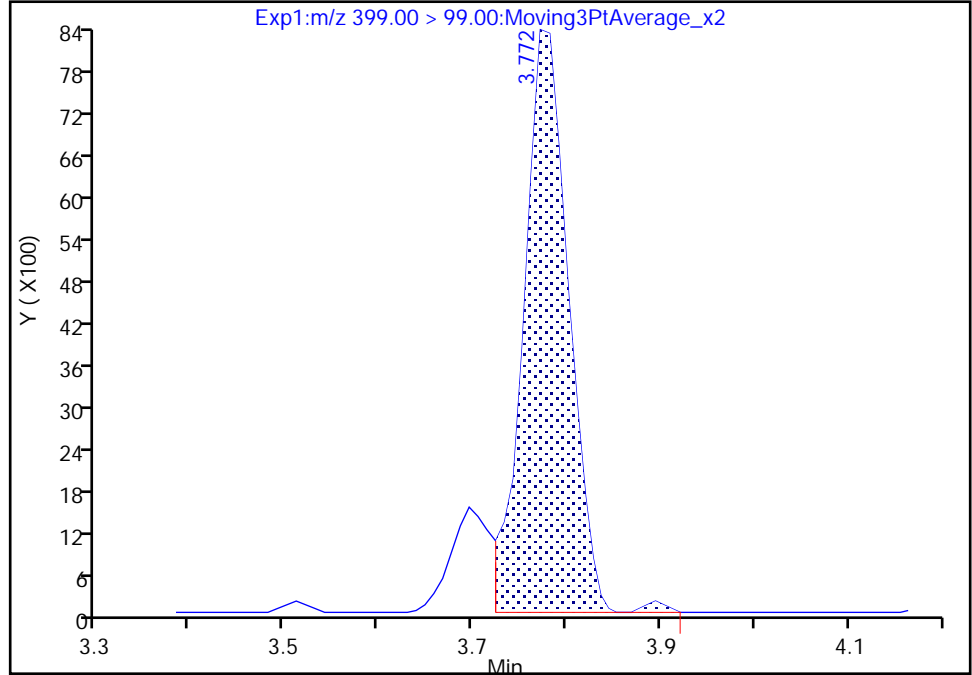
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

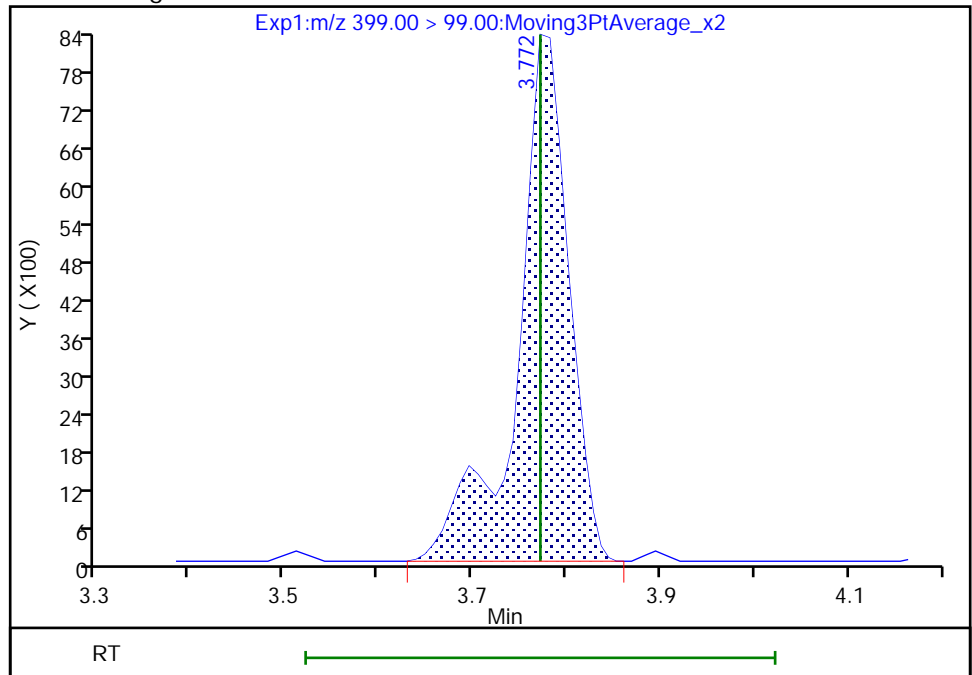
RT: 3.77  
Area: 27848  
Amount: 0.046852  
Amount Units: ng/ml

Processing Integration Results



RT: 3.77  
Area: 31881  
Amount: 0.046852  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:49:54  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

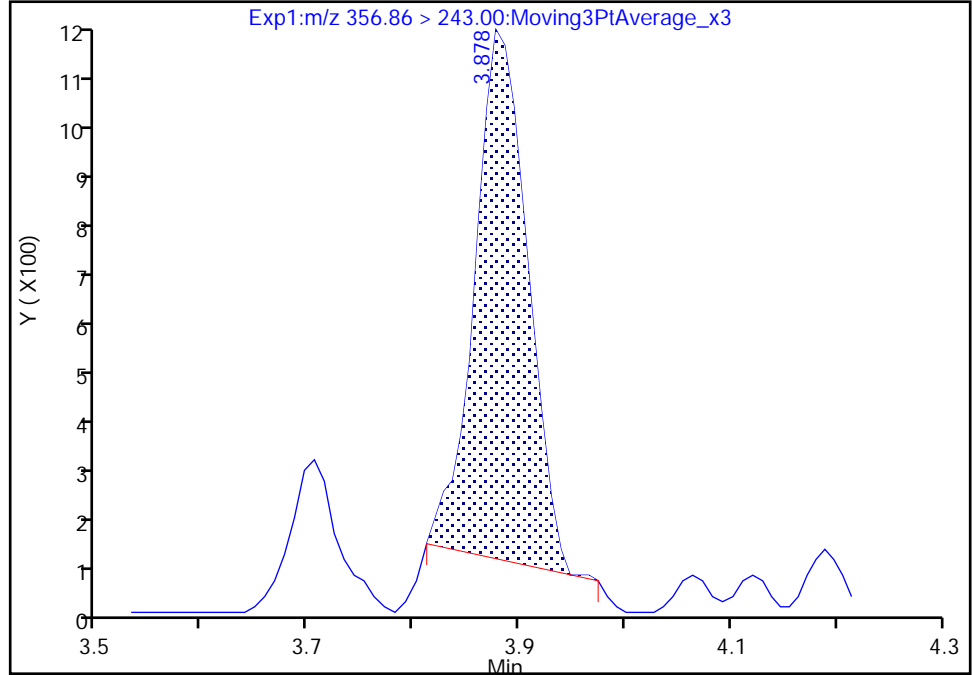
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

27 6:2 FTUCA, CAS: 70887-88-6

Signal: 2

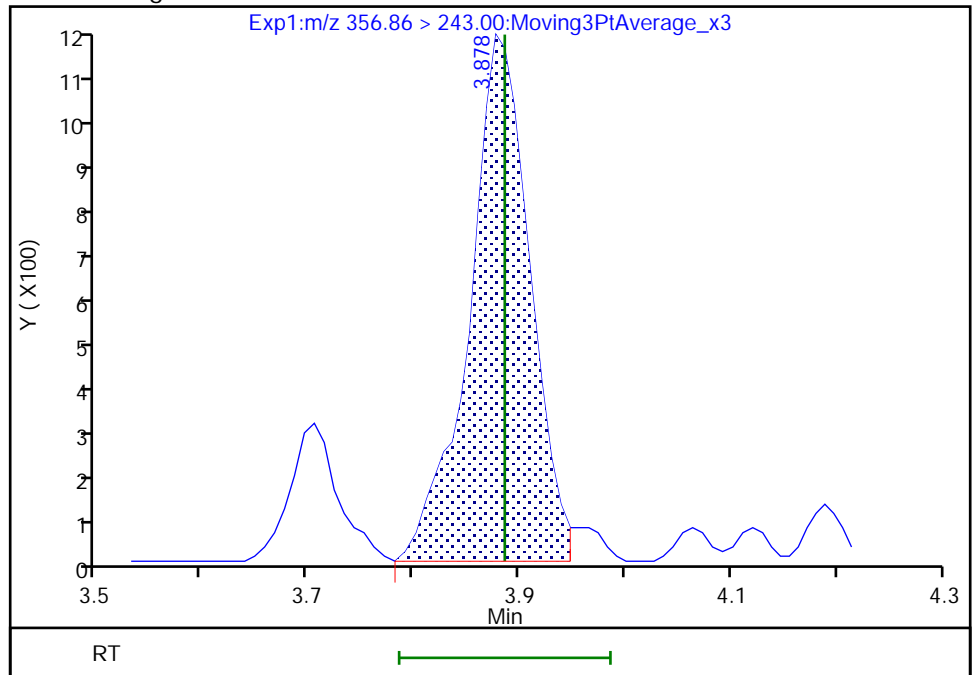
RT: 3.88  
Area: 3616  
Amount: 0.052428  
Amount Units: ng/ml

Processing Integration Results



RT: 3.88  
Area: 4552  
Amount: 0.052428  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:05  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

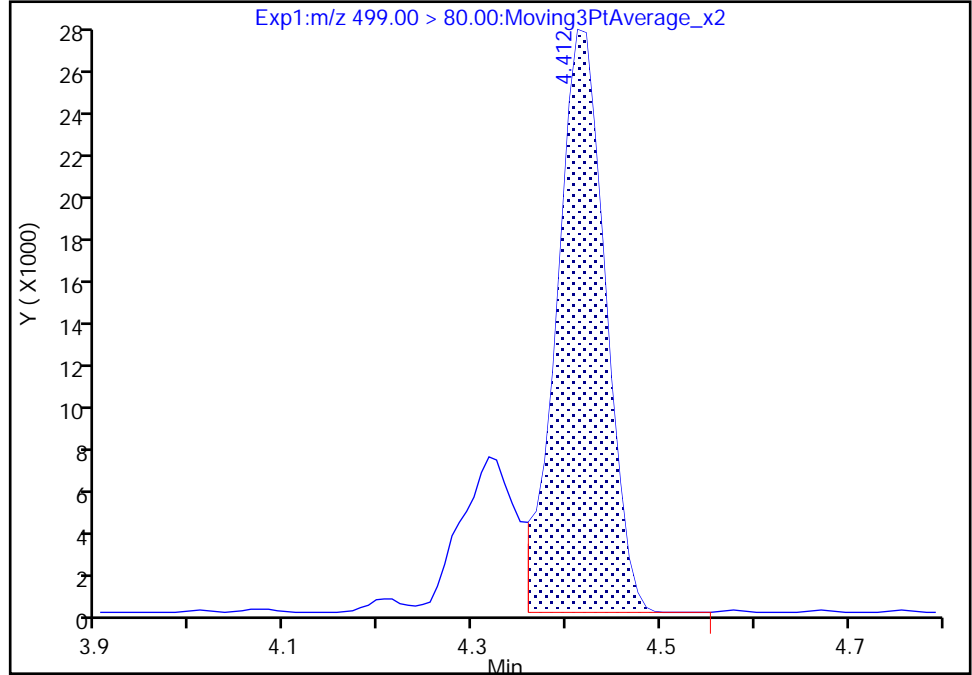
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

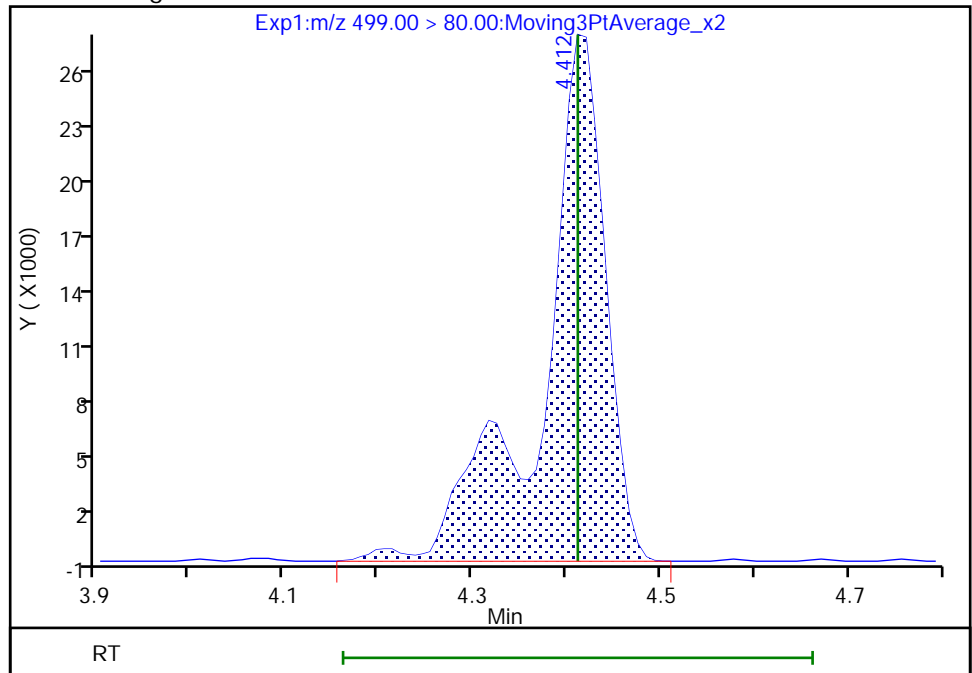
RT: 4.41  
Area: 97359  
Amount: 0.036378  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 128757  
Amount: 0.048109  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:21  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

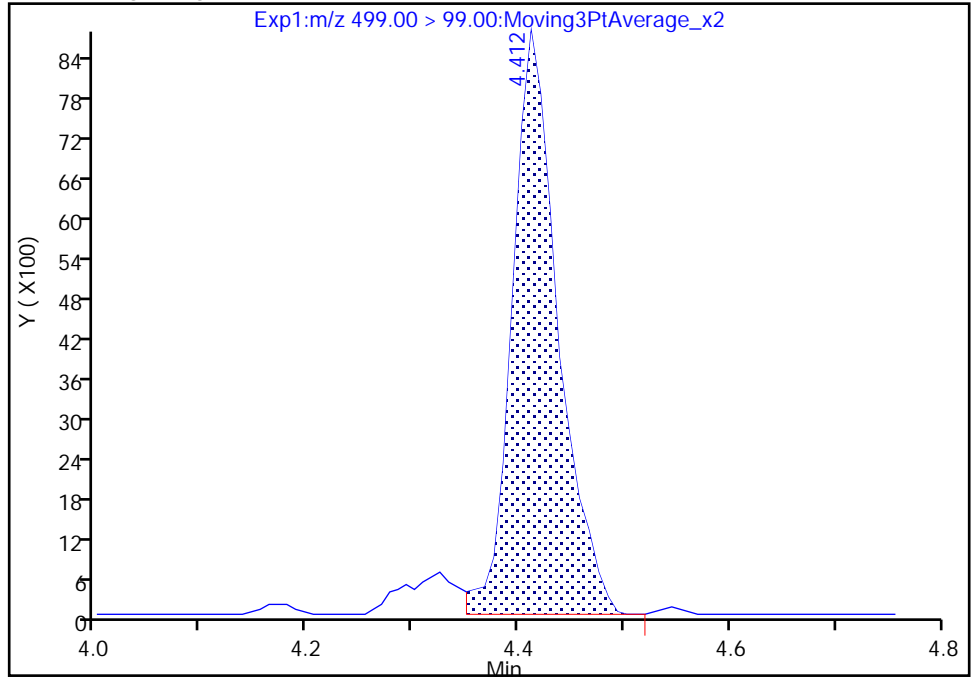
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

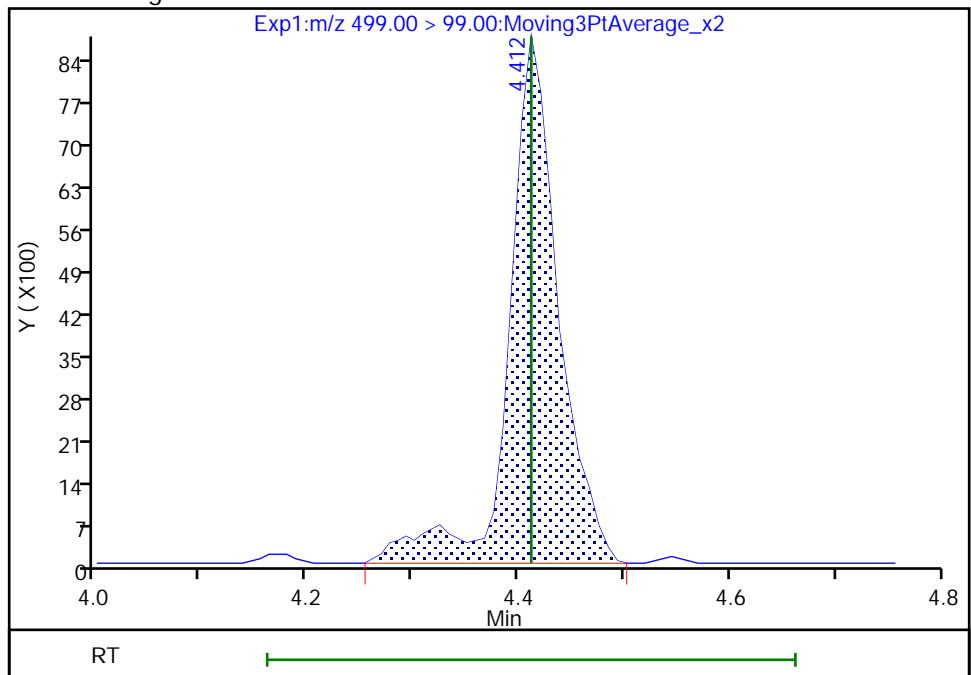
RT: 4.41  
Area: 26236  
Amount: 0.036378  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 28398  
Amount: 0.048109  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:27

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

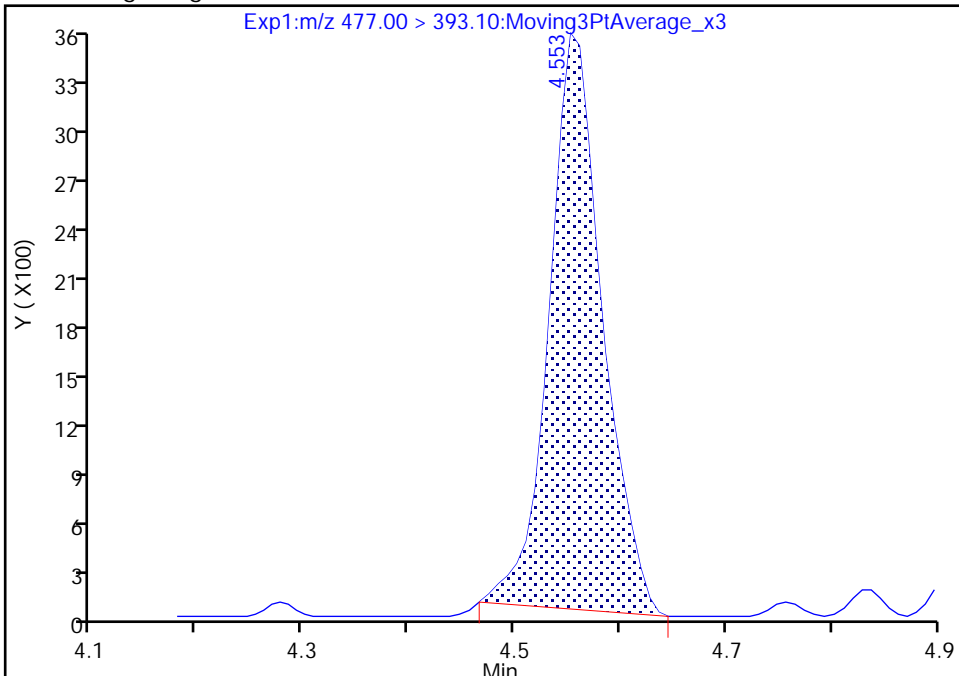
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 1

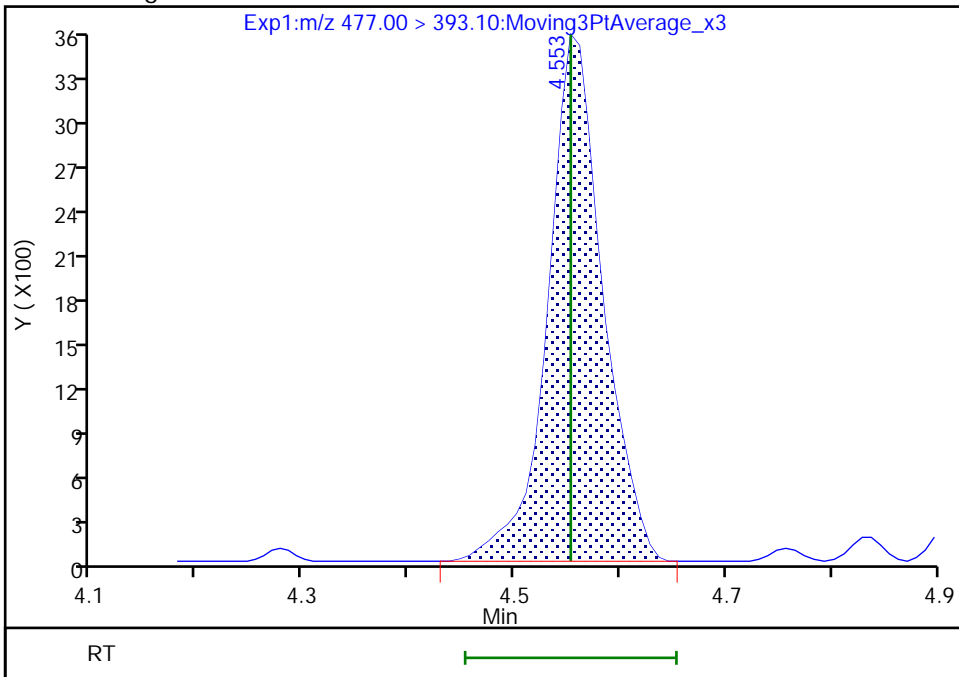
RT: 4.55  
Area: 12288  
Amount: 0.045086  
Amount Units: ng/ml

Processing Integration Results



RT: 4.55  
Area: 12807  
Amount: 0.046991  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:49  
Audit Action: Manually Integrated

Eurofins Knoxville

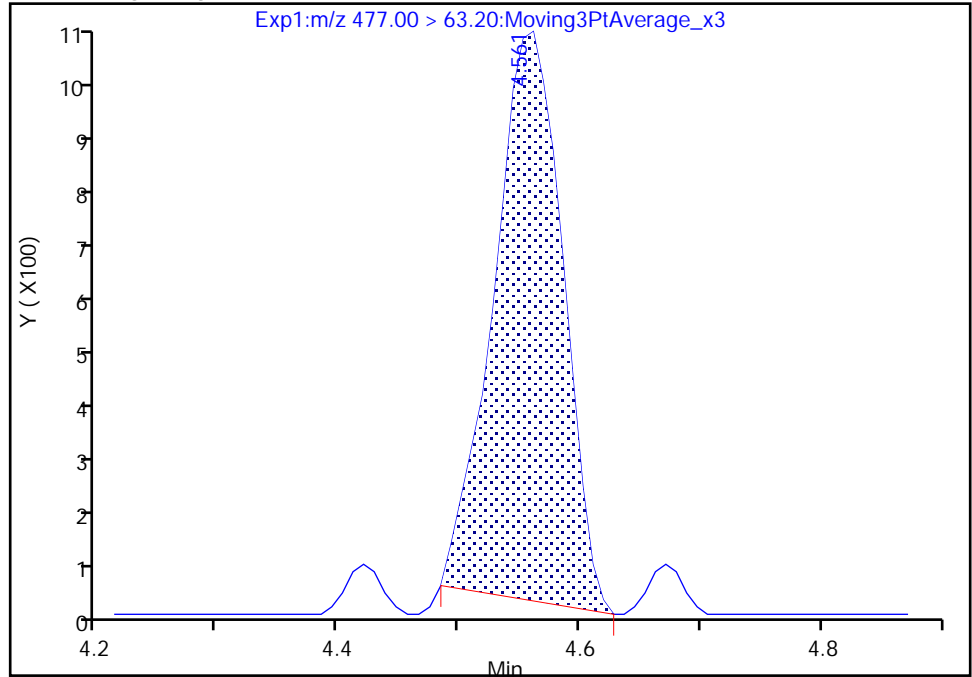
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 2

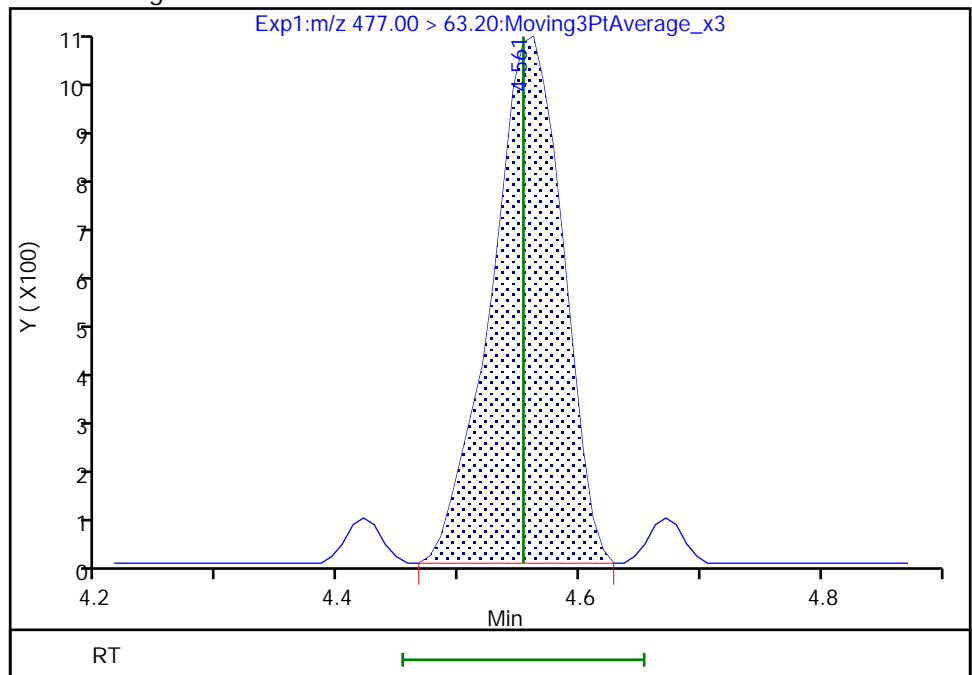
RT: 4.56  
Area: 3928  
Amount: 0.045086  
Amount Units: ng/ml

Processing Integration Results



RT: 4.56  
Area: 4163  
Amount: 0.046991  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:57

Audit Action: Manually Integrated

Eurofins Knoxville

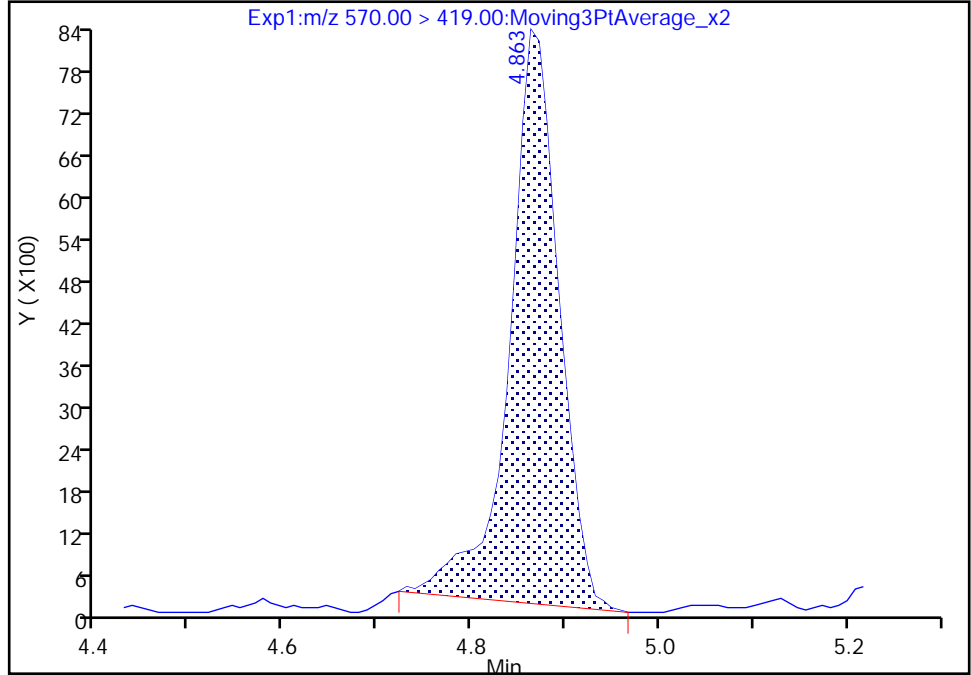
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

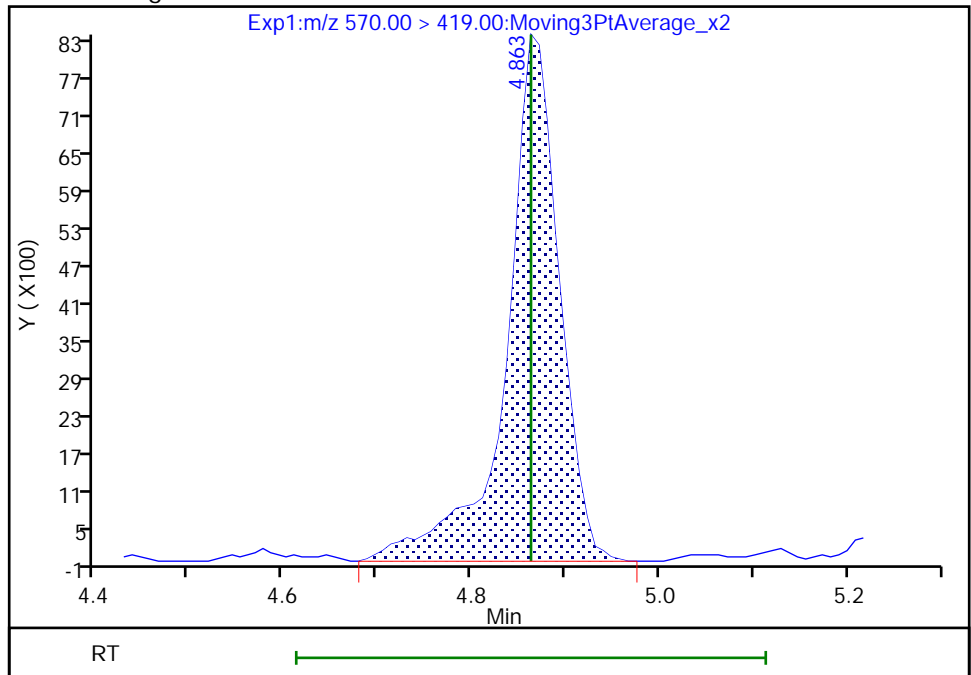
RT: 4.86  
Area: 30216  
Amount: 0.061541  
Amount Units: ng/ml

Processing Integration Results



RT: 4.86  
Area: 32822  
Amount: 0.066712  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:51:11  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

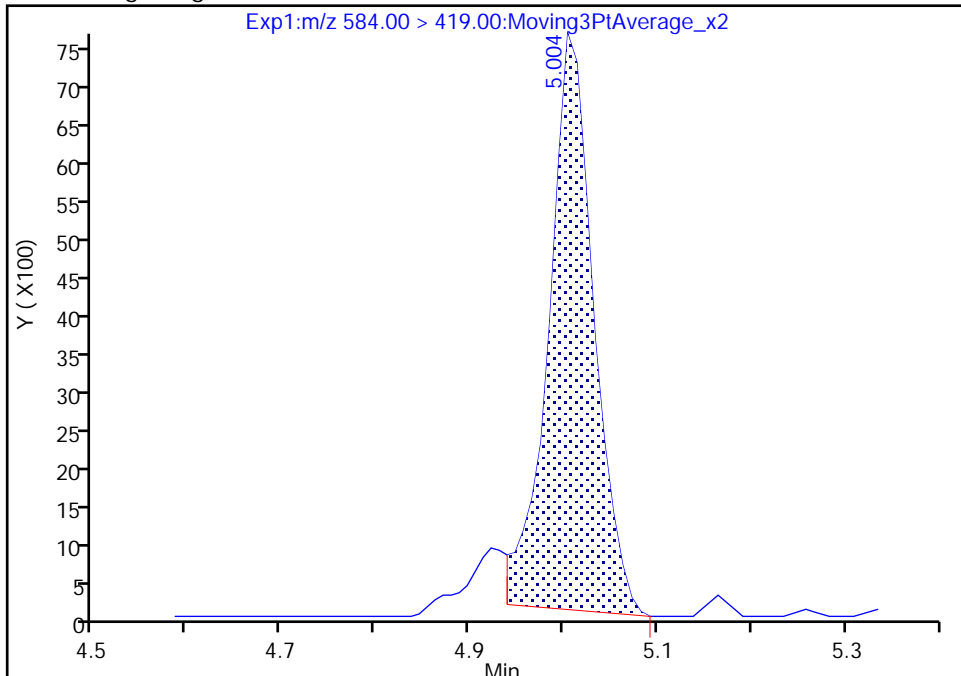
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

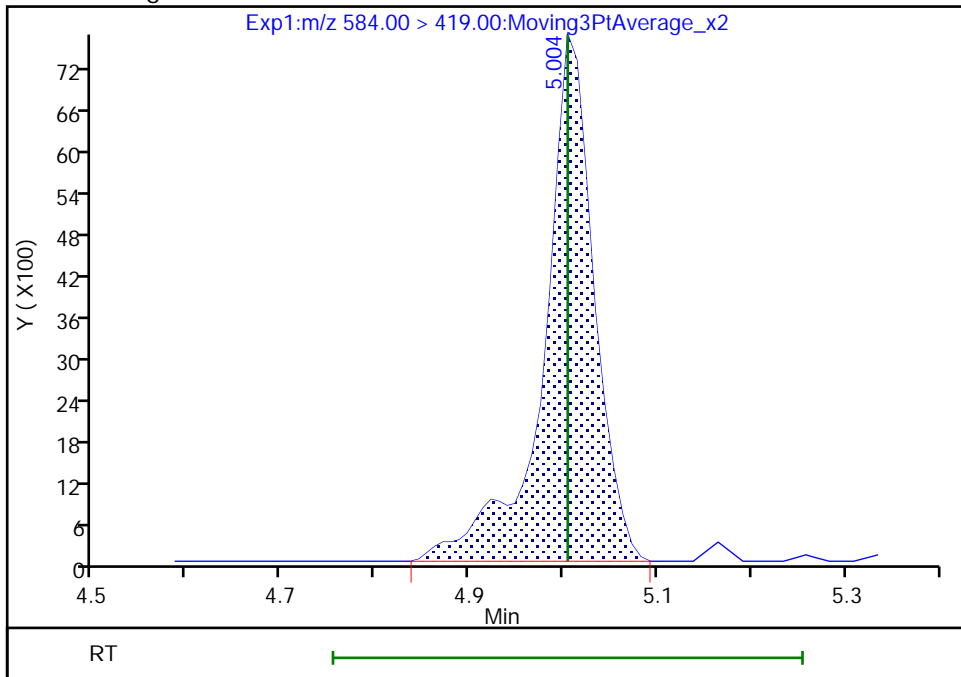
RT: 5.00  
Area: 25022  
Amount: 0.044010  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 28362  
Amount: 0.051234  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:51:24  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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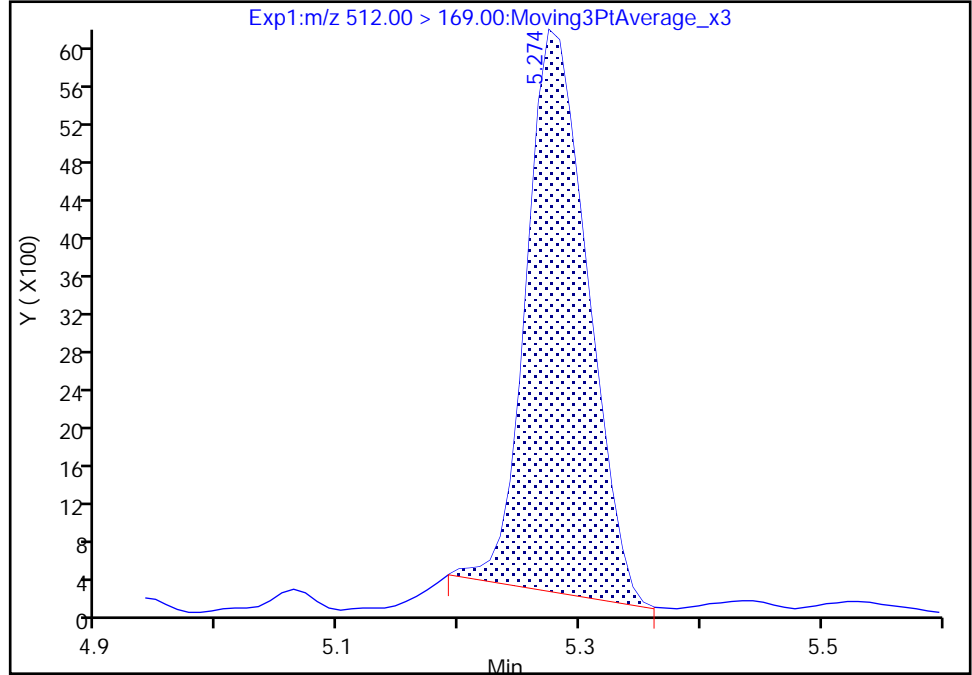
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

74 NMeFOSA, CAS: 31506-32-8

Signal: 1

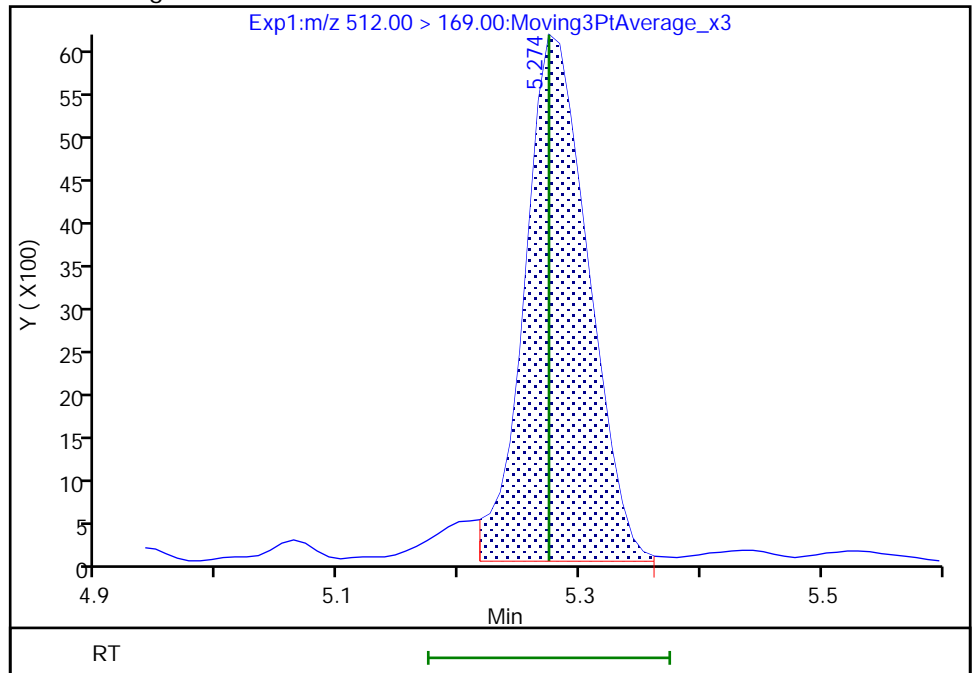
RT: 5.27  
Area: 20995  
Amount: 0.044940  
Amount Units: ng/ml

Processing Integration Results



RT: 5.27  
Area: 22549  
Amount: 0.048695  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:51:47  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

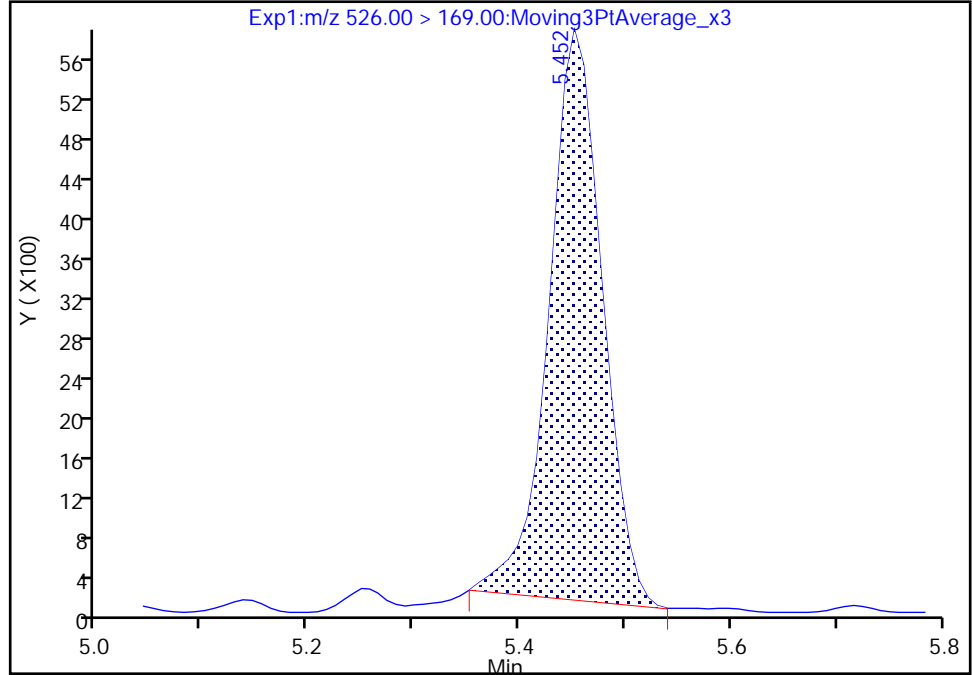
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

81 N-EtFOSA-M, CAS: 4151-50-2

Signal: 1

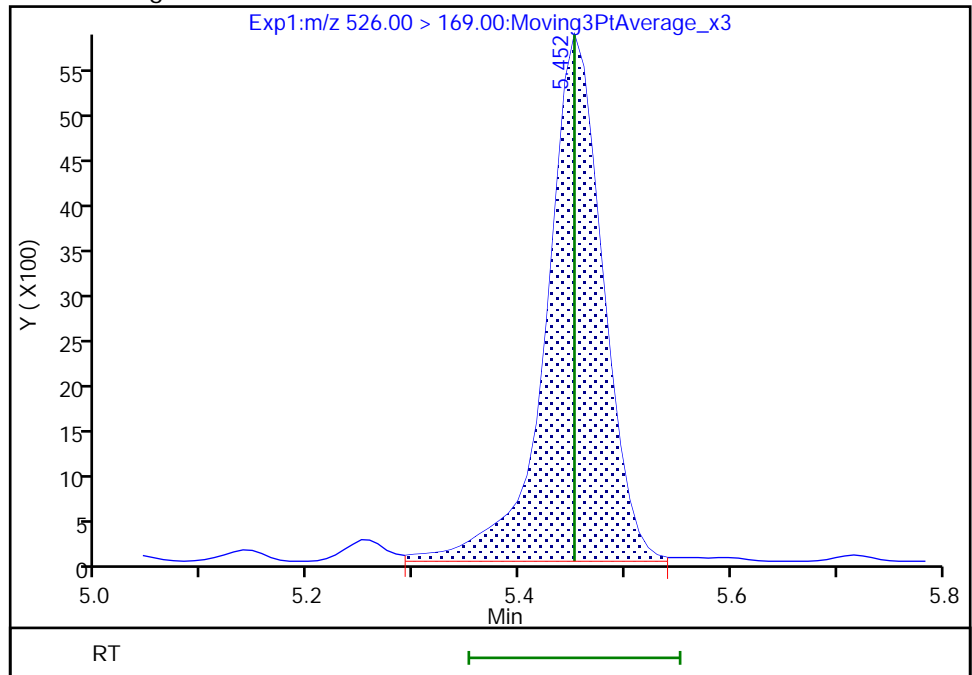
RT: 5.45  
Area: 20178  
Amount: 0.045787  
Amount Units: ng/ml

Processing Integration Results



RT: 5.45  
Area: 22048  
Amount: 0.050513  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:52:05  
Audit Action: Manually Integrated



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59059/7 Calibration Date: 02/19/2022 18:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_007.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7367		0.929	1.00	-7.1	40.0
PFECA F	AveID	0.7535	0.7235		0.960	1.00	-4.0	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9201		0.978	1.00	-2.2	40.0
3:3 FTCA	QuaIF		0.0544		0.999	1.00	-0.1	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.073		0.866	0.884	-2.0	40.0
PFECA A	Q2ID		1.160		0.990	1.00	-1.0	40.0
PES	Q2ID		2.313		0.869	0.890	-2.4	40.0
PFECA B	Q2ID		0.3815		0.924	1.00	-7.6	40.0
4:2 FTS	L2ID		2.134		0.876	0.934	-6.2	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7814		0.982	1.00	-1.8	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.042		0.947	0.938	1.0	40.0
HFPO-DA	L2ID		1.273		1.01	1.00	0.8	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.249		0.821	0.910	-9.8	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.005		1.00	1.00	0.3	40.0
DONA	AveID	2.644	2.296		0.818	0.942	-13.1	40.0
5:3 FTCA	L2ID		3.317		0.880	1.00	-12.1	40.0
6:2 FTUCA	AveID	1.046	1.034		0.988	1.00	-1.2	40.0
6:2 FTCA	L1ID		0.7179		1.03	1.00	3.4	40.0
PFECHS	AveID	0.7426	0.7025		0.872	0.922	-5.4	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.8804		0.849	0.952	-10.9	40.0
6:2 FTS	L2ID		1.731		0.897	0.948	-5.4	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.020		0.953	1.00	-4.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.047		0.849	0.928	-8.6	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7277		0.957	1.00	-4.3	40.0
7:3 FTCA	AveID	5.230	5.288		1.01	1.00	1.1	40.0
8:2 FTUCA	AveID	0.9565	0.9209		0.963	1.00	-3.7	40.0
8:2 FTCA	AveID	1.811	2.018		1.11	1.00	11.4	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.146		0.890	0.932	-4.6	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9450		0.897	0.960	-6.6	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9279		0.972	1.00	-2.8	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8660		0.963	1.00	-3.8	40.0
8:2 FTS	L2ID		1.455		0.926	0.958	-3.4	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8694		0.942	1.00	-5.9	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8629		0.934	0.964	-3.1	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59059/7 Calibration Date: 02/19/2022 18:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_007.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9175		0.949	1.00	-5.1	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9830		1.12	1.00	11.5	40.0
10:2 FTUCA	AveID	1.208	1.177		0.974	1.00	-2.6	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.725		0.933	0.942	-1.0	50.0
10:2 FTCA	Q2ID		0.9849		1.07	1.00	7.4	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9885		0.957	1.00	-4.3	40.0
10:2 FTS	L2ID		1.933		0.887	0.964	-7.9	50.0
NMeFOSA	L2ID		1.038		0.961	1.00	-3.9	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.106		0.942	1.00	-5.8	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8686		0.889	0.968	-8.1	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8264		0.936	1.00	-6.4	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.256		0.885	1.00	-11.5	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.156		0.926	1.00	-7.5	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1263		0.979	1.00	-2.2	40.0
Perfluorohexadecanoic acid	L1ID		1.062		0.932	1.00	-6.8	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.8981		0.887	1.00	-11.3	40.0
13C4 PFBA	Ave	1.172	1.171		1.25	1.25	-0.0	50.0
13C5 PFPeA	Ave	0.9197	0.8665		1.18	1.25	-5.8	50.0
13C3 PFBS	Ave	0.5817	0.5723		1.14	1.16	-1.6	50.0
M2-4:2 FTS	Ave	0.1821	0.1801		1.16	1.17	-1.1	50.0
13C2 PFHxA	Ave	1.015	0.9578		1.18	1.25	-5.6	50.0
13C3 HFPO-DA	Ave	0.4963	0.4587		1.16	1.25	-7.6	50.0
18O2 PFHxS	Ave	0.3776	0.3979		1.25	1.18	5.4	50.0
13C4 PFHpA	Ave	0.9046	0.8544		1.18	1.25	-5.6	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3431		1.27	1.25	1.7	50.0
13C-6:2 FTCA	Ave	0.0260	0.0266		1.28	1.25	2.1	50.0
13C4 PFOA	Ave	0.9356	0.9378		1.25	1.25	0.2	50.0
M2-6:2 FTS	Ave	0.1799	0.1923		1.27	1.19	6.9	50.0
13C4 PFOS	Ave	0.5610	0.5923		1.26	1.20	5.6	50.0
13C5 PFNA	Ave	1.268	1.264		1.25	1.25	-0.4	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5084		1.41	1.25	12.5	50.0
13C-8:2 FTCA	Ave	0.0330	0.0339		1.28	1.25	2.4	50.0
13C8 FOSA	Ave	0.8475	0.8944		1.32	1.25	5.5	50.0
13C2 PFDA	Ave	1.210	1.241		1.28	1.25	2.6	50.0
M2-8:2 FTS	Ave	0.1961	0.2018		1.23	1.20	2.9	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59059/7 Calibration Date: 02/19/2022 18:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_007.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1491		1.64	1.25	31.4	50.0
13C2 PFUnA	Ave	1.168	1.147		1.23	1.25	-1.7	50.0
d5-NEtFOSAA	Ave	0.1164	0.1333		1.43	1.25	14.5	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5044		1.24	1.25	-0.7	50.0
13C-10:2 FTCA	Ave	0.0309	0.0282		1.14	1.25	-8.9	50.0
13C2 PFDoA	Ave	1.152	1.124		1.22	1.25	-2.5	50.0
13C2 10:2 FTS	Ave	0.1652	0.1696		1.22	1.18	2.7	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1106		1.17	1.25	-6.7	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0974		1.21	1.25	-3.5	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1146		1.16	1.25	-6.9	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0804		1.24	1.25	-0.6	50.0
13C2 PFTeDA	Ave	0.9216	0.8673		1.18	1.25	-5.9	50.0
13C2 PFHxDA	Ave	0.5997	0.5591		1.17	1.25	-6.8	50.0
13C8 PFOA	AveID	0.9229	0.8863		1.20	1.25	-4.0	50.0
13C8 PFOS	AveID	0.2212	0.2146		1.16	1.20	-3.0	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_007.d  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 19-Feb-2022 18:43:45 ALS Bottle#: 7 Worklist Smp#: 7  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-007 ccvis  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:40 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 18:55:40

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	217.00 > 172.00	2.804	2.804	0.0	0.680	6298236	1.25	99.9	31405	
1 Perfluorobutanoic acid	212.90 > 169.00	2.804	2.804	0.0	1.000	3712089	0.9288	92.9	1392	
3 PFECA F	229.00 > 85.00	2.911	2.911	0.0	0.935	2696838	0.9601	96.0	14959	
D 5 13C5 PFPeA	267.90 > 223.00	3.115	3.115	0.0	0.756	4659599	1.18	94.2	18798	
6 Perfluoropentanoic acid	262.90 > 219.00	3.115	3.115	0.0	1.000	3429739	0.9783	97.8	1491	
D 7 13C3 PFBS	301.90 > 80.00	3.122	3.122	0.0	0.758	2861909	1.14	98.4	9835	
4 3:3 FTCA	241.00 > 177.10	3.122	3.122	0.0	1.000	133850	1.00	Target=1.13	99.9	1026
	241.00 > 116.90	3.122	3.122	0.0	1.000	106586	1.26(0.56-1.69)			164
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.131	3.131	0.0	1.003	2336067	0.8659	Target=2.61	98.0	3347
	298.90 > 99.00	3.131	3.131	0.0	1.003	881398	2.65(1.31-3.92)			2844
9 PFECA A	278.95 > 84.90	3.202	3.202	0.0	1.028	4325082	0.9897		99.0	18070
11 PES	314.80 > 135.00	3.260	3.260	0.0	1.044	5068871	0.8691		97.6	22782
12 PFECA B	295.22 > 201.00	3.373	3.373	0.0	0.982	1571935	0.9239		92.4	7652
D 18 M2-4:2 FTS	329.00 > 81.00	3.415	3.415	0.0	0.829	904548	1.15		98.9	1696

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.415	3.415	0.0	1.000	1543942	0.8763		93.8	7767	
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.437	0.0	0.834	5150810	1.18		94.4	12705	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.437	3.437	0.0	1.101	2407299	0.9472	Target=3.55	101	6896	
349.00 > 99.00	3.437	3.437	0.0	1.101	690578		3.49(1.78-5.33)		5117	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.437	0.0	1.000	3220013	0.9823	Target=11.60	98.2	1621	
313.00 > 119.00	3.437	3.437	0.0	1.000	275698		11.68(5.80-17.40)		247	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.542	0.0	0.860	2466641	1.16		92.4	7418	
17 HFPO-DA										
285.00 > 169.00	3.542	3.542	0.0	1.000	2512173	1.01	Target=2.45	101	594	
329.00 > 169.00	3.542	3.542	0.0	1.000	1002369		2.51(1.23-3.68)		592	
D 20 18O2 PFHxS										
403.00 > 84.00	3.772	3.772	0.0	0.915	2024014	1.25		105	5550	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.772	3.772	0.0	1.000	1946103	0.8209	Target=3.44	90.2	4614	M
399.00 > 99.00	3.772	3.772	0.0	1.000	588194		3.31(1.72-5.17)		2697	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.792	0.0	0.920	4594303	1.18		94.4	11124	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.792	0.0	1.000	3694620	1.00	Target=3.25	100	2926	
363.00 > 169.00	3.792	3.792	0.0	1.000	1176143		3.14(1.62-4.87)		1857	
25 DONA										
377.00 > 251.00	3.820	3.820	0.0	0.866	5511012	0.8181	Target=1.74	86.9	18007	
377.00 > 85.00	3.820	3.820	0.0	0.866	3094907		1.78(0.87-2.61)		104	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	379217	0.8795	Target=1.11	87.9	1345	
340.88 > 216.90	3.853	3.853	0.0	0.987	345845		1.10(0.56-1.67)		739	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.886	0.0	0.943	1845248	1.27		102	4231	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.886	0.0	1.000	1526295	0.9881	Target=13.05	98.8	4660	
356.86 > 243.00	3.886	3.886	0.0	1.000	108731		14.04(6.52-19.57)		604	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.903	0.0	0.947	142928	1.28		102	793	
29 6:2 FTCA										
377.10 > 63.00	3.903	3.903	0.0	1.000	82084	1.03	Target=1.29	103	353	
377.10 > 313.10	3.903	3.903	0.0	1.000	61727		1.33(0.65-1.94)		90.4	
32 PFECHS										
460.80 > 380.90	4.054	4.054	0.0	0.984	2613087	0.8722	Target=1.75	94.6	5877	
460.80 > 98.90	4.054	4.054	0.0	0.984	1584726		1.65(0.87-2.62)		3815	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.111	4.111	0.0	0.932	2135774	0.8487	Target=3.72	89.1	6023	
449.00 > 99.00	4.111	4.111	0.0	0.932	556411		3.84(1.86-5.57)		2740	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	1.000	982552	1.27		107	2625	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.121	0.0	1.000	5043064	1.25		100	11291	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	1.000	4469517	1.20		96.0	7460	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		5377493	1.25			11243	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.121	0.0	1.000	4114611	0.9527	Target=2.51	95.3	2894	
413.00 > 169.00	4.121	4.121	0.0	1.000	1686188		2.44(1.26-3.77)		3412	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	1357982	0.8971		94.6	4541	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.412	0.0	1.071	3044992	1.26		106	3350	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.412	4.412	0.0	1.000	653576	1.16		97.0	1894	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.412	4.412	0.0	1.000	2475991	0.8485	Target=4.30	91.4	2250	M
499.00 > 99.00	4.412	4.412	0.0	1.000	568244		4.36(2.15-6.45)		1526	M
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.438	0.0	1.077	6796647	1.25		99.6	15393	
42 Perfluorononanoic acid										
463.00 > 419.00	4.438	4.438	0.0	1.000	3956498	0.9567	Target=3.60	95.7	4704	
463.00 > 169.00	4.438	4.438	0.0	1.000	1004215		3.94(1.80-5.40)		2744	
43 7:3 FTCA										
441.00 > 337.00	4.519	4.519	0.0	0.993	770071	1.01	Target=1.42	101	1890	
441.00 > 317.00	4.519	4.519	0.0	0.993	573131		1.34(0.71-2.13)		1487	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.545	0.0	1.000	2734046	1.41		112	10287	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	2014297	0.9629	Target=35.37	96.3	5292	
456.86 > 343.00	4.545	4.545	0.0	1.000	61755		32.62(17.68-53.05)		151	
46 8:2 FTCA										
477.00 > 393.10	4.561	4.561	0.0	1.002	293863	1.11	Target=3.35	111	1255	
477.00 > 63.20	4.561	4.561	0.0	1.002	80022		3.67(1.68-5.03)		380	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.553	0.0	1.105	182038	1.28		102	755	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.111	5095631	0.8895		95.4	6666	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	2311622	0.8970	Target=3.99	93.4	4582	
549.00 > 99.00	4.697	4.697	0.0	1.065	593601		3.89(2.00-5.99)		1795	
D 55 13C8 FOSA										
506.00 > 78.00	4.705	4.705	0.0	1.142	4809529	1.32		106	4985	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.705	4.705	0.0	1.000	3570018	0.9716		97.2	5496	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 52 13C2 PFDA										
515.00 > 470.00	4.722	4.722	0.0	1.146	6672611	1.28		103	13098	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.722	4.722	0.0	1.000	4622966	0.9625	Target=10.58	96.3	3033	
513.00 > 169.00	4.722	4.722	0.0	1.000	400408		11.55(5.29-15.88)		314	
53 8:2 FTS										
527.00 > 507.00	4.739	4.739	0.0	1.002	1210501	0.9258		96.6	4566	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.731	0.0	1.148	1039725	1.23		103	2313	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.872	0.0	1.000	557581	0.9415		94.1	618	M
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.182	801710	1.64		131	452	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.124	2119568	0.9338	Target=3.55	96.9	5935	
599.00 > 99.00	4.957	4.957	0.0	1.124	605591		3.50(1.78-5.33)		2825	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.985	4.985	0.0	1.000	4529211	0.9488	Target=8.26	94.9	6048	
563.00 > 169.00	4.985	4.985	0.0	1.000	561415		8.07(4.13-12.39)		2212	
D 59 13C2 PFUnA										
565.00 > 520.00	4.985	4.985	0.0	1.210	6170305	1.23		98.3	14501	
62 NEtFOSAA										
584.00 > 419.00	5.005	5.005	0.0	1.000	563506	1.12		112	829	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.215	716560	1.43		114	2592	
63 11C1FOS										
631.00 > 451.00	5.092	5.092	0.0	1.154	4141488	0.9330		99.0	8123	
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.092	0.0	1.000	2554079	0.9743		97.4	8204	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.092	0.0	1.236	2712588	1.24		99.3	6888	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.102	0.0	0.998	119371	1.07	Target=2.53	107	459	
576.80 > 63.10	5.111	5.102	0.009	1.000	44024		2.71(1.26-3.79)		156	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.111	5.111	0.0	1.240	151503	1.14		91.1	805	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	4780357	0.9569	Target=6.85	95.7	4080	
613.00 > 169.00	5.226	5.226	0.0	1.000	655913		7.29(3.43-10.28)		1647	
D 69 13C2 PFDaA										
615.00 > 570.00	5.226	5.226	0.0	1.268	6045115	1.22		97.5	16644	
71 10:2 FTS										
627.00 > 607.00	5.251	5.251	0.0	1.002	1359186	0.8874		92.1	4562	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.272	863633	1.22		103	5526	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.275	0.0	1.280	594899	1.17		93.3	589	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.283	5.283	0.0	1.282	523864	1.21		96.5	44.2	
74 NMeFOSA										
512.00 > 169.00	5.283	5.283	0.0	1.000	434853	0.9608		96.1	649	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.003	526248	0.9421		94.2	780	
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.224	2142505	0.8894	Target=4.22	91.9	3174	
699.00 > 99.00	5.399	5.399	0.0	1.224	514978		4.16(2.11-6.34)		2466	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.435	5.435	0.0	1.040	3996591	0.9358	Target=6.32	93.6	3750	
663.00 > 169.00	5.435	5.435	0.0	1.040	649673		6.15(3.16-9.48)		1888	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	616216	1.16		93.1	297	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	619316	0.8854		88.5	584	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.323	432452	1.24		99.4	691	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.000	400022	0.9255		92.5	478	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	471317	0.9785	Target=1.01	97.8	1371	
713.00 > 219.00	5.607	5.617	-0.010	0.998	465368		1.01(0.51-1.52)		1874	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.363	4664054	1.18		94.1	15396	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	2554686	0.9320	Target=8.64	93.2	3298	
813.00 > 169.00	5.924	5.924	0.0	1.000	322068		7.93(4.32-12.97)		1063	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.438	3006548	1.17		93.2	5575	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.184	6.184	0.0	1.044	2160226	0.8867	Target=11.77	88.7	2868	
913.00 > 169.00	6.184	6.184	0.0	1.044	189769		11.38(5.88-17.65)		650	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL



Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220219-22723.b\_007.d

Injection Date: 19-Feb-2022 18:43:45

Instrument ID: LCA

Lims ID: CCVIS

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 7

Worklist Smp#: 7

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

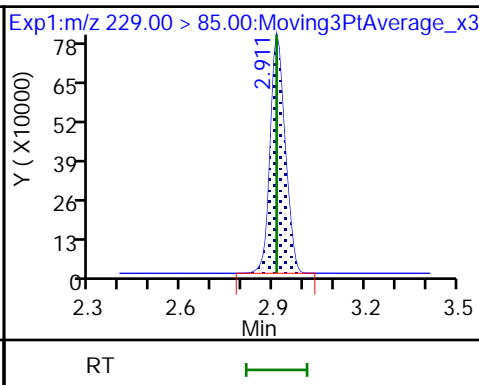
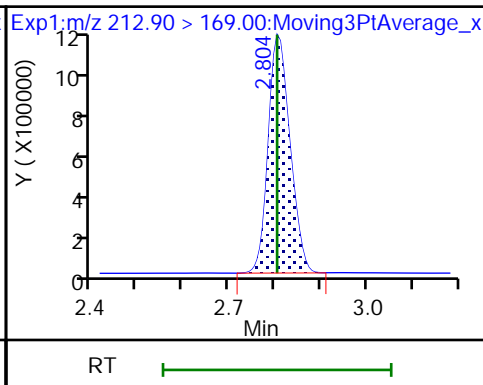
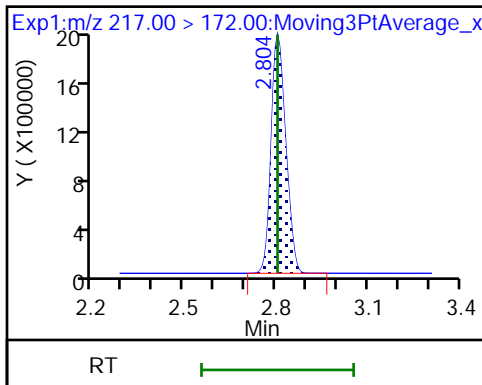
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

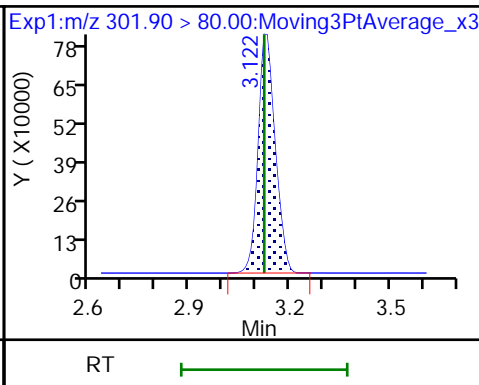
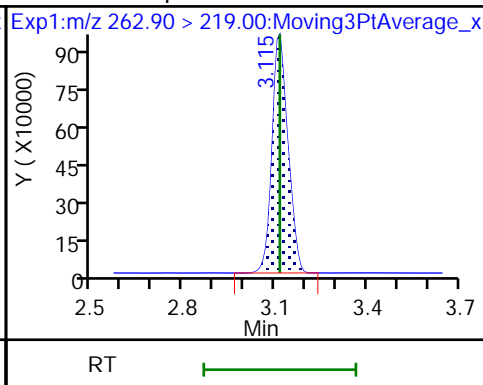
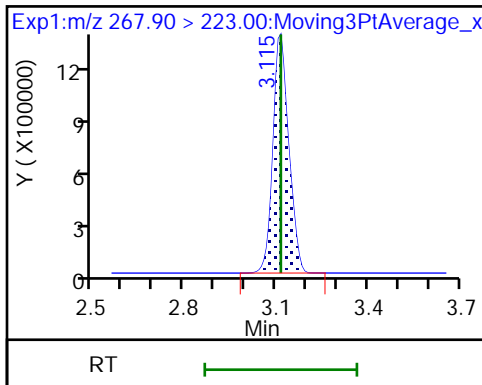
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

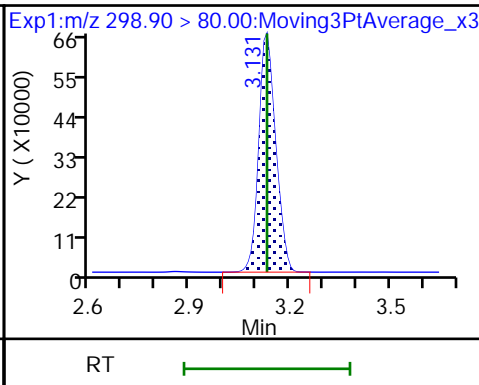
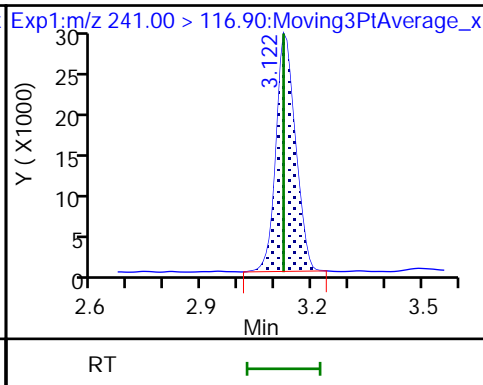
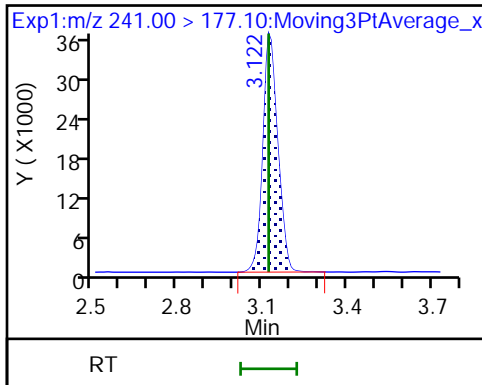
D 7 13C3 PFBS



4 3:3 FTCA

4 3:3 FTCA

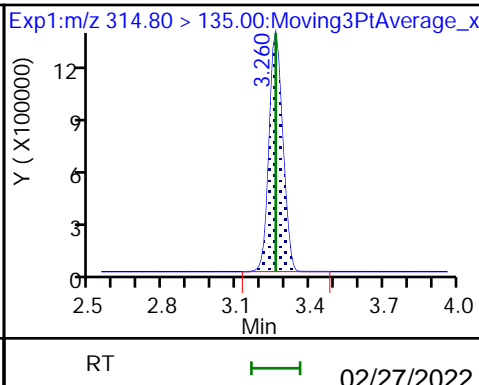
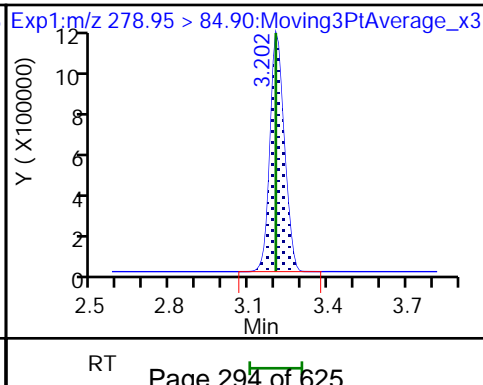
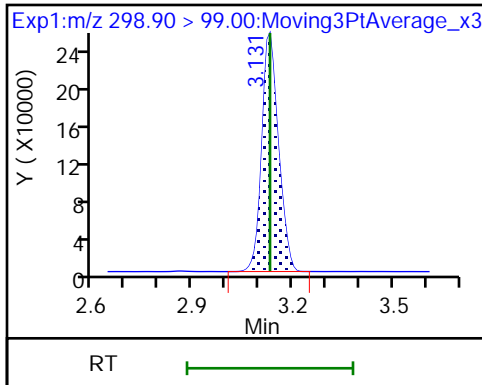
8 Perfluorobutanesulfonic acid

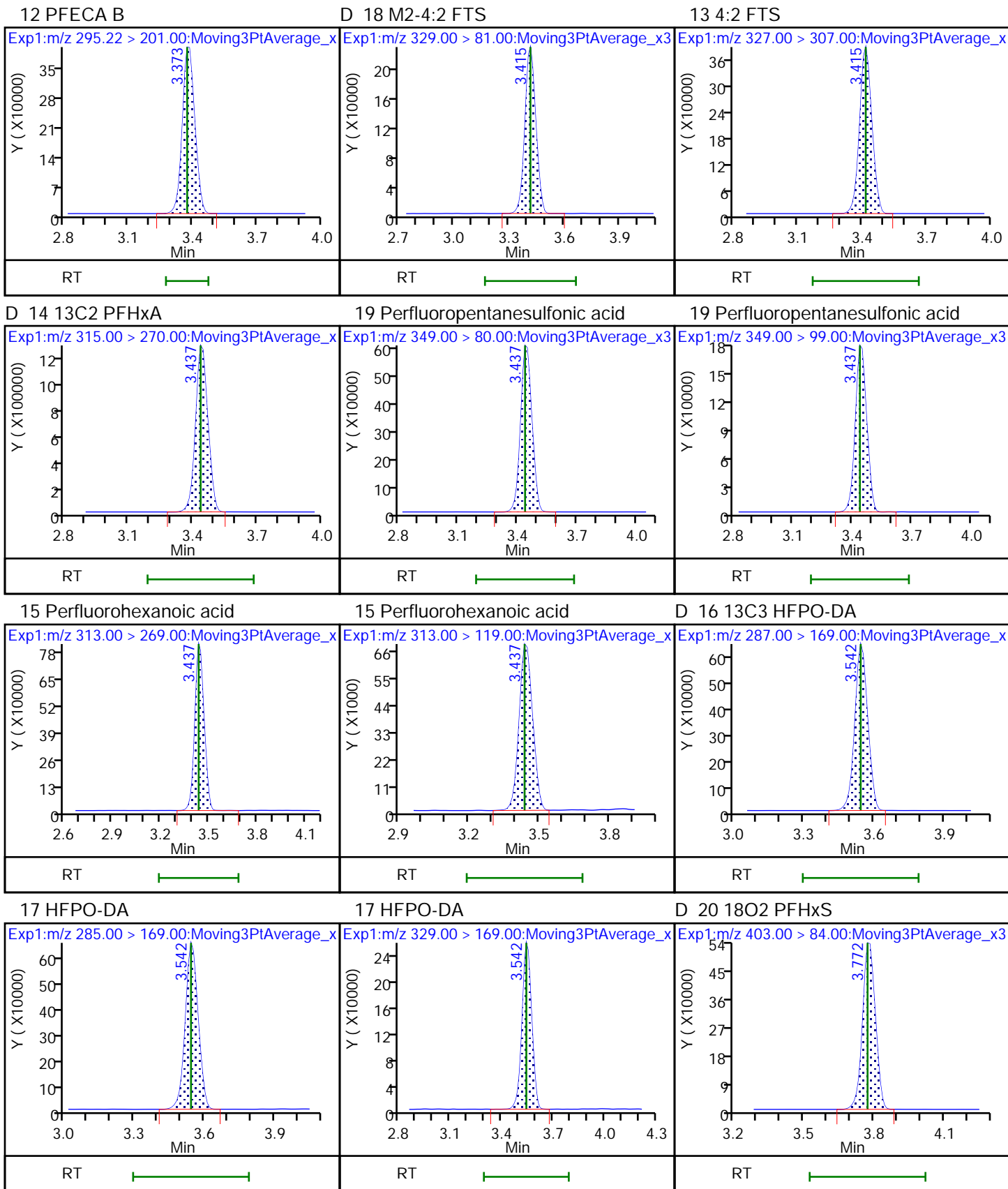


8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES

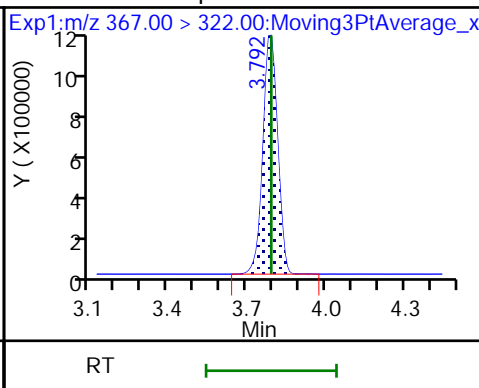
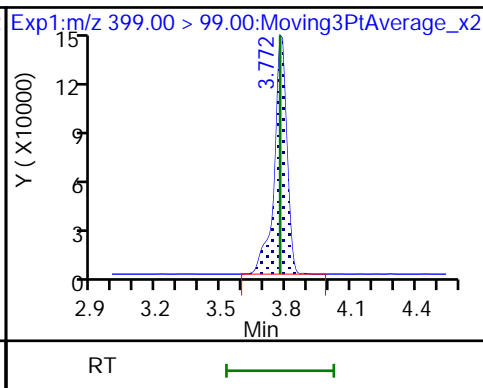
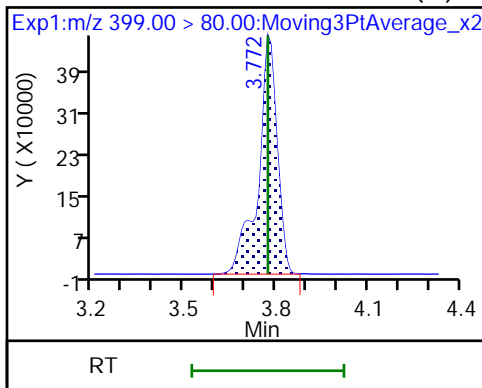




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid

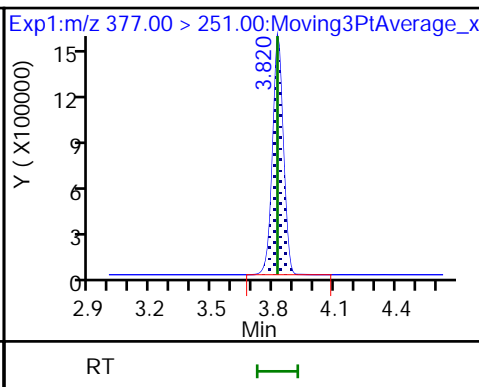
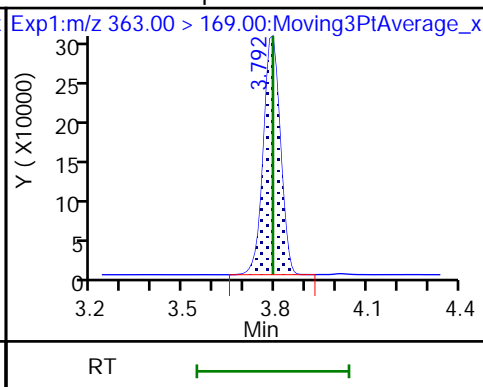
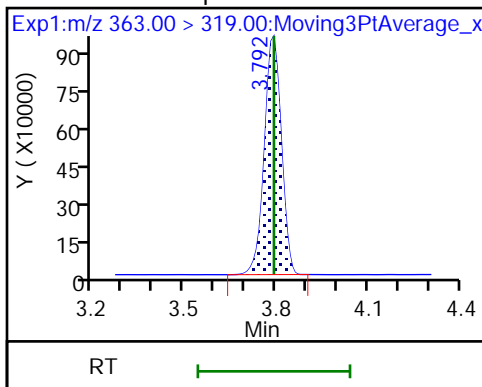
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

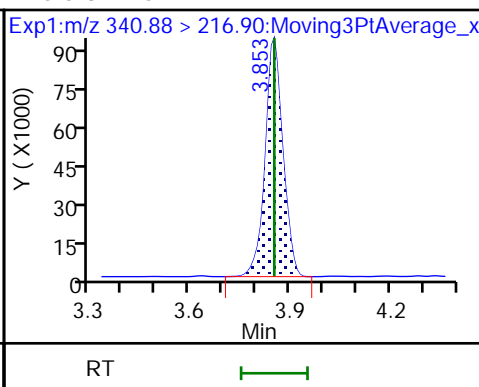
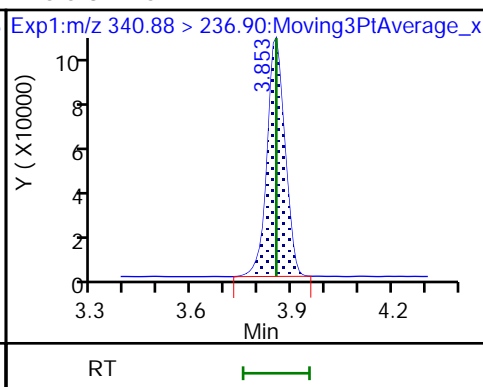
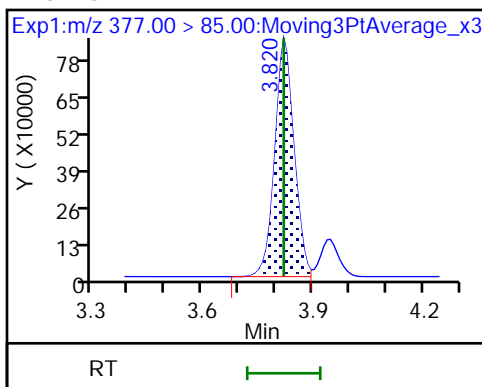
25 DONA



25 DONA

26 5:3 FTCA

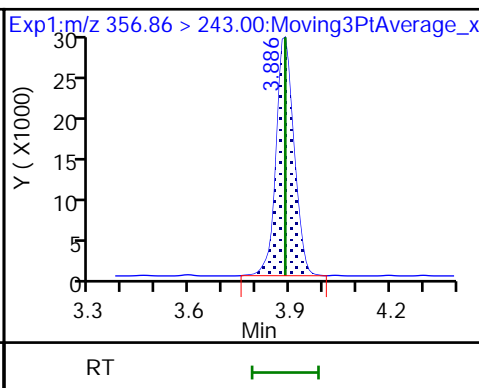
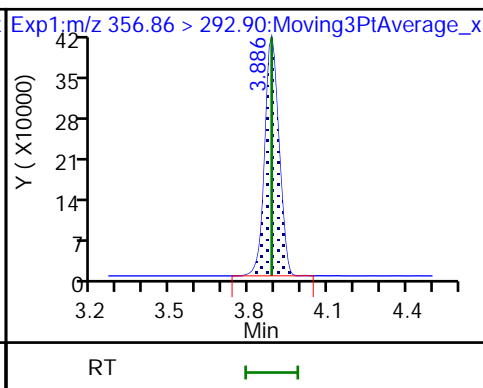
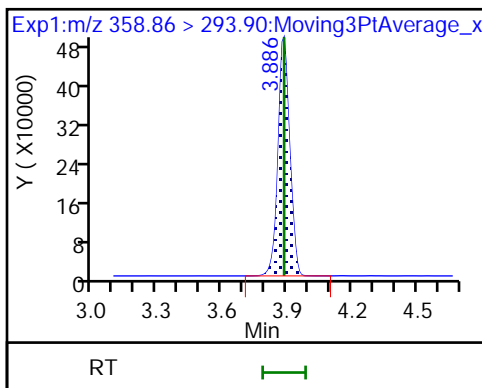
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

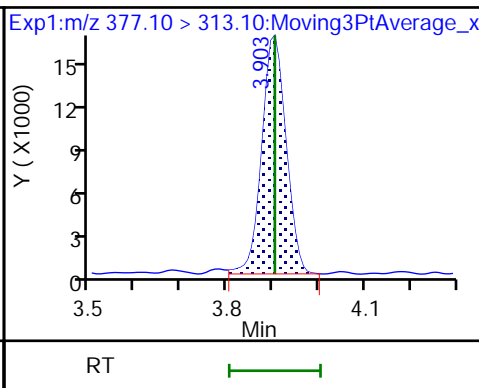
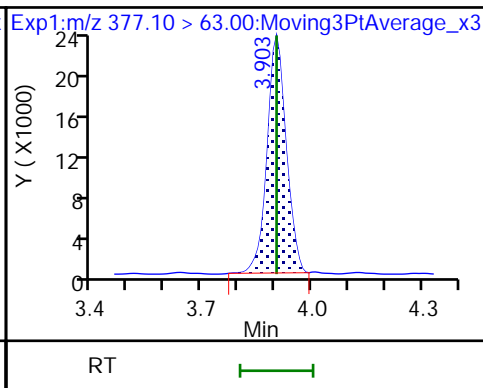
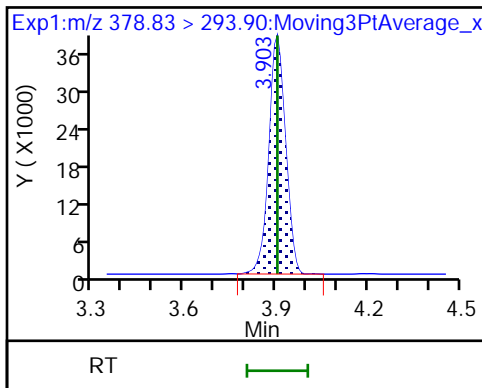
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

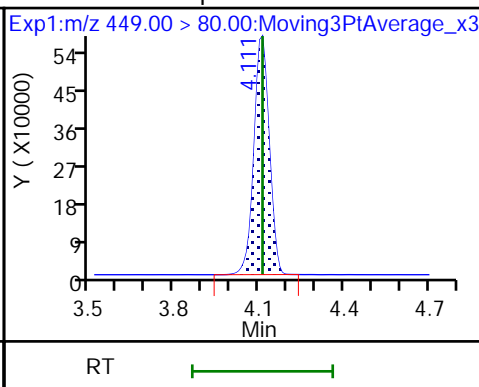
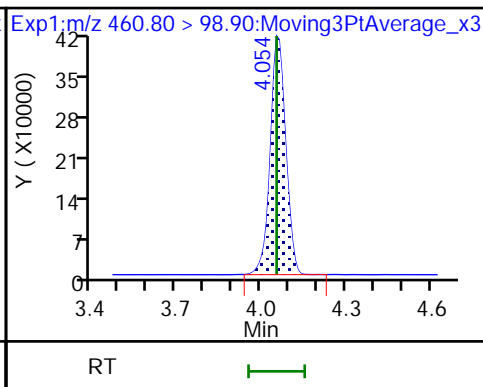
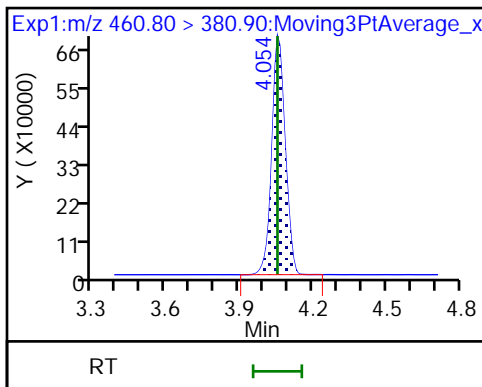
29 6:2 FTCA



32 PFECHS

32 PFECHS

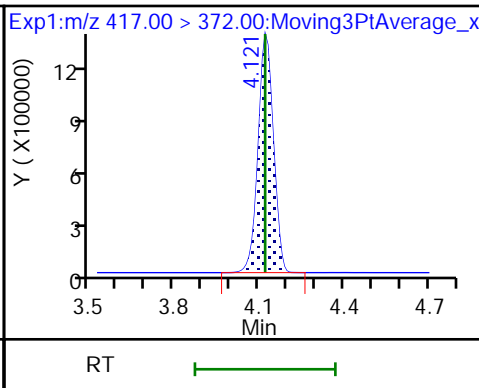
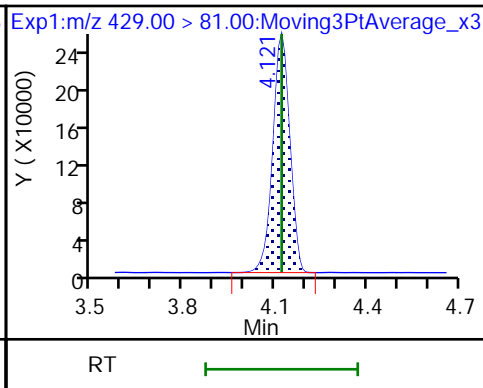
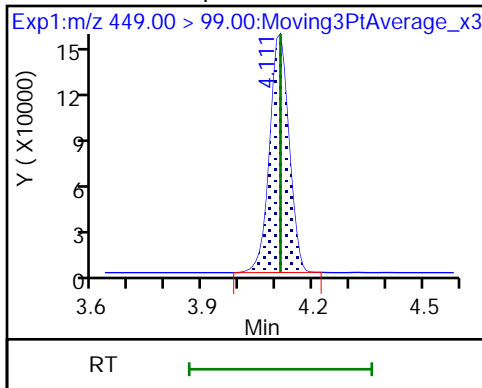
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

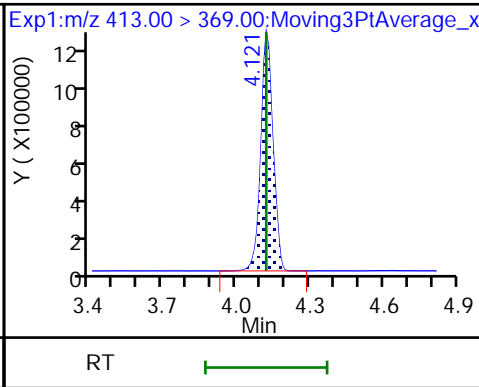
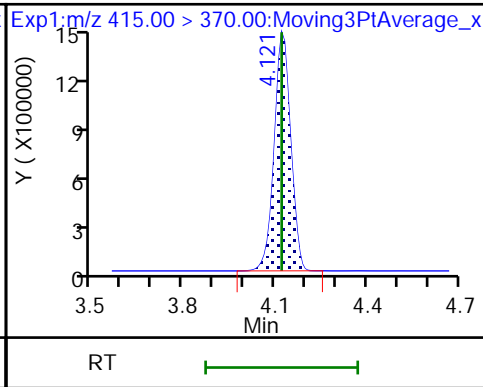
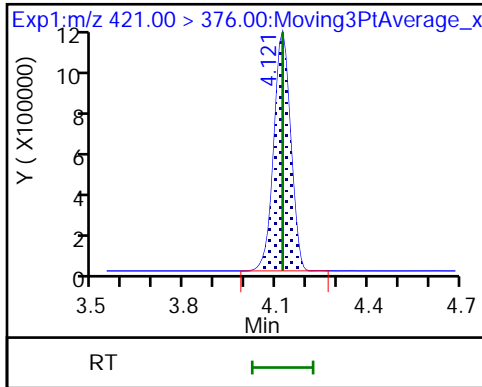
D 31 13C4 PFOA

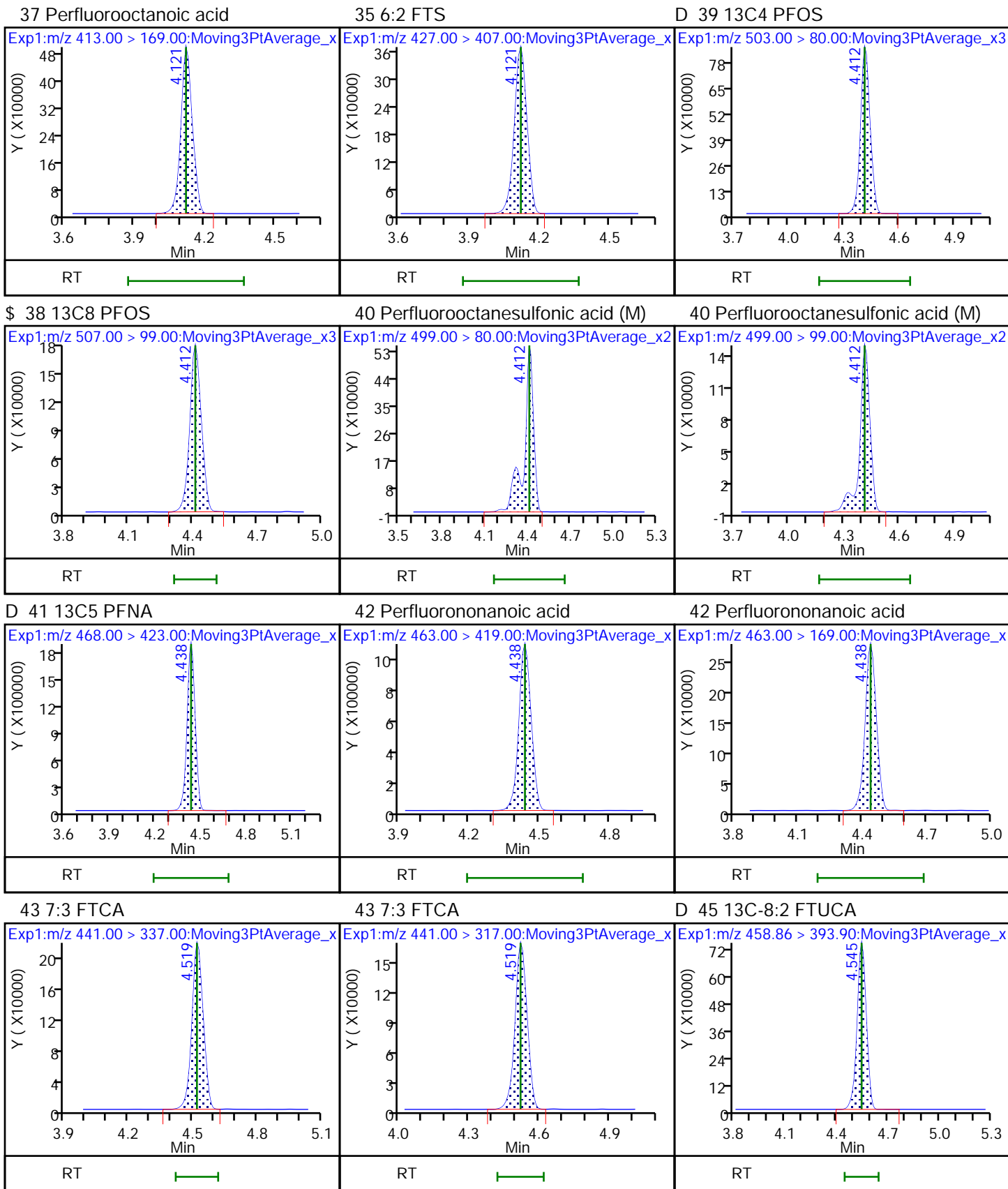


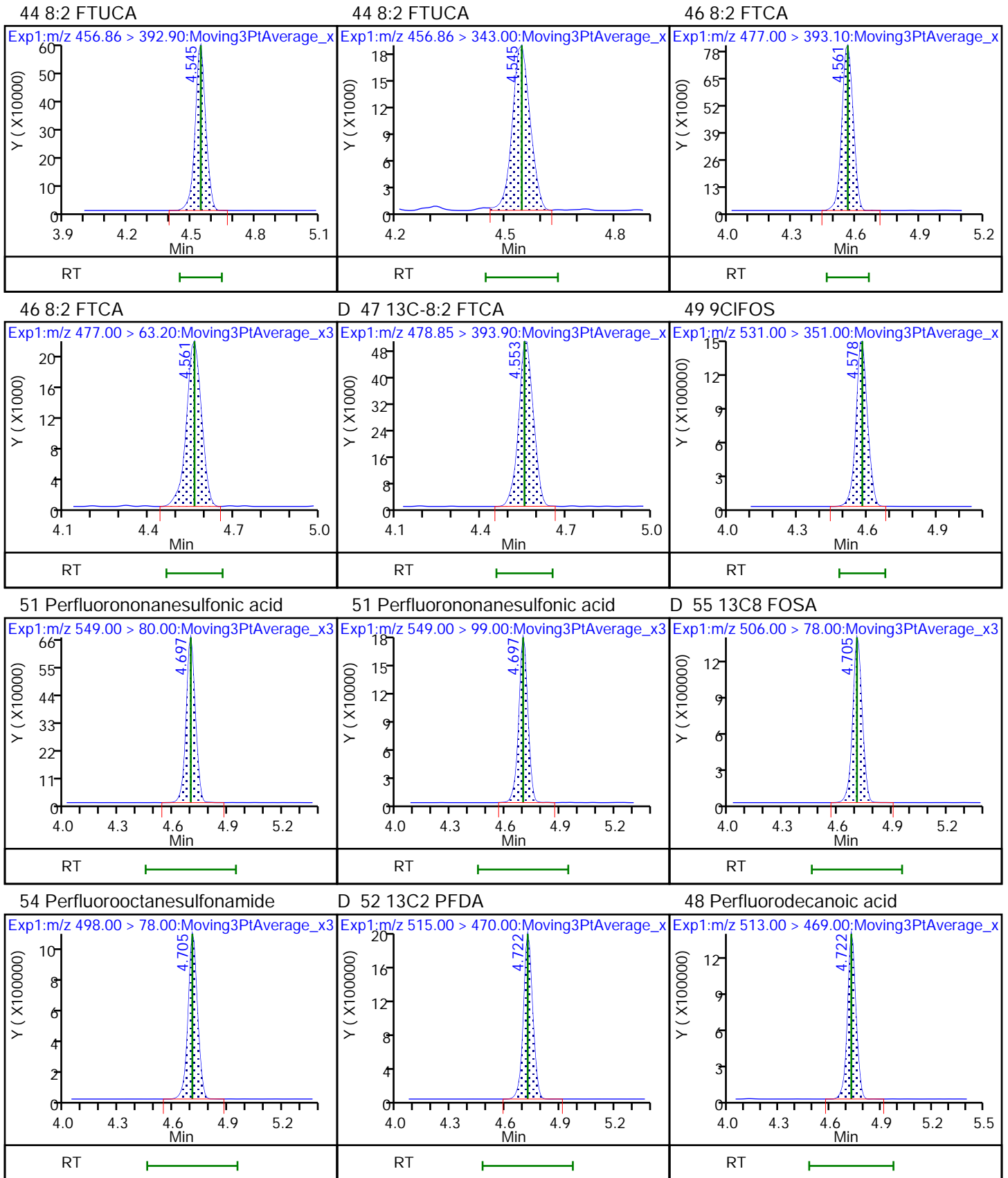
\$ 36 13C8 PFOA

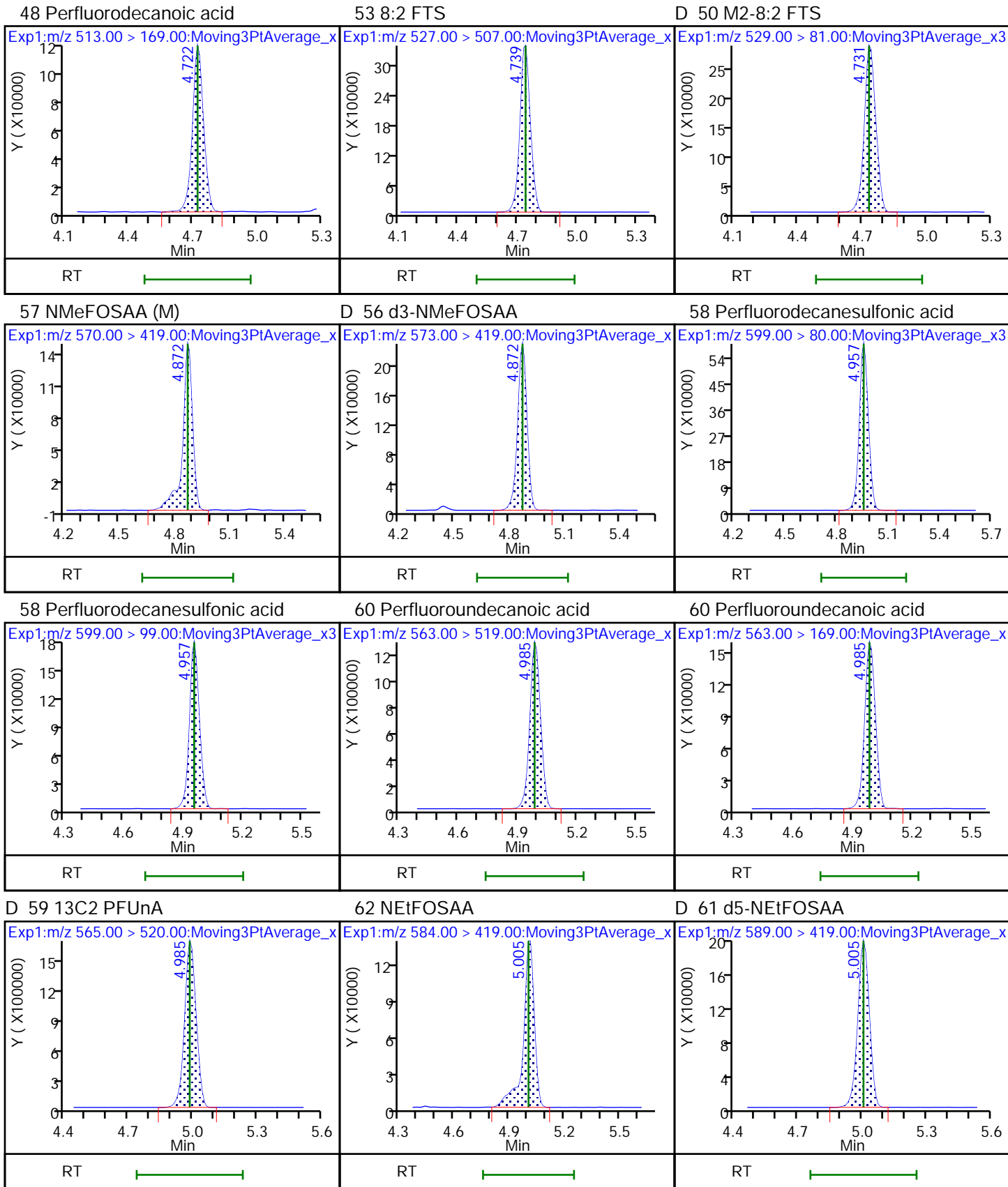
\* 30 13C2 PFOA

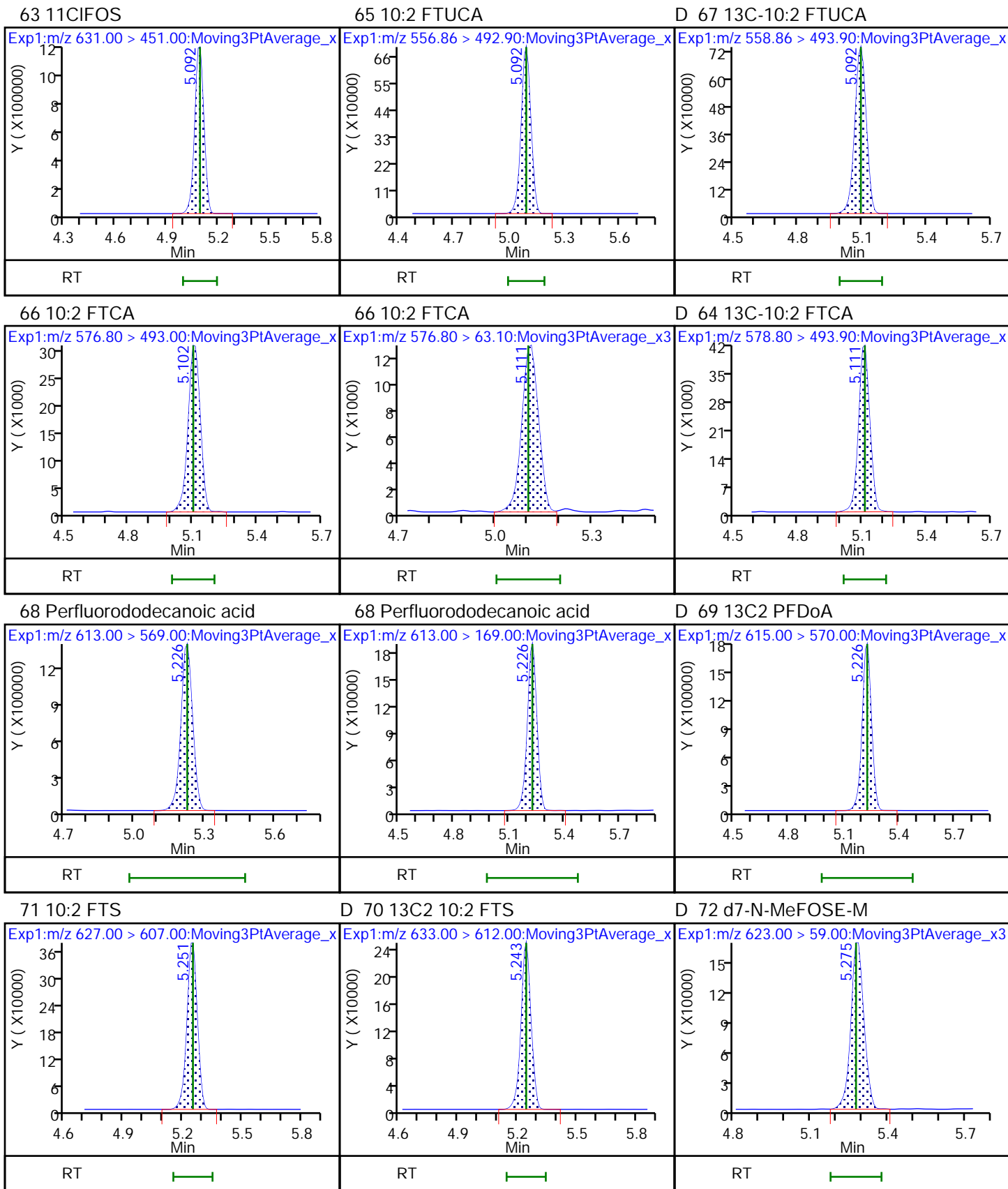
37 Perfluorooctanoic acid









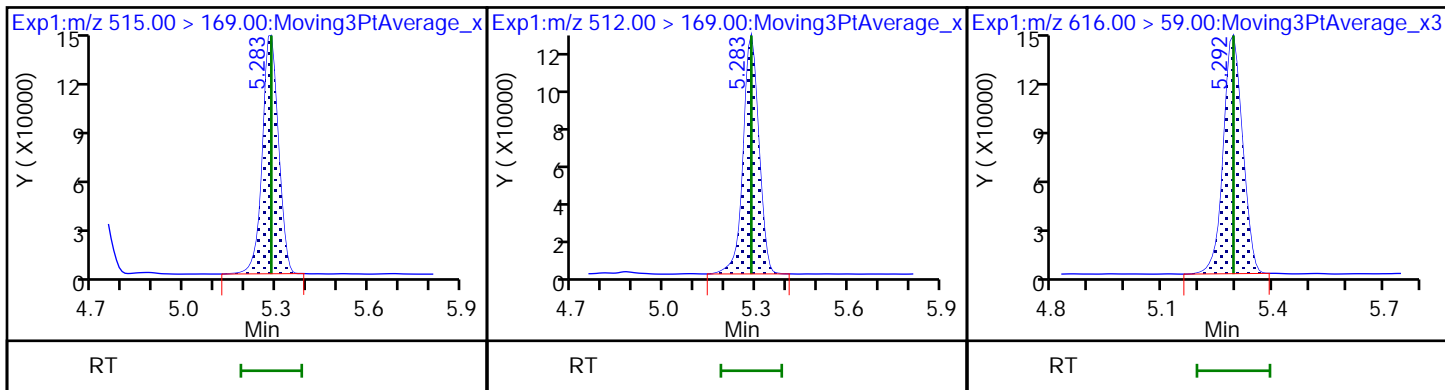




D 73 d-N-MeFOSE-M

74 NMeFOSE

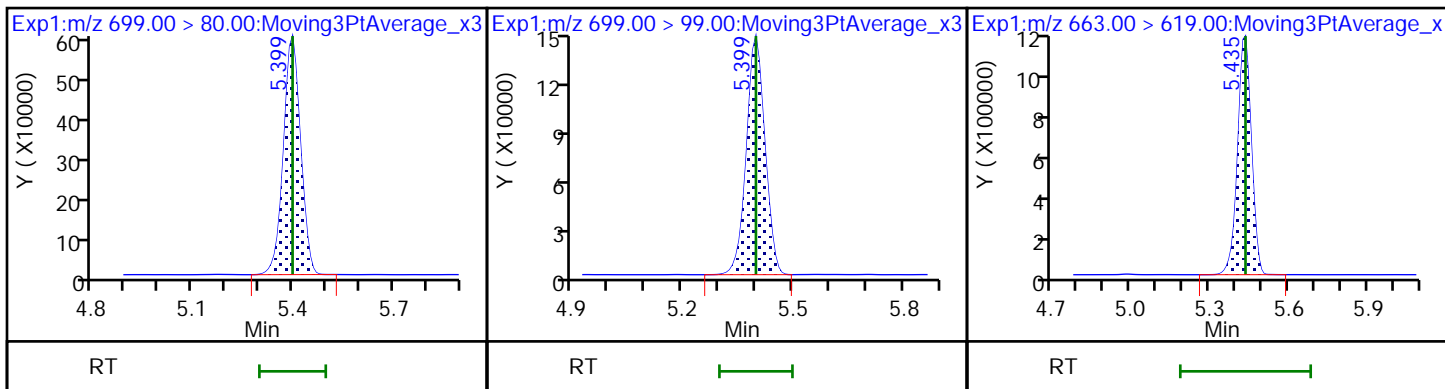
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

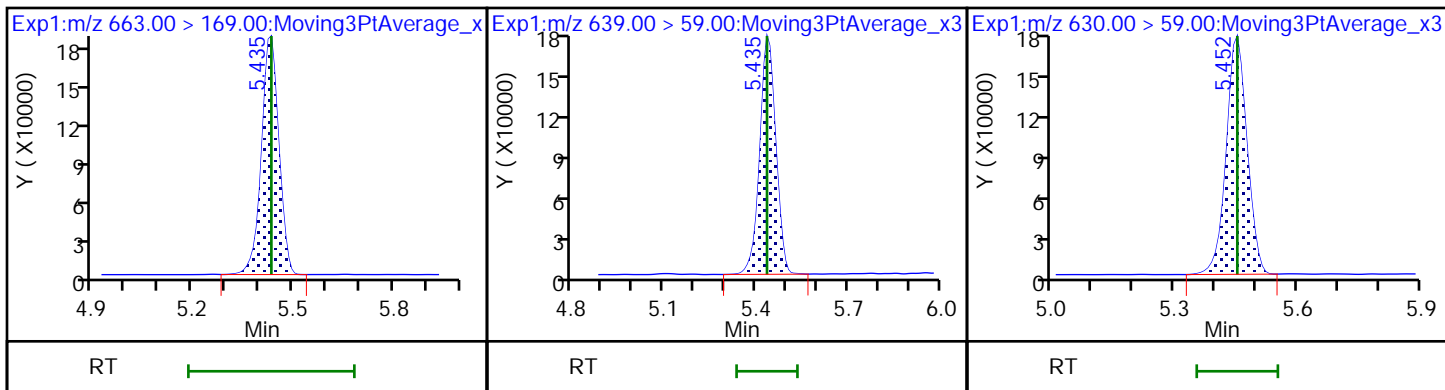
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

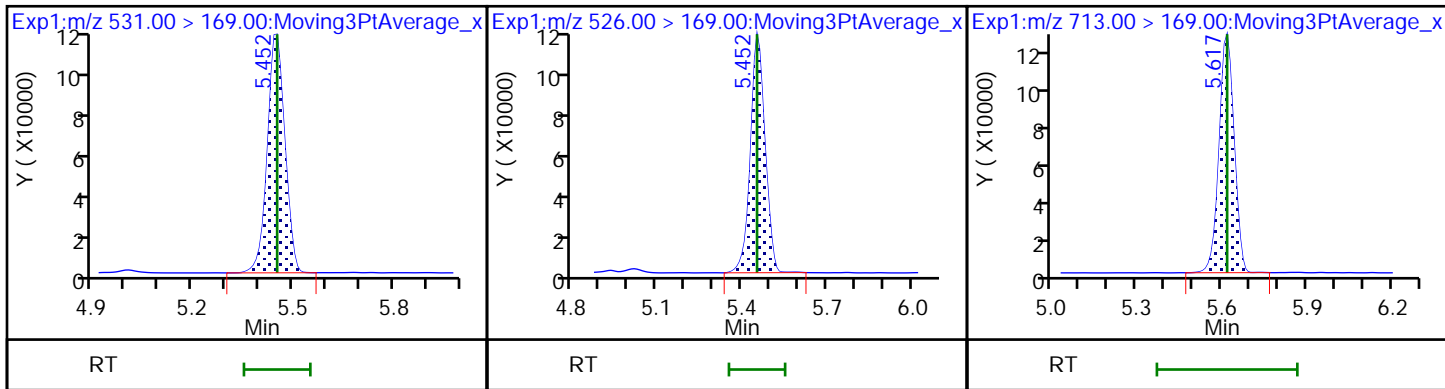
79 N-EtFOSE-M



D 80 d-N-EtFOSE-M

81 N-EtFOSE-M

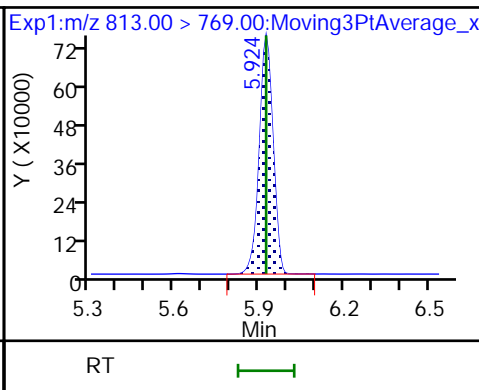
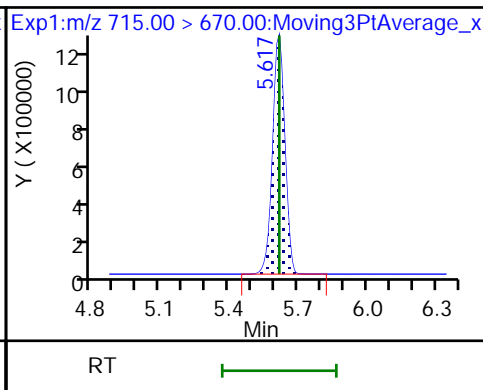
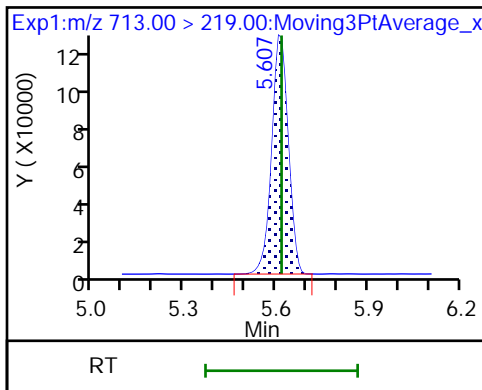
83 Perfluorotetradecanoic acid



83 Perfluorotetradecanoic acid

D 82 13C2 PFTeDA

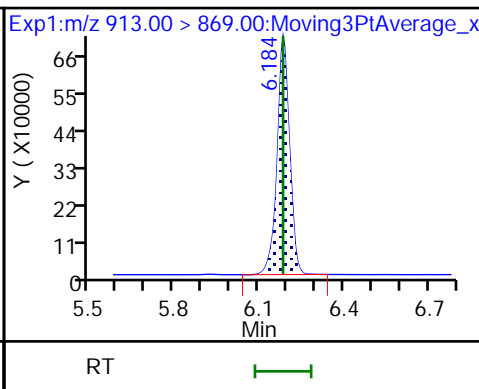
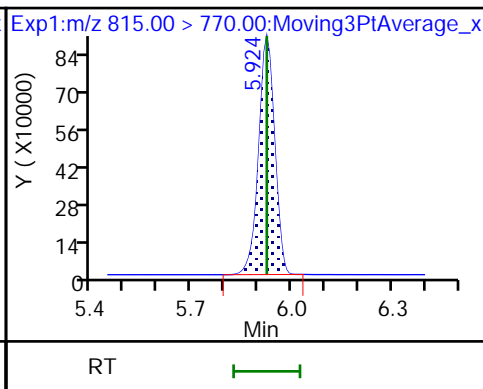
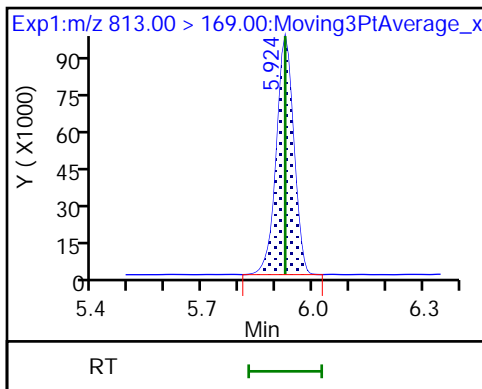
85 Perfluorohexadecanoic acid



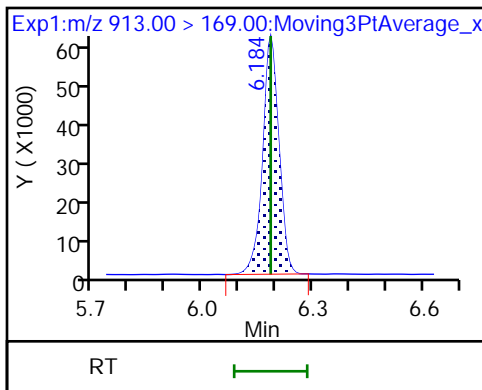
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid



86 Perfluorooctadecanoic acid



Eurofins Knoxville

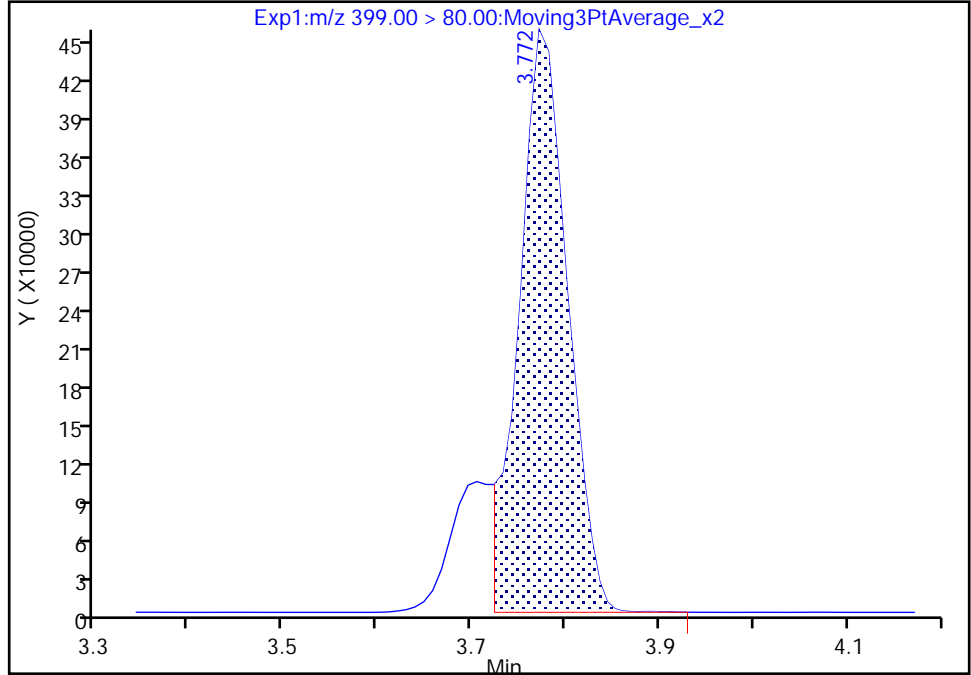
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Injection Date: 19-Feb-2022 18:43:45 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

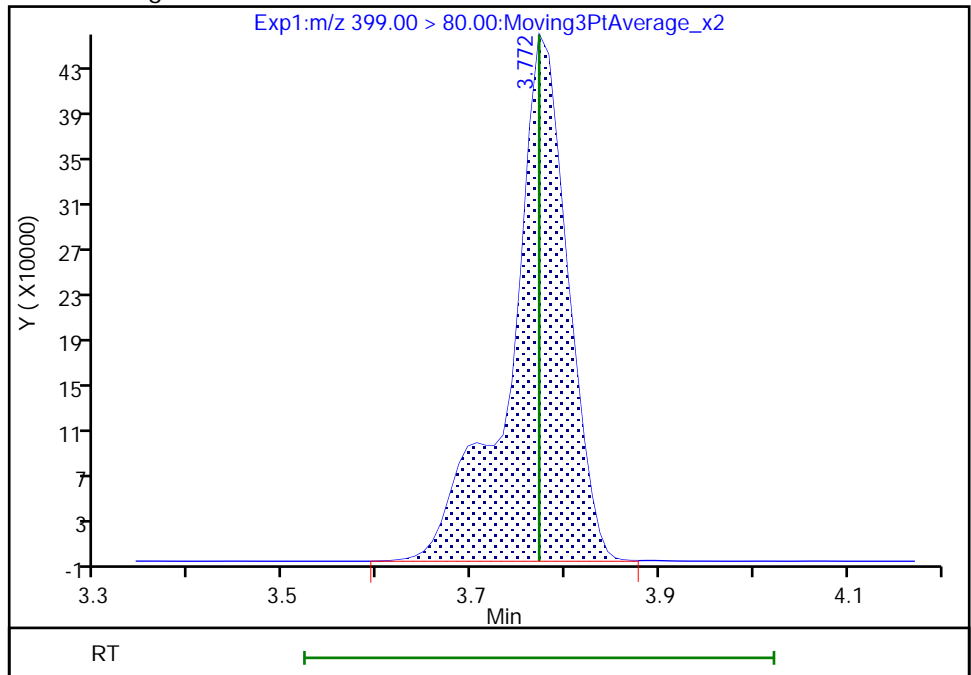
RT: 3.77  
Area: 1628640  
Amount: 0.686958  
Amount Units: ng/ml

Processing Integration Results



RT: 3.77  
Area: 1946103  
Amount: 0.820864  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:54:18  
Audit Action: Manually Integrated

Eurofins Knoxville

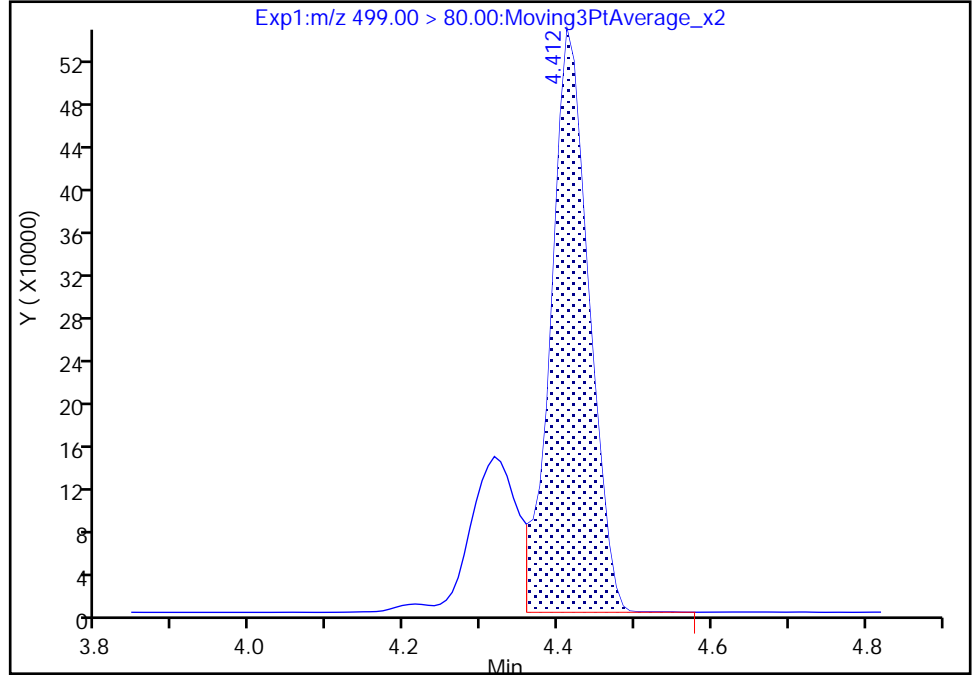
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Injection Date: 19-Feb-2022 18:43:45 Instrument ID: LCA  
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Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

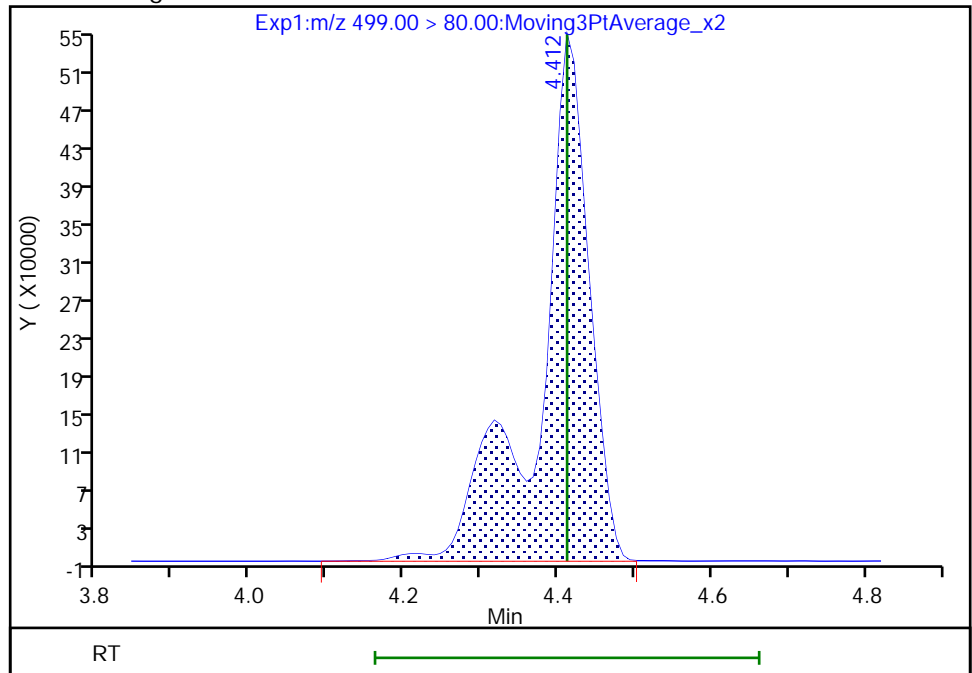
RT: 4.41  
Area: 1856195  
Amount: 0.636090  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 2475991  
Amount: 0.848485  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:54:34  
Audit Action: Manually Integrated

Eurofins Knoxville

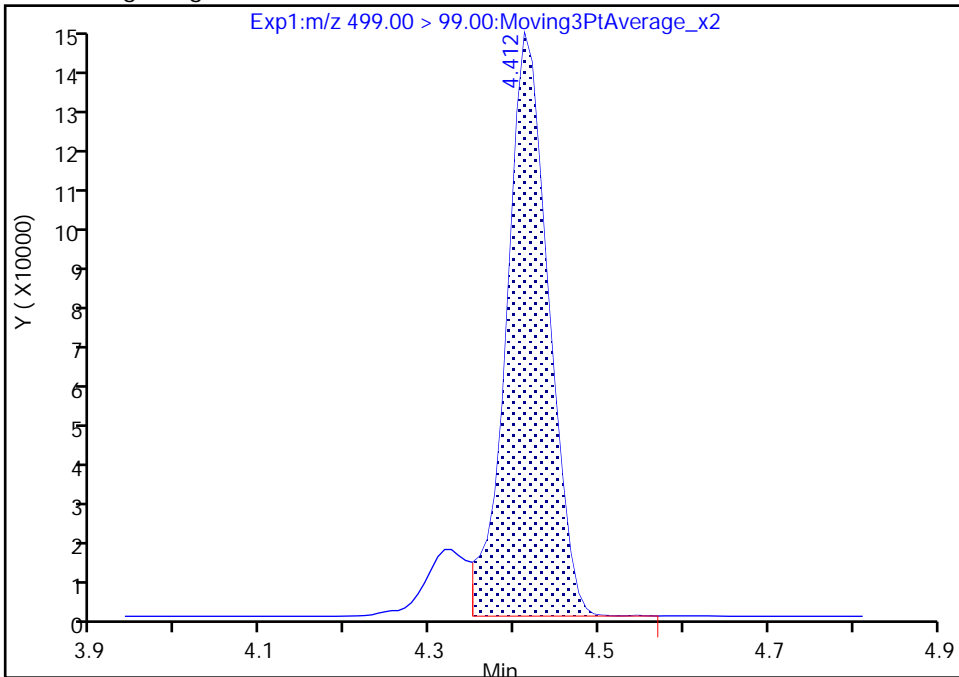
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Injection Date: 19-Feb-2022 18:43:45 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

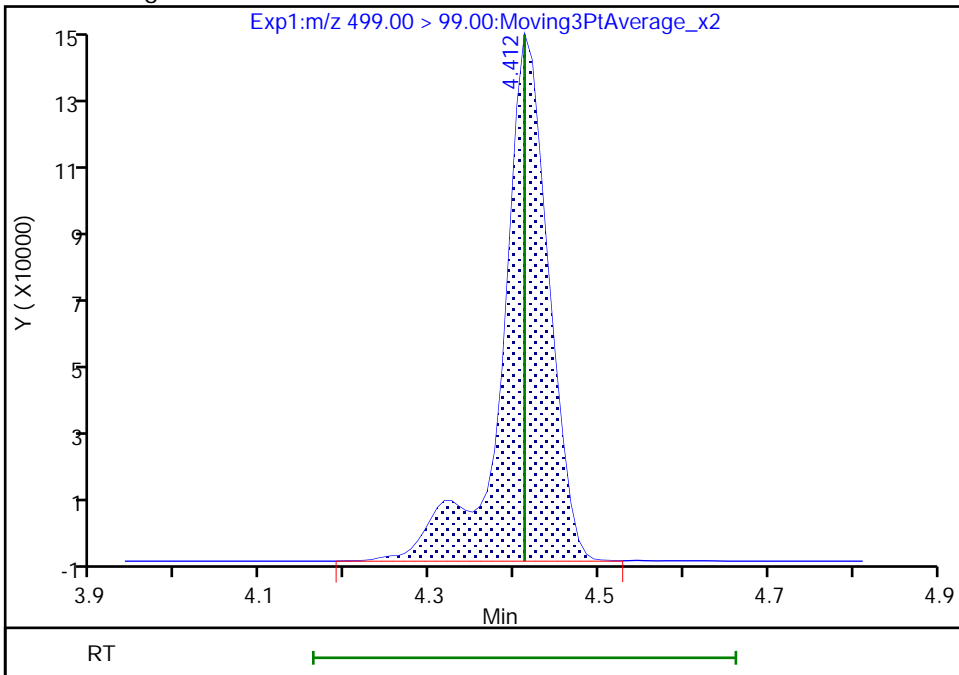
RT: 4.41  
Area: 508262  
Amount: 0.636090  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 568244  
Amount: 0.848485  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:54:42

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

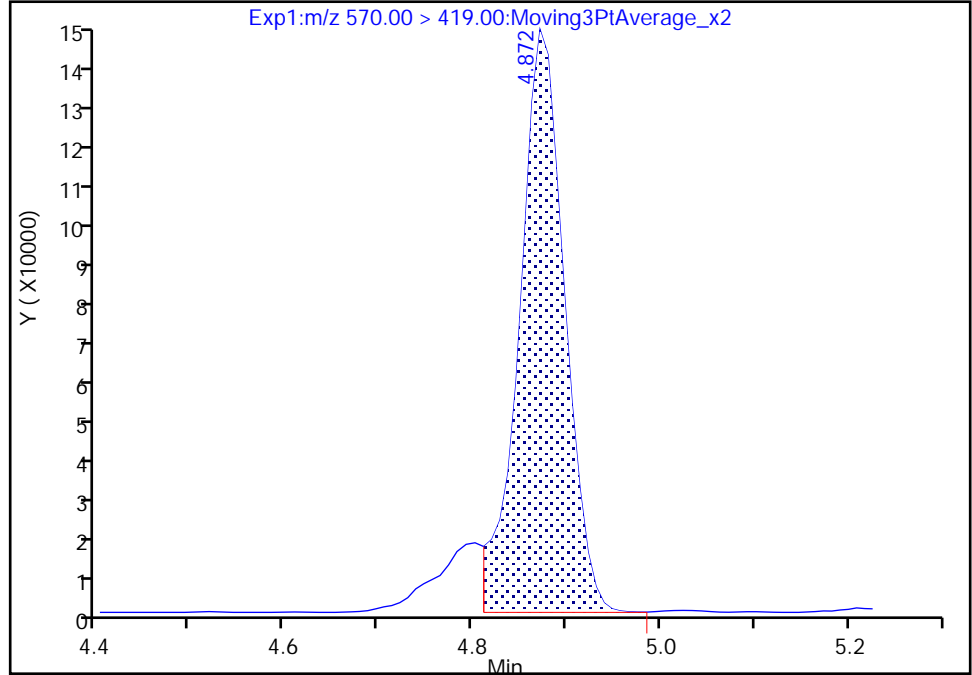
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Injection Date: 19-Feb-2022 18:43:45 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

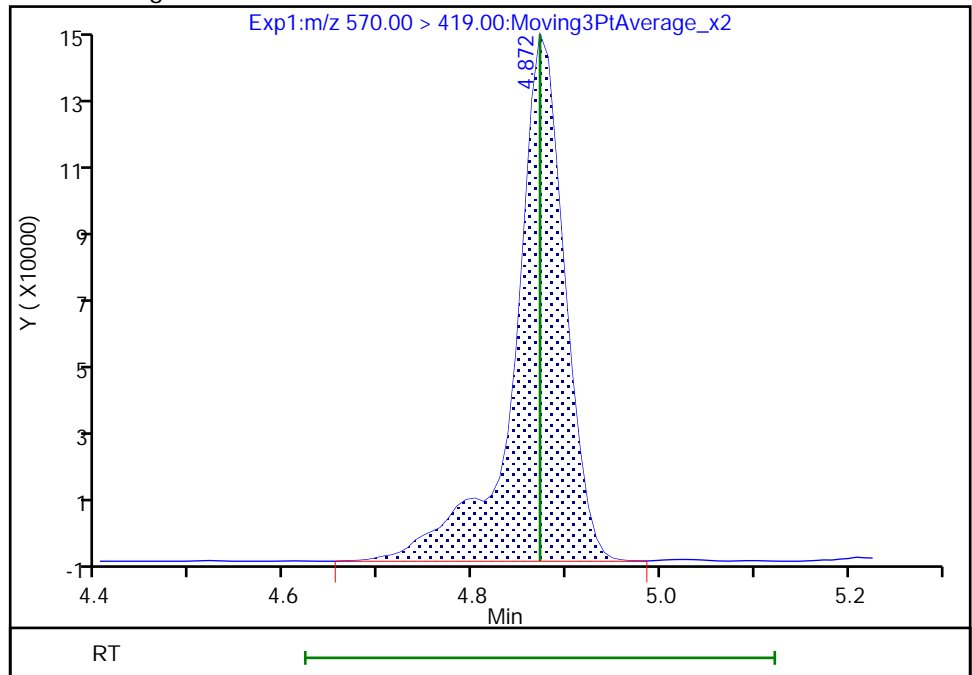
RT: 4.87  
Area: 495844  
Amount: 0.838583  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 557581  
Amount: 0.941483  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:55:25  
Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 307 of 625

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/19 Calibration Date: 02/19/2022 20:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7921		2.50	2.50	0.1	40.0
PFECA F	AveID	0.7535	0.7424		2.46	2.50	-1.5	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.999		2.67	2.50	6.6	40.0
3:3 FTCA	QuaIF		0.0555		2.56	2.50	2.5	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.134		2.25	2.21	2.0	40.0
PFECA A	Q2ID		1.218		2.55	2.50	2.2	40.0
PES	Q2ID		2.382		2.19	2.23	-1.5	40.0
PFECA B	Q2ID		0.4537		2.62	2.50	4.8	40.0
4:2 FTS	L2ID		2.392		2.46	2.34	5.4	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8157		2.58	2.50	3.0	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.081		2.46	2.35	4.7	40.0
HFPO-DA	L2ID		1.361		2.70	2.50	8.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.339		2.20	2.28	-3.3	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.066		2.62	2.50	4.9	40.0
DONA	AveID	2.644	2.462		2.19	2.36	-6.9	40.0
5:3 FTCA	L2ID		3.869		2.57	2.50	2.9	40.0
6:2 FTUCA	AveID	1.046	0.9599		2.29	2.50	-8.3	40.0
6:2 FTCA	L1ID		0.8294		3.00	2.50	20.0	40.0
PFECHS	AveID	0.7426	0.7782		2.42	2.31	4.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9465		2.28	2.38	-4.2	40.0
6:2 FTS	L2ID		1.835		2.38	2.37	0.5	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.096		2.57	2.50	2.8	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.134		2.30	2.32	-1.0	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8234		2.71	2.50	8.3	40.0
7:3 FTCA	AveID	5.230	5.535		2.65	2.50	5.8	40.0
8:2 FTUCA	AveID	0.9565	0.9150		2.39	2.50	-4.3	40.0
8:2 FTCA	AveID	1.811	2.046		2.82	2.50	13.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.240		2.32	2.33	-0.4	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.001		2.38	2.40	-1.0	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9500		2.49	2.50	-0.5	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9245		2.58	2.50	3.2	40.0
8:2 FTS	L2ID		1.504		2.40	2.40	0.3	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8638		2.29	2.50	-8.2	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9135		2.48	2.41	2.9	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/19 Calibration Date: 02/19/2022 20:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9467		2.45	2.50	-2.1	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9183		2.53	2.50	1.0	40.0
10:2 FTUCA	AveID	1.208	1.223		2.53	2.50	1.2	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.792		2.43	2.36	3.1	50.0
10:2 FTCA	Q2ID		1.027		2.68	2.50	7.3	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.006		2.44	2.50	-2.6	40.0
10:2 FTS	L2ID		2.210		2.55	2.41	5.7	50.0
NMeFOSA	L2ID		1.081		2.51	2.50	0.5	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.242		2.65	2.50	6.1	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9891		2.53	2.42	4.6	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8450		2.39	2.50	-4.3	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.376		2.42	2.50	-3.0	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.243		2.50	2.50	-0.2	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1368		2.66	2.50	6.3	40.0
Perfluorohexadecanoic acid	L1ID		1.138		2.52	2.50	0.7	40.0
Perfluorooctadecanoic acid	AveID	1.013	1.011		2.50	2.50	-0.2	40.0
13C4 PFBA	Ave	1.172	1.185		1.26	1.25	1.1	50.0
13C5 PFPeA	Ave	0.9197	0.8962		1.22	1.25	-2.6	50.0
13C3 PFBS	Ave	0.5817	0.5816		1.16	1.16	-0.0	50.0
M2-4:2 FTS	Ave	0.1821	0.1792		1.15	1.17	-1.6	50.0
13C2 PFHxA	Ave	1.015	0.9772		1.20	1.25	-3.7	50.0
13C3 HFPO-DA	Ave	0.4963	0.4705		1.19	1.25	-5.2	50.0
18O2 PFHxS	Ave	0.3776	0.3908		1.22	1.18	3.5	50.0
13C4 PFHpA	Ave	0.9046	0.8693		1.20	1.25	-3.9	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3844		1.42	1.25	13.9	50.0
13C-6:2 FTCA	Ave	0.0260	0.0256		1.23	1.25	-1.7	50.0
M2-6:2 FTS	Ave	0.1799	0.1835		1.21	1.19	2.0	50.0
13C4 PFOA	Ave	0.9356	0.9182		1.23	1.25	-1.9	50.0
13C4 PFOS	Ave	0.5610	0.6015		1.28	1.20	7.2	50.0
13C5 PFNA	Ave	1.268	1.277		1.26	1.25	0.7	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5625		1.56	1.25	24.5	50.0
13C-8:2 FTCA	Ave	0.0330	0.0350		1.33	1.25	6.0	50.0
13C8 FOSA	Ave	0.8475	0.8925		1.32	1.25	5.3	50.0
13C2 PFDA	Ave	1.210	1.248		1.29	1.25	3.2	50.0
M2-8:2 FTS	Ave	0.1961	0.2059		1.26	1.20	5.0	50.0



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/19 Calibration Date: 02/19/2022 20:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1576		1.74	1.25	38.9	50.0
13C2 PFUnA	Ave	1.168	1.218		1.30	1.25	4.3	50.0
d5-NEtFOSAA	Ave	0.1164	0.1425		1.53	1.25	22.4	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5117		1.26	1.25	0.8	50.0
13C-10:2 FTCA	Ave	0.0309	0.0286		1.16	1.25	-7.4	50.0
13C2 PFDoA	Ave	1.152	1.176		1.28	1.25	2.1	50.0
13C2 10:2 FTS	Ave	0.1652	0.1735		1.24	1.18	5.1	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1150		1.21	1.25	-3.0	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1033		1.28	1.25	2.3	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1203		1.22	1.25	-2.2	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0844		1.30	1.25	4.2	50.0
13C2 PFTeDA	Ave	0.9216	0.8787		1.19	1.25	-4.7	50.0
13C2 PFHxDA	Ave	0.5997	0.5704		1.19	1.25	-4.9	50.0
13C8 PFOA	AveID	0.9229	0.9728		1.32	1.25	5.4	50.0
13C8 PFOS	AveID	0.2212	0.2297		1.24	1.20	3.8	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 19-Feb-2022 20:31:46 ALS Bottle#: 19 Worklist Smp#: 19  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-019 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 15:59:13

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.812	2.804	0.008	1.000	9302624	2.50		100	3352	
D 2 13C4 PFBA										
217.00 > 172.00	2.812	2.804	0.008	0.680	5872349	1.26		101	24333	
3 PFECA F										
229.00 > 85.00	2.920	2.911	0.009	0.937	6591291	2.46		98.5	20934	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.116	3.115	0.002	1.000	8870448	2.67		107	3546	
D 5 13C5 PFPeA										
267.90 > 223.00	3.116	3.115	0.002	0.754	4439376	1.22		97.4	20837	
4 3:3 FTCA										
241.00 > 177.10	3.132	3.122	0.010	1.000	319994	2.56	Target=1.13	102	2730	
241.00 > 116.90	3.132	3.122	0.010	1.000	275168		1.16(0.56-1.69)		410	
D 7 13C3 PFBS										
301.90 > 80.00	3.132	3.122	0.010	0.758	2679375	1.16		100.0	11008	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.132	3.131	0.001	1.000	5776908	2.25	Target=2.61	102	4875	
298.90 > 99.00	3.132	3.131	0.001	1.000	2183084		2.65(1.31-3.92)		5054	
9 PFECA A										
278.95 > 84.90	3.212	3.202	0.010	1.031	10815743	2.55		102	24457	
11 PES										
314.80 > 135.00	3.261	3.260	0.001	1.041	12213307	2.19		98.5	20758	
12 PFECA B										
295.22 > 201.00	3.385	3.373	0.012	0.981	4392210	2.62		105	20431	
13 4:2 FTS										
327.00 > 307.00	3.417	3.415	0.002	1.000	3966732	2.46		105	8423	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.417	3.415	0.002	0.827	829028	1.15		98.4	1780	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.449	3.437	0.012	1.101	5841195	2.45	Target=3.55	105	12279	
349.00 > 99.00	3.449	3.437	0.012	1.101	1719843		3.40(1.78-5.33)		7452	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.449	3.437	0.012	1.000	7896967	2.58	Target=11.60	103	3518	
313.00 > 119.00	3.449	3.437	0.012	1.000	656644		12.03(5.80-17.40)		639	
D 14 13C2 PFHxA										
315.00 > 270.00	3.449	3.437	0.012	0.835	4840509	1.20		96.3	11272	
17 HFPO-DA										
285.00 > 169.00	3.554	3.542	0.012	1.000	6342444	2.70	Target=2.45	108	1563	
329.00 > 169.00	3.554	3.542	0.012	1.000	2486647		2.55(1.23-3.68)		1555	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.554	3.542	0.012	0.860	2330673	1.19		94.8	5732	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.784	3.772	0.012	1.000	4716462	2.20	Target=3.44	96.7	7310	M
399.00 > 99.00	3.784	3.772	0.012	1.000	1368397		3.45(1.72-5.17)		4868	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.784	3.772	0.012	0.916	1831159	1.22		103	5583	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.794	3.792	0.002	1.000	9177798	2.62	Target=3.25	105	5946	
363.00 > 169.00	3.794	3.792	0.002	1.000	2852596		3.22(1.62-4.87)		2534	
D 22 13C4 PFHpA										
367.00 > 322.00	3.794	3.792	0.002	0.918	4306163	1.20		96.1	12274	
25 DONA										
377.00 > 251.00	3.830	3.820	0.010	0.866	13820411	2.19	Target=1.74	93.1	18304	
377.00 > 85.00	3.830	3.820	0.010	0.866	8045575		1.72(0.87-2.61)		143	
26 5:3 FTCA										
340.88 > 236.90	3.854	3.853	0.001	0.987	980059	2.57	Target=1.11	103	3300	
340.88 > 216.90	3.854	3.853	0.001	0.987	907723		1.08(0.56-1.67)		2350	
27 6:2 FTUCA										
356.86 > 292.90	3.888	3.886	0.002	1.000	3655657	2.29	Target=13.05	91.7	4500	
356.86 > 243.00	3.888	3.886	0.002	1.000	260183		14.05(6.52-19.57)		602	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.888	3.886	0.002	0.941	1904104	1.42		114	2623	
29 6:2 FTCA										
377.10 > 63.00	3.905	3.903	0.002	1.000	210095	3.00	Target=1.29	120	949	
377.10 > 313.10	3.913	3.903	0.010	1.002	151765		1.38(0.65-1.94)		120	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.905	3.903	0.002	0.945	126659	1.23		98.3	795	
32 PFECHS										
460.80 > 380.90	4.065	4.054	0.011	0.984	6526696	2.42	Target=1.75	105	14843	
460.80 > 98.90	4.065	4.054	0.011	0.984	3875248		1.68(0.87-2.62)		7763	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.113	4.111	0.002	0.930	5369835	2.28	Target=3.72	95.8	7231	
449.00 > 99.00	4.113	4.111	0.002	0.930	1427253		3.76(1.86-5.57)		3690	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.123	4.121	0.002	1.000	3162405	2.38		101	8422	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.132	4.121	0.011	1.000	9972323	2.57	Target=2.51	103	5717	
413.00 > 169.00	4.132	4.121	0.011	1.000	4160199		2.40(1.26-3.77)		4939	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.123	4.121	0.002	0.998	4424670	1.32		105	10217	
* 30 13C2 PFOA										
415.00 > 370.00	4.132	4.121	0.011		4953682	1.25			6200	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.123	4.121	0.002	0.998	863537	1.21		102	2450	
D 31 13C4 PFOA										
417.00 > 372.00	4.132	4.121	0.011	1.000	4548425	1.23		98.1	6043	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.414	4.412	0.002	0.998	654383	1.24		104	1496	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.423	4.412	0.011	1.000	6272429	2.30	Target=4.30	99.0	4845	M
499.00 > 99.00	4.423	4.412	0.011	1.000	1423263		4.41(2.15-6.45)		4239	M
D 39 13C4 PFOS										
503.00 > 80.00	4.423	4.412	0.011	1.070	2848747	1.28		107	3069	
42 Perfluorononanoic acid										
463.00 > 419.00	4.441	4.438	0.003	1.000	10416485	2.71	Target=3.60	108	8444	
463.00 > 169.00	4.441	4.438	0.003	1.000	2514437		4.14(1.80-5.40)		4563	
D 41 13C5 PFNA										
468.00 > 423.00	4.441	4.438	0.003	1.075	6325320	1.26		101	12159	
43 7:3 FTCA										
441.00 > 337.00	4.530	4.519	0.011	0.993	1921444	2.65	Target=1.42	106	3937	
441.00 > 317.00	4.530	4.519	0.011	0.993	1388484		1.38(0.71-2.13)		3279	
44 8:2 FTUCA										
456.86 > 392.90	4.547	4.545	0.002	1.000	5099764	2.39	Target=35.37	95.7	5017	
456.86 > 343.00	4.547	4.545	0.002	1.000	142816		35.71(17.68-53.05)		463	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.547	4.545	0.002	1.000	2786693	1.56		124	6348	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.563	4.553	0.010	1.104	173564	1.33		106	824	
46 8:2 FTCA										
477.00 > 393.10	4.563	4.561	0.002	1.000	710186	2.82	Target=3.35	113	2968	
477.00 > 63.20	4.563	4.561	0.002	1.000	206836		3.43(1.68-5.03)		661	
49 9CIFOS										
531.00 > 351.00	4.579	4.578	0.001	1.108	12439899	2.32		99.6	11833	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.699	4.697	0.002	1.062	5725834	2.37	Target=3.99	99.0	8208	
549.00 > 99.00	4.699	4.697	0.002	1.062	1484188		3.86(2.00-5.99)		4952	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.716	4.705	0.011	1.000	8400516	2.49		99.5	5180	
D 55 13C8 FOSA										
506.00 > 78.00	4.716	4.705	0.011	1.141	4421387	1.32		105	4783	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.733	4.722	0.011	1.000	11429872	2.58	Target=10.58	103	8781	
513.00 > 169.00	4.733	4.722	0.011	1.000	1016177		11.25(5.29-15.88)		434	
D 52 13C2 PFDA										
515.00 > 470.00	4.733	4.722	0.011	1.145	6181568	1.29		103	11404	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.741	4.731	0.010	1.147	976918	1.26		105	1984	
53 8:2 FTS										
527.00 > 507.00	4.741	4.739	0.002	1.000	2937623	2.40		100	7515	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.874	4.872	0.002	1.180	780923	1.74		139	299	
57 NMeFOSAA										
570.00 > 419.00	4.874	4.872	0.002	1.000	1349103	2.29		91.8	2079	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.959	4.957	0.002	1.121	5248355	2.48	Target=3.55	103	5056	
599.00 > 99.00	4.959	4.957	0.002	1.121	1423349		3.69(1.78-5.33)		5206	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.997	4.985	0.012	1.002	11421218	2.45	Target=8.26	97.9	9637	
563.00 > 169.00	4.988	4.985	0.003	1.000	1327862		8.60(4.13-12.39)		3512	
D 59 13C2 PFUnA										
565.00 > 520.00	4.988	4.985	0.003	1.207	6032193	1.30		104	10805	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.007	5.005	0.002	1.212	706053	1.53		122	2471	
62 NEtFOSAA										
584.00 > 419.00	5.017	5.005	0.012	1.002	1296745	2.53		101	1568	
65 10:2 FTUCA										
556.86 > 492.90	5.095	5.092	0.003	1.000	6199010	2.53		101	8099	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.095	5.092	0.003	1.233	2534953	1.26		101	7247	
63 11C1FOS										
631.00 > 451.00	5.095	5.092	0.003	1.152	10058631	2.43		103	14158	
66 10:2 FTCA										
576.80 > 493.00	5.114	5.102	0.012	1.000	291152	2.68	Target=2.53	107	2200	
576.80 > 63.10	5.104	5.102	0.002	0.998	120845		2.41(1.26-3.79)		388	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.114	5.111	0.003	1.238	141797	1.16		92.6	807	
D 69 13C2 PFDoA										
615.00 > 570.00	5.228	5.226	0.002	1.265	5827832	1.28		102	9432	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.228	5.226	0.002	1.000	11726821	2.43	Target=6.85	97.4	7666	
613.00 > 169.00	5.228	5.226	0.002	1.000	1742494		6.73(3.43-10.28)		2454	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.245	5.243	0.002	1.269	814277	1.24		105	4807	
71 10:2 FTS										
627.00 > 607.00	5.245	5.251	-0.006	1.000	3662252	2.55		106	9043	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.285	5.275	0.010	1.279	569760	1.21		97.0	472	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.285	5.283	0.002	1.279	511629	1.28		102	47.1	
74 NMeFOSA										
512.00 > 169.00	5.285	5.283	0.002	1.000	1106019	2.51		100	864	
75 N-MeFOSE-M										
616.00 > 59.00	5.294	5.292	0.002	1.002	1415571	2.65		106	2253	
76 PFDoS										
699.00 > 80.00	5.401	5.399	0.002	1.221	5706260	2.53	Target=4.22	105	8146	
699.00 > 99.00	5.401	5.399	0.002	1.221	1310842		4.35(2.11-6.34)		5289	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.437	5.435	0.002	1.316	595992	1.22		97.8	256	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.437	5.435	0.002	1.040	9849286	2.39	Target=6.32	95.7	8157	
663.00 > 169.00	5.437	5.435	0.002	1.040	1635280		6.02(3.16-9.48)		4485	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.454	5.452	0.002	1.320	417952	1.30		104	722	
79 N-EtFOSE-M										
630.00 > 59.00	5.454	5.452	0.002	1.003	1639773	2.42		97.0	1379	
81 N-EtFOSA-M										
526.00 > 169.00	5.463	5.452	0.011	1.002	1038708	2.50		99.8	663	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.619	5.617	0.002	1.360	4352783	1.19		95.3	8645	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.619	5.617	0.002	1.000	1190861	2.66	Target=1.01	106	3303	
713.00 > 219.00	5.609	5.617	-0.008	0.998	1111446		1.07(0.51-1.52)		4208	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.925	5.924	0.001	1.434	2825340	1.19		95.1	5876	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.925	5.924	0.001	1.000	6431691	2.52	Target=8.64	101	6591	
813.00 > 169.00	5.925	5.924	0.001	1.000	781535		8.23(4.32-12.97)		2229	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.184	-0.005	1.043	5711973	2.49	Target=11.77	99.8	6408	
913.00 > 169.00	6.179	6.184	-0.005	1.043	487376		11.72(5.88-17.65)		1602	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Injection Date: 19-Feb-2022 20:31:46

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

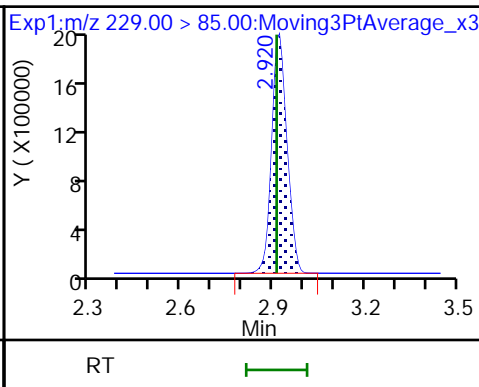
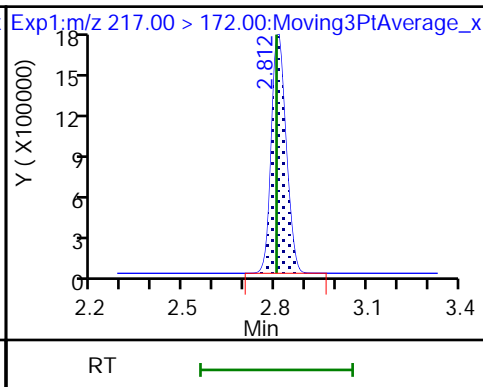
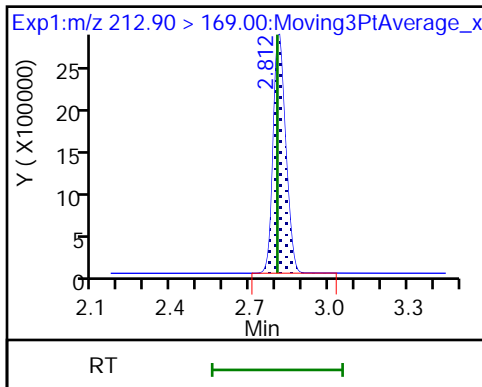
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

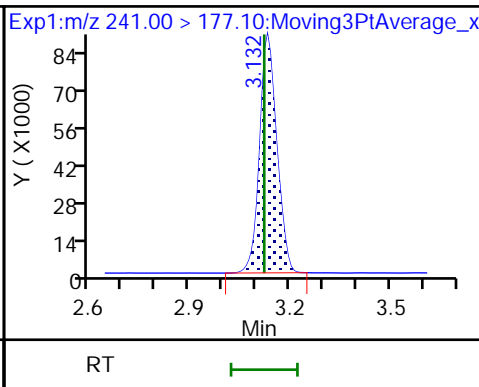
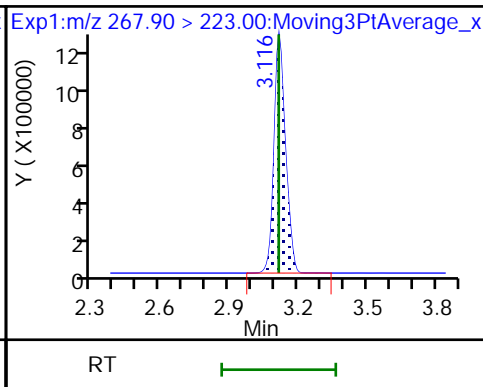
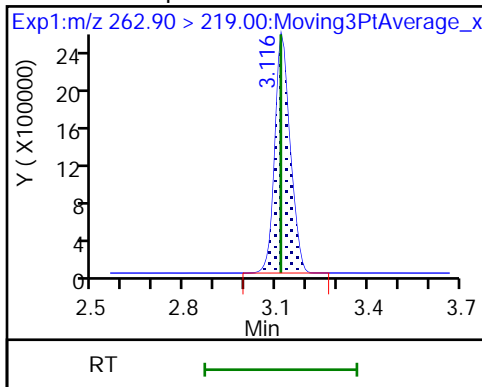
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

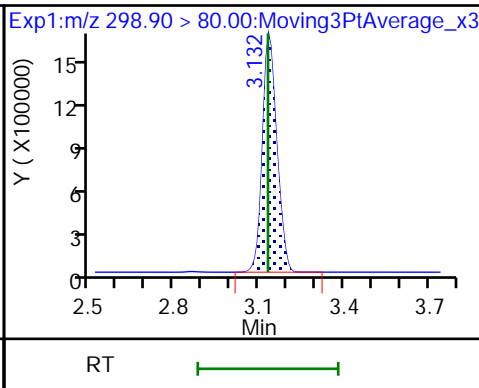
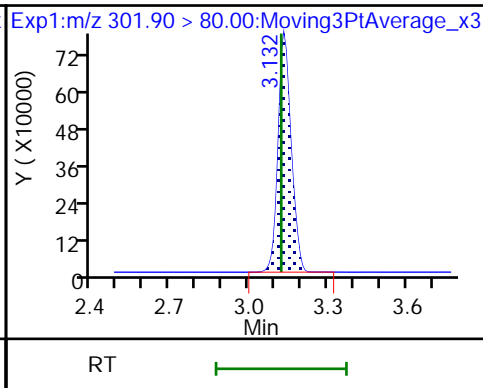
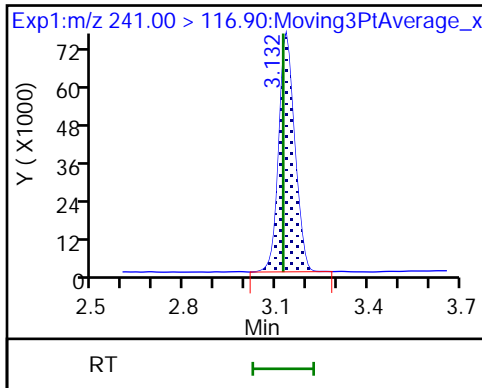
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

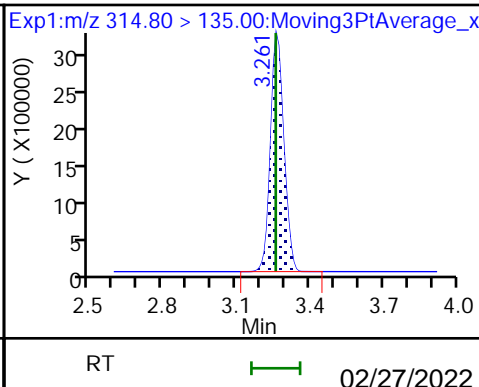
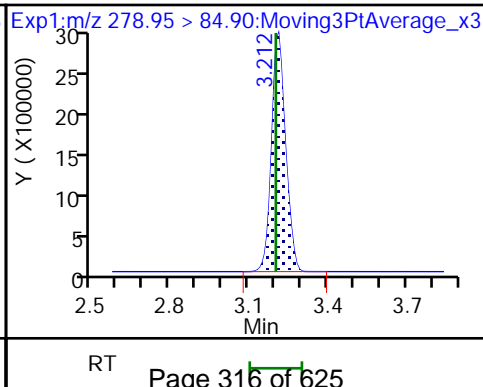
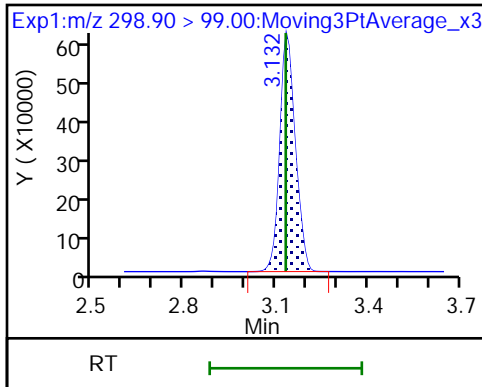
8 Perfluorobutanesulfonic acid

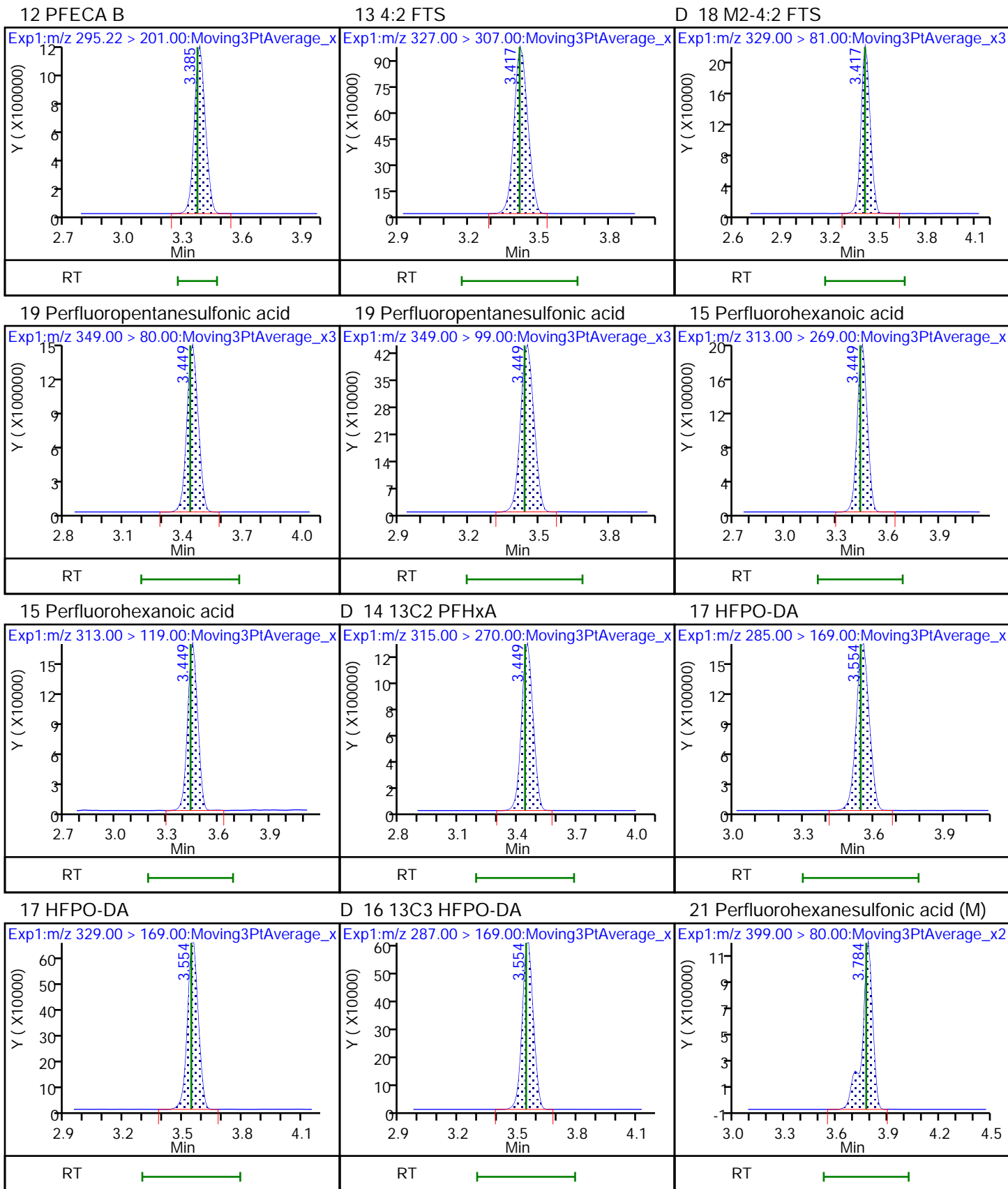


8 Perfluorobutanesulfonic acid

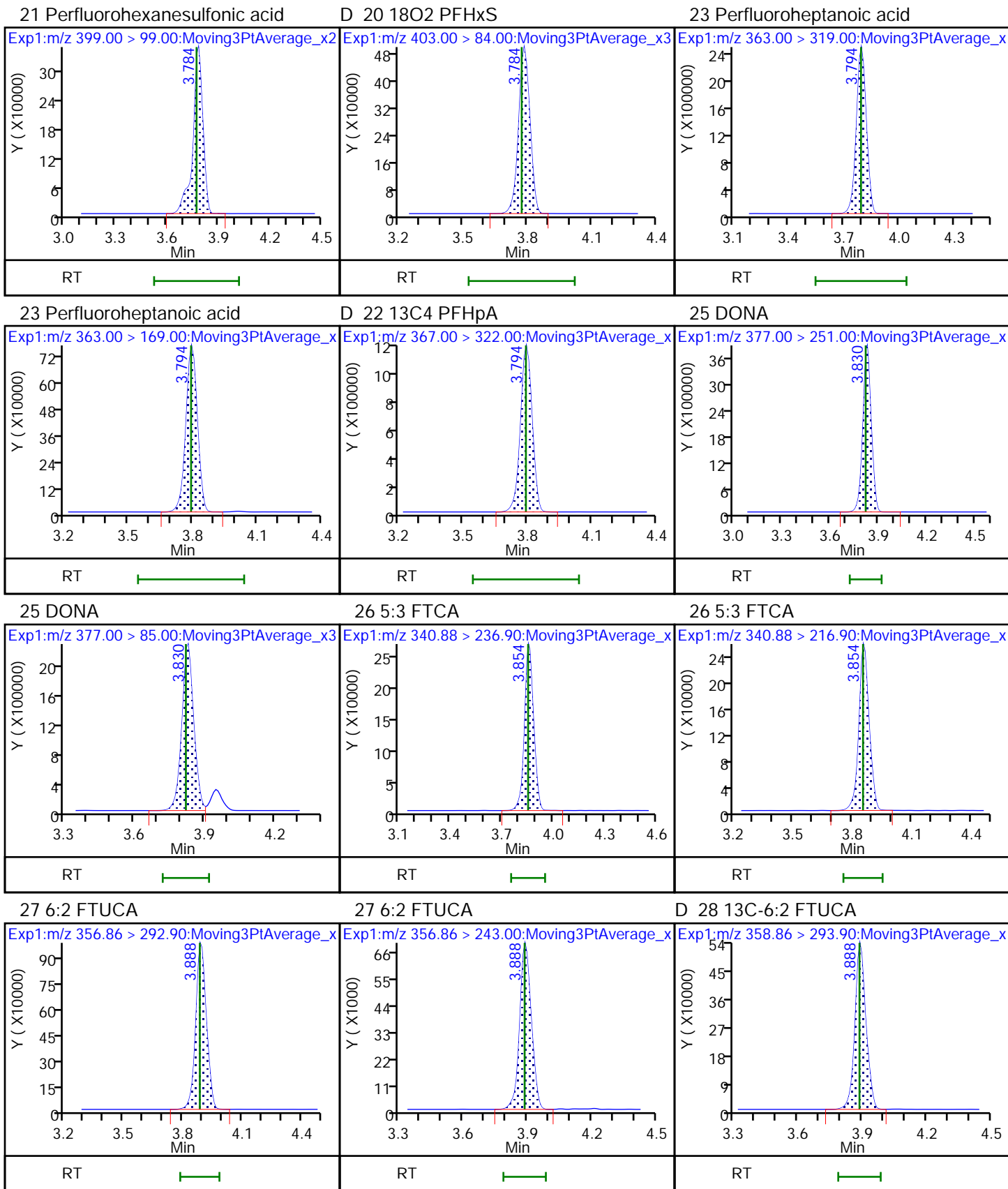
9 PFECA A

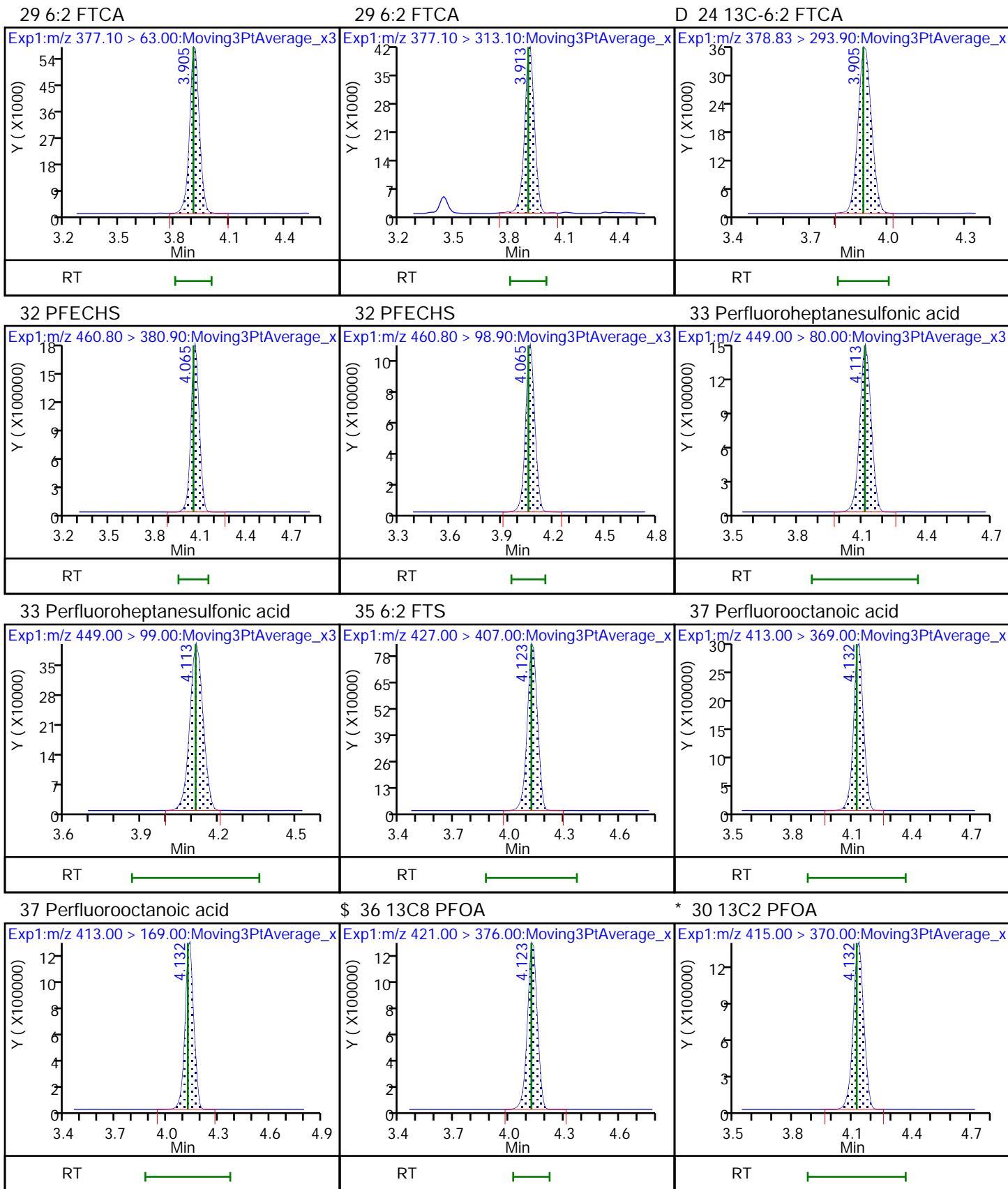
11 PES







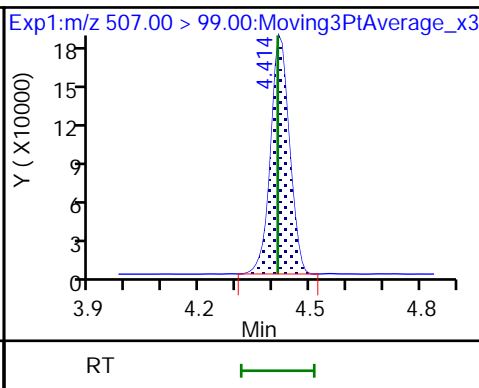
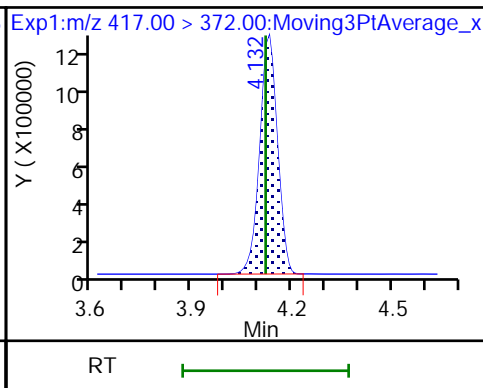
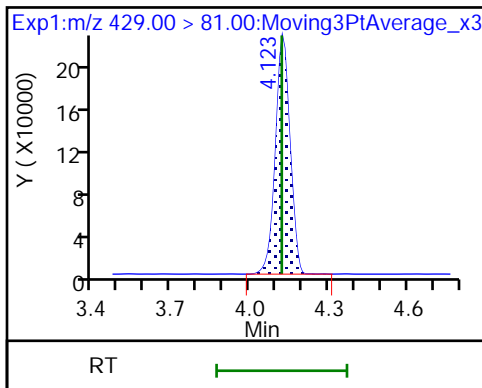




D 34 M2-6:2 FTS

D 31 13C4 PFOA

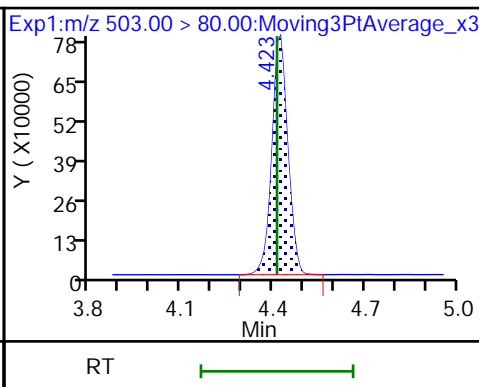
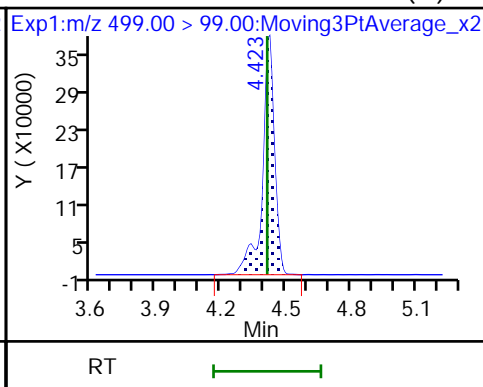
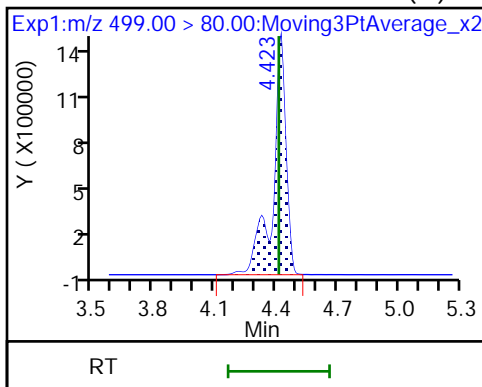
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid (M)

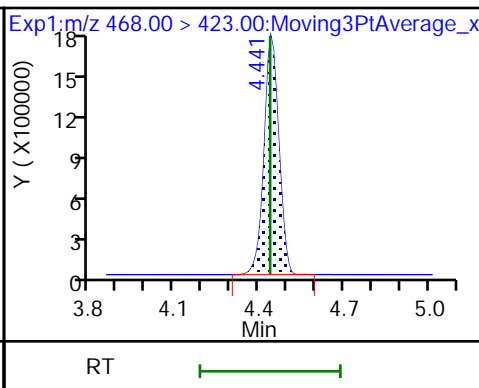
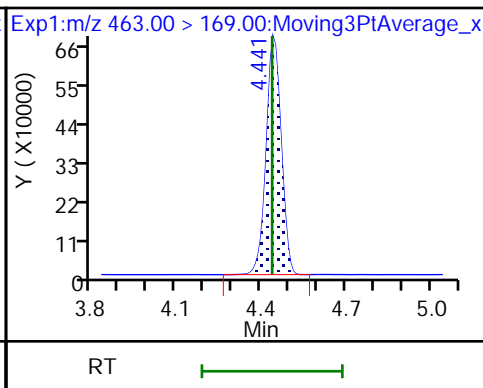
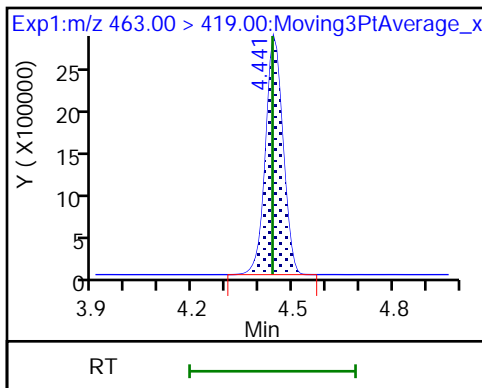
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

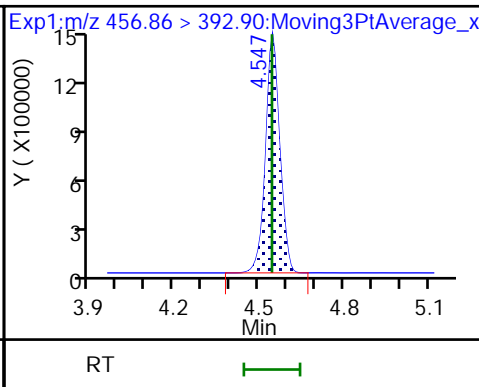
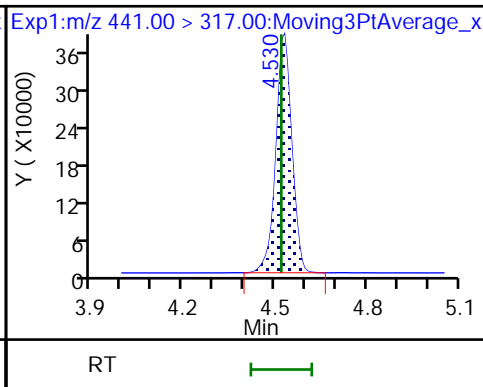
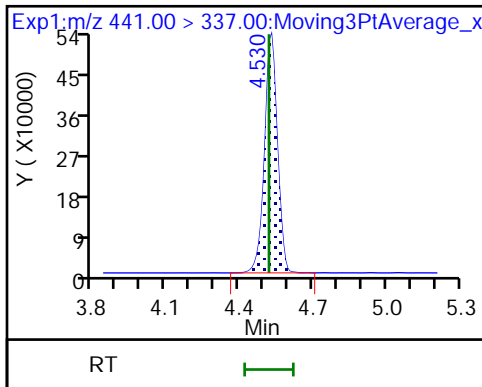
D 41 13C5 PFNA

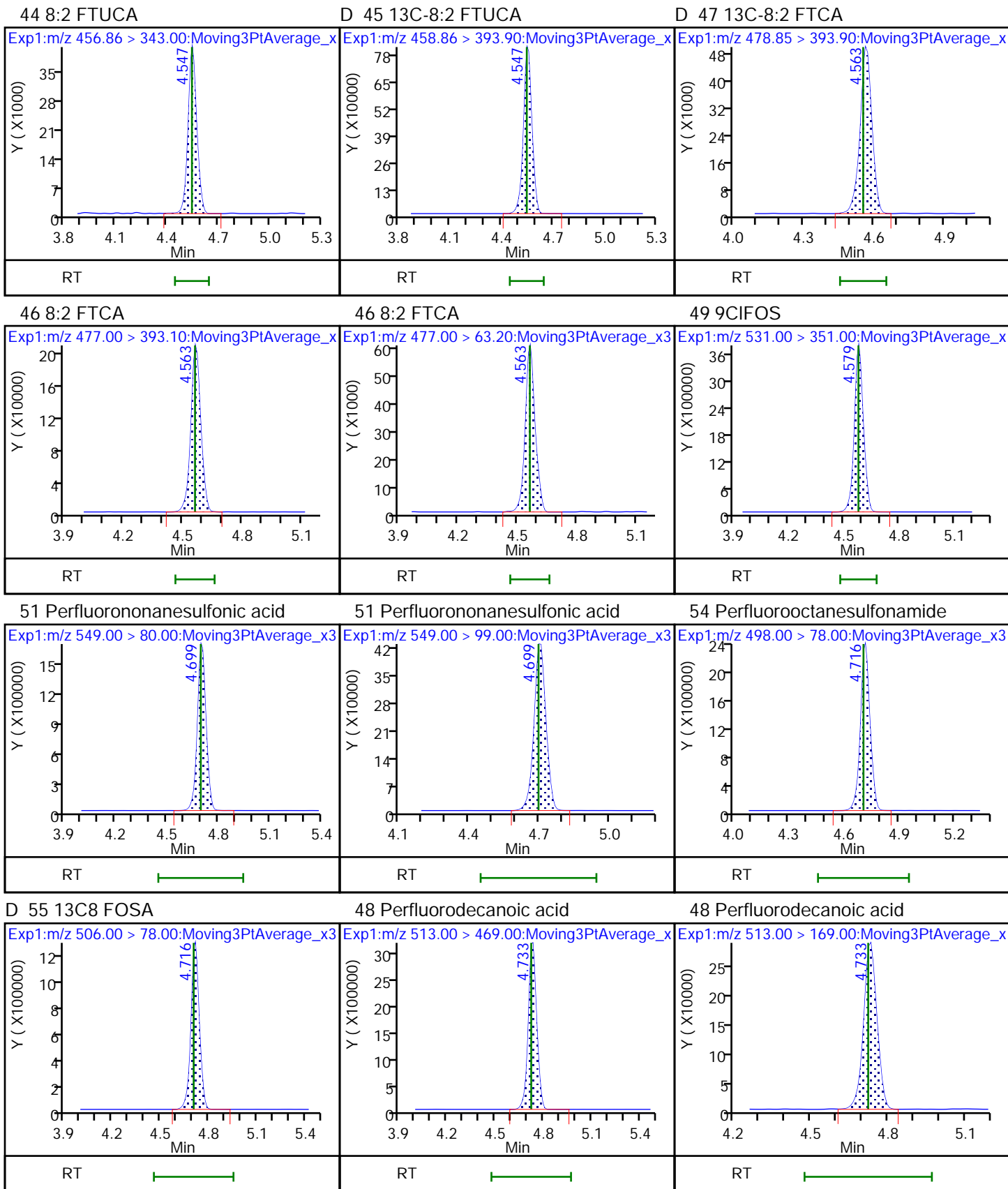


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA

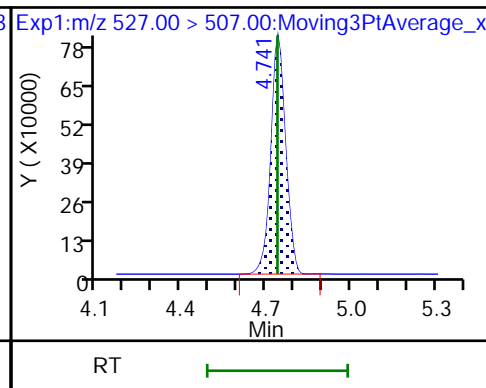
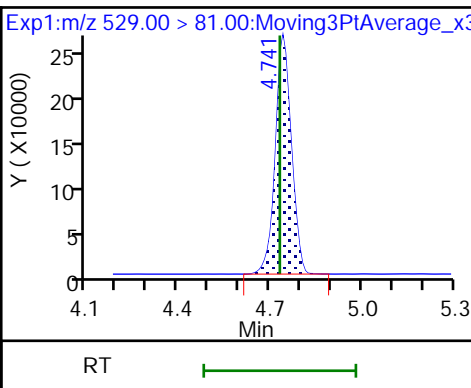
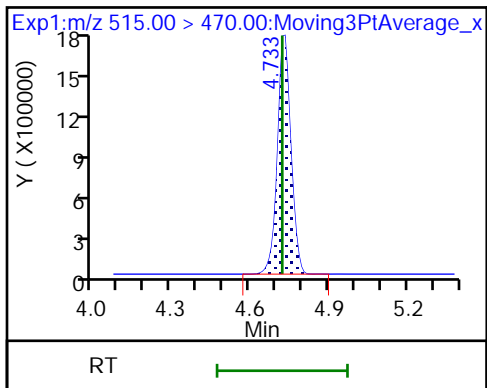




D 52 13C2 PFDA

D 50 M2-8:2 FTS

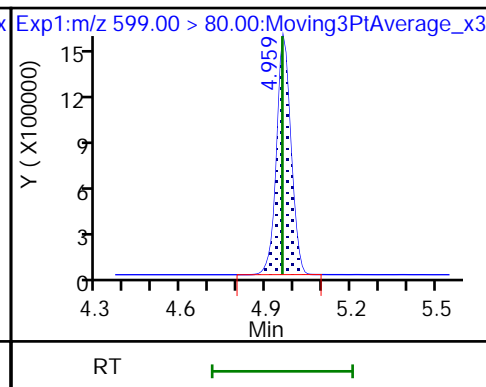
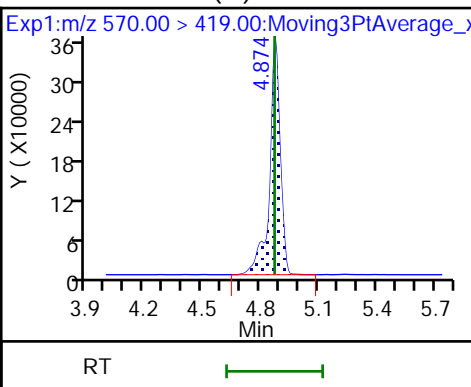
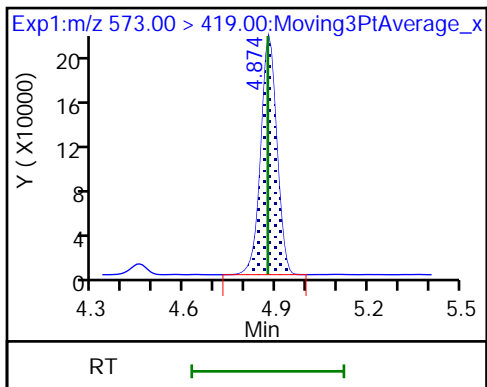
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

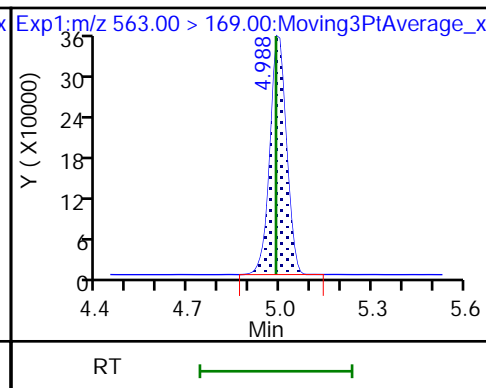
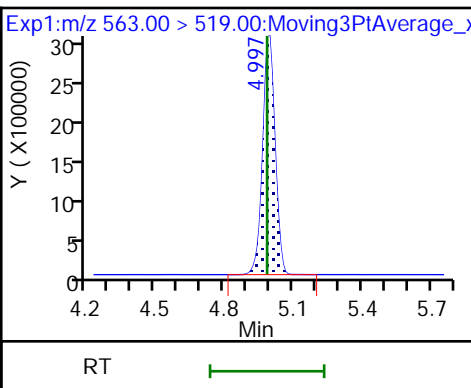
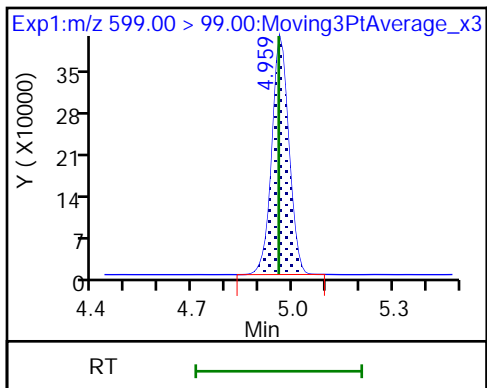
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

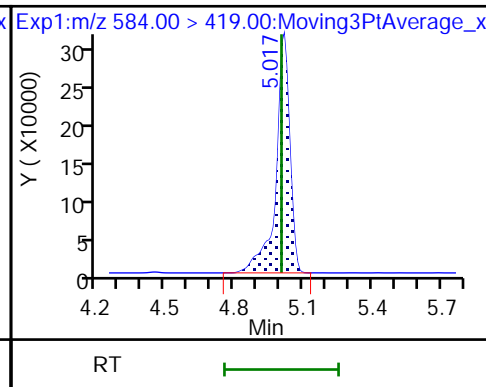
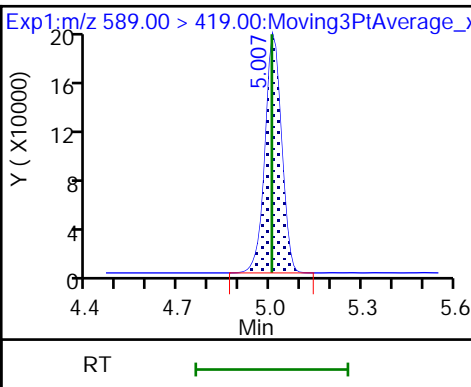
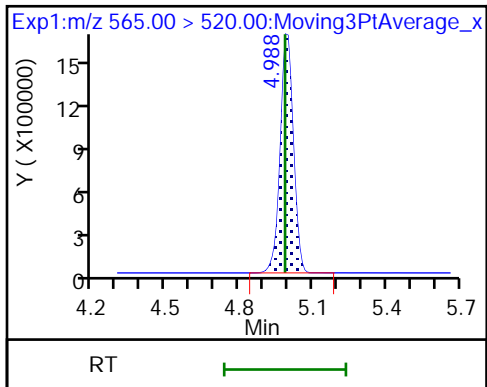
60 Perfluoroundecanoic acid

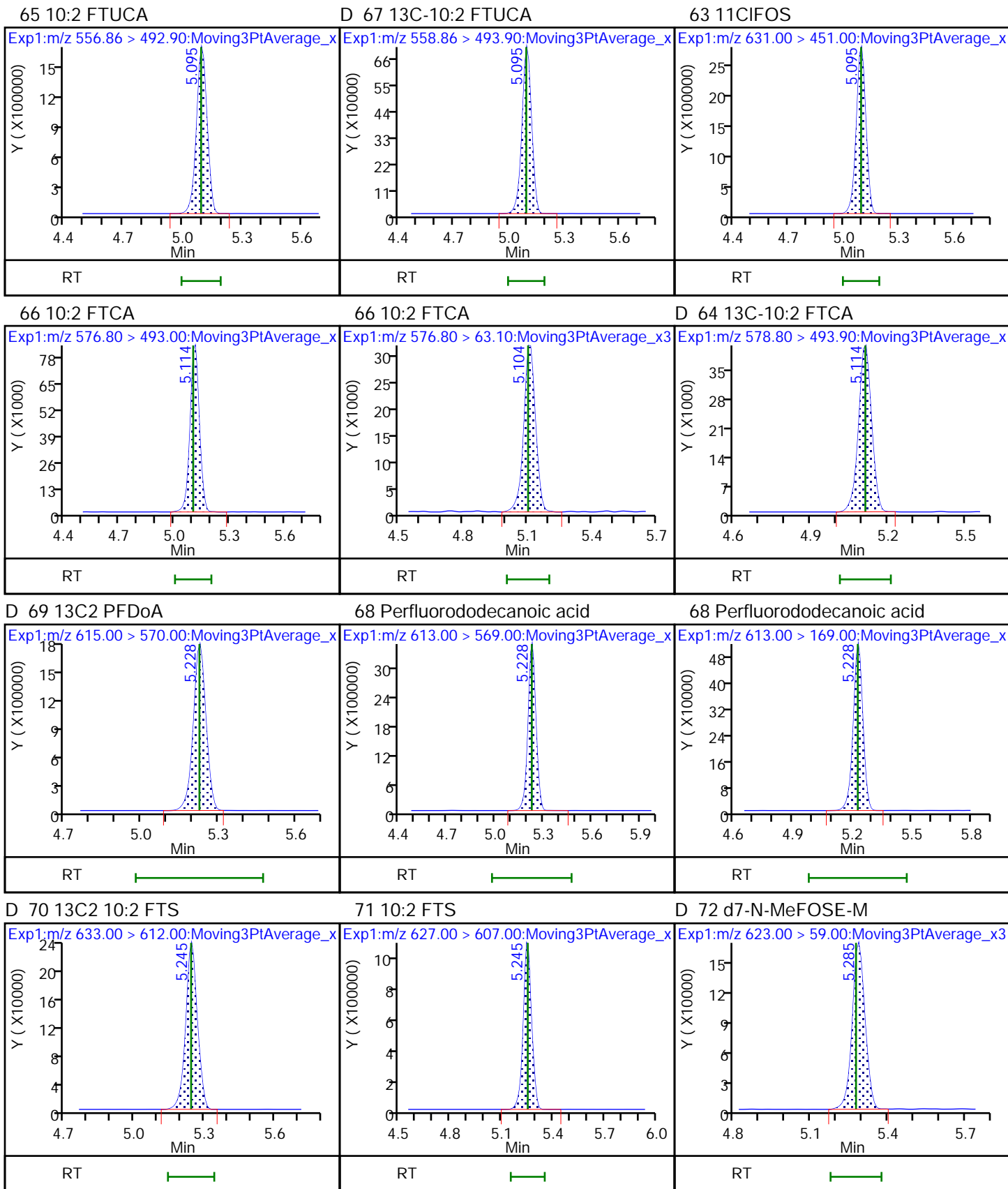


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA

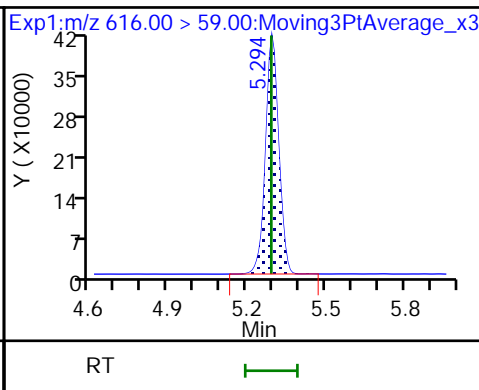
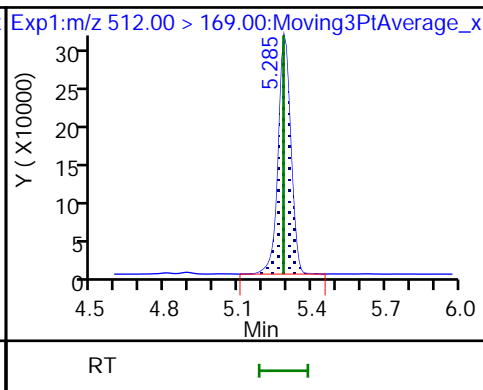
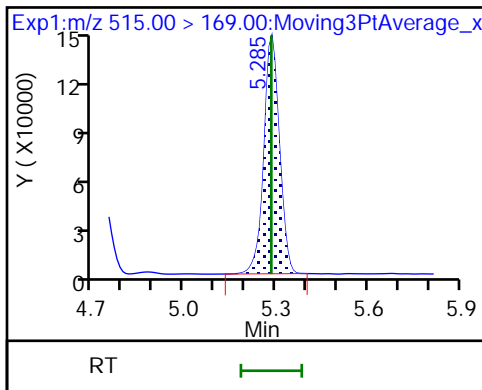




D 73 d-N-MeFOSA-M

74 NMeFOSA

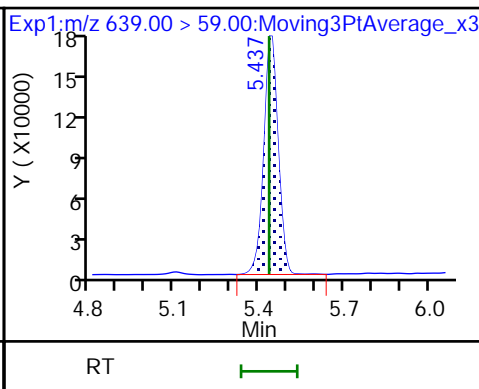
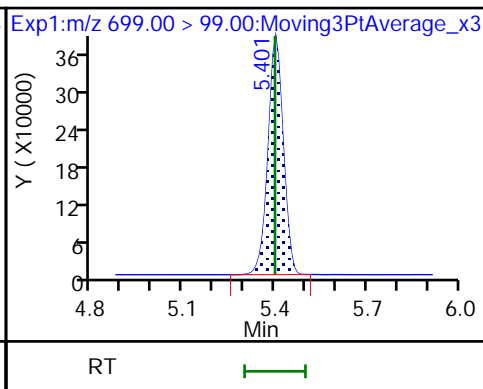
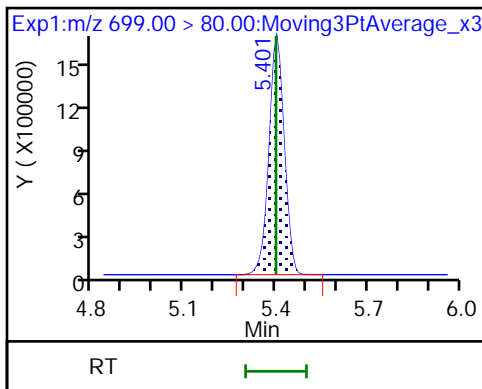
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

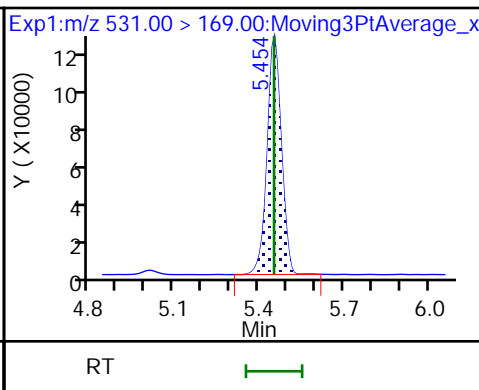
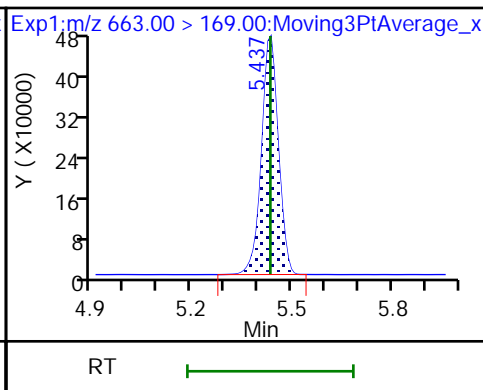
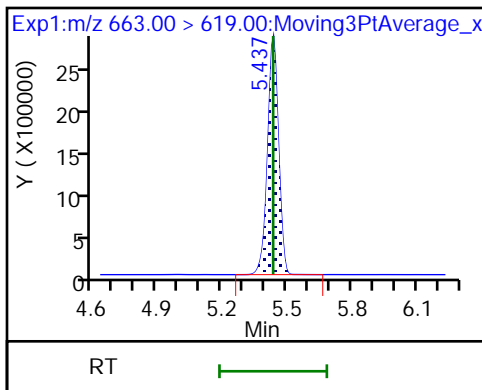
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

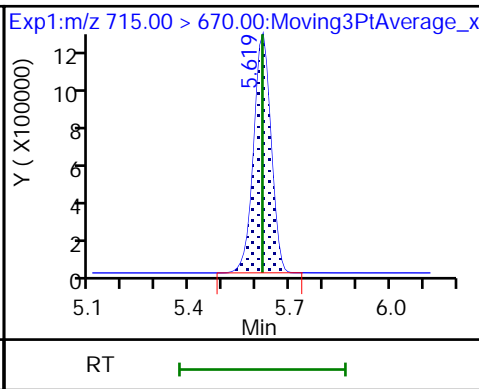
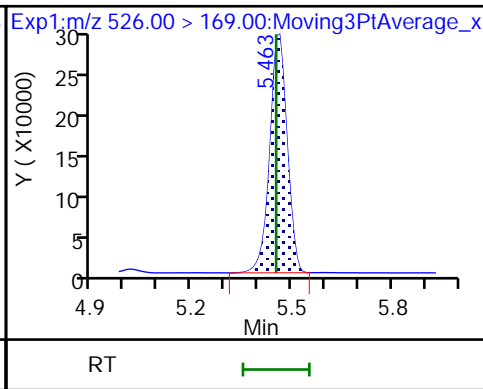
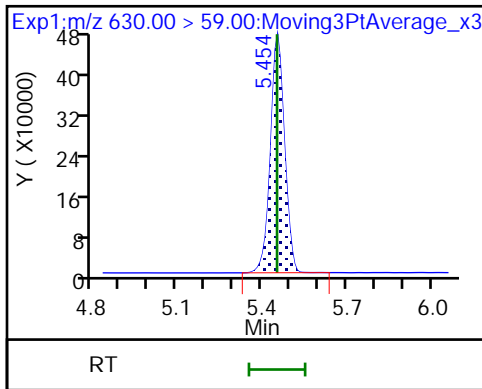
D 80 d-N-EtFOSA-M

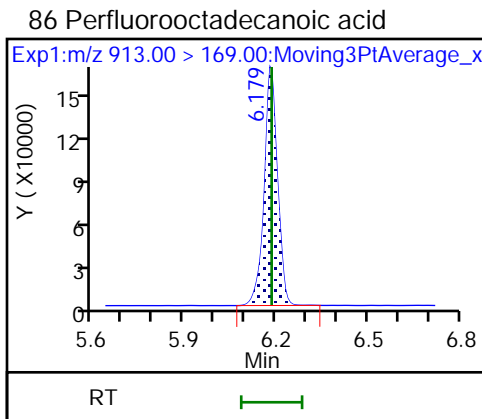
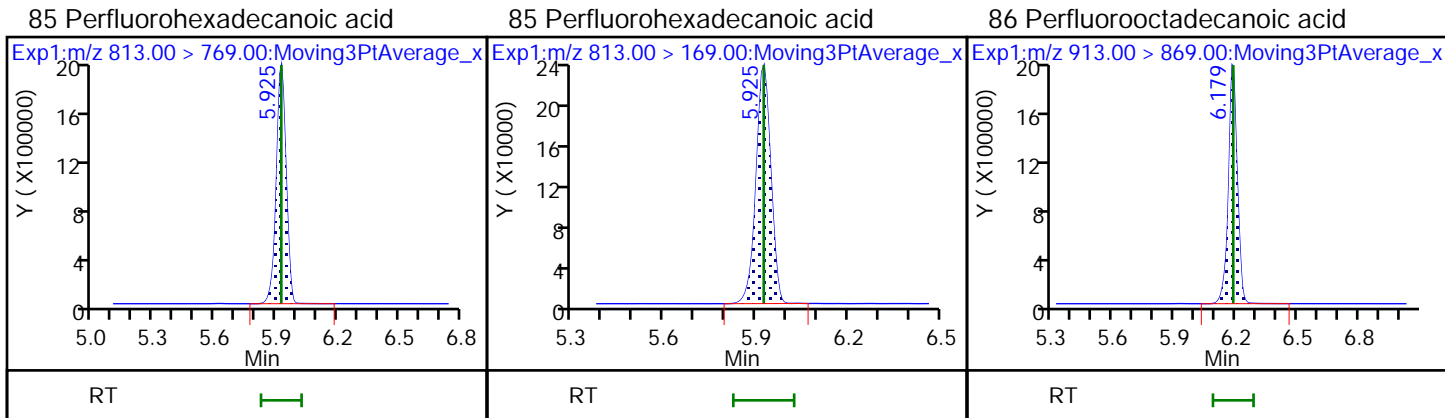
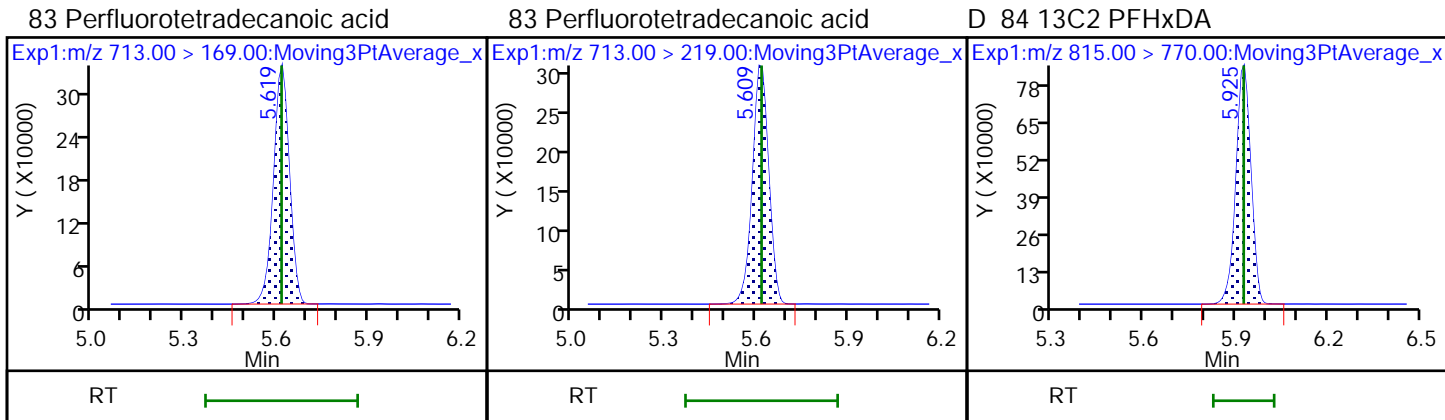


79 N-EtFOSE-M

81 N-EtFOSA-M

D 82 13C2 PFTeDA







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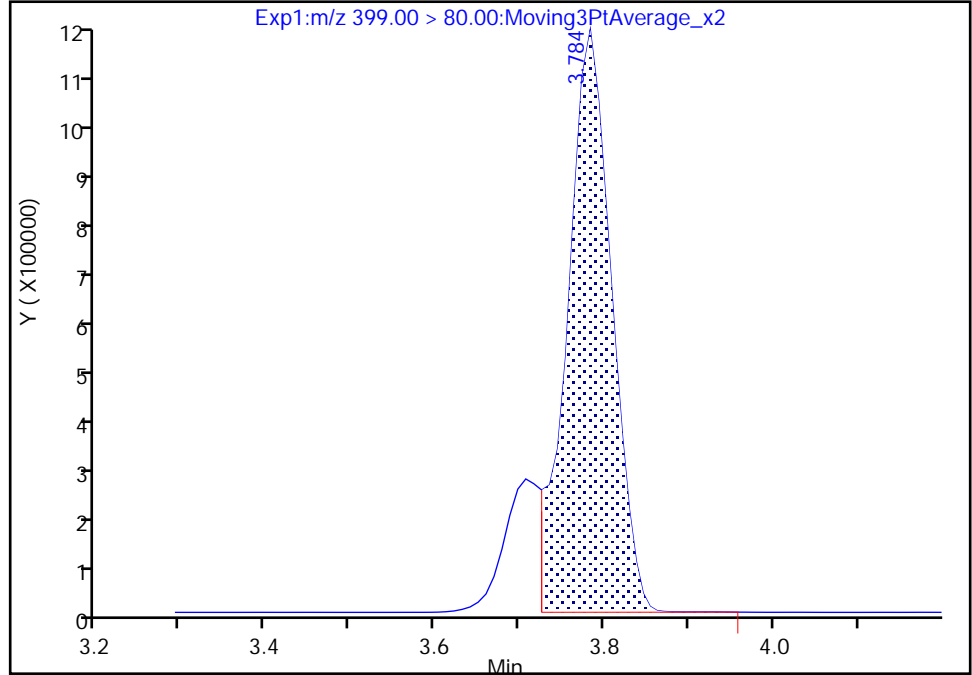
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

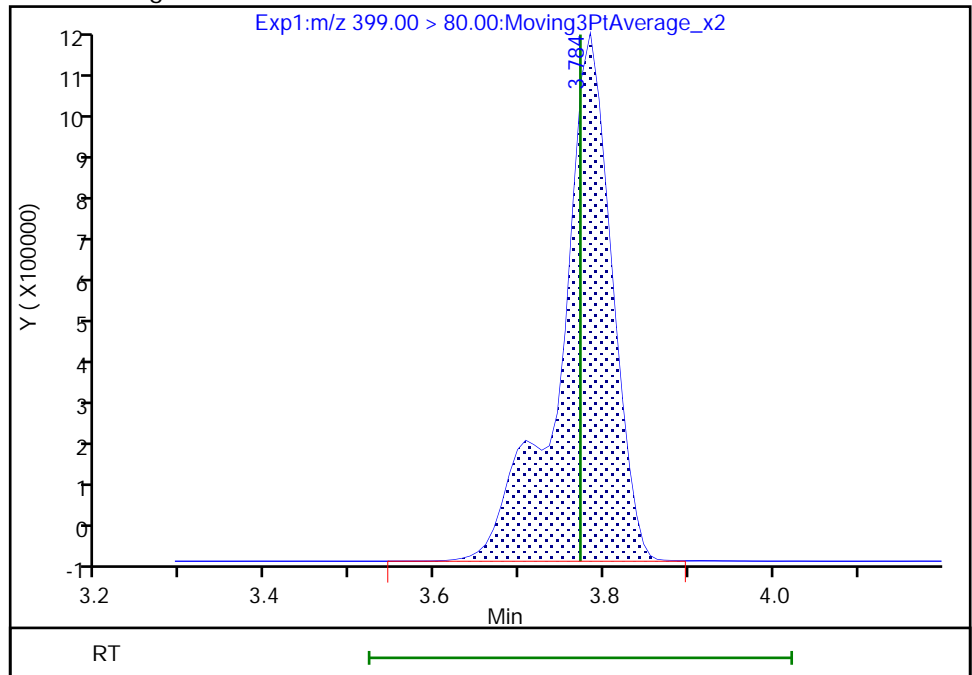
RT: 3.78  
Area: 3985568  
Amount: 1.858159  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 4716462  
Amount: 2.198918  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 15:58:19  
Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 326 of 625

Eurofins Knoxville

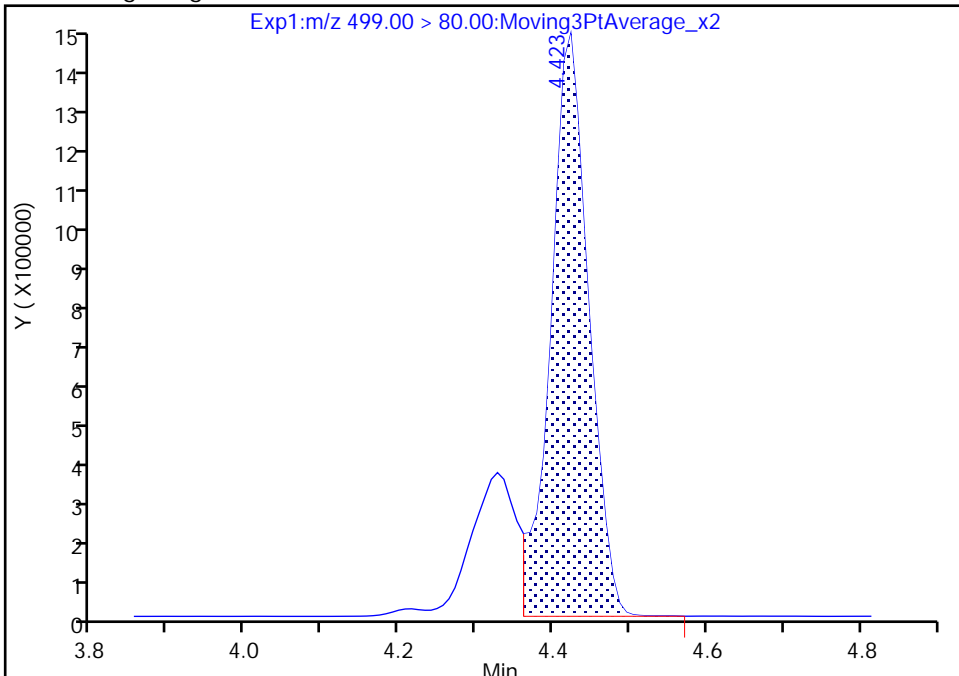
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

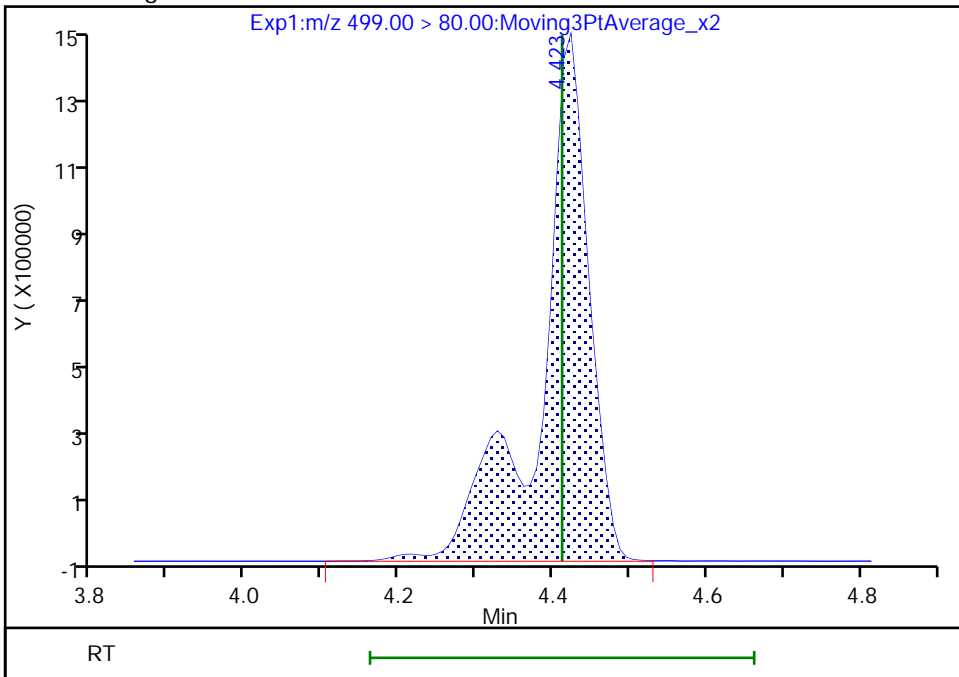
RT: 4.42  
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Amount: 1.770152  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
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Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 15:58:36  
Audit Action: Manually Integrated

Eurofins Knoxville

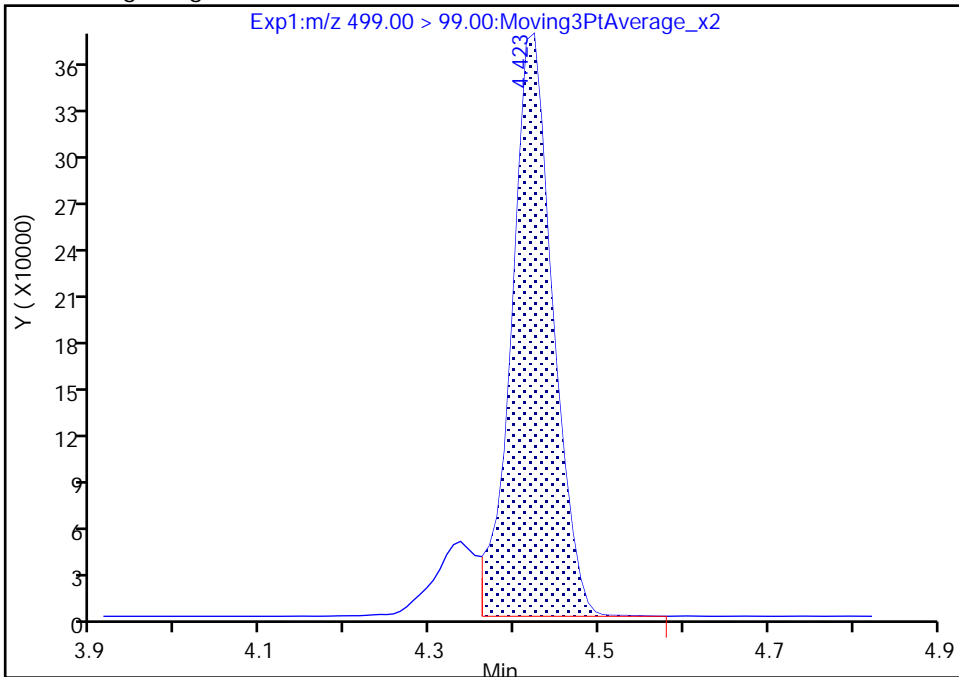
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d  
Injection Date: 19-Feb-2022 20:31:46 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

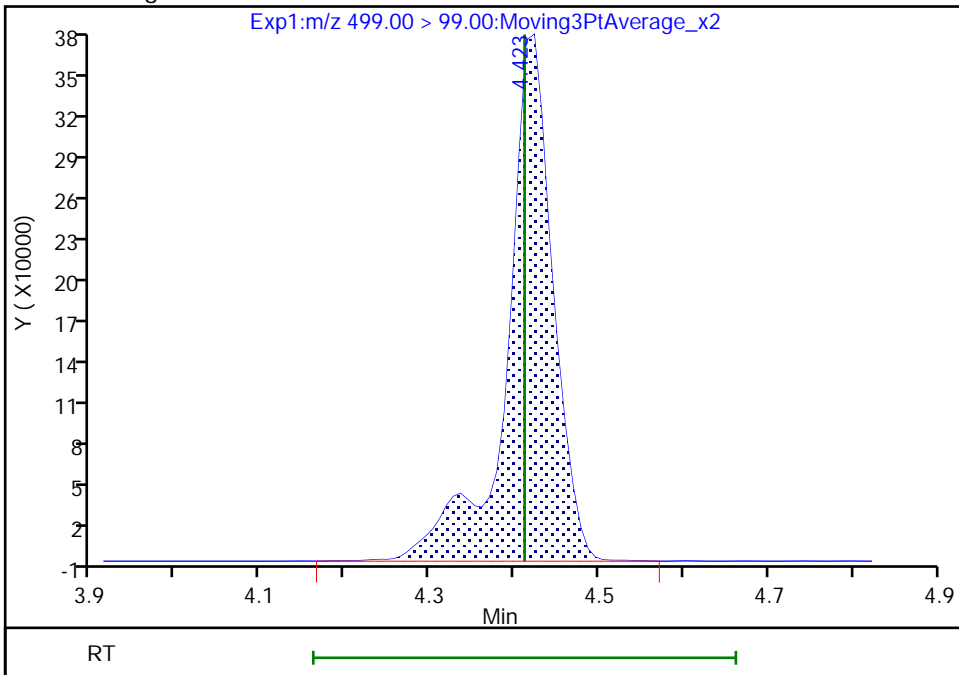
RT: 4.42  
Area: 1252164  
Amount: 1.770152  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 1423263  
Amount: 2.297541  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 15:58:42

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

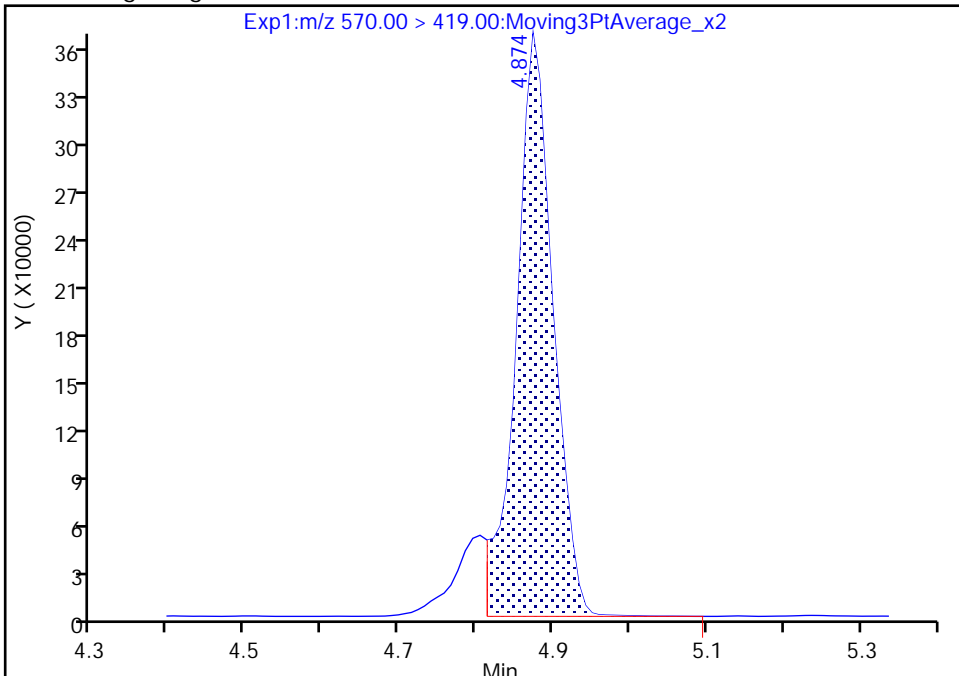
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d  
Injection Date: 19-Feb-2022 20:31:46 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

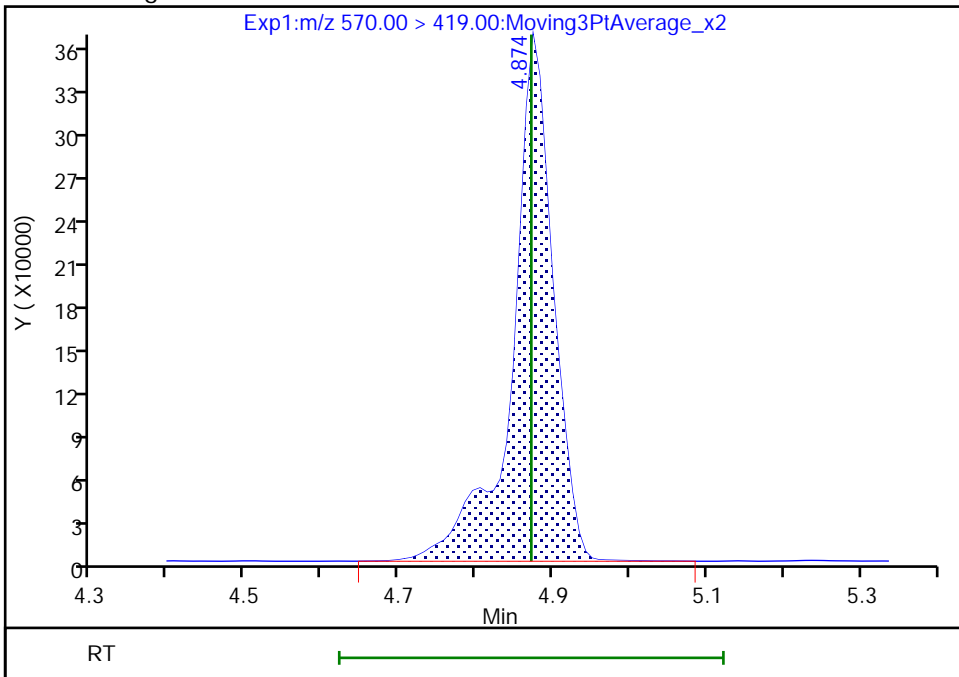
RT: 4.87  
Area: 1201850  
Amount: 2.050521  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1349103  
Amount: 2.294070  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 15:58:58  
Audit Action: Manually Integrated

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/30 Calibration Date: 02/19/2022 22:08  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_030.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7472		0.942	1.00	-5.8	40.0
PFECA F	AveID	0.7535	0.7260		0.964	1.00	-3.7	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9323		0.991	1.00	-0.9	40.0
3:3 FTCA	QuaIF		0.0530		0.974	1.00	-2.6	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.051		0.848	0.884	-4.0	40.0
PFECA A	Q2ID		1.158		0.988	1.00	-1.2	40.0
PES	Q2ID		2.320		0.872	0.890	-2.1	40.0
PFECA B	Q2ID		0.4319		1.04	1.00	4.3	40.0
4:2 FTS	L2ID		2.256		0.927	0.934	-0.8	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7486		0.941	1.00	-5.9	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	0.998		0.907	0.938	-3.3	40.0
HFPO-DA	L2ID		1.265		1.00	1.00	0.2	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.039		0.683	0.910	-25.0	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.020		1.02	1.00	1.8	40.0
DONA	AveID	2.644	2.187		0.779	0.942	-17.3	40.0
5:3 FTCA	L2ID		3.077		0.816	1.00	-18.4	40.0
6:2 FTUCA	AveID	1.046	0.9585		0.916	1.00	-8.4	40.0
6:2 FTCA	L1ID		0.6998		1.01	1.00	0.8	40.0
PFECHS	AveID	0.7426	0.7361		0.914	0.922	-0.9	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9057		0.873	0.952	-8.3	40.0
6:2 FTS	L2ID		1.673		0.867	0.948	-8.5	40.0
Perfluorooctanoic acid (PFOA)	L1ID		0.9569		0.893	1.00	-10.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	0.7655		0.620	0.928	-33.2	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7551		0.993	1.00	-0.7	40.0
7:3 FTCA	AveID	5.230	4.559		0.872	1.00	-12.8	40.0
8:2 FTUCA	AveID	0.9565	0.8356		0.874	1.00	-12.6	40.0
8:2 FTCA	AveID	1.811	1.703		0.941	1.00	-5.9	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.040		0.846	0.932	-9.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9154		0.869	0.960	-9.5	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9391		0.983	1.00	-1.7	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8739		0.971	1.00	-2.9	40.0
8:2 FTS	L2ID		1.453		0.924	0.958	-3.5	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8142		0.883	1.00	-11.7	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8818		0.954	0.964	-1.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/30 Calibration Date: 02/19/2022 22:08  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_030.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9318		0.964	1.00	-3.7	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8815		1.00	1.00	0.2	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.658		0.896	0.942	-4.9	50.0
10:2 FTUCA	AveID	1.208	1.203		0.996	1.00	-0.4	40.0
10:2 FTCA	Q2ID		1.078		1.17	1.00	17.2	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9730		0.942	1.00	-5.8	40.0
10:2 FTS	L2ID		2.111		0.970	0.964	0.6	50.0
NMeFOSA	L2ID		1.068		0.989	1.00	-1.1	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.145		0.976	1.00	-2.4	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9124		0.934	0.968	-3.5	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8660		0.981	1.00	-1.9	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.235		0.870	1.00	-13.0	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.263		1.01	1.00	1.2	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1233		0.955	1.00	-4.5	40.0
Perfluorohexadecanoic acid	L1ID		1.121		0.984	1.00	-1.6	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9557		0.944	1.00	-5.6	40.0
13C4 PFBA	Ave	1.172	1.135		1.21	1.25	-3.1	50.0
13C5 PFPeA	Ave	0.9197	0.8274		1.12	1.25	-10.0	50.0
13C3 PFBS	Ave	0.5817	0.5555		1.11	1.16	-4.5	50.0
M2-4:2 FTS	Ave	0.1821	0.1724		1.11	1.17	-5.3	50.0
13C2 PFHxA	Ave	1.015	0.8952		1.10	1.25	-11.8	50.0
13C3 HFPO-DA	Ave	0.4963	0.4309		1.09	1.25	-13.2	50.0
18O2 PFHxS	Ave	0.3776	0.3924		1.23	1.18	3.9	50.0
13C4 PFHpA	Ave	0.9046	0.8154		1.13	1.25	-9.9	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3562		1.32	1.25	5.6	50.0
13C-6:2 FTCA	Ave	0.0260	0.0277		1.33	1.25	6.6	50.0
13C4 PFOA	Ave	0.9356	0.9036		1.21	1.25	-3.4	50.0
M2-6:2 FTS	Ave	0.1799	0.1859		1.23	1.19	3.3	50.0
13C4 PFOS	Ave	0.5610	0.5825		1.24	1.20	3.8	50.0
13C5 PFNA	Ave	1.268	1.172		1.16	1.25	-7.6	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5433		1.50	1.25	20.2	50.0
13C-8:2 FTCA	Ave	0.0330	0.0367		1.39	1.25	11.2	50.0
13C8 FOSA	Ave	0.8475	0.8578		1.27	1.25	1.2	50.0
13C2 PFDA	Ave	1.210	1.167		1.21	1.25	-3.6	50.0
M2-8:2 FTS	Ave	0.1961	0.1925		1.18	1.20	-1.8	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/30 Calibration Date: 02/19/2022 22:08  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_030.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1425		1.57	1.25	25.6	50.0
13C2 PFUnA	Ave	1.168	1.094		1.17	1.25	-6.3	50.0
d5-NEtFOSAA	Ave	0.1164	0.1437		1.54	1.25	23.5	50.0
13C-10:2 FTUCA	Ave	0.5078	0.4732		1.17	1.25	-6.8	50.0
13C-10:2 FTCA	Ave	0.0309	0.0256		1.03	1.25	-17.3	50.0
13C2 PFDoA	Ave	1.152	1.069		1.16	1.25	-7.2	50.0
13C2 10:2 FTS	Ave	0.1652	0.1653		1.19	1.18	0.0	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1083		1.14	1.25	-8.7	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0953		1.18	1.25	-5.5	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1111		1.13	1.25	-9.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0763		1.18	1.25	-5.8	50.0
13C2 PFTeDA	Ave	0.9216	0.8501		1.15	1.25	-7.8	50.0
13C2 PFHxDA	Ave	0.5997	0.5296		1.10	1.25	-11.7	50.0
13C8 PFOA	AveID	0.9229	0.9409		1.27	1.25	1.9	50.0
13C8 PFOS	AveID	0.2212	0.2103		1.14	1.20	-4.9	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_030.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 19-Feb-2022 22:08:41 ALS Bottle#: 30 Worklist Smp#: 30  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-030 rb 06  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 10:08:59

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.799	2.804	-0.005	1.000	3774368	0.9421		94.2	1157	
D 2 13C4 PFBA										
217.00 > 172.00	2.799	2.804	-0.005	0.680	6313848	1.21		96.9	21626	
3 PFECA F										
229.00 > 85.00	2.905	2.911	-0.006	0.934	2672742	0.9635		96.3	15112	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.109	3.115	-0.005	1.000	3432236	0.99		99.1	1340	
D 5 13C5 PFPeA										
267.90 > 223.00	3.109	3.115	-0.005	0.755	4601861	1.12		90.0	14083	
4 3:3 FTCA										
241.00 > 177.10	3.125	3.122	0.003	1.000	131023	0.9737	Target=1.13	97.4	1374	
241.00 > 116.90	3.117	3.122	-0.005	0.997	113619		1.15(0.56-1.69)		174	
D 7 13C3 PFBS										
301.90 > 80.00	3.125	3.122	0.003	0.759	2873541	1.11		95.5	10337	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.125	3.131	-0.006	1.000	2297253	0.8482	Target=2.61	96.0	3116	
298.90 > 99.00	3.125	3.131	-0.006	1.000	846758		2.71(1.31-3.92)		2426	
9 PFECA A										
278.95 > 84.90	3.205	3.202	0.002	1.031	4262375	0.9876		98.8	17124	
11 PES										
314.80 > 135.00	3.252	3.260	-0.008	1.041	5103747	0.8715		97.9	20368	
12 PFECA B										
295.22 > 201.00	3.377	3.373	0.003	0.981	1720287	1.04		104	7851	
13 4:2 FTS										
327.00 > 307.00	3.408	3.415	-0.007	1.000	1616888	0.9268		99.2	8176	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.408	3.415	-0.007	0.828	895854	1.11		94.7	1621	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.440	3.437	0.003	1.101	2314993	0.9072	Target=3.55	96.7	7056	
349.00 > 99.00	3.440	3.437	0.003	1.101	661015		3.50(1.78-5.33)		5458	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.440	3.437	0.003	1.000	2981764	0.9406	Target=11.60	94.1	1357	
313.00 > 119.00	3.440	3.437	0.003	1.000	255206		11.68(5.80-17.40)		297	
D 14 13C2 PFHxA										
315.00 > 270.00	3.440	3.437	0.003	0.836	4979127	1.10		88.2	11854	
17 HFPO-DA										
285.00 > 169.00	3.535	3.542	-0.007	1.000	2426064	1.00	Target=2.45	100	616	
329.00 > 169.00	3.535	3.542	-0.007	1.000	941582		2.58(1.23-3.68)		536	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.535	3.542	-0.007	0.859	2396760	1.09		86.8	8669	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.766	3.772	-0.006	0.997	1651262	0.6827	Target=3.44	75.0	81.5	
399.00 > 99.00	3.766	3.772	-0.006	0.997	587972		2.81(1.72-5.17)		1863	
D 20 18O2 PFHxS										
403.00 > 84.00	3.776	3.772	0.004	0.917	2064871	1.23		104	6049	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.786	3.792	-0.006	1.000	3701652	1.02	Target=3.25	102	2339	
363.00 > 169.00	3.786	3.792	-0.006	1.000	1165096		3.18(1.62-4.87)		1756	
D 22 13C4 PFHpA										
367.00 > 322.00	3.786	3.792	-0.006	0.920	4535218	1.13		90.1	10640	
25 DONA										
377.00 > 251.00	3.816	3.820	-0.004	0.866	5338970	0.7792	Target=1.74	82.7	10725	
377.00 > 85.00	3.816	3.820	-0.004	0.866	3252113		1.64(0.87-2.61)		143	
26 5:3 FTCA										
340.88 > 236.90	3.849	3.853	-0.004	0.987	379871	0.8156	Target=1.11	81.6	1614	
340.88 > 216.90	3.849	3.853	-0.004	0.987	347400		1.09(0.56-1.67)		755	
27 6:2 FTUCA										
356.86 > 292.90	3.874	3.886	-0.012	0.998	1519431	0.9160	Target=13.05	91.6	4873	
356.86 > 243.00	3.882	3.886	-0.004	1.000	106772		14.23(6.52-19.57)		546	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.882	3.886	-0.004	0.943	1981432	1.32		106	5862	
29 6:2 FTCA										
377.10 > 63.00	3.899	3.903	-0.004	1.000	86406	1.01	Target=1.29	101	342	
377.10 > 313.10	3.899	3.903	-0.004	1.000	58712		1.47(0.65-1.94)		118	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.899	3.903	-0.004	0.947	154334	1.33		107	786	
32 PFECHS										
460.80 > 380.90	4.050	4.054	-0.004	0.984	2728823	0.9139	Target=1.75	99.1	5971	
460.80 > 98.90	4.050	4.054	-0.004	0.984	1553362		1.76(0.87-2.62)		4323	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.097	4.111	-0.014	0.929	2234652	0.8730	Target=3.72	91.7	5266	
449.00 > 99.00	4.097	4.111	-0.014	0.929	565613		3.95(1.86-5.57)		2040	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.116	4.121	-0.005	1.000	1312680	0.8671		91.5	3767	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.116	4.121	-0.005	1.000	3847241	0.8934	Target=2.51	89.3	2529	
413.00 > 169.00	4.116	4.121	-0.005	1.000	1631101		2.36(1.26-3.77)		3172	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.116	4.121	-0.005	1.000	4728657	1.27		102	7213	
* 30 13C2 PFOA										
415.00 > 370.00	4.116	4.121	-0.005		5562146	1.25			12956	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.116	4.121	-0.005	1.000	982565	1.23		103	2515	
D 31 13C4 PFOA										
417.00 > 372.00	4.116	4.121	-0.005	1.000	5025751	1.21		96.6	15048	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.408	4.412	-0.004	1.000	651438	1.14		95.1	1779	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.408	4.412	-0.004	1.000	1841168	0.6203	Target=4.30	66.8	41.4	
499.00 > 99.00	4.408	4.412	-0.004	1.000	523751		3.52(2.15-6.45)		68.2	
D 39 13C4 PFOS										
503.00 > 80.00	4.408	4.412	-0.004	1.071	3097224	1.24		104	4486	
42 Perfluorononanoic acid										
463.00 > 419.00	4.426	4.438	-0.012	0.998	3937716	0.99	Target=3.60	99.3	4689	
463.00 > 169.00	4.426	4.438	-0.012	0.998	1000561		3.94(1.80-5.40)		2718	
D 41 13C5 PFNA										
468.00 > 423.00	4.435	4.438	-0.003	1.077	6518350	1.15		92.4	10956	
43 7:3 FTCA										
441.00 > 337.00	4.515	4.519	-0.004	0.993	745422	0.8718	Target=1.42	87.2	1683	
441.00 > 317.00	4.515	4.519	-0.004	0.993	589614		1.26(0.71-2.13)		1379	
44 8:2 FTUCA										
456.86 > 392.90	4.532	4.545	-0.013	0.998	2019967	0.8736	Target=35.37	87.4	4031	
456.86 > 343.00	4.541	4.545	-0.004	1.000	56683		35.64(17.68-53.05)		173	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.541	4.545	-0.004	1.000	3021704	1.50		120	6633	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.549	4.553	-0.004	1.105	204363	1.39		111	698	
46 8:2 FTCA										
477.00 > 393.10	4.549	4.561	-0.012	1.000	278482	0.9406	Target=3.35	94.1	1418	
477.00 > 63.20	4.549	4.561	-0.012	1.000	86724		3.21(1.68-5.03)		442	
49 9CIFOS										
531.00 > 351.00	4.565	4.578	-0.013	1.109	4927218	0.8456		90.7	8854	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.693	4.697	-0.004	1.065	2277573	0.8688	Target=3.99	90.5	4339	
549.00 > 99.00	4.684	4.697	-0.013	1.063	587825		3.87(2.00-5.99)		2013	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.702	4.705	-0.003	1.000	3584801	0.9834		98.3	5579	
D 55 13C8 FOSA										
506.00 > 78.00	4.702	4.705	-0.003	1.142	4771343	1.27		101	4715	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.719	4.722	-0.003	1.000	4536605	0.9713	Target=10.58	97.1	3845	
513.00 > 169.00	4.719	4.722	-0.003	1.000	404227		11.22(5.29-15.88)		302	
D 52 13C2 PFDA										
515.00 > 470.00	4.719	4.722	-0.003	1.146	6489378	1.21		96.4	12077	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.727	4.731	-0.004	1.149	1025915	1.18		98.2	1952	
53 8:2 FTS										
527.00 > 507.00	4.727	4.739	-0.012	1.000	1192279	0.9241		96.5	3914	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.859	4.872	-0.013	1.180	792475	1.57		126	574	
57 NMeFOSAA										
570.00 > 419.00	4.867	4.872	-0.005	1.002	516168	0.8825		88.3	123	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.953	4.957	-0.004	1.124	2203114	0.9543	Target=3.55	99.0	6047	
599.00 > 99.00	4.953	4.957	-0.004	1.124	574884		3.83(1.78-5.33)		2517	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.980	4.985	-0.005	1.000	4537507	0.9635	Target=8.26	96.3	4884	
563.00 > 169.00	4.980	4.985	-0.005	1.000	537126		8.45(4.13-12.39)		2143	
D 59 13C2 PFUnA										
565.00 > 520.00	4.980	4.985	-0.005	1.210	6087135	1.17		93.7	10459	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.999	5.005	-0.006	1.215	799475	1.54		123	3213	
62 NEtFOSAA										
584.00 > 419.00	4.999	5.005	-0.006	1.000	563776	1.00		100	192	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.087	5.092	-0.005	1.236	2631812	1.16		93.2	6198	
63 11C1FOS										
631.00 > 451.00	5.077	5.092	-0.015	1.152	4047339	0.8963		95.1	7367	
65 10:2 FTUCA										
556.86 > 492.90	5.087	5.092	-0.005	1.000	2533674	1.00		99.6	5806	
66 10:2 FTCA										
576.80 > 493.00	5.097	5.102	-0.005	0.998	122675	1.17	Target=2.53	117	586	
576.80 > 63.10	5.097	5.102	-0.005	0.998	49051		2.50(1.26-3.79)		164	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.106	5.111	-0.005	1.241	142309	1.03		82.7	730	
D 69 13C2 PFDoA										
615.00 > 570.00	5.213	5.226	-0.013	1.267	5948058	1.16		92.8	11781	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.213	5.226	-0.013	1.000	4629745	0.9418	Target=6.85	94.2	4319	
613.00 > 169.00	5.213	5.226	-0.013	1.000	659469		7.02(3.43-10.28)		1375	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.230	5.243	-0.013	1.271	870646	1.18		100	4394	
71 10:2 FTS										
627.00 > 607.00	5.238	5.251	-0.013	1.002	1496311	0.9696		101	5418	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.270	5.275	-0.005	1.280	602372	1.14		91.3	566	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.270	5.283	-0.013	1.280	530197	1.18		94.5	40.6	
74 NMeFOSA										
512.00 > 169.00	5.278	5.283	-0.005	1.002	452907	0.9889		98.9	621	
75 N-MeFOSE-M										
616.00 > 59.00	5.287	5.292	-0.005	1.003	552000	0.9761		97.6	887	
76 PFDoS										
699.00 > 80.00	5.394	5.399	-0.005	1.224	2289223	0.9343	Target=4.22	96.5	4964	
699.00 > 99.00	5.394	5.399	-0.005	1.224	504125		4.54(2.11-6.34)		2388	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.430	5.435	-0.005	1.319	617998	1.13		90.3	274	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.421	5.435	-0.014	1.040	4120650	0.9806	Target=6.32	98.1	4400	
663.00 > 169.00	5.421	5.435	-0.014	1.040	691459		5.96(3.16-9.48)		2469	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.439	5.452	-0.013	1.321	424175	1.18		94.2	580	
79 N-EtFOSE-M										
630.00 > 59.00	5.439	5.452	-0.013	1.002	610464	0.8702		87.0	604	
81 N-EtFOSA-M										
526.00 > 169.00	5.448	5.452	-0.004	1.002	428697	1.01		101	517	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.603	5.617	-0.014	1.361	4728110	1.15		92.2	11666	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.603	5.617	-0.014	1.000	466335	0.9549	Target=1.01	95.5	1434	
713.00 > 219.00	5.603	5.617	-0.014	1.000	452132		1.03(0.51-1.52)		2125	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.913	5.924	-0.012	1.436	2945506	1.10		88.3	5364	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.913	5.924	-0.012	1.000	2641651	0.9844	Target=8.64	98.4	3057	
813.00 > 169.00	5.913	5.924	-0.012	1.000	319907		8.26(4.32-12.97)		1256	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.176	6.184	-0.008	1.045	2252046	0.9435	Target=11.77	94.4	3098	
913.00 > 169.00	6.176	6.184	-0.008	1.045	194234		11.59(5.88-17.65)		785	

QC Flag Legend

Processing Flags

Reagents:

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220219-22723.b\_030.d

Injection Date: 19-Feb-2022 22:08:41

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

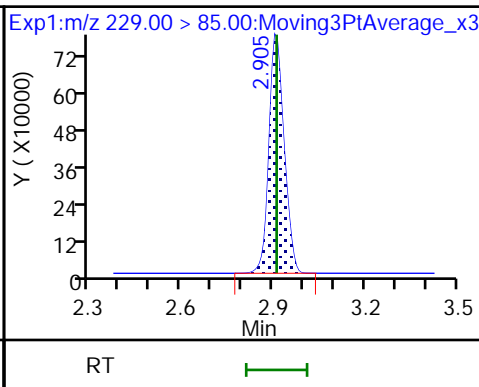
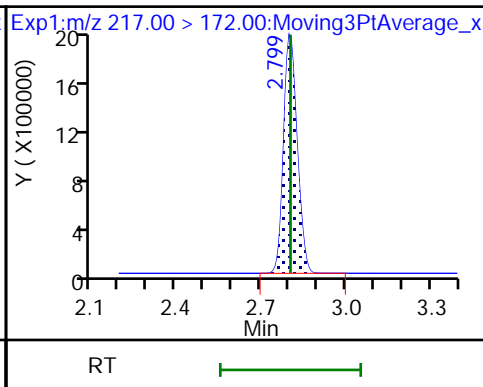
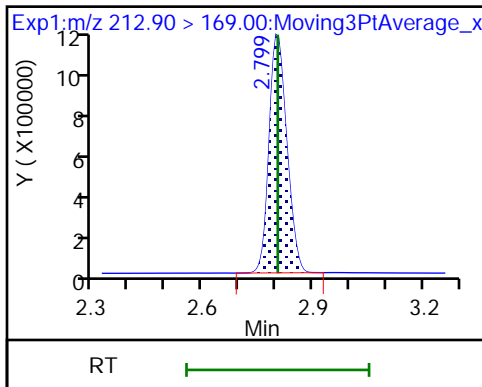
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

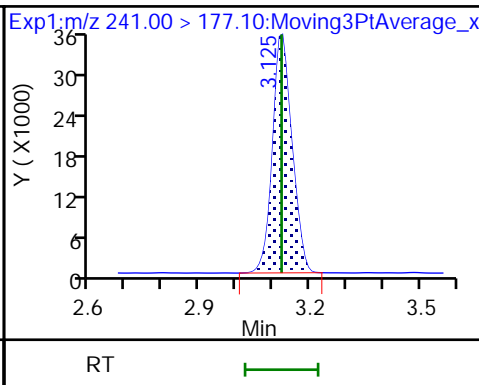
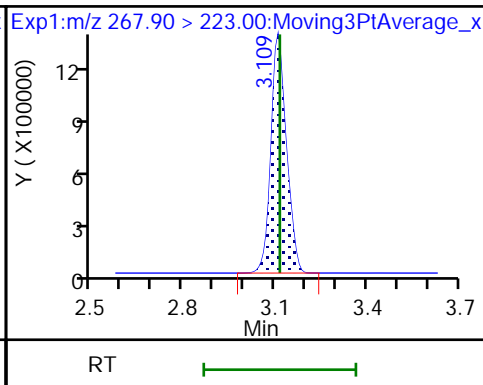
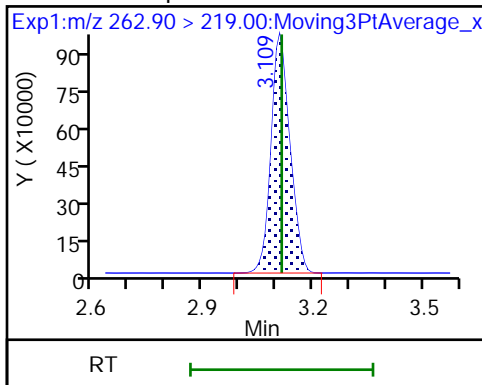
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

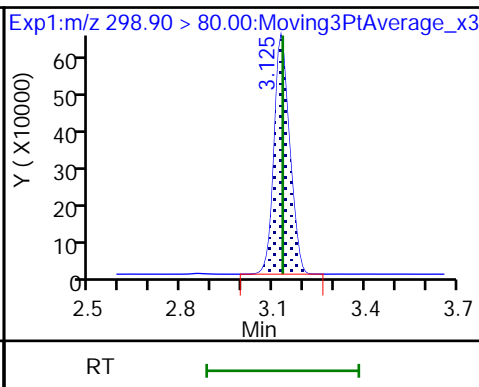
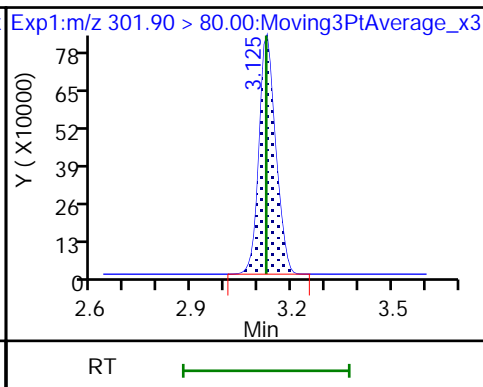
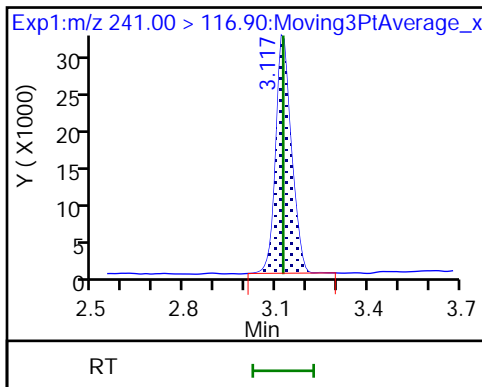
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

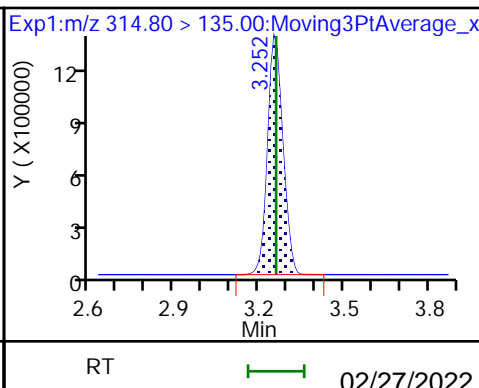
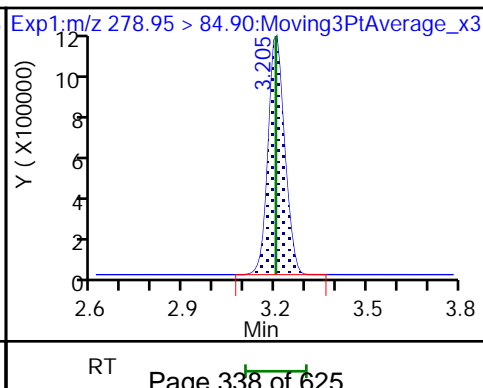
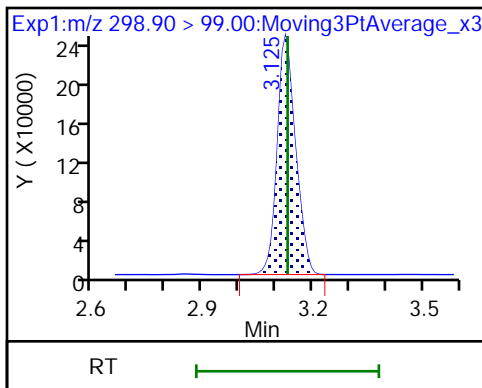
8 Perfluorobutanesulfonic acid

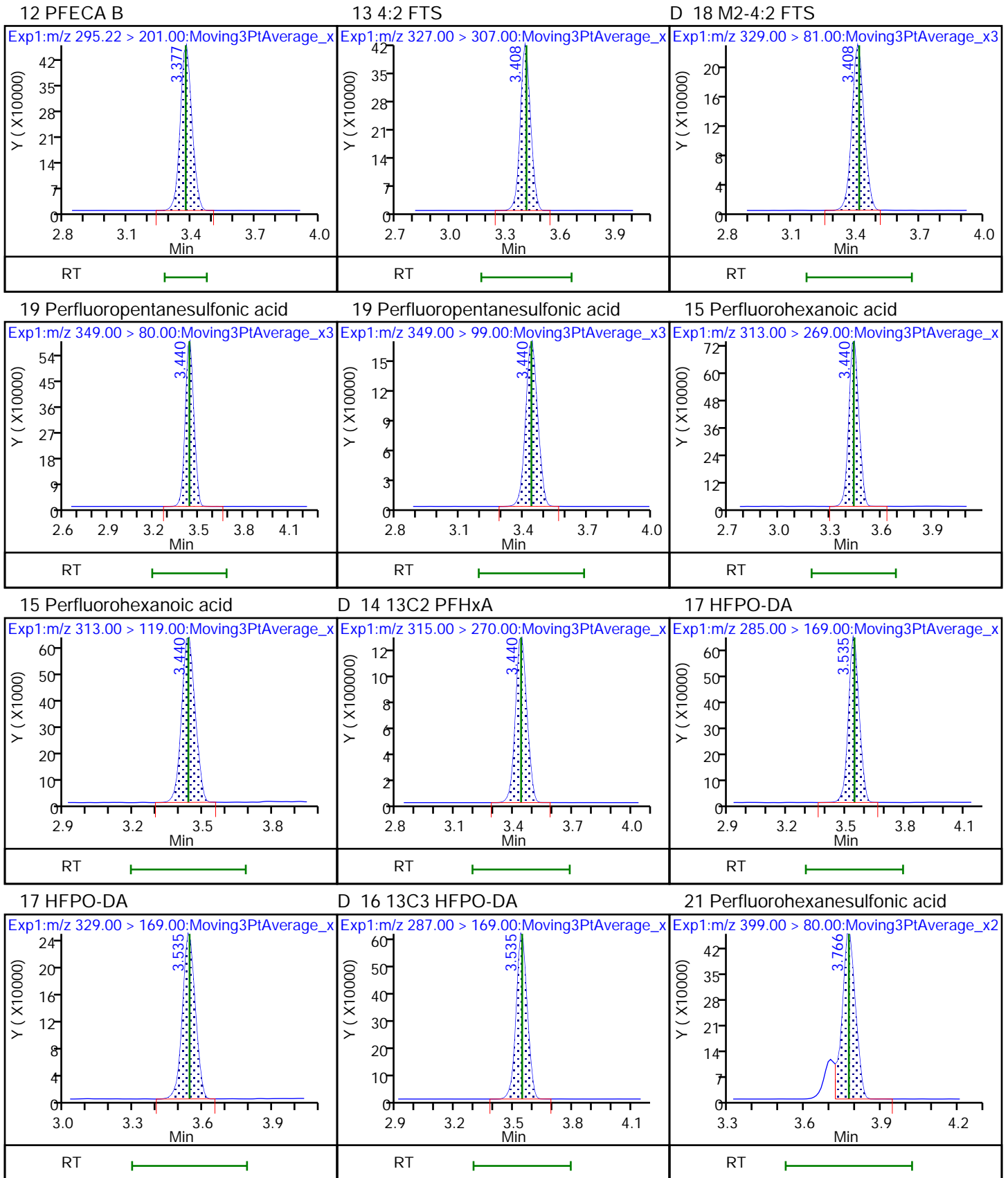


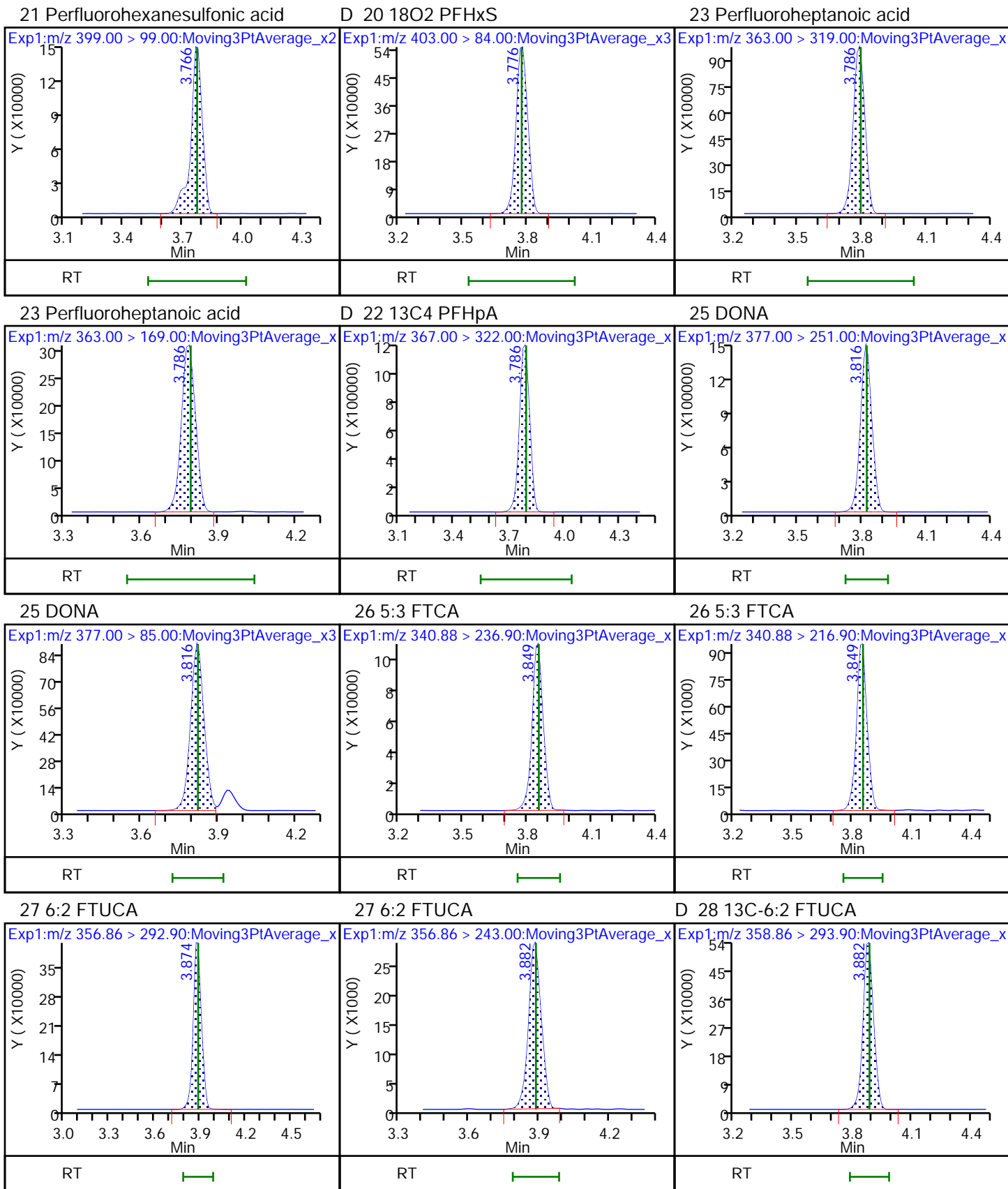
8 Perfluorobutanesulfonic acid

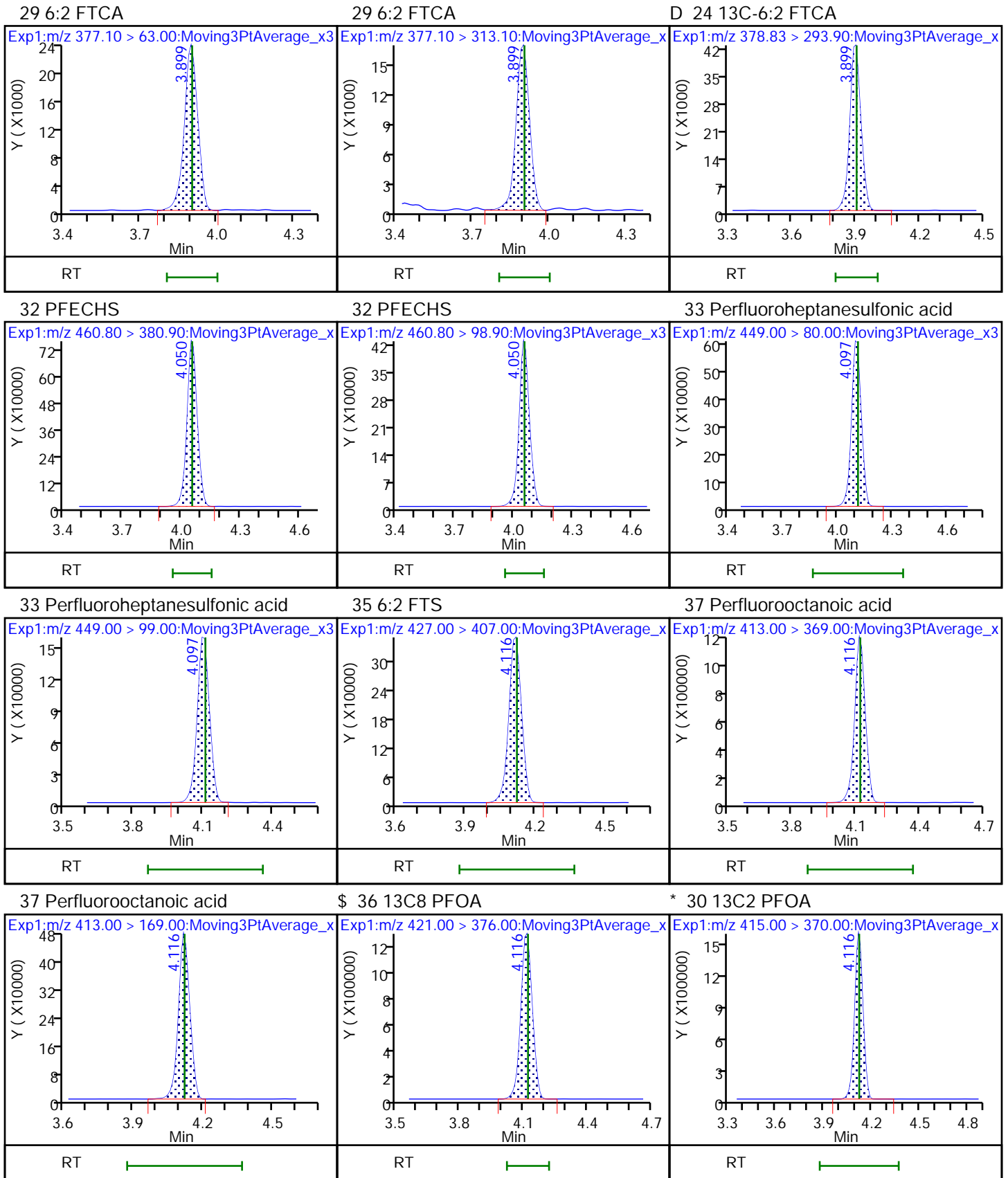
9 PFECA A

11 PES







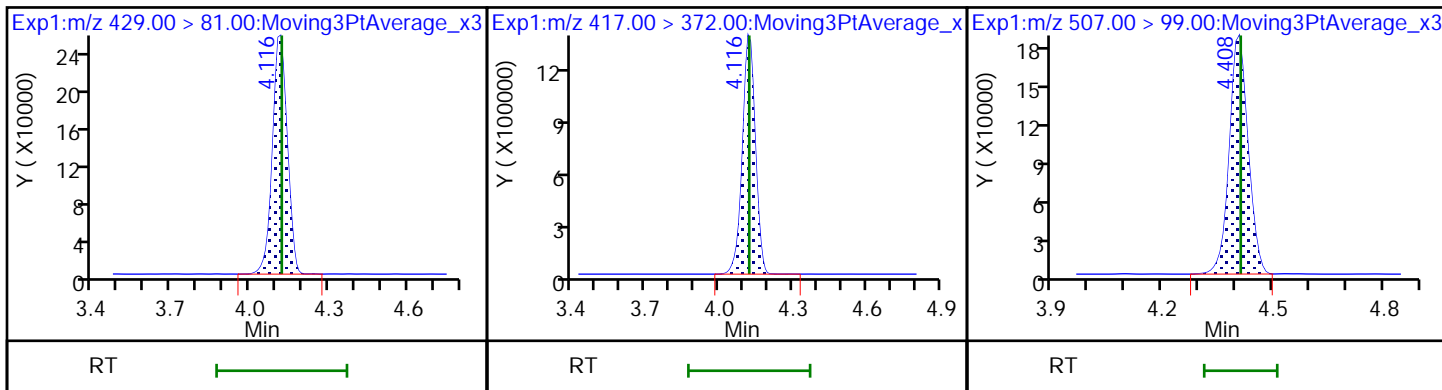




D 34 M2-6:2 FTS

D 31 13C4 PFOA

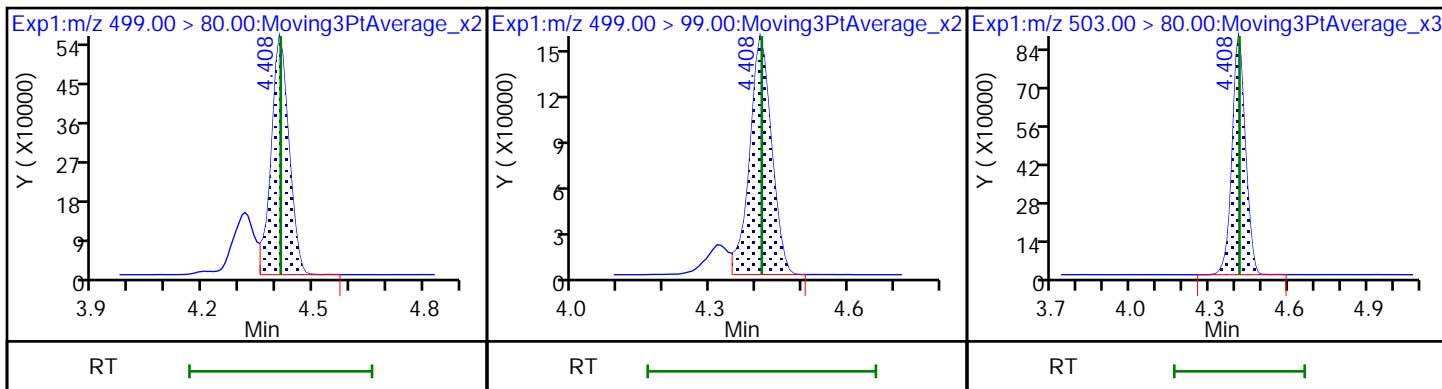
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid

40 Perfluorooctanesulfonic acid

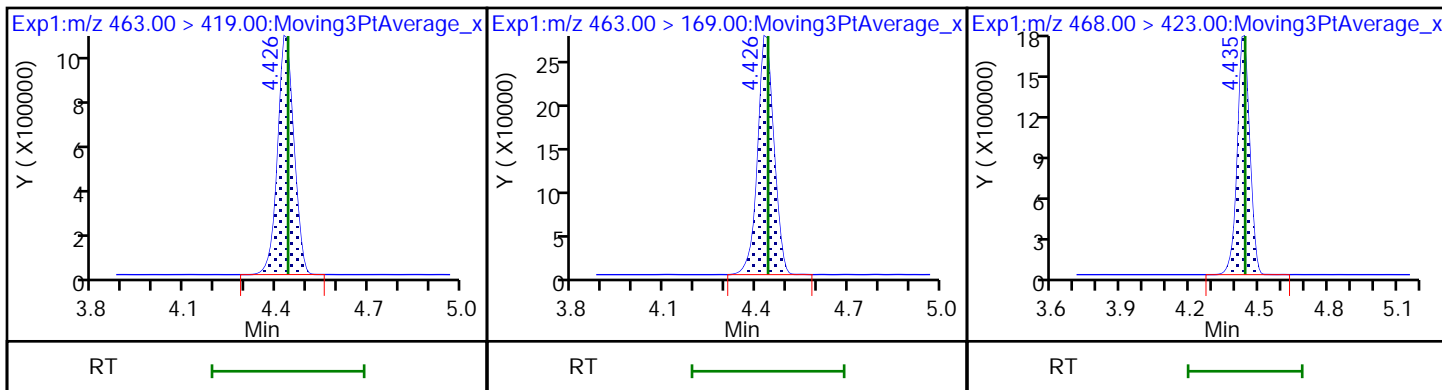
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

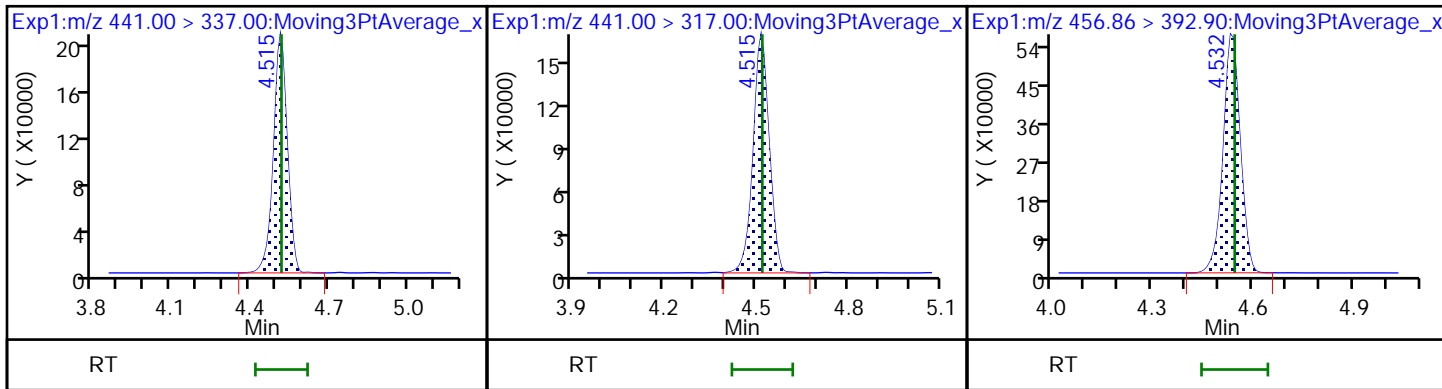
D 41 13C5 PFNA

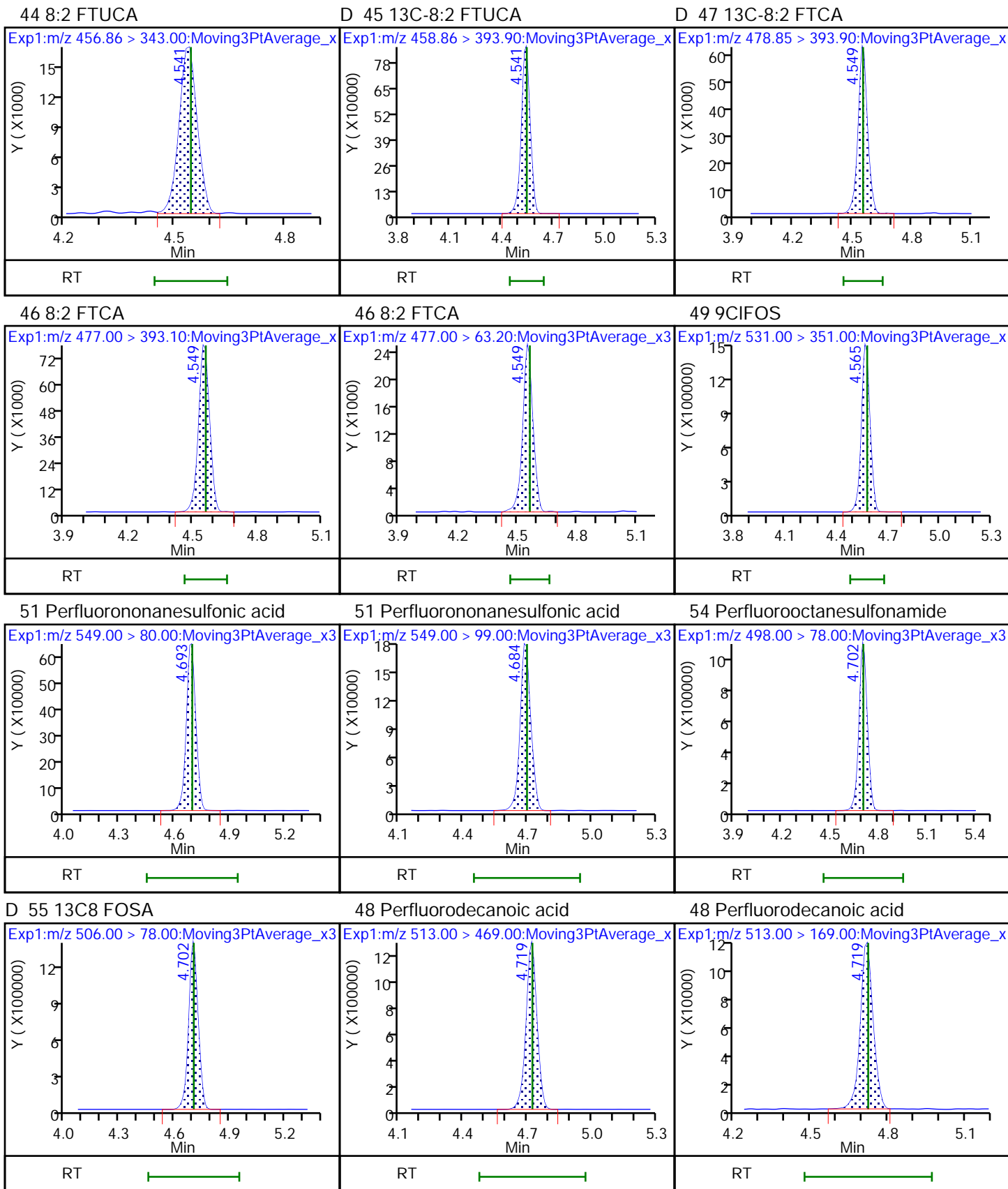


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA

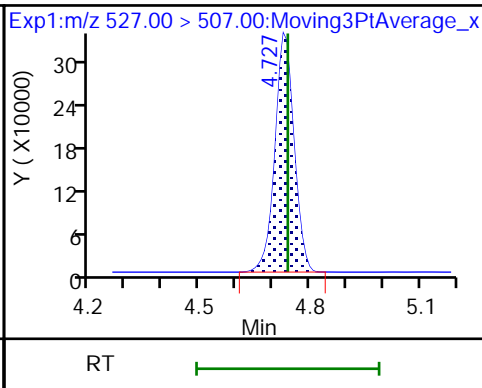
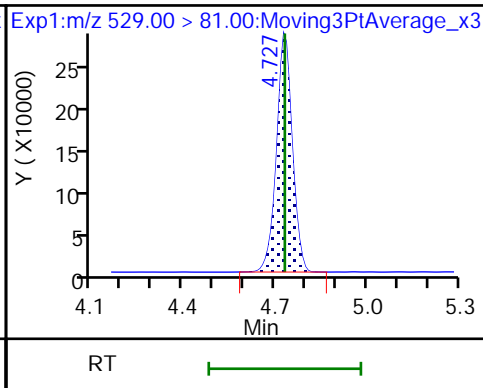
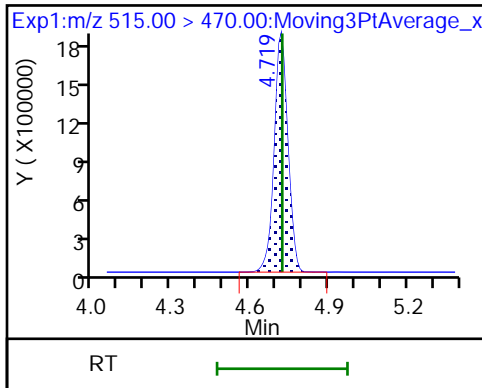




D 52 13C2 PFDA

D 50 M2-8:2 FTS

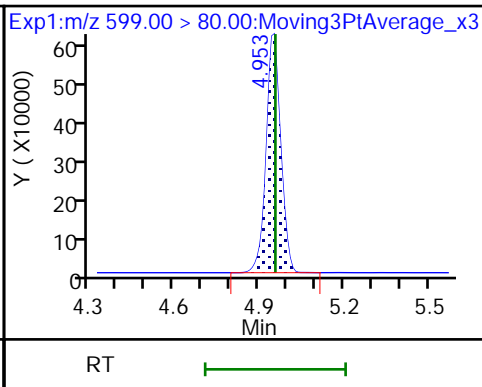
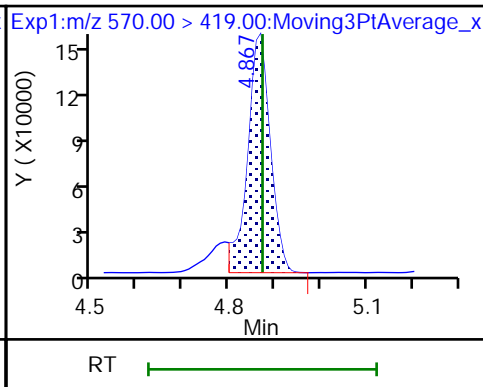
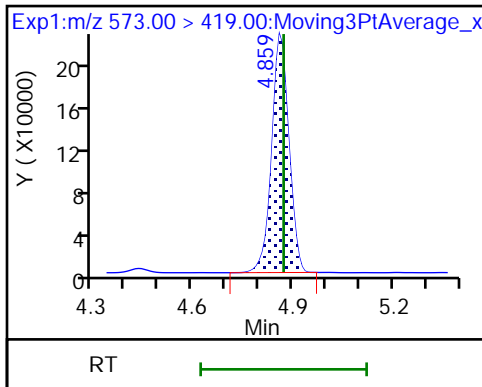
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA

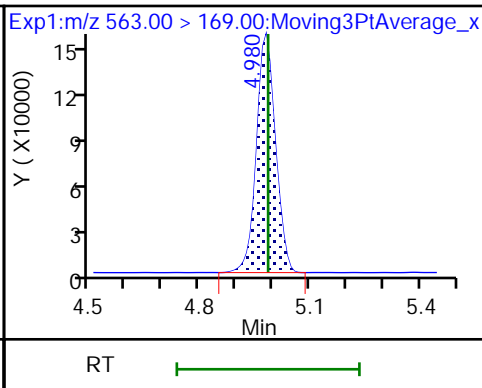
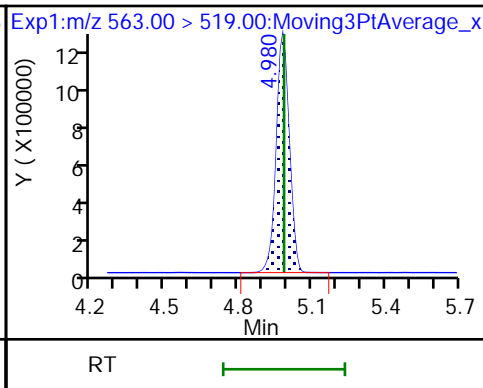
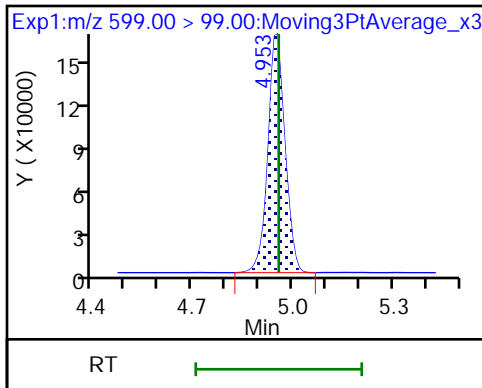
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

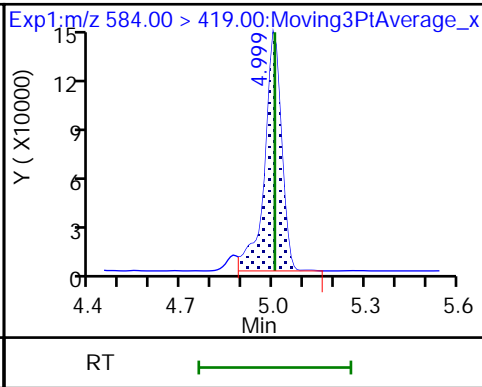
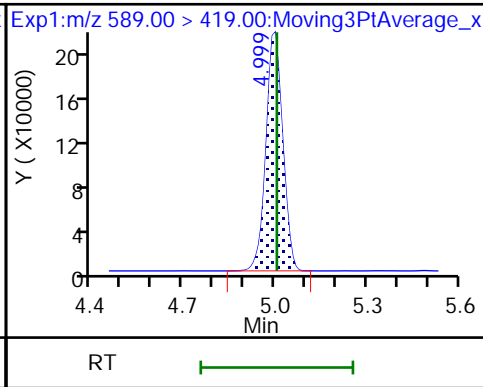
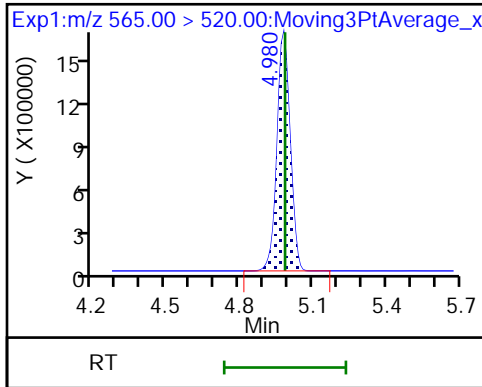
60 Perfluoroundecanoic acid



D 59 13C2 PUnA

D 61 d5-NEtFOSAA

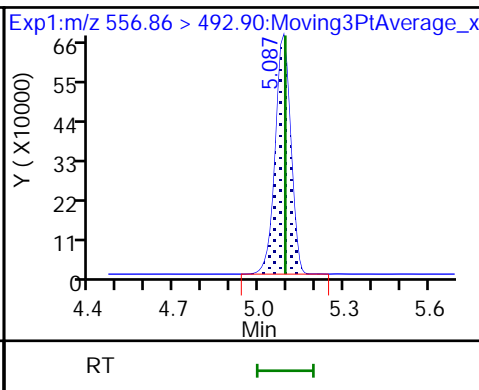
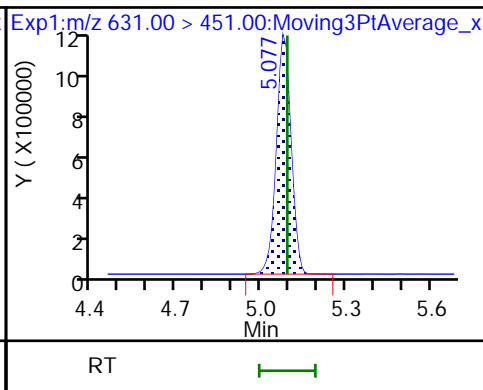
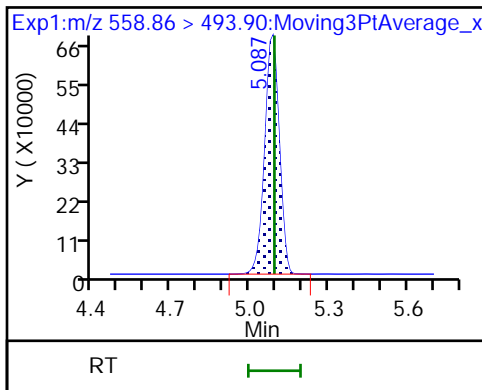
62 NEtFOSAA



D 67 13C-10:2 FTUCA

63 11CIFOS

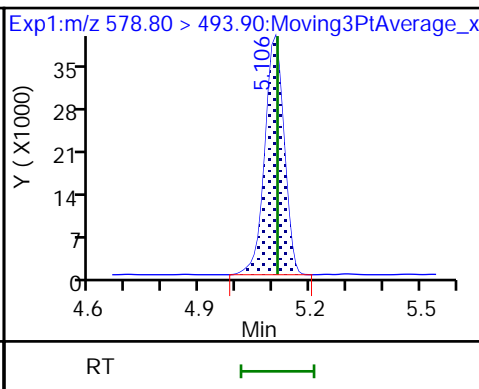
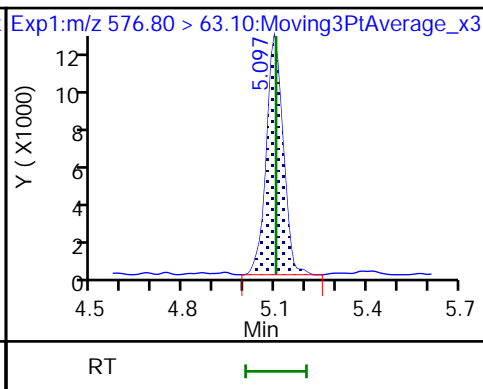
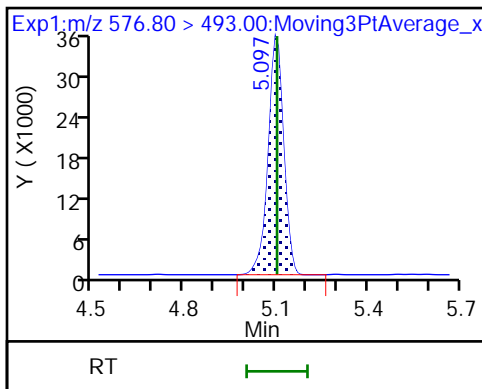
65 10:2 FTUCA



66 10:2 FTCA

66 10:2 FTCA

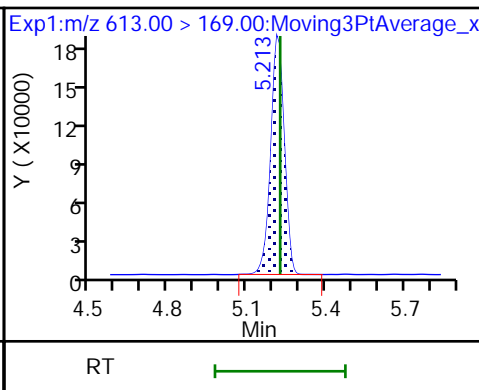
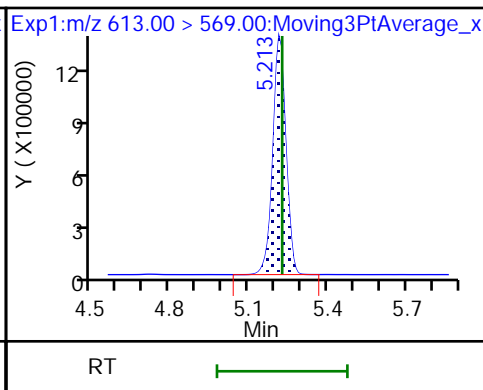
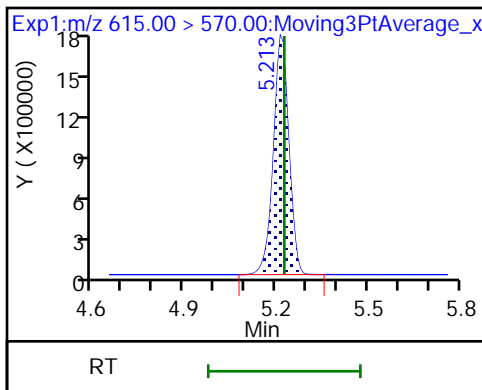
D 64 13C-10:2 FTCA



D 69 13C2 PFDaA

68 Perfluorododecanoic acid

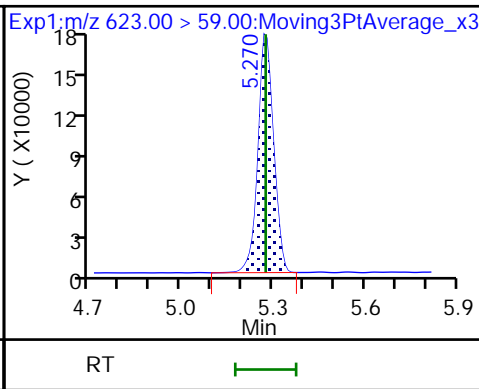
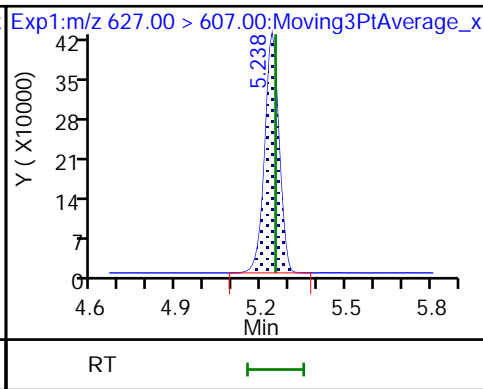
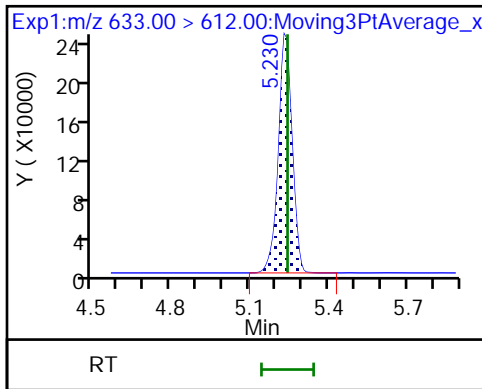
68 Perfluorododecanoic acid



D 70 13C2 10:2 FTS

71 10:2 FTS

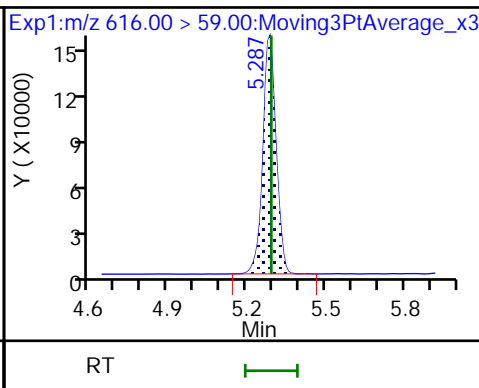
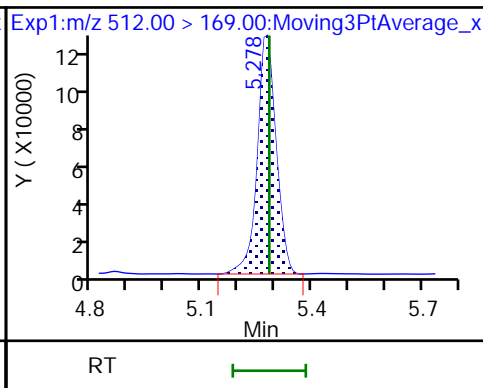
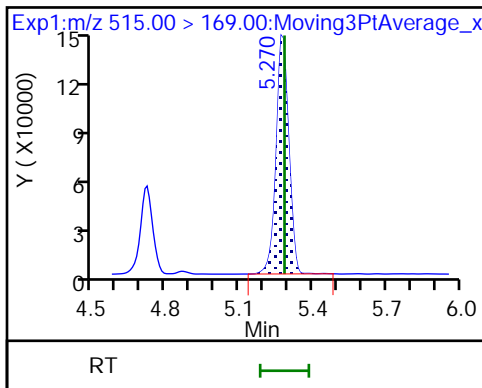
D 72 d7-N-MeFOSE-M



D 73 d-N-MeFOSA-M

74 NMeFOSA

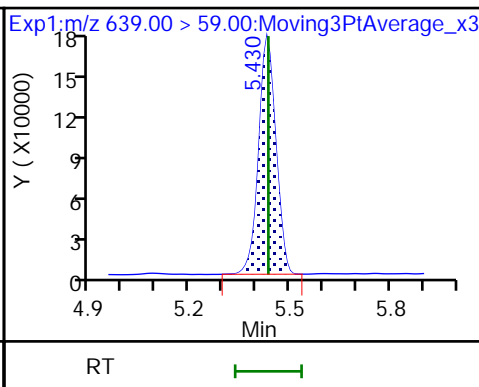
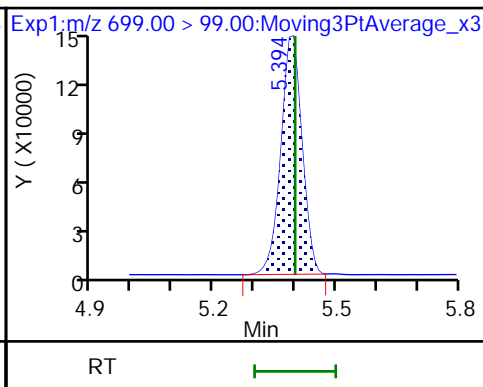
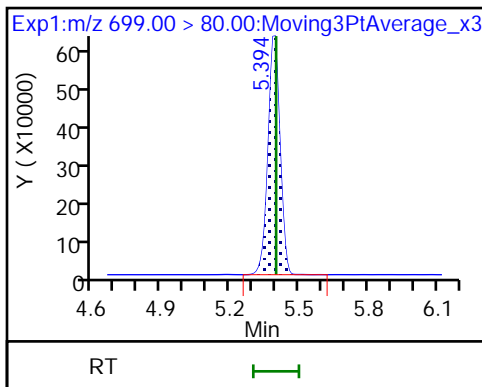
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

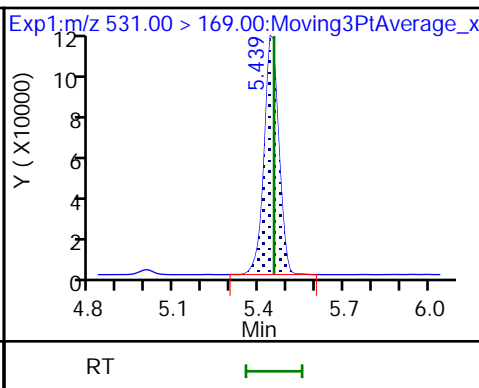
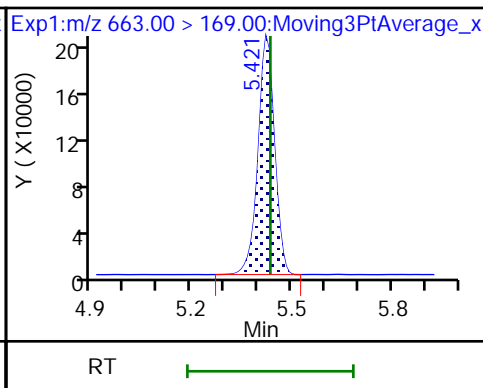
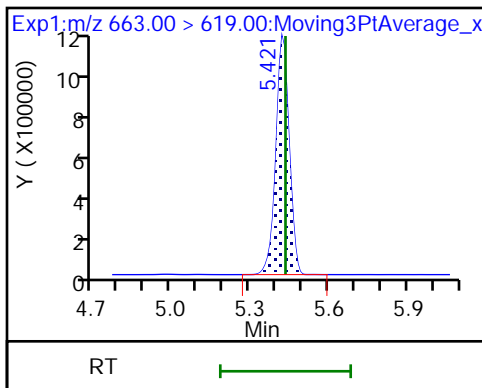
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

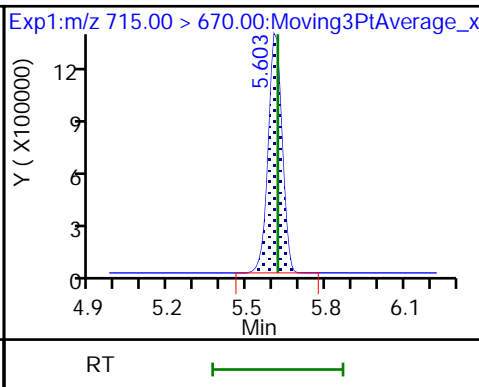
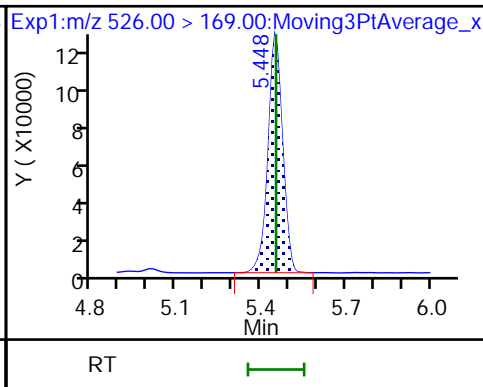
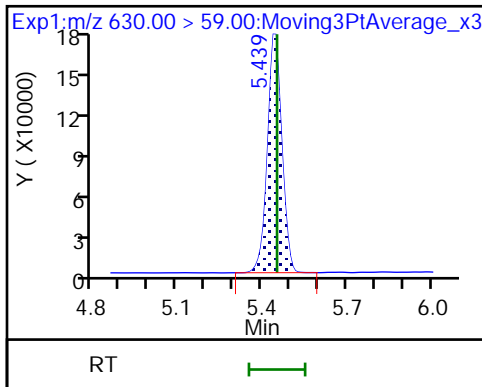
D 80 d-N-EtFOSA-M



79 N-EtFOSE-M

81 N-EtFOSA-M

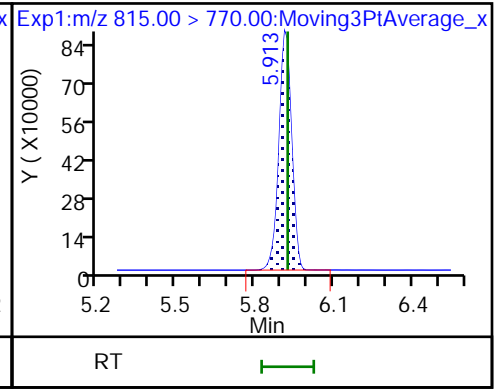
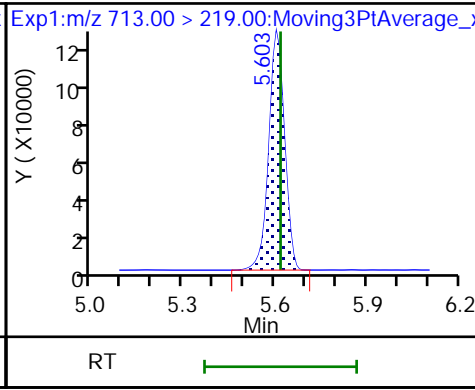
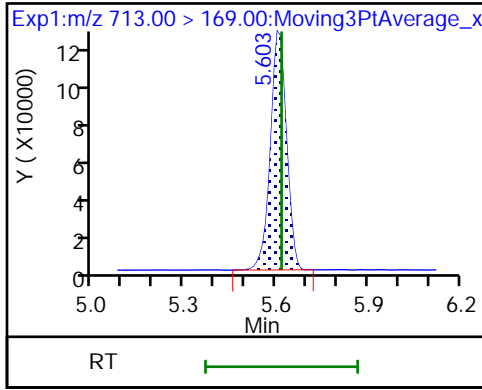
D 82 13C2 PFTeDA



83 Perfluorotetradecanoic acid

83 Perfluorotetradecanoic acid

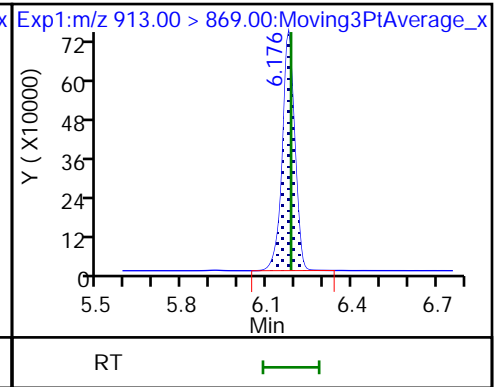
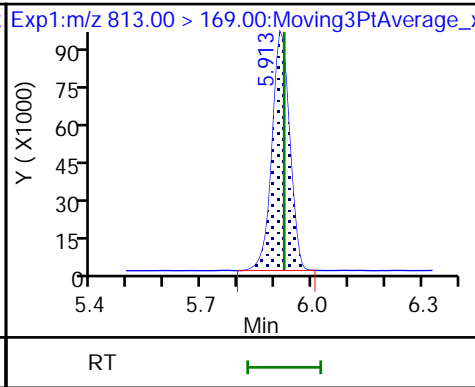
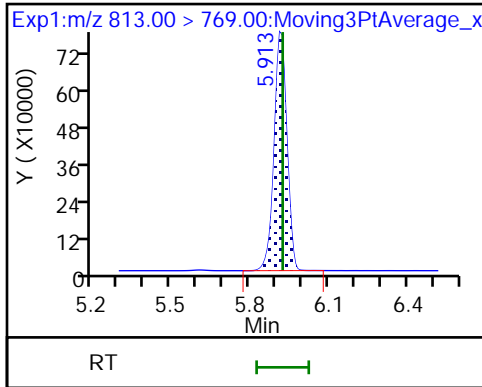
D 84 13C2 PFHxDA



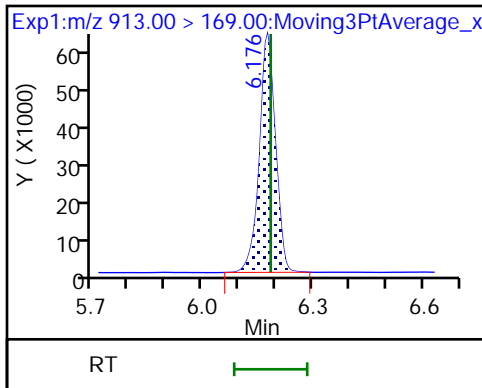
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid



86 Perfluorooctadecanoic acid



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/42 Calibration Date: 02/19/2022 23:54  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7860		2.48	2.50	-0.7	40.0
PFECA F	AveID	0.7535	0.7733		2.57	2.50	2.6	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9851		2.63	2.50	5.1	40.0
3:3 FTCA	QuaIF		0.0579		2.67	2.50	6.9	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.154		2.29	2.21	3.8	40.0
PFECA A	Q2ID		1.220		2.56	2.50	2.4	40.0
PES	Q2ID		2.441		2.25	2.23	0.9	40.0
PFECA B	Q2ID		0.4264		2.47	2.50	-1.1	40.0
4:2 FTS	L2ID		2.372		2.44	2.34	4.5	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7973		2.52	2.50	0.7	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.116		2.53	2.35	8.1	40.0
HFPO-DA	L2ID		1.308		2.60	2.50	3.9	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.351		2.22	2.28	-2.5	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.024		2.52	2.50	0.9	40.0
DONA	AveID	2.644	2.427		2.16	2.36	-8.2	40.0
5:3 FTCA	L2ID		3.537		2.35	2.50	-5.9	40.0
6:2 FTUCA	AveID	1.046	1.027		2.45	2.50	-1.8	40.0
6:2 FTCA	L1ID		0.7951		2.88	2.50	15.1	40.0
PFECHS	AveID	0.7426	0.7825		2.43	2.31	5.4	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9843		2.37	2.38	-0.3	40.0
6:2 FTS	L2ID		1.726		2.24	2.37	-5.4	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.102		2.58	2.50	3.4	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.125		2.28	2.32	-1.7	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8040		2.64	2.50	5.7	40.0
7:3 FTCA	AveID	5.230	5.538		2.65	2.50	5.9	40.0
8:2 FTUCA	AveID	0.9565	1.004		2.63	2.50	5.0	40.0
8:2 FTCA	AveID	1.811	1.913		2.64	2.50	5.7	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.256		2.34	2.33	0.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.016		2.41	2.40	0.4	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	1.011		2.65	2.50	5.8	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9056		2.53	2.50	1.1	40.0
8:2 FTS	L2ID		1.492		2.39	2.40	-0.4	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8923		2.37	2.50	-5.3	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9773		2.65	2.41	10.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/42 Calibration Date: 02/19/2022 23:54  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.004		2.60	2.50	3.8	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9527		2.61	2.50	4.6	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.742		2.36	2.36	0.3	50.0
10:2 FTUCA	AveID	1.208	1.226		2.54	2.50	1.5	40.0
10:2 FTCA	Q2ID		1.008		2.64	2.50	5.5	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.005		2.43	2.50	-2.8	40.0
10:2 FTS	L2ID		2.287		2.64	2.41	9.4	50.0
NMeFOSA	L2ID		1.060		2.46	2.50	-1.4	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.224		2.61	2.50	4.6	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9642		2.47	2.42	2.0	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8809		2.49	2.50	-0.2	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.371		2.42	2.50	-3.4	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.310		2.63	2.50	5.3	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1296		2.52	2.50	0.7	40.0
Perfluorohexadecanoic acid	L1ID		1.154		2.55	2.50	2.1	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9868		2.44	2.50	-2.6	40.0
13C4 PFBA	Ave	1.172	1.154		1.23	1.25	-1.6	50.0
13C5 PFPeA	Ave	0.9197	0.8422		1.15	1.25	-8.4	50.0
13C3 PFBS	Ave	0.5817	0.5522		1.10	1.16	-5.1	50.0
M2-4:2 FTS	Ave	0.1821	0.1653		1.06	1.17	-9.2	50.0
13C2 PFHxA	Ave	1.015	0.9514		1.17	1.25	-6.2	50.0
13C3 HFPO-DA	Ave	0.4963	0.4626		1.17	1.25	-6.8	50.0
18O2 PFHxS	Ave	0.3776	0.3934		1.23	1.18	4.2	50.0
13C4 PFHpA	Ave	0.9046	0.8703		1.20	1.25	-3.8	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3651		1.35	1.25	8.2	50.0
13C-6:2 FTCA	Ave	0.0260	0.0270		1.30	1.25	3.9	50.0
13C4 PFOA	Ave	0.9356	0.9087		1.21	1.25	-2.9	50.0
M2-6:2 FTS	Ave	0.1799	0.1908		1.26	1.19	6.0	50.0
13C4 PFOS	Ave	0.5610	0.5829		1.24	1.20	3.9	50.0
13C5 PFNA	Ave	1.268	1.231		1.21	1.25	-3.0	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5182		1.43	1.25	14.7	50.0
13C-8:2 FTCA	Ave	0.0330	0.0362		1.37	1.25	9.4	50.0
13C8 FOSA	Ave	0.8475	0.8286		1.22	1.25	-2.2	50.0
13C2 PFDA	Ave	1.210	1.200		1.24	1.25	-0.8	50.0
M2-8:2 FTS	Ave	0.1961	0.1897		1.16	1.20	-3.3	50.0



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/42 Calibration Date: 02/19/2022 23:54  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1661		1.83	1.25	46.4	50.0
13C2 PFUnA	Ave	1.168	1.127		1.21	1.25	-3.5	50.0
d5-NEtFOSAA	Ave	0.1164	0.1394		1.50	1.25	19.7	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5023		1.24	1.25	-1.1	50.0
13C-10:2 FTCA	Ave	0.0309	0.0265		1.07	1.25	-14.3	50.0
13C2 PFDoA	Ave	1.152	1.124		1.22	1.25	-2.4	50.0
13C2 10:2 FTS	Ave	0.1652	0.1647		1.18	1.18	-0.3	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1090		1.15	1.25	-8.1	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1010		1.25	1.25	0.0	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1098		1.12	1.25	-10.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0782		1.21	1.25	-3.4	50.0
13C2 PFTeDA	Ave	0.9216	0.8888		1.21	1.25	-3.6	50.0
13C2 PFHxDA	Ave	0.5997	0.5684		1.19	1.25	-5.2	50.0
13C8 PFOA	AveID	0.9229	0.9769		1.32	1.25	5.8	50.0
13C8 PFOS	AveID	0.2212	0.2208		1.19	1.20	-0.2	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_042.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 19-Feb-2022 23:54:25 ALS Bottle#: 42 Worklist Smp#: 42  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-042 rb 07  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:34 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:16:57

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.804	2.804	0.0	1.000	9180486	2.48		99.3	2730	
D 2 13C4 PFBA										
217.00 > 172.00	2.804	2.804	0.0	0.679	5839903	1.23		98.4	19614	
3 PFECA F										
229.00 > 85.00	2.911	2.911	0.0	0.935	6593235	2.57		103	22186	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.115	0.001	1.000	8398951	2.63		105	3322	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.001	0.754	4263024	1.14		91.6	15786	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.122	0.009	1.000	323792	2.67	Target=1.13	107	2272	
241.00 > 116.90	3.131	3.122	0.009	1.000	270791		1.20(0.56-1.69)		402	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.122	0.009	0.758	2599397	1.10		94.9	10522	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.131	0.0	1.000	5705107	2.29	Target=2.61	104	5005	
298.90 > 99.00	3.131	3.131	0.0	1.000	2094382		2.72(1.31-3.92)		4804	
9 PFECA A										
278.95 > 84.90	3.211	3.202	0.009	1.031	10405622	2.56		102	22312	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	12146200	2.24		101	26237	
12 PFECA B										
295.22 > 201.00	3.384	3.373	0.011	0.981	4107253	2.47		98.9	13262	
13 4:2 FTS										
327.00 > 307.00	3.416	3.415	0.001	1.000	3707867	2.44		104	16395	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.415	0.001	0.827	781575	1.06		90.8	1612	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.437	0.011	1.101	5850306	2.53	Target=3.55	108	11283	
349.00 > 99.00	3.448	3.437	0.011	1.101	1671191		3.50(1.78-5.33)		9178	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.437	0.011	1.000	7679117	2.52	Target=11.60	101	3374	
313.00 > 119.00	3.448	3.437	0.011	1.000	662237		11.60(5.80-17.40)		621	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.437	0.011	0.835	4815791	1.17		93.8	16910	
17 HFPO-DA										
285.00 > 169.00	3.543	3.542	0.001	1.000	6126805	2.60	Target=2.45	104	1715	
329.00 > 169.00	3.543	3.542	0.001	1.000	2379244		2.58(1.23-3.68)		1759	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.542	0.001	0.858	2341730	1.17		93.2	7400	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.783	3.772	0.011	1.000	4896031	2.22	Target=3.44	97.5	8361	M
399.00 > 99.00	3.773	3.772	0.001	0.997	1407420		3.48(1.72-5.17)		5024	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.772	0.011	0.916	1883717	1.23		104	9420	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.793	3.792	0.001	1.000	9022781	2.52	Target=3.25	101	4887	
363.00 > 169.00	3.793	3.792	0.001	1.000	2945623		3.06(1.62-4.87)		2260	
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.792	0.001	0.918	4405102	1.20		96.2	11107	
25 DONA										
377.00 > 251.00	3.821	3.820	0.001	0.866	13487766	2.16	Target=1.74	91.8	16569	
377.00 > 85.00	3.821	3.820	0.001	0.866	7823705		1.72(0.87-2.61)		131	
26 5:3 FTCA										
340.88 > 236.90	3.854	3.853	0.001	0.987	968115	2.35	Target=1.11	94.1	1683	
340.88 > 216.90	3.854	3.853	0.001	0.987	910011		1.06(0.56-1.67)		2330	
27 6:2 FTUCA										
356.86 > 292.90	3.887	3.886	0.001	1.000	3796578	2.45	Target=13.05	98.2	4207	
356.86 > 243.00	3.887	3.886	0.001	1.000	264001		14.38(6.52-19.57)		1073	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.887	3.886	0.001	0.941	1847883	1.35		108	5893	
29 6:2 FTCA										
377.10 > 63.00	3.904	3.903	0.001	1.000	217636	2.88	Target=1.29	115	723	
377.10 > 313.10	3.904	3.903	0.001	1.000	151139		1.44(0.65-1.94)		154	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.903	0.001	0.945	136859	1.30		104	615	
32 PFECBS										
460.80 > 380.90	4.064	4.054	0.010	0.986	6636865	2.43	Target=1.75	105	12978	
460.80 > 98.90	4.064	4.054	0.010	0.986	3889975		1.71(0.87-2.62)		8769	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.112	4.111	0.001	0.932	5529328	2.37	Target=3.72	99.7	9859	
449.00 > 99.00	4.112	4.111	0.001	0.932	1405853		3.93(1.86-5.57)		3171	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	3161336	2.24		94.6	4896	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.121	0.0	1.000	10136421	2.58	Target=2.51	103	5230	
413.00 > 169.00	4.121	4.121	0.0	1.000	4042027		2.51(1.26-3.77)		7101	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	1.000	4493150	1.32		106	11248	
* 30 13C2 PFOA										
415.00 > 370.00	4.131	4.121	0.010		5061844	1.25			10102	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	917676	1.26		106	2530	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.121	0.0	0.998	4599532	1.21		97.1	7981	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.413	4.412	0.001	1.000	622893	1.19		99.8	2886	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.413	4.412	0.001	1.000	6162814	2.28	Target=4.30	98.3	6645	M
499.00 > 99.00	4.413	4.412	0.001	1.000	1367857		4.51(2.15-6.45)		3026	M
D 39 13C4 PFOS										
503.00 > 80.00	4.413	4.412	0.001	1.068	2820493	1.24		104	3786	
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.438	0.001	1.000	10019342	2.64	Target=3.60	106	7744	
463.00 > 169.00	4.439	4.438	0.001	1.000	2491397		4.02(1.80-5.40)		6207	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.438	0.001	1.075	6231255	1.21		97.0	16417	
43 7:3 FTCA										
441.00 > 337.00	4.520	4.519	0.001	0.991	2027450	2.65	Target=1.42	106	4927	
441.00 > 317.00	4.520	4.519	0.001	0.991	1439661		1.41(0.71-2.13)		4900	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	5269244	2.63	Target=35.37	105	8821	
456.86 > 343.00	4.545	4.545	0.0	1.000	156183		33.74(17.68-53.05)		549	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.545	0.0	1.000	2623104	1.43		115	4085	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.562	4.553	0.009	1.104	183064	1.37		109	472	
46 8:2 FTCA										
477.00 > 393.10	4.562	4.561	0.001	1.000	700582	2.64	Target=3.35	106	2289	
477.00 > 63.20	4.562	4.561	0.001	1.000	196458		3.57(1.68-5.03)		955	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.108	12405649	2.34		100	14878	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	5754425	2.41	Target=3.99	100	10533	
549.00 > 99.00	4.697	4.697	0.0	1.065	1440413		3.99(2.00-5.99)		5818	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.714	4.705	0.009	1.002	8479184	2.65		106	6409	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.705	0.001	1.139	4194438	1.22		97.8	4240	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.722	0.001	1.000	11002326	2.53	Target=10.58	101	8124	
513.00 > 169.00	4.723	4.722	0.001	1.000	1003295		10.97(5.29-15.88)		528	
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.722	0.001	1.143	6074826	1.24		99.2	11289	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.731	0.009	1.147	919929	1.16		96.7	2715	
53 8:2 FTS										
527.00 > 507.00	4.740	4.739	0.001	1.000	2745960	2.39		99.6	4799	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.864	4.872	-0.008	1.177	840825	1.83		146	314	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.872	0.0	1.002	1500582	2.37		94.7	2634	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.123	5558888	2.65	Target=3.55	110	11602	
599.00 > 99.00	4.957	4.957	0.0	1.123	1444782		3.85(1.78-5.33)		3831	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.985	0.001	1.000	11453715	2.60	Target=8.26	104	12292	
563.00 > 169.00	4.986	4.985	0.001	1.000	1375812		8.33(4.13-12.39)		5720	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.985	0.001	1.207	5702818	1.21		96.5	8449	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.212	705598	1.50		120	2189	
62 NEtFOSAA										
584.00 > 419.00	5.015	5.005	0.010	1.002	1344382	2.61		105	1238	M
63 11C1FOS										
631.00 > 451.00	5.083	5.092	-0.009	1.152	9681516	2.36		100	10345	
65 10:2 FTUCA										
556.86 > 492.90	5.093	5.092	0.001	1.000	6236121	2.54		102	15083	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.093	5.092	0.001	1.233	2542477	1.24		98.9	6474	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.102	0.0	1.000	270474	2.64	Target=2.53	105	1240	
576.80 > 63.10	5.102	5.102	0.0	1.000	115692		2.34(1.26-3.79)		423	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.111	-0.009	1.235	134187	1.07		85.7	958	
D 69 13C2 PFDoA										
615.00 > 570.00	5.226	5.226	0.0	1.265	5690745	1.22		97.6	12891	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	11433577	2.43	Target=6.85	97.2	9900	
613.00 > 169.00	5.226	5.226	0.0	1.000	1627227		7.03(3.43-10.28)		3958	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.269	789636	1.18		99.7	6025	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.000	3675280	2.64		109	7847	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.284	5.275	0.009	1.279	551644	1.15		91.9	529	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.284	5.283	0.001	1.279	510999	1.25		100	49.8	
74 NMeFOSA										
512.00 > 169.00	5.284	5.283	0.001	1.000	1083785	2.46		98.6	642	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.002	1350673	2.61		105	2128	
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.224	5507200	2.47	Target=4.22	102	10562	
699.00 > 99.00	5.399	5.399	0.0	1.224	1299256		4.24(2.11-6.34)		4897	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.316	556009	1.12		89.3	281	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.435	5.435	0.0	1.040	10025828	2.49	Target=6.32	99.8	8252	
663.00 > 169.00	5.435	5.435	0.0	1.040	1650522		6.07(3.16-9.48)		5968	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.320	395863	1.21		96.6	645	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	1524627	2.42		96.6	1342	
81 N-EtFOSA-M										
526.00 > 169.00	5.461	5.452	0.009	1.002	1037484	2.63		105	639	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.360	4498796	1.21		96.4	10105	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	1165749	2.52	Target=1.01	101	3244	
713.00 > 219.00	5.608	5.617	-0.009	0.998	1151446		1.01(0.51-1.52)		5954	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.434	2876976	1.18		94.8	6446	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	6640845	2.55	Target=8.64	102	6364	
813.00 > 169.00	5.924	5.924	0.0	1.000	802753		8.27(4.32-12.97)		2875	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.184	6.184	0.0	1.044	5678206	2.44	Target=11.77	97.4	6203	
913.00 > 169.00	6.179	6.184	-0.005	1.043	483699		11.74(5.88-17.65)		1704	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220219-22723.b\_042.d

Injection Date: 19-Feb-2022 23:54:25

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 42

Worklist Smp#: 42

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

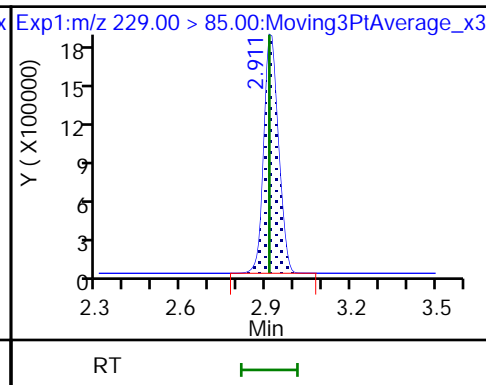
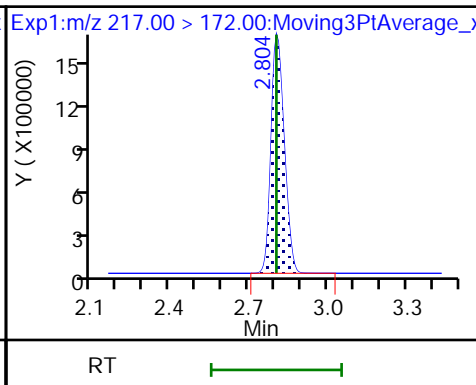
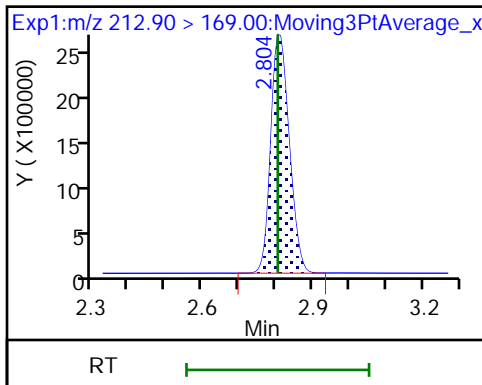
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

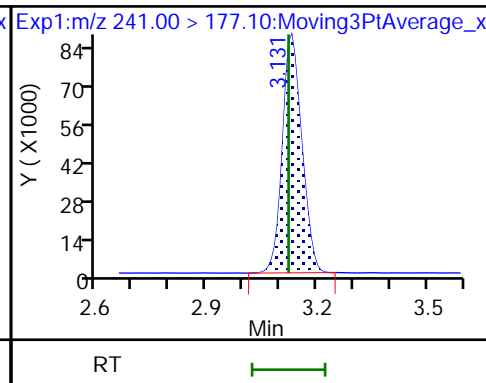
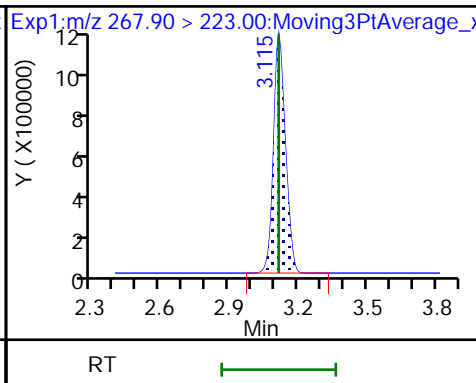
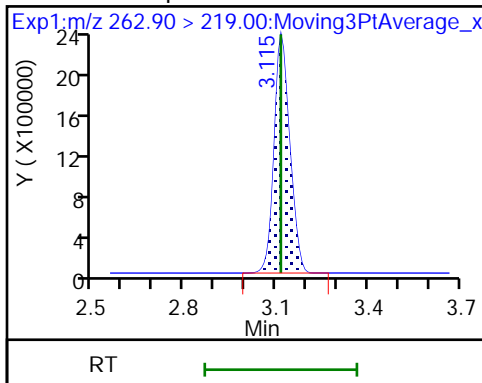
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

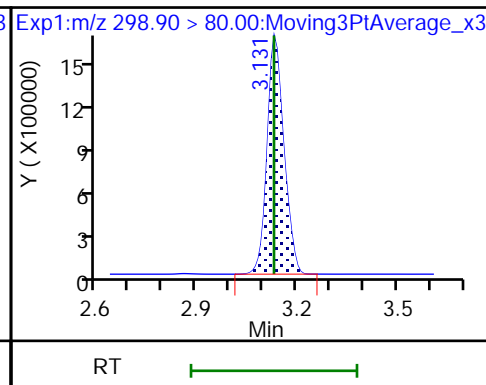
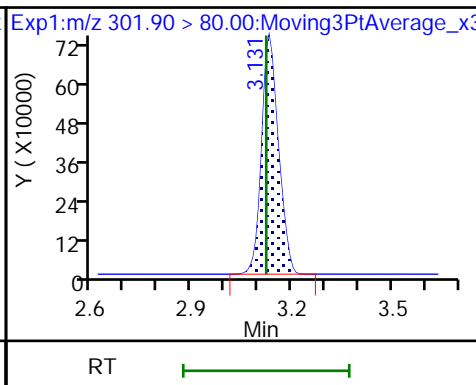
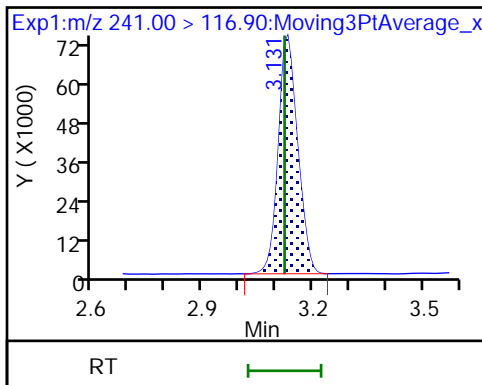
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

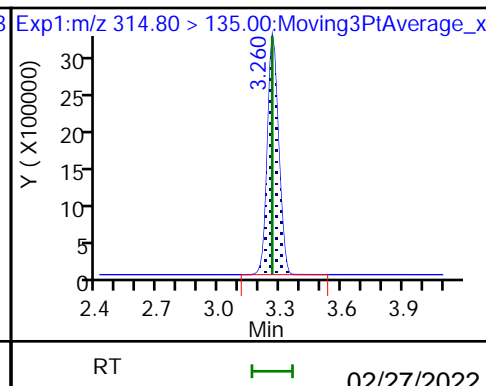
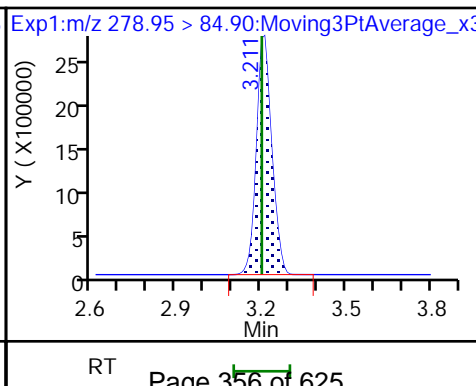
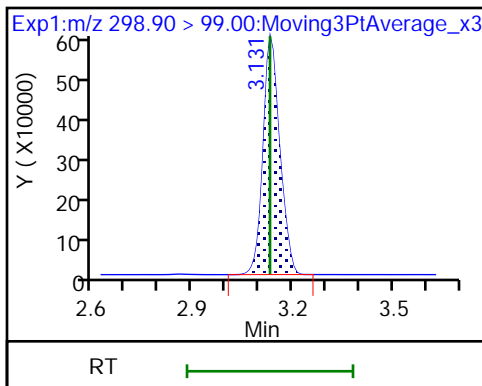
8 Perfluorobutanesulfonic acid

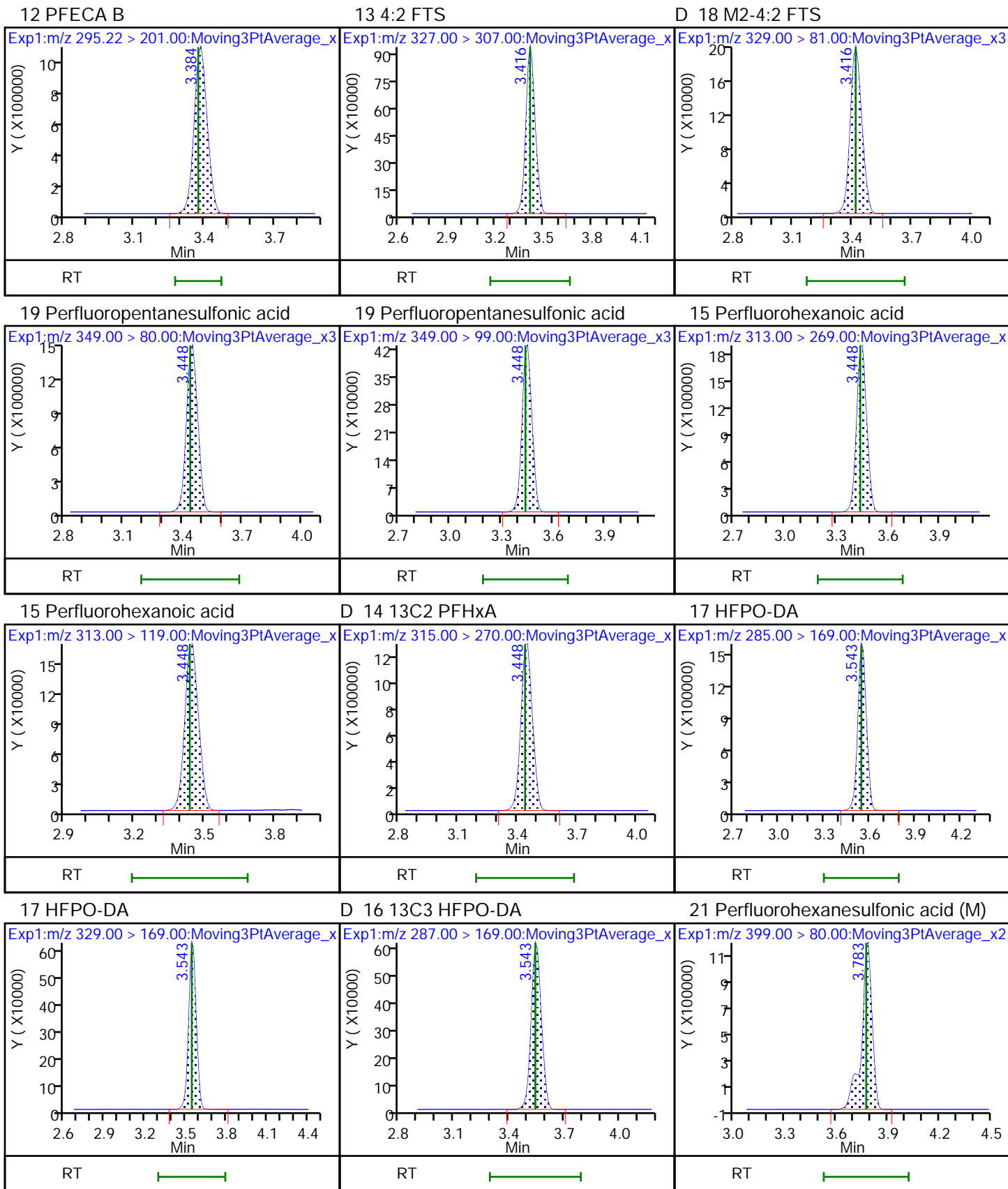


8 Perfluorobutanesulfonic acid

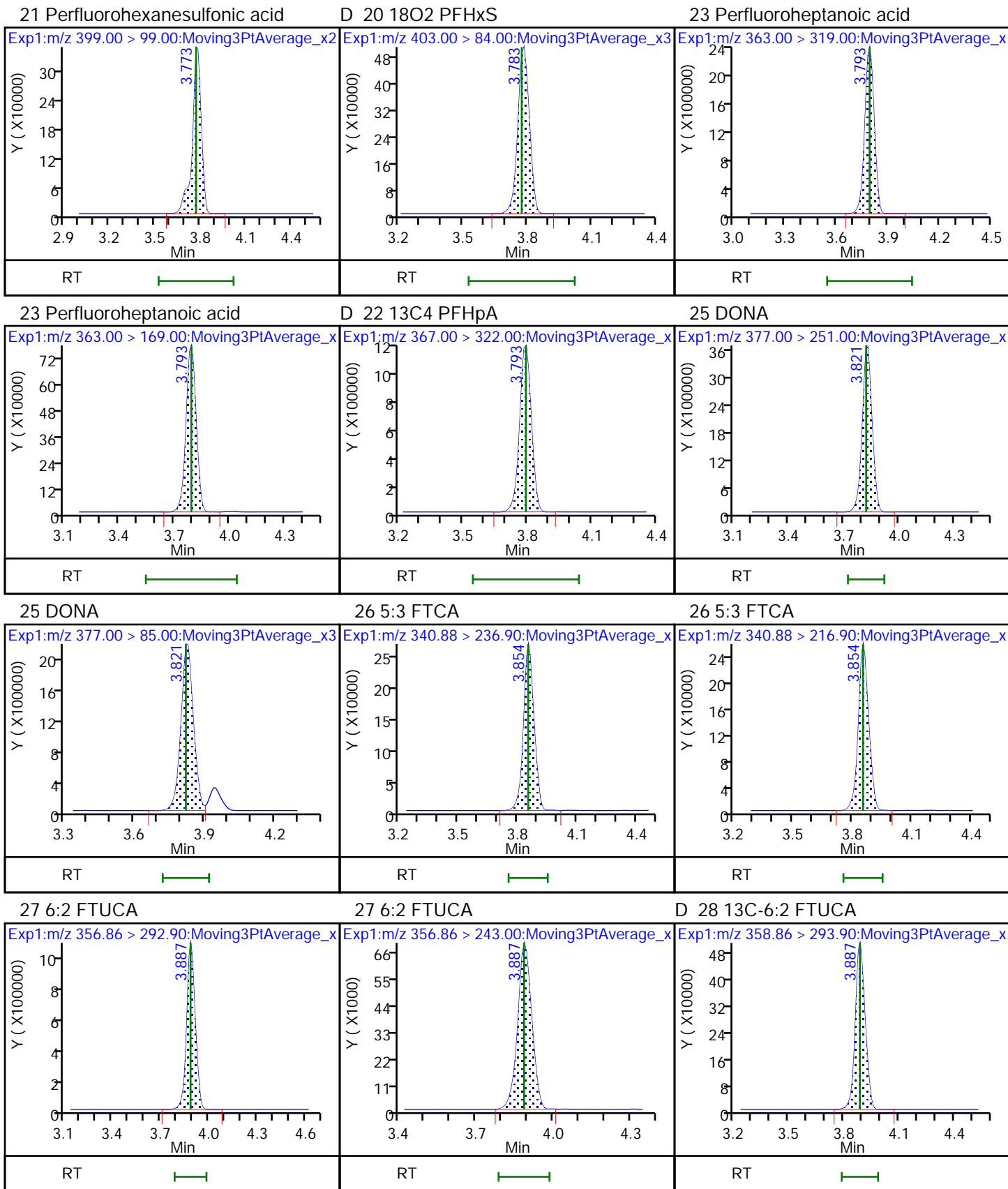
9 PFECA A

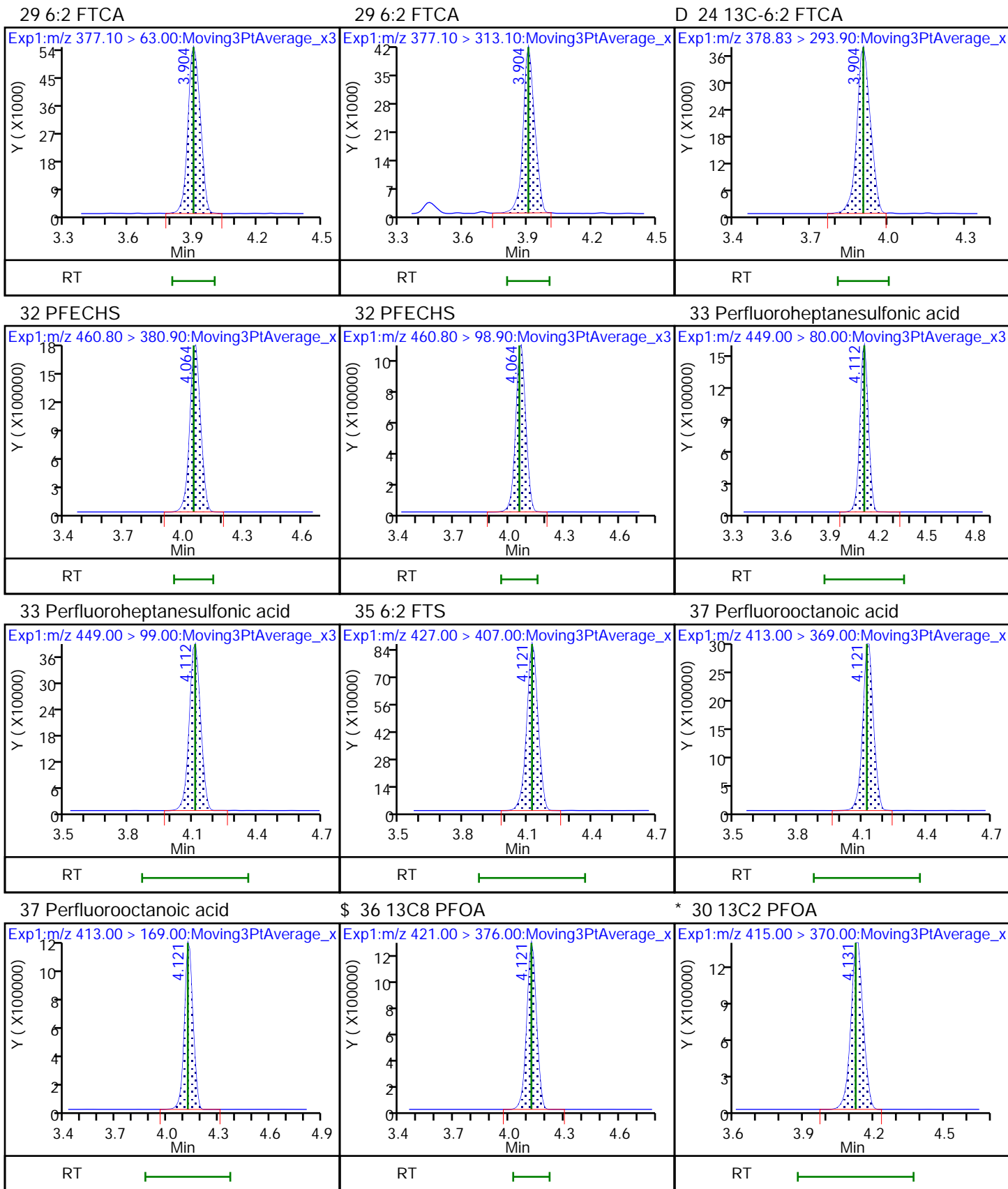
11 PES







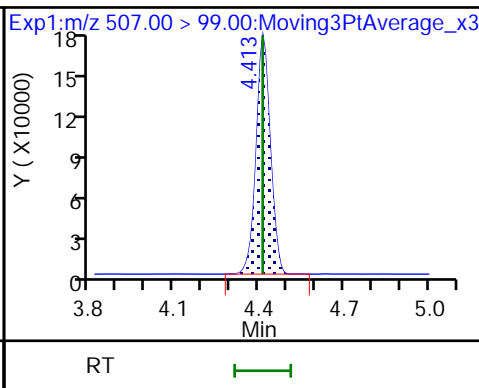
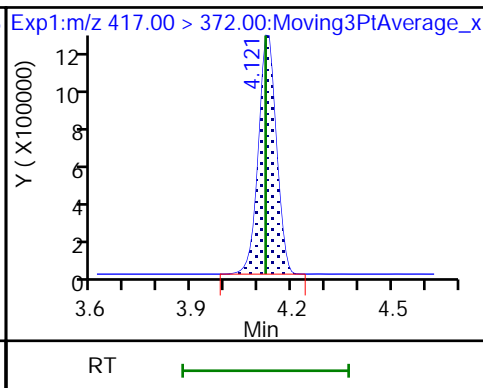
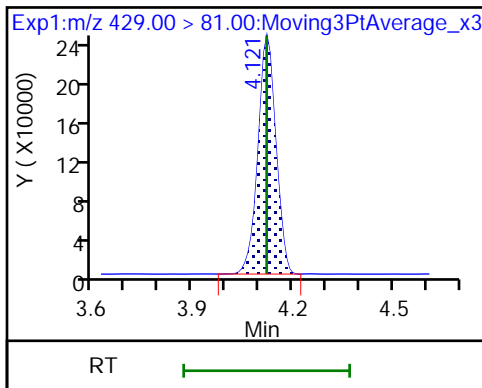




D 34 M2-6:2 FTS

D 31 13C4 PFOA

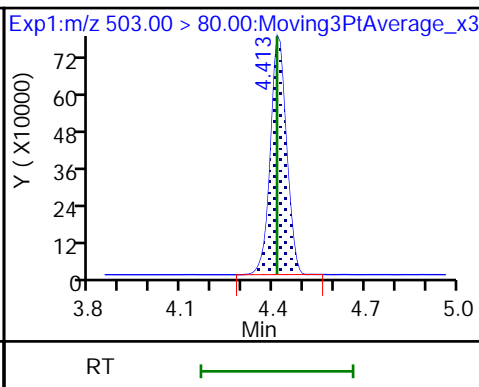
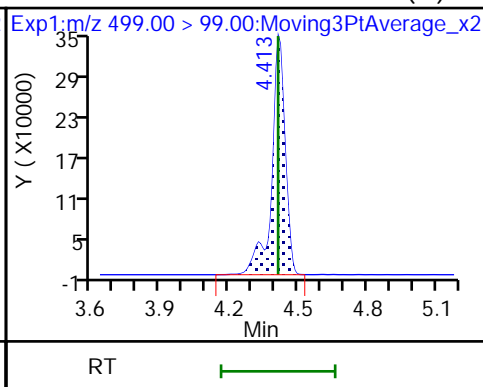
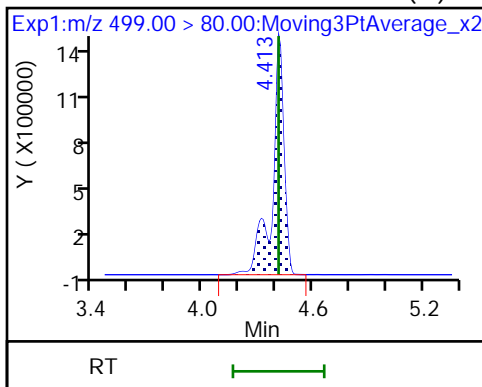
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid (M)

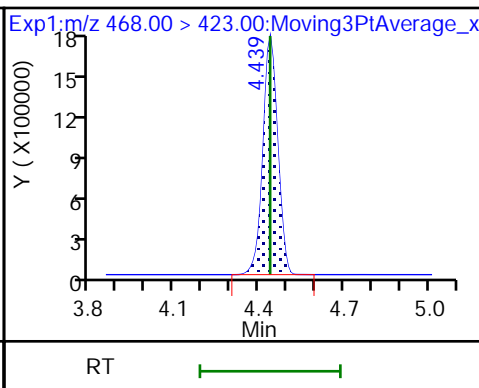
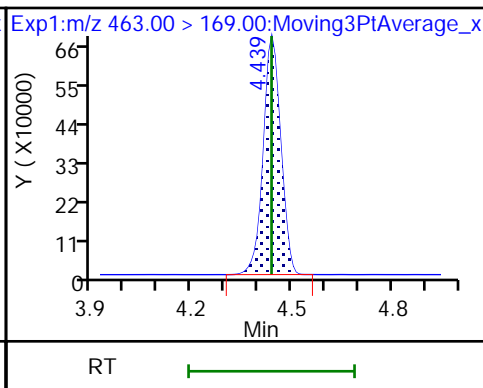
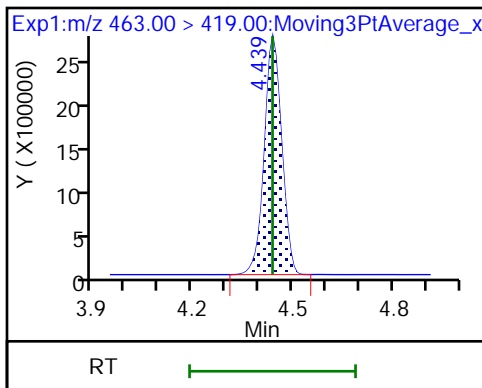
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

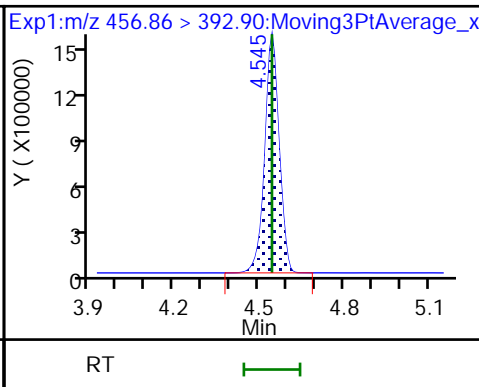
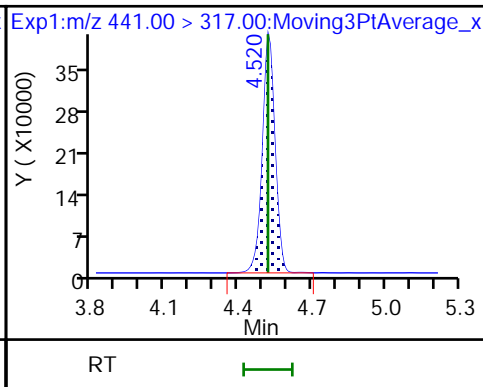
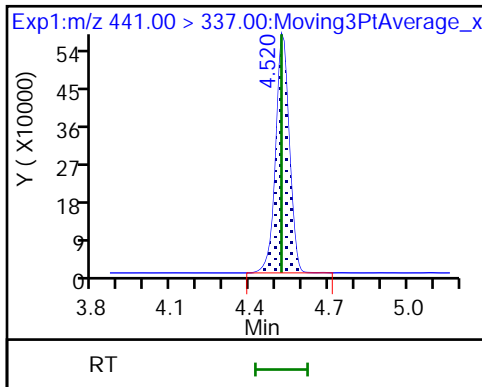
D 41 13C5 PFNA

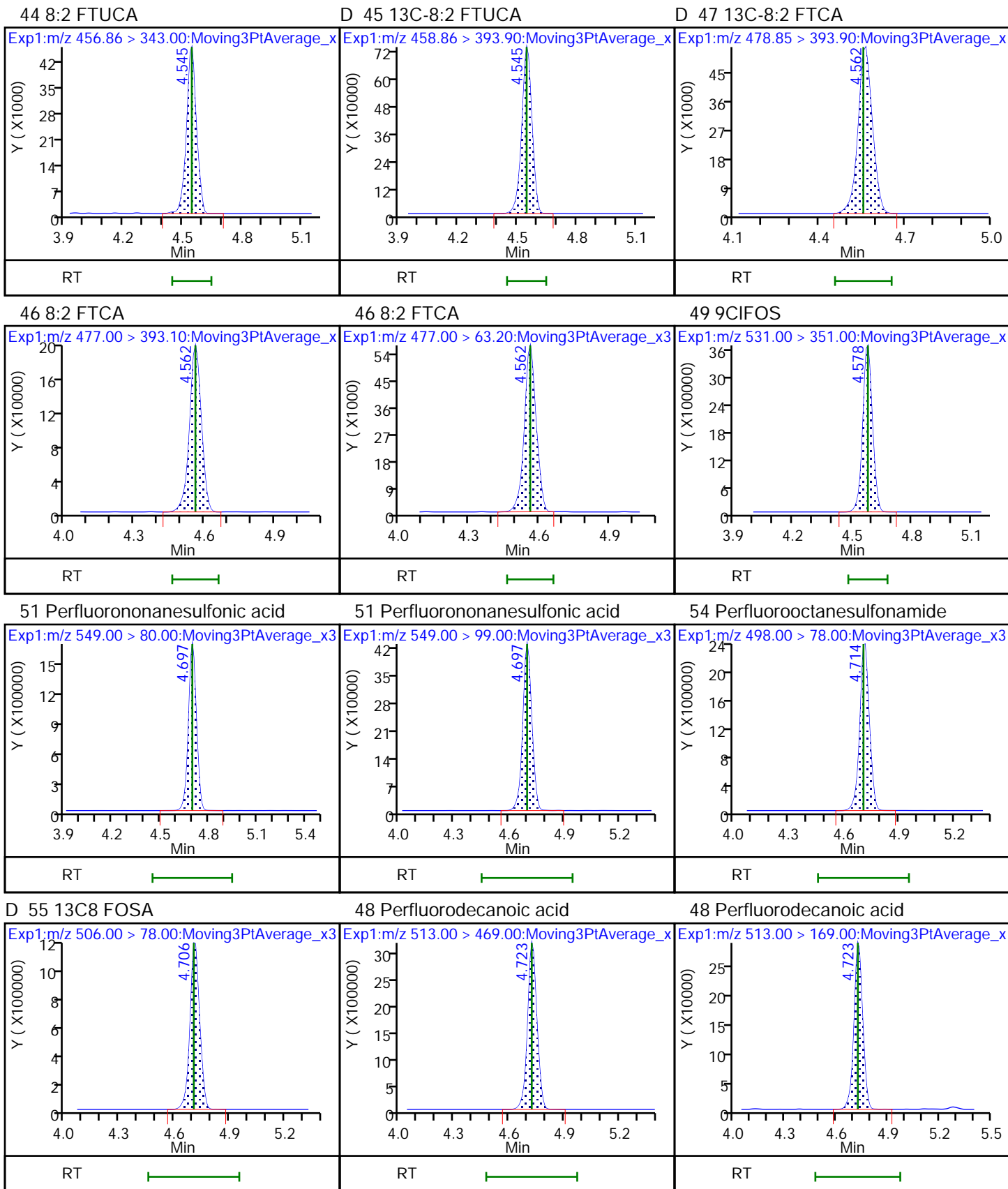


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA

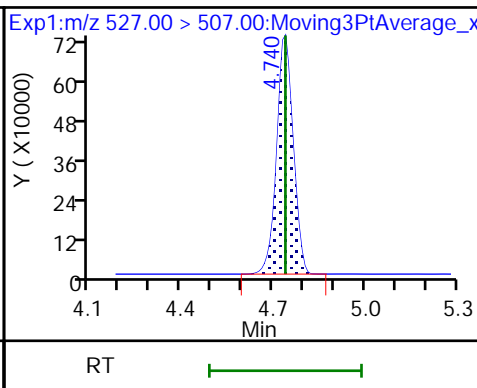
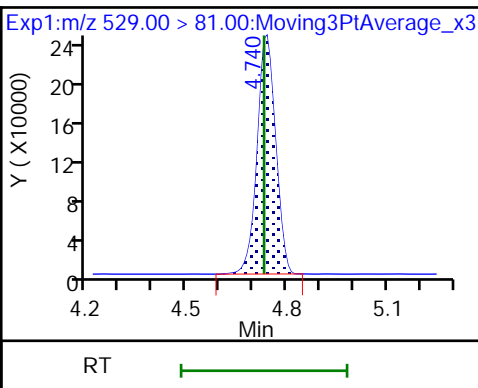
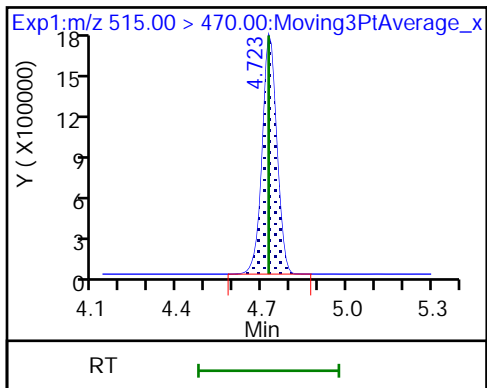




D 52 13C2 PFDA

D 50 M2-8:2 FTS

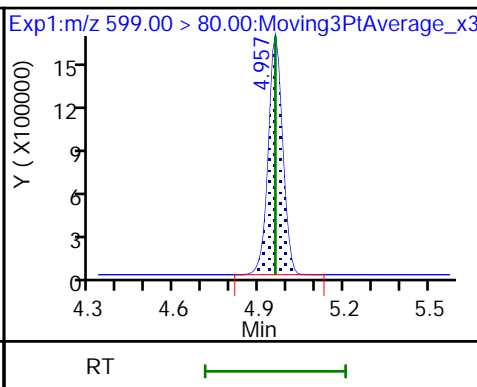
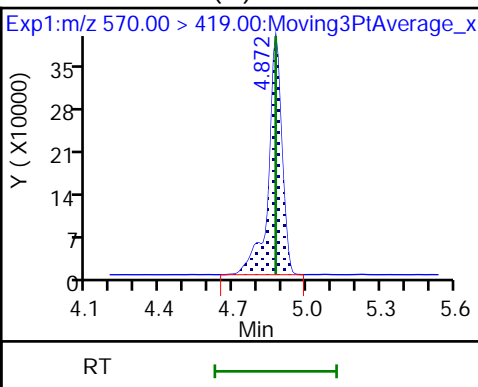
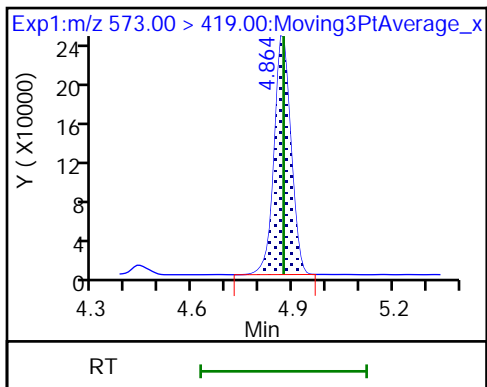
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

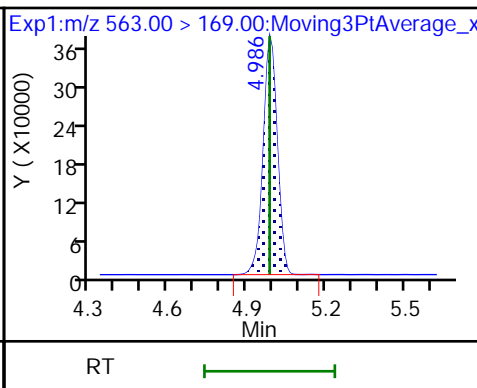
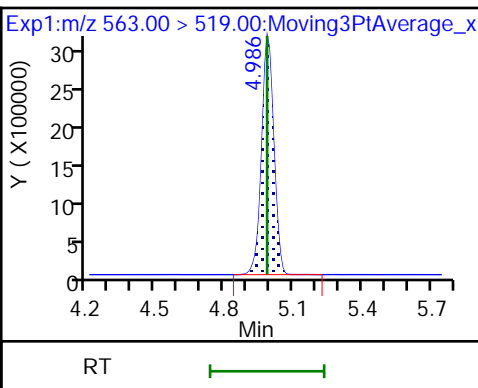
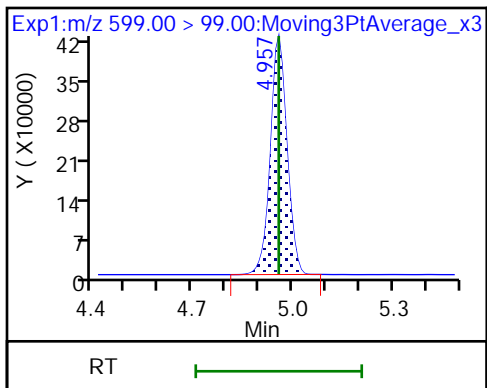
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

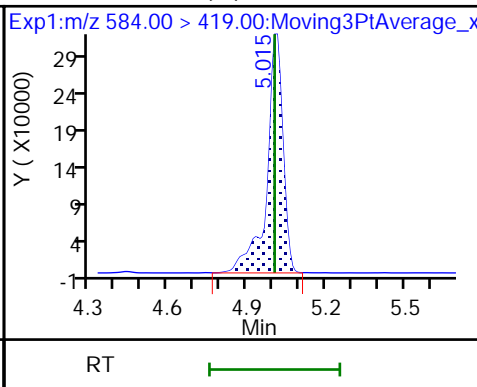
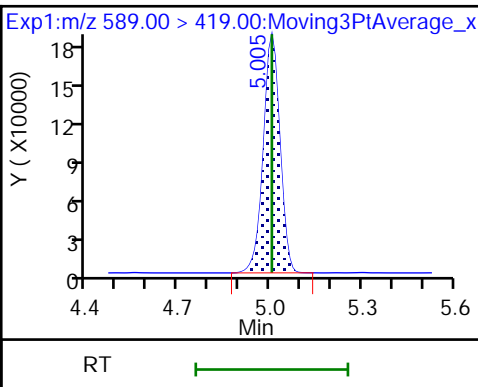
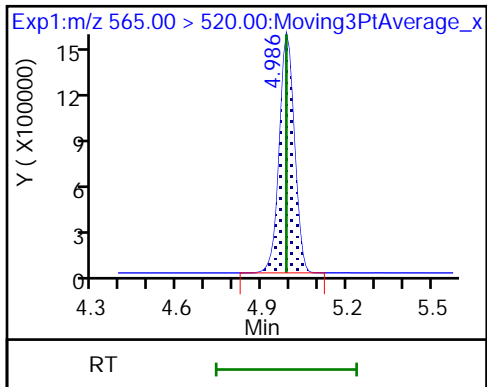
60 Perfluoroundecanoic acid

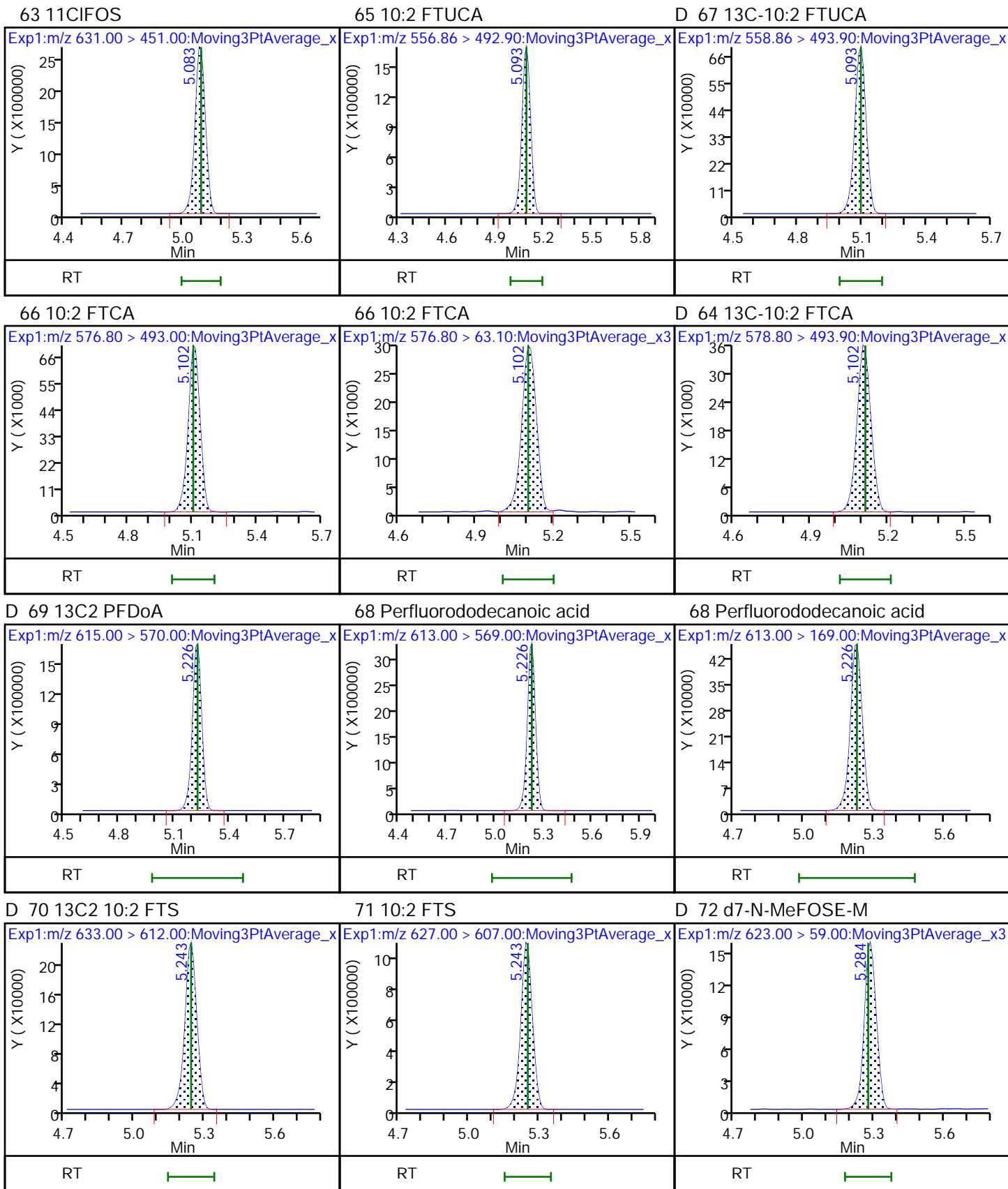


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)

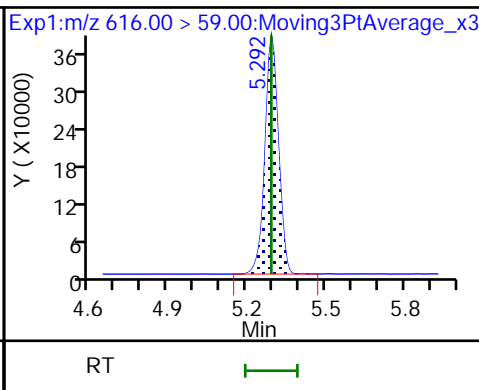
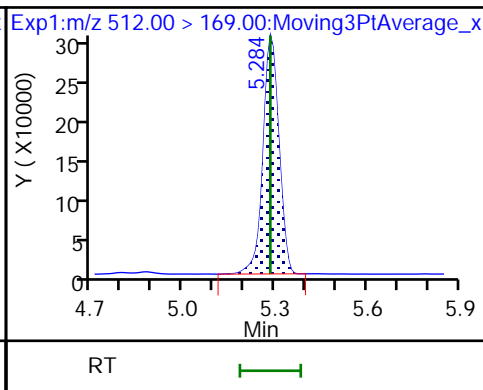
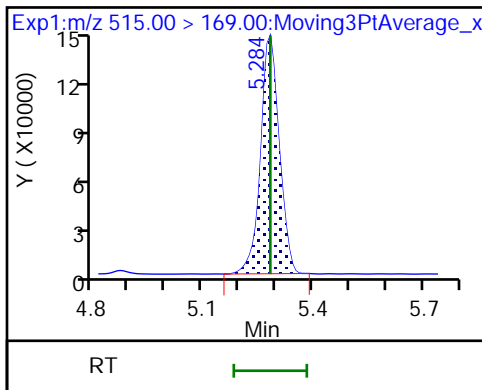




D 73 d-N-MeFOSEA-M

74 NMeFOSEA

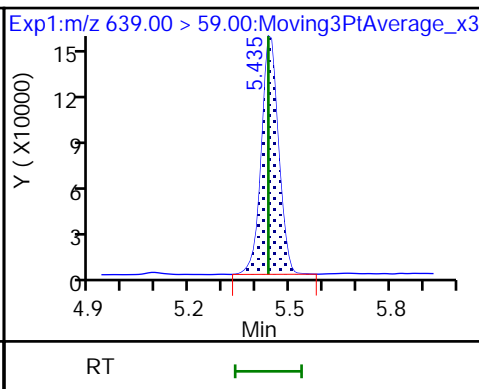
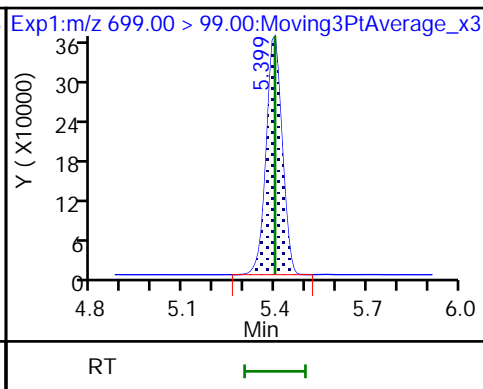
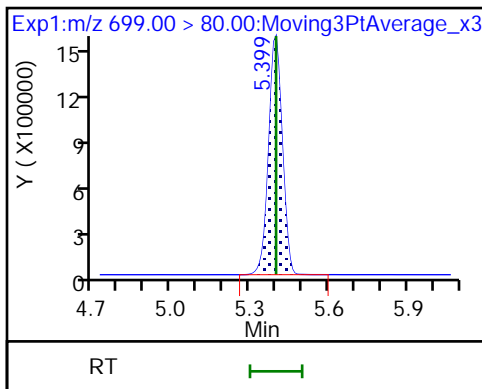
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

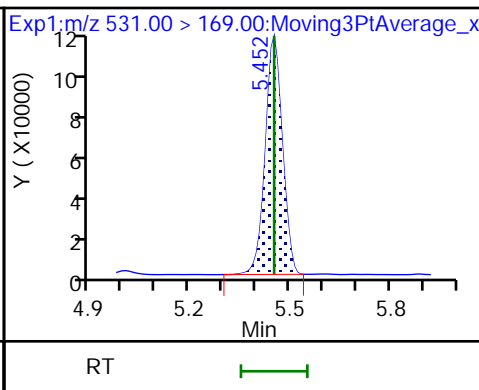
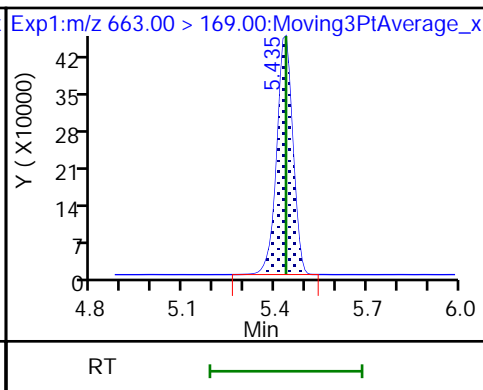
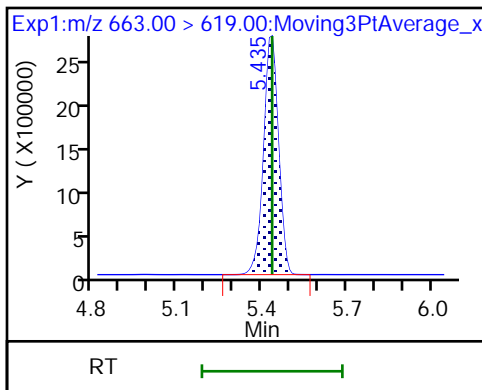
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

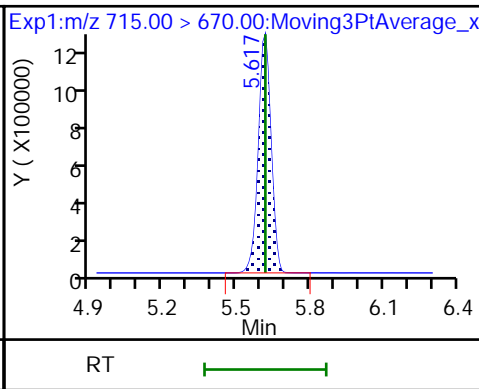
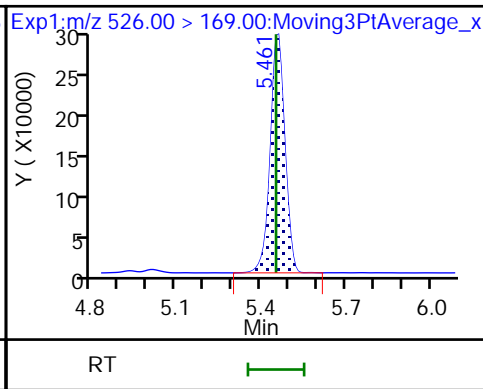
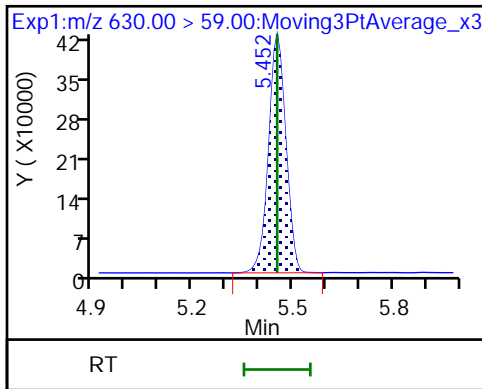
D 80 d-N-EtFOSEA-M

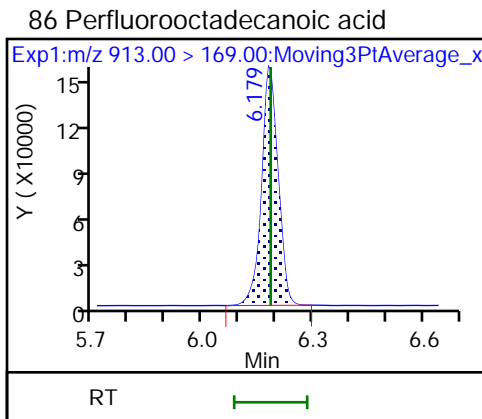
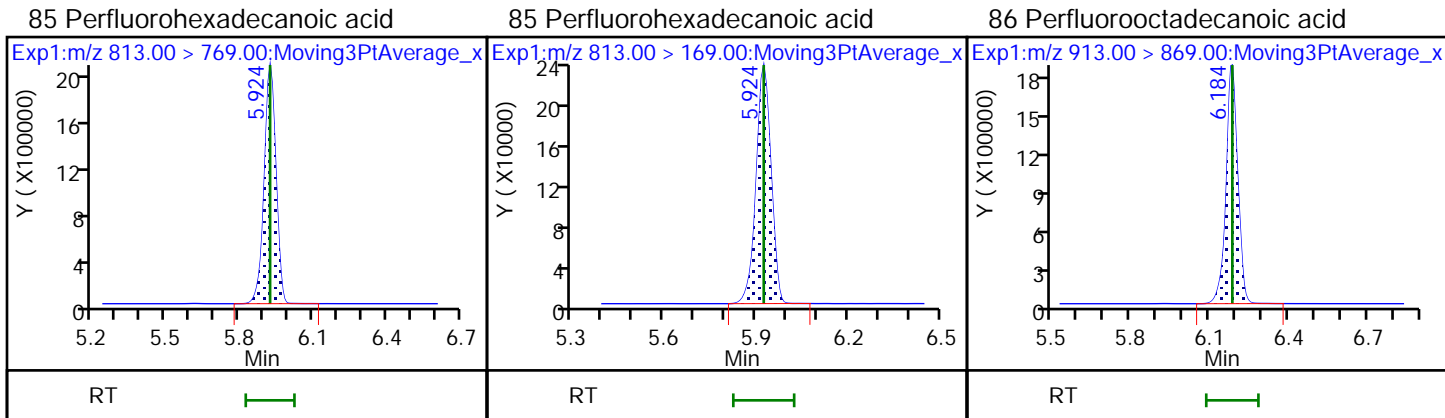
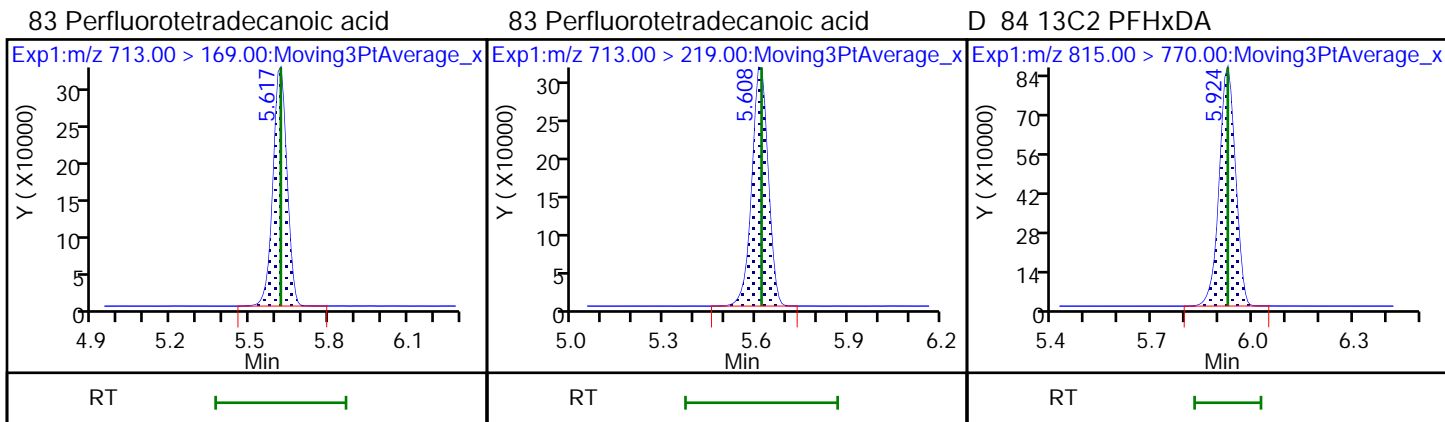


79 N-EtFOSE-M

81 N-EtFOSEA-M

D 82 13C2 PFTeDA







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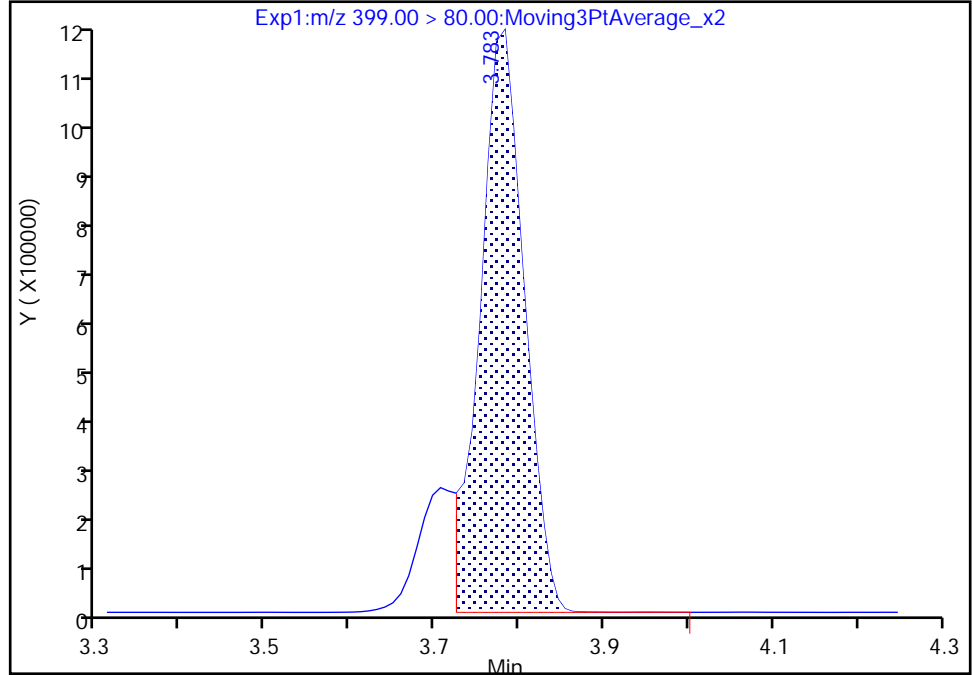
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Injection Date: 19-Feb-2022 23:54:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

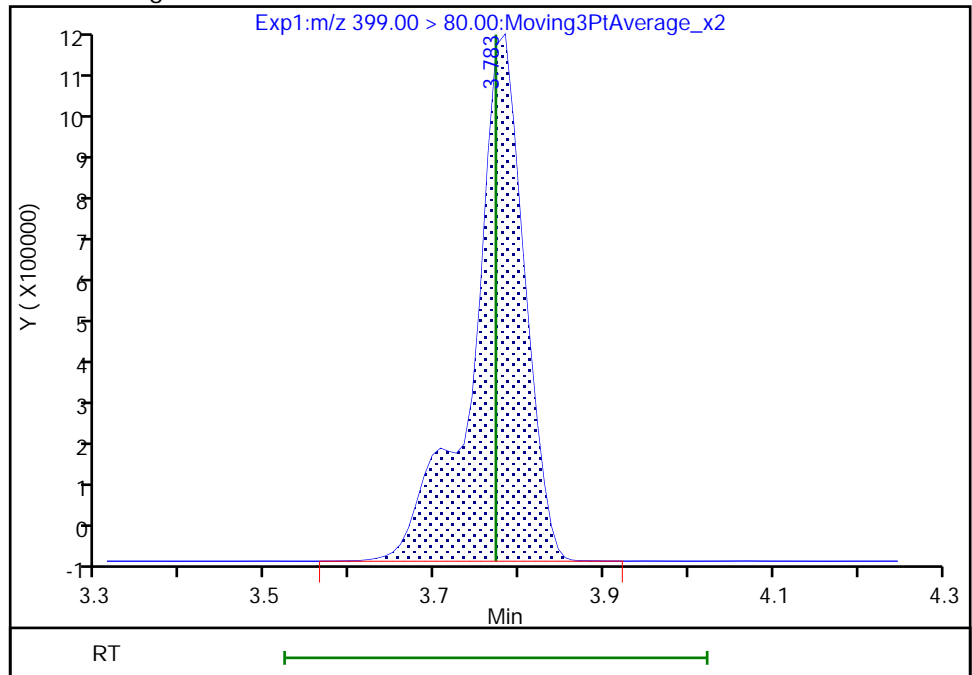
RT: 3.78  
Area: 4162164  
Amount: 1.886350  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 4896031  
Amount: 2.218948  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:05  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

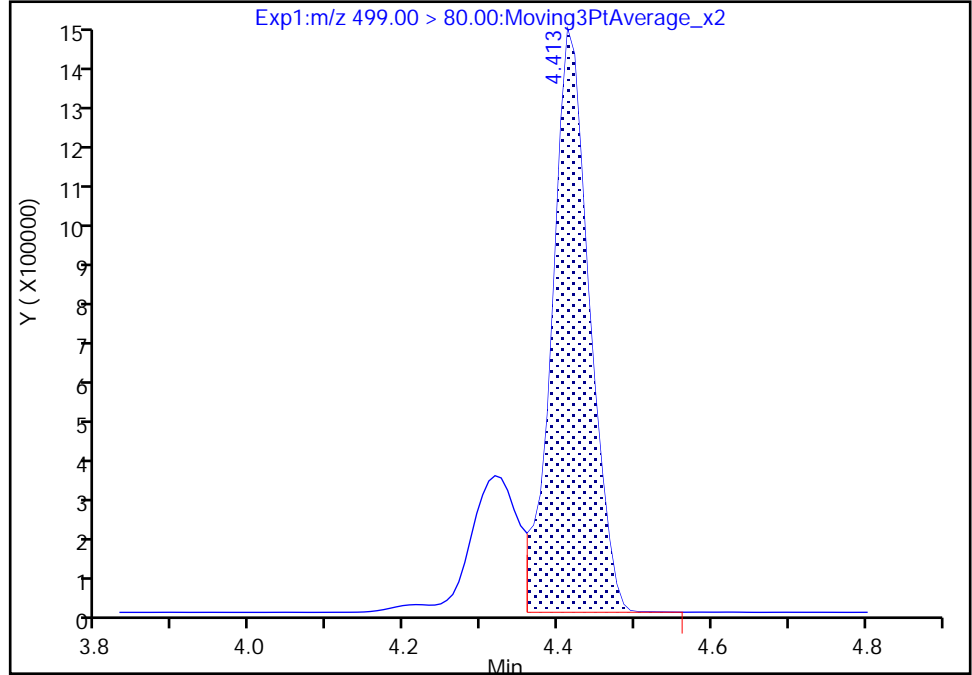
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Injection Date: 19-Feb-2022 23:54:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

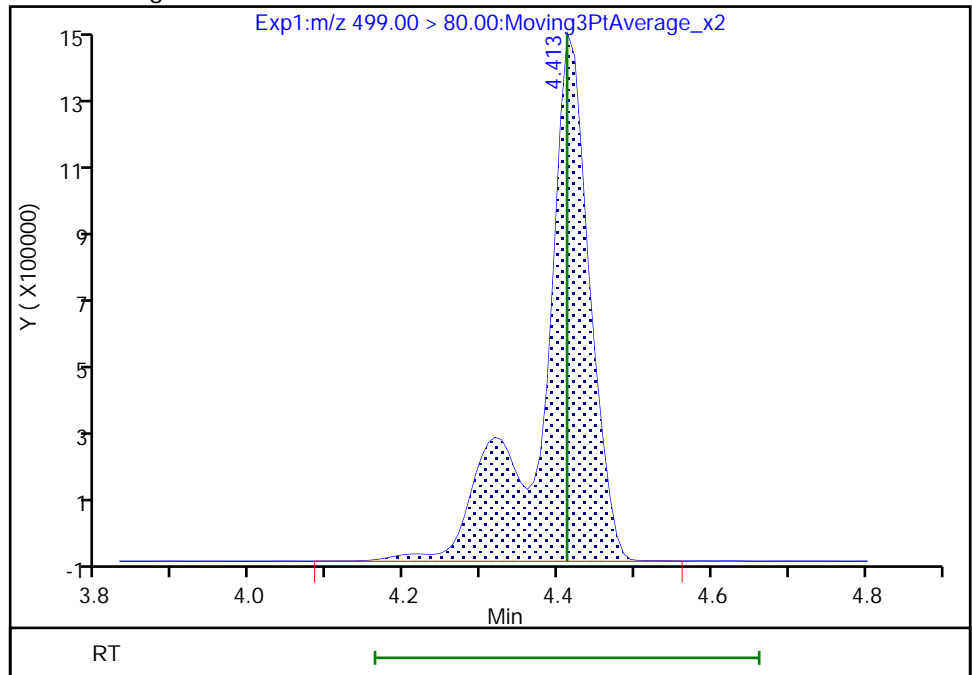
RT: 4.41  
Area: 4718991  
Amount: 1.745844  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 6162814  
Amount: 2.280003  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:16  
Audit Action: Manually Integrated

Eurofins Knoxville

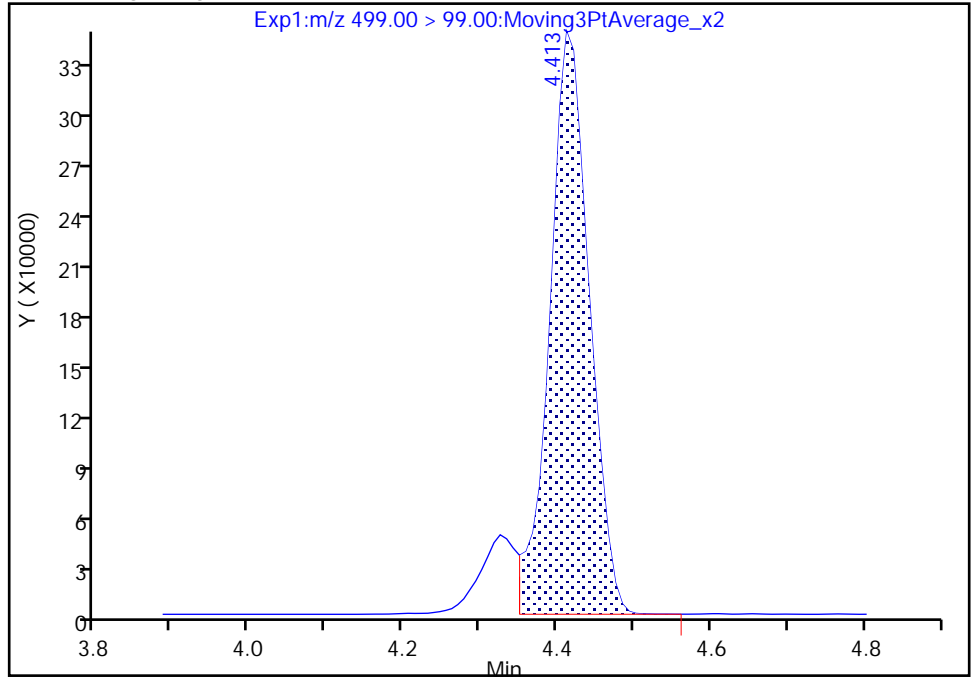
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Injection Date: 19-Feb-2022 23:54:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

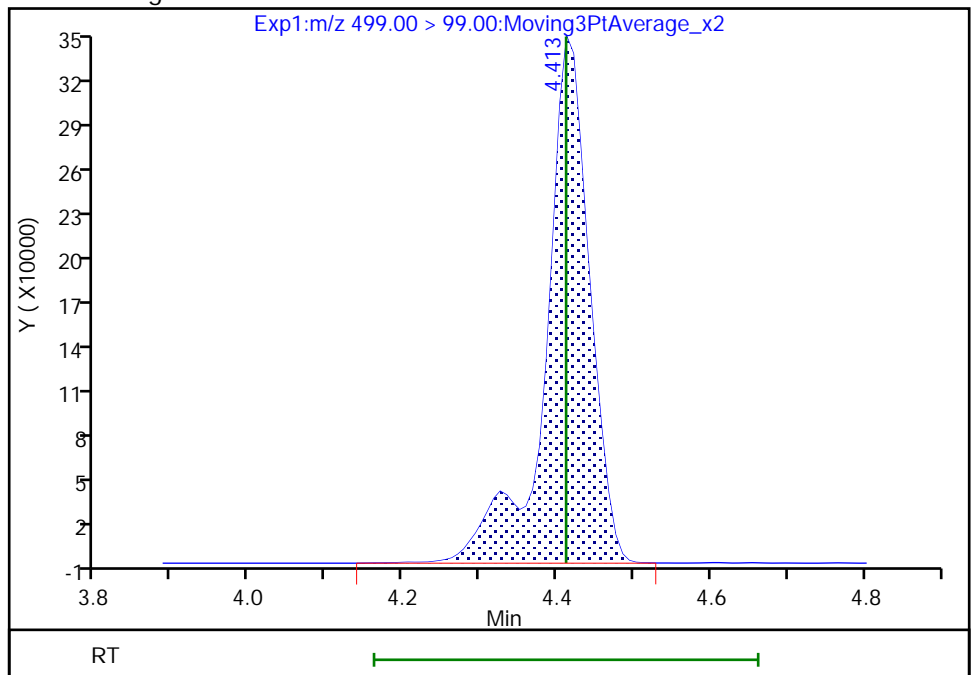
RT: 4.41  
Area: 1216511  
Amount: 1.745844  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 1367857  
Amount: 2.280003  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:25

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

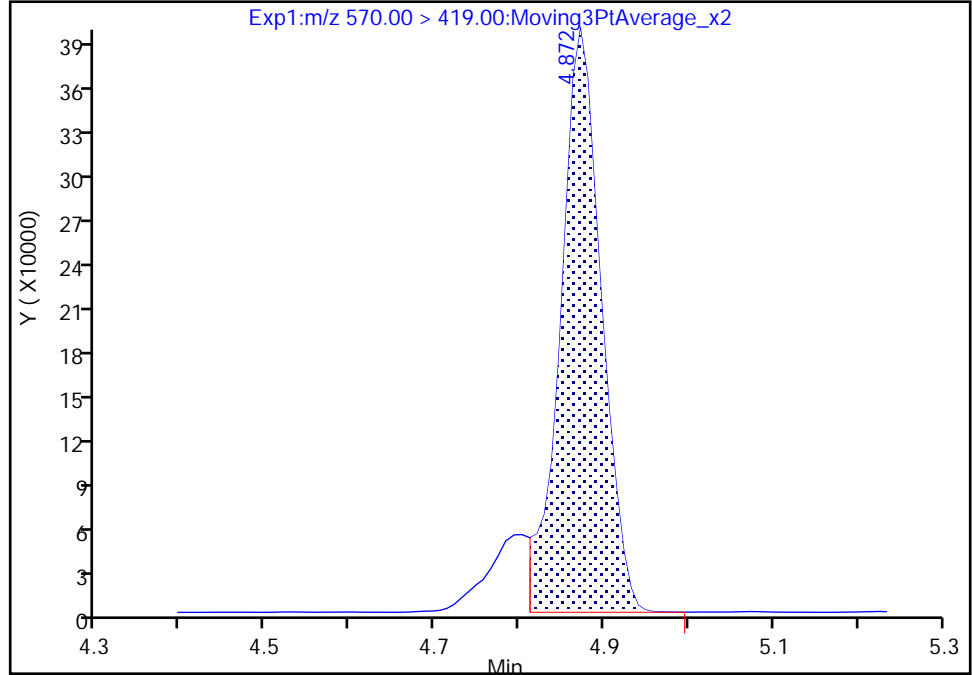
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

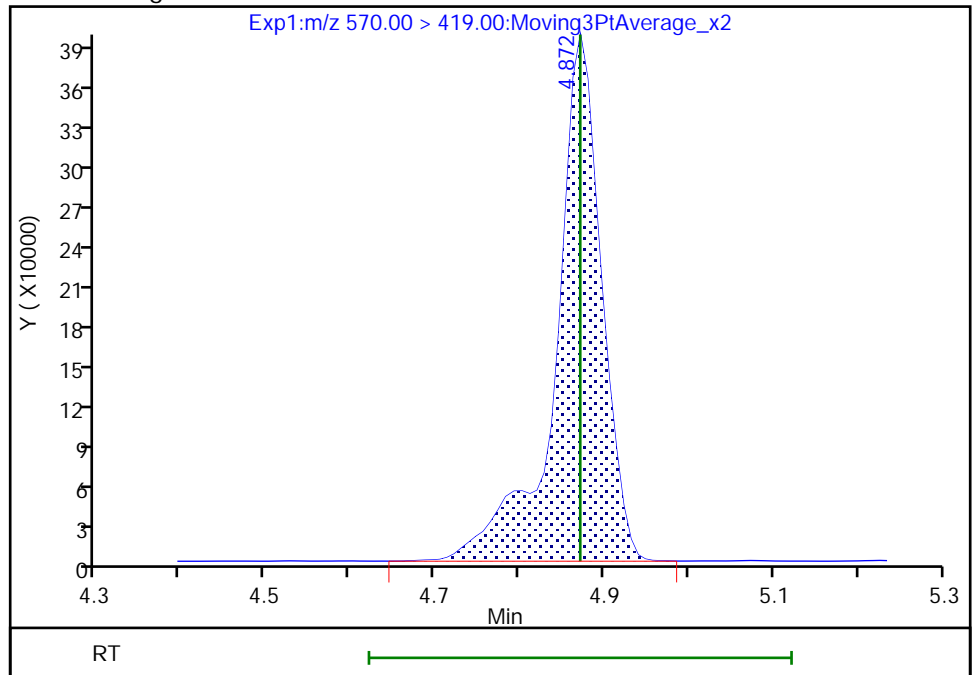
RT: 4.87  
Area: 1322986  
Amount: 2.095102  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1500582  
Amount: 2.367491  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:38  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

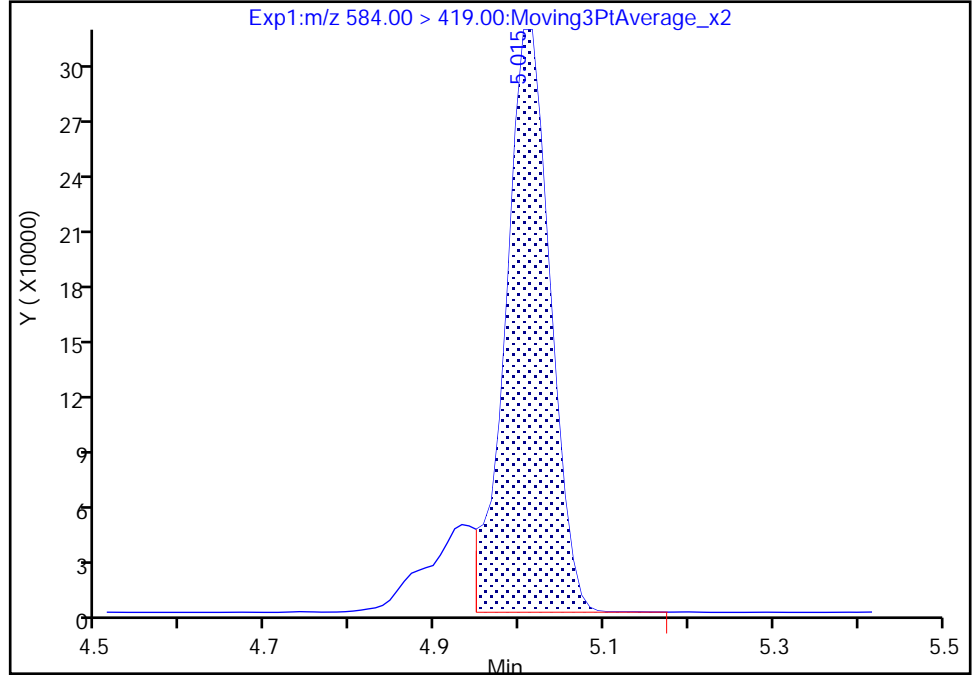
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Injection Date: 19-Feb-2022 23:54:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

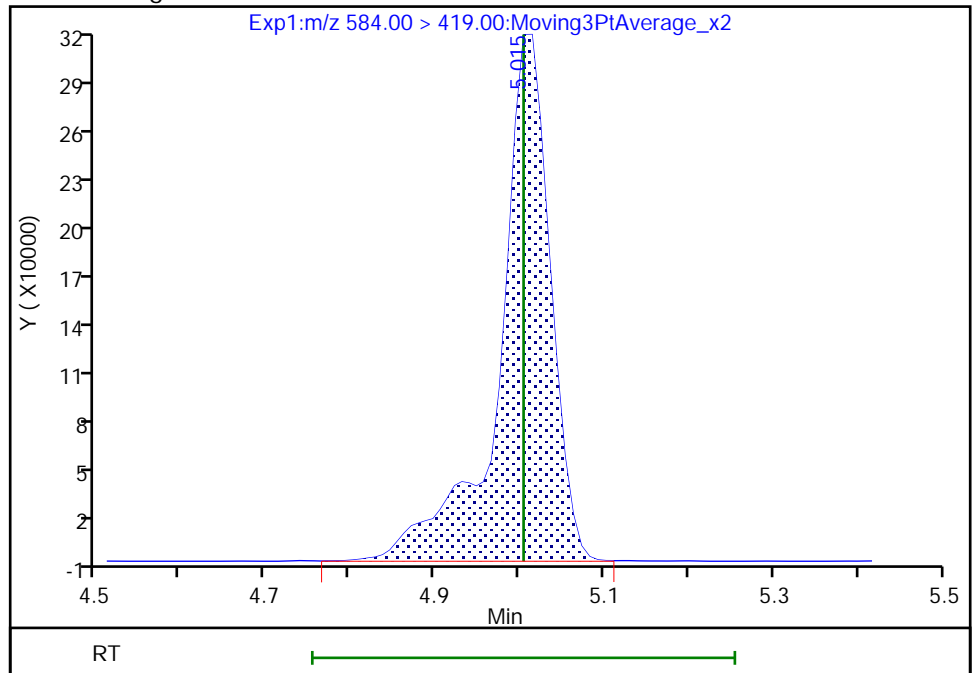
RT: 5.01  
Area: 1153649  
Amount: 2.262062  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 1344382  
Amount: 2.614355  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:49  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59064/4 Calibration Date: 02/20/2022 13:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8307		0.0488	0.0500	-2.5	50.0
PFECA F	AveID	0.7535	0.8120		0.0539	0.0500	7.8	50.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.069		0.0515	0.0500	3.1	50.0
3:3 FTCA	QuaIF		0.0565		0.0518	0.0500	3.5	50.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.175		0.0446	0.0442	1.0	50.0
PFECA A	Q2ID		1.365		0.0539	0.0500	7.7	50.0
PES	Q2ID		2.533		0.0452	0.0445	1.6	50.0
PFECA B	Q2ID		0.4764		0.0567	0.0500	13.3	50.0
4:2 FTS	L2ID		2.639		0.0519	0.0467	11.1	50.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.9632		0.0532	0.0500	6.3	50.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.088		0.0494	0.0469	5.4	50.0
HFPO-DA	L2ID		1.506		0.0549	0.0500	9.8	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.439		0.0473	0.0455	3.9	50.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.122		0.0503	0.0500	0.7	50.0
DONA	AveID	2.644	2.377		0.0424	0.0471	-10.1	50.0
5:3 FTCA	L2ID		4.576		0.0566	0.0500	13.2	50.0
6:2 FTUCA	AveID	1.046	1.059		0.0506	0.0500	1.2	50.0
6:2 FTCA	L1ID		0.6586		0.0409	0.0500	-18.3	50.0
PFECHS	AveID	0.7426	0.7943		0.0493	0.0461	7.0	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9899		0.0477	0.0476	0.2	50.0
6:2 FTS	L2ID		2.119		0.0515	0.0474	8.7	50.0
Perfluorooctanoic acid (PFOA)	L1ID		1.276		0.0536	0.0500	7.2	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.242		0.0503	0.0464	8.5	50.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8235		0.0541	0.0500	8.3	50.0
7:3 FTCA	AveID	5.230	6.089		0.0582	0.0500	16.4	50.0
8:2 FTUCA	AveID	0.9565	0.9463		0.0495	0.0500	-1.1	50.0
8:2 FTCA	AveID	1.811	2.159		0.0596	0.0500	19.2	50.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.174		0.0451	0.0466	-3.3	50.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9868		0.0468	0.0480	-2.4	50.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	1.033		0.0541	0.0500	8.2	50.0
Perfluorodecanoic acid (PFDA)	L2ID		1.067		0.0528	0.0500	5.7	50.0
8:2 FTS	L2ID		1.569		0.0429	0.0479	-10.4	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		1.141		0.0640	0.0500	27.9	50.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8951		0.0441	0.0482	-8.4	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59064/4 Calibration Date: 02/20/2022 13:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.037		0.0536	0.0500	7.2	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8082		0.0374	0.0500	-25.2	50.0
10:2 FTUCA	AveID	1.208	1.254		0.0519	0.0500	3.8	50.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.738		0.0431	0.0471	-8.4	50.0
10:2 FTCA	Q2ID		1.097		0.0530	0.0500	6.0	50.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.127		0.0546	0.0500	9.1	50.0
10:2 FTS	L2ID		2.350		0.0480	0.0482	-0.5	50.0
NMeFOSA	L2ID		1.127		0.0467	0.0500	-6.6	50.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.428		0.0572	0.0500	14.5	50.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9923		0.0508	0.0484	5.0	50.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.9046		0.0512	0.0500	2.4	50.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.458		0.0514	0.0500	2.8	50.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.331		0.0483	0.0500	-3.3	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1584		0.0566	0.0500	13.1	50.0
Perfluorohexadecanoic acid	L1ID		1.513		0.0546	0.0500	9.1	50.0
Perfluorooctadecanoic acid	AveID	1.013	1.035		0.0511	0.0500	2.2	50.0
13C4 PFBA	Ave	1.172	1.107		1.18	1.25	-5.5	50.0
13C5 PFPeA	Ave	0.9197	0.7961		1.08	1.25	-13.4	50.0
13C3 PFBS	Ave	0.5817	0.5133		1.03	1.16	-11.8	50.0
M2-4:2 FTS	Ave	0.1821	0.1629		1.05	1.17	-10.5	50.0
13C2 PFHxA	Ave	1.015	0.8968		1.11	1.25	-11.6	50.0
13C3 HFPO-DA	Ave	0.4963	0.4251		1.07	1.25	-14.3	50.0
18O2 PFHxS	Ave	0.3776	0.3746		1.17	1.18	-0.8	50.0
13C4 PFHpA	Ave	0.9046	0.7819		1.08	1.25	-13.6	50.0
13C-6:2 FTUCA	Ave	0.3374	0.2926		1.08	1.25	-13.3	50.0
13C-6:2 FTCA	Ave	0.0260	0.0215		1.03	1.25	-17.4	50.0
13C4 PFOA	Ave	0.9356	0.9099		1.22	1.25	-2.7	50.0
M2-6:2 FTS	Ave	0.1799	0.1801		1.19	1.19	0.1	50.0
13C4 PFOS	Ave	0.5610	0.5914		1.26	1.20	5.4	50.0
13C5 PFNA	Ave	1.268	1.195		1.18	1.25	-5.8	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4267		1.18	1.25	-5.6	50.0
13C-8:2 FTCA	Ave	0.0330	0.0309		1.17	1.25	-6.4	50.0
13C8 FOSA	Ave	0.8475	0.8004		1.18	1.25	-5.6	50.0
13C2 PFDA	Ave	1.210	1.204		1.24	1.25	-0.4	50.0
M2-8:2 FTS	Ave	0.1961	0.1810		1.11	1.20	-7.7	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59064/4 Calibration Date: 02/20/2022 13:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1066		1.17	1.25	-6.1	50.0
13C2 PFUnA	Ave	1.168	1.060		1.14	1.25	-9.2	50.0
d5-NEtFOSAA	Ave	0.1164	0.1118		1.20	1.25	-3.9	50.0
13C-10:2 FTUCA	Ave	0.5078	0.3685		0.907	1.25	-27.4	50.0
13C-10:2 FTCA	Ave	0.0309	0.0226		0.913	1.25	-27.0	50.0
13C2 PFDoA	Ave	1.152	1.003		1.09	1.25	-13.0	50.0
13C2 10:2 FTS	Ave	0.1652	0.1480		1.06	1.18	-10.4	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1157		1.22	1.25	-2.4	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0982		1.22	1.25	-2.7	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1260		1.28	1.25	2.4	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0820		1.27	1.25	1.3	50.0
13C2 PFTeDA	Ave	0.9216	0.7380		1.00	1.25	-19.9	50.0
13C2 PFHxDA	Ave	0.5997	0.4587		0.956	1.25	-23.5	50.0
13C8 PFOA	AveID	0.9229	0.9598		1.30	1.25	4.0	50.0
13C8 PFOS	AveID	0.2212	0.1949		1.05	1.20	-11.9	50.0



Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
 Lims ID: CCVL  
 Client ID:  
 Sample Type: CCVL  
 Inject. Date: 20-Feb-2022 13:31:16 ALS Bottle#: 4 Worklist Smp#: 4  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022725-004 ccvl  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:50:45 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: cochranj Date: 20-Feb-2022 13:46:35

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										M
212.90 > 169.00	2.813	2.809	0.004	1.000	171753	0.0488		97.5	66.6	M
D 2 13C4 PFBA										
217.00 > 172.00	2.813	2.813	0.0	0.681	5168834	1.18		94.5	24101	
3 PFECA F										
229.00 > 85.00	2.921	2.917	0.004	0.935	120726	0.0539		108	1044	
D 5 13C5 PFPeA										
267.90 > 223.00	3.125	3.125	0.0	0.756	3717125	1.08		86.6	16338	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.125	3.117	0.008	1.000	158933	0.0515		103	70.3	
4 3:3 FTCA										M
241.00 > 177.10	3.134	3.131	0.003	1.000	5417	0.0518	Target=1.13	104	63.8	M
241.00 > 116.90	3.134	3.131	0.003	1.000	5856		0.93(0.56-1.69)		8.9	M
D 7 13C3 PFBS										
301.90 > 80.00	3.134	3.134	0.0	0.758	2228944	1.03		88.2	10040	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.134	3.134	0.0	1.000	99603	0.0446	Target=2.61	101	329	
298.90 > 99.00	3.134	3.134	0.0	1.000	38115		2.61(1.31-3.92)		263	
9 PFECA A										
278.95 > 84.90	3.214	3.210	0.004	1.028	203023	0.0539		108	1856	
11 PES										
314.80 > 135.00	3.273	3.263	0.010	1.045	216138	0.0452		102	1863	
12 PFECA B										
295.22 > 201.00	3.387	3.385	0.002	0.981	79790	0.0567		113	777	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.419	3.419	0.0	0.827	710399	1.04		89.5	1326	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.430	3.419	0.011	1.003	74978	0.0519		111	666	
D 14 13C2 PFHxA										
315.00 > 270.00	3.451	3.451	0.0	0.835	4187287	1.10		88.4	11519	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.451	3.447	0.004	1.101	97851	0.0494	Target=3.55	105	355	
349.00 > 99.00	3.451	3.447	0.004	1.101	28567		3.43(1.78-5.33)		163	
15 Perfluorohexanoic acid										M
313.00 > 269.00	3.451	3.447	0.004	1.000	161324	0.0532	Target=11.60	106	96.5	
313.00 > 119.00	3.451	3.447	0.004	1.000	16235		9.94(5.80-17.40)		17.3	M
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.556	3.556	0.0	0.860	1985078	1.07		85.7	5076	
17 HFPO-DA										
285.00 > 169.00	3.556	3.552	0.004	1.000	119606	0.0549	Target=2.45	110	65.0	
329.00 > 169.00	3.556	3.552	0.004	1.000	49829		2.40(1.23-3.68)		66.8	
D 20 18O2 PFHxS										
403.00 > 84.00	3.786	3.786	0.0	0.916	1654554	1.17		99.2	9018	
21 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.786	3.785	0.001	1.000	91642	0.0473	Target=3.44	104	305	M
399.00 > 99.00	3.786	3.785	0.001	1.000	25950		3.53(1.72-5.17)		89.1	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.796	3.796	0.0	0.918	3650964	1.08		86.4	9487	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.796	3.795	0.001	1.000	163817	0.0503	Target=3.25	101	175	
363.00 > 169.00	3.807	3.795	0.012	1.003	46274		3.54(1.62-4.87)		148	
25 DONA										
377.00 > 251.00	3.831	3.827	0.004	0.866	247335	0.0424	Target=1.74	89.9	943	
377.00 > 85.00	3.831	3.827	0.004	0.866	139603		1.77(0.87-2.61)		55.8	
26 5:3 FTCA										RM
340.88 > 236.90	3.864	3.856	0.008	0.987	18370	0.0566	Target=1.11	113	96.9	R
340.88 > 216.90	3.856	3.856	0.0	0.985	9666		1.90(0.56-1.67)		28.6	M
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.897	3.897	0.0	0.943	1366303	1.08		86.7	2808	
27 6:2 FTUCA										
356.86 > 292.90	3.897	3.890	0.007	1.000	57901	0.0506	Target=13.05	101	314	
356.86 > 243.00	3.897	3.890	0.007	1.000	4241		13.65(6.52-19.57)		22.7	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.915	3.915	0.0	0.947	100360	1.03		82.6	738	
29 6:2 FTCA										M
377.10 > 63.00	3.924	3.911	0.013	1.002	2644	0.0409	Target=1.29	81.7	10.2	M
377.10 > 313.10	3.915	3.911	0.004	1.000	3648		0.72(0.65-1.94)		7.7	M
32 PFECHS										
460.80 > 380.90	4.067	4.064	0.003	0.984	124456	0.0493	Target=1.75	107	517	
460.80 > 98.90	4.067	4.064	0.003	0.984	72457		1.72(0.87-2.62)		277	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.115	4.114	0.001	0.930	104091	0.0477	Target=3.72	100	319	
449.00 > 99.00	4.115	4.114	0.001	0.930	26452		3.94(1.86-5.57)		161	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.134	4.134	0.0	1.000	799086	1.19		100	2574	
35 6:2 FTS										
427.00 > 407.00	4.124	4.126	-0.002	0.998	67579	0.0515		109	240	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.134	4.126	0.008	1.000	4077729	1.30		104	10411	
D 31 13C4 PFOA										
417.00 > 372.00	4.134	4.134	0.0	1.000	4248619	1.22		97.3	8221	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.134	4.129	0.005	1.000	216783	0.0536	Target=2.51	107	204	
413.00 > 169.00	4.134	4.129	0.005	1.000	91894		2.36(1.26-3.77)		219	
* 30 13C2 PFOA										
415.00 > 370.00	4.134	4.129	0.005		4669191	1.25			11824	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.425	4.419	0.006	1.000	514621	1.05		88.1	2220	
D 39 13C4 PFOS										
503.00 > 80.00	4.425	4.425	0.0	1.071	2640002	1.26		105	4251	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.425	4.420	0.005	1.000	127364	0.0503	Target=4.30	108	220	M
499.00 > 99.00	4.417	4.420	-0.003	0.998	31411		4.05(2.15-6.45)		101	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.443	4.443	0.0	1.000	183733	0.0541	Target=3.60	108	208	
463.00 > 169.00	4.443	4.443	0.0	1.000	48409		3.80(1.80-5.40)		123	
D 41 13C5 PFNA										
468.00 > 423.00	4.443	4.443	0.0	1.075	5577848	1.18		94.2	7859	
43 7:3 FTCA										
441.00 > 337.00	4.532	4.527	0.005	0.993	35189	0.0582	Target=1.42	116	105	
441.00 > 317.00	4.532	4.527	0.005	0.993	28567		1.23(0.71-2.13)		116	
44 8:2 FTUCA										
456.86 > 392.90	4.557	4.548	0.009	1.000	75409	0.0495	Target=35.37	98.9	281	
456.86 > 343.00	4.549	4.548	0.001	0.998	3342		22.56(17.68-53.05)		12.4	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.557	4.557	0.0	1.000	1992177	1.18		94.4	5069	
46 8:2 FTCA										M
477.00 > 393.10	4.565	4.562	0.003	1.000	12475	0.0596	Target=3.35	119	43.9	
477.00 > 63.20	4.557	4.562	-0.005	0.998	3162		3.95(1.68-5.03)		15.1	M
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.565	4.565	0.0	1.104	144484	1.17		93.6	487	
49 9CIFOS										
531.00 > 351.00	4.582	4.580	0.002	1.108	223834	0.0451		96.7	461	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.702	4.702	0.0	1.062	104638	0.0468	Target=3.99	97.6	324	
549.00 > 99.00	4.702	4.702	0.0	1.062	28629		3.65(2.00-5.99)		180	
D 55 13C8 FOSA										
506.00 > 78.00	4.710	4.710	0.0	1.139	3737056	1.18		94.4	7511	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.710	4.713	-0.003	1.000	154463	0.0541		108	384	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.736	4.730	0.006	1.000	240012	0.0528	Target=10.58	106	221	
513.00 > 169.00	4.736	4.730	0.006	1.000	21277		11.28(5.29-15.88)		25.3	
D 52 13C2 PFDA										
515.00 > 470.00	4.736	4.736	0.0	1.146	5623149	1.24		99.6	14278	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.744	4.744	0.0	1.148	809471	1.10		92.3	1898	
53 8:2 FTS										
527.00 > 507.00	4.744	4.742	0.002	1.000	50816	0.0429		89.6	246	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.876	4.876	0.0	1.180	497614	1.17		93.9	1780	
57 NMeFOSAA										
570.00 > 419.00	4.884	4.874	0.010	1.002	22709	0.0640		128	44.1	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.961	4.963	-0.002	1.121	95312	0.0441	Target=3.55	91.6	529	
599.00 > 99.00	4.971	4.963	0.008	1.123	22010		4.33(1.78-5.33)		124	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.999	4.992	0.007	1.000	205282	0.0536	Target=8.26	107	304	
563.00 > 169.00	4.999	4.992	0.007	1.000	24228		8.47(4.13-12.39)		136	
D 59 13C2 PFUnA										
565.00 > 520.00	4.999	4.999	0.0	1.209	4950597	1.13		90.8	10110	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.009	5.009	0.0	1.212	522206	1.20		96.1	2950	
62 NEtFOSAA										
584.00 > 419.00	5.018	5.013	0.005	1.002	16881	0.0374		74.8	76.1	M
63 11CIFOS										
631.00 > 451.00	5.096	5.091	0.005	1.152	180882	0.0431		91.6	568	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.096	5.096	0.0	1.233	1720728	0.9071		72.6	6030	
65 10:2 FTUCA										
556.86 > 492.90	5.096	5.098	-0.002	1.000	86300	0.0519		104	228	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.115	5.115	0.0	1.237	105475	0.9131		73.0	722	
66 10:2 FTCA										
576.80 > 493.00	5.124	5.111	0.013	1.002	4628	0.0530	Target=2.53	106	21.4	
576.80 > 63.10	5.115	5.111	0.004	1.000	2542		1.82(1.26-3.79)		13.4	
D 69 13C2 PFDaA										
615.00 > 570.00	5.230	5.230	0.0	1.265	4682403	1.09		87.0	9816	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.230	5.228	0.002	1.000	211138	0.0546	Target=6.85	109	272	
613.00 > 169.00	5.230	5.228	0.002	1.000	27337		7.72(3.43-10.28)		99.1	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.246	5.246	0.0	1.269	654556	1.06		89.6	4548	
71 10:2 FTS										
627.00 > 607.00	5.254	5.249	0.005	1.002	62619	0.0480		99.5	303	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.278	5.278	0.0	1.277	458564	1.22		97.3	50.4	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.278	5.278	0.0	1.277	540315	1.22		97.6	521	
74 NMeFOSA										M
512.00 > 169.00	5.278	5.287	-0.009	1.000	20669	0.0467		93.4	72.2	M
75 N-MeFOSE-M										M
616.00 > 59.00	5.287	5.294	-0.007	1.002	30870	0.0572		114	39.9	M
76 PFDoS										
699.00 > 80.00	5.403	5.401	0.002	1.221	106104	0.0508	Target=4.22	105	368	
699.00 > 99.00	5.403	5.401	0.002	1.221	20670		5.13(2.11-6.34)		134	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.439	5.439	0.0	1.316	588489	1.28		102	320	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.439	5.433	0.006	1.040	169424	0.0512	Target=6.32	102	199	
663.00 > 169.00	5.439	5.433	0.006	1.040	28765		5.89(3.16-9.48)		120	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.447	5.447	0.0	1.318	382825	1.27		101	813	
79 N-EtFOSE-M										M
630.00 > 59.00	5.447	5.454	-0.007	1.002	34326	0.0514		103	37.6	M
81 N-EtFOSA-M										M
526.00 > 169.00	5.456	5.459	-0.003	1.002	20377	0.0483		96.7	114	M
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.622	5.617	0.005	1.000	21837	0.0566	Target=1.01	113	73.2	
713.00 > 219.00	5.622	5.617	0.005	1.000	18588		1.17(0.51-1.52)		121	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.622	5.622	0.0	1.360	3446002	1.00		80.1	8887	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.929	5.926	0.003	1.000	129668	0.0546	Target=8.64	109	264	
813.00 > 169.00	5.929	5.926	0.003	1.000	14934		8.68(4.32-12.97)		43.0	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.929	5.929	0.0	1.434	2141969	0.9563		76.5	3823	
86 Perfluorooctadecanoic acid										M
913.00 > 869.00	6.187	6.186	0.001	1.044	88653	0.0511	Target=11.77	102	185	
913.00 > 169.00	6.187	6.186	0.001	1.044	8122		10.92(5.88-17.65)		23.8	M

**QC Flag Legend**

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

**Reagents:**

63L2PFC2T3\_00002

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d

Injection Date: 20-Feb-2022 13:31:16

Instrument ID: LCA

Lims ID: CCVL

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 4

Worklist Smp#: 4

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

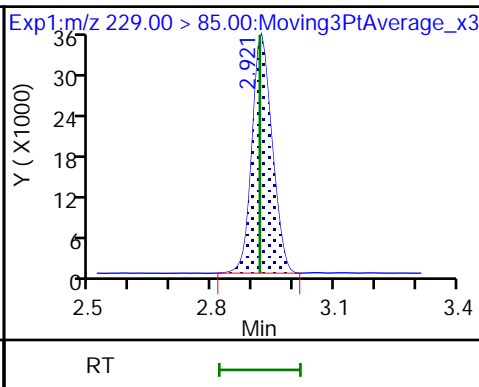
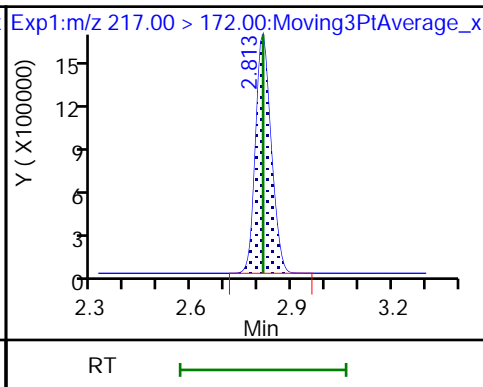
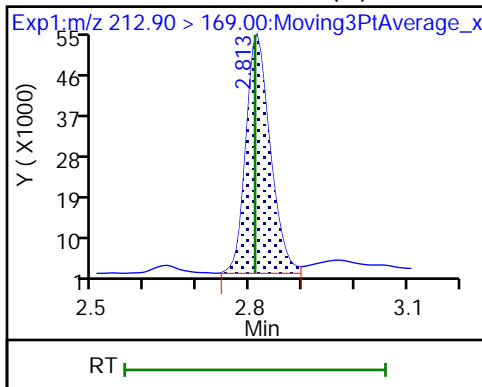
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid (M)

D 2 13C4 PFBA

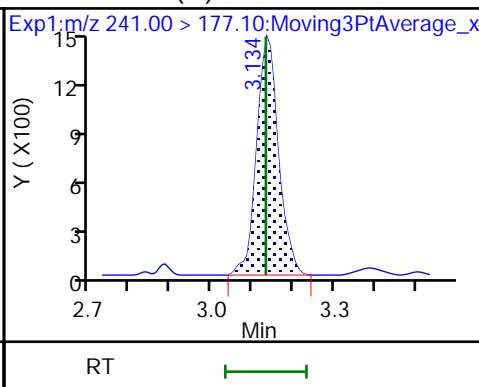
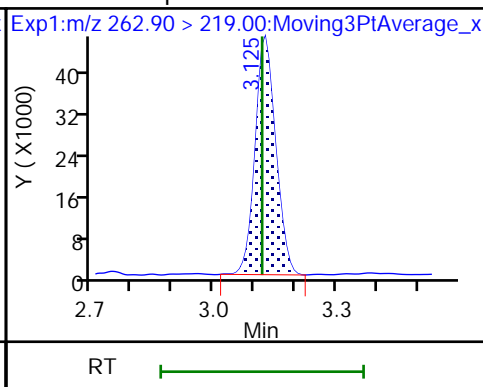
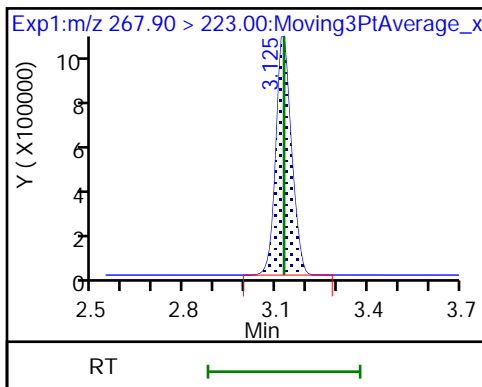
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

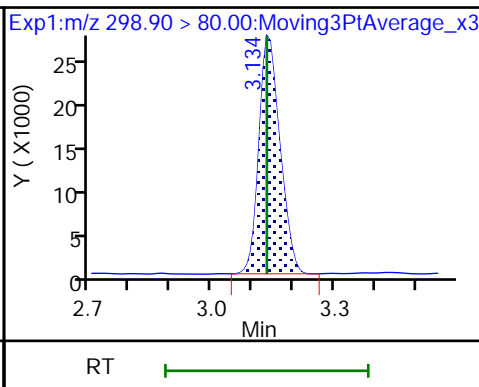
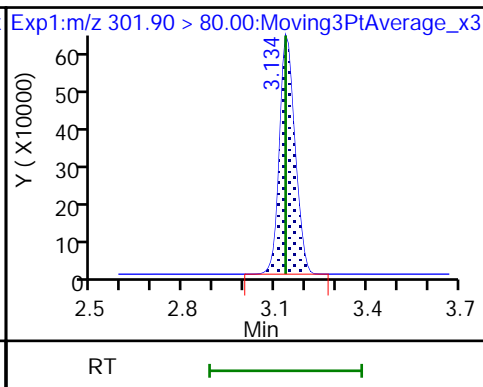
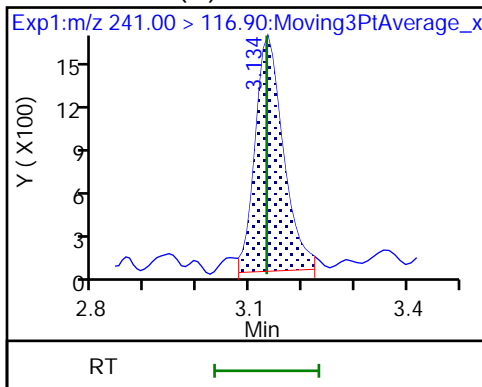
4 3:3 FTCA (M)



4 3:3 FTCA (M)

D 7 13C3 PFBS

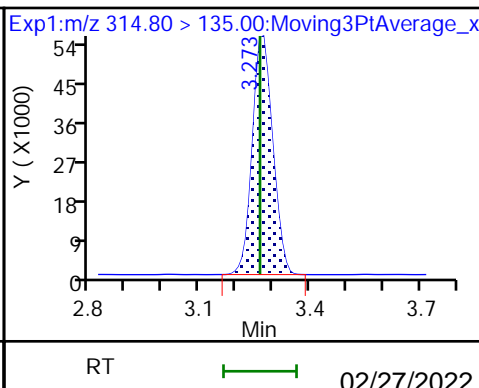
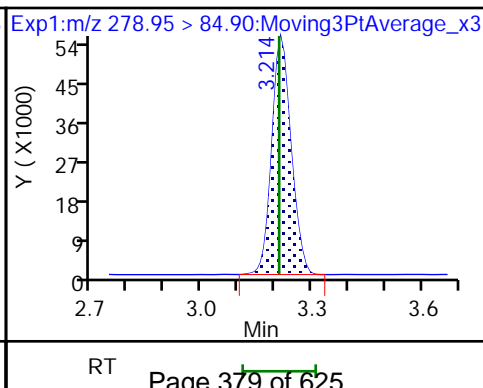
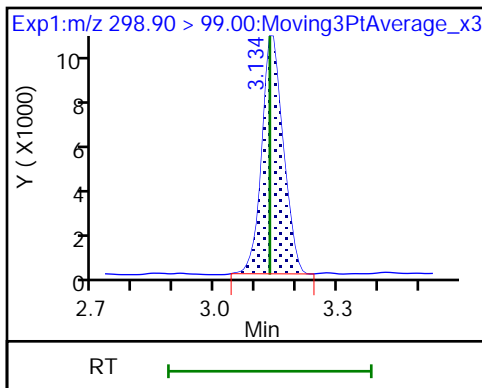
8 Perfluorobutanesulfonic acid

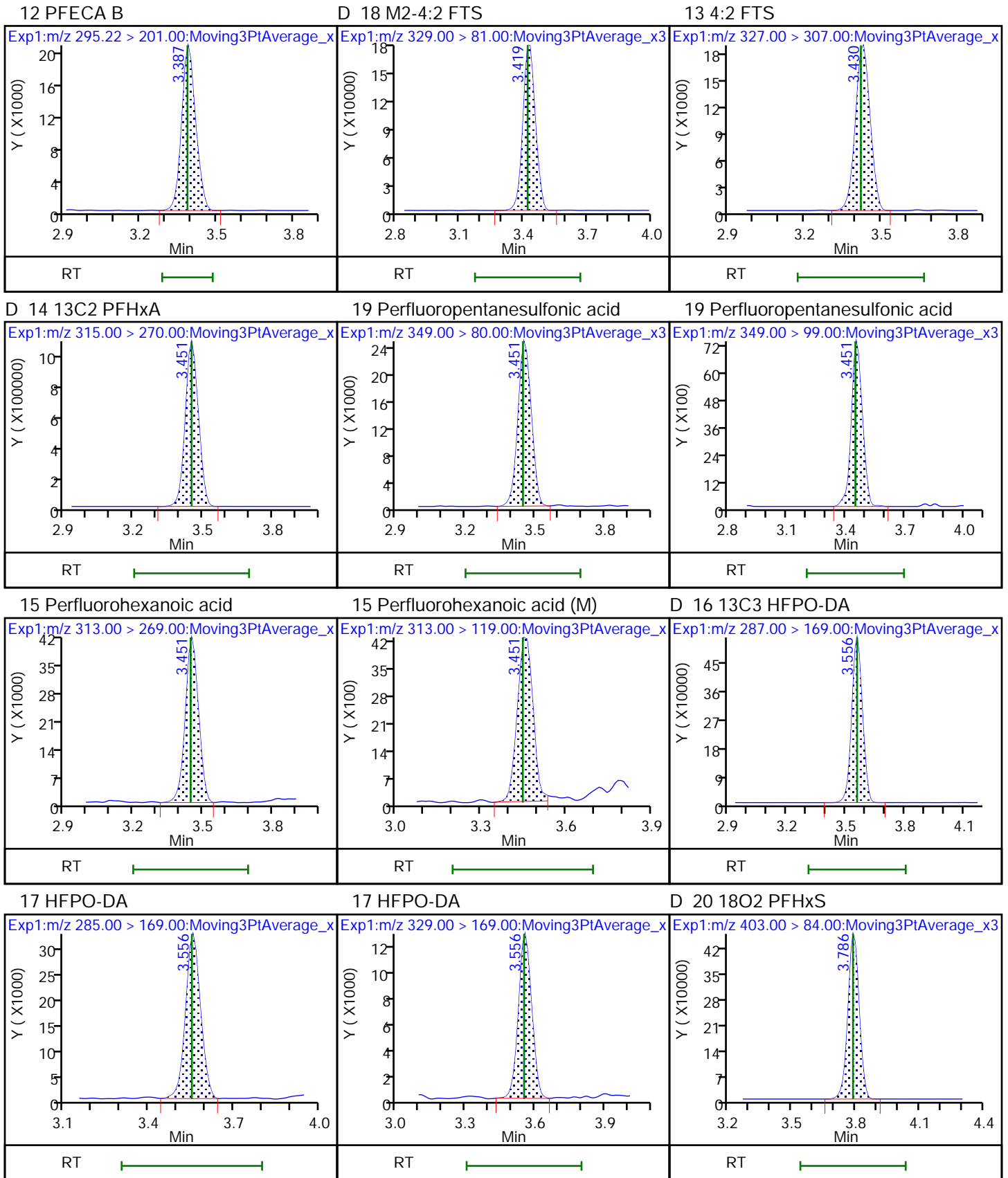


8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES

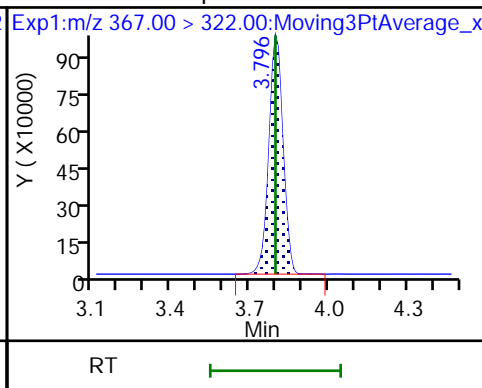
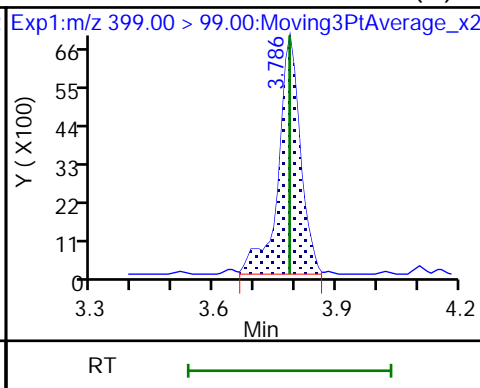
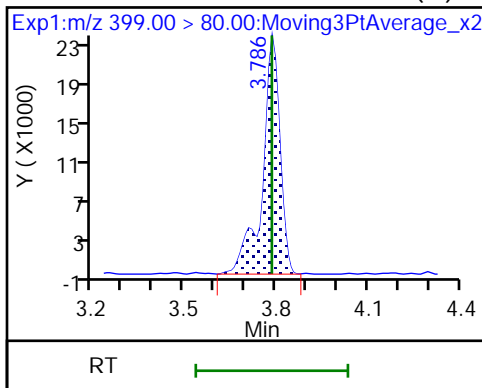




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

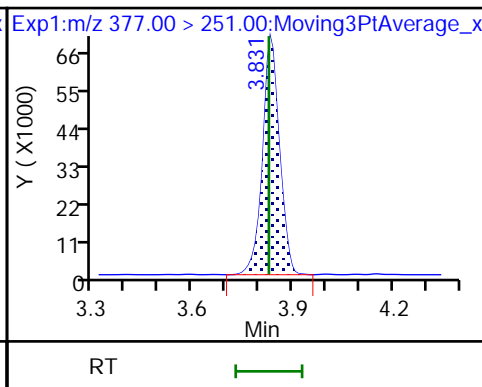
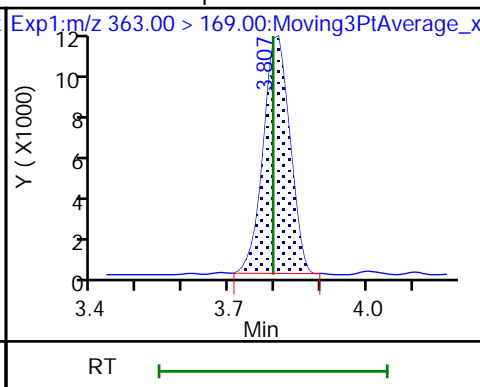
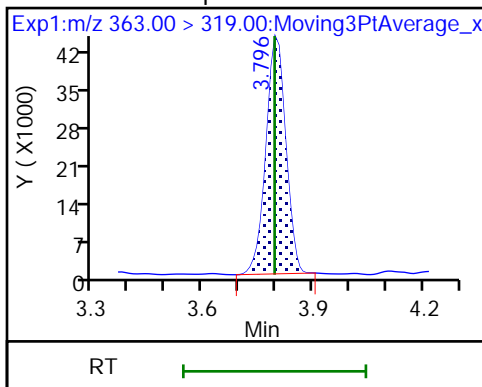
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

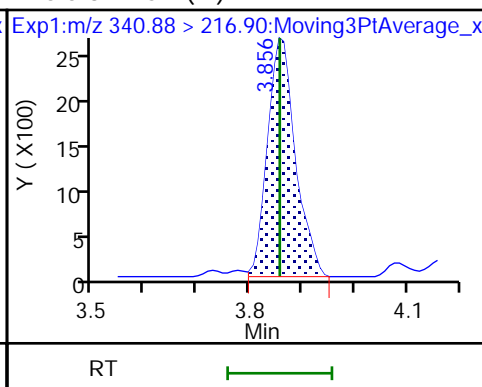
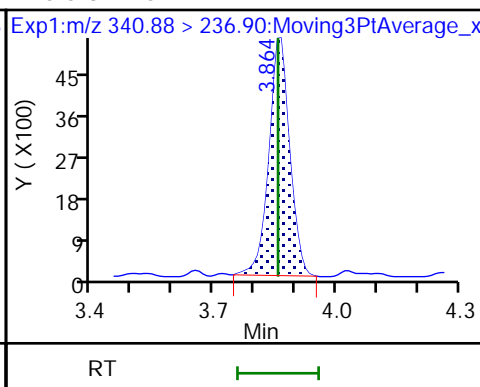
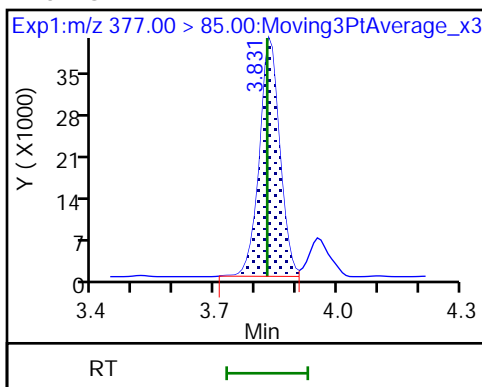
25 DONA



25 DONA

26 5:3 FTCA

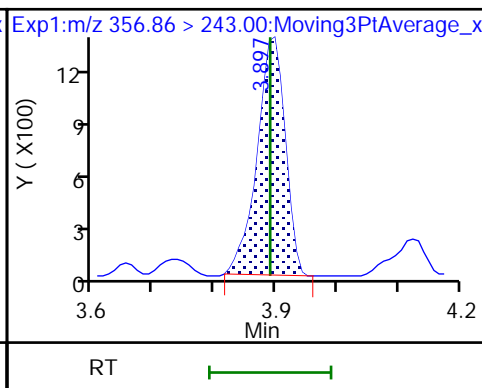
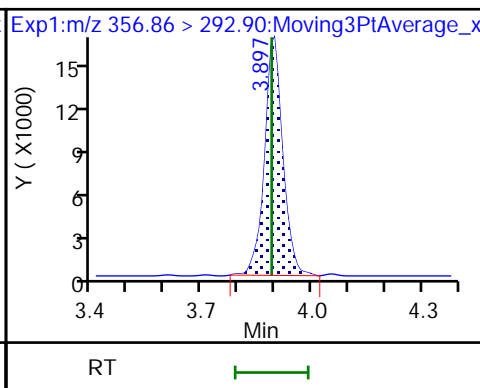
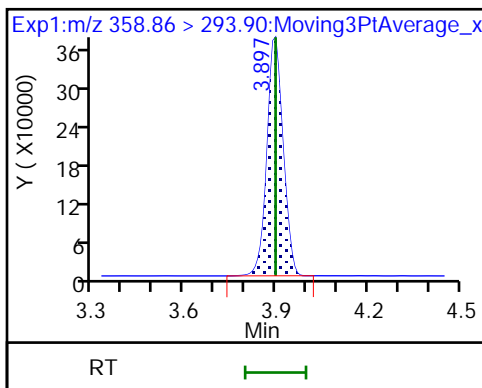
26 5:3 FTCA (M)



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

27 6:2 FTUCA

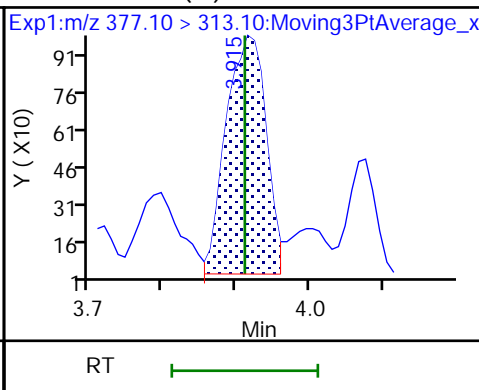
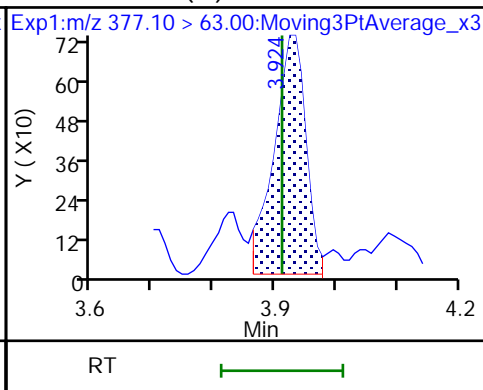
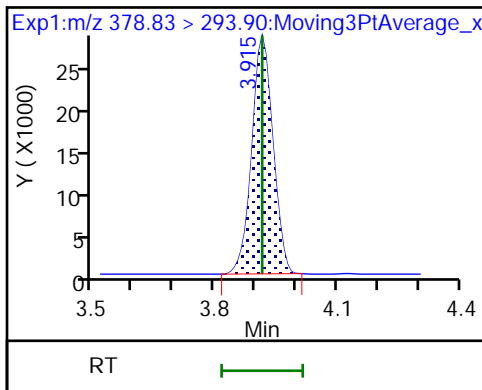




D 24 13C-6:2 FTCA

29 6:2 FTCA (M)

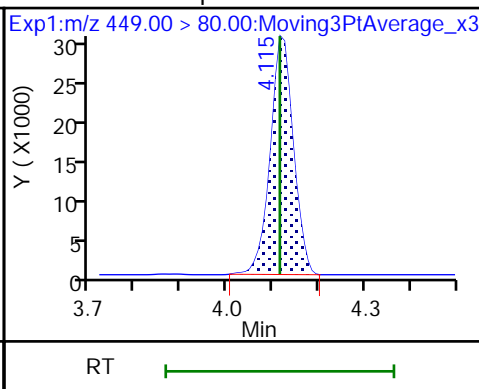
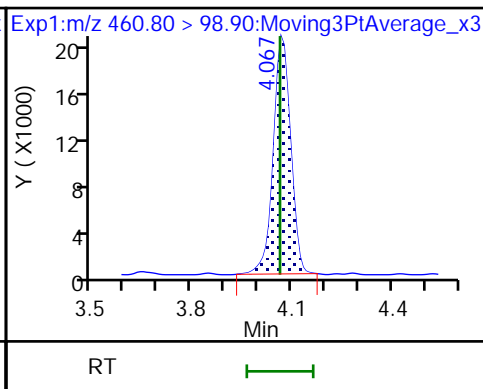
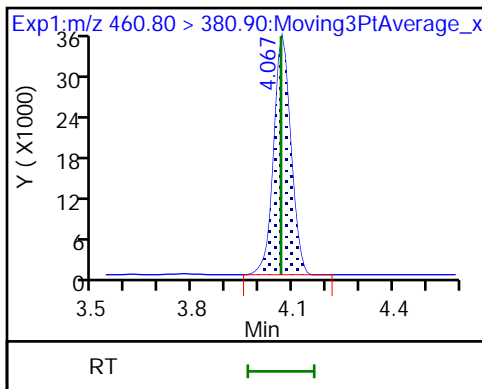
29 6:2 FTCA (M)



32 PFECHS

32 PFECHS

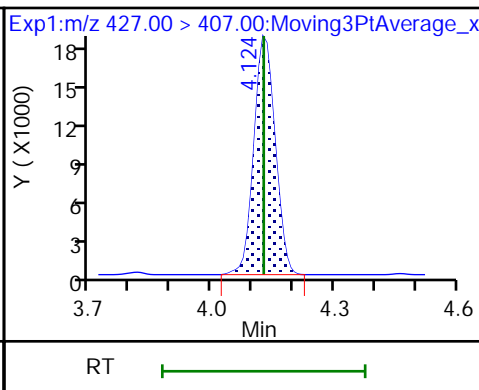
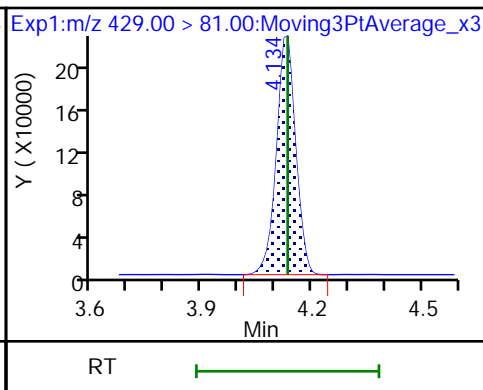
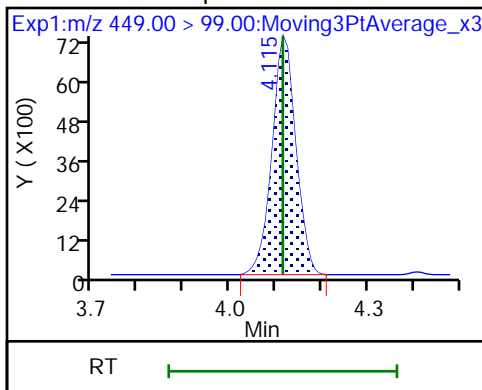
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

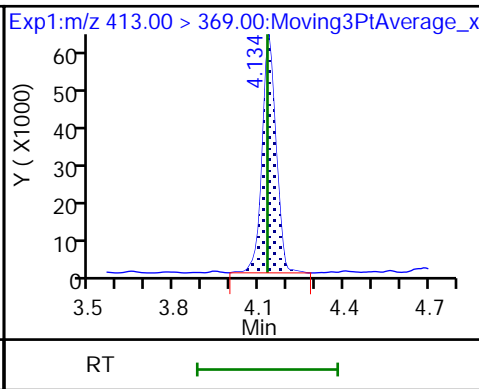
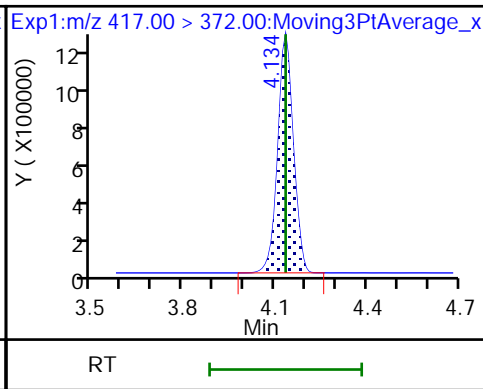
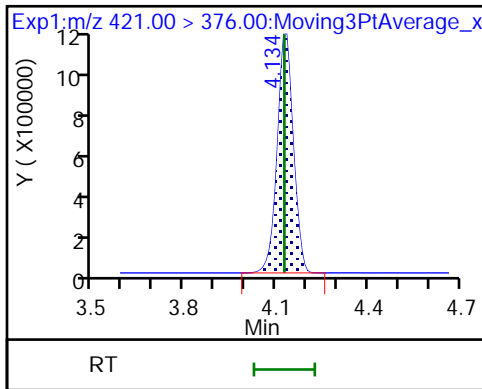
35 6:2 FTS



\$ 36 13C8 PFOA

D 31 13C4 PFOA

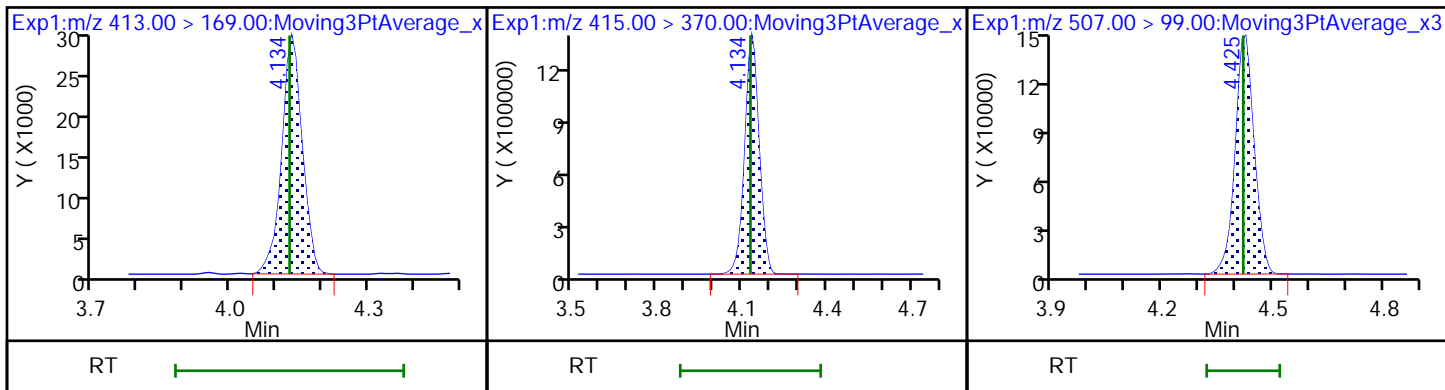
37 Perfluorooctanoic acid



37 Perfluorooctanoic acid

\* 30 13C2 PFOA

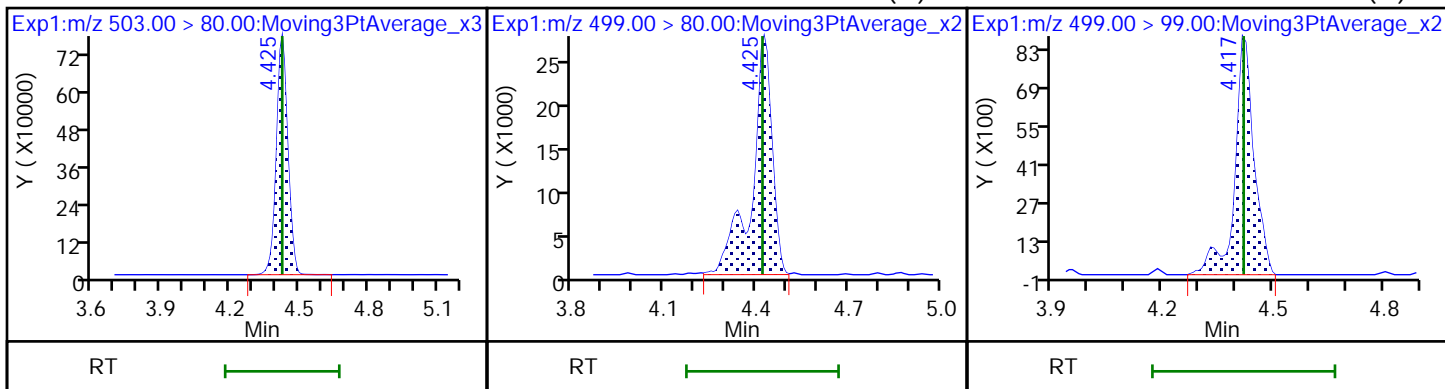
\$ 38 13C8 PFOS



D 39 13C4 PFOS

40 Perfluorooctanesulfonic acid (M)

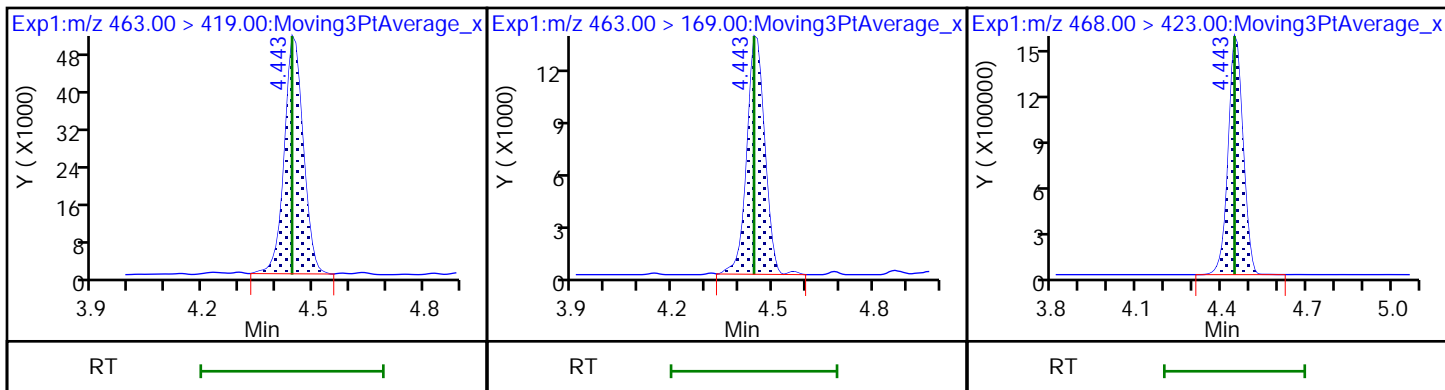
40 Perfluorooctanesulfonic acid (M)



42 Perfluorononanoic acid

42 Perfluorononanoic acid

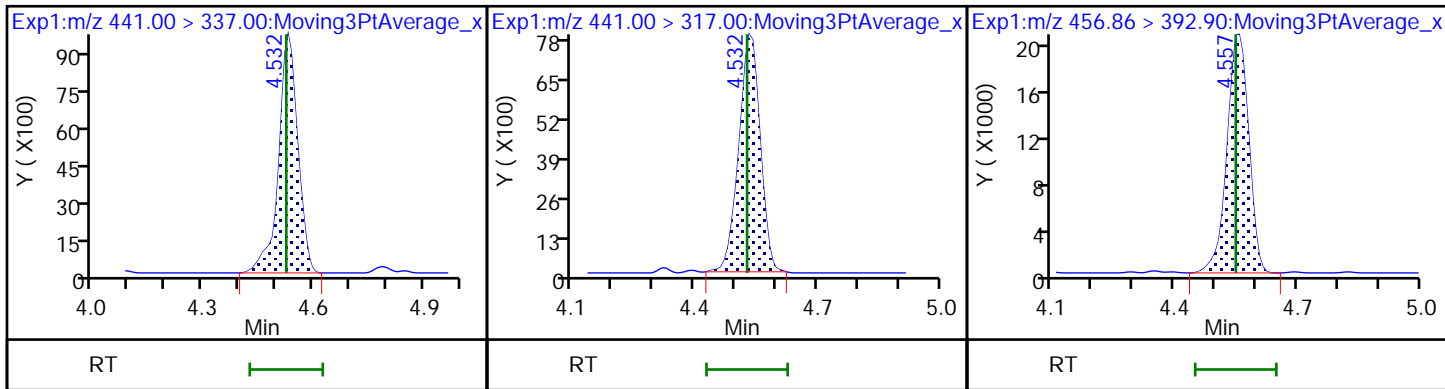
D 41 13C5 PFNA

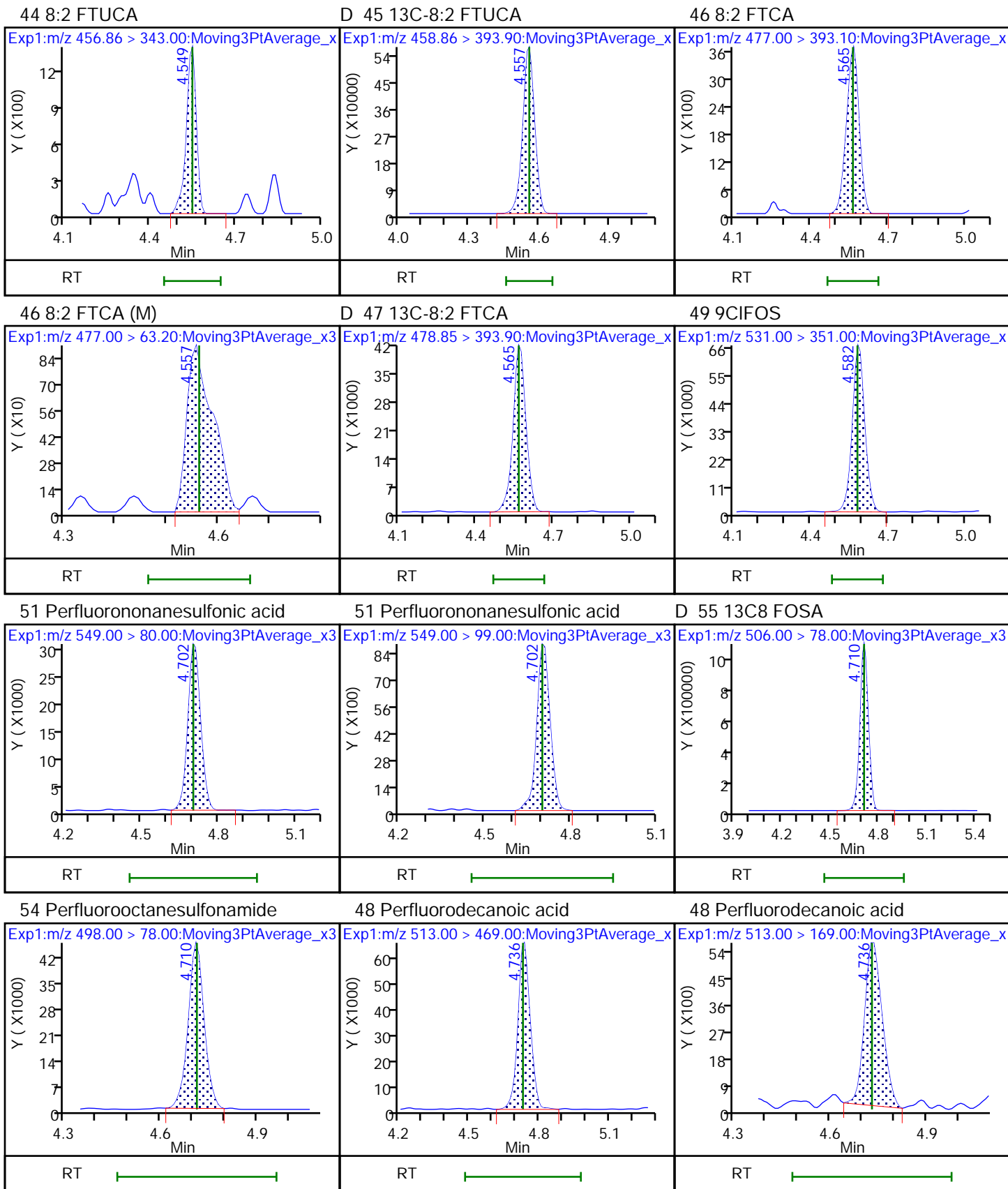


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA

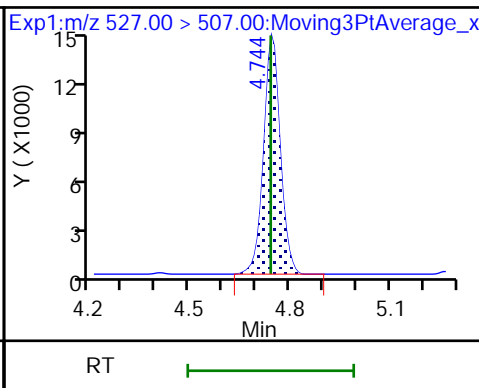
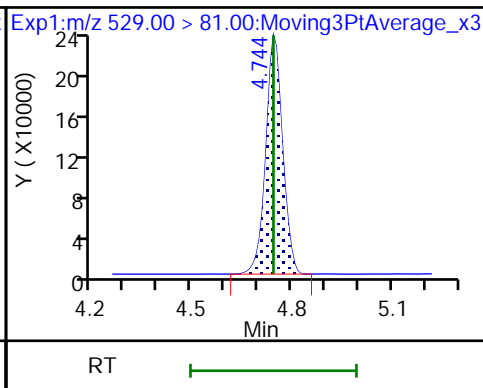
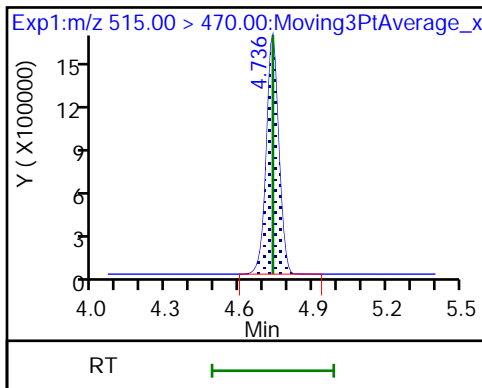




D 52 13C2 PFDA

D 50 M2-8:2 FTS

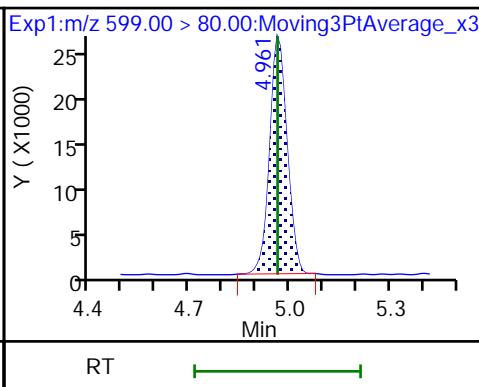
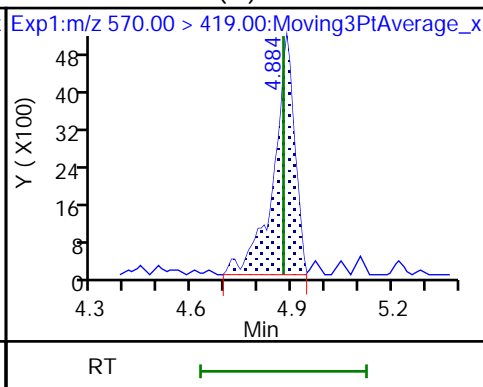
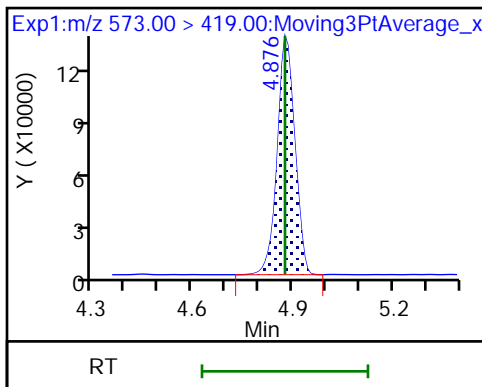
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

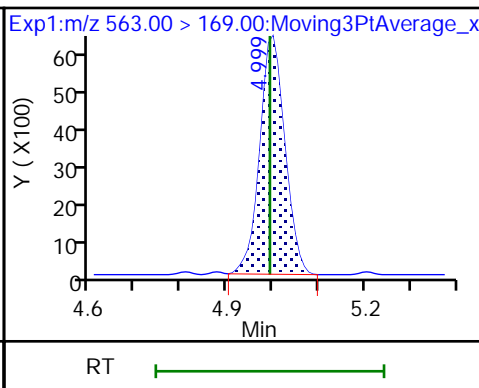
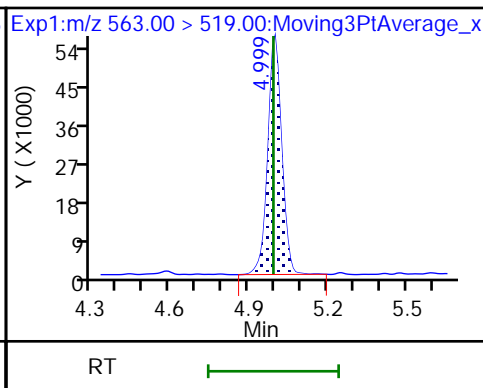
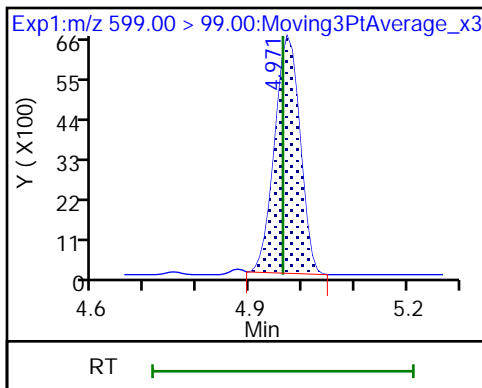
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

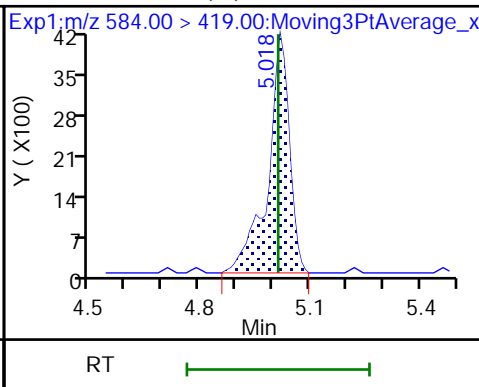
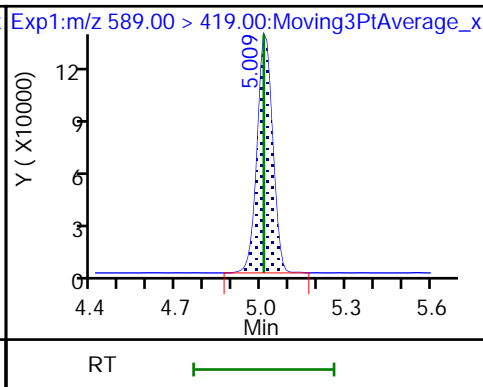
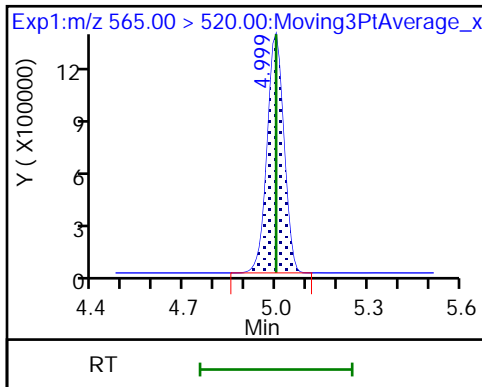
60 Perfluoroundecanoic acid

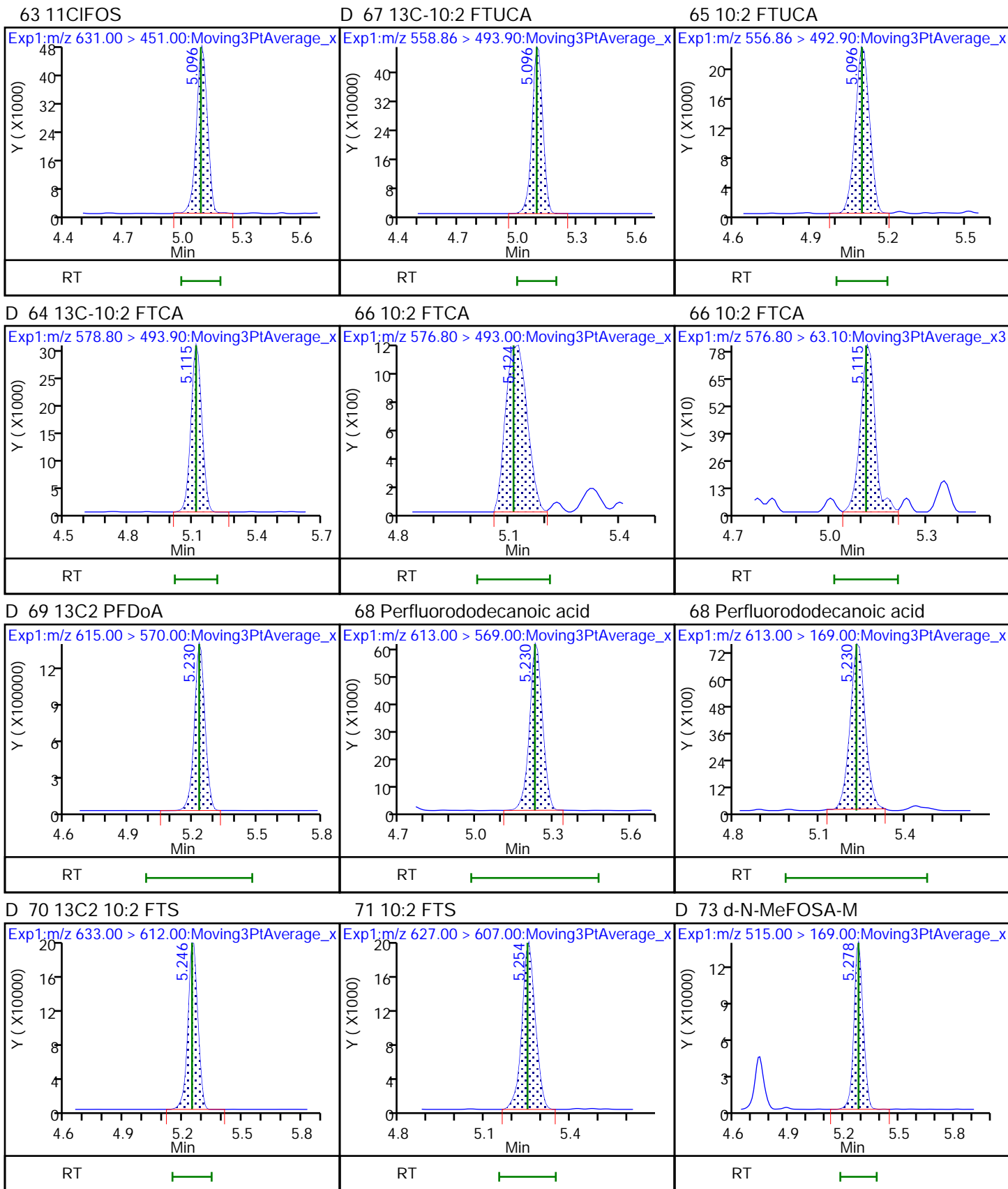


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)

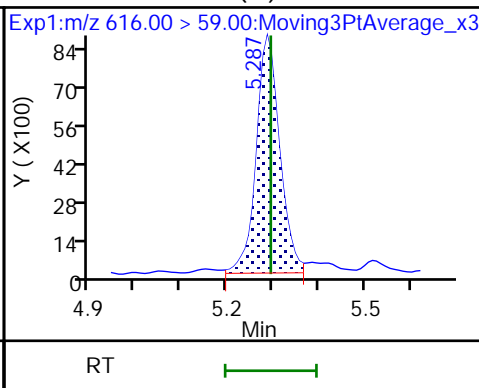
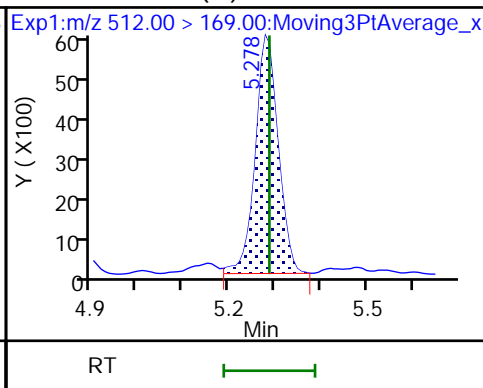
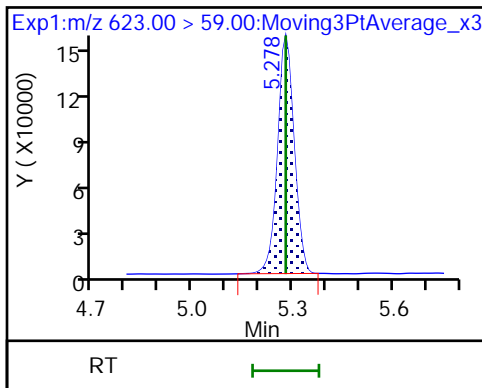




D 72 d7-N-MeFOSE-M

74 NMeFOSA (M)

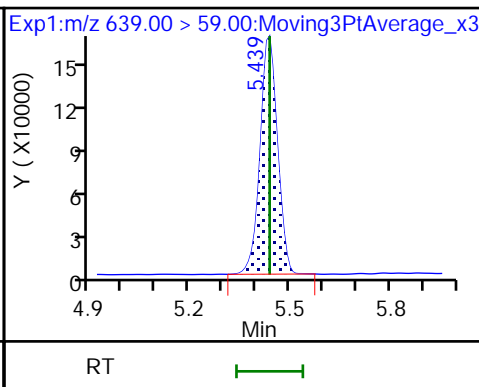
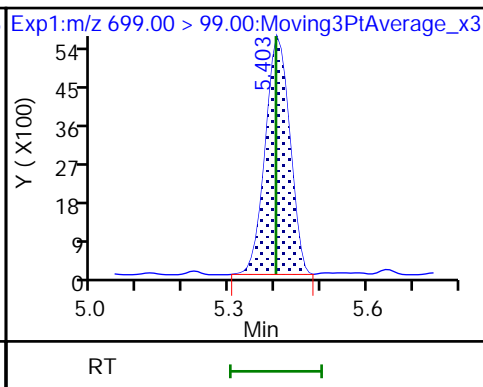
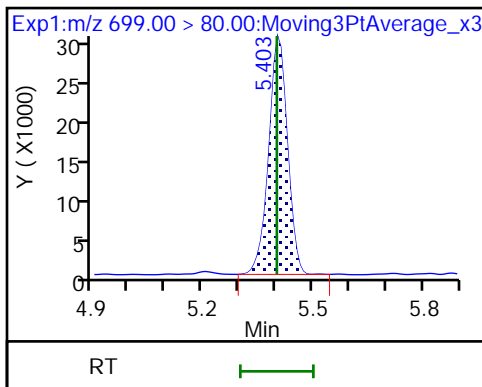
75 N-MeFOSE-M (M)



76 PFDoS

76 PFDoS

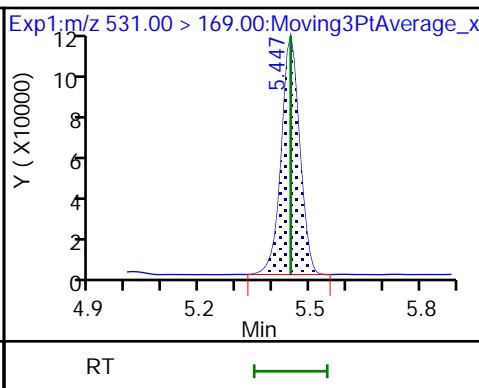
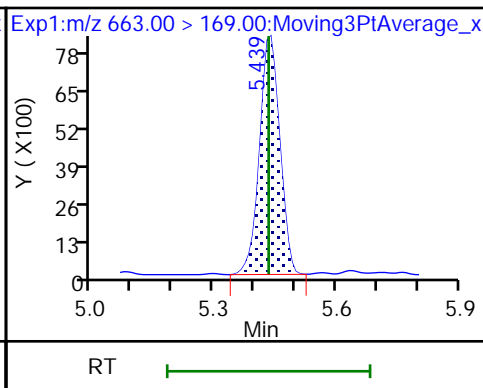
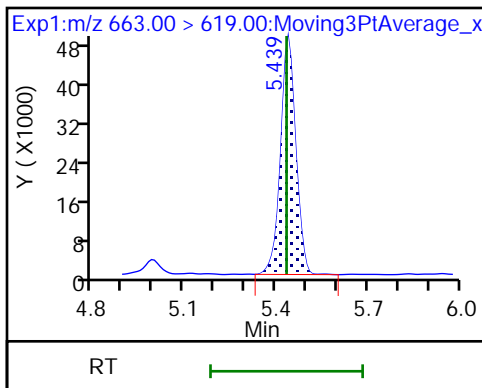
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

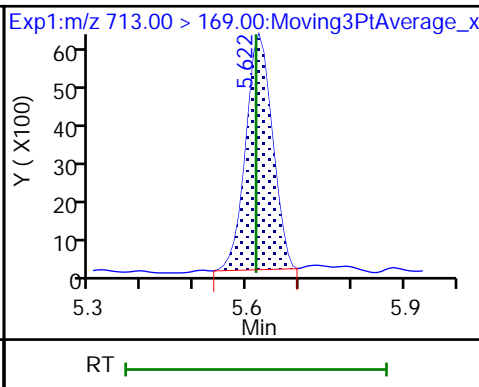
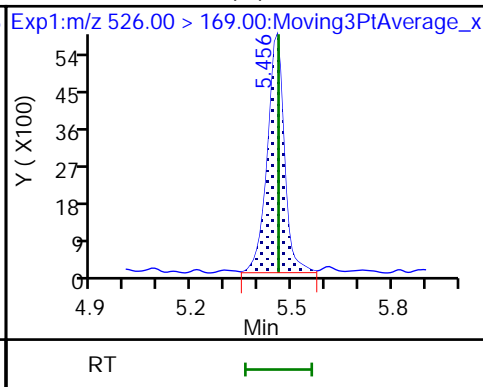
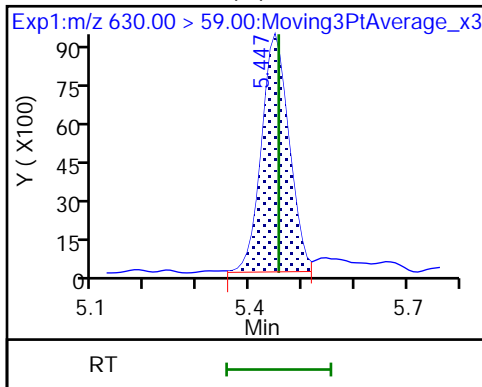
D 80 d-N-EtFOSA-M



79 N-EtFOSE-M (M)

81 N-EtFOSA-M (M)

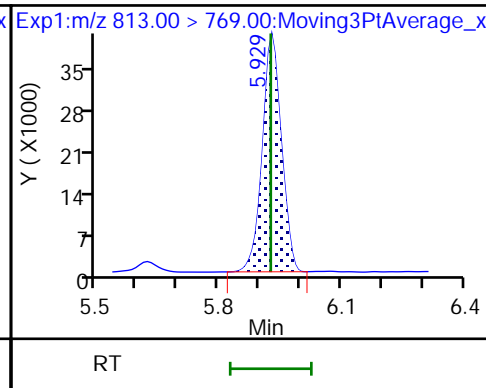
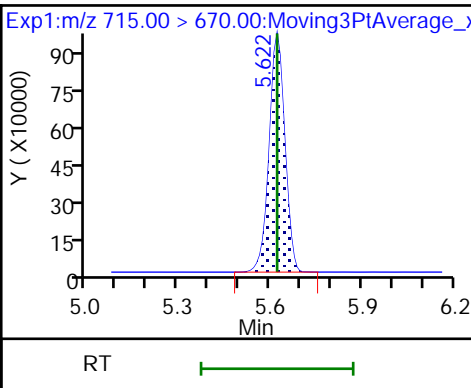
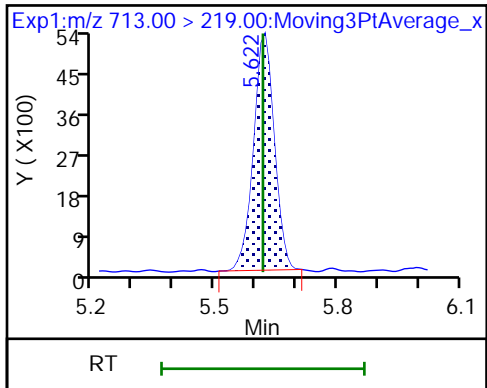
83 Perfluorotetradecanoic acid



83 Perfluorotetradecanoic acid

D 82 13C2 PFTeDA

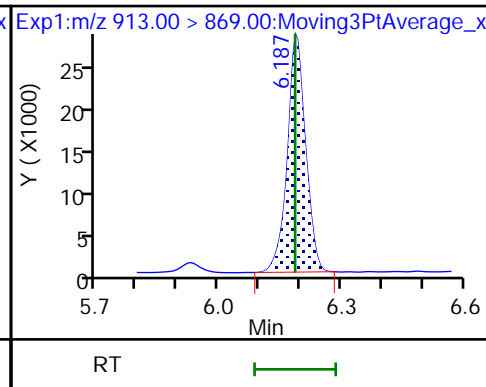
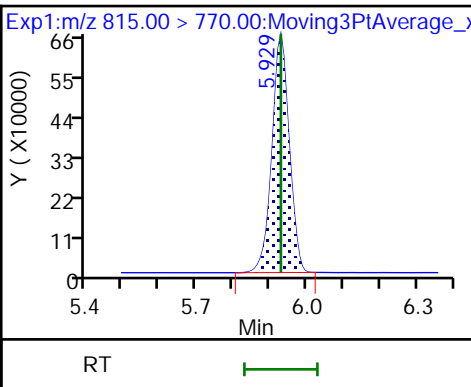
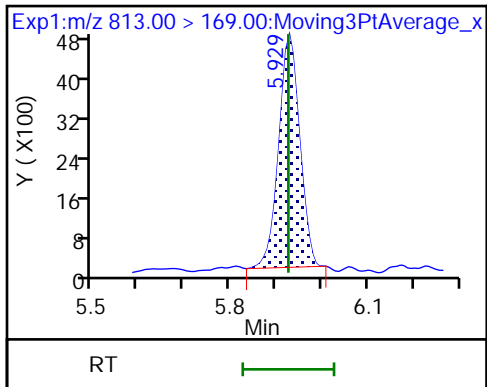
85 Perfluorohexadecanoic acid



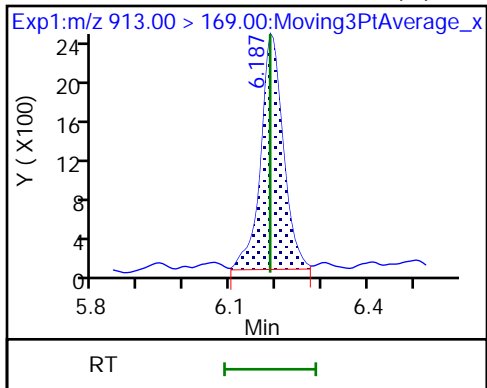
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid



86 Perfluorooctadecanoic acid (M)



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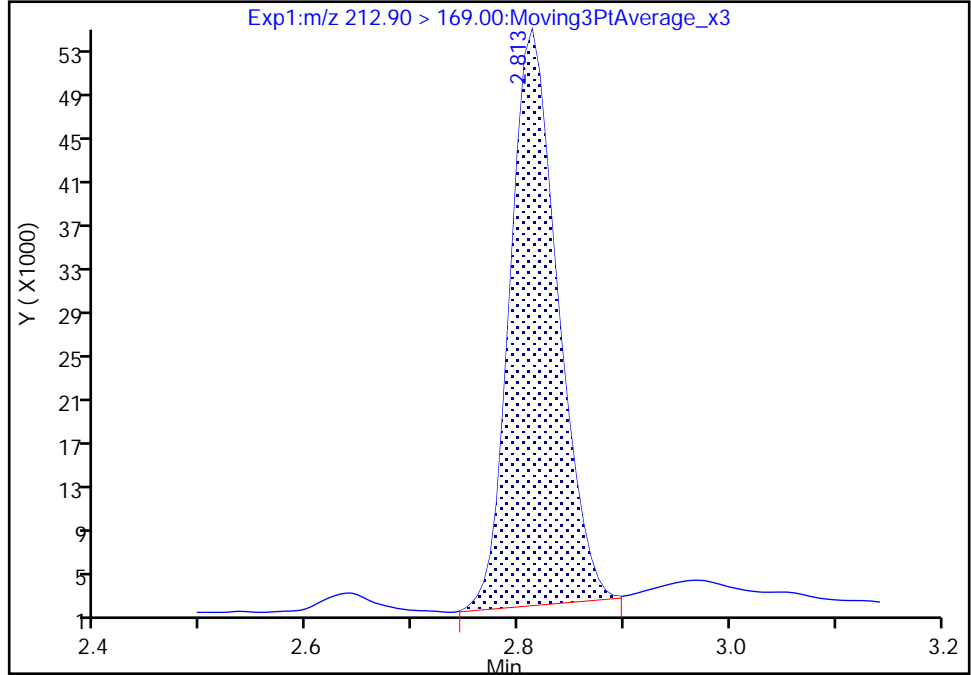
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Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

1 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

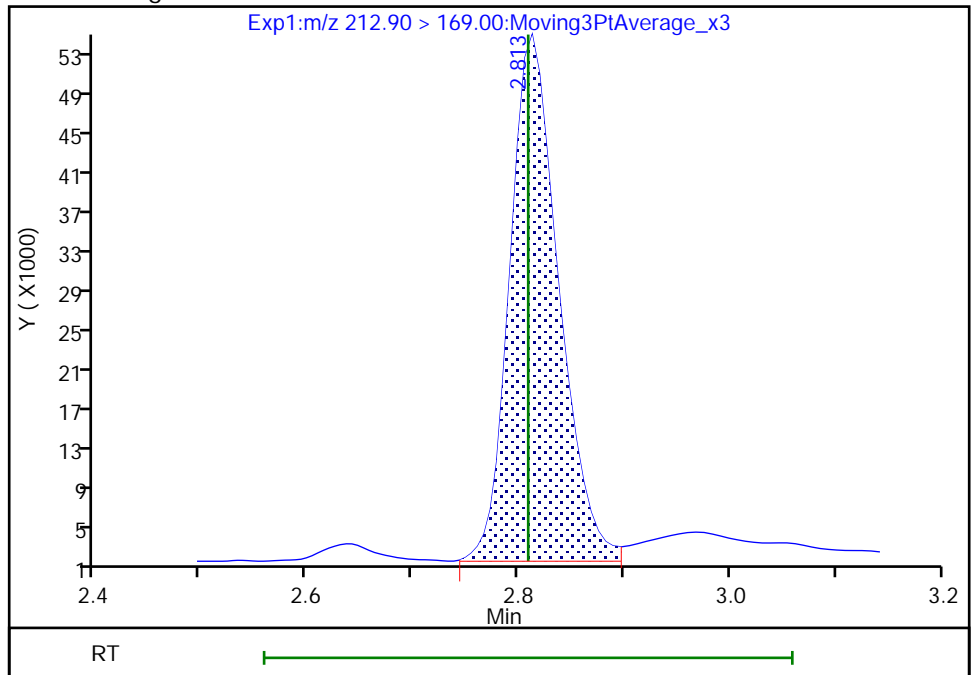
RT: 2.81  
Area: 165513  
Amount: 0.046843  
Amount Units: ng/ml

Processing Integration Results



RT: 2.81  
Area: 171753  
Amount: 0.048754  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:42:28  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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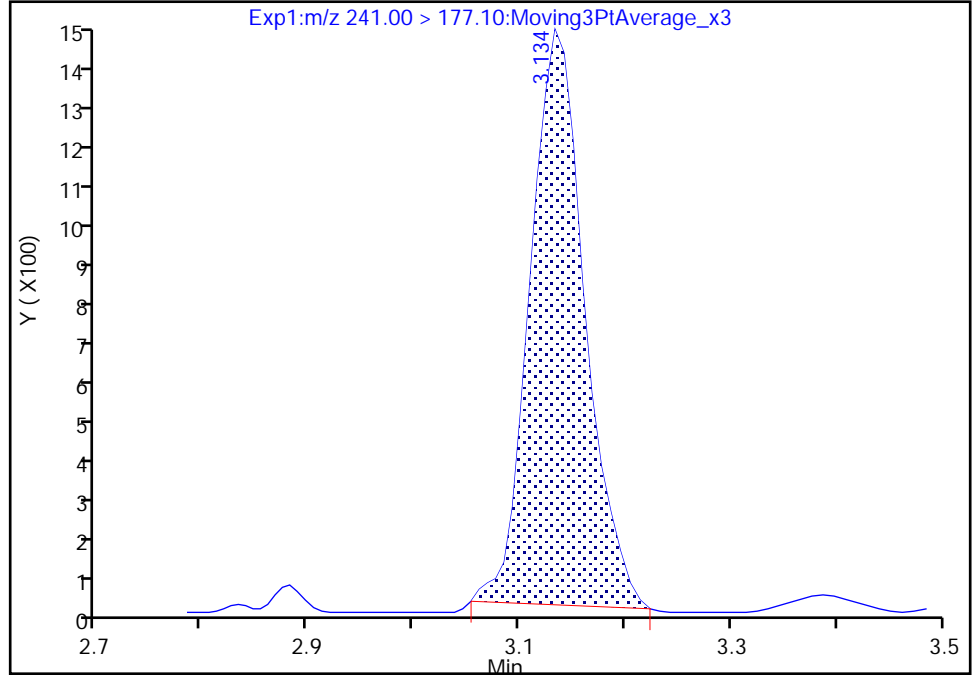
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

4 3:3 FTCA, CAS: 356-02-5

Signal: 1

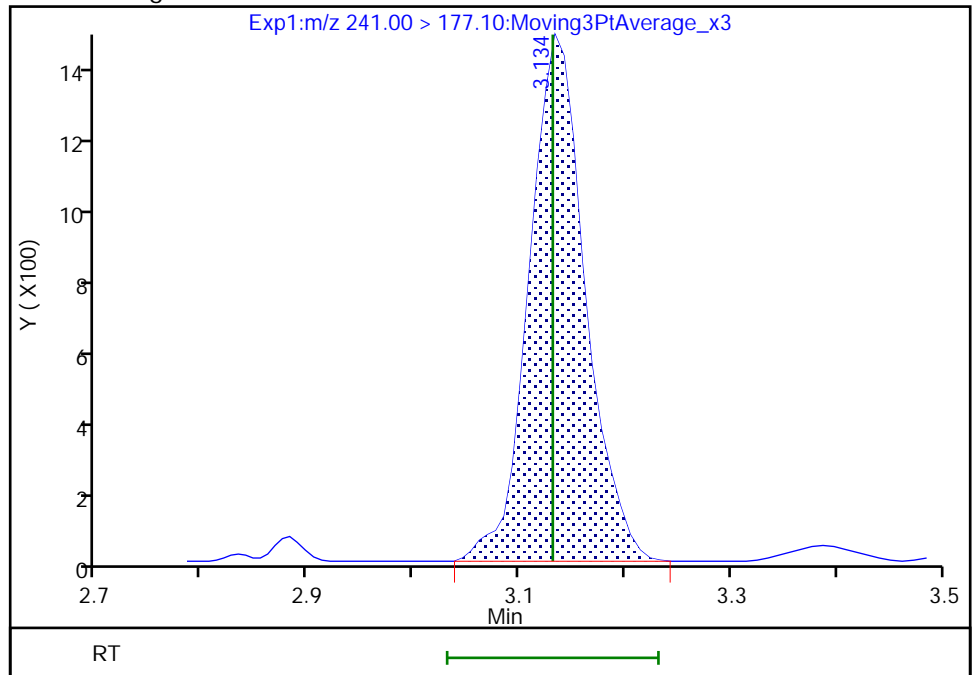
RT: 3.13  
Area: 5214  
Amount: 0.049821  
Amount Units: ng/ml

Processing Integration Results



RT: 3.13  
Area: 5417  
Amount: 0.051761  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:42:42  
Audit Action: Manually Integrated

Eurofins Knoxville

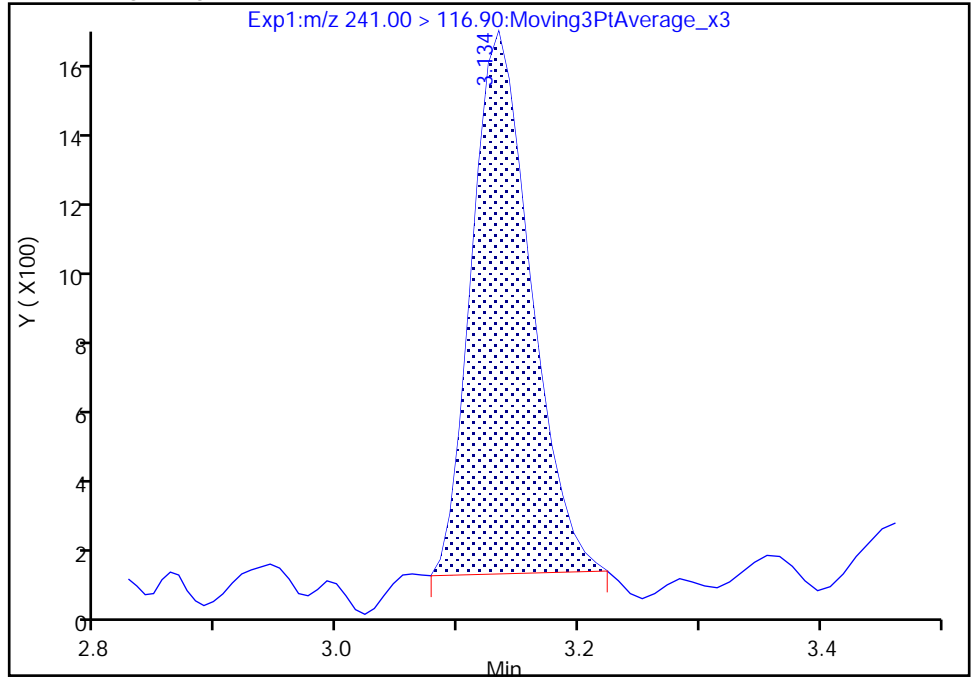
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

4 3:3 FTCA, CAS: 356-02-5

Signal: 2

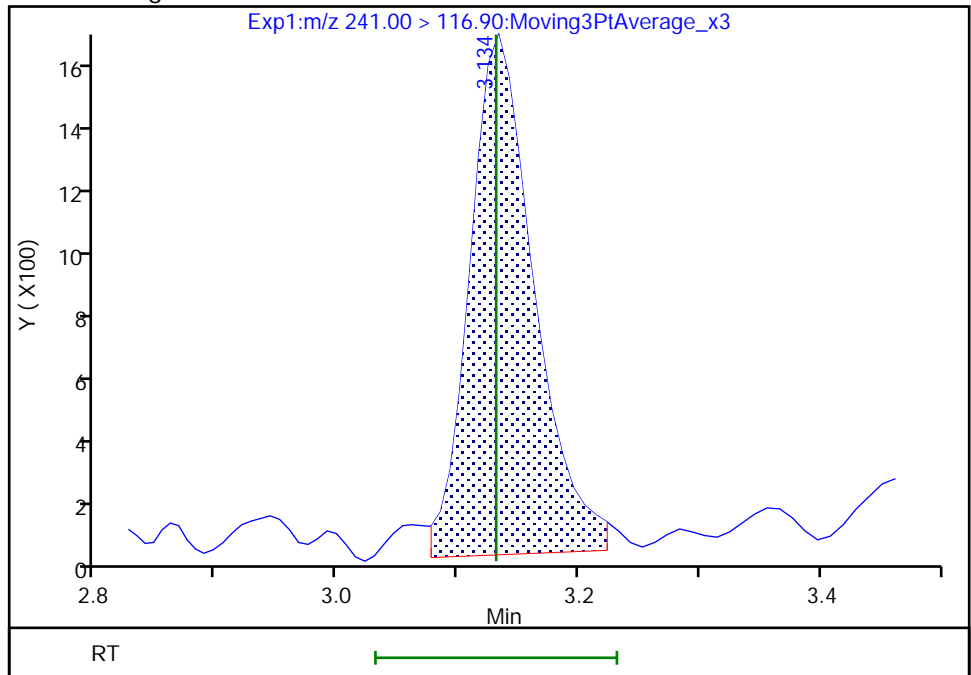
RT: 3.13  
Area: 5064  
Amount: 0.049821  
Amount Units: ng/ml

Processing Integration Results



RT: 3.13  
Area: 5856  
Amount: 0.051761  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:42:50

Audit Action: Manually Integrated

Audit Reason: Baseline  
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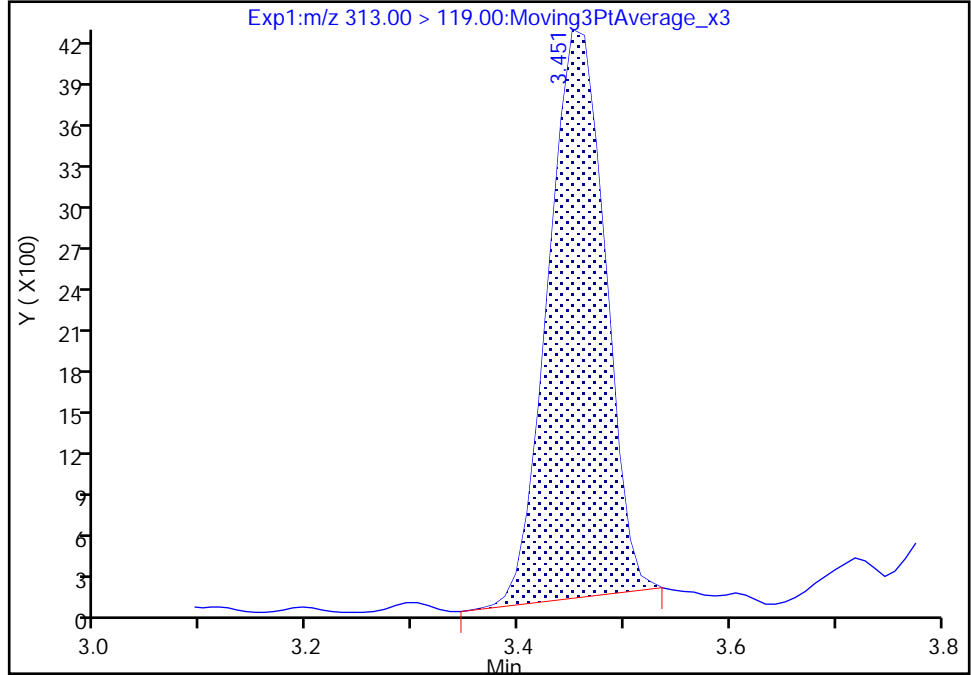
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Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

15 Perfluorohexanoic acid, CAS: 307-24-4

Signal: 2

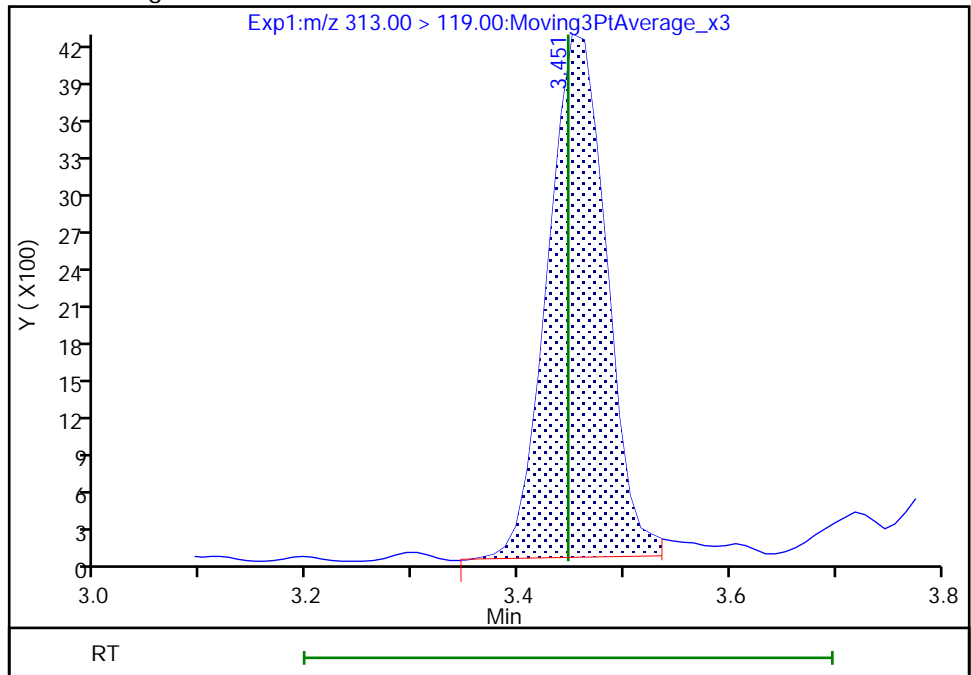
RT: 3.45  
Area: 15516  
Amount: 0.053160  
Amount Units: ng/ml

Processing Integration Results



RT: 3.45  
Area: 16235  
Amount: 0.053160  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:43:02  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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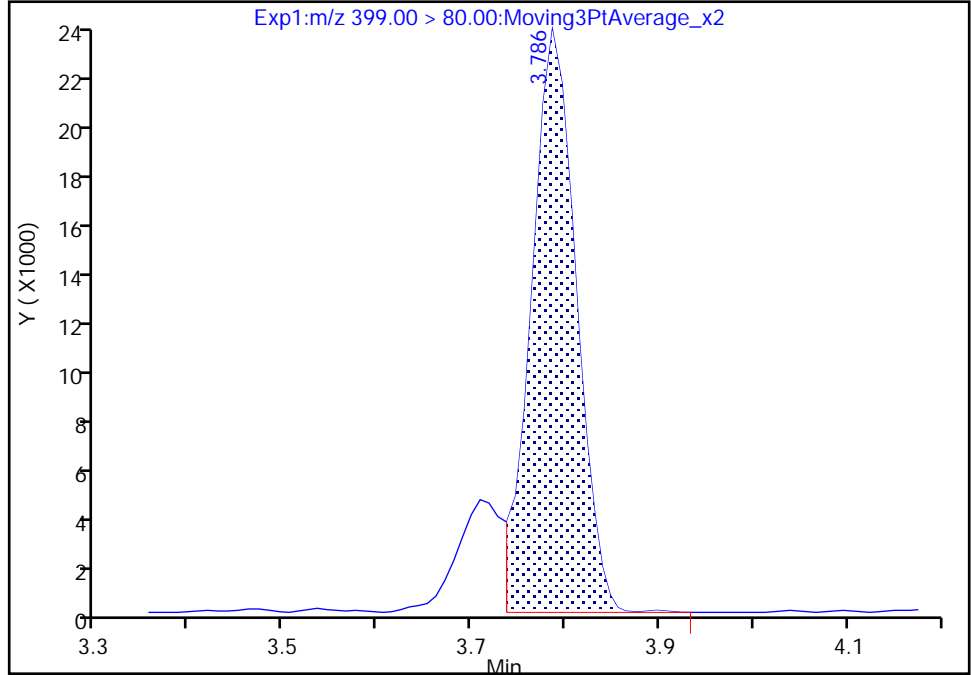
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Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

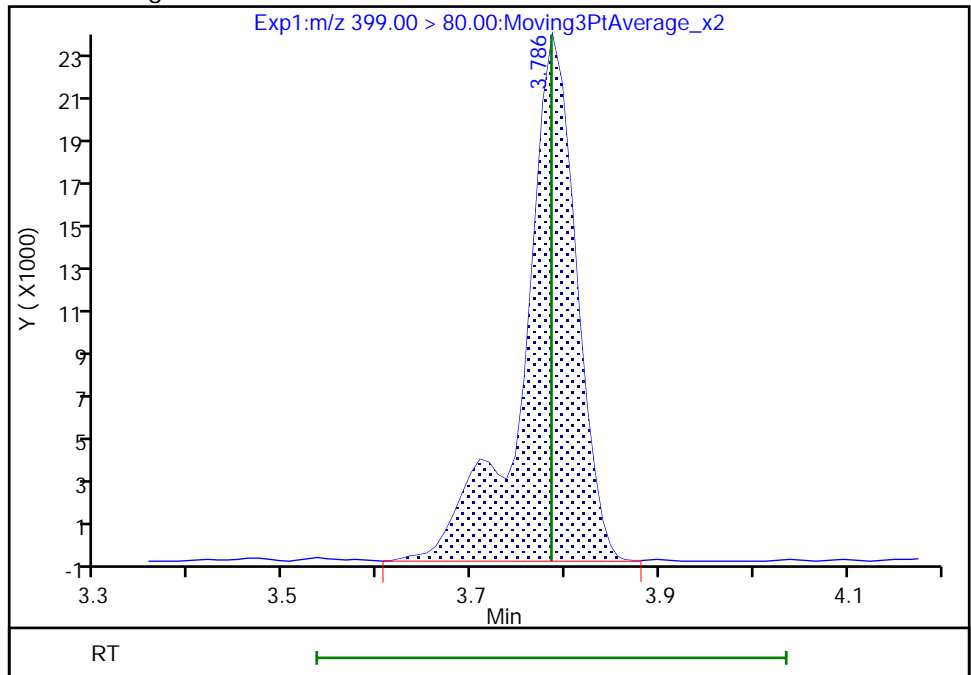
RT: 3.79  
Area: 76920  
Amount: 0.039690  
Amount Units: ng/ml

Processing Integration Results



RT: 3.79  
Area: 91642  
Amount: 0.047286  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:43:14  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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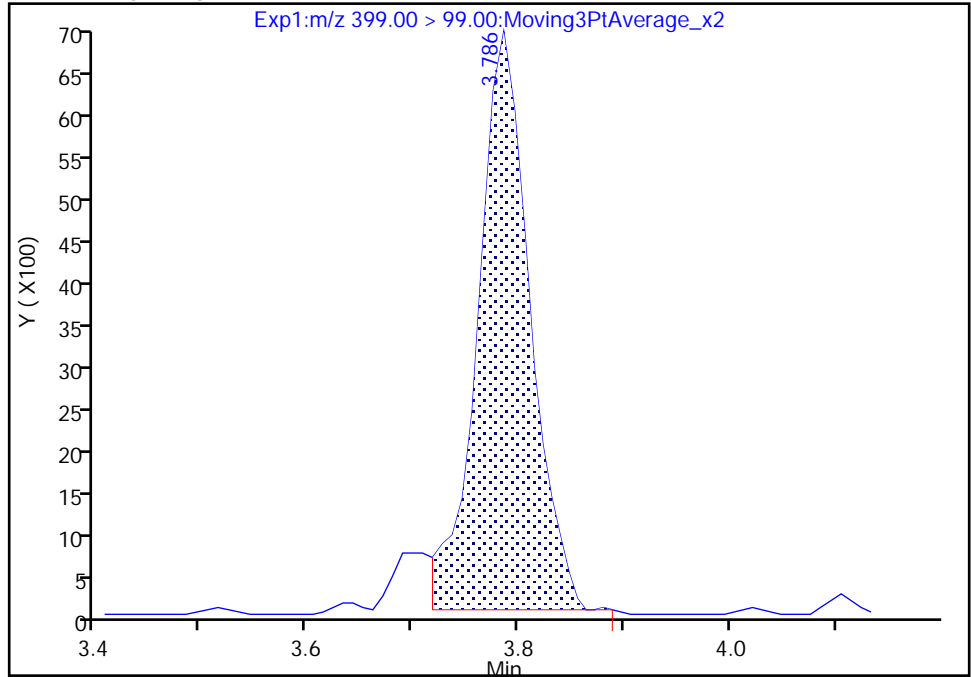
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

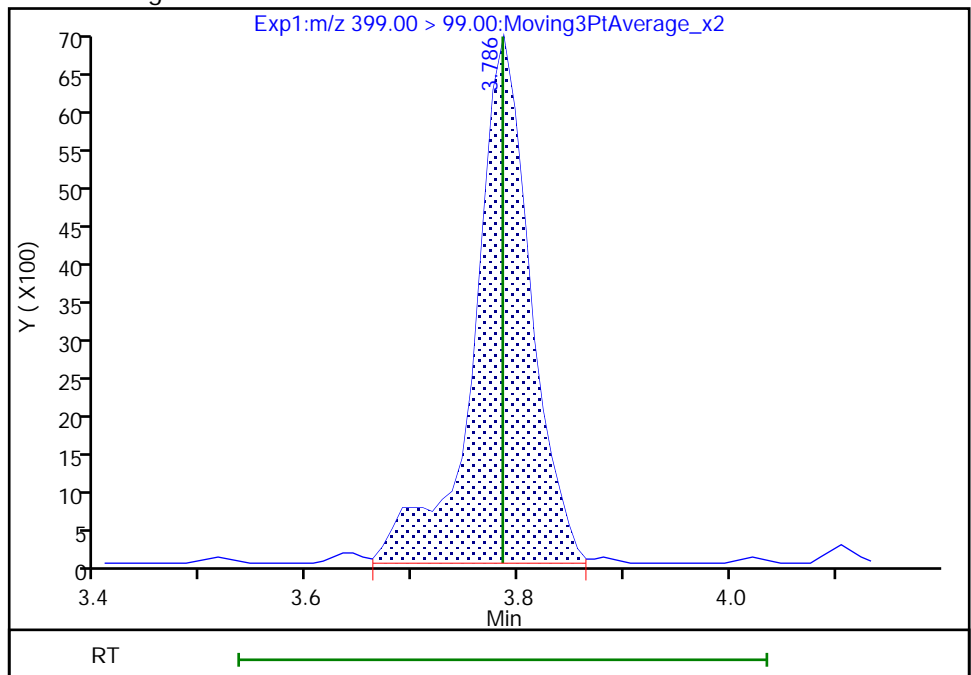
RT: 3.79  
Area: 23666  
Amount: 0.039690  
Amount Units: ng/ml

Processing Integration Results



RT: 3.79  
Area: 25950  
Amount: 0.047286  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:43:21

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

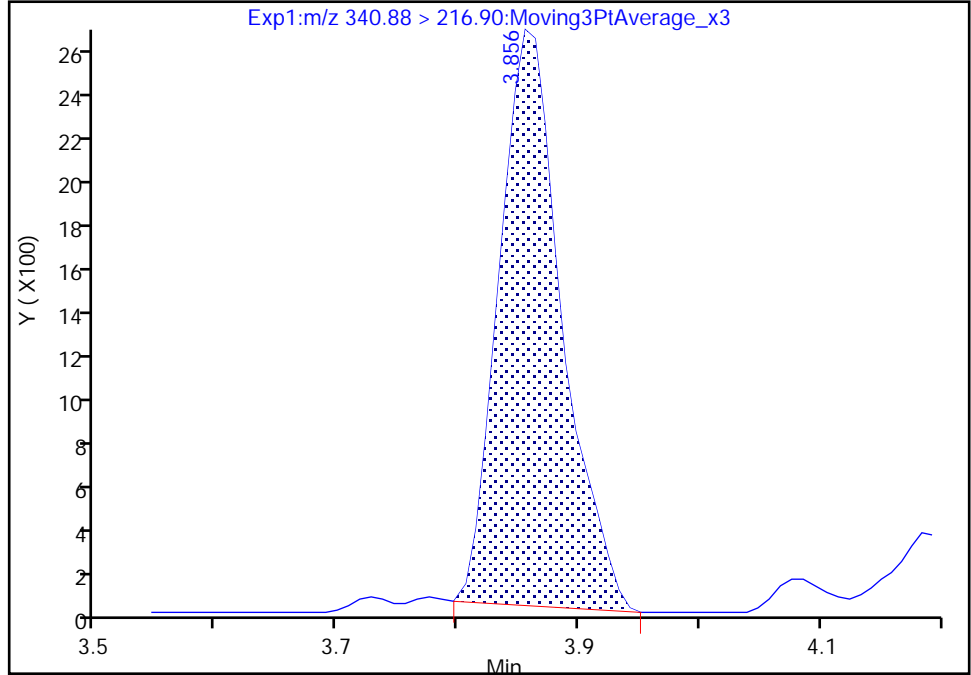
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Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

26 5:3 FTCA, CAS: 914637-49-3

Signal: 2

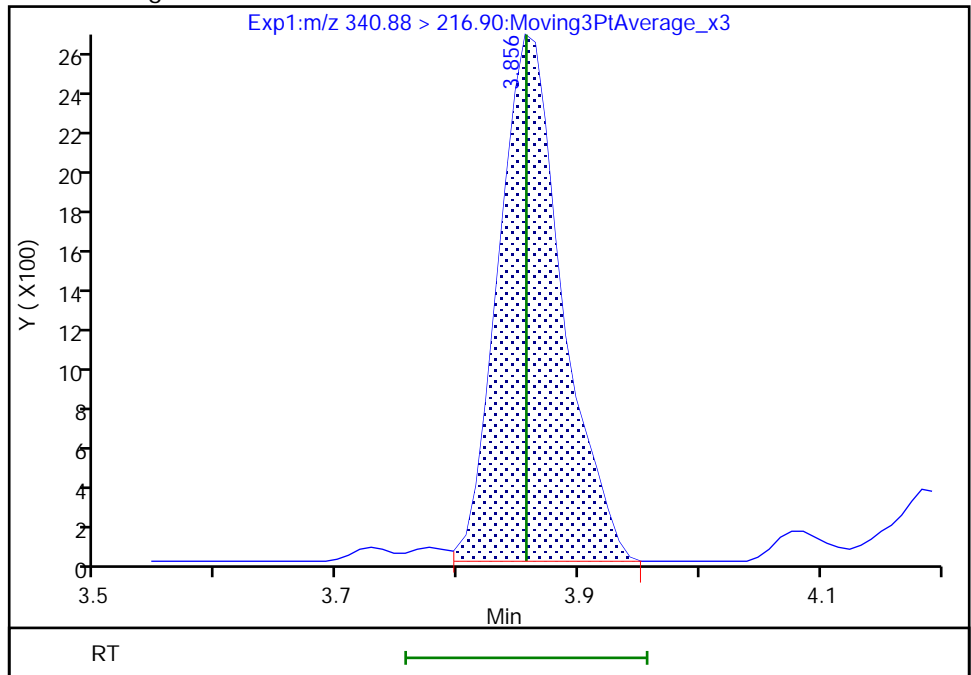
RT: 3.86  
Area: 9434  
Amount: 0.056585  
Amount Units: ng/ml

Processing Integration Results



RT: 3.86  
Area: 9666  
Amount: 0.056585  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:43:35  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

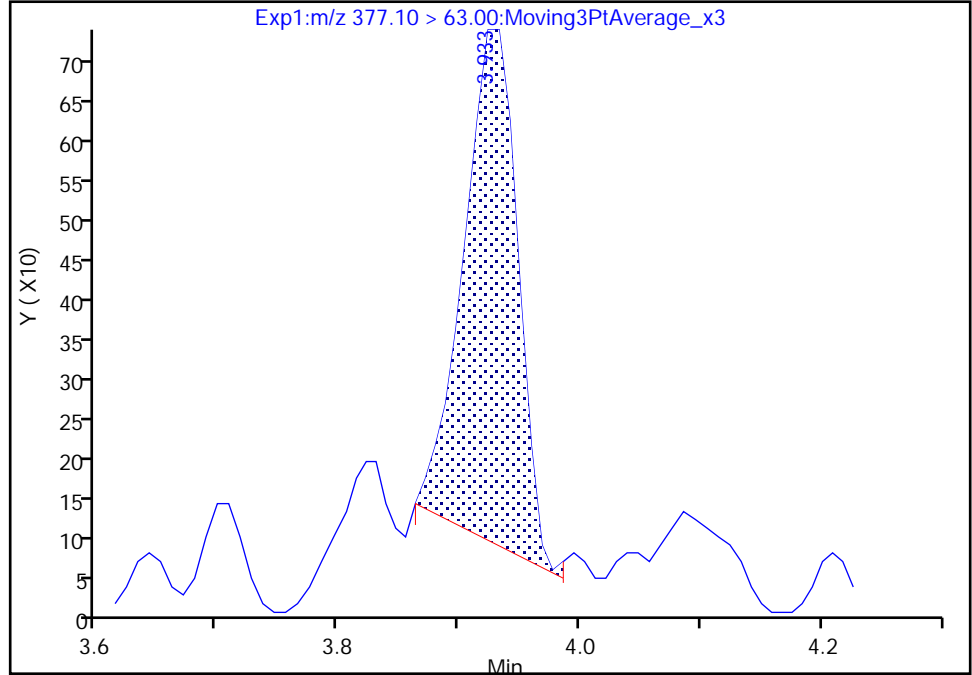
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

29 6:2 FTCA, CAS: 53826-12-3

Signal: 1

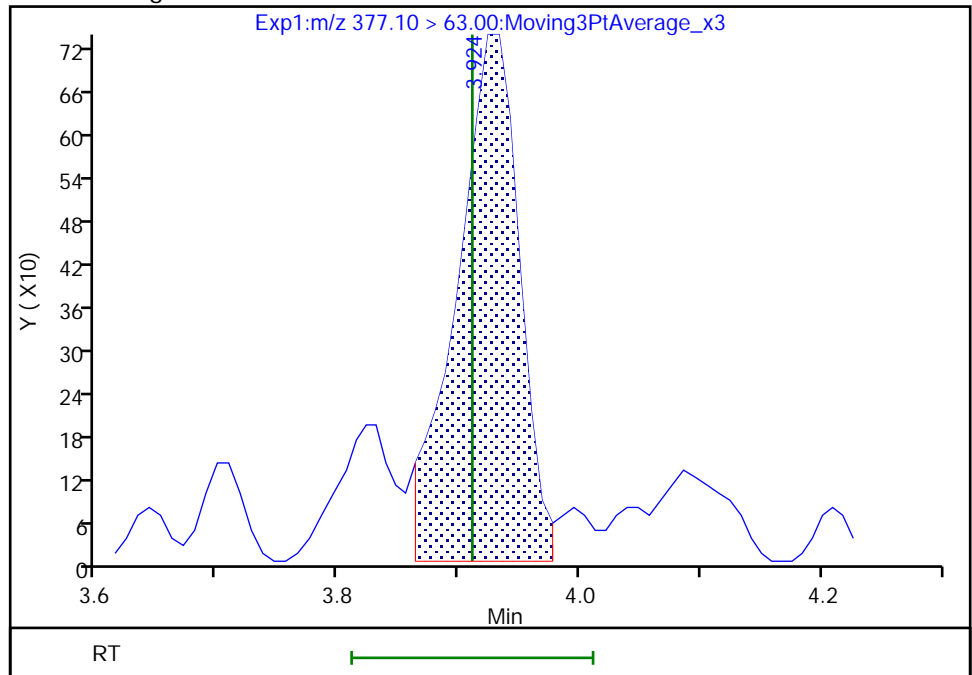
RT: 3.93  
Area: 2014  
Amount: 0.029482  
Amount Units: ng/ml

Processing Integration Results



RT: 3.92  
Area: 2644  
Amount: 0.040864  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:43:53  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

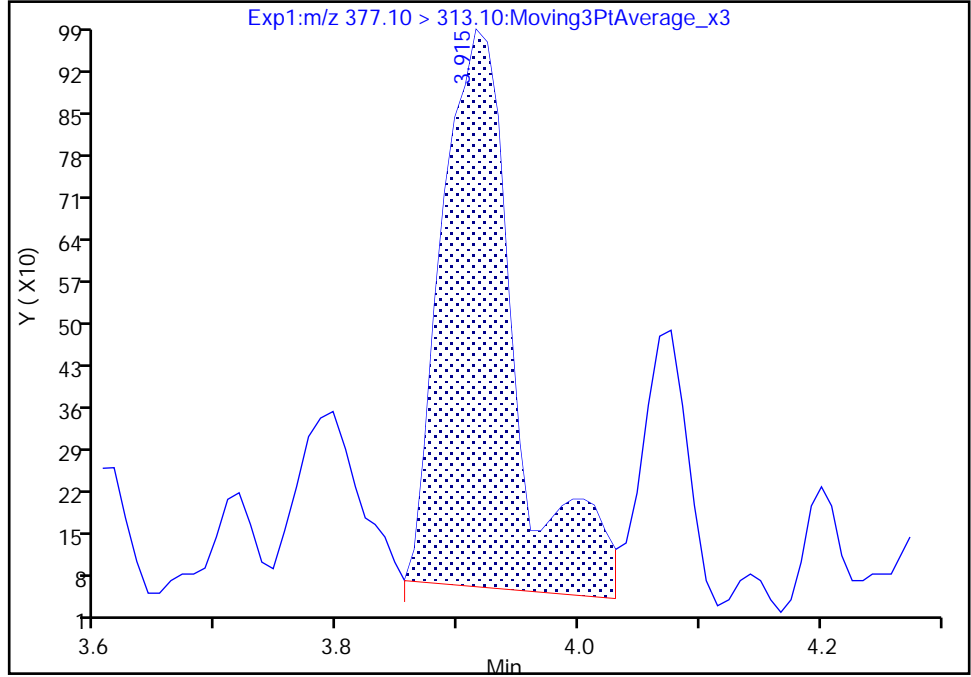
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

29 6:2 FTCA, CAS: 53826-12-3

Signal: 2

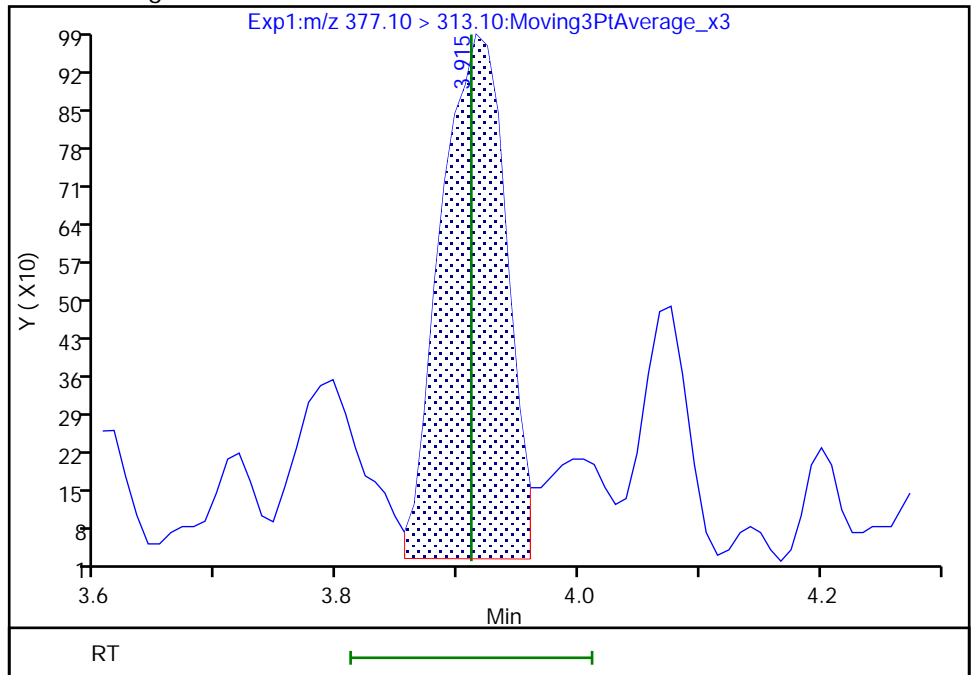
RT: 3.91  
Area: 3957  
Amount: 0.029482  
Amount Units: ng/ml

Processing Integration Results



RT: 3.91  
Area: 3648  
Amount: 0.040864  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:44:08

Audit Action: Manually Integrated

Audit Reason: Baseline



Eurofins Knoxville

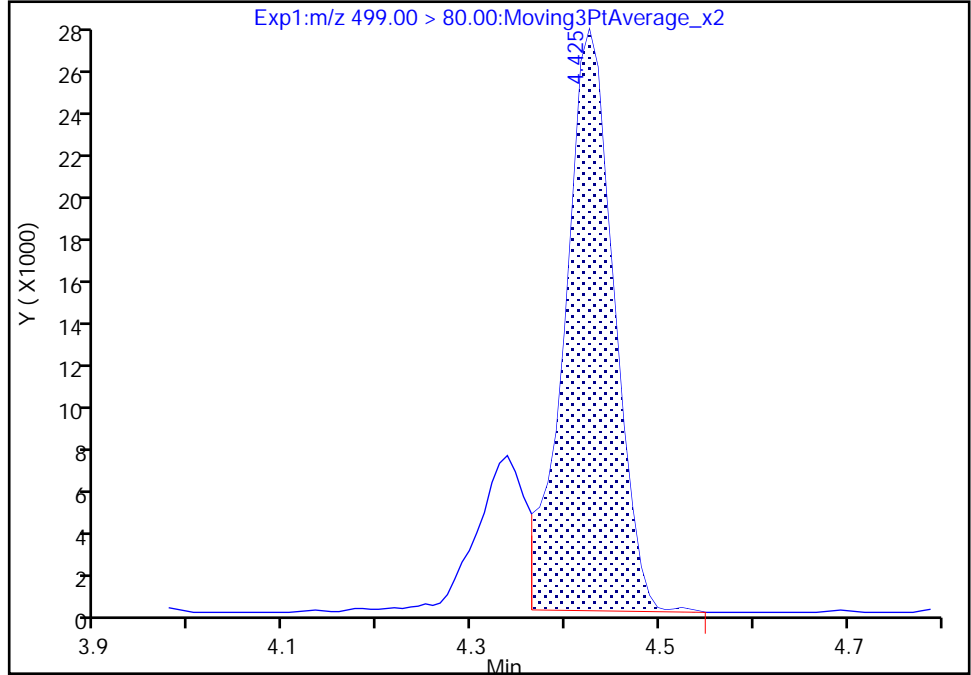
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

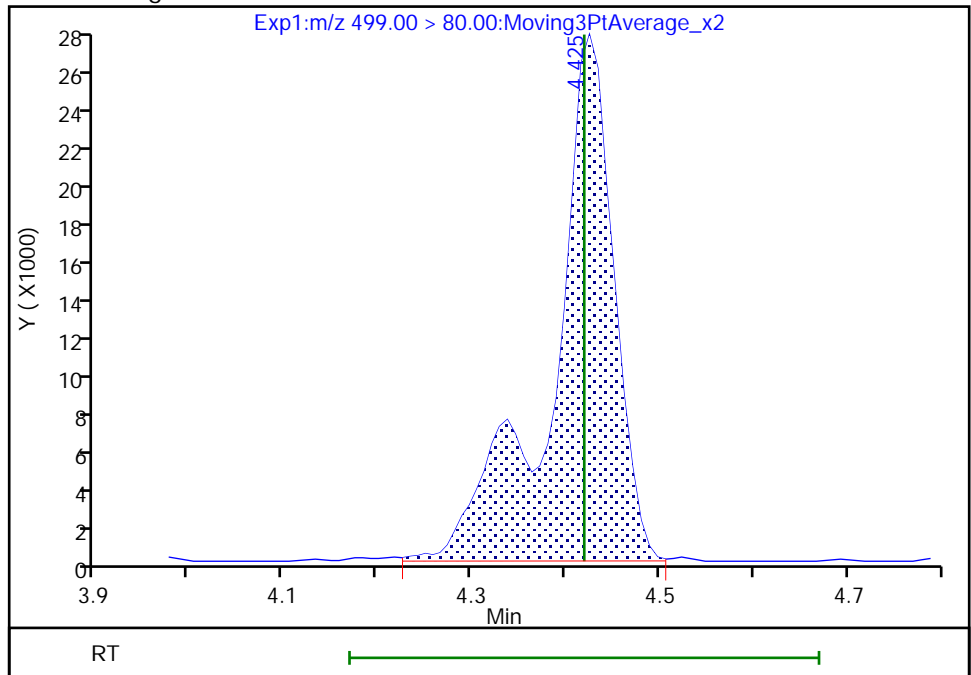
RT: 4.43  
Area: 100611  
Amount: 0.039767  
Amount Units: ng/ml

Processing Integration Results



RT: 4.43  
Area: 127364  
Amount: 0.050341  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:44:39  
Audit Action: Manually Integrated

Eurofins Knoxville

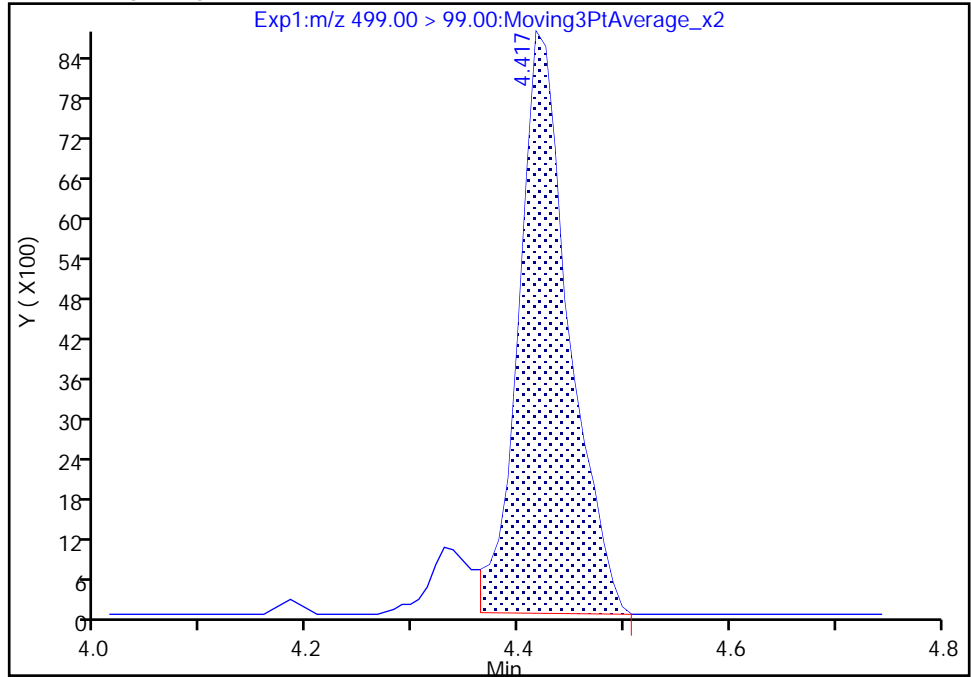
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

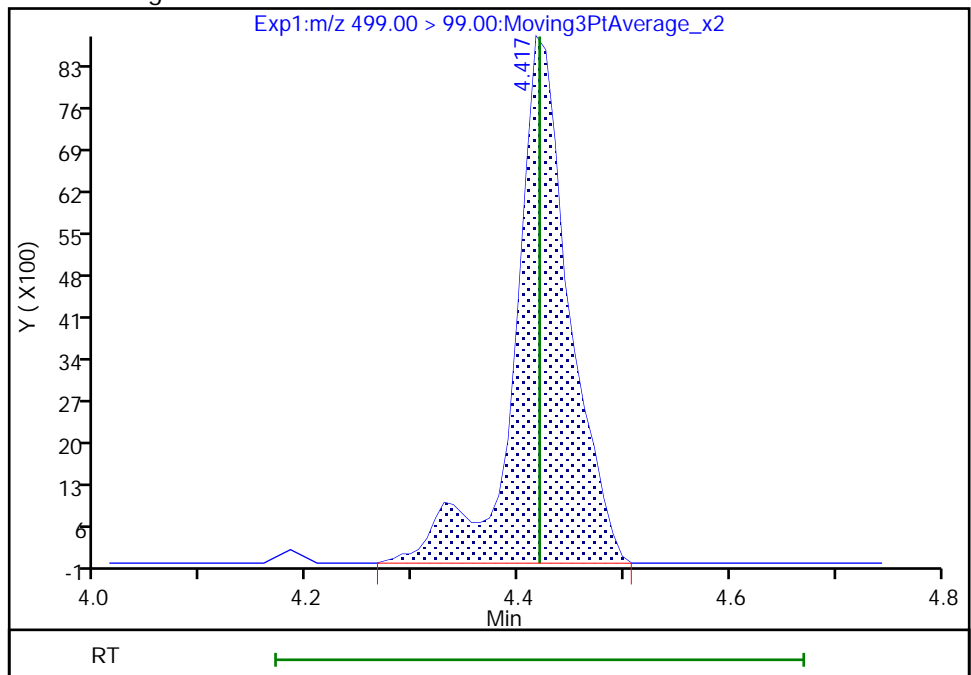
RT: 4.42  
Area: 28517  
Amount: 0.039767  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 31411  
Amount: 0.050341  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:44:47

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

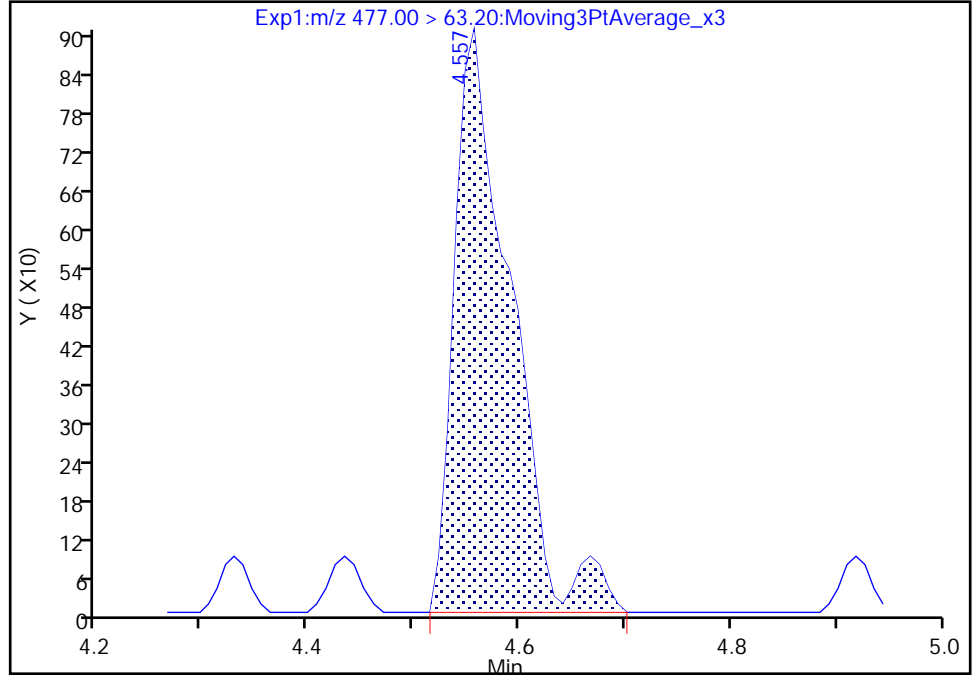
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Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 2

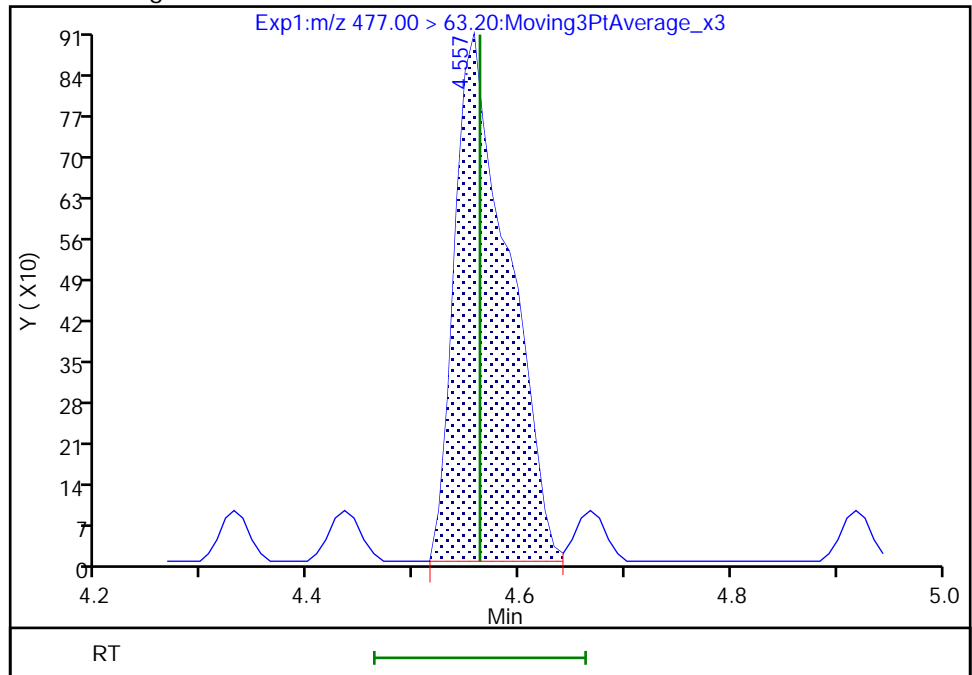
RT: 4.56  
Area: 3333  
Amount: 0.059598  
Amount Units: ng/ml

Processing Integration Results



RT: 4.56  
Area: 3162  
Amount: 0.059598  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:44:59  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

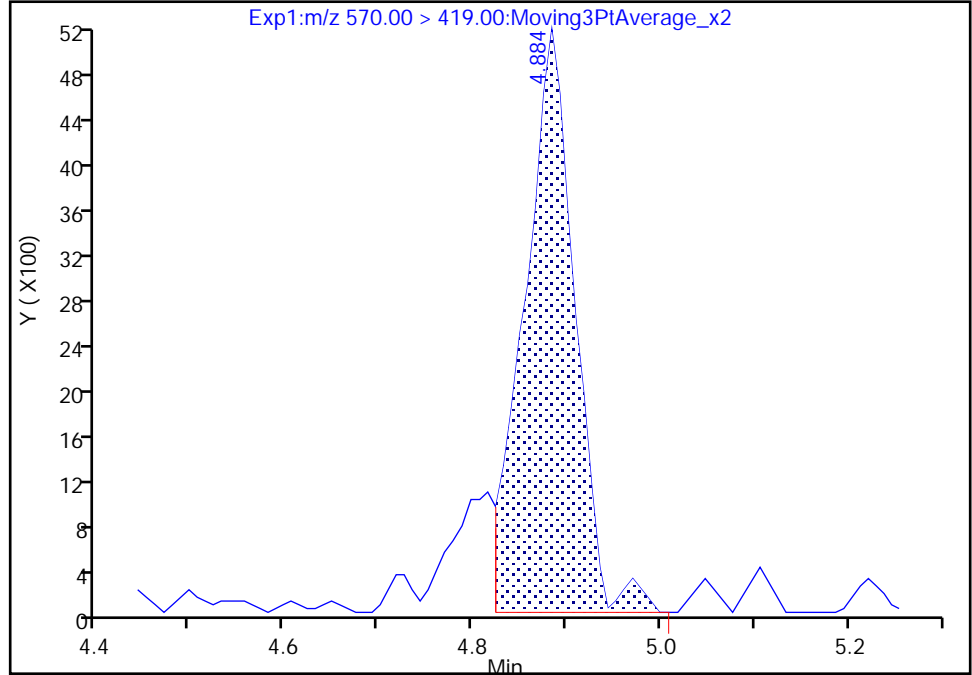
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

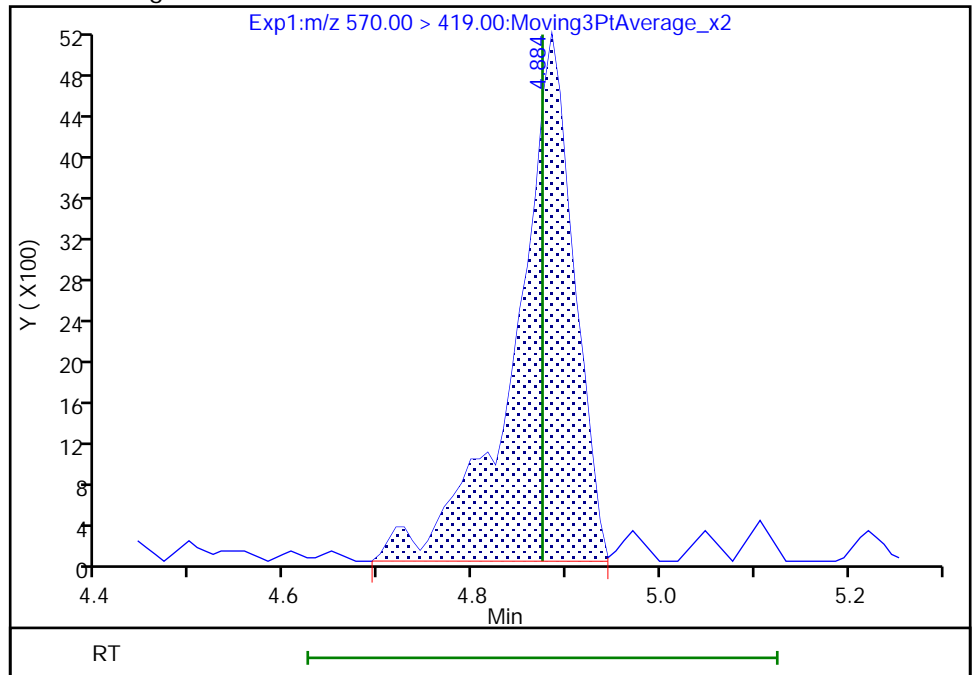
RT: 4.88  
Area: 19316  
Amount: 0.054638  
Amount Units: ng/ml

Processing Integration Results



RT: 4.88  
Area: 22709  
Amount: 0.063958  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:45:14  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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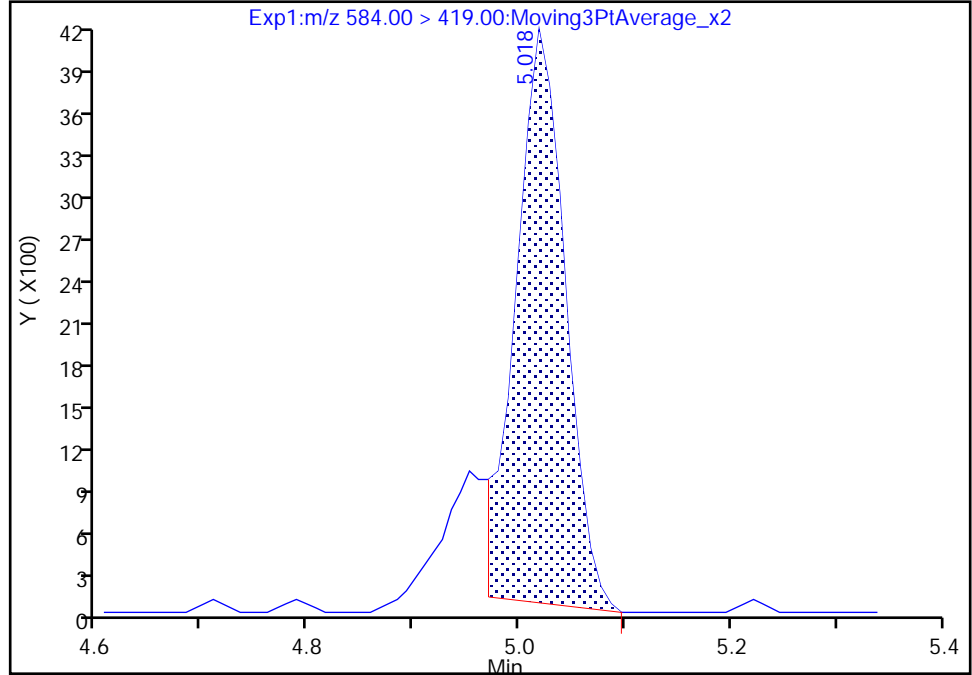
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

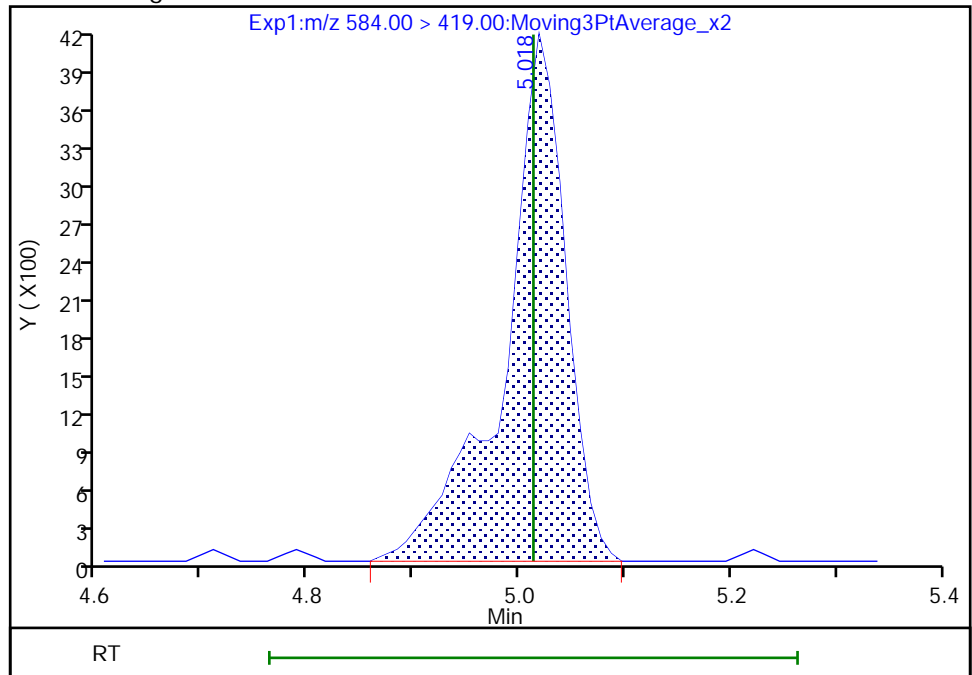
RT: 5.02  
Area: 13371  
Amount: 0.027514  
Amount Units: ng/ml

Processing Integration Results



RT: 5.02  
Area: 16881  
Amount: 0.037403  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:45:26  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

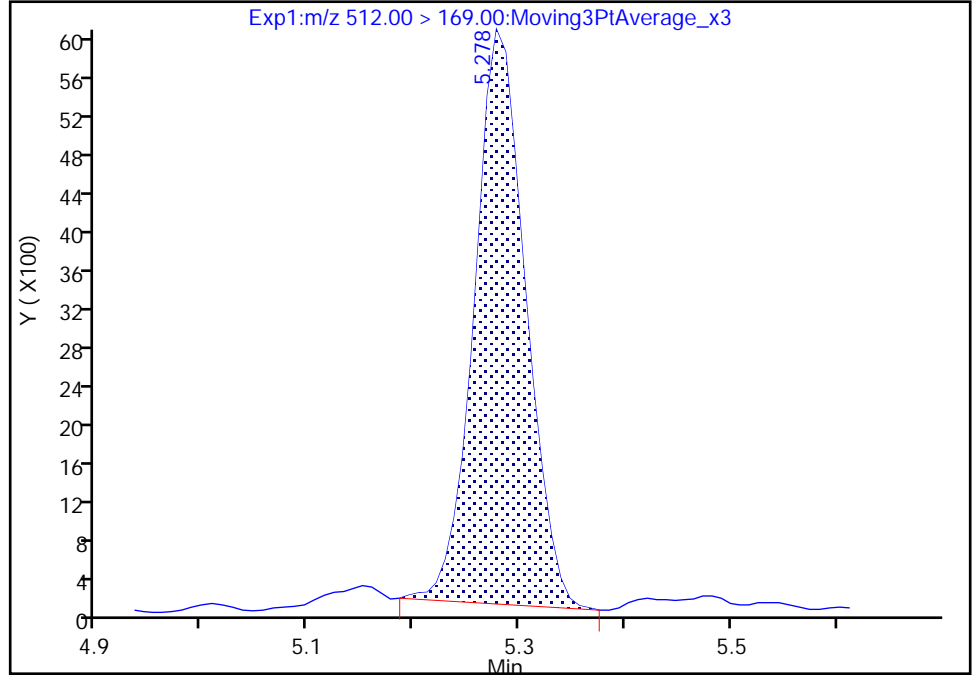
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

74 NMeFOSA, CAS: 31506-32-8

Signal: 1

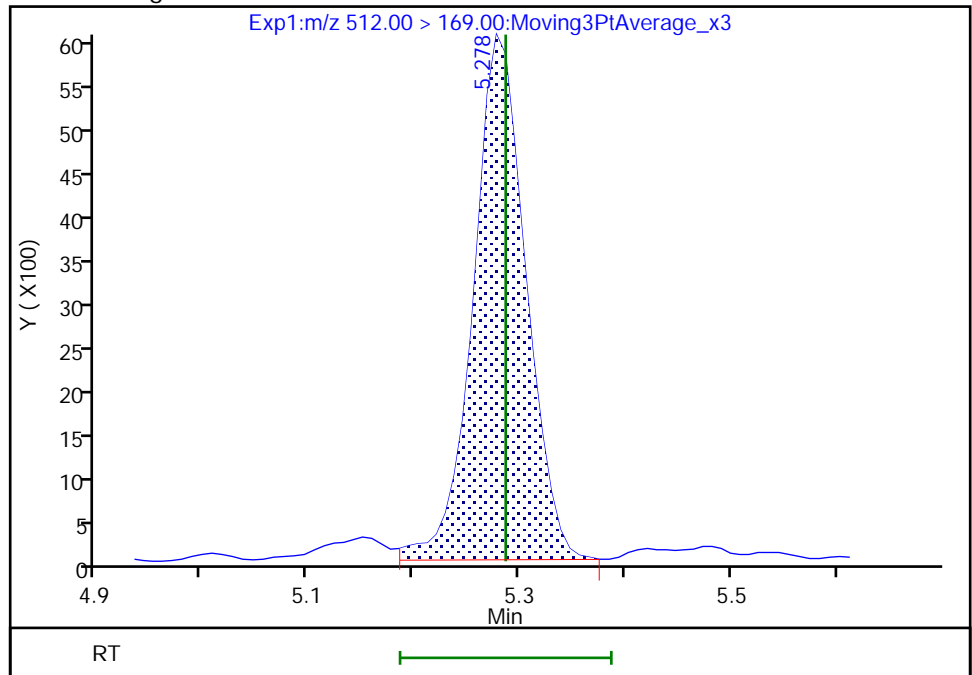
RT: 5.28  
Area: 19898  
Amount: 0.044730  
Amount Units: ng/ml

Processing Integration Results



RT: 5.28  
Area: 20669  
Amount: 0.046688  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:45:43  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

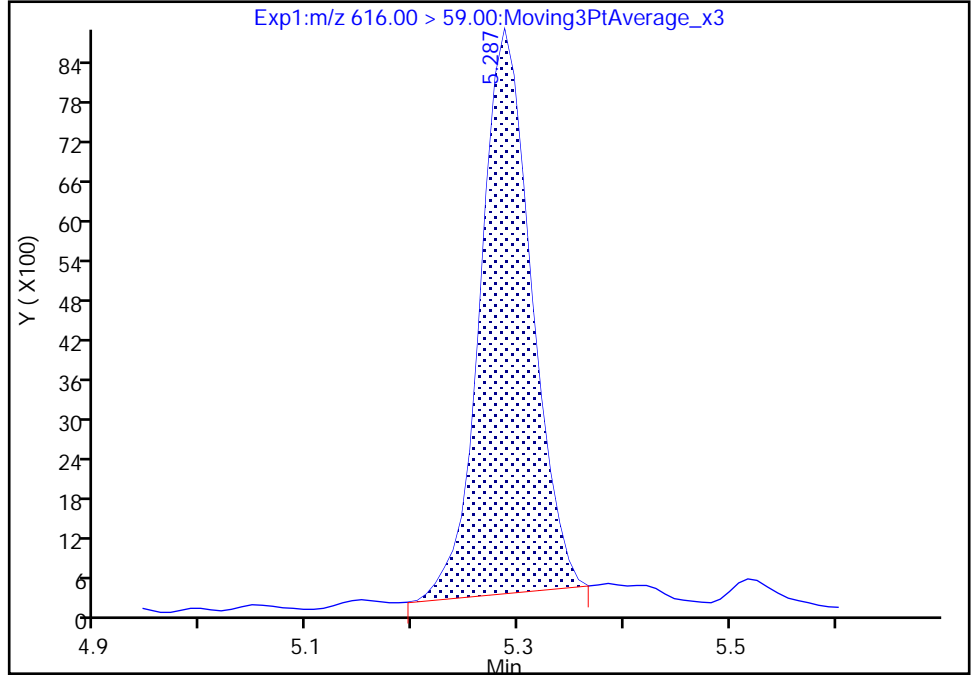
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

75 N-MeFOSE-M, CAS: 24448-09-7

Signal: 1

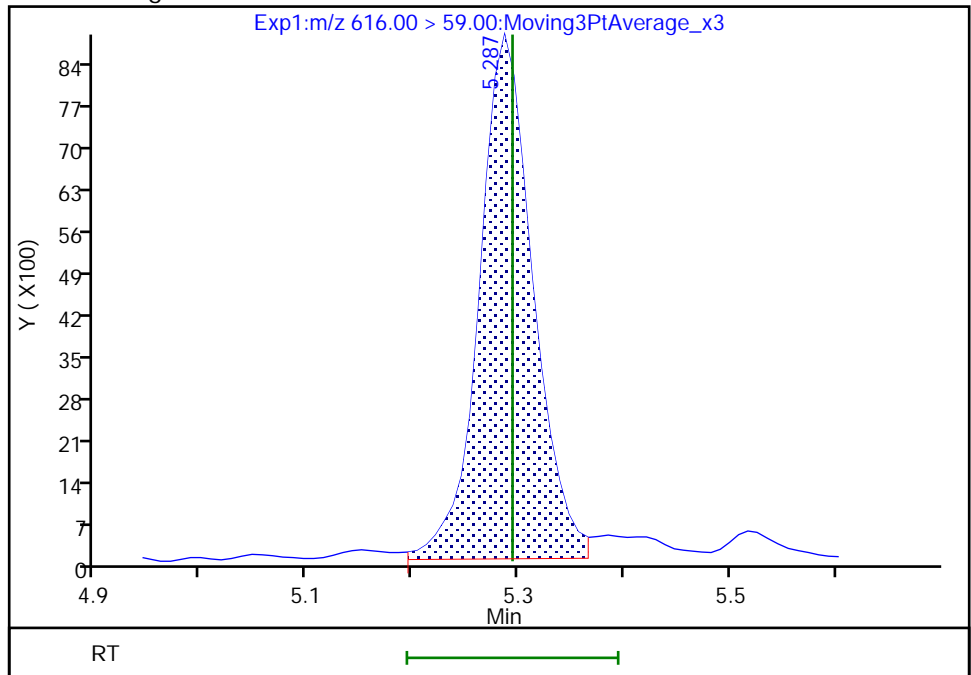
RT: 5.29  
Area: 28495  
Amount: 0.052538  
Amount Units: ng/ml

Processing Integration Results



RT: 5.29  
Area: 30870  
Amount: 0.057238  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:45:52  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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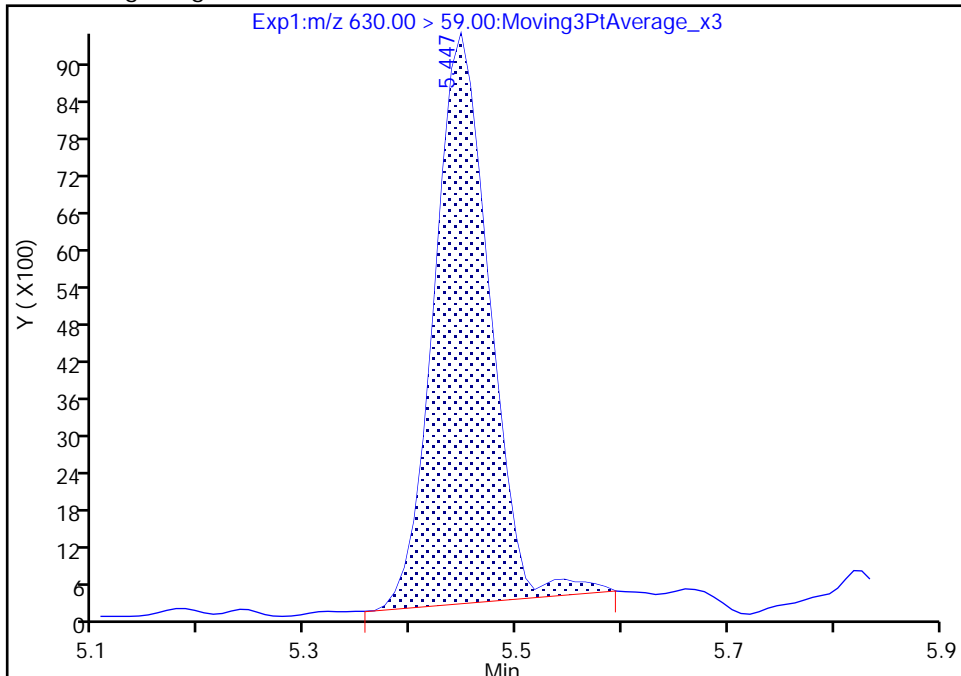
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

79 N-EtFOSE-M, CAS: 1691-99-2

Signal: 1

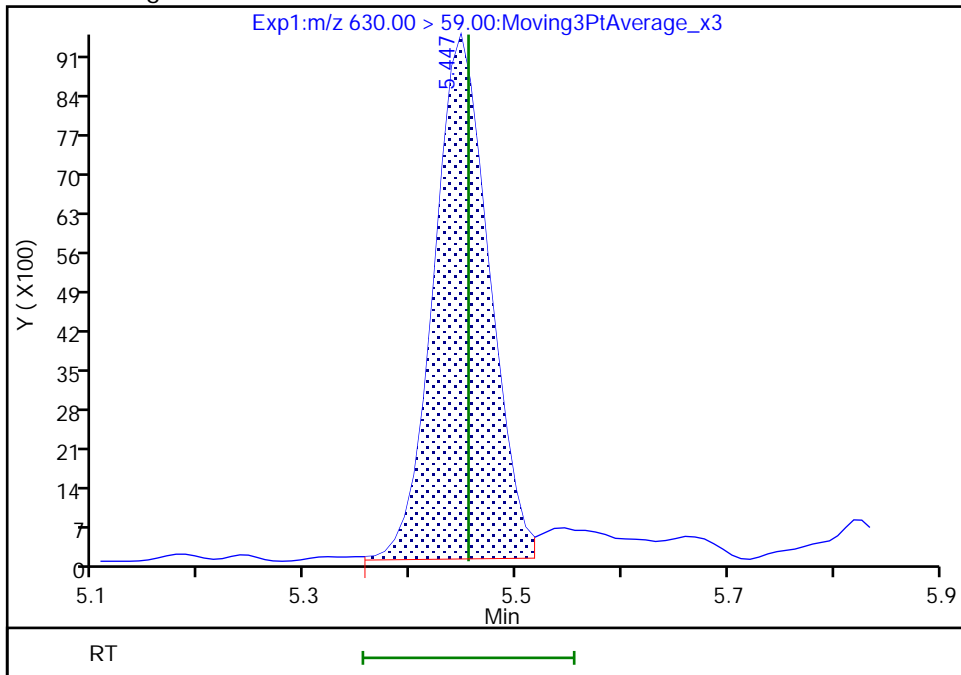
RT: 5.45  
Area: 33659  
Amount: 0.050387  
Amount Units: ng/ml

Processing Integration Results



RT: 5.45  
Area: 34326  
Amount: 0.051386  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:46:06  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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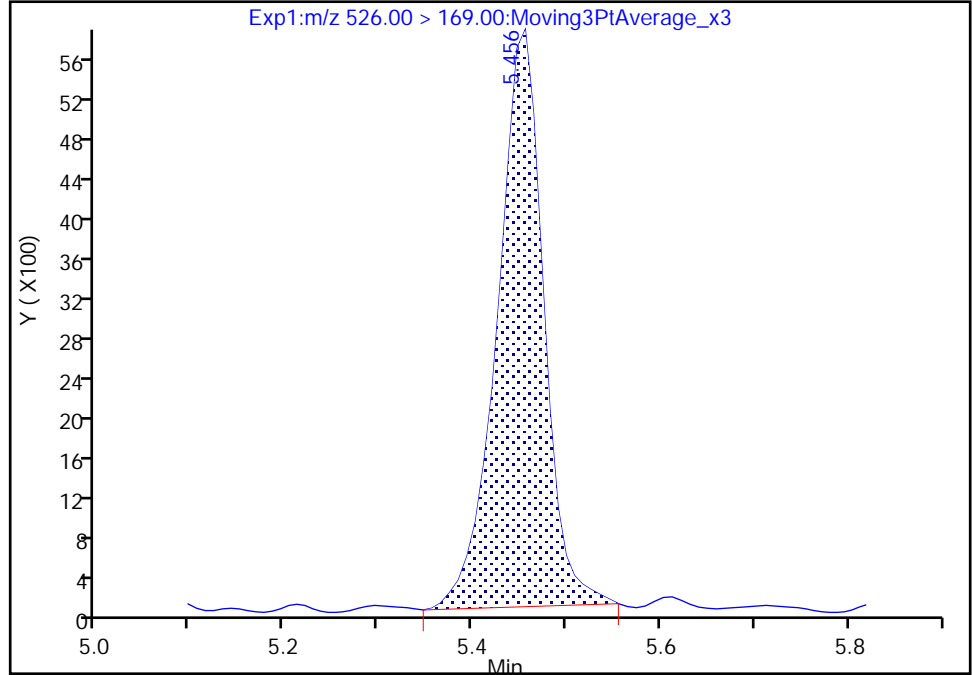
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

81 N-EtFOSA-M, CAS: 4151-50-2

Signal: 1

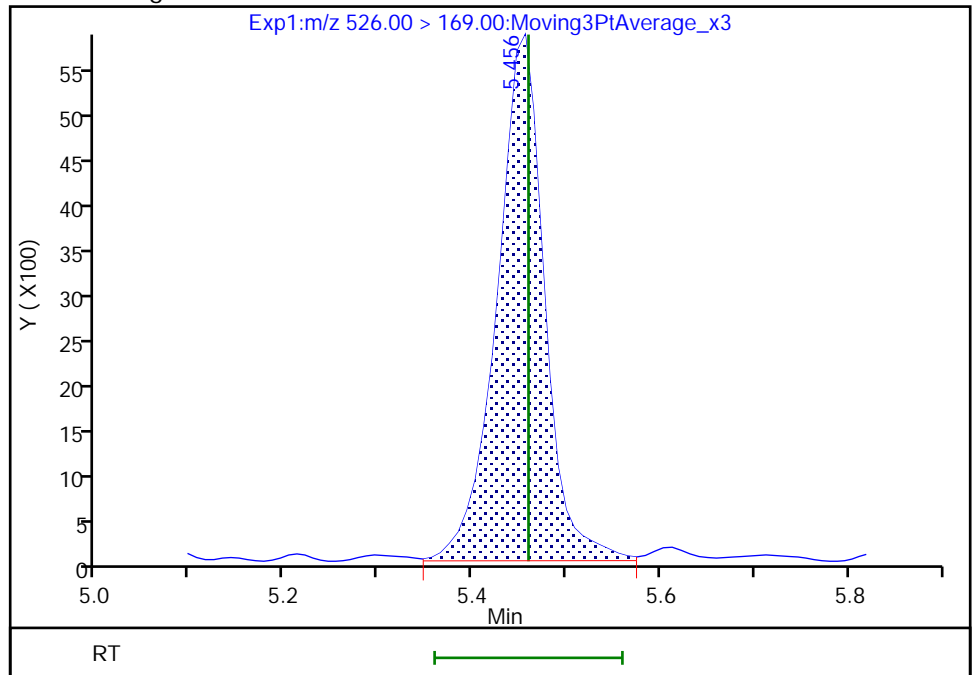
RT: 5.46  
Area: 19688  
Amount: 0.046533  
Amount Units: ng/ml

Processing Integration Results



RT: 5.46  
Area: 20377  
Amount: 0.048344  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:46:19  
Audit Action: Manually Integrated

Eurofins Knoxville

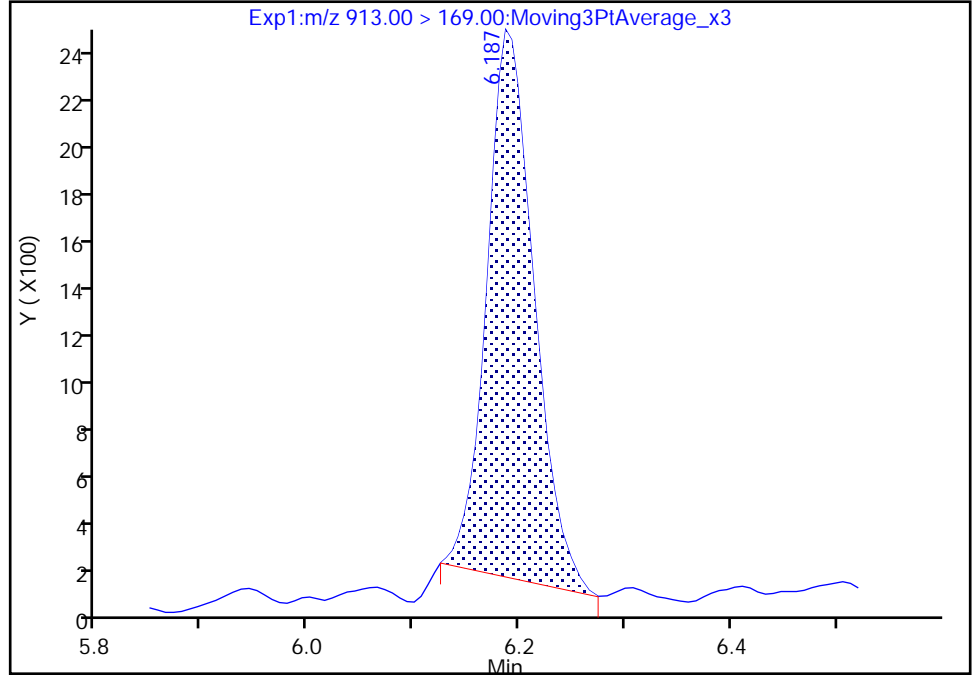
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_004.d  
Injection Date: 20-Feb-2022 13:31:16 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

86 Perfluorooctadecanoic acid, CAS: 16517-11-6

Signal: 2

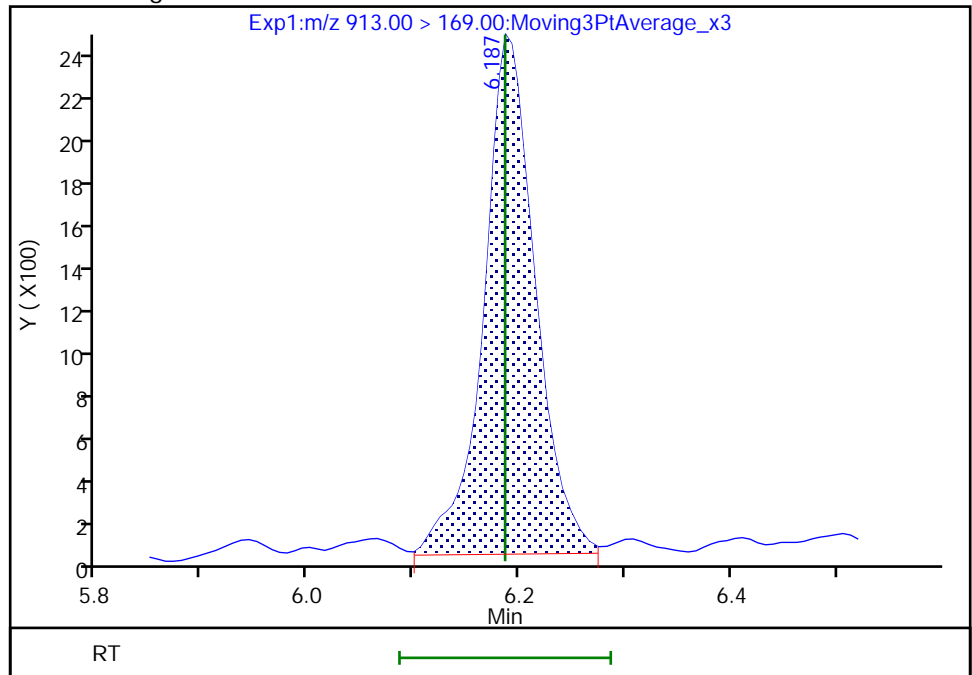
RT: 6.19  
Area: 7076  
Amount: 0.051077  
Amount Units: ng/ml

Processing Integration Results



RT: 6.19  
Area: 8122  
Amount: 0.051077  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 13:46:28  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59064/5 Calibration Date: 02/20/2022 13:40  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7300		0.920	1.00	-8.0	40.0
PFECA F	AveID	0.7535	0.7219		0.958	1.00	-4.2	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9271		0.986	1.00	-1.4	40.0
3:3 FTCA	QuaIF		0.0557		1.02	1.00	2.3	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.068		0.861	0.884	-2.6	40.0
PFECA A	Q2ID		1.213		1.03	1.00	3.4	40.0
PES	Q2ID		2.295		0.862	0.890	-3.1	40.0
PFECA B	Q2ID		0.4185		1.01	1.00	1.1	40.0
4:2 FTS	L2ID		2.296		0.943	0.934	1.0	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7320		0.920	1.00	-8.0	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.055		0.959	0.938	2.2	40.0
HFPO-DA	L2ID		1.319		1.04	1.00	4.4	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.332		0.875	0.910	-3.8	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.009		1.01	1.00	0.7	40.0
DONA	AveID	2.644	2.289		0.816	0.942	-13.4	40.0
5:3 FTCA	L2ID		3.610		0.958	1.00	-4.2	40.0
6:2 FTUCA	AveID	1.046	0.9809		0.937	1.00	-6.3	40.0
6:2 FTCA	L1ID		0.7158		1.03	1.00	3.1	40.0
PFECHS	AveID	0.7426	0.7369		0.915	0.922	-0.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.8846		0.853	0.952	-10.4	40.0
6:2 FTS	L2ID		1.606		0.832	0.948	-12.2	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.046		0.978	1.00	-2.2	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.003		0.813	0.928	-12.4	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7429		0.977	1.00	-2.3	40.0
7:3 FTCA	AveID	5.230	5.529		1.06	1.00	5.7	40.0
8:2 FTUCA	AveID	0.9565	0.9476		0.991	1.00	-0.9	40.0
8:2 FTCA	AveID	1.811	2.199		1.21	1.00	21.4	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.079		0.862	0.932	-7.5	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9294		0.882	0.960	-8.1	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9219		0.965	1.00	-3.5	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8903		0.990	1.00	-1.0	40.0
8:2 FTS	L2ID		1.318		0.838	0.958	-12.5	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8924		0.966	1.00	-3.4	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8864		0.959	0.964	-0.5	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59064/5 Calibration Date: 02/20/2022 13:40  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9124		0.943	1.00	-5.7	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9350		1.06	1.00	6.2	40.0
10:2 FTUCA	AveID	1.208	1.176		0.973	1.00	-2.7	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.687		0.912	0.942	-3.2	50.0
10:2 FTCA	Q2ID		1.113		1.21	1.00	20.9	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9601		0.929	1.00	-7.1	40.0
10:2 FTS	L2ID		1.903		0.874	0.964	-9.4	50.0
NMeFOSA	L2ID		1.119		1.04	1.00	3.7	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.219		1.04	1.00	3.9	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8690		0.890	0.968	-8.1	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.7817		0.885	1.00	-11.5	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.326		0.935	1.00	-6.5	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.236		0.990	1.00	-1.0	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1230		0.953	1.00	-4.7	40.0
Perfluorohexadecanoic acid	L1ID		1.084		0.951	1.00	-4.9	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9559		0.944	1.00	-5.6	40.0
13C4 PFBA	Ave	1.172	1.185		1.26	1.25	1.1	50.0
13C5 PFPeA	Ave	0.9197	0.8561		1.16	1.25	-6.9	50.0
13C3 PFBS	Ave	0.5817	0.5666		1.13	1.16	-2.6	50.0
M2-4:2 FTS	Ave	0.1821	0.1801		1.16	1.17	-1.1	50.0
13C2 PFHxA	Ave	1.015	0.9769		1.20	1.25	-3.7	50.0
13C3 HFPO-DA	Ave	0.4963	0.4513		1.14	1.25	-9.1	50.0
18O2 PFHxS	Ave	0.3776	0.3842		1.20	1.18	1.8	50.0
13C4 PFHpA	Ave	0.9046	0.8467		1.17	1.25	-6.4	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3206		1.19	1.25	-5.0	50.0
13C-6:2 FTCA	Ave	0.0260	0.0232		1.12	1.25	-10.7	50.0
13C4 PFOA	Ave	0.9356	0.9451		1.26	1.25	1.0	50.0
M2-6:2 FTS	Ave	0.1799	0.1879		1.24	1.19	4.4	50.0
13C4 PFOS	Ave	0.5610	0.6070		1.29	1.20	8.2	50.0
13C5 PFNA	Ave	1.268	1.293		1.27	1.25	1.9	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4684		1.30	1.25	3.6	50.0
13C-8:2 FTCA	Ave	0.0330	0.0300		1.13	1.25	-9.3	50.0
13C8 FOSA	Ave	0.8475	0.8633		1.27	1.25	1.9	50.0
13C2 PFDA	Ave	1.210	1.242		1.28	1.25	2.7	50.0
M2-8:2 FTS	Ave	0.1961	0.1969		1.20	1.20	0.4	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59064/5 Calibration Date: 02/20/2022 13:40  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1236		1.36	1.25	8.9	50.0
13C2 PFUnA	Ave	1.168	1.171		1.25	1.25	0.3	50.0
d5-NEtFOSAA	Ave	0.1164	0.1145		1.23	1.25	-1.6	50.0
13C-10:2 FTUCA	Ave	0.5078	0.4051		0.997	1.25	-20.2	50.0
13C-10:2 FTCA	Ave	0.0309	0.0203		0.821	1.25	-34.3	50.0
13C2 PFDoA	Ave	1.152	1.105		1.20	1.25	-4.1	50.0
13C2 10:2 FTS	Ave	0.1652	0.1516		1.09	1.18	-8.2	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1237		1.30	1.25	4.3	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1001		1.24	1.25	-0.8	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1356		1.38	1.25	10.2	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0835		1.29	1.25	3.1	50.0
13C2 PFTeDA	Ave	0.9216	0.8137		1.10	1.25	-11.7	50.0
13C2 PFHxDA	Ave	0.5997	0.4893		1.02	1.25	-18.4	50.0
13C8 PFOA	AveID	0.9229	0.9754		1.32	1.25	5.7	50.0
13C8 PFOS	AveID	0.2212	0.2232		1.21	1.20	0.9	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_005.d  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 20-Feb-2022 13:40:04 ALS Bottle#: 5 Worklist Smp#: 5  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022725-005 ccvis  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:50:51 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: cochranj Date: 20-Feb-2022 14:04:14

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	3354433	0.9202		92.0	1227	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.679	5743947	1.26		101	23975	
3 PFECA F										
229.00 > 85.00	2.919	2.919	0.0	0.935	2395779	0.9580		95.8	13182	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.123	3.123	0.0	1.000	3076735	0.9857		98.6	1427	
D 5 13C5 PFPeA										
267.90 > 223.00	3.123	3.123	0.0	0.754	4148477	1.16		93.1	16755	
4 3:3 FTCA										
241.00 > 177.10	3.139	3.139	0.0	1.000	122274	1.02	Target=1.13	102	1436	
241.00 > 116.90	3.139	3.139	0.0	1.000	96942		1.26(0.56-1.69)		151	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.139	3.139	0.0	1.000	2073131	0.8614	Target=2.61	97.4	3758	
298.90 > 99.00	3.139	3.139	0.0	1.000	785873		2.64(1.31-3.92)		2819	
D 7 13C3 PFBS										
301.90 > 80.00	3.139	3.139	0.0	0.758	2553303	1.13		97.4	8981	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.028	4025285	1.03		103	24024	
11 PES										
314.80 > 135.00	3.270	3.270	0.0	1.042	4486753	0.8623		96.9	21639	
12 PFECA B										
295.22 > 201.00	3.395	3.395	0.0	0.984	1584814	1.01		101	11278	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.427	3.427	0.0	0.828	815312	1.16		98.9	1934	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.427	3.427	0.0	1.000	1497507	0.9432		101	10885	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.098	2174523	0.9590	Target=3.55	102	6232	
349.00 > 99.00	3.448	3.448	0.0	1.098	639219		3.40(1.78-5.33)		6063	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	2772059	0.9196	Target=11.60	92.0	1623	
313.00 > 119.00	3.448	3.448	0.0	1.000	244880		11.32(5.80-17.40)		238	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.833	4733660	1.20		96.3	12165	
17 HFPO-DA										
285.00 > 169.00	3.553	3.553	0.0	1.000	2306703	1.04	Target=2.45	104	1208	
329.00 > 169.00	3.553	3.553	0.0	1.000	916392		2.52(1.23-3.68)		1242	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.553	3.553	0.0	0.858	2186586	1.14		90.9	7643	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.792	3.792	0.0	1.000	1805815	0.8753	Target=3.44	96.2	4539	M
399.00 > 99.00	3.792	3.792	0.0	1.000	531432		3.40(1.72-5.17)		1721	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.792	3.792	0.0	0.916	1761259	1.20		102	6266	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.803	3.803	0.0	1.000	3310368	1.01	Target=3.25	101	2511	
363.00 > 169.00	3.803	3.803	0.0	1.000	982711		3.37(1.62-4.87)		1786	
D 22 13C4 PFHpA										
367.00 > 322.00	3.803	3.803	0.0	0.919	4102702	1.17		93.6	8495	
25 DONA										
377.00 > 251.00	3.829	3.829	0.0	0.866	5074368	0.8157	Target=1.74	86.6	8029	
377.00 > 85.00	3.829	3.829	0.0	0.866	2880082		1.76(0.87-2.61)		134	
26 5:3 FTCA										
340.88 > 236.90	3.861	3.861	0.0	0.987	325267	0.9576	Target=1.11	95.8	1544	
340.88 > 216.90	3.861	3.861	0.0	0.987	305998		1.06(0.56-1.67)		1143	
27 6:2 FTUCA										
356.86 > 292.90	3.895	3.895	0.0	1.000	1218955	0.9374	Target=13.05	93.7	2919	
356.86 > 243.00	3.895	3.895	0.0	1.000	84791		14.38(6.52-19.57)		420	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.895	3.895	0.0	0.941	1553316	1.19		95.0	4282	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.912	3.912	0.0	0.945	112633	1.12		89.3	698	
29 6:2 FTCA										
377.10 > 63.00	3.912	3.912	0.0	1.000	64497	1.03	Target=1.29	103	211	
377.10 > 313.10	3.912	3.912	0.0	1.000	56926		1.13(0.65-1.94)		107	
32 PFECHS										
460.80 > 380.90	4.074	4.074	0.0	0.986	2489152	0.9149	Target=1.75	99.2	6261	
460.80 > 98.90	4.074	4.074	0.0	0.986	1341428		1.86(0.87-2.62)		3412	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.121	4.121	0.0	0.932	1981787	0.8527	Target=3.72	89.6	5719	
449.00 > 99.00	4.121	4.121	0.0	0.932	518517		3.82(1.86-5.57)		1857	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.130	4.130	0.0	1.000	1108819	0.8320		87.8	3639	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.130	4.130	0.0	1.000	4467061	1.32		106	9473	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.130	4.130	0.0	1.000	3833362	0.9775	Target=2.51	97.8	3575	
413.00 > 169.00	4.130	4.130	0.0	1.000	1556636		2.46(1.26-3.77)		2827	
* 30 13C2 PFOA										
415.00 > 370.00	4.139	4.139	0.0		4845593	1.25			9349	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.130	4.130	0.0	0.998	864846	1.24		104	2771	
D 31 13C4 PFOA										
417.00 > 372.00	4.130	4.130	0.0	0.998	4579767	1.26		101	8767	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.421	4.421	0.0	1.000	627751	1.21		101	2321	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.421	4.421	0.0	1.000	2191358	0.8132	Target=4.30	87.6	3161	M
499.00 > 99.00	4.421	4.421	0.0	1.000	535918		4.09(2.15-6.45)		1646	M
D 39 13C4 PFOS										
503.00 > 80.00	4.421	4.421	0.0	1.068	2812031	1.29		108	3866	
42 Perfluorononanoic acid										
463.00 > 419.00	4.448	4.448	0.0	1.000	3722626	0.9767	Target=3.60	97.7	3422	
463.00 > 169.00	4.448	4.448	0.0	1.000	977463		3.81(1.80-5.40)		2469	
D 41 13C5 PFNA										
468.00 > 423.00	4.448	4.448	0.0	1.075	6263969	1.27		102	13905	
43 7:3 FTCA										
441.00 > 337.00	4.528	4.528	0.0	0.991	642541	1.06	Target=1.42	106	1702	
441.00 > 317.00	4.528	4.528	0.0	0.991	459816		1.40(0.71-2.13)		1695	
44 8:2 FTUCA										
456.86 > 392.90	4.553	4.553	0.0	1.000	1720476	0.99	Target=35.37	99.1	5480	
456.86 > 343.00	4.553	4.553	0.0	1.000	45494		37.82(17.68-53.05)		99.9	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.553	4.553	0.0	1.000	2269558	1.30		104	7644	
46 8:2 FTCA										
477.00 > 393.10	4.570	4.570	0.0	1.000	255535	1.21	Target=3.35	121	1200	
477.00 > 63.20	4.570	4.570	0.0	1.000	67162		3.80(1.68-5.03)		301	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.570	4.570	0.0	1.104	145263	1.13		90.7	602	
49 9CIFOS										
531.00 > 351.00	4.586	4.586	0.0	1.108	4560421	0.8620		92.5	7795	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.706	4.706	0.0	1.064	2099638	0.8822	Target=3.99	91.9	4659	
549.00 > 99.00	4.706	4.706	0.0	1.064	534071		3.93(2.00-5.99)		1730	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.714	4.714	0.0	1.000	3085260	0.9654		96.5	5267	
D 55 13C8 FOSA										
506.00 > 78.00	4.714	4.714	0.0	1.139	4183094	1.27		102	4192	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.731	4.731	0.0	1.000	4285956	0.9896	Target=10.58	99.0	3147	
513.00 > 169.00	4.731	4.731	0.0	1.000	381879		11.22(5.29-15.88)		278	
D 52 13C2 PFDA										
515.00 > 470.00	4.731	4.731	0.0	1.143	6017793	1.28		103	18475	
53 8:2 FTS										
527.00 > 507.00	4.748	4.748	0.0	1.000	963883	0.8378		87.5	3205	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.748	4.748	0.0	1.147	914034	1.20		100	3045	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.880	4.880	0.0	1.179	598944	1.36		109	224	
57 NMeFOSAA										
570.00 > 419.00	4.880	4.880	0.0	1.000	427613	0.9661		96.6	1134	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.966	4.966	0.0	1.123	2010795	0.9594	Target=3.55	99.5	6102	
599.00 > 99.00	4.966	4.966	0.0	1.123	540056		3.72(1.78-5.33)		2585	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.995	4.995	0.0	1.000	4141912	0.9434	Target=8.26	94.3	4410	
563.00 > 169.00	4.995	4.995	0.0	1.000	486043		8.52(4.13-12.39)		2221	
D 59 13C2 PFUnA										
565.00 > 520.00	4.995	4.995	0.0	1.207	5674595	1.25		100	13101	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.014	5.014	0.0	1.212	554853	1.23		98.4	1409	
62 NEtFOSAA										
584.00 > 419.00	5.024	5.024	0.0	1.002	415025	1.06		106	482	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.102	5.102	0.0	1.233	1963139	1.00		79.8	6090	
63 11CIFOS										
631.00 > 451.00	5.102	5.102	0.0	1.154	3739575	0.9122		96.8	10903	
65 10:2 FTUCA										
556.86 > 492.90	5.102	5.102	0.0	1.000	1846529	0.9733		97.3	7015	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.111	5.111	0.0	1.235	98415	0.8210		65.7	582	
66 10:2 FTCA										
576.80 > 493.00	5.111	5.111	0.0	1.000	87598	1.21	Target=2.53	121	484	
576.80 > 63.10	5.111	5.111	0.0	1.000	35550		2.46(1.26-3.79)		112	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.235	5.235	0.0	1.000	4113409	0.9294	Target=6.85	92.9	2973	
613.00 > 169.00	5.235	5.235	0.0	1.000	582837		7.06(3.43-10.28)		1423	
D 69 13C2 PFDa										
615.00 > 570.00	5.235	5.235	0.0	1.265	5355512	1.20		95.9	13183	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.251	5.251	0.0	1.269	696023	1.09		91.8	3216	
71 10:2 FTS										
627.00 > 607.00	5.251	5.251	0.0	1.000	1078534	0.8736		90.6	4881	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.283	5.283	0.0	1.277	599224	1.30		104	508	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
74 NMeFOSA										
512.00 > 169.00	5.283	5.283	0.0	1.000	434316	1.04		104	672	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.283	5.283	0.0	1.277	485125	1.24		99.2	49.6	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.002	584129	1.04		104	755	
76 PFDoS										
699.00 > 80.00	5.408	5.408	0.0	1.223	1979366	0.8897	Target=4.22	91.9	4087	
699.00 > 99.00	5.408	5.408	0.0	1.223	460687		4.30(2.11-6.34)		2451	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.443	5.443	0.0	1.040	3349075	0.8852	Target=6.32	88.5	2752	
663.00 > 169.00	5.435	5.443	-0.008	1.038	561838		5.96(3.16-9.48)		2289	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.313	657222	1.38		110	314	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.317	404428	1.29		103	851	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	697206	0.9346		93.5	822	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.000	399871	0.9896		99.0	573	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.626	5.626	0.0	1.000	387995	0.9527	Target=1.01	95.3	1491	
713.00 > 219.00	5.617	5.626	-0.009	0.998	373844		1.04(0.51-1.52)		1423	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.626	5.626	0.0	1.359	3942733	1.10		88.3	11879	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.932	5.932	0.0	1.000	2055675	0.9513	Target=8.64	95.1	2645	
813.00 > 169.00	5.932	5.932	0.0	1.000	242999		8.46(4.32-12.97)		616	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.932	5.932	0.0	1.433	2370935	1.02		81.6	4912	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.190	6.190	0.0	1.043	1813068	0.9437	Target=11.77	94.4	2467	
913.00 > 169.00	6.190	6.190	0.0	1.043	156958		11.55(5.88-17.65)		504	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220220-22725.b\_005.d

Injection Date: 20-Feb-2022 13:40:04

Instrument ID: LCA

Lims ID: CCVIS

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 5

Worklist Smp#: 5

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

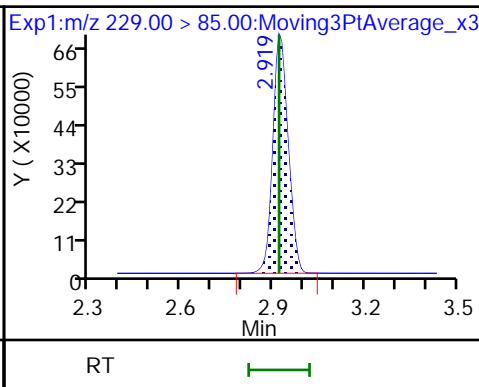
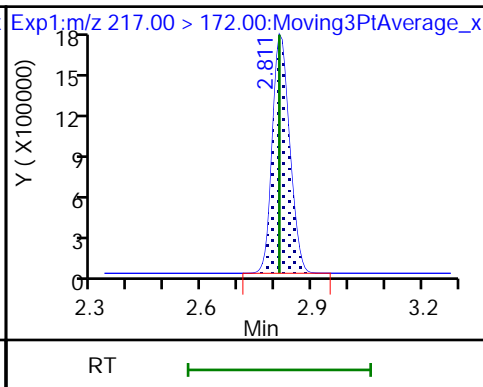
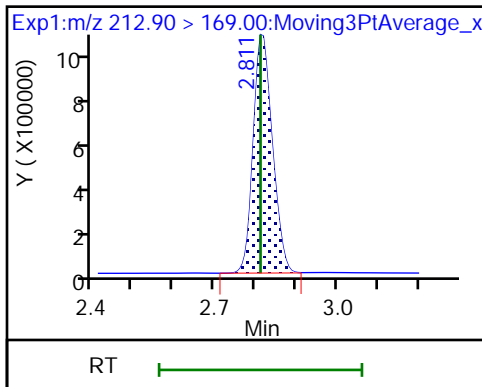
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

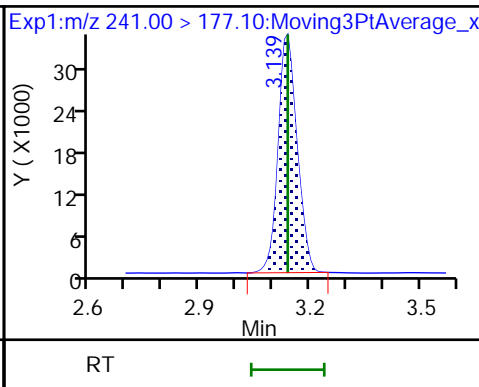
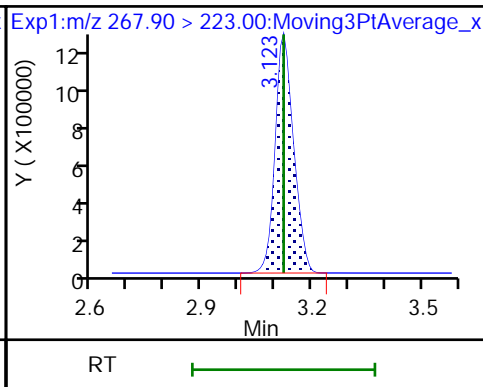
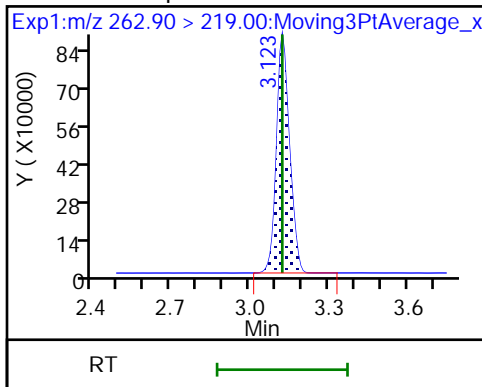
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

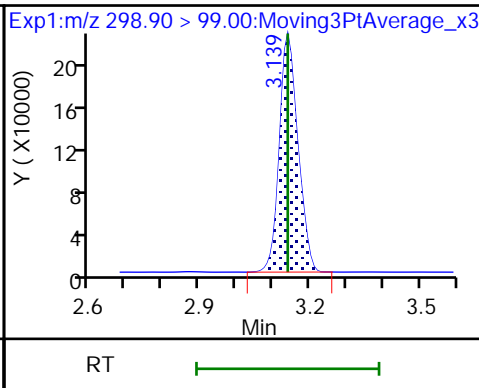
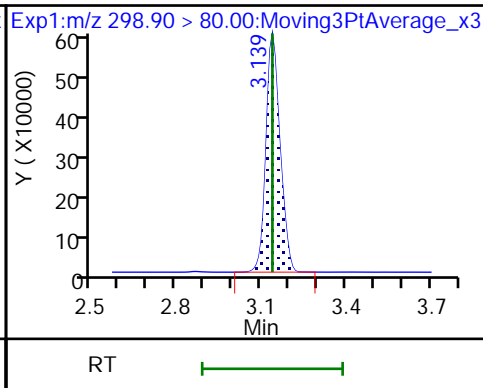
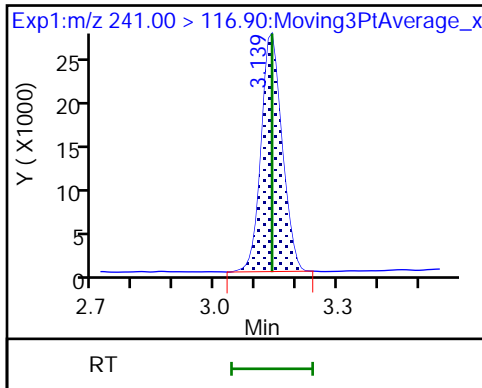
4 3:3 FTCA



4 3:3 FTCA

8 Perfluorobutanesulfonic acid

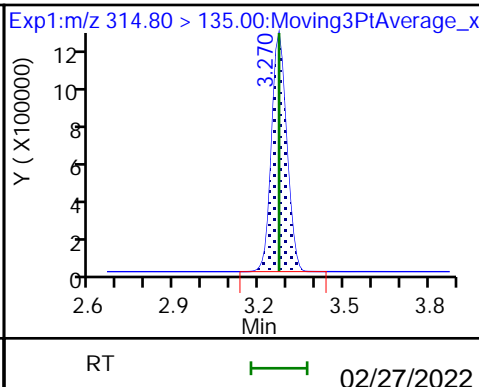
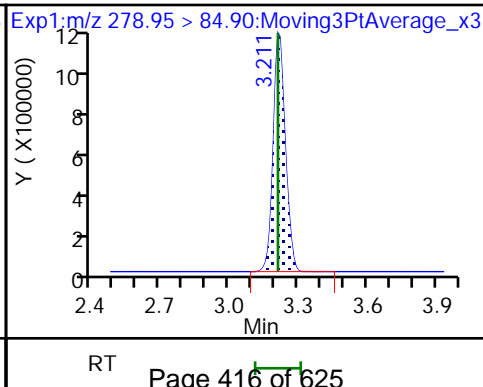
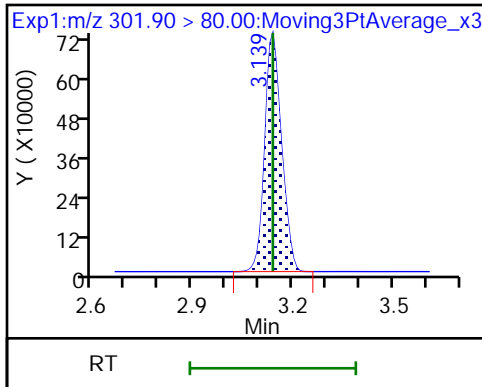
8 Perfluorobutanesulfonic acid

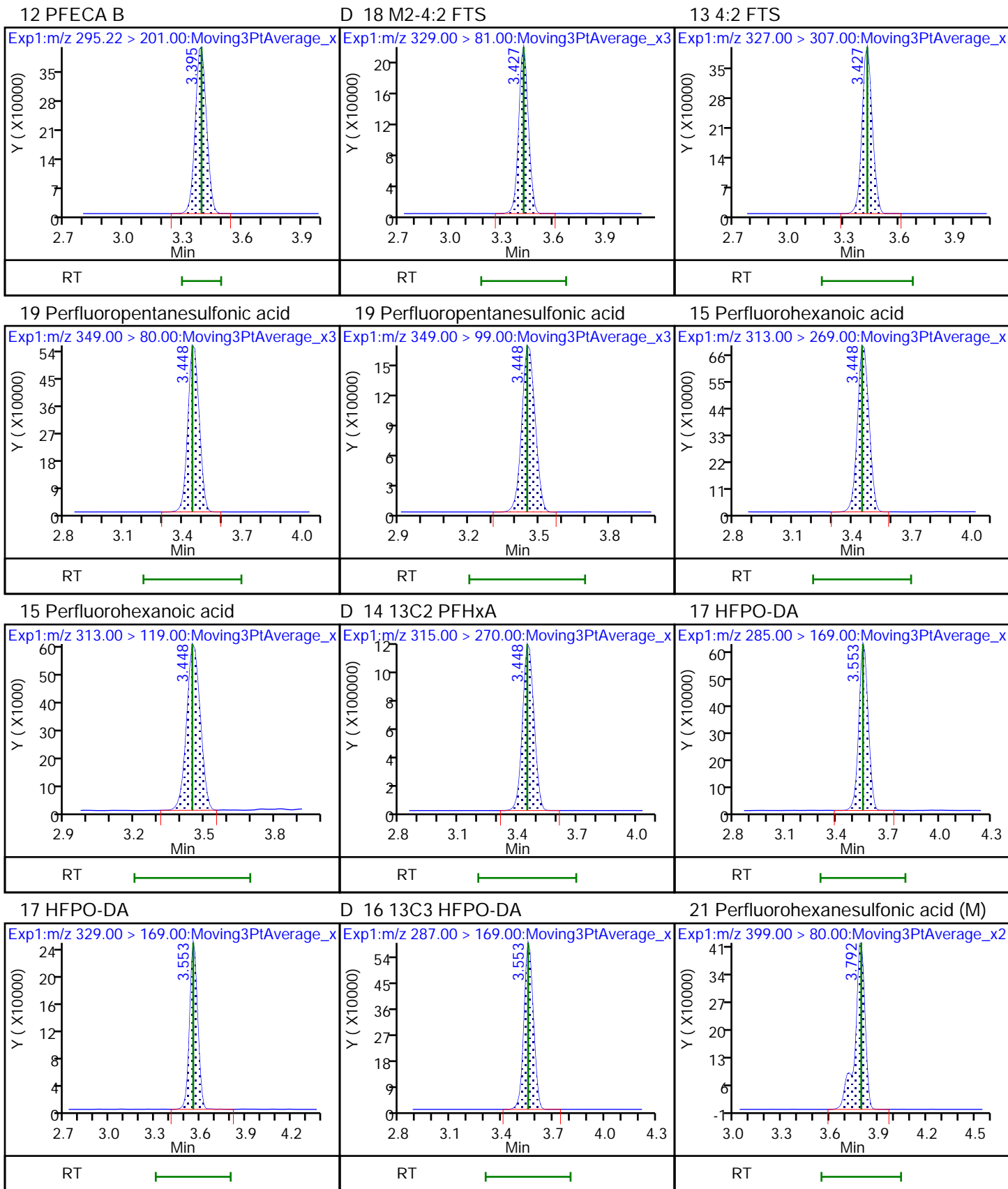


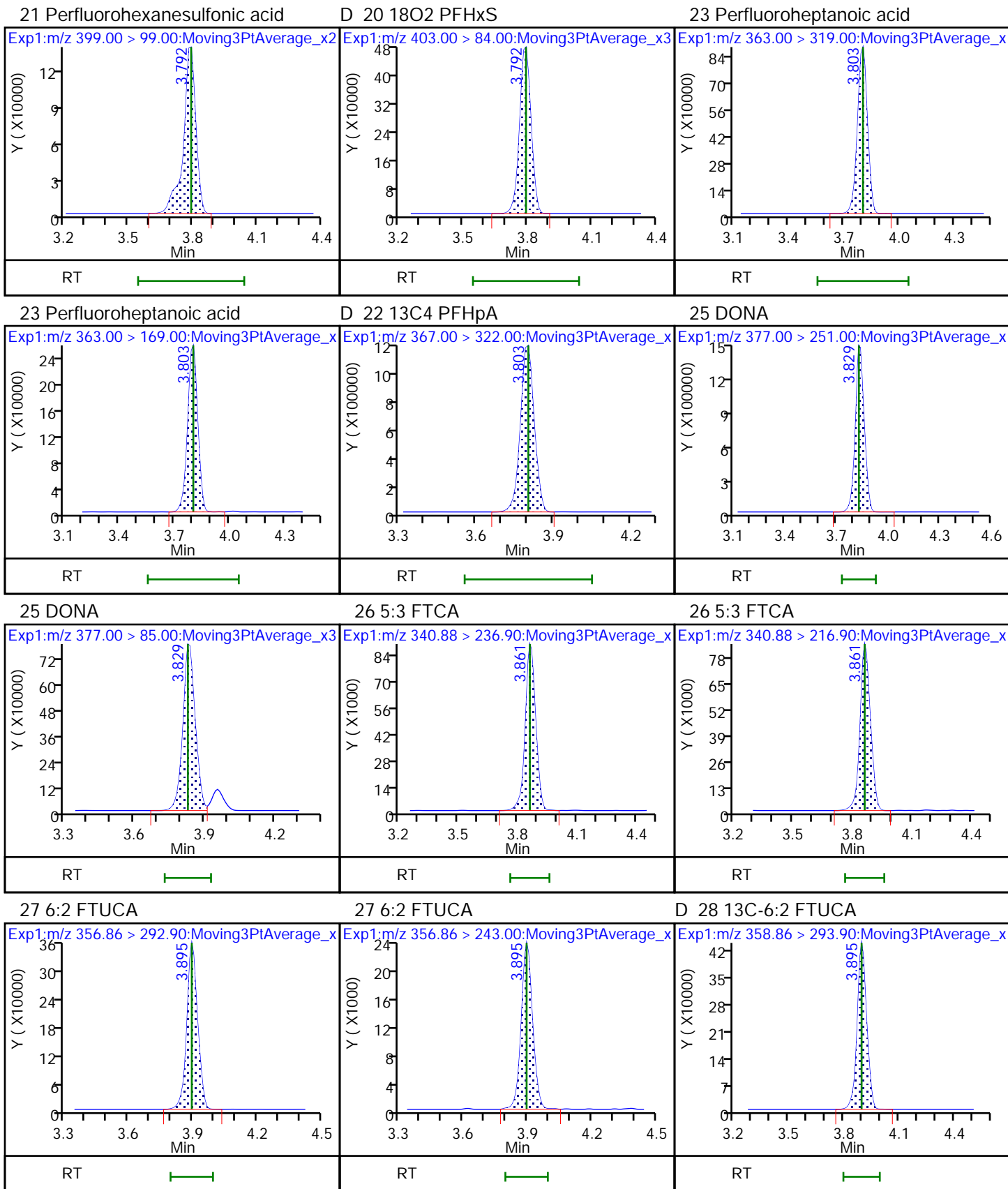
D 7 13C3 PFBS

9 PFECA A

11 PES



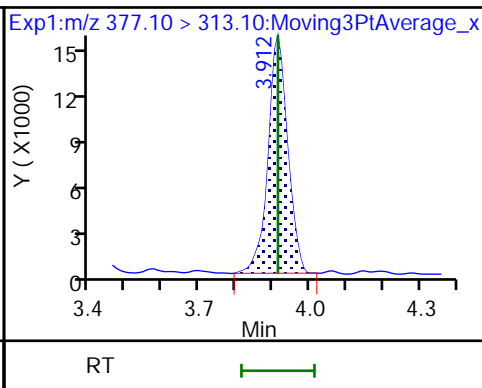
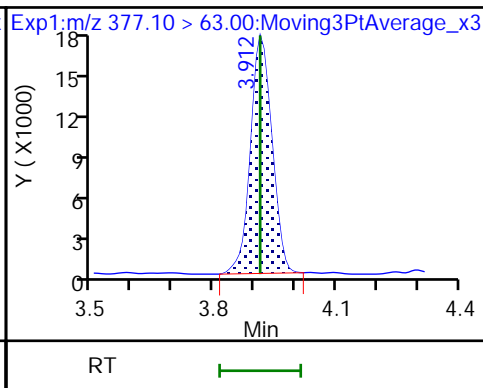
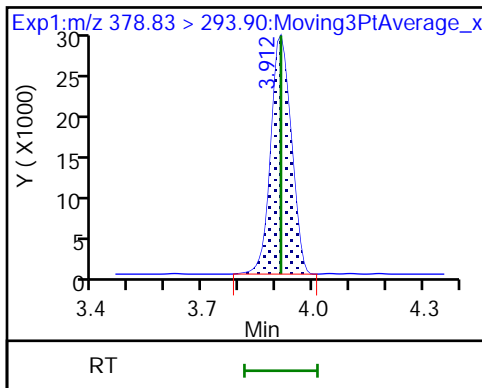




D 24 13C-6:2 FTCA

29 6:2 FTCA

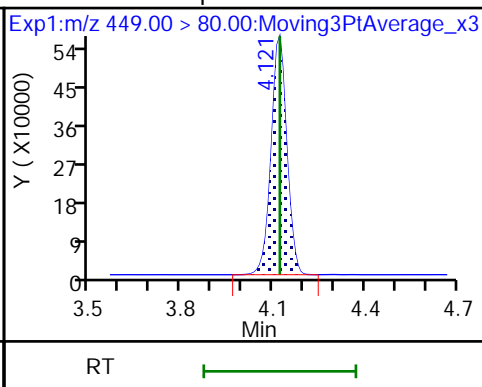
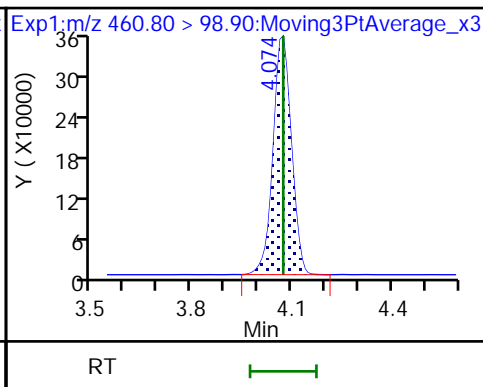
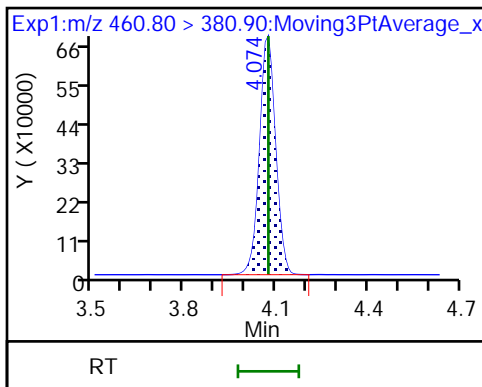
29 6:2 FTCA



32 PFECHS

32 PFECHS

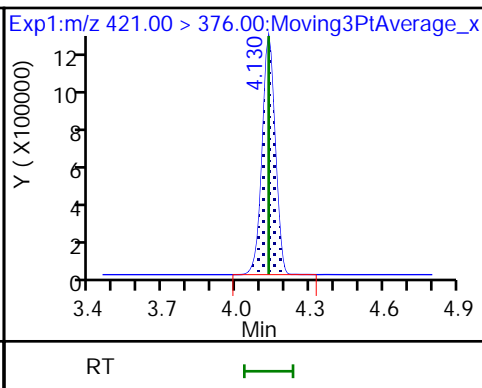
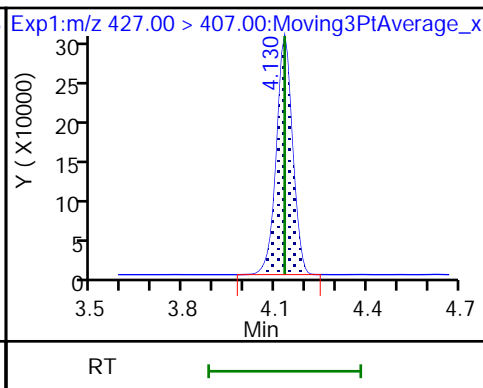
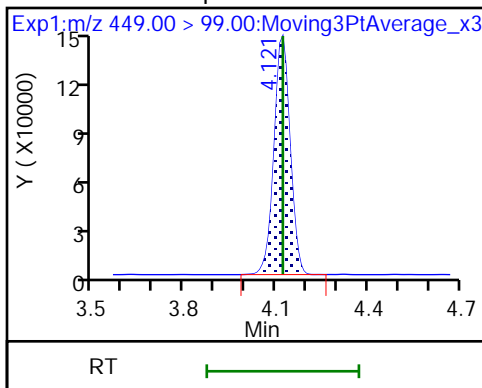
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

35 6:2 FTS

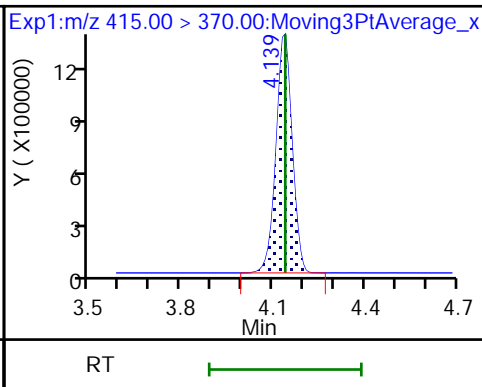
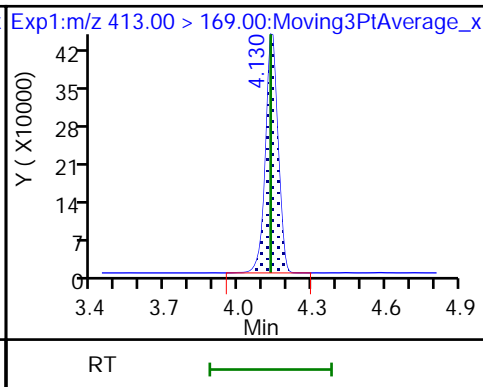
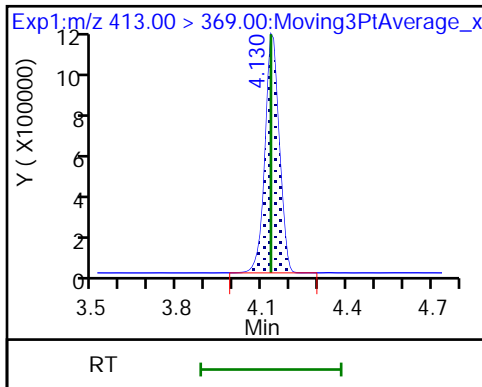
\$ 36 13C8 PFOA



37 Perfluorooctanoic acid

37 Perfluorooctanoic acid

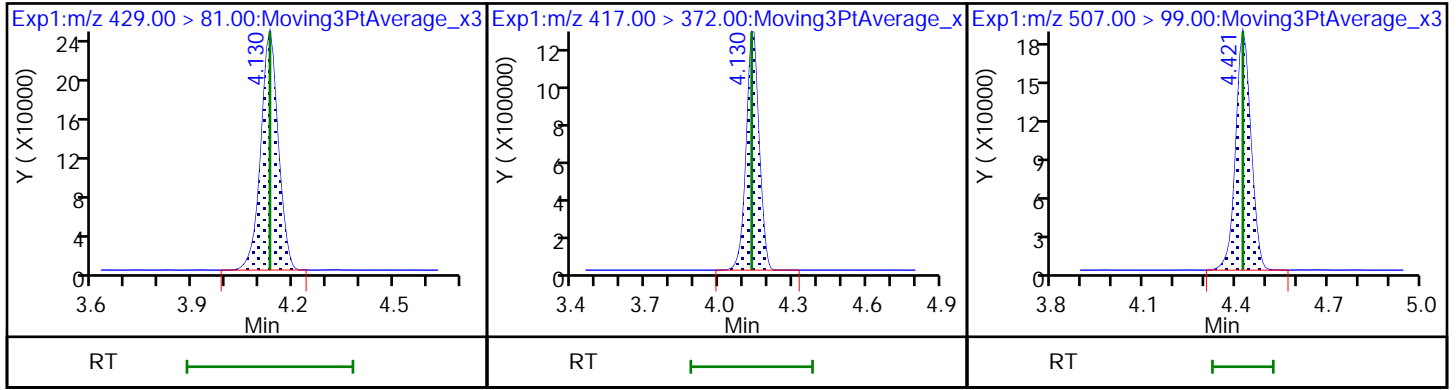
\* 30 13C2 PFOA



D 34 M2-6:2 FTS

D 31 13C4 PFOA

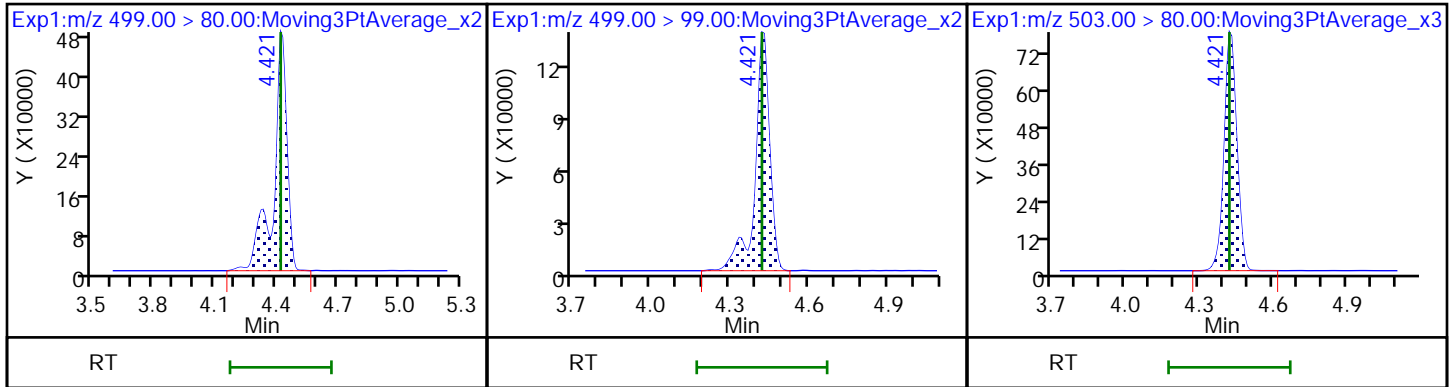
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid (M)

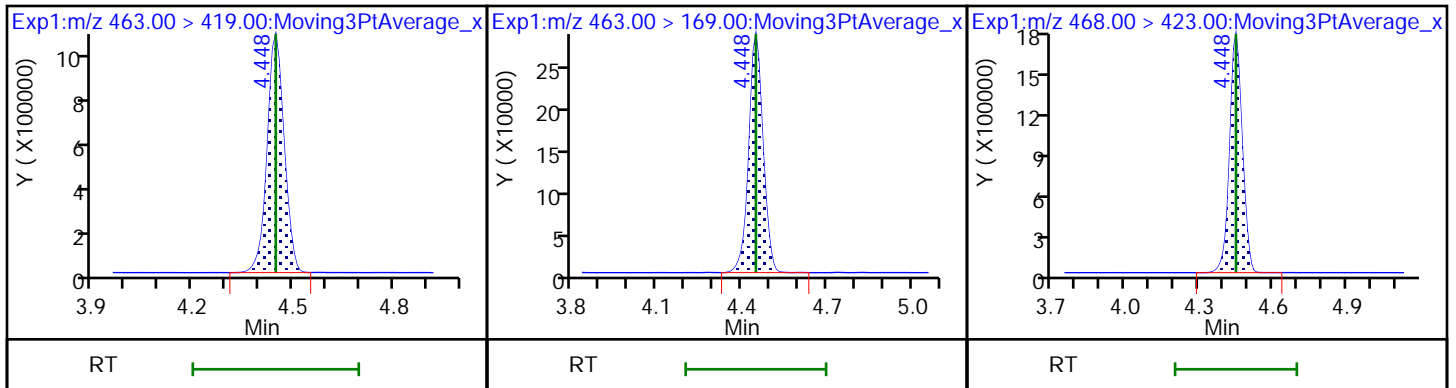
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

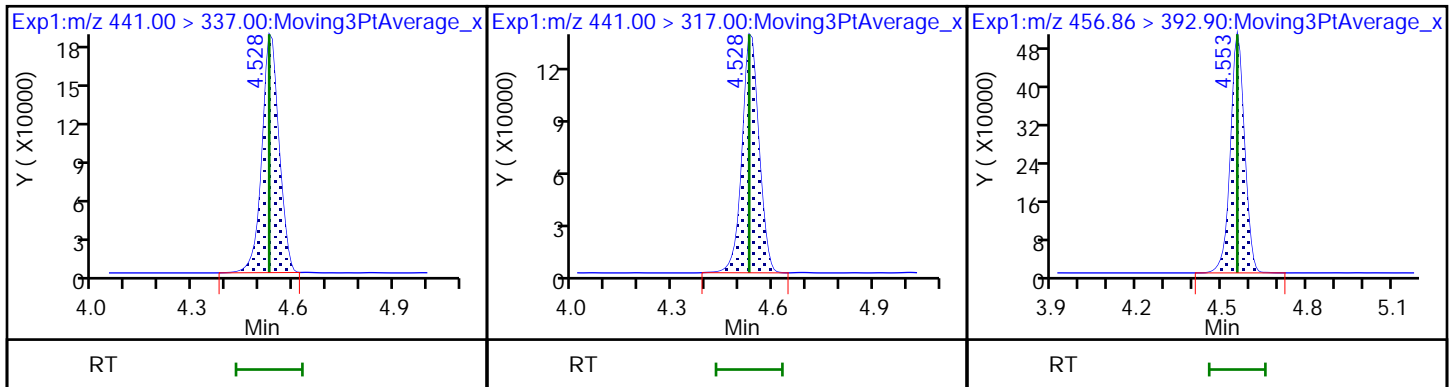
D 41 13C5 PFNA

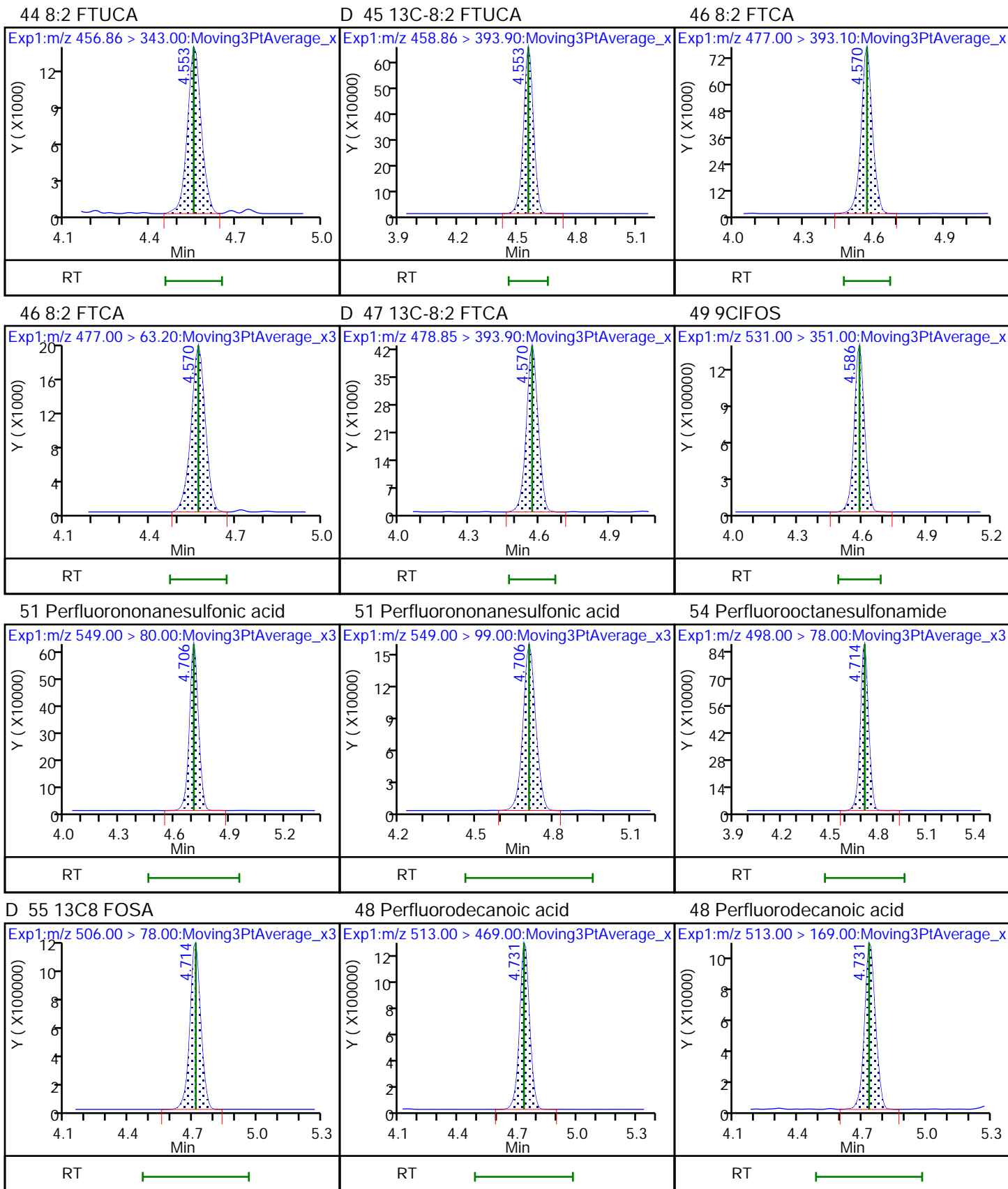


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA



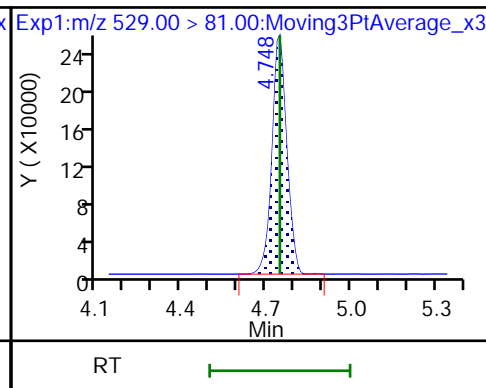
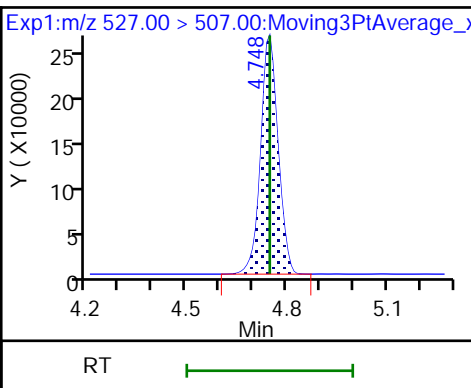
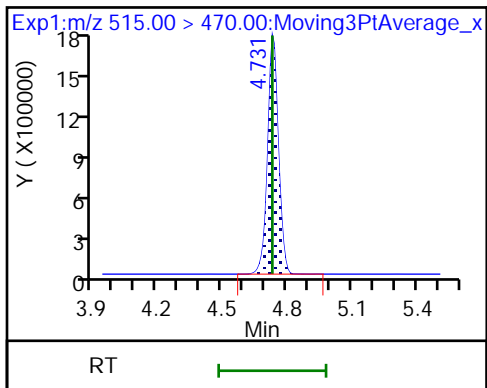




D 52 13C2 PFDA

53 8:2 FTS

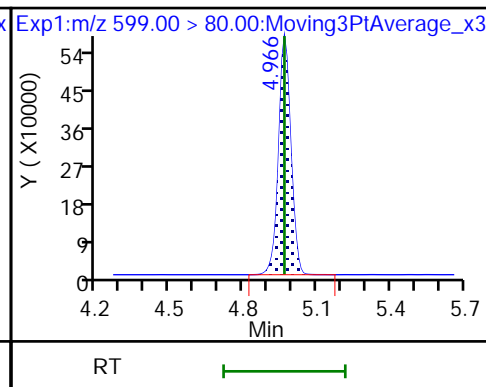
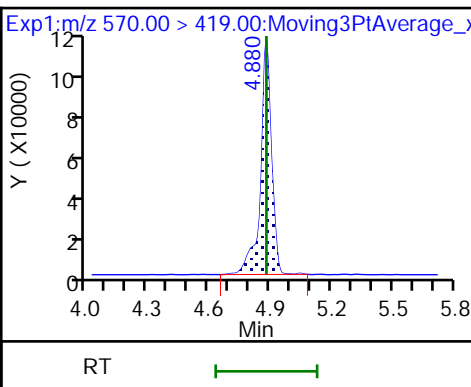
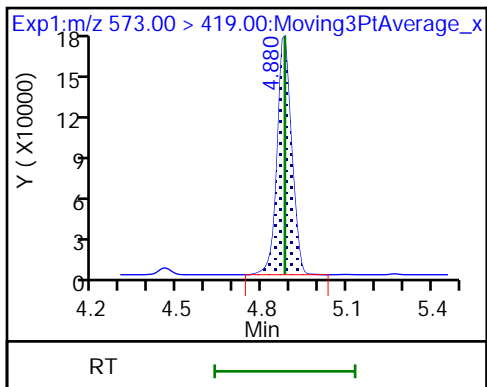
D 50 M2-8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA

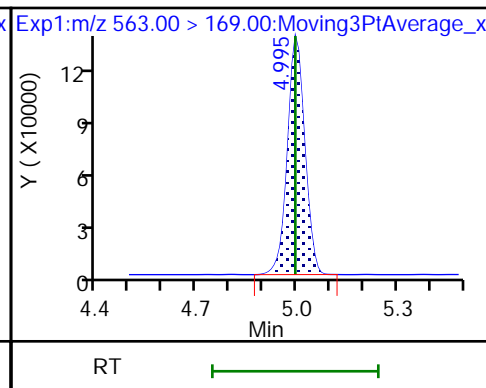
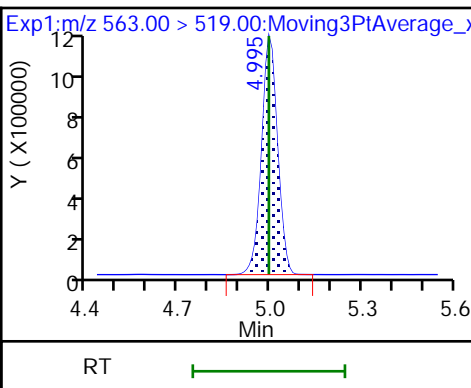
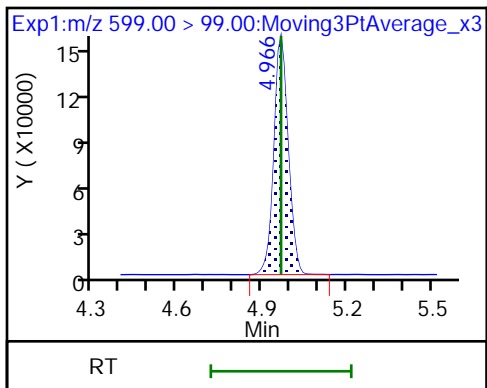
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

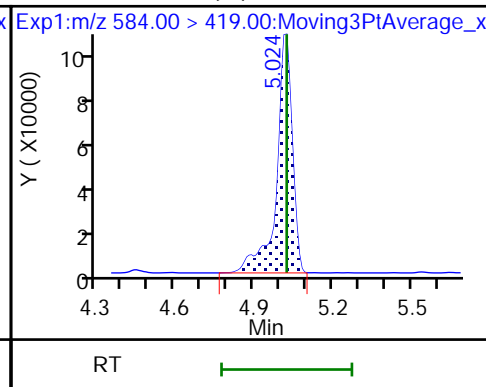
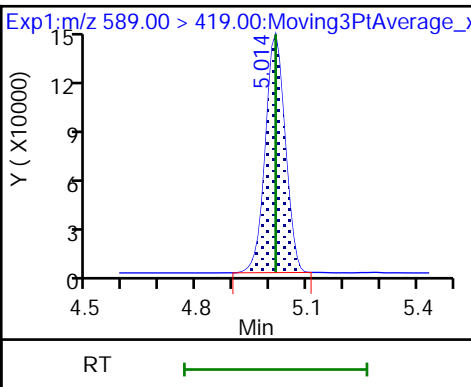
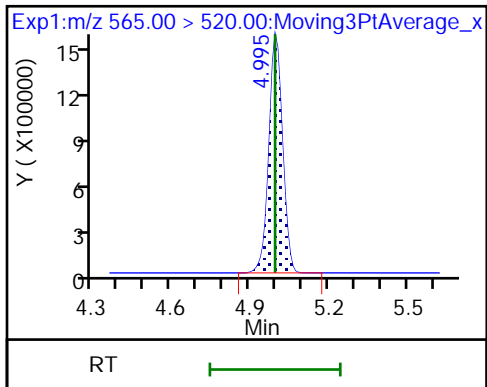
60 Perfluoroundecanoic acid



D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

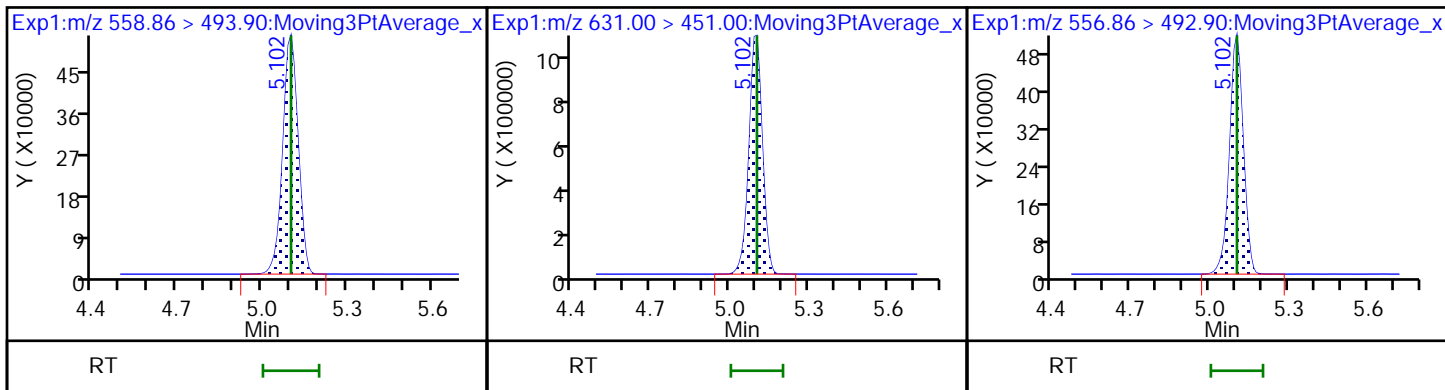
62 NEtFOSAA (M)



D 67 13C-10:2 FTUCA

63 11CIFOS

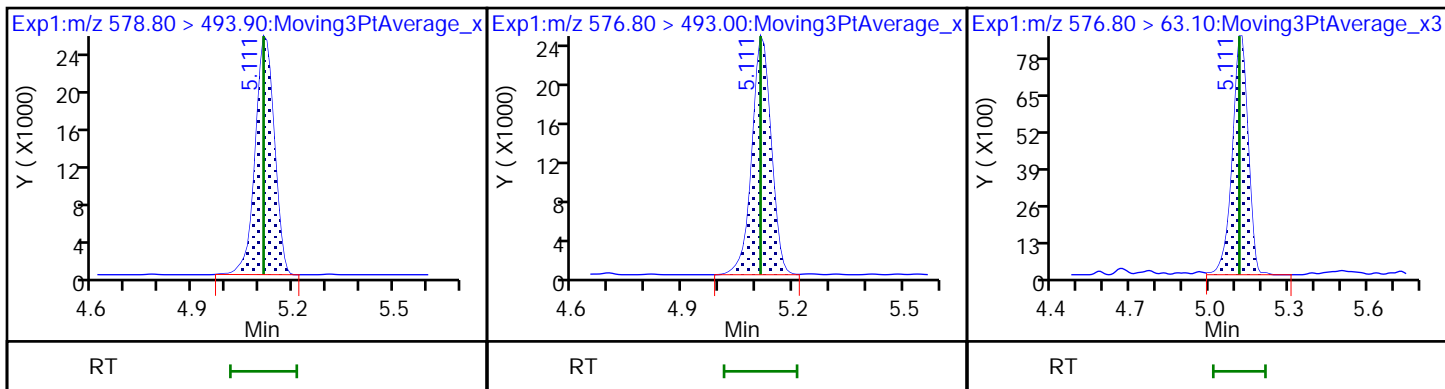
65 10:2 FTUCA



D 64 13C-10:2 FTCA

66 10:2 FTCA

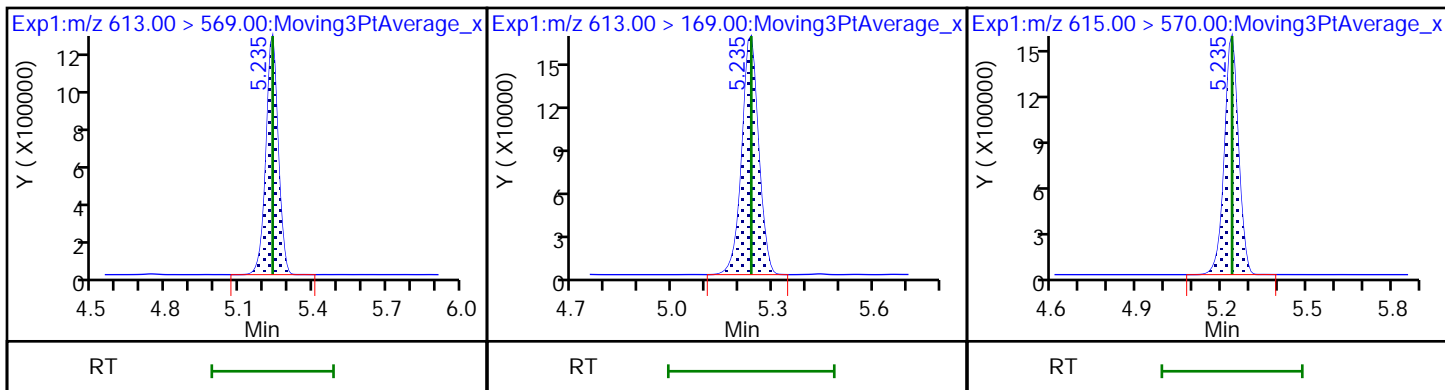
66 10:2 FTCA



68 Perfluorododecanoic acid

68 Perfluorododecanoic acid

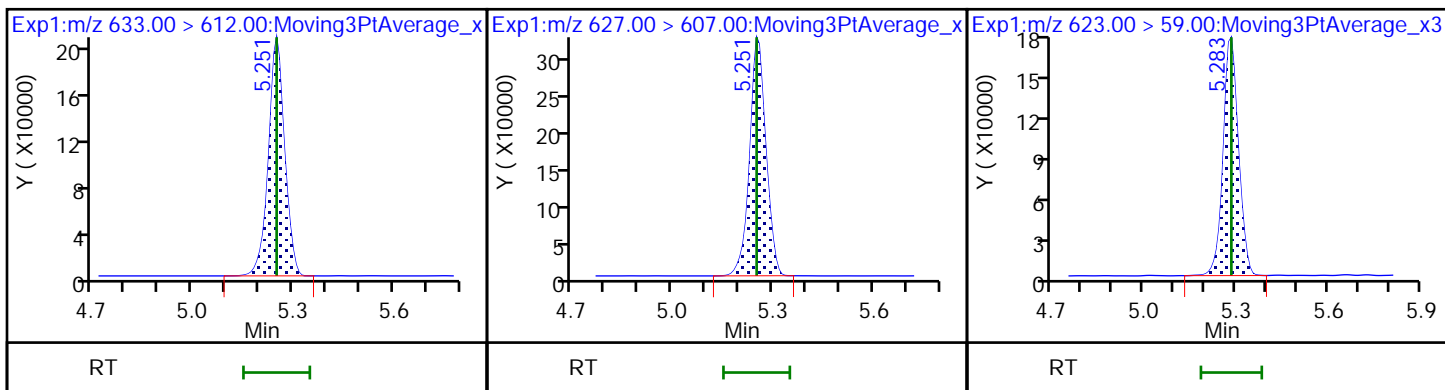
D 69 13C2 PFDaA

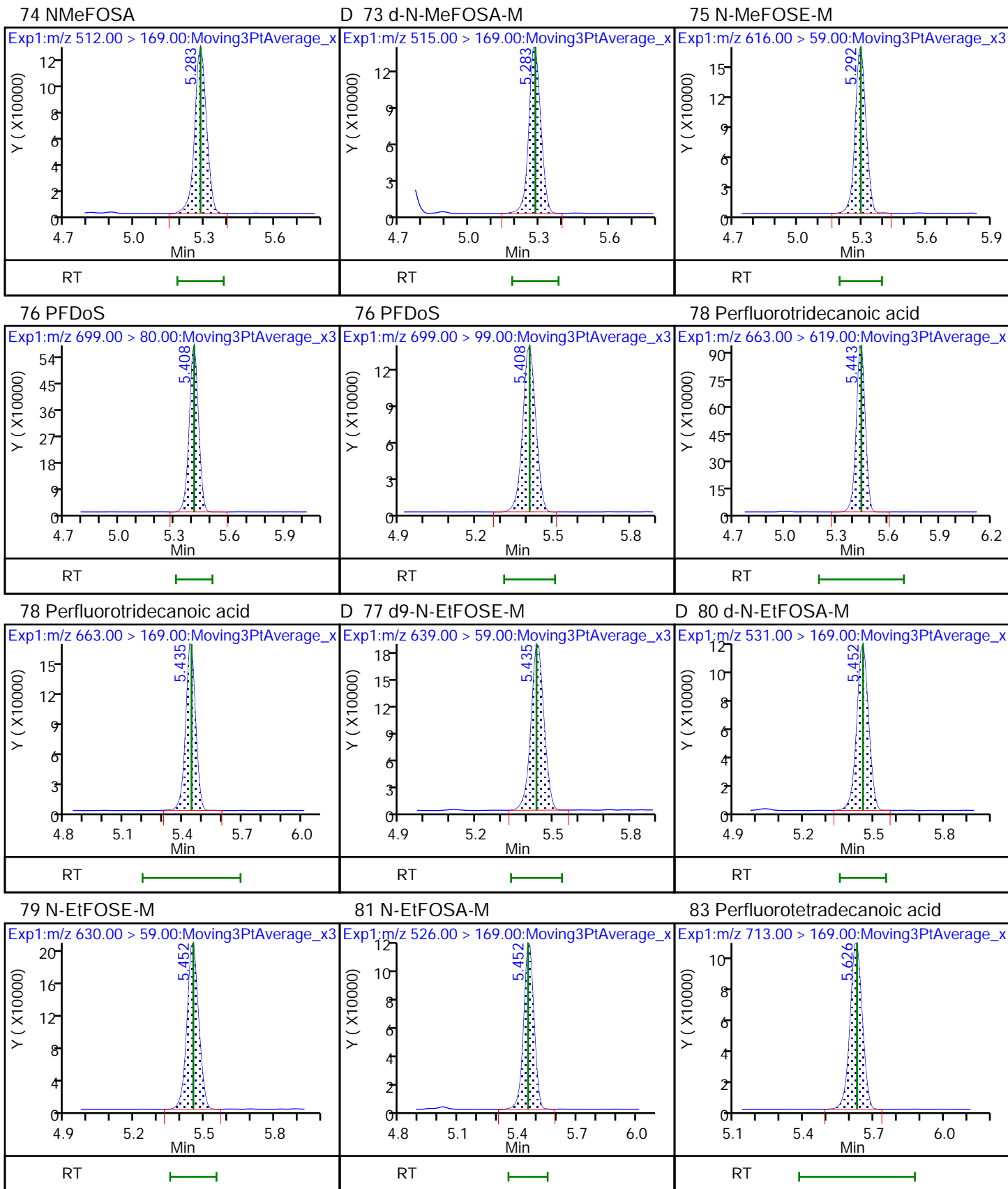


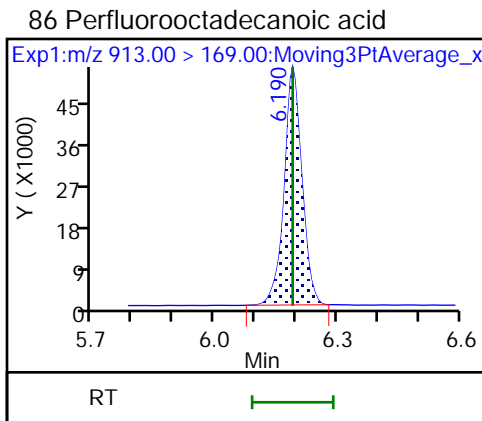
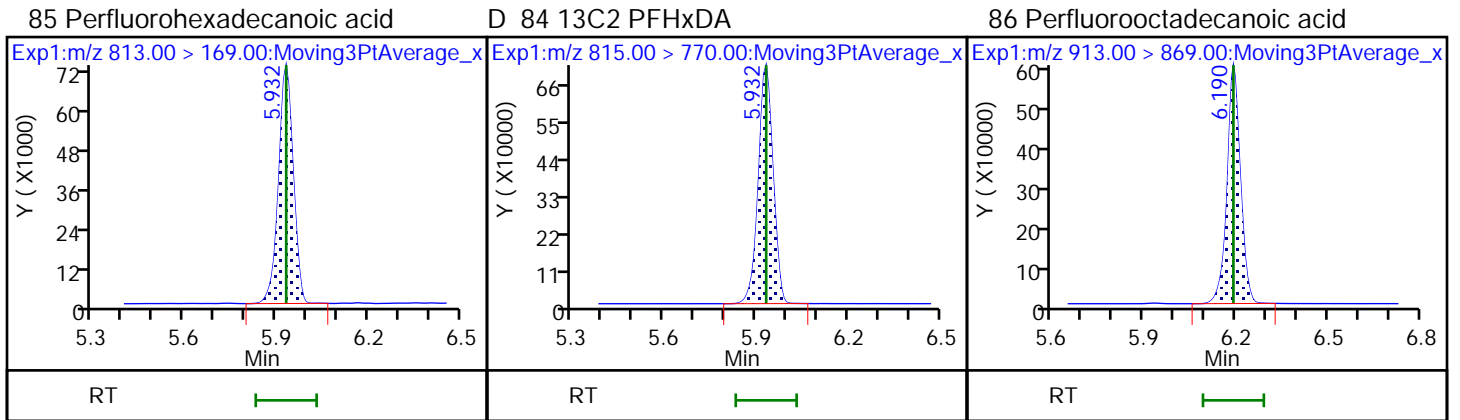
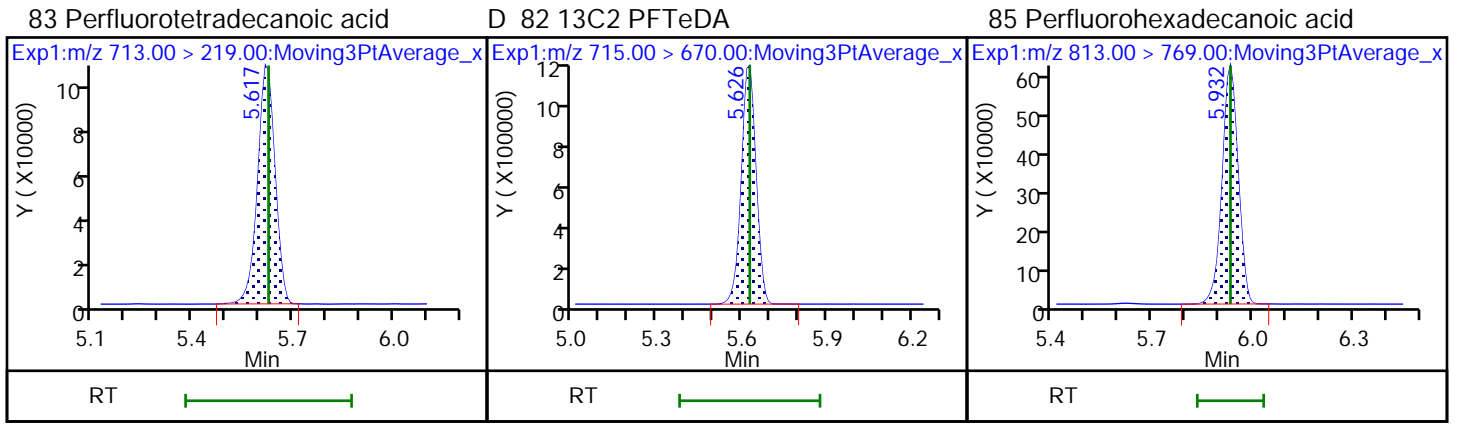
D 70 13C2 10:2 FTS

71 10:2 FTS

D 72 d7-N-MeFOSE-M







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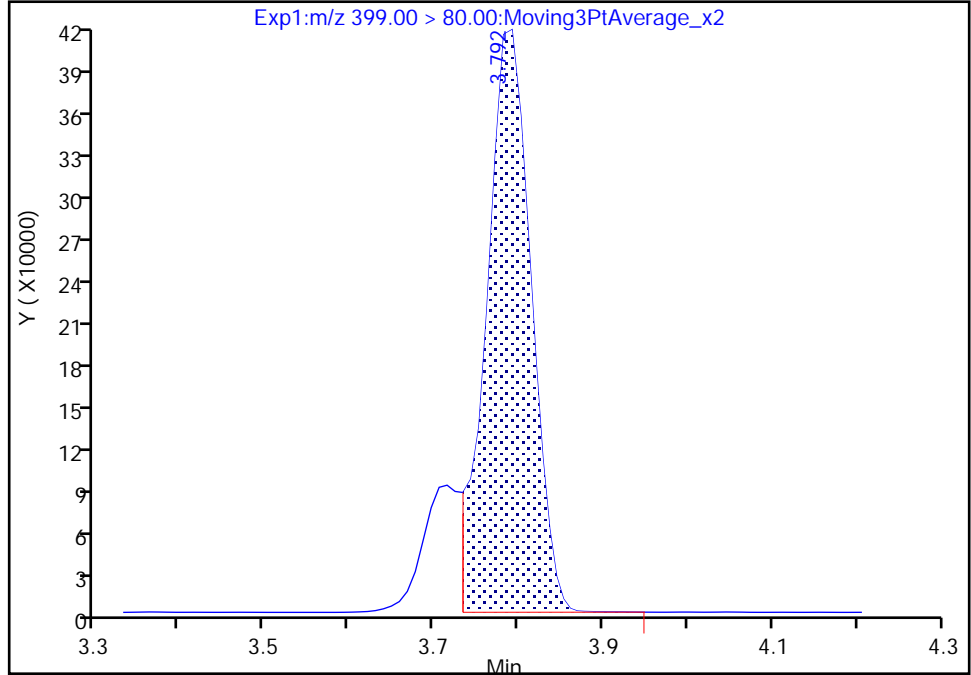
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Injection Date: 20-Feb-2022 13:40:04 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

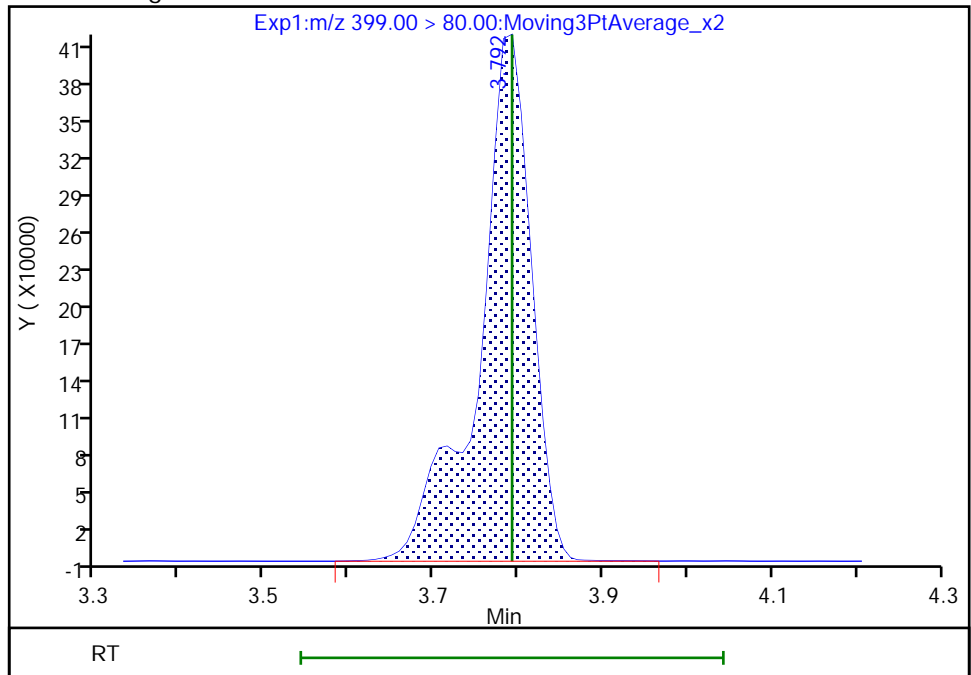
RT: 3.79  
Area: 1522810  
Amount: 0.738144  
Amount Units: ng/ml

Processing Integration Results



RT: 3.79  
Area: 1805815  
Amount: 0.875324  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 14:03:22  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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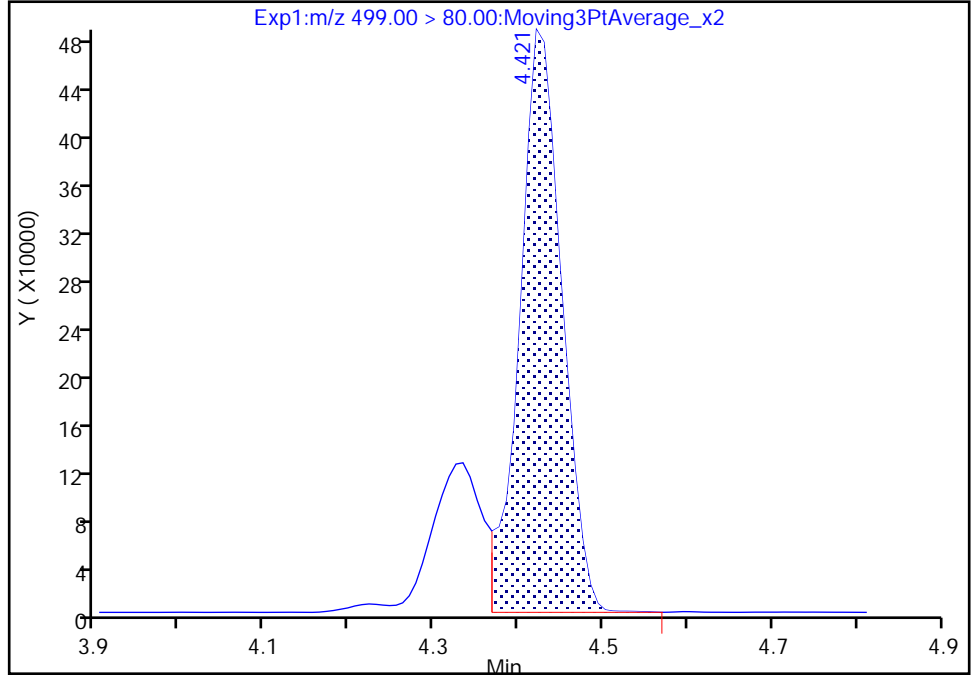
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Injection Date: 20-Feb-2022 13:40:04 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

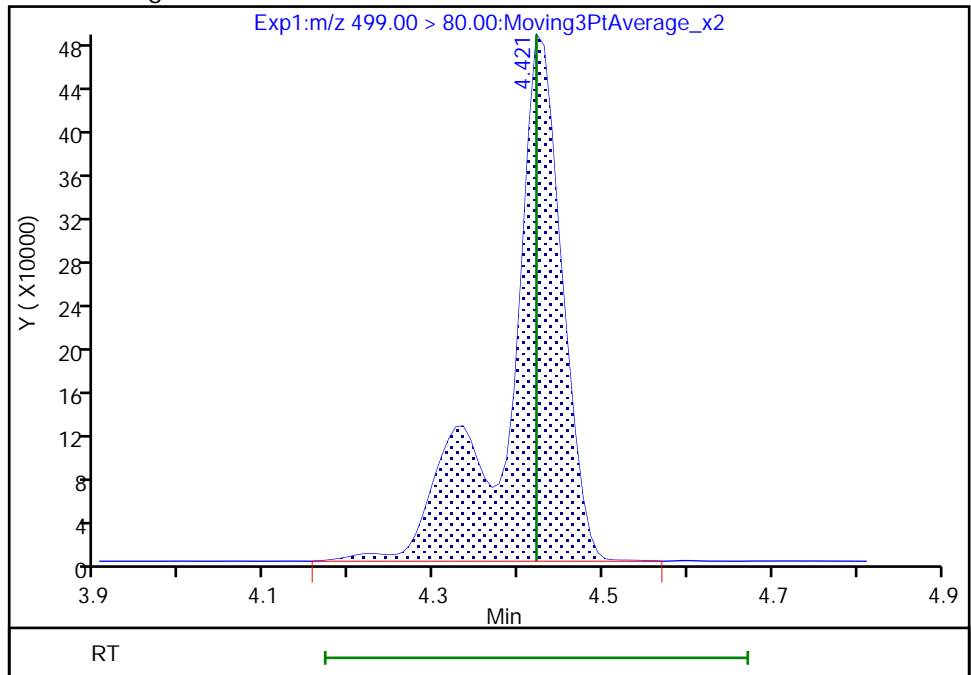
RT: 4.42  
Area: 1669567  
Amount: 0.619534  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 2191358  
Amount: 0.813157  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 14:03:35  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

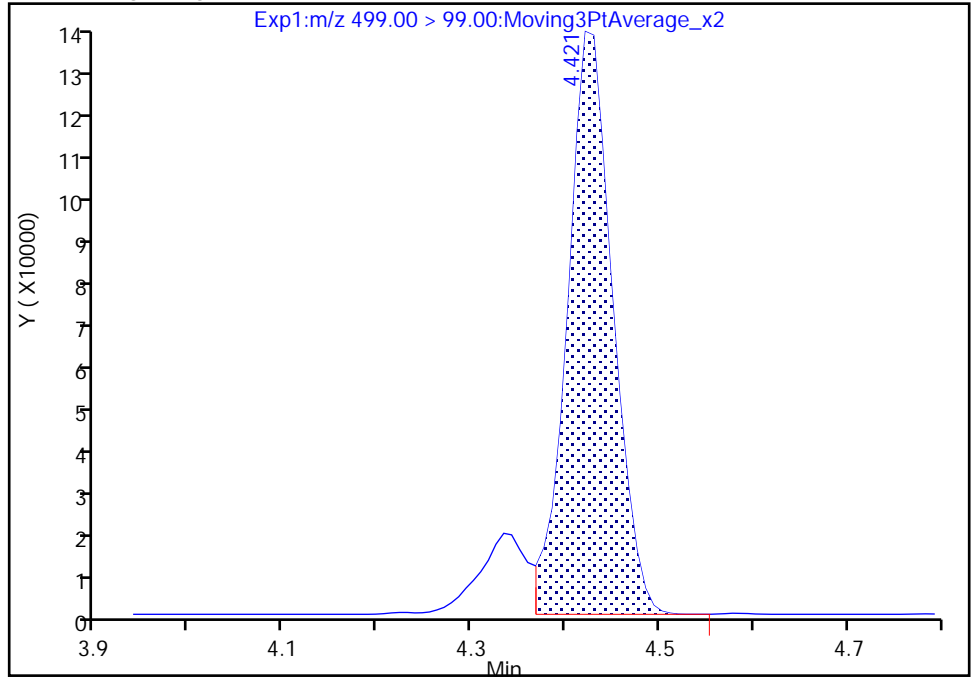
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Injection Date: 20-Feb-2022 13:40:04 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

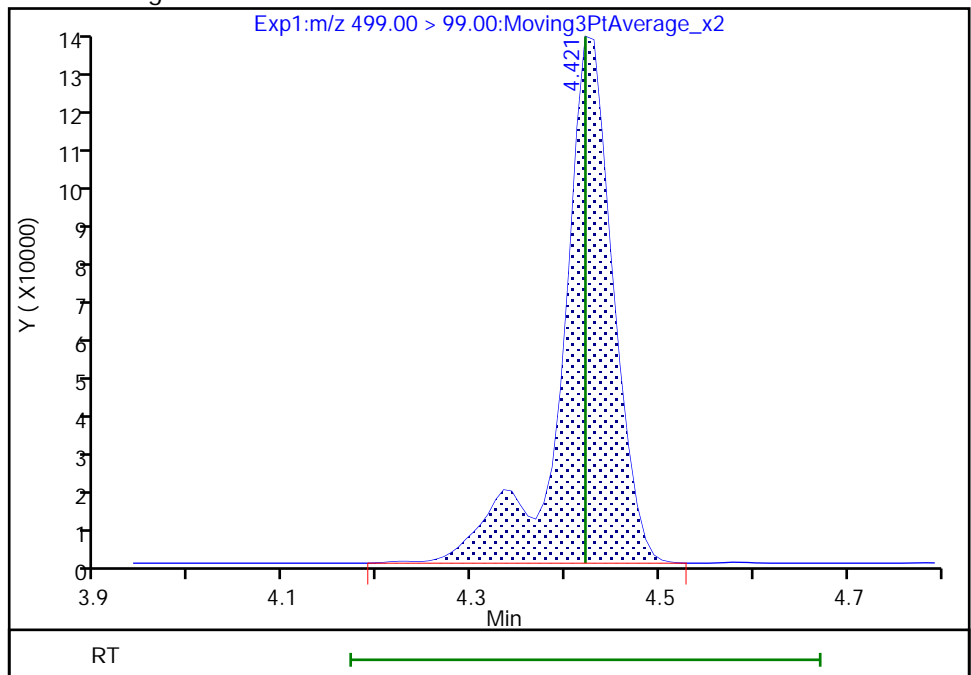
RT: 4.42  
Area: 466861  
Amount: 0.619534  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 535918  
Amount: 0.813157  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 14:03:46

Audit Action: Manually Integrated

Audit Reason: Baseline  
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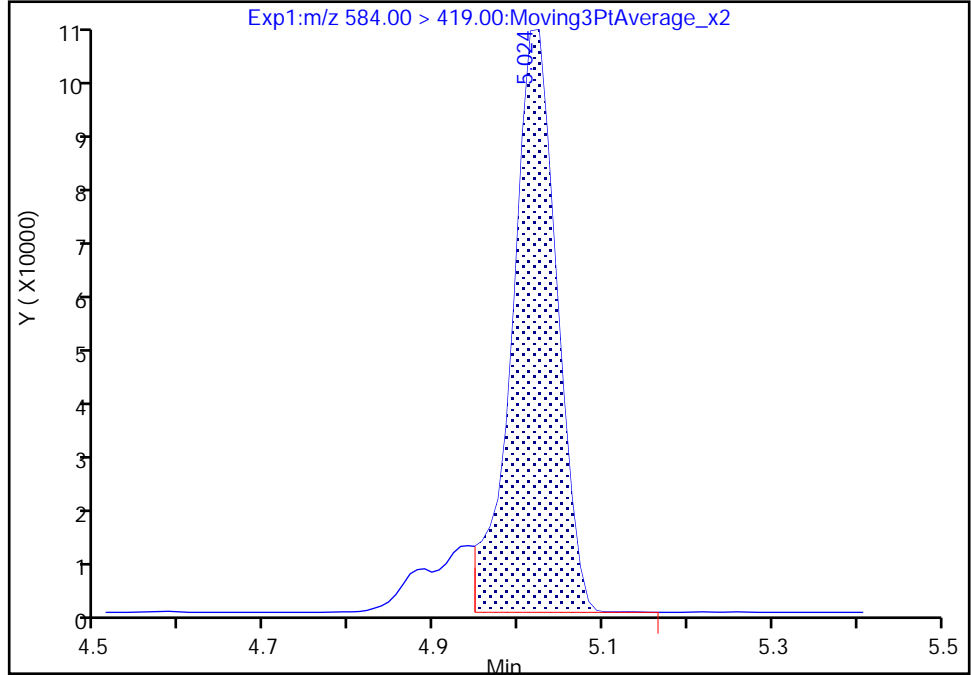
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Injection Date: 20-Feb-2022 13:40:04 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

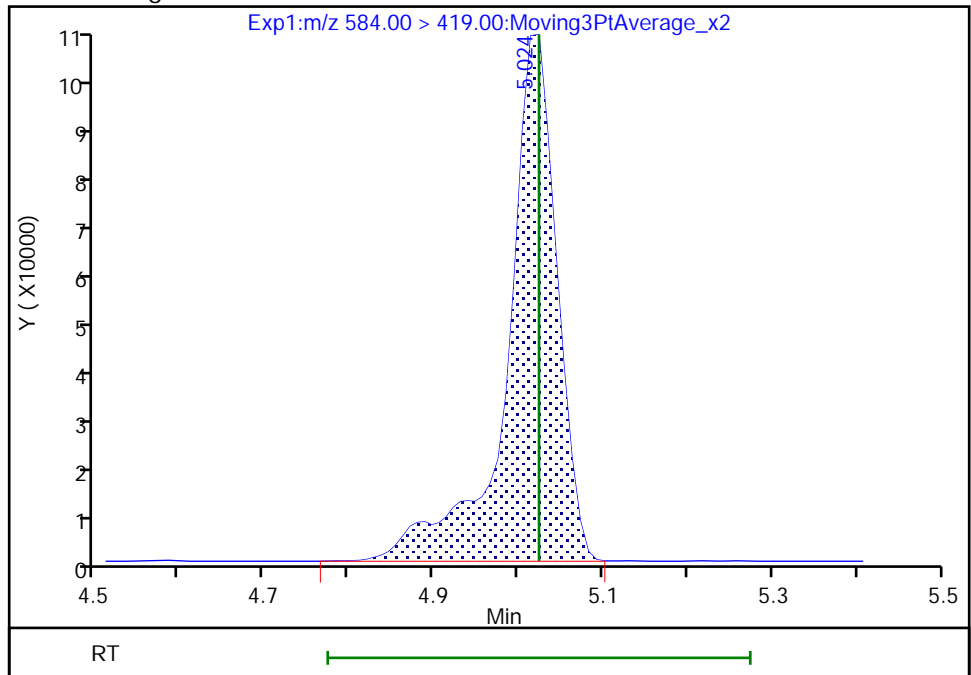
RT: 5.02  
Area: 366386  
Amount: 0.939263  
Amount Units: ng/ml

Processing Integration Results



RT: 5.02  
Area: 415025  
Amount: 1.061869  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 14:04:05  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59064/19 Calibration Date: 02/20/2022 15:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7753		2.45	2.50	-2.0	40.0
PFECA F	AveID	0.7535	0.7825		2.60	2.50	3.8	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.998		2.66	2.50	6.5	40.0
3:3 FTCA	QuaIF		0.0591		2.73	2.50	9.2	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.152		2.29	2.21	3.6	40.0
PFECA A	Q2ID		1.247		2.61	2.50	4.5	40.0
PES	Q2ID		2.472		2.27	2.23	2.1	40.0
PFECA B	Q2ID		0.4549		2.63	2.50	5.1	40.0
4:2 FTS	L2ID		2.387		2.46	2.34	5.2	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8058		2.55	2.50	1.8	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.119		2.54	2.35	8.4	40.0
HFPO-DA	L2ID		1.392		2.76	2.50	10.6	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.352		2.22	2.28	-2.4	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.060		2.61	2.50	4.4	40.0
DONA	AveID	2.644	2.282		2.03	2.36	-13.7	40.0
5:3 FTCA	L2ID		3.715		2.47	2.50	-1.2	40.0
6:2 FTUCA	AveID	1.046	1.061		2.53	2.50	1.4	40.0
6:2 FTCA	L1ID		0.7685		2.78	2.50	11.2	40.0
PFECHS	AveID	0.7426	0.7650		2.37	2.31	3.0	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9847		2.37	2.38	-0.3	40.0
6:2 FTS	L2ID		1.905		2.47	2.37	4.4	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.103		2.59	2.50	3.4	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.092		2.21	2.32	-4.6	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8375		2.75	2.50	10.1	40.0
7:3 FTCA	AveID	5.230	5.599		2.68	2.50	7.1	40.0
8:2 FTUCA	AveID	0.9565	0.9431		2.47	2.50	-1.4	40.0
8:2 FTCA	AveID	1.811	1.810		2.50	2.50	-0.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.197		2.28	2.33	-2.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.016		2.41	2.40	0.4	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9508		2.49	2.50	-0.4	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9337		2.61	2.50	4.2	40.0
8:2 FTS	L2ID		1.585		2.53	2.40	5.8	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9602		2.54	2.50	1.7	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9175		2.49	2.41	3.3	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59064/19 Calibration Date: 02/20/2022 15:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9617		2.49	2.50	-0.6	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9050		2.49	2.50	-0.4	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.776		2.41	2.36	2.2	50.0
10:2 FTUCA	AveID	1.208	1.185		2.45	2.50	-1.9	40.0
10:2 FTCA	Q2ID		1.047		2.73	2.50	9.3	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.996		2.41	2.50	-3.6	40.0
10:2 FTS	L2ID		2.151		2.48	2.41	2.9	50.0
NMeFOSA	L2ID		1.107		2.57	2.50	2.9	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.166		2.49	2.50	-0.4	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8885		2.27	2.42	-6.0	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8793		2.49	2.50	-0.4	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.366		2.41	2.50	-3.7	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.369		2.75	2.50	10.0	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1308		2.54	2.50	1.6	40.0
Perfluorohexadecanoic acid	L1ID		1.151		2.55	2.50	1.8	40.0
Perfluorooctadecanoic acid	AveID	1.013	1.025		2.53	2.50	1.2	40.0
13C4 PFBA	Ave	1.172	1.199		1.28	1.25	2.3	50.0
13C5 PFPeA	Ave	0.9197	0.8405		1.14	1.25	-8.6	50.0
13C3 PFBS	Ave	0.5817	0.5556		1.11	1.16	-4.5	50.0
M2-4:2 FTS	Ave	0.1821	0.1678		1.08	1.17	-7.8	50.0
13C2 PFHxA	Ave	1.015	0.9303		1.15	1.25	-8.3	50.0
13C3 HFPO-DA	Ave	0.4963	0.4674		1.18	1.25	-5.8	50.0
18O2 PFHxS	Ave	0.3776	0.3990		1.25	1.18	5.7	50.0
13C4 PFHpA	Ave	0.9046	0.8824		1.22	1.25	-2.5	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3119		1.16	1.25	-7.5	50.0
13C-6:2 FTCA	Ave	0.0260	0.0248		1.19	1.25	-4.8	50.0
13C4 PFOA	Ave	0.9356	0.9180		1.23	1.25	-1.9	50.0
M2-6:2 FTS	Ave	0.1799	0.1699		1.12	1.19	-5.6	50.0
13C4 PFOS	Ave	0.5610	0.6014		1.28	1.20	7.2	50.0
13C5 PFNA	Ave	1.268	1.274		1.26	1.25	0.5	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4991		1.38	1.25	10.4	50.0
13C-8:2 FTCA	Ave	0.0330	0.0329		1.25	1.25	-0.3	50.0
13C8 FOSA	Ave	0.8475	0.8517		1.26	1.25	0.5	50.0
13C2 PFDA	Ave	1.210	1.225		1.27	1.25	1.3	50.0
M2-8:2 FTS	Ave	0.1961	0.1679		1.03	1.20	-14.4	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59064/19 Calibration Date: 02/20/2022 15:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1275		1.41	1.25	12.4	50.0
13C2 PFUnA	Ave	1.168	1.120		1.20	1.25	-4.1	50.0
d5-NEtFOSAA	Ave	0.1164	0.1177		1.26	1.25	1.1	50.0
13C-10:2 FTUCA	Ave	0.5078	0.4090		1.01	1.25	-19.5	50.0
13C-10:2 FTCA	Ave	0.0309	0.0227		0.918	1.25	-26.6	50.0
13C2 PFDoA	Ave	1.152	1.105		1.20	1.25	-4.1	50.0
13C2 10:2 FTS	Ave	0.1652	0.1365		0.979	1.18	-17.4	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1322		1.39	1.25	11.5	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1067		1.32	1.25	5.7	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1355		1.38	1.25	10.1	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0808		1.25	1.25	-0.2	50.0
13C2 PFTeDA	Ave	0.9216	0.8299		1.13	1.25	-10.0	50.0
13C2 PFHxDA	Ave	0.5997	0.5061		1.06	1.25	-15.6	50.0
13C8 PFOA	AveID	0.9229	0.9845		1.33	1.25	6.7	50.0
13C8 PFOS	AveID	0.2212	0.2218		1.20	1.20	0.3	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_019.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 20-Feb-2022 15:43:18 ALS Bottle#: 19 Worklist Smp#: 19  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022725-019 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 21-Feb-2022 13:51:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1642

First Level Reviewer: mcwhirterl Date: 21-Feb-2022 00:08:31

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.790	2.811	-0.021	1.000	8668835	2.45		98.0	3601	
D 2 13C4 PFBA										
217.00 > 172.00	2.790	2.811	-0.021	0.678	5590758	1.28		102	20223	
3 PFECA F										
229.00 > 85.00	2.895	2.919	-0.024	0.934	6134638	2.60		104	20760	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.099	3.123	-0.023	1.000	7824070	2.66		106	3040	
D 5 13C5 PFPeA										
267.90 > 223.00	3.099	3.123	-0.023	0.754	3919862	1.14		91.4	14474	
D 7 13C3 PFBS										
301.90 > 80.00	3.115	3.139	-0.024	0.758	2409891	1.11		95.5	11697	
4 3:3 FTCA										
241.00 > 177.10	3.115	3.139	-0.024	1.000	306424	2.73	Target=1.13	109	1972	
241.00 > 116.90	3.115	3.139	-0.024	1.000	264421		1.16(0.56-1.69)		419	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.115	3.139	-0.024	1.000	5276323	2.29	Target=2.61	104	4934	
298.90 > 99.00	3.115	3.139	-0.024	1.000	1993133		2.65(1.31-3.92)		5095	
9 PFECA A										
278.95 > 84.90	3.193	3.211	-0.018	1.030	9776662	2.61		105	25164	
11 PES										
314.80 > 135.00	3.250	3.270	-0.020	1.043	11403855	2.27		102	17476	
12 PFECA B										
295.22 > 201.00	3.363	3.395	-0.032	0.981	3947124	2.63		105	25211	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.395	3.427	-0.031	0.826	731066	1.08		92.2	1759	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.405	3.427	-0.021	1.003	3490450	2.46		105	7687	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.427	3.448	-0.021	1.100	5437887	2.54	Target=3.55	108	10561	
349.00 > 99.00	3.427	3.448	-0.021	1.100	1556266		3.49(1.78-5.33)		8562	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.427	3.448	-0.021	1.000	6991979	2.54	Target=11.60	102	3548	
313.00 > 119.00	3.427	3.448	-0.021	1.000	587616		11.90(5.80-17.40)		666	
D 14 13C2 PFHxA										
315.00 > 270.00	3.427	3.448	-0.021	0.833	4338704	1.15		91.7	14085	
17 HFPO-DA										
285.00 > 169.00	3.533	3.553	-0.020	1.000	6066356	2.76	Target=2.45	111	2855	
329.00 > 169.00	3.533	3.553	-0.020	1.000	2397347		2.53(1.23-3.68)		2861	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.533	3.553	-0.020	0.859	2179574	1.18		94.2	7336	
D 20 18O2 PFHxS										
403.00 > 84.00	3.763	3.792	-0.029	0.915	1760143	1.25		106	9390	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.763	3.792	-0.029	1.000	4577700	2.22	Target=3.44	97.6	9662	M
399.00 > 99.00	3.763	3.792	-0.029	1.000	1318578		3.47(1.72-5.17)		4133	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.773	3.803	-0.030	0.917	4115102	1.22		97.5	9704	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.773	3.803	-0.030	1.000	8727781	2.61	Target=3.25	104	4956	
363.00 > 169.00	3.773	3.803	-0.030	1.000	2681723		3.25(1.62-4.87)		2027	
25 DONA										
377.00 > 251.00	3.813	3.829	-0.016	0.866	12060744	2.03	Target=1.74	86.3	11235	
377.00 > 85.00	3.813	3.829	-0.016	0.866	7063991		1.71(0.87-2.61)		132	
26 5:3 FTCA										
340.88 > 236.90	3.837	3.861	-0.024	0.987	858734	2.47	Target=1.11	98.8	2320	
340.88 > 216.90	3.837	3.861	-0.024	0.987	757975		1.13(0.56-1.67)		1521	
27 6:2 FTUCA										
356.86 > 292.90	3.870	3.895	-0.025	1.000	3086079	2.53	Target=13.05	101	4717	
356.86 > 243.00	3.870	3.895	-0.025	1.000	221240		13.95(6.52-19.57)		710	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.870	3.895	-0.025	0.941	1454685	1.16		92.5	3580	
29 6:2 FTCA										
377.10 > 63.00	3.887	3.912	-0.026	1.000	177645	2.78	Target=1.29	111	546	
377.10 > 313.10	3.887	3.912	-0.026	1.000	139180		1.28(0.65-1.94)		123	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.887	3.912	-0.026	0.945	115577	1.19		95.2	408	
32 PFECHS										
460.80 > 380.90	4.046	4.074	-0.028	0.984	6039020	2.37	Target=1.75	103	10615	
460.80 > 98.90	4.046	4.074	-0.028	0.984	3464903		1.74(0.87-2.62)		12015	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.093	4.121	-0.028	0.929	5258533	2.37	Target=3.72	99.7	8303	
449.00 > 99.00	4.093	4.121	-0.028	0.929	1390862		3.78(1.86-5.57)		5601	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
37 Perfluorooctanoic acid										
413.00 > 369.00	4.112	4.130	-0.018	1.000	9440230	2.59	Target=2.51	103	5921	
413.00 > 169.00	4.112	4.130	-0.018	1.000	3850357		2.45(1.26-3.77)		5896	
35 6:2 FTS										
427.00 > 407.00	4.112	4.130	-0.018	1.000	2862155	2.47		104	11860	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.112	4.130	-0.018	1.000	4214601	1.33		107	12362	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.112	4.130	-0.018	1.000	752916	1.12		94.4	2837	
D 31 13C4 PFOA										
417.00 > 372.00	4.112	4.130	-0.018	1.000	4281165	1.23		98.1	9290	
* 30 13C2 PFOA										
415.00 > 370.00	4.112	4.139	-0.027		4663656	1.25			10431	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.404	4.421	-0.017	1.000	594770	1.20		100	2519	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.404	4.421	-0.017	1.000	5686860	2.21	Target=4.30	95.4	6479	M
499.00 > 99.00	4.404	4.421	-0.017	1.000	1337349		4.25(2.15-6.45)		4999	M
D 39 13C4 PFOS										
503.00 > 80.00	4.404	4.421	-0.017	1.071	2681379	1.28		107	4268	
D 41 13C5 PFNA										
468.00 > 423.00	4.421	4.448	-0.027	1.075	5943338	1.26		100	15232	
42 Perfluorononanoic acid										
463.00 > 419.00	4.421	4.448	-0.027	1.000	9954620	2.75	Target=3.60	110	9407	
463.00 > 169.00	4.430	4.448	-0.018	1.002	2400474		4.15(1.80-5.40)		6008	
43 7:3 FTCA										
441.00 > 337.00	4.512	4.528	-0.016	0.993	1720227	2.68	Target=1.42	107	3475	
441.00 > 317.00	4.512	4.528	-0.016	0.993	1252762		1.37(0.71-2.13)		2286	
44 8:2 FTUCA										
456.86 > 392.90	4.529	4.553	-0.024	1.000	4390086	2.47	Target=35.37	98.6	8640	
456.86 > 343.00	4.529	4.553	-0.024	1.000	122642		35.80(17.68-53.05)		410	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.529	4.553	-0.024	1.000	2327420	1.38		110	5635	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.545	4.570	-0.025	1.105	153630	1.25		99.7	480	
46 8:2 FTCA										
477.00 > 393.10	4.545	4.570	-0.025	1.000	556011	2.50	Target=3.35	99.9	1905	
477.00 > 63.20	4.545	4.570	-0.025	1.000	182643		3.04(1.68-5.03)		739	
49 9CIFOS										
531.00 > 351.00	4.562	4.586	-0.024	1.109	11487485	2.28		97.7	14782	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.680	4.706	-0.026	1.063	5469504	2.41	Target=3.99	100	10319	
549.00 > 99.00	4.680	4.706	-0.026	1.063	1326899		4.12(2.00-5.99)		5787	
D 55 13C8 FOSA										
506.00 > 78.00	4.697	4.714	-0.017	1.142	3971854	1.26		100	5902	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.697	4.714	-0.017	1.000	7553218	2.49		99.6	6663	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.714	4.731	-0.017	1.000	10671465	2.61	Target=10.58	104	7881	
513.00 > 169.00	4.714	4.731	-0.017	1.000	973074		10.97(5.29-15.88)		557	
D 52 13C2 PFDA										
515.00 > 470.00	4.714	4.731	-0.017	1.146	5714512	1.27		101	12862	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.723	4.748	-0.025	1.149	750197	1.03		85.6	2086	
53 8:2 FTS										
527.00 > 507.00	4.723	4.748	-0.025	1.000	2378326	2.53		106	8464	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.855	4.880	-0.025	1.181	594713	1.40		112	212	
57 NMeFOSAA										
570.00 > 419.00	4.855	4.880	-0.025	1.000	1142058	2.54		102	2585	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.940	4.966	-0.026	1.122	4961500	2.49	Target=3.55	103	9103	
599.00 > 99.00	4.940	4.966	-0.026	1.122	1286175		3.86(1.78-5.33)		6510	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.976	4.995	-0.019	1.000	10048941	2.49	Target=8.26	99.4	8220	
563.00 > 169.00	4.976	4.995	-0.019	1.000	1249595		8.04(4.13-12.39)		3525	
D 59 13C2 PFUnA										
565.00 > 520.00	4.976	4.995	-0.019	1.210	5224491	1.20		95.9	8751	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.995	5.014	-0.019	1.215	548970	1.26		101	1803	
62 NEtFOSAA										
584.00 > 419.00	4.995	5.024	-0.029	1.000	993585	2.49		99.6	622	M
65 10:2 FTUCA										
556.86 > 492.90	5.083	5.102	-0.019	1.000	4519138	2.45		98.1	8171	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.083	5.102	-0.019	1.236	1907546	1.01		80.5	4632	
63 11CIFOS										
631.00 > 451.00	5.073	5.102	-0.029	1.152	9383531	2.41		102	16067	
66 10:2 FTCA										
576.80 > 493.00	5.093	5.111	-0.018	1.000	221855	2.73	Target=2.53	109	1499	
576.80 > 63.10	5.093	5.111	-0.018	1.000	87183		2.54(1.26-3.79)		452	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.093	5.111	-0.018	1.238	105900	0.9179		73.4	614	
D 69 13C2 PFDoA										
615.00 > 570.00	5.209	5.235	-0.026	1.267	5151595	1.20		95.9	12955	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.209	5.235	-0.026	1.000	10265235	2.41	Target=6.85	96.4	8033	
613.00 > 169.00	5.209	5.235	-0.026	1.000	1515166		6.77(3.43-10.28)		4349	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.226	5.251	-0.025	1.271	602932	0.9785		82.6	3435	
71 10:2 FTS										
627.00 > 607.00	5.235	5.251	-0.016	1.002	2639381	2.48		103	9709	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.266	5.283	-0.017	1.281	616549	1.39		111	471	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
74 NMeFOSA										
512.00 > 169.00	5.266	5.283	-0.017	1.000	1101821	2.57		103	946	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.266	5.283	-0.017	1.281	497480	1.32		106	48.6	
75 N-MeFOSE-M										
616.00 > 59.00	5.275	5.292	-0.017	1.002	1438148	2.49		99.6	2016	
76 PFDoS										
699.00 > 80.00	5.381	5.408	-0.027	1.222	4824780	2.27	Target=4.22	94.0	9390	
699.00 > 99.00	5.381	5.408	-0.027	1.222	1135131		4.25(2.11-6.34)		5403	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.426	5.435	-0.009	1.320	631855	1.38		110	286	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.417	5.443	-0.026	1.040	9059174	2.49	Target=6.32	99.6	7268	
663.00 > 169.00	5.417	5.443	-0.026	1.040	1423332		6.36(3.16-9.48)		6172	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.435	5.452	-0.017	1.322	376879	1.25		99.8	555	
79 N-EtFOSE-M										
630.00 > 59.00	5.435	5.452	-0.017	1.002	1726432	2.41		96.3	1600	
81 N-EtFOSA-M										
526.00 > 169.00	5.444	5.452	-0.008	1.002	1032216	2.75		110	724	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.598	5.626	-0.028	1.361	3870279	1.13		90.0	9157	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.598	5.626	-0.028	1.000	1012441	2.54	Target=1.01	102	3725	
713.00 > 219.00	5.598	5.626	-0.028	1.000	956793		1.06(0.51-1.52)		4312	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.908	5.932	-0.024	1.437	2360144	1.05		84.4	5775	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.908	5.932	-0.024	1.000	5430835	2.55	Target=8.64	102	4965	
813.00 > 169.00	5.908	5.932	-0.024	1.000	648797		8.37(4.32-12.97)		1703	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.168	6.190	-0.022	1.044	4837314	2.53	Target=11.77	101	5514	
913.00 > 169.00	6.168	6.190	-0.022	1.044	409199		11.82(5.88-17.65)		1187	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL



Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220220-22725.b\_019.d

Injection Date: 20-Feb-2022 15:43:18

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

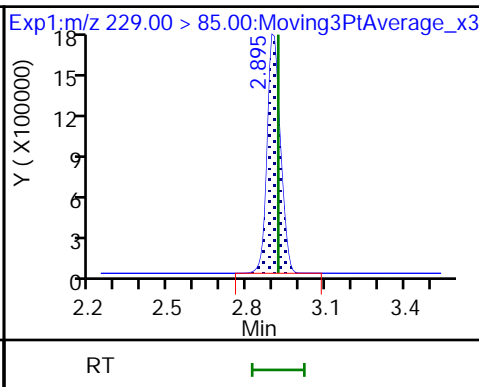
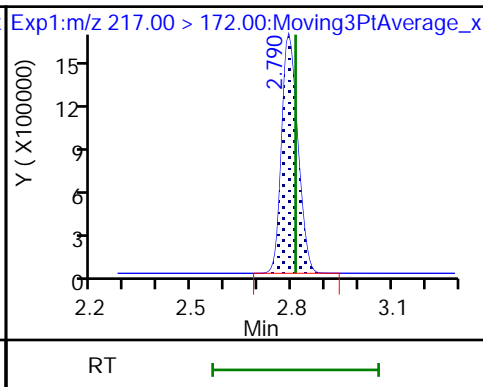
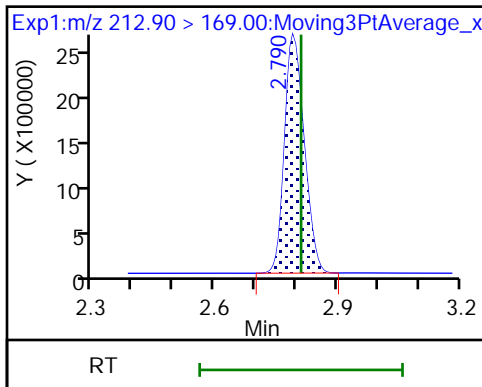
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

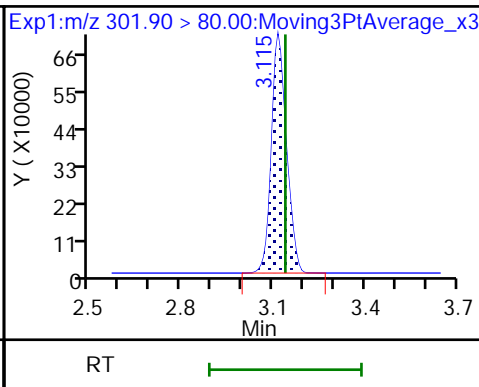
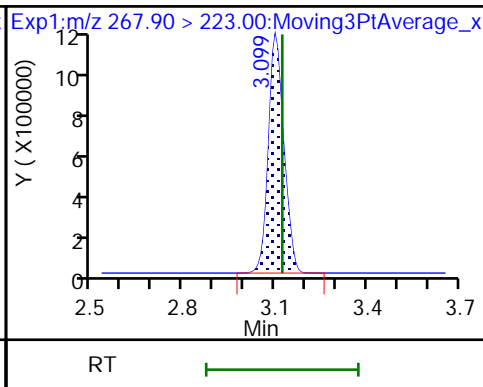
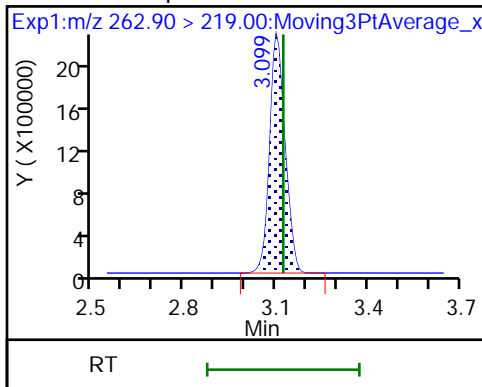
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

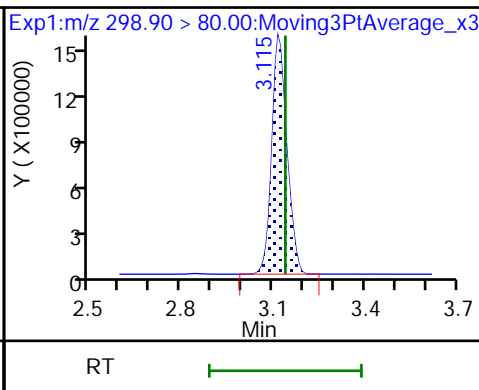
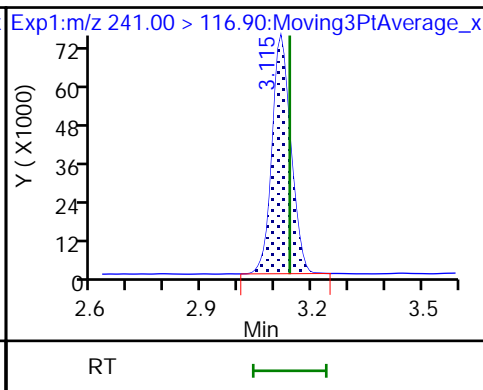
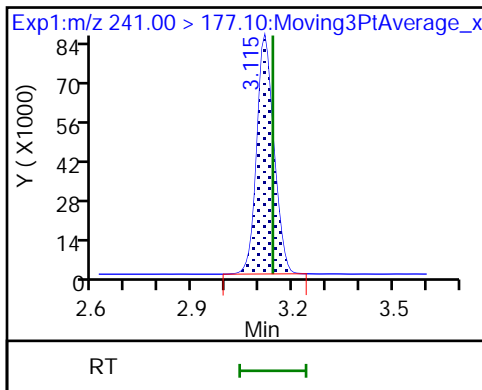
D 7 13C3 PFBS



4 3:3 FTCA

4 3:3 FTCA

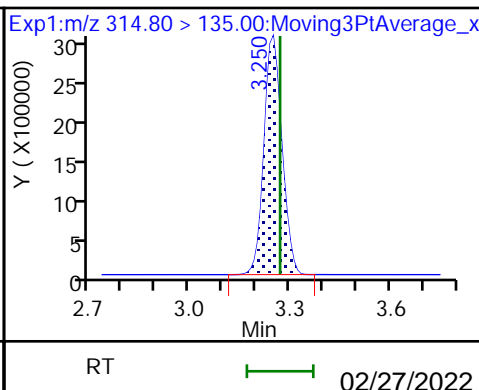
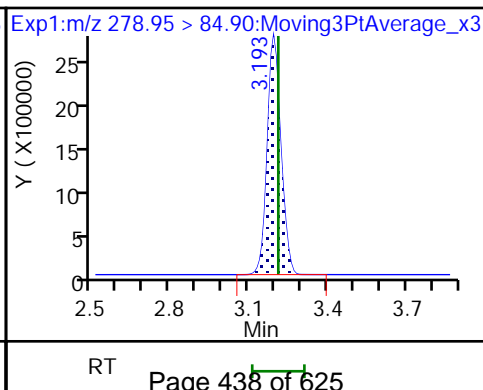
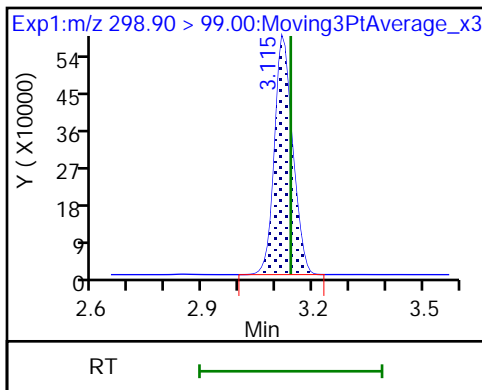
8 Perfluorobutanesulfonic acid

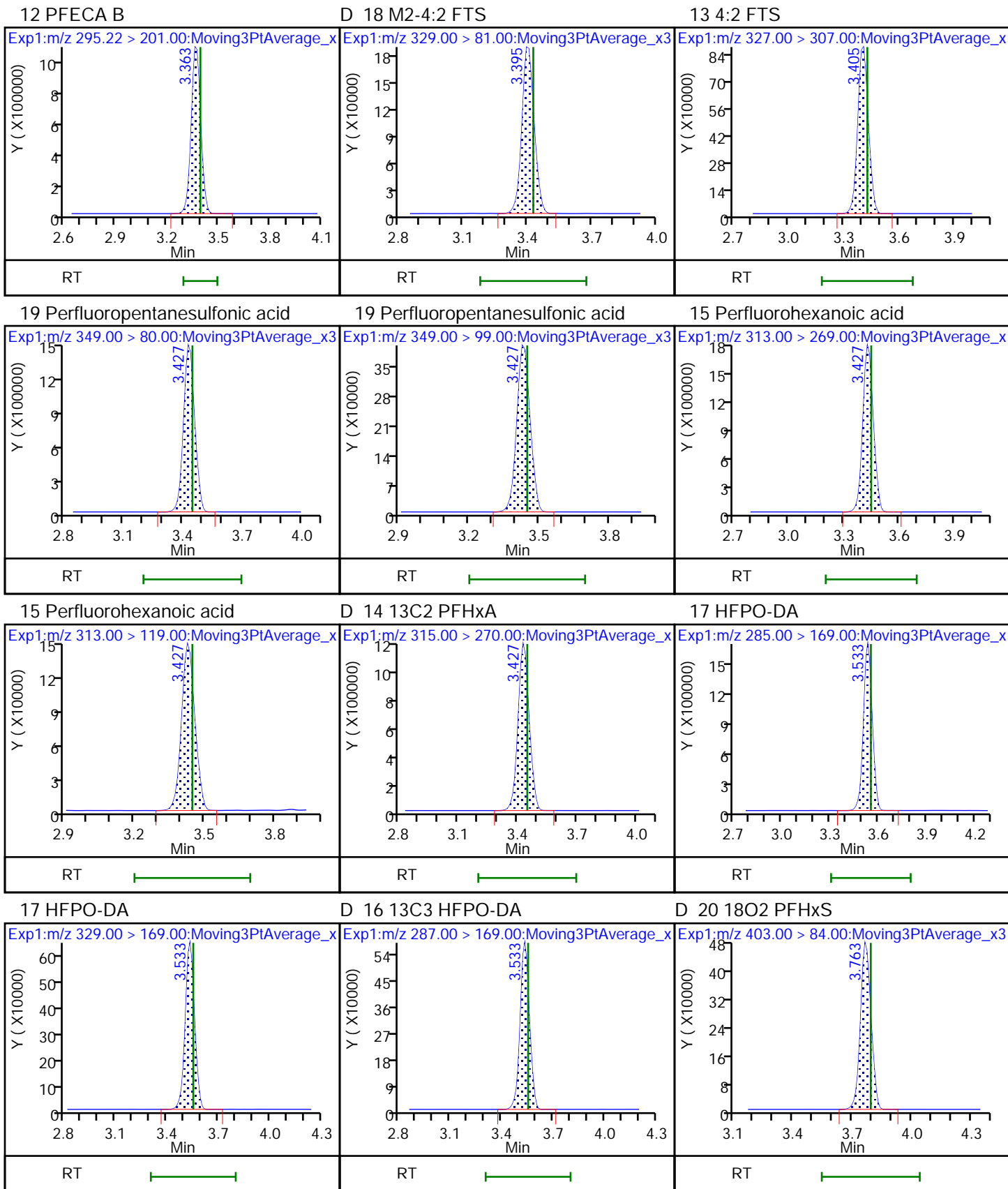


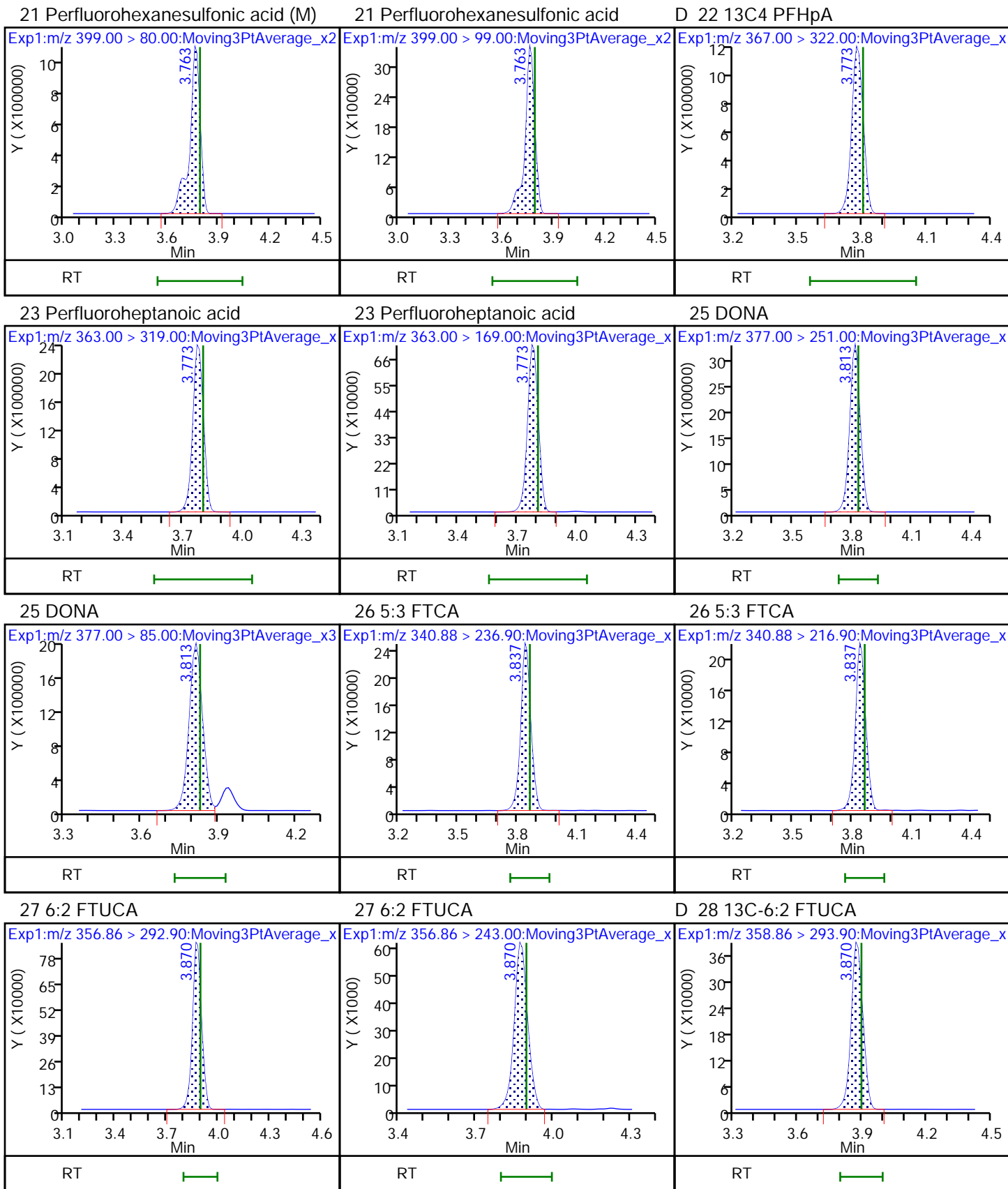
8 Perfluorobutanesulfonic acid

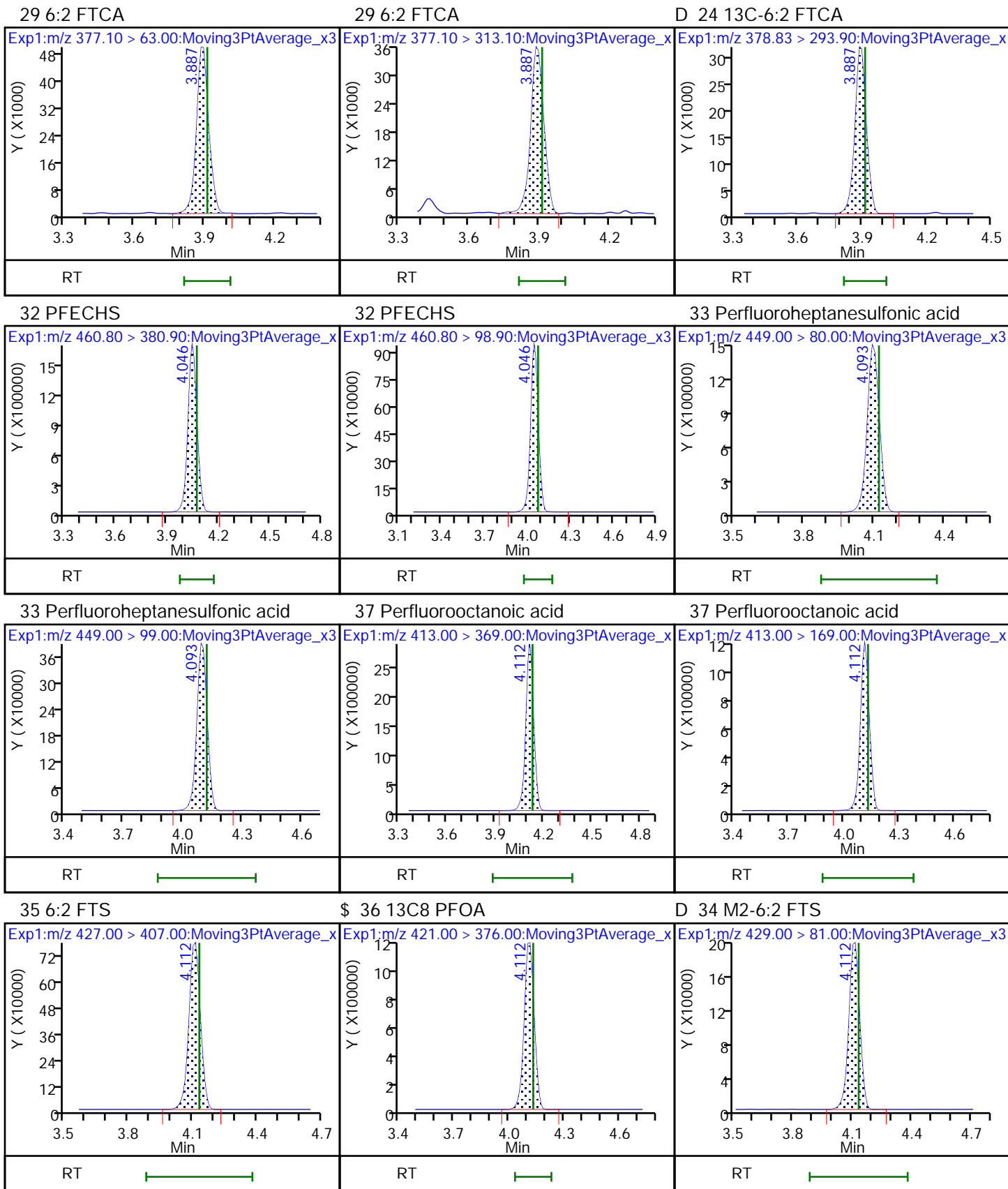
9 PFECA A

11 PES





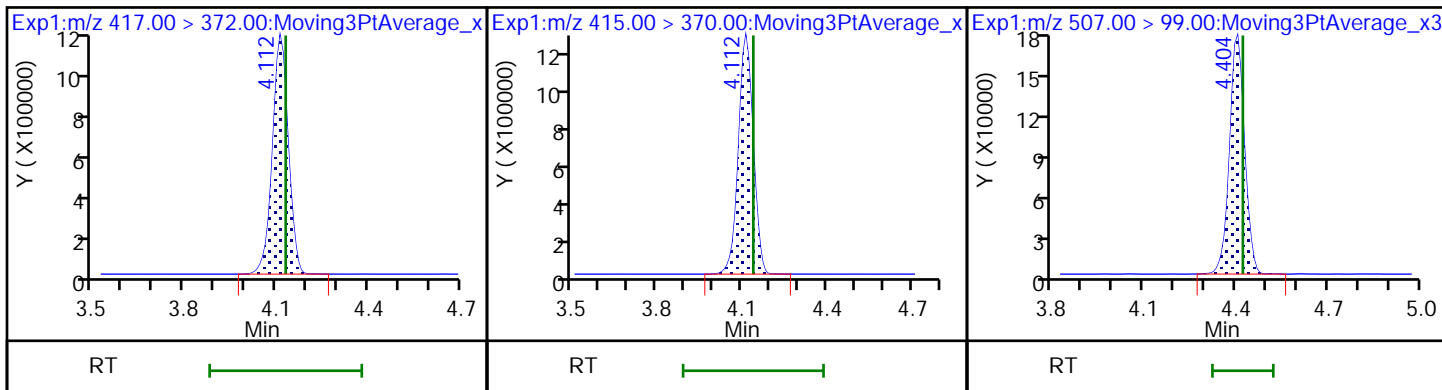




D 31 13C4 PFOA

\* 30 13C2 PFOA

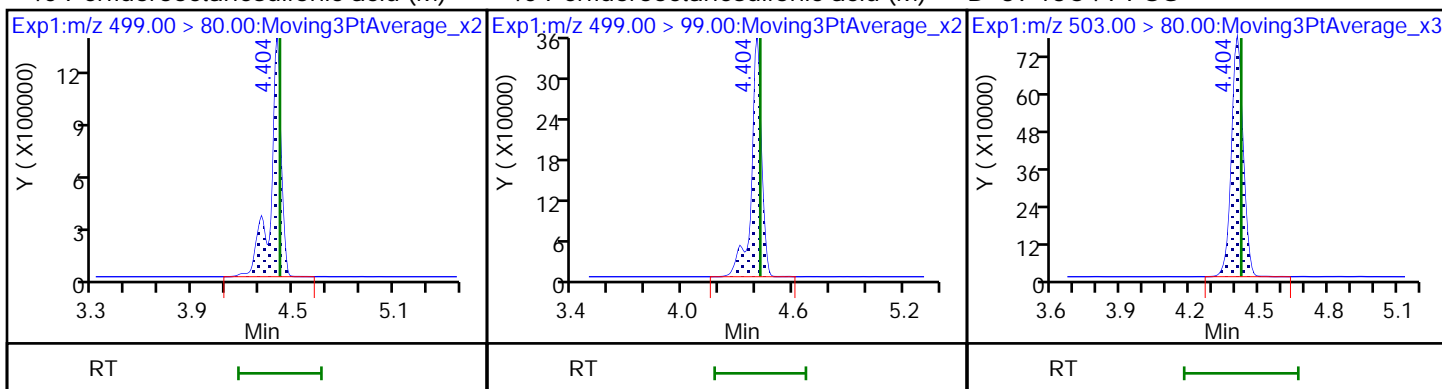
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid (M)

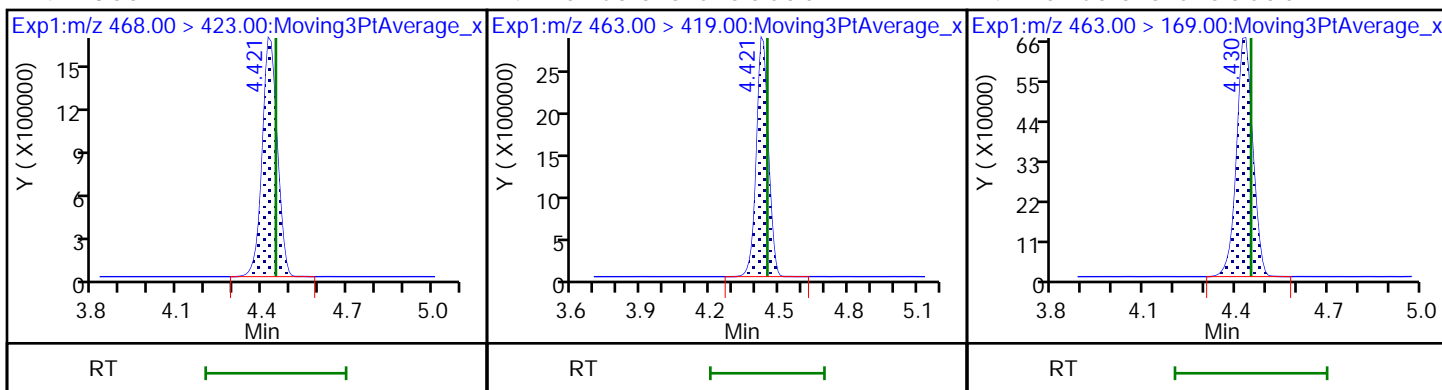
D 39 13C4 PFOS



D 41 13C5 PFNA

42 Perfluorononanoic acid

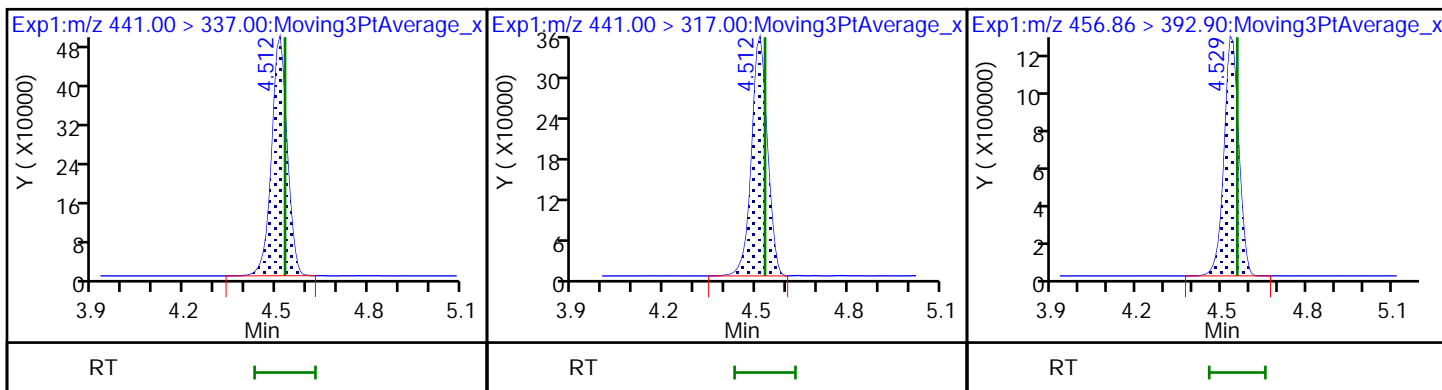
42 Perfluorononanoic acid

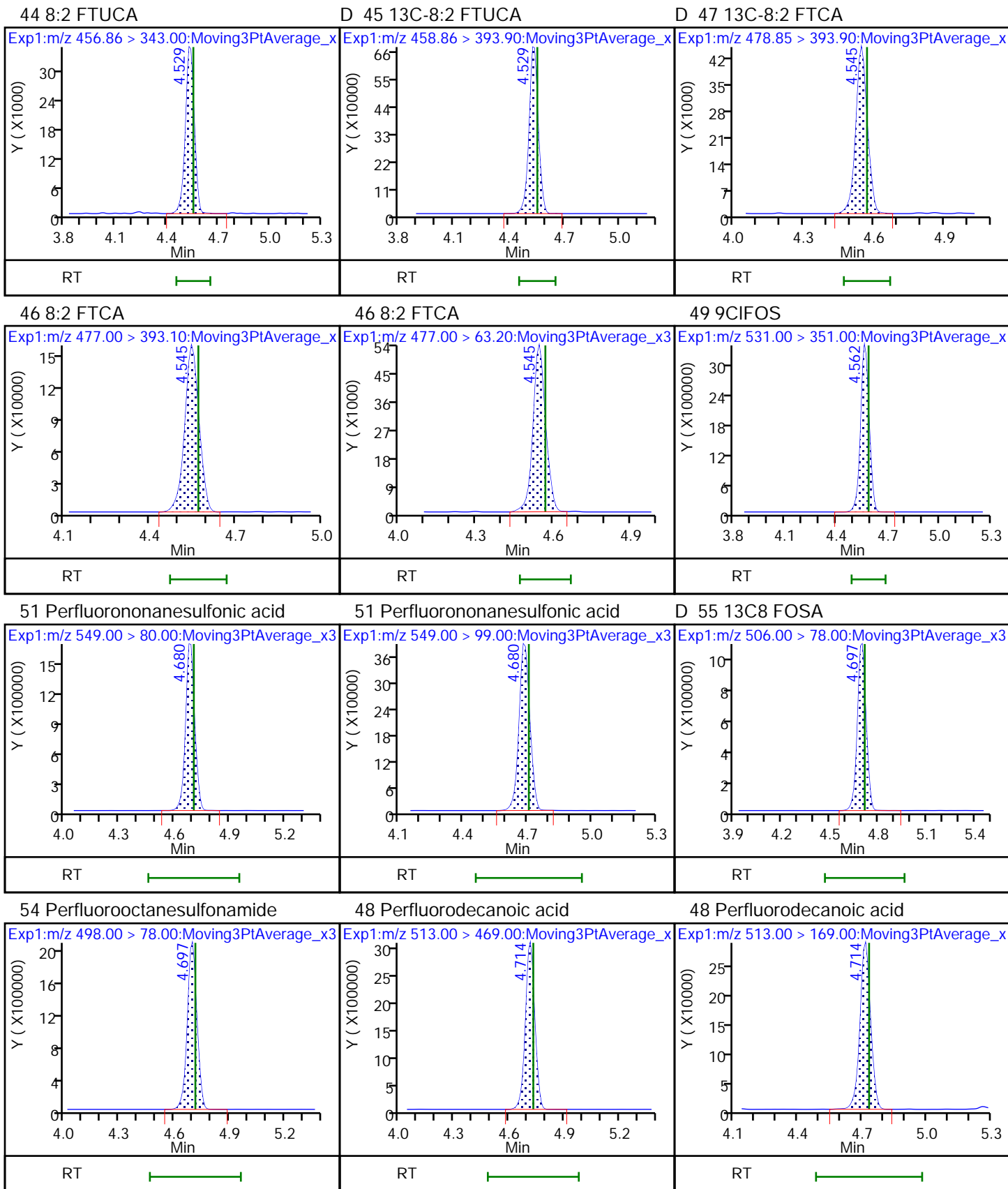


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA

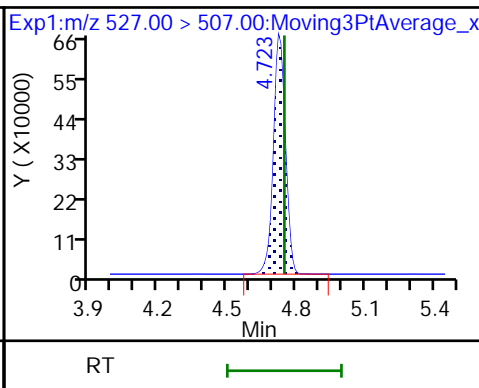
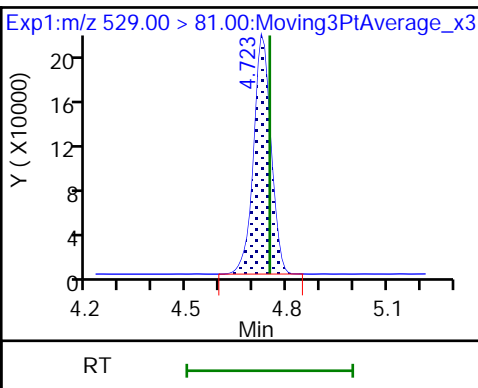
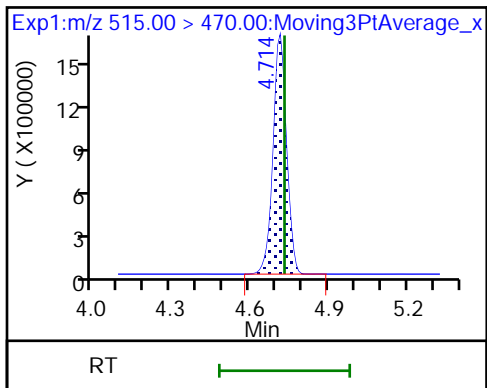




D 52 13C2 PFDA

D 50 M2-8:2 FTS

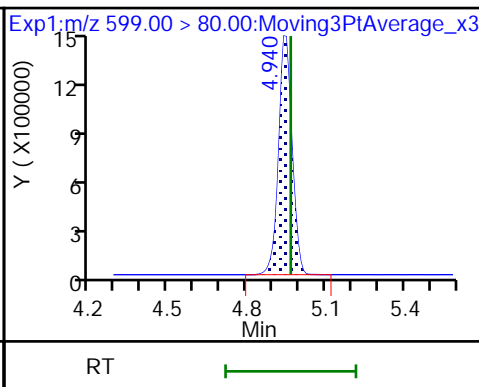
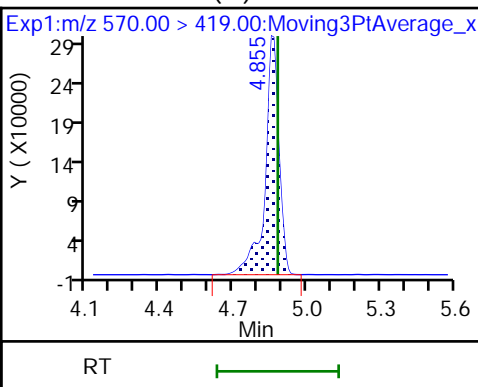
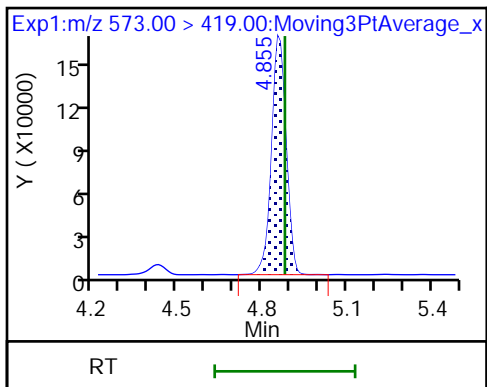
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

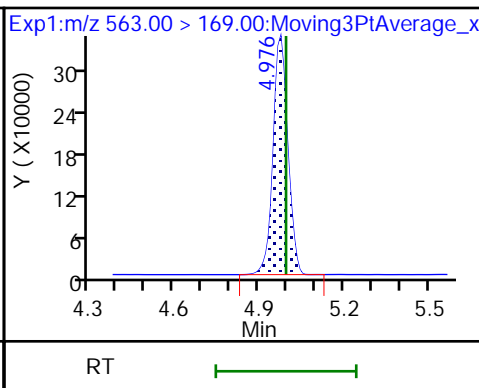
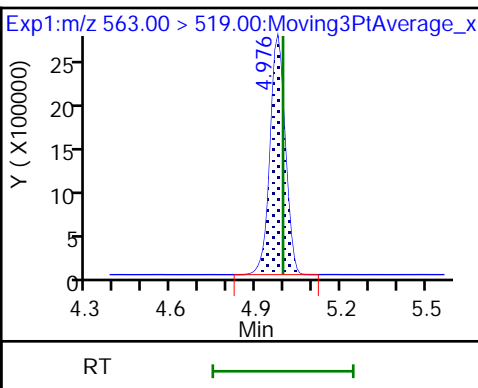
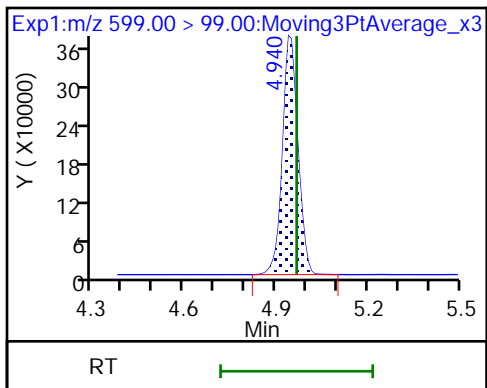
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

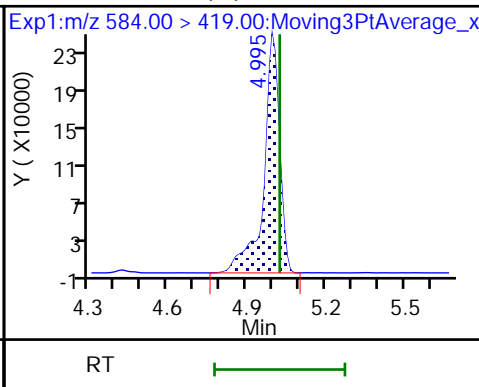
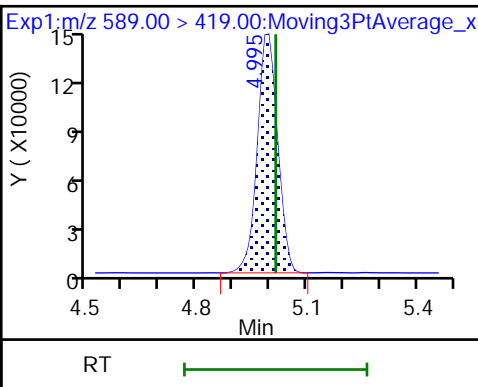
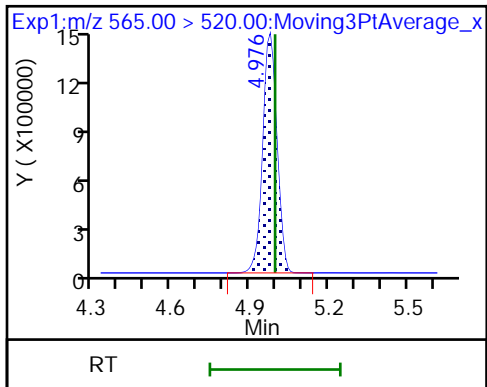
60 Perfluoroundecanoic acid

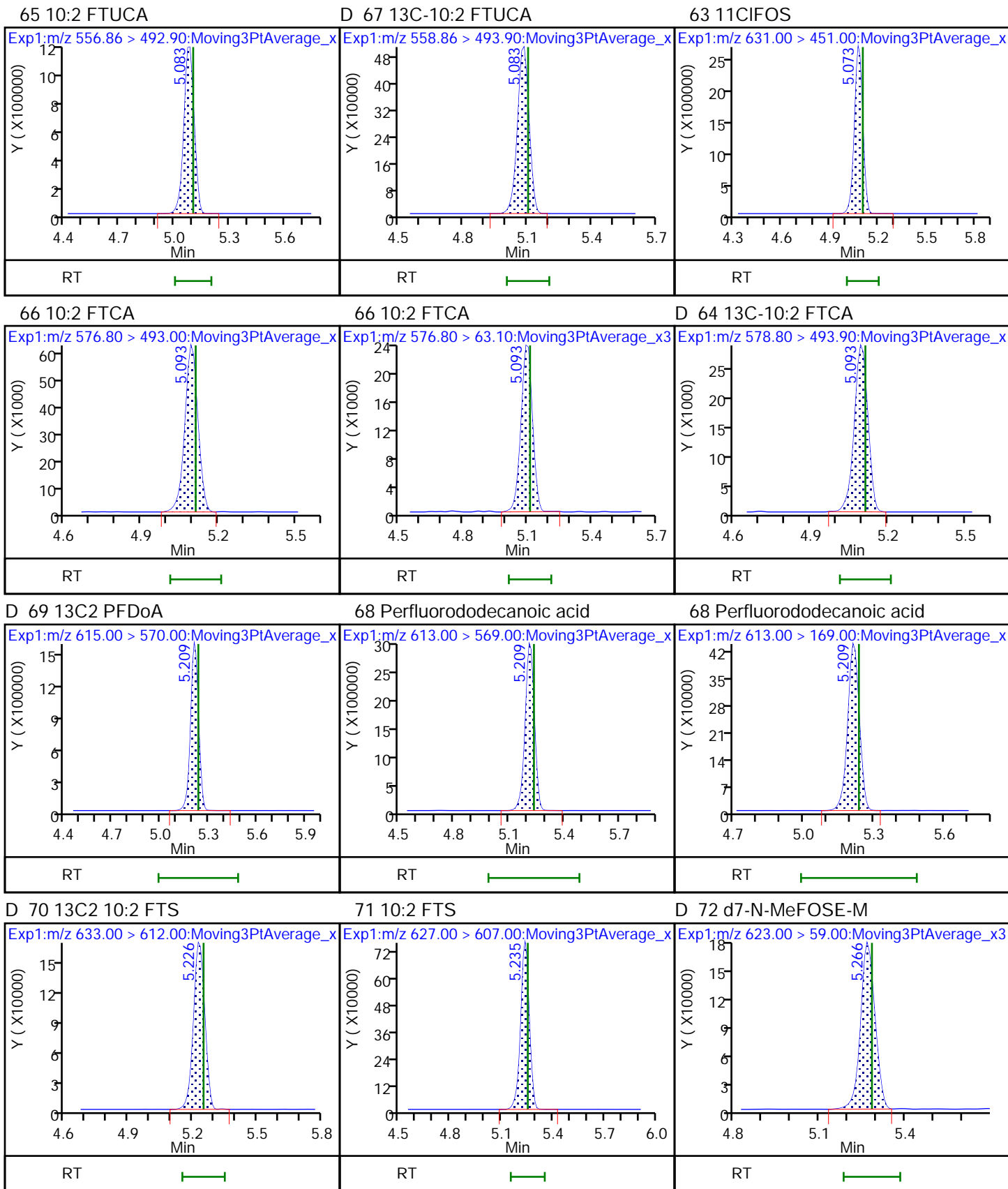


D 59 13C2 PFUnA

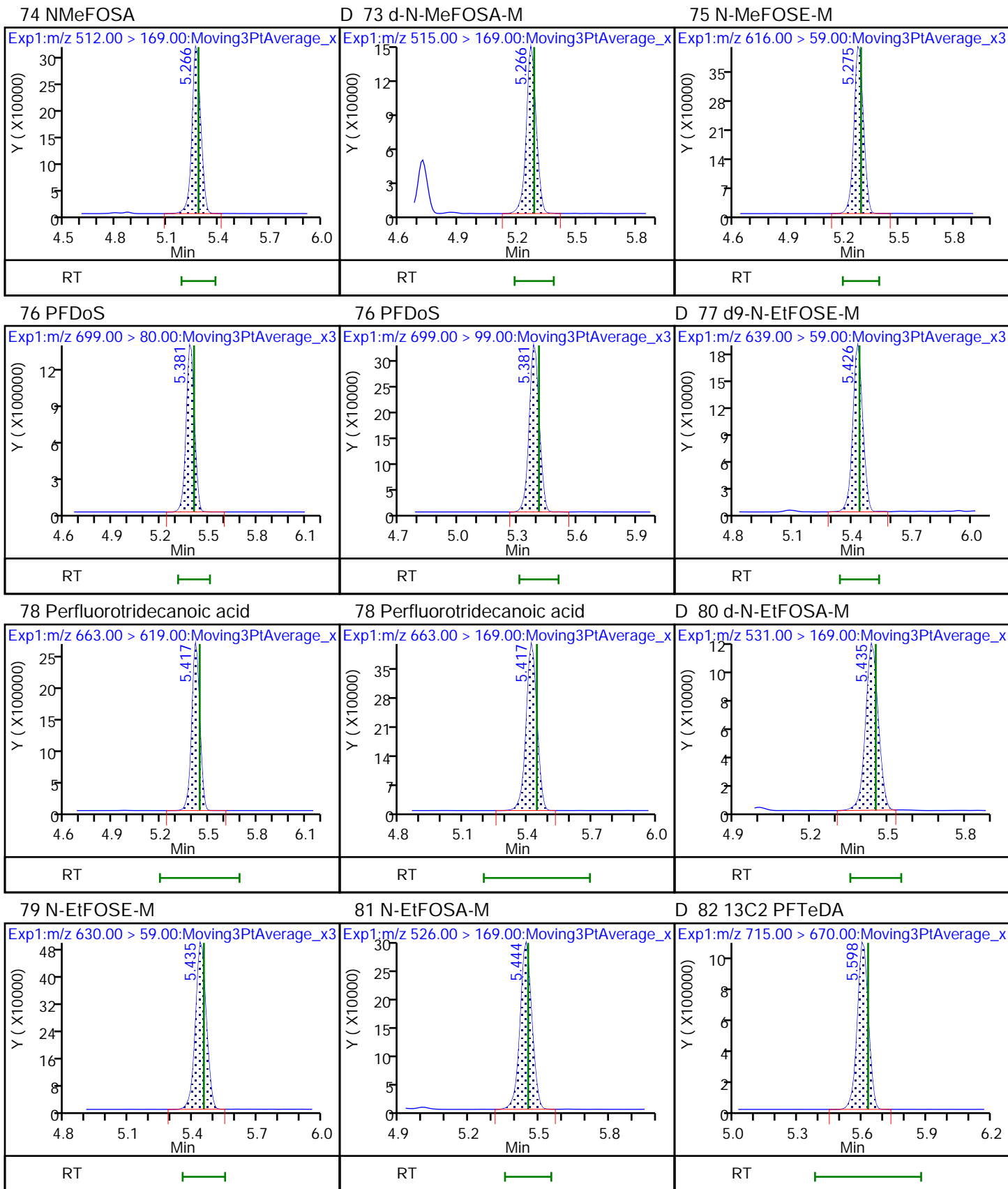
D 61 d5-NEtFOSAA

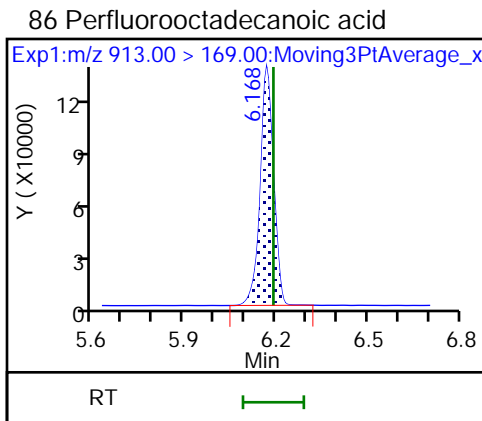
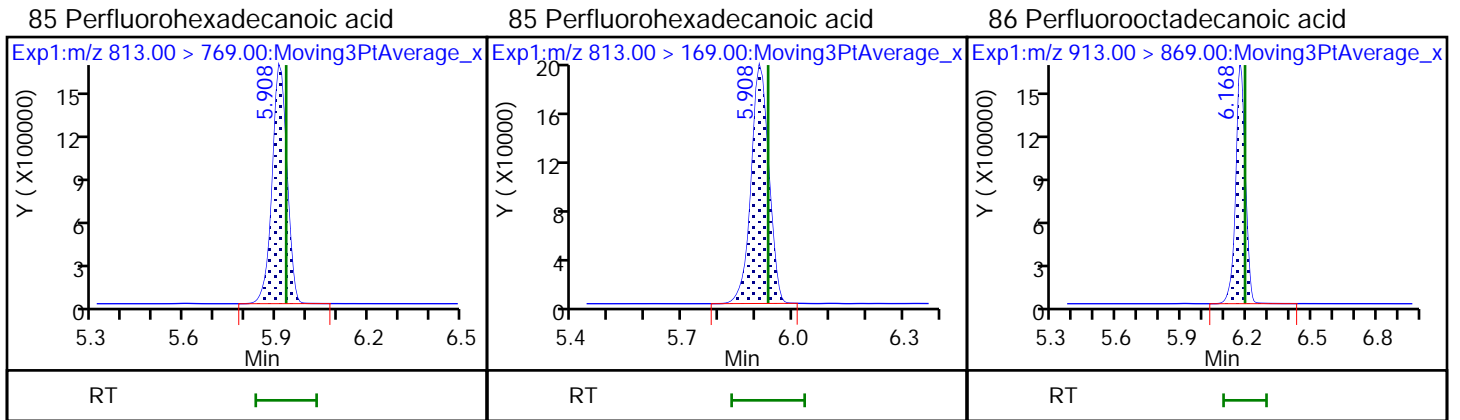
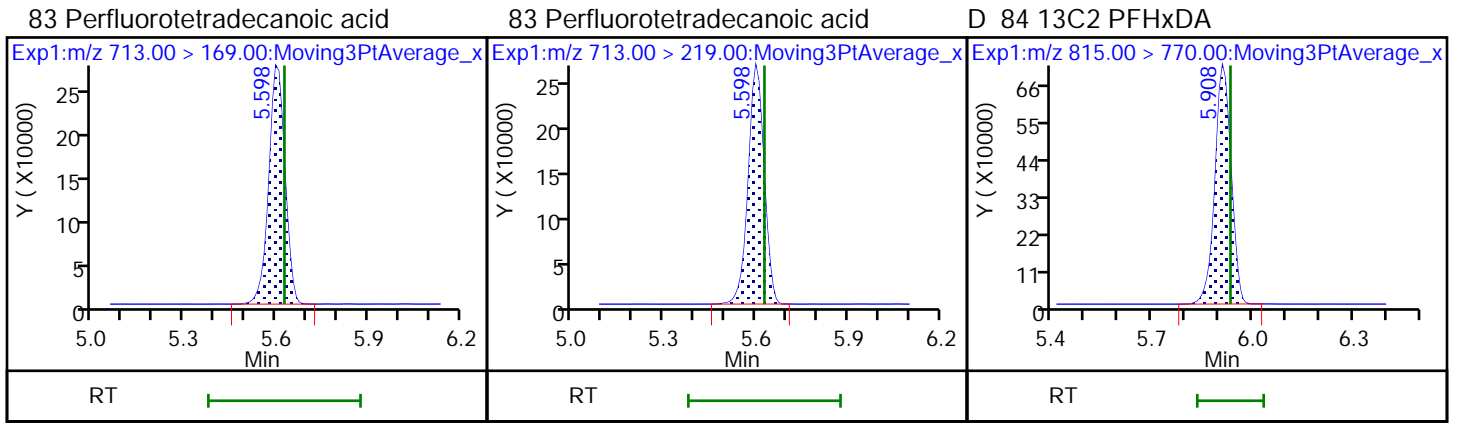
62 NEtFOSAA (M)











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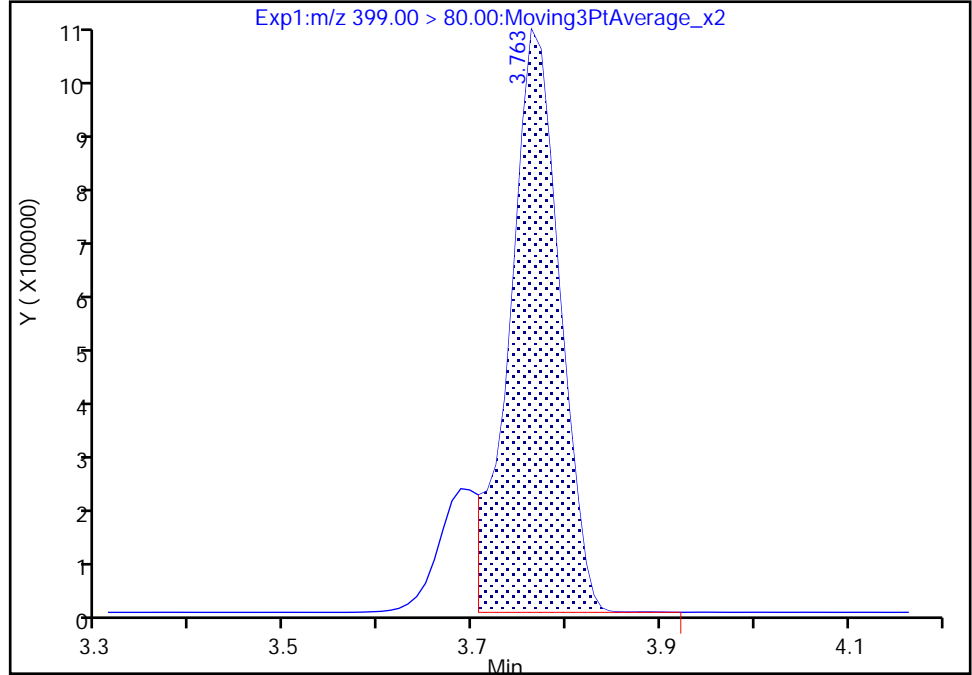
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\\_019.d  
Injection Date: 20-Feb-2022 15:43:18 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

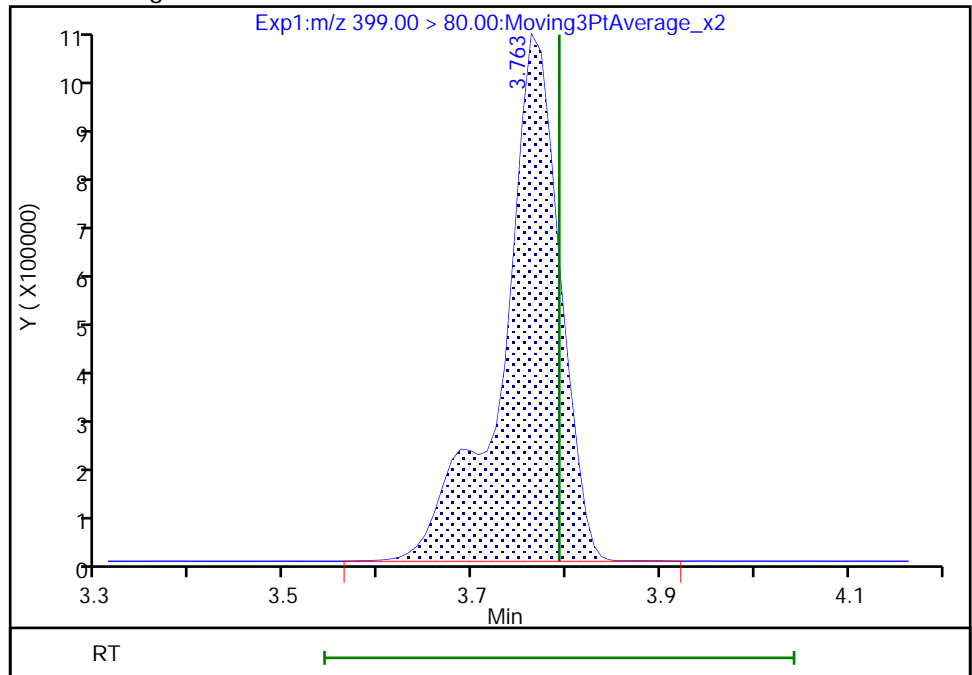
RT: 3.76  
Area: 3939108  
Amount: 1.910595  
Amount Units: ng/ml

Processing Integration Results



RT: 3.76  
Area: 4577700  
Amount: 2.220333  
Amount Units: ng/ml

Manual Integration Results



Reviewer: mcwhirterl, 21-Feb-2022 00:07:10  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

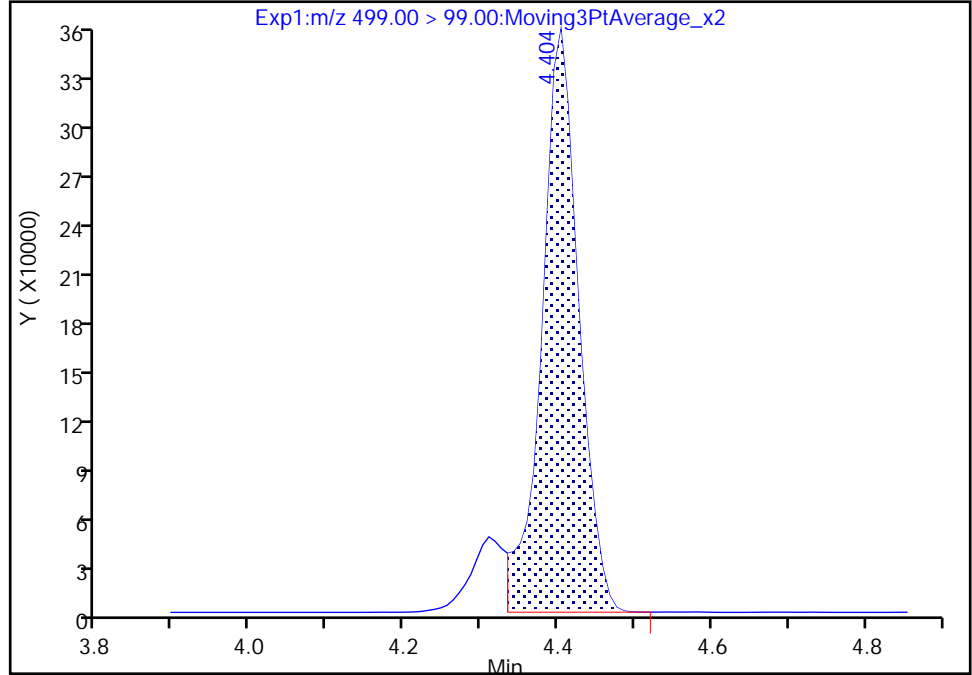
Data File: \\chromfs\Knoxville\ChromData\LCA\20220220-22725.b\_019.d  
Injection Date: 20-Feb-2022 15:43:18 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

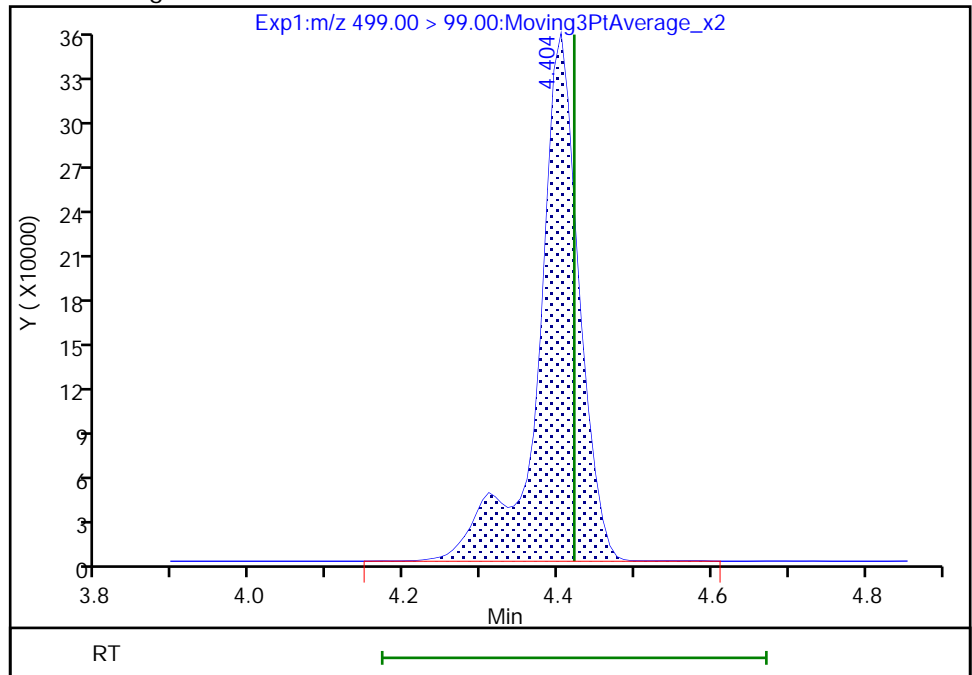
RT: 4.40  
Area: 1194137  
Amount: 1.699242  
Amount Units: ng/ml

Processing Integration Results



RT: 4.40  
Area: 1337349  
Amount: 2.213073  
Amount Units: ng/ml

Manual Integration Results



Reviewer: mcwhirterl, 21-Feb-2022 00:08:15  
Audit Action: Manually Integrated

Eurofins Knoxville

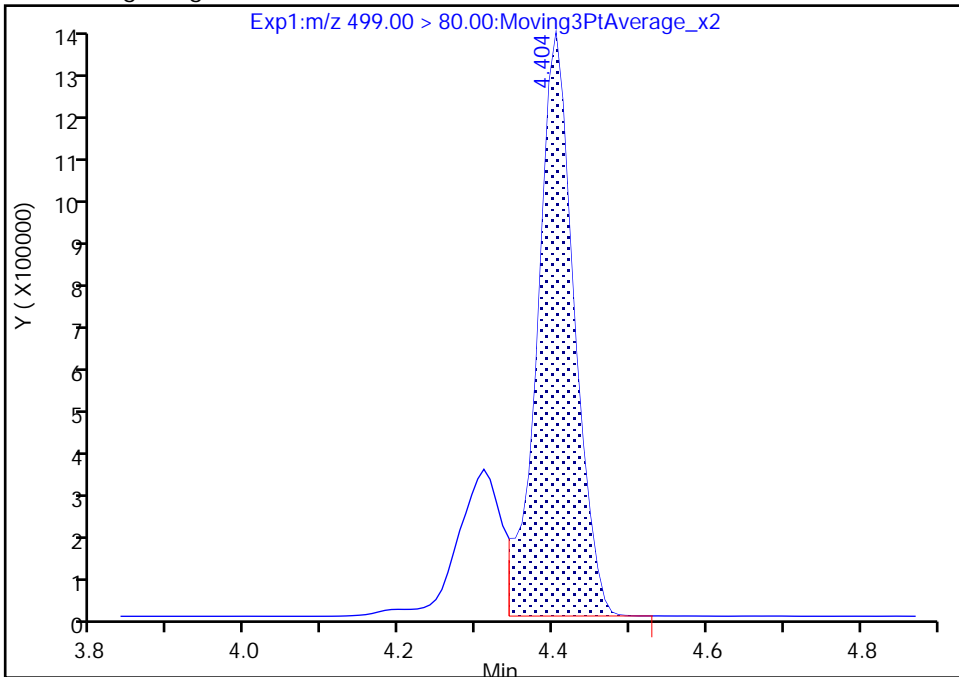
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Injection Date: 20-Feb-2022 15:43:18 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

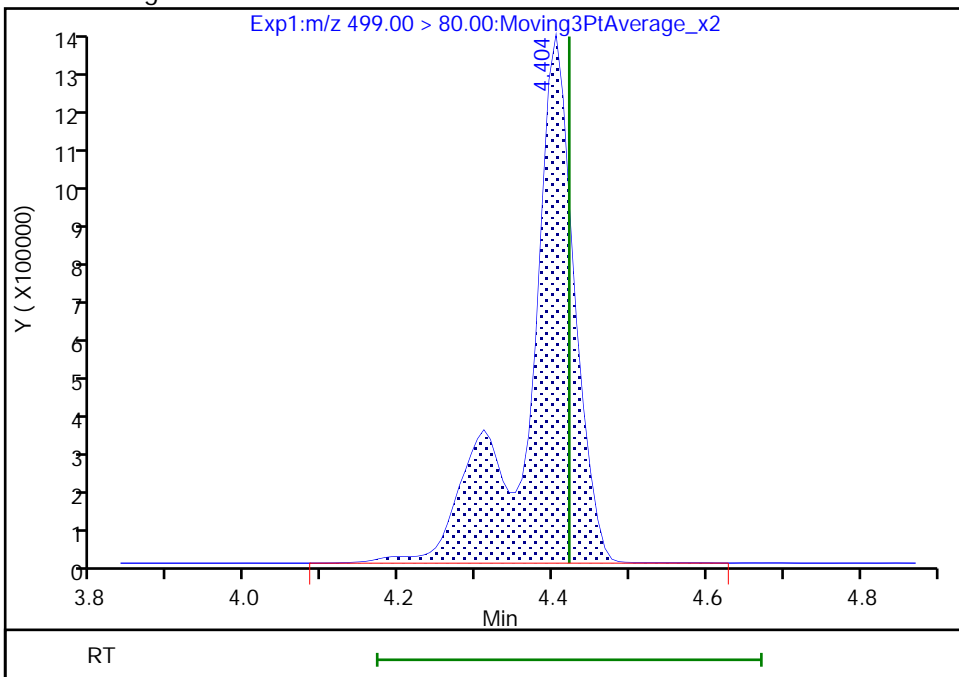
RT: 4.40  
Area: 4366486  
Amount: 1.699242  
Amount Units: ng/ml

Processing Integration Results



RT: 4.40  
Area: 5686860  
Amount: 2.213073  
Amount Units: ng/ml

Manual Integration Results



Eurofins Knoxville

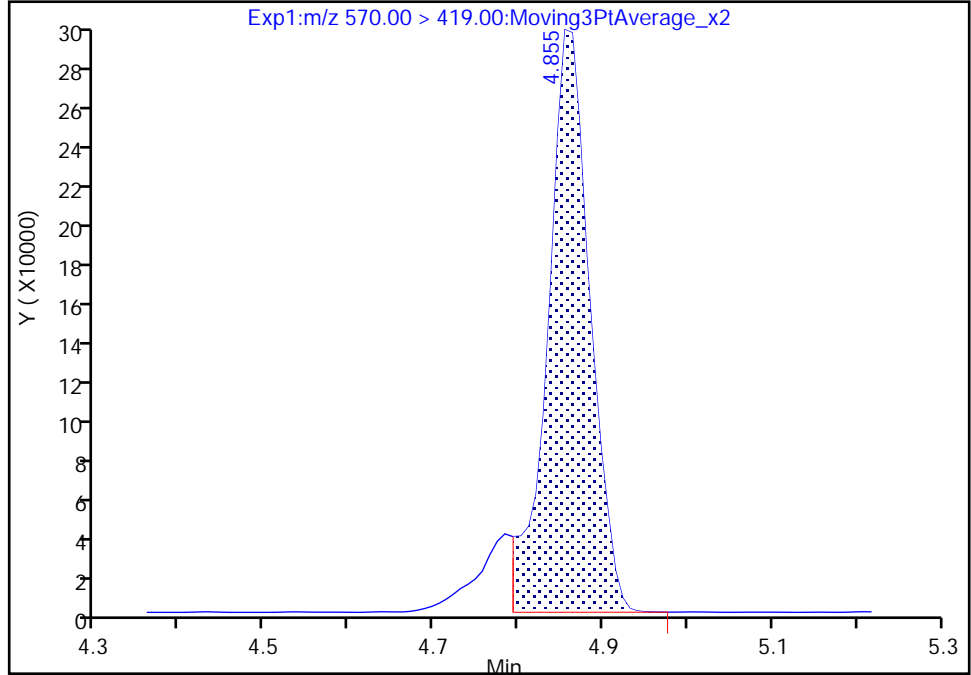
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Injection Date: 20-Feb-2022 15:43:18 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

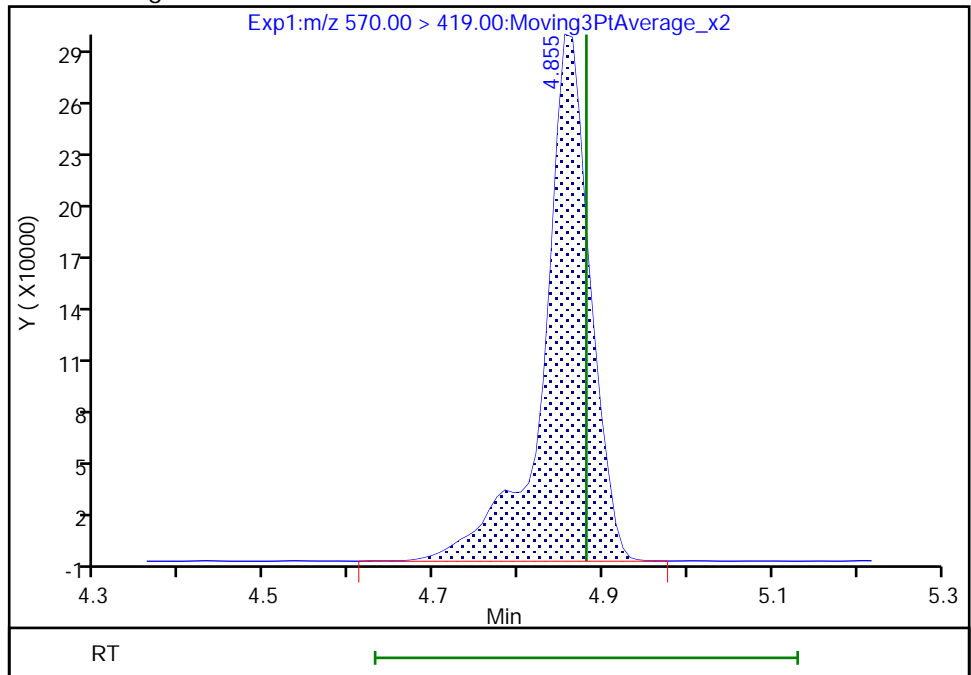
RT: 4.85  
Area: 1024984  
Amount: 2.288815  
Amount Units: ng/ml

Processing Integration Results



RT: 4.85  
Area: 1142058  
Amount: 2.541479  
Amount Units: ng/ml

Manual Integration Results



Reviewer: mcwhirterl, 21-Feb-2022 00:09:39  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

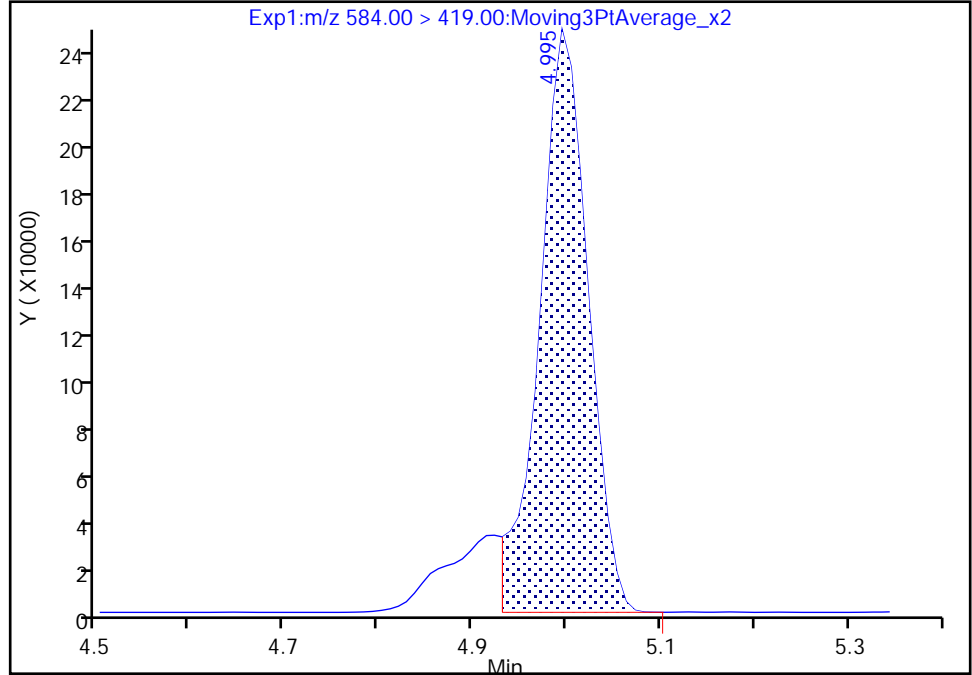
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Injection Date: 20-Feb-2022 15:43:18 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

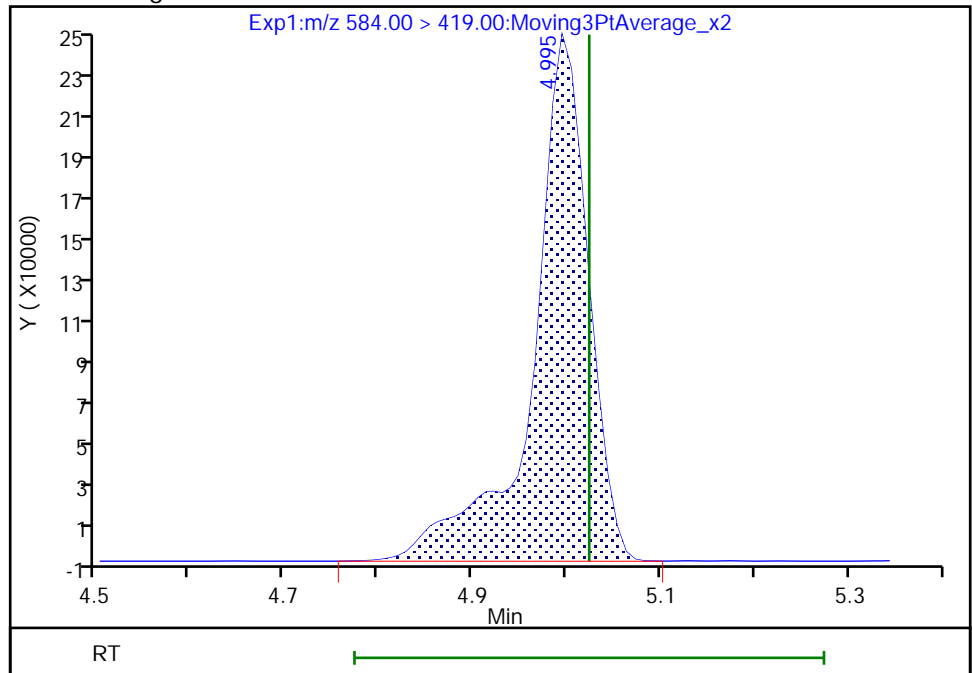
RT: 5.00  
Area: 860546  
Amount: 2.173253  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 993585  
Amount: 2.490692  
Amount Units: ng/ml

Manual Integration Results



Reviewer: mcwhirterl, 21-Feb-2022 00:09:57  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 140-58905/1-B  
 Matrix: Air Lab File ID: \_020.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 20:40  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.002651		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	89		25-150



Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_020.d  
 Lims ID: MB 140-58905/1-B  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 19-Feb-2022 20:40:34 ALS Bottle#: 20 Worklist Smp#: 20  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-020 mb 140-58905/1-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 14:19:36  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.797	2.804	-0.007	0.995	156609	0.0400		17.9	
D 2 13C4 PFBA	217.00 > 172.00	2.811	2.804	0.007	0.681	5658180	1.22	97.9	15580	
3 PFECA F	229.00 > 85.00	2.911				ND				
6 Perfluoropentanoic acid	262.90 > 219.00	3.115	3.115	0.001	1.000	16453	-0.000697	1.8	7	7
	LOD = 0.006500									
D 5 13C5 PFPeA	267.90 > 223.00	3.115	3.115	0.001	0.754	4470098	1.23	98.5	11923	
4 3:3 FTCA	241.00 > 177.10	3.122				ND				
	241.00 > 116.90	3.122								
D 7 13C3 PFBS	301.90 > 80.00	3.131	3.122	0.009	0.758	2544408	1.11	95.3	4129	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.139	3.131	0.008	1.003	3456	-0.001992 Target=2.65	2.5	7	R7
	298.90 > 99.00	3.131	3.131	0.0	1.000	428	8.07(1.32-3.97)	0.8		R7
	LOD = 0.004500									
9 PFECA A	278.95 > 84.90	3.202				ND				
11 PES	314.80 > 135.00	3.260				ND				
12 PFECA B	295.22 > 201.00	3.373				ND				
13 4:2 FTS	327.00 > 307.00	3.426	3.415	0.011	1.000	1475	-0.001794	13.9	7	7
	LOD = 0.003200									

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.426	3.415	0.011	0.830	1111235	1.55		132	1300	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.437				ND				
349.00 > 99.00		3.437								
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.437	0.011	1.000	58761	0.0109	Target=12.03		14.0	
313.00 > 119.00	3.448	3.437	0.011	1.000	5001		11.75(6.01-18.04)		5.2	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.437	0.011	0.835	4954700	1.24		99.0	16880	
17 HFPO-DA										
285.00 > 169.00	3.552	3.542	0.010	1.000	301084	0.1326	Target=2.55		90.1	
329.00 > 169.00	3.552	3.542	0.010	1.000	109380		2.75(1.28-3.83)		66.8	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.552	3.542	0.010	0.860	2177206	1.11		88.9	7885	
S 10 ADONA										
377.00 > 251.00		3.592				0				
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.792	3.772	0.020	1.003	8263	0.003893	Target=3.45		26.8	7
399.00 > 99.00	3.782	3.772	0.010	1.000	2183		3.79(1.72-5.17)		12.8	
LOD = 0.005000										
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.772	0.010	0.916	1812048	1.22		103	7746	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.792	0.0	1.000	111321	0.0261	Target=3.22		40.0	
363.00 > 169.00	3.792	3.792	0.0	1.000	28832		3.86(1.61-4.83)		76.8	
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.792	0.0	0.918	4325933	1.21		96.9	13360	
25 DONA										
377.00 > 251.00		3.820				ND				
377.00 > 85.00		3.820								
26 5:3 FTCA										
340.88 > 236.90		3.853				ND				
340.88 > 216.90		3.853								
27 6:2 FTUCA										
356.86 > 292.90		3.886				ND				
356.86 > 243.00		3.886								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.886	0.0	0.941	2032108	1.53		122	3225	
29 6:2 FTCA										
377.10 > 63.00		3.903				ND				
377.10 > 313.10		3.903								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.912	3.903	0.009	0.947	96254	0.9372		75.0	546	
32 PFECHS										
460.80 > 380.90		4.054				ND				
460.80 > 98.90		4.054								

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.111				ND				
449.00 > 99.00		4.111								
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	328448	0.2011			627	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.130	4.121	0.009	1.000	23401	-0.000640	Target=2.40	18.6		7M
413.00 > 169.00	4.130	4.121	0.009	1.000	8245		2.84(1.20-3.60)	17.3		7M
LOD = 0.009500										
\$ 36 13C8 PFOA										
421.00 > 376.00		4.121				ND				
* 30 13C2 PFOA										
415.00 > 370.00	4.130	4.121	0.009		4933776	1.25			9786	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	1045598	1.47		124	1821	
D 31 13C4 PFOA										
417.00 > 372.00	4.130	4.121	0.009	1.000	4793309	1.30		104	8984	
\$ 38 13C8 PFOS										
507.00 > 99.00		4.412				ND				
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.421	4.412	0.009	1.000	4400	0.001750	Target=4.41	12.7		7M
499.00 > 99.00	4.412	4.412	0.0	0.000	0		0.00(2.20-6.61)			7M
LOD = 0.005500										
D 39 13C4 PFOS										
503.00 > 80.00	4.421	4.412	0.009	1.070	2623107	1.18		99.1	3048	
42 Perfluorononanoic acid										
463.00 > 419.00		4.438				ND				
463.00 > 169.00		4.438								
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.438	0.0	1.075	5964723	1.19		95.3	10497	
43 7:3 FTCA										
441.00 > 337.00		4.519				ND				
441.00 > 317.00		4.519								
44 8:2 FTUCA										
456.86 > 392.90		4.545				ND				
456.86 > 343.00		4.545								
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.553	4.545	0.008	1.000	2924661	1.64		131	5577	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.561	4.553	0.008	1.104	130987	1.00		80.3	775	
46 8:2 FTCA										
477.00 > 393.10		4.561				ND				
477.00 > 63.20		4.561								
49 9CIFOS										
531.00 > 351.00	4.528	4.578	-0.050	1.096	1431	0.000290		4.6		7M
LOD = 0.003500										

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.697				ND				
549.00 > 99.00		4.697								
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.705	0.001	0.998	4328	0.001396		12.1		7M
LOD = 0.004400										
D 55 13C8 FOSA										
506.00 > 78.00	4.714	4.705	0.009	1.141	4058120	1.21		97.0	6996	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.731	4.722	0.009	1.002	20597	-0.001905	Target=11.25	19.2		7M
513.00 > 169.00	4.706	4.722	-0.016	0.996	2053		10.03(5.62-16.87)	1.9		M
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.722	0.001	1.143	5787068	1.21		97.0	13601	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.731	0.009	1.148	1070973	1.38		116	2251	
53 8:2 FTS										
527.00 > 507.00	4.740	4.739	0.001	1.000	1864	-0.006003		10.5		7
LOD = 0.007000										
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.180	579591	1.29		104	1612	
57 NMeFOSAA										
570.00 > 419.00		4.872				ND				
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.957				ND				
599.00 > 99.00		4.957								
60 Perfluoroundecanoic acid										
563.00 > 519.00		4.985				ND				
563.00 > 169.00		4.985								
D 59 13C2 PFUnA										
565.00 > 520.00	4.985	4.985	0.0	1.207	5237451	1.14		90.9	10908	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.004	5.005	-0.001	1.212	533545	1.16		92.9	2450	
62 NEtFOSAA										
584.00 > 419.00		5.005				ND				
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.092	0.0	1.233	2550857	1.27		102	5801	
63 11C1FOS										
631.00 > 451.00	5.102	5.092	0.010	1.154	504	-0.003952		2.5		7
LOD = 0.007000										
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.092	0.0	1.000	2890	0.001172		13.8		7M
LOD = 0.0500										
66 10:2 FTCA										
576.80 > 493.00		5.102				ND				
576.80 > 63.10		5.102								
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.111	5.111	0.0	1.237	83129	0.6811		54.5	423	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 69 13C2 PFDoA										
615.00 > 570.00	5.226	5.226	0.0	1.265	4653760	1.02		81.9	12333	
68 Perfluorododecanoic acid										
613.00 > 569.00		5.226				ND				
613.00 > 169.00		5.226								
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.242	5.243	-0.001	1.269	720124	1.10		93.3	4151	
71 10:2 FTS										
627.00 > 607.00	5.250	5.251	-0.001	1.002	7446	-0.000482		43.1	7	7
LOD = 0.008500										
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.283	5.275	0.008	1.279	435429	0.9304		74.4	354	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.283	5.283	0.0	1.279	377364	0.9474		75.8	38.8	
74 NMeFOSA										
512.00 > 169.00		5.283				ND				
75 N-MeFOSE-M										
616.00 > 59.00	5.242	5.292	-0.050	0.992	29154	0.0677		8.0		M
76 PFDoS										
699.00 > 80.00		5.399				ND				
699.00 > 99.00		5.399								
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.443	5.435	0.008	1.318	437220	0.9004		72.0	249	
78 Perfluorotridecanoic acid										
663.00 > 619.00		5.435				ND				
663.00 > 169.00		5.435								
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.320	285114	0.8925		71.4	437	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.002	395	0.000796		0.7	7	7
LOD = 0.006000										
81 N-EtFOSA-M										
526.00 > 169.00	5.478	5.452	0.026	1.005	742	-0.002592		4.1	7	7
LOD = 0.008000										
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.360	2855957	0.7851		62.8	9857	
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.617				ND				
713.00 > 219.00		5.617								
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.434	1025930	0.4335		34.7	3457	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	11121	-0.000692 Target=8.23		31.2	7	7
813.00 > 169.00	5.924	5.924	0.0	1.000	1214	9.16(4.11-12.34)		4.9		
LOD = 0.009000										

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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86 Perfluorooctadecanoic acid										
913.00 > 869.00		6.184				ND				
913.00 > 169.00		6.184								
S 87 F-53B										
212.90 > 169.00		0.0				0				
S 88 NaDONA										
377.00 > 251.00		0.0				0				
377.00 > 85.00		0.0								

**QC Flag Legend**

Processing Flags

- ND - Not Detected or Marked ND
- R - Failed Signal Ratio Test
- 7 - Failed Limit of Detection

Review Flags

- M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_020.d

Injection Date: 19-Feb-2022 20:40:34

Instrument ID: LCA

Lims ID: MB 140-58905/1-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 20

Worklist Smp#: 20

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

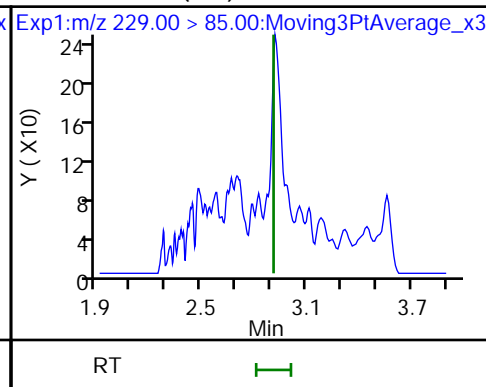
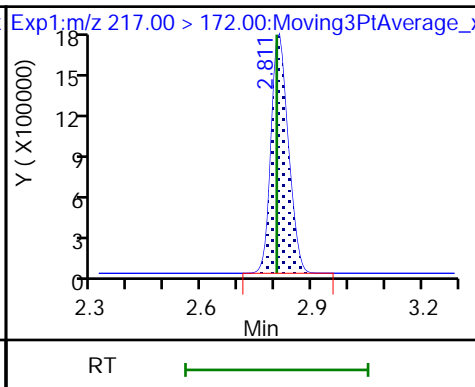
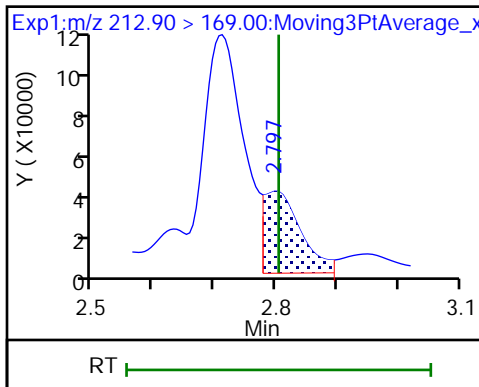
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

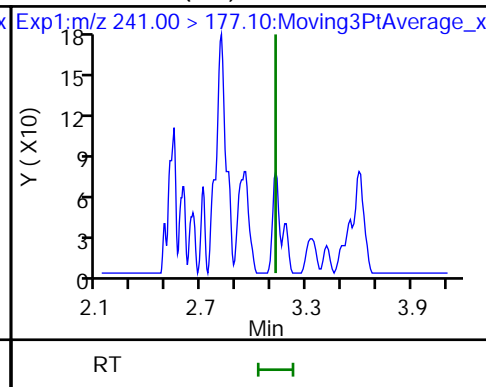
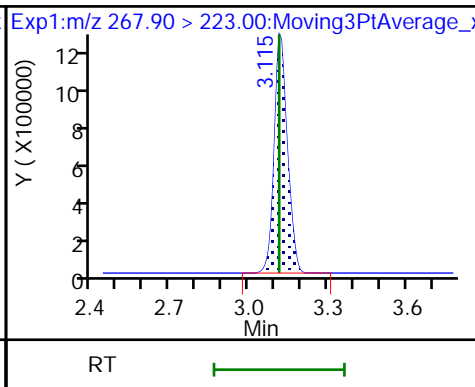
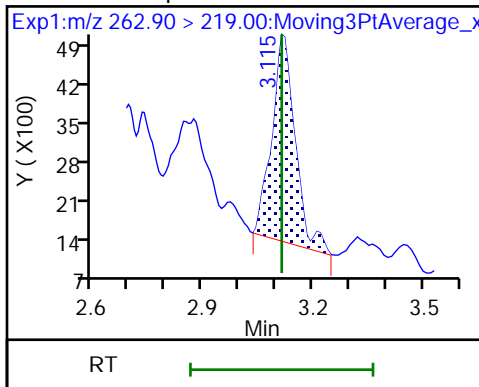
3 PFECA F (ND)



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

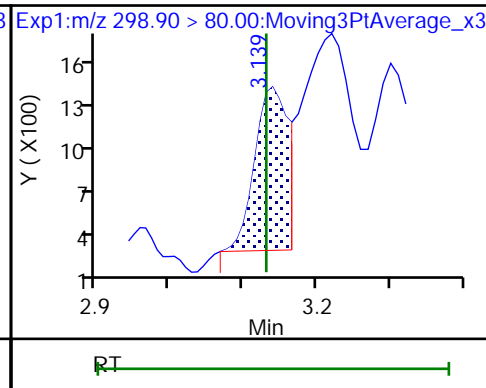
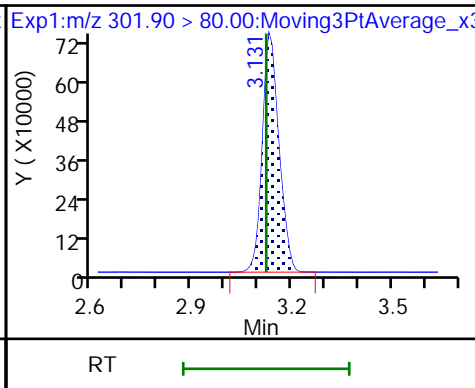
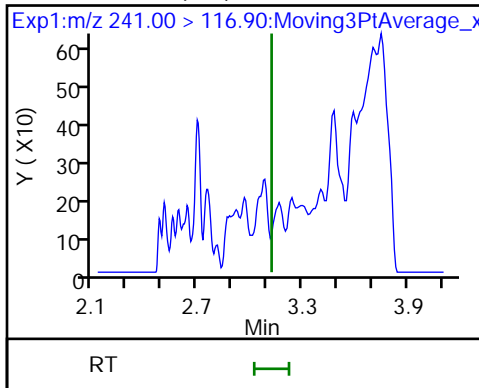
4 3:3 FTCA (ND)



4 3:3 FTCA (ND)

D 7 13C3 PFBS

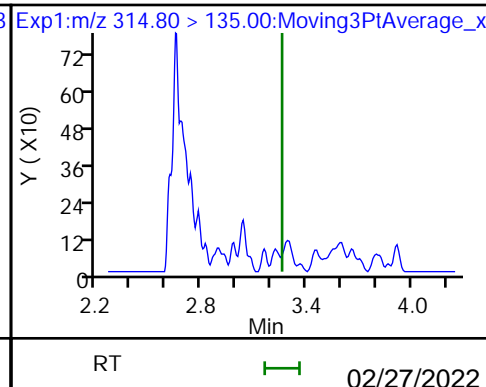
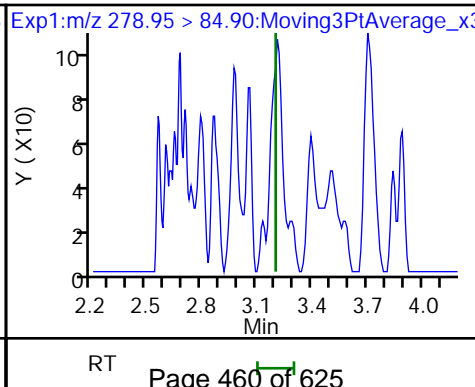
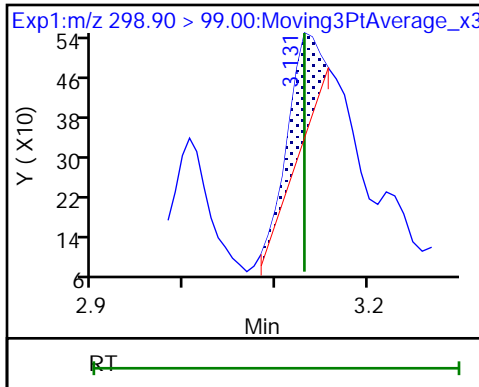
8 Perfluorobutanesulfonic acid

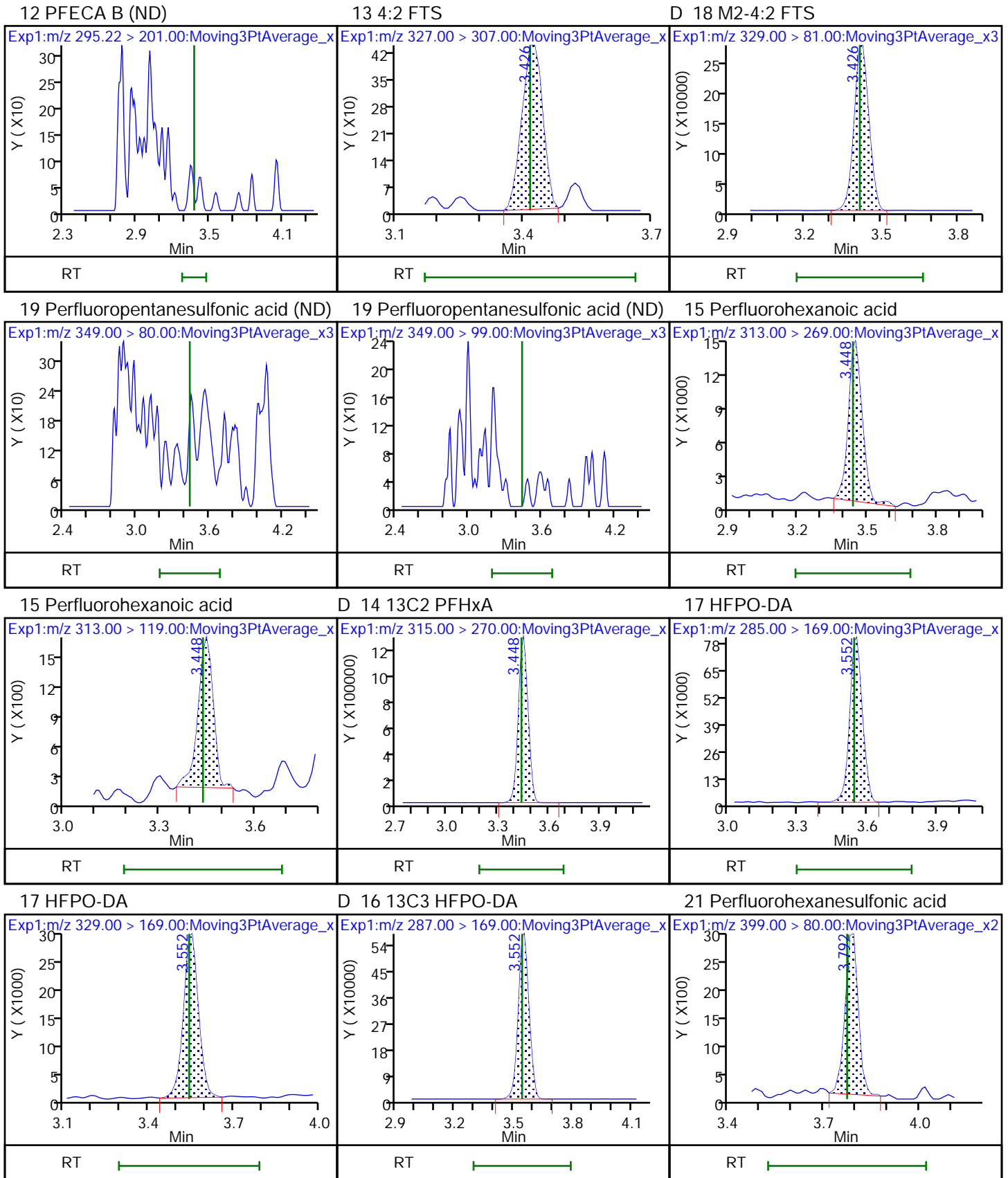


8 Perfluorobutanesulfonic acid

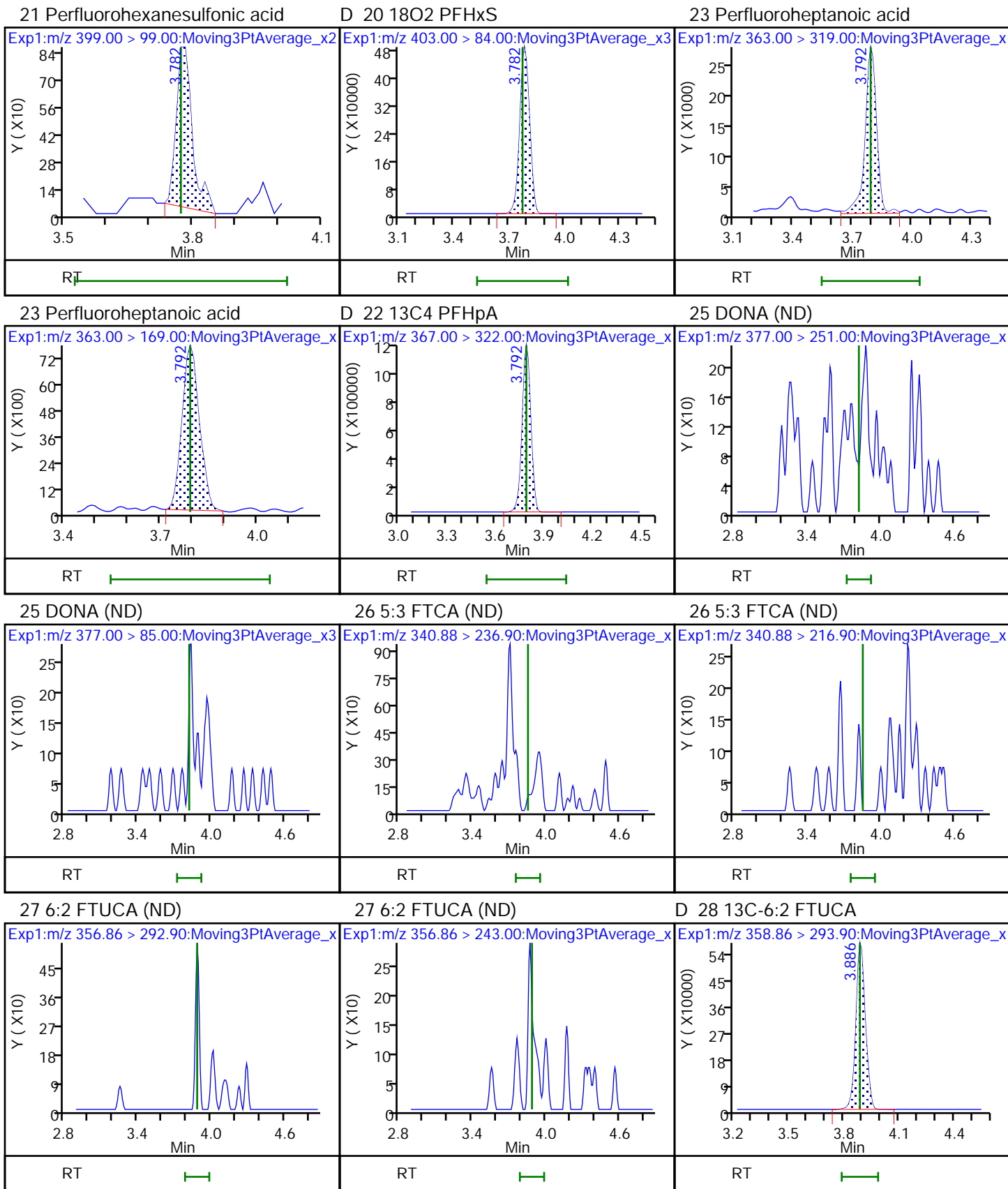
9 PFECA A (ND)

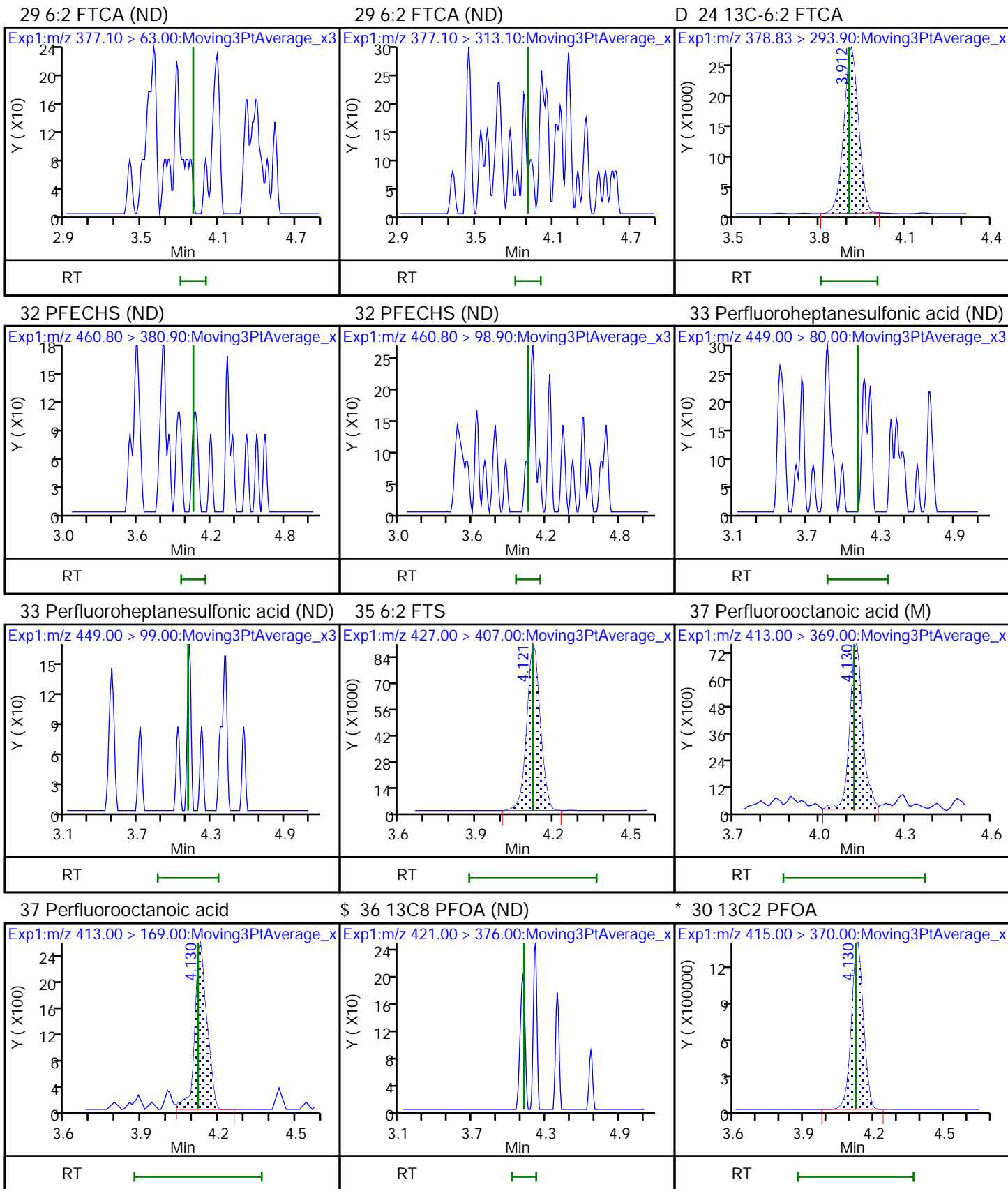
11 PES (ND)







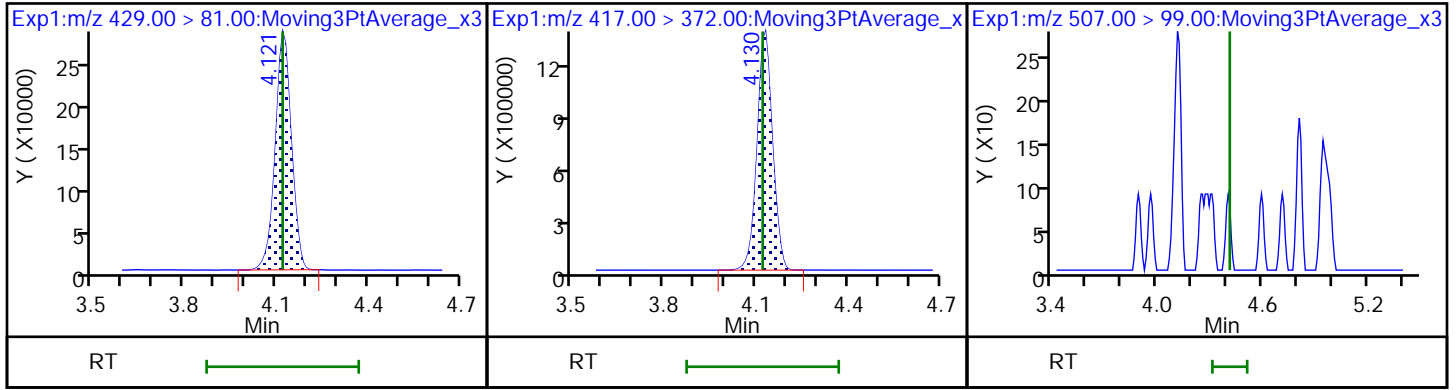




D 34 M2-6:2 FTS

D 31 13C4 PFOA

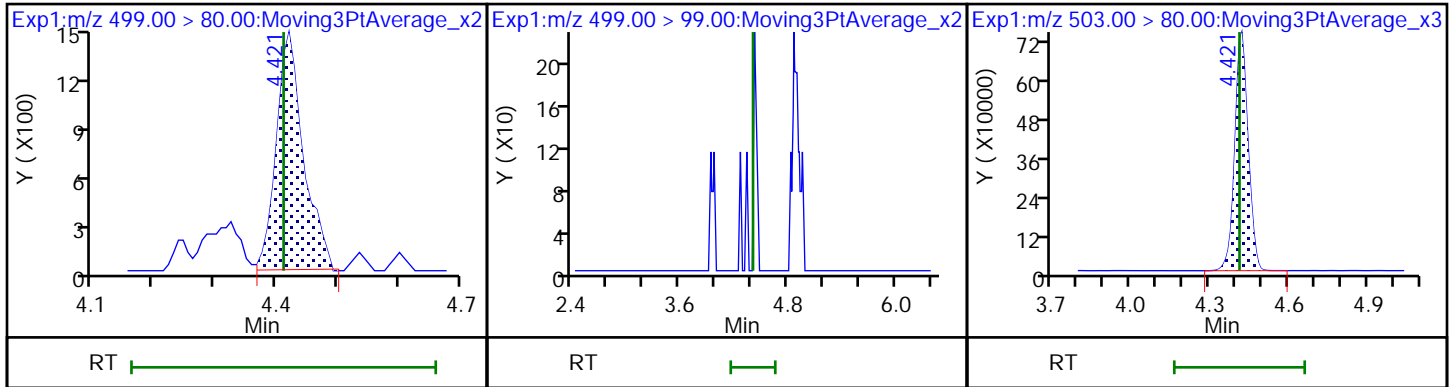
\$ 38 13C8 PFOS (ND)



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid

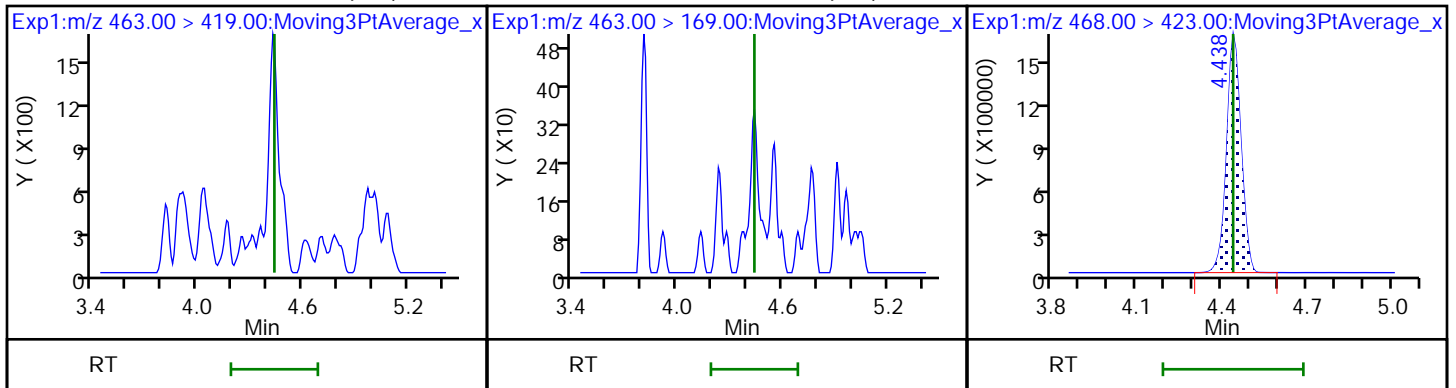
D 39 13C4 PFOS



42 Perfluorononanoic acid (ND)

42 Perfluorononanoic acid (ND)

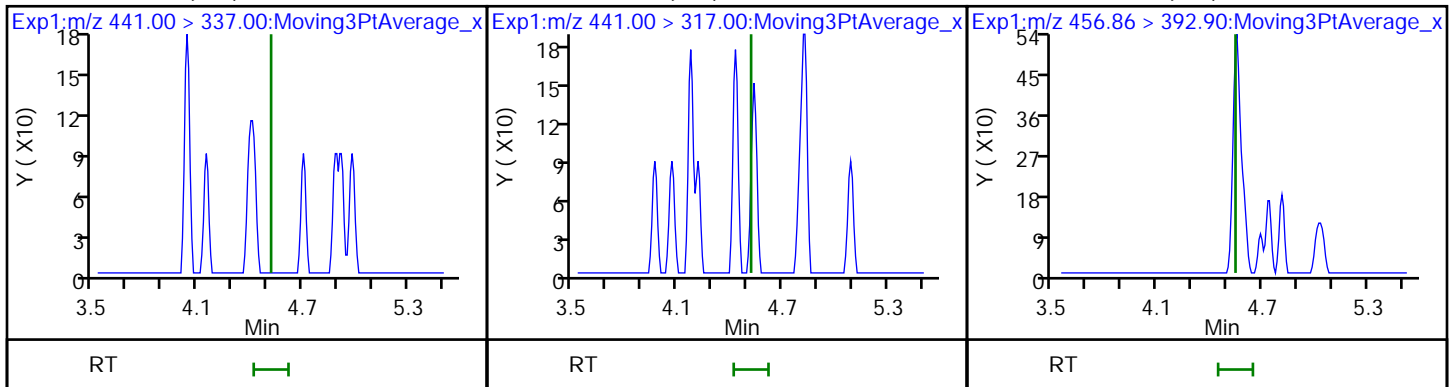
D 41 13C5 PFNA

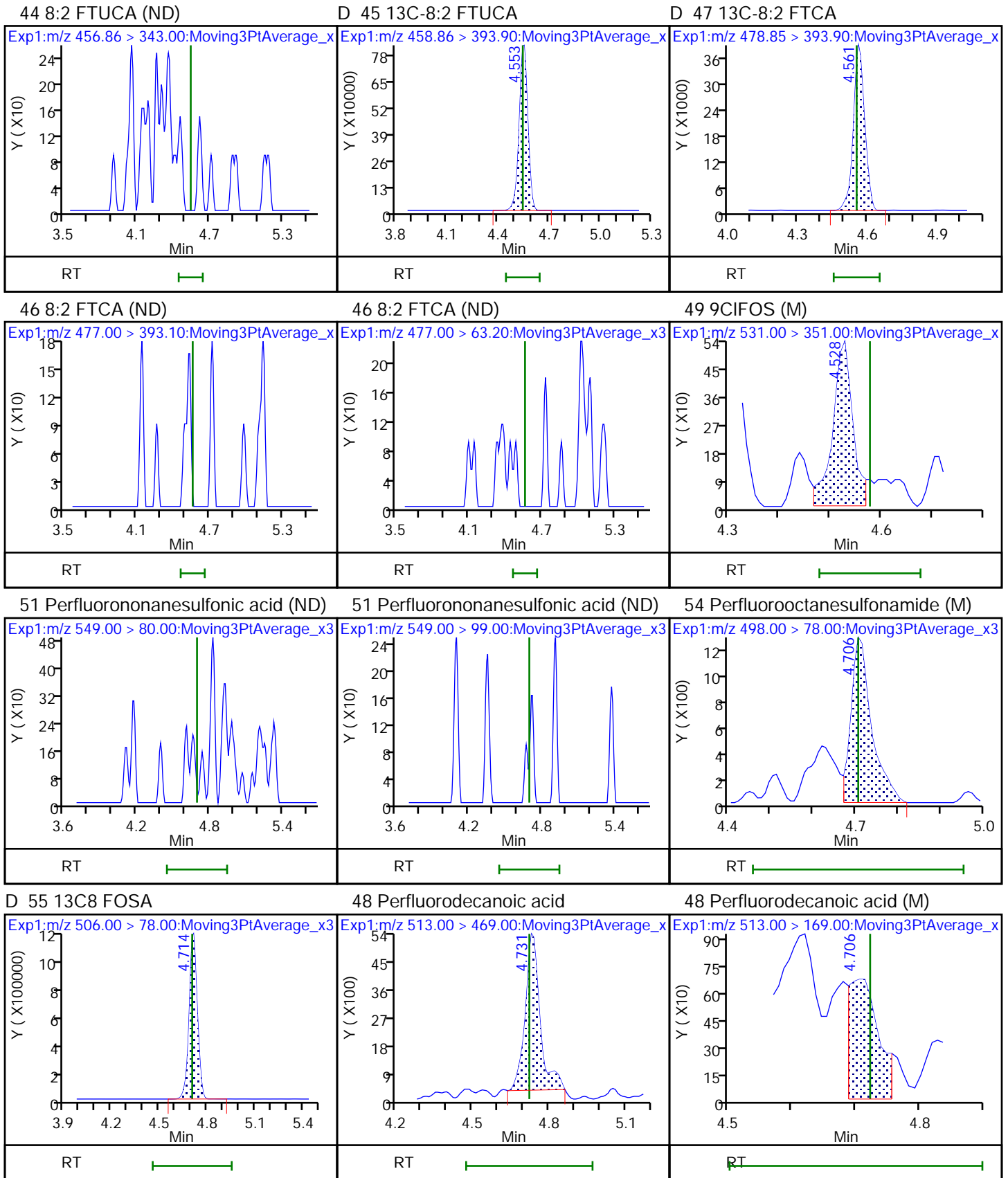


43 7:3 FTCA (ND)

43 7:3 FTCA (ND)

44 8:2 FTUCA (ND)

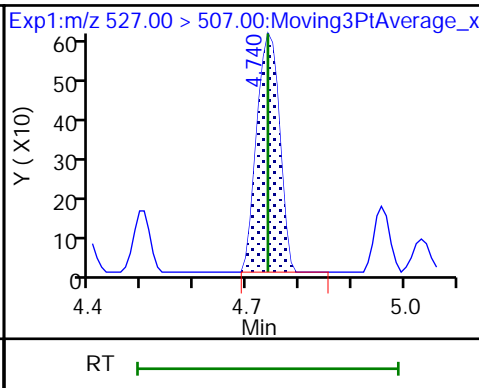
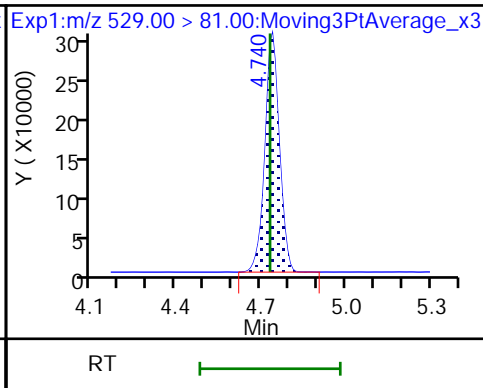
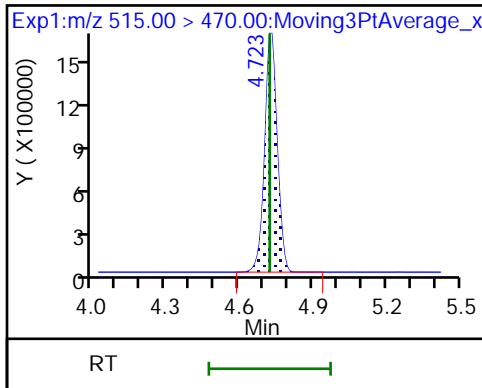




D 52 13C2 PFDA

D 50 M2-8:2 FTS

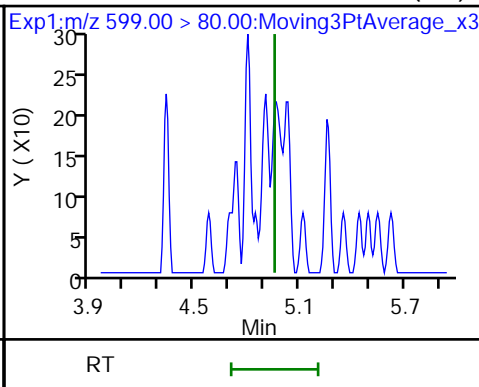
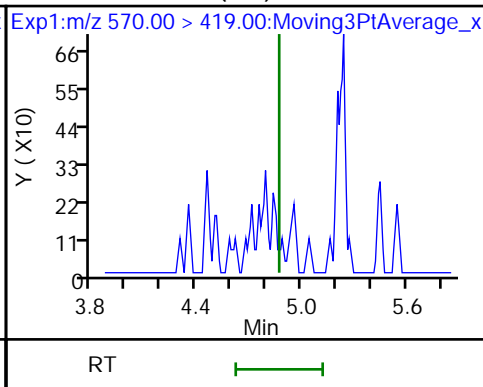
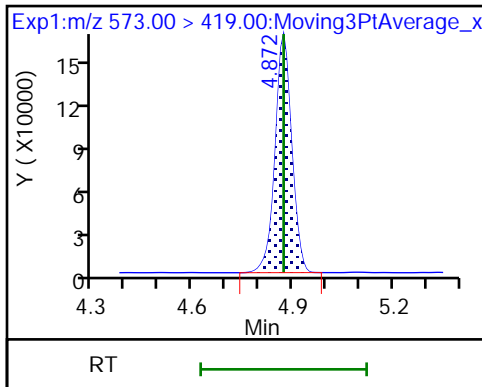
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (ND)

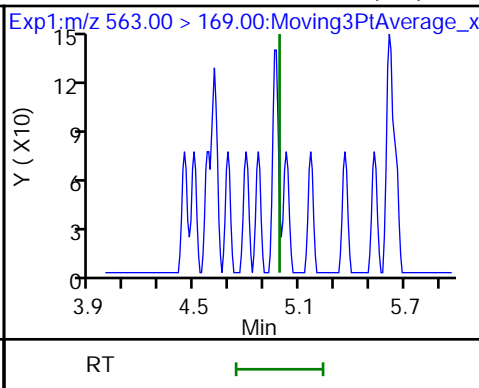
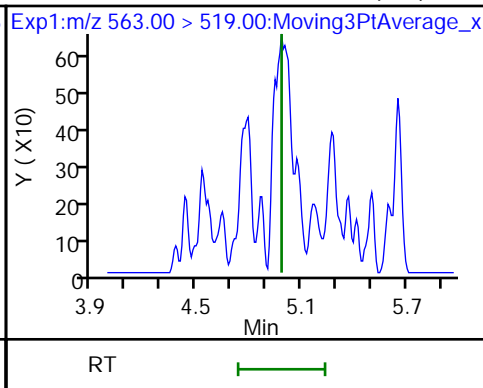
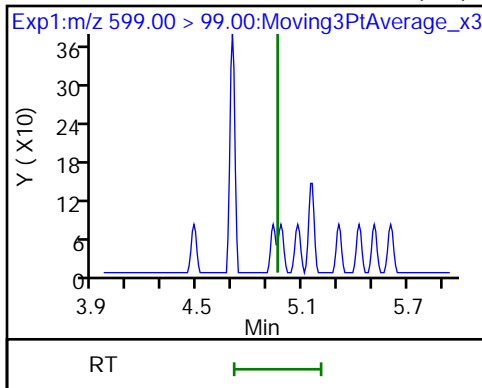
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid (ND)

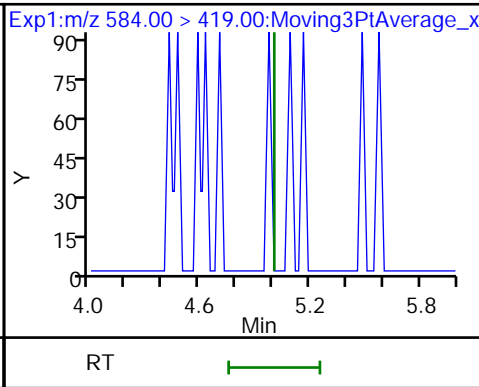
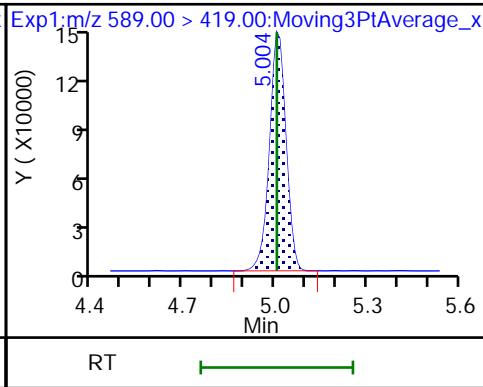
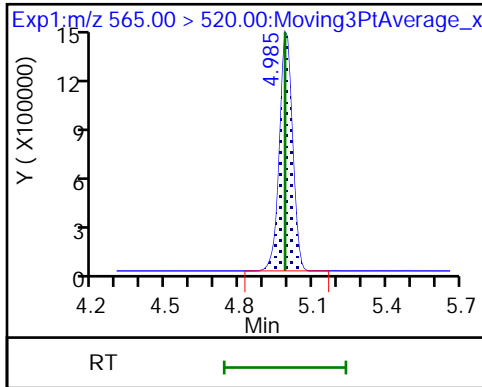
60 Perfluoroundecanoic acid (ND)



D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

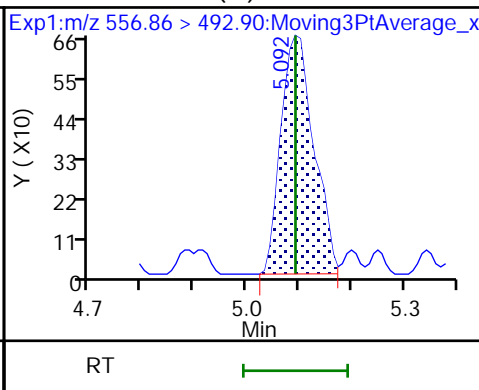
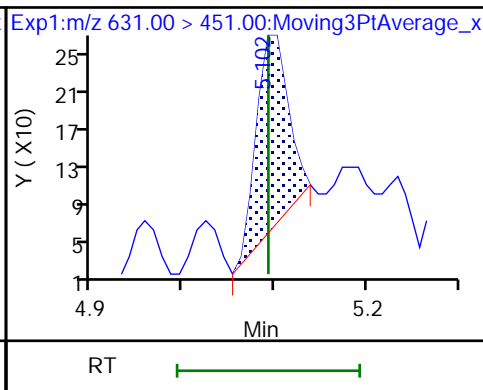
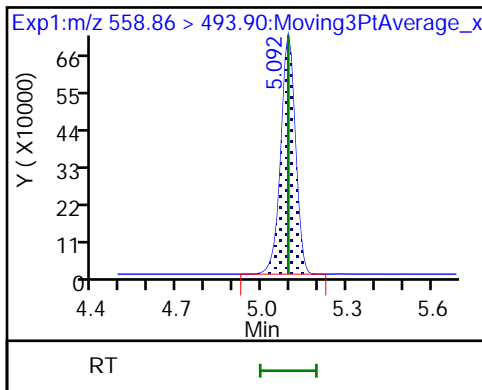
62 NEtFOSAA (ND)



D 67 13C-10:2 FTUCA

63 11CIFOS

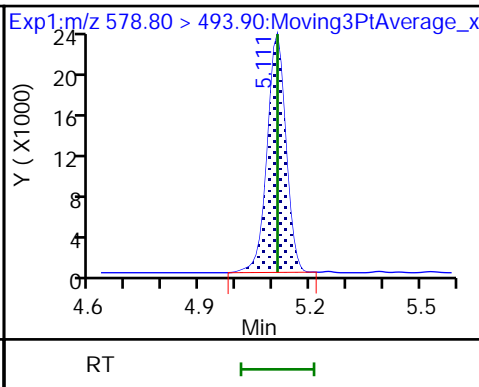
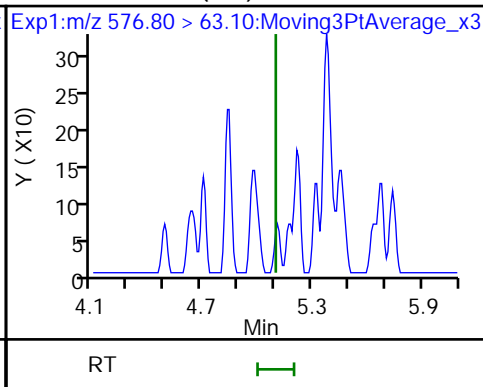
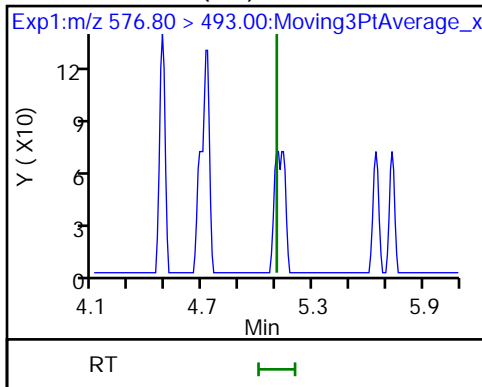
65 10:2 FTUCA (M)



66 10:2 FTCA (ND)

66 10:2 FTCA (ND)

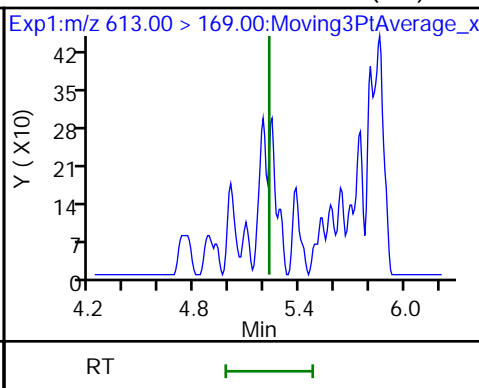
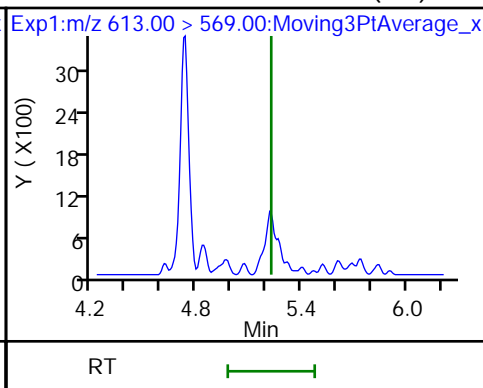
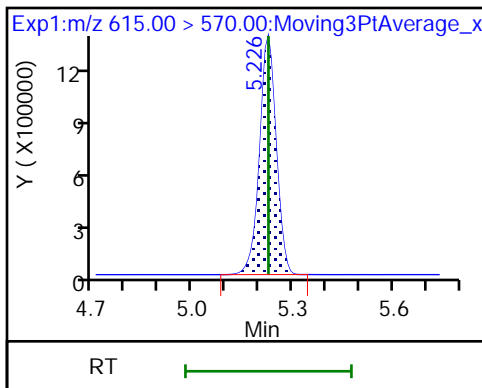
D 64 13C-10:2 FTCA



D 69 13C2 PFDaA

68 Perfluorododecanoic acid (ND)

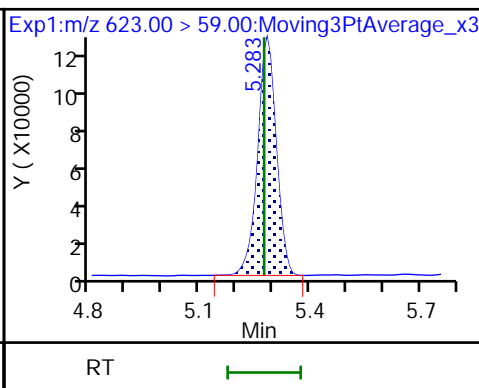
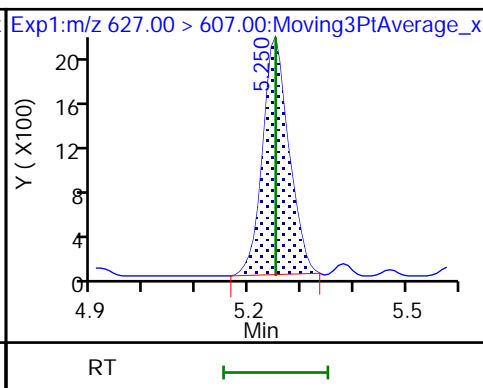
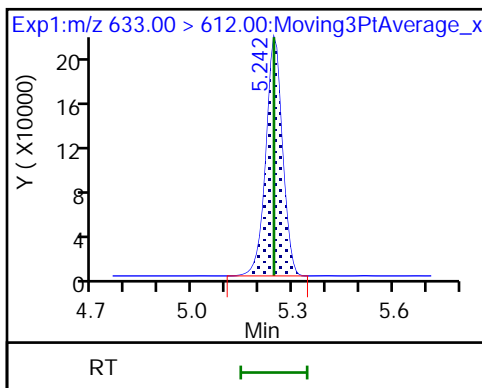
68 Perfluorododecanoic acid (ND)



D 70 13C2 10:2 FTS

71 10:2 FTS

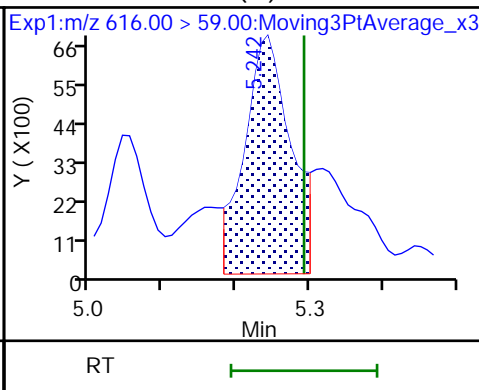
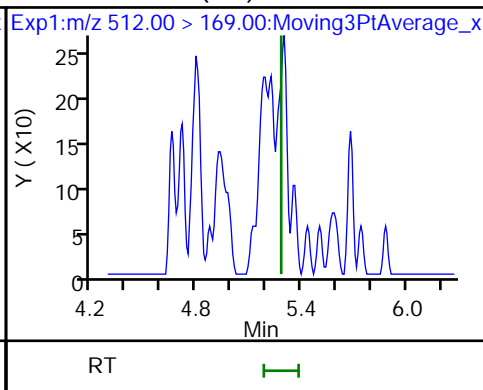
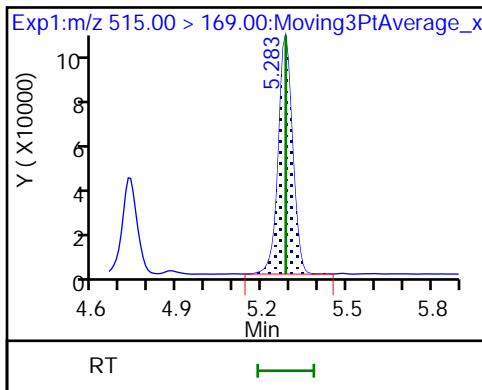
D 72 d7-N-MeFOSE-M



D 73 d-N-MeFOSA-M

74 NMeFOSA (ND)

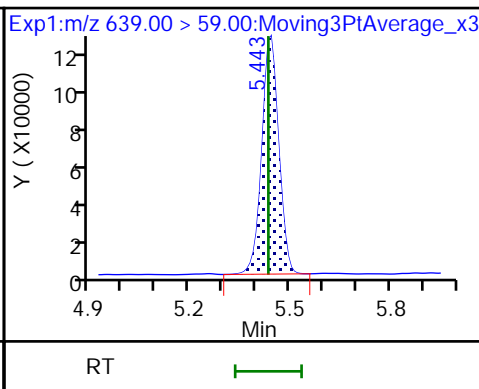
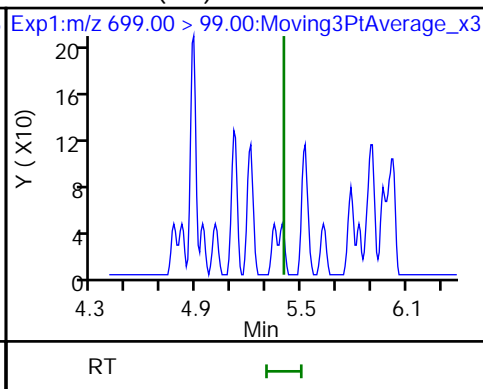
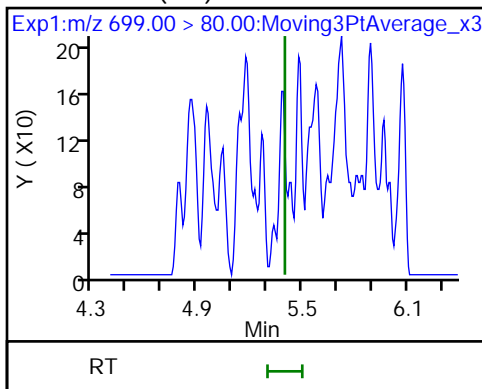
75 N-MeFOSE-M (M)



76 PFDoS (ND)

76 PFDoS (ND)

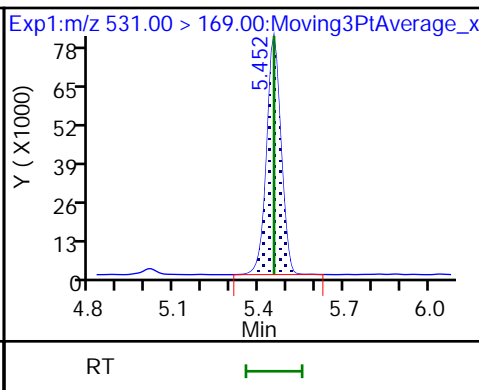
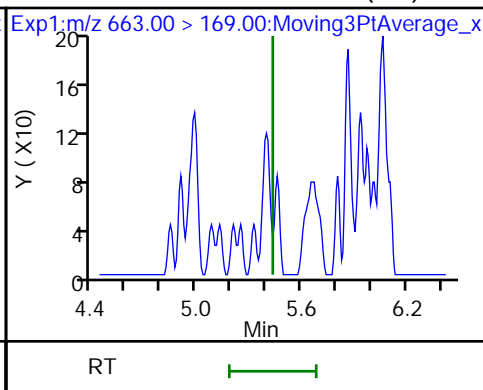
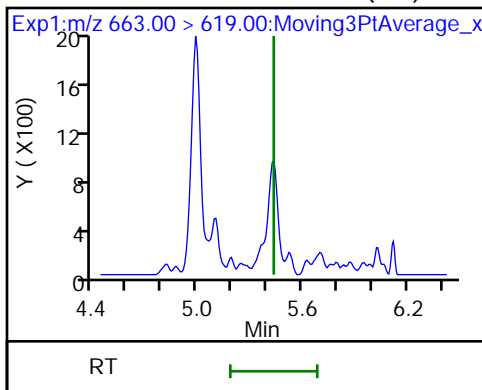
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid (ND)

78 Perfluorotridecanoic acid (ND)

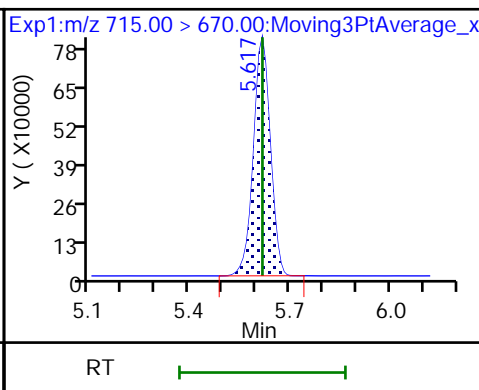
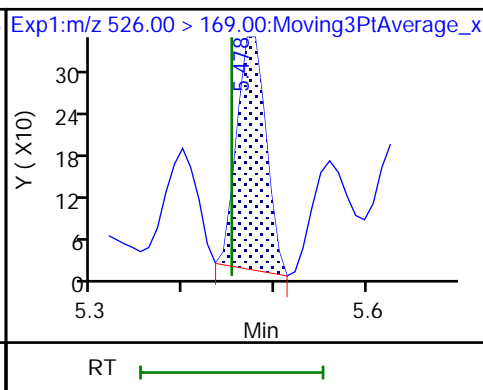
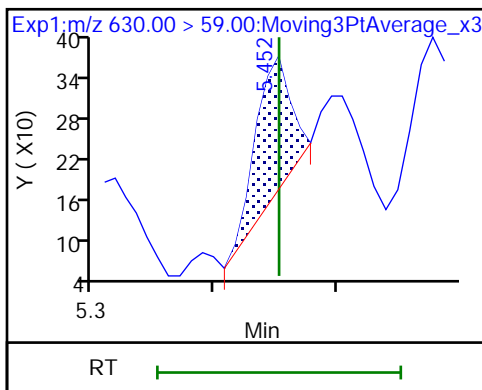
D 80 d-N-EtFOSA-M



79 N-EtFOSE-M

81 N-EtFOSA-M

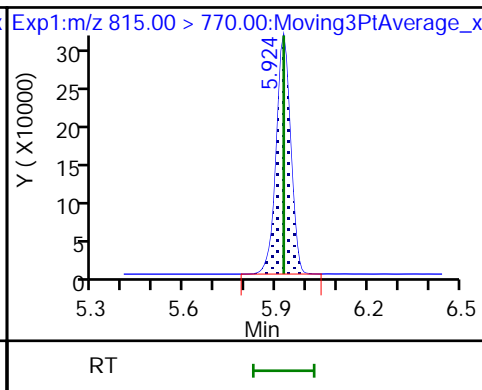
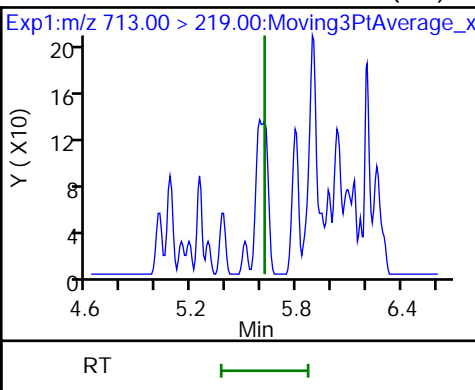
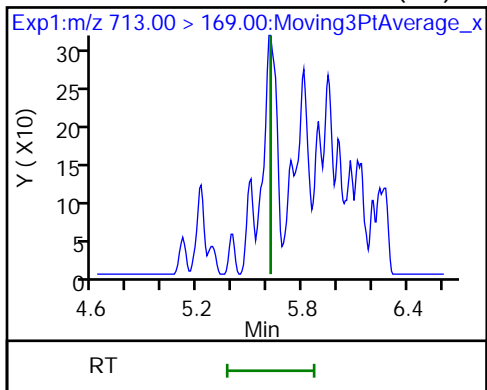
D 82 13C2 PFTeDA



83 Perfluorotetradecanoic acid (ND)

83 Perfluorotetradecanoic acid (ND)

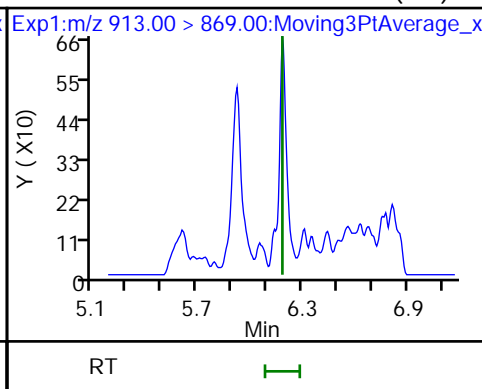
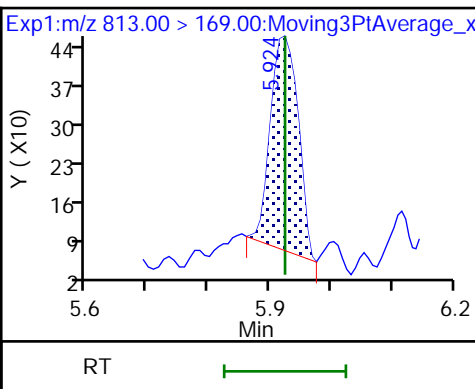
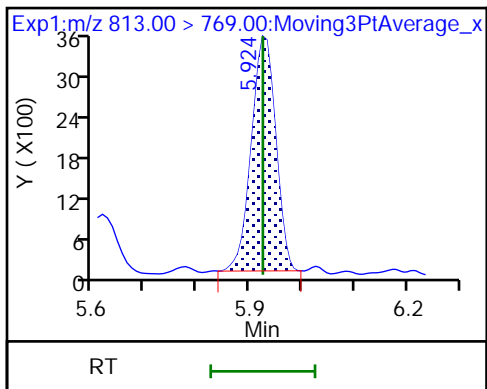
D 84 13C2 PFHxDA



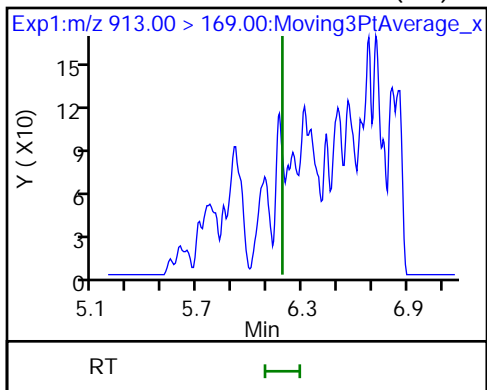
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)





FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 140-58905/14-B  
 Matrix: Air Lab File ID: \_034.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 22:43  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	84		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_034.d  
 Lims ID: MB 140-58905/14-B  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 19-Feb-2022 22:43:57 ALS Bottle#: 34 Worklist Smp#: 34  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-034 140-26391-a-8-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 11:00:28  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_030.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.797	2.804	-0.007	0.998	118700	0.0275		15.1	
D 2 13C4 PFBA	217.00 > 172.00	2.804	2.804	0.0	0.680	6001832	1.27	101	15398	
3 PFECA F	229.00 > 85.00	2.911				ND				
6 Perfluoropentanoic acid	262.90 > 219.00	3.107	3.115	-0.007	1.000	12640	-0.001719	1.9	7	7
	LOD = 0.006500									
D 5 13C5 PFPeA	267.90 > 223.00	3.107	3.115	-0.007	0.754	4334971	1.16	93.1	12107	
4 3:3 FTCA	241.00 > 177.10	3.122				ND				
	241.00 > 116.90	3.122								
D 7 13C3 PFBS	301.90 > 80.00	3.123	3.122	0.001	0.758	2673701	1.14	97.7	5930	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.123	3.131	-0.008	1.000	4831	-0.001509 Target=2.71	3.5	7M	7M
	298.90 > 99.00	3.123	3.131	-0.008	1.000	1998	2.42(1.36-4.07)	3.0		
	LOD = 0.004500									
9 PFECA A	278.95 > 84.90	3.202				ND				
11 PES	314.80 > 135.00	3.260				ND				
12 PFECA B	295.22 > 201.00	3.373				ND				
13 4:2 FTS	327.00 > 307.00	3.415				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.405	3.415	-0.010	0.826	1078586	1.46		125	1292	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.437				ND				
349.00 > 99.00		3.437								
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.437	0.0	1.000	70479	0.0145	Target=11.68		19.2	
313.00 > 119.00	3.437	3.437	0.0	1.000	6736		10.46(5.84-17.53)		6.2	
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.437	0.0	0.834	4984006	1.21		97.1	11663	
17 HFPO-DA										
285.00 > 169.00	3.542	3.542	0.0	1.000	95313	0.0401	Target=2.58		14.4	
329.00 > 169.00	3.542	3.542	0.0	1.000	27788		3.43(1.29-3.86)		10.9	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.542	0.0	0.860	2102252	1.05		83.7	5254	
S 10 ADONA										
377.00 > 251.00		3.592				0				
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.772	3.772	0.0	1.000	9030	0.003940	Target=2.81		28.1	7M
399.00 > 99.00	3.772	3.772	0.0	1.000	2424		3.73(1.40-4.21)		8.7	M
LOD = 0.005000										
D 20 18O2 PFHxS										
403.00 > 84.00	3.772	3.772	0.0	0.915	1956564	1.28		108	11907	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.782	3.792	-0.010	1.000	127095	0.0305	Target=3.18		52.0	
363.00 > 169.00	3.782	3.792	-0.010	1.000	37135		3.42(1.59-4.77)		106	
D 22 13C4 PFHpA										
367.00 > 322.00	3.782	3.792	-0.010	0.918	4341224	1.19		94.8	12195	
25 DONA										
377.00 > 251.00		3.820				ND				
377.00 > 85.00		3.820								
26 5:3 FTCA										
340.88 > 236.90		3.853				ND				
340.88 > 216.90		3.853								
27 6:2 FTUCA										
356.86 > 292.90		3.886				ND				
356.86 > 243.00		3.886								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.878	3.886	-0.008	0.941	2272026	1.66		133	5019	
29 6:2 FTCA										
377.10 > 63.00		3.903				ND				
377.10 > 313.10		3.903								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.895	3.903	-0.008	0.945	75641	0.7181		57.5	332	
32 PFECHS										
460.80 > 380.90		4.054				ND				
460.80 > 98.90		4.054								

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.111				ND				
449.00 > 99.00		4.111								
35 6:2 FTS										
427.00 > 407.00	4.111	4.121	-0.010	1.000	293490	0.1849			1083	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.121	0.0	1.000	30070	0.000922	Target=2.36	18.2		7M
413.00 > 169.00	4.121	4.121	0.0	1.000	10664		2.82(1.18-3.54)	39.6		7M
LOD = 0.009500										
\$ 36 13C8 PFOA										
421.00 > 376.00	4.111	4.121	-0.010	0.998	890	0.000249		6.1		M
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		5059964	1.25			10195	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.111	4.121	-0.010	0.998	1014526	1.39		117	3136	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.121	0.0	1.000	4841386	1.28		102	10814	
\$ 38 13C8 PFOS										
507.00 > 99.00		4.412				ND				
40 Perfluorooctanesulfonic acid										
499.00 > 80.00		4.412				ND				
499.00 > 99.00		4.412								
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.412	0.0	1.071	2718507	1.20		100	4239	
42 Perfluorononanoic acid										
463.00 > 419.00	4.421	4.438	-0.017	0.998	5875	0.001472	Target=3.94	7.8		R7
463.00 > 169.00	4.430	4.438	-0.008	1.000	790		7.44(1.97-5.90)	4.8		R7
LOD = 0.004250										
D 41 13C5 PFNA										
468.00 > 423.00	4.430	4.438	-0.008	1.075	6559392	1.28		102	7442	
43 7:3 FTCA										
441.00 > 337.00		4.519				ND				
441.00 > 317.00		4.519								
44 8:2 FTUCA										
456.86 > 392.90		4.545				ND				
456.86 > 343.00		4.545								
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.537	4.545	-0.008	1.000	3943915	2.16		172	10975	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.553	0.0	1.105	104231	0.7792		62.3	536	
46 8:2 FTCA										
477.00 > 393.10		4.561				ND				
477.00 > 63.20		4.561								
49 9CIFOS										
531.00 > 351.00		4.578				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.697				ND				
549.00 > 99.00		4.697								
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.714	4.705	0.009	1.002	3677	0.001105		7.6	7M	
LOD = 0.004400										
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.705	0.001	1.142	4356445	1.27		102	4297	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.714	4.722	-0.008	1.000	21826	-0.002136	Target=11.22	19.6	7	
513.00 > 169.00	4.706	4.722	-0.016	0.998	2717		8.03(5.61-16.83)	2.8		
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.714	4.722	-0.008	1.144	6430052	1.31		105	8602	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.731	0.0	1.148	1211892	1.53		127	1989	
53 8:2 FTS										
527.00 > 507.00		4.739				ND				
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.863	4.872	-0.009	1.180	708636	1.54		123	2426	
57 NMeFOSAA										
570.00 > 419.00		4.872				ND				MU
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.957				ND				
599.00 > 99.00		4.957								
60 Perfluoroundecanoic acid										
563.00 > 519.00		4.985				ND				
563.00 > 169.00		4.985								
D 59 13C2 PFUnA										
565.00 > 520.00	4.976	4.985	-0.009	1.208	5724371	1.21		96.9	11471	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.995	5.005	-0.010	1.212	755116	1.60		128	2778	
62 NEtFOSAA										
584.00 > 419.00		5.005				ND				
63 11C1FOS										
631.00 > 451.00		5.092				ND				
65 10:2 FTUCA										
556.86 > 492.90	5.082	5.092	-0.010	1.000	1777	0.000514		8.7	7M	
LOD = 0.0500										
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.082	5.092	-0.010	1.233	3576669	1.74		139	8583	
66 10:2 FTCA										
576.80 > 493.00		5.102				ND				
576.80 > 63.10		5.102								
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.111	-0.009	1.238	91704	0.7326		58.6	497	
D 69 13C2 PFDoA										
615.00 > 570.00	5.217	5.226	-0.009	1.266	5820454	6251.25		99.8	17310	02/27/2022

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
68 Perfluorododecanoic acid										
613.00 > 569.00		5.226				ND				
613.00 > 169.00		5.226								
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.234	5.243	-0.009	1.270	1032150	1.54		130	5839	
71 10:2 FTS										
627.00 > 607.00	5.242	5.251	-0.009	1.002	9279	-0.001248		40.6		7
LOD = 0.008500										
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.274	5.275	-0.001	1.280	855208	1.78		143	648	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.274	5.283	-0.009	1.280	563222	1.38		110	54.7	
74 NMeFOSA										
512.00 > 169.00		5.283				ND				
75 N-MeFOSE-M										
616.00 > 59.00	5.234	5.292	-0.058	0.992	24788	0.0271		7.0		M
76 PFDoS										
699.00 > 80.00		5.399				ND				
699.00 > 99.00		5.399								
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	552378	1.11		88.7	280	
78 Perfluorotridecanoic acid										
663.00 > 619.00		5.435				ND				
663.00 > 169.00		5.435								
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.443	5.452	-0.009	1.321	384350	1.17		93.8	532	
79 N-EtFOSE-M										
630.00 > 59.00		5.452				ND				
81 N-EtFOSA-M										
526.00 > 169.00		5.452				ND				
D 82 13C2 PFTeDA										
715.00 > 670.00	5.607	5.617	-0.010	1.361	3950558	1.06		84.7	11580	
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.617				ND				
713.00 > 219.00		5.617								
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.436	1786609	0.7360		58.9	4171	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.916	5.924	-0.008	1.000	21459	0.000610	Target=8.26	58.5		7
813.00 > 169.00	5.924	5.924	0.0	1.001	1907		11.25(4.13-12.39)	8.6		
LOD = 0.009000										
86 Perfluorooctadecanoic acid										
913.00 > 869.00		6.184				ND				
913.00 > 169.00		6.184								
S 87 F-53B										
212.90 > 169.00		0.0				0				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
--------	----	-----------	-----------	-----------	----------	-----------------	---------------	------	-----	-------

S 88 NaDONA

377.00 > 251.00            0.0

377.00 > 85.00            0.0

**QC Flag Legend**

Processing Flags

ND - Not Detected or Marked ND

R - Failed Signal Ratio Test

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

U - Marked Undetected

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_034.d

Injection Date: 19-Feb-2022 22:43:57

Instrument ID: LCA

Lims ID: MB 140-58905/14-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 34

Worklist Smp#: 34

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

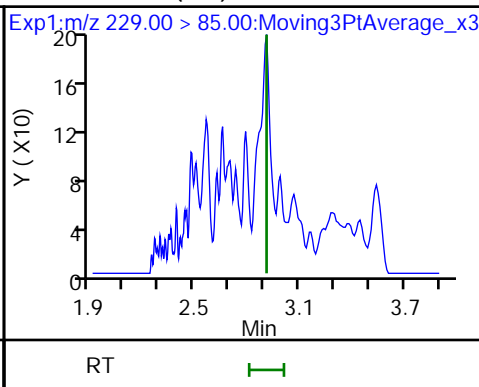
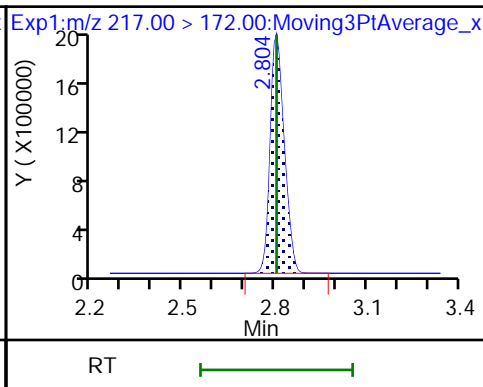
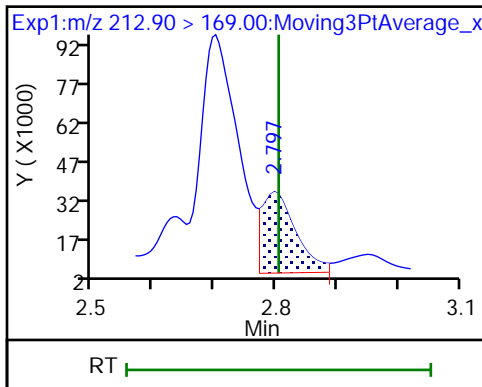
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

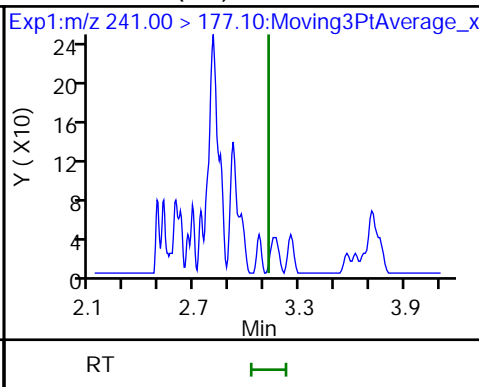
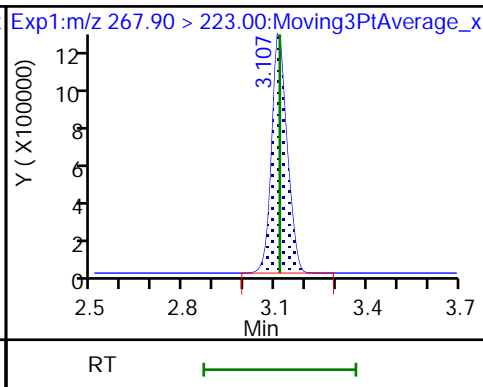
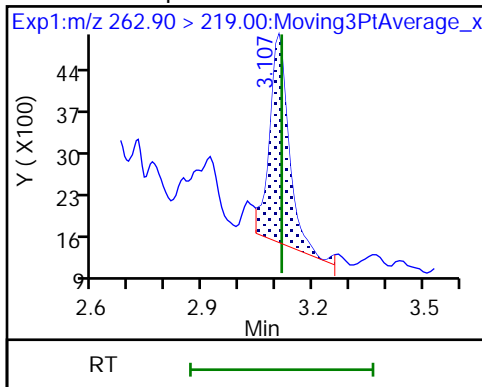
3 PFECA F (ND)



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

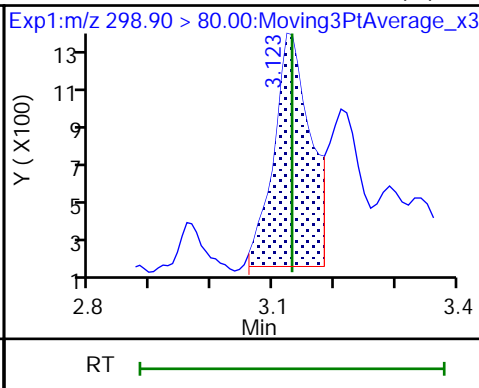
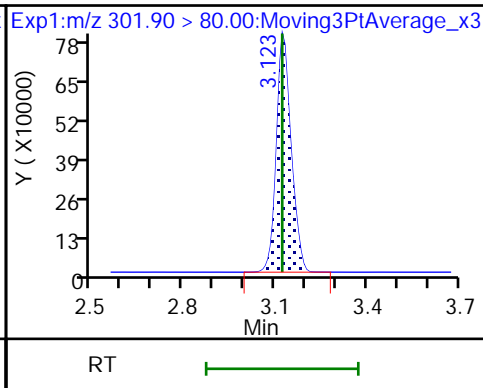
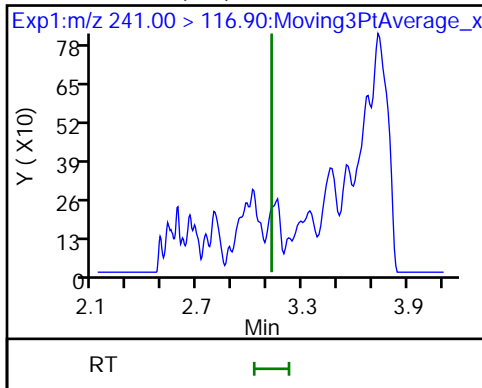
4 3:3 FTCA (ND)



4 3:3 FTCA (ND)

D 7 13C3 PFBS

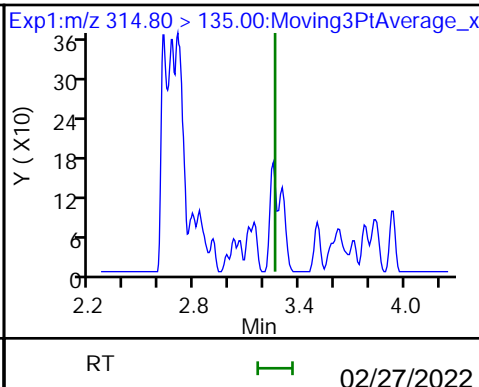
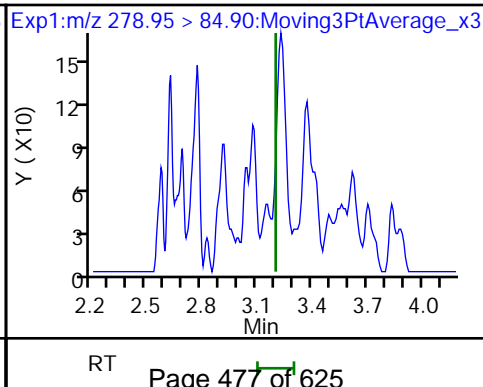
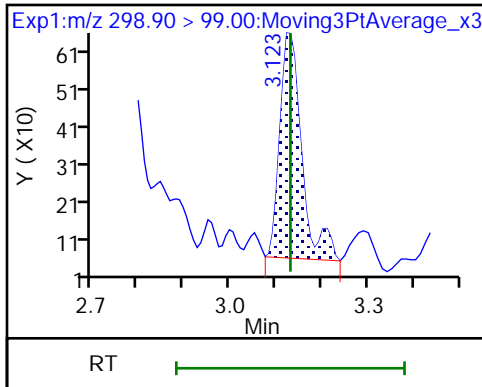
8 Perfluorobutanesulfonic acid (M)



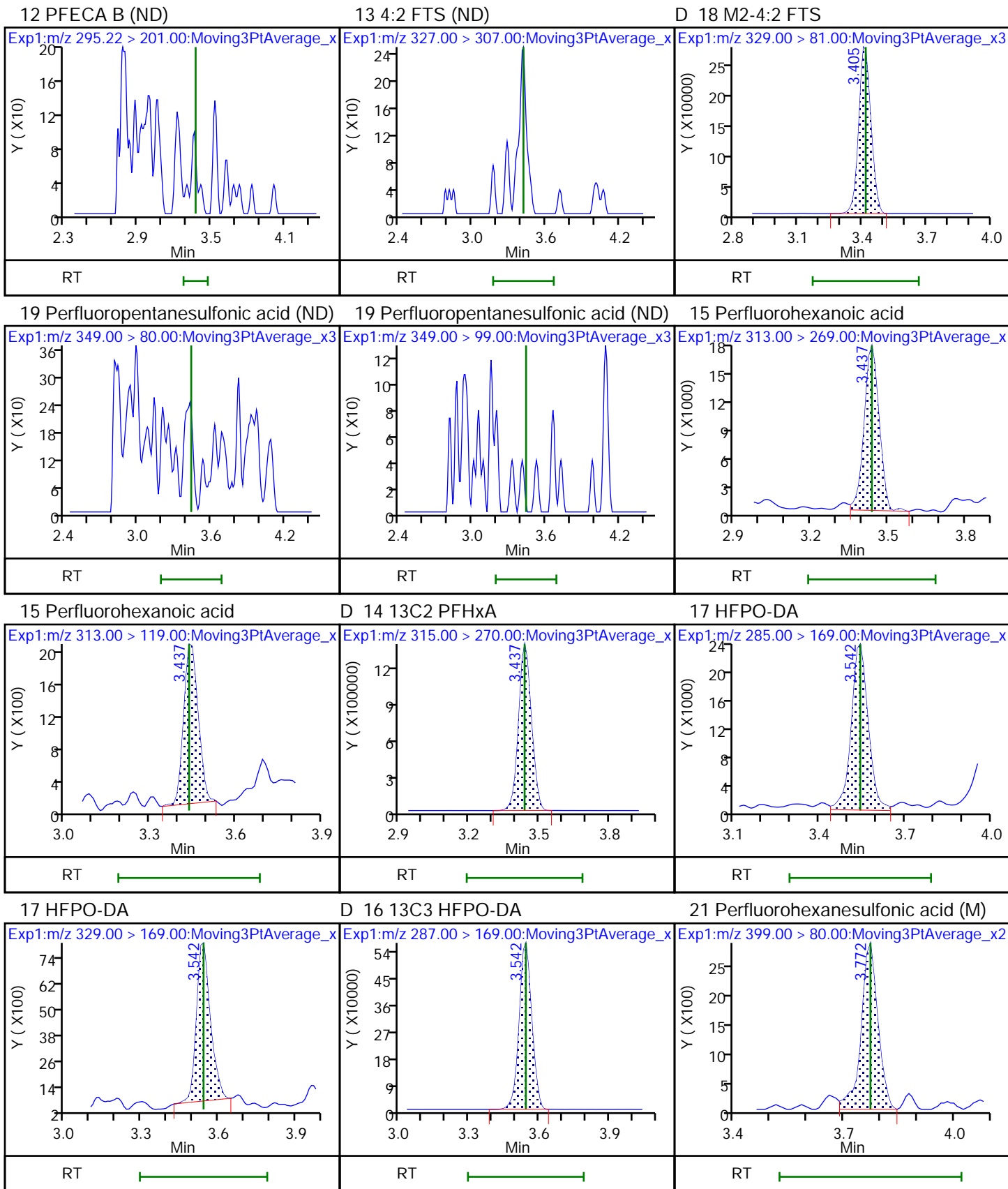
8 Perfluorobutanesulfonic acid

9 PFECA A (ND)

11 PES (ND)

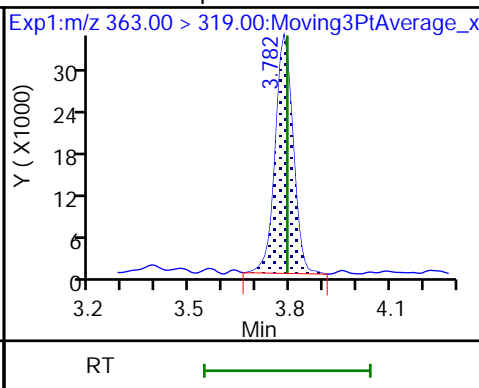
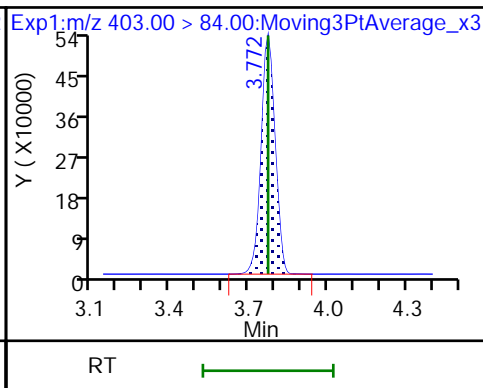
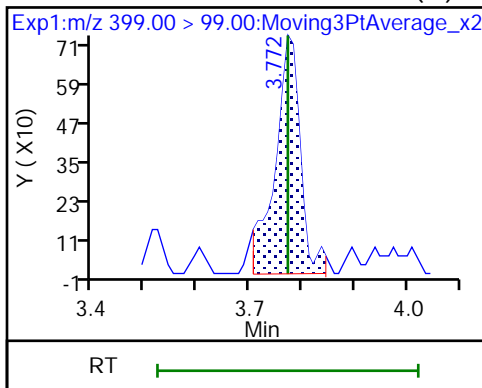






21 Perfluorohexanesulfonic acid (M) D 20 18O2 PFHxS

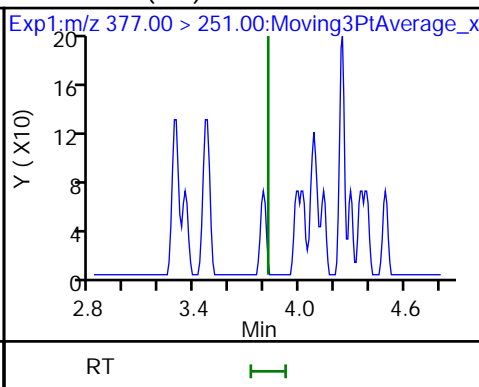
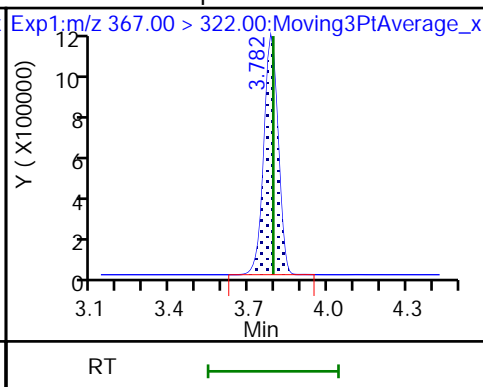
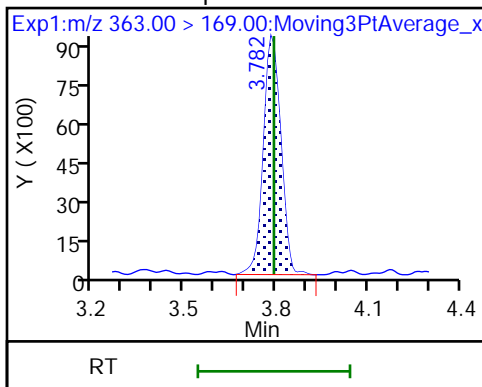
23 Perfluoroheptanoic acid



23 Perfluoroheptanoic acid

D 22 13C4 PFHpA

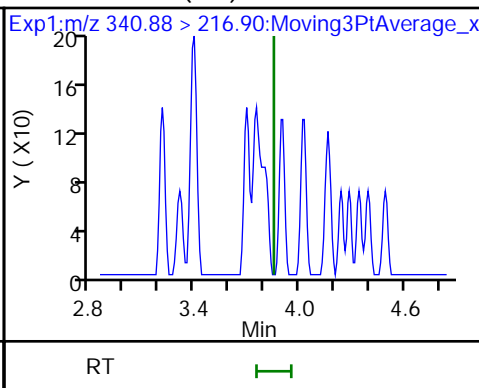
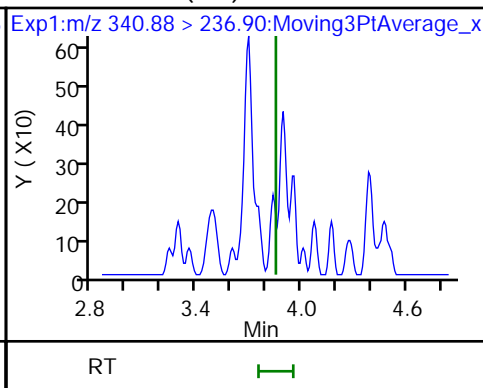
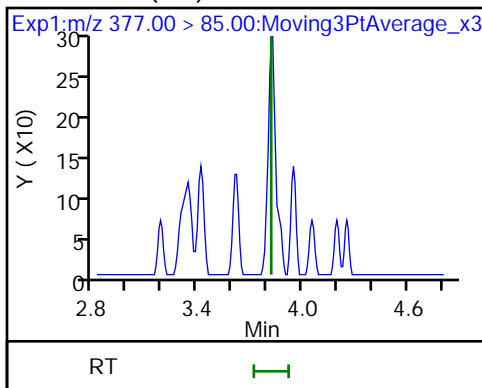
25 DONA (ND)



25 DONA (ND)

26 5:3 FTCA (ND)

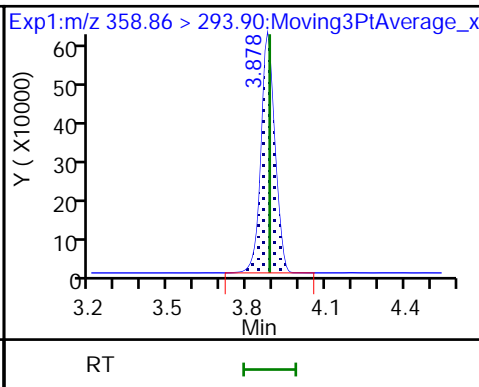
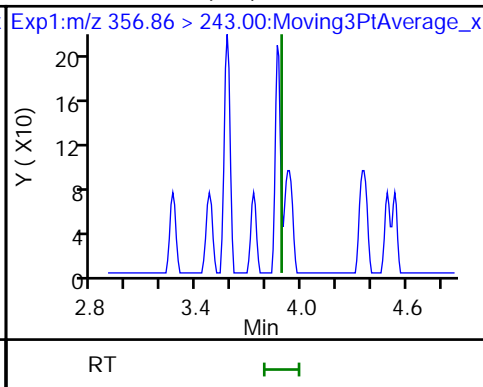
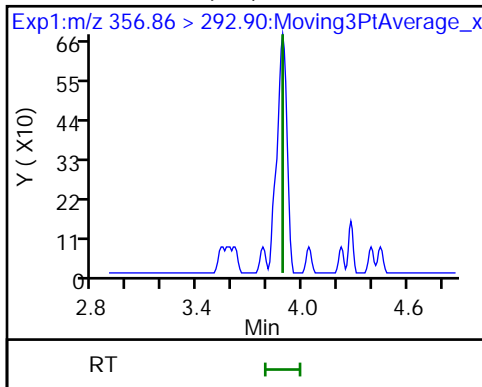
26 5:3 FTCA (ND)

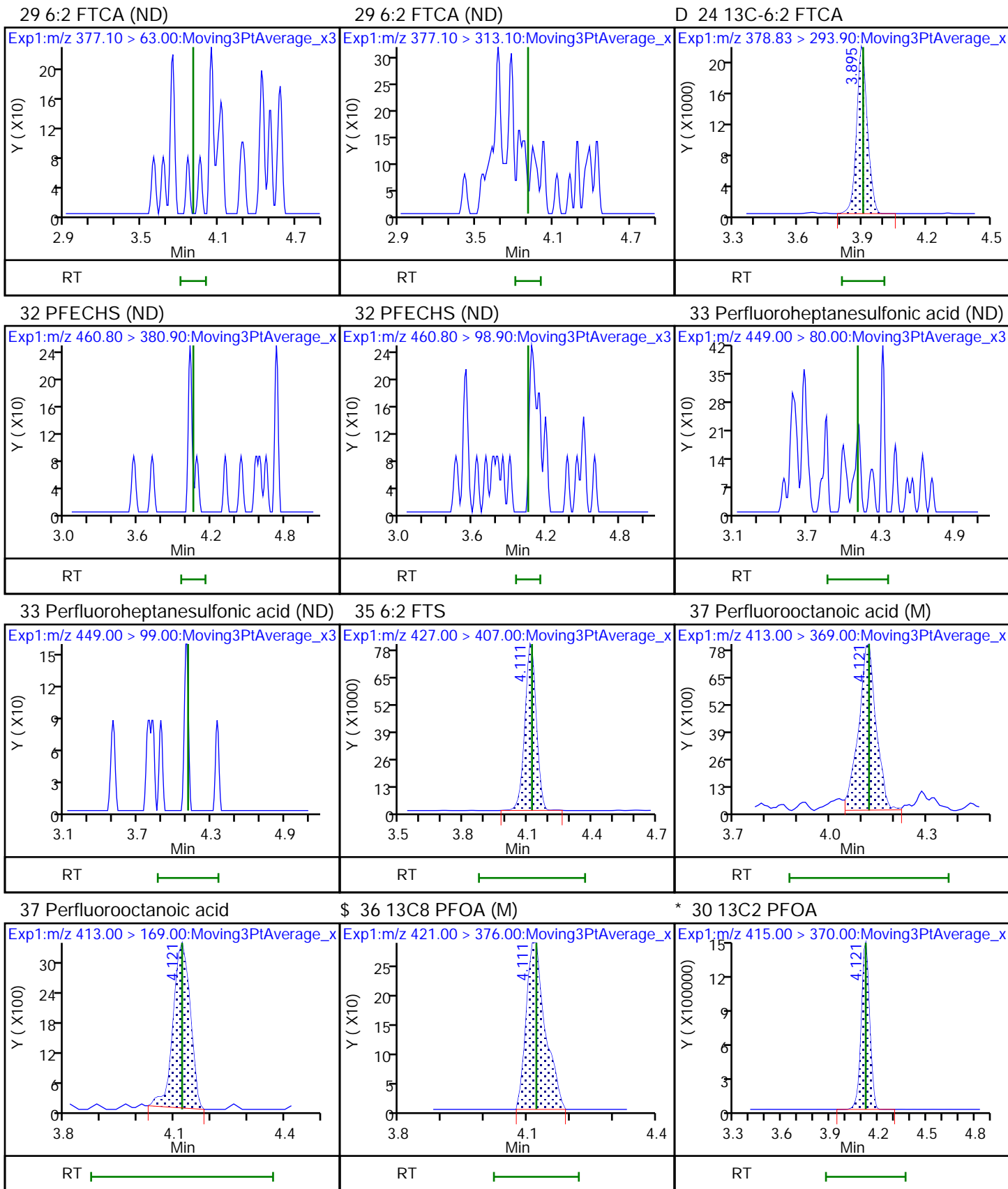


27 6:2 FTUCA (ND)

27 6:2 FTUCA (ND)

D 28 13C-6:2 FTUCA

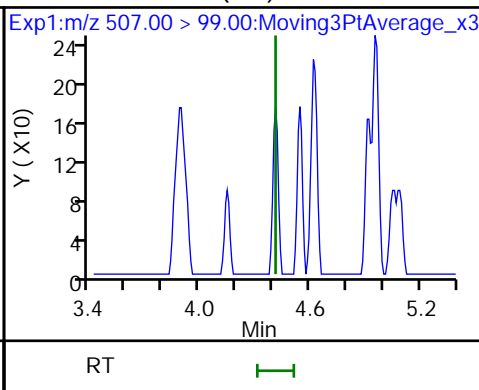
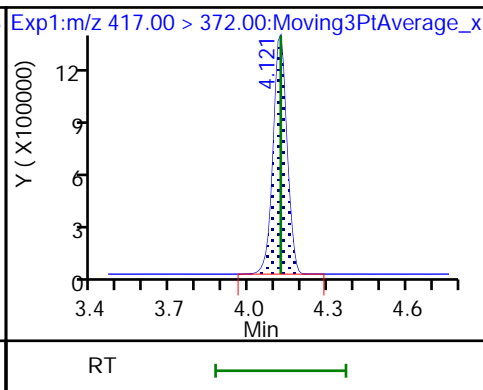
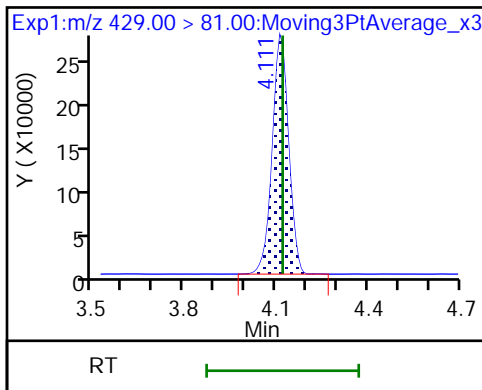




D 34 M2-6:2 FTS

D 31 13C4 PFOA

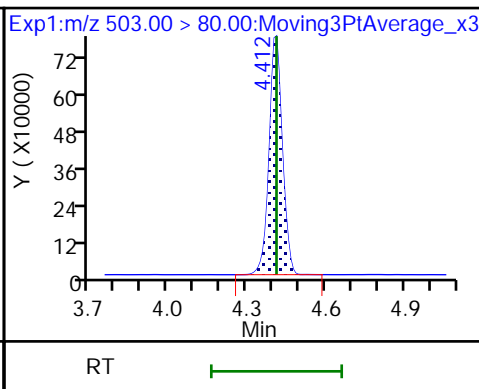
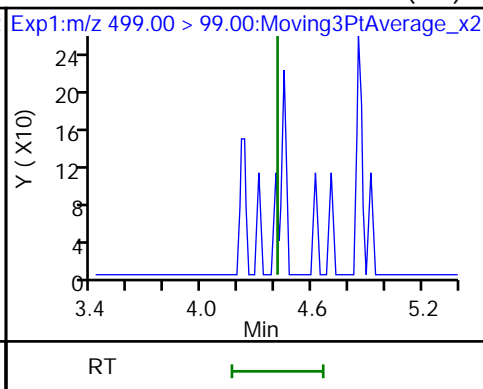
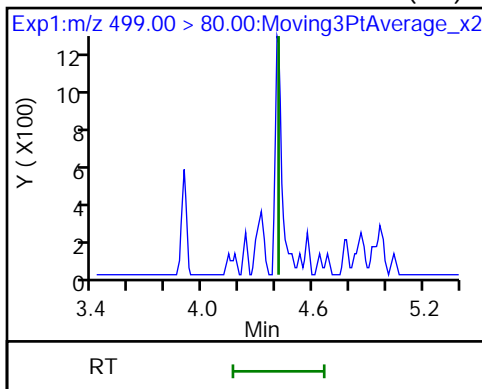
\$ 38 13C8 PFOS (ND)



40 Perfluorooctanesulfonic acid (ND)

40 Perfluorooctanesulfonic acid (ND)

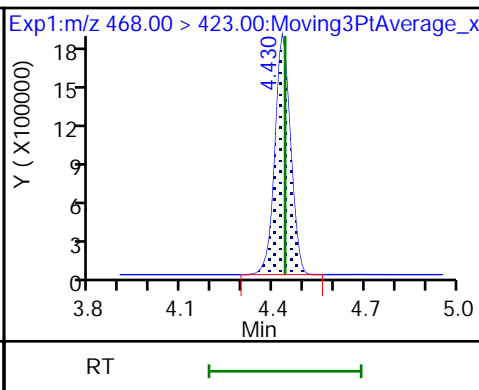
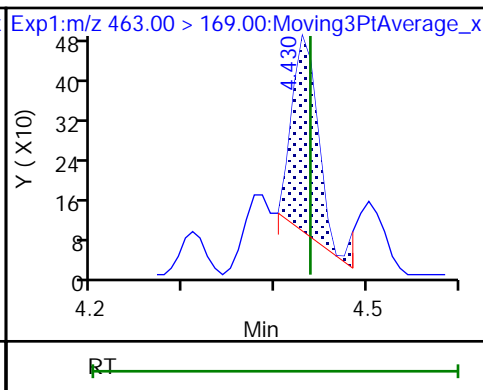
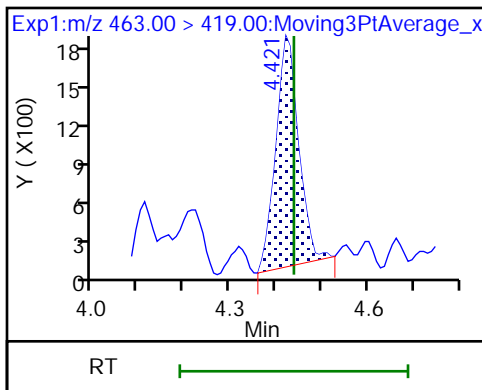
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

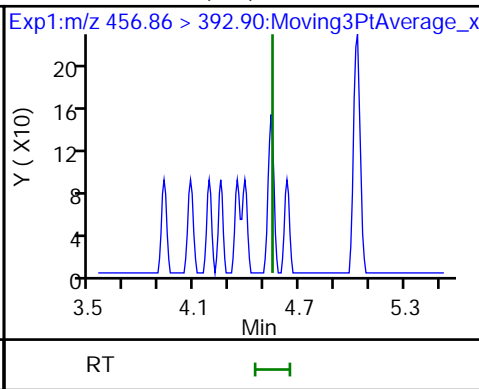
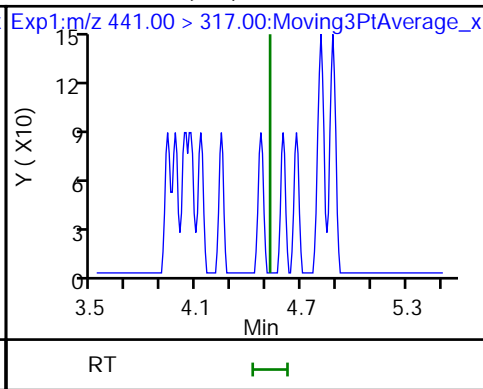
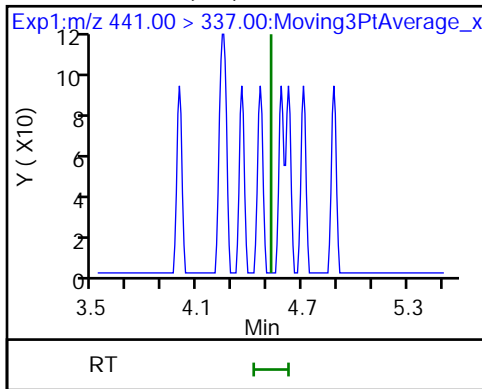
D 41 13C5 PFNA

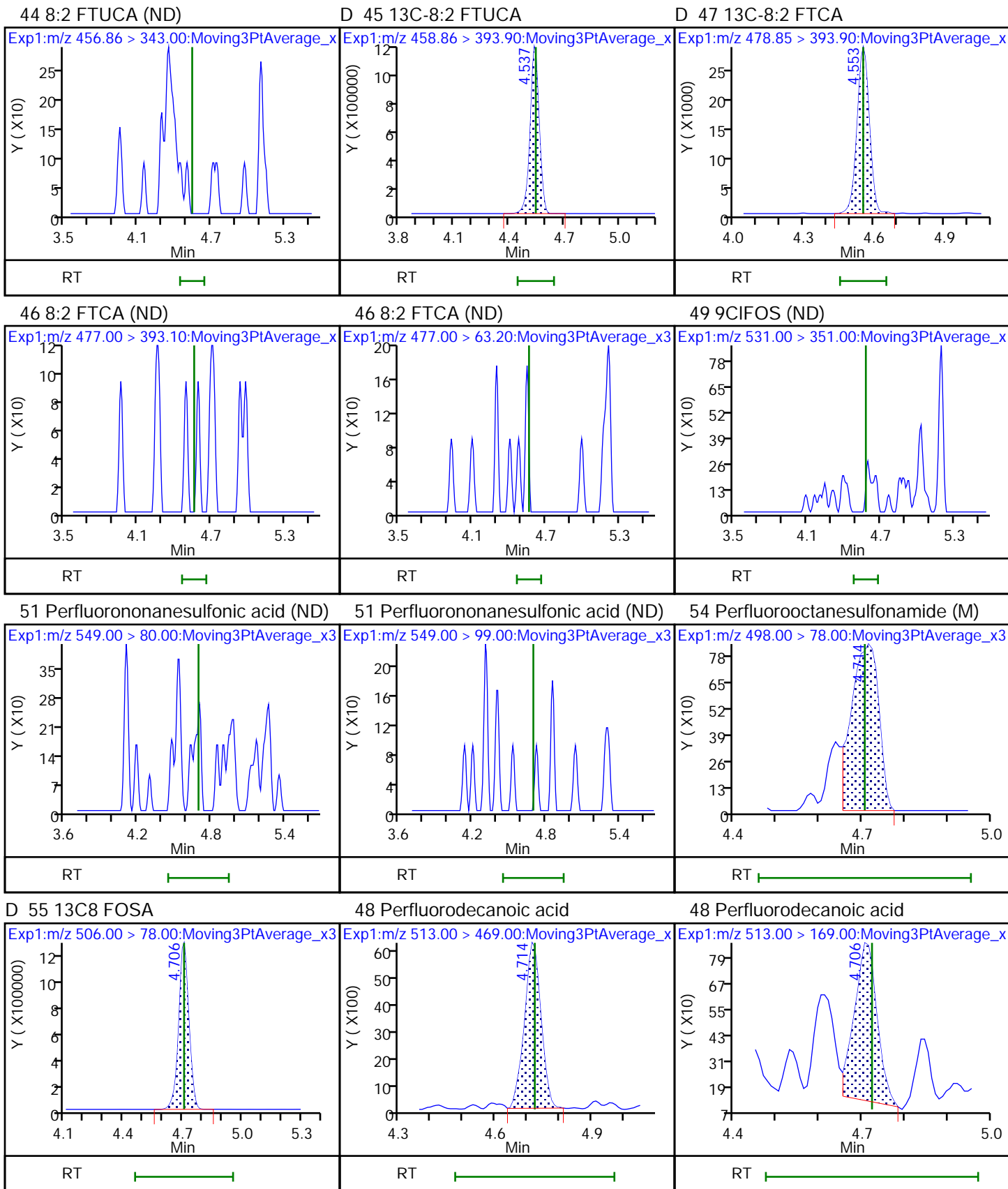


43 7:3 FTCA (ND)

43 7:3 FTCA (ND)

44 8:2 FTUCA (ND)

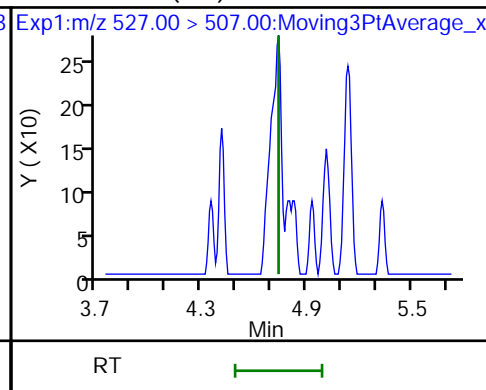
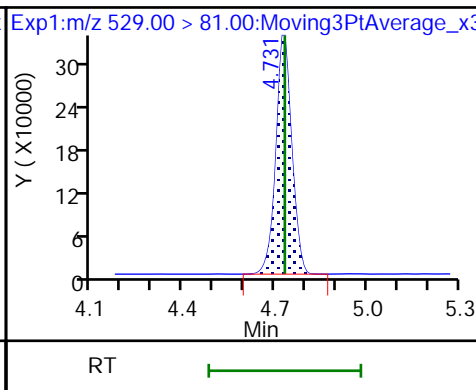
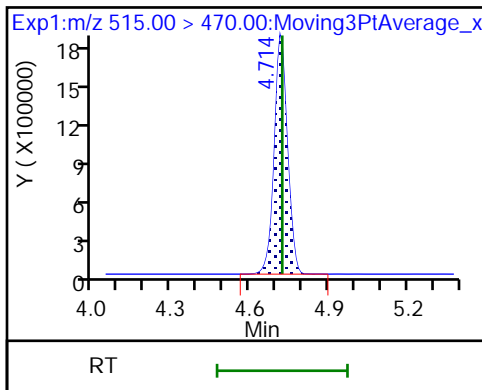




D 52 13C2 PFDA

D 50 M2-8:2 FTS

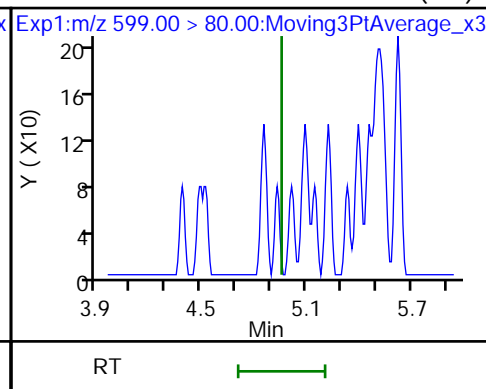
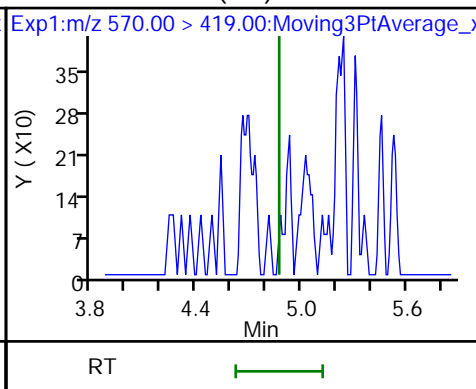
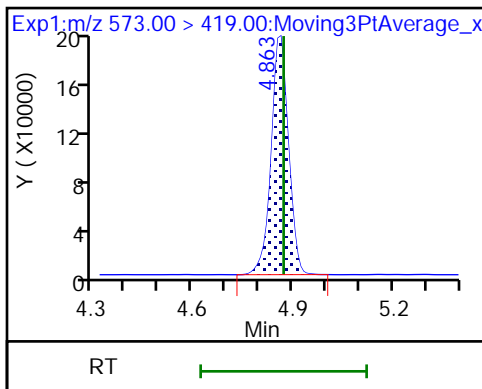
53 8:2 FTS (ND)



D 56 d3-NMeFOSAA

57 NMeFOSAA (ND)

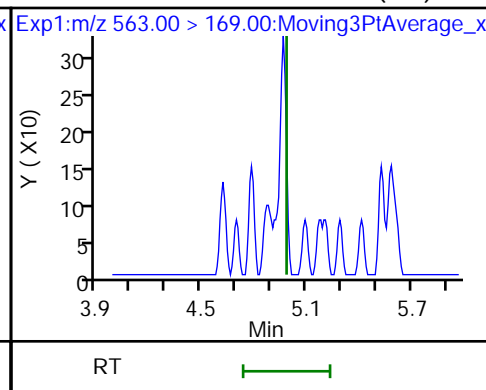
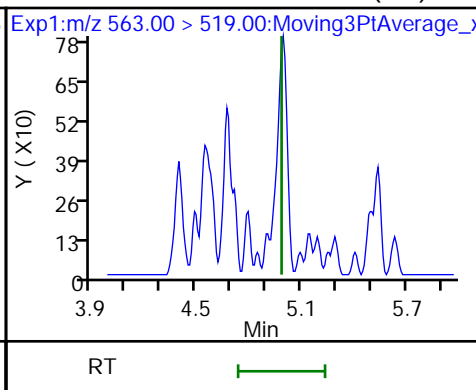
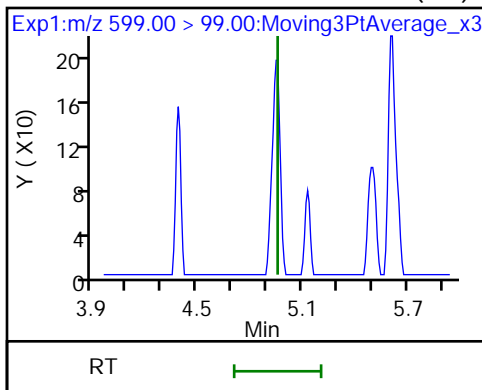
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid (ND)

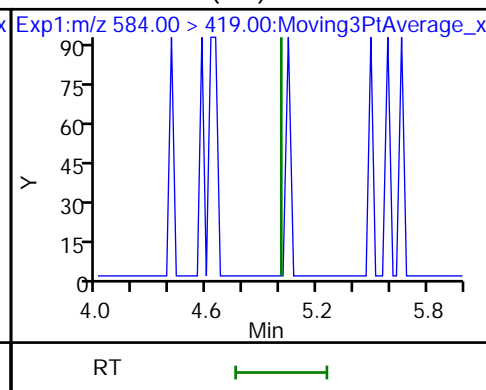
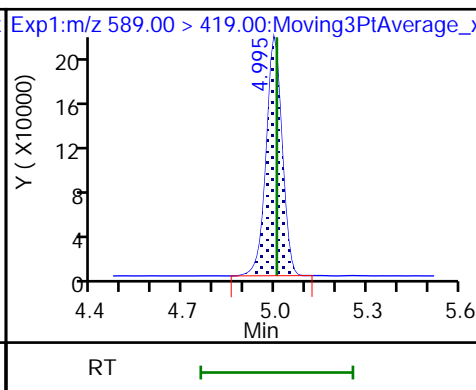
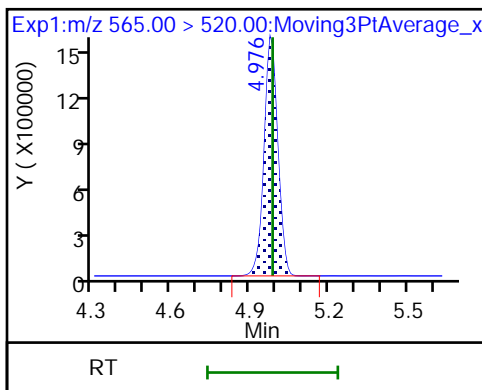
60 Perfluoroundecanoic acid (ND)

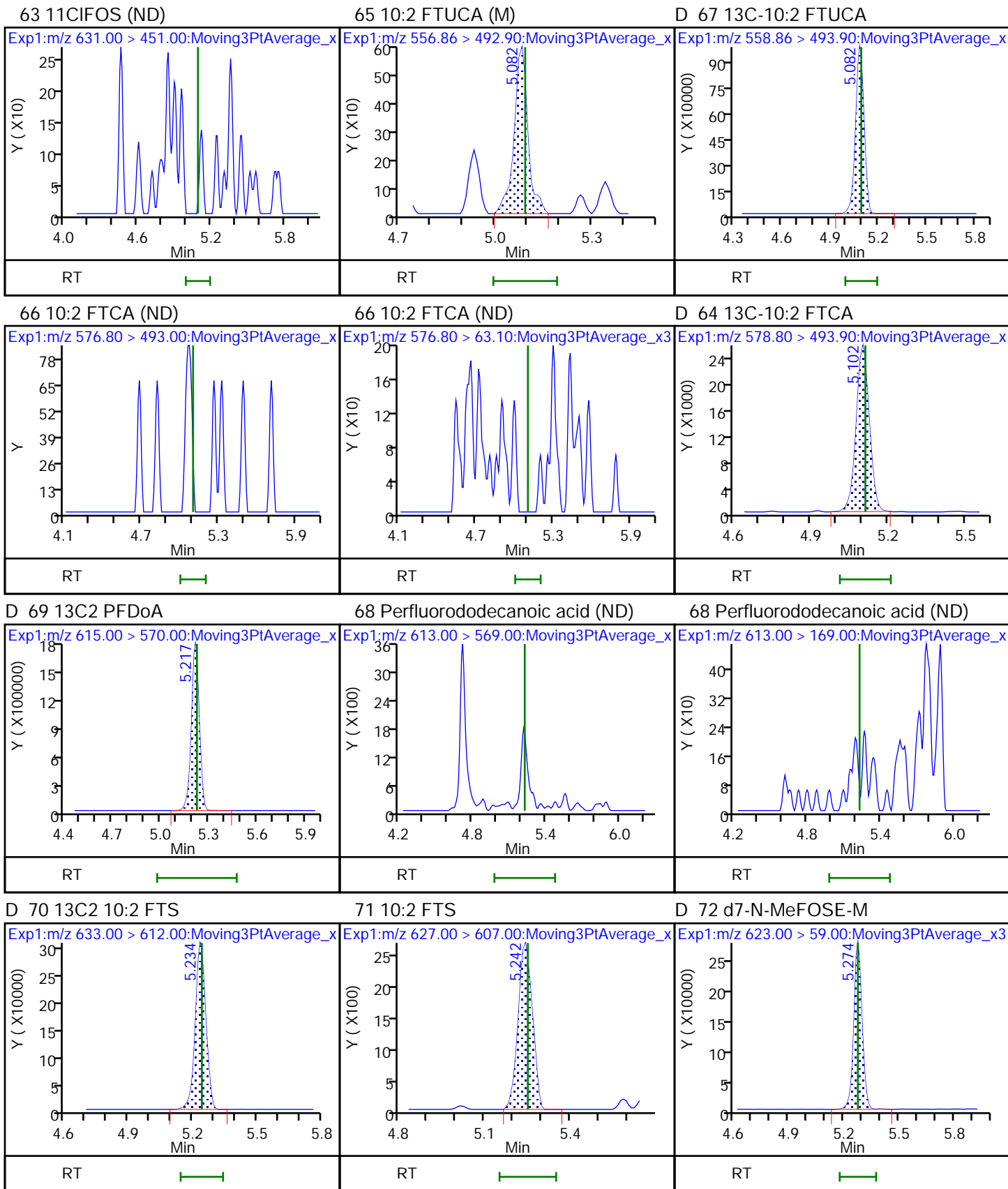


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (ND)

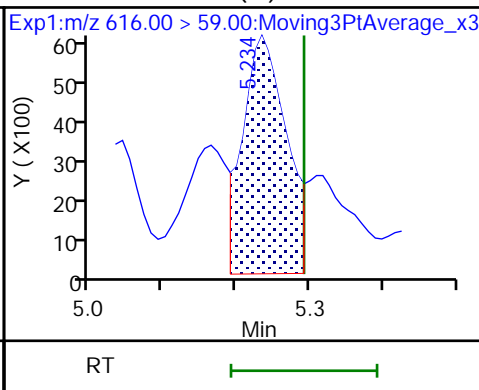
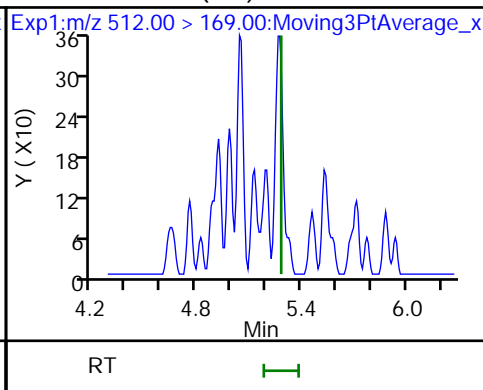
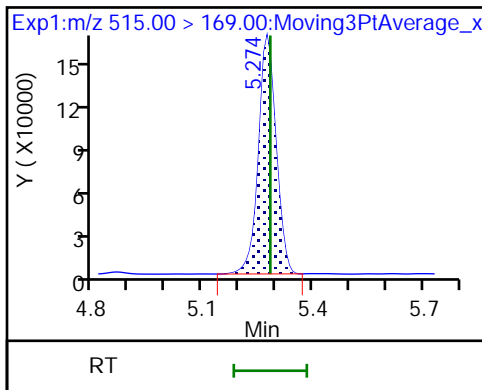




D 73 d-N-MeFOSA-M

74 NMeFOSA (ND)

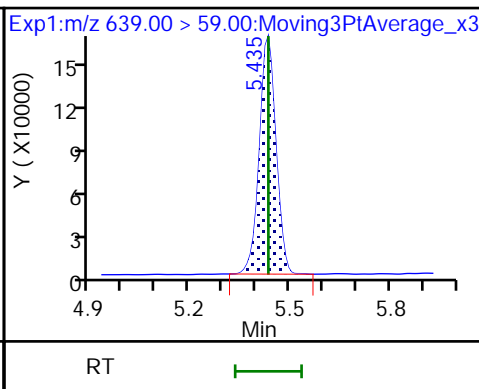
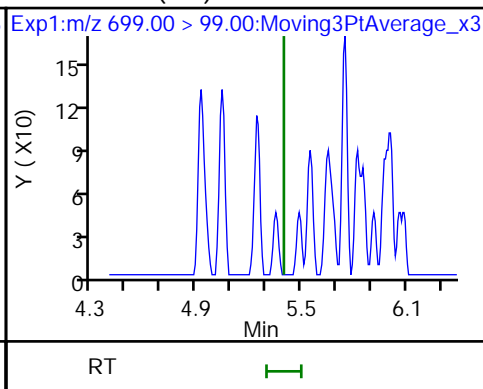
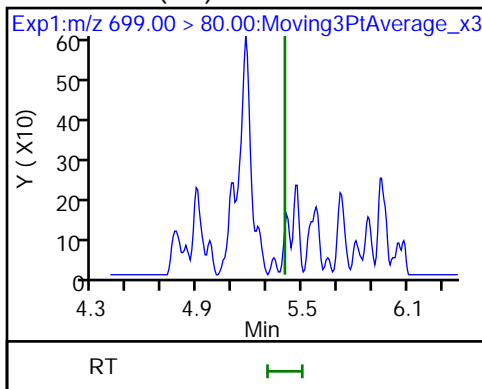
75 N-MeFOSE-M (M)



76 PFDoS (ND)

76 PFDoS (ND)

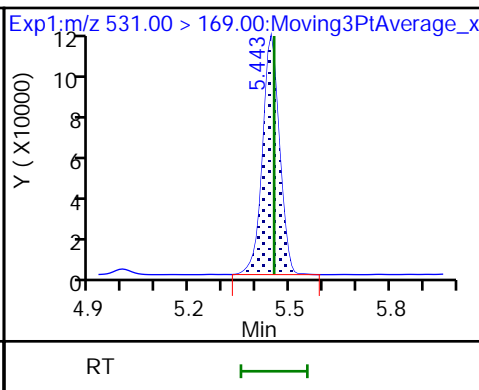
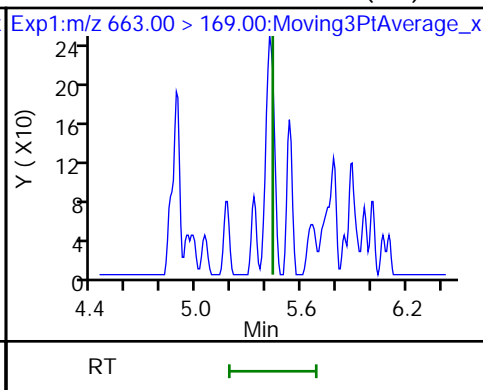
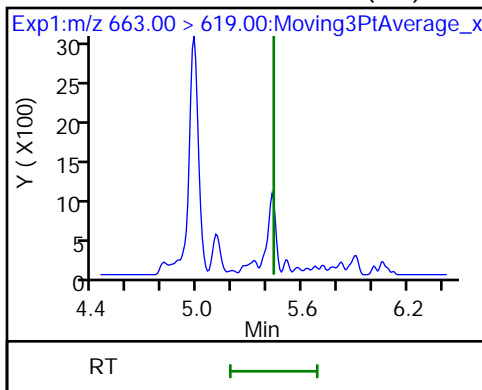
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid (ND)

78 Perfluorotridecanoic acid (ND)

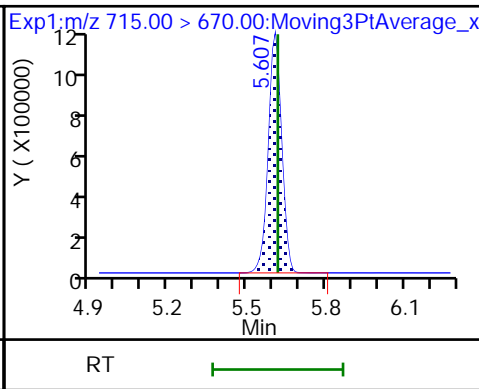
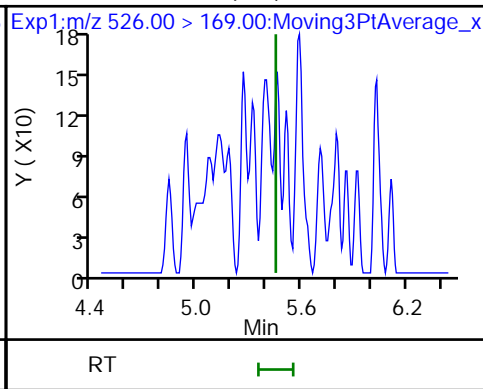
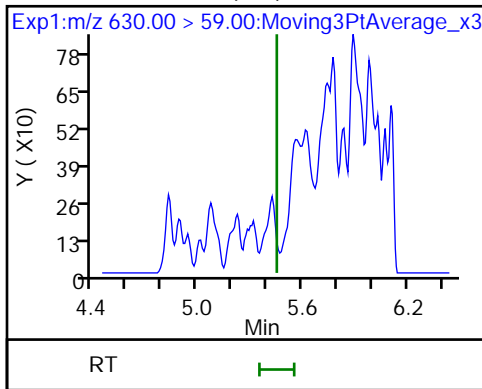
D 80 d-N-EtFOSA-M



79 N-EtFOSE-M (ND)

81 N-EtFOSA-M (ND)

D 82 13C2 PFTeDA

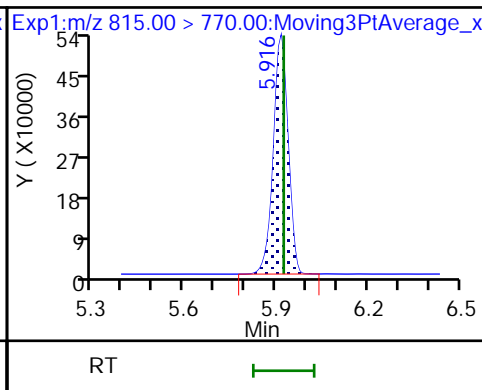
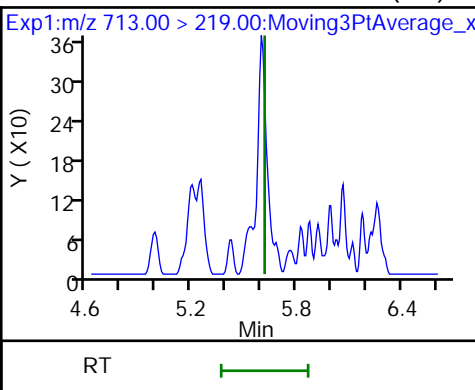
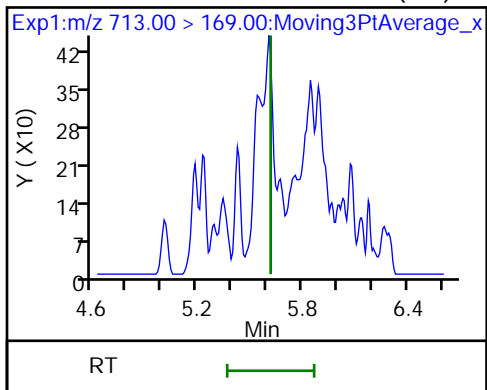




83 Perfluorotetradecanoic acid (ND)

83 Perfluorotetradecanoic acid (ND)

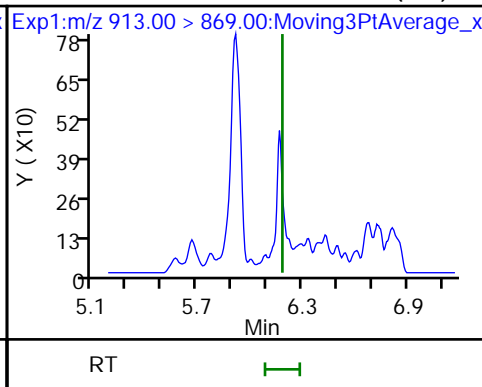
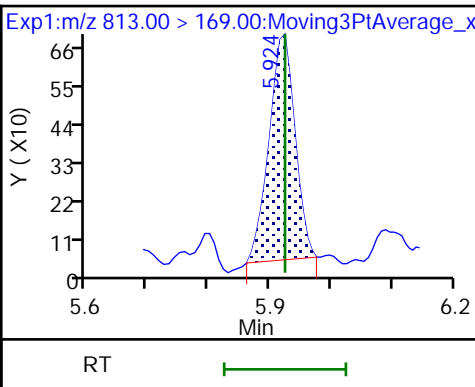
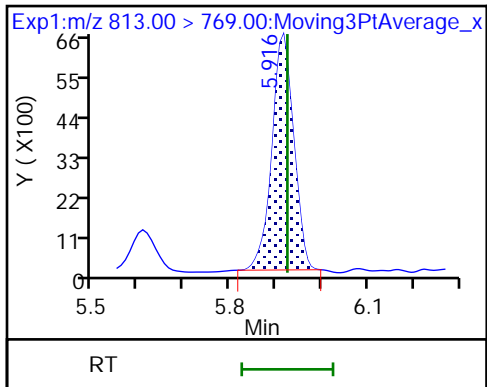
D 84 13C2 PFHxDA



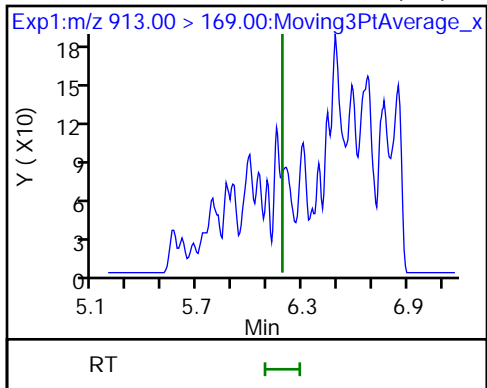
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_034.d  
 Lims ID: MB 140-58905/14-B  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 19-Feb-2022 22:43:57 ALS Bottle#: 34 Worklist Smp#: 34  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-034 140-26391-a-8-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 11:00:28

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 140-58914/1-B  
 Matrix: Air Lab File ID: \_035.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/16/2022 07:38  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 00:31  
 Con. Extract Vol.: 50 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.00104	0.000604

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	82		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_035.d  
 Lims ID: MB 140-58914/1-B  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 19-Feb-2022 00:31:54 ALS Bottle#: 35 Worklist Smp#: 35  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-035 mb 140-58914/1-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:24:57  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										7
212.90 > 169.00	2.811	2.811	0.0	1.000	9723	-0.000978		2.7		7
LOD = 0.0100										
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.682	5187530	1.06		88.2	20852	
3 PFECA F										
229.00 > 85.00		2.919				ND				
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.756	3919935	1.02		85.0	14711	
6 Perfluoropentanoic acid										7
262.90 > 219.00	3.115	3.123	-0.008	1.000	6545	-0.003474		2.0		7
LOD = 0.006500										
4 3:3 FTCA										
241.00 > 177.10		3.131				ND				
241.00 > 116.90		3.131								
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.760	2345266	0.9644		86.4	10218	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00		3.140				ND				
298.90 > 99.00		3.140								
9 PFECA A										
278.95 > 84.90		3.211				ND				
11 PES										
314.80 > 135.00		3.260				ND				
12 PFECA B										
295.22 > 201.00		3.384				ND				
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.829	743719	0.9771		87.2	1161	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00		3.416				ND				
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.837	4470500	1.05		87.8	9387	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.448				ND				
349.00 > 99.00		3.448								
15 Perfluorohexanoic acid										
313.00 > 269.00		3.448				ND				
313.00 > 119.00		3.448								
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.553	-0.010	0.860	2052365	0.9893		82.4	7042	
17 HFPO-DA										
285.00 > 169.00	3.543	3.553	-0.010	1.000	35543	0.0115	Target=2.51		27.5	
329.00 > 169.00	3.543	3.553	-0.010	1.000	12482		2.85(1.25-3.76)		16.5	
S 10 ADONA										
377.00 > 251.00		3.592				0				
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.783	0.0	0.918	1609391	1.02		89.8	6852	
21 Perfluorohexanesulfonic acid										7M
399.00 > 80.00	3.773	3.783	-0.010	0.997	5319	0.002709	Target=3.47		14.5	7M
399.00 > 99.00	3.783	3.783	0.0	1.000	2289		2.32(1.73-5.20)		15.8	
LOD = 0.005000										
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.793	0.0	0.920	4000156	1.06		88.1	8814	
23 Perfluoroheptanoic acid										7
363.00 > 319.00	3.793	3.793	0.0	1.000	11594	-0.003096	Target=3.41		8.6	7
363.00 > 169.00	3.793	3.793	0.0	1.000	2575		4.50(1.70-5.11)		6.8	
LOD = 0.0153										
25 DONA										
377.00 > 251.00		3.829				ND				
377.00 > 85.00		3.829								
26 5:3 FTCA										
340.88 > 236.90		3.853				ND				
340.88 > 216.90		3.853								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.887	3.887	0.001	0.943	1486621	1.05		87.8	2802	
27 6:2 FTUCA										
356.86 > 292.90		3.895				ND				
356.86 > 243.00		3.895								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.904	0.0	0.947	99982	0.9191		76.6	320	
29 6:2 FTCA										
377.10 > 63.00		3.913				ND				
377.10 > 313.10		3.913								
32 PFECHS										
460.80 > 380.90		4.065				ND				
460.80 > 98.90		4.065								

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.112				ND				
449.00 > 99.00		4.112								
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	1.000	828034	1.10		96.6	1953	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	13328	0.006479		43.2		7
LOD = 0.0137										
\$ 36 13C8 PFOA										
421.00 > 376.00		4.121				ND				
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.131	-0.010	1.000	4293415	1.10		91.5	7811	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5225624	1.25			9676	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.131	-0.010	1.000	20028	-0.001115	Target=2.38	16.1		7
413.00 > 169.00	4.112	4.131	-0.019	0.998	8652		2.31(1.19-3.57)	12.7		7
LOD = 0.009500										
\$ 38 13C8 PFOS										
507.00 > 99.00		4.421				ND				
D 39 13C4 PFOS										
503.00 > 80.00	4.418	4.421	-0.003	1.072	2424217	1.03		90.1	2379	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.409	4.421	-0.012	0.998	16679	0.006892	Target=4.49	8.1		RM
499.00 > 99.00	4.418	4.421	-0.003	1.000	871		19.15(2.25-6.74)	3.6		M
42 Perfluorononanoic acid										
463.00 > 419.00		4.439				ND				
463.00 > 169.00		4.439								
D 41 13C5 PFNA										
468.00 > 423.00	4.436	4.439	-0.003	1.076	5686699	1.07		89.4	15899	
43 7:3 FTCA										
441.00 > 337.00		4.529				ND				
441.00 > 317.00		4.529								
44 8:2 FTUCA										
456.86 > 392.90	4.559	4.545	0.014	1.004	1334	0.000757	Target=30.23	5.8		R7
456.86 > 343.00	4.567	4.545	0.022	1.005	333		4.01(15.12-45.35)	1.6		R7
LOD = 0.0500										
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.542	4.553	-0.011	1.000	2210710	1.17		97.5	5947	
46 8:2 FTCA										
477.00 > 393.10		4.562				ND				
477.00 > 63.20		4.562								
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.559	4.562	-0.003	1.106	115771	0.8380		69.8	424	
49 9C1FOS										
531.00 > 351.00		4.578				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.697				ND				
549.00 > 99.00		4.697								
D 55 13C8 FOSA										
506.00 > 78.00	4.712	4.714	-0.002	1.143	3659816	1.03		86.1	4672	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.720	4.714	0.006	1.002	917	0.000315		5.8	7	7
LOD = 0.004400										
48 Perfluorodecanoic acid										
513.00 > 469.00	4.720	4.731	-0.011	1.000	14150	-0.003526	Target=11.19	15.9		R7
513.00 > 169.00	4.703	4.731	-0.028	0.996	3235		4.37(5.60-16.79)	3.5		R7
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.720	4.731	-0.011	1.145	5657649	1.12		93.2	15273	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.737	4.740	-0.003	1.149	947225	1.16		101	1917	
53 8:2 FTS										
527.00 > 507.00	4.729	4.740	-0.011	0.998	1185	-0.006436		9.1	7	7
LOD = 0.007000										
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.869	4.872	-0.003	1.181	505929	1.07		88.9	2092	
57 NMeFOSAA										
570.00 > 419.00		4.880				ND				
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.957				ND				
599.00 > 99.00		4.957								
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.982	4.995	-0.013	1.000	141202	0.0328	Target=8.28	259		
563.00 > 169.00	4.982	4.995	-0.013	1.000	17202		8.21(4.14-12.42)	48.7		
D 59 13C2 PFUnA										
565.00 > 520.00	4.982	4.995	-0.013	1.209	5342458	1.09		91.2	10401	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.001	5.005	-0.004	1.213	514377	1.06		88.1	1528	
62 NEtFOSAA										
584.00 > 419.00		5.015				ND				
65 10:2 FTUCA										
556.86 > 492.90		5.093				ND				
63 11CIFOS										
631.00 > 451.00		5.093				ND				
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.089	5.093	-0.004	1.235	2281780	1.07		89.6	6570	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.108	5.112	-0.004	1.239	107557	0.8320		69.3	513	
66 10:2 FTCA										
576.80 > 493.00		5.112				ND				
576.80 > 63.10		5.112								
D 69 13C2 PFDaA										
615.00 > 570.00	5.223	5.226	-0.003	1.267	5170460	1.07		89.4	11408	02/27/2022

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
68 Perfluorododecanoic acid										7
613.00 > 569.00	5.214	5.226	-0.012	0.998	9198	0.002066	Target=6.88	10.2		7
613.00 > 169.00	5.214	5.226	-0.012	0.998	1197		7.68(3.44-10.31)	3.0		
LOD = 0.005000										
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.240	5.243	-0.003	1.271	806875	1.17		103	5430	
71 10:2 FTS										7
627.00 > 607.00	5.248	5.251	-0.003	1.002	8935	-0.000317		65.3		7
LOD = 0.008500										
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.279	5.284	-0.005	1.281	547592	1.10		92.1	456	
74 NMeFOSA										
512.00 > 169.00		5.284				ND				
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.279	5.284	-0.005	1.281	438607	1.04		86.6	52.2	
75 N-MeFOSE-M										
616.00 > 59.00		5.292				ND				
76 PFDoS										
699.00 > 80.00		5.399				ND				
699.00 > 99.00		5.399								
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.431	5.435	-0.004	1.040	193040	0.0507	Target=6.38		258	
663.00 > 169.00	5.431	5.435	-0.004	1.040	29057		6.64(3.19-9.57)		99.4	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.440	5.435	0.005	1.320	497540	0.9674		80.6	293	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.449	5.452	-0.003	1.322	330371	0.9764		81.4	672	
79 N-EtFOSE-M										
630.00 > 59.00		5.452				ND				
81 N-EtFOSA-M										
526.00 > 169.00		5.452				ND				
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.617				ND				
713.00 > 219.00		5.617								
D 82 13C2 PFTeDA										
715.00 > 670.00	5.614	5.617	-0.003	1.362	4114710	1.07		89.0	10407	
85 Perfluorohexadecanoic acid										7
813.00 > 769.00	5.921	5.924	-0.003	1.000	28973	-0.001201	Target=8.32	67.8		7
813.00 > 169.00	5.921	5.924	-0.003	1.000	3474		8.34(4.16-12.48)	12.9		
LOD = 0.009000										
D 84 13C2 PFHxDA										
815.00 > 770.00	5.921	5.924	-0.003	1.437	2679121	1.07		89.1	6378	
86 Perfluorooctadecanoic acid										
913.00 > 869.00		6.185				ND				
913.00 > 169.00		6.185								
S 87 F-53B										
212.90 > 169.00		0.0				0				



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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S 88 NaDONA

377.00 > 251.00 0.0

0

377.00 > 85.00 0.0

**QC Flag Legend**

Processing Flags

ND - Not Detected or Marked ND

R - Failed Signal Ratio Test

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_035.d

Injection Date: 19-Feb-2022 00:31:54

Instrument ID: LCA

Lims ID: MB 140-58914/1-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 35

Worklist Smp#: 35

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

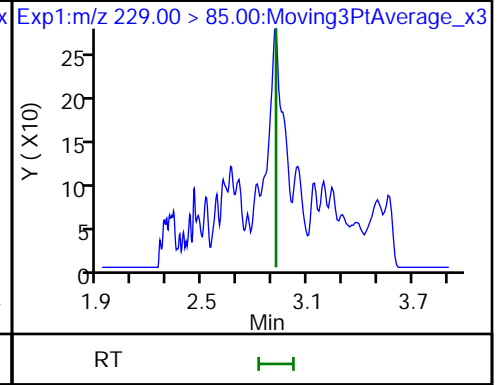
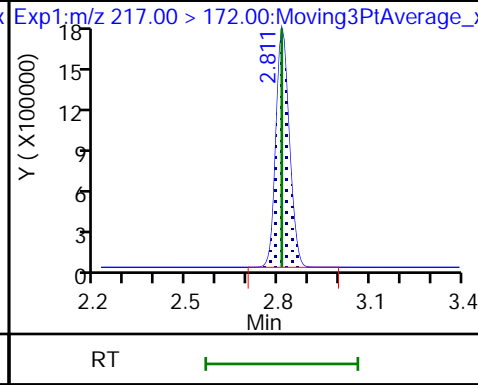
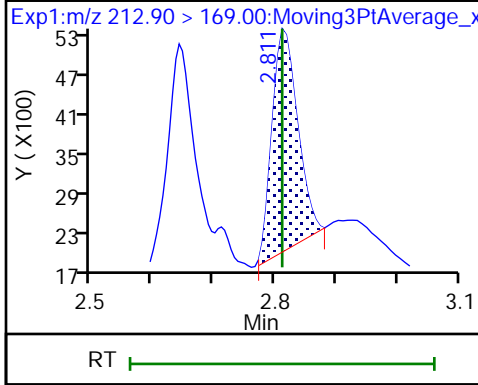
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

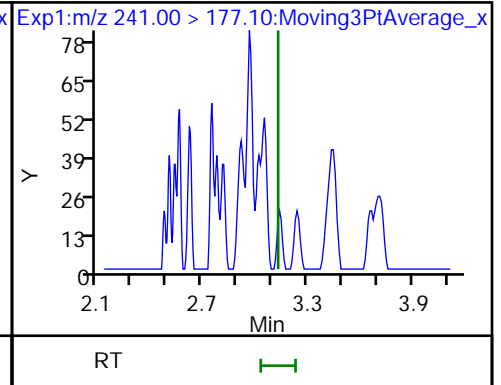
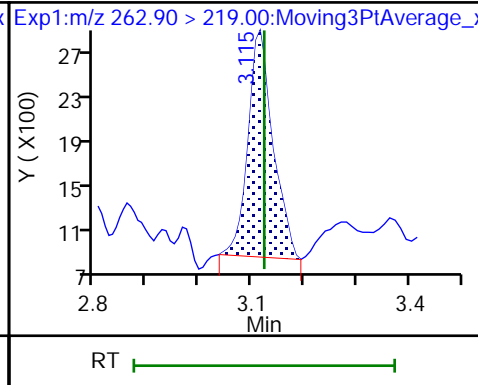
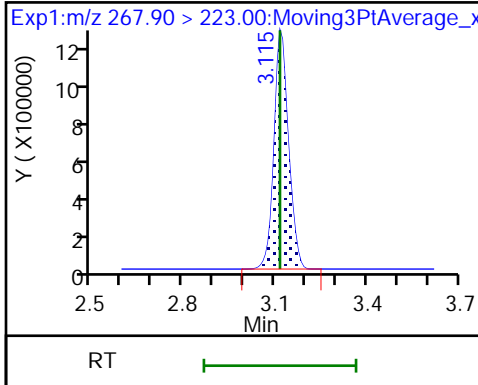
3 PFECA F (ND)



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

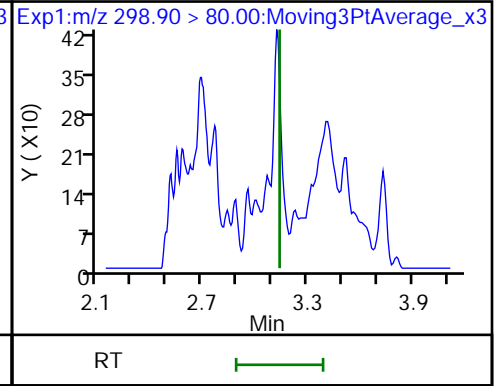
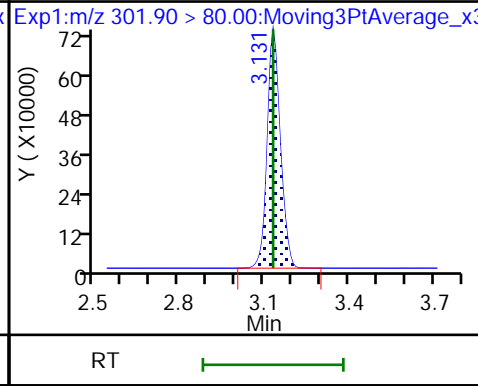
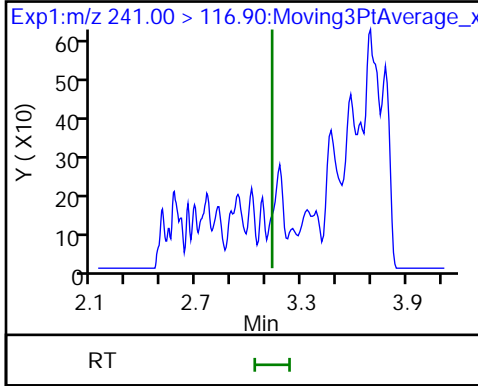
4 3:3 FTCA (ND)



4 3:3 FTCA (ND)

D 7 13C3 PFBS

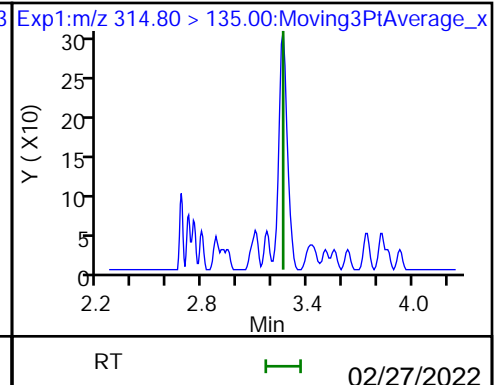
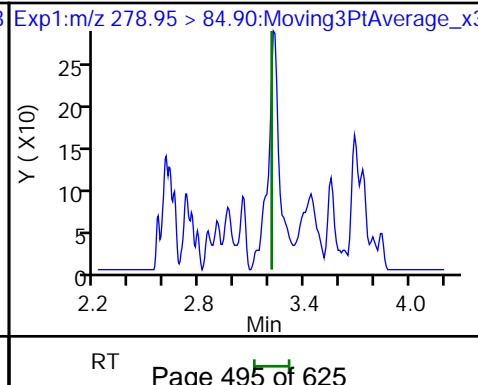
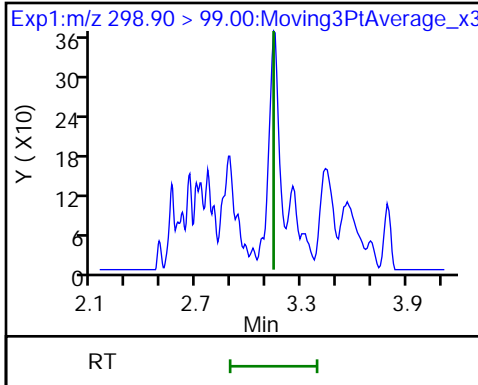
8 Perfluorobutanesulfonic acid (ND)

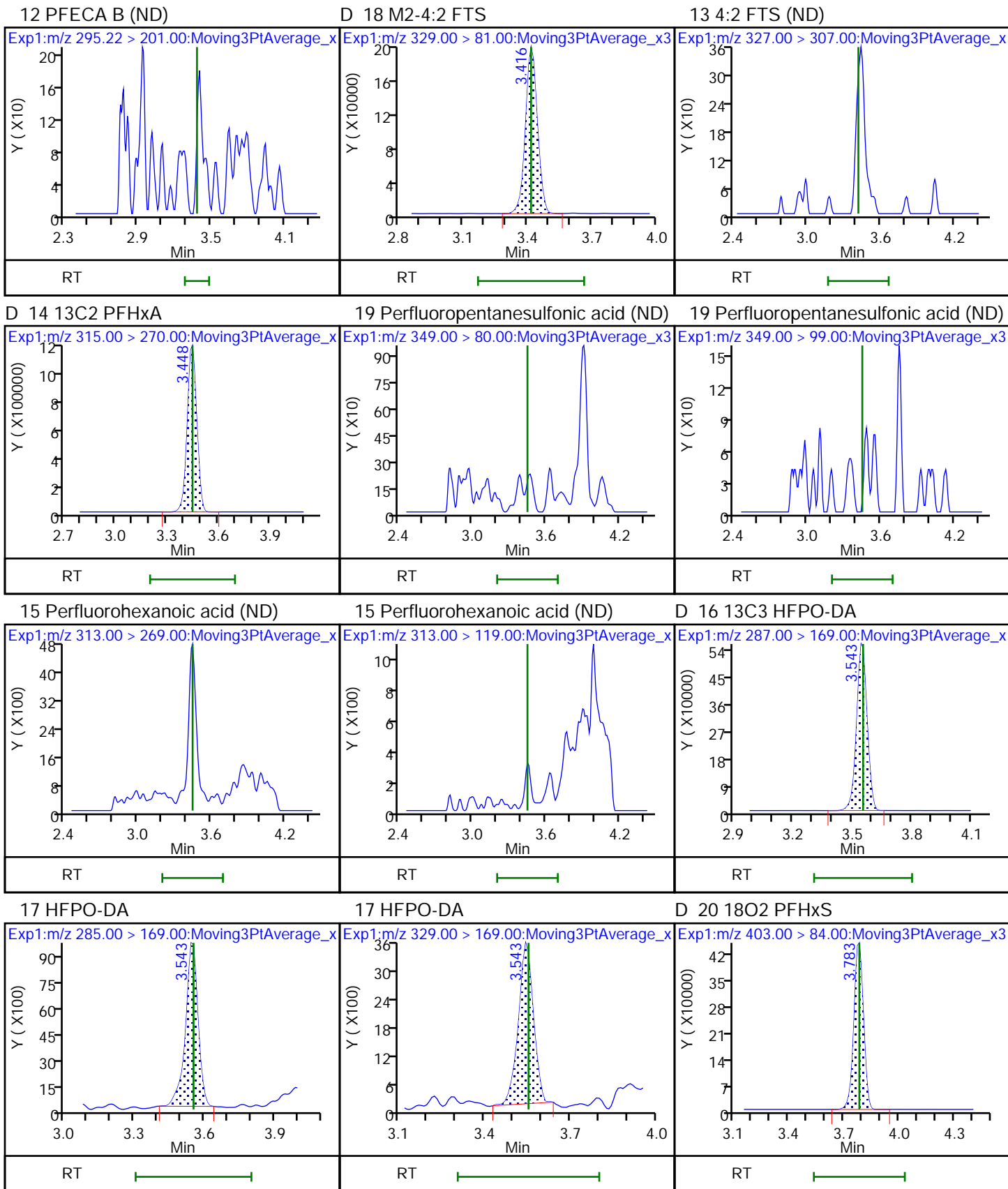


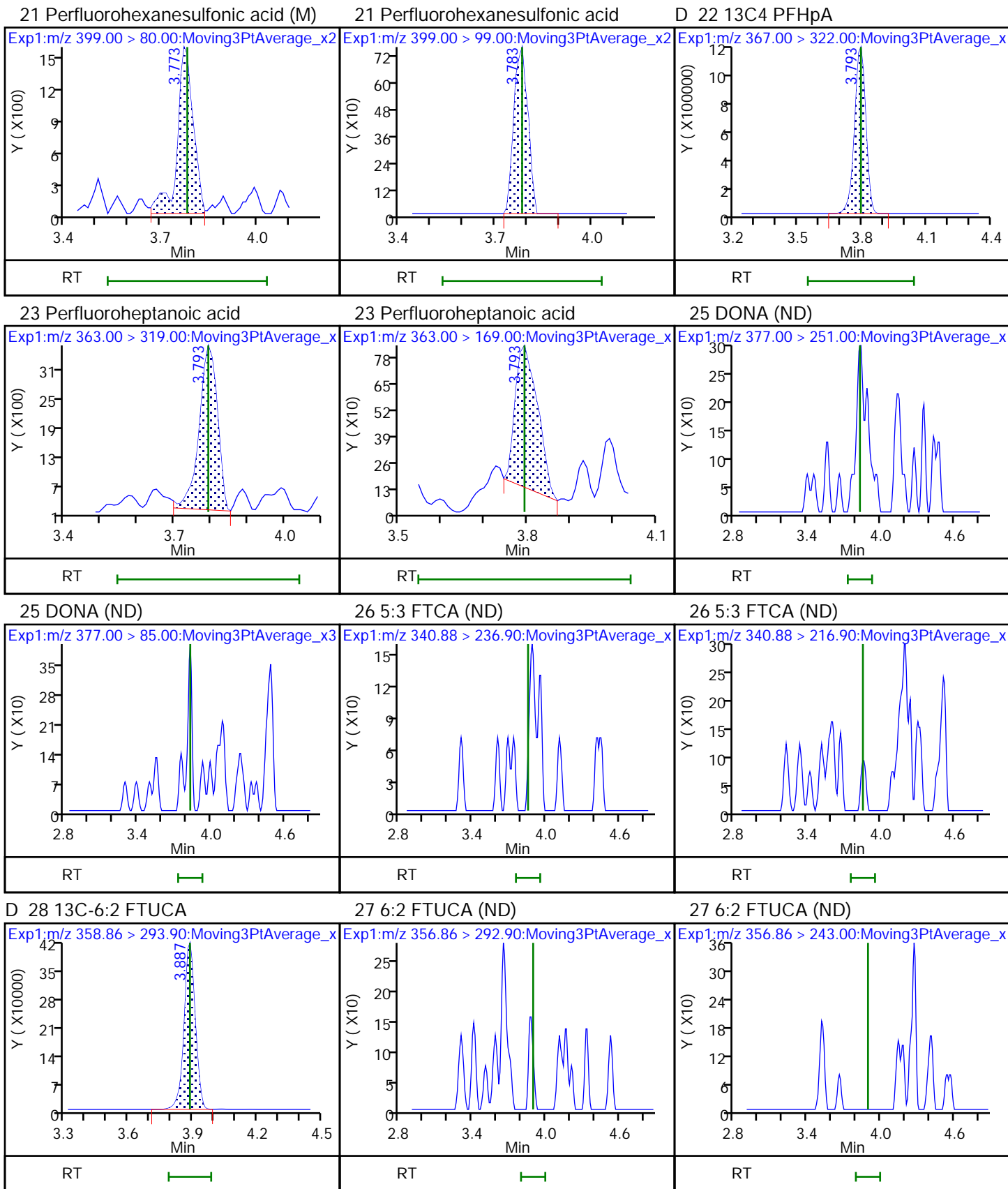
8 Perfluorobutanesulfonic acid (ND)

9 PFECA A (ND)

11 PES (ND)



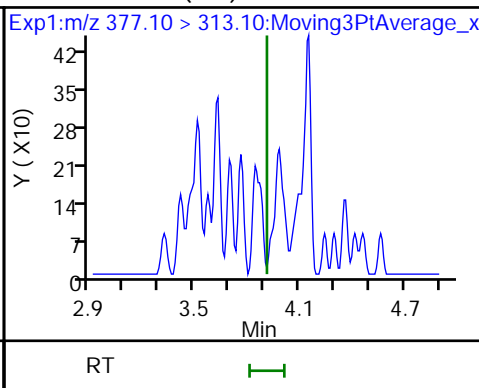
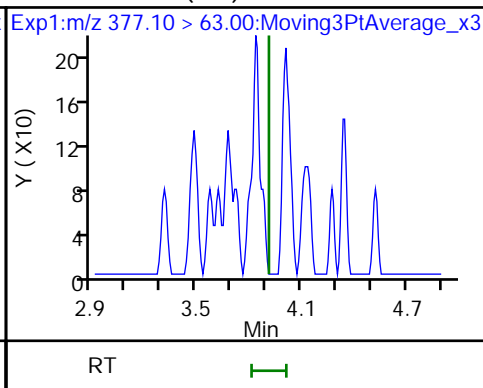
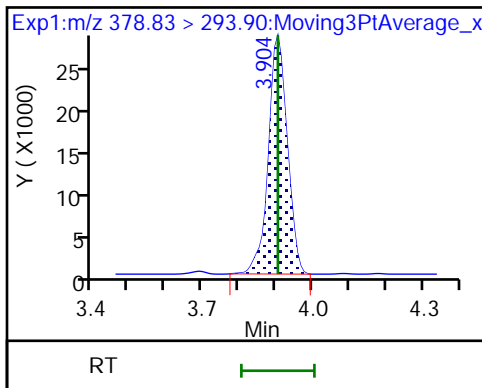




D 24 13C-6:2 FTCA

29 6:2 FTCA (ND)

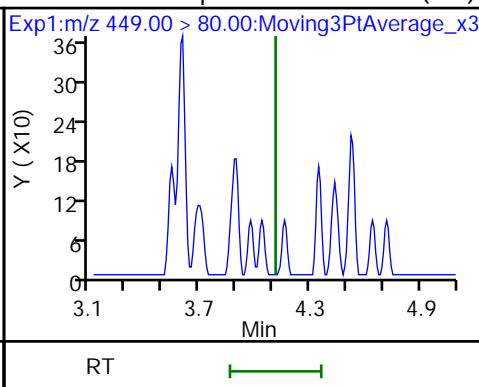
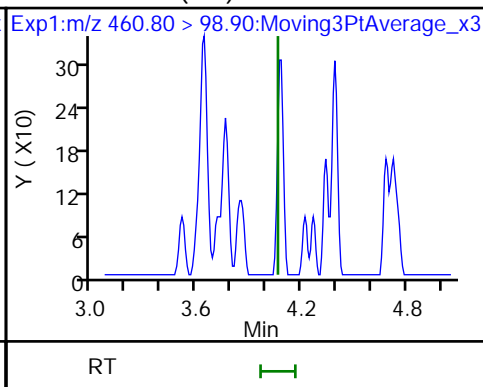
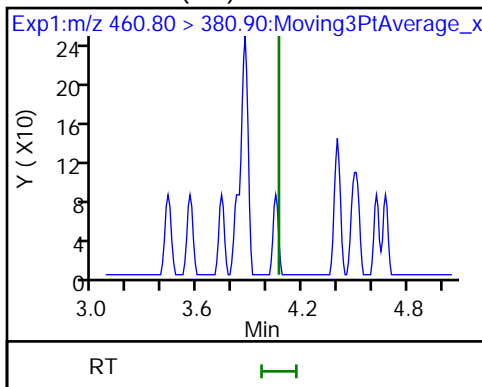
29 6:2 FTCA (ND)



32 PFECHS (ND)

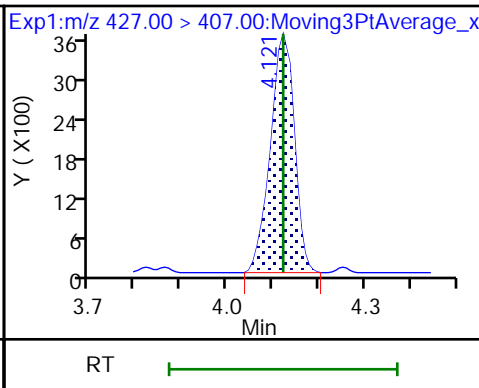
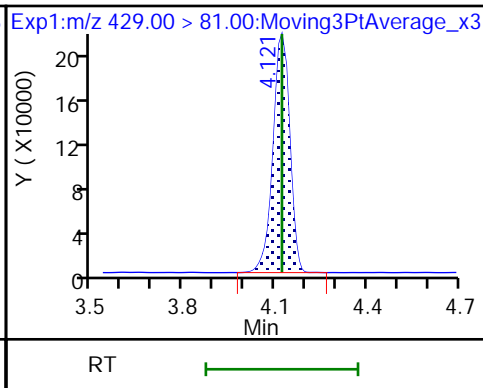
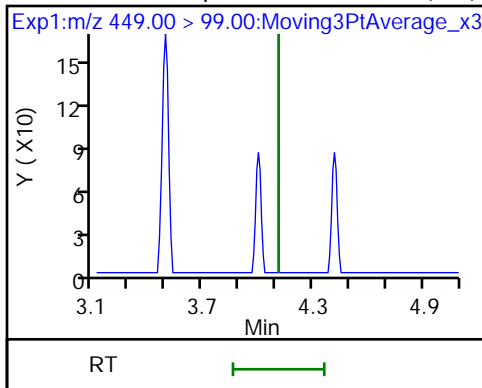
32 PFECHS (ND)

33 Perfluoroheptanesulfonic acid (ND)



33 Perfluoroheptanesulfonic acid (ND) D 34 M2-6:2 FTS

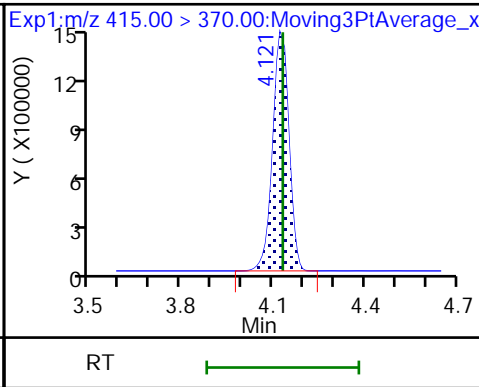
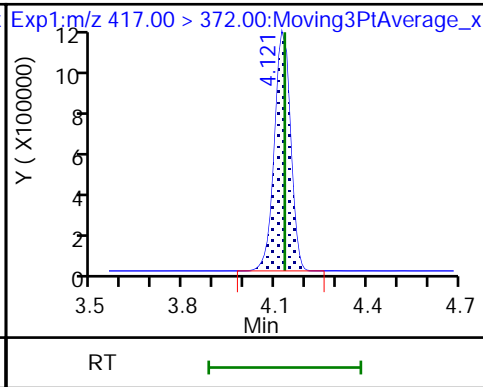
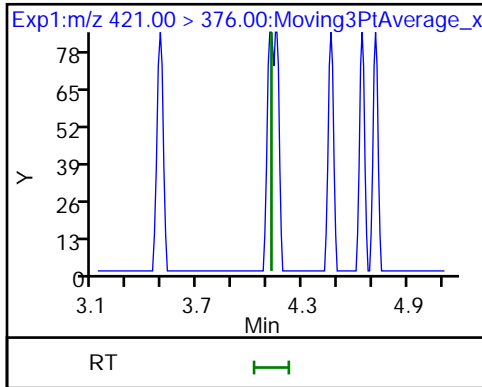
35 6:2 FTS

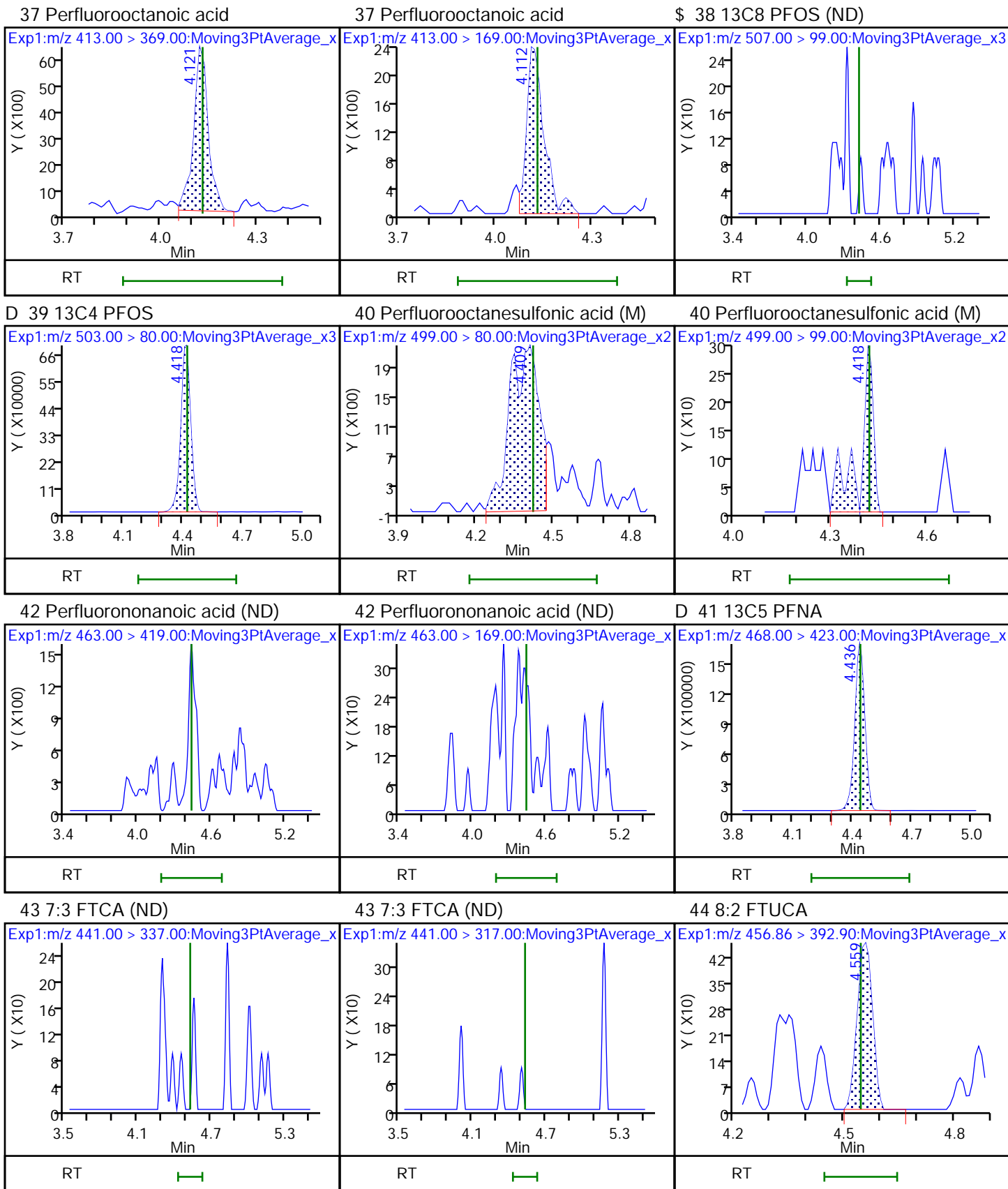


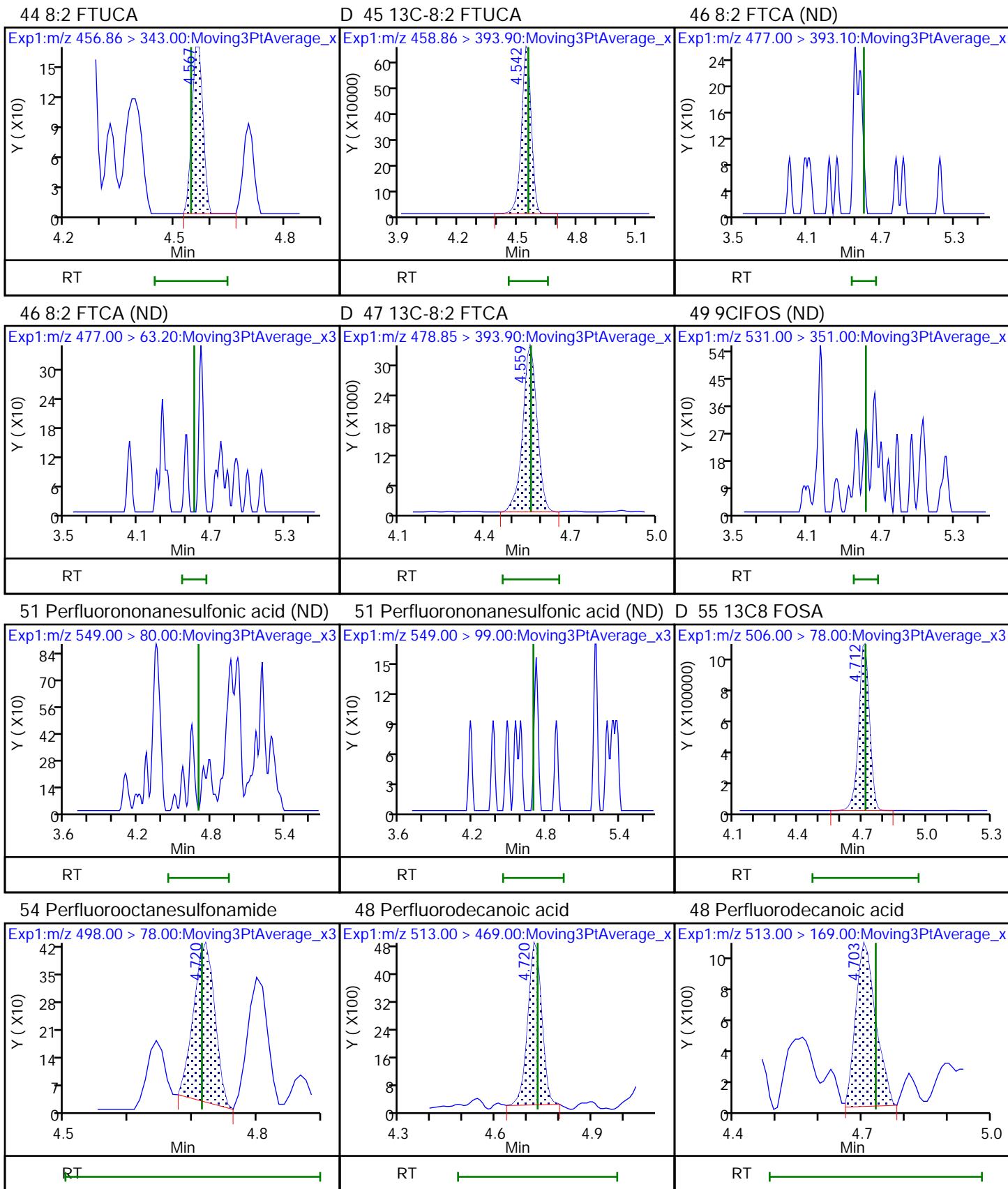
\$ 36 13C8 PFOA (ND)

D 31 13C4 PFOA

\* 30 13C2 PFOA



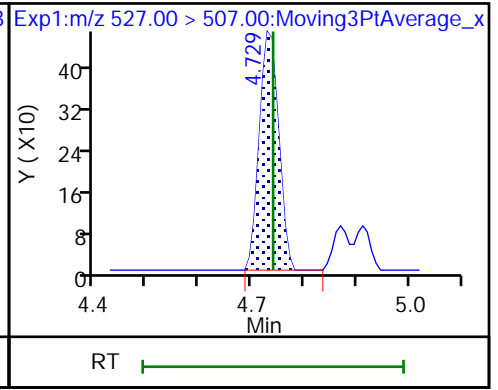
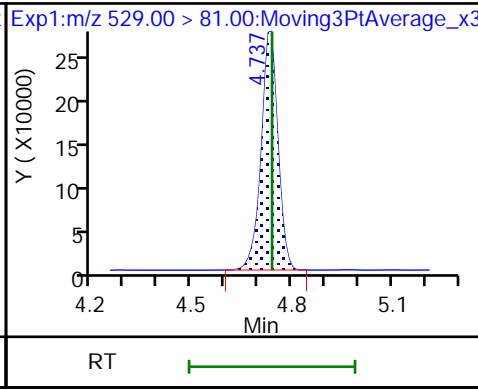
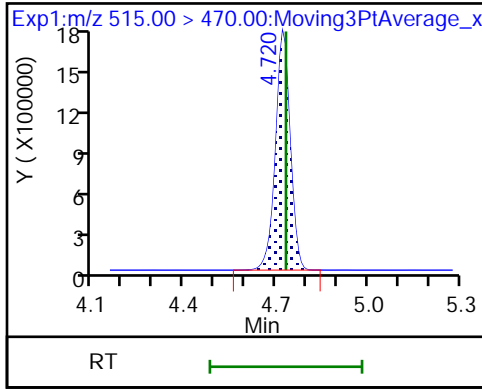




D 52 13C2 PFDA

D 50 M2-8:2 FTS

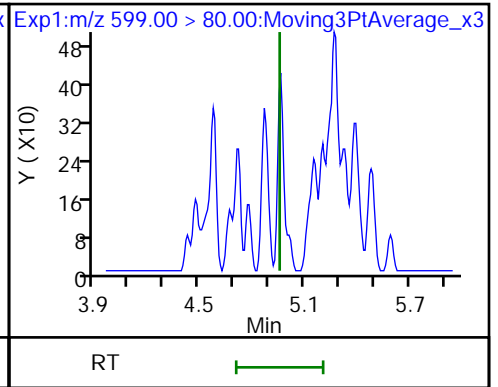
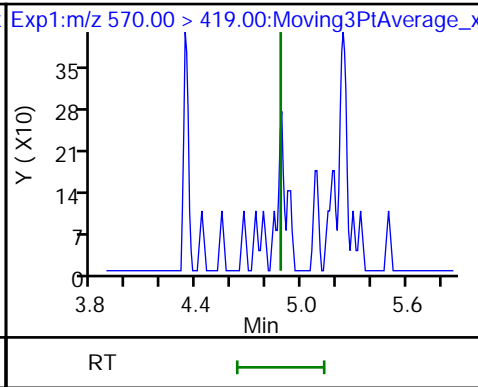
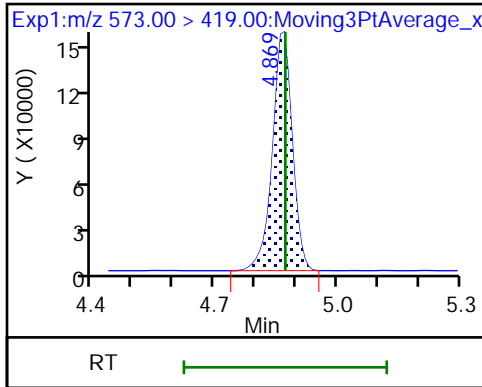
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (ND)

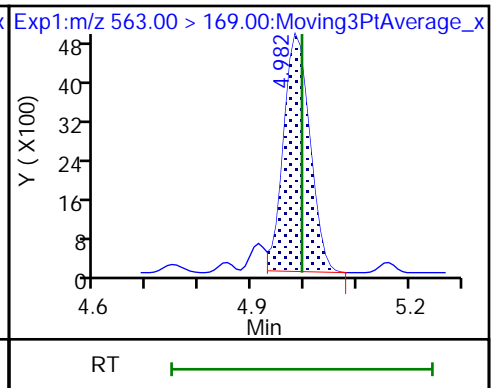
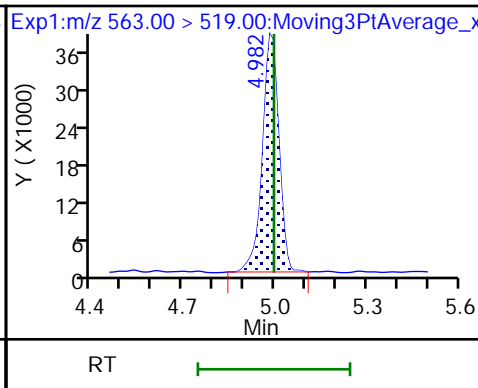
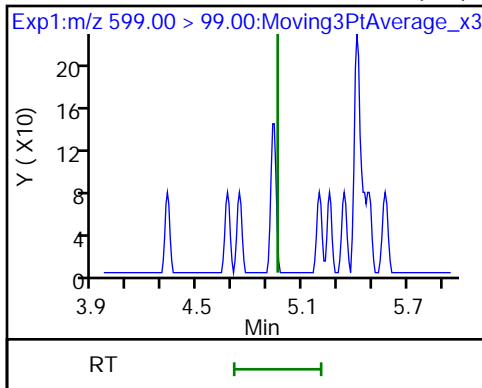
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid

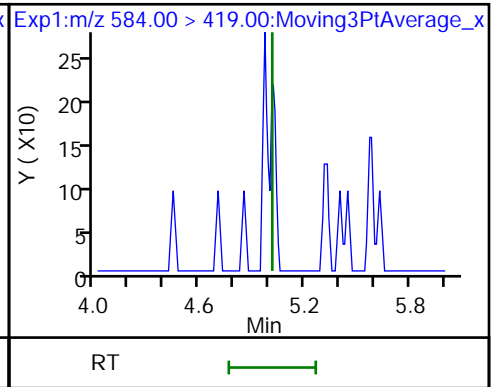
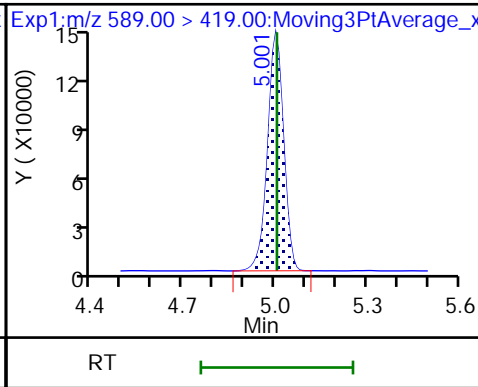
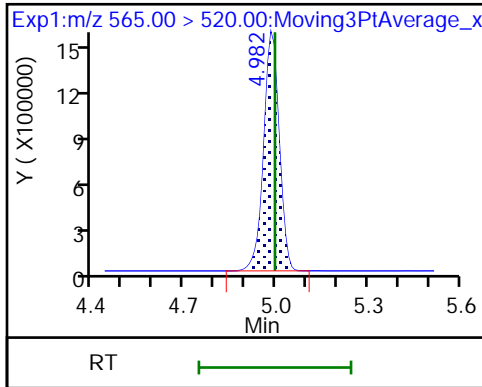
60 Perfluoroundecanoic acid



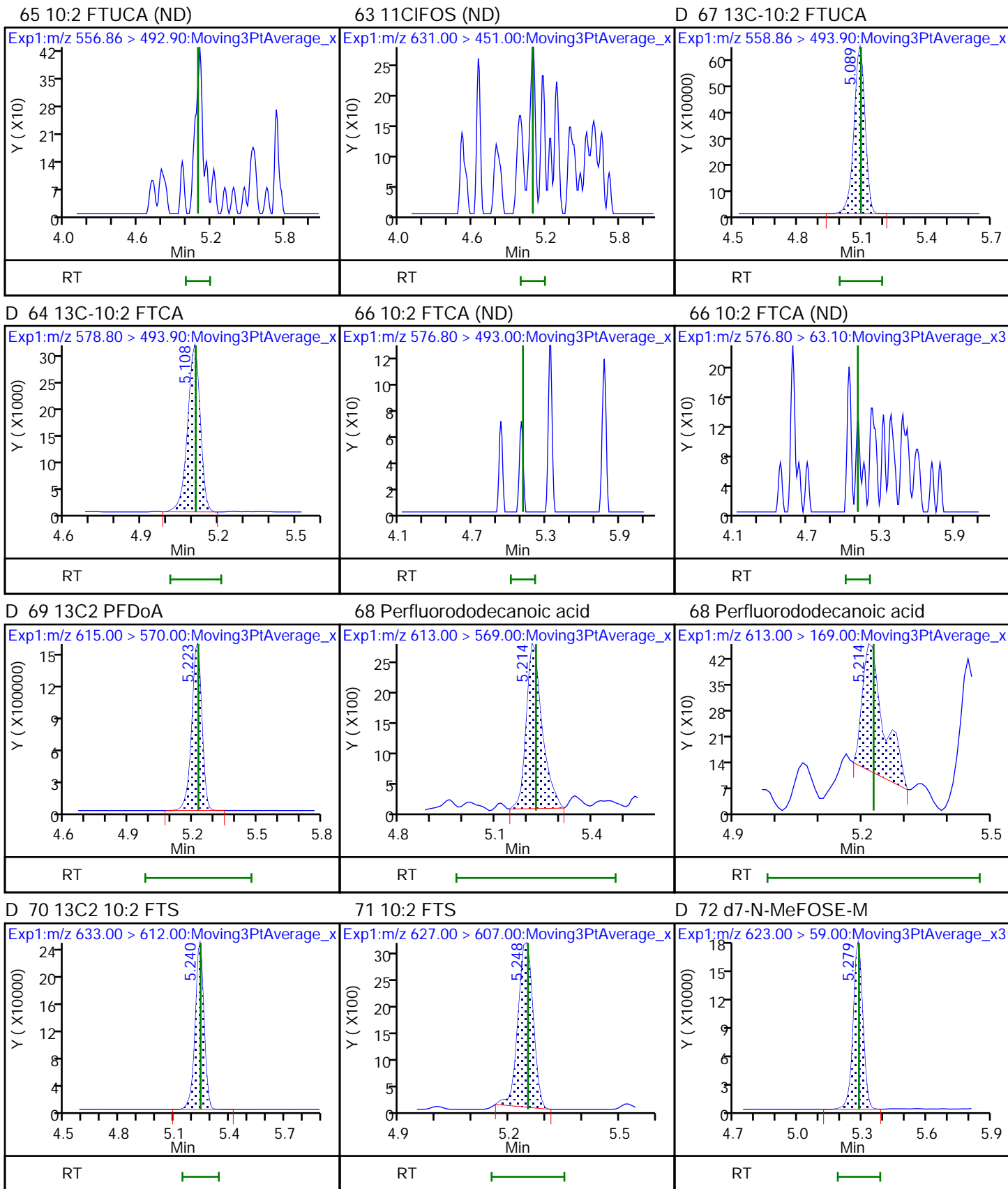
D 59 13C2 PFUnA

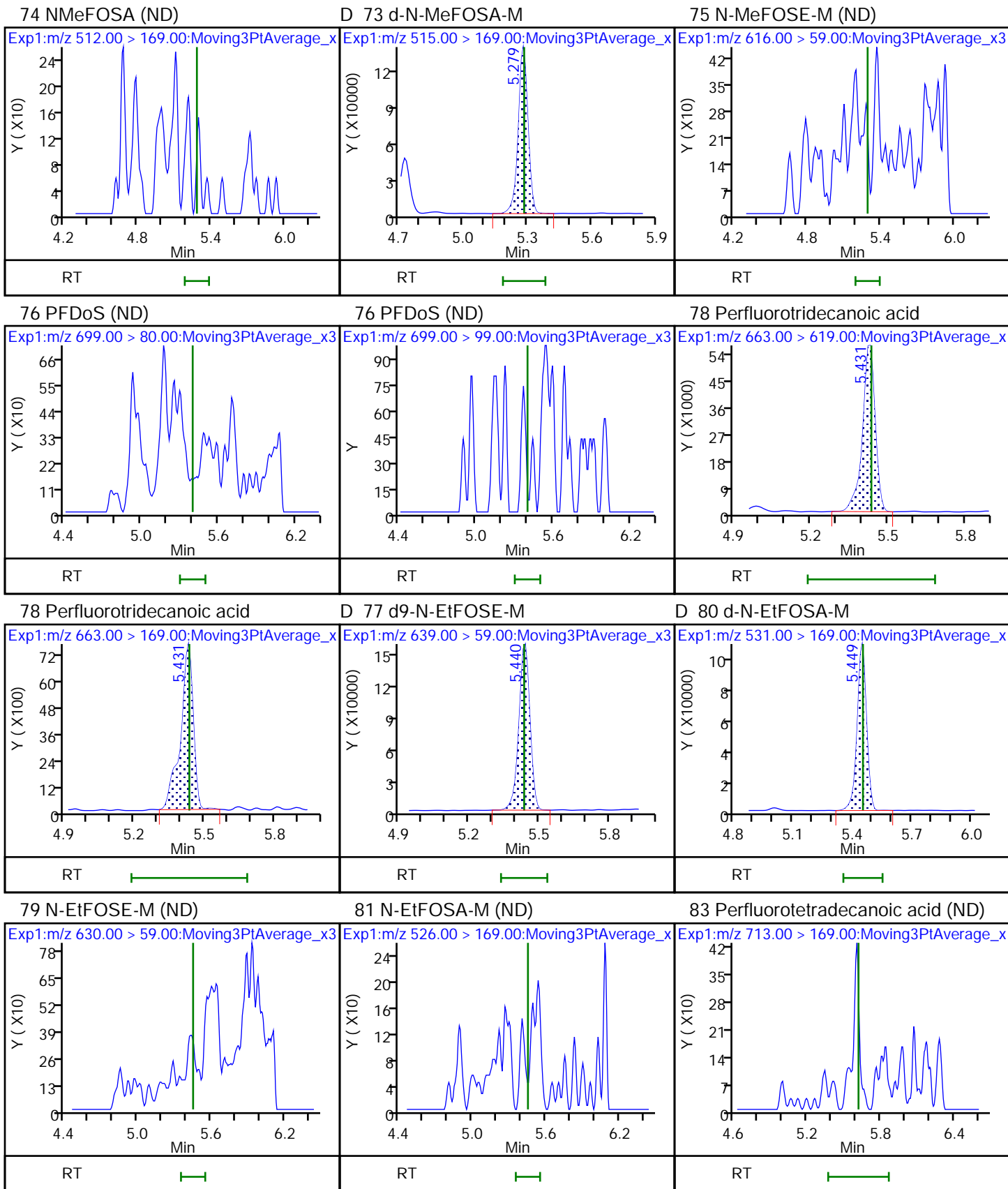
D 61 d5-NEtFOSAA

62 NEtFOSAA (ND)



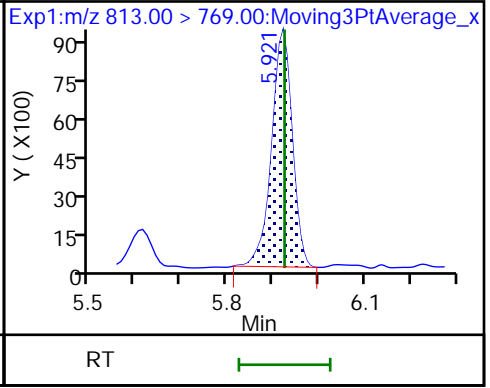
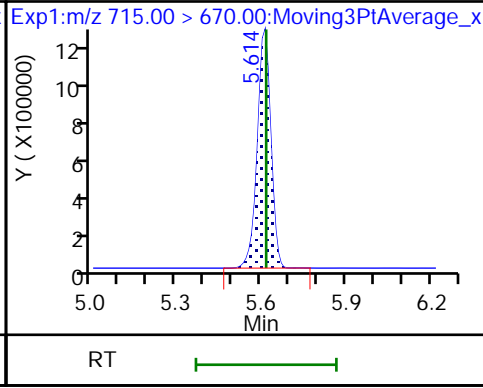
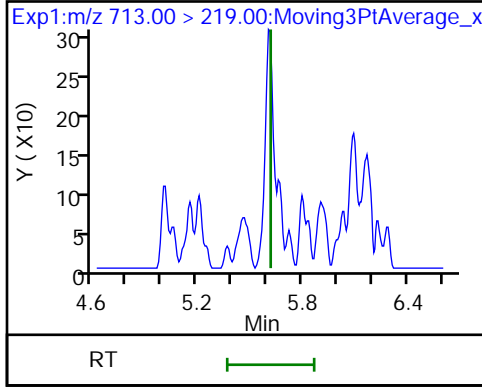






83 Perfluorotetradecanoic acid (ND) D 82 13C2 PFTeDA

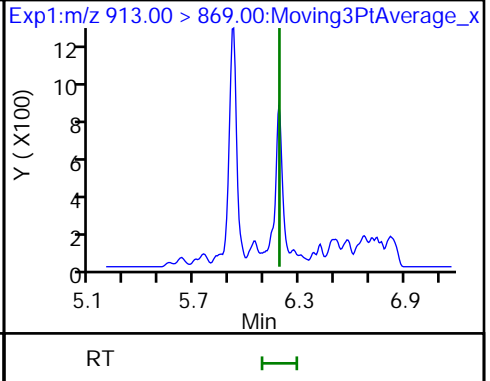
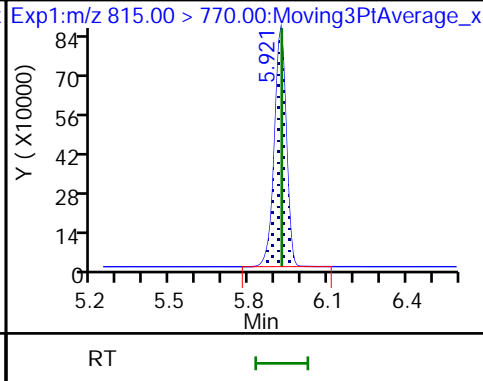
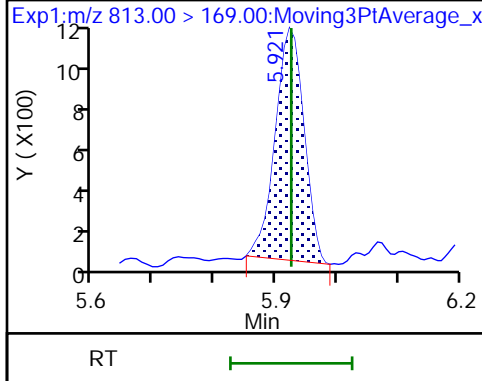
85 Perfluorohexadecanoic acid



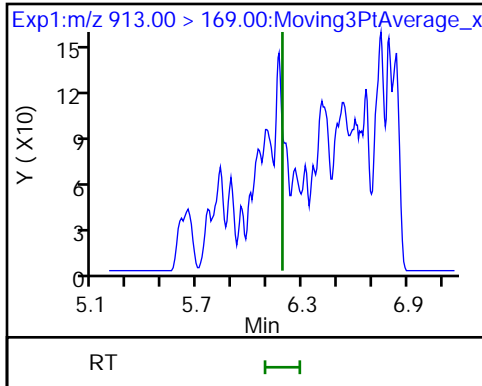
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 140-58967/1-A  
 Matrix: Air Lab File ID: \_020.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/18/2022 22:19  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.000500	0.0000870

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	84		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_020.d  
 Lims ID: MB 140-58967/1-A  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 18-Feb-2022 22:19:52 ALS Bottle#: 20 Worklist Smp#: 20  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-020 mb 140-58967/1-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:08:45  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										7
212.90 > 169.00	2.806	2.811	-0.005	0.998	1043	-0.003528		0.6		7
LOD = 0.0100										
D 2 13C4 PFBA										
217.00 > 172.00	2.813	2.811	0.002	0.682	5552622	1.08		86.3	19141	
3 PFECA F										
229.00 > 85.00		2.919				ND				
D 5 13C5 PFPeA										
267.90 > 223.00	3.117	3.115	0.002	0.756	4331764	1.07		85.8	14780	
6 Perfluoropentanoic acid										7
262.90 > 219.00	3.125	3.123	0.002	1.003	7393	-0.003335		3.0		7
LOD = 0.006500										
4 3:3 FTCA										
241.00 > 177.10		3.131				ND				
241.00 > 116.90		3.131								
D 7 13C3 PFBS										
301.90 > 80.00	3.134	3.131	0.003	0.760	2521421	0.9873		84.9	12649	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00		3.140				ND				
298.90 > 99.00		3.140								
9 PFECA A										
278.95 > 84.90		3.211				ND				
11 PES										7
314.80 > 135.00	3.252	3.260	-0.008	1.038	889	-0.003048		14.1		7
LOD = 0.0500										
12 PFECA B										
295.22 > 201.00		3.384				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.419	3.416	0.003	0.829	830744	1.04		89.0	1390	
13 4:2 FTS										
327.00 > 307.00		3.416				ND				
D 14 13C2 PFHxA										
315.00 > 270.00	3.440	3.448	-0.008	0.834	4732378	1.06		85.0	17073	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.448				ND				
349.00 > 99.00		3.448								
15 Perfluorohexanoic acid										
313.00 > 269.00	3.440	3.448	-0.008	1.000	12820	-0.003570	Target=12.09	6.6	7	7
313.00 > 119.00	3.440	3.448	-0.008	1.000	850		15.08(6.04-18.13)	1.3		
LOD = 0.008600										
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.546	3.553	-0.007	0.860	2291112	1.05		84.1	7452	
17 HFPO-DA										
285.00 > 169.00	3.556	3.553	0.003	1.003	7814	-0.001631	Target=2.53	5.0	7	7
329.00 > 169.00	3.546	3.553	-0.007	1.000	2426		3.22(1.26-3.79)	5.3		
LOD = 0.008500										
S 10 ADONA										
377.00 > 251.00		3.592				0				
D 20 18O2 PFHxS										
403.00 > 84.00	3.776	3.783	-0.007	0.916	1693933	1.02		86.4	9718	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.776	3.783	-0.007	1.000	7380	0.003719	Target=3.31	22.6	7	7
399.00 > 99.00	3.776	3.783	-0.007	1.000	2908		2.54(1.66-4.97)	11.1		
LOD = 0.005000										
D 22 13C4 PFHpA										
367.00 > 322.00	3.786	3.793	-0.007	0.918	4265284	1.07		85.9	11366	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.786	3.793	-0.007	1.000	4988	-0.005145	Target=3.40	4.4	7	7
363.00 > 169.00	3.807	3.793	0.014	1.005	1684		2.96(1.70-5.09)	6.3		
LOD = 0.0153										
25 DONA										
377.00 > 251.00		3.829				ND				
377.00 > 85.00		3.829								
26 5:3 FTCA										
340.88 > 236.90		3.853				ND				
340.88 > 216.90		3.853								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.880	3.887	-0.006	0.941	1636844	1.11		88.4	3827	
27 6:2 FTUCA										
356.86 > 292.90		3.895				ND				
356.86 > 243.00		3.895								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.906	3.904	0.002	0.947	131473	1.15		92.1	791	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
29 6:2 FTCA										
377.10 > 63.00		3.913				ND				
377.10 > 313.10		3.913								
32 PFECCHS										
460.80 > 380.90		4.065				ND				
460.80 > 98.90		4.065								
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.112				ND				
449.00 > 99.00		4.112								
D 34 M2-6:2 FTS										
429.00 > 81.00	4.124	4.121	0.003	1.000	845845	1.07		90.2	1916	
35 6:2 FTS										
427.00 > 407.00	4.115	4.121	-0.006	0.998	9582	0.003791		50.3	7	7
LOD = 0.0137										
\$ 36 13C8 PFOA										
421.00 > 376.00	4.115	4.121	-0.006	0.998	911	0.000278		7.7		
D 31 13C4 PFOA										
417.00 > 372.00	4.124	4.131	-0.007	1.000	4431426	1.08		86.3	9103	
* 30 13C2 PFOA										
415.00 > 370.00	4.124	4.131	-0.007		5487523	1.25			10057	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.124	4.131	-0.007	1.000	18432	-0.001490	Target=2.33	15.2		R7
413.00 > 169.00	4.124	4.131	-0.007	1.000	5250		3.51(1.17-3.50)	14.5		R7
LOD = 0.009500										
\$ 38 13C8 PFOS										
507.00 > 99.00		4.421				ND				
D 39 13C4 PFOS										
503.00 > 80.00	4.417	4.421	-0.004	1.071	2549035	1.03		86.6	2702	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00		4.421				ND				
499.00 > 99.00		4.421								
42 Perfluorononanoic acid										
463.00 > 419.00	4.434	4.439	-0.005	1.000	5090	0.001369	Target=3.81	6.8		7
463.00 > 169.00	4.443	4.439	0.004	1.002	1588		3.21(1.90-5.71)	3.4		7
LOD = 0.004250										
D 41 13C5 PFNA										
468.00 > 423.00	4.434	4.439	-0.005	1.075	6109610	1.10		87.8	9985	
43 7:3 FTCA										
441.00 > 337.00		4.529				ND				
441.00 > 317.00		4.529								
44 8:2 FTUCA										
456.86 > 392.90		4.545				ND				
456.86 > 343.00		4.545								
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.549	4.553	-0.004	1.000	2348586	1.18		94.7	7236	
46 8:2 FTCA										
477.00 > 393.10		4.562				ND				
477.00 > 63.20		4.562								

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.557	4.562	-0.005	1.105	180228	1.24		99.4	920	
49 9CIFOS										7
531.00 > 351.00	4.659	4.578	0.081	1.130	1042	0.000217		3.9	7	
LOD = 0.003500										
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.697				ND				
549.00 > 99.00		4.697								
D 55 13C8 FOSA										
506.00 > 78.00	4.710	4.714	-0.004	1.142	4035730	1.08		86.8	5483	
54 Perfluorooctanesulfonamide										7
498.00 > 78.00	4.710	4.714	-0.004	1.000	3110	0.001009		7.9	7	
LOD = 0.004400										
48 Perfluorodecanoic acid										
513.00 > 469.00	4.727	4.731	-0.004	1.000	17719	-0.002703	Target=11.13	17.2	7	
513.00 > 169.00	4.808	4.731	0.077	1.017	1316		13.46(5.57-16.70)	1.9		
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.727	4.731	-0.004	1.146	5927224	1.12		89.3	17248	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.736	4.740	-0.004	1.148	887941	1.03		86.1	1265	
53 8:2 FTS										
527.00 > 507.00		4.740				ND				
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.867	4.872	-0.005	1.180	578266	1.16		92.9	1736	
57 NMeFOSAA										7
570.00 > 419.00	4.833	4.880	-0.047	0.993	1266	0.004533		4.8	7	
LOD = 0.006000										
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.957				ND				
599.00 > 99.00		4.957								
60 Perfluoroundecanoic acid										7M
563.00 > 519.00	4.990	4.995	-0.005	1.000	3780	0.000899	Target=8.47	5.8	7	
563.00 > 169.00	4.990	4.995	-0.005	1.000	338		11.18(4.23-12.70)	2.3	M	
LOD = 0.006000										
D 59 13C2 PFUnA										
565.00 > 520.00	4.990	4.995	-0.005	1.210	5436453	1.06		84.8	7457	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.999	5.005	-0.006	1.212	577341	1.13		90.4	2275	
62 NEtFOSAA										7
584.00 > 419.00	4.999	5.015	-0.016	1.000	639	-0.008570		5.8	7	
LOD = 0.007000										
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.087	5.093	-0.006	1.233	2474728	1.11		88.8	5812	
65 10:2 FTUCA										7M
556.86 > 492.90	5.087	5.093	-0.006	1.000	1817	0.000760		6.4	7M	
LOD = 0.0500										



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
63 11CIFOS										7M
631.00 > 451.00	5.058	5.093	-0.035	1.145	2051	-0.003530			6.0	7M
LOD = 0.007000										
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.106	5.112	-0.006	1.238	145410	1.07		85.7	654	
66 10:2 FTCA										
576.80 > 493.00		5.112				ND				
576.80 > 63.10		5.112								
D 69 13C2 PFDaA										
615.00 > 570.00	5.222	5.226	-0.004	1.266	5442324	1.08		86.1	12199	
68 Perfluorododecanoic acid										
613.00 > 569.00		5.226				ND				
613.00 > 169.00		5.226								
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.238	5.243	-0.005	1.270	730179	1.01		85.1	3640	
71 10:2 FTS										7
627.00 > 607.00	5.246	5.251	-0.005	1.002	5699	-0.001921		32.2	7	
LOD = 0.008500										
74 NMeFOSA										
512.00 > 169.00		5.284				ND				
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.278	5.284	-0.006	1.280	410279	0.9261		74.1	42.8	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.278	5.284	-0.006	1.280	515932	0.99		79.3	373	
75 N-MeFOSE-M										
616.00 > 59.00		5.292				ND				
76 PFDoS										
699.00 > 80.00		5.399				ND				
699.00 > 99.00		5.399								
78 Perfluorotridecanoic acid										
663.00 > 619.00		5.435				ND				
663.00 > 169.00		5.435								
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.439	5.435	0.004	1.319	515516	0.9545		76.4	256	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.448	5.452	-0.004	1.321	307571	0.8656		69.2	528	
79 N-EtFOSE-M										
630.00 > 59.00		5.452				ND				
81 N-EtFOSA-M										
526.00 > 169.00		5.452				ND				
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.617				ND				
713.00 > 219.00		5.617								
D 82 13C2 PFTeDA										
715.00 > 670.00	5.613	5.617	-0.004	1.361	4040699	1.00		79.9	9916	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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85 Perfluorohexadecanoic acid										7
813.00 > 769.00	5.921	5.924	-0.003	1.000	26267	-0.000981	Target=8.23		70.3	7
813.00 > 169.00	5.921	5.924	-0.003	1.000	3085		8.51(4.11-12.34)		12.7	
LOD = 0.009000										

D 84 13C2 PFHxDA

815.00 > 770.00	5.921	5.924	-0.003	1.436	2482791	0.9431			75.4	4118
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86 Perfluorooctadecanoic acid

913.00 > 869.00		6.185				ND				
913.00 > 169.00		6.185								

S 87 F-53B

212.90 > 169.00		0.0				0				
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S 88 NaDONA

377.00 > 251.00		0.0				0				
377.00 > 85.00		0.0								

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

R - Failed Signal Ratio Test

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_020.d

Injection Date: 18-Feb-2022 22:19:52

Instrument ID: LCA

Lims ID: MB 140-58967/1-A

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 20

Worklist Smp#: 20

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

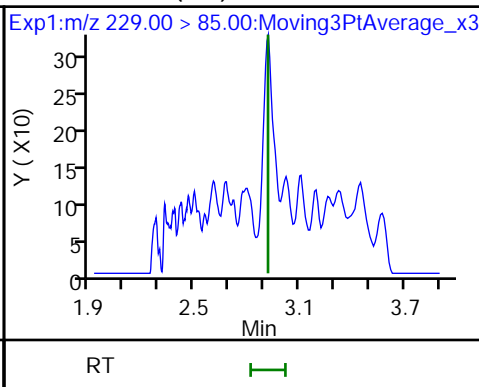
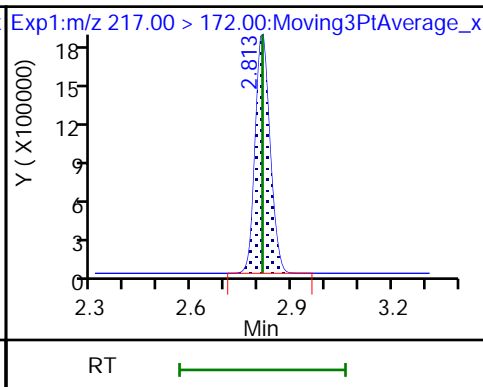
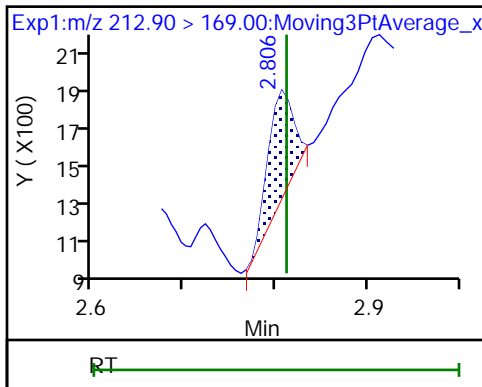
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

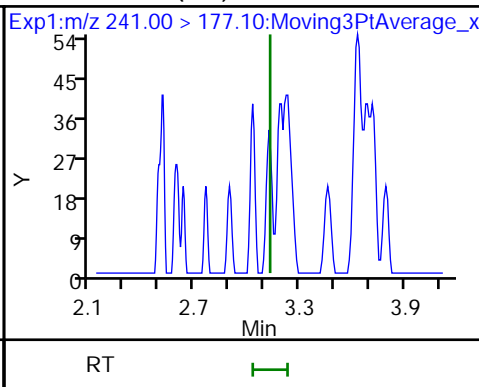
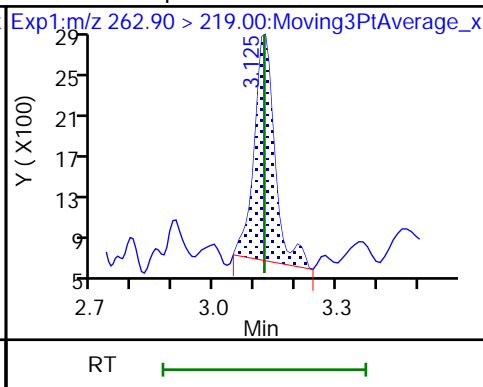
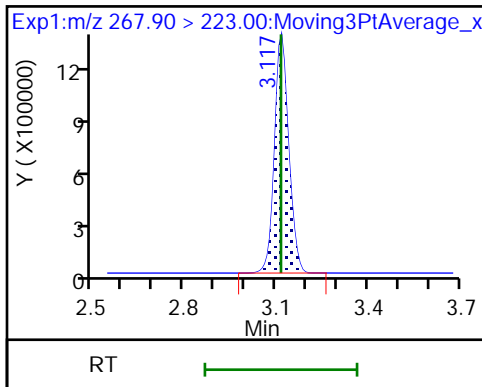
3 PFECA F (ND)



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

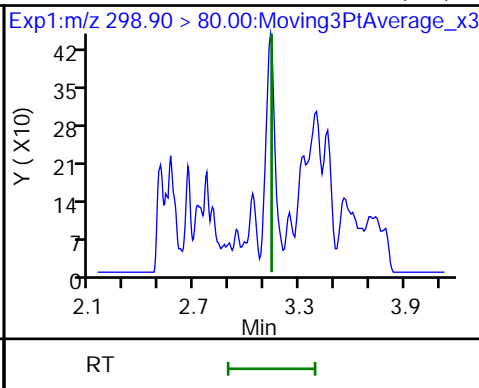
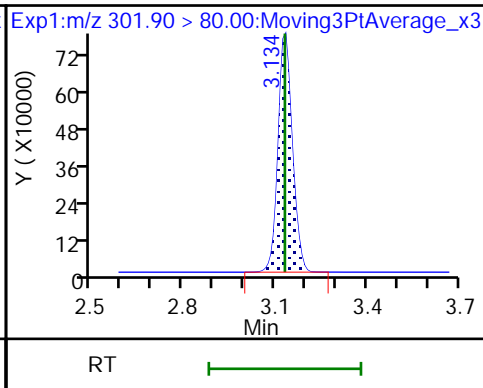
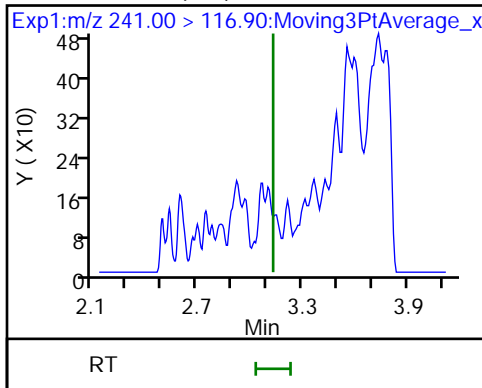
4 3:3 FTCA (ND)



4 3:3 FTCA (ND)

D 7 13C3 PFBS

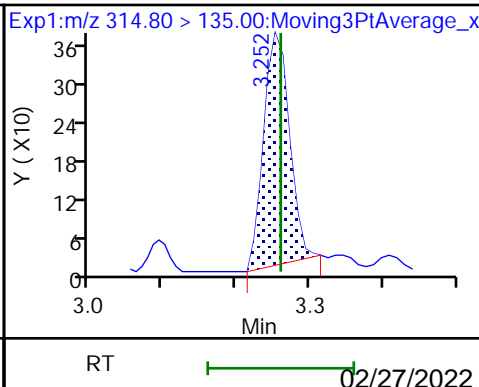
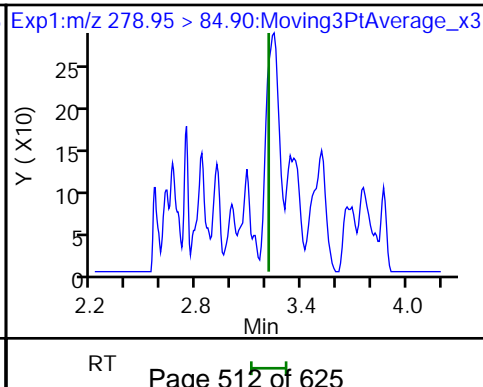
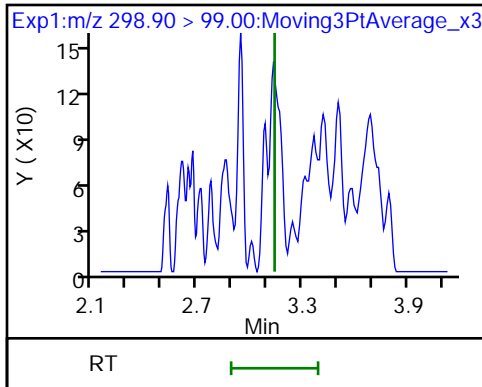
8 Perfluorobutanesulfonic acid (ND)

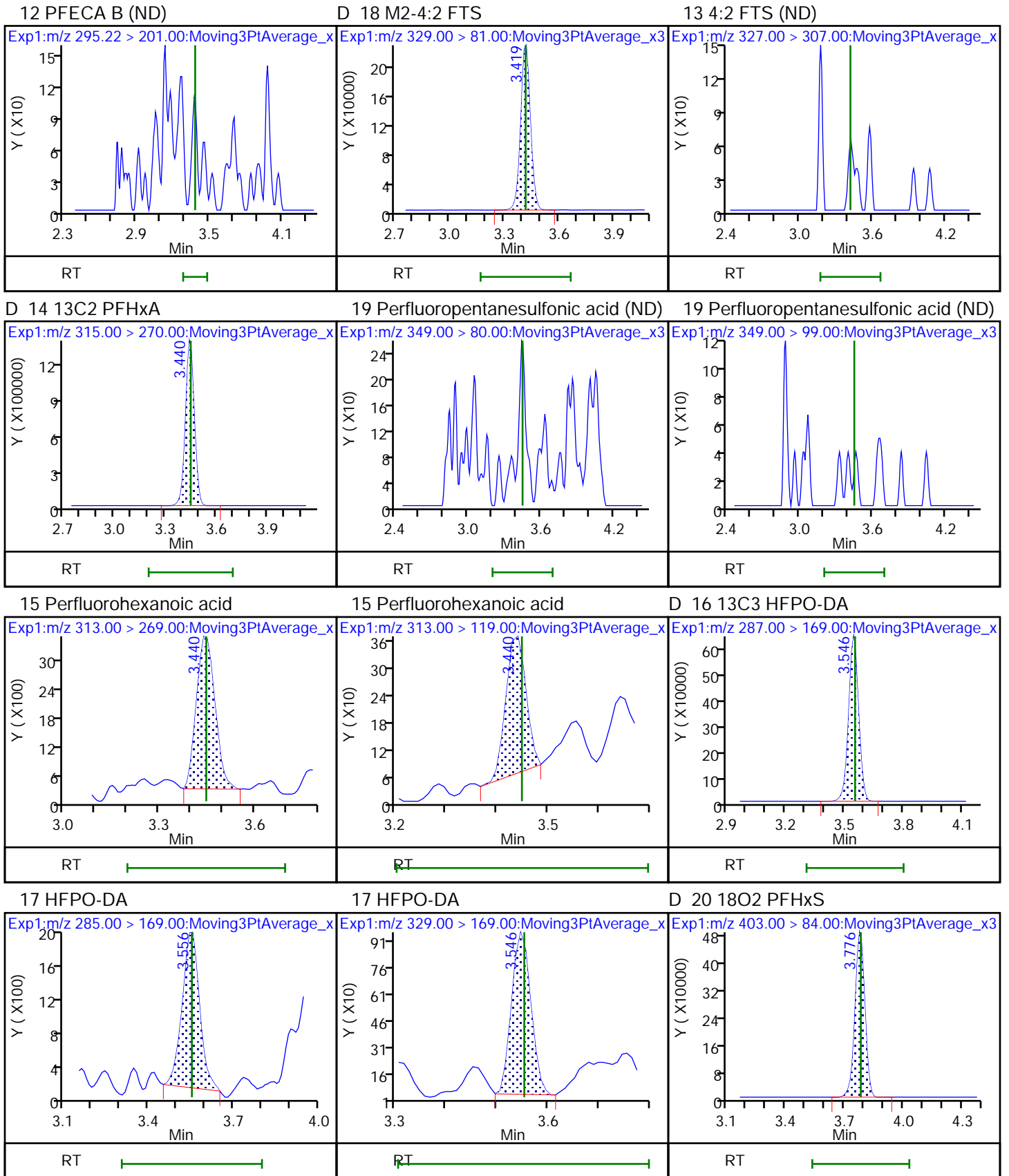


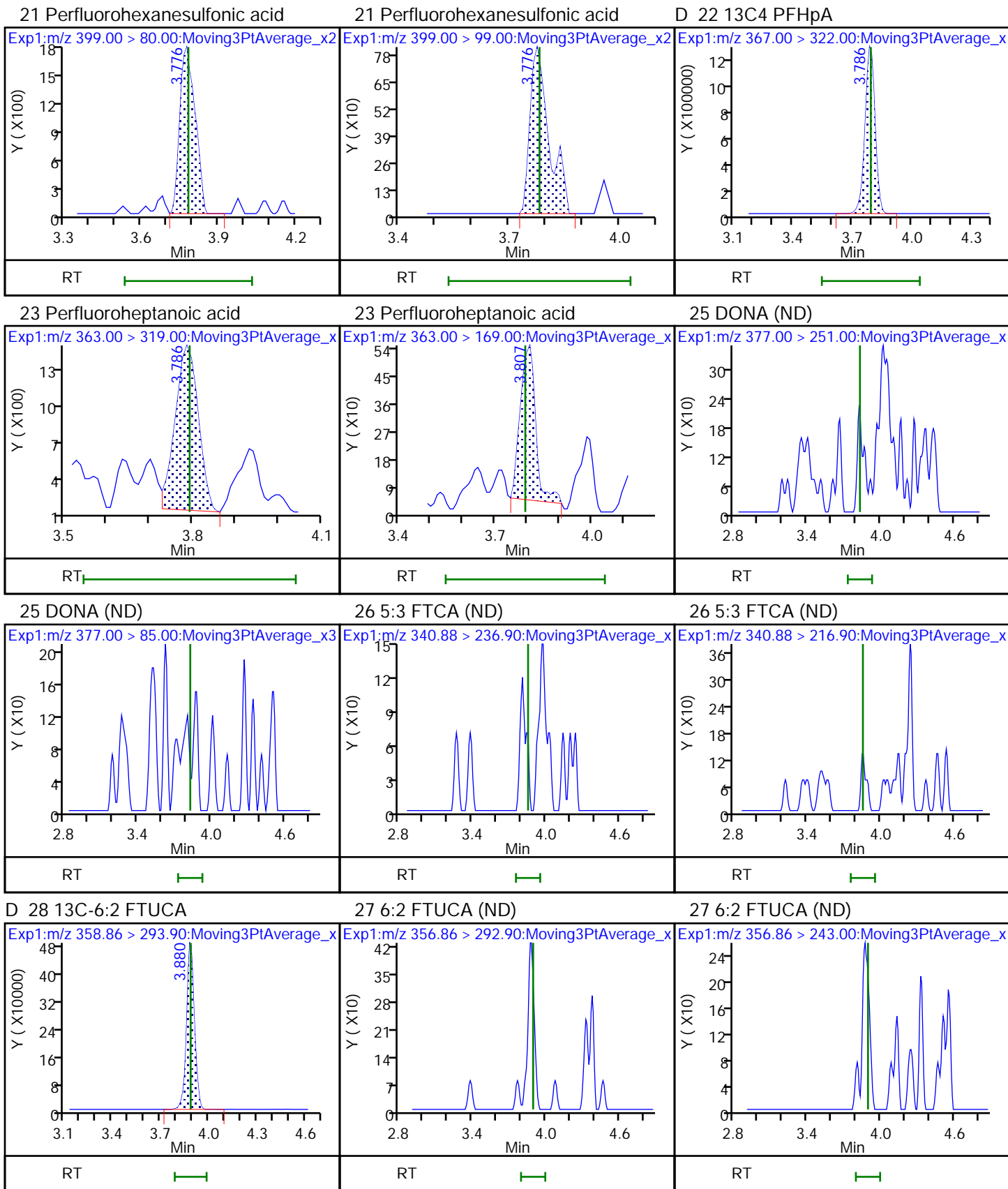
8 Perfluorobutanesulfonic acid (ND)

9 PFECA A (ND)

11 PES



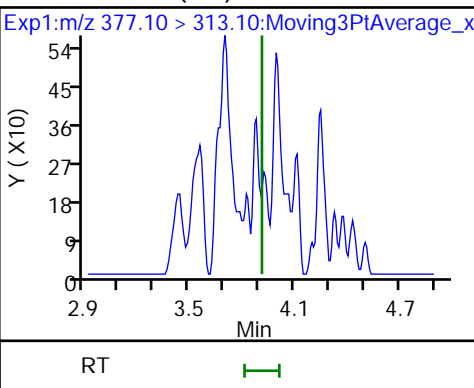
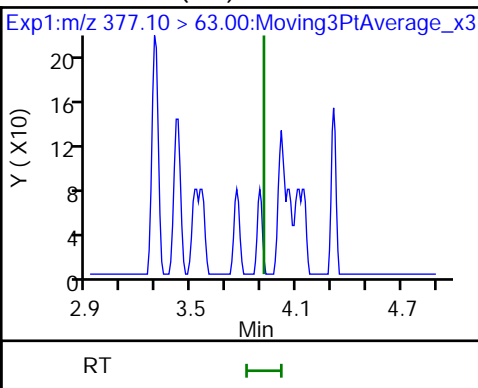
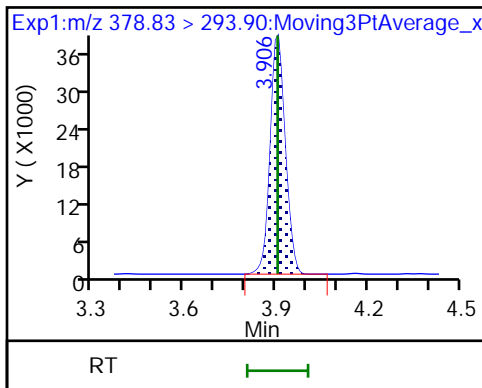




D 24 13C-6:2 FTCA

29 6:2 FTCA (ND)

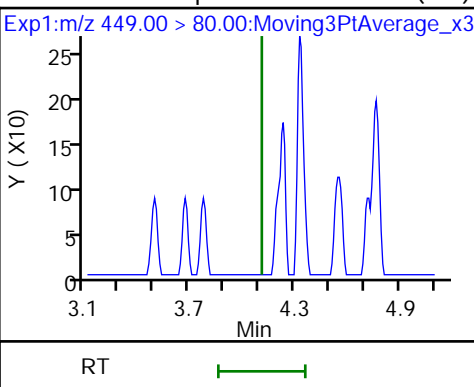
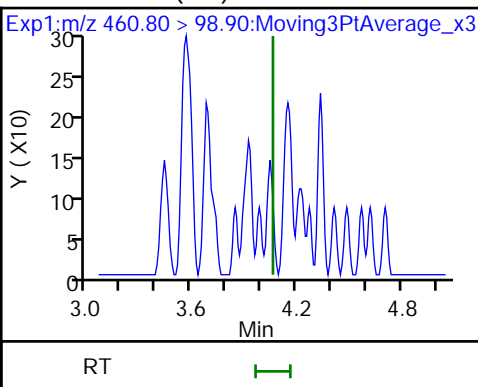
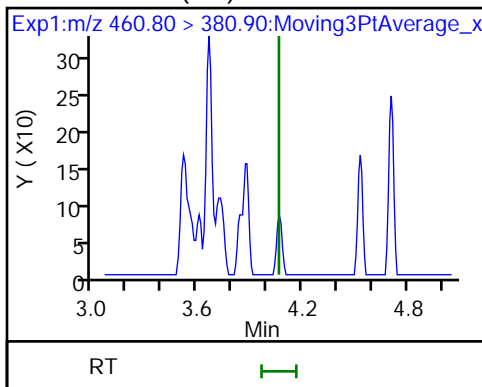
29 6:2 FTCA (ND)



32 PFECHS (ND)

32 PFECHS (ND)

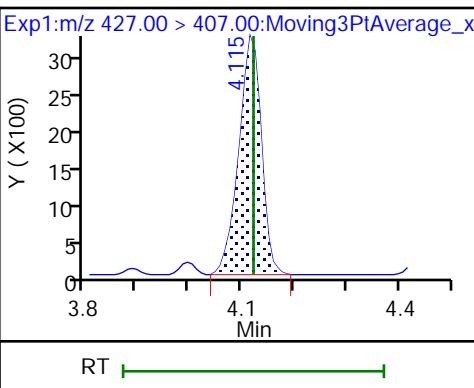
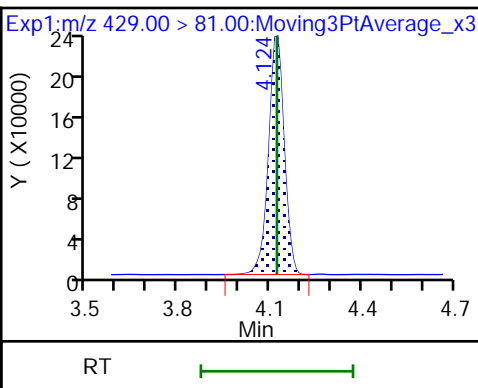
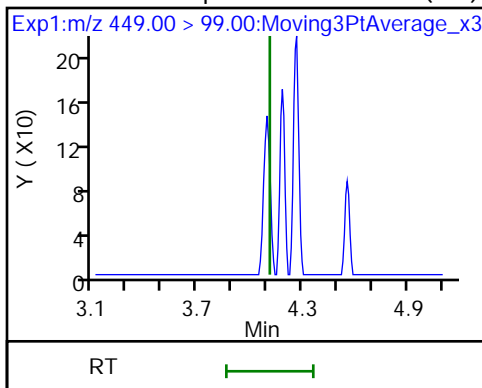
33 Perfluoroheptanesulfonic acid (ND)



33 Perfluoroheptanesulfonic acid (ND)

D 34 M2-6:2 FTS

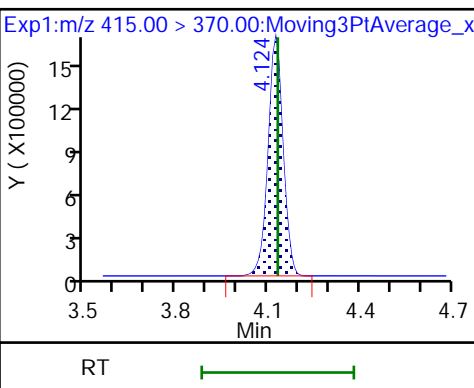
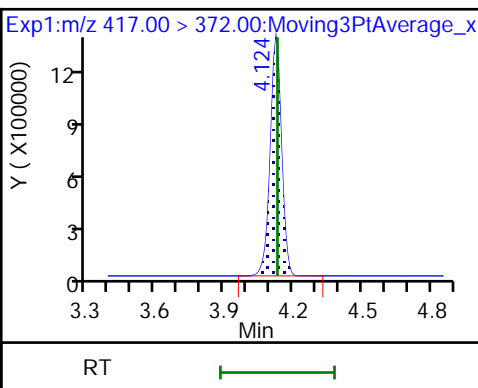
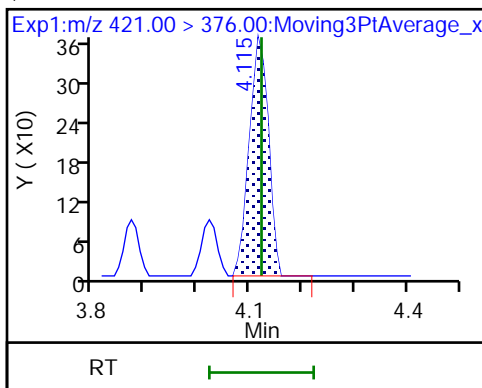
35 6:2 FTS

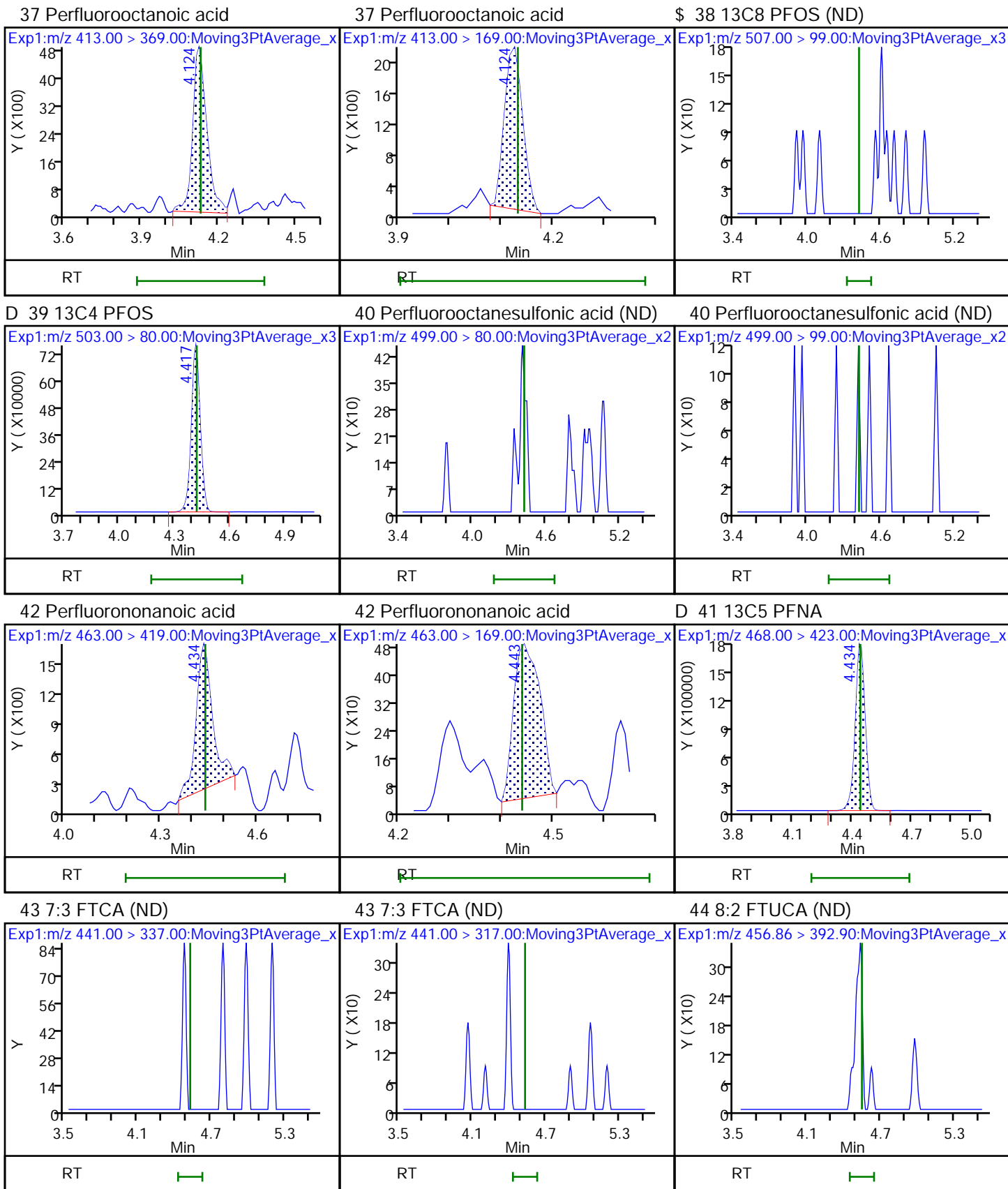


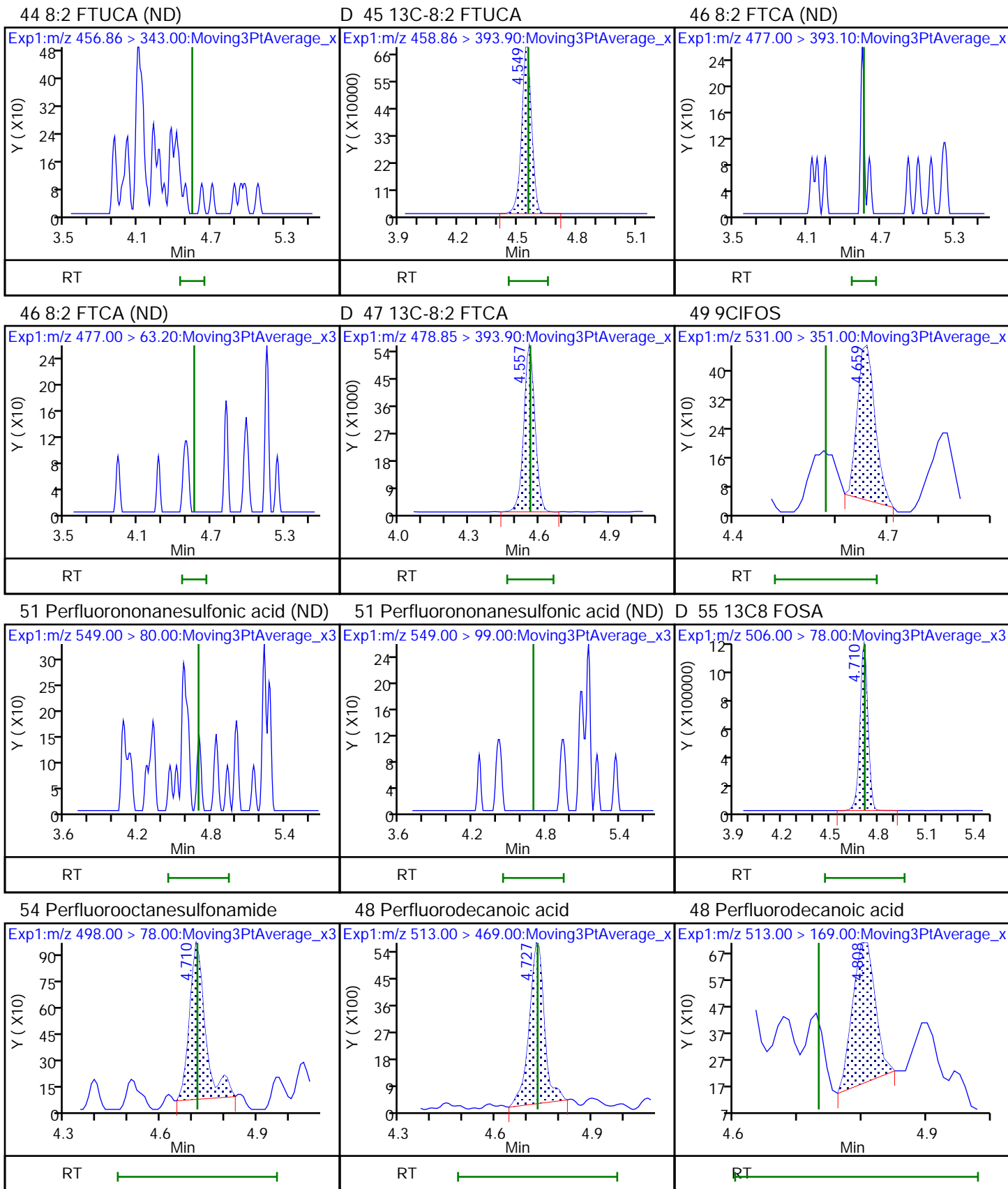
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA





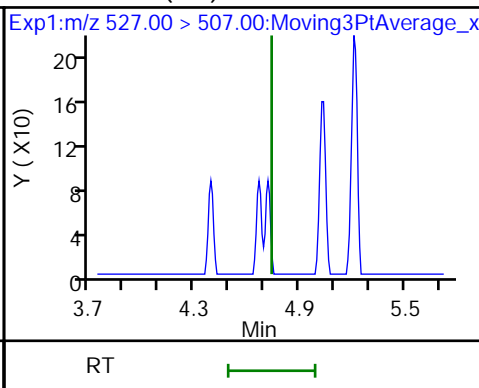
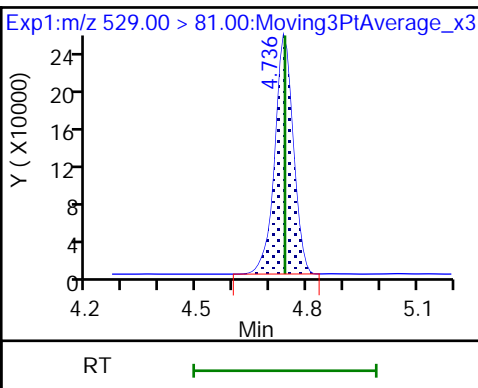
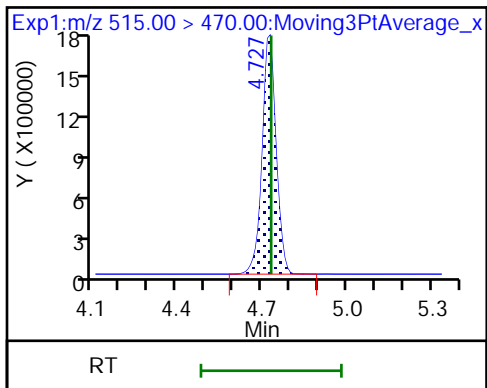




D 52 13C2 PFDA

D 50 M2-8:2 FTS

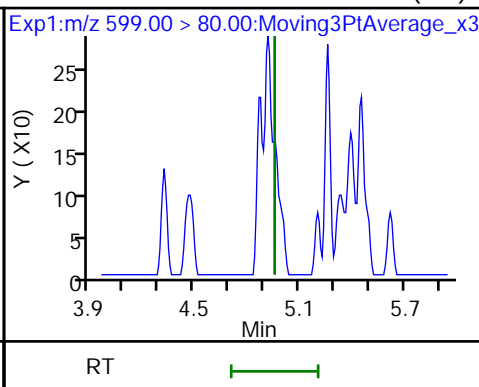
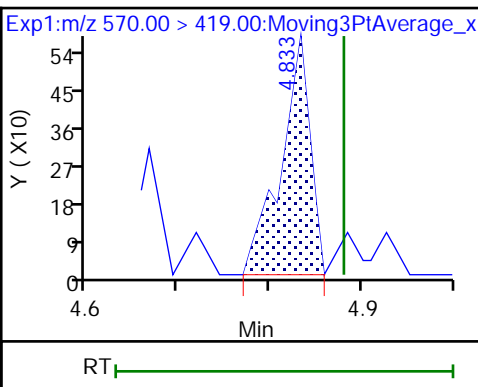
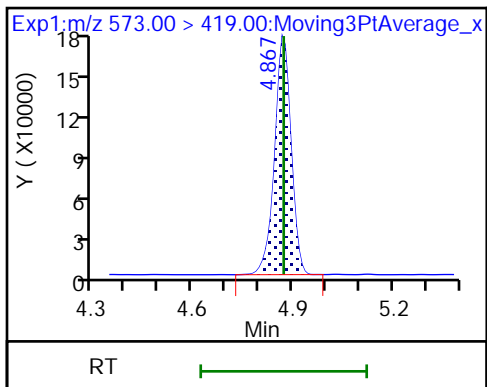
53 8:2 FTS (ND)



D 56 d3-NMeFOSAA

57 NMeFOSAA

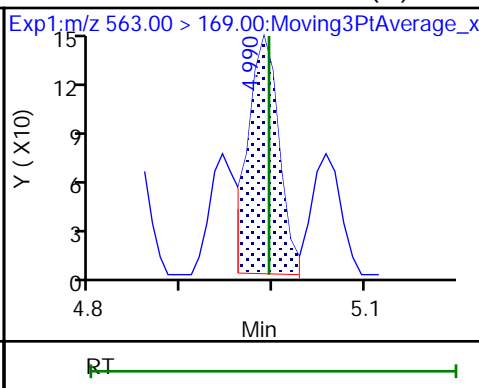
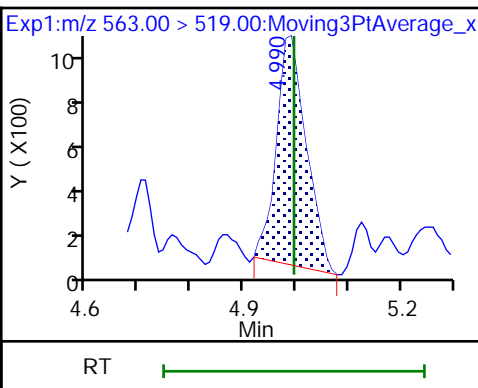
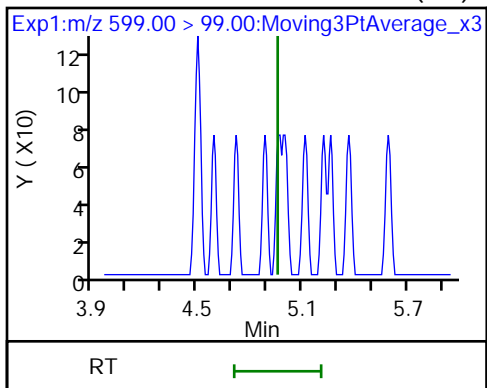
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid

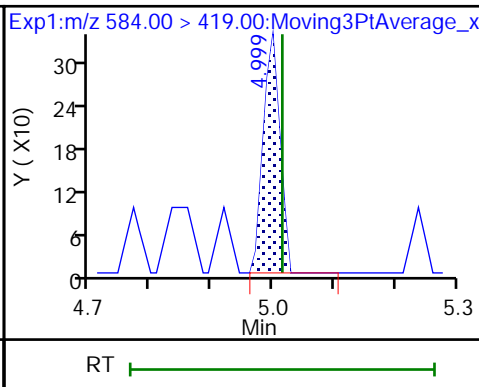
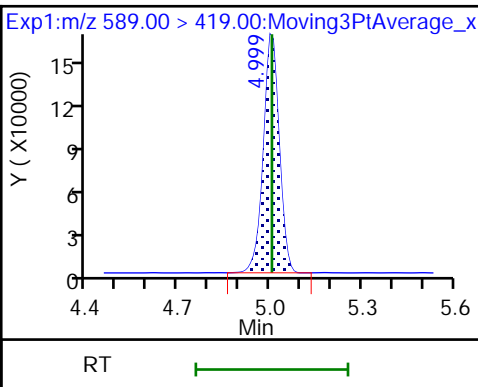
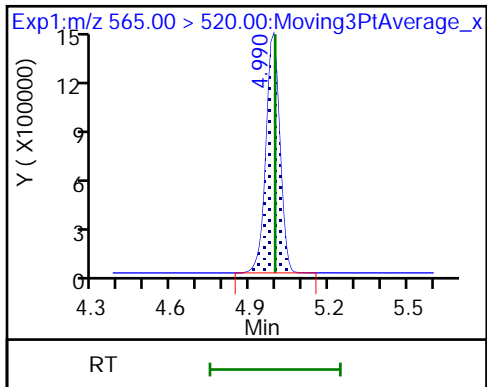
60 Perfluoroundecanoic acid (M)



D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

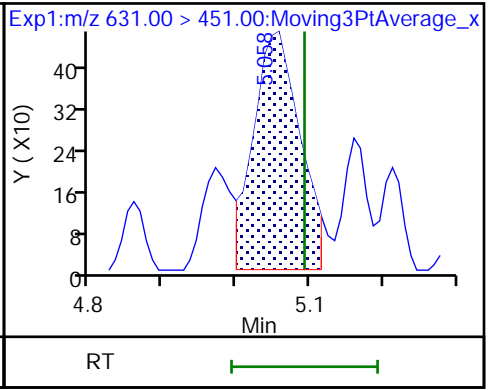
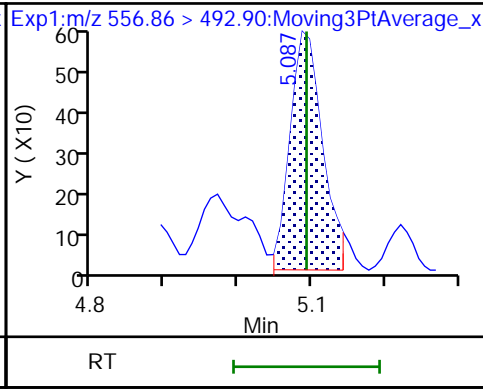
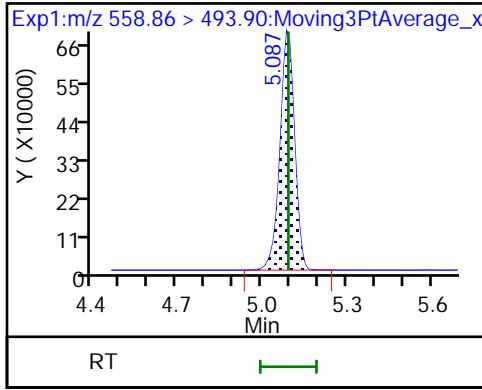
62 NEtFOSAA



D 67 13C-10:2 FTUCA

65 10:2 FTUCA (M)

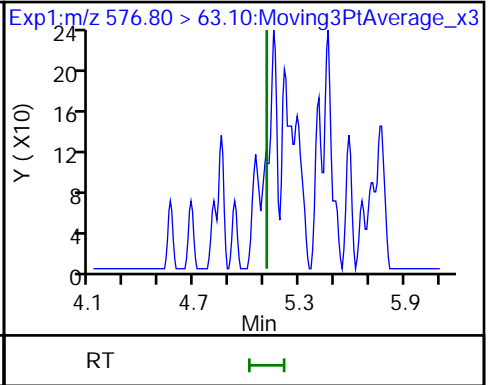
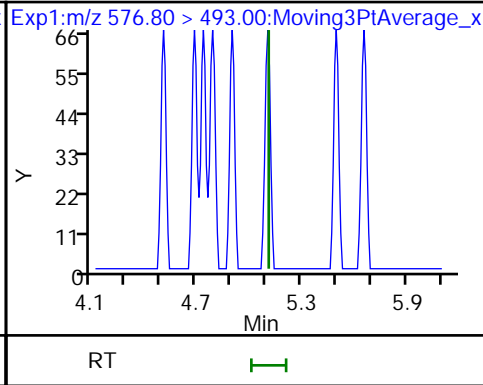
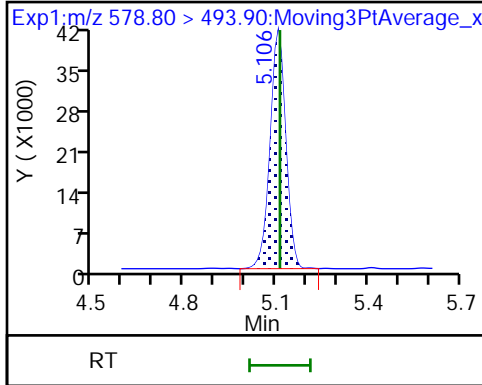
63 11CIFOS (M)



D 64 13C-10:2 FTCA

66 10:2 FTCA (ND)

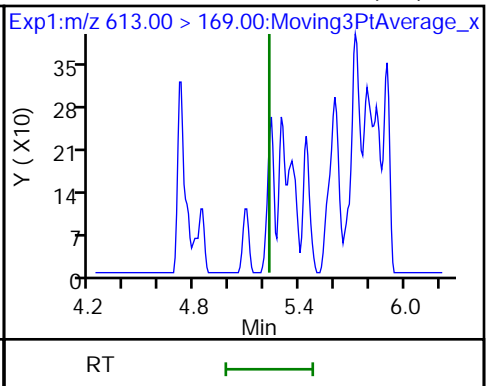
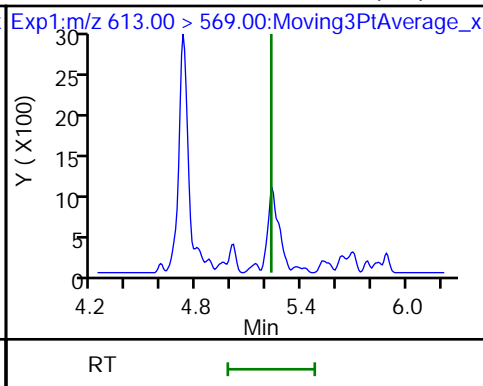
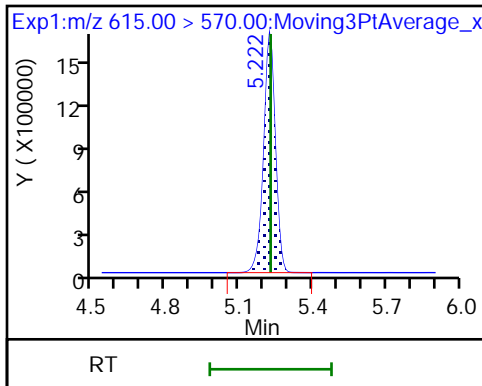
66 10:2 FTCA (ND)



D 69 13C2 PFDaA

68 Perfluorododecanoic acid (ND)

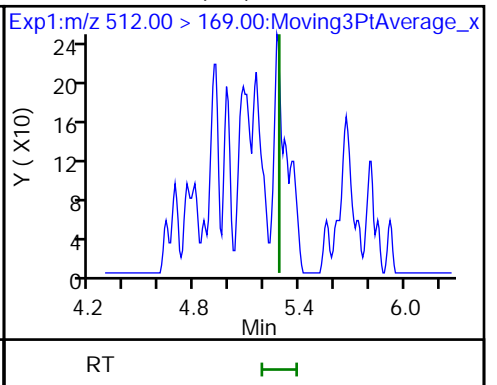
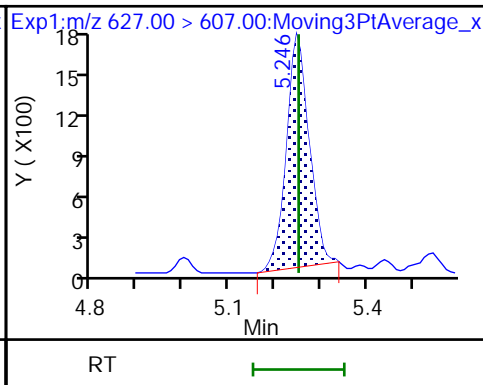
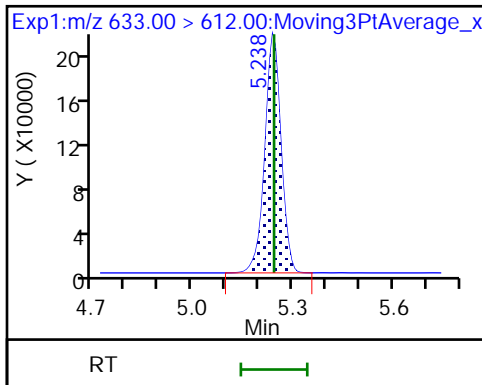
68 Perfluorododecanoic acid (ND)



D 70 13C2 10:2 FTS

71 10:2 FTS

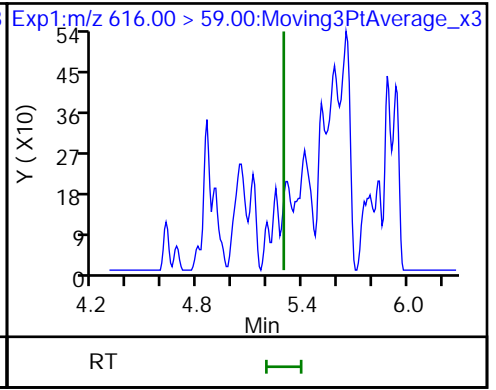
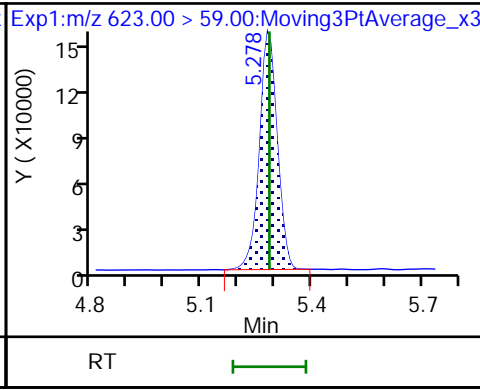
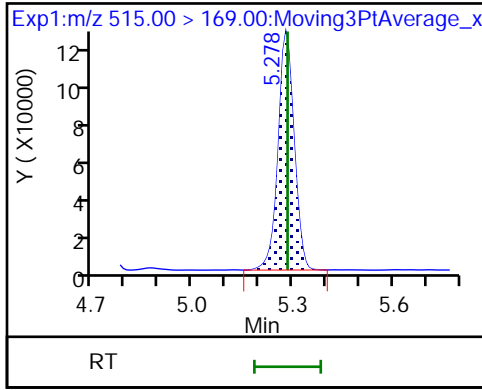
74 NMeFOSA (ND)



D 73 d-N-MeFOSE-M

D 72 d7-N-MeFOSE-M

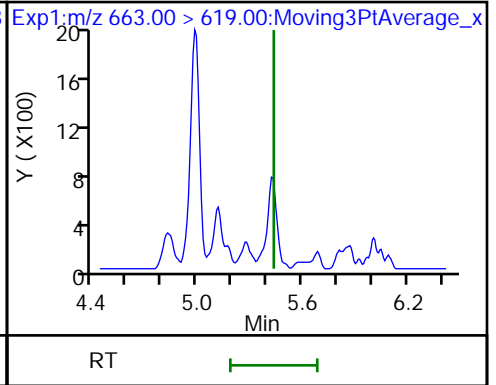
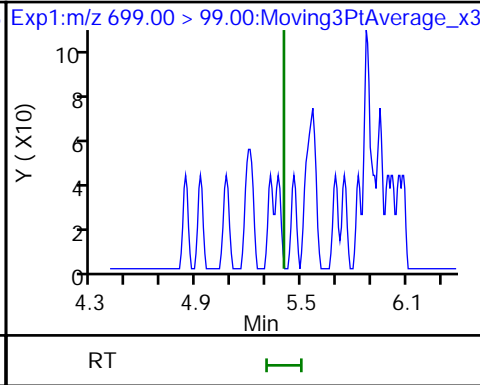
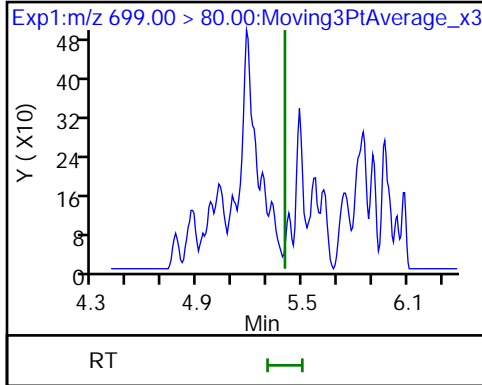
75 N-MeFOSE-M (ND)



76 PFDoS (ND)

76 PFDoS (ND)

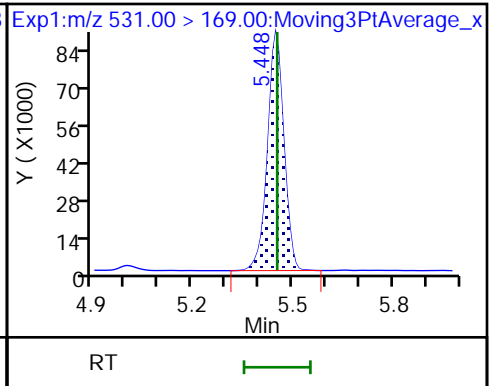
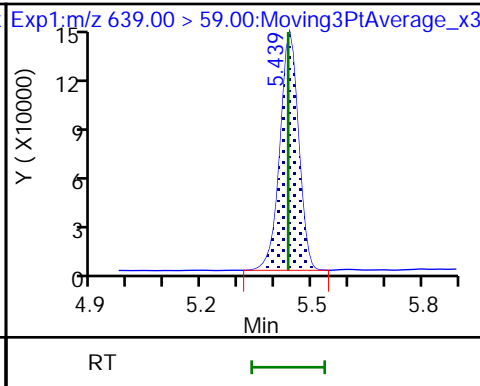
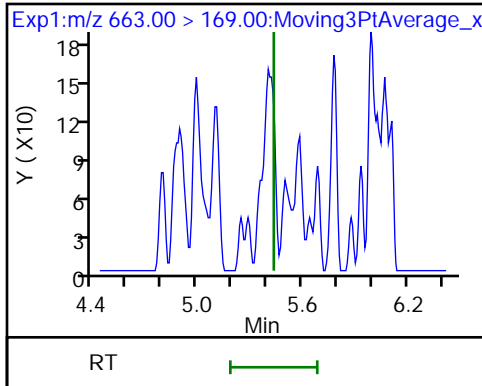
78 Perfluorotridecanoic acid (ND)



78 Perfluorotridecanoic acid (ND)

D 77 d9-N-EtFOSE-M

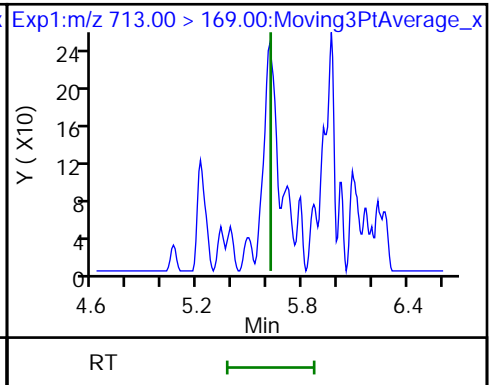
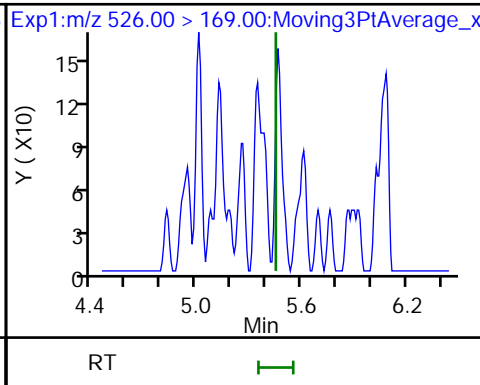
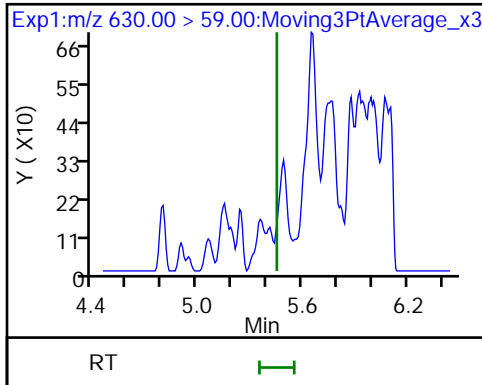
D 80 d-N-EtFOSE-M



79 N-EtFOSE-M (ND)

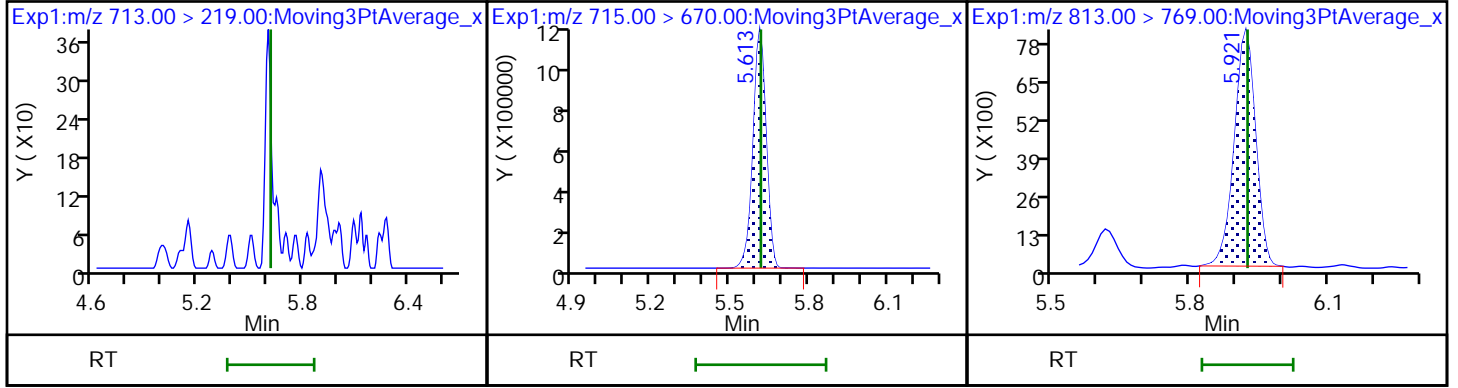
81 N-EtFOSE-M (ND)

83 Perfluorotetradecanoic acid (ND)



83 Perfluorotetradecanoic acid (ND) D 82 13C2 PFTeDA

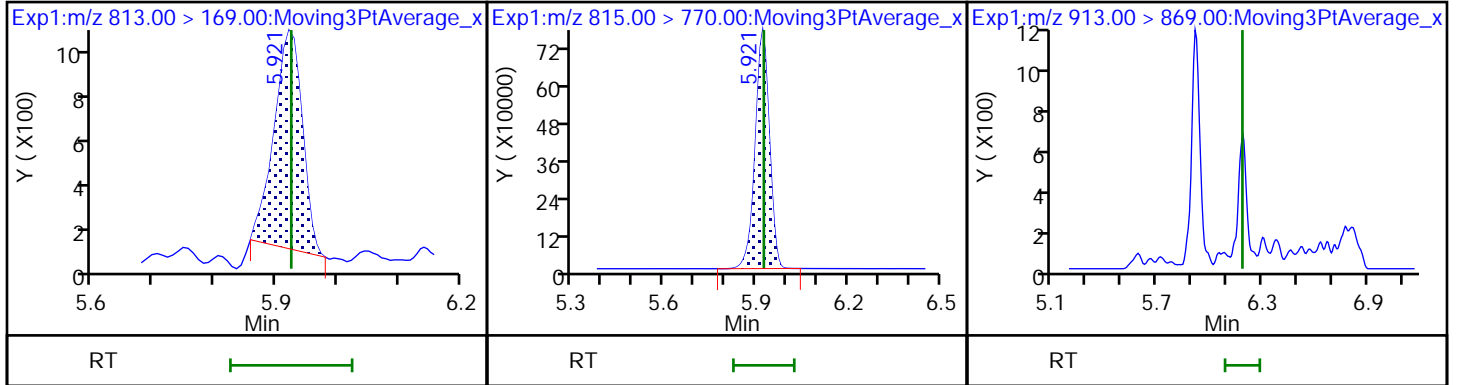
85 Perfluorohexadecanoic acid



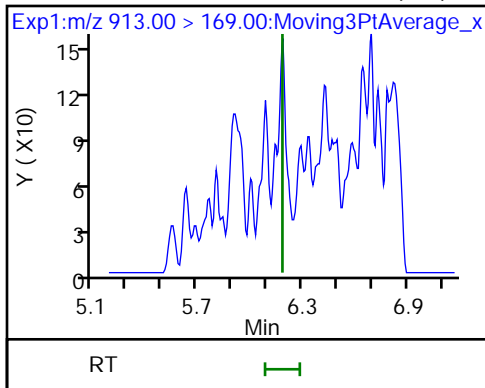
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_020.d  
 Lims ID: MB 140-58967/1-A  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 18-Feb-2022 22:19:52      ALS Bottle#: 20      Worklist Smp#: 20  
 Injection Vol: 1.0 ul      Dil. Factor: 1.0000  
 Sample Info: 140-0022714-020 mb 140-58967/1-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby      Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23      Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution      Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 :      Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj      Date: 19-Feb-2022 12:08:45

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 140-58905/2-B  
 Matrix: Air Lab File ID: 021.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 20:49  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.02421		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	89		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_021.d  
 Lims ID: LCS 140-58905/2-B  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 19-Feb-2022 20:49:23 ALS Bottle#: 21 Worklist Smp#: 21  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-021 lcs 140-58905/2-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:06:20  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.805	2.804	0.001	1.000	3920888	1.13	113	673	
D 2 13C4 PFBA	217.00 > 172.00	2.805	2.804	0.001	0.680	5481234	1.23	98.5	16510	
3 PFECA F	229.00 > 85.00	2.912	2.911	0.001	0.935	2728235	1.07	107	12483	
6 Perfluoropentanoic acid	262.90 > 219.00	3.116	3.115	0.002	1.000	3518246	1.11	111	523	M
D 5 13C5 PFPeA	267.90 > 223.00	3.116	3.115	0.002	0.756	4212929	1.21	96.4	12226	
4 3:3 FTCA	241.00 > 177.10	3.124	3.122	0.002	1.000	140683	1.21	Target=1.16	121	666
	241.00 > 116.90	3.124	3.122	0.002	1.000	118647	1.19(0.58-1.74)		149	
D 7 13C3 PFBS	301.90 > 80.00	3.124	3.122	0.002	0.758	2482051	1.12	96.6	4055	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.132	3.131	0.001	1.003	2347242	1.00	Target=2.65	113	1806
	298.90 > 99.00	3.132	3.131	0.001	1.003	875347	2.68(1.32-3.97)		1113	
9 PFECA A	278.95 > 84.90	3.203	3.202	0.001	1.028	4532027	1.15	115	17356	
11 PES	314.80 > 135.00	3.261	3.260	0.001	1.044	5058305	1.00	112	10029	
12 PFECA B	295.22 > 201.00	3.375	3.373	0.002	0.981	1724367	1.08	108	5051	
13 4:2 FTS	327.00 > 307.00	3.417	3.415	0.002	1.003	2149752	1.04	112	8601	
D 18 M2-4:2 FTS	329.00 > 81.00	3.406	3.415	-0.009	0.826	1059442	1.53	131	1256	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.439	3.437	0.002	1.101	2389176	1.08	Target=3.40	116	3724	
349.00 > 99.00	3.439	3.437	0.002	1.101	687685		3.47(1.70-5.09)		3518	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.439	3.437	0.002	1.000	3380095	1.10	Target=12.03	110	890	
313.00 > 119.00	3.439	3.437	0.002	1.000	295568		11.44(6.01-18.04)		228	
D 14 13C2 PFHxA										
315.00 > 270.00	3.439	3.437	0.002	0.834	4833607	1.25		100	16985	
17 HFPO-DA										
285.00 > 169.00	3.544	3.542	0.002	1.000	2575582	1.21	Target=2.55	121	744	
329.00 > 169.00	3.544	3.542	0.002	1.000	1000507		2.57(1.28-3.83)		614	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.542	0.002	0.860	2108193	1.12		89.4	6465	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.774	3.772	0.002	1.000	2105048	0.9774	Target=3.45	107	4036	M
399.00 > 99.00	3.774	3.772	0.002	1.000	625176		3.37(1.72-5.17)		2058	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.774	3.772	0.002	0.915	1838670	1.28		108	10345	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.784	3.792	-0.008	1.000	3897038	1.16	Target=3.22	116	1400	
363.00 > 169.00	3.784	3.792	-0.008	1.000	1234555		3.16(1.61-4.83)		2797	
D 22 13C4 PFHpA										
367.00 > 322.00	3.784	3.792	-0.008	0.918	4179283	1.22		97.3	10174	
25 DONA										
377.00 > 251.00	3.822	3.820	0.002	0.866	5661954	0.8987	Target=1.72	95.4	11854	
377.00 > 85.00	3.822	3.820	0.002	0.866	3190090		1.77(0.86-2.58)		3981	
26 5:3 FTCA										
340.88 > 236.90	3.846	3.853	-0.007	0.987	416395	1.33	Target=1.08	133	839	
340.88 > 216.90	3.846	3.853	-0.007	0.987	371666		1.12(0.54-1.62)		1184	
27 6:2 FTUCA										
356.86 > 292.90	3.879	3.886	-0.007	1.000	1843034	1.07	Target=14.05	107	3949	
356.86 > 243.00	3.879	3.886	-0.007	1.000	127998		14.40(7.03-21.08)		688	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.886	-0.007	0.941	2054529	1.60		128	3986	
29 6:2 FTCA										
377.10 > 63.00	3.896	3.903	-0.007	1.000	60596	1.05	Target=1.38	105	157	
377.10 > 313.10	3.896	3.903	-0.007	1.000	46711		1.30(0.69-2.08)		68.7	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.896	3.903	-0.007	0.945	103617	1.05		83.8	311	
32 PFECHS										
460.80 > 380.90	4.056	4.054	0.002	0.984	2665254	1.01	Target=1.68	110	5792	
460.80 > 98.90	4.056	4.054	0.002	0.984	1506109		1.77(0.84-2.53)		4742	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.104	4.111	-0.007	0.930	2229308	0.9471	Target=3.76	99.5	4756	
449.00 > 99.00	4.104	4.111	-0.007	0.930	588473		3.79(1.88-5.64)		1689	
35 6:2 FTS										
427.00 > 407.00	4.113	4.121	-0.008	1.000	1888975	1.22		129	5082	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
37 Perfluorooctanoic acid										
413.00 > 369.00	4.123	4.121	0.002	1.000	4414888	1.16	Target=2.40	116	2989	
413.00 > 169.00	4.123	4.121	0.002	1.000	1792730		2.46(1.20-3.60)		2948	
* 30 13C2 PFOA										
415.00 > 370.00	4.123	4.121	0.002		4749725	1.25			14623	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.113	4.121	-0.008	0.998	1002987	1.47		124	2197	
D 31 13C4 PFOA										
417.00 > 372.00	4.123	4.121	0.002	1.000	4441381	1.25		99.9	7276	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.406	4.412	-0.006	0.998	2639208	0.9670	Target=4.41	104	3250	M
499.00 > 99.00	4.414	4.412	0.002	1.000	587021		4.50(2.20-6.61)		1736	M
D 39 13C4 PFOS										
503.00 > 80.00	4.414	4.412	0.002	1.071	2848068	1.34		112	2487	
42 Perfluorononanoic acid										
463.00 > 419.00	4.432	4.438	-0.006	1.000	4378756	1.17	Target=4.14	117	4763	
463.00 > 169.00	4.432	4.438	-0.006	1.000	1081640		4.05(2.07-6.21)		3160	
D 41 13C5 PFNA										
468.00 > 423.00	4.432	4.438	-0.006	1.075	6159196	1.28		102	8566	
43 7:3 FTCA										
441.00 > 337.00	4.522	4.519	0.003	0.993	882139	1.53	Target=1.38	153	2606	
441.00 > 317.00	4.513	4.519	-0.006	0.991	592492		1.49(0.69-2.08)		2977	
44 8:2 FTUCA										
456.86 > 392.90	4.539	4.545	-0.006	1.000	2660987	1.08	Target=35.71	108	6218	
456.86 > 343.00	4.539	4.545	-0.006	1.000	88568		30.04(17.85-53.56)		273	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.539	4.545	-0.006	1.000	3220234	1.88		150	4308	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.555	4.553	0.002	1.105	137842	1.10		87.8	695	
46 8:2 FTCA										
477.00 > 393.10	4.555	4.561	-0.006	1.000	218253	1.09	Target=3.43	109	506	
477.00 > 63.20	4.555	4.561	-0.006	1.000	60246		3.62(1.72-5.15)		230	
49 9CIFOS										
531.00 > 351.00	4.571	4.578	-0.007	1.109	5281135	0.9856		106	7201	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.690	4.697	-0.007	1.062	2285768	0.9483	Target=3.86	98.8	5013	
549.00 > 99.00	4.690	4.697	-0.007	1.062	575189		3.97(1.93-5.79)		2289	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.707	4.705	0.002	1.000	3563397	1.05		105	4761	
D 55 13C8 FOSA										
506.00 > 78.00	4.707	4.705	0.002	1.142	4433319	1.38		110	6105	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.716	4.722	-0.006	1.000	4877459	1.12	Target=11.25	112	3857	
513.00 > 169.00	4.716	4.722	-0.006	1.000	439954		11.09(5.62-16.87)		263	
D 52 13C2 PFDA										
515.00 > 470.00	4.716	4.722	-0.006	1.144	6081326	1.32		106	17929	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.733	4.731	0.002	1.148	4495801	1.47		123	2450	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.733	4.739	-0.006	1.000	1508130	1.10		114	4507	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.857	4.872	-0.015	1.178	723107	1.68		134	641	
57 NMeFOSAA										M
570.00 > 419.00	4.866	4.872	-0.006	1.002	584541	1.09		109	758	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.951	4.957	-0.006	1.122	2080125	0.9800	Target=3.69	102	6333	
599.00 > 99.00	4.951	4.957	-0.006	1.122	560430		3.71(1.84-5.53)		2397	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.978	4.985	-0.007	1.000	5087840	1.13	Target=8.60	113	6732	
563.00 > 169.00	4.978	4.985	-0.007	1.000	599017		8.49(4.30-12.90)		1857	
D 59 13C2 PFUnA										
565.00 > 520.00	4.978	4.985	-0.007	1.208	5812475	1.31		105	12208	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.997	5.005	-0.008	1.212	726644	1.64		131	1773	
62 NEtFOSAA										M
584.00 > 419.00	5.007	5.005	0.002	1.002	608763	1.19		119	1407	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.085	5.092	-0.007	1.233	3058978	1.59		127	9190	
63 11CIFOS										
631.00 > 451.00	5.085	5.092	-0.007	1.152	4044823	0.9744		103	8010	
65 10:2 FTUCA										
556.86 > 492.90	5.085	5.092	-0.007	1.000	3269524	1.11		111	7403	
66 10:2 FTCA										
576.80 > 493.00	5.104	5.102	0.002	1.000	82408	1.12	Target=2.41	112	588	
576.80 > 63.10	5.104	5.102	0.002	1.000	38433		2.14(1.20-3.61)		145	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.104	5.111	-0.007	1.238	99800	0.8493		67.9	534	
D 69 13C2 PFDaA										
615.00 > 570.00	5.220	5.226	-0.006	1.266	5571836	1.27		102	18511	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.220	5.226	-0.006	1.000	4911632	1.07	Target=6.73	107	4401	
613.00 > 169.00	5.220	5.226	-0.006	1.000	705418		6.96(3.36-10.09)		1527	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.236	5.243	-0.007	1.270	924355	1.47		124	7054	
71 10:2 FTS										
627.00 > 607.00	5.245	5.251	-0.006	1.002	1715876	1.05		109	9070	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.277	5.275	0.002	1.280	616286	1.37		109	416	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.277	5.283	-0.006	1.280	537056	1.40		112	50.6	
74 NMeFOSA										
512.00 > 169.00	5.277	5.283	-0.006	1.000	494354	1.07		107	737	
75 N-MeFOSE-M										
616.00 > 59.00	5.285	5.292	-0.007	1.002	655906	1.13		113	289	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.392	5.399	-0.007	1.221	1833605	0.8138	Target=4.35	84.1	4000	
699.00 > 99.00	5.392	5.399	-0.007	1.221	427842		4.29(2.18-6.53)		2265	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.428	5.435	-0.007	1.317	556746	1.19		95.3	269	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.428	5.435	-0.007	1.040	4148931	1.05	Target=6.02	105	4238	
663.00 > 169.00	5.428	5.435	-0.007	1.040	689640		6.02(3.01-9.03)		2548	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.445	5.452	-0.007	1.321	377603	1.23		98.2	638	
79 N-EtFOSE-M										
630.00 > 59.00	5.445	5.452	-0.007	1.003	644092	1.02		102	569	
81 N-EtFOSA-M										
526.00 > 169.00	5.445	5.452	-0.007	1.000	443237	1.18		118	609	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.609	5.617	-0.008	1.361	4186712	1.20		95.6	10994	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.609	5.617	-0.008	1.000	475236	1.10	Target=1.07	110	1367	
713.00 > 219.00	5.609	5.617	-0.008	1.000	459590		1.03(0.54-1.61)		2516	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.917	5.924	-0.007	1.435	1596464	0.7006		56.1	4291	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.917	5.924	-0.007	1.000	1585253	1.09	Target=8.23	109	2495	
813.00 > 169.00	5.917	5.924	-0.007	1.000	190548		8.32(4.11-12.34)		742	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.184	-0.005	1.044	70586	0.0546	Target=11.72	5.5	205	M
913.00 > 169.00	6.174	6.184	-0.010	1.043	6185		11.41(5.86-17.58)		24.5	M

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_021.d

Injection Date: 19-Feb-2022 20:49:23

Instrument ID: LCA

Lims ID: LCS 140-58905/2-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 21

Worklist Smp#: 21

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

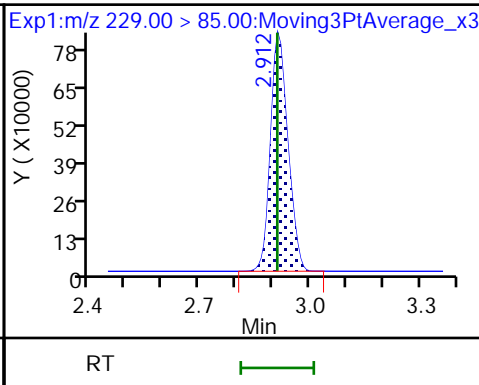
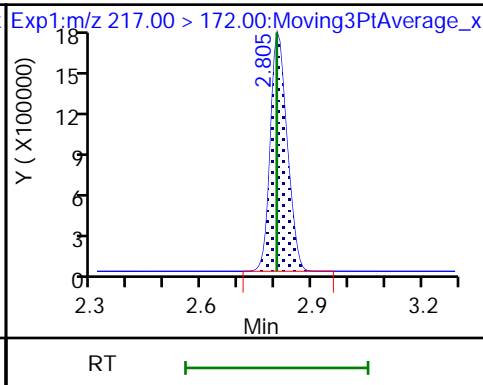
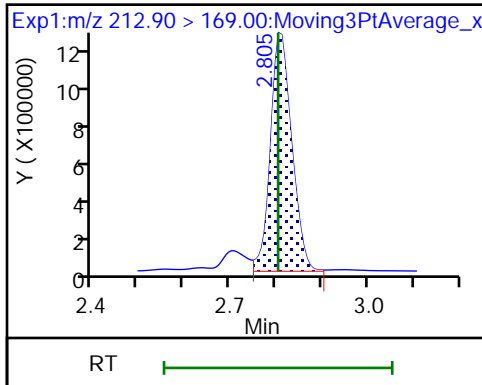
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

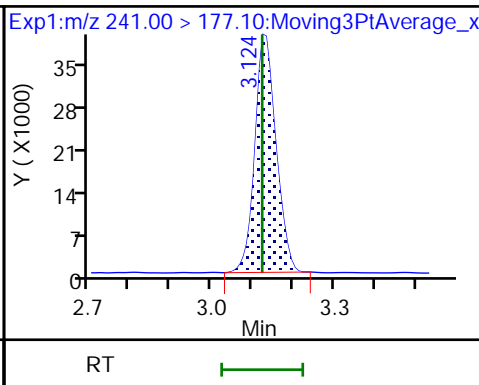
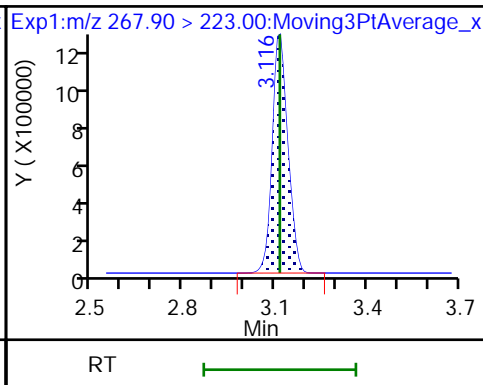
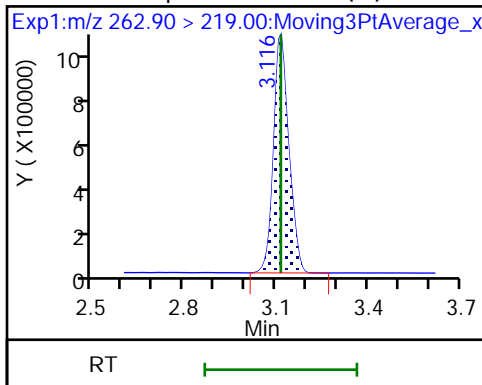
3 PFECA F



6 Perfluoropentanoic acid (M)

D 5 13C5 PFPeA

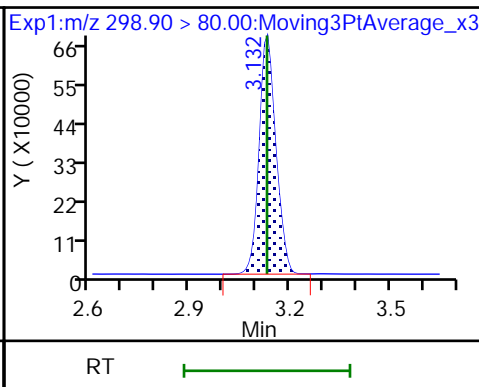
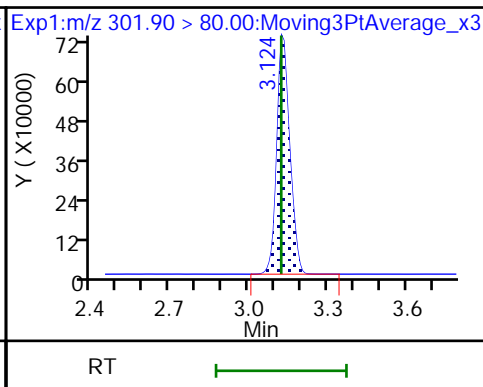
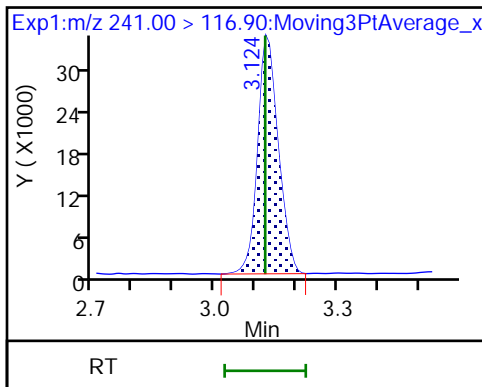
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

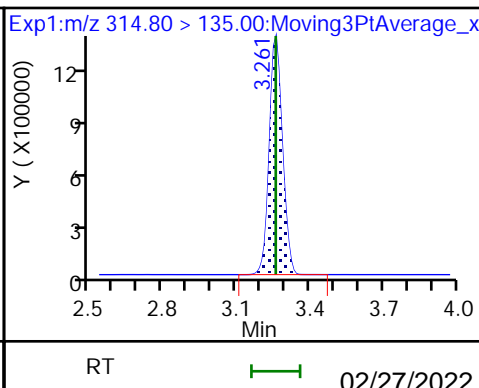
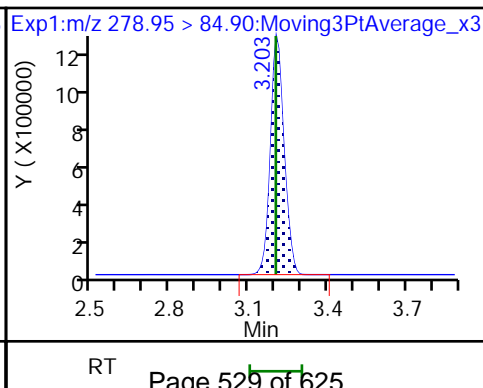
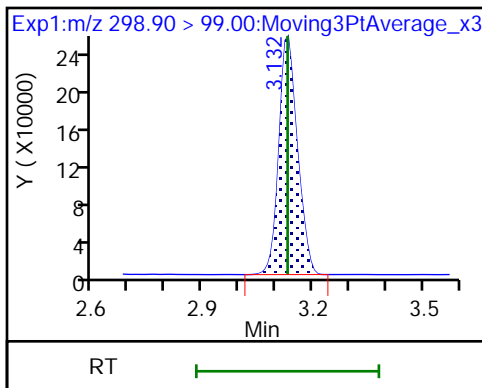
8 Perfluorobutanesulfonic acid

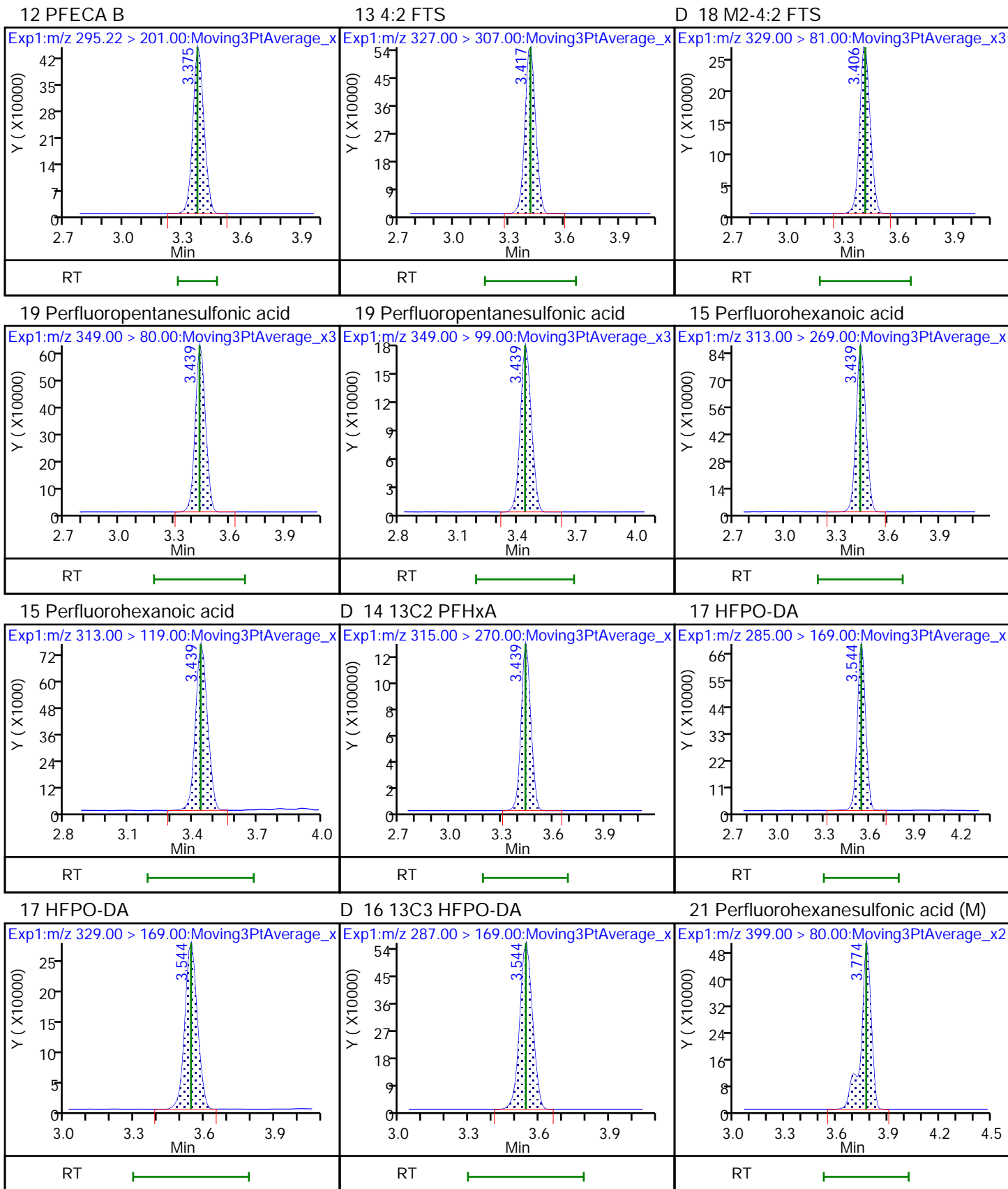


8 Perfluorobutanesulfonic acid

9 PFECA A

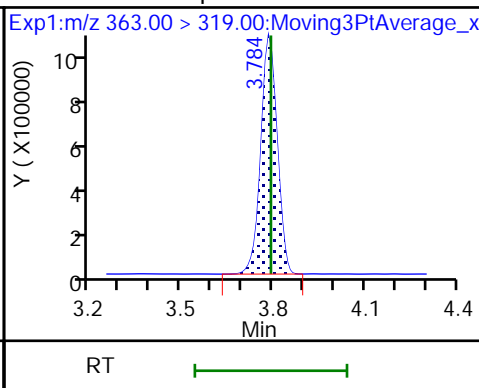
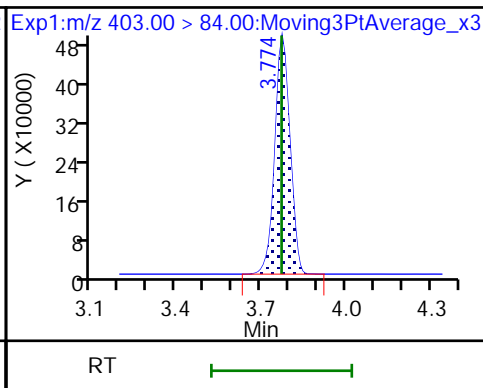
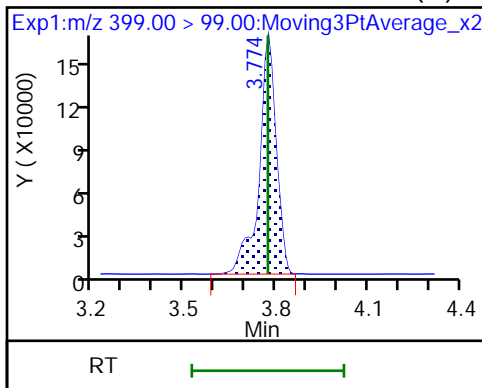
11 PES





21 Perfluorohexanesulfonic acid (M) D 20 18O2 PFHxS

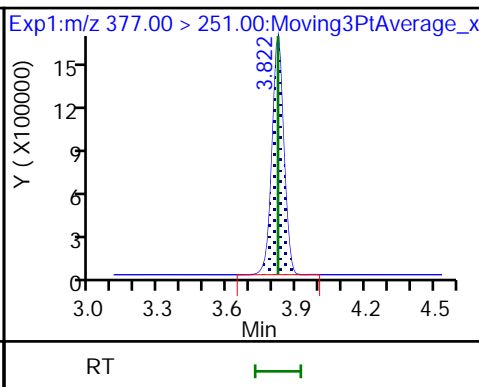
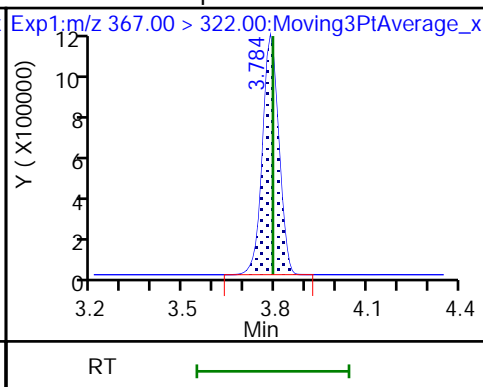
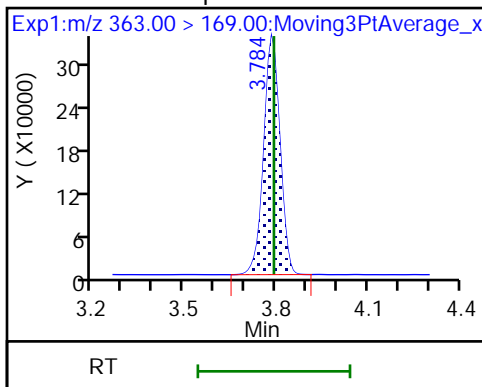
23 Perfluoroheptanoic acid



23 Perfluoroheptanoic acid

D 22 13C4 PFHpA

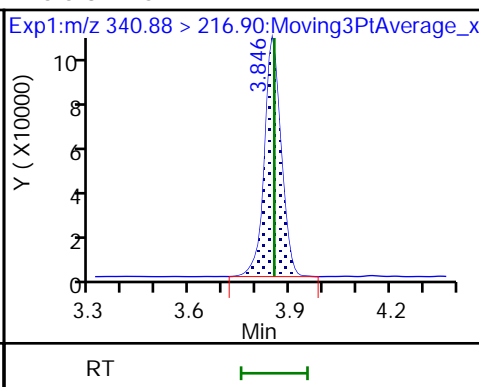
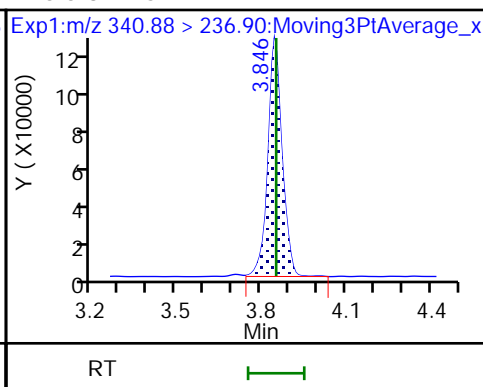
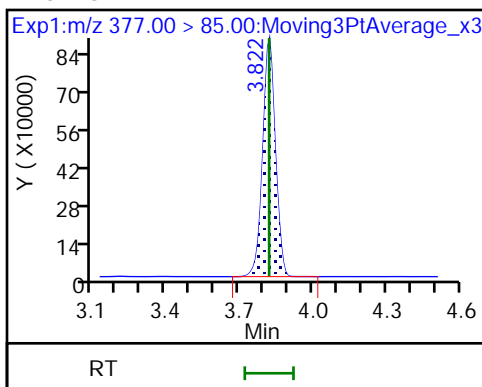
25 DONA



25 DONA

26 5:3 FTCA

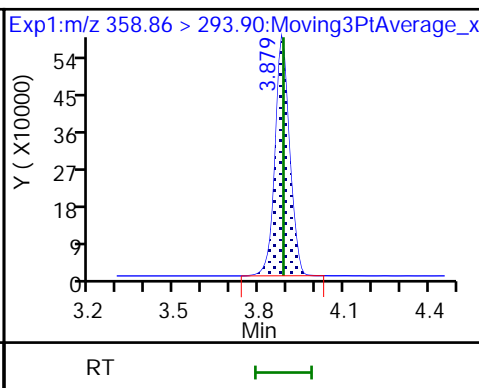
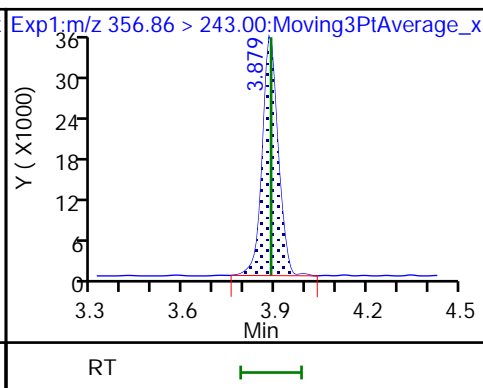
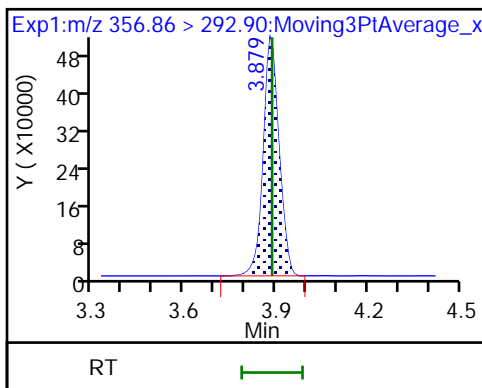
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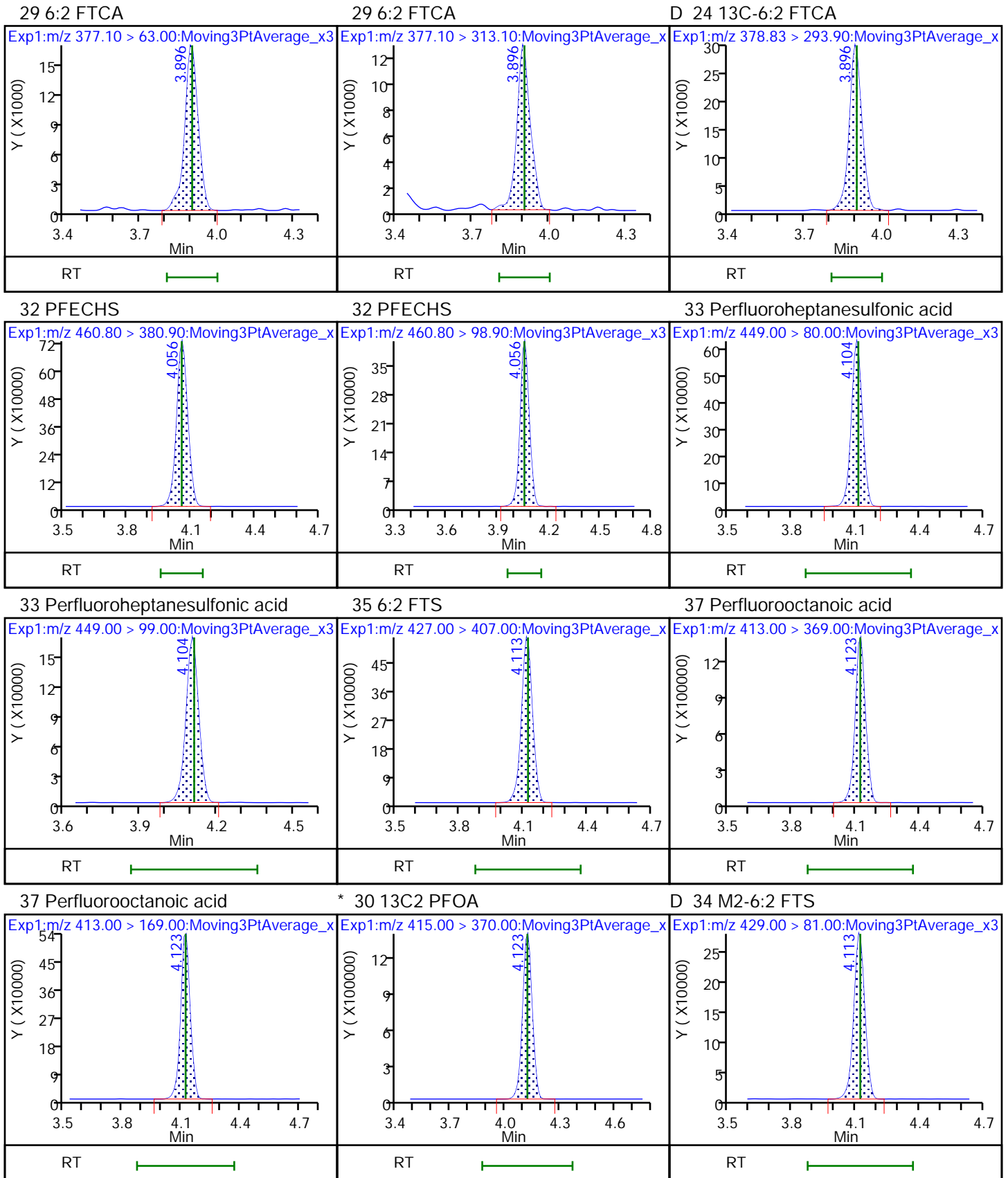


27 6:2 FTUCA

27 6:2 FTUCA

D 28 13C-6:2 FTUCA

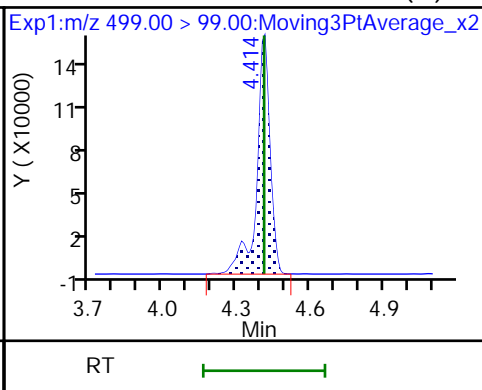
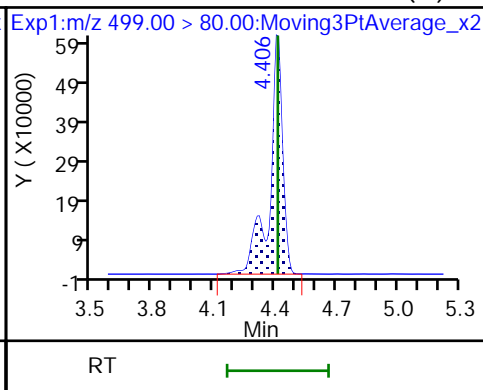
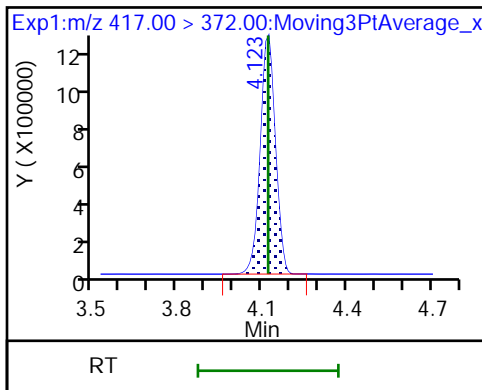




D 31 13C4 PFOA

40 Perfluorooctanesulfonic acid (M)

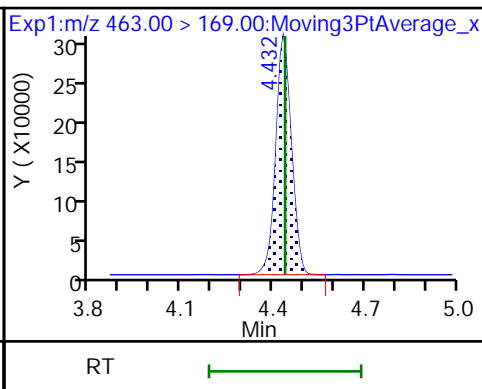
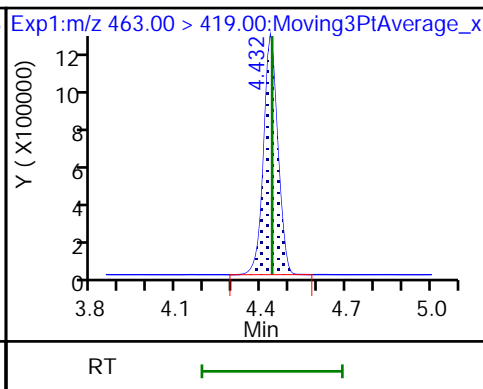
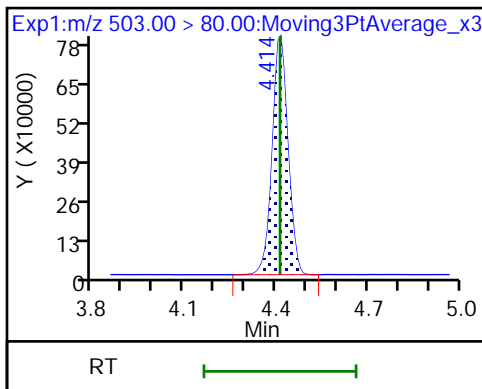
40 Perfluorooctanesulfonic acid (M)



D 39 13C4 PFOS

42 Perfluorononanoic acid

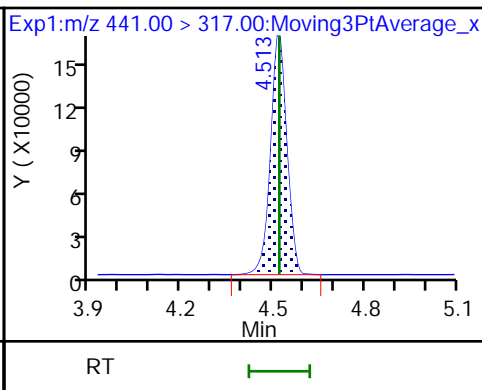
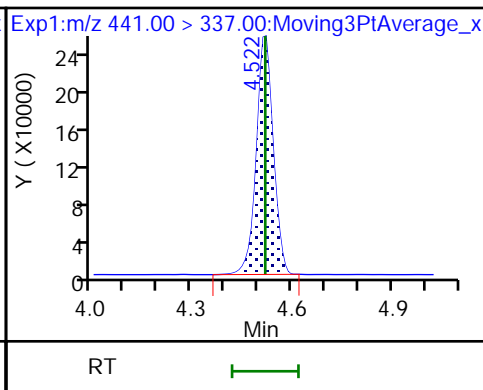
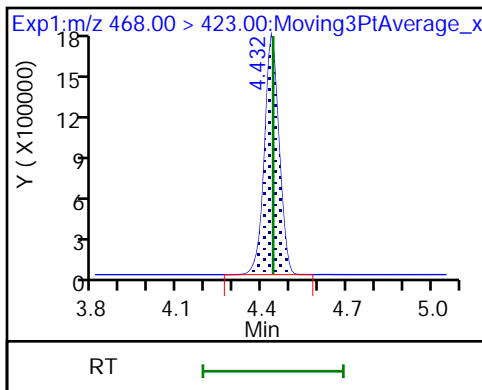
42 Perfluorononanoic acid



D 41 13C5 PFNA

43 7:3 FTCA

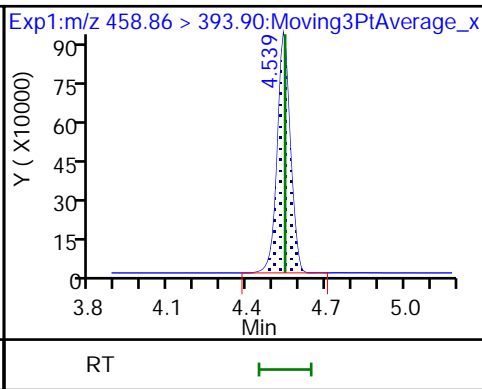
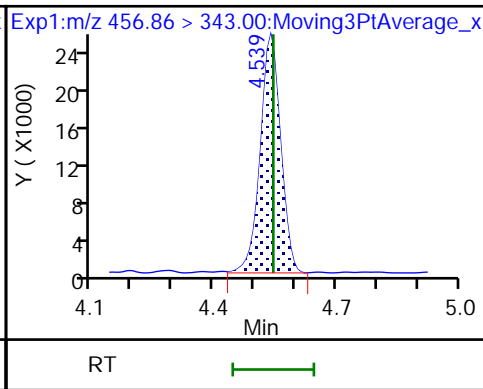
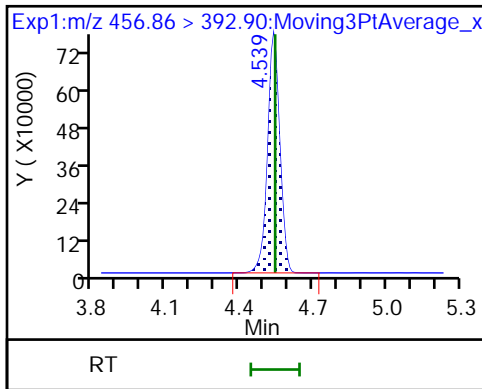
43 7:3 FTCA



44 8:2 FTUCA

44 8:2 FTUCA

D 45 13C-8:2 FTUCA

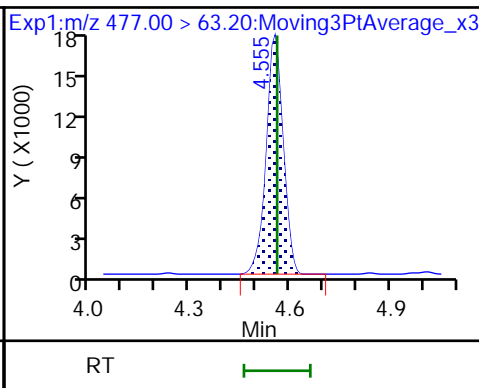
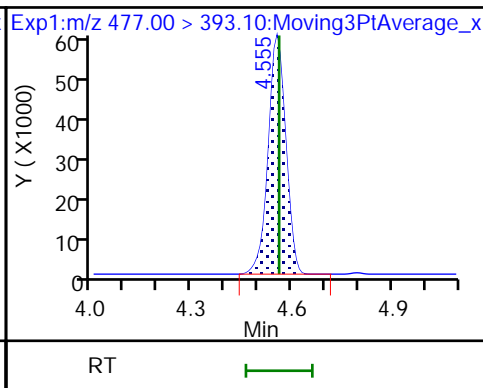
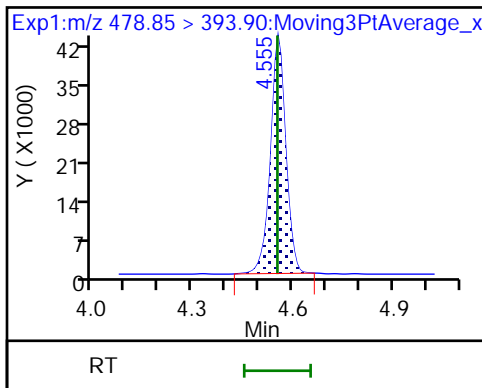




D 47 13C-8:2 FTCA

46 8:2 FTCA

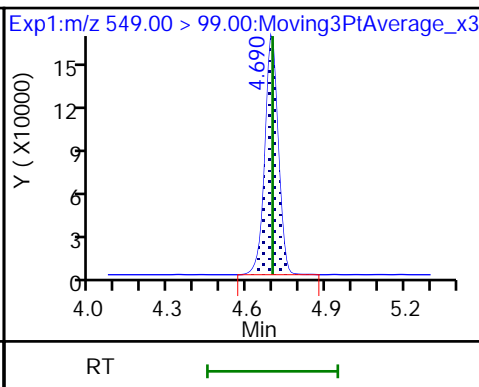
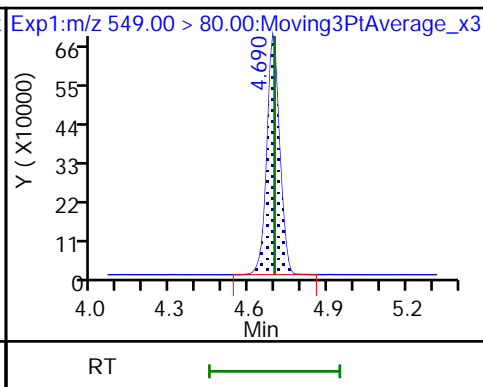
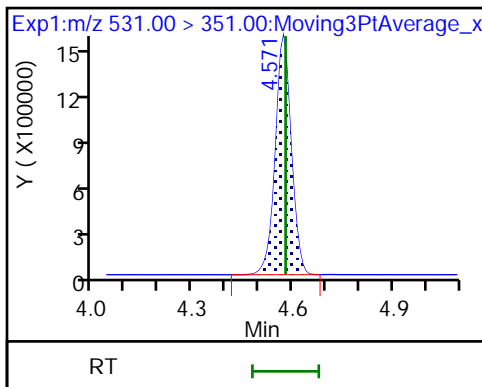
46 8:2 FTCA



49 9CIFOS

51 Perfluoronanesulfonic acid

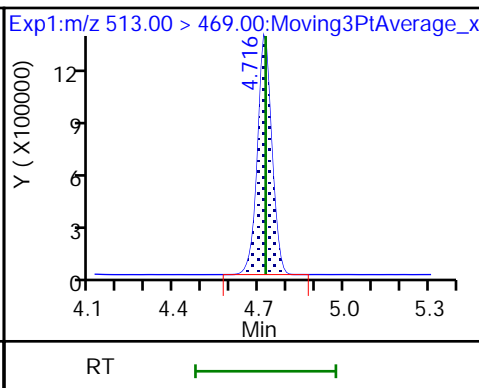
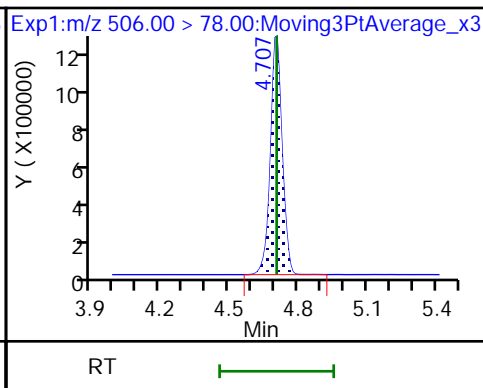
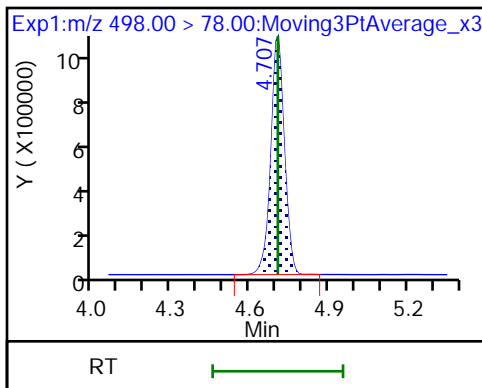
51 Perfluoronanesulfonic acid



54 Perfluorooctanesulfonamide

D 55 13C8 FOSA

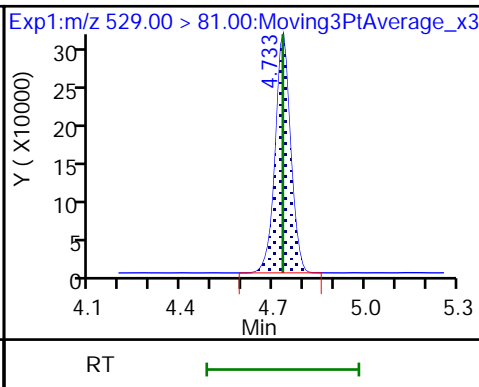
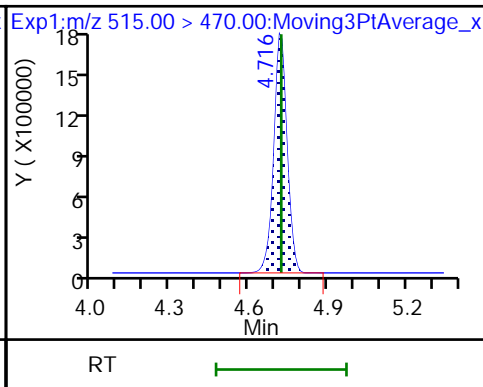
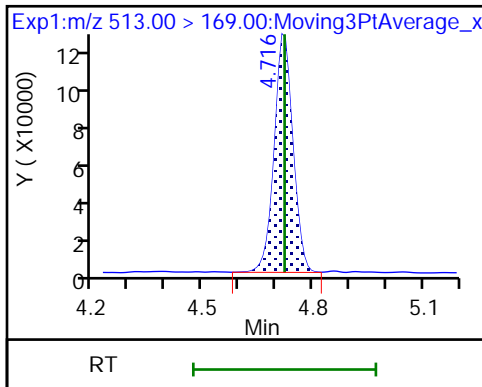
48 Perfluorodecanoic acid

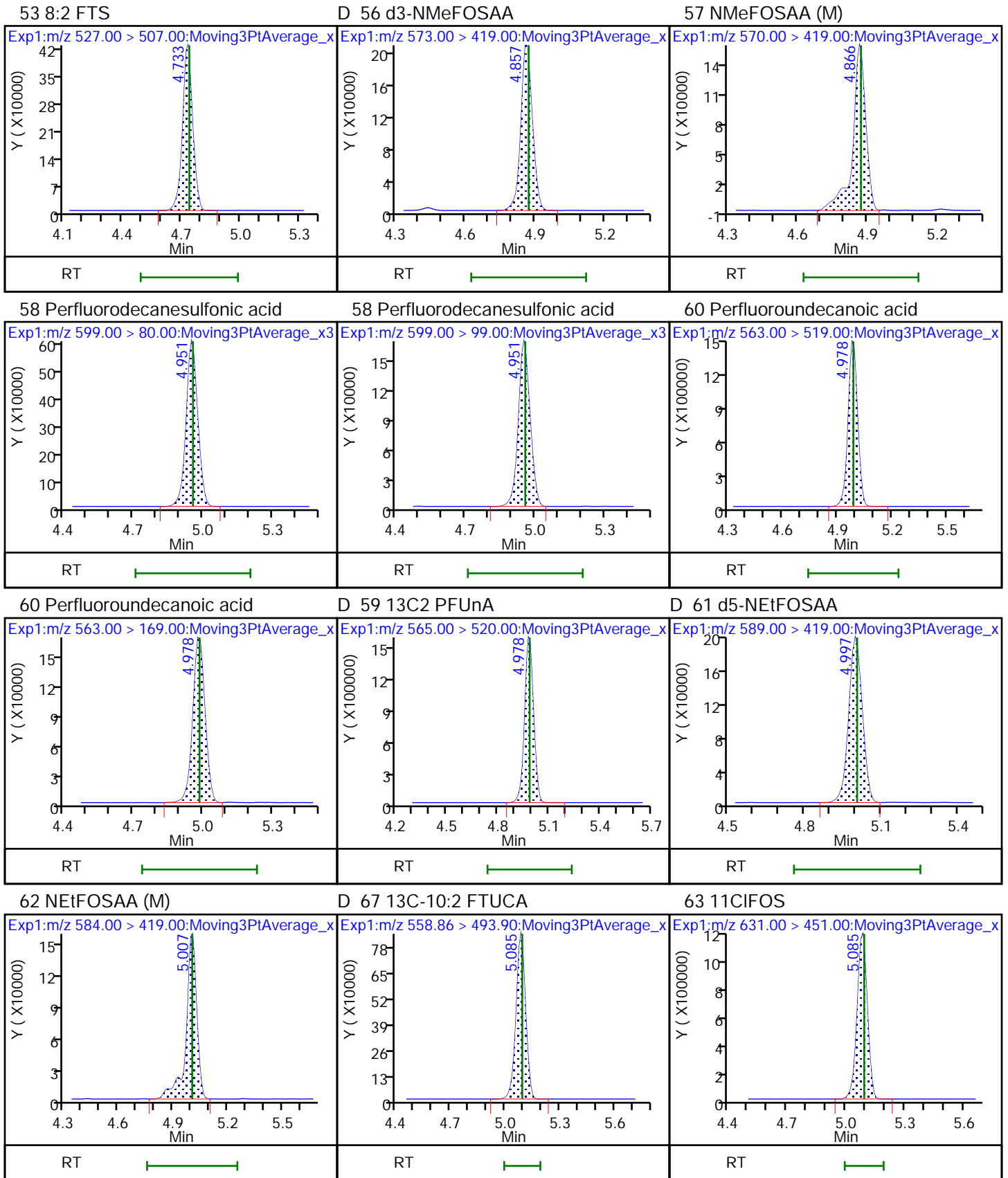


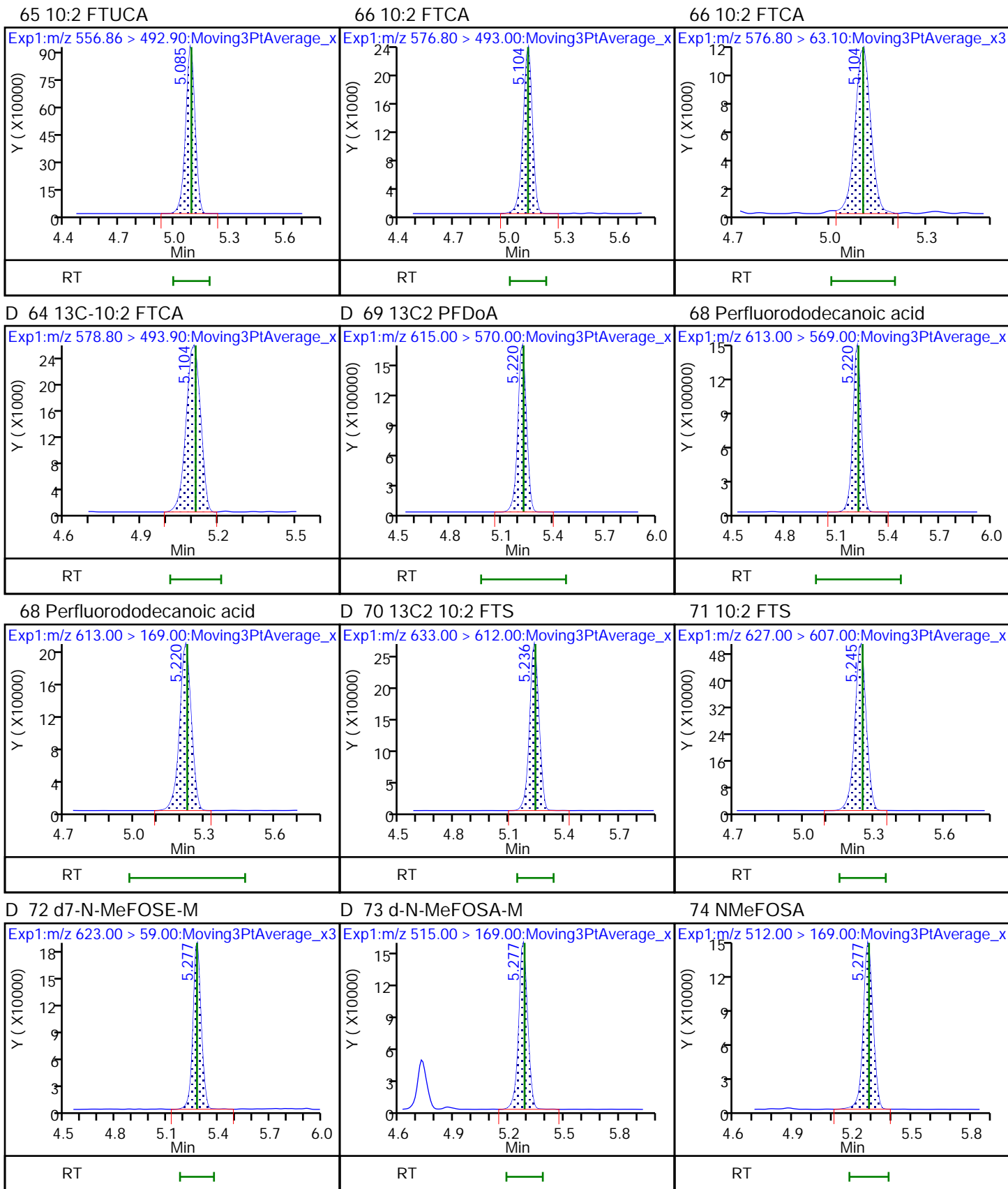
48 Perfluorodecanoic acid

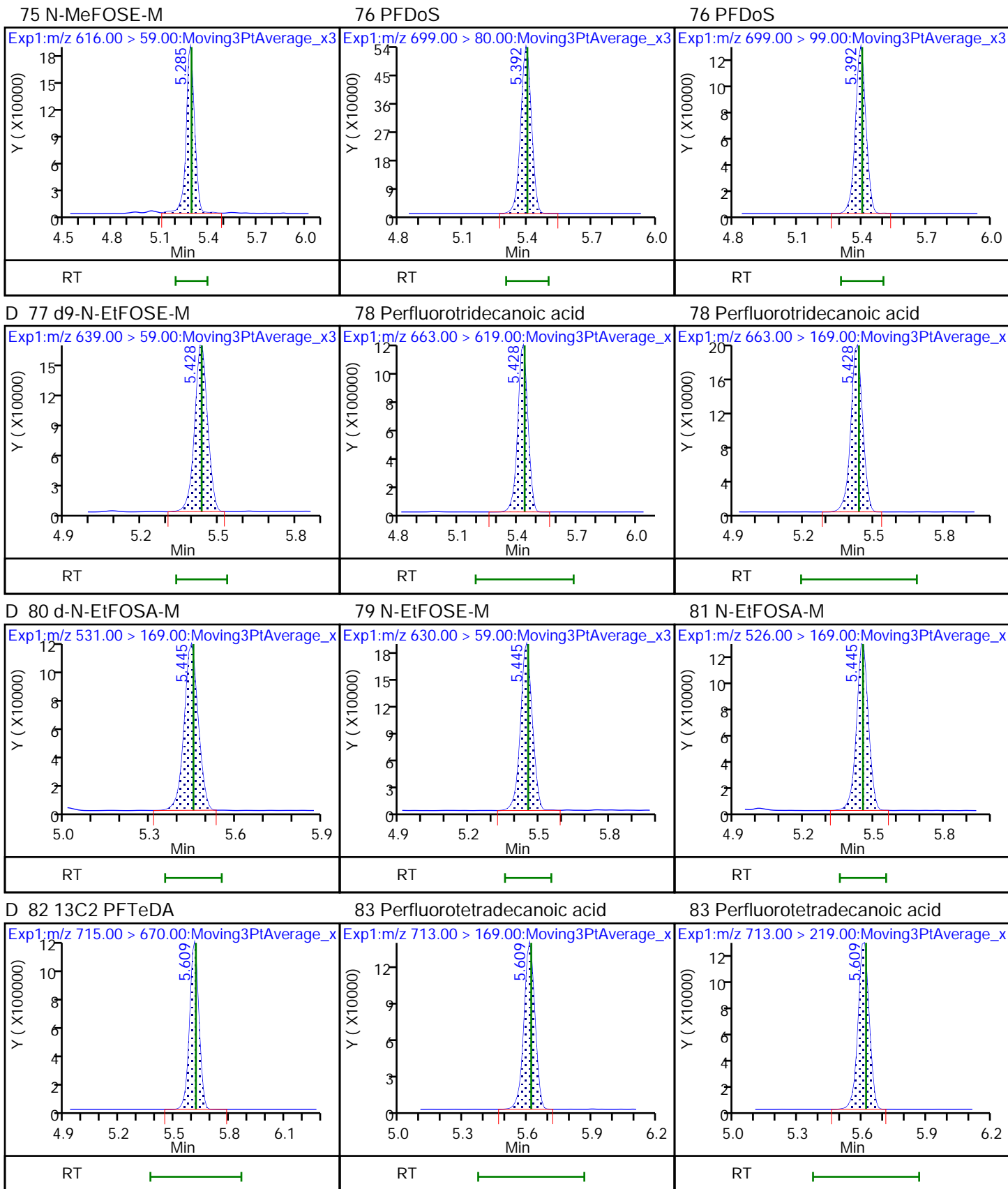
D 52 13C2 PFDA

D 50 M2-8:2 FTS





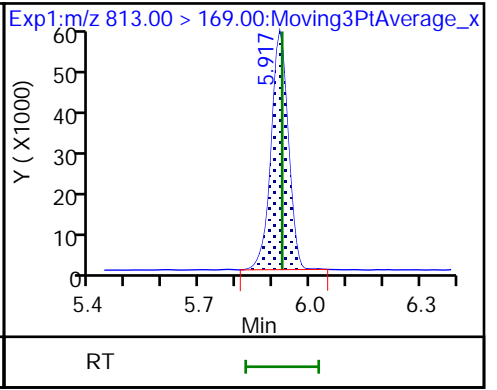
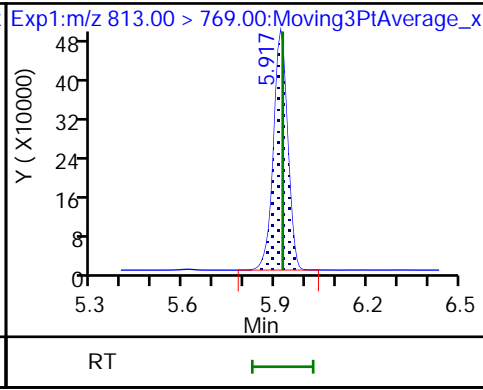
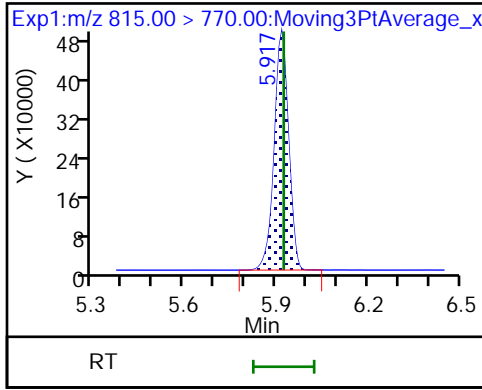




D 84 13C2 PFHxDA

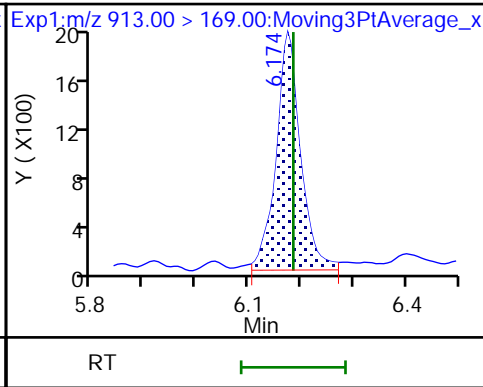
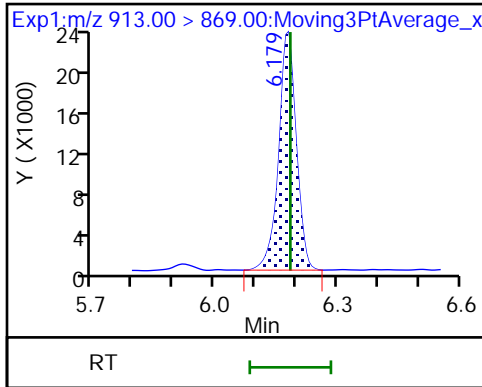
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid (M)



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 140-58914/2-B  
 Matrix: Air Lab File ID: \_036.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/16/2022 07:38  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 00:40  
 Con. Extract Vol.: 50 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.02100		0.00100	0.000580

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	87		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_036.d  
 Lims ID: LCS 140-58914/2-B  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 19-Feb-2022 00:40:43 ALS Bottle#: 36 Worklist Smp#: 36  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-036 lcs 140-58914/2-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:26:19  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.804	2.811	-0.007	1.000	3607898	1.04	104	983	
D 2 13C4 PFBA	217.00 > 172.00	2.804	2.811	-0.007	0.680	5466568	1.13	90.8	16743	
3 PFECA F	229.00 > 85.00	2.911	2.919	-0.008	0.937	2543338	1.03	103	8785	
D 5 13C5 PFPeA	267.90 > 223.00	3.107	3.115	-0.008	0.754	4109638	1.09	87.0	14962	
6 Perfluoropentanoic acid	262.90 > 219.00	3.107	3.123	-0.016	1.000	3352651	1.08	108	921	
4 3:3 FTCA	241.00 > 177.10	3.122	3.131	-0.009	1.000	112077	0.9635	Target=1.19	96.3	1099
	241.00 > 116.90	3.122	3.131	-0.009	1.000	98776		1.13(0.60-1.79)		137
D 7 13C3 PFBS	301.90 > 80.00	3.122	3.131	-0.009	0.758	2484080	1.04	89.4	9222	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.122	3.140	-0.018	1.000	2194430	0.9366	Target=2.66	106	3850
	298.90 > 99.00	3.122	3.140	-0.018	1.000	815953		2.69(1.33-3.99)		2388
9 PFECA A	278.95 > 84.90	3.202	3.211	-0.009	1.031	4266208	1.11	111	13054	
11 PES	314.80 > 135.00	3.260	3.260	0.0	1.044	4839923	0.9549	107	14602	
12 PFECA B	295.22 > 201.00	3.373	3.384	-0.011	0.982	1704852	1.11	111	6214	
D 18 M2-4:2 FTS	329.00 > 81.00	3.405	3.416	-0.011	0.826	761228	1.02	87.1	1366	
13 4:2 FTS	327.00 > 307.00	3.405	3.416	-0.011	1.000	1523873	1.03	110	9303	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.448	-0.011	0.834	4611471	1.11		88.5	16894	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.437	3.448	-0.011	1.101	2168517	0.9830	Target=3.47	105	4725	
349.00 > 99.00	3.437	3.448	-0.011	1.101	615198		3.52(1.73-5.20)		3297	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.448	-0.011	1.000	3159643	1.08	Target=11.56	108	1302	
313.00 > 119.00	3.437	3.448	-0.011	1.000	265663		11.89(5.78-17.33)		300	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.860	2205894	1.08		86.5	6420	
17 HFPO-DA										
285.00 > 169.00	3.542	3.553	-0.011	1.000	2339766	1.05	Target=2.51	105	1566	
329.00 > 169.00	3.542	3.553	-0.011	1.000	954852		2.45(1.25-3.76)		1391	
D 20 18O2 PFHxS										
403.00 > 84.00	3.772	3.783	-0.011	0.915	1652851	1.07		90.1	5263	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.772	3.783	-0.011	1.000	1794747	0.9270	Target=3.47	102	3887	M
399.00 > 99.00	3.772	3.783	-0.011	1.000	522250		3.44(1.73-5.20)		1970	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.782	3.793	-0.011	0.918	4085713	1.10		87.9	9186	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.782	3.793	-0.011	1.000	3715099	1.13	Target=3.41	113	2058	
363.00 > 169.00	3.782	3.793	-0.011	1.000	1136562		3.27(1.70-5.11)		2262	
25 DONA										
377.00 > 251.00	3.820	3.829	-0.009	0.866	5539078	0.9892	Target=1.72	105	9795	
377.00 > 85.00	3.820	3.829	-0.009	0.866	3026309		1.83(0.86-2.58)		3592	
26 5:3 FTCA										
340.88 > 236.90	3.845	3.853	-0.008	0.985	346003	1.19	Target=1.09	119	1011	
340.88 > 216.90	3.845	3.853	-0.008	0.985	315876		1.10(0.54-1.63)		683	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	0.0	0.943	1627771	1.17		93.9	4271	
27 6:2 FTUCA										
356.86 > 292.90	3.877	3.895	-0.018	0.998	1371573	1.01	Target=14.99	101	3288	
356.86 > 243.00	3.886	3.895	-0.009	1.000	109600		12.51(7.50-22.49)		366	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.904	-0.001	0.947	96413	0.9015		72.1	415	
29 6:2 FTCA										
377.10 > 63.00	3.903	3.913	-0.010	1.000	54529	1.02	Target=1.26	102	283	
377.10 > 313.10	3.895	3.913	-0.018	0.998	41202		1.32(0.63-1.89)		72.3	
32 PFECHS										
460.80 > 380.90	4.054	4.065	-0.010	0.984	2358351	0.9156	Target=1.75	99.3	5991	
460.80 > 98.90	4.054	4.065	-0.010	0.984	1386692		1.70(0.87-2.62)		3121	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.102	4.112	-0.010	0.930	2029734	0.9702	Target=3.89	102	5565	
449.00 > 99.00	4.102	4.112	-0.010	0.930	496434		4.09(1.94-5.83)		2354	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.111	4.121	-0.010	0.998	851509	1.15		97.0	1392	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.002	1286553	0.9811		103	4345	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.131	-0.010	1.000	4335413	1.13		90.2	11745	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5137439	1.25			10549	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.131	-0.010	1.000	3837573	1.03	Target=2.38	103	2454	
413.00 > 169.00	4.121	4.131	-0.010	1.000	1633644		2.35(1.19-3.57)		3822	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.421	-0.009	1.071	2531339	1.10		91.9	2114	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.412	4.421	-0.009	1.000	2272370	0.9367	Target=4.49	101	2685	M
499.00 > 99.00	4.412	4.421	-0.009	1.000	491218		4.63(2.25-6.74)		1830	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.438	4.439	-0.001	1.000	3836828	1.11	Target=3.86	111	3826	
463.00 > 169.00	4.429	4.439	-0.010	0.998	917826		4.18(1.93-5.79)		2568	
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.439	-0.001	1.077	5659148	1.09		86.8	10039	
43 7:3 FTCA										
441.00 > 337.00	4.519	4.529	-0.010	0.993	640198	1.27	Target=1.33	127	2073	
441.00 > 317.00	4.519	4.529	-0.010	0.993	466919		1.37(0.66-1.99)		1572	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	1868613	1.07	Target=30.23	107	5410	
456.86 > 343.00	4.536	4.545	-0.009	0.998	52253		35.76(15.12-45.35)		172	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.553	-0.008	1.000	2291236	1.23		98.7	6906	
46 8:2 FTCA										
477.00 > 393.10	4.553	4.562	-0.009	1.000	179937	1.03	Target=3.38	103	867	
477.00 > 63.20	4.553	4.562	-0.009	1.000	54091		3.33(1.69-5.07)		193	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.562	-0.009	1.105	120056	0.8839		70.7	447	
49 9CIFOS										
531.00 > 351.00	4.569	4.578	-0.009	1.109	4718485	0.99		106	7295	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	2133566	1.00	Target=3.87	104	2327	
549.00 > 99.00	4.697	4.697	0.0	1.065	536615		3.98(1.93-5.80)		2547	
D 55 13C8 FOSA										
506.00 > 78.00	4.705	4.714	-0.009	1.142	3739490	1.07		85.9	4397	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.705	4.714	-0.009	1.000	2952148	1.03		103	5076	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.722	4.731	-0.009	1.000	4540276	1.08	Target=11.19	108	3502	
513.00 > 169.00	4.722	4.731	-0.009	1.000	393218		11.55(5.60-16.79)		267	
D 52 13C2 PFDA										
515.00 > 470.00	4.722	4.731	-0.009	1.146	5847858	1.18		94.1	16322	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.740	-0.009	1.148	937945	1.16		97.2	1766	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.731	4.740	-0.009	1.000	1162925	0.9864		103	4914	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.863	4.872	-0.009	1.180	509967	1.09		87.5	373	
57 NMeFOSAA										
570.00 > 419.00	4.863	4.880	-0.017	1.000	439764	1.16		116	881	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.124	1926443	1.02	Target=3.53	106	3618	
599.00 > 99.00	4.957	4.957	0.0	1.124	515031		3.74(1.77-5.30)		2647	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.995	-0.009	1.000	4274683	1.01	Target=8.28	101	5247	
563.00 > 169.00	4.986	4.995	-0.009	1.000	503470		8.49(4.14-12.42)		2087	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.995	-0.009	1.210	5488746	1.14		91.5	13201	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.215	591934	1.24		99.0	1845	
62 NEtFOSAA										M
584.00 > 419.00	5.005	5.015	-0.010	1.000	459946	1.10		110	518	M
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.093	-0.001	1.002	2585061	1.05		105	5344	
63 11CIFOS										
631.00 > 451.00	5.083	5.093	-0.010	1.152	3607085	0.9777		104	7211	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.083	5.093	-0.010	1.233	2536968	1.22		97.2	10078	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.238	119187	0.9378		75.0	555	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	93643	1.07	Target=2.41	107	399	
576.80 > 63.10	5.102	5.112	-0.010	1.000	41516		2.26(1.21-3.62)		176	
D 69 13C2 PFDaA										
615.00 > 570.00	5.217	5.226	-0.009	1.266	5493686	1.16		92.8	12539	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.217	5.226	-0.009	1.000	4537746	1.00	Target=6.88	99.9	4624	
613.00 > 169.00	5.217	5.226	-0.009	1.000	628482		7.22(3.44-10.31)		1346	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.243	-0.009	1.270	856793	1.26		107	4485	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.002	1495808	0.9851		102	6677	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.284	-0.009	1.280	590549	1.21		96.9	436	
74 NMeFOSA										
512.00 > 169.00	5.283	5.284	-0.001	1.002	410851	1.02		102	719	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.280	465314	1.12		89.8	50.4	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.003	589595	1.06		106	815	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.390	5.399	-0.009	1.222	1915402	0.9565	Target=4.29	98.8	2129	
699.00 > 99.00	5.390	5.399	-0.009	1.222	449281		4.26(2.14-6.43)		3117	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.040	3911336	1.01	Target=6.38	101	4544	
663.00 > 169.00	5.426	5.435	-0.009	1.040	631471		6.19(3.19-9.57)		2022	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	540846	1.07		85.6	262	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.323	344859	1.04		82.9	768	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	598035	0.9741		97.4	613	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.000	362154	1.05		105	588	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.607	5.617	-0.010	1.000	461771	1.04	Target=1.02	104	1784	
713.00 > 219.00	5.607	5.617	-0.010	1.000	459119		1.01(0.51-1.53)		2655	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.607	5.617	-0.010	1.361	4288864	1.13		90.6	11011	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.916	5.924	-0.008	1.000	2617621	1.03	Target=8.32	103	4232	
813.00 > 169.00	5.916	5.924	-0.008	1.000	314910		8.31(4.16-12.48)		1096	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.436	2781847	1.13		90.3	5225	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.185	-0.006	1.044	2437349	1.08	Target=11.94	108	3792	
913.00 > 169.00	6.179	6.185	-0.006	1.044	201898		12.07(5.97-17.91)		851	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_036.d

Injection Date: 19-Feb-2022 00:40:43

Instrument ID: LCA

Lims ID: LCS 140-58914/2-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 36

Worklist Smp#: 36

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

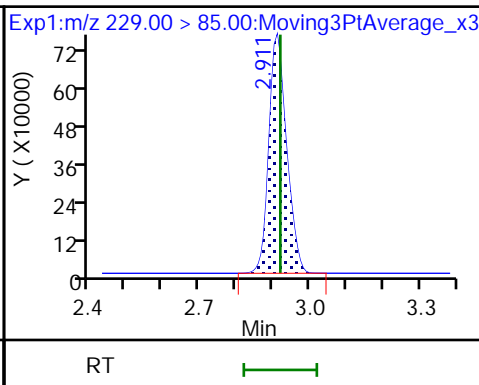
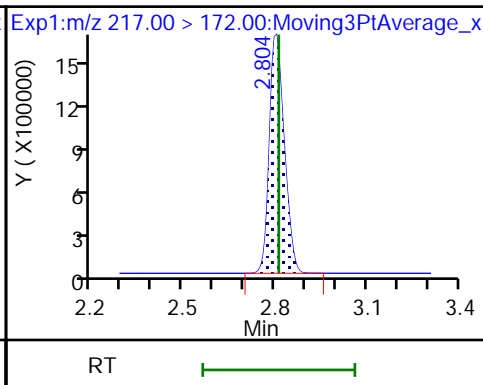
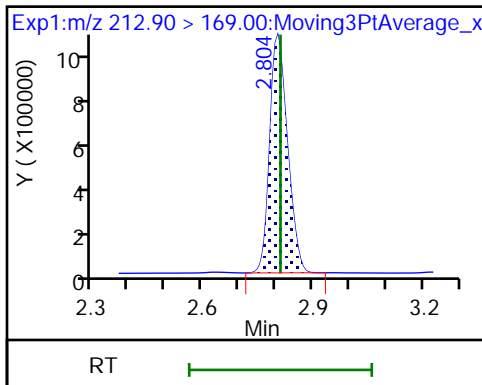
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

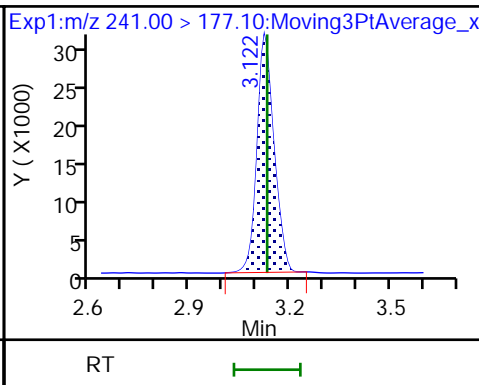
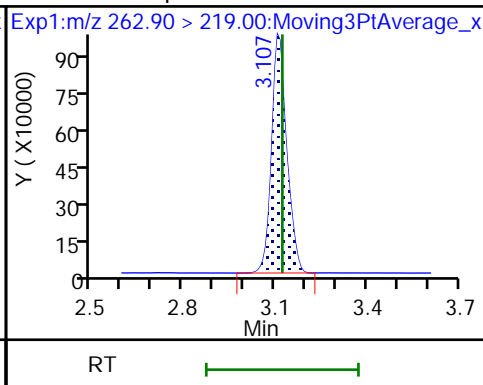
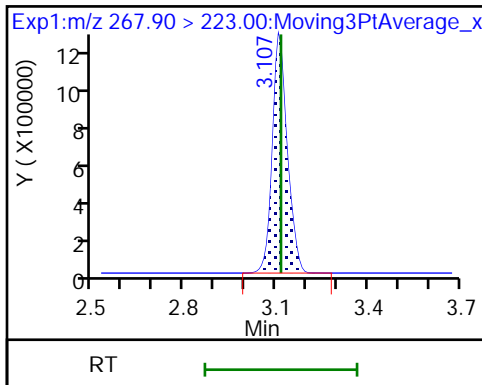
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

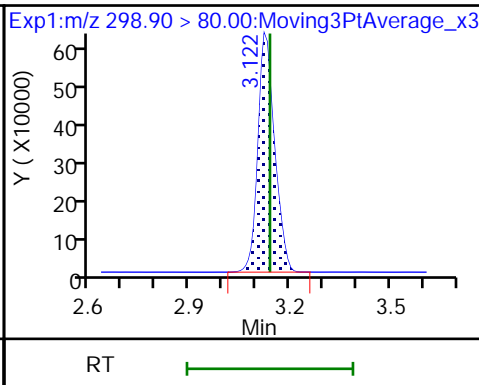
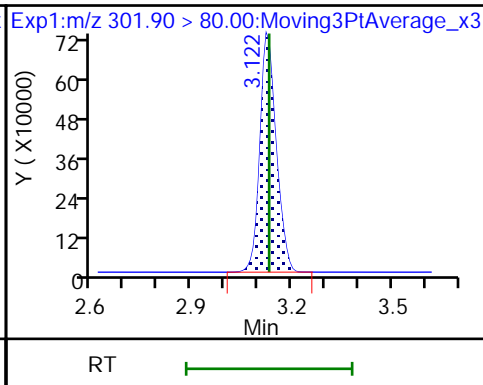
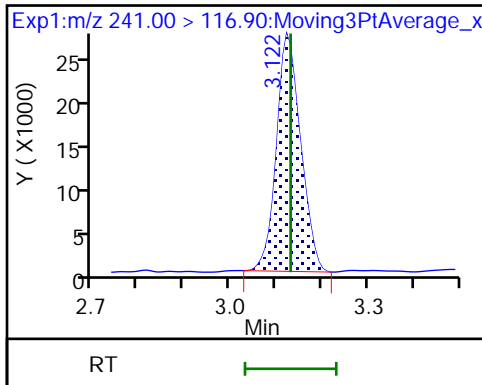
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

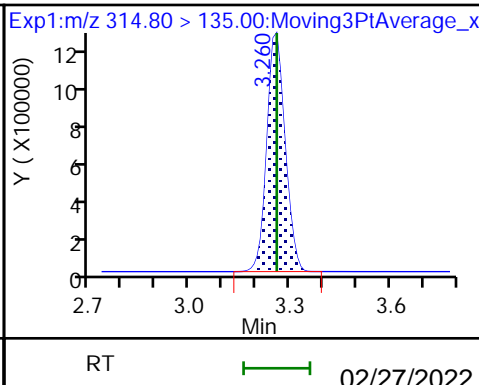
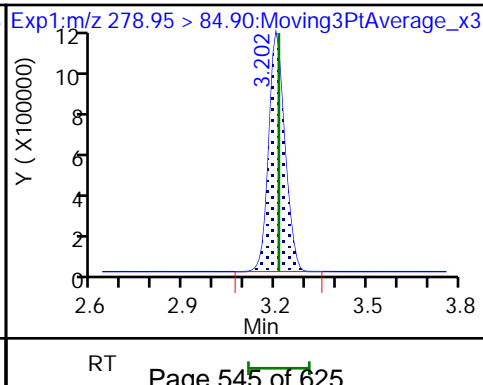
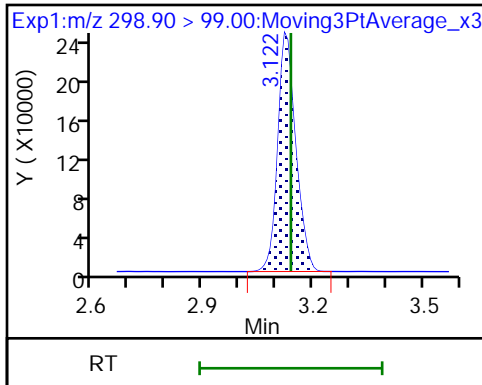
8 Perfluorobutanesulfonic acid

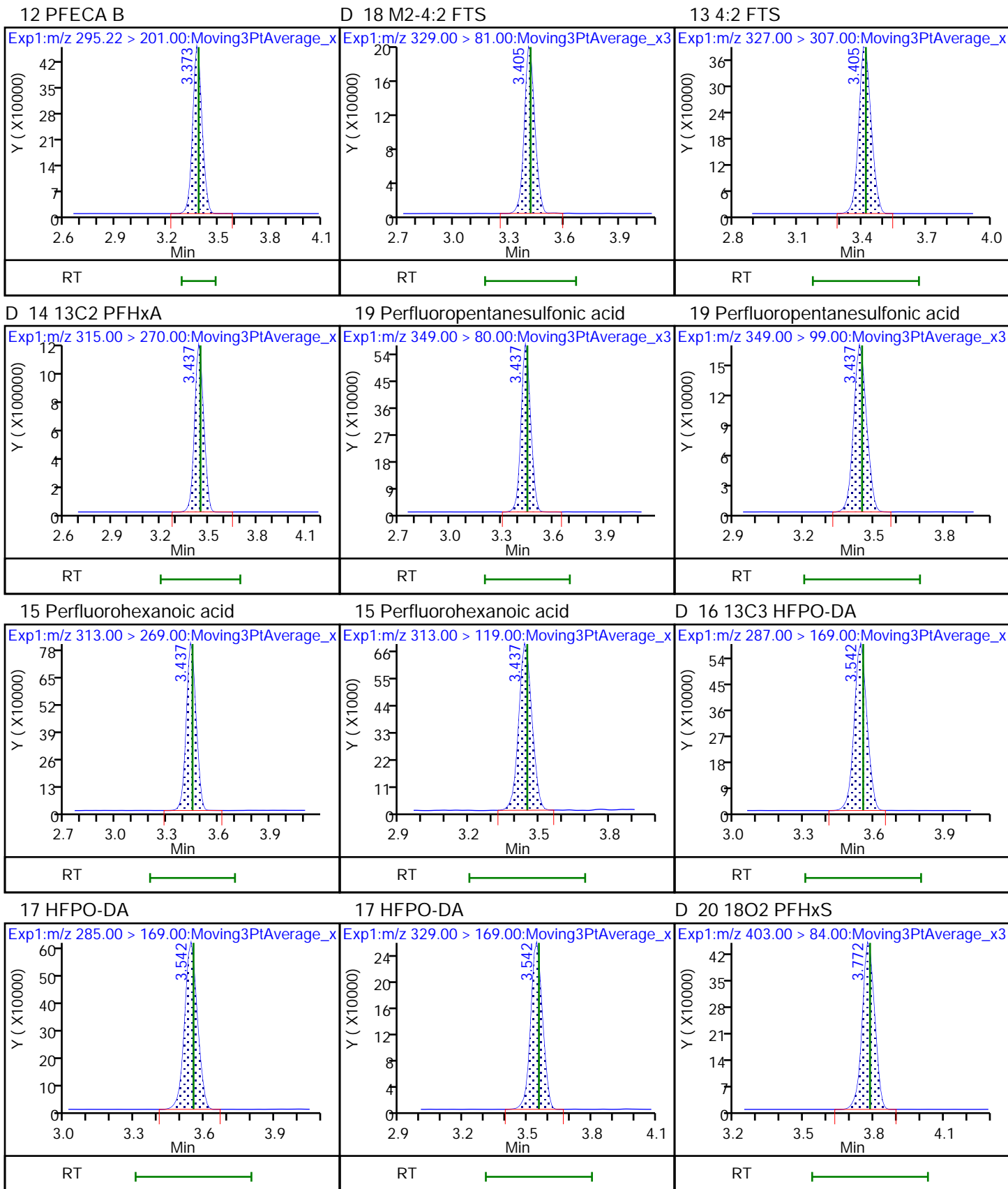


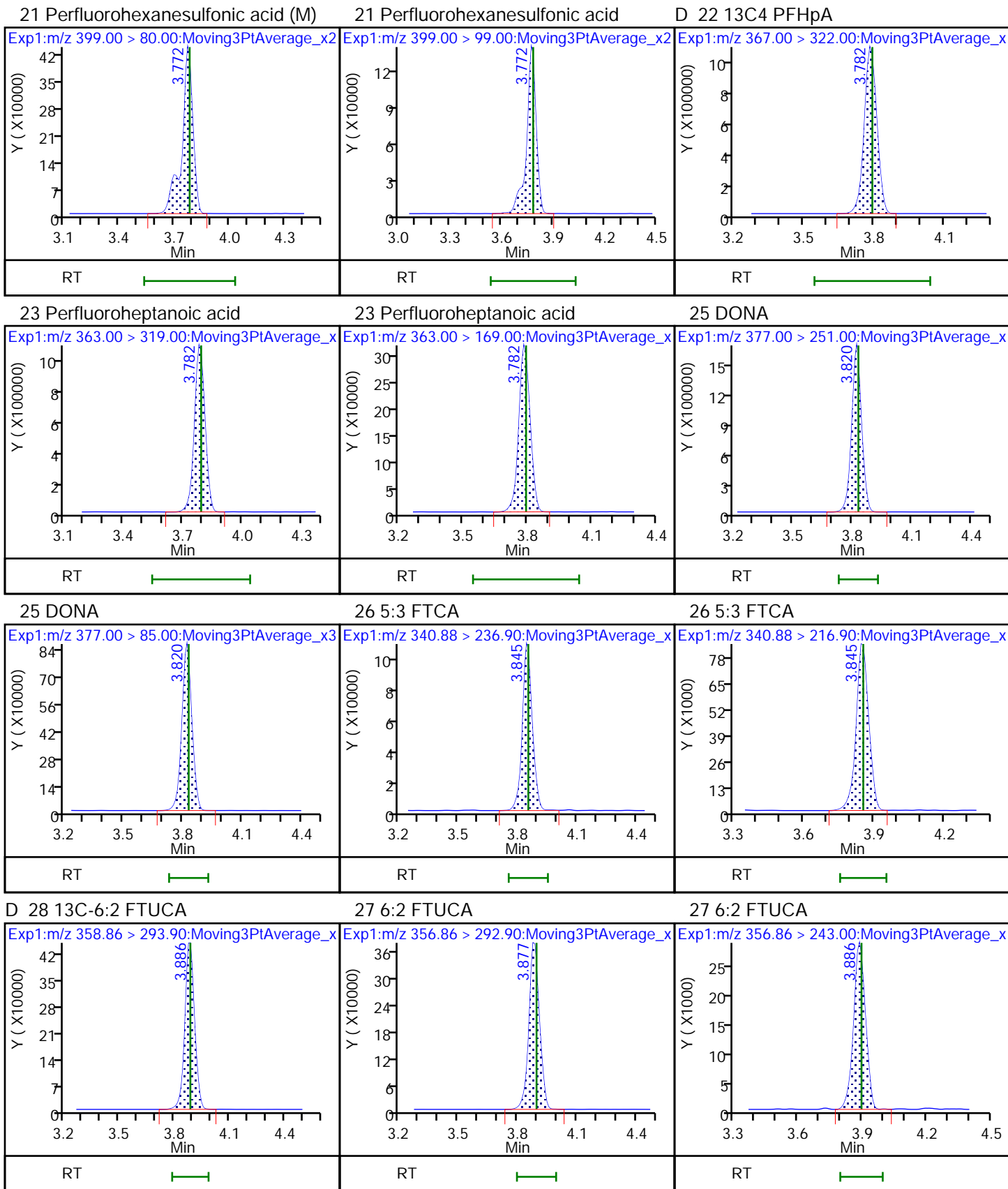
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



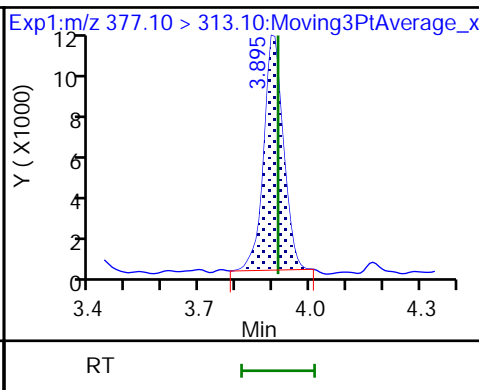
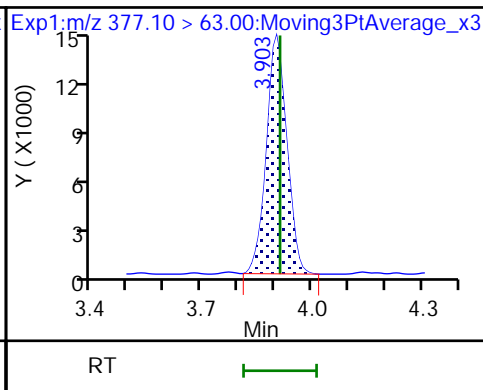
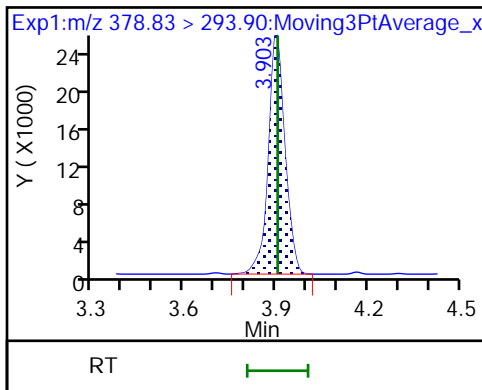




D 24 13C-6:2 FTCA

29 6:2 FTCA

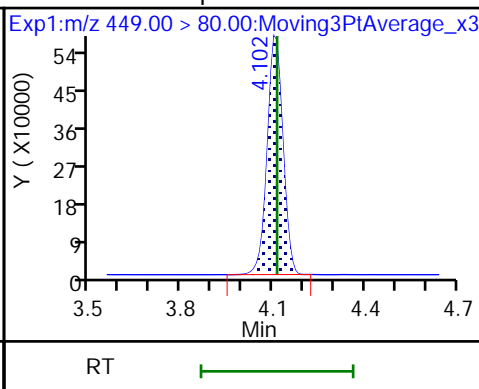
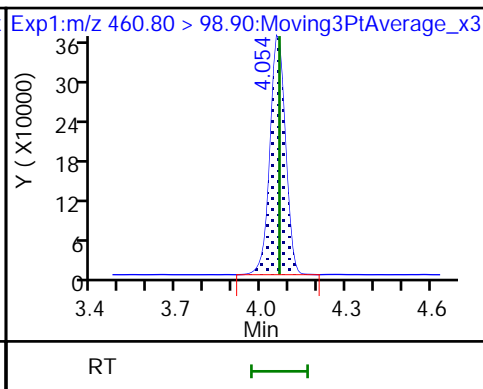
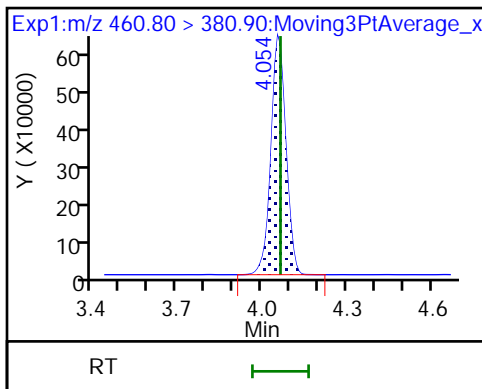
29 6:2 FTCA



32 PFECHS

32 PFECHS

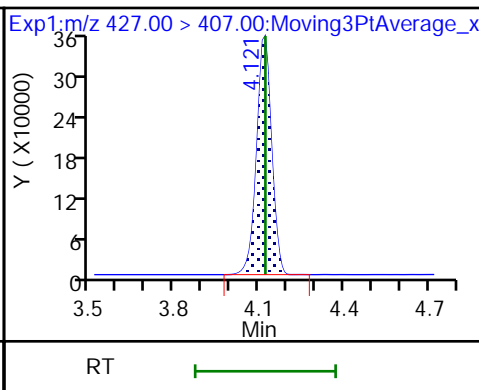
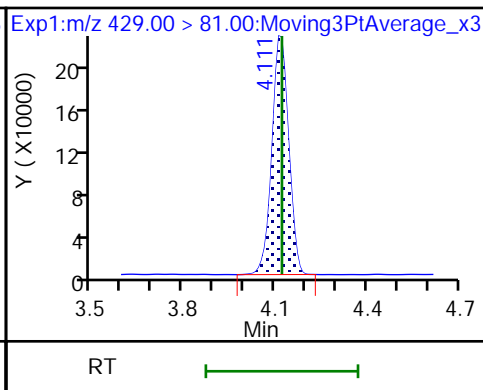
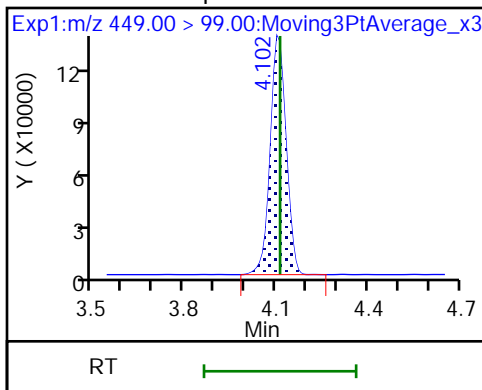
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

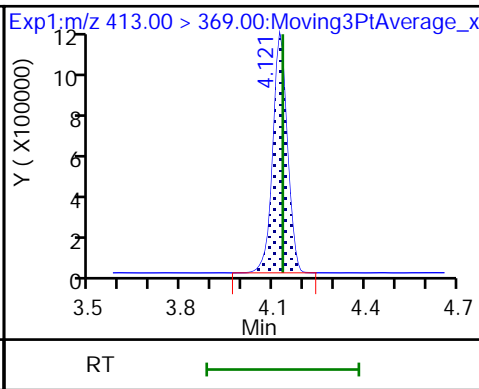
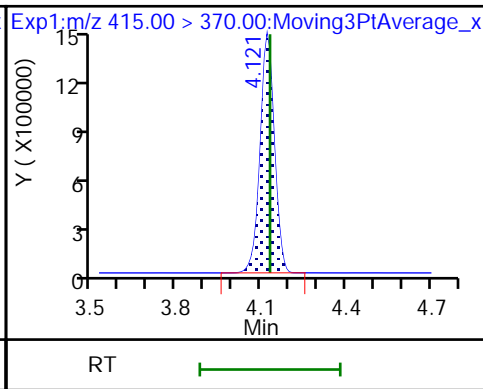
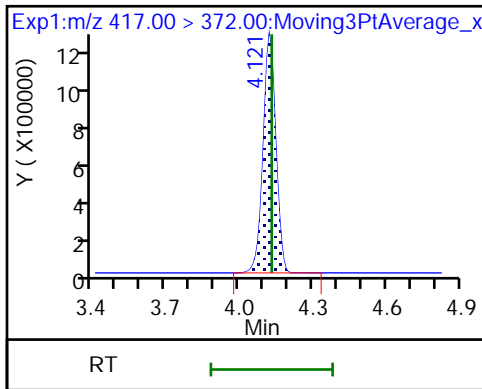
35 6:2 FTS

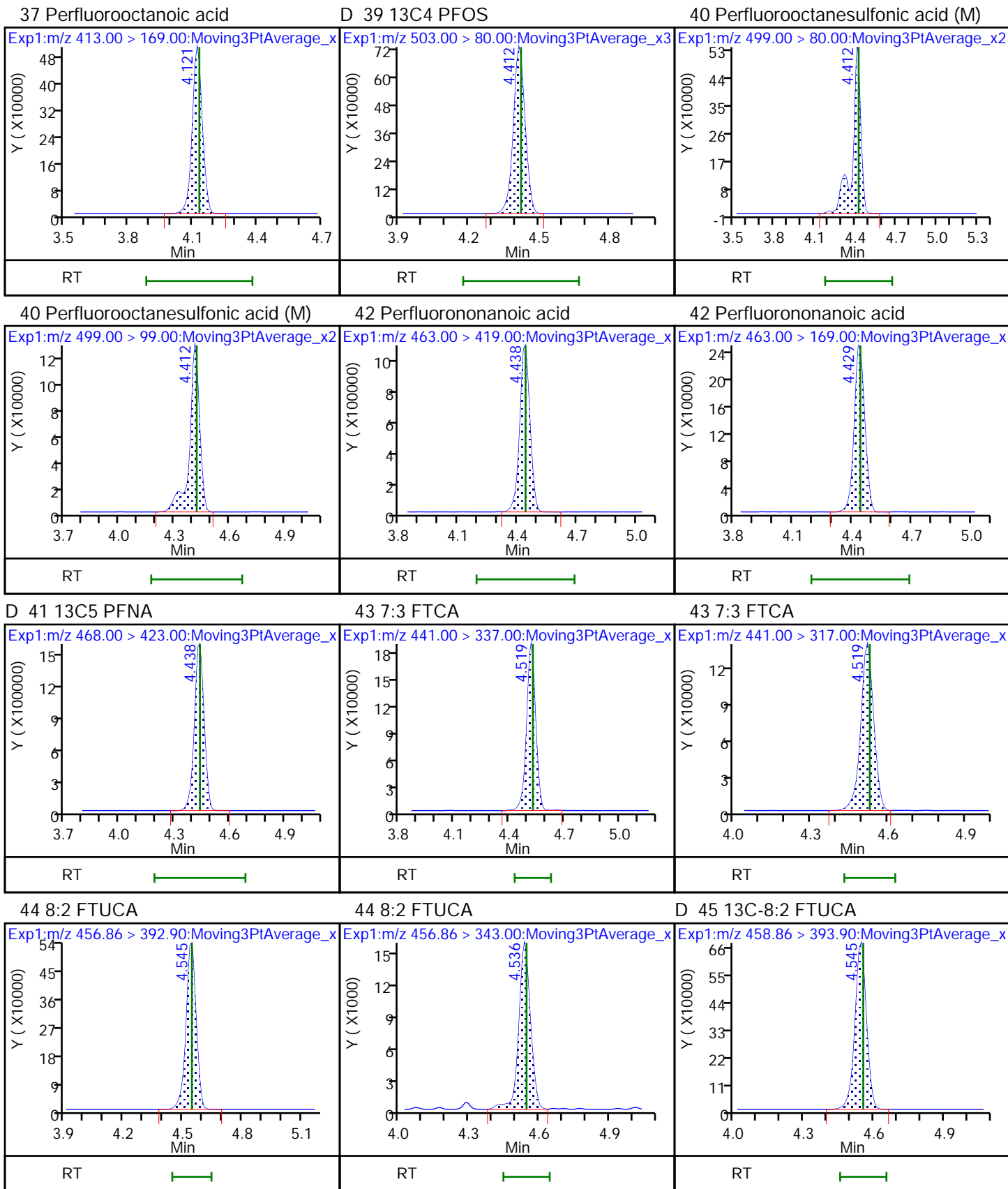


D 31 13C4 PFOA

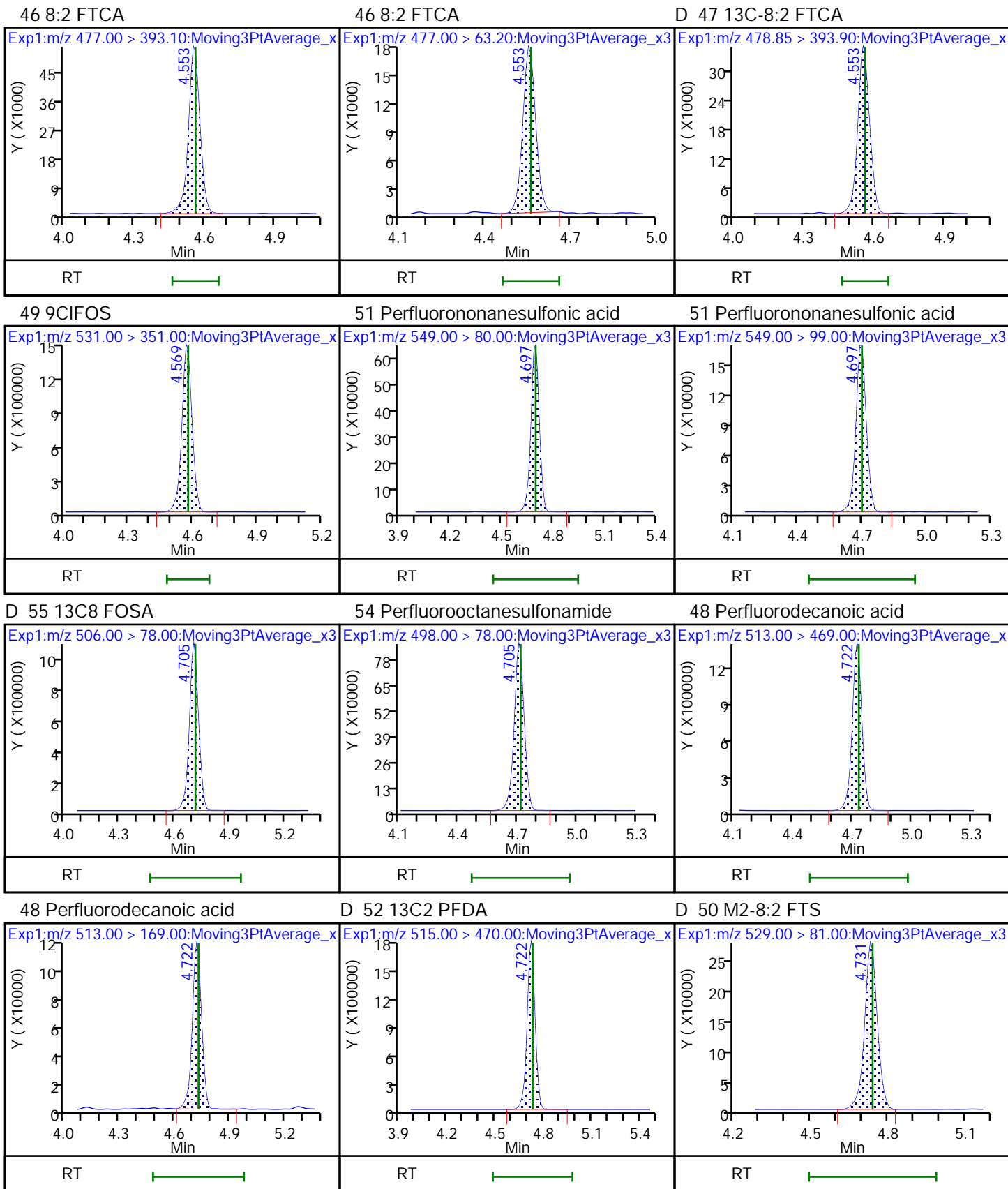
\* 30 13C2 PFOA

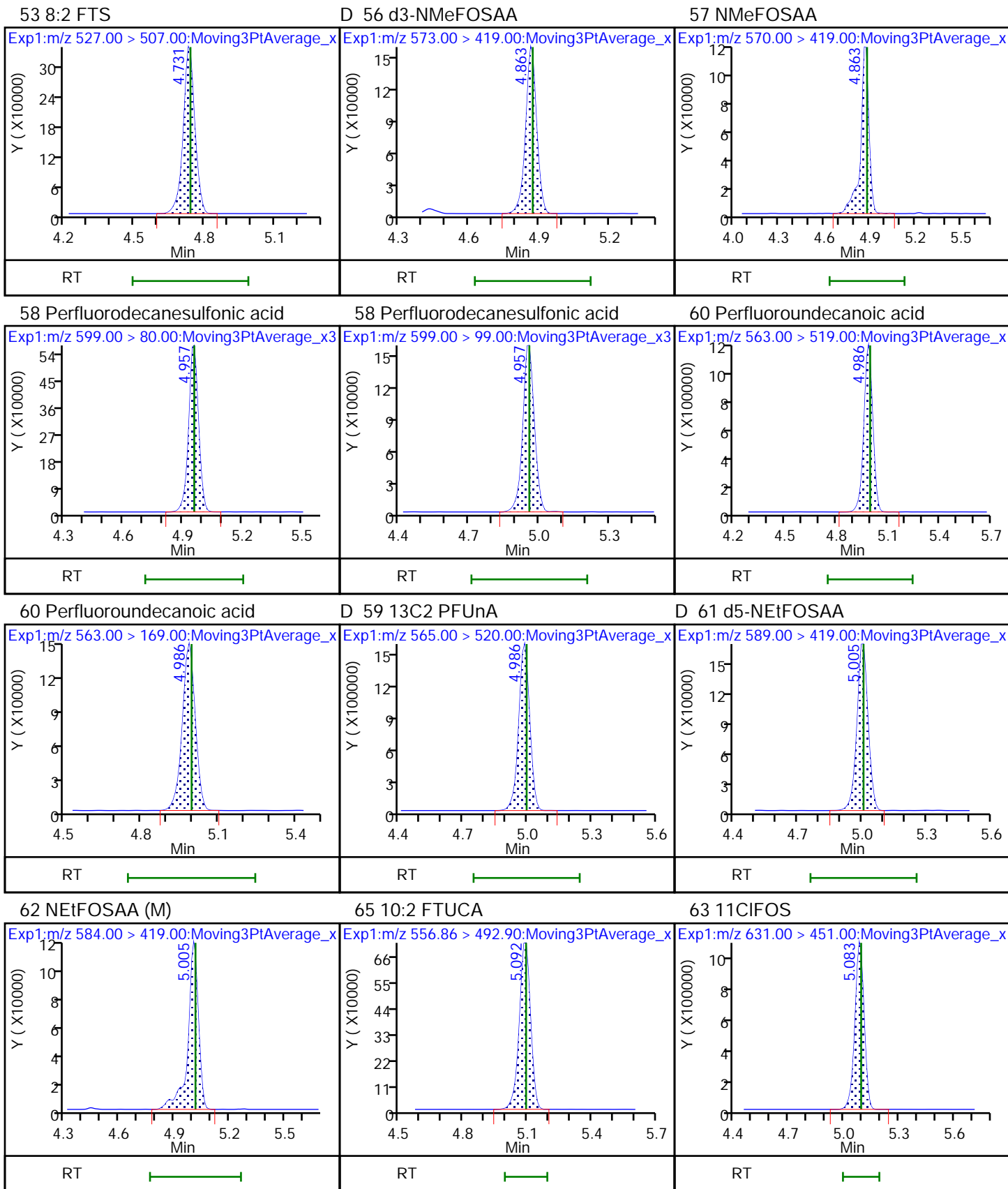
37 Perfluorooctanoic acid







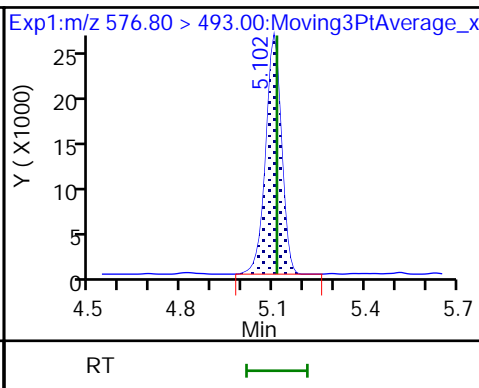
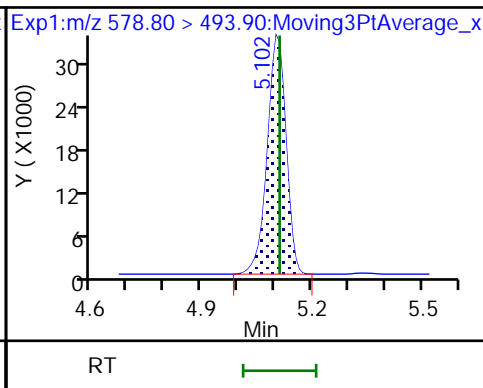
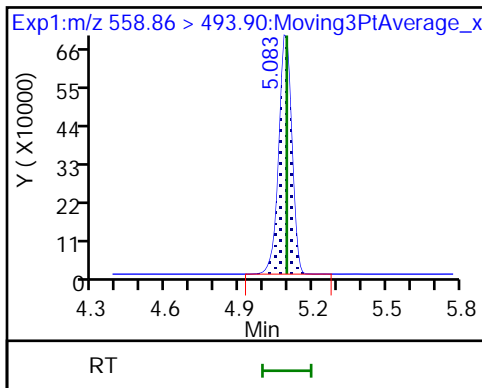




D 67 13C-10:2 FTUCA

D 64 13C-10:2 FTCA

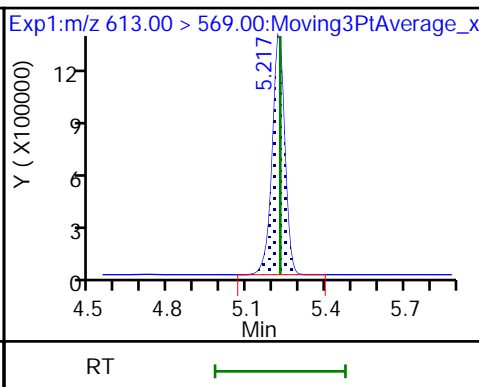
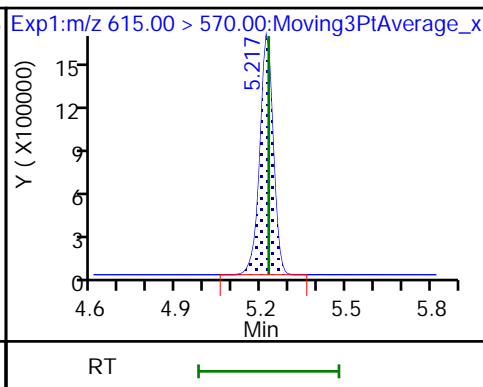
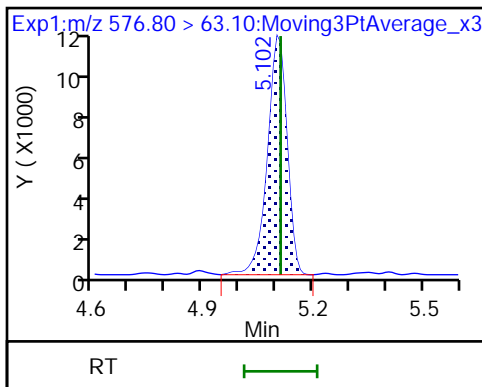
66 10:2 FTCA



66 10:2 FTCA

D 69 13C2 PFDaA

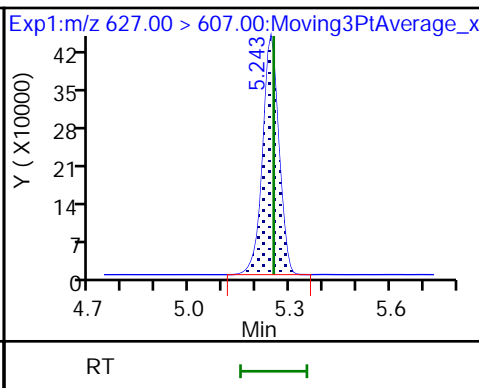
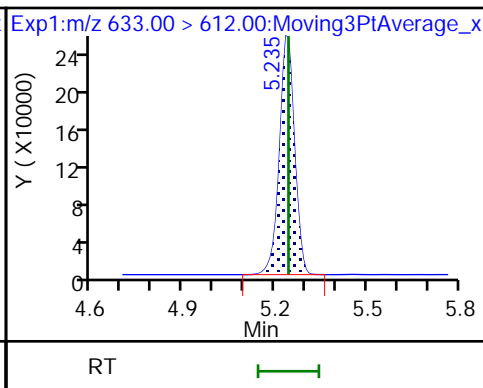
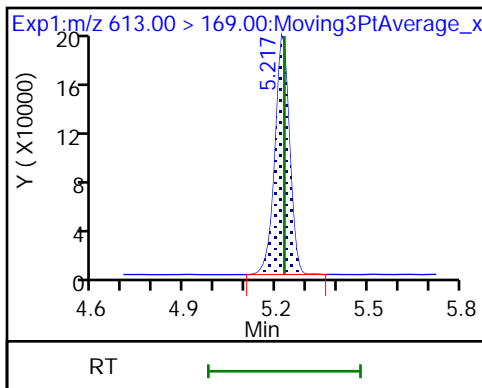
68 Perfluorododecanoic acid



68 Perfluorododecanoic acid

D 70 13C2 10:2 FTS

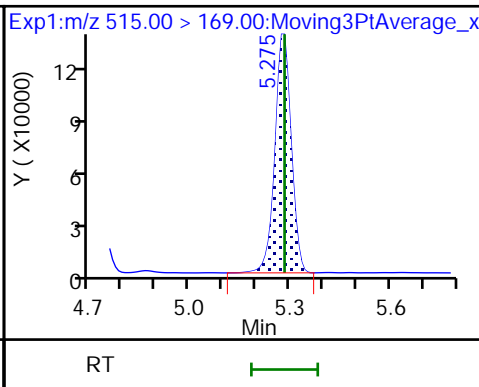
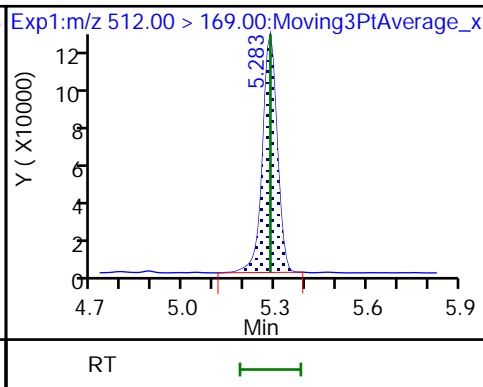
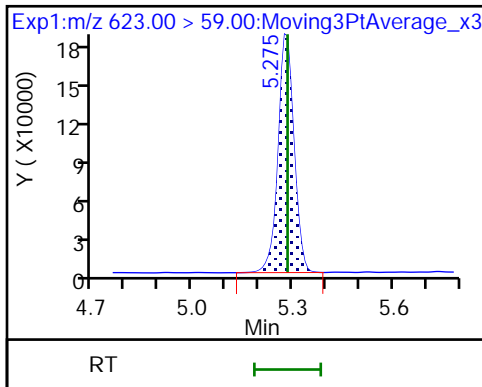
71 10:2 FTS

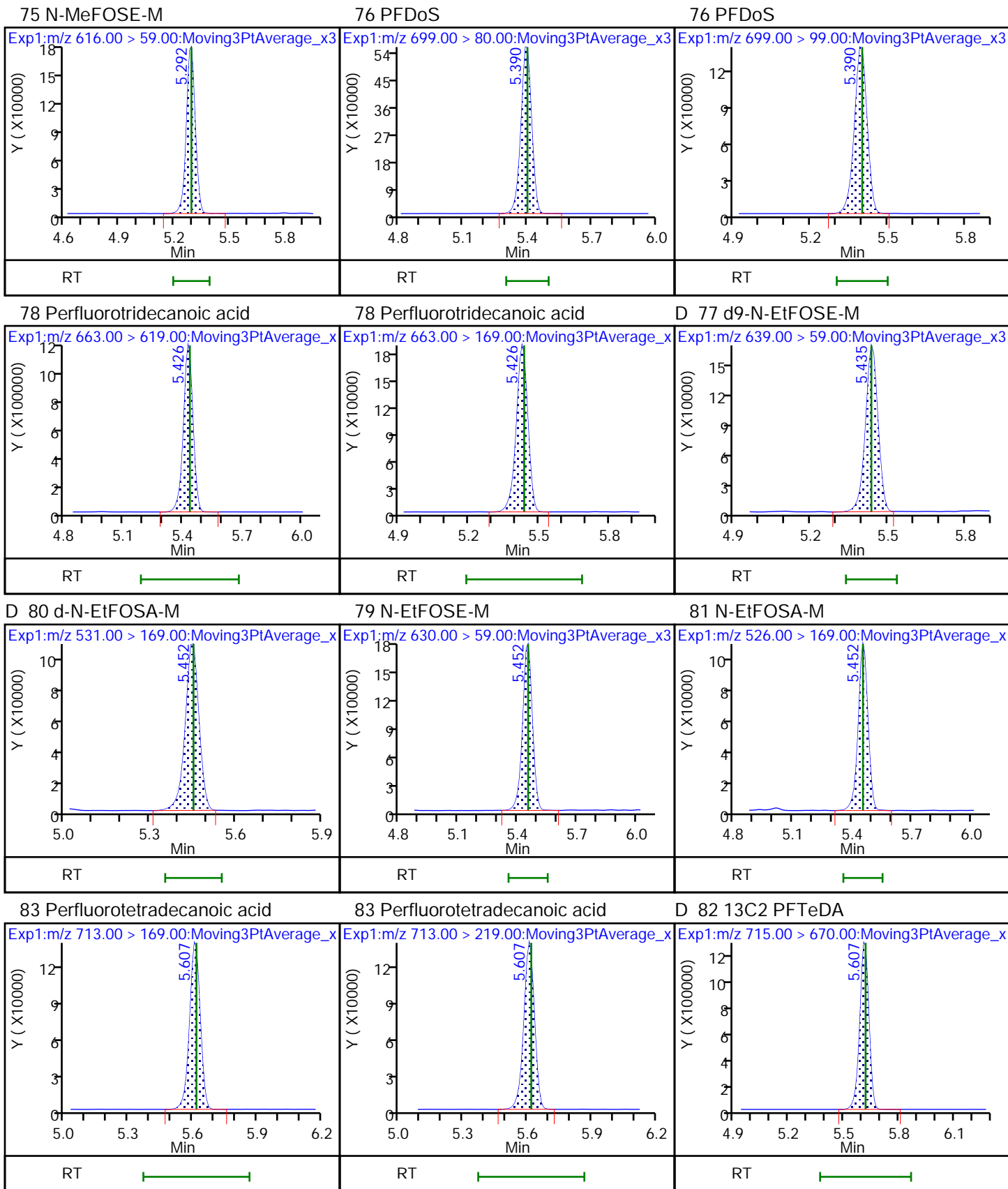


D 72 d7-N-MeFOSE-M

74 NMeFOSA

D 73 d-N-MeFOSA-M

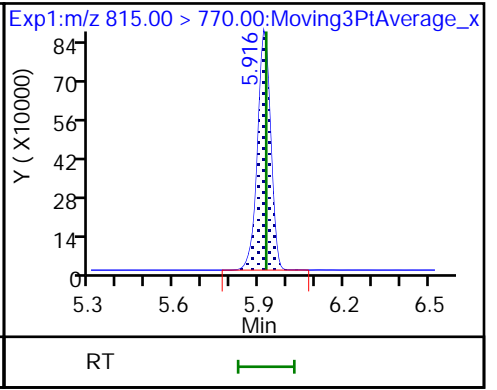
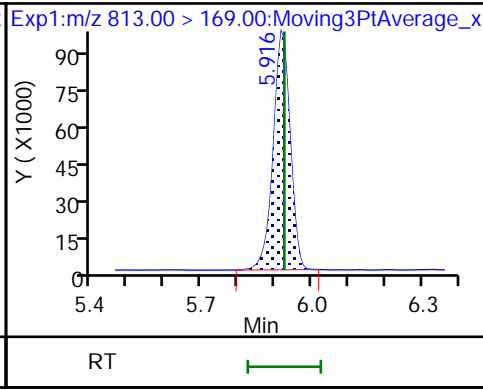
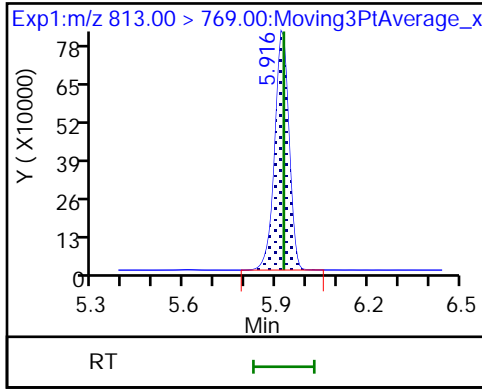




85 Perfluorohexadecanoic acid

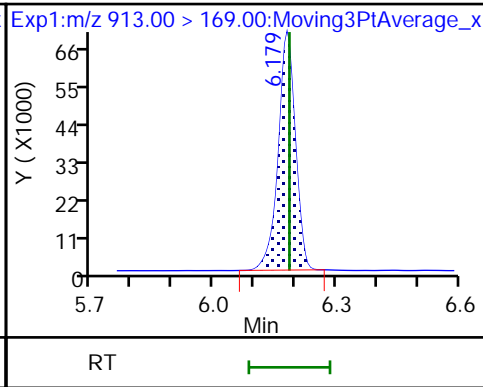
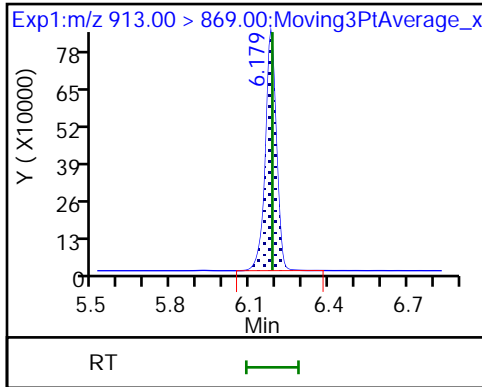
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 140-58967/2-A  
 Matrix: Air Lab File ID: 021.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/18/2022 22:28  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.01237		0.000500	0.0000870

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	79		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_021.d  
 Lims ID: LCS 140-58967/2-A  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 18-Feb-2022 22:28:41 ALS Bottle#: 21 Worklist Smp#: 21  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-021 lcs 140-58967/2-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:10:06  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.797	2.811	-0.014	1.000	3965825	1.20	120	1506	
D 2 13C4 PFBA	217.00 > 172.00	2.797	2.811	-0.014	0.679	5231791	1.02	81.9	15044	
3 PFECA F	229.00 > 85.00	2.903	2.919	-0.016	0.934	2768322	1.09	109	8825	
D 5 13C5 PFPeA	267.90 > 223.00	3.107	3.115	-0.008	0.754	4212656	1.05	84.1	15044	
6 Perfluoropentanoic acid	262.90 > 219.00	3.107	3.123	-0.016	1.000	3862053	1.22	122	1752	
4 3:3 FTCA	241.00 > 177.10	3.123	3.131	-0.008	1.000	141168	1.28	Target=1.16	128	1829
	241.00 > 116.90	3.123	3.131	-0.008	1.000	119564		1.18(0.58-1.74)		170
D 7 13C3 PFBS	301.90 > 80.00	3.123	3.131	-0.008	0.758	2357344	0.9297	80.0	10860	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.123	3.140	-0.017	1.000	2455754	1.10	Target=2.74	125	5776
	298.90 > 99.00	3.123	3.140	-0.017	1.000	932432		2.63(1.37-4.11)		4894
9 PFECA A	278.95 > 84.90	3.202	3.211	-0.009	1.031	4685955	1.18	118	14103	
11 PES	314.80 > 135.00	3.249	3.260	-0.011	1.041	5247339	1.09	122	19554	
12 PFECA B	295.22 > 201.00	3.374	3.384	-0.010	0.981	1800497	1.19	119	7549	
D 18 M2-4:2 FTS	329.00 > 81.00	3.405	3.416	-0.011	0.826	717842	0.9045	77.5	1389	
13 4:2 FTS	327.00 > 307.00	3.405	3.416	-0.011	1.000	1648896	1.18	126	7850	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.448	-0.011	0.834	4529689	1.02		81.9	12986	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.437	3.448	-0.011	1.101	2375371	1.13	Target=3.48	121	5831	
349.00 > 99.00	3.437	3.448	-0.011	1.101	676161		3.51(1.74-5.23)		4837	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.448	-0.011	1.000	3315477	1.15	Target=12.09	115	1637	
313.00 > 119.00	3.437	3.448	-0.011	1.000	301765		10.99(6.04-18.13)		282	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.533	3.553	-0.020	0.857	2140130	0.9894		79.1	6582	
17 HFPO-DA										
285.00 > 169.00	3.533	3.553	-0.020	1.000	2671385	1.24	Target=2.53	124	1720	
329.00 > 169.00	3.533	3.553	-0.020	1.000	1029658		2.59(1.26-3.79)		1143	
D 20 18O2 PFHxS										
403.00 > 84.00	3.773	3.783	-0.010	0.915	1598059	0.9710		82.1	5238	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.773	3.783	-0.010	1.000	1913121	1.02	Target=3.31	112	5107	M
399.00 > 99.00	3.773	3.783	-0.010	1.000	584263		3.27(1.66-4.97)		2369	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.782	3.793	-0.011	0.918	4097226	1.04		83.1	11674	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.782	3.793	-0.011	1.000	4157091	1.26	Target=3.40	126	3136	
363.00 > 169.00	3.782	3.793	-0.011	1.000	1289459		3.22(1.70-5.09)		3478	
25 DONA										
377.00 > 251.00	3.812	3.829	-0.017	0.864	5962160	1.14	Target=1.74	121	10888	
377.00 > 85.00	3.821	3.829	-0.008	0.866	3293926		1.81(0.87-2.61)		4584	
26 5:3 FTCA										
340.88 > 236.90	3.845	3.853	-0.008	0.987	422953	1.05	Target=1.13	105	1449	
340.88 > 216.90	3.845	3.853	-0.008	0.987	397185		1.06(0.56-1.69)		1004	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.878	3.887	-0.008	0.941	1584338	1.08		86.2	4371	
27 6:2 FTUCA										
356.86 > 292.90	3.878	3.895	-0.017	1.000	1565405	1.18	Target=14.14	118	3998	
356.86 > 243.00	3.878	3.895	-0.017	1.000	110743		14.14(7.07-21.20)		465	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.895	3.904	-0.009	0.945	133306	1.18		94.0	706	
29 6:2 FTCA										
377.10 > 63.00	3.895	3.913	-0.018	1.000	77807	1.05	Target=1.42	105	315	
377.10 > 313.10	3.895	3.913	-0.018	1.000	52860		1.47(0.71-2.13)		110	
32 PFECHS										
460.80 > 380.90	4.055	4.065	-0.009	0.984	2683248	1.08	Target=1.67	117	6710	
460.80 > 98.90	4.055	4.065	-0.009	0.984	1556053		1.72(0.84-2.51)		3963	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.102	4.112	-0.010	0.930	2189873	1.12	Target=3.94	118	4899	
449.00 > 99.00	4.102	4.112	-0.010	0.930	562417		3.89(1.97-5.90)		2965	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.112	4.121	-0.009	0.998	798260	1.02		85.7	1853	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.112	4.121	-0.009	1.000	1334784	1.09		115	3337	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.131	-0.010	1.000	4182108	1.03		82.0	8510	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5448593	1.25			9530	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.131	-0.010	1.000	4158806	1.16	Target=2.33	116	3444	
413.00 > 169.00	4.121	4.131	-0.010	1.000	1730788		2.40(1.17-3.50)		3111	
D 39 13C4 PFOS										
503.00 > 80.00	4.413	4.421	-0.008	1.071	2360270	0.9651		80.8	2852	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.413	4.421	-0.008	1.000	2434179	1.08	Target=4.42	116	2351	M
499.00 > 99.00	4.413	4.421	-0.008	1.000	553265		4.40(2.21-6.63)		1442	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.430	4.439	-0.009	1.000	4064389	1.21	Target=3.81	121	4200	
463.00 > 169.00	4.430	4.439	-0.009	1.000	1047224		3.88(1.90-5.71)		3374	
D 41 13C5 PFNA										
468.00 > 423.00	4.430	4.439	-0.009	1.075	5513928	1.00		79.8	11764	
43 7:3 FTCA										
441.00 > 337.00	4.511	4.529	-0.018	0.991	727641	0.9775	Target=1.44	97.8	2761	
441.00 > 317.00	4.511	4.529	-0.018	0.991	547916		1.33(0.72-2.16)		1444	
44 8:2 FTUCA										
456.86 > 392.90	4.537	4.545	-0.008	1.000	2006721	1.21	Target=33.93	121	4692	
456.86 > 343.00	4.537	4.545	-0.008	1.000	54969		36.51(16.96-50.89)		177	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.537	4.553	-0.016	1.000	2158915	1.10		87.7	4600	
46 8:2 FTCA										
477.00 > 393.10	4.553	4.562	-0.009	1.000	250273	0.9710	Target=3.19	97.1	1045	
477.00 > 63.20	4.553	4.562	-0.009	1.000	79110		3.16(1.59-4.78)		471	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.562	-0.009	1.105	177915	1.24		98.8	659	
49 9CIFOS										
531.00 > 351.00	4.570	4.578	-0.008	1.109	4797239	1.08		116	4863	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.689	4.697	-0.008	1.063	2174284	1.09	Target=3.97	113	3616	
549.00 > 99.00	4.689	4.697	-0.008	1.063	562646		3.86(1.99-5.96)		2254	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.714	-0.008	1.142	3900660	1.06		84.5	4320	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.714	-0.008	1.000	3477963	1.17		117	4929	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.714	4.731	-0.017	1.000	4747639	1.22	Target=11.13	122	4592	
513.00 > 169.00	4.714	4.731	-0.017	1.000	436712		10.87(5.57-16.70)		302	
D 52 13C2 PFDA										
515.00 > 470.00	4.714	4.731	-0.017	1.144	5409249	1.03		82.1	13723	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.740	-0.009	1.148	840284	2.69		82.1	1525	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.731	4.740	-0.009	1.000	1173817	1.11		116	4104	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.863	4.872	-0.009	1.180	521636	1.05		84.4	427	
57 NMeFOSAA										
570.00 > 419.00	4.863	4.880	-0.017	1.000	507371	1.31		131	727	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.949	4.957	-0.008	1.121	2052731	1.17	Target=3.72	121	4781	
599.00 > 99.00	4.949	4.957	-0.008	1.121	562381		3.65(1.86-5.59)		1883	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.976	4.995	-0.019	1.000	4931710	1.18	Target=8.47	118	5571	
563.00 > 169.00	4.976	4.995	-0.019	1.000	564339		8.74(4.23-12.70)		2404	
D 59 13C2 PFUnA										
565.00 > 520.00	4.976	4.995	-0.019	1.207	5387499	1.06		84.7	8733	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.995	5.005	-0.010	1.212	604561	1.19		95.3	2256	
62 NEtFOSAA										M
584.00 > 419.00	5.005	5.015	-0.010	1.002	522545	1.22		122	557	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.083	5.093	-0.010	1.233	2336318	1.06		84.4	4527	
65 10:2 FTUCA										
556.86 > 492.90	5.083	5.093	-0.010	1.000	2894534	1.28		128	5511	
63 11CIFOS										
631.00 > 451.00	5.083	5.093	-0.010	1.152	3910385	1.14		121	6714	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.238	150848	1.12		89.5	733	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	136374	1.23	Target=2.54	123	577	
576.80 > 63.10	5.102	5.112	-0.010	1.000	64119		2.13(1.27-3.81)		226	
D 69 13C2 PFDaA										
615.00 > 570.00	5.217	5.226	-0.009	1.266	5300280	1.06		84.4	10790	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.217	5.226	-0.009	1.000	4897394	1.12	Target=7.02	112	4550	
613.00 > 169.00	5.217	5.226	-0.009	1.000	731809		6.69(3.51-10.53)		1499	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.243	-0.008	1.270	706446	0.9813		82.9	4577	
71 10:2 FTS										
627.00 > 607.00	5.235	5.251	-0.016	1.000	1397942	1.12		116	4553	
74 NMeFOSA										
512.00 > 169.00	5.275	5.284	-0.009	1.000	434285	1.18		118	610	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.280	424845	0.9658		77.3	42.8	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.284	-0.009	1.280	551385	1.07		85.3	476	
75 N-MeFOSE-M										
616.00 > 59.00	5.283	5.292	-0.009	1.002	591627	1.14		114	806	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.390	5.399	-0.009	1.221	2089080	1.12	Target=4.52	116	3864	
699.00 > 99.00	5.390	5.399	-0.009	1.221	500499		4.17(2.26-6.78)		1839	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.040	4364886	1.17	Target=5.96	117	4815	
663.00 > 169.00	5.426	5.435	-0.009	1.040	711417		6.14(2.98-8.94)		2951	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	527906	0.9844		78.8	261	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.443	5.452	-0.009	1.321	325092	0.9214		73.7	536	
79 N-EtFOSE-M										
630.00 > 59.00	5.443	5.452	-0.009	1.002	701239	1.17		117	685	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.002	406530	1.25		125	526	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.607	5.617	-0.010	1.000	498236	1.17	Target=0.99	117	2005	
713.00 > 219.00	5.607	5.617	-0.010	1.000	487096		1.02(0.49-1.48)		2278	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.607	5.617	-0.010	1.361	4141692	1.03		82.5	9043	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.916	5.924	-0.008	1.000	2803615	1.14	Target=8.23	114	3421	
813.00 > 169.00	5.916	5.924	-0.008	1.000	351043		7.99(4.11-12.34)		977	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.435	2715687	1.04		83.1	5170	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.173	6.185	-0.012	1.043	2500718	1.14	Target=11.52	114	2907	
913.00 > 169.00	6.173	6.185	-0.012	1.043	218182		11.46(5.76-17.29)		853	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_021.d

Injection Date: 18-Feb-2022 22:28:41

Instrument ID: LCA

Lims ID: LCS 140-58967/2-A

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 21

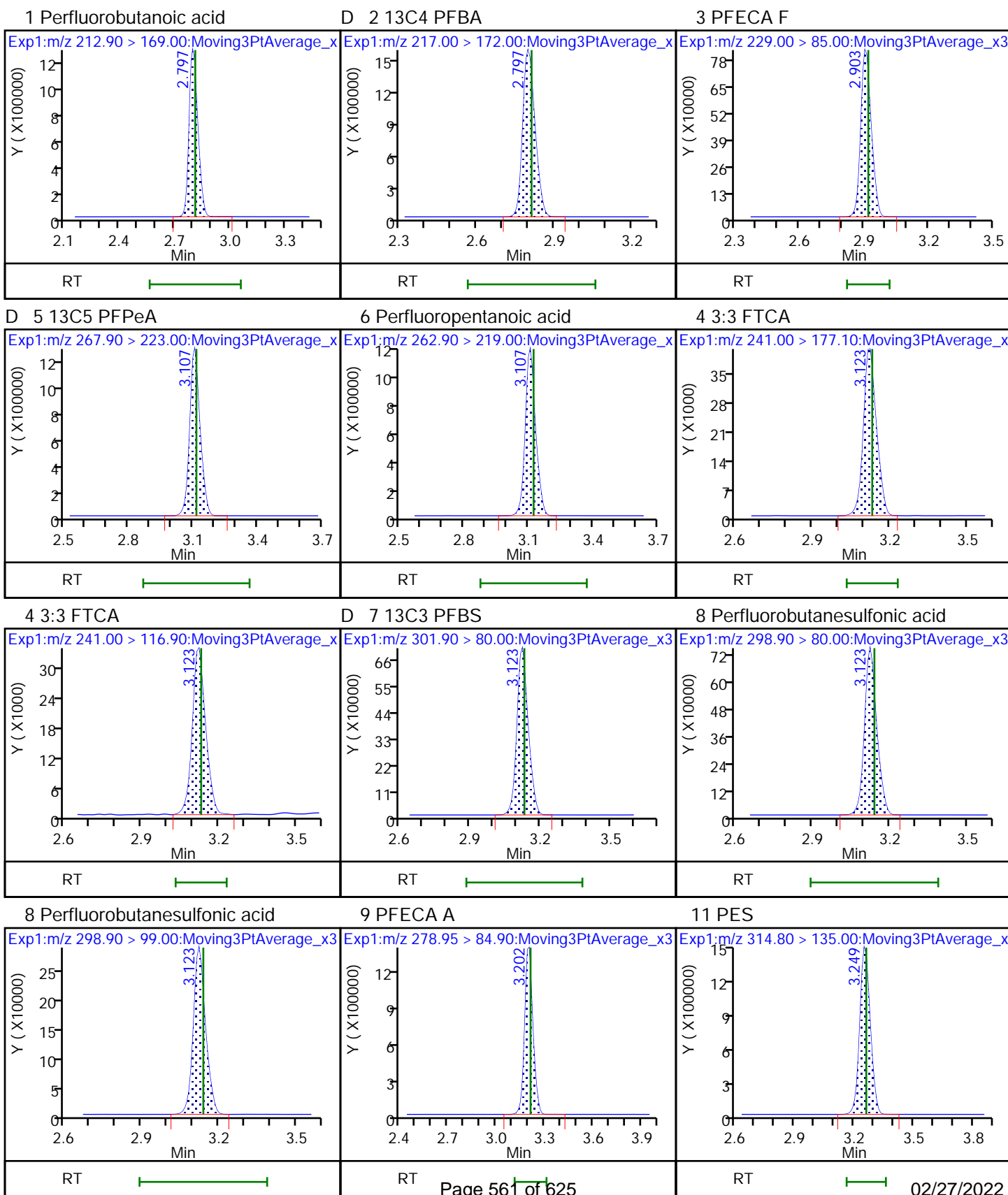
Worklist Smp#: 21

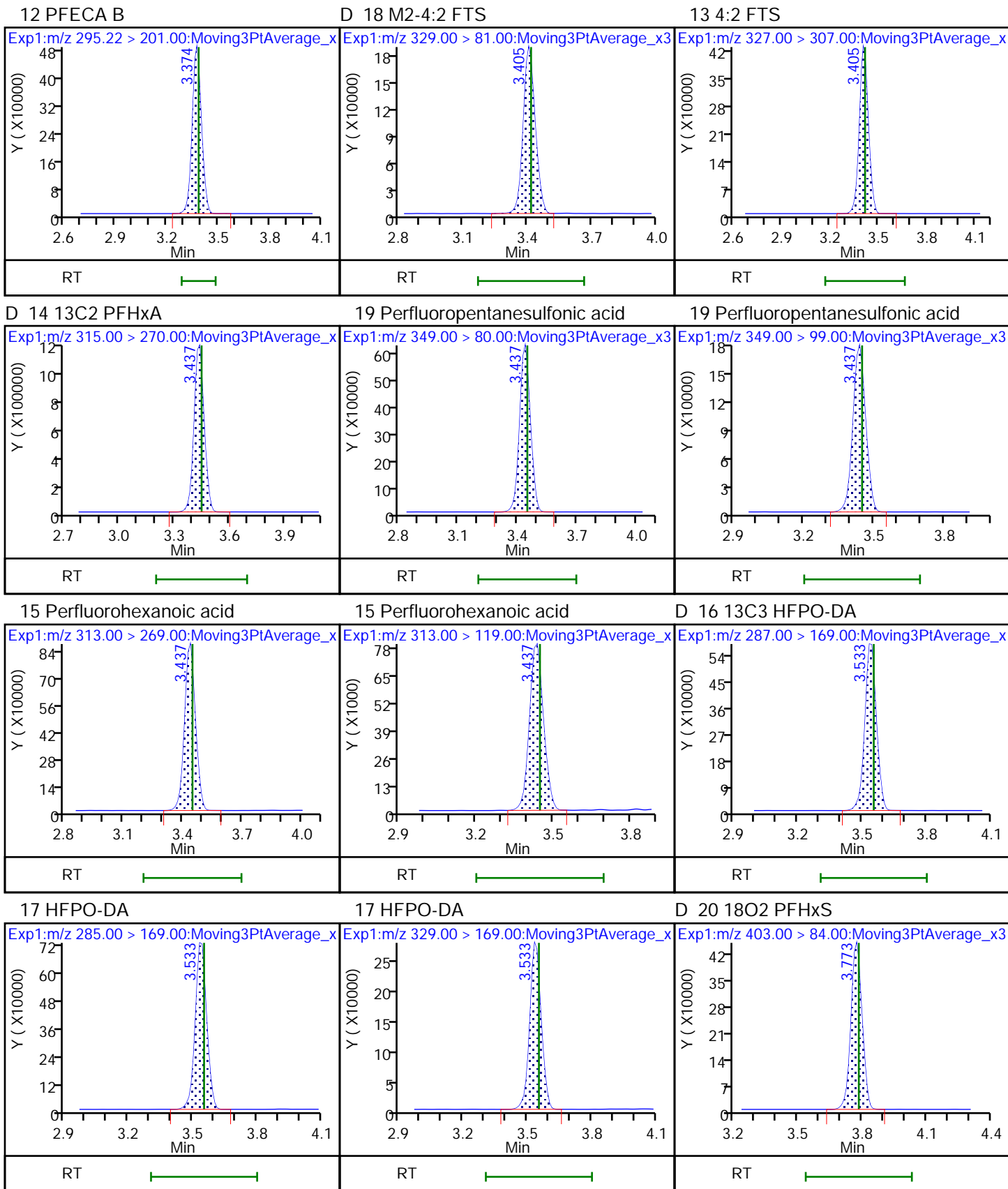
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

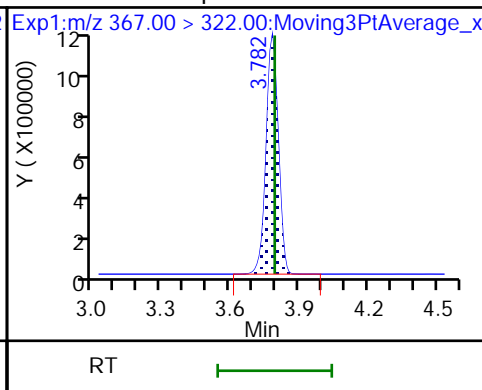
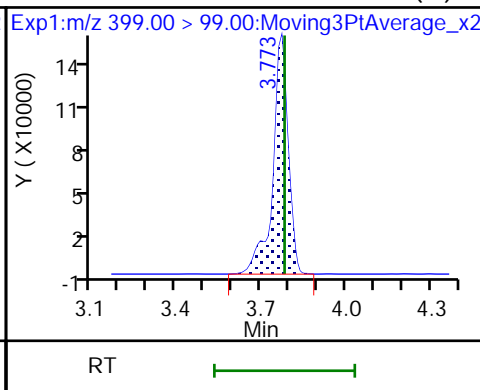
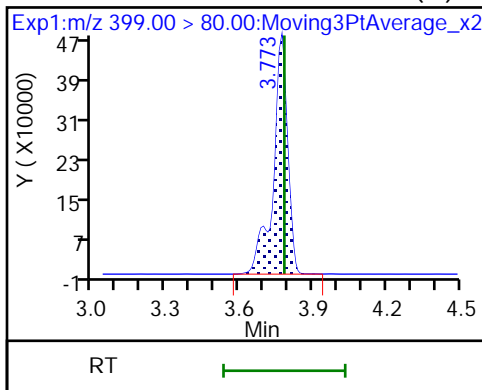




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

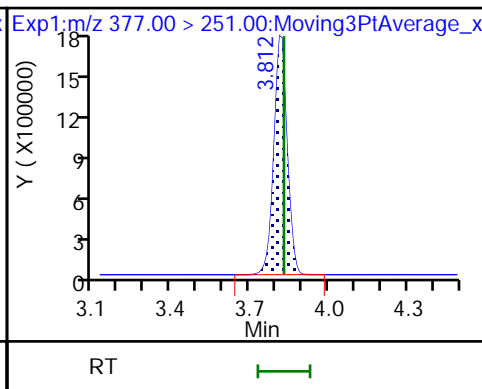
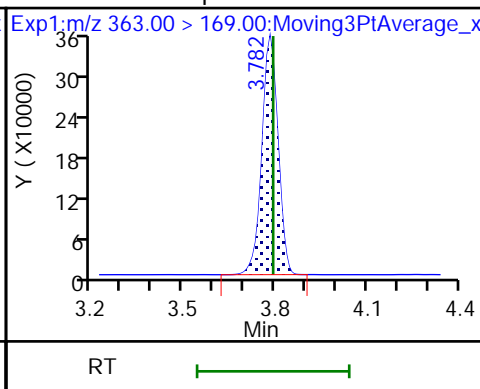
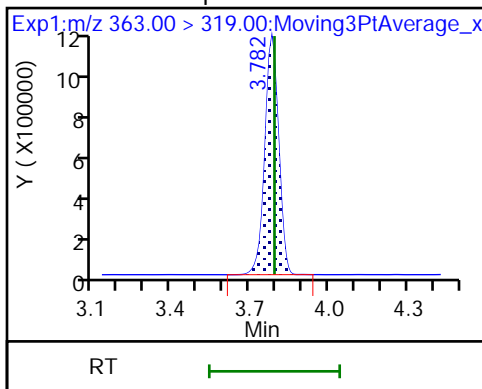
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

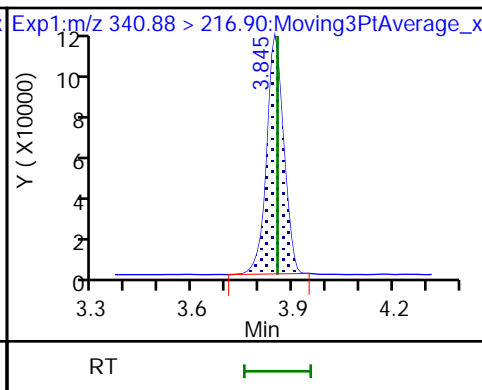
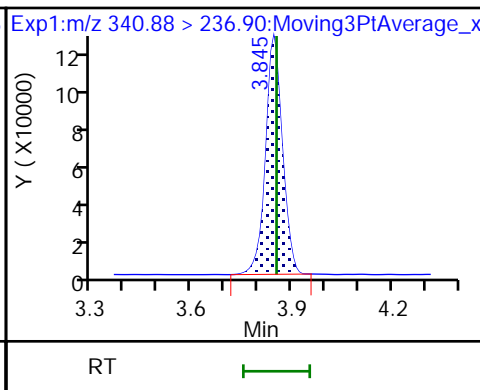
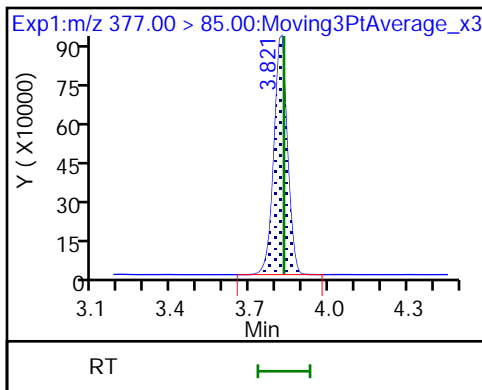
25 DONA



25 DONA

26 5:3 FTCA

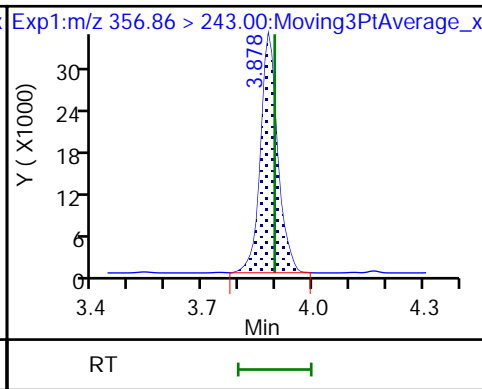
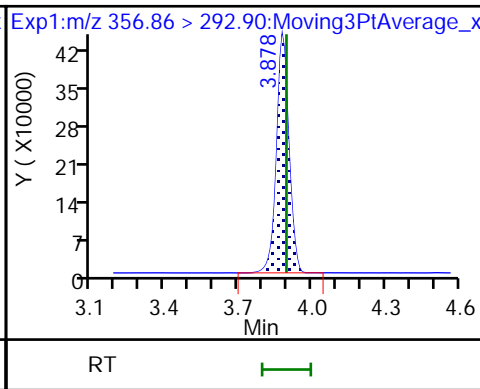
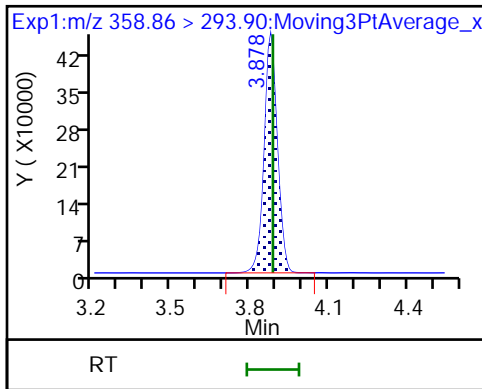
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

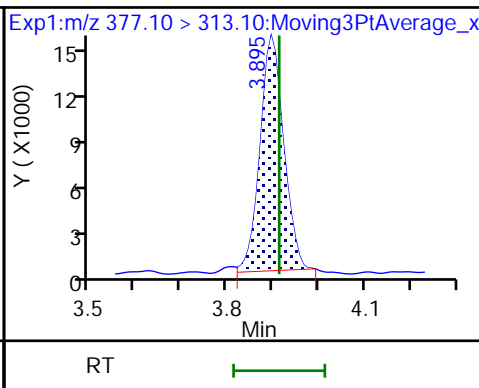
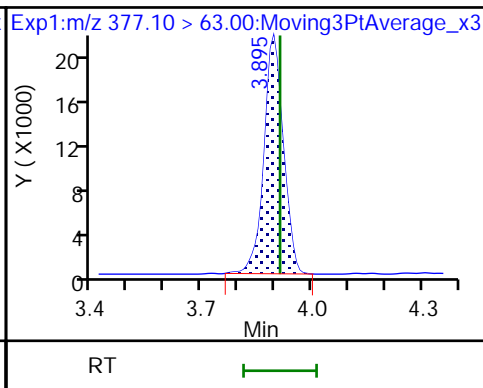
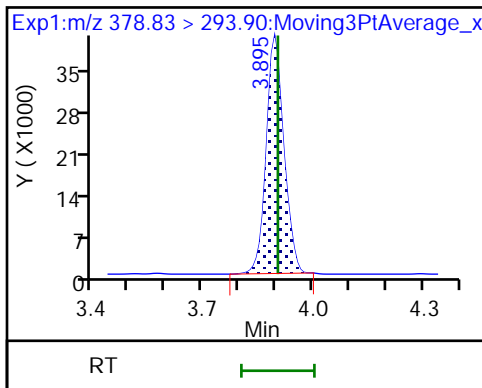
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

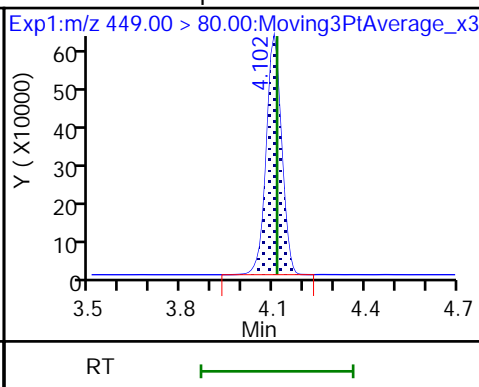
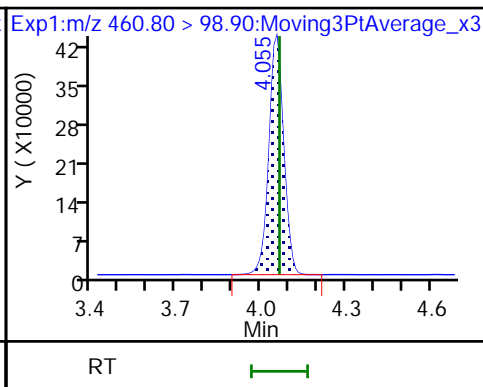
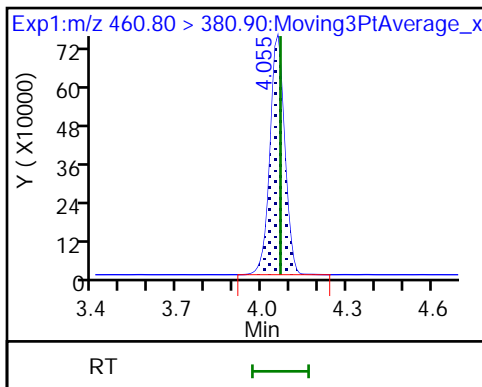
29 6:2 FTCA



32 PFECHS

32 PFECHS

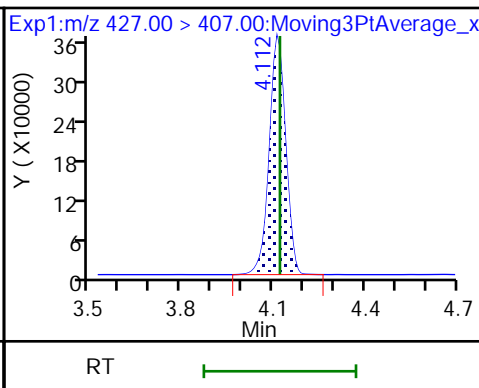
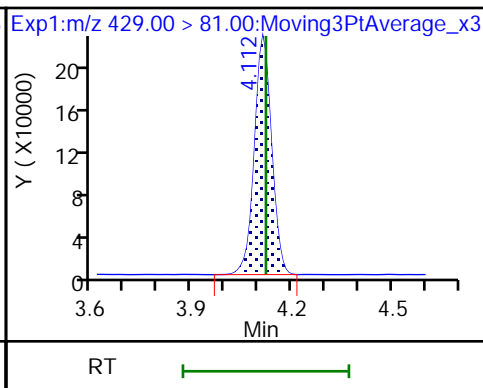
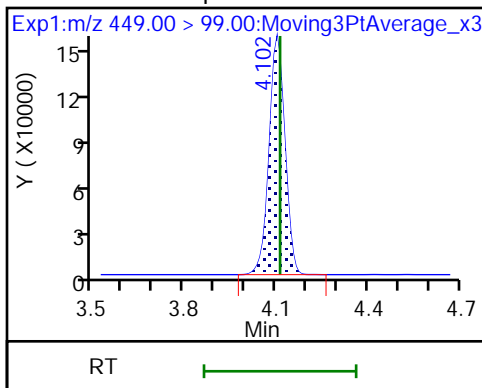
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

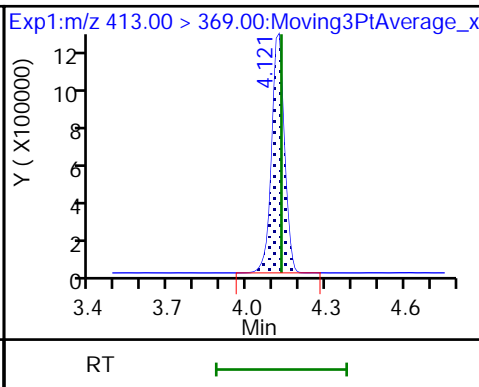
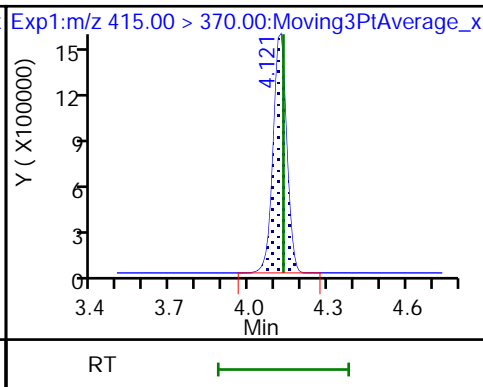
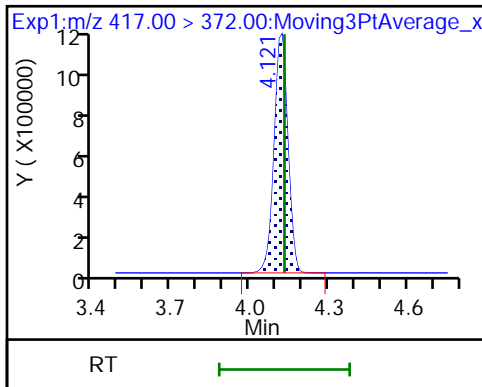
35 6:2 FTS

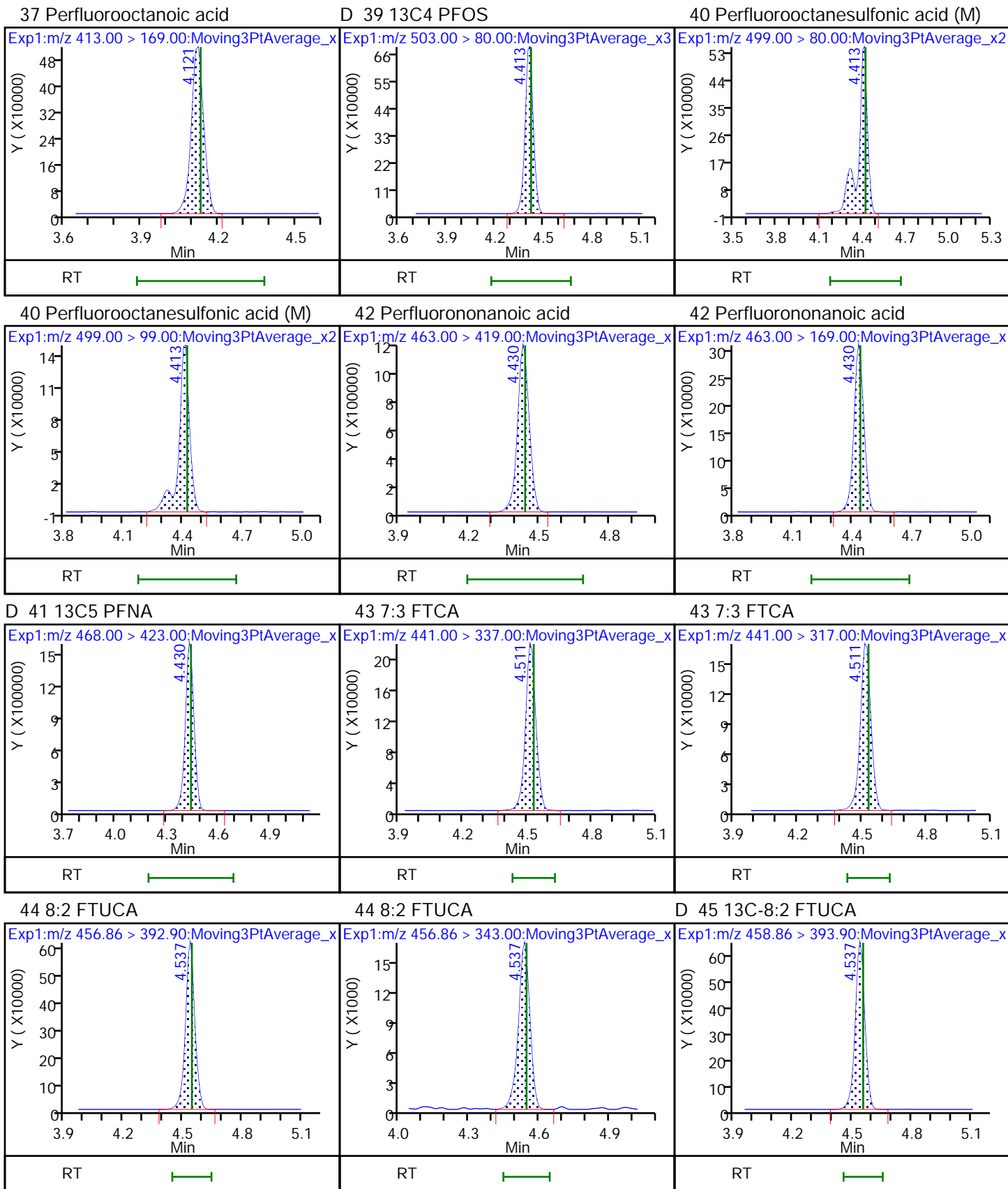


D 31 13C4 PFOA

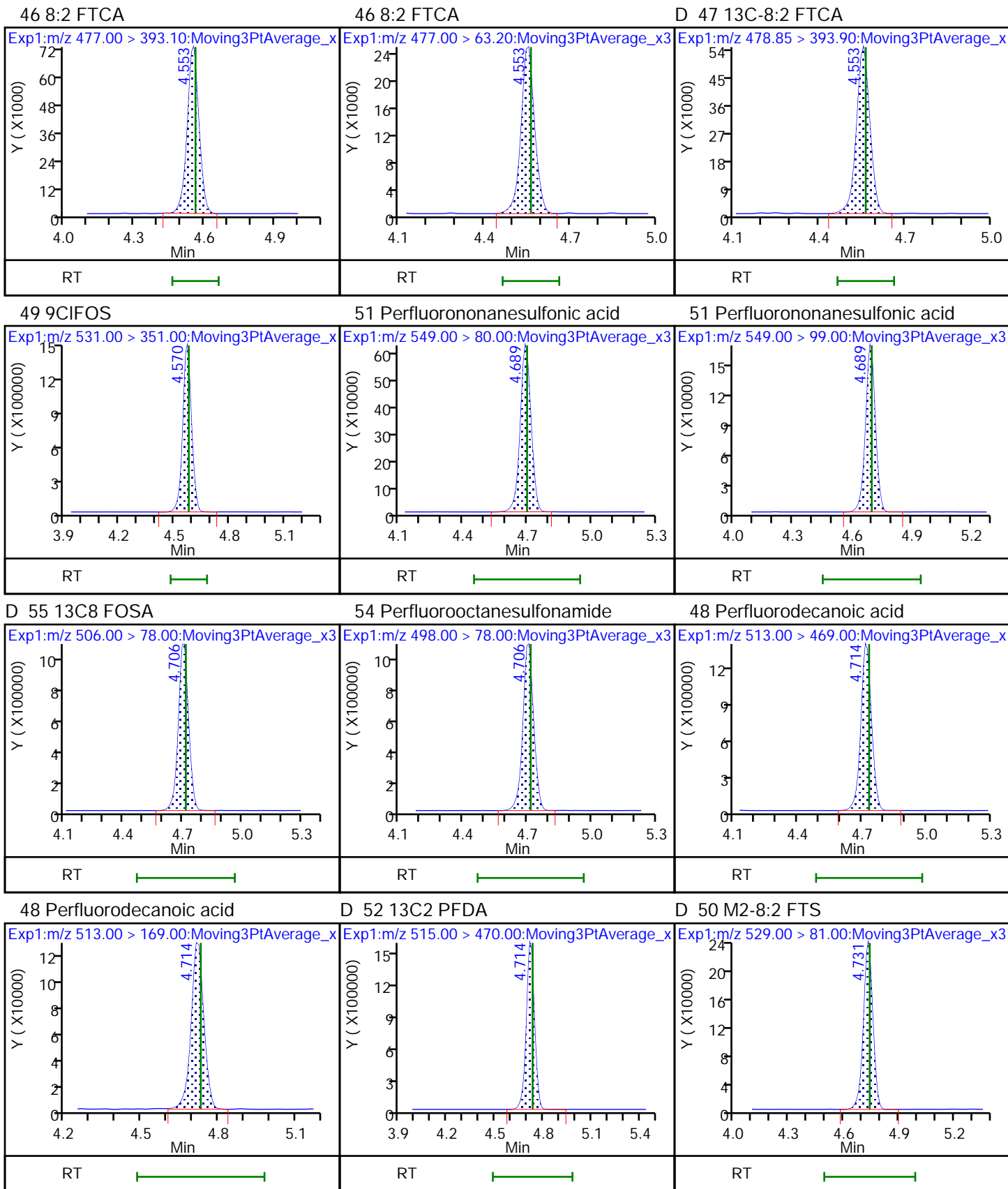
\* 30 13C2 PFOA

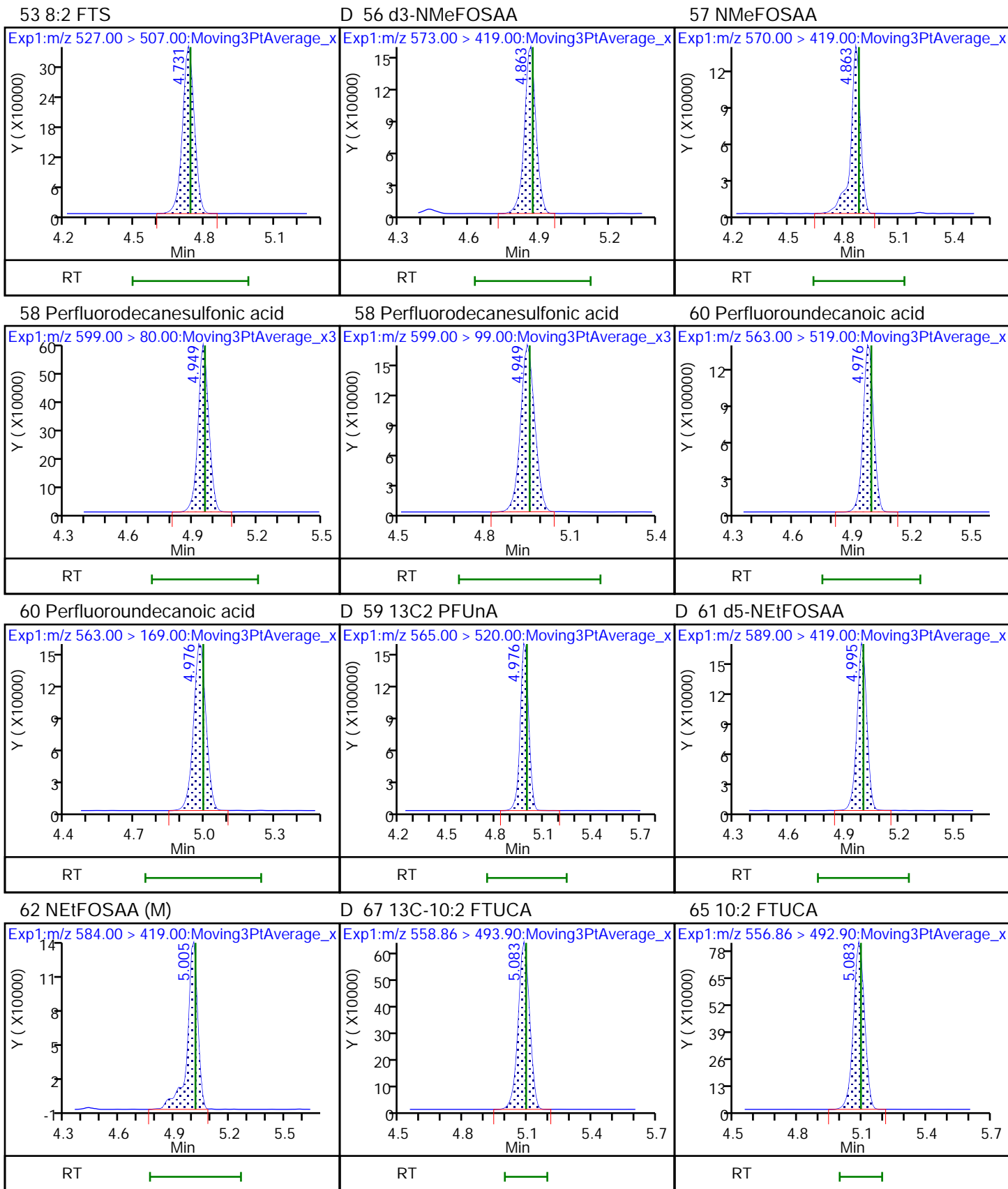
37 Perfluorooctanoic acid

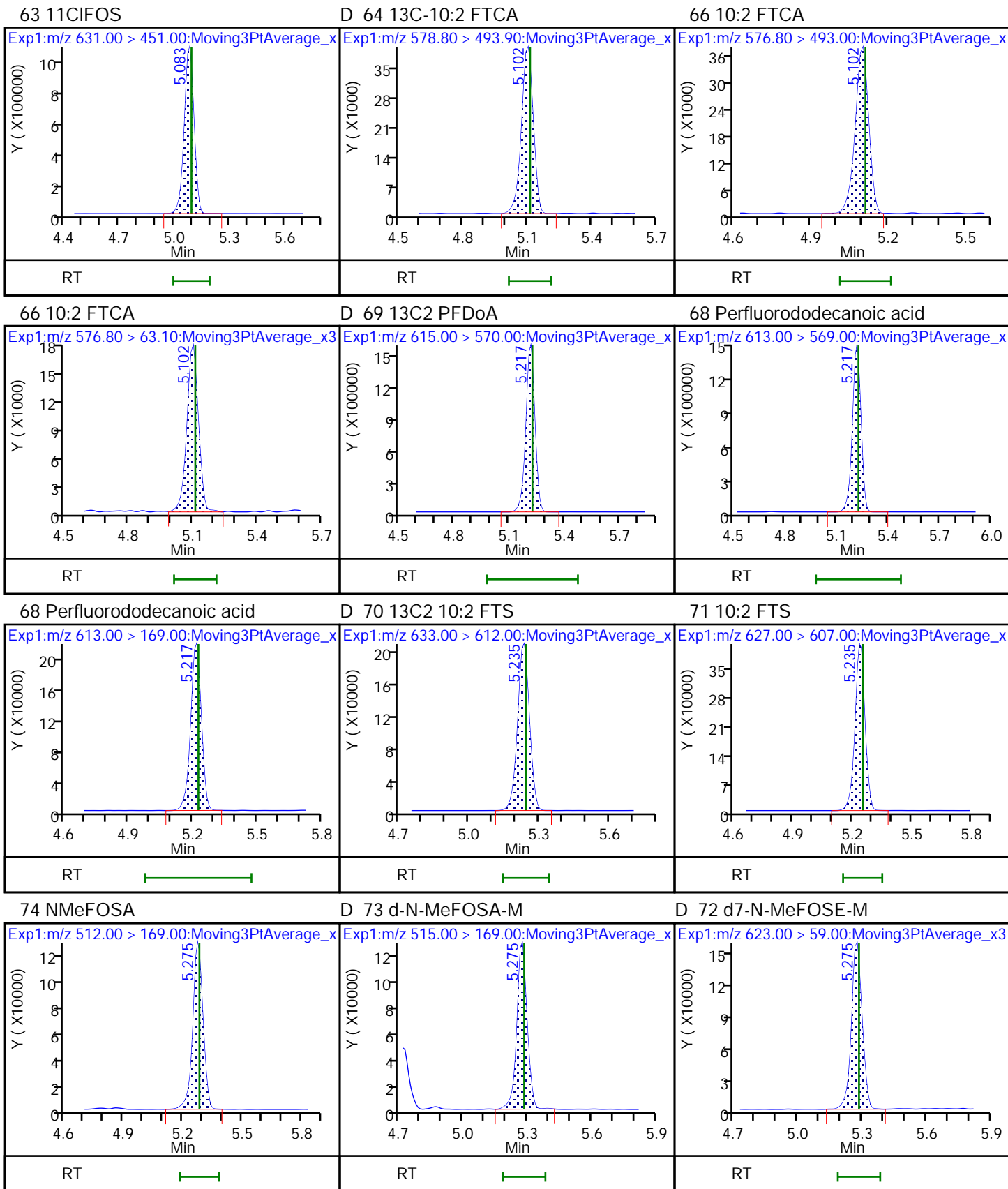


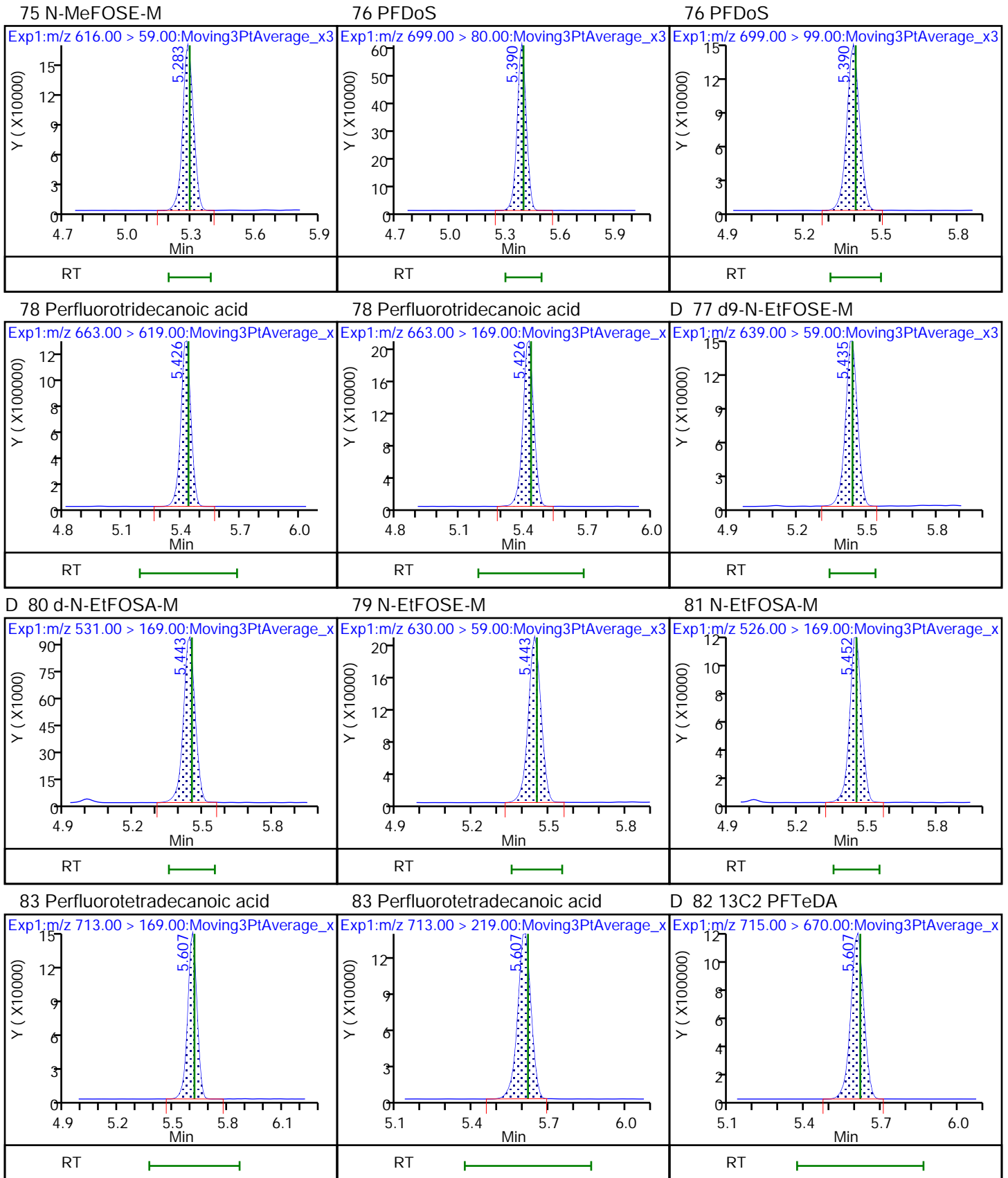








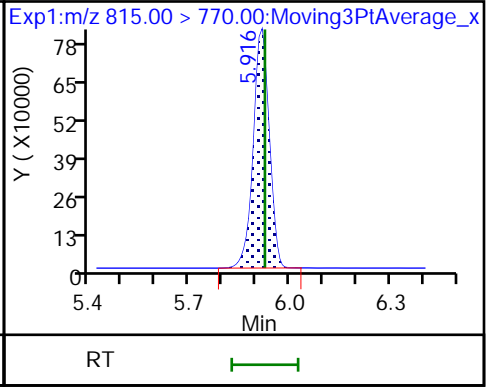
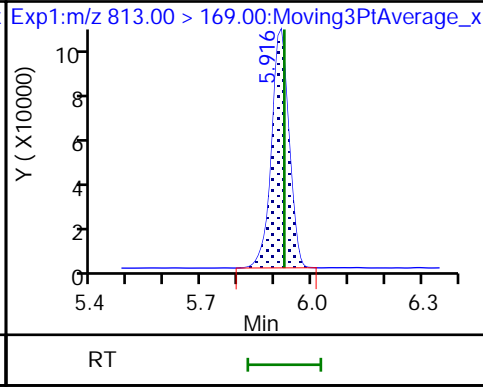
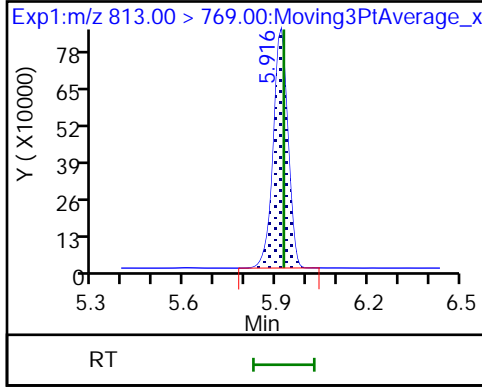




85 Perfluorohexadecanoic acid

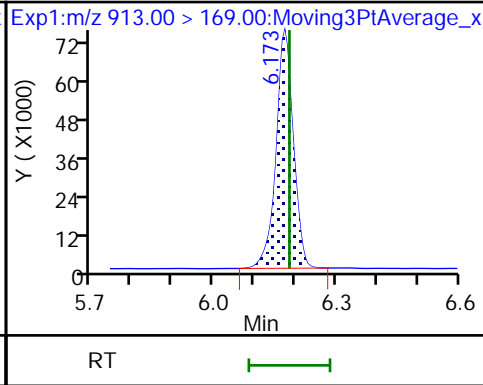
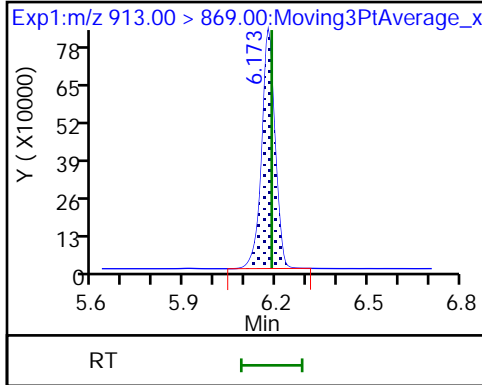
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 140-58905/3-B  
 Matrix: Air Lab File ID: 022.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 20:58  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.02594		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	83		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_022.d  
 Lims ID: LCSD 140-58905/3-B  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 19-Feb-2022 20:58:14 ALS Bottle#: 22 Worklist Smp#: 22  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-022 lcsd 140-58905/3-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:07:52  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.804	2.804	0.0	1.000	4034225	1.14	114	734	
D 2 13C4 PFBA	217.00 > 172.00	2.804	2.804	0.0	0.680	5578508	1.21	96.8	16463	
3 PFECA F	229.00 > 85.00	2.911	2.911	0.0	0.935	2943166	1.14	114	12699	
6 Perfluoropentanoic acid	262.90 > 219.00	3.115	3.115	0.001	1.000	3827734	1.19	119	656	
D 5 13C5 PFPeA	267.90 > 223.00	3.115	3.115	0.001	0.756	4277638	1.18	94.6	12995	
4 3:3 FTCA	241.00 > 177.10	3.132	3.122	0.010	1.000	144862	1.21	Target=1.16	121	837
	241.00 > 116.90	3.123	3.122	0.001	0.997	117963		1.23(0.58-1.74)		172
D 7 13C3 PFBS	301.90 > 80.00	3.132	3.122	0.010	0.760	2552821	1.12	96.0	4691	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.132	3.131	0.001	1.000	2471713	1.03	Target=2.65	116	2183
	298.90 > 99.00	3.132	3.131	0.001	1.000	925499		2.67(1.32-3.97)		1365
9 PFECA A	278.95 > 84.90	3.203	3.202	0.001	1.028	4650917	1.16	116	16846	
11 PES	314.80 > 135.00	3.261	3.260	0.001	1.041	5364135	1.03	116	10941	
12 PFECA B	295.22 > 201.00	3.385	3.373	0.012	0.985	1847889	1.20	120	5518	
13 4:2 FTS	327.00 > 307.00	3.417	3.415	0.002	1.000	2179465	1.17	125	9450	
D 18 M2-4:2 FTS	329.00 > 81.00	3.417	3.415	0.002	0.829	959002	1.34	115	1285	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.438	3.437	0.001	1.098	2481973	1.09	Target=3.40	117	3282	
349.00 > 99.00	3.438	3.437	0.001	1.098	724748		3.42(1.70-5.09)		3878	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.438	3.437	0.001	1.000	3497541	1.18	Target=12.03	118	967	
313.00 > 119.00	3.438	3.437	0.001	1.000	295804		11.82(6.01-18.04)		240	
D 14 13C2 PFHxA										
315.00 > 270.00	3.438	3.437	0.001	0.834	4646469	1.16		93.1	18118	
17 HFPO-DA										
285.00 > 169.00	3.544	3.542	0.002	1.000	2639984	1.30	Target=2.55	130	694	
329.00 > 169.00	3.544	3.542	0.002	1.000	1000007		2.64(1.28-3.83)		591	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.542	0.002	0.860	2017244	1.03		82.7	5339	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.773	3.772	0.001	1.000	2193097	1.08	Target=3.45	118	3711	M
399.00 > 99.00	3.773	3.772	0.001	1.000	624951		3.51(1.72-5.17)		2554	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.773	3.772	0.001	0.915	1739610	1.17		99.1	5663	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.783	3.792	-0.009	1.000	4039250	1.24	Target=3.22	124	1926	
363.00 > 169.00	3.783	3.792	-0.009	1.000	1242963		3.25(1.61-4.83)		3526	
D 22 13C4 PFHpA										
367.00 > 322.00	3.783	3.792	-0.009	0.918	4071374	1.14		91.5	8213	
25 DONA										
377.00 > 251.00	3.821	3.820	0.001	0.866	5787701	0.9781	Target=1.72	104	12176	
377.00 > 85.00	3.821	3.820	0.001	0.866	3272820		1.77(0.86-2.58)		4751	
26 5:3 FTCA										
340.88 > 236.90	3.854	3.853	0.001	0.987	418278	1.68	Target=1.08	168	965	
340.88 > 216.90	3.846	3.853	-0.007	0.985	366117		1.14(0.54-1.62)		1123	
27 6:2 FTUCA										
356.86 > 292.90	3.887	3.886	0.001	1.002	1976857	1.18	Target=14.05	118	4429	
356.86 > 243.00	3.879	3.886	-0.007	1.000	131068		15.08(7.03-21.08)		361	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.886	-0.007	0.941	2006283	1.51		121	5372	
29 6:2 FTCA										
377.10 > 63.00	3.904	3.903	0.001	1.000	54304	1.18	Target=1.38	118	233	
377.10 > 313.10	3.904	3.903	0.001	1.000	48965		1.11(0.69-2.08)		85.1	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.903	0.001	0.947	82897	0.8099		64.8	303	
32 PFECHS										
460.80 > 380.90	4.056	4.054	0.002	0.984	2856240	1.12	Target=1.68	121	9912	
460.80 > 98.90	4.056	4.054	0.002	0.984	1700991		1.68(0.84-2.53)		5024	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.103	4.111	-0.008	0.930	2357164	1.07	Target=3.76	112	5540	
449.00 > 99.00	4.103	4.111	-0.008	0.930	570803		4.13(1.88-5.64)		3236	
35 6:2 FTS										
427.00 > 407.00	4.112	4.121	-0.009	1.000	1879136	1.21		127	5811	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
37 Perfluorooctanoic acid										
413.00 > 369.00	4.122	4.121	0.001	1.000	4560421	1.24	Target=2.40	124	3487	
413.00 > 169.00	4.122	4.121	0.001	1.000	1909369		2.39(1.20-3.60)		5068	
* 30 13C2 PFOA										
415.00 > 370.00	4.122	4.121	0.001		4916917	1.25			8442	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.112	4.121	-0.009	0.998	1011982	1.43		120	2096	
D 31 13C4 PFOA										
417.00 > 372.00	4.122	4.121	0.001	1.000	4294512	1.17		93.4	10088	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.414	4.412	0.002	1.000	2606875	1.02	Target=4.41	110	3426	M
499.00 > 99.00	4.414	4.412	0.002	1.000	593692		4.39(2.20-6.61)		1322	M
D 39 13C4 PFOS										
503.00 > 80.00	4.414	4.412	0.002	1.071	2674759	1.21		101	3069	
42 Perfluorononanoic acid										
463.00 > 419.00	4.431	4.438	-0.007	1.000	4359291	1.24	Target=4.14	124	3373	
463.00 > 169.00	4.431	4.438	-0.007	1.000	1058904		4.12(2.07-6.21)		3006	
D 41 13C5 PFNA										
468.00 > 423.00	4.431	4.438	-0.007	1.075	5788897	1.16		92.8	10708	
43 7:3 FTCA										
441.00 > 337.00	4.521	4.519	0.002	0.993	855026	1.84	Target=1.38	184	2314	
441.00 > 317.00	4.521	4.519	0.002	0.993	594165		1.44(0.69-2.08)		1941	
44 8:2 FTUCA										
456.86 > 392.90	4.538	4.545	-0.007	1.000	2803886	1.12	Target=35.71	112	6514	
456.86 > 343.00	4.538	4.545	-0.007	1.000	79338		35.34(17.85-53.56)		233	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.538	4.545	-0.007	1.000	3282746	1.85		148	8685	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.554	4.553	0.001	1.105	110962	0.8536		68.3	453	
46 8:2 FTCA										
477.00 > 393.10	4.554	4.561	-0.007	1.000	207421	1.29	Target=3.43	129	1198	
477.00 > 63.20	4.562	4.561	0.001	1.002	58985		3.52(1.72-5.15)		193	
49 9CIFOS										
531.00 > 351.00	4.570	4.578	-0.008	1.109	5301507	1.05		113	6989	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.064	2440772	1.08	Target=3.86	112	4519	
549.00 > 99.00	4.697	4.697	0.0	1.064	609553		4.00(1.93-5.79)		2816	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.705	0.001	1.000	3743554	1.19		119	6486	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.705	0.001	1.142	4127234	1.24		99.0	4141	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.722	0.001	1.000	5108020	1.16	Target=11.25	116	4323	
513.00 > 169.00	4.723	4.722	0.001	1.000	445111		11.48(5.62-16.87)		322	
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.722	0.001	1.146	6102074	1.28		103	14900	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.731	0.0	1.148	1151674	1.49		125	1580	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.731	4.739	-0.008	1.000	1528514	1.06		110	4318	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.864	4.872	-0.008	1.180	654290	1.47		117	576	
57 NMeFOSAA										M
570.00 > 419.00	4.872	4.872	0.0	1.002	571886	1.18		118	689	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.949	4.957	-0.008	1.121	2103061	1.06	Target=3.69	109	5826	
599.00 > 99.00	4.949	4.957	-0.008	1.121	556635		3.78(1.84-5.53)		2361	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.985	0.001	1.000	5010520	1.15	Target=8.60	115	5332	
563.00 > 169.00	4.986	4.985	0.001	1.000	572285		8.76(4.30-12.90)		2210	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.985	0.001	1.210	5619872	1.22		97.9	10441	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.214	646426	1.41		113	2709	
62 NEtFOSAA										M
584.00 > 419.00	5.005	5.005	0.0	1.000	606987	1.33		133	1500	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.083	5.092	-0.009	1.233	3188344	1.60		128	7290	
63 11CIFOS										
631.00 > 451.00	5.083	5.092	-0.009	1.152	4115149	1.06		112	7292	
65 10:2 FTUCA										
556.86 > 492.90	5.093	5.092	0.001	1.002	3504933	1.14		114	6376	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.102	0.0	1.000	90995	1.23	Target=2.41	123	531	
576.80 > 63.10	5.102	5.102	0.0	1.000	35551		2.56(1.20-3.61)		102	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.111	-0.009	1.238	100113	0.8230		65.8	545	
D 69 13C2 PFDaA										
615.00 > 570.00	5.218	5.226	-0.008	1.266	5379770	1.19		94.9	7968	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.218	5.226	-0.008	1.000	5144718	1.16	Target=6.73	116	4506	
613.00 > 169.00	5.218	5.226	-0.008	1.000	737171		6.98(3.36-10.09)		1616	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.243	-0.008	1.270	930236	1.43		121	4302	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.002	2039869	1.24		129	9576	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.275	0.0	1.280	688916	1.48		118	546	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.283	-0.008	1.280	532176	1.34		107	56.9	
74 NMeFOSA										
512.00 > 169.00	5.284	5.283	0.001	1.002	520912	1.13		113	725	
75 N-MeFOSE-M										
616.00 > 59.00	5.284	5.292	-0.008	1.002	806155	1.25		125	416	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.390	5.399	-0.009	1.221	1716044	0.8110	Target=4.35	83.8	3310	
699.00 > 99.00	5.390	5.399	-0.009	1.221	409840		4.19(2.18-6.53)		1958	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	552420	1.14		91.3	277	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.040	4349836	1.14	Target=6.02	114	4588	
663.00 > 169.00	5.426	5.435	-0.009	1.040	704800		6.17(3.01-9.03)		4225	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.444	5.452	-0.008	1.321	352259	1.11		88.5	641	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	680882	1.09		109	630	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.002	408056	1.16		116	442	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.608	5.617	-0.009	1.360	3897719	1.08		86.0	9735	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.608	5.617	-0.009	1.000	470124	1.17	Target=1.07	117	1536	
713.00 > 219.00	5.608	5.617	-0.009	1.000	447626		1.05(0.54-1.61)		2724	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.435	1012259	0.4291		34.3	2911	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.916	5.924	-0.008	1.000	1014598	1.10	Target=8.23	110	1648	
813.00 > 169.00	5.916	5.924	-0.008	1.000	128241		7.91(4.11-12.34)		384	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.184	-0.005	1.044	77471	0.0944	Target=11.72	9.4	248	M
913.00 > 169.00	6.179	6.184	-0.005	1.044	6238		12.42(5.86-17.58)		23.6	M

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_022.d

Injection Date: 19-Feb-2022 20:58:14

Instrument ID: LCA

Lims ID: LCSD 140-58905/3-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 22

Worklist Smp#: 22

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

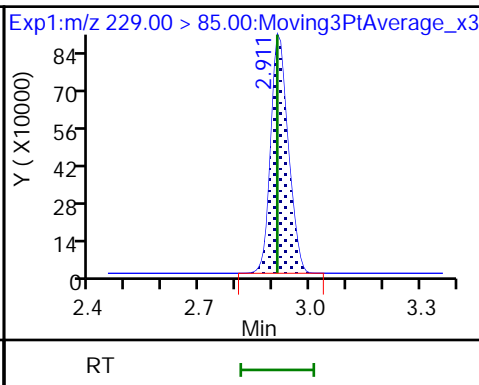
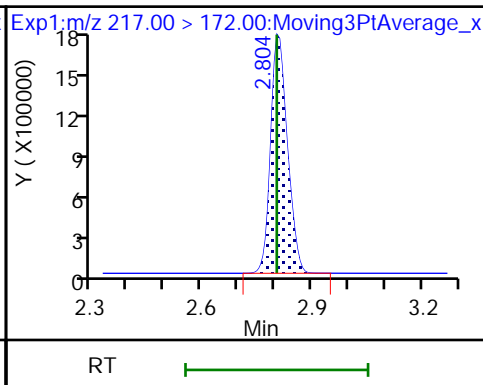
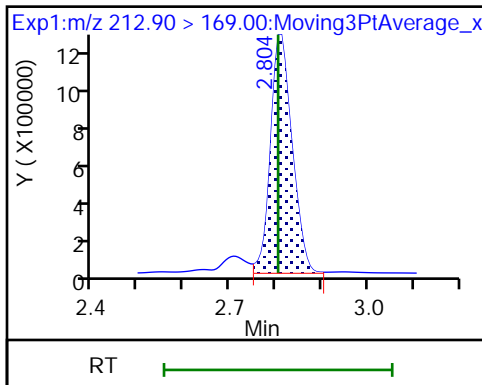
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

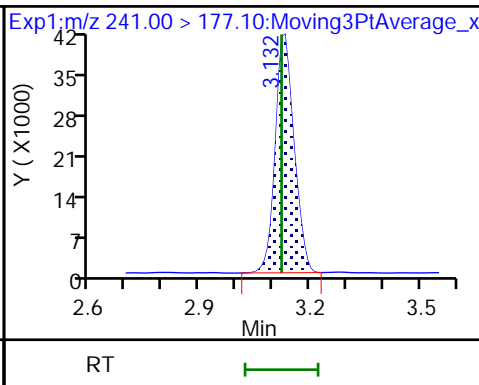
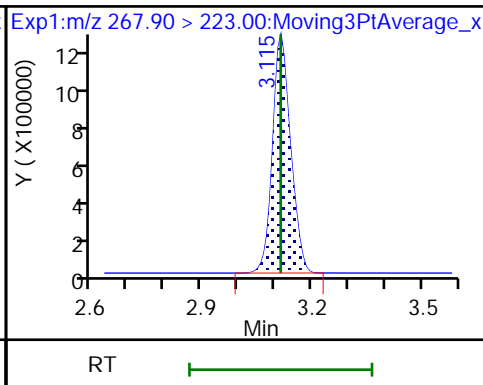
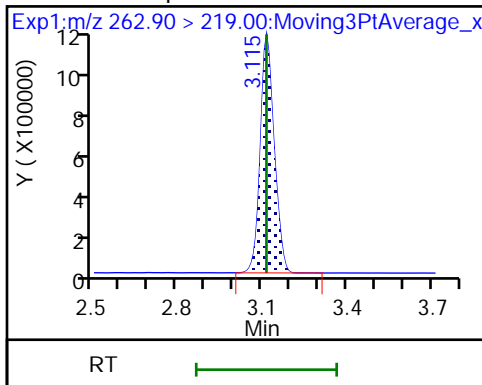
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

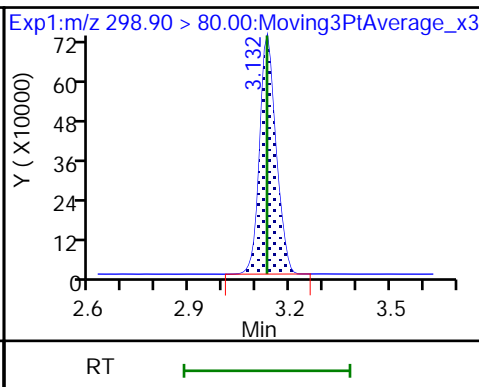
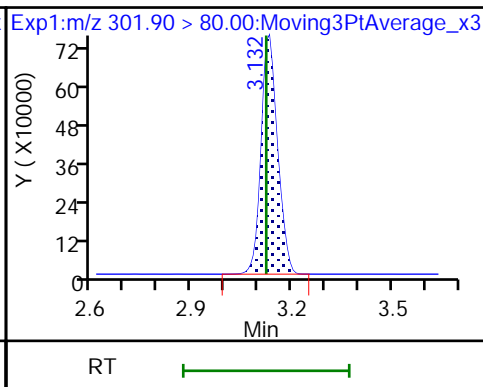
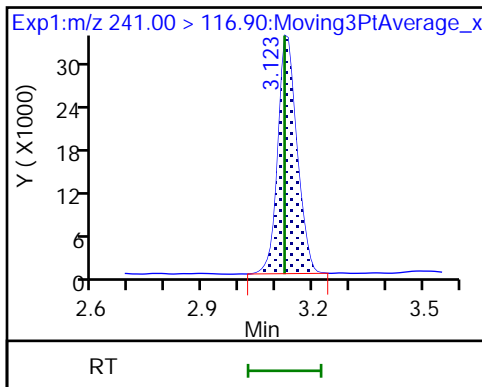
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

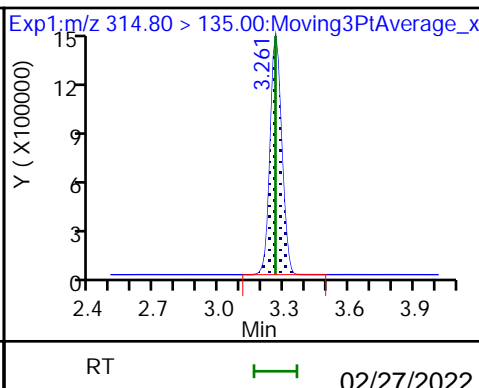
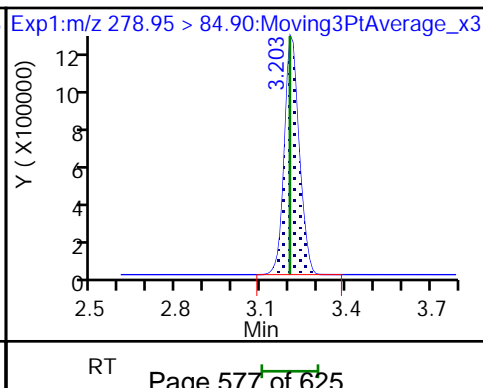
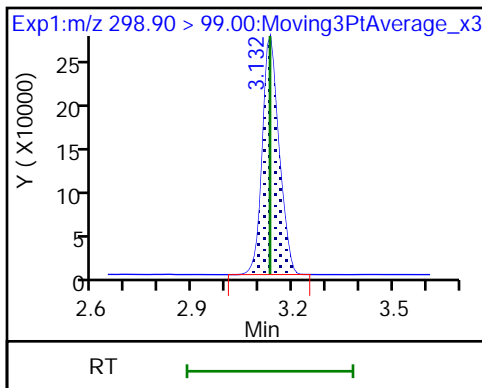
8 Perfluorobutanesulfonic acid

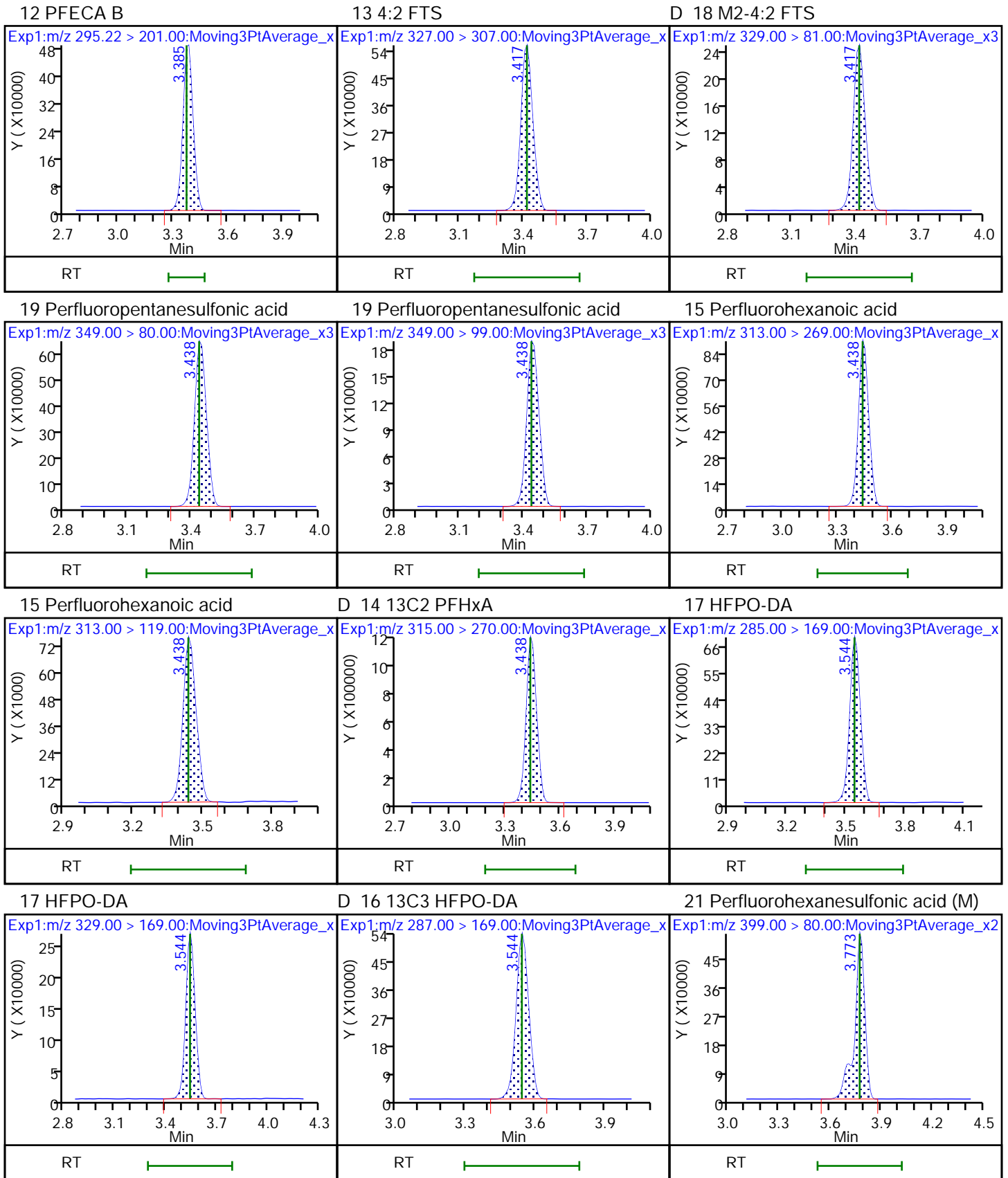


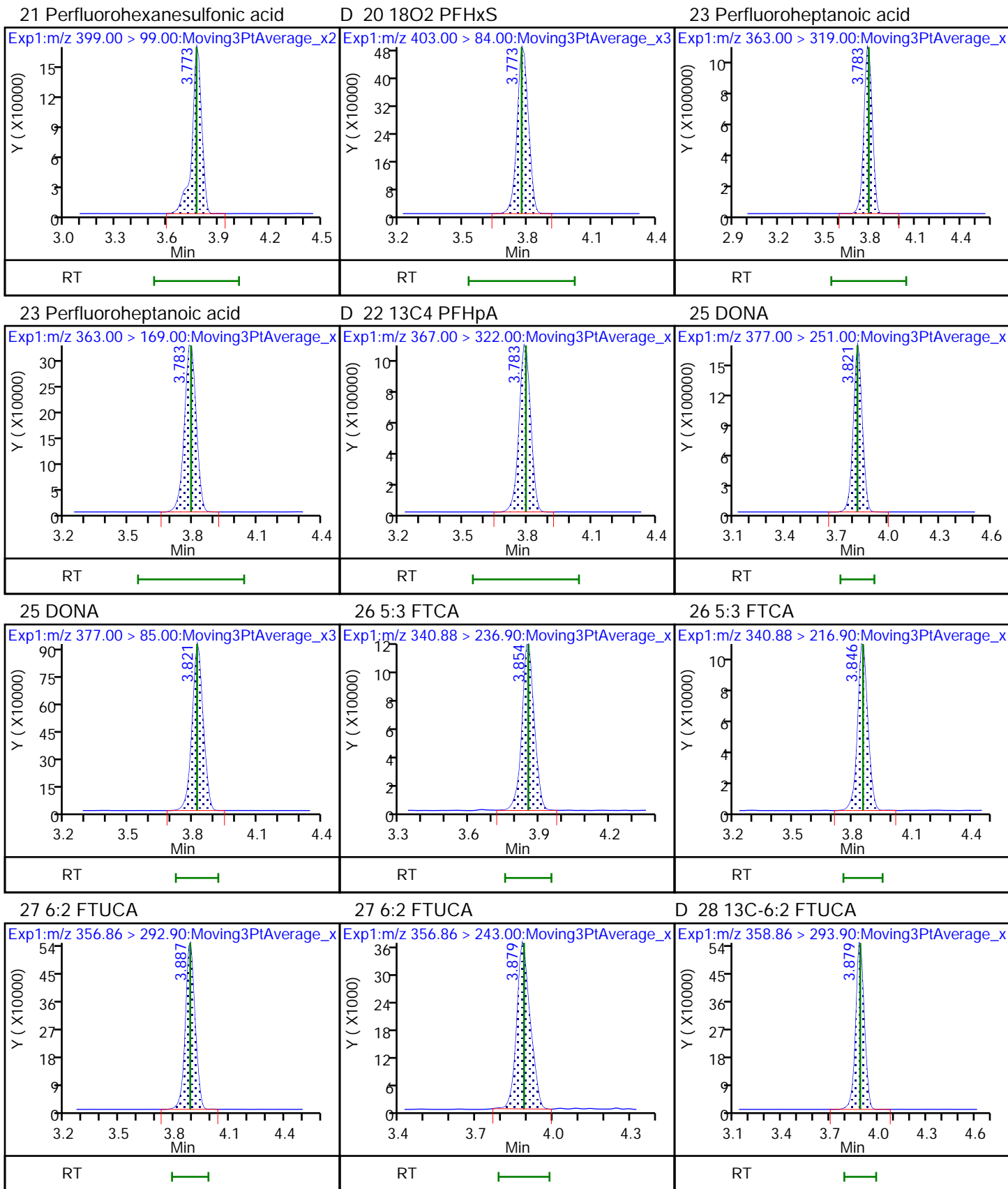
8 Perfluorobutanesulfonic acid

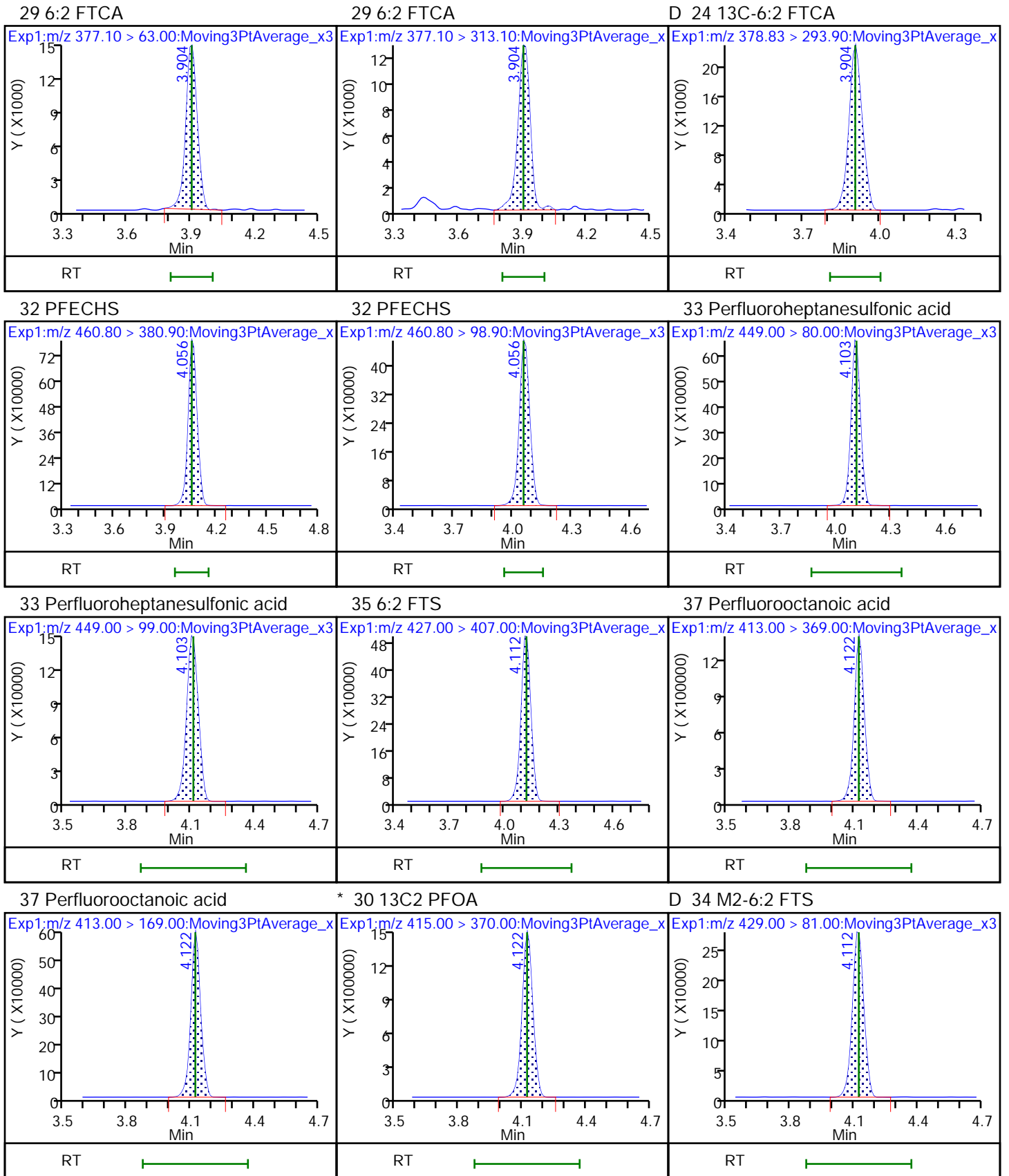
9 PFECA A

11 PES





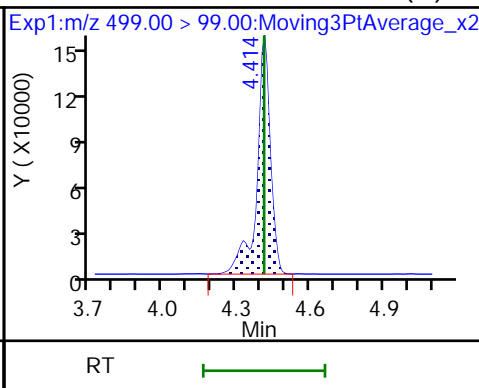
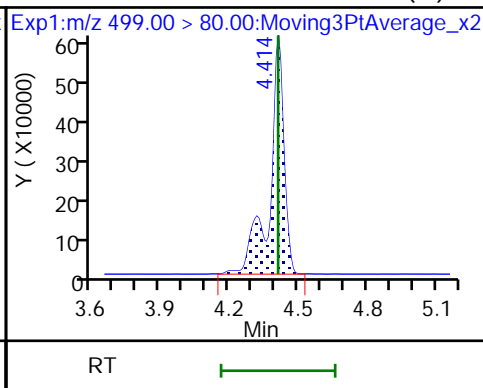
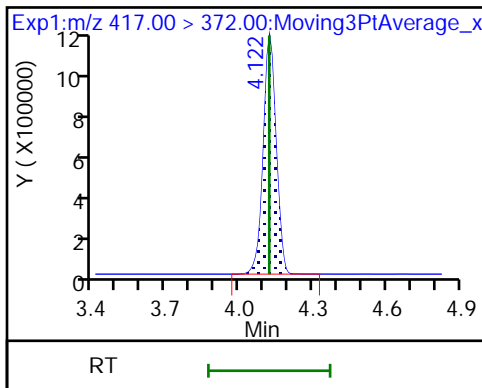




D 31 13C4 PFOA

40 Perfluorooctanesulfonic acid (M)

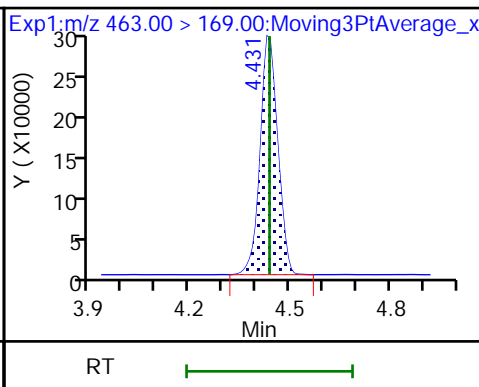
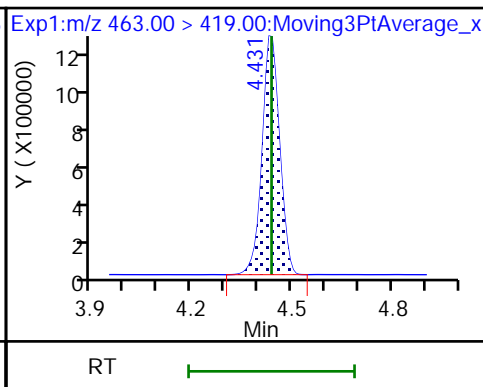
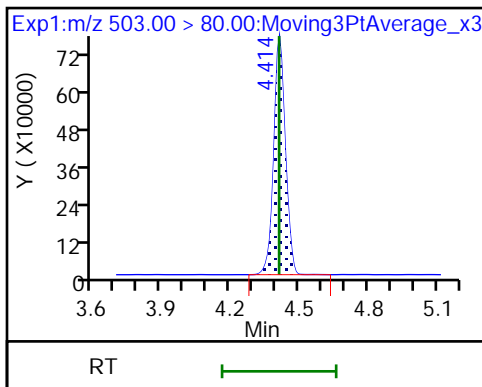
40 Perfluorooctanesulfonic acid (M)



D 39 13C4 PFOS

42 Perfluorononanoic acid

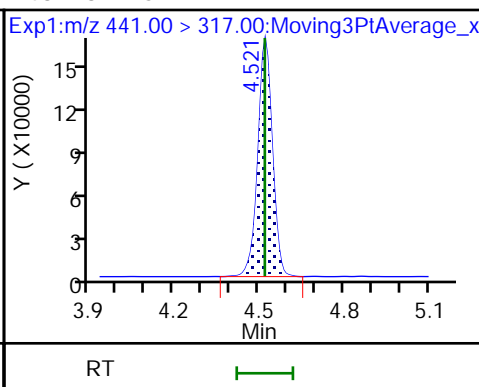
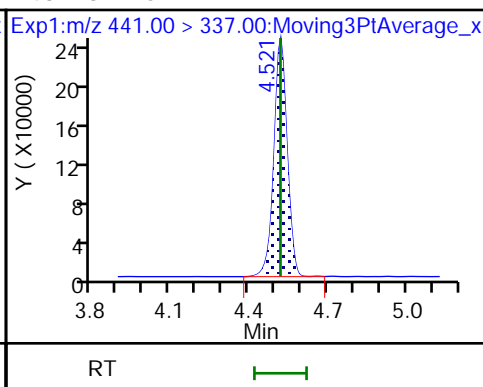
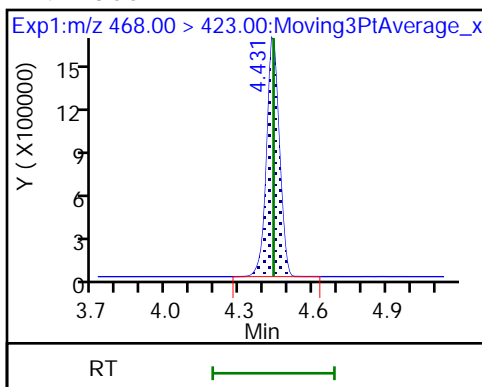
42 Perfluorononanoic acid



D 41 13C5 PFNA

43 7:3 FTCA

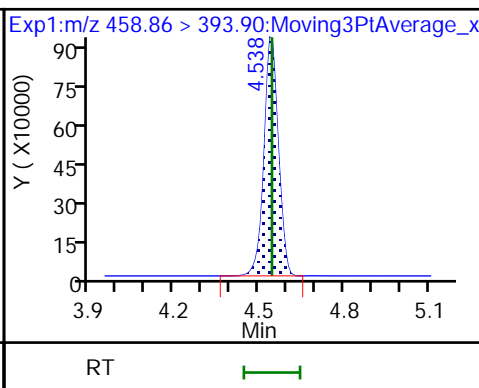
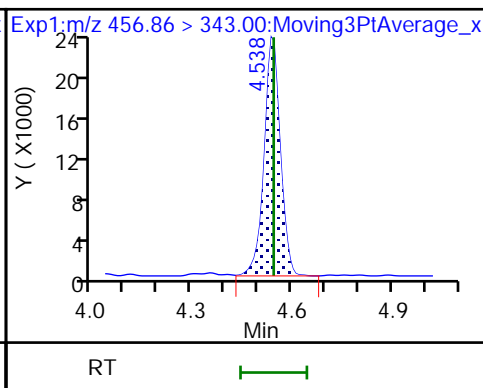
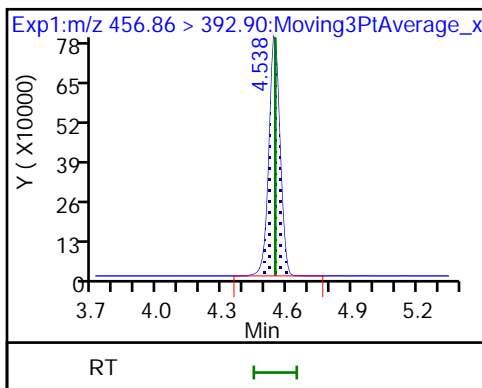
43 7:3 FTCA



44 8:2 FTUCA

44 8:2 FTUCA

D 45 13C-8:2 FTUCA

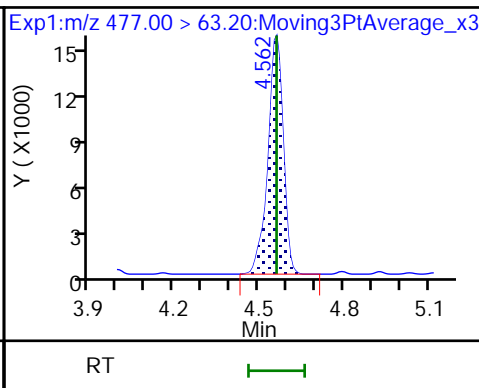
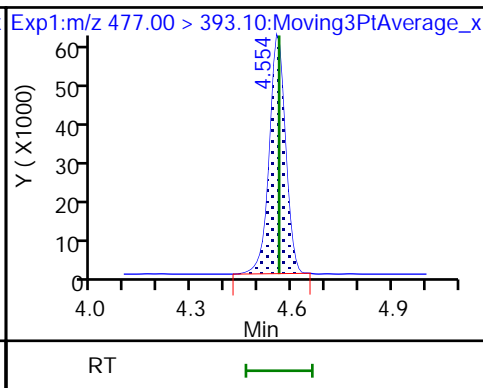
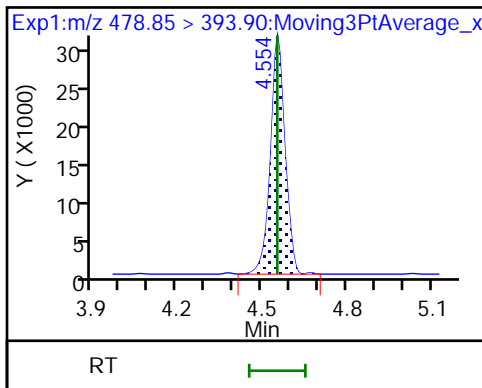




D 47 13C-8:2 FTCA

46 8:2 FTCA

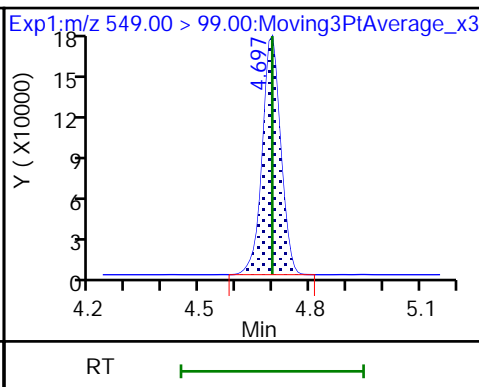
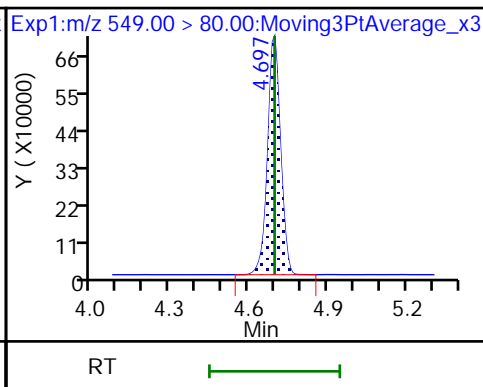
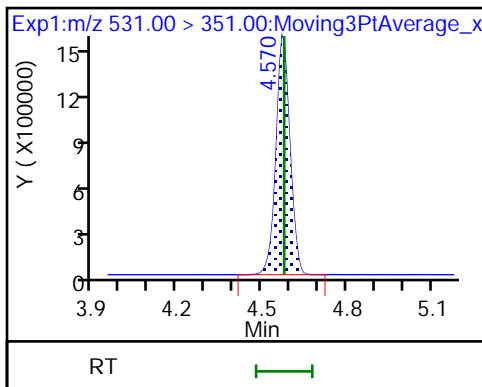
46 8:2 FTCA



49 9CIFOS

51 Perfluoronanesulfonic acid

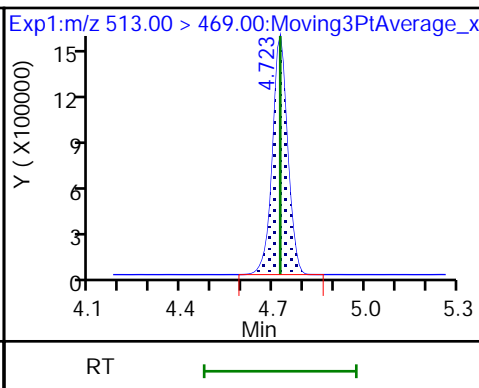
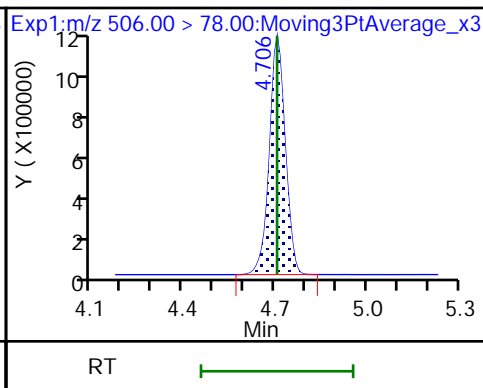
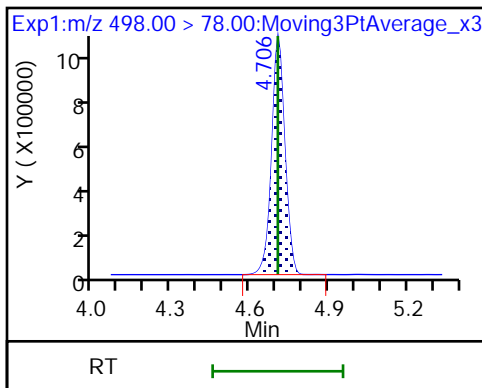
51 Perfluoronanesulfonic acid



54 Perfluorooctanesulfonamide

D 55 13C8 FOSA

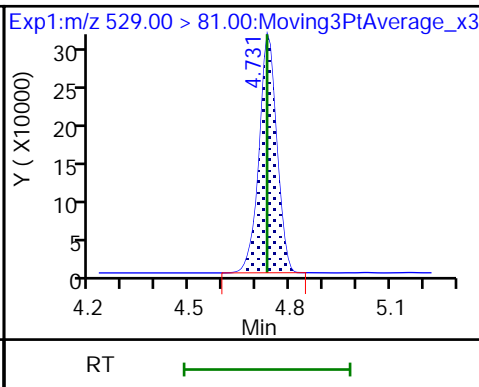
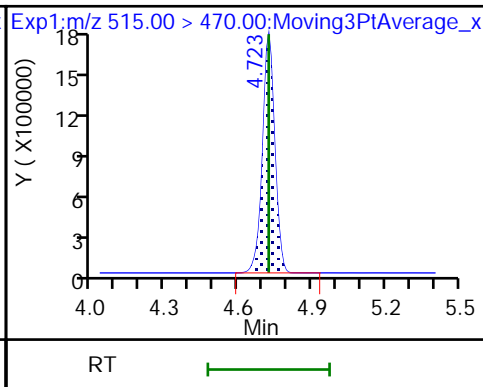
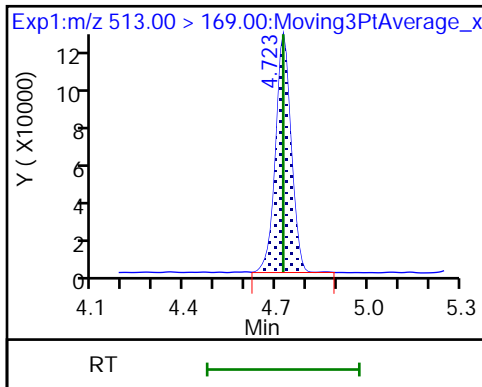
48 Perfluorodecanoic acid

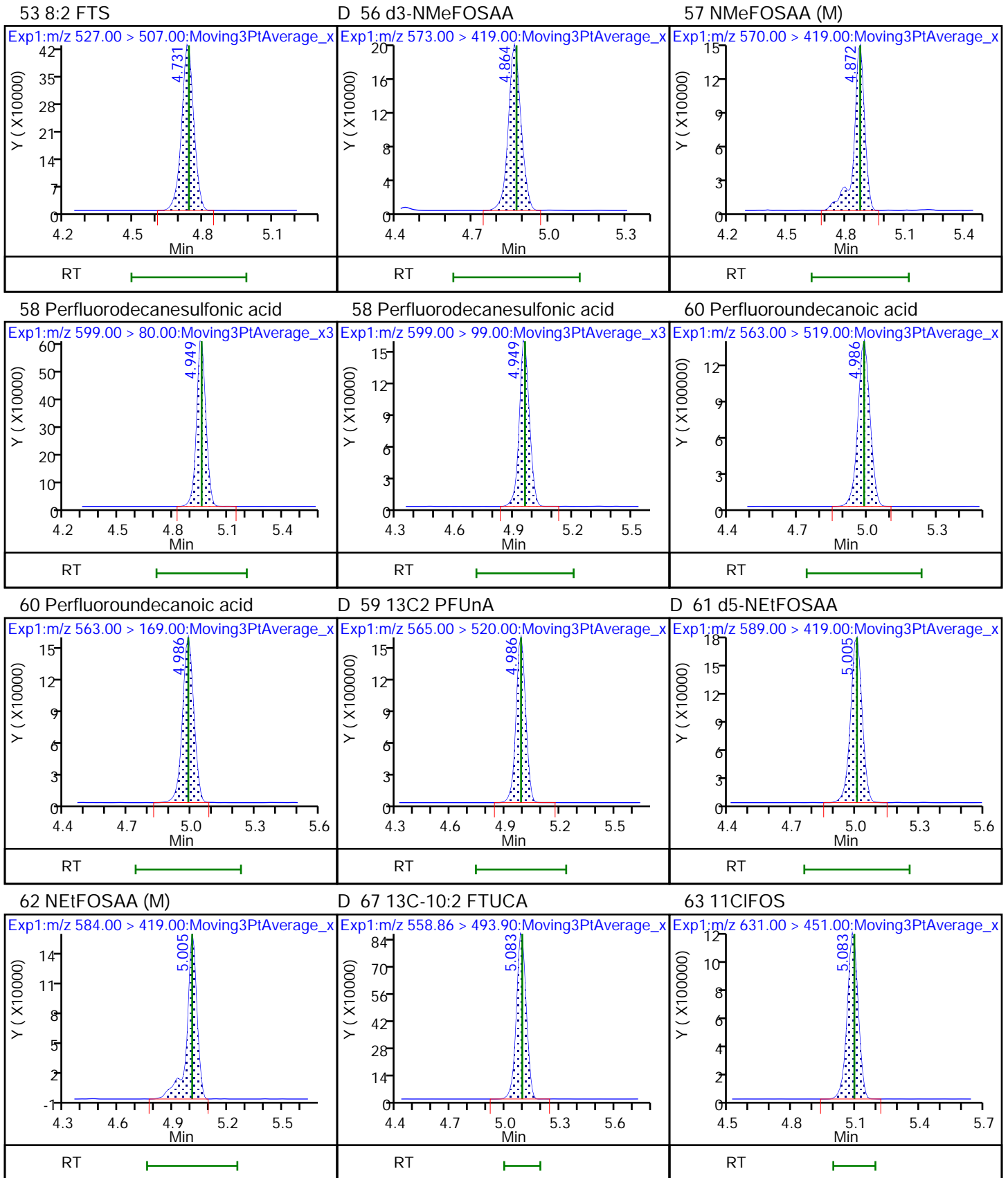


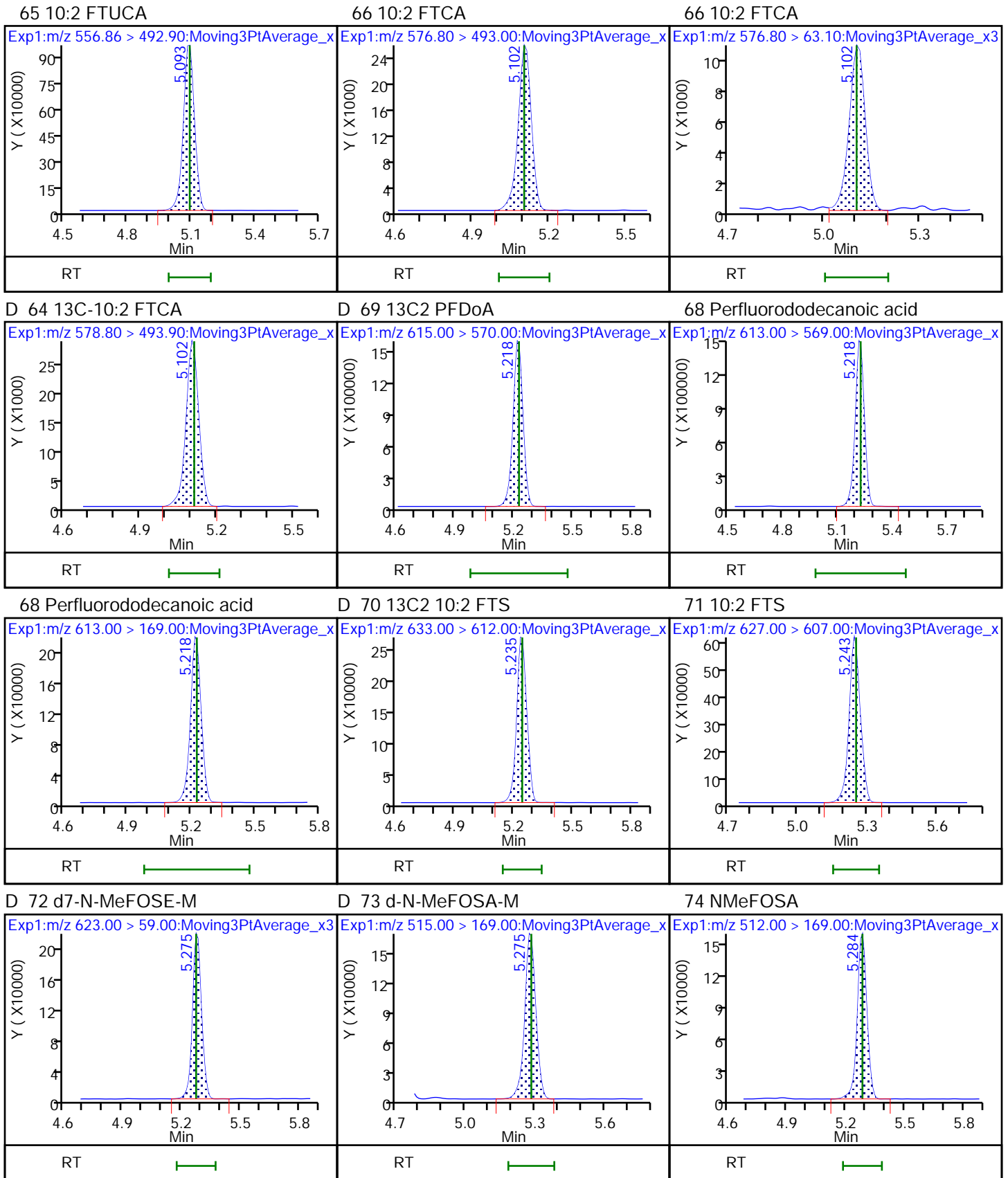
48 Perfluorodecanoic acid

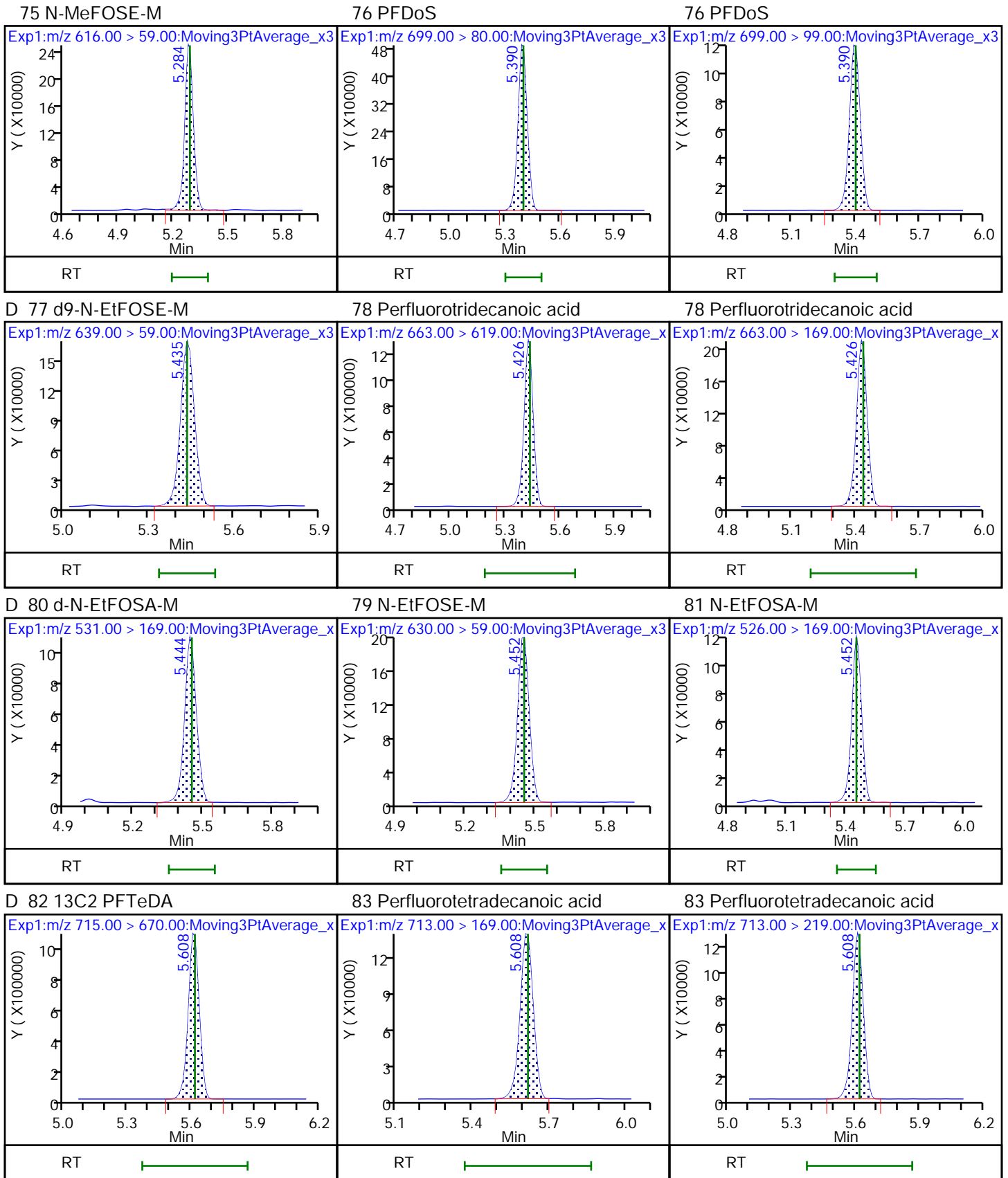
D 52 13C2 PFDA

D 50 M2-8:2 FTS





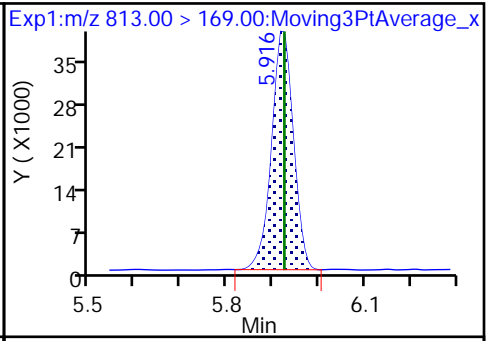
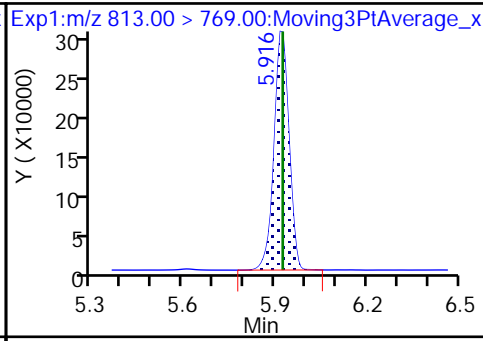
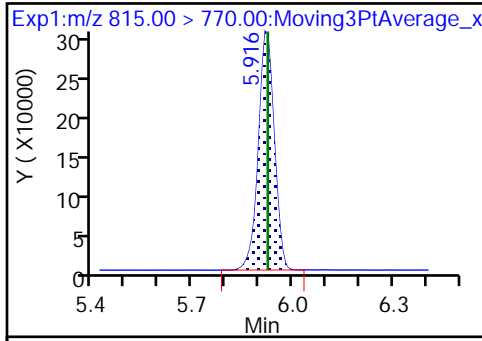




D 84 13C2 PFHxDA

85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid



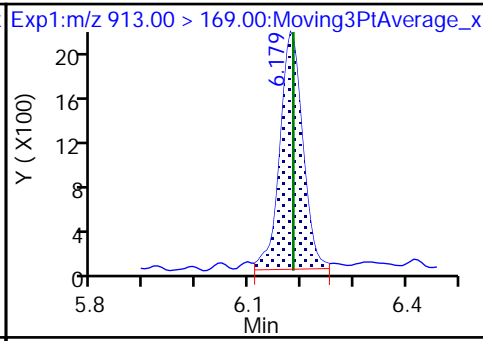
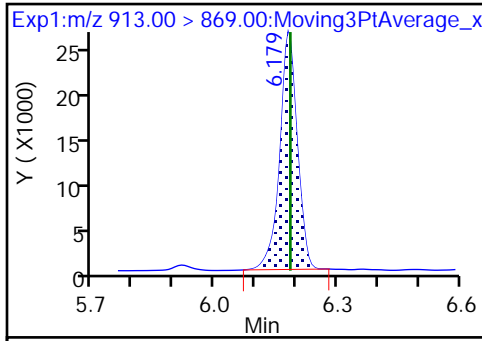
RT

RT

RT

86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid (M)



RT

RT

FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 140-58914/3-B  
 Matrix: Air Lab File ID: \_037.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/16/2022 07:38  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 00:49  
 Con. Extract Vol.: 50 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.02215		0.00119	0.000690

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	82		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_037.d  
 Lims ID: LCSD 140-58914/3-B  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 19-Feb-2022 00:49:32 ALS Bottle#: 37 Worklist Smp#: 37  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-037 lcsd 140-58914/3-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:27:27  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	3147119	0.9310		111	1033	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.680	4474727	0.9244		88.0	16885	
3 PFECA F										
229.00 > 85.00	2.918	2.919	-0.001	0.937	2140887	0.8898		106	9134	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.754	3352802	0.8826		84.1	14229	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.123	-0.008	1.000	2833320	0.9432		112	897	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.131	0.0	1.000	106295	0.9312	Target=1.19	111	1193	
241.00 > 116.90	3.131	3.131	0.0	1.000	86641		1.23(0.60-1.79)		141	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.758	2047488	0.8522		87.3	8361	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.140	-0.009	1.000	1868266	0.8134	Target=2.66	110	3743	
298.90 > 99.00	3.131	3.140	-0.009	1.000	695385		2.69(1.33-3.99)		2921	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	3504596	0.9366		111	12364	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	4069481	0.8197		110	21200	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.981	1410967	0.9455		113	6769	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.827	640921	0.8523		86.9	1017	
13 4:2 FTS										
327.00 > 307.00	3.416	3.416	0.0	1.000	1218011	0.8194		104	7995	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.835	3792543	0.9050		86.2	13968	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	1820342	0.8410	Target=3.47	107	3989	
349.00 > 99.00	3.448	3.448	0.0	1.101	525153		3.47(1.73-5.20)		3373	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	2608159	0.9071	Target=11.56	108	1140	
313.00 > 119.00	3.448	3.448	0.0	1.000	234248		11.13(5.78-17.33)		261	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.553	3.553	0.0	0.860	1768920	0.8630		82.2	5847	
17 HFPO-DA										
285.00 > 169.00	3.553	3.553	0.0	1.000	1979863	0.9303	Target=2.51	111	1418	
329.00 > 169.00	3.553	3.553	0.0	1.000	786975		2.52(1.25-3.76)		983	
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.783	-0.001	0.916	1375085	0.8818		88.8	4355	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.782	3.783	-0.001	1.000	1458547	0.7607	Target=3.47	99.5	4140	M
399.00 > 99.00	3.782	3.783	-0.001	1.000	456310		3.20(1.73-5.20)		1584	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.793	-0.001	0.918	3390456	0.9075		86.4	9803	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.793	-0.001	1.000	3021659	0.9343	Target=3.41	111	2276	
363.00 > 169.00	3.792	3.793	-0.001	1.000	924387		3.27(1.70-5.11)		2489	
25 DONA										
377.00 > 251.00	3.829	3.829	0.0	0.866	4274570	0.8054	Target=1.72	102	11383	
377.00 > 85.00	3.829	3.829	0.0	0.866	2411862		1.77(0.86-2.58)		3084	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	326684	1.20	Target=1.09	143	1125	
340.88 > 216.90	3.853	3.853	0.0	0.987	287641		1.14(0.54-1.63)		653	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	0.0	0.941	1234475	0.8860		84.4	3069	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.895	-0.009	1.000	1237165	1.01	Target=14.99	120	3756	
356.86 > 243.00	3.886	3.895	-0.009	1.000	87771		14.10(7.50-22.49)		325	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.904	0.0	0.945	76083	0.7079		67.4	369	
29 6:2 FTCA										
377.10 > 63.00	3.912	3.913	-0.001	1.002	51037	1.01	Target=1.26	121	227	
377.10 > 313.10	3.904	3.913	-0.009	1.000	38729		1.32(0.63-1.89)		47.1	
32 PFECHS										
460.80 > 380.90	4.064	4.065	0.0	0.984	2148197	0.8816	Target=1.75	114	7352	
460.80 > 98.90	4.064	4.065	0.0	0.984	1236831		1.74(0.87-2.62)		2878	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.112	4.112	0.0	0.930	1671825	0.8432	Target=3.89	105	3725	
449.00 > 99.00	4.112	4.112	0.0	0.930	428881		3.90(1.94-5.83)		2696	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	686135	0.9232		92.5	1220	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	1088674	0.8650		109	3193	
D 31 13C4 PFOA										
417.00 > 372.00	4.131	4.131	0.0	1.000	3445159	0.8915		84.9	7886	
* 30 13C2 PFOA										
415.00 > 370.00	4.131	4.131	0.0		5162799	1.25			9800	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.131	4.131	0.0	1.000	3281591	0.9341	Target=2.38	111	2626	
413.00 > 169.00	4.131	4.131	0.0	1.000	1394666		2.35(1.19-3.57)		2478	
D 39 13C4 PFOS										
503.00 > 80.00	4.422	4.421	0.001	1.070	2015346	0.8697		86.6	2036	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.413	4.421	-0.008	0.998	1891412	0.8226	Target=4.49	106	2568	M
499.00 > 99.00	4.422	4.421	0.001	1.000	414761		4.56(2.25-6.74)		1300	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.439	0.0	1.000	3104891	0.8846	Target=3.86	105	2986	
463.00 > 169.00	4.439	4.439	0.0	1.000	777531		3.99(1.93-5.79)		1708	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.439	0.0	1.075	4845288	0.9248		88.1	8163	
43 7:3 FTCA										
441.00 > 337.00	4.524	4.529	-0.005	0.993	529533	0.9351	Target=1.33	111	1732	
441.00 > 317.00	4.524	4.529	-0.005	0.993	392743		1.35(0.66-1.99)		1235	
44 8:2 FTUCA										
456.86 > 392.90	4.549	4.545	0.004	1.000	1593549	0.9454	Target=30.23	113	3582	
456.86 > 343.00	4.549	4.545	0.004	1.000	49866		31.96(15.12-45.35)		176	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.549	4.553	-0.004	1.000	1850474	0.99		94.4	4631	
46 8:2 FTCA										
477.00 > 393.10	4.557	4.562	-0.005	1.000	170211	0.8680	Target=3.38	103	955	
477.00 > 63.20	4.557	4.562	-0.005	1.000	55852		3.05(1.69-5.07)		192	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.557	4.562	-0.005	1.103	113694	0.8330		79.3	431	
49 9CIFOS										
531.00 > 351.00	4.574	4.578	-0.004	1.107	3879532	0.8595		110	6643	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.702	4.697	0.005	1.063	1753458	0.8635	Target=3.87	107	3023	
549.00 > 99.00	4.702	4.697	0.005	1.063	470332		3.73(1.93-5.80)		1792	
D 55 13C8 FOSA										
506.00 > 78.00	4.710	4.714	-0.004	1.140	3080277	0.8799		83.8	5170	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.710	4.714	-0.004	1.000	2466360	0.8803		105	4502	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.727	4.731	-0.004	1.000	3808395	0.9388	Target=11.19	112	2963	
513.00 > 169.00	4.727	4.731	-0.004	1.000	337743		11.28(5.60-16.79)		281	
D 52 13C2 PFDA										
515.00 > 470.00	4.727	4.731	-0.004	1.144	4733331	0.9474		90.2	15414	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.736	4.740	-0.004	1.146	768444	26.9487		94.3	1642	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.736	4.740	-0.004	1.000	995886	0.8652		108	2038	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.867	4.872	-0.005	1.178	438514	0.9357		89.1	314	
57 NMeFOSAA										
570.00 > 419.00	4.876	4.880	-0.004	1.002	338422	0.8784		105	452	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.952	4.957	-0.005	1.120	1597908	0.8932	Target=3.53	110	3475	
599.00 > 99.00	4.952	4.957	-0.005	1.120	455948		3.50(1.77-5.30)		1812	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.989	4.995	-0.006	1.000	3900859	0.9129	Target=8.28	109	5765	
563.00 > 169.00	4.989	4.995	-0.006	1.000	435599		8.96(4.14-12.42)		1480	
D 59 13C2 PFUnA										
565.00 > 520.00	4.989	4.995	-0.006	1.208	4639154	0.9618		91.6	14028	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.999	5.005	-0.006	1.210	473942	0.9856		93.9	1418	
62 NEtFOSAA										
584.00 > 419.00	5.009	5.015	-0.006	1.002	378439	0.9539		114	686	
65 10:2 FTUCA										
556.86 > 492.90	5.087	5.093	-0.006	1.000	2222107	0.99		118	4448	
63 11CIFOS										
631.00 > 451.00	5.087	5.093	-0.006	1.150	3186243	0.9109		115	6621	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.087	5.093	-0.006	1.231	1949720	0.9296		88.5	4628	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.106	5.112	-0.006	1.236	99606	0.7799		74.3	756	
66 10:2 FTCA										
576.80 > 493.00	5.106	5.112	-0.006	1.000	84088	0.9685	Target=2.41	115	648	
576.80 > 63.10	5.106	5.112	-0.006	1.000	36355		2.31(1.21-3.62)		127	
D 69 13C2 PFDaA										
615.00 > 570.00	5.221	5.226	-0.005	1.264	4407010	0.9259		88.2	11503	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.221	5.226	-0.005	1.000	3903124	0.9002	Target=6.88	107	3679	
613.00 > 169.00	5.221	5.226	-0.005	1.000	544976		7.16(3.44-10.31)		1133	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.238	5.243	-0.005	1.268	690558	1.01		102	4029	
71 10:2 FTS										
627.00 > 607.00	5.246	5.251	-0.005	1.002	1327517	0.9107		112	8444	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.278	5.284	-0.006	1.278	500501	1.02		97.3	380	
74 NMeFOSA										
512.00 > 169.00	5.287	5.284	0.003	1.002	356106	0.9511		113	626	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.278	5.284	-0.006	1.278	364027	0.8734		83.2	42.8	
75 N-MeFOSE-M										
616.00 > 59.00	5.287	5.292	-0.005	1.002	493709	0.8822		105	743	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.394	5.399	-0.005	1.220	1721344	0.9069	Target=4.29	112	1902	
699.00 > 99.00	5.394	5.399	-0.005	1.220	375855		4.58(2.14-6.43)		1723	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.430	5.435	-0.005	1.040	3416015	0.9217	Target=6.38	110	3737	
663.00 > 169.00	5.430	5.435	-0.005	1.040	535632		6.38(3.19-9.57)		2193	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.439	5.435	0.004	1.317	457645	0.9007		85.8	202	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.447	5.452	-0.005	1.319	293115	0.8768		83.5	516	
79 N-EtFOSE-M										
630.00 > 59.00	5.447	5.452	-0.005	1.002	519016	0.8392		99.9	553	
81 N-EtFOSA-M										
526.00 > 169.00	5.456	5.452	0.004	1.002	332449	0.9534		113	597	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.612	5.617	-0.005	1.000	392867	0.9110	Target=1.02	108	1396	
713.00 > 219.00	5.612	5.617	-0.005	1.000	388663		1.01(0.51-1.53)		1952	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.612	5.617	-0.005	1.359	3506321	0.9212		87.7	9048	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.921	5.924	-0.004	1.000	2207994	0.9039	Target=8.32	108	3071	
813.00 > 169.00	5.921	5.924	-0.004	1.000	275495		8.01(4.16-12.48)		873	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.921	5.924	-0.004	1.433	2249738	0.9083		86.5	4780	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.181	6.185	-0.004	1.044	2049496	0.9444	Target=11.94	112	3009	
913.00 > 169.00	6.181	6.185	-0.004	1.044	171756		11.93(5.97-17.91)		691	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfms\Knoxville\ChromData\LCA\20220218-22714.b\_037.d

Injection Date: 19-Feb-2022 00:49:32

Instrument ID: LCA

Lims ID: LCSD 140-58914/3-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 37

Worklist Smp#: 37

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

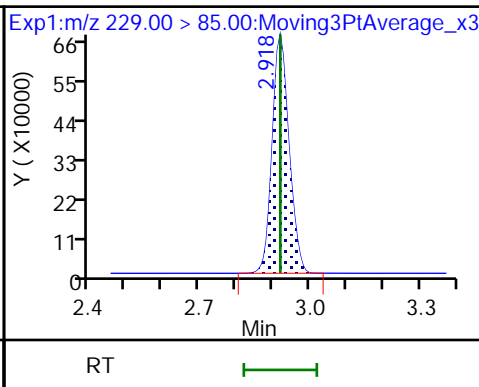
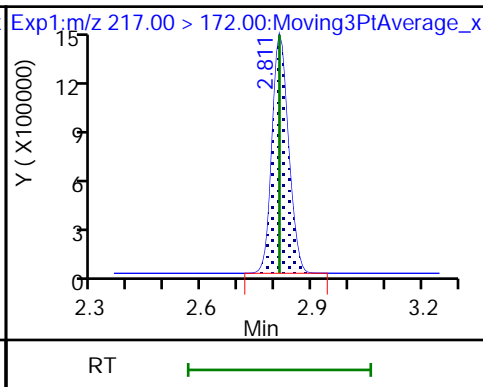
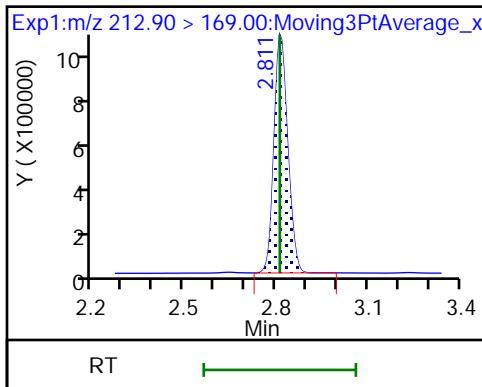
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

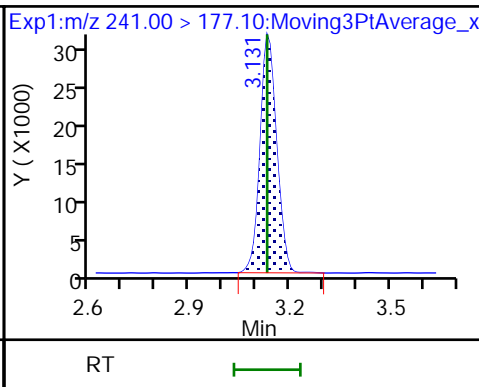
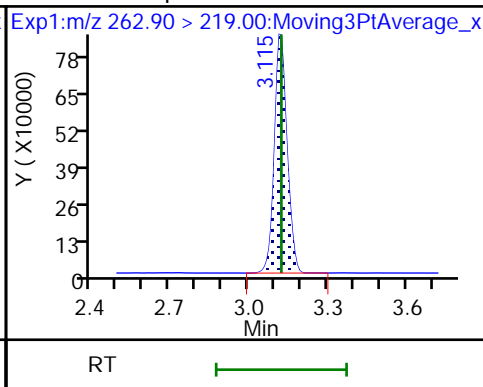
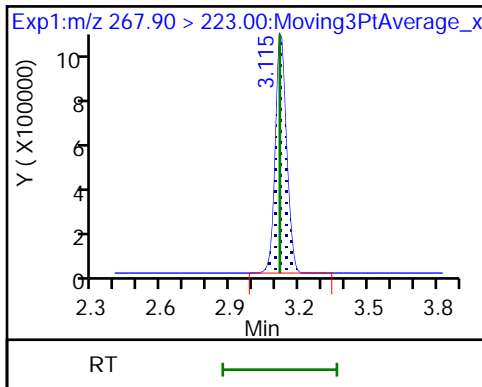
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

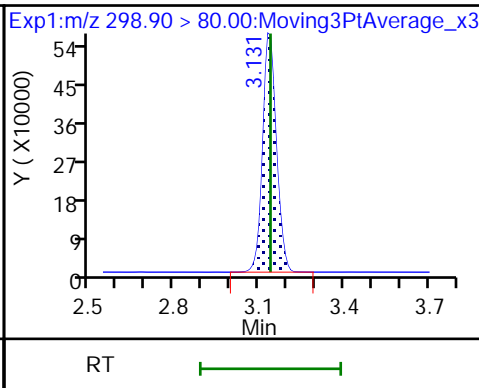
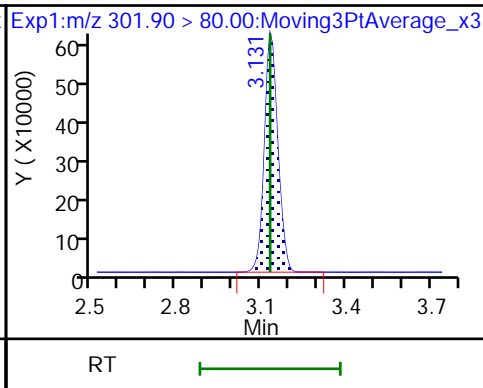
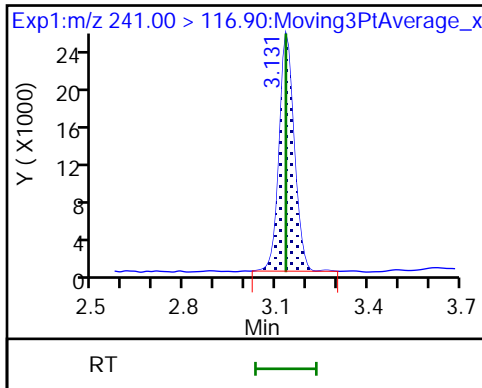
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

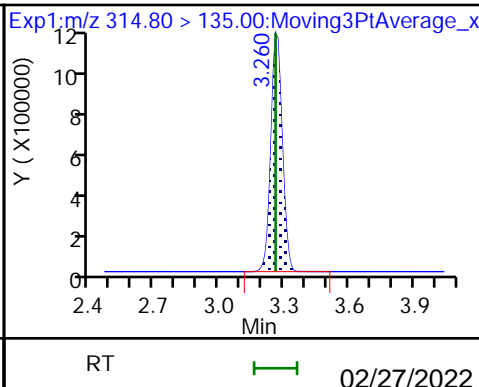
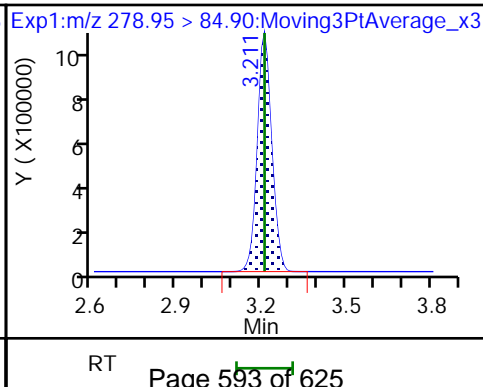
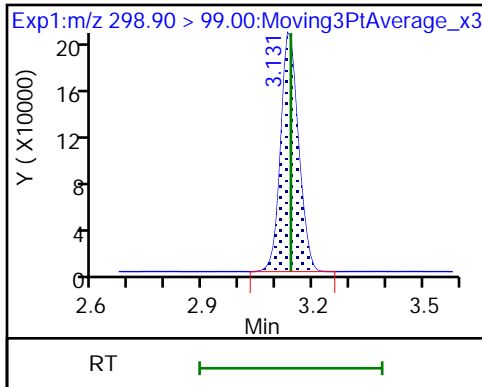
8 Perfluorobutanesulfonic acid

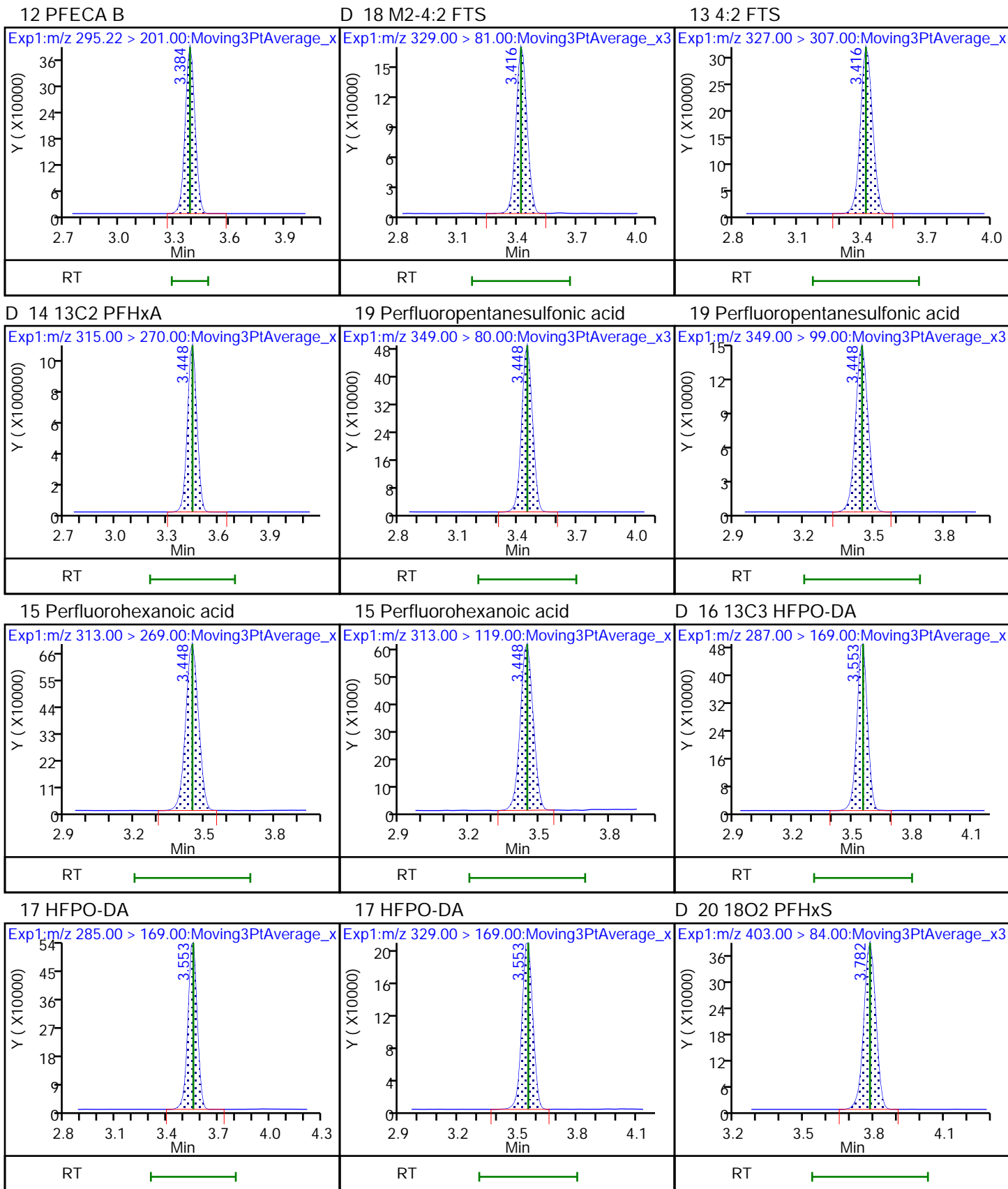


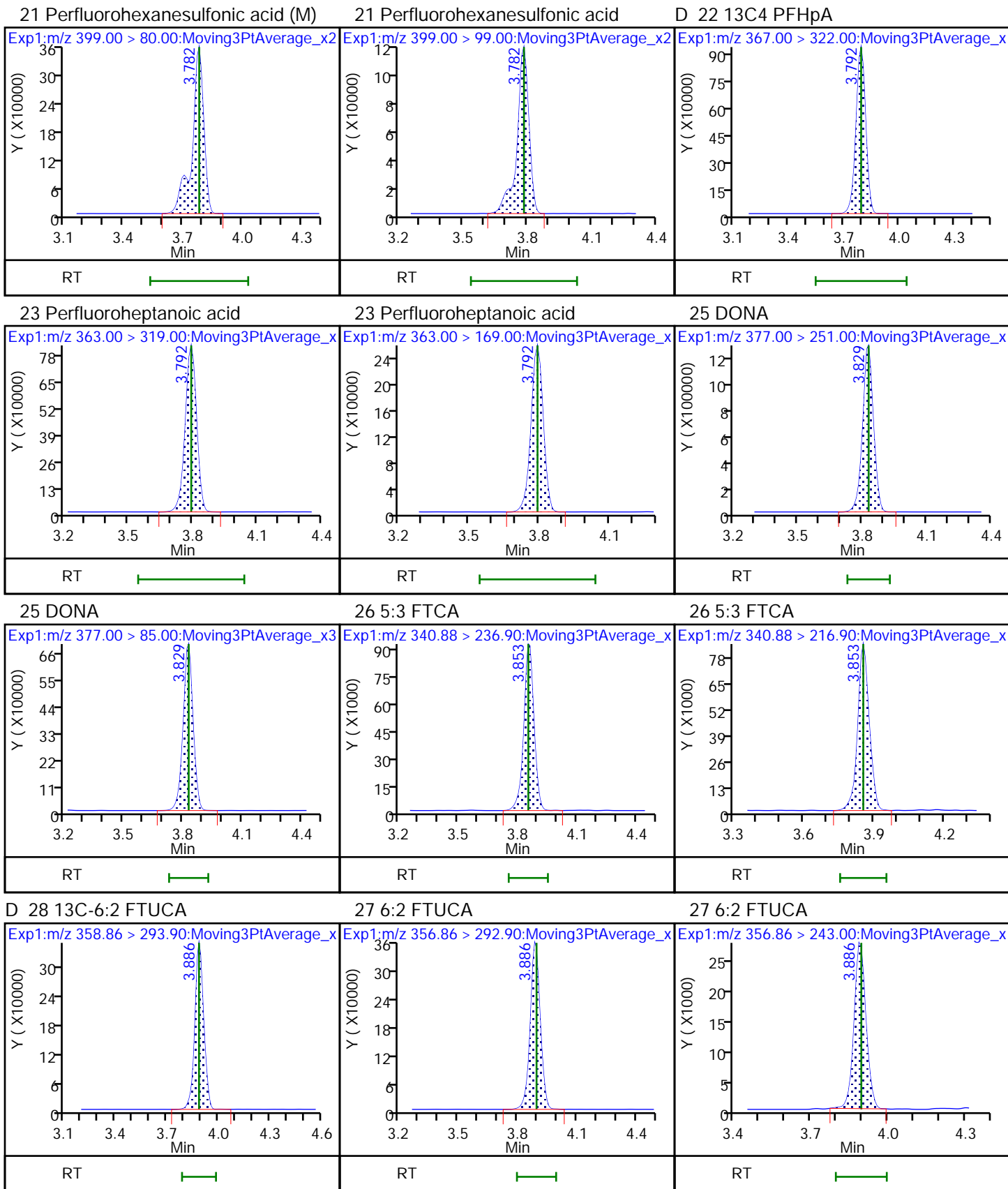
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



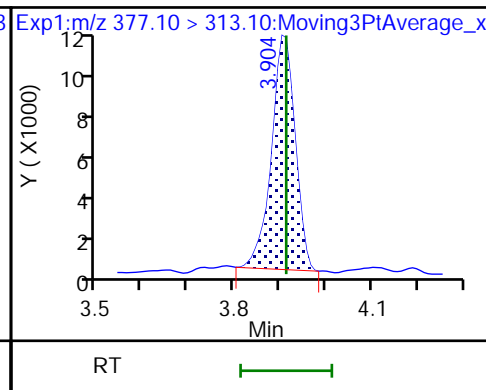
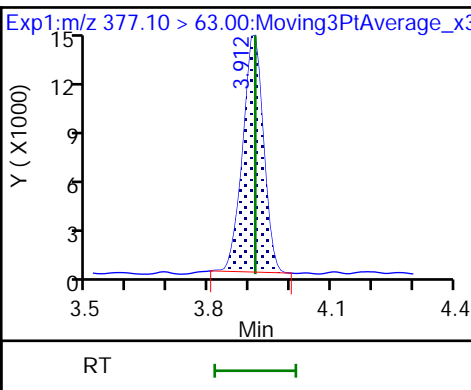
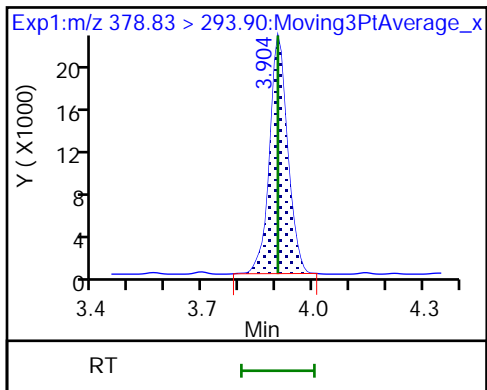




D 24 13C-6:2 FTCA

29 6:2 FTCA

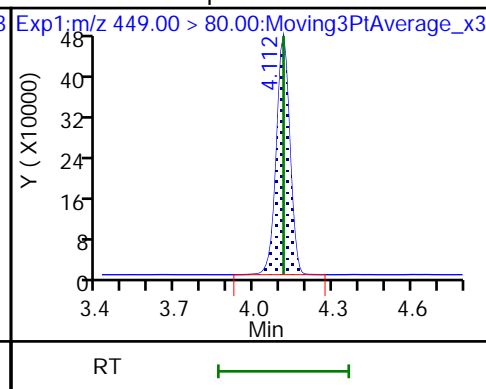
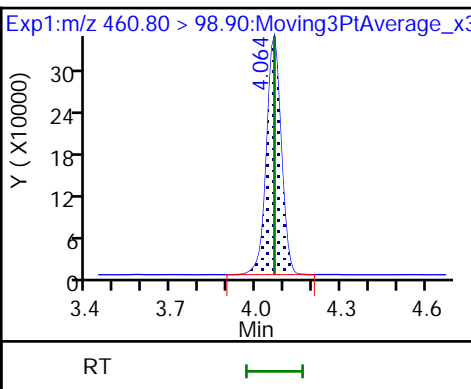
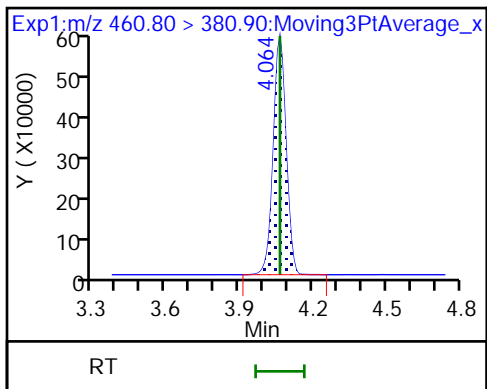
29 6:2 FTCA



32 PFECHS

32 PFECHS

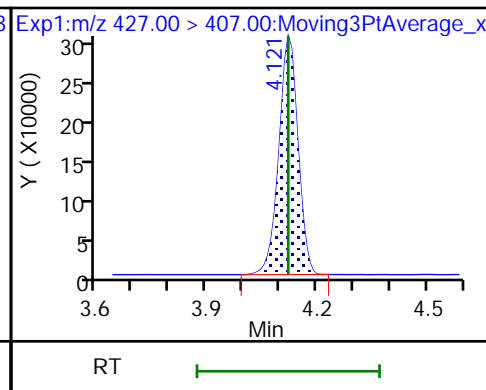
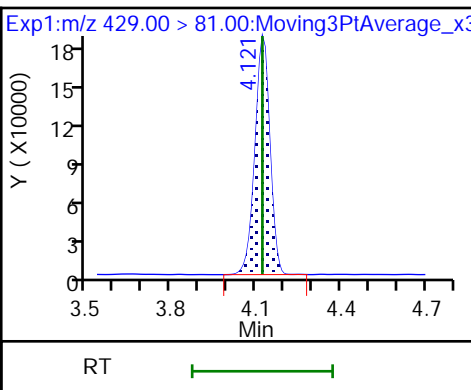
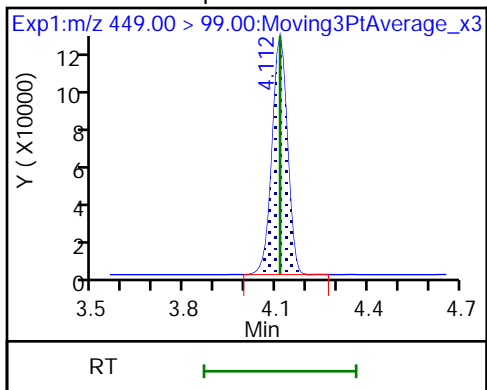
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

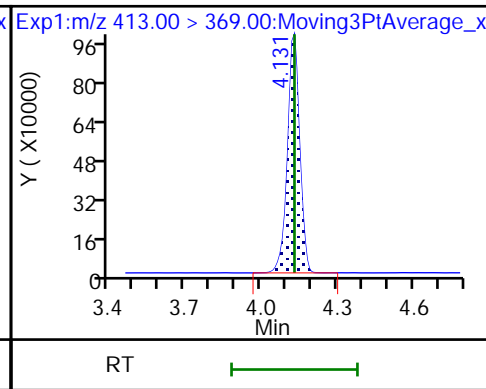
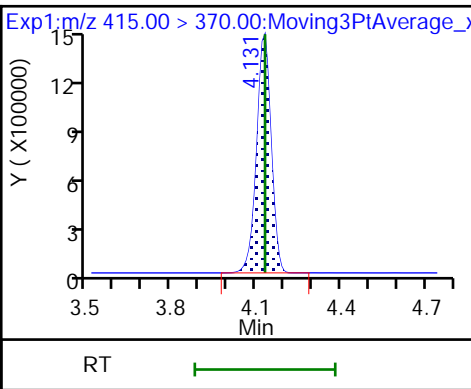
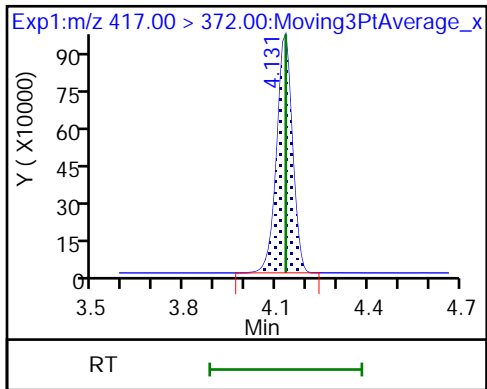
35 6:2 FTS

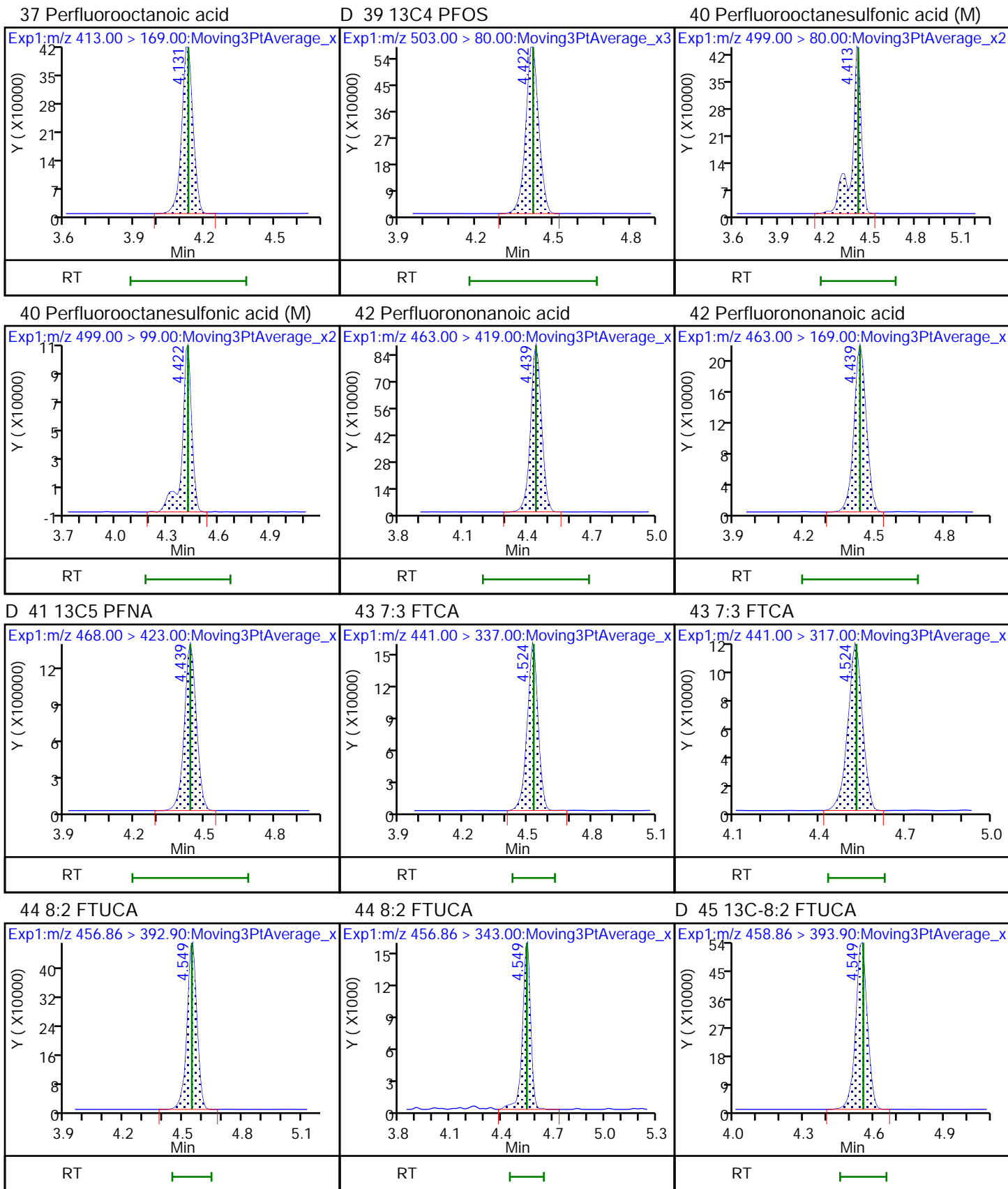


D 31 13C4 PFOA

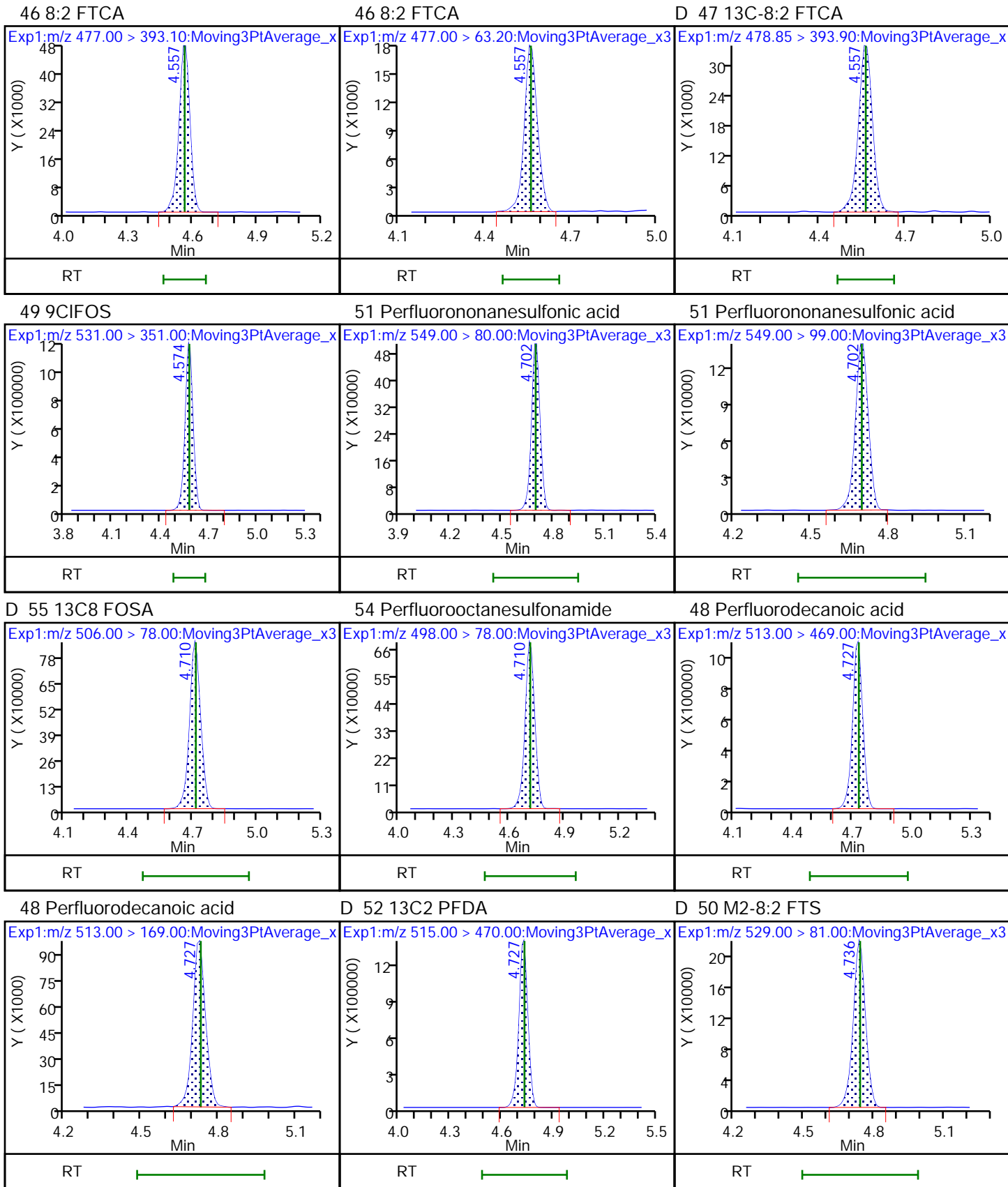
\* 30 13C2 PFOA

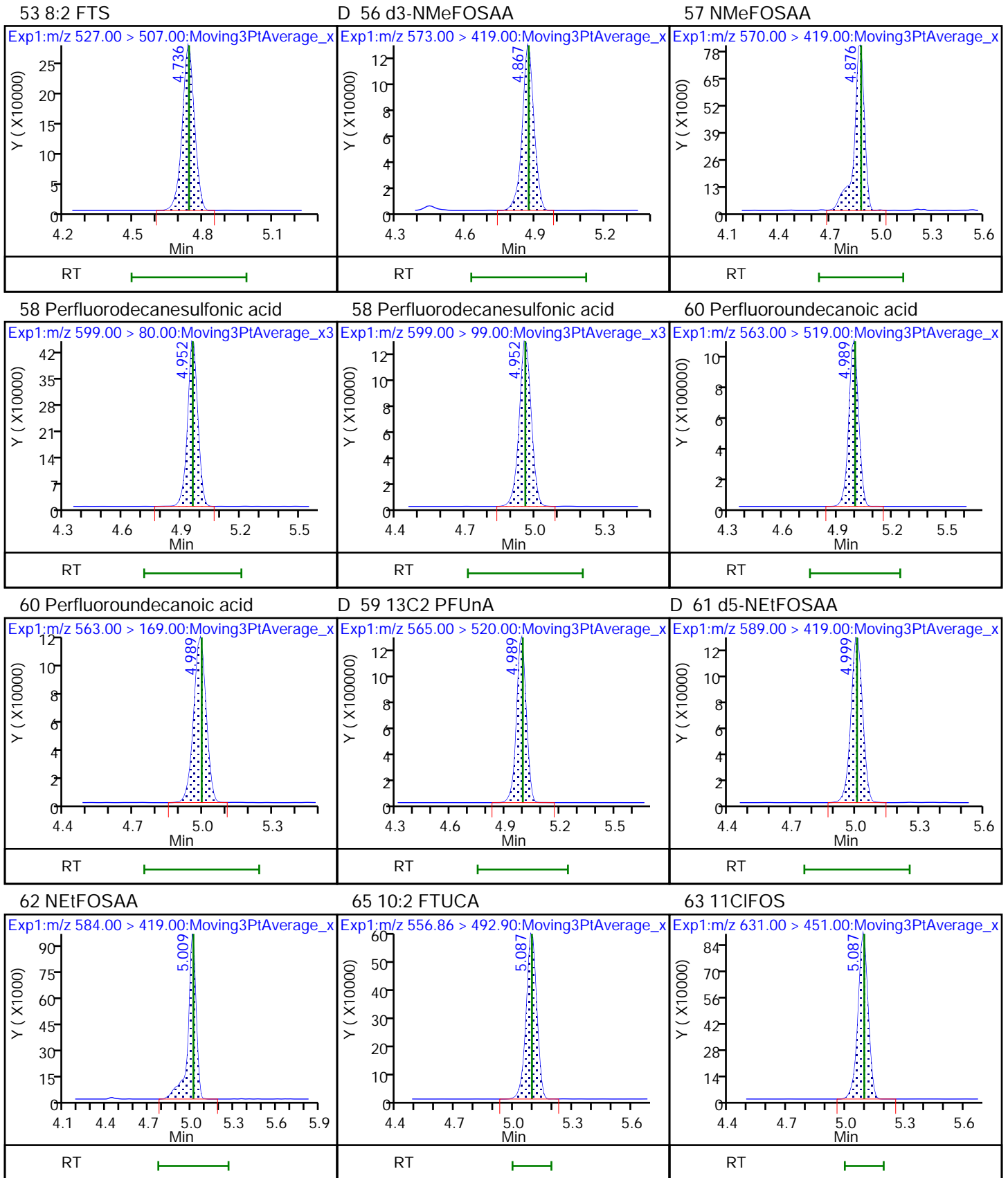
37 Perfluorooctanoic acid







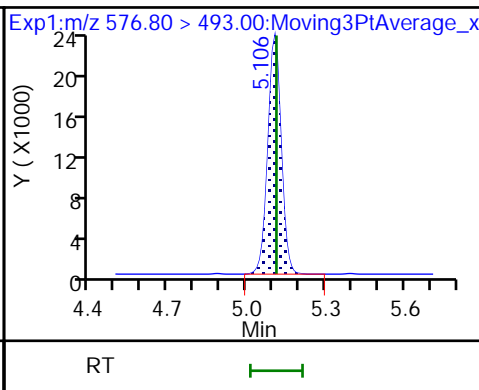
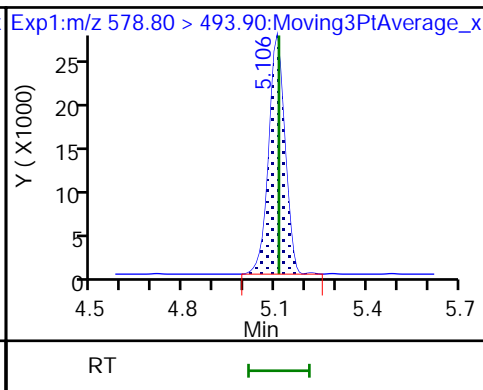
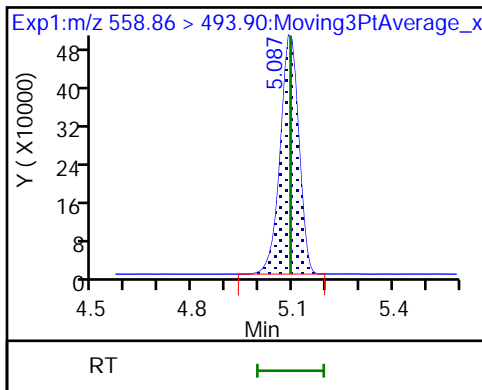




D 67 13C-10:2 FTUCA

D 64 13C-10:2 FTCA

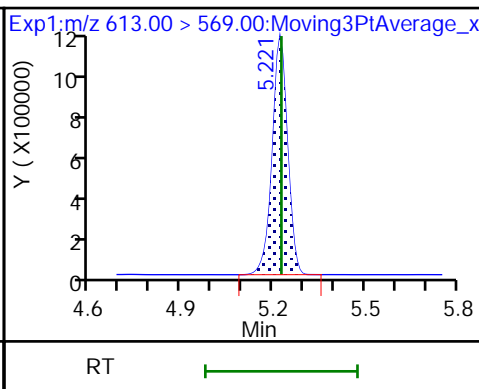
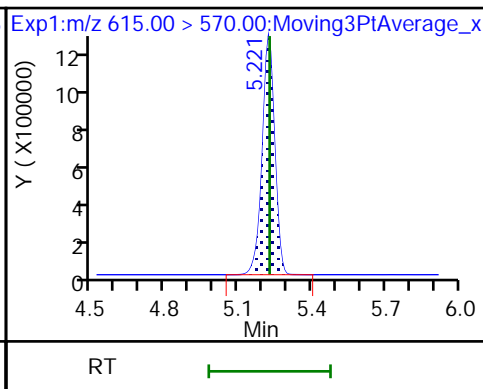
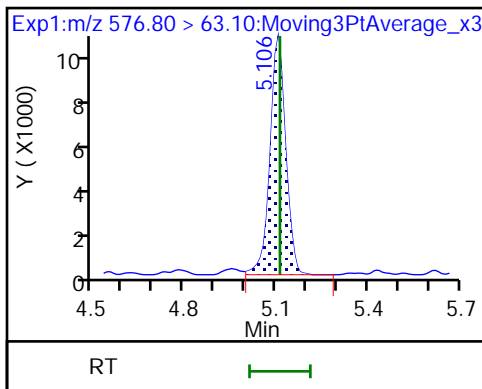
66 10:2 FTCA



66 10:2 FTCA

D 69 13C2 PFDaA

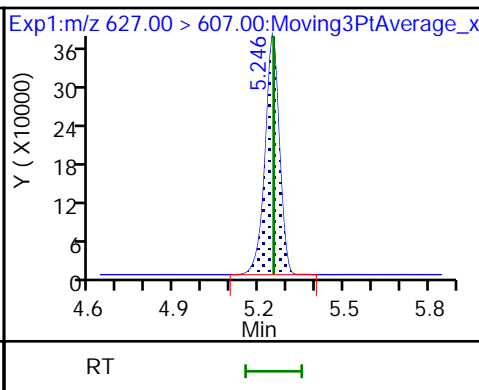
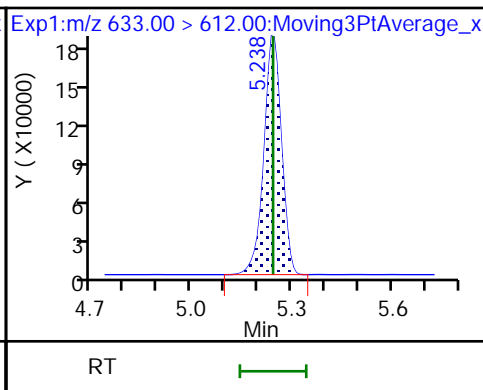
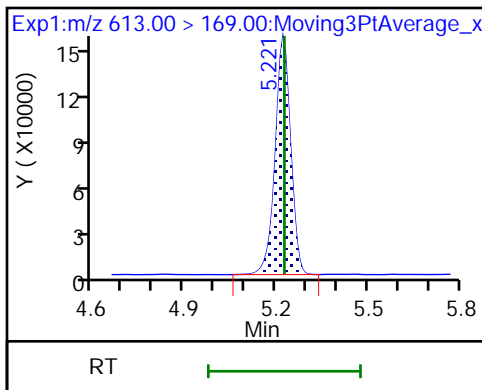
68 Perfluorododecanoic acid



68 Perfluorododecanoic acid

D 70 13C2 10:2 FTS

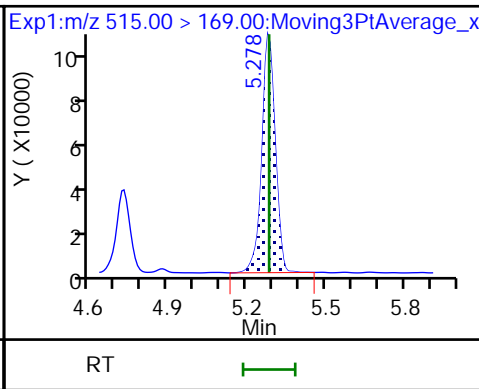
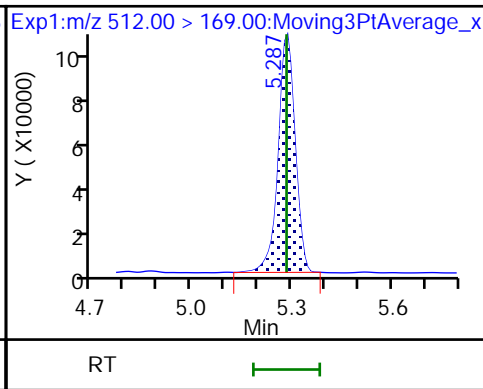
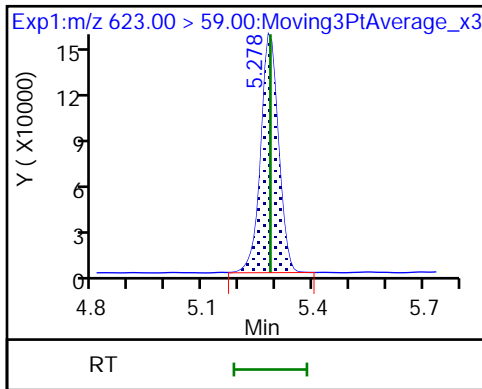
71 10:2 FTS

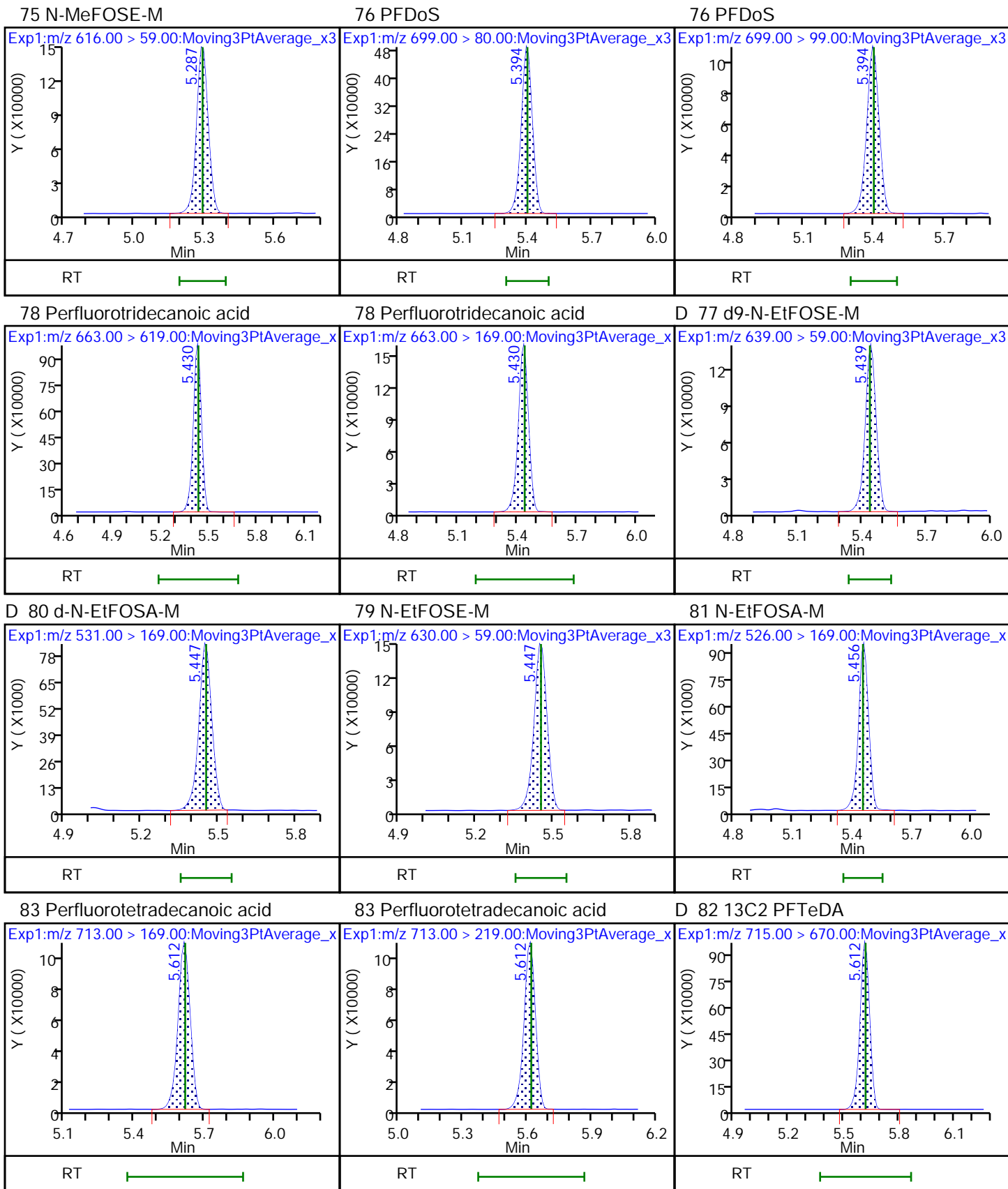


D 72 d7-N-MeFOSE-M

74 NMeFOSA

D 73 d-N-MeFOSA-M

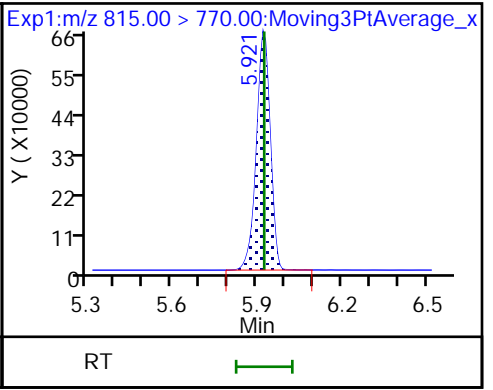
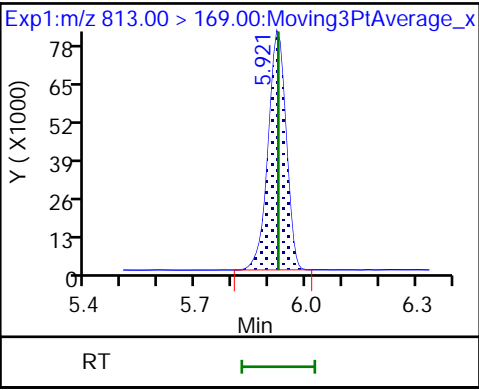
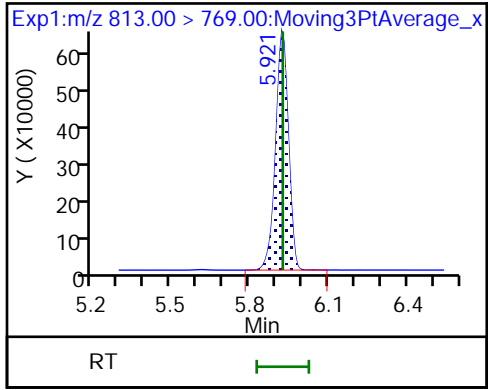




85 Perfluorohexadecanoic acid

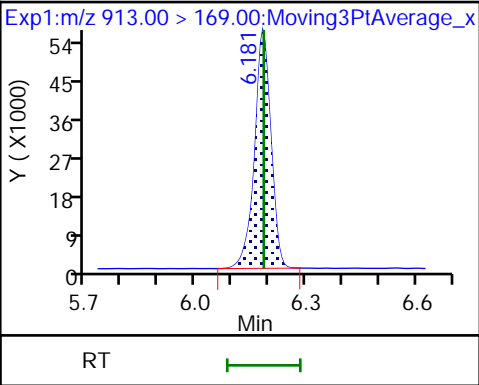
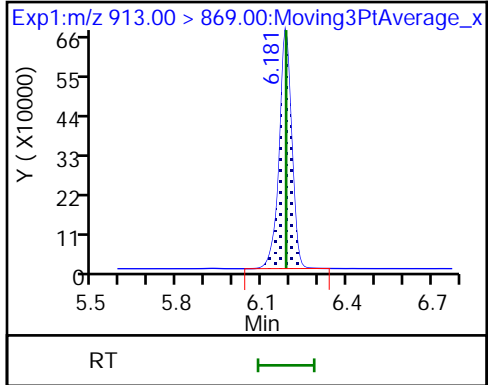
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26391-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 140-58967/3-A  
 Matrix: Air Lab File ID: 022.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/18/2022 22:37  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.01188		0.000500	0.0000870

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	81		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_022.d  
 Lims ID: LCSD 140-58967/3-A  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 18-Feb-2022 22:37:28 ALS Bottle#: 22 Worklist Smp#: 22  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-022 lcsd 140-58967/3-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:13:28  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.805	2.811	-0.006	1.000	4163425	1.15		115	1473	
D 2 13C4 PFBA										
217.00 > 172.00	2.805	2.811	-0.006	0.680	5716222	1.07		85.5	16150	
3 PFECA F										
229.00 > 85.00	2.912	2.919	-0.007	0.937	3000860	1.13		113	9371	
D 5 13C5 PFPeA										
267.90 > 223.00	3.108	3.115	-0.007	0.754	4420761	1.05		84.2	17350	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.108	3.123	-0.015	1.000	3925157	1.18		118	1614	
4 3:3 FTCA										
241.00 > 177.10	3.124	3.131	-0.007	1.000	138812	1.18	Target=1.16	118	1493	
241.00 > 116.90	3.124	3.131	-0.007	1.000	118361		1.17(0.58-1.74)		179	
D 7 13C3 PFBS										
301.90 > 80.00	3.124	3.131	-0.007	0.758	2516201	0.9474		81.5	10704	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.124	3.140	-0.016	1.000	2448298	1.03	Target=2.74	117	6072	
298.90 > 99.00	3.124	3.140	-0.016	1.000	950012		2.58(1.37-4.11)		4498	
9 PFECA A										
278.95 > 84.90	3.203	3.211	-0.008	1.031	4971332	1.20		120	14922	
11 PES										
314.80 > 135.00	3.261	3.260	0.001	1.044	5477589	1.07		120	12466	
12 PFECA B										
295.22 > 201.00	3.375	3.384	-0.009	0.981	1996897	1.22		122	7271	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.406	3.416	-0.010	0.826	756543	0.9101		78.0	1670	
13 4:2 FTS										
327.00 > 307.00	3.406	3.416	-0.010	1.000	1765625	1.20		128	9470	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C2 PFHxA										
315.00 > 270.00	3.439	3.448	-0.009	0.834	4922437	1.06		85.0	15277	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.439	3.448	-0.009	1.101	2403135	1.08	Target=3.48	115	6337	
349.00 > 99.00	3.439	3.448	-0.009	1.101	693804		3.46(1.74-5.23)		4153	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.439	3.448	-0.009	1.000	3457730	1.10	Target=12.09	110	1794	
313.00 > 119.00	3.439	3.448	-0.009	1.000	311652		11.09(6.04-18.13)		286	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.553	-0.009	0.860	2291131	1.01		80.9	6621	
17 HFPO-DA										
285.00 > 169.00	3.544	3.553	-0.009	1.000	2747145	1.19	Target=2.53	119	1720	
329.00 > 169.00	3.544	3.553	-0.009	1.000	1064483		2.58(1.26-3.79)		1717	
D 20 18O2 PFHxS										
403.00 > 84.00	3.774	3.783	-0.009	0.915	1697632	0.9848		83.3	4309	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.774	3.783	-0.009	1.000	2041074	1.03	Target=3.31	113	4283	M
399.00 > 99.00	3.774	3.783	-0.009	1.000	606633		3.36(1.66-4.97)		2542	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.784	3.793	-0.009	0.918	4274373	1.03		82.8	12350	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.784	3.793	-0.009	1.000	4268961	1.24	Target=3.40	124	3670	
363.00 > 169.00	3.784	3.793	-0.009	1.000	1298587		3.29(1.70-5.09)		2502	
25 DONA										
377.00 > 251.00	3.822	3.829	-0.007	0.866	6153457	1.07	Target=1.74	114	12241	
377.00 > 85.00	3.822	3.829	-0.007	0.866	3497944		1.76(0.87-2.61)		5073	
26 5:3 FTCA										
340.88 > 236.90	3.846	3.853	-0.007	0.987	460223	1.11	Target=1.13	111	2086	
340.88 > 216.90	3.854	3.853	0.001	0.989	402678		1.14(0.56-1.69)		941	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.887	-0.007	0.941	1664556	1.08		86.5	4058	
27 6:2 FTUCA										
356.86 > 292.90	3.888	3.895	-0.007	1.002	1596606	1.15	Target=14.14	115	2659	
356.86 > 243.00	3.888	3.895	-0.007	1.002	118133		13.52(7.07-21.20)		349	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.896	3.904	-0.008	0.945	137619	1.16		92.7	454	
29 6:2 FTCA										
377.10 > 63.00	3.905	3.913	-0.008	1.002	86432	1.13	Target=1.42	113	372	
377.10 > 313.10	3.896	3.913	-0.017	1.000	69691		1.24(0.71-2.13)		97.7	
32 PFECHS										
460.80 > 380.90	4.056	4.065	-0.008	0.984	2761406	1.02	Target=1.67	111	5166	
460.80 > 98.90	4.056	4.065	-0.008	0.984	1620558		1.70(0.84-2.51)		4587	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.104	4.112	-0.008	0.930	2218067	1.03	Target=3.94	108	5037	
449.00 > 99.00	4.104	4.112	-0.008	0.930	579586		3.83(1.97-5.90)		2165	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.123	4.121	0.002	1.000	800338	0.9742		82.0	2017	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.123	4.121	0.002	1.000	1360921	1.10		117	3979	
D 31 13C4 PFOA										
417.00 > 372.00	4.123	4.131	-0.008	1.000	4560952	1.07		85.4	16112	
* 30 13C2 PFOA										
415.00 > 370.00	4.123	4.131	-0.008		5706850	1.25			10453	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.123	4.131	-0.008	1.000	4344271	1.11	Target=2.33	111	3716	
413.00 > 169.00	4.123	4.131	-0.008	1.000	1804619		2.41(1.17-3.50)		3848	
D 39 13C4 PFOS										
503.00 > 80.00	4.414	4.421	-0.007	1.071	2598522	1.01		84.9	2483	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.414	4.421	-0.007	1.000	2511793	1.01	Target=4.42	109	2742	M
499.00 > 99.00	4.414	4.421	-0.007	1.000	592923		4.24(2.21-6.63)		1290	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.432	4.439	-0.007	1.000	4152641	1.11	Target=3.81	111	4209	
463.00 > 169.00	4.432	4.439	-0.007	1.000	1064615		3.90(1.90-5.71)		1885	
D 41 13C5 PFNA										
468.00 > 423.00	4.432	4.439	-0.007	1.075	6165564	1.06		85.2	9743	
43 7:3 FTCA										
441.00 > 337.00	4.522	4.529	-0.007	0.993	726674	1.07	Target=1.44	107	1836	
441.00 > 317.00	4.522	4.529	-0.007	0.993	507472		1.43(0.72-2.16)		1860	
44 8:2 FTUCA										
456.86 > 392.90	4.539	4.545	-0.006	1.000	2007315	1.15	Target=33.93	115	4577	
456.86 > 343.00	4.539	4.545	-0.006	1.000	55705		36.03(16.96-50.89)		242	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.539	4.553	-0.014	1.000	2272664	1.10		88.1	4086	
46 8:2 FTCA										
477.00 > 393.10	4.555	4.562	-0.007	1.000	250726	1.07	Target=3.19	107	1128	
477.00 > 63.20	4.555	4.562	-0.007	1.000	77931		3.22(1.59-4.78)		180	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.555	4.562	-0.007	1.105	161793	1.07		85.8	522	
49 9CIFOS										
531.00 > 351.00	4.571	4.578	-0.007	1.109	5131376	1.05		113	8298	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.699	4.697	0.002	1.064	2366243	1.08	Target=3.97	112	4909	
549.00 > 99.00	4.699	4.697	0.002	1.064	590689		4.01(1.99-5.96)		2135	
D 55 13C8 FOSA										
506.00 > 78.00	4.707	4.714	-0.007	1.142	4162735	1.08		86.1	5507	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.707	4.714	-0.007	1.000	3558771	1.12		112	5149	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.724	4.731	-0.007	1.000	5066547	1.18	Target=11.13	118	4403	
513.00 > 169.00	4.724	4.731	-0.007	1.000	465384		10.89(5.57-16.70)		303	
D 52 13C2 PFDA										
515.00 > 470.00	4.724	4.731	-0.007	1.146	5978385	1.08		86.6	7050	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.733	4.740	-0.007	1.148	882406	1.08		82.4	1294	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.733	4.740	-0.007	1.000	1274517	1.15		120	4129	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.866	4.872	-0.006	1.180	559099	1.08		86.3	325	
57 NMeFOSAA										M
570.00 > 419.00	4.866	4.880	-0.014	1.000	509123	1.23		123	753	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.951	4.957	-0.006	1.122	2120989	1.10	Target=3.72	114	5993	
599.00 > 99.00	4.951	4.957	-0.006	1.122	578334		3.67(1.86-5.59)		2822	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.988	4.995	-0.007	1.000	4944276	1.17	Target=8.47	117	5229	
563.00 > 169.00	4.988	4.995	-0.007	1.000	594488		8.32(4.23-12.70)		2312	
D 59 13C2 PFUnA										
565.00 > 520.00	4.988	4.995	-0.007	1.210	5481607	1.03		82.2	6732	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.997	5.005	-0.008	1.212	587226	1.10		88.4	1870	
62 NEtFOSAA										M
584.00 > 419.00	5.007	5.015	-0.008	1.002	495079	1.19		119	624	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.085	5.093	-0.008	1.233	2406832	1.04		83.0	7634	
65 10:2 FTUCA										
556.86 > 492.90	5.085	5.093	-0.008	1.000	2744721	1.18		118	6064	
63 11CIFOS										
631.00 > 451.00	5.085	5.093	-0.008	1.152	4014990	1.06		113	10154	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.104	5.112	-0.008	1.238	159845	1.13		90.6	852	
66 10:2 FTCA										
576.80 > 493.00	5.104	5.112	-0.008	1.000	136815	1.16	Target=2.54	116	709	
576.80 > 63.10	5.104	5.112	-0.008	1.000	57138		2.39(1.27-3.81)		193	
D 69 13C2 PFDaA										
615.00 > 570.00	5.220	5.226	-0.006	1.266	5328026	1.01		81.0	10533	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.220	5.226	-0.006	1.000	5228110	1.19	Target=7.02	119	4671	
613.00 > 169.00	5.220	5.226	-0.006	1.000	749365		6.98(3.51-10.53)		1732	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.237	5.243	-0.006	1.270	686507	0.9104		76.9	4299	
71 10:2 FTS										
627.00 > 607.00	5.245	5.251	-0.006	1.002	1503685	1.24		128	5049	
74 NMeFOSA										
512.00 > 169.00	5.277	5.284	-0.007	1.000	463443	1.22		122	866	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.277	5.284	-0.007	1.280	441389	0.9580		76.6	46.2	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.277	5.284	-0.007	1.280	557135	1.03		82.3	450	
75 N-MeFOSE-M										
616.00 > 59.00	5.285	5.292	-0.007	1.002	610895	1.17		117	880	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.393	5.399	-0.006	1.222	2200309	1.07	Target=4.52	111	3481	
699.00 > 99.00	5.393	5.399	-0.006	1.222	526132		4.18(2.26-6.78)		2748	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.429	5.435	-0.006	1.040	4547918	1.21	Target=5.96	121	5849	
663.00 > 169.00	5.429	5.435	-0.006	1.040	720864		6.31(2.98-8.94)		3261	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.437	5.435	0.002	1.319	563490	1.00		80.3	263	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.446	5.452	-0.006	1.321	342556	0.9270		74.2	558	
79 N-EtFOSE-M										
630.00 > 59.00	5.446	5.452	-0.006	1.002	714951	1.12		112	675	
81 N-EtFOSA-M										
526.00 > 169.00	5.455	5.452	0.003	1.002	424415	1.24		124	630	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.610	5.617	-0.007	1.000	522574	1.18	Target=0.99	118	2404	
713.00 > 219.00	5.610	5.617	-0.007	1.000	501171		1.04(0.49-1.48)		3563	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.610	5.617	-0.007	1.361	4300430	1.02		81.8	9111	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.918	5.924	-0.006	1.000	2841145	1.22	Target=8.23	122	3336	
813.00 > 169.00	5.918	5.924	-0.006	1.000	349613		8.13(4.11-12.34)		1210	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.918	5.924	-0.006	1.435	2565198	0.9370		75.0	4930	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.174	6.185	-0.011	1.043	2483123	1.19	Target=11.52	119	3520	
913.00 > 169.00	6.174	6.185	-0.011	1.043	210031		11.82(5.76-17.29)		903	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_022.d

Injection Date: 18-Feb-2022 22:37:28

Instrument ID: LCA

Lims ID: LCSD 140-58967/3-A

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 22

Worklist Smp#: 22

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

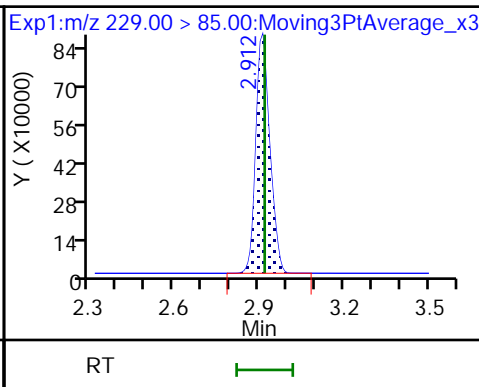
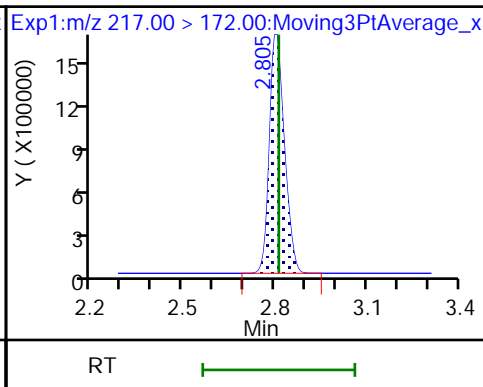
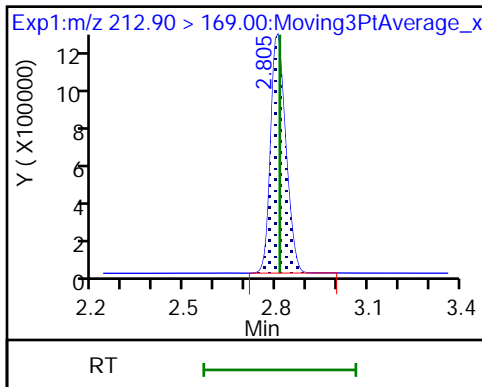
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

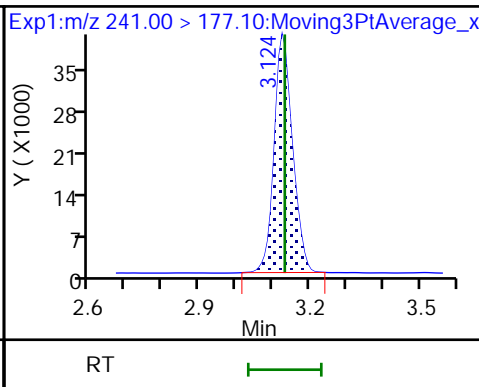
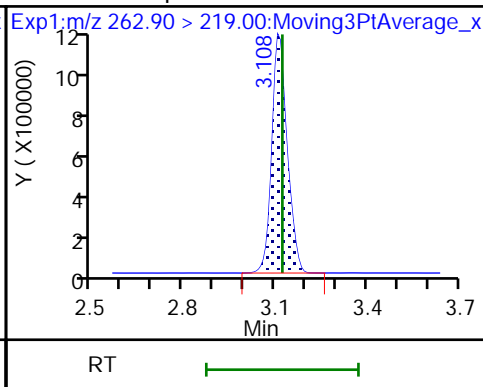
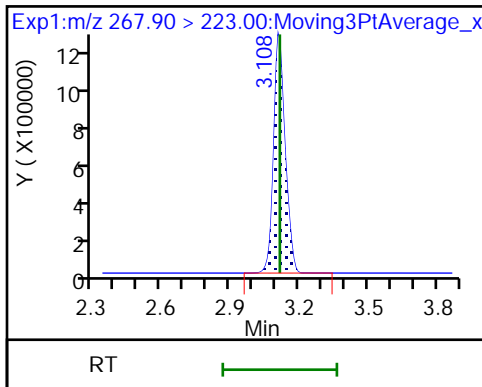
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

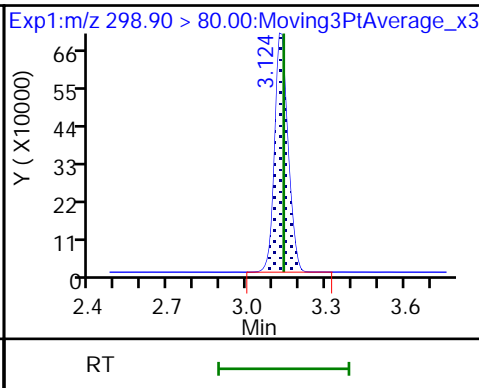
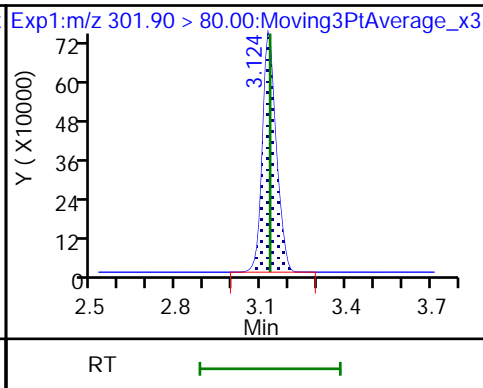
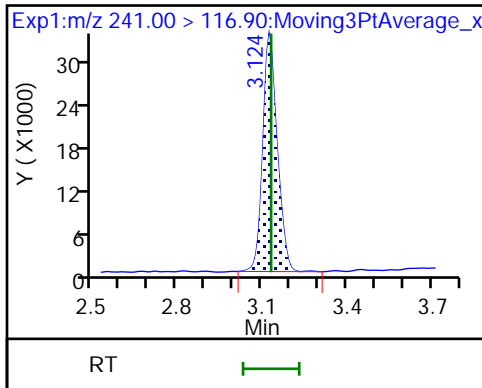
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

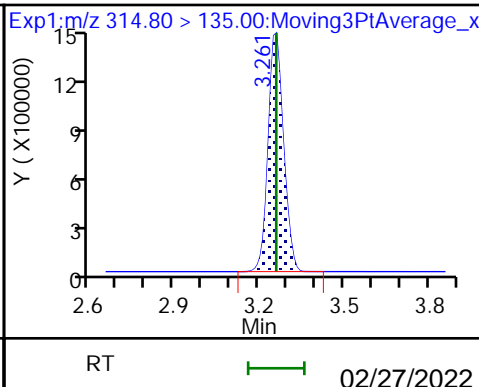
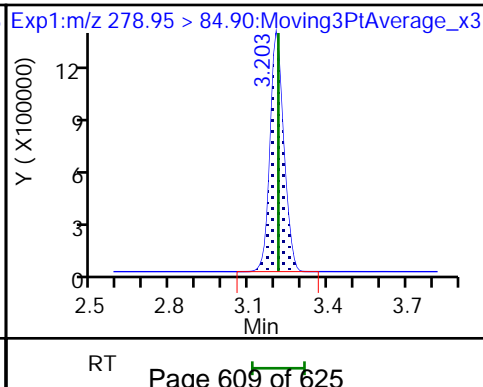
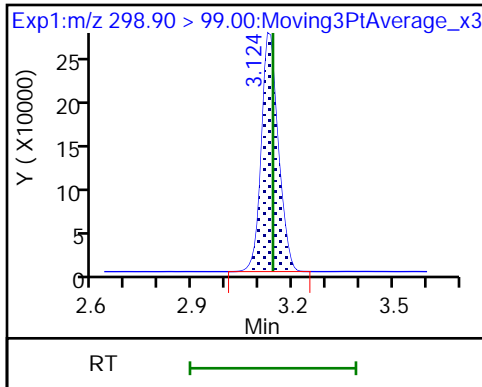
8 Perfluorobutanesulfonic acid

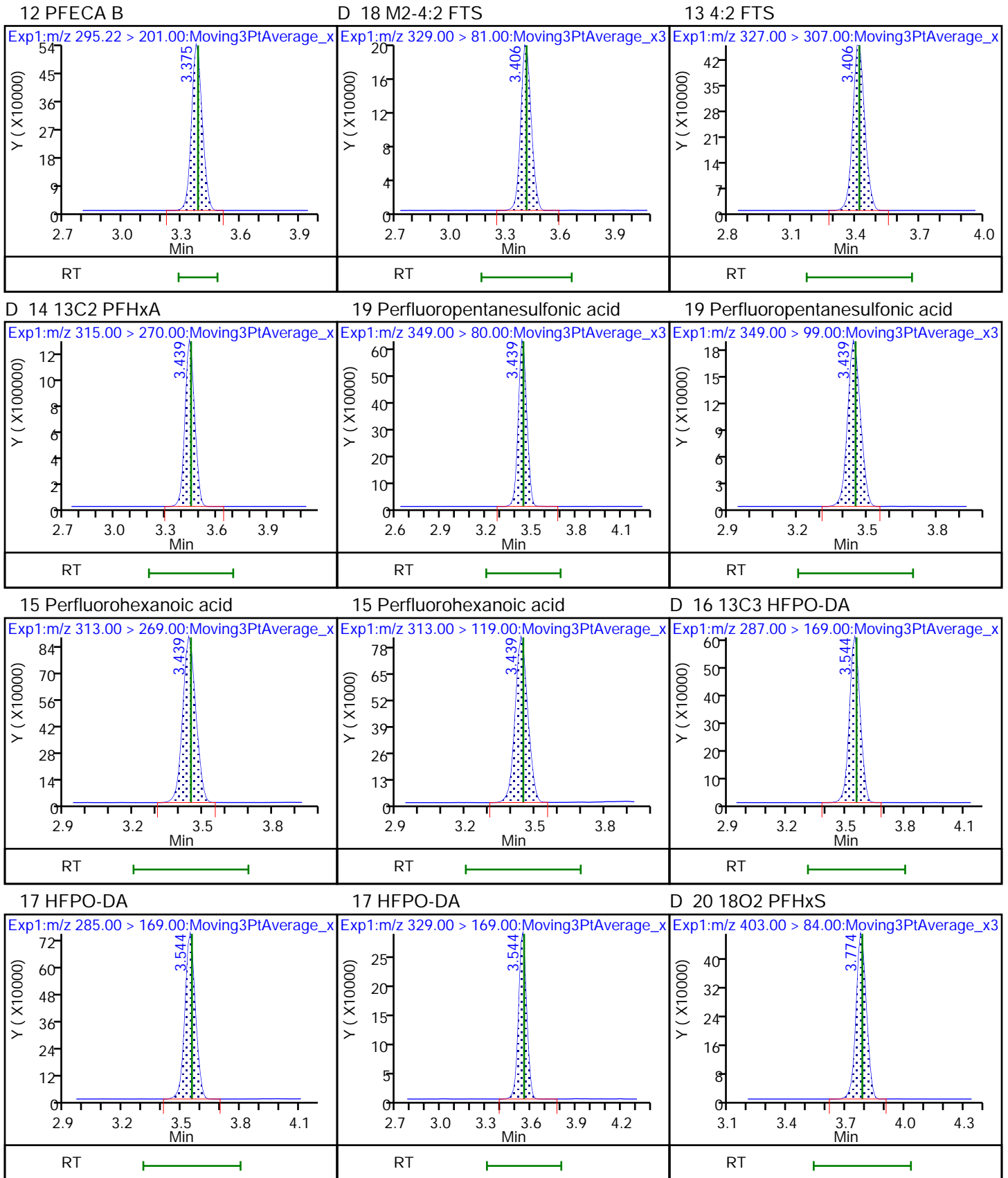


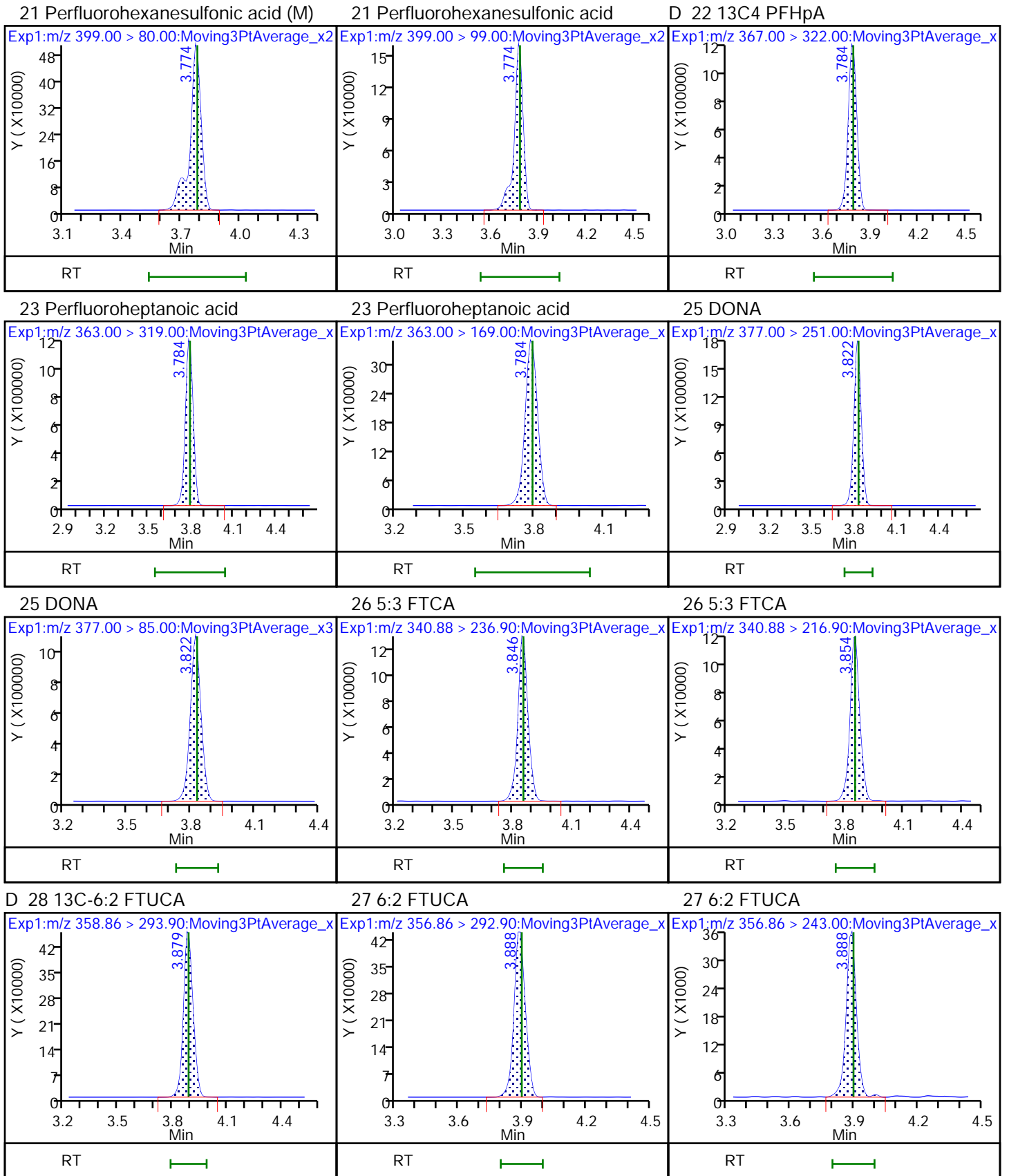
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



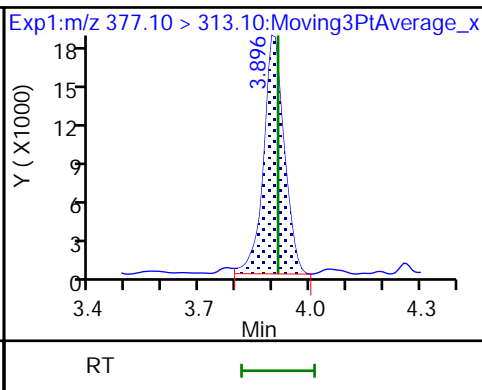
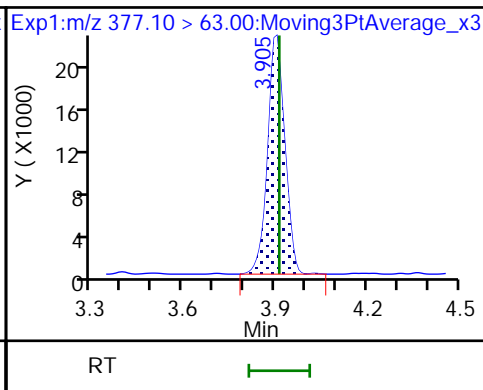
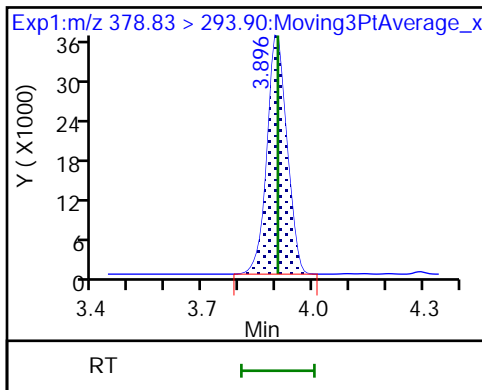




D 24 13C-6:2 FTCA

29 6:2 FTCA

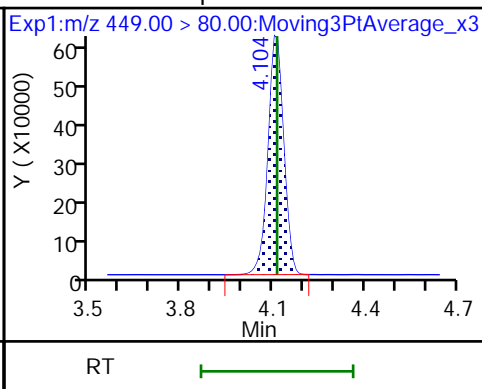
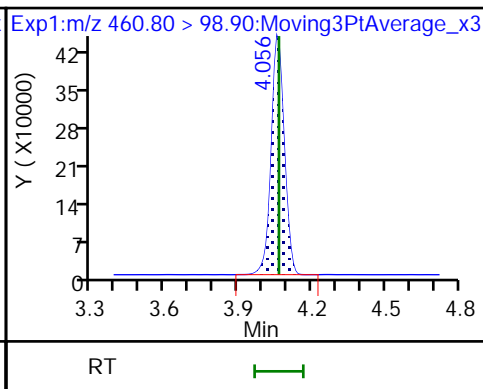
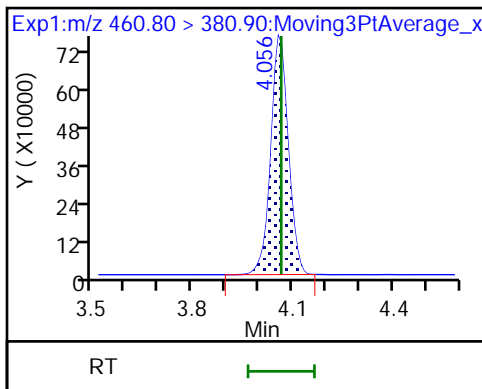
29 6:2 FTCA



32 PFECHS

32 PFECHS

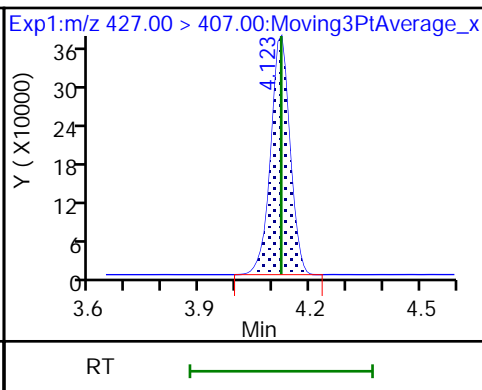
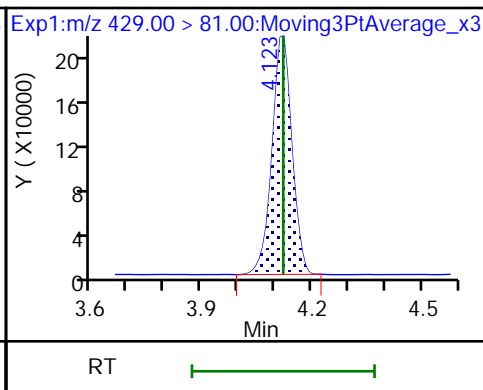
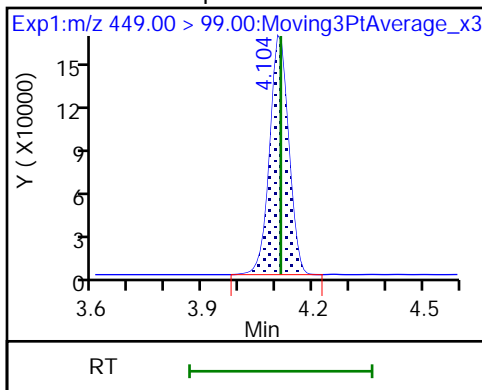
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

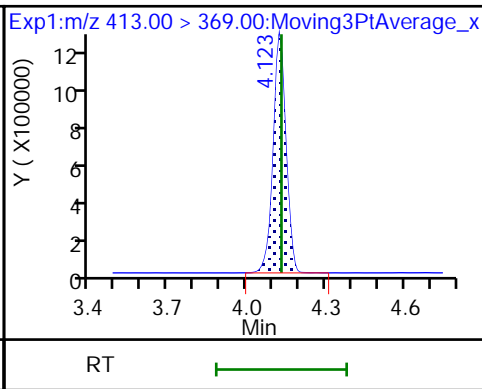
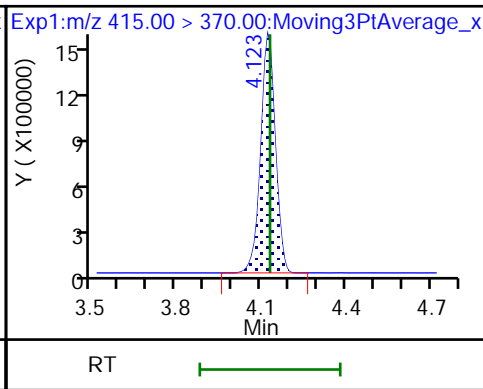
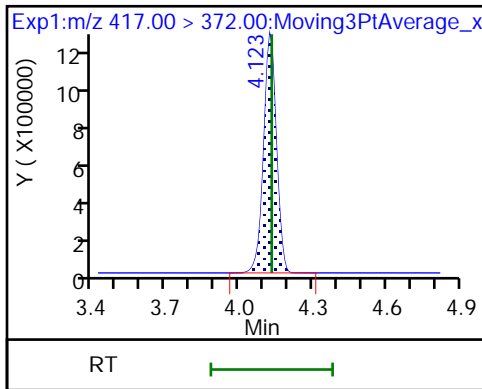
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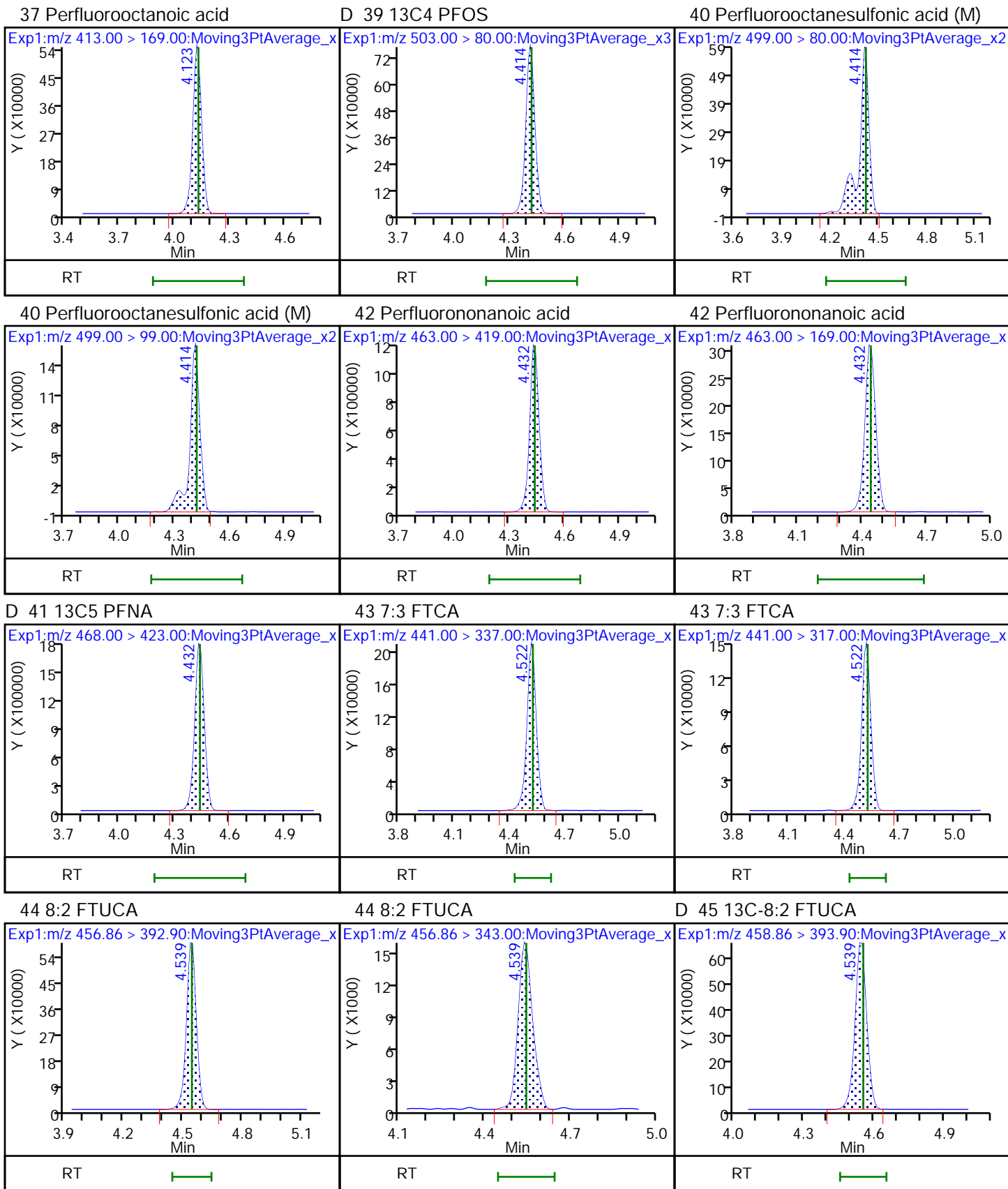


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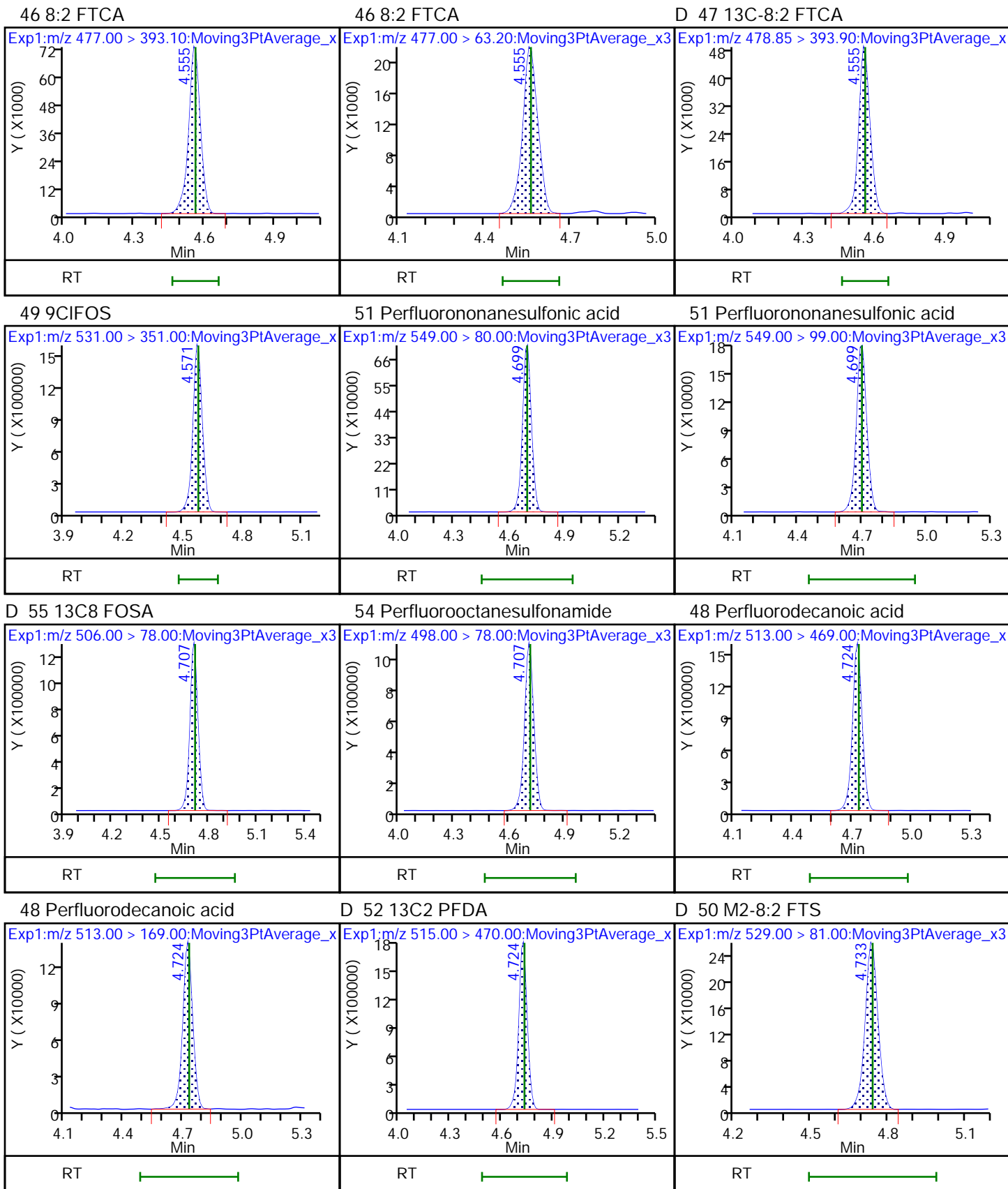
\* 30 13C2 PFOA

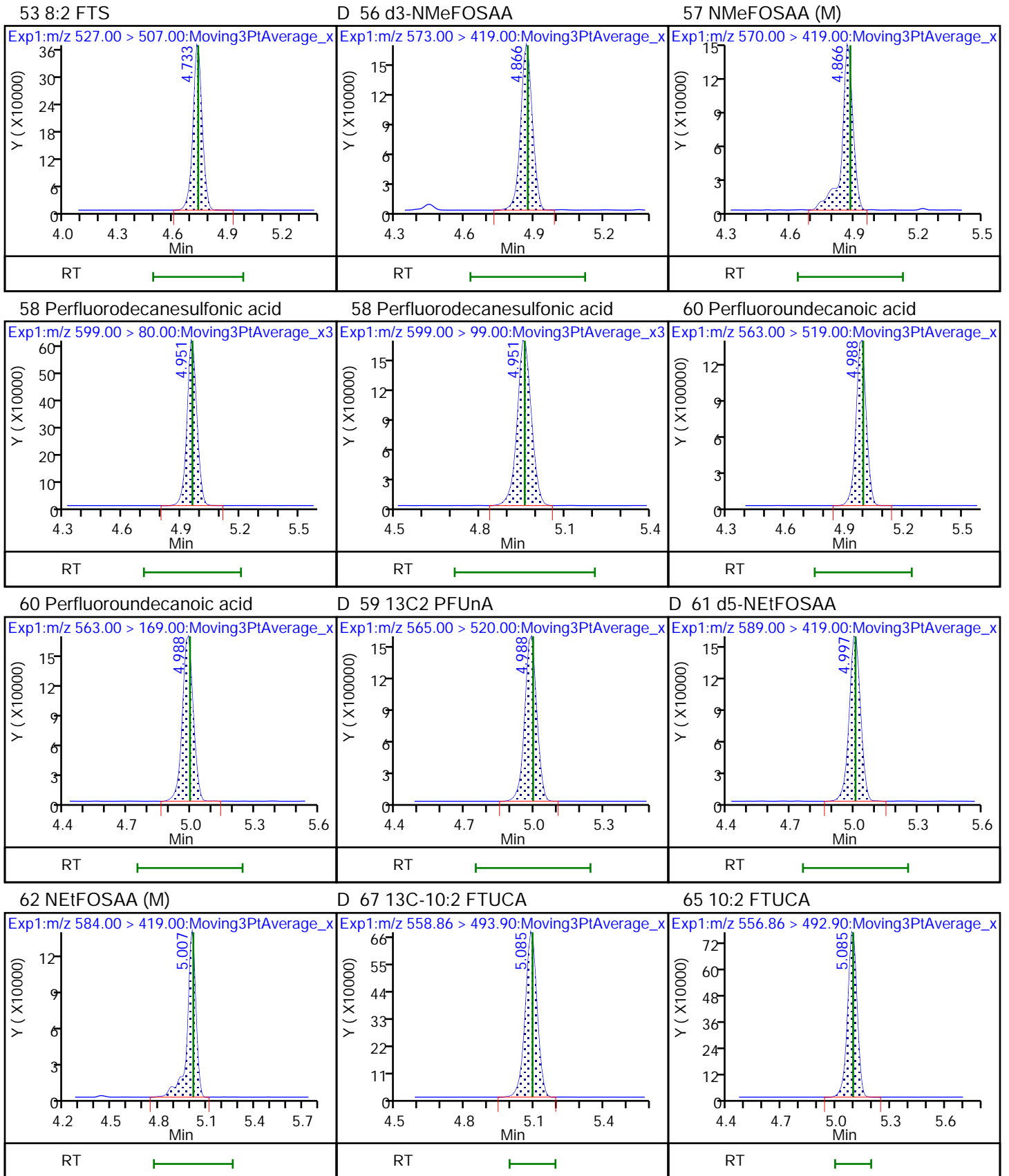
37 Perfluorooctanoic acid

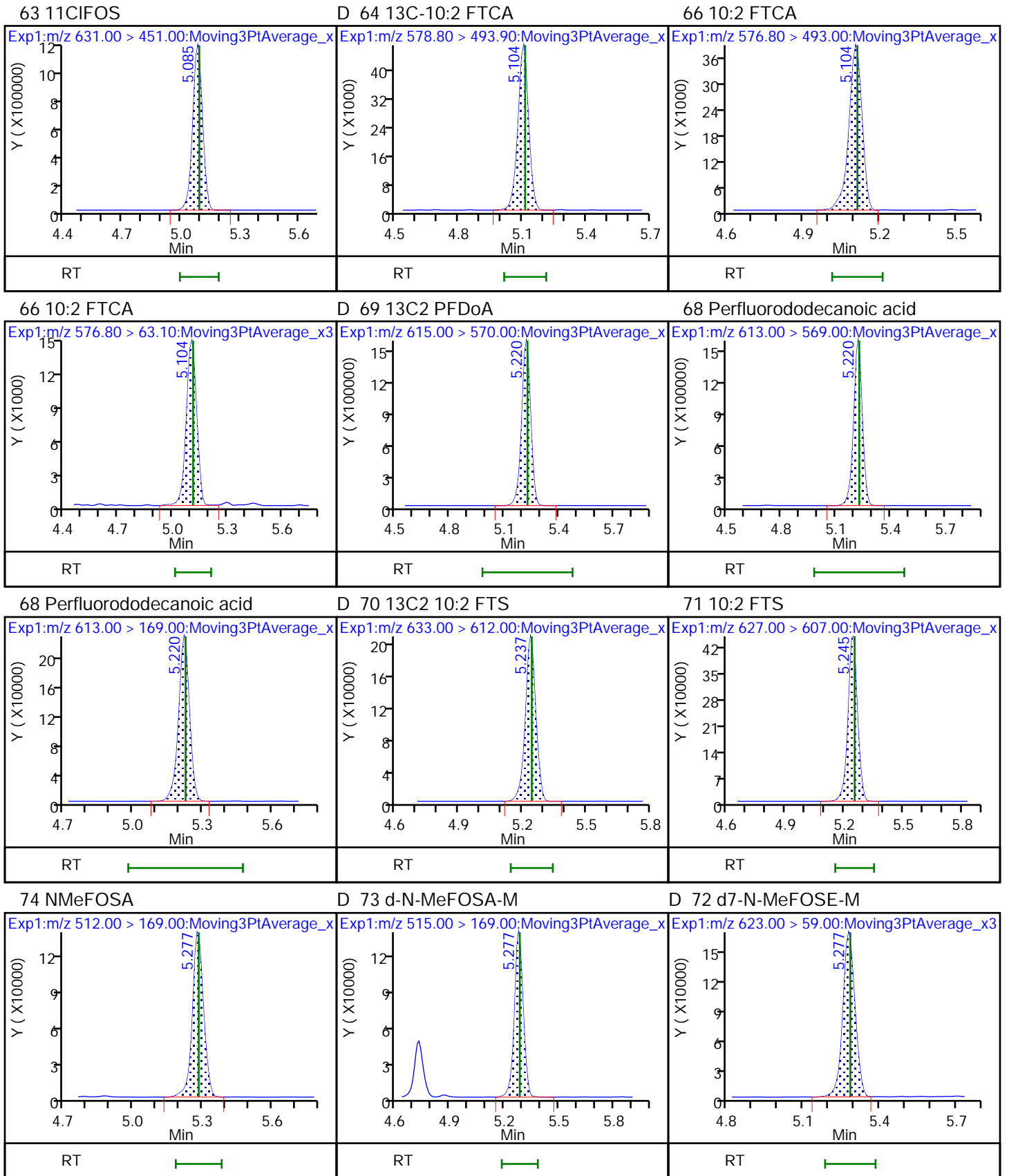


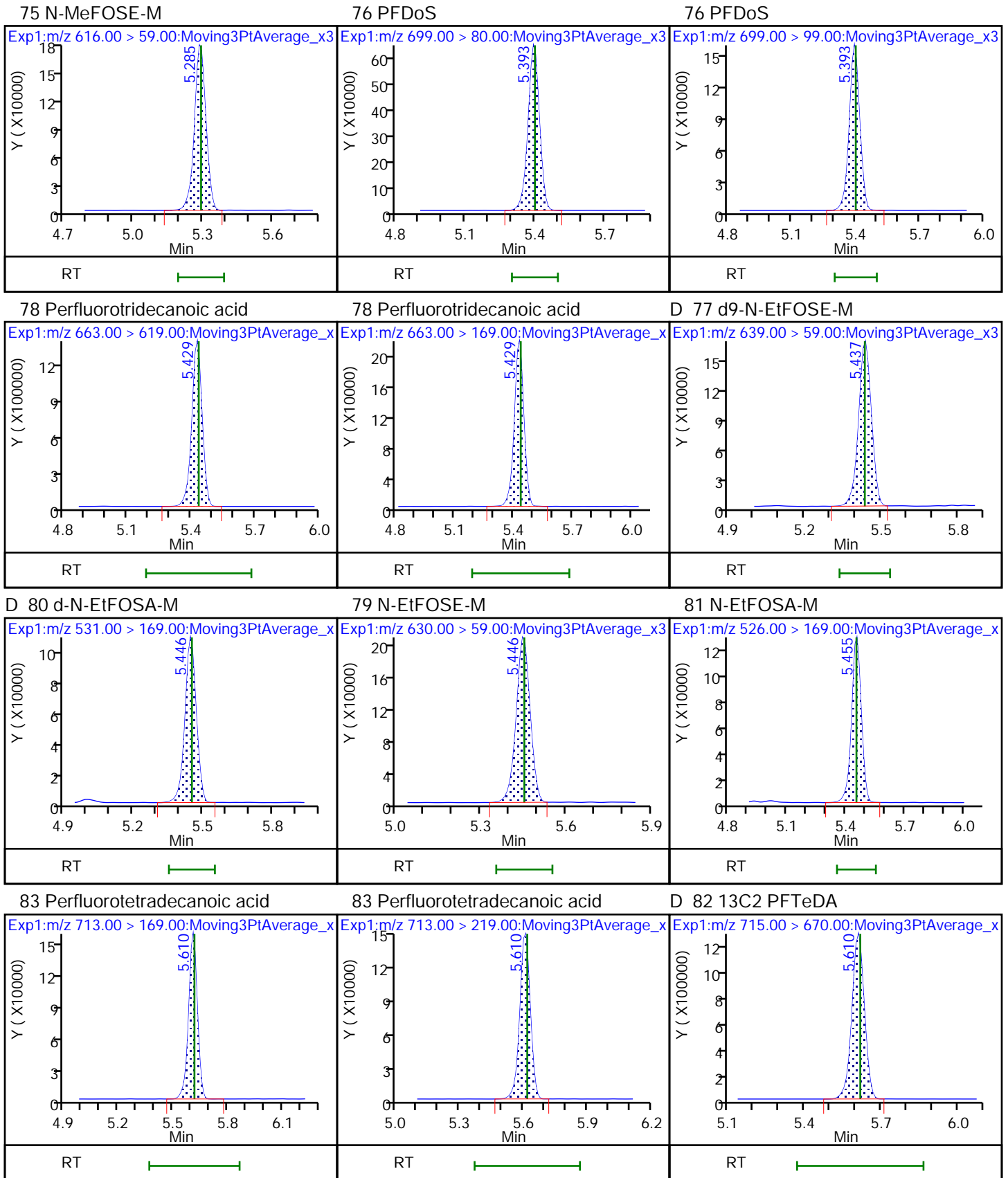








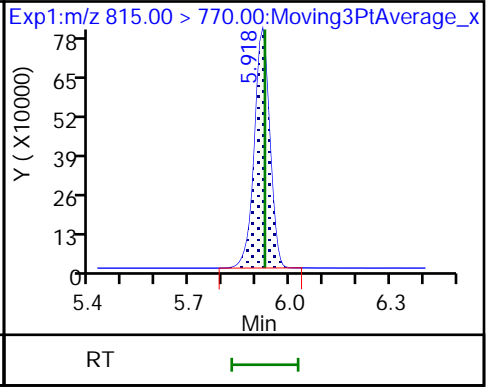
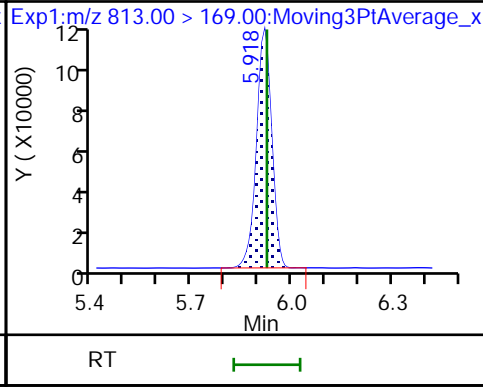
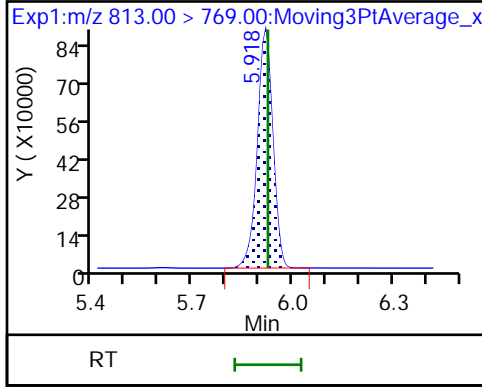




85 Perfluorohexadecanoic acid

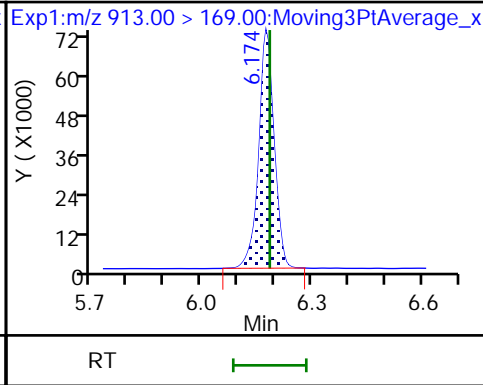
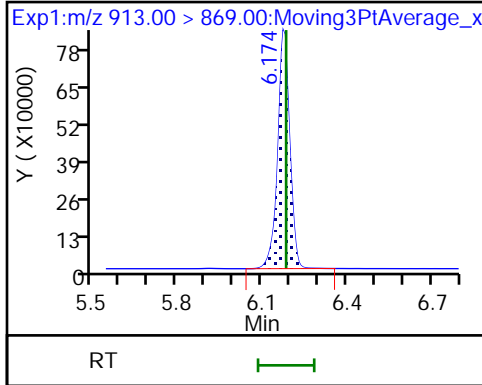
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid



# Shipping and Receiving Documents

**Request for Analysis/Chain-of-Custody – RFA/COC #002**  
**The Chemours Company – Fayetteville NC**  
**VEN Carbon Bed Outlet Repeat**



Environment Testing  
 TestAmerica


<b>Project Identification:</b>	<b>Chemours Emissions Test</b>
Client Name:	The Chemours Company FC, LLC
Client Contact:	Ms. Christel Compton Office: (910) 678-1213 Cell: (910) 975-3386
TestAmerica Project Manager:	Ms. Courtney Adkins Office: (865) 291-3019
TestAmerica Program Manager:	Mr. Billy Anderson Office: (865) 291-3080 Cell: (865) 206-9004

<b>Laboratory Deliverable Turnaround Requirements:</b>	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	28 Days from Lab Receipt
<b>Laboratory Destination:</b>	
Eurofins TestAmerica 5815 Middlebrook Pike Knoxville, TN	
<b>Lab Phone Number:</b>	(865) 291-3000
<b>Courier:</b>	Hand Deliver

**Analytical Testing QC Requirements:**  
 The Legend for Project-Specific Quality Control Testing is designated in the "QC" column as follows: "BT" = Blank Train, "RB" = Reagent Blank, "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, "PB" = Proof Blank, "TB" = Trip Blank

**Project Deliverables:**  
 Report analytical results on TALS Report form Std\_Tal\_L4. Include "Field Sample Number", "Sample Type", and "Run Number" on all TALS Reports.

<b>Analytical Parameter:</b>	<b>Holding Time Requirements:</b>	<b>Preservation Requirements:</b>
HFPO-DA (CAS No. 13252-13-6)	14 Days to Extraction; 40 Days to Analysis	Cool, 4°C

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2145 VEN CB Outlet R1 OTM-45 Filter  (Combine with T-2144)	1	2/10/22		125 mL HDPE Wide-Mouth Bottle	Particulate Filter (82.6 mm Whatman Glass Microfiber)  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample.  Analyze for HFPO-DA using Method 8321A-HFPO.
T-2144 VEN CB Outlet R1 OTM-45 FH of Filter Holder & Probe Methanol Rinse  (Combine with T-2145)	1	2/10/22		125 mL HDPE Wide-Mouth Bottle	Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the Particulate Filter extraction.   140-26391 Chain of Custody
T-2143 VEN CB Outlet R1 OTM-45 XAD-2 Resin Tube	1	2/10/22		XAD-2 Resin Tube	XAD-2 Resin Tube  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample.  Analyze for HFPO-DA using Method 8321A-HFPO.

**Request for Analysis/Chain-of-Custody – RFA/COC #002**  
**The Chemours Company – Fayetteville NC**  
**VEN Carbon Bed Outlet Repeat**



Environment Testing  
 TestAmerica

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2142 VEN CB Outlet R1 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse  (Combine with T-2143)	1	2/10/22		125 mL HDPE Wide-Mouth Bottle	<b>Back Half of Filter Holder &amp; Coil Condenser Methanol/5% Ammonium Hydroxide Rinse</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.  Analyze for HFPO-DA using Method 8321A-HFPO.
T-2141 VEN CB Outlet R1 OTM-45 Impingers 1,2 & 3 Condensate	1	2/10/22		500 mL HDPE Wide-Mouth Bottle	<b>Impinger #1, #2 &amp; #3 Condensate</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Analyze the sample for HFPO-DA.
T-2140 VEN CB Outlet R1 OTM-45 Impinger Glassware MeOH Rinse  (Combine with T-2143)	1	2/10/22		250 mL HDPE Wide-Mouth Bottle	<b>Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the XAD-2 Resin Extraction.
T-2139 VEN CB Outlet R1 OTM-45 Breakthrough XAD-2 Resin Tube	1	2/10/22		XAD-2 Resin Tube	<b>Breakthrough XAD-2 Resin Tube</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction.  Analyze for HFPO-DA using Method 8321A-HFPO.
T-2138 VEN CB Outlet R2 OTM-45 Filter  (Combine with T-2137)	2	2/10/22		125 mL HDPE Wide-Mouth Bottle	<b>Particulate Filter (82.6 mm Whatman Glass Microfiber)</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample.  Analyze for HFPO-DA using Method 8321A-HFPO.
T-2137 VEN CB Outlet R2 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse  (Combine with T-2138)	2	2/10/22		125 mL HDPE Wide-Mouth Bottle	<b>Front Half of Filter Holder &amp; Probe Methanol/5% Ammonium Hydroxide Rinse</b>  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the Particulate Filter extraction.



**Request for Analysis/Chain-of-Custody – RFA/COC #002**  
**The Chemours Company – Fayetteville NC**  
**VEN Carbon Bed Outlet Repeat**



Environment Testing  
 TestAmerica

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2136 VEN CB Outlet R2 OTM-45 XAD-2 Resin Tube	2	2/10/22		XAD-2 Resin Tube	XAD-2 Resin Tube OTM-45 Train HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample.  Analyze for HFPO-DA using Method 8321A-HFPO.
T-2135 VEN CB Outlet R2 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse  (Combine with T-2136)	2	2/10/22		125 mL HDPE Wide-Mouth Bottle	Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse OTM-45 Train HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.  Analyze for HFPO-DA using Method 8321A-HFPO.
T-2134 VEN CB Outlet R2 OTM-45 Impingers 1,2 & 3 Condensate	2	2/10/22		500 mL HDPE Wide-Mouth Bottle	Impinger #1, #2 & #3 Condensate OTM-45 Train HFPO-DA Analysis	<b>Knoxville:</b> Analyze the sample for HFPO-DA.
T-2133 VEN CB Outlet R2 OTM-45 Impinger Glassware MeOH Rinse  (Combine with T-2136)	2	2/10/22		250 mL HDPE Wide-Mouth Bottle	Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse OTM-45 Train HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the XAD-2 Resin Extraction.
T-2132 VEN CB Outlet R2 OTM-45 Breakthrough XAD-2 Resin Tube	2	2/10/22		XAD-2 Resin Tube	Breakthrough XAD-2 Resin Tube OTM-45 Train HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction.  Analyze for HFPO-DA using Method 8321A-HFPO.
T-2131 VEN CB Outlet R3 OTM-45 Filter  (Combine with T-2130)	3	2/10/22		125 mL HDPE Wide-Mouth Bottle	Particulate Filter (82.6 mm Whatman Glass Microfiber) OTM-45 Train HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample.  Analyze for HFPO-DA using Method 8321A-HFPO.

**Request for Analysis/Chain-of-Custody – RFA/COC #002**  
**The Chemours Company – Fayetteville NC**  
**VEN Carbon Bed Outlet Repeat**



Environment Testing  
 TestAmerica

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2130 VEN CB Outlet R3 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse  (Combine with T-2131)	3	2/10/22		125 mL HDPE Wide-Mouth Bottle	Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the Particulate Filter extraction.
T-2129 VEN CB Outlet R3 OTM-45 XAD-2 Resin Tube	3	2/10/22		XAD-2 Resin Tube	XAD-2 Resin Tube  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample.  Analyze for HFPO-DA using Method 8321A-HFPO.
T-2128 VEN CB Outlet R3 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse  (Combine with T-2129)	3	2/10/22		125 mL HDPE Wide-Mouth Bottle	Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.  Analyze for HFPO-DA using Method 8321A-HFPO.
T-2127 VEN CB Outlet R3 OTM-45 Impingers 1,2 & 3 Condensate	3	2/10/22		500 mL HDPE Wide-Mouth Bottle	Impinger #1, #2 & #3 Condensate  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Analyze the sample for HFPO-DA.
T-2126 VEN CB Outlet R3 OTM-45 Impinger Glassware MeOH Rinse  (Combine with T-2129)	3	2/10/22		250 mL HDPE Wide-Mouth Bottle	Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the XAD-2 Resin Extraction.
T-2125 VEN CB Outlet R3 OTM-45 Breakthrough XAD-2 Resin Tube	3	2/10/22		XAD-2 Resin Tube	Breakthrough XAD-2 Resin Tube  OTM-45 Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction.  Analyze for HFPO-DA using Method 8321A-HFPO.

**Sample Receipt Log and Condition of the Samples Upon Receipt:**

Please fill in the following information:

**Comments**

(Please write "NONE" if no comment applicable)

(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.

NONE

(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:

RT 0.4 / CT 0.3 C

(3) Record any apparent sample loss/breakage.

NONE

(4) Record any unidentified samples transported with this shipment of samples:

NONE

(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):

HAND DELIVERED, NO CUSTODY SEALS

**Custody Transfer:**

Relinquished By:		Alliance	2/10/22/2015
	Name	Company	Date/Time
Accepted By:		ETA KNOX	2/10/22 2015
	Name	Company	Date/Time
Relinquished By:		ETA KNOX	2/11/22 1250
	Name	Company	Date/Time
Accepted By:		ETA KNOX	2-11-22 12:50
	Name	Company	Date/Time
Relinquished By:			
	Name	Company	Date/Time
Accepted By:			
	Name	Company	Date/Time
Relinquished By:			
	Name	Company	Date/Time
Accepted By:			
	Name	Company	Date/Time

EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST Log In Number:

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Are the shipping containers intact?	/			<input type="checkbox"/> Containers, Broken	
2. Were ambient air containers received intact?			/	<input type="checkbox"/> Checked in lab	
3. The coolers/containers custody seal if present, is it intact?			/	<input type="checkbox"/> Yes <input type="checkbox"/> NA	
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : <u>5671</u> Correction factor: <u>-0.1°C</u>	/			<input type="checkbox"/> Cooler Out of Temp, Client Contacted, Proceed/Cancel <input type="checkbox"/> Cooler Out of Temp, Same Day Receipt	
5. Were all of the sample containers received intact?	/			<input type="checkbox"/> Containers, Broken	
6. Were samples received in appropriate containers?	/			<input type="checkbox"/> Containers, Improper; Client Contacted; Proceed/Cancel	
7. Do sample container labels match COC? (IDs, Dates, Times)	/			<input type="checkbox"/> COC & Samples Do Not Match <input type="checkbox"/> COC Incorrect/Incomplete <input type="checkbox"/> COC Not Received	
8. Were all of the samples listed on the COC received?	/			<input type="checkbox"/> Sample Received, Not on COC <input type="checkbox"/> Sample on COC, Not Received	
9. Is the date/time of sample collection noted?	/			<input type="checkbox"/> COC; No Date/Time; Client Contacted	
10. Was the sampler identified on the COC?	/		/	<input type="checkbox"/> Sampler Not Listed on COC	
11. Is the client and project name/# identified?	/			<input type="checkbox"/> COC Incorrect/Incomplete	
12. Are tests/parameters listed for each sample?	/			<input type="checkbox"/> COC No tests on COC	
13. Is the matrix of the samples noted?	/			<input type="checkbox"/> COC Incorrect/Incomplete	
14. Was COC relinquished? (Signed/Dated/Timed)	/			<input type="checkbox"/> COC Incorrect/Incomplete	
15. Were samples received within holding time?	/			<input type="checkbox"/> Holding Time - Receipt	
16. Were samples received with correct chemical preservative (excluding Encore)?	/		/	<input type="checkbox"/> pH Adjusted, pH Included (See box 16A)	
17. Were VOA samples received without headspace?	/		/	<input type="checkbox"/> Incorrect Preservative	
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:	/		/	<input type="checkbox"/> Headspace (VOA only) <input type="checkbox"/> Residual Chlorine	
19. For 1613B water samples is pH<9?	/		/	<input type="checkbox"/> If no, notify lab to adjust	
20. For rad samples was sample activity info. Provided?	/		/	<input type="checkbox"/> Project missing info	
Project #: _____ PM Instructions: _____					

Labeling Verified by: \_\_\_\_\_ Date: \_\_\_\_\_

pH test strip lot number: \_\_\_\_\_

Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative: _____	
Lot Number: _____	
Exp Date: _____	
Analyst: _____	
Date: _____	
Time: _____	

Sample Receiving Associate: *[Signature]* Date: 2-14-22 QA026R32.doc, 062719

## ANALYTICAL REPORT

Job Number: 140-26392-1

Job Description: VEN Field QC

Contract Number: LBIO-67048

For:

The Chemours Company FC, LLC

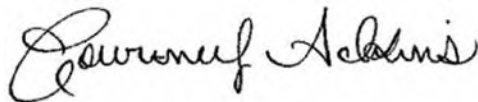
c/o AECOM

Sabre Building, Suite 300

4051 Ogletown Road

Newark, DE 19713

Attention: Michael Aucoin



Approved for release.  
Courtney M Adkins  
Project Manager II  
2/27/2022 10:33 AM

---

Courtney M Adkins, Project Manager II  
5815 Middlebrook Pike, Knoxville, TN, 37921  
(865)291-3019  
courtney.adkins@eurofinset.com  
02/27/2022

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

### Eurofins Knoxville

5815 Middlebrook Pike, Knoxville, TN 37921

Tel (865) 291-3000 Fax (865) 584-4315 [www.testamericainc.com](http://www.testamericainc.com)



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# Definitions/Glossary

Client: The Chemours Company FC, LLC  
Project/Site: VEN Field QC

Job ID: 140-26392-1

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



# Method Summary

Client: The Chemours Company FC, LLC  
Project/Site: VEN Field QC

Job ID: 140-26392-1

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<b>Method</b>	<b>Method Description</b>	<b>Protocol</b>	<b>Laboratory</b>
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL KNX
None	Leaching Procedure	TAL SOP	TAL KNX
None	Leaching Procedure for Filter	TAL SOP	TAL KNX
PFAS Prep	Preparation, Direct Inject PFAS	TAL-SAC	TAL KNX
Split	Source Air Split	None	TAL KNX

**Protocol References:**

EPA = US Environmental Protection Agency

None = None

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

TAL-SAC = Eurofins Sacramento, Facility Standard Operating Procedure.

**Laboratory References:**

TAL KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Sample Summary

Client: The Chemours Company FC, LLC  
Project/Site: VEN Field QC

Job ID: 140-26392-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-26392-1	T-2124,2123 QC OTM-45 Q2 CB FH PBT	Air	02/10/22 00:00	02/11/22 12:50
140-26392-2	T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT	Air	02/10/22 00:00	02/11/22 12:50
140-26392-3	T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2& COND PBT	Air	02/10/22 00:00	02/11/22 12:50
140-26392-4	T-2118 QC OTM-45 Q2 CB IMPINGERS BREAKTHROUGH XAD-2 RESIN TUBE PBT	Air	02/10/22 00:00	02/11/22 12:50
140-26392-5	T-2117 QC OTM-45 Q2 CB DI WATER RB	Air	02/10/22 00:00	02/11/22 12:50
140-26392-6	T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH4OH RB	Air	02/10/22 00:00	02/11/22 12:50
140-26392-7	T-2115,2114 QC OTM-45 Q2 CB FH BT	Air	02/10/22 00:00	02/11/22 12:50
140-26392-8	T-2113,2112,2110 QC OTM-45 Q2 CB BH BT	Air	02/10/22 00:00	02/11/22 12:50
140-26392-9	T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 COND BT	Air	02/10/22 00:00	02/11/22 12:50
140-26392-10	T-2109 QC OTM-45 Q2 CB BREAKTHROUGH XAD-2 RESIN TUBE BT	Air	02/10/22 00:00	02/11/22 12:50
140-26392-11	C-2575 MEDIA CHECK XAD	Air	02/10/22 00:00	02/11/22 12:50

**Job Narrative**  
**140-26392-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 2/11/2022 12:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.3° C.

**LCMS**

Method 537 (modified): The method blank for preparation batch 140-58905 and 140-58961 contained HFPO-DA above the reporting limit (RL). The entire sample was consumed during analysis or extraction, therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**Organic Prep**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# QC Association Summary

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Field QC

Job ID: 140-26392-1

## LCMS

### Prep Batch: 58905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26392-2	T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT	Total/NA	Air	None	
140-26392-4	T-2118 QC OTM-45 Q2 CB IMPINGERS BREAK	Total/NA	Air	None	
140-26392-6	T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH	Total/NA	Air	None	
140-26392-8	T-2113,2112,2110 QC OTM-45 Q2 CB BH BT	Total/NA	Air	None	
140-26392-10	T-2109 QC OTM-45 Q2 CB BREAKTHROUGH X	Total/NA	Air	None	
140-26392-11	C-2575 MEDIA CHECK XAD	Total/NA	Air	None	
MB 140-58905/14-B	Method Blank	Total/NA	Air	None	
MB 140-58905/1-B	Method Blank	Total/NA	Air	None	
LCS 140-58905/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-58905/3-B	Lab Control Sample Dup	Total/NA	Air	None	

### Prep Batch: 58914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26392-1	T-2124,2123 QC OTM-45 Q2 CB FH PBT	Total/NA	Air	None	
140-26392-7	T-2115,2114 QC OTM-45 Q2 CB FH BT	Total/NA	Air	None	
MB 140-58914/1-B	Method Blank	Total/NA	Air	None	
LCS 140-58914/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-58914/3-B	Lab Control Sample Dup	Total/NA	Air	None	

### Cleanup Batch: 58961

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26392-2	T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT	Total/NA	Air	Split	58905
140-26392-4	T-2118 QC OTM-45 Q2 CB IMPINGERS BREAK	Total/NA	Air	Split	58905
140-26392-6	T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH	Total/NA	Air	Split	58905
140-26392-8	T-2113,2112,2110 QC OTM-45 Q2 CB BH BT	Total/NA	Air	Split	58905
140-26392-10	T-2109 QC OTM-45 Q2 CB BREAKTHROUGH X	Total/NA	Air	Split	58905
140-26392-11	C-2575 MEDIA CHECK XAD	Total/NA	Air	Split	58905
MB 140-58905/14-B	Method Blank	Total/NA	Air	Split	58905
MB 140-58905/1-B	Method Blank	Total/NA	Air	Split	58905
LCS 140-58905/2-B	Lab Control Sample	Total/NA	Air	Split	58905
LCSD 140-58905/3-B	Lab Control Sample Dup	Total/NA	Air	Split	58905

### Cleanup Batch: 58963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26392-1	T-2124,2123 QC OTM-45 Q2 CB FH PBT	Total/NA	Air	Split	58914
140-26392-7	T-2115,2114 QC OTM-45 Q2 CB FH BT	Total/NA	Air	Split	58914
MB 140-58914/1-B	Method Blank	Total/NA	Air	Split	58914
LCS 140-58914/2-B	Lab Control Sample	Total/NA	Air	Split	58914
LCSD 140-58914/3-B	Lab Control Sample Dup	Total/NA	Air	Split	58914

### Prep Batch: 58967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26392-3	T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2& CC	Total/NA	Air	PFAS Prep	
140-26392-5	T-2117 QC OTM-45 Q2 CB DI WATER RB	Total/NA	Air	PFAS Prep	
140-26392-9	T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 C	Total/NA	Air	PFAS Prep	
MB 140-58967/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-58967/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-58967/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

# QC Association Summary

Client: The Chemours Company FC, LLC  
Project/Site: VEN Field QC

Job ID: 140-26392-1

## LCMS

### Analysis Batch: 59045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26392-3	T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2& C	Total/NA	Air	537 (modified)	58967
140-26392-5	T-2117 QC OTM-45 Q2 CB DI WATER RB	Total/NA	Air	537 (modified)	58967
140-26392-9	T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 C	Total/NA	Air	537 (modified)	58967
MB 140-58914/1-B	Method Blank	Total/NA	Air	537 (modified)	58963
MB 140-58967/1-A	Method Blank	Total/NA	Air	537 (modified)	58967
LCS 140-58914/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	58963
LCS 140-58967/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	58967
LCSD 140-58914/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	58963
LCSD 140-58967/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	58967

### Analysis Batch: 59059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-26392-1	T-2124,2123 QC OTM-45 Q2 CB FH PBT	Total/NA	Air	537 (modified)	58963
140-26392-2	T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT	Total/NA	Air	537 (modified)	58961
140-26392-4	T-2118 QC OTM-45 Q2 CB IMPINGERS BREAK	Total/NA	Air	537 (modified)	58961
140-26392-6	T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH	Total/NA	Air	537 (modified)	58961
140-26392-7	T-2115,2114 QC OTM-45 Q2 CB FH BT	Total/NA	Air	537 (modified)	58963
140-26392-8	T-2113,2112,2110 QC OTM-45 Q2 CB BH BT	Total/NA	Air	537 (modified)	58961
140-26392-10	T-2109 QC OTM-45 Q2 CB BREAKTHROUGH X	Total/NA	Air	537 (modified)	58961
140-26392-11	C-2575 MEDIA CHECK XAD	Total/NA	Air	537 (modified)	58961
MB 140-58905/14-B	Method Blank	Total/NA	Air	537 (modified)	58961
MB 140-58905/1-B	Method Blank	Total/NA	Air	537 (modified)	58961
LCS 140-58905/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	58961
LCSD 140-58905/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	58961

# Client Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Field QC

Job ID: 140-26392-1

**Client Sample ID: T-2124,2123 QC OTM-45 Q2 CB FH PBT**

**Lab Sample ID: 140-26392-1**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.00174		0.00100	0.000580	ug/Sample		02/16/22 07:38	02/19/22 19:01	1
Isotope Dilution	%Recovery	Qualifier	Limits						
13C3 HFPO-DA	88		25 - 150						
							Prepared	Analyzed	Dil Fac
							02/16/22 07:38	02/19/22 19:01	1

**Client Sample ID: T-2122,2121,2119 QC OTM-45 Q2 CB BH**

**Lab Sample ID: 140-26392-2**

**PBT**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.00711		0.00160	0.00140	ug/Sample		02/15/22 14:06	02/19/22 23:10	1
Isotope Dilution	%Recovery	Qualifier	Limits						
13C3 HFPO-DA	93		25 - 150						
							Prepared	Analyzed	Dil Fac
							02/15/22 14:06	02/19/22 23:10	1

**Client Sample ID: T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2&**

**Lab Sample ID: 140-26392-3**

**COND PBT**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.0000870	ug/Sample		02/17/22 09:59	02/18/22 23:56	1
Isotope Dilution	%Recovery	Qualifier	Limits						
13C3 HFPO-DA	86		25 - 150						
							Prepared	Analyzed	Dil Fac
							02/17/22 09:59	02/18/22 23:56	1

**Client Sample ID: T-2118 QC OTM-45 Q2 CB IMPINGERS**

**Lab Sample ID: 140-26392-4**

**BREAKTHROUGH XAD-2 RESIN TUBE PBT**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0168		0.00160	0.00140	ug/Sample		02/15/22 14:06	02/19/22 23:19	1
Isotope Dilution	%Recovery	Qualifier	Limits						
13C3 HFPO-DA	84		25 - 150						
							Prepared	Analyzed	Dil Fac
							02/15/22 14:06	02/19/22 23:19	1

**Client Sample ID: T-2117 QC OTM-45 Q2 CB DI WATER RB**

**Lab Sample ID: 140-26392-5**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.0000870	ug/Sample		02/17/22 09:59	02/19/22 00:05	1

# Client Sample Results

Client: The Chemours Company FC, LLC  
Project/Site: VEN Field QC

Job ID: 140-26392-1

**Client Sample ID: T-2117 QC OTM-45 Q2 CB DI WATER RB**

**Lab Sample ID: 140-26392-5**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	75		25 - 150	02/17/22 09:59	02/19/22 00:05	1

**Client Sample ID: T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH4OH RB**

**Lab Sample ID: 140-26392-6**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00160	0.00140	ug/Sample		02/15/22 14:06	02/19/22 23:27	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80		25 - 150	02/15/22 14:06	02/19/22 23:27	1

**Client Sample ID: T-2115,2114 QC OTM-45 Q2 CB FH BT**

**Lab Sample ID: 140-26392-7**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.00124		0.00100	0.000580	ug/Sample		02/16/22 07:38	02/19/22 19:10	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	77		25 - 150	02/16/22 07:38	02/19/22 19:10	1

**Client Sample ID: T-2113,2112,2110 QC OTM-45 Q2 CB BH BT**

**Lab Sample ID: 140-26392-8**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0250		0.00160	0.00140	ug/Sample		02/15/22 14:06	02/19/22 23:36	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	84		25 - 150	02/15/22 14:06	02/19/22 23:36	1

**Client Sample ID: T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 COND BT**

**Lab Sample ID: 140-26392-9**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.0000870	ug/Sample		02/17/22 09:59	02/19/22 00:14	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	78		25 - 150	02/17/22 09:59	02/19/22 00:14	1

# Client Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Field QC

Job ID: 140-26392-1

**Client Sample ID: T-2109 QC OTM-45 Q2 CB**  
**BREAKTHROUGH XAD-2 RESIN TUBE BT**

**Lab Sample ID: 140-26392-10**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.00780		0.00160	0.00140	ug/Sample		02/15/22 14:06	02/20/22 00:03	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>13C3 HFPO-DA</i>	<i>81</i>		<i>25 - 150</i>				<i>02/15/22 14:06</i>	<i>02/20/22 00:03</i>	<i>1</i>

**Client Sample ID: C-2575 MEDIA CHECK XAD**

**Lab Sample ID: 140-26392-11**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Sample Container: Air Train

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00160	0.00140	ug/Sample		02/15/22 14:06	02/20/22 00:12	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>13C3 HFPO-DA</i>	<i>82</i>		<i>25 - 150</i>				<i>02/15/22 14:06</i>	<i>02/20/22 00:12</i>	<i>1</i>



# Default Detection Limits

Client: The Chemours Company FC, LLC  
Project/Site: VEN Field QC

Job ID: 140-26392-1

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## Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: None

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Analyte	RL	MDL	Units
HFPO-DA	0.00100	0.000580	ug/Sample
HFPO-DA	0.00160	0.00140	ug/Sample

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## Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: PFAS Prep

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Analyte	RL	MDL	Units
HFPO-DA	0.000500	0.0000870	ug/Sample

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# Isotope Dilution Summary

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Field QC

Job ID: 140-26392-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Air

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	HFPODA (25-150)	Percent Isotope Dilution Recovery (Acceptance Limits)			
140-26392-1	T-2124,2123 QC OTM-45 Q2 CB	88				
140-26392-2	T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT	93				
140-26392-3	T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2& COND PBT	86				
140-26392-4	T-2118 QC OTM-45 Q2 CB IMPINGERS BREAKTHROUGH XAD-2 RESIN TUBE PBT	84				
140-26392-5	T-2117 QC OTM-45 Q2 CB DI WATER RB	75				
140-26392-6	T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH4OH RB	80				
140-26392-7	T-2115,2114 QC OTM-45 Q2 CE FH BT	77				
140-26392-8	T-2113,2112,2110 QC OTM-45 Q2 CB BH BT	84				
140-26392-9	T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 COND BT	78				
140-26392-10	T-2109 QC OTM-45 Q2 CB BREAKTHROUGH XAD-2 RESI TUBE BT	81				
140-26392-11	C-2575 MEDIA CHECK XAD	82				
LCS 140-58905/2-B	Lab Control Sample	89				
LCS 140-58914/2-B	Lab Control Sample	87				
LCS 140-58967/2-A	Lab Control Sample	79				
LCSD 140-58905/3-B	Lab Control Sample Dup	83				
LCSD 140-58914/3-B	Lab Control Sample Dup	82				
LCSD 140-58967/3-A	Lab Control Sample Dup	81				
MB 140-58905/14-B	Method Blank	84				
MB 140-58905/1-B	Method Blank	89				
MB 140-58914/1-B	Method Blank	82				
MB 140-58967/1-A	Method Blank	84				

### Surrogate Legend

HFPODA = 13C3 HFPO-DA

# QC Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Field QC

Job ID: 140-26392-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

**Lab Sample ID: MB 140-58905/14-B**  
**Matrix: Air**  
**Analysis Batch: 59059**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 58905**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00160	0.00140	ug/Sample		02/15/22 14:06	02/19/22 22:43	1
Isotope Dilution		%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA		84		25 - 150			02/15/22 14:06	02/19/22 22:43	1

**Lab Sample ID: MB 140-58905/1-B**  
**Matrix: Air**  
**Analysis Batch: 59059**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 58905**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.002651		0.00160	0.00140	ug/Sample		02/15/22 14:06	02/19/22 20:40	1
Isotope Dilution		%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA		89		25 - 150			02/15/22 14:06	02/19/22 20:40	1

**Lab Sample ID: LCS 140-58905/2-B**  
**Matrix: Air**  
**Analysis Batch: 59059**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58905**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HFPO-DA	0.0200	0.02421		ug/Sample		121	60 - 140
Isotope Dilution		%Recovery	Qualifier	Limits			
13C3 HFPO-DA		89		25 - 150			

**Lab Sample ID: LCSD 140-58905/3-B**  
**Matrix: Air**  
**Analysis Batch: 59059**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 58905**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HFPO-DA	0.0200	0.02594		ug/Sample		130	60 - 140	7	30
Isotope Dilution		%Recovery	Qualifier	Limits					
13C3 HFPO-DA		83		25 - 150					

**Lab Sample ID: MB 140-58914/1-B**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 58914**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00104	0.000604	ug/Sample		02/16/22 07:38	02/19/22 00:31	1
Isotope Dilution		%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C3 HFPO-DA		82		25 - 150			02/16/22 07:38	02/19/22 00:31	1

# QC Sample Results

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Field QC

Job ID: 140-26392-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: LCS 140-58914/2-B**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58914**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HFPO-DA	0.0200	0.02100		ug/Sample		105	60 - 140
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>				<i>Limits</i>
13C3 HFPO-DA		87					25 - 150

**Lab Sample ID: LCSD 140-58914/3-B**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 58914**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HFPO-DA	0.0200	0.02215		ug/Sample		111	60 - 140	5	30
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>				<i>Limits</i>		
13C3 HFPO-DA		82					25 - 150		

**Lab Sample ID: MB 140-58967/1-A**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 58967**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.0000870	ug/Sample		02/17/22 09:59	02/18/22 22:19	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C3 HFPO-DA	84		25 - 150				02/17/22 09:59	02/18/22 22:19	1

**Lab Sample ID: LCS 140-58967/2-A**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 58967**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HFPO-DA	0.0100	0.01237		ug/Sample		124	60 - 140
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>				<i>Limits</i>
13C3 HFPO-DA		79					25 - 150

**Lab Sample ID: LCSD 140-58967/3-A**  
**Matrix: Air**  
**Analysis Batch: 59045**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 58967**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HFPO-DA	0.0100	0.01188		ug/Sample		119	60 - 140	4	30
<i>Isotope Dilution</i>		<i>%Recovery</i>	<i>Qualifier</i>				<i>Limits</i>		
13C3 HFPO-DA		81					25 - 150		

# Lab Chronicle

Client: The Chemours Company FC, LLC  
Project/Site: VEN Field QC

Job ID: 140-26392-1

**Client Sample ID: T-2124,2123 QC OTM-45 Q2 CB FH PBT**

**Lab Sample ID: 140-26392-1**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	100 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			50 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 19:01	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT**

**Lab Sample ID: 140-26392-2**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 23:10	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2& COND PBT**

**Lab Sample ID: 140-26392-3**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 23:56	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2118 QC OTM-45 Q2 CB IMPINGERS BREAKTHROUGH XAD-2 RESIN TUBE PBT**

**Lab Sample ID: 140-26392-4**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 23:19	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: T-2117 QC OTM-45 Q2 CB DI WATER RB**

**Lab Sample ID: 140-26392-5**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/19/22 00:05	JRC	TAL KNX
Instrument ID: LCA										

# Lab Chronicle

Client: The Chemours Company FC, LLC  
Project/Site: VEN Field QC

Job ID: 140-26392-1

**Client Sample ID: T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH4OH RB**

**Lab Sample ID: 140-26392-6**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 23:27	JRC	TAL KNX

Instrument ID: LCA

**Client Sample ID: T-2115,2114 QC OTM-45 Q2 CB FH BT**

**Lab Sample ID: 140-26392-7**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	124 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			62 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 19:10	JRC	TAL KNX

Instrument ID: LCA

**Client Sample ID: T-2113,2112,2110 QC OTM-45 Q2 CB BH BT**

**Lab Sample ID: 140-26392-8**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 23:36	JRC	TAL KNX

Instrument ID: LCA

**Client Sample ID: T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 COND BT**

**Lab Sample ID: 140-26392-9**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/19/22 00:14	JRC	TAL KNX

Instrument ID: LCA

**Client Sample ID: T-2109 QC OTM-45 Q2 CB BREAKTHROUGH XAD-2 RESIN TUBE BT**

**Lab Sample ID: 140-26392-10**

Date Collected: 02/10/22 00:00

Matrix: Air

Date Received: 02/11/22 12:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/20/22 00:03	JRC	TAL KNX

Instrument ID: LCA

# Lab Chronicle

Client: The Chemours Company FC, LLC  
Project/Site: VEN Field QC

Job ID: 140-26392-1

**Client Sample ID: C-2575 MEDIA CHECK XAD**

**Lab Sample ID: 140-26392-11**

**Date Collected: 02/10/22 00:00**

**Matrix: Air**

**Date Received: 02/11/22 12:50**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/20/22 00:12	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 140-58905/14-B**

**Date Collected: N/A**

**Matrix: Air**

**Date Received: N/A**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 22:43	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 140-58905/1-B**

**Date Collected: N/A**

**Matrix: Air**

**Date Received: N/A**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 20:40	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 140-58914/1-B**

**Date Collected: N/A**

**Matrix: Air**

**Date Received: N/A**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			24 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/19/22 00:31	JRC	TAL KNX
Instrument ID: LCA										

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 140-58967/1-A**

**Date Collected: N/A**

**Matrix: Air**

**Date Received: N/A**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 22:19	JRC	TAL KNX
Instrument ID: LCA										

# Lab Chronicle

Client: The Chemours Company FC, LLC  
Project/Site: VEN Field QC

Job ID: 140-26392-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-58905/2-B

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 20:49	JRC	TAL KNX
Instrument ID: LCA										

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-58914/2-B

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/19/22 00:40	JRC	TAL KNX
Instrument ID: LCA										

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-58967/2-A

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 22:28	JRC	TAL KNX
Instrument ID: LCA										

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-58905/3-B

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	58905	02/15/22 14:06	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	58961	02/17/22 08:27	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59059	02/19/22 20:58	JRC	TAL KNX
Instrument ID: LCA										

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-58914/3-B

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	58914	02/16/22 07:38	CAC	TAL KNX
Total/NA	Cleanup	Split			21 mL	10 mL	58963	02/17/22 09:21	CAC	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/19/22 00:49	JRC	TAL KNX
Instrument ID: LCA										



# Lab Chronicle

Client: The Chemours Company FC, LLC  
Project/Site: VEN Field QC

Job ID: 140-26392-1

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 140-58967/3-A**

**Date Collected: N/A**

**Matrix: Air**

**Date Received: N/A**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	58967	02/17/22 09:59	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			59045	02/18/22 22:37	JRC	TAL KNX

Instrument ID: LCA

**Laboratory References:**

TAL KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Accreditation/Certification Summary

Client: The Chemours Company FC, LLC  
 Project/Site: VEN Field QC

Job ID: 140-26392-1

## Laboratory: Eurofins Knoxville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-17-22
California	State	2423	06-30-22
Colorado	State	TN00009	02-28-22
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-22
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-22
Kansas	NELAP	E-10349	10-31-22
Kentucky (DW)	State	90101	12-31-22
Louisiana	NELAP	83979	06-30-22
Louisiana (DW)	State	LA019	12-31-22
Maryland	State	277	03-31-22
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-31-22
New Hampshire	NELAP	299919	01-17-23
New Jersey	NELAP	TN001	06-30-22
New York	NELAP	10781	03-31-22
North Carolina (DW)	State	21705	07-31-22
North Carolina (WW/SW)	State	64	12-31-22
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-22
Oregon	NELAP	TNI0189	12-31-22
Pennsylvania	NELAP	68-00576	12-31-22
Tennessee	State	02014	12-11-22
Texas	NELAP	T104704380-18-12	08-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-19-00236	08-20-22
Utah	NELAP	TN00009	07-31-22
Virginia	NELAP	460176	09-14-22
Washington	State	C593	01-19-23
West Virginia (DW)	State	9955C	12-31-22
West Virginia DEP	State	345	04-30-22
Wisconsin	State	998044300	08-31-22

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: IC 140-59044/4 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:00 Lab File ID: 004.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	2.80	Baseline	cochranj	02/18/22 18:39
3:3 FTCA	3.12	Baseline	cochranj	02/18/22 18:38
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 18:40
5:3 FTCA	3.85	Baseline	cochranj	02/18/22 18:40
6:2 FTUCA	3.89	Baseline	cochranj	02/18/22 18:38
6:2 FTCA	3.91	Baseline	cochranj	02/18/22 18:38
Perfluoroheptanesulfonic Acid (PFHpS)	4.11	Baseline	cochranj	02/18/22 18:41
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 18:42
8:2 FTCA	4.56	Baseline	cochranj	02/18/22 18:42
Perfluorodecanoic acid (PFDA)	4.73	Baseline	cochranj	02/18/22 18:43
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/18/22 18:44
Perfluoroundecanoic acid (PFUnA)	5.00	Baseline	cochranj	02/18/22 18:44
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/18/22 18:44
10:2 FTCA	5.11	Split Peak	cochranj	02/18/22 18:45
Perfluorododecanoic acid (PFDoA)	5.23	Split Peak	cochranj	02/18/22 18:45
2- (N-methylperfluoro-1-octanesulfon amido) ethanol	5.29	Baseline	cochranj	02/18/22 18:45
NMeFOSA	5.29	Baseline	cochranj	02/18/22 18:45
Perfluorotridecanoic acid (PFTriA)	5.44	Baseline	cochranj	02/18/22 18:45
2- (N-ethylperfluoro-1-octanesulfona mido) ethanol	5.45	Baseline	cochranj	02/18/22 18:45
N-ethylperfluoro-1-octanesulfonam ide	5.46	Baseline	cochranj	02/18/22 18:46
Perfluorooctadecanoic acid	6.19	Baseline	cochranj	02/18/22 18:46

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: IC 140-59044/5 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:09 Lab File ID: 005.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
3:3 FTCA	3.13	Baseline	cochranj	02/18/22 18:51
Perfluorohexanoic acid (PFHxA)	3.45	Split Peak	cochranj	02/18/22 18:51
Perfluorohexanesulfonic acid (PFHxS)	3.79	Baseline	cochranj	02/18/22 18:51
6:2 FTCA	3.92	Baseline	cochranj	02/18/22 18:52
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 18:52
8:2 FTUCA	4.55	Split Peak	cochranj	02/18/22 18:53
8:2 FTCA	4.56	Baseline	cochranj	02/18/22 18:53
Perfluorodecanoic acid (PFDA)	4.73	Baseline	cochranj	02/18/22 18:53
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	4.88	Baseline	cochranj	02/18/22 18:53
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/18/22 18:54
N-ethylperfluoro-1-octanesulfonamide	5.46	Baseline	cochranj	02/18/22 18:54
Perfluorooctadecanoic acid	6.19	Baseline	cochranj	02/18/22 18:54

Lab Sample ID: IC 140-59044/6 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:18 Lab File ID: 006.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 18:55
6:2 FTCA	3.91	Baseline	cochranj	02/18/22 18:55
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 18:56
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/18/22 18:56

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: ICIS 140-59044/7 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:27 Lab File ID: \_007.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.79	Baseline	cochranj	02/18/22 19:07
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 19:07
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	4.88	Baseline	cochranj	02/18/22 19:08
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/18/22 19:08

Lab Sample ID: IC 140-59044/8 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:35 Lab File ID: \_008.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 19:12
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/18/22 19:12
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/18/22 19:12

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: IC 140-59044/9 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:44 Lab File ID: \_009.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 19:13
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 19:13
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/18/22 19:14
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/18/22 19:14

Lab Sample ID: IC 140-59044/10 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 18:53 Lab File ID: \_010.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 19:15
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/18/22 19:15
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/18/22 19:15
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/18/22 19:16

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59044

Lab Sample ID: ICV 140-59044/12 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 19:11 Lab File ID: \_012.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/18/22 19:33
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/18/22 19:34
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/18/22 19:34
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/18/22 19:34

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59045

Lab Sample ID: CCVL 140-59045/4 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 19:59 Lab File ID: 004.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	2.81	Baseline	cochranj	02/19/22 11:07
6:2 FTUCA	3.89	Baseline	cochranj	02/19/22 11:09
6:2 FTCA	3.90	Baseline	cochranj	02/19/22 11:09
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/19/22 11:10
8:2 FTCA	4.56	Baseline	cochranj	02/19/22 11:10
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/19/22 11:11
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/19/22 11:11
10:2 FTCA	5.10	Baseline	cochranj	02/19/22 11:11
Perfluorododecanoic acid (PFDoA)	5.23	Baseline	cochranj	02/19/22 11:12
NMeFOSA	5.28	Baseline	cochranj	02/19/22 11:12
2- (N-methylperfluoro-1-octanesulfon amido) ethanol	5.29	Baseline	cochranj	02/19/22 11:12
Perfluorooctadecanoic acid	6.19	Baseline	cochranj	02/19/22 11:13

Lab Sample ID: CCVIS 140-59045/5 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 20:07 Lab File ID: 005.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/19/22 11:14
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/19/22 11:14
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.88	Baseline	cochranj	02/19/22 11:15
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/19/22 11:15



PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59045

Lab Sample ID: CCV 140-59045/17 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 21:53 Lab File ID: \_017.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/19/22 11:51
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/19/22 11:52
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/19/22 11:52
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/19/22 11:52

Lab Sample ID: CCV 140-59045/29 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/18/22 23:39 Lab File ID: \_029.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/19/22 12:20
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/19/22 12:21
Perfluorodecanoic acid (PFDA)	4.72	Baseline	cochranj	02/19/22 12:21
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.01	Baseline	cochranj	02/19/22 12:21

Lab Sample ID: 140-26392-5 Client Sample ID: T-2117 QC OTM-45 Q2 CB DI WATER RB

Date Analyzed: 02/19/22 00:05 Lab File ID: \_032.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HFPO-DA	3.54	Missed Peak	cochranj	02/19/22 12:22

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59045

Lab Sample ID: 140-26392-9 Client Sample ID: T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 COND BT

Date Analyzed: 02/19/22 00:14 Lab File ID: \_033.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HFPO-DA	3.54	Missed Peak	cochranj	02/19/22 12:23

Lab Sample ID: CCV 140-59045/42 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 01:33 Lab File ID: \_042.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
HFPO-DA	3.54	Baseline	cochranj	02/19/22 12:28
Perfluorohexanesulfonic acid (PFHxS)	3.77	Baseline	cochranj	02/19/22 12:28
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/19/22 12:28
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/19/22 12:29

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59059

Lab Sample ID: CCVL 140-59059/6 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 18:34 Lab File ID: 006.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	2.80	Baseline	cochranj	02/19/22 18:49
Perfluorohexanesulfonic acid (PFHxS)	3.77	Baseline	cochranj	02/19/22 18:49
6:2 FTUCA	3.89	Baseline	cochranj	02/19/22 18:50
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/19/22 18:50
8:2 FTCA	4.55	Baseline	cochranj	02/19/22 18:50
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.86	Baseline	cochranj	02/19/22 18:51
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.00	Baseline	cochranj	02/19/22 18:51
NMeFOSA	5.27	Baseline	cochranj	02/19/22 18:51
N-ethylperfluoro-1-octanesulfonamide	5.45	Baseline	cochranj	02/19/22 18:52

Lab Sample ID: CCVIS 140-59059/7 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 18:43 Lab File ID: 007.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.77	Baseline	cochranj	02/19/22 18:54
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/19/22 18:54
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/19/22 18:55

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59059

Lab Sample ID: CCV 140-59059/19 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 20:31 Lab File ID: \_019.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/20/22 15:58
Perfluorooctanesulfonic acid (PFOS)	4.42	Baseline	cochranj	02/20/22 15:58
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/20/22 15:58

Lab Sample ID: CCV 140-59059/42 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/19/22 23:54 Lab File ID: \_042.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.78	Baseline	cochranj	02/20/22 16:16
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/20/22 16:16
N-methylperfluorooctanesulfonamid oacetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/20/22 16:16
N-ethylperfluorooctanesulfonamido acetic acid (NEtFOSAA)	5.02	Baseline	cochranj	02/20/22 16:16

PFAS MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Instrument ID: LCA Analysis Batch Number: 59059

Lab Sample ID: CCV 140-59059/50 Client Sample ID: \_\_\_\_\_

Date Analyzed: 02/20/22 01:04 Lab File ID: \_050.d GC Column: GeminiC18 3x1 ID: 3 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	3.77	Baseline	cochranj	02/20/22 16:19
Perfluorooctanesulfonic acid (PFOS)	4.41	Baseline	cochranj	02/20/22 16:19
N-methylperfluorooctanesulfonamide acetic acid (NMeFOSAA)	4.87	Baseline	cochranj	02/20/22 16:20
N-ethylperfluorooctanesulfonamide acetic acid (NEtFOSAA)	5.00	Baseline	cochranj	02/20/22 16:20

# Method PFC IDA

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Fluorinated Hydrocarbons by Method  
PFAS IDA

FORM II  
PFAS SURROGATE RECOVERY

Lab Name: Eurofins Knoxville

Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Matrix: Air

Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	HFPODA #
T-2124,2123 QC OTM-45 Q2 CB FH PBT	140-26392-1	88
T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT	140-26392-2	93
T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2& COND PBT	140-26392-3	86
T-2118 QC OTM-45 Q2 CB IMPINGERS BREAKTHROUGH XAD-2 RESIN TUBE PBT	140-26392-4	84
T-2117 QC OTM-45 Q2 CB DI WATER RB	140-26392-5	75
T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH4OH RB	140-26392-6	80
T-2115,2114 QC OTM-45 Q2 CB FH BT	140-26392-7	77
T-2113,2112,2110 QC OTM-45 Q2 CB BH BT	140-26392-8	84
T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 COND BT	140-26392-9	78
T-2109 QC OTM-45 Q2 CB BREAKTHROUGH XAD-2 RESIN TUBE BT	140-26392-10	81
C-2575 MEDIA CHECK XAD	140-26392-11	82
	MB 140-58905/1-B	89
	MB 140-58905/14-B	84
	MB 140-58914/1-B	82
	MB 140-58967/1-A	84
	LCS 140-58905/2-B	89
	LCS 140-58914/2-B	87
	LCS 140-58967/2-A	79
	LCSD 140-58905/3-B	83
	LCSD 140-58914/3-B	82

HFPODA = 13C3 HFPO-DA

QC LIMITS  
25-150

# Column to be used to flag recovery values

FORM II 537 (modified)

FORM II  
PFAS SURROGATE RECOVERY

Lab Name: Eurofins Knoxville

Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Matrix: Air

Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	HFPODA #
	LCSD 140-58967/3-A	81

HFPODA = 13C3 HFPO-DA

QC LIMITS  
25-150

# Column to be used to flag recovery values

FORM II 537 (modified)



FORM III  
PFAS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_021.d  
 Lab ID: LCS 140-58905/2-B Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCS CONCENTRATION (ug/Sample)	LCS % REC	QC LIMITS REC	#
HFPO-DA	0.0200	0.02421	121	60-140	
13C3 HFPO-DA	0.0250	0.02236	89	25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
PFAS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_036.d  
 Lab ID: LCS 140-58914/2-B Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCS CONCENTRATION (ug/Sample)	LCS % REC	QC LIMITS REC	#
HFPO-DA	0.0200	0.02100	105	60-140	
13C3 HFPO-DA	0.0250	0.02163	87	25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
PFAS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_021.d  
 Lab ID: LCS 140-58967/2-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCS CONCENTRATION (ug/Sample)	LCS % REC	QC LIMITS REC	#
HFPO-DA	0.0100	0.01237	124	60-140	
13C3 HFPO-DA	0.0125	0.009894	79	25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
 PFAS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_022.d  
 Lab ID: LCSD 140-58905/3-B Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCSD CONCENTRATION (ug/Sample)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
HFPO-DA	0.0200	0.02594	130	7	30	60-140	
13C3 HFPO-DA	0.0250	0.02067	83			25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
 PFAS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_037.d  
 Lab ID: LCSD 140-58914/3-B Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCSD CONCENTRATION (ug/Sample)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
HFPO-DA	0.0200	0.02215	111	5	30	60-140	
13C3 HFPO-DA	0.0250	0.02055	82			25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM III  
 PFAS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Air Level: Low Lab File ID: \_022.d  
 Lab ID: LCSD 140-58967/3-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Sample)	LCSD CONCENTRATION (ug/Sample)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
HFPO-DA	0.0100	0.01188	119	4	30	60-140	
13C3 HFPO-DA	0.0125	0.01011	81			25-150	

# Column to be used to flag recovery and RPD values  
 FORM III 537 (modified)

FORM IV  
PFAS METHOD BLANK SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: \_020.d Lab Sample ID: MB 140-58905/1-B  
 Matrix: Air Date Extracted: 02/15/2022 14:06  
 Instrument ID: LCA Date Analyzed: 02/19/2022 20:40  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 140-58905/2-B	_021.d	02/19/2022 20:49
	LCSD 140-58905/3-B	_022.d	02/19/2022 20:58

FORM IV  
PFAS METHOD BLANK SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: \_034.d Lab Sample ID: MB 140-58905/14-B  
 Matrix: Air Date Extracted: 02/15/2022 14:06  
 Instrument ID: LCA Date Analyzed: 02/19/2022 22:43  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT	140-26392-2	_037.d	02/19/2022 23:10
T-2118 QC OTM-45 Q2 CB IMPINGERS BREAKTHROUGH XAD-2 RESIN TUBE PBT	140-26392-4	_038.d	02/19/2022 23:19
T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH4OH RB	140-26392-6	_039.d	02/19/2022 23:27
T-2113,2112,2110 QC OTM-45 Q2 CB BH BT	140-26392-8	_040.d	02/19/2022 23:36
T-2109 QC OTM-45 Q2 CB BREAKTHROUGH XAD-2 RESIN TUBE BT	140-26392-10	_043.d	02/20/2022 00:03
C-2575 MEDIA CHECK XAD	140-26392-11	_044.d	02/20/2022 00:12



FORM IV  
PFAS METHOD BLANK SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: \_035.d Lab Sample ID: MB 140-58914/1-B  
 Matrix: Air Date Extracted: 02/16/2022 07:38  
 Instrument ID: LCA Date Analyzed: 02/19/2022 00:31  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 140-58914/2-B	_036.d	02/19/2022 00:40
	LCSD 140-58914/3-B	_037.d	02/19/2022 00:49
T-2124,2123 QC OTM-45 Q2 CB FH PBT	140-26392-1	_009.d	02/19/2022 19:01
T-2115,2114 QC OTM-45 Q2 CB FH BT	140-26392-7	_010.d	02/19/2022 19:10

FORM IV  
PFAS METHOD BLANK SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: \_020.d Lab Sample ID: MB 140-58967/1-A  
 Matrix: Air Date Extracted: 02/17/2022 09:59  
 Instrument ID: LCA Date Analyzed: 02/18/2022 22:19  
 Level: (Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 140-58967/2-A	_021.d	02/18/2022 22:28
	LCSD 140-58967/3-A	_022.d	02/18/2022 22:37
T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2& COND PBT	140-26392-3	_031.d	02/18/2022 23:56
T-2117 QC OTM-45 Q2 CB DI WATER RB	140-26392-5	_032.d	02/19/2022 00:05
T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 COND BT	140-26392-9	_033.d	02/19/2022 00:14

FORM VIII  
PFAS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 140-59044/7 Date Analyzed: 02/18/2022 18:27  
 Instrument ID: LCA GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 007.d Heated Purge: (Y/N) N  
 Calibration ID: 3582

	13PFOA		#	RT #	#	RT #
	AREA #	RT #				
INITIAL CALIBRATION MID-POINT	5334710	4.13				
UPPER LIMIT	8002065	4.33				
LOWER LIMIT	2667355	3.93				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 140-59044/12		4677658	4.12			
CCVIS 140-59045/5		5578839	4.13			
CCVIS 140-59059/7		5377493	4.12			

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
PFAS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 140-59045/5 Date Analyzed: 02/18/2022 20:07  
 Instrument ID: LCA GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 005.d Heated Purge: (Y/N) N  
 Calibration ID: 3582

		13PFOA					
		AREA #	RT #	#	RT #	#	RT #
12/24 HOUR STD		5578839	4.13				
UPPER LIMIT		8368259	4.33				
LOWER LIMIT		2789420	3.93				
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 140-59045/17		5185600	4.13				
MB 140-58967/1-A		5487523	4.12				
LCS 140-58967/2-A		5448593	4.12				
LCSD 140-58967/3-A		5706850	4.12				
CCV 140-59045/29		5461512	4.13				
140-26392-3	T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2& COND PBT	5180631	4.12				
140-26392-5	T-2117 QC OTM-45 Q2 CB DI WATER RB	5584332	4.12				
140-26392-9	T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 COND BT	5661844	4.12				
MB 140-58914/1-B		5225624	4.12				
LCS 140-58914/2-B		5137439	4.12				
LCSD 140-58914/3-B		5162799	4.13				
CCV 140-59045/42		5241382	4.12				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
PFAS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 140-59059/7 Date Analyzed: 02/19/2022 18:43  
 Instrument ID: LCA GC Column: GeminiC18 3x100 ID: 3 (mm)  
 Lab File ID (Standard): 007.d Heated Purge: (Y/N) N  
 Calibration ID: 3582

		13PFOA					
		AREA #	RT #	#	RT #	#	RT #
12/24 HOUR STD		5377493	4.12				
UPPER LIMIT		8066240	4.32				
LOWER LIMIT		2688747	3.92				
LAB SAMPLE ID	CLIENT SAMPLE ID						
140-26392-1	T-2124,2123 QC OTM-45 Q2 CB FH PBT	5052980	4.15				
140-26392-7	T-2115,2114 QC OTM-45 Q2 CB FH BT	5526036	4.14				
CCV 140-59059/19		4953682	4.13				
MB 140-58905/1-B		4933776	4.13				
LCS 140-58905/2-B		4749725	4.12				
LCSD 140-58905/3-B		4916917	4.12				
CCV 140-59059/30		5562146	4.12				
MB 140-58905/14-B		5059964	4.12				
140-26392-2	T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT	4487549	4.12				
140-26392-4	T-2118 QC OTM-45 Q2 CB IMPINGERS BREAKTHROUGH XAD-2 RESIN TUBE PBT	4701108	4.12				
140-26392-6	T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH4OH RB	5500531	4.12				
140-26392-8	T-2113,2112,2110 QC OTM-45 Q2 CB BH BT	4557100	4.12				
CCV 140-59059/42		5061844	4.13				
140-26392-10	T-2109 QC OTM-45 Q2 CB BREAKTHROUGH XAD-2 RESIN TUBE BT	4583375	4.11				
140-26392-11	C-2575 MEDIA CHECK XAD	4935230	4.12				
CCV 140-59059/50		5042506	4.12				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area  
 RT Limit = ± 0.2 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: T-2124,2123 QC OTM-45 Q2 Lab Sample ID: 140-26392-1  
CB FH PBT  
Matrix: Air Lab File ID: \_009.d  
Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
Extraction Method: None Date Extracted: 02/16/2022 07:38  
Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 19:01  
Con. Extract Vol.: 100 (mL) Dilution Factor: 1  
Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
% Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.00174		0.00100	0.000580

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	88		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_009.d  
 Lims ID: 140-26392-A-1-B  
 Client ID: T-2124,2123 QC OTM-45 Q2 CB FH PBT  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 19:01:20 ALS Bottle#: 9 Worklist Smp#: 9  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-009 140-26392-a-1-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:40 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 19:12:12  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_007.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.563	3.542	0.021	1.000	204795	0.0872	Target=2.51		53.4	
329.00 > 169.00	3.563	3.542	0.021	1.000	76266		2.69(1.25-3.76)		40.6	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.563	3.542	0.021	0.859	2209903	1.10		88.1	9300	
* 30 13C2 PFOA										
415.00 > 370.00	4.147	4.121	0.026		5052980	1.25			13355	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_009.d

Injection Date: 19-Feb-2022 19:01:20

Instrument ID: LCA

Lims ID: 140-26392-A-1-B

Lab Sample ID: 140-26392-1

Client ID: T-2124,2123 QC OTM-45 Q2 CB FH PBT

Operator ID: Cochran, Bobby

ALS Bottle#: 9

Worklist Smp#: 9

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

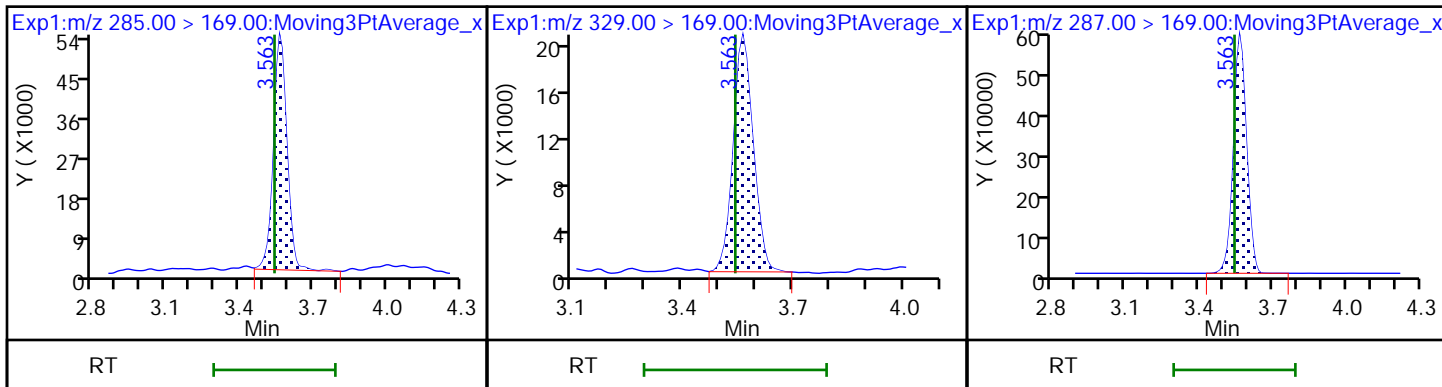
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

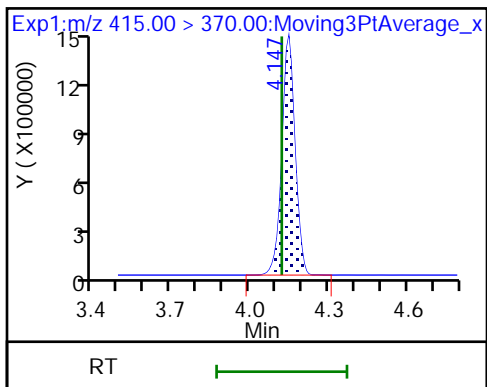
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA





FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: T-2122,2121,2119 QC Lab Sample ID: 140-26392-2  
OTM-45 Q2 CB BH PBT  
Matrix: Air Lab File ID: \_037.d  
Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
Extraction Method: None Date Extracted: 02/15/2022 14:06  
Sample wt/vol: 1(Sample) Date Analyzed: 02/19/2022 23:10  
Con. Extract Vol.: 360(mL) Dilution Factor: 1  
Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
% Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.00711		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	93		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_037.d  
 Lims ID: 140-26392-A-2-B  
 Client ID: T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 23:10:22 ALS Bottle#: 37 Worklist Smp#: 37  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-037 140-26391-a-12-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:14:56  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_030.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.542	3.542	0.0	1.000	752184	0.3557	Target=2.58		206	
329.00 > 169.00	3.542	3.542	0.0	1.000	291058		2.58(1.29-3.86)		88.3	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.542	0.0	0.860	2074551	1.16		93.2	6621	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		4487549	1.25			11422	

**QC Flag Legend**  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_037.d

Injection Date: 19-Feb-2022 23:10:22

Instrument ID: LCA

Lims ID: 140-26392-A-2-B

Lab Sample ID: 140-26392-2

Client ID: T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT

Operator ID: Cochran, Bobby

ALS Bottle#: 37

Worklist Smp#: 37

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

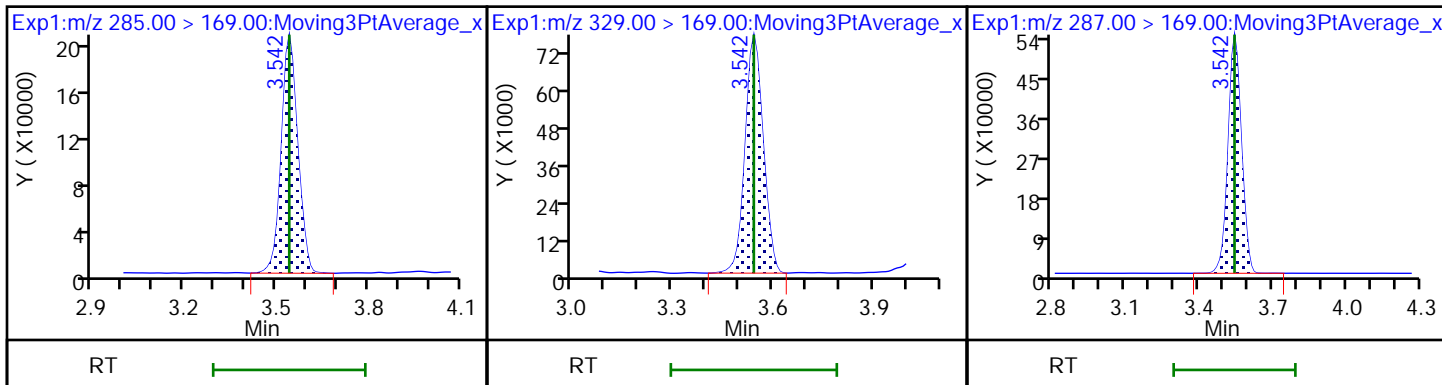
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

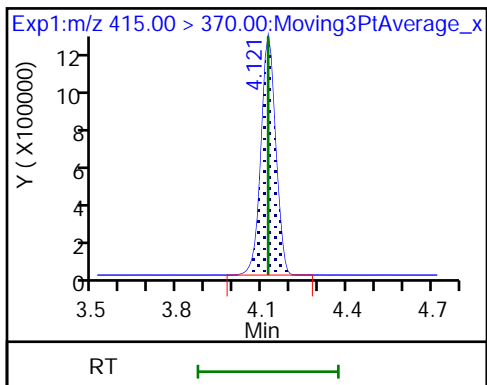
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_037.d  
 Lims ID: 140-26392-A-2-B  
 Client ID: T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 23:10:22 ALS Bottle#: 37 Worklist Smp#: 37  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-037 140-26391-a-12-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:14:56

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: T-2120 QC OTM-45 Q2 CB Lab Sample ID: 140-26392-3  
IMPINGERS 1,2& COND PBT  
Matrix: Air Lab File ID: \_031.d  
Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
Sample wt/vol: 1(Sample) Date Analyzed: 02/18/2022 23:56  
Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
% Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.000500	0.0000870

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	86		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_031.d  
 Lims ID: 140-26392-A-3-A  
 Client ID: T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2& COND PBT  
 Sample Type: Client  
 Inject. Date: 18-Feb-2022 23:56:43 ALS Bottle#: 31 Worklist Smp#: 31  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-031 140-26392-a-3-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:22:24  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.860	2202637	1.07		85.7	6795	
17 HFPO-DA										
285.00 > 169.00		3.553				ND				
329.00 > 169.00		3.553								
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5180631	1.25			9622	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_031.d

Injection Date: 18-Feb-2022 23:56:43

Instrument ID: LCA

Lims ID: 140-26392-A-3-A

Lab Sample ID: 140-26392-3

Client ID: T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2& COND PBT

Operator ID: Cochran, Bobby

ALS Bottle#: 31

Worklist Smp#: 31

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

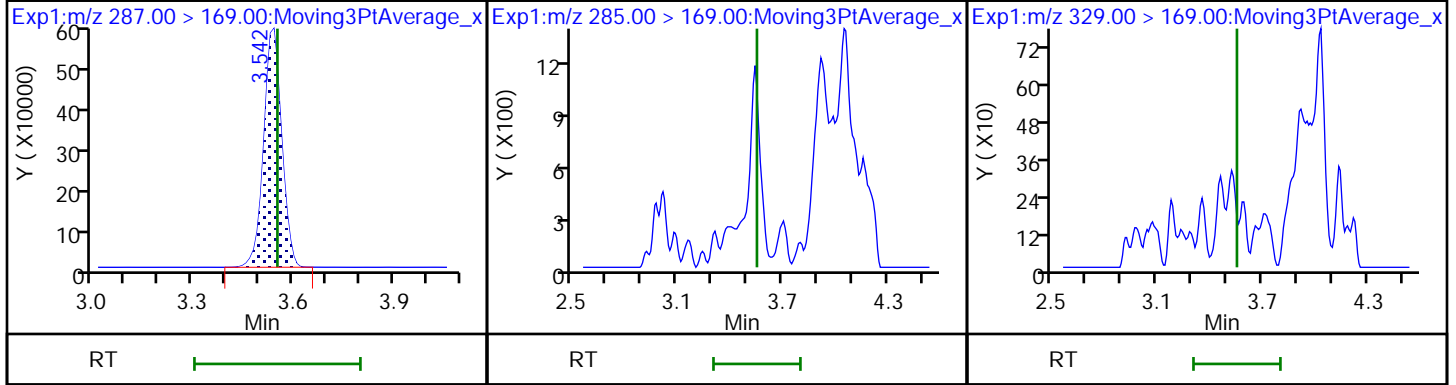
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

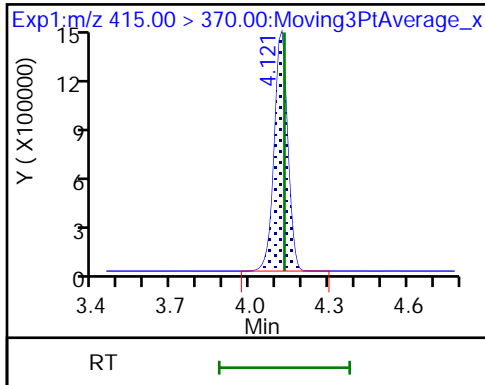
D 16 13C3 HFPO-DA

17 HFPO-DA (ND)

17 HFPO-DA (ND)



\* 30 13C2 PFOA



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_031.d  
 Lims ID: 140-26392-A-3-A  
 Client ID: T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2& COND PBT  
 Sample Type: Client  
 Inject. Date: 18-Feb-2022 23:56:43 ALS Bottle#: 31 Worklist Smp#: 31  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-031 140-26392-a-3-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:22:24

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2118 QC OTM-45 Q2 CB Lab Sample ID: 140-26392-4  
                           IMPINGERS BREAKTHROUGH  
                           XAD-2 RESIN TUBE PBT  
 Matrix: Air Lab File ID: \_038.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/19/2022 23:19  
 Con. Extract Vol.: 360(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.0168		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	84		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_038.d  
 Lims ID: 140-26392-A-4-B  
 Client ID: T-2118 QC OTM-45 Q2 CB IMPINGERS BREAKTHROUGH XAD-2 RESIN TUBE PBT  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 23:19:10 ALS Bottle#: 38 Worklist Smp#: 38  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-038 140-26392-a-2-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:15:10  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_030.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.544	3.542	0.002	1.000	1663480	0.8393	Target=2.58		449	
329.00 > 169.00	3.544	3.542	0.002	1.000	637762		2.61(1.29-3.86)		197	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.542	0.002	0.860	1959948	1.05		84.0	5113	
* 30 13C2 PFOA										
415.00 > 370.00	4.122	4.121	0.001		4701108	1.25			12920	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_038.d

Injection Date: 19-Feb-2022 23:19:10

Instrument ID: LCA

Lims ID: 140-26392-A-4-B

Lab Sample ID: 140-26392-4

Client ID: T-2118 QC OTM-45 Q2 CB IMPINGERS BREAKTHROUGH XAD-2 RESIN TUBE PBT

Operator ID: Cochran, Bobby

ALS Bottle#: 38

Worklist Smp#: 38

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

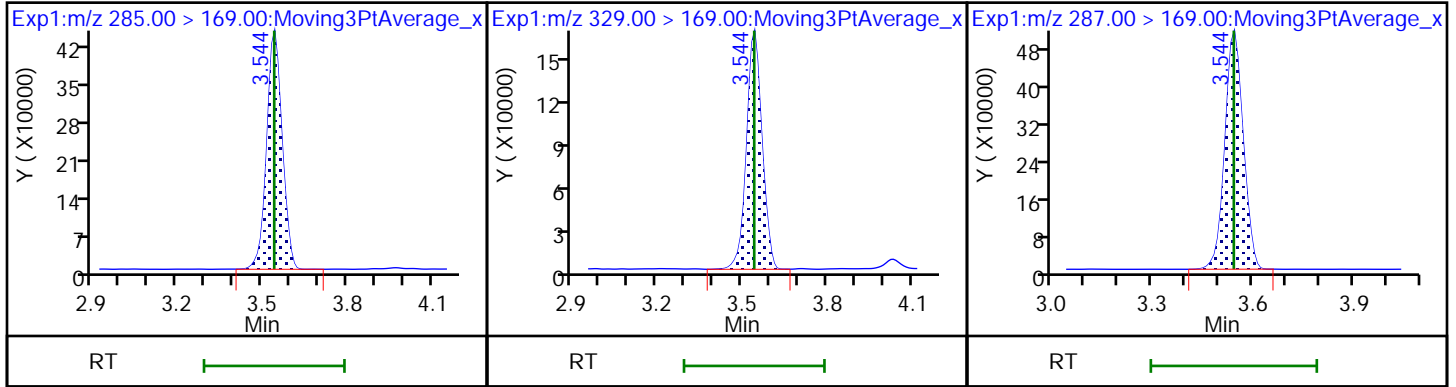
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

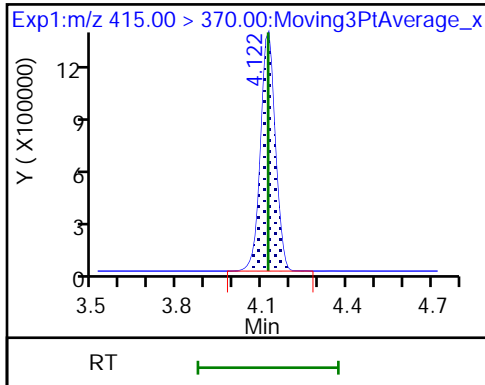
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_038.d  
 Lims ID: 140-26392-A-4-B  
 Client ID: T-2118 QC OTM-45 Q2 CB IMPINGERS BREAKTHROUGH XAD-2 RESIN TUBE PBT  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 23:19:10 ALS Bottle#: 38 Worklist Smp#: 38  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-038 140-26392-a-2-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:15:10

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2117 QC OTM-45 Q2 CB DI WATER RB Lab Sample ID: 140-26392-5  
 Matrix: Air Lab File ID: \_032.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/19/2022 00:05  
 Con. Extract Vol.: 10(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.000500	0.0000870

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	75		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_032.d  
 Lims ID: 140-26392-A-5-A  
 Client ID: T-2117 QC OTM-45 Q2 CB DI WATER RB  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 00:05:30 ALS Bottle#: 32 Worklist Smp#: 32  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-032 140-26392-a-5-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:22:56  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
--------	----	--------	--------	--------	----------	--------------	---------------	------	-----	-------

D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.553	-0.009	0.860	2068263	0.9329		74.6	7420	
17 HFPO-DA										
285.00 > 169.00	3.544	3.553	-0.009	1.000	8140	-0.001108	Target=2.51	5.2	7	7M
329.00 > 169.00	3.564	3.553	0.011	1.006	2593		3.14(1.25-3.76)	4.3		M
LOD = 0.008500										
* 30 13C2 PFOA										
415.00 > 370.00	4.123	4.131	-0.008		5584332	1.25			12552	

QC Flag Legend

Processing Flags

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_032.d

Injection Date: 19-Feb-2022 00:05:30

Instrument ID: LCA

Lims ID: 140-26392-A-5-A

Lab Sample ID: 140-26392-5

Client ID: T-2117 QC OTM-45 Q2 CB DI WATER RB

Operator ID: Cochran, Bobby

ALS Bottle#: 32

Worklist Smp#: 32

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

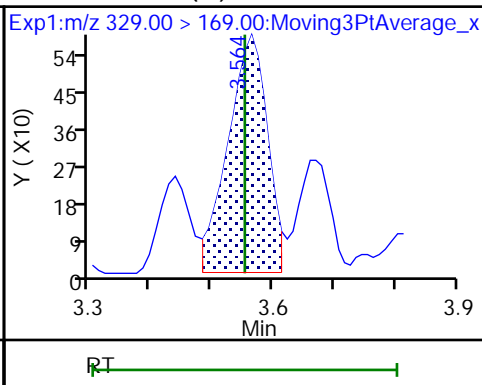
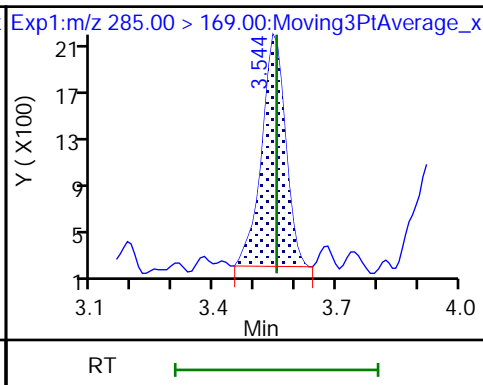
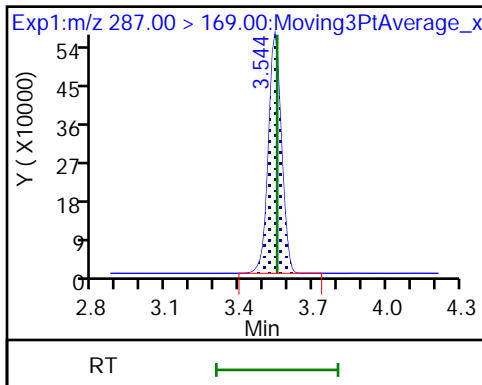
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

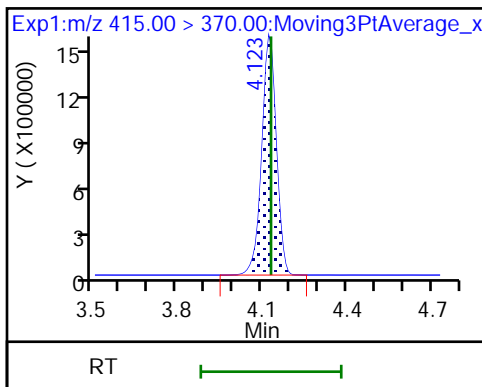
D 16 13C3 HFPO-DA

17 HFPO-DA

17 HFPO-DA (M)



\* 30 13C2 PFOA



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_032.d  
 Lims ID: 140-26392-A-5-A  
 Client ID: T-2117 QC OTM-45 Q2 CB DI WATER RB  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 00:05:30 ALS Bottle#: 32 Worklist Smp#: 32  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-032 140-26392-a-5-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:22:56

Compound	Amount Added	Amount Recovered	% Rec.
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Eurofins Knoxville

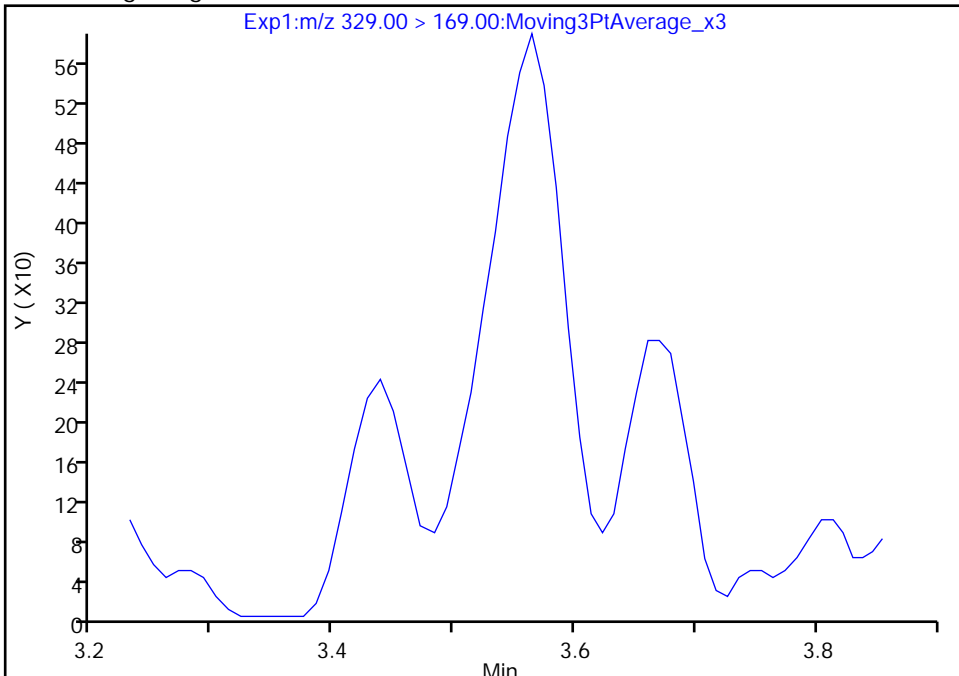
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_032.d  
Injection Date: 19-Feb-2022 00:05:30 Instrument ID: LCA  
Lims ID: 140-26392-A-5-A Lab Sample ID: 140-26392-5  
Client ID: T-2117 QC OTM-45 Q2 CB DI WATER RB  
Operator ID: Cochran, Bobby ALS Bottle#: 32 Worklist Smp#: 32  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

17 HFPO-DA, CAS: 13252-13-6

Signal: 2

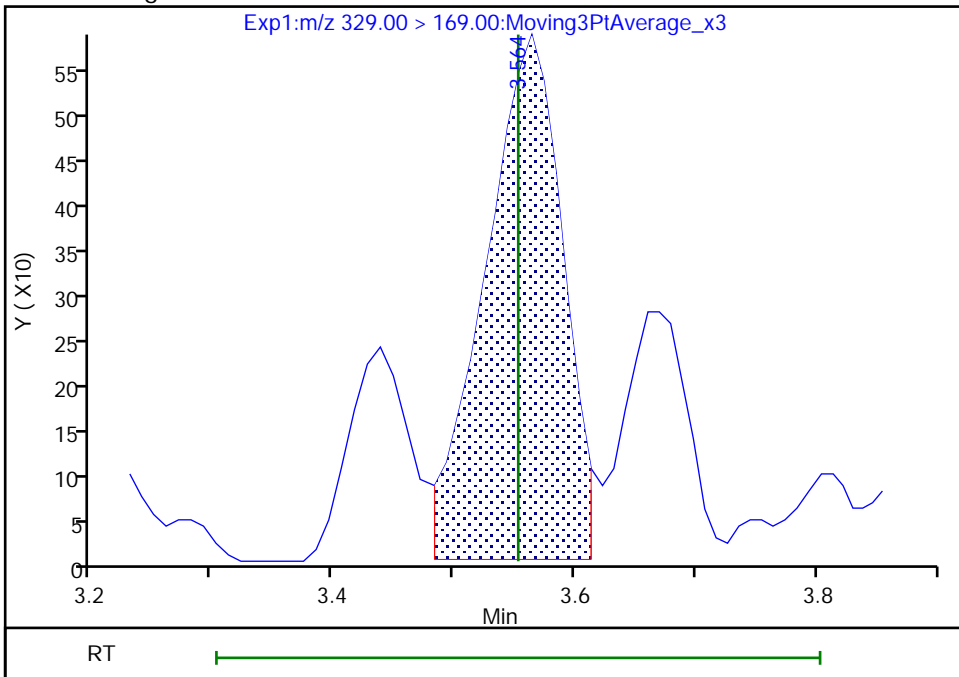
Not Detected  
Expected RT: 3.55

Processing Integration Results



RT: 3.56  
Area: 2593  
Amount: -0.001108  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:22:49  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2116 QC OTM-45 Q2 CB Lab Sample ID: 140-26392-6  
                           MEOH WITH 5% NH4OH RB  
 Matrix: Air Lab File ID: \_039.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 23:27  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	80		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_039.d  
 Lims ID: 140-26392-A-6-B  
 Client ID: T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH4OH RB  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 23:27:58 ALS Bottle#: 39 Worklist Smp#: 39  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-039 140-26392-a-4-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:15:23  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_030.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.543	3.542	0.001	1.000	34925	0.0108	Target=2.58		8.3	
329.00 > 169.00	3.553	3.542	0.011	1.003	12800		2.73(1.29-3.86)		7.6	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.542	0.001	0.860	2195955	1.01		80.4	8352	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		5500531	1.25			12973	

**QC Flag Legend**  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_039.d

Injection Date: 19-Feb-2022 23:27:58

Instrument ID: LCA

Lims ID: 140-26392-A-6-B

Lab Sample ID: 140-26392-6

Client ID: T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH4OH RB

Operator ID: Cochran, Bobby

ALS Bottle#: 39

Worklist Smp#: 39

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

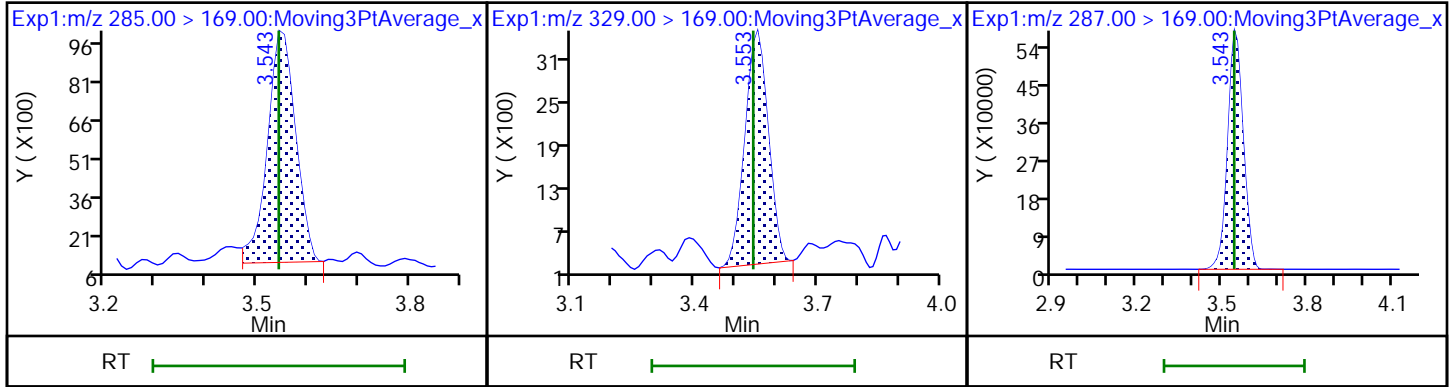
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

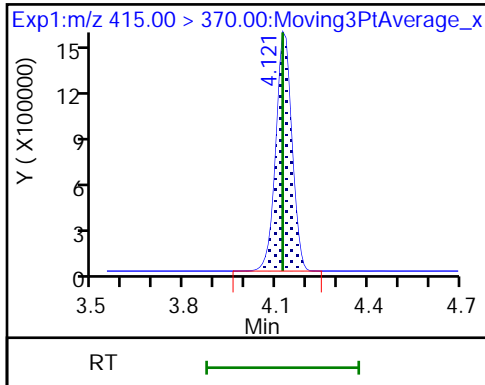
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Client Sample ID: T-2115,2114 QC OTM-45 Q2 Lab Sample ID: 140-26392-7  
CB FH BT

Matrix: Air Lab File ID: \_010.d

Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00

Extraction Method: None Date Extracted: 02/16/2022 07:38

Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 19:10

Con. Extract Vol.: 124 (mL) Dilution Factor: 1

Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)

% Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N

Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.00124		0.00100	0.000580

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	77		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_010.d  
 Lims ID: 140-26392-A-7-B  
 Client ID: T-2115,2114 QC OTM-45 Q2 CB FH BT  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 19:10:08 ALS Bottle#: 10 Worklist Smp#: 10  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-010 140-26392-a-7-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:40 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1

Process Host: CTX1667

Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_007.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.564	3.542	0.022	1.000	141115	0.0618	Target=2.51		36.2	
329.00 > 169.00	3.564	3.542	0.022	1.000	54141		2.61(1.25-3.76)		27.7	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.564	3.542	0.022	0.861	2101416	0.9579		76.6	7253	
* 30 13C2 PFOA										
415.00 > 370.00	4.140	4.121	0.019		5526036	1.25			13595	

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_010.d

Injection Date: 19-Feb-2022 19:10:08

Instrument ID: LCA

Lims ID: 140-26392-A-7-B

Lab Sample ID: 140-26392-7

Client ID: T-2115,2114 QC OTM-45 Q2 CB FH BT

Operator ID: Cochran, Bobby

ALS Bottle#: 10

Worklist Smp#: 10

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

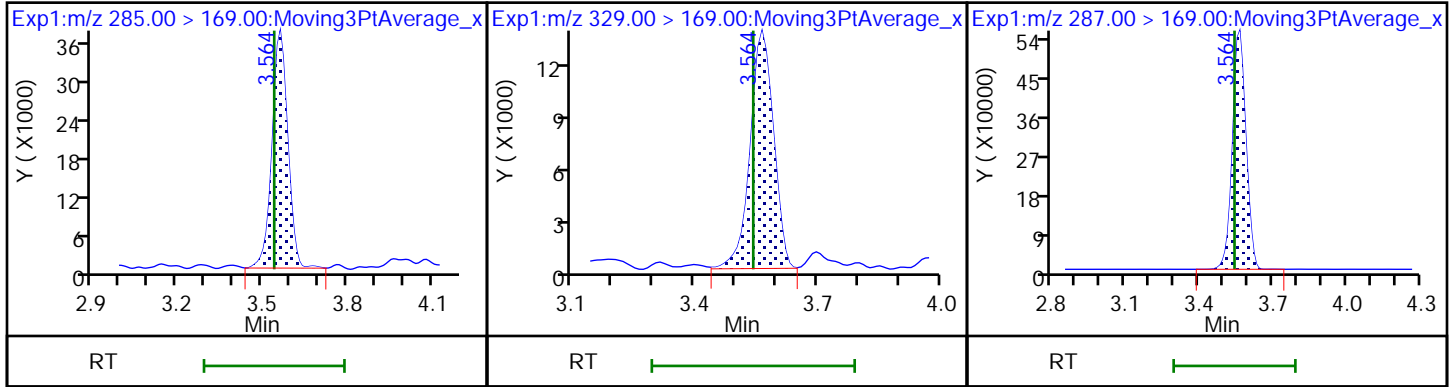
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

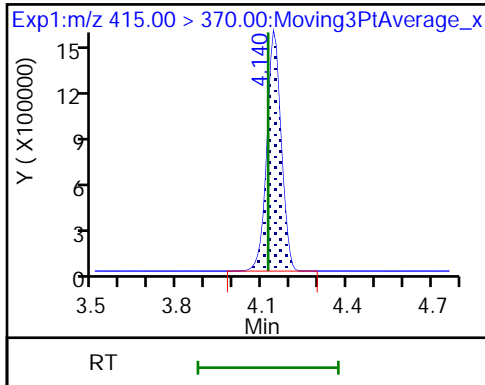
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2113,2112,2110 QC Lab Sample ID: 140-26392-8  
                               OTM-45 Q2 CB BH BT  
 Matrix: Air Lab File ID: \_040.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 23:36  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.0250		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	84		25-150



Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_040.d  
 Lims ID: 140-26392-A-8-B  
 Client ID: T-2113,2112,2110 QC OTM-45 Q2 CB BH BT  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 23:36:46 ALS Bottle#: 40 Worklist Smp#: 40  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-040 140-26392-a-6-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:15:39  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_030.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.543	3.542	0.001	1.000	2381536	1.25	Target=2.58		580	
329.00 > 169.00	3.543	3.542	0.001	1.000	994418		2.39(1.29-3.86)		338	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.542	0.001	0.860	1889553	1.04		83.6	6725	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		4557100	1.25			6994	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_040.d

Injection Date: 19-Feb-2022 23:36:46

Instrument ID: LCA

Lims ID: 140-26392-A-8-B

Lab Sample ID: 140-26392-8

Client ID: T-2113,2112,2110 QC OTM-45 Q2 CB BH BT

Operator ID: Cochran, Bobby

ALS Bottle#: 40

Worklist Smp#: 40

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

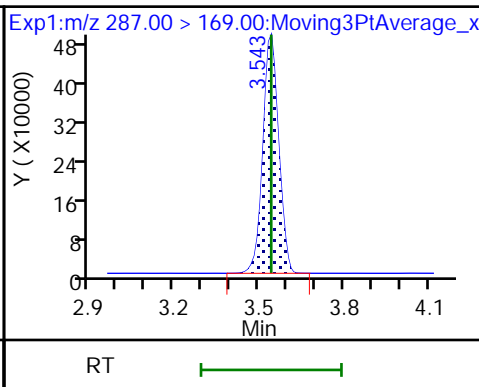
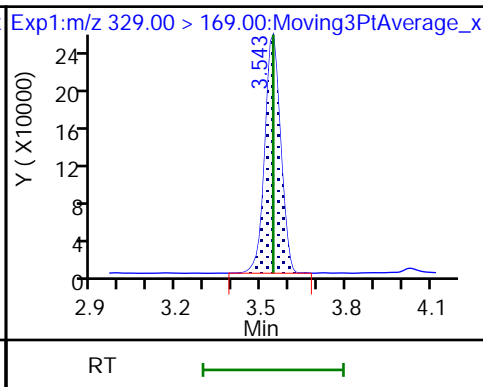
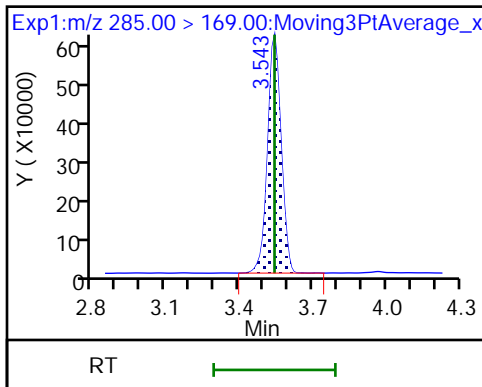
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

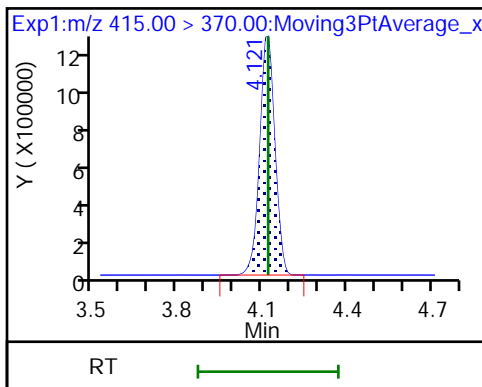
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_040.d  
 Lims ID: 140-26392-A-8-B  
 Client ID: T-2113,2112,2110 QC OTM-45 Q2 CB BH BT  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 23:36:46 ALS Bottle#: 40 Worklist Smp#: 40  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-040 140-26392-a-6-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:15:39

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Client Sample ID: T-2111 QC OTM-45 Q2 CB Lab Sample ID: 140-26392-9  
IMPINGERS 1,2&3 COND BT

Matrix: Air Lab File ID: \_033.d

Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00

Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59

Sample wt/vol: 1(Sample) Date Analyzed: 02/19/2022 00:14

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N

Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.000500	0.0000870

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	78		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_033.d  
 Lims ID: 140-26392-A-9-A  
 Client ID: T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 COND BT  
 Sample Type: Client  
 Inject. Date: 19-Feb-2022 00:14:18 ALS Bottle#: 33 Worklist Smp#: 33  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-033 140-26392-a-9-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:23:19  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
--------	----	--------	--------	--------	----------	--------------	---------------	------	-----	-------

D 16 13C3 HFPO-DA										
287.00 > 169.00	3.546	3.553	-0.007	0.860	2198370	0.9780		78.2	5264	
17 HFPO-DA										
285.00 > 169.00	3.536	3.553	-0.017	0.997	3273	-0.003543	Target=2.51	2.4	7	7M
329.00 > 169.00	3.546	3.553	-0.007	1.000	2075		1.58(1.25-3.76)	2.6		M
LOD = 0.008500										
* 30 13C2 PFOA										
415.00 > 370.00	4.124	4.131	-0.007		5661844	1.25			9361	

QC Flag Legend

Processing Flags  
 7 - Failed Limit of Detection  
 Review Flags  
 M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_033.d

Injection Date: 19-Feb-2022 00:14:18

Instrument ID: LCA

Lims ID: 140-26392-A-9-A

Lab Sample ID: 140-26392-9

Client ID: T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 COND BT

Operator ID: Cochran, Bobby

ALS Bottle#: 33

Worklist Smp#: 33

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

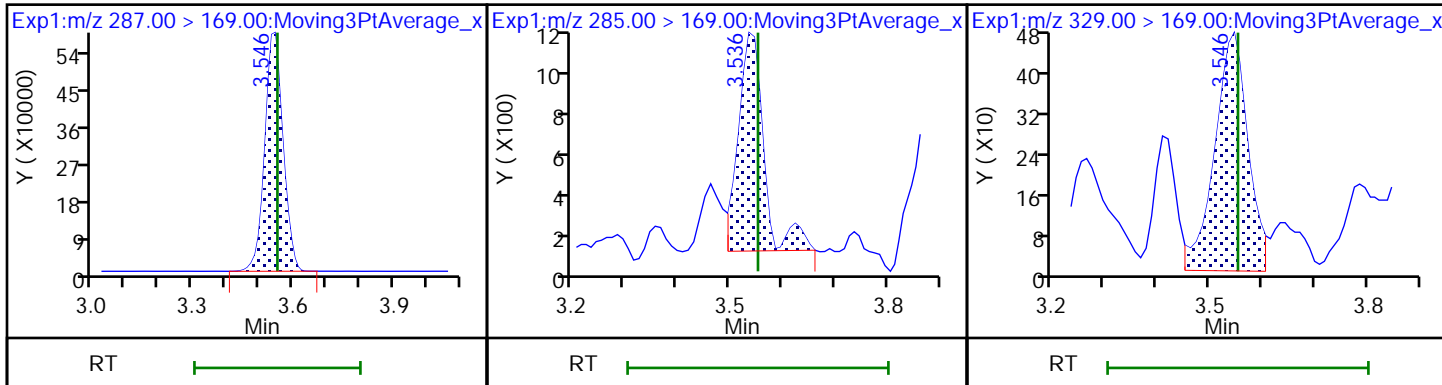
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

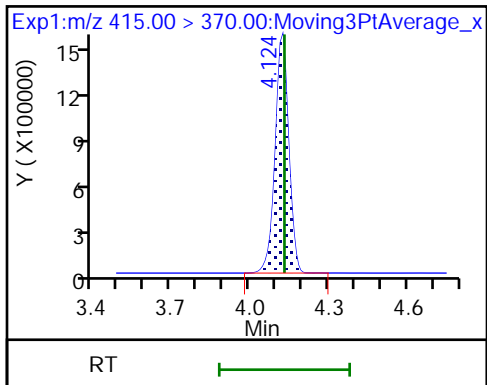
D 16 13C3 HFPO-DA

17 HFPO-DA

17 HFPO-DA (M)



\* 30 13C2 PFOA



Eurofins Knoxville

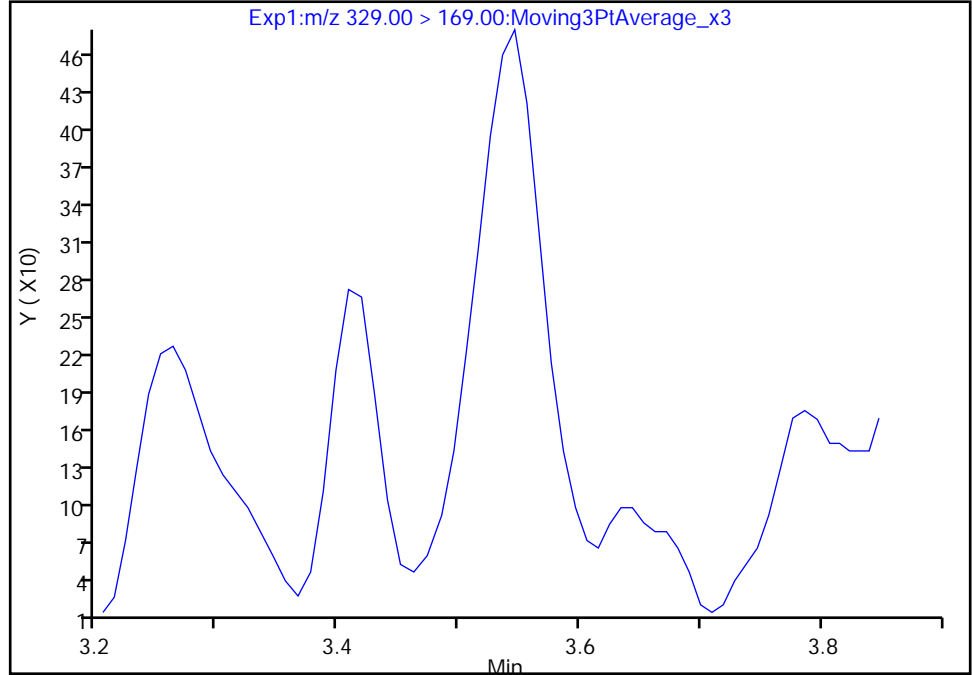
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_033.d  
Injection Date: 19-Feb-2022 00:14:18 Instrument ID: LCA  
Lims ID: 140-26392-A-9-A Lab Sample ID: 140-26392-9  
Client ID: T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 COND BT  
Operator ID: Cochran, Bobby ALS Bottle#: 33 Worklist Smp#: 33  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

17 HFPO-DA, CAS: 13252-13-6

Signal: 2

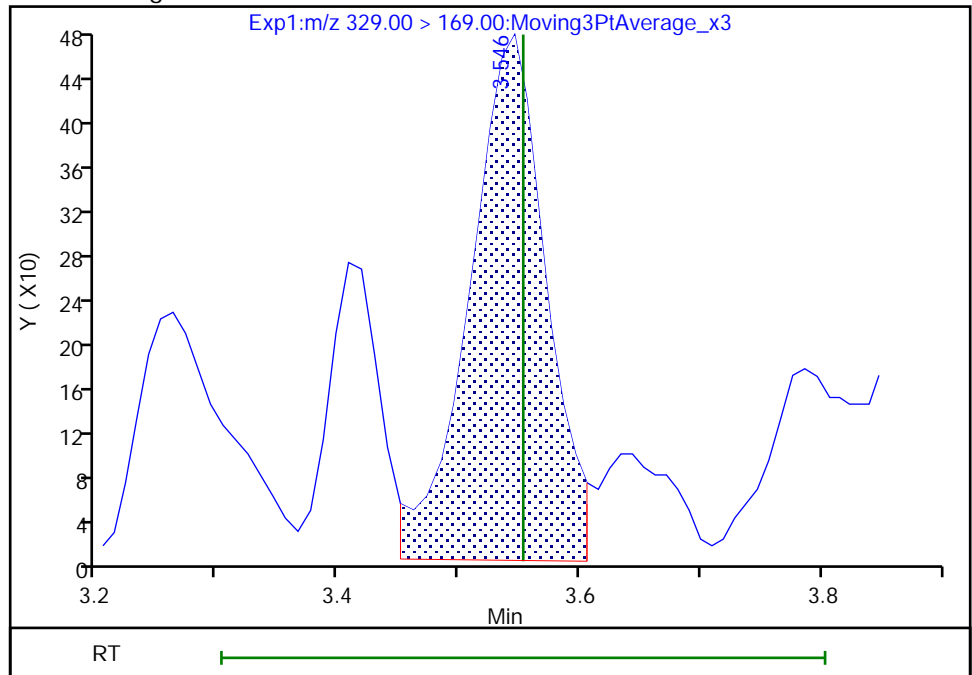
Not Detected  
Expected RT: 3.55

Processing Integration Results



Manual Integration Results

RT: 3.55  
Area: 2075  
Amount: -0.003543  
Amount Units: ng/ml



Reviewer: cochranj, 19-Feb-2022 12:23:13  
Audit Action: Manually Integrated

Audit Reason: Missed Peak

FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: T-2109 QC OTM-45 Q2 CB Lab Sample ID: 140-26392-10  
                               BREAKTHROUGH XAD-2 RESIN  
                               TUBE BT  
 Matrix: Air Lab File ID: \_043.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/20/2022 00:03  
 Con. Extract Vol.: 360(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.00780		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	81		25-150



Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_043.d  
 Lims ID: 140-26392-A-10-B  
 Client ID: T-2109 QC OTM-45 Q2 CB BREAKTHROUGH XAD-2 RESIN TUBE BT  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 00:03:14 ALS Bottle#: 43 Worklist Smp#: 43  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-043 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:34 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:18:05  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_042.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.534	3.542	-0.008	1.000	729044	0.3901	Target=2.58		245	
329.00 > 169.00	3.534	3.542	-0.008	1.000	293519		2.48(1.29-3.86)		92.3	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.534	3.542	-0.008	0.859	1835388	1.01		80.7	5790	
* 30 13C2 PFOA										
415.00 > 370.00	4.114	4.121	-0.007		4583375	1.25			8714	

QC Flag Legend  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_043.d

Injection Date: 20-Feb-2022 00:03:14

Instrument ID: LCA

Lims ID: 140-26392-A-10-B

Lab Sample ID: 140-26392-10

Client ID: T-2109 QC OTM-45 Q2 CB BREAKTHROUGH XAD-2 RESIN TUBE BT

Operator ID: Cochran, Bobby

ALS Bottle#: 43 Worklist Smp#: 43

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

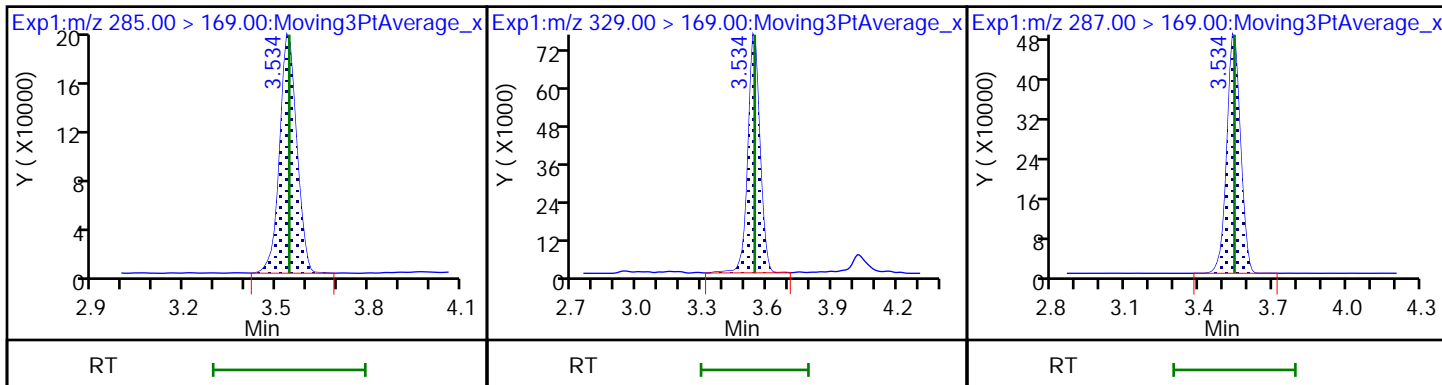
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

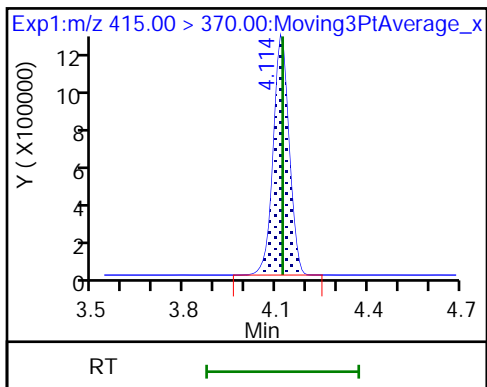
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_043.d  
 Lims ID: 140-26392-A-10-B  
 Client ID: T-2109 QC OTM-45 Q2 CB BREAKTHROUGH XAD-2 RESIN TUBE BT  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 00:03:14 ALS Bottle#: 43 Worklist Smp#: 43  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-043 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:34 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:18:05

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: C-2575 MEDIA CHECK XAD Lab Sample ID: 140-26392-11  
 Matrix: Air Lab File ID: \_044.d  
 Analysis Method: 537 (modified) Date Collected: 02/10/2022 00:00  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/20/2022 00:12  
 Con. Extract Vol.: 360(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	82		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_044.d  
 Lims ID: 140-26392-A-11-B  
 Client ID: C-2575 MEDIA CHECK XAD  
 Sample Type: Client  
 Inject. Date: 20-Feb-2022 00:12:05 ALS Bottle#: 44 Worklist Smp#: 44  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-044 140-26392-a-10-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:34 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:18:22  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_042.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
17 HFPO-DA										
285.00 > 169.00	3.543	3.542	0.001	1.000	34075	0.0118	Target=2.58		9.8	
329.00 > 169.00	3.543	3.542	0.001	1.000	15088		2.26(1.29-3.86)		8.0	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.542	0.001	0.860	2012100	1.03		82.2	6681	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		4935230	1.25			7628	

**QC Flag Legend**  
Processing Flags

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_044.d

Injection Date: 20-Feb-2022 00:12:05

Instrument ID: LCA

Lims ID: 140-26392-A-11-B

Lab Sample ID: 140-26392-11

Client ID: C-2575 MEDIA CHECK XAD

Operator ID: Cochran, Bobby

ALS Bottle#: 44

Worklist Smp#: 44

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

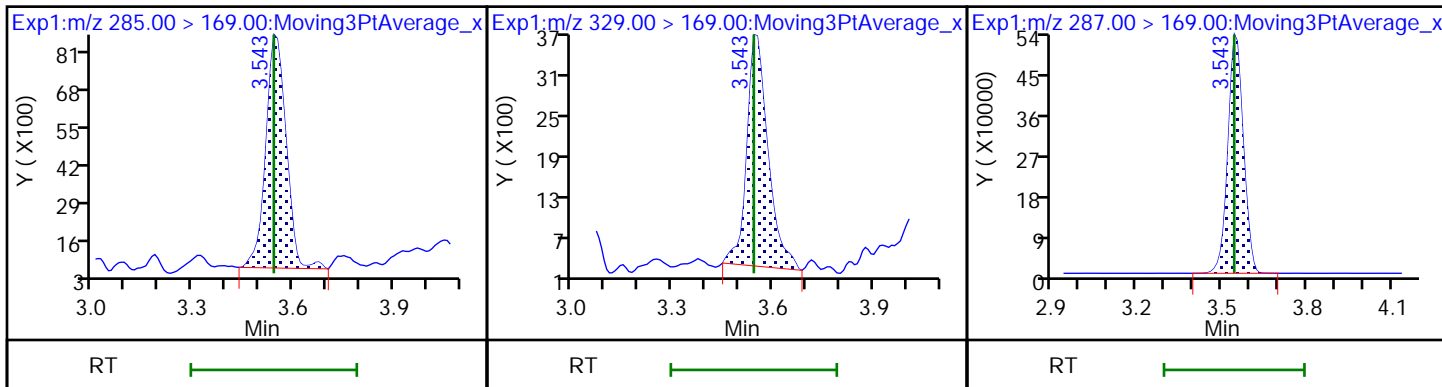
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

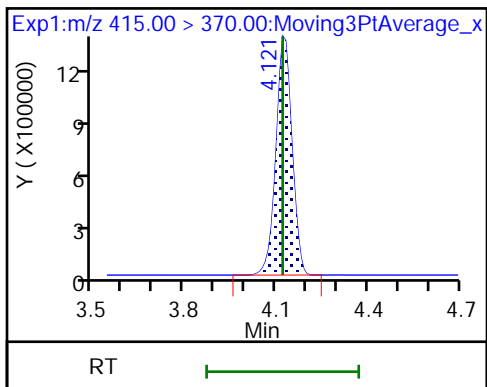
17 HFPO-DA

17 HFPO-DA

D 16 13C3 HFPO-DA



\* 30 13C2 PFOA



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 140-59044/12 Calibration Date: 02/18/2022 19:11  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8413		2.16	2.03	6.3	40.0
PFECA F	AveID	0.7535	0.7034		2.10	2.25	-6.7	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.026		2.26	2.07	9.4	40.0
3:3 FTCA	QuaIF		0.0510		2.12	2.25	-6.0	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.167		2.36	2.25	4.8	40.0
PFECA A	Q2ID		1.194		2.26	2.25	0.5	40.0
PES	Q2ID		2.055		1.92	2.25	-14.6	40.0
PFECA B	Q2ID		0.4007		2.11	2.25	-6.1	40.0
4:2 FTS	L2ID		2.367		2.19	2.10	4.3	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.9319		2.65	2.25	17.7	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	0.9090		1.86	2.11	-12.0	40.0
HFPO-DA	L2ID		1.473		2.63	2.25	17.0	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.386		2.25	2.25	0.1	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.260		2.78	2.25	23.8	40.0
DONA	AveID	2.644	2.858		2.43	2.25	8.1	40.0
5:3 FTCA	L2ID		3.673		2.20	2.25	-2.3	40.0
6:2 FTUCA	AveID	1.046	1.025		2.21	2.25	-2.0	40.0
6:2 FTCA	L1ID		0.6586		2.14	2.25	-4.8	40.0
PFECHS	AveID	0.7426	0.7270		2.03	2.07	-2.1	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9289		2.02	2.14	-5.9	40.0
6:2 FTS	L2ID		1.760		2.06	2.14	-3.6	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.268		2.68	2.25	19.0	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.176		2.31	2.25	2.7	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.9416		2.79	2.25	23.8	40.0
7:3 FTCA	AveID	5.230	4.547		1.96	2.25	-13.1	40.0
8:2 FTUCA	AveID	0.9565	0.9280		2.18	2.25	-3.0	40.0
8:2 FTCA	AveID	1.811	1.539		1.91	2.25	-15.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.368		2.37	2.25	5.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9108		1.95	2.16	-9.9	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9066		2.14	2.25	-5.1	40.0
Perfluorodecanoic acid (PFDA)	L2ID		1.022		2.57	2.25	14.1	40.0
8:2 FTS	L2ID		1.397		2.07	2.22	-6.8	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		1.083		2.58	2.25	14.6	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8564		2.09	2.17	-3.6	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 140-59044/12 Calibration Date: 02/18/2022 19:11  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_012.d Conc. Units: ng/mL

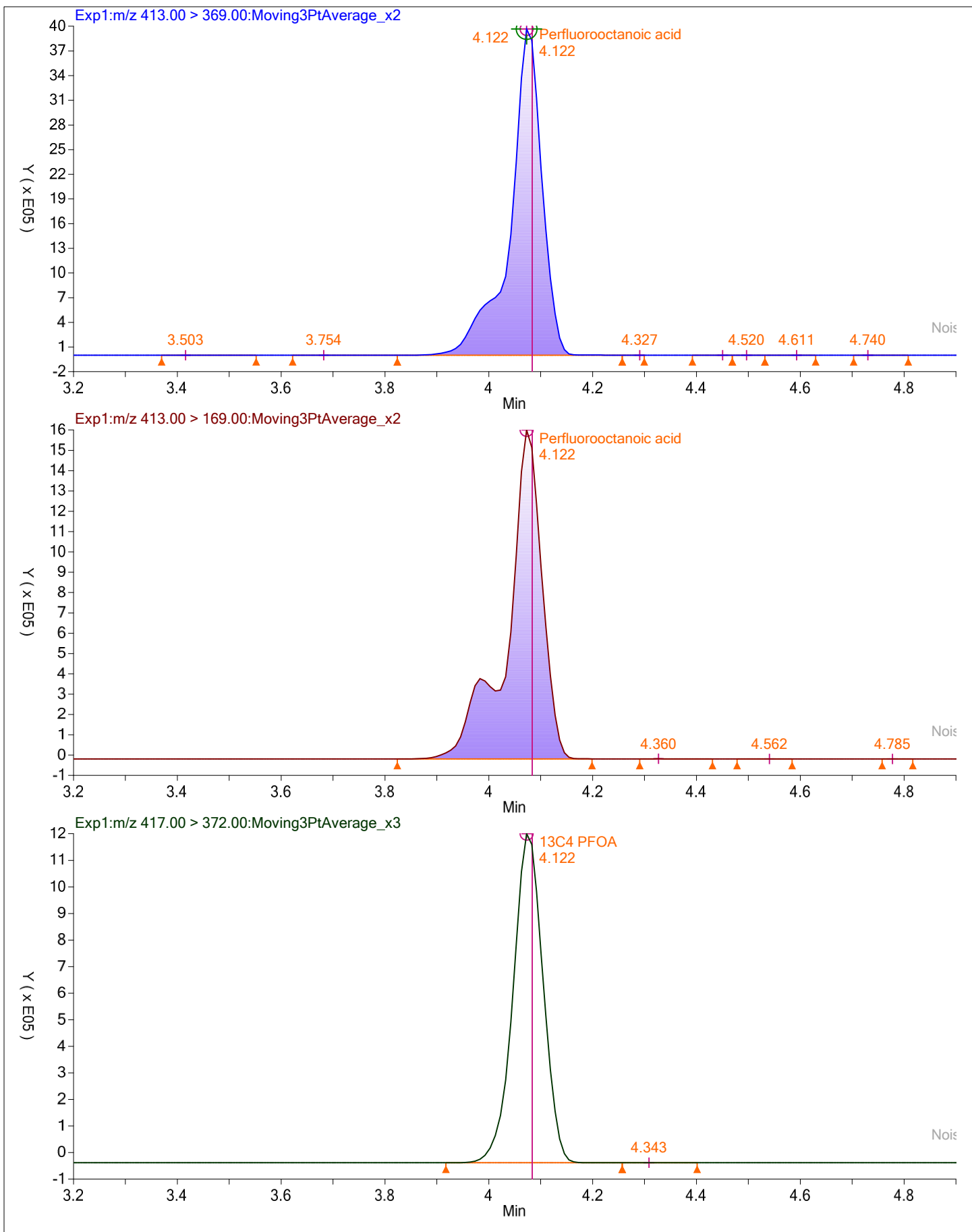
ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.134		2.64	2.25	17.3	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		1.093		2.70	2.25	19.8	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.875		2.43	2.25	7.9	50.0
10:2 FTUCA	AveID	1.208	1.084		2.02	2.25	-10.2	40.0
10:2 FTCA	Q2ID		1.017		2.41	2.25	7.1	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.143		2.49	2.25	10.6	40.0
10:2 FTS	L2ID		1.999		2.08	2.17	-4.4	50.0
NMeFOSA	L2ID		0.9828		2.05	2.25	-8.7	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.152		2.21	2.25	-1.7	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9124		2.10	2.18	-3.5	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.9514		2.42	2.25	7.7	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.280		2.03	2.25	-9.8	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.238		2.24	2.25	-0.6	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1535		2.68	2.25	19.3	40.0
Perfluorohexadecanoic acid	L1ID		1.059		2.11	2.25	-6.4	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9488		2.11	2.25	-6.3	40.0
13C4 PFBA	Ave	1.172	1.196		1.28	1.25	2.0	50.0
13C5 PFPeA	Ave	0.9197	0.9329		1.27	1.25	1.4	50.0
13C3 PFBS	Ave	0.5817	0.6073		1.21	1.16	4.4	50.0
M2-4:2 FTS	Ave	0.1821	0.1762		1.13	1.17	-3.2	50.0
13C2 PFHxA	Ave	1.015	1.084		1.34	1.25	6.8	50.0
13C3 HFPO-DA	Ave	0.4963	0.5057		1.27	1.25	1.9	50.0
18O2 PFHxS	Ave	0.3776	0.3978		1.25	1.18	5.4	50.0
13C4 PFHpA	Ave	0.9046	0.9130		1.26	1.25	0.9	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3479		1.29	1.25	3.1	50.0
13C-6:2 FTCA	Ave	0.0260	0.0271		1.30	1.25	4.3	50.0
13C4 PFOA	Ave	0.9356	0.9257		1.24	1.25	-1.1	50.0
M2-6:2 FTS	Ave	0.1799	0.1780		1.17	1.19	-1.1	50.0
13C4 PFOS	Ave	0.5610	0.5801		1.24	1.20	3.4	50.0
13C5 PFNA	Ave	1.268	1.251		1.23	1.25	-1.4	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4507		1.25	1.25	-0.3	50.0
13C-8:2 FTCA	Ave	0.0330	0.0353		1.34	1.25	6.9	50.0
13C8 FOSA	Ave	0.8475	0.8669		1.28	1.25	2.3	50.0
13C2 PFDA	Ave	1.210	1.271		1.31	1.25	5.1	50.0
M2-8:2 FTS	Ave	0.1961	0.2045		1.25	1.20	4.3	50.0



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 140-59044/12 Calibration Date: 02/18/2022 19:11  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_012.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1183		1.30	1.25	4.3	50.0
13C2 PFUnA	Ave	1.168	1.189		1.27	1.25	1.8	50.0
d5-NEtFOSAA	Ave	0.1164	0.1284		1.38	1.25	10.3	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5305		1.31	1.25	4.5	50.0
13C-10:2 FTCA	Ave	0.0309	0.0331		1.34	1.25	7.0	50.0
13C2 PFDoA	Ave	1.152	1.229		1.33	1.25	6.6	50.0
13C2 10:2 FTS	Ave	0.1652	0.1721		1.23	1.18	4.2	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1217		1.28	1.25	2.6	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1030		1.28	1.25	2.0	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1303		1.32	1.25	5.9	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0832		1.29	1.25	2.8	50.0
13C2 PFTeDA	Ave	0.9216	0.9361		1.27	1.25	1.6	50.0
13C2 PFHxDA	Ave	0.5997	0.6199		1.29	1.25	3.4	50.0
13C8 PFOA	AveID	0.9229	0.9368		1.27	1.25	1.5	50.0
13C8 PFOS	AveID	0.2212	0.2059		1.11	1.20	-6.9	50.0



Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_012.d  
 Lims ID: ICV  
 Client ID:  
 Sample Type: ICV  
 Inject. Date: 18-Feb-2022 19:11:11 ALS Bottle#: 12 Worklist Smp#: 12  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022713-012 icv  
 Misc. Info.: Plate: 11 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist:

Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:04:00 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 18-Feb-2022 19:35:02

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	7643925	2.16			2223	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.682	5592512	1.28		102	21502	
3 PFECA F										
229.00 > 85.00	2.919	2.919	0.0	0.937	5525282	2.10			14137	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.756	4363919	1.27		101	16464	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.115	0.0	1.000	7409360	2.26			3190	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.132	-0.001	1.000	260850	2.12	Target=1.13		2701	
241.00 > 116.90	3.131	3.132	-0.001	1.000	226008		1.15(0.56-1.69)		390	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.132	-0.001	0.760	2641960	1.21		104	11583	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.132	-0.001	1.000	5965512	2.36	Target=2.61		14780	
298.90 > 99.00	3.131	3.132	-0.001	1.000	2240132		2.66(1.31-3.92)		11740	
9 PFECA A										
278.95 > 84.90	3.211	3.212	-0.001	1.031	9376145	2.26			16044	
11 PES										
314.80 > 135.00	3.260	3.261	0.0	1.041	10509927	1.92			32422	
12 PFECA B										
295.22 > 201.00	3.384	3.385	-0.001	0.981	3655349	2.11			13372	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.829	769846	1.13		96.8	1540	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.416	3.416	0.0	1.000	3281506	2.19			10390	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.449	-0.001	0.837	5068481	1.33		107	15771	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.449	-0.001	1.101	4359803	1.86	Target=3.55		8380	
349.00 > 99.00	3.448	3.449	-0.001	1.101	1279567		3.41(1.78-5.33)		13170	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.449	-0.001	1.000	8501967	2.65	Target=11.60		4007	
313.00 > 119.00	3.448	3.449	-0.001	1.000	682435		12.46(5.80-17.40)		673	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.553	-0.010	0.860	2365604	1.27		102	7572	
17 HFPO-DA										
285.00 > 169.00	3.543	3.553	-0.010	1.000	6270673	2.63	Target=2.45		3719	
329.00 > 169.00	3.543	3.553	-0.010	1.000	2477028		2.53(1.23-3.68)		2677	
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.783	0.0	0.918	1760334	1.25		105	7401	
21 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.783	3.783	0.0	1.000	4643832	2.25	Target=3.44		7695	M
399.00 > 99.00	3.783	3.783	0.0	1.000	1315988		3.53(1.72-5.17)		3047	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.793	0.0	0.920	4270831	1.26		101	9502	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.793	3.793	0.0	1.000	9684829	2.78	Target=3.25		6330	
363.00 > 169.00	3.793	3.793	0.0	1.000	2942991		3.29(1.62-4.87)		5424	
25 DONA										
377.00 > 251.00	3.821	3.829	-0.008	0.866	13960804	2.43	Target=1.74		20261	
377.00 > 85.00	3.821	3.829	-0.008	0.866	7690725		1.82(0.87-2.61)		5493	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.854	-0.001	0.987	838920	2.20	Target=1.11		2893	
340.88 > 216.90	3.853	3.854	-0.001	0.987	738506		1.14(0.56-1.67)		1540	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	-0.001	0.943	1627341	1.29		103	4011	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.887	-0.001	1.000	3003482	2.20	Target=13.05		5429	
356.86 > 243.00	3.886	3.887	-0.001	1.000	198925		15.10(6.52-19.57)		718	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.904	0.0	0.947	126904	1.30		104	944	
29 6:2 FTCA										
377.10 > 63.00	3.904	3.904	0.0	1.000	150451	2.14	Target=1.29		464	
377.10 > 313.10	3.904	3.904	0.0	1.000	105593		1.42(0.65-1.94)		135	
32 PFECHS										
460.80 > 380.90	4.065	4.065	0.0	0.986	5224321	2.03	Target=1.75		14931	
460.80 > 98.90	4.055	4.065	-0.010	0.984	2937207		1.78(0.87-2.62)		6721	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.112	4.112	0.0	0.932	4319215	2.01	Target=3.72		13888	
449.00 > 99.00	4.112	4.112	0.0	0.932	1076285		4.01(1.86-5.57)		5112	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.122	-0.001	1.000	790889	1.17		98.9	2317	
35 6:2 FTS										
427.00 > 407.00	4.121	4.122	-0.001	1.000	2502549	2.06			7334	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.122	-0.001	1.000	4056360	1.27		102	17494	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.131	-0.010	1.000	4330014	1.24		98.9	9620	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		4677658	1.25			11851	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.131	-0.010	1.000	9886064	2.68	Target=2.51		7635	
413.00 > 169.00	4.121	4.131	-0.010	1.000	4193943		2.36(1.26-3.77)		6944	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.413	4.413	0.0	1.000	534193	1.11		93.1	1793	
D 39 13C4 PFOS										
503.00 > 80.00	4.413	4.422	-0.009	1.071	2594020	1.24		103	2870	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.413	4.422	-0.009	1.000	5743528	2.31	Target=4.30		3847	M
499.00 > 99.00	4.413	4.422	-0.009	1.000	1304650		4.40(2.15-6.45)		3106	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.440	-0.001	1.000	9919876	2.79	Target=3.60		8904	
463.00 > 169.00	4.439	4.440	-0.001	1.000	2496853		3.97(1.80-5.40)		5095	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.440	-0.001	1.077	5853058	1.23		98.6	9394	
43 7:3 FTCA										
441.00 > 337.00	4.520	4.529	-0.009	0.991	1353076	1.96	Target=1.42		1944	
441.00 > 317.00	4.520	4.529	-0.009	0.991	1022557		1.32(0.71-2.13)		2840	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.546	-0.001	1.000	3521662	2.18	Target=35.37		7060	
456.86 > 343.00	4.545	4.546	-0.001	1.000	112457		31.32(17.68-53.05)		380	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.546	-0.001	1.000	2108194	1.25		99.7	4511	
46 8:2 FTCA										
477.00 > 393.10	4.562	4.562	0.0	1.000	458023	1.91	Target=3.35		1405	
477.00 > 63.20	4.562	4.562	0.0	1.000	144944		3.16(1.68-5.03)		728	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.562	4.562	0.0	1.107	165323	1.34		107	519	
49 9CIFOS										
531.00 > 351.00	4.578	4.579	-0.001	1.111	11564638	2.37			11464	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.064	4269539	1.94	Target=3.99		6378	
549.00 > 99.00	4.697	4.697	0.0	1.064	1109105		3.85(2.00-5.99)		5015	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.714	-0.008	1.142	4055004	1.28		102	5043	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.714	-0.008	1.000	6617192	2.14			5311	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.731	-0.008	1.146	5946673	1.31		105	16995	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.731	-0.008	1.000	10943833	2.57	Target=10.58		6896	
513.00 > 169.00	4.723	4.731	-0.008	1.000	999546		10.95(5.29-15.88)		558	
53 8:2 FTS										
527.00 > 507.00	4.740	4.740	0.0	1.002	2374342	2.07			9935	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.740	-0.009	1.148	916448	1.25		104	2384	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.873	-0.001	1.182	553596	1.30		104	196	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.873	-0.001	1.000	1079070	2.58			1822	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.958	-0.001	1.123	4031978	2.09	Target=3.55		8231	
599.00 > 99.00	4.957	4.958	-0.001	1.123	1091002		3.70(1.78-5.33)		3179	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.987	-0.001	1.000	11355937	2.64	Target=8.26		14144	
563.00 > 169.00	4.986	4.987	-0.001	1.000	1333498		8.52(4.13-12.39)		4906	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.987	-0.001	1.210	5561292	1.27		102	16312	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.006	-0.001	1.214	600596	1.38		110	2155	
62 NEtFOSAA										
584.00 > 419.00	5.005	5.016	-0.011	1.000	1181793	2.69			1100	M
63 11CIFOS										
631.00 > 451.00	5.083	5.093	-0.010	1.152	9157481	2.43			9372	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.093	5.093	0.0	1.236	2481350	1.31		104	6419	
65 10:2 FTUCA										
556.86 > 492.90	5.093	5.093	0.0	1.000	4843453	2.02			6704	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.238	154736	1.34		107	1034	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	283353	2.41	Target=2.53		1572	
576.80 > 63.10	5.102	5.112	-0.010	1.000	113174		2.50(1.26-3.79)		333	
D 69 13C2 PFDoA										
615.00 > 570.00	5.218	5.227	-0.009	1.266	5747520	1.33		107	14585	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.218	5.227	-0.009	1.000	11821468	2.49	Target=6.85		13109	
613.00 > 169.00	5.226	5.227	-0.001	1.002	1685254		7.01(3.43-10.28)		2455	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.272	762341	1.23		104	3547	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.000	2793434	2.07			8739	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.280	481648	1.28		102	55.0	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.284	-0.009	1.280	569068	1.28		103	440	
74 NMeFOSA										
512.00 > 169.00	5.284	5.284	0.0	1.002	852095	2.05			687	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.293	-0.001	1.003	1179527	2.21			1649	
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.223	4313888	2.10	Target=4.22		7581	
699.00 > 99.00	5.399	5.399	0.0	1.223	947843		4.55(2.11-6.34)		4432	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.040	9843139	2.42	Target=6.32		8498	
663.00 > 169.00	5.426	5.435	-0.009	1.040	1610303		6.11(3.16-9.48)		6563	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.444	-0.009	1.319	609576	1.32		106	300	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.444	5.453	-0.009	1.321	389259	1.29		103	634	
79 N-EtFOSE-M										
630.00 > 59.00	5.444	5.453	-0.009	1.002	1404095	2.03			1374	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.461	-0.009	1.002	867493	2.24			559	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	1209535	2.68	Target=1.01		4508	
713.00 > 219.00	5.608	5.617	-0.009	0.998	1172960		1.03(0.51-1.52)		5302	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.363	4378899	1.27		102	11212	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.925	-0.009	1.435	2899828	1.29		103	7658	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.925	-0.001	1.001	5527539	2.11	Target=8.64		5121	
813.00 > 169.00	5.924	5.925	-0.001	1.001	675522		8.18(4.32-12.97)		2153	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.184	-0.005	1.044	4952594	2.11	Target=11.77		5604	
913.00 > 169.00	6.179	6.184	-0.005	1.044	414890		11.94(5.88-17.65)		1435	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63ICVPFC2\_FUL\_00005

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220218-22713.b\_012.d

Injection Date: 18-Feb-2022 19:11:11

Instrument ID: LCA

Lims ID: ICV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 12

Worklist Smp#: 12

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

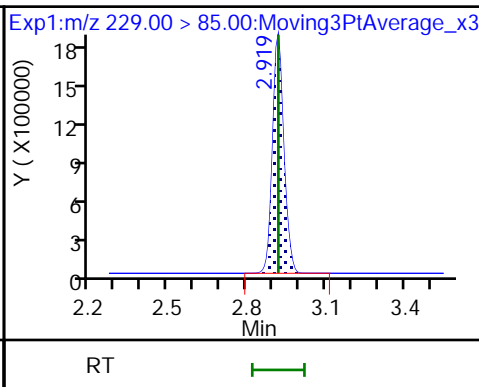
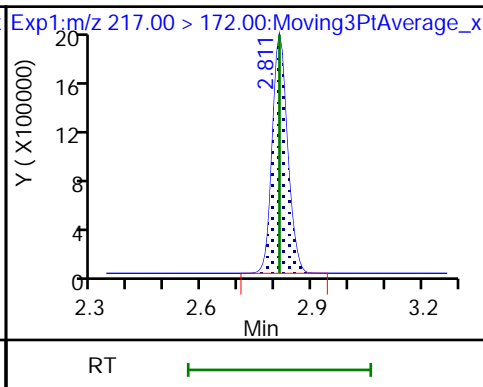
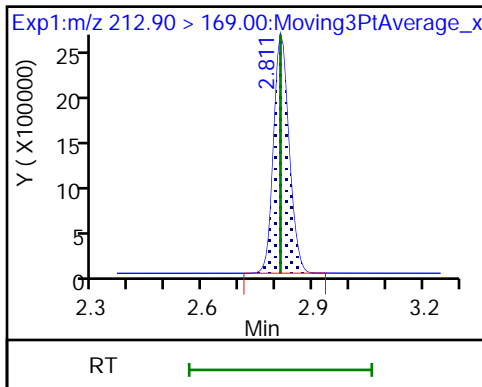
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

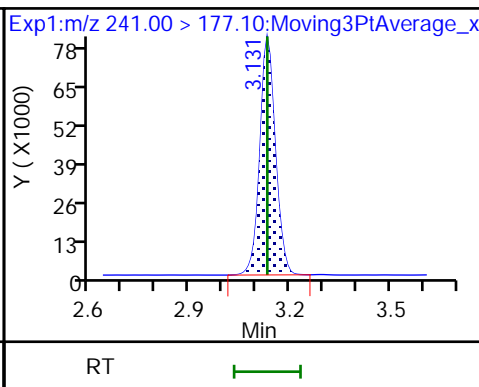
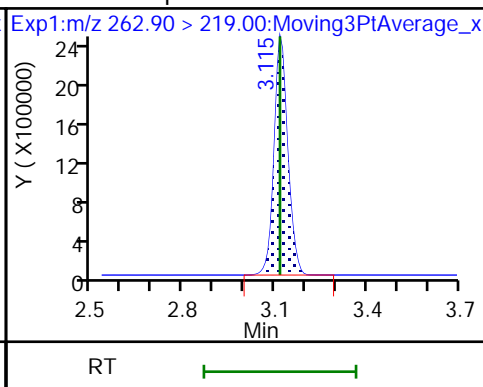
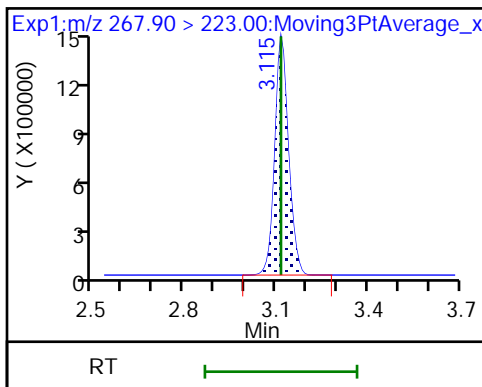
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

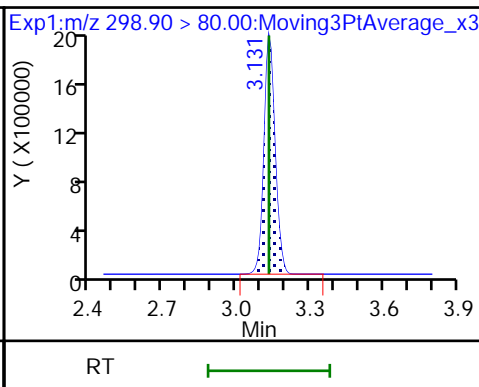
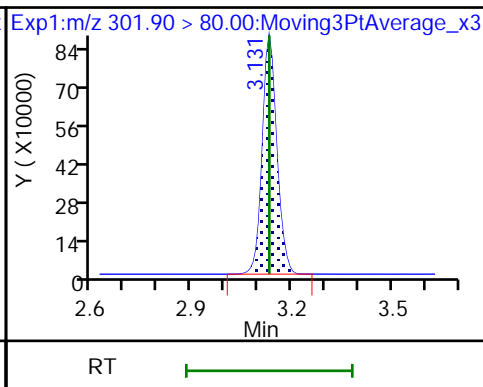
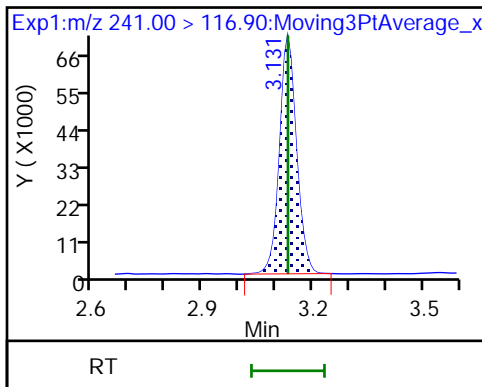
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

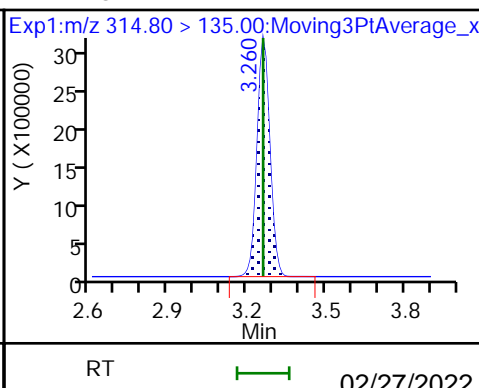
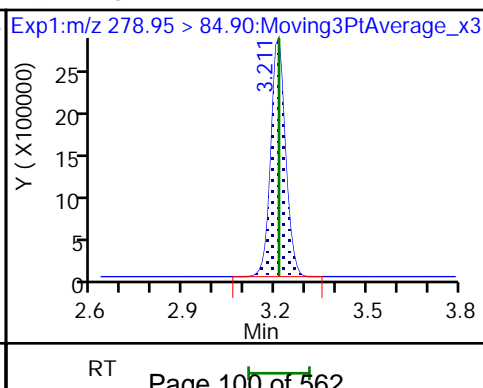
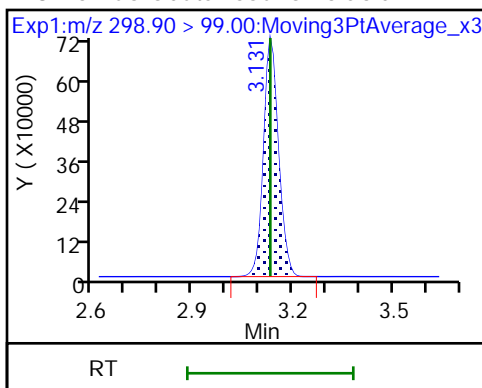
8 Perfluorobutanesulfonic acid



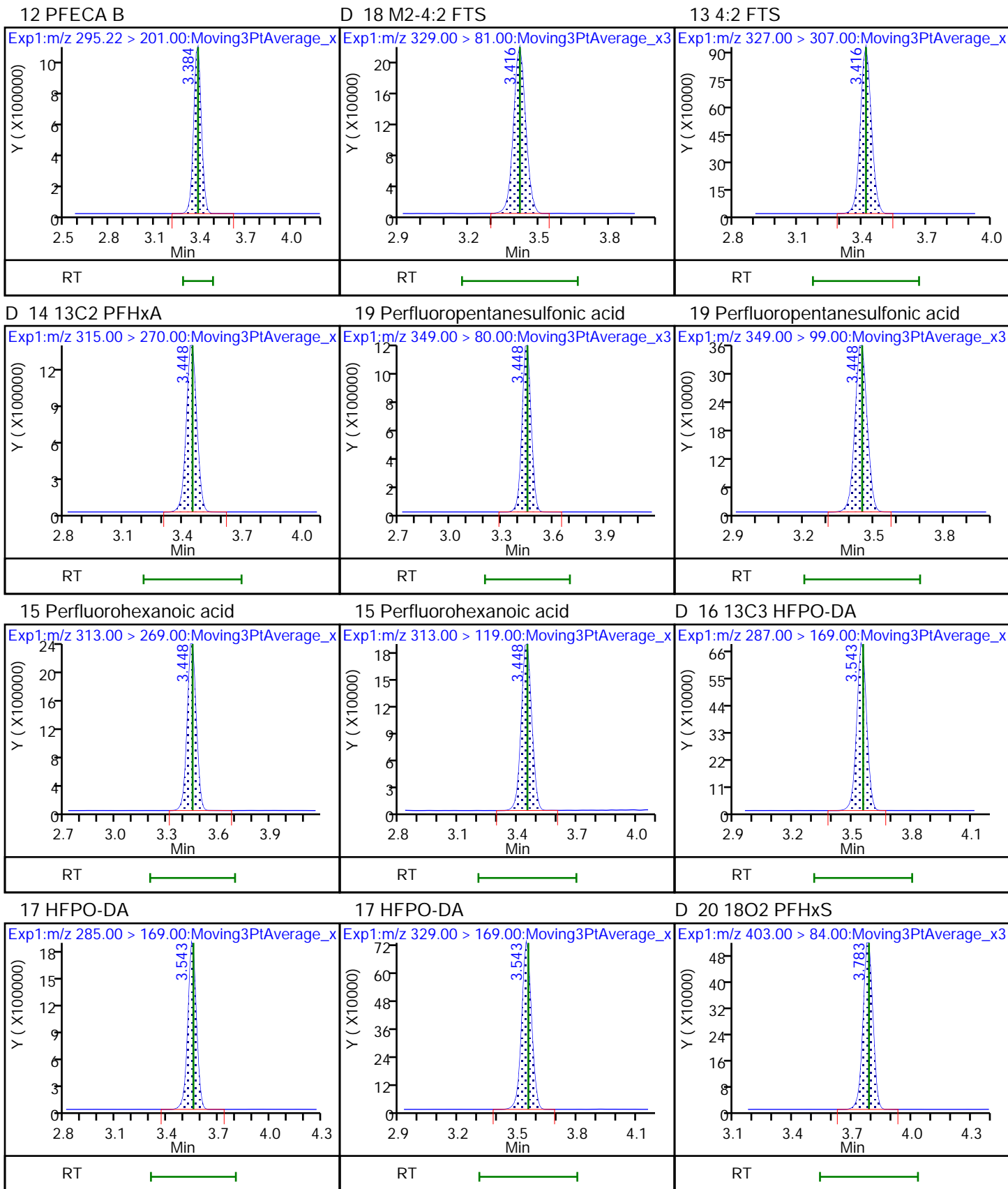
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



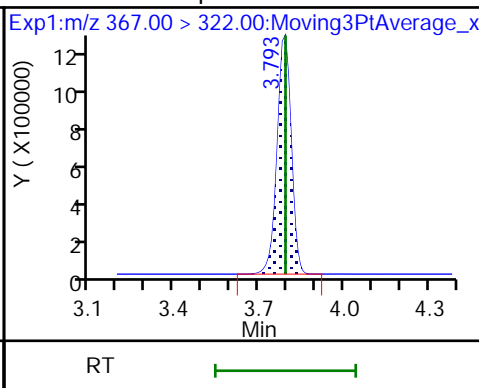
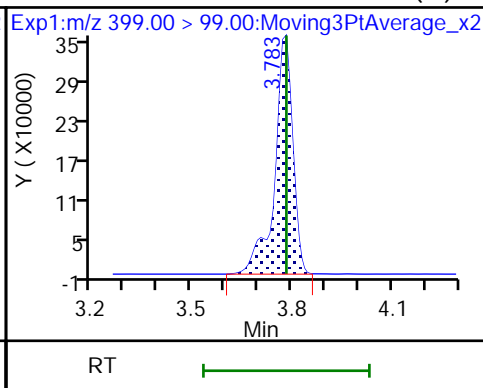
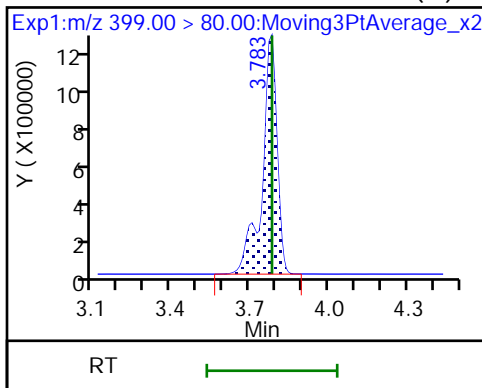




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

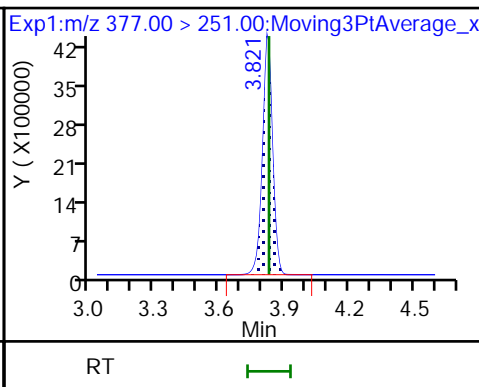
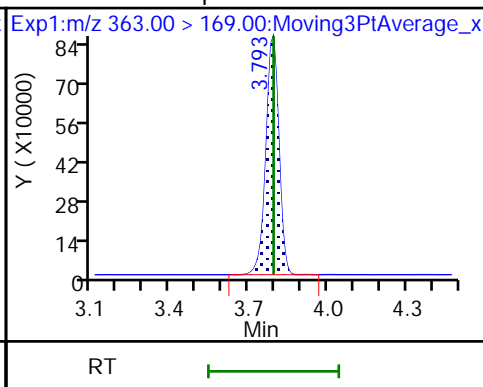
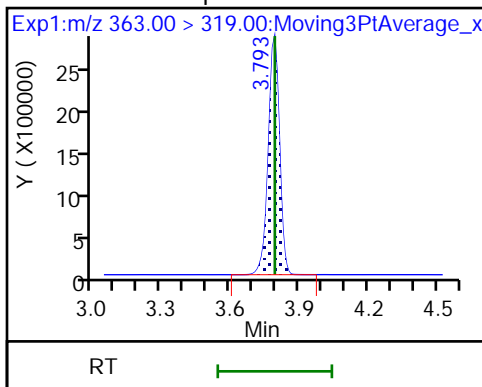
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

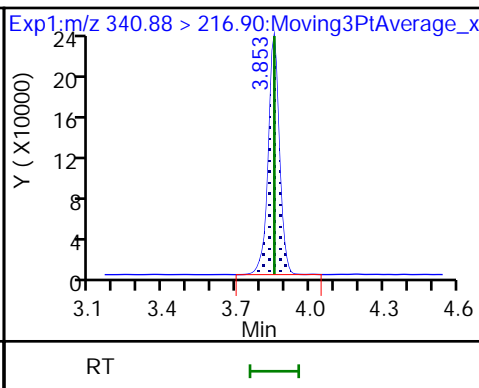
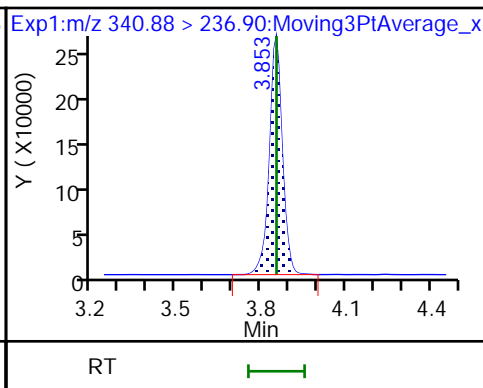
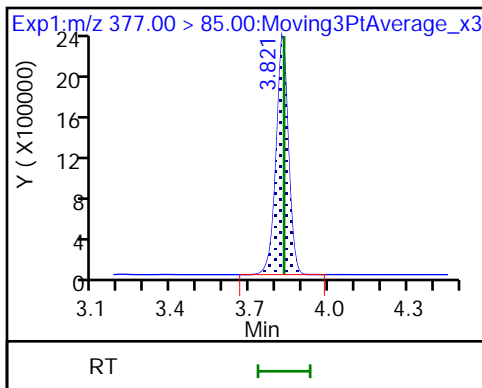
25 DONA



25 DONA

26 5:3 FTCA

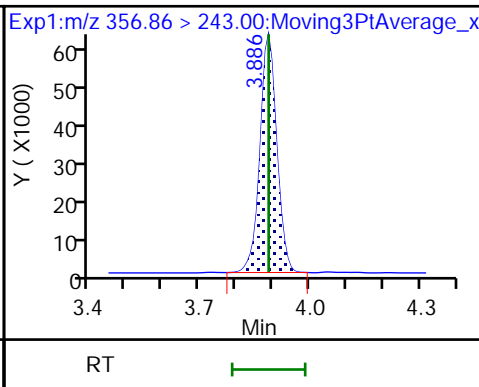
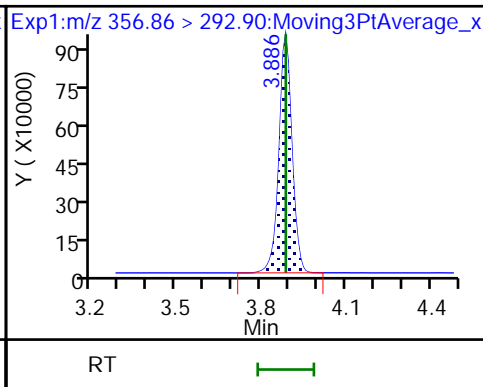
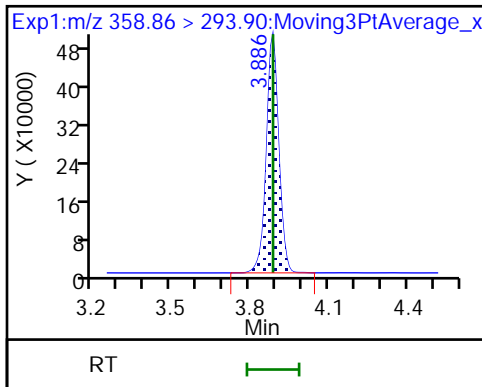
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

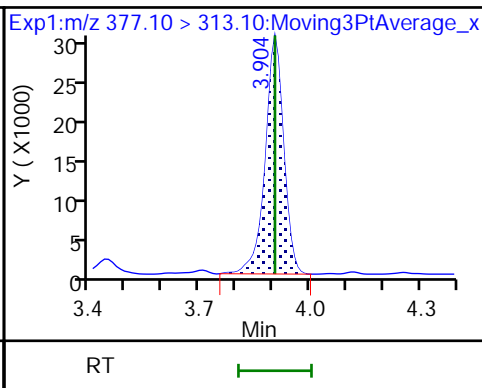
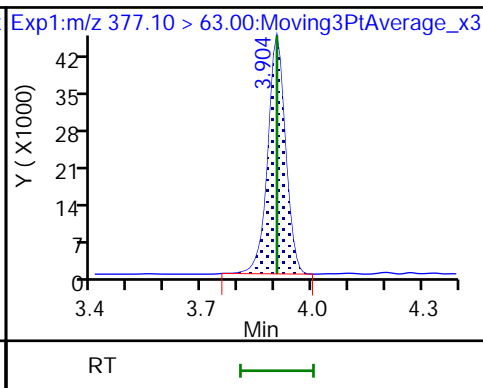
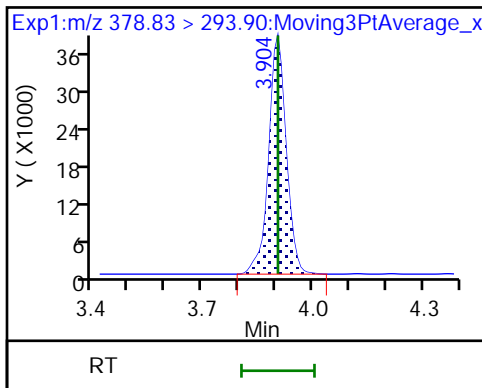
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

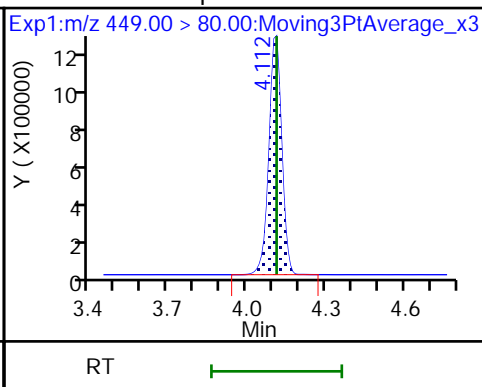
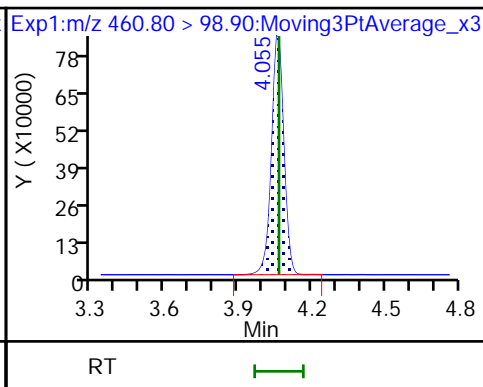
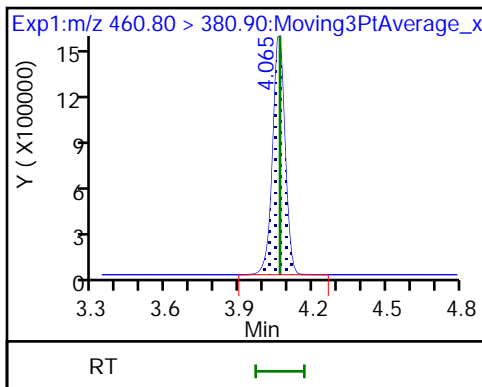
29 6:2 FTCA



32 PFECHS

32 PFECHS

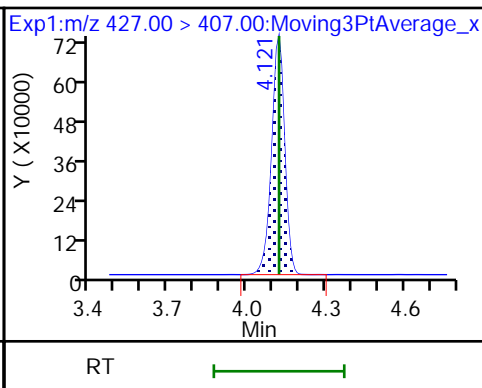
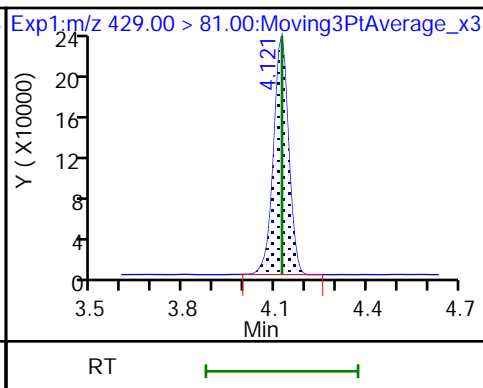
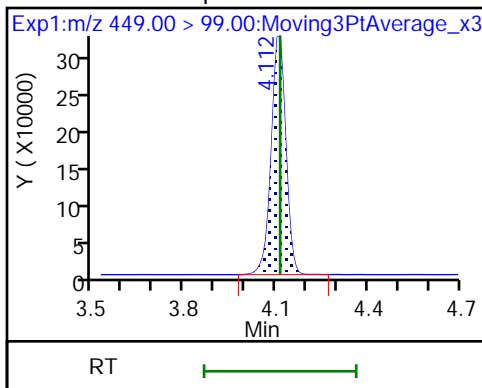
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

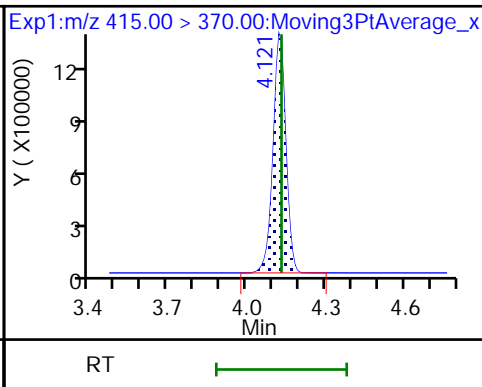
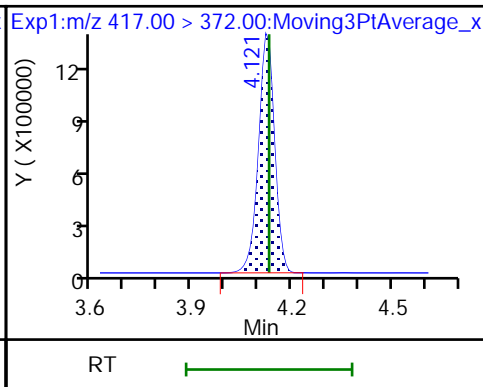
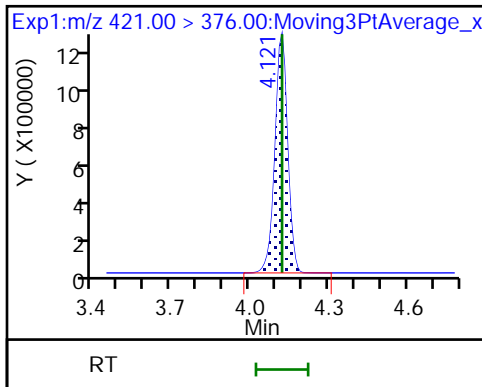
35 6:2 FTS

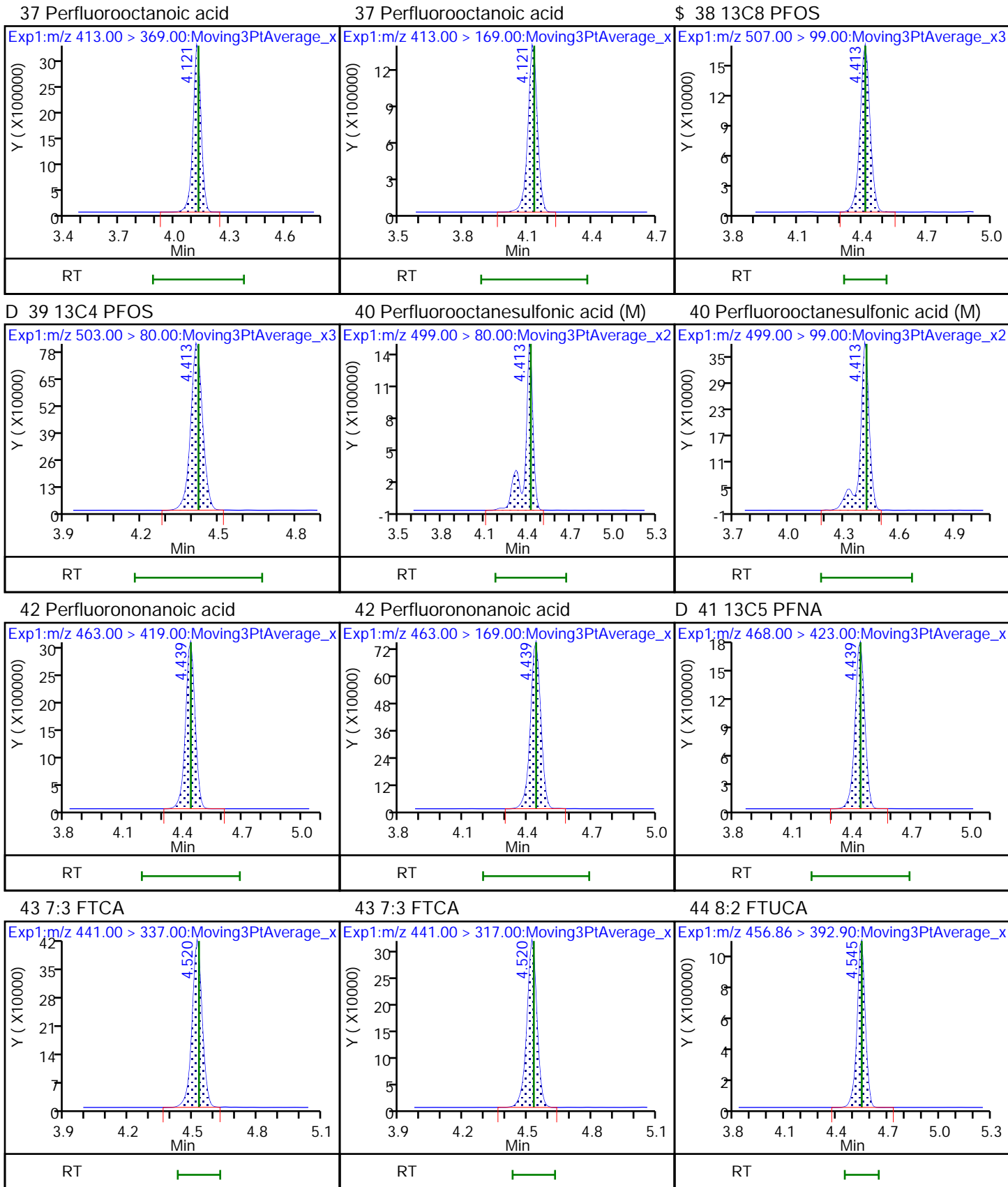


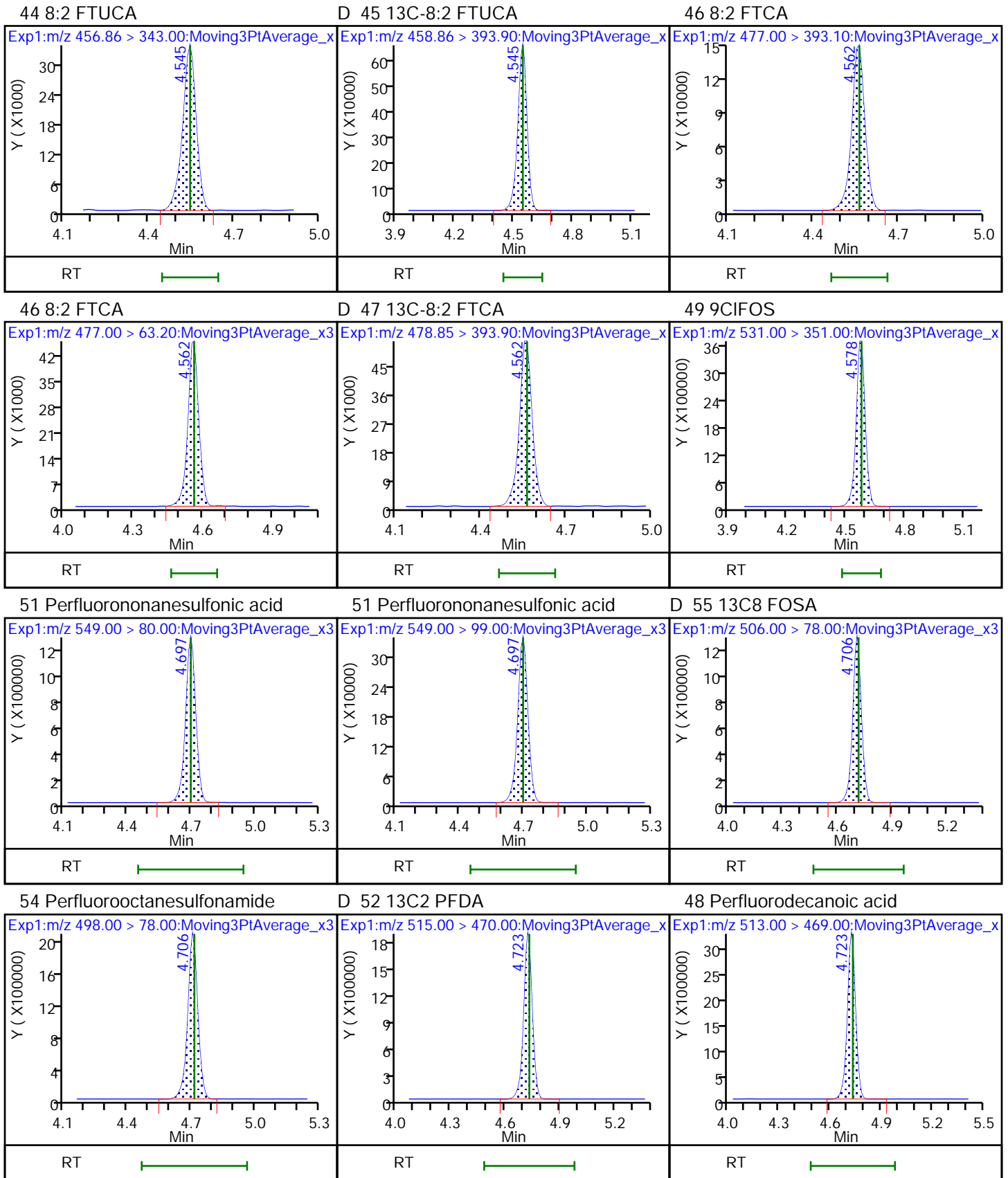
\$ 36 13C8 PFOA

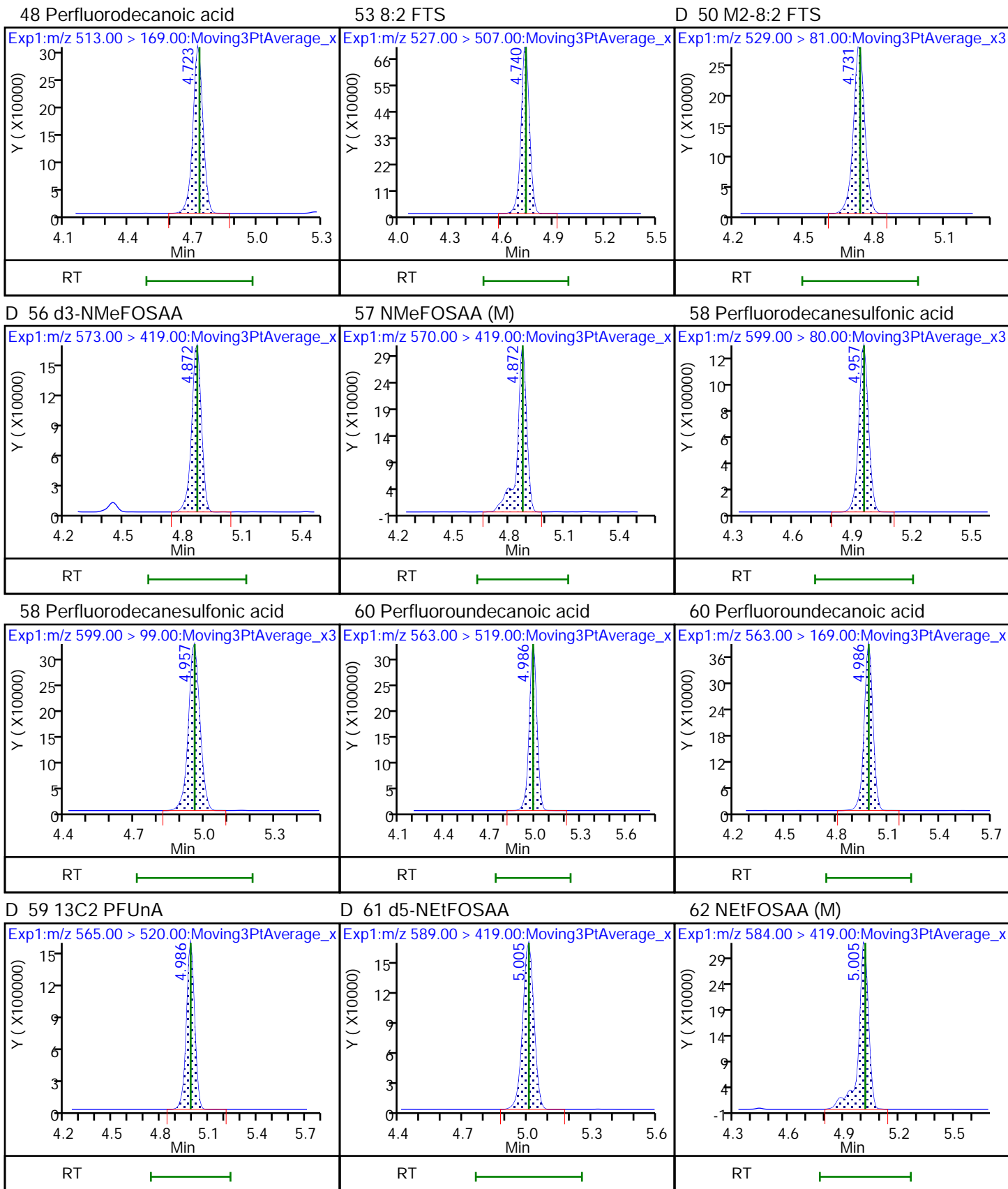
D 31 13C4 PFOA

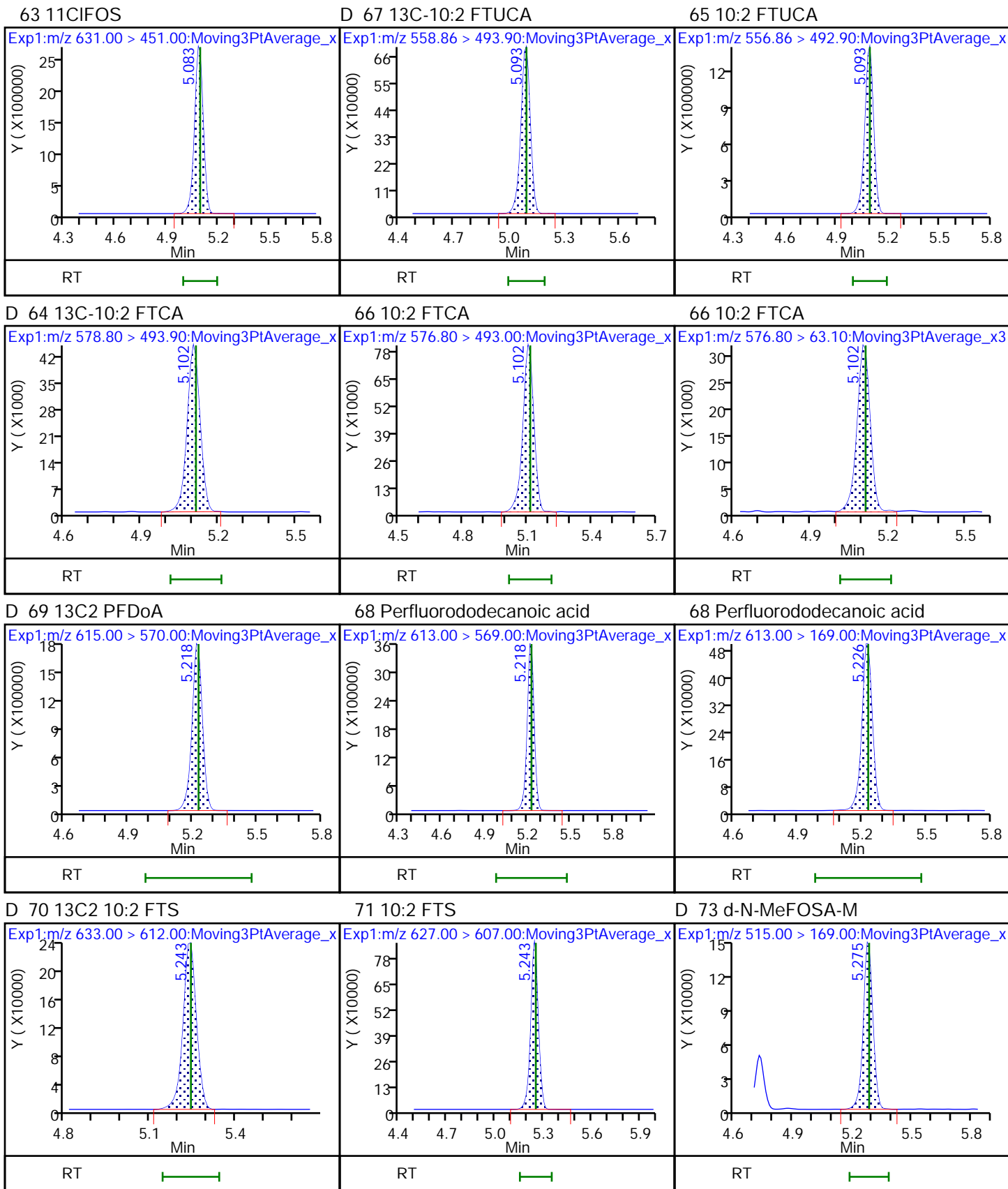
\* 30 13C2 PFOA







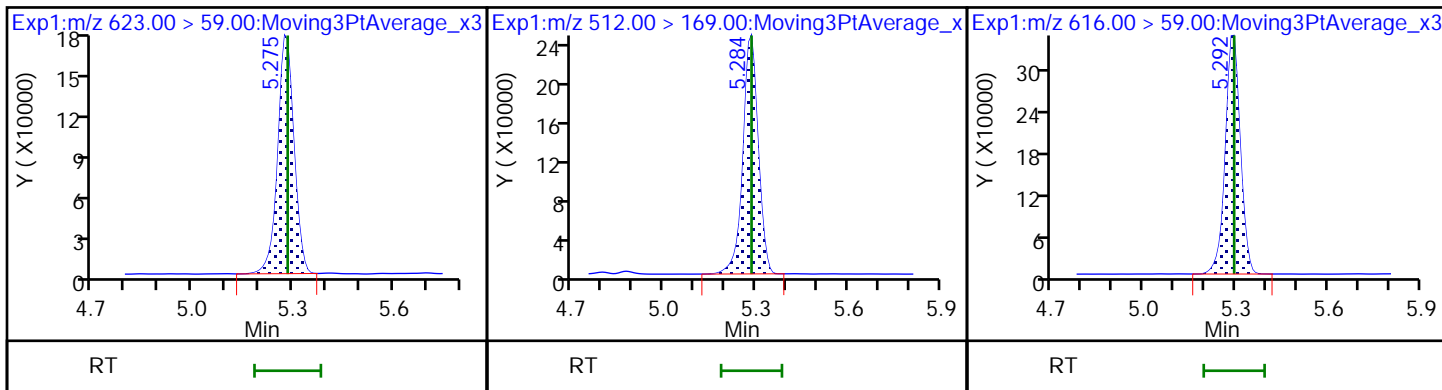




D 72 d7-N-MeFOSE-M

74 NMeFOSA

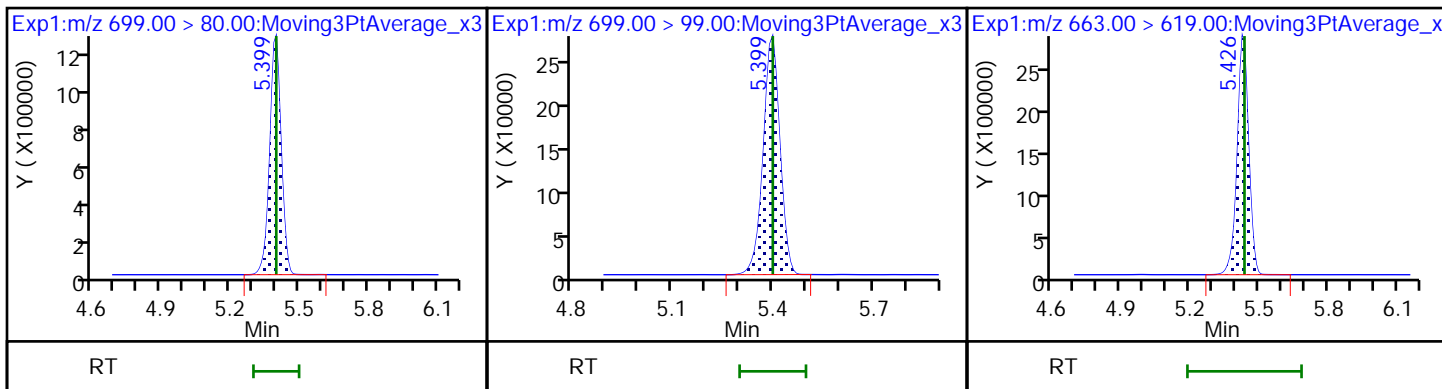
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

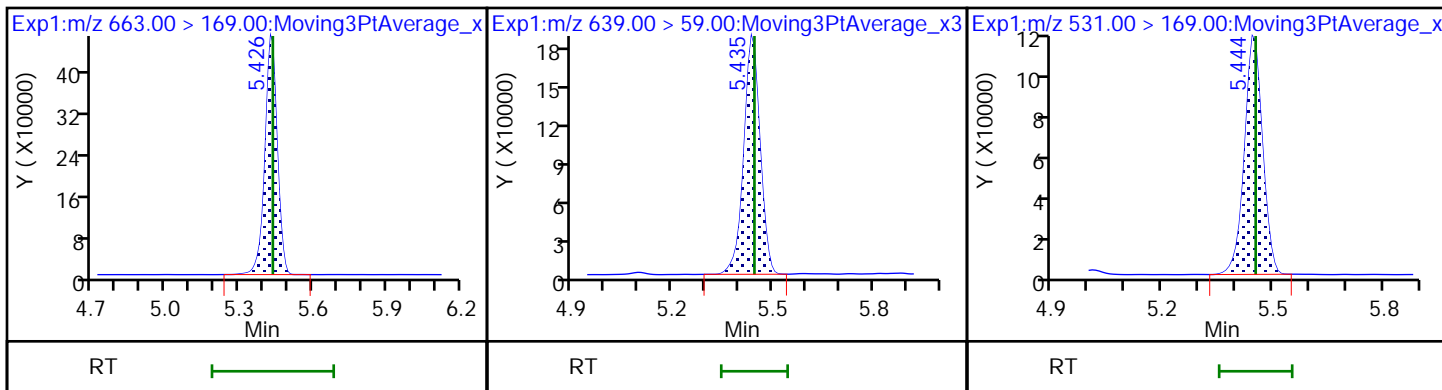
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

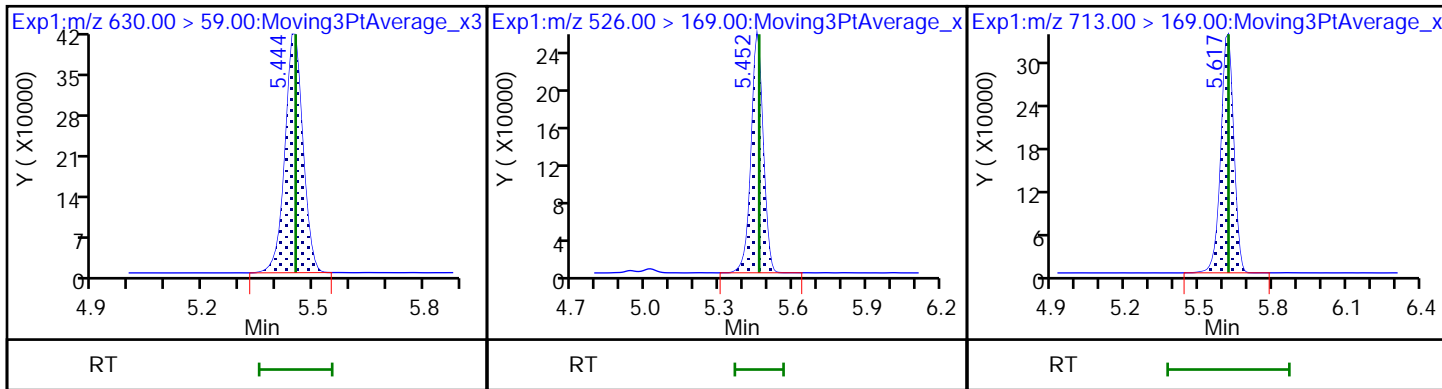
D 80 d-N-EtFOSA-M



79 N-EtFOSE-M

81 N-EtFOSA-M

83 Perfluorotetradecanoic acid

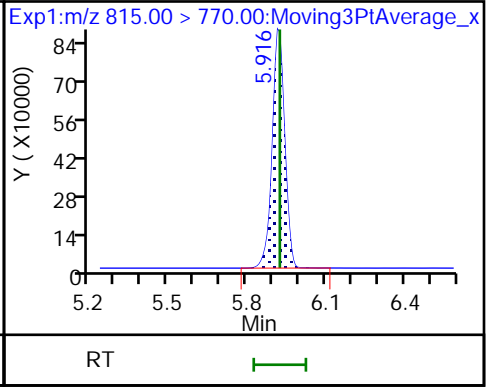
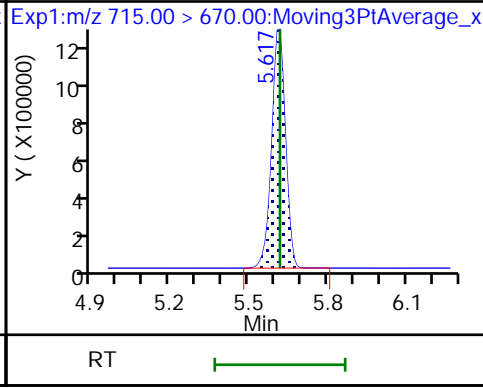
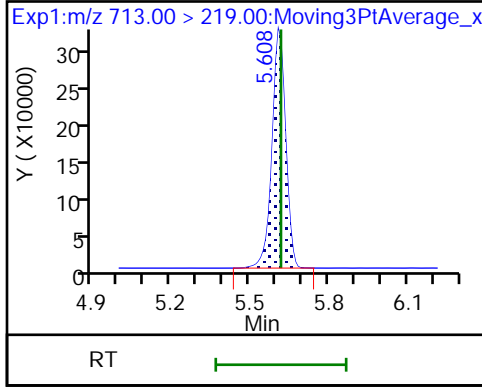




83 Perfluorotetradecanoic acid

D 82 13C2 PFTeDA

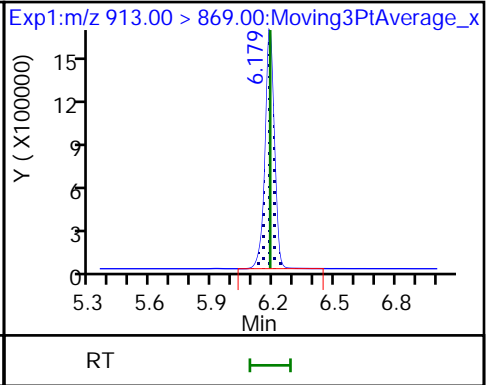
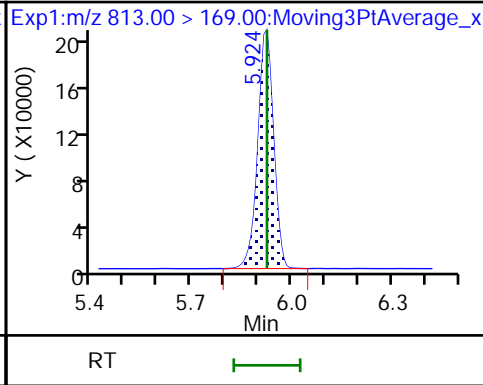
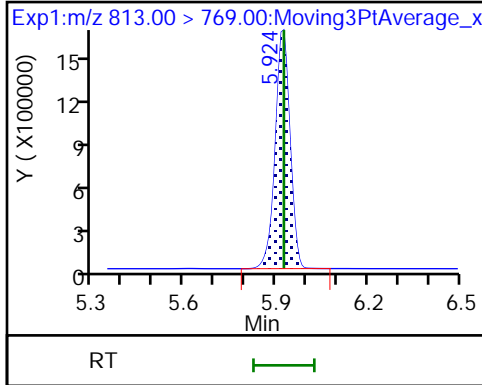
D 84 13C2 PFHxDA



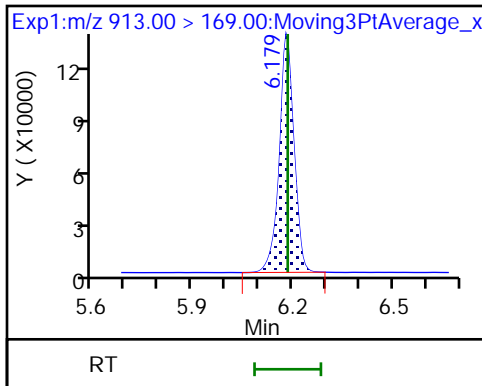
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid



86 Perfluorooctadecanoic acid



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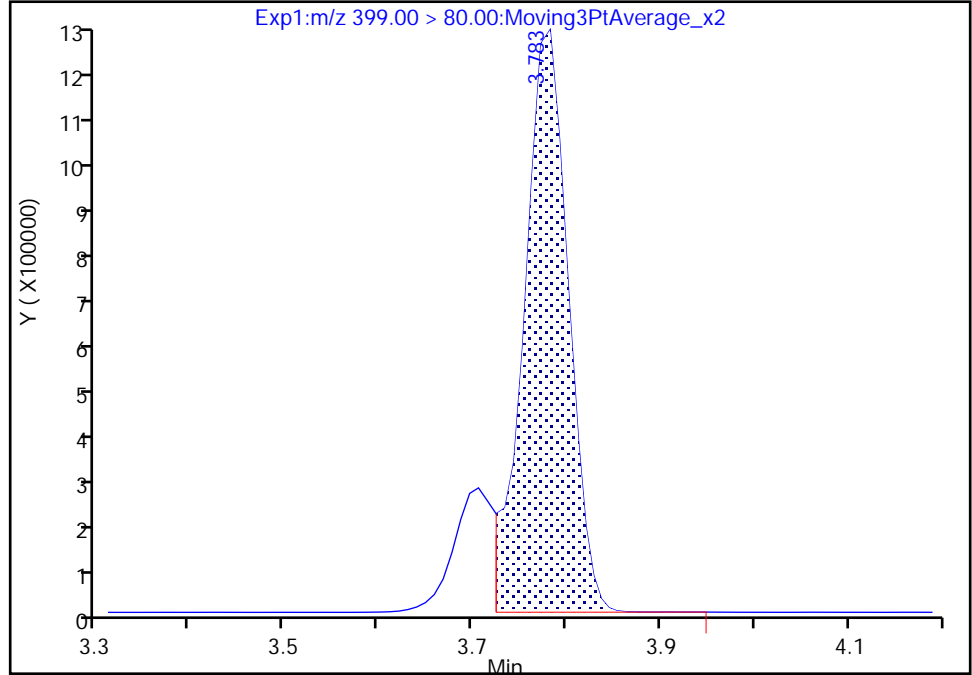
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Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

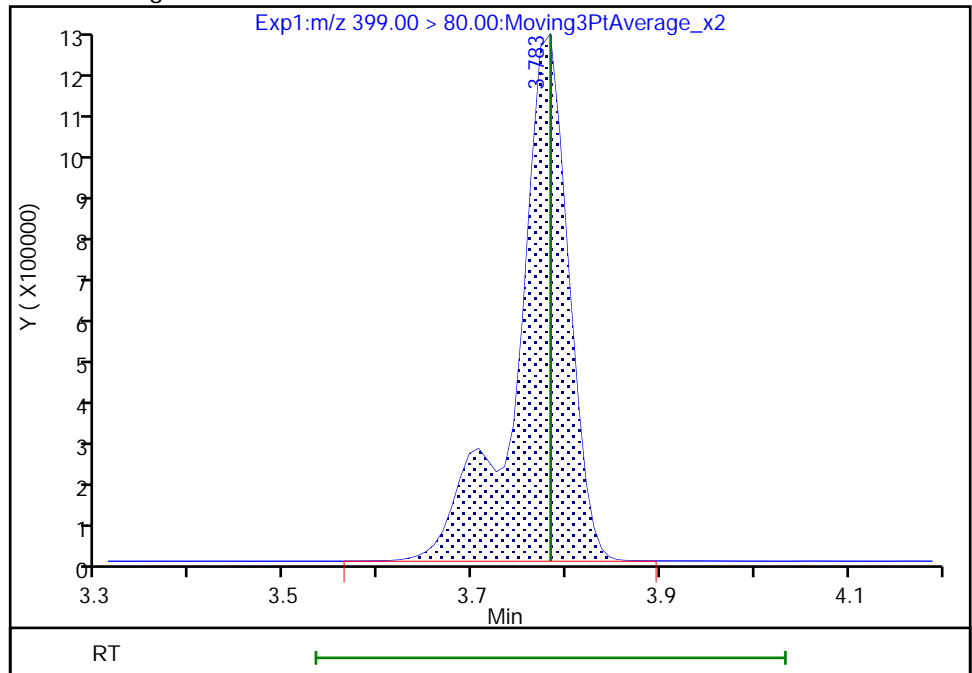
RT: 3.78  
Area: 3908900  
Amount: 1.895737  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 4643832  
Amount: 2.252165  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:33:56  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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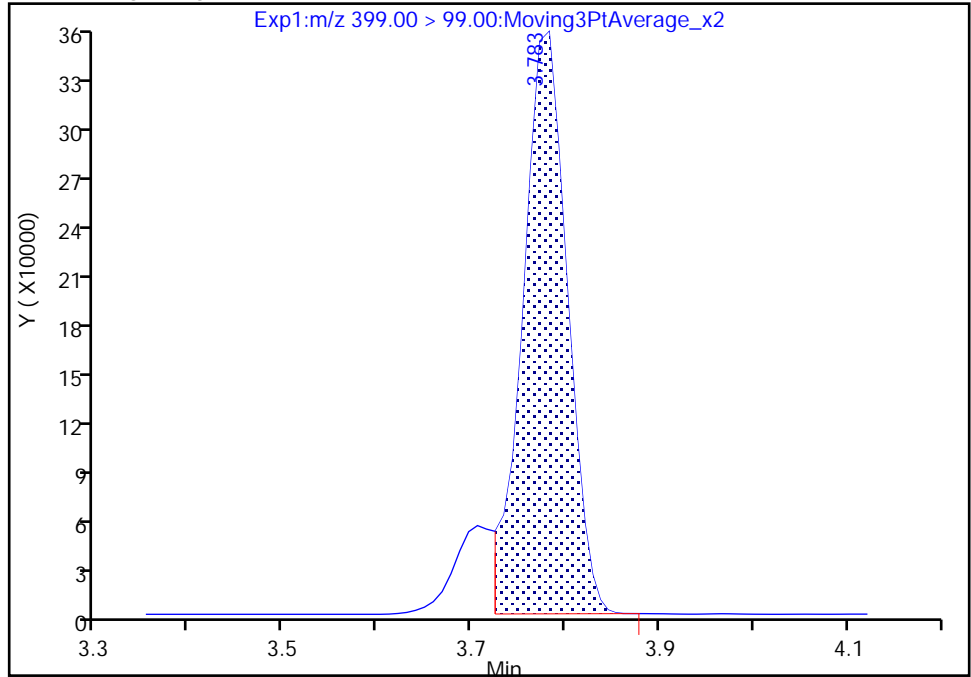
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Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

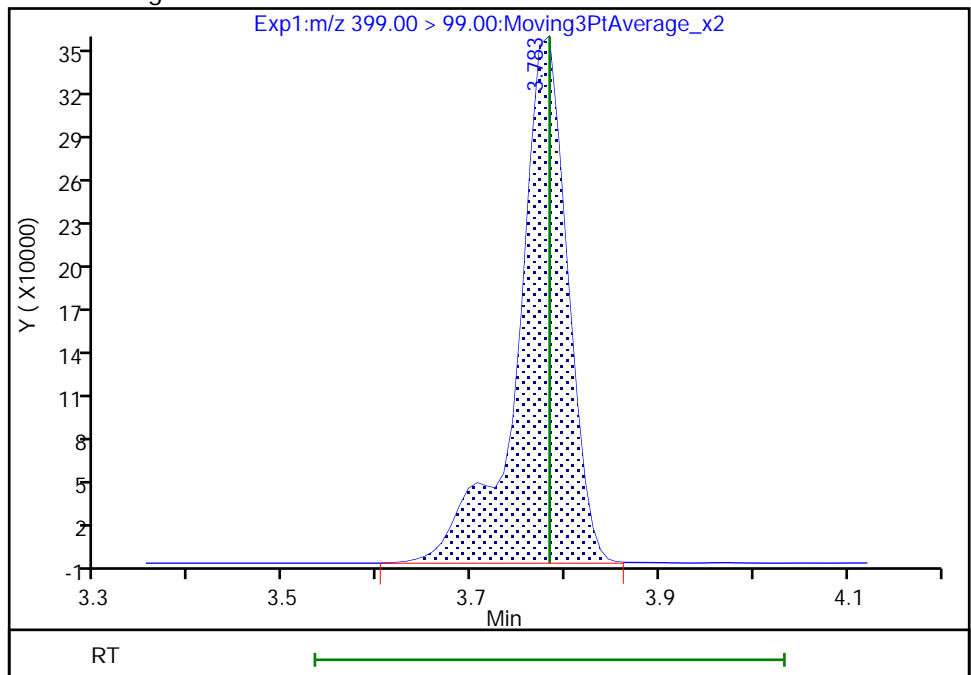
RT: 3.78  
Area: 1158722  
Amount: 1.895737  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 1315988  
Amount: 2.252165  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:04

Audit Action: Manually Integrated

Audit Reason: Baseline  
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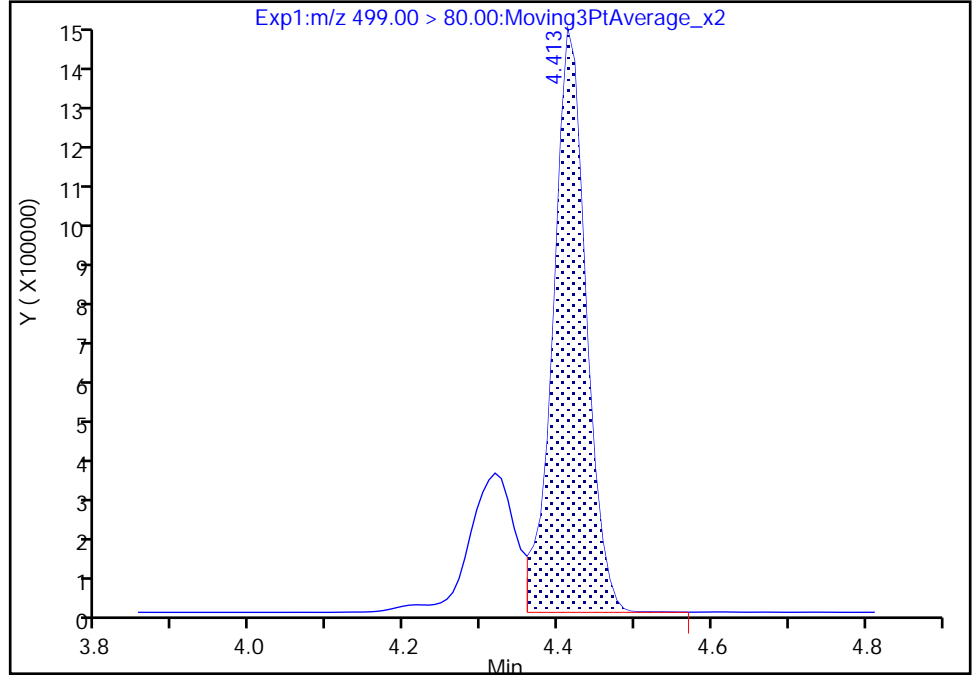
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Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

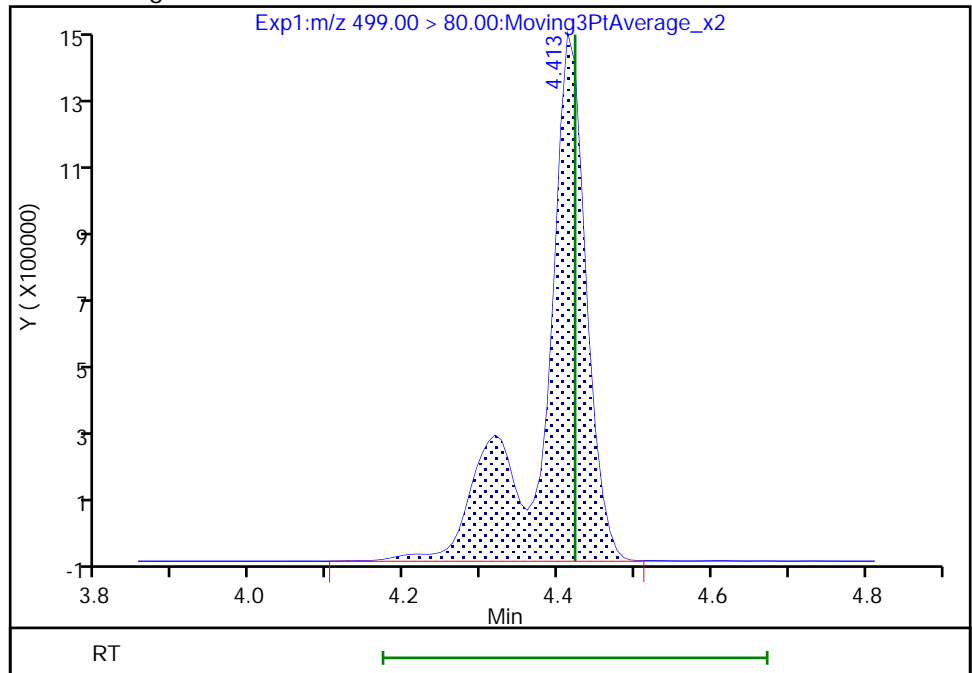
RT: 4.41  
Area: 4307768  
Amount: 1.732848  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 5743528  
Amount: 2.310398  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:18  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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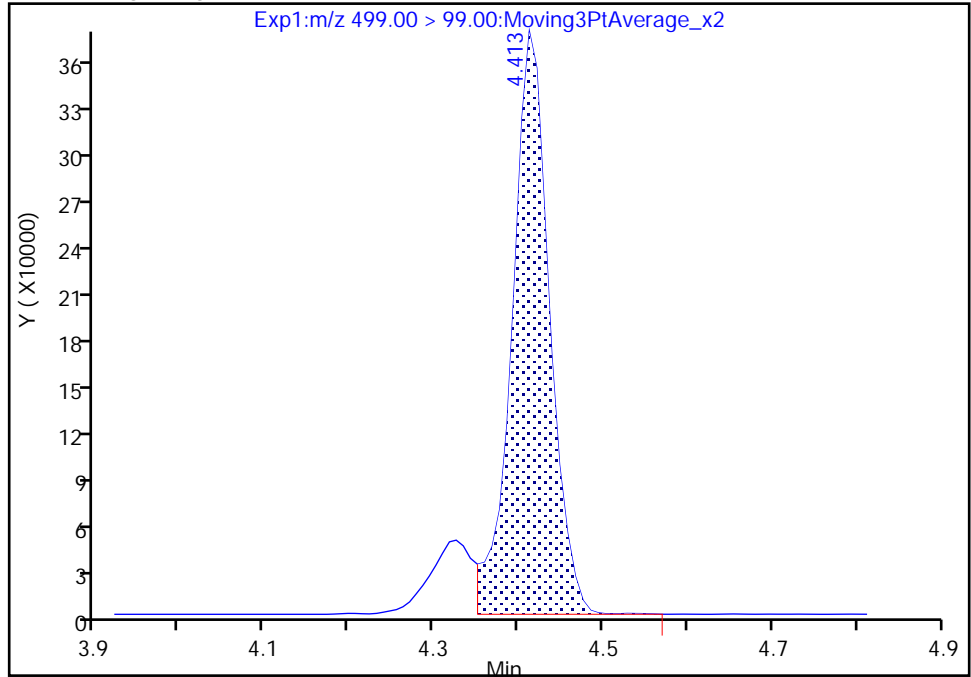
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_012.d  
Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

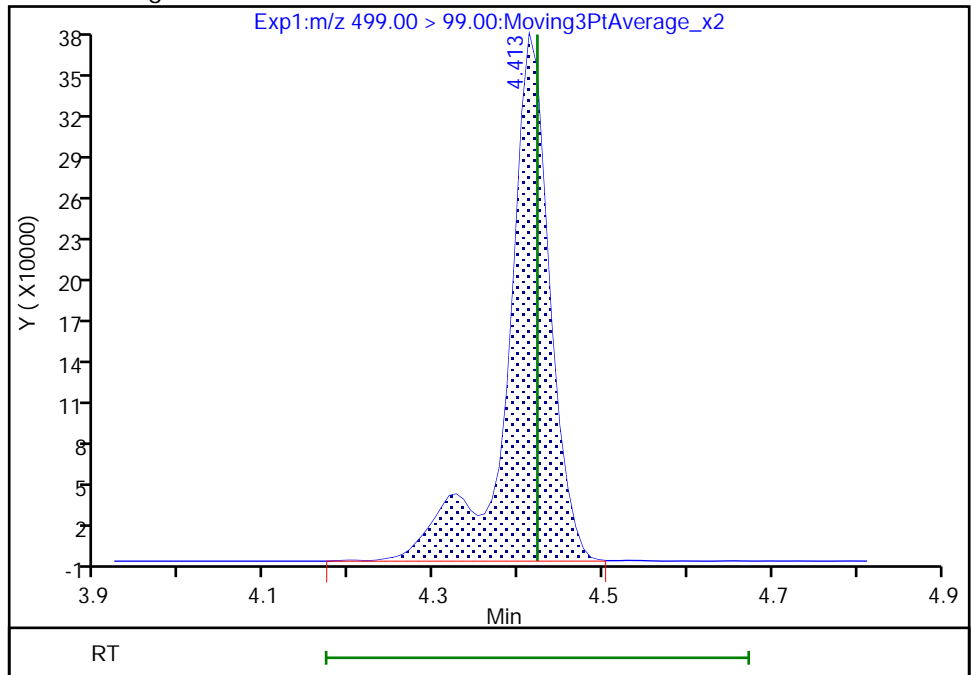
RT: 4.41  
Area: 1141847  
Amount: 1.732848  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 1304650  
Amount: 2.310398  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:26

Audit Action: Manually Integrated

Audit Reason: Baseline  
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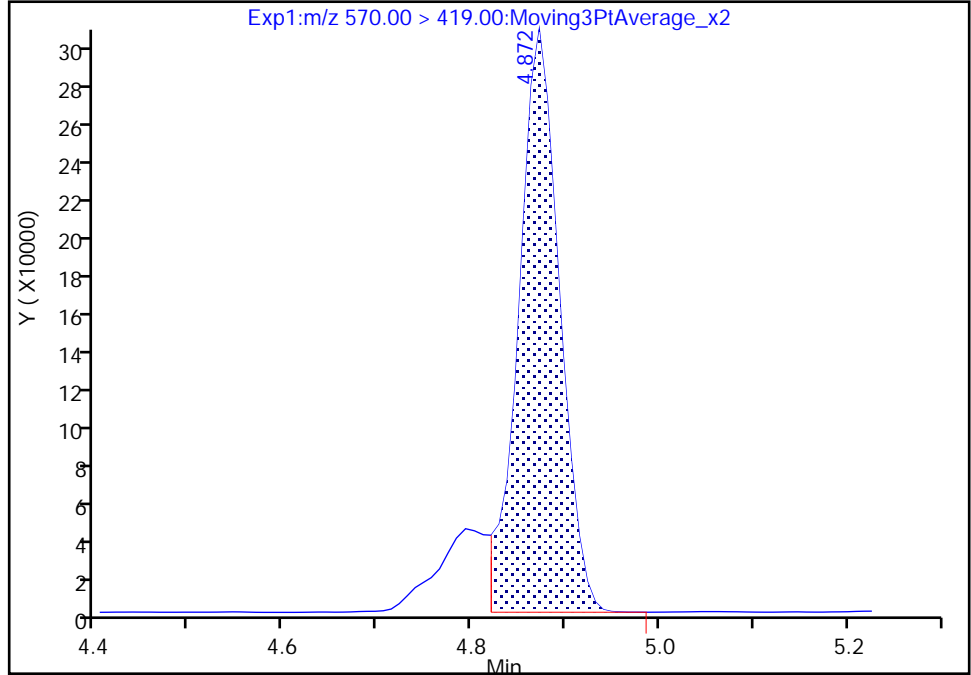
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_012.d  
Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

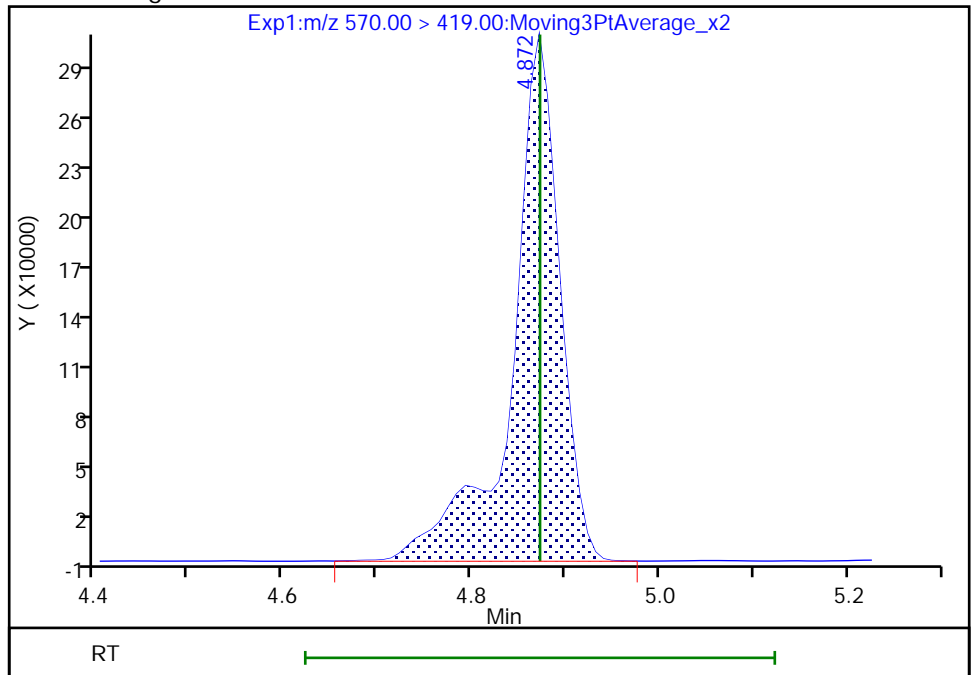
RT: 4.87  
Area: 913332  
Amount: 2.193824  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1079070  
Amount: 2.578369  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:39  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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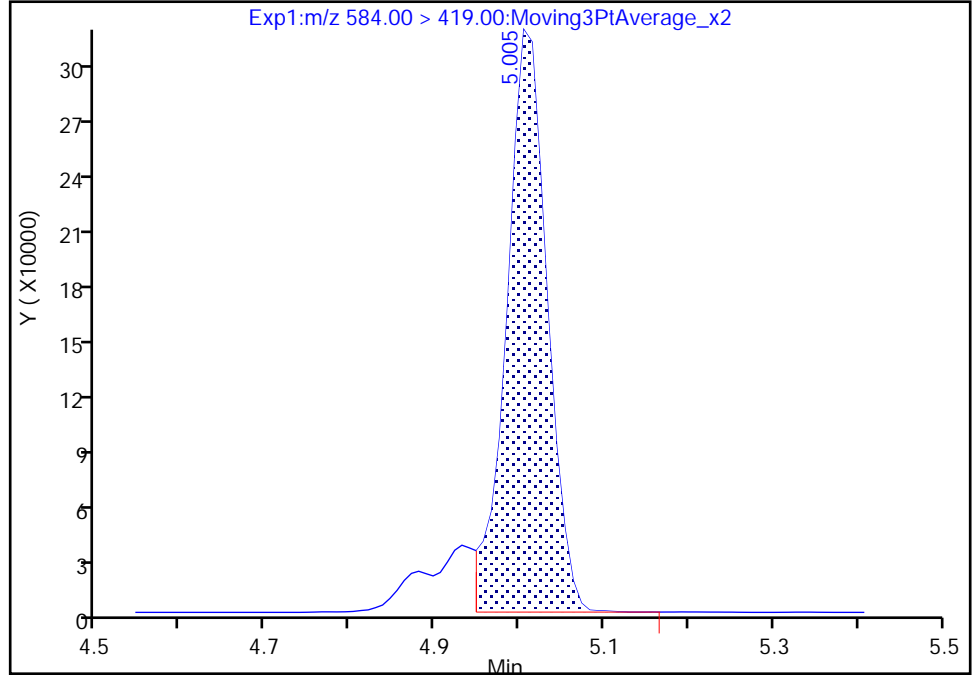
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Injection Date: 18-Feb-2022 19:11:11 Instrument ID: LCA  
Lims ID: ICV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 12 Worklist Smp#: 12  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

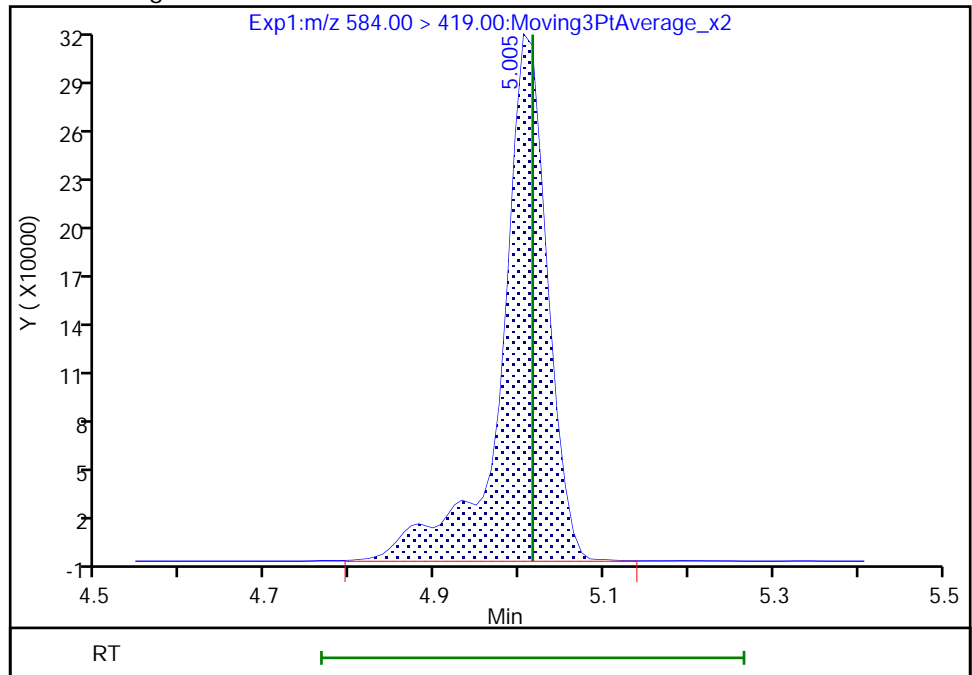
RT: 5.00  
Area: 1028266  
Amount: 2.363122  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 1181793  
Amount: 2.694842  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 18-Feb-2022 19:34:49  
Audit Action: Manually Integrated

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59045/4 Calibration Date: 02/18/2022 19:59  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.9515		0.0564	0.0500	12.8	50.0
PFECA F	AveID	0.7535	0.7647		0.0507	0.0500	1.5	50.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.065		0.0513	0.0500	2.6	50.0
3:3 FTCA	QuaIF		0.0632		0.0579	0.0500	15.7	50.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.218		0.0464	0.0442	4.9	50.0
PFECA A	Q2ID		1.317		0.0518	0.0500	3.6	50.0
PES	Q2ID		2.735		0.0491	0.0445	10.3	50.0
PFECA B	Q2ID		0.4820		0.0574	0.0500	14.7	50.0
4:2 FTS	L2ID		2.640		0.0519	0.0467	11.1	50.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.9402		0.0517	0.0500	3.4	50.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.115		0.0506	0.0469	8.0	50.0
HFPO-DA	L2ID		1.402		0.0508	0.0500	1.6	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.554		0.0511	0.0455	12.2	50.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.130		0.0508	0.0500	1.5	50.0
DONA	AveID	2.644	2.652		0.0472	0.0471	0.3	50.0
5:3 FTCA	L2ID		4.209		0.0517	0.0500	3.4	50.0
6:2 FTUCA	AveID	1.046	1.013		0.0484	0.0500	-3.2	50.0
6:2 FTCA	L1ID		0.7974		0.0509	0.0500	1.9	50.0
PFECHS	AveID	0.7426	0.8152		0.0506	0.0461	9.8	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	1.054		0.0508	0.0476	6.7	50.0
6:2 FTS	L2ID		1.956		0.0473	0.0474	-0.3	50.0
Perfluorooctanoic acid (PFOA)	L1ID		1.326		0.0560	0.0500	11.9	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.274		0.0516	0.0464	11.3	50.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8587		0.0565	0.0500	12.9	50.0
7:3 FTCA	AveID	5.230	5.617		0.0537	0.0500	7.4	50.0
8:2 FTUCA	AveID	0.9565	0.8887		0.0465	0.0500	-7.1	50.0
8:2 FTCA	AveID	1.811	1.783		0.0492	0.0500	-1.5	50.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.417		0.0501	0.0466	7.5	50.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.095		0.0520	0.0480	8.3	50.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	1.077		0.0564	0.0500	12.8	50.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9852		0.0483	0.0500	-3.5	50.0
8:2 FTS	L2ID		1.528		0.0416	0.0479	-13.1	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9348		0.0527	0.0500	5.4	50.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9881		0.0492	0.0482	2.1	50.0



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59045/4 Calibration Date: 02/18/2022 19:59  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.118		0.0578	0.0500	15.6	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8888		0.0422	0.0500	-15.7	50.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.984		0.0498	0.0471	5.7	50.0
10:2 FTUCA	AveID	1.208	1.307		0.0541	0.0500	8.2	50.0
10:2 FTCA	Q2ID		1.045		0.0501	0.0500	0.2	50.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.120		0.0542	0.0500	8.4	50.0
10:2 FTS	L2ID		2.491		0.0512	0.0482	6.3	50.0
NMeFOSA	L2ID		1.398		0.0593	0.0500	18.7	50.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.301		0.0518	0.0500	3.5	50.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	1.032		0.0529	0.0484	9.2	50.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.9518		0.0539	0.0500	7.8	50.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.425		0.0502	0.0500	0.5	50.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.449		0.0531	0.0500	6.2	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1445		0.0512	0.0500	2.3	50.0
Perfluorohexadecanoic acid	L1ID		1.414		0.0502	0.0500	0.3	50.0
Perfluorooctadecanoic acid	AveID	1.013	1.076		0.0531	0.0500	6.2	50.0
13C4 PFBA	Ave	1.172	1.134		1.21	1.25	-3.2	50.0
13C5 PFPeA	Ave	0.9197	0.9182		1.25	1.25	-0.2	50.0
13C3 PFBS	Ave	0.5817	0.5636		1.13	1.16	-3.1	50.0
M2-4:2 FTS	Ave	0.1821	0.2205		1.41	1.17	21.1	50.0
13C2 PFHxA	Ave	1.015	1.004		1.24	1.25	-1.1	50.0
13C3 HFPO-DA	Ave	0.4963	0.4605		1.16	1.25	-7.2	50.0
18O2 PFHxS	Ave	0.3776	0.3722		1.17	1.18	-1.4	50.0
13C4 PFHpA	Ave	0.9046	0.8824		1.22	1.25	-2.4	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3420		1.27	1.25	1.4	50.0
13C-6:2 FTCA	Ave	0.0260	0.0264		1.27	1.25	1.6	50.0
13C4 PFOA	Ave	0.9356	0.9024		1.21	1.25	-3.5	50.0
M2-6:2 FTS	Ave	0.1799	0.2139		1.41	1.19	18.8	50.0
13C4 PFOS	Ave	0.5610	0.5450		1.16	1.20	-2.9	50.0
13C5 PFNA	Ave	1.268	1.264		1.25	1.25	-0.4	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4934		1.37	1.25	9.2	50.0
13C-8:2 FTCA	Ave	0.0330	0.0325		1.23	1.25	-1.7	50.0
13C8 FOSA	Ave	0.8475	0.8656		1.28	1.25	2.1	50.0
13C2 PFDA	Ave	1.210	1.256		1.30	1.25	3.8	50.0
M2-8:2 FTS	Ave	0.1961	0.2357		1.44	1.20	20.2	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59045/4 Calibration Date: 02/18/2022 19:59  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1206		1.33	1.25	6.3	50.0
13C2 PFUnA	Ave	1.168	1.165		1.25	1.25	-0.2	50.0
d5-NEtFOSAA	Ave	0.1164	0.1258		1.35	1.25	8.0	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5465		1.35	1.25	7.6	50.0
13C-10:2 FTCA	Ave	0.0309	0.0335		1.35	1.25	8.2	50.0
13C2 PFDoA	Ave	1.152	1.145		1.24	1.25	-0.6	50.0
13C2 10:2 FTS	Ave	0.1652	0.1706		1.22	1.18	3.3	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1221		1.29	1.25	2.9	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0986		1.22	1.25	-2.2	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1262		1.28	1.25	2.6	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0806		1.25	1.25	-0.4	50.0
13C2 PFTeDA	Ave	0.9216	0.9070		1.23	1.25	-1.6	50.0
13C2 PFHxDA	Ave	0.5997	0.5859		1.22	1.25	-2.3	50.0
13C8 PFOA	AveID	0.9229	0.9440		1.28	1.25	2.3	50.0
13C8 PFOS	AveID	0.2212	0.2194		1.19	1.20	-0.8	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
 Lims ID: CCVL  
 Client ID:  
 Sample Type: CCVL  
 Inject. Date: 18-Feb-2022 19:59:01 ALS Bottle#: 4 Worklist Smp#: 4  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-004 ccvl  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:47:21 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 18-Feb-2022 20:11:13

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										M
212.90 > 169.00	2.811	2.811	0.0	1.002	211682	0.0564		113	61.9	M
D 2 13C4 PFBA										
217.00 > 172.00	2.804	2.811	-0.007	0.680	5562065	1.21		96.8	21263	
3 PFECA F										
229.00 > 85.00	2.911	2.919	-0.008	0.935	137770	0.0507		101	494	
D 5 13C5 PFPeA										
267.90 > 223.00	3.114	3.115	-0.001	0.756	4504085	1.25		99.8	15781	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.114	3.123	-0.009	1.000	191842	0.0513		103	49.5	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.131	0.0	1.000	6986	0.0579	Target=1.13	116	100	
241.00 > 116.90	3.122	3.131	-0.009	0.997	5422		1.29(0.56-1.69)		9.3	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.760	2571183	1.13		96.9	8324	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.140	-0.009	1.000	119106	0.0464	Target=2.61	105	172	
298.90 > 99.00	3.131	3.140	-0.009	1.000	42454		2.81(1.31-3.92)		125	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	237335	0.0518		104	1057	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	269177	0.0491		110	1747	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.982	94931	0.0574		115	424	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.415	3.416	-0.001	0.829	1009978	1.41		121	1053	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.415	3.416	-0.001	1.000	106665	0.0519		111	575	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.837	4923729	1.24		98.9	11179	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	115621	0.0506	Target=3.55	108	236	
349.00 > 99.00	3.448	3.448	0.0	1.101	34670		3.33(1.78-5.33)		235	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	185175	0.0517	Target=11.60	103	64.7	
313.00 > 119.00	3.448	3.448	0.0	1.000	14173		13.07(5.80-17.40)		14.0	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.860	2258587	1.16		92.8	6832	
17 HFPO-DA										
285.00 > 169.00	3.542	3.553	-0.011	1.000	126706	0.0508	Target=2.45	102	78.2	
329.00 > 169.00	3.542	3.553	-0.011	1.000	54776		2.31(1.23-3.68)		39.2	
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.783	-0.001	0.918	1727225	1.17		98.6	6183	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.782	3.783	-0.001	1.000	103286	0.0511	Target=3.44	112	169	
399.00 > 99.00	3.782	3.783	-0.001	1.000	27616		3.74(1.72-5.17)		118	
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.793	-0.001	0.920	4328491	1.22		97.6	10934	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.793	-0.001	1.000	195655	0.0508	Target=3.25	102	128	
363.00 > 169.00	3.792	3.793	-0.001	1.000	61264		3.19(1.62-4.87)		156	
25 DONA										
377.00 > 251.00	3.820	3.829	-0.009	0.866	267082	0.0472	Target=1.74	100	904	
377.00 > 85.00	3.820	3.829	-0.009	0.866	164513		1.62(0.87-2.61)		115	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	21833	0.0517	Target=1.11	103	82.9	
340.88 > 216.90	3.853	3.853	0.0	0.987	18345		1.19(0.56-1.67)		48.9	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	0.0	0.943	1677400	1.27		101	3237	
27 6:2 FTUCA										M
356.86 > 292.90	3.886	3.895	-0.009	1.000	67943	0.0484	Target=13.05	96.8	283	
356.86 > 243.00	3.886	3.895	-0.009	1.000	5129		13.25(6.52-19.57)		24.2	M
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.904	-0.001	0.947	129672	1.27		102	519	
29 6:2 FTCA										M
377.10 > 63.00	3.895	3.913	-0.018	0.998	4136	0.0509	Target=1.29	102	11.4	M
377.10 > 313.10	3.903	3.913	-0.010	1.000	2490		1.66(0.65-1.94)		5.9	M
32 PFECHS										
460.80 > 380.90	4.064	4.065	0.0	0.986	133079	0.0506	Target=1.75	110	717	
460.80 > 98.90	4.064	4.065	0.0	0.986	81254		1.64(0.87-2.62)		295	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.111	4.112	-0.001	0.932	107297	0.0508	Target=3.72	107	373	
449.00 > 99.00	4.111	4.112	-0.001	0.932	26561		4.04(1.86-5.57)		129	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.120	4.121	-0.001	1.000	996568	1.41		119	2153	
35 6:2 FTS										
427.00 > 407.00	4.120	4.121	-0.001	1.000	77789	0.0473		99.7	267	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.120	4.121	-0.001	1.000	4178861	1.28		102	10239	
D 31 13C4 PFOA										
417.00 > 372.00	4.120	4.131	-0.011	1.000	4426528	1.21		96.5	6826	
* 30 13C2 PFOA										
415.00 > 370.00	4.120	4.131	-0.011		4905085	1.25			11115	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.120	4.131	-0.011	1.000	234706	0.0559	Target=2.51	112	134	
413.00 > 169.00	4.120	4.131	-0.011	1.000	92907		2.53(1.26-3.77)		169	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.412	4.421	-0.009	1.000	560733	1.19		99.2	2163	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.421	-0.009	1.071	2555556	1.16		97.1	2270	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.412	4.421	-0.009	1.000	126447	0.0516	Target=4.30	111	79.1	M
499.00 > 99.00	4.412	4.421	-0.009	1.000	30230		4.18(2.15-6.45)		90.1	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.438	4.439	-0.001	1.000	212888	0.0564	Target=3.60	113	235	
463.00 > 169.00	4.438	4.439	-0.001	1.000	49203		4.33(1.80-5.40)		112	
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.439	-0.001	1.077	6198227	1.25		99.6	14288	
43 7:3 FTCA										
441.00 > 337.00	4.519	4.529	-0.010	0.991	35809	0.0537	Target=1.42	107	210	
441.00 > 317.00	4.519	4.529	-0.010	0.991	26691		1.34(0.71-2.13)		124	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	86041	0.0465	Target=35.37	92.9	420	
456.86 > 343.00	4.545	4.545	0.0	1.000	3341		25.75(17.68-53.05)		7.9	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.553	-0.008	1.000	2420358	1.36		109	9328	
46 8:2 FTCA										
477.00 > 393.10	4.561	4.562	-0.001	1.000	11368	0.0492	Target=3.35	98.5	35.3	M
477.00 > 63.20	4.553	4.562	-0.009	0.998	2641		4.30(1.68-5.03)		13.2	M
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.561	4.562	-0.001	1.107	159366	1.23		98.3	572	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.111	240855	0.0501		107	498	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	112429	0.0520	Target=3.99	108	126	
549.00 > 99.00	4.697	4.697	0.0	1.065	28973		3.88(2.00-5.99)		95.0	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.714	-0.008	1.142	4245637	1.28		102	3732	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.714	-0.008	1.000	182943	0.0564		113	470	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.731	-0.008	1.000	242713	0.0483	Target=10.58	96.5	266	
513.00 > 169.00	4.723	4.731	-0.008	1.000	29165		8.32(5.29-15.88)		18.0	
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.731	-0.008	1.146	6159009	1.30		104	15331	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.740	-0.009	1.148	1107383	1.44		120	2273	
53 8:2 FTS										
527.00 > 507.00	4.740	4.740	0.0	1.002	67702	0.0416		86.9	307	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.182	591622	1.33		106	1864	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.880	-0.008	1.000	22121	0.0527		105	32.0	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.124	101848	0.0492	Target=3.55	102	366	
599.00 > 99.00	4.957	4.957	0.0	1.124	28336		3.59(1.78-5.33)		153	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.995	-0.009	1.000	255599	0.0578	Target=8.26	116	429	
563.00 > 169.00	4.986	4.995	-0.009	1.000	27095		9.43(4.13-12.39)		147	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.995	-0.009	1.210	5715823	1.25		99.8	10185	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.215	616817	1.35		108	2486	
62 NEtFOSAA										
584.00 > 419.00	5.015	5.015	0.0	1.002	21929	0.0421		84.3	71.1	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.093	-0.001	1.236	2680434	1.35		108	9788	
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.093	-0.001	1.000	140100	0.0541		108	696	
63 11C1FOS										
631.00 > 451.00	5.083	5.093	-0.010	1.152	199793	0.0498		106	522	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.238	164132	1.35		108	952	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	6864	0.0501	Target=2.53	100	51.4	M
576.80 > 63.10	5.111	5.112	-0.001	1.002	3964		1.73(1.26-3.79)		16.3	M
D 69 13C2 PFDaA										
615.00 > 570.00	5.226	5.226	0.0	1.268	5617421	1.24		99.4	14746	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	251670	0.0542	Target=6.85	108	278	M
613.00 > 169.00	5.217	5.226	-0.009	0.998	34144		7.37(3.43-10.28)		65.7	M
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.272	792440	1.22		103	3887	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.000	80353	0.0512		106	333	
74 NMeFOSA										
512.00 > 169.00	5.275	5.284	-0.009	1.000	27062	0.0593		119	90.9	M

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.280	483873	1.22		97.8	52.0	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.284	-0.009	1.280	598757	1.29		103	394	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.003	31148	0.0518		104	43.3	M
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.224	106862	0.0529	Target=4.22	109	220	
699.00 > 99.00	5.399	5.399	0.0	1.224	26649		4.01(2.11-6.34)		206	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.038	213868	0.0539	Target=6.32	108	309	
663.00 > 169.00	5.426	5.435	-0.009	1.038	32054		6.67(3.16-9.48)		162	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	618954	1.28		103	298	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.443	5.452	-0.009	1.321	395306	1.24		99.6	646	
79 N-EtFOSE-M										
630.00 > 59.00	5.443	5.452	-0.009	1.002	35292	0.0502		100	34.9	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.002	22908	0.0531		106	105	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.607	5.617	-0.010	0.998	25722	0.0512	Target=1.01	102	113	
713.00 > 219.00	5.607	5.617	-0.010	0.998	23706		1.09(0.51-1.52)		146	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.363	4448731	1.23		98.4	12595	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.001	162568	0.0501	Target=8.64	100	384	
813.00 > 169.00	5.916	5.924	-0.008	1.000	21274		7.64(4.32-12.97)		78.4	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.436	2874051	1.22		97.7	6219	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.185	6.185	0.0	1.045	123643	0.0531	Target=11.77	106	314	M
913.00 > 169.00	6.185	6.185	0.0	1.045	10465		11.81(5.88-17.65)		45.0	M

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L2PFC2T3\_00002

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d

Injection Date: 18-Feb-2022 19:59:01

Instrument ID: LCA

Lims ID: CCVL

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 4

Worklist Smp#: 4

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

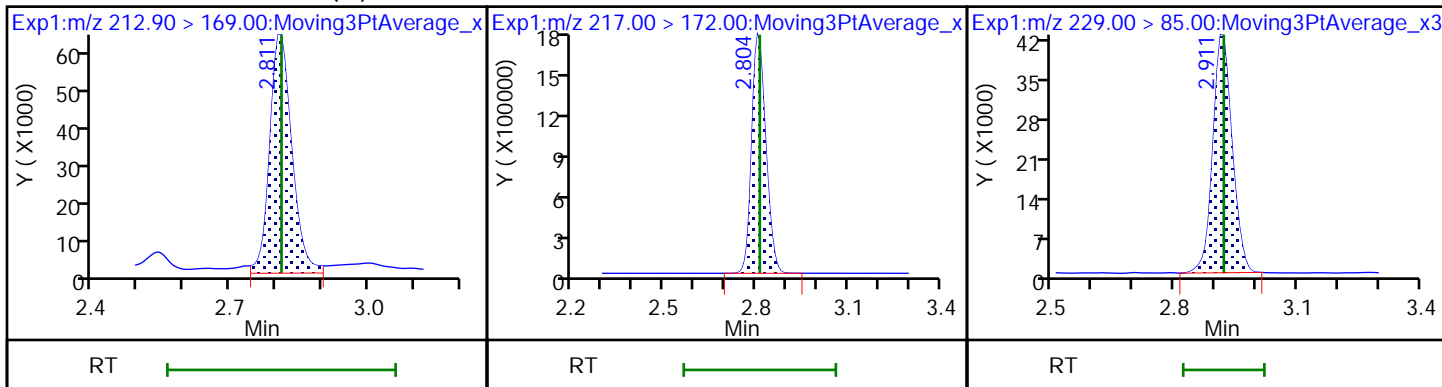
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid (M)

D 2 13C4 PFBA

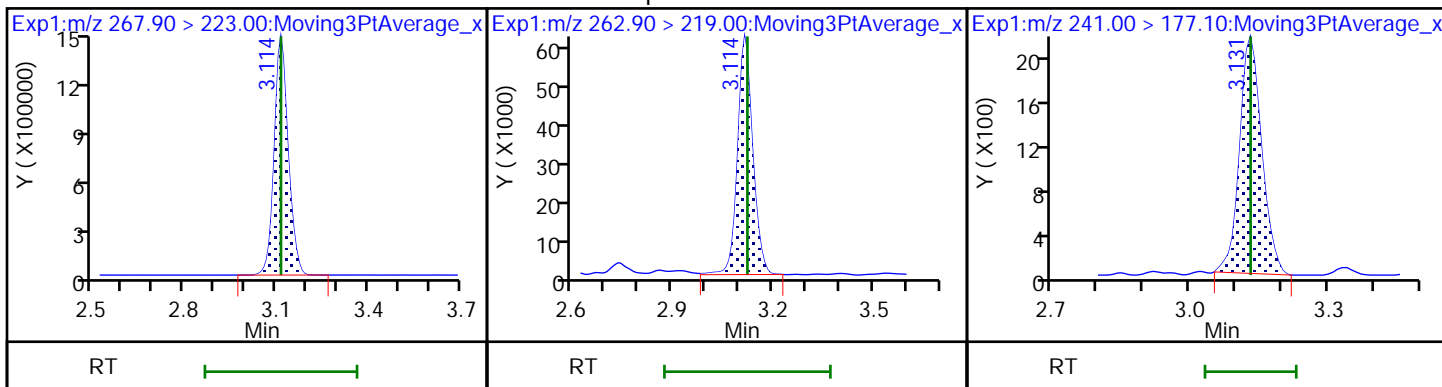
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

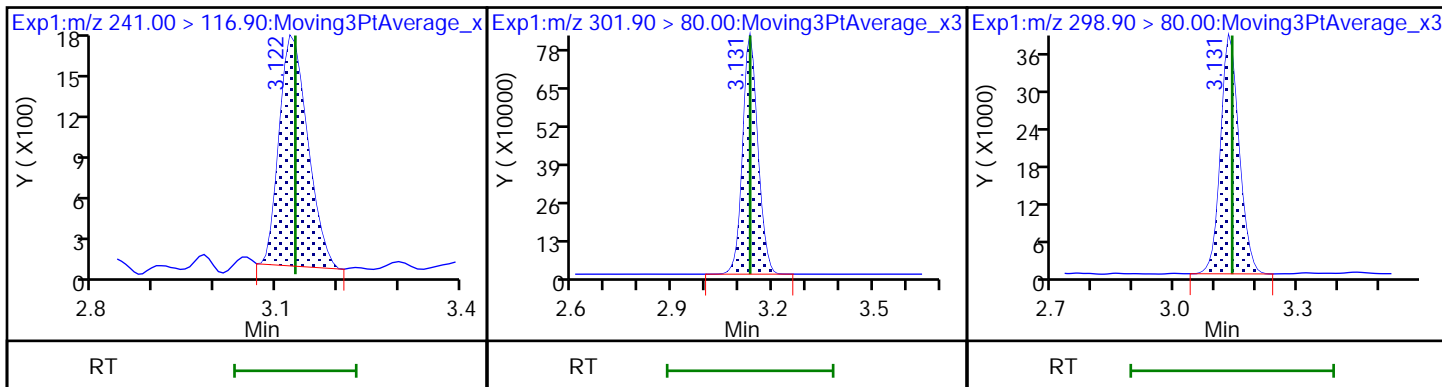
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

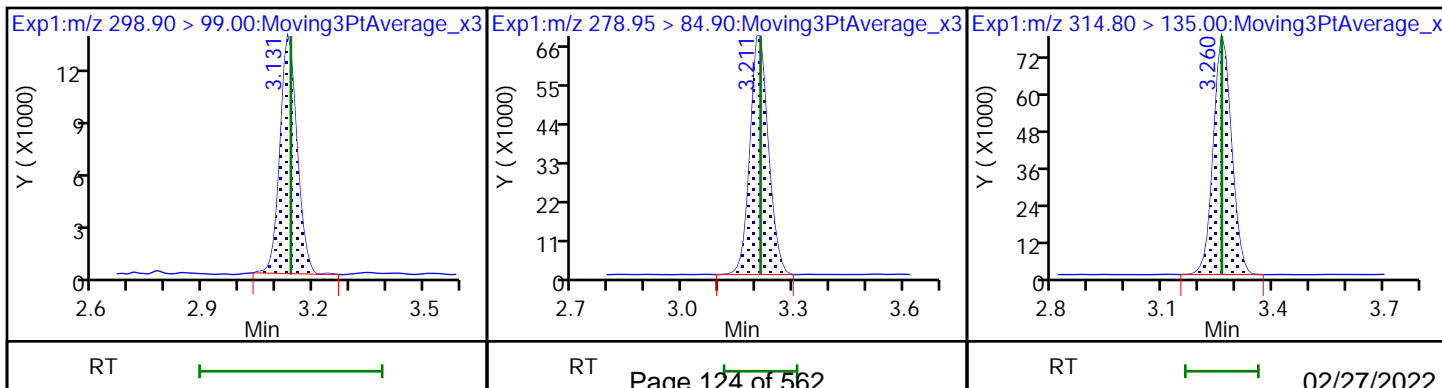
8 Perfluorobutanesulfonic acid



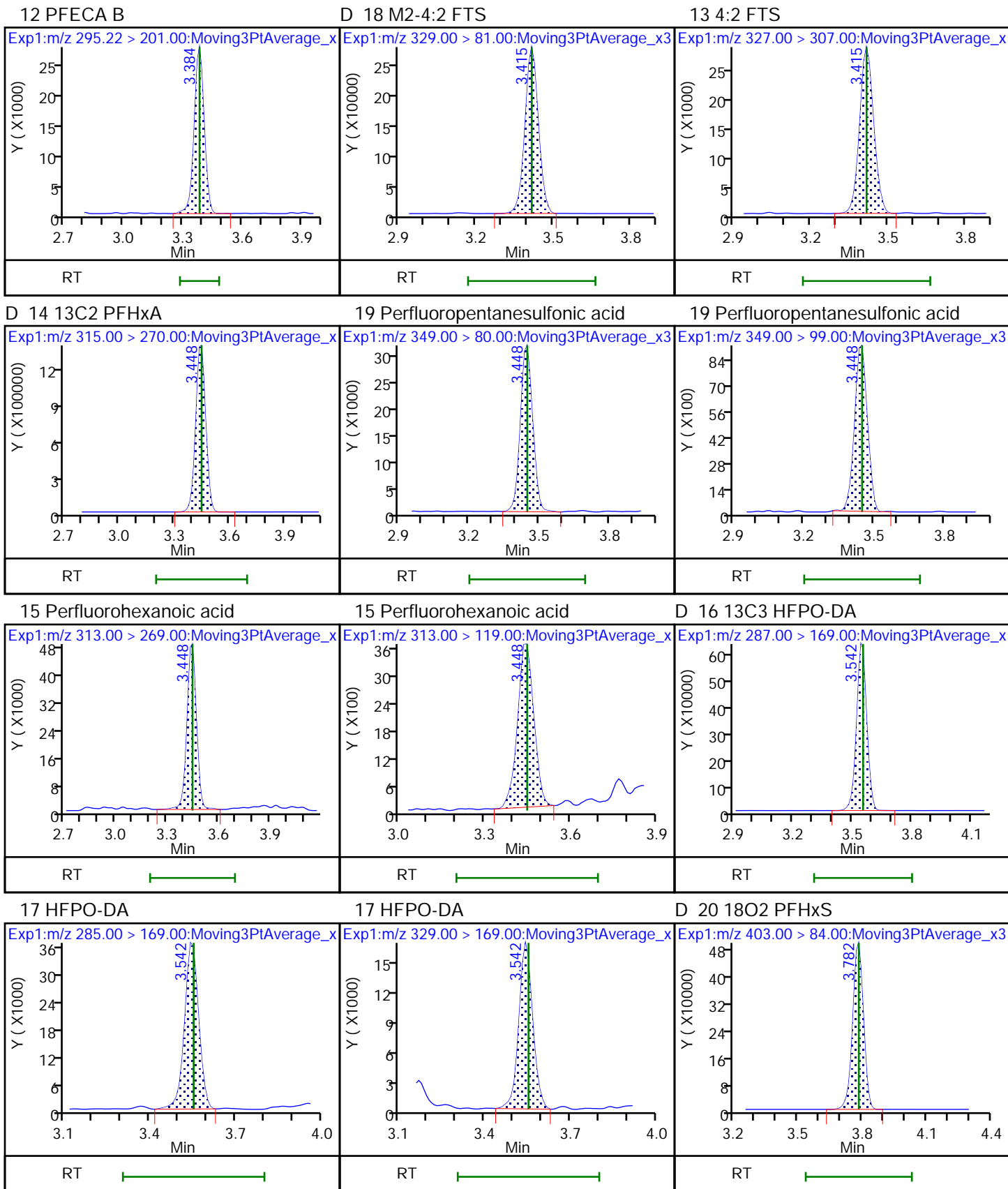
8 Perfluorobutanesulfonic acid

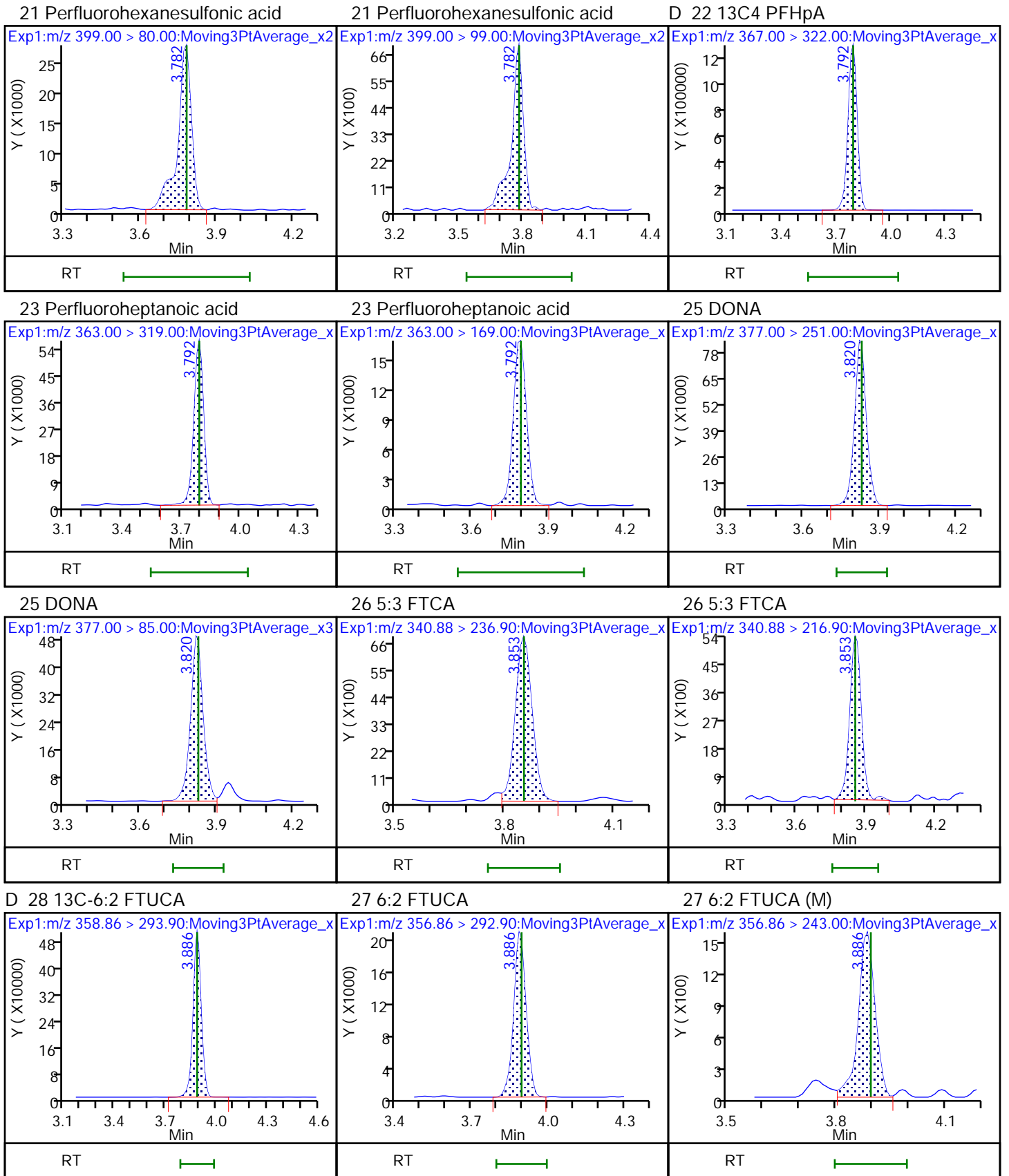
9 PFECA A

11 PES





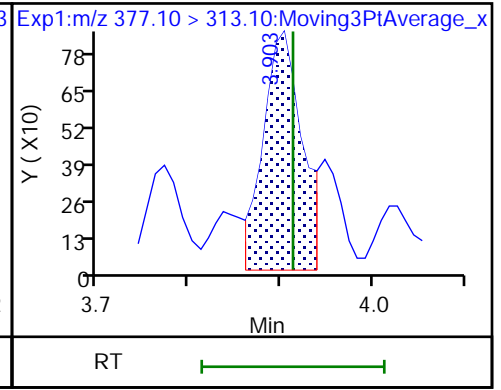
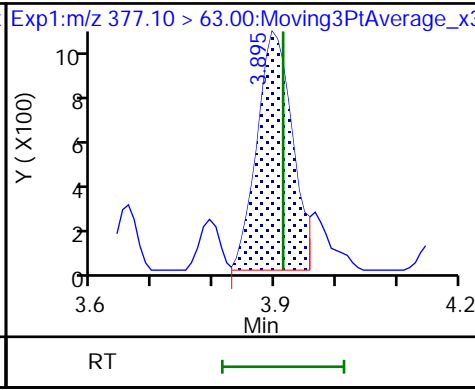
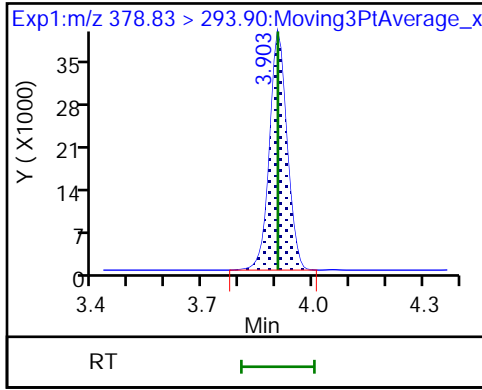




D 24 13C-6:2 FTCA

29 6:2 FTCA (M)

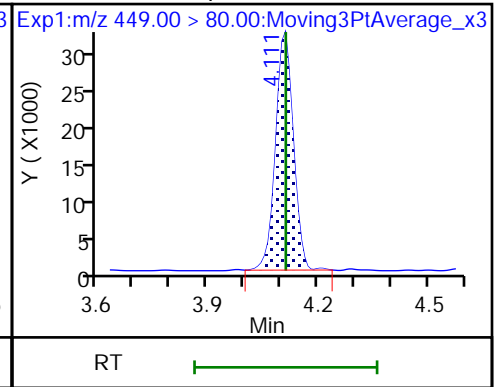
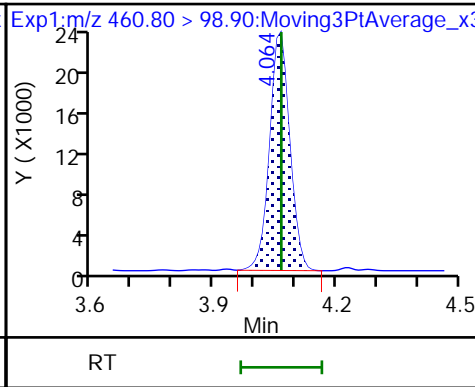
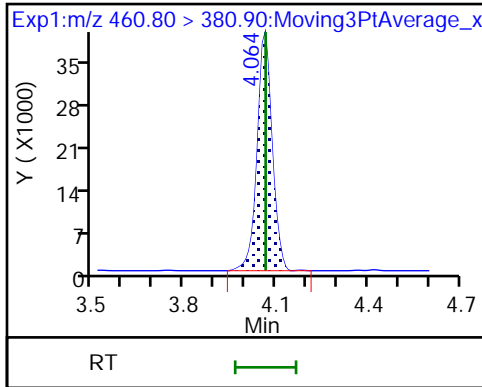
29 6:2 FTCA (M)



32 PFECHS

32 PFECHS

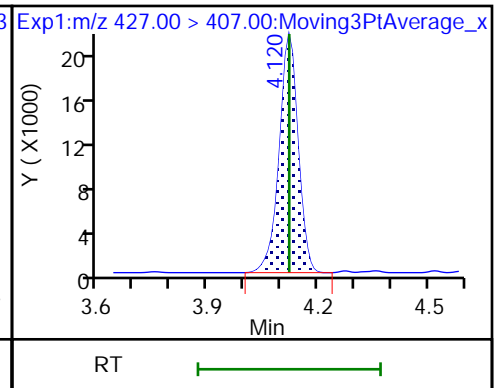
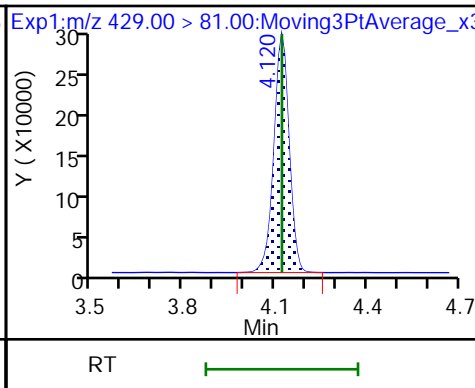
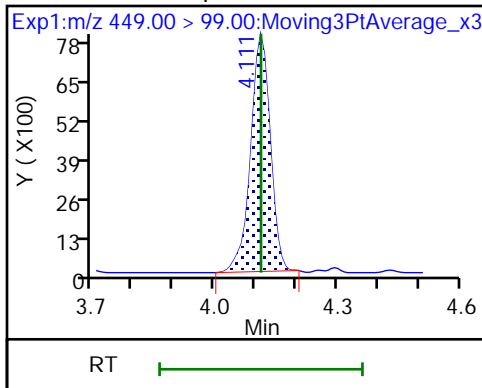
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

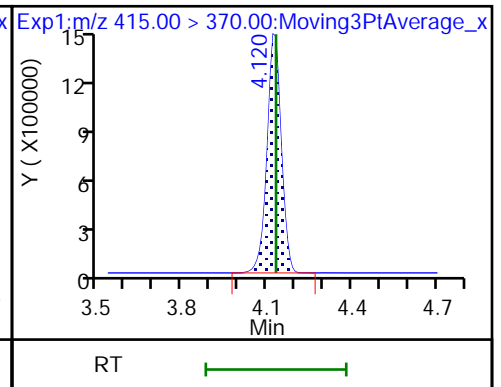
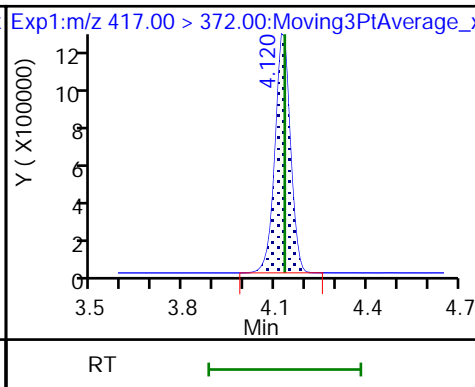
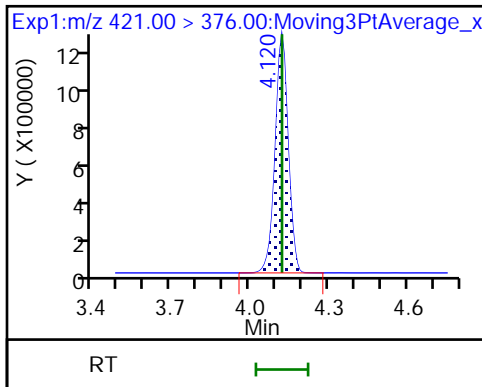
35 6:2 FTS

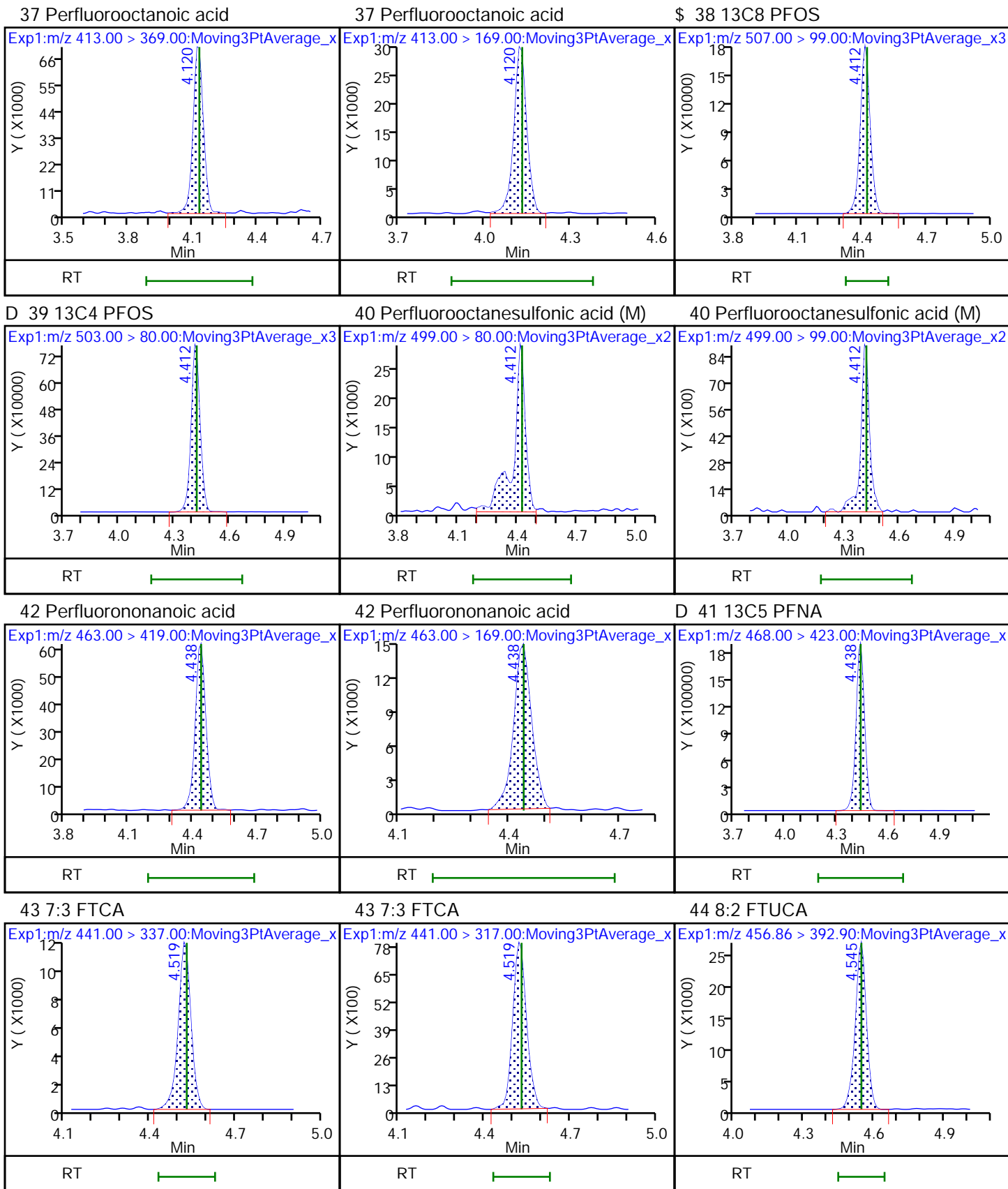


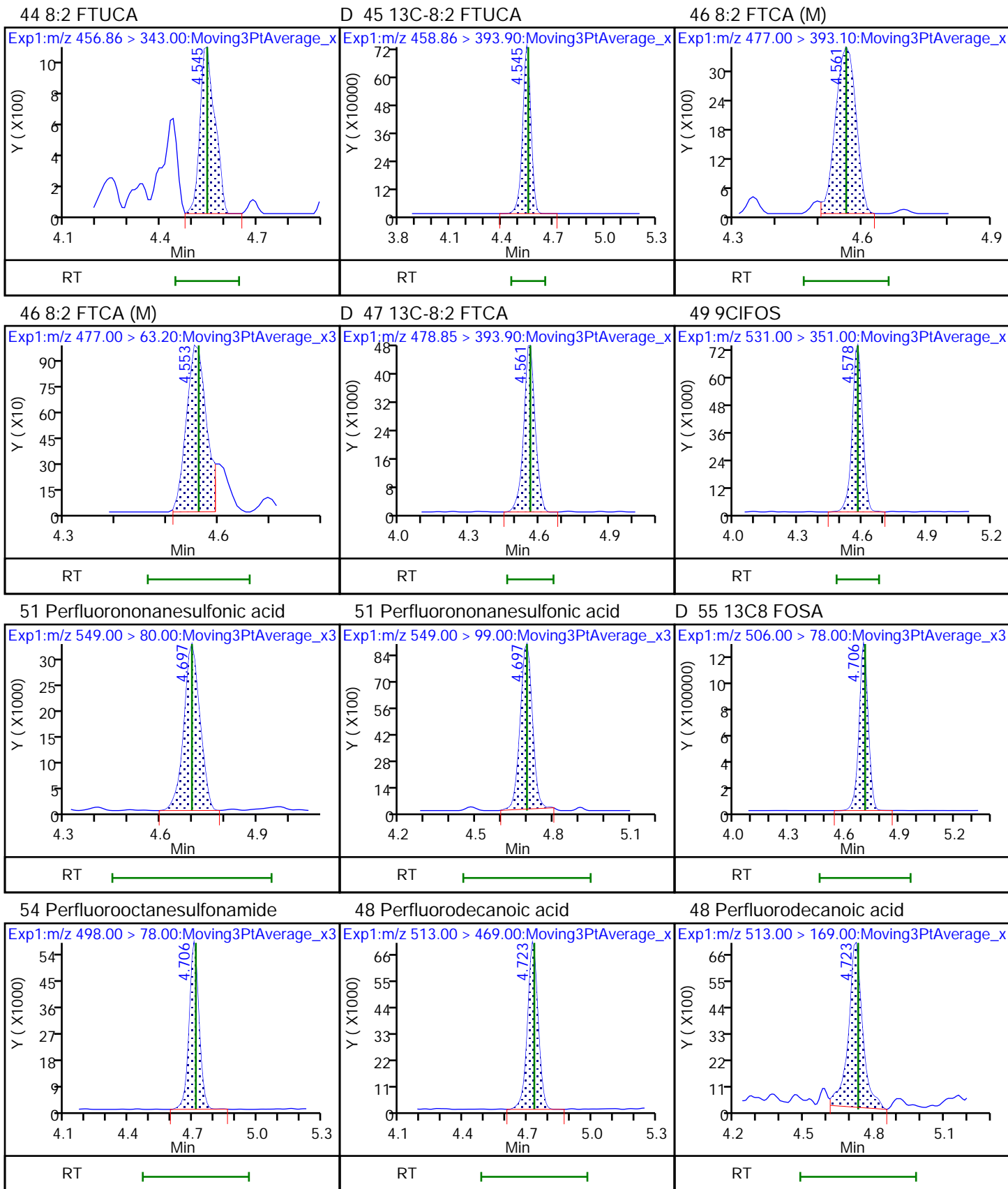
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



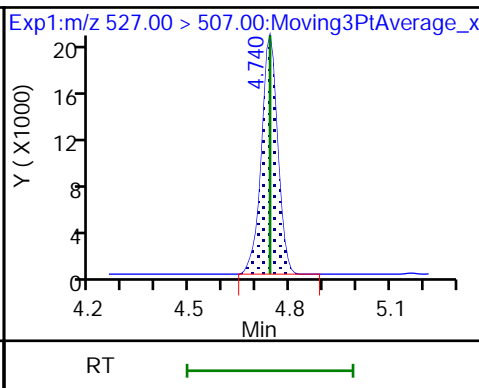
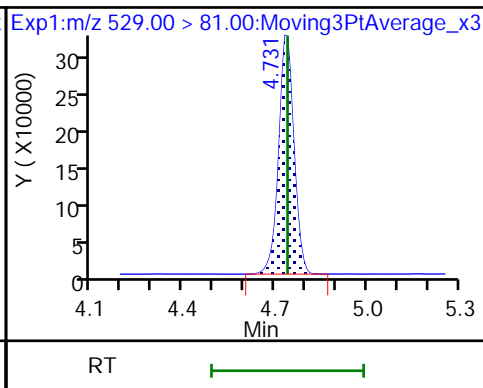
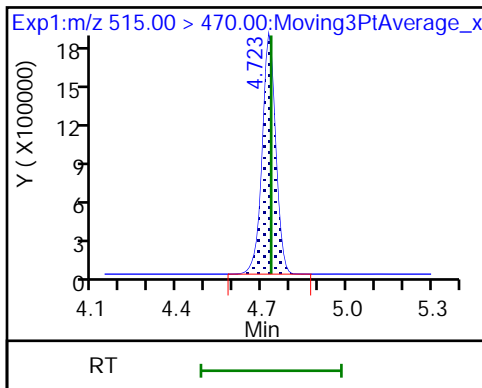




D 52 13C2 PFDA

D 50 M2-8:2 FTS

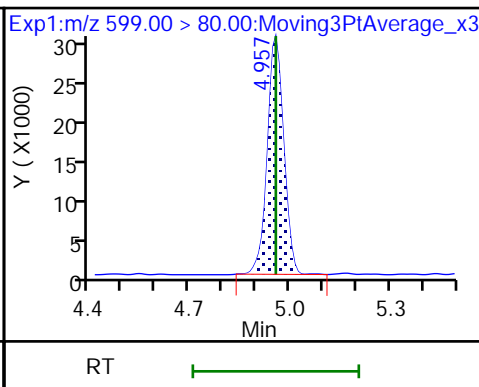
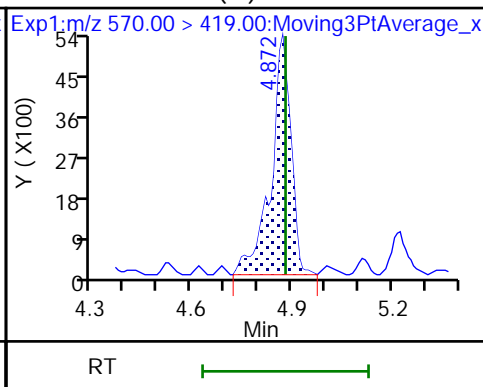
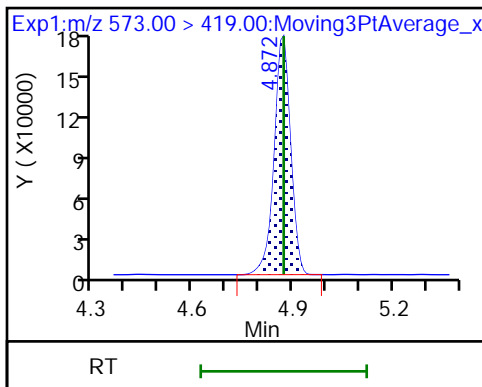
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

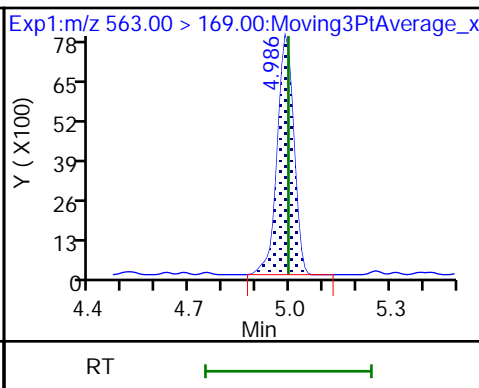
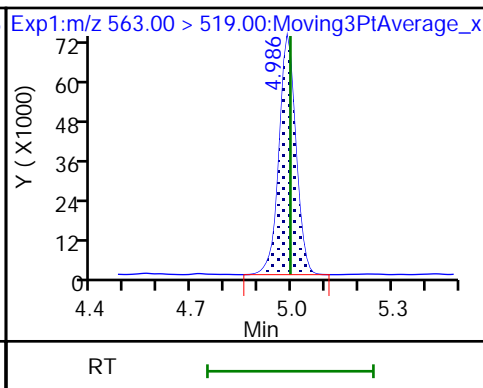
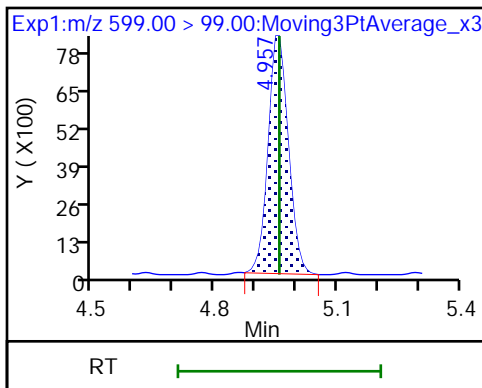
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

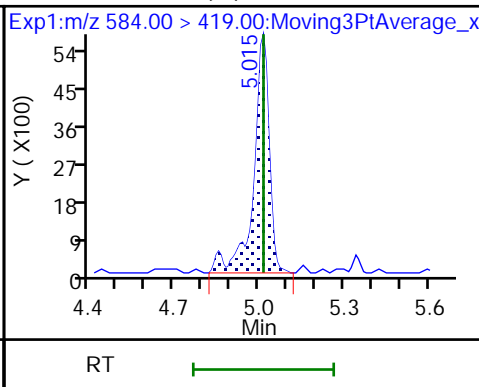
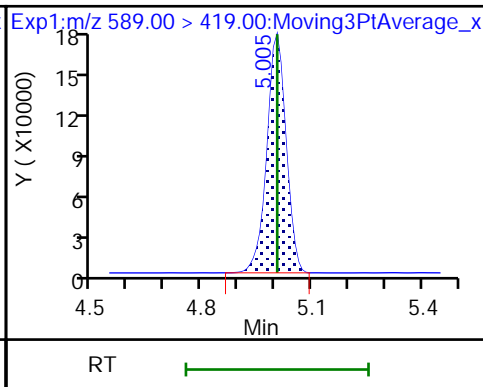
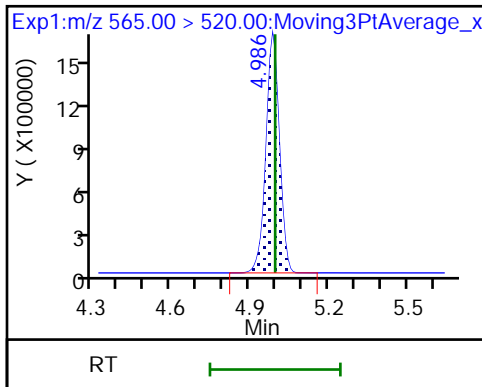
60 Perfluoroundecanoic acid



D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

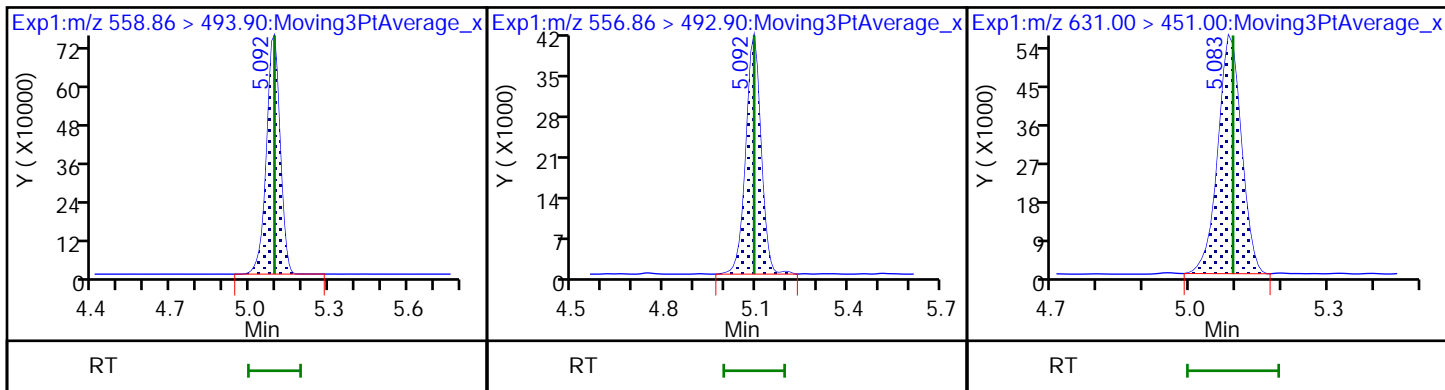
62 NEtFOSAA (M)



D 67 13C-10:2 FTUCA

65 10:2 FTUCA

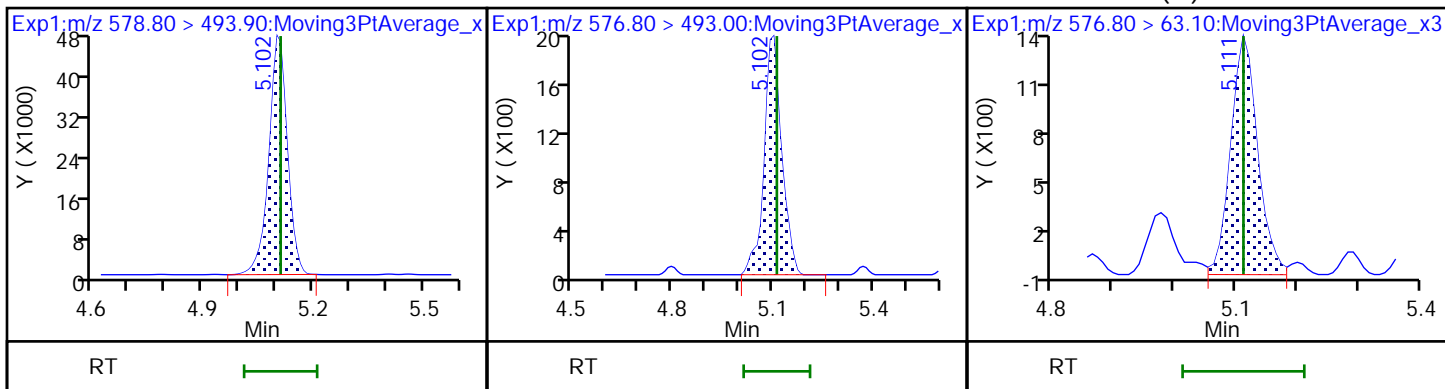
63 11CIFOS



D 64 13C-10:2 FTCA

66 10:2 FTCA

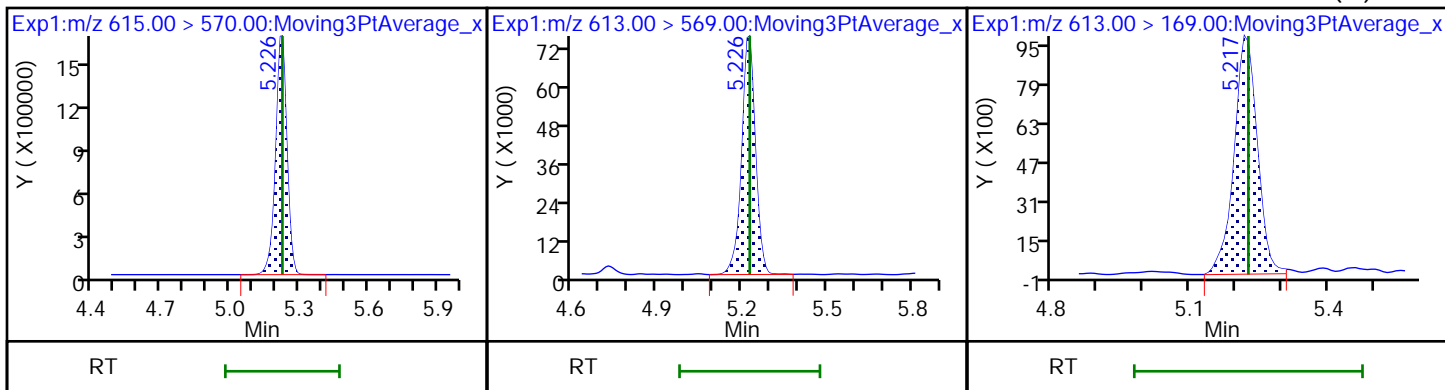
66 10:2 FTCA (M)



D 69 13C2 PFDaA

68 Perfluorododecanoic acid

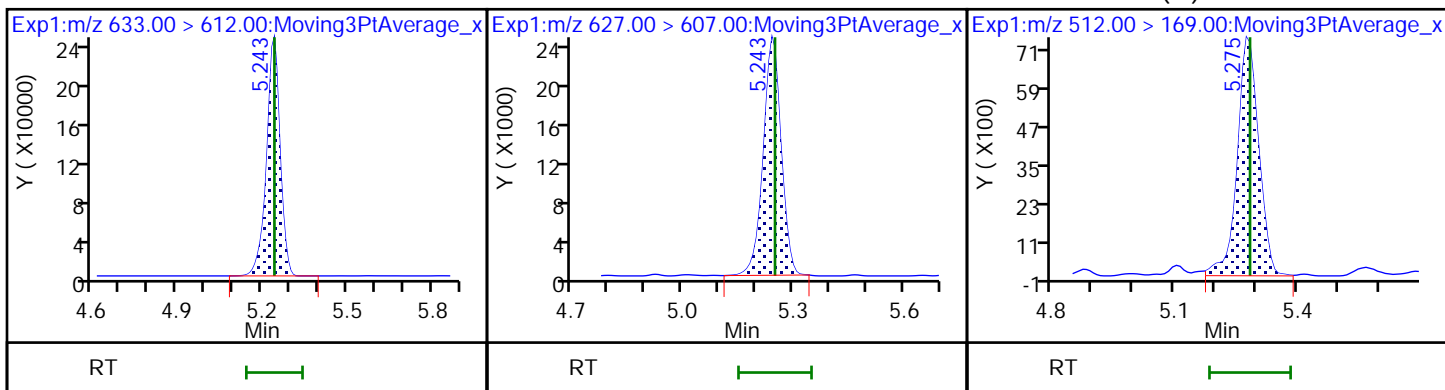
68 Perfluorododecanoic acid (M)



D 70 13C2 10:2 FTS

71 10:2 FTS

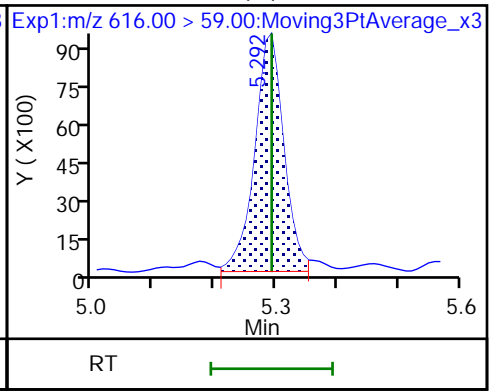
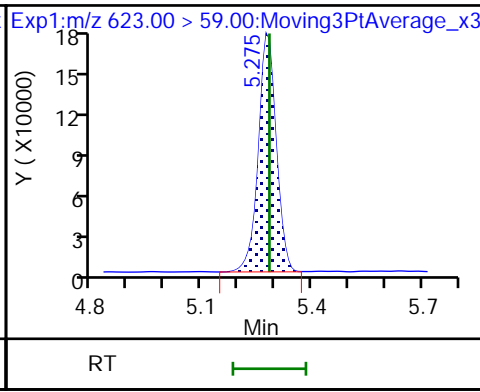
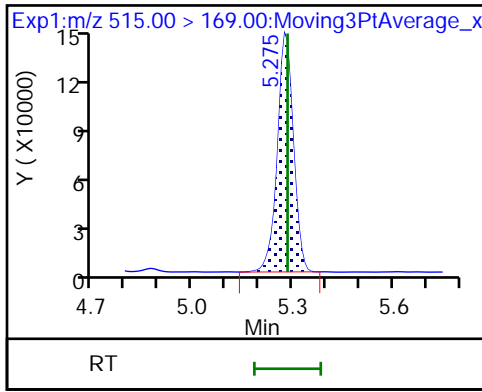
74 NMeFOSA (M)



D 73 d-N-MeFOSE-M

D 72 d7-N-MeFOSE-M

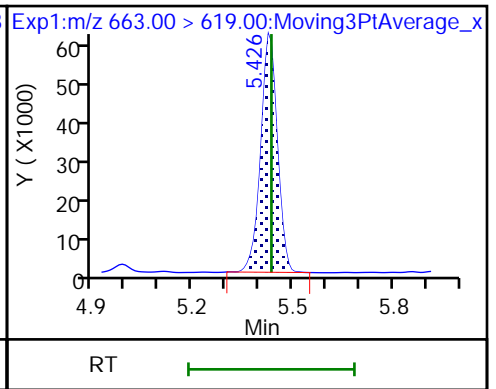
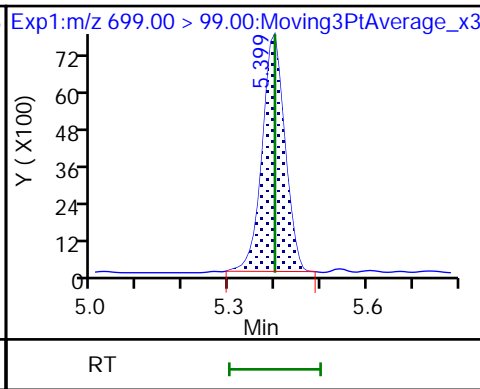
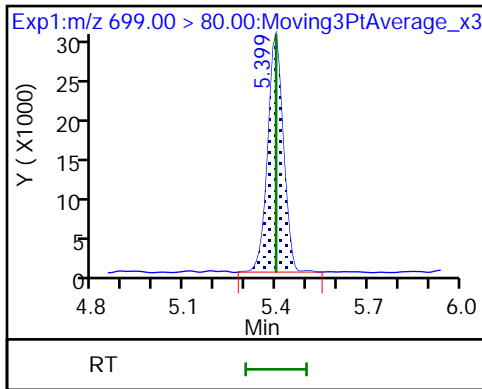
75 N-MeFOSE-M (M)



76 PFDoS

76 PFDoS

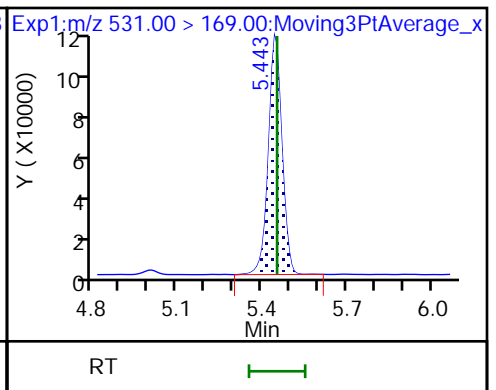
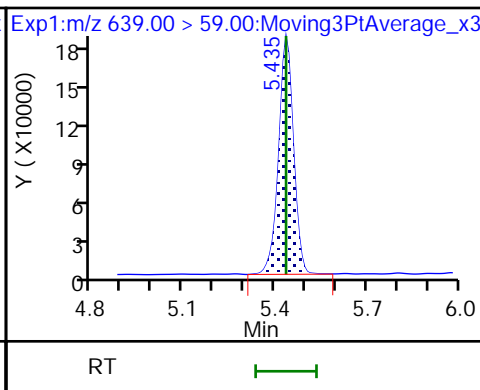
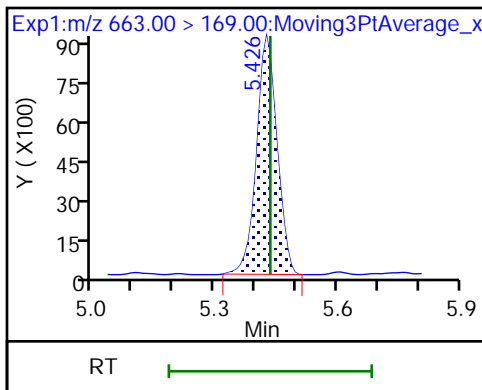
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

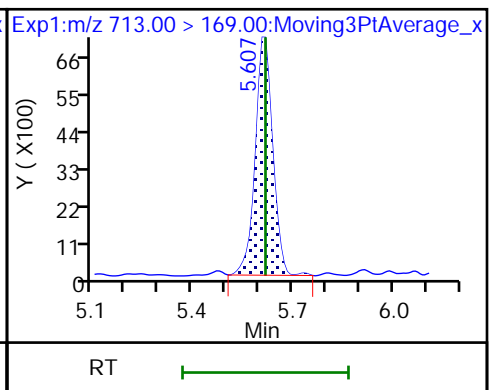
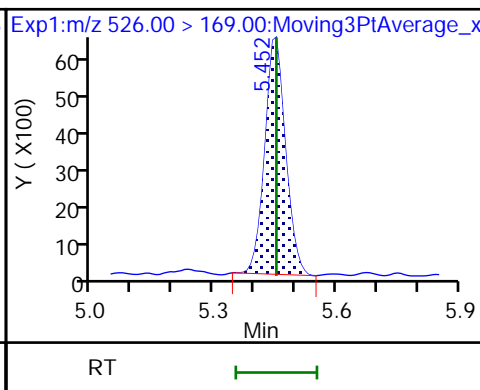
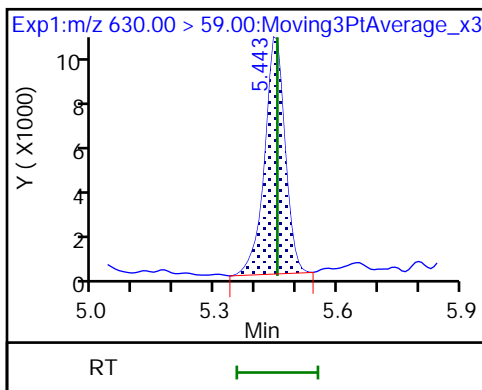
D 80 d-N-EtFOSE-M



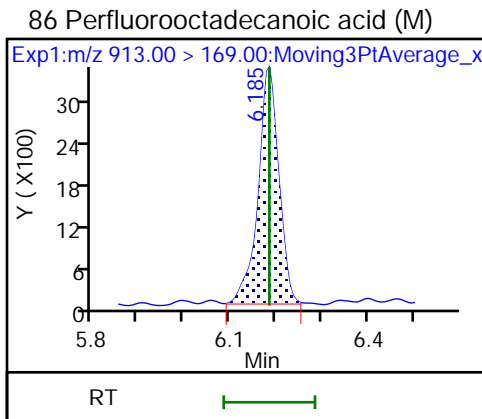
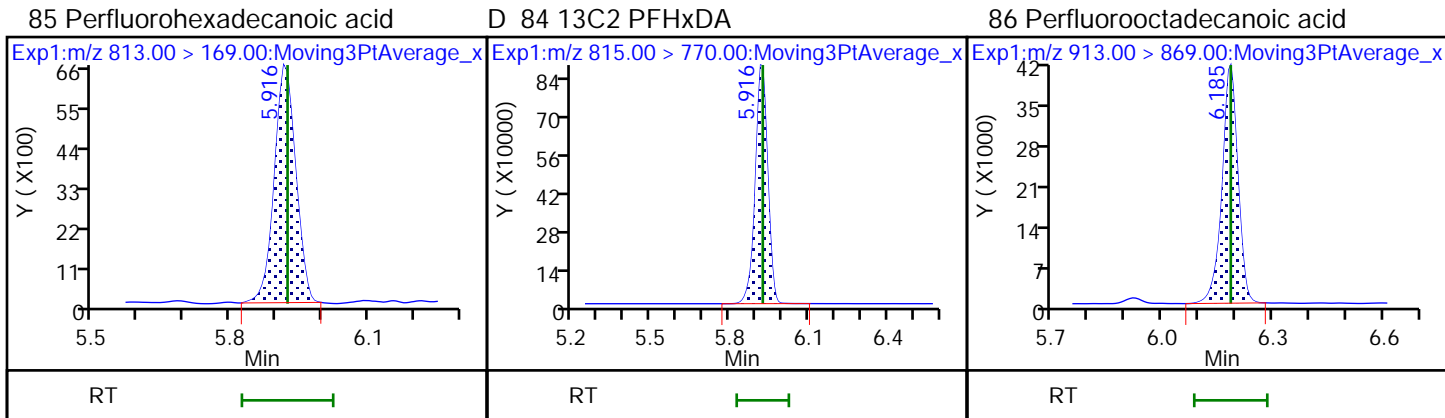
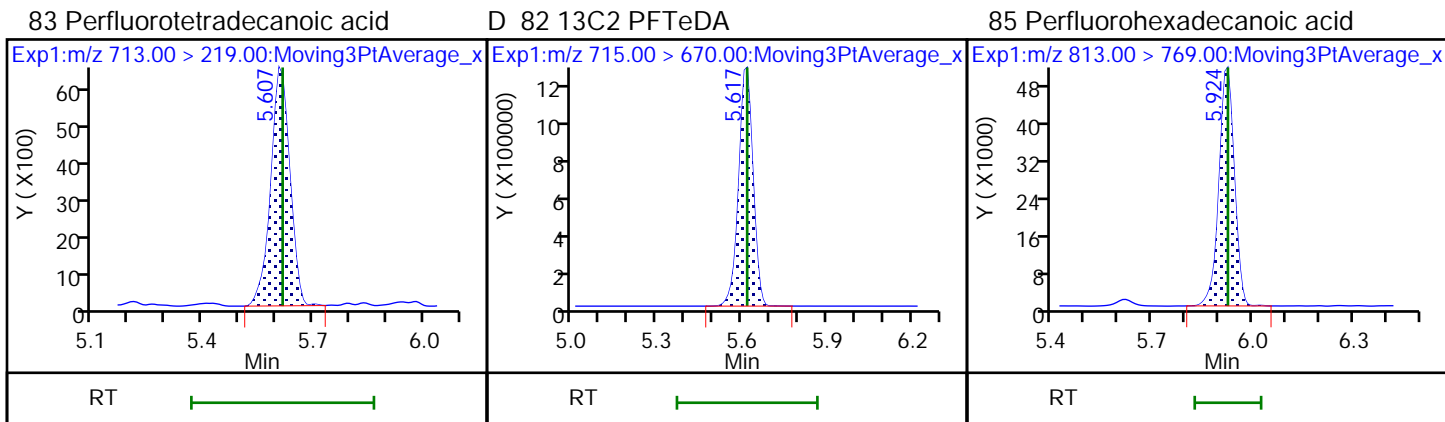
79 N-EtFOSE-M

81 N-EtFOSE-M

83 Perfluorotetradecanoic acid







Eurofins Knoxville

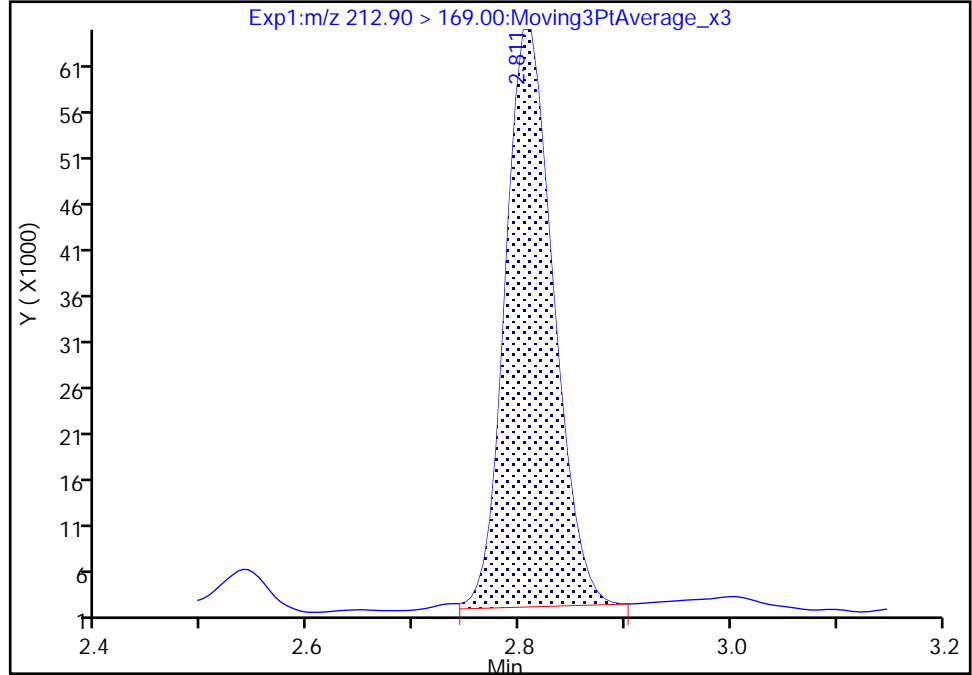
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Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

1 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

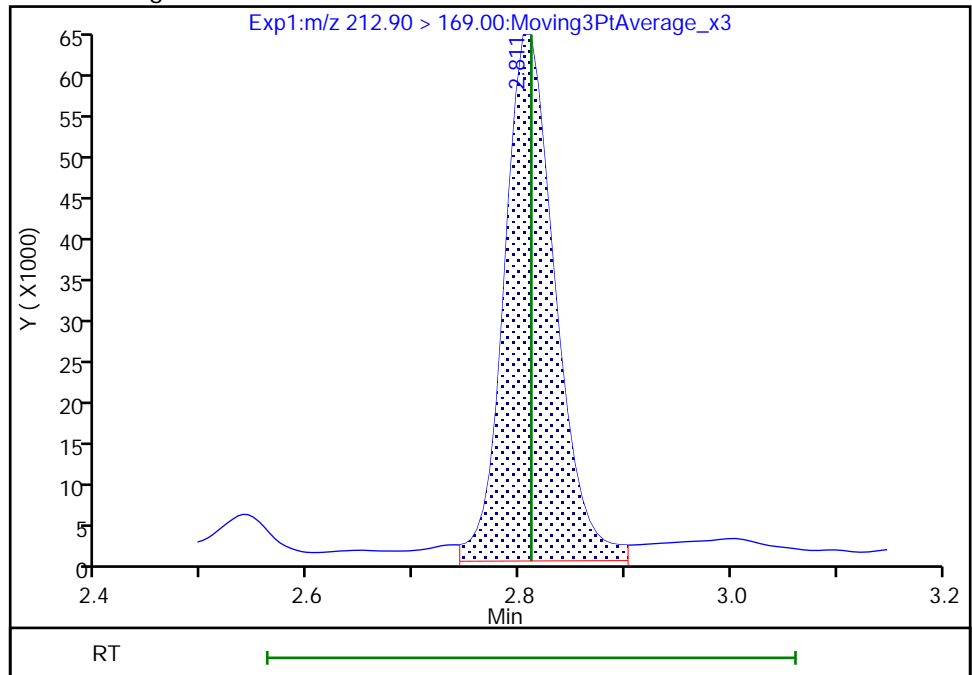
RT: 2.81  
Area: 196075  
Amount: 0.051956  
Amount Units: ng/ml

Processing Integration Results



RT: 2.81  
Area: 211682  
Amount: 0.056396  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:07:13  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

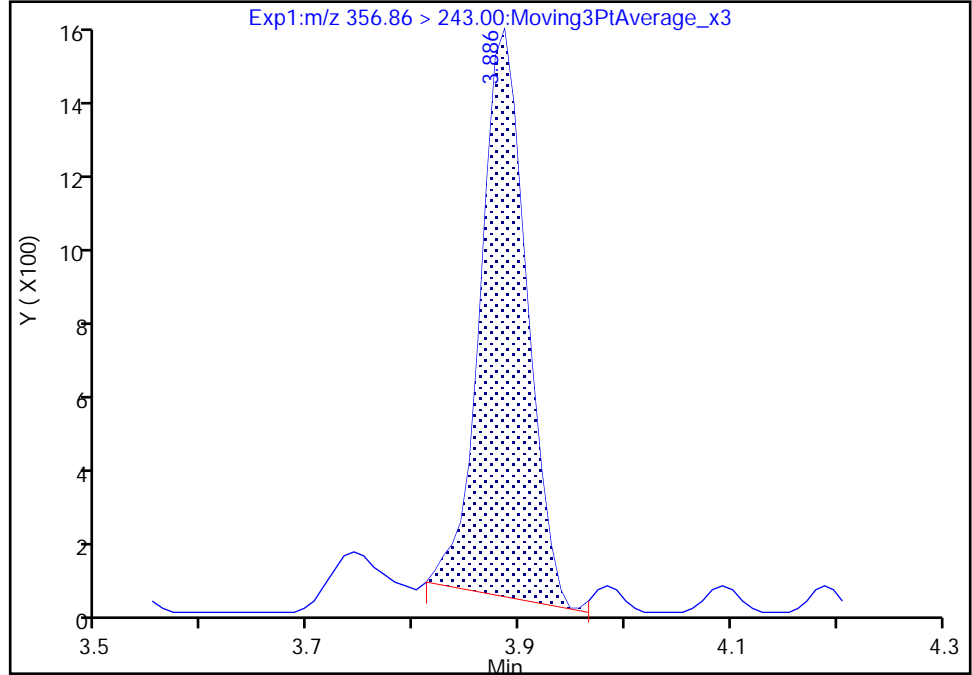
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Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

27 6:2 FTUCA, CAS: 70887-88-6

Signal: 2

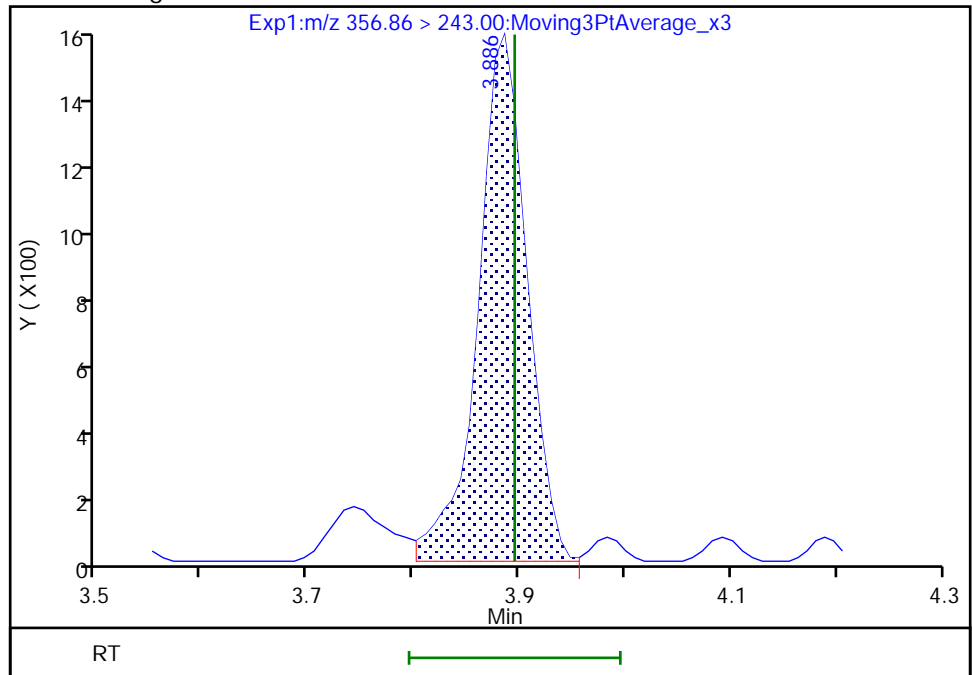
RT: 3.89  
Area: 4715  
Amount: 0.048386  
Amount Units: ng/ml

Processing Integration Results



RT: 3.89  
Area: 5129  
Amount: 0.048386  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:09:04  
Audit Action: Manually Integrated

Eurofins Knoxville

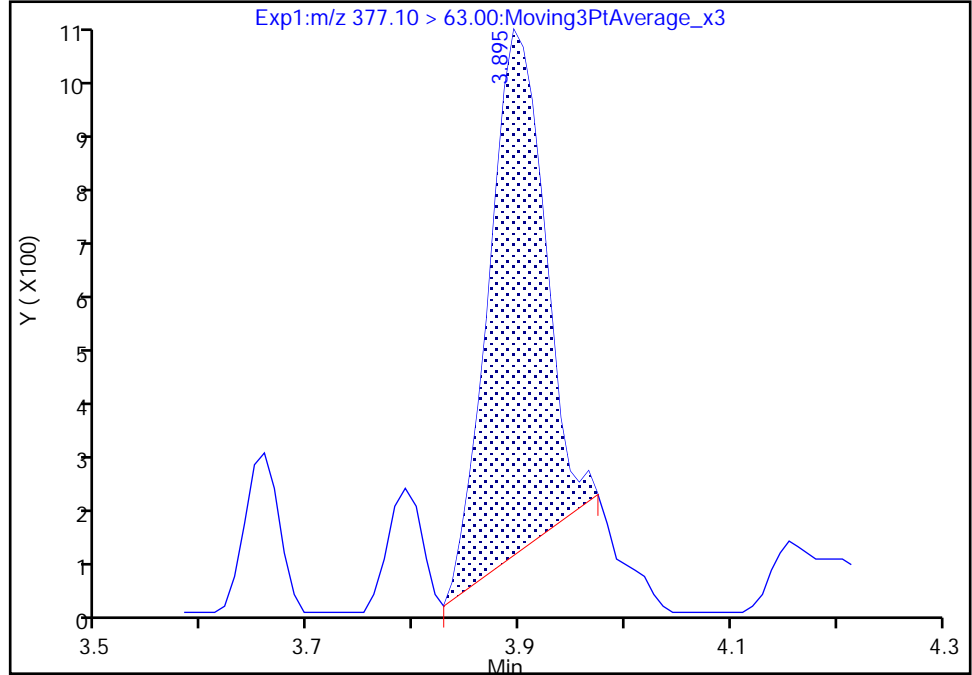
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

29 6:2 FTCA, CAS: 53826-12-3

Signal: 1

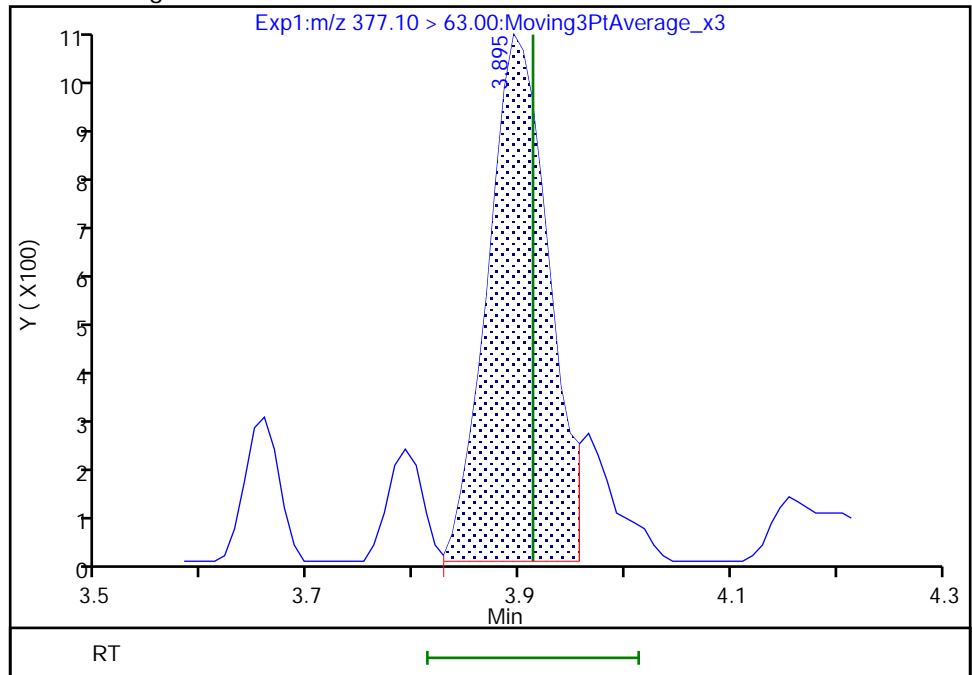
RT: 3.89  
Area: 3418  
Amount: 0.040889  
Amount Units: ng/ml

Processing Integration Results



RT: 3.89  
Area: 4136  
Amount: 0.050928  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:09:26  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

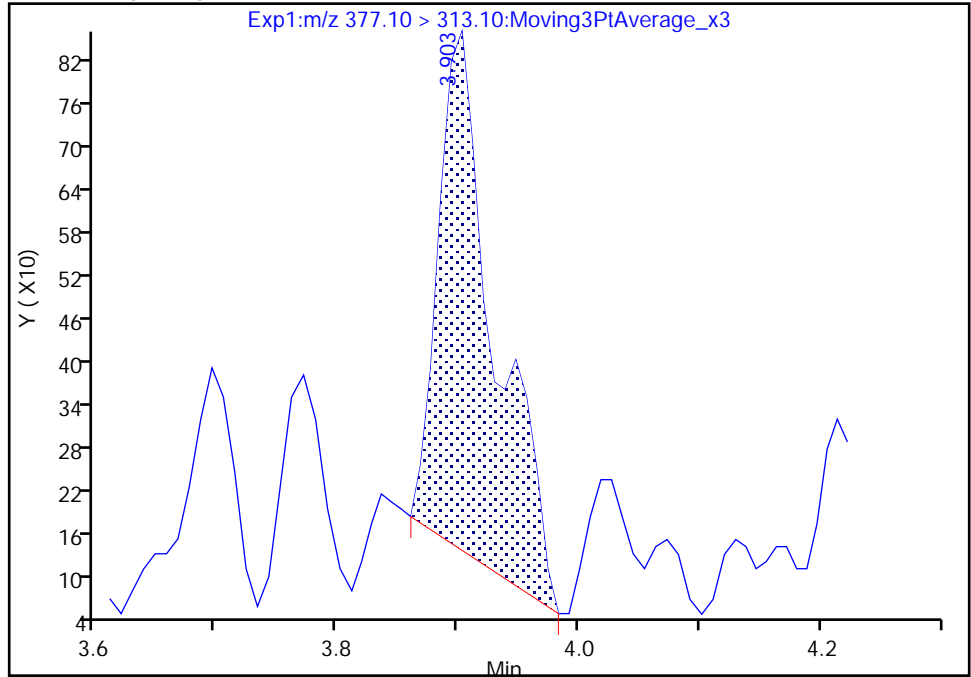
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Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

29 6:2 FTCA, CAS: 53826-12-3

Signal: 2

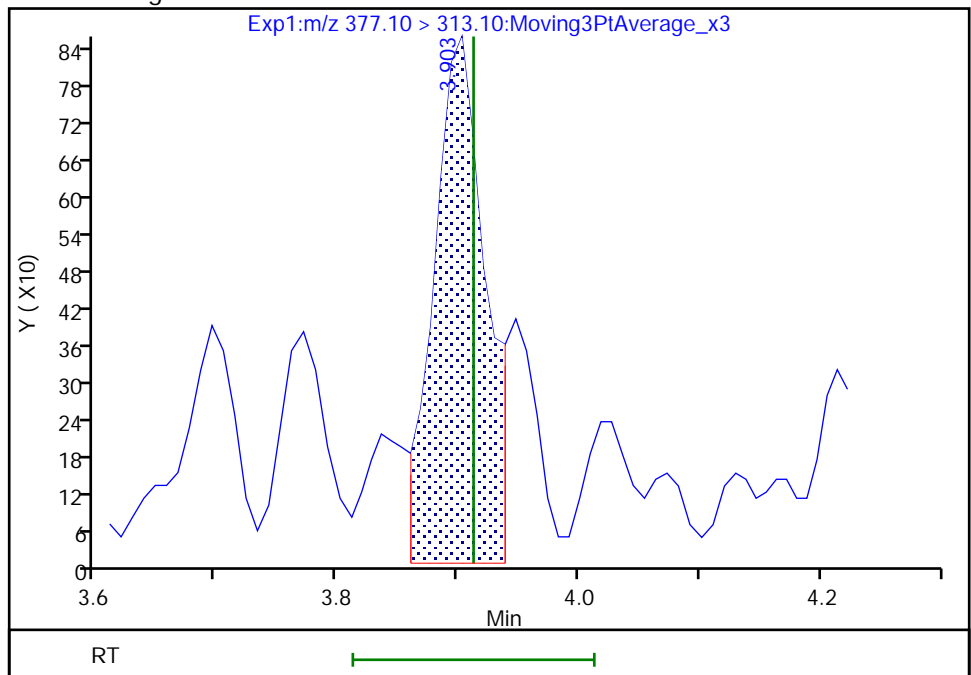
RT: 3.90  
Area: 2362  
Amount: 0.040889  
Amount Units: ng/ml

Processing Integration Results



RT: 3.90  
Area: 2490  
Amount: 0.050928  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:09:54

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

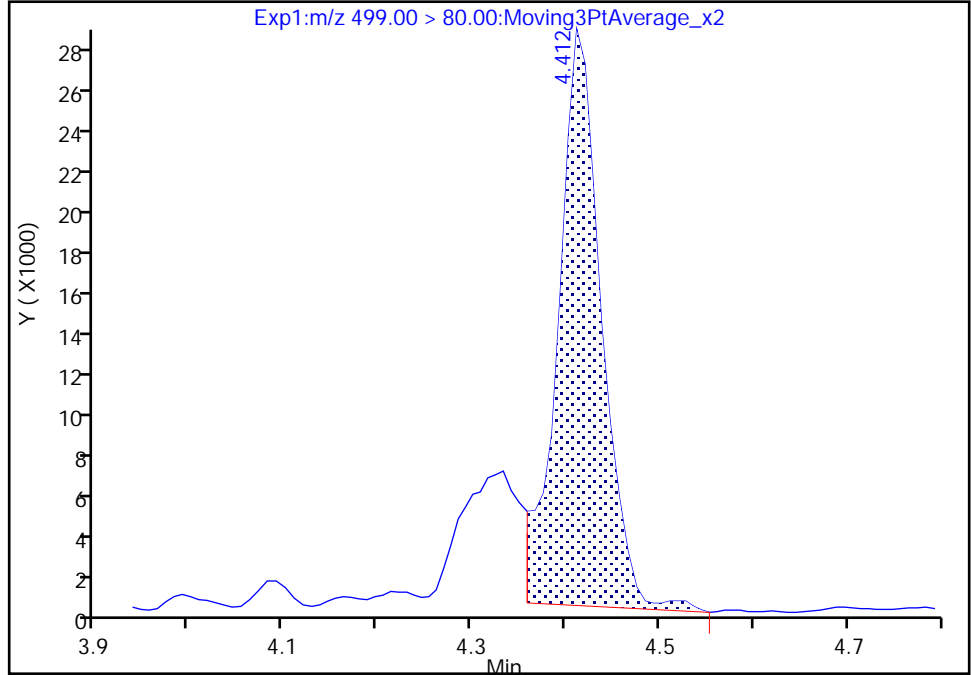
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

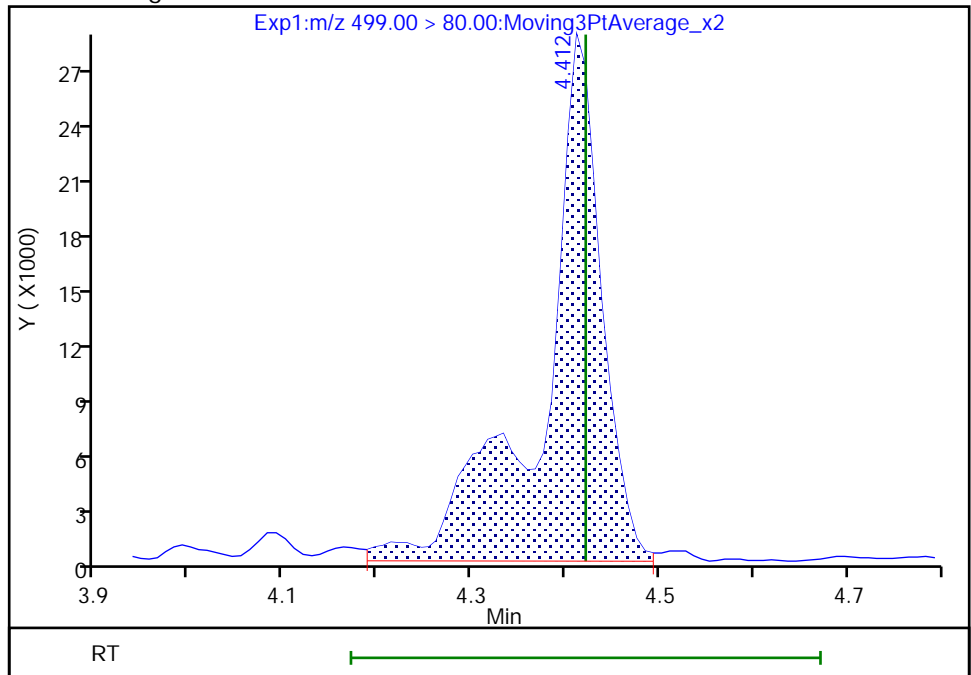
RT: 4.41  
Area: 91044  
Amount: 0.037175  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 126447  
Amount: 0.051630  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:10:09  
Audit Action: Manually Integrated

Eurofins Knoxville

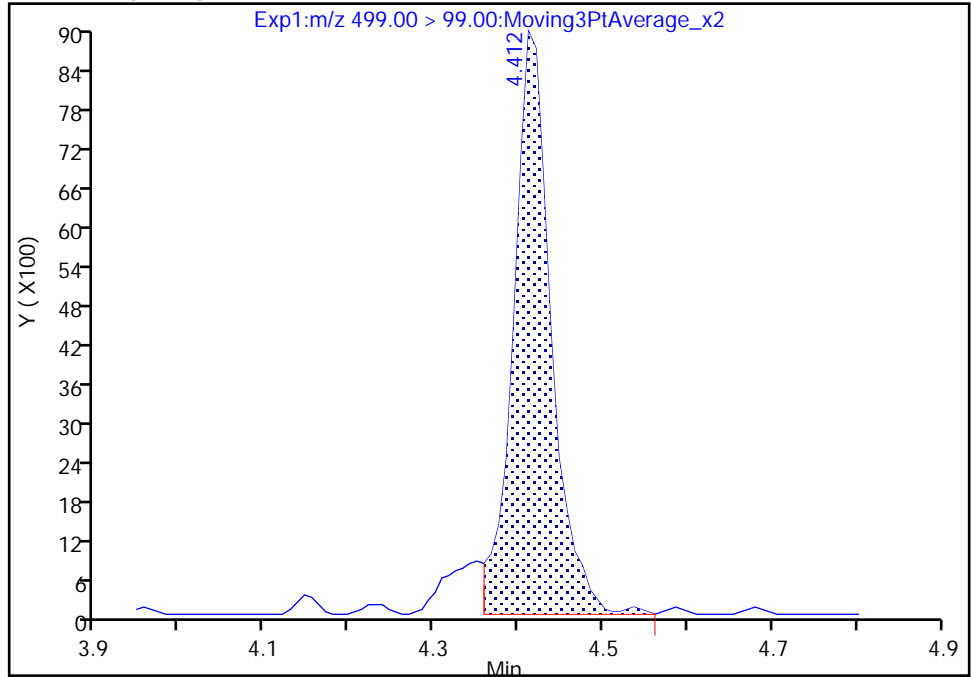
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

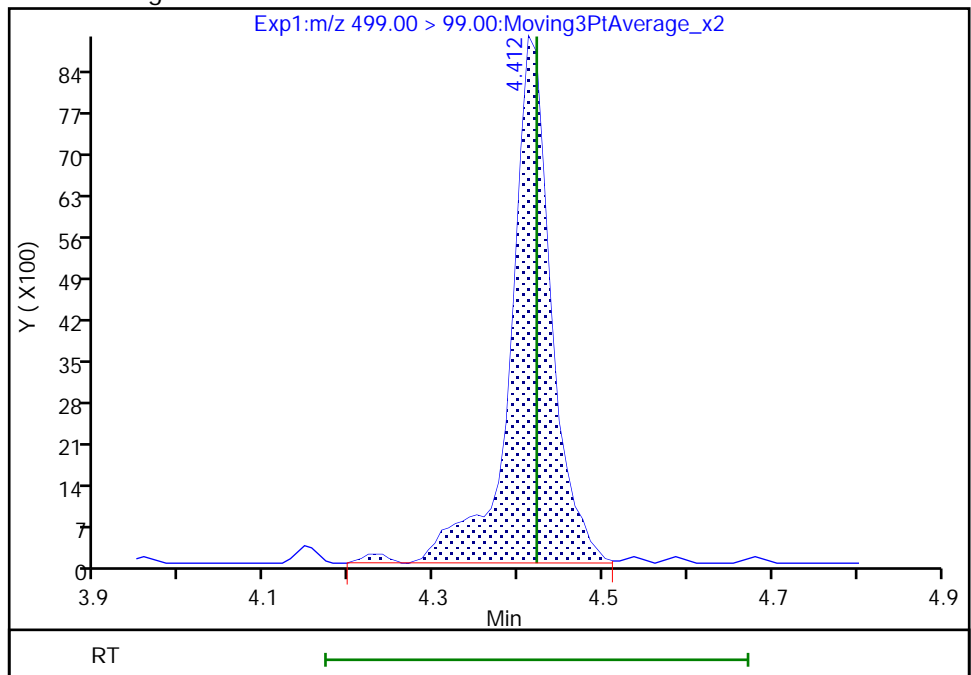
RT: 4.41  
Area: 27611  
Amount: 0.037175  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 30230  
Amount: 0.051630  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:10:16

Audit Action: Manually Integrated

Audit Reason: Baseline  
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02/27/2022

Eurofins Knoxville

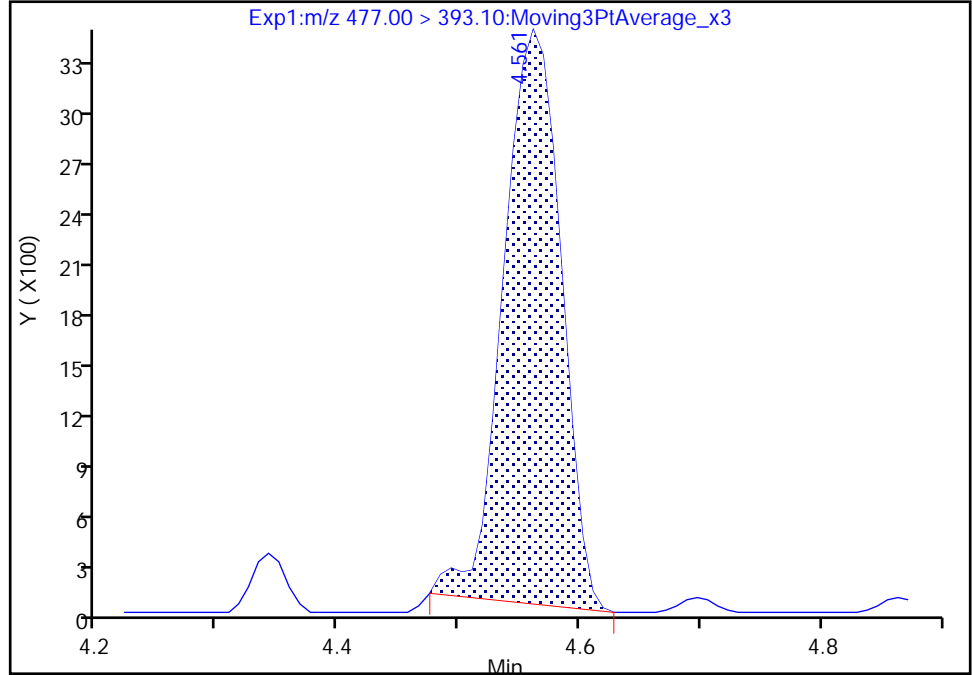
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Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 1

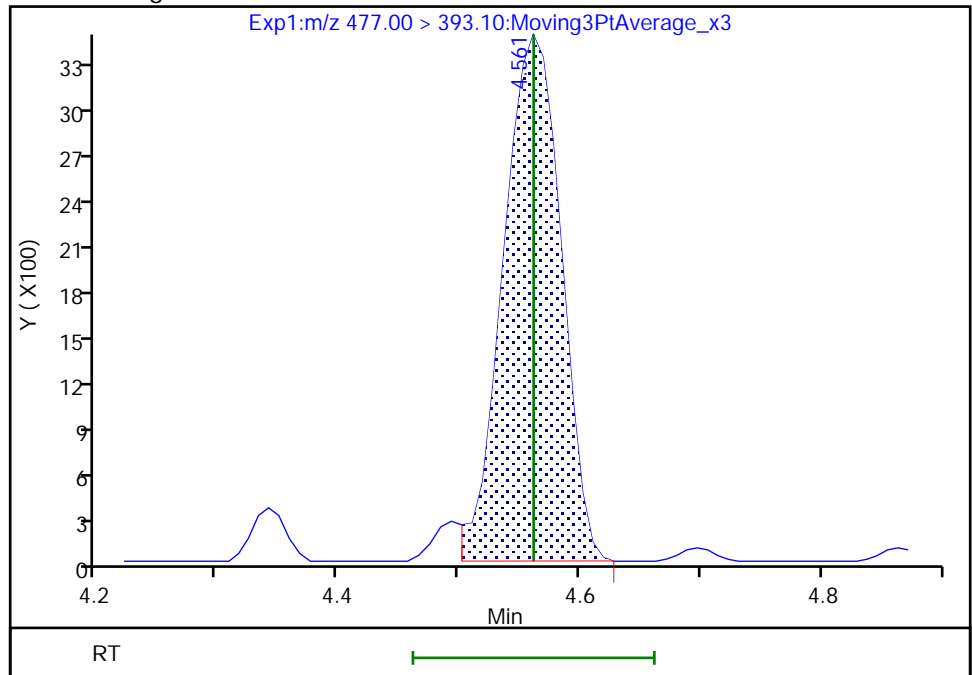
RT: 4.56  
Area: 11216  
Amount: 0.048579  
Amount Units: ng/ml

Processing Integration Results



RT: 4.56  
Area: 11368  
Amount: 0.049238  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:10:48  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

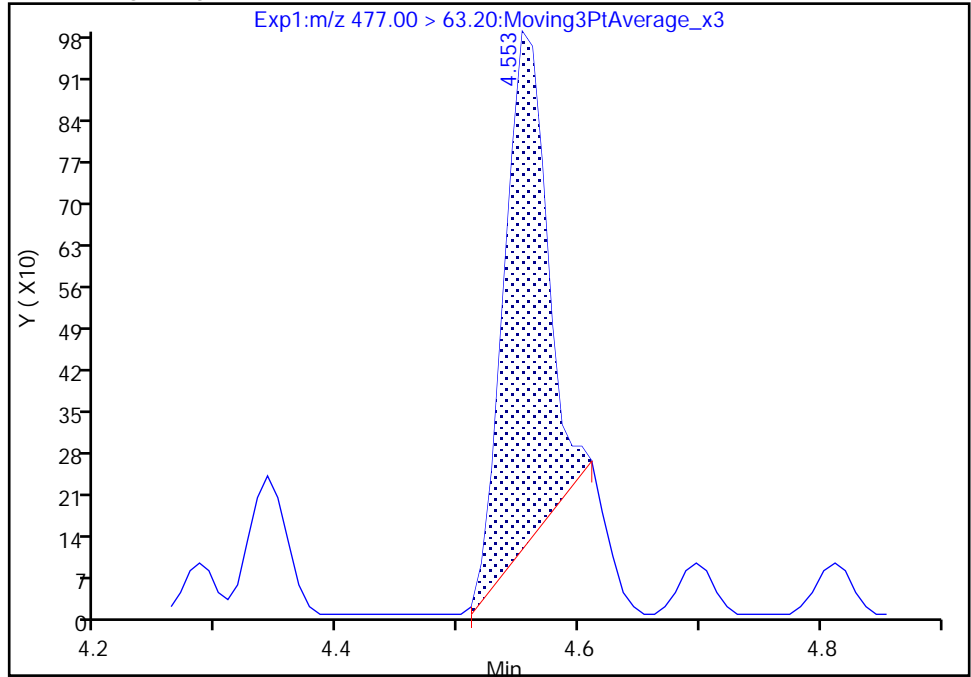
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 2

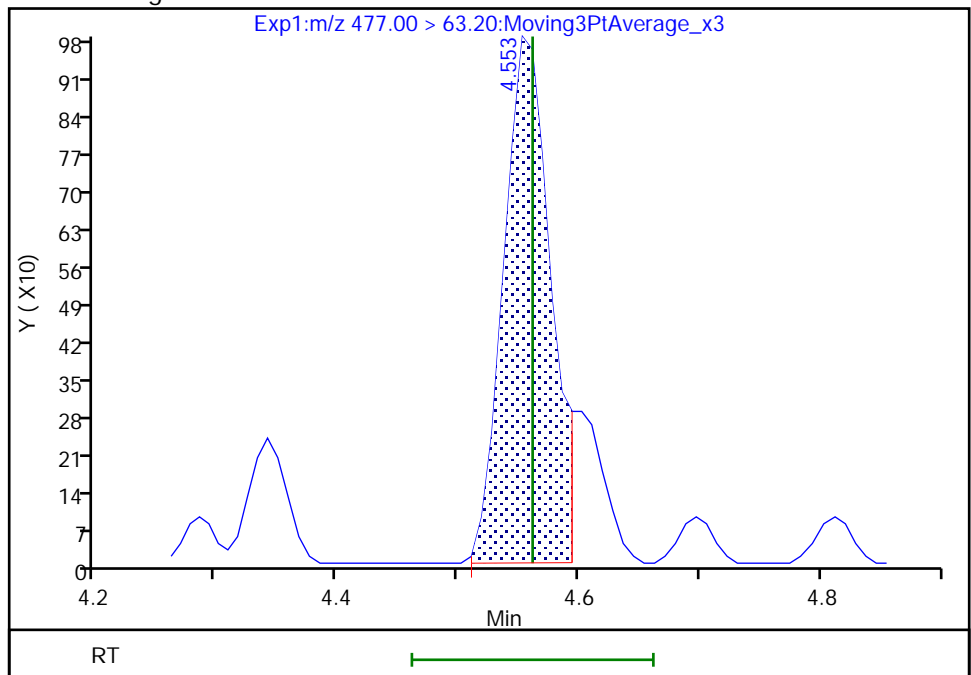
RT: 4.55  
Area: 2141  
Amount: 0.048579  
Amount Units: ng/ml

Processing Integration Results



RT: 4.55  
Area: 2641  
Amount: 0.049238  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:10:52

Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

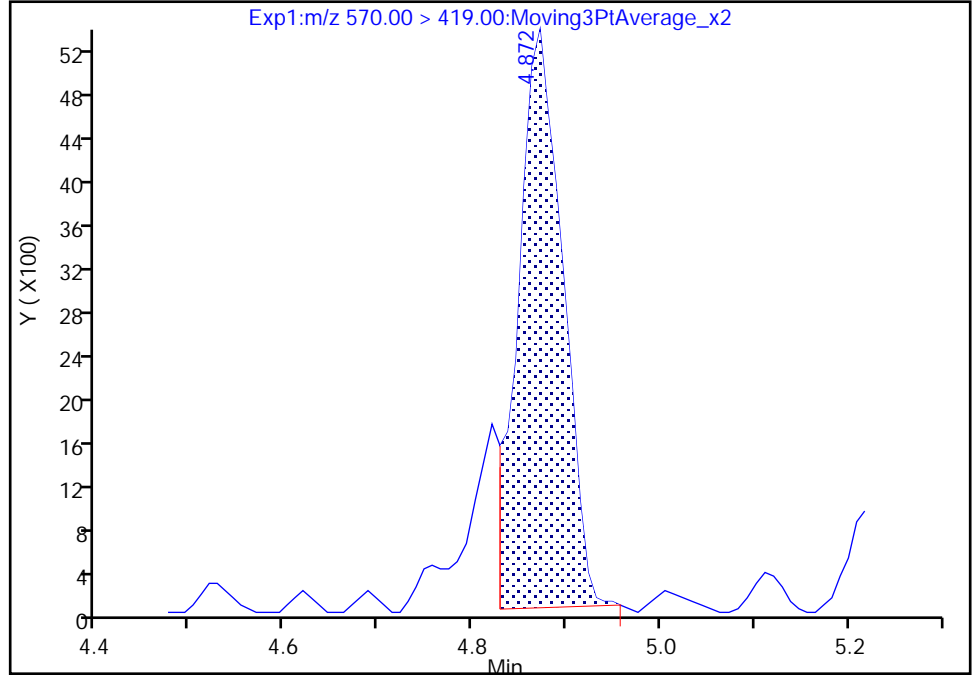
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

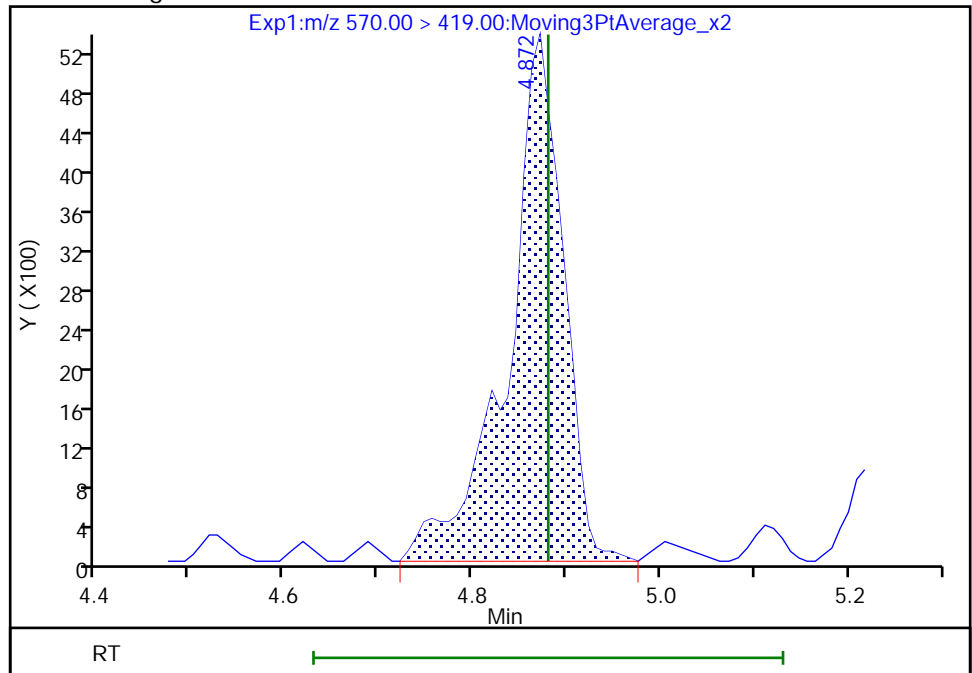
RT: 4.87  
Area: 17404  
Amount: 0.041786  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 22121  
Amount: 0.052688  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:11:10  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

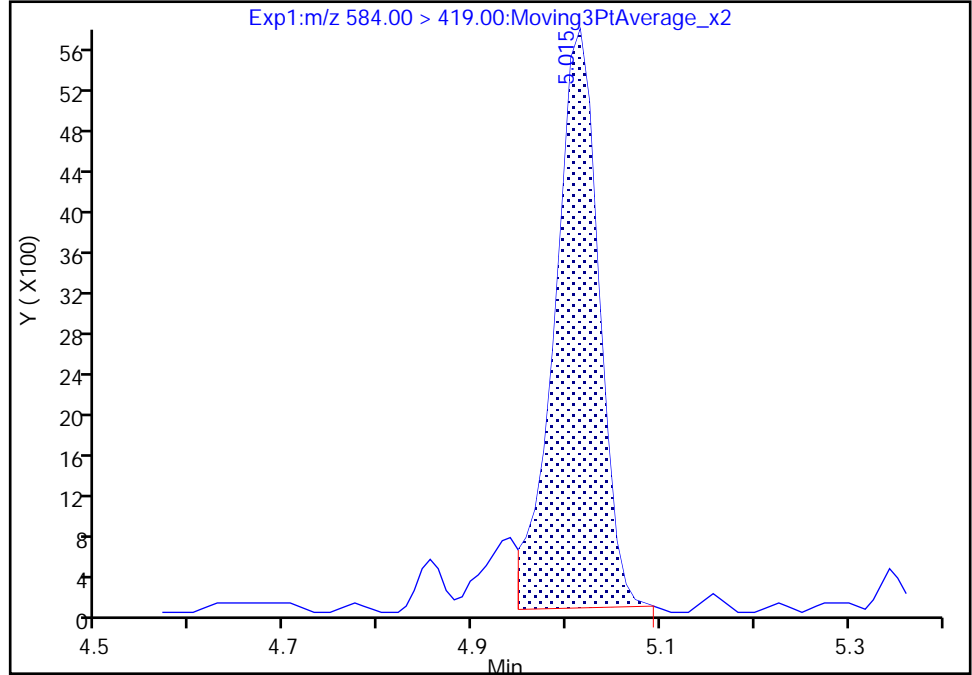
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

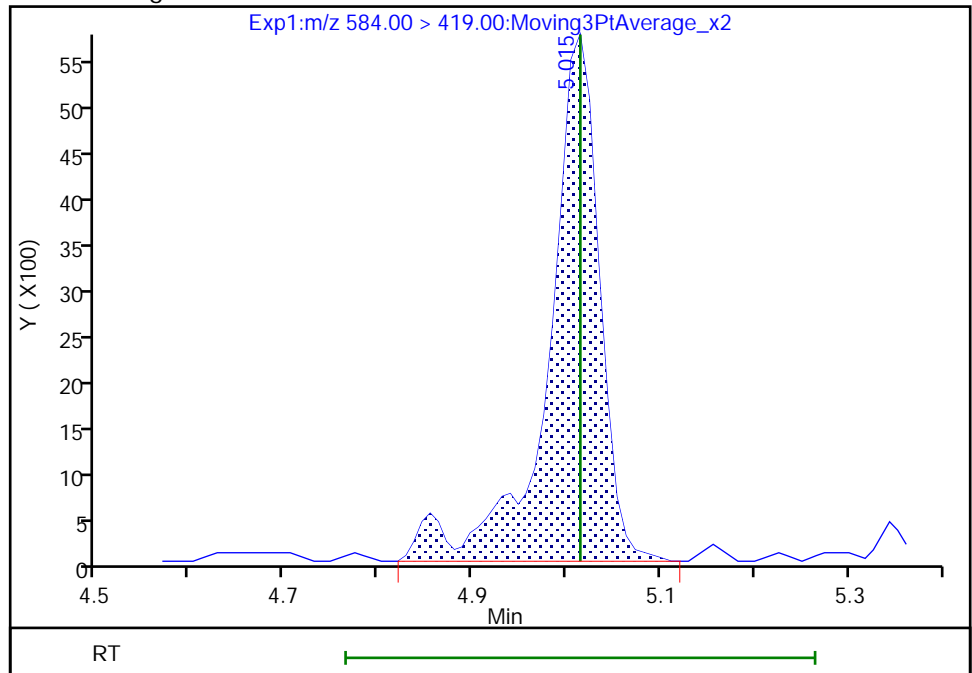
RT: 5.01  
Area: 18615  
Amount: 0.034244  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 21929  
Amount: 0.042146  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:11:24  
Audit Action: Manually Integrated

Eurofins Knoxville

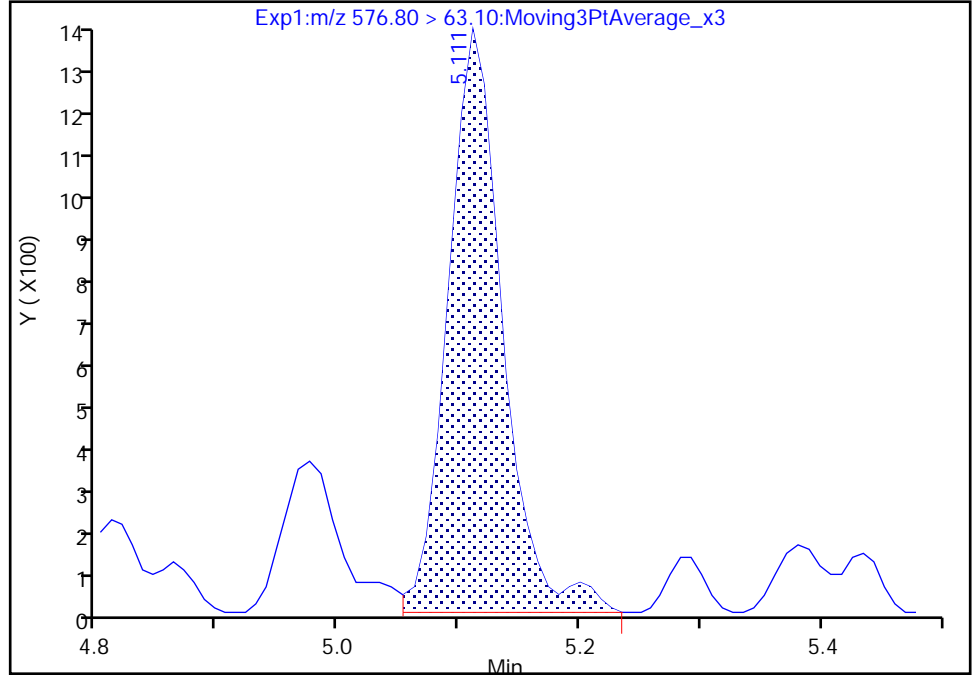
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Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

66 10:2 FTCA, CAS: 53826-13-4

Signal: 2

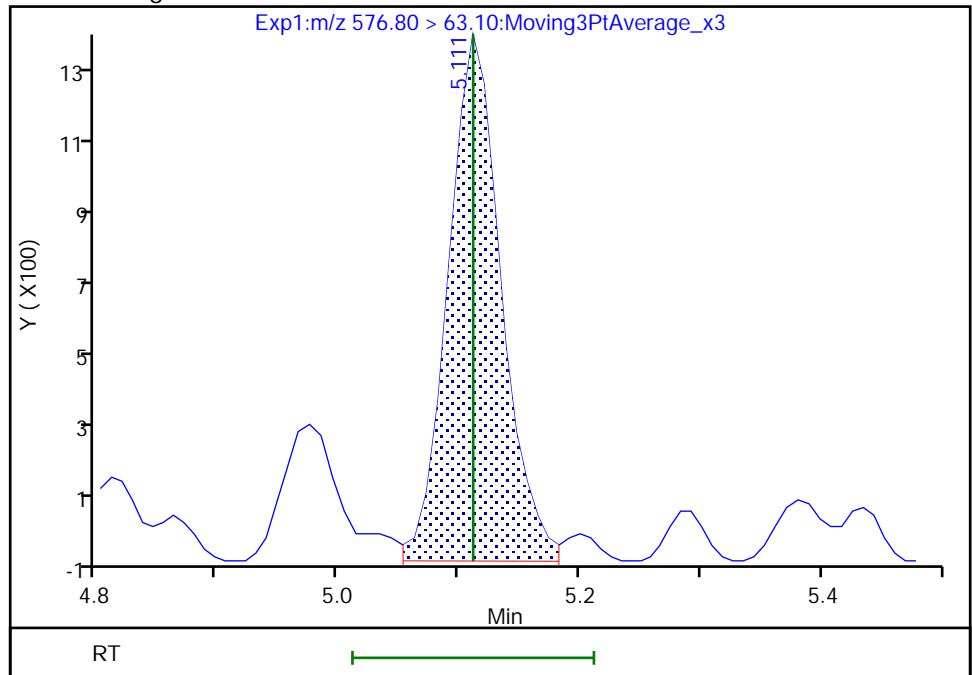
RT: 5.11  
Area: 4086  
Amount: 0.050105  
Amount Units: ng/ml

Processing Integration Results



RT: 5.11  
Area: 3964  
Amount: 0.050105  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:11:56  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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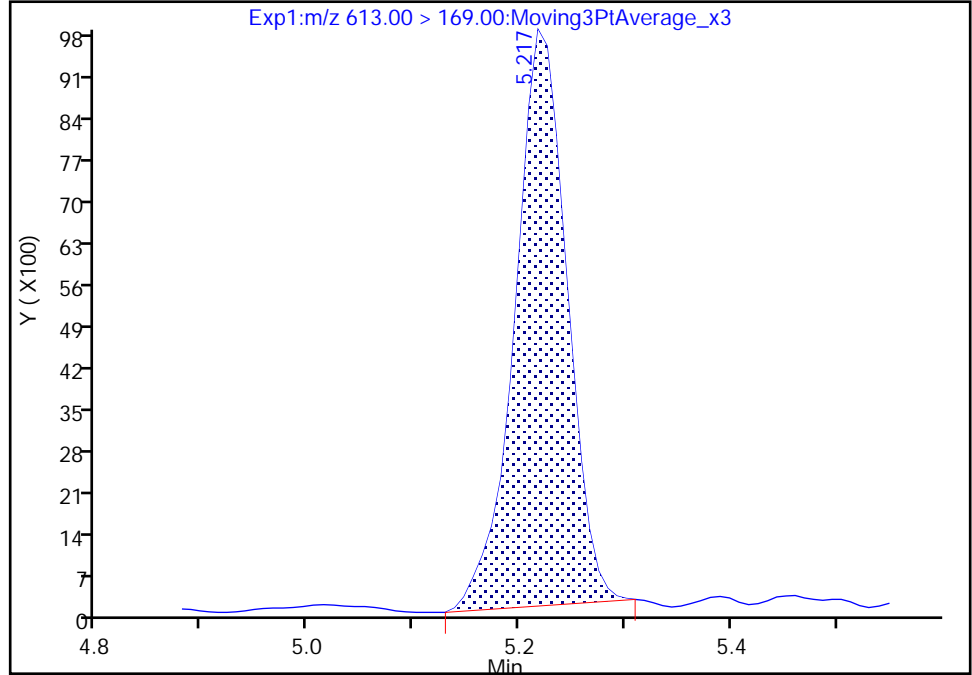
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Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

68 Perfluorododecanoic acid, CAS: 307-55-1

Signal: 2

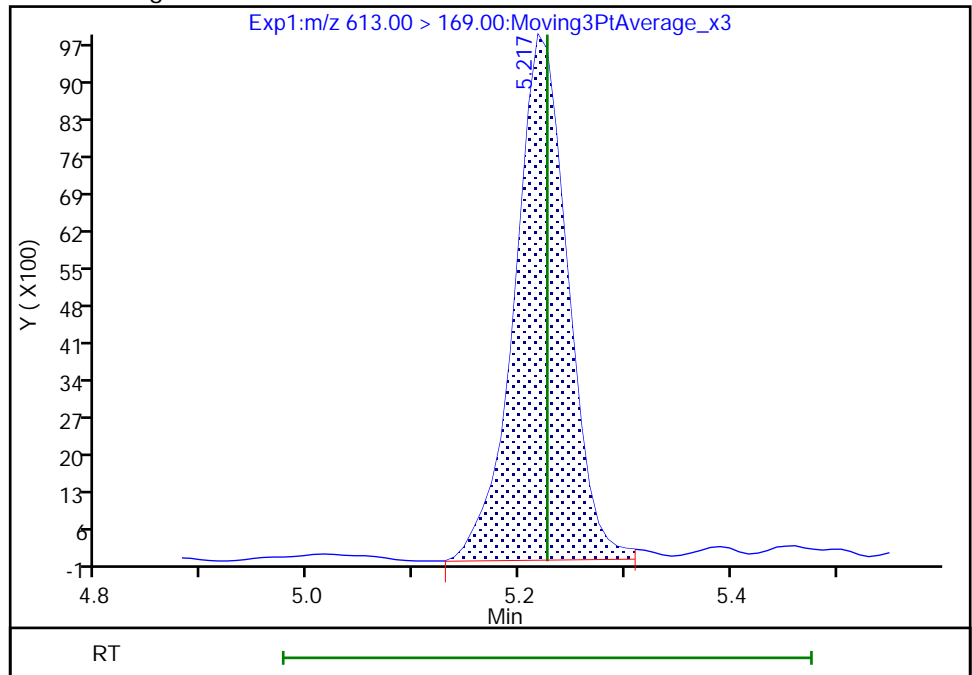
RT: 5.22  
Area: 33126  
Amount: 0.054211  
Amount Units: ng/ml

Processing Integration Results



RT: 5.22  
Area: 34144  
Amount: 0.054211  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:12:05  
Audit Action: Manually Integrated

Eurofins Knoxville

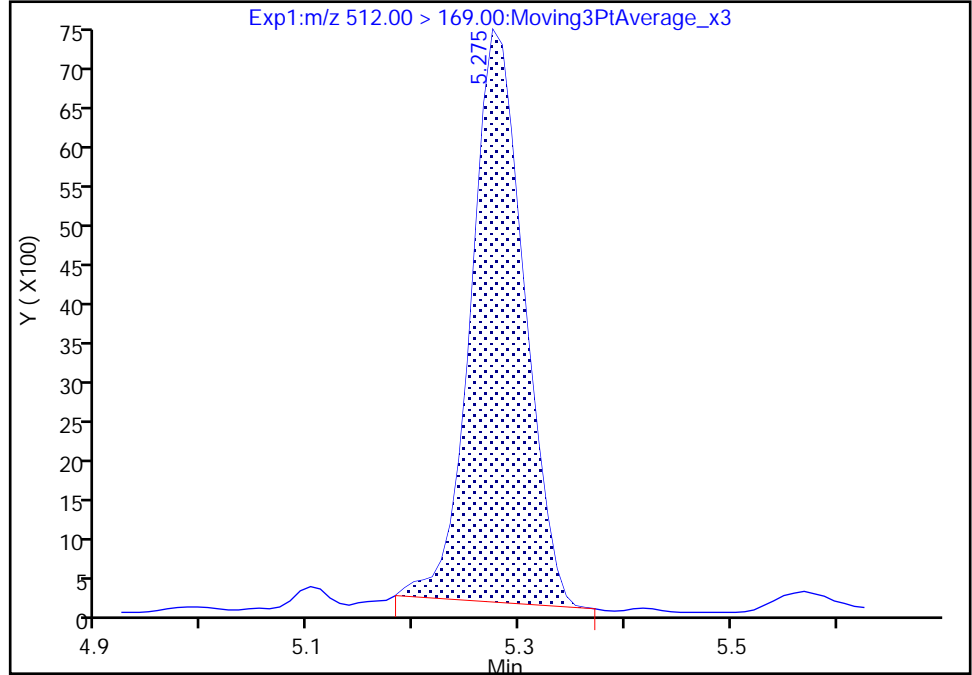
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

74 NMeFOSA, CAS: 31506-32-8

Signal: 1

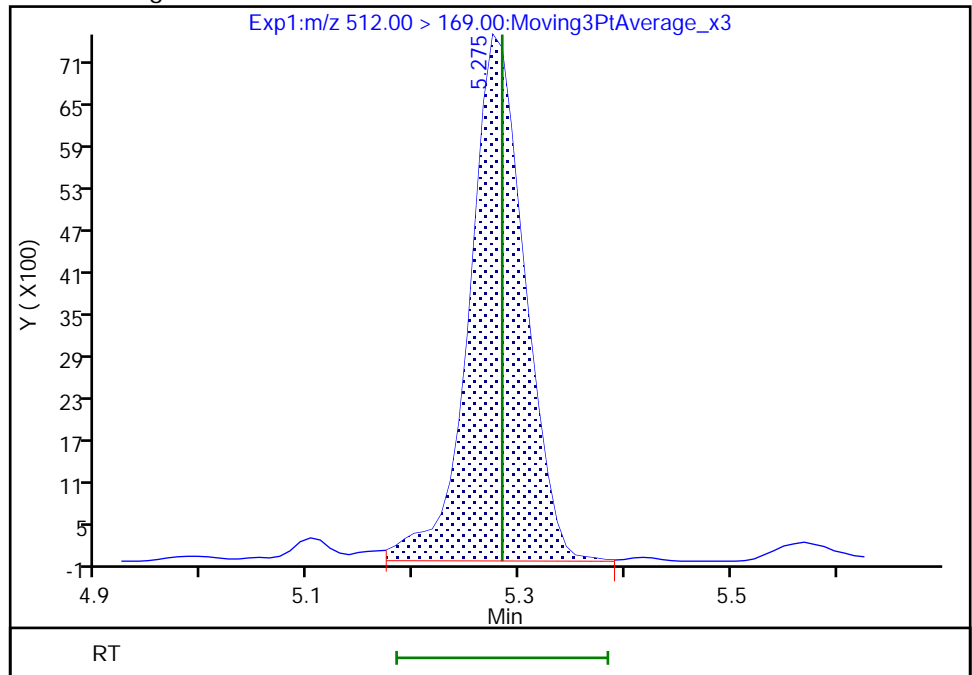
RT: 5.27  
Area: 25496  
Amount: 0.055559  
Amount Units: ng/ml

Processing Integration Results



RT: 5.27  
Area: 27062  
Amount: 0.059327  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:12:33  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

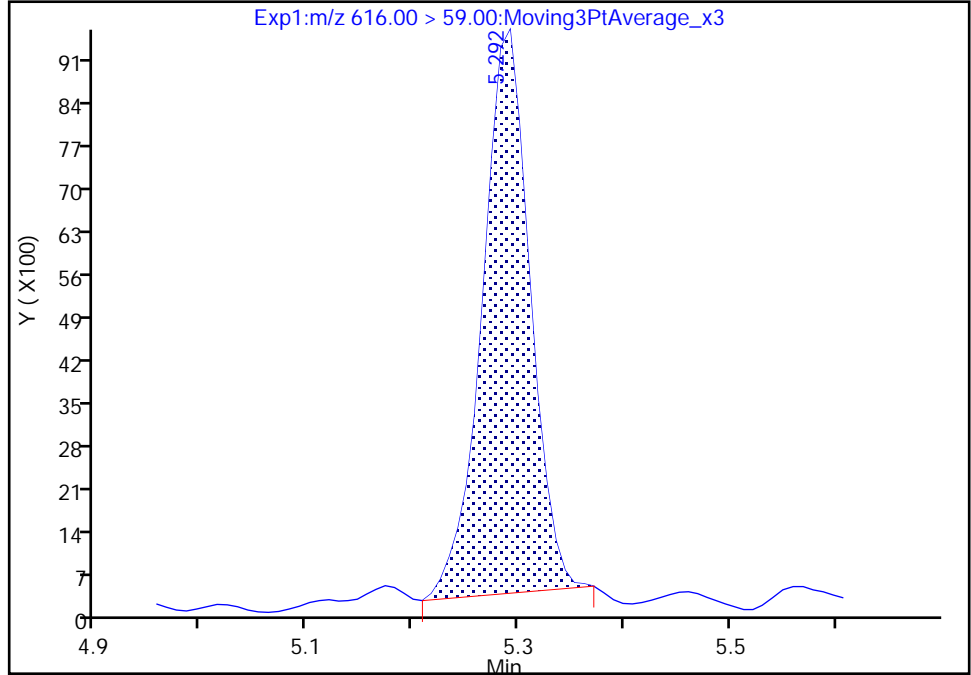
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_004.d  
Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

75 N-MeFOSE-M, CAS: 24448-09-7

Signal: 1

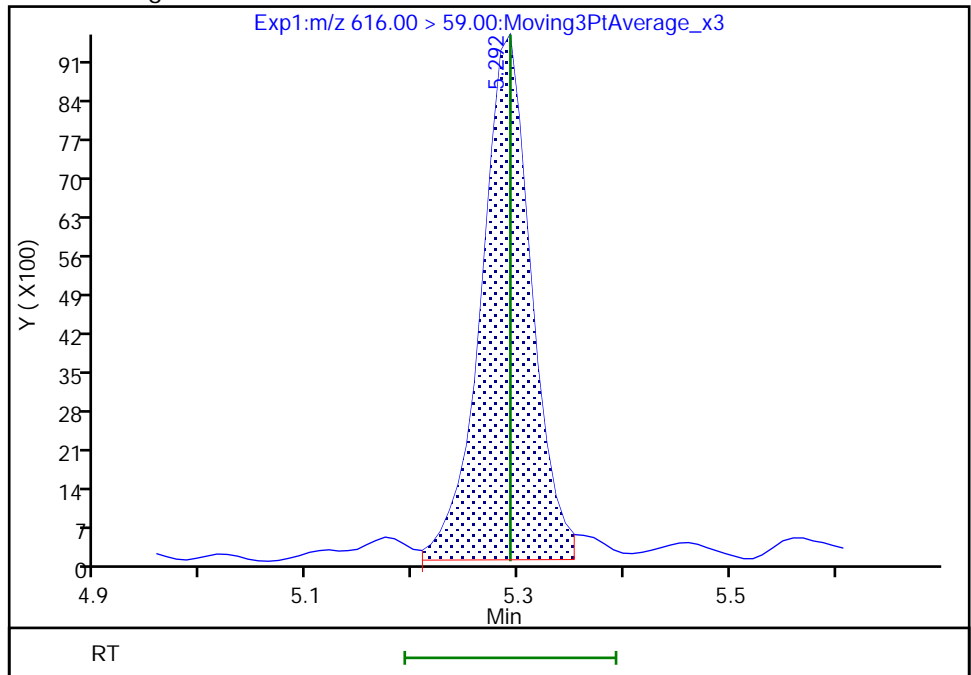
RT: 5.29  
Area: 28859  
Amount: 0.047684  
Amount Units: ng/ml

Processing Integration Results



RT: 5.29  
Area: 31148  
Amount: 0.051772  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:12:48  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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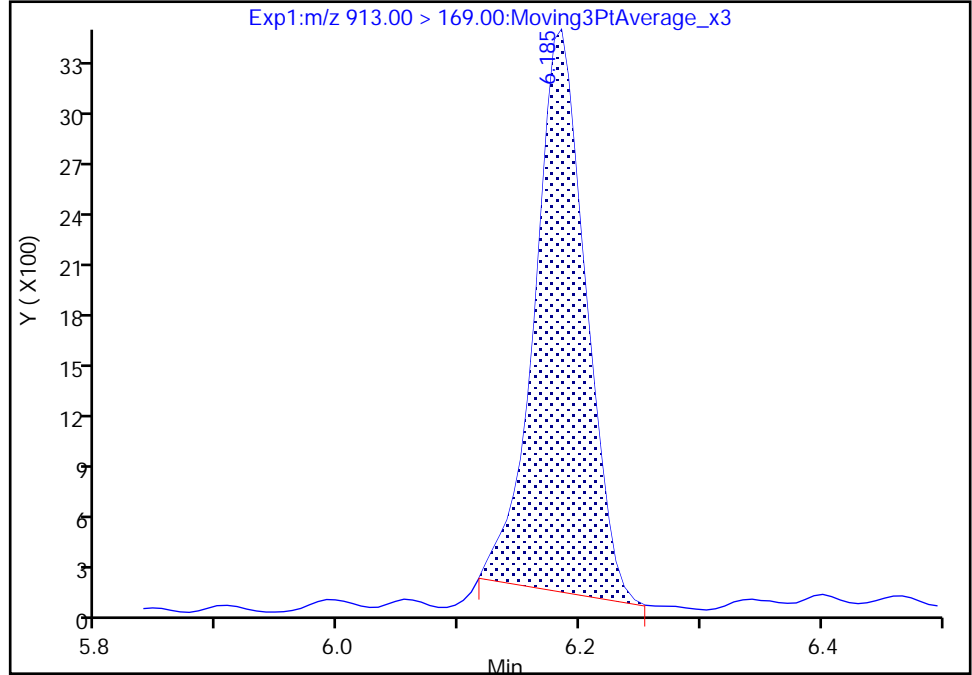
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Injection Date: 18-Feb-2022 19:59:01 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 4 Worklist Smp#: 4  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

86 Perfluorooctadecanoic acid, CAS: 16517-11-6

Signal: 2

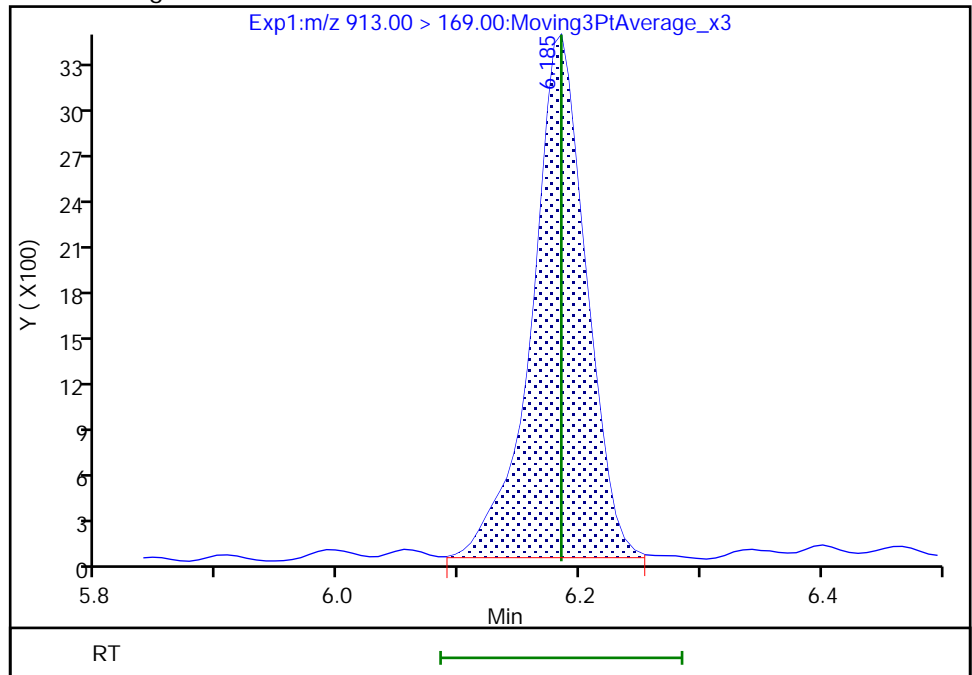
RT: 6.18  
Area: 9584  
Amount: 0.053091  
Amount Units: ng/ml

Processing Integration Results



RT: 6.18  
Area: 10465  
Amount: 0.053091  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:13:06  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59045/5 Calibration Date: 02/18/2022 20:07  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7612		0.960	1.00	-4.0	40.0
PFECA F	AveID	0.7535	0.6998		0.929	1.00	-7.1	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9075		0.965	1.00	-3.5	40.0
3:3 FTCA	QuaIF		0.0516		0.948	1.00	-5.2	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.075		0.867	0.884	-1.9	40.0
PFECA A	Q2ID		1.150		0.981	1.00	-1.9	40.0
PES	Q2ID		2.429		0.912	0.890	2.5	40.0
PFECA B	Q2ID		0.4167		1.01	1.00	0.7	40.0
4:2 FTS	L2ID		2.219		0.911	0.934	-2.4	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7592		0.954	1.00	-4.6	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	0.9275		0.843	0.938	-10.2	40.0
HFPO-DA	L2ID		1.269		1.01	1.00	0.5	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.234		0.811	0.910	-10.9	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.035		1.03	1.00	3.3	40.0
DONA	AveID	2.644	2.414		0.860	0.942	-8.7	40.0
5:3 FTCA	L2ID		3.250		0.862	1.00	-13.8	40.0
6:2 FTUCA	AveID	1.046	0.9822		0.939	1.00	-6.1	40.0
6:2 FTCA	L1ID		0.6398		0.921	1.00	-7.9	40.0
PFECHS	AveID	0.7426	0.6807		0.845	0.922	-8.3	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9012		0.869	0.952	-8.7	40.0
6:2 FTS	L2ID		1.738		0.901	0.948	-5.0	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.003		0.937	1.00	-6.3	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.023		0.829	0.928	-10.6	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7249		0.953	1.00	-4.7	40.0
7:3 FTCA	AveID	5.230	4.762		0.911	1.00	-8.9	40.0
8:2 FTUCA	AveID	0.9565	0.9551		0.999	1.00	-0.1	40.0
8:2 FTCA	AveID	1.811	1.601		0.884	1.00	-11.6	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.059		0.853	0.932	-8.4	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9475		0.899	0.960	-6.3	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9222		0.966	1.00	-3.4	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8690		0.966	1.00	-3.4	40.0
8:2 FTS	L2ID		1.483		0.943	0.958	-1.5	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9830		1.06	1.00	6.3	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8675		0.939	0.964	-2.6	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59045/5 Calibration Date: 02/18/2022 20:07  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9240		0.955	1.00	-4.5	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8751		0.995	1.00	-0.5	40.0
10:2 FTUCA	AveID	1.208	1.127		0.933	1.00	-6.7	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.705		0.922	0.942	-2.2	50.0
10:2 FTCA	Q2ID		0.8909		0.973	1.00	-2.7	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.004		0.972	1.00	-2.8	40.0
10:2 FTS	L2ID		1.955		0.898	0.964	-6.9	50.0
NMeFOSA	L2ID		1.023		0.947	1.00	-5.3	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.198		1.02	1.00	2.1	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8881		0.909	0.968	-6.1	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8280		0.938	1.00	-6.2	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.310		0.923	1.00	-7.7	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.197		0.958	1.00	-4.2	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1210		0.937	1.00	-6.3	40.0
Perfluorohexadecanoic acid	L1ID		1.061		0.931	1.00	-6.9	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9203		0.909	1.00	-9.1	40.0
13C4 PFBA	Ave	1.172	1.169		1.25	1.25	-0.3	50.0
13C5 PFPeA	Ave	0.9197	0.9247		1.26	1.25	0.5	50.0
13C3 PFBS	Ave	0.5817	0.5623		1.12	1.16	-3.3	50.0
M2-4:2 FTS	Ave	0.1821	0.1708		1.10	1.17	-6.2	50.0
13C2 PFHxA	Ave	1.015	1.015		1.25	1.25	0.0	50.0
13C3 HFPO-DA	Ave	0.4963	0.4860		1.22	1.25	-2.1	50.0
18O2 PFHxS	Ave	0.3776	0.3657		1.15	1.18	-3.2	50.0
13C4 PFHpA	Ave	0.9046	0.9043		1.25	1.25	-0.0	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3480		1.29	1.25	3.2	50.0
13C-6:2 FTCA	Ave	0.0260	0.0282		1.35	1.25	8.2	50.0
M2-6:2 FTS	Ave	0.1799	0.1817		1.20	1.19	1.0	50.0
13C4 PFOA	Ave	0.9356	0.9465		1.27	1.25	1.2	50.0
13C4 PFOS	Ave	0.5610	0.5491		1.17	1.20	-2.1	50.0
13C5 PFNA	Ave	1.268	1.258		1.24	1.25	-0.8	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4489		1.24	1.25	-0.7	50.0
13C-8:2 FTCA	Ave	0.0330	0.0328		1.24	1.25	-0.8	50.0
13C8 FOSA	Ave	0.8475	0.8256		1.22	1.25	-2.6	50.0
13C2 PFDA	Ave	1.210	1.213		1.25	1.25	0.3	50.0
M2-8:2 FTS	Ave	0.1961	0.1822		1.11	1.20	-7.1	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59045/5 Calibration Date: 02/18/2022 20:07  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_005.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1040		1.15	1.25	-8.3	50.0
13C2 PFUnA	Ave	1.168	1.179		1.26	1.25	1.0	50.0
d5-NEtFOSAA	Ave	0.1164	0.1230		1.32	1.25	5.6	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5162		1.27	1.25	1.7	50.0
13C-10:2 FTCA	Ave	0.0309	0.0314		1.27	1.25	1.6	50.0
13C2 PFDoA	Ave	1.152	1.163		1.26	1.25	0.9	50.0
13C2 10:2 FTS	Ave	0.1652	0.1646		1.18	1.18	-0.3	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1162		1.23	1.25	-2.0	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0944		1.17	1.25	-6.4	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1232		1.25	1.25	0.1	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0796		1.23	1.25	-1.7	50.0
13C2 PFTeDA	Ave	0.9216	0.9320		1.26	1.25	1.1	50.0
13C2 PFHxDA	Ave	0.5997	0.5896		1.23	1.25	-1.7	50.0
13C8 PFOA	AveID	0.9229	0.8708		1.18	1.25	-5.6	50.0
13C8 PFOS	AveID	0.2212	0.2141		1.16	1.20	-3.2	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_005.d  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 18-Feb-2022 20:07:49 ALS Bottle#: 5 Worklist Smp#: 5  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-005 ccvis  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:47:27 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 11:15:32

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	3971009	0.9597		96.0	1606	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.681	6521357	1.25		99.7	24257	
3 PFECA F										
229.00 > 85.00	2.919	2.919	0.0	0.937	2888116	0.9287		92.9	9485	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.754	5158663	1.26		101	22046	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.123	3.123	0.0	1.003	3745260	0.9648		96.5	1748	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.131	0.0	1.000	129569	0.9483	Target=1.13	94.8	1082	
241.00 > 116.90	3.131	3.131	0.0	1.000	111573		1.16(0.56-1.69)		197	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.758	2917651	1.12		96.7	12137	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.140	3.140	0.0	1.003	2384691	0.8671	Target=2.61	98.1	3802	
298.90 > 99.00	3.131	3.140	-0.009	1.000	904504		2.64(1.31-3.92)		3591	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	4746039	0.9811		98.1	11526	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	5426034	0.9120		102	16425	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.981	1886860	1.01		101	8095	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.827	890101	1.10		93.8	1758	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.416	3.416	0.0	1.000	1579966	0.9114		97.6	9878	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.835	5660776	1.25		100	15959	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	2183591	0.8428	Target=3.55	89.8	6370	
349.00 > 99.00	3.448	3.448	0.0	1.101	669127		3.26(1.78-5.33)		5905	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	3437908	0.9540	Target=11.60	95.4	1926	
313.00 > 119.00	3.448	3.448	0.0	1.000	315469		10.90(5.80-17.40)		388	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.553	3.553	0.0	0.860	2711553	1.22		97.9	12042	
17 HFPO-DA										
285.00 > 169.00	3.553	3.553	0.0	1.000	2752460	1.00	Target=2.45	100	1787	
329.00 > 169.00	3.553	3.553	0.0	1.000	1076483		2.56(1.23-3.68)		1814	
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.783	0.0	0.916	1929765	1.15		96.8	7561	
21 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.783	3.783	0.0	1.000	1832050	0.8105	Target=3.44	89.1	3359	M
399.00 > 99.00	3.783	3.783	0.0	1.000	562452		3.26(1.72-5.17)		2372	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.793	0.0	0.918	5044718	1.25		100.0	13121	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.793	3.793	0.0	1.000	4178773	1.03	Target=3.25	103	3713	
363.00 > 169.00	3.793	3.793	0.0	1.000	1272988		3.28(1.62-4.87)		2092	
25 DONA										
377.00 > 251.00	3.829	3.829	0.0	0.866	5573555	0.8603	Target=1.74	91.3	14370	
377.00 > 85.00	3.829	3.829	0.0	0.866	3259235		1.71(0.87-2.61)		119	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	408355	0.8618	Target=1.11	86.2	1706	
340.88 > 216.90	3.853	3.853	0.0	0.987	385528		1.06(0.56-1.67)		979	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.887	3.887	0.0	0.941	1941704	1.29		103	3939	
27 6:2 FTUCA										
356.86 > 292.90	3.895	3.895	0.0	1.002	1525712	0.9387	Target=13.05	93.9	2741	
356.86 > 243.00	3.895	3.895	0.0	1.002	115635		13.19(6.52-19.57)		505	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.904	0.0	0.945	157054	1.35		108	1013	
29 6:2 FTCA										
377.10 > 63.00	3.913	3.913	0.0	1.002	80392	0.9212	Target=1.29	92.1	332	
377.10 > 313.10	3.913	3.913	0.0	1.002	59395		1.35(0.65-1.94)		88.3	
32 PFECHS										
460.80 > 380.90	4.065	4.065	0.0	0.984	2651076	0.8451	Target=1.75	91.7	6703	
460.80 > 98.90	4.065	4.065	0.0	0.984	1525294		1.74(0.87-2.62)		6530	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.112	4.112	0.0	0.930	2102741	0.8687	Target=3.72	91.3	5247	
449.00 > 99.00	4.112	4.112	0.0	0.930	521964		4.03(1.86-5.57)		2346	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	963015	1.20		101	2190	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	1336019	0.9005		95.0	7784	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	0.998	4598169	1.18		94.4	11792	
D 31 13C4 PFOA										
417.00 > 372.00	4.131	4.131	0.0	1.000	5280203	1.26		101	11468	
* 30 13C2 PFOA										
415.00 > 370.00	4.131	4.131	0.0		5578839	1.25			10220	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.131	4.131	0.0	1.000	4238732	0.9372	Target=2.51	93.7	3583	
413.00 > 169.00	4.131	4.131	0.0	1.000	1794763		2.36(1.26-3.77)		3585	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.421	4.421	0.0	1.000	627173	1.16		96.8	2260	
D 39 13C4 PFOS										
503.00 > 80.00	4.421	4.421	0.0	1.070	2928760	1.17		97.9	2844	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.421	4.421	0.0	1.000	2327763	0.8293	Target=4.30	89.4	3201	M
499.00 > 99.00	4.421	4.421	0.0	1.000	517142		4.50(2.15-6.45)		1636	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.439	0.0	1.000	4070770	0.9530	Target=3.60	95.3	4674	
463.00 > 169.00	4.439	4.439	0.0	1.000	1004659		4.05(1.80-5.40)		3452	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.439	0.0	1.075	7019882	1.24		99.2	9926	
43 7:3 FTCA										
441.00 > 337.00	4.529	4.529	0.0	0.993	696846	0.9106	Target=1.42	91.1	2089	
441.00 > 317.00	4.529	4.529	0.0	0.993	486795		1.43(0.71-2.13)		2019	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	0.998	1913317	1.00	Target=35.37	99.9	5000	
456.86 > 343.00	4.553	4.545	0.008	1.000	55830		34.27(17.68-53.05)		188	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.553	4.553	0.0	1.000	2504205	1.24		99.3	7044	
46 8:2 FTCA										
477.00 > 393.10	4.562	4.562	0.0	1.000	234303	0.8842	Target=3.35	88.4	1299	
477.00 > 63.20	4.562	4.562	0.0	1.000	74062		3.16(1.68-5.03)		347	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.562	4.562	0.0	1.104	182910	1.24		99.2	573	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.108	4702482	0.8534		91.6	6640	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.062	2229211	0.8993	Target=3.99	93.7	4175	
549.00 > 99.00	4.697	4.697	0.0	1.062	569671		3.91(2.00-5.99)		1649	
D 55 13C8 FOSA										
506.00 > 78.00	4.714	4.714	0.0	1.141	4605754	1.22		97.4	4676	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.714	4.714	0.0	1.000	3397888	0.9656		96.6	5284	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.731	4.731	0.0	1.000	4704878	0.9659	Target=10.58	96.6	3958	
513.00 > 169.00	4.731	4.731	0.0	1.000	422073		11.15(5.29-15.88)		305	
D 52 13C2 PFDA										
515.00 > 470.00	4.731	4.731	0.0	1.145	6767425	1.25		100	12692	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.740	0.0	1.147	973900	1.11		92.9	2172	
53 8:2 FTS										
527.00 > 507.00	4.740	4.740	0.0	1.000	1155178	0.9433		98.5	3146	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.179	580399	1.15		91.7	403	
57 NMeFOSAA										
570.00 > 419.00	4.880	4.880	0.0	1.002	456413	1.06		106	648	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.121	2049621	0.9388	Target=3.55	97.4	5437	
599.00 > 99.00	4.957	4.957	0.0	1.121	559691		3.66(1.78-5.33)		2234	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.995	4.995	0.0	1.000	4862863	0.9554	Target=8.26	95.5	8106	
563.00 > 169.00	4.986	4.995	-0.009	0.998	582534		8.35(4.13-12.39)		1441	
D 59 13C2 PFUnA										
565.00 > 520.00	4.995	4.995	0.0	1.209	6578848	1.26		101	11408	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.212	686174	1.32		106	3012	
62 NEtFOSAA										
584.00 > 419.00	5.015	5.015	0.0	1.002	480364	0.99		99.5	728	M
65 10:2 FTUCA										
556.86 > 492.90	5.093	5.093	0.0	1.000	2595501	0.9325		93.3	6172	
63 11C1FOS										
631.00 > 451.00	5.093	5.093	0.0	1.152	3935222	0.9217		97.8	10083	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.093	5.093	0.0	1.233	2879939	1.27		102	12599	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.112	5.112	0.0	1.237	175222	1.27		102	1140	
66 10:2 FTCA										
576.80 > 493.00	5.112	5.112	0.0	1.000	124883	0.9732	Target=2.53	97.3	612	
576.80 > 63.10	5.112	5.112	0.0	1.000	59704		2.09(1.26-3.79)		238	
D 69 13C2 PFDaA										
615.00 > 570.00	5.226	5.226	0.0	1.265	6489765	1.26		101	16030	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	5212239	0.9718	Target=6.85	97.2	4842	
613.00 > 169.00	5.226	5.226	0.0	1.000	696779		7.48(3.43-10.28)		1450	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.269	869975	1.18		99.7	5039	
71 10:2 FTS										
627.00 > 607.00	5.251	5.251	0.0	1.002	1384736	0.8976		93.1	5939	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.284	5.284	0.0	1.279	648313	1.23		98.0	571	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
74 NMeFOSA										
512.00 > 169.00	5.284	5.284	0.0	1.000	431271	0.9474		94.7	717	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.284	5.284	0.0	1.279	526854	1.17		93.6	52.3	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.002	621129	1.02		102	930	
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.221	2106996	0.9094	Target=4.22	93.9	4001	
699.00 > 99.00	5.399	5.399	0.0	1.221	493365		4.27(2.11-6.34)		2428	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.435	5.435	0.0	1.040	4299046	0.9377	Target=6.32	93.8	4556	
663.00 > 169.00	5.435	5.435	0.0	1.040	652365		6.59(3.16-9.48)		2348	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.316	687303	1.25		100	356	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.320	444089	1.23		98.3	822	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	720103	0.9230		92.3	874	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.000	425238	0.9582		95.8	671	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	503325	0.9371	Target=1.01	93.7	2125	
713.00 > 219.00	5.608	5.617	-0.009	0.998	499770		1.01(0.51-1.52)		3297	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.360	5199443	1.26		101	13941	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	2791573	0.9308	Target=8.64	93.1	3097	
813.00 > 169.00	5.924	5.924	0.0	1.000	339148		8.23(4.32-12.97)		1108	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.434	3289417	1.23		98.3	4792	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.185	6.185	0.0	1.044	2421759	0.9086	Target=11.77	90.9	3154	
913.00 > 169.00	6.185	6.185	0.0	1.044	209257		11.57(5.88-17.65)		874	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL



Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_005.d

Injection Date: 18-Feb-2022 20:07:49

Instrument ID: LCA

Lims ID: CCVIS

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 5

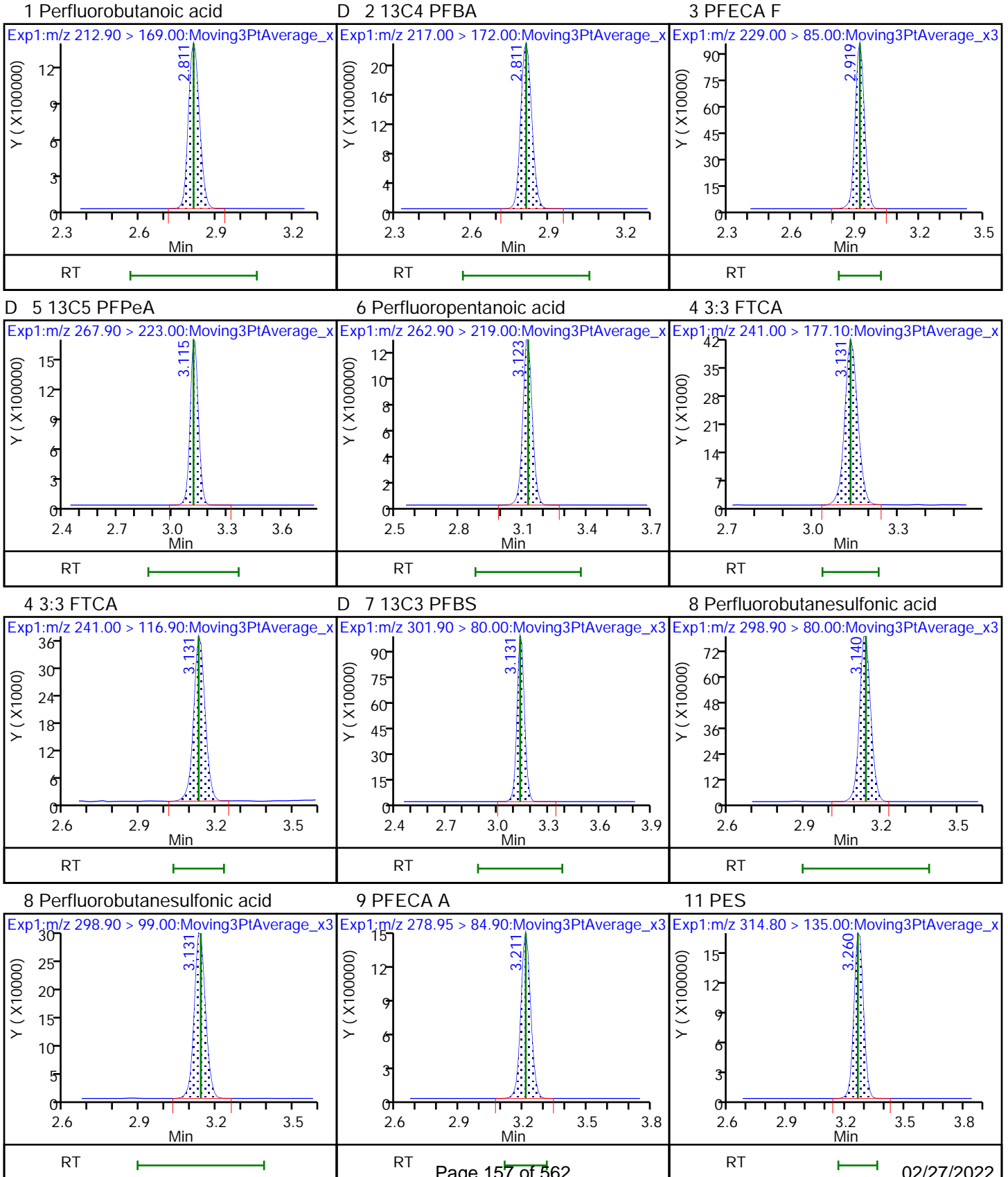
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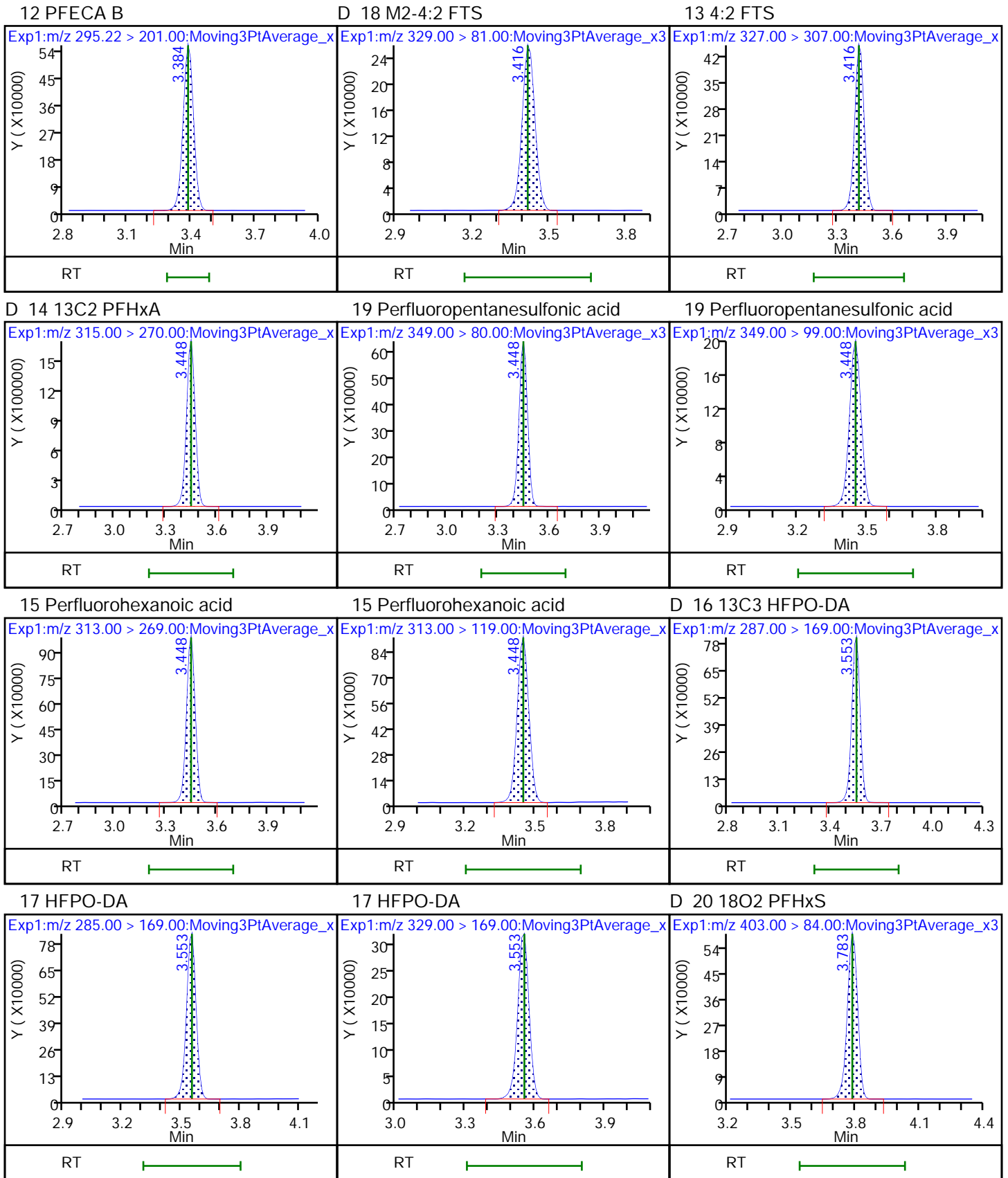
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

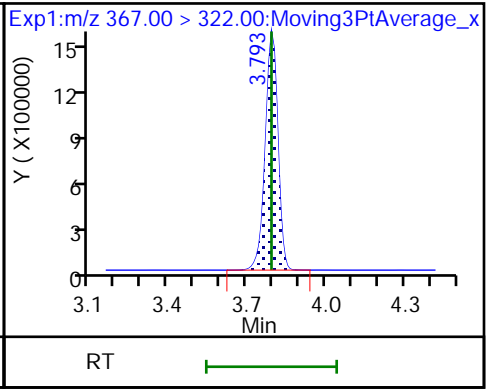
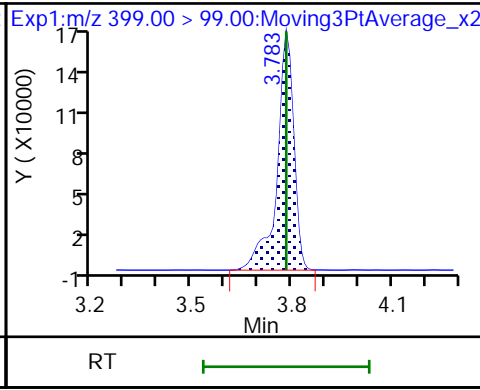
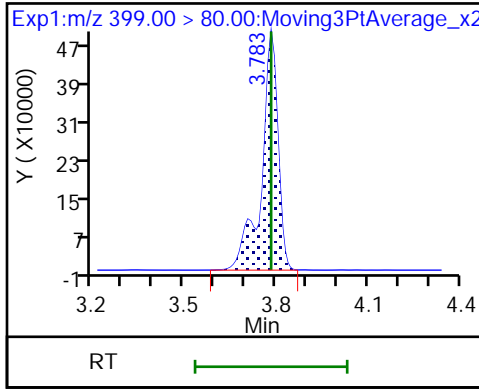




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

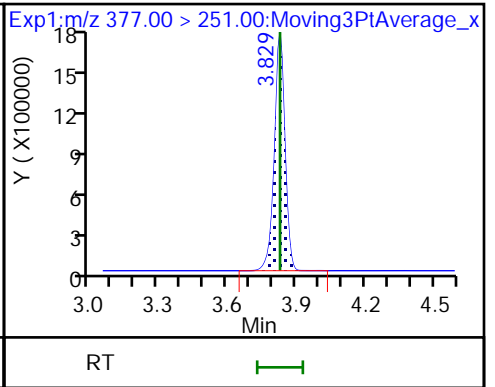
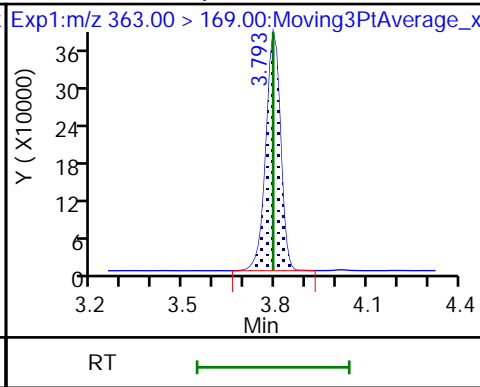
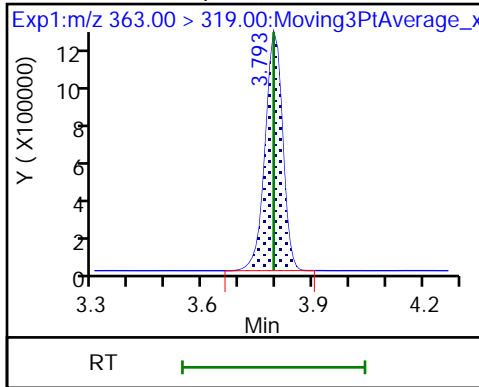
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

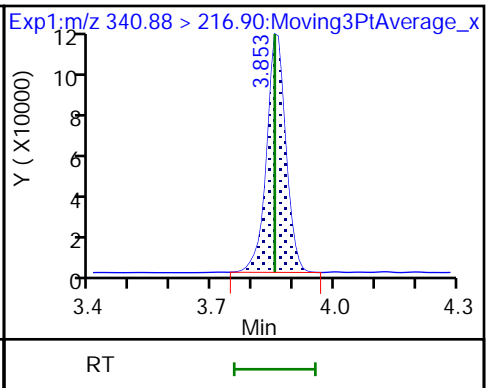
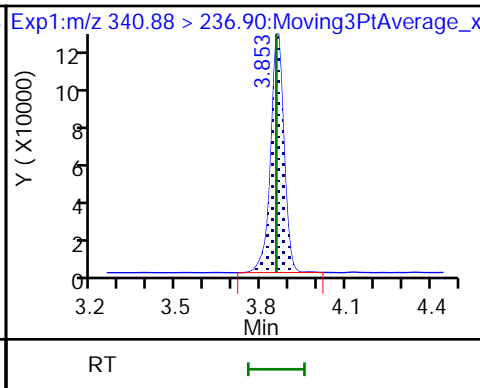
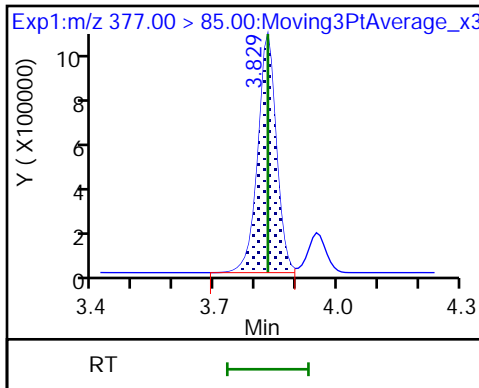
25 DONA



25 DONA

26 5:3 FTCA

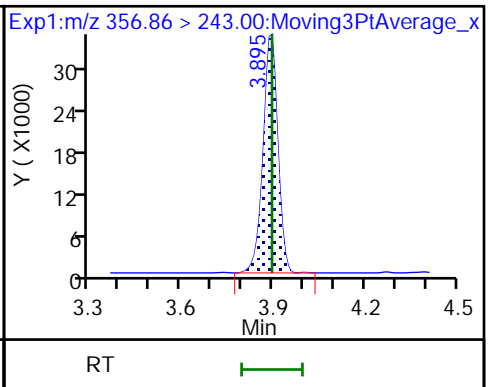
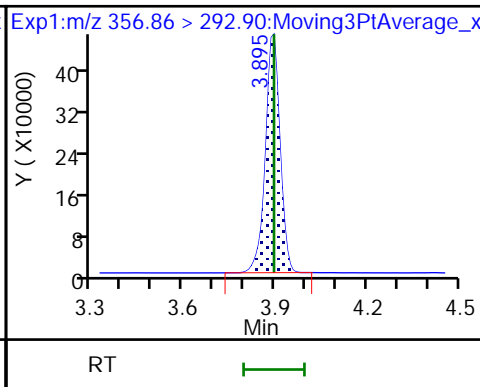
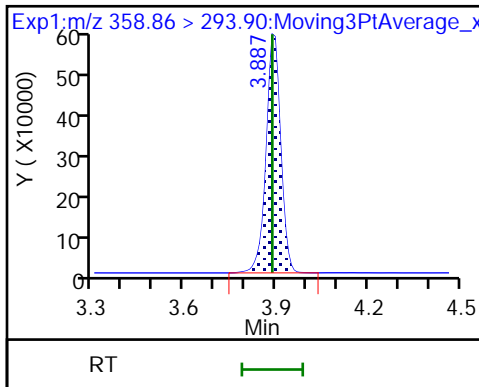
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

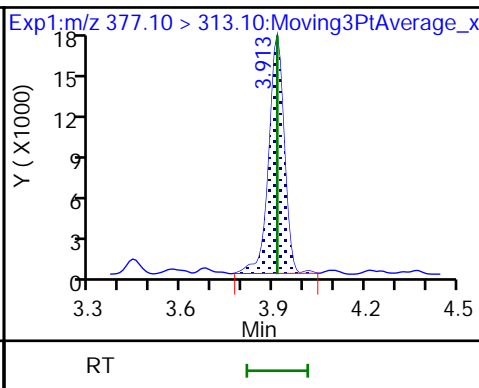
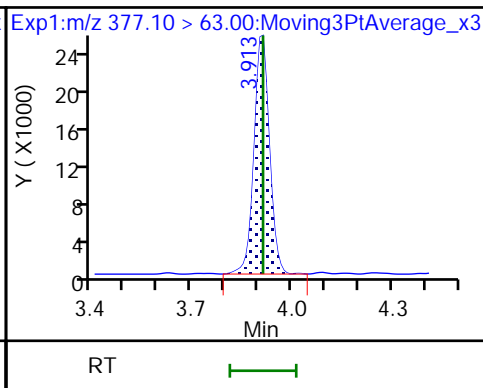
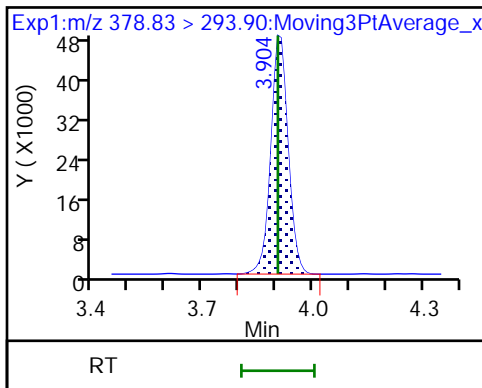
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

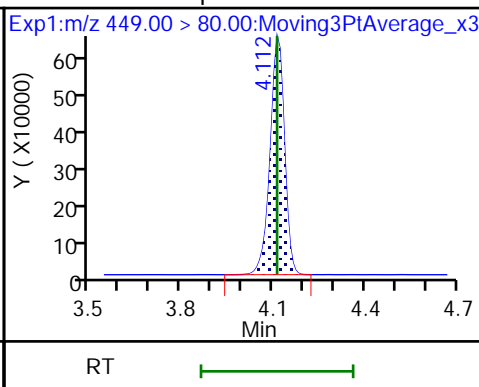
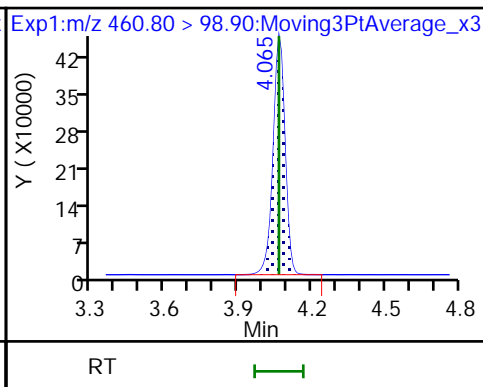
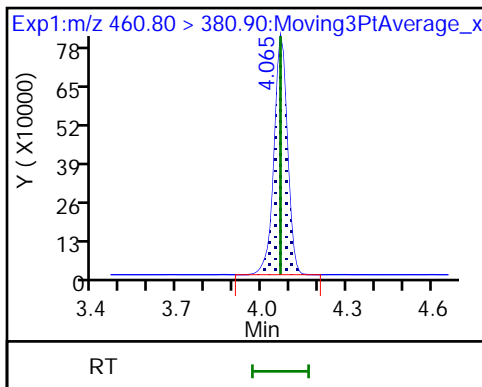
29 6:2 FTCA



32 PFECHS

32 PFECHS

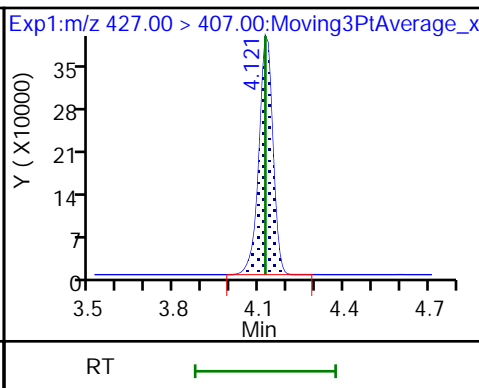
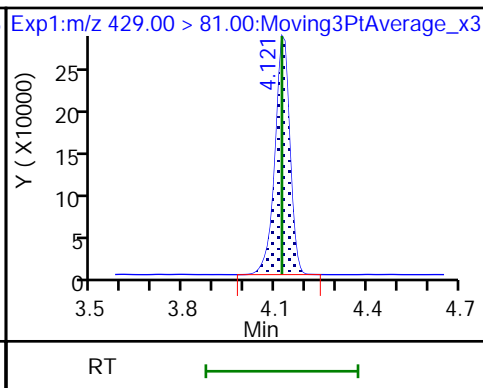
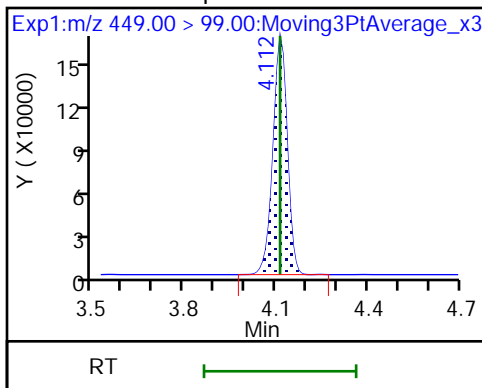
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

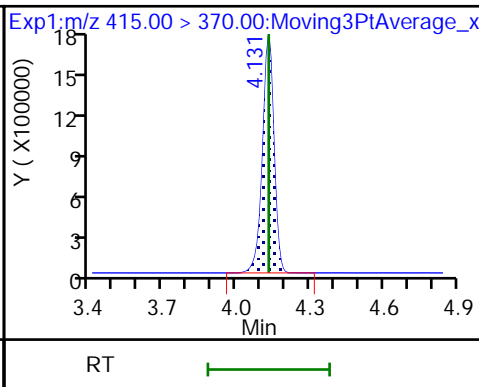
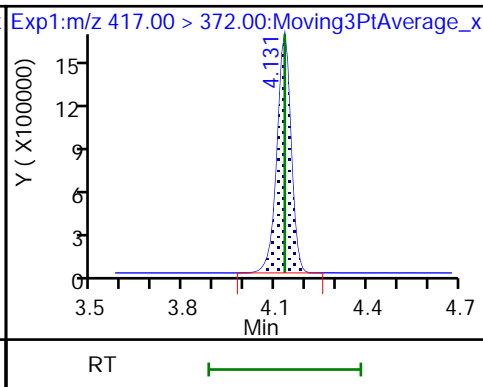
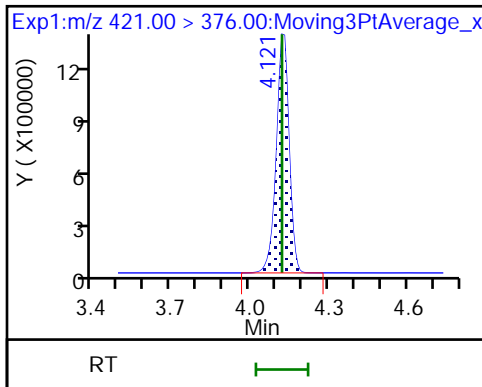
35 6:2 FTS

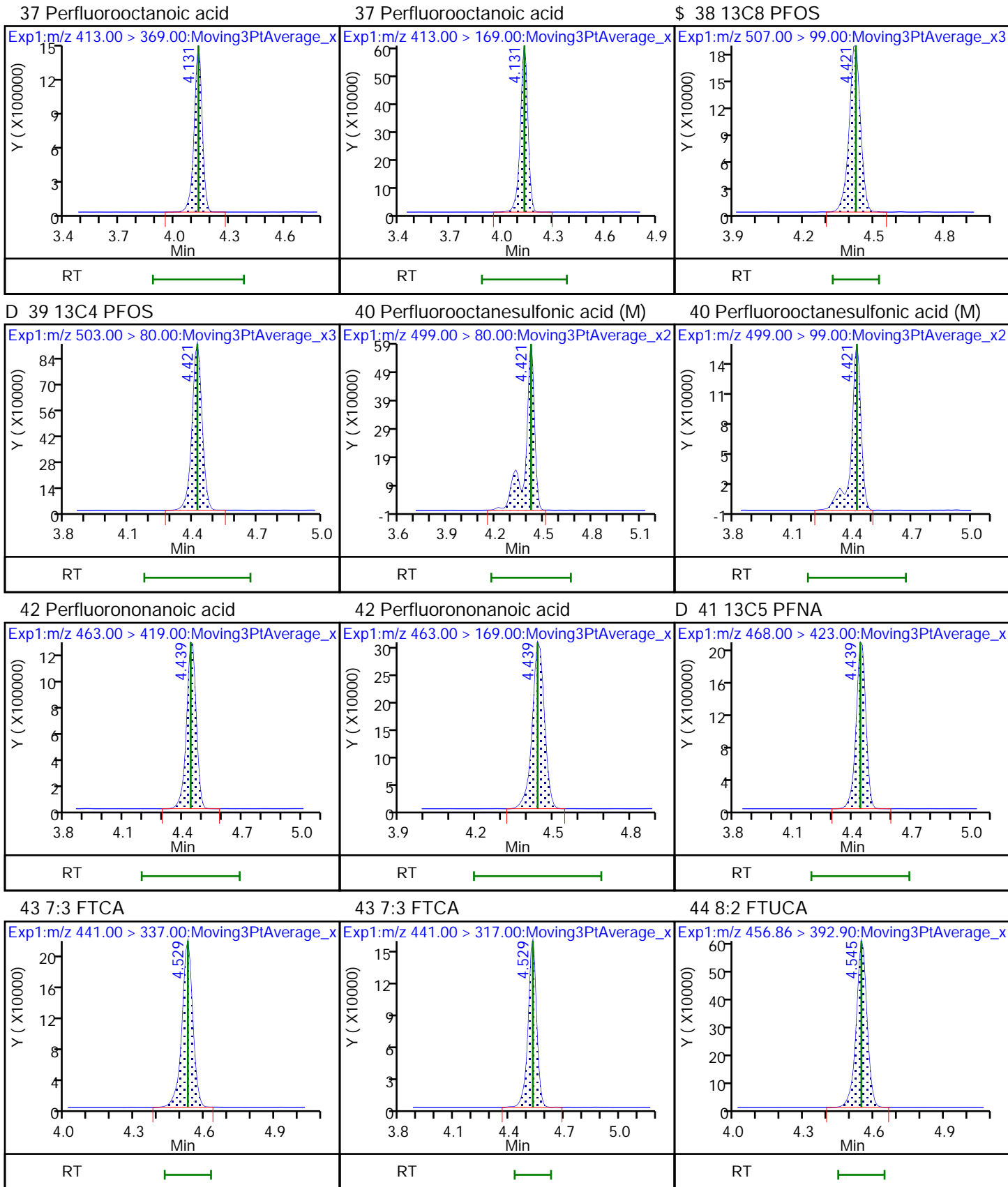


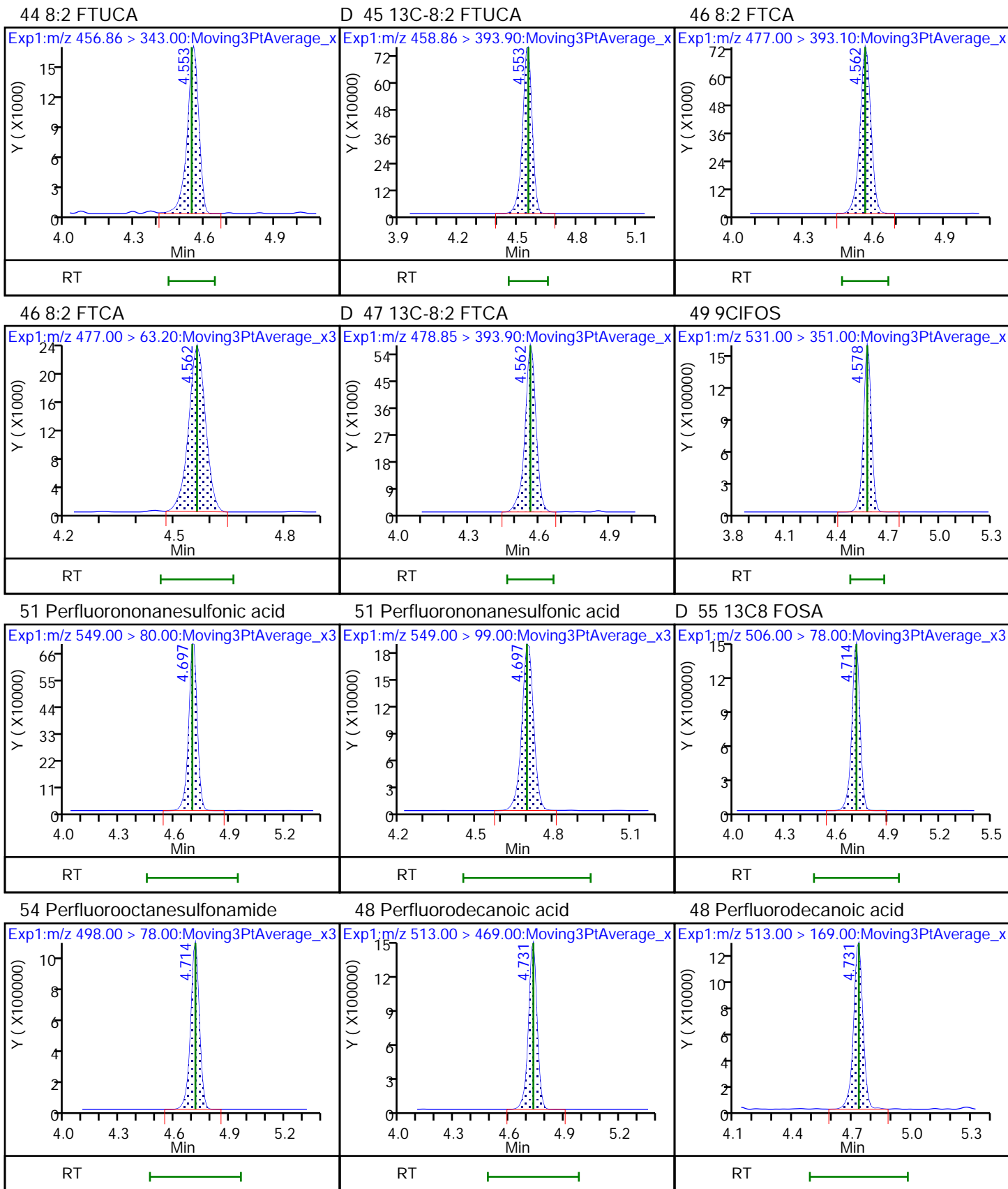
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



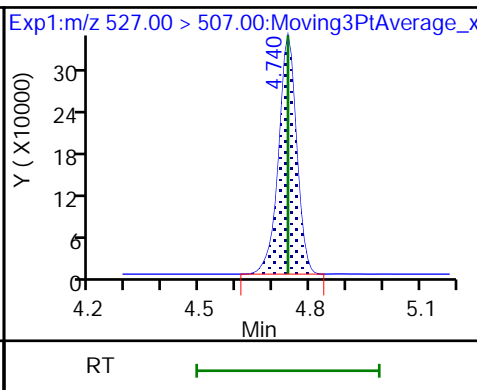
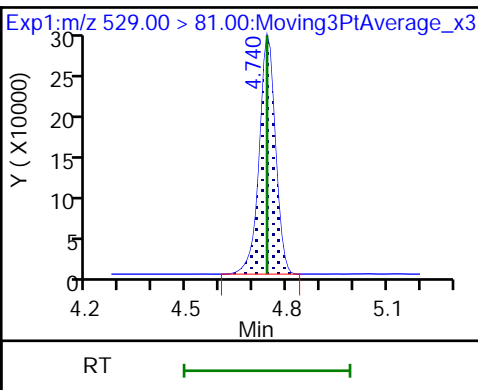
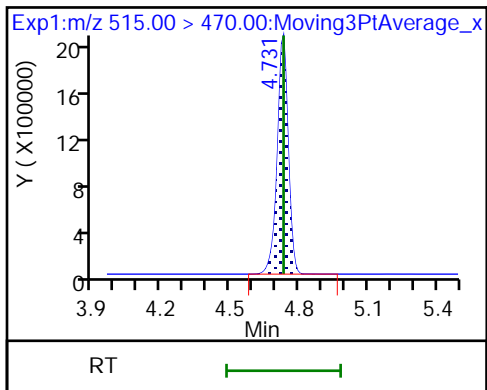




D 52 13C2 PFDA

D 50 M2-8:2 FTS

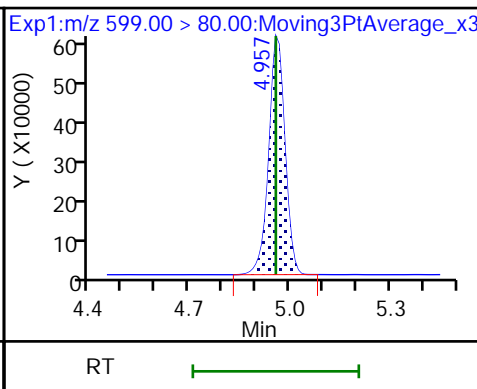
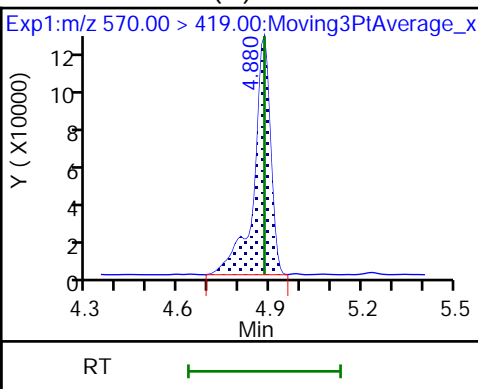
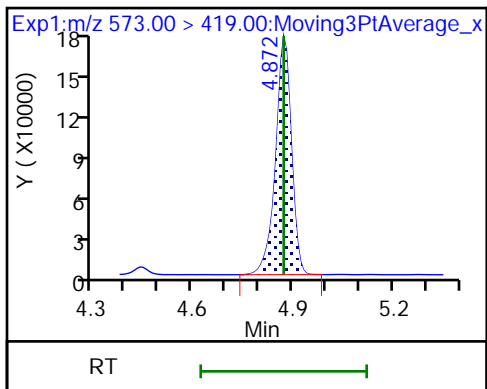
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

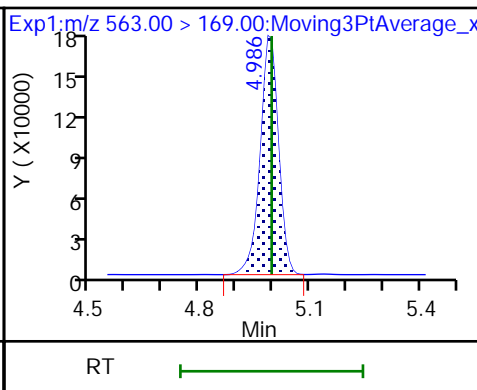
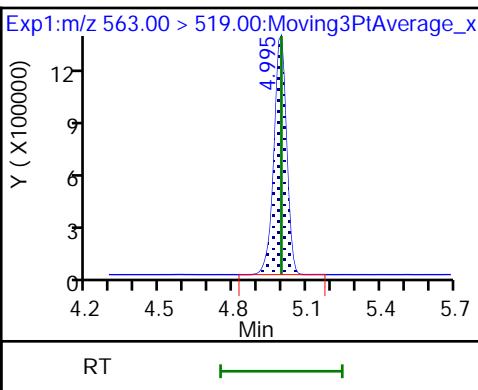
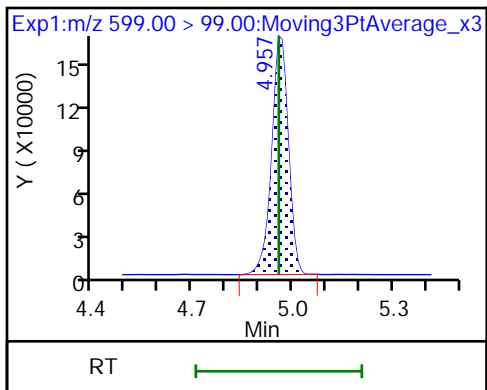
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

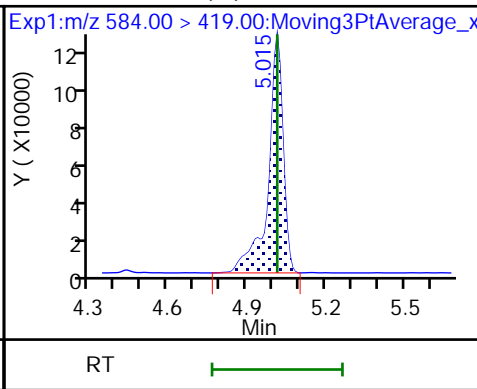
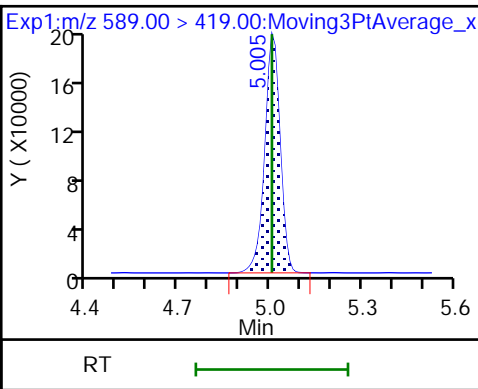
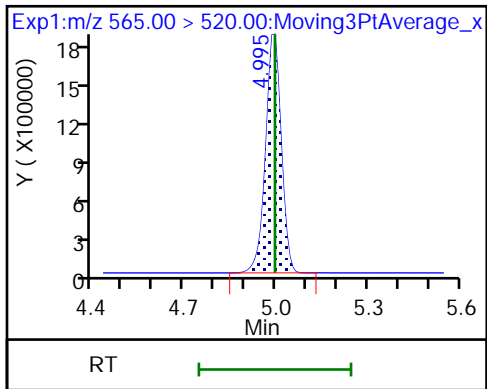
60 Perfluoroundecanoic acid

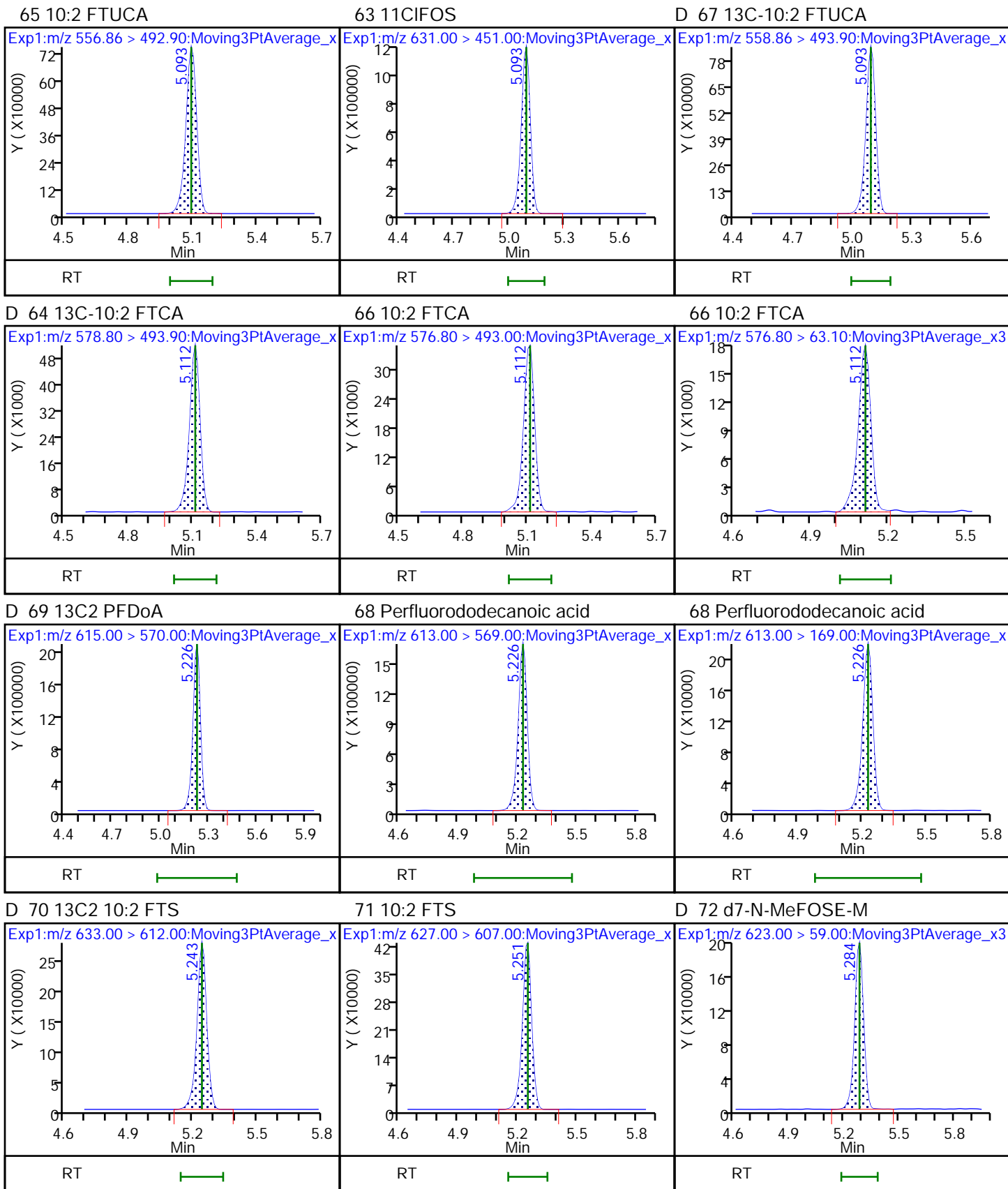


D 59 13C2 PFUnA

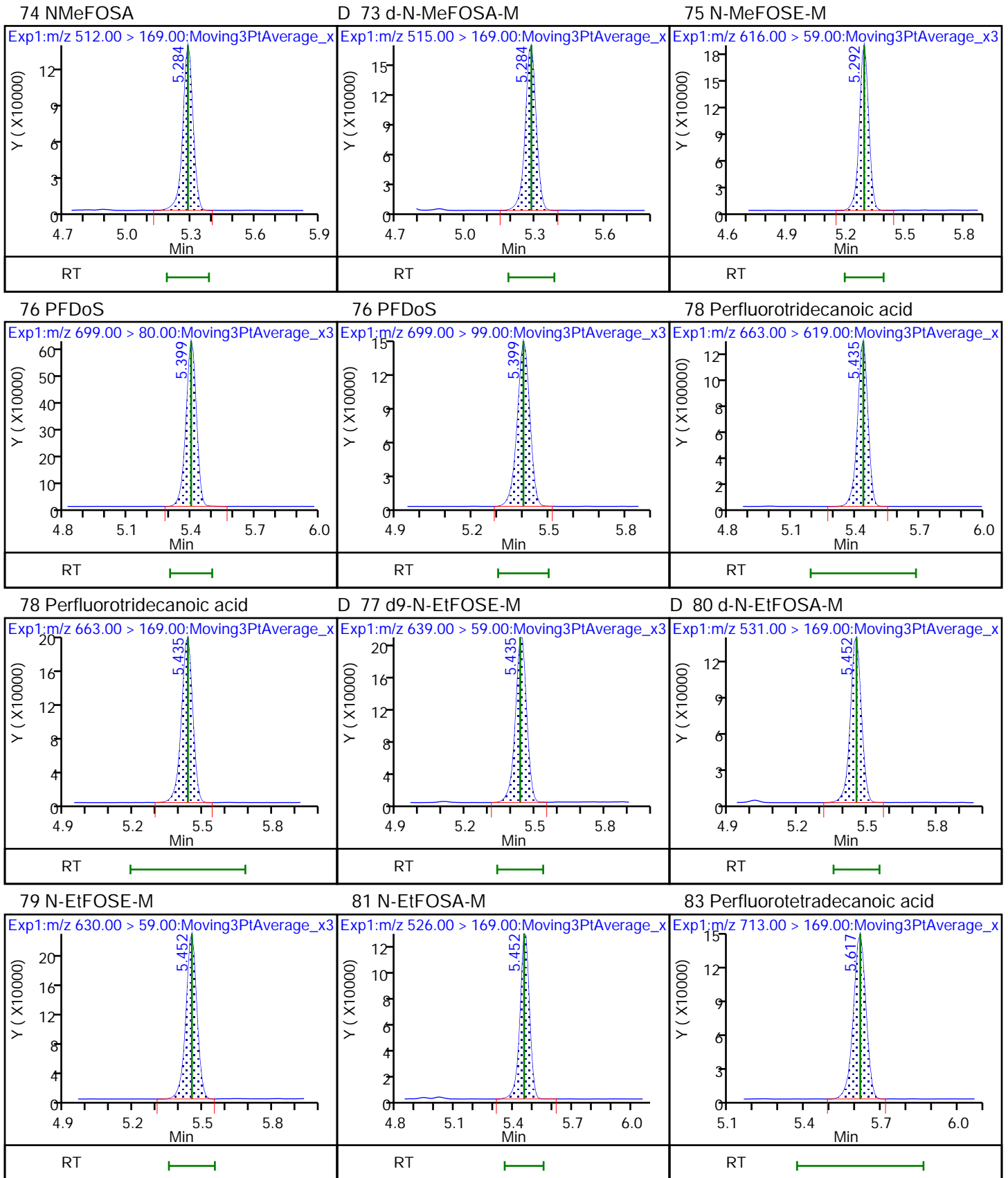
D 61 d5-NEtFOSAA

62 NEtFOSAA (M)





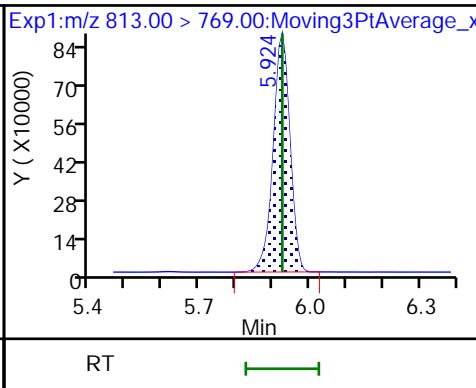
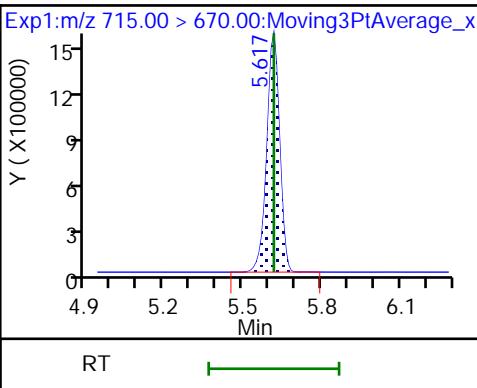
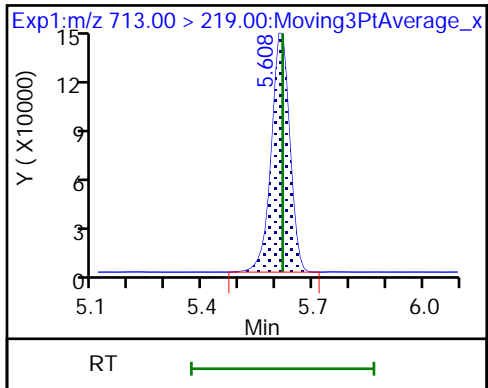




83 Perfluorotetradecanoic acid

D 82 13C2 PFTeDA

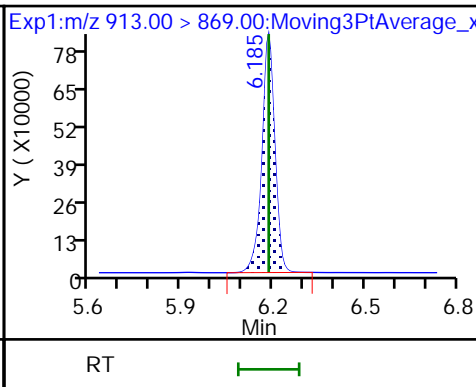
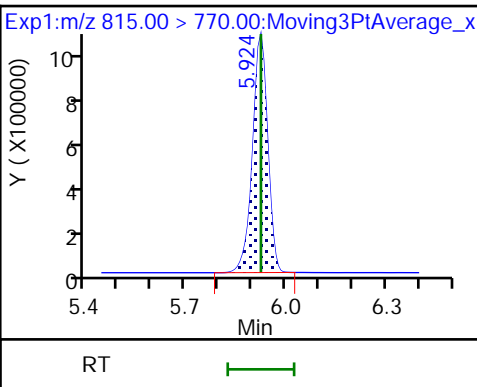
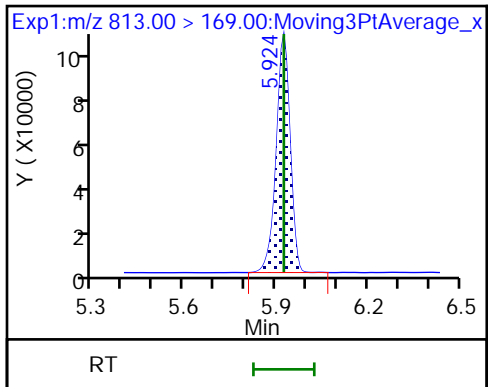
85 Perfluorohexadecanoic acid



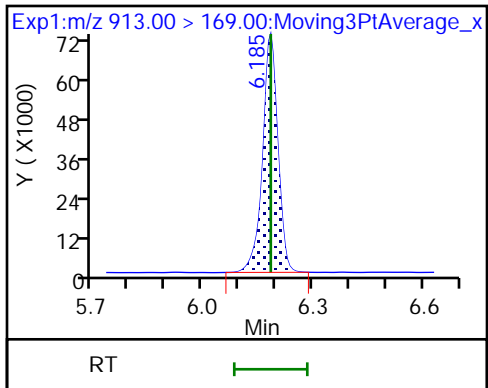
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid



86 Perfluorooctadecanoic acid



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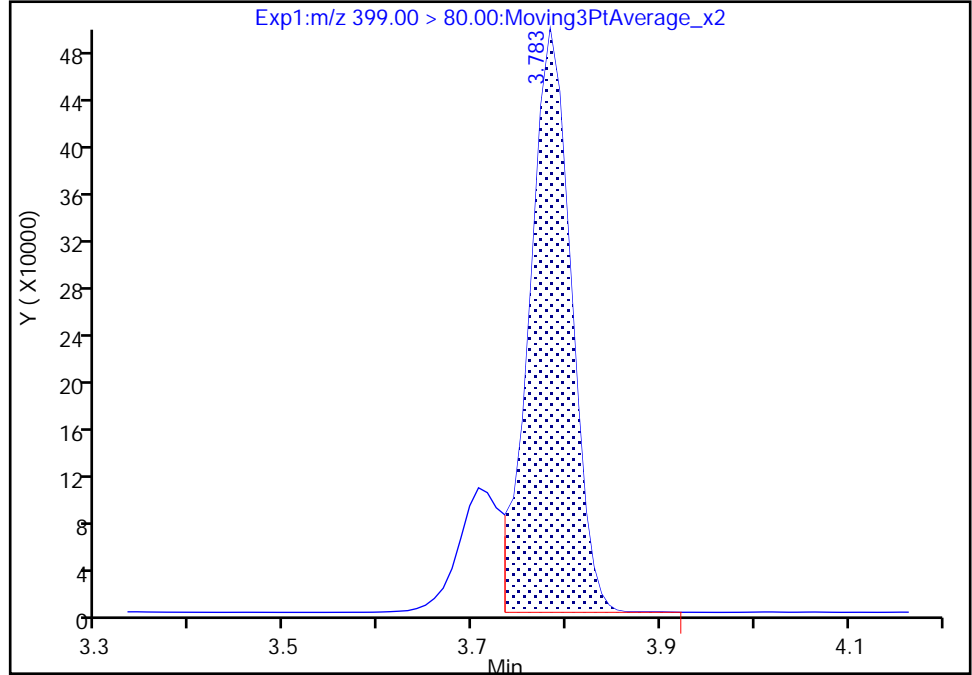
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Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

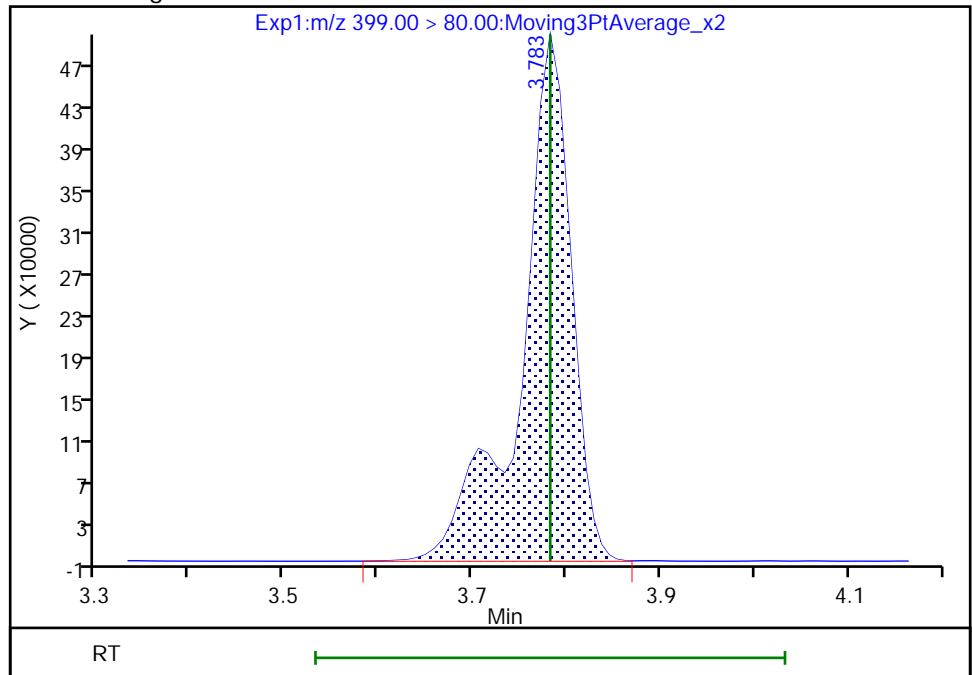
RT: 3.78  
Area: 1509240  
Amount: 0.667686  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 1832050  
Amount: 0.810497  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:14:04  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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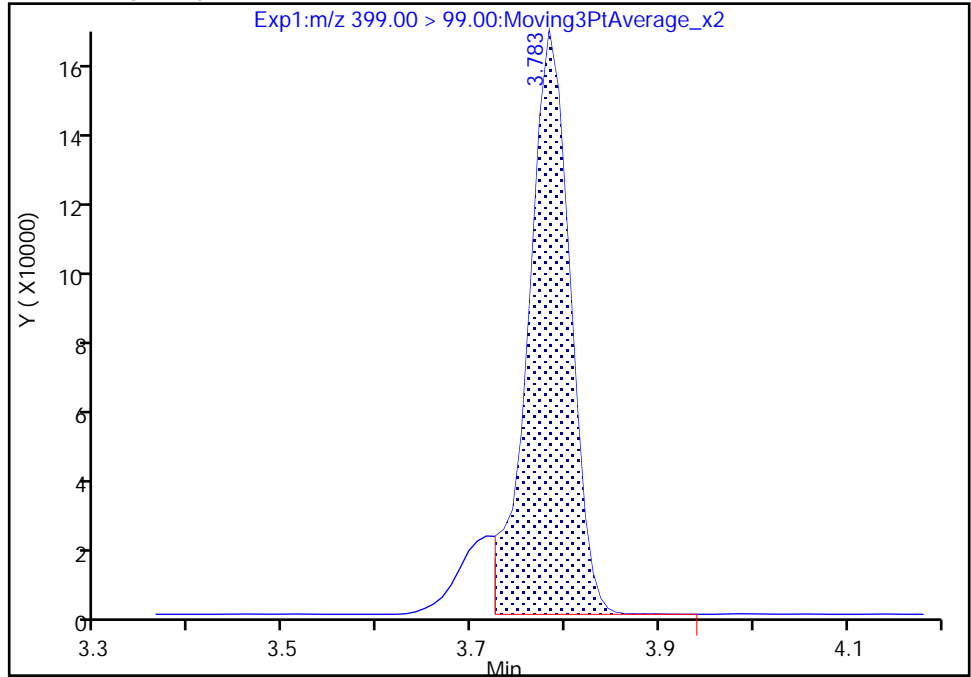
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Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

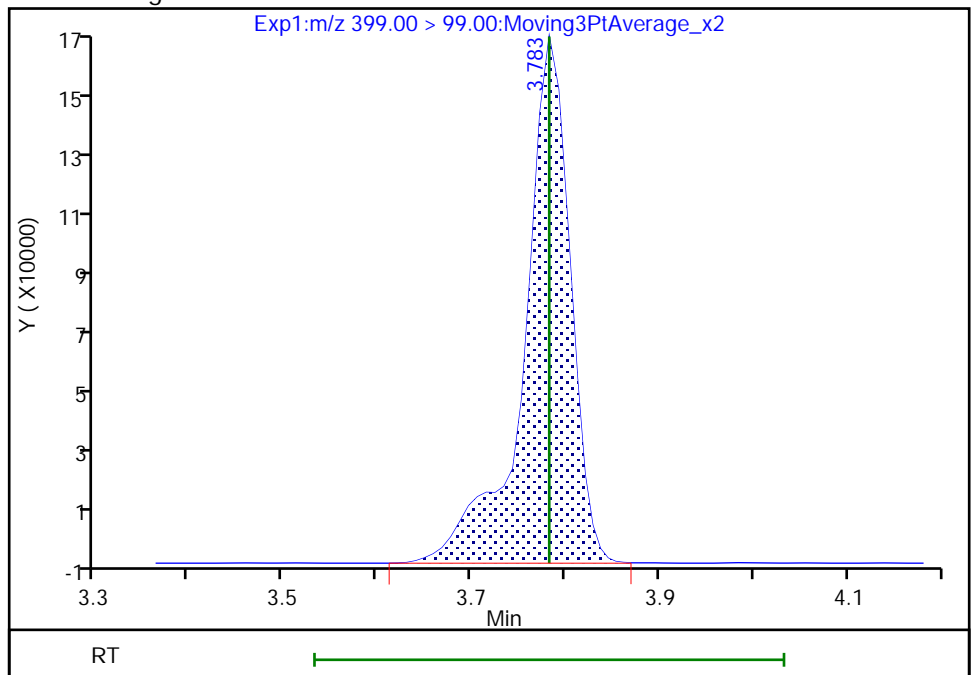
RT: 3.78  
Area: 504667  
Amount: 0.667686  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 562452  
Amount: 0.810497  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:14:15

Audit Action: Manually Integrated

Audit Reason: Baseline  
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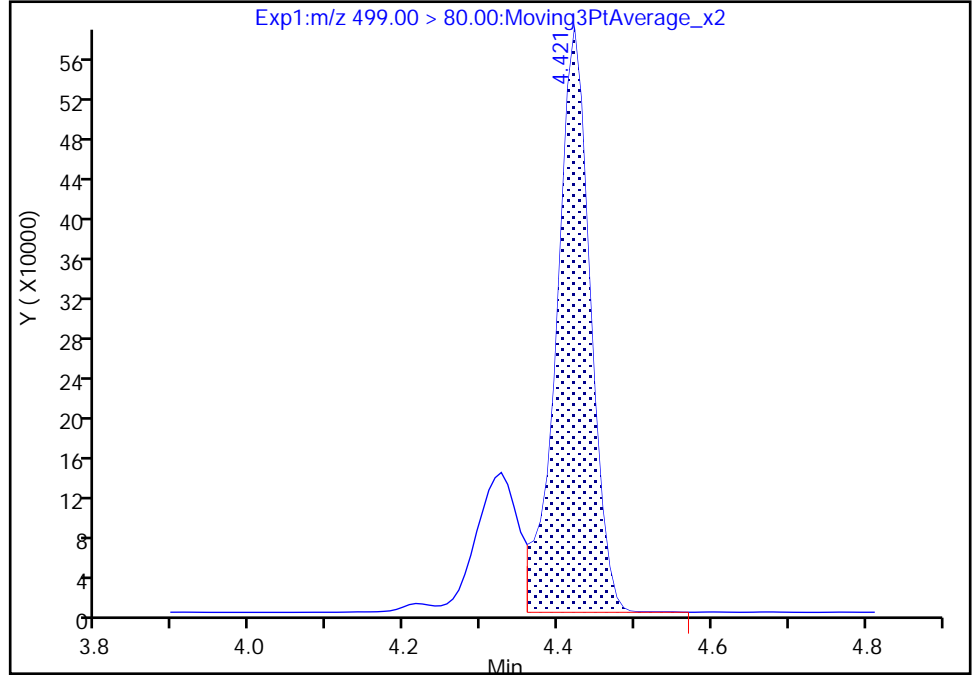
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Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

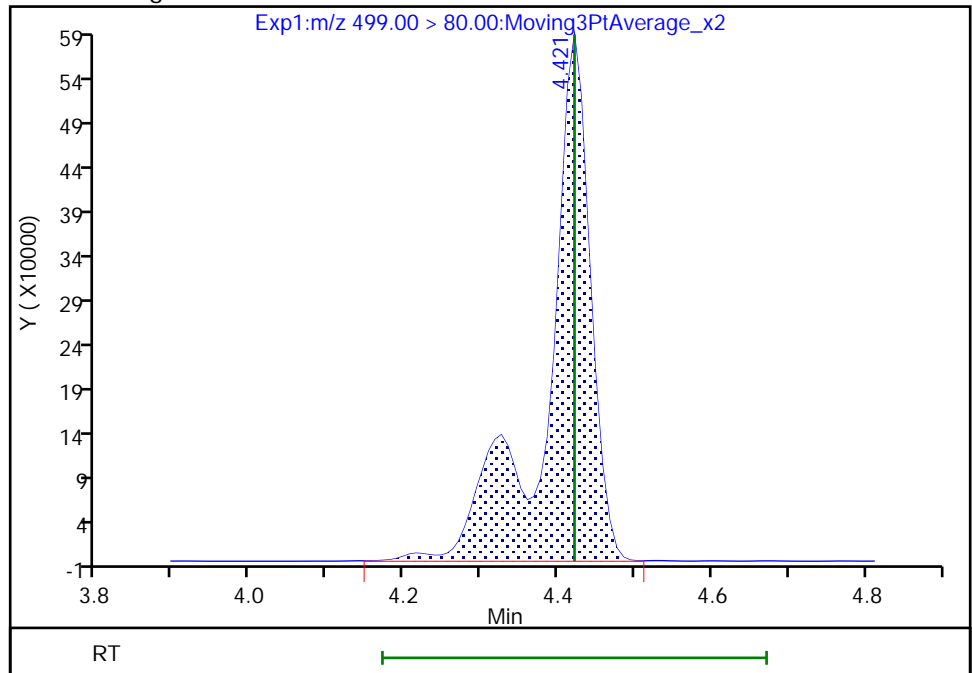
RT: 4.42  
Area: 1776954  
Amount: 0.633102  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 2327763  
Amount: 0.829347  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:14:41  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

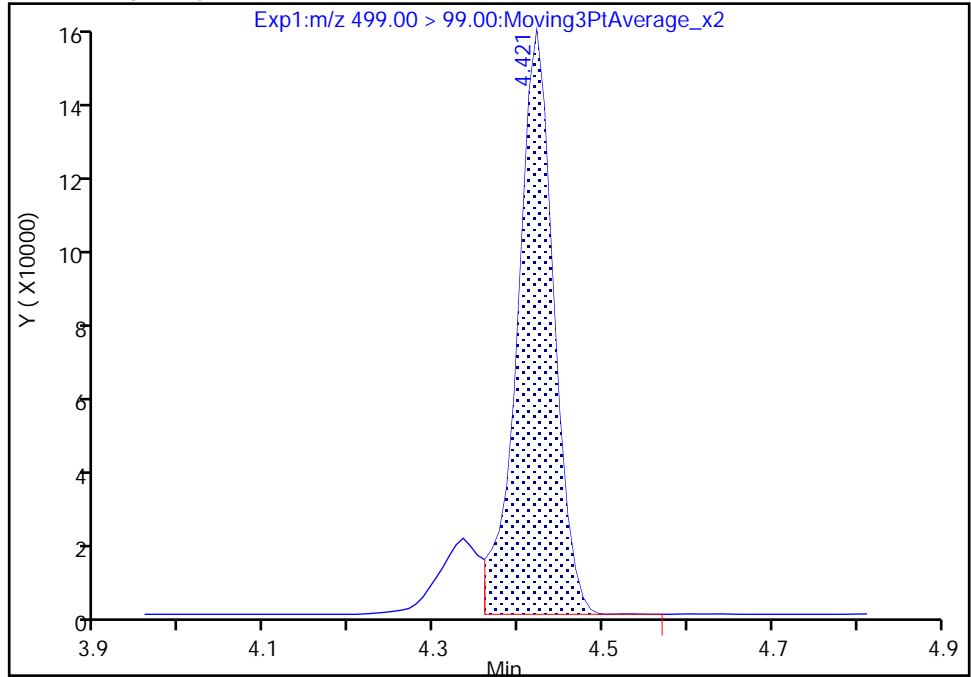
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_005.d  
Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

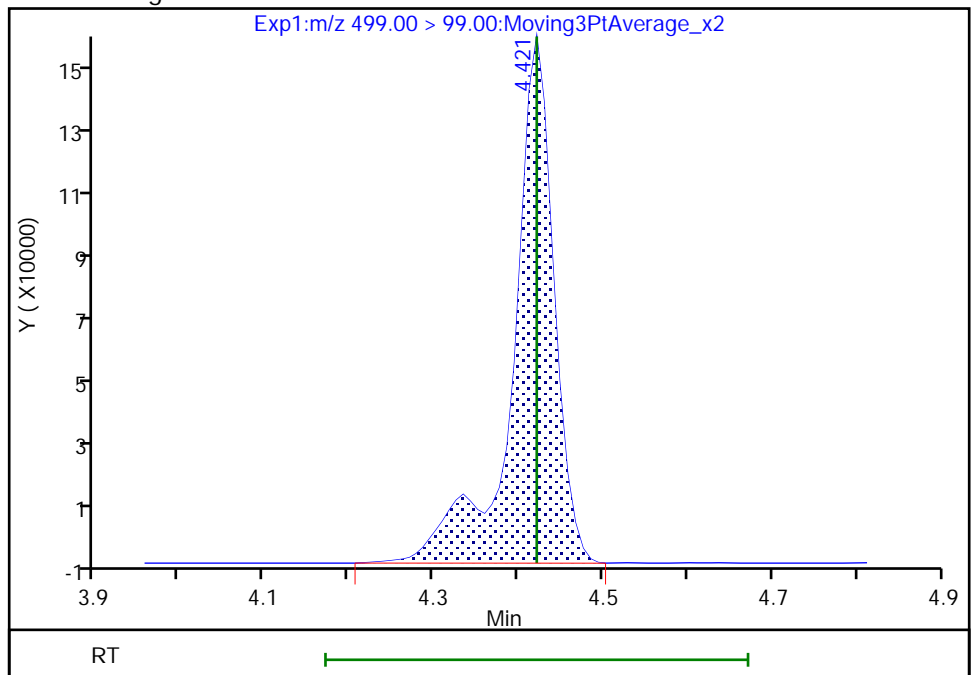
RT: 4.42  
Area: 450945  
Amount: 0.633102  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 517142  
Amount: 0.829347  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:14:52

Audit Action: Manually Integrated

Audit Reason: Baseline  
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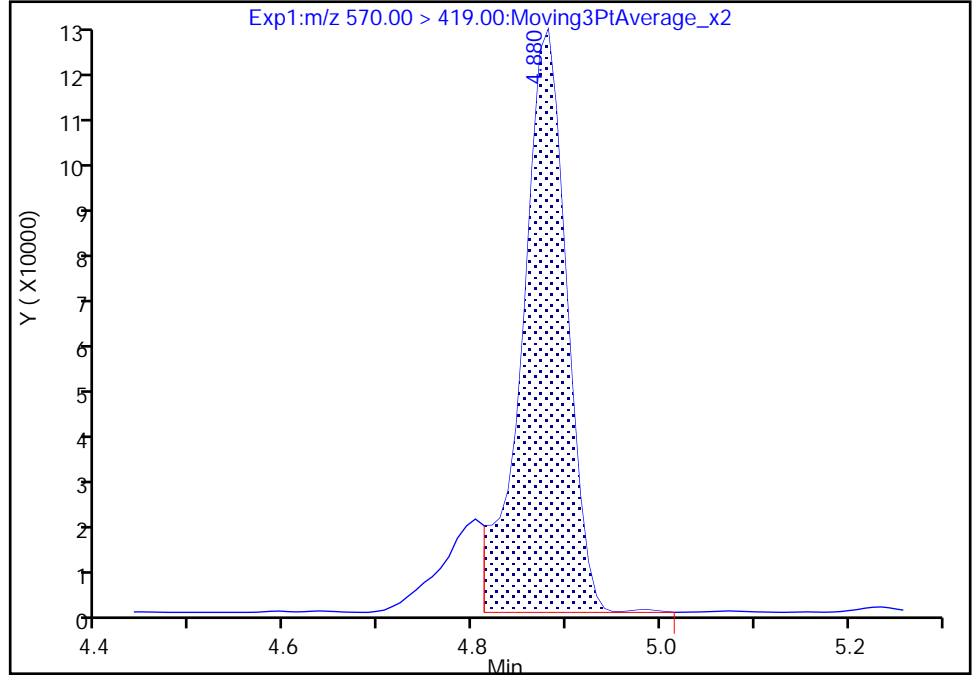
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Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

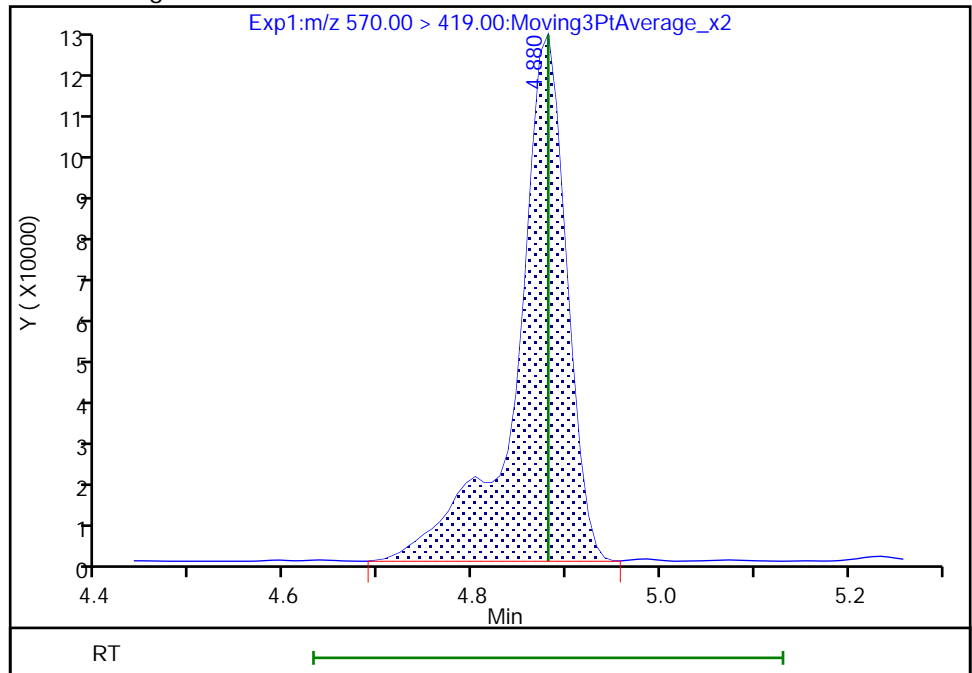
RT: 4.88  
Area: 398042  
Amount: 0.928561  
Amount Units: ng/ml

Processing Integration Results



RT: 4.88  
Area: 456413  
Amount: 1.062567  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:15:09  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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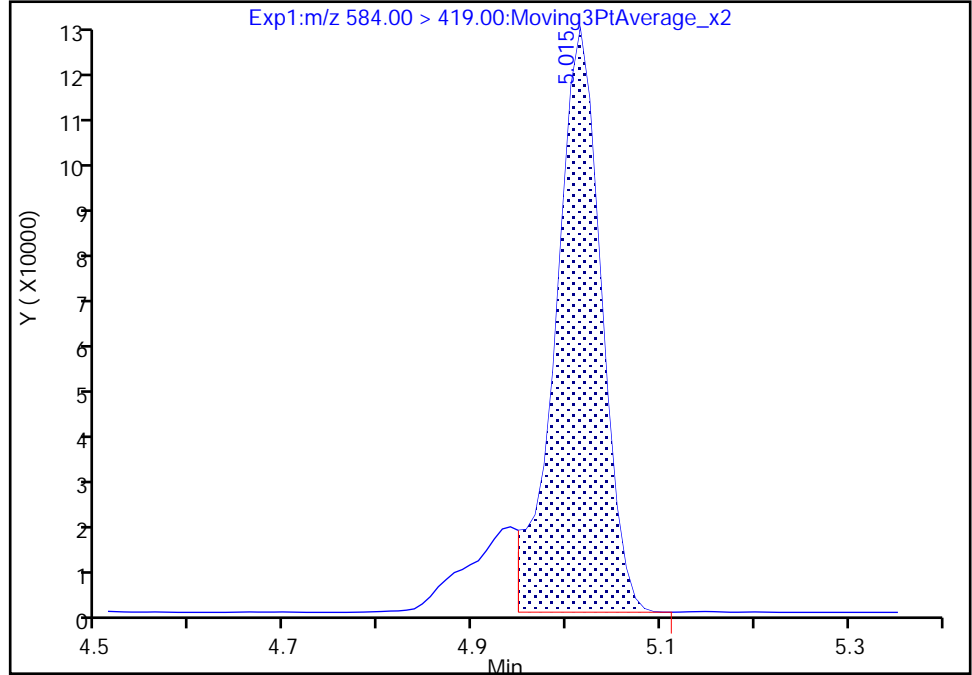
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_005.d  
Injection Date: 18-Feb-2022 20:07:49 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 5 Worklist Smp#: 5  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

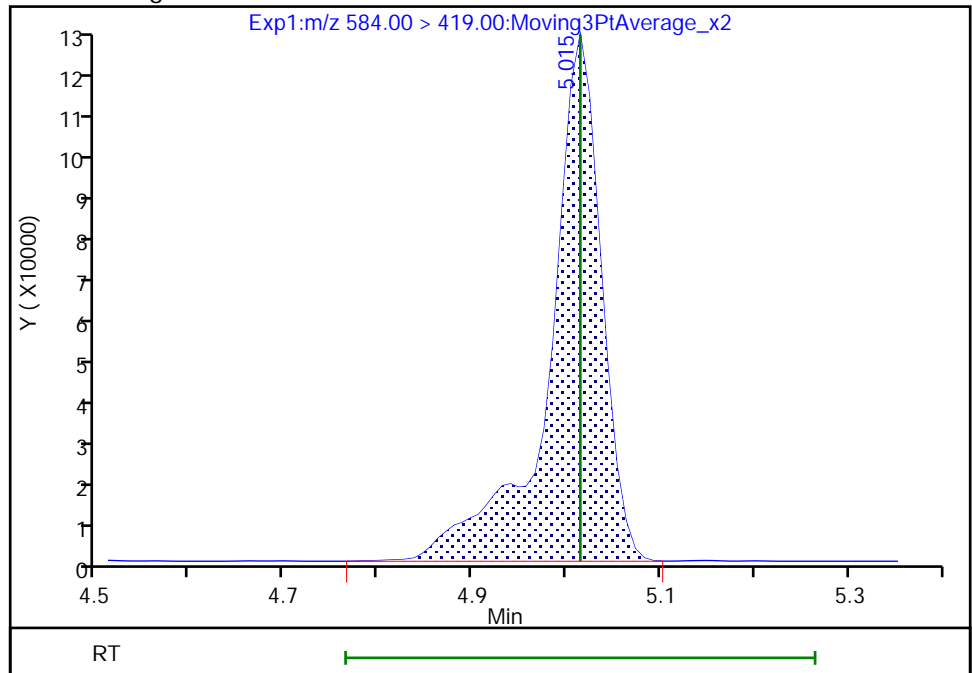
RT: 5.01  
Area: 412944  
Amount: 0.856981  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 480364  
Amount: 0.994928  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:15:21  
Audit Action: Manually Integrated

Audit Reason: Baseline



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/17 Calibration Date: 02/18/2022 21:53  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_017.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7937		2.51	2.50	0.3	40.0
PFECA F	AveID	0.7535	0.7367		2.44	2.50	-2.2	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9823		2.62	2.50	4.8	40.0
3:3 FTCA	QuaIF		0.0559		2.58	2.50	3.1	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.127		2.24	2.21	1.4	40.0
PFECA A	Q2ID		1.205		2.53	2.50	1.1	40.0
PES	Q2ID		2.548		2.34	2.23	5.1	40.0
PFECA B	Q2ID		0.4506		2.60	2.50	4.2	40.0
4:2 FTS	L2ID		2.329		2.40	2.34	2.6	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7881		2.49	2.50	-0.5	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.031		2.34	2.35	-0.1	40.0
HFPO-DA	L2ID		1.316		2.61	2.50	4.5	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.333		2.19	2.28	-3.8	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.110		2.73	2.50	9.1	40.0
DONA	AveID	2.644	2.596		2.31	2.36	-1.8	40.0
5:3 FTCA	L2ID		4.038		2.69	2.50	7.4	40.0
6:2 FTUCA	AveID	1.046	1.055		2.52	2.50	0.8	40.0
6:2 FTCA	L1ID		0.7258		2.63	2.50	5.0	40.0
PFECHS	AveID	0.7426	0.7114		2.21	2.31	-4.2	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9424		2.27	2.38	-4.6	40.0
6:2 FTS	L2ID		1.865		2.42	2.37	2.2	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.058		2.48	2.50	-0.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.122		2.27	2.32	-2.0	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7579		2.49	2.50	-0.3	40.0
7:3 FTCA	AveID	5.230	4.988		2.38	2.50	-4.6	40.0
8:2 FTUCA	AveID	0.9565	0.9290		2.43	2.50	-2.9	40.0
8:2 FTCA	AveID	1.811	1.654		2.28	2.50	-8.6	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.151		2.23	2.33	-4.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9730		2.31	2.40	-3.8	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9887		2.59	2.50	3.5	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9095		2.54	2.50	1.5	40.0
8:2 FTS	L2ID		1.530		2.45	2.40	2.1	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9674		2.56	2.50	2.4	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9242		2.51	2.41	4.1	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/17 Calibration Date: 02/18/2022 21:53  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_017.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.003		2.59	2.50	3.8	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9867		2.70	2.50	8.1	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.734		2.35	2.36	-0.2	50.0
10:2 FTUCA	AveID	1.208	1.270		2.63	2.50	5.1	40.0
10:2 FTCA	Q2ID		1.081		2.82	2.50	12.6	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.021		2.47	2.50	-1.2	40.0
10:2 FTS	L2ID		2.124		2.45	2.41	1.6	50.0
NMeFOSA	L2ID		1.091		2.53	2.50	1.4	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.233		2.63	2.50	5.3	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9412		2.41	2.42	-0.4	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8721		2.47	2.50	-1.2	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.343		2.37	2.50	-5.3	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.320		2.65	2.50	6.1	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1302		2.53	2.50	1.2	40.0
Perfluorohexadecanoic acid	L1ID		1.112		2.46	2.50	-1.6	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9896		2.44	2.50	-2.3	40.0
13C4 PFBA	Ave	1.172	1.163		1.24	1.25	-0.7	50.0
13C5 PFPeA	Ave	0.9197	0.9046		1.23	1.25	-1.6	50.0
13C3 PFBS	Ave	0.5817	0.5774		1.15	1.16	-0.7	50.0
M2-4:2 FTS	Ave	0.1821	0.1745		1.12	1.17	-4.2	50.0
13C2 PFHxA	Ave	1.015	1.015		1.25	1.25	0.0	50.0
13C3 HFPO-DA	Ave	0.4963	0.4733		1.19	1.25	-4.6	50.0
18O2 PFHxS	Ave	0.3776	0.3753		1.18	1.18	-0.6	50.0
13C4 PFHpA	Ave	0.9046	0.8555		1.18	1.25	-5.4	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3537		1.31	1.25	4.8	50.0
13C-6:2 FTCA	Ave	0.0260	0.0253		1.22	1.25	-2.7	50.0
M2-6:2 FTS	Ave	0.1799	0.1778		1.17	1.19	-1.2	50.0
13C4 PFOA	Ave	0.9356	0.9265		1.24	1.25	-1.0	50.0
13C4 PFOS	Ave	0.5610	0.5757		1.23	1.20	2.6	50.0
13C5 PFNA	Ave	1.268	1.245		1.23	1.25	-1.8	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4799		1.33	1.25	6.2	50.0
13C-8:2 FTCA	Ave	0.0330	0.0360		1.36	1.25	9.0	50.0
13C8 FOSA	Ave	0.8475	0.8075		1.19	1.25	-4.7	50.0
13C2 PFDA	Ave	1.210	1.204		1.24	1.25	-0.5	50.0
M2-8:2 FTS	Ave	0.1961	0.1902		1.16	1.20	-3.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/17 Calibration Date: 02/18/2022 21:53  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_017.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1199		1.32	1.25	5.7	50.0
13C2 PFUnA	Ave	1.168	1.150		1.23	1.25	-1.5	50.0
d5-NEtFOSAA	Ave	0.1164	0.1186		1.27	1.25	1.9	50.0
13C-10:2 FTUCA	Ave	0.5078	0.4894		1.21	1.25	-3.6	50.0
13C-10:2 FTCA	Ave	0.0309	0.0298		1.20	1.25	-3.8	50.0
13C2 PFDoA	Ave	1.152	1.134		1.23	1.25	-1.6	50.0
13C2 10:2 FTS	Ave	0.1652	0.1601		1.15	1.18	-3.1	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1015		1.26	1.25	0.5	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1119		1.18	1.25	-5.6	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1209		1.23	1.25	-1.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0782		1.21	1.25	-3.4	50.0
13C2 PFTeDA	Ave	0.9216	0.9064		1.23	1.25	-1.6	50.0
13C2 PFHxDA	Ave	0.5997	0.6035		1.26	1.25	0.6	50.0
13C8 PFOA	AveID	0.9229	0.9196		1.25	1.25	-0.4	50.0
13C8 PFOS	AveID	0.2212	0.2142		1.16	1.20	-3.2	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 18-Feb-2022 21:53:25 ALS Bottle#: 17 Worklist Smp#: 17  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-017 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 10:10:03

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	9576768	2.51		100	3325	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.681	6032631	1.24		99.3	19510	
3 PFECA F										
229.00 > 85.00	2.919	2.919	-0.001	0.937	6910979	2.44		97.8	16004	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.754	4690758	1.23		98.4	14708	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.123	-0.008	1.000	9215024	2.62		105	3827	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.131	0.0	1.000	334512	2.58	Target=1.13	103	2253	
241.00 > 116.90	3.131	3.131	0.0	1.000	288085		1.16(0.56-1.69)		504	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.758	2784764	1.15		99.3	11140	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.140	-0.009	1.000	5966544	2.24	Target=2.61	101	4880	
298.90 > 99.00	3.131	3.140	-0.009	1.000	2175949		2.74(1.31-3.92)		4626	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	11304051	2.53		101	16403	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	13580594	2.34		105	20416	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.982	4745343	2.60		104	14989	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.415	3.416	-0.001	0.827	845053	1.12		95.8	1910	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.415	3.416	-0.001	1.000	3935561	2.40		103	11749	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.835	5265480	1.25		100	16869	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	5790445	2.34	Target=3.55	99.9	10305	
349.00 > 99.00	3.448	3.448	0.0	1.101	1661744		3.48(1.78-5.33)		10922	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	8299781	2.49	Target=11.60	99.5	3679	
313.00 > 119.00	3.448	3.448	0.0	1.000	686612		12.09(5.80-17.40)		870	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.858	2454321	1.19		95.4	7395	
17 HFPO-DA										
285.00 > 169.00	3.542	3.553	-0.011	1.000	6457655	2.61	Target=2.45	105	3351	
329.00 > 169.00	3.542	3.553	-0.011	1.000	2556366		2.53(1.23-3.68)		3144	
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.783	-0.001	0.916	1841100	1.18		99.4	5448	
21 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.782	3.783	-0.001	1.000	4719951	2.19	Target=3.44	96.2	9192	M
399.00 > 99.00	3.782	3.783	-0.001	1.000	1425721		3.31(1.72-5.17)		4237	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.793	-0.001	0.918	4436039	1.18		94.6	8613	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.793	-0.001	1.000	9845585	2.73	Target=3.25	109	6231	
363.00 > 169.00	3.792	3.793	-0.001	1.000	2899057		3.40(1.62-4.87)		2783	
25 DONA										
377.00 > 251.00	3.828	3.829	-0.001	0.868	14604000	2.31	Target=1.74	98.2	20655	
377.00 > 85.00	3.828	3.829	-0.001	0.868	8404017		1.74(0.87-2.61)		139	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	1060387	2.69	Target=1.11	107	3380	
340.88 > 216.90	3.853	3.853	0.0	0.987	939091		1.13(0.56-1.67)		1938	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	0.0	0.941	1833915	1.31		105	4412	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.895	-0.009	1.000	3870207	2.52	Target=13.05	101	6342	
356.86 > 243.00	3.886	3.895	-0.009	1.000	273788		14.14(6.52-19.57)		1006	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.904	-0.001	0.945	131293	1.22		97.3	642	
29 6:2 FTCA										
377.10 > 63.00	3.903	3.913	-0.010	1.000	190585	2.63	Target=1.29	105	801	
377.10 > 313.10	3.903	3.913	-0.010	1.000	134184		1.42(0.65-1.94)		149	
32 PFECHS										
460.80 > 380.90	4.064	4.065	0.0	0.984	6302642	2.21	Target=1.75	95.8	15126	
460.80 > 98.90	4.064	4.065	0.0	0.984	3764669		1.67(0.87-2.62)		7266	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.111	4.112	-0.001	0.932	5357111	2.27	Target=3.72	95.4	17694	
449.00 > 99.00	4.111	4.112	-0.001	0.932	1361338		3.94(1.86-5.57)		6768	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	875821	1.17		98.8	2265	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	3259960	2.42		102	7756	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	0.998	4418387	1.25		99.6	8076	
D 31 13C4 PFOA										
417.00 > 372.00	4.130	4.131	-0.001	1.000	4804441	1.24		99.0	8542	
* 30 13C2 PFOA										
415.00 > 370.00	4.130	4.131	-0.001		5185600	1.25			11977	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.130	4.131	-0.001	1.000	10170278	2.48	Target=2.51	99.3	6690	
413.00 > 169.00	4.130	4.131	-0.001	1.000	4362903		2.33(1.26-3.77)		6680	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.412	4.421	-0.009	1.000	611398	1.16		96.8	2160	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.421	-0.009	1.068	2854095	1.23		103	3558	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.412	4.421	-0.009	1.000	6216154	2.27	Target=4.30	98.0	4445	M
499.00 > 99.00	4.412	4.421	-0.009	1.000	1405600		4.42(2.15-6.45)		2940	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.439	0.0	1.000	9790007	2.49	Target=3.60	99.7	9792	
463.00 > 169.00	4.439	4.439	0.0	1.000	2570739		3.81(1.80-5.40)		5713	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.439	0.0	1.075	6458357	1.23		98.2	15748	
43 7:3 FTCA										
441.00 > 337.00	4.520	4.529	-0.009	0.993	1864309	2.38	Target=1.42	95.4	3992	
441.00 > 317.00	4.520	4.529	-0.009	0.993	1296035		1.44(0.71-2.13)		2490	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	4623612	2.43	Target=35.37	97.1	7526	
456.86 > 343.00	4.545	4.545	0.0	1.000	136276		33.93(17.68-53.05)		308	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.553	-0.008	1.000	2488440	1.33		106	7326	
46 8:2 FTCA										
477.00 > 393.10	4.561	4.562	-0.001	1.002	618352	2.28	Target=3.35	91.4	2335	
477.00 > 63.20	4.561	4.562	-0.001	1.002	194050		3.19(1.68-5.03)		891	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.562	-0.009	1.102	186876	1.36		109	884	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.108	11970372	2.23		95.7	10887	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	5577414	2.31	Target=3.99	96.2	7177	
549.00 > 99.00	4.697	4.697	0.0	1.065	1404758		3.97(2.00-5.99)		4452	
D 55 13C8 FOSA										
506.00 > 78.00	4.705	4.714	-0.009	1.139	4187213	1.19		95.3	4736	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.705	4.714	-0.009	1.000	8279423	2.59		104	5858	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.722	4.731	-0.009	1.000	11355393	2.54	Target=10.58	102	7028	
513.00 > 169.00	4.722	4.731	-0.009	1.000	1020101		11.13(5.29-15.88)		486	
D 52 13C2 PFDA										
515.00 > 470.00	4.722	4.731	-0.009	1.143	6242735	1.24		99.5	9928	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.739	4.740	-0.001	1.148	944730	1.16		97.0	1564	
53 8:2 FTS										
527.00 > 507.00	4.739	4.740	-0.001	1.000	2891481	2.45		102	4837	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.871	4.872	-0.001	1.180	621910	1.32		106	184	
57 NMeFOSAA										
570.00 > 419.00	4.871	4.880	-0.009	1.000	1203219	2.56		102	1973	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.123	5319506	2.51	Target=3.55	104	9039	
599.00 > 99.00	4.957	4.957	0.0	1.123	1428303		3.72(1.78-5.33)		6721	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.985	4.995	-0.010	1.000	11973203	2.59	Target=8.26	104	11249	
563.00 > 169.00	4.985	4.995	-0.010	1.000	1413831		8.47(4.13-12.39)		6308	
D 59 13C2 PFUnA										
565.00 > 520.00	4.985	4.995	-0.010	1.207	5965796	1.23		98.5	12003	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.212	615098	1.27		102	1978	
62 NEtFOSAA										
584.00 > 419.00	5.005	5.015	-0.010	1.000	1213875	2.70		108	951	M
63 11CIFOS										
631.00 > 451.00	5.082	5.093	-0.011	1.152	9751852	2.35		99.8	14297	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.093	-0.001	1.233	2537907	1.20		96.4	6070	
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.093	-0.001	1.000	6447412	2.63		105	8776	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.235	154344	1.20		96.2	1020	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	333657	2.81	Target=2.53	113	1597	
576.80 > 63.10	5.102	5.112	-0.010	1.000	131349		2.54(1.26-3.79)		544	
D 69 13C2 PFDoA										
615.00 > 570.00	5.217	5.226	-0.009	1.263	5881116	1.23		98.4	17361	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.002	12010181	2.47	Target=6.85	98.8	9518	
613.00 > 169.00	5.217	5.226	-0.009	1.000	1710810		7.02(3.43-10.28)		3096	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.243	-0.008	1.267	786171	1.15		96.9	6379	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.002	3398471	2.45		102	9471	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.277	526084	1.26		101	53.0	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.283	5.284	-0.001	1.279	580213	1.18		94.4	469	
74 NMeFOSA										
512.00 > 169.00	5.283	5.284	-0.001	1.002	1147584	2.53		101	1030	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.002	1430746	2.63		105	1840	
76 PFDoS										
699.00 > 80.00	5.400	5.399	0.001	1.224	5439996	2.41	Target=4.22	99.6	6627	
699.00 > 99.00	5.400	5.399	0.001	1.224	1203409		4.52(2.11-6.34)		5357	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.427	5.435	-0.008	1.040	10258332	2.47	Target=6.32	98.8	9562	
663.00 > 169.00	5.427	5.435	-0.008	1.040	1721083		5.96(3.16-9.48)		8084	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.316	627175	1.23		98.3	302	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.453	5.452	0.001	1.320	405572	1.21		96.6	634	
79 N-EtFOSE-M										
630.00 > 59.00	5.453	5.452	0.001	1.003	1685078	2.37		94.7	1523	
81 N-EtFOSA-M										
526.00 > 169.00	5.453	5.452	0.001	1.000	1071029	2.65		106	684	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.608	5.617	-0.009	1.000	1224215	2.53	Target=1.01	101	4842	
713.00 > 219.00	5.608	5.617	-0.009	1.000	1237218		0.99(0.51-1.52)		6220	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.608	5.617	-0.009	1.358	4700280	1.23		98.4	11372	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.925	5.924	0.001	1.000	6961605	2.46	Target=8.64	98.4	6602	
813.00 > 169.00	5.925	5.924	0.001	1.000	846053		8.23(4.32-12.97)		2562	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.925	5.924	0.001	1.435	3129366	1.26		101	8249	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.184	6.185	-0.001	1.044	6193715	2.44	Target=11.77	97.7	6137	
913.00 > 169.00	6.178	6.185	-0.007	1.043	537463		11.52(5.88-17.65)		1898	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL



Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Injection Date: 18-Feb-2022 21:53:25

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 17

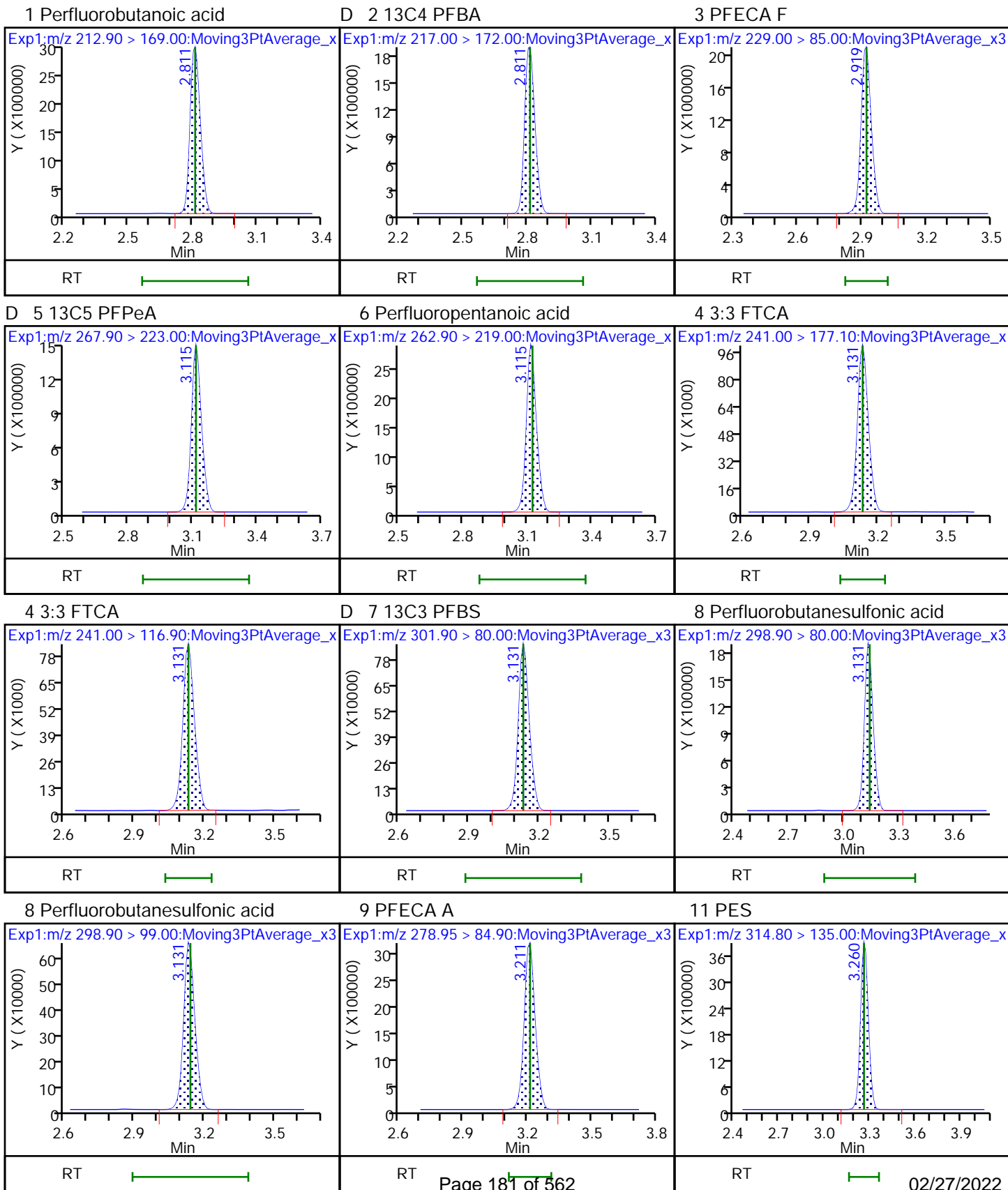
Worklist Smp#: 17

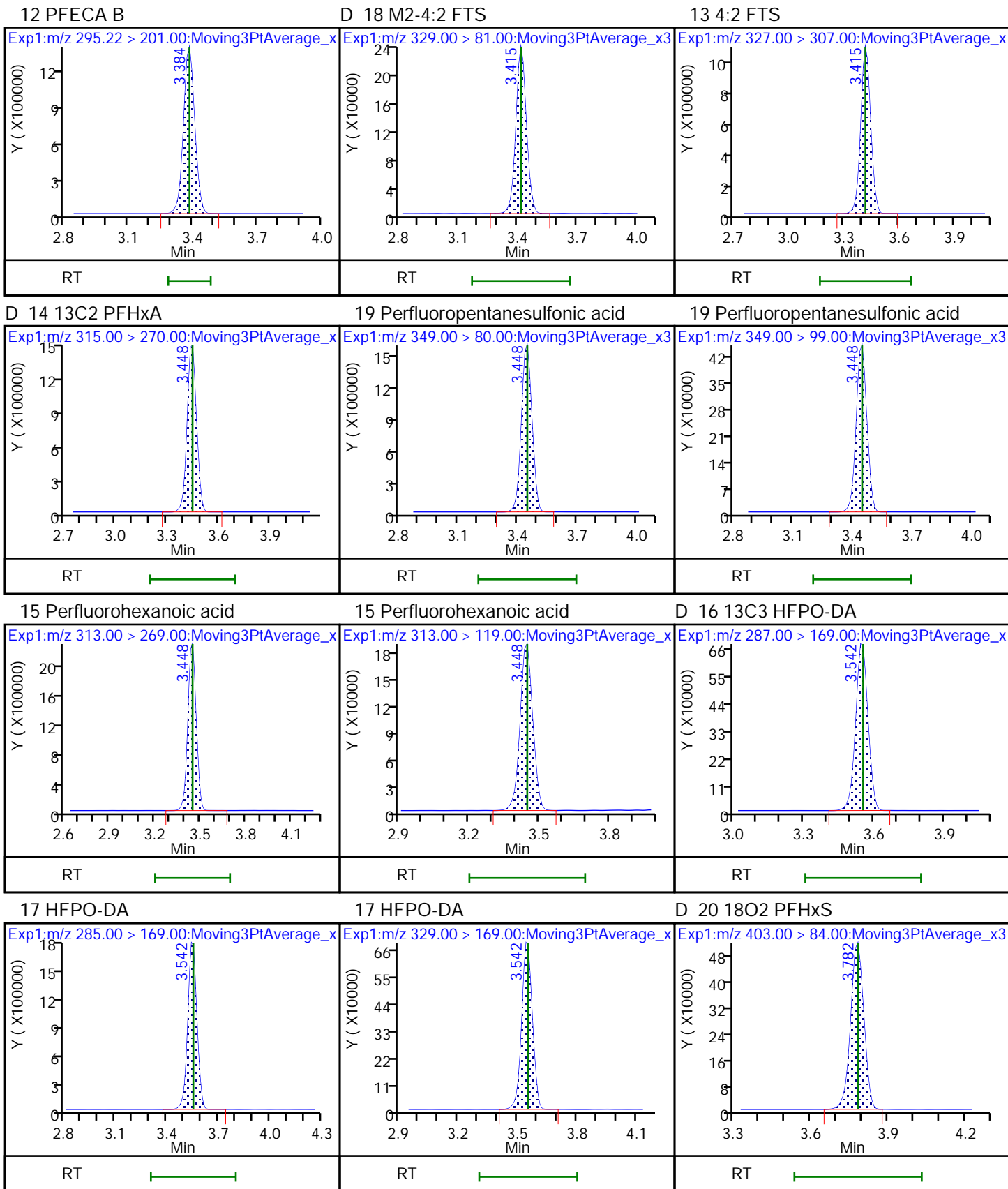
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

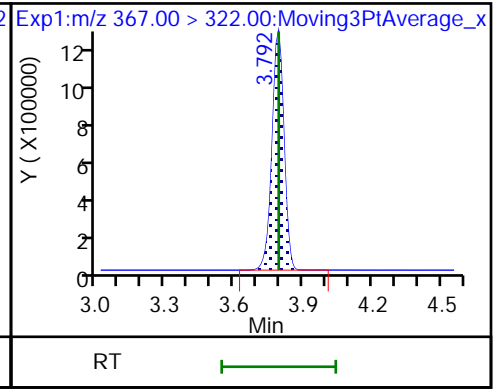
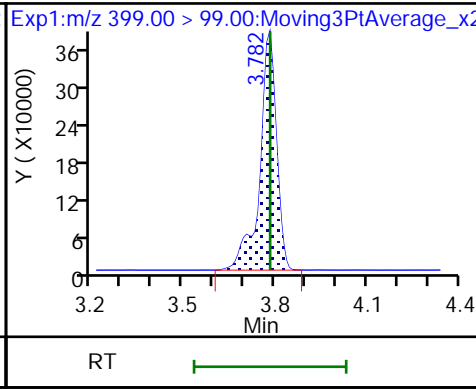
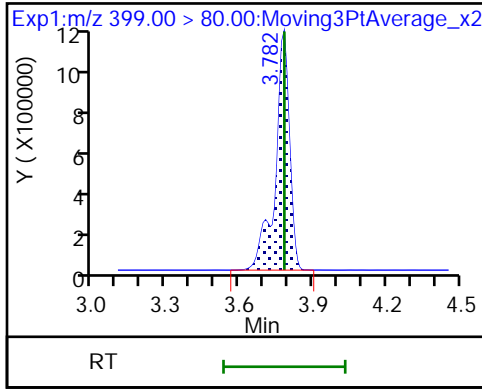




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

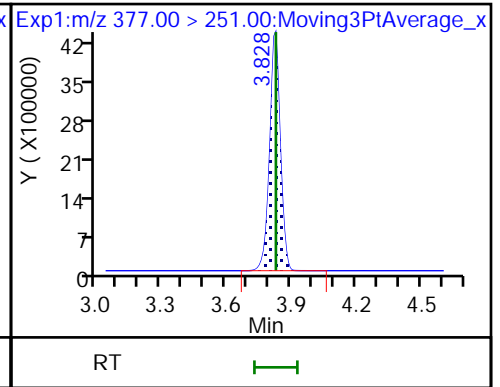
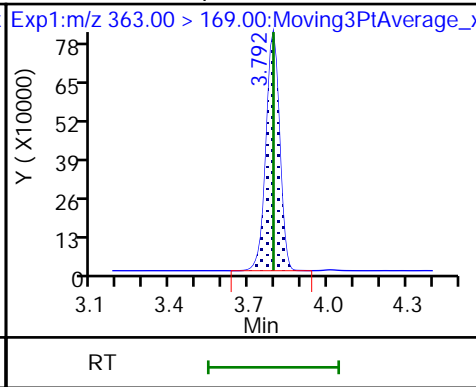
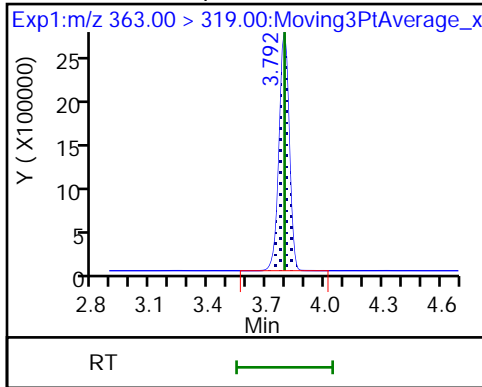
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

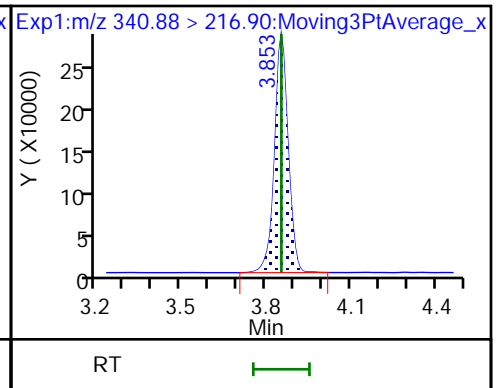
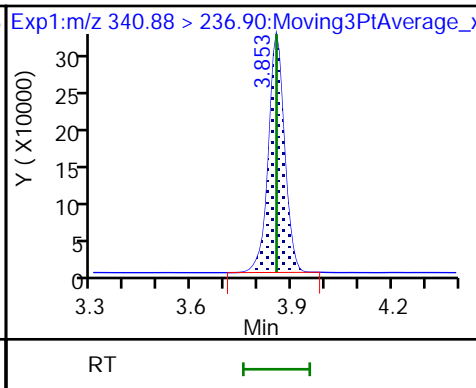
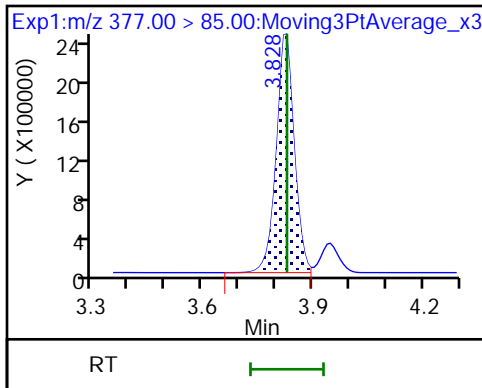
25 DONA



25 DONA

26 5:3 FTCA

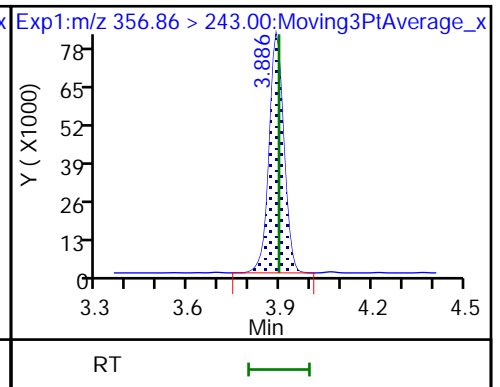
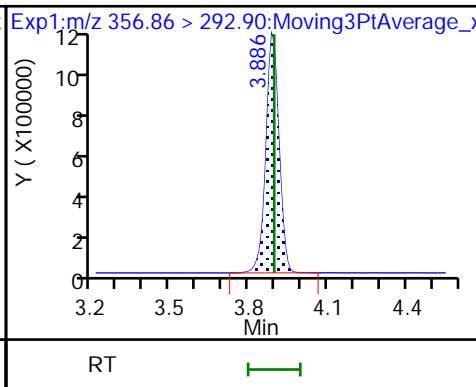
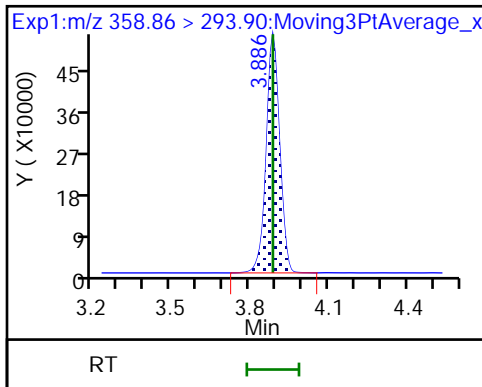
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

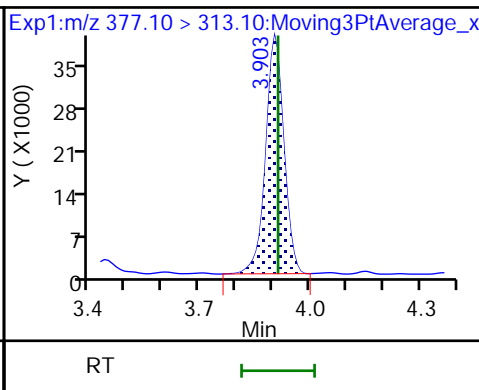
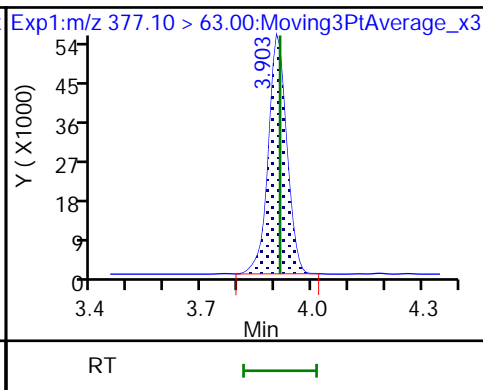
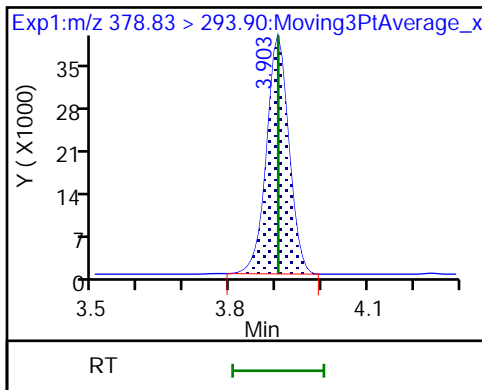
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

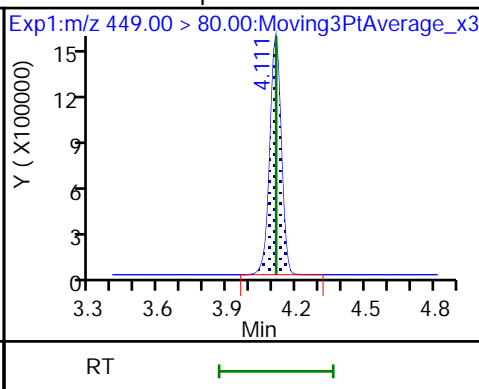
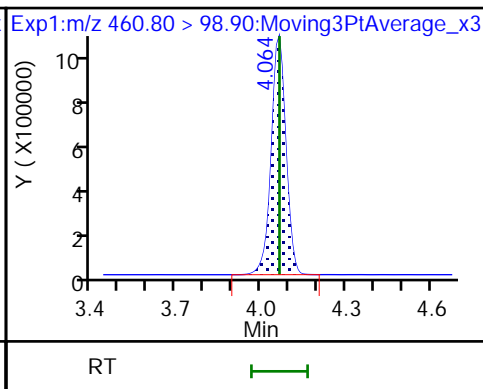
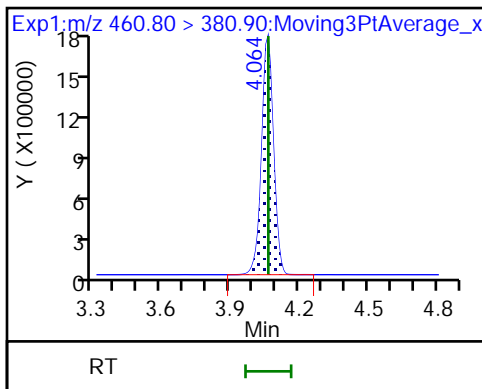
29 6:2 FTCA



32 PFECHS

32 PFECHS

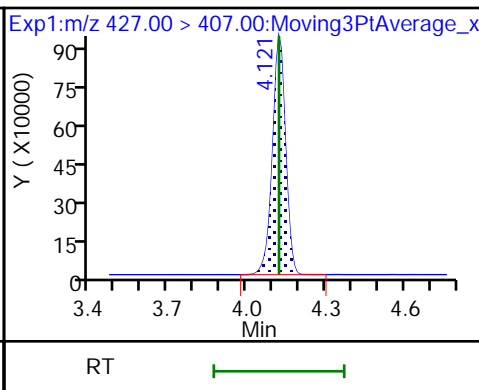
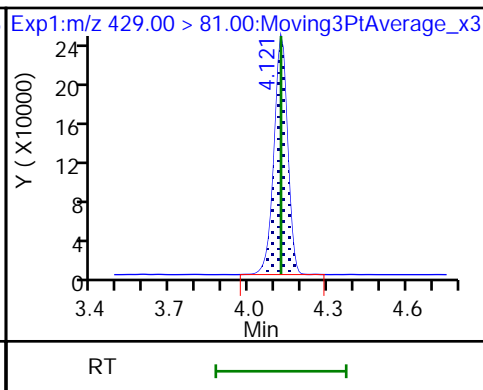
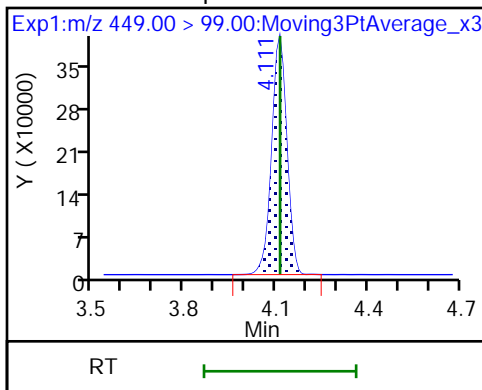
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

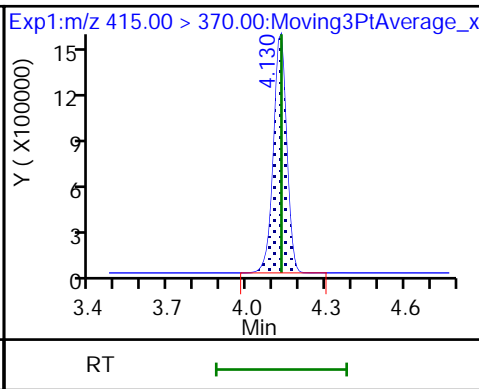
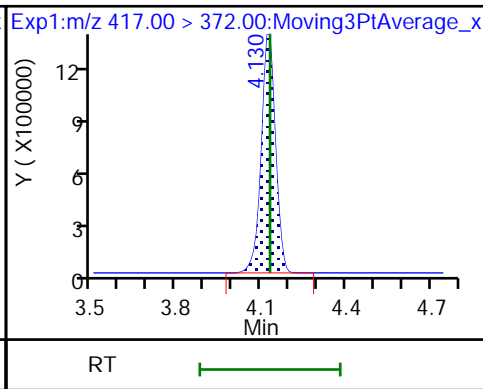
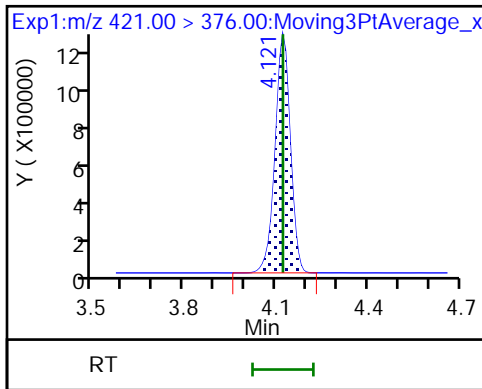
35 6:2 FTS

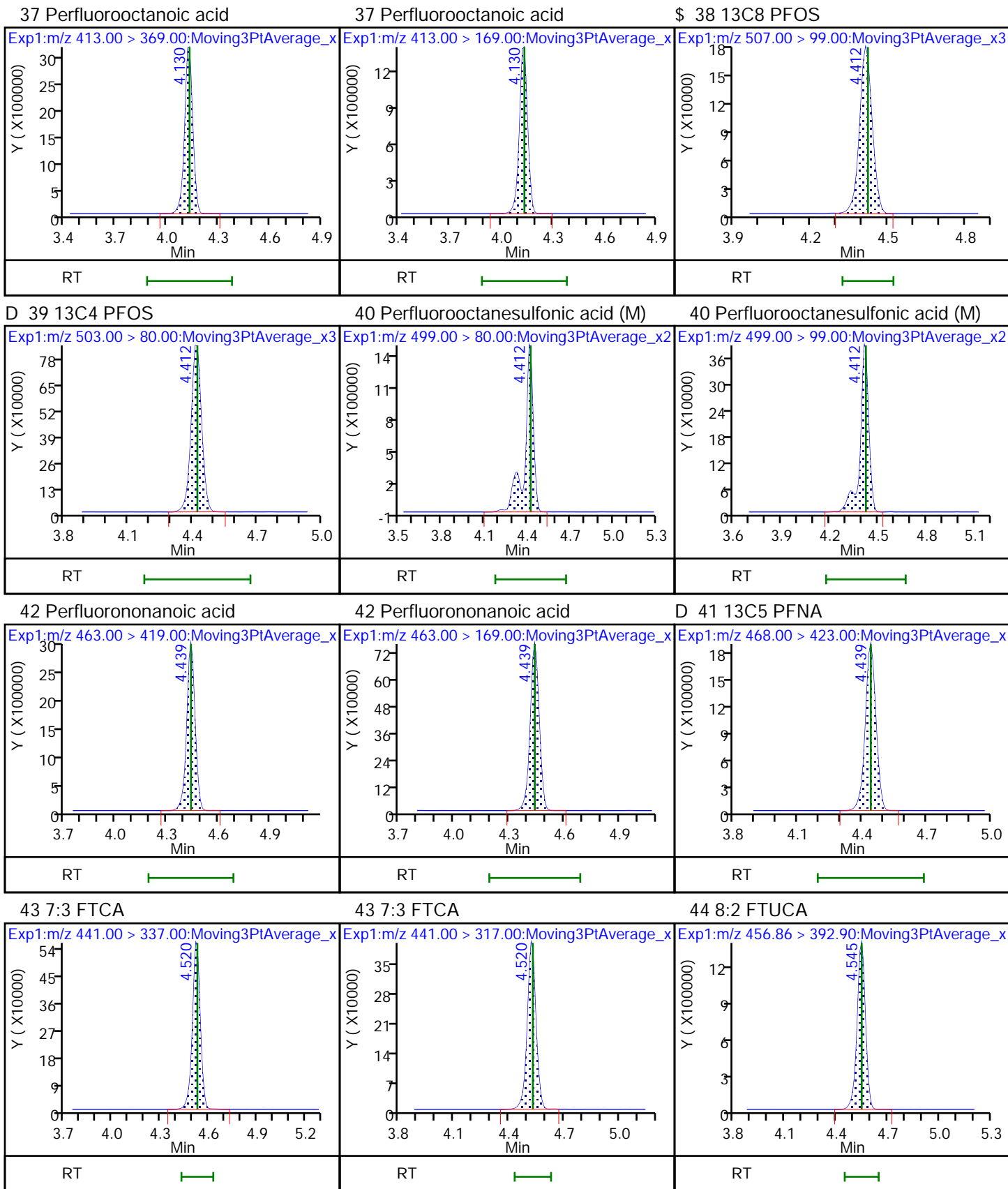


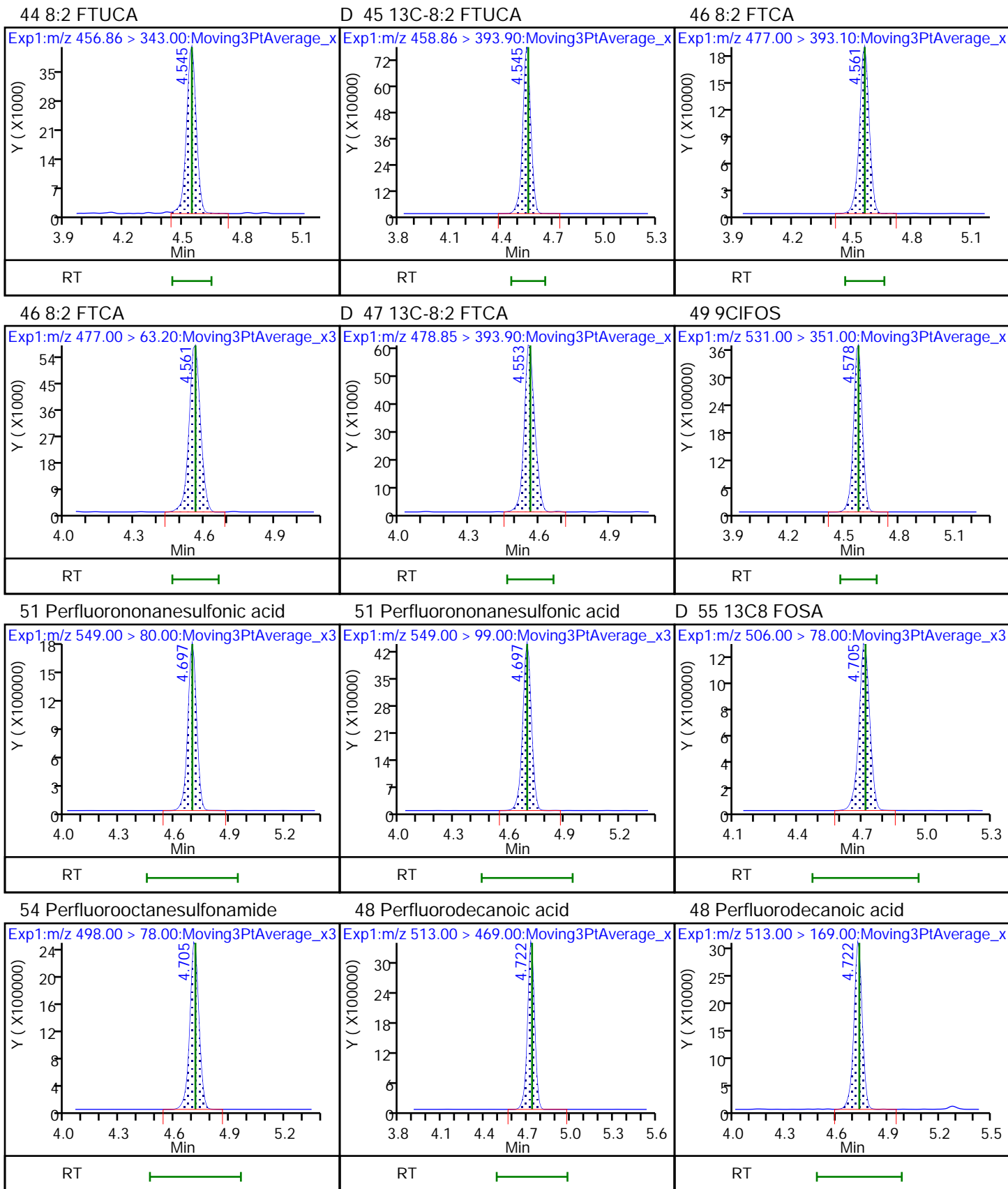
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



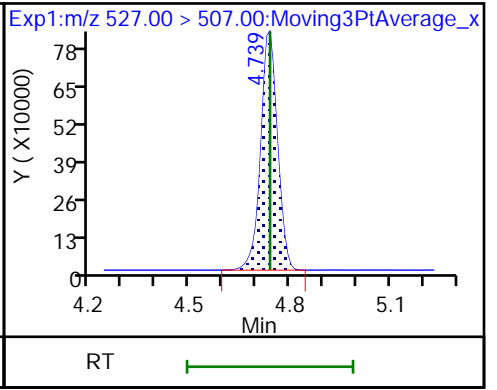
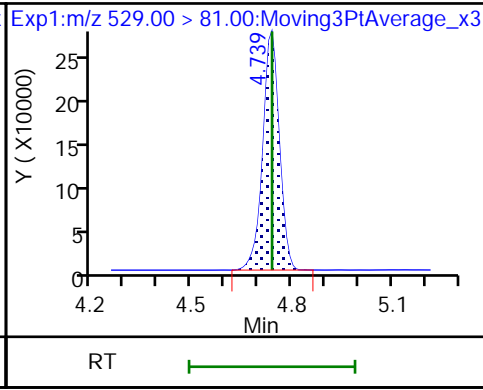
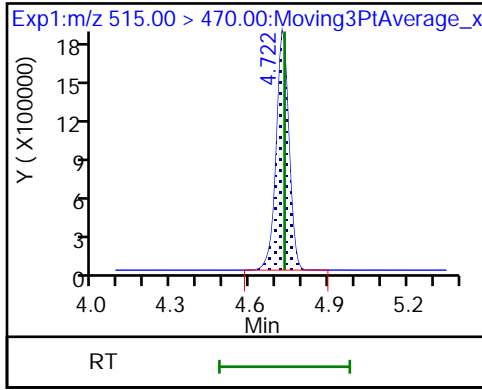




D 52 13C2 PFDA

D 50 M2-8:2 FTS

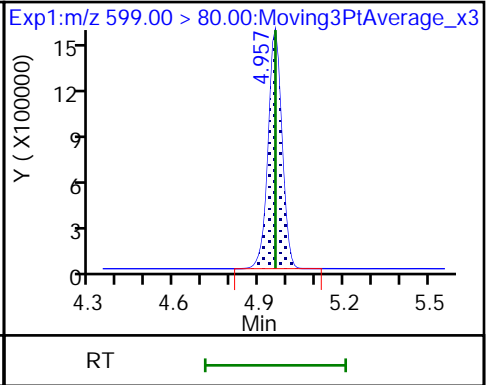
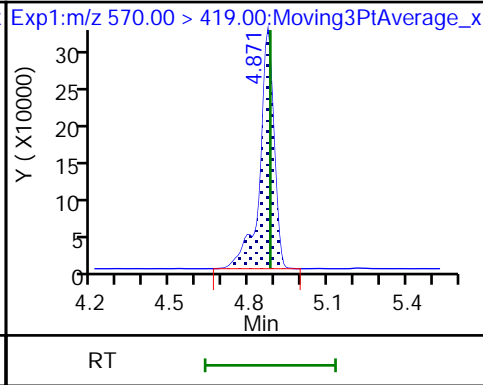
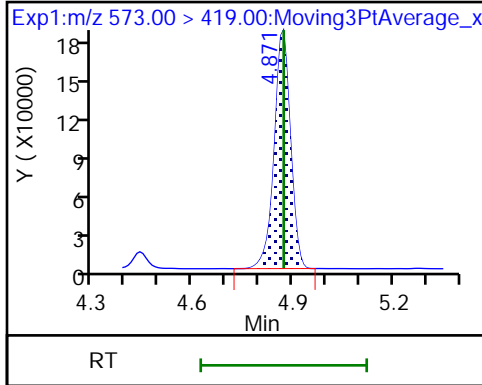
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

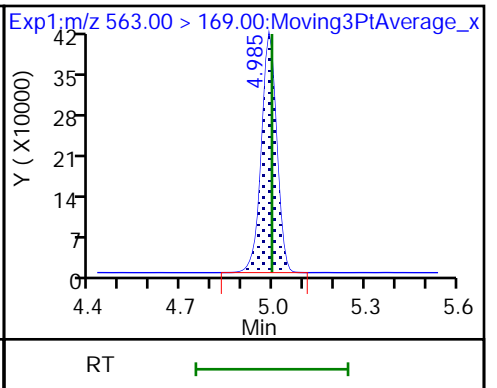
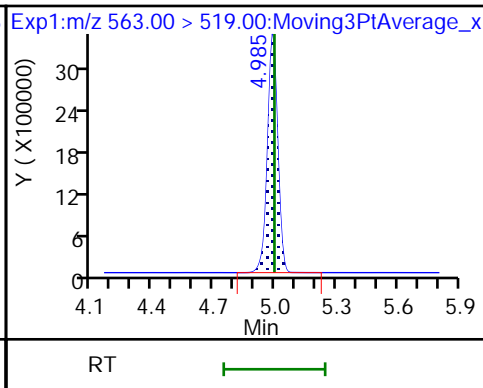
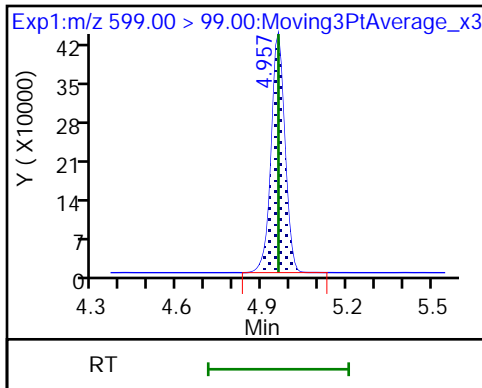
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

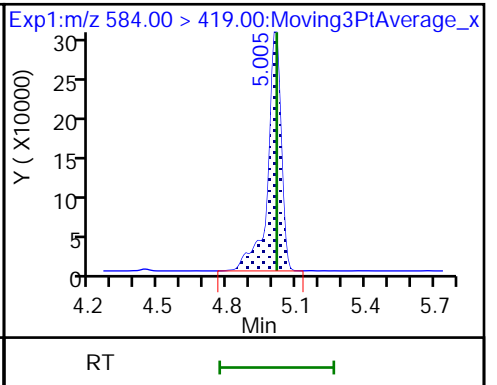
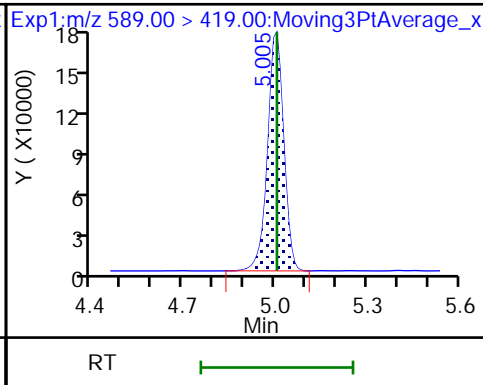
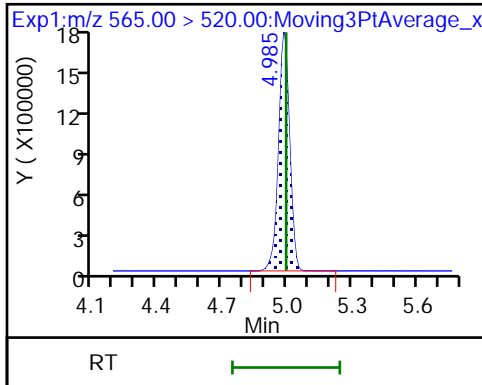
60 Perfluoroundecanoic acid

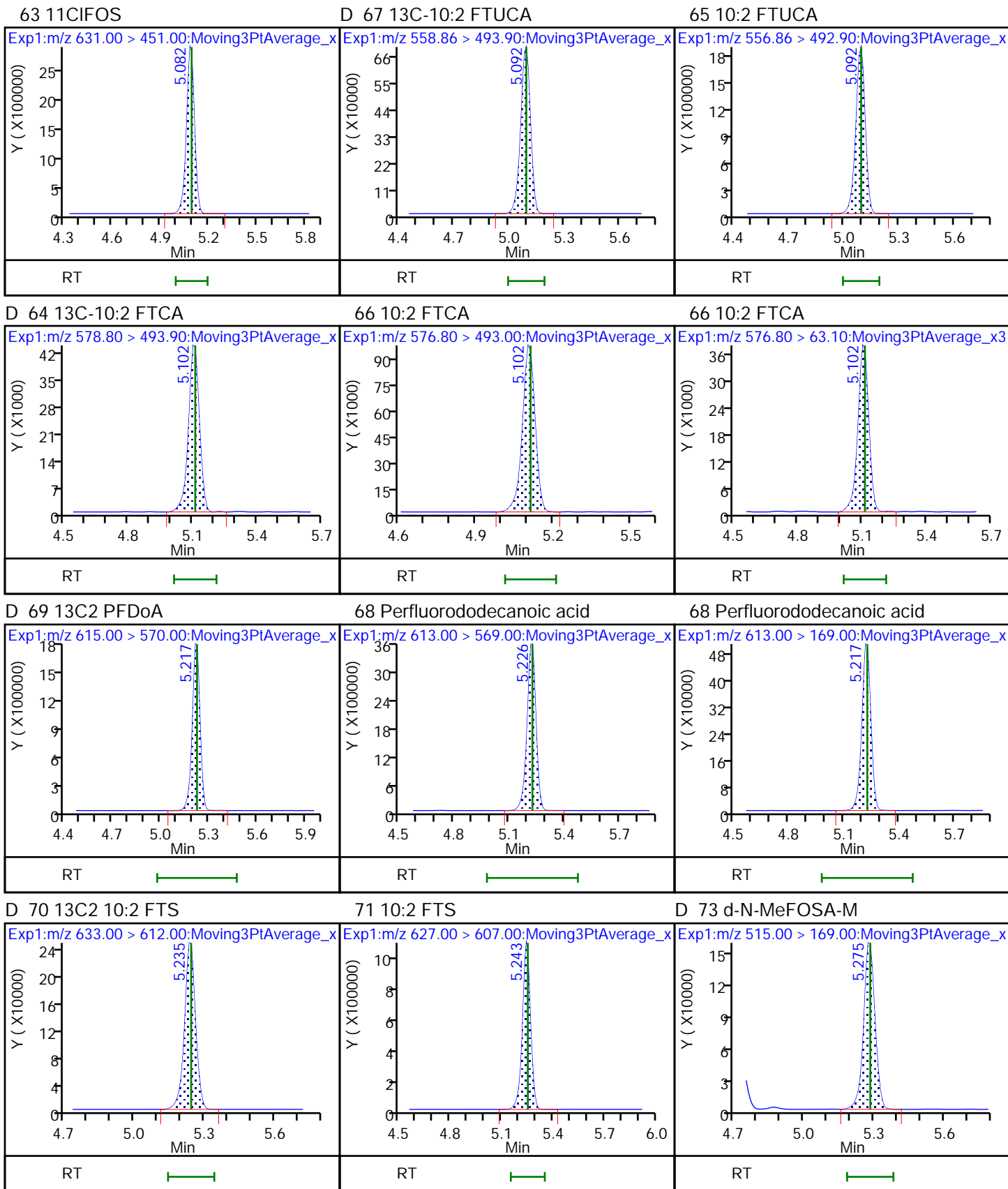


D 59 13C2 PUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)



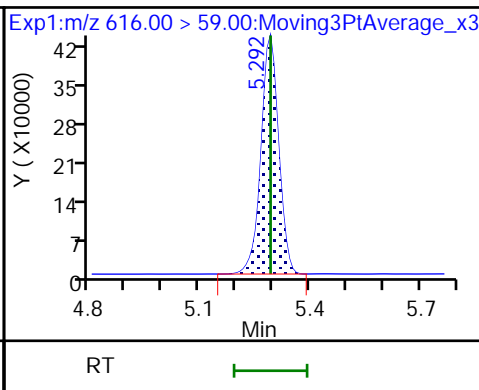
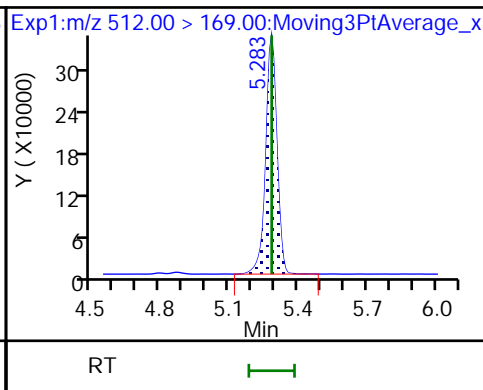
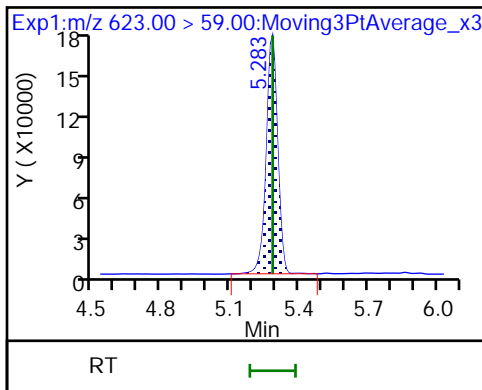




D 72 d7-N-MeFOSE-M

74 NMeFOSA

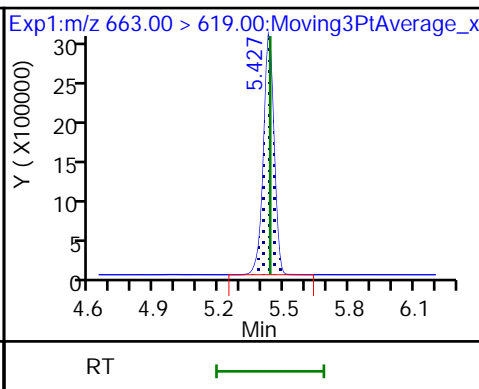
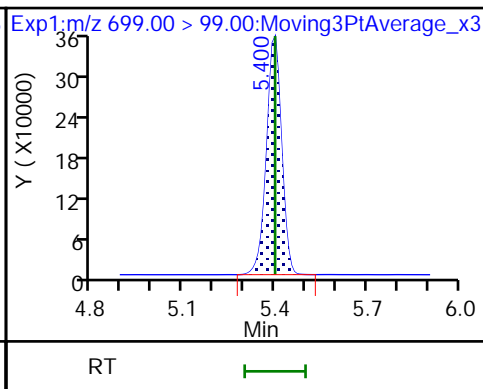
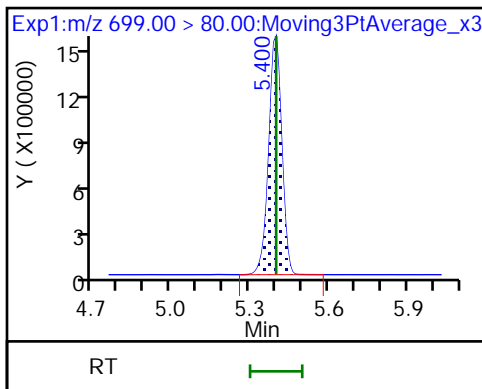
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

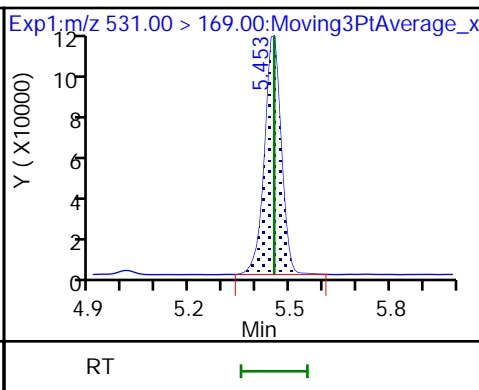
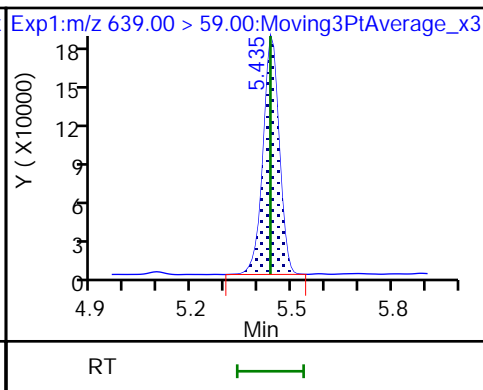
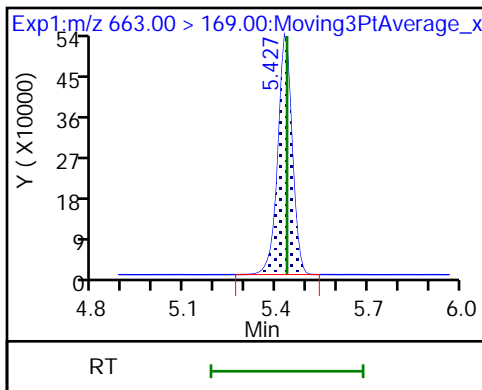
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

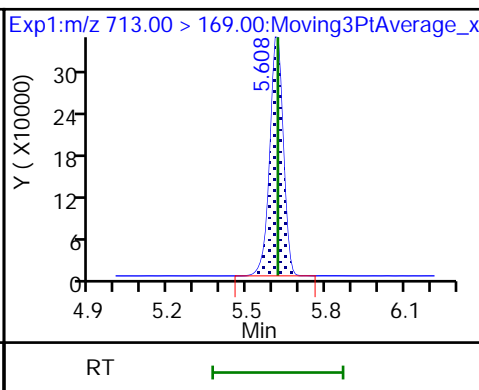
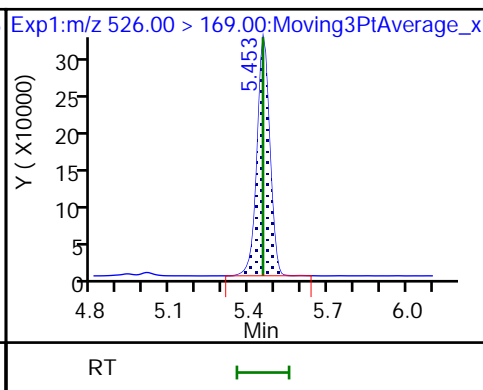
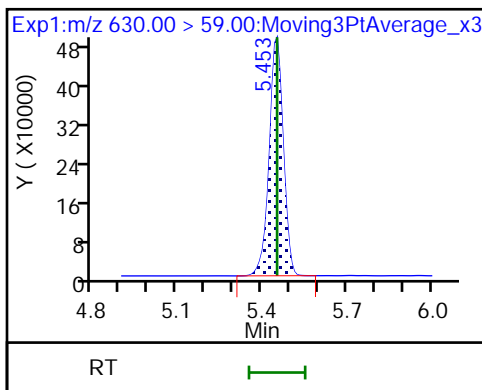
D 80 d-N-EtFOSA-M

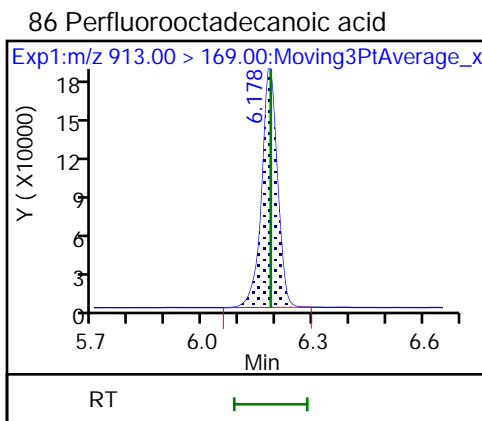
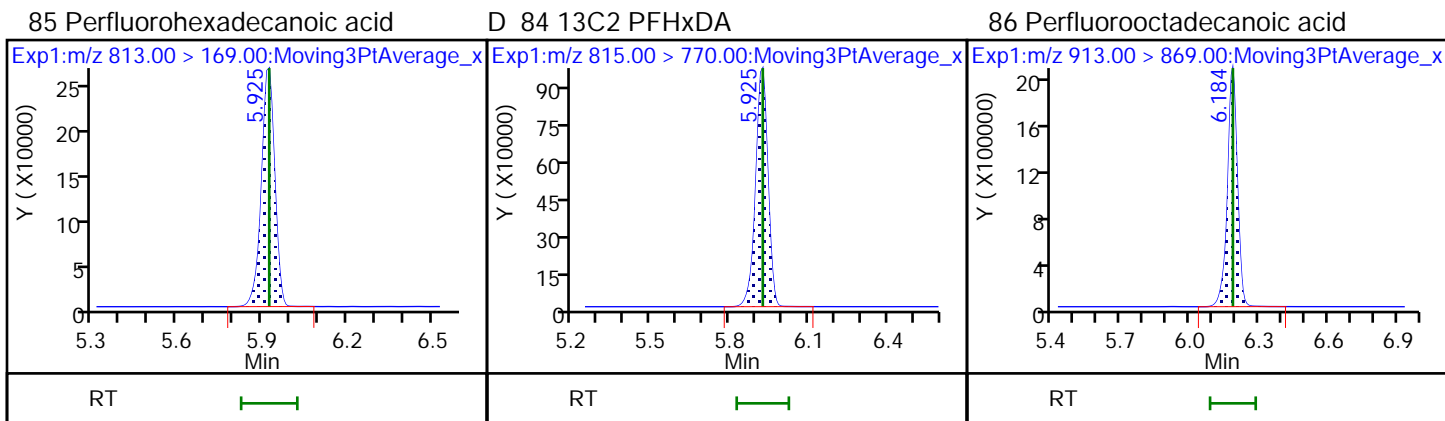
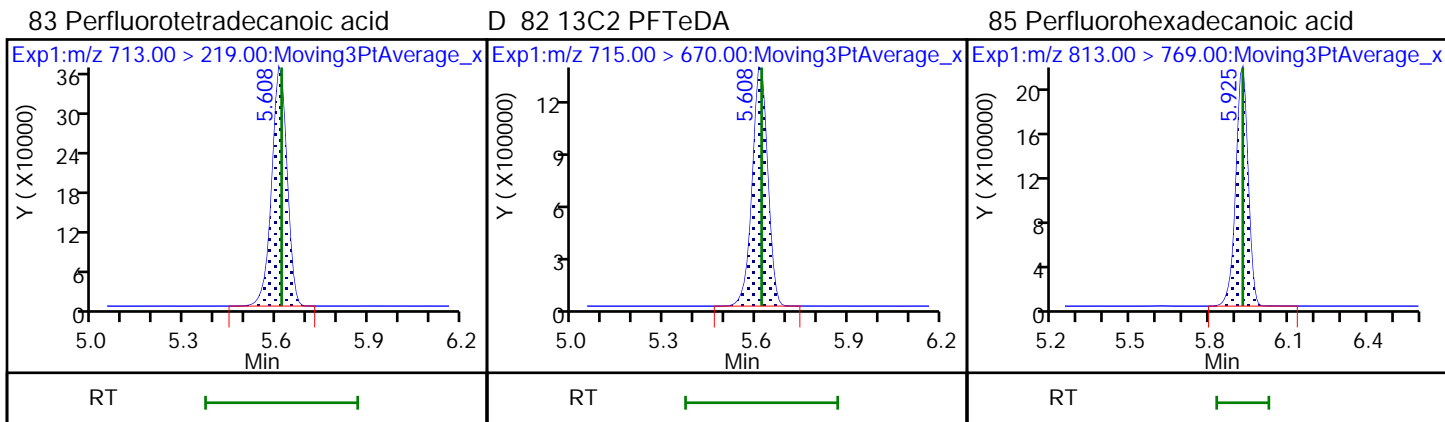


79 N-EtFOSE-M

81 N-EtFOSA-M

83 Perfluorotetradecanoic acid





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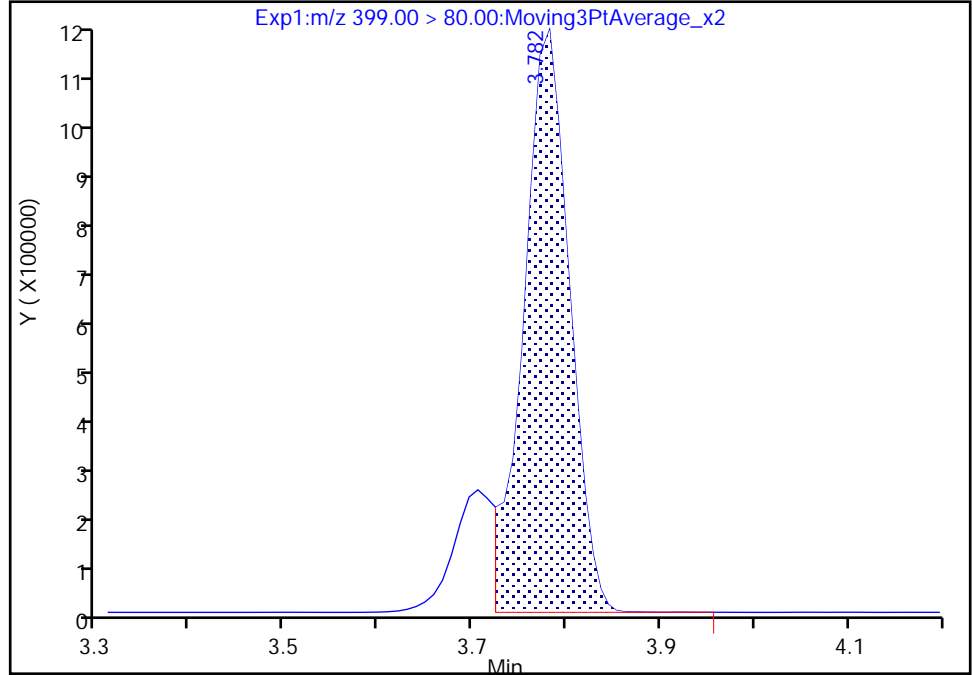
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Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

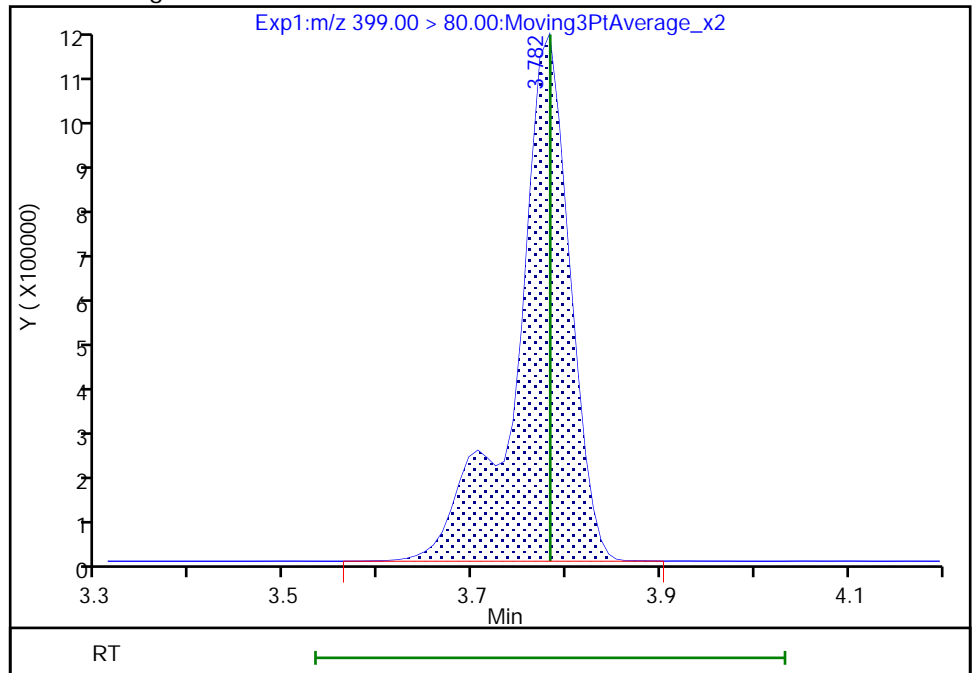
RT: 3.78  
Area: 4004075  
Amount: 1.856708  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 4719951  
Amount: 2.188663  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:51:43  
Audit Action: Manually Integrated

Eurofins Knoxville

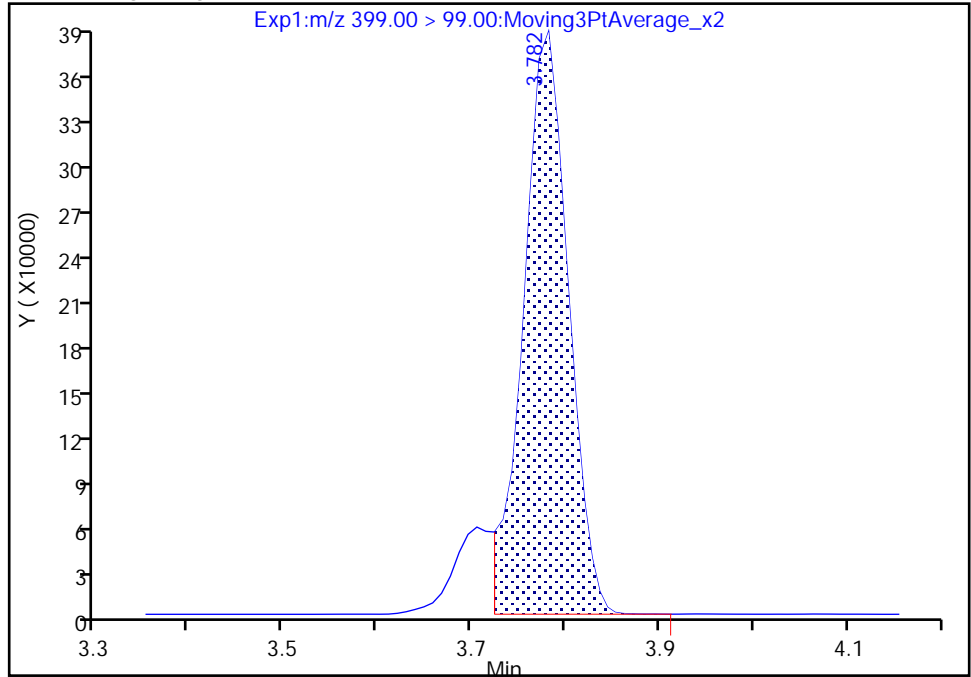
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d  
Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

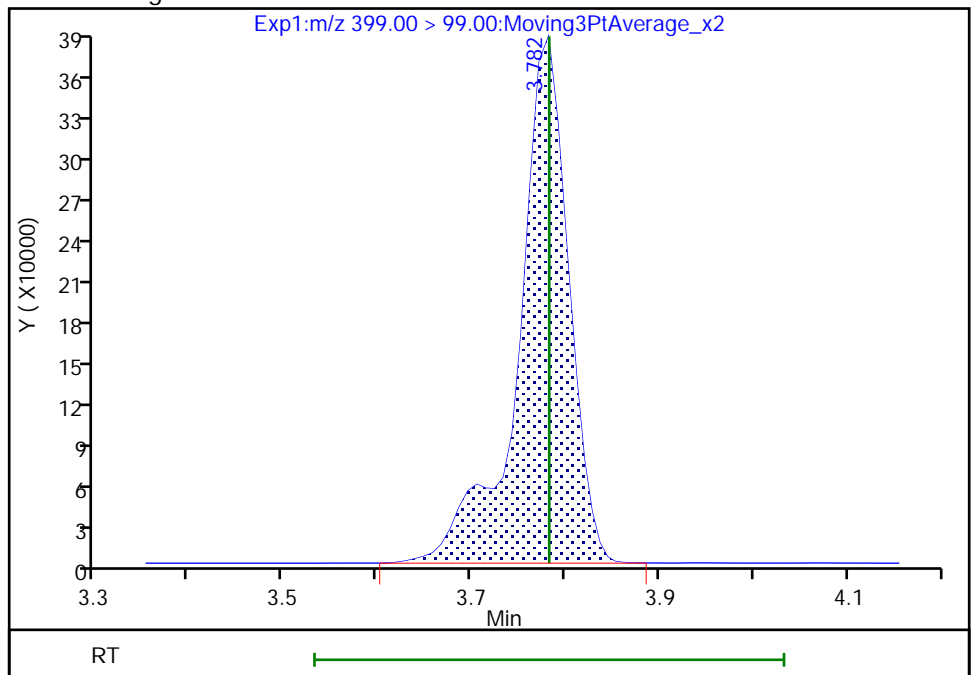
RT: 3.78  
Area: 1262804  
Amount: 1.856708  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 1425721  
Amount: 2.188663  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:51:49

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

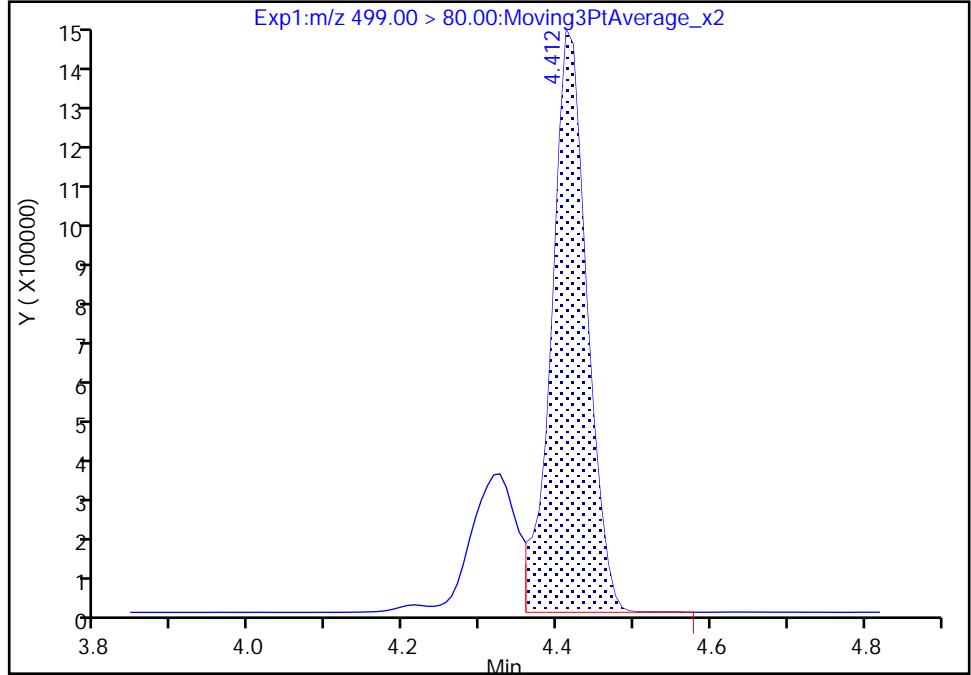
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Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

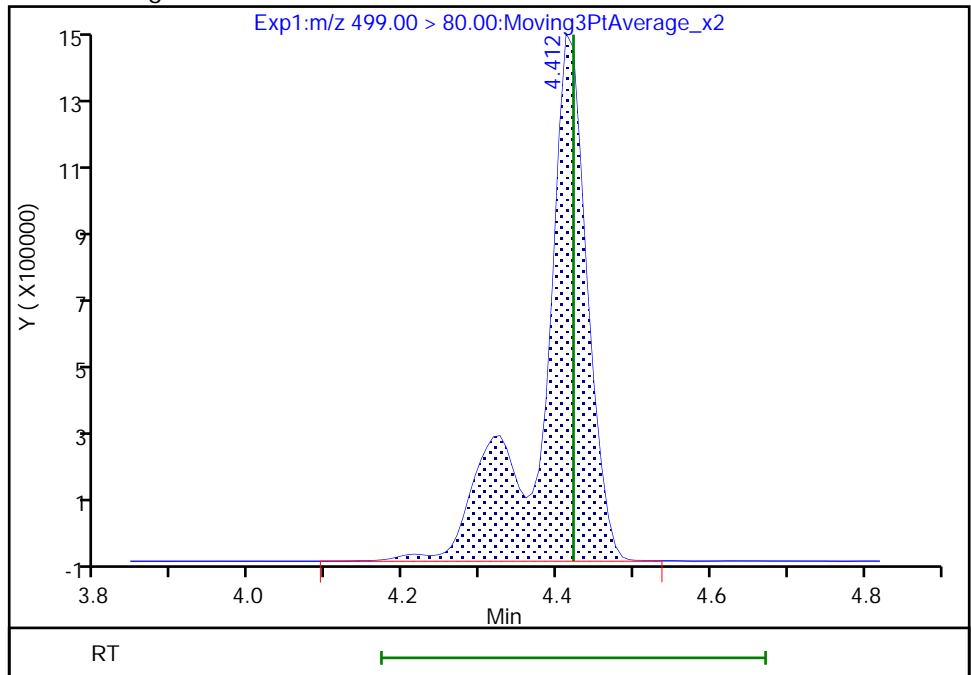
RT: 4.41  
Area: 4736982  
Amount: 1.731868  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 6216154  
Amount: 2.272661  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:52:03  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

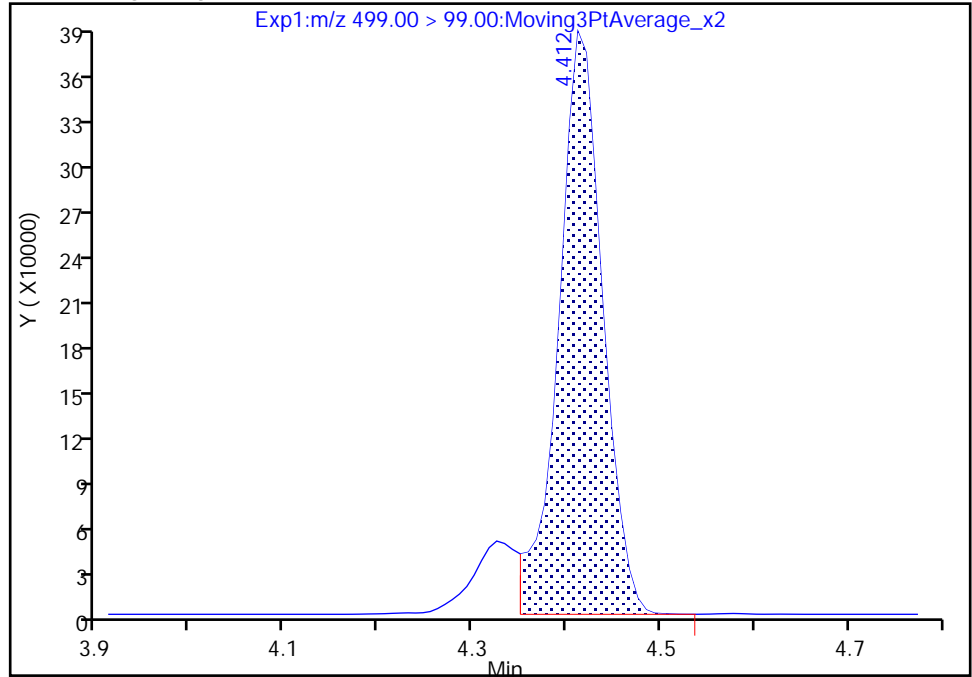
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d  
Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

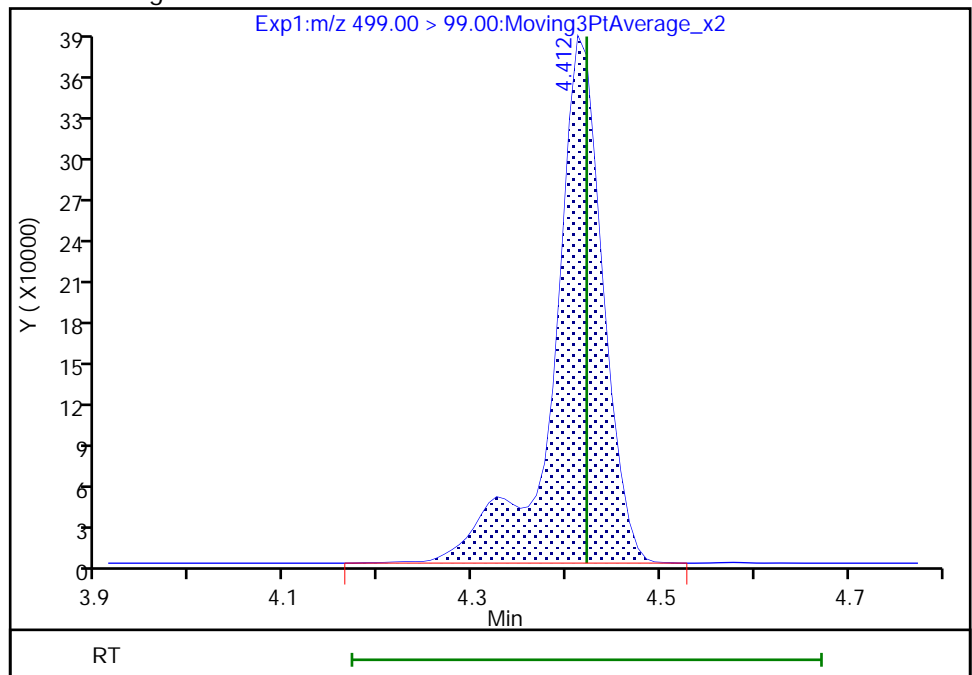
RT: 4.41  
Area: 1249502  
Amount: 1.731868  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 1405600  
Amount: 2.272661  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:52:10

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

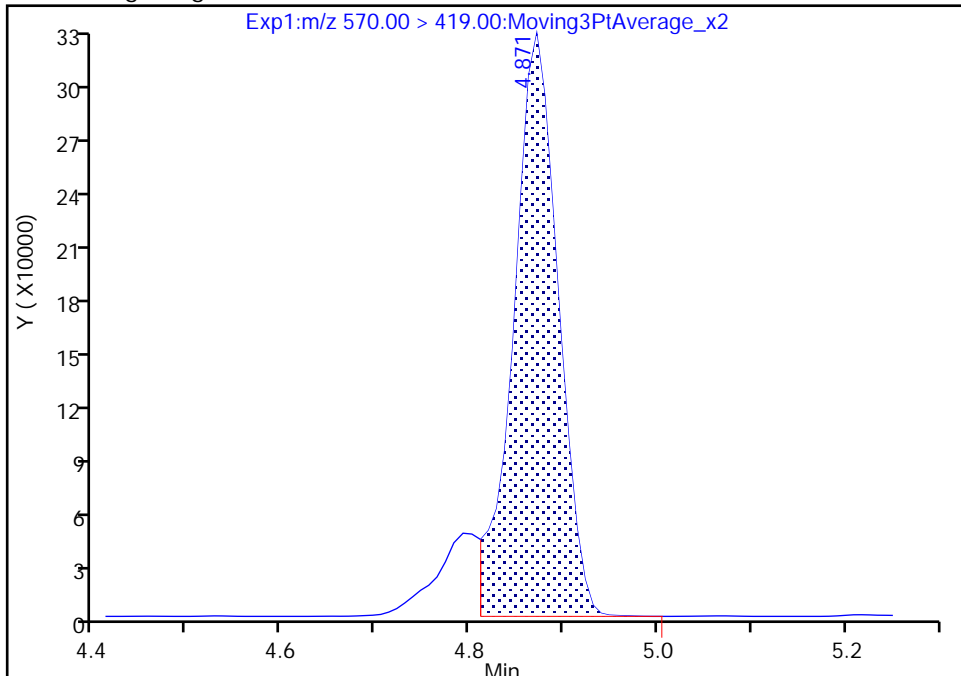
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d  
Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17 Worklist Smp#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

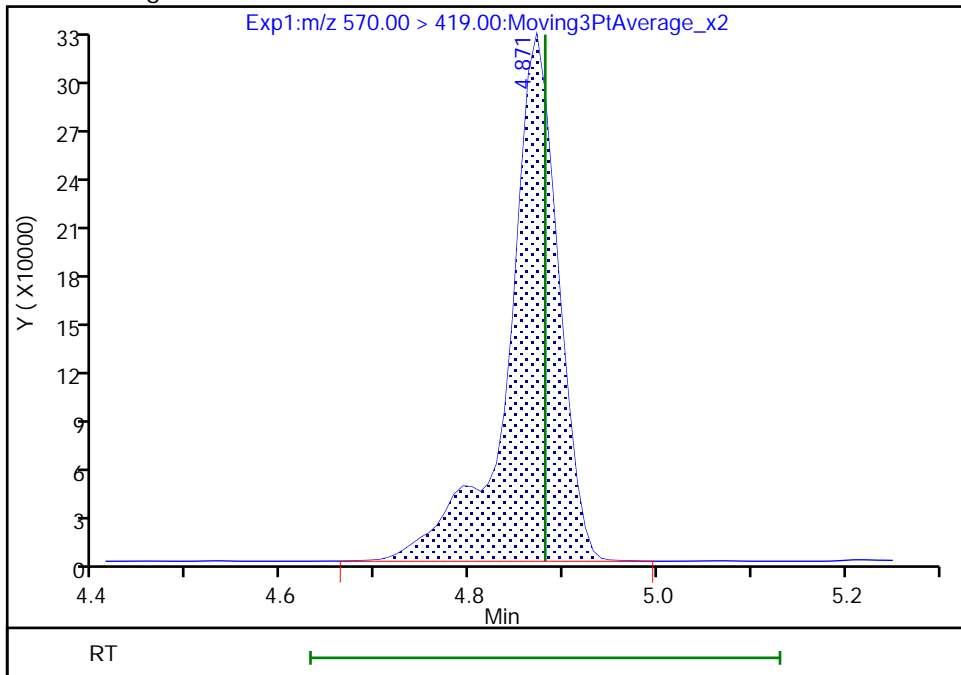
RT: 4.87  
Area: 1058645  
Amount: 2.261447  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1203219  
Amount: 2.559851  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:52:24  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d  
Injection Date: 18-Feb-2022 21:53:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 17  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

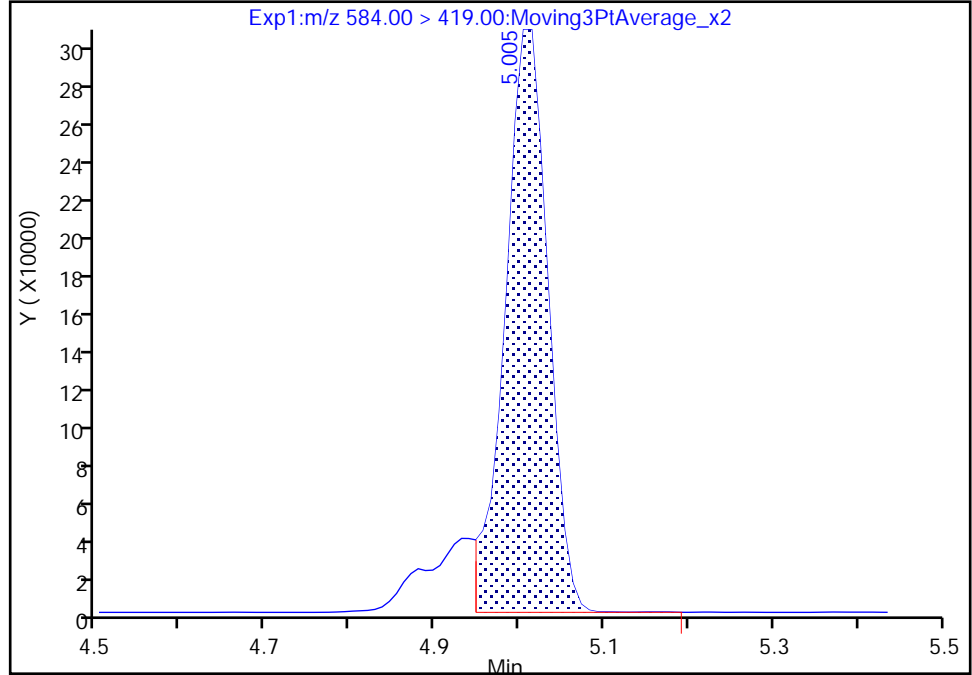
Worklist Smp#: 17

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

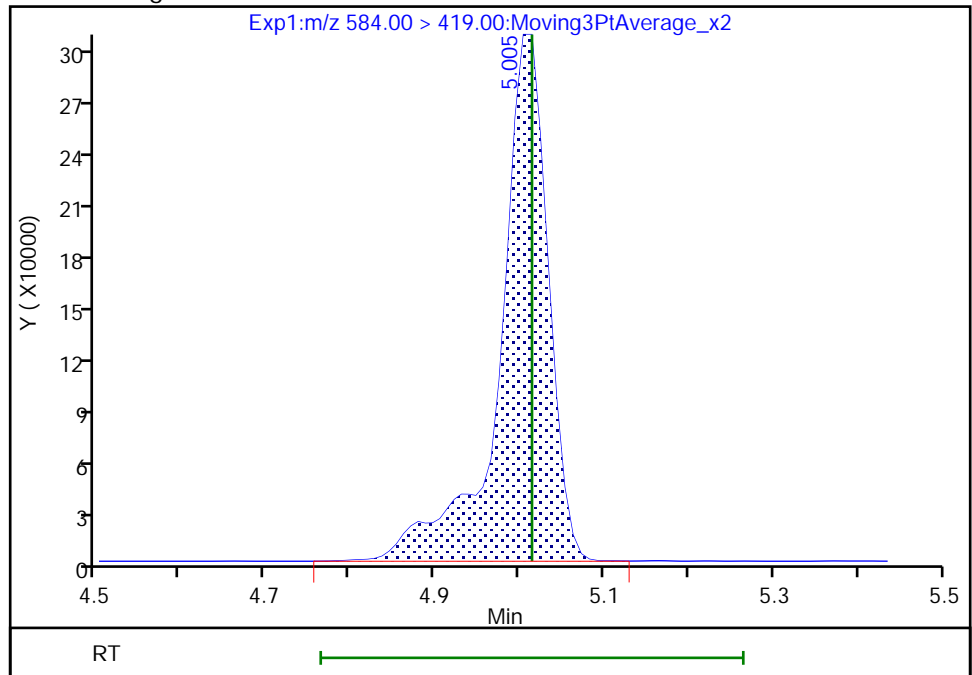
RT: 5.00  
Area: 1055510  
Amount: 2.368258  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 1213875  
Amount: 2.702265  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 11:52:35  
Audit Action: Manually Integrated

Audit Reason: Baseline



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/29 Calibration Date: 02/18/2022 23:39  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_029.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7617		0.960	1.00	-4.0	40.0
PFECA F	AveID	0.7535	0.7037		0.934	1.00	-6.6	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9518		1.01	1.00	1.2	40.0
3:3 FTCA	QuaIF		0.0553		1.02	1.00	1.5	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.077		0.869	0.884	-1.7	40.0
PFECA A	Q2ID		1.202		1.03	1.00	2.5	40.0
PES	Q2ID		2.308		0.867	0.890	-2.6	40.0
PFECA B	Q2ID		0.4213		1.02	1.00	1.8	40.0
4:2 FTS	L2ID		2.260		0.928	0.934	-0.6	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7767		0.976	1.00	-2.4	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	0.9552		0.868	0.938	-7.5	40.0
HFPO-DA	L2ID		1.234		0.977	1.00	-2.3	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.322		0.869	0.910	-4.6	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.016		1.01	1.00	1.4	40.0
DONA	AveID	2.644	2.449		0.873	0.942	-7.4	40.0
5:3 FTCA	L2ID		3.444		0.914	1.00	-8.6	40.0
6:2 FTUCA	AveID	1.046	1.003		0.959	1.00	-4.1	40.0
6:2 FTCA	L1ID		0.6573		0.947	1.00	-5.4	40.0
PFECHS	AveID	0.7426	0.6789		0.843	0.922	-8.6	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9015		0.869	0.952	-8.7	40.0
6:2 FTS	L2ID		1.708		0.885	0.948	-6.7	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.001		0.935	1.00	-6.5	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.034		0.838	0.928	-9.7	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7044		0.926	1.00	-7.4	40.0
7:3 FTCA	AveID	5.230	4.613		0.882	1.00	-11.8	40.0
8:2 FTUCA	AveID	0.9565	0.8475		0.886	1.00	-11.4	40.0
8:2 FTCA	AveID	1.811	1.630		0.900	1.00	-10.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.074		0.860	0.932	-7.8	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9525		0.904	0.960	-5.8	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9069		0.950	1.00	-5.0	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8722		0.969	1.00	-3.1	40.0
8:2 FTS	L2ID		1.441		0.916	0.958	-4.3	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9151		0.990	1.00	-1.0	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8559		0.926	0.964	-3.9	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/29 Calibration Date: 02/18/2022 23:39  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_029.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9103		0.941	1.00	-5.9	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8954		1.02	1.00	1.8	40.0
10:2 FTUCA	AveID	1.208	1.205		0.998	1.00	-0.2	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.696		0.917	0.942	-2.7	50.0
10:2 FTCA	Q2ID		0.9781		1.07	1.00	6.6	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9456		0.915	1.00	-8.5	40.0
10:2 FTS	L2ID		1.941		0.891	0.964	-7.6	50.0
NMeFOSA	L2ID		1.000		0.926	1.00	-7.4	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.166		0.994	1.00	-0.6	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8794		0.901	0.968	-7.0	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8301		0.940	1.00	-6.0	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.232		0.869	1.00	-13.1	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.228		0.983	1.00	-1.7	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1233		0.955	1.00	-4.5	40.0
Perfluorohexadecanoic acid	L1ID		1.067		0.936	1.00	-6.4	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9550		0.943	1.00	-5.7	40.0
13C4 PFBA	Ave	1.172	1.165		1.24	1.25	-0.6	50.0
13C5 PFPeA	Ave	0.9197	0.9205		1.25	1.25	0.0	50.0
13C3 PFBS	Ave	0.5817	0.5789		1.16	1.16	-0.5	50.0
M2-4:2 FTS	Ave	0.1821	0.1666		1.07	1.17	-8.5	50.0
13C2 PFHxA	Ave	1.015	1.041		1.28	1.25	2.6	50.0
13C3 HFPO-DA	Ave	0.4963	0.5014		1.26	1.25	1.0	50.0
18O2 PFHxS	Ave	0.3776	0.3633		1.14	1.18	-3.8	50.0
13C4 PFHpA	Ave	0.9046	0.9195		1.27	1.25	1.6	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3559		1.32	1.25	5.5	50.0
13C-6:2 FTCA	Ave	0.0260	0.0279		1.34	1.25	7.1	50.0
M2-6:2 FTS	Ave	0.1799	0.1755		1.16	1.19	-2.5	50.0
13C4 PFOA	Ave	0.9356	0.9445		1.26	1.25	1.0	50.0
13C4 PFOS	Ave	0.5610	0.5593		1.19	1.20	-0.3	50.0
13C5 PFNA	Ave	1.268	1.301		1.28	1.25	2.6	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4905		1.36	1.25	8.5	50.0
13C-8:2 FTCA	Ave	0.0330	0.0342		1.29	1.25	3.5	50.0
13C8 FOSA	Ave	0.8475	0.8446		1.25	1.25	-0.4	50.0
13C2 PFDA	Ave	1.210	1.260		1.30	1.25	4.1	50.0
M2-8:2 FTS	Ave	0.1961	0.2040		1.25	1.20	4.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/29 Calibration Date: 02/18/2022 23:39  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_029.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1182		1.30	1.25	4.1	50.0
13C2 PFUnA	Ave	1.168	1.223		1.31	1.25	4.8	50.0
d5-NEtFOSAA	Ave	0.1164	0.1230		1.32	1.25	5.7	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5055		1.24	1.25	-0.5	50.0
13C-10:2 FTCA	Ave	0.0309	0.0302		1.22	1.25	-2.4	50.0
13C2 PFDoA	Ave	1.152	1.196		1.30	1.25	3.8	50.0
13C2 10:2 FTS	Ave	0.1652	0.1723		1.24	1.18	4.3	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1164		1.23	1.25	-1.9	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0993		1.23	1.25	-1.6	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1297		1.32	1.25	5.4	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0796		1.23	1.25	-1.7	50.0
13C2 PFTeDA	Ave	0.9216	0.9013		1.22	1.25	-2.2	50.0
13C2 PFHxDA	Ave	0.5997	0.6025		1.26	1.25	0.5	50.0
13C8 PFOA	AveID	0.9229	0.9699		1.31	1.25	5.1	50.0
13C8 PFOS	AveID	0.2212	0.2241		1.21	1.20	1.3	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 18-Feb-2022 23:39:02 ALS Bottle#: 29 Worklist Smp#: 29  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-029 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:21:41

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	3876328	0.9604		96.0	1566	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.681	6361365	1.24		99.4	22768	
3 PFECA F										
229.00 > 85.00	2.919	2.919	0.0	0.936	2830288	0.9339		93.4	11984	
D 5 13C5 PFPeA										
267.90 > 223.00	3.118	3.115	0.003	0.756	5027233	1.25		100	17809	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.118	3.123	-0.005	1.000	3827879	1.01		101	1725	
4 3:3 FTCA										
241.00 > 177.10	3.126	3.131	-0.005	0.997	139776	1.02	Target=1.13	102	1156	
241.00 > 116.90	3.126	3.131	-0.005	0.997	117400		1.19(0.56-1.69)		206	
D 7 13C3 PFBS										
301.90 > 80.00	3.135	3.131	0.004	0.760	2940525	1.16		99.5	11689	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.135	3.140	-0.005	1.000	2408306	0.8688	Target=2.61	98.3	3255	
298.90 > 99.00	3.135	3.140	-0.005	1.000	905113		2.66(1.31-3.92)		3131	
9 PFECA A										
278.95 > 84.90	3.206	3.211	-0.005	1.028	4835517	1.03		103	12746	
11 PES										
314.80 > 135.00	3.264	3.260	0.004	1.041	5195330	0.8670		97.4	19176	
12 PFECA B										
295.22 > 201.00	3.378	3.384	-0.006	0.981	1916018	1.02		102	7820	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.420	3.416	0.004	0.829	849792	1.07		91.5	1558	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.420	3.416	0.004	1.000	1536303	0.9283		99.4	6459	
D 14 13C2 PFHxA										
315.00 > 270.00	3.441	3.448	-0.007	0.834	5684645	1.28		103	16627	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.441	3.448	-0.007	1.098	2266430	0.8679	Target=3.55	92.5	5926	
349.00 > 99.00	3.441	3.448	-0.007	1.098	653311		3.47(1.78-5.33)		5615	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.441	3.448	-0.007	1.000	3531988	0.9762	Target=11.60	97.6	1736	
313.00 > 119.00	3.441	3.448	-0.007	1.000	305630		11.56(5.80-17.40)		350	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.547	3.553	-0.006	0.860	2738446	1.26		101	9014	
17 HFPO-DA										
285.00 > 169.00	3.547	3.553	-0.006	1.000	2702507	0.9768	Target=2.45	97.7	1773	
329.00 > 169.00	3.547	3.553	-0.006	1.000	1077541		2.51(1.23-3.68)		1502	
D 20 18O2 PFHxS										
403.00 > 84.00	3.776	3.783	-0.007	0.915	1876931	1.14		96.2	4413	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.776	3.783	-0.007	1.000	1909410	0.8685	Target=3.44	95.4	5037	M
399.00 > 99.00	3.776	3.783	-0.007	1.000	550561		3.47(1.72-5.17)		2101	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.786	3.793	-0.007	0.918	5021773	1.27		102	7205	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.786	3.793	-0.007	1.000	4080850	1.01	Target=3.25	101	2911	
363.00 > 169.00	3.786	3.793	-0.007	1.000	1197544		3.41(1.62-4.87)		1460	
25 DONA										
377.00 > 251.00	3.824	3.829	-0.005	0.866	5636734	0.8726	Target=1.74	92.6	11211	
377.00 > 85.00	3.824	3.829	-0.005	0.866	3278809		1.72(0.87-2.61)		124	
26 5:3 FTCA										
340.88 > 236.90	3.849	3.853	-0.004	0.987	419194	0.9135	Target=1.11	91.4	1370	
340.88 > 216.90	3.849	3.853	-0.004	0.987	386016		1.09(0.56-1.67)		1186	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.882	3.887	-0.004	0.941	1943952	1.32		106	4166	
27 6:2 FTUCA										
356.86 > 292.90	3.882	3.895	-0.013	1.000	1560412	0.9589	Target=13.05	95.9	3756	
356.86 > 243.00	3.882	3.895	-0.013	1.000	104067		14.99(6.52-19.57)		427	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.899	3.904	-0.005	0.945	152136	1.34		107	583	
29 6:2 FTCA										
377.10 > 63.00	3.908	3.913	-0.005	1.002	79997	0.9465	Target=1.29	94.6	375	
377.10 > 313.10	3.908	3.913	-0.005	1.002	63443		1.26(0.65-1.94)		93.8	
32 PFECBS										
460.80 > 380.90	4.059	4.065	-0.005	0.984	2583273	0.8429	Target=1.75	91.4	7218	
460.80 > 98.90	4.059	4.065	-0.005	0.984	1476834		1.75(0.87-2.62)		3468	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.107	4.112	-0.005	0.930	2096967	0.8690	Target=3.72	91.3	5129	
449.00 > 99.00	4.107	4.112	-0.005	0.930	539140		3.89(1.86-5.57)		2573	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.116	4.121	-0.005	0.998	910629	1.16		97.5	2964	
35 6:2 FTS										
427.00 > 407.00	4.116	4.121	-0.005	1.000	1241526	0.8849		93.3	2850	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.116	4.121	-0.005	0.998	5003375	1.31		105	13108	
D 31 13C4 PFOA										
417.00 > 372.00	4.125	4.131	-0.006	1.000	5158486	1.26		101	11365	
* 30 13C2 PFOA										
415.00 > 370.00	4.125	4.131	-0.006		5461512	1.25			12229	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.125	4.131	-0.006	1.000	4132795	0.9354	Target=2.51	93.5	2973	
413.00 > 169.00	4.125	4.131	-0.006	1.000	1737405		2.38(1.26-3.77)		3018	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.408	4.421	-0.013	0.998	654503	1.21		101	1941	
D 39 13C4 PFOS										
503.00 > 80.00	4.417	4.421	-0.004	1.071	2919983	1.19		99.7	3217	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.417	4.421	-0.004	1.000	2345783	0.8383	Target=4.30	90.3	3374	M
499.00 > 99.00	4.417	4.421	-0.004	1.000	522439		4.49(2.15-6.45)		1601	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.434	4.439	-0.005	1.000	4003946	0.9261	Target=3.60	92.6	3698	
463.00 > 169.00	4.434	4.439	-0.005	1.000	1037224		3.86(1.80-5.40)		2361	
D 41 13C5 PFNA										
468.00 > 423.00	4.434	4.439	-0.005	1.075	7105740	1.28		103	16927	
43 7:3 FTCA										
441.00 > 337.00	4.524	4.529	-0.005	0.993	689673	0.8820	Target=1.42	88.2	1630	
441.00 > 317.00	4.524	4.529	-0.005	0.993	519769		1.33(0.71-2.13)		1953	
44 8:2 FTUCA										
456.86 > 392.90	4.541	4.545	-0.004	1.000	1816384	0.8861	Target=35.37	88.6	3638	
456.86 > 343.00	4.541	4.545	-0.004	1.000	60077		30.23(17.68-53.05)		233	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.541	4.553	-0.012	1.000	2678875	1.36		109	3931	
46 8:2 FTCA										
477.00 > 393.10	4.557	4.562	-0.005	1.000	243719	0.9001	Target=3.35	90.0	1200	
477.00 > 63.20	4.557	4.562	-0.005	1.000	72059		3.38(1.68-5.03)		383	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.557	4.562	-0.005	1.105	186890	1.29		104	621	
49 9CIFOS										
531.00 > 351.00	4.574	4.578	-0.004	1.109	4722951	0.8597		92.2	7679	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.693	4.697	-0.004	1.063	2234292	0.9041	Target=3.99	94.2	4981	
549.00 > 99.00	4.693	4.697	-0.004	1.063	577965		3.87(2.00-5.99)		1701	
D 55 13C8 FOSA										
506.00 > 78.00	4.710	4.714	-0.004	1.142	4612583	1.25		99.6	5436	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.710	4.714	-0.004	1.000	3346513	0.9496		95.0	6846	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										M
513.00 > 469.00	4.719	4.731	-0.012	1.000	4801027	0.9694	Target=10.58	96.9	3612	
513.00 > 169.00	4.719	4.731	-0.012	1.000	428952		11.19(5.29-15.88)		302	M
D 52 13C2 PFDA										
515.00 > 470.00	4.719	4.731	-0.012	1.144	6880600	1.30		104	12880	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.736	4.740	-0.004	1.148	1067126	1.25		104	2100	
53 8:2 FTS										
527.00 > 507.00	4.736	4.740	-0.004	1.000	1229831	0.9163		95.7	3492	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.867	4.872	-0.005	1.180	645407	1.30		104	338	
57 NMeFOSAA										
570.00 > 419.00	4.867	4.880	-0.013	1.000	472468	0.99		99.0	522	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.953	4.957	-0.004	1.121	2016136	0.9262	Target=3.55	96.1	5463	
599.00 > 99.00	4.953	4.957	-0.004	1.121	570745		3.53(1.78-5.33)		3220	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.990	4.995	-0.005	1.002	4865521	0.9412	Target=8.26	94.1	5706	
563.00 > 169.00	4.980	4.995	-0.015	1.000	587613		8.28(4.13-12.39)		2038	
D 59 13C2 PFUnA										
565.00 > 520.00	4.980	4.995	-0.015	1.207	6681399	1.31		105	18960	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.999	5.005	-0.006	1.212	671916	1.32		106	2752	
62 NEtFOSAA										M
584.00 > 419.00	5.009	5.015	-0.006	1.002	481285	1.02		102	644	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.087	5.093	-0.006	1.233	2760539	1.24		99.5	6610	
65 10:2 FTUCA										
556.86 > 492.90	5.087	5.093	-0.006	1.000	2661922	1.00		99.8	4881	
63 11C1FOS										
631.00 > 451.00	5.087	5.093	-0.006	1.152	3903447	0.9170		97.3	7193	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.106	5.112	-0.006	1.238	164813	1.22		97.6	932	
66 10:2 FTCA										
576.80 > 493.00	5.106	5.112	-0.006	1.000	128965	1.07	Target=2.53	107	528	
576.80 > 63.10	5.106	5.112	-0.006	1.000	53485		2.41(1.26-3.79)		174	
D 69 13C2 PFDoA										
615.00 > 570.00	5.222	5.226	-0.004	1.266	6532426	1.30		104	11178	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.222	5.226	-0.004	1.000	4941545	0.9153	Target=6.85	91.5	4219	
613.00 > 169.00	5.222	5.226	-0.004	1.000	718761		6.88(3.43-10.28)		1402	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.238	5.243	-0.005	1.270	891238	1.24		104	2517	
71 10:2 FTS										
627.00 > 607.00	5.246	5.251	-0.005	1.002	1408287	0.8910		92.4	6082	
74 NMeFOSA										
512.00 > 169.00	5.278	5.284	-0.006	1.000	434048	0.9257		92.6	655	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.278	5.284	-0.006	1.279	542574	1.23		98.4	43.1	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.278	5.284	-0.006	1.279	635535	1.23		98.1	426	
75 N-MeFOSE-M										
616.00 > 59.00	5.287	5.292	-0.005	1.002	593042	0.99		99.4	848	
76 PFDoS										
699.00 > 80.00	5.394	5.399	-0.005	1.221	2080148	0.9005	Target=4.22	93.0	4288	
699.00 > 99.00	5.394	5.399	-0.005	1.221	485372		4.29(2.11-6.34)		2667	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.430	5.435	-0.005	1.040	4337887	0.9400	Target=6.32	94.0	4571	
663.00 > 169.00	5.430	5.435	-0.005	1.040	680201		6.38(3.16-9.48)		2943	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.439	5.435	0.004	1.318	708355	1.32		105	333	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.447	5.452	-0.005	1.320	434731	1.23		98.3	626	
79 N-EtFOSE-M										
630.00 > 59.00	5.447	5.452	-0.005	1.002	698419	0.8686		86.9	750	
81 N-EtFOSA-M										
526.00 > 169.00	5.456	5.452	0.004	1.002	426939	0.9829		98.3	551	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.612	5.617	-0.005	1.000	485607	0.9551	Target=1.01	95.5	2099	
713.00 > 219.00	5.612	5.617	-0.005	1.000	475156		1.02(0.51-1.52)		2189	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.612	5.617	-0.005	1.360	4922418	1.22		97.8	12783	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.921	5.924	-0.003	1.000	2807562	0.9359	Target=8.64	93.6	3345	
813.00 > 169.00	5.921	5.924	-0.003	1.000	337316		8.32(4.32-12.97)		1167	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.921	5.924	-0.003	1.435	3290594	1.26		100	5529	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.181	6.185	-0.004	1.044	2513900	0.9428	Target=11.77	94.3	3618	
913.00 > 169.00	6.181	6.185	-0.004	1.044	210516		11.94(5.88-17.65)		852	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL



Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Injection Date: 18-Feb-2022 23:39:02

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 29

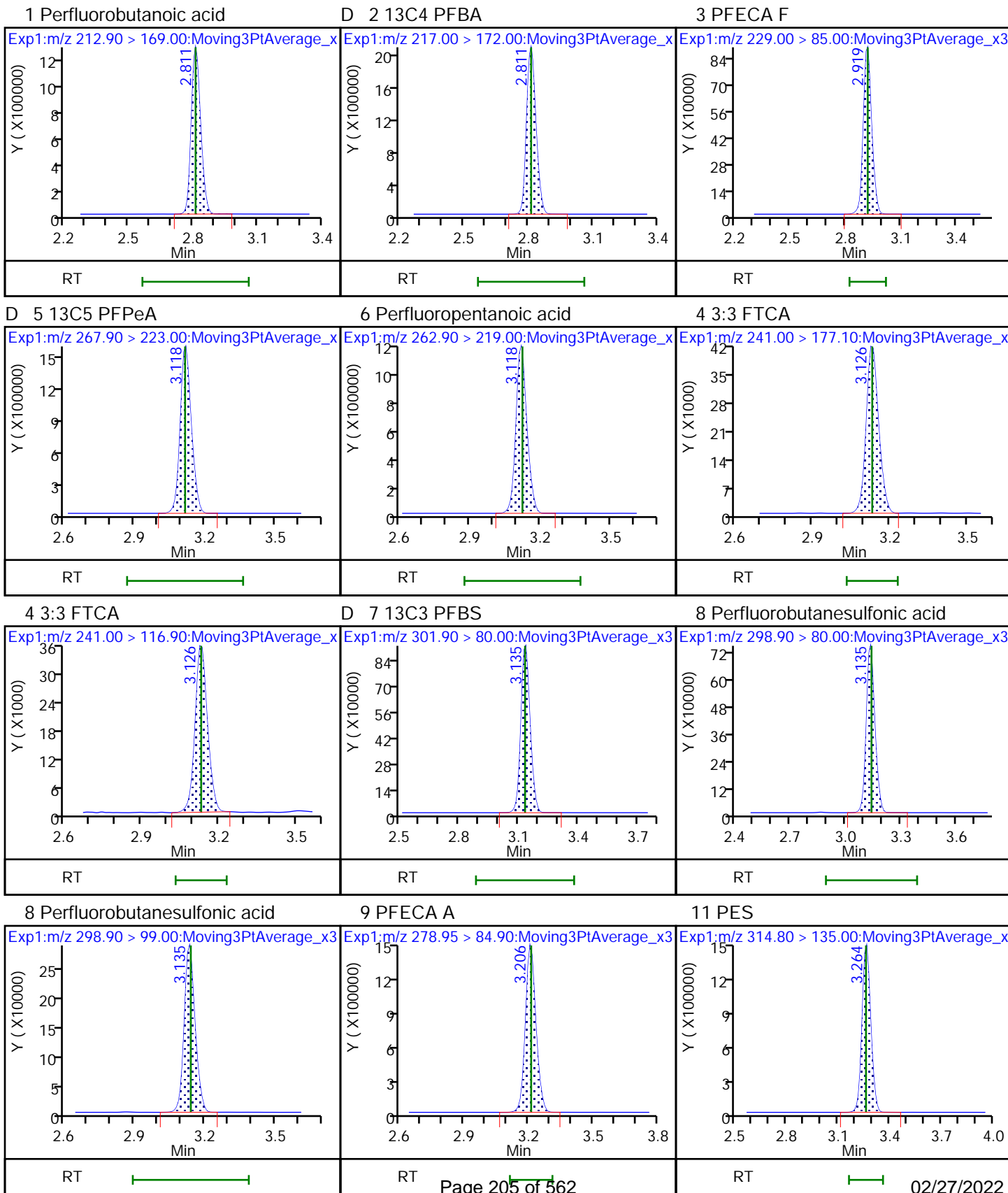
Worklist Smp#: 29

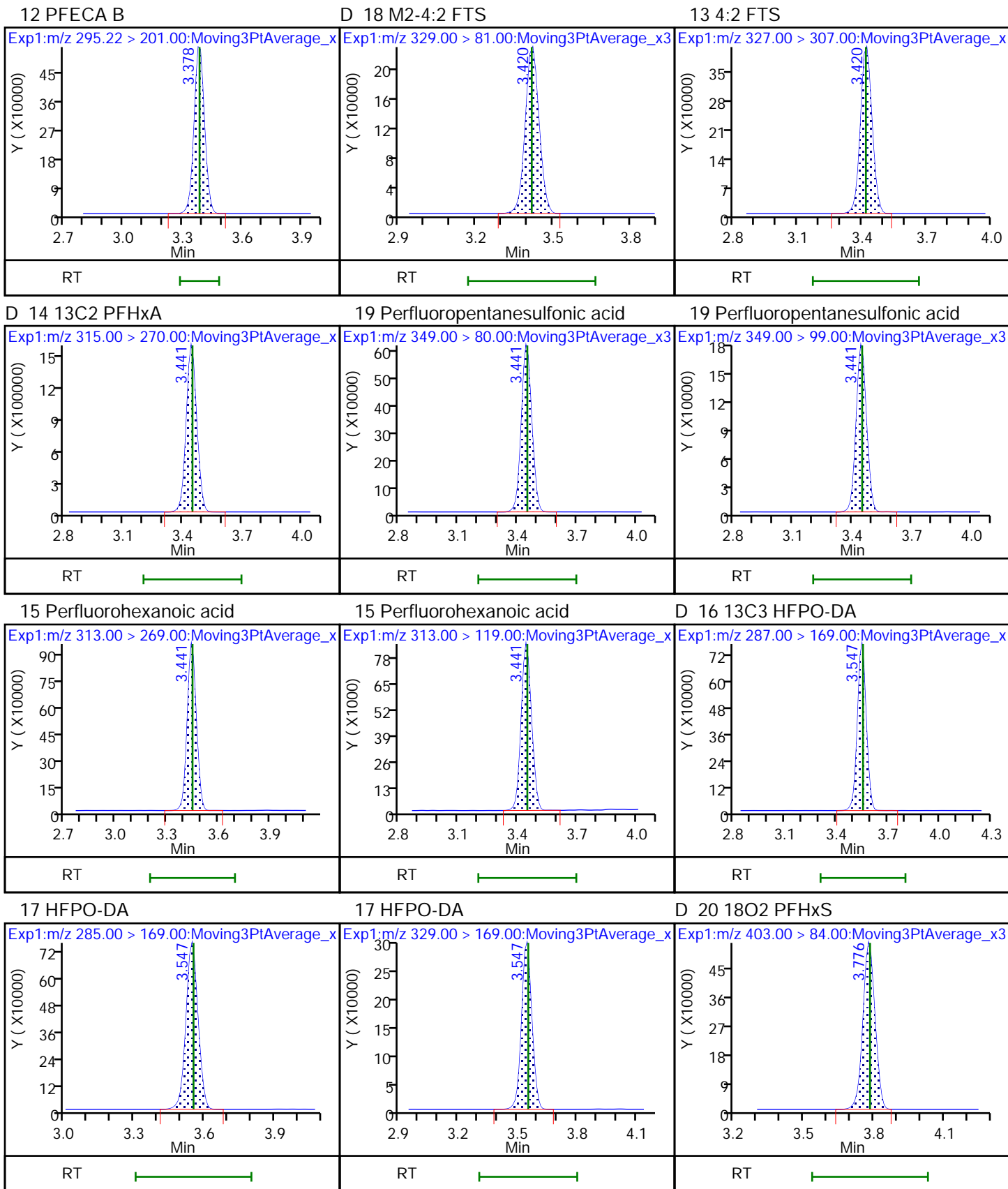
Injection Vol: 1.0 ul

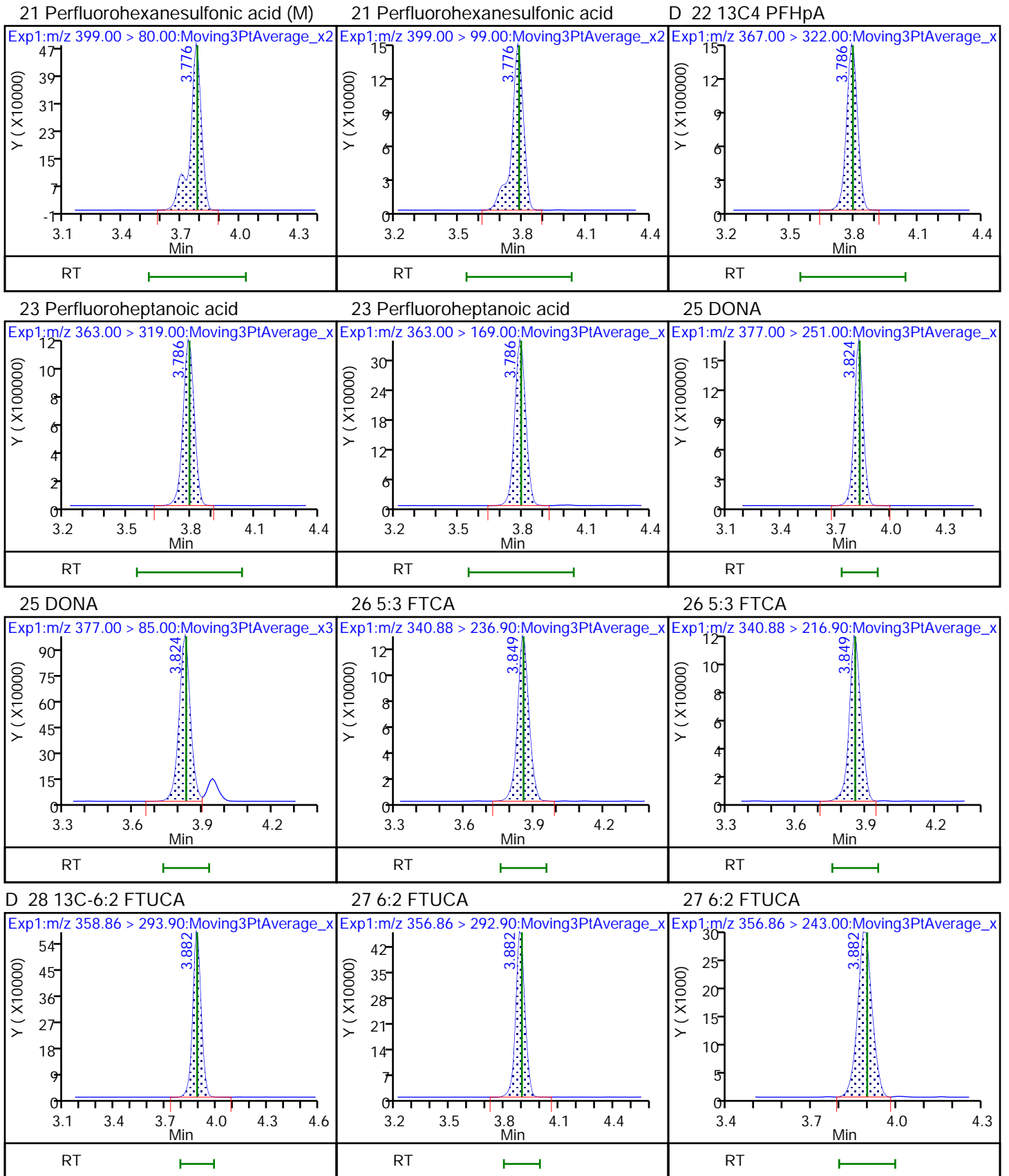
Dil. Factor: 1.0000

Method: PFC\_LCA

Limit Group: LC - PFC- ICAL



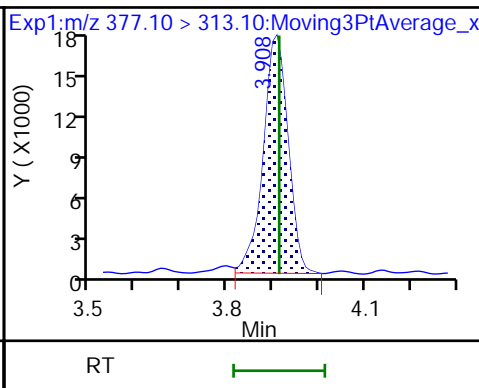
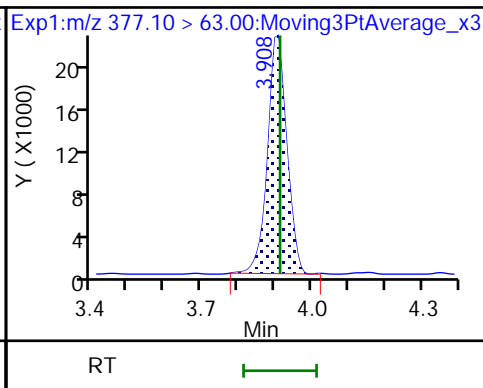
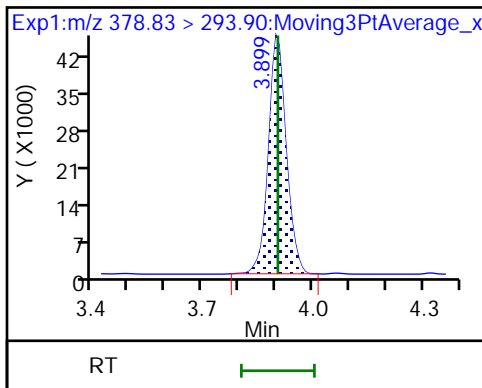




D 24 13C-6:2 FTCA

29 6:2 FTCA

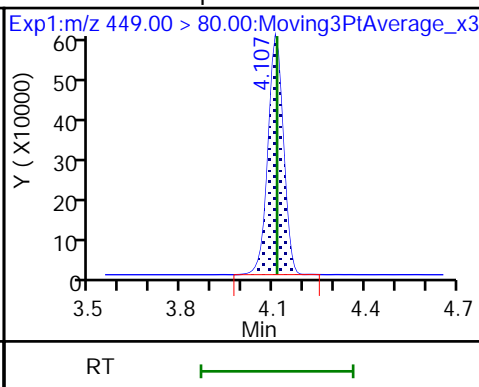
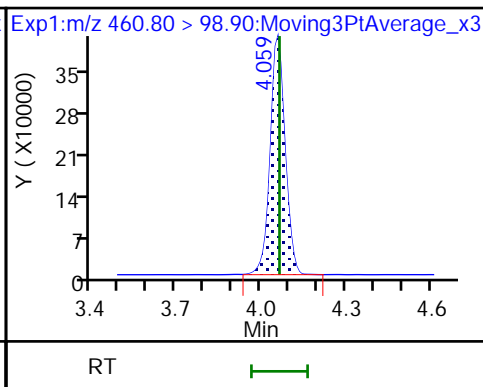
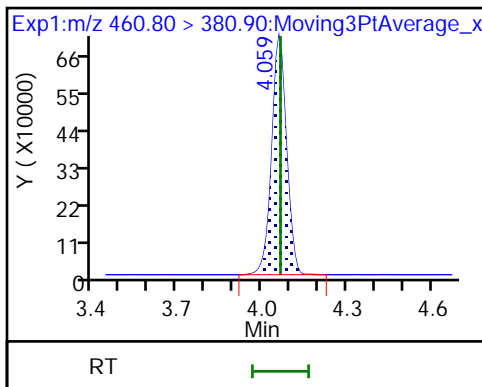
29 6:2 FTCA



32 PFECHS

32 PFECHS

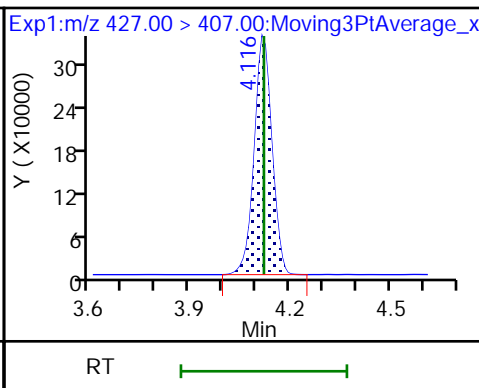
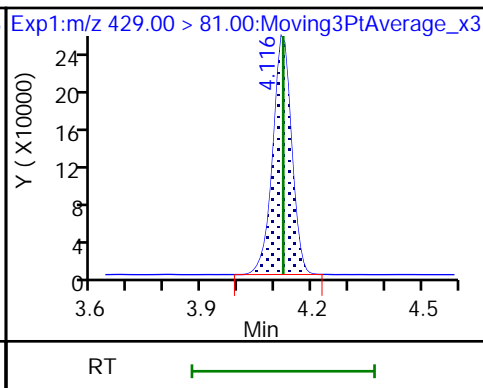
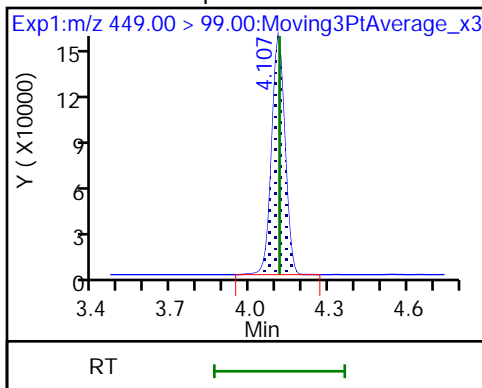
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

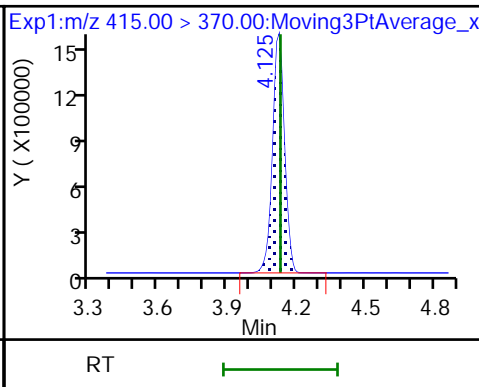
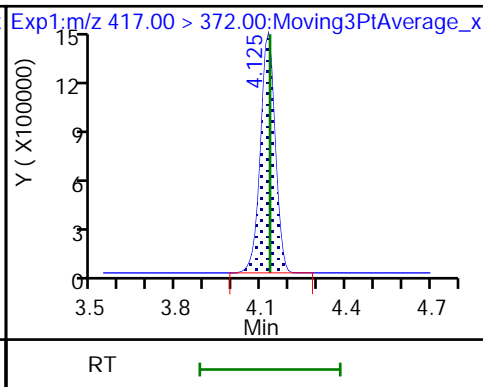
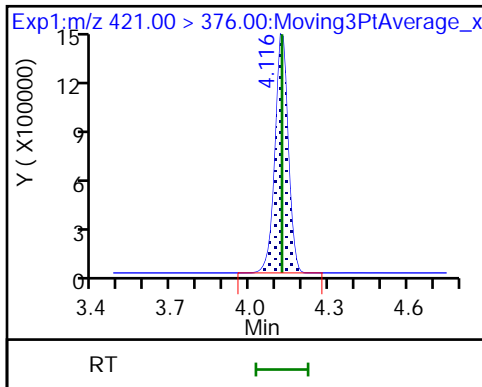
35 6:2 FTS

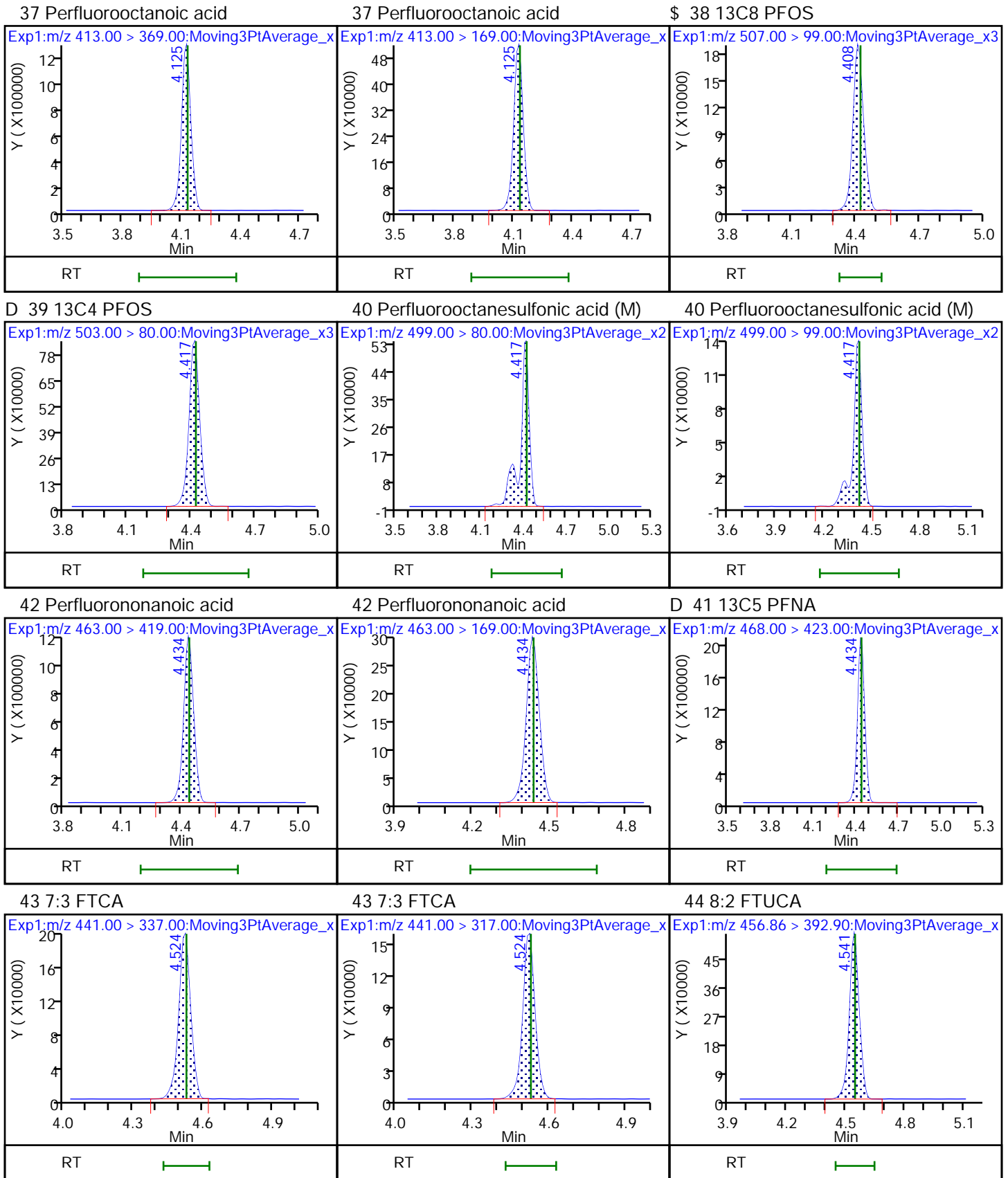


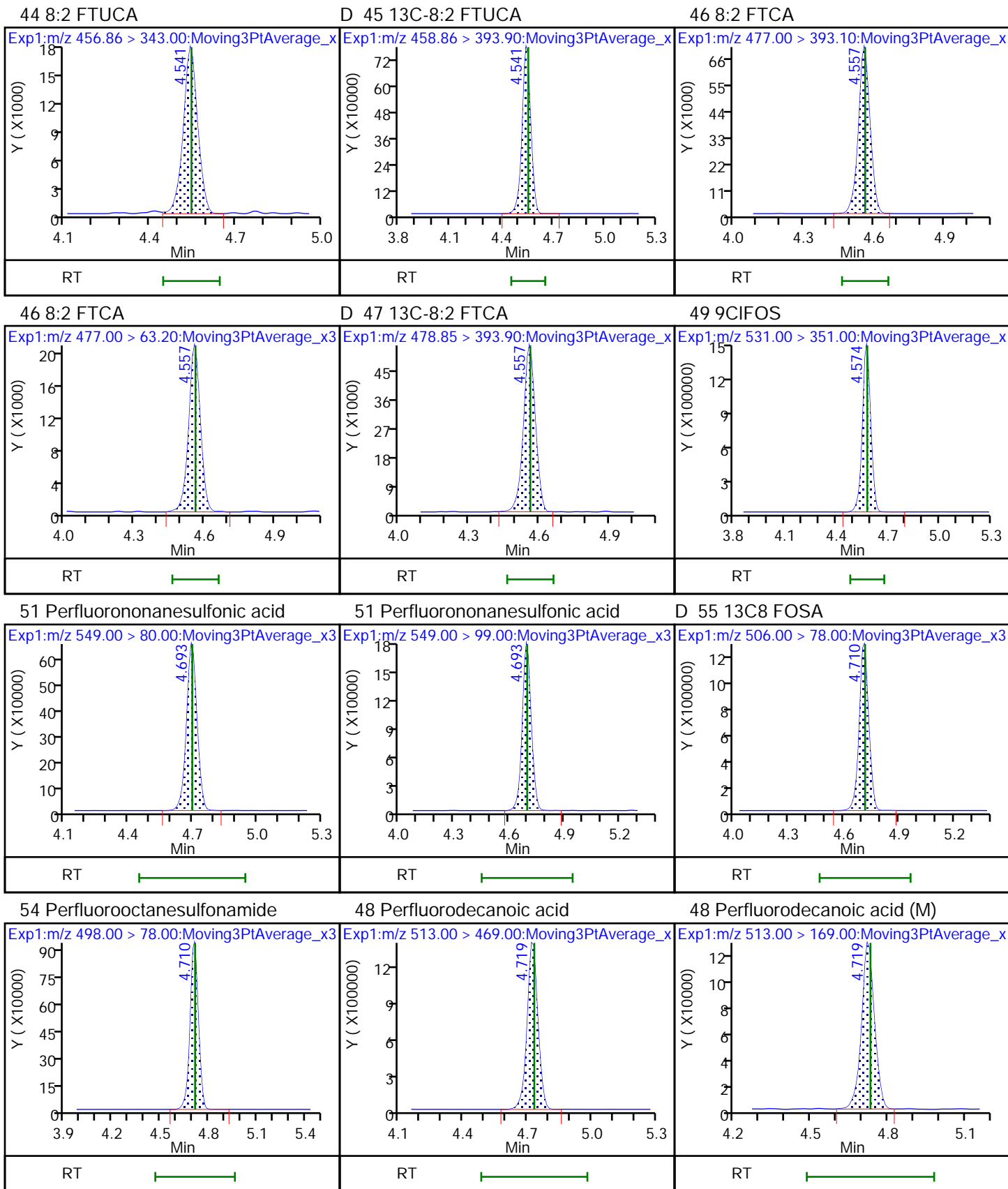
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



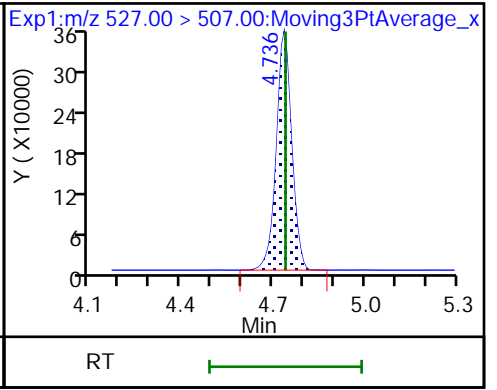
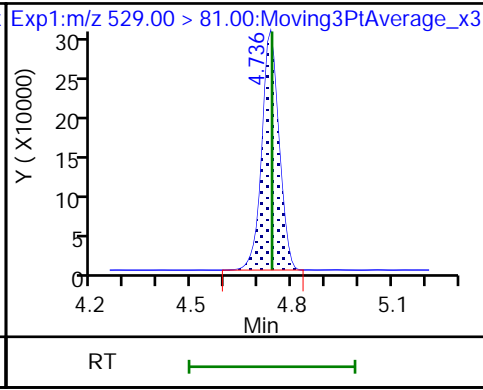
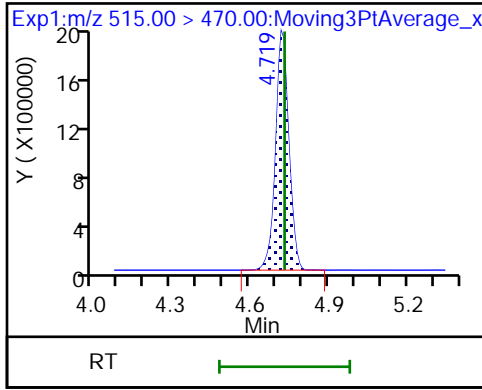




D 52 13C2 PFDA

D 50 M2-8:2 FTS

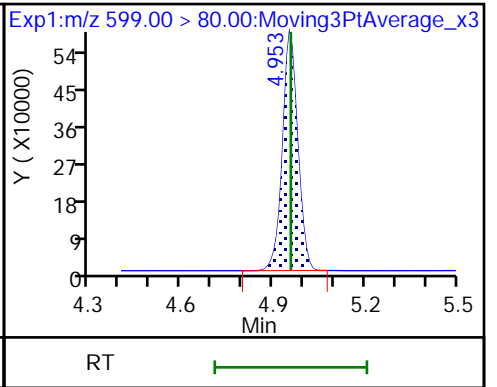
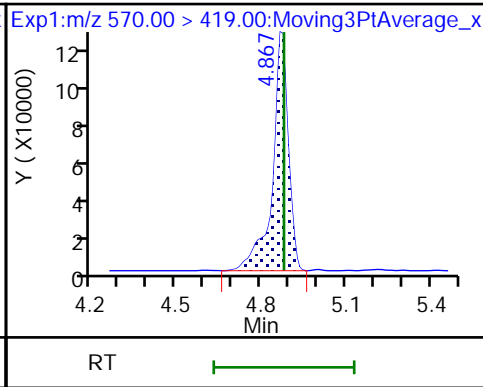
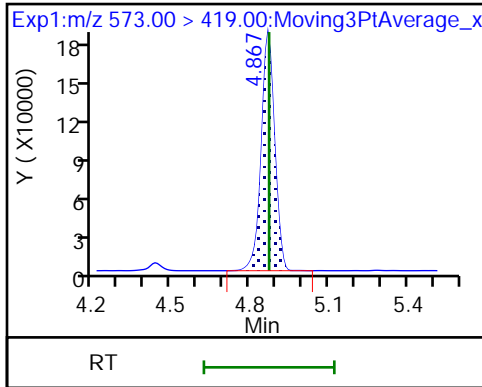
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA

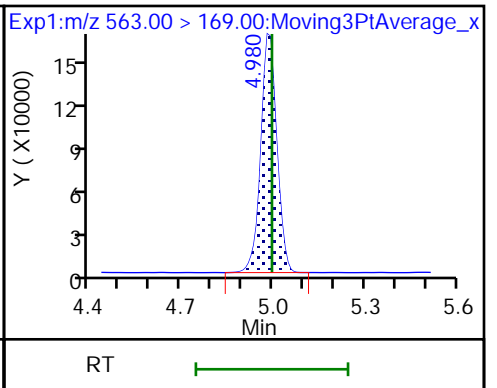
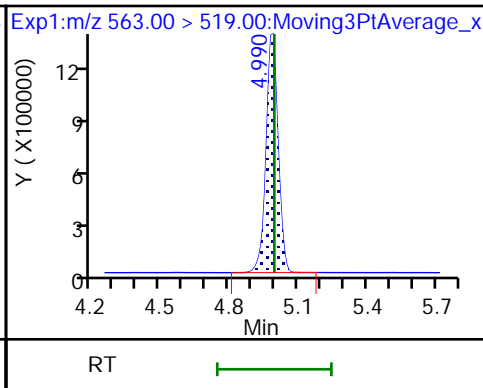
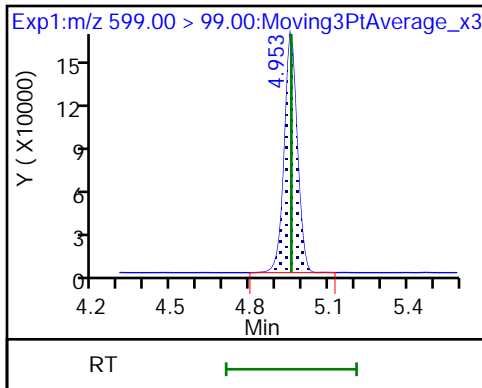
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

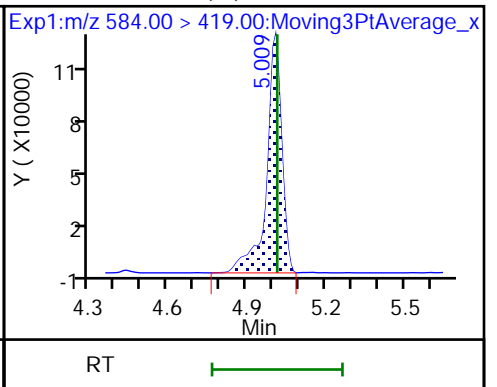
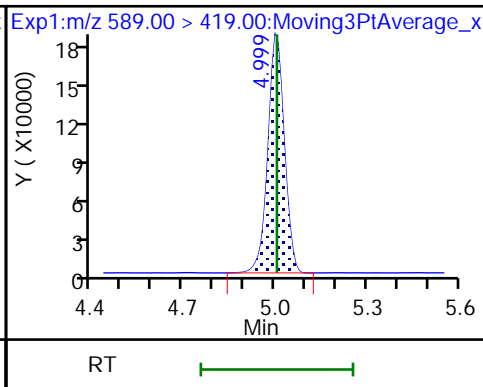
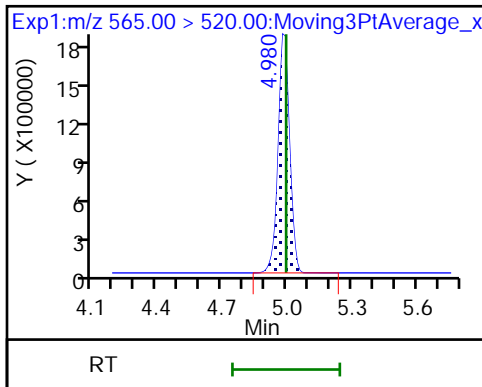
60 Perfluoroundecanoic acid



D 59 13C2 PUnA

D 61 d5-NEtFOSAA

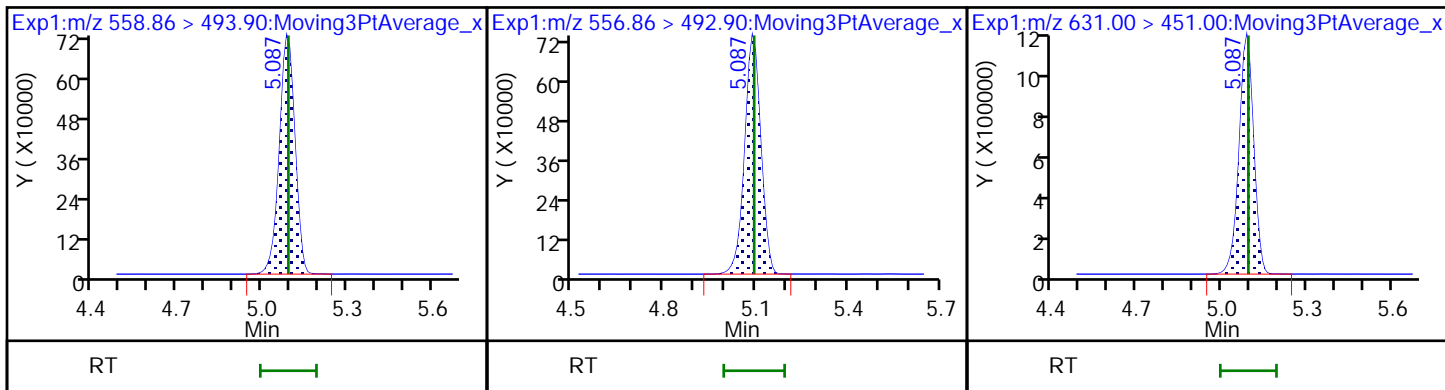
62 NEtFOSAA (M)



D 67 13C-10:2 FTUCA

65 10:2 FTUCA

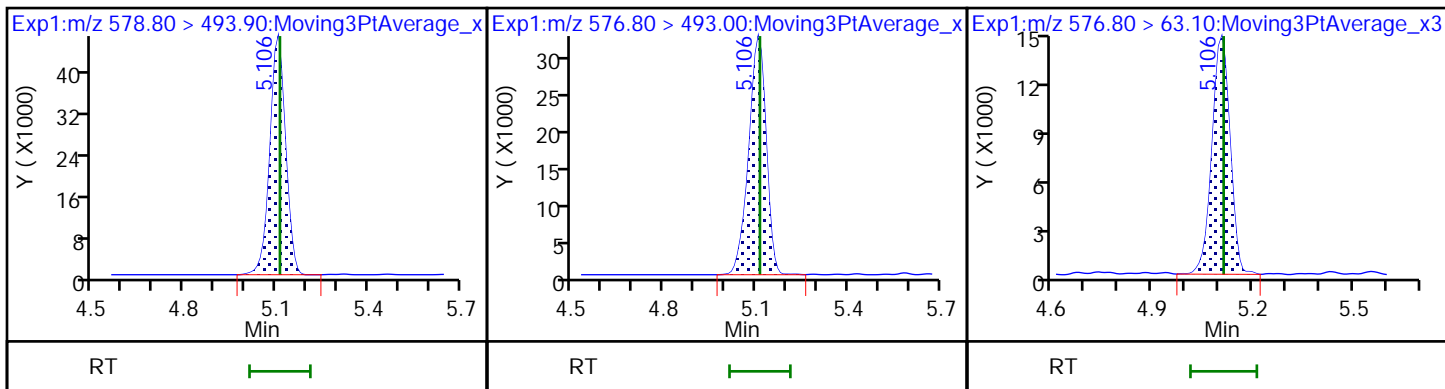
63 11CIFOS



D 64 13C-10:2 FTCA

66 10:2 FTCA

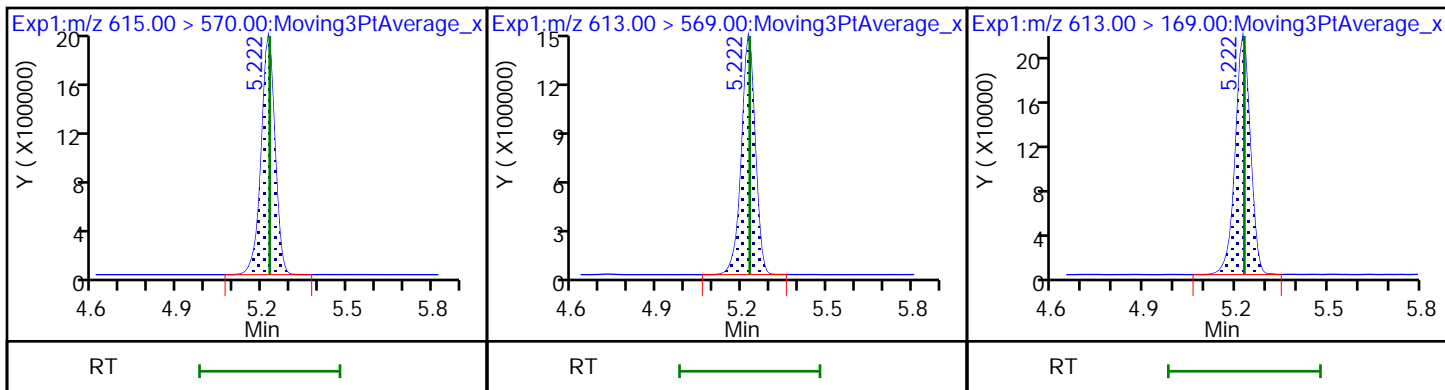
66 10:2 FTCA



D 69 13C2 PFDaA

68 Perfluorododecanoic acid

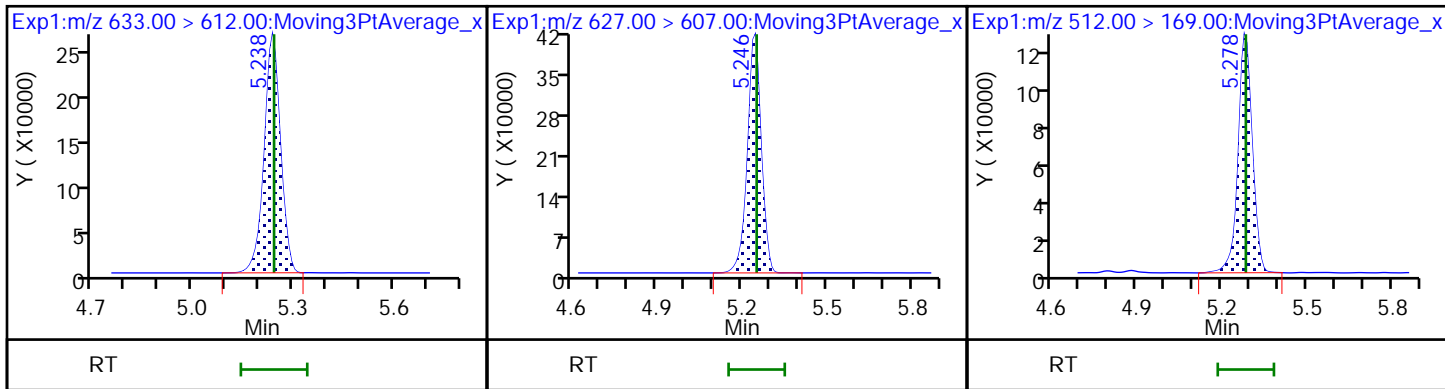
68 Perfluorododecanoic acid



D 70 13C2 10:2 FTS

71 10:2 FTS

74 NMeFOSA

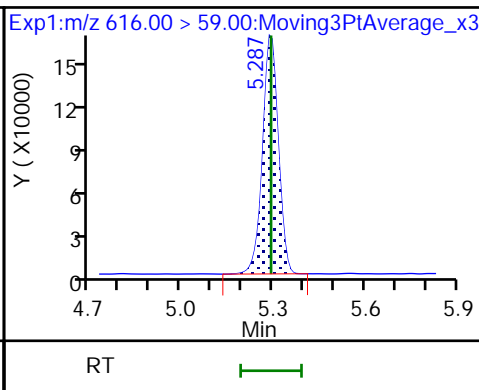
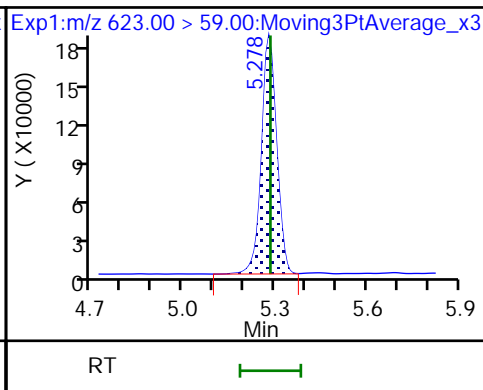
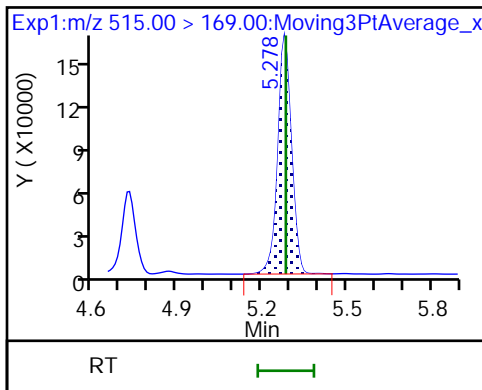




D 73 d-N-MeFOSE-M

D 72 d7-N-MeFOSE-M

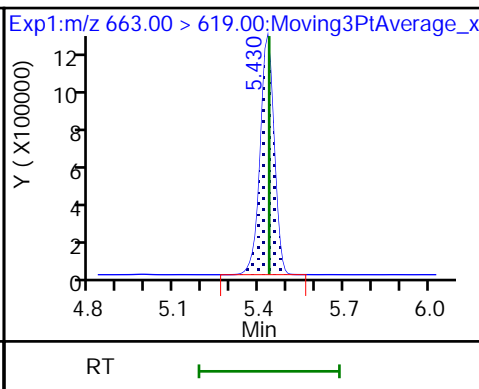
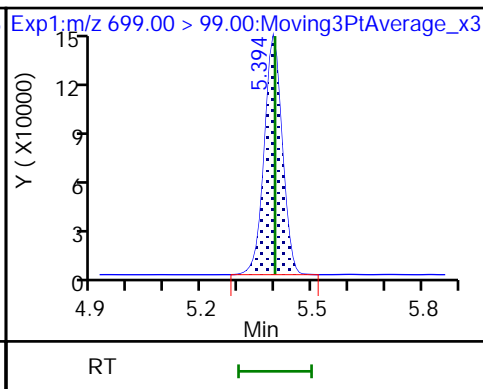
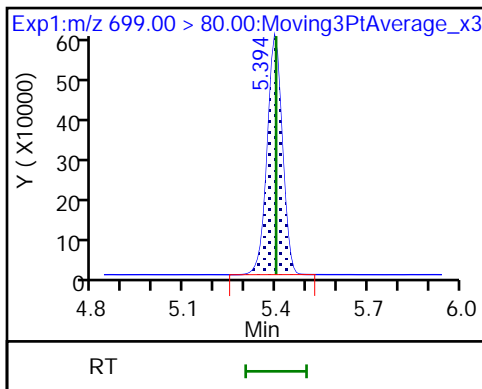
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

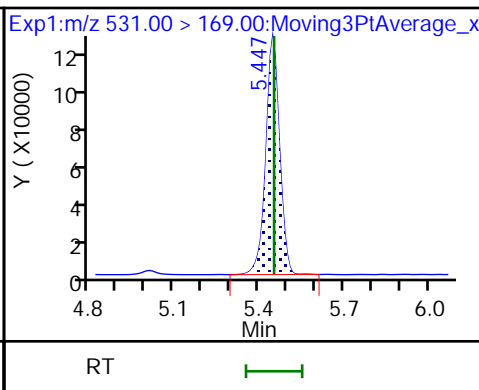
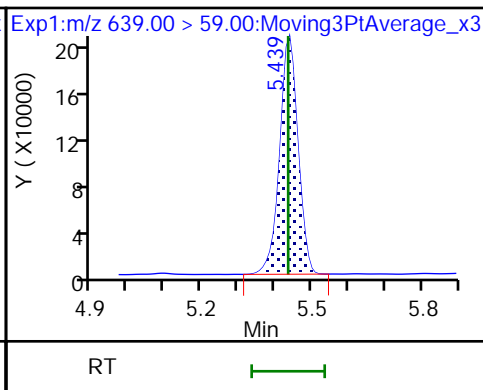
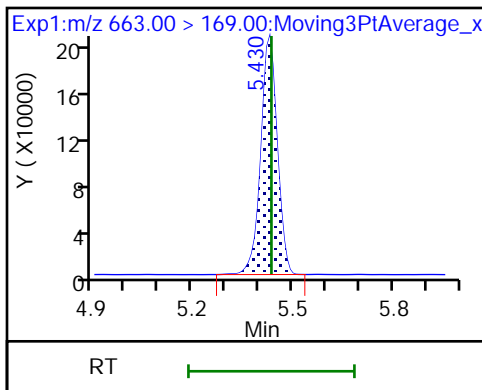
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

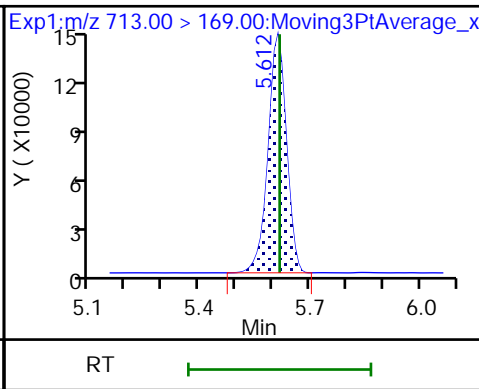
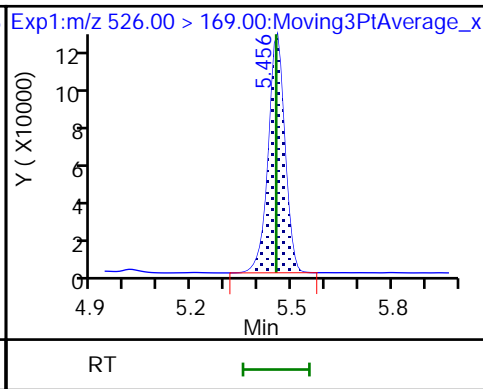
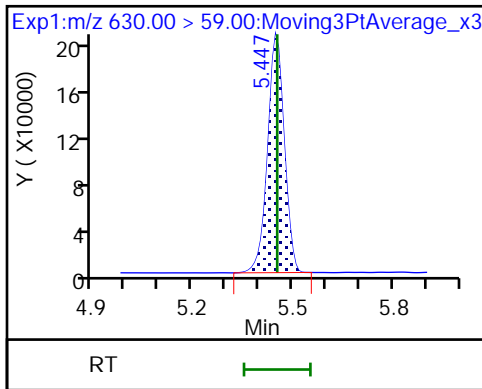
D 80 d-N-EtFOSE-M

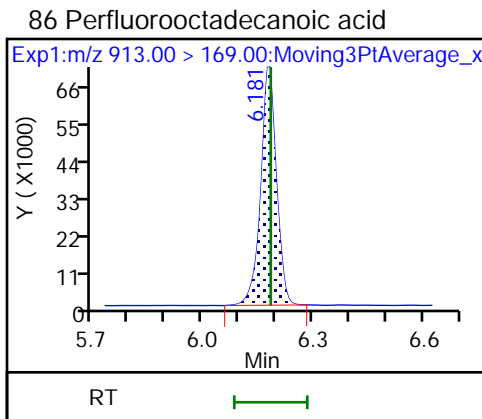
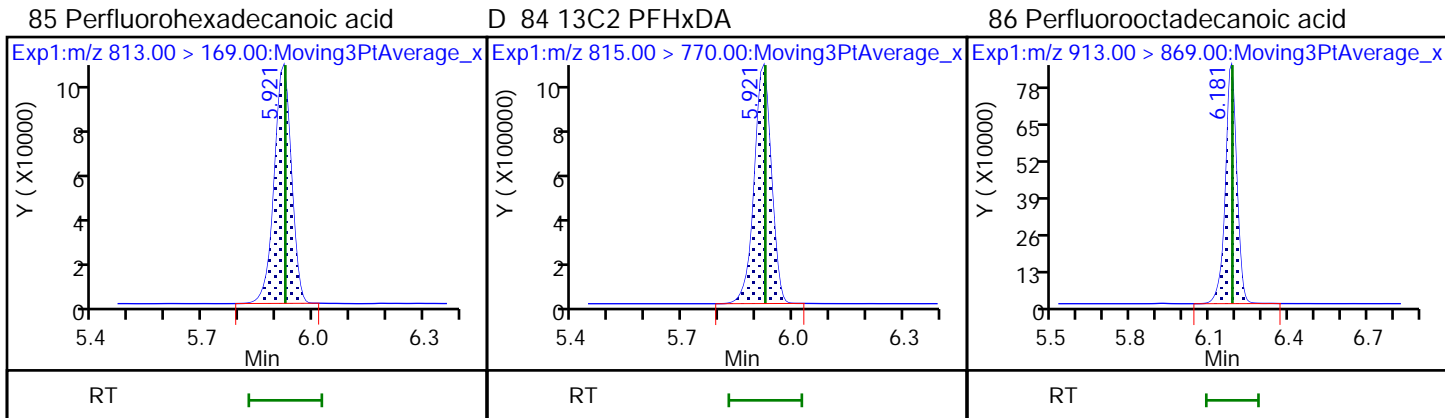
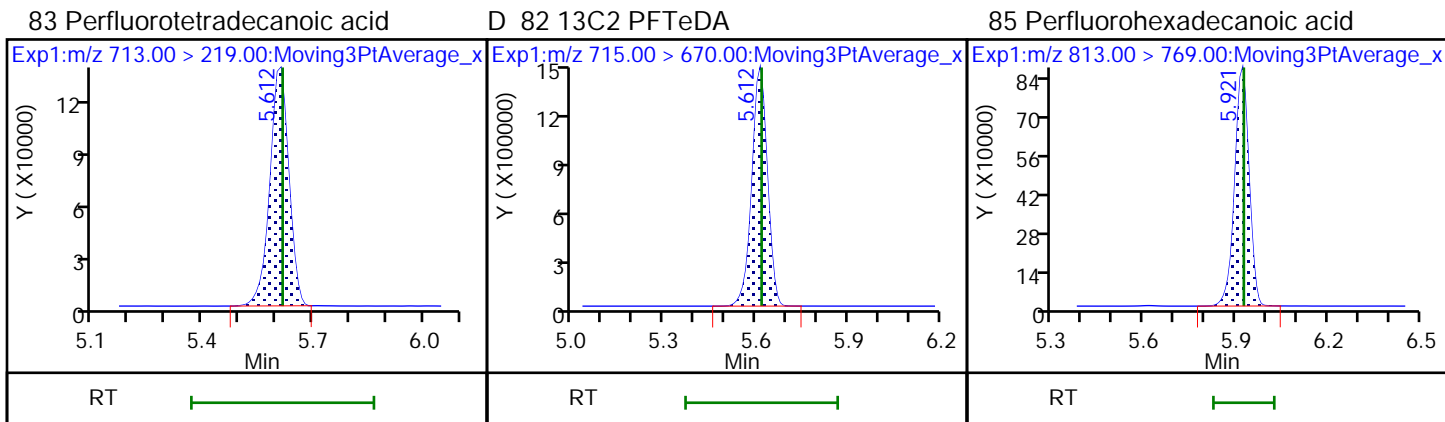


79 N-EtFOSE-M

81 N-EtFOSE-M

83 Perfluorotetradecanoic acid





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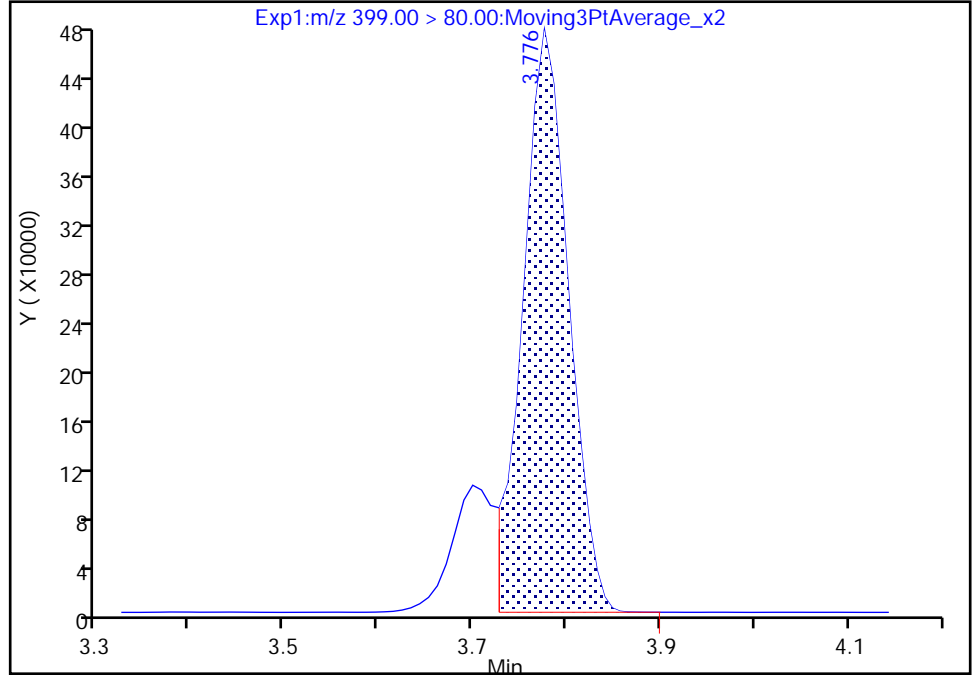
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

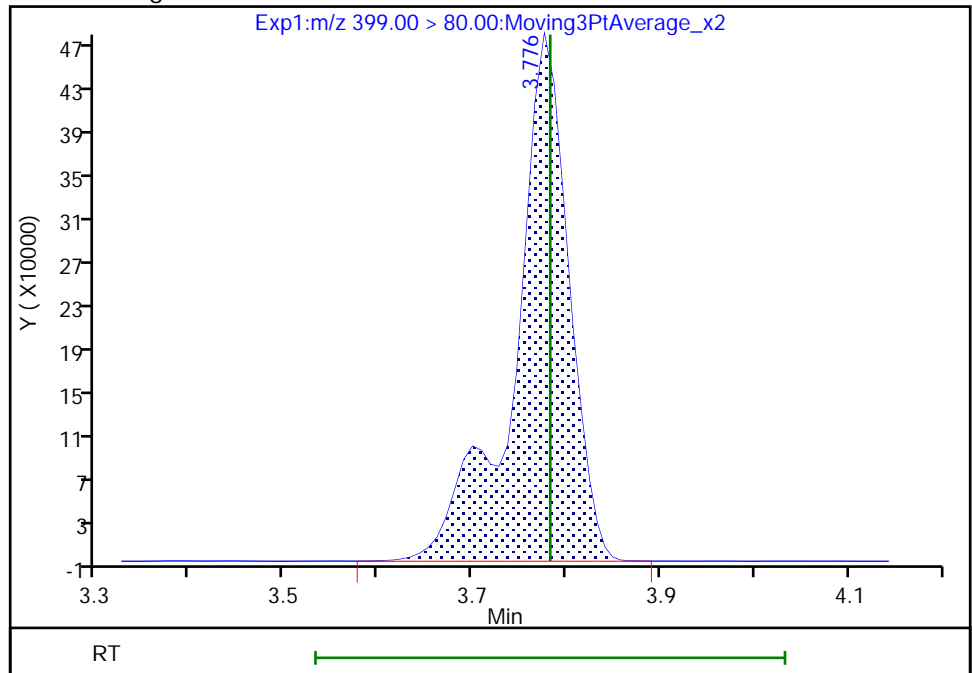
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Area: 1583964  
Amount: 0.720470  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 1909410  
Amount: 0.868500  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:20:48  
Audit Action: Manually Integrated

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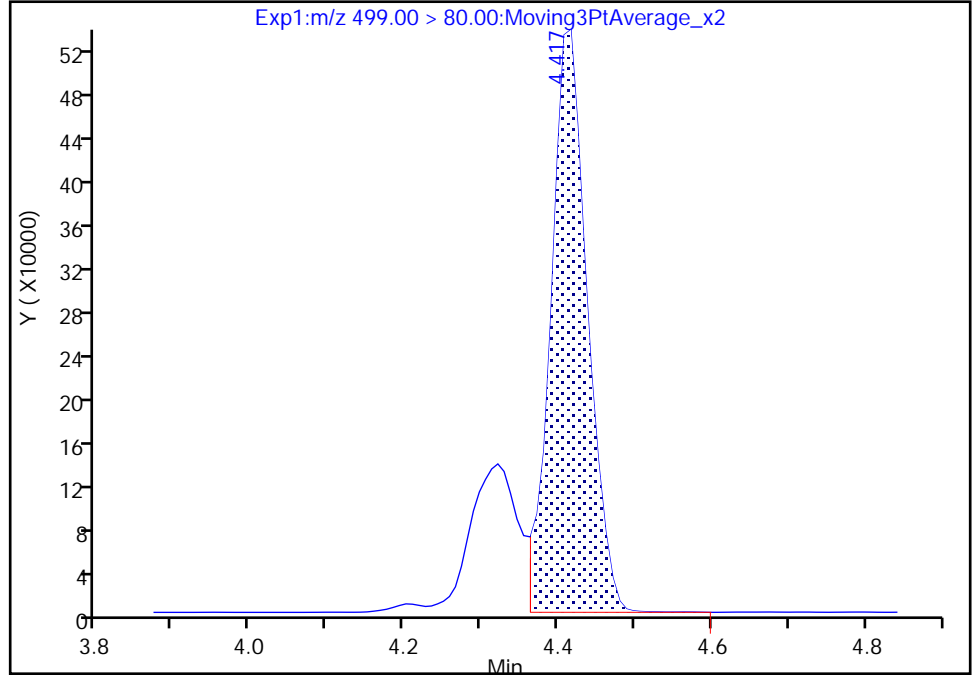
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Injection Date: 18-Feb-2022 23:39:02 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

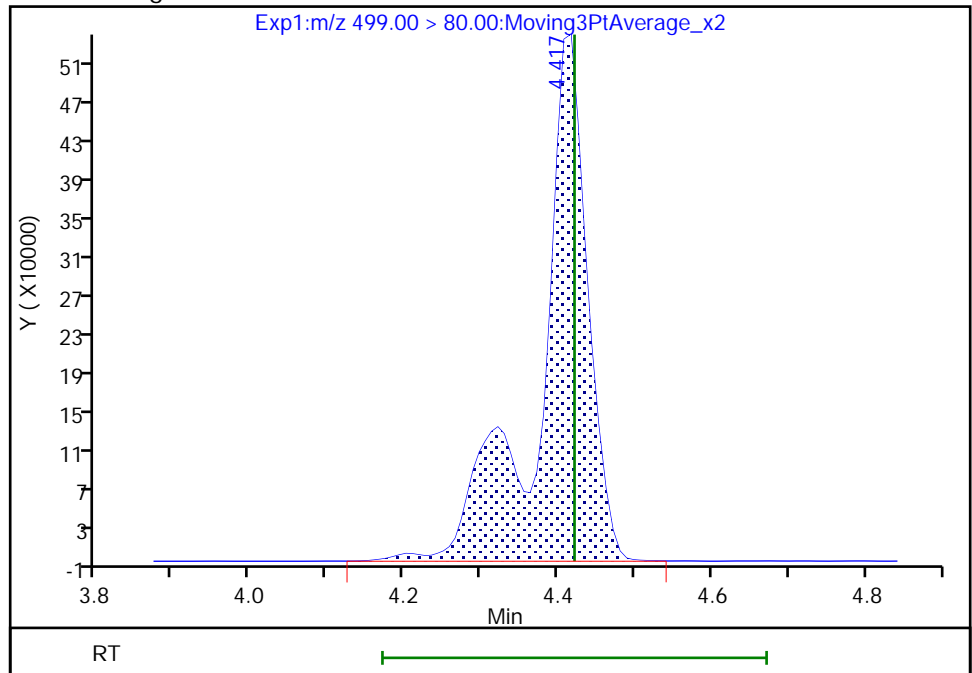
RT: 4.42  
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Amount: 0.622905  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 2345783  
Amount: 0.838280  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:21:01  
Audit Action: Manually Integrated

Eurofins Knoxville

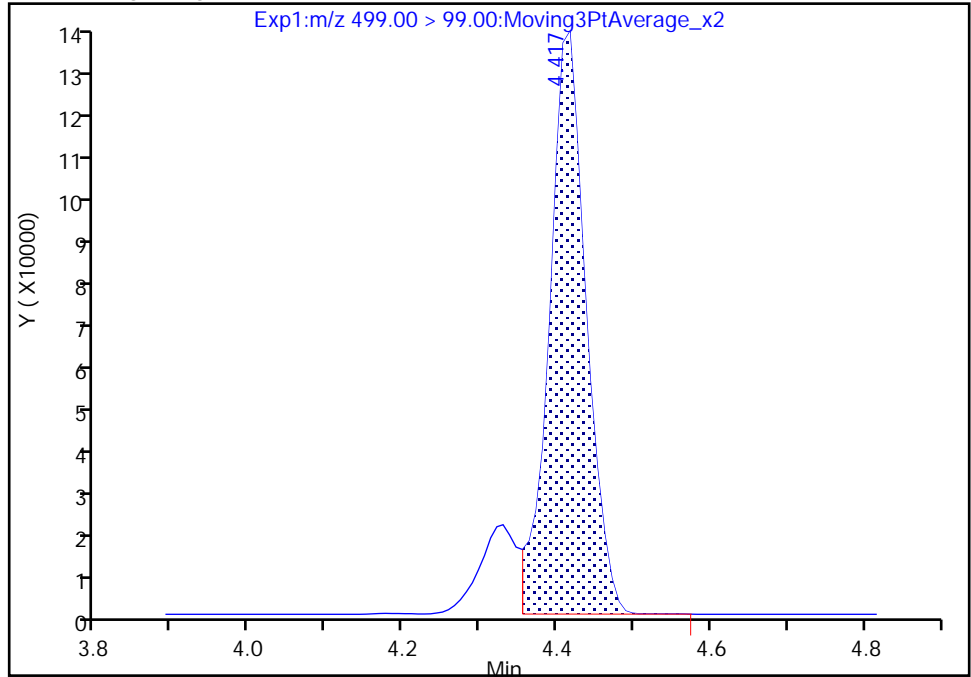
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d  
Injection Date: 18-Feb-2022 23:39:02 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

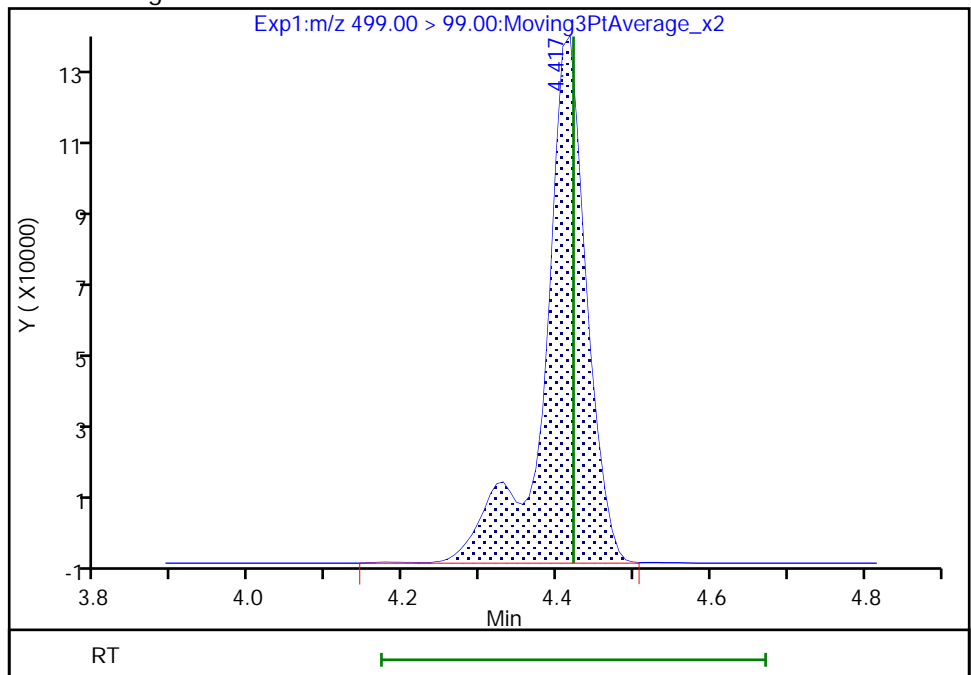
RT: 4.42  
Area: 450512  
Amount: 0.622905  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 522439  
Amount: 0.838280  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:21:08

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

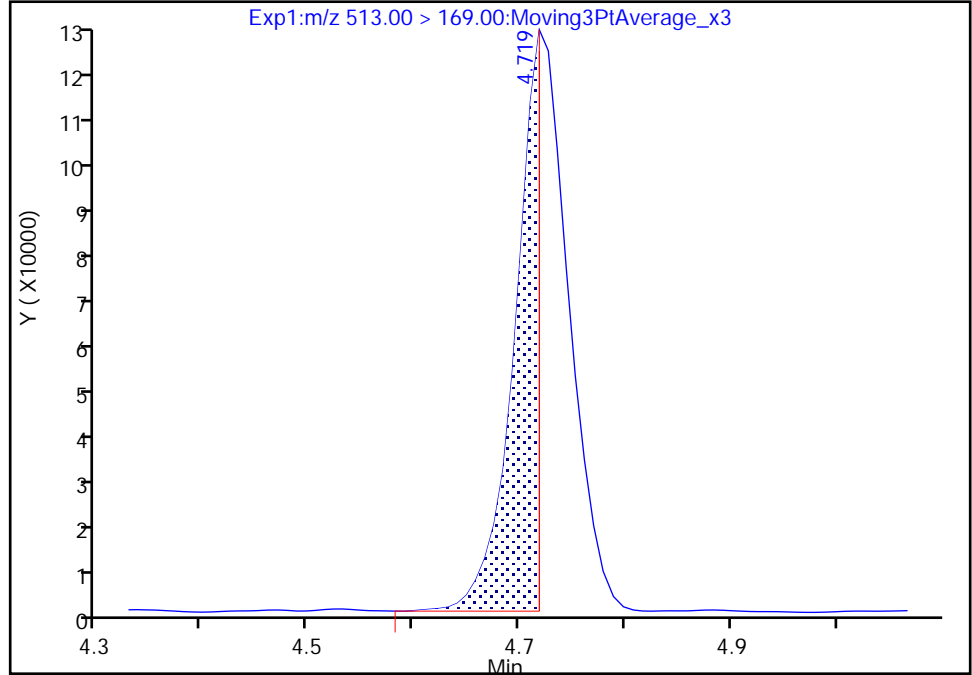
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_029.d  
Injection Date: 18-Feb-2022 23:39:02 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

48 Perfluorodecanoic acid, CAS: 335-76-2

Signal: 2

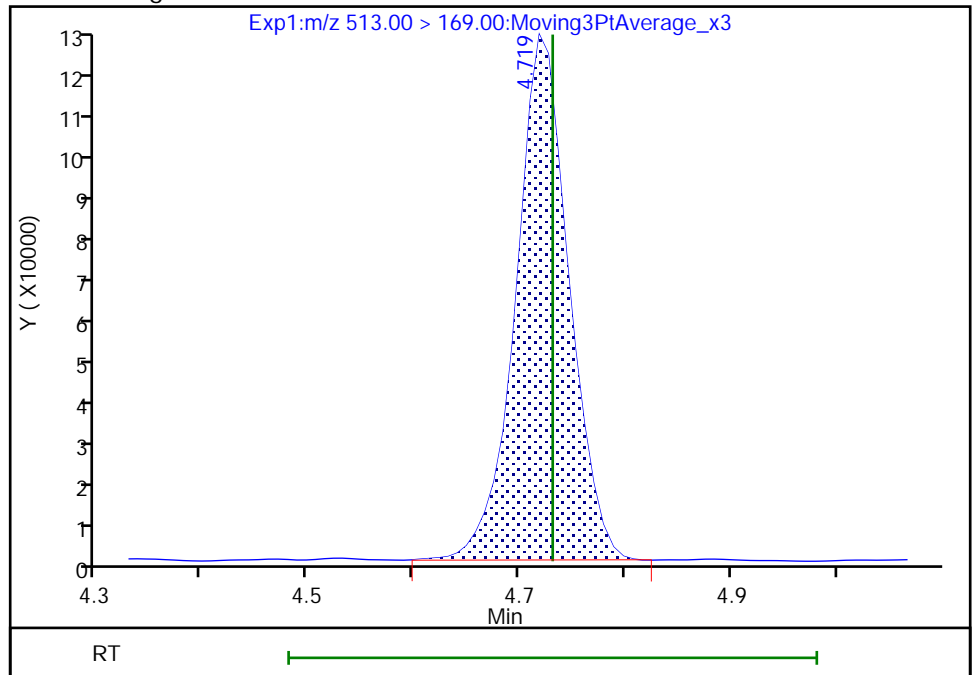
RT: 4.72  
Area: 191187  
Amount: 0.969406  
Amount Units: ng/ml

Processing Integration Results



RT: 4.72  
Area: 428952  
Amount: 0.969406  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:21:19  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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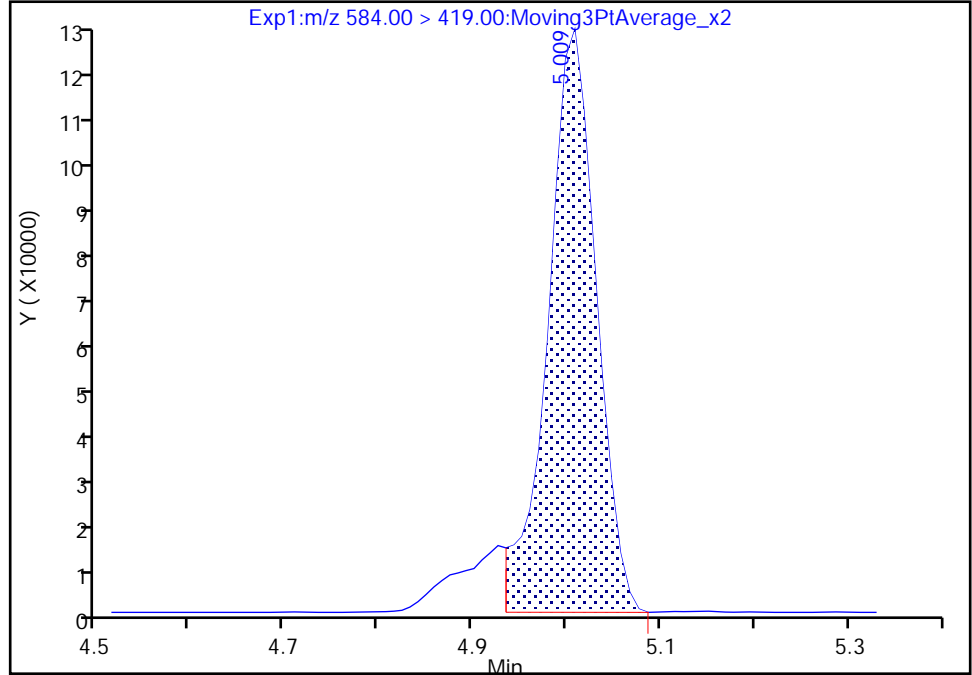
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\\_029.d  
Injection Date: 18-Feb-2022 23:39:02 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 29 Worklist Smp#: 29  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

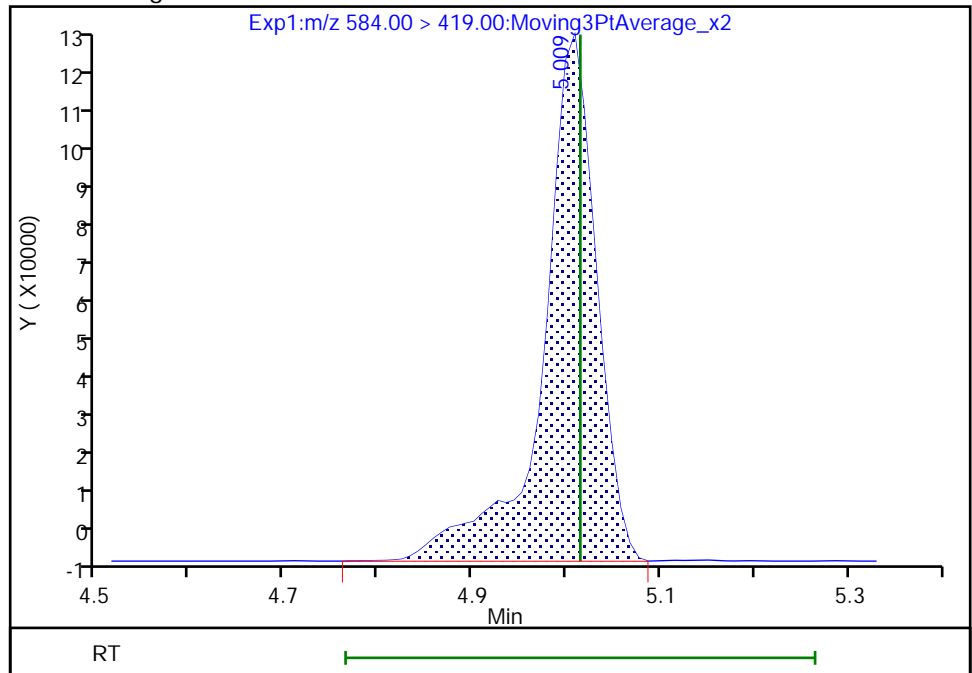
RT: 5.01  
Area: 430675  
Amount: 0.912076  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 481285  
Amount: 1.017616  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:21:31  
Audit Action: Manually Integrated

Audit Reason: Baseline

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/42 Calibration Date: 02/19/2022 01:33  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8268		2.61	2.50	4.5	40.0
PFECA F	AveID	0.7535	0.7617		2.53	2.50	1.1	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9847		2.63	2.50	5.1	40.0
3:3 FTCA	QuaIF		0.0567		2.62	2.50	4.7	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.135		2.26	2.21	2.1	40.0
PFECA A	Q2ID		1.227		2.57	2.50	2.9	40.0
PES	Q2ID		2.471		2.27	2.23	2.1	40.0
PFECA B	Q2ID		0.4720		2.72	2.50	8.8	40.0
4:2 FTS	L2ID		2.334		2.40	2.34	2.8	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8012		2.53	2.50	1.2	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.045		2.37	2.35	1.2	40.0
HFPO-DA	L2ID		1.414		2.81	2.50	12.3	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.322		2.17	2.28	-4.6	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.030		2.54	2.50	1.4	40.0
DONA	AveID	2.644	2.513		2.24	2.36	-4.9	40.0
5:3 FTCA	L2ID		3.758		2.50	2.50	-0.0	40.0
6:2 FTUCA	AveID	1.046	1.025		2.45	2.50	-2.1	40.0
6:2 FTCA	L1ID		0.6992		2.53	2.50	1.1	40.0
PFECHS	AveID	0.7426	0.7708		2.39	2.31	3.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9804		2.36	2.38	-0.7	40.0
6:2 FTS	L2ID		1.805		2.34	2.37	-1.1	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.037		2.43	2.50	-2.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.123		2.27	2.32	-2.0	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7645		2.51	2.50	0.5	40.0
7:3 FTCA	AveID	5.230	5.019		2.40	2.50	-4.0	40.0
8:2 FTUCA	AveID	0.9565	0.9687		2.53	2.50	1.3	40.0
8:2 FTCA	AveID	1.811	1.717		2.37	2.50	-5.2	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.191		2.27	2.33	-2.6	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.007		2.39	2.40	-0.5	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9586		2.51	2.50	0.4	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9333		2.61	2.50	4.2	40.0
8:2 FTS	L2ID		1.563		2.50	2.40	4.3	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9683		2.56	2.50	2.5	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9684		2.63	2.41	9.0	50.0



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/42 Calibration Date: 02/19/2022 01:33  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.019		2.63	2.50	5.4	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9635		2.64	2.50	5.7	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.760		2.39	2.36	1.3	50.0
10:2 FTUCA	AveID	1.208	1.212		2.51	2.50	0.4	40.0
10:2 FTCA	Q2ID		1.133		2.94	2.50	17.6	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.004		2.43	2.50	-2.8	40.0
10:2 FTS	L2ID		2.205		2.54	2.41	5.5	50.0
NMeFOSA	L2ID		1.007		2.34	2.50	-6.4	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.246		2.66	2.50	6.4	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9537		2.44	2.42	0.9	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8727		2.47	2.50	-1.2	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.434		2.53	2.50	1.1	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.279		2.57	2.50	2.7	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1324		2.57	2.50	2.9	40.0
Perfluorohexadecanoic acid	L1ID		1.131		2.50	2.50	0.0	40.0
Perfluorooctadecanoic acid	AveID	1.013	1.008		2.49	2.50	-0.5	40.0
13C4 PFBA	Ave	1.172	1.149		1.23	1.25	-2.0	50.0
13C5 PFPeA	Ave	0.9197	0.8802		1.20	1.25	-4.3	50.0
13C3 PFBS	Ave	0.5817	0.5708		1.14	1.16	-1.9	50.0
M2-4:2 FTS	Ave	0.1821	0.1612		1.03	1.17	-11.5	50.0
13C2 PFHxA	Ave	1.015	0.9749		1.20	1.25	-3.9	50.0
13C3 HFPO-DA	Ave	0.4963	0.4872		1.23	1.25	-1.8	50.0
18O2 PFHxS	Ave	0.3776	0.3739		1.17	1.18	-1.0	50.0
13C4 PFHpA	Ave	0.9046	0.8836		1.22	1.25	-2.3	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3486		1.29	1.25	3.3	50.0
13C-6:2 FTCA	Ave	0.0260	0.0269		1.29	1.25	3.2	50.0
13C4 PFOA	Ave	0.9356	0.9226		1.23	1.25	-1.4	50.0
M2-6:2 FTS	Ave	0.1799	0.1759		1.16	1.19	-2.3	50.0
13C4 PFOS	Ave	0.5610	0.5531		1.18	1.20	-1.4	50.0
13C5 PFNA	Ave	1.268	1.268		1.25	1.25	-0.0	50.0
13C-8:2 FTUCA	Ave	0.4520	0.4624		1.28	1.25	2.3	50.0
13C-8:2 FTCA	Ave	0.0330	0.0354		1.34	1.25	7.0	50.0
13C8 FOSA	Ave	0.8475	0.8260		1.22	1.25	-2.5	50.0
13C2 PFDA	Ave	1.210	1.161		1.20	1.25	-4.0	50.0
M2-8:2 FTS	Ave	0.1961	0.1702		1.04	1.20	-13.2	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59045/42 Calibration Date: 02/19/2022 01:33  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1169		1.29	1.25	3.0	50.0
13C2 PFUnA	Ave	1.168	1.128		1.21	1.25	-3.4	50.0
d5-NEtFOSAA	Ave	0.1164	0.1167		1.25	1.25	0.2	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5134		1.26	1.25	1.1	50.0
13C-10:2 FTCA	Ave	0.0309	0.0260		1.05	1.25	-16.0	50.0
13C2 PFDoA	Ave	1.152	1.152		1.25	1.25	-0.0	50.0
13C2 10:2 FTS	Ave	0.1652	0.1554		1.11	1.18	-5.9	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1029		1.27	1.25	1.9	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1170		1.23	1.25	-1.3	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1182		1.20	1.25	-4.0	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0814		1.26	1.25	0.5	50.0
13C2 PFTeDA	Ave	0.9216	0.9113		1.24	1.25	-1.1	50.0
13C2 PFHxDA	Ave	0.5997	0.6043		1.26	1.25	0.8	50.0
13C8 PFOA	AveID	0.9229	0.9310		1.26	1.25	0.9	50.0
13C8 PFOS	AveID	0.2212	0.2280		1.23	1.20	3.1	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_042.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 19-Feb-2022 01:33:37 ALS Bottle#: 42 Worklist Smp#: 42  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-042 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:50:53 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:29:28

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.805	2.811	-0.006	1.000	9955124	2.61		105	2136	
D 2 13C4 PFBA										
217.00 > 172.00	2.805	2.811	-0.006	0.680	6020458	1.23		98.0	16994	
3 PFECA F										
229.00 > 85.00	2.912	2.919	-0.007	0.935	7028087	2.53		101	17447	
D 5 13C5 PFPeA										
267.90 > 223.00	3.116	3.115	0.001	0.756	4613374	1.20		95.7	17468	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.116	3.123	-0.007	1.000	9086038	2.63		105	3023	
4 3:3 FTCA										
241.00 > 177.10	3.124	3.131	-0.007	0.997	339307	2.62	Target=1.13	105	2663	
241.00 > 116.90	3.124	3.131	-0.007	0.997	288557		1.18(0.56-1.69)		533	
D 7 13C3 PFBS										
301.90 > 80.00	3.132	3.131	0.001	0.760	2782180	1.14		98.1	11010	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.132	3.140	-0.008	1.000	6004064	2.26	Target=2.61	102	5221	
298.90 > 99.00	3.132	3.140	-0.008	1.000	2211736		2.71(1.31-3.92)		5149	
9 PFECA A										
278.95 > 84.90	3.203	3.211	-0.008	1.028	11322413	2.57		103	21238	
11 PES										
314.80 > 135.00	3.261	3.260	0.001	1.041	13156253	2.27		102	22092	
12 PFECA B										
295.22 > 201.00	3.375	3.384	-0.009	0.981	4824148	2.72		109	14246	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.417	3.416	0.001	0.829	789127	1.03		88.5	1645	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.417	3.416	0.001	1.000	3684179	2.40		103	9435	
D 14 13C2 PFHxA										
315.00 > 270.00	3.439	3.448	-0.009	0.834	5110007	1.20		96.1	13536	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.439	3.448	-0.009	1.098	5862920	2.37	Target=3.55	101	12238	
349.00 > 99.00	3.439	3.448	-0.009	1.098	1641858		3.57(1.78-5.33)		11205	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.439	3.448	-0.009	1.000	8187791	2.53	Target=11.60	101	3546	
313.00 > 119.00	3.439	3.448	-0.009	1.000	726231		11.27(5.80-17.40)		740	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.553	-0.009	0.860	2553792	1.23		98.2	4798	
17 HFPO-DA										M
285.00 > 169.00	3.544	3.553	-0.009	1.000	7222689	2.81	Target=2.45	112	62.1	M
329.00 > 169.00	3.544	3.553	-0.009	1.000	2807667		2.57(1.23-3.68)		56.8	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.774	3.783	-0.009	0.915	1854071	1.17		99.0	5282	
21 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.774	3.783	-0.009	1.000	4713862	2.17	Target=3.44	95.4	9143	M
399.00 > 99.00	3.774	3.783	-0.009	1.000	1387551		3.40(1.72-5.17)		5162	
D 22 13C4 PFHpA										
367.00 > 322.00	3.784	3.793	-0.009	0.918	4631203	1.22		97.7	9211	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.784	3.793	-0.009	1.000	9536454	2.53	Target=3.25	101	5343	
363.00 > 169.00	3.784	3.793	-0.009	1.000	3009090		3.17(1.62-4.87)		2885	
25 DONA										
377.00 > 251.00	3.822	3.829	-0.007	0.866	13729129	2.24	Target=1.74	95.1	22033	
377.00 > 85.00	3.822	3.829	-0.007	0.866	8247917		1.66(0.87-2.61)		159	
26 5:3 FTCA										
340.88 > 236.90	3.855	3.853	0.002	0.987	1057909	2.50	Target=1.11	100.0	2516	
340.88 > 216.90	3.855	3.853	0.002	0.987	996454		1.06(0.56-1.67)		2167	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.887	-0.007	0.941	1827140	1.29		103	3015	
27 6:2 FTUCA										
356.86 > 292.90	3.888	3.895	-0.007	1.002	3744482	2.45	Target=13.05	97.9	4198	
356.86 > 243.00	3.888	3.895	-0.007	1.002	282729		13.24(6.52-19.57)		1040	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.905	3.904	0.001	0.947	140747	1.29		103	508	
29 6:2 FTCA										
377.10 > 63.00	3.905	3.913	-0.008	1.000	196824	2.53	Target=1.29	101	992	
377.10 > 313.10	3.905	3.913	-0.008	1.000	151723		1.30(0.65-1.94)		192	
32 PFECHS										
460.80 > 380.90	4.056	4.065	-0.008	0.984	6873320	2.39	Target=1.75	104	16412	
460.80 > 98.90	4.056	4.065	-0.008	0.984	3882362		1.77(0.87-2.62)		7400	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.113	4.112	0.001	0.932	5412225	2.36	Target=3.72	99.3	12501	
449.00 > 99.00	4.104	4.112	-0.008	0.930	1350076		4.01(1.86-5.57)		5048	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.123	4.121	0.002	1.000	875693	1.16		97.7	2117	
35 6:2 FTS										
427.00 > 407.00	4.123	4.121	0.002	1.000	3154395	2.34		98.9	4851	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.123	4.121	0.002	1.000	4501639	1.26		101	12113	
D 31 13C4 PFOA										
417.00 > 372.00	4.123	4.131	-0.008	1.000	4835529	1.23		98.6	8375	
* 30 13C2 PFOA										
415.00 > 370.00	4.123	4.131	-0.008		5241382	1.25			9525	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.123	4.131	-0.008	1.000	10031555	2.43	Target=2.51	97.3	5363	
413.00 > 169.00	4.123	4.131	-0.008	1.000	4361303		2.30(1.26-3.77)		6165	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.415	4.421	-0.006	1.000	631904	1.23		103	2566	
D 39 13C4 PFOS										
503.00 > 80.00	4.415	4.421	-0.006	1.071	2771683	1.18		98.6	2230	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.415	4.421	-0.006	1.000	6040932	2.27	Target=4.30	98.0	5480	M
499.00 > 99.00	4.415	4.421	-0.006	1.000	1384186		4.36(2.15-6.45)		3601	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.441	4.439	0.002	1.000	10162402	2.51	Target=3.60	101	9895	
463.00 > 169.00	4.441	4.439	0.002	1.000	2566834		3.96(1.80-5.40)		4429	
D 41 13C5 PFNA										
468.00 > 423.00	4.441	4.439	0.002	1.077	6646072	1.25		100.0	14122	
43 7:3 FTCA										
441.00 > 337.00	4.522	4.529	-0.007	0.993	1860297	2.40	Target=1.42	96.0	3865	
441.00 > 317.00	4.522	4.529	-0.007	0.993	1304512		1.43(0.71-2.13)		3276	
44 8:2 FTUCA										
456.86 > 392.90	4.547	4.545	0.002	1.000	4695103	2.53	Target=35.37	101	6084	
456.86 > 343.00	4.547	4.545	0.002	1.000	117776		39.86(17.68-53.05)		355	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.547	4.553	-0.006	1.000	2423385	1.28		102	6630	
46 8:2 FTCA										
477.00 > 393.10	4.555	4.562	-0.007	1.000	636602	2.37	Target=3.35	94.8	2585	
477.00 > 63.20	4.563	4.562	0.001	1.002	194387		3.27(1.68-5.03)		1119	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.555	4.562	-0.007	1.105	185341	1.34		107	733	
49 9CIFOS										
531.00 > 351.00	4.571	4.578	-0.007	1.109	11839814	2.27		97.4	12974	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.699	4.697	0.002	1.064	5603737	2.39	Target=3.99	99.5	8950	
549.00 > 99.00	4.699	4.697	0.002	1.064	1484940		3.77(2.00-5.99)		5817	
D 55 13C8 FOSA										
506.00 > 78.00	4.707	4.714	-0.007	1.142	4329308	1.22		97.5	4330	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.707	4.714	-0.007	1.000	8300245	2.51		100	7750	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.724	4.731	-0.007	1.000	11356673	2.60	Target=10.58	104	7860	
513.00 > 169.00	4.724	4.731	-0.007	1.000	1028448		11.04(5.29-15.88)		516	
D 52 13C2 PFDA										
515.00 > 470.00	4.724	4.731	-0.007	1.146	6084257	1.20		96.0	9892	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.733	4.740	-0.007	1.148	854537	1.04		86.8	1710	
53 8:2 FTS										
527.00 > 507.00	4.741	4.740	0.001	1.002	2670677	2.50		104	7298	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.866	4.872	-0.006	1.180	612604	1.29		103	193	
57 NMeFOSAA										
570.00 > 419.00	4.874	4.880	-0.006	1.002	1186416	2.56		102	1776	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.960	4.957	0.003	1.123	5413171	2.63	Target=3.55	109	14070	
599.00 > 99.00	4.960	4.957	0.003	1.123	1429917		3.79(1.78-5.33)		4268	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.988	4.995	-0.007	1.000	12051051	2.63	Target=8.26	105	9612	
563.00 > 169.00	4.988	4.995	-0.007	1.000	1395155		8.64(4.13-12.39)		4510	
D 59 13C2 PFUnA										
565.00 > 520.00	4.988	4.995	-0.007	1.210	5913464	1.21		96.6	10189	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.007	5.005	0.002	1.215	611440	1.25		100	1750	
62 NEtFOSAA										
584.00 > 419.00	5.007	5.015	-0.008	1.000	1178198	2.64		106	734	
65 10:2 FTUCA										
556.86 > 492.90	5.095	5.093	0.002	1.002	6524172	2.51		100	8839	
63 11CIFOS										
631.00 > 451.00	5.085	5.093	-0.008	1.152	9615792	2.39		101	16508	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.085	5.093	-0.008	1.233	2690693	1.26		101	5753	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.105	5.112	-0.007	1.238	136175	1.05		84.0	733	
66 10:2 FTCA										
576.80 > 493.00	5.105	5.112	-0.007	1.000	308485	2.94	Target=2.53	118	2010	
576.80 > 63.10	5.105	5.112	-0.007	1.000	134053		2.30(1.26-3.79)		497	
D 69 13C2 PFDaA										
615.00 > 570.00	5.220	5.226	-0.006	1.266	6039530	1.25		100.0	21595	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.220	5.226	-0.006	1.000	12124874	2.43	Target=6.85	97.2	8501	
613.00 > 169.00	5.220	5.226	-0.006	1.000	1735954		6.98(3.43-10.28)		2765	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.237	5.243	-0.006	1.270	771392	1.11		94.1	4400	
71 10:2 FTS										
627.00 > 607.00	5.245	5.251	-0.006	1.002	3461427	2.54		105	9140	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.285	5.284	0.001	1.282	613457	1.23		98.7	421	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
74 NMeFOSA										
512.00 > 169.00	5.285	5.284	0.001	1.002	1085816	2.34		93.6	956	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.277	5.284	-0.007	1.280	539210	1.27		102	52.5	
75 N-MeFOSE-M										
616.00 > 59.00	5.294	5.292	0.002	1.002	1528518	2.66		106	1815	
76 PFDoS										
699.00 > 80.00	5.401	5.399	0.002	1.223	5353018	2.44	Target=4.22	101	6450	
699.00 > 99.00	5.401	5.399	0.002	1.223	1238021		4.32(2.11-6.34)		5031	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.428	5.435	-0.007	1.040	10541541	2.47	Target=6.32	98.8	10246	
663.00 > 169.00	5.428	5.435	-0.007	1.040	1729982		6.09(3.16-9.48)		5996	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.437	5.435	0.002	1.319	619291	1.20		96.0	274	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.454	5.452	0.002	1.323	426390	1.26		101	561	
79 N-EtFOSE-M										
630.00 > 59.00	5.454	5.452	0.002	1.003	1776368	2.53		101	1840	
81 N-EtFOSA-M										
526.00 > 169.00	5.454	5.452	0.002	1.000	1090718	2.57		103	769	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.619	5.617	0.002	1.002	1264482	2.57	Target=1.01	103	280	
713.00 > 219.00	5.610	5.617	-0.007	1.000	1211406		1.04(0.51-1.52)		4954	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.610	5.617	-0.007	1.361	4776525	1.24		98.9	12505	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.926	5.924	0.002	1.000	7163338	2.50	Target=8.64	100	5972	
813.00 > 169.00	5.926	5.924	0.002	1.000	866120		8.27(4.32-12.97)		2422	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.926	5.924	0.002	1.437	3167576	1.26		101	6357	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.185	-0.006	1.043	6385850	2.49	Target=11.77	99.5	6396	
913.00 > 169.00	6.179	6.185	-0.006	1.043	544303		11.73(5.88-17.65)		1709	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220218-22714.b\_042.d

Injection Date: 19-Feb-2022 01:33:37

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 42

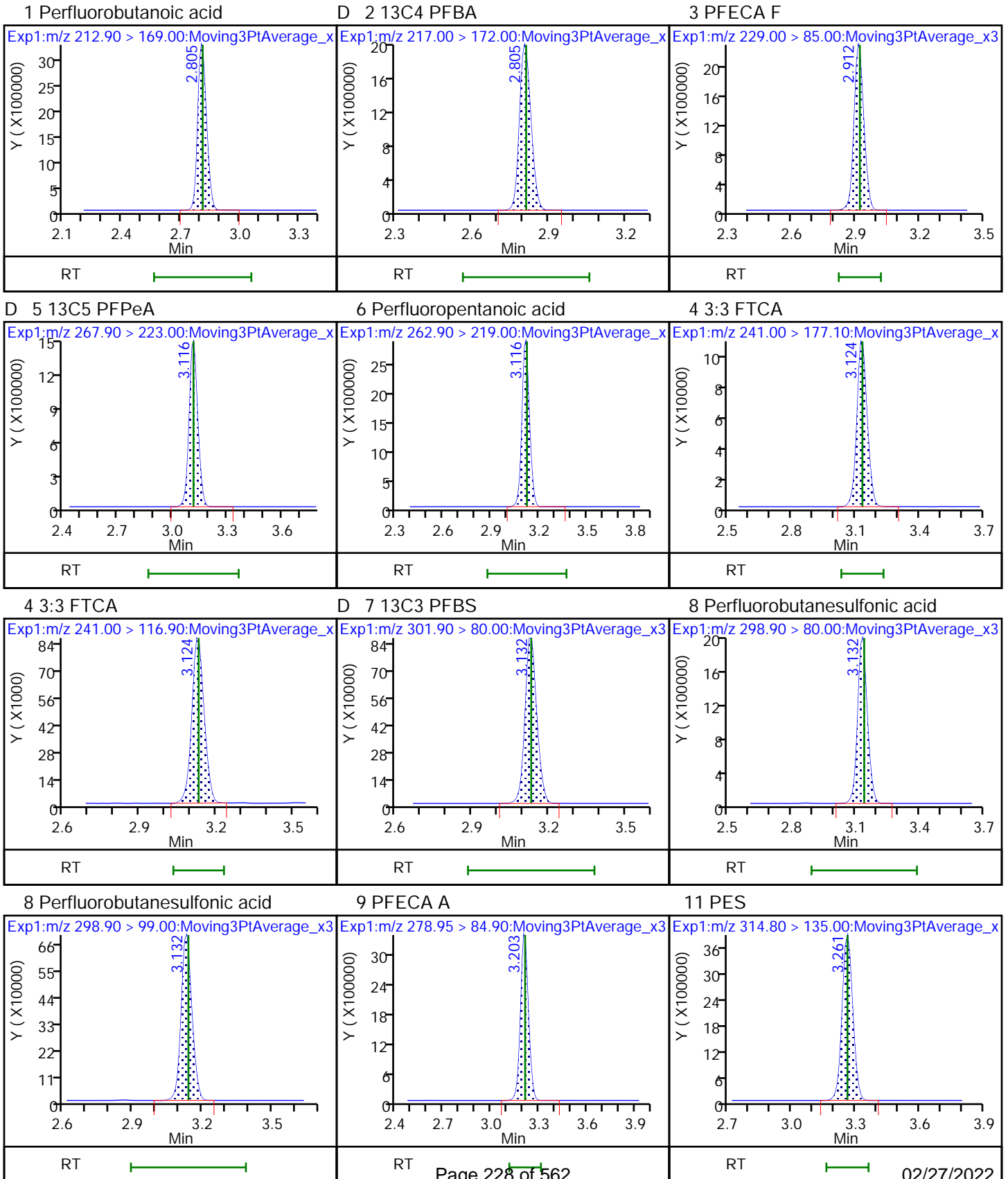
Worklist Smp#: 42

Injection Vol: 1.0 ul

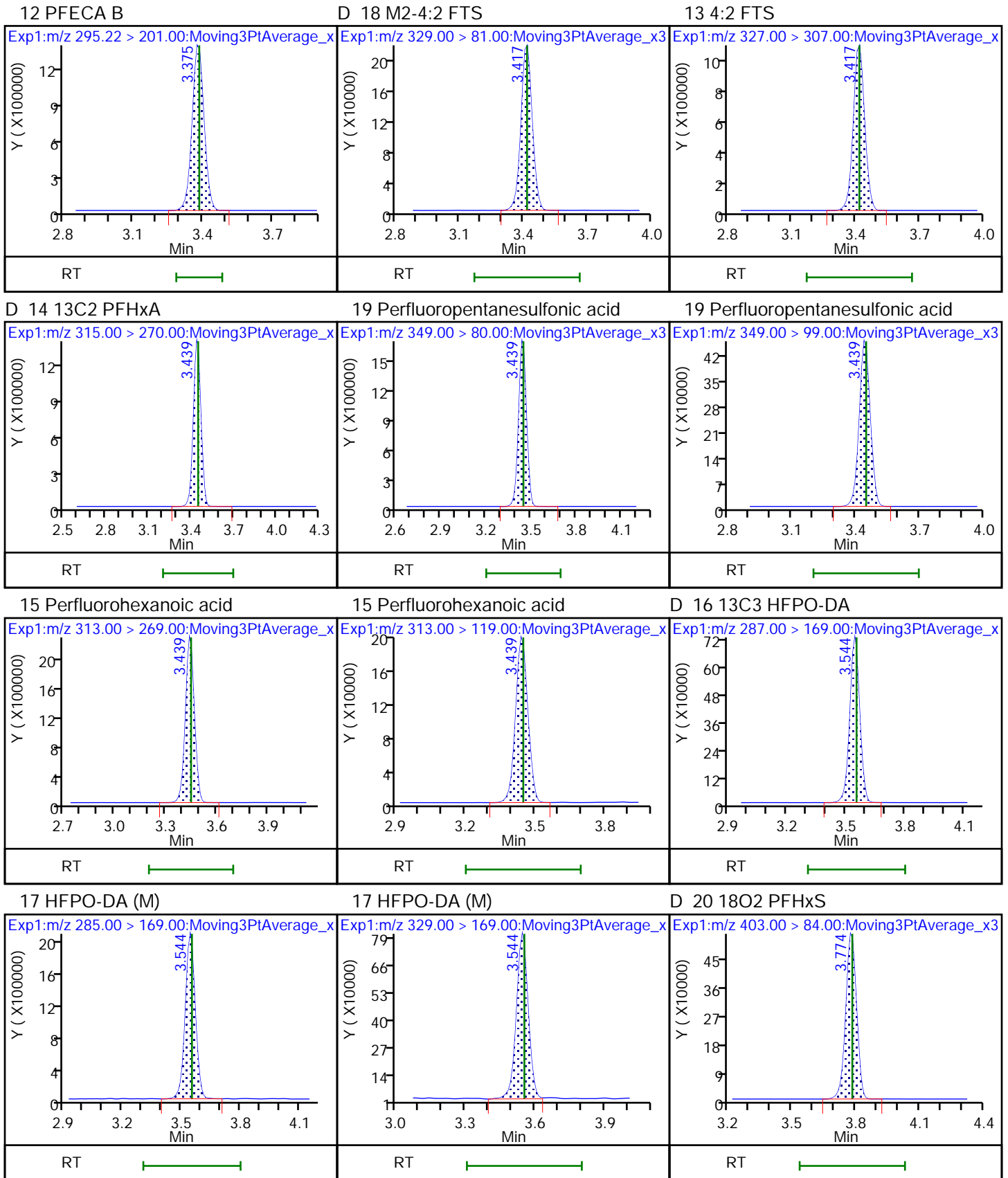
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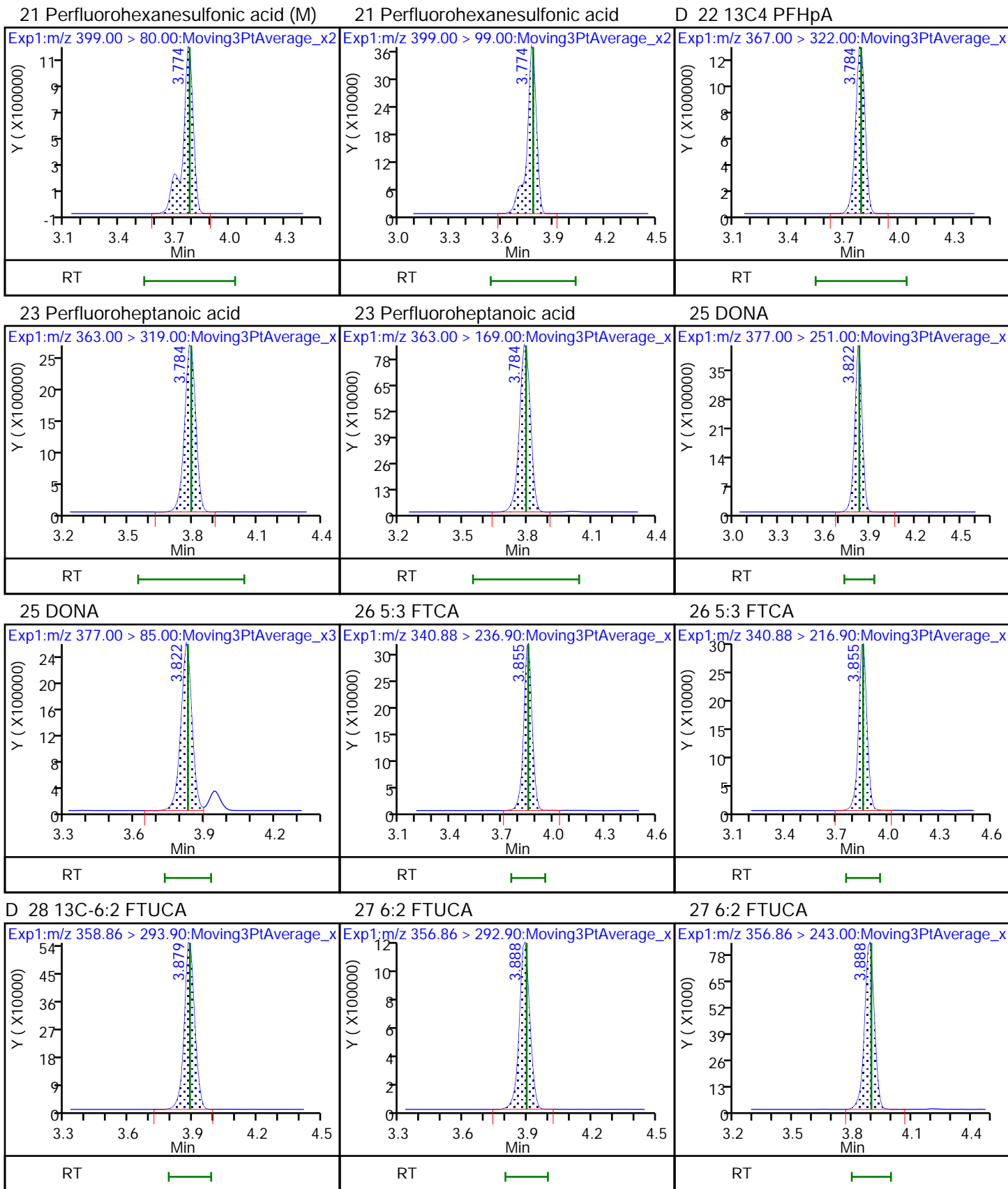
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL





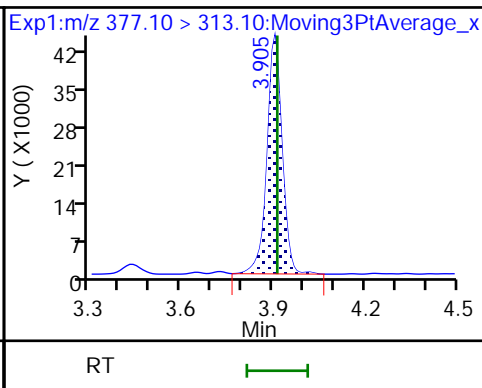
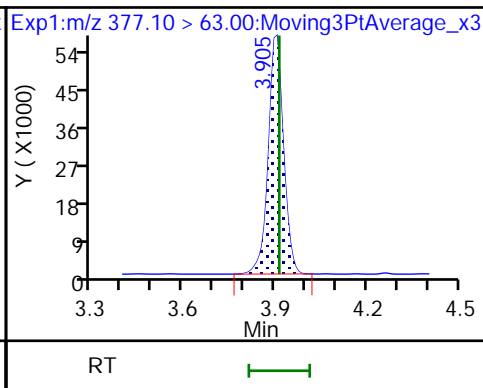
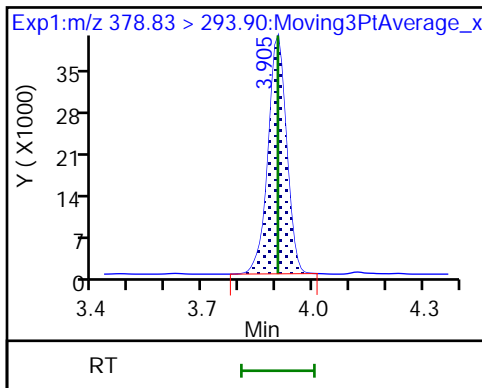




D 24 13C-6:2 FTCA

29 6:2 FTCA

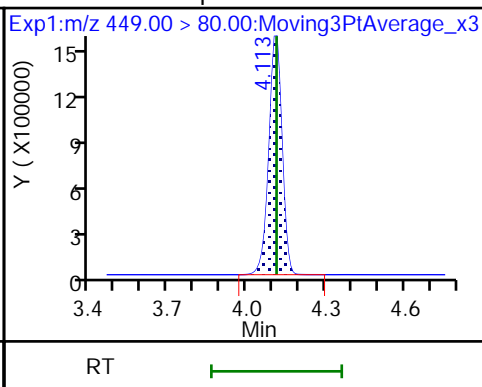
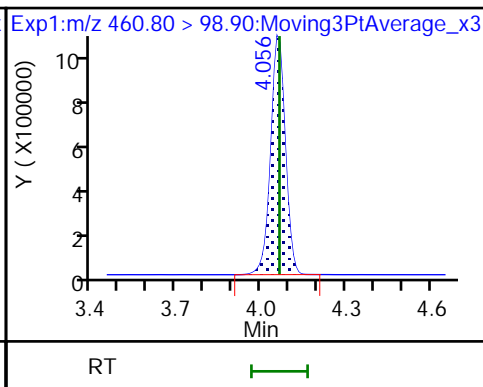
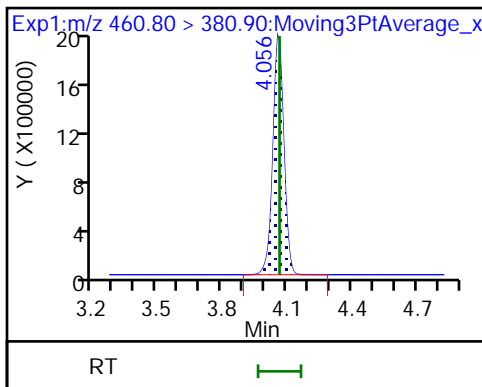
29 6:2 FTCA



32 PFECHS

32 PFECHS

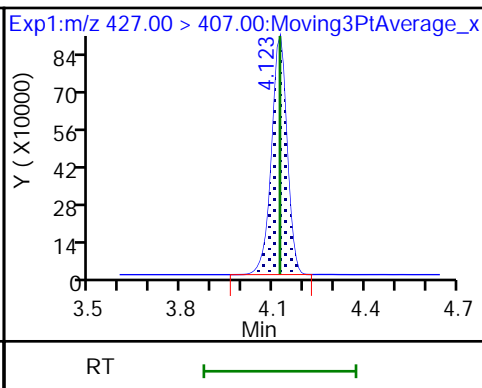
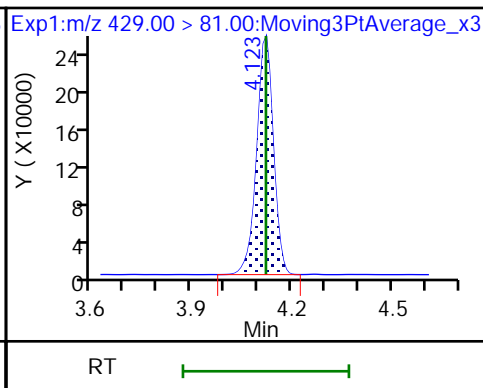
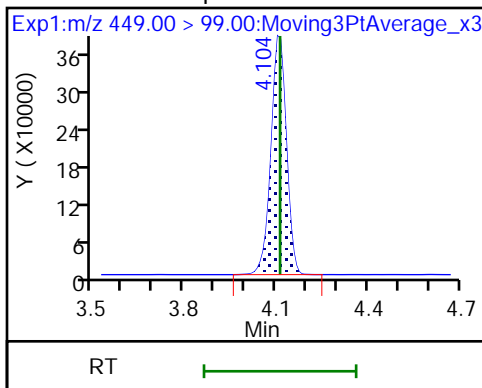
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

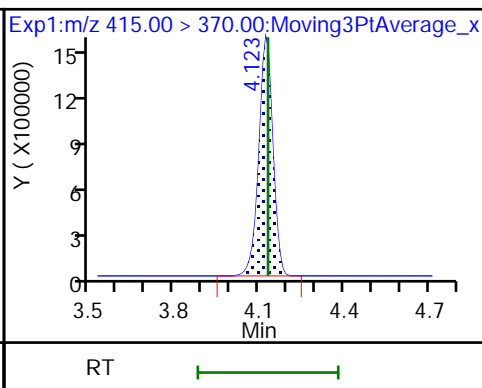
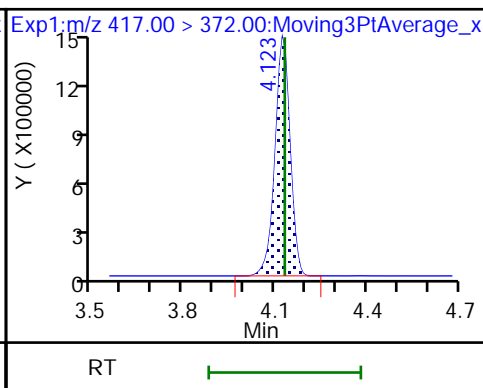
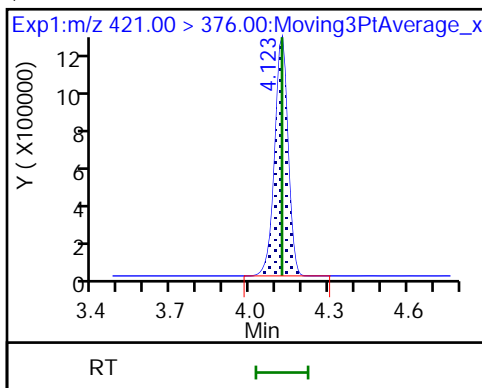
35 6:2 FTS

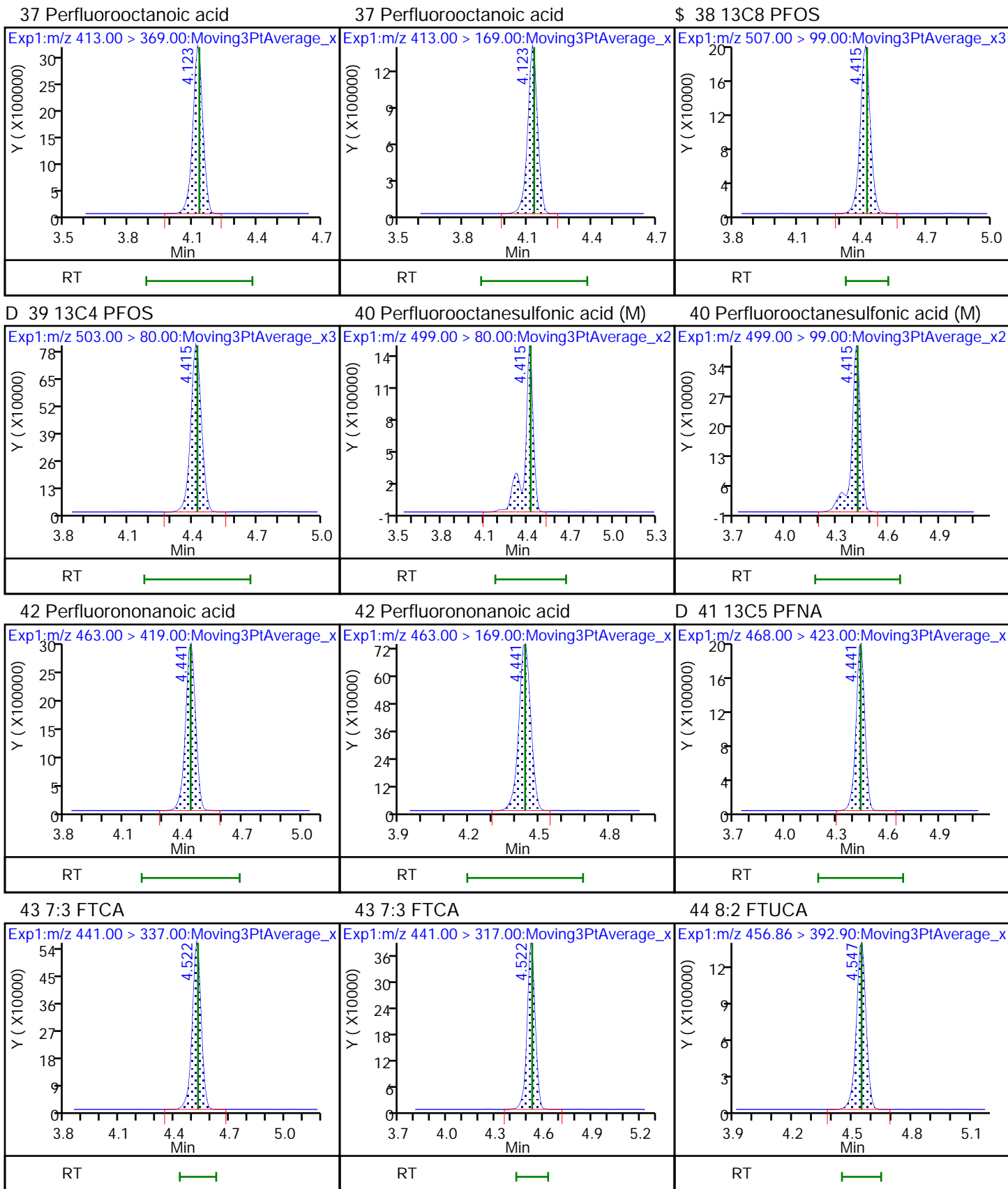


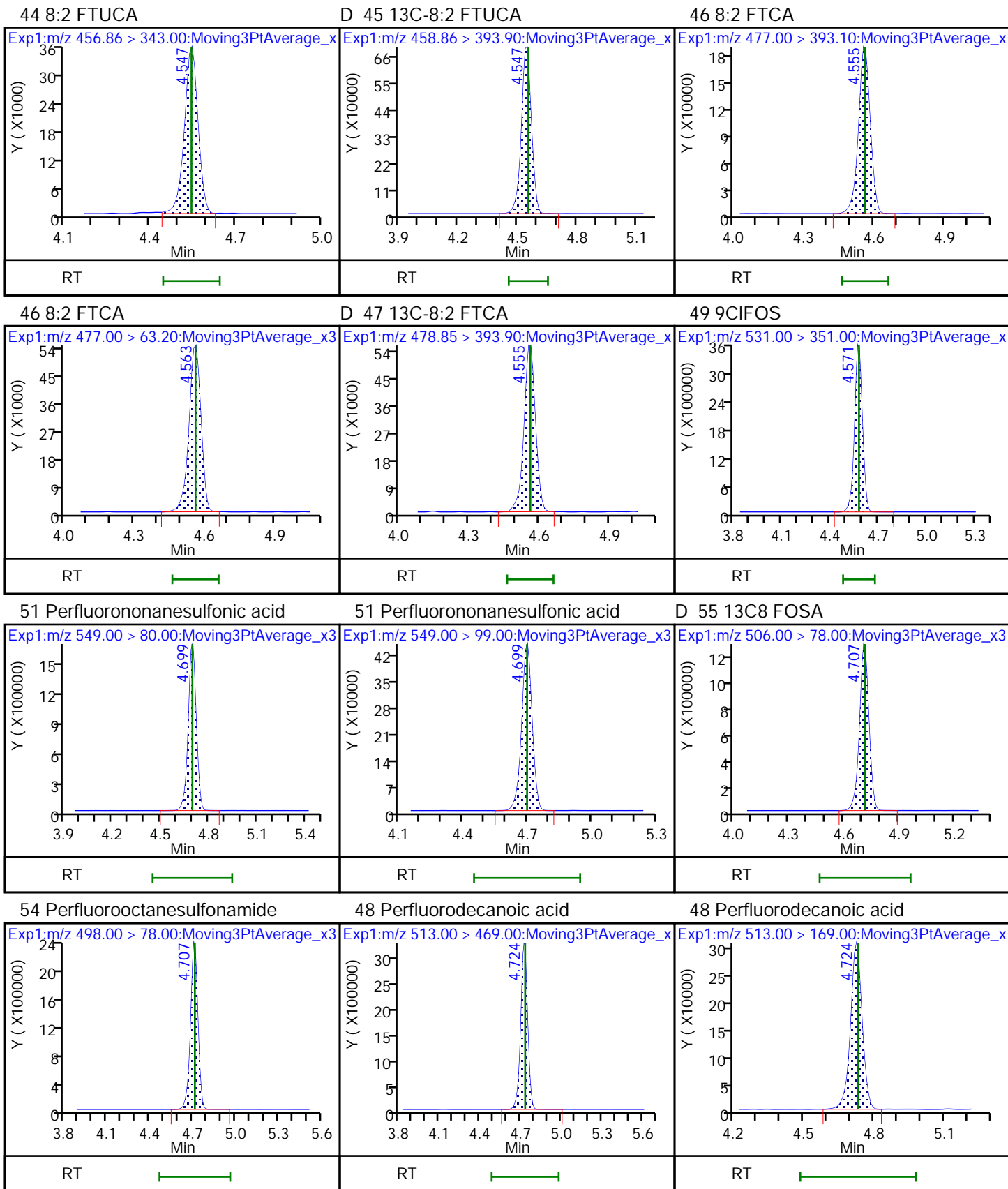
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



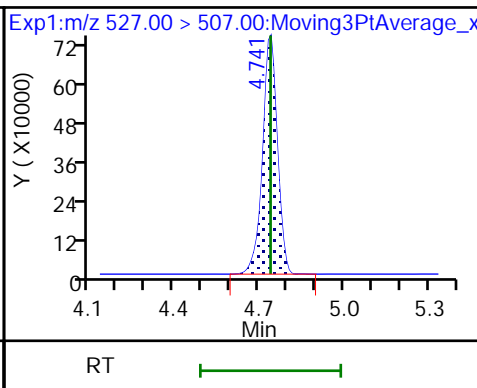
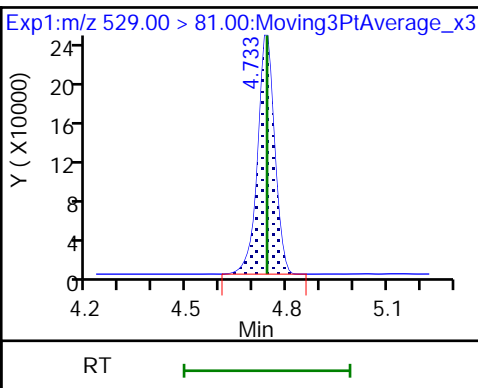
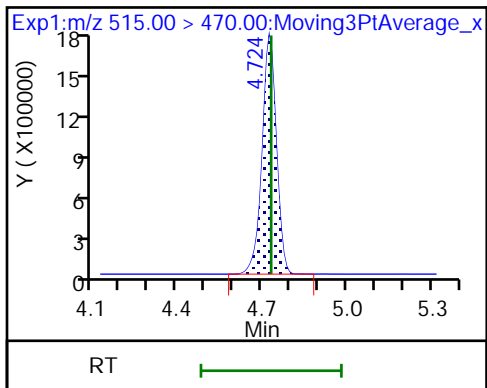




D 52 13C2 PFDA

D 50 M2-8:2 FTS

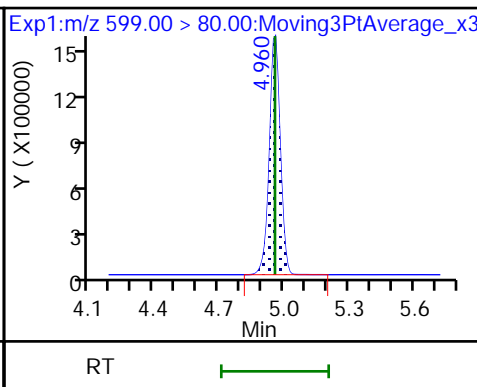
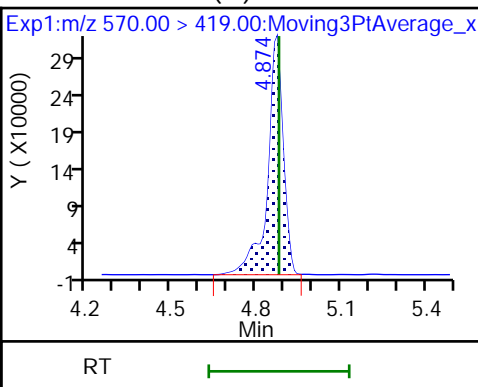
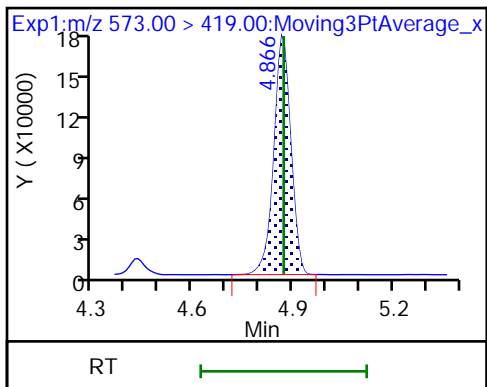
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

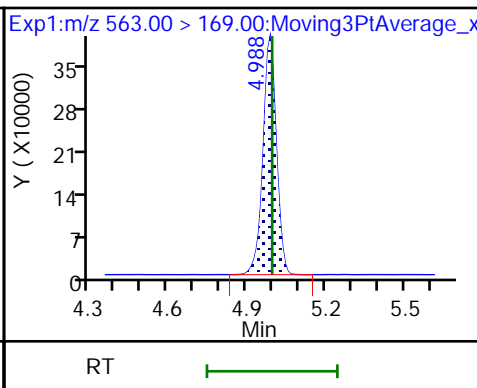
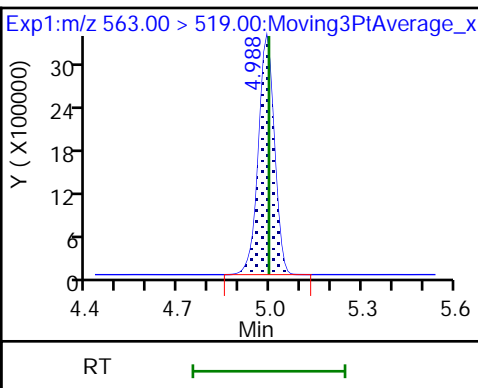
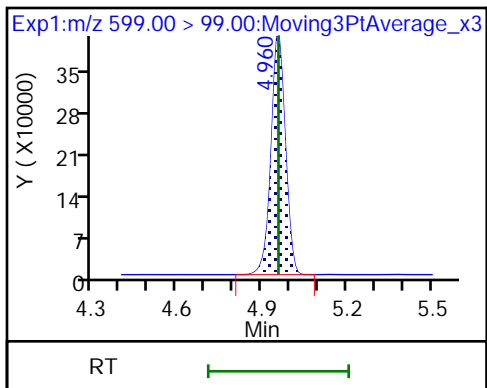
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

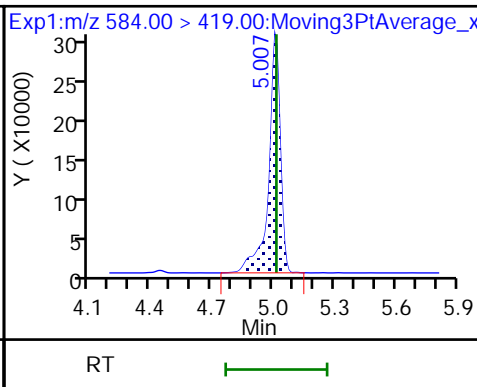
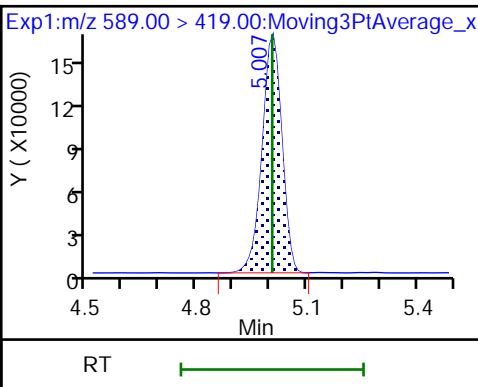
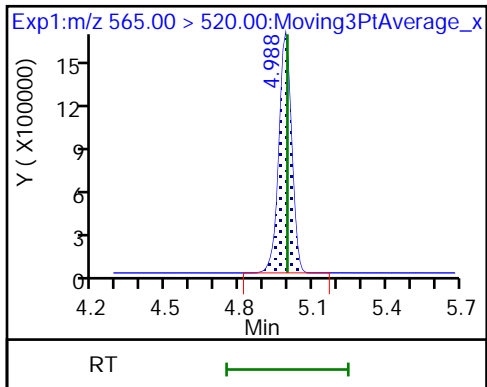
60 Perfluoroundecanoic acid

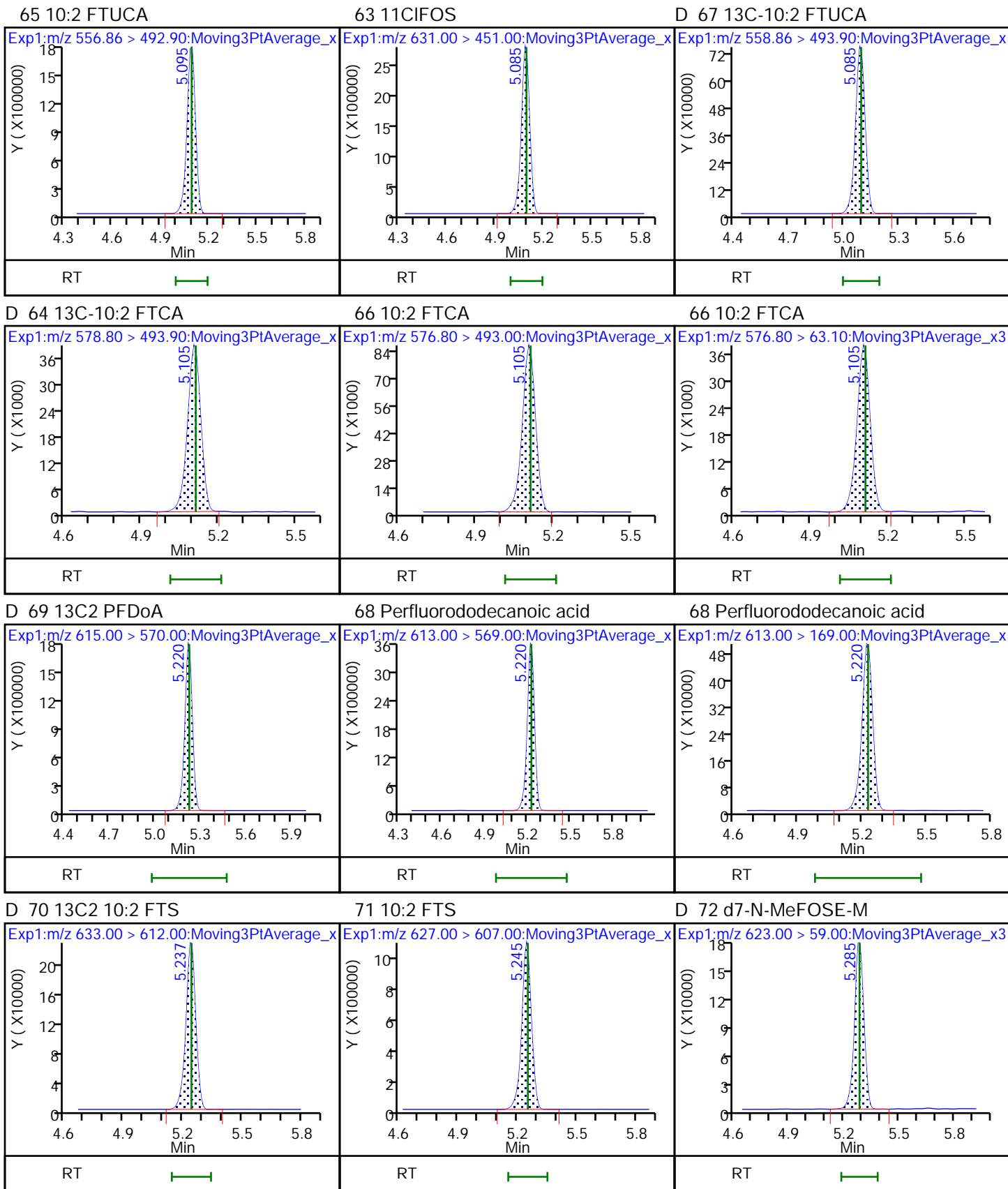


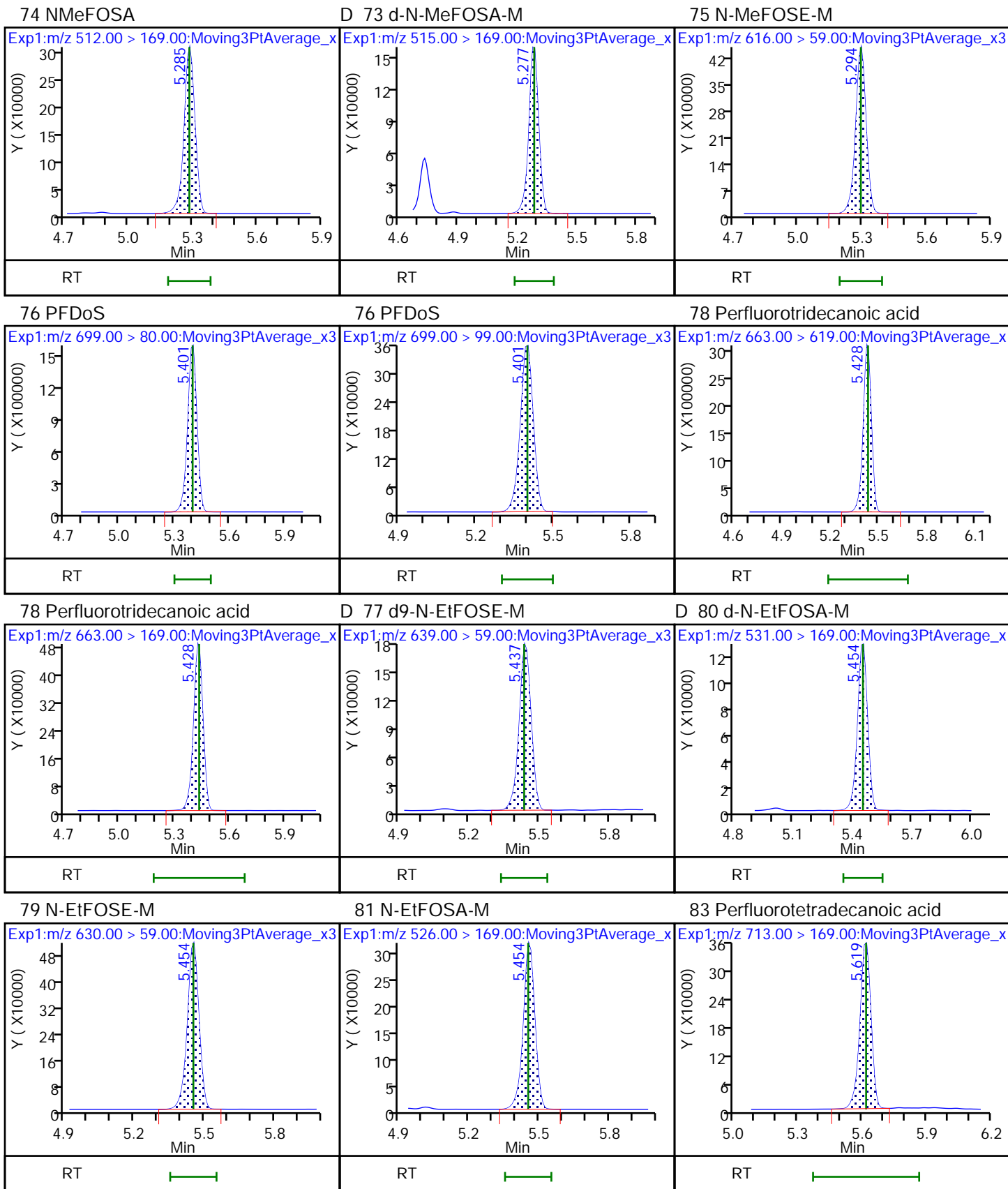
D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

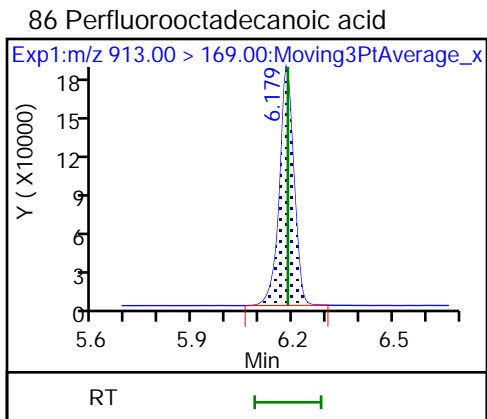
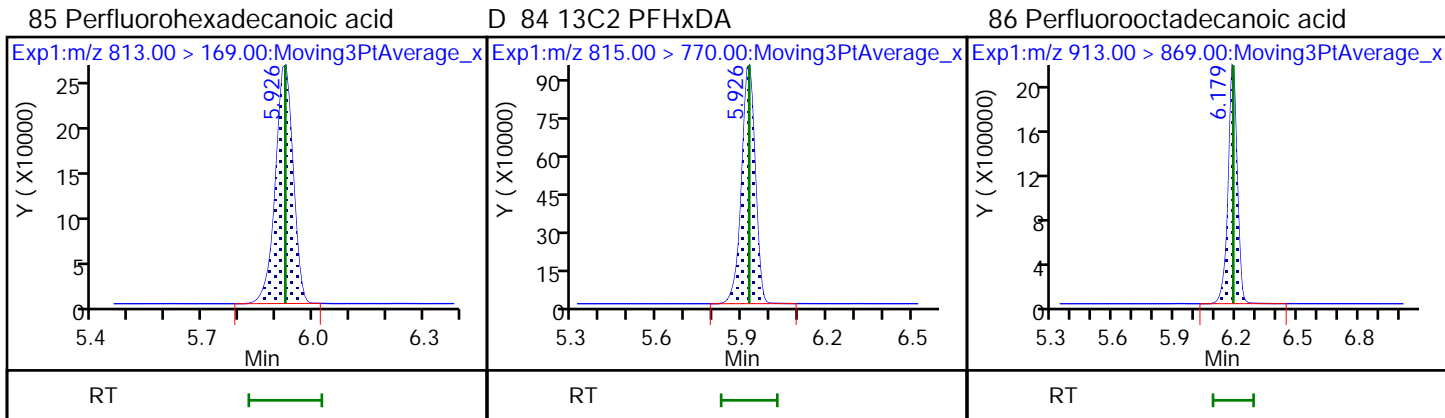
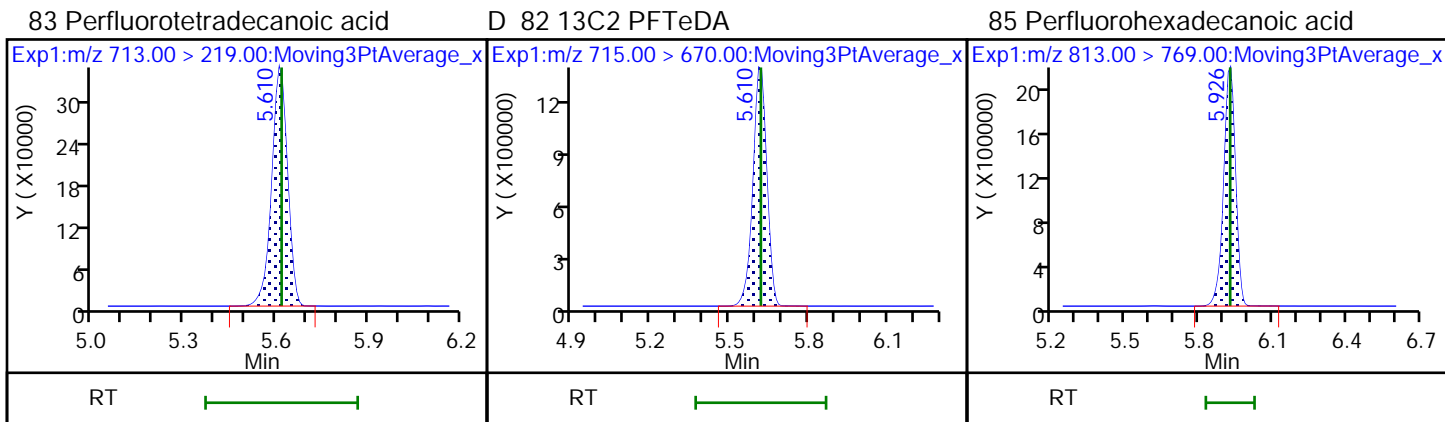
62 NEtFOSAA











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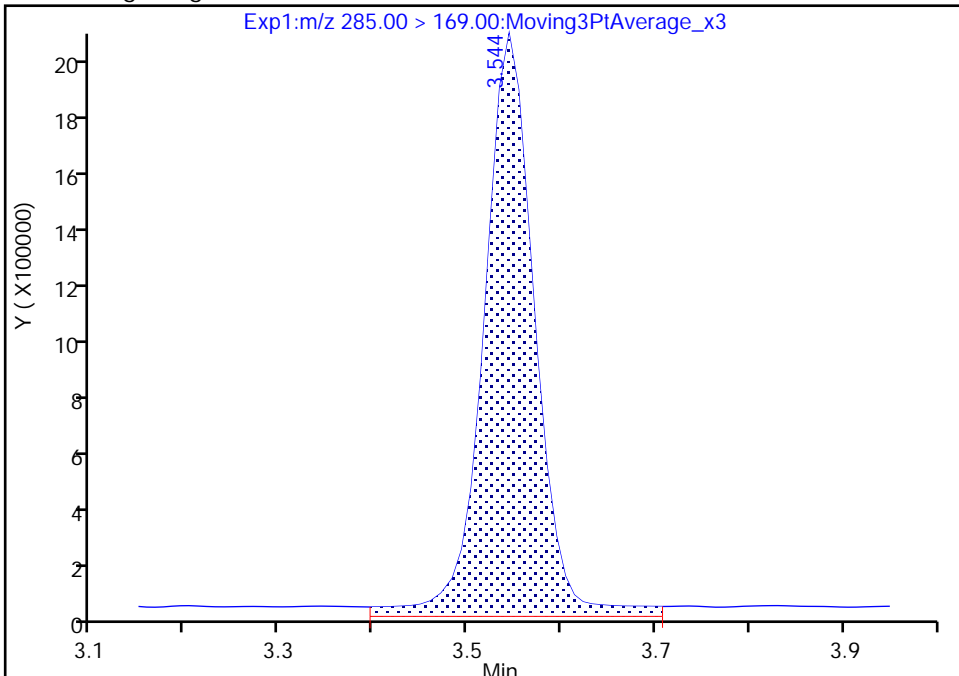
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Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

17 HFPO-DA, CAS: 13252-13-6

Signal: 1

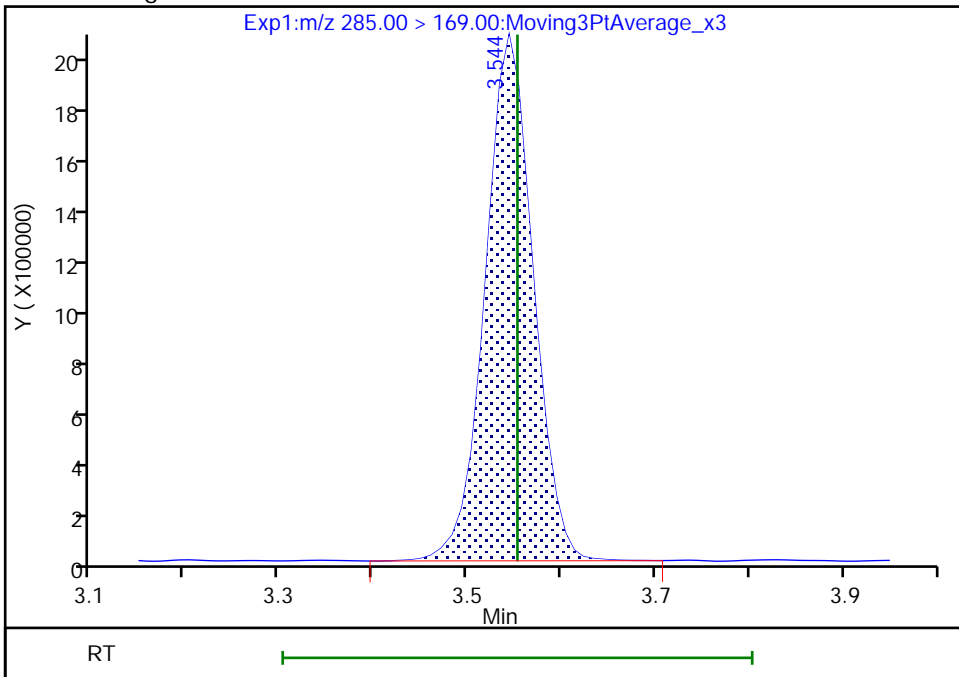
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Amount: 3.057997  
Amount Units: ng/ml

Processing Integration Results



RT: 3.54  
Area: 7222689  
Amount: 2.808611  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:17  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

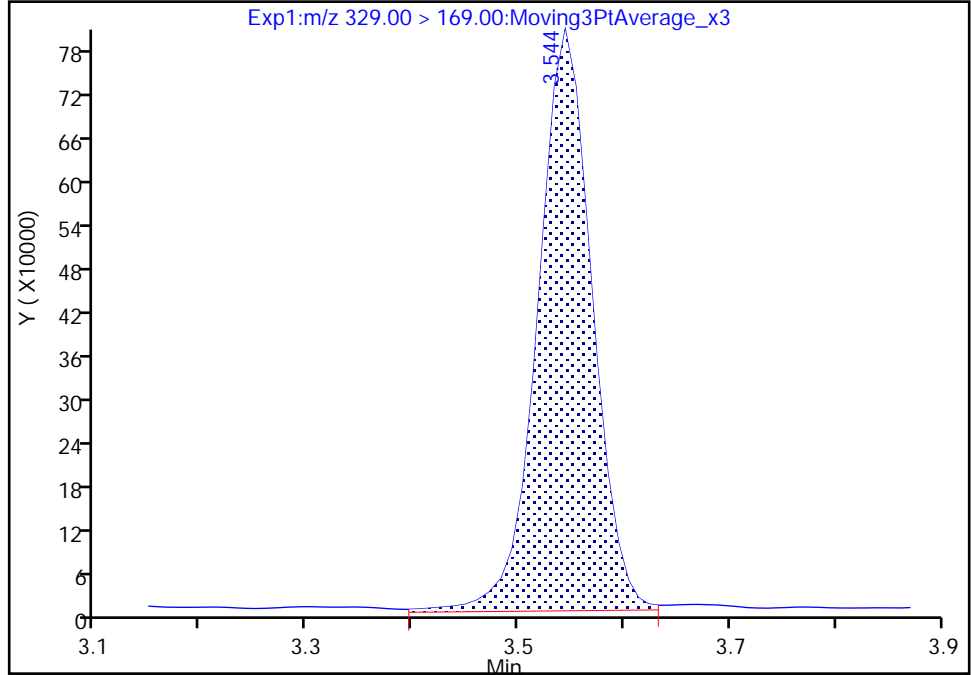
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

17 HFPO-DA, CAS: 13252-13-6

Signal: 2

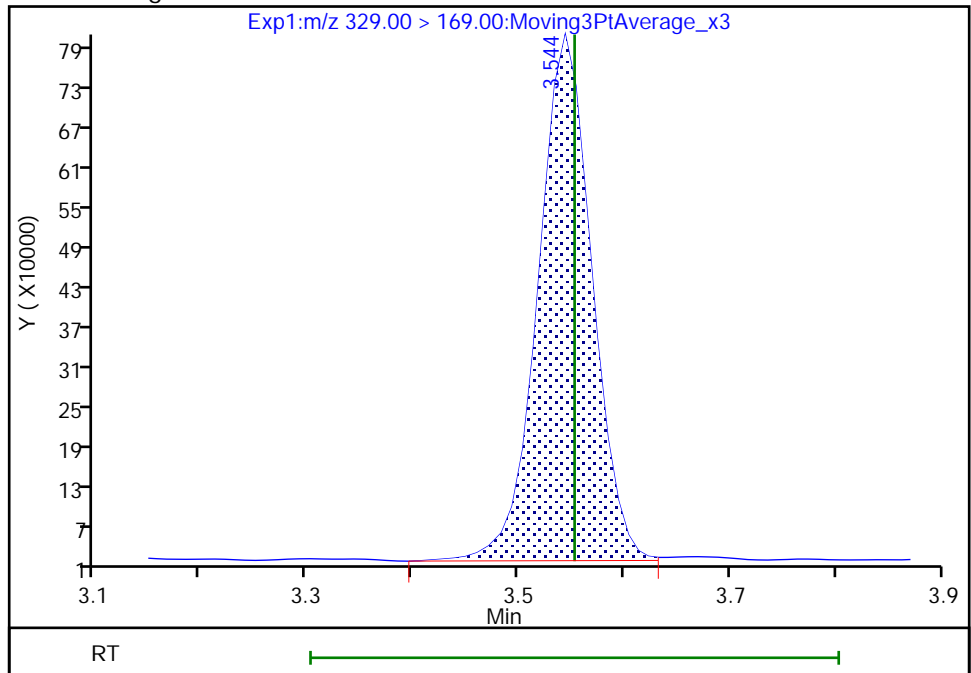
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Amount: 3.057997  
Amount Units: ng/ml

Processing Integration Results



RT: 3.54  
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Amount: 2.808611  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:27

Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 239 of 562

Eurofins Knoxville

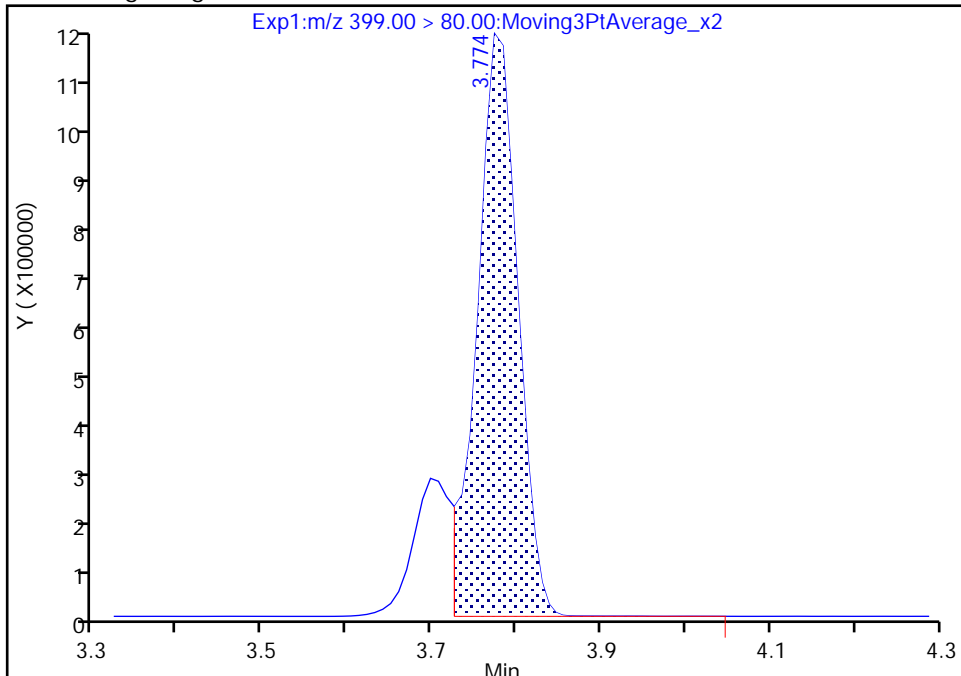
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Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

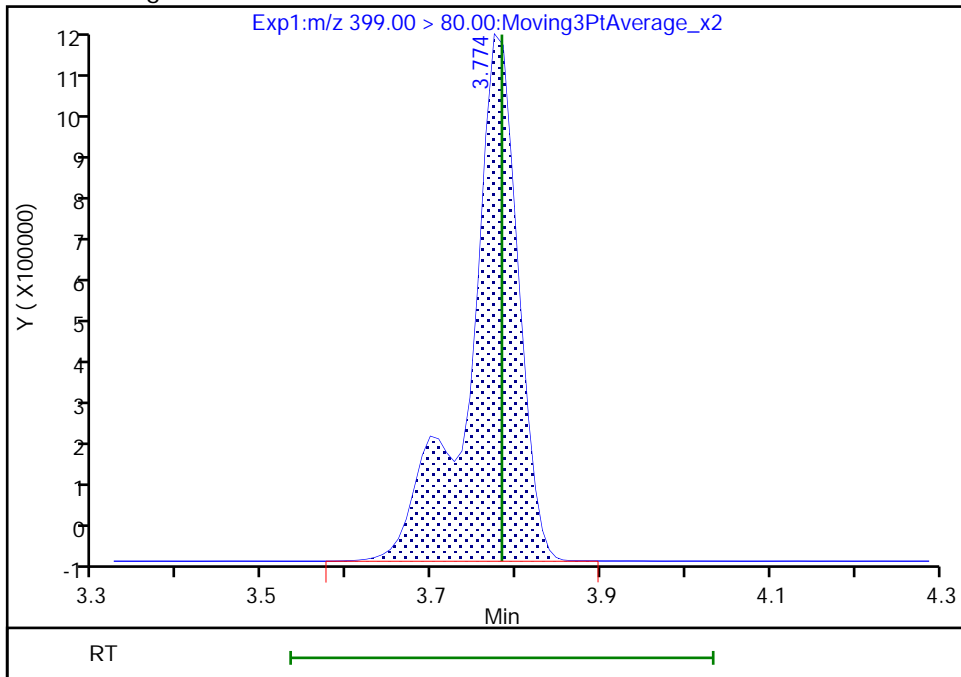
RT: 3.77  
Area: 3869832  
Amount: 1.781905  
Amount Units: ng/ml

Processing Integration Results



RT: 3.77  
Area: 4713862  
Amount: 2.170547  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:38  
Audit Action: Manually Integrated

Eurofins Knoxville

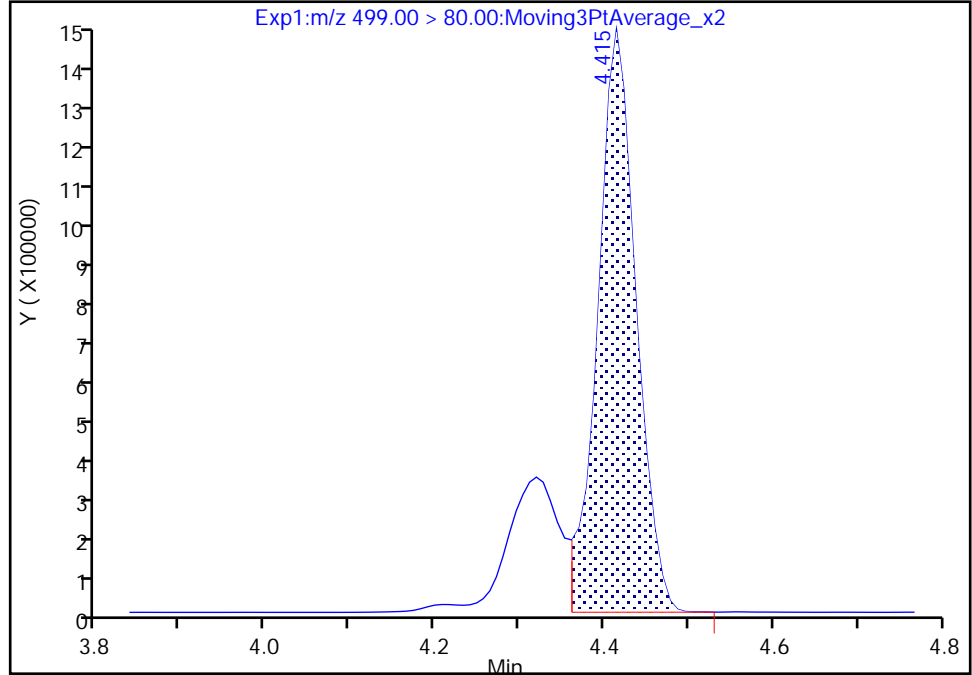
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_042.d  
Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

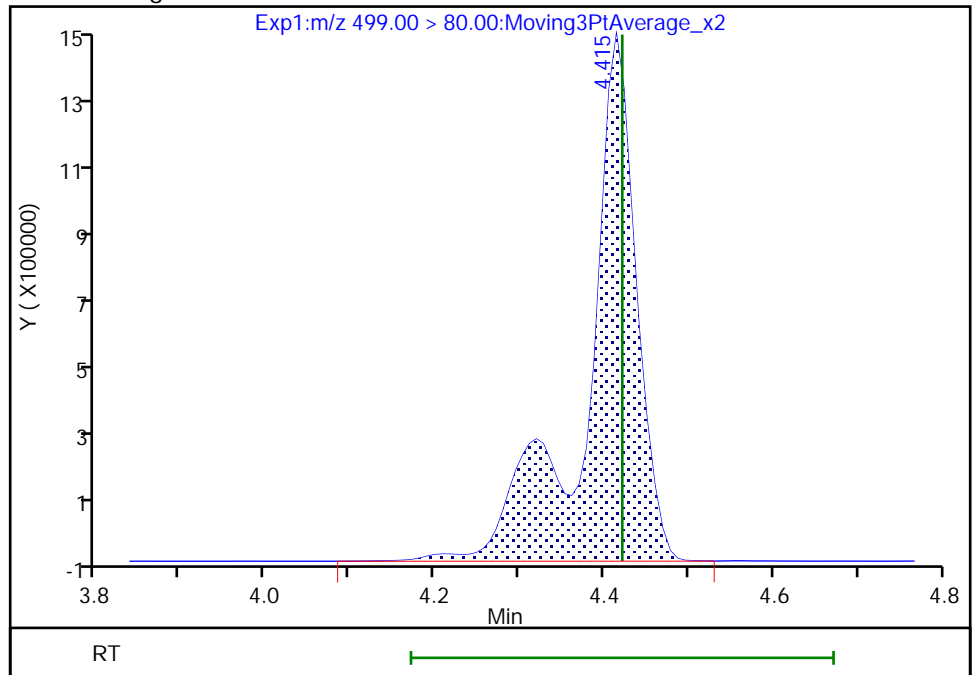
RT: 4.41  
Area: 4566081  
Amount: 1.719022  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 6040932  
Amount: 2.274269  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:50  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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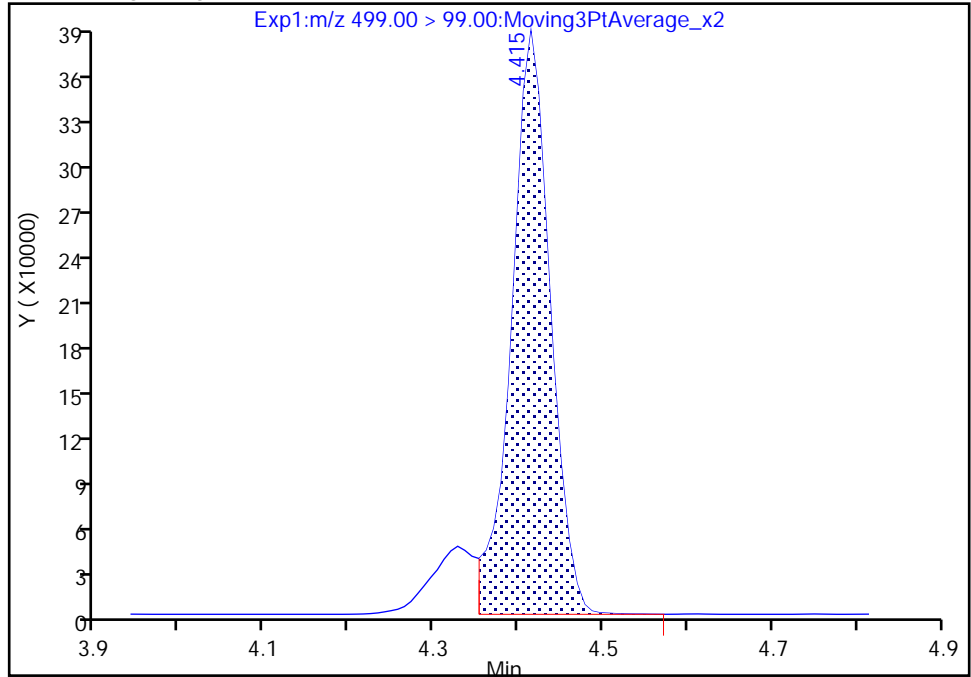
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_042.d  
Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

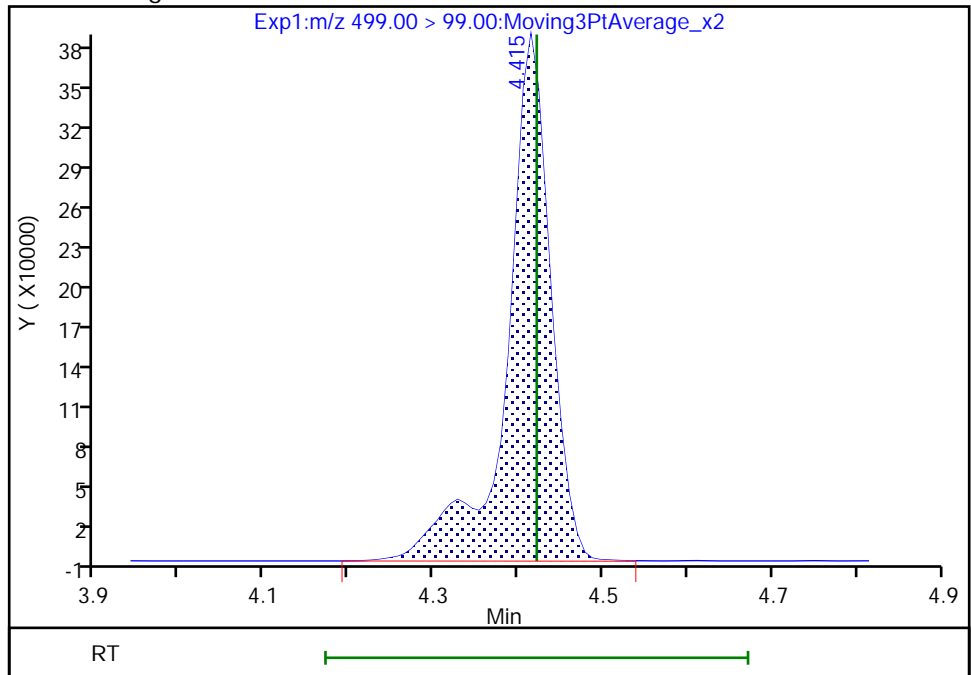
RT: 4.41  
Area: 1220653  
Amount: 1.719022  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 1384186  
Amount: 2.274269  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:28:58

Audit Action: Manually Integrated

Audit Reason: Baseline  
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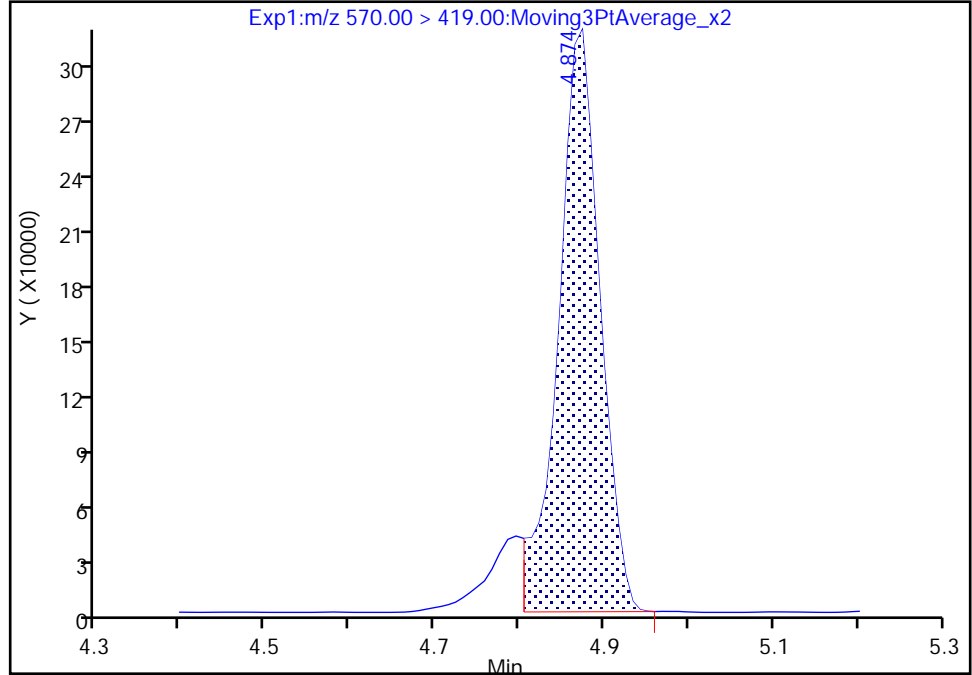
Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_042.d  
Injection Date: 19-Feb-2022 01:33:37 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

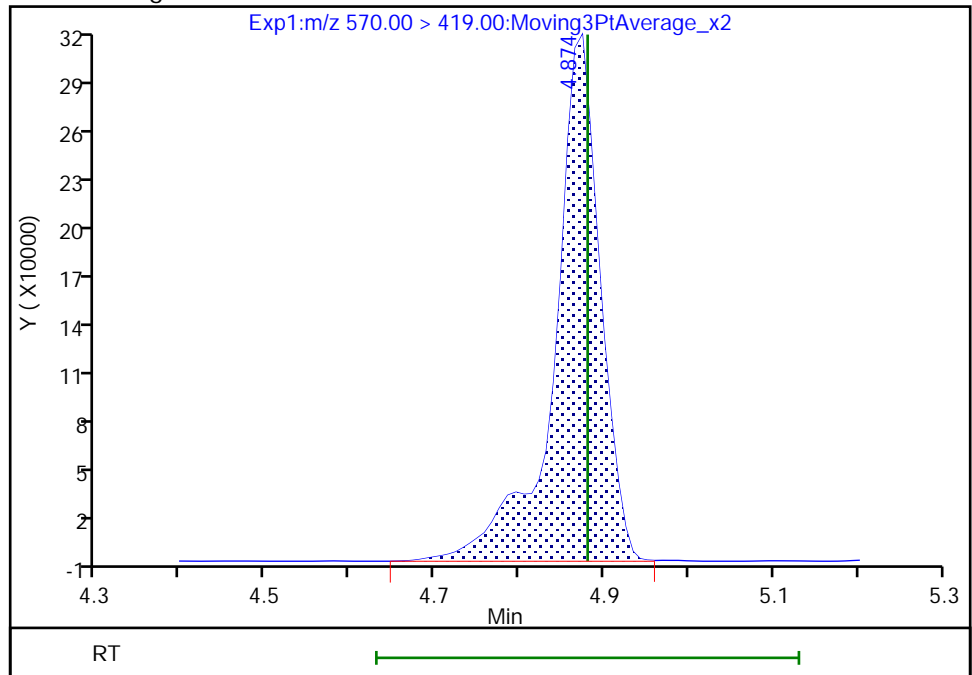
RT: 4.87  
Area: 1060234  
Amount: 2.298094  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1186416  
Amount: 2.562358  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 12:29:15  
Audit Action: Manually Integrated

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59059/6 Calibration Date: 02/19/2022 18:34  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_006.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.8329		0.0489	0.0500	-2.2	50.0
PFECA F	AveID	0.7535	0.7996		0.0531	0.0500	6.1	50.0
Perfluoropentanoic acid (PFPeA)	L2ID		1.087		0.0525	0.0500	5.0	50.0
3:3 FTCA	QuaIF		0.0737		0.0675	0.0500	35.0	50.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.271		0.0486	0.0442	9.8	50.0
PFECA A	Q2ID		1.311		0.0515	0.0500	3.0	50.0
PES	Q2ID		2.642		0.0473	0.0445	6.3	50.0
PFECA B	Q2ID		0.4522		0.0536	0.0500	7.3	50.0
4:2 FTS	L2ID		2.758		0.0543	0.0467	16.3	50.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8734		0.0475	0.0500	-5.1	50.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.162		0.0528	0.0469	12.5	50.0
HFPO-DA	L2ID		1.921		0.0714	0.0500	42.9	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.426		0.0469	0.0455	3.0	50.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.143		0.0514	0.0500	2.8	50.0
DONA	AveID	2.644	2.515		0.0448	0.0471	-4.9	50.0
5:3 FTCA	L2ID		3.299		0.0396	0.0500	-20.9	50.0
6:2 FTUCA	AveID	1.046	1.097		0.0524	0.0500	4.9	50.0
6:2 FTCA	L1ID		0.8210		0.0526	0.0500	5.3	50.0
PFECHS	AveID	0.7426	0.7014		0.0435	0.0461	-5.6	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	1.071		0.0516	0.0476	8.4	50.0
6:2 FTS	L2ID		2.004		0.0485	0.0474	2.4	50.0
Perfluorooctanoic acid (PFOA)	L1ID		1.208		0.0504	0.0500	0.9	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.187		0.0481	0.0464	3.7	50.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7959		0.0523	0.0500	4.6	50.0
7:3 FTCA	AveID	5.230	4.236		0.0405	0.0500	-19.0	50.0
8:2 FTUCA	AveID	0.9565	1.021		0.0534	0.0500	6.8	50.0
8:2 FTCA	AveID	1.811	1.702		0.0470	0.0500	-6.0	50.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.366		0.0490	0.0466	5.2	50.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.025		0.0486	0.0480	1.3	50.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	1.023		0.0536	0.0500	7.2	50.0
Perfluorodecanoic acid (PFDA)	L2ID		1.008		0.0496	0.0500	-0.9	50.0
8:2 FTS	L2ID		2.010		0.0570	0.0479	19.1	50.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		1.191		0.0667	0.0500	33.4	50.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9853		0.0490	0.0482	1.7	50.0



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59059/6 Calibration Date: 02/19/2022 18:34  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_006.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.085		0.0561	0.0500	12.2	50.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		1.043		0.0512	0.0500	2.5	50.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.840		0.0459	0.0471	-2.6	50.0
10:2 FTUCA	AveID	1.208	1.281		0.0530	0.0500	6.1	50.0
10:2 FTCA	Q2ID		1.192		0.0584	0.0500	16.8	50.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.076		0.0521	0.0500	4.1	50.0
10:2 FTS	L2ID		2.366		0.0484	0.0482	0.3	50.0
NMeFOSA	L2ID		1.170		0.0487	0.0500	-2.6	50.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.315		0.0524	0.0500	4.8	50.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	1.008		0.0516	0.0484	6.6	50.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.9632		0.0545	0.0500	9.1	50.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.414		0.0498	0.0500	-0.3	50.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.385		0.0505	0.0500	1.0	50.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1535		0.0547	0.0500	9.3	50.0
Perfluorohexadecanoic acid	L1ID		1.436		0.0511	0.0500	2.2	50.0
Perfluorooctadecanoic acid	AveID	1.013	1.056		0.0521	0.0500	4.2	50.0
13C4 PFBA	Ave	1.172	1.199		1.28	1.25	2.3	50.0
13C5 PFPeA	Ave	0.9197	0.8709		1.18	1.25	-5.3	50.0
13C3 PFBS	Ave	0.5817	0.5466		1.09	1.16	-6.0	50.0
M2-4:2 FTS	Ave	0.1821	0.1682		1.08	1.17	-7.6	50.0
13C2 PFHxA	Ave	1.015	0.9703		1.20	1.25	-4.4	50.0
13C3 HFPO-DA	Ave	0.4963	0.4419		1.11	1.25	-10.9	50.0
18O2 PFHxS	Ave	0.3776	0.3923		1.23	1.18	3.9	50.0
13C4 PFHpA	Ave	0.9046	0.8605		1.19	1.25	-4.9	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3431		1.27	1.25	1.7	50.0
13C-6:2 FTCA	Ave	0.0260	0.0297		1.43	1.25	14.1	50.0
13C4 PFOA	Ave	0.9356	0.9759		1.30	1.25	4.3	50.0
M2-6:2 FTS	Ave	0.1799	0.1977		1.31	1.19	9.9	50.0
13C4 PFOS	Ave	0.5610	0.6142		1.31	1.20	9.5	50.0
13C5 PFNA	Ave	1.268	1.285		1.27	1.25	1.3	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5108		1.41	1.25	13.0	50.0
13C-8:2 FTCA	Ave	0.0330	0.0396		1.50	1.25	19.7	50.0
13C8 FOSA	Ave	0.8475	0.9224		1.36	1.25	8.8	50.0
13C2 PFDA	Ave	1.210	1.230		1.27	1.25	1.6	50.0
M2-8:2 FTS	Ave	0.1961	0.2188		1.34	1.20	11.6	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVL 140-59059/6 Calibration Date: 02/19/2022 18:34  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_006.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1448		1.60	1.25	27.6	50.0
13C2 PFUnA	Ave	1.168	1.182		1.27	1.25	1.2	50.0
d5-NEtFOSAA	Ave	0.1164	0.1429		1.53	1.25	22.7	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5069		1.25	1.25	-0.2	50.0
13C-10:2 FTCA	Ave	0.0309	0.0300		1.21	1.25	-3.0	50.0
13C2 PFDoA	Ave	1.152	1.125		1.22	1.25	-2.4	50.0
13C2 10:2 FTS	Ave	0.1652	0.1708		1.23	1.18	3.4	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1113		1.17	1.25	-6.2	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1013		1.26	1.25	0.4	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1184		1.20	1.25	-3.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0837		1.29	1.25	3.4	50.0
13C2 PFTeDA	Ave	0.9216	0.8754		1.19	1.25	-5.0	50.0
13C2 PFHxDA	Ave	0.5997	0.5543		1.16	1.25	-7.6	50.0
13C8 PFOA	AveID	0.9229	0.9185		1.24	1.25	-0.5	50.0
13C8 PFOS	AveID	0.2212	0.2111		1.14	1.20	-4.6	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_006.d  
 Lims ID: CCVL  
 Client ID:  
 Sample Type: CCVL  
 Inject. Date: 19-Feb-2022 18:34:56 ALS Bottle#: 6 Worklist Smp#: 6  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-006 ccvl  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:36 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 18:52:19

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										M
212.90 > 169.00	2.804	2.804	0.0	1.000	190065	0.0489		97.8	75.1	M
D 2 13C4 PFBA										
217.00 > 172.00	2.804	2.804	0.0	0.680	5704803	1.28		102	26218	
3 PFECA F										
229.00 > 85.00	2.911	2.911	0.0	0.935	132477	0.0531		106	1274	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.756	4141938	1.18		94.7	17977	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.115	0.0	1.000	180031	0.0525		105	77.9	
4 3:3 FTCA										
241.00 > 177.10	3.123	3.123	0.0	1.000	7660	0.0675	Target=1.13	135	87.6	
241.00 > 116.90	3.123	3.123	0.0	1.000	7414		1.03(0.56-1.69)		13.7	
D 7 13C3 PFBS										
301.90 > 80.00	3.123	3.123	0.0	0.758	2417731	1.09		94.0	9737	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.131	0.0	1.003	116858	0.0485	Target=2.61	110	345	
298.90 > 99.00	3.123	3.131	-0.008	1.000	42299		2.76(1.31-3.92)		312	
9 PFECA A										
278.95 > 84.90	3.202	3.202	0.0	1.028	217194	0.0515		103	1795	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.044	244524	0.0473		106	2683	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.985	83466	0.0536		107	723	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.415	3.415	0.0	0.829	747095	1.08		92.4	1238	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.415	3.415	0.0	1.000	82429	0.0543		116	721	
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.437	0.0	0.834	4614799	1.20		95.6	16100	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.437	3.437	0.0	1.101	113328	0.0528	Target=3.55	113	374	
349.00 > 99.00	3.437	3.437	0.0	1.101	33907		3.34(1.78-5.33)		280	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.437	0.0	1.000	161224	0.0475	Target=11.60	94.9	87.0	
313.00 > 119.00	3.437	3.437	0.0	1.000	14821		10.88(5.80-17.40)		13.8	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.542	0.0	0.860	2101966	1.11		89.1	7408	
17 HFPO-DA										
285.00 > 169.00	3.542	3.542	0.0	1.000	161555	0.0714	Target=2.45	143	40.3	
329.00 > 169.00	3.542	3.542	0.0	1.000	56550		2.86(1.23-3.68)		30.5	
D 20 18O2 PFHxS										
403.00 > 84.00	3.772	3.772	0.0	0.915	1765270	1.23		104	4061	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.772	3.772	0.0	1.000	96878	0.0469	Target=3.44	103	293	M
399.00 > 99.00	3.772	3.772	0.0	1.000	31881		3.04(1.72-5.17)		127	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.792	0.0	0.920	4092624	1.19		95.1	14420	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.792	0.0	1.000	187089	0.0514	Target=3.25	103	176	
363.00 > 169.00	3.792	3.792	0.0	1.000	58783		3.18(1.62-4.87)		148	
25 DONA										
377.00 > 251.00	3.820	3.820	0.0	0.866	276857	0.0448	Target=1.74	95.1	1594	
377.00 > 85.00	3.820	3.820	0.0	0.866	148359		1.87(0.87-2.61)		79.4	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	18638	0.0396	Target=1.11	79.1	111	
340.88 > 216.90	3.853	3.853	0.0	0.987	19300		0.97(0.56-1.67)		64.2	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.886	0.0	0.943	1632068	1.27		102	3528	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.886	0.0	1.000	71628	0.0524	Target=13.05	105	343	M
356.86 > 243.00	3.878	3.886	-0.008	0.998	4552		15.74(6.52-19.57)		16.6	M
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.903	0.0	0.947	141258	1.43		114	746	
29 6:2 FTCA										
377.10 > 63.00	3.903	3.903	0.0	1.000	4639	0.0526	Target=1.29	105	13.5	
377.10 > 313.10	3.895	3.903	-0.008	0.998	3651		1.27(0.65-1.94)		8.4	
32 PFECBS										
460.80 > 380.90	4.054	4.054	0.0	0.984	120059	0.0435	Target=1.75	94.4	513	
460.80 > 98.90	4.064	4.054	0.010	0.986	79221		1.52(0.87-2.62)		381	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.111	4.111	0.0	0.932	119124	0.0516	Target=3.72	108	317	
449.00 > 99.00	4.111	4.111	0.0	0.932	28276		4.21(1.86-5.57)		136	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	1.000	893278	1.30		110	2104	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	71462	0.0485		102	219	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	1.000	4263381	1.24		99.5	7270	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.121	0.0	1.000	4641588	1.30		104	14495	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		4756185	1.25			11095	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.121	0.0	1.000	224320	0.0504	Target=2.51	101	204	
413.00 > 169.00	4.121	4.121	0.0	1.000	94158		2.38(1.26-3.77)		175	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.412	4.412	0.0	1.000	589488	1.14		95.4	1301	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.412	0.0	1.071	2792682	1.31		109	3382	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.412	4.412	0.0	1.000	128757	0.0481	Target=4.30	104	282	M
499.00 > 99.00	4.412	4.412	0.0	1.000	28398		4.53(2.15-6.45)		116	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.438	4.438	0.0	1.000	194554	0.0523	Target=3.60	105	298	
463.00 > 169.00	4.438	4.438	0.0	1.000	45707		4.26(1.80-5.40)		188	
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.438	0.0	1.077	6111142	1.27		101	11097	
43 7:3 FTCA										
441.00 > 337.00	4.520	4.520	0.0	0.991	31878	0.0405	Target=1.42	81.0	155	
441.00 > 317.00	4.520	4.520	0.0	0.991	24494		1.30(0.71-2.13)		117	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	99254	0.0534	Target=35.37	107	535	
456.86 > 343.00	4.553	4.545	0.008	1.002	4167		23.82(17.68-53.05)		9.9	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.545	0.0	1.000	2429463	1.41		113	4302	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.561	4.561	0.0	1.107	188125	1.50		120	706	
46 8:2 FTCA										
477.00 > 393.10	4.553	4.553	0.0	0.998	12807	0.0470	Target=3.35	94.0	50.6	M
477.00 > 63.20	4.561	4.553	0.008	1.000	4163		3.08(1.68-5.03)		15.8	M
49 9CIFOS										
531.00 > 351.00	4.570	4.570	0.0	1.109	257658	0.0490		105	825	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	114970	0.0486	Target=3.99	101	381	
549.00 > 99.00	4.697	4.697	0.0	1.065	34520		3.33(2.00-5.99)		159	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.706	0.0	1.142	4386940	1.36		109	4348	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.706	0.0	1.000	179566	0.0536		107	621	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.723	0.0	1.000	235914	0.0496	Target=10.58	99.1	239	
513.00 > 169.00	4.723	4.723	0.0	1.000	21418		11.01(5.29-15.88)		23.5	
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.723	0.0	1.146	5848266	1.27		102	19370	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.740	0.0	1.150	997085	1.34		112	2122	
53 8:2 FTS										
527.00 > 507.00	4.731	4.731	0.0	0.998	80160	0.0570		119	336	
57 NMeFOSAA										
570.00 > 419.00	4.863	4.863	0.0	0.998	32822	0.0667		133	78.4	M
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.182	688805	1.60		128	2143	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.124	110989	0.0490	Target=3.55	102	403	
599.00 > 99.00	4.957	4.957	0.0	1.124	28315		3.92(1.78-5.33)		130	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.985	4.985	0.0	1.000	244055	0.0561	Target=8.26	112	364	
563.00 > 169.00	4.985	4.985	0.0	1.000	29714		8.21(4.13-12.39)		155	
D 59 13C2 PFUnA										
565.00 > 520.00	4.985	4.985	0.0	1.210	5623258	1.27		101	10997	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.004	5.004	0.0	1.214	679583	1.53		123	4327	
62 NEtFOSAA										
584.00 > 419.00	5.004	5.004	0.0	1.000	28362	0.0512		102	100	M
63 11CIFOS										
631.00 > 451.00	5.082	5.082	0.0	1.152	202478	0.0459		97.4	553	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.092	0.0	1.236	2410808	1.25		99.8	5470	
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.092	0.0	1.000	123577	0.0530		106	575	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.102	0.0	1.000	6808	0.0584	Target=2.53	117	31.2	
576.80 > 63.10	5.092	5.102	-0.010	0.998	2944		2.31(1.26-3.79)		9.8	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.102	0.0	1.238	142740	1.21		97.0	556	
D 69 13C2 PFDaA										
615.00 > 570.00	5.226	5.226	0.0	1.268	5348629	1.22		97.6	15166	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	230158	0.0521	Target=6.85	104	217	
613.00 > 169.00	5.217	5.226	-0.009	0.998	36415		6.32(3.43-10.28)		91.5	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.242	5.242	0.0	1.272	769650	1.22		103	3873	
71 10:2 FTS										
627.00 > 607.00	5.242	5.242	0.0	1.000	74141	0.0484		100	391	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.274	5.274	0.0	1.280	529222	1.17		93.8	465	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.274	5.274	0.0	1.280	481844	1.25		100	46.1	
74 NMeFOSA										
512.00 > 169.00	5.274	5.274	0.0	1.000	22549	0.0487		97.4	72.6	M
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.003	27834	0.0524		105	44.6	
76 PFDoS										
699.00 > 80.00	5.398	5.398	0.0	1.224	114005	0.0516	Target=4.22	107	281	
699.00 > 99.00	5.398	5.398	0.0	1.224	28225		4.04(2.11-6.34)		139	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.426	0.0	1.038	206078	0.0545	Target=6.32	109	289	
663.00 > 169.00	5.426	5.426	0.0	1.038	31887		6.46(3.16-9.48)		206	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	563273	1.20		96.3	239	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.443	5.443	0.0	1.321	398095	1.29		103	611	
79 N-EtFOSE-M										
630.00 > 59.00	5.443	5.443	0.0	1.002	31869	0.0498		99.7	32.0	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.002	22048	0.0505		101	91.9	M
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.607	5.607	0.0	1.000	25565	0.0547	Target=1.01	109	86.0	
713.00 > 219.00	5.607	5.607	0.0	1.000	22011		1.16(0.51-1.52)		140	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.607	5.607	0.0	1.361	4163393	1.19		95.0	10247	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	151440	0.0511	Target=8.64	102	326	
813.00 > 169.00	5.924	5.924	0.0	1.000	20329		7.45(4.32-12.97)		81.0	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.438	2636333	1.16		92.4	4853	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.178	6.178	0.0	1.043	111338	0.0521	Target=11.77	104	261	
913.00 > 169.00	6.178	6.178	0.0	1.043	8301		13.41(5.88-17.65)		38.5	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L2PFC2T3\_00002

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220219-22723.b\_006.d

Injection Date: 19-Feb-2022 18:34:56

Instrument ID: LCA

Lims ID: CCVL

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 6

Worklist Smp#: 6

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

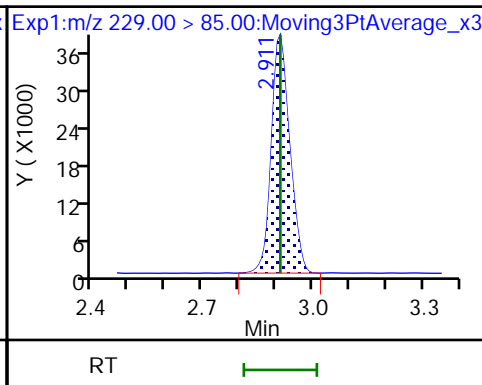
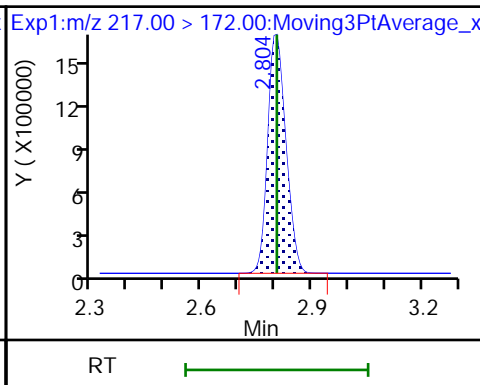
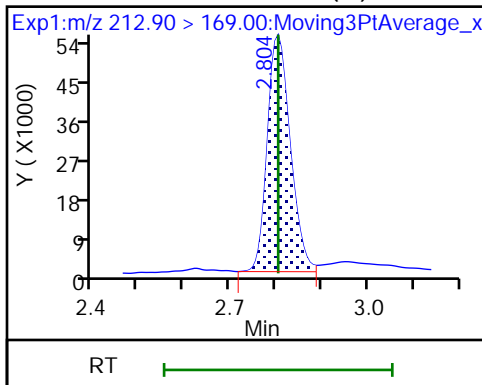
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid (M)

D 2 13C4 PFBA

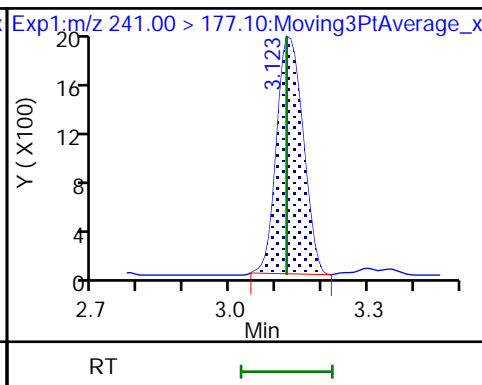
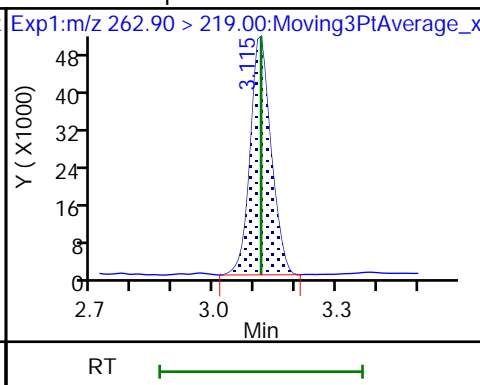
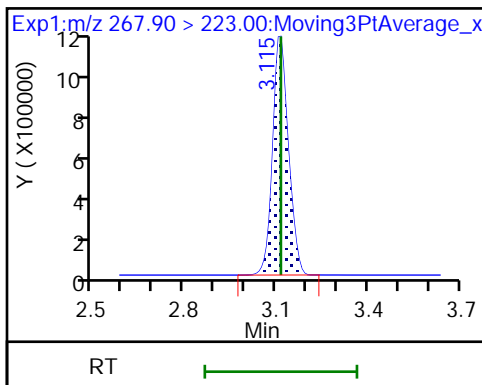
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

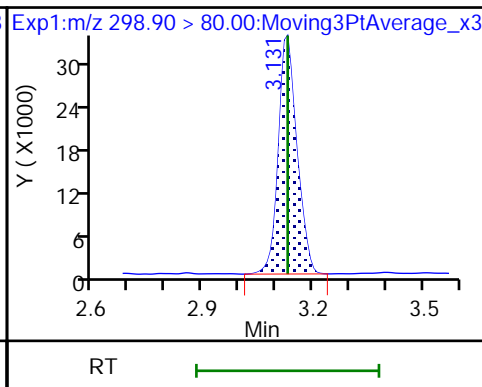
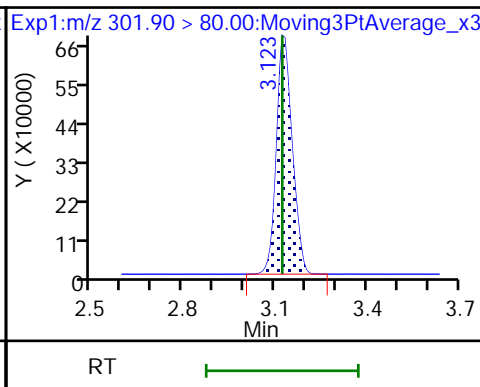
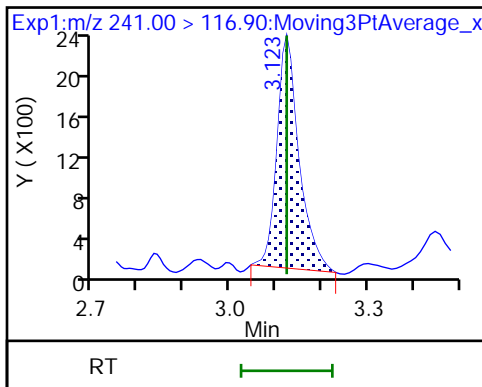
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

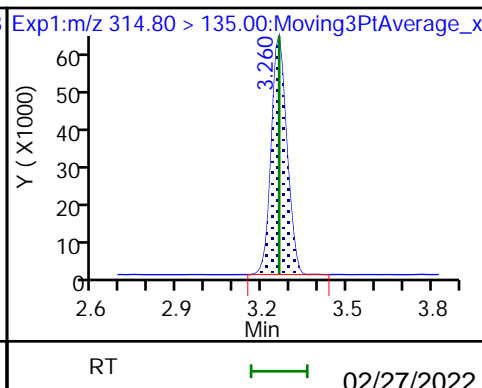
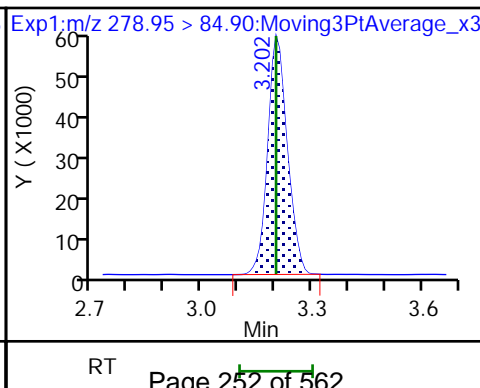
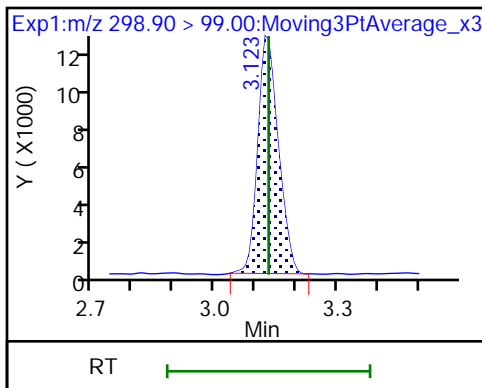
8 Perfluorobutanesulfonic acid



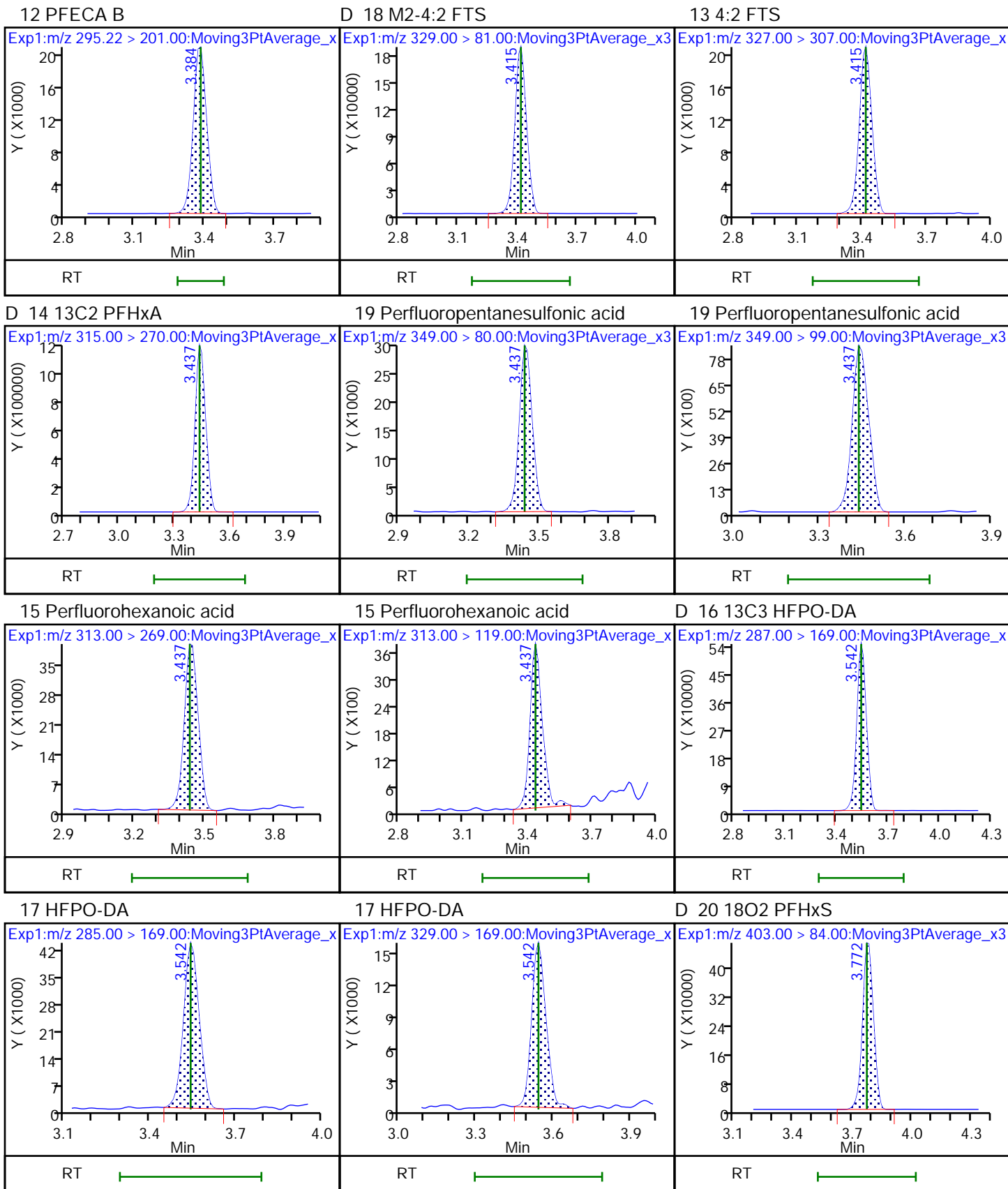
8 Perfluorobutanesulfonic acid

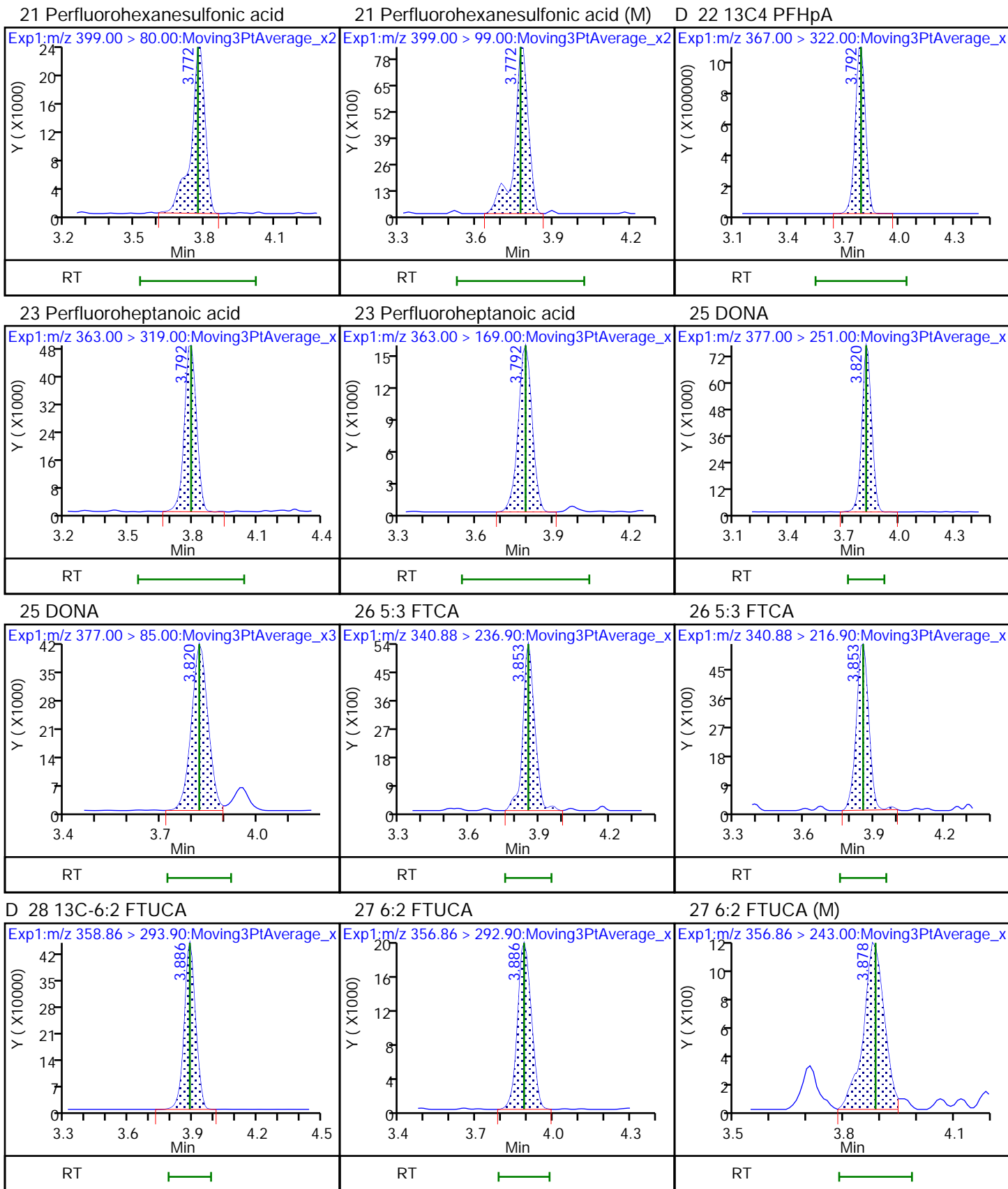
9 PFECA A

11 PES





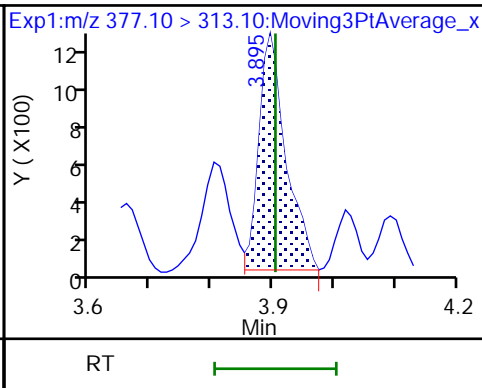
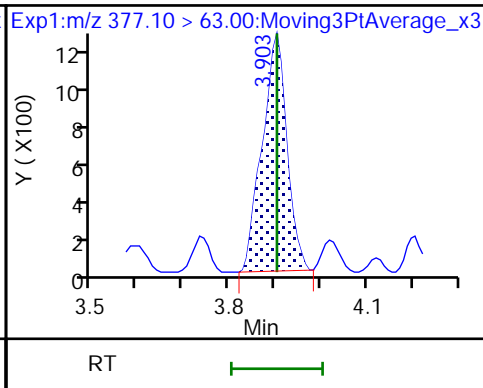
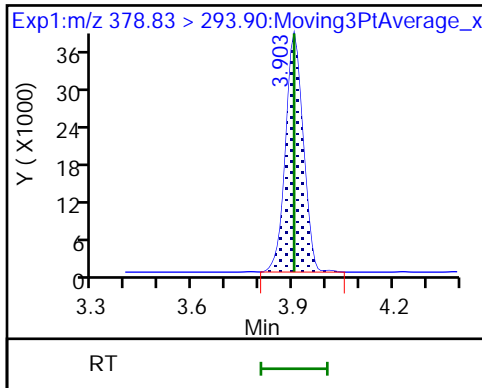




D 24 13C-6:2 FTCA

29 6:2 FTCA

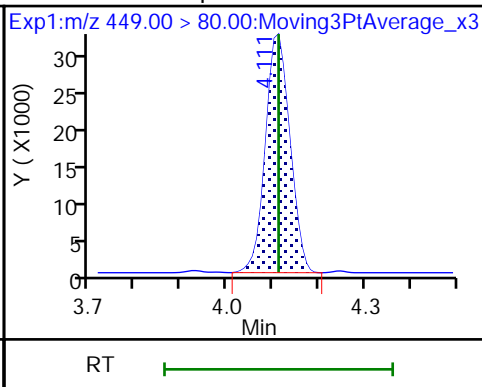
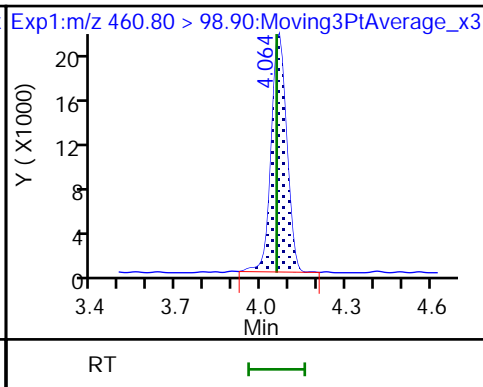
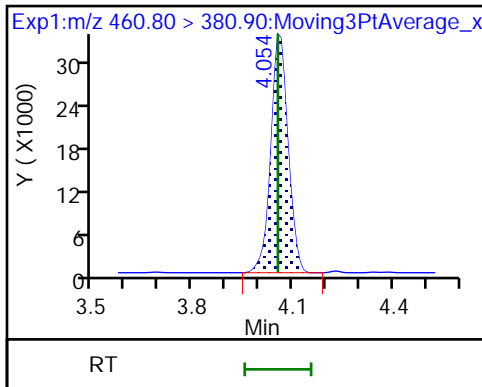
29 6:2 FTCA



32 PFECHS

32 PFECHS

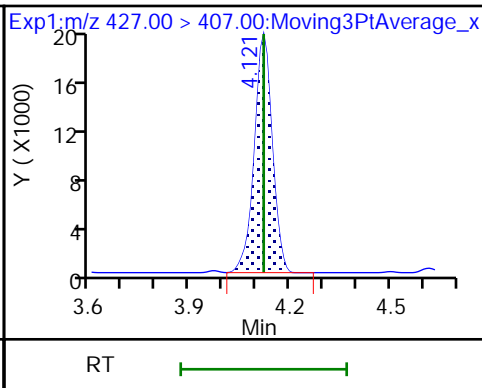
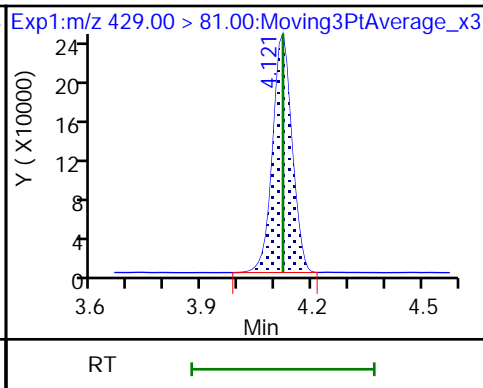
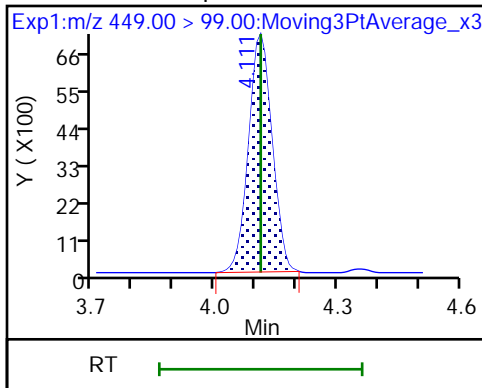
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

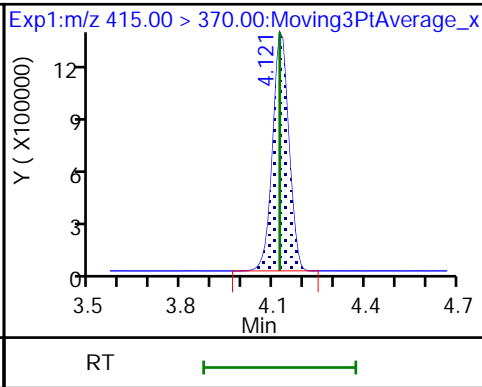
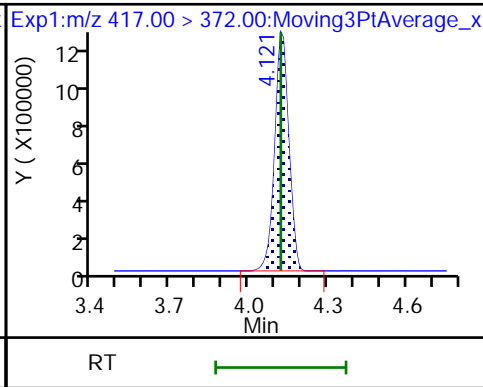
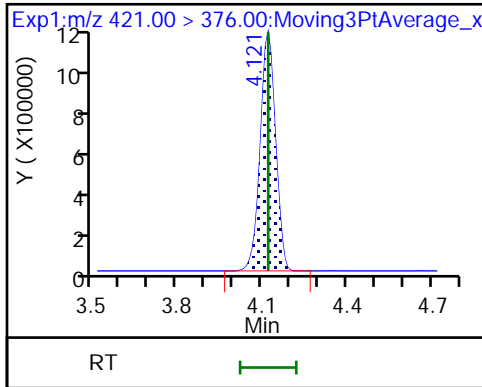
35 6:2 FTS

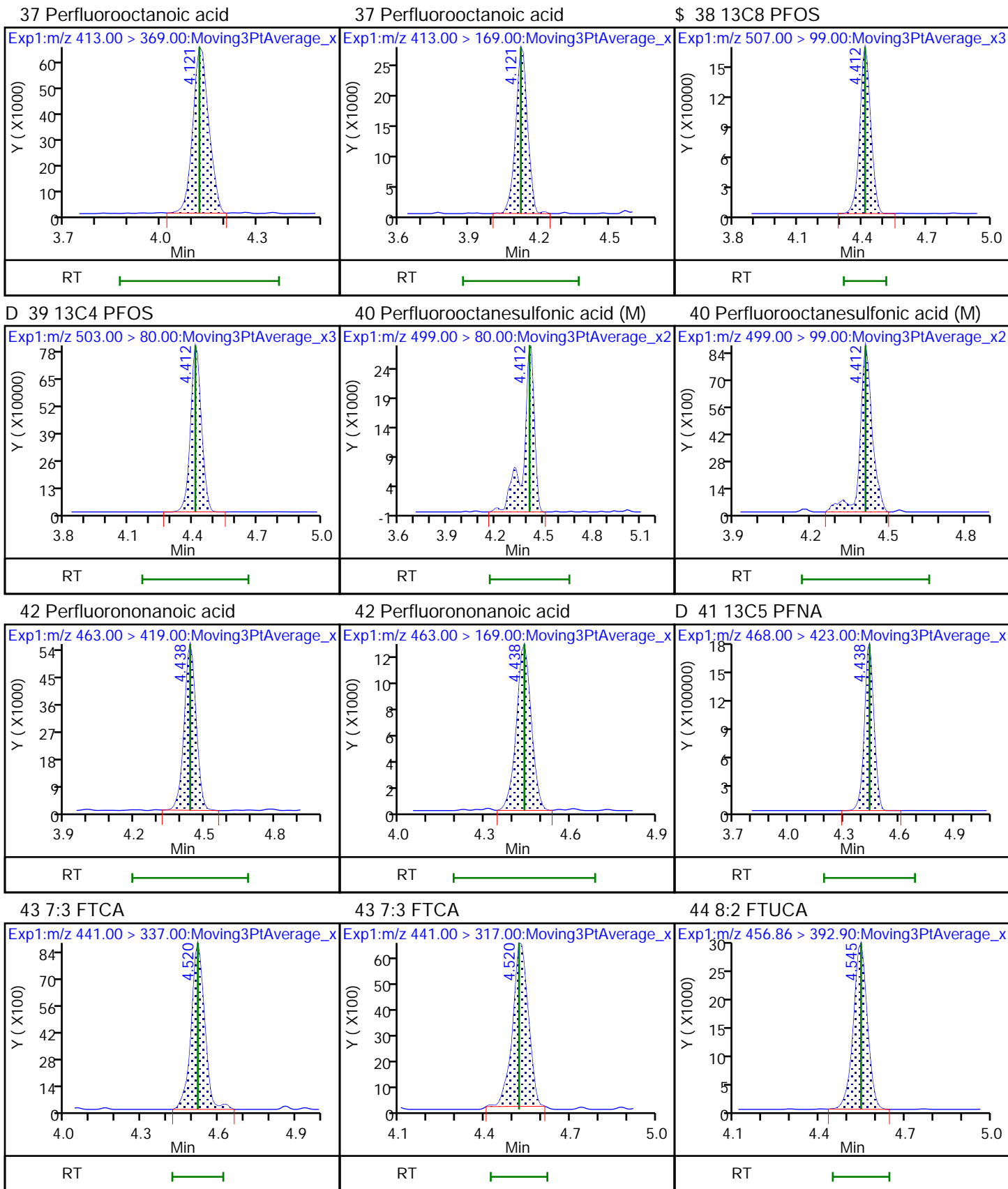


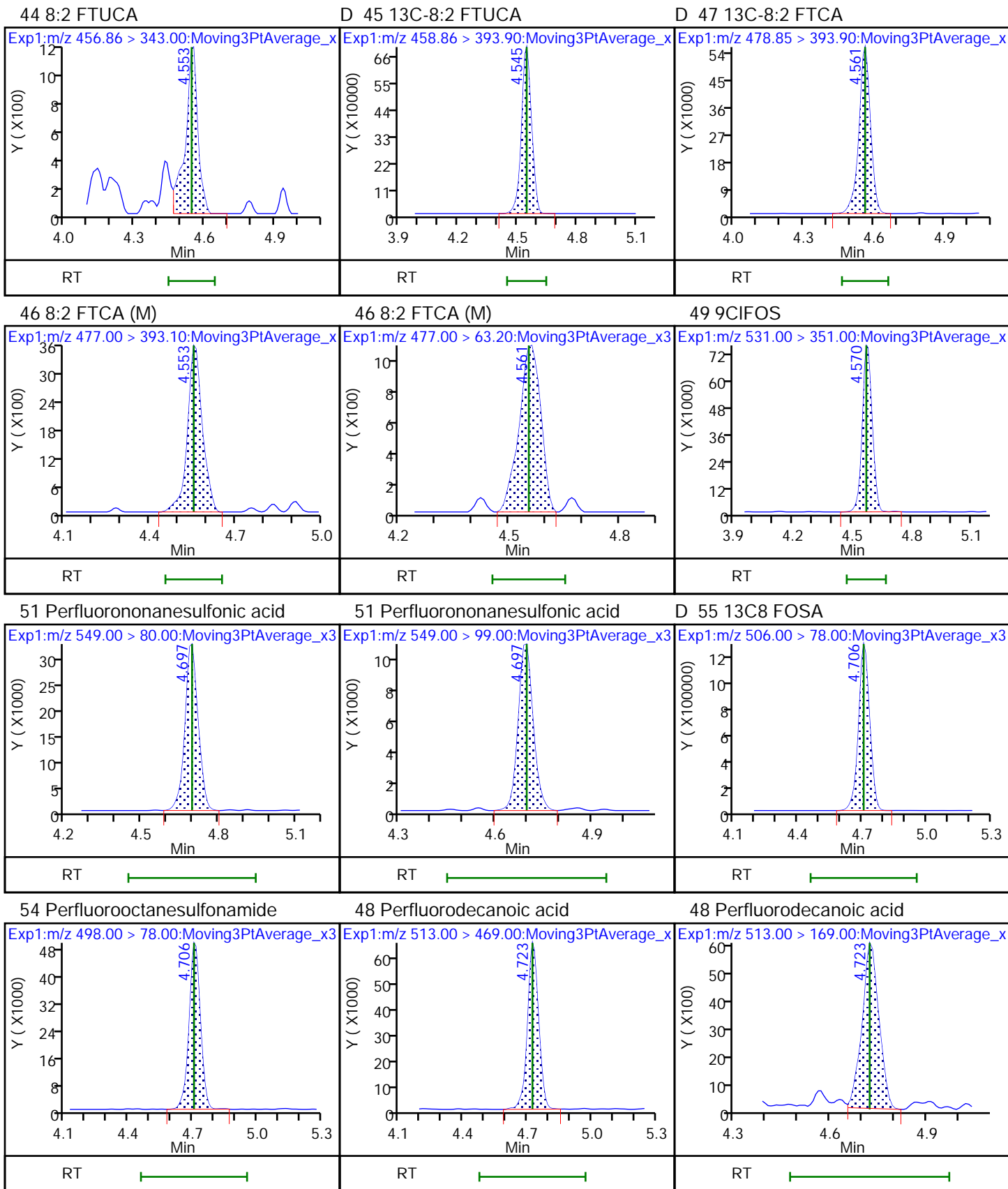
\$ 36 13C8 PFOA

D 31 13C4 PFOA

\* 30 13C2 PFOA



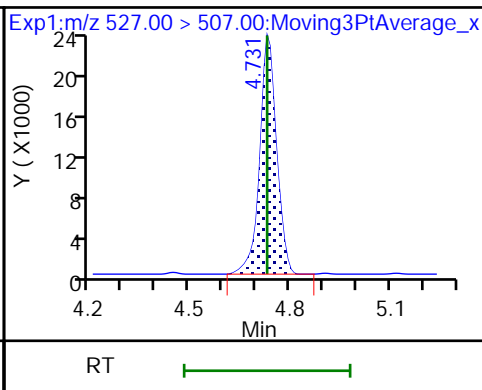
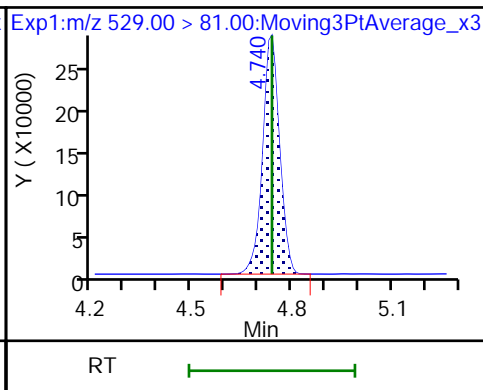
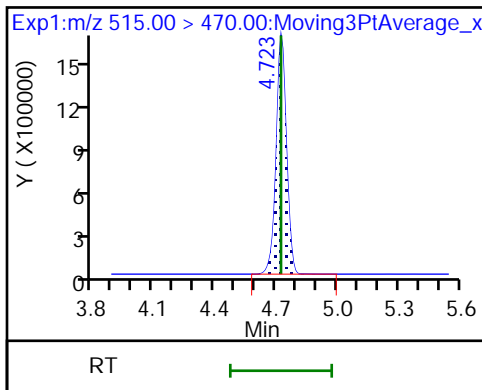




D 52 13C2 PFDA

D 50 M2-8:2 FTS

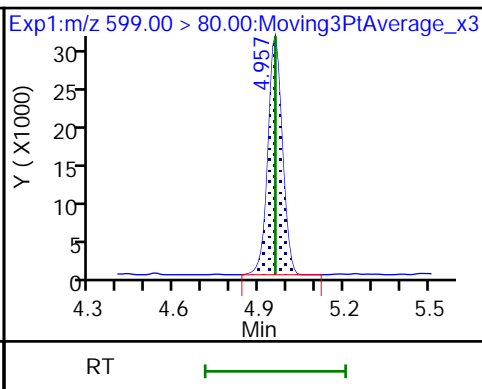
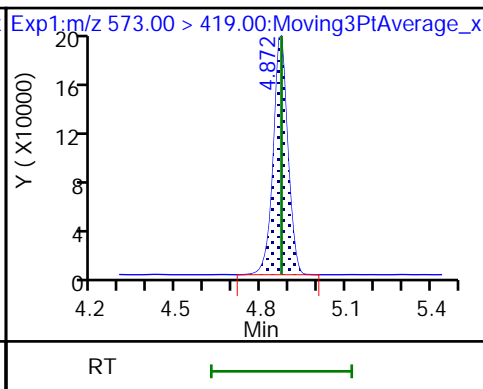
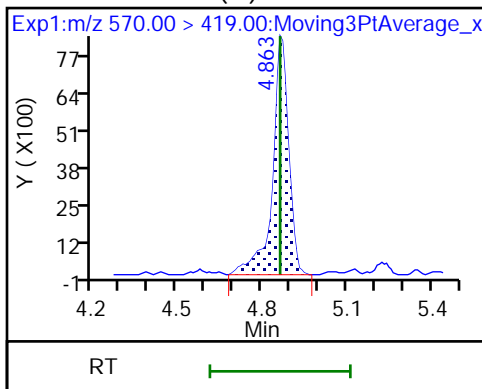
53 8:2 FTS



57 NMeFOSAA (M)

D 56 d3-NMeFOSAA

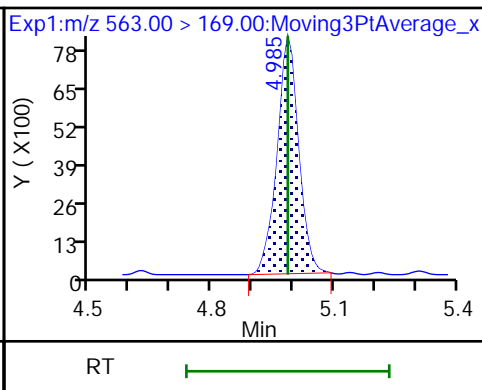
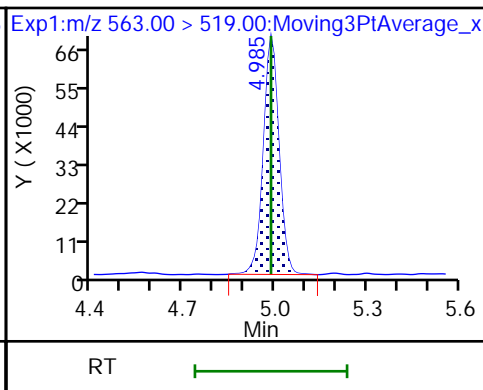
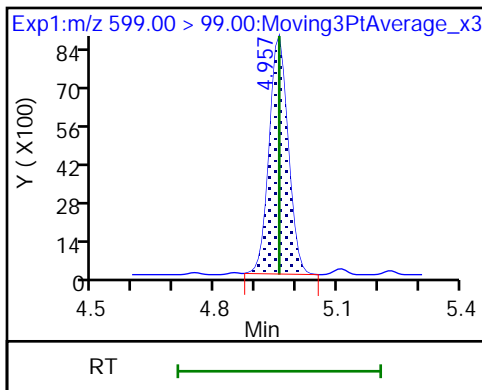
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

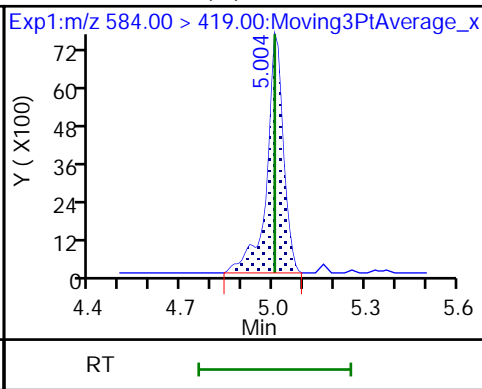
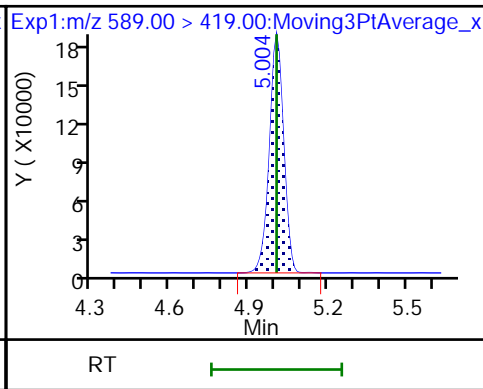
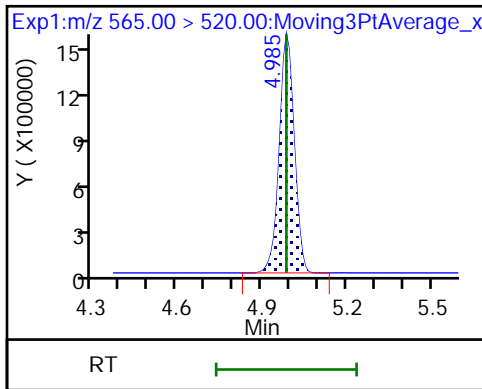
60 Perfluoroundecanoic acid

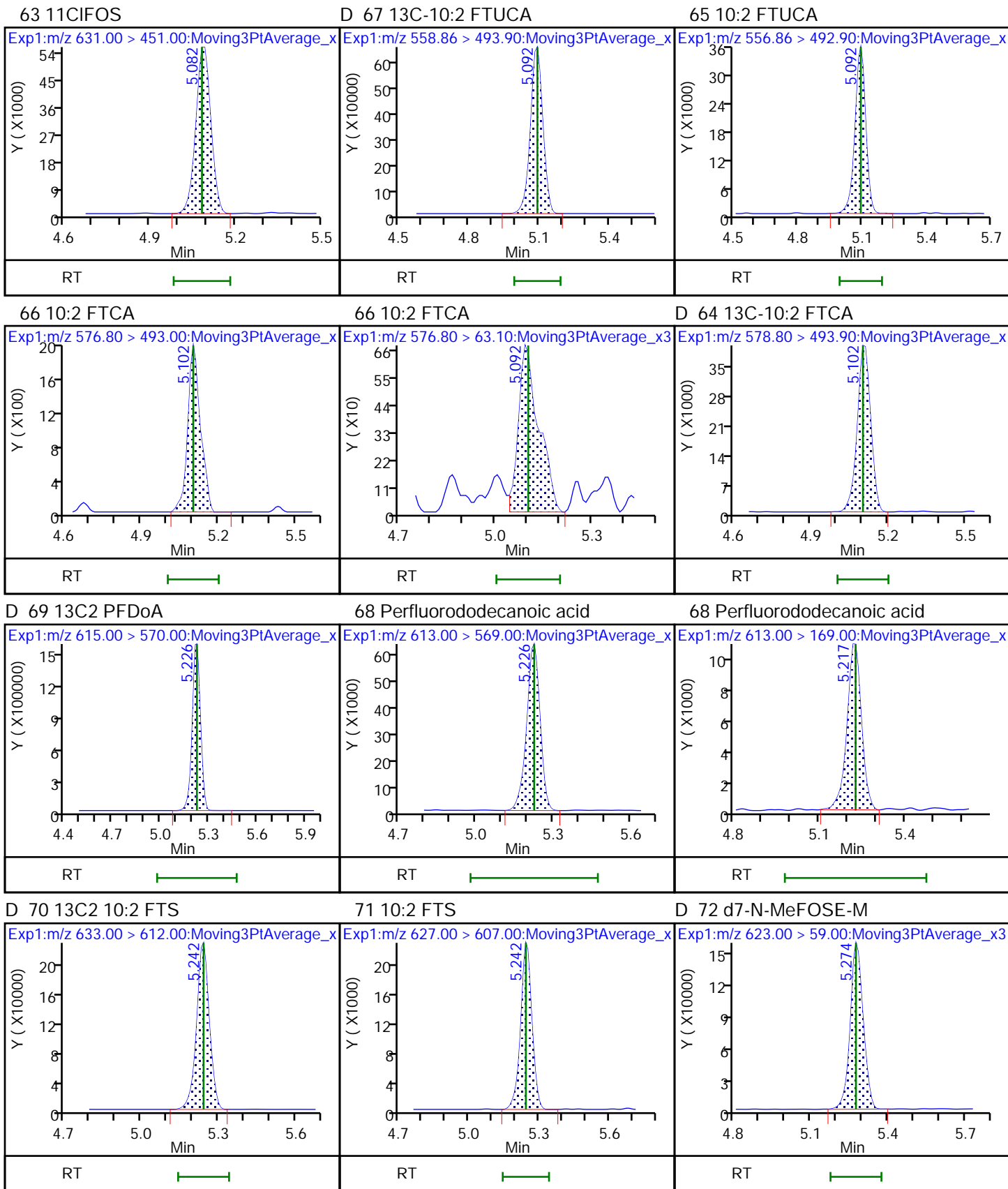


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)

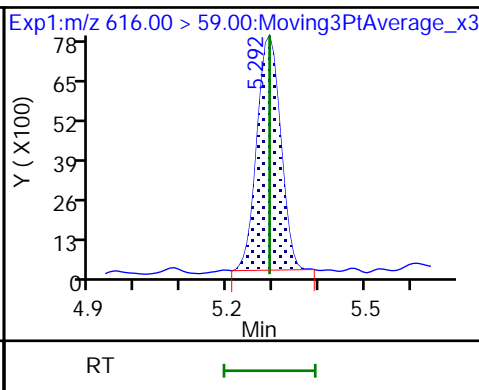
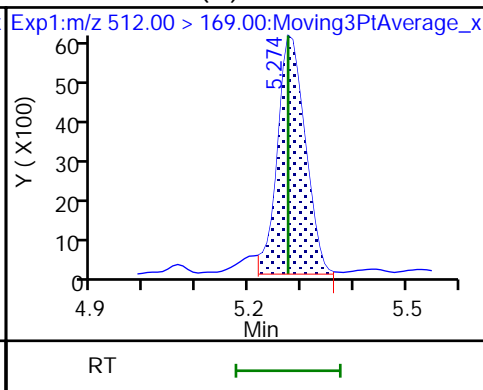
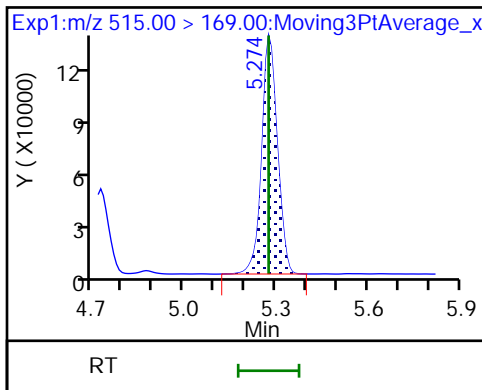




D 73 d-N-MeFOSA-M

74 NMeFOSA (M)

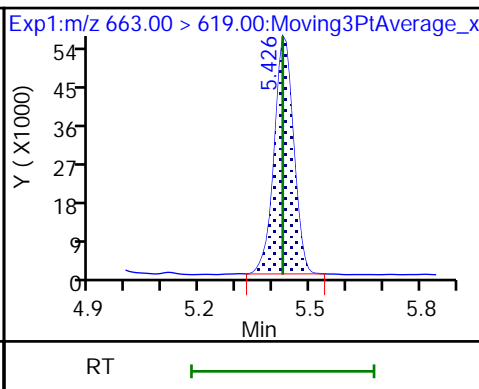
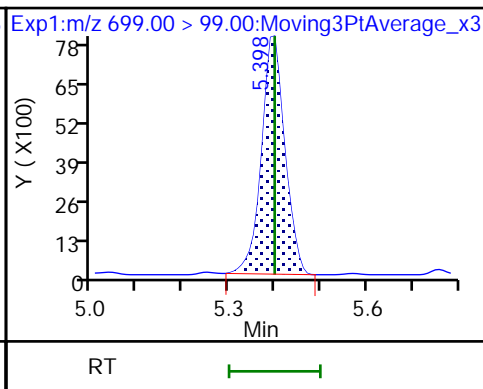
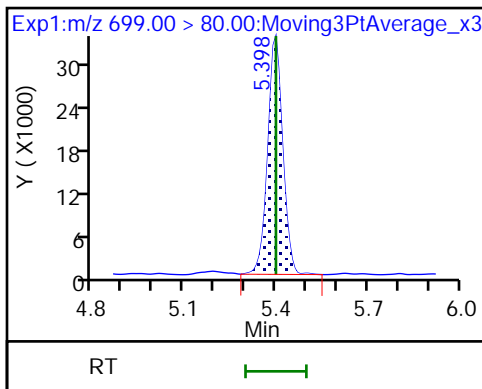
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

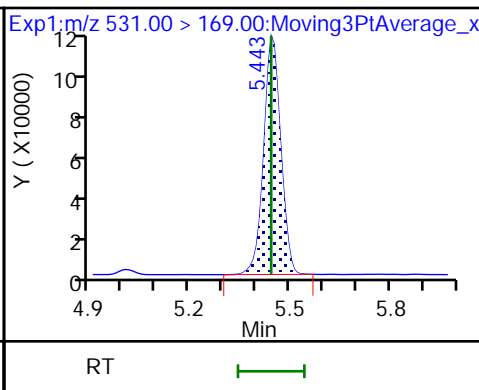
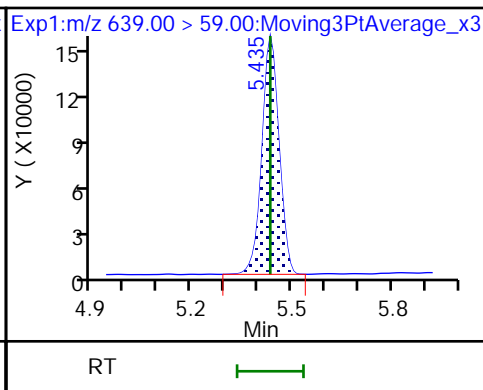
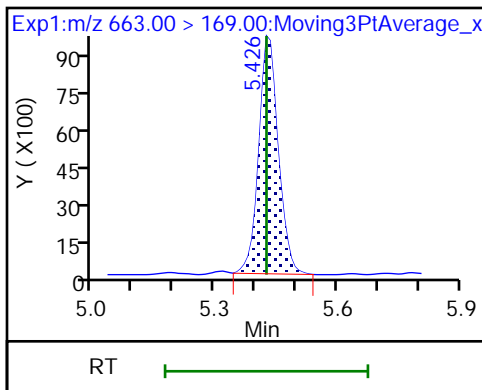
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSE-M

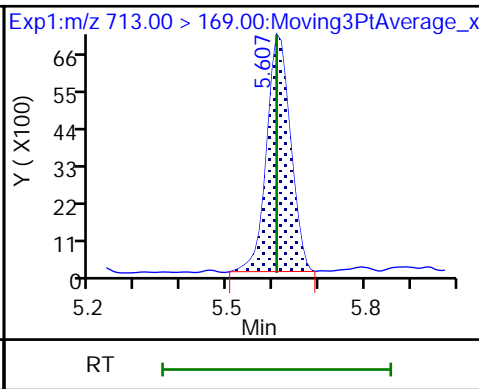
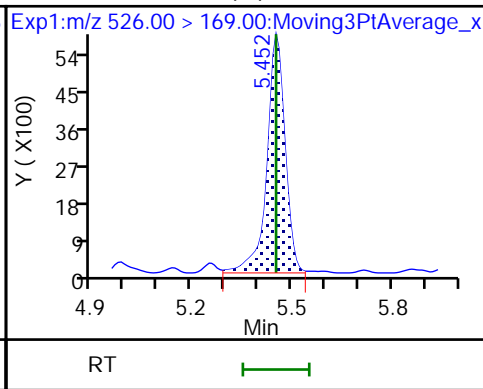
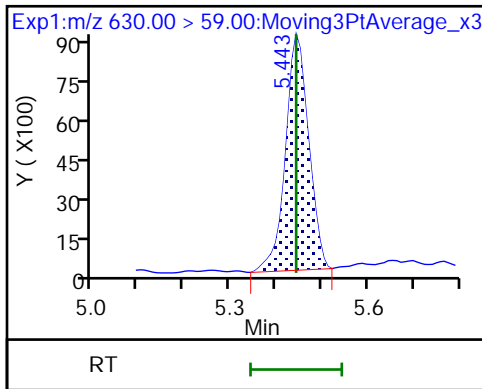
D 80 d-N-EtFOSA-M



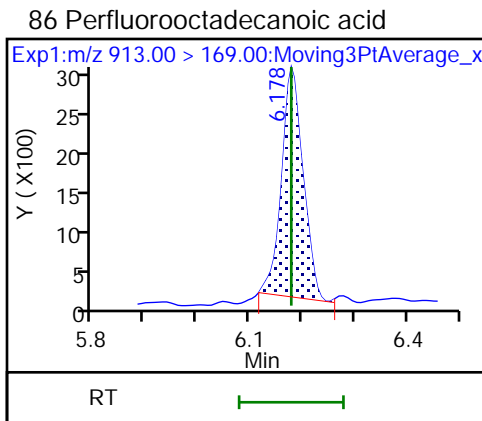
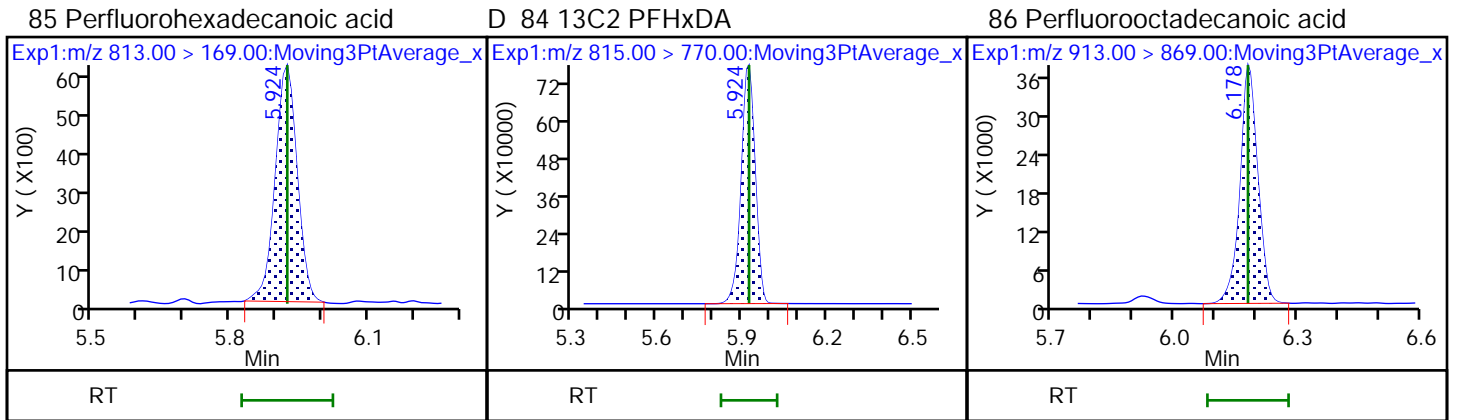
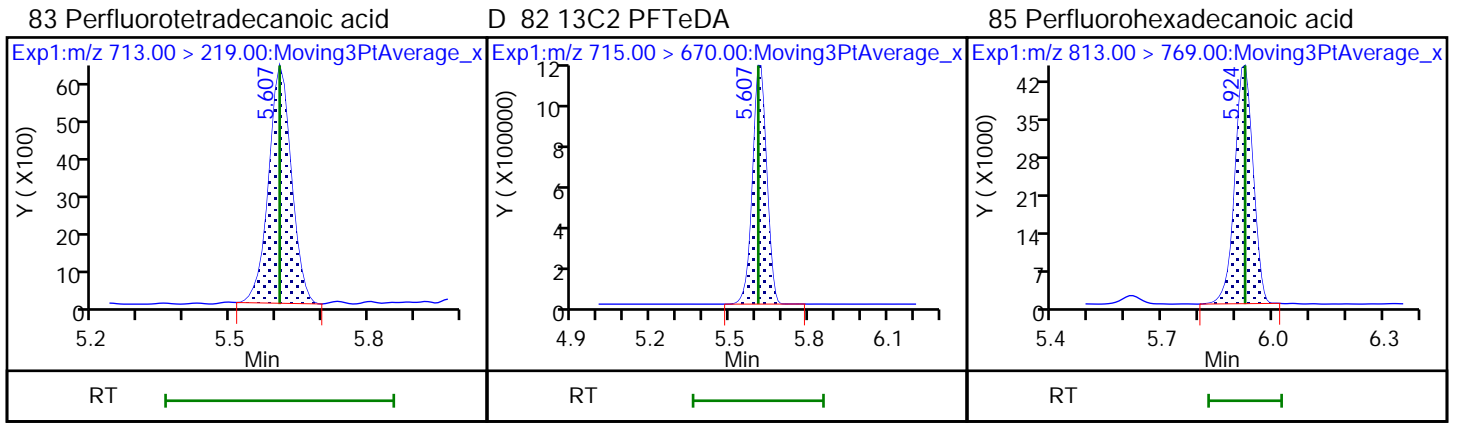
79 N-EtFOSE-M

81 N-EtFOSA-M (M)

83 Perfluorotetradecanoic acid







Eurofins Knoxville

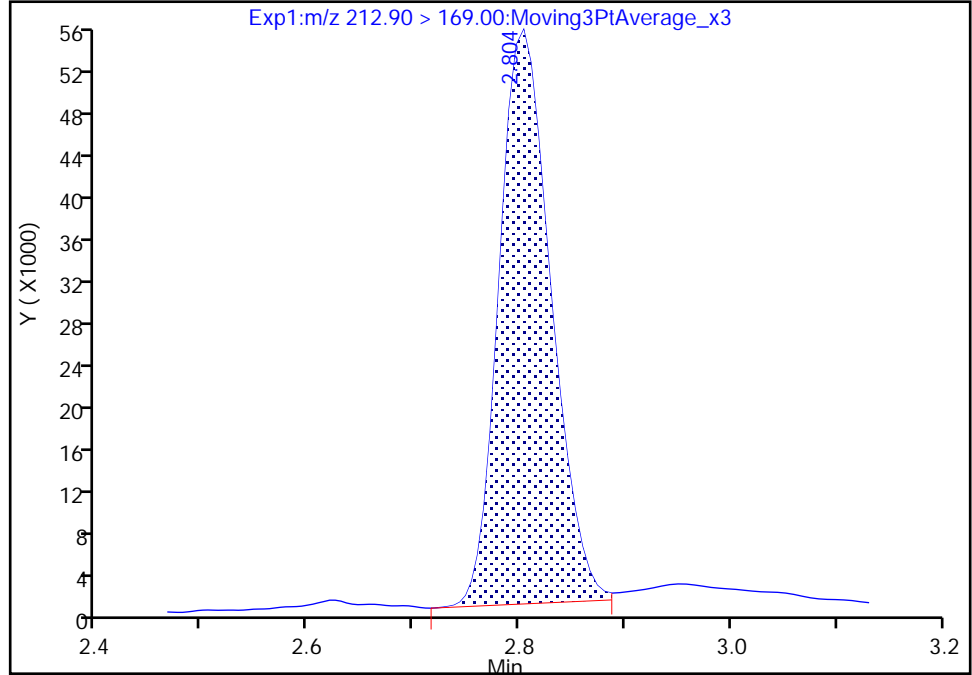
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

1 Perfluorobutanoic acid, CAS: 375-22-4

Signal: 1

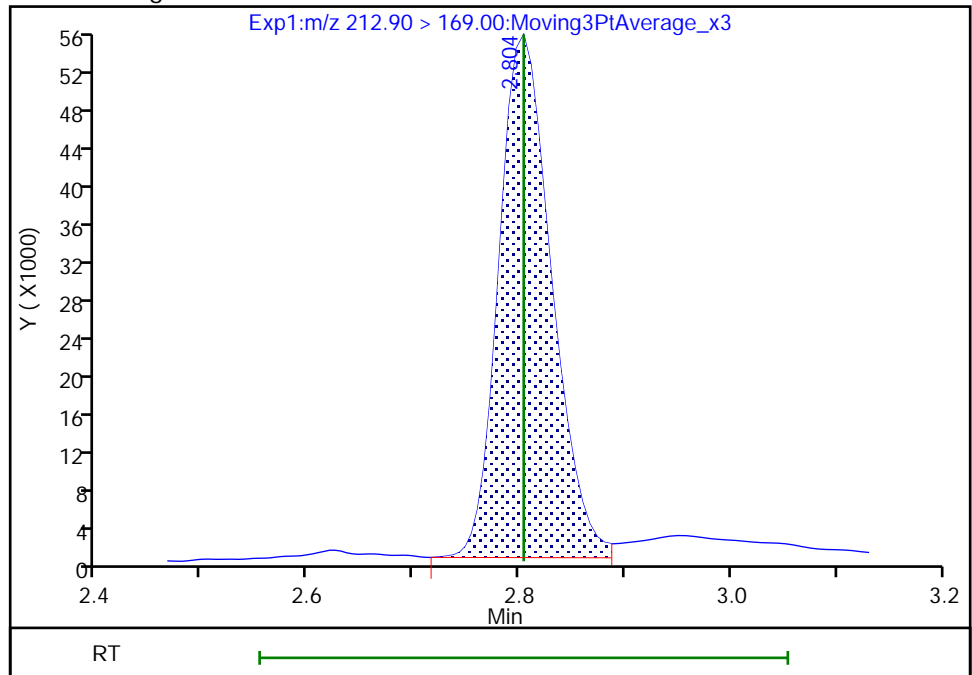
RT: 2.80  
Area: 185877  
Amount: 0.047731  
Amount Units: ng/ml

Processing Integration Results



RT: 2.80  
Area: 190065  
Amount: 0.048893  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:49:30  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

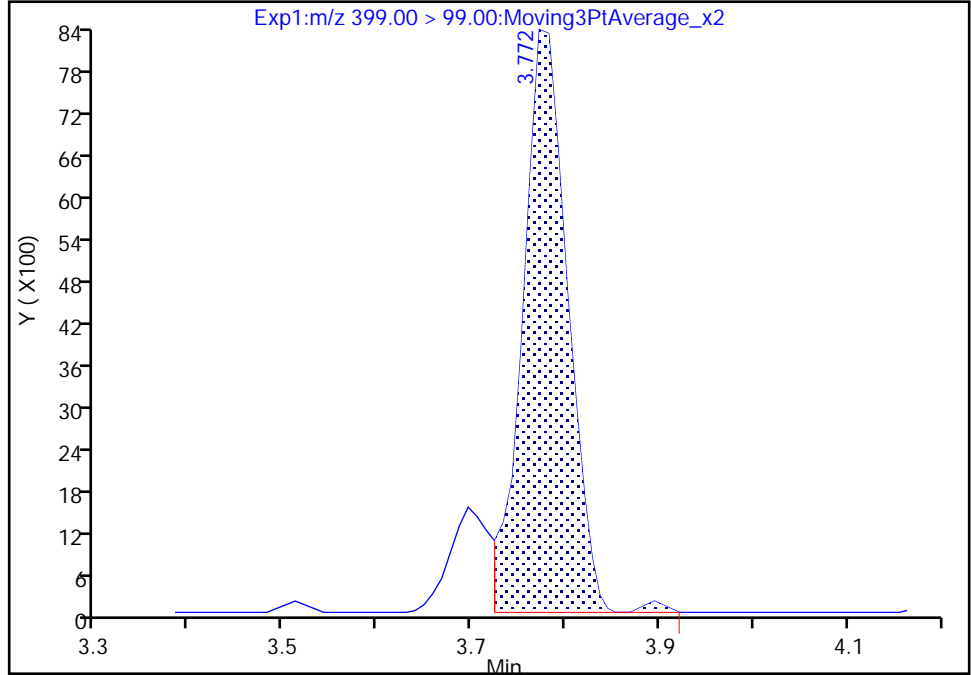
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 2

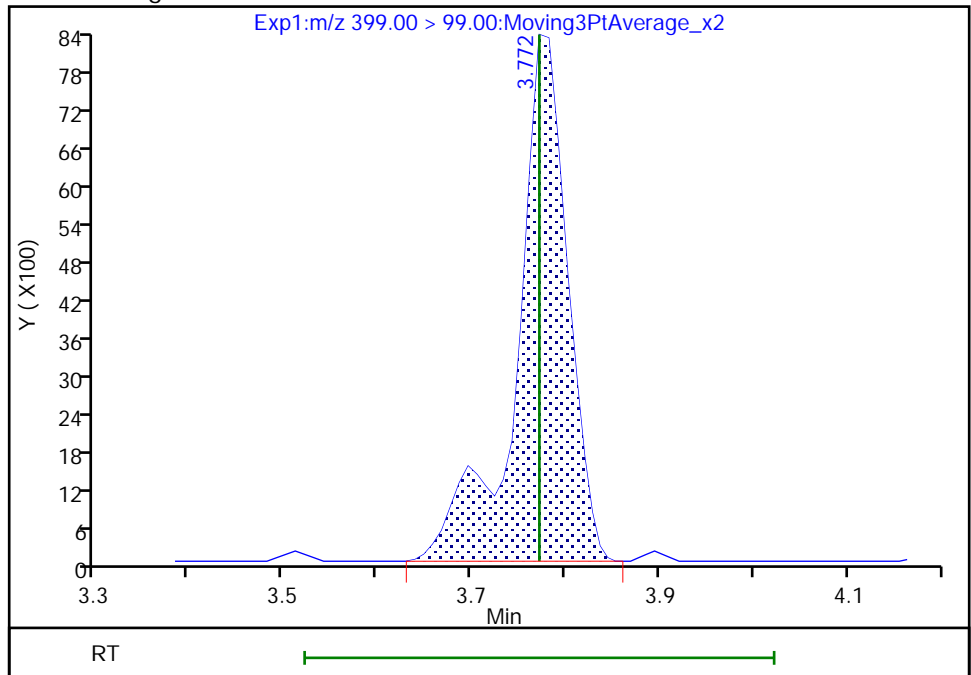
RT: 3.77  
Area: 27848  
Amount: 0.046852  
Amount Units: ng/ml

Processing Integration Results



RT: 3.77  
Area: 31881  
Amount: 0.046852  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:49:54  
Audit Action: Manually Integrated

Eurofins Knoxville

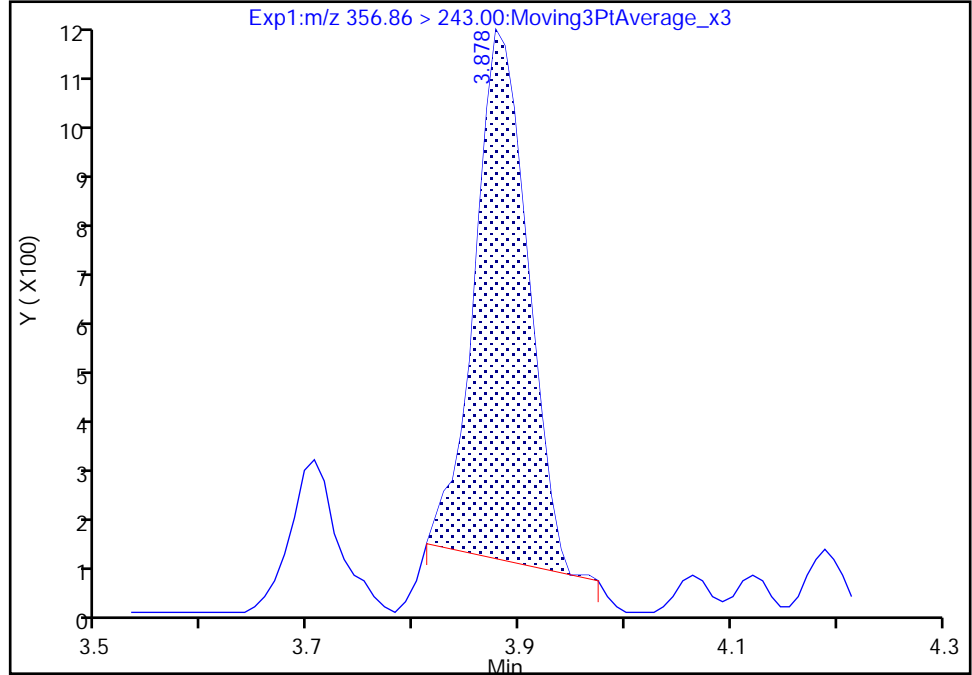
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

27 6:2 FTUCA, CAS: 70887-88-6

Signal: 2

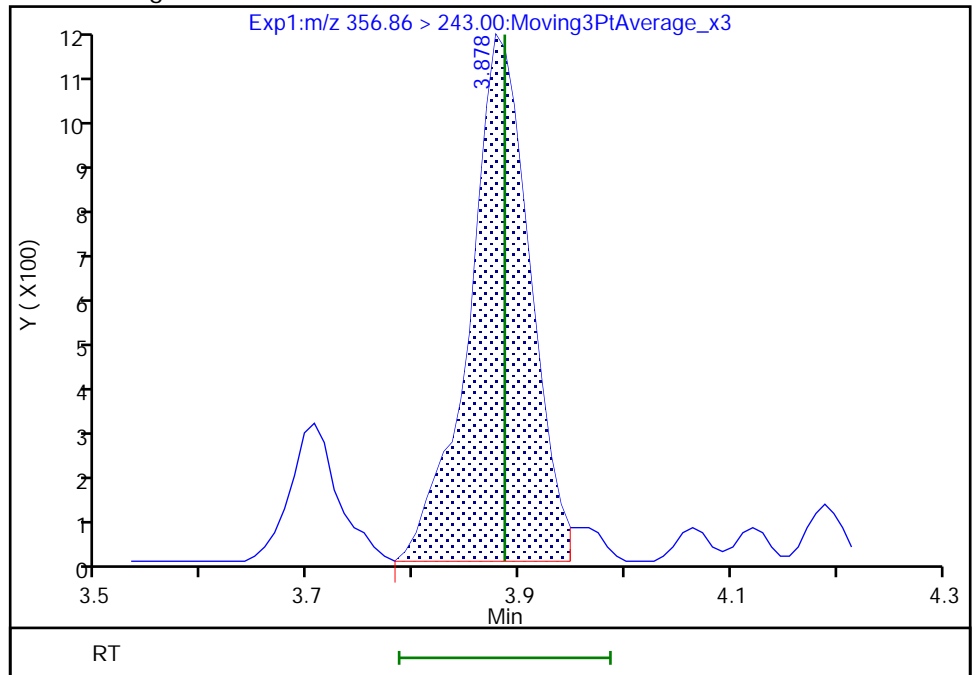
RT: 3.88  
Area: 3616  
Amount: 0.052428  
Amount Units: ng/ml

Processing Integration Results



RT: 3.88  
Area: 4552  
Amount: 0.052428  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:05  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

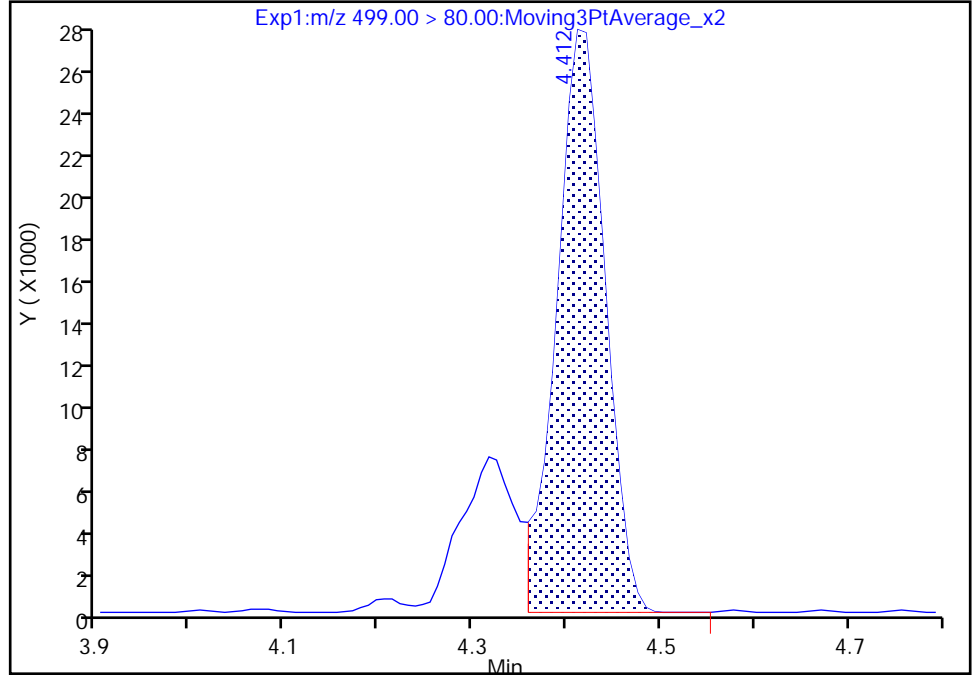
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

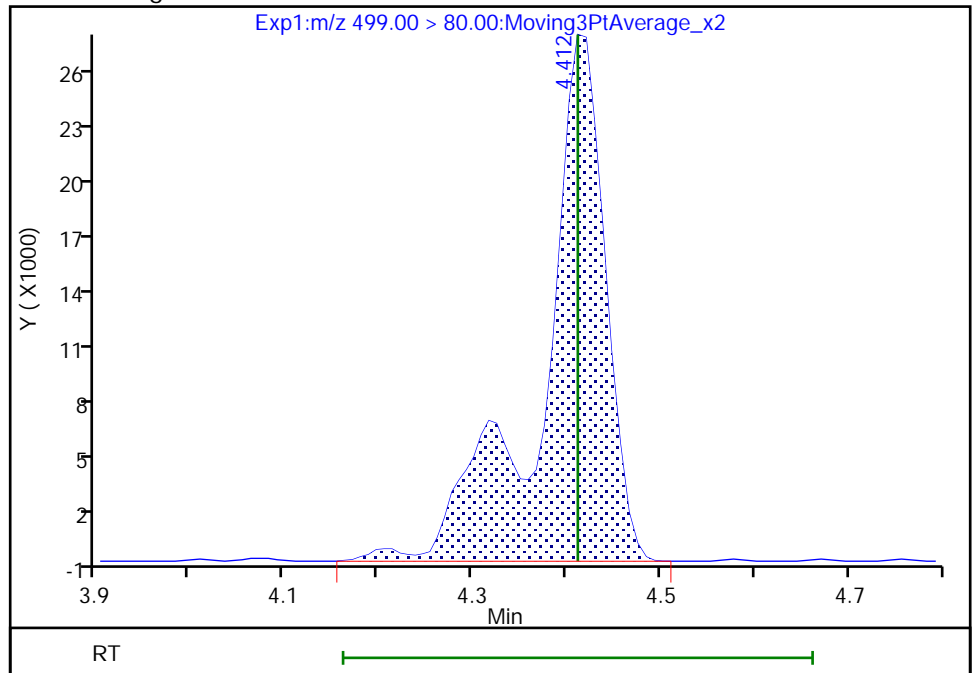
RT: 4.41  
Area: 97359  
Amount: 0.036378  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 128757  
Amount: 0.048109  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:21  
Audit Action: Manually Integrated

Eurofins Knoxville

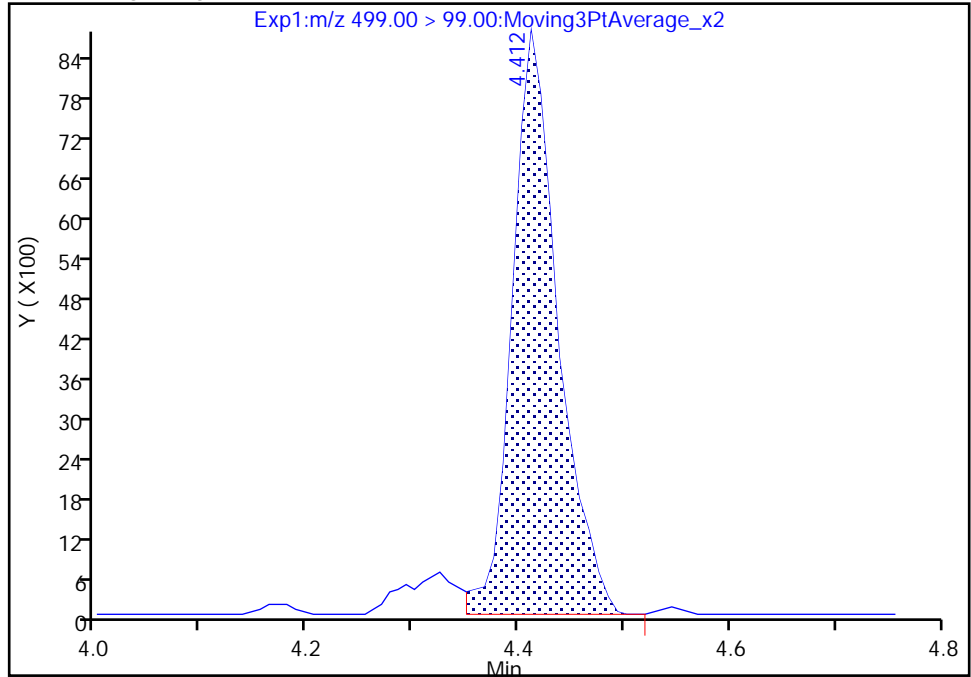
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

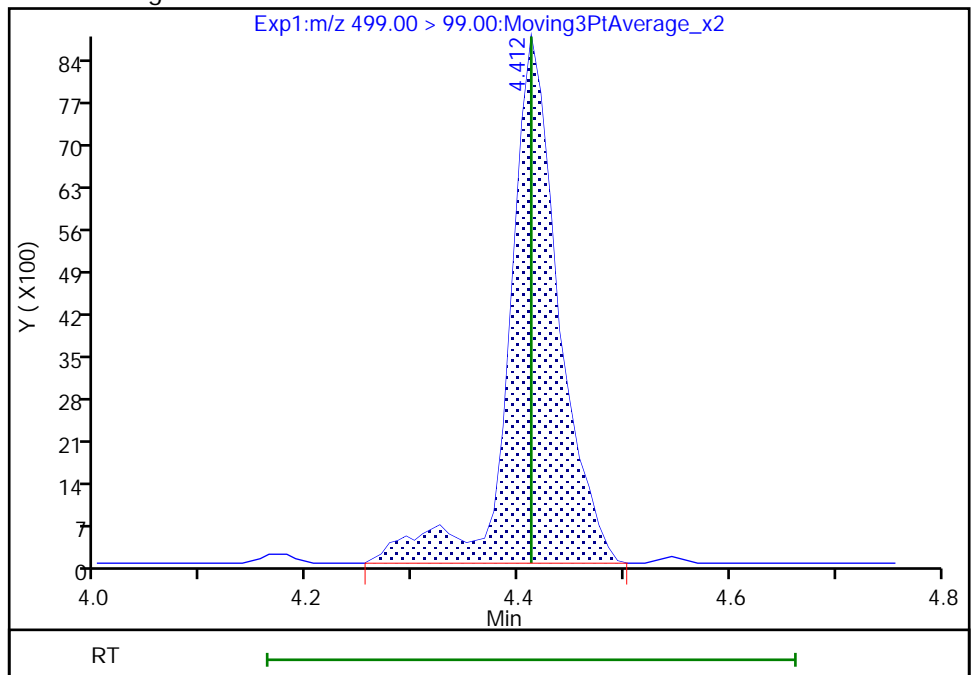
RT: 4.41  
Area: 26236  
Amount: 0.036378  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 28398  
Amount: 0.048109  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:27

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

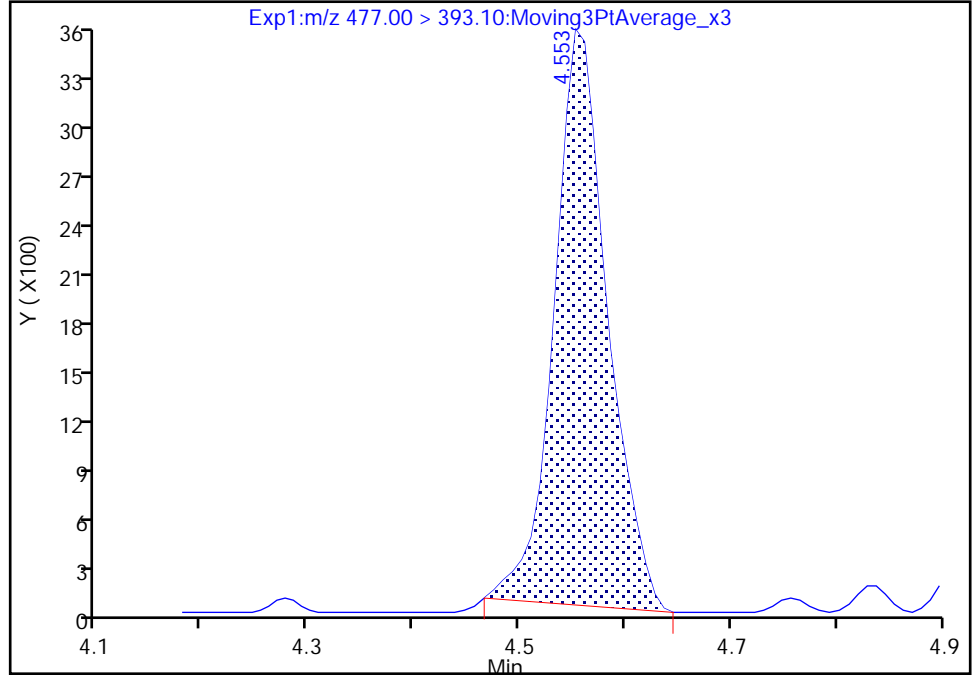
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 1

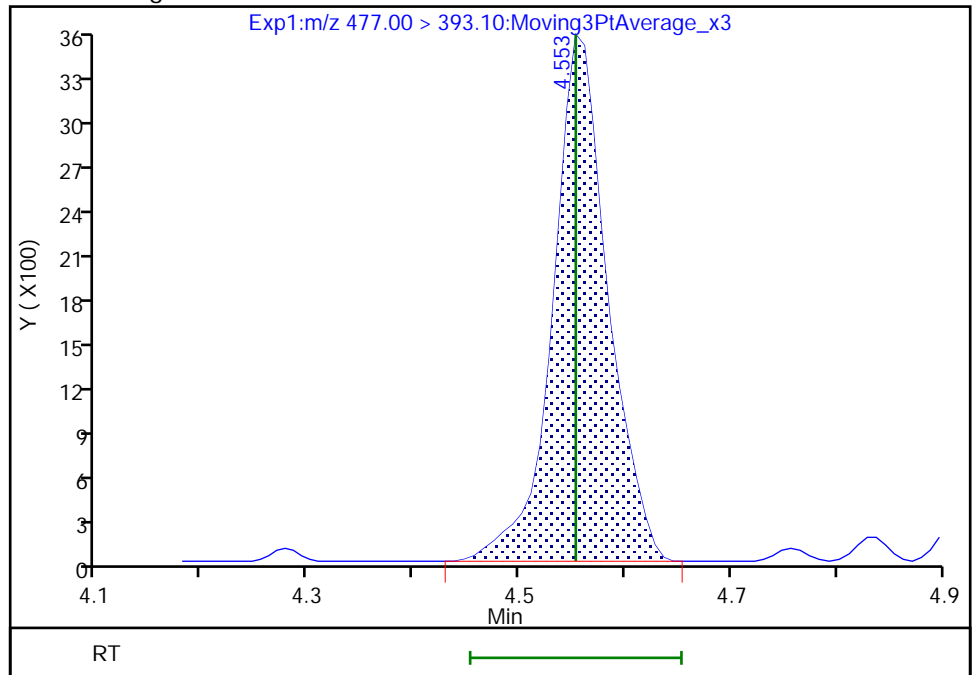
RT: 4.55  
Area: 12288  
Amount: 0.045086  
Amount Units: ng/ml

Processing Integration Results



RT: 4.55  
Area: 12807  
Amount: 0.046991  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:49  
Audit Action: Manually Integrated

Eurofins Knoxville

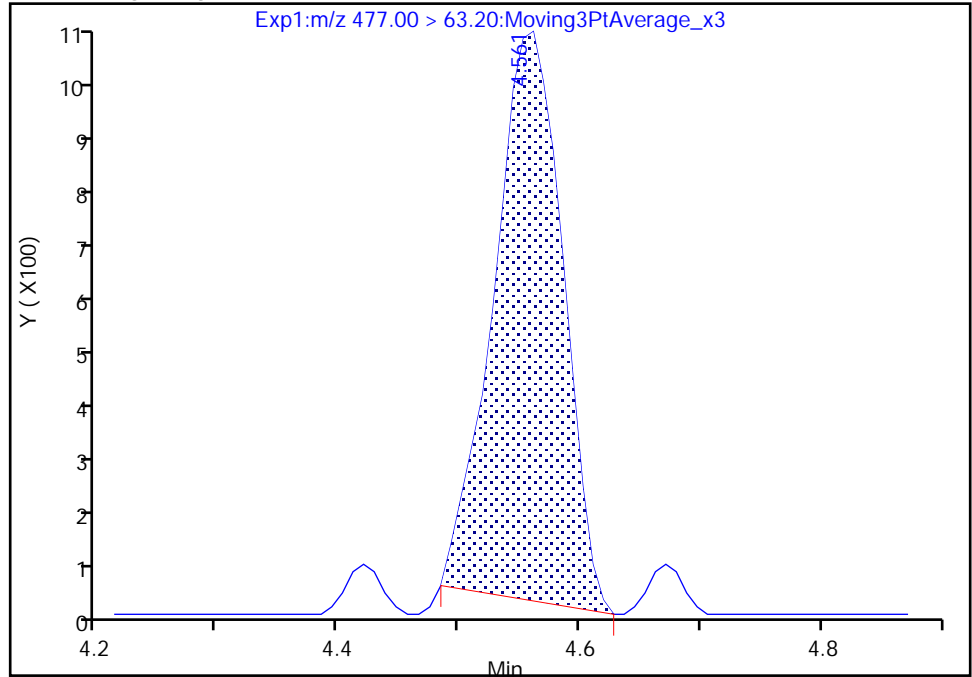
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

46 8:2 FTCA, CAS: 27854-31-5

Signal: 2

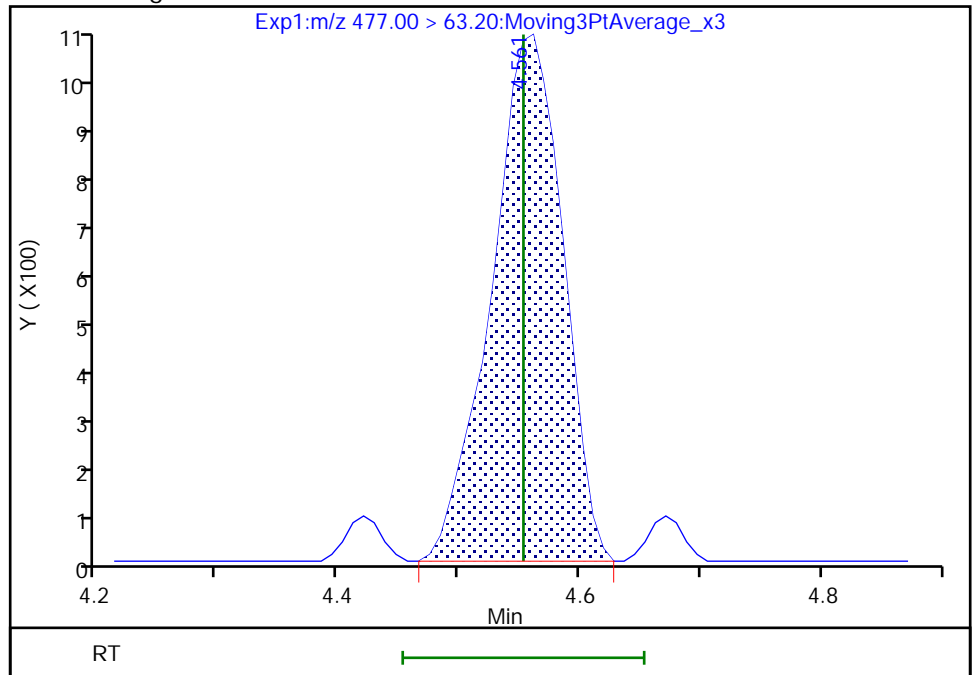
RT: 4.56  
Area: 3928  
Amount: 0.045086  
Amount Units: ng/ml

Processing Integration Results



RT: 4.56  
Area: 4163  
Amount: 0.046991  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:50:57

Audit Action: Manually Integrated

Audit Reason: Baseline  
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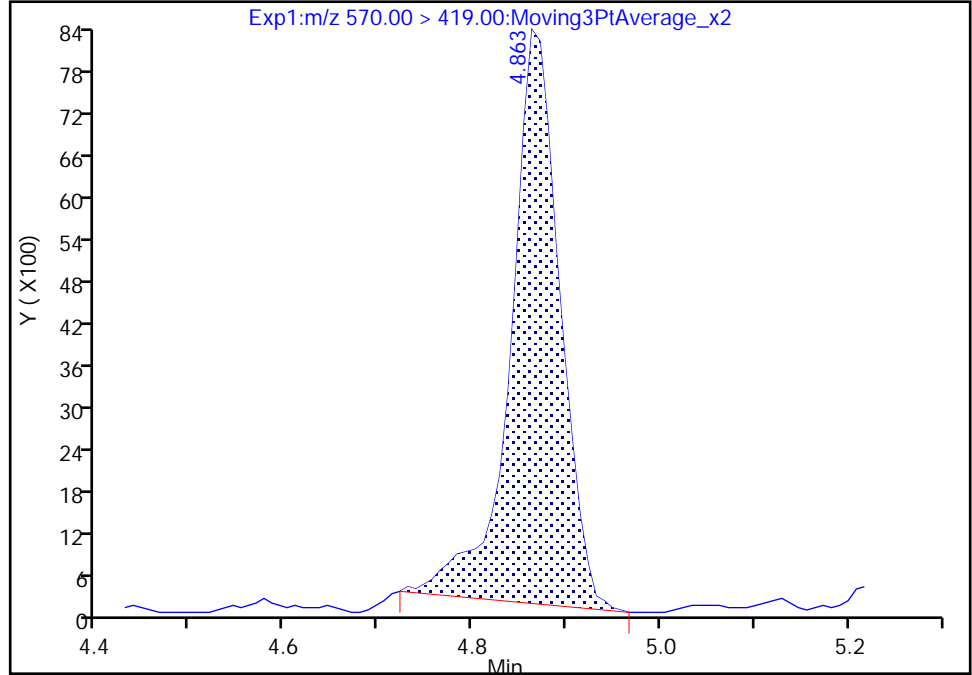
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

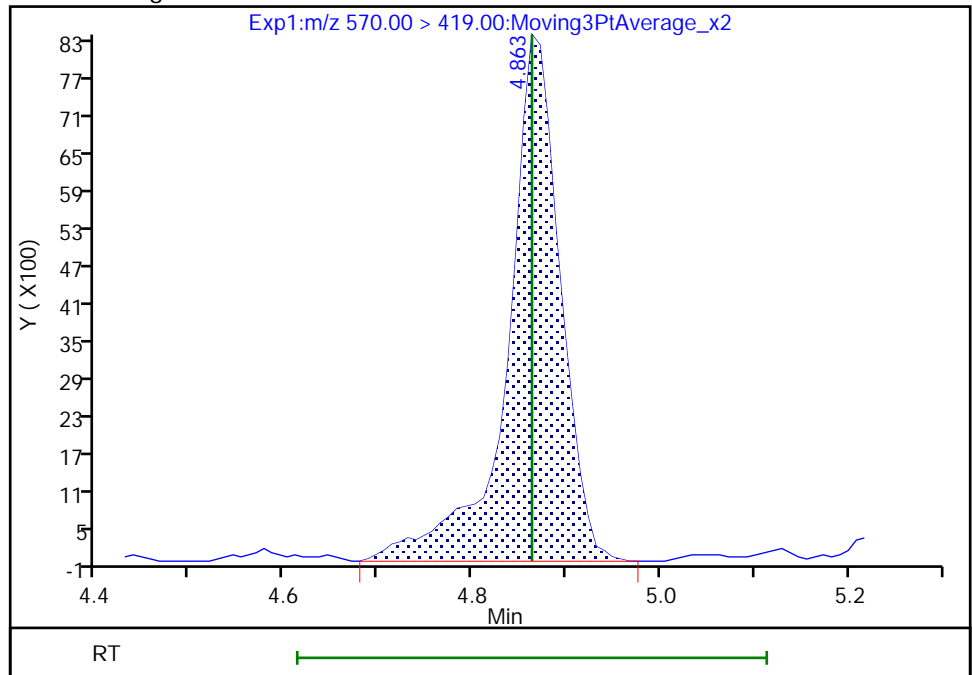
RT: 4.86  
Area: 30216  
Amount: 0.061541  
Amount Units: ng/ml

Processing Integration Results



RT: 4.86  
Area: 32822  
Amount: 0.066712  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:51:11  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

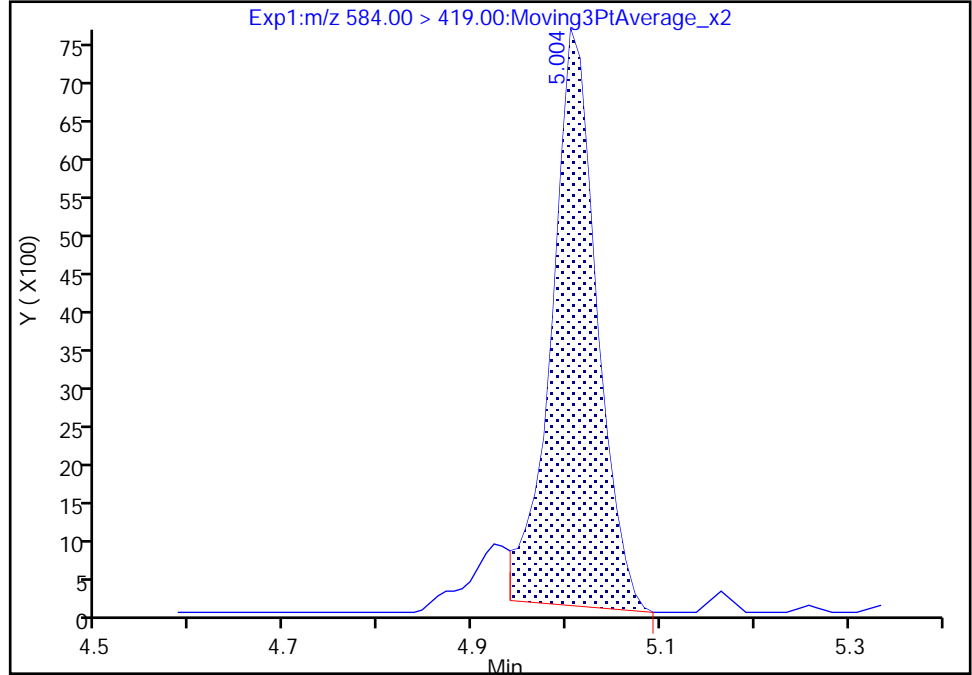
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

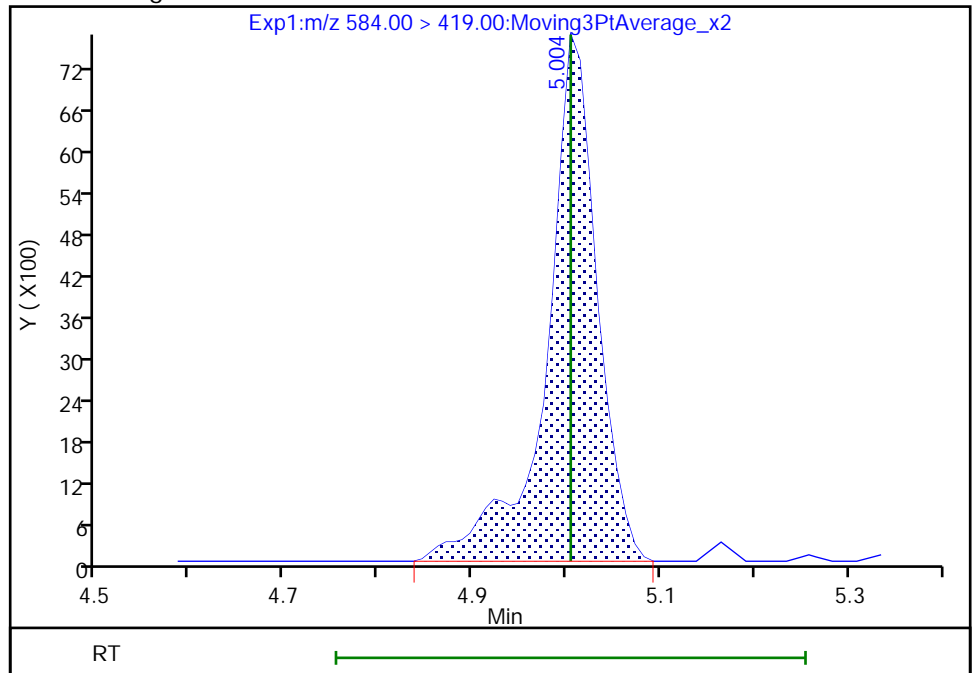
RT: 5.00  
Area: 25022  
Amount: 0.044010  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 28362  
Amount: 0.051234  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:51:24  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

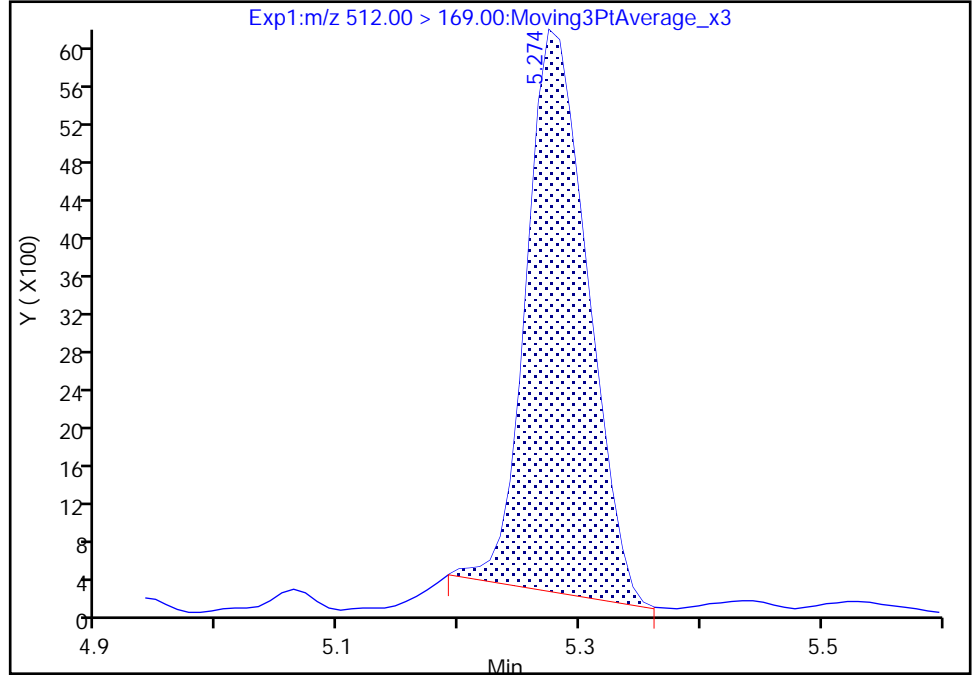
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

74 NMeFOSA, CAS: 31506-32-8

Signal: 1

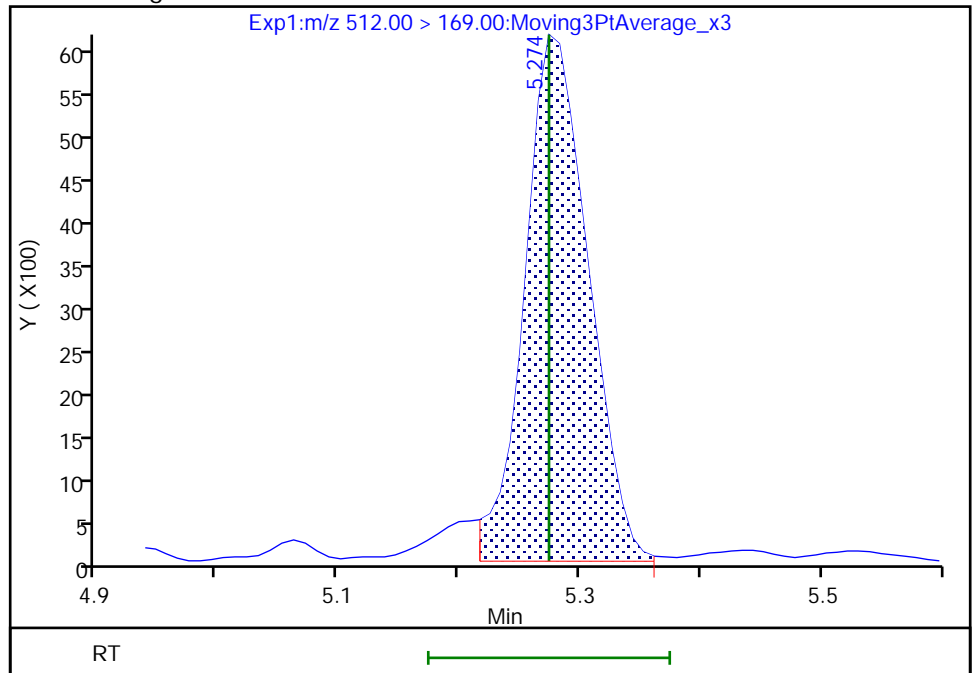
RT: 5.27  
Area: 20995  
Amount: 0.044940  
Amount Units: ng/ml

Processing Integration Results



RT: 5.27  
Area: 22549  
Amount: 0.048695  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:51:47  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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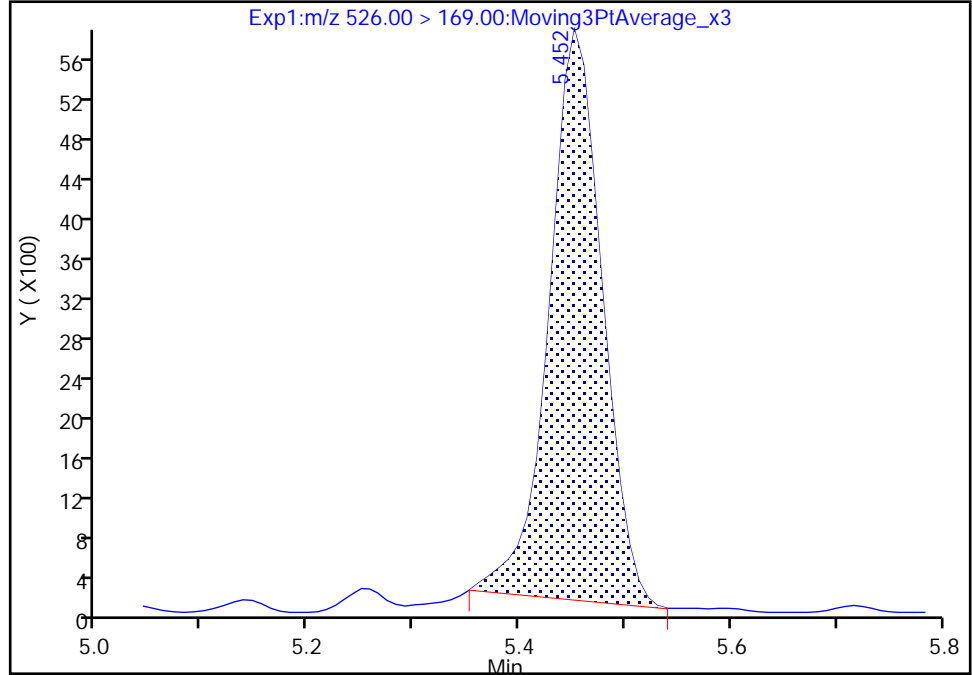
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_006.d  
Injection Date: 19-Feb-2022 18:34:56 Instrument ID: LCA  
Lims ID: CCVL  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 6 Worklist Smp#: 6  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

81 N-EtFOSA-M, CAS: 4151-50-2

Signal: 1

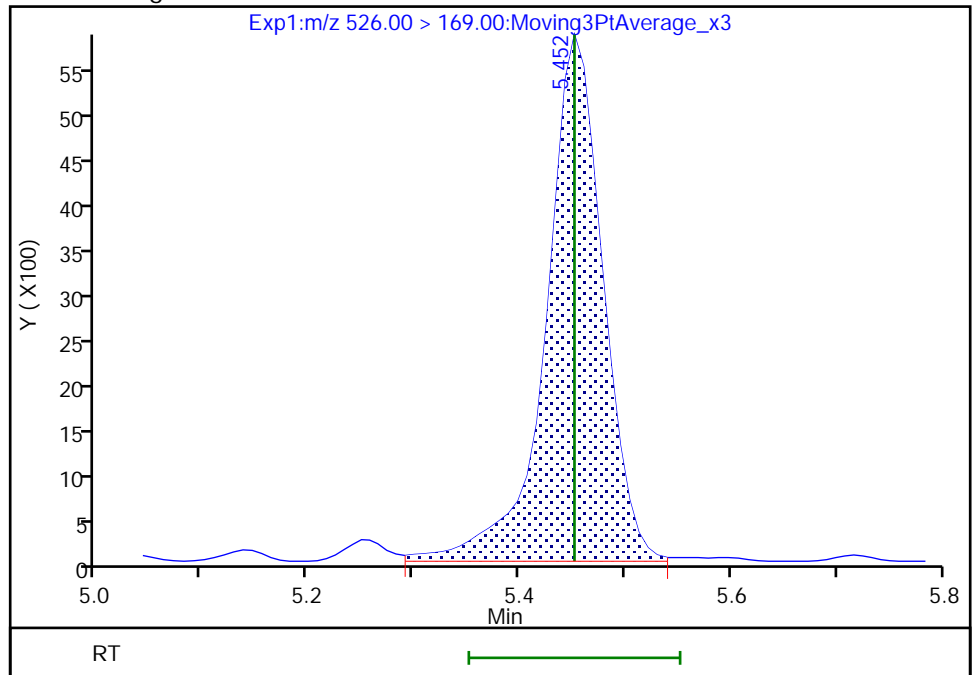
RT: 5.45  
Area: 20178  
Amount: 0.045787  
Amount Units: ng/ml

Processing Integration Results



RT: 5.45  
Area: 22048  
Amount: 0.050513  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:52:05  
Audit Action: Manually Integrated

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59059/7 Calibration Date: 02/19/2022 18:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_007.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7367		0.929	1.00	-7.1	40.0
PFECA F	AveID	0.7535	0.7235		0.960	1.00	-4.0	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9201		0.978	1.00	-2.2	40.0
3:3 FTCA	QuaIF		0.0544		0.999	1.00	-0.1	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.073		0.866	0.884	-2.0	40.0
PFECA A	Q2ID		1.160		0.990	1.00	-1.0	40.0
PES	Q2ID		2.313		0.869	0.890	-2.4	40.0
PFECA B	Q2ID		0.3815		0.924	1.00	-7.6	40.0
4:2 FTS	L2ID		2.134		0.876	0.934	-6.2	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7814		0.982	1.00	-1.8	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.042		0.947	0.938	1.0	40.0
HFPO-DA	L2ID		1.273		1.01	1.00	0.8	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.249		0.821	0.910	-9.8	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.005		1.00	1.00	0.3	40.0
DONA	AveID	2.644	2.296		0.818	0.942	-13.1	40.0
5:3 FTCA	L2ID		3.317		0.880	1.00	-12.1	40.0
6:2 FTUCA	AveID	1.046	1.034		0.988	1.00	-1.2	40.0
6:2 FTCA	L1ID		0.7179		1.03	1.00	3.4	40.0
PFECHS	AveID	0.7426	0.7025		0.872	0.922	-5.4	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.8804		0.849	0.952	-10.9	40.0
6:2 FTS	L2ID		1.731		0.897	0.948	-5.4	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.020		0.953	1.00	-4.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.047		0.849	0.928	-8.6	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7277		0.957	1.00	-4.3	40.0
7:3 FTCA	AveID	5.230	5.288		1.01	1.00	1.1	40.0
8:2 FTUCA	AveID	0.9565	0.9209		0.963	1.00	-3.7	40.0
8:2 FTCA	AveID	1.811	2.018		1.11	1.00	11.4	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.146		0.890	0.932	-4.6	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9450		0.897	0.960	-6.6	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9279		0.972	1.00	-2.8	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8660		0.963	1.00	-3.8	40.0
8:2 FTS	L2ID		1.455		0.926	0.958	-3.4	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8694		0.942	1.00	-5.9	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8629		0.934	0.964	-3.1	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59059/7 Calibration Date: 02/19/2022 18:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_007.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9175		0.949	1.00	-5.1	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9830		1.12	1.00	11.5	40.0
10:2 FTUCA	AveID	1.208	1.177		0.974	1.00	-2.6	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.725		0.933	0.942	-1.0	50.0
10:2 FTCA	Q2ID		0.9849		1.07	1.00	7.4	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9885		0.957	1.00	-4.3	40.0
10:2 FTS	L2ID		1.933		0.887	0.964	-7.9	50.0
NMeFOSA	L2ID		1.038		0.961	1.00	-3.9	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.106		0.942	1.00	-5.8	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.8686		0.889	0.968	-8.1	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8264		0.936	1.00	-6.4	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.256		0.885	1.00	-11.5	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.156		0.926	1.00	-7.5	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1263		0.979	1.00	-2.2	40.0
Perfluorohexadecanoic acid	L1ID		1.062		0.932	1.00	-6.8	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.8981		0.887	1.00	-11.3	40.0
13C4 PFBA	Ave	1.172	1.171		1.25	1.25	-0.0	50.0
13C5 PFPeA	Ave	0.9197	0.8665		1.18	1.25	-5.8	50.0
13C3 PFBS	Ave	0.5817	0.5723		1.14	1.16	-1.6	50.0
M2-4:2 FTS	Ave	0.1821	0.1801		1.16	1.17	-1.1	50.0
13C2 PFHxA	Ave	1.015	0.9578		1.18	1.25	-5.6	50.0
13C3 HFPO-DA	Ave	0.4963	0.4587		1.16	1.25	-7.6	50.0
18O2 PFHxS	Ave	0.3776	0.3979		1.25	1.18	5.4	50.0
13C4 PFHpA	Ave	0.9046	0.8544		1.18	1.25	-5.6	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3431		1.27	1.25	1.7	50.0
13C-6:2 FTCA	Ave	0.0260	0.0266		1.28	1.25	2.1	50.0
13C4 PFOA	Ave	0.9356	0.9378		1.25	1.25	0.2	50.0
M2-6:2 FTS	Ave	0.1799	0.1923		1.27	1.19	6.9	50.0
13C4 PFOS	Ave	0.5610	0.5923		1.26	1.20	5.6	50.0
13C5 PFNA	Ave	1.268	1.264		1.25	1.25	-0.4	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5084		1.41	1.25	12.5	50.0
13C-8:2 FTCA	Ave	0.0330	0.0339		1.28	1.25	2.4	50.0
13C8 FOSA	Ave	0.8475	0.8944		1.32	1.25	5.5	50.0
13C2 PFDA	Ave	1.210	1.241		1.28	1.25	2.6	50.0
M2-8:2 FTS	Ave	0.1961	0.2018		1.23	1.20	2.9	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 140-59059/7 Calibration Date: 02/19/2022 18:43  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_007.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1491		1.64	1.25	31.4	50.0
13C2 PFUnA	Ave	1.168	1.147		1.23	1.25	-1.7	50.0
d5-NEtFOSAA	Ave	0.1164	0.1333		1.43	1.25	14.5	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5044		1.24	1.25	-0.7	50.0
13C-10:2 FTCA	Ave	0.0309	0.0282		1.14	1.25	-8.9	50.0
13C2 PFDoA	Ave	1.152	1.124		1.22	1.25	-2.5	50.0
13C2 10:2 FTS	Ave	0.1652	0.1696		1.22	1.18	2.7	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1106		1.17	1.25	-6.7	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0974		1.21	1.25	-3.5	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1146		1.16	1.25	-6.9	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0804		1.24	1.25	-0.6	50.0
13C2 PFTeDA	Ave	0.9216	0.8673		1.18	1.25	-5.9	50.0
13C2 PFHxDA	Ave	0.5997	0.5591		1.17	1.25	-6.8	50.0
13C8 PFOA	AveID	0.9229	0.8863		1.20	1.25	-4.0	50.0
13C8 PFOS	AveID	0.2212	0.2146		1.16	1.20	-3.0	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_007.d  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 19-Feb-2022 18:43:45 ALS Bottle#: 7 Worklist Smp#: 7  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-007 ccvis  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:40 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 18:55:40

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 2 13C4 PFBA	217.00 > 172.00	2.804	2.804	0.0	0.680	6298236	1.25	99.9	31405	
1 Perfluorobutanoic acid	212.90 > 169.00	2.804	2.804	0.0	1.000	3712089	0.9288	92.9	1392	
3 PFECA F	229.00 > 85.00	2.911	2.911	0.0	0.935	2696838	0.9601	96.0	14959	
D 5 13C5 PFPeA	267.90 > 223.00	3.115	3.115	0.0	0.756	4659599	1.18	94.2	18798	
6 Perfluoropentanoic acid	262.90 > 219.00	3.115	3.115	0.0	1.000	3429739	0.9783	97.8	1491	
D 7 13C3 PFBS	301.90 > 80.00	3.122	3.122	0.0	0.758	2861909	1.14	98.4	9835	
4 3:3 FTCA	241.00 > 177.10	3.122	3.122	0.0	1.000	133850	1.00	Target=1.13	99.9	1026
	241.00 > 116.90	3.122	3.122	0.0	1.000	106586	1.26(0.56-1.69)			164
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.131	3.131	0.0	1.003	2336067	0.8659	Target=2.61	98.0	3347
	298.90 > 99.00	3.131	3.131	0.0	1.003	881398	2.65(1.31-3.92)			2844
9 PFECA A	278.95 > 84.90	3.202	3.202	0.0	1.028	4325082	0.9897		99.0	18070
11 PES	314.80 > 135.00	3.260	3.260	0.0	1.044	5068871	0.8691		97.6	22782
12 PFECA B	295.22 > 201.00	3.373	3.373	0.0	0.982	1571935	0.9239		92.4	7652
D 18 M2-4:2 FTS	329.00 > 81.00	3.415	3.415	0.0	0.829	904548	1.15		98.9	1696



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00	3.415	3.415	0.0	1.000	1543942	0.8763		93.8	7767	
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.437	0.0	0.834	5150810	1.18		94.4	12705	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.437	3.437	0.0	1.101	2407299	0.9472	Target=3.55	101	6896	
349.00 > 99.00	3.437	3.437	0.0	1.101	690578		3.49(1.78-5.33)		5117	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.437	0.0	1.000	3220013	0.9823	Target=11.60	98.2	1621	
313.00 > 119.00	3.437	3.437	0.0	1.000	275698		11.68(5.80-17.40)		247	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.542	0.0	0.860	2466641	1.16		92.4	7418	
17 HFPO-DA										
285.00 > 169.00	3.542	3.542	0.0	1.000	2512173	1.01	Target=2.45	101	594	
329.00 > 169.00	3.542	3.542	0.0	1.000	1002369		2.51(1.23-3.68)		592	
D 20 18O2 PFHxS										
403.00 > 84.00	3.772	3.772	0.0	0.915	2024014	1.25		105	5550	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.772	3.772	0.0	1.000	1946103	0.8209	Target=3.44	90.2	4614	M
399.00 > 99.00	3.772	3.772	0.0	1.000	588194		3.31(1.72-5.17)		2697	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.792	0.0	0.920	4594303	1.18		94.4	11124	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.792	0.0	1.000	3694620	1.00	Target=3.25	100	2926	
363.00 > 169.00	3.792	3.792	0.0	1.000	1176143		3.14(1.62-4.87)		1857	
25 DONA										
377.00 > 251.00	3.820	3.820	0.0	0.866	5511012	0.8181	Target=1.74	86.9	18007	
377.00 > 85.00	3.820	3.820	0.0	0.866	3094907		1.78(0.87-2.61)		104	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	379217	0.8795	Target=1.11	87.9	1345	
340.88 > 216.90	3.853	3.853	0.0	0.987	345845		1.10(0.56-1.67)		739	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.886	0.0	0.943	1845248	1.27		102	4231	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.886	0.0	1.000	1526295	0.9881	Target=13.05	98.8	4660	
356.86 > 243.00	3.886	3.886	0.0	1.000	108731		14.04(6.52-19.57)		604	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.903	0.0	0.947	142928	1.28		102	793	
29 6:2 FTCA										
377.10 > 63.00	3.903	3.903	0.0	1.000	82084	1.03	Target=1.29	103	353	
377.10 > 313.10	3.903	3.903	0.0	1.000	61727		1.33(0.65-1.94)		90.4	
32 PFECBS										
460.80 > 380.90	4.054	4.054	0.0	0.984	2613087	0.8722	Target=1.75	94.6	5877	
460.80 > 98.90	4.054	4.054	0.0	0.984	1584726		1.65(0.87-2.62)		3815	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.111	4.111	0.0	0.932	2135774	0.8487	Target=3.72	89.1	6023	
449.00 > 99.00	4.111	4.111	0.0	0.932	556411		3.84(1.86-5.57)		2740	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	1.000	982552	1.27		107	2625	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.121	0.0	1.000	5043064	1.25		100	11291	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	1.000	4469517	1.20		96.0	7460	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		5377493	1.25			11243	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.121	0.0	1.000	4114611	0.9527	Target=2.51	95.3	2894	
413.00 > 169.00	4.121	4.121	0.0	1.000	1686188		2.44(1.26-3.77)		3412	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	1357982	0.8971		94.6	4541	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.412	0.0	1.071	3044992	1.26		106	3350	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.412	4.412	0.0	1.000	653576	1.16		97.0	1894	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.412	4.412	0.0	1.000	2475991	0.8485	Target=4.30	91.4	2250	M
499.00 > 99.00	4.412	4.412	0.0	1.000	568244		4.36(2.15-6.45)		1526	M
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.438	0.0	1.077	6796647	1.25		99.6	15393	
42 Perfluorononanoic acid										
463.00 > 419.00	4.438	4.438	0.0	1.000	3956498	0.9567	Target=3.60	95.7	4704	
463.00 > 169.00	4.438	4.438	0.0	1.000	1004215		3.94(1.80-5.40)		2744	
43 7:3 FTCA										
441.00 > 337.00	4.519	4.519	0.0	0.993	770071	1.01	Target=1.42	101	1890	
441.00 > 317.00	4.519	4.519	0.0	0.993	573131		1.34(0.71-2.13)		1487	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.545	0.0	1.000	2734046	1.41		112	10287	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	2014297	0.9629	Target=35.37	96.3	5292	
456.86 > 343.00	4.545	4.545	0.0	1.000	61755		32.62(17.68-53.05)		151	
46 8:2 FTCA										
477.00 > 393.10	4.561	4.561	0.0	1.002	293863	1.11	Target=3.35	111	1255	
477.00 > 63.20	4.561	4.561	0.0	1.002	80022		3.67(1.68-5.03)		380	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.553	0.0	1.105	182038	1.28		102	755	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.111	5095631	0.8895		95.4	6666	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	2311622	0.8970	Target=3.99	93.4	4582	
549.00 > 99.00	4.697	4.697	0.0	1.065	593601		3.89(2.00-5.99)		1795	
D 55 13C8 FOSA										
506.00 > 78.00	4.705	4.705	0.0	1.142	4809529	1.32		106	4985	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.705	4.705	0.0	1.000	3570018	0.9716		97.2	5496	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 52 13C2 PFDA										
515.00 > 470.00	4.722	4.722	0.0	1.146	6672611	1.28		103	13098	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.722	4.722	0.0	1.000	4622966	0.9625	Target=10.58	96.3	3033	
513.00 > 169.00	4.722	4.722	0.0	1.000	400408		11.55(5.29-15.88)		314	
53 8:2 FTS										
527.00 > 507.00	4.739	4.739	0.0	1.002	1210501	0.9258		96.6	4566	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.731	0.0	1.148	1039725	1.23		103	2313	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.872	0.0	1.000	557581	0.9415		94.1	618	M
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.182	801710	1.64		131	452	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.124	2119568	0.9338	Target=3.55	96.9	5935	
599.00 > 99.00	4.957	4.957	0.0	1.124	605591		3.50(1.78-5.33)		2825	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.985	4.985	0.0	1.000	4529211	0.9488	Target=8.26	94.9	6048	
563.00 > 169.00	4.985	4.985	0.0	1.000	561415		8.07(4.13-12.39)		2212	
D 59 13C2 PFUnA										
565.00 > 520.00	4.985	4.985	0.0	1.210	6170305	1.23		98.3	14501	
62 NEtFOSAA										
584.00 > 419.00	5.005	5.005	0.0	1.000	563506	1.12		112	829	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.215	716560	1.43		114	2592	
63 11C1FOS										
631.00 > 451.00	5.092	5.092	0.0	1.154	4141488	0.9330		99.0	8123	
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.092	0.0	1.000	2554079	0.9743		97.4	8204	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.092	0.0	1.236	2712588	1.24		99.3	6888	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.102	0.0	0.998	119371	1.07	Target=2.53	107	459	
576.80 > 63.10	5.111	5.102	0.009	1.000	44024		2.71(1.26-3.79)		156	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.111	5.111	0.0	1.240	151503	1.14		91.1	805	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	4780357	0.9569	Target=6.85	95.7	4080	
613.00 > 169.00	5.226	5.226	0.0	1.000	655913		7.29(3.43-10.28)		1647	
D 69 13C2 PFDa										
615.00 > 570.00	5.226	5.226	0.0	1.268	6045115	1.22		97.5	16644	
71 10:2 FTS										
627.00 > 607.00	5.251	5.251	0.0	1.002	1359186	0.8874		92.1	4562	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.272	863633	1.22		103	5526	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.275	0.0	1.280	594899	1.17		93.3	589	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.283	5.283	0.0	1.282	523864	1.21		96.5	44.2	
74 NMeFOSA										
512.00 > 169.00	5.283	5.283	0.0	1.000	434853	0.9608		96.1	649	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.003	526248	0.9421		94.2	780	
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.224	2142505	0.8894	Target=4.22	91.9	3174	
699.00 > 99.00	5.399	5.399	0.0	1.224	514978		4.16(2.11-6.34)		2466	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.435	5.435	0.0	1.040	3996591	0.9358	Target=6.32	93.6	3750	
663.00 > 169.00	5.435	5.435	0.0	1.040	649673		6.15(3.16-9.48)		1888	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	616216	1.16		93.1	297	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	619316	0.8854		88.5	584	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.323	432452	1.24		99.4	691	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.000	400022	0.9255		92.5	478	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	471317	0.9785	Target=1.01	97.8	1371	
713.00 > 219.00	5.607	5.617	-0.010	0.998	465368		1.01(0.51-1.52)		1874	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.363	4664054	1.18		94.1	15396	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	2554686	0.9320	Target=8.64	93.2	3298	
813.00 > 169.00	5.924	5.924	0.0	1.000	322068		7.93(4.32-12.97)		1063	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.438	3006548	1.17		93.2	5575	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.184	6.184	0.0	1.044	2160226	0.8867	Target=11.77	88.7	2868	
913.00 > 169.00	6.184	6.184	0.0	1.044	189769		11.38(5.88-17.65)		650	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220219-22723.b\_007.d

Injection Date: 19-Feb-2022 18:43:45

Instrument ID: LCA

Lims ID: CCVIS

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 7

Worklist Smp#: 7

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

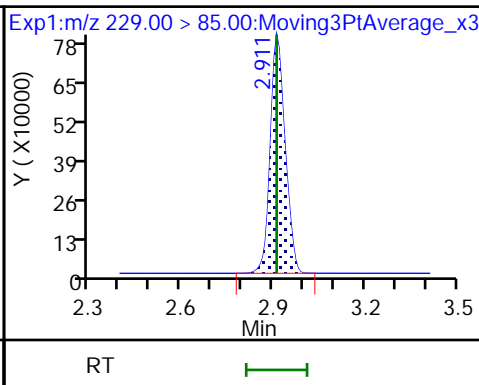
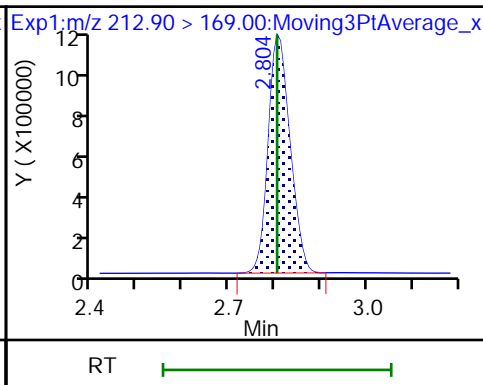
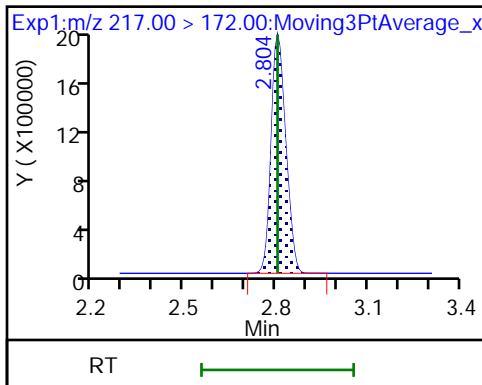
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

D 2 13C4 PFBA

1 Perfluorobutanoic acid

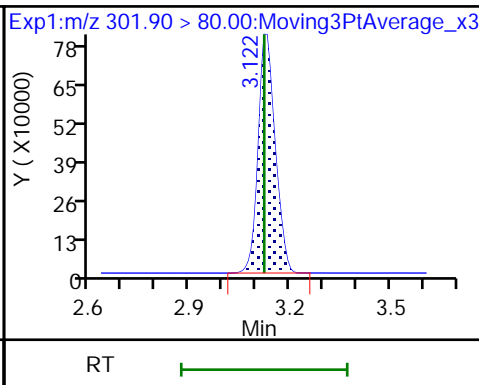
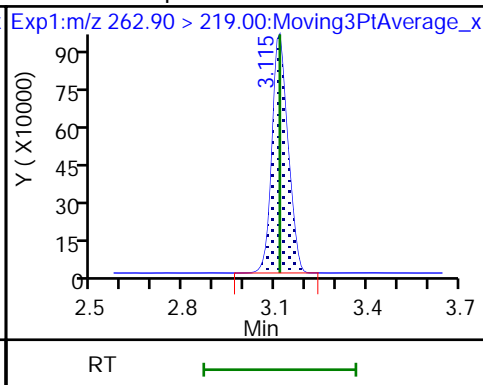
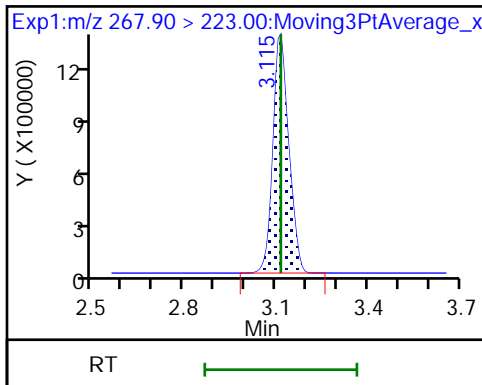
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

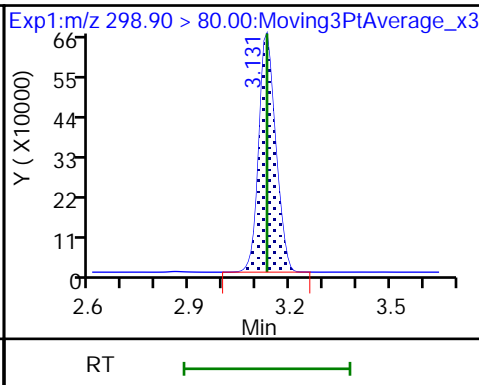
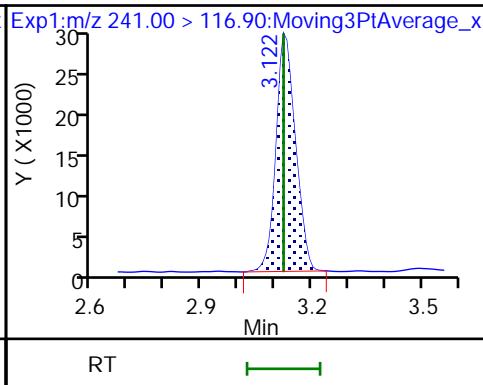
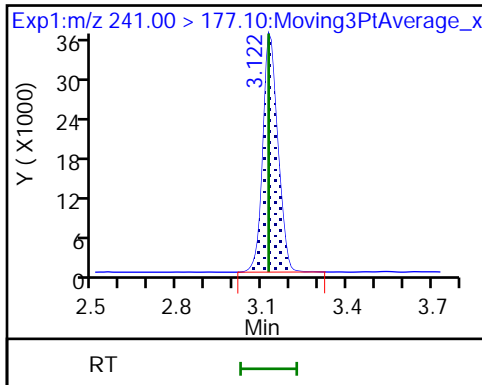
D 7 13C3 PFBS



4 3:3 FTCA

4 3:3 FTCA

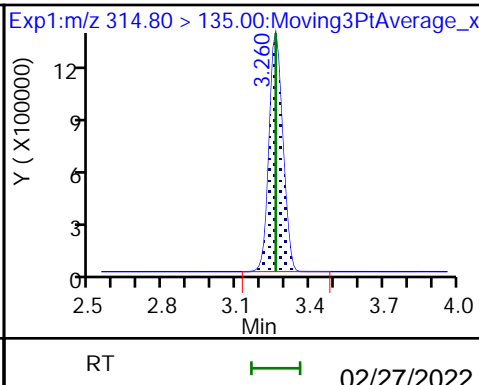
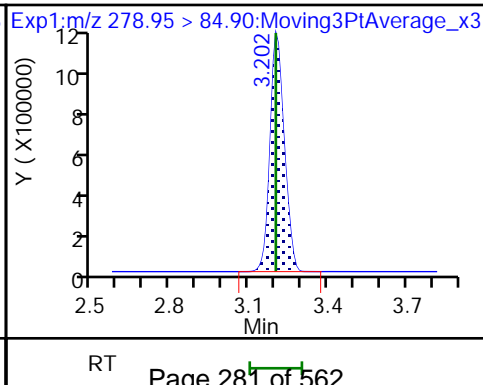
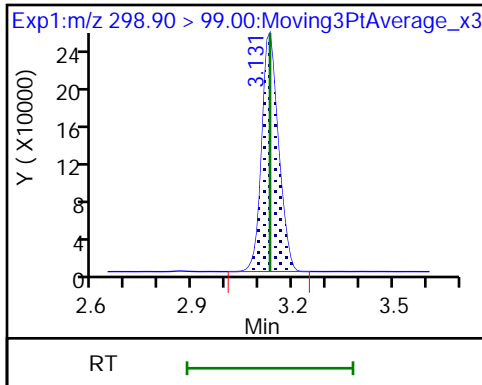
8 Perfluorobutanesulfonic acid

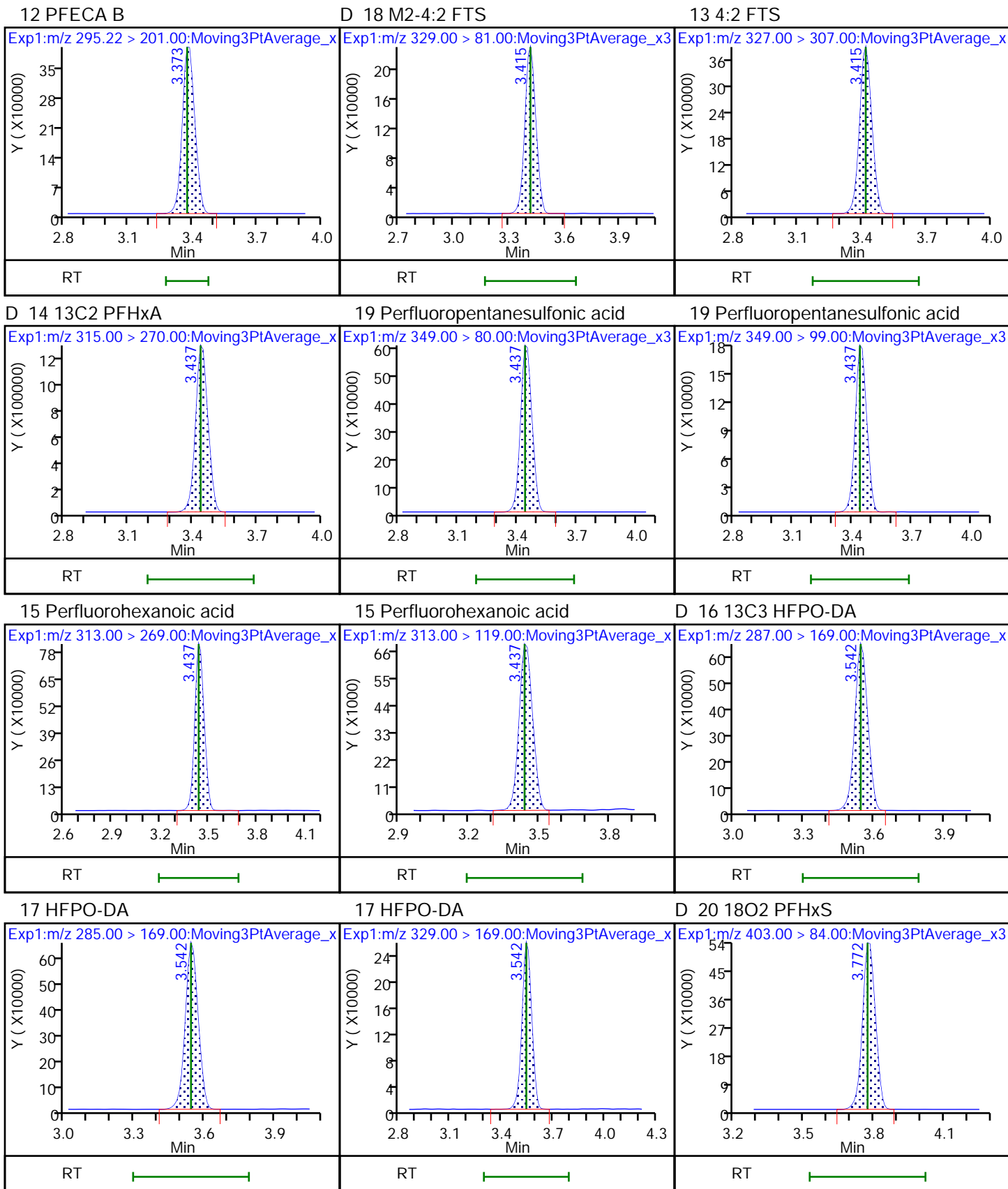


8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES

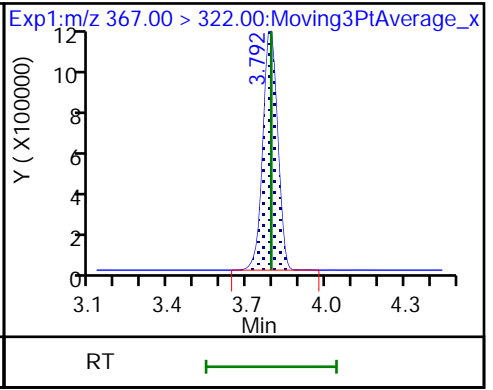
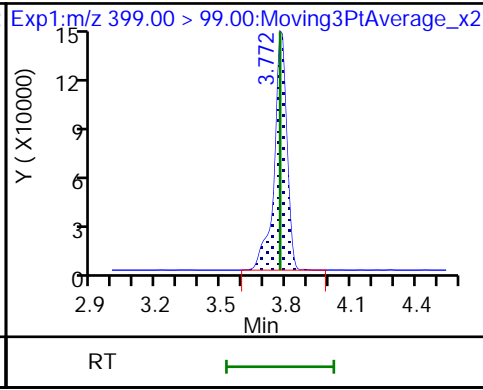
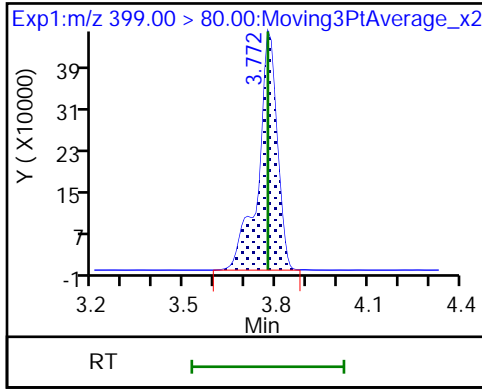




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid

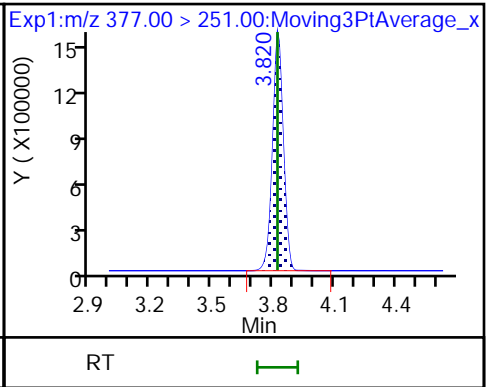
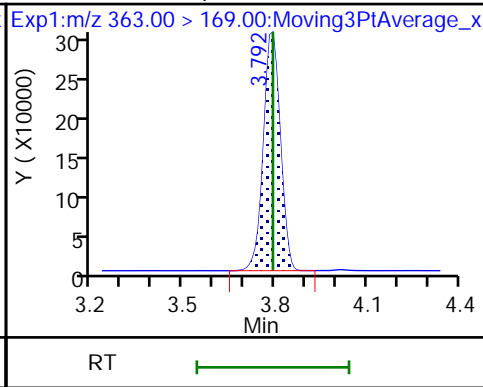
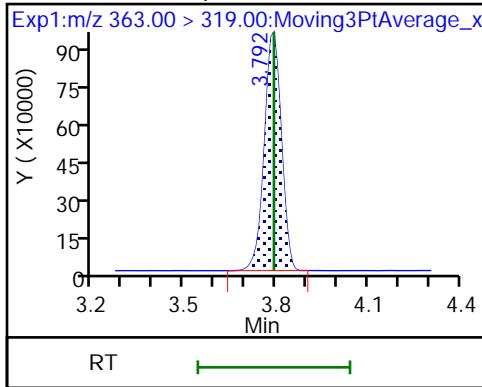
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

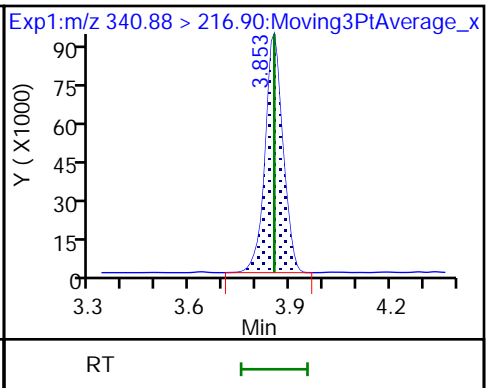
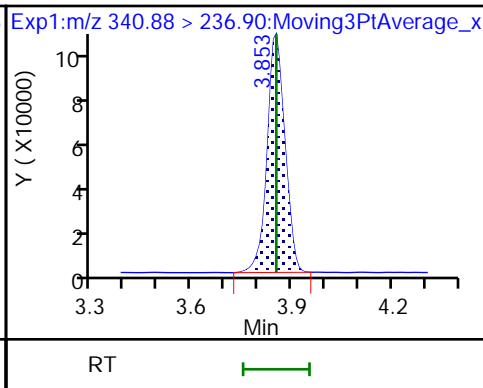
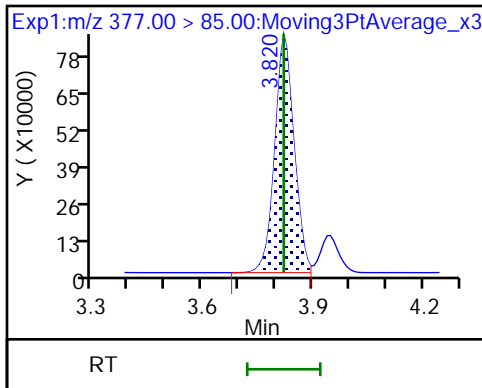
25 DONA



25 DONA

26 5:3 FTCA

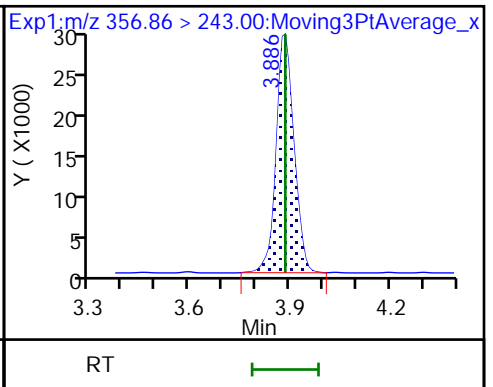
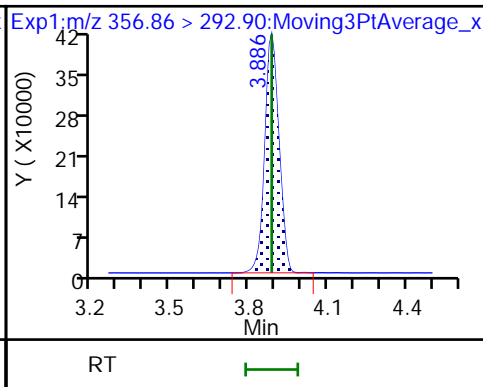
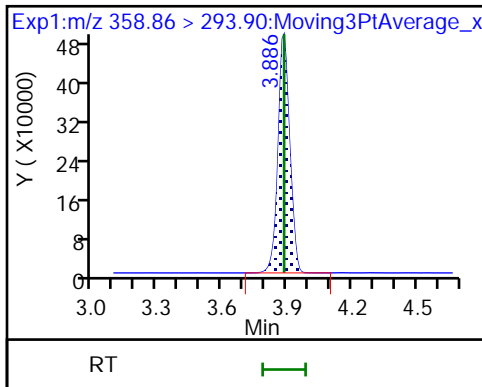
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

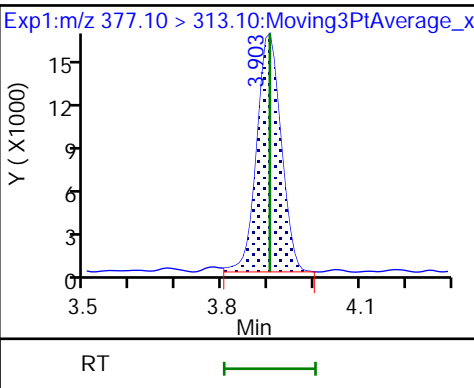
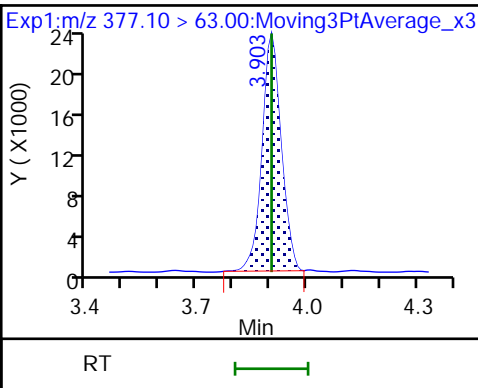
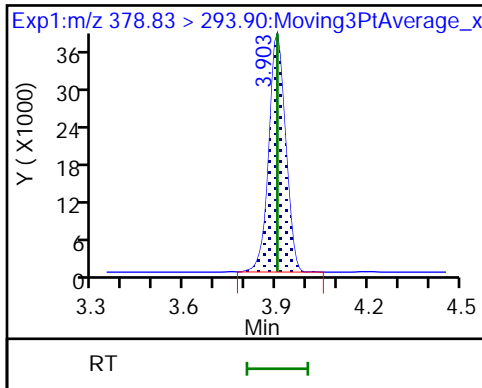
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

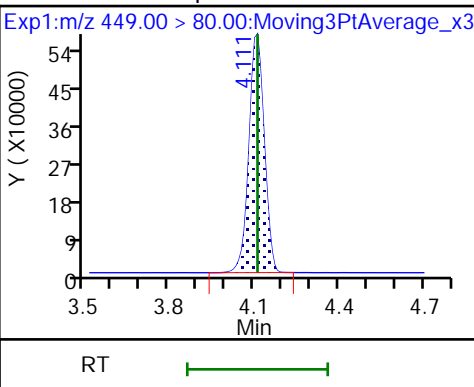
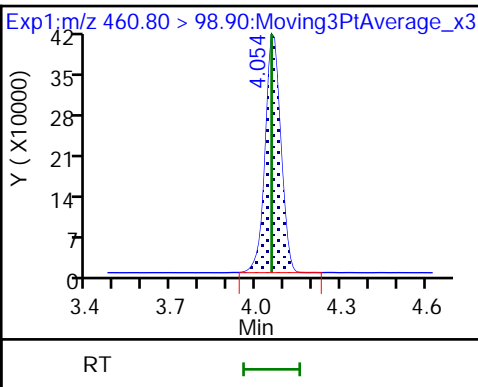
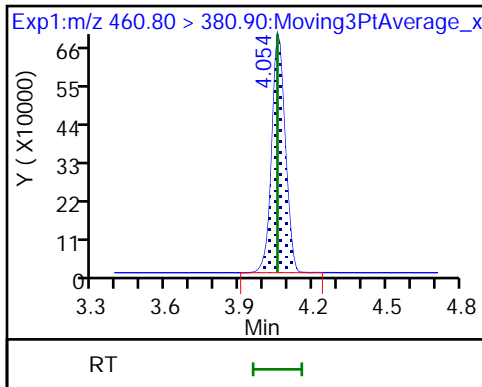
29 6:2 FTCA



32 PFECHS

32 PFECHS

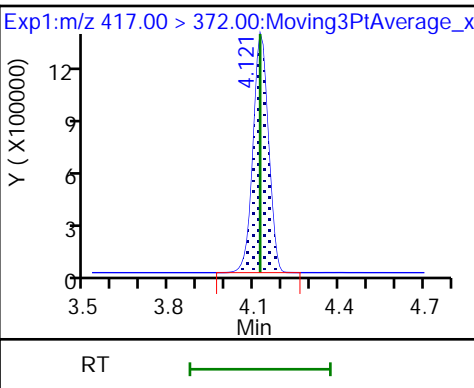
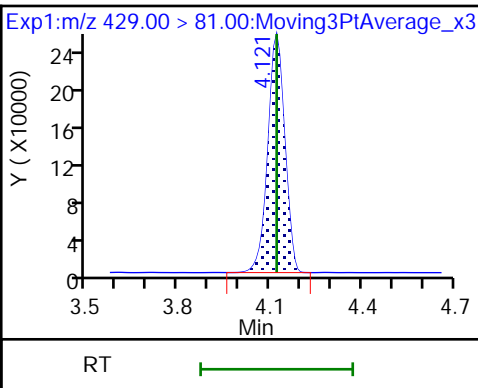
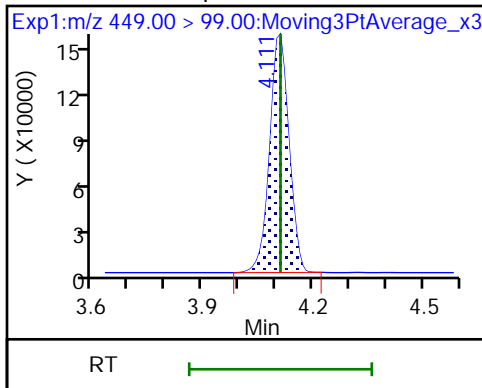
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

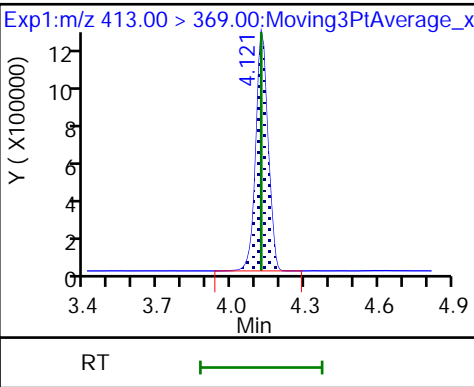
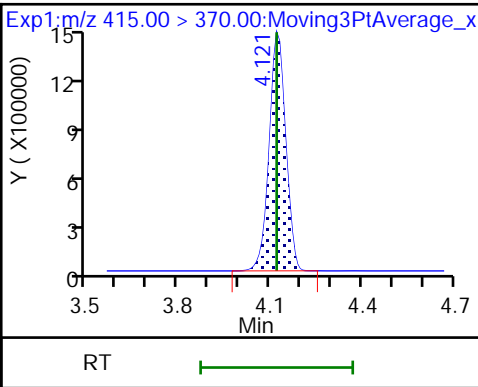
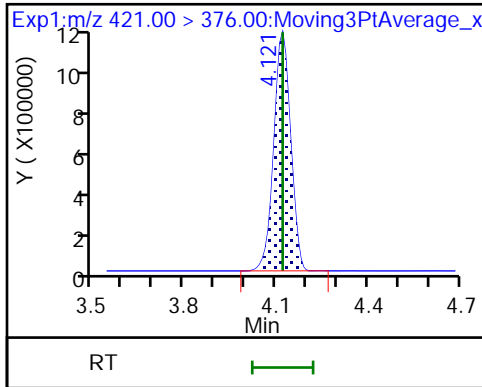
D 31 13C4 PFOA



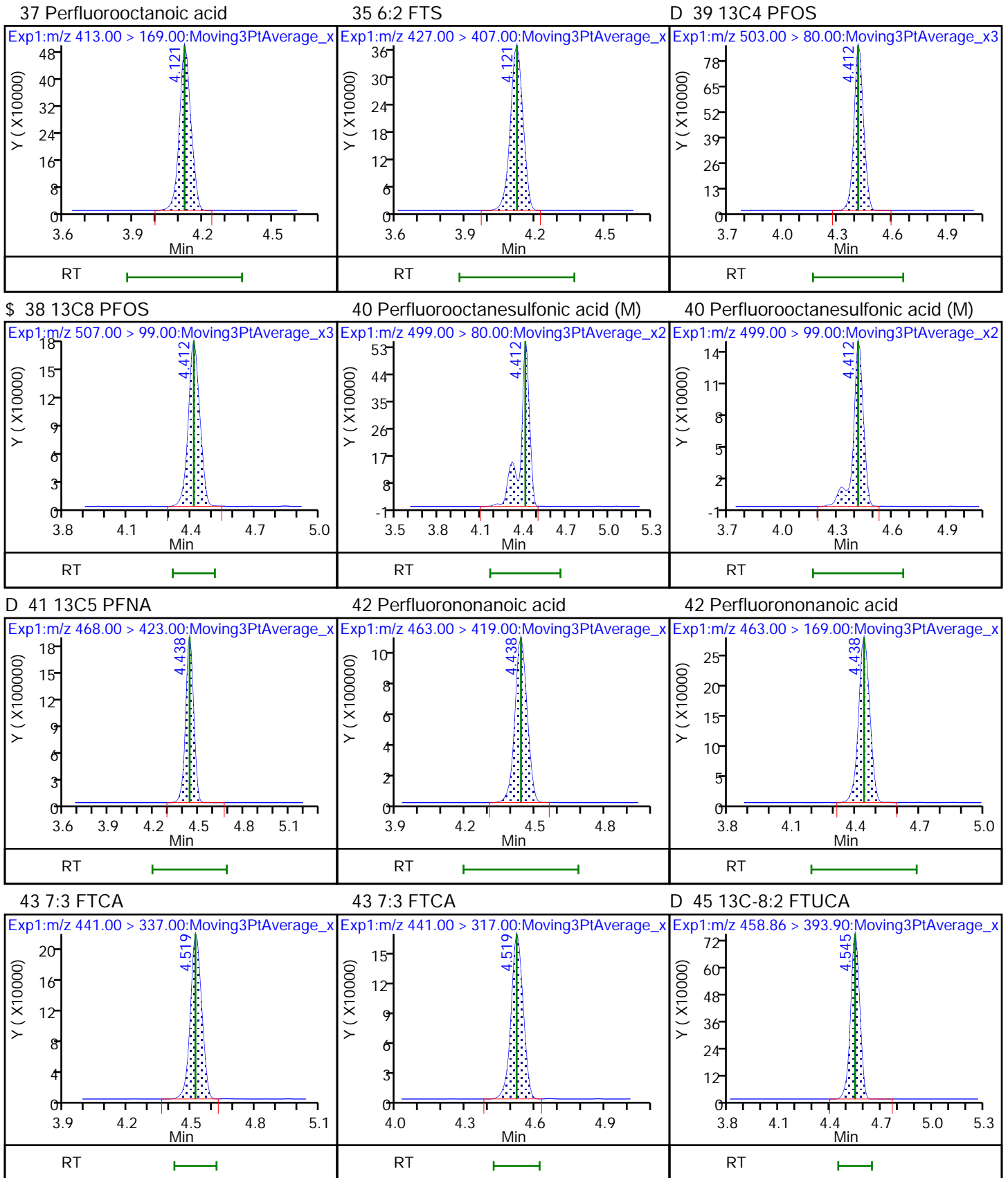
\$ 36 13C8 PFOA

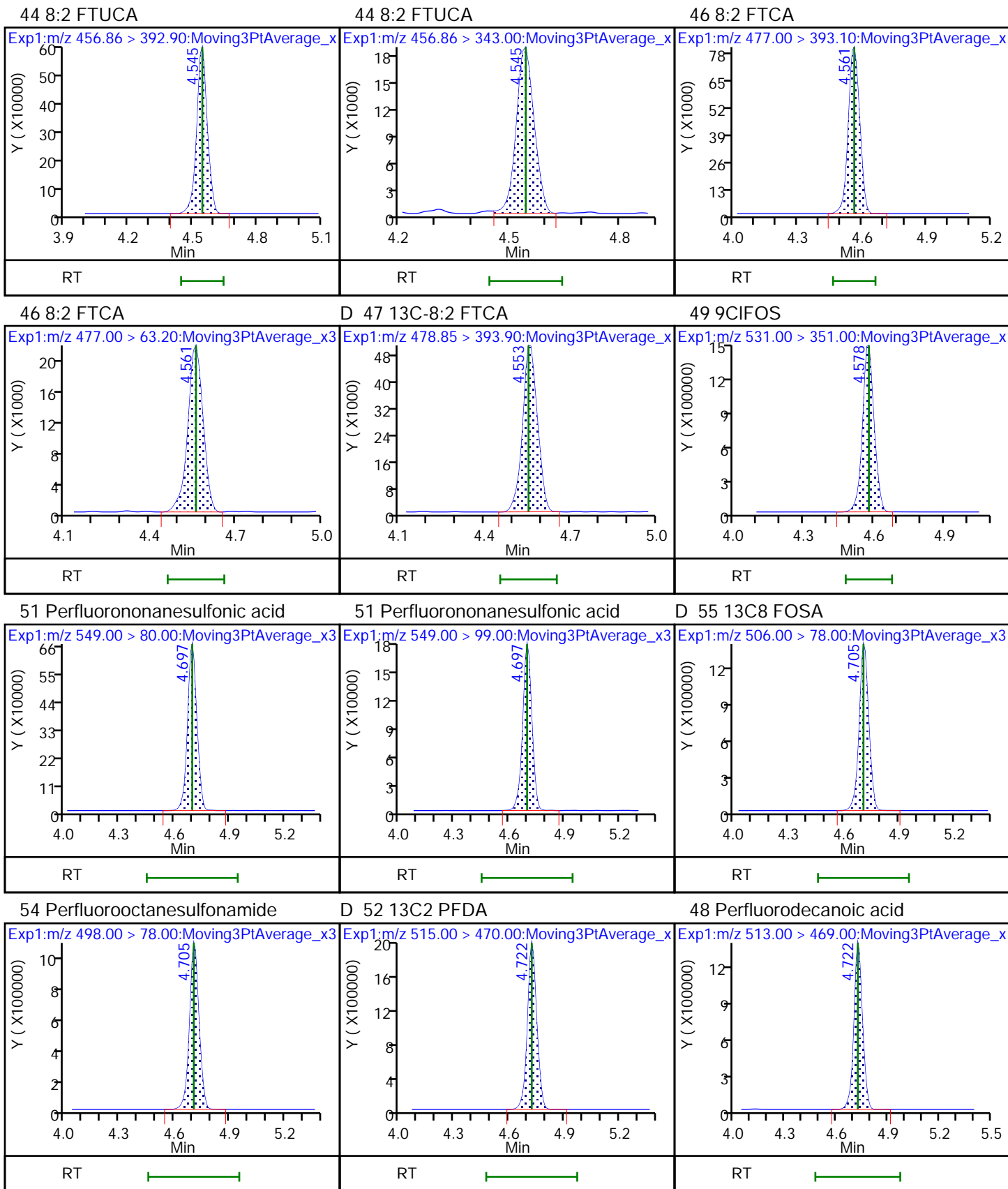
\* 30 13C2 PFOA

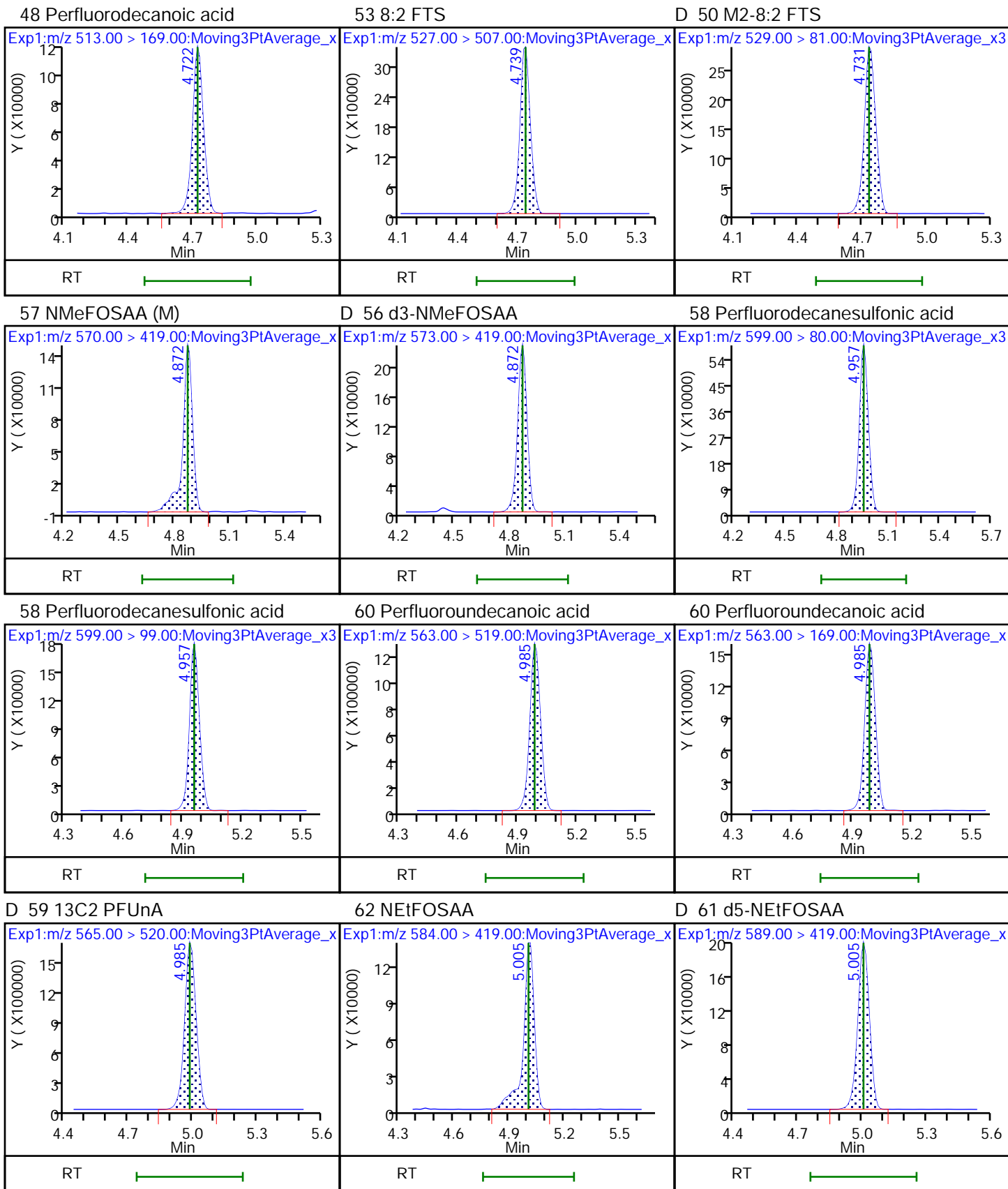
37 Perfluorooctanoic acid

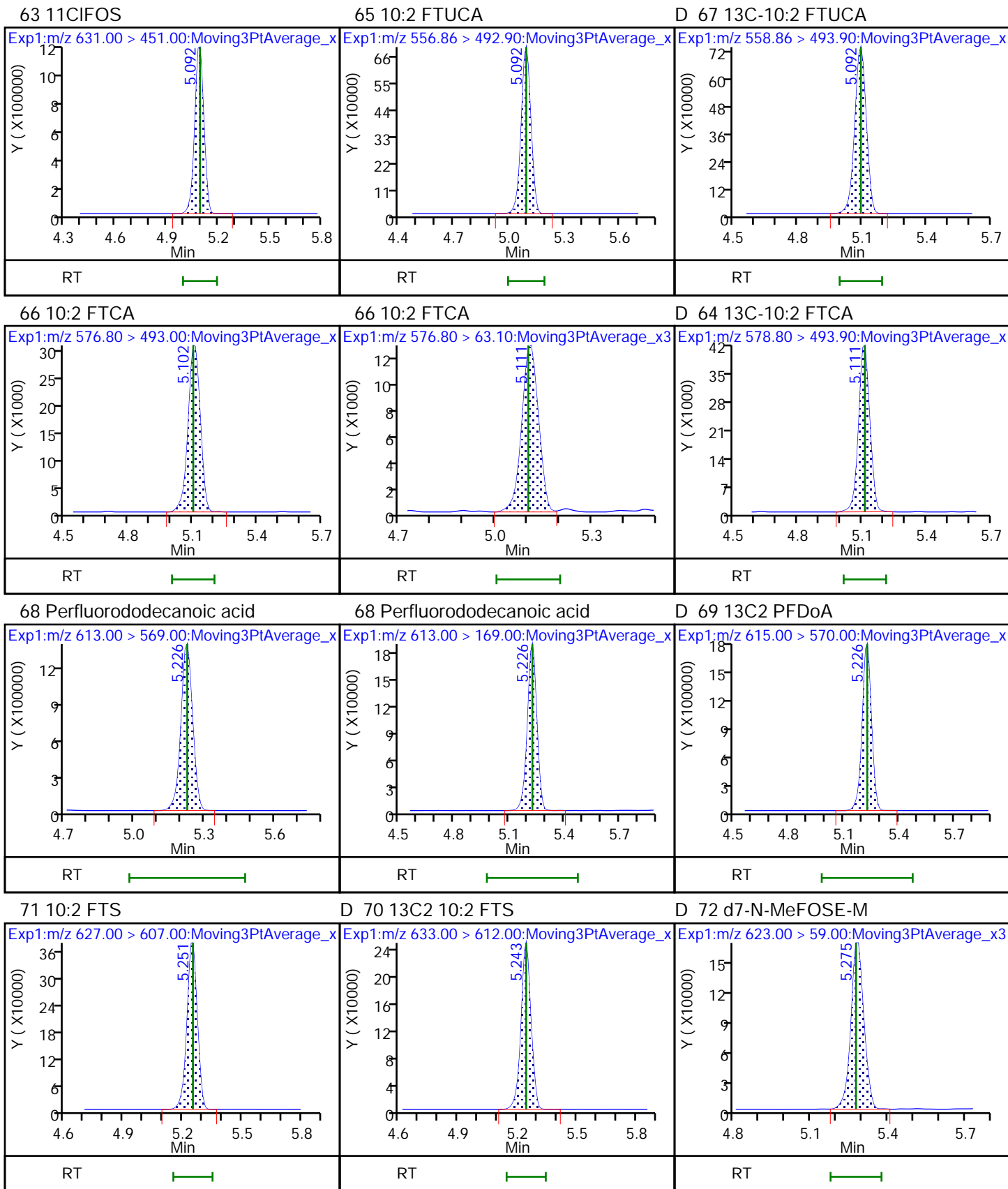








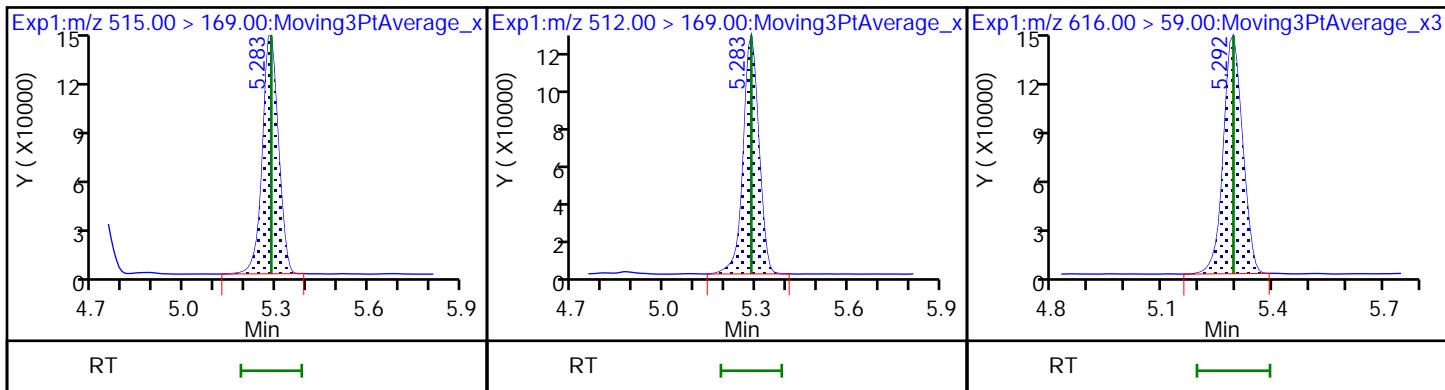




D 73 d-N-MeFOSEA-M

74 NMeFOSEA

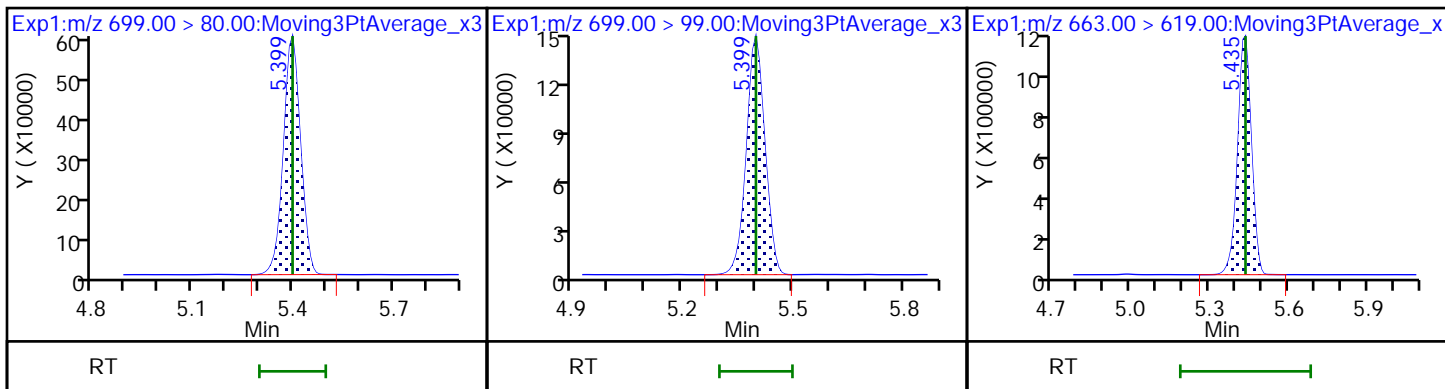
75 N-MeFOSEA-M



76 PFDoS

76 PFDoS

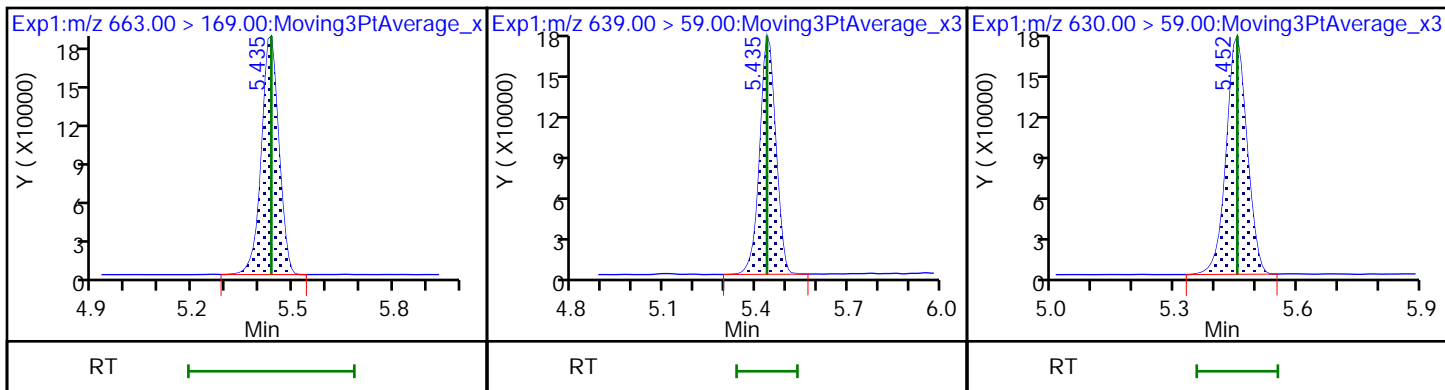
78 Perfluorotridecanoic acid



78 Perfluorotridecanoic acid

D 77 d9-N-EtFOSEA-M

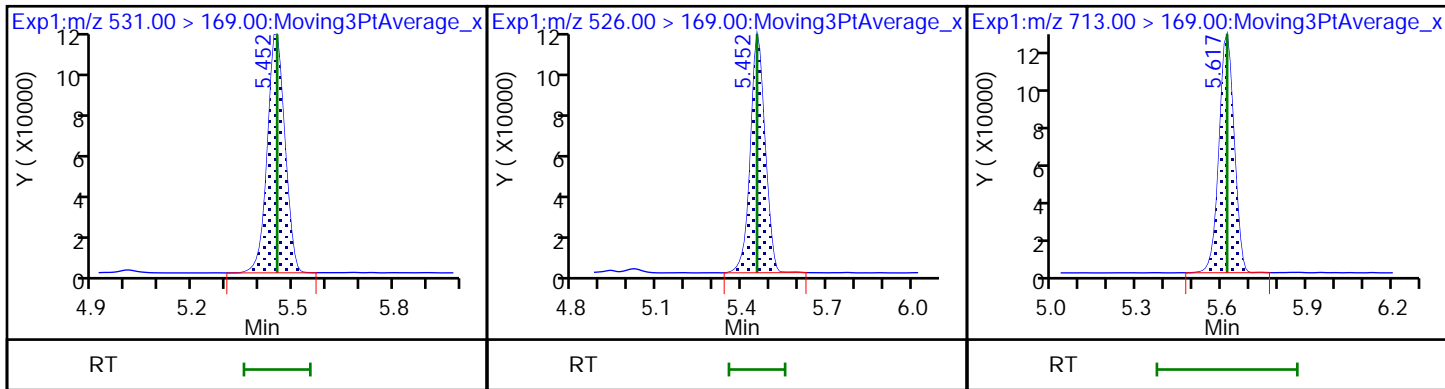
79 N-EtFOSEA-M

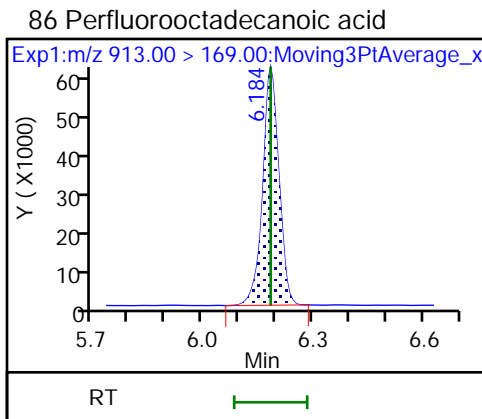
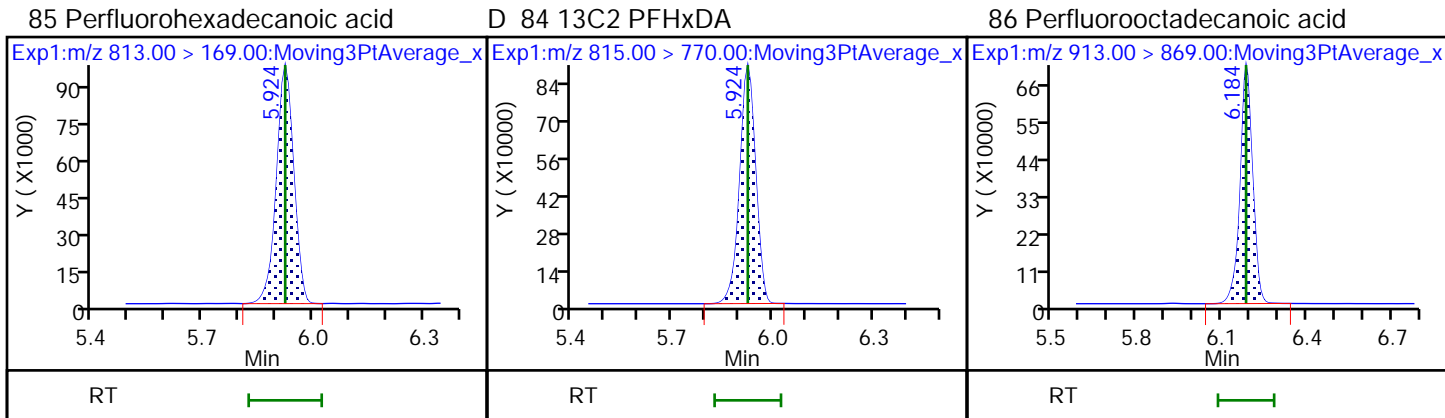
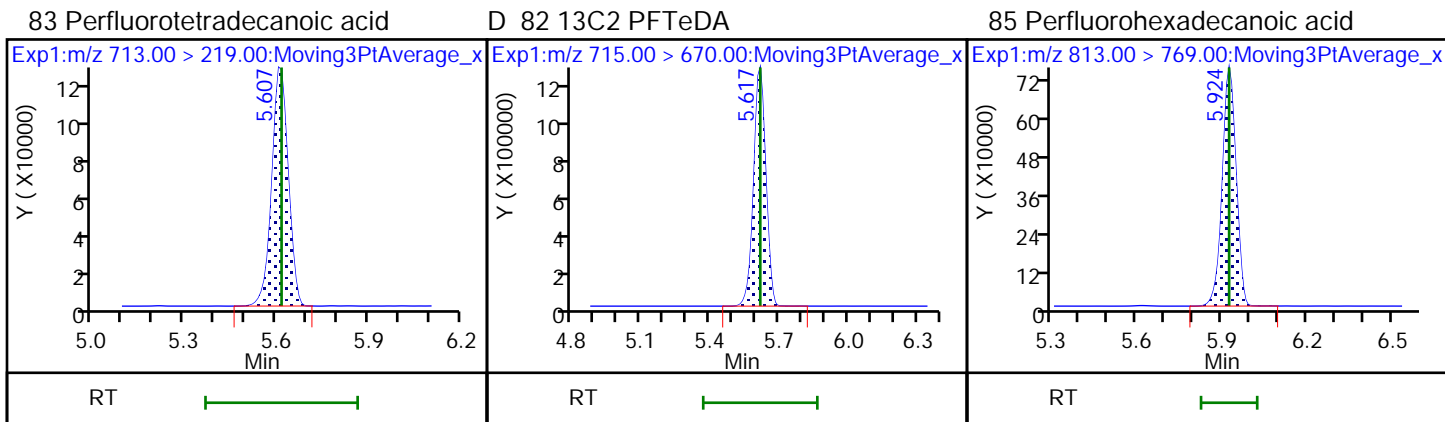


D 80 d-N-EtFOSEA-M

81 N-EtFOSEA-M

83 Perfluorotetradecanoic acid





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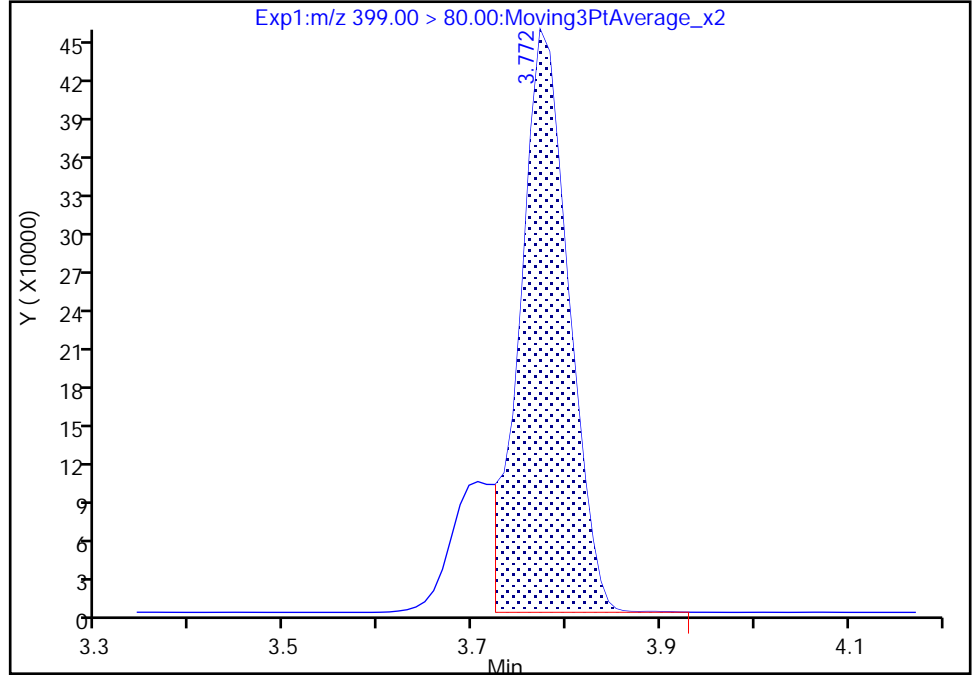
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Injection Date: 19-Feb-2022 18:43:45 Instrument ID: LCA  
Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

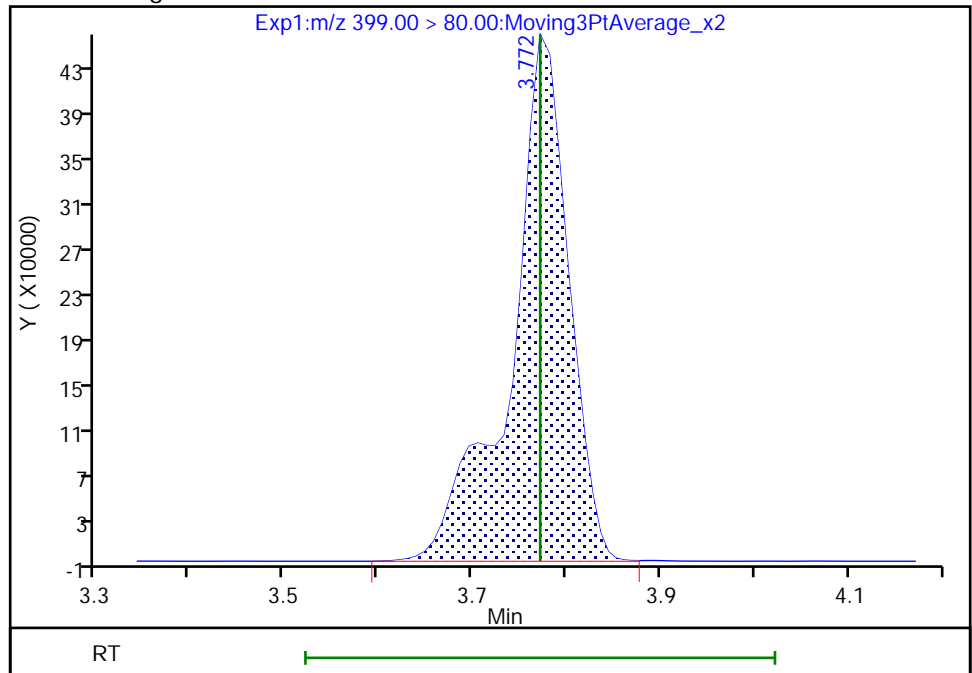
RT: 3.77  
Area: 1628640  
Amount: 0.686958  
Amount Units: ng/ml

Processing Integration Results



RT: 3.77  
Area: 1946103  
Amount: 0.820864  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:54:18  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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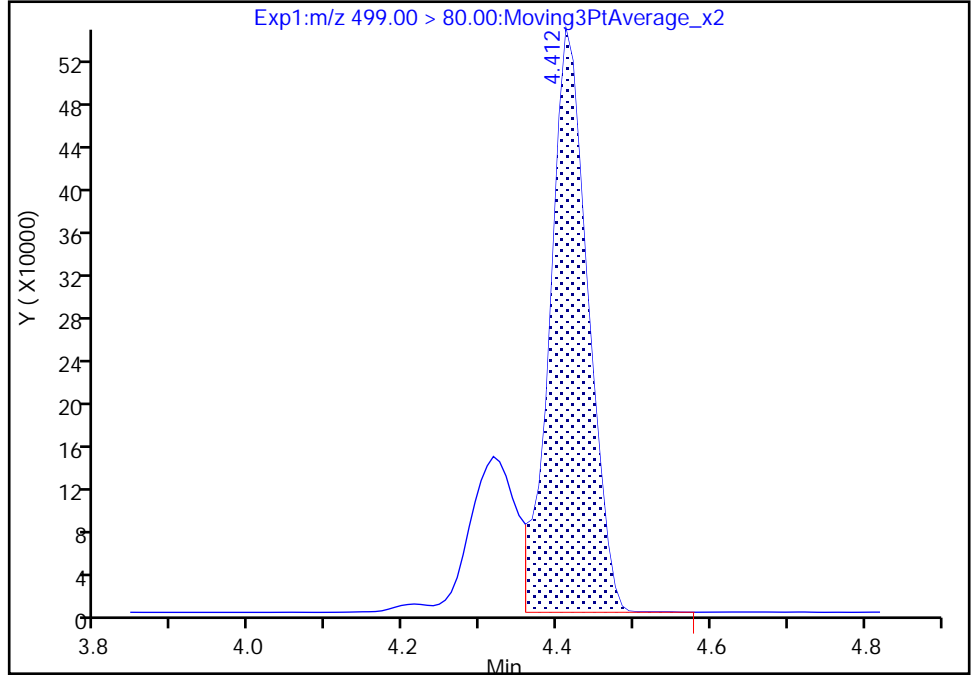
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Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

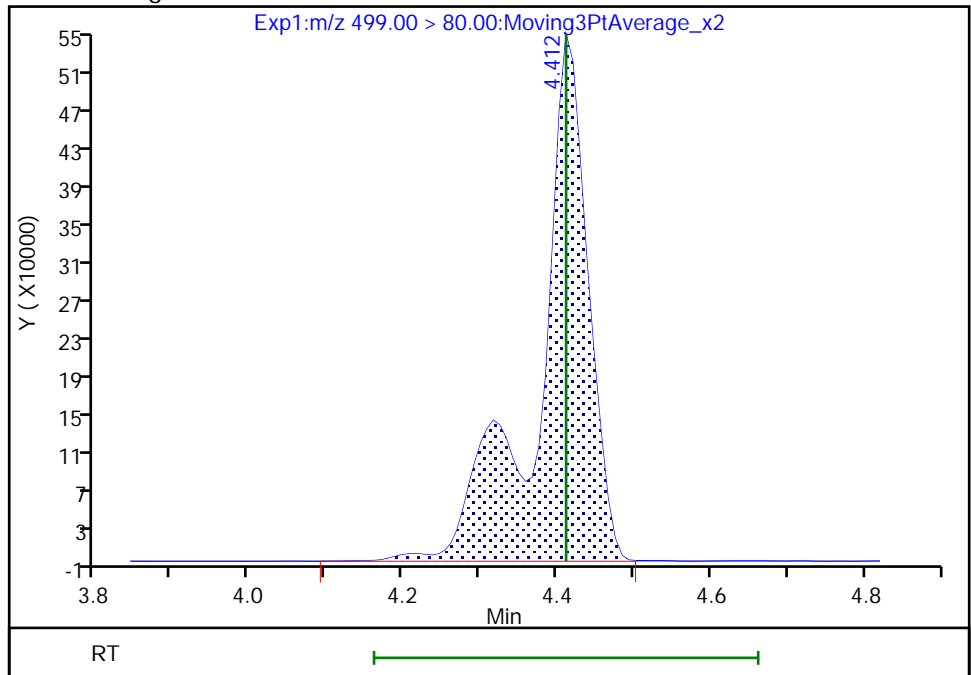
RT: 4.41  
Area: 1856195  
Amount: 0.636090  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 2475991  
Amount: 0.848485  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:54:34  
Audit Action: Manually Integrated



Eurofins Knoxville

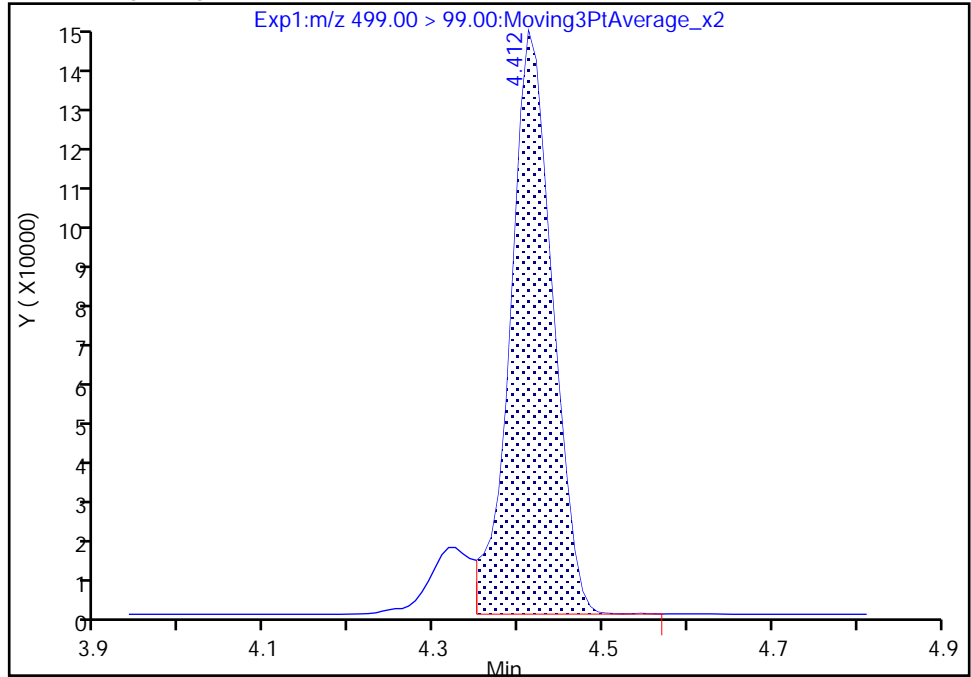
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Injection Date: 19-Feb-2022 18:43:45 Instrument ID: LCA  
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Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

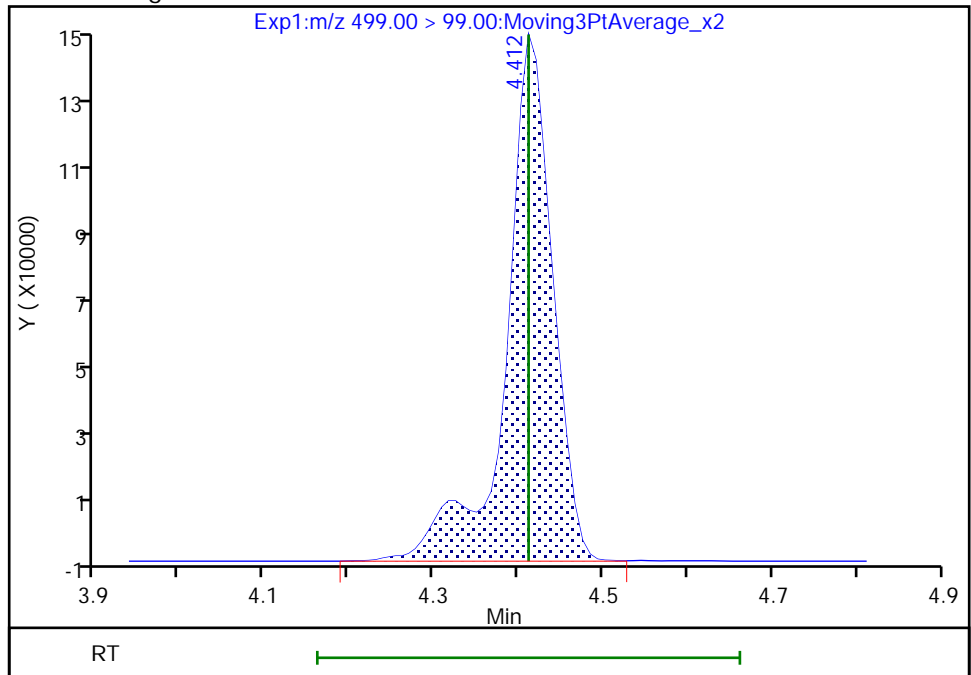
RT: 4.41  
Area: 508262  
Amount: 0.636090  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 568244  
Amount: 0.848485  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:54:42

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

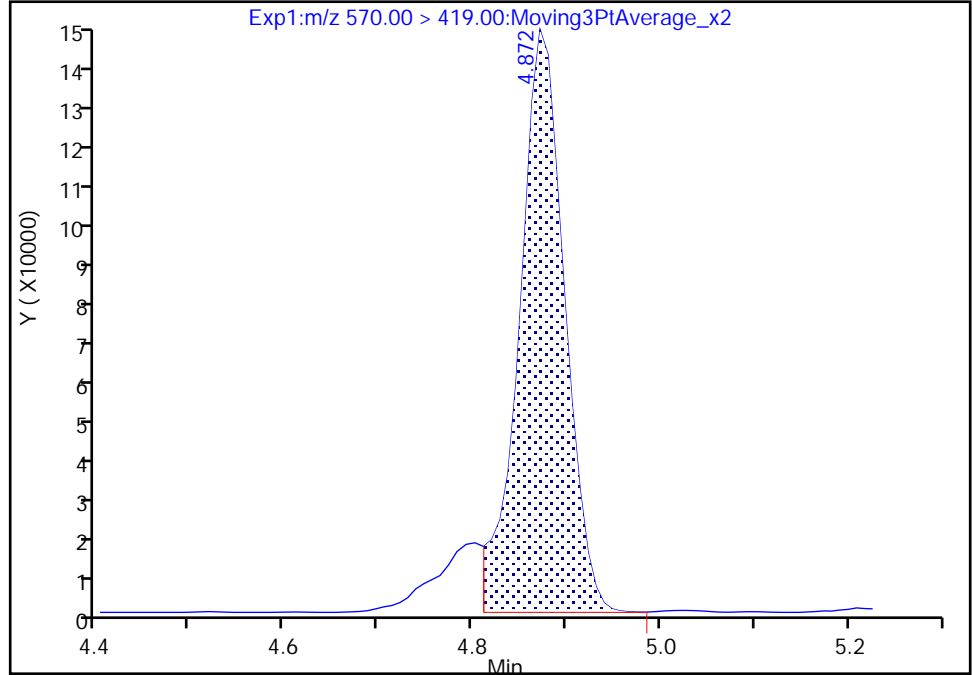
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Lims ID: CCVIS  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 7 Worklist Smp#: 7  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

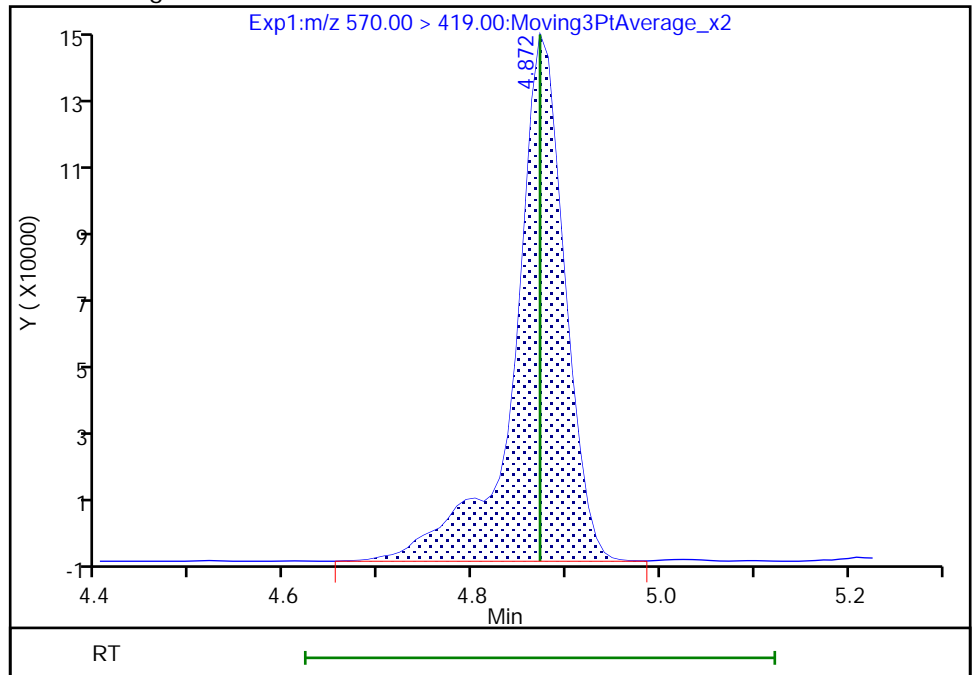
RT: 4.87  
Area: 495844  
Amount: 0.838583  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 557581  
Amount: 0.941483  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 19-Feb-2022 18:55:25  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/19 Calibration Date: 02/19/2022 20:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7921		2.50	2.50	0.1	40.0
PFECA F	AveID	0.7535	0.7424		2.46	2.50	-1.5	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.999		2.67	2.50	6.6	40.0
3:3 FTCA	QuaIF		0.0555		2.56	2.50	2.5	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.134		2.25	2.21	2.0	40.0
PFECA A	Q2ID		1.218		2.55	2.50	2.2	40.0
PES	Q2ID		2.382		2.19	2.23	-1.5	40.0
PFECA B	Q2ID		0.4537		2.62	2.50	4.8	40.0
4:2 FTS	L2ID		2.392		2.46	2.34	5.4	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.8157		2.58	2.50	3.0	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.081		2.46	2.35	4.7	40.0
HFPO-DA	L2ID		1.361		2.70	2.50	8.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.339		2.20	2.28	-3.3	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.066		2.62	2.50	4.9	40.0
DONA	AveID	2.644	2.462		2.19	2.36	-6.9	40.0
5:3 FTCA	L2ID		3.869		2.57	2.50	2.9	40.0
6:2 FTUCA	AveID	1.046	0.9599		2.29	2.50	-8.3	40.0
6:2 FTCA	L1ID		0.8294		3.00	2.50	20.0	40.0
PFECHS	AveID	0.7426	0.7782		2.42	2.31	4.8	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9465		2.28	2.38	-4.2	40.0
6:2 FTS	L2ID		1.835		2.38	2.37	0.5	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.096		2.57	2.50	2.8	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.134		2.30	2.32	-1.0	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8234		2.71	2.50	8.3	40.0
7:3 FTCA	AveID	5.230	5.535		2.65	2.50	5.8	40.0
8:2 FTUCA	AveID	0.9565	0.9150		2.39	2.50	-4.3	40.0
8:2 FTCA	AveID	1.811	2.046		2.82	2.50	13.0	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.240		2.32	2.33	-0.4	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.001		2.38	2.40	-1.0	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9500		2.49	2.50	-0.5	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9245		2.58	2.50	3.2	40.0
8:2 FTS	L2ID		1.504		2.40	2.40	0.3	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8638		2.29	2.50	-8.2	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9135		2.48	2.41	2.9	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/19 Calibration Date: 02/19/2022 20:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9467		2.45	2.50	-2.1	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9183		2.53	2.50	1.0	40.0
10:2 FTUCA	AveID	1.208	1.223		2.53	2.50	1.2	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.792		2.43	2.36	3.1	50.0
10:2 FTCA	Q2ID		1.027		2.68	2.50	7.3	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.006		2.44	2.50	-2.6	40.0
10:2 FTS	L2ID		2.210		2.55	2.41	5.7	50.0
NMeFOSA	L2ID		1.081		2.51	2.50	0.5	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.242		2.65	2.50	6.1	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9891		2.53	2.42	4.6	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8450		2.39	2.50	-4.3	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.376		2.42	2.50	-3.0	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.243		2.50	2.50	-0.2	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1368		2.66	2.50	6.3	40.0
Perfluorohexadecanoic acid	L1ID		1.138		2.52	2.50	0.7	40.0
Perfluorooctadecanoic acid	AveID	1.013	1.011		2.50	2.50	-0.2	40.0
13C4 PFBA	Ave	1.172	1.185		1.26	1.25	1.1	50.0
13C5 PFPeA	Ave	0.9197	0.8962		1.22	1.25	-2.6	50.0
13C3 PFBS	Ave	0.5817	0.5816		1.16	1.16	-0.0	50.0
M2-4:2 FTS	Ave	0.1821	0.1792		1.15	1.17	-1.6	50.0
13C2 PFHxA	Ave	1.015	0.9772		1.20	1.25	-3.7	50.0
13C3 HFPO-DA	Ave	0.4963	0.4705		1.19	1.25	-5.2	50.0
18O2 PFHxS	Ave	0.3776	0.3908		1.22	1.18	3.5	50.0
13C4 PFHpA	Ave	0.9046	0.8693		1.20	1.25	-3.9	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3844		1.42	1.25	13.9	50.0
13C-6:2 FTCA	Ave	0.0260	0.0256		1.23	1.25	-1.7	50.0
M2-6:2 FTS	Ave	0.1799	0.1835		1.21	1.19	2.0	50.0
13C4 PFOA	Ave	0.9356	0.9182		1.23	1.25	-1.9	50.0
13C4 PFOS	Ave	0.5610	0.6015		1.28	1.20	7.2	50.0
13C5 PFNA	Ave	1.268	1.277		1.26	1.25	0.7	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5625		1.56	1.25	24.5	50.0
13C-8:2 FTCA	Ave	0.0330	0.0350		1.33	1.25	6.0	50.0
13C8 FOSA	Ave	0.8475	0.8925		1.32	1.25	5.3	50.0
13C2 PFDA	Ave	1.210	1.248		1.29	1.25	3.2	50.0
M2-8:2 FTS	Ave	0.1961	0.2059		1.26	1.20	5.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/19 Calibration Date: 02/19/2022 20:31  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_019.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1576		1.74	1.25	38.9	50.0
13C2 PFUnA	Ave	1.168	1.218		1.30	1.25	4.3	50.0
d5-NEtFOSAA	Ave	0.1164	0.1425		1.53	1.25	22.4	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5117		1.26	1.25	0.8	50.0
13C-10:2 FTCA	Ave	0.0309	0.0286		1.16	1.25	-7.4	50.0
13C2 PFDoA	Ave	1.152	1.176		1.28	1.25	2.1	50.0
13C2 10:2 FTS	Ave	0.1652	0.1735		1.24	1.18	5.1	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1150		1.21	1.25	-3.0	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1033		1.28	1.25	2.3	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1203		1.22	1.25	-2.2	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0844		1.30	1.25	4.2	50.0
13C2 PFTeDA	Ave	0.9216	0.8787		1.19	1.25	-4.7	50.0
13C2 PFHxDA	Ave	0.5997	0.5704		1.19	1.25	-4.9	50.0
13C8 PFOA	AveID	0.9229	0.9728		1.32	1.25	5.4	50.0
13C8 PFOS	AveID	0.2212	0.2297		1.24	1.20	3.8	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 19-Feb-2022 20:31:46 ALS Bottle#: 19 Worklist Smp#: 19  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-019 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 15:59:13

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.812	2.804	0.008	1.000	9302624	2.50		100	3352	
D 2 13C4 PFBA										
217.00 > 172.00	2.812	2.804	0.008	0.680	5872349	1.26		101	24333	
3 PFECA F										
229.00 > 85.00	2.920	2.911	0.009	0.937	6591291	2.46		98.5	20934	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.116	3.115	0.002	1.000	8870448	2.67		107	3546	
D 5 13C5 PFPeA										
267.90 > 223.00	3.116	3.115	0.002	0.754	4439376	1.22		97.4	20837	
4 3:3 FTCA										
241.00 > 177.10	3.132	3.122	0.010	1.000	319994	2.56	Target=1.13	102	2730	
241.00 > 116.90	3.132	3.122	0.010	1.000	275168		1.16(0.56-1.69)		410	
D 7 13C3 PFBS										
301.90 > 80.00	3.132	3.122	0.010	0.758	2679375	1.16		100.0	11008	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.132	3.131	0.001	1.000	5776908	2.25	Target=2.61	102	4875	
298.90 > 99.00	3.132	3.131	0.001	1.000	2183084		2.65(1.31-3.92)		5054	
9 PFECA A										
278.95 > 84.90	3.212	3.202	0.010	1.031	10815743	2.55		102	24457	
11 PES										
314.80 > 135.00	3.261	3.260	0.001	1.041	12213307	2.19		98.5	20758	
12 PFECA B										
295.22 > 201.00	3.385	3.373	0.012	0.981	4392210	2.62		105	20431	
13 4:2 FTS										
327.00 > 307.00	3.417	3.415	0.002	1.000	3966732	2.46		105	8423	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.417	3.415	0.002	0.827	829028	1.15		98.4	1780	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.449	3.437	0.012	1.101	5841195	2.45	Target=3.55	105	12279	
349.00 > 99.00	3.449	3.437	0.012	1.101	1719843		3.40(1.78-5.33)		7452	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.449	3.437	0.012	1.000	7896967	2.58	Target=11.60	103	3518	
313.00 > 119.00	3.449	3.437	0.012	1.000	656644		12.03(5.80-17.40)		639	
D 14 13C2 PFHxA										
315.00 > 270.00	3.449	3.437	0.012	0.835	4840509	1.20		96.3	11272	
17 HFPO-DA										
285.00 > 169.00	3.554	3.542	0.012	1.000	6342444	2.70	Target=2.45	108	1563	
329.00 > 169.00	3.554	3.542	0.012	1.000	2486647		2.55(1.23-3.68)		1555	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.554	3.542	0.012	0.860	2330673	1.19		94.8	5732	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.784	3.772	0.012	1.000	4716462	2.20	Target=3.44	96.7	7310	M
399.00 > 99.00	3.784	3.772	0.012	1.000	1368397		3.45(1.72-5.17)		4868	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.784	3.772	0.012	0.916	1831159	1.22		103	5583	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.794	3.792	0.002	1.000	9177798	2.62	Target=3.25	105	5946	
363.00 > 169.00	3.794	3.792	0.002	1.000	2852596		3.22(1.62-4.87)		2534	
D 22 13C4 PFHpA										
367.00 > 322.00	3.794	3.792	0.002	0.918	4306163	1.20		96.1	12274	
25 DONA										
377.00 > 251.00	3.830	3.820	0.010	0.866	13820411	2.19	Target=1.74	93.1	18304	
377.00 > 85.00	3.830	3.820	0.010	0.866	8045575		1.72(0.87-2.61)		143	
26 5:3 FTCA										
340.88 > 236.90	3.854	3.853	0.001	0.987	980059	2.57	Target=1.11	103	3300	
340.88 > 216.90	3.854	3.853	0.001	0.987	907723		1.08(0.56-1.67)		2350	
27 6:2 FTUCA										
356.86 > 292.90	3.888	3.886	0.002	1.000	3655657	2.29	Target=13.05	91.7	4500	
356.86 > 243.00	3.888	3.886	0.002	1.000	260183		14.05(6.52-19.57)		602	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.888	3.886	0.002	0.941	1904104	1.42		114	2623	
29 6:2 FTCA										
377.10 > 63.00	3.905	3.903	0.002	1.000	210095	3.00	Target=1.29	120	949	
377.10 > 313.10	3.913	3.903	0.010	1.002	151765		1.38(0.65-1.94)		120	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.905	3.903	0.002	0.945	126659	1.23		98.3	795	
32 PFECHS										
460.80 > 380.90	4.065	4.054	0.011	0.984	6526696	2.42	Target=1.75	105	14843	
460.80 > 98.90	4.065	4.054	0.011	0.984	3875248		1.68(0.87-2.62)		7763	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.113	4.111	0.002	0.930	5369835	2.28	Target=3.72	95.8	7231	
449.00 > 99.00	4.113	4.111	0.002	0.930	1427253		3.76(1.86-5.57)		3690	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.123	4.121	0.002	1.000	3162405	2.38		101	8422	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.132	4.121	0.011	1.000	9972323	2.57	Target=2.51	103	5717	
413.00 > 169.00	4.132	4.121	0.011	1.000	4160199		2.40(1.26-3.77)		4939	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.123	4.121	0.002	0.998	4424670	1.32		105	10217	
* 30 13C2 PFOA										
415.00 > 370.00	4.132	4.121	0.011		4953682	1.25			6200	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.123	4.121	0.002	0.998	863537	1.21		102	2450	
D 31 13C4 PFOA										
417.00 > 372.00	4.132	4.121	0.011	1.000	4548425	1.23		98.1	6043	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.414	4.412	0.002	0.998	654383	1.24		104	1496	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.423	4.412	0.011	1.000	6272429	2.30	Target=4.30	99.0	4845	M
499.00 > 99.00	4.423	4.412	0.011	1.000	1423263		4.41(2.15-6.45)		4239	M
D 39 13C4 PFOS										
503.00 > 80.00	4.423	4.412	0.011	1.070	2848747	1.28		107	3069	
42 Perfluorononanoic acid										
463.00 > 419.00	4.441	4.438	0.003	1.000	10416485	2.71	Target=3.60	108	8444	
463.00 > 169.00	4.441	4.438	0.003	1.000	2514437		4.14(1.80-5.40)		4563	
D 41 13C5 PFNA										
468.00 > 423.00	4.441	4.438	0.003	1.075	6325320	1.26		101	12159	
43 7:3 FTCA										
441.00 > 337.00	4.530	4.519	0.011	0.993	1921444	2.65	Target=1.42	106	3937	
441.00 > 317.00	4.530	4.519	0.011	0.993	1388484		1.38(0.71-2.13)		3279	
44 8:2 FTUCA										
456.86 > 392.90	4.547	4.545	0.002	1.000	5099764	2.39	Target=35.37	95.7	5017	
456.86 > 343.00	4.547	4.545	0.002	1.000	142816		35.71(17.68-53.05)		463	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.547	4.545	0.002	1.000	2786693	1.56		124	6348	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.563	4.553	0.010	1.104	173564	1.33		106	824	
46 8:2 FTCA										
477.00 > 393.10	4.563	4.561	0.002	1.000	710186	2.82	Target=3.35	113	2968	
477.00 > 63.20	4.563	4.561	0.002	1.000	206836		3.43(1.68-5.03)		661	
49 9CIFOS										
531.00 > 351.00	4.579	4.578	0.001	1.108	12439899	2.32		99.6	11833	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.699	4.697	0.002	1.062	5725834	2.37	Target=3.99	99.0	8208	
549.00 > 99.00	4.699	4.697	0.002	1.062	1484188		3.86(2.00-5.99)		4952	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.716	4.705	0.011	1.000	8400516	2.49		99.5	5180	
D 55 13C8 FOSA										
506.00 > 78.00	4.716	4.705	0.011	1.141	4421387	1.32		105	4783	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.733	4.722	0.011	1.000	11429872	2.58	Target=10.58	103	8781	
513.00 > 169.00	4.733	4.722	0.011	1.000	1016177		11.25(5.29-15.88)		434	
D 52 13C2 PFDA										
515.00 > 470.00	4.733	4.722	0.011	1.145	6181568	1.29		103	11404	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.741	4.731	0.010	1.147	976918	1.26		105	1984	
53 8:2 FTS										
527.00 > 507.00	4.741	4.739	0.002	1.000	2937623	2.40		100	7515	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.874	4.872	0.002	1.180	780923	1.74		139	299	
57 NMeFOSAA										
570.00 > 419.00	4.874	4.872	0.002	1.000	1349103	2.29		91.8	2079	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.959	4.957	0.002	1.121	5248355	2.48	Target=3.55	103	5056	
599.00 > 99.00	4.959	4.957	0.002	1.121	1423349		3.69(1.78-5.33)		5206	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.997	4.985	0.012	1.002	11421218	2.45	Target=8.26	97.9	9637	
563.00 > 169.00	4.988	4.985	0.003	1.000	1327862		8.60(4.13-12.39)		3512	
D 59 13C2 PFUnA										
565.00 > 520.00	4.988	4.985	0.003	1.207	6032193	1.30		104	10805	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.007	5.005	0.002	1.212	706053	1.53		122	2471	
62 NEtFOSAA										
584.00 > 419.00	5.017	5.005	0.012	1.002	1296745	2.53		101	1568	
65 10:2 FTUCA										
556.86 > 492.90	5.095	5.092	0.003	1.000	6199010	2.53		101	8099	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.095	5.092	0.003	1.233	2534953	1.26		101	7247	
63 11C1FOS										
631.00 > 451.00	5.095	5.092	0.003	1.152	10058631	2.43		103	14158	
66 10:2 FTCA										
576.80 > 493.00	5.114	5.102	0.012	1.000	291152	2.68	Target=2.53	107	2200	
576.80 > 63.10	5.104	5.102	0.002	0.998	120845		2.41(1.26-3.79)		388	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.114	5.111	0.003	1.238	141797	1.16		92.6	807	
D 69 13C2 PFDoA										
615.00 > 570.00	5.228	5.226	0.002	1.265	5827832	1.28		102	9432	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.228	5.226	0.002	1.000	11726821	2.43	Target=6.85	97.4	7666	
613.00 > 169.00	5.228	5.226	0.002	1.000	1742494		6.73(3.43-10.28)		2454	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.245	5.243	0.002	1.269	814277	1.24		105	4807	
71 10:2 FTS										
627.00 > 607.00	5.245	5.251	-0.006	1.000	3662252	2.55		106	9043	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.285	5.275	0.010	1.279	569760	1.21		97.0	472	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.285	5.283	0.002	1.279	511629	1.28		102	47.1	
74 NMeFOSA										
512.00 > 169.00	5.285	5.283	0.002	1.000	1106019	2.51		100	864	
75 N-MeFOSE-M										
616.00 > 59.00	5.294	5.292	0.002	1.002	1415571	2.65		106	2253	
76 PFDoS										
699.00 > 80.00	5.401	5.399	0.002	1.221	5706260	2.53	Target=4.22	105	8146	
699.00 > 99.00	5.401	5.399	0.002	1.221	1310842		4.35(2.11-6.34)		5289	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.437	5.435	0.002	1.316	595992	1.22		97.8	256	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.437	5.435	0.002	1.040	9849286	2.39	Target=6.32	95.7	8157	
663.00 > 169.00	5.437	5.435	0.002	1.040	1635280		6.02(3.16-9.48)		4485	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.454	5.452	0.002	1.320	417952	1.30		104	722	
79 N-EtFOSE-M										
630.00 > 59.00	5.454	5.452	0.002	1.003	1639773	2.42		97.0	1379	
81 N-EtFOSA-M										
526.00 > 169.00	5.463	5.452	0.011	1.002	1038708	2.50		99.8	663	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.619	5.617	0.002	1.360	4352783	1.19		95.3	8645	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.619	5.617	0.002	1.000	1190861	2.66	Target=1.01	106	3303	
713.00 > 219.00	5.609	5.617	-0.008	0.998	1111446		1.07(0.51-1.52)		4208	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.925	5.924	0.001	1.434	2825340	1.19		95.1	5876	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.925	5.924	0.001	1.000	6431691	2.52	Target=8.64	101	6591	
813.00 > 169.00	5.925	5.924	0.001	1.000	781535		8.23(4.32-12.97)		2229	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.184	-0.005	1.043	5711973	2.49	Target=11.77	99.8	6408	
913.00 > 169.00	6.179	6.184	-0.005	1.043	487376		11.72(5.88-17.65)		1602	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Injection Date: 19-Feb-2022 20:31:46

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 19

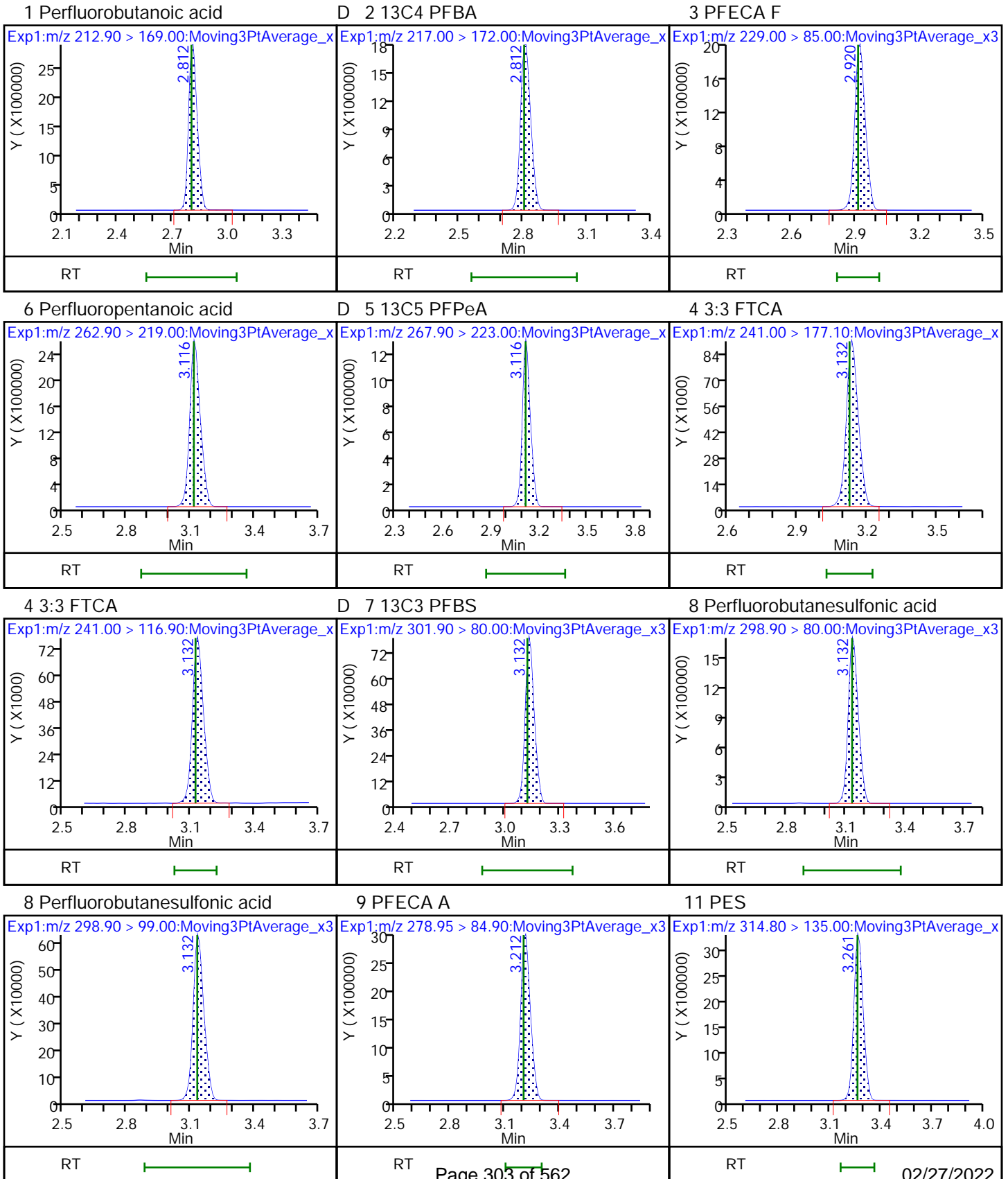
Worklist Smp#: 19

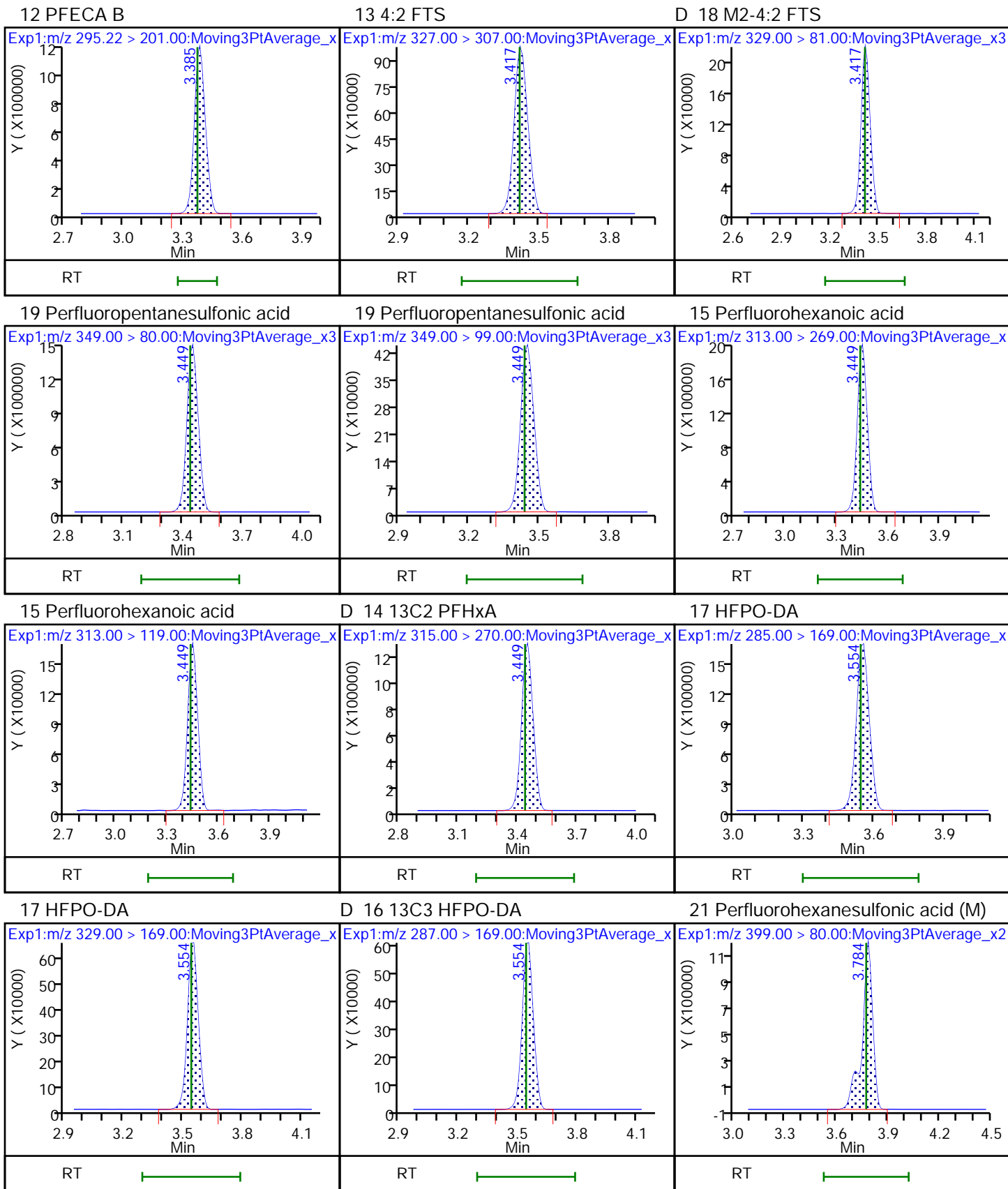
Injection Vol: 1.0 ul

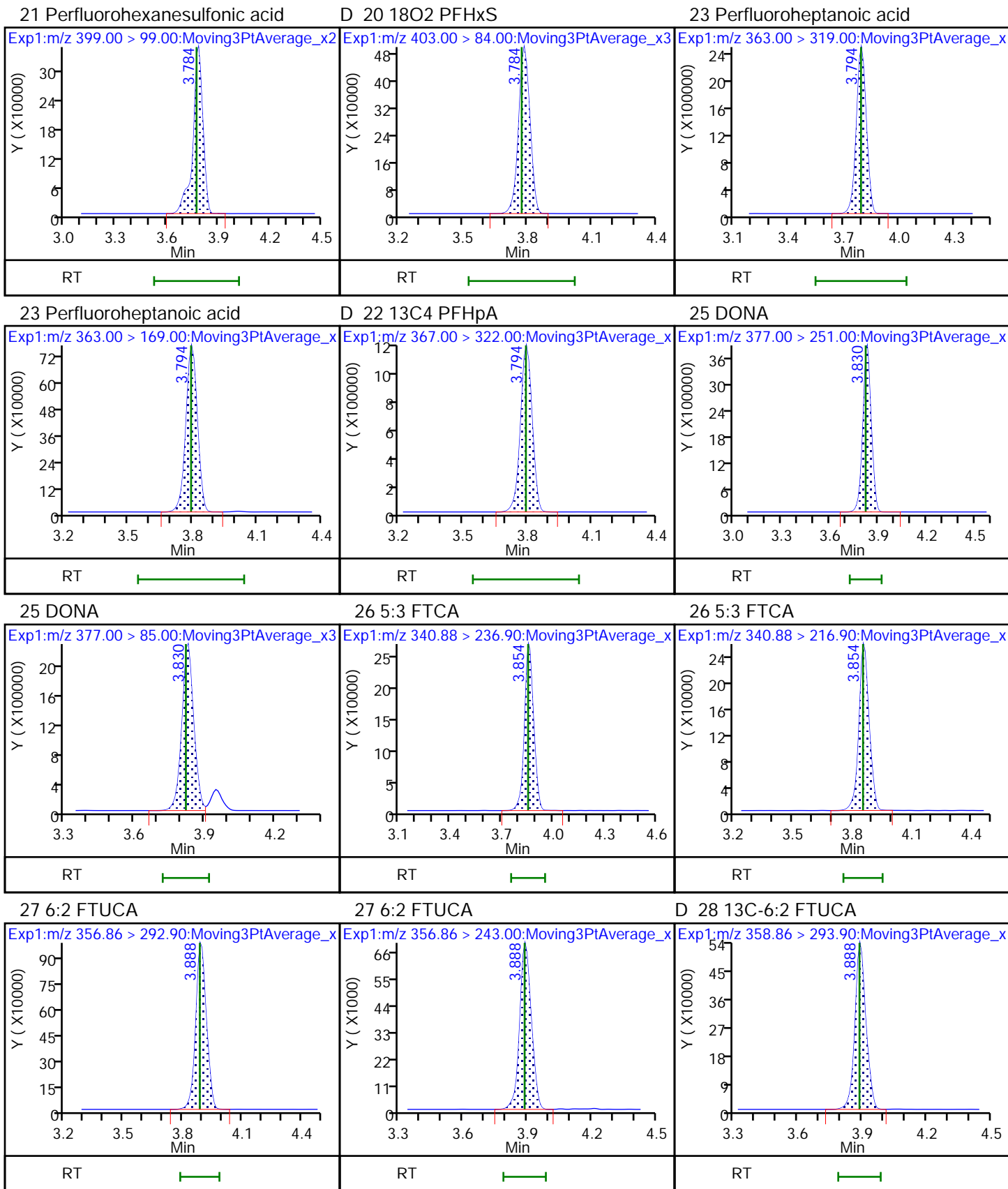
Dil. Factor: 1.0000

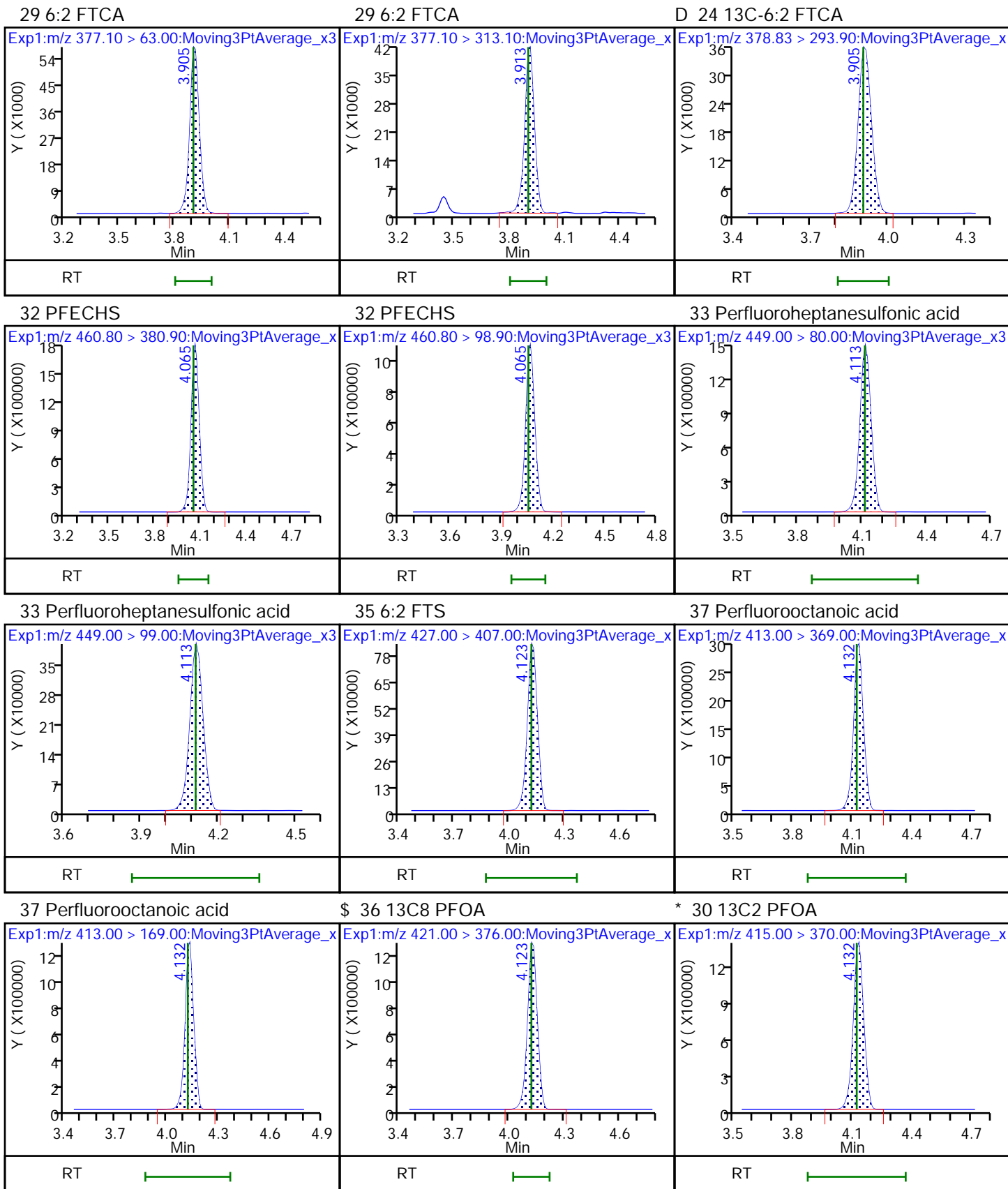
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL





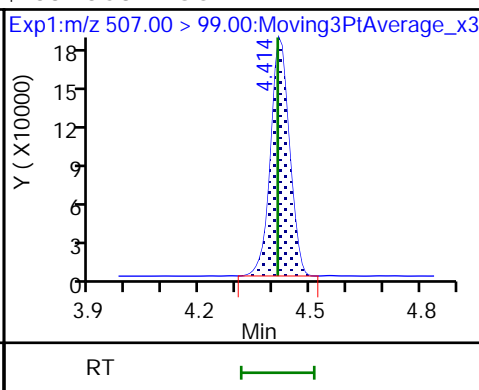
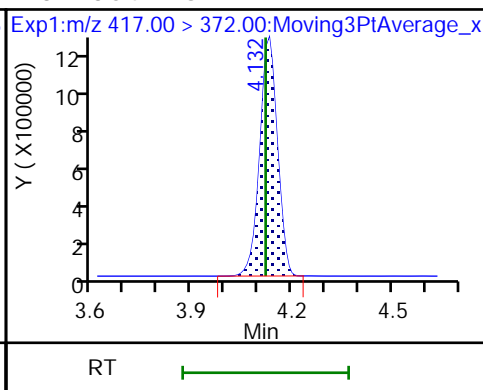
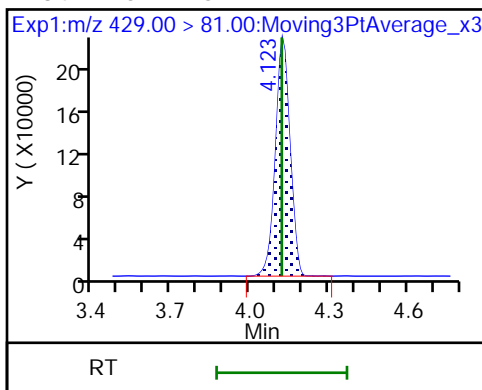




D 34 M2-6:2 FTS

D 31 13C4 PFOA

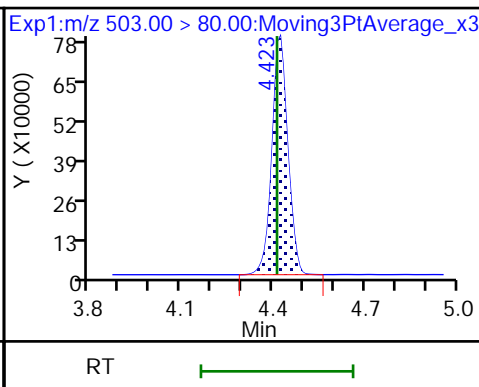
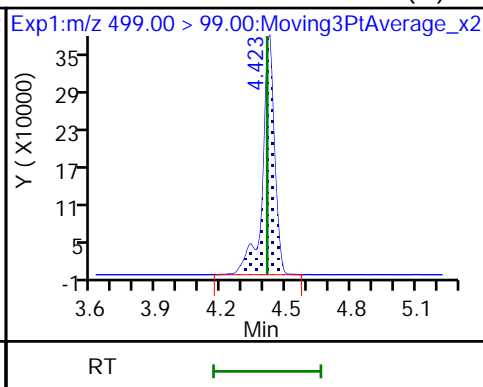
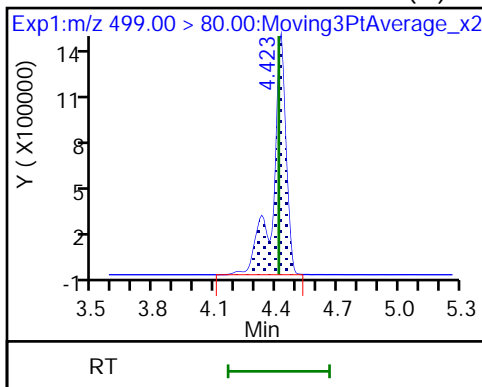
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid (M)

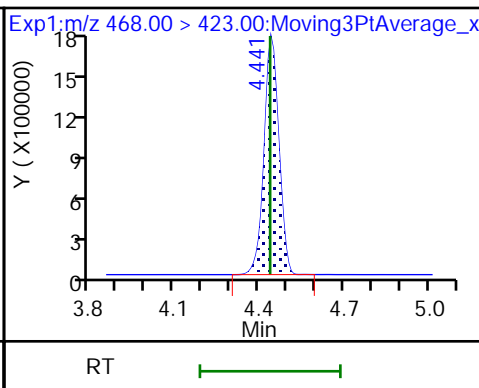
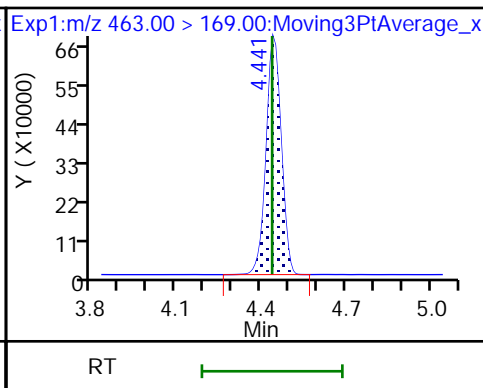
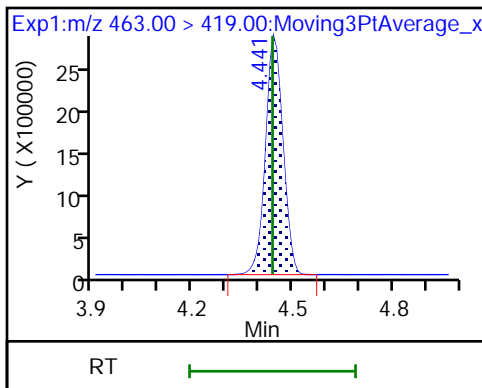
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

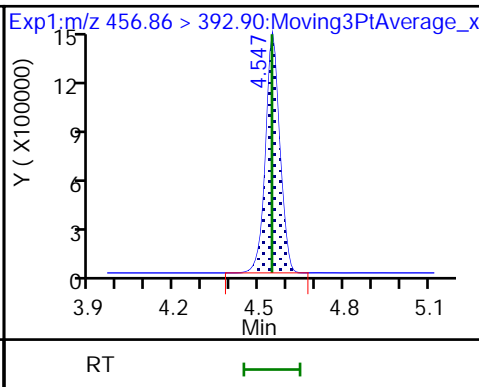
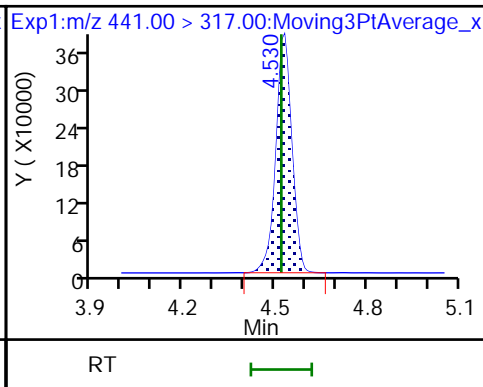
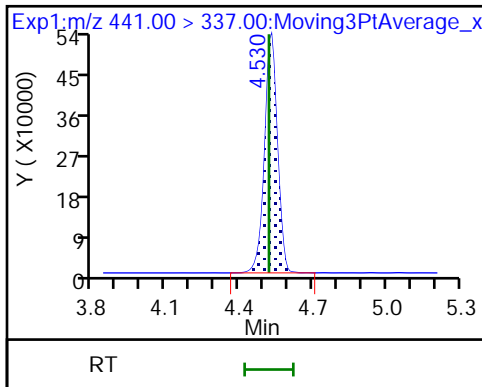
D 41 13C5 PFNA

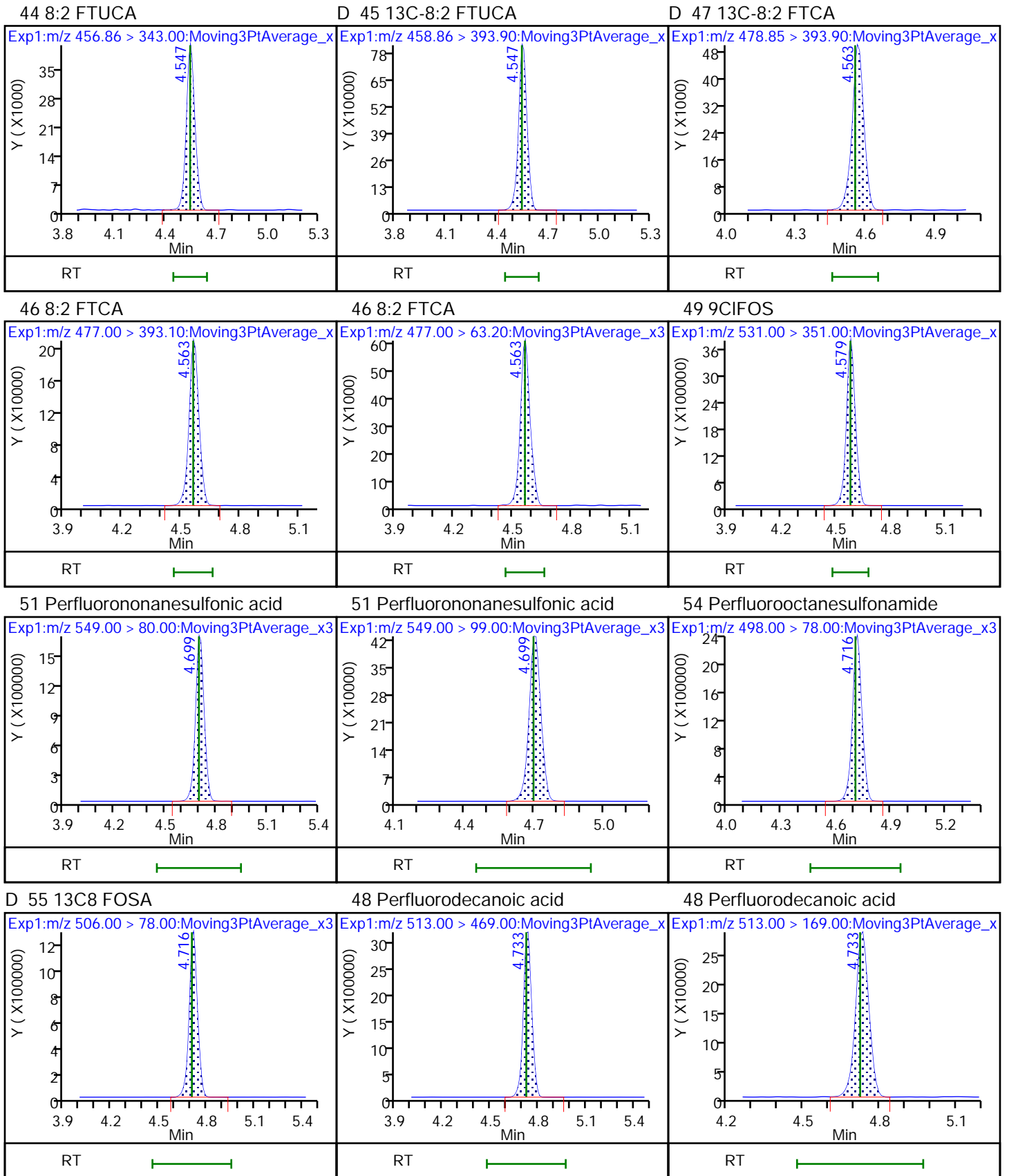


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA



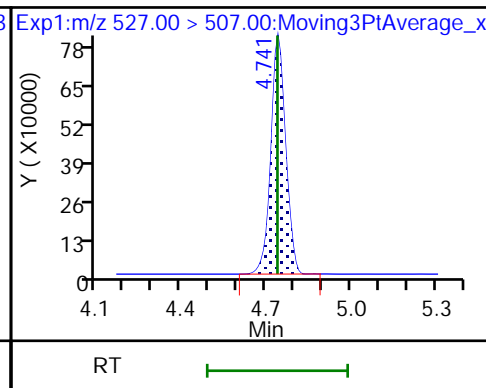
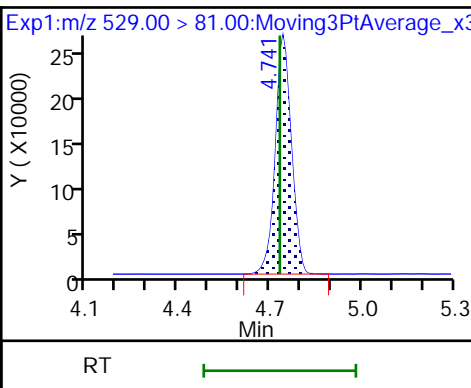
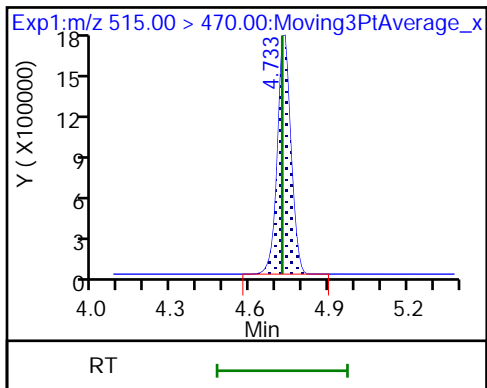




D 52 13C2 PFDA

D 50 M2-8:2 FTS

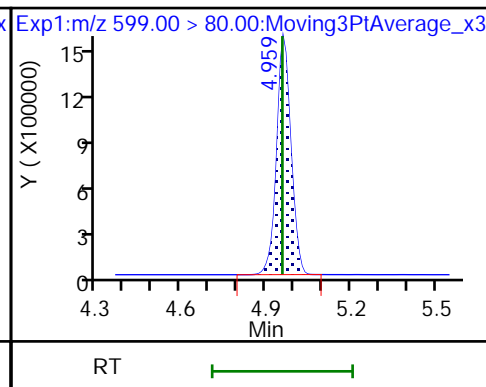
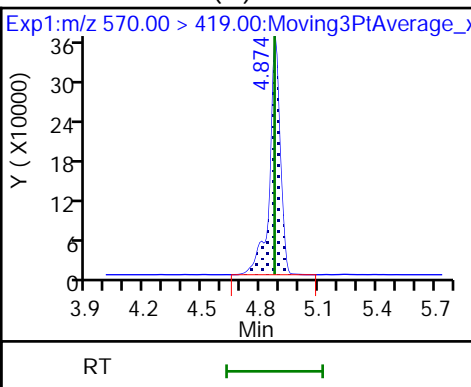
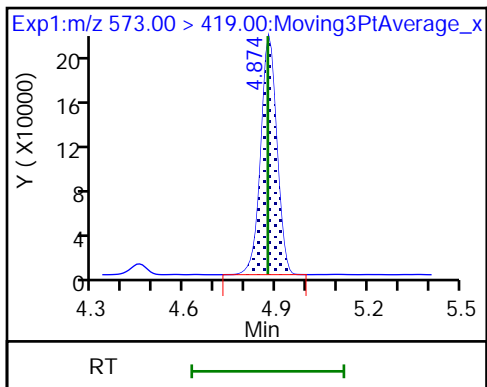
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

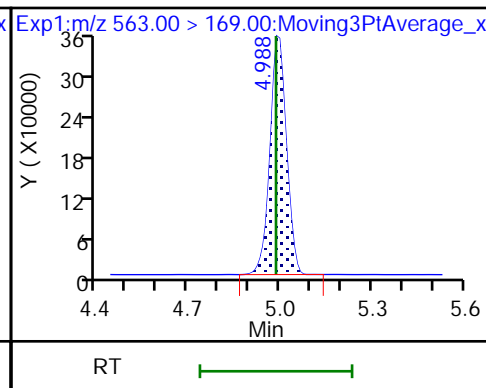
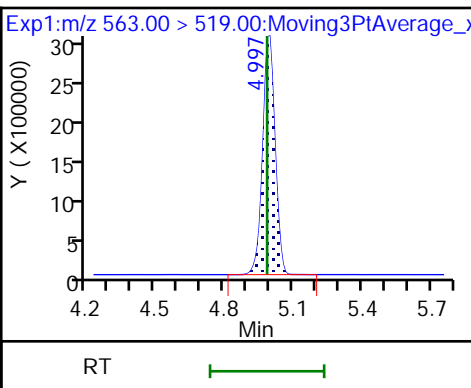
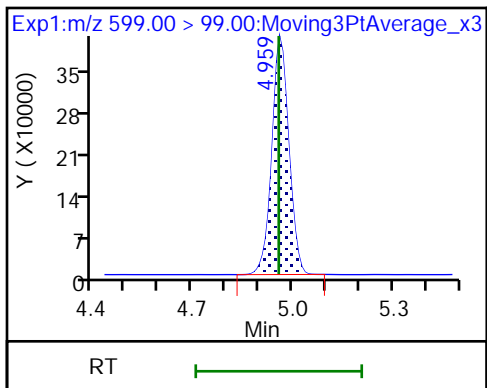
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

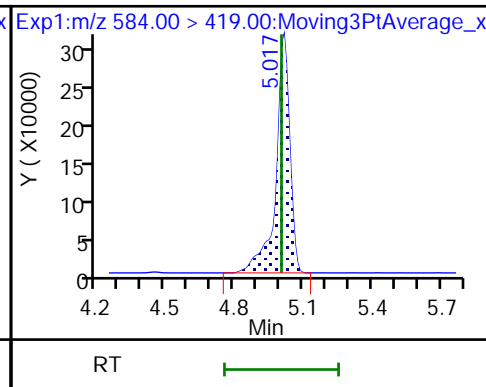
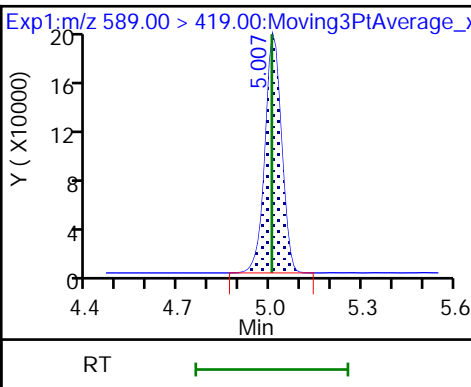
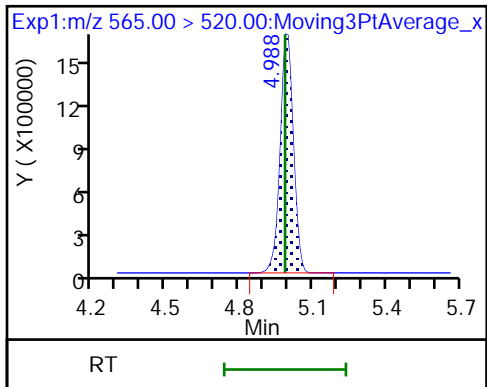
60 Perfluoroundecanoic acid

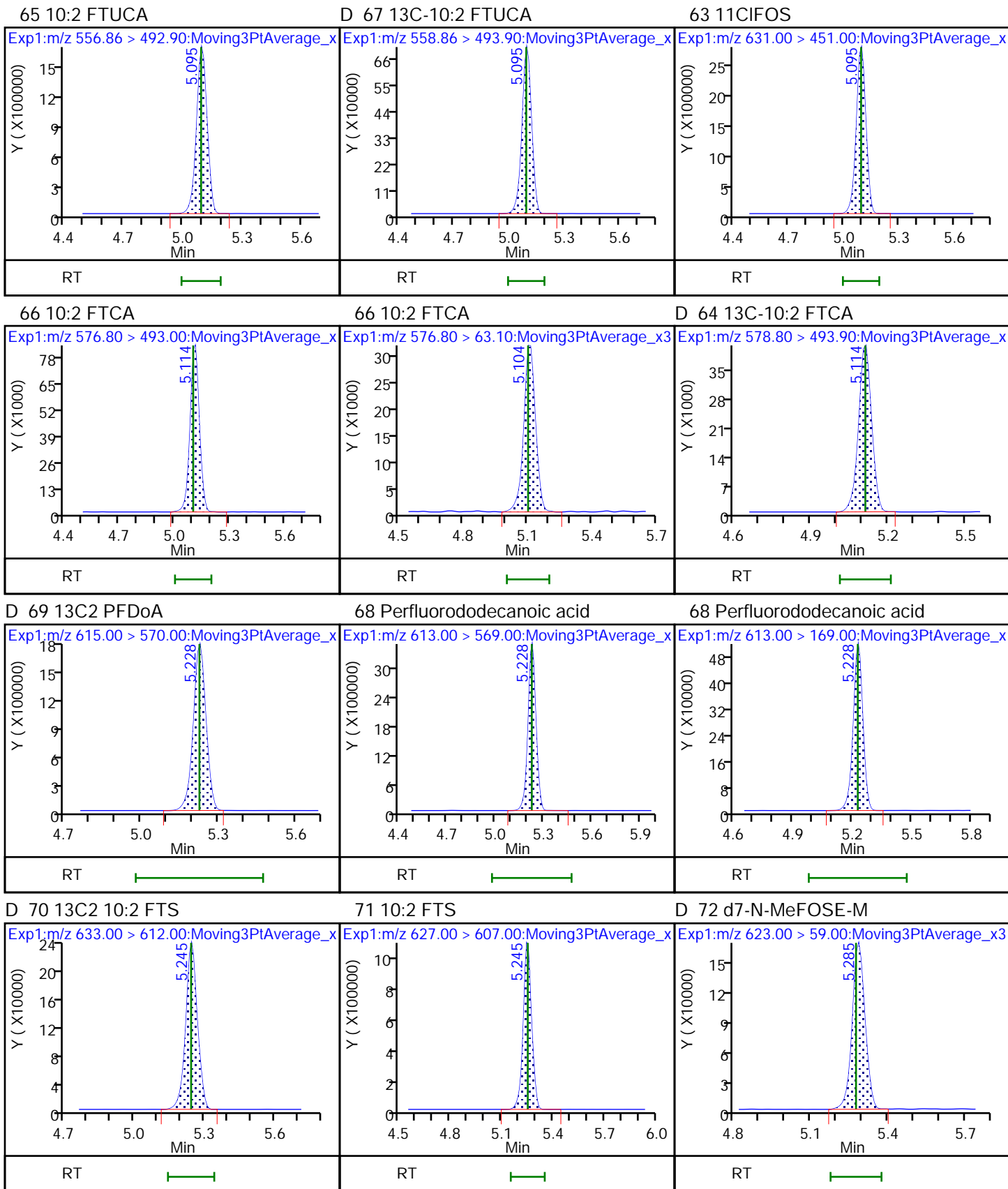


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA

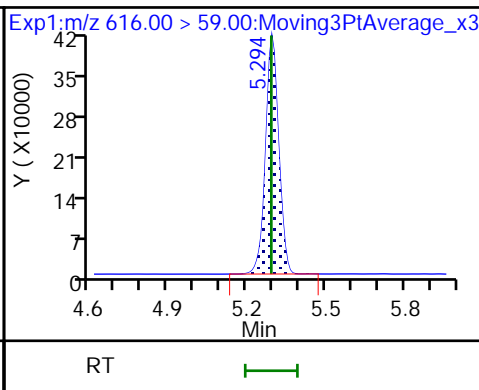
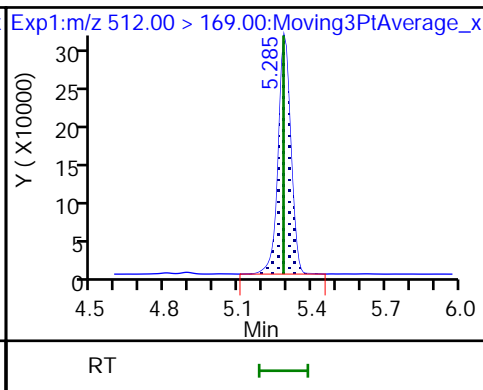
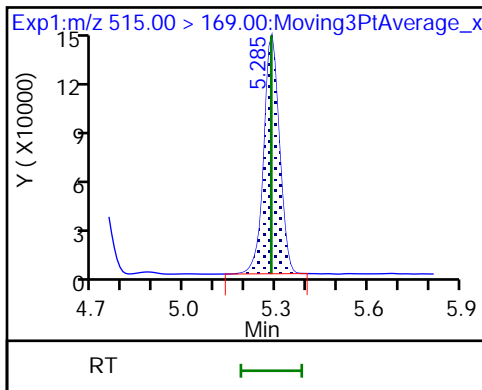




D 73 d-N-MeFOSA-M

74 NMeFOSA

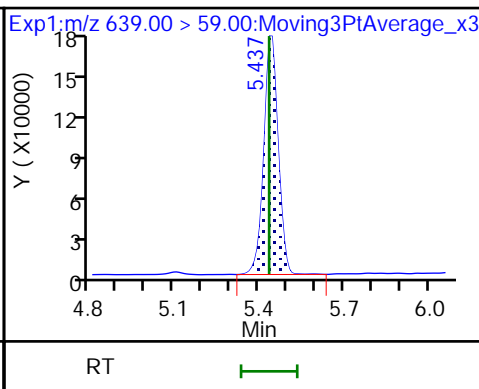
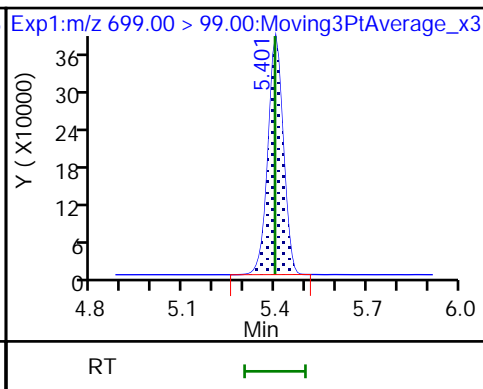
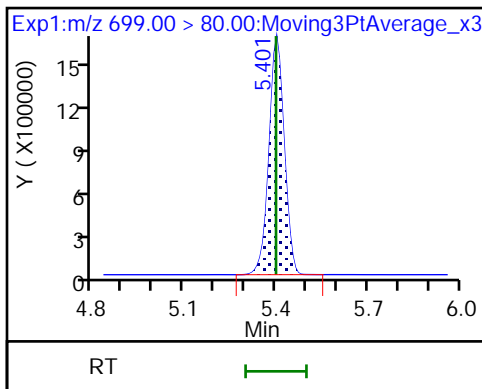
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

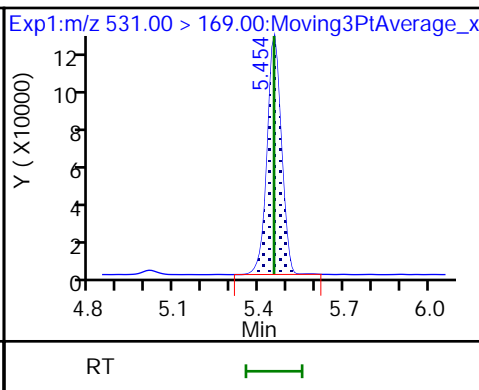
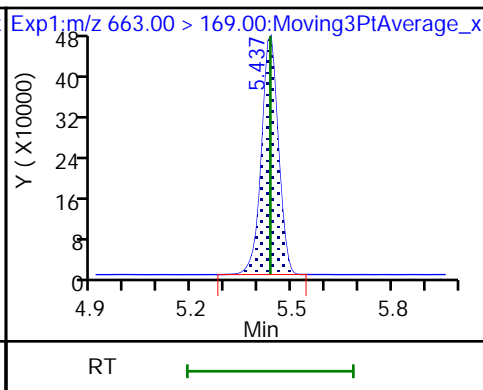
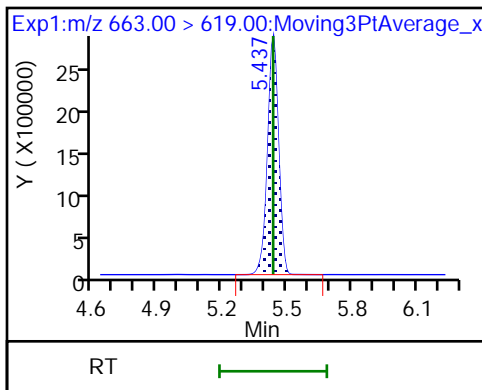
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

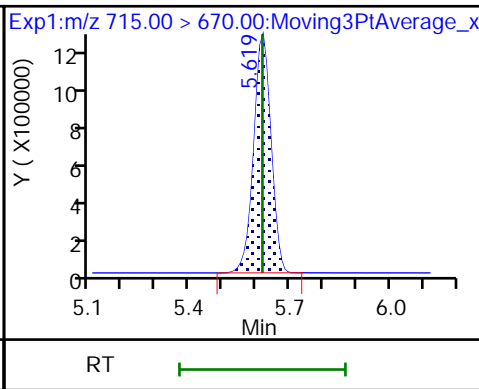
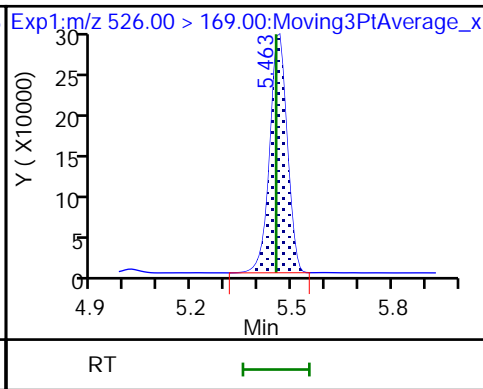
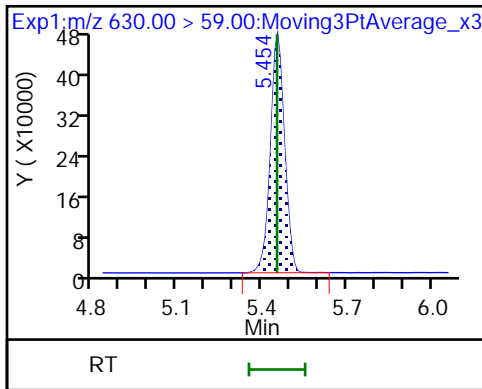
D 80 d-N-EtFOSA-M

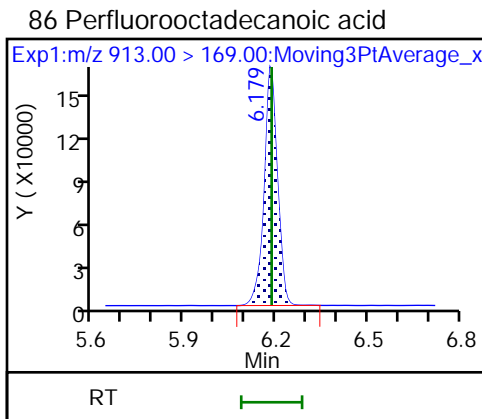
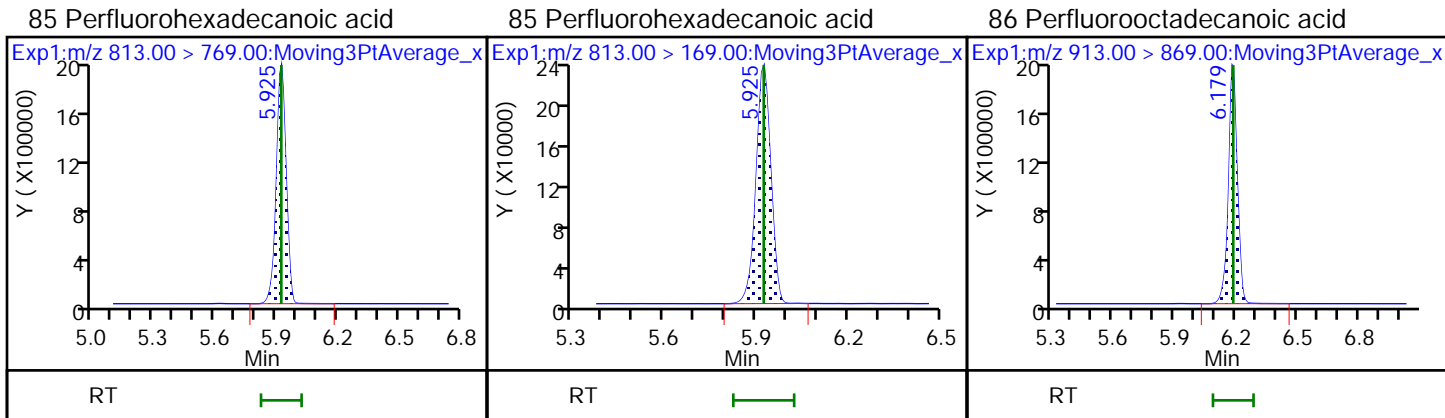
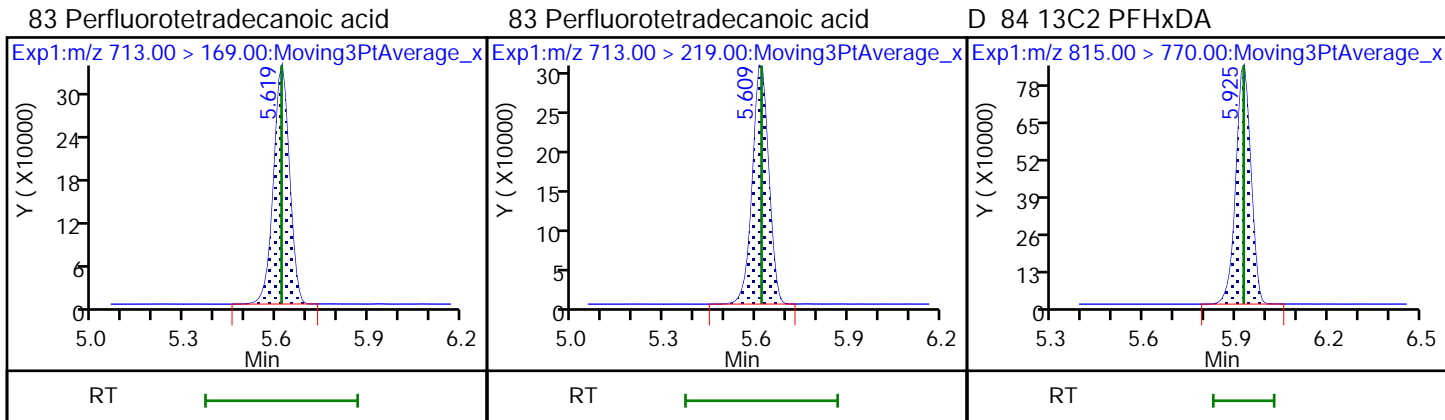


79 N-EtFOSE-M

81 N-EtFOSA-M

D 82 13C2 PFTeDA





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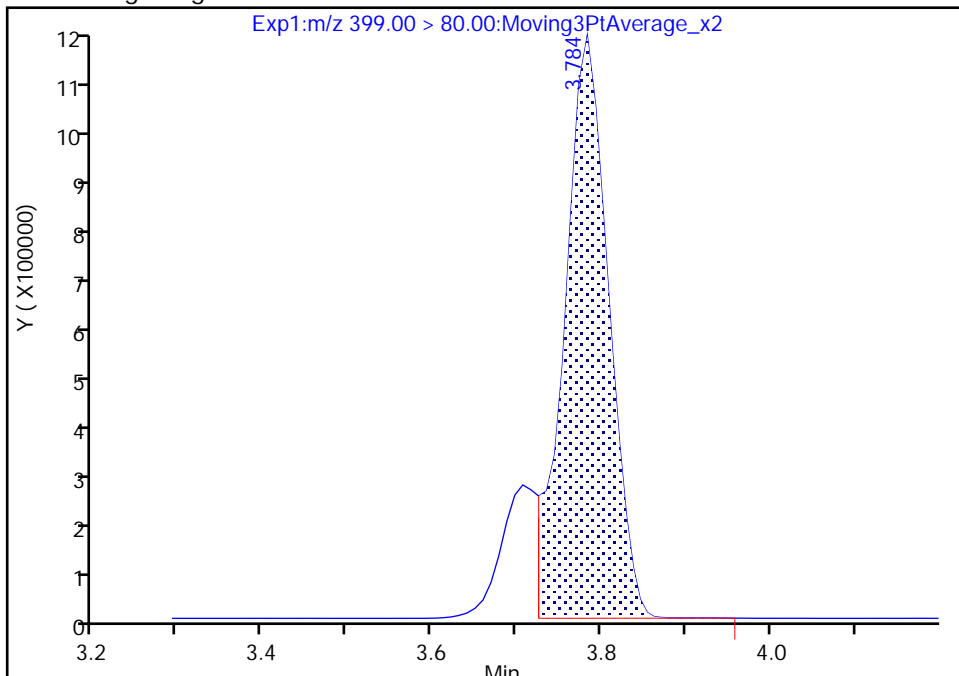
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Injection Date: 19-Feb-2022 20:31:46 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

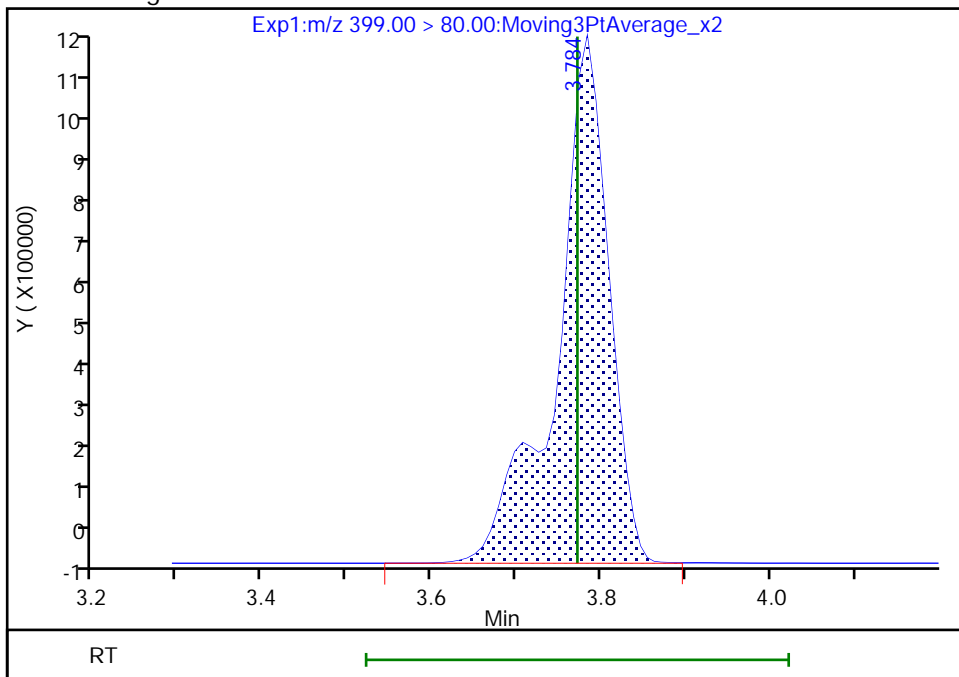
RT: 3.78  
Area: 3985568  
Amount: 1.858159  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 4716462  
Amount: 2.198918  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 15:58:19  
Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

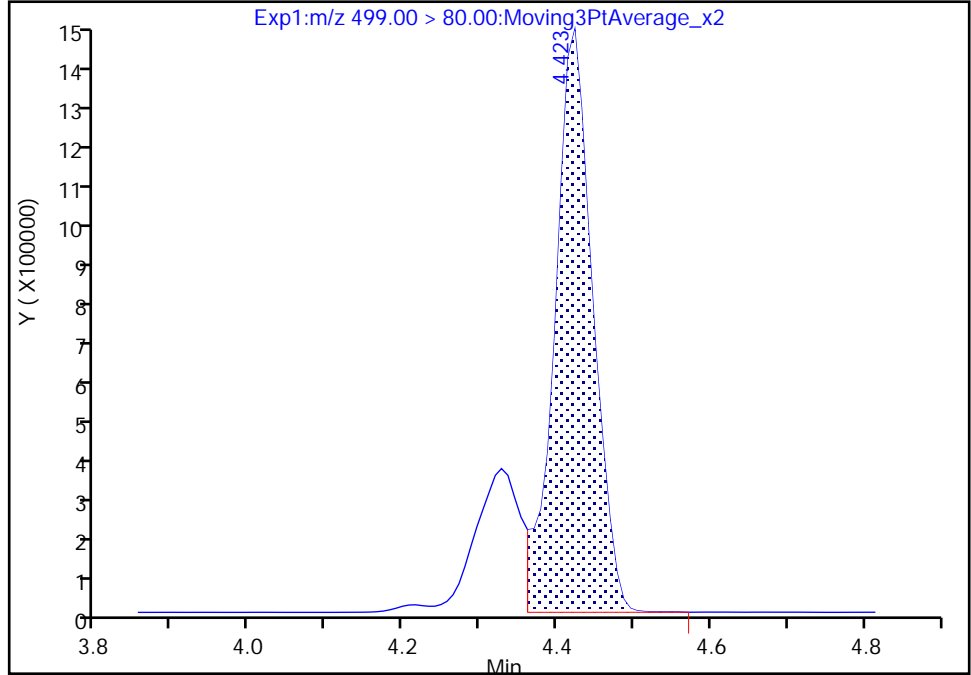
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

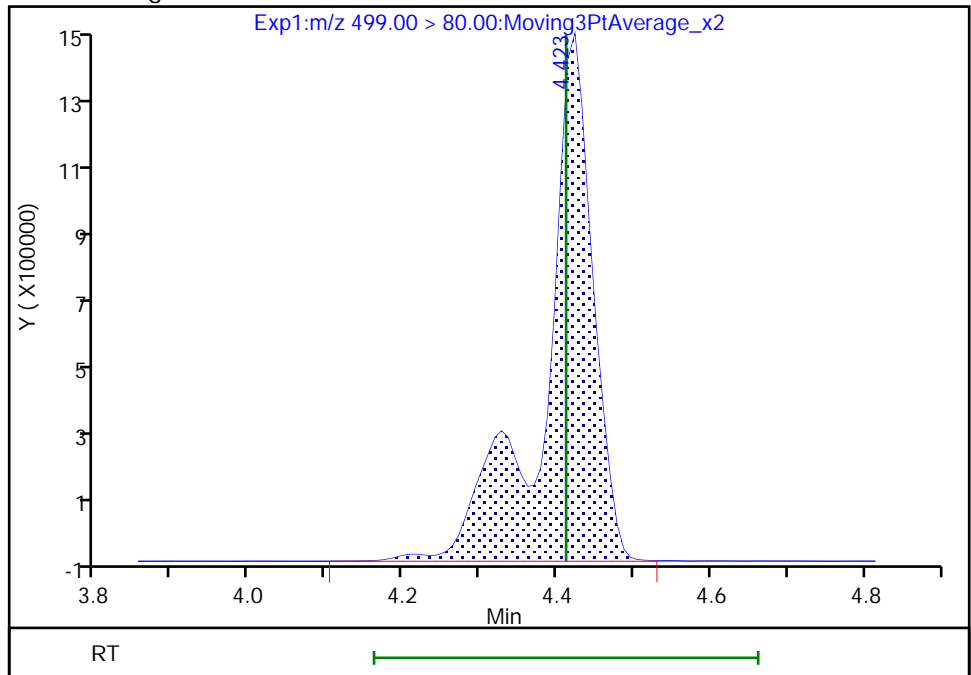
RT: 4.42  
Area: 4832624  
Amount: 1.770152  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 6272429  
Amount: 2.297541  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 15:58:36  
Audit Action: Manually Integrated

Eurofins Knoxville

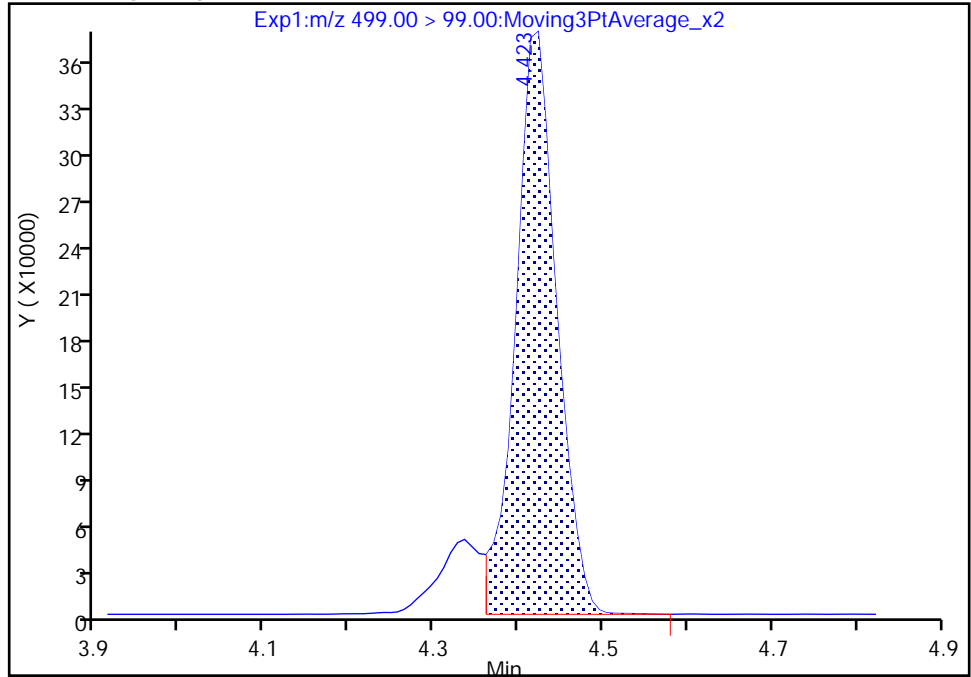
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Injection Date: 19-Feb-2022 20:31:46 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

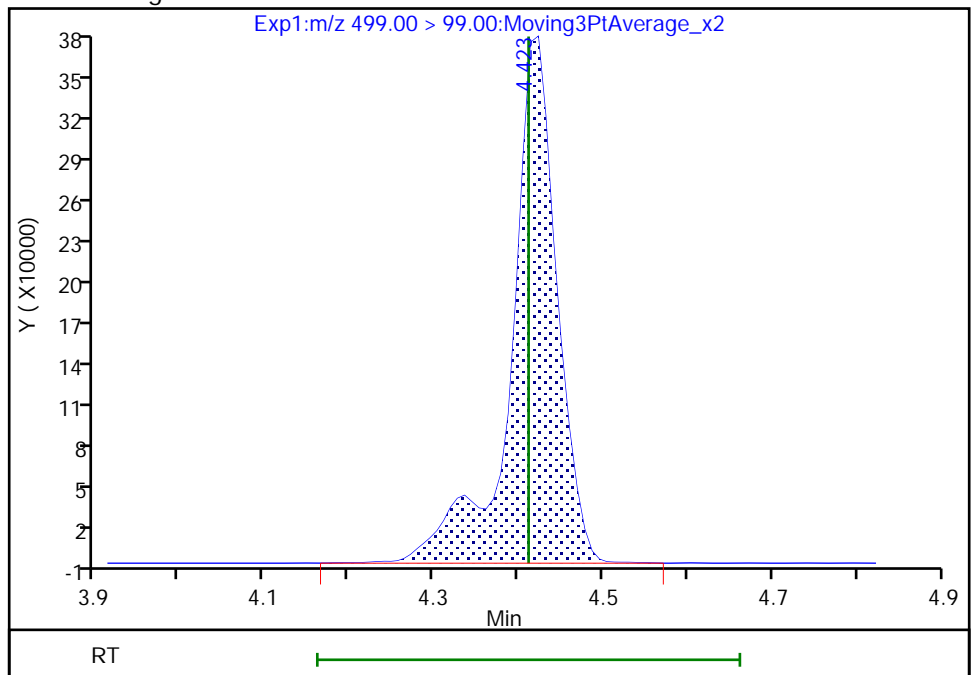
RT: 4.42  
Area: 1252164  
Amount: 1.770152  
Amount Units: ng/ml

Processing Integration Results



RT: 4.42  
Area: 1423263  
Amount: 2.297541  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 15:58:42

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

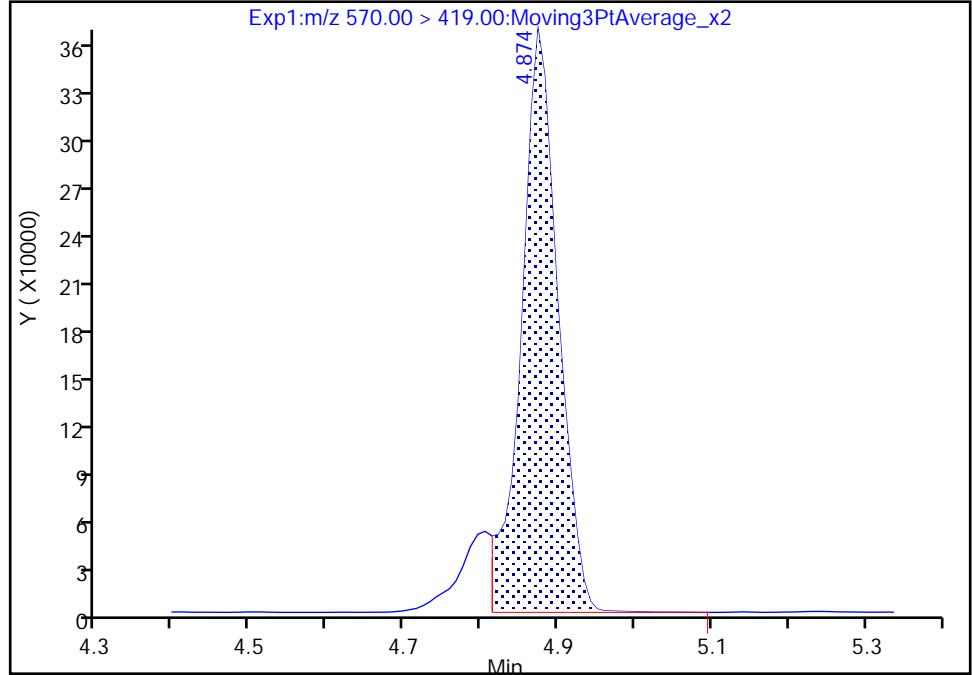
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 19 Worklist Smp#: 19  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

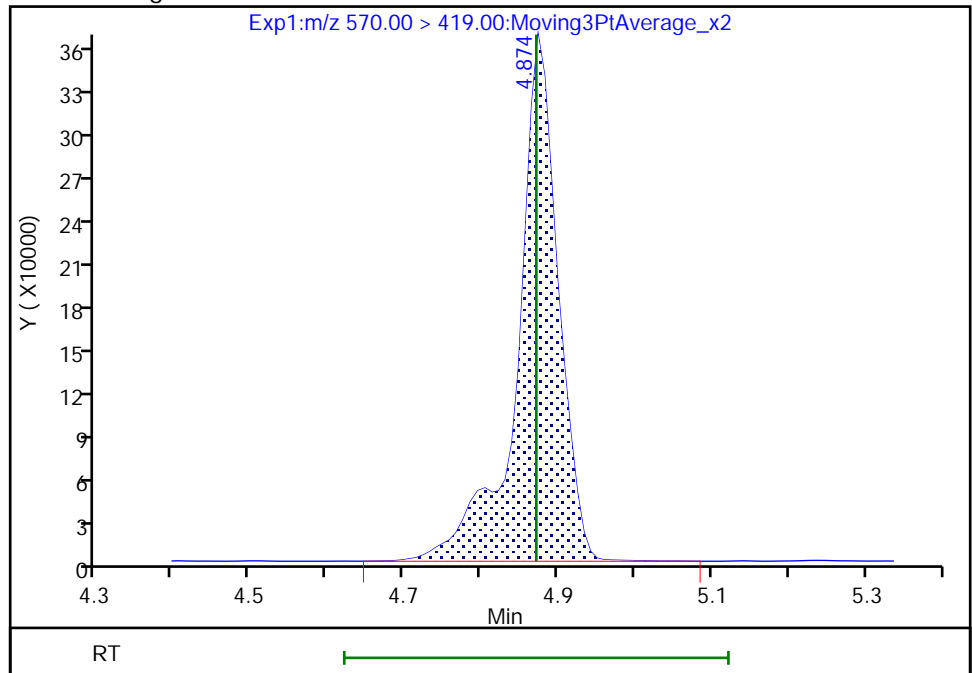
RT: 4.87  
Area: 1201850  
Amount: 2.050521  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1349103  
Amount: 2.294070  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 15:58:58  
Audit Action: Manually Integrated



FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/30 Calibration Date: 02/19/2022 22:08  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_030.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7472		0.942	1.00	-5.8	40.0
PFECA F	AveID	0.7535	0.7260		0.964	1.00	-3.7	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9323		0.991	1.00	-0.9	40.0
3:3 FTCA	QuaIF		0.0530		0.974	1.00	-2.6	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.051		0.848	0.884	-4.0	40.0
PFECA A	Q2ID		1.158		0.988	1.00	-1.2	40.0
PES	Q2ID		2.320		0.872	0.890	-2.1	40.0
PFECA B	Q2ID		0.4319		1.04	1.00	4.3	40.0
4:2 FTS	L2ID		2.256		0.927	0.934	-0.8	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7486		0.941	1.00	-5.9	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	0.998		0.907	0.938	-3.3	40.0
HFPO-DA	L2ID		1.265		1.00	1.00	0.2	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.039		0.683	0.910	-25.0	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.020		1.02	1.00	1.8	40.0
DONA	AveID	2.644	2.187		0.779	0.942	-17.3	40.0
5:3 FTCA	L2ID		3.077		0.816	1.00	-18.4	40.0
6:2 FTUCA	AveID	1.046	0.9585		0.916	1.00	-8.4	40.0
6:2 FTCA	L1ID		0.6998		1.01	1.00	0.8	40.0
PFECHS	AveID	0.7426	0.7361		0.914	0.922	-0.9	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9057		0.873	0.952	-8.3	40.0
6:2 FTS	L2ID		1.673		0.867	0.948	-8.5	40.0
Perfluorooctanoic acid (PFOA)	L1ID		0.9569		0.893	1.00	-10.7	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	0.7655		0.620	0.928	-33.2	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7551		0.993	1.00	-0.7	40.0
7:3 FTCA	AveID	5.230	4.559		0.872	1.00	-12.8	40.0
8:2 FTUCA	AveID	0.9565	0.8356		0.874	1.00	-12.6	40.0
8:2 FTCA	AveID	1.811	1.703		0.941	1.00	-5.9	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.040		0.846	0.932	-9.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9154		0.869	0.960	-9.5	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9391		0.983	1.00	-1.7	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8739		0.971	1.00	-2.9	40.0
8:2 FTS	L2ID		1.453		0.924	0.958	-3.5	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8142		0.883	1.00	-11.7	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8818		0.954	0.964	-1.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/30 Calibration Date: 02/19/2022 22:08  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_030.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9318		0.964	1.00	-3.7	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.8815		1.00	1.00	0.2	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.658		0.896	0.942	-4.9	50.0
10:2 FTUCA	AveID	1.208	1.203		0.996	1.00	-0.4	40.0
10:2 FTCA	Q2ID		1.078		1.17	1.00	17.2	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9730		0.942	1.00	-5.8	40.0
10:2 FTS	L2ID		2.111		0.970	0.964	0.6	50.0
NMeFOSA	L2ID		1.068		0.989	1.00	-1.1	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.145		0.976	1.00	-2.4	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9124		0.934	0.968	-3.5	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8660		0.981	1.00	-1.9	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.235		0.870	1.00	-13.0	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.263		1.01	1.00	1.2	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1233		0.955	1.00	-4.5	40.0
Perfluorohexadecanoic acid	L1ID		1.121		0.984	1.00	-1.6	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9557		0.944	1.00	-5.6	40.0
13C4 PFBA	Ave	1.172	1.135		1.21	1.25	-3.1	50.0
13C5 PFPeA	Ave	0.9197	0.8274		1.12	1.25	-10.0	50.0
13C3 PFBS	Ave	0.5817	0.5555		1.11	1.16	-4.5	50.0
M2-4:2 FTS	Ave	0.1821	0.1724		1.11	1.17	-5.3	50.0
13C2 PFHxA	Ave	1.015	0.8952		1.10	1.25	-11.8	50.0
13C3 HFPO-DA	Ave	0.4963	0.4309		1.09	1.25	-13.2	50.0
18O2 PFHxS	Ave	0.3776	0.3924		1.23	1.18	3.9	50.0
13C4 PFHpA	Ave	0.9046	0.8154		1.13	1.25	-9.9	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3562		1.32	1.25	5.6	50.0
13C-6:2 FTCA	Ave	0.0260	0.0277		1.33	1.25	6.6	50.0
13C4 PFOA	Ave	0.9356	0.9036		1.21	1.25	-3.4	50.0
M2-6:2 FTS	Ave	0.1799	0.1859		1.23	1.19	3.3	50.0
13C4 PFOS	Ave	0.5610	0.5825		1.24	1.20	3.8	50.0
13C5 PFNA	Ave	1.268	1.172		1.16	1.25	-7.6	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5433		1.50	1.25	20.2	50.0
13C-8:2 FTCA	Ave	0.0330	0.0367		1.39	1.25	11.2	50.0
13C8 FOSA	Ave	0.8475	0.8578		1.27	1.25	1.2	50.0
13C2 PFDA	Ave	1.210	1.167		1.21	1.25	-3.6	50.0
M2-8:2 FTS	Ave	0.1961	0.1925		1.18	1.20	-1.8	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/30 Calibration Date: 02/19/2022 22:08  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_030.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1425		1.57	1.25	25.6	50.0
13C2 PFUnA	Ave	1.168	1.094		1.17	1.25	-6.3	50.0
d5-NEtFOSAA	Ave	0.1164	0.1437		1.54	1.25	23.5	50.0
13C-10:2 FTUCA	Ave	0.5078	0.4732		1.17	1.25	-6.8	50.0
13C-10:2 FTCA	Ave	0.0309	0.0256		1.03	1.25	-17.3	50.0
13C2 PFDoA	Ave	1.152	1.069		1.16	1.25	-7.2	50.0
13C2 10:2 FTS	Ave	0.1652	0.1653		1.19	1.18	0.0	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1083		1.14	1.25	-8.7	50.0
d-N-MeFOSA-M	Ave	0.1009	0.0953		1.18	1.25	-5.5	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1111		1.13	1.25	-9.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0763		1.18	1.25	-5.8	50.0
13C2 PFTeDA	Ave	0.9216	0.8501		1.15	1.25	-7.8	50.0
13C2 PFHxDA	Ave	0.5997	0.5296		1.10	1.25	-11.7	50.0
13C8 PFOA	AveID	0.9229	0.9409		1.27	1.25	1.9	50.0
13C8 PFOS	AveID	0.2212	0.2103		1.14	1.20	-4.9	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_030.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 19-Feb-2022 22:08:41 ALS Bottle#: 30 Worklist Smp#: 30  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-030 rb 06  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 10:08:59

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.799	2.804	-0.005	1.000	3774368	0.9421		94.2	1157	
D 2 13C4 PFBA										
217.00 > 172.00	2.799	2.804	-0.005	0.680	6313848	1.21		96.9	21626	
3 PFECA F										
229.00 > 85.00	2.905	2.911	-0.006	0.934	2672742	0.9635		96.3	15112	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.109	3.115	-0.005	1.000	3432236	0.99		99.1	1340	
D 5 13C5 PFPeA										
267.90 > 223.00	3.109	3.115	-0.005	0.755	4601861	1.12		90.0	14083	
4 3:3 FTCA										
241.00 > 177.10	3.125	3.122	0.003	1.000	131023	0.9737	Target=1.13	97.4	1374	
241.00 > 116.90	3.117	3.122	-0.005	0.997	113619		1.15(0.56-1.69)		174	
D 7 13C3 PFBS										
301.90 > 80.00	3.125	3.122	0.003	0.759	2873541	1.11		95.5	10337	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.125	3.131	-0.006	1.000	2297253	0.8482	Target=2.61	96.0	3116	
298.90 > 99.00	3.125	3.131	-0.006	1.000	846758		2.71(1.31-3.92)		2426	
9 PFECA A										
278.95 > 84.90	3.205	3.202	0.002	1.031	4262375	0.9876		98.8	17124	
11 PES										
314.80 > 135.00	3.252	3.260	-0.008	1.041	5103747	0.8715		97.9	20368	
12 PFECA B										
295.22 > 201.00	3.377	3.373	0.003	0.981	1720287	1.04		104	7851	
13 4:2 FTS										
327.00 > 307.00	3.408	3.415	-0.007	1.000	1616888	0.9268		99.2	8176	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.408	3.415	-0.007	0.828	895854	1.11		94.7	1621	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.440	3.437	0.003	1.101	2314993	0.9072	Target=3.55	96.7	7056	
349.00 > 99.00	3.440	3.437	0.003	1.101	661015		3.50(1.78-5.33)		5458	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.440	3.437	0.003	1.000	2981764	0.9406	Target=11.60	94.1	1357	
313.00 > 119.00	3.440	3.437	0.003	1.000	255206		11.68(5.80-17.40)		297	
D 14 13C2 PFHxA										
315.00 > 270.00	3.440	3.437	0.003	0.836	4979127	1.10		88.2	11854	
17 HFPO-DA										
285.00 > 169.00	3.535	3.542	-0.007	1.000	2426064	1.00	Target=2.45	100	616	
329.00 > 169.00	3.535	3.542	-0.007	1.000	941582		2.58(1.23-3.68)		536	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.535	3.542	-0.007	0.859	2396760	1.09		86.8	8669	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.766	3.772	-0.006	0.997	1651262	0.6827	Target=3.44	75.0	81.5	
399.00 > 99.00	3.766	3.772	-0.006	0.997	587972		2.81(1.72-5.17)		1863	
D 20 18O2 PFHxS										
403.00 > 84.00	3.776	3.772	0.004	0.917	2064871	1.23		104	6049	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.786	3.792	-0.006	1.000	3701652	1.02	Target=3.25	102	2339	
363.00 > 169.00	3.786	3.792	-0.006	1.000	1165096		3.18(1.62-4.87)		1756	
D 22 13C4 PFHpA										
367.00 > 322.00	3.786	3.792	-0.006	0.920	4535218	1.13		90.1	10640	
25 DONA										
377.00 > 251.00	3.816	3.820	-0.004	0.866	5338970	0.7792	Target=1.74	82.7	10725	
377.00 > 85.00	3.816	3.820	-0.004	0.866	3252113		1.64(0.87-2.61)		143	
26 5:3 FTCA										
340.88 > 236.90	3.849	3.853	-0.004	0.987	379871	0.8156	Target=1.11	81.6	1614	
340.88 > 216.90	3.849	3.853	-0.004	0.987	347400		1.09(0.56-1.67)		755	
27 6:2 FTUCA										
356.86 > 292.90	3.874	3.886	-0.012	0.998	1519431	0.9160	Target=13.05	91.6	4873	
356.86 > 243.00	3.882	3.886	-0.004	1.000	106772		14.23(6.52-19.57)		546	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.882	3.886	-0.004	0.943	1981432	1.32		106	5862	
29 6:2 FTCA										
377.10 > 63.00	3.899	3.903	-0.004	1.000	86406	1.01	Target=1.29	101	342	
377.10 > 313.10	3.899	3.903	-0.004	1.000	58712		1.47(0.65-1.94)		118	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.899	3.903	-0.004	0.947	154334	1.33		107	786	
32 PFECHS										
460.80 > 380.90	4.050	4.054	-0.004	0.984	2728823	0.9139	Target=1.75	99.1	5971	
460.80 > 98.90	4.050	4.054	-0.004	0.984	1553362		1.76(0.87-2.62)		4323	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.097	4.111	-0.014	0.929	2234652	0.8730	Target=3.72	91.7	5266	
449.00 > 99.00	4.097	4.111	-0.014	0.929	565613		3.95(1.86-5.57)		2040	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.116	4.121	-0.005	1.000	1312680	0.8671		91.5	3767	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.116	4.121	-0.005	1.000	3847241	0.8934	Target=2.51	89.3	2529	
413.00 > 169.00	4.116	4.121	-0.005	1.000	1631101		2.36(1.26-3.77)		3172	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.116	4.121	-0.005	1.000	4728657	1.27		102	7213	
* 30 13C2 PFOA										
415.00 > 370.00	4.116	4.121	-0.005		5562146	1.25			12956	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.116	4.121	-0.005	1.000	982565	1.23		103	2515	
D 31 13C4 PFOA										
417.00 > 372.00	4.116	4.121	-0.005	1.000	5025751	1.21		96.6	15048	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.408	4.412	-0.004	1.000	651438	1.14		95.1	1779	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.408	4.412	-0.004	1.000	1841168	0.6203	Target=4.30	66.8	41.4	
499.00 > 99.00	4.408	4.412	-0.004	1.000	523751		3.52(2.15-6.45)		68.2	
D 39 13C4 PFOS										
503.00 > 80.00	4.408	4.412	-0.004	1.071	3097224	1.24		104	4486	
42 Perfluorononanoic acid										
463.00 > 419.00	4.426	4.438	-0.012	0.998	3937716	0.99	Target=3.60	99.3	4689	
463.00 > 169.00	4.426	4.438	-0.012	0.998	1000561		3.94(1.80-5.40)		2718	
D 41 13C5 PFNA										
468.00 > 423.00	4.435	4.438	-0.003	1.077	6518350	1.15		92.4	10956	
43 7:3 FTCA										
441.00 > 337.00	4.515	4.519	-0.004	0.993	745422	0.8718	Target=1.42	87.2	1683	
441.00 > 317.00	4.515	4.519	-0.004	0.993	589614		1.26(0.71-2.13)		1379	
44 8:2 FTUCA										
456.86 > 392.90	4.532	4.545	-0.013	0.998	2019967	0.8736	Target=35.37	87.4	4031	
456.86 > 343.00	4.541	4.545	-0.004	1.000	56683		35.64(17.68-53.05)		173	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.541	4.545	-0.004	1.000	3021704	1.50		120	6633	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.549	4.553	-0.004	1.105	204363	1.39		111	698	
46 8:2 FTCA										
477.00 > 393.10	4.549	4.561	-0.012	1.000	278482	0.9406	Target=3.35	94.1	1418	
477.00 > 63.20	4.549	4.561	-0.012	1.000	86724		3.21(1.68-5.03)		442	
49 9CIFOS										
531.00 > 351.00	4.565	4.578	-0.013	1.109	4927218	0.8456		90.7	8854	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.693	4.697	-0.004	1.065	2277573	0.8688	Target=3.99	90.5	4339	
549.00 > 99.00	4.684	4.697	-0.013	1.063	587825		3.87(2.00-5.99)		2013	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.702	4.705	-0.003	1.000	3584801	0.9834		98.3	5579	
D 55 13C8 FOSA										
506.00 > 78.00	4.702	4.705	-0.003	1.142	4771343	1.27		101	4715	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.719	4.722	-0.003	1.000	4536605	0.9713	Target=10.58	97.1	3845	
513.00 > 169.00	4.719	4.722	-0.003	1.000	404227		11.22(5.29-15.88)		302	
D 52 13C2 PFDA										
515.00 > 470.00	4.719	4.722	-0.003	1.146	6489378	1.21		96.4	12077	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.727	4.731	-0.004	1.149	1025915	1.18		98.2	1952	
53 8:2 FTS										
527.00 > 507.00	4.727	4.739	-0.012	1.000	1192279	0.9241		96.5	3914	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.859	4.872	-0.013	1.180	792475	1.57		126	574	
57 NMeFOSAA										
570.00 > 419.00	4.867	4.872	-0.005	1.002	516168	0.8825		88.3	123	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.953	4.957	-0.004	1.124	2203114	0.9543	Target=3.55	99.0	6047	
599.00 > 99.00	4.953	4.957	-0.004	1.124	574884		3.83(1.78-5.33)		2517	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.980	4.985	-0.005	1.000	4537507	0.9635	Target=8.26	96.3	4884	
563.00 > 169.00	4.980	4.985	-0.005	1.000	537126		8.45(4.13-12.39)		2143	
D 59 13C2 PFUnA										
565.00 > 520.00	4.980	4.985	-0.005	1.210	6087135	1.17		93.7	10459	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.999	5.005	-0.006	1.215	799475	1.54		123	3213	
62 NEtFOSAA										
584.00 > 419.00	4.999	5.005	-0.006	1.000	563776	1.00		100	192	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.087	5.092	-0.005	1.236	2631812	1.16		93.2	6198	
63 11C1FOS										
631.00 > 451.00	5.077	5.092	-0.015	1.152	4047339	0.8963		95.1	7367	
65 10:2 FTUCA										
556.86 > 492.90	5.087	5.092	-0.005	1.000	2533674	1.00		99.6	5806	
66 10:2 FTCA										
576.80 > 493.00	5.097	5.102	-0.005	0.998	122675	1.17	Target=2.53	117	586	
576.80 > 63.10	5.097	5.102	-0.005	0.998	49051		2.50(1.26-3.79)		164	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.106	5.111	-0.005	1.241	142309	1.03		82.7	730	
D 69 13C2 PFDoA										
615.00 > 570.00	5.213	5.226	-0.013	1.267	5948058	1.16		92.8	11781	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.213	5.226	-0.013	1.000	4629745	0.9418	Target=6.85	94.2	4319	
613.00 > 169.00	5.213	5.226	-0.013	1.000	659469		7.02(3.43-10.28)		1375	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.230	5.243	-0.013	1.271	870646	1.18		100	4394	
71 10:2 FTS										
627.00 > 607.00	5.238	5.251	-0.013	1.002	1496311	0.9696		101	5418	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.270	5.275	-0.005	1.280	602372	1.14		91.3	566	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.270	5.283	-0.013	1.280	530197	1.18		94.5	40.6	
74 NMeFOSA										
512.00 > 169.00	5.278	5.283	-0.005	1.002	452907	0.9889		98.9	621	
75 N-MeFOSE-M										
616.00 > 59.00	5.287	5.292	-0.005	1.003	552000	0.9761		97.6	887	
76 PFDoS										
699.00 > 80.00	5.394	5.399	-0.005	1.224	2289223	0.9343	Target=4.22	96.5	4964	
699.00 > 99.00	5.394	5.399	-0.005	1.224	504125		4.54(2.11-6.34)		2388	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.430	5.435	-0.005	1.319	617998	1.13		90.3	274	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.421	5.435	-0.014	1.040	4120650	0.9806	Target=6.32	98.1	4400	
663.00 > 169.00	5.421	5.435	-0.014	1.040	691459		5.96(3.16-9.48)		2469	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.439	5.452	-0.013	1.321	424175	1.18		94.2	580	
79 N-EtFOSE-M										
630.00 > 59.00	5.439	5.452	-0.013	1.002	610464	0.8702		87.0	604	
81 N-EtFOSA-M										
526.00 > 169.00	5.448	5.452	-0.004	1.002	428697	1.01		101	517	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.603	5.617	-0.014	1.361	4728110	1.15		92.2	11666	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.603	5.617	-0.014	1.000	466335	0.9549	Target=1.01	95.5	1434	
713.00 > 219.00	5.603	5.617	-0.014	1.000	452132		1.03(0.51-1.52)		2125	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.913	5.924	-0.012	1.436	2945506	1.10		88.3	5364	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.913	5.924	-0.012	1.000	2641651	0.9844	Target=8.64	98.4	3057	
813.00 > 169.00	5.913	5.924	-0.012	1.000	319907		8.26(4.32-12.97)		1256	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.176	6.184	-0.008	1.045	2252046	0.9435	Target=11.77	94.4	3098	
913.00 > 169.00	6.176	6.184	-0.008	1.045	194234		11.59(5.88-17.65)		785	

**QC Flag Legend**

Processing Flags

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL



Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220219-22723.b\_030.d

Injection Date: 19-Feb-2022 22:08:41

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 30

Worklist Smp#: 30

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

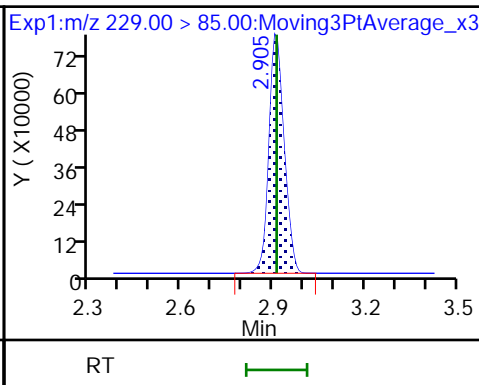
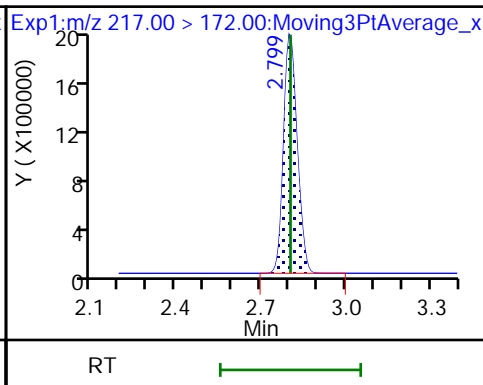
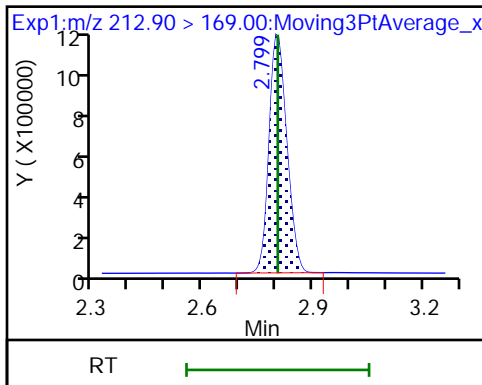
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

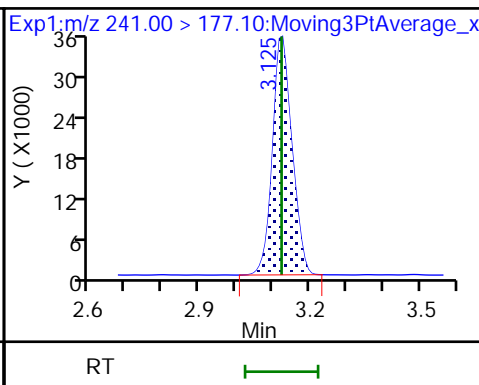
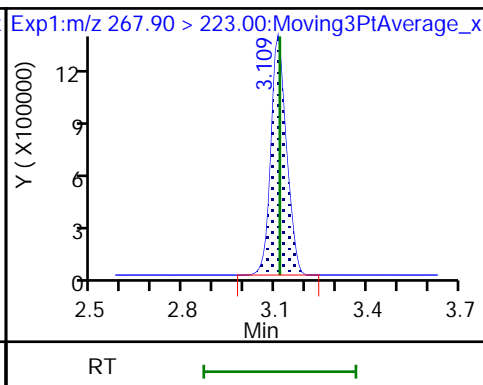
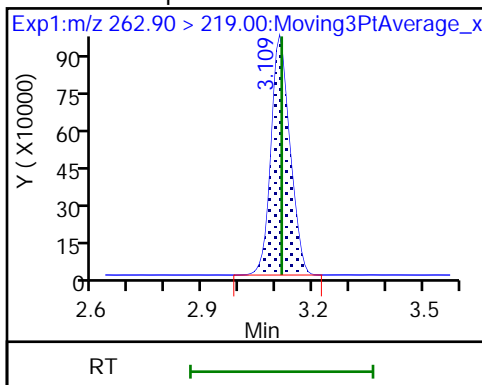
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

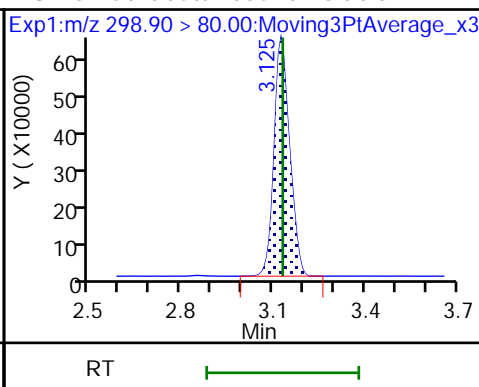
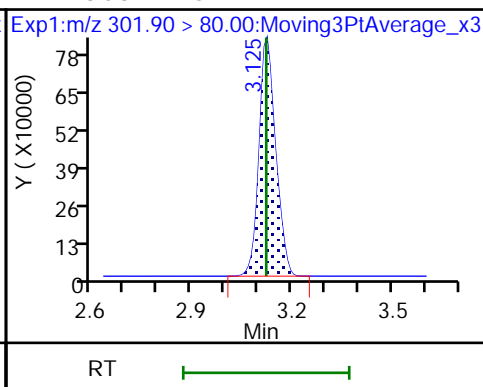
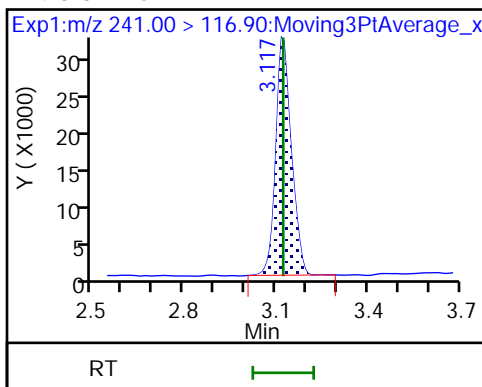
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

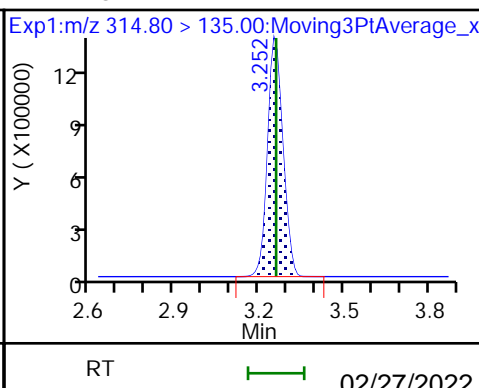
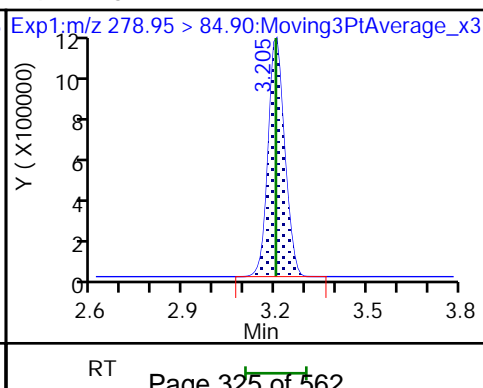
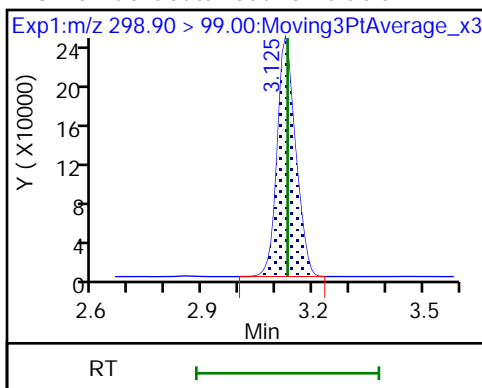
8 Perfluorobutanesulfonic acid

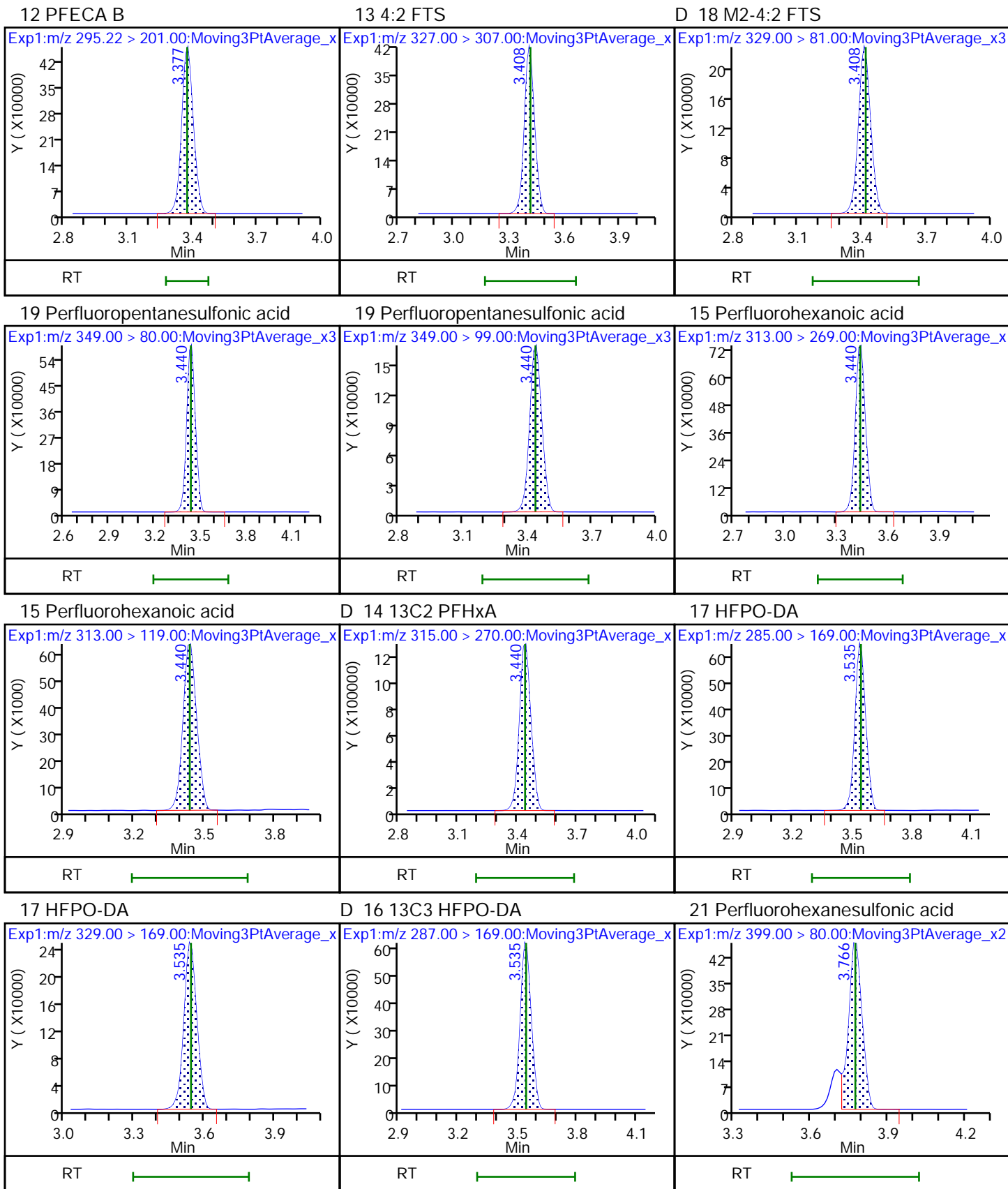


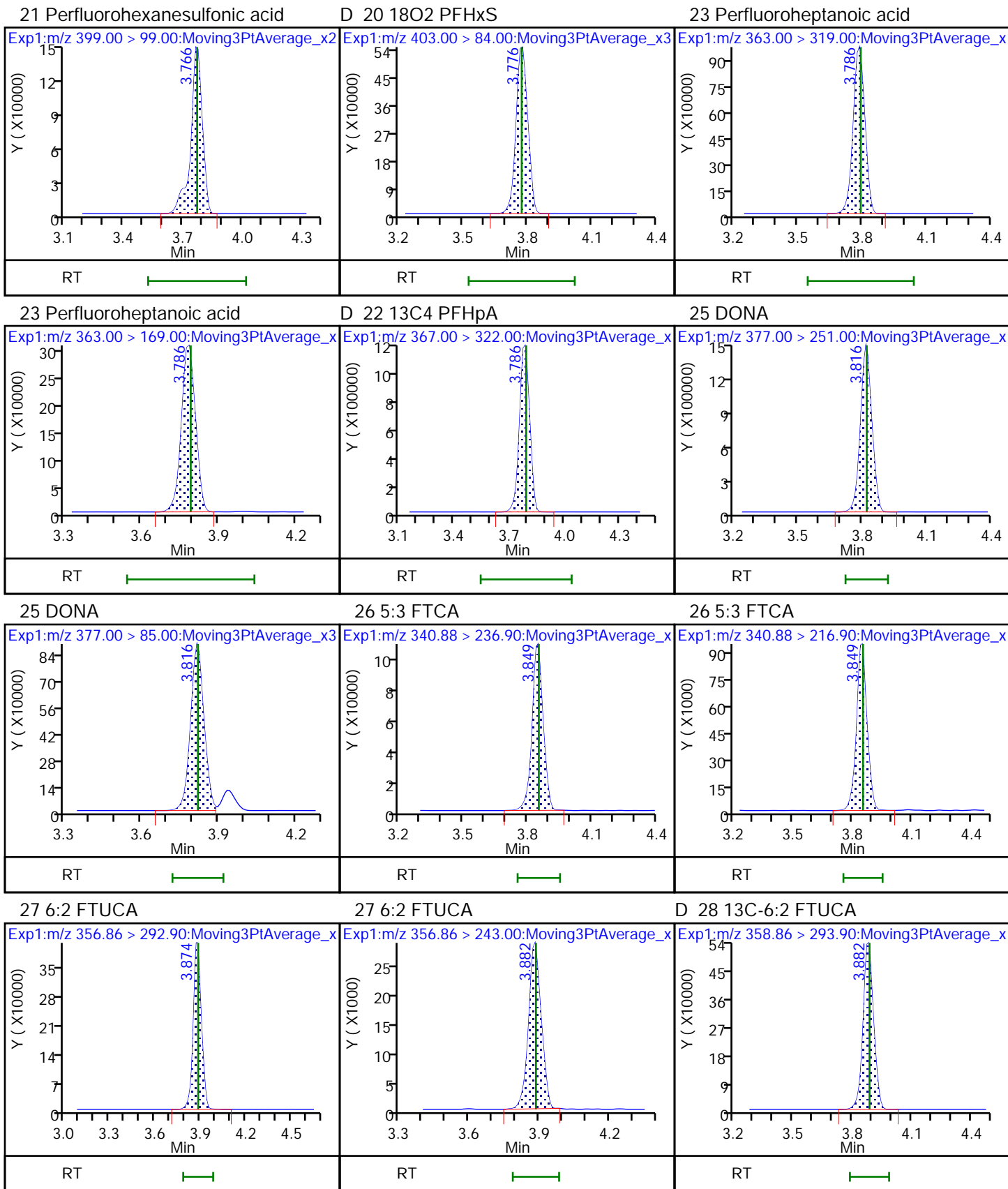
8 Perfluorobutanesulfonic acid

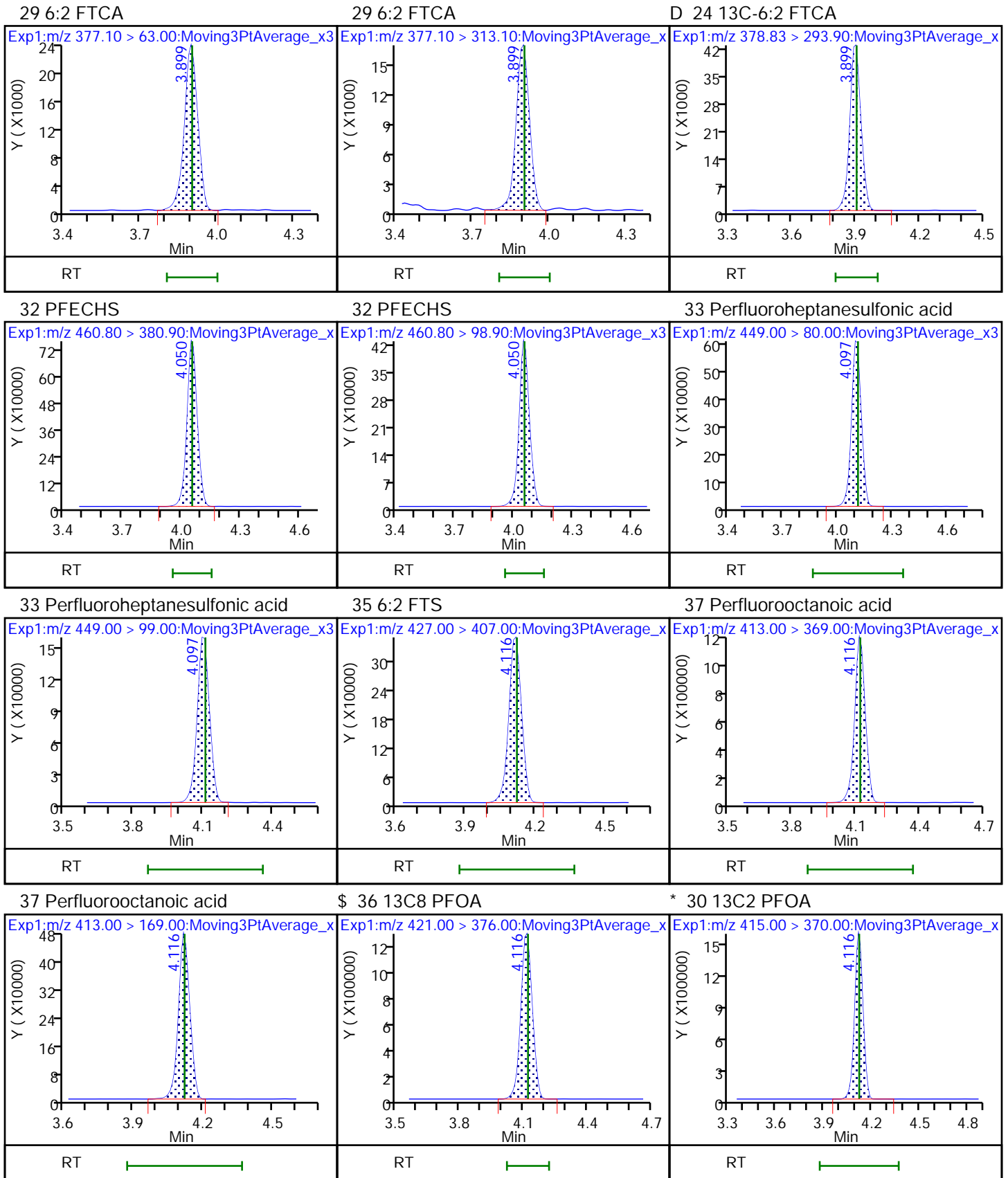
9 PFECA A

11 PES





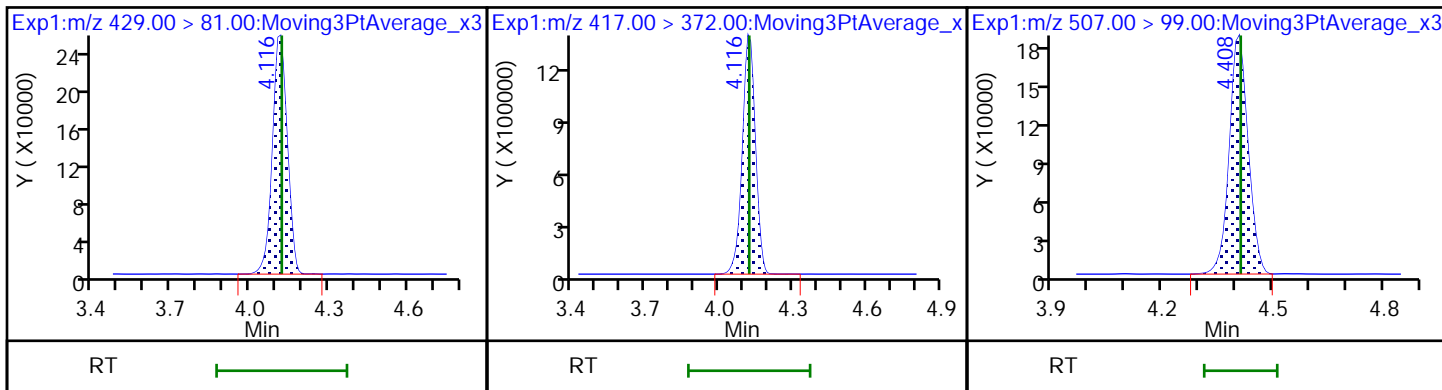




D 34 M2-6:2 FTS

D 31 13C4 PFOA

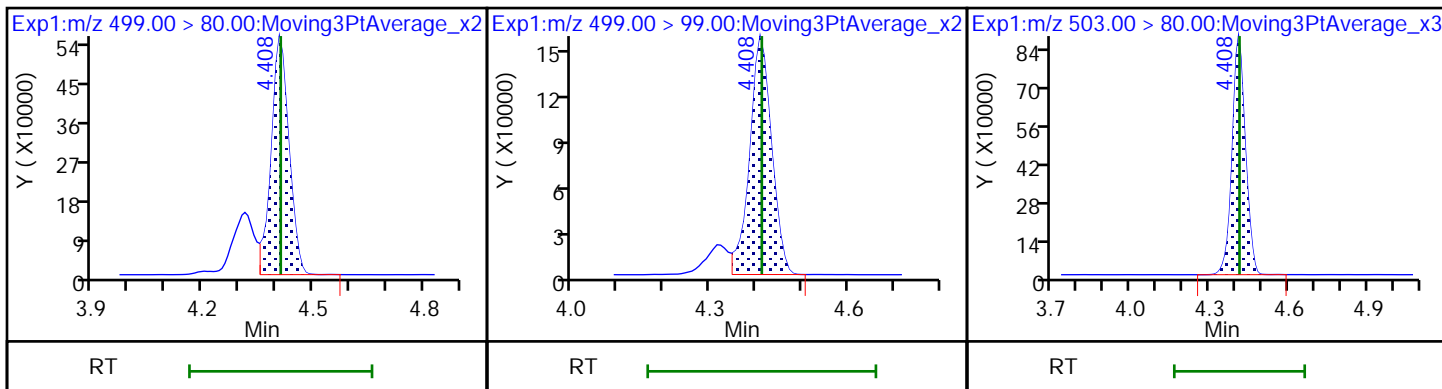
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid

40 Perfluorooctanesulfonic acid

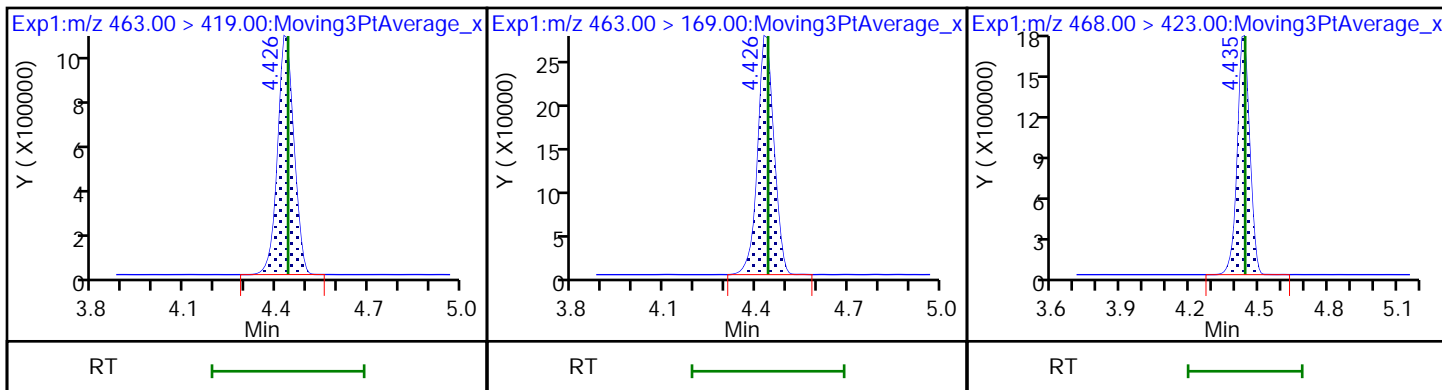
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

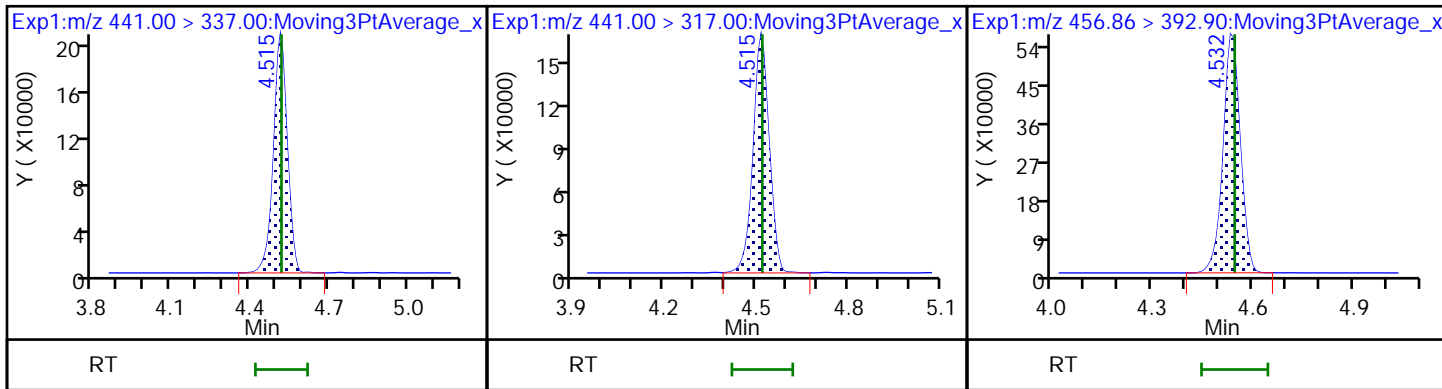
D 41 13C5 PFNA

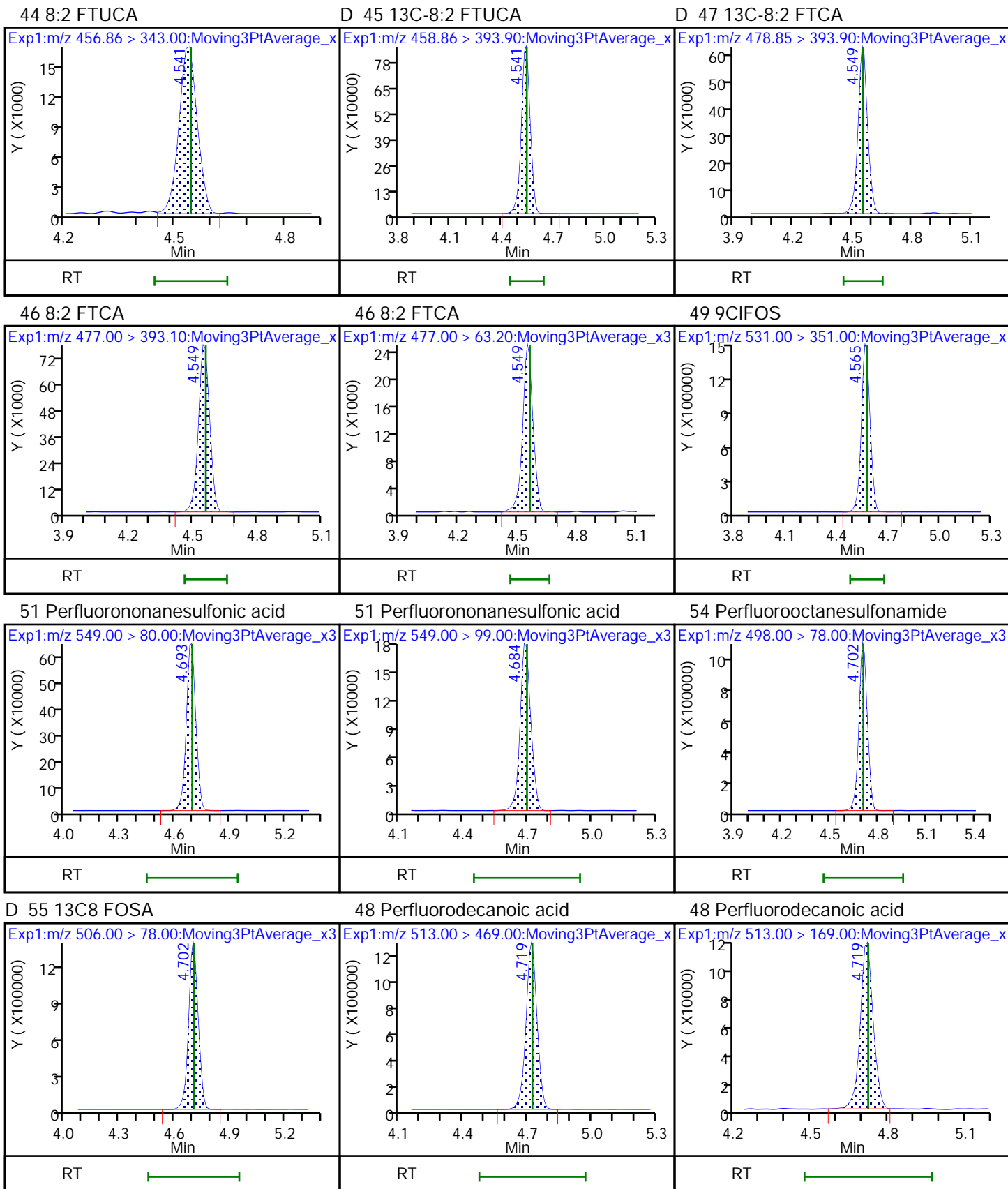


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA

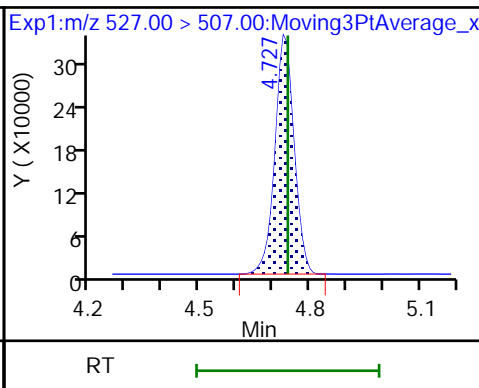
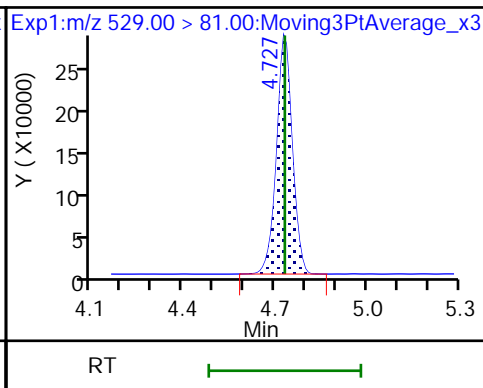
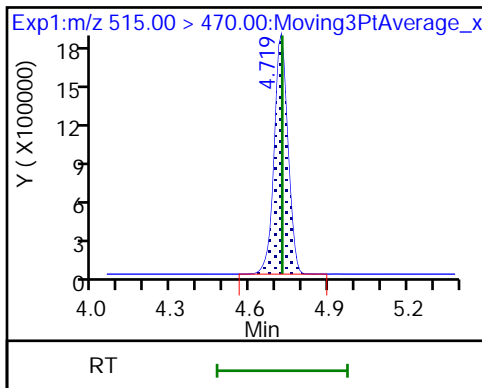




D 52 13C2 PFDA

D 50 M2-8:2 FTS

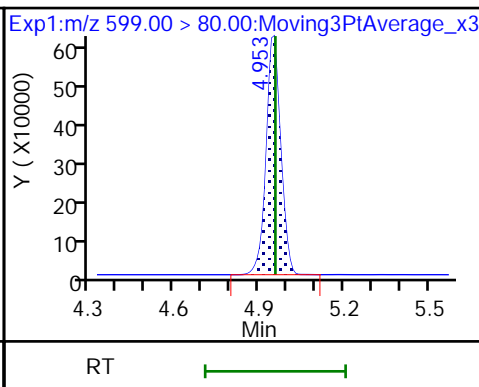
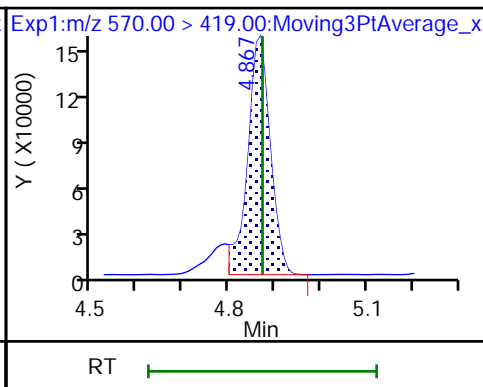
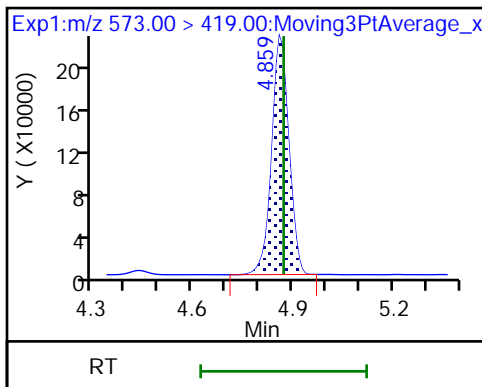
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA

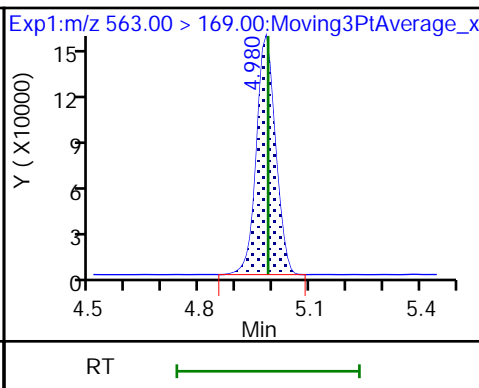
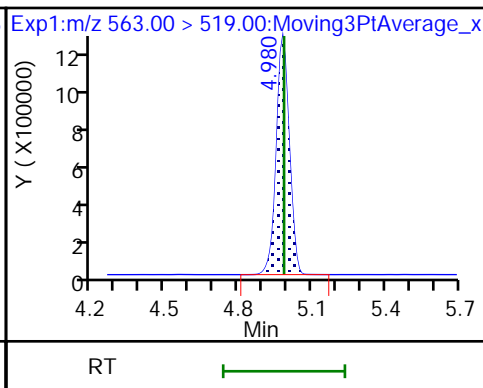
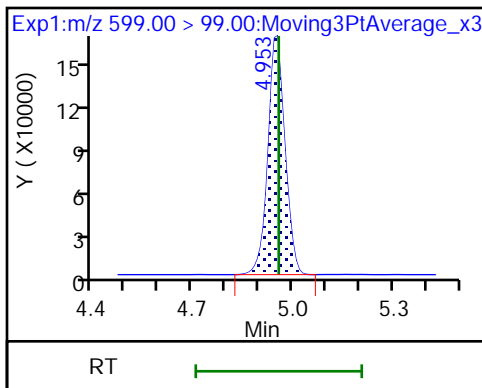
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

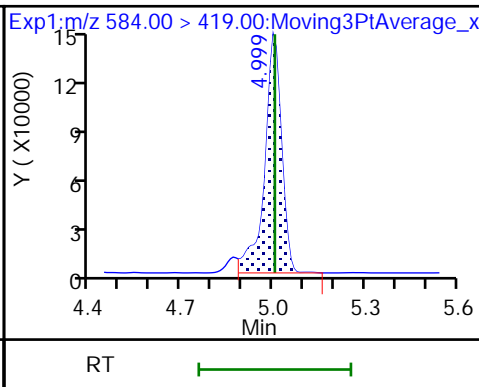
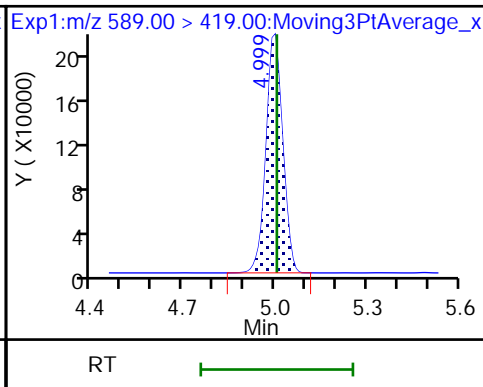
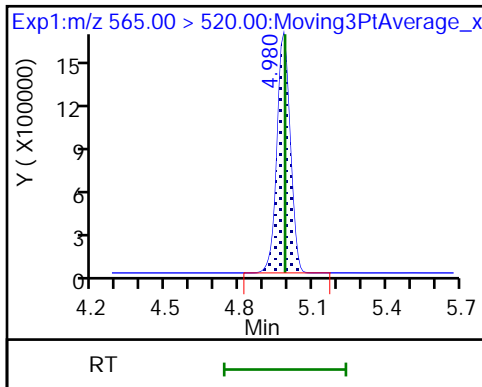
60 Perfluoroundecanoic acid



D 59 13C2 PUnA

D 61 d5-NEtFOSAA

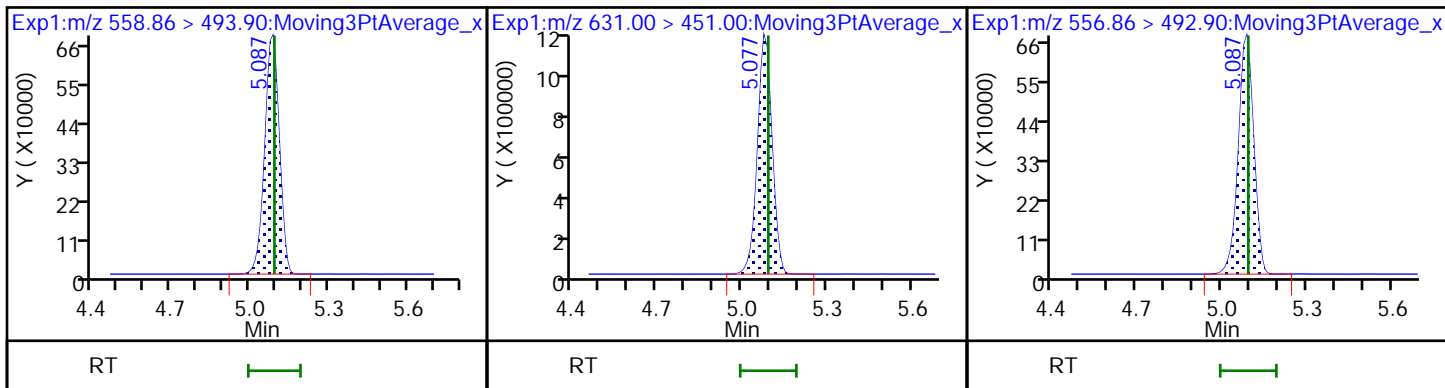
62 NEtFOSAA



D 67 13C-10:2 FTUCA

63 11CIFOS

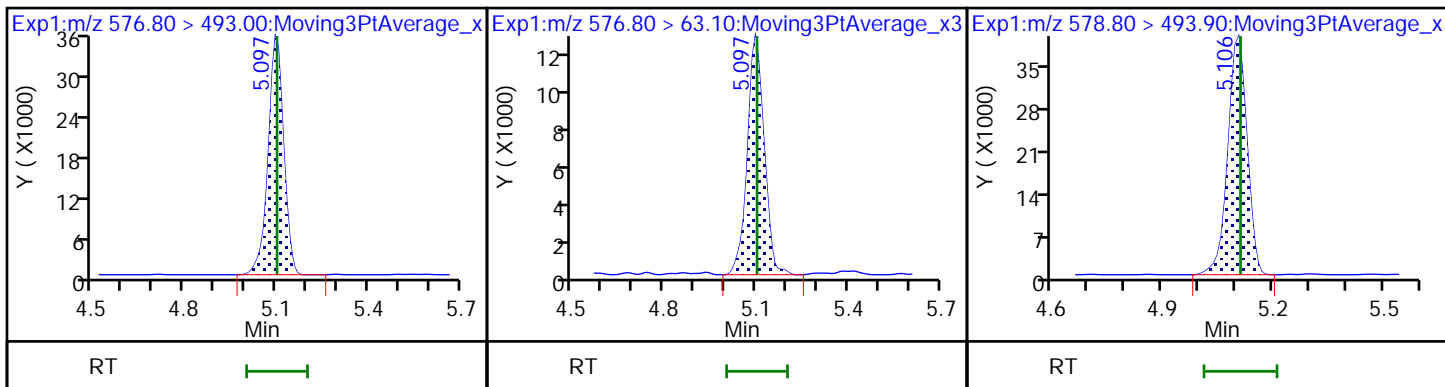
65 10:2 FTUCA



66 10:2 FTCA

66 10:2 FTCA

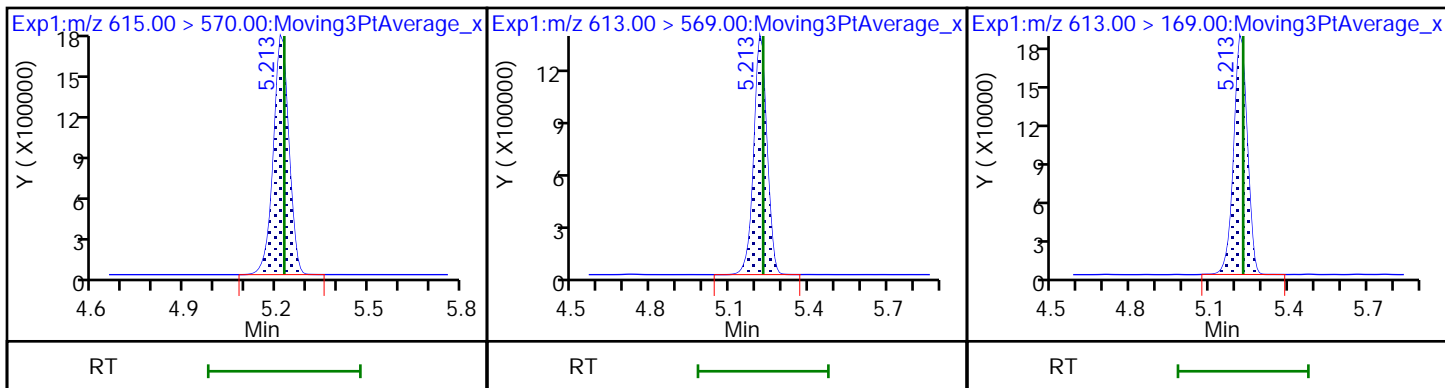
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D 69 13C2 PFDaA

68 Perfluorododecanoic acid

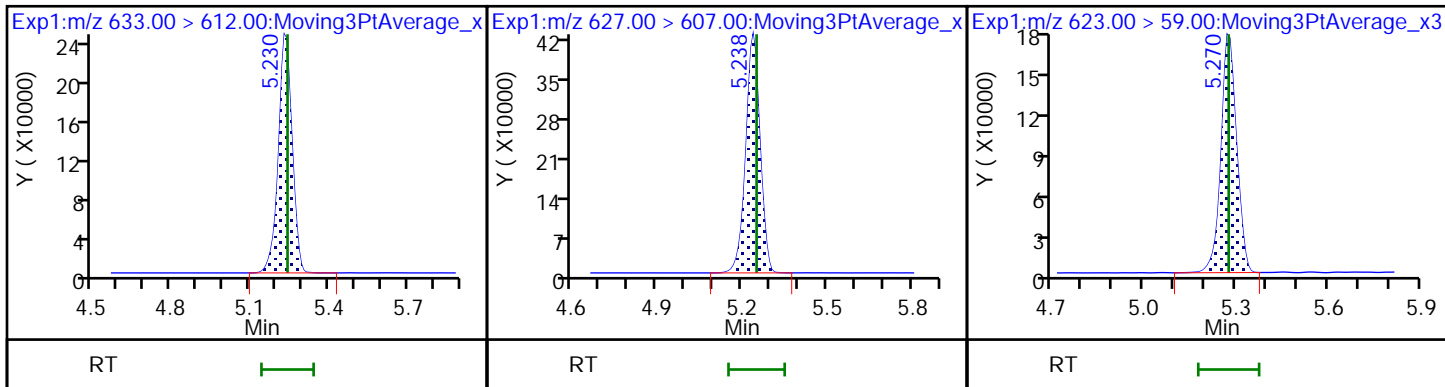
68 Perfluorododecanoic acid



D 70 13C2 10:2 FTS

71 10:2 FTS

D 72 d7-N-MeFOSE-M

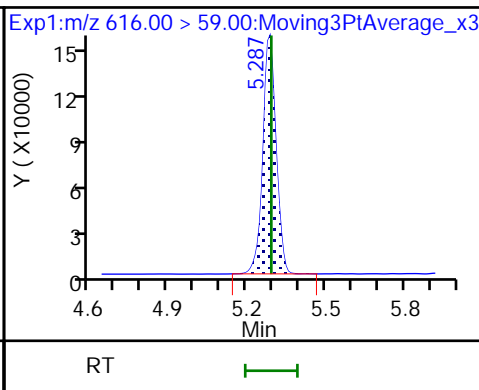
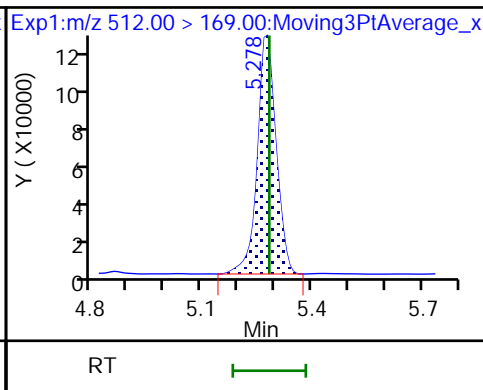
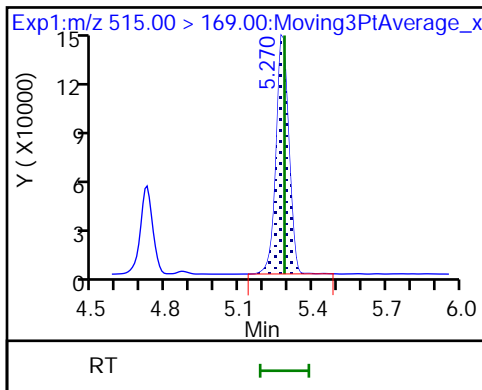




D 73 d-N-MeFOSA-M

74 NMeFOSA

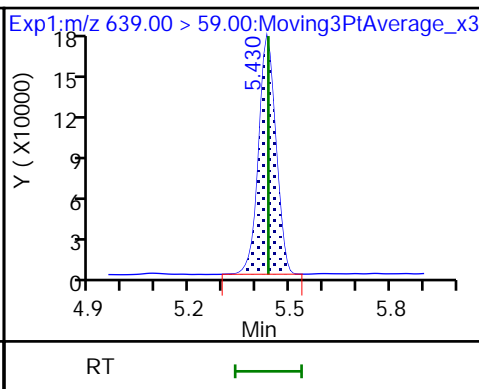
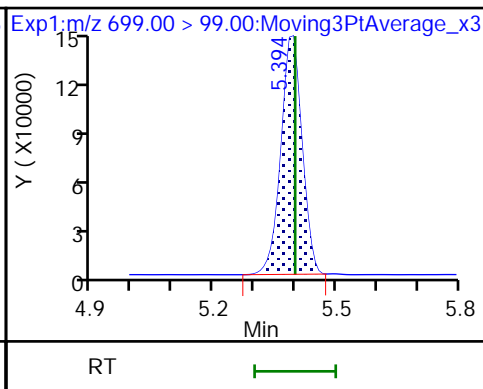
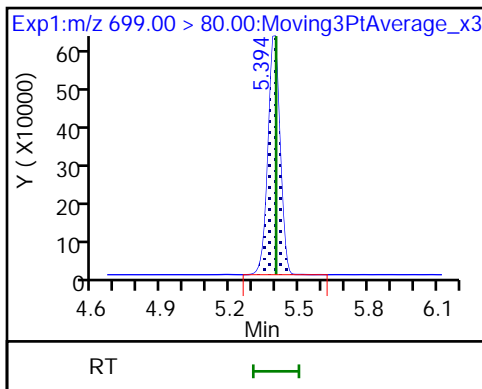
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

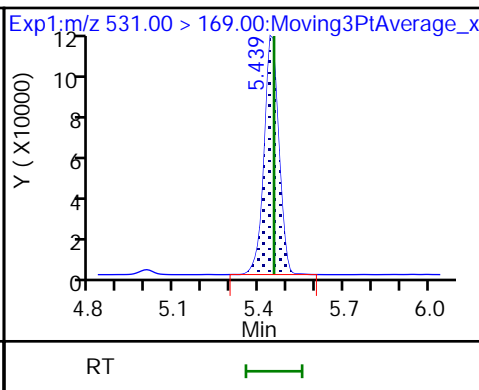
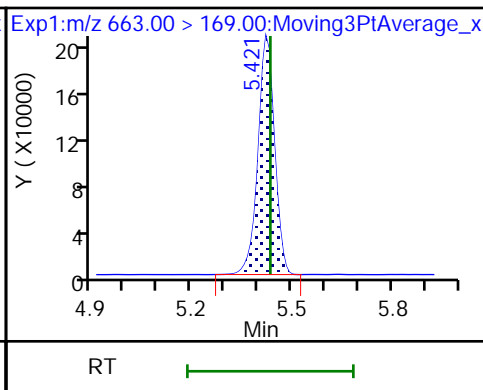
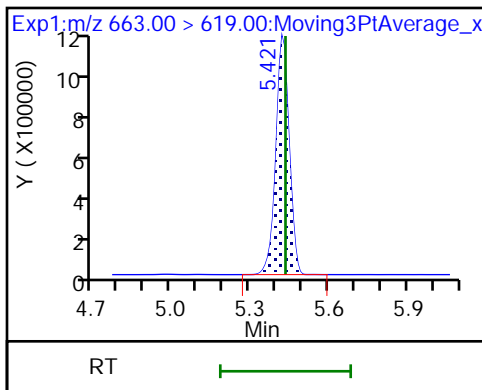
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

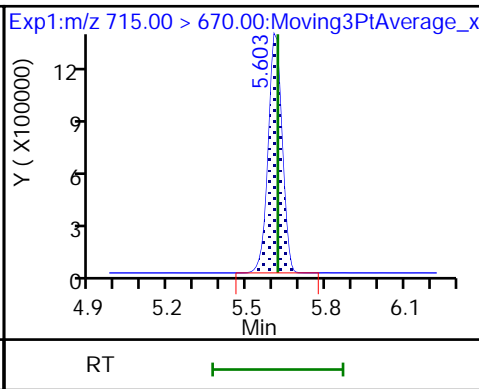
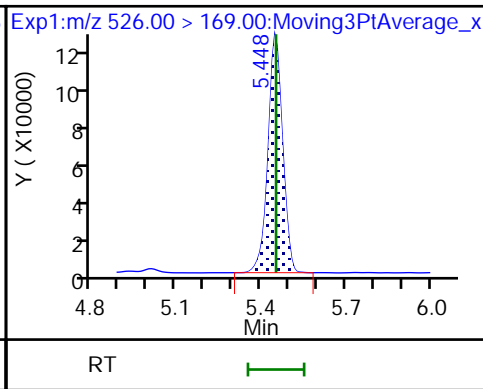
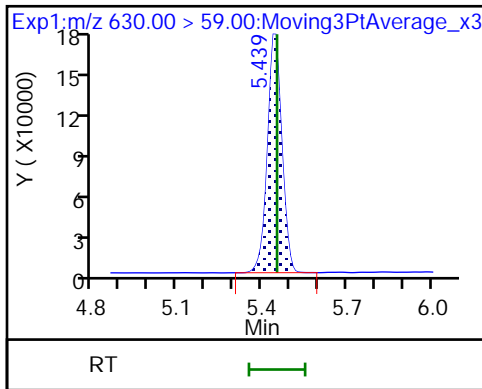
D 80 d-N-EtFOSA-M

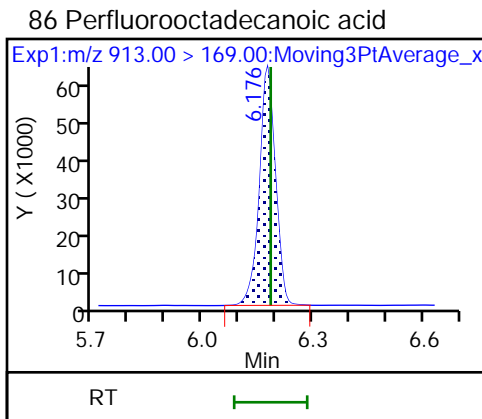
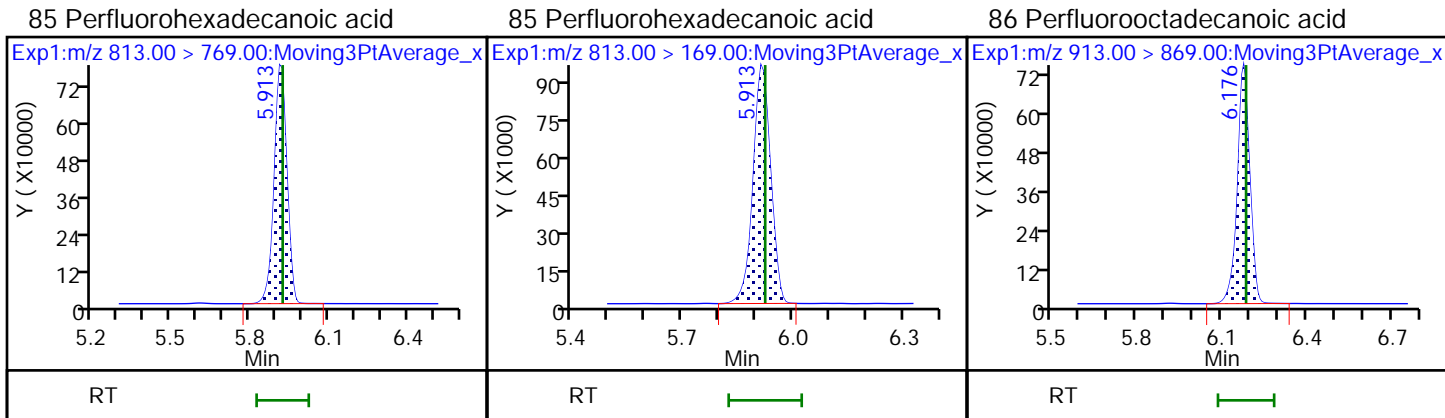
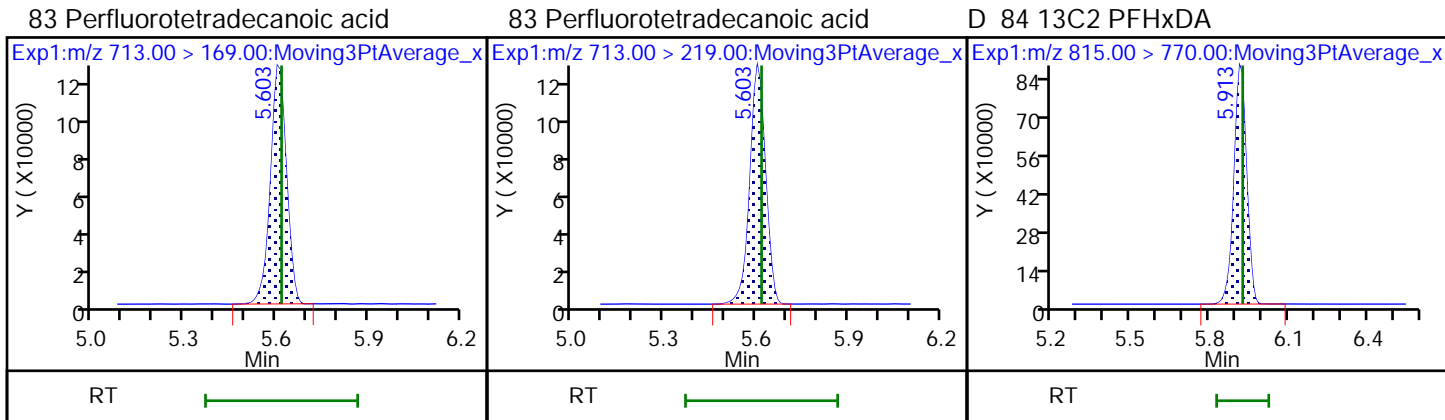


79 N-EtFOSE-M

81 N-EtFOSA-M

D 82 13C2 PFTeDA





FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/42 Calibration Date: 02/19/2022 23:54  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7860		2.48	2.50	-0.7	40.0
PFECA F	AveID	0.7535	0.7733		2.57	2.50	2.6	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9851		2.63	2.50	5.1	40.0
3:3 FTCA	QuaIF		0.0579		2.67	2.50	6.9	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.154		2.29	2.21	3.8	40.0
PFECA A	Q2ID		1.220		2.56	2.50	2.4	40.0
PES	Q2ID		2.441		2.25	2.23	0.9	40.0
PFECA B	Q2ID		0.4264		2.47	2.50	-1.1	40.0
4:2 FTS	L2ID		2.372		2.44	2.34	4.5	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7973		2.52	2.50	0.7	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.116		2.53	2.35	8.1	40.0
HFPO-DA	L2ID		1.308		2.60	2.50	3.9	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.351		2.22	2.28	-2.5	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.024		2.52	2.50	0.9	40.0
DONA	AveID	2.644	2.427		2.16	2.36	-8.2	40.0
5:3 FTCA	L2ID		3.537		2.35	2.50	-5.9	40.0
6:2 FTUCA	AveID	1.046	1.027		2.45	2.50	-1.8	40.0
6:2 FTCA	L1ID		0.7951		2.88	2.50	15.1	40.0
PFECHS	AveID	0.7426	0.7825		2.43	2.31	5.4	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9843		2.37	2.38	-0.3	40.0
6:2 FTS	L2ID		1.726		2.24	2.37	-5.4	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.102		2.58	2.50	3.4	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.125		2.28	2.32	-1.7	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.8040		2.64	2.50	5.7	40.0
7:3 FTCA	AveID	5.230	5.538		2.65	2.50	5.9	40.0
8:2 FTUCA	AveID	0.9565	1.004		2.63	2.50	5.0	40.0
8:2 FTCA	AveID	1.811	1.913		2.64	2.50	5.7	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.256		2.34	2.33	0.3	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	1.016		2.41	2.40	0.4	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	1.011		2.65	2.50	5.8	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.9056		2.53	2.50	1.1	40.0
8:2 FTS	L2ID		1.492		2.39	2.40	-0.4	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.8923		2.37	2.50	-5.3	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.9773		2.65	2.41	10.0	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/42 Calibration Date: 02/19/2022 23:54  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	1.004		2.60	2.50	3.8	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9527		2.61	2.50	4.6	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.742		2.36	2.36	0.3	50.0
10:2 FTUCA	AveID	1.208	1.226		2.54	2.50	1.5	40.0
10:2 FTCA	Q2ID		1.008		2.64	2.50	5.5	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	1.005		2.43	2.50	-2.8	40.0
10:2 FTS	L2ID		2.287		2.64	2.41	9.4	50.0
NMeFOSA	L2ID		1.060		2.46	2.50	-1.4	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.224		2.61	2.50	4.6	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9642		2.47	2.42	2.0	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8809		2.49	2.50	-0.2	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.371		2.42	2.50	-3.4	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.310		2.63	2.50	5.3	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1296		2.52	2.50	0.7	40.0
Perfluorohexadecanoic acid	L1ID		1.154		2.55	2.50	2.1	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9868		2.44	2.50	-2.6	40.0
13C4 PFBA	Ave	1.172	1.154		1.23	1.25	-1.6	50.0
13C5 PFPeA	Ave	0.9197	0.8422		1.15	1.25	-8.4	50.0
13C3 PFBS	Ave	0.5817	0.5522		1.10	1.16	-5.1	50.0
M2-4:2 FTS	Ave	0.1821	0.1653		1.06	1.17	-9.2	50.0
13C2 PFHxA	Ave	1.015	0.9514		1.17	1.25	-6.2	50.0
13C3 HFPO-DA	Ave	0.4963	0.4626		1.17	1.25	-6.8	50.0
18O2 PFHxS	Ave	0.3776	0.3934		1.23	1.18	4.2	50.0
13C4 PFHpA	Ave	0.9046	0.8703		1.20	1.25	-3.8	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3651		1.35	1.25	8.2	50.0
13C-6:2 FTCA	Ave	0.0260	0.0270		1.30	1.25	3.9	50.0
13C4 PFOA	Ave	0.9356	0.9087		1.21	1.25	-2.9	50.0
M2-6:2 FTS	Ave	0.1799	0.1908		1.26	1.19	6.0	50.0
13C4 PFOS	Ave	0.5610	0.5829		1.24	1.20	3.9	50.0
13C5 PFNA	Ave	1.268	1.231		1.21	1.25	-3.0	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5182		1.43	1.25	14.7	50.0
13C-8:2 FTCA	Ave	0.0330	0.0362		1.37	1.25	9.4	50.0
13C8 FOSA	Ave	0.8475	0.8286		1.22	1.25	-2.2	50.0
13C2 PFDA	Ave	1.210	1.200		1.24	1.25	-0.8	50.0
M2-8:2 FTS	Ave	0.1961	0.1897		1.16	1.20	-3.3	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/42 Calibration Date: 02/19/2022 23:54  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_042.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1661		1.83	1.25	46.4	50.0
13C2 PFUnA	Ave	1.168	1.127		1.21	1.25	-3.5	50.0
d5-NEtFOSAA	Ave	0.1164	0.1394		1.50	1.25	19.7	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5023		1.24	1.25	-1.1	50.0
13C-10:2 FTCA	Ave	0.0309	0.0265		1.07	1.25	-14.3	50.0
13C2 PFDoA	Ave	1.152	1.124		1.22	1.25	-2.4	50.0
13C2 10:2 FTS	Ave	0.1652	0.1647		1.18	1.18	-0.3	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1090		1.15	1.25	-8.1	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1010		1.25	1.25	0.0	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1098		1.12	1.25	-10.7	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0782		1.21	1.25	-3.4	50.0
13C2 PFTeDA	Ave	0.9216	0.8888		1.21	1.25	-3.6	50.0
13C2 PFHxDA	Ave	0.5997	0.5684		1.19	1.25	-5.2	50.0
13C8 PFOA	AveID	0.9229	0.9769		1.32	1.25	5.8	50.0
13C8 PFOS	AveID	0.2212	0.2208		1.19	1.20	-0.2	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_042.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 19-Feb-2022 23:54:25 ALS Bottle#: 42 Worklist Smp#: 42  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-042 rb 07  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:34 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:16:57

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.804	2.804	0.0	1.000	9180486	2.48		99.3	2730	
D 2 13C4 PFBA										
217.00 > 172.00	2.804	2.804	0.0	0.679	5839903	1.23		98.4	19614	
3 PFECA F										
229.00 > 85.00	2.911	2.911	0.0	0.935	6593235	2.57		103	22186	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.115	0.001	1.000	8398951	2.63		105	3322	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.001	0.754	4263024	1.14		91.6	15786	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.122	0.009	1.000	323792	2.67	Target=1.13	107	2272	
241.00 > 116.90	3.131	3.122	0.009	1.000	270791		1.20(0.56-1.69)		402	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.122	0.009	0.758	2599397	1.10		94.9	10522	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.131	0.0	1.000	5705107	2.29	Target=2.61	104	5005	
298.90 > 99.00	3.131	3.131	0.0	1.000	2094382		2.72(1.31-3.92)		4804	
9 PFECA A										
278.95 > 84.90	3.211	3.202	0.009	1.031	10405622	2.56		102	22312	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	12146200	2.24		101	26237	
12 PFECA B										
295.22 > 201.00	3.384	3.373	0.011	0.981	4107253	2.47		98.9	13262	
13 4:2 FTS										
327.00 > 307.00	3.416	3.415	0.001	1.000	3707867	2.44		104	16395	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.415	0.001	0.827	781575	1.06		90.8	1612	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.437	0.011	1.101	5850306	2.53	Target=3.55	108	11283	
349.00 > 99.00	3.448	3.437	0.011	1.101	1671191		3.50(1.78-5.33)		9178	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.437	0.011	1.000	7679117	2.52	Target=11.60	101	3374	
313.00 > 119.00	3.448	3.437	0.011	1.000	662237		11.60(5.80-17.40)		621	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.437	0.011	0.835	4815791	1.17		93.8	16910	
17 HFPO-DA										
285.00 > 169.00	3.543	3.542	0.001	1.000	6126805	2.60	Target=2.45	104	1715	
329.00 > 169.00	3.543	3.542	0.001	1.000	2379244		2.58(1.23-3.68)		1759	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.542	0.001	0.858	2341730	1.17		93.2	7400	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.783	3.772	0.011	1.000	4896031	2.22	Target=3.44	97.5	8361	M
399.00 > 99.00	3.773	3.772	0.001	0.997	1407420		3.48(1.72-5.17)		5024	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.772	0.011	0.916	1883717	1.23		104	9420	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.793	3.792	0.001	1.000	9022781	2.52	Target=3.25	101	4887	
363.00 > 169.00	3.793	3.792	0.001	1.000	2945623		3.06(1.62-4.87)		2260	
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.792	0.001	0.918	4405102	1.20		96.2	11107	
25 DONA										
377.00 > 251.00	3.821	3.820	0.001	0.866	13487766	2.16	Target=1.74	91.8	16569	
377.00 > 85.00	3.821	3.820	0.001	0.866	7823705		1.72(0.87-2.61)		131	
26 5:3 FTCA										
340.88 > 236.90	3.854	3.853	0.001	0.987	968115	2.35	Target=1.11	94.1	1683	
340.88 > 216.90	3.854	3.853	0.001	0.987	910011		1.06(0.56-1.67)		2330	
27 6:2 FTUCA										
356.86 > 292.90	3.887	3.886	0.001	1.000	3796578	2.45	Target=13.05	98.2	4207	
356.86 > 243.00	3.887	3.886	0.001	1.000	264001		14.38(6.52-19.57)		1073	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.887	3.886	0.001	0.941	1847883	1.35		108	5893	
29 6:2 FTCA										
377.10 > 63.00	3.904	3.903	0.001	1.000	217636	2.88	Target=1.29	115	723	
377.10 > 313.10	3.904	3.903	0.001	1.000	151139		1.44(0.65-1.94)		154	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.903	0.001	0.945	136859	1.30		104	615	
32 PFECBS										
460.80 > 380.90	4.064	4.054	0.010	0.986	6636865	2.43	Target=1.75	105	12978	
460.80 > 98.90	4.064	4.054	0.010	0.986	3889975		1.71(0.87-2.62)		8769	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.112	4.111	0.001	0.932	5529328	2.37	Target=3.72	99.7	9859	
449.00 > 99.00	4.112	4.111	0.001	0.932	1405853		3.93(1.86-5.57)		3171	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	3161336	2.24		94.6	4896	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.121	0.0	1.000	10136421	2.58	Target=2.51	103	5230	
413.00 > 169.00	4.121	4.121	0.0	1.000	4042027		2.51(1.26-3.77)		7101	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.121	4.121	0.0	1.000	4493150	1.32		106	11248	
* 30 13C2 PFOA										
415.00 > 370.00	4.131	4.121	0.010		5061844	1.25			10102	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	917676	1.26		106	2530	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.121	0.0	0.998	4599532	1.21		97.1	7981	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.413	4.412	0.001	1.000	622893	1.19		99.8	2886	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.413	4.412	0.001	1.000	6162814	2.28	Target=4.30	98.3	6645	M
499.00 > 99.00	4.413	4.412	0.001	1.000	1367857		4.51(2.15-6.45)		3026	M
D 39 13C4 PFOS										
503.00 > 80.00	4.413	4.412	0.001	1.068	2820493	1.24		104	3786	
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.438	0.001	1.000	10019342	2.64	Target=3.60	106	7744	
463.00 > 169.00	4.439	4.438	0.001	1.000	2491397		4.02(1.80-5.40)		6207	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.438	0.001	1.075	6231255	1.21		97.0	16417	
43 7:3 FTCA										
441.00 > 337.00	4.520	4.519	0.001	0.991	2027450	2.65	Target=1.42	106	4927	
441.00 > 317.00	4.520	4.519	0.001	0.991	1439661		1.41(0.71-2.13)		4900	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	5269244	2.63	Target=35.37	105	8821	
456.86 > 343.00	4.545	4.545	0.0	1.000	156183		33.74(17.68-53.05)		549	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.545	0.0	1.000	2623104	1.43		115	4085	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.562	4.553	0.009	1.104	183064	1.37		109	472	
46 8:2 FTCA										
477.00 > 393.10	4.562	4.561	0.001	1.000	700582	2.64	Target=3.35	106	2289	
477.00 > 63.20	4.562	4.561	0.001	1.000	196458		3.57(1.68-5.03)		955	
49 9CIFOS										
531.00 > 351.00	4.578	4.578	0.0	1.108	12405649	2.34		100	14878	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	5754425	2.41	Target=3.99	100	10533	
549.00 > 99.00	4.697	4.697	0.0	1.065	1440413		3.99(2.00-5.99)		5818	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.714	4.705	0.009	1.002	8479184	2.65		106	6409	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.705	0.001	1.139	4194438	1.22		97.8	4240	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.722	0.001	1.000	11002326	2.53	Target=10.58	101	8124	
513.00 > 169.00	4.723	4.722	0.001	1.000	1003295		10.97(5.29-15.88)		528	
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.722	0.001	1.143	6074826	1.24		99.2	11289	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.731	0.009	1.147	919929	1.16		96.7	2715	
53 8:2 FTS										
527.00 > 507.00	4.740	4.739	0.001	1.000	2745960	2.39		99.6	4799	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.864	4.872	-0.008	1.177	840825	1.83		146	314	
57 NMeFOSAA										
570.00 > 419.00	4.872	4.872	0.0	1.002	1500582	2.37		94.7	2634	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.123	5558888	2.65	Target=3.55	110	11602	
599.00 > 99.00	4.957	4.957	0.0	1.123	1444782		3.85(1.78-5.33)		3831	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.985	0.001	1.000	11453715	2.60	Target=8.26	104	12292	
563.00 > 169.00	4.986	4.985	0.001	1.000	1375812		8.33(4.13-12.39)		5720	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.985	0.001	1.207	5702818	1.21		96.5	8449	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.212	705598	1.50		120	2189	
62 NEtFOSAA										
584.00 > 419.00	5.015	5.005	0.010	1.002	1344382	2.61		105	1238	M
63 11C1FOS										
631.00 > 451.00	5.083	5.092	-0.009	1.152	9681516	2.36		100	10345	
65 10:2 FTUCA										
556.86 > 492.90	5.093	5.092	0.001	1.000	6236121	2.54		102	15083	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.093	5.092	0.001	1.233	2542477	1.24		98.9	6474	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.102	0.0	1.000	270474	2.64	Target=2.53	105	1240	
576.80 > 63.10	5.102	5.102	0.0	1.000	115692		2.34(1.26-3.79)		423	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.111	-0.009	1.235	134187	1.07		85.7	958	
D 69 13C2 PFDoA										
615.00 > 570.00	5.226	5.226	0.0	1.265	5690745	1.22		97.6	12891	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.226	5.226	0.0	1.000	11433577	2.43	Target=6.85	97.2	9900	
613.00 > 169.00	5.226	5.226	0.0	1.000	1627227		7.03(3.43-10.28)		3958	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.243	5.243	0.0	1.269	789636	1.18		99.7	6025	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.000	3675280	2.64		109	7847	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.284	5.275	0.009	1.279	551644	1.15		91.9	529	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.284	5.283	0.001	1.279	510999	1.25		100	49.8	
74 NMeFOSA										
512.00 > 169.00	5.284	5.283	0.001	1.000	1083785	2.46		98.6	642	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.002	1350673	2.61		105	2128	
76 PFDoS										
699.00 > 80.00	5.399	5.399	0.0	1.224	5507200	2.47	Target=4.22	102	10562	
699.00 > 99.00	5.399	5.399	0.0	1.224	1299256		4.24(2.11-6.34)		4897	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.316	556009	1.12		89.3	281	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.435	5.435	0.0	1.040	10025828	2.49	Target=6.32	99.8	8252	
663.00 > 169.00	5.435	5.435	0.0	1.040	1650522		6.07(3.16-9.48)		5968	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.320	395863	1.21		96.6	645	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	1524627	2.42		96.6	1342	
81 N-EtFOSA-M										
526.00 > 169.00	5.461	5.452	0.009	1.002	1037484	2.63		105	639	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.360	4498796	1.21		96.4	10105	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.617	5.617	0.0	1.000	1165749	2.52	Target=1.01	101	3244	
713.00 > 219.00	5.608	5.617	-0.009	0.998	1151446		1.01(0.51-1.52)		5954	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.434	2876976	1.18		94.8	6446	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	6640845	2.55	Target=8.64	102	6364	
813.00 > 169.00	5.924	5.924	0.0	1.000	802753		8.27(4.32-12.97)		2875	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.184	6.184	0.0	1.044	5678206	2.44	Target=11.77	97.4	6203	
913.00 > 169.00	6.179	6.184	-0.005	1.043	483699		11.74(5.88-17.65)		1704	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L5PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromf\Knoxville\ChromData\LCA\20220219-22723.b\_042.d

Injection Date: 19-Feb-2022 23:54:25

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 42

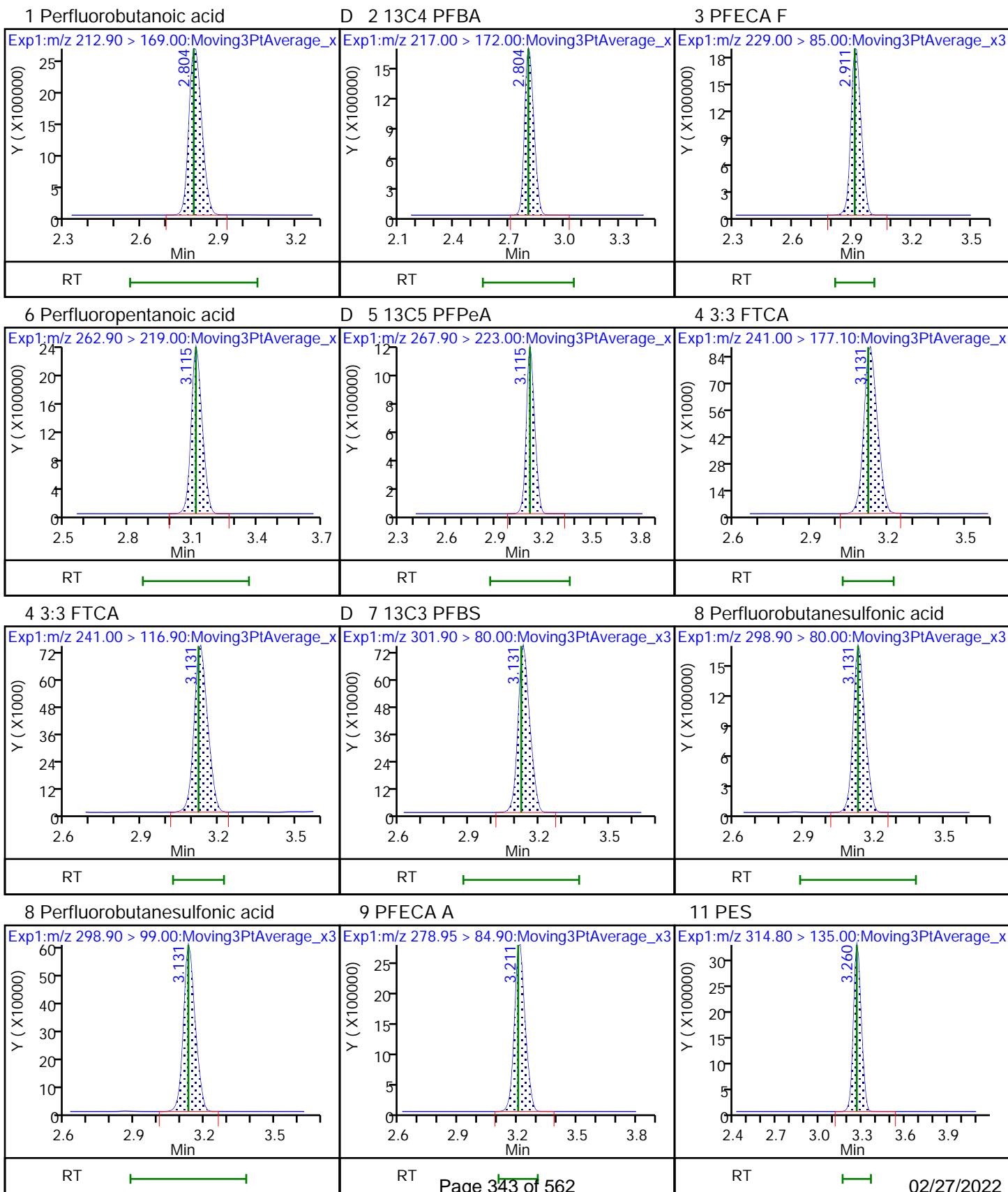
Worklist Smp#: 42

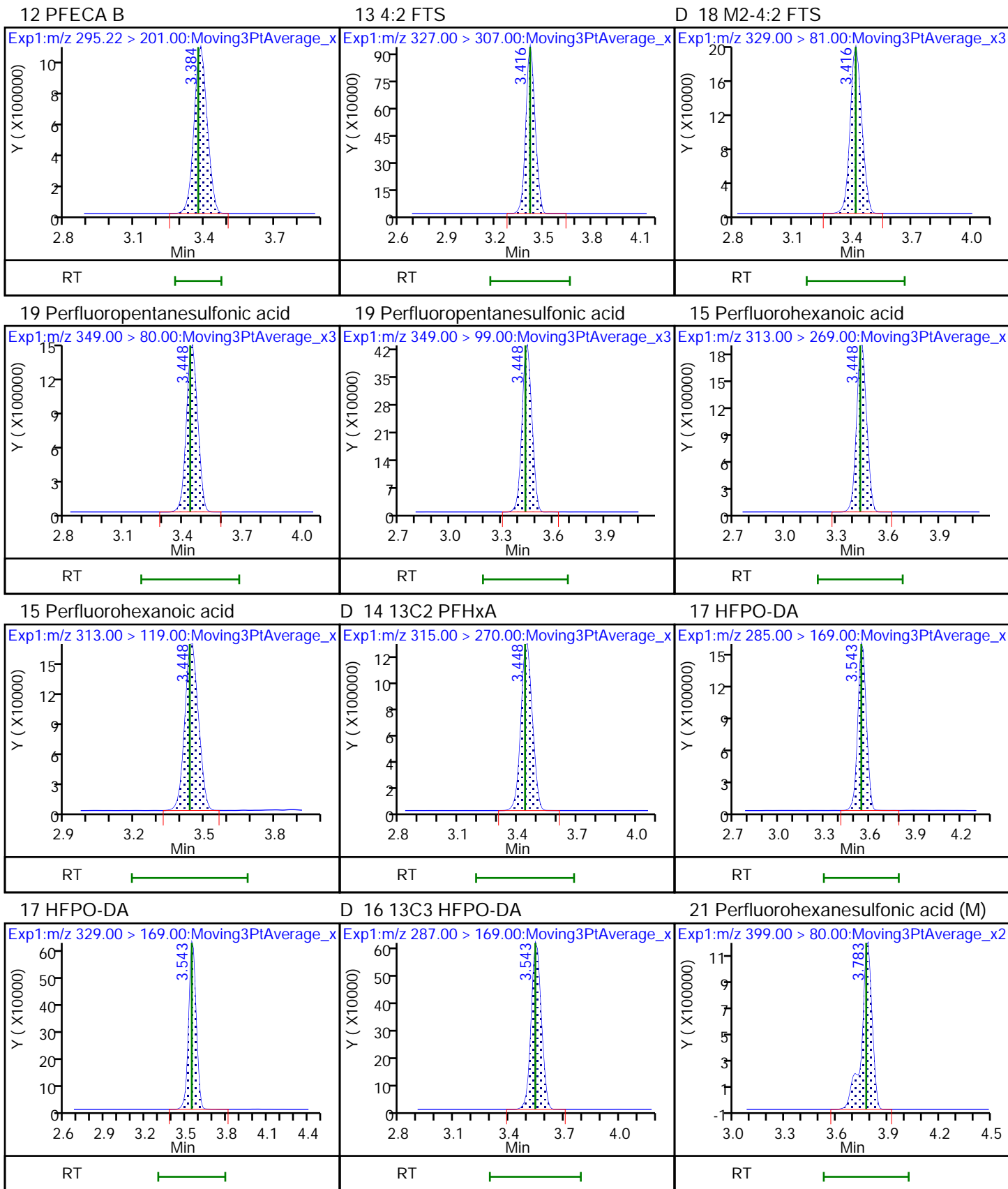
Injection Vol: 1.0 ul

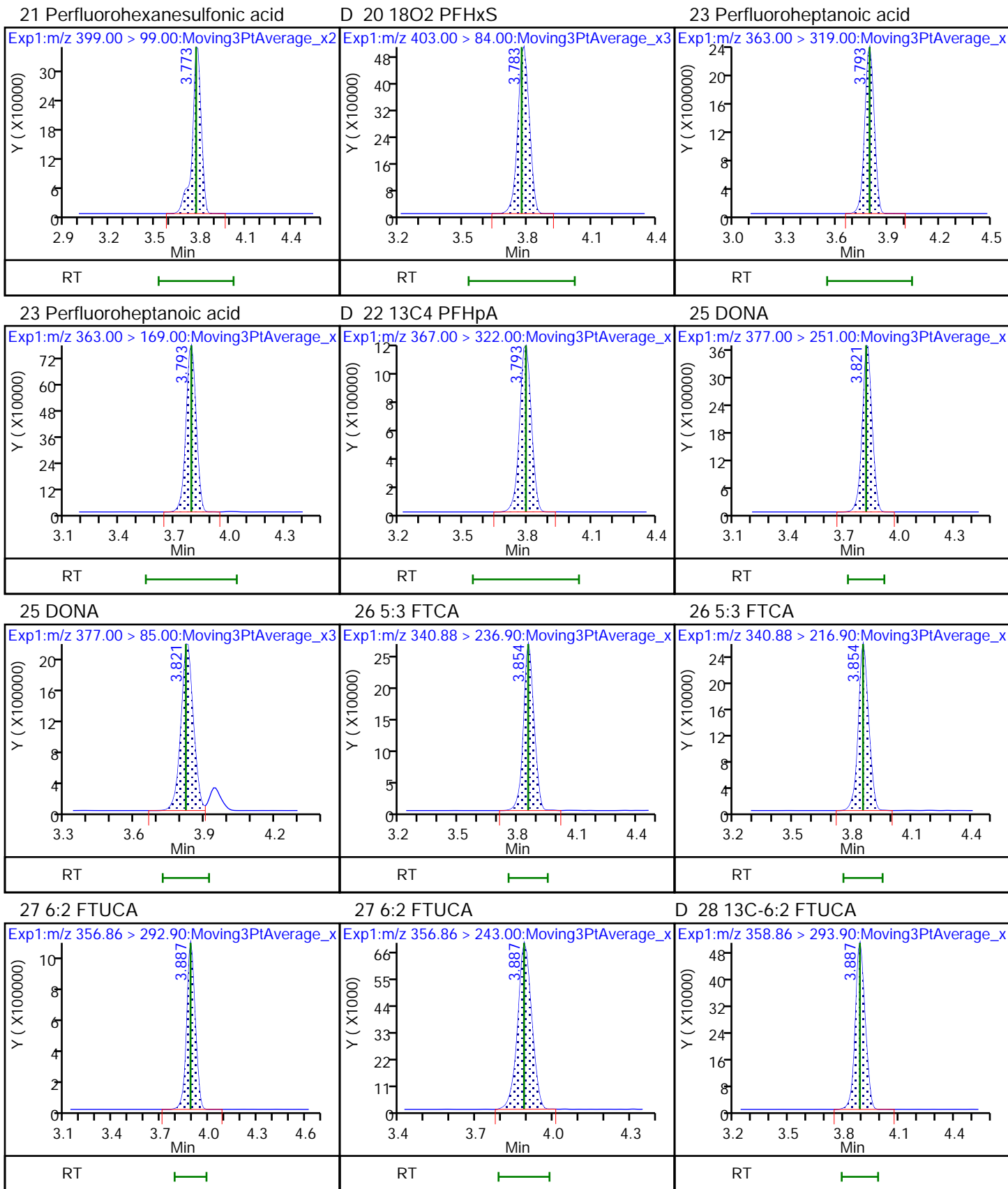
Dil. Factor: 1.0000

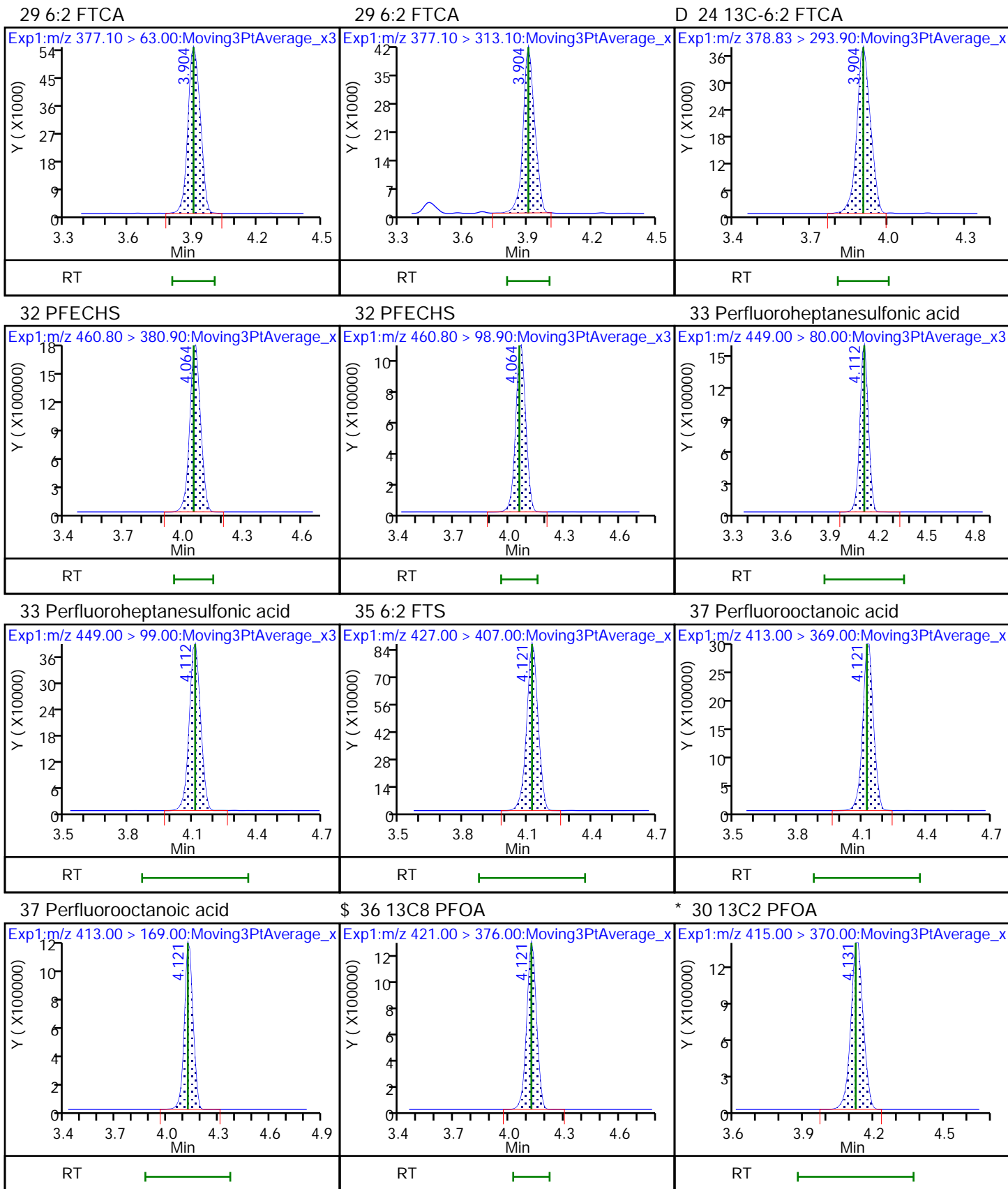
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL





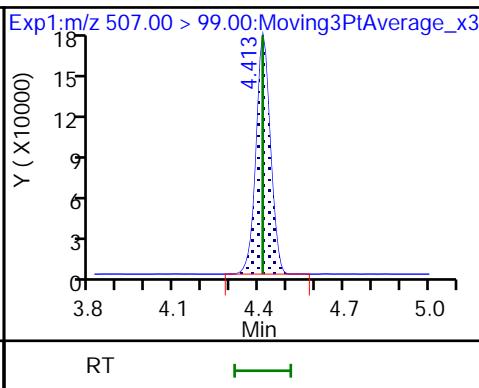
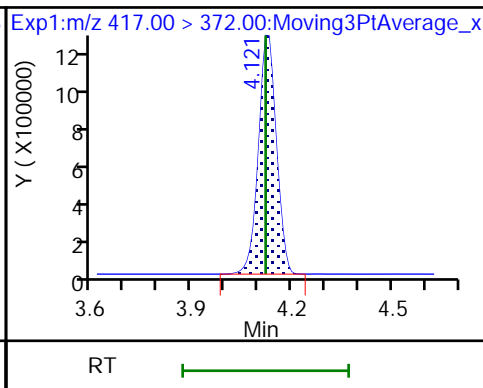
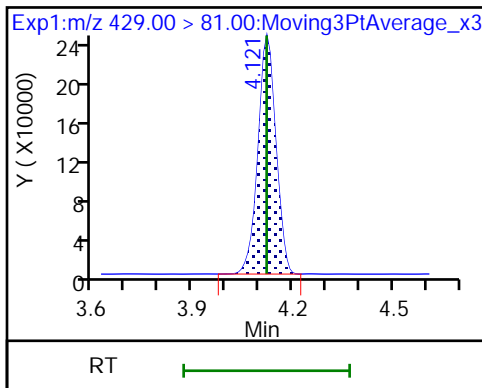




D 34 M2-6:2 FTS

D 31 13C4 PFOA

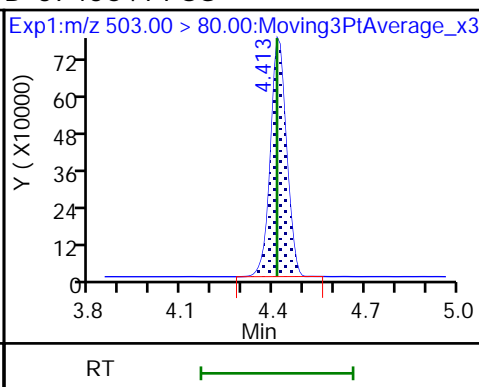
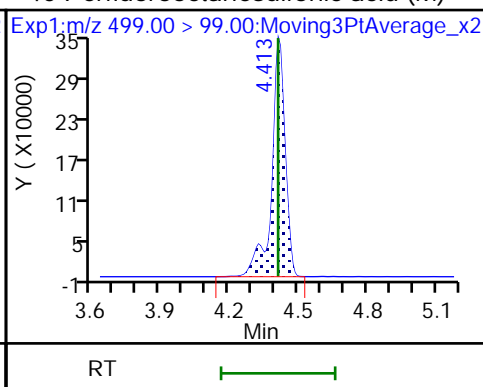
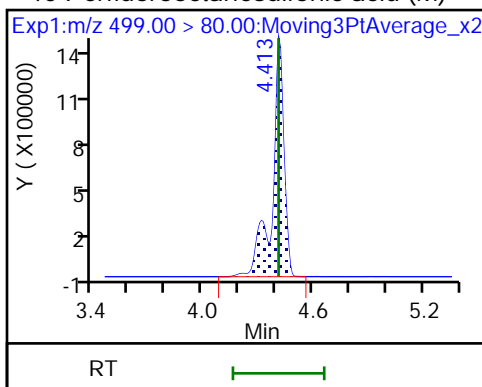
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid (M)

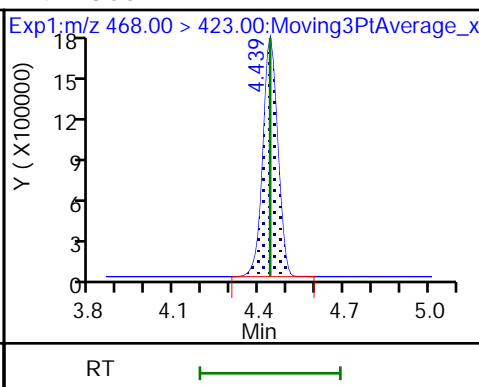
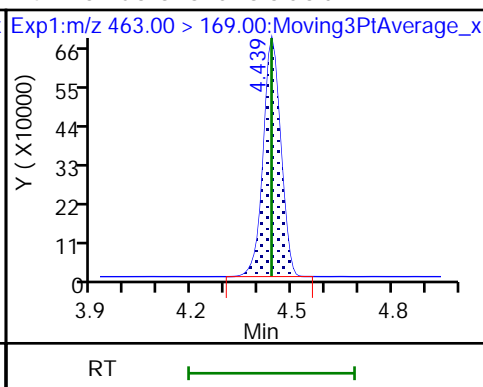
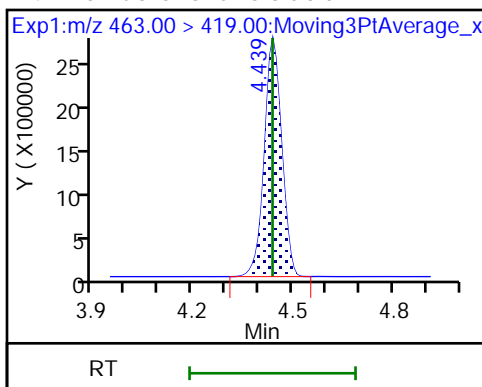
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

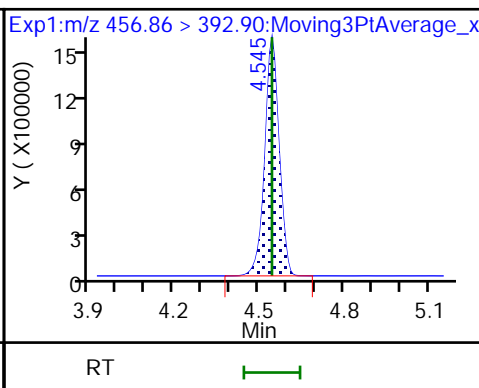
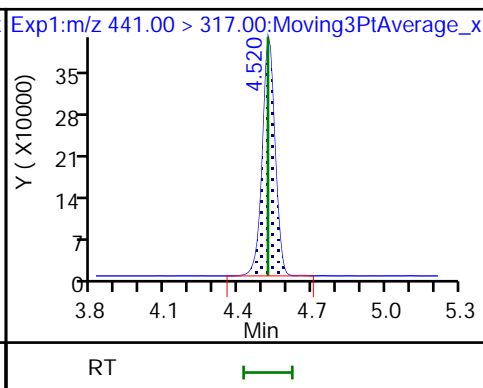
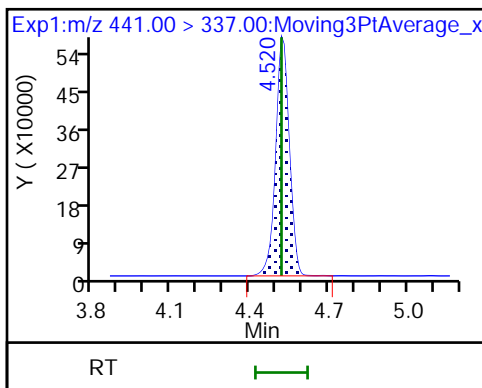
D 41 13C5 PFNA

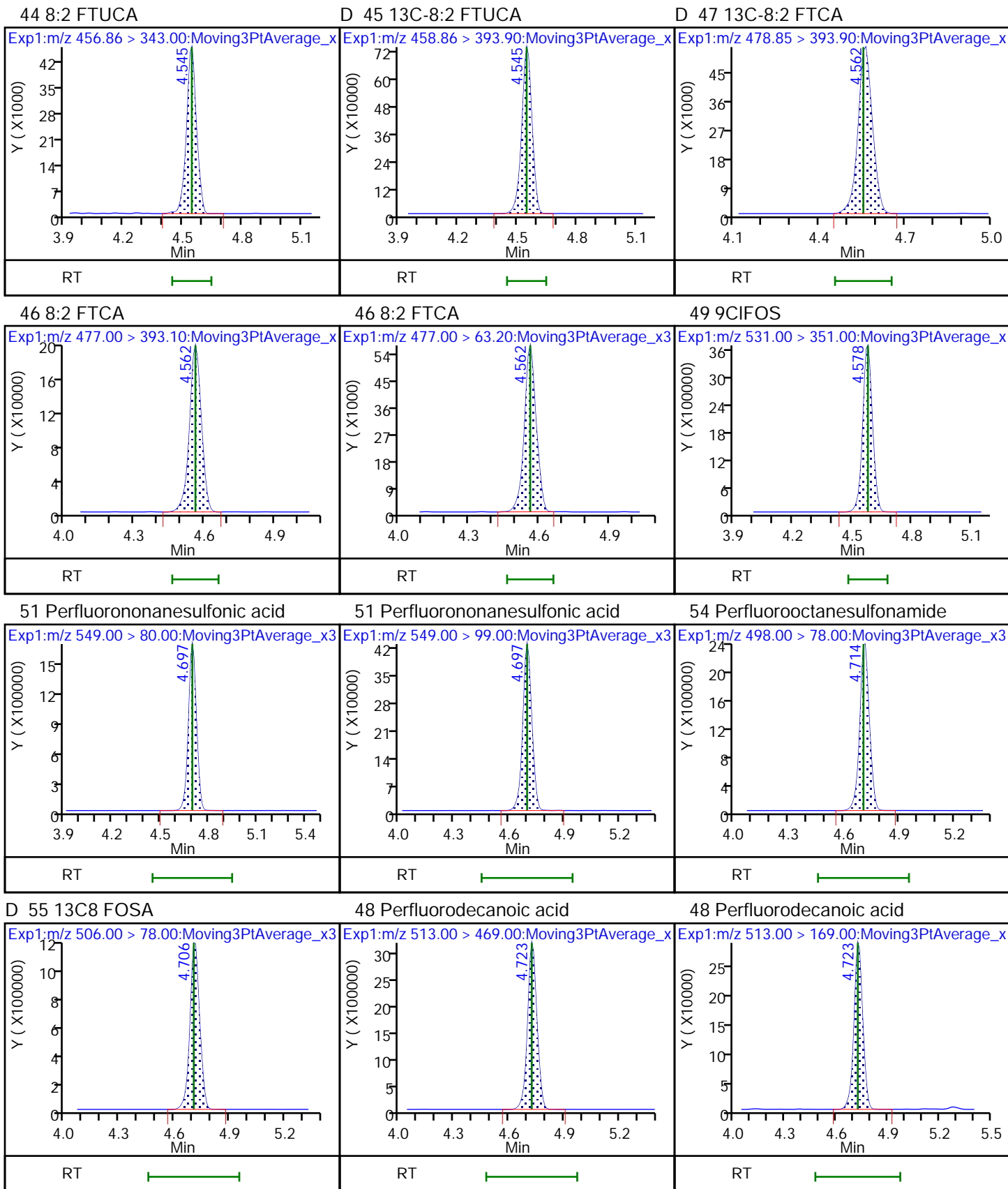


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA



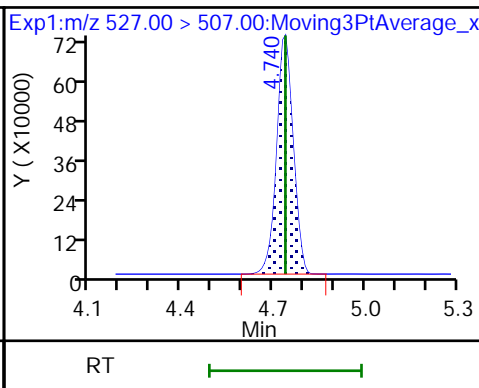
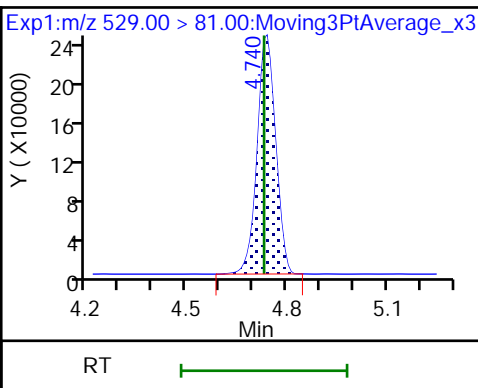
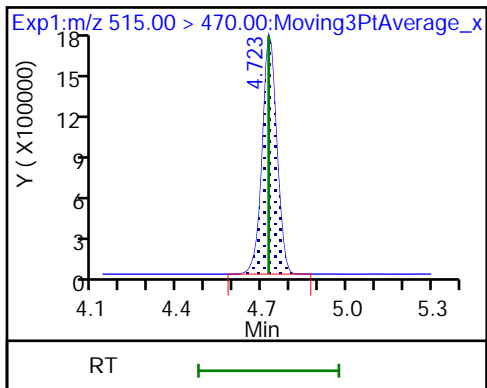




D 52 13C2 PFDA

D 50 M2-8:2 FTS

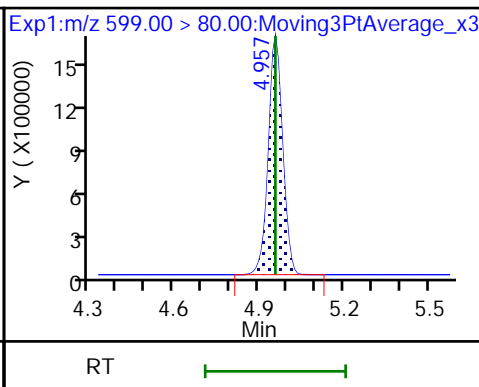
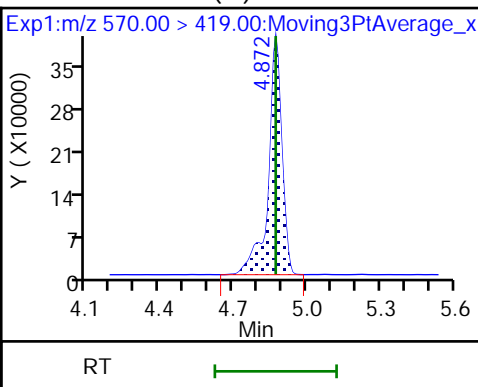
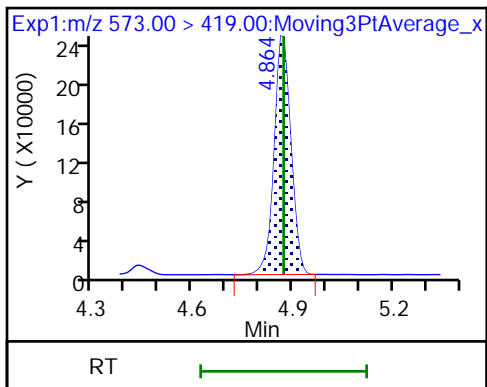
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

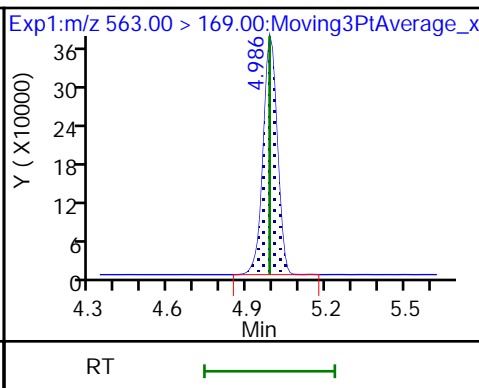
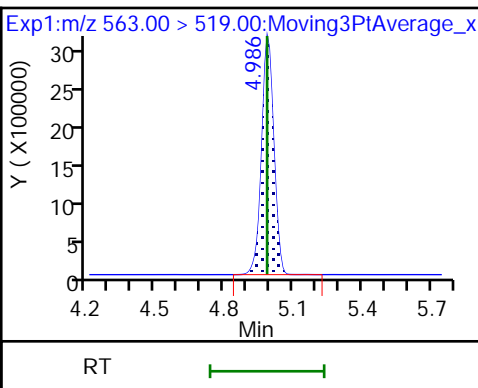
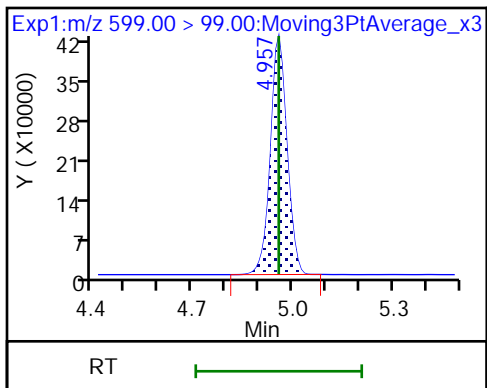
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

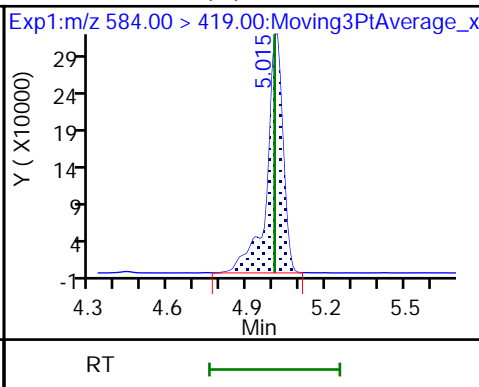
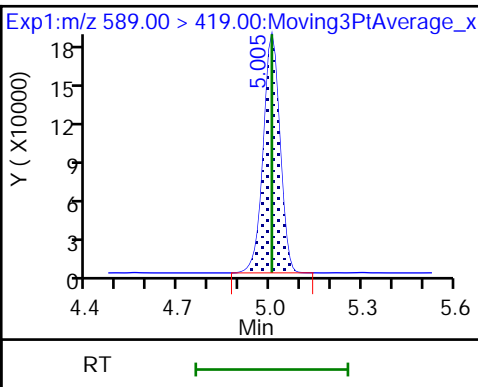
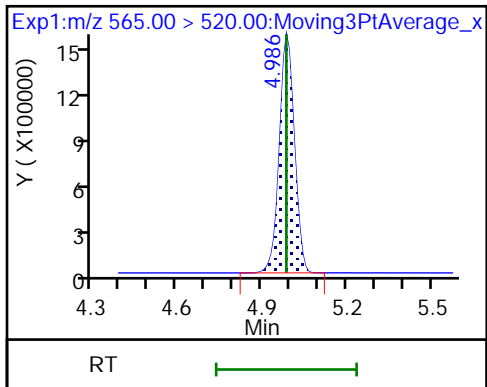
60 Perfluoroundecanoic acid

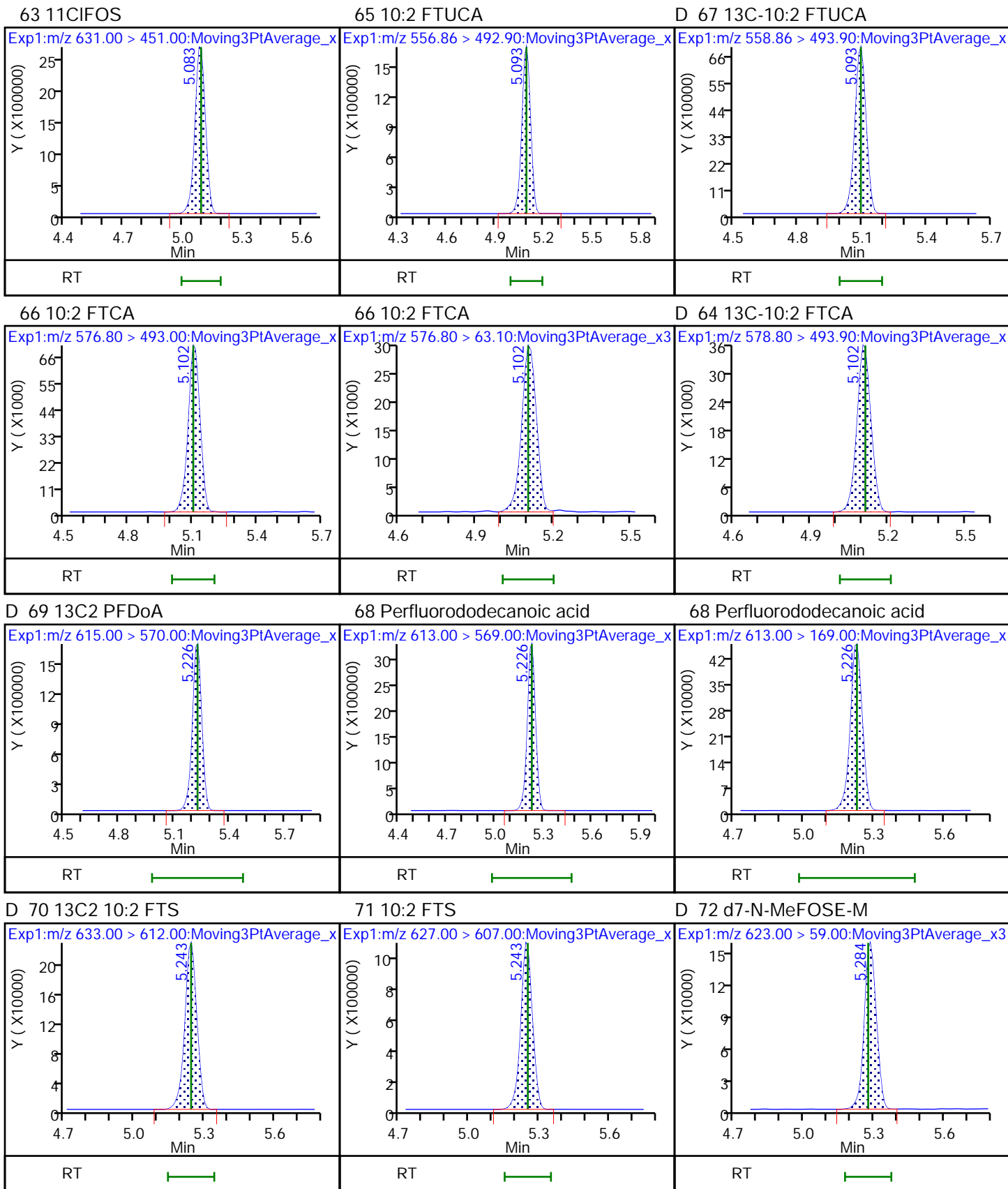


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)

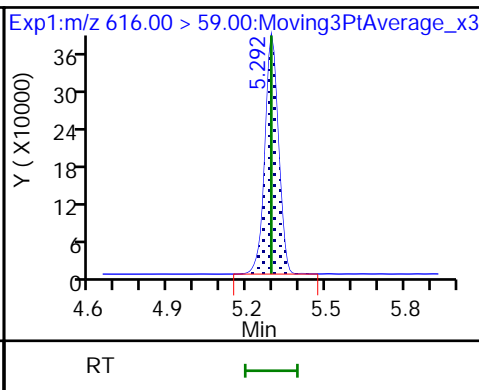
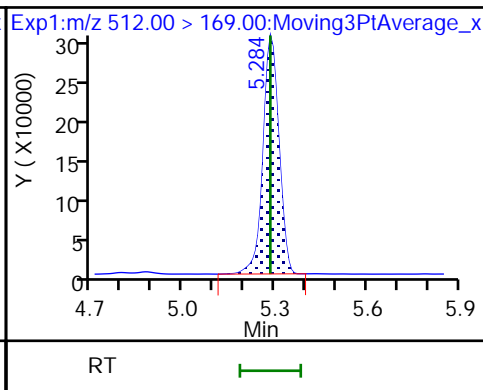
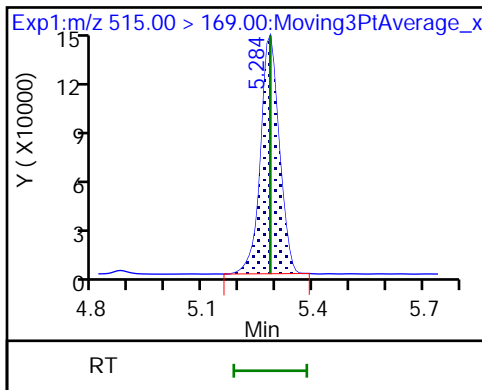




D 73 d-N-MeFOSA-M

74 NMeFOSA

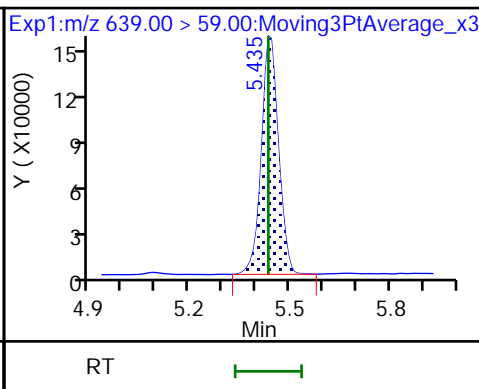
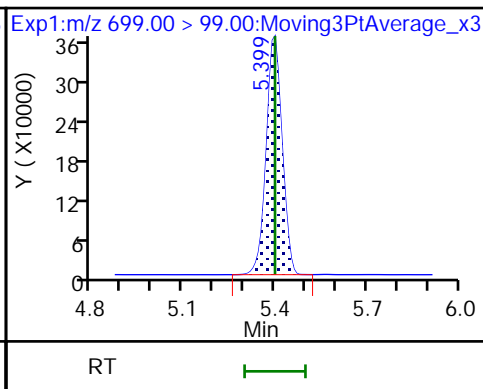
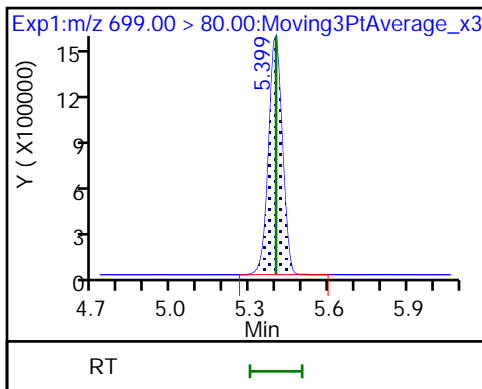
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

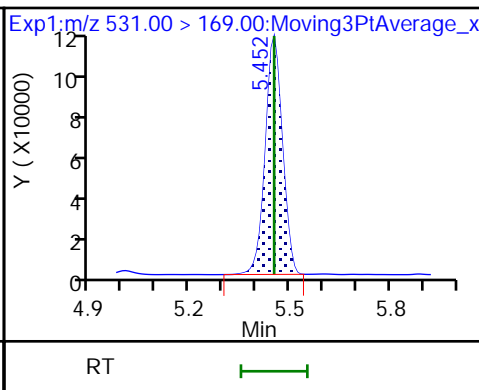
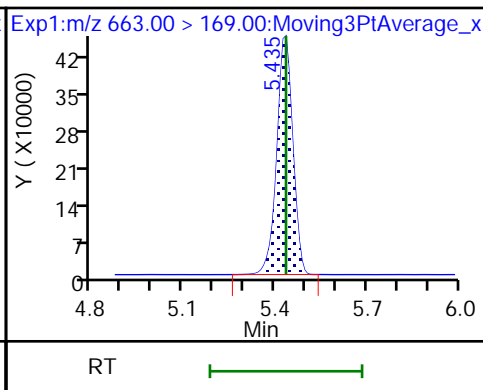
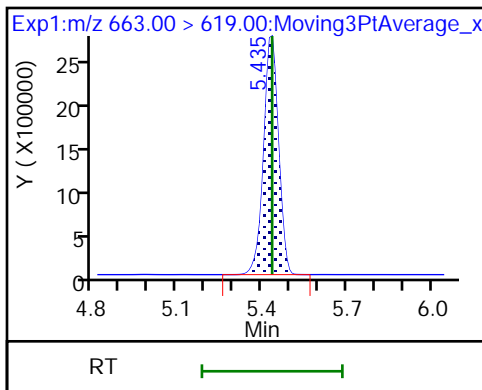
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

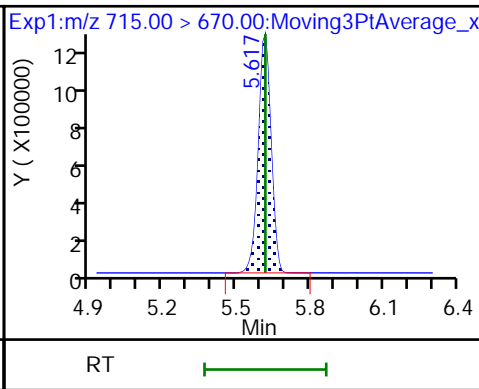
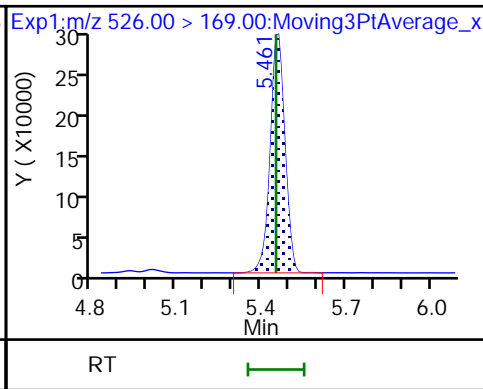
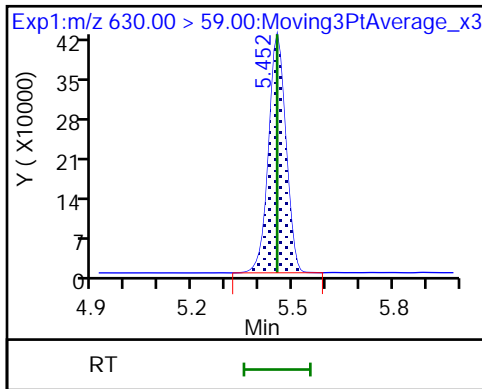
D 80 d-N-EtFOSA-M

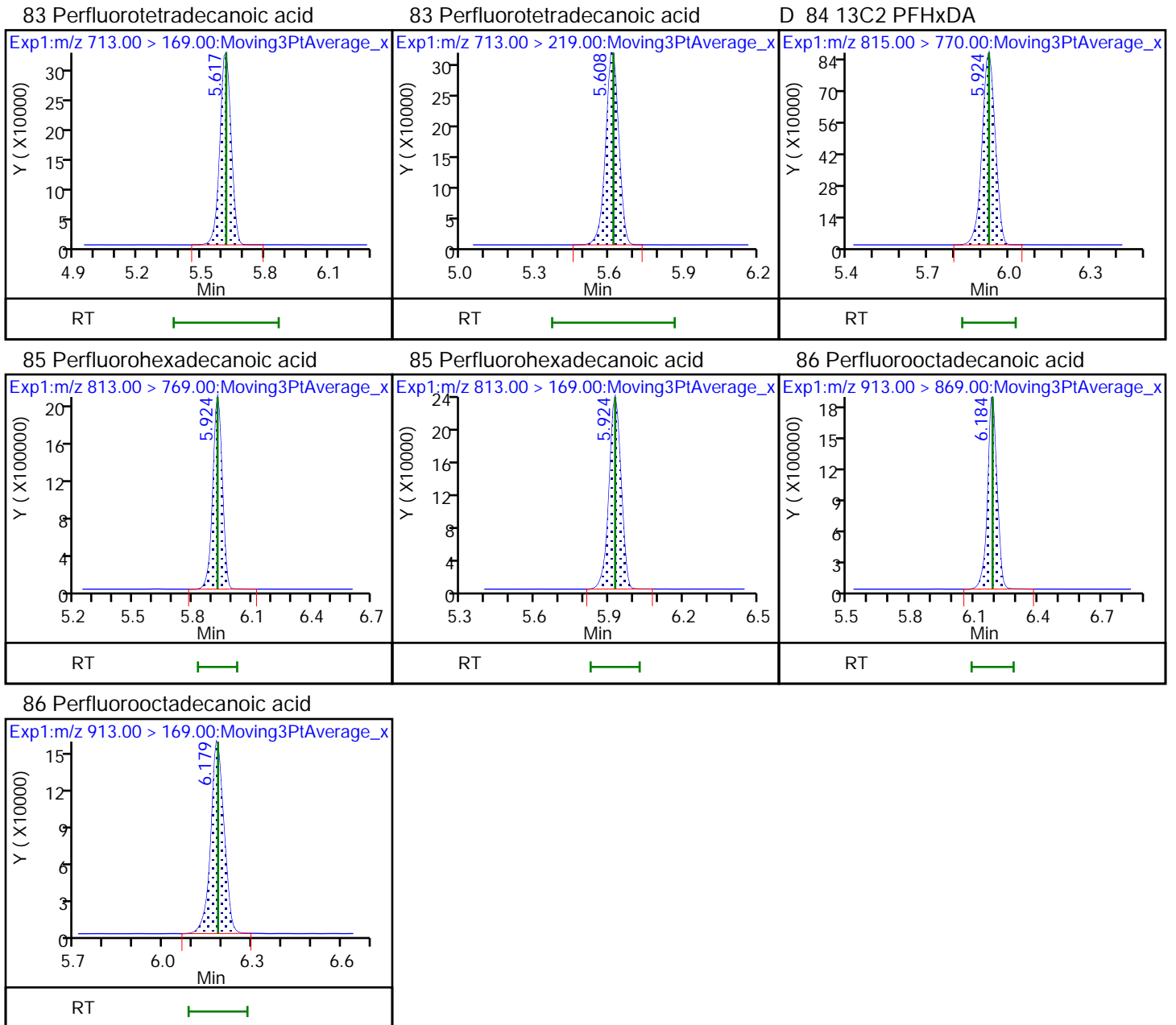


79 N-EtFOSE-M

81 N-EtFOSA-M

D 82 13C2 PFTeDA





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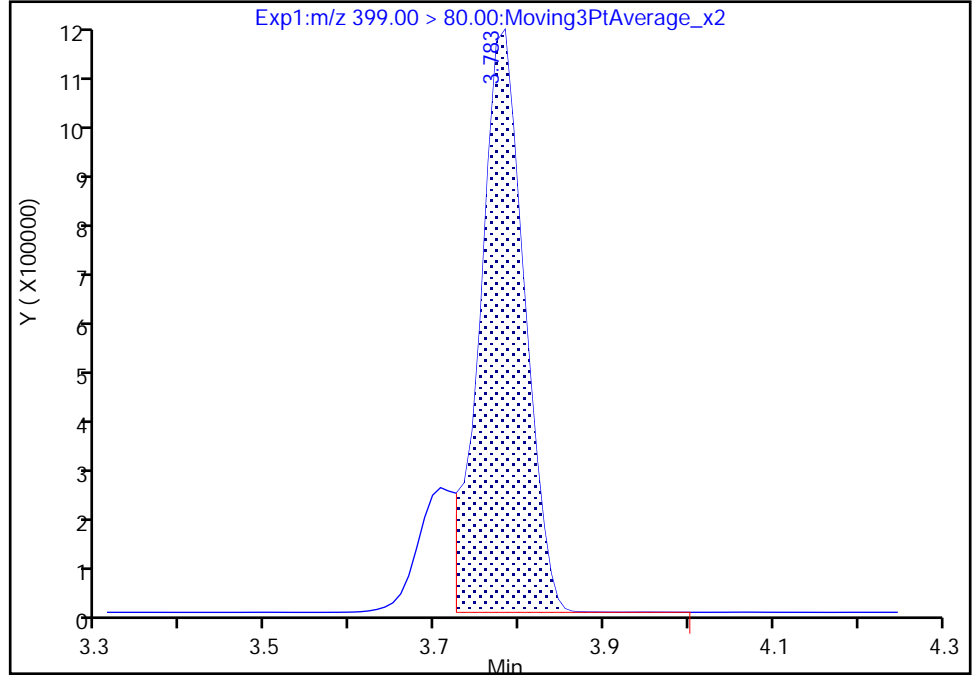
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_042.d  
Injection Date: 19-Feb-2022 23:54:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

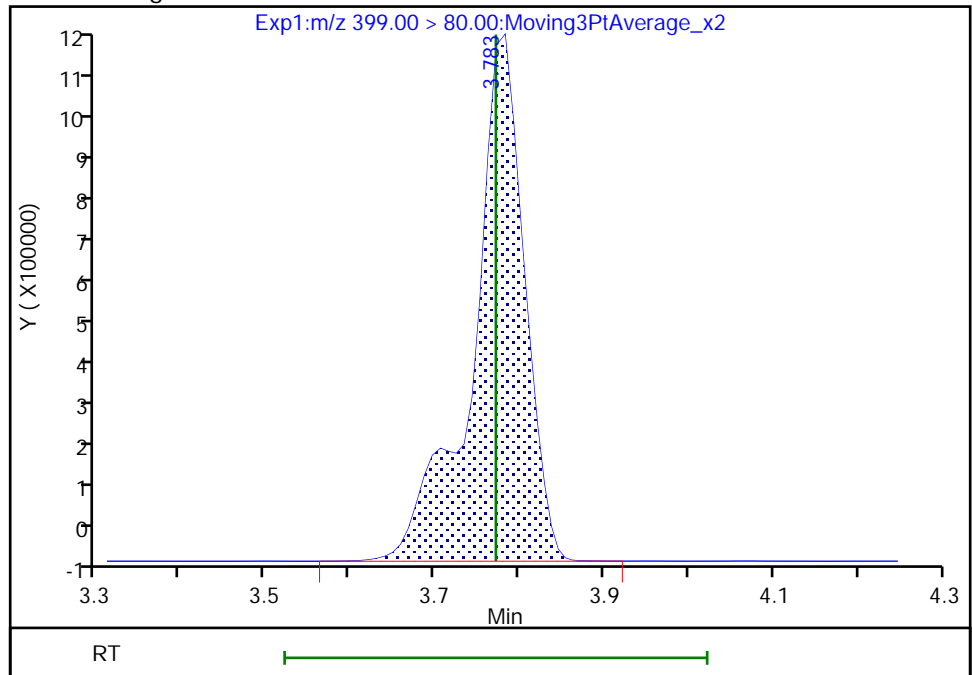
RT: 3.78  
Area: 4162164  
Amount: 1.886350  
Amount Units: ng/ml

Processing Integration Results



RT: 3.78  
Area: 4896031  
Amount: 2.218948  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:05  
Audit Action: Manually Integrated

Audit Reason: Baseline

Eurofins Knoxville

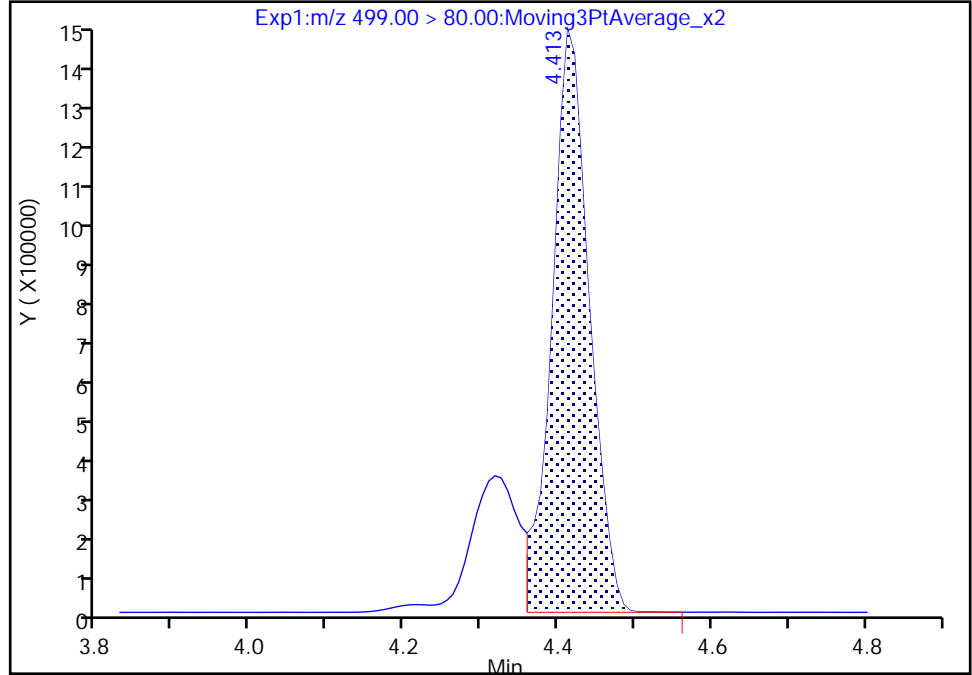
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Injection Date: 19-Feb-2022 23:54:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

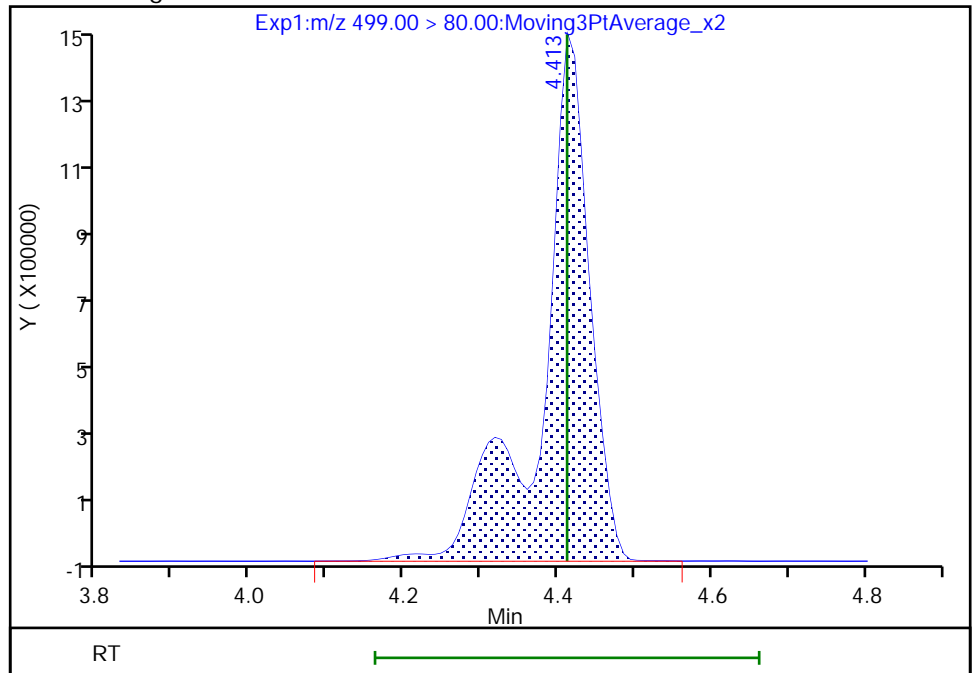
RT: 4.41  
Area: 4718991  
Amount: 1.745844  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 6162814  
Amount: 2.280003  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:16  
Audit Action: Manually Integrated

Eurofins Knoxville

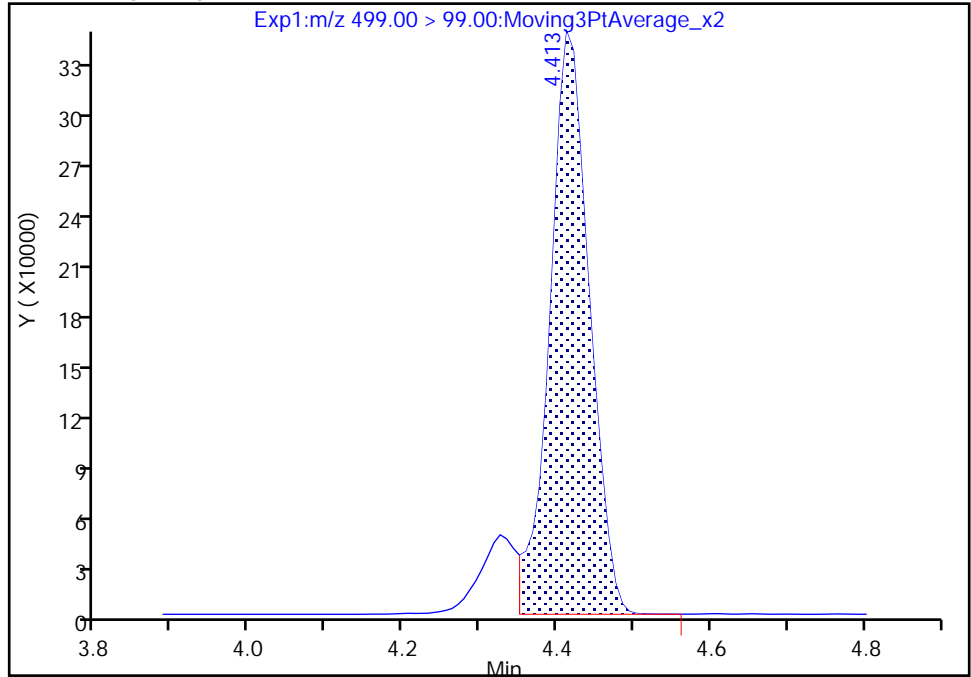
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

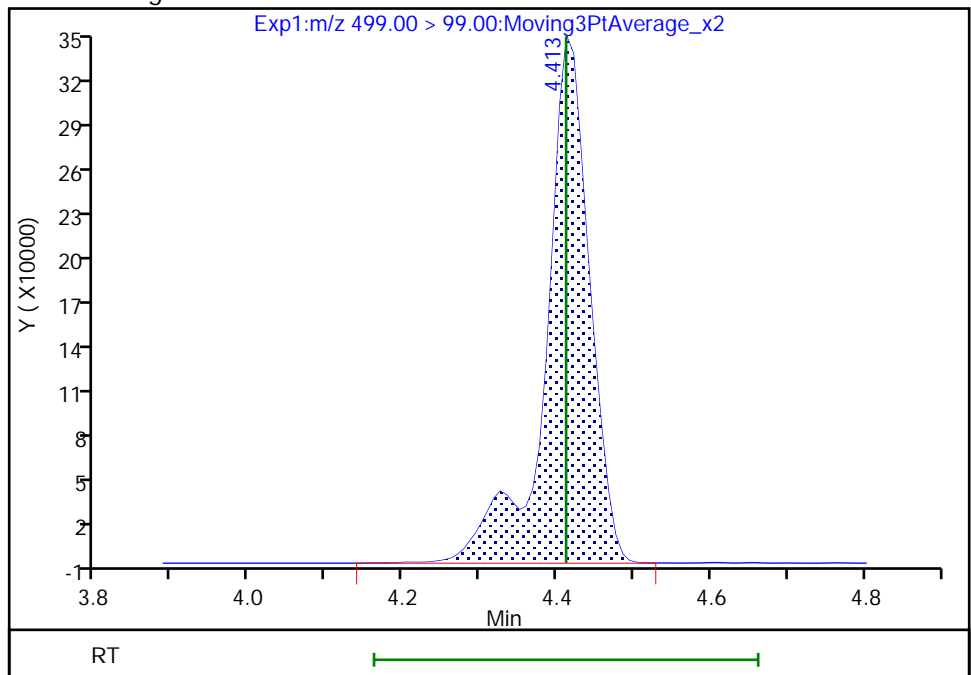
RT: 4.41  
Area: 1216511  
Amount: 1.745844  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 1367857  
Amount: 2.280003  
Amount Units: ng/ml

Manual Integration Results



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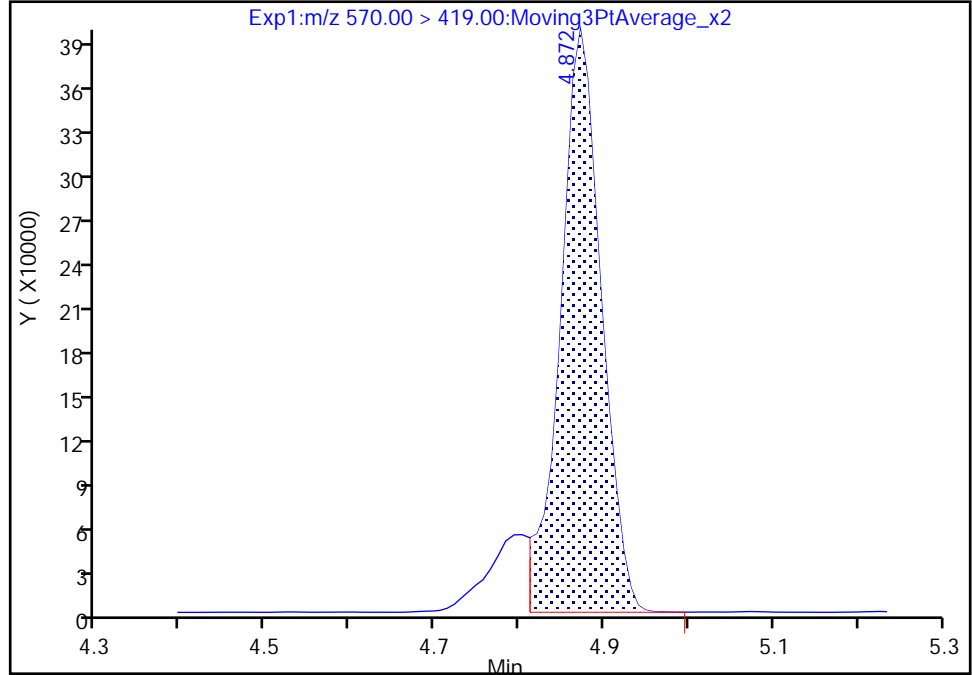
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Injection Date: 19-Feb-2022 23:54:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

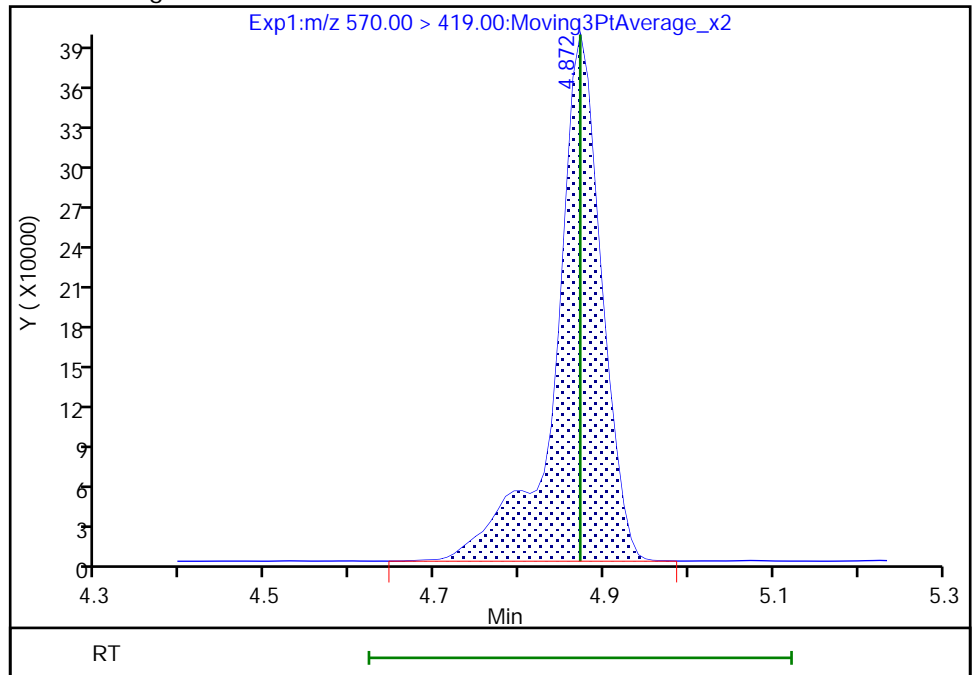
RT: 4.87  
Area: 1322986  
Amount: 2.095102  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 1500582  
Amount: 2.367491  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:38  
Audit Action: Manually Integrated



Eurofins Knoxville

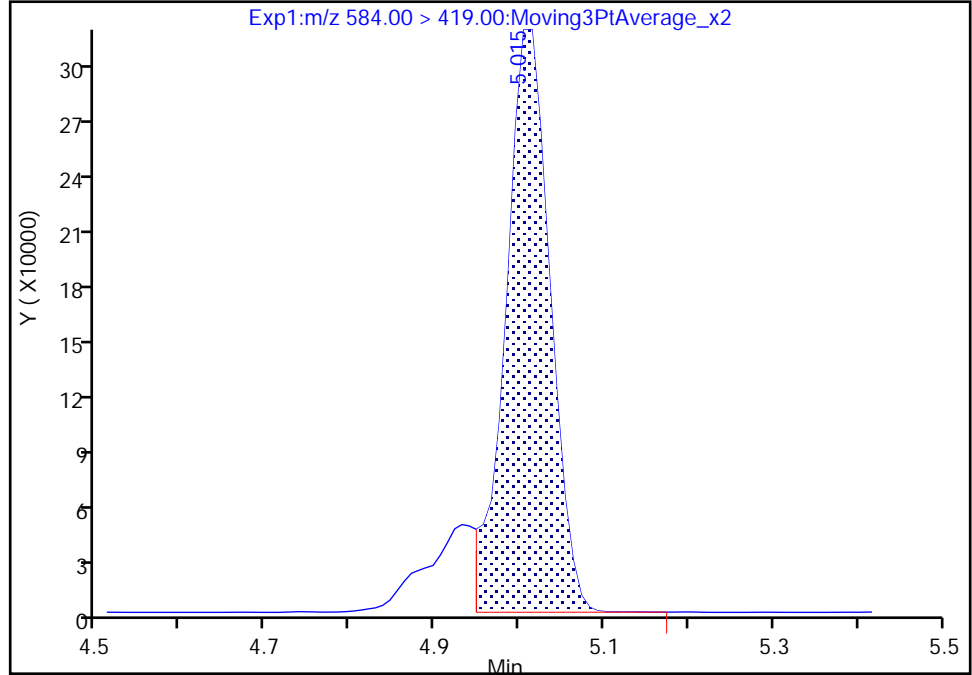
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_042.d  
Injection Date: 19-Feb-2022 23:54:25 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 42 Worklist Smp#: 42  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NEtFOSAA, CAS: 2991-50-6

Signal: 1

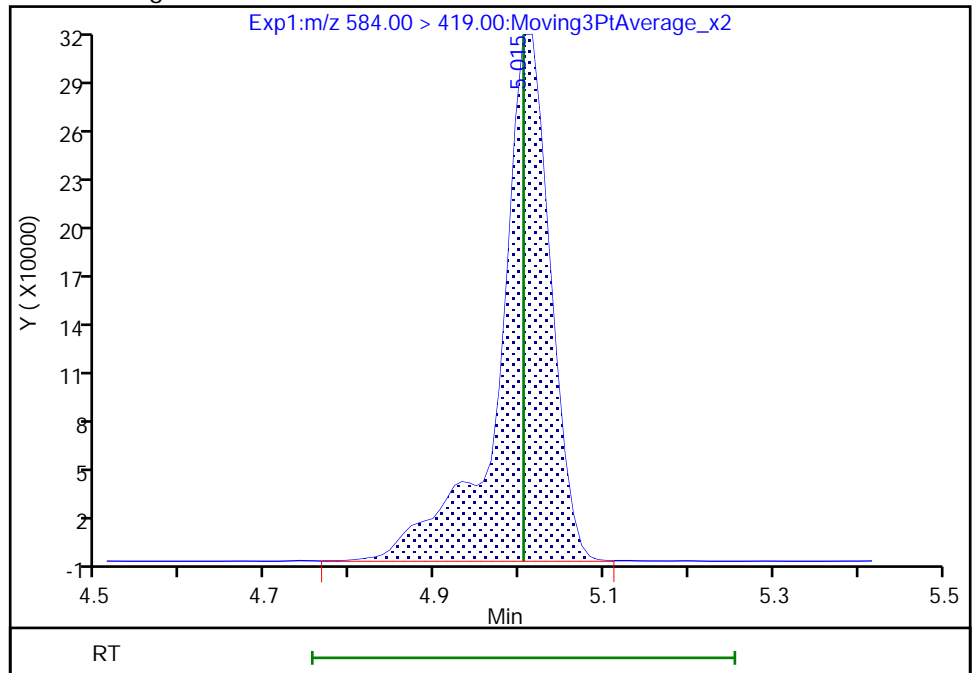
RT: 5.01  
Area: 1153649  
Amount: 2.262062  
Amount Units: ng/ml

Processing Integration Results



RT: 5.01  
Area: 1344382  
Amount: 2.614355  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:16:49  
Audit Action: Manually Integrated

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/50 Calibration Date: 02/20/2022 01:04  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_050.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	L2ID		0.7334		0.925	1.00	-7.5	40.0
PFECA F	AveID	0.7535	0.6985		0.927	1.00	-7.3	40.0
Perfluoropentanoic acid (PFPeA)	L2ID		0.9080		0.965	1.00	-3.5	40.0
3:3 FTCA	QuaIF		0.0554		1.02	1.00	1.7	40.0
Perfluorobutanesulfonic acid (PFBS)	Q2ID		1.096		0.884	0.884	0.0	40.0
PFECA A	Q2ID		1.151		0.982	1.00	-1.8	40.0
PES	Q2ID		2.303		0.865	0.890	-2.8	40.0
PFECA B	Q2ID		0.3980		0.963	1.00	-3.7	40.0
4:2 FTS	L2ID		2.276		0.935	0.934	0.1	40.0
Perfluorohexanoic acid (PFHxA)	L2ID		0.7538		0.947	1.00	-5.3	40.0
Perfluoropentanesulfonic acid (PFPeS)	AveID	1.032	1.040		0.945	0.938	0.7	40.0
HFPO-DA	L2ID		1.377		1.09	1.00	9.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.385	1.238		0.813	0.910	-10.6	40.0
Perfluoroheptanoic acid (PFHpA)	Q2ID		1.068		1.07	1.00	6.5	40.0
DONA	AveID	2.644	2.296		0.818	0.942	-13.2	40.0
5:3 FTCA	L2ID		3.214		0.852	1.00	-14.8	40.0
6:2 FTUCA	AveID	1.046	1.033		0.987	1.00	-1.3	40.0
6:2 FTCA	L1ID		0.6353		0.915	1.00	-8.5	40.0
PFECHS	AveID	0.7426	0.6907		0.858	0.922	-7.0	40.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	0.9876	0.9227		0.890	0.952	-6.6	40.0
6:2 FTS	L2ID		1.668		0.864	0.948	-8.9	40.0
Perfluorooctanoic acid (PFOA)	L1ID		1.006		0.939	1.00	-6.1	40.0
Perfluorooctanesulfonic acid (PFOS)	AveID	1.145	1.049		0.850	0.928	-8.4	40.0
Perfluorononanoic acid (PFNA)	AveID	0.7606	0.7196		0.946	1.00	-5.4	40.0
7:3 FTCA	AveID	5.230	4.656		0.890	1.00	-11.0	40.0
8:2 FTUCA	AveID	0.9565	0.9020		0.943	1.00	-5.7	40.0
8:2 FTCA	AveID	1.811	1.619		0.894	1.00	-10.6	40.0
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	AveID	2.248	2.081		0.863	0.932	-7.4	40.0
Perfluorononanesulfonic acid (PFNS)	AveID	1.011	0.9423		0.894	0.960	-6.8	40.0
Perfluorooctanesulfonamide (FOSA)	AveID	0.9550	0.9155		0.959	1.00	-4.1	40.0
Perfluorodecanoic acid (PFDA)	L2ID		0.8747		0.972	1.00	-2.8	40.0
8:2 FTS	L2ID		1.539		0.980	0.958	2.2	40.0
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	Q2ID		0.9290		1.01	1.00	0.5	40.0
Perfluorodecanesulfonic acid (PFDS)	L2ID		0.8334		0.902	0.964	-6.5	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/50 Calibration Date: 02/20/2022 01:04  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_050.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluoroundecanoic acid (PFUnA)	AveID	0.9671	0.9624		0.995	1.00	-0.5	40.0
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	Q2ID		0.9404		1.07	1.00	6.8	40.0
10:2 FTUCA	AveID	1.208	1.154		0.956	1.00	-4.5	40.0
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	L2ID		1.684		0.911	0.942	-3.3	50.0
10:2 FTCA	Q2ID		1.020		1.11	1.00	11.1	40.0
Perfluorododecanoic acid (PFDoA)	AveID	1.033	0.9327		0.903	1.00	-9.7	40.0
10:2 FTS	L2ID		2.055		0.944	0.964	-2.1	50.0
NMeFOSA	L2ID		1.030		0.954	1.00	-4.6	40.0
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	L2ID		1.203		1.03	1.00	2.6	40.0
Perfluorododecanesulfonic acid (PFDoS)	AveID	0.9454	0.9293		0.952	0.968	-1.7	40.0
Perfluorotridecanoic acid (PFTriA)	AveID	0.8831	0.8154		0.923	1.00	-7.7	40.0
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	AveID	1.419	1.250		0.881	1.00	-11.9	40.0
N-ethylperfluoro-1-octanesulfonamide	L2ID		1.249		1.00	1.00	0.0	40.0
Perfluorotetradecanoic acid (PFTeA)	L2ID		0.1278		0.990	1.00	-1.0	40.0
Perfluorohexadecanoic acid	L1ID		1.085		0.952	1.00	-4.8	40.0
Perfluorooctadecanoic acid	AveID	1.013	0.9266		0.915	1.00	-8.5	40.0
13C4 PFBA	Ave	1.172	1.220		1.30	1.25	4.1	50.0
13C5 PFPeA	Ave	0.9197	0.8985		1.22	1.25	-2.3	50.0
13C3 PFBS	Ave	0.5817	0.5811		1.16	1.16	-0.1	50.0
M2-4:2 FTS	Ave	0.1821	0.1822		1.17	1.17	0.0	50.0
13C2 PFHxA	Ave	1.015	1.005		1.24	1.25	-1.0	50.0
13C3 HFPO-DA	Ave	0.4963	0.4552		1.15	1.25	-8.3	50.0
18O2 PFHxS	Ave	0.3776	0.4164		1.30	1.18	10.3	50.0
13C4 PFHpA	Ave	0.9046	0.8638		1.19	1.25	-4.5	50.0
13C-6:2 FTUCA	Ave	0.3374	0.3673		1.36	1.25	8.9	50.0
13C-6:2 FTCA	Ave	0.0260	0.0304		1.46	1.25	16.9	50.0
M2-6:2 FTS	Ave	0.1799	0.2000		1.32	1.19	11.1	50.0
13C4 PFOA	Ave	0.9356	0.9934		1.33	1.25	6.2	50.0
13C4 PFOS	Ave	0.5610	0.6192		1.32	1.20	10.4	50.0
13C5 PFNA	Ave	1.268	1.356		1.34	1.25	6.9	50.0
13C-8:2 FTUCA	Ave	0.4520	0.5772		1.60	1.25	27.7	50.0
13C-8:2 FTCA	Ave	0.0330	0.0418		1.58	1.25	26.4	50.0
13C8 FOSA	Ave	0.8475	0.9241		1.36	1.25	9.0	50.0
13C2 PFDA	Ave	1.210	1.269		1.31	1.25	4.9	50.0
M2-8:2 FTS	Ave	0.1961	0.2125		1.30	1.20	8.3	50.0

FORM VII  
PFAS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 140-59059/50 Calibration Date: 02/20/2022 01:04  
 Instrument ID: LCA Calib Start Date: 02/18/2022 18:00  
 GC Column: GeminiC18 3x100 ID: 3.00 (mm) Calib End Date: 02/18/2022 18:53  
 Lab File ID: \_050.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d3-NMeFOSAA	Ave	0.1135	0.1517		1.67	1.25	33.7	50.0
13C2 PFUnA	Ave	1.168	1.179		1.26	1.25	0.9	50.0
d5-NEtFOSAA	Ave	0.1164	0.1477		1.59	1.25	26.9	50.0
13C-10:2 FTUCA	Ave	0.5078	0.5239		1.29	1.25	3.2	50.0
13C-10:2 FTCA	Ave	0.0309	0.0275		1.11	1.25	-10.9	50.0
13C2 PFDoA	Ave	1.152	1.211		1.31	1.25	5.0	50.0
13C2 10:2 FTS	Ave	0.1652	0.1738		1.25	1.18	5.2	50.0
d7-N-MeFOSE-M	Ave	0.1186	0.1131		1.19	1.25	-4.6	50.0
d-N-MeFOSA-M	Ave	0.1009	0.1078		1.34	1.25	6.8	50.0
d9-N-EtFOSE-M	Ave	0.1230	0.1191		1.21	1.25	-3.2	50.0
d-N-EtFOSA-M	Ave	0.0809	0.0797		1.23	1.25	-1.5	50.0
13C2 PFTeDA	Ave	0.9216	0.8842		1.20	1.25	-4.1	50.0
13C2 PFHxDA	Ave	0.5997	0.5828		1.22	1.25	-2.8	50.0
13C8 PFOA	AveID	0.9229	0.9413		1.28	1.25	2.0	50.0
13C8 PFOS	AveID	0.2212	0.2215		1.20	1.20	0.1	50.0

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_050.d  
 Lims ID: CCV  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 20-Feb-2022 01:04:57 ALS Bottle#: 50 Worklist Smp#: 50  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-050 ccv  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Sublist: chrom-PFC\_LCA\*sub16  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:48 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d

Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:20:25

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.798	2.804	-0.006	1.000	3609070	0.9246		92.5	1398	
D 2 13C4 PFBA										
217.00 > 172.00	2.798	2.804	-0.006	0.679	6151054	1.30		104	18554	
3 PFECA F										
229.00 > 85.00	2.912	2.911	0.001	0.937	2531628	0.9270		92.7	12252	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.108	3.115	-0.006	1.000	3290824	0.9653		96.5	1327	
D 5 13C5 PFPeA										
267.90 > 223.00	3.108	3.115	-0.006	0.754	4530490	1.22		97.7	17363	
4 3:3 FTCA										
241.00 > 177.10	3.124	3.122	0.002	1.000	129808	1.02	Target=1.13	102	1422	
241.00 > 116.90	3.124	3.122	0.002	1.000	104552		1.24(0.56-1.69)		150	
D 7 13C3 PFBS										
301.90 > 80.00	3.124	3.122	0.002	0.758	2725182	1.16		99.9	10037	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.124	3.131	-0.007	1.000	2271531	0.8841	Target=2.61	100	3739	
298.90 > 99.00	3.124	3.131	-0.007	1.000	854047		2.66(1.31-3.92)		2405	
9 PFECA A										
278.95 > 84.90	3.203	3.202	0.001	1.031	4172637	0.9821		98.2	18055	
11 PES										
314.80 > 135.00	3.251	3.260	-0.009	1.041	4805169	0.8652		97.2	17731	
12 PFECA B										
295.22 > 201.00	3.375	3.373	0.002	0.981	1613685	0.9630		96.3	9445	
13 4:2 FTS										
327.00 > 307.00	3.406	3.415	-0.009	1.000	1562742	0.9352		100	8155	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.406	3.415	-0.009	0.826	858103	1.17		100	1704	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.439	3.437	0.002	1.101	2286651	0.9449	Target=3.55	101	5691	
349.00 > 99.00	3.439	3.437	0.002	1.101	623835		3.67(1.78-5.33)		5427	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.439	3.437	0.002	1.000	3055974	0.9473	Target=11.60	94.7	1680	
313.00 > 119.00	3.439	3.437	0.002	1.000	278707		10.96(5.80-17.40)		283	
D 14 13C2 PFHxA										
315.00 > 270.00	3.439	3.437	0.002	0.834	5067479	1.24		99.0	16292	
17 HFPO-DA										
285.00 > 169.00	3.544	3.542	0.002	1.000	2528264	1.09	Target=2.45	109	801	
329.00 > 169.00	3.544	3.542	0.002	1.000	946197		2.67(1.23-3.68)		814	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.542	0.002	0.860	2295567	1.15		91.7	8053	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.774	3.772	0.002	1.000	1892358	0.8133	Target=3.44	89.4	3152	M
399.00 > 99.00	3.774	3.772	0.002	1.000	561110		3.37(1.72-5.17)		1536	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.774	3.772	0.002	0.915	1986332	1.30		110	8867	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.784	3.792	-0.008	1.000	3719864	1.07	Target=3.25	107	2819	
363.00 > 169.00	3.784	3.792	-0.008	1.000	1090327		3.41(1.62-4.87)		1721	
D 22 13C4 PFHpA										
367.00 > 322.00	3.784	3.792	-0.008	0.918	4355554	1.19		95.5	10710	
25 DONA										
377.00 > 251.00	3.822	3.820	0.002	0.867	5401414	0.8180	Target=1.74	86.8	11016	
377.00 > 85.00	3.822	3.820	0.002	0.867	3044688		1.77(0.87-2.61)		129	
26 5:3 FTCA										
340.88 > 236.90	3.846	3.853	-0.007	0.987	394256	0.8521	Target=1.11	85.2	1652	
340.88 > 216.90	3.846	3.853	-0.007	0.987	348350		1.13(0.56-1.67)		975	
27 6:2 FTUCA										
356.86 > 292.90	3.879	3.886	-0.007	1.000	1530538	0.9872	Target=13.05	98.7	3137	
356.86 > 243.00	3.879	3.886	-0.007	1.000	103971		14.72(6.52-19.57)		422	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.886	-0.007	0.941	1852142	1.36		109	3445	
29 6:2 FTCA										
377.10 > 63.00	3.896	3.903	-0.007	1.000	77934	0.9146	Target=1.29	91.5	293	
377.10 > 313.10	3.905	3.903	0.002	1.002	60258		1.29(0.65-1.94)		128	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.896	3.903	-0.007	0.945	153338	1.46		117	1022	
32 PFECHS										
460.80 > 380.90	4.056	4.054	0.002	0.984	2552074	0.8576	Target=1.75	93.0	5571	
460.80 > 98.90	4.056	4.054	0.002	0.984	1535373		1.66(0.87-2.62)		3710	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.104	4.111	-0.007	0.931	2194217	0.8895	Target=3.72	93.4	7273	
449.00 > 99.00	4.104	4.111	-0.007	0.931	556917		3.94(1.86-5.57)		2027	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.113	4.121	-0.008	1.000	1275453	0.8640		91.1	2738	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.123	4.121	0.002	1.000	4029667	0.9393	Target=2.51	93.9	2621	
413.00 > 169.00	4.123	4.121	0.002	1.000	1618509		2.49(1.26-3.77)		2064	
\$ 36 13C8 PFOA										
421.00 > 376.00	4.113	4.121	-0.008	0.998	4714907	1.27		102	8249	
* 30 13C2 PFOA										
415.00 > 370.00	4.123	4.121	0.002		5042506	1.25			8748	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.113	4.121	-0.008	0.998	958067	1.32		111	2716	
D 31 13C4 PFOA										
417.00 > 372.00	4.123	4.121	0.002	1.000	5009018	1.33		106	12041	
\$ 38 13C8 PFOS										
507.00 > 99.00	4.406	4.412	-0.006	1.000	661060	1.20		100	1876	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.406	4.412	-0.006	1.000	2431562	0.8500	Target=4.30	91.6	3892	M
499.00 > 99.00	4.406	4.412	-0.006	1.000	545421		4.46(2.15-6.45)		1552	M
D 39 13C4 PFOS										
503.00 > 80.00	4.406	4.412	-0.006	1.069	2984960	1.32		110	3798	
42 Perfluorononanoic acid										
463.00 > 419.00	4.432	4.438	-0.006	1.000	3937383	0.9462	Target=3.60	94.6	3914	
463.00 > 169.00	4.432	4.438	-0.006	1.000	998536		3.94(1.80-5.40)		2960	
D 41 13C5 PFNA										
468.00 > 423.00	4.432	4.438	-0.006	1.075	6839122	1.34		107	8153	
43 7:3 FTCA										
441.00 > 337.00	4.522	4.519	0.003	0.993	784715	0.8903	Target=1.42	89.0	1767	
441.00 > 317.00	4.513	4.519	-0.006	0.991	579595		1.35(0.71-2.13)		2308	
44 8:2 FTUCA										
456.86 > 392.90	4.539	4.545	-0.006	1.000	2100351	0.9431	Target=35.37	94.3	5421	
456.86 > 343.00	4.539	4.545	-0.006	1.000	54081		38.84(17.68-53.05)		194	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.539	4.545	-0.006	1.000	2910646	1.60		128	8604	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.555	4.553	0.002	1.105	210680	1.58		126	712	
46 8:2 FTCA										
477.00 > 393.10	4.555	4.561	-0.006	1.000	272858	0.8940	Target=3.35	89.4	973	
477.00 > 63.20	4.555	4.561	-0.006	1.000	82619		3.30(1.68-5.03)		360	
49 9CIFOS										
531.00 > 351.00	4.571	4.578	-0.007	1.109	4844469	0.8626		92.6	6855	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.690	4.697	-0.007	1.065	2259652	0.8944	Target=3.99	93.2	5286	
549.00 > 99.00	4.690	4.697	-0.007	1.065	561842		4.02(2.00-5.99)		1836	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.707	4.705	0.002	1.000	3412734	0.9586		95.9	7046	
D 55 13C8 FOSA										
506.00 > 78.00	4.707	4.705	0.002	1.142	4659590	1.36		109	4484	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
48 Perfluorodecanoic acid										
513.00 > 469.00	4.716	4.722	-0.006	1.000	4478362	0.9722	Target=10.58	97.2	4079	
513.00 > 169.00	4.716	4.722	-0.006	1.000	397261		11.27(5.29-15.88)		318	
D 52 13C2 PFDA										
515.00 > 470.00	4.716	4.722	-0.006	1.144	6400087	1.31		105	11875	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.733	4.731	0.002	1.148	1026378	1.30		108	1697	
53 8:2 FTS										
527.00 > 507.00	4.733	4.739	-0.006	1.000	1263804	0.9795		102	4638	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.857	4.872	-0.015	1.178	765027	1.67		134	563	
57 NMeFOSAA										
570.00 > 419.00	4.866	4.872	-0.006	1.002	568574	1.01		101	1004	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.951	4.957	-0.006	1.124	2006773	0.9017	Target=3.55	93.5	6214	
599.00 > 99.00	4.951	4.957	-0.006	1.124	532553		3.77(1.78-5.33)		2459	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.978	4.985	-0.007	1.000	4577094	1.00	Target=8.26	99.5	5358	
563.00 > 169.00	4.978	4.985	-0.007	1.000	522830		8.75(4.13-12.39)		2257	
D 59 13C2 PFUnA										
565.00 > 520.00	4.978	4.985	-0.007	1.208	5944812	1.26		101	8595	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.997	5.005	-0.008	1.212	744829	1.59		127	2430	
62 NEtFOSAA										
584.00 > 419.00	4.997	5.005	-0.008	1.000	560326	1.07		107	661	M
65 10:2 FTUCA										
556.86 > 492.90	5.085	5.092	-0.007	1.000	2439227	0.9555		95.5	8046	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.085	5.092	-0.007	1.233	2641550	1.29		103	6294	
63 11C1FOS										
631.00 > 451.00	5.085	5.092	-0.007	1.154	3962895	0.9106		96.7	7704	
66 10:2 FTCA										
576.80 > 493.00	5.104	5.102	0.002	1.002	113321	1.11	Target=2.53	111	494	
576.80 > 63.10	5.095	5.102	-0.007	1.000	47017		2.41(1.26-3.79)		234	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.095	5.111	-0.016	1.236	138895	1.11		89.1	714	
D 69 13C2 PFDaA										
615.00 > 570.00	5.220	5.226	-0.006	1.266	6104178	1.31		105	18373	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.220	5.226	-0.006	1.000	4554869	0.9029	Target=6.85	90.3	4020	
613.00 > 169.00	5.220	5.226	-0.006	1.000	668811		6.81(3.43-10.28)		1549	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.237	5.243	-0.007	1.270	830254	1.25		105	4081	
71 10:2 FTS										
627.00 > 607.00	5.237	5.251	-0.015	1.000	1389402	0.9440		97.9	4856	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.277	5.275	0.002	1.280	570235	1.19		95.4	491	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.277	5.283	-0.006	1.280	543569	1.34		107	40.3	
74 NMeFOSA										
512.00 > 169.00	5.277	5.283	-0.006	1.000	448058	0.9541		95.4	609	
75 N-MeFOSE-M										
616.00 > 59.00	5.285	5.292	-0.007	1.002	548999	1.03		103	919	
76 PFDoS										
699.00 > 80.00	5.392	5.399	-0.007	1.224	2246884	0.9515	Target=4.22	98.3	3986	
699.00 > 99.00	5.392	5.399	-0.007	1.224	521129		4.31(2.11-6.34)		3210	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.437	5.435	0.002	1.319	600543	1.21		96.8	314	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.428	5.435	-0.007	1.040	3981775	0.9234	Target=6.32	92.3	3945	
663.00 > 169.00	5.419	5.435	-0.016	1.038	621769		6.40(3.16-9.48)		2736	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.446	5.452	-0.006	1.321	401950	1.23		98.5	649	
79 N-EtFOSE-M										
630.00 > 59.00	5.446	5.452	-0.006	1.002	600521	0.8809		88.1	540	
81 N-EtFOSA-M										
526.00 > 169.00	5.446	5.452	-0.006	1.000	401600	1.00		100	496	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.609	5.617	-0.008	1.361	4458345	1.20		95.9	12137	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.609	5.617	-0.008	1.000	455999	0.99	Target=1.01	99.0	1690	
713.00 > 219.00	5.600	5.617	-0.017	0.998	441657		1.03(0.51-1.52)		1876	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.917	5.924	-0.007	1.435	2938534	1.21		97.2	6559	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.917	5.924	-0.007	1.000	2550288	0.9522	Target=8.64	95.2	3412	
813.00 > 169.00	5.917	5.924	-0.007	1.000	314987		8.10(4.32-12.97)		1154	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.174	6.184	-0.010	1.043	2178326	0.9148	Target=11.77	91.5	3205	
913.00 > 169.00	6.174	6.184	-0.010	1.043	189376		11.50(5.88-17.65)		779	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

**Reagents:**

63L4PFC2T3\_00001

Amount Added: 1.00

Units: mL

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_050.d

Injection Date: 20-Feb-2022 01:04:57

Instrument ID: LCA

Lims ID: CCV

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 50

Worklist Smp#: 50

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

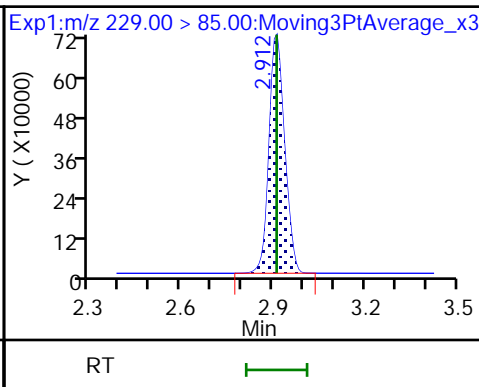
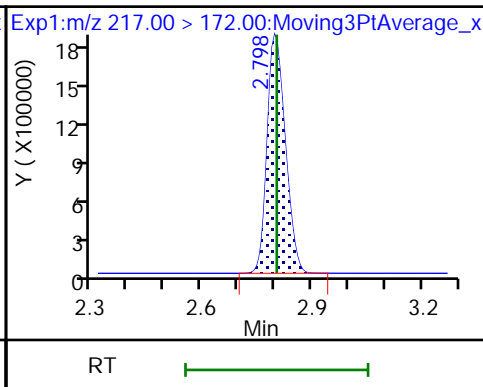
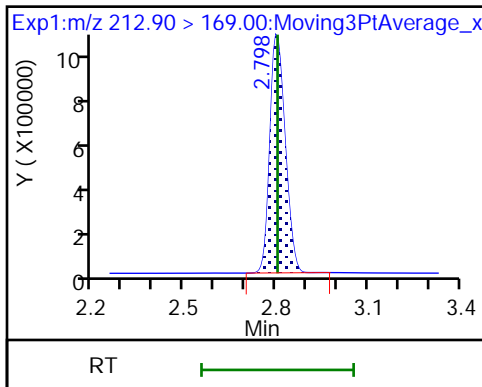
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

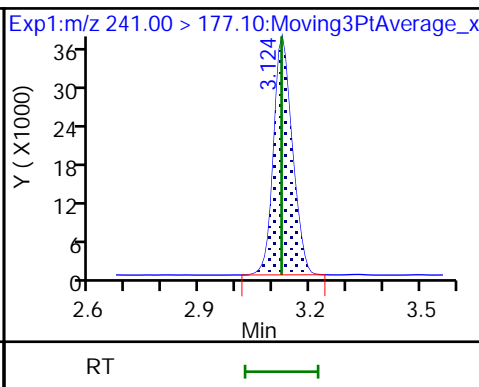
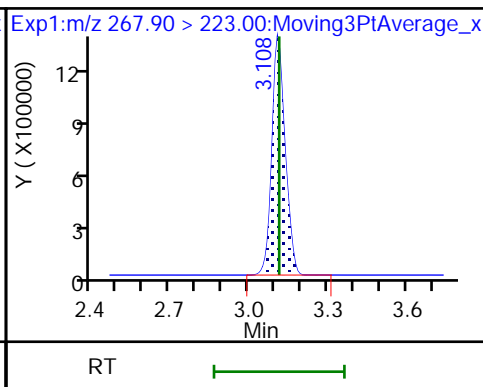
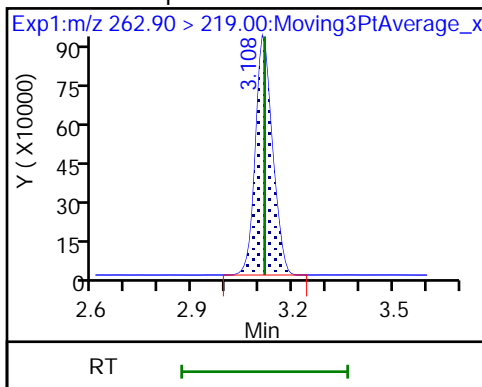
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

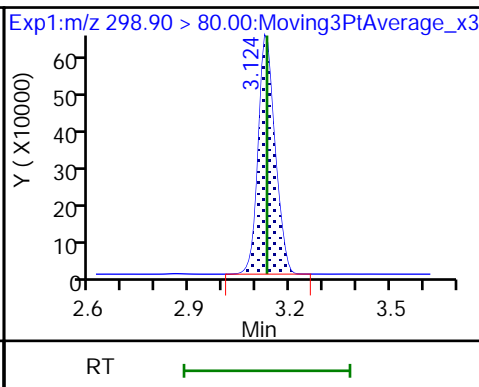
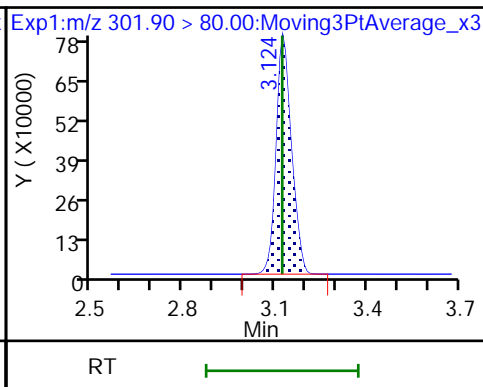
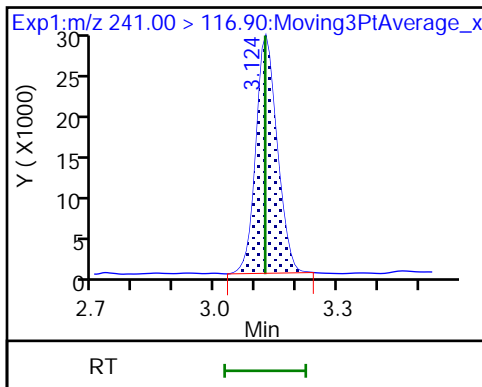
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

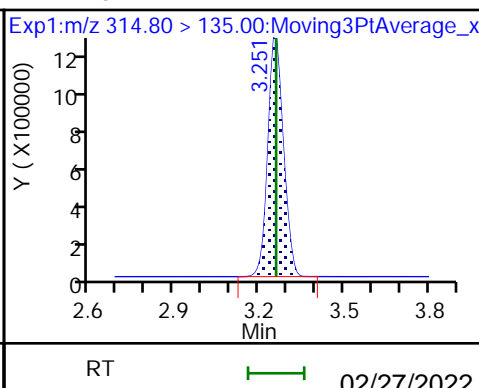
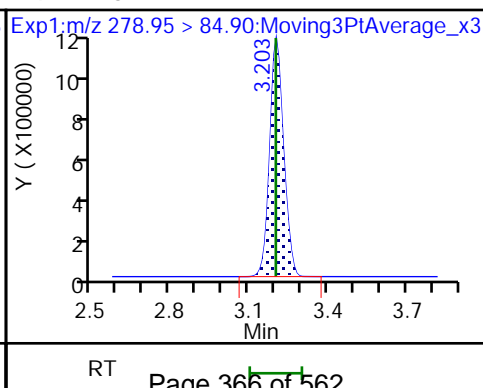
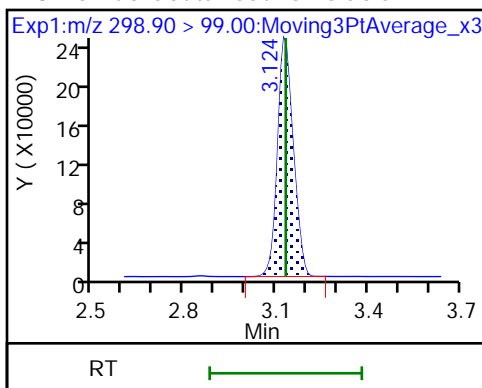
8 Perfluorobutanesulfonic acid

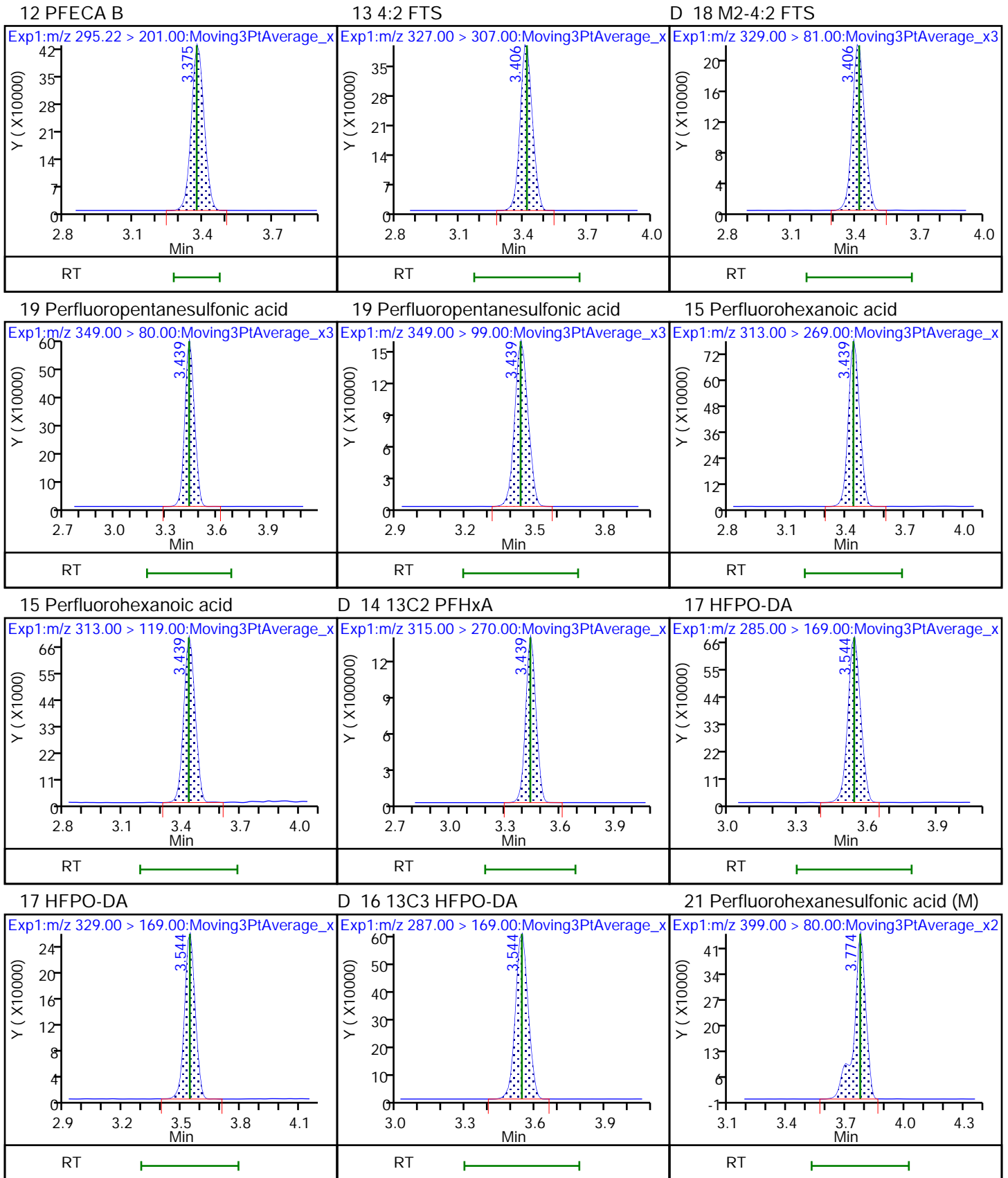


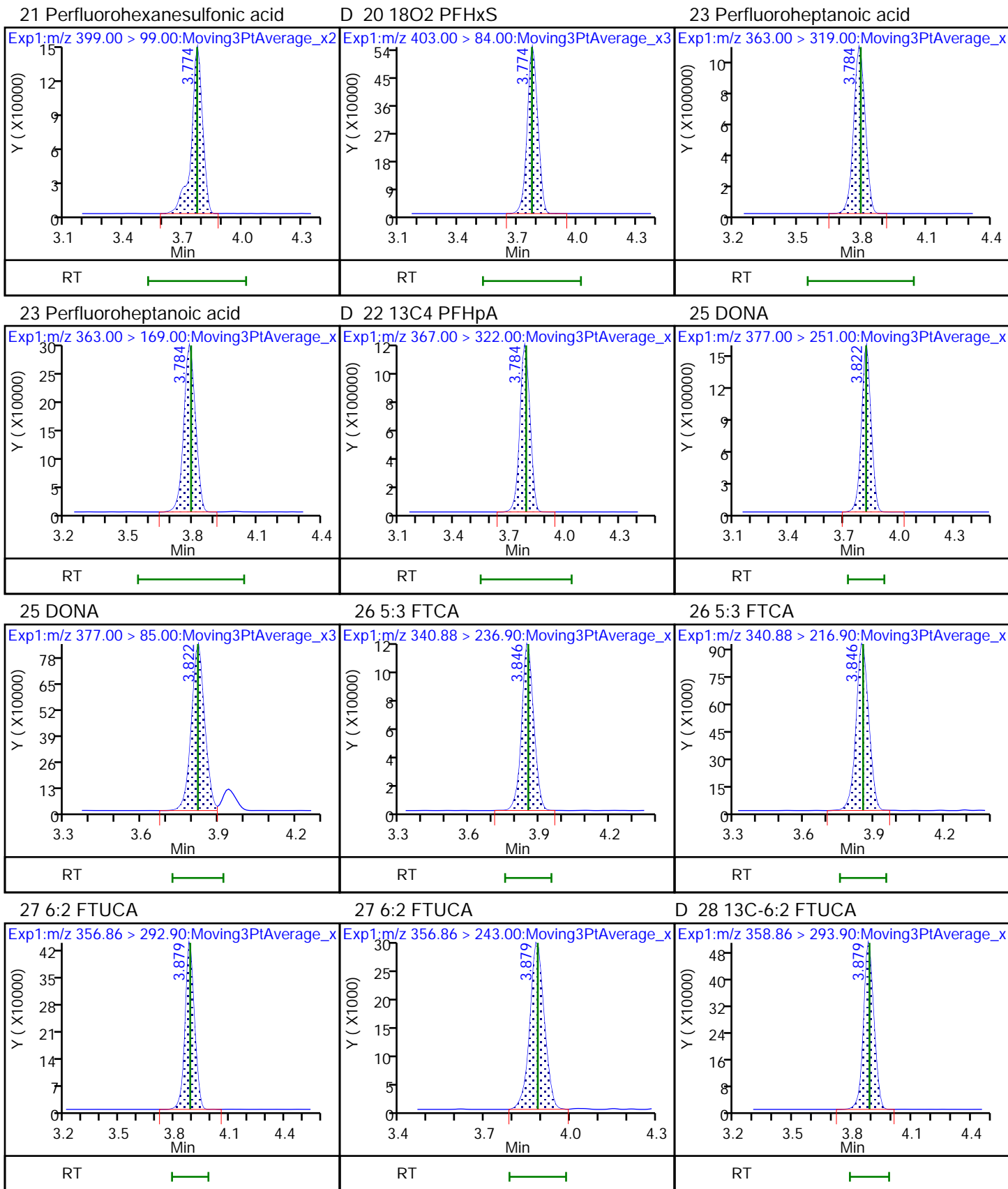
8 Perfluorobutanesulfonic acid

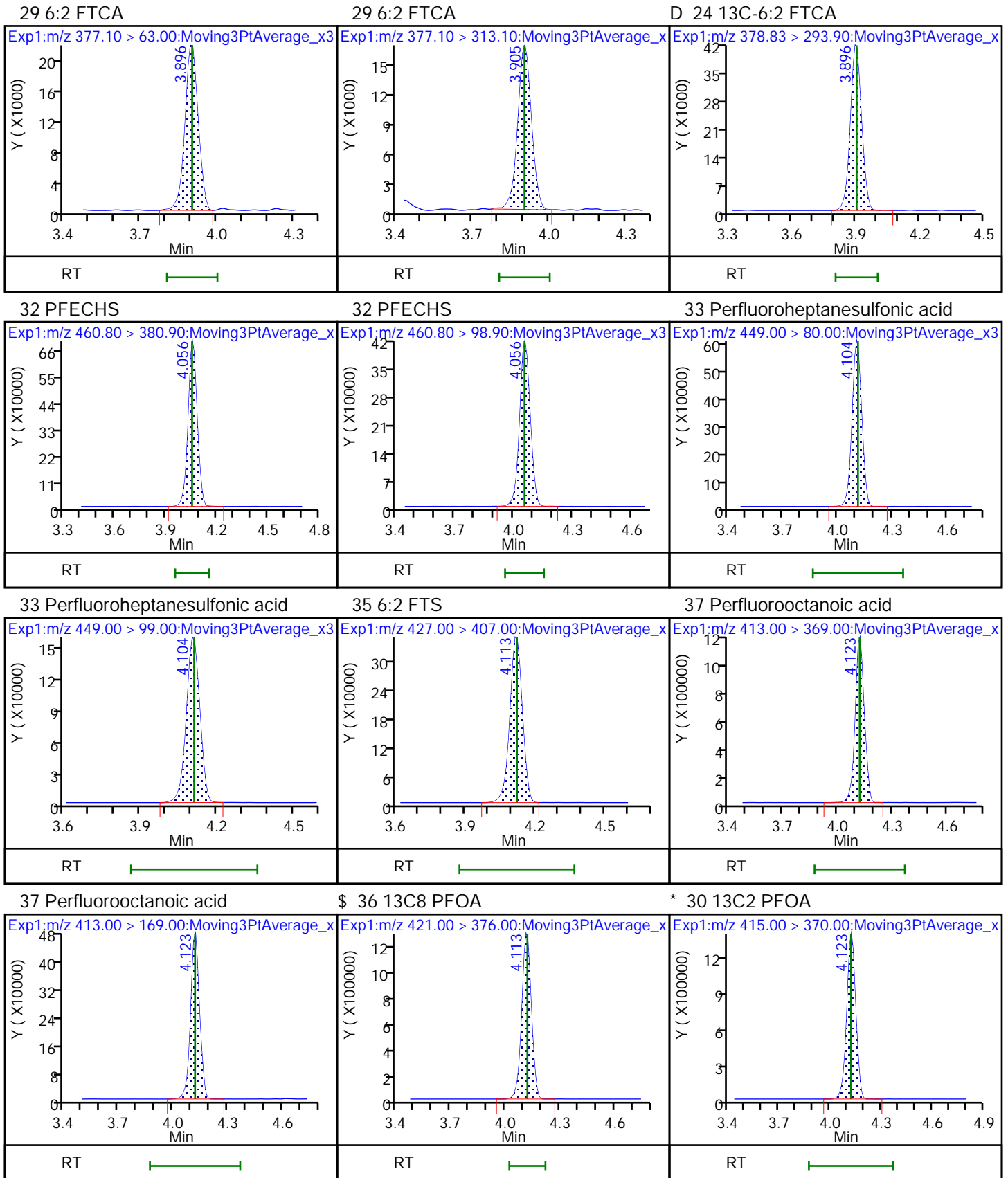
9 PFECA A

11 PES





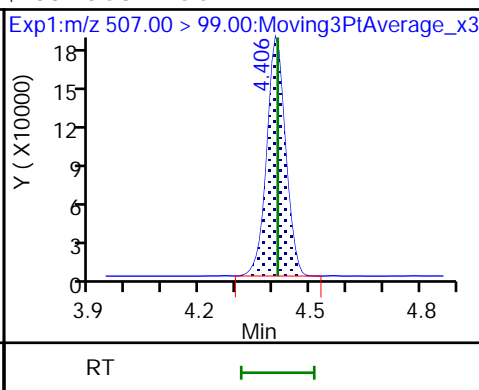
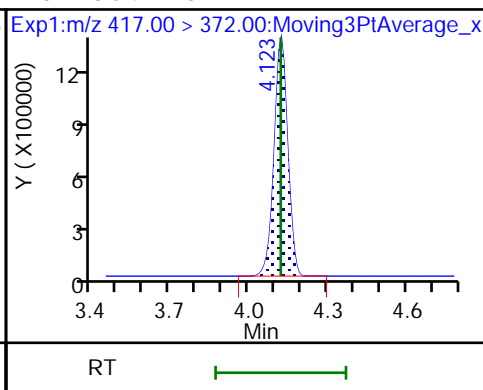
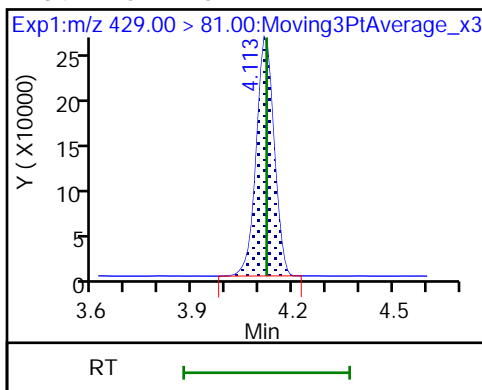




D 34 M2-6:2 FTS

D 31 13C4 PFOA

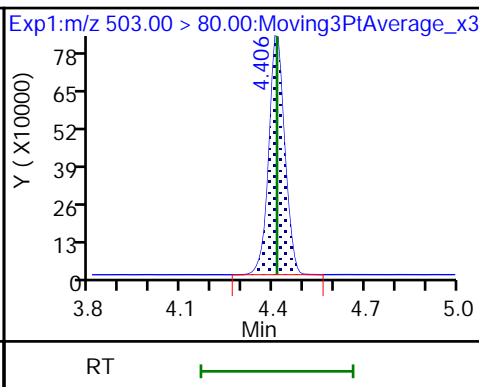
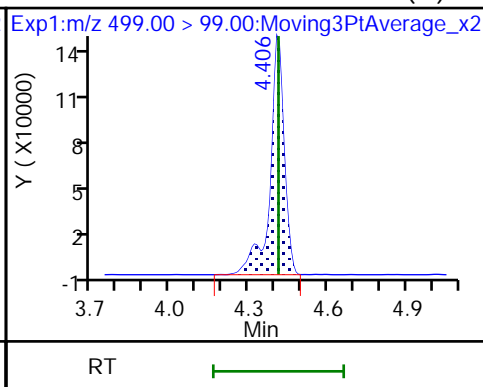
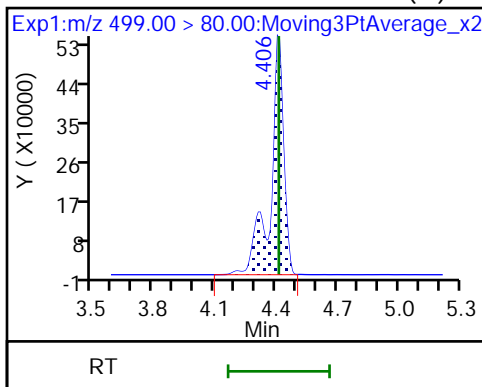
\$ 38 13C8 PFOS



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid (M)

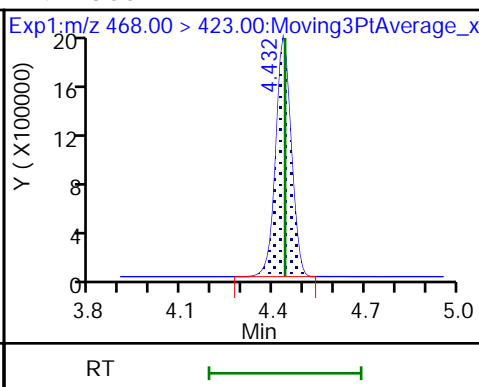
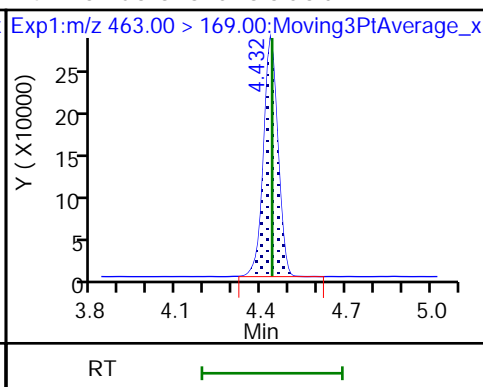
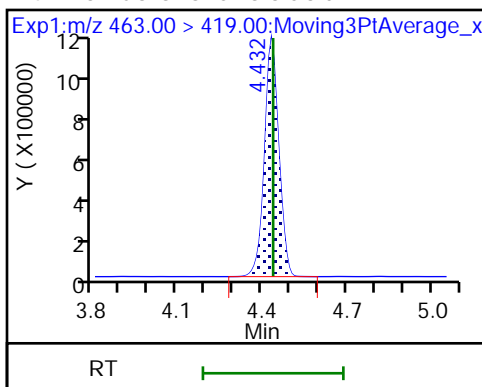
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

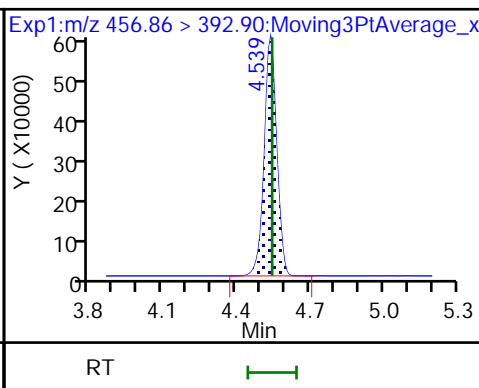
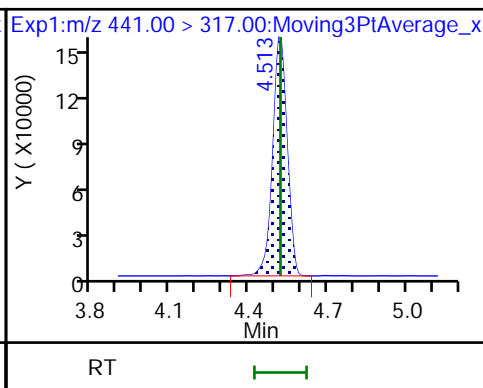
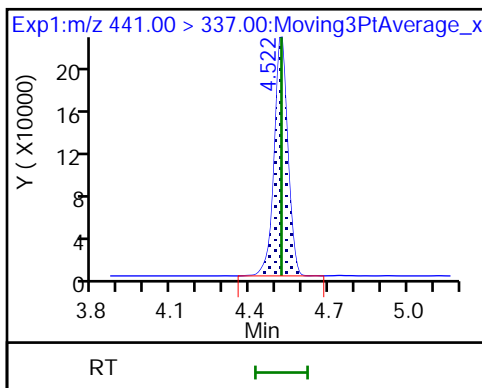
D 41 13C5 PFNA

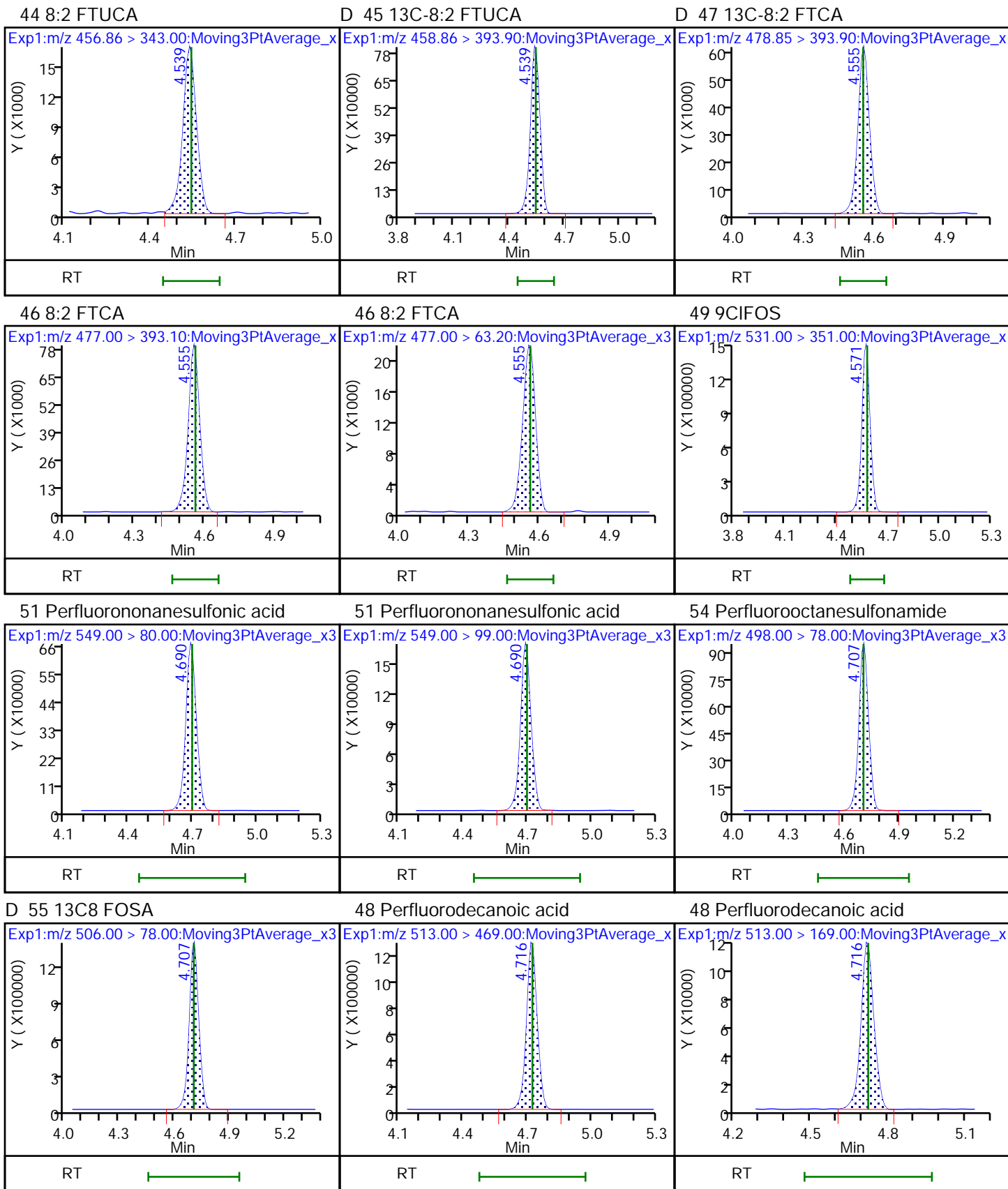


43 7:3 FTCA

43 7:3 FTCA

44 8:2 FTUCA

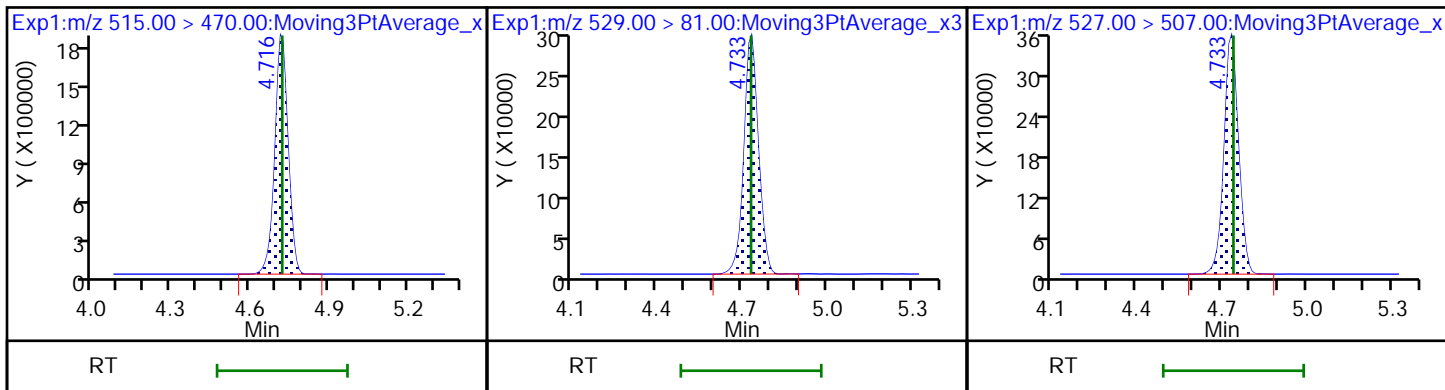




D 52 13C2 PFDA

D 50 M2-8:2 FTS

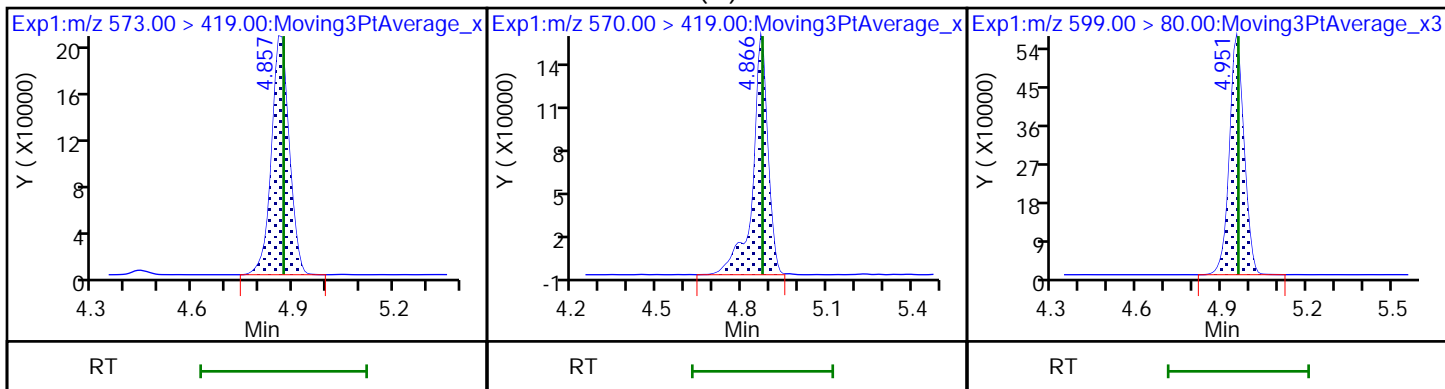
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (M)

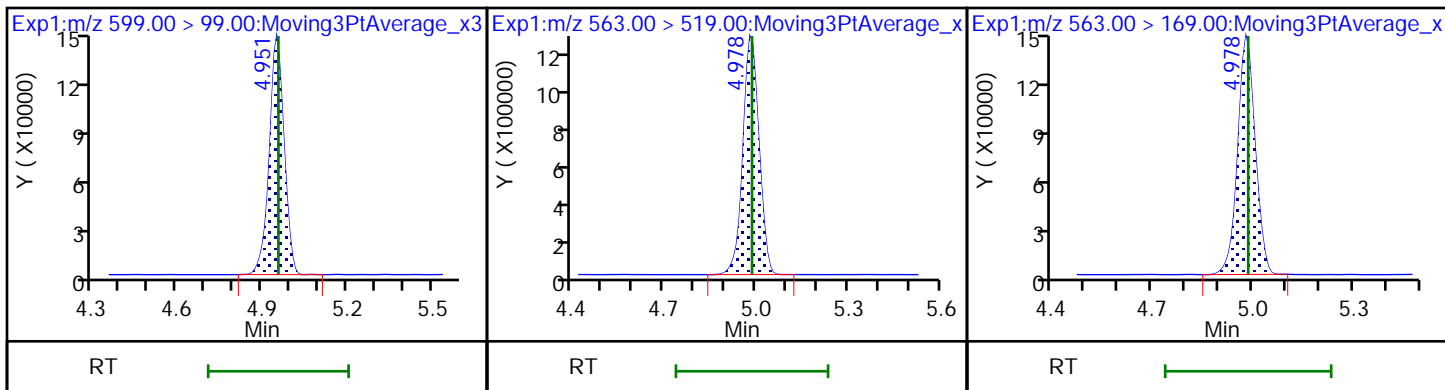
58 Perfluorodecanesulfonic acid



58 Perfluorodecanesulfonic acid

60 Perfluoroundecanoic acid

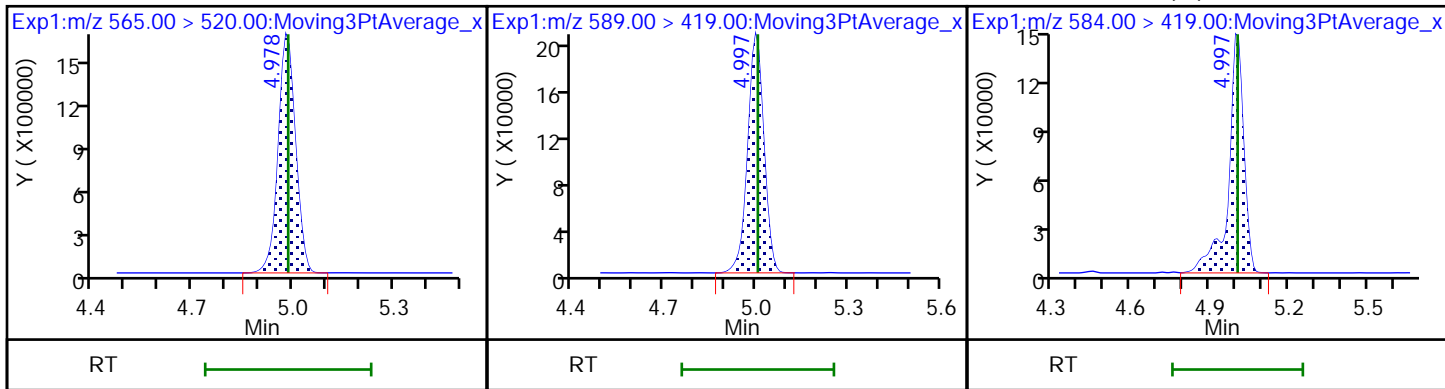
60 Perfluoroundecanoic acid



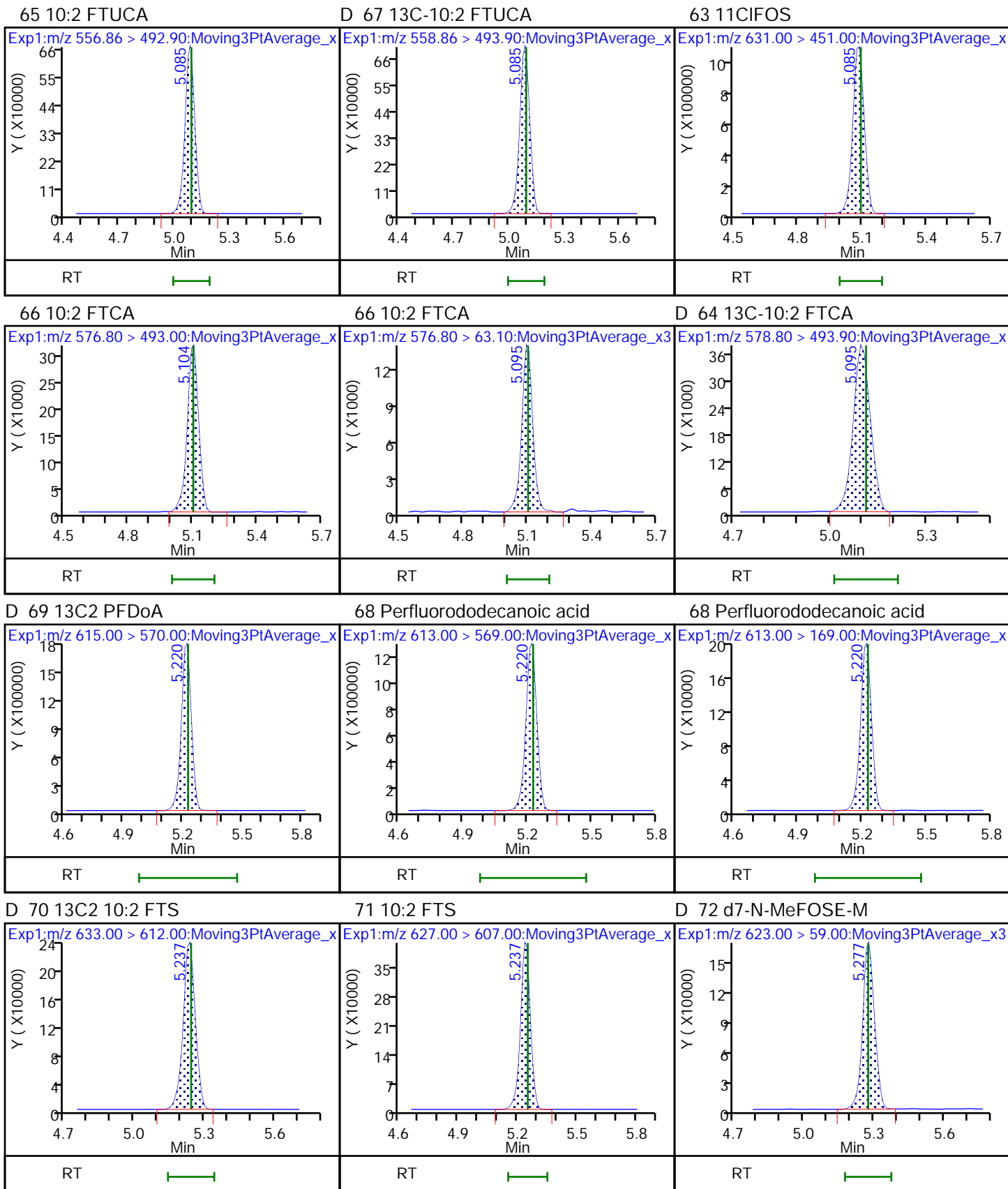
D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (M)



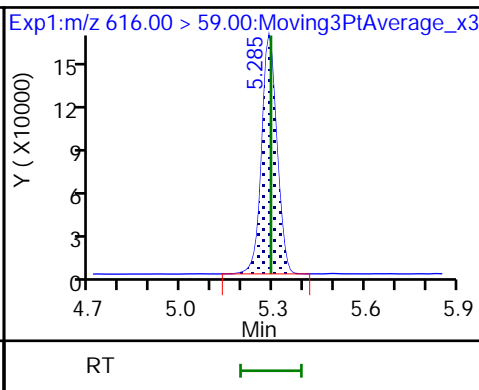
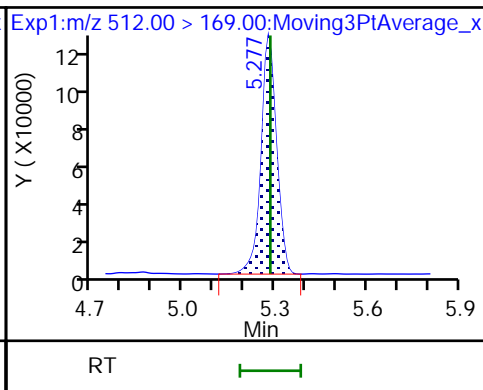
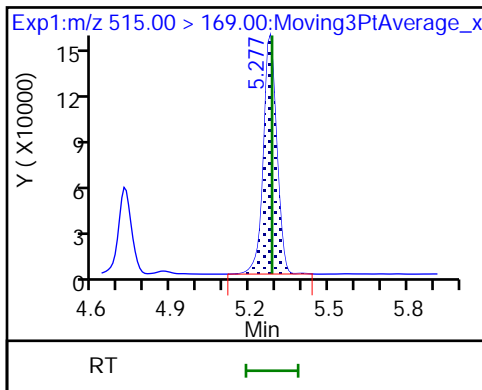




D 73 d-N-MeFOSA-M

74 NMeFOSA

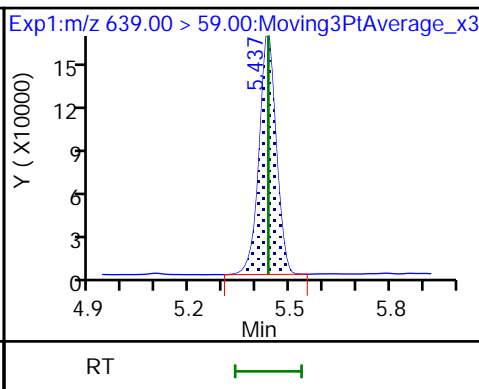
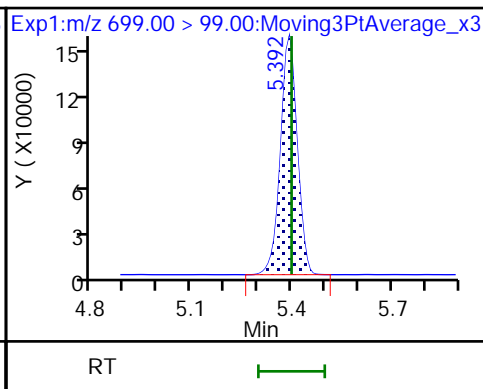
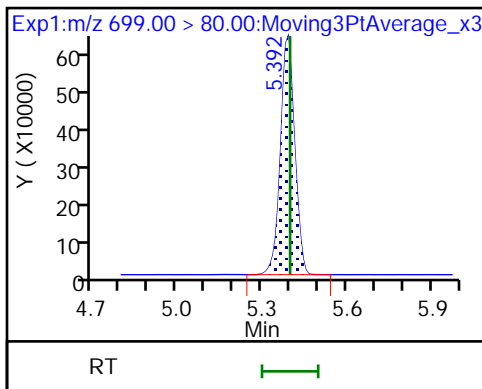
75 N-MeFOSE-M



76 PFDoS

76 PFDoS

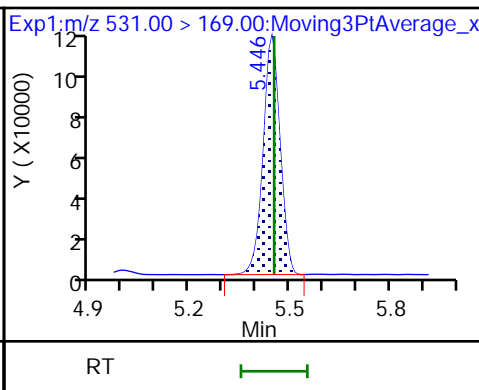
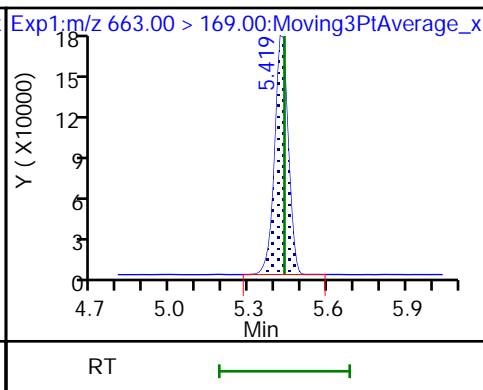
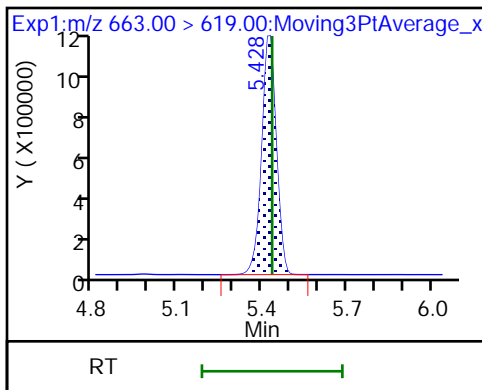
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid

78 Perfluorotridecanoic acid

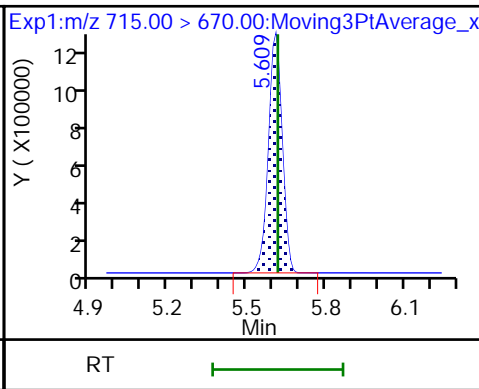
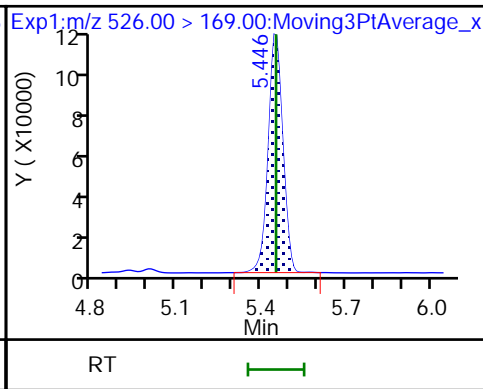
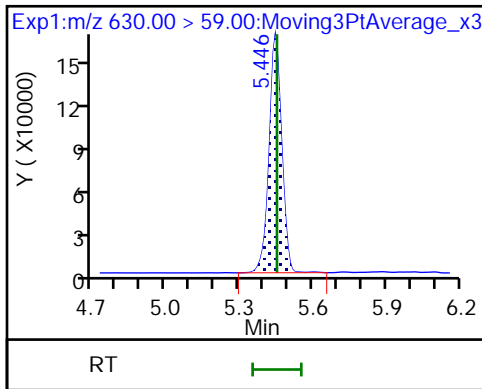
D 80 d-N-EtFOSA-M

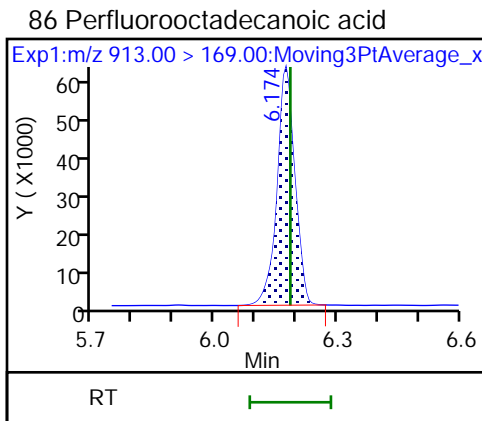
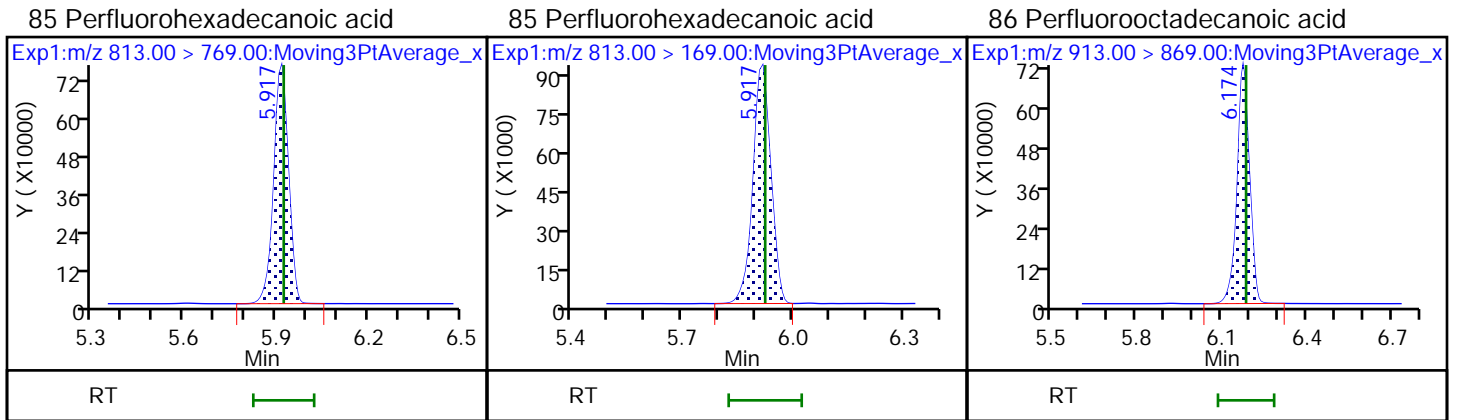
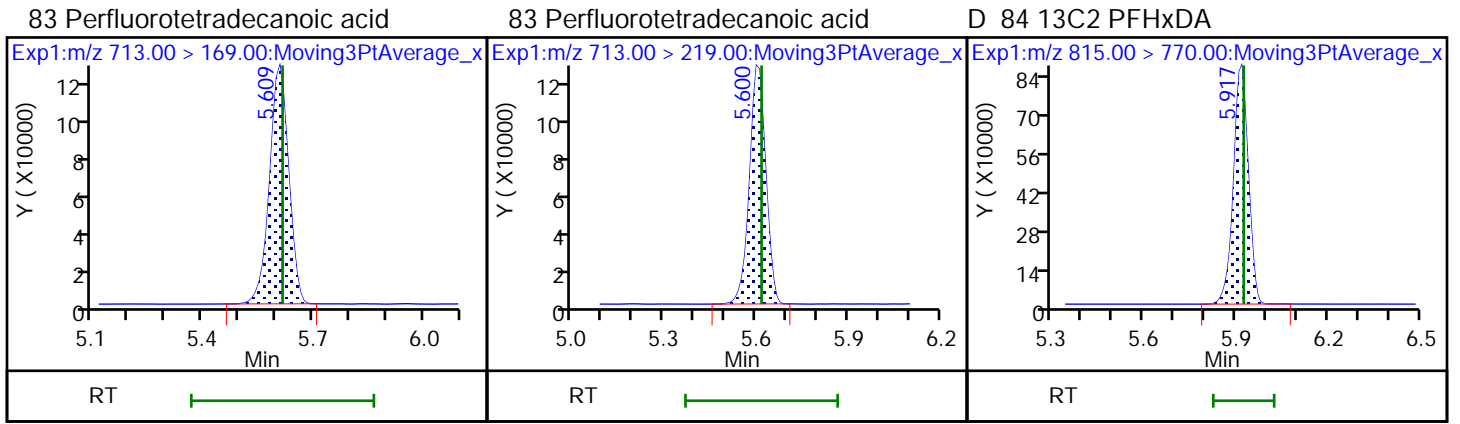


79 N-EtFOSE-M

81 N-EtFOSA-M

D 82 13C2 PFTeDA





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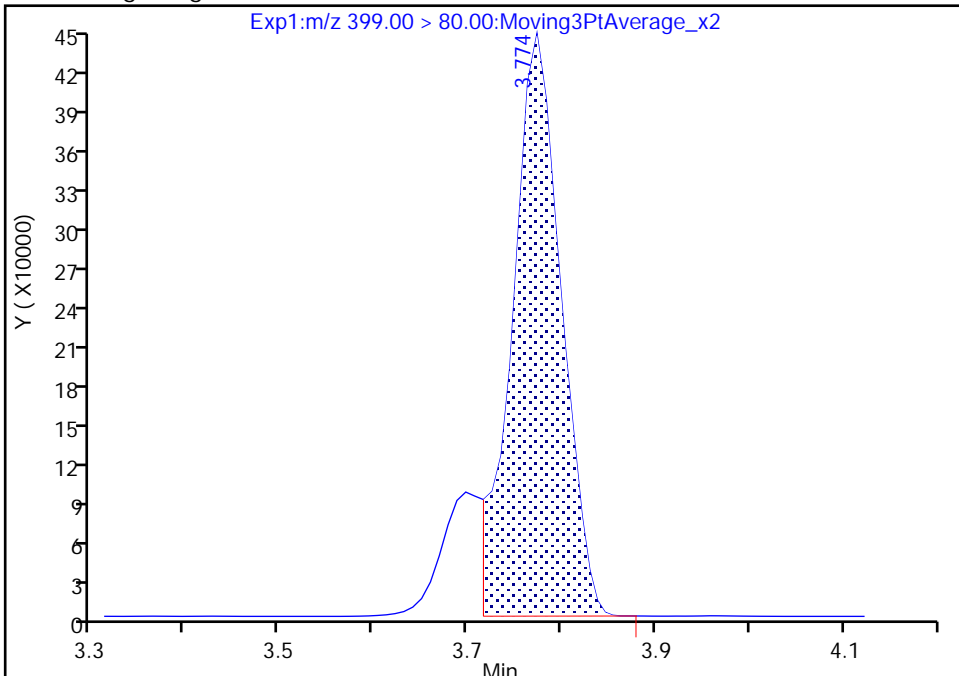
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 50 Worklist Smp#: 50  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

21 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

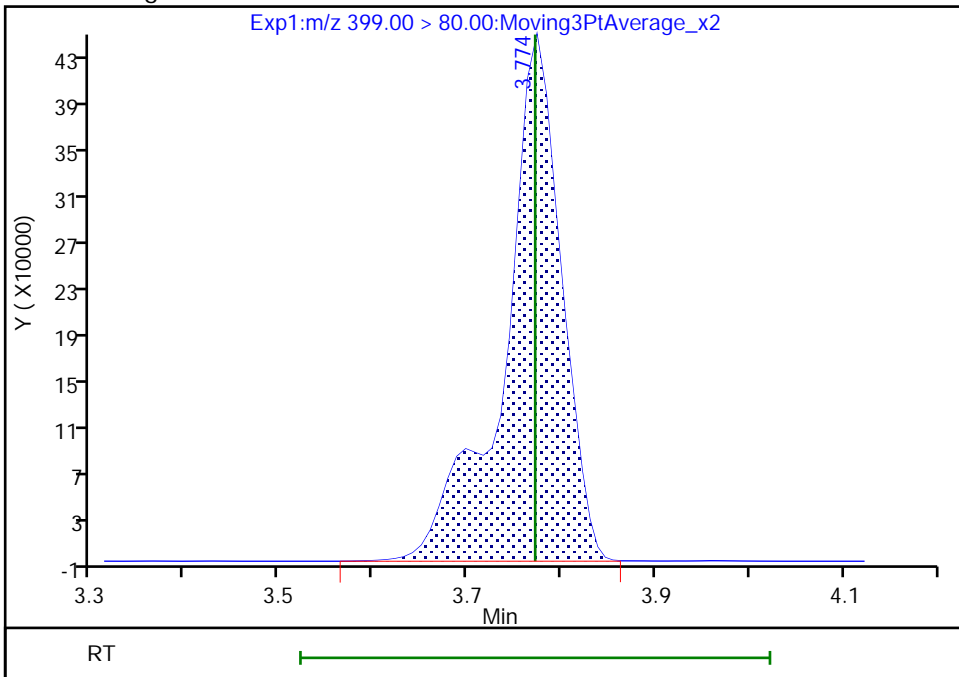
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Area: 1611939  
Amount: 0.692812  
Amount Units: ng/ml

Processing Integration Results



RT: 3.77  
Area: 1892358  
Amount: 0.813336  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:19:31  
Audit Action: Manually Integrated

Audit Reason: Baseline  
Page 376 of 562

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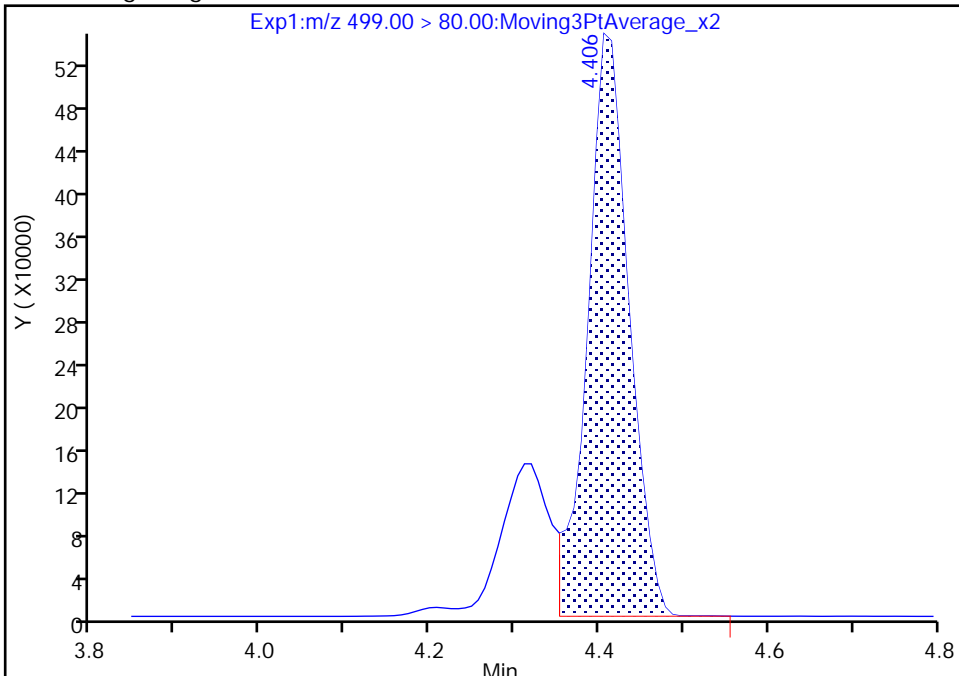
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Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 50 Worklist Smp#: 50  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 1

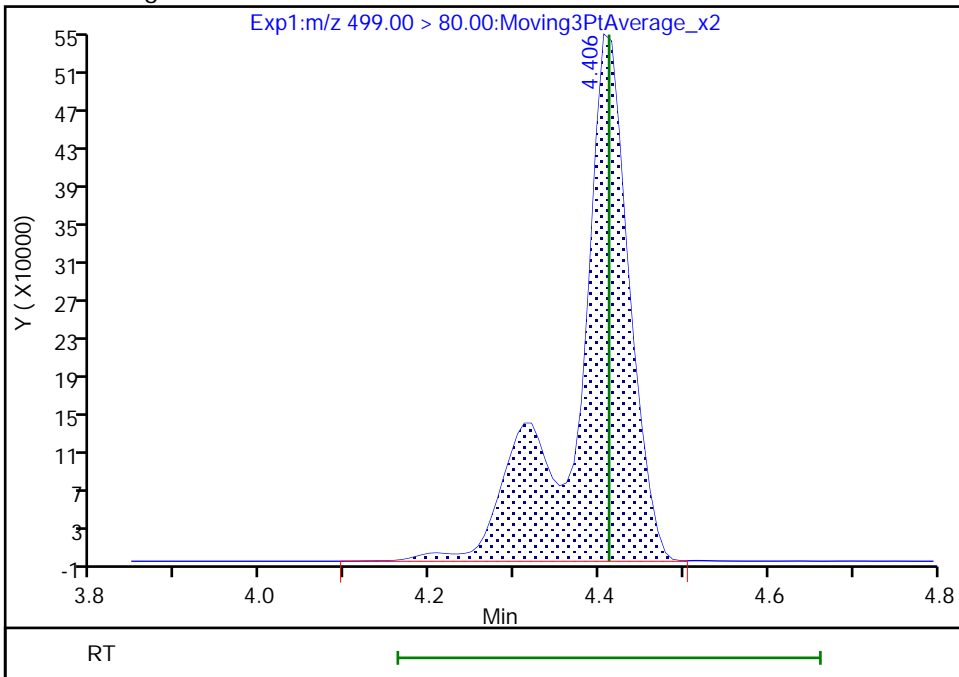
RT: 4.41  
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Amount: 0.645771  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
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Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:19:44  
Audit Action: Manually Integrated

Eurofins Knoxville

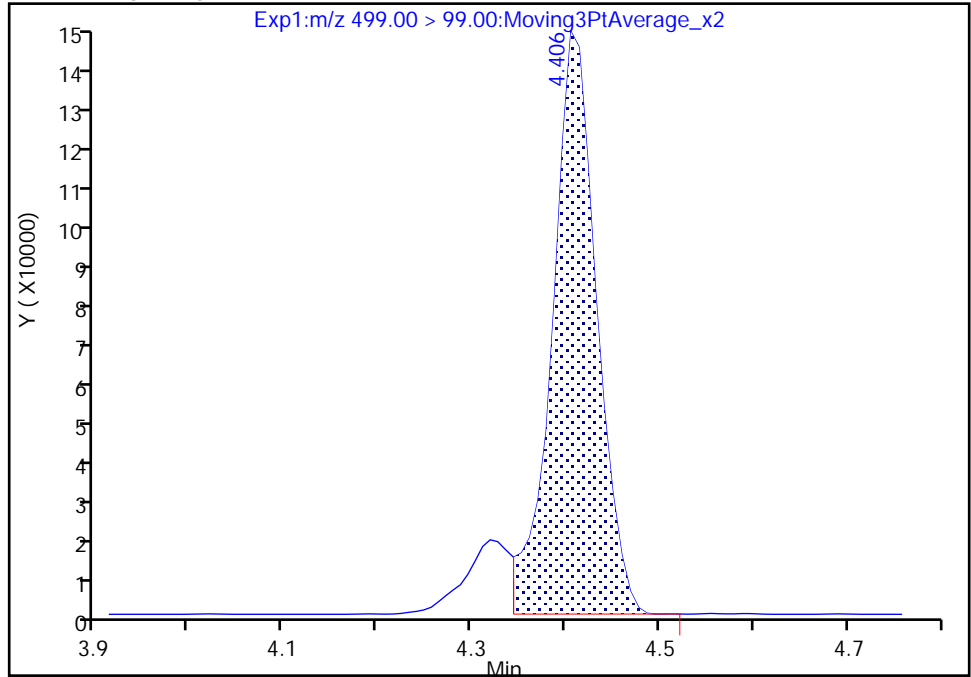
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Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 50 Worklist Smp#: 50  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

40 Perfluorooctanesulfonic acid, CAS: 1763-23-1

Signal: 2

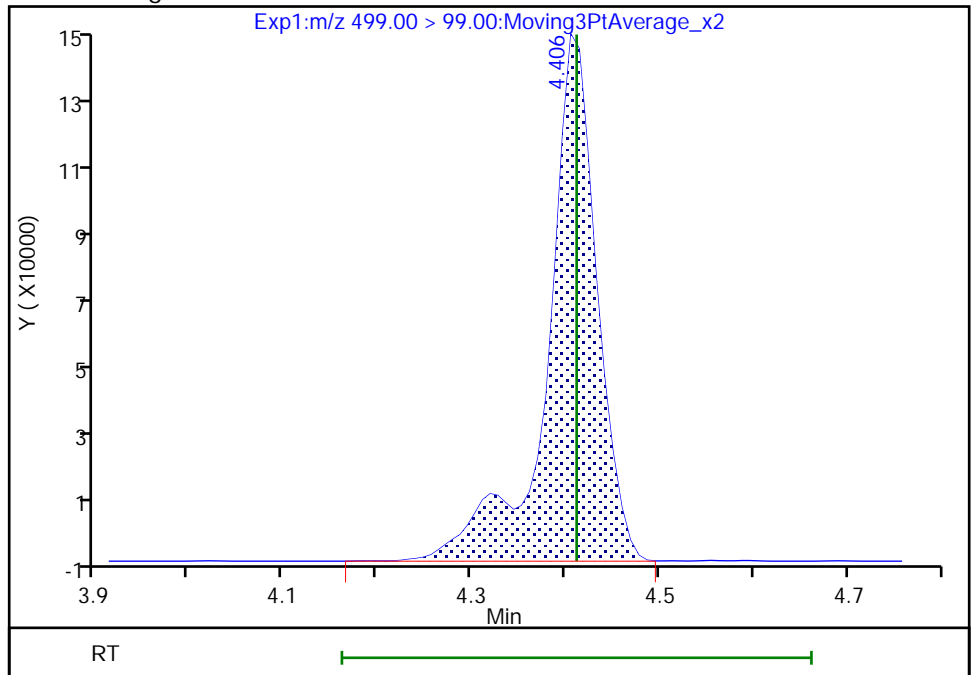
RT: 4.41  
Area: 483004  
Amount: 0.645771  
Amount Units: ng/ml

Processing Integration Results



RT: 4.41  
Area: 545421  
Amount: 0.850018  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:19:50

Audit Action: Manually Integrated

Audit Reason: Baseline  
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Eurofins Knoxville

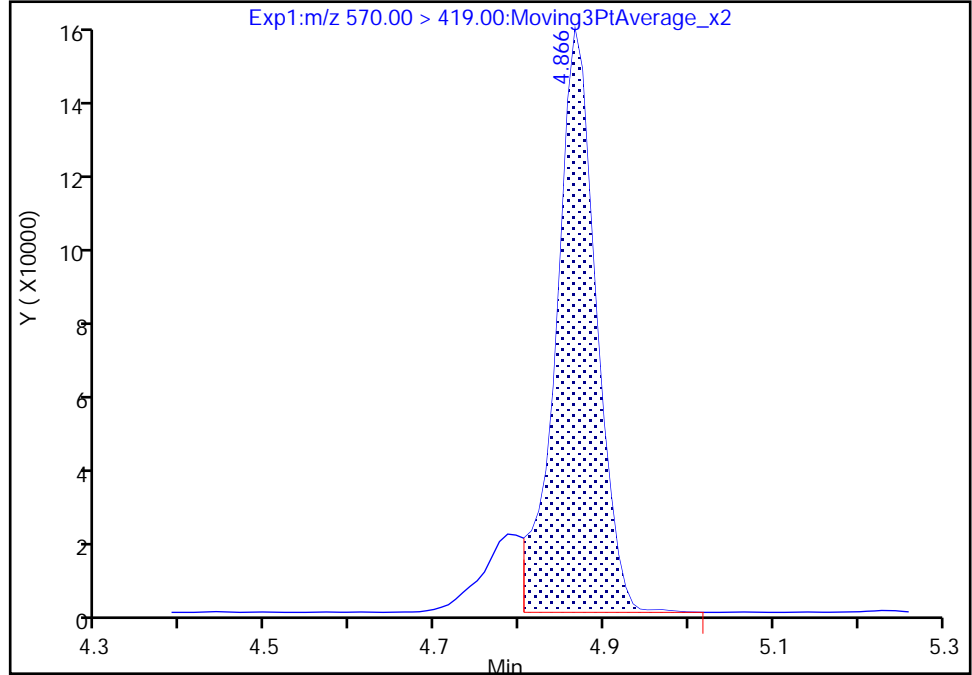
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_050.d  
Injection Date: 20-Feb-2022 01:04:57 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 50 Worklist Smp#: 50  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

57 NMeFOSAA, CAS: 2355-31-9

Signal: 1

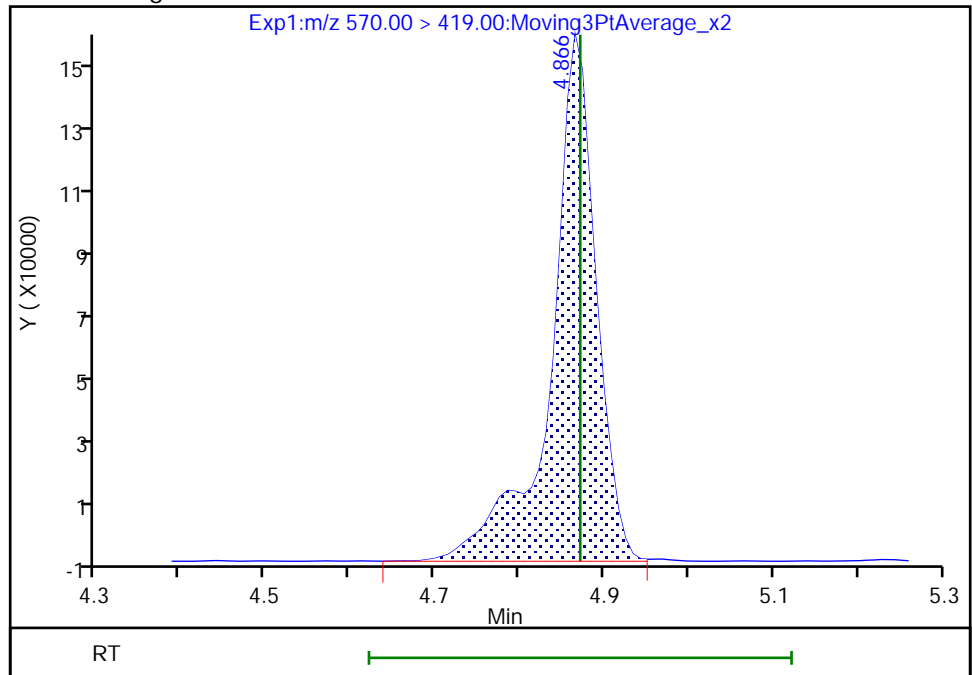
RT: 4.87  
Area: 501775  
Amount: 0.888606  
Amount Units: ng/ml

Processing Integration Results



RT: 4.87  
Area: 568574  
Amount: 1.005103  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:20:05  
Audit Action: Manually Integrated

Eurofins Knoxville

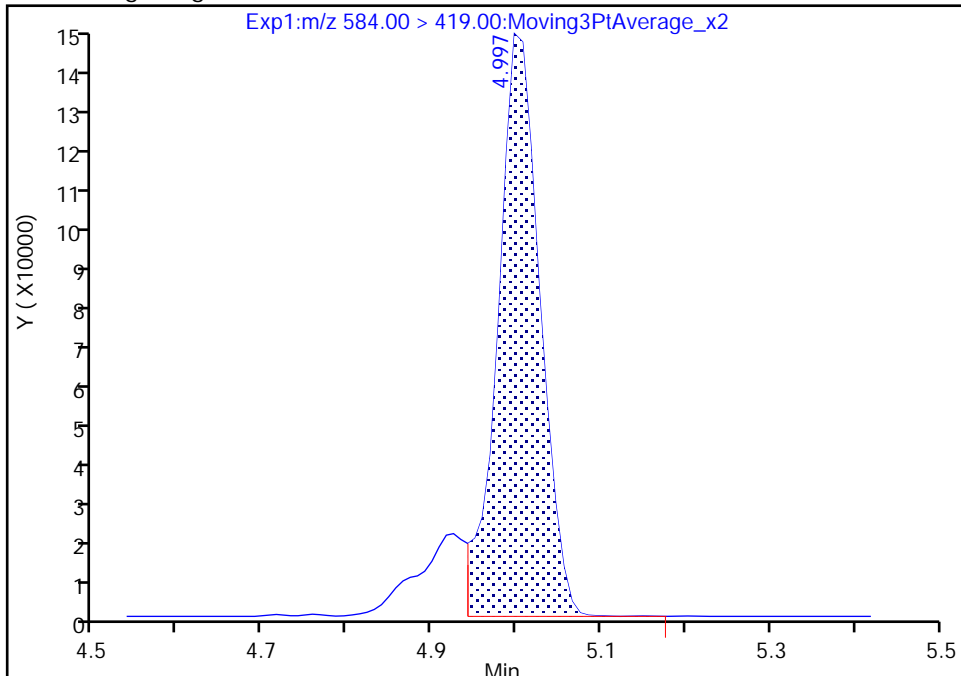
Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_050.d  
Injection Date: 20-Feb-2022 01:04:57 Instrument ID: LCA  
Lims ID: CCV  
Client ID:  
Operator ID: Cochran, Bobby ALS Bottle#: 50 Worklist Smp#: 50  
Injection Vol: 1.0 ul Dil. Factor: 1.0000  
Method: PFC\_LCA Limit Group: LC - PFC- ICAL  
Column: Detector EXP1

62 NETFOSAA, CAS: 2991-50-6

Signal: 1

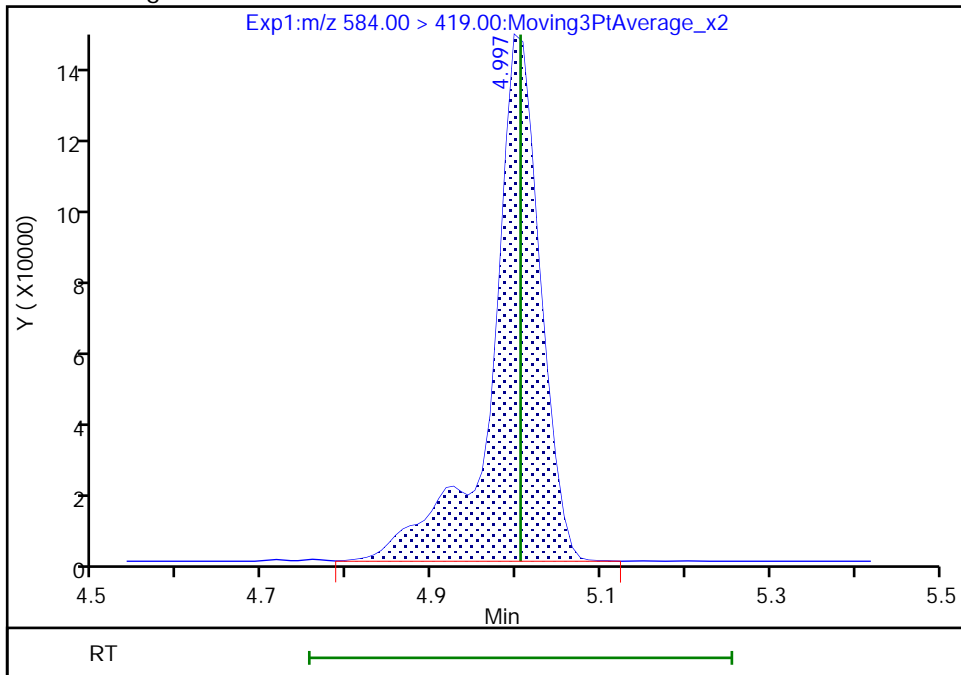
RT: 5.00  
Area: 482048  
Amount: 0.920823  
Amount Units: ng/ml

Processing Integration Results



RT: 5.00  
Area: 560326  
Amount: 1.067860  
Amount Units: ng/ml

Manual Integration Results



Reviewer: cochranj, 20-Feb-2022 16:20:15  
Audit Action: Manually Integrated



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 140-58905/1-B  
 Matrix: Air Lab File ID: 020.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 20:40  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.002651		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	89		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_020.d  
 Lims ID: MB 140-58905/1-B  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 19-Feb-2022 20:40:34 ALS Bottle#: 20 Worklist Smp#: 20  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-020 mb 140-58905/1-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 14:19:36  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.797	2.804	-0.007	0.995	156609	0.0400		17.9	
D 2 13C4 PFBA	217.00 > 172.00	2.811	2.804	0.007	0.681	5658180	1.22	97.9	15580	
3 PFECA F	229.00 > 85.00	2.911				ND				
6 Perfluoropentanoic acid	262.90 > 219.00	3.115	3.115	0.001	1.000	16453	-0.000697	1.8	7	7
	LOD = 0.006500									
D 5 13C5 PFPeA	267.90 > 223.00	3.115	3.115	0.001	0.754	4470098	1.23	98.5	11923	
4 3:3 FTCA	241.00 > 177.10	3.122				ND				
	241.00 > 116.90	3.122								
D 7 13C3 PFBS	301.90 > 80.00	3.131	3.122	0.009	0.758	2544408	1.11	95.3	4129	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.139	3.131	0.008	1.003	3456	-0.001992 Target=2.65	2.5	7	R7
	298.90 > 99.00	3.131	3.131	0.0	1.000	428	8.07(1.32-3.97)	0.8		R7
	LOD = 0.004500									
9 PFECA A	278.95 > 84.90	3.202				ND				
11 PES	314.80 > 135.00	3.260				ND				
12 PFECA B	295.22 > 201.00	3.373				ND				
13 4:2 FTS	327.00 > 307.00	3.426	3.415	0.011	1.000	1475	-0.001794	13.9	7	7
	LOD = 0.003200									

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.426	3.415	0.011	0.830	1111235	1.55		132	1300	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.437				ND				
349.00 > 99.00		3.437								
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.437	0.011	1.000	58761	0.0109	Target=12.03		14.0	
313.00 > 119.00	3.448	3.437	0.011	1.000	5001		11.75(6.01-18.04)		5.2	
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.437	0.011	0.835	4954700	1.24		99.0	16880	
17 HFPO-DA										
285.00 > 169.00	3.552	3.542	0.010	1.000	301084	0.1326	Target=2.55		90.1	
329.00 > 169.00	3.552	3.542	0.010	1.000	109380		2.75(1.28-3.83)		66.8	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.552	3.542	0.010	0.860	2177206	1.11		88.9	7885	
S 10 ADONA										
377.00 > 251.00		3.592				0				
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.792	3.772	0.020	1.003	8263	0.003893	Target=3.45		26.8	7
399.00 > 99.00	3.782	3.772	0.010	1.000	2183		3.79(1.72-5.17)		12.8	
LOD = 0.005000										
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.772	0.010	0.916	1812048	1.22		103	7746	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.792	0.0	1.000	111321	0.0261	Target=3.22		40.0	
363.00 > 169.00	3.792	3.792	0.0	1.000	28832		3.86(1.61-4.83)		76.8	
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.792	0.0	0.918	4325933	1.21		96.9	13360	
25 DONA										
377.00 > 251.00		3.820				ND				
377.00 > 85.00		3.820								
26 5:3 FTCA										
340.88 > 236.90		3.853				ND				
340.88 > 216.90		3.853								
27 6:2 FTUCA										
356.86 > 292.90		3.886				ND				
356.86 > 243.00		3.886								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.886	0.0	0.941	2032108	1.53		122	3225	
29 6:2 FTCA										
377.10 > 63.00		3.903				ND				
377.10 > 313.10		3.903								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.912	3.903	0.009	0.947	96254	0.9372		75.0	546	
32 PFECHS										
460.80 > 380.90		4.054				ND				
460.80 > 98.90		4.054								

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.111				ND				
449.00 > 99.00		4.111								
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	328448	0.2011			627	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.130	4.121	0.009	1.000	23401	-0.000640	Target=2.40	18.6		7M
413.00 > 169.00	4.130	4.121	0.009	1.000	8245		2.84(1.20-3.60)	17.3		7M
LOD = 0.009500										
\$ 36 13C8 PFOA										
421.00 > 376.00		4.121				ND				
* 30 13C2 PFOA										
415.00 > 370.00	4.130	4.121	0.009		4933776	1.25			9786	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	1045598	1.47		124	1821	
D 31 13C4 PFOA										
417.00 > 372.00	4.130	4.121	0.009	1.000	4793309	1.30		104	8984	
\$ 38 13C8 PFOS										
507.00 > 99.00		4.412				ND				
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.421	4.412	0.009	1.000	4400	0.001750	Target=4.41	12.7		7M
499.00 > 99.00	4.412	4.412	0.0	0.000	0		0.00(2.20-6.61)			7M
LOD = 0.005500										
D 39 13C4 PFOS										
503.00 > 80.00	4.421	4.412	0.009	1.070	2623107	1.18		99.1	3048	
42 Perfluorononanoic acid										
463.00 > 419.00		4.438				ND				
463.00 > 169.00		4.438								
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.438	0.0	1.075	5964723	1.19		95.3	10497	
43 7:3 FTCA										
441.00 > 337.00		4.519				ND				
441.00 > 317.00		4.519								
44 8:2 FTUCA										
456.86 > 392.90		4.545				ND				
456.86 > 343.00		4.545								
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.553	4.545	0.008	1.000	2924661	1.64		131	5577	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.561	4.553	0.008	1.104	130987	1.00		80.3	775	
46 8:2 FTCA										
477.00 > 393.10		4.561				ND				
477.00 > 63.20		4.561								
49 9CIFOS										
531.00 > 351.00	4.528	4.578	-0.050	1.096	1431	0.000290		4.6		7M
LOD = 0.003500										

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.697				ND				
549.00 > 99.00		4.697								
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.705	0.001	0.998	4328	0.001396		12.1		7M
LOD = 0.004400										
D 55 13C8 FOSA										
506.00 > 78.00	4.714	4.705	0.009	1.141	4058120	1.21		97.0	6996	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.731	4.722	0.009	1.002	20597	-0.001905	Target=11.25	19.2		7M
513.00 > 169.00	4.706	4.722	-0.016	0.996	2053		10.03(5.62-16.87)	1.9		M
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.722	0.001	1.143	5787068	1.21		97.0	13601	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.740	4.731	0.009	1.148	1070973	1.38		116	2251	
53 8:2 FTS										
527.00 > 507.00	4.740	4.739	0.001	1.000	1864	-0.006003		10.5		7
LOD = 0.007000										
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.872	4.872	0.0	1.180	579591	1.29		104	1612	
57 NMeFOSAA										
570.00 > 419.00		4.872				ND				
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.957				ND				
599.00 > 99.00		4.957								
60 Perfluoroundecanoic acid										
563.00 > 519.00		4.985				ND				
563.00 > 169.00		4.985								
D 59 13C2 PFUnA										
565.00 > 520.00	4.985	4.985	0.0	1.207	5237451	1.14		90.9	10908	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.004	5.005	-0.001	1.212	533545	1.16		92.9	2450	
62 NEtFOSAA										
584.00 > 419.00		5.005				ND				
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.092	5.092	0.0	1.233	2550857	1.27		102	5801	
63 11C1FOS										
631.00 > 451.00	5.102	5.092	0.010	1.154	504	-0.003952		2.5		7
LOD = 0.007000										
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.092	0.0	1.000	2890	0.001172		13.8		7M
LOD = 0.0500										
66 10:2 FTCA										
576.80 > 493.00		5.102				ND				
576.80 > 63.10		5.102								
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.111	5.111	0.0	1.237	83129	0.6811		54.5	423	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 69 13C2 PFDa										
615.00 > 570.00	5.226	5.226	0.0	1.265	4653760	1.02		81.9	12333	
68 Perfluorododecanoic acid										
613.00 > 569.00		5.226				ND				
613.00 > 169.00		5.226								
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.242	5.243	-0.001	1.269	720124	1.10		93.3	4151	
71 10:2 FTS										
627.00 > 607.00	5.250	5.251	-0.001	1.002	7446	-0.000482		43.1	7	7
LOD = 0.008500										
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.283	5.275	0.008	1.279	435429	0.9304		74.4	354	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.283	5.283	0.0	1.279	377364	0.9474		75.8	38.8	
74 NMeFOSA										
512.00 > 169.00		5.283				ND				
75 N-MeFOSE-M										
616.00 > 59.00	5.242	5.292	-0.050	0.992	29154	0.0677		8.0		M
76 PFDoS										
699.00 > 80.00		5.399				ND				
699.00 > 99.00		5.399								
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.443	5.435	0.008	1.318	437220	0.9004		72.0	249	
78 Perfluorotridecanoic acid										
663.00 > 619.00		5.435				ND				
663.00 > 169.00		5.435								
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.320	285114	0.8925		71.4	437	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.002	395	0.000796		0.7	7	7
LOD = 0.006000										
81 N-EtFOSA-M										
526.00 > 169.00	5.478	5.452	0.026	1.005	742	-0.002592		4.1	7	7
LOD = 0.008000										
D 82 13C2 PFTeDA										
715.00 > 670.00	5.617	5.617	0.0	1.360	2855957	0.7851		62.8	9857	
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.617				ND				
713.00 > 219.00		5.617								
D 84 13C2 PFHxDA										
815.00 > 770.00	5.924	5.924	0.0	1.434	1025930	0.4335		34.7	3457	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.924	5.924	0.0	1.000	11121	-0.000692	Target=8.23	31.2	7	7
813.00 > 169.00	5.924	5.924	0.0	1.000	1214		9.16(4.11-12.34)	4.9		
LOD = 0.009000										

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
86 Perfluorooctadecanoic acid										
913.00 > 869.00		6.184				ND				
913.00 > 169.00		6.184								
S 87 F-53B										
212.90 > 169.00		0.0				0				
S 88 NaDONA										
377.00 > 251.00		0.0				0				
377.00 > 85.00		0.0								

**QC Flag Legend**

Processing Flags

ND - Not Detected or Marked ND

R - Failed Signal Ratio Test

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfms\Knoxville\ChromData\LCA\20220219-22723.b\_020.d

Injection Date: 19-Feb-2022 20:40:34

Instrument ID: LCA

Lims ID: MB 140-58905/1-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 20

Worklist Smp#: 20

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

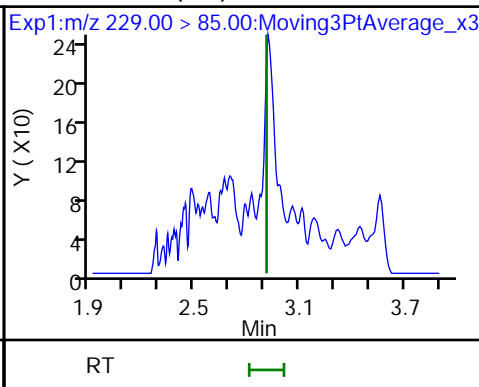
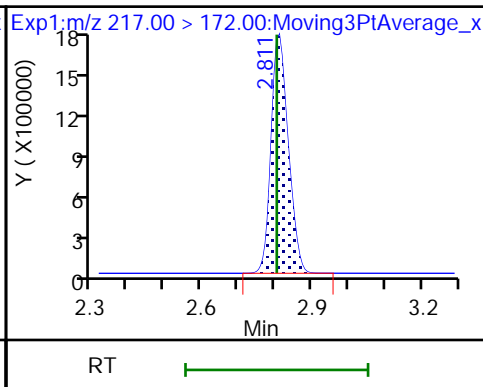
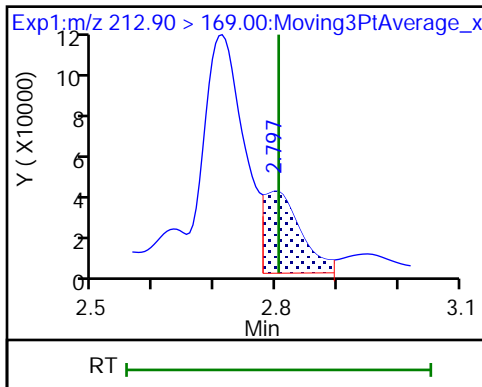
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

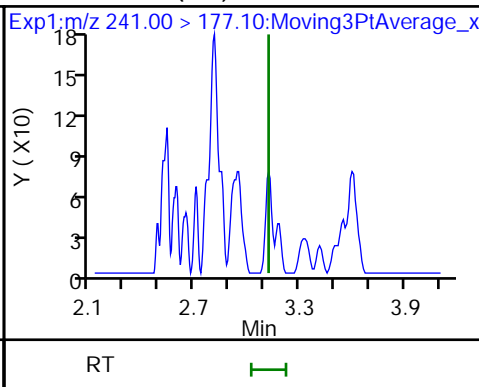
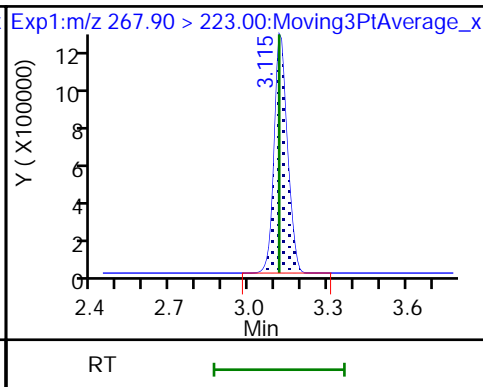
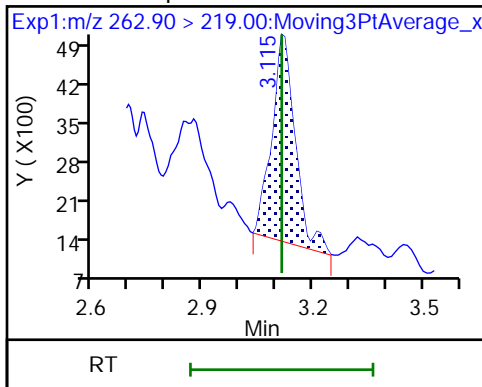
3 PFECA F (ND)



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

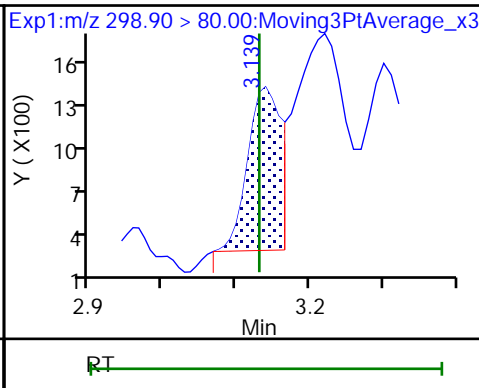
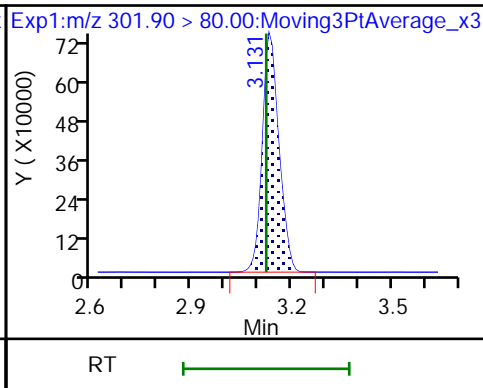
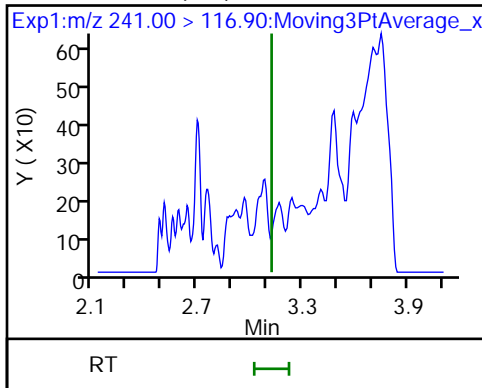
4 3:3 FTCA (ND)



4 3:3 FTCA (ND)

D 7 13C3 PFBS

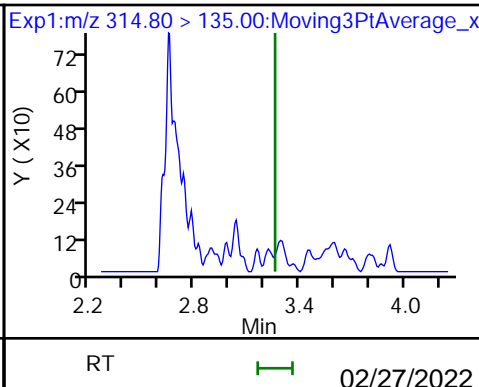
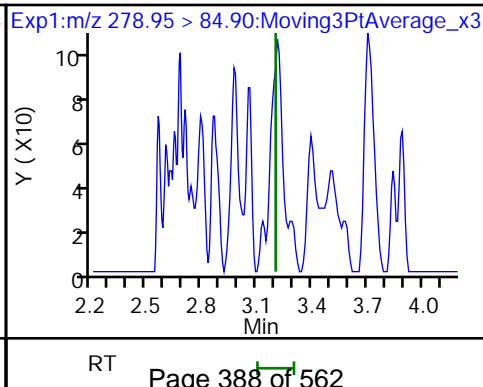
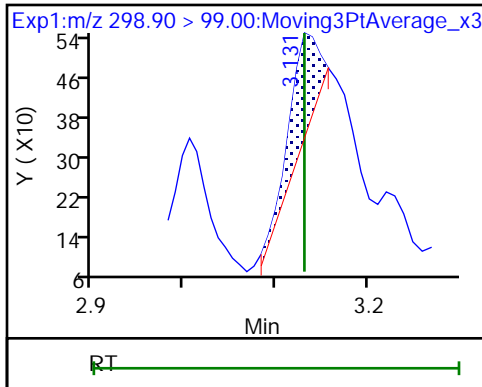
8 Perfluorobutanesulfonic acid



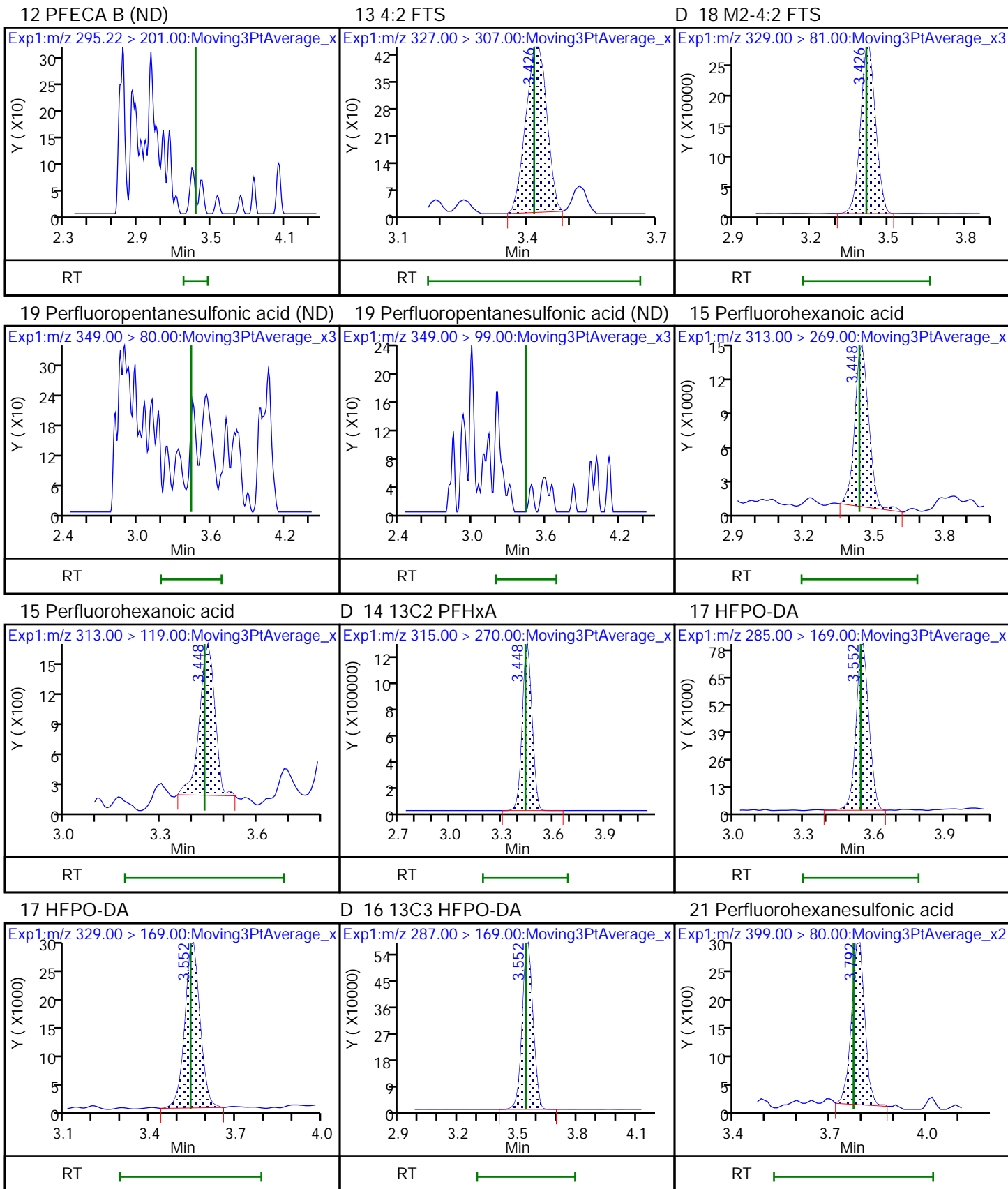
8 Perfluorobutanesulfonic acid

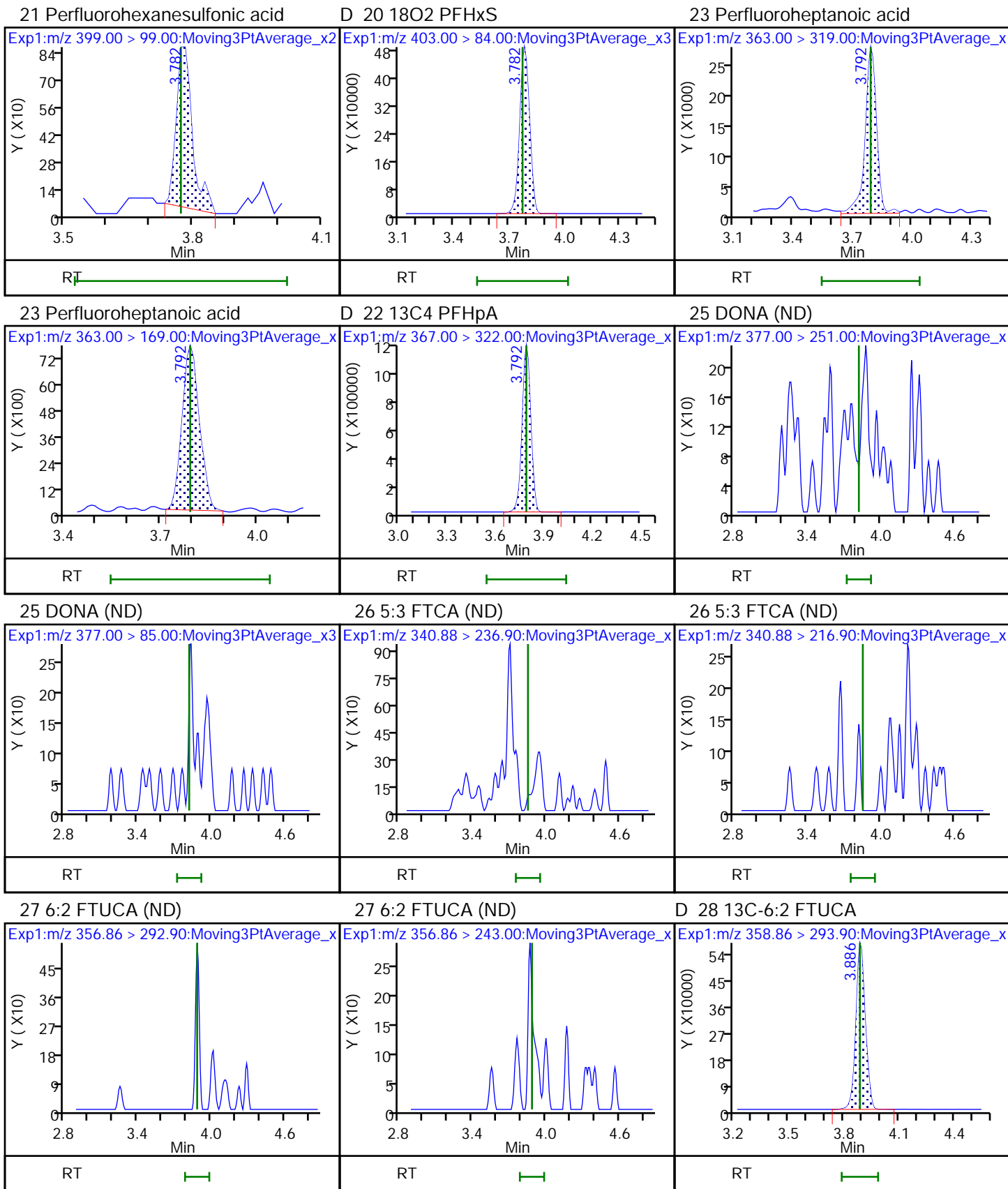
9 PFECA A (ND)

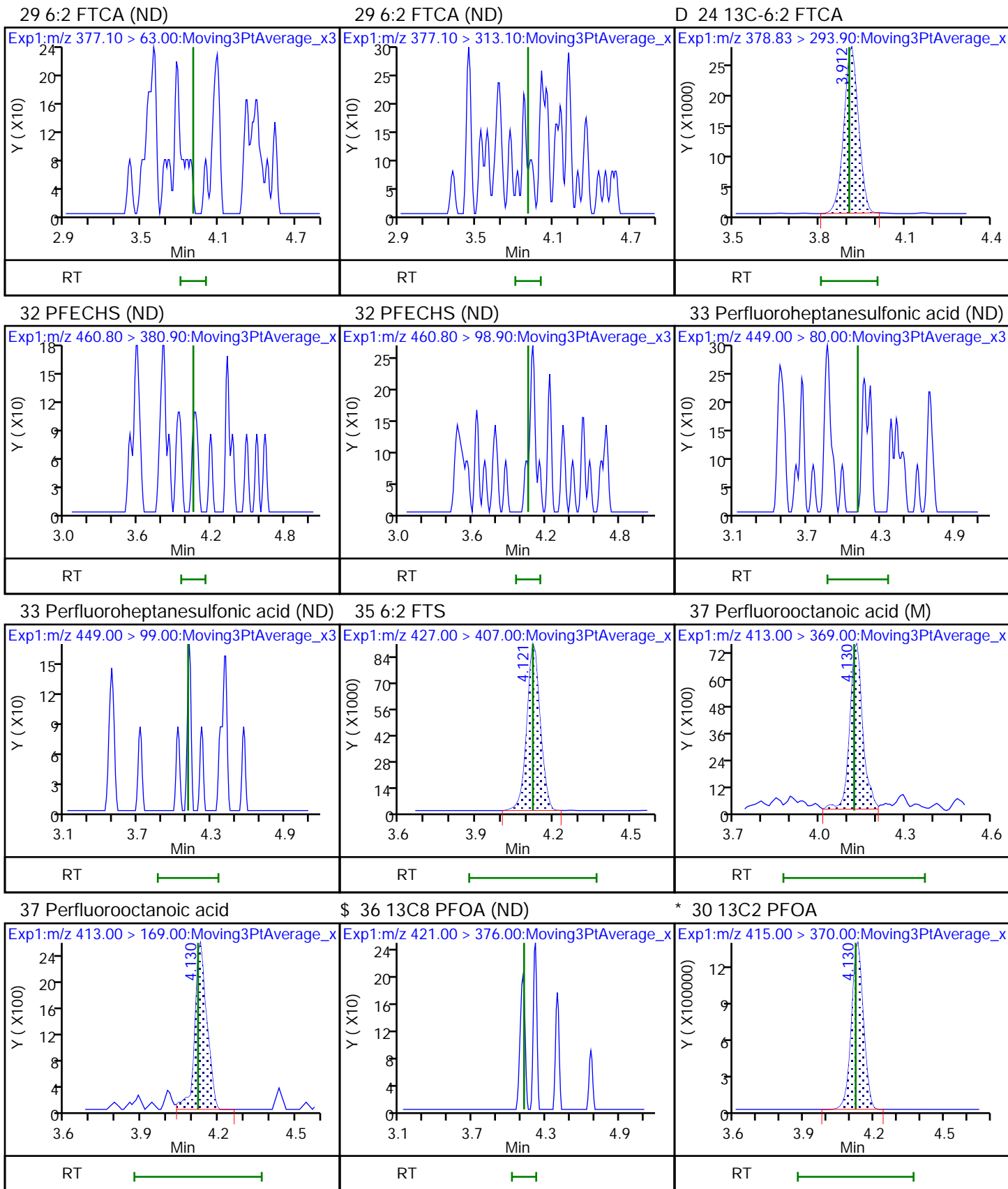
11 PES (ND)







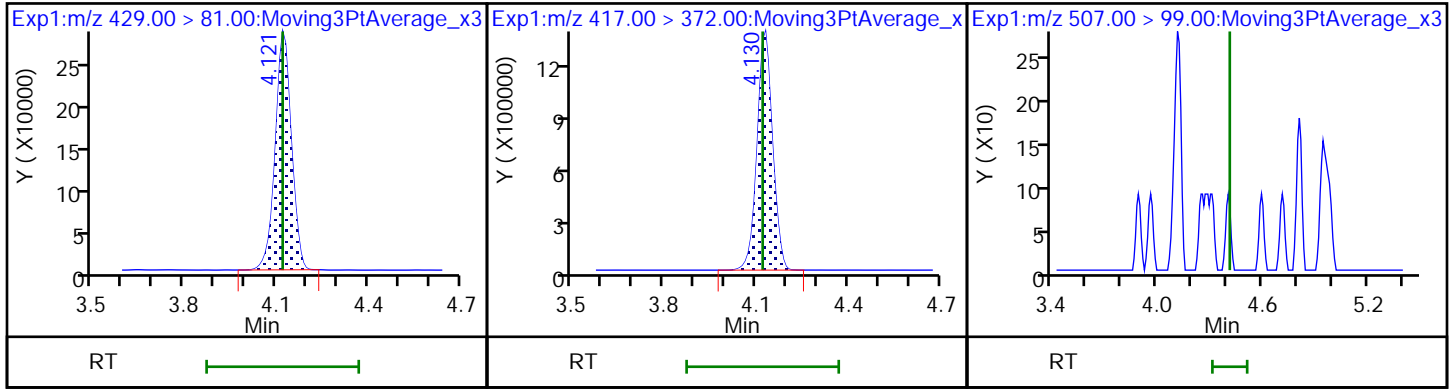




D 34 M2-6:2 FTS

D 31 13C4 PFOA

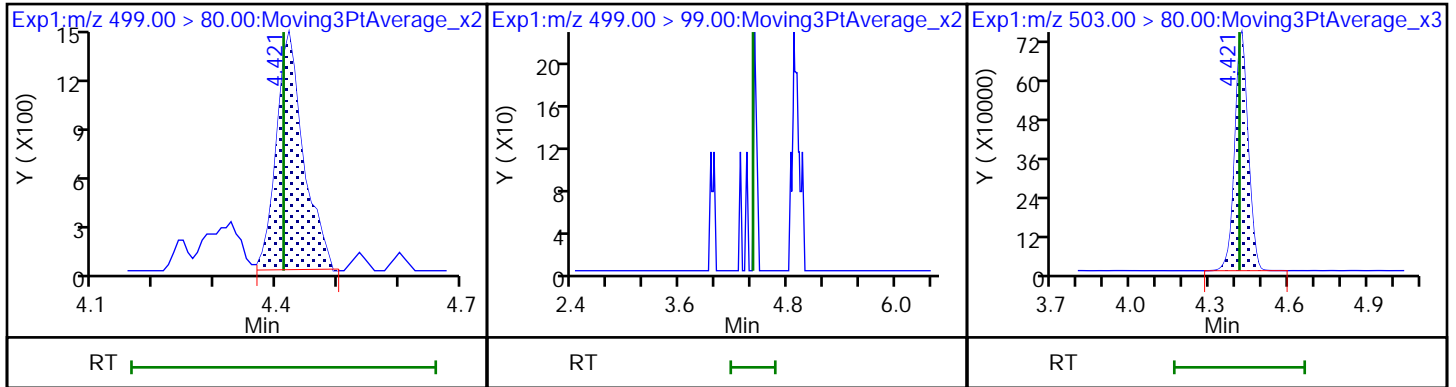
\$ 38 13C8 PFOS (ND)



40 Perfluorooctanesulfonic acid (M)

40 Perfluorooctanesulfonic acid

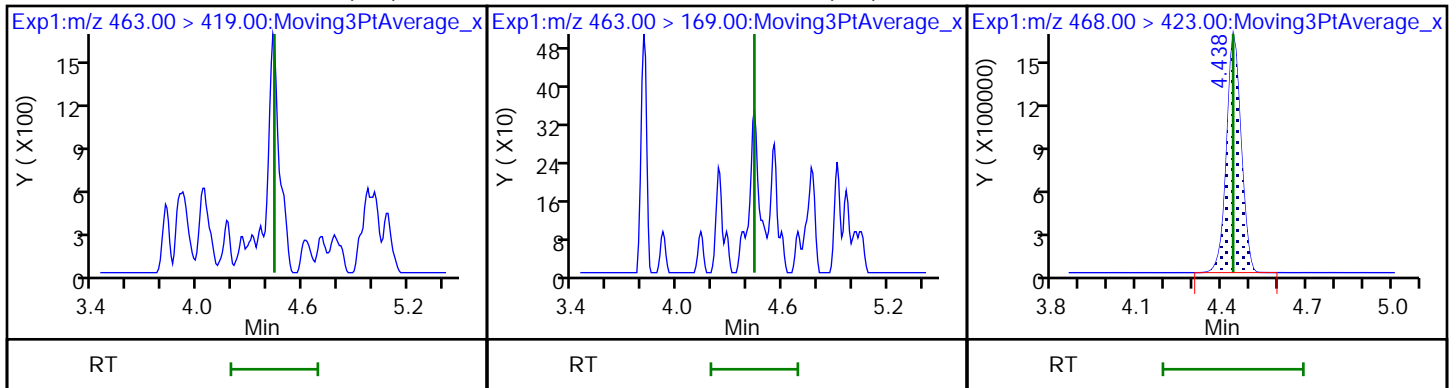
D 39 13C4 PFOS



42 Perfluorononanoic acid (ND)

42 Perfluorononanoic acid (ND)

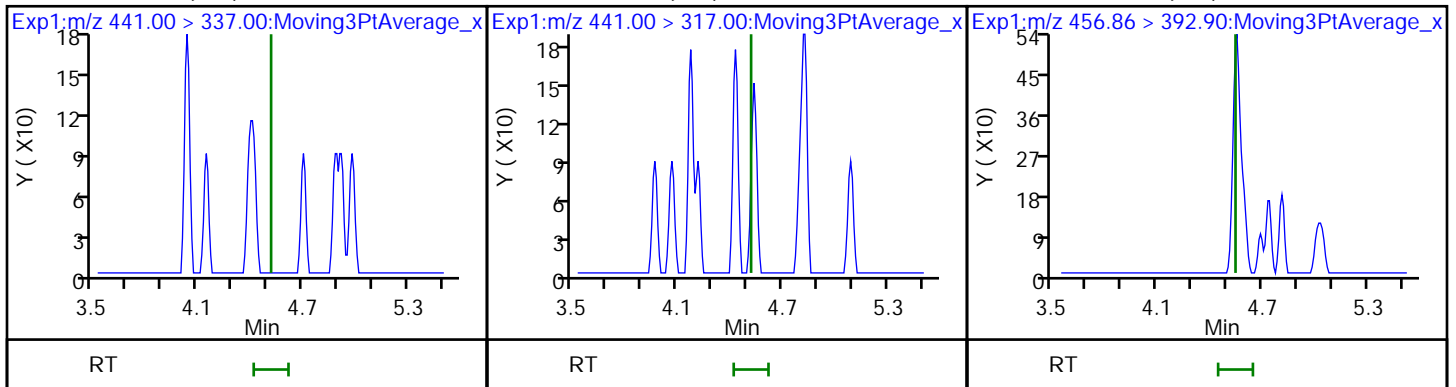
D 41 13C5 PFNA

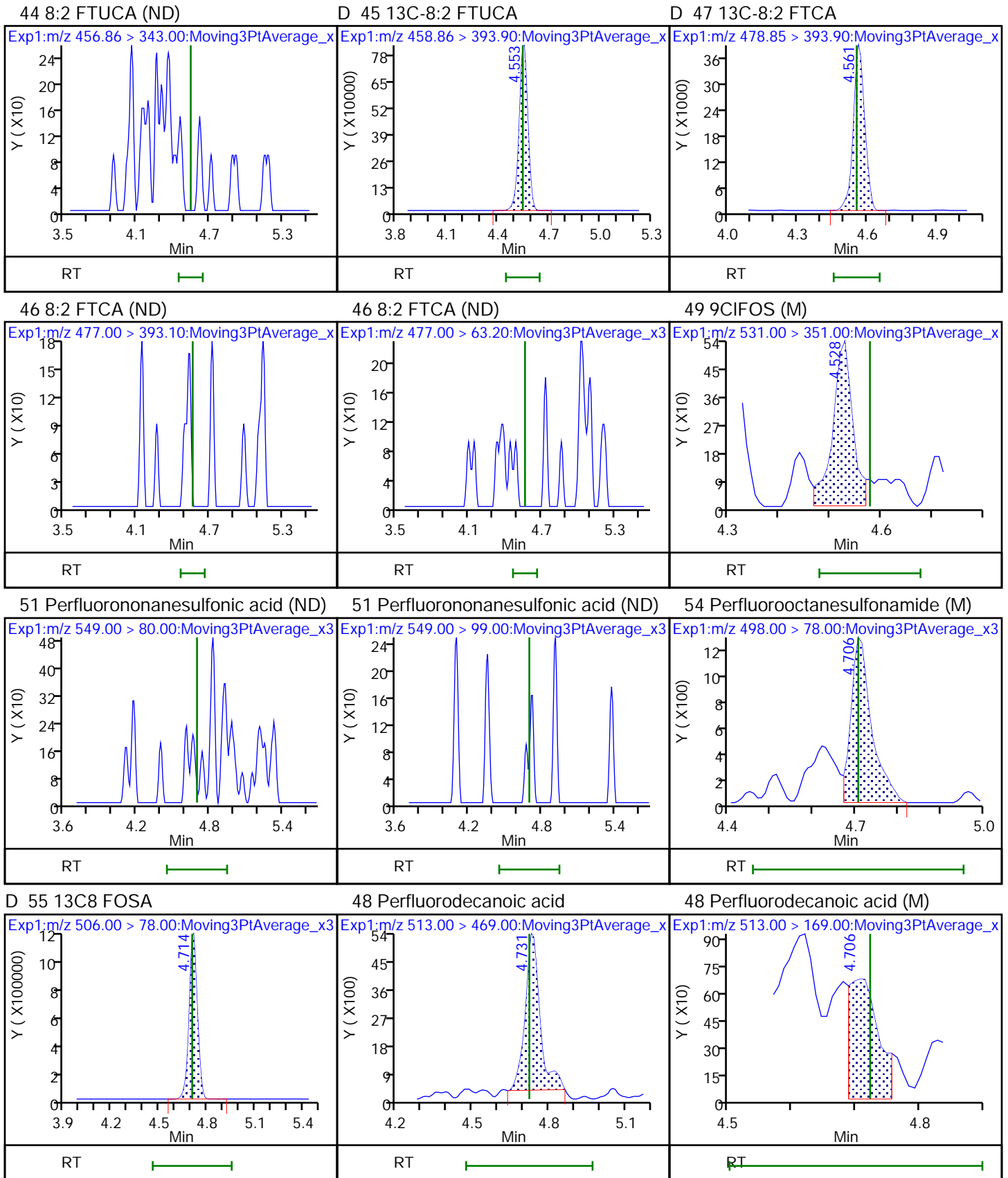


43 7:3 FTCA (ND)

43 7:3 FTCA (ND)

44 8:2 FTUCA (ND)

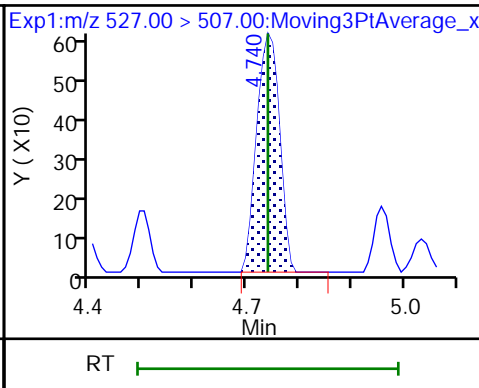
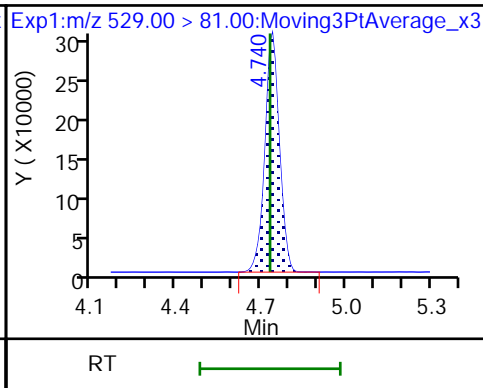
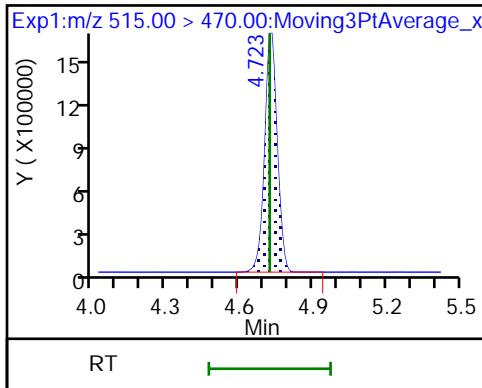




D 52 13C2 PFDA

D 50 M2-8:2 FTS

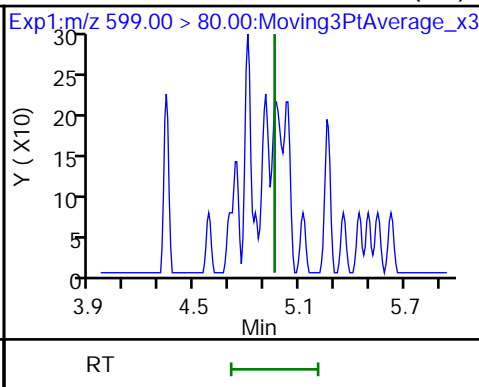
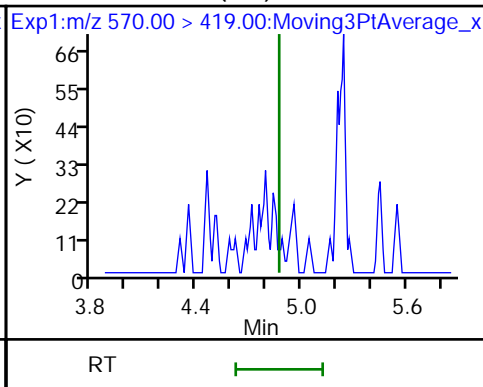
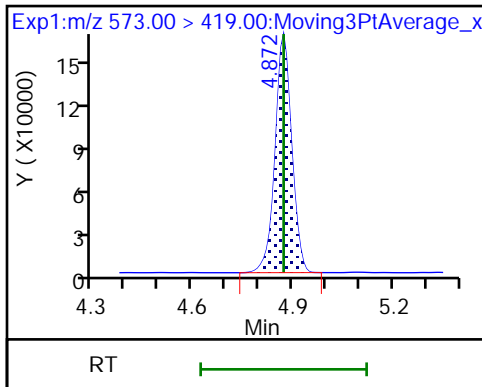
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (ND)

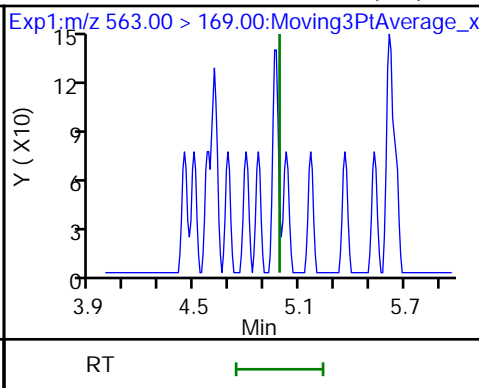
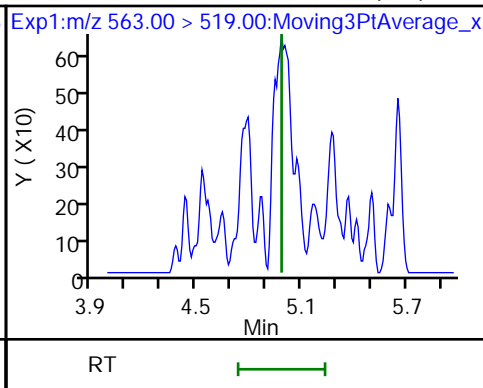
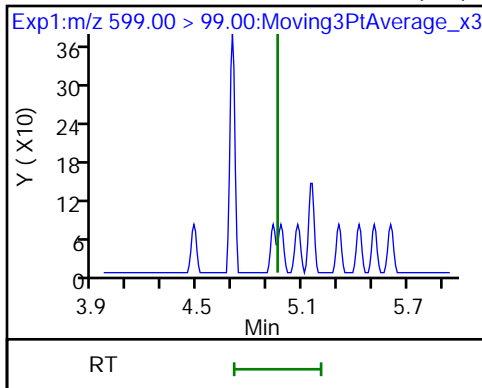
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid (ND)

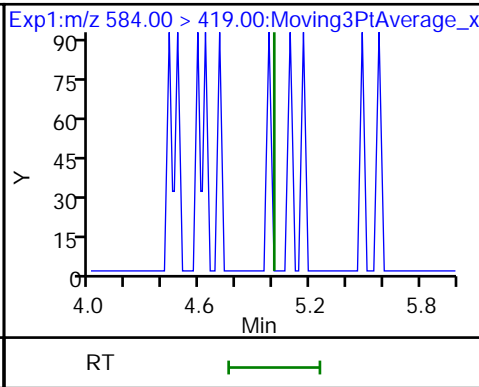
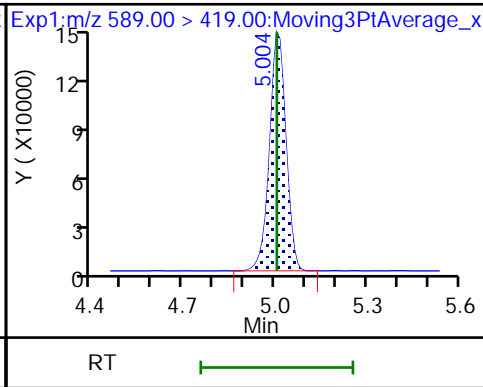
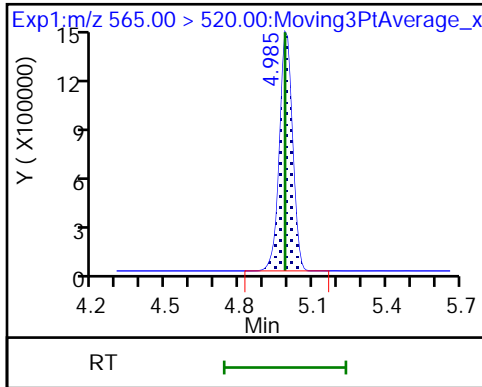
60 Perfluoroundecanoic acid (ND)



D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

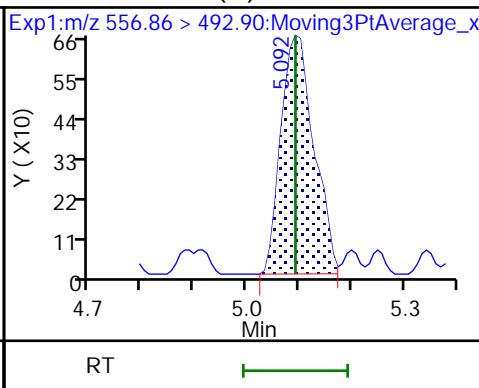
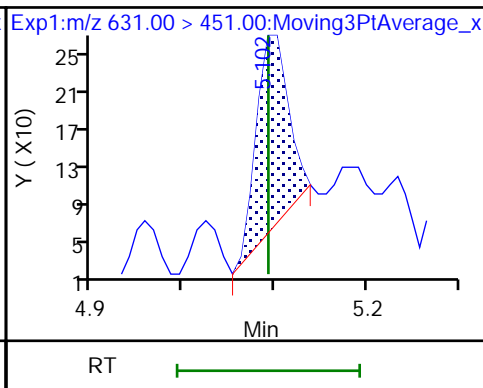
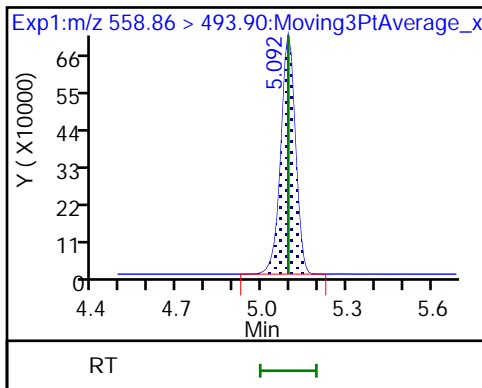
62 NEtFOSAA (ND)



D 67 13C-10:2 FTUCA

63 11CIFOS

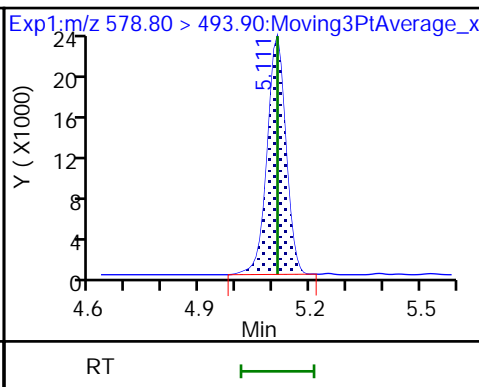
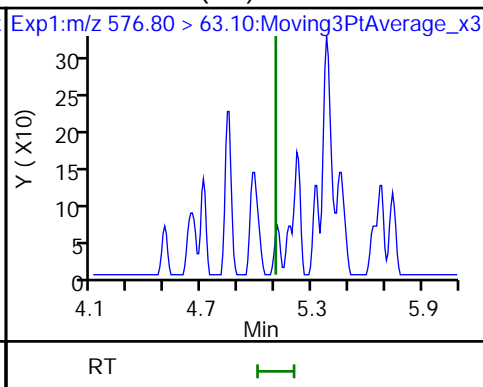
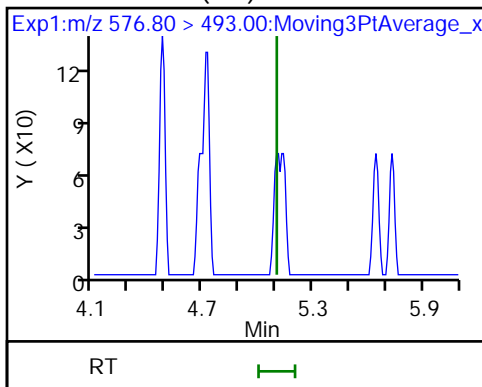
65 10:2 FTUCA (M)



66 10:2 FTCA (ND)

66 10:2 FTCA (ND)

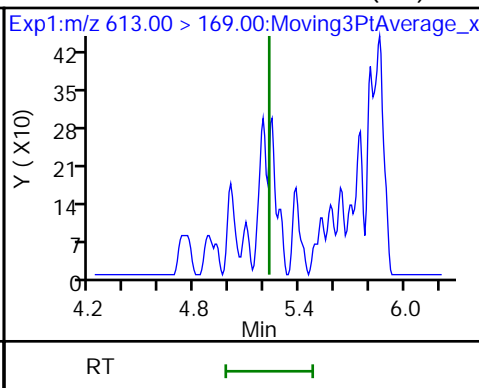
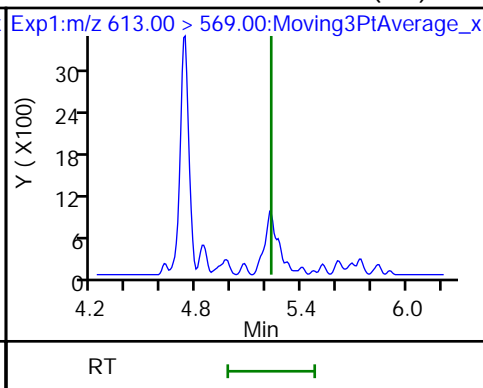
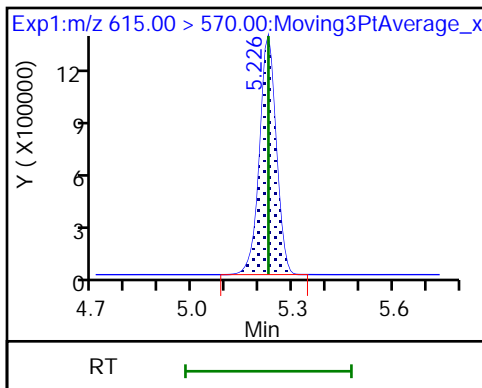
D 64 13C-10:2 FTCA



D 69 13C2 PFDaA

68 Perfluorododecanoic acid (ND)

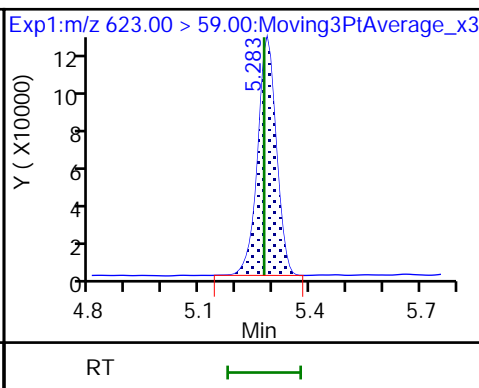
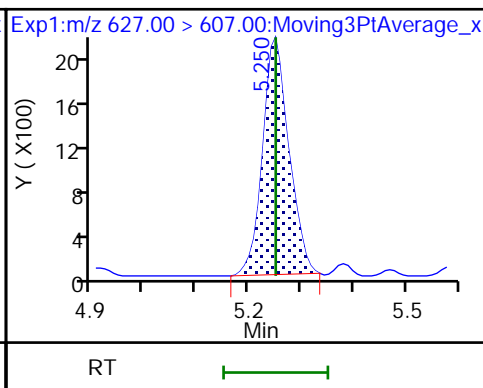
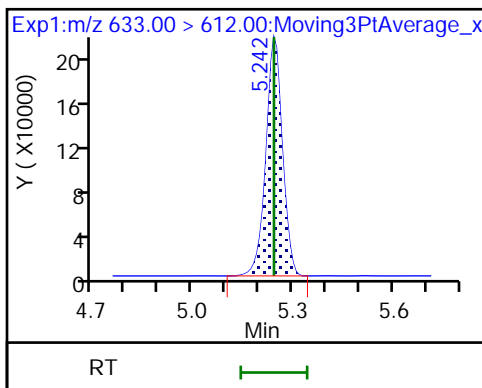
68 Perfluorododecanoic acid (ND)



D 70 13C2 10:2 FTS

71 10:2 FTS

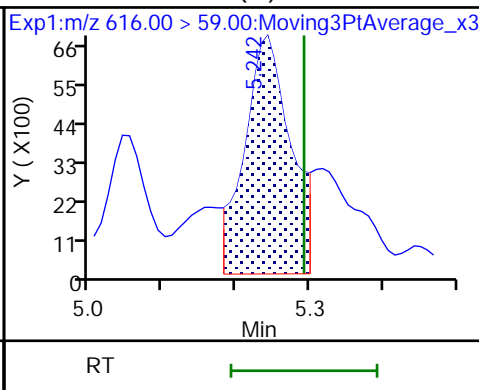
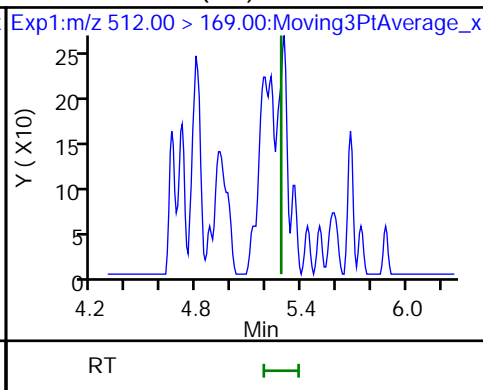
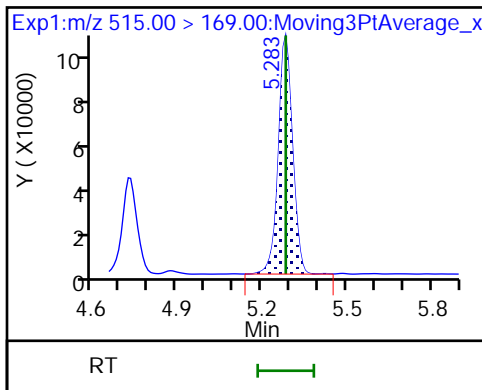
D 72 d7-N-MeFOSE-M



D 73 d-N-MeFOSA-M

74 NMeFOSA (ND)

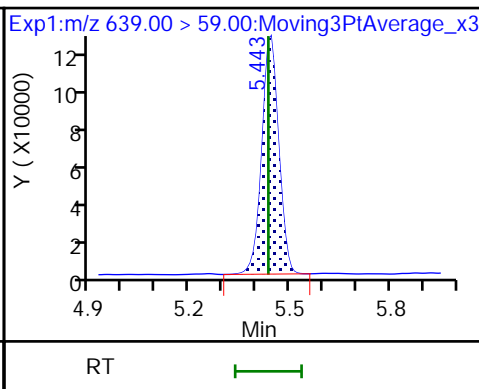
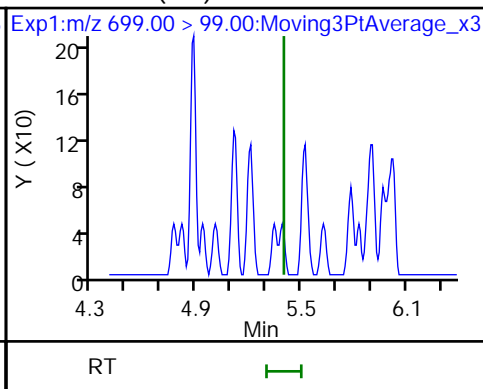
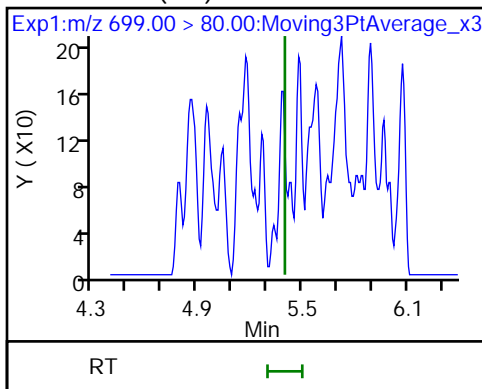
75 N-MeFOSE-M (M)



76 PFDoS (ND)

76 PFDoS (ND)

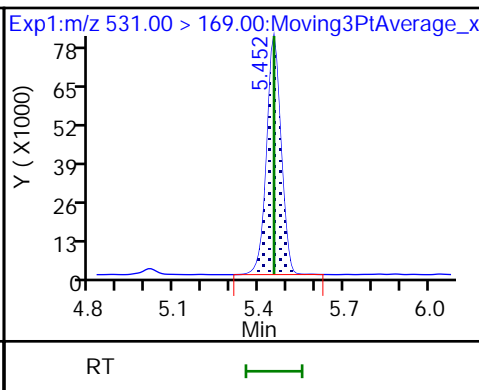
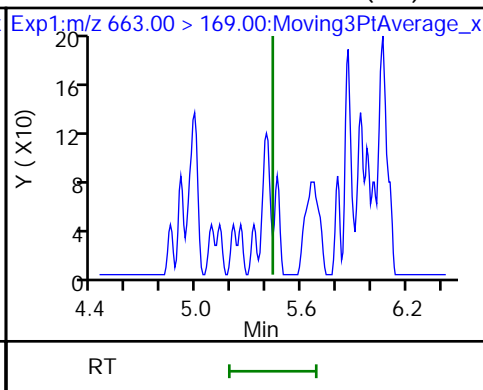
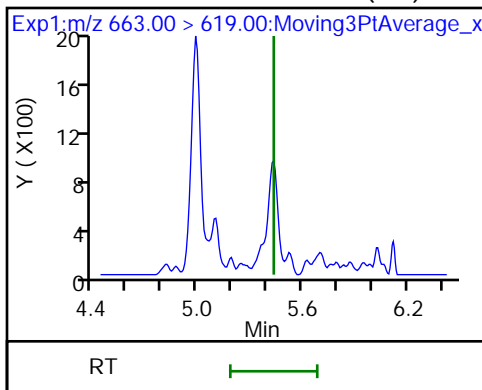
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid (ND)

78 Perfluorotridecanoic acid (ND)

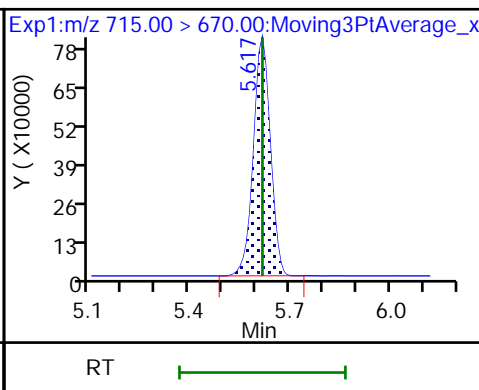
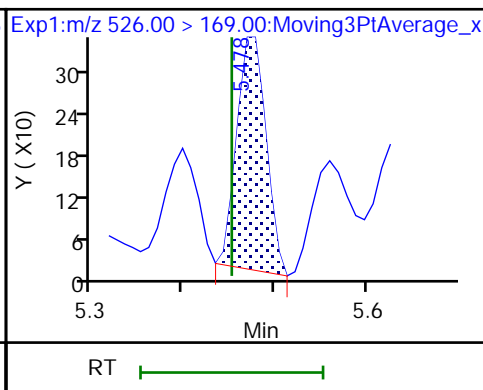
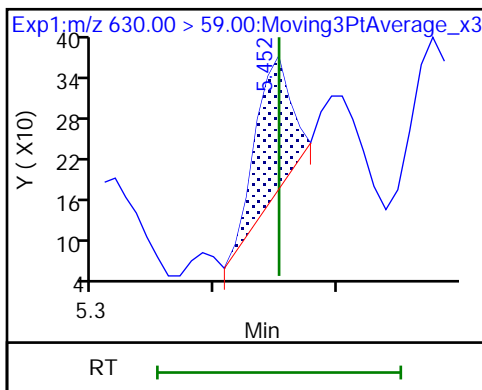
D 80 d-N-EtFOSA-M



79 N-EtFOSE-M

81 N-EtFOSA-M

D 82 13C2 PFTeDA

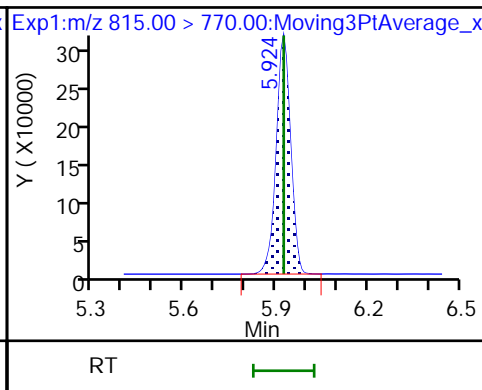
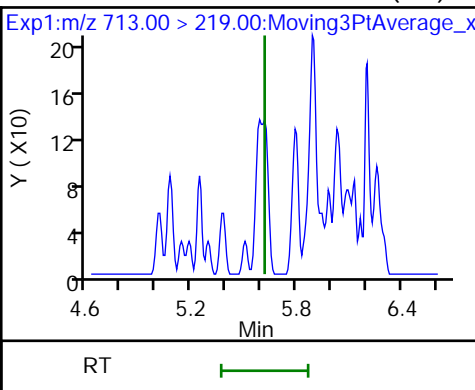
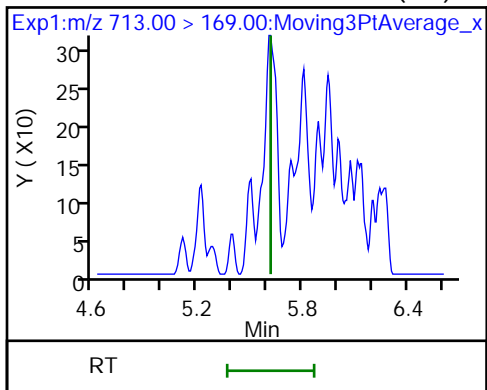




83 Perfluorotetradecanoic acid (ND)

83 Perfluorotetradecanoic acid (ND)

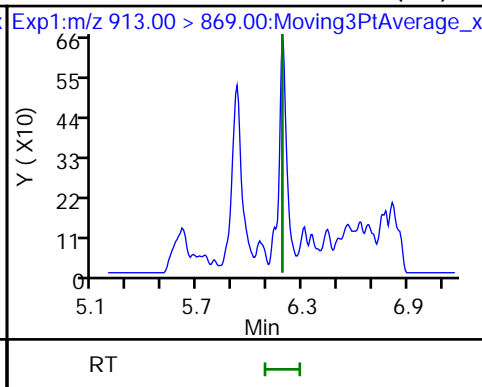
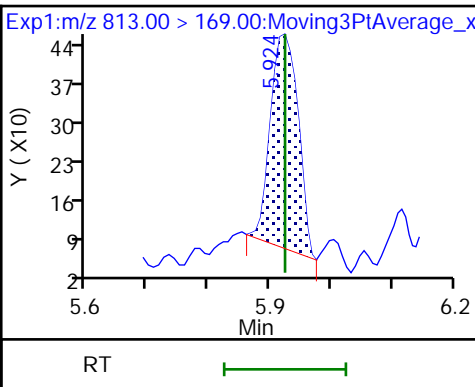
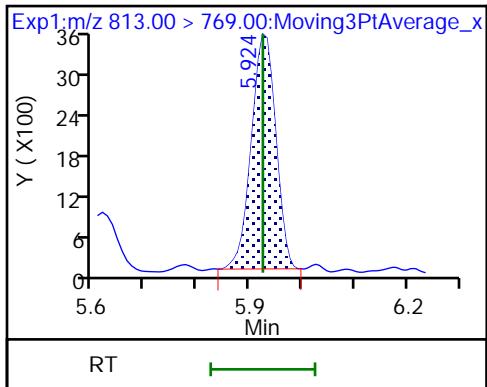
D 84 13C2 PFHxDA



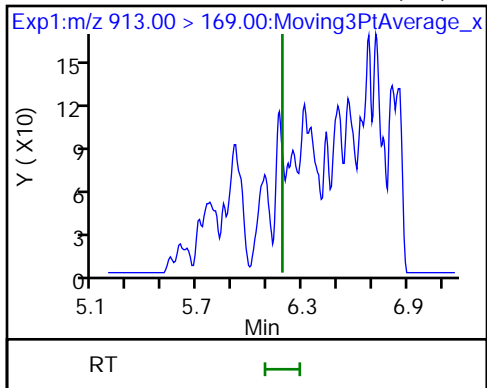
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 140-58905/14-B  
 Matrix: Air Lab File ID: \_034.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 22:43  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	84		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_034.d  
 Lims ID: MB 140-58905/14-B  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 19-Feb-2022 22:43:57 ALS Bottle#: 34 Worklist Smp#: 34  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-034 140-26391-a-8-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 11:00:28  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_030.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.797	2.804	-0.007	0.998	118700	0.0275		15.1	
D 2 13C4 PFBA	217.00 > 172.00	2.804	2.804	0.0	0.680	6001832	1.27	101	15398	
3 PFECA F	229.00 > 85.00	2.911				ND				
6 Perfluoropentanoic acid	262.90 > 219.00	3.107	3.115	-0.007	1.000	12640	-0.001719	1.9	7	7
	LOD = 0.006500									
D 5 13C5 PFPeA	267.90 > 223.00	3.107	3.115	-0.007	0.754	4334971	1.16	93.1	12107	
4 3:3 FTCA	241.00 > 177.10	3.122				ND				
	241.00 > 116.90	3.122								
D 7 13C3 PFBS	301.90 > 80.00	3.123	3.122	0.001	0.758	2673701	1.14	97.7	5930	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.123	3.131	-0.008	1.000	4831	-0.001509 Target=2.71	3.5	7M	7M
	298.90 > 99.00	3.123	3.131	-0.008	1.000	1998	2.42(1.36-4.07)	3.0		
	LOD = 0.004500									
9 PFECA A	278.95 > 84.90	3.202				ND				
11 PES	314.80 > 135.00	3.260				ND				
12 PFECA B	295.22 > 201.00	3.373				ND				
13 4:2 FTS	327.00 > 307.00	3.415				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.405	3.415	-0.010	0.826	1078586	1.46		125	1292	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.437				ND				
349.00 > 99.00		3.437								
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.437	0.0	1.000	70479	0.0145	Target=11.68		19.2	
313.00 > 119.00	3.437	3.437	0.0	1.000	6736		10.46(5.84-17.53)		6.2	
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.437	0.0	0.834	4984006	1.21		97.1	11663	
17 HFPO-DA										
285.00 > 169.00	3.542	3.542	0.0	1.000	95313	0.0401	Target=2.58		14.4	
329.00 > 169.00	3.542	3.542	0.0	1.000	27788		3.43(1.29-3.86)		10.9	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.542	0.0	0.860	2102252	1.05		83.7	5254	
S 10 ADONA										
377.00 > 251.00		3.592				0				
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.772	3.772	0.0	1.000	9030	0.003940	Target=2.81		28.1	7M
399.00 > 99.00	3.772	3.772	0.0	1.000	2424		3.73(1.40-4.21)		8.7	M
LOD = 0.005000										
D 20 18O2 PFHxS										
403.00 > 84.00	3.772	3.772	0.0	0.915	1956564	1.28		108	11907	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.782	3.792	-0.010	1.000	127095	0.0305	Target=3.18		52.0	
363.00 > 169.00	3.782	3.792	-0.010	1.000	37135		3.42(1.59-4.77)		106	
D 22 13C4 PFHpA										
367.00 > 322.00	3.782	3.792	-0.010	0.918	4341224	1.19		94.8	12195	
25 DONA										
377.00 > 251.00		3.820				ND				
377.00 > 85.00		3.820								
26 5:3 FTCA										
340.88 > 236.90		3.853				ND				
340.88 > 216.90		3.853								
27 6:2 FTUCA										
356.86 > 292.90		3.886				ND				
356.86 > 243.00		3.886								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.878	3.886	-0.008	0.941	2272026	1.66		133	5019	
29 6:2 FTCA										
377.10 > 63.00		3.903				ND				
377.10 > 313.10		3.903								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.895	3.903	-0.008	0.945	75641	0.7181		57.5	332	
32 PFECHS										
460.80 > 380.90		4.054				ND				
460.80 > 98.90		4.054								

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.111				ND				
449.00 > 99.00		4.111								
35 6:2 FTS										
427.00 > 407.00	4.111	4.121	-0.010	1.000	293490	0.1849			1083	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.121	0.0	1.000	30070	0.000922	Target=2.36	18.2		7M
413.00 > 169.00	4.121	4.121	0.0	1.000	10664		2.82(1.18-3.54)	39.6		7M
LOD = 0.009500										
\$ 36 13C8 PFOA										
421.00 > 376.00	4.111	4.121	-0.010	0.998	890	0.000249		6.1		M
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.121	0.0		5059964	1.25			10195	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.111	4.121	-0.010	0.998	1014526	1.39		117	3136	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.121	0.0	1.000	4841386	1.28		102	10814	
\$ 38 13C8 PFOS										
507.00 > 99.00		4.412				ND				
40 Perfluorooctanesulfonic acid										
499.00 > 80.00		4.412				ND				
499.00 > 99.00		4.412								
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.412	0.0	1.071	2718507	1.20		100	4239	
42 Perfluorononanoic acid										
463.00 > 419.00	4.421	4.438	-0.017	0.998	5875	0.001472	Target=3.94	7.8		R7
463.00 > 169.00	4.430	4.438	-0.008	1.000	790		7.44(1.97-5.90)	4.8		R7
LOD = 0.004250										
D 41 13C5 PFNA										
468.00 > 423.00	4.430	4.438	-0.008	1.075	6559392	1.28		102	7442	
43 7:3 FTCA										
441.00 > 337.00		4.519				ND				
441.00 > 317.00		4.519								
44 8:2 FTUCA										
456.86 > 392.90		4.545				ND				
456.86 > 343.00		4.545								
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.537	4.545	-0.008	1.000	3943915	2.16		172	10975	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.553	0.0	1.105	104231	0.7792		62.3	536	
46 8:2 FTCA										
477.00 > 393.10		4.561				ND				
477.00 > 63.20		4.561								
49 9CIFOS										
531.00 > 351.00		4.578				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.697				ND				
549.00 > 99.00		4.697								
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.714	4.705	0.009	1.002	3677	0.001105		7.6	7M	
LOD = 0.004400										
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.705	0.001	1.142	4356445	1.27		102	4297	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.714	4.722	-0.008	1.000	21826	-0.002136	Target=11.22	19.6	7	
513.00 > 169.00	4.706	4.722	-0.016	0.998	2717		8.03(5.61-16.83)	2.8		
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.714	4.722	-0.008	1.144	6430052	1.31		105	8602	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.731	0.0	1.148	1211892	1.53		127	1989	
53 8:2 FTS										
527.00 > 507.00		4.739				ND				
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.863	4.872	-0.009	1.180	708636	1.54		123	2426	
57 NMeFOSAA										
570.00 > 419.00		4.872				ND				MU
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.957				ND				
599.00 > 99.00		4.957								
60 Perfluoroundecanoic acid										
563.00 > 519.00		4.985				ND				
563.00 > 169.00		4.985								
D 59 13C2 PFUnA										
565.00 > 520.00	4.976	4.985	-0.009	1.208	5724371	1.21		96.9	11471	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.995	5.005	-0.010	1.212	755116	1.60		128	2778	
62 NEtFOSAA										
584.00 > 419.00		5.005				ND				
63 11C1FOS										
631.00 > 451.00		5.092				ND				
65 10:2 FTUCA										
556.86 > 492.90	5.082	5.092	-0.010	1.000	1777	0.000514		8.7	7M	
LOD = 0.0500										
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.082	5.092	-0.010	1.233	3576669	1.74		139	8583	
66 10:2 FTCA										
576.80 > 493.00		5.102				ND				
576.80 > 63.10		5.102								
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.111	-0.009	1.238	91704	0.7326		58.6	497	
D 69 13C2 PFDaA										
615.00 > 570.00	5.217	5.226	-0.009	1.266	5820456	5621.25		99.8	17310	02/27/2022

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
68 Perfluorododecanoic acid										
613.00 > 569.00		5.226				ND				
613.00 > 169.00		5.226								
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.234	5.243	-0.009	1.270	1032150	1.54		130	5839	
71 10:2 FTS										
627.00 > 607.00	5.242	5.251	-0.009	1.002	9279	-0.001248		40.6		7
LOD = 0.008500										
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.274	5.275	-0.001	1.280	855208	1.78		143	648	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.274	5.283	-0.009	1.280	563222	1.38		110	54.7	
74 NMeFOSA										
512.00 > 169.00		5.283				ND				
75 N-MeFOSE-M										
616.00 > 59.00	5.234	5.292	-0.058	0.992	24788	0.0271		7.0		M
76 PFDoS										
699.00 > 80.00		5.399				ND				
699.00 > 99.00		5.399								
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	552378	1.11		88.7	280	
78 Perfluorotridecanoic acid										
663.00 > 619.00		5.435				ND				
663.00 > 169.00		5.435								
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.443	5.452	-0.009	1.321	384350	1.17		93.8	532	
79 N-EtFOSE-M										
630.00 > 59.00		5.452				ND				
81 N-EtFOSA-M										
526.00 > 169.00		5.452				ND				
D 82 13C2 PFTeDA										
715.00 > 670.00	5.607	5.617	-0.010	1.361	3950558	1.06		84.7	11580	
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.617				ND				
713.00 > 219.00		5.617								
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.436	1786609	0.7360		58.9	4171	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.916	5.924	-0.008	1.000	21459	0.000610	Target=8.26	58.5		7
813.00 > 169.00	5.924	5.924	0.0	1.001	1907		11.25(4.13-12.39)	8.6		
LOD = 0.009000										
86 Perfluorooctadecanoic acid										
913.00 > 869.00		6.184				ND				
913.00 > 169.00		6.184								
S 87 F-53B										
212.90 > 169.00		0.0				0				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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S 88 NaDONA

377.00 > 251.00 0.0

0

377.00 > 85.00 0.0

### QC Flag Legend

#### Processing Flags

ND - Not Detected or Marked ND

R - Failed Signal Ratio Test

7 - Failed Limit of Detection

#### Review Flags

M - Manually Integrated

U - Marked Undetected



Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\\_034.d

Injection Date: 19-Feb-2022 22:43:57

Instrument ID: LCA

Lims ID: MB 140-58905/14-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 34

Worklist Smp#: 34

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

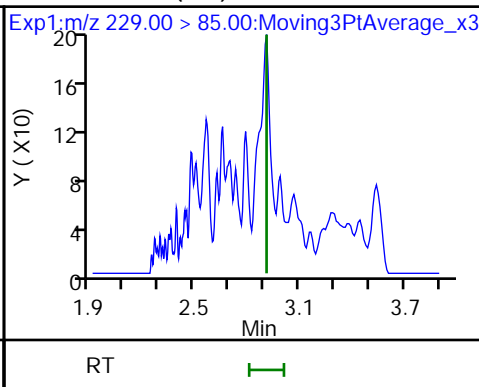
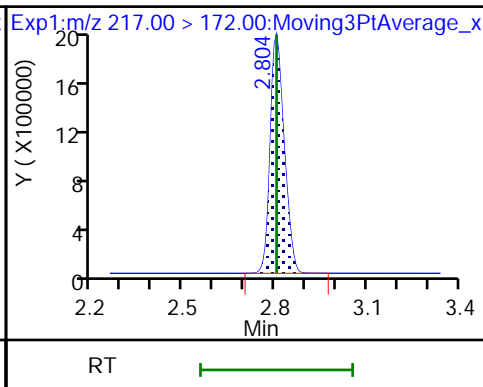
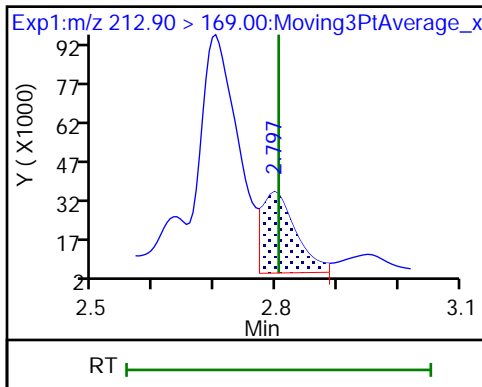
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

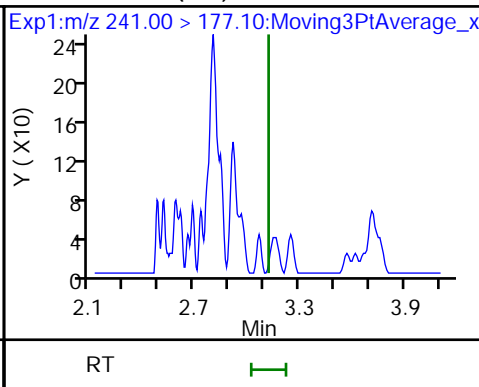
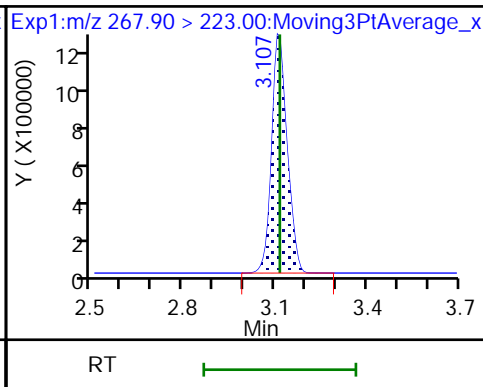
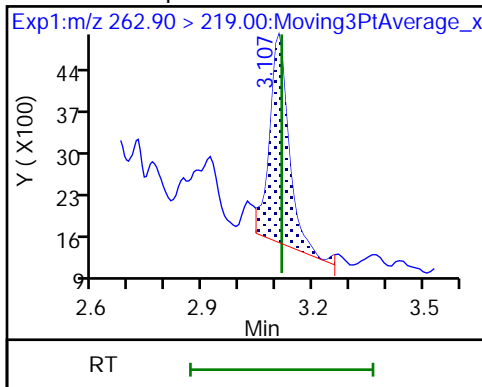
3 PFECA F (ND)



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

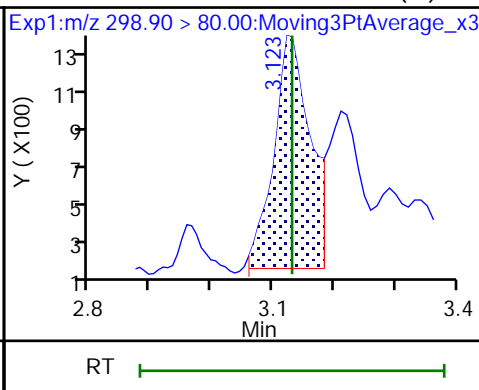
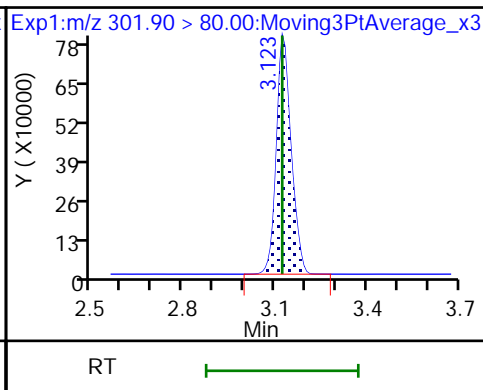
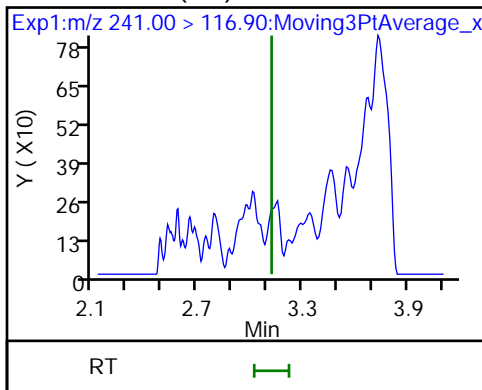
4 3:3 FTCA (ND)



4 3:3 FTCA (ND)

D 7 13C3 PFBS

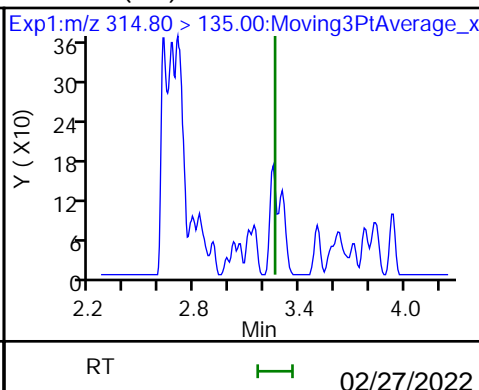
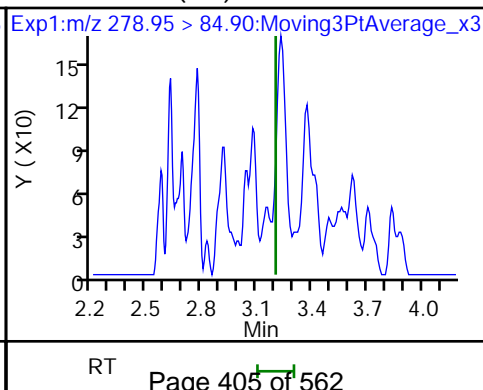
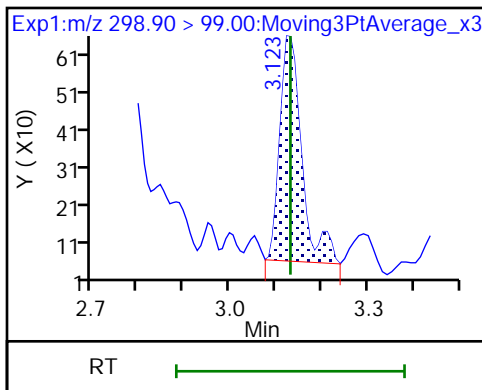
8 Perfluorobutanesulfonic acid (M)

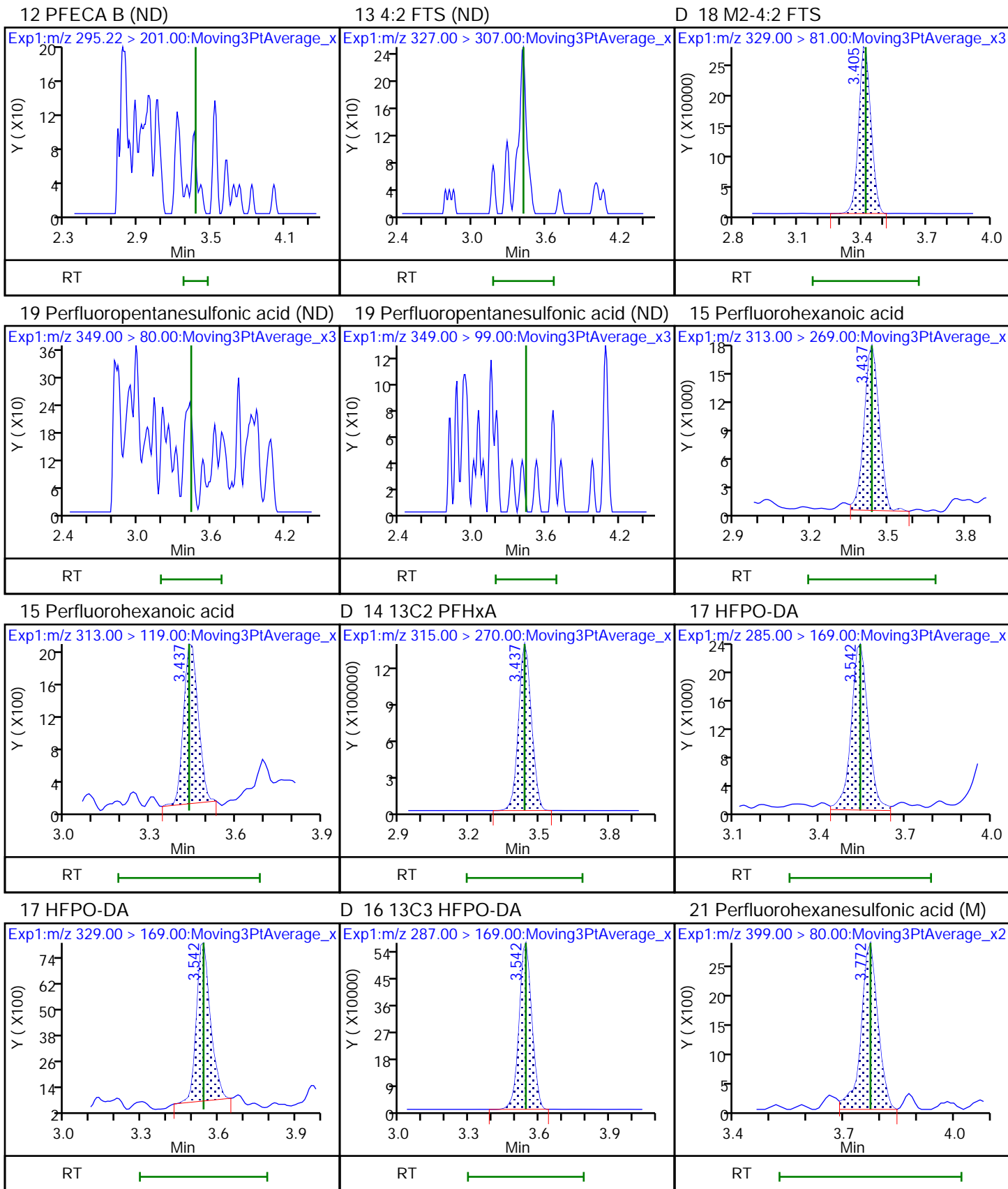


8 Perfluorobutanesulfonic acid

9 PFECA A (ND)

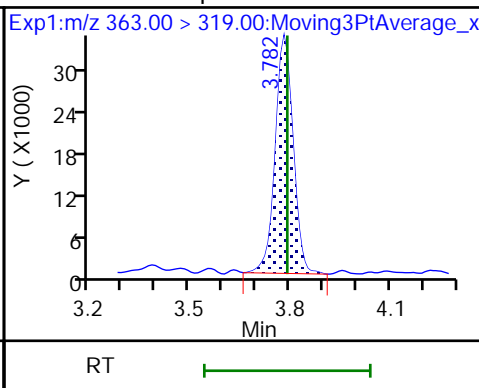
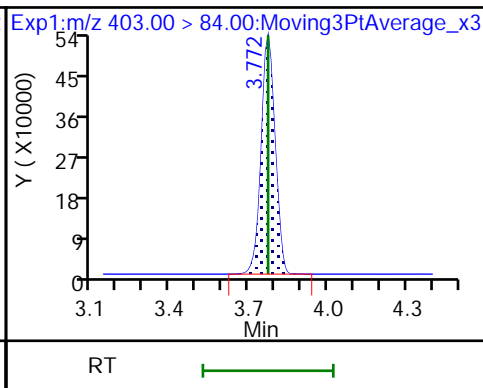
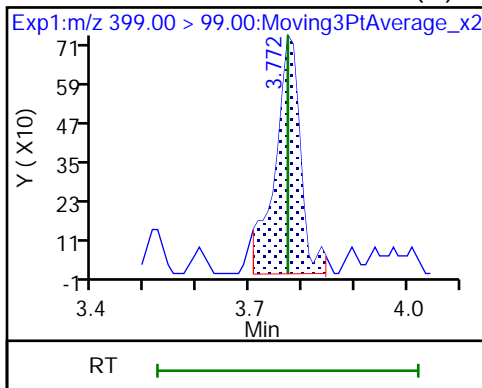
11 PES (ND)





21 Perfluorohexanesulfonic acid (M) D 20 18O2 PFHxS

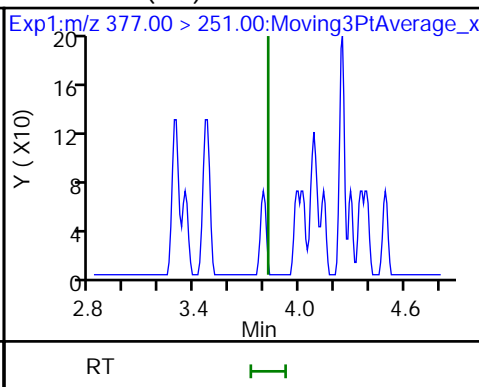
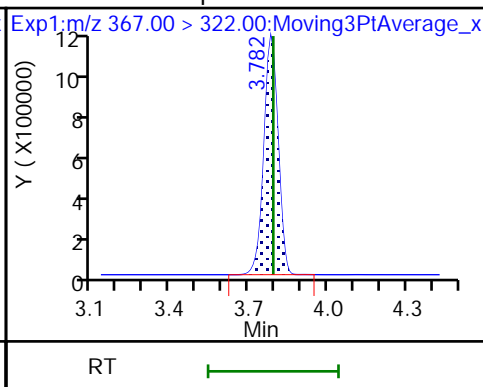
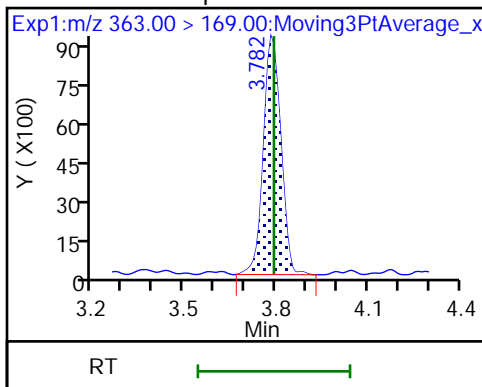
23 Perfluoroheptanoic acid



23 Perfluoroheptanoic acid

D 22 13C4 PFHpA

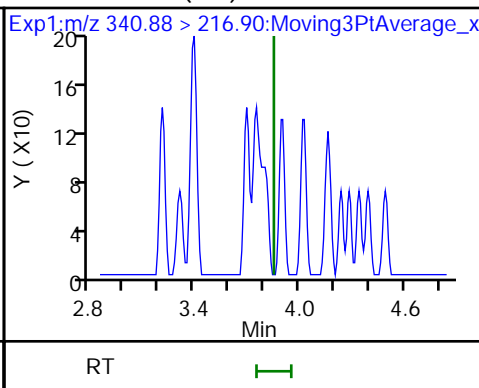
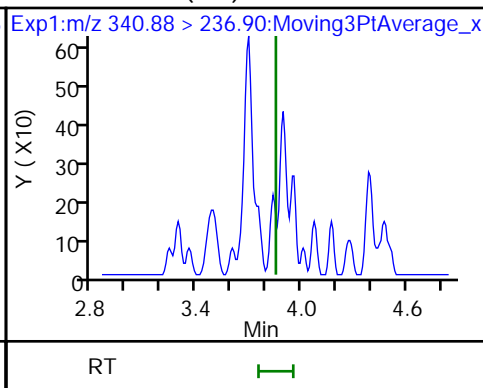
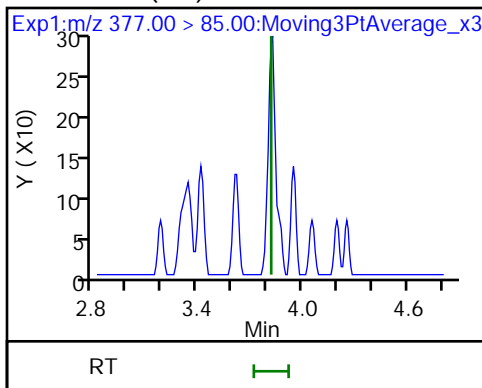
25 DONA (ND)



25 DONA (ND)

26 5:3 FTCA (ND)

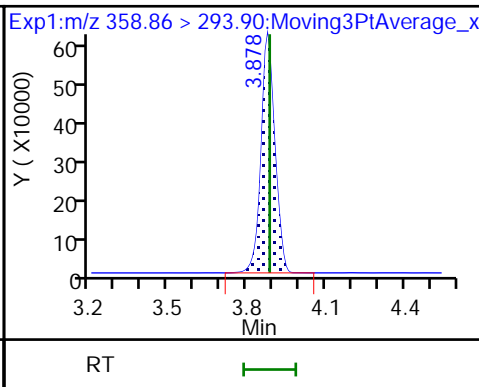
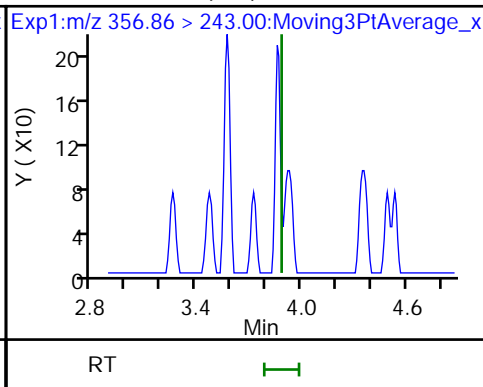
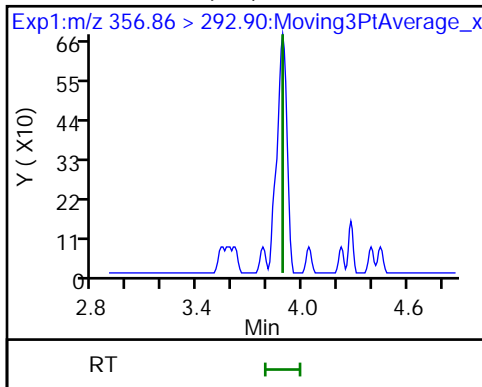
26 5:3 FTCA (ND)

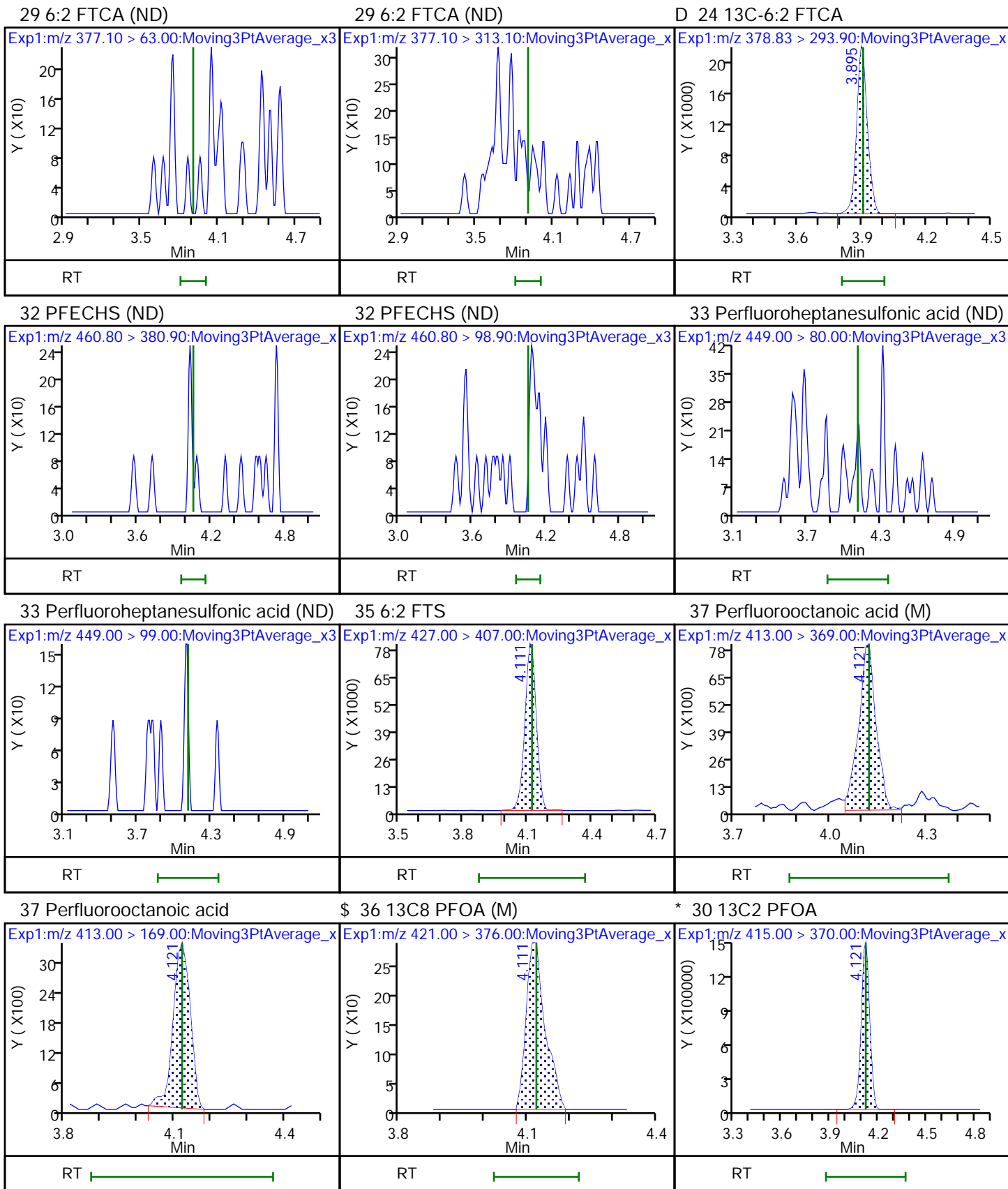


27 6:2 FTUCA (ND)

27 6:2 FTUCA (ND)

D 28 13C-6:2 FTUCA

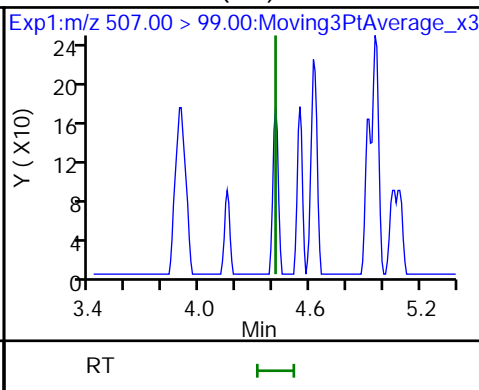
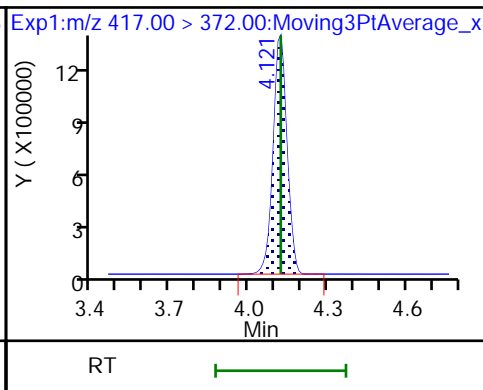
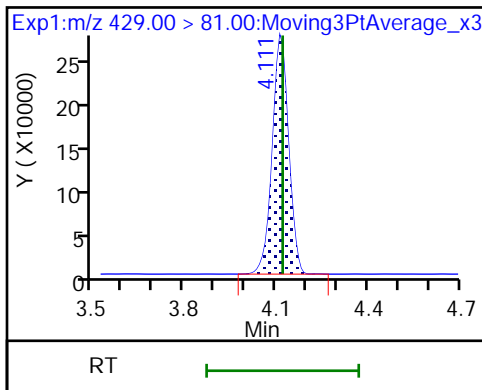




D 34 M2-6:2 FTS

D 31 13C4 PFOA

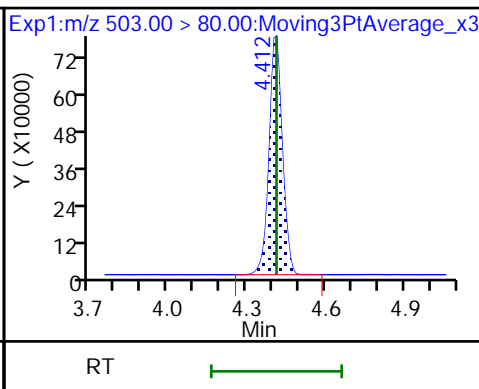
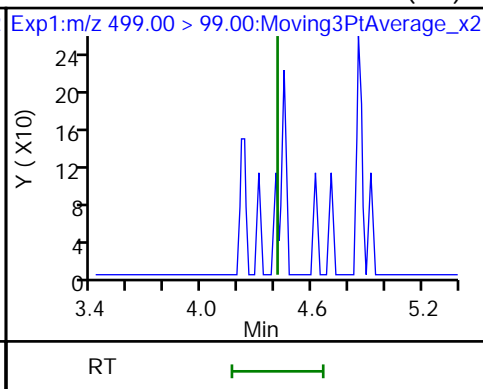
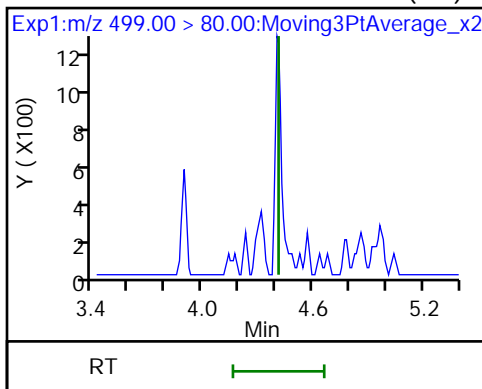
\$ 38 13C8 PFOS (ND)



40 Perfluorooctanesulfonic acid (ND)

40 Perfluorooctanesulfonic acid (ND)

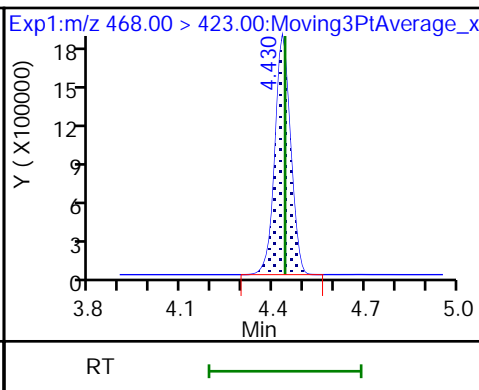
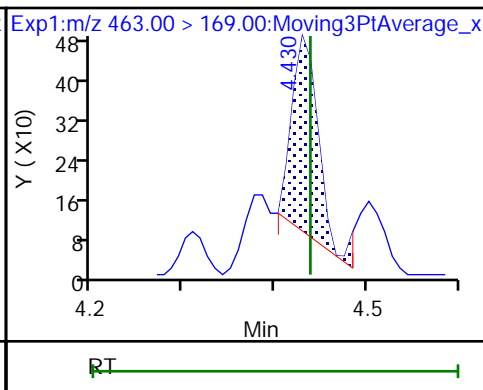
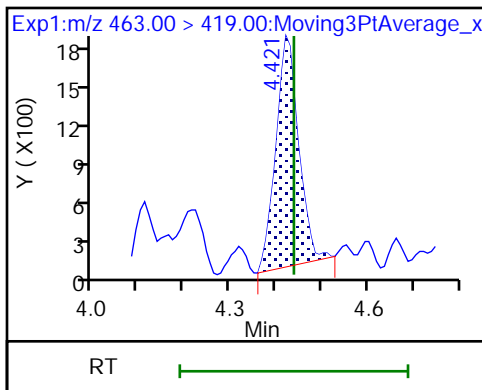
D 39 13C4 PFOS



42 Perfluorononanoic acid

42 Perfluorononanoic acid

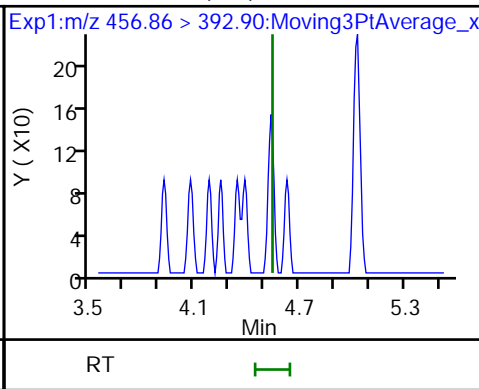
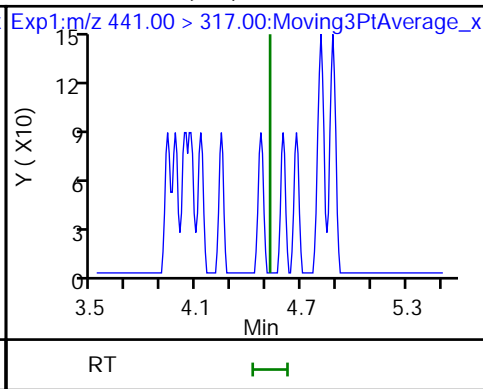
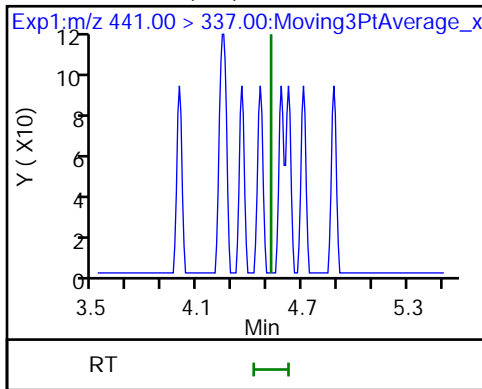
D 41 13C5 PFNA

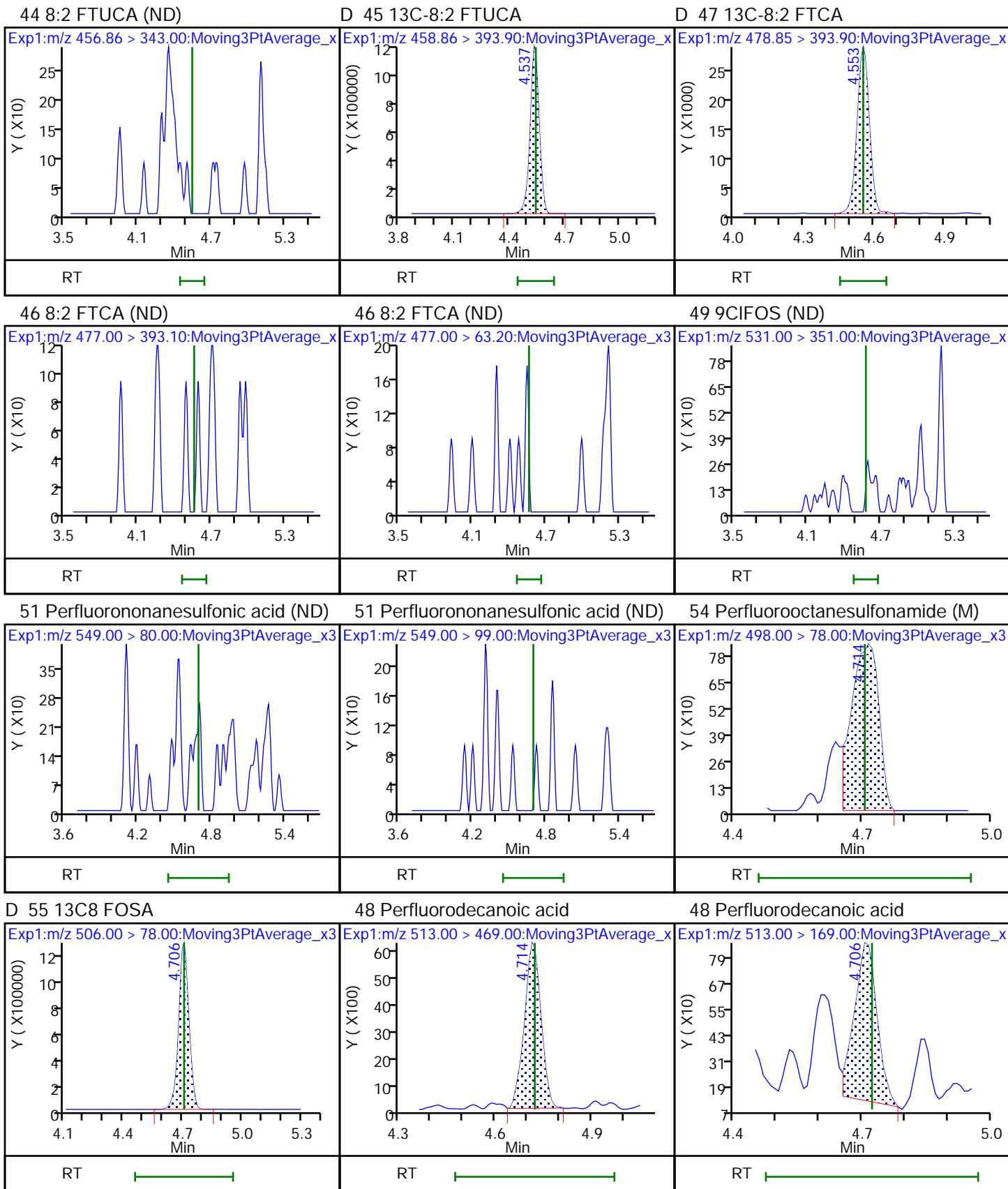


43 7:3 FTCA (ND)

43 7:3 FTCA (ND)

44 8:2 FTUCA (ND)

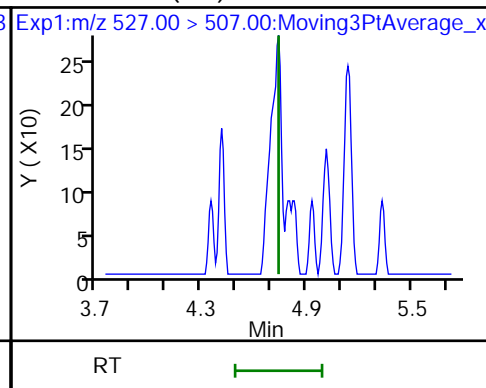
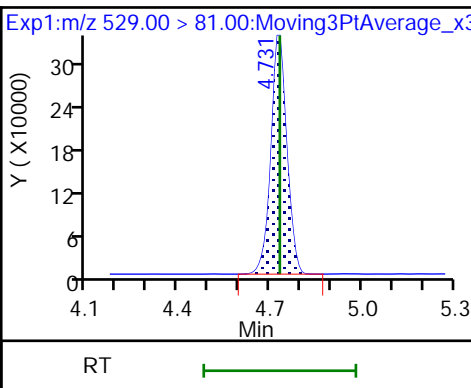
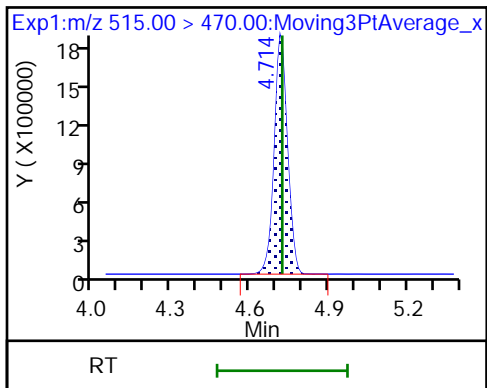




D 52 13C2 PFDA

D 50 M2-8:2 FTS

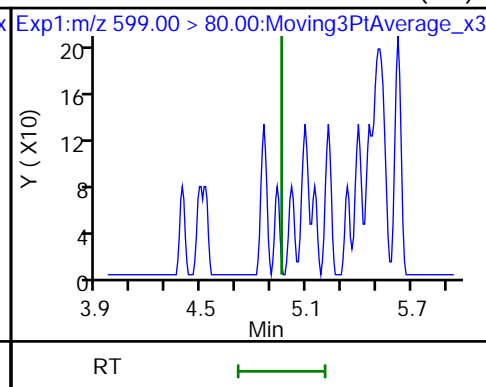
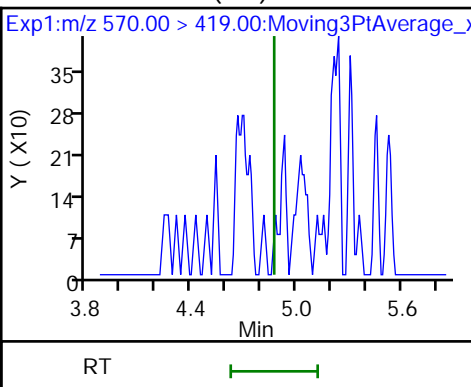
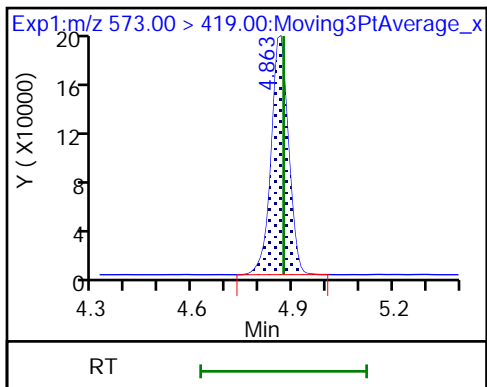
53 8:2 FTS (ND)



D 56 d3-NMeFOSAA

57 NMeFOSAA (ND)

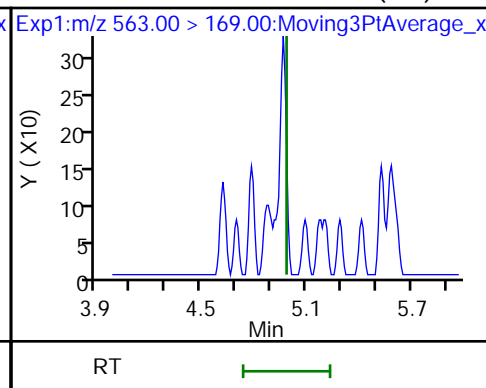
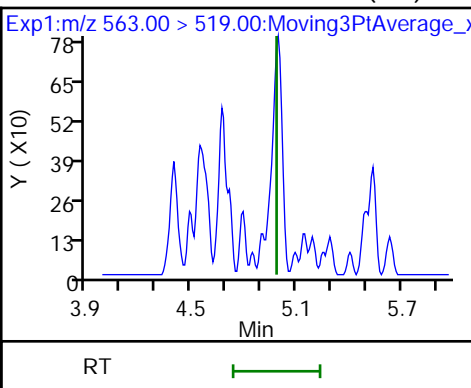
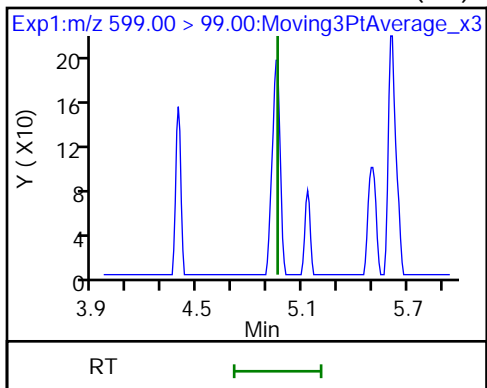
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid (ND)

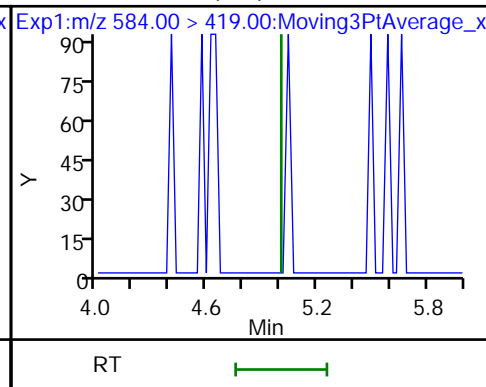
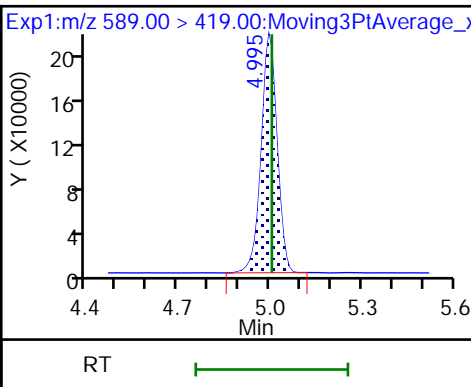
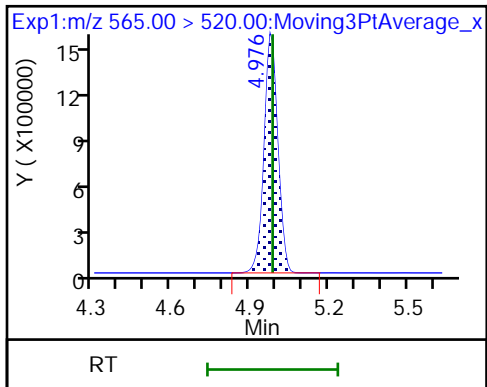
60 Perfluoroundecanoic acid (ND)

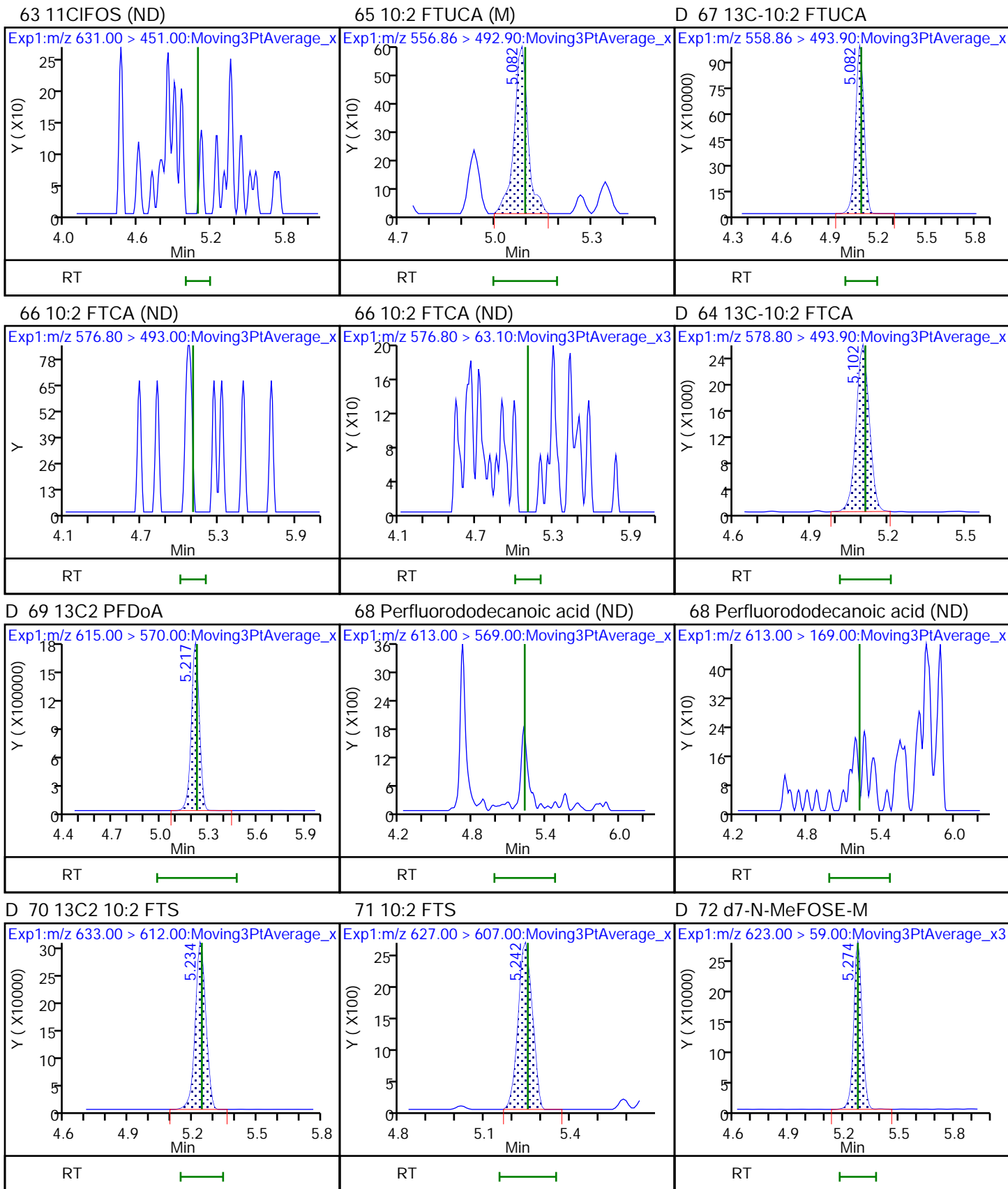


D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (ND)



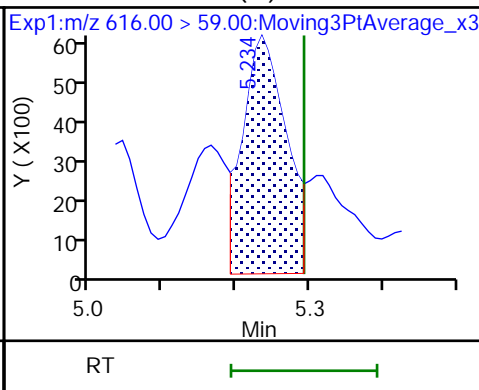
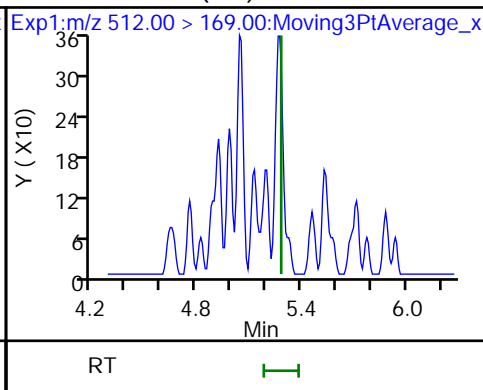
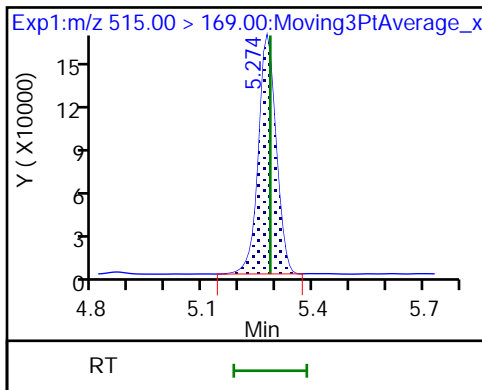




D 73 d-N-MeFOSA-M

74 NMeFOSA (ND)

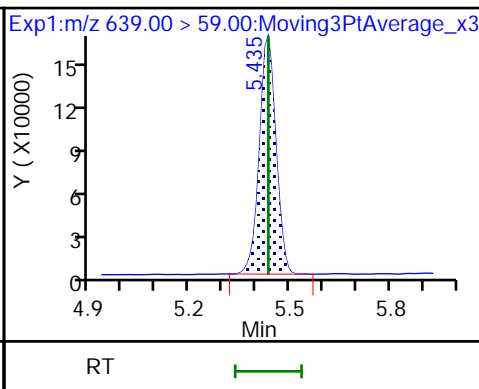
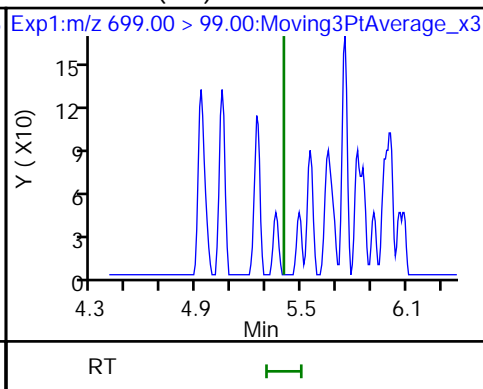
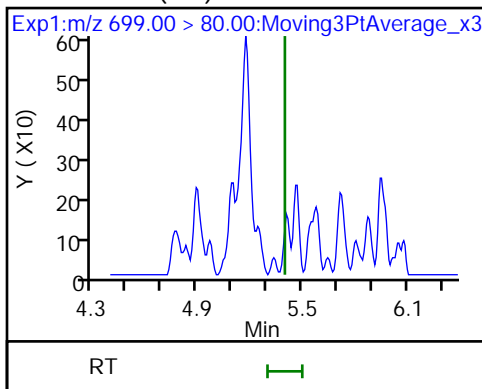
75 N-MeFOSE-M (M)



76 PFDoS (ND)

76 PFDoS (ND)

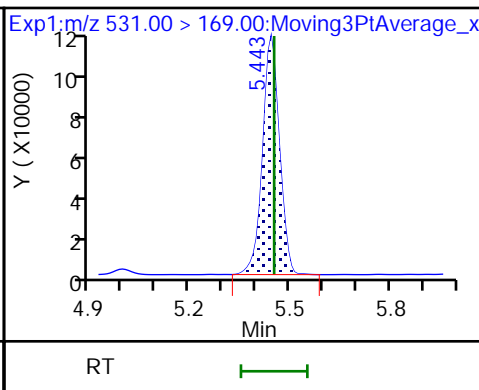
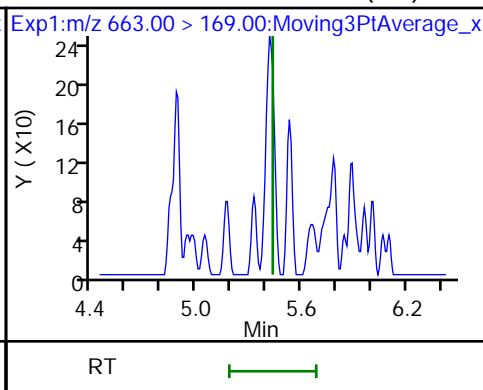
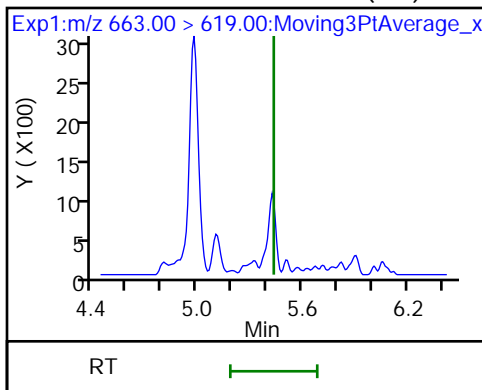
D 77 d9-N-EtFOSE-M



78 Perfluorotridecanoic acid (ND)

78 Perfluorotridecanoic acid (ND)

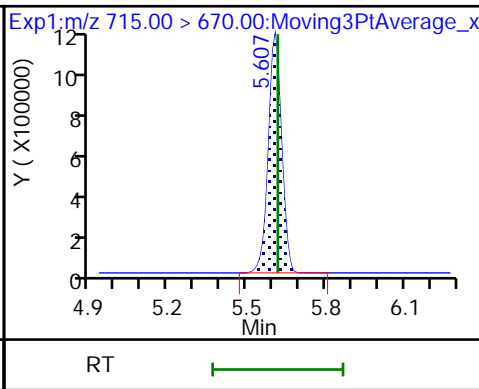
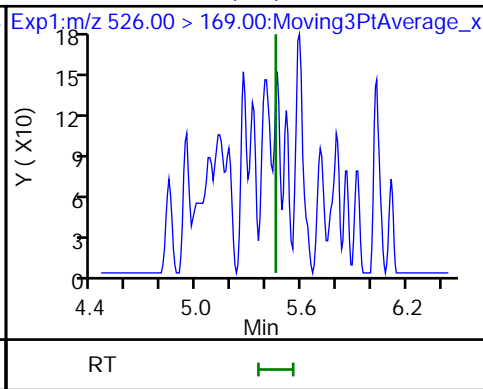
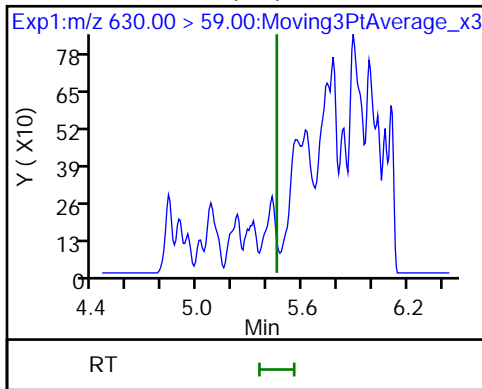
D 80 d-N-EtFOSA-M



79 N-EtFOSE-M (ND)

81 N-EtFOSA-M (ND)

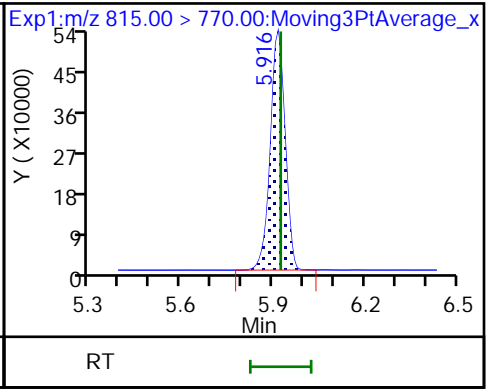
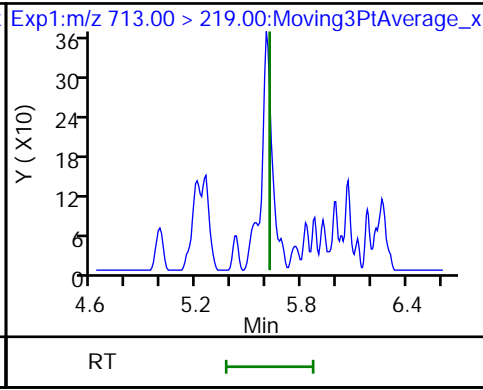
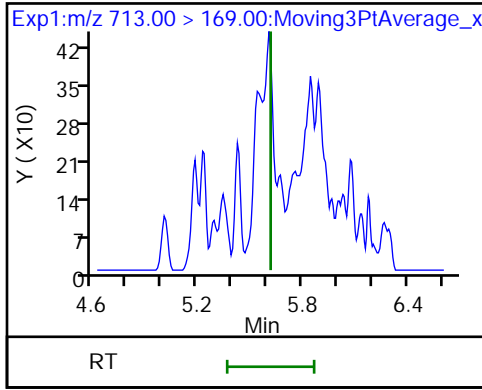
D 82 13C2 PFTeDA



83 Perfluorotetradecanoic acid (ND)

83 Perfluorotetradecanoic acid (ND)

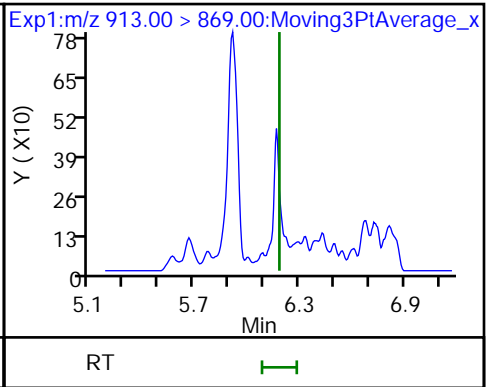
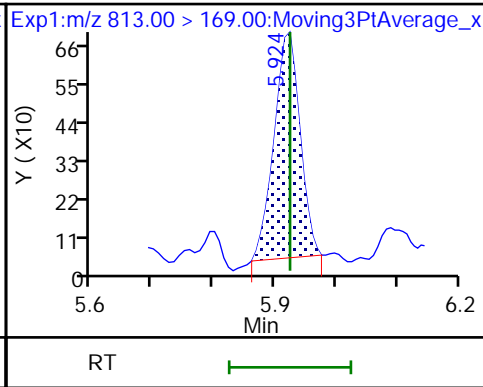
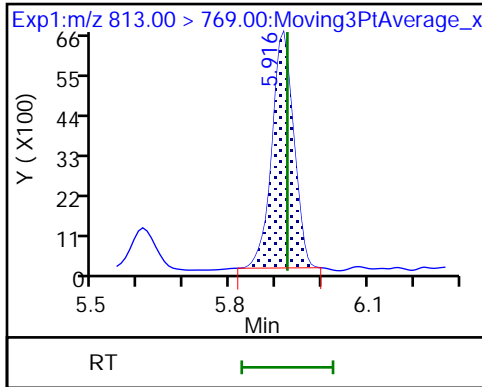
D 84 13C2 PFHxDA



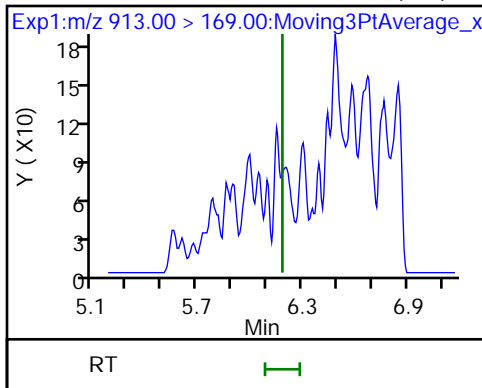
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_034.d  
 Lims ID: MB 140-58905/14-B  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 19-Feb-2022 22:43:57 ALS Bottle#: 34 Worklist Smp#: 34  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-034 140-26391-a-8-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:23:15 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 11:00:28

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 140-58914/1-B  
 Matrix: Air Lab File ID: \_035.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/16/2022 07:38  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 00:31  
 Con. Extract Vol.: 50 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.00104	0.000604

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	82		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_035.d  
 Lims ID: MB 140-58914/1-B  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 19-Feb-2022 00:31:54 ALS Bottle#: 35 Worklist Smp#: 35  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-035 mb 140-58914/1-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:24:57  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										7
212.90 > 169.00	2.811	2.811	0.0	1.000	9723	-0.000978		2.7		7
LOD = 0.0100										
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.682	5187530	1.06		88.2	20852	
3 PFECA F										
229.00 > 85.00		2.919				ND				
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.756	3919935	1.02		85.0	14711	
6 Perfluoropentanoic acid										7
262.90 > 219.00	3.115	3.123	-0.008	1.000	6545	-0.003474		2.0		7
LOD = 0.006500										
4 3:3 FTCA										
241.00 > 177.10		3.131				ND				
241.00 > 116.90		3.131								
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.760	2345266	0.9644		86.4	10218	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00		3.140				ND				
298.90 > 99.00		3.140								
9 PFECA A										
278.95 > 84.90		3.211				ND				
11 PES										
314.80 > 135.00		3.260				ND				
12 PFECA B										
295.22 > 201.00		3.384				ND				
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.829	743719	0.9771		87.2	1161	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 4:2 FTS										
327.00 > 307.00		3.416				ND				
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.837	4470500	1.05		87.8	9387	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.448				ND				
349.00 > 99.00		3.448								
15 Perfluorohexanoic acid										
313.00 > 269.00		3.448				ND				
313.00 > 119.00		3.448								
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.543	3.553	-0.010	0.860	2052365	0.9893		82.4	7042	
17 HFPO-DA										
285.00 > 169.00	3.543	3.553	-0.010	1.000	35543	0.0115	Target=2.51		27.5	
329.00 > 169.00	3.543	3.553	-0.010	1.000	12482		2.85(1.25-3.76)		16.5	
S 10 ADONA										
377.00 > 251.00		3.592				0				
D 20 18O2 PFHxS										
403.00 > 84.00	3.783	3.783	0.0	0.918	1609391	1.02		89.8	6852	
21 Perfluorohexanesulfonic acid										7M
399.00 > 80.00	3.773	3.783	-0.010	0.997	5319	0.002709	Target=3.47		14.5	7M
399.00 > 99.00	3.783	3.783	0.0	1.000	2289		2.32(1.73-5.20)		15.8	
LOD = 0.005000										
D 22 13C4 PFHpA										
367.00 > 322.00	3.793	3.793	0.0	0.920	4000156	1.06		88.1	8814	
23 Perfluoroheptanoic acid										7
363.00 > 319.00	3.793	3.793	0.0	1.000	11594	-0.003096	Target=3.41		8.6	7
363.00 > 169.00	3.793	3.793	0.0	1.000	2575		4.50(1.70-5.11)		6.8	
LOD = 0.0153										
25 DONA										
377.00 > 251.00		3.829				ND				
377.00 > 85.00		3.829								
26 5:3 FTCA										
340.88 > 236.90		3.853				ND				
340.88 > 216.90		3.853								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.887	3.887	0.001	0.943	1486621	1.05		87.8	2802	
27 6:2 FTUCA										
356.86 > 292.90		3.895				ND				
356.86 > 243.00		3.895								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.904	0.0	0.947	99982	0.9191		76.6	320	
29 6:2 FTCA										
377.10 > 63.00		3.913				ND				
377.10 > 313.10		3.913								
32 PFECHS										
460.80 > 380.90		4.065				ND				
460.80 > 98.90		4.065								

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.112				ND				
449.00 > 99.00		4.112								
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	1.000	828034	1.10		96.6	1953	
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	13328	0.006479		43.2		7
LOD = 0.0137										
\$ 36 13C8 PFOA										
421.00 > 376.00		4.121				ND				
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.131	-0.010	1.000	4293415	1.10		91.5	7811	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5225624	1.25			9676	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.131	-0.010	1.000	20028	-0.001115	Target=2.38	16.1		7
413.00 > 169.00	4.112	4.131	-0.019	0.998	8652		2.31(1.19-3.57)	12.7		7
LOD = 0.009500										
\$ 38 13C8 PFOS										
507.00 > 99.00		4.421				ND				
D 39 13C4 PFOS										
503.00 > 80.00	4.418	4.421	-0.003	1.072	2424217	1.03		90.1	2379	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.409	4.421	-0.012	0.998	16679	0.006892	Target=4.49	8.1		RM
499.00 > 99.00	4.418	4.421	-0.003	1.000	871		19.15(2.25-6.74)	3.6		M
42 Perfluorononanoic acid										
463.00 > 419.00		4.439				ND				
463.00 > 169.00		4.439								
D 41 13C5 PFNA										
468.00 > 423.00	4.436	4.439	-0.003	1.076	5686699	1.07		89.4	15899	
43 7:3 FTCA										
441.00 > 337.00		4.529				ND				
441.00 > 317.00		4.529								
44 8:2 FTUCA										
456.86 > 392.90	4.559	4.545	0.014	1.004	1334	0.000757	Target=30.23	5.8		R7
456.86 > 343.00	4.567	4.545	0.022	1.005	333		4.01(15.12-45.35)	1.6		R7
LOD = 0.0500										
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.542	4.553	-0.011	1.000	2210710	1.17		97.5	5947	
46 8:2 FTCA										
477.00 > 393.10		4.562				ND				
477.00 > 63.20		4.562								
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.559	4.562	-0.003	1.106	115771	0.8380		69.8	424	
49 9C1FOS										
531.00 > 351.00		4.578				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.697				ND				
549.00 > 99.00		4.697								
D 55 13C8 FOSA										
506.00 > 78.00	4.712	4.714	-0.002	1.143	3659816	1.03		86.1	4672	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.720	4.714	0.006	1.002	917	0.000315		5.8	7	7
LOD = 0.004400										
48 Perfluorodecanoic acid										
513.00 > 469.00	4.720	4.731	-0.011	1.000	14150	-0.003526	Target=11.19	15.9		R7
513.00 > 169.00	4.703	4.731	-0.028	0.996	3235		4.37(5.60-16.79)	3.5		R7
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.720	4.731	-0.011	1.145	5657649	1.12		93.2	15273	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.737	4.740	-0.003	1.149	947225	1.16		101	1917	
53 8:2 FTS										
527.00 > 507.00	4.729	4.740	-0.011	0.998	1185	-0.006436		9.1	7	7
LOD = 0.007000										
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.869	4.872	-0.003	1.181	505929	1.07		88.9	2092	
57 NMeFOSAA										
570.00 > 419.00		4.880				ND				
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.957				ND				
599.00 > 99.00		4.957								
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.982	4.995	-0.013	1.000	141202	0.0328	Target=8.28	259		
563.00 > 169.00	4.982	4.995	-0.013	1.000	17202		8.21(4.14-12.42)	48.7		
D 59 13C2 PFUnA										
565.00 > 520.00	4.982	4.995	-0.013	1.209	5342458	1.09		91.2	10401	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.001	5.005	-0.004	1.213	514377	1.06		88.1	1528	
62 NEtFOSAA										
584.00 > 419.00		5.015				ND				
65 10:2 FTUCA										
556.86 > 492.90		5.093				ND				
63 11CIFOS										
631.00 > 451.00		5.093				ND				
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.089	5.093	-0.004	1.235	2281780	1.07		89.6	6570	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.108	5.112	-0.004	1.239	107557	0.8320		69.3	513	
66 10:2 FTCA										
576.80 > 493.00		5.112				ND				
576.80 > 63.10		5.112								
D 69 13C2 PFDaA										
615.00 > 570.00	5.223	5.226	-0.003	1.267	5170460	5621.07		89.4	11408	02/27/2022



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
68 Perfluorododecanoic acid										7
613.00 > 569.00	5.214	5.226	-0.012	0.998	9198	0.002066	Target=6.88	10.2	7	
613.00 > 169.00	5.214	5.226	-0.012	0.998	1197		7.68(3.44-10.31)	3.0		
LOD = 0.005000										
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.240	5.243	-0.003	1.271	806875	1.17		103	5430	
71 10:2 FTS										7
627.00 > 607.00	5.248	5.251	-0.003	1.002	8935	-0.000317		65.3	7	
LOD = 0.008500										
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.279	5.284	-0.005	1.281	547592	1.10		92.1	456	
74 NMeFOSA										
512.00 > 169.00		5.284				ND				
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.279	5.284	-0.005	1.281	438607	1.04		86.6	52.2	
75 N-MeFOSE-M										
616.00 > 59.00		5.292				ND				
76 PFDoS										
699.00 > 80.00		5.399				ND				
699.00 > 99.00		5.399								
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.431	5.435	-0.004	1.040	193040	0.0507	Target=6.38	258		
663.00 > 169.00	5.431	5.435	-0.004	1.040	29057		6.64(3.19-9.57)	99.4		
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.440	5.435	0.005	1.320	497540	0.9674		80.6	293	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.449	5.452	-0.003	1.322	330371	0.9764		81.4	672	
79 N-EtFOSE-M										
630.00 > 59.00		5.452				ND				
81 N-EtFOSA-M										
526.00 > 169.00		5.452				ND				
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.617				ND				
713.00 > 219.00		5.617								
D 82 13C2 PFTeDA										
715.00 > 670.00	5.614	5.617	-0.003	1.362	4114710	1.07		89.0	10407	
85 Perfluorohexadecanoic acid										7
813.00 > 769.00	5.921	5.924	-0.003	1.000	28973	-0.001201	Target=8.32	67.8	7	
813.00 > 169.00	5.921	5.924	-0.003	1.000	3474		8.34(4.16-12.48)	12.9		
LOD = 0.009000										
D 84 13C2 PFHxDA										
815.00 > 770.00	5.921	5.924	-0.003	1.437	2679121	1.07		89.1	6378	
86 Perfluorooctadecanoic acid										
913.00 > 869.00		6.185				ND				
913.00 > 169.00		6.185								
S 87 F-53B										
212.90 > 169.00		0.0				0				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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S 88 NaDONA

377.00 > 251.00 0.0

0

377.00 > 85.00 0.0

**QC Flag Legend**

Processing Flags

ND - Not Detected or Marked ND

R - Failed Signal Ratio Test

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_035.d

Injection Date: 19-Feb-2022 00:31:54

Instrument ID: LCA

Lims ID: MB 140-58914/1-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 35

Worklist Smp#: 35

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

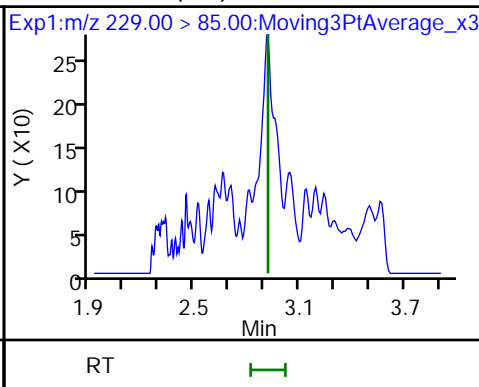
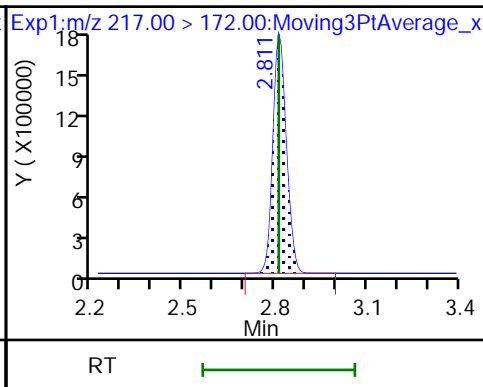
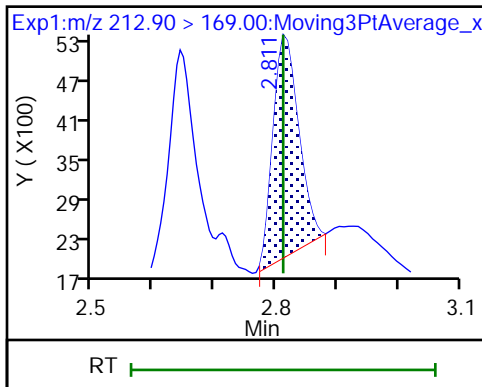
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

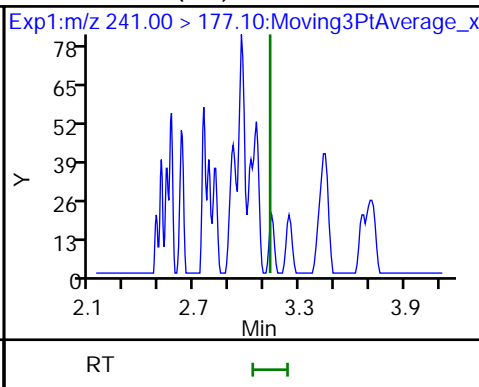
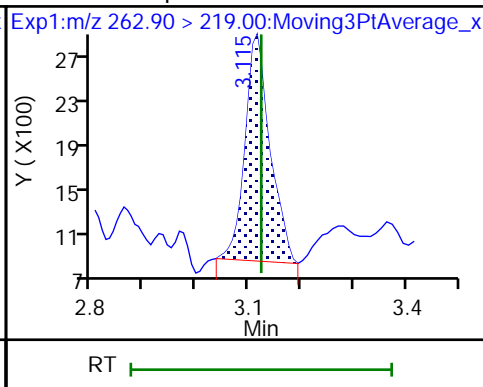
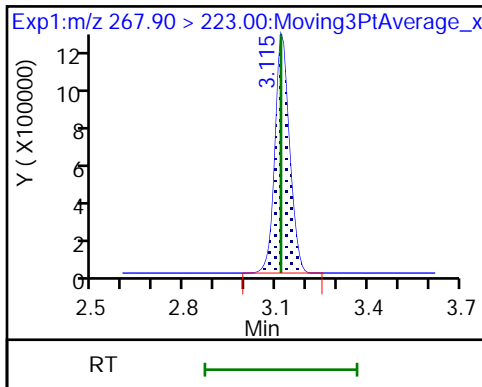
3 PFECA F (ND)



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

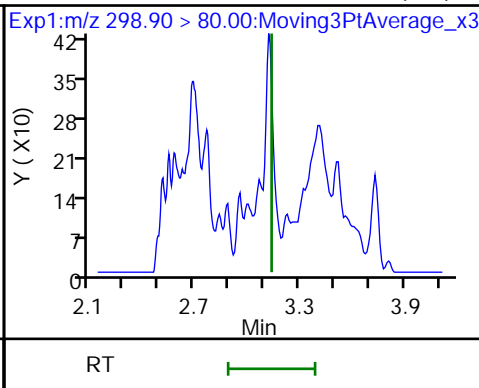
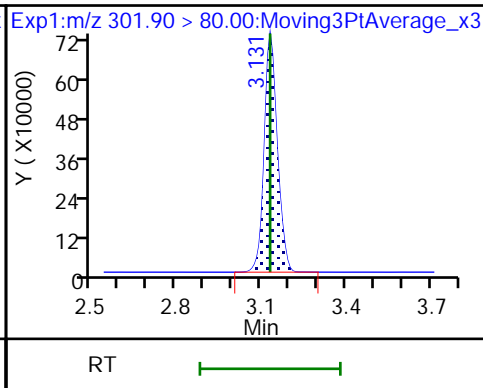
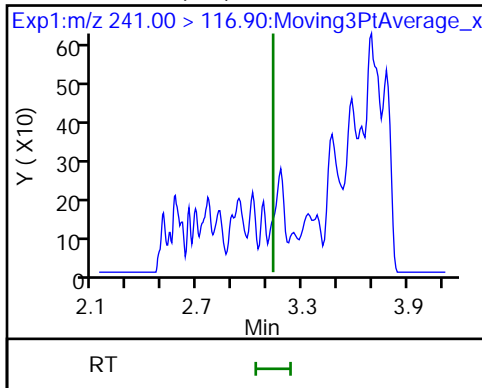
4 3:3 FTCA (ND)



4 3:3 FTCA (ND)

D 7 13C3 PFBS

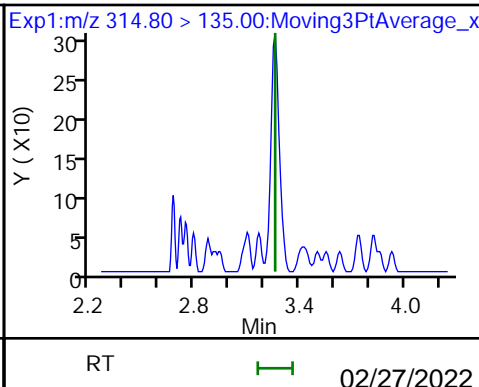
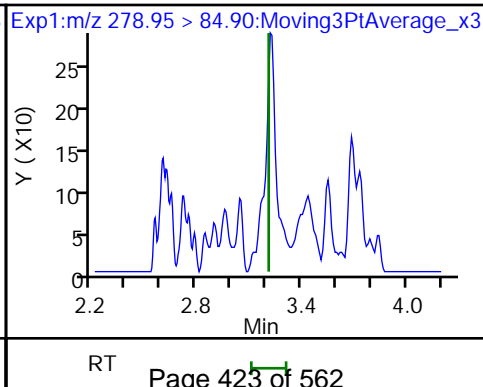
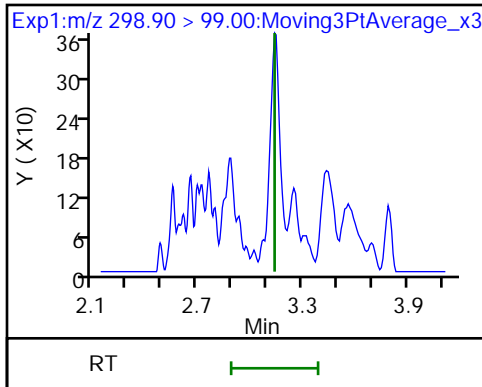
8 Perfluorobutanesulfonic acid (ND)

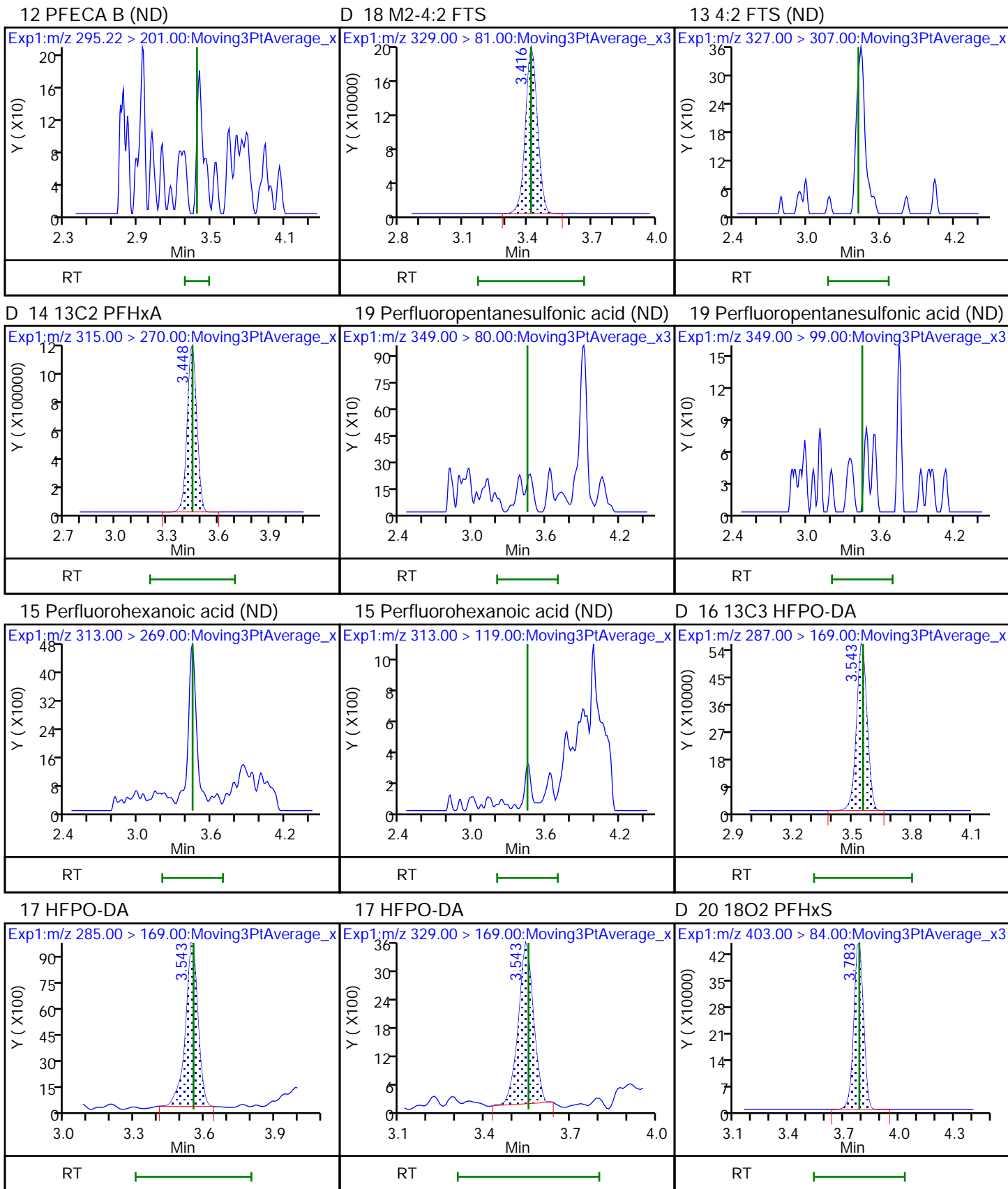


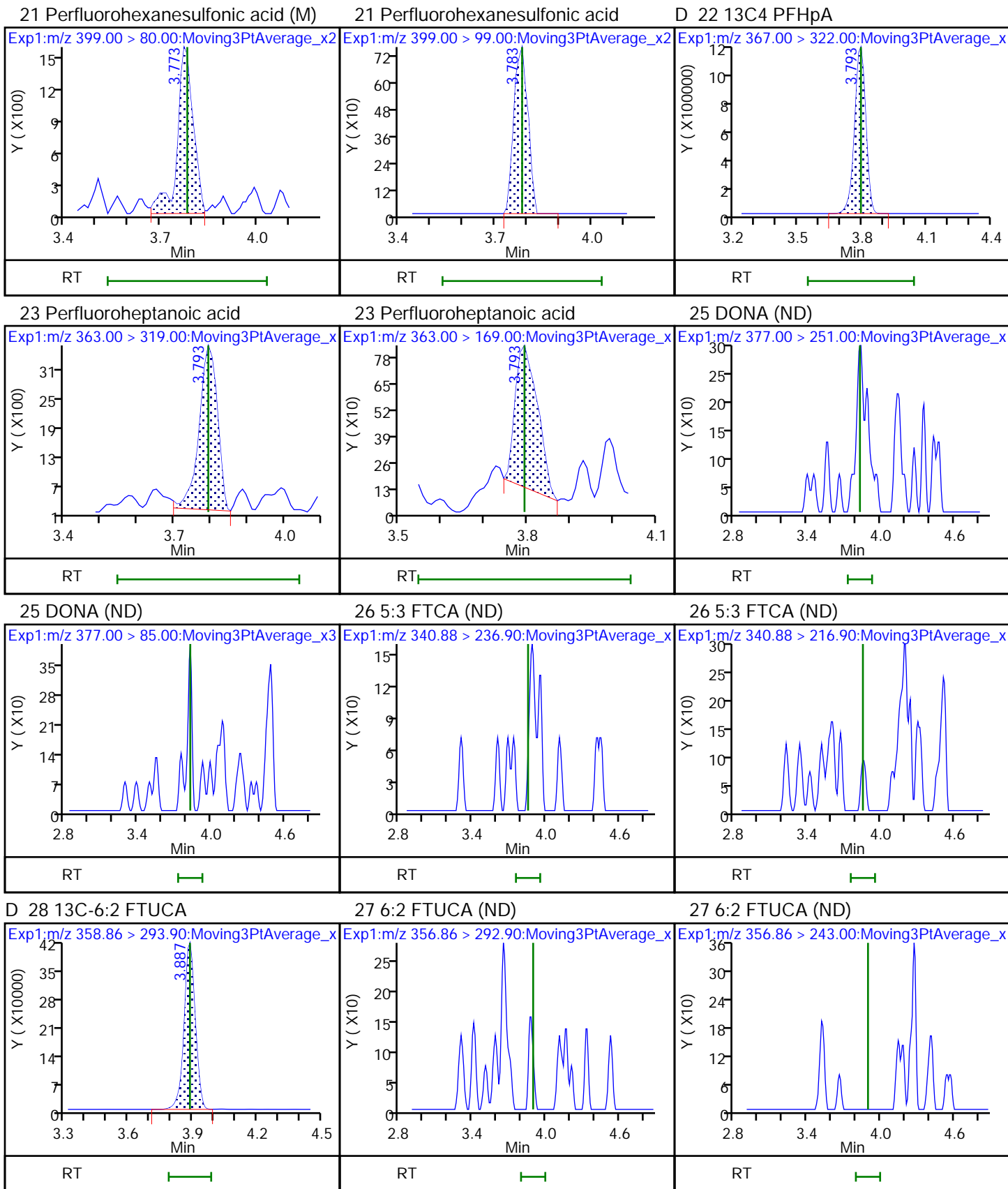
8 Perfluorobutanesulfonic acid (ND)

9 PFECA A (ND)

11 PES (ND)



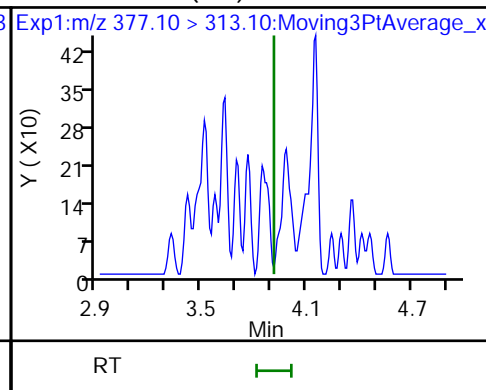
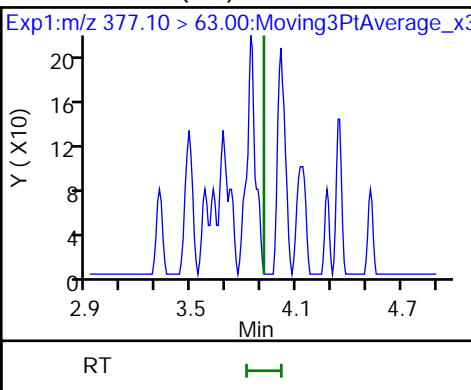
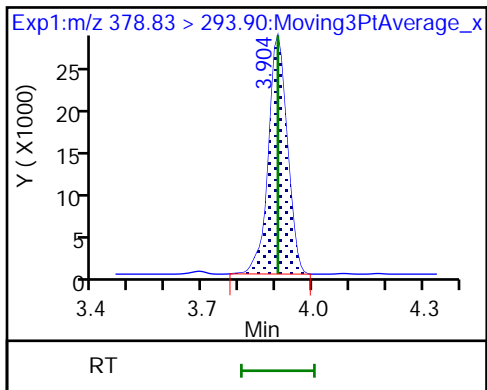




D 24 13C-6:2 FTCA

29 6:2 FTCA (ND)

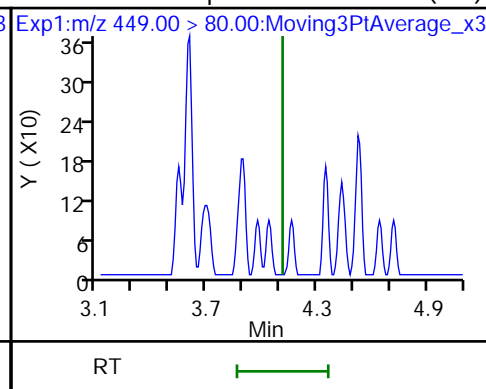
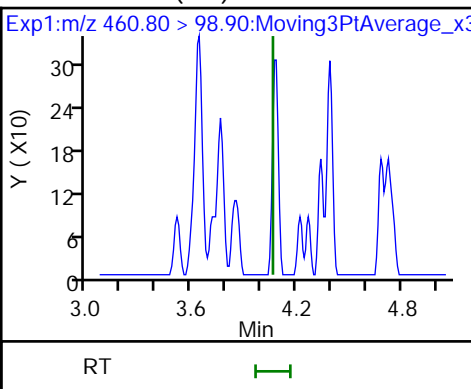
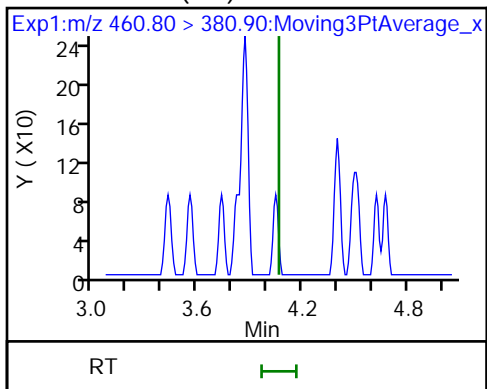
29 6:2 FTCA (ND)



32 PFECHS (ND)

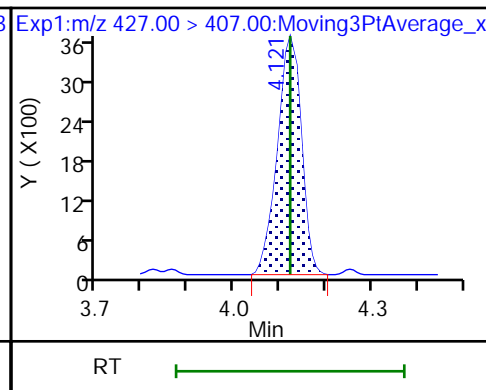
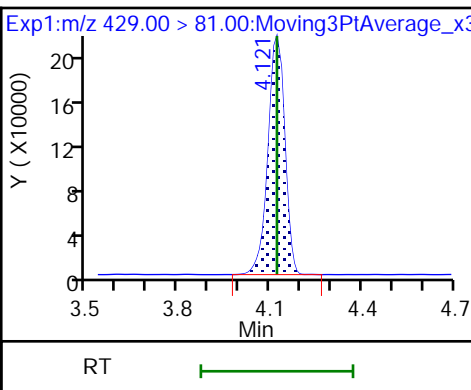
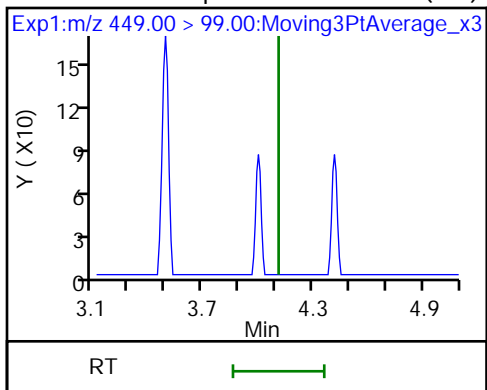
32 PFECHS (ND)

33 Perfluoroheptanesulfonic acid (ND)



33 Perfluoroheptanesulfonic acid (ND) D 34 M2-6:2 FTS

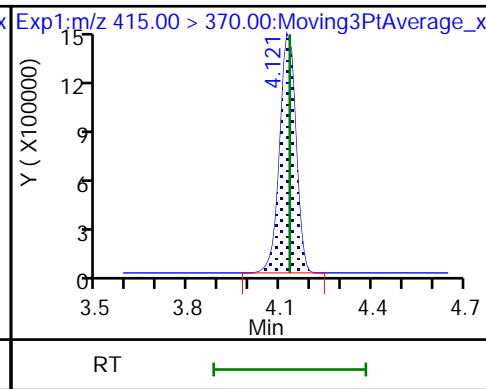
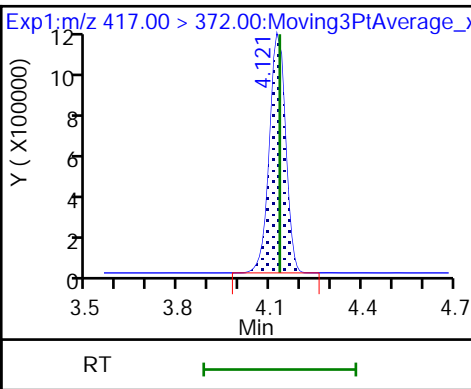
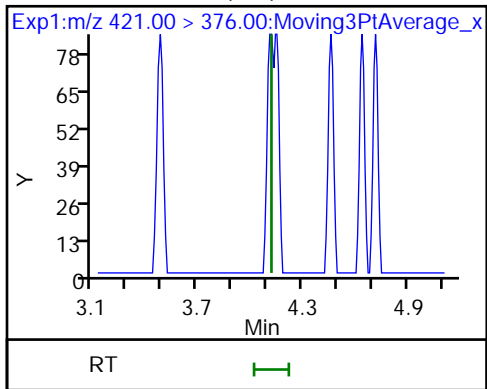
35 6:2 FTS

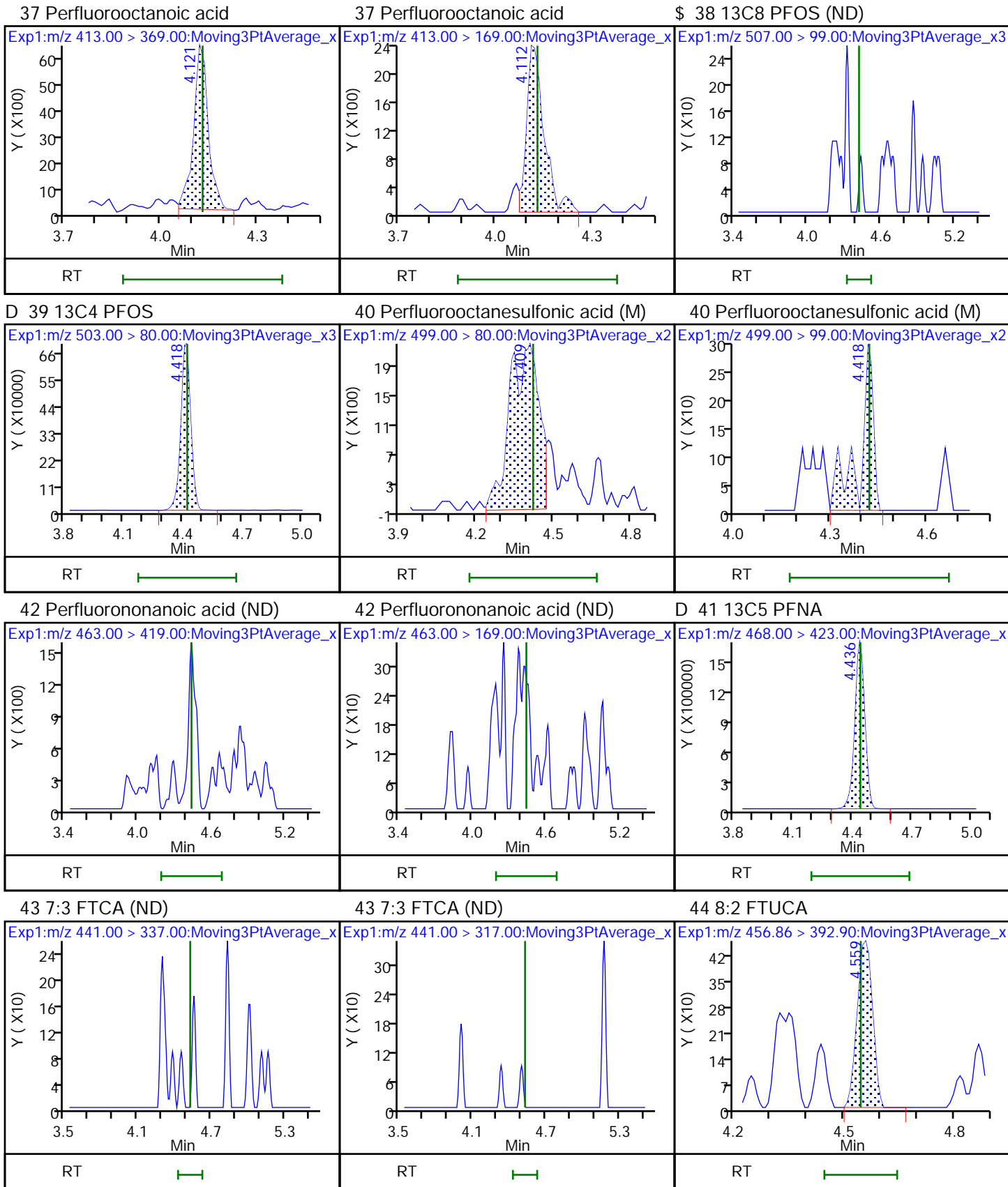


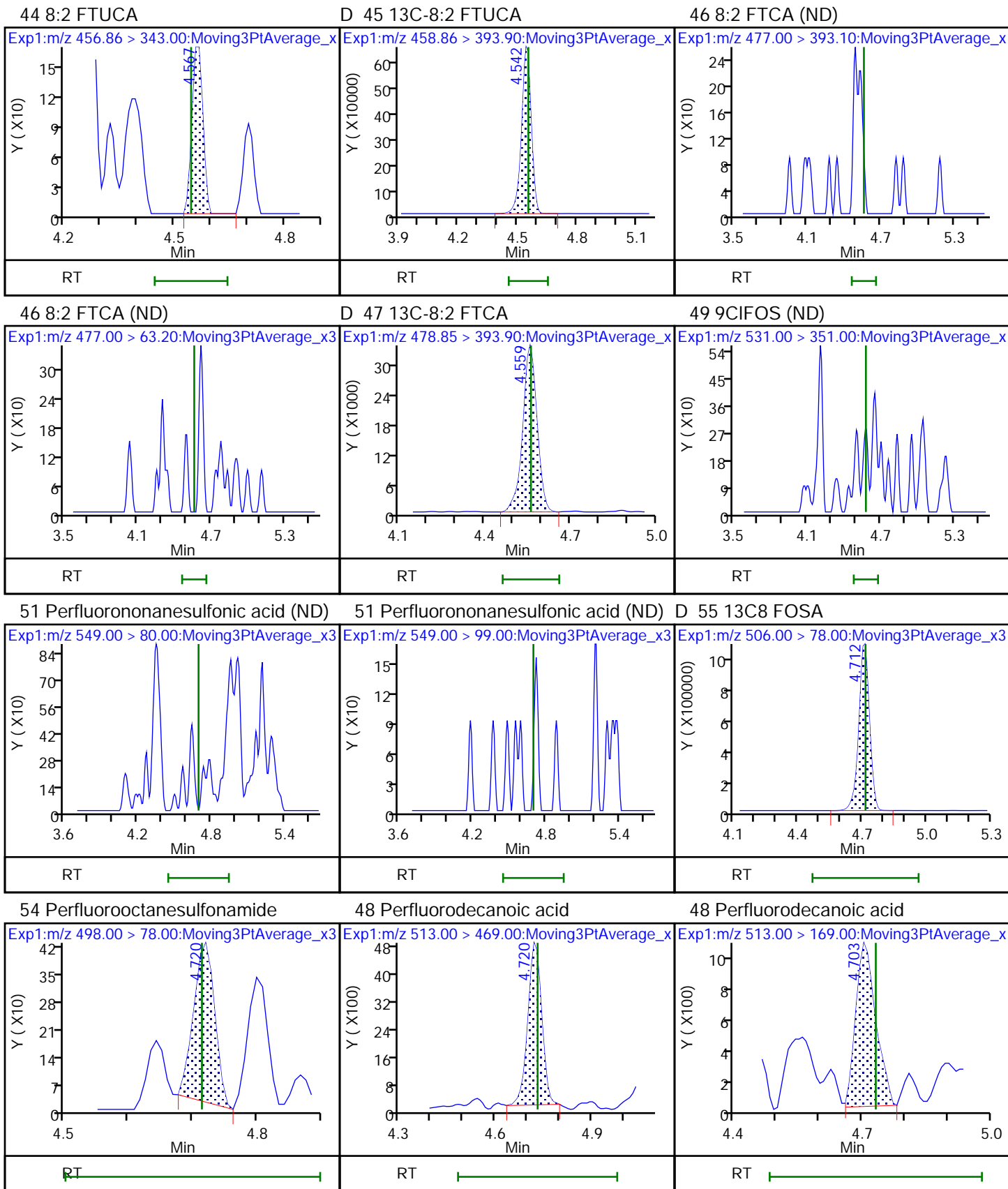
\$ 36 13C8 PFOA (ND)

D 31 13C4 PFOA

\* 30 13C2 PFOA





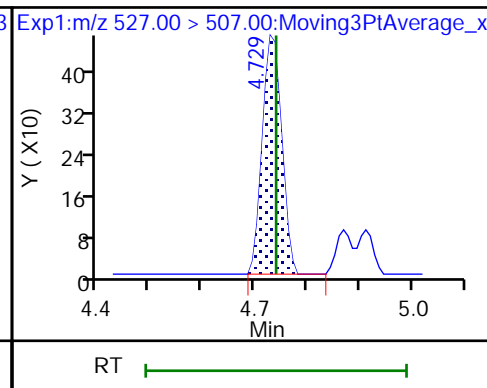
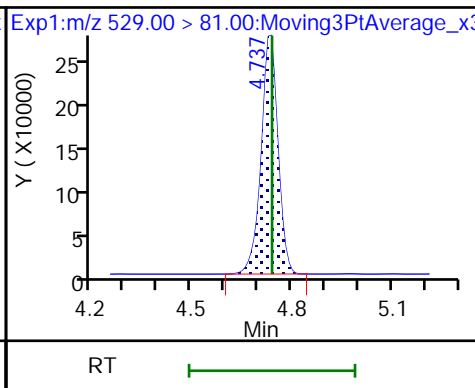
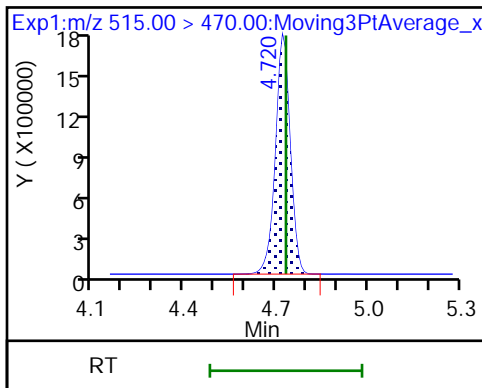




D 52 13C2 PFDA

D 50 M2-8:2 FTS

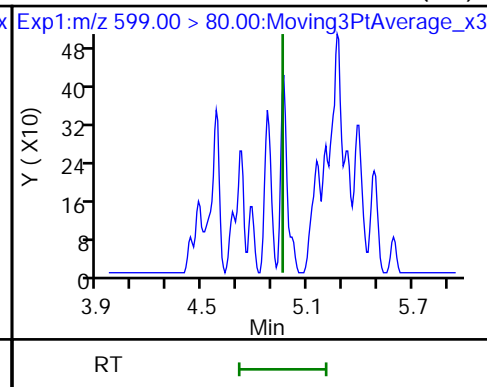
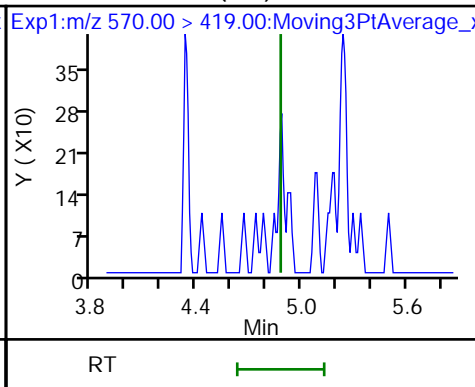
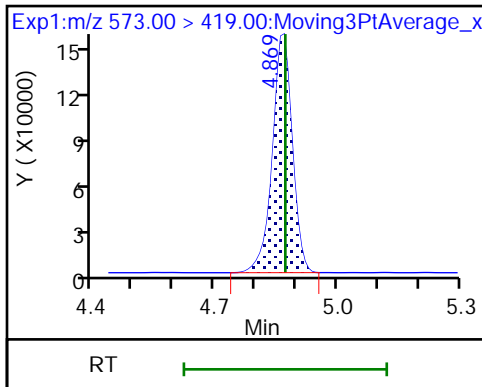
53 8:2 FTS



D 56 d3-NMeFOSAA

57 NMeFOSAA (ND)

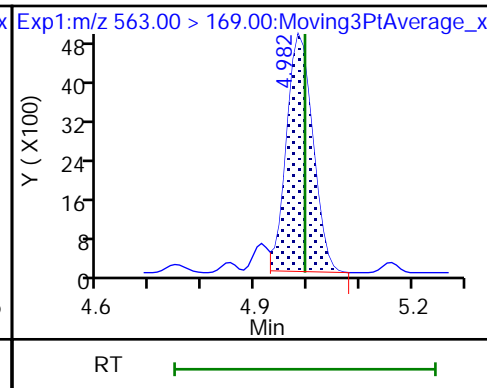
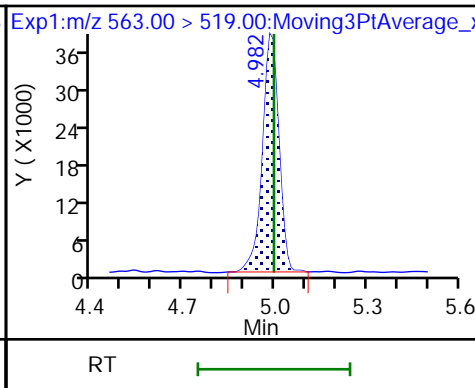
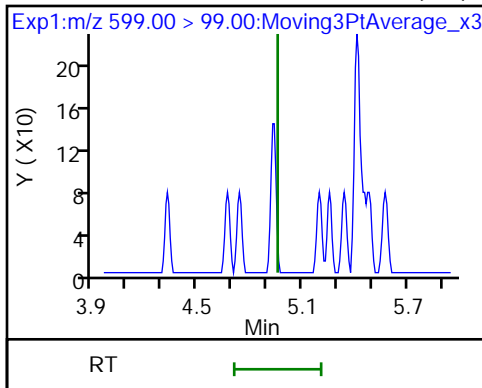
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid

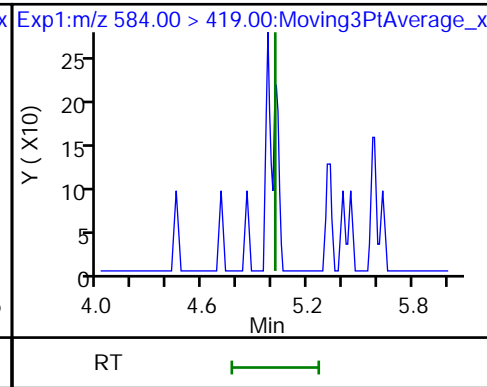
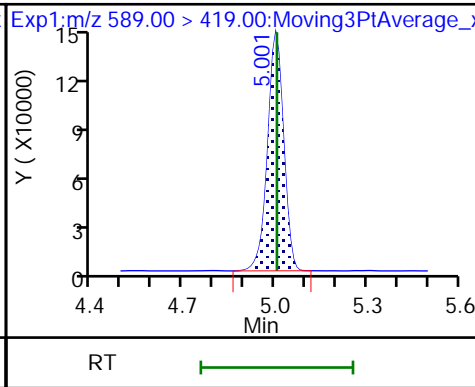
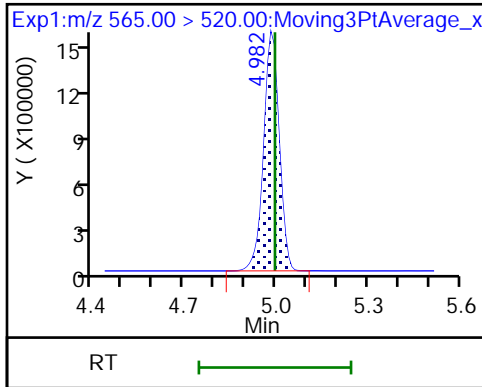
60 Perfluoroundecanoic acid

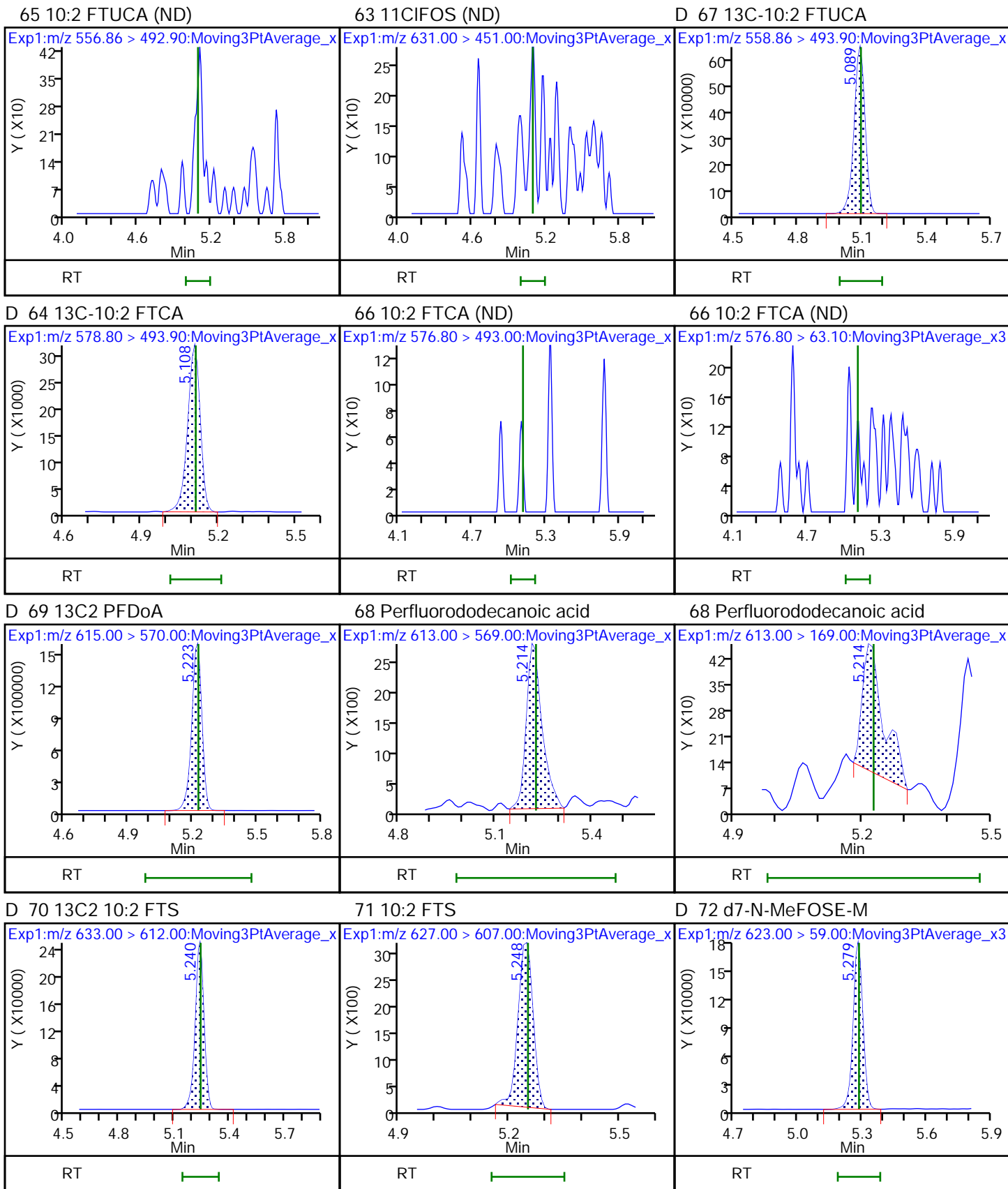


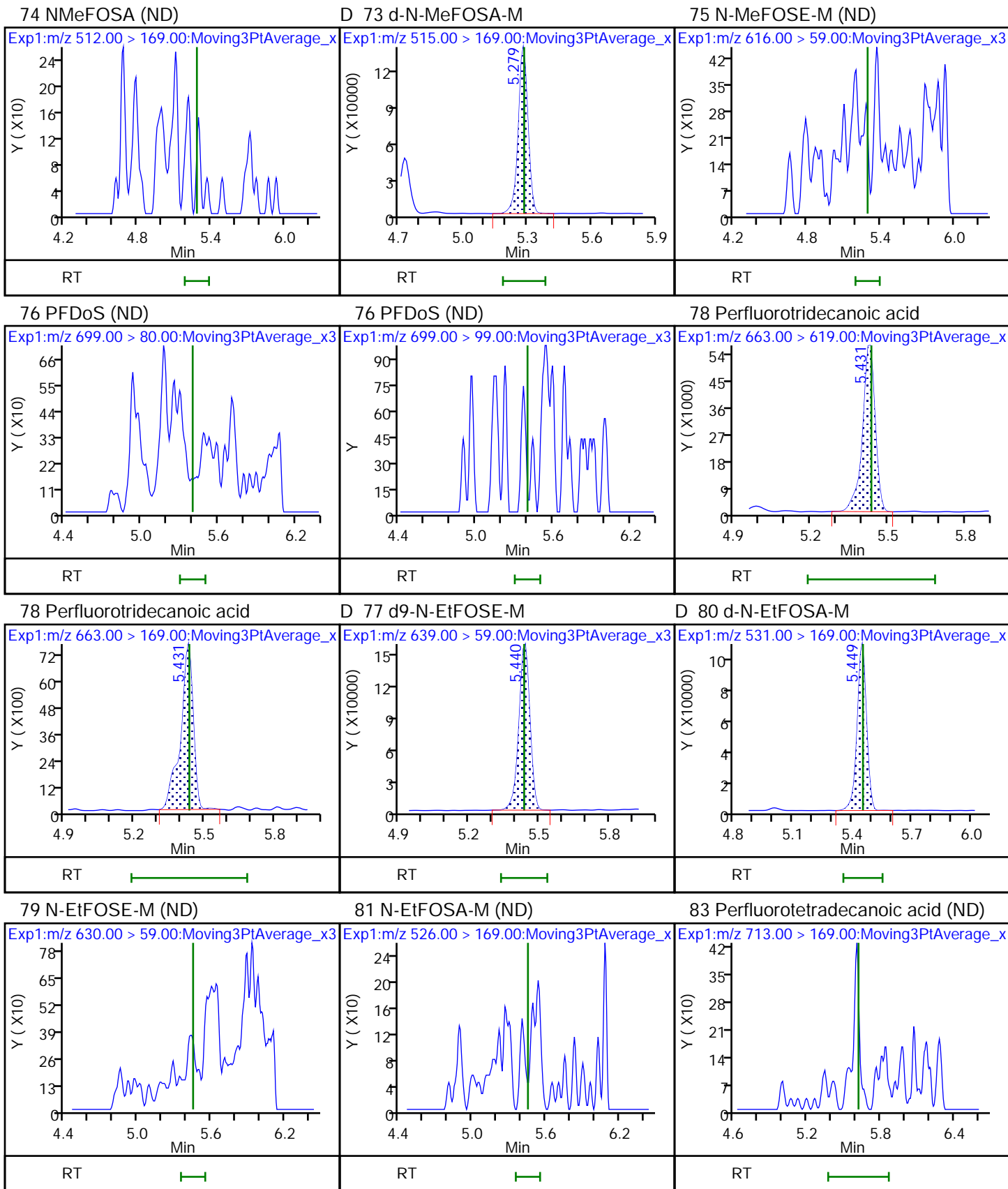
D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

62 NEtFOSAA (ND)

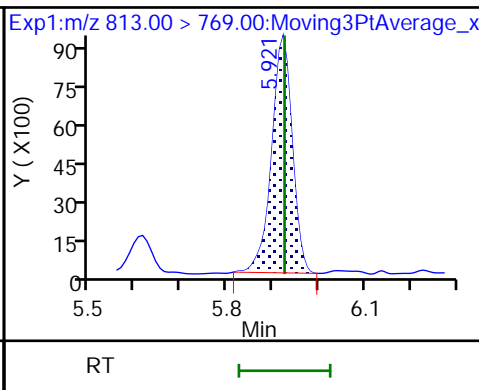
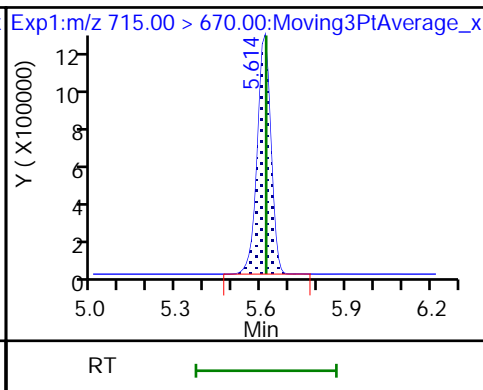
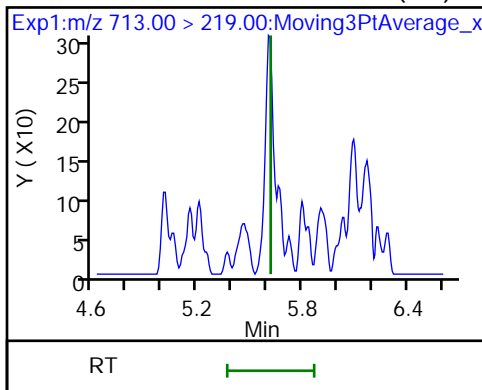






83 Perfluorotetradecanoic acid (ND) D 82 13C2 PFTeDA

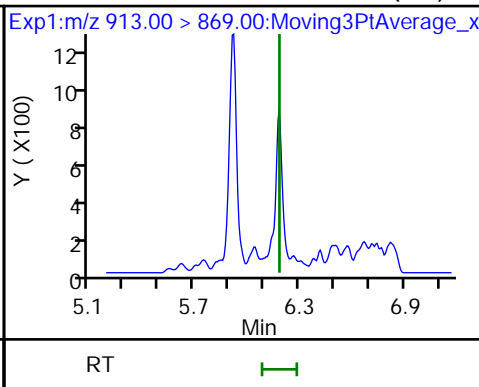
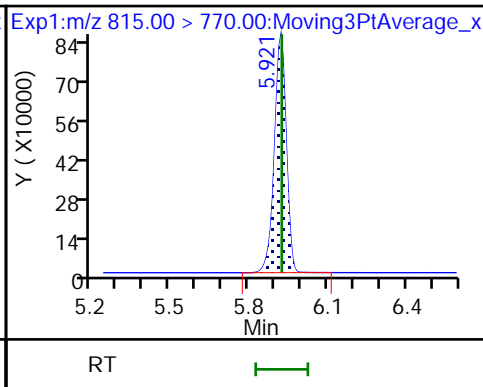
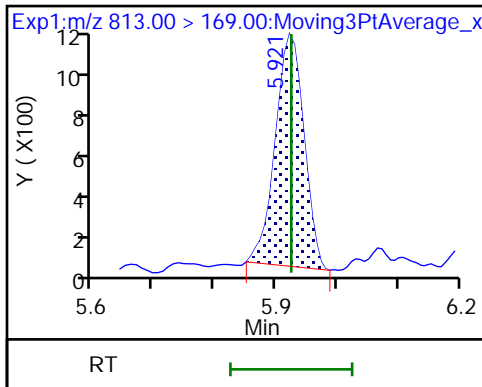
85 Perfluorohexadecanoic acid



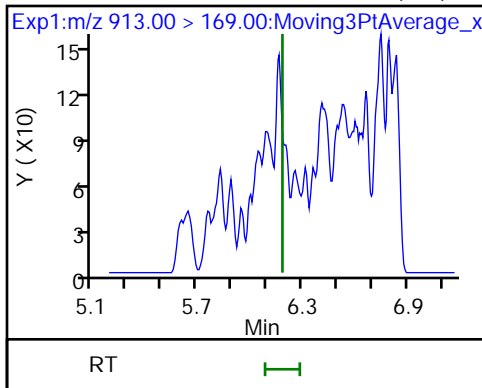
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 140-58967/1-A  
 Matrix: Air Lab File ID: \_020.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/18/2022 22:19  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	ND		0.000500	0.0000870

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	84		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_020.d  
 Lims ID: MB 140-58967/1-A  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 18-Feb-2022 22:19:52 ALS Bottle#: 20 Worklist Smp#: 20  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-020 mb 140-58967/1-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:08:45  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										7
212.90 > 169.00	2.806	2.811	-0.005	0.998	1043	-0.003528		0.6		7
LOD = 0.0100										
D 2 13C4 PFBA										
217.00 > 172.00	2.813	2.811	0.002	0.682	5552622	1.08		86.3	19141	
3 PFECA F										
229.00 > 85.00		2.919				ND				
D 5 13C5 PFPeA										
267.90 > 223.00	3.117	3.115	0.002	0.756	4331764	1.07		85.8	14780	
6 Perfluoropentanoic acid										7
262.90 > 219.00	3.125	3.123	0.002	1.003	7393	-0.003335		3.0		7
LOD = 0.006500										
4 3:3 FTCA										
241.00 > 177.10		3.131				ND				
241.00 > 116.90		3.131								
D 7 13C3 PFBS										
301.90 > 80.00	3.134	3.131	0.003	0.760	2521421	0.9873		84.9	12649	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00		3.140				ND				
298.90 > 99.00		3.140								
9 PFECA A										
278.95 > 84.90		3.211				ND				
11 PES										7
314.80 > 135.00	3.252	3.260	-0.008	1.038	889	-0.003048		14.1		7
LOD = 0.0500										
12 PFECA B										
295.22 > 201.00		3.384				ND				

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 18 M2-4:2 FTS										
329.00 > 81.00	3.419	3.416	0.003	0.829	830744	1.04		89.0	1390	
13 4:2 FTS										
327.00 > 307.00		3.416				ND				
D 14 13C2 PFHxA										
315.00 > 270.00	3.440	3.448	-0.008	0.834	4732378	1.06		85.0	17073	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00		3.448				ND				
349.00 > 99.00		3.448								
15 Perfluorohexanoic acid										
313.00 > 269.00	3.440	3.448	-0.008	1.000	12820	-0.003570	Target=12.09	6.6	7	7
313.00 > 119.00	3.440	3.448	-0.008	1.000	850		15.08(6.04-18.13)	1.3		
LOD = 0.008600										
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.546	3.553	-0.007	0.860	2291112	1.05		84.1	7452	
17 HFPO-DA										
285.00 > 169.00	3.556	3.553	0.003	1.003	7814	-0.001631	Target=2.53	5.0	7	7
329.00 > 169.00	3.546	3.553	-0.007	1.000	2426		3.22(1.26-3.79)	5.3		
LOD = 0.008500										
S 10 ADONA										
377.00 > 251.00		3.592				0				
D 20 18O2 PFHxS										
403.00 > 84.00	3.776	3.783	-0.007	0.916	1693933	1.02		86.4	9718	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.776	3.783	-0.007	1.000	7380	0.003719	Target=3.31	22.6	7	7
399.00 > 99.00	3.776	3.783	-0.007	1.000	2908		2.54(1.66-4.97)	11.1		
LOD = 0.005000										
D 22 13C4 PFHpA										
367.00 > 322.00	3.786	3.793	-0.007	0.918	4265284	1.07		85.9	11366	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.786	3.793	-0.007	1.000	4988	-0.005145	Target=3.40	4.4	7	7
363.00 > 169.00	3.807	3.793	0.014	1.005	1684		2.96(1.70-5.09)	6.3		
LOD = 0.0153										
25 DONA										
377.00 > 251.00		3.829				ND				
377.00 > 85.00		3.829								
26 5:3 FTCA										
340.88 > 236.90		3.853				ND				
340.88 > 216.90		3.853								
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.880	3.887	-0.006	0.941	1636844	1.11		88.4	3827	
27 6:2 FTUCA										
356.86 > 292.90		3.895				ND				
356.86 > 243.00		3.895								
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.906	3.904	0.002	0.947	131473	1.15		92.1	791	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
29 6:2 FTCA										
377.10 > 63.00		3.913				ND				
377.10 > 313.10		3.913								
32 PFECHS										
460.80 > 380.90		4.065				ND				
460.80 > 98.90		4.065								
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00		4.112				ND				
449.00 > 99.00		4.112								
D 34 M2-6:2 FTS										
429.00 > 81.00	4.124	4.121	0.003	1.000	845845	1.07		90.2	1916	
35 6:2 FTS										
427.00 > 407.00	4.115	4.121	-0.006	0.998	9582	0.003791		50.3		7
LOD = 0.0137										
\$ 36 13C8 PFOA										
421.00 > 376.00	4.115	4.121	-0.006	0.998	911	0.000278		7.7		
D 31 13C4 PFOA										
417.00 > 372.00	4.124	4.131	-0.007	1.000	4431426	1.08		86.3	9103	
* 30 13C2 PFOA										
415.00 > 370.00	4.124	4.131	-0.007		5487523	1.25			10057	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.124	4.131	-0.007	1.000	18432	-0.001490	Target=2.33	15.2		R7
413.00 > 169.00	4.124	4.131	-0.007	1.000	5250		3.51(1.17-3.50)	14.5		R7
LOD = 0.009500										
\$ 38 13C8 PFOS										
507.00 > 99.00		4.421				ND				
D 39 13C4 PFOS										
503.00 > 80.00	4.417	4.421	-0.004	1.071	2549035	1.03		86.6	2702	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00		4.421				ND				
499.00 > 99.00		4.421								
42 Perfluorononanoic acid										
463.00 > 419.00	4.434	4.439	-0.005	1.000	5090	0.001369	Target=3.81	6.8		7
463.00 > 169.00	4.443	4.439	0.004	1.002	1588		3.21(1.90-5.71)	3.4		
LOD = 0.004250										
D 41 13C5 PFNA										
468.00 > 423.00	4.434	4.439	-0.005	1.075	6109610	1.10		87.8	9985	
43 7:3 FTCA										
441.00 > 337.00		4.529				ND				
441.00 > 317.00		4.529								
44 8:2 FTUCA										
456.86 > 392.90		4.545				ND				
456.86 > 343.00		4.545								
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.549	4.553	-0.004	1.000	2348586	1.18		94.7	7236	
46 8:2 FTCA										
477.00 > 393.10		4.562				ND				
477.00 > 63.20		4.562								



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.557	4.562	-0.005	1.105	180228	1.24		99.4	920	
49 9CIFOS										
531.00 > 351.00	4.659	4.578	0.081	1.130	1042	0.000217		3.9	7	7
LOD = 0.003500										
51 Perfluorononanesulfonic acid										
549.00 > 80.00		4.697				ND				
549.00 > 99.00		4.697								
D 55 13C8 FOSA										
506.00 > 78.00	4.710	4.714	-0.004	1.142	4035730	1.08		86.8	5483	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.710	4.714	-0.004	1.000	3110	0.001009		7.9	7	7
LOD = 0.004400										
48 Perfluorodecanoic acid										
513.00 > 469.00	4.727	4.731	-0.004	1.000	17719	-0.002703	Target=11.13	17.2	7	7
513.00 > 169.00	4.808	4.731	0.077	1.017	1316		13.46(5.57-16.70)	1.9		
LOD = 0.005000										
D 52 13C2 PFDA										
515.00 > 470.00	4.727	4.731	-0.004	1.146	5927224	1.12		89.3	17248	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.736	4.740	-0.004	1.148	887941	1.03		86.1	1265	
53 8:2 FTS										
527.00 > 507.00		4.740				ND				
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.867	4.872	-0.005	1.180	578266	1.16		92.9	1736	
57 NMeFOSAA										
570.00 > 419.00	4.833	4.880	-0.047	0.993	1266	0.004533		4.8	7	7
LOD = 0.006000										
58 Perfluorodecanesulfonic acid										
599.00 > 80.00		4.957				ND				
599.00 > 99.00		4.957								
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.990	4.995	-0.005	1.000	3780	0.000899	Target=8.47	5.8	7	7M
563.00 > 169.00	4.990	4.995	-0.005	1.000	338		11.18(4.23-12.70)	2.3		M
LOD = 0.006000										
D 59 13C2 PFUnA										
565.00 > 520.00	4.990	4.995	-0.005	1.210	5436453	1.06		84.8	7457	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.999	5.005	-0.006	1.212	577341	1.13		90.4	2275	
62 NEtFOSAA										
584.00 > 419.00	4.999	5.015	-0.016	1.000	639	-0.008570		5.8	7	7
LOD = 0.007000										
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.087	5.093	-0.006	1.233	2474728	1.11		88.8	5812	
65 10:2 FTUCA										
556.86 > 492.90	5.087	5.093	-0.006	1.000	1817	0.000760		6.4	7M	7M
LOD = 0.0500										

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
63 11CIFOS										7M
631.00 > 451.00	5.058	5.093	-0.035	1.145	2051	-0.003530			6.0	7M
LOD = 0.007000										
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.106	5.112	-0.006	1.238	145410	1.07		85.7	654	
66 10:2 FTCA										
576.80 > 493.00		5.112				ND				
576.80 > 63.10		5.112								
D 69 13C2 PFDaA										
615.00 > 570.00	5.222	5.226	-0.004	1.266	5442324	1.08		86.1	12199	
68 Perfluorododecanoic acid										
613.00 > 569.00		5.226				ND				
613.00 > 169.00		5.226								
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.238	5.243	-0.005	1.270	730179	1.01		85.1	3640	
71 10:2 FTS										7
627.00 > 607.00	5.246	5.251	-0.005	1.002	5699	-0.001921		32.2	7	
LOD = 0.008500										
74 NMeFOSA										
512.00 > 169.00		5.284				ND				
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.278	5.284	-0.006	1.280	410279	0.9261		74.1	42.8	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.278	5.284	-0.006	1.280	515932	0.99		79.3	373	
75 N-MeFOSE-M										
616.00 > 59.00		5.292				ND				
76 PFDoS										
699.00 > 80.00		5.399				ND				
699.00 > 99.00		5.399								
78 Perfluorotridecanoic acid										
663.00 > 619.00		5.435				ND				
663.00 > 169.00		5.435								
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.439	5.435	0.004	1.319	515516	0.9545		76.4	256	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.448	5.452	-0.004	1.321	307571	0.8656		69.2	528	
79 N-EtFOSE-M										
630.00 > 59.00		5.452				ND				
81 N-EtFOSA-M										
526.00 > 169.00		5.452				ND				
83 Perfluorotetradecanoic acid										
713.00 > 169.00		5.617				ND				
713.00 > 219.00		5.617								
D 82 13C2 PFTeDA										
715.00 > 670.00	5.613	5.617	-0.004	1.361	4040699	1.00		79.9	9916	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
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85 Perfluorohexadecanoic acid										7
813.00 > 769.00	5.921	5.924	-0.003	1.000	26267	-0.000981	Target=8.23		70.3	7
813.00 > 169.00	5.921	5.924	-0.003	1.000	3085		8.51(4.11-12.34)		12.7	
LOD = 0.009000										

D 84 13C2 PFHxDA

815.00 > 770.00	5.921	5.924	-0.003	1.436	2482791	0.9431			75.4	4118
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86 Perfluorooctadecanoic acid

913.00 > 869.00		6.185				ND				
913.00 > 169.00		6.185								

S 87 F-53B

212.90 > 169.00		0.0				0				
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S 88 NaDONA

377.00 > 251.00		0.0				0				
377.00 > 85.00		0.0								

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

R - Failed Signal Ratio Test

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_020.d

Injection Date: 18-Feb-2022 22:19:52

Instrument ID: LCA

Lims ID: MB 140-58967/1-A

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 20

Worklist Smp#: 20

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

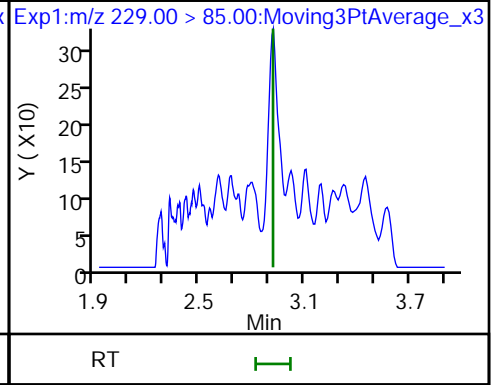
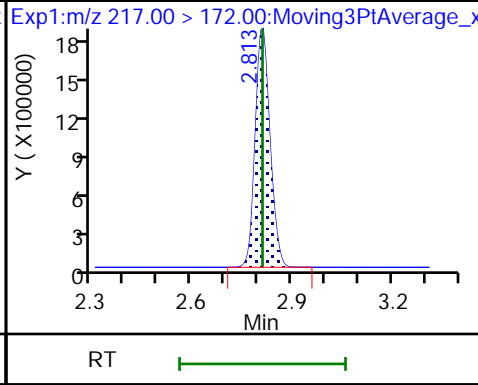
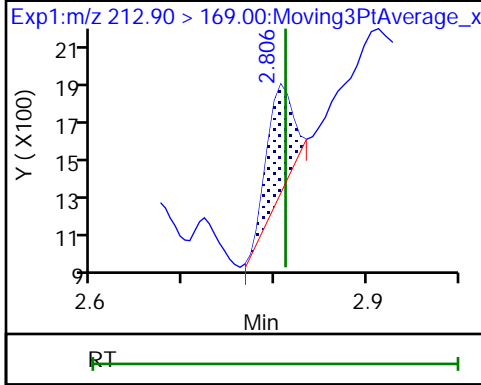
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

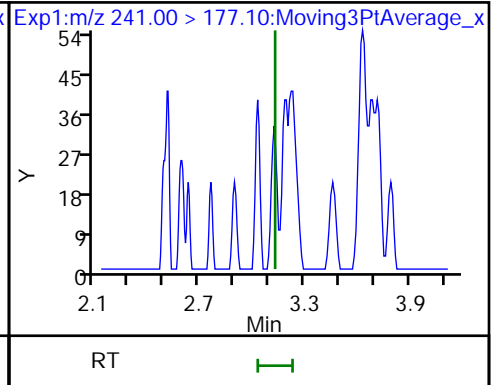
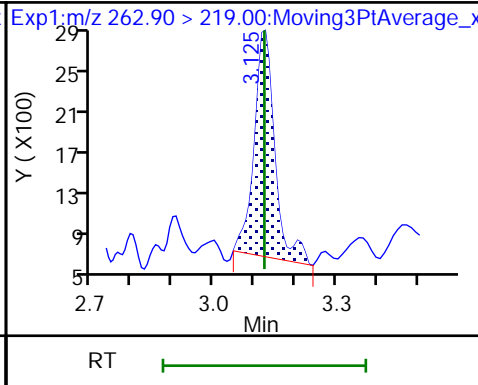
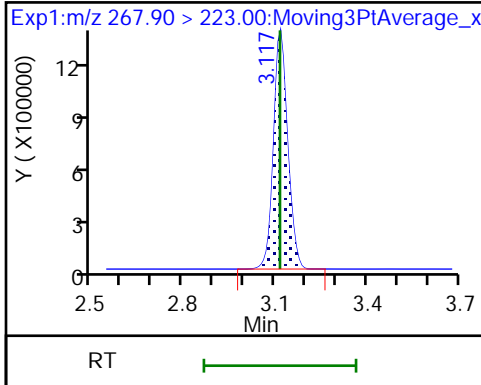
3 PFECA F (ND)



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

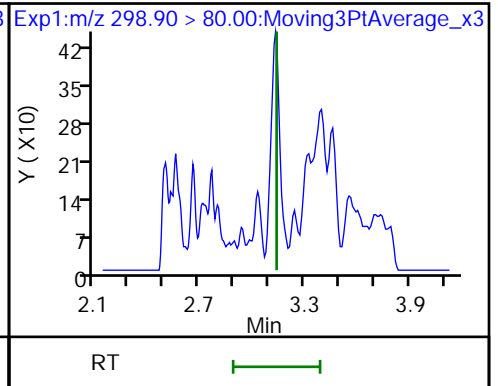
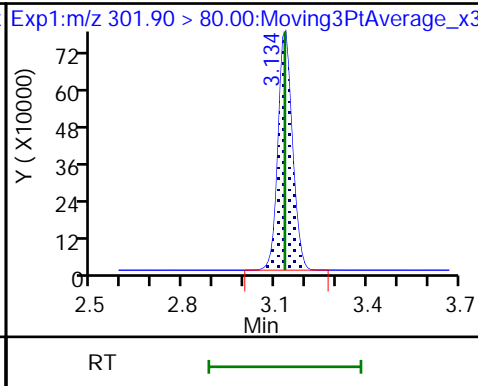
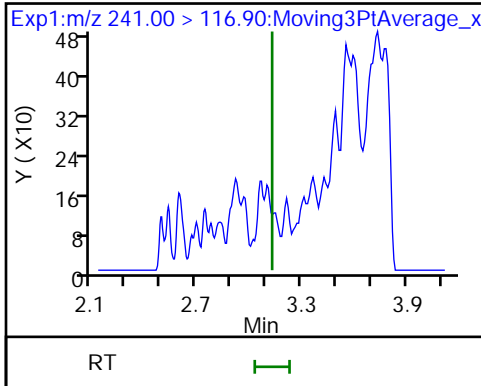
4 3:3 FTCA (ND)



4 3:3 FTCA (ND)

D 7 13C3 PFBS

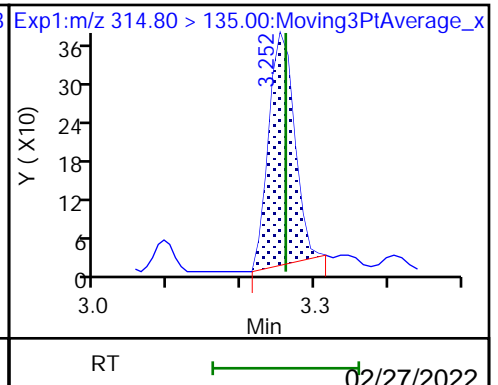
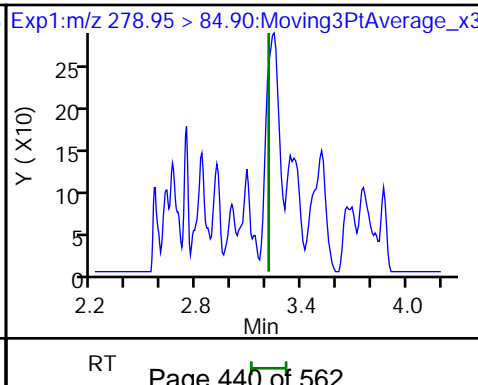
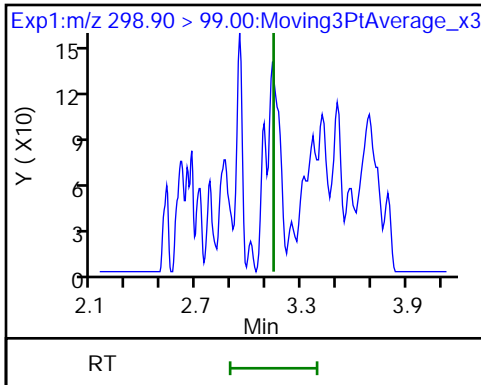
8 Perfluorobutanesulfonic acid (ND)

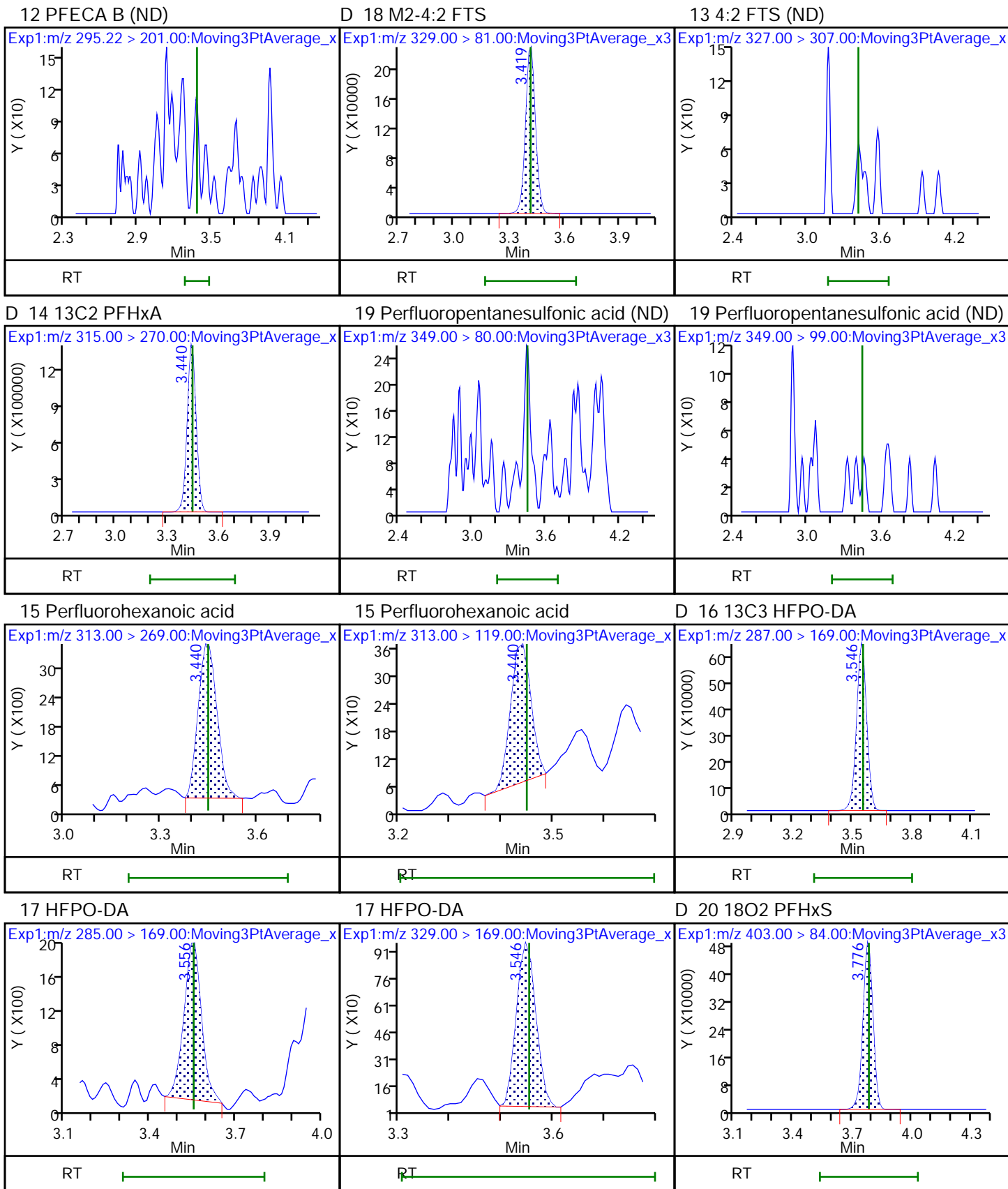


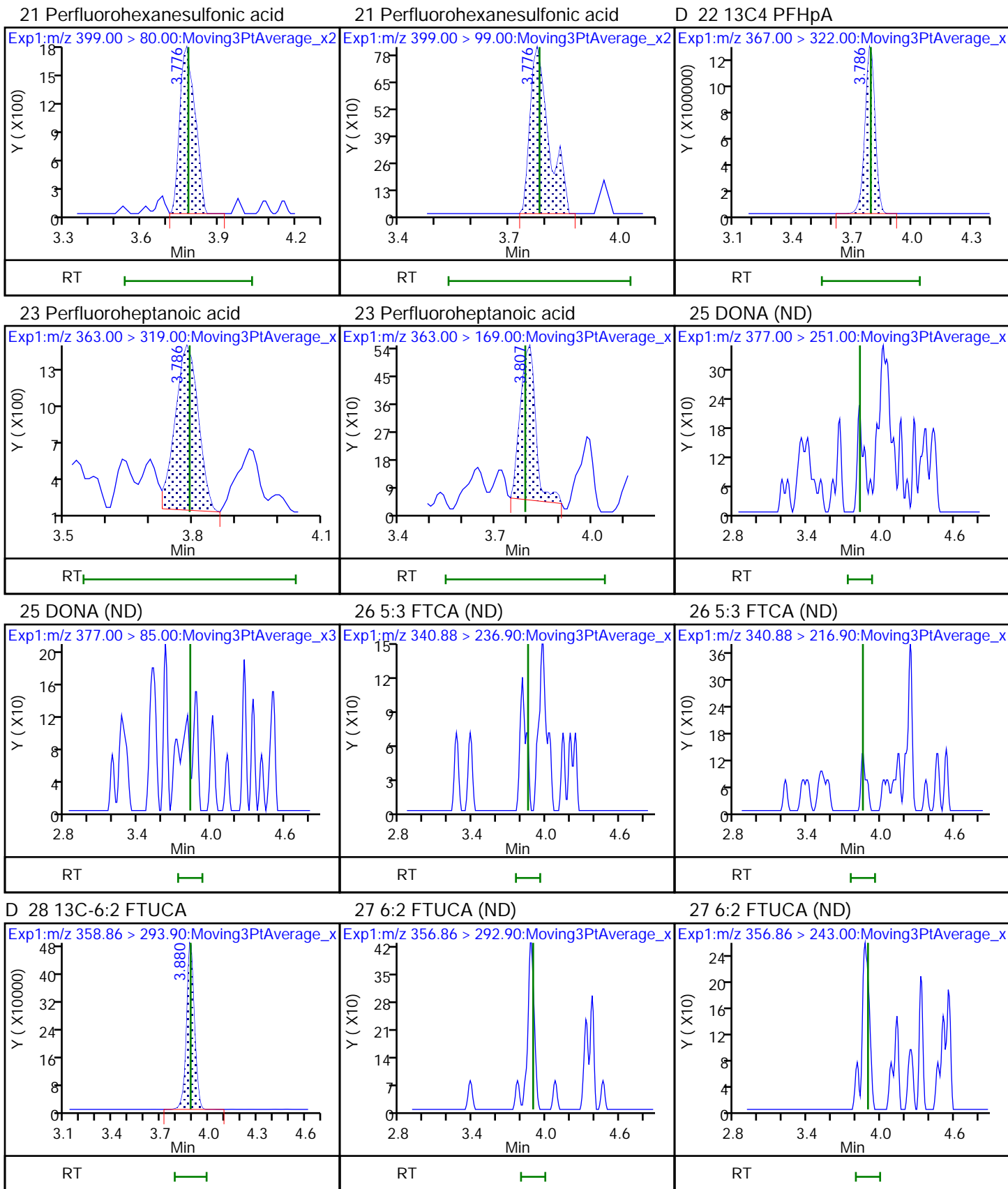
8 Perfluorobutanesulfonic acid (ND)

9 PFECA A (ND)

11 PES



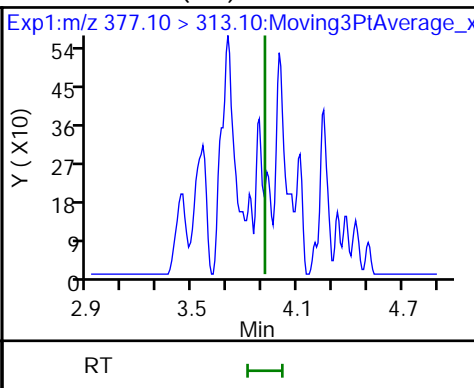
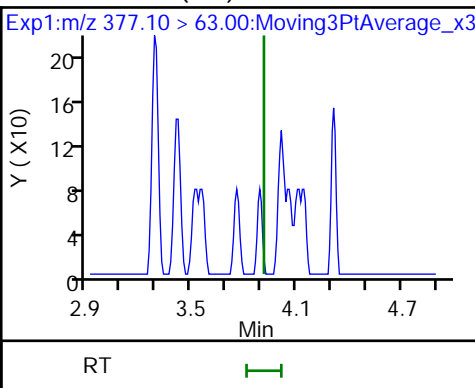
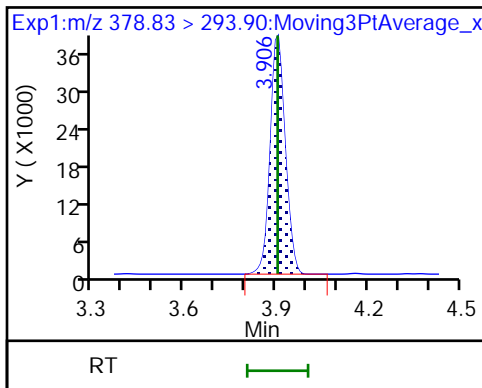




D 24 13C-6:2 FTCA

29 6:2 FTCA (ND)

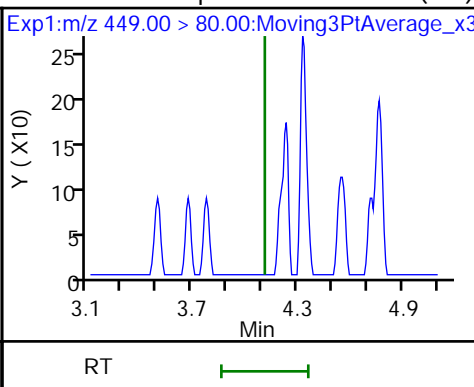
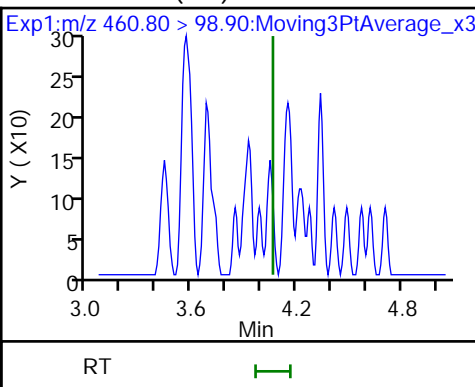
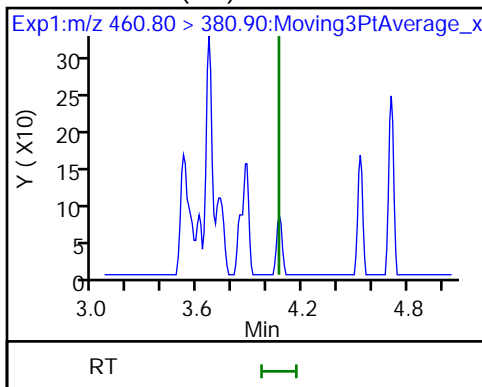
29 6:2 FTCA (ND)



32 PFECHS (ND)

32 PFECHS (ND)

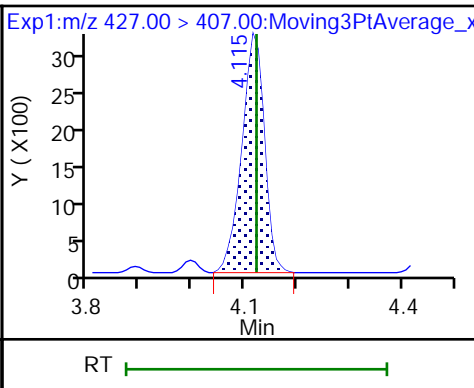
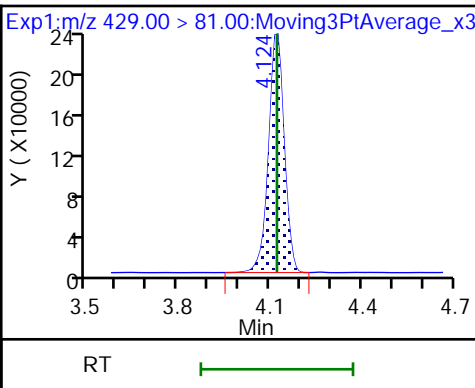
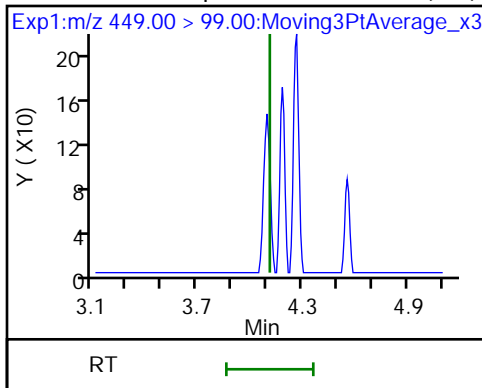
33 Perfluoroheptanesulfonic acid (ND)



33 Perfluoroheptanesulfonic acid (ND)

D 34 M2-6:2 FTS

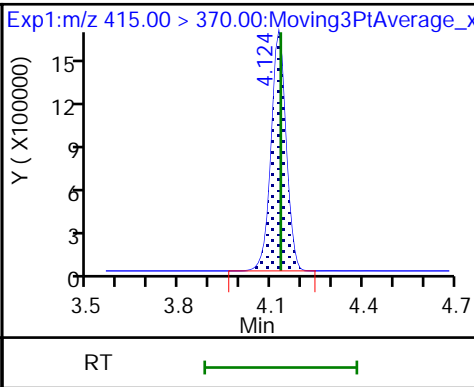
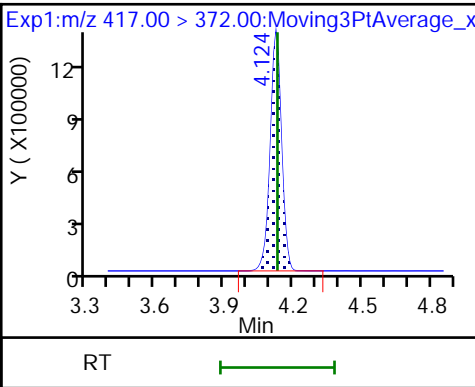
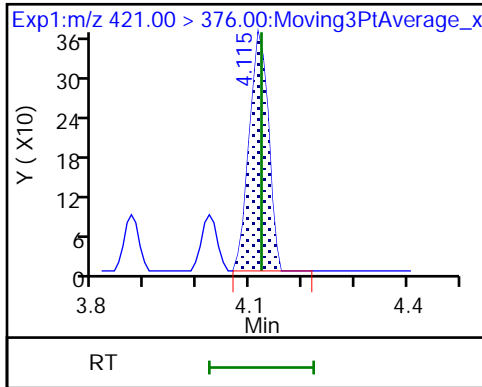
35 6:2 FTS

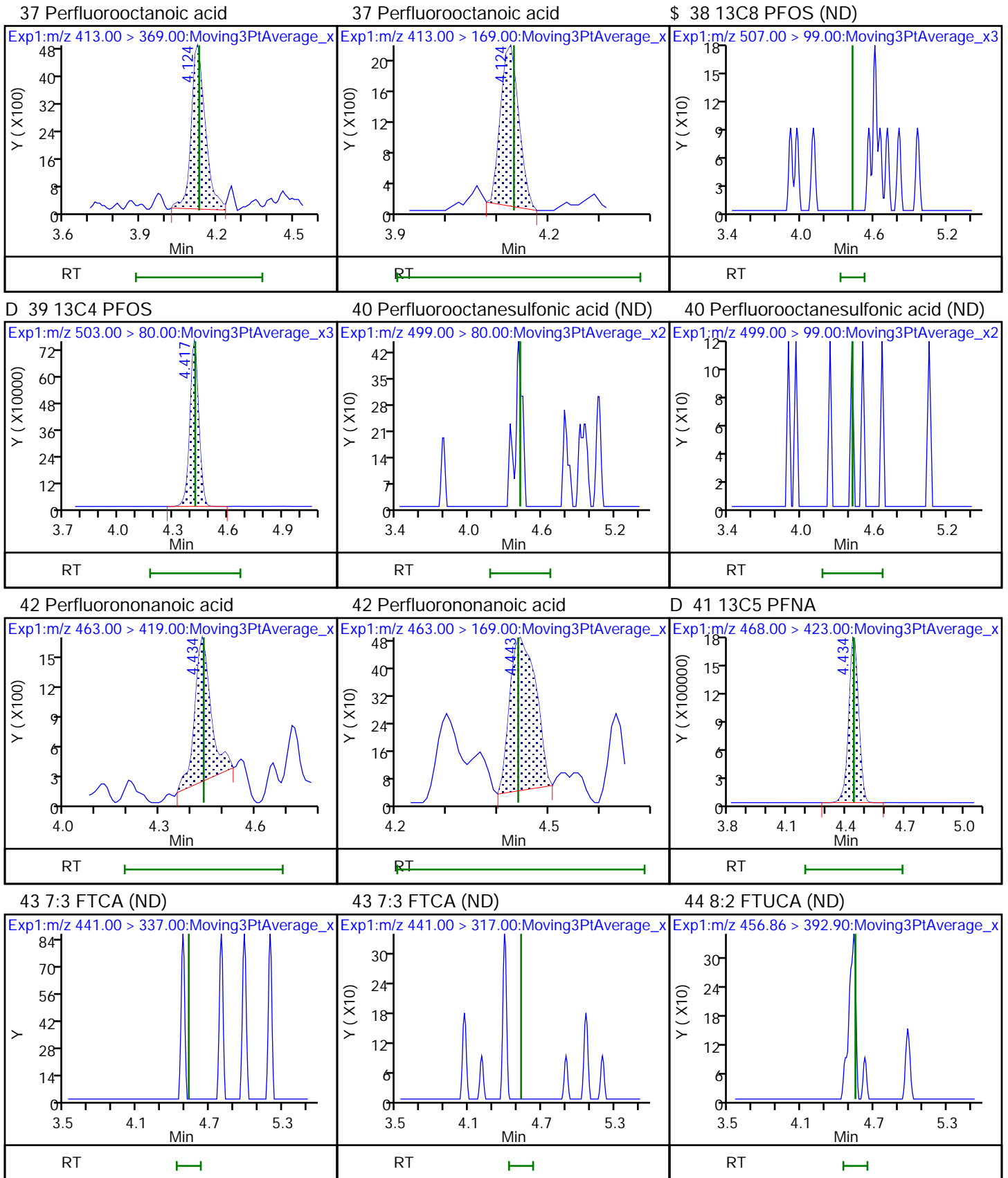


\$ 36 13C8 PFOA

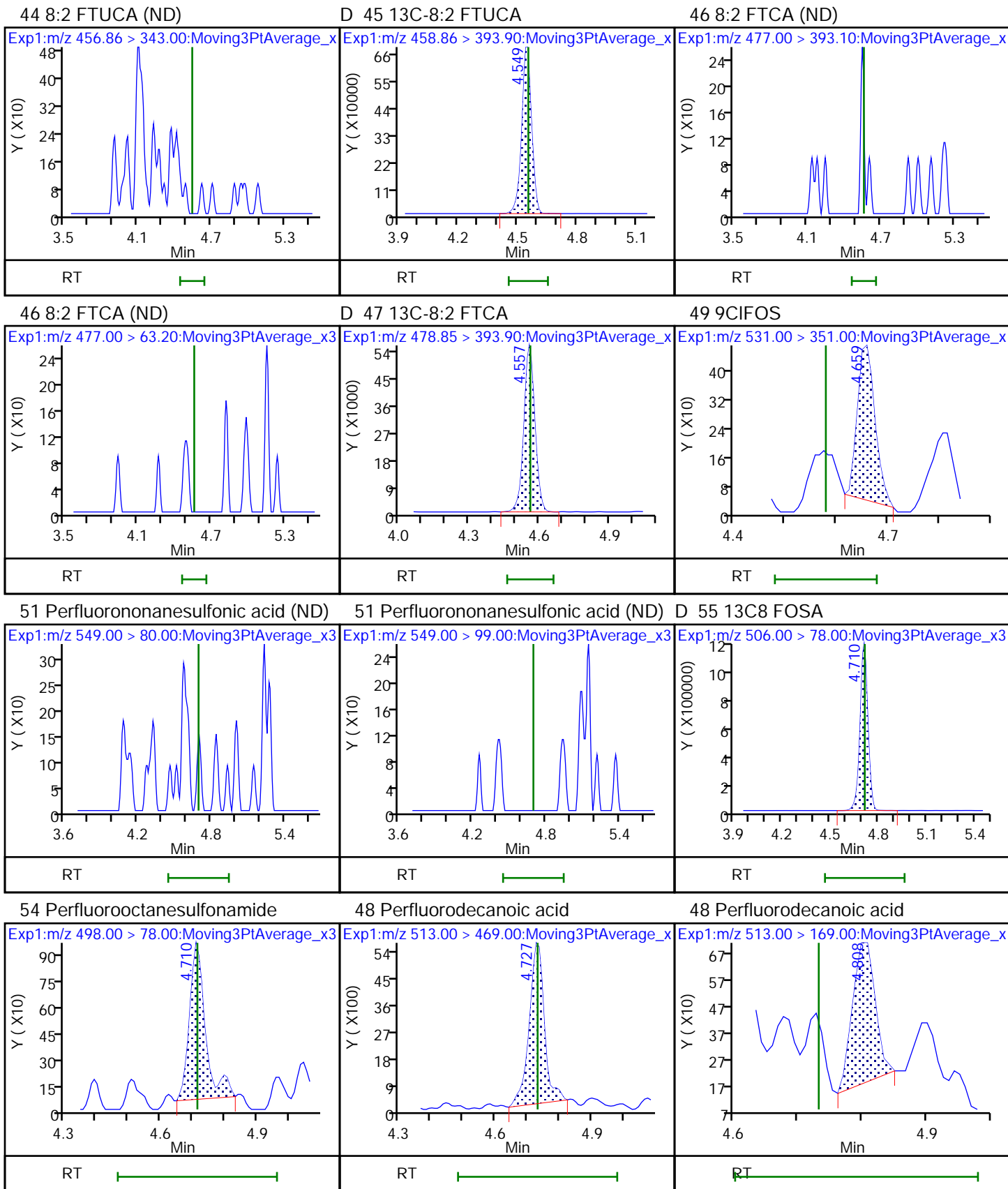
D 31 13C4 PFOA

\* 30 13C2 PFOA





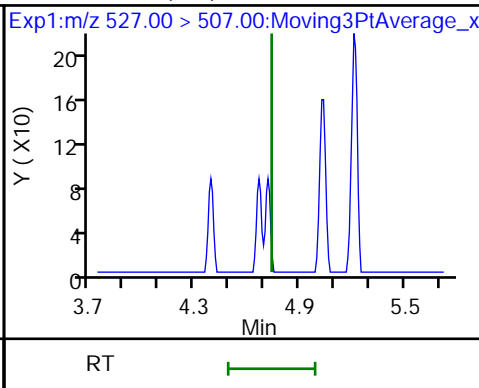
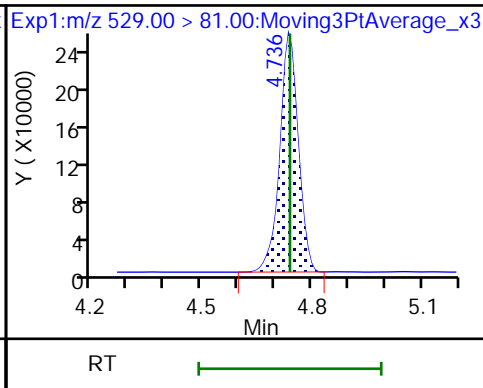
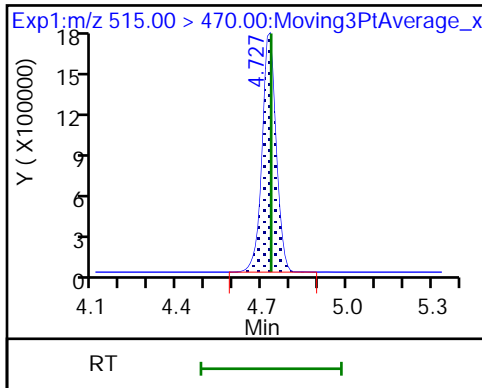




D 52 13C2 PFDA

D 50 M2-8:2 FTS

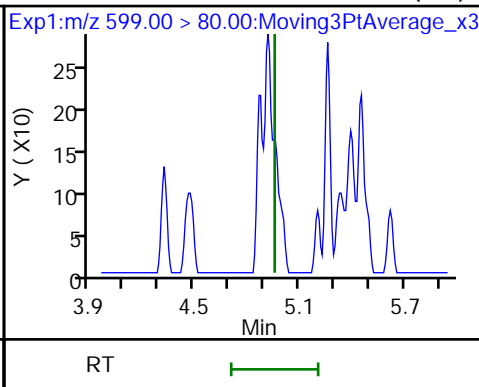
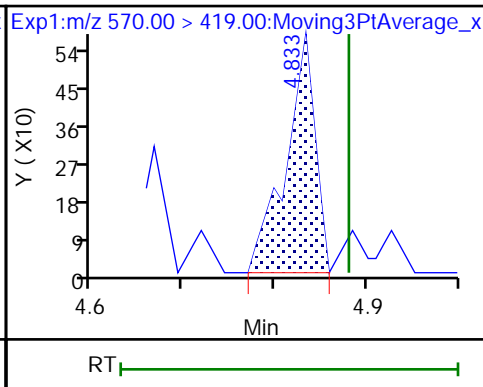
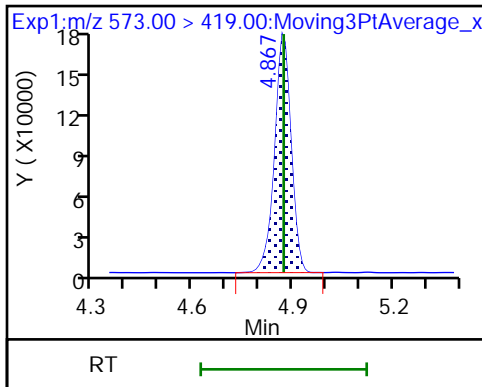
53 8:2 FTS (ND)



D 56 d3-NMeFOSAA

57 NMeFOSAA

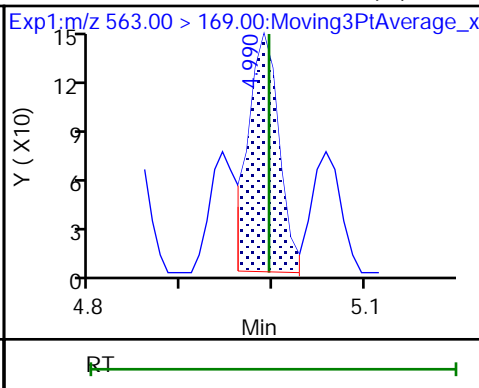
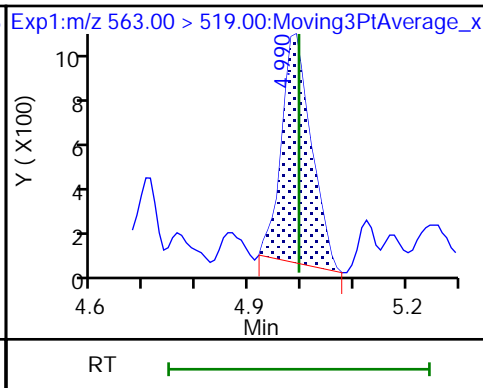
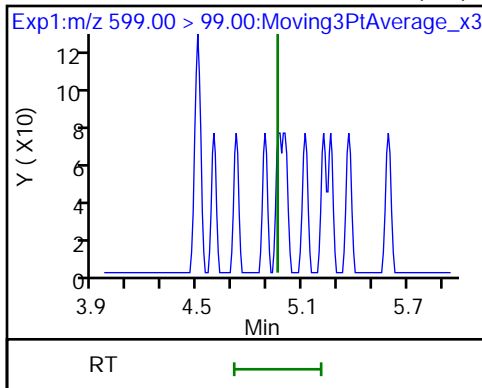
58 Perfluorodecanesulfonic acid (ND)



58 Perfluorodecanesulfonic acid (ND)

60 Perfluoroundecanoic acid

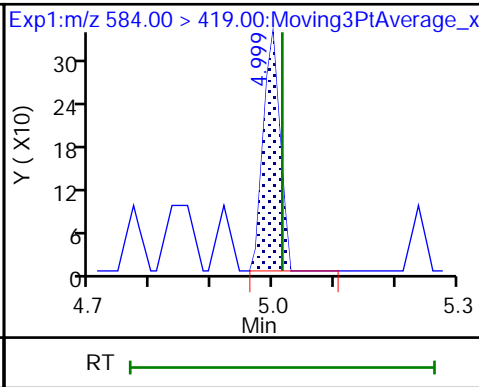
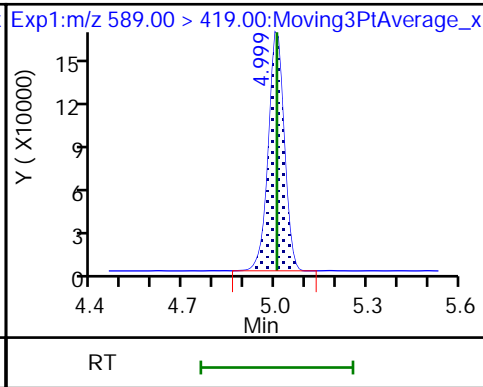
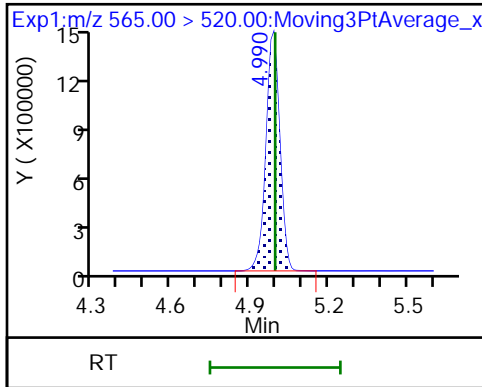
60 Perfluoroundecanoic acid (M)



D 59 13C2 PFUnA

D 61 d5-NEtFOSAA

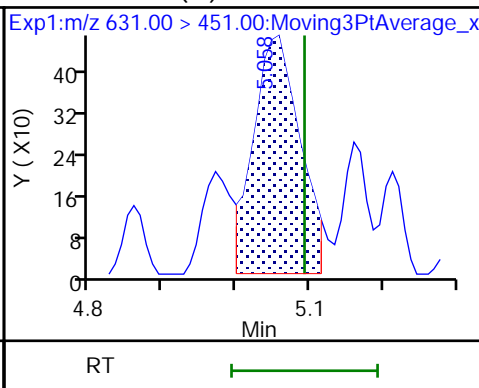
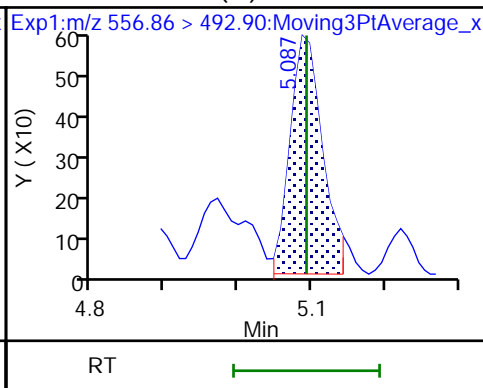
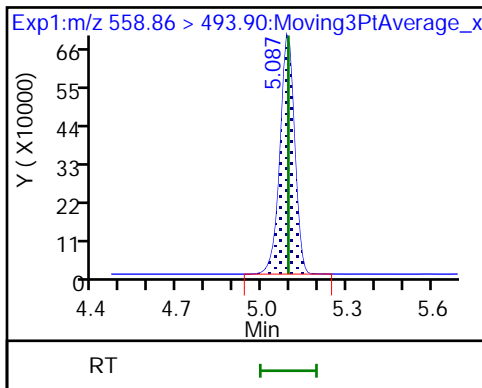
62 NEtFOSAA



D 67 13C-10:2 FTUCA

65 10:2 FTUCA (M)

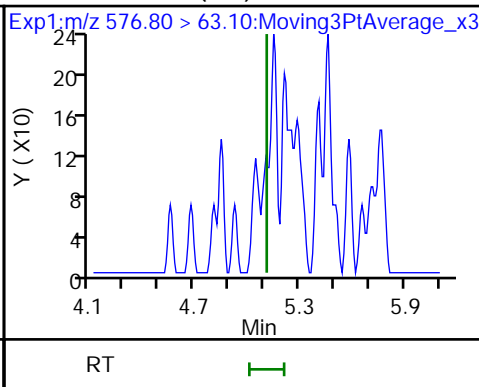
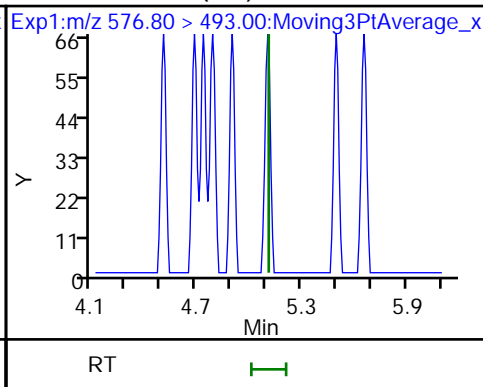
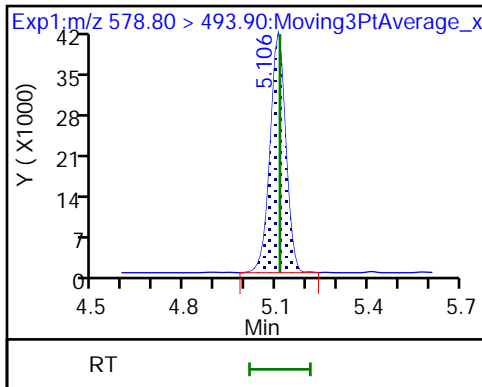
63 11CIFOS (M)



D 64 13C-10:2 FTCA

66 10:2 FTCA (ND)

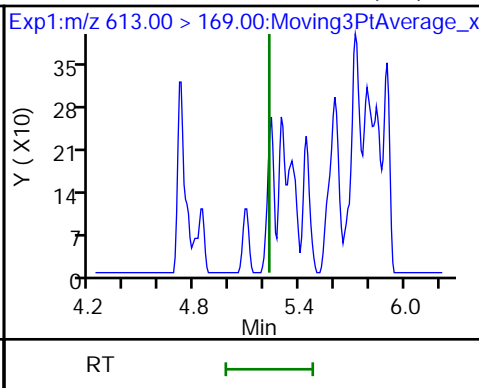
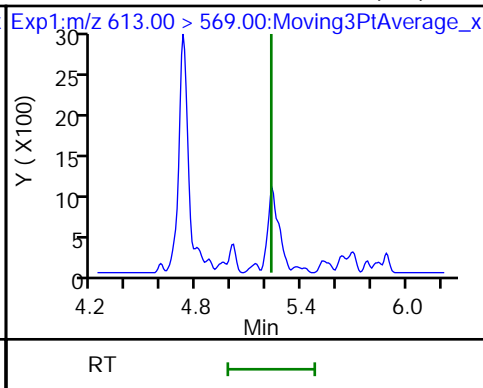
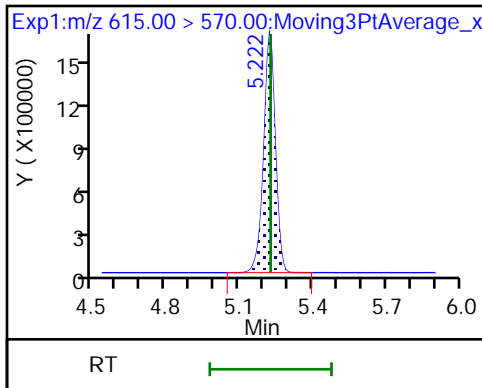
66 10:2 FTCA (ND)



D 69 13C2 PFDaA

68 Perfluorododecanoic acid (ND)

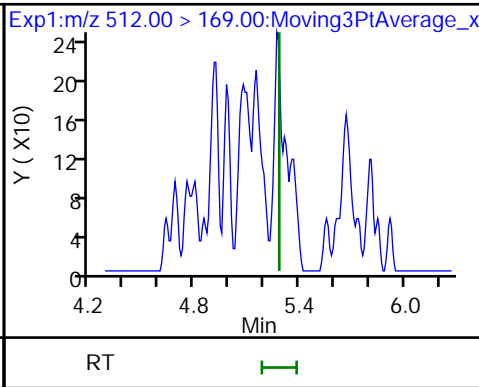
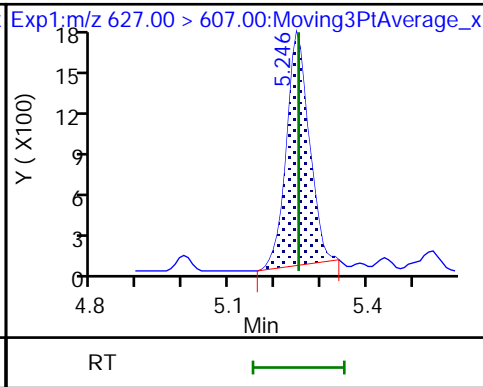
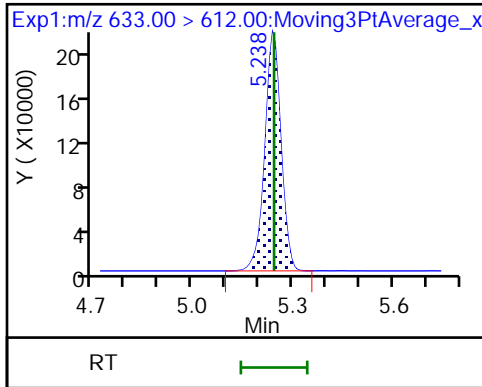
68 Perfluorododecanoic acid (ND)



D 70 13C2 10:2 FTS

71 10:2 FTS

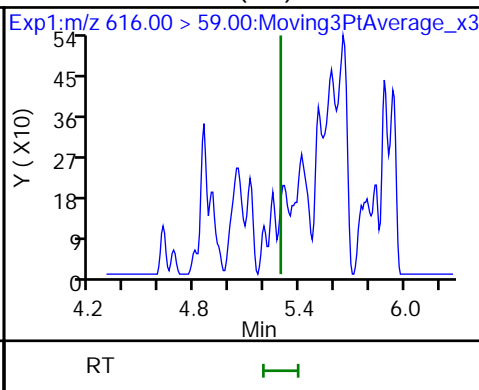
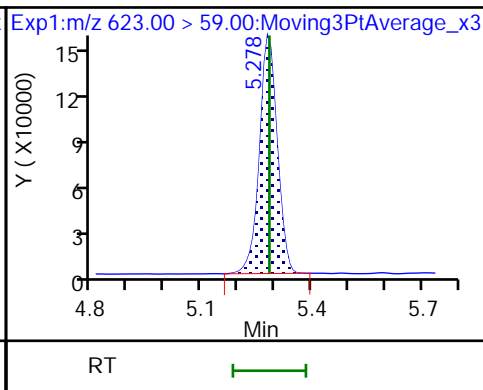
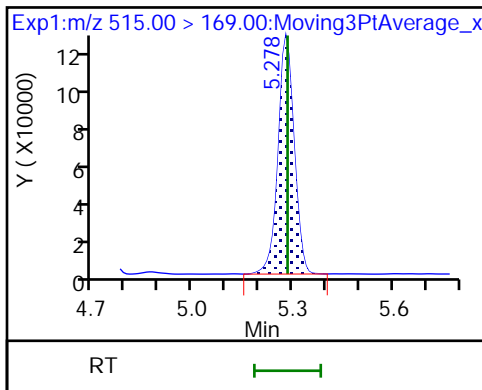
74 NMeFOSA (ND)



D 73 d-N-MeFOSE-M

D 72 d7-N-MeFOSE-M

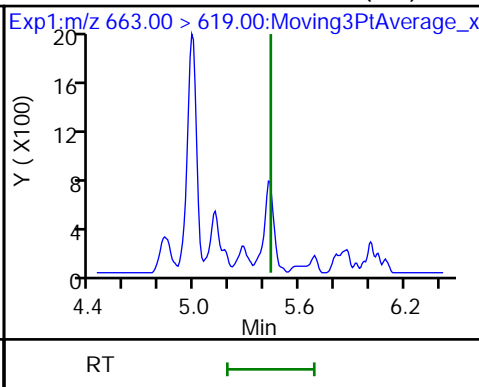
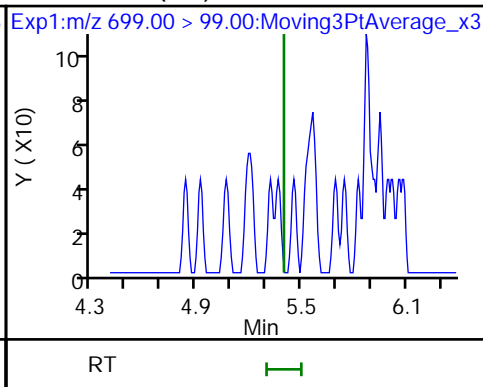
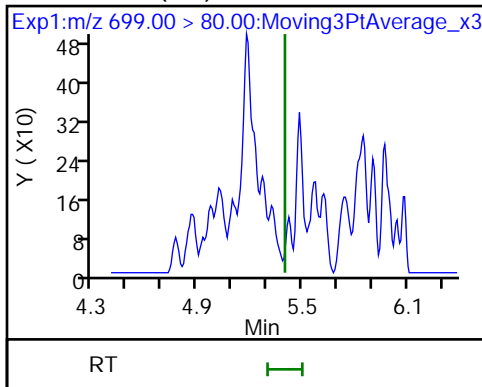
75 N-MeFOSE-M (ND)



76 PFDoS (ND)

76 PFDoS (ND)

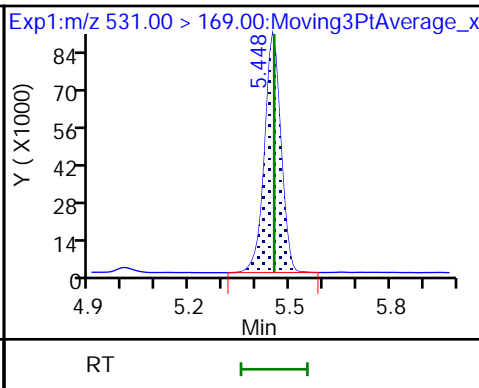
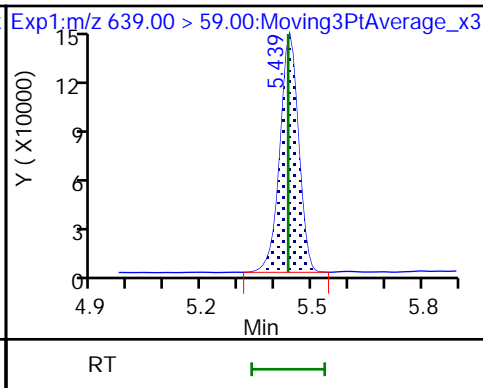
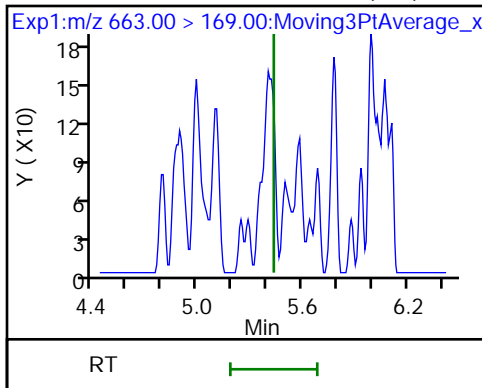
78 Perfluorotridecanoic acid (ND)



78 Perfluorotridecanoic acid (ND)

D 77 d9-N-EtFOSE-M

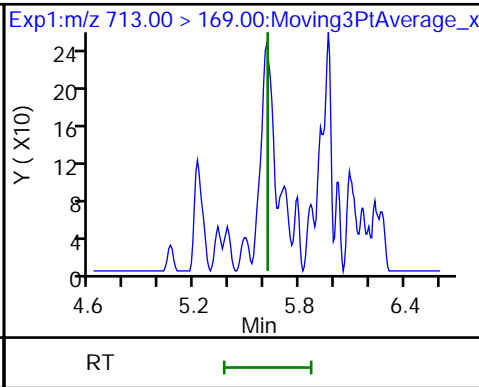
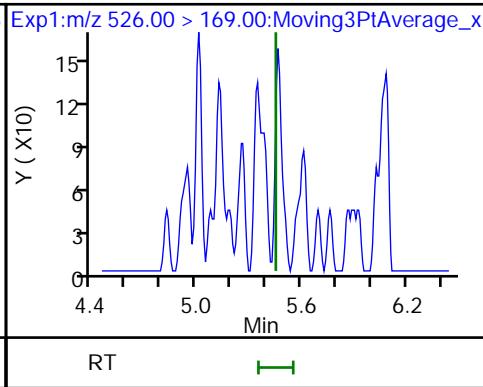
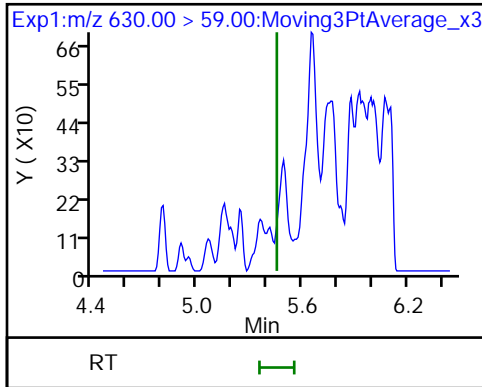
D 80 d-N-EtFOSE-M



79 N-EtFOSE-M (ND)

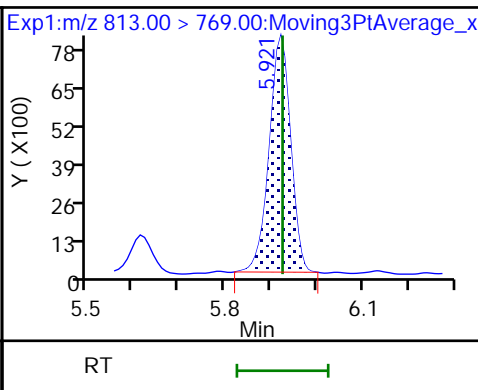
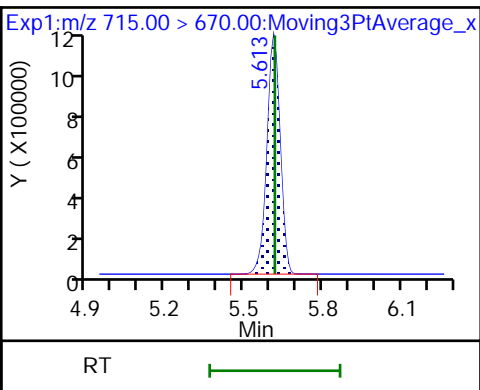
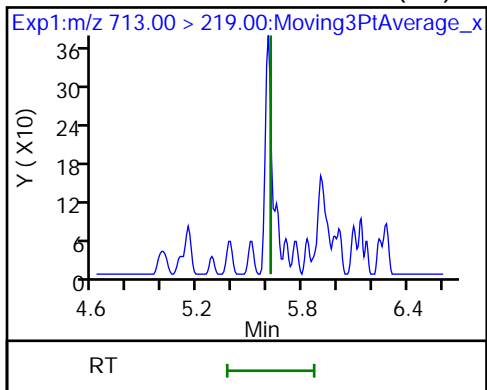
81 N-EtFOSE-M (ND)

83 Perfluorotetradecanoic acid (ND)



83 Perfluorotetradecanoic acid (ND) D 82 13C2 PFTeDA

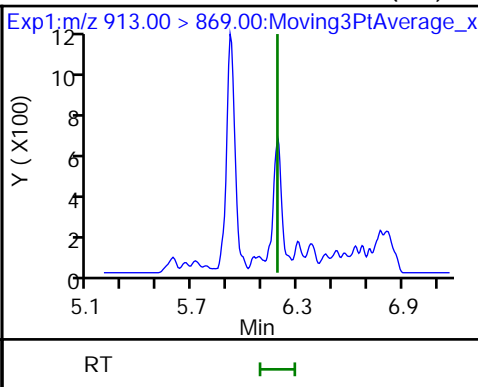
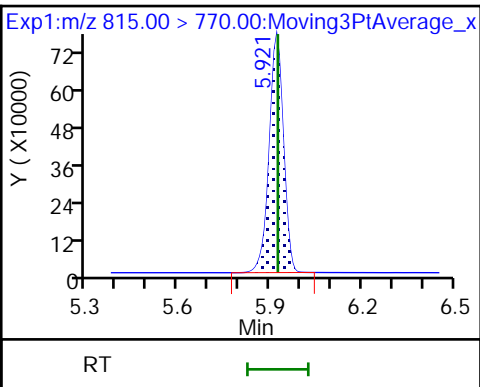
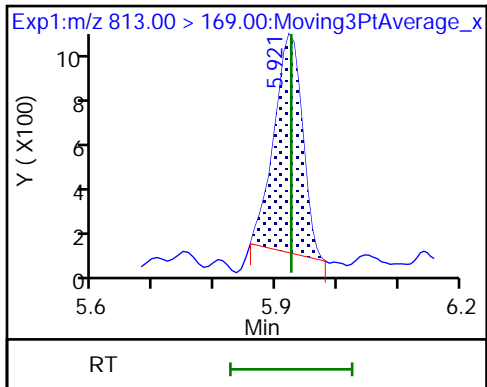
85 Perfluorohexadecanoic acid



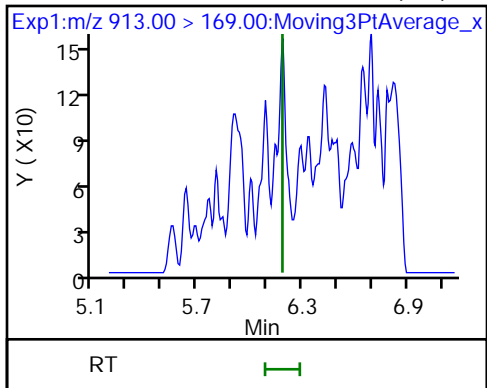
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA

86 Perfluorooctadecanoic acid (ND)



86 Perfluorooctadecanoic acid (ND)



Eurofins Knoxville  
Recovery Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_020.d  
 Lims ID: MB 140-58967/1-A  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 18-Feb-2022 22:19:52      ALS Bottle#: 20      Worklist Smp#: 20  
 Injection Vol: 1.0 ul      Dil. Factor: 1.0000  
 Sample Info: 140-0022714-020 mb 140-58967/1-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby      Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23      Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution      Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 :      Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj      Date: 19-Feb-2022 12:08:45

Compound	Amount Added	Amount Recovered	% Rec.
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FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 140-58905/2-B  
 Matrix: Air Lab File ID: \_021.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 20:49  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.02421		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	89		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_021.d  
 Lims ID: LCS 140-58905/2-B  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 19-Feb-2022 20:49:23 ALS Bottle#: 21 Worklist Smp#: 21  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-021 lcs 140-58905/2-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:06:20  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.805	2.804	0.001	1.000	3920888	1.13	113	673	
D 2 13C4 PFBA	217.00 > 172.00	2.805	2.804	0.001	0.680	5481234	1.23	98.5	16510	
3 PFECA F	229.00 > 85.00	2.912	2.911	0.001	0.935	2728235	1.07	107	12483	
6 Perfluoropentanoic acid	262.90 > 219.00	3.116	3.115	0.002	1.000	3518246	1.11	111	523	M
D 5 13C5 PFPeA	267.90 > 223.00	3.116	3.115	0.002	0.756	4212929	1.21	96.4	12226	
4 3:3 FTCA	241.00 > 177.10	3.124	3.122	0.002	1.000	140683	1.21	Target=1.16	121	666
	241.00 > 116.90	3.124	3.122	0.002	1.000	118647	1.19(0.58-1.74)		149	
D 7 13C3 PFBS	301.90 > 80.00	3.124	3.122	0.002	0.758	2482051	1.12	96.6	4055	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.132	3.131	0.001	1.003	2347242	1.00	Target=2.65	113	1806
	298.90 > 99.00	3.132	3.131	0.001	1.003	875347	2.68(1.32-3.97)		1113	
9 PFECA A	278.95 > 84.90	3.203	3.202	0.001	1.028	4532027	1.15	115	17356	
11 PES	314.80 > 135.00	3.261	3.260	0.001	1.044	5058305	1.00	112	10029	
12 PFECA B	295.22 > 201.00	3.375	3.373	0.002	0.981	1724367	1.08	108	5051	
13 4:2 FTS	327.00 > 307.00	3.417	3.415	0.002	1.003	2149752	1.04	112	8601	
D 18 M2-4:2 FTS	329.00 > 81.00	3.406	3.415	-0.009	0.826	1059442	1.53	131	1256	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.439	3.437	0.002	1.101	2389176	1.08	Target=3.40	116	3724	
349.00 > 99.00	3.439	3.437	0.002	1.101	687685		3.47(1.70-5.09)		3518	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.439	3.437	0.002	1.000	3380095	1.10	Target=12.03	110	890	
313.00 > 119.00	3.439	3.437	0.002	1.000	295568		11.44(6.01-18.04)		228	
D 14 13C2 PFHxA										
315.00 > 270.00	3.439	3.437	0.002	0.834	4833607	1.25		100	16985	
17 HFPO-DA										
285.00 > 169.00	3.544	3.542	0.002	1.000	2575582	1.21	Target=2.55	121	744	
329.00 > 169.00	3.544	3.542	0.002	1.000	1000507		2.57(1.28-3.83)		614	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.542	0.002	0.860	2108193	1.12		89.4	6465	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.774	3.772	0.002	1.000	2105048	0.9774	Target=3.45	107	4036	M
399.00 > 99.00	3.774	3.772	0.002	1.000	625176		3.37(1.72-5.17)		2058	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.774	3.772	0.002	0.915	1838670	1.28		108	10345	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.784	3.792	-0.008	1.000	3897038	1.16	Target=3.22	116	1400	
363.00 > 169.00	3.784	3.792	-0.008	1.000	1234555		3.16(1.61-4.83)		2797	
D 22 13C4 PFHpA										
367.00 > 322.00	3.784	3.792	-0.008	0.918	4179283	1.22		97.3	10174	
25 DONA										
377.00 > 251.00	3.822	3.820	0.002	0.866	5661954	0.8987	Target=1.72	95.4	11854	
377.00 > 85.00	3.822	3.820	0.002	0.866	3190090		1.77(0.86-2.58)		3981	
26 5:3 FTCA										
340.88 > 236.90	3.846	3.853	-0.007	0.987	416395	1.33	Target=1.08	133	839	
340.88 > 216.90	3.846	3.853	-0.007	0.987	371666		1.12(0.54-1.62)		1184	
27 6:2 FTUCA										
356.86 > 292.90	3.879	3.886	-0.007	1.000	1843034	1.07	Target=14.05	107	3949	
356.86 > 243.00	3.879	3.886	-0.007	1.000	127998		14.40(7.03-21.08)		688	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.886	-0.007	0.941	2054529	1.60		128	3986	
29 6:2 FTCA										
377.10 > 63.00	3.896	3.903	-0.007	1.000	60596	1.05	Target=1.38	105	157	
377.10 > 313.10	3.896	3.903	-0.007	1.000	46711		1.30(0.69-2.08)		68.7	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.896	3.903	-0.007	0.945	103617	1.05		83.8	311	
32 PFECHS										
460.80 > 380.90	4.056	4.054	0.002	0.984	2665254	1.01	Target=1.68	110	5792	
460.80 > 98.90	4.056	4.054	0.002	0.984	1506109		1.77(0.84-2.53)		4742	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.104	4.111	-0.007	0.930	2229308	0.9471	Target=3.76	99.5	4756	
449.00 > 99.00	4.104	4.111	-0.007	0.930	588473		3.79(1.88-5.64)		1689	
35 6:2 FTS										
427.00 > 407.00	4.113	4.121	-0.008	1.000	1888975	1.22		129	5082	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
37 Perfluorooctanoic acid										
413.00 > 369.00	4.123	4.121	0.002	1.000	4414888	1.16	Target=2.40	116	2989	
413.00 > 169.00	4.123	4.121	0.002	1.000	1792730		2.46(1.20-3.60)		2948	
* 30 13C2 PFOA										
415.00 > 370.00	4.123	4.121	0.002		4749725	1.25			14623	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.113	4.121	-0.008	0.998	1002987	1.47		124	2197	
D 31 13C4 PFOA										
417.00 > 372.00	4.123	4.121	0.002	1.000	4441381	1.25		99.9	7276	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.406	4.412	-0.006	0.998	2639208	0.9670	Target=4.41	104	3250	M
499.00 > 99.00	4.414	4.412	0.002	1.000	587021		4.50(2.20-6.61)		1736	M
D 39 13C4 PFOS										
503.00 > 80.00	4.414	4.412	0.002	1.071	2848068	1.34		112	2487	
42 Perfluorononanoic acid										
463.00 > 419.00	4.432	4.438	-0.006	1.000	4378756	1.17	Target=4.14	117	4763	
463.00 > 169.00	4.432	4.438	-0.006	1.000	1081640		4.05(2.07-6.21)		3160	
D 41 13C5 PFNA										
468.00 > 423.00	4.432	4.438	-0.006	1.075	6159196	1.28		102	8566	
43 7:3 FTCA										
441.00 > 337.00	4.522	4.519	0.003	0.993	882139	1.53	Target=1.38	153	2606	
441.00 > 317.00	4.513	4.519	-0.006	0.991	592492		1.49(0.69-2.08)		2977	
44 8:2 FTUCA										
456.86 > 392.90	4.539	4.545	-0.006	1.000	2660987	1.08	Target=35.71	108	6218	
456.86 > 343.00	4.539	4.545	-0.006	1.000	88568		30.04(17.85-53.56)		273	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.539	4.545	-0.006	1.000	3220234	1.88		150	4308	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.555	4.553	0.002	1.105	137842	1.10		87.8	695	
46 8:2 FTCA										
477.00 > 393.10	4.555	4.561	-0.006	1.000	218253	1.09	Target=3.43	109	506	
477.00 > 63.20	4.555	4.561	-0.006	1.000	60246		3.62(1.72-5.15)		230	
49 9CIFOS										
531.00 > 351.00	4.571	4.578	-0.007	1.109	5281135	0.9856		106	7201	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.690	4.697	-0.007	1.062	2285768	0.9483	Target=3.86	98.8	5013	
549.00 > 99.00	4.690	4.697	-0.007	1.062	575189		3.97(1.93-5.79)		2289	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.707	4.705	0.002	1.000	3563397	1.05		105	4761	
D 55 13C8 FOSA										
506.00 > 78.00	4.707	4.705	0.002	1.142	4433319	1.38		110	6105	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.716	4.722	-0.006	1.000	4877459	1.12	Target=11.25	112	3857	
513.00 > 169.00	4.716	4.722	-0.006	1.000	439954		11.09(5.62-16.87)		263	
D 52 13C2 PFDA										
515.00 > 470.00	4.716	4.722	-0.006	1.144	6081326	1.32		106	17929	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.733	4.731	0.002	1.148	1595261	1.47		123	2450	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.733	4.739	-0.006	1.000	1508130	1.10		114	4507	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.857	4.872	-0.015	1.178	723107	1.68		134	641	
57 NMeFOSAA										
570.00 > 419.00	4.866	4.872	-0.006	1.002	584541	1.09		109	758	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.951	4.957	-0.006	1.122	2080125	0.9800	Target=3.69	102	6333	
599.00 > 99.00	4.951	4.957	-0.006	1.122	560430		3.71(1.84-5.53)		2397	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.978	4.985	-0.007	1.000	5087840	1.13	Target=8.60	113	6732	
563.00 > 169.00	4.978	4.985	-0.007	1.000	599017		8.49(4.30-12.90)		1857	
D 59 13C2 PFUnA										
565.00 > 520.00	4.978	4.985	-0.007	1.208	5812475	1.31		105	12208	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.997	5.005	-0.008	1.212	726644	1.64		131	1773	
62 NEtFOSAA										
584.00 > 419.00	5.007	5.005	0.002	1.002	608763	1.19		119	1407	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.085	5.092	-0.007	1.233	3058978	1.59		127	9190	
63 11CIFOS										
631.00 > 451.00	5.085	5.092	-0.007	1.152	4044823	0.9744		103	8010	
65 10:2 FTUCA										
556.86 > 492.90	5.085	5.092	-0.007	1.000	3269524	1.11		111	7403	
66 10:2 FTCA										
576.80 > 493.00	5.104	5.102	0.002	1.000	82408	1.12	Target=2.41	112	588	
576.80 > 63.10	5.104	5.102	0.002	1.000	38433		2.14(1.20-3.61)		145	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.104	5.111	-0.007	1.238	99800	0.8493		67.9	534	
D 69 13C2 PFDaA										
615.00 > 570.00	5.220	5.226	-0.006	1.266	5571836	1.27		102	18511	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.220	5.226	-0.006	1.000	4911632	1.07	Target=6.73	107	4401	
613.00 > 169.00	5.220	5.226	-0.006	1.000	705418		6.96(3.36-10.09)		1527	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.236	5.243	-0.007	1.270	924355	1.47		124	7054	
71 10:2 FTS										
627.00 > 607.00	5.245	5.251	-0.006	1.002	1715876	1.05		109	9070	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.277	5.275	0.002	1.280	616286	1.37		109	416	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.277	5.283	-0.006	1.280	537056	1.40		112	50.6	
74 NMeFOSA										
512.00 > 169.00	5.277	5.283	-0.006	1.000	494354	1.07		107	737	
75 N-MeFOSE-M										
616.00 > 59.00	5.285	5.292	-0.007	1.002	655906	1.13		113	289	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.392	5.399	-0.007	1.221	1833605	0.8138	Target=4.35	84.1	4000	
699.00 > 99.00	5.392	5.399	-0.007	1.221	427842		4.29(2.18-6.53)		2265	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.428	5.435	-0.007	1.317	556746	1.19		95.3	269	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.428	5.435	-0.007	1.040	4148931	1.05	Target=6.02	105	4238	
663.00 > 169.00	5.428	5.435	-0.007	1.040	689640		6.02(3.01-9.03)		2548	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.445	5.452	-0.007	1.321	377603	1.23		98.2	638	
79 N-EtFOSE-M										
630.00 > 59.00	5.445	5.452	-0.007	1.003	644092	1.02		102	569	
81 N-EtFOSA-M										
526.00 > 169.00	5.445	5.452	-0.007	1.000	443237	1.18		118	609	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.609	5.617	-0.008	1.361	4186712	1.20		95.6	10994	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.609	5.617	-0.008	1.000	475236	1.10	Target=1.07	110	1367	
713.00 > 219.00	5.609	5.617	-0.008	1.000	459590		1.03(0.54-1.61)		2516	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.917	5.924	-0.007	1.435	1596464	0.7006		56.1	4291	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.917	5.924	-0.007	1.000	1585253	1.09	Target=8.23	109	2495	
813.00 > 169.00	5.917	5.924	-0.007	1.000	190548		8.32(4.11-12.34)		742	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.184	-0.005	1.044	70586	0.0546	Target=11.72	5.5	205	M
913.00 > 169.00	6.174	6.184	-0.010	1.043	6185		11.41(5.86-17.58)		24.5	M

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_021.d

Injection Date: 19-Feb-2022 20:49:23

Instrument ID: LCA

Lims ID: LCS 140-58905/2-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 21

Worklist Smp#: 21

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

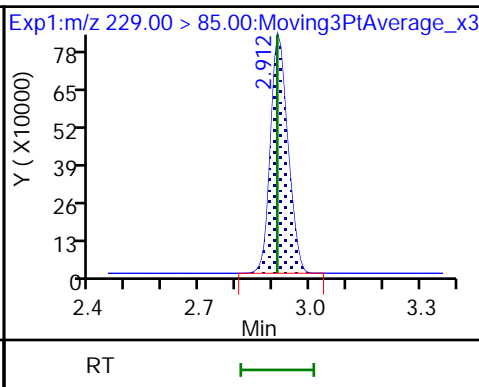
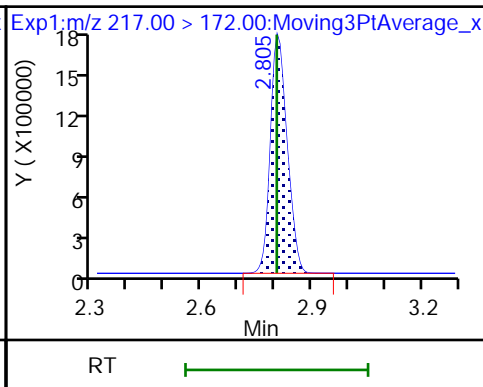
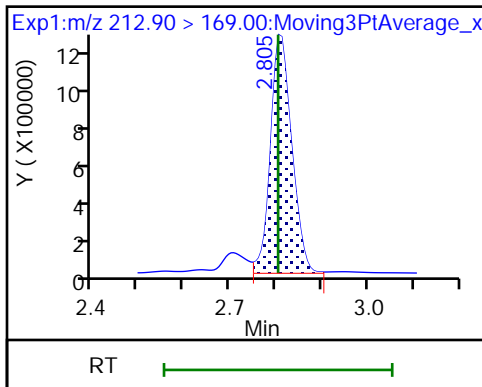
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

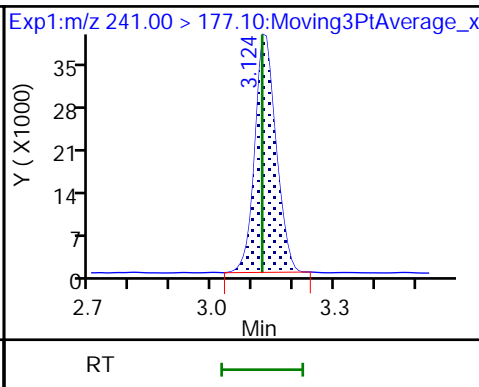
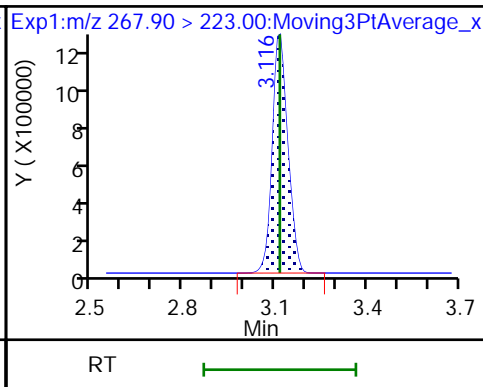
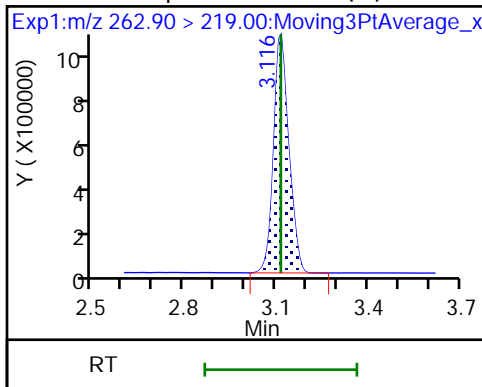
3 PFECA F



6 Perfluoropentanoic acid (M)

D 5 13C5 PFPeA

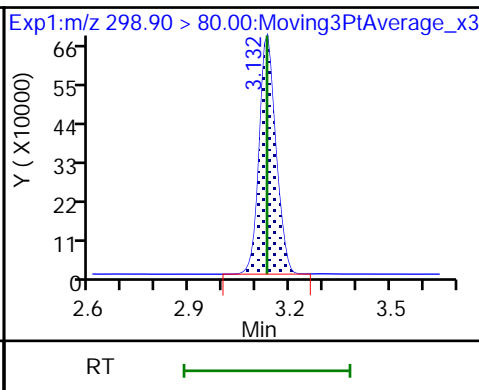
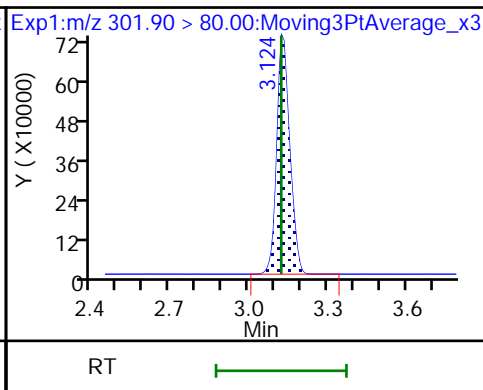
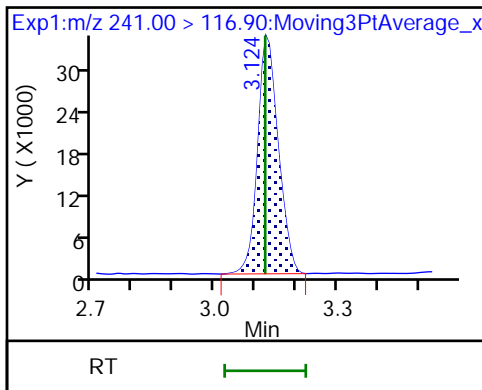
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

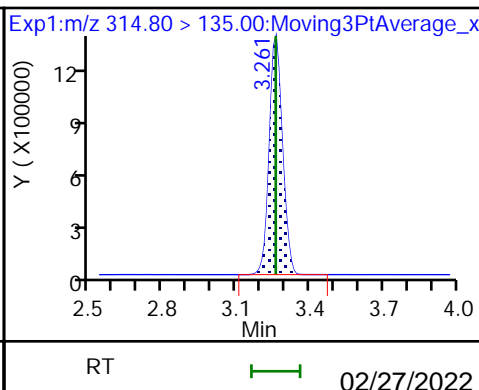
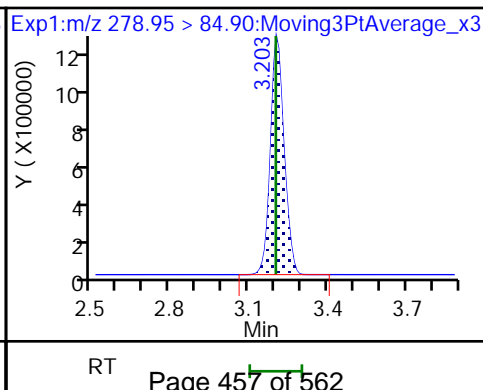
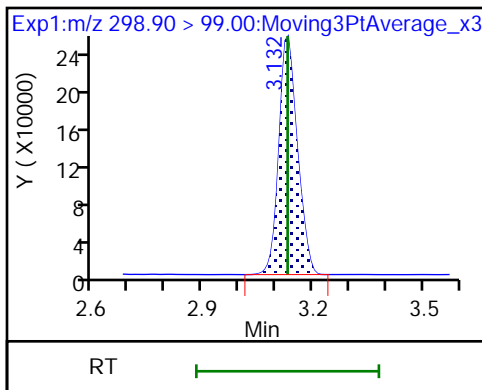
8 Perfluorobutanesulfonic acid

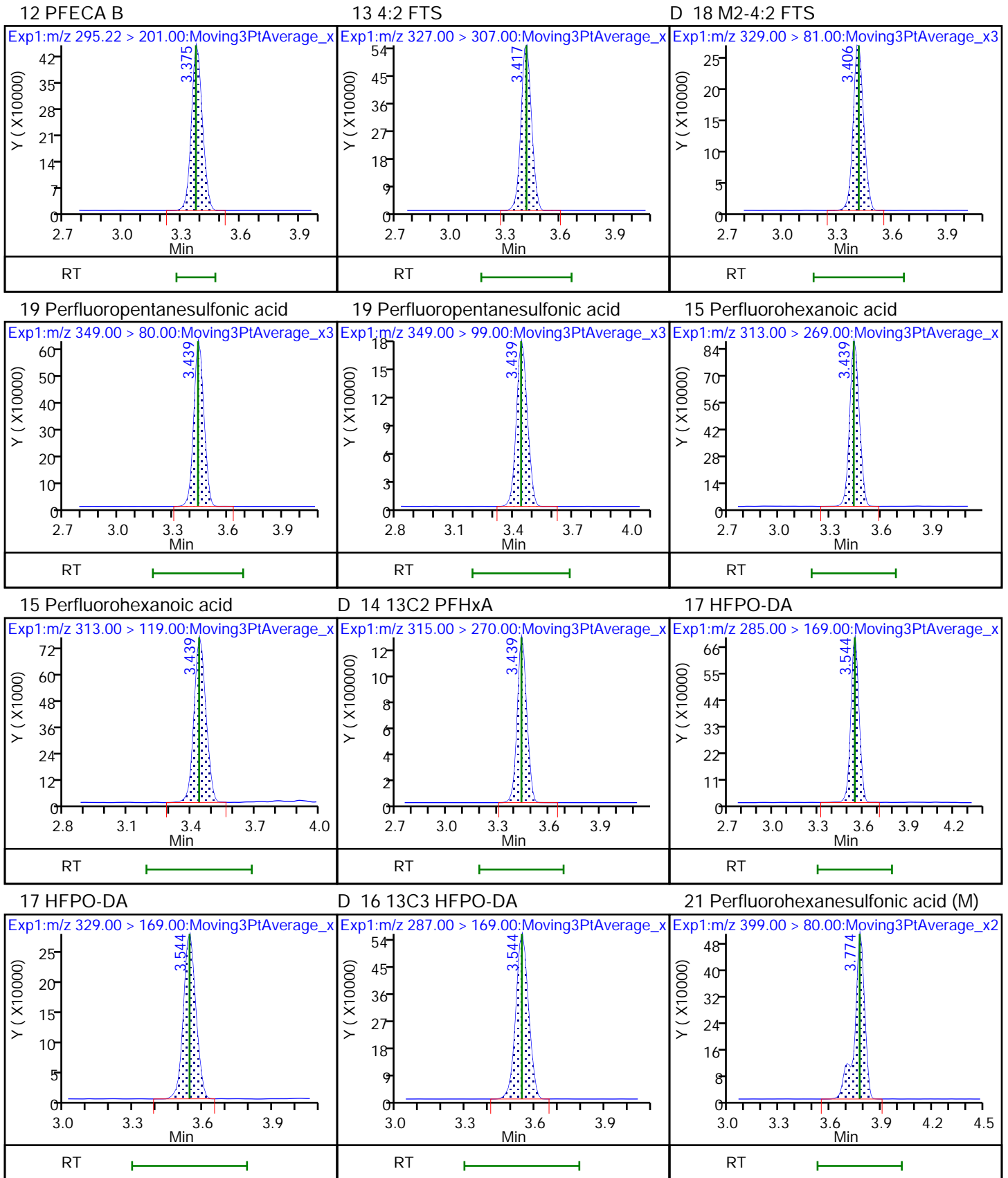


8 Perfluorobutanesulfonic acid

9 PFECA A

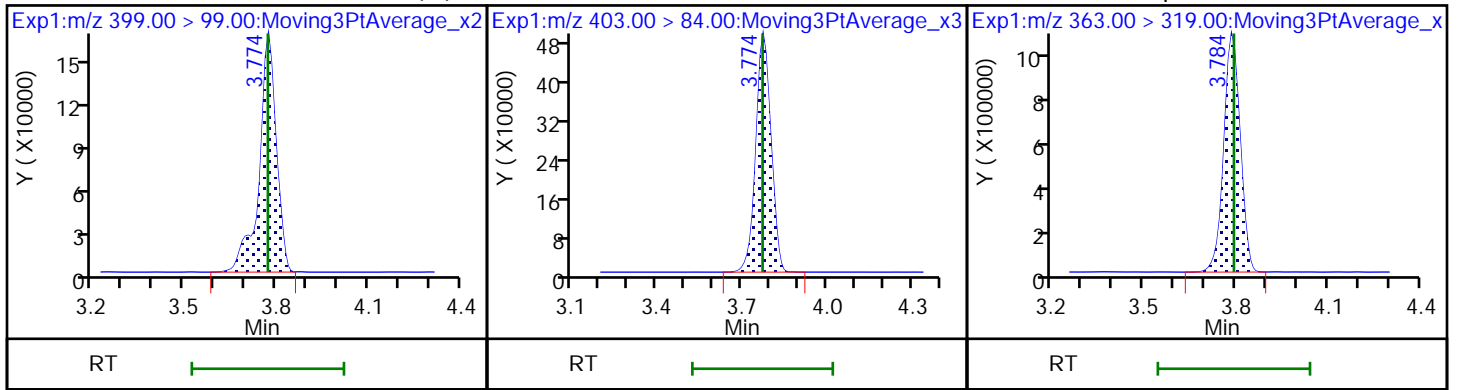
11 PES





21 Perfluorohexanesulfonic acid (M) D 20 18O2 PFHxS

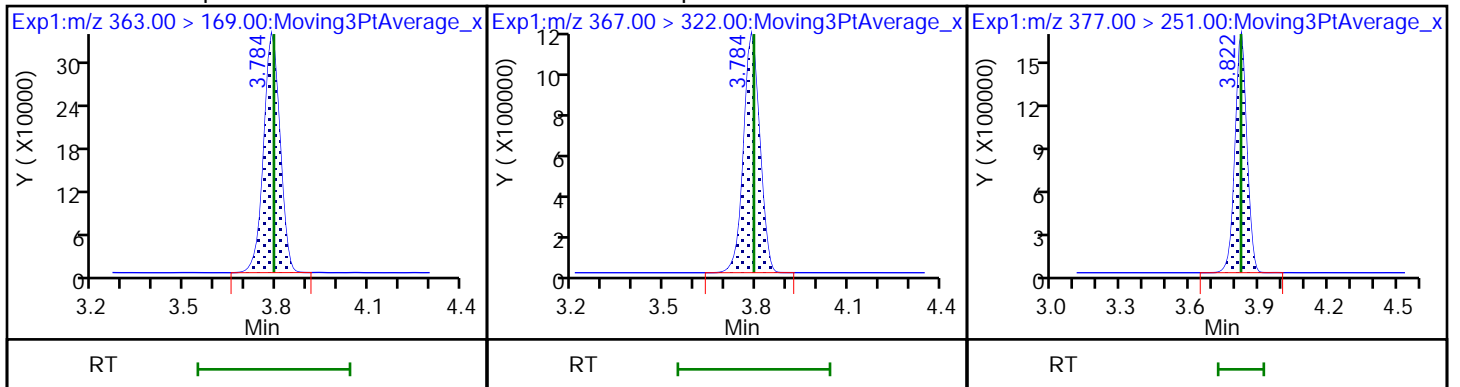
23 Perfluoroheptanoic acid



23 Perfluoroheptanoic acid

D 22 13C4 PFHpA

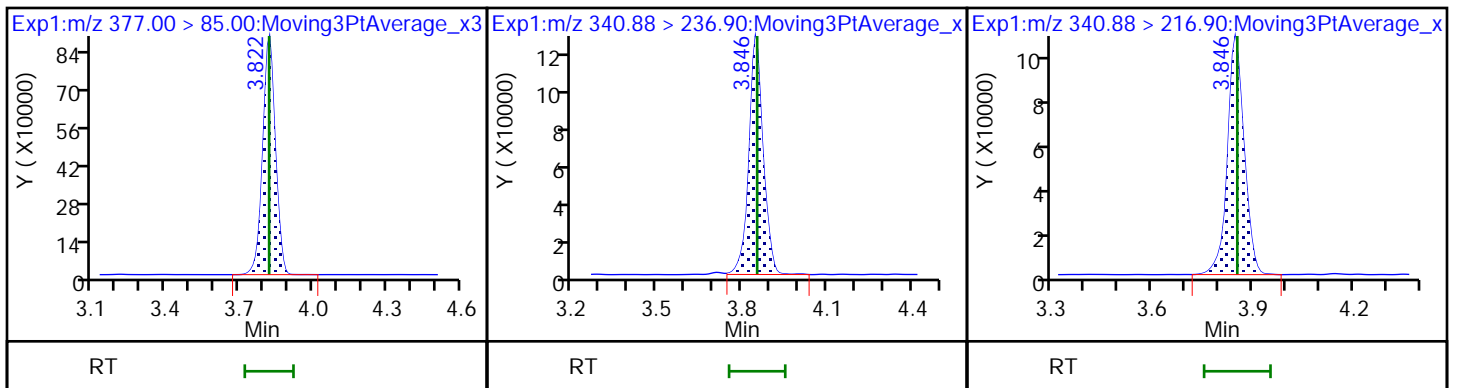
25 DONA



25 DONA

26 5:3 FTCA

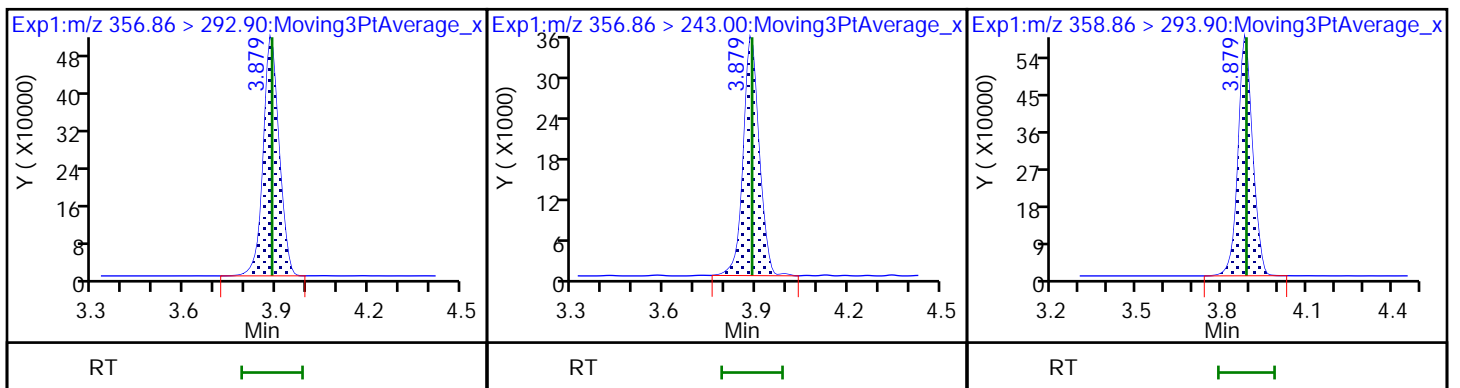
26 5:3 FTCA

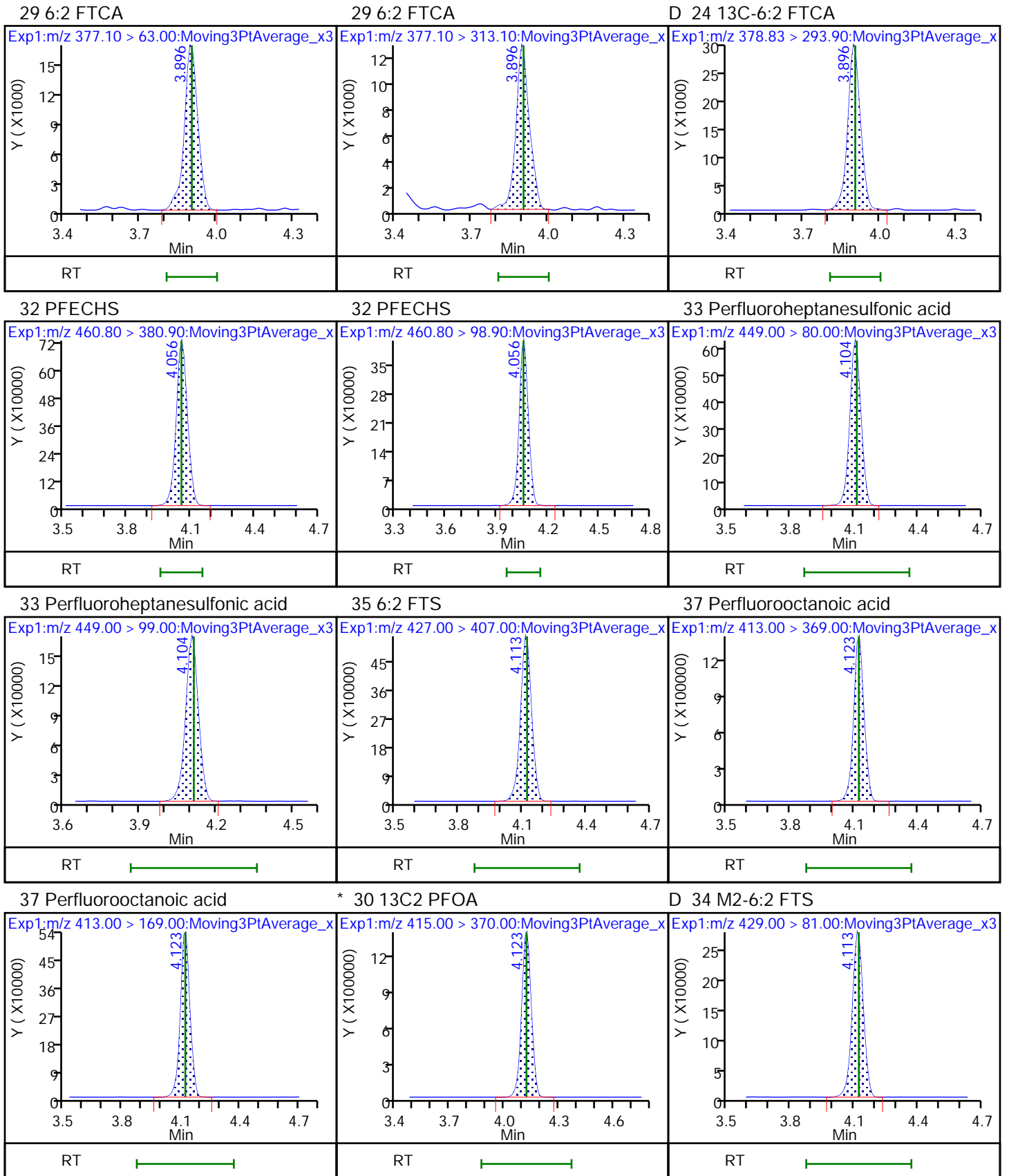


27 6:2 FTUCA

27 6:2 FTUCA

D 28 13C-6:2 FTUCA



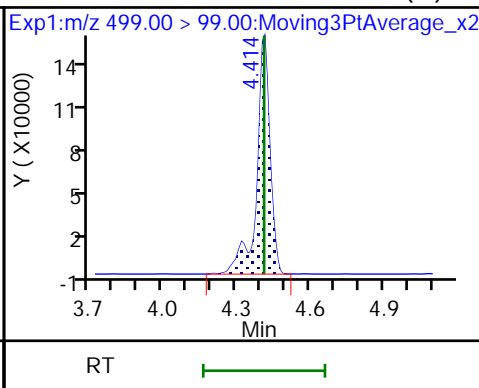
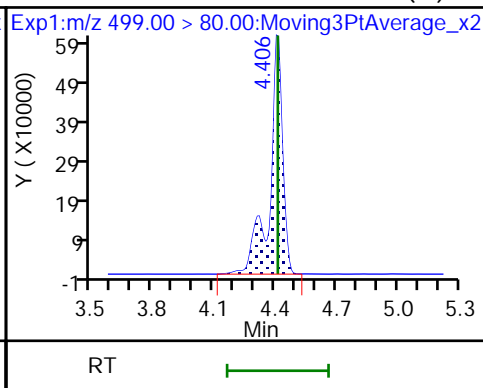
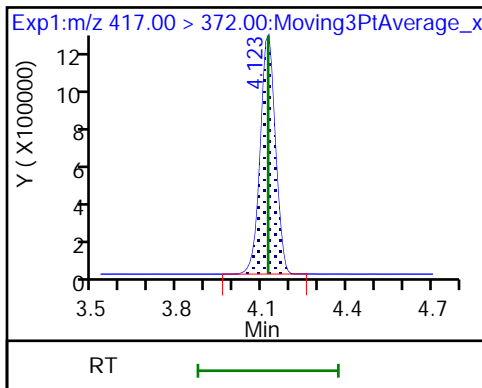




D 31 13C4 PFOA

40 Perfluorooctanesulfonic acid (M)

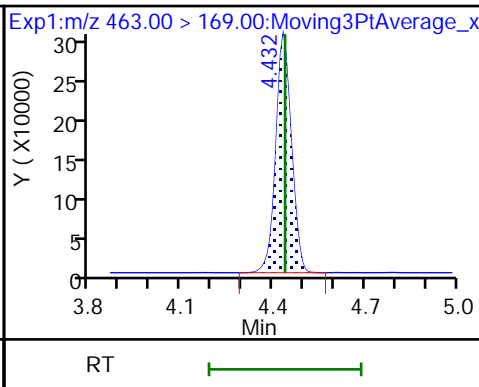
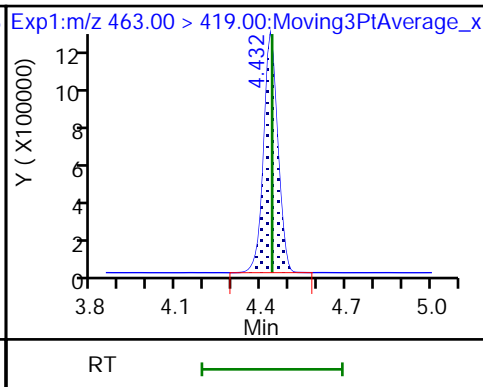
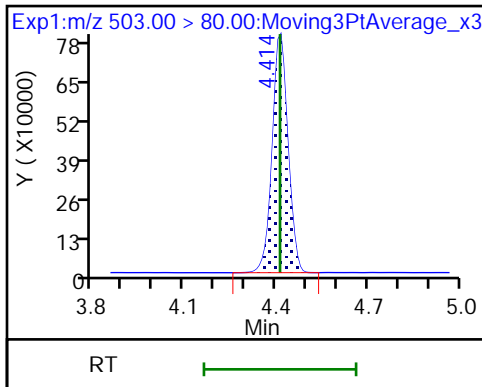
40 Perfluorooctanesulfonic acid (M)



D 39 13C4 PFOS

42 Perfluorononanoic acid

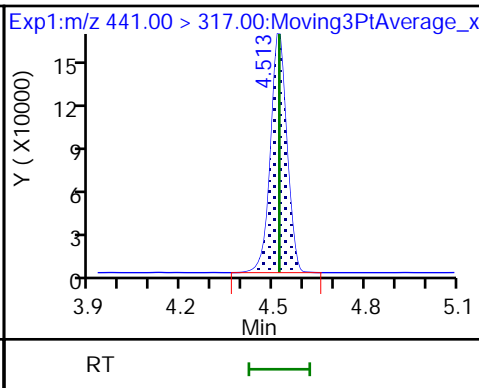
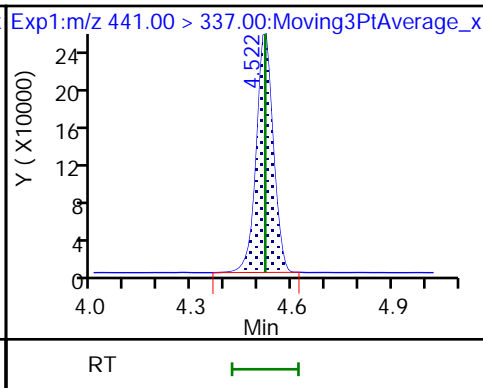
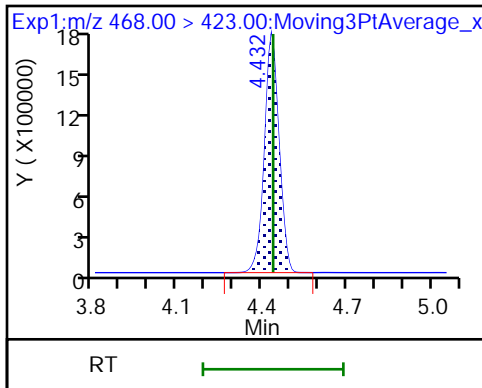
42 Perfluorononanoic acid



D 41 13C5 PFNA

43 7:3 FTCA

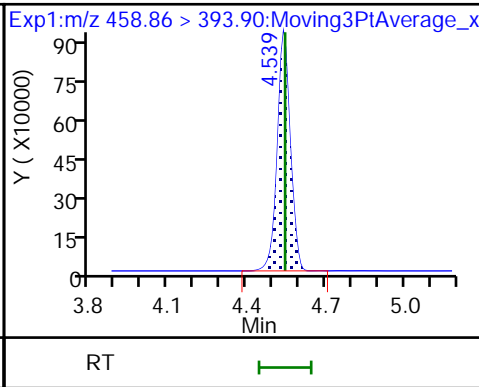
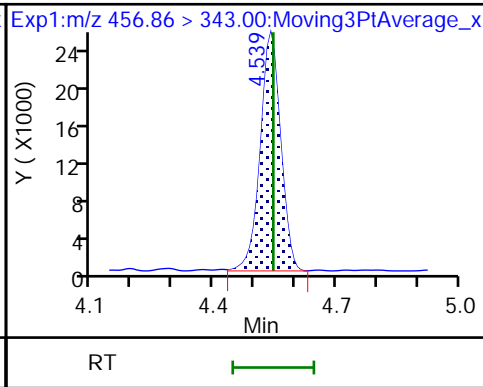
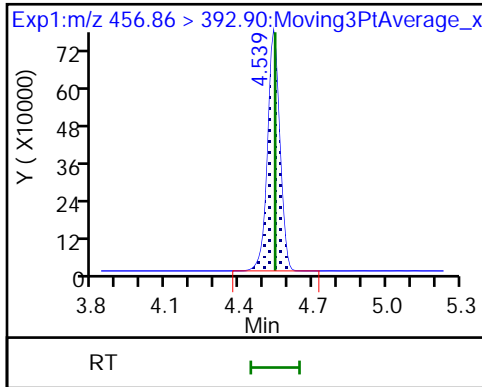
43 7:3 FTCA



44 8:2 FTUCA

44 8:2 FTUCA

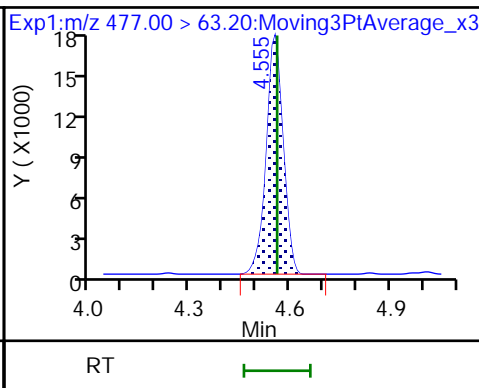
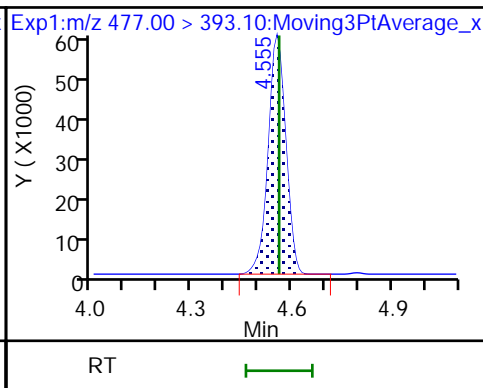
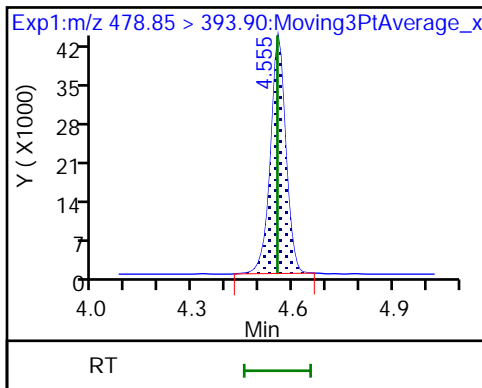
D 45 13C-8:2 FTUCA



D 47 13C-8:2 FTCA

46 8:2 FTCA

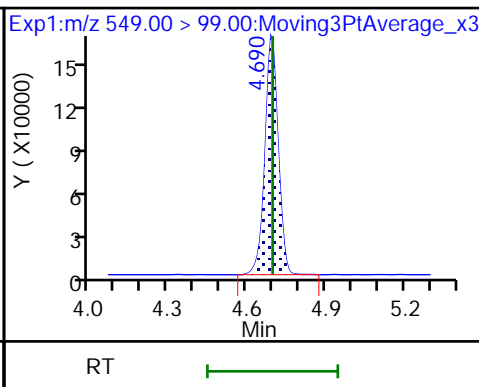
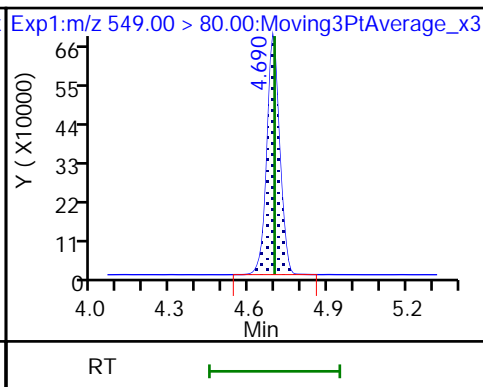
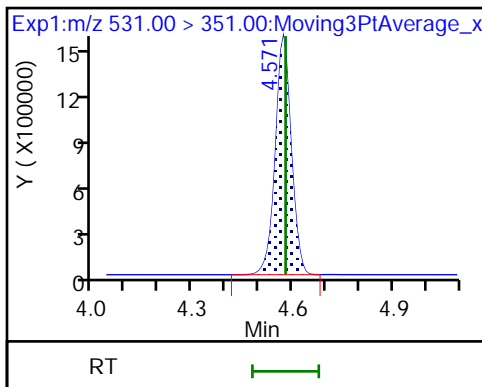
46 8:2 FTCA



49 9CIFOS

51 Perfluoronanesulfonic acid

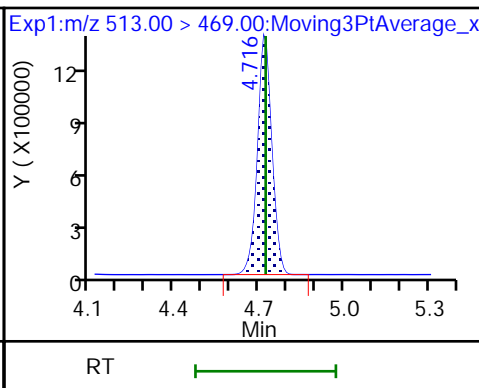
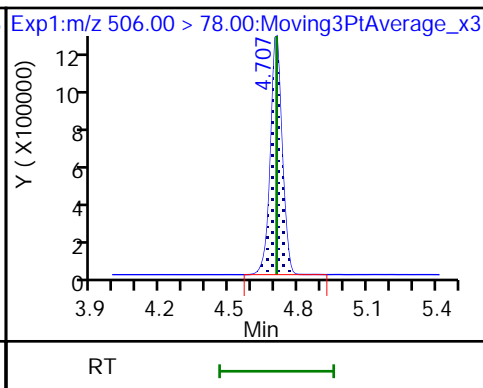
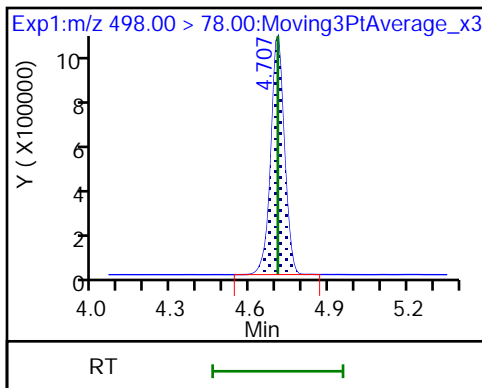
51 Perfluoronanesulfonic acid



54 Perfluorooctanesulfonamide

D 55 13C8 FOSA

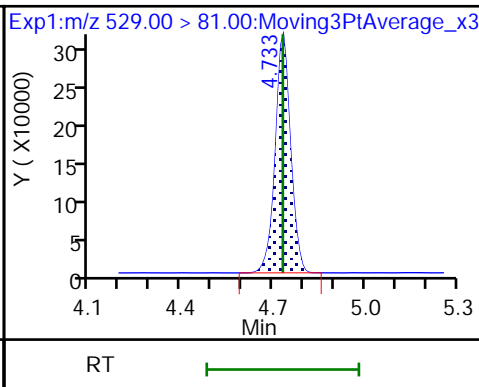
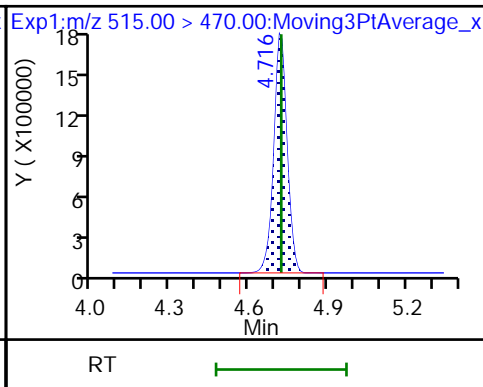
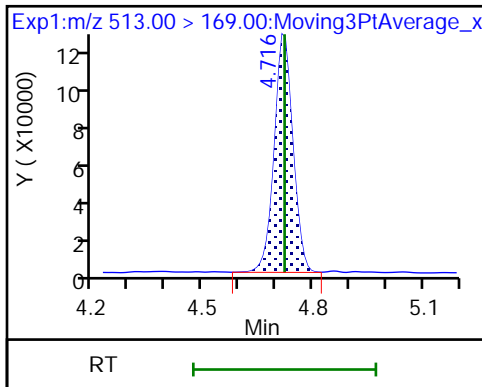
48 Perfluorodecanoic acid

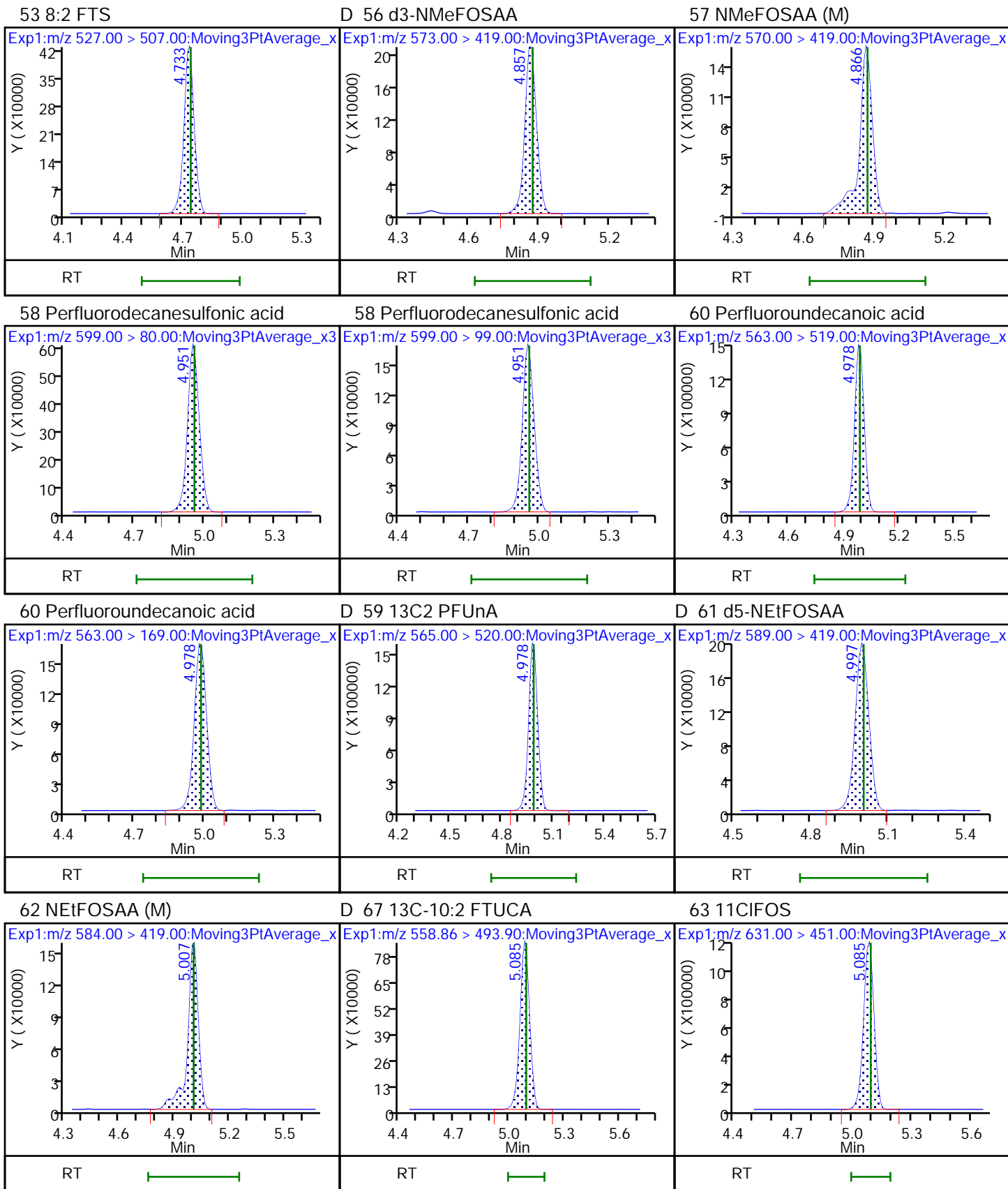


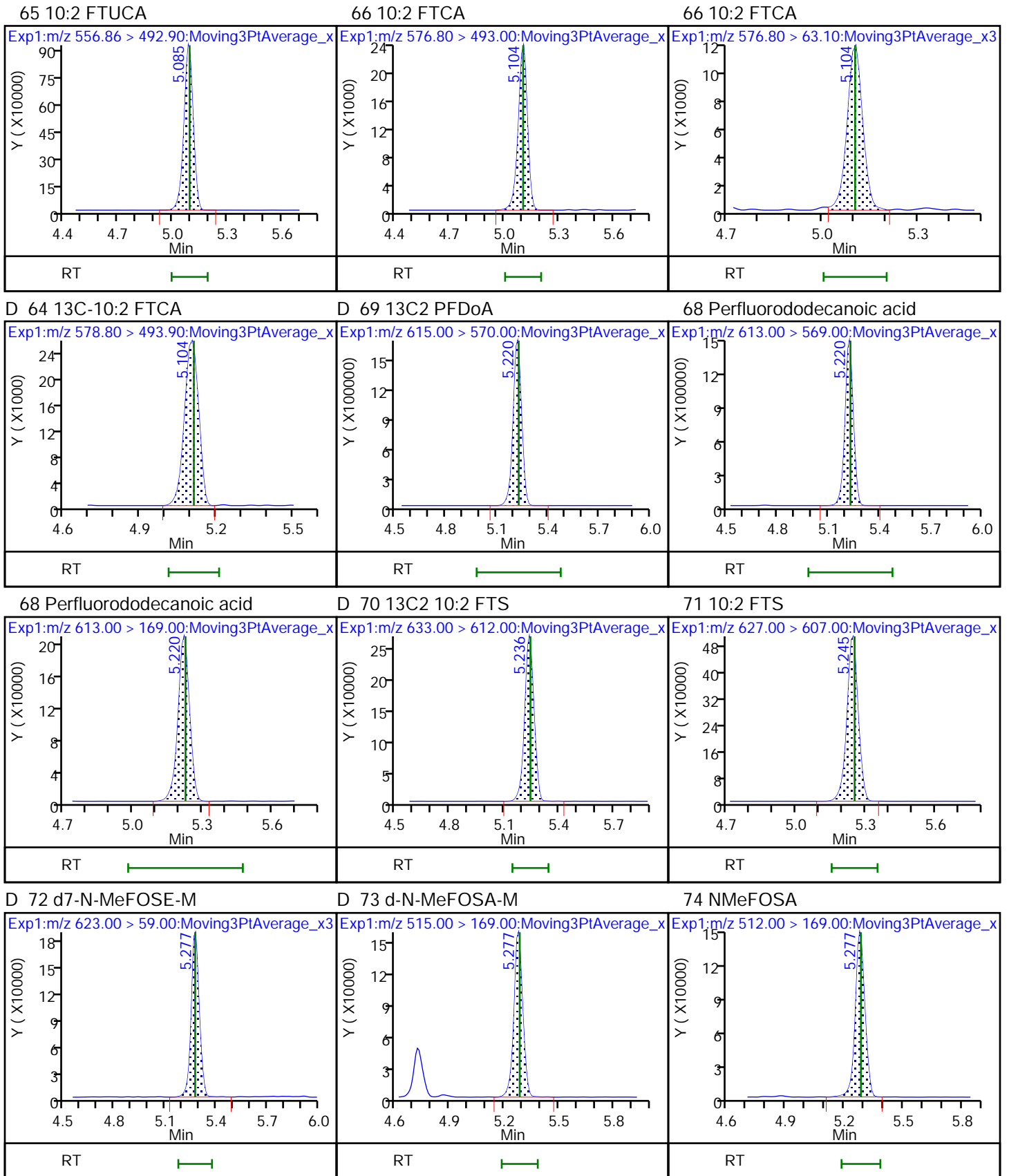
48 Perfluorodecanoic acid

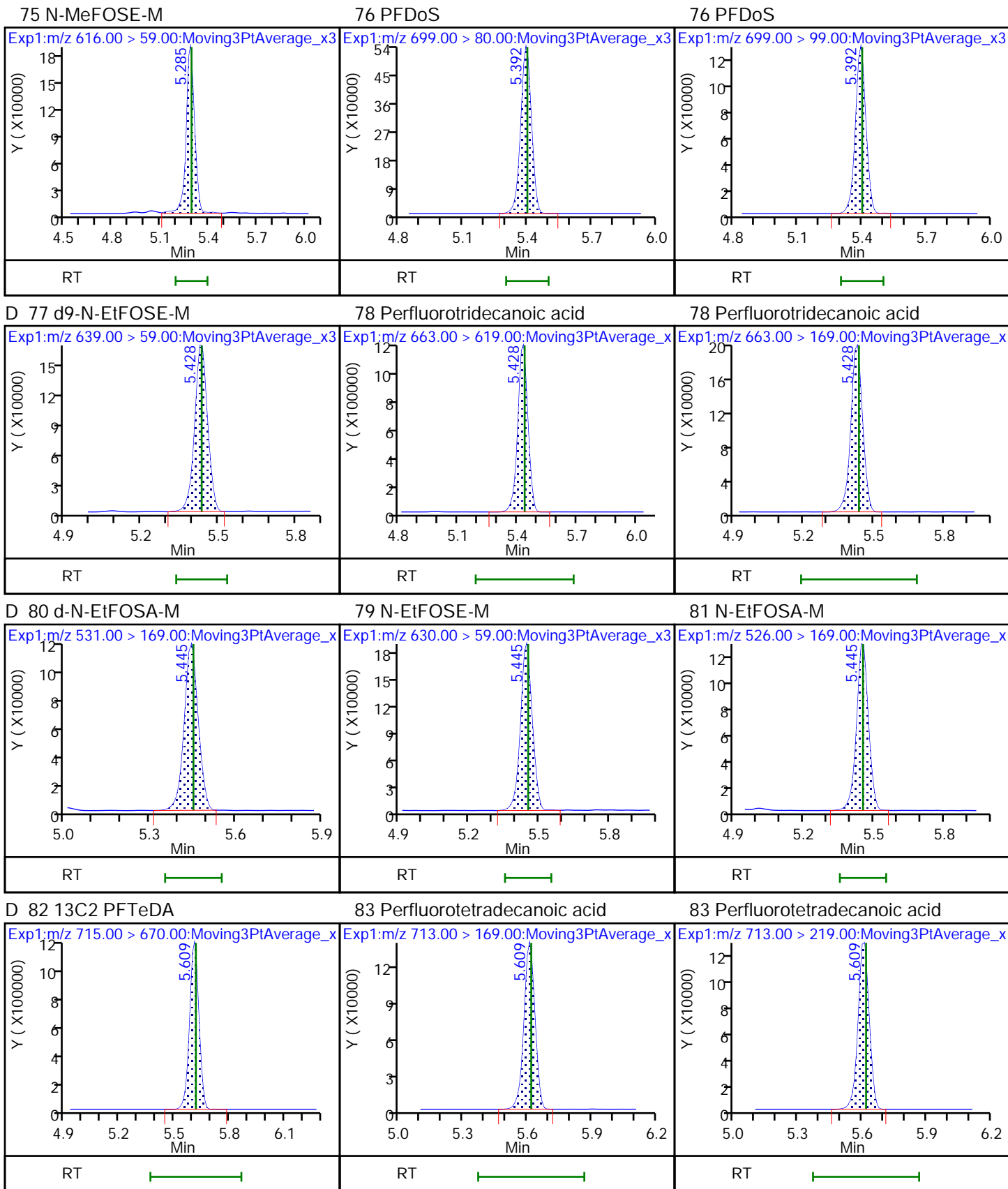
D 52 13C2 PFDA

D 50 M2-8:2 FTS





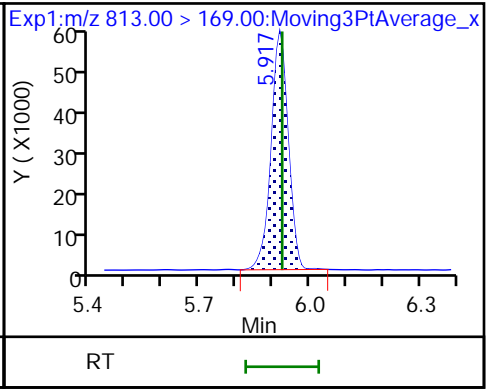
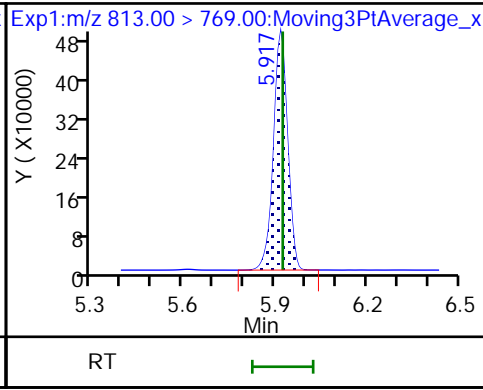
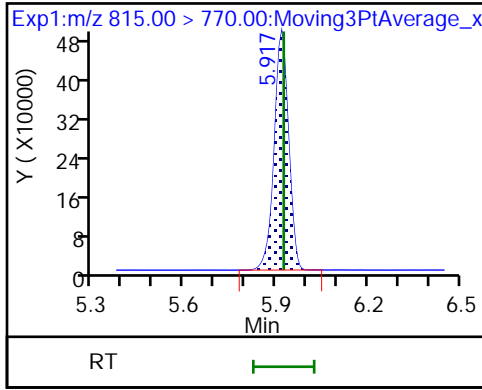




D 84 13C2 PFHxDA

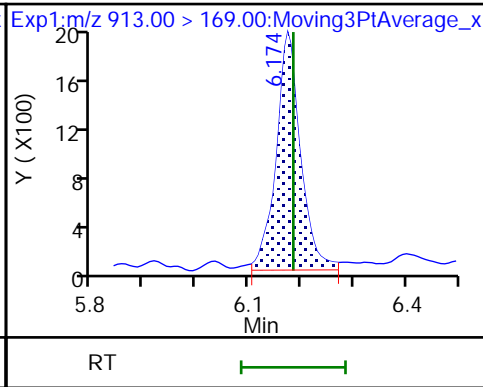
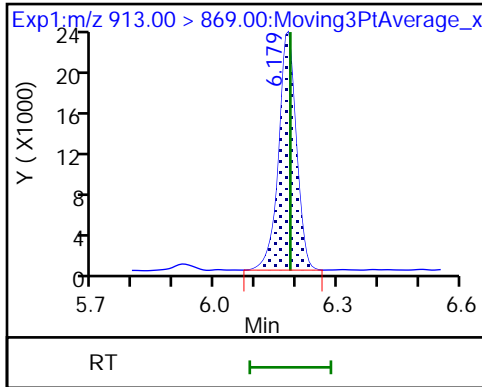
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid (M)



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 140-58914/2-B  
 Matrix: Air Lab File ID: \_036.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/16/2022 07:38  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 00:40  
 Con. Extract Vol.: 50 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.02100		0.00100	0.000580

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	87		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_036.d  
 Lims ID: LCS 140-58914/2-B  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 19-Feb-2022 00:40:43 ALS Bottle#: 36 Worklist Smp#: 36  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-036 lcs 140-58914/2-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:26:19  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.804	2.811	-0.007	1.000	3607898	1.04	104	983	
D 2 13C4 PFBA	217.00 > 172.00	2.804	2.811	-0.007	0.680	5466568	1.13	90.8	16743	
3 PFECA F	229.00 > 85.00	2.911	2.919	-0.008	0.937	2543338	1.03	103	8785	
D 5 13C5 PFPeA	267.90 > 223.00	3.107	3.115	-0.008	0.754	4109638	1.09	87.0	14962	
6 Perfluoropentanoic acid	262.90 > 219.00	3.107	3.123	-0.016	1.000	3352651	1.08	108	921	
4 3:3 FTCA	241.00 > 177.10	3.122	3.131	-0.009	1.000	112077	0.9635	Target=1.19	96.3	1099
	241.00 > 116.90	3.122	3.131	-0.009	1.000	98776		1.13(0.60-1.79)		137
D 7 13C3 PFBS	301.90 > 80.00	3.122	3.131	-0.009	0.758	2484080	1.04	89.4	9222	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.122	3.140	-0.018	1.000	2194430	0.9366	Target=2.66	106	3850
	298.90 > 99.00	3.122	3.140	-0.018	1.000	815953		2.69(1.33-3.99)		2388
9 PFECA A	278.95 > 84.90	3.202	3.211	-0.009	1.031	4266208	1.11	111	13054	
11 PES	314.80 > 135.00	3.260	3.260	0.0	1.044	4839923	0.9549	107	14602	
12 PFECA B	295.22 > 201.00	3.373	3.384	-0.011	0.982	1704852	1.11	111	6214	
D 18 M2-4:2 FTS	329.00 > 81.00	3.405	3.416	-0.011	0.826	761228	1.02	87.1	1366	
13 4:2 FTS	327.00 > 307.00	3.405	3.416	-0.011	1.000	1523873	1.03	110	9303	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.448	-0.011	0.834	4611471	1.11		88.5	16894	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.437	3.448	-0.011	1.101	2168517	0.9830	Target=3.47	105	4725	
349.00 > 99.00	3.437	3.448	-0.011	1.101	615198		3.52(1.73-5.20)		3297	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.448	-0.011	1.000	3159643	1.08	Target=11.56	108	1302	
313.00 > 119.00	3.437	3.448	-0.011	1.000	265663		11.89(5.78-17.33)		300	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.542	3.553	-0.011	0.860	2205894	1.08		86.5	6420	
17 HFPO-DA										
285.00 > 169.00	3.542	3.553	-0.011	1.000	2339766	1.05	Target=2.51	105	1566	
329.00 > 169.00	3.542	3.553	-0.011	1.000	954852		2.45(1.25-3.76)		1391	
D 20 18O2 PFHxS										
403.00 > 84.00	3.772	3.783	-0.011	0.915	1652851	1.07		90.1	5263	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.772	3.783	-0.011	1.000	1794747	0.9270	Target=3.47	102	3887	M
399.00 > 99.00	3.772	3.783	-0.011	1.000	522250		3.44(1.73-5.20)		1970	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.782	3.793	-0.011	0.918	4085713	1.10		87.9	9186	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.782	3.793	-0.011	1.000	3715099	1.13	Target=3.41	113	2058	
363.00 > 169.00	3.782	3.793	-0.011	1.000	1136562		3.27(1.70-5.11)		2262	
25 DONA										
377.00 > 251.00	3.820	3.829	-0.009	0.866	5539078	0.9892	Target=1.72	105	9795	
377.00 > 85.00	3.820	3.829	-0.009	0.866	3026309		1.83(0.86-2.58)		3592	
26 5:3 FTCA										
340.88 > 236.90	3.845	3.853	-0.008	0.985	346003	1.19	Target=1.09	119	1011	
340.88 > 216.90	3.845	3.853	-0.008	0.985	315876		1.10(0.54-1.63)		683	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	0.0	0.943	1627771	1.17		93.9	4271	
27 6:2 FTUCA										
356.86 > 292.90	3.877	3.895	-0.018	0.998	1371573	1.01	Target=14.99	101	3288	
356.86 > 243.00	3.886	3.895	-0.009	1.000	109600		12.51(7.50-22.49)		366	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.903	3.904	-0.001	0.947	96413	0.9015		72.1	415	
29 6:2 FTCA										
377.10 > 63.00	3.903	3.913	-0.010	1.000	54529	1.02	Target=1.26	102	283	
377.10 > 313.10	3.895	3.913	-0.018	0.998	41202		1.32(0.63-1.89)		72.3	
32 PFECHS										
460.80 > 380.90	4.054	4.065	-0.010	0.984	2358351	0.9156	Target=1.75	99.3	5991	
460.80 > 98.90	4.054	4.065	-0.010	0.984	1386692		1.70(0.87-2.62)		3121	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.102	4.112	-0.010	0.930	2029734	0.9702	Target=3.89	102	5565	
449.00 > 99.00	4.102	4.112	-0.010	0.930	496434		4.09(1.94-5.83)		2354	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.111	4.121	-0.010	0.998	851509	1.15		97.0	1392	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.002	1286553	0.9811		103	4345	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.131	-0.010	1.000	4335413	1.13		90.2	11745	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5137439	1.25			10549	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.131	-0.010	1.000	3837573	1.03	Target=2.38	103	2454	
413.00 > 169.00	4.121	4.131	-0.010	1.000	1633644		2.35(1.19-3.57)		3822	
D 39 13C4 PFOS										
503.00 > 80.00	4.412	4.421	-0.009	1.071	2531339	1.10		91.9	2114	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.412	4.421	-0.009	1.000	2272370	0.9367	Target=4.49	101	2685	M
499.00 > 99.00	4.412	4.421	-0.009	1.000	491218		4.63(2.25-6.74)		1830	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.438	4.439	-0.001	1.000	3836828	1.11	Target=3.86	111	3826	
463.00 > 169.00	4.429	4.439	-0.010	0.998	917826		4.18(1.93-5.79)		2568	
D 41 13C5 PFNA										
468.00 > 423.00	4.438	4.439	-0.001	1.077	5659148	1.09		86.8	10039	
43 7:3 FTCA										
441.00 > 337.00	4.519	4.529	-0.010	0.993	640198	1.27	Target=1.33	127	2073	
441.00 > 317.00	4.519	4.529	-0.010	0.993	466919		1.37(0.66-1.99)		1572	
44 8:2 FTUCA										
456.86 > 392.90	4.545	4.545	0.0	1.000	1868613	1.07	Target=30.23	107	5410	
456.86 > 343.00	4.536	4.545	-0.009	0.998	52253		35.76(15.12-45.35)		172	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.545	4.553	-0.008	1.000	2291236	1.23		98.7	6906	
46 8:2 FTCA										
477.00 > 393.10	4.553	4.562	-0.009	1.000	179937	1.03	Target=3.38	103	867	
477.00 > 63.20	4.553	4.562	-0.009	1.000	54091		3.33(1.69-5.07)		193	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.562	-0.009	1.105	120056	0.8839		70.7	447	
49 9CIFOS										
531.00 > 351.00	4.569	4.578	-0.009	1.109	4718485	0.99		106	7295	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.065	2133566	1.00	Target=3.87	104	2327	
549.00 > 99.00	4.697	4.697	0.0	1.065	536615		3.98(1.93-5.80)		2547	
D 55 13C8 FOSA										
506.00 > 78.00	4.705	4.714	-0.009	1.142	3739490	1.07		85.9	4397	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.705	4.714	-0.009	1.000	2952148	1.03		103	5076	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.722	4.731	-0.009	1.000	4540276	1.08	Target=11.19	108	3502	
513.00 > 169.00	4.722	4.731	-0.009	1.000	393218		11.55(5.60-16.79)		267	
D 52 13C2 PFDA										
515.00 > 470.00	4.722	4.731	-0.009	1.146	5847858	1.18		94.1	16322	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.740	-0.009	1.148	937945	2.16		97.2	1766	

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_036.d

Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.731	4.740	-0.009	1.000	1162925	0.9864		103	4914	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.863	4.872	-0.009	1.180	509967	1.09		87.5	373	
57 NMeFOSAA										
570.00 > 419.00	4.863	4.880	-0.017	1.000	439764	1.16		116	881	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.957	4.957	0.0	1.124	1926443	1.02	Target=3.53	106	3618	
599.00 > 99.00	4.957	4.957	0.0	1.124	515031		3.74(1.77-5.30)		2647	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.995	-0.009	1.000	4274683	1.01	Target=8.28	101	5247	
563.00 > 169.00	4.986	4.995	-0.009	1.000	503470		8.49(4.14-12.42)		2087	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.995	-0.009	1.210	5488746	1.14		91.5	13201	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.215	591934	1.24		99.0	1845	
62 NEtFOSAA										M
584.00 > 419.00	5.005	5.015	-0.010	1.000	459946	1.10		110	518	M
65 10:2 FTUCA										
556.86 > 492.90	5.092	5.093	-0.001	1.002	2585061	1.05		105	5344	
63 11CIFOS										
631.00 > 451.00	5.083	5.093	-0.010	1.152	3607085	0.9777		104	7211	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.083	5.093	-0.010	1.233	2536968	1.22		97.2	10078	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.238	119187	0.9378		75.0	555	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	93643	1.07	Target=2.41	107	399	
576.80 > 63.10	5.102	5.112	-0.010	1.000	41516		2.26(1.21-3.62)		176	
D 69 13C2 PFDaA										
615.00 > 570.00	5.217	5.226	-0.009	1.266	5493686	1.16		92.8	12539	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.217	5.226	-0.009	1.000	4537746	1.00	Target=6.88	99.9	4624	
613.00 > 169.00	5.217	5.226	-0.009	1.000	628482		7.22(3.44-10.31)		1346	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.243	-0.009	1.270	856793	1.26		107	4485	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.002	1495808	0.9851		102	6677	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.284	-0.009	1.280	590549	1.21		96.9	436	
74 NMeFOSA										
512.00 > 169.00	5.283	5.284	-0.001	1.002	410851	1.02		102	719	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.280	465314	1.12		89.8	50.4	
75 N-MeFOSE-M										
616.00 > 59.00	5.292	5.292	0.0	1.003	589595	1.06		106	815	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.390	5.399	-0.009	1.222	1915402	0.9565	Target=4.29	98.8	2129	
699.00 > 99.00	5.390	5.399	-0.009	1.222	449281		4.26(2.14-6.43)		3117	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.040	3911336	1.01	Target=6.38	101	4544	
663.00 > 169.00	5.426	5.435	-0.009	1.040	631471		6.19(3.19-9.57)		2022	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	540846	1.07		85.6	262	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.452	5.452	0.0	1.323	344859	1.04		82.9	768	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	598035	0.9741		97.4	613	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.000	362154	1.05		105	588	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.607	5.617	-0.010	1.000	461771	1.04	Target=1.02	104	1784	
713.00 > 219.00	5.607	5.617	-0.010	1.000	459119		1.01(0.51-1.53)		2655	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.607	5.617	-0.010	1.361	4288864	1.13		90.6	11011	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.916	5.924	-0.008	1.000	2617621	1.03	Target=8.32	103	4232	
813.00 > 169.00	5.916	5.924	-0.008	1.000	314910		8.31(4.16-12.48)		1096	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.436	2781847	1.13		90.3	5225	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.185	-0.006	1.044	2437349	1.08	Target=11.94	108	3792	
913.00 > 169.00	6.179	6.185	-0.006	1.044	201898		12.07(5.97-17.91)		851	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_036.d

Injection Date: 19-Feb-2022 00:40:43

Instrument ID: LCA

Lims ID: LCS 140-58914/2-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 36

Worklist Smp#: 36

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

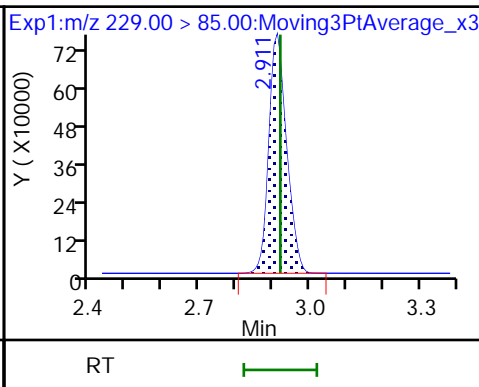
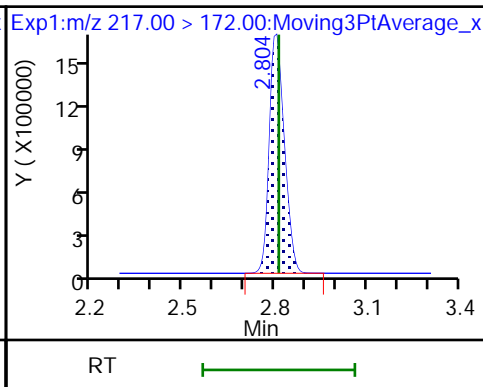
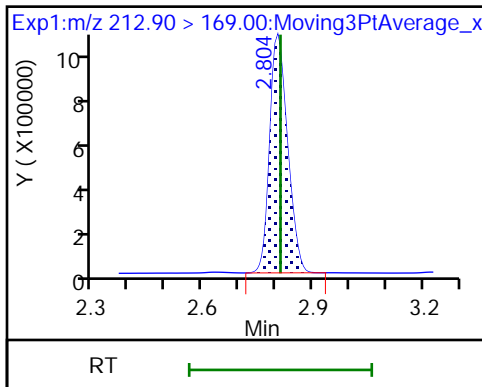
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

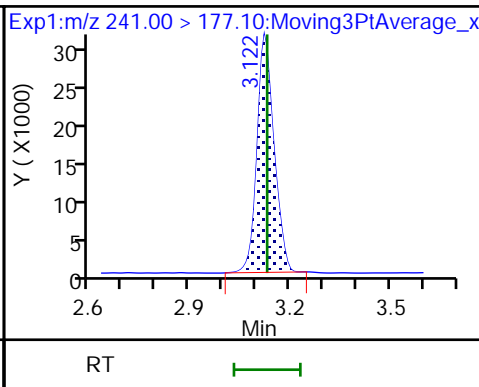
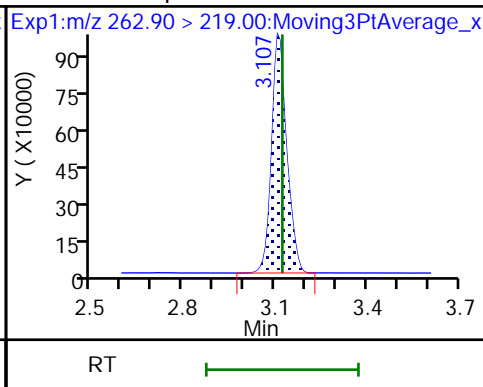
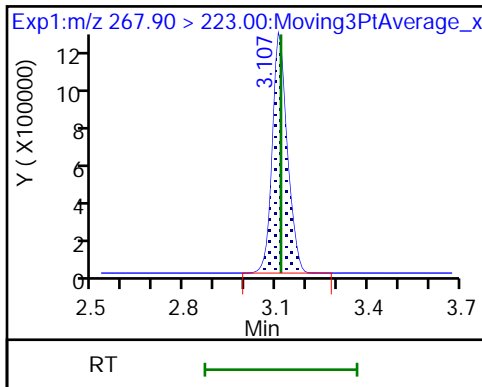
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

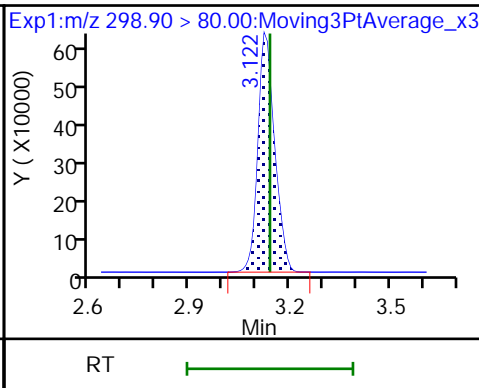
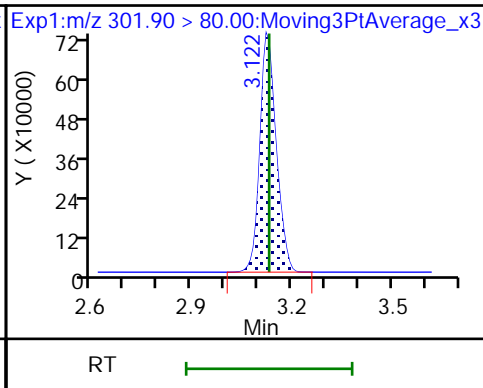
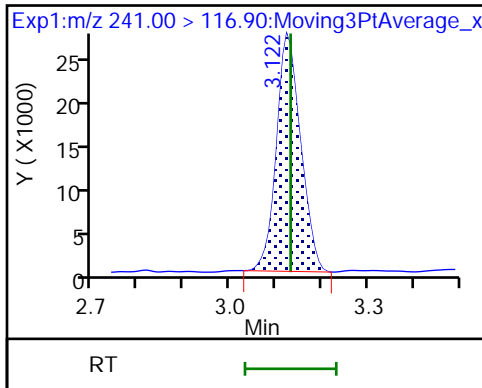
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

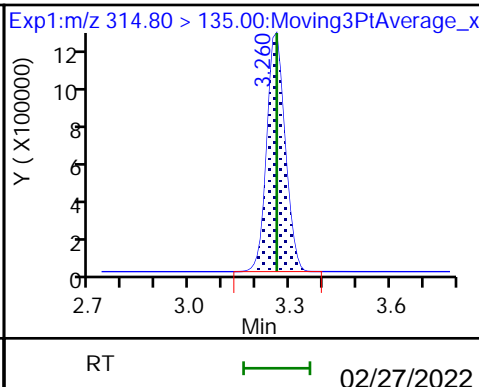
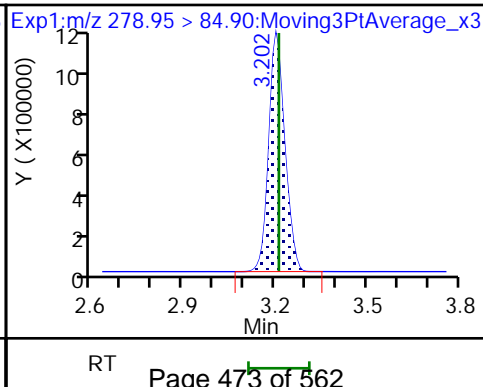
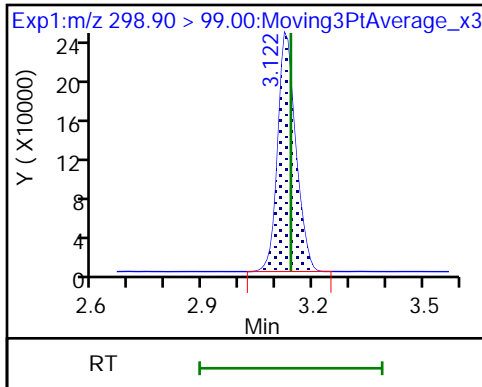
8 Perfluorobutanesulfonic acid

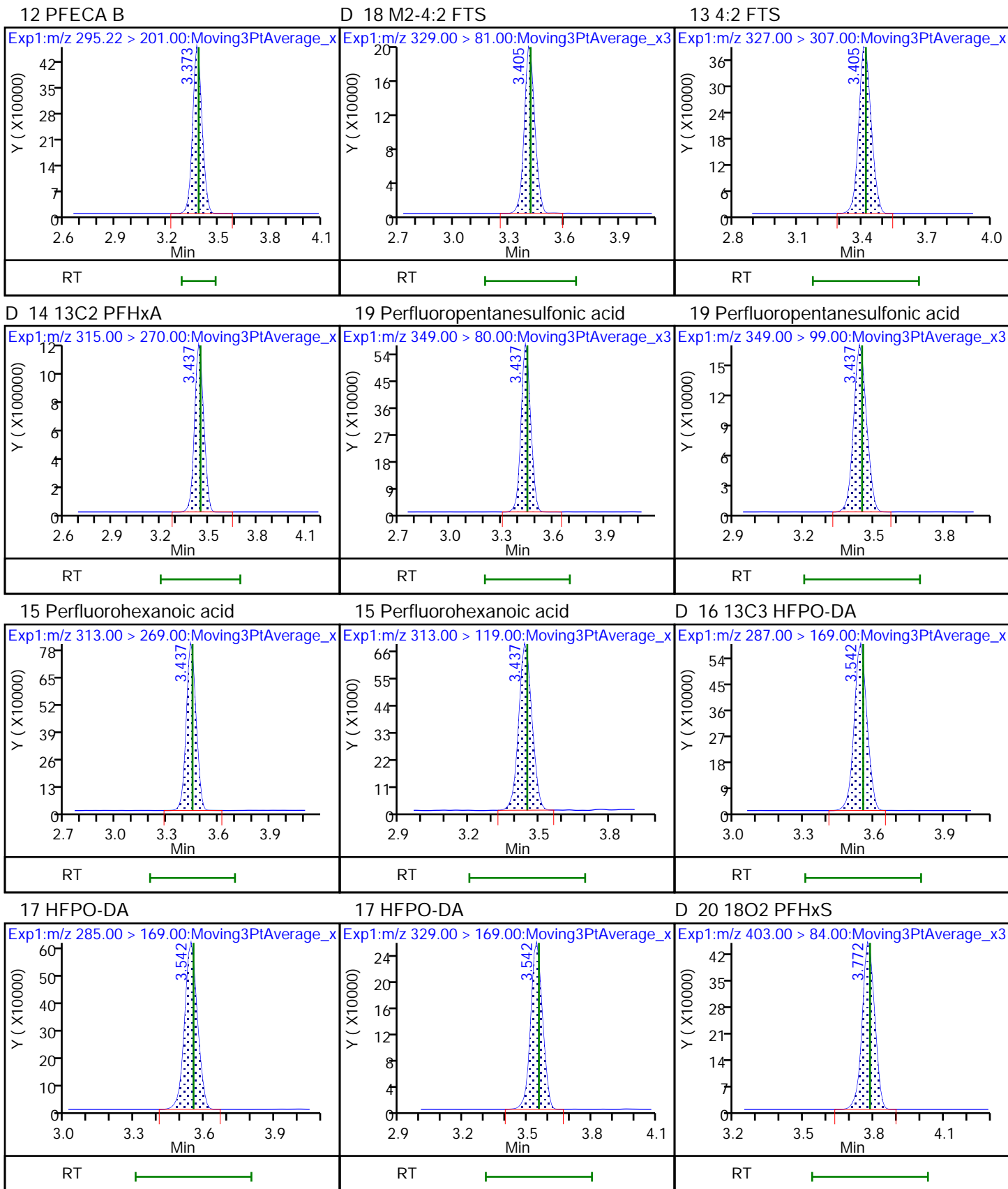


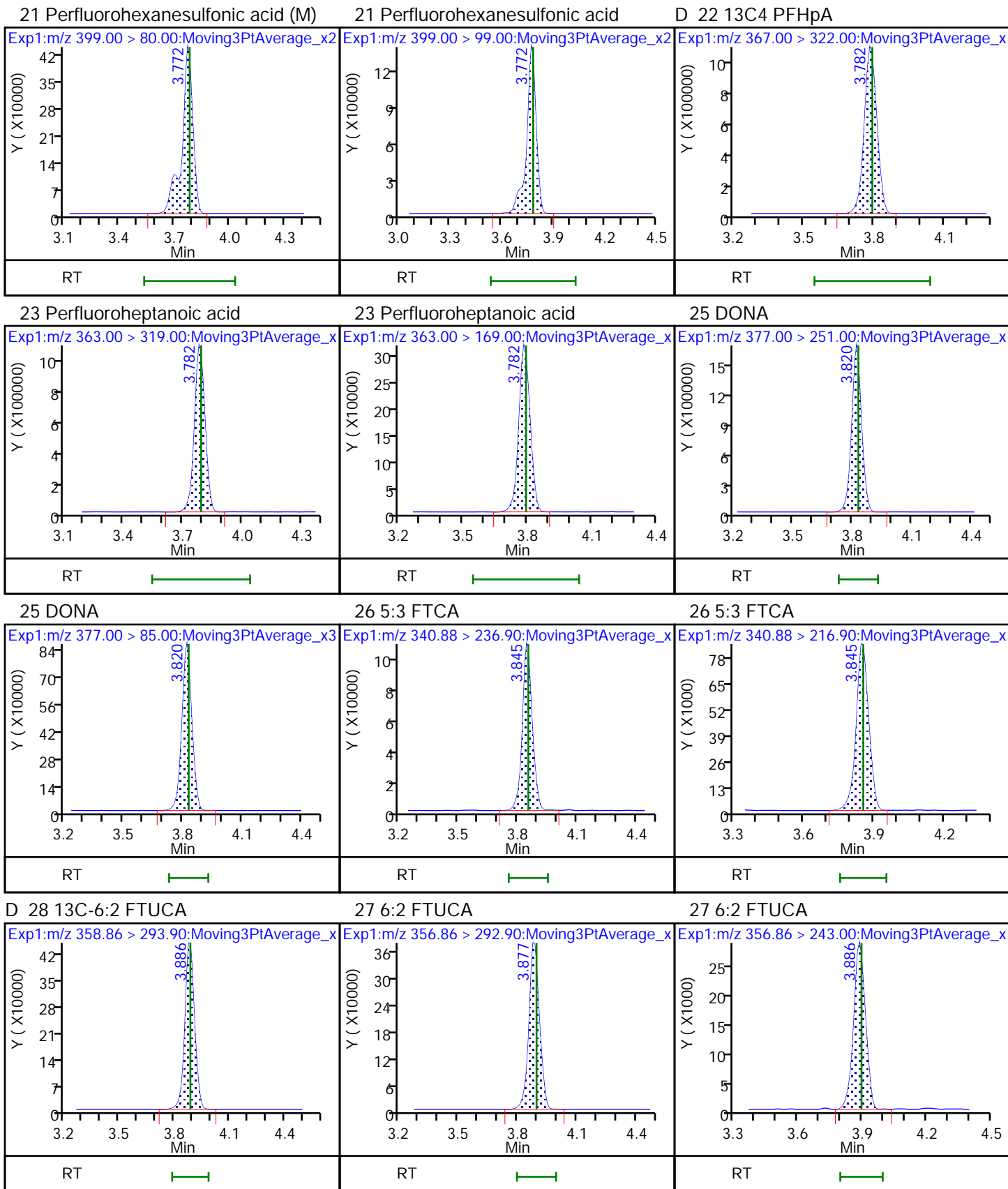
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



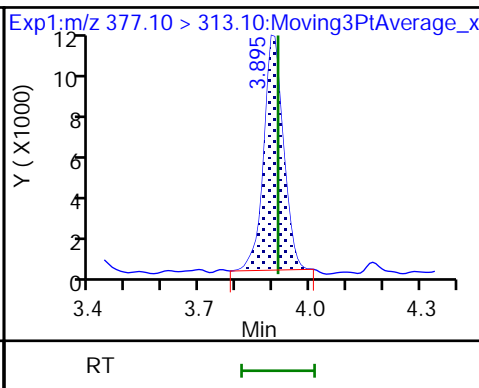
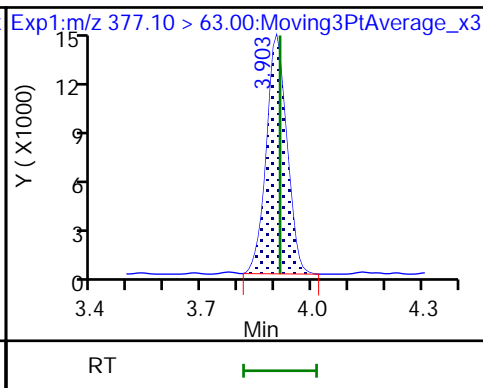
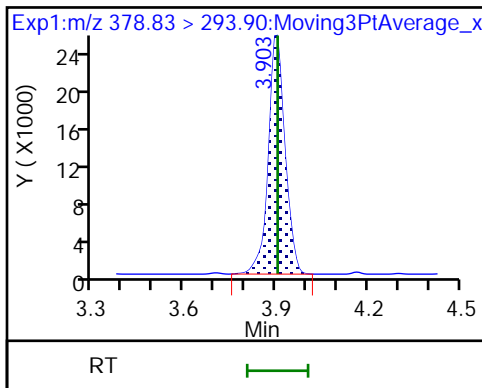




D 24 13C-6:2 FTCA

29 6:2 FTCA

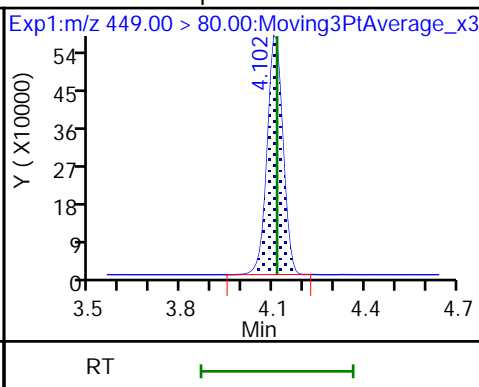
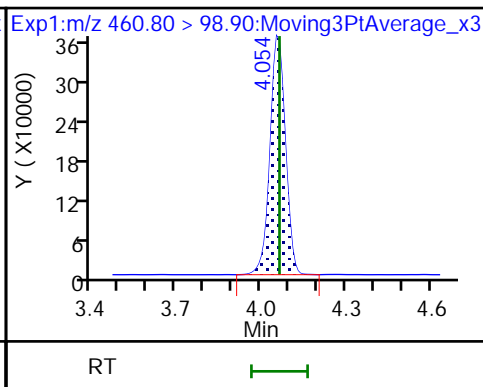
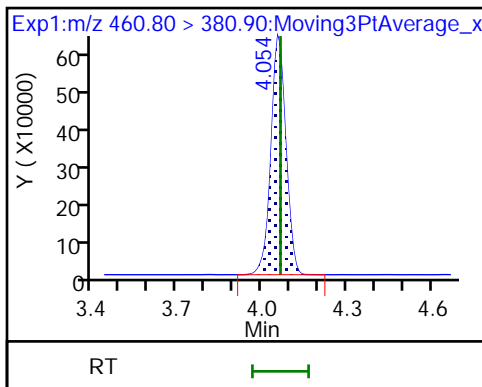
29 6:2 FTCA



32 PFECHS

32 PFECHS

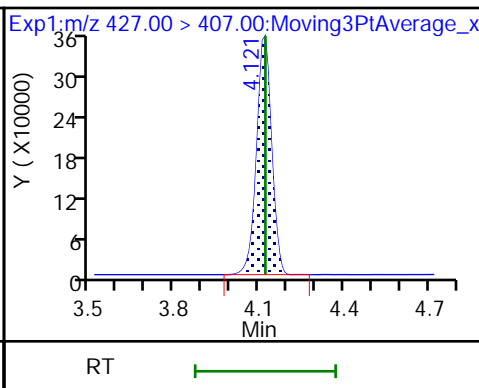
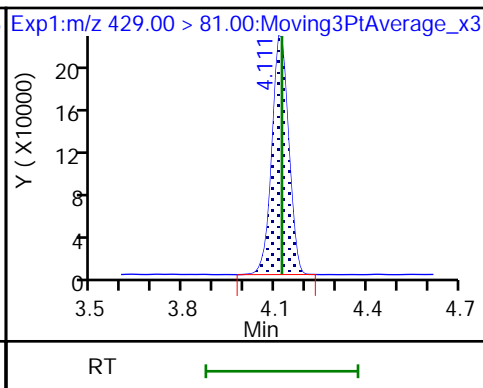
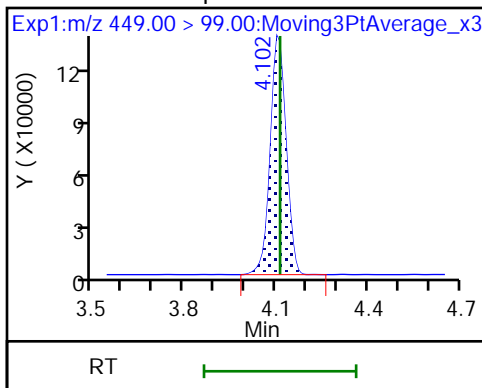
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

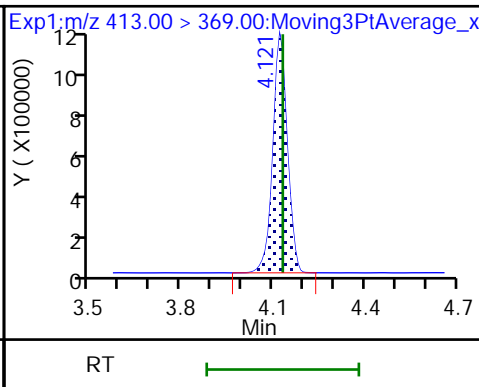
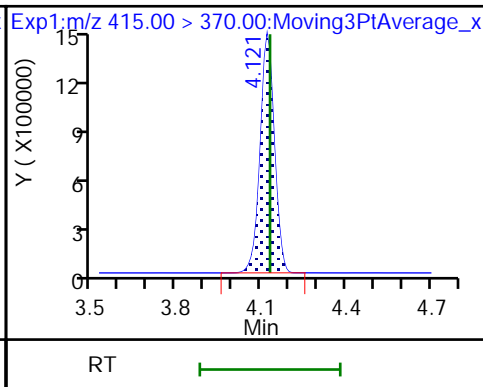
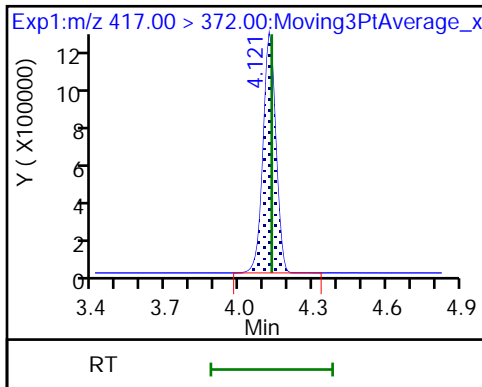
35 6:2 FTS



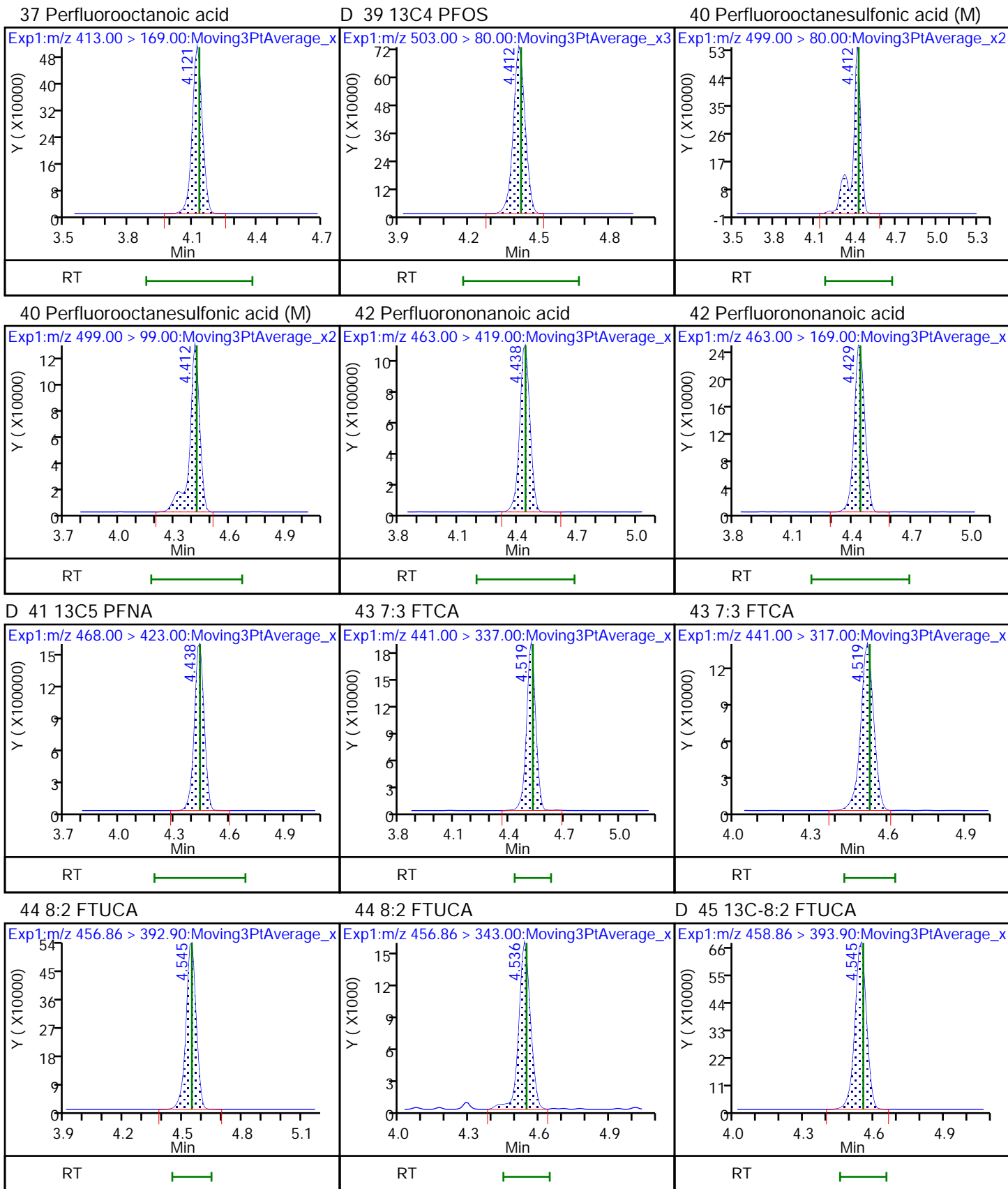
D 31 13C4 PFOA

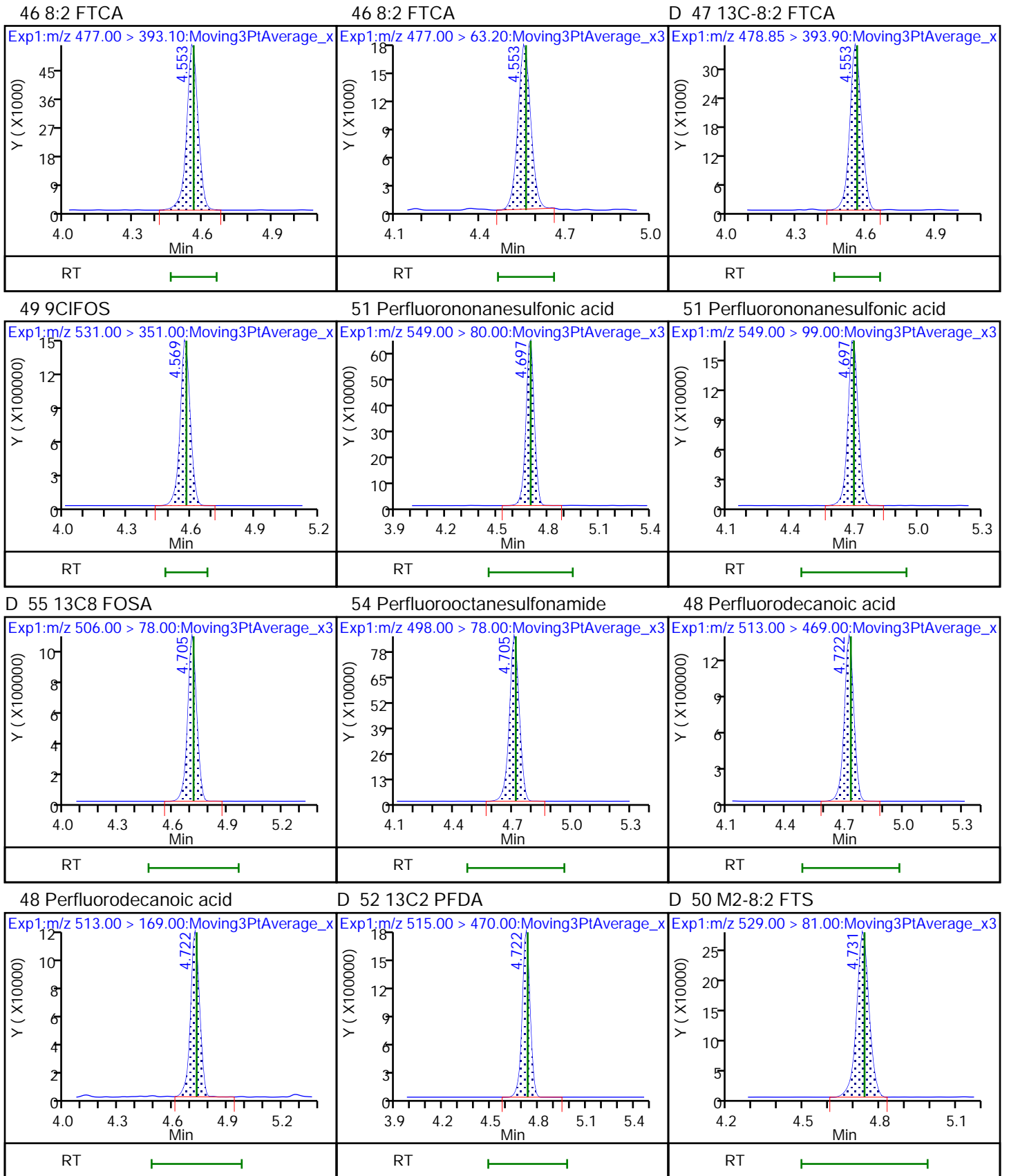
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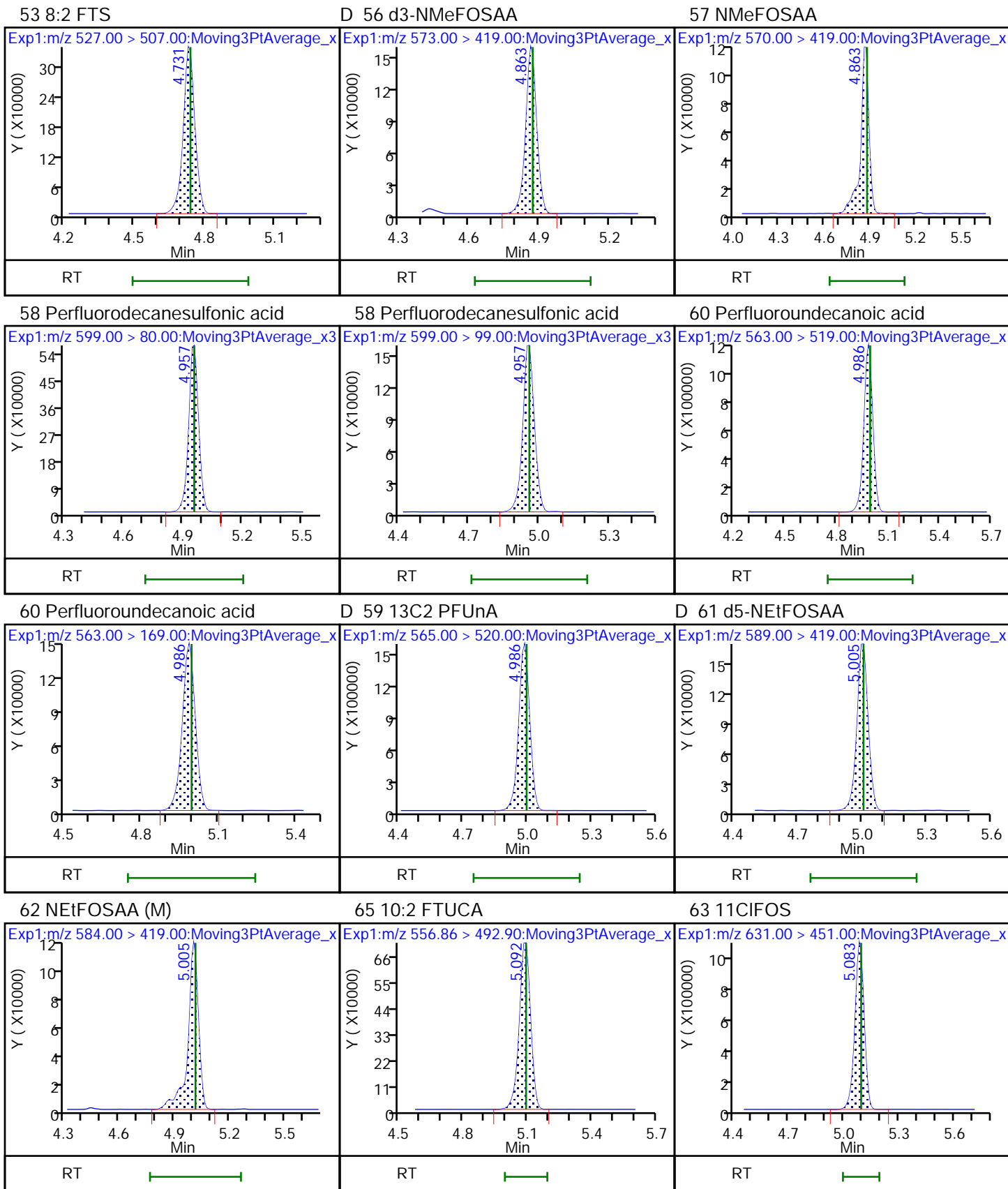
37 Perfluorooctanoic acid







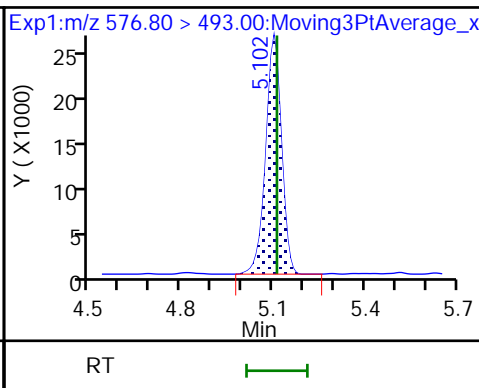
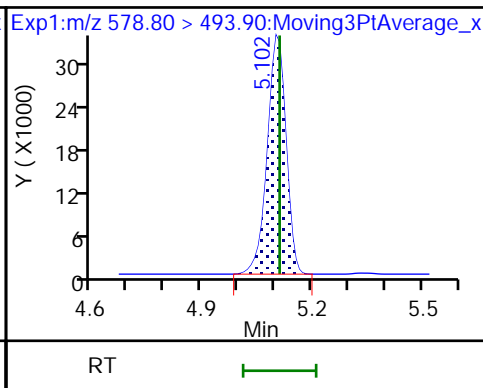
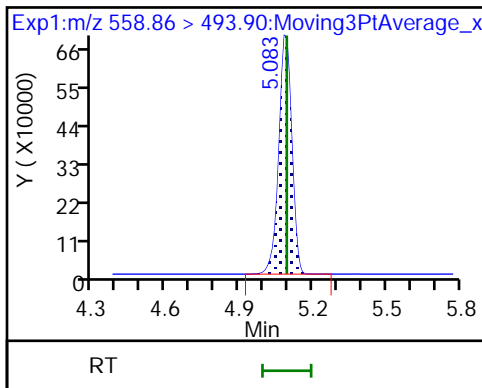




D 67 13C-10:2 FTUCA

D 64 13C-10:2 FTCA

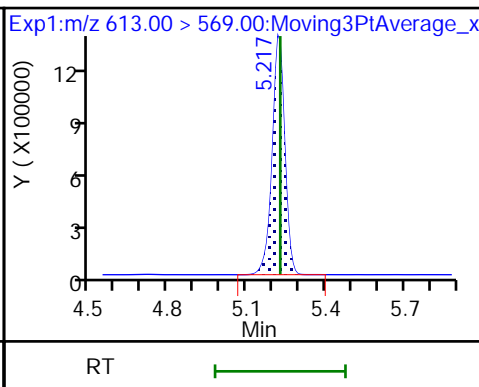
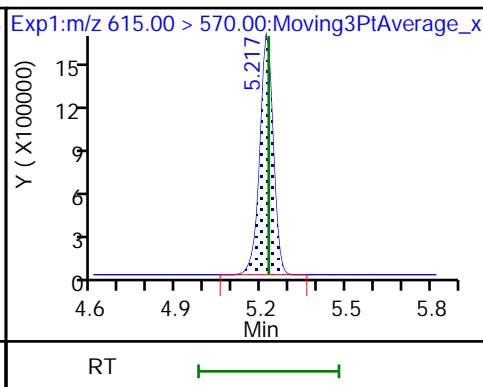
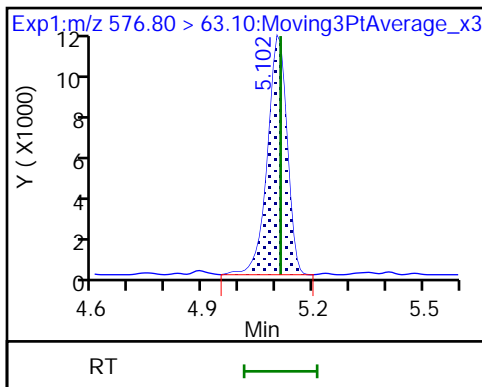
66 10:2 FTCA



66 10:2 FTCA

D 69 13C2 PFDaA

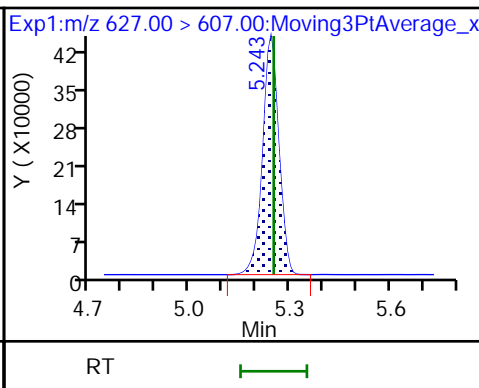
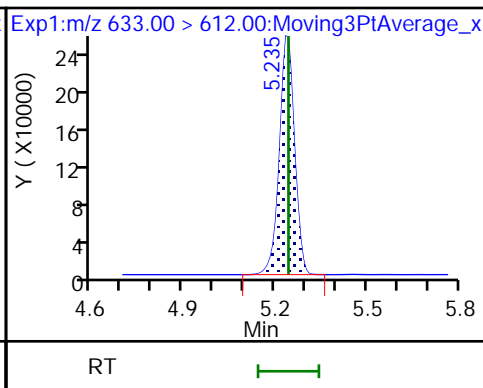
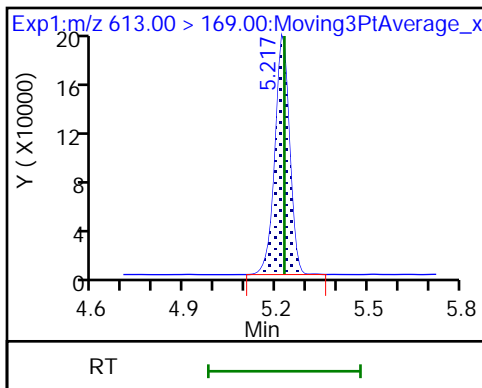
68 Perfluorododecanoic acid



68 Perfluorododecanoic acid

D 70 13C2 10:2 FTS

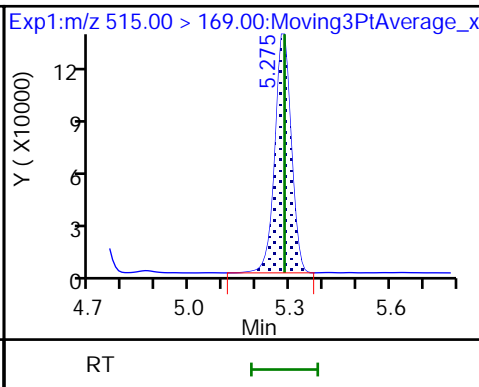
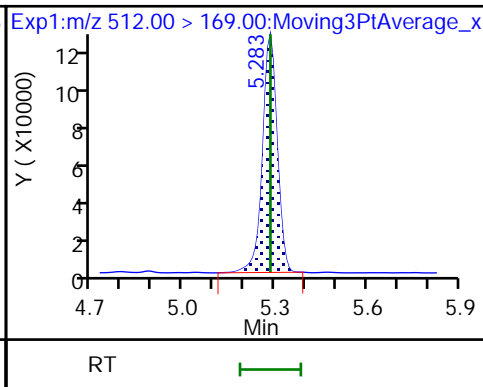
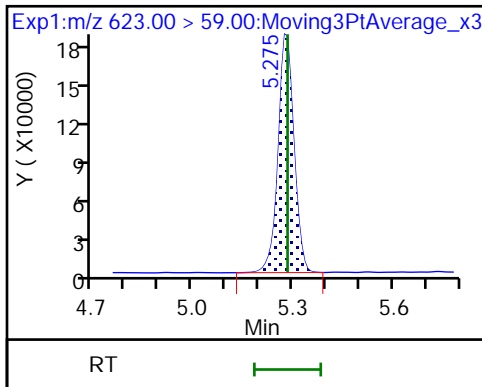
71 10:2 FTS

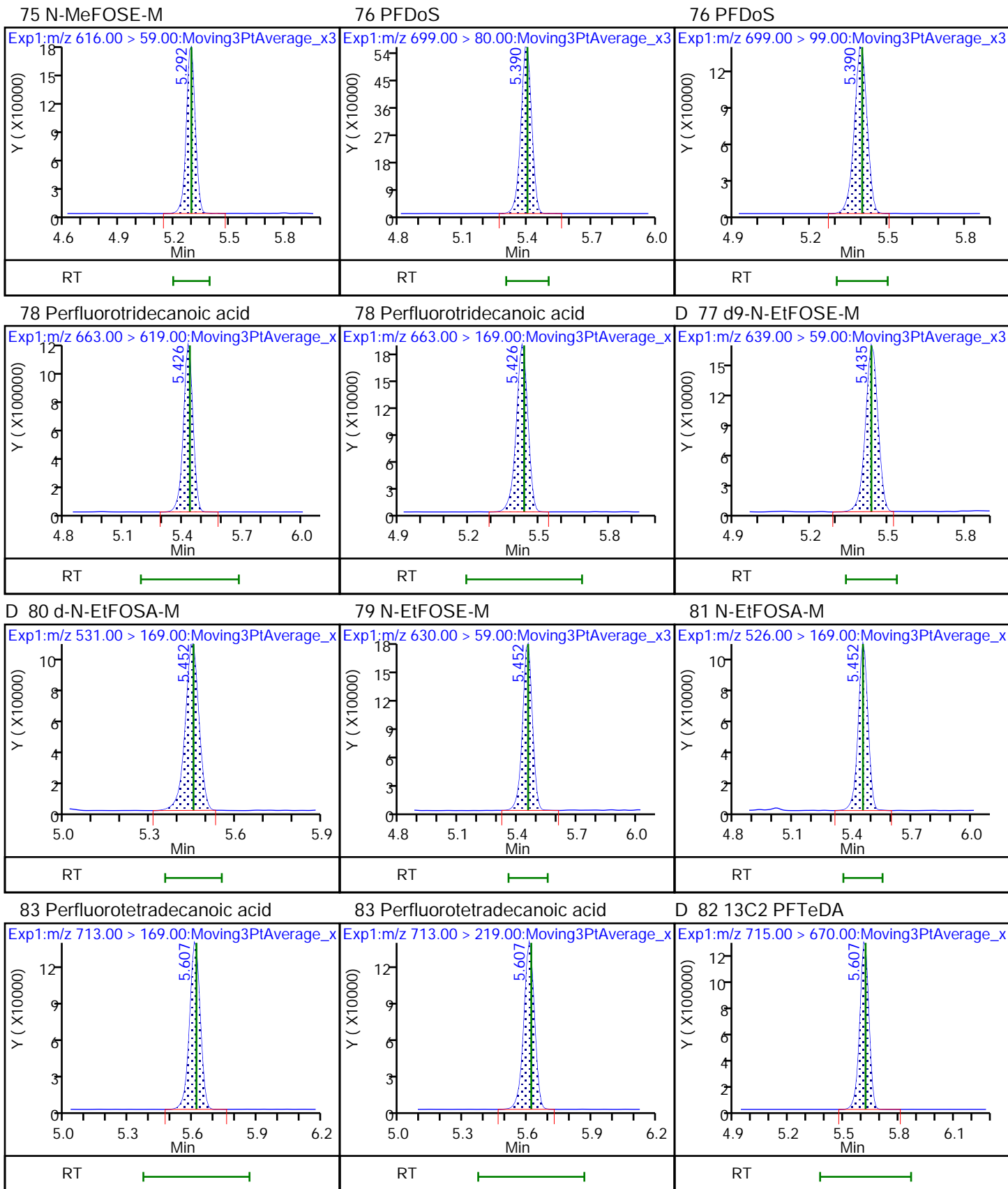


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74 NMeFOSA

D 73 d-N-MeFOSA-M

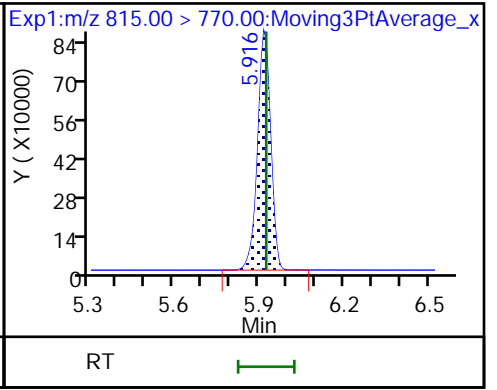
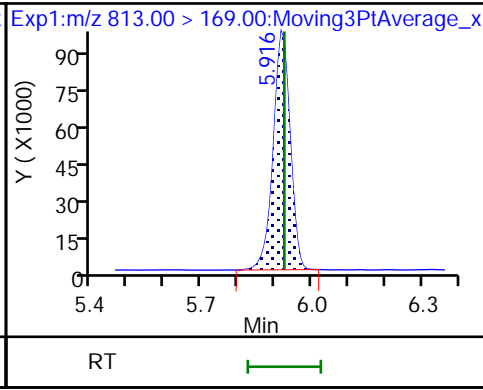
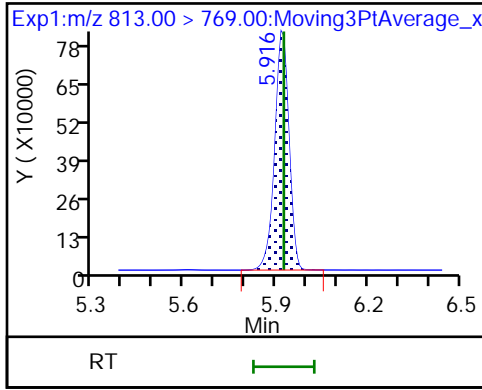




85 Perfluorohexadecanoic acid

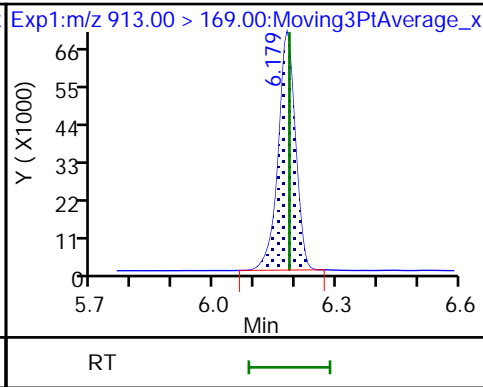
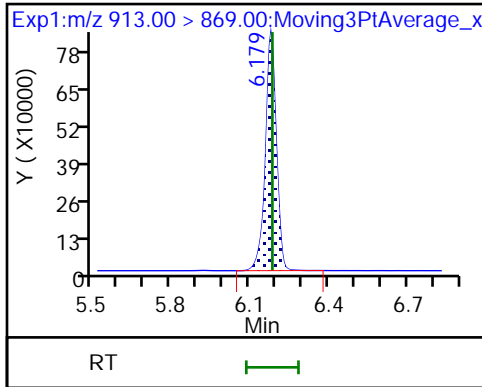
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 140-58967/2-A  
 Matrix: Air Lab File ID: 021.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/18/2022 22:28  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.01237		0.000500	0.0000870

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	79		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_021.d  
 Lims ID: LCS 140-58967/2-A  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 18-Feb-2022 22:28:41 ALS Bottle#: 21 Worklist Smp#: 21  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-021 lcs 140-58967/2-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:10:06  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.797	2.811	-0.014	1.000	3965825	1.20	120	1506	
D 2 13C4 PFBA	217.00 > 172.00	2.797	2.811	-0.014	0.679	5231791	1.02	81.9	15044	
3 PFECA F	229.00 > 85.00	2.903	2.919	-0.016	0.934	2768322	1.09	109	8825	
D 5 13C5 PFPeA	267.90 > 223.00	3.107	3.115	-0.008	0.754	4212656	1.05	84.1	15044	
6 Perfluoropentanoic acid	262.90 > 219.00	3.107	3.123	-0.016	1.000	3862053	1.22	122	1752	
4 3:3 FTCA	241.00 > 177.10	3.123	3.131	-0.008	1.000	141168	1.28	Target=1.16	128	1829
	241.00 > 116.90	3.123	3.131	-0.008	1.000	119564		1.18(0.58-1.74)		170
D 7 13C3 PFBS	301.90 > 80.00	3.123	3.131	-0.008	0.758	2357344	0.9297	80.0	10860	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.123	3.140	-0.017	1.000	2455754	1.10	Target=2.74	125	5776
	298.90 > 99.00	3.123	3.140	-0.017	1.000	932432		2.63(1.37-4.11)		4894
9 PFECA A	278.95 > 84.90	3.202	3.211	-0.009	1.031	4685955	1.18	118	14103	
11 PES	314.80 > 135.00	3.249	3.260	-0.011	1.041	5247339	1.09	122	19554	
12 PFECA B	295.22 > 201.00	3.374	3.384	-0.010	0.981	1800497	1.19	119	7549	
D 18 M2-4:2 FTS	329.00 > 81.00	3.405	3.416	-0.011	0.826	717842	0.9045	77.5	1389	
13 4:2 FTS	327.00 > 307.00	3.405	3.416	-0.011	1.000	1648896	1.18	126	7850	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C2 PFHxA										
315.00 > 270.00	3.437	3.448	-0.011	0.834	4529689	1.02		81.9	12986	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.437	3.448	-0.011	1.101	2375371	1.13	Target=3.48	121	5831	
349.00 > 99.00	3.437	3.448	-0.011	1.101	676161		3.51(1.74-5.23)		4837	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.437	3.448	-0.011	1.000	3315477	1.15	Target=12.09	115	1637	
313.00 > 119.00	3.437	3.448	-0.011	1.000	301765		10.99(6.04-18.13)		282	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.533	3.553	-0.020	0.857	2140130	0.9894		79.1	6582	
17 HFPO-DA										
285.00 > 169.00	3.533	3.553	-0.020	1.000	2671385	1.24	Target=2.53	124	1720	
329.00 > 169.00	3.533	3.553	-0.020	1.000	1029658		2.59(1.26-3.79)		1143	
D 20 18O2 PFHxS										
403.00 > 84.00	3.773	3.783	-0.010	0.915	1598059	0.9710		82.1	5238	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.773	3.783	-0.010	1.000	1913121	1.02	Target=3.31	112	5107	M
399.00 > 99.00	3.773	3.783	-0.010	1.000	584263		3.27(1.66-4.97)		2369	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.782	3.793	-0.011	0.918	4097226	1.04		83.1	11674	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.782	3.793	-0.011	1.000	4157091	1.26	Target=3.40	126	3136	
363.00 > 169.00	3.782	3.793	-0.011	1.000	1289459		3.22(1.70-5.09)		3478	
25 DONA										
377.00 > 251.00	3.812	3.829	-0.017	0.864	5962160	1.14	Target=1.74	121	10888	
377.00 > 85.00	3.821	3.829	-0.008	0.866	3293926		1.81(0.87-2.61)		4584	
26 5:3 FTCA										
340.88 > 236.90	3.845	3.853	-0.008	0.987	422953	1.05	Target=1.13	105	1449	
340.88 > 216.90	3.845	3.853	-0.008	0.987	397185		1.06(0.56-1.69)		1004	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.878	3.887	-0.008	0.941	1584338	1.08		86.2	4371	
27 6:2 FTUCA										
356.86 > 292.90	3.878	3.895	-0.017	1.000	1565405	1.18	Target=14.14	118	3998	
356.86 > 243.00	3.878	3.895	-0.017	1.000	110743		14.14(7.07-21.20)		465	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.895	3.904	-0.009	0.945	133306	1.18		94.0	706	
29 6:2 FTCA										
377.10 > 63.00	3.895	3.913	-0.018	1.000	77807	1.05	Target=1.42	105	315	
377.10 > 313.10	3.895	3.913	-0.018	1.000	52860		1.47(0.71-2.13)		110	
32 PFECHS										
460.80 > 380.90	4.055	4.065	-0.009	0.984	2683248	1.08	Target=1.67	117	6710	
460.80 > 98.90	4.055	4.065	-0.009	0.984	1556053		1.72(0.84-2.51)		3963	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.102	4.112	-0.010	0.930	2189873	1.12	Target=3.94	118	4899	
449.00 > 99.00	4.102	4.112	-0.010	0.930	562417		3.89(1.97-5.90)		2965	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.112	4.121	-0.009	0.998	798260	1.02		85.7	1853	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.112	4.121	-0.009	1.000	1334784	1.09		115	3337	
D 31 13C4 PFOA										
417.00 > 372.00	4.121	4.131	-0.010	1.000	4182108	1.03		82.0	8510	
* 30 13C2 PFOA										
415.00 > 370.00	4.121	4.131	-0.010		5448593	1.25			9530	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.121	4.131	-0.010	1.000	4158806	1.16	Target=2.33	116	3444	
413.00 > 169.00	4.121	4.131	-0.010	1.000	1730788		2.40(1.17-3.50)		3111	
D 39 13C4 PFOS										
503.00 > 80.00	4.413	4.421	-0.008	1.071	2360270	0.9651		80.8	2852	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.413	4.421	-0.008	1.000	2434179	1.08	Target=4.42	116	2351	M
499.00 > 99.00	4.413	4.421	-0.008	1.000	553265		4.40(2.21-6.63)		1442	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.430	4.439	-0.009	1.000	4064389	1.21	Target=3.81	121	4200	
463.00 > 169.00	4.430	4.439	-0.009	1.000	1047224		3.88(1.90-5.71)		3374	
D 41 13C5 PFNA										
468.00 > 423.00	4.430	4.439	-0.009	1.075	5513928	1.00		79.8	11764	
43 7:3 FTCA										
441.00 > 337.00	4.511	4.529	-0.018	0.991	727641	0.9775	Target=1.44	97.8	2761	
441.00 > 317.00	4.511	4.529	-0.018	0.991	547916		1.33(0.72-2.16)		1444	
44 8:2 FTUCA										
456.86 > 392.90	4.537	4.545	-0.008	1.000	2006721	1.21	Target=33.93	121	4692	
456.86 > 343.00	4.537	4.545	-0.008	1.000	54969		36.51(16.96-50.89)		177	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.537	4.553	-0.016	1.000	2158915	1.10		87.7	4600	
46 8:2 FTCA										
477.00 > 393.10	4.553	4.562	-0.009	1.000	250273	0.9710	Target=3.19	97.1	1045	
477.00 > 63.20	4.553	4.562	-0.009	1.000	79110		3.16(1.59-4.78)		471	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.553	4.562	-0.009	1.105	177915	1.24		98.8	659	
49 9CIFOS										
531.00 > 351.00	4.570	4.578	-0.008	1.109	4797239	1.08		116	4863	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.689	4.697	-0.008	1.063	2174284	1.09	Target=3.97	113	3616	
549.00 > 99.00	4.689	4.697	-0.008	1.063	562646		3.86(1.99-5.96)		2254	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.714	-0.008	1.142	3900660	1.06		84.5	4320	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.714	-0.008	1.000	3477963	1.17		117	4929	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.714	4.731	-0.017	1.000	4747639	1.22	Target=11.13	122	4592	
513.00 > 169.00	4.714	4.731	-0.017	1.000	436712		10.87(5.57-16.70)		302	
D 52 13C2 PFDA										
515.00 > 470.00	4.714	4.731	-0.017	1.144	5409249	1.03		82.1	13723	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.740	-0.009	1.148	5402846	0.9830		82.1	1525	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.731	4.740	-0.009	1.000	1173817	1.11		116	4104	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.863	4.872	-0.009	1.180	521636	1.05		84.4	427	
57 NMeFOSAA										
570.00 > 419.00	4.863	4.880	-0.017	1.000	507371	1.31		131	727	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.949	4.957	-0.008	1.121	2052731	1.17	Target=3.72	121	4781	
599.00 > 99.00	4.949	4.957	-0.008	1.121	562381		3.65(1.86-5.59)		1883	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.976	4.995	-0.019	1.000	4931710	1.18	Target=8.47	118	5571	
563.00 > 169.00	4.976	4.995	-0.019	1.000	564339		8.74(4.23-12.70)		2404	
D 59 13C2 PFUnA										
565.00 > 520.00	4.976	4.995	-0.019	1.207	5387499	1.06		84.7	8733	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.995	5.005	-0.010	1.212	604561	1.19		95.3	2256	
62 NEtFOSAA										M
584.00 > 419.00	5.005	5.015	-0.010	1.002	522545	1.22		122	557	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.083	5.093	-0.010	1.233	2336318	1.06		84.4	4527	
65 10:2 FTUCA										
556.86 > 492.90	5.083	5.093	-0.010	1.000	2894534	1.28		128	5511	
63 11CIFOS										
631.00 > 451.00	5.083	5.093	-0.010	1.152	3910385	1.14		121	6714	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.112	-0.010	1.238	150848	1.12		89.5	733	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.112	-0.010	1.000	136374	1.23	Target=2.54	123	577	
576.80 > 63.10	5.102	5.112	-0.010	1.000	64119		2.13(1.27-3.81)		226	
D 69 13C2 PFDaA										
615.00 > 570.00	5.217	5.226	-0.009	1.266	5300280	1.06		84.4	10790	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.217	5.226	-0.009	1.000	4897394	1.12	Target=7.02	112	4550	
613.00 > 169.00	5.217	5.226	-0.009	1.000	731809		6.69(3.51-10.53)		1499	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.243	-0.008	1.270	706446	0.9813		82.9	4577	
71 10:2 FTS										
627.00 > 607.00	5.235	5.251	-0.016	1.000	1397942	1.12		116	4553	
74 NMeFOSA										
512.00 > 169.00	5.275	5.284	-0.009	1.000	434285	1.18		118	610	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.284	-0.009	1.280	424845	0.9658		77.3	42.8	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.284	-0.009	1.280	551385	1.07		85.3	476	
75 N-MeFOSE-M										
616.00 > 59.00	5.283	5.292	-0.009	1.002	591627	1.14		114	806	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.390	5.399	-0.009	1.221	2089080	1.12	Target=4.52	116	3864	
699.00 > 99.00	5.390	5.399	-0.009	1.221	500499		4.17(2.26-6.78)		1839	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.040	4364886	1.17	Target=5.96	117	4815	
663.00 > 169.00	5.426	5.435	-0.009	1.040	711417		6.14(2.98-8.94)		2951	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	527906	0.9844		78.8	261	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.443	5.452	-0.009	1.321	325092	0.9214		73.7	536	
79 N-EtFOSE-M										
630.00 > 59.00	5.443	5.452	-0.009	1.002	701239	1.17		117	685	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.002	406530	1.25		125	526	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.607	5.617	-0.010	1.000	498236	1.17	Target=0.99	117	2005	
713.00 > 219.00	5.607	5.617	-0.010	1.000	487096		1.02(0.49-1.48)		2278	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.607	5.617	-0.010	1.361	4141692	1.03		82.5	9043	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.916	5.924	-0.008	1.000	2803615	1.14	Target=8.23	114	3421	
813.00 > 169.00	5.916	5.924	-0.008	1.000	351043		7.99(4.11-12.34)		977	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.435	2715687	1.04		83.1	5170	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.173	6.185	-0.012	1.043	2500718	1.14	Target=11.52	114	2907	
913.00 > 169.00	6.173	6.185	-0.012	1.043	218182		11.46(5.76-17.29)		853	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_021.d

Injection Date: 18-Feb-2022 22:28:41

Instrument ID: LCA

Lims ID: LCS 140-58967/2-A

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 21

Worklist Smp#: 21

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

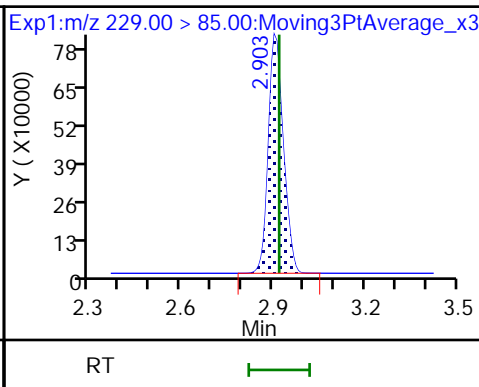
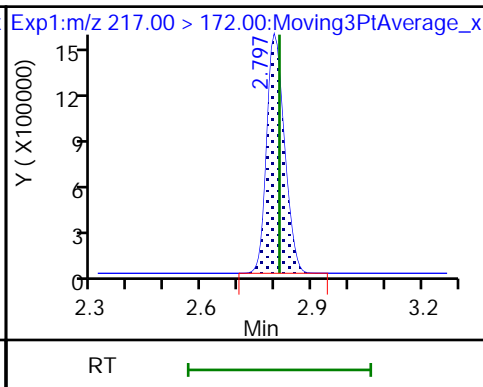
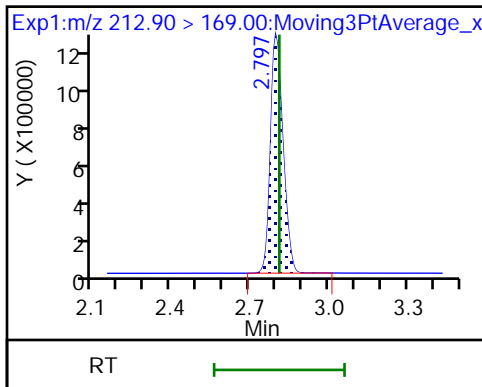
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

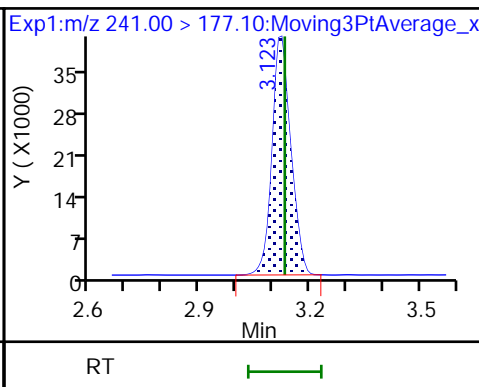
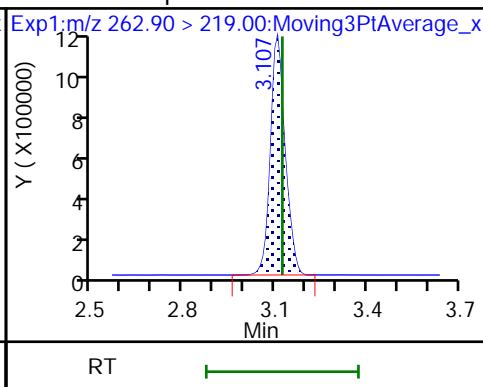
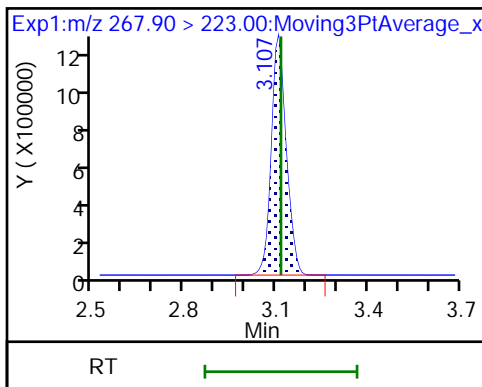
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

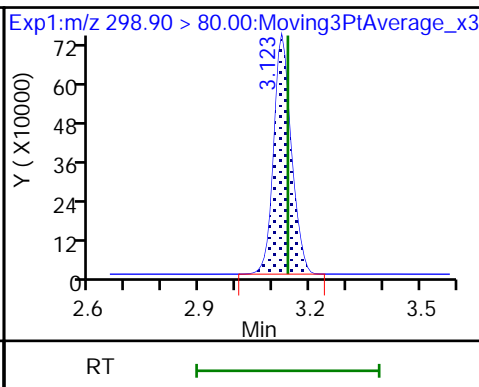
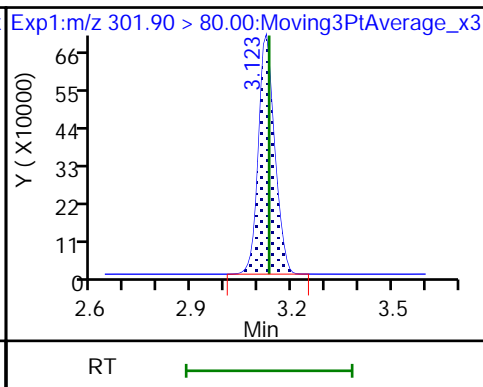
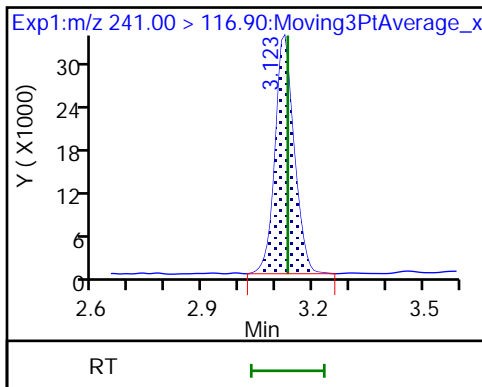
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

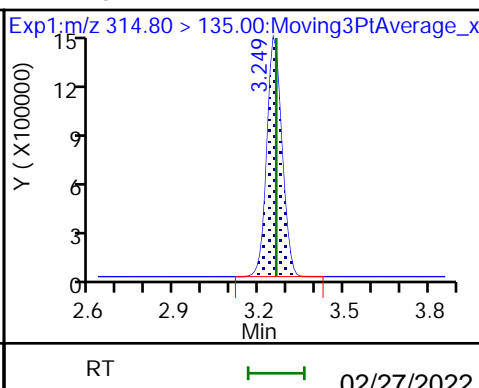
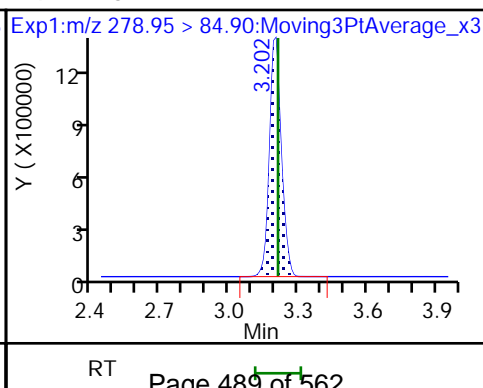
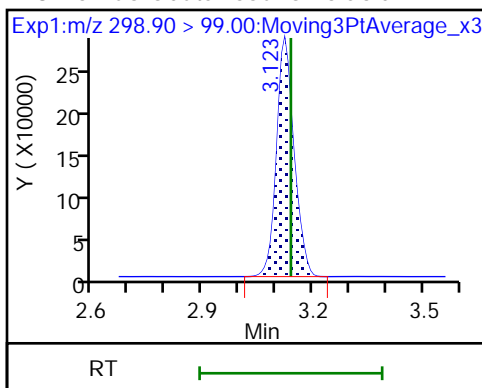
8 Perfluorobutanesulfonic acid

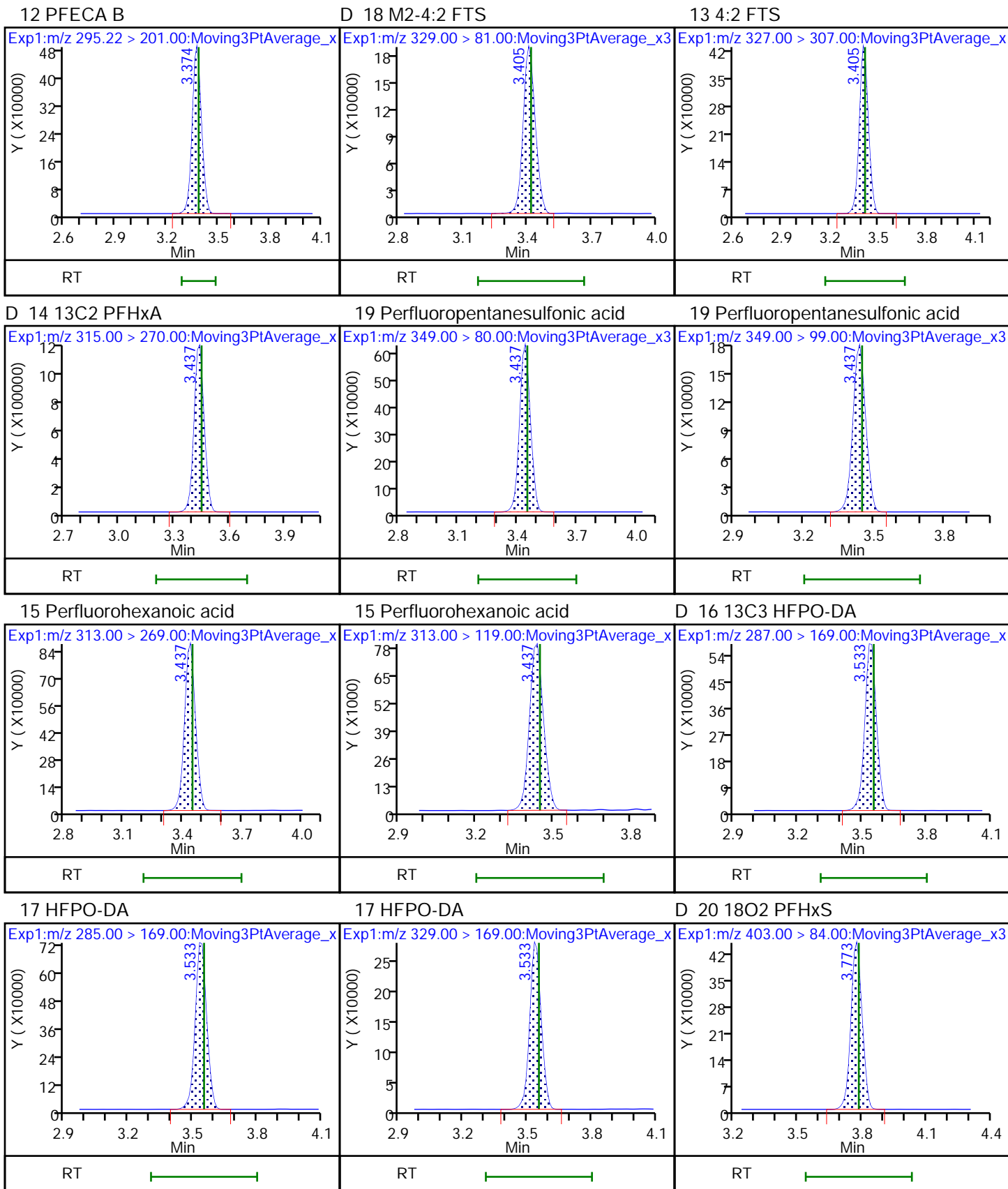


8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES

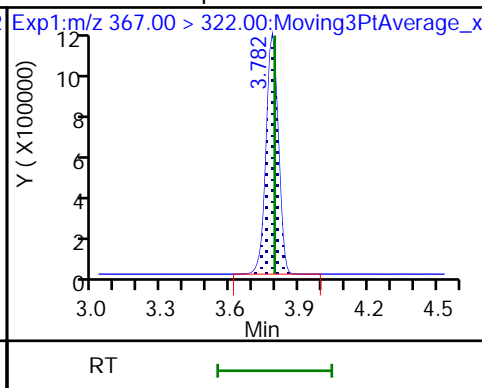
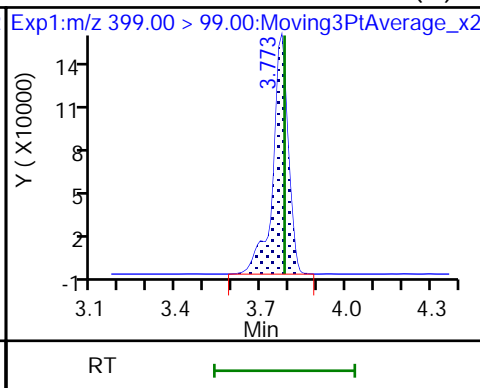
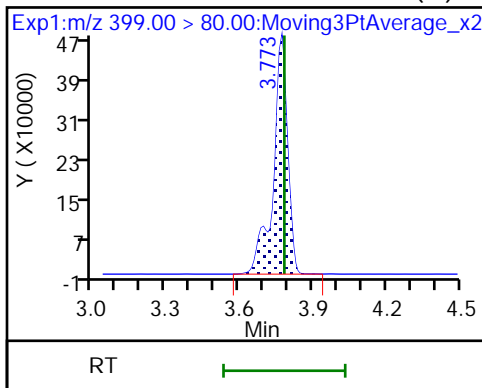




21 Perfluorohexanesulfonic acid (M)

21 Perfluorohexanesulfonic acid (M)

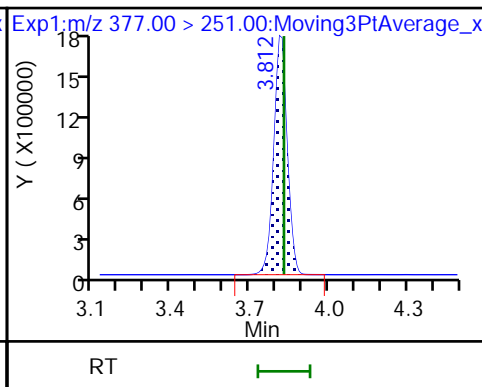
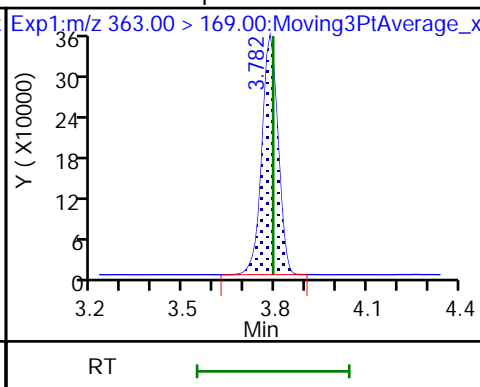
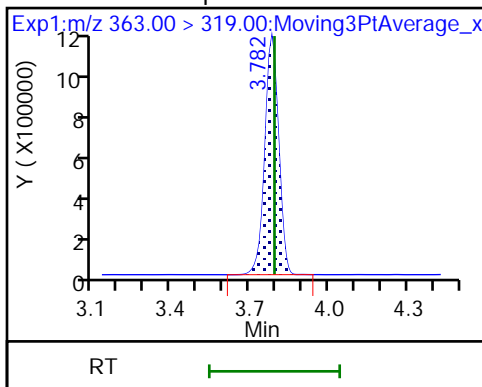
D 22 13C4 PFHpA



23 Perfluoroheptanoic acid

23 Perfluoroheptanoic acid

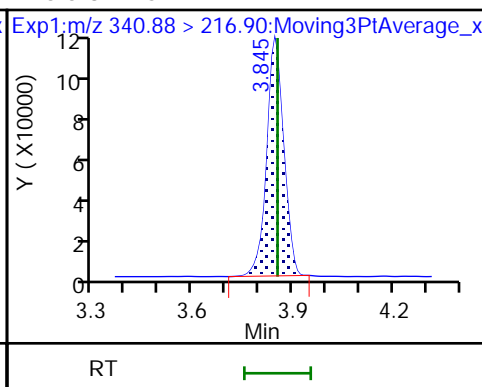
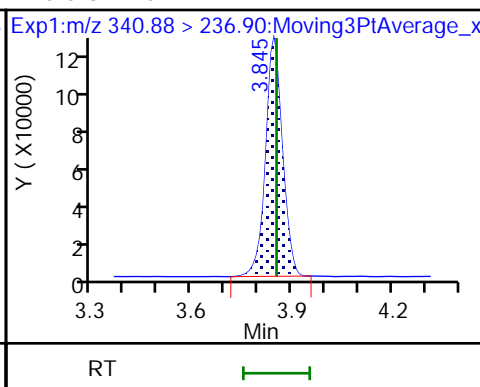
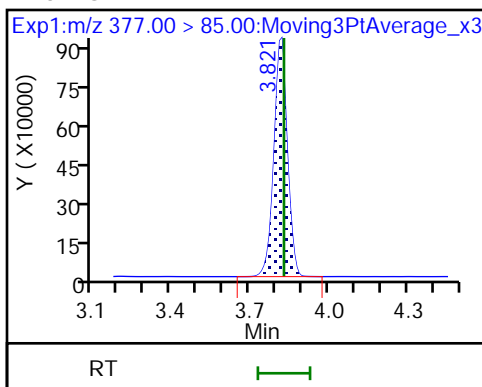
25 DONA



25 DONA

26 5:3 FTCA

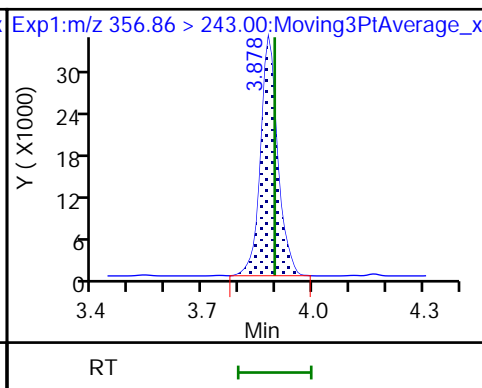
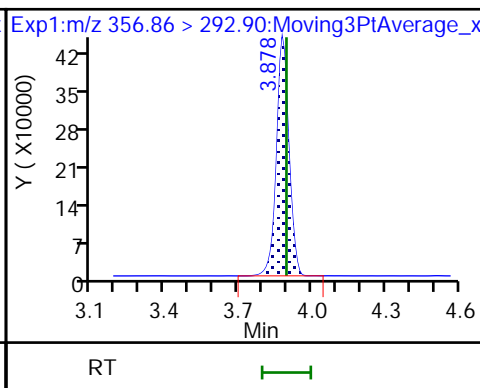
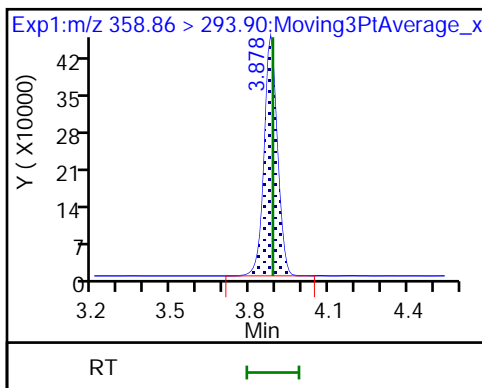
26 5:3 FTCA



D 28 13C-6:2 FTUCA

27 6:2 FTUCA

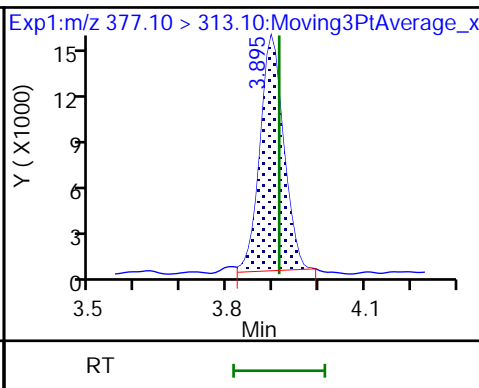
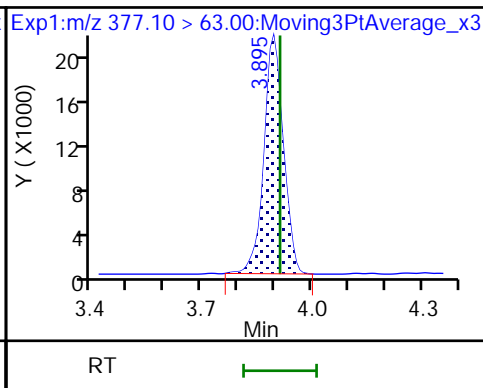
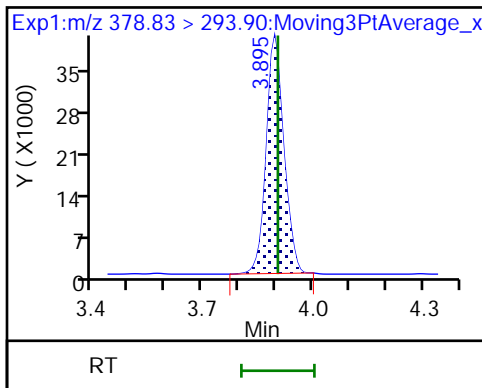
27 6:2 FTUCA



D 24 13C-6:2 FTCA

29 6:2 FTCA

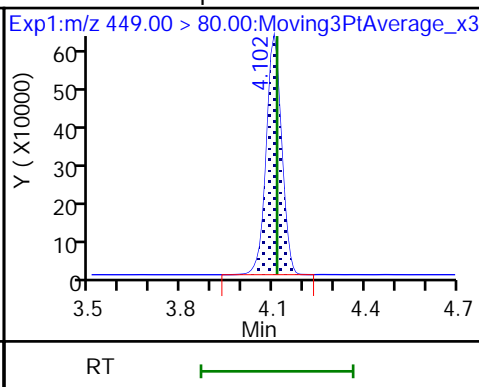
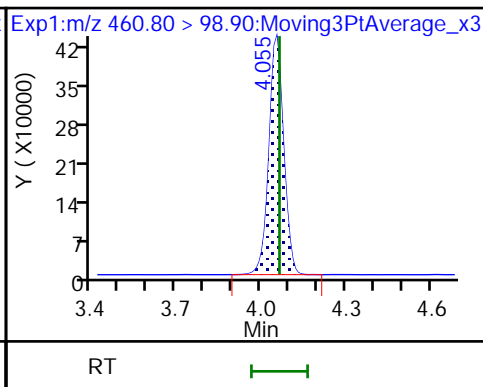
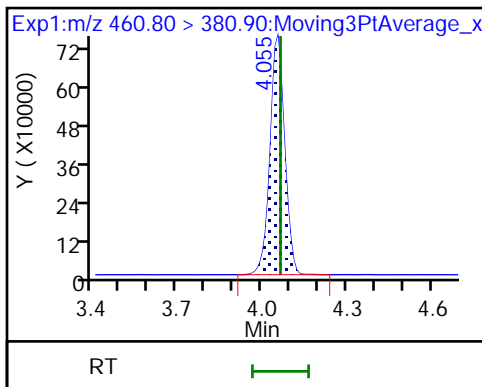
29 6:2 FTCA



32 PFECHS

32 PFECHS

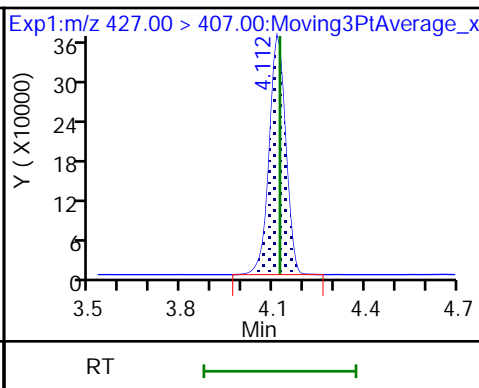
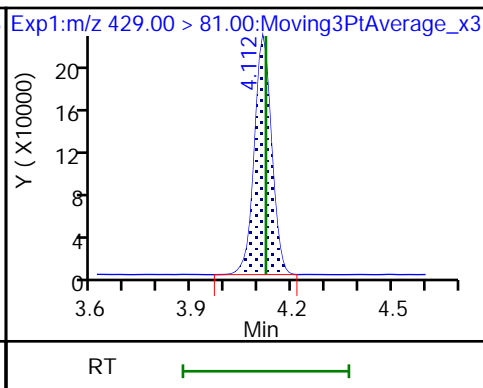
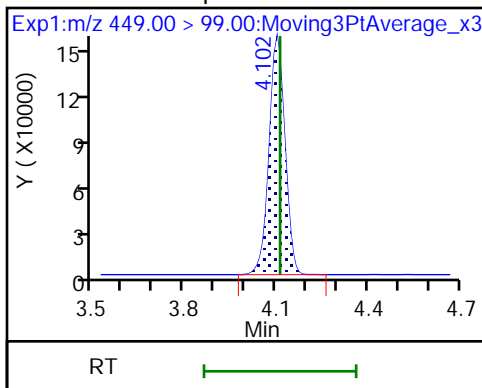
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

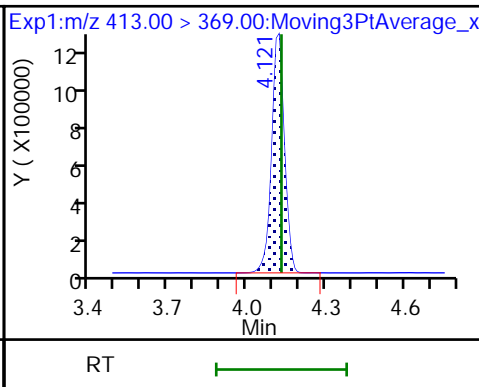
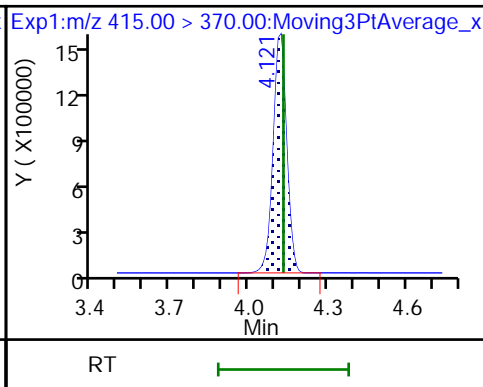
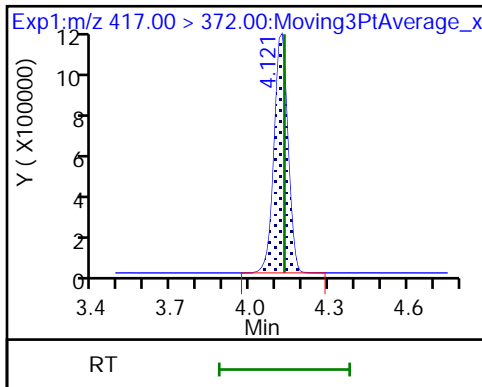
35 6:2 FTS



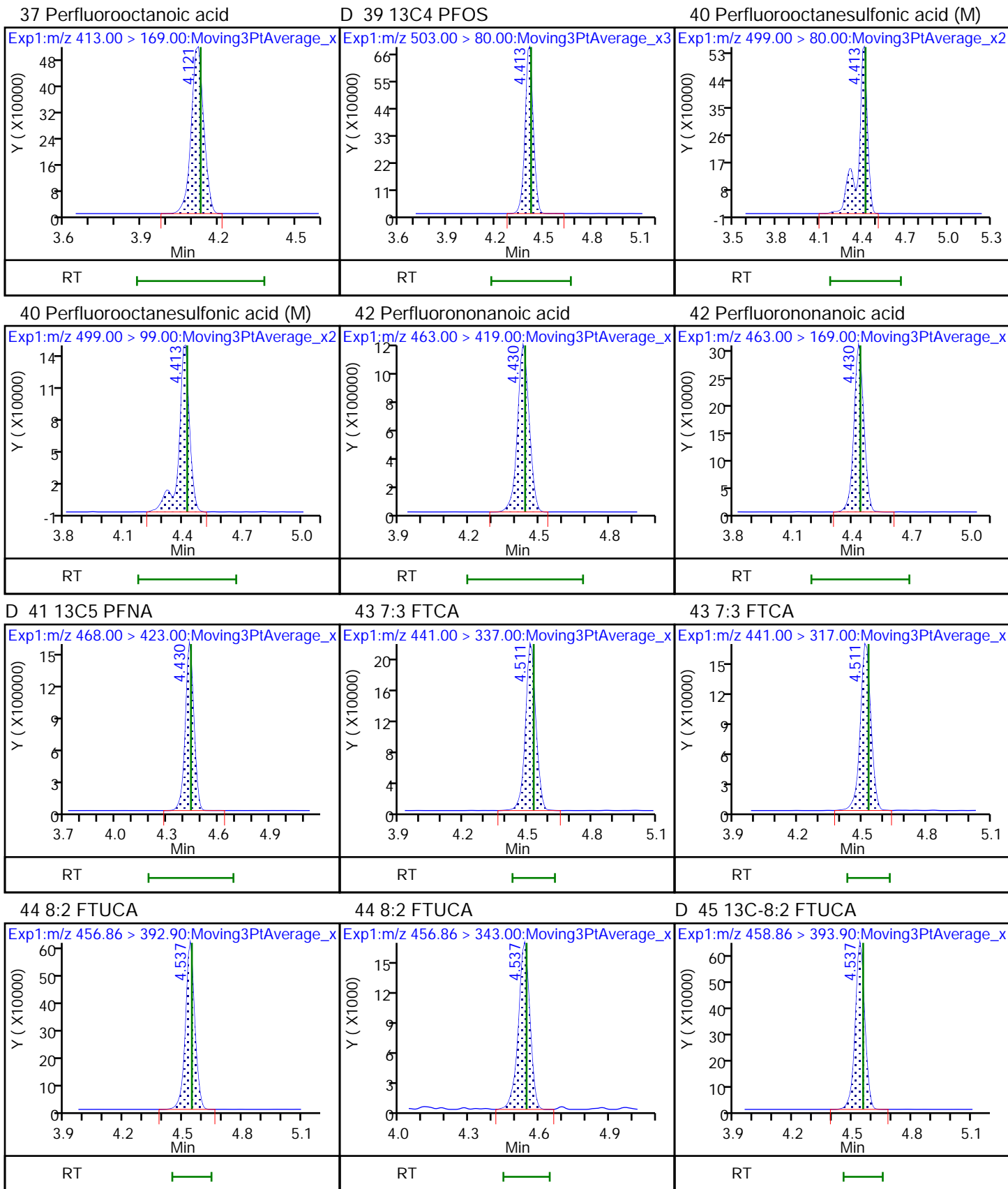
D 31 13C4 PFOA

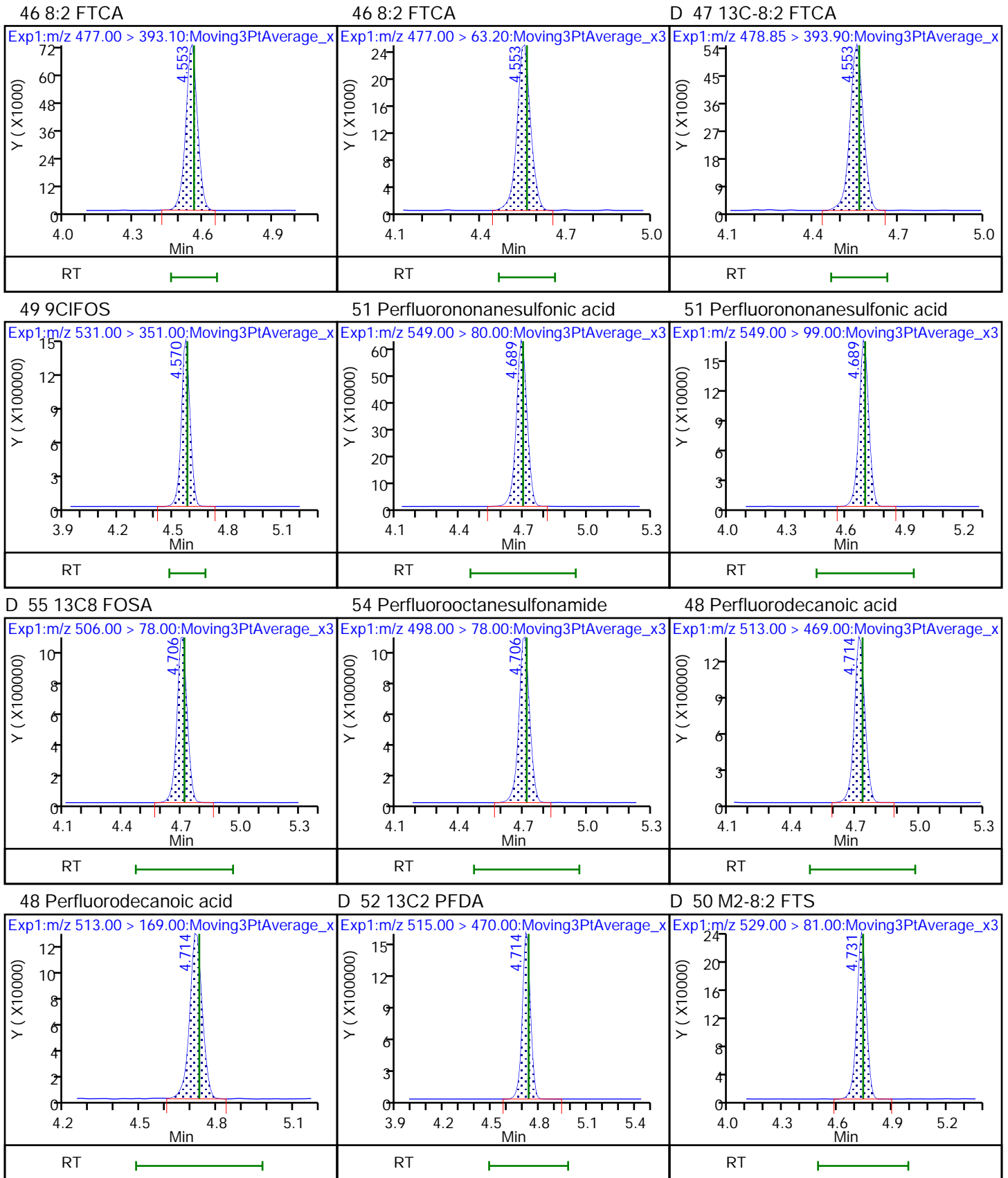
\* 30 13C2 PFOA

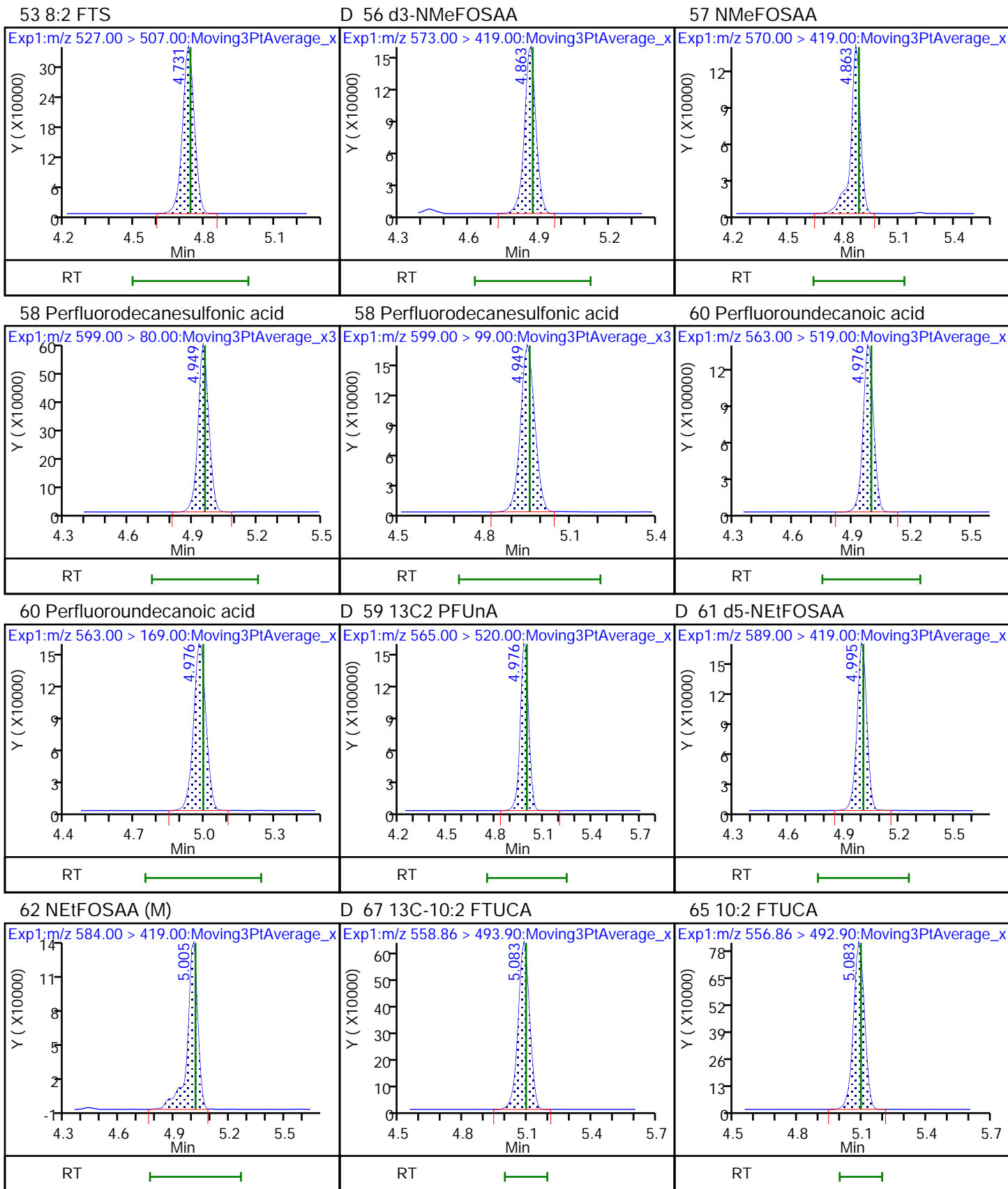
37 Perfluorooctanoic acid

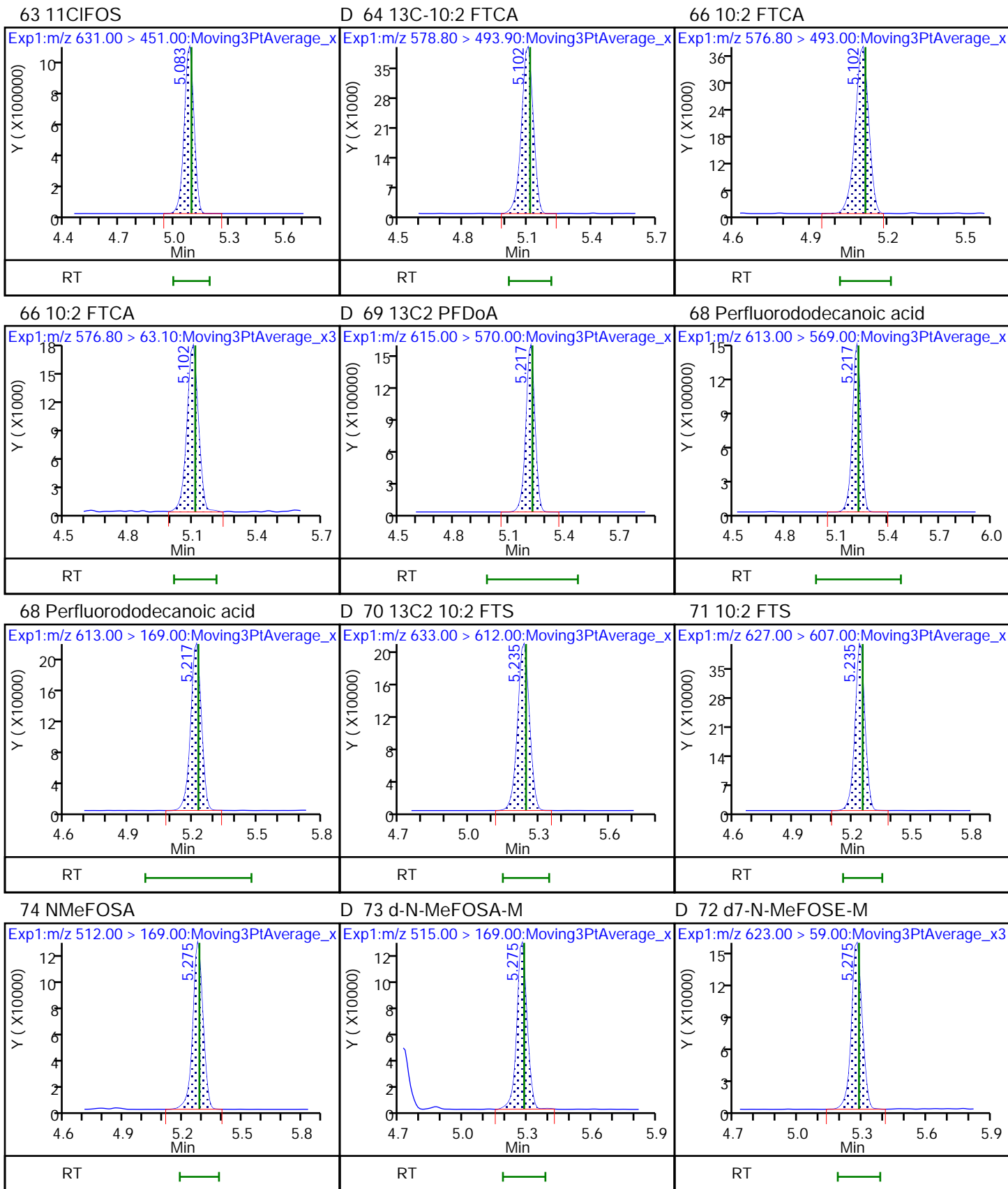


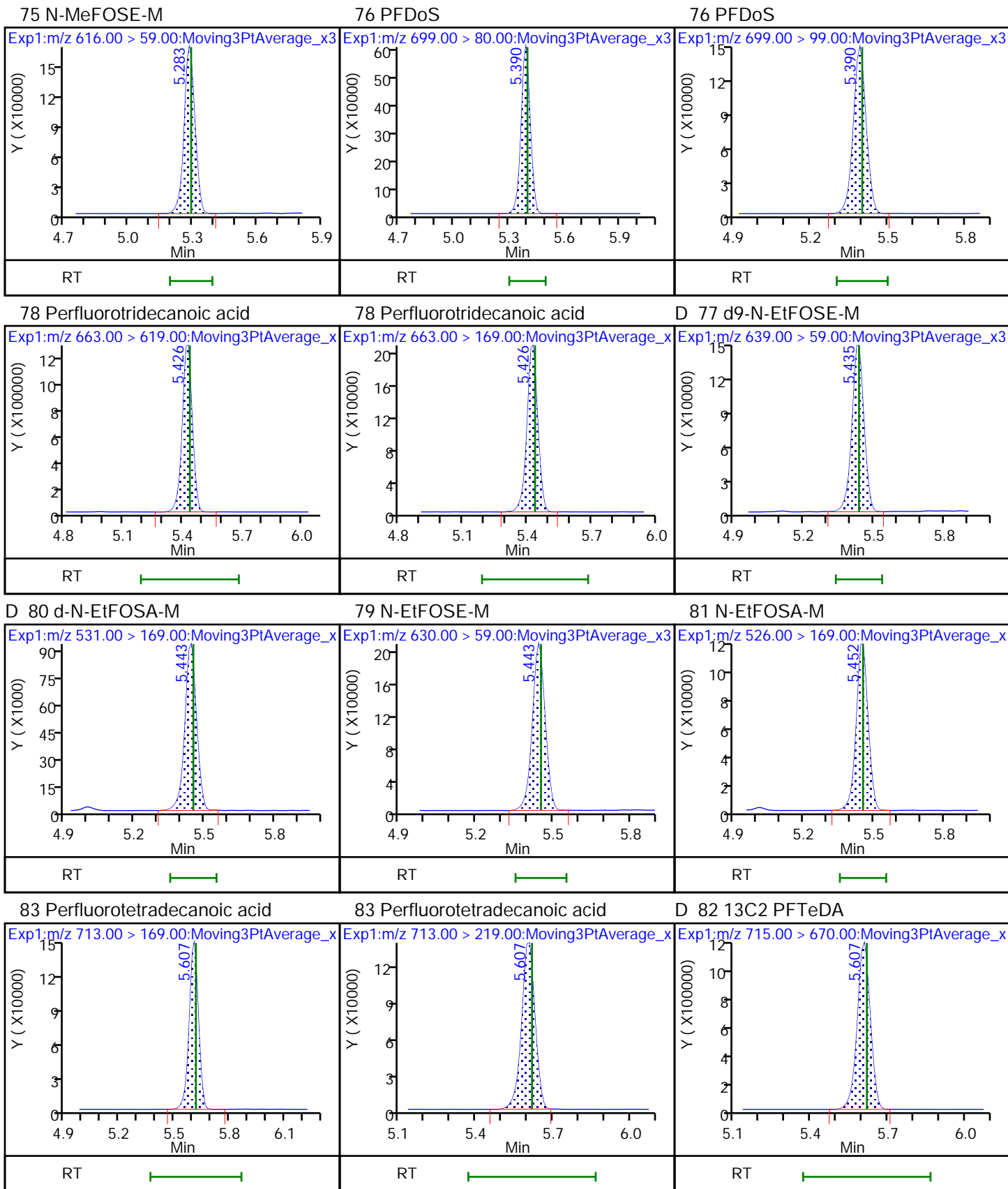








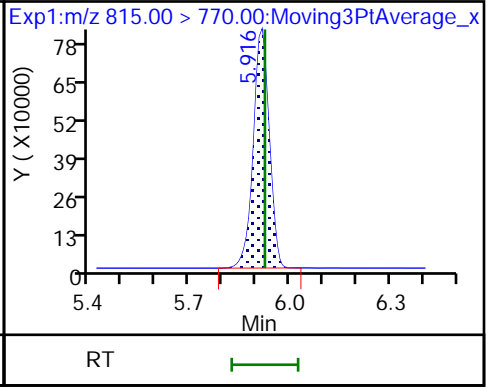
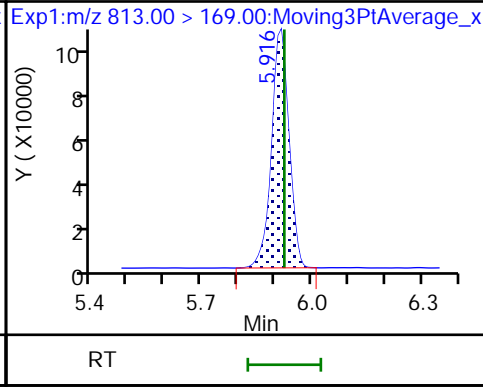
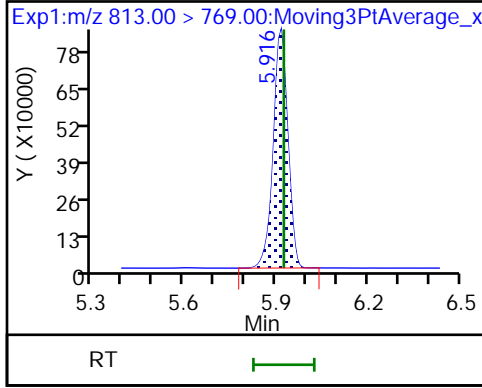




85 Perfluorohexadecanoic acid

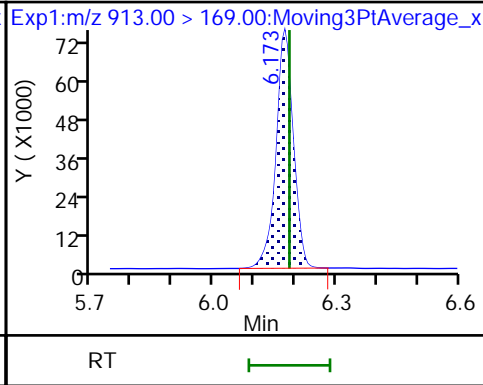
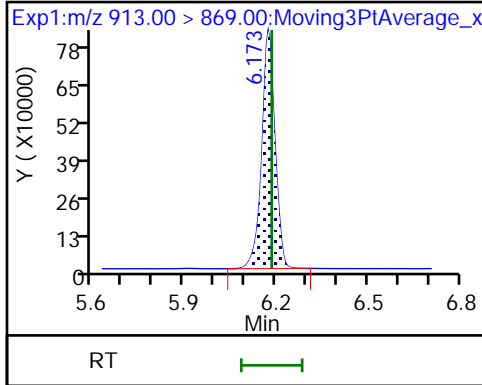
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 140-58905/3-B  
 Matrix: Air Lab File ID: 022.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/15/2022 14:06  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/19/2022 20:58  
 Con. Extract Vol.: 360 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59059 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.02594		0.00160	0.00140

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	83		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_022.d  
 Lims ID: LCSD 140-58905/3-B  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 19-Feb-2022 20:58:14 ALS Bottle#: 22 Worklist Smp#: 22  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022723-022 lcsd 140-58905/3-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 16:22:56 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 20-Feb-2022 16:07:52  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220219-22723.b\_019.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid	212.90 > 169.00	2.804	2.804	0.0	1.000	4034225	1.14	114	734	
D 2 13C4 PFBA	217.00 > 172.00	2.804	2.804	0.0	0.680	5578508	1.21	96.8	16463	
3 PFECA F	229.00 > 85.00	2.911	2.911	0.0	0.935	2943166	1.14	114	12699	
6 Perfluoropentanoic acid	262.90 > 219.00	3.115	3.115	0.001	1.000	3827734	1.19	119	656	
D 5 13C5 PFPeA	267.90 > 223.00	3.115	3.115	0.001	0.756	4277638	1.18	94.6	12995	
4 3:3 FTCA	241.00 > 177.10	3.132	3.122	0.010	1.000	144862	1.21	Target=1.16	121	837
	241.00 > 116.90	3.123	3.122	0.001	0.997	117963		1.23(0.58-1.74)		172
D 7 13C3 PFBS	301.90 > 80.00	3.132	3.122	0.010	0.760	2552821	1.12	96.0	4691	
8 Perfluorobutanesulfonic acid	298.90 > 80.00	3.132	3.131	0.001	1.000	2471713	1.03	Target=2.65	116	2183
	298.90 > 99.00	3.132	3.131	0.001	1.000	925499		2.67(1.32-3.97)		1365
9 PFECA A	278.95 > 84.90	3.203	3.202	0.001	1.028	4650917	1.16	116	16846	
11 PES	314.80 > 135.00	3.261	3.260	0.001	1.041	5364135	1.03	116	10941	
12 PFECA B	295.22 > 201.00	3.385	3.373	0.012	0.985	1847889	1.20	120	5518	
13 4:2 FTS	327.00 > 307.00	3.417	3.415	0.002	1.000	2179465	1.17	125	9450	
D 18 M2-4:2 FTS	329.00 > 81.00	3.417	3.415	0.002	0.829	959002	1.34	115	1285	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.438	3.437	0.001	1.098	2481973	1.09	Target=3.40	117	3282	
349.00 > 99.00	3.438	3.437	0.001	1.098	724748		3.42(1.70-5.09)		3878	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.438	3.437	0.001	1.000	3497541	1.18	Target=12.03	118	967	
313.00 > 119.00	3.438	3.437	0.001	1.000	295804		11.82(6.01-18.04)		240	
D 14 13C2 PFHxA										
315.00 > 270.00	3.438	3.437	0.001	0.834	4646469	1.16		93.1	18118	
17 HFPO-DA										
285.00 > 169.00	3.544	3.542	0.002	1.000	2639984	1.30	Target=2.55	130	694	
329.00 > 169.00	3.544	3.542	0.002	1.000	1000007		2.64(1.28-3.83)		591	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.542	0.002	0.860	2017244	1.03		82.7	5339	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.773	3.772	0.001	1.000	2193097	1.08	Target=3.45	118	3711	M
399.00 > 99.00	3.773	3.772	0.001	1.000	624951		3.51(1.72-5.17)		2554	M
D 20 18O2 PFHxS										
403.00 > 84.00	3.773	3.772	0.001	0.915	1739610	1.17		99.1	5663	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.783	3.792	-0.009	1.000	4039250	1.24	Target=3.22	124	1926	
363.00 > 169.00	3.783	3.792	-0.009	1.000	1242963		3.25(1.61-4.83)		3526	
D 22 13C4 PFHpA										
367.00 > 322.00	3.783	3.792	-0.009	0.918	4071374	1.14		91.5	8213	
25 DONA										
377.00 > 251.00	3.821	3.820	0.001	0.866	5787701	0.9781	Target=1.72	104	12176	
377.00 > 85.00	3.821	3.820	0.001	0.866	3272820		1.77(0.86-2.58)		4751	
26 5:3 FTCA										
340.88 > 236.90	3.854	3.853	0.001	0.987	418278	1.68	Target=1.08	168	965	
340.88 > 216.90	3.846	3.853	-0.007	0.985	366117		1.14(0.54-1.62)		1123	
27 6:2 FTUCA										
356.86 > 292.90	3.887	3.886	0.001	1.002	1976857	1.18	Target=14.05	118	4429	
356.86 > 243.00	3.879	3.886	-0.007	1.000	131068		15.08(7.03-21.08)		361	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.886	-0.007	0.941	2006283	1.51		121	5372	
29 6:2 FTCA										
377.10 > 63.00	3.904	3.903	0.001	1.000	54304	1.18	Target=1.38	118	233	
377.10 > 313.10	3.904	3.903	0.001	1.000	48965		1.11(0.69-2.08)		85.1	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.903	0.001	0.947	82897	0.8099		64.8	303	
32 PFECHS										
460.80 > 380.90	4.056	4.054	0.002	0.984	2856240	1.12	Target=1.68	121	9912	
460.80 > 98.90	4.056	4.054	0.002	0.984	1700991		1.68(0.84-2.53)		5024	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.103	4.111	-0.008	0.930	2357164	1.07	Target=3.76	112	5540	
449.00 > 99.00	4.103	4.111	-0.008	0.930	570803		4.13(1.88-5.64)		3236	
35 6:2 FTS										
427.00 > 407.00	4.112	4.121	-0.009	1.000	1879136	1.21		127	5811	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
37 Perfluorooctanoic acid										
413.00 > 369.00	4.122	4.121	0.001	1.000	4560421	1.24	Target=2.40	124	3487	
413.00 > 169.00	4.122	4.121	0.001	1.000	1909369		2.39(1.20-3.60)		5068	
* 30 13C2 PFOA										
415.00 > 370.00	4.122	4.121	0.001		4916917	1.25			8442	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.112	4.121	-0.009	0.998	1011982	1.43		120	2096	
D 31 13C4 PFOA										
417.00 > 372.00	4.122	4.121	0.001	1.000	4294512	1.17		93.4	10088	
40 Perfluorooctanesulfonic acid										
499.00 > 80.00	4.414	4.412	0.002	1.000	2606875	1.02	Target=4.41	110	3426	M
499.00 > 99.00	4.414	4.412	0.002	1.000	593692		4.39(2.20-6.61)		1322	M
D 39 13C4 PFOS										
503.00 > 80.00	4.414	4.412	0.002	1.071	2674759	1.21		101	3069	
42 Perfluorononanoic acid										
463.00 > 419.00	4.431	4.438	-0.007	1.000	4359291	1.24	Target=4.14	124	3373	
463.00 > 169.00	4.431	4.438	-0.007	1.000	1058904		4.12(2.07-6.21)		3006	
D 41 13C5 PFNA										
468.00 > 423.00	4.431	4.438	-0.007	1.075	5788897	1.16		92.8	10708	
43 7:3 FTCA										
441.00 > 337.00	4.521	4.519	0.002	0.993	855026	1.84	Target=1.38	184	2314	
441.00 > 317.00	4.521	4.519	0.002	0.993	594165		1.44(0.69-2.08)		1941	
44 8:2 FTUCA										
456.86 > 392.90	4.538	4.545	-0.007	1.000	2803886	1.12	Target=35.71	112	6514	
456.86 > 343.00	4.538	4.545	-0.007	1.000	79338		35.34(17.85-53.56)		233	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.538	4.545	-0.007	1.000	3282746	1.85		148	8685	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.554	4.553	0.001	1.105	110962	0.8536		68.3	453	
46 8:2 FTCA										
477.00 > 393.10	4.554	4.561	-0.007	1.000	207421	1.29	Target=3.43	129	1198	
477.00 > 63.20	4.562	4.561	0.001	1.002	58985		3.52(1.72-5.15)		193	
49 9CIFOS										
531.00 > 351.00	4.570	4.578	-0.008	1.109	5301507	1.05		113	6989	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.697	4.697	0.0	1.064	2440772	1.08	Target=3.86	112	4519	
549.00 > 99.00	4.697	4.697	0.0	1.064	609553		4.00(1.93-5.79)		2816	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.706	4.705	0.001	1.000	3743554	1.19		119	6486	
D 55 13C8 FOSA										
506.00 > 78.00	4.706	4.705	0.001	1.142	4127234	1.24		99.0	4141	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.723	4.722	0.001	1.000	5108020	1.16	Target=11.25	116	4323	
513.00 > 169.00	4.723	4.722	0.001	1.000	445111		11.48(5.62-16.87)		322	
D 52 13C2 PFDA										
515.00 > 470.00	4.723	4.722	0.001	1.146	6102074	1.28		103	14900	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.731	4.731	0.0	1.148	1151606	1.49		125	1580	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.731	4.739	-0.008	1.000	1528514	1.06		110	4318	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.864	4.872	-0.008	1.180	654290	1.47		117	576	
57 NMeFOSAA										M
570.00 > 419.00	4.872	4.872	0.0	1.002	571886	1.18		118	689	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.949	4.957	-0.008	1.121	2103061	1.06	Target=3.69	109	5826	
599.00 > 99.00	4.949	4.957	-0.008	1.121	556635		3.78(1.84-5.53)		2361	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.986	4.985	0.001	1.000	5010520	1.15	Target=8.60	115	5332	
563.00 > 169.00	4.986	4.985	0.001	1.000	572285		8.76(4.30-12.90)		2210	
D 59 13C2 PFUnA										
565.00 > 520.00	4.986	4.985	0.001	1.210	5619872	1.22		97.9	10441	
D 61 d5-NEtFOSAA										
589.00 > 419.00	5.005	5.005	0.0	1.214	646426	1.41		113	2709	
62 NEtFOSAA										M
584.00 > 419.00	5.005	5.005	0.0	1.000	606987	1.33		133	1500	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.083	5.092	-0.009	1.233	3188344	1.60		128	7290	
63 11CIFOS										
631.00 > 451.00	5.083	5.092	-0.009	1.152	4115149	1.06		112	7292	
65 10:2 FTUCA										
556.86 > 492.90	5.093	5.092	0.001	1.002	3504933	1.14		114	6376	
66 10:2 FTCA										
576.80 > 493.00	5.102	5.102	0.0	1.000	90995	1.23	Target=2.41	123	531	
576.80 > 63.10	5.102	5.102	0.0	1.000	35551		2.56(1.20-3.61)		102	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.102	5.111	-0.009	1.238	100113	0.8230		65.8	545	
D 69 13C2 PFDaA										
615.00 > 570.00	5.218	5.226	-0.008	1.266	5379770	1.19		94.9	7968	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.218	5.226	-0.008	1.000	5144718	1.16	Target=6.73	116	4506	
613.00 > 169.00	5.218	5.226	-0.008	1.000	737171		6.98(3.36-10.09)		1616	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.235	5.243	-0.008	1.270	930236	1.43		121	4302	
71 10:2 FTS										
627.00 > 607.00	5.243	5.251	-0.008	1.002	2039869	1.24		129	9576	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.275	5.275	0.0	1.280	688916	1.48		118	546	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.275	5.283	-0.008	1.280	532176	1.34		107	56.9	
74 NMeFOSA										
512.00 > 169.00	5.284	5.283	0.001	1.002	520912	1.13		113	725	
75 N-MeFOSE-M										
616.00 > 59.00	5.284	5.292	-0.008	1.002	806155	1.25		125	416	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.390	5.399	-0.009	1.221	1716044	0.8110	Target=4.35	83.8	3310	
699.00 > 99.00	5.390	5.399	-0.009	1.221	409840		4.19(2.18-6.53)		1958	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.435	5.435	0.0	1.319	552420	1.14		91.3	277	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.426	5.435	-0.009	1.040	4349836	1.14	Target=6.02	114	4588	
663.00 > 169.00	5.426	5.435	-0.009	1.040	704800		6.17(3.01-9.03)		4225	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.444	5.452	-0.008	1.321	352259	1.11		88.5	641	
79 N-EtFOSE-M										
630.00 > 59.00	5.452	5.452	0.0	1.003	680882	1.09		109	630	
81 N-EtFOSA-M										
526.00 > 169.00	5.452	5.452	0.0	1.002	408056	1.16		116	442	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.608	5.617	-0.009	1.360	3897719	1.08		86.0	9735	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.608	5.617	-0.009	1.000	470124	1.17	Target=1.07	117	1536	
713.00 > 219.00	5.608	5.617	-0.009	1.000	447626		1.05(0.54-1.61)		2724	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.916	5.924	-0.008	1.435	1012259	0.4291		34.3	2911	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.916	5.924	-0.008	1.000	1014598	1.10	Target=8.23	110	1648	
813.00 > 169.00	5.916	5.924	-0.008	1.000	128241		7.91(4.11-12.34)		384	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.179	6.184	-0.005	1.044	77471	0.0944	Target=11.72	9.4	248	M
913.00 > 169.00	6.179	6.184	-0.005	1.044	6238		12.42(5.86-17.58)		23.6	M

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfms\Knoxville\ChromData\LCA\20220219-22723.b\_022.d

Injection Date: 19-Feb-2022 20:58:14

Instrument ID: LCA

Lims ID: LCSD 140-58905/3-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 22

Worklist Smp#: 22

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

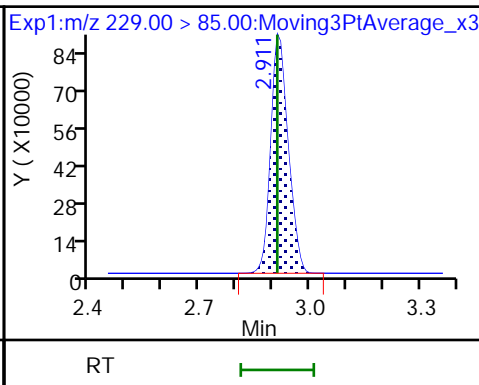
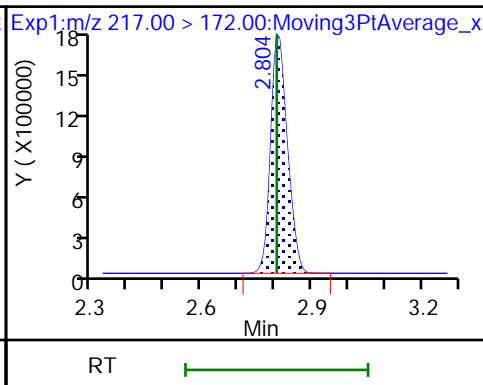
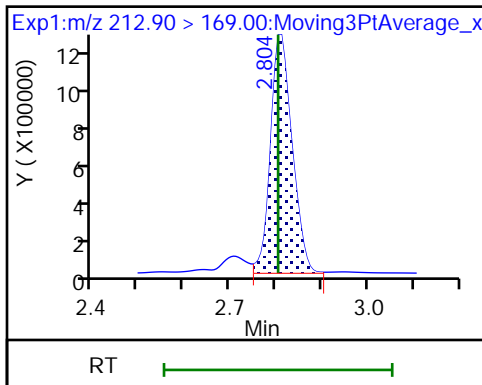
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

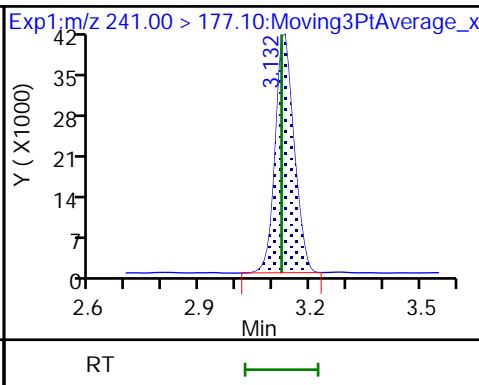
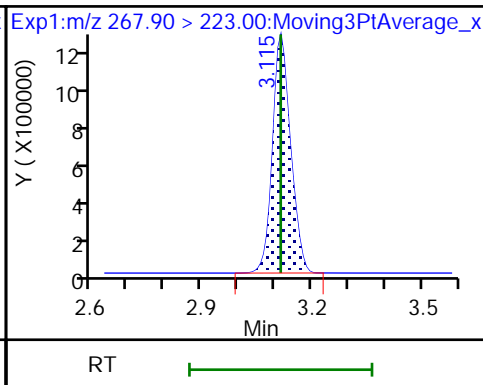
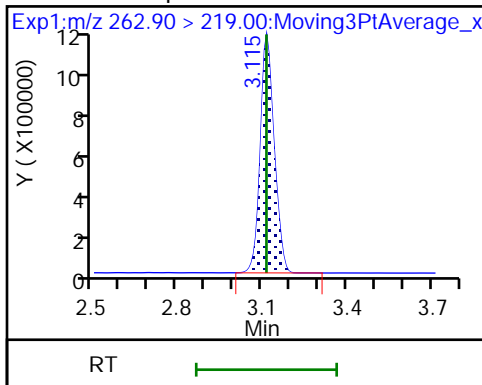
3 PFECA F



6 Perfluoropentanoic acid

D 5 13C5 PFPeA

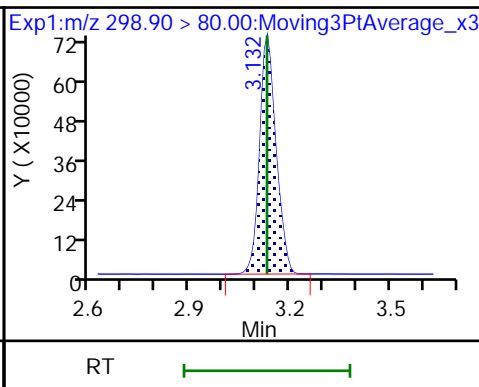
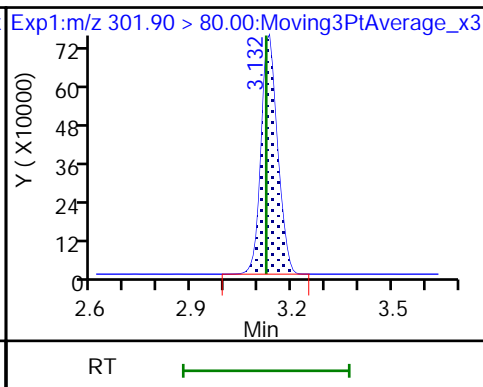
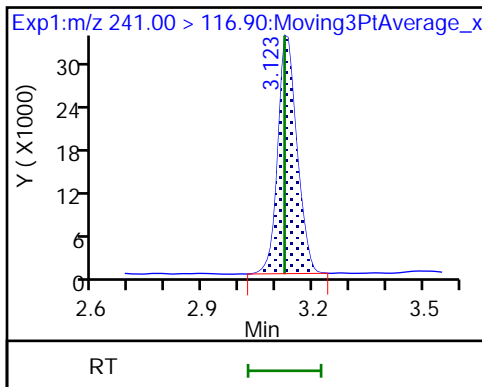
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

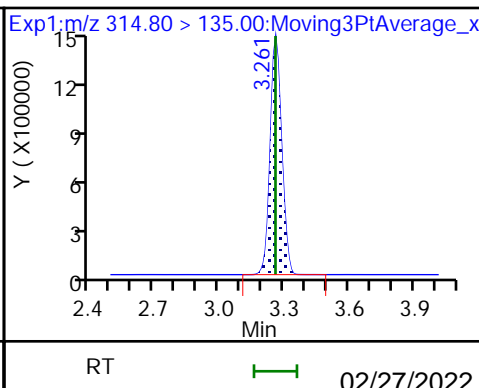
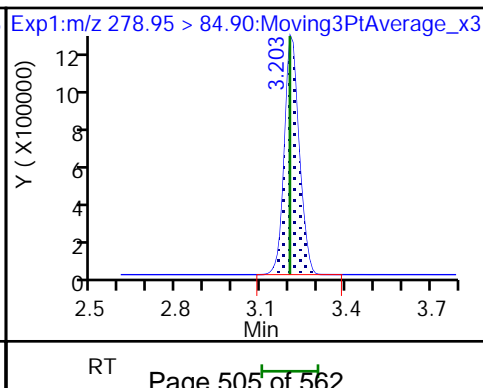
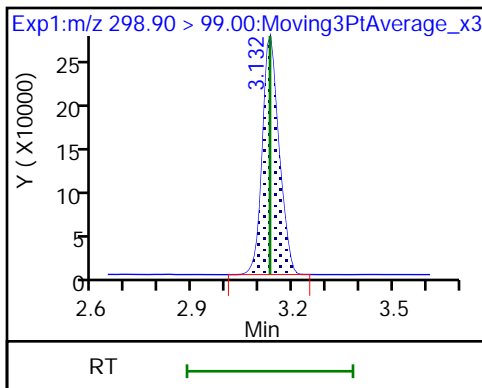
8 Perfluorobutanesulfonic acid

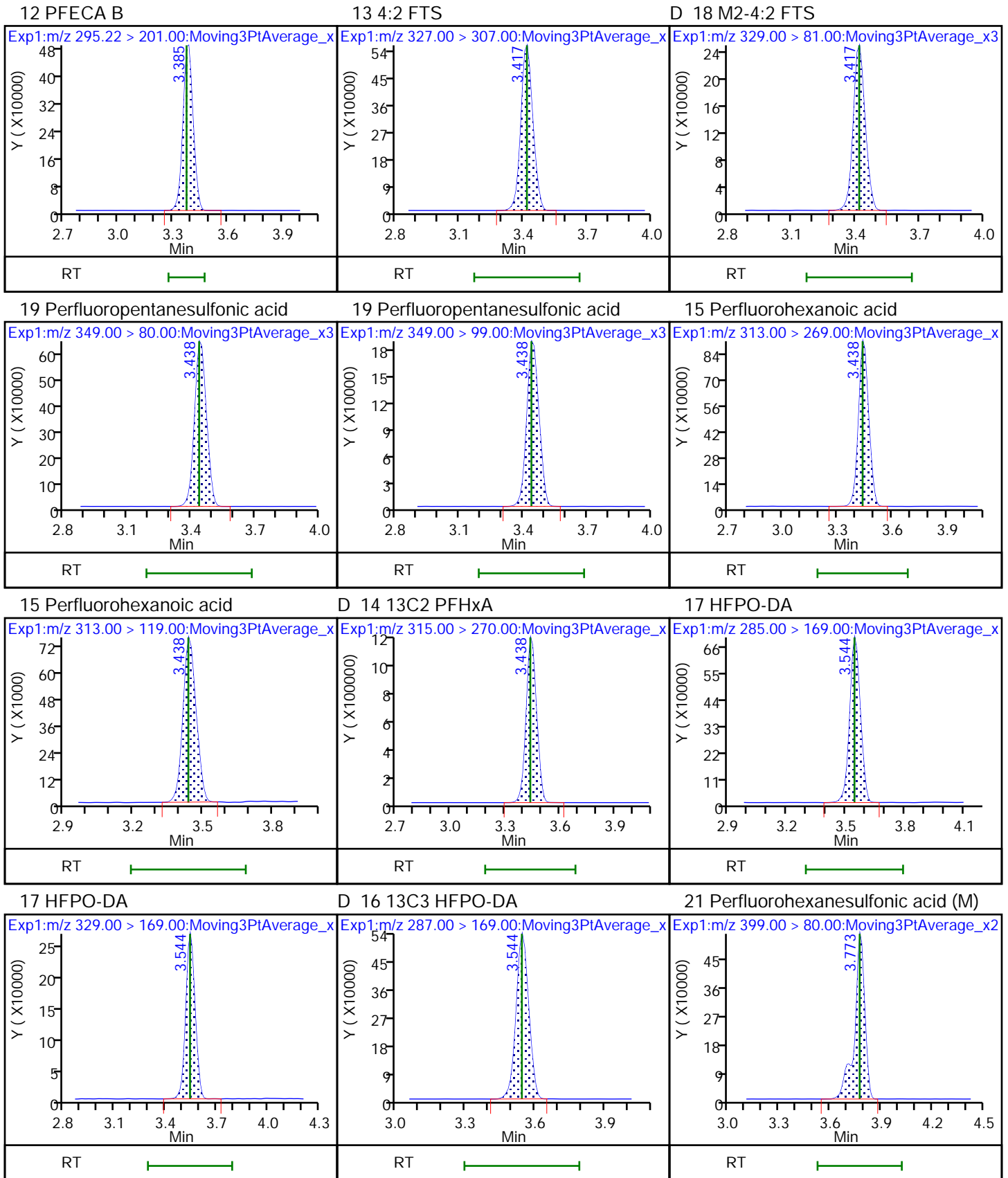


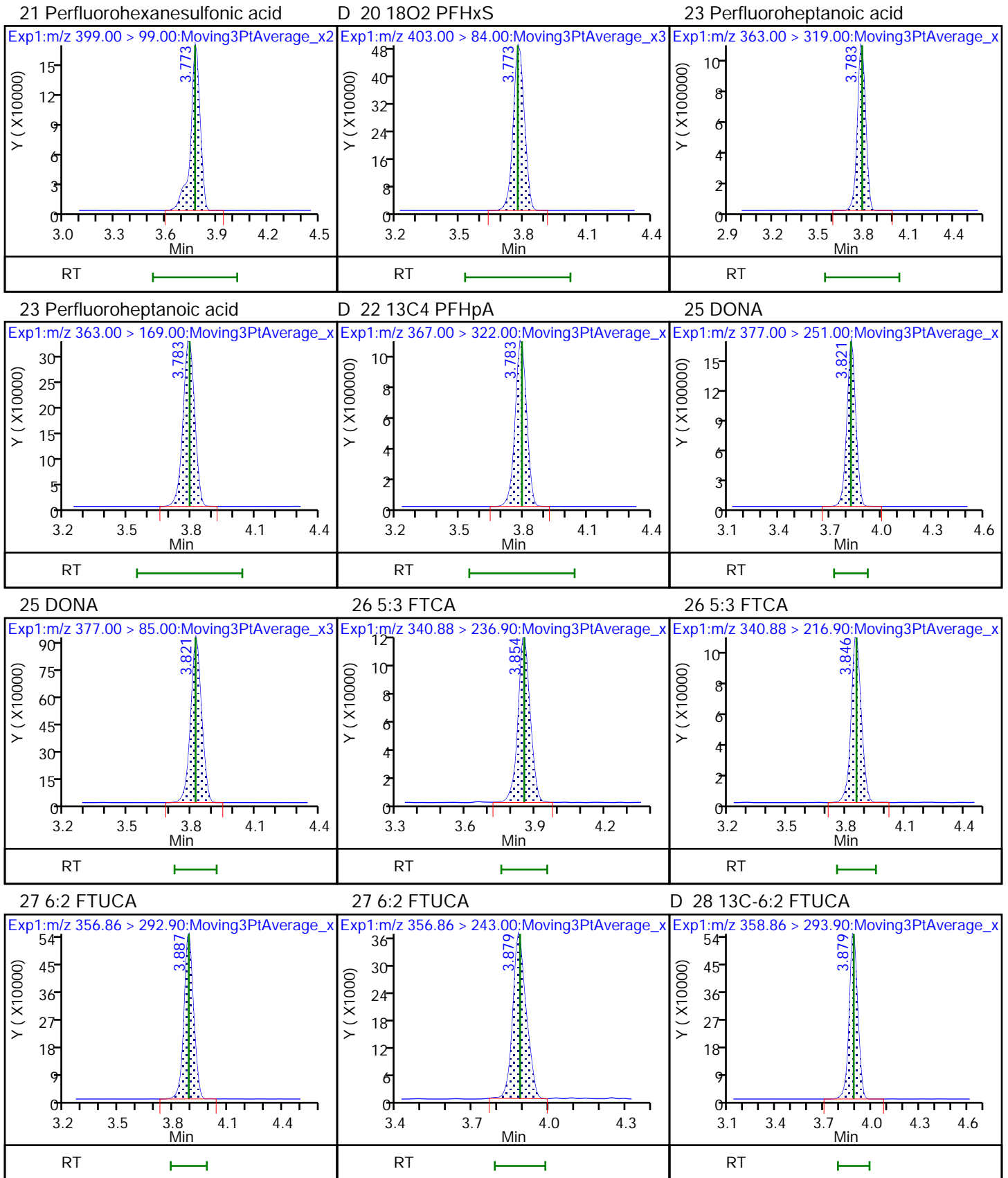
8 Perfluorobutanesulfonic acid

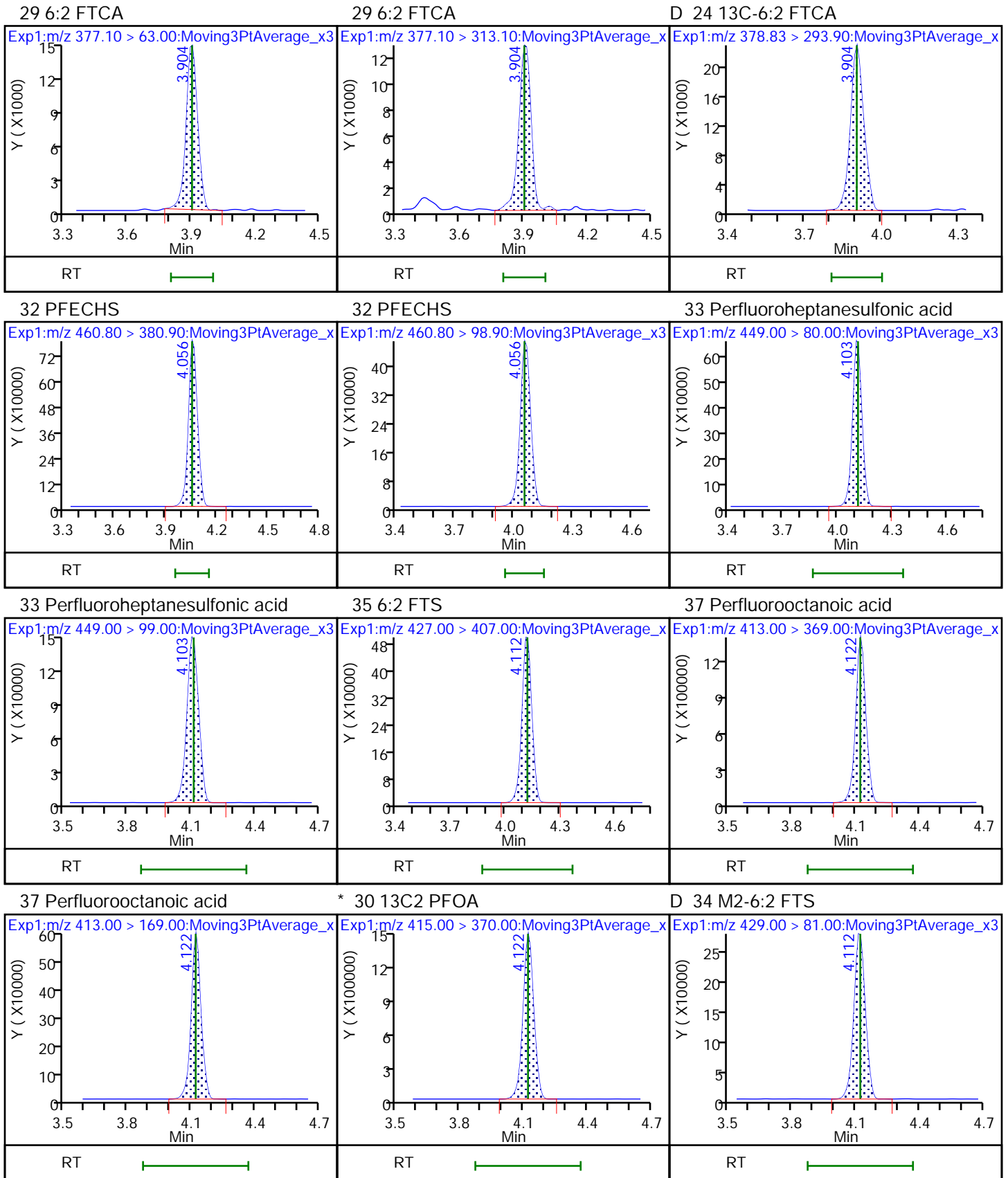
9 PFECA A

11 PES







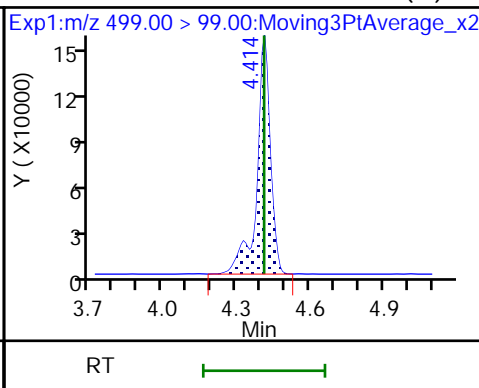
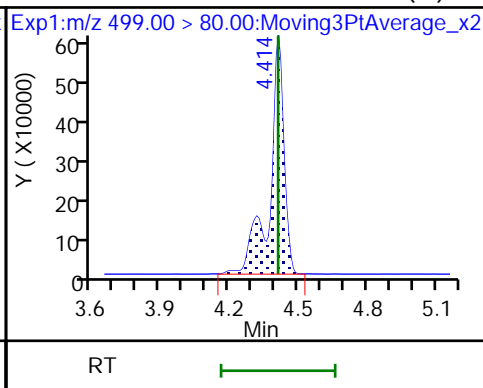
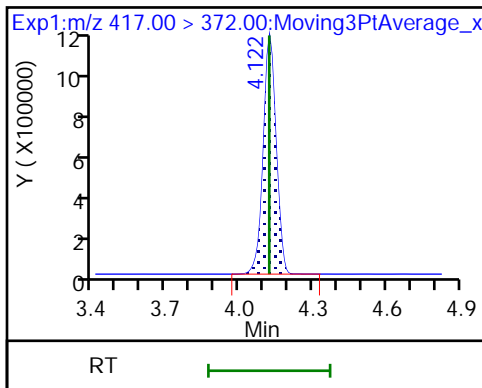




D 31 13C4 PFOA

40 Perfluorooctanesulfonic acid (M)

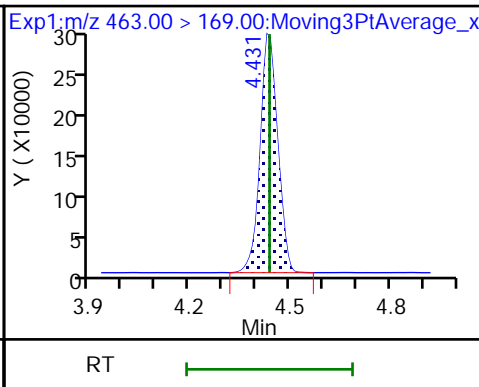
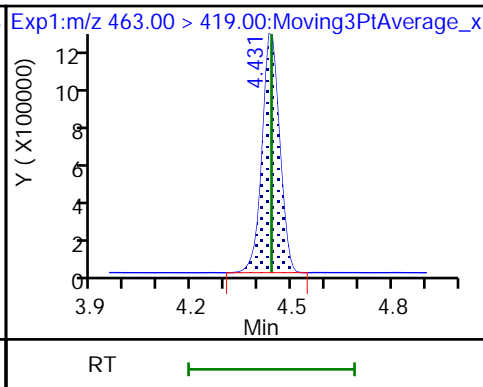
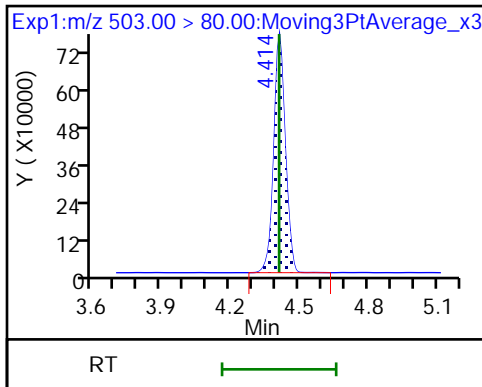
40 Perfluorooctanesulfonic acid (M)



D 39 13C4 PFOS

42 Perfluorononanoic acid

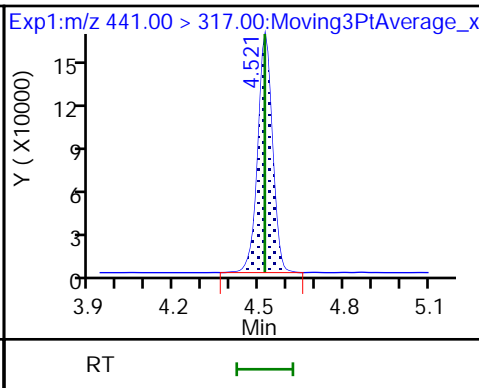
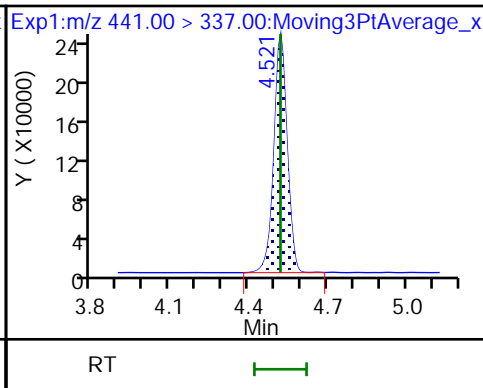
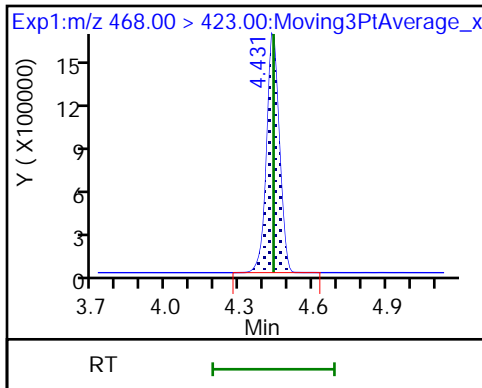
42 Perfluorononanoic acid



D 41 13C5 PFNA

43 7:3 FTCA

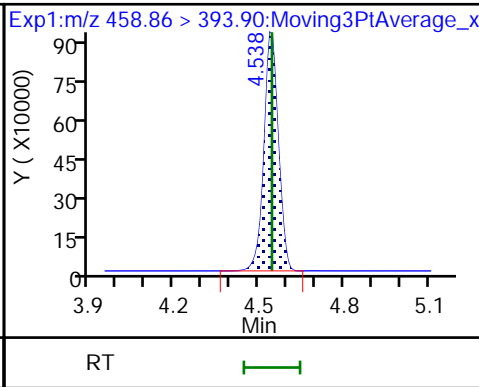
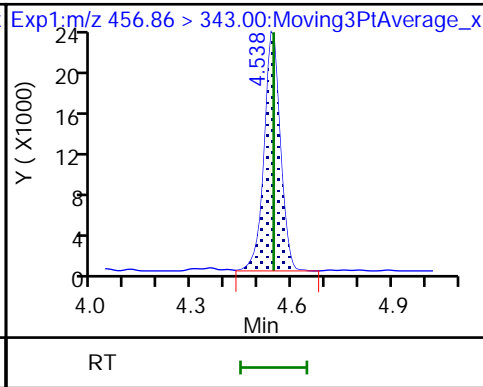
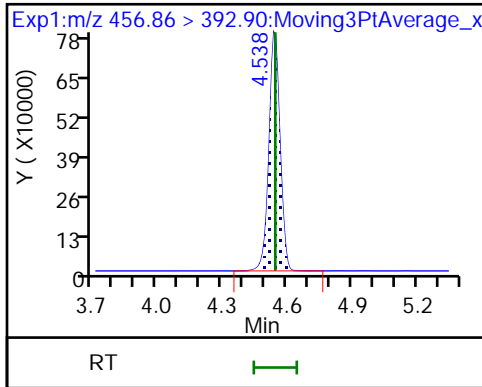
43 7:3 FTCA



44 8:2 FTUCA

44 8:2 FTUCA

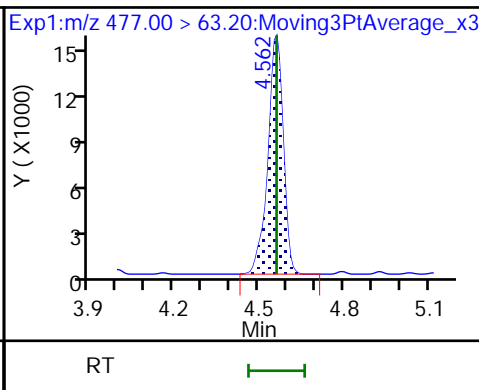
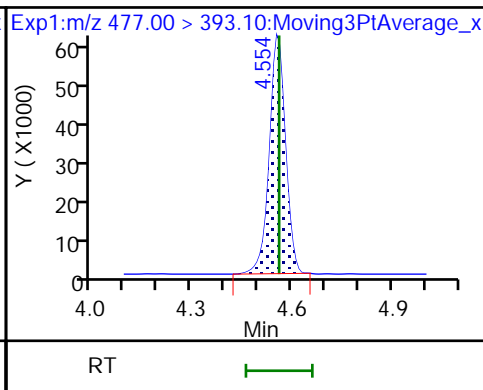
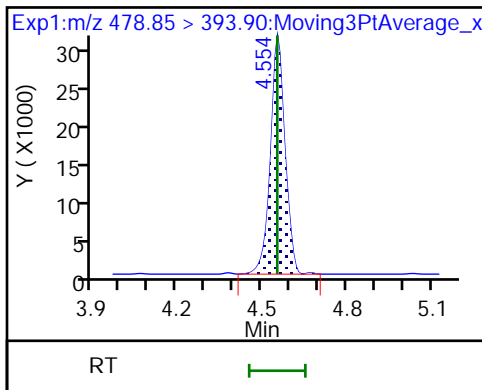
D 45 13C-8:2 FTUCA



D 47 13C-8:2 FTCA

46 8:2 FTCA

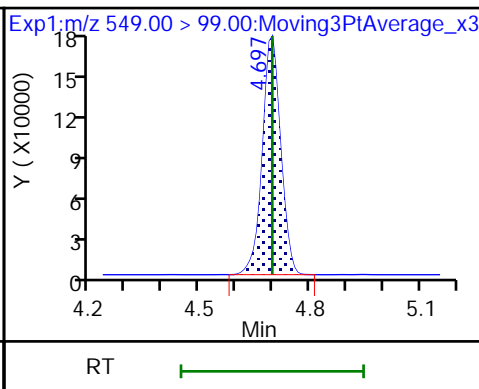
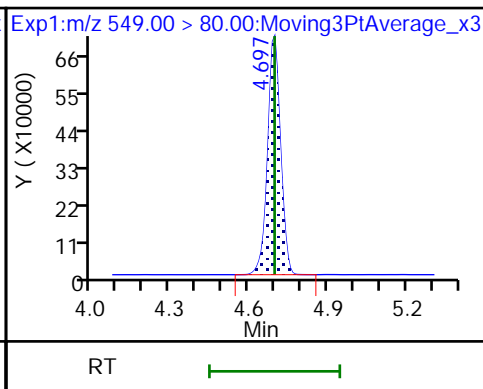
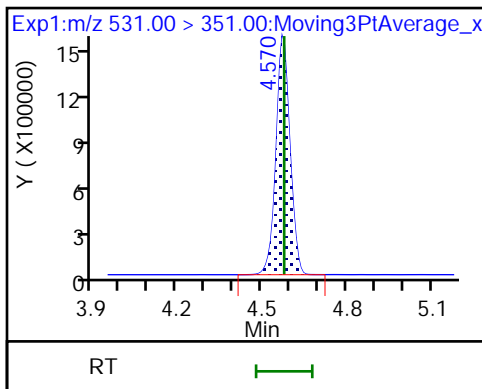
46 8:2 FTCA



49 9CIFOS

51 Perfluoronanesulfonic acid

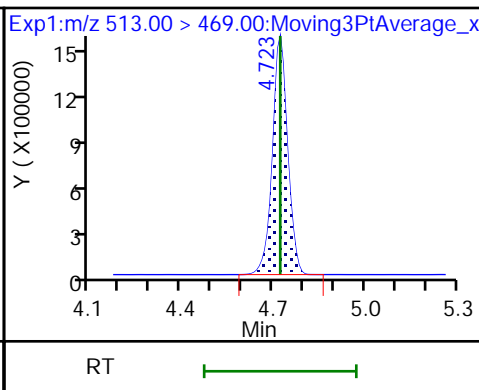
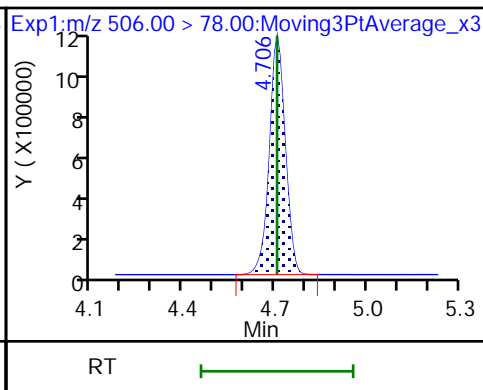
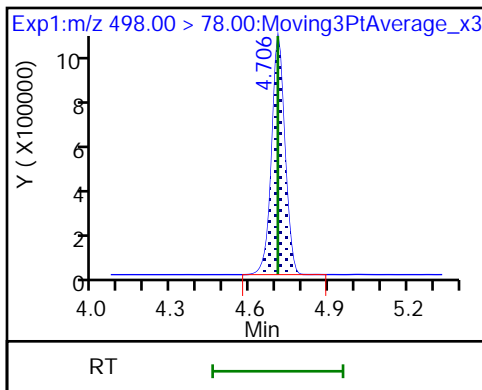
51 Perfluoronanesulfonic acid



54 Perfluorooctanesulfonamide

D 55 13C8 FOSA

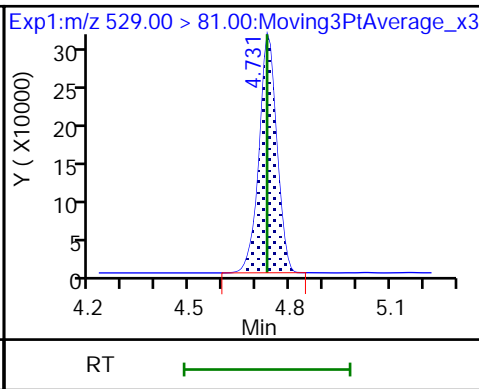
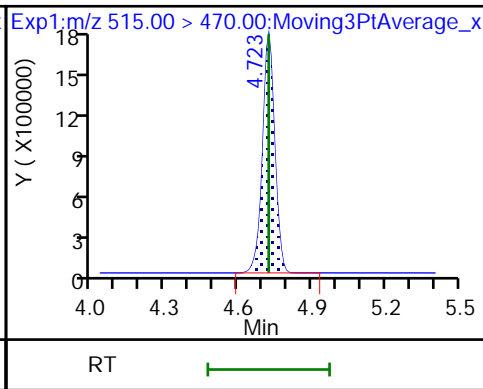
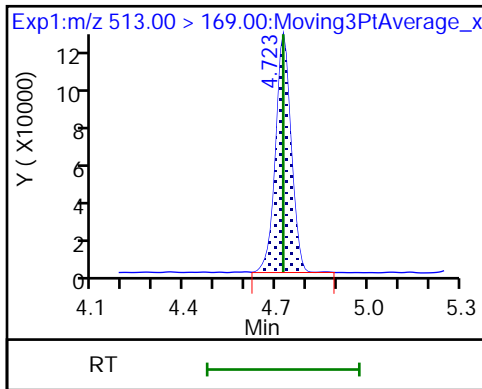
48 Perfluorodecanoic acid

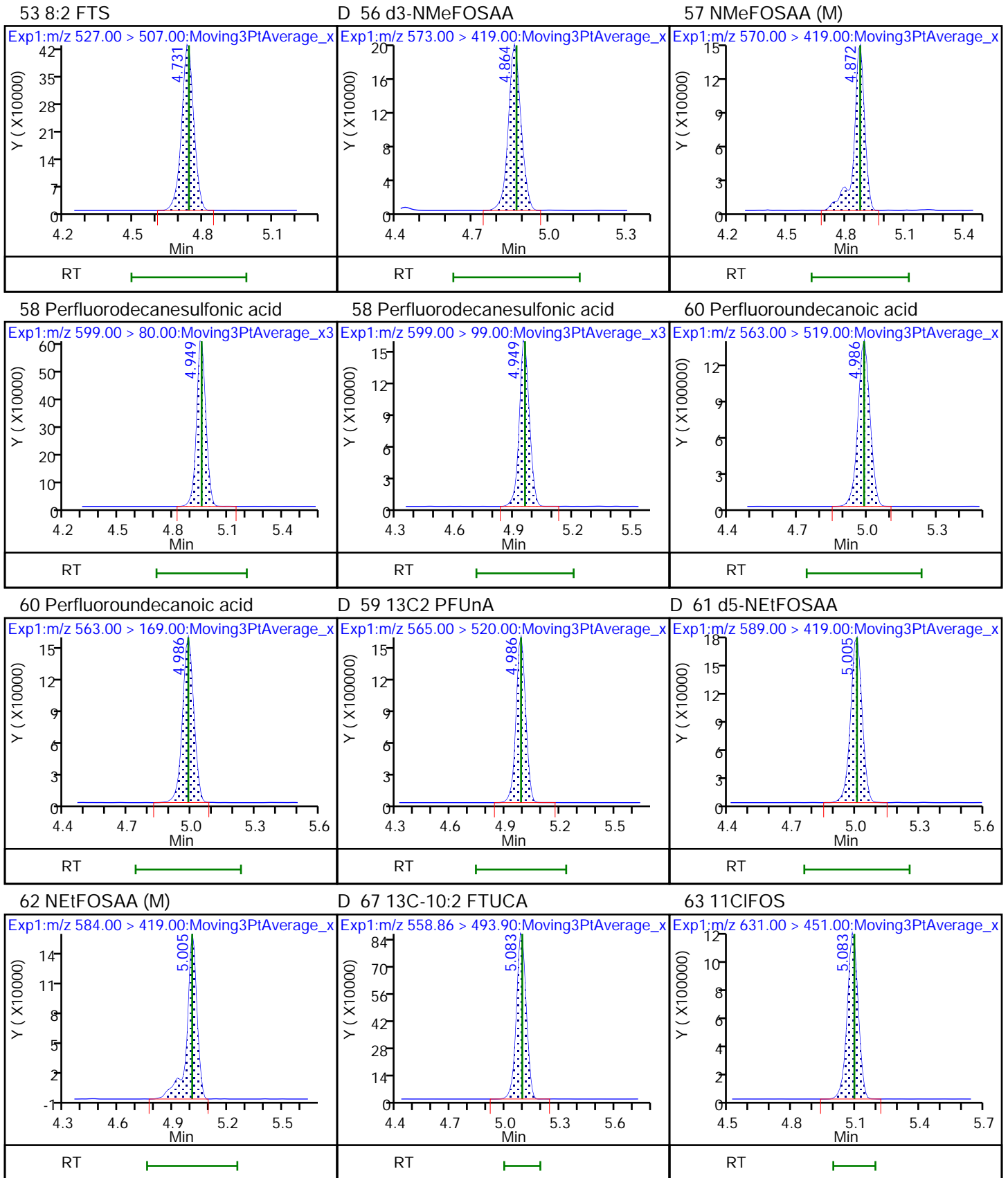


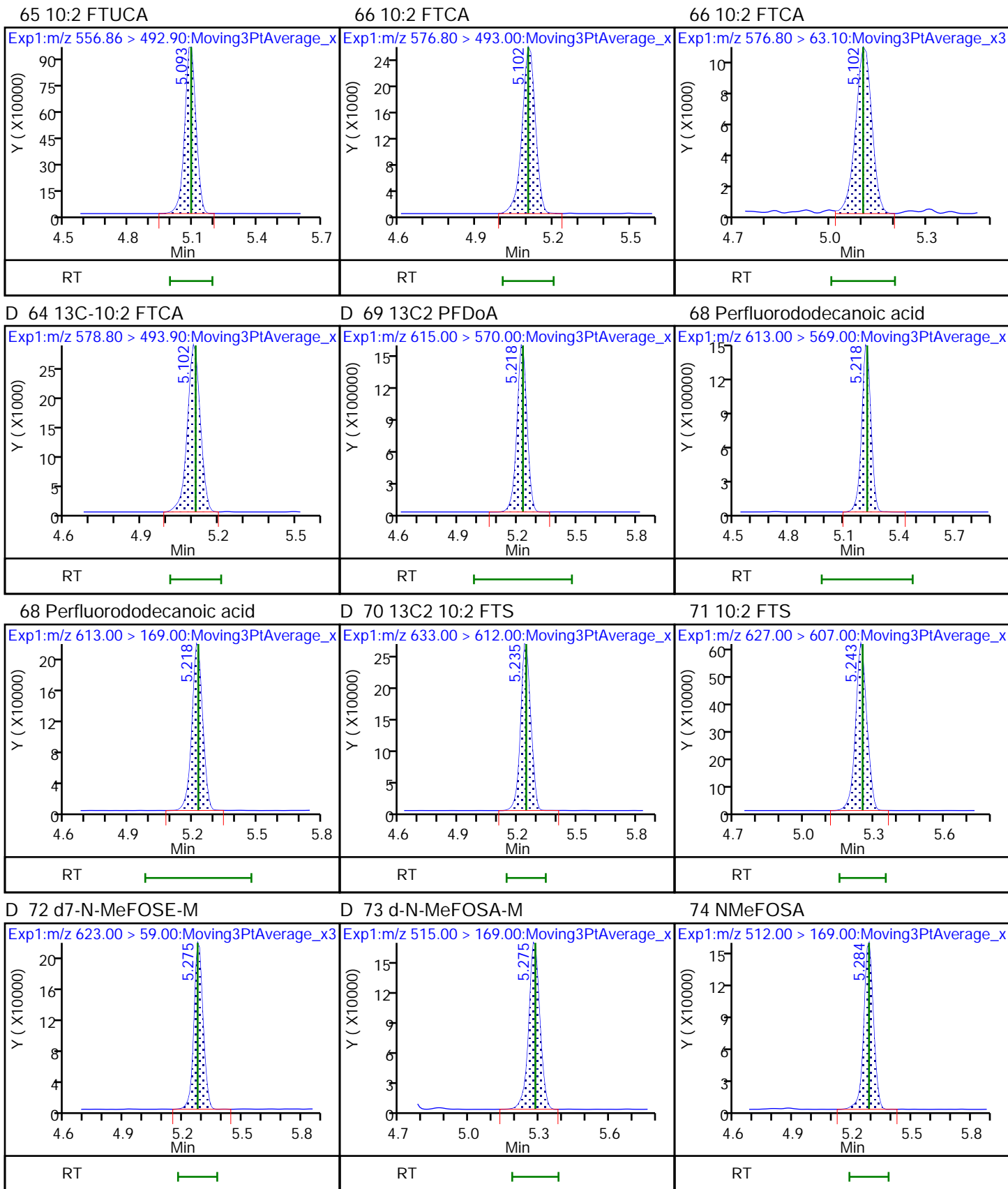
48 Perfluorodecanoic acid

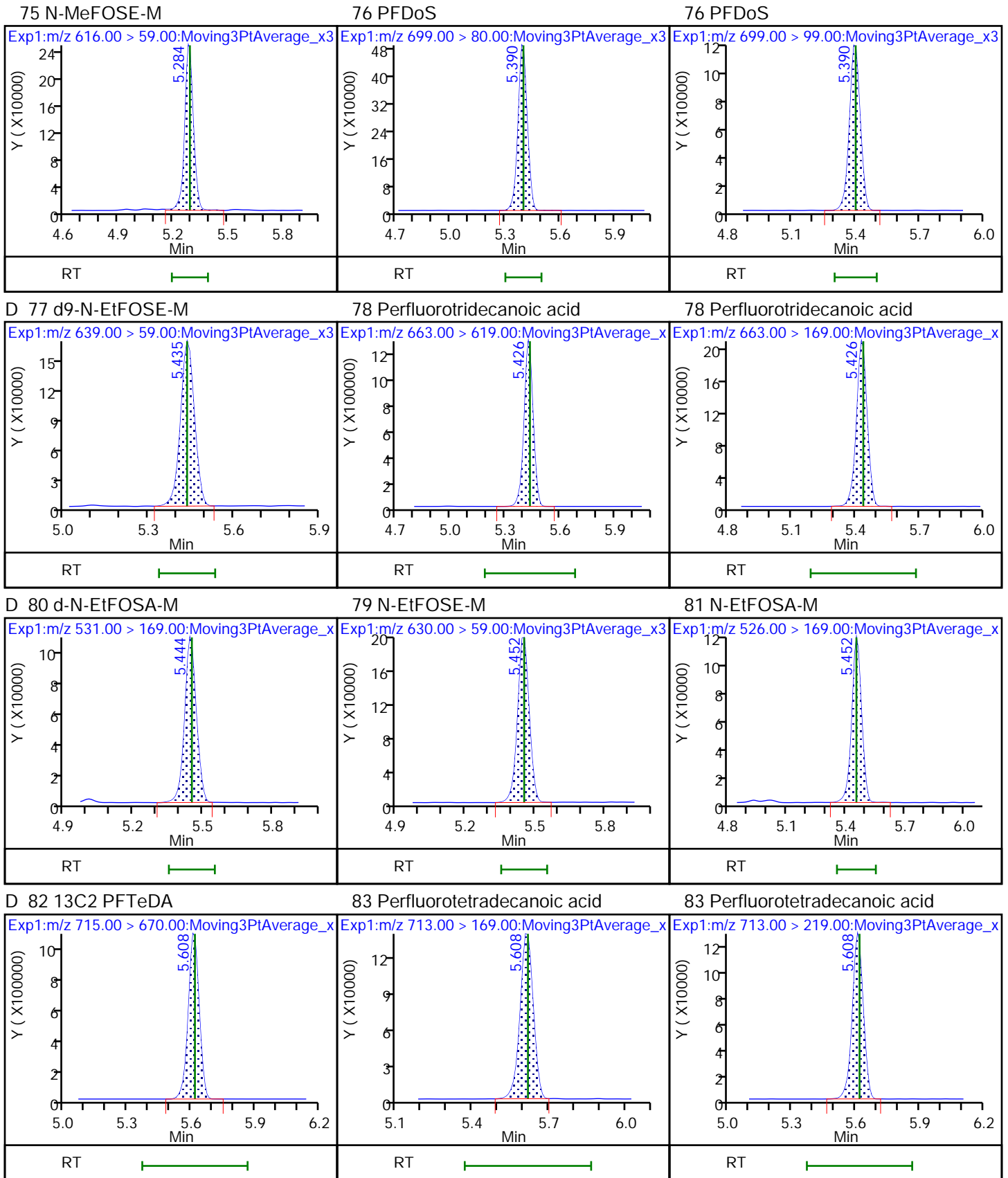
D 52 13C2 PFDA

D 50 M2-8:2 FTS





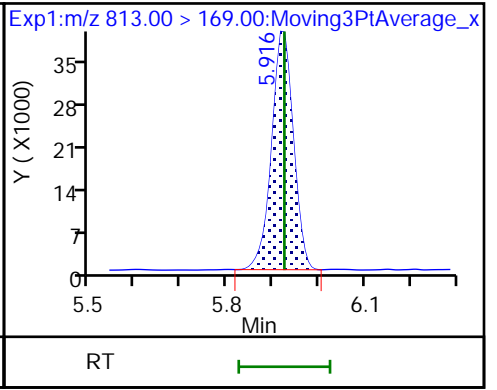
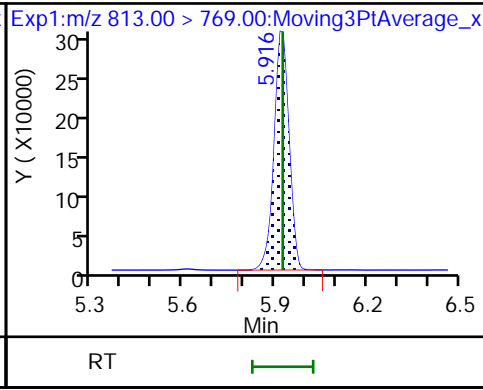
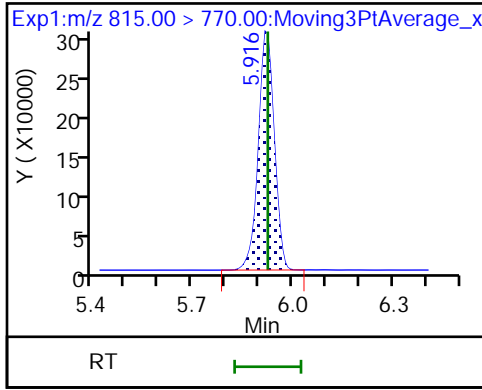




D 84 13C2 PFHxDA

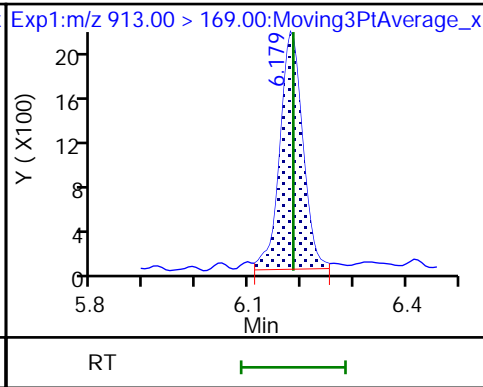
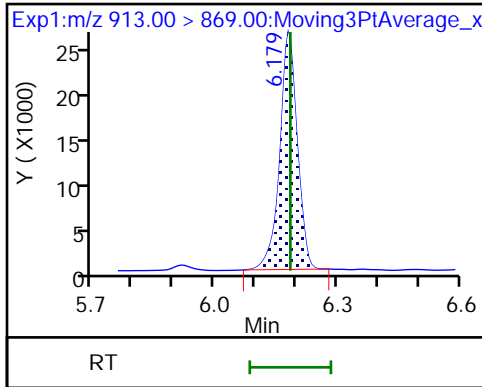
85 Perfluorohexadecanoic acid

85 Perfluorohexadecanoic acid



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid (M)



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 140-58914/3-B  
 Matrix: Air Lab File ID: \_037.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: None Date Extracted: 02/16/2022 07:38  
 Sample wt/vol: 1(Sample) Date Analyzed: 02/19/2022 00:49  
 Con. Extract Vol.: 50(mL) Dilution Factor: 1  
 Injection Volume: 1(uL) GC Column: GeminiC18 3x100 ID: 3(mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.02215		0.00119	0.000690

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	82		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_037.d  
 Lims ID: LCSD 140-58914/3-B  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 19-Feb-2022 00:49:32 ALS Bottle#: 37 Worklist Smp#: 37  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-037 lcsd 140-58914/3-b  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:49:04 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:27:27  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_029.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.811	2.811	0.0	1.000	3147119	0.9310		111	1033	
D 2 13C4 PFBA										
217.00 > 172.00	2.811	2.811	0.0	0.680	4474727	0.9244		88.0	16885	
3 PFECA F										
229.00 > 85.00	2.918	2.919	-0.001	0.937	2140887	0.8898		106	9134	
D 5 13C5 PFPeA										
267.90 > 223.00	3.115	3.115	0.0	0.754	3352802	0.8826		84.1	14229	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.115	3.123	-0.008	1.000	2833320	0.9432		112	897	
4 3:3 FTCA										
241.00 > 177.10	3.131	3.131	0.0	1.000	106295	0.9312	Target=1.19	111	1193	
241.00 > 116.90	3.131	3.131	0.0	1.000	86641		1.23(0.60-1.79)		141	
D 7 13C3 PFBS										
301.90 > 80.00	3.131	3.131	0.0	0.758	2047488	0.8522		87.3	8361	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.131	3.140	-0.009	1.000	1868266	0.8134	Target=2.66	110	3743	
298.90 > 99.00	3.131	3.140	-0.009	1.000	695385		2.69(1.33-3.99)		2921	
9 PFECA A										
278.95 > 84.90	3.211	3.211	0.0	1.031	3504596	0.9366		111	12364	
11 PES										
314.80 > 135.00	3.260	3.260	0.0	1.041	4069481	0.8197		110	21200	
12 PFECA B										
295.22 > 201.00	3.384	3.384	0.0	0.981	1410967	0.9455		113	6769	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.416	3.416	0.0	0.827	640921	0.8523		86.9	1017	
13 4:2 FTS										
327.00 > 307.00	3.416	3.416	0.0	1.000	1218011	0.8194		104	7995	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C2 PFHxA										
315.00 > 270.00	3.448	3.448	0.0	0.835	3792543	0.9050		86.2	13968	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.448	3.448	0.0	1.101	1820342	0.8410	Target=3.47	107	3989	
349.00 > 99.00	3.448	3.448	0.0	1.101	525153		3.47(1.73-5.20)		3373	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.448	3.448	0.0	1.000	2608159	0.9071	Target=11.56	108	1140	
313.00 > 119.00	3.448	3.448	0.0	1.000	234248		11.13(5.78-17.33)		261	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.553	3.553	0.0	0.860	1768920	0.8630		82.2	5847	
17 HFPO-DA										
285.00 > 169.00	3.553	3.553	0.0	1.000	1979863	0.9303	Target=2.51	111	1418	
329.00 > 169.00	3.553	3.553	0.0	1.000	786975		2.52(1.25-3.76)		983	
D 20 18O2 PFHxS										
403.00 > 84.00	3.782	3.783	-0.001	0.916	1375085	0.8818		88.8	4355	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.782	3.783	-0.001	1.000	1458547	0.7607	Target=3.47	99.5	4140	M
399.00 > 99.00	3.782	3.783	-0.001	1.000	456310		3.20(1.73-5.20)		1584	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.792	3.793	-0.001	0.918	3390456	0.9075		86.4	9803	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.792	3.793	-0.001	1.000	3021659	0.9343	Target=3.41	111	2276	
363.00 > 169.00	3.792	3.793	-0.001	1.000	924387		3.27(1.70-5.11)		2489	
25 DONA										
377.00 > 251.00	3.829	3.829	0.0	0.866	4274570	0.8054	Target=1.72	102	11383	
377.00 > 85.00	3.829	3.829	0.0	0.866	2411862		1.77(0.86-2.58)		3084	
26 5:3 FTCA										
340.88 > 236.90	3.853	3.853	0.0	0.987	326684	1.20	Target=1.09	143	1125	
340.88 > 216.90	3.853	3.853	0.0	0.987	287641		1.14(0.54-1.63)		653	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.886	3.887	0.0	0.941	1234475	0.8860		84.4	3069	
27 6:2 FTUCA										
356.86 > 292.90	3.886	3.895	-0.009	1.000	1237165	1.01	Target=14.99	120	3756	
356.86 > 243.00	3.886	3.895	-0.009	1.000	87771		14.10(7.50-22.49)		325	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.904	3.904	0.0	0.945	76083	0.7079		67.4	369	
29 6:2 FTCA										
377.10 > 63.00	3.912	3.913	-0.001	1.002	51037	1.01	Target=1.26	121	227	
377.10 > 313.10	3.904	3.913	-0.009	1.000	38729		1.32(0.63-1.89)		47.1	
32 PFECHS										
460.80 > 380.90	4.064	4.065	0.0	0.984	2148197	0.8816	Target=1.75	114	7352	
460.80 > 98.90	4.064	4.065	0.0	0.984	1236831		1.74(0.87-2.62)		2878	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.112	4.112	0.0	0.930	1671825	0.8432	Target=3.89	105	3725	
449.00 > 99.00	4.112	4.112	0.0	0.930	428881		3.90(1.94-5.83)		2696	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.121	4.121	0.0	0.998	686135	0.9232		92.5	1220	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.121	4.121	0.0	1.000	1088674	0.8650		109	3193	
D 31 13C4 PFOA										
417.00 > 372.00	4.131	4.131	0.0	1.000	3445159	0.8915		84.9	7886	
* 30 13C2 PFOA										
415.00 > 370.00	4.131	4.131	0.0		5162799	1.25			9800	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.131	4.131	0.0	1.000	3281591	0.9341	Target=2.38	111	2626	
413.00 > 169.00	4.131	4.131	0.0	1.000	1394666		2.35(1.19-3.57)		2478	
D 39 13C4 PFOS										
503.00 > 80.00	4.422	4.421	0.001	1.070	2015346	0.8697		86.6	2036	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.413	4.421	-0.008	0.998	1891412	0.8226	Target=4.49	106	2568	M
499.00 > 99.00	4.422	4.421	0.001	1.000	414761		4.56(2.25-6.74)		1300	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.439	4.439	0.0	1.000	3104891	0.8846	Target=3.86	105	2986	
463.00 > 169.00	4.439	4.439	0.0	1.000	777531		3.99(1.93-5.79)		1708	
D 41 13C5 PFNA										
468.00 > 423.00	4.439	4.439	0.0	1.075	4845288	0.9248		88.1	8163	
43 7:3 FTCA										
441.00 > 337.00	4.524	4.529	-0.005	0.993	529533	0.9351	Target=1.33	111	1732	
441.00 > 317.00	4.524	4.529	-0.005	0.993	392743		1.35(0.66-1.99)		1235	
44 8:2 FTUCA										
456.86 > 392.90	4.549	4.545	0.004	1.000	1593549	0.9454	Target=30.23	113	3582	
456.86 > 343.00	4.549	4.545	0.004	1.000	49866		31.96(15.12-45.35)		176	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.549	4.553	-0.004	1.000	1850474	0.99		94.4	4631	
46 8:2 FTCA										
477.00 > 393.10	4.557	4.562	-0.005	1.000	170211	0.8680	Target=3.38	103	955	
477.00 > 63.20	4.557	4.562	-0.005	1.000	55852		3.05(1.69-5.07)		192	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.557	4.562	-0.005	1.103	113694	0.8330		79.3	431	
49 9CIFOS										
531.00 > 351.00	4.574	4.578	-0.004	1.107	3879532	0.8595		110	6643	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.702	4.697	0.005	1.063	1753458	0.8635	Target=3.87	107	3023	
549.00 > 99.00	4.702	4.697	0.005	1.063	470332		3.73(1.93-5.80)		1792	
D 55 13C8 FOSA										
506.00 > 78.00	4.710	4.714	-0.004	1.140	3080277	0.8799		83.8	5170	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.710	4.714	-0.004	1.000	2466360	0.8803		105	4502	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.727	4.731	-0.004	1.000	3808395	0.9388	Target=11.19	112	2963	
513.00 > 169.00	4.727	4.731	-0.004	1.000	337743		11.28(5.60-16.79)		281	
D 52 13C2 PFDA										
515.00 > 470.00	4.727	4.731	-0.004	1.144	4733331	0.9474		90.2	15414	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.736	4.740	-0.004	1.146	7684518	0.9487		94.3	1642	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.736	4.740	-0.004	1.000	995886	0.8652		108	2038	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.867	4.872	-0.005	1.178	438514	0.9357		89.1	314	
57 NMeFOSAA										
570.00 > 419.00	4.876	4.880	-0.004	1.002	338422	0.8784		105	452	
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.952	4.957	-0.005	1.120	1597908	0.8932	Target=3.53	110	3475	
599.00 > 99.00	4.952	4.957	-0.005	1.120	455948		3.50(1.77-5.30)		1812	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.989	4.995	-0.006	1.000	3900859	0.9129	Target=8.28	109	5765	
563.00 > 169.00	4.989	4.995	-0.006	1.000	435599		8.96(4.14-12.42)		1480	
D 59 13C2 PFUnA										
565.00 > 520.00	4.989	4.995	-0.006	1.208	4639154	0.9618		91.6	14028	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.999	5.005	-0.006	1.210	473942	0.9856		93.9	1418	
62 NEtFOSAA										
584.00 > 419.00	5.009	5.015	-0.006	1.002	378439	0.9539		114	686	
65 10:2 FTUCA										
556.86 > 492.90	5.087	5.093	-0.006	1.000	2222107	0.99		118	4448	
63 11CIFOS										
631.00 > 451.00	5.087	5.093	-0.006	1.150	3186243	0.9109		115	6621	
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.087	5.093	-0.006	1.231	1949720	0.9296		88.5	4628	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.106	5.112	-0.006	1.236	99606	0.7799		74.3	756	
66 10:2 FTCA										
576.80 > 493.00	5.106	5.112	-0.006	1.000	84088	0.9685	Target=2.41	115	648	
576.80 > 63.10	5.106	5.112	-0.006	1.000	36355		2.31(1.21-3.62)		127	
D 69 13C2 PFDaA										
615.00 > 570.00	5.221	5.226	-0.005	1.264	4407010	0.9259		88.2	11503	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.221	5.226	-0.005	1.000	3903124	0.9002	Target=6.88	107	3679	
613.00 > 169.00	5.221	5.226	-0.005	1.000	544976		7.16(3.44-10.31)		1133	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.238	5.243	-0.005	1.268	690558	1.01		102	4029	
71 10:2 FTS										
627.00 > 607.00	5.246	5.251	-0.005	1.002	1327517	0.9107		112	8444	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.278	5.284	-0.006	1.278	500501	1.02		97.3	380	
74 NMeFOSA										
512.00 > 169.00	5.287	5.284	0.003	1.002	356106	0.9511		113	626	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.278	5.284	-0.006	1.278	364027	0.8734		83.2	42.8	
75 N-MeFOSE-M										
616.00 > 59.00	5.287	5.292	-0.005	1.002	493709	0.8822		105	743	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.394	5.399	-0.005	1.220	1721344	0.9069	Target=4.29	112	1902	
699.00 > 99.00	5.394	5.399	-0.005	1.220	375855		4.58(2.14-6.43)		1723	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.430	5.435	-0.005	1.040	3416015	0.9217	Target=6.38	110	3737	
663.00 > 169.00	5.430	5.435	-0.005	1.040	535632		6.38(3.19-9.57)		2193	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.439	5.435	0.004	1.317	457645	0.9007		85.8	202	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.447	5.452	-0.005	1.319	293115	0.8768		83.5	516	
79 N-EtFOSE-M										
630.00 > 59.00	5.447	5.452	-0.005	1.002	519016	0.8392		99.9	553	
81 N-EtFOSA-M										
526.00 > 169.00	5.456	5.452	0.004	1.002	332449	0.9534		113	597	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.612	5.617	-0.005	1.000	392867	0.9110	Target=1.02	108	1396	
713.00 > 219.00	5.612	5.617	-0.005	1.000	388663		1.01(0.51-1.53)		1952	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.612	5.617	-0.005	1.359	3506321	0.9212		87.7	9048	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.921	5.924	-0.004	1.000	2207994	0.9039	Target=8.32	108	3071	
813.00 > 169.00	5.921	5.924	-0.004	1.000	275495		8.01(4.16-12.48)		873	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.921	5.924	-0.004	1.433	2249738	0.9083		86.5	4780	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.181	6.185	-0.004	1.044	2049496	0.9444	Target=11.94	112	3009	
913.00 > 169.00	6.181	6.185	-0.004	1.044	171756		11.93(5.97-17.91)		691	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_037.d

Injection Date: 19-Feb-2022 00:49:32

Instrument ID: LCA

Lims ID: LCSD 140-58914/3-B

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 37

Worklist Smp#: 37

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

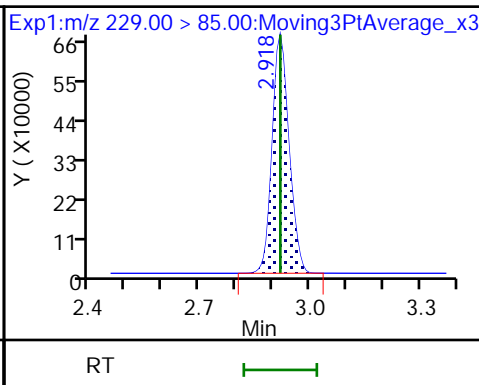
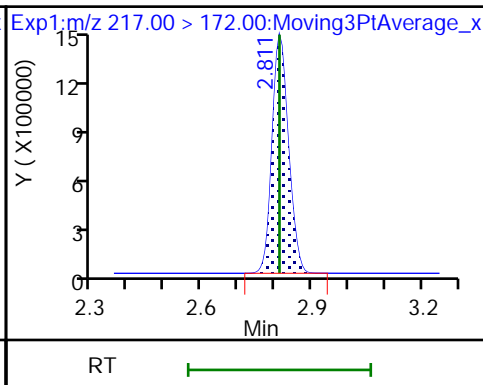
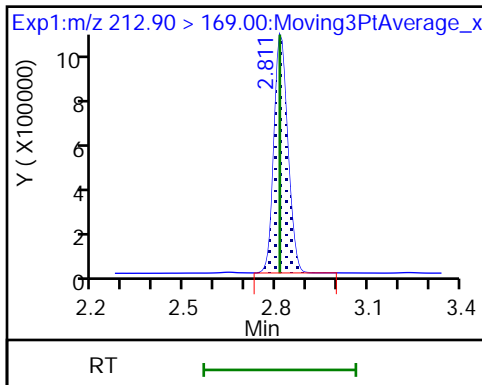
Method: PFC\_LCA

Limit Group: LC - PFC- ICAL

1 Perfluorobutanoic acid

D 2 13C4 PFBA

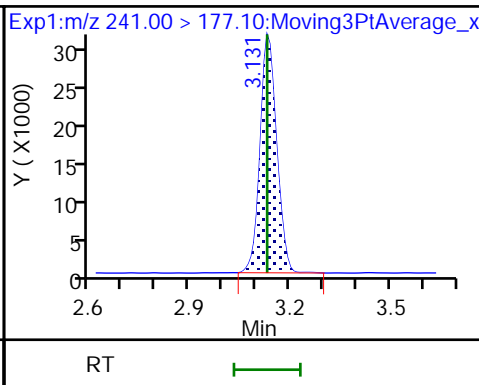
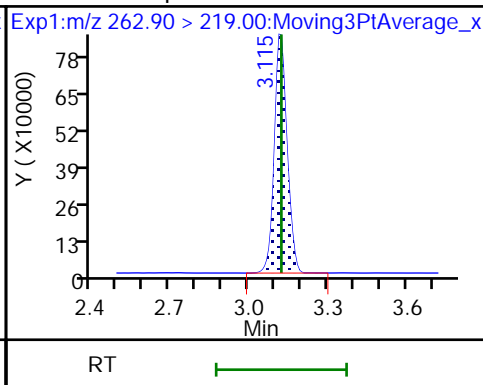
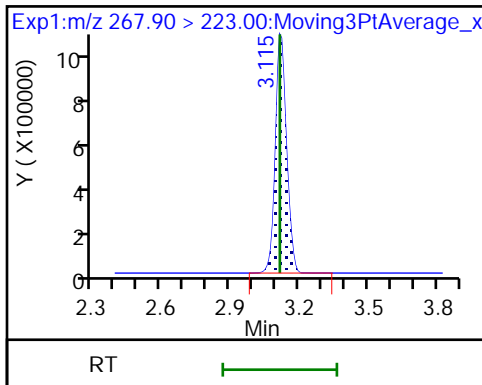
3 PFECA F



D 5 13C5 PFPeA

6 Perfluoropentanoic acid

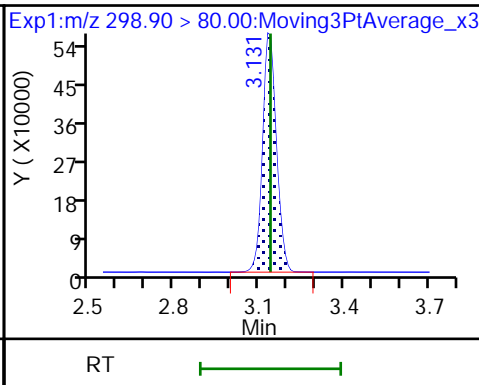
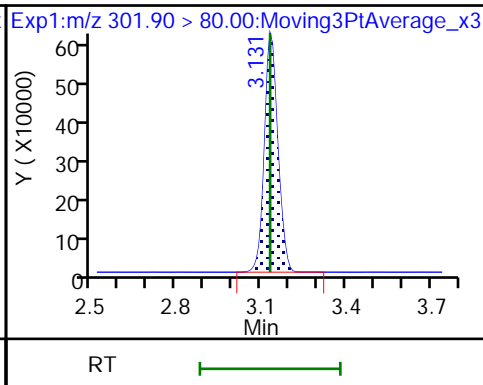
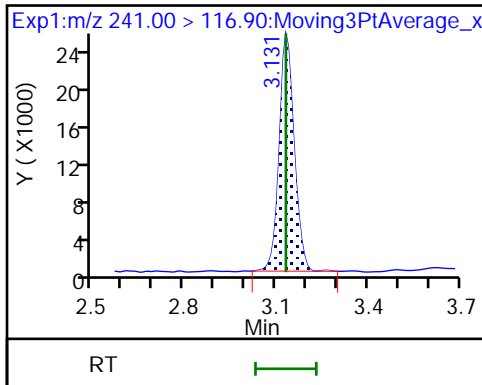
4 3:3 FTCA



4 3:3 FTCA

D 7 13C3 PFBS

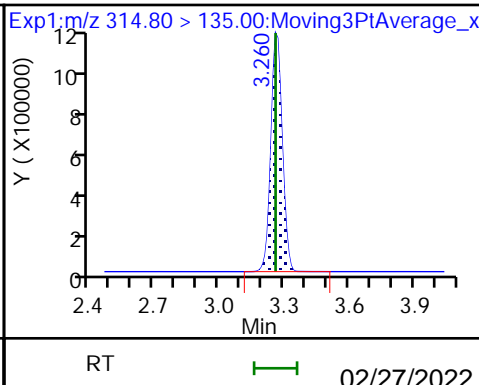
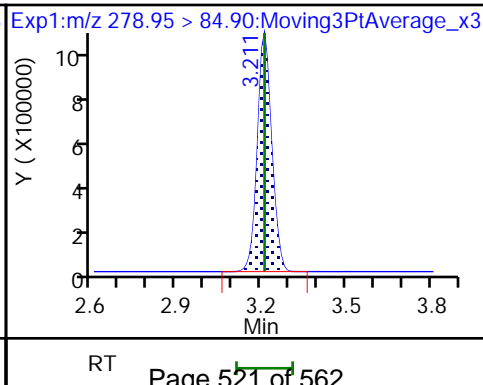
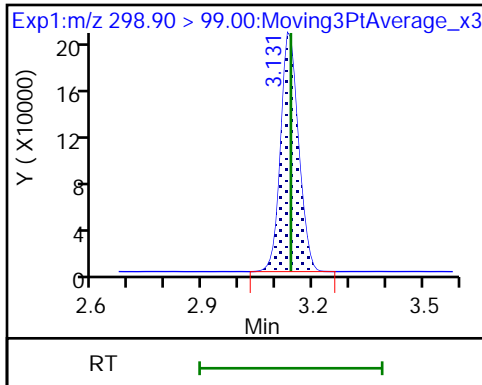
8 Perfluorobutanesulfonic acid

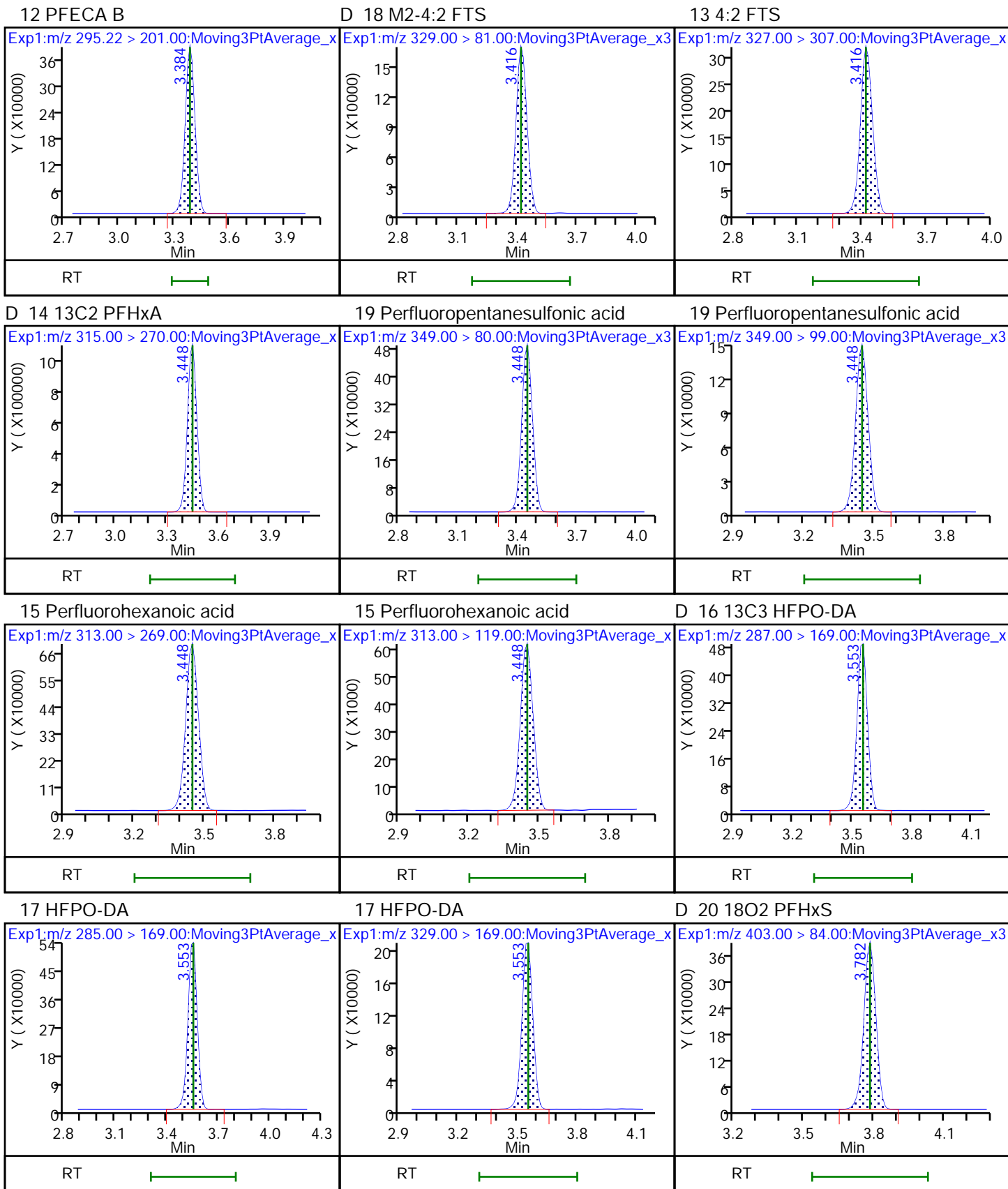


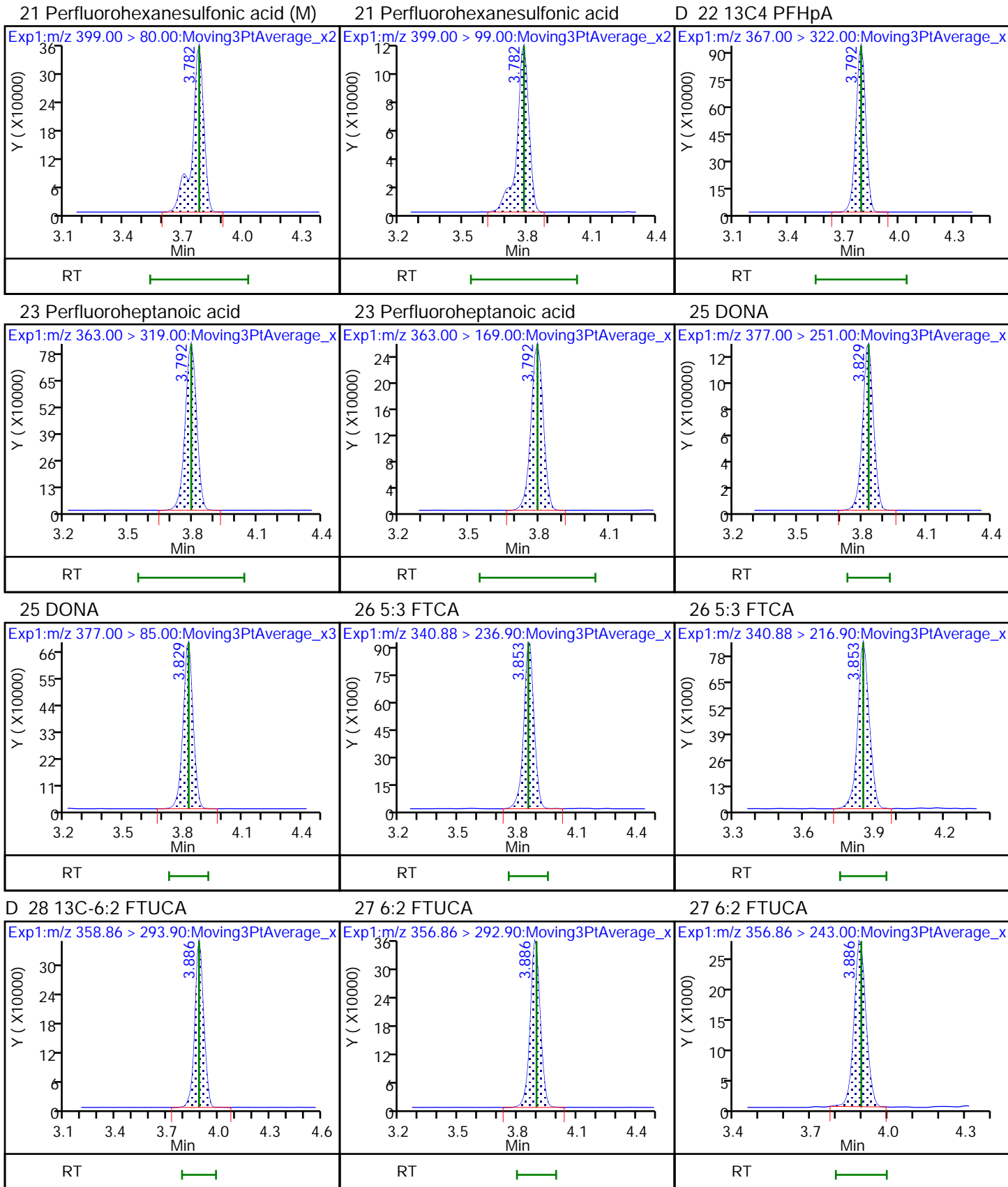
8 Perfluorobutanesulfonic acid

9 PFECA A

11 PES



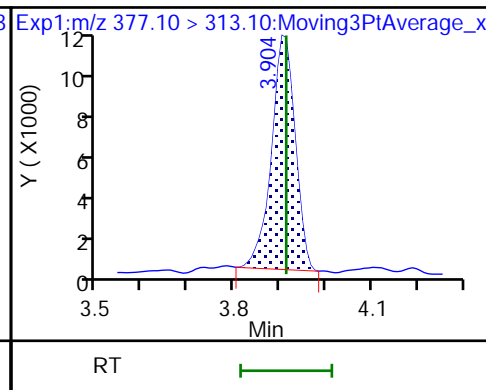
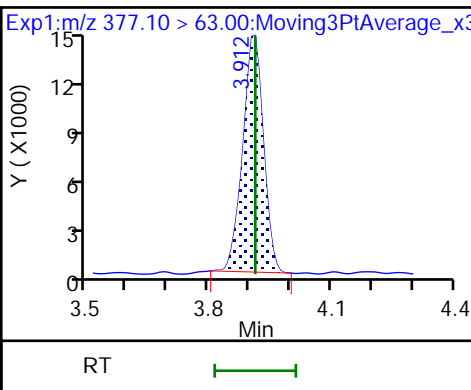
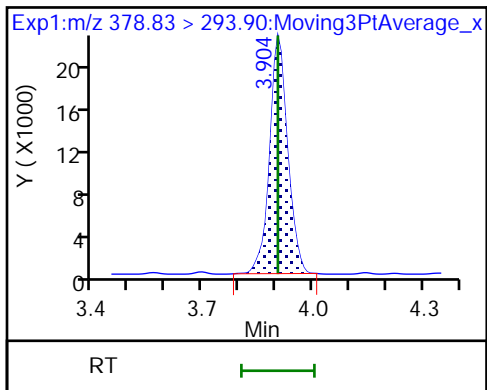




D 24 13C-6:2 FTCA

29 6:2 FTCA

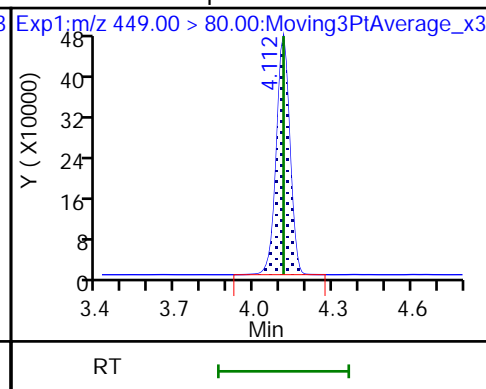
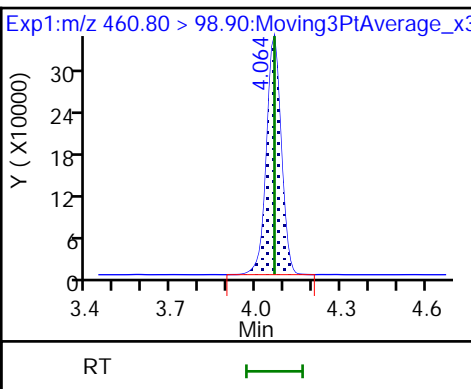
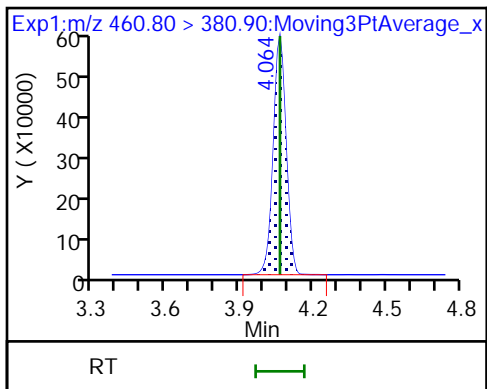
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32 PFECHS

32 PFECHS

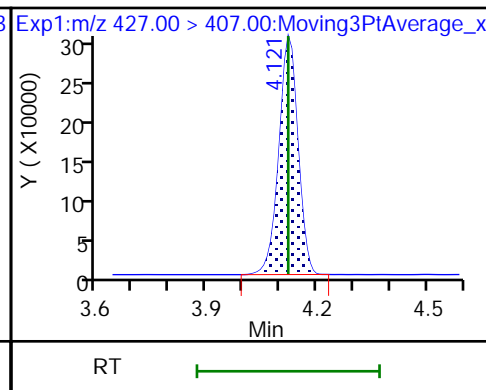
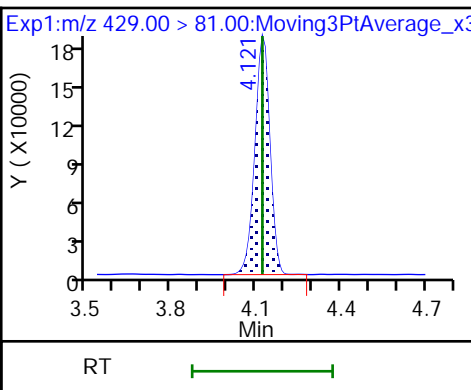
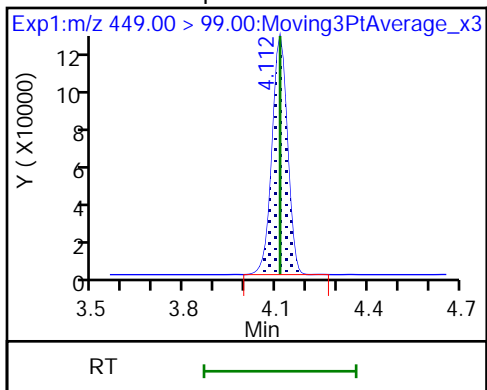
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

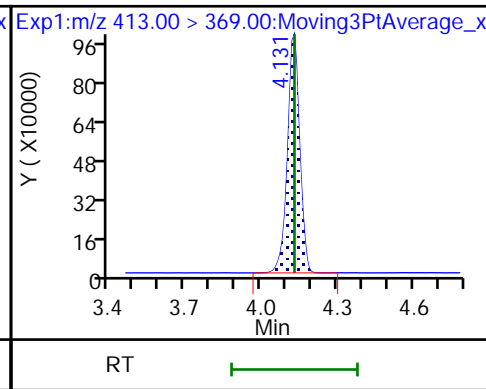
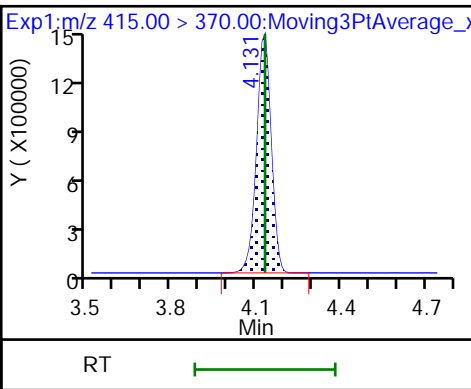
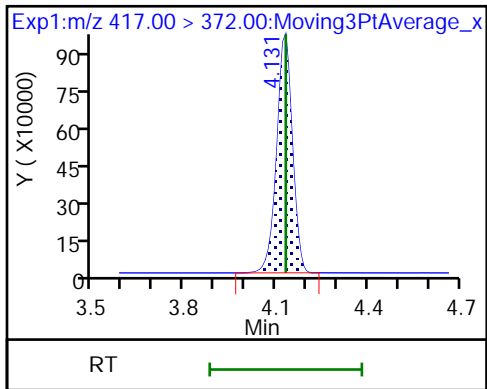
35 6:2 FTS



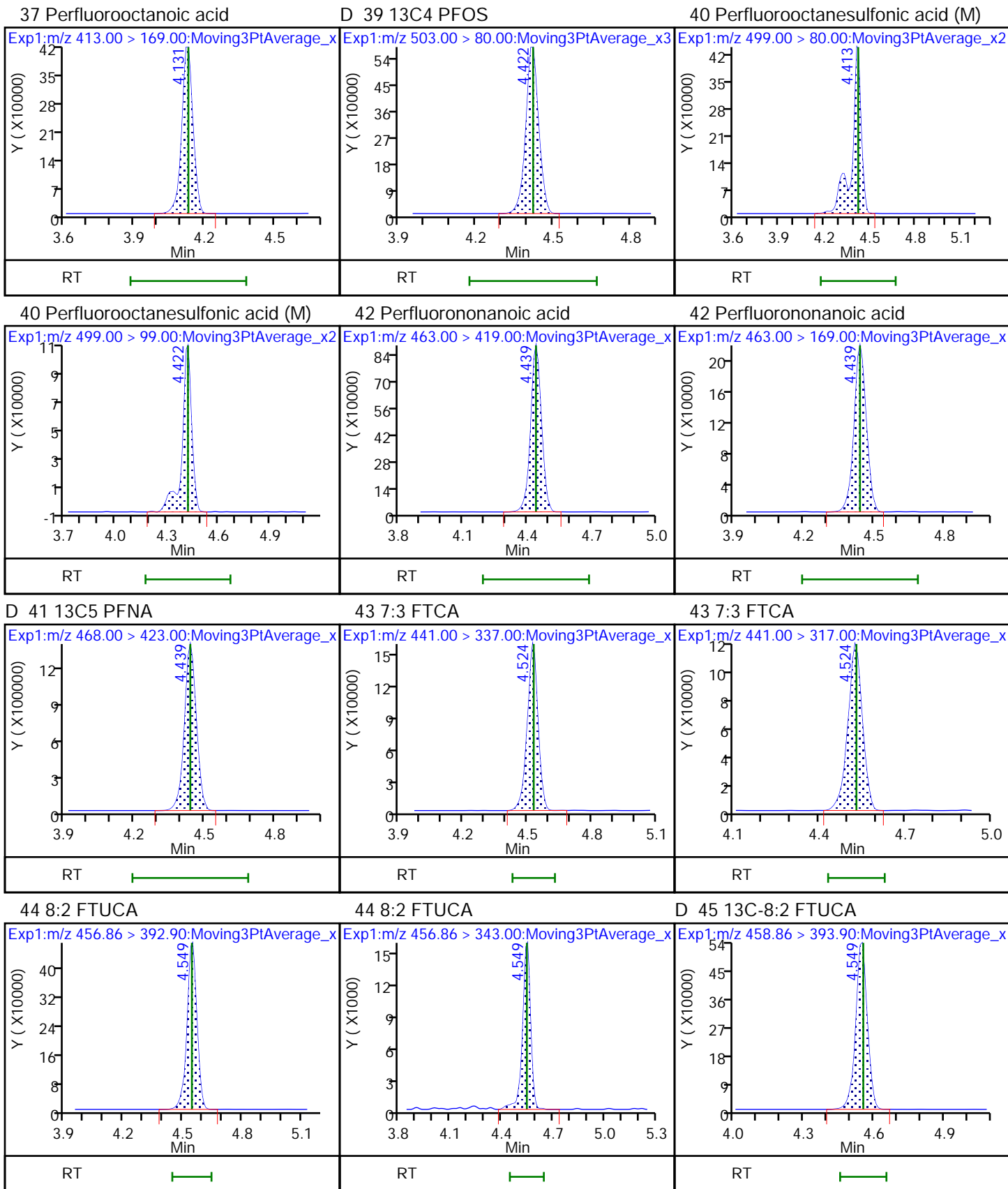
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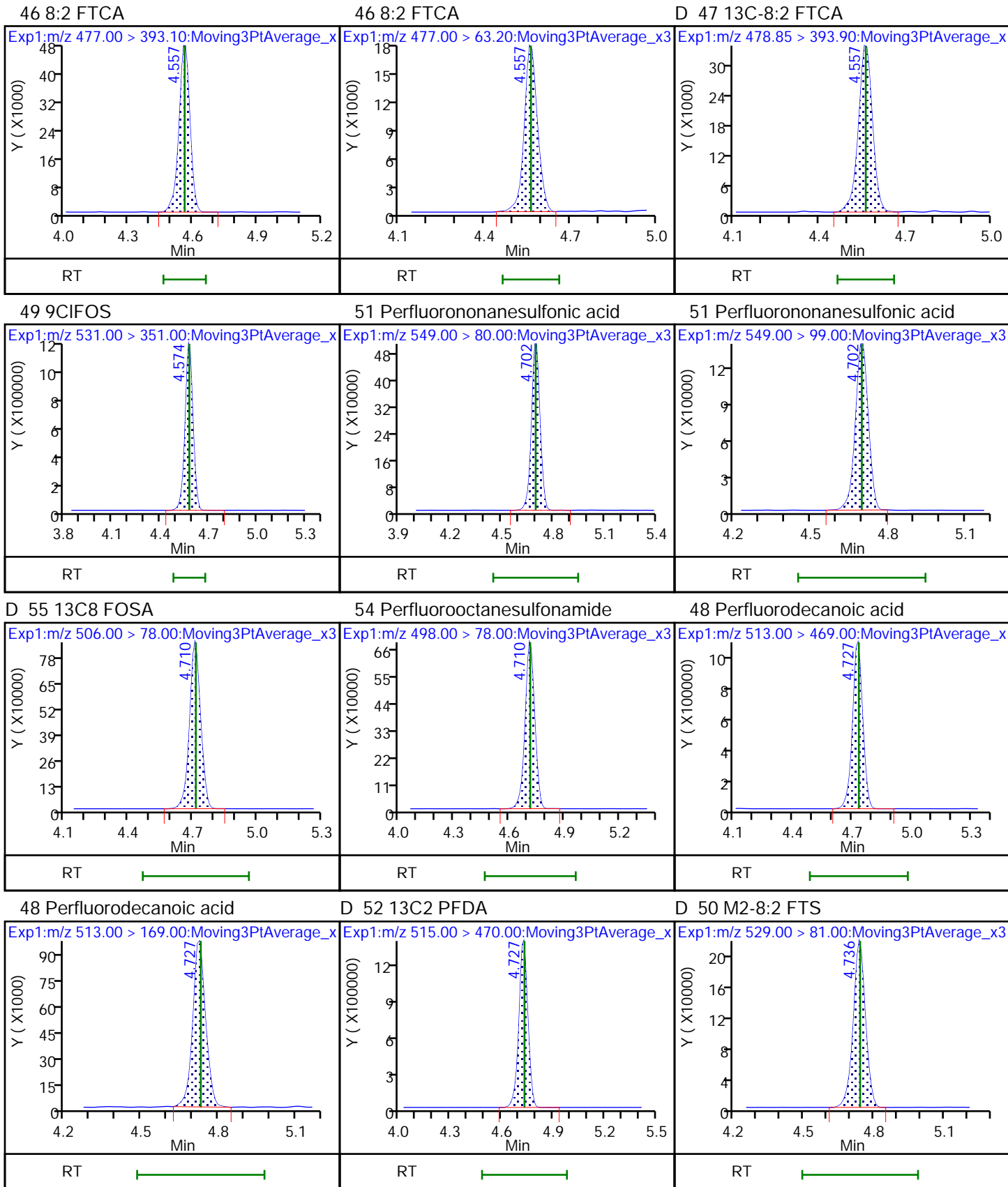
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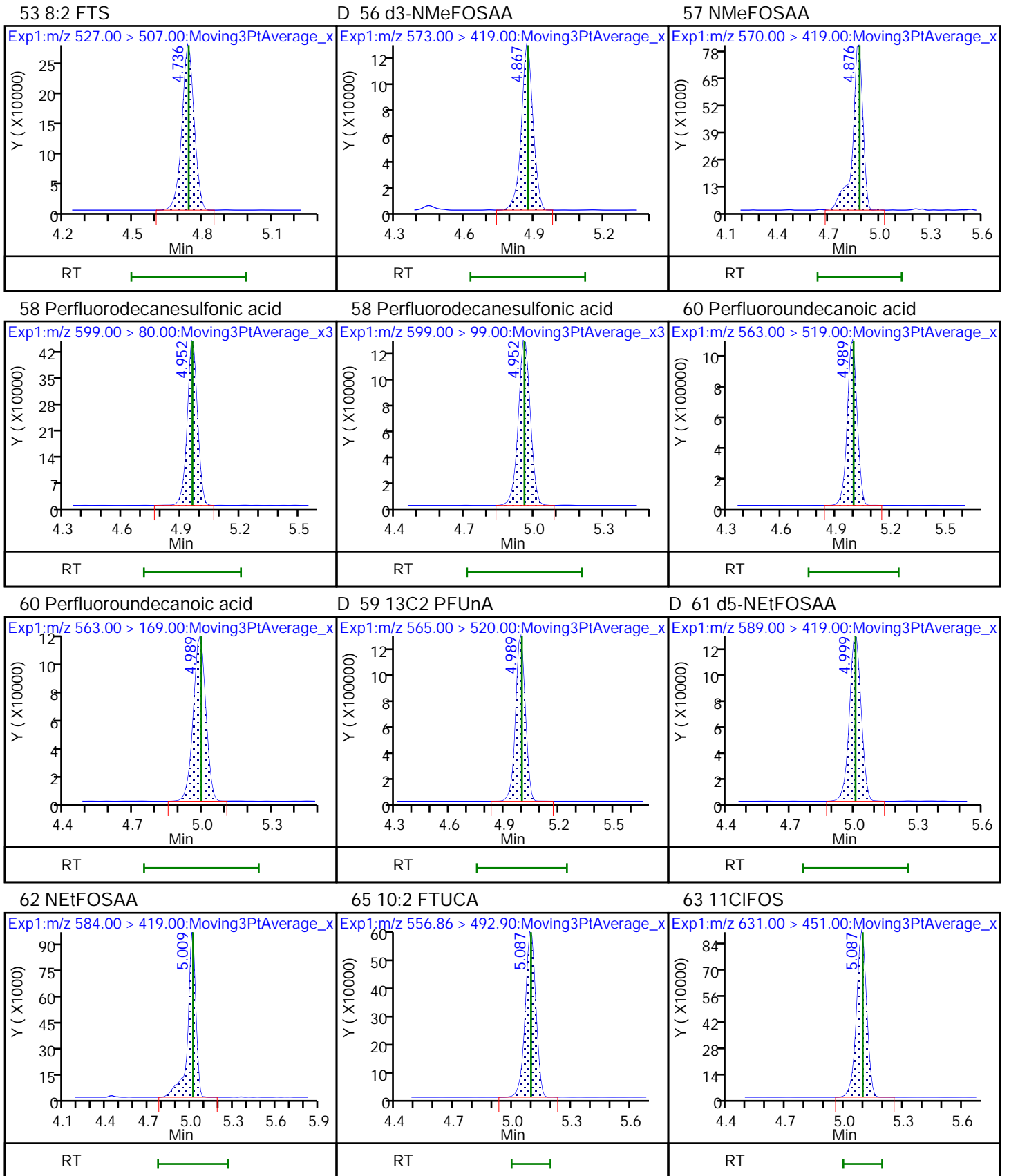
37 Perfluorooctanoic acid







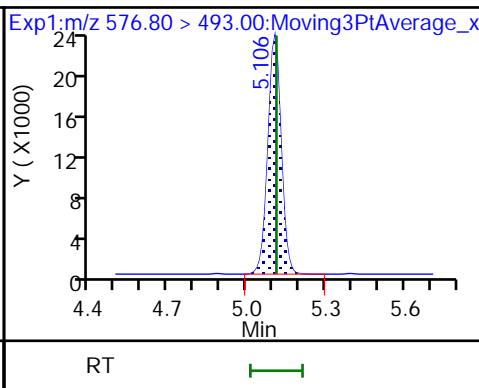
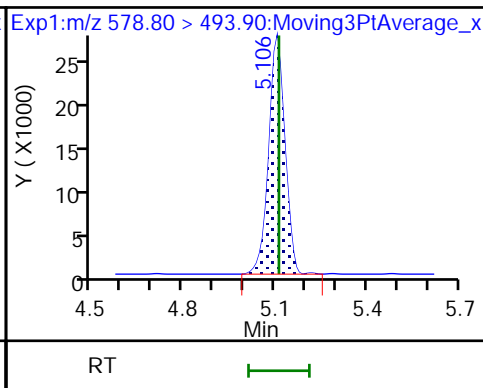
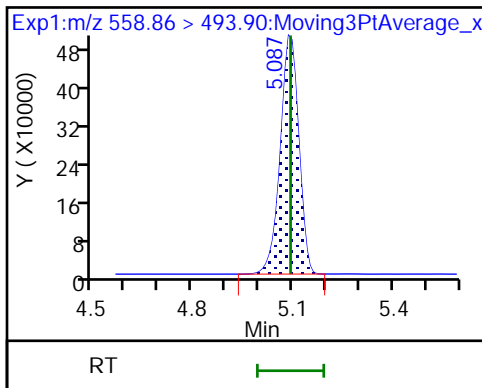




D 67 13C-10:2 FTUCA

D 64 13C-10:2 FTCA

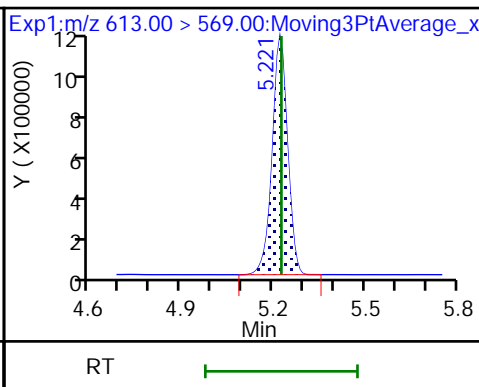
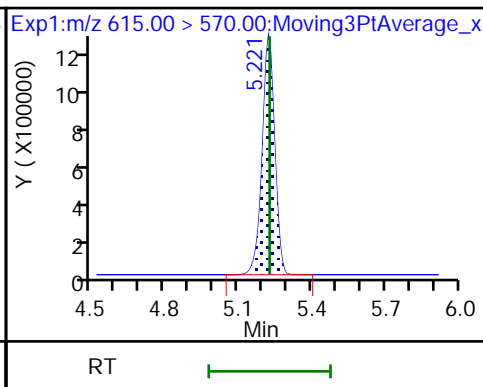
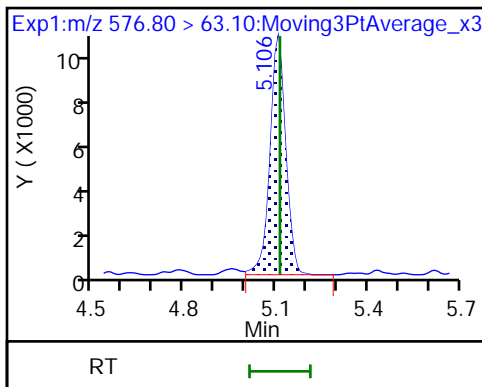
66 10:2 FTCA



66 10:2 FTCA

D 69 13C2 PFDaA

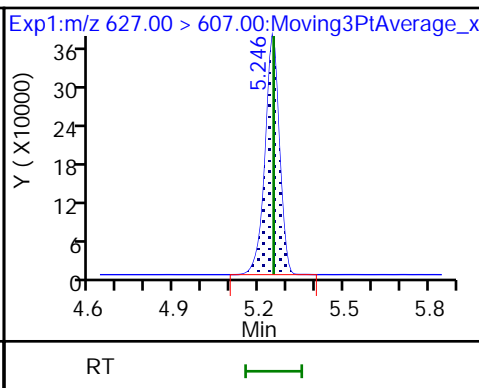
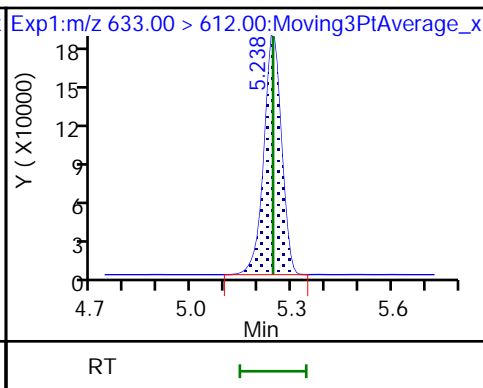
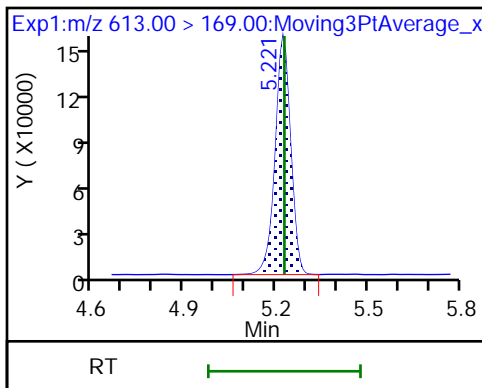
68 Perfluorododecanoic acid



68 Perfluorododecanoic acid

D 70 13C2 10:2 FTS

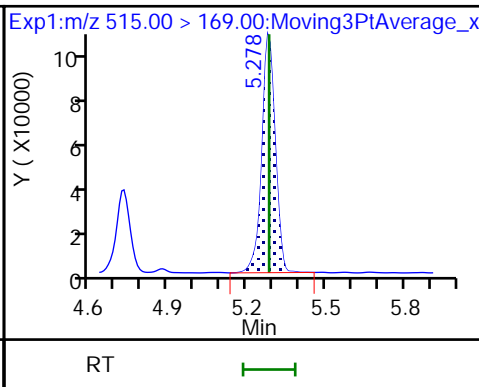
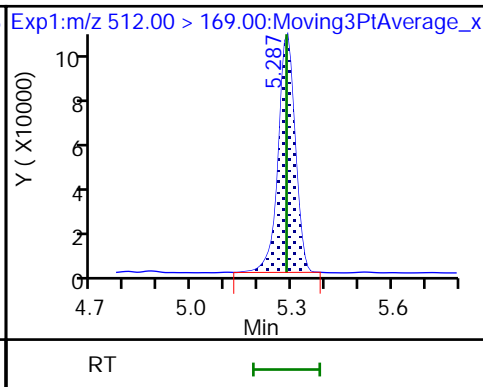
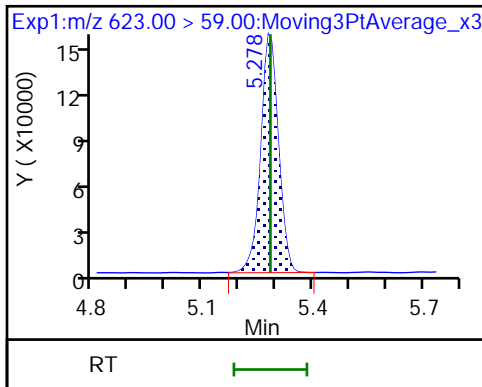
71 10:2 FTS

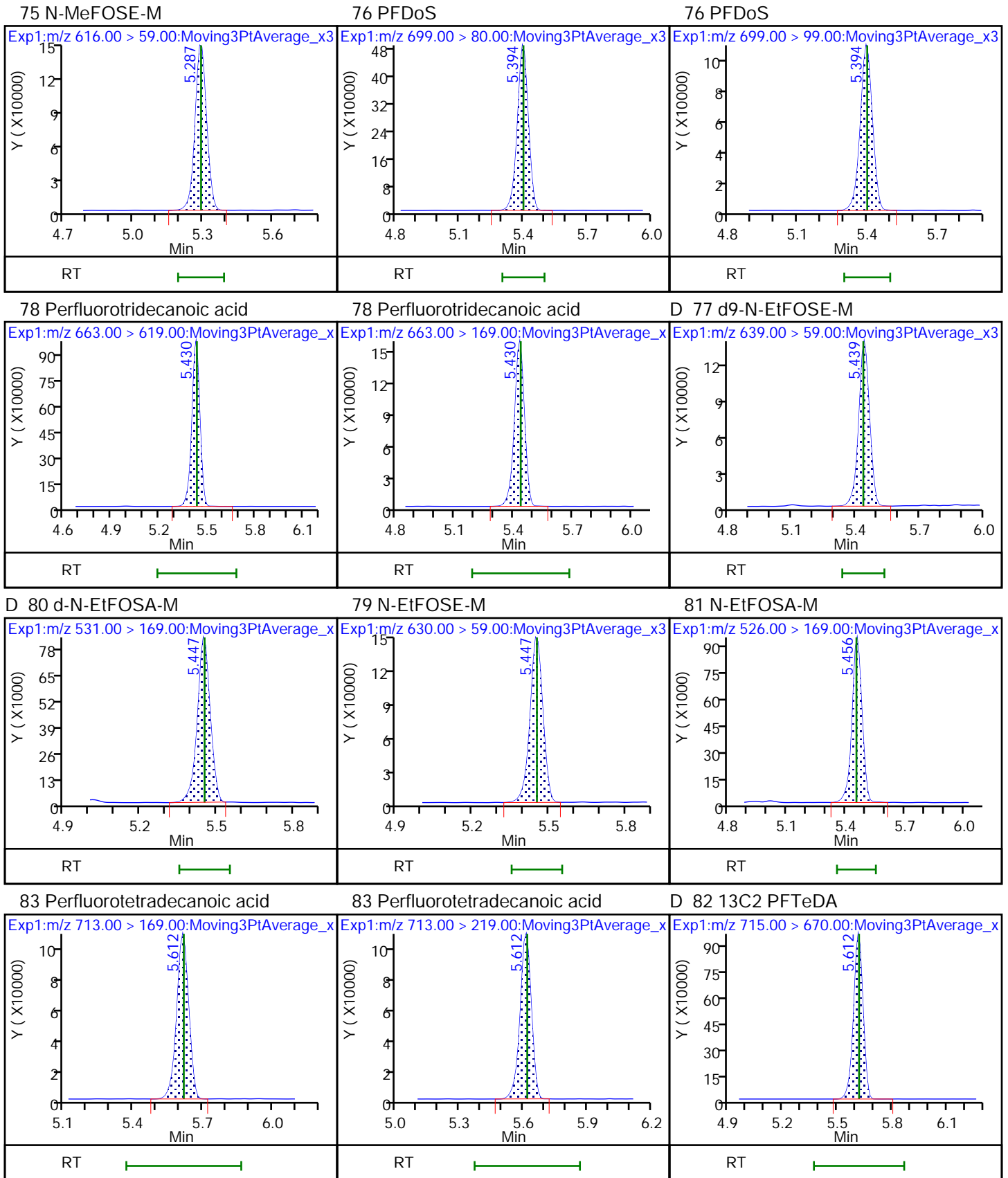


D 72 d7-N-MeFOSE-M

74 NMeFOSA

D 73 d-N-MeFOSA-M

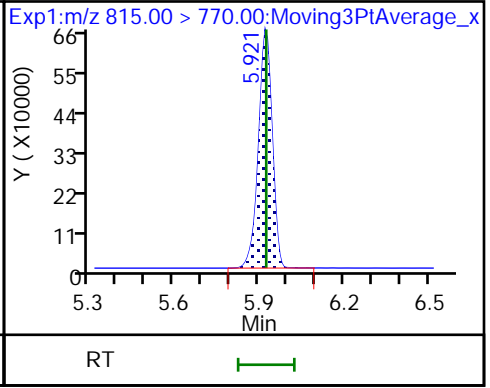
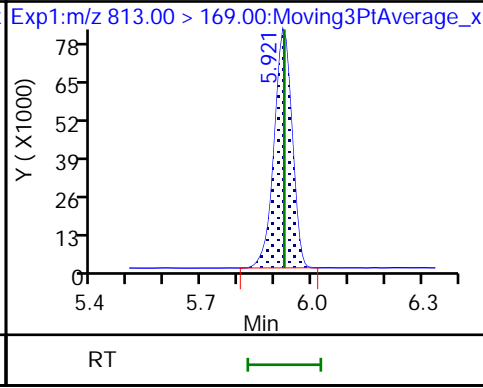
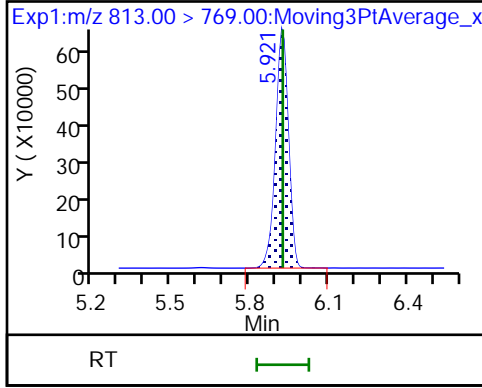




85 Perfluorohexadecanoic acid

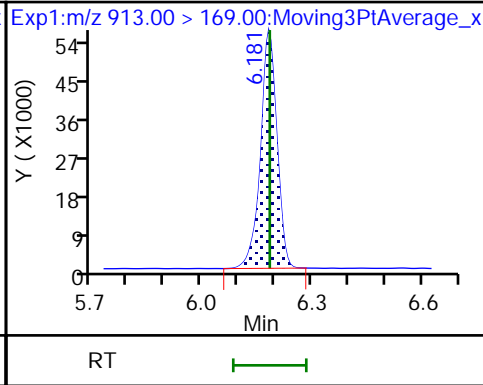
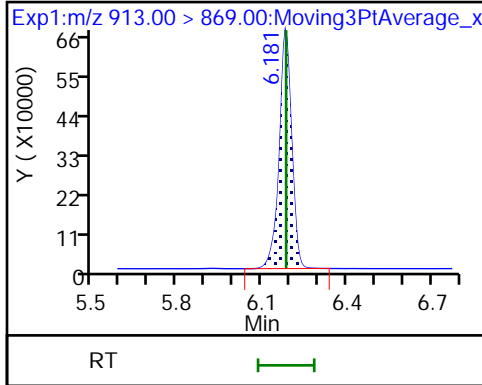
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid



FORM I  
PFAS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 140-58967/3-A  
 Matrix: Air Lab File ID: 022.d  
 Analysis Method: 537 (modified) Date Collected: \_\_\_\_\_  
 Extraction Method: PFAS Prep Date Extracted: 02/17/2022 09:59  
 Sample wt/vol: 1 (Sample) Date Analyzed: 02/18/2022 22:37  
 Con. Extract Vol.: 10 (mL) Dilution Factor: 1  
 Injection Volume: 1 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)  
 % Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
 Analysis Batch No.: 59045 Units: ug/Sample

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
13252-13-6	HFPO-DA	0.01188		0.000500	0.0000870

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL02255	13C3 HFPO-DA	81		25-150

Eurofins Knoxville  
Target Compound Quantitation Report

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_022.d  
 Lims ID: LCSD 140-58967/3-A  
 Client ID:  
 Sample Type: LCSD  
 Inject. Date: 18-Feb-2022 22:37:28 ALS Bottle#: 22 Worklist Smp#: 22  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 140-0022714-022 lcsd 140-58967/3-a  
 Misc. Info.: Plate: 10 Rack: 1  
 Operator ID: Cochran, Bobby Instrument ID: LCA  
 Method: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\PFC\_LCA.m  
 Limit Group: LC - PFC- ICAL  
 Last Update: 20-Feb-2022 15:48:23 Calib Date: 18-Feb-2022 18:53:33  
 Integrator: Picker  
 Quant Method: Isotopic Dilution Quant By: Initial Calibration  
 Last ICal File: \\chromfs\Knoxville\ChromData\LCA\20220218-22713.b\_010.d  
 Column 1 : Det: EXP1  
 Process Host: CTX1667

First Level Reviewer: cochranj Date: 19-Feb-2022 12:13:28  
 Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
1 Perfluorobutanoic acid										
212.90 > 169.00	2.805	2.811	-0.006	1.000	4163425	1.15		115	1473	
D 2 13C4 PFBA										
217.00 > 172.00	2.805	2.811	-0.006	0.680	5716222	1.07		85.5	16150	
3 PFECA F										
229.00 > 85.00	2.912	2.919	-0.007	0.937	3000860	1.13		113	9371	
D 5 13C5 PFPeA										
267.90 > 223.00	3.108	3.115	-0.007	0.754	4420761	1.05		84.2	17350	
6 Perfluoropentanoic acid										
262.90 > 219.00	3.108	3.123	-0.015	1.000	3925157	1.18		118	1614	
4 3:3 FTCA										
241.00 > 177.10	3.124	3.131	-0.007	1.000	138812	1.18	Target=1.16	118	1493	
241.00 > 116.90	3.124	3.131	-0.007	1.000	118361		1.17(0.58-1.74)		179	
D 7 13C3 PFBS										
301.90 > 80.00	3.124	3.131	-0.007	0.758	2516201	0.9474		81.5	10704	
8 Perfluorobutanesulfonic acid										
298.90 > 80.00	3.124	3.140	-0.016	1.000	2448298	1.03	Target=2.74	117	6072	
298.90 > 99.00	3.124	3.140	-0.016	1.000	950012		2.58(1.37-4.11)		4498	
9 PFECA A										
278.95 > 84.90	3.203	3.211	-0.008	1.031	4971332	1.20		120	14922	
11 PES										
314.80 > 135.00	3.261	3.260	0.001	1.044	5477589	1.07		120	12466	
12 PFECA B										
295.22 > 201.00	3.375	3.384	-0.009	0.981	1996897	1.22		122	7271	
D 18 M2-4:2 FTS										
329.00 > 81.00	3.406	3.416	-0.010	0.826	756543	0.9101		78.0	1670	
13 4:2 FTS										
327.00 > 307.00	3.406	3.416	-0.010	1.000	1765625	1.20		128	9470	



Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C2 PFHxA										
315.00 > 270.00	3.439	3.448	-0.009	0.834	4922437	1.06		85.0	15277	
19 Perfluoropentanesulfonic acid										
349.00 > 80.00	3.439	3.448	-0.009	1.101	2403135	1.08	Target=3.48	115	6337	
349.00 > 99.00	3.439	3.448	-0.009	1.101	693804		3.46(1.74-5.23)		4153	
15 Perfluorohexanoic acid										
313.00 > 269.00	3.439	3.448	-0.009	1.000	3457730	1.10	Target=12.09	110	1794	
313.00 > 119.00	3.439	3.448	-0.009	1.000	311652		11.09(6.04-18.13)		286	
D 16 13C3 HFPO-DA										
287.00 > 169.00	3.544	3.553	-0.009	0.860	2291131	1.01		80.9	6621	
17 HFPO-DA										
285.00 > 169.00	3.544	3.553	-0.009	1.000	2747145	1.19	Target=2.53	119	1720	
329.00 > 169.00	3.544	3.553	-0.009	1.000	1064483		2.58(1.26-3.79)		1717	
D 20 18O2 PFHxS										
403.00 > 84.00	3.774	3.783	-0.009	0.915	1697632	0.9848		83.3	4309	
21 Perfluorohexanesulfonic acid										
399.00 > 80.00	3.774	3.783	-0.009	1.000	2041074	1.03	Target=3.31	113	4283	M
399.00 > 99.00	3.774	3.783	-0.009	1.000	606633		3.36(1.66-4.97)		2542	M
D 22 13C4 PFHpA										
367.00 > 322.00	3.784	3.793	-0.009	0.918	4274373	1.03		82.8	12350	
23 Perfluoroheptanoic acid										
363.00 > 319.00	3.784	3.793	-0.009	1.000	4268961	1.24	Target=3.40	124	3670	
363.00 > 169.00	3.784	3.793	-0.009	1.000	1298587		3.29(1.70-5.09)		2502	
25 DONA										
377.00 > 251.00	3.822	3.829	-0.007	0.866	6153457	1.07	Target=1.74	114	12241	
377.00 > 85.00	3.822	3.829	-0.007	0.866	3497944		1.76(0.87-2.61)		5073	
26 5:3 FTCA										
340.88 > 236.90	3.846	3.853	-0.007	0.987	460223	1.11	Target=1.13	111	2086	
340.88 > 216.90	3.854	3.853	0.001	0.989	402678		1.14(0.56-1.69)		941	
D 28 13C-6:2 FTUCA										
358.86 > 293.90	3.879	3.887	-0.007	0.941	1664556	1.08		86.5	4058	
27 6:2 FTUCA										
356.86 > 292.90	3.888	3.895	-0.007	1.002	1596606	1.15	Target=14.14	115	2659	
356.86 > 243.00	3.888	3.895	-0.007	1.002	118133		13.52(7.07-21.20)		349	
D 24 13C-6:2 FTCA										
378.83 > 293.90	3.896	3.904	-0.008	0.945	137619	1.16		92.7	454	
29 6:2 FTCA										
377.10 > 63.00	3.905	3.913	-0.008	1.002	86432	1.13	Target=1.42	113	372	
377.10 > 313.10	3.896	3.913	-0.017	1.000	69691		1.24(0.71-2.13)		97.7	
32 PFECHS										
460.80 > 380.90	4.056	4.065	-0.008	0.984	2761406	1.02	Target=1.67	111	5166	
460.80 > 98.90	4.056	4.065	-0.008	0.984	1620558		1.70(0.84-2.51)		4587	
33 Perfluoroheptanesulfonic acid										
449.00 > 80.00	4.104	4.112	-0.008	0.930	2218067	1.03	Target=3.94	108	5037	
449.00 > 99.00	4.104	4.112	-0.008	0.930	579586		3.83(1.97-5.90)		2165	
D 34 M2-6:2 FTS										
429.00 > 81.00	4.123	4.121	0.002	1.000	800338	0.9742		82.0	2017	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
35 6:2 FTS										
427.00 > 407.00	4.123	4.121	0.002	1.000	1360921	1.10		117	3979	
D 31 13C4 PFOA										
417.00 > 372.00	4.123	4.131	-0.008	1.000	4560952	1.07		85.4	16112	
* 30 13C2 PFOA										
415.00 > 370.00	4.123	4.131	-0.008		5706850	1.25			10453	
37 Perfluorooctanoic acid										
413.00 > 369.00	4.123	4.131	-0.008	1.000	4344271	1.11	Target=2.33	111	3716	
413.00 > 169.00	4.123	4.131	-0.008	1.000	1804619		2.41(1.17-3.50)		3848	
D 39 13C4 PFOS										
503.00 > 80.00	4.414	4.421	-0.007	1.071	2598522	1.01		84.9	2483	
40 Perfluorooctanesulfonic acid										M
499.00 > 80.00	4.414	4.421	-0.007	1.000	2511793	1.01	Target=4.42	109	2742	M
499.00 > 99.00	4.414	4.421	-0.007	1.000	592923		4.24(2.21-6.63)		1290	M
42 Perfluorononanoic acid										
463.00 > 419.00	4.432	4.439	-0.007	1.000	4152641	1.11	Target=3.81	111	4209	
463.00 > 169.00	4.432	4.439	-0.007	1.000	1064615		3.90(1.90-5.71)		1885	
D 41 13C5 PFNA										
468.00 > 423.00	4.432	4.439	-0.007	1.075	6165564	1.06		85.2	9743	
43 7:3 FTCA										
441.00 > 337.00	4.522	4.529	-0.007	0.993	726674	1.07	Target=1.44	107	1836	
441.00 > 317.00	4.522	4.529	-0.007	0.993	507472		1.43(0.72-2.16)		1860	
44 8:2 FTUCA										
456.86 > 392.90	4.539	4.545	-0.006	1.000	2007315	1.15	Target=33.93	115	4577	
456.86 > 343.00	4.539	4.545	-0.006	1.000	55705		36.03(16.96-50.89)		242	
D 45 13C-8:2 FTUCA										
458.86 > 393.90	4.539	4.553	-0.014	1.000	2272664	1.10		88.1	4086	
46 8:2 FTCA										
477.00 > 393.10	4.555	4.562	-0.007	1.000	250726	1.07	Target=3.19	107	1128	
477.00 > 63.20	4.555	4.562	-0.007	1.000	77931		3.22(1.59-4.78)		180	
D 47 13C-8:2 FTCA										
478.85 > 393.90	4.555	4.562	-0.007	1.105	161793	1.07		85.8	522	
49 9CIFOS										
531.00 > 351.00	4.571	4.578	-0.007	1.109	5131376	1.05		113	8298	
51 Perfluorononanesulfonic acid										
549.00 > 80.00	4.699	4.697	0.002	1.064	2366243	1.08	Target=3.97	112	4909	
549.00 > 99.00	4.699	4.697	0.002	1.064	590689		4.01(1.99-5.96)		2135	
D 55 13C8 FOSA										
506.00 > 78.00	4.707	4.714	-0.007	1.142	4162735	1.08		86.1	5507	
54 Perfluorooctanesulfonamide										
498.00 > 78.00	4.707	4.714	-0.007	1.000	3558771	1.12		112	5149	
48 Perfluorodecanoic acid										
513.00 > 469.00	4.724	4.731	-0.007	1.000	5066547	1.18	Target=11.13	118	4403	
513.00 > 169.00	4.724	4.731	-0.007	1.000	465384		10.89(5.57-16.70)		303	
D 52 13C2 PFDA										
515.00 > 470.00	4.724	4.731	-0.007	1.146	5978385	1.08		86.6	7050	
D 50 M2-8:2 FTS										
529.00 > 81.00	4.733	4.740	-0.007	1.148	8824594	1.02		82.4	1294	

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_022.d

Ratio Calibration: CCV Sample: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_017.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
53 8:2 FTS										
527.00 > 507.00	4.733	4.740	-0.007	1.000	1274517	1.15		120	4129	
D 56 d3-NMeFOSAA										
573.00 > 419.00	4.866	4.872	-0.006	1.180	559099	1.08		86.3	325	
57 NMeFOSAA										M
570.00 > 419.00	4.866	4.880	-0.014	1.000	509123	1.23		123	753	M
58 Perfluorodecanesulfonic acid										
599.00 > 80.00	4.951	4.957	-0.006	1.122	2120989	1.10	Target=3.72	114	5993	
599.00 > 99.00	4.951	4.957	-0.006	1.122	578334		3.67(1.86-5.59)		2822	
60 Perfluoroundecanoic acid										
563.00 > 519.00	4.988	4.995	-0.007	1.000	4944276	1.17	Target=8.47	117	5229	
563.00 > 169.00	4.988	4.995	-0.007	1.000	594488		8.32(4.23-12.70)		2312	
D 59 13C2 PFUnA										
565.00 > 520.00	4.988	4.995	-0.007	1.210	5481607	1.03		82.2	6732	
D 61 d5-NEtFOSAA										
589.00 > 419.00	4.997	5.005	-0.008	1.212	587226	1.10		88.4	1870	
62 NEtFOSAA										M
584.00 > 419.00	5.007	5.015	-0.008	1.002	495079	1.19		119	624	M
D 67 13C-10:2 FTUCA										
558.86 > 493.90	5.085	5.093	-0.008	1.233	2406832	1.04		83.0	7634	
65 10:2 FTUCA										
556.86 > 492.90	5.085	5.093	-0.008	1.000	2744721	1.18		118	6064	
63 11CIFOS										
631.00 > 451.00	5.085	5.093	-0.008	1.152	4014990	1.06		113	10154	
D 64 13C-10:2 FTCA										
578.80 > 493.90	5.104	5.112	-0.008	1.238	159845	1.13		90.6	852	
66 10:2 FTCA										
576.80 > 493.00	5.104	5.112	-0.008	1.000	136815	1.16	Target=2.54	116	709	
576.80 > 63.10	5.104	5.112	-0.008	1.000	57138		2.39(1.27-3.81)		193	
D 69 13C2 PFDaA										
615.00 > 570.00	5.220	5.226	-0.006	1.266	5328026	1.01		81.0	10533	
68 Perfluorododecanoic acid										
613.00 > 569.00	5.220	5.226	-0.006	1.000	5228110	1.19	Target=7.02	119	4671	
613.00 > 169.00	5.220	5.226	-0.006	1.000	749365		6.98(3.51-10.53)		1732	
D 70 13C2 10:2 FTS										
633.00 > 612.00	5.237	5.243	-0.006	1.270	686507	0.9104		76.9	4299	
71 10:2 FTS										
627.00 > 607.00	5.245	5.251	-0.006	1.002	1503685	1.24		128	5049	
74 NMeFOSA										
512.00 > 169.00	5.277	5.284	-0.007	1.000	463443	1.22		122	866	
D 73 d-N-MeFOSA-M										
515.00 > 169.00	5.277	5.284	-0.007	1.280	441389	0.9580		76.6	46.2	
D 72 d7-N-MeFOSE-M										
623.00 > 59.00	5.277	5.284	-0.007	1.280	557135	1.03		82.3	450	
75 N-MeFOSE-M										
616.00 > 59.00	5.285	5.292	-0.007	1.002	610895	1.17		117	880	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
76 PFDoS										
699.00 > 80.00	5.393	5.399	-0.006	1.222	2200309	1.07	Target=4.52	111	3481	
699.00 > 99.00	5.393	5.399	-0.006	1.222	526132		4.18(2.26-6.78)		2748	
78 Perfluorotridecanoic acid										
663.00 > 619.00	5.429	5.435	-0.006	1.040	4547918	1.21	Target=5.96	121	5849	
663.00 > 169.00	5.429	5.435	-0.006	1.040	720864		6.31(2.98-8.94)		3261	
D 77 d9-N-EtFOSE-M										
639.00 > 59.00	5.437	5.435	0.002	1.319	563490	1.00		80.3	263	
D 80 d-N-EtFOSA-M										
531.00 > 169.00	5.446	5.452	-0.006	1.321	342556	0.9270		74.2	558	
79 N-EtFOSE-M										
630.00 > 59.00	5.446	5.452	-0.006	1.002	714951	1.12		112	675	
81 N-EtFOSA-M										
526.00 > 169.00	5.455	5.452	0.003	1.002	424415	1.24		124	630	
83 Perfluorotetradecanoic acid										
713.00 > 169.00	5.610	5.617	-0.007	1.000	522574	1.18	Target=0.99	118	2404	
713.00 > 219.00	5.610	5.617	-0.007	1.000	501171		1.04(0.49-1.48)		3563	
D 82 13C2 PFTeDA										
715.00 > 670.00	5.610	5.617	-0.007	1.361	4300430	1.02		81.8	9111	
85 Perfluorohexadecanoic acid										
813.00 > 769.00	5.918	5.924	-0.006	1.000	2841145	1.22	Target=8.23	122	3336	
813.00 > 169.00	5.918	5.924	-0.006	1.000	349613		8.13(4.11-12.34)		1210	
D 84 13C2 PFHxDA										
815.00 > 770.00	5.918	5.924	-0.006	1.435	2565198	0.9370		75.0	4930	
86 Perfluorooctadecanoic acid										
913.00 > 869.00	6.174	6.185	-0.011	1.043	2483123	1.19	Target=11.52	119	3520	
913.00 > 169.00	6.174	6.185	-0.011	1.043	210031		11.82(5.76-17.29)		903	

**QC Flag Legend**

Processing Flags

Review Flags

M - Manually Integrated

Eurofins Knoxville

Data File: \\chromfs\Knoxville\ChromData\LCA\20220218-22714.b\_022.d

Injection Date: 18-Feb-2022 22:37:28

Instrument ID: LCA

Lims ID: LCSD 140-58967/3-A

Client ID:

Operator ID: Cochran, Bobby

ALS Bottle#: 22

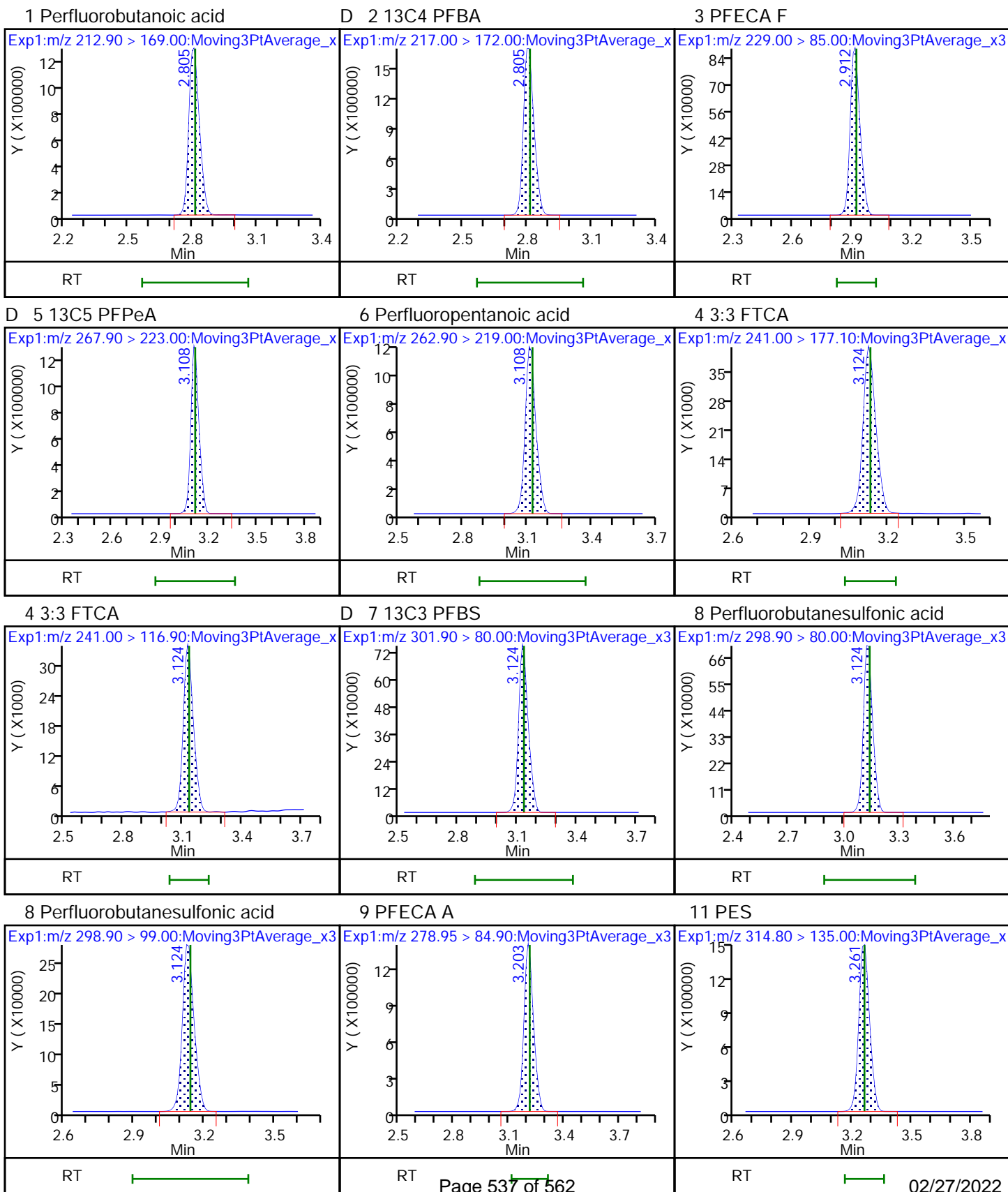
Worklist Smp#: 22

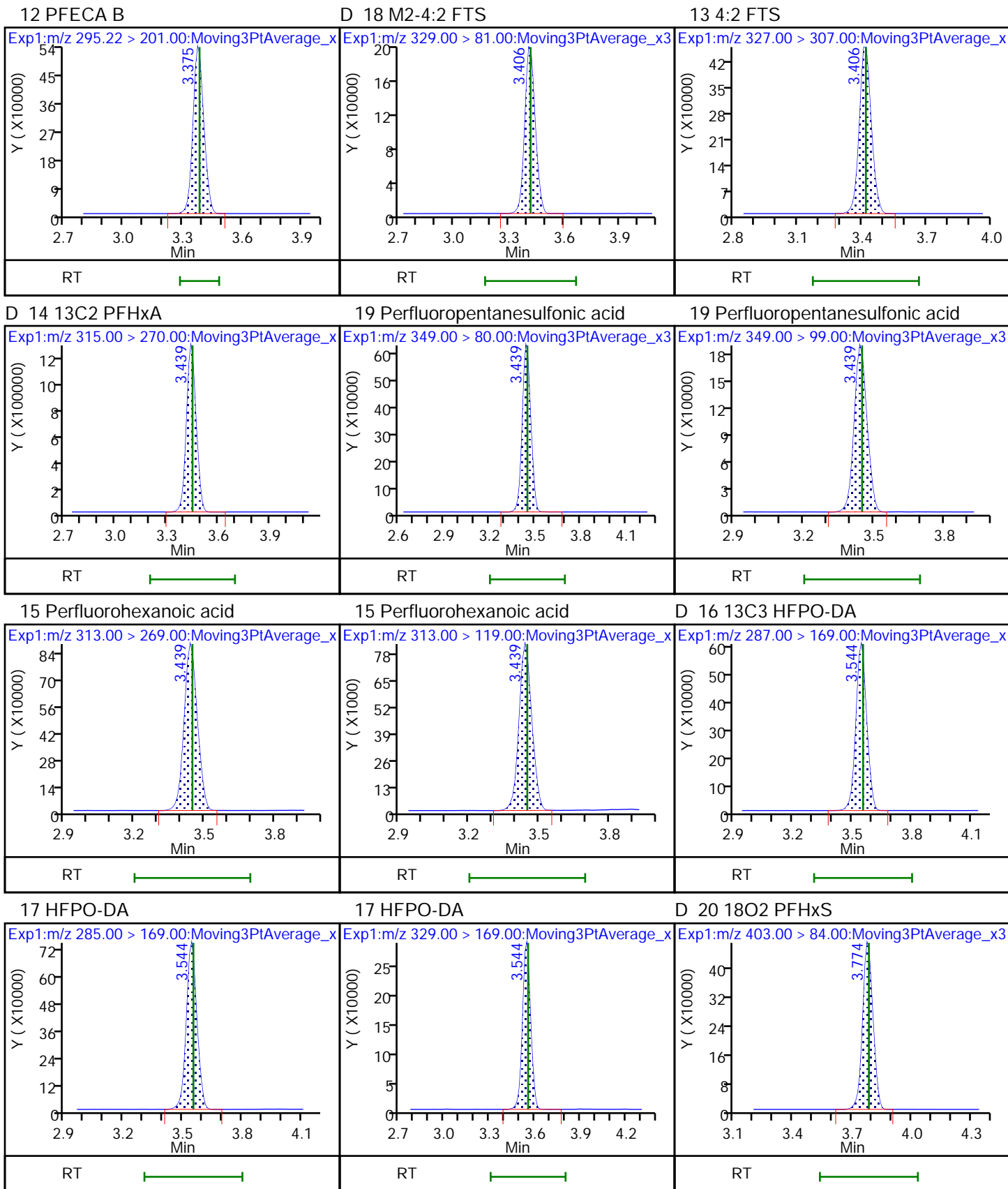
Injection Vol: 1.0 ul

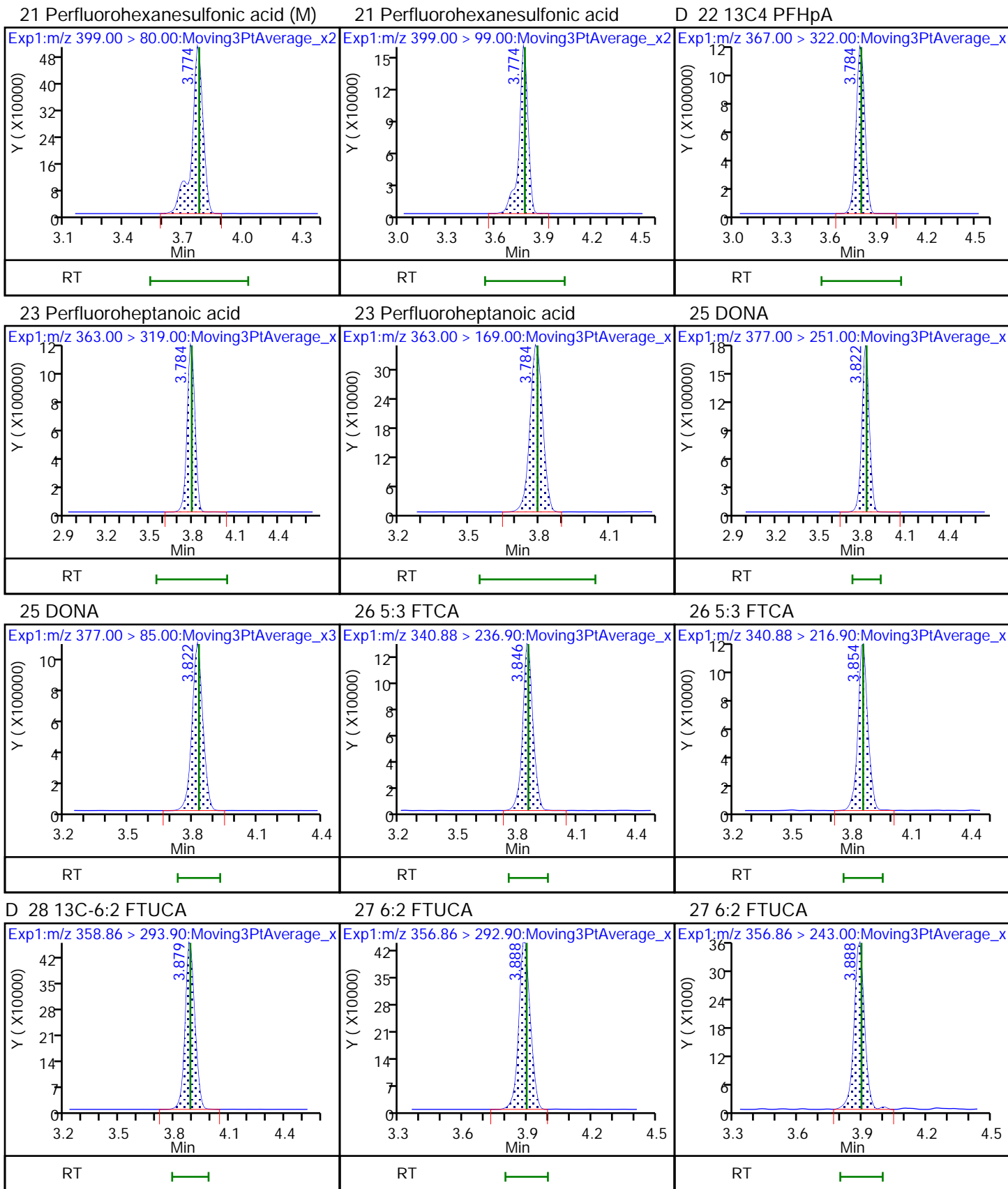
Dil. Factor: 1.0000

Method: PFC\_LCA

Limit Group: LC - PFC- ICAL



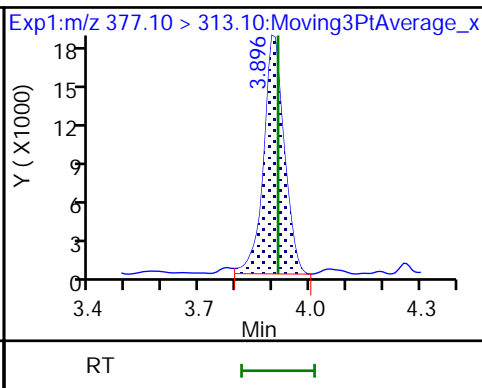
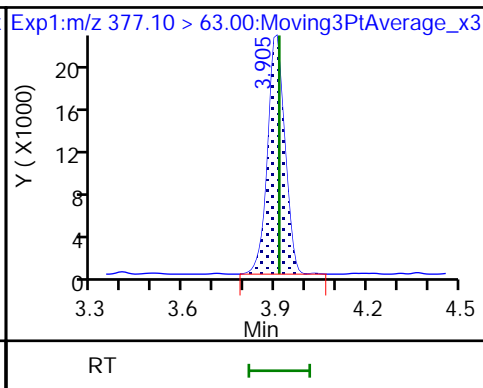
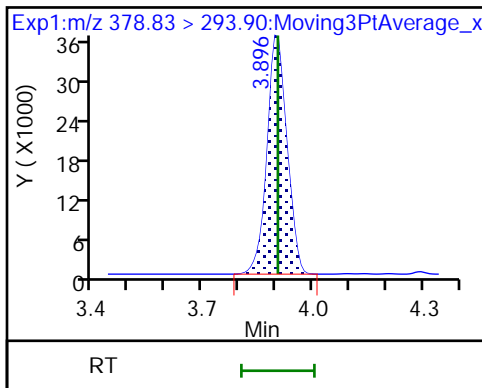




D 24 13C-6:2 FTCA

29 6:2 FTCA

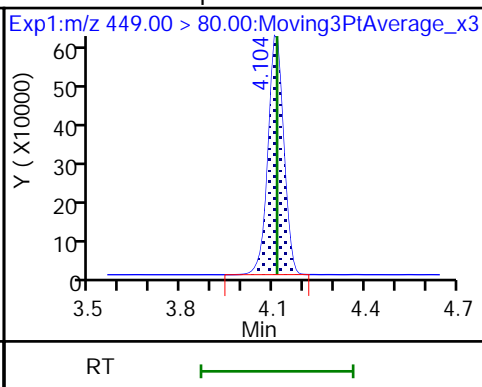
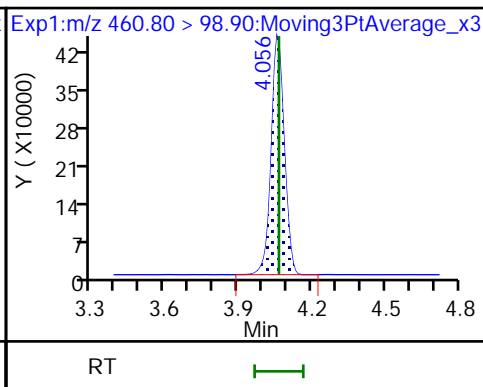
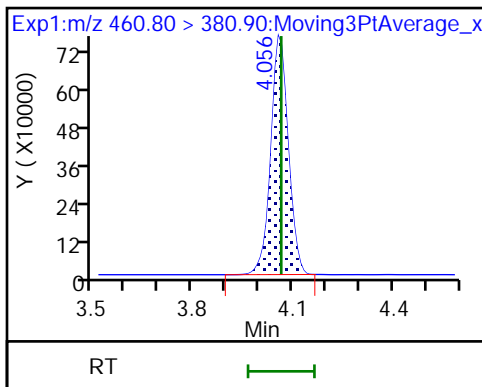
29 6:2 FTCA



32 PFECHS

32 PFECHS

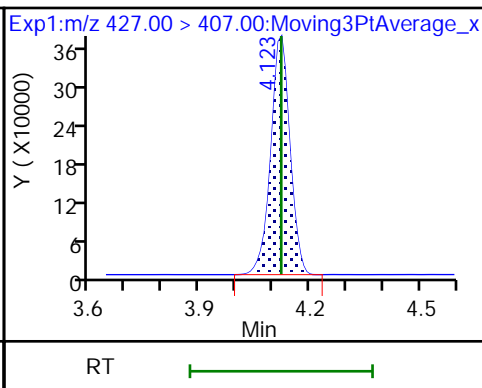
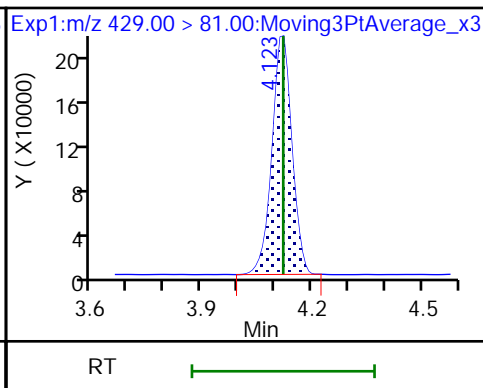
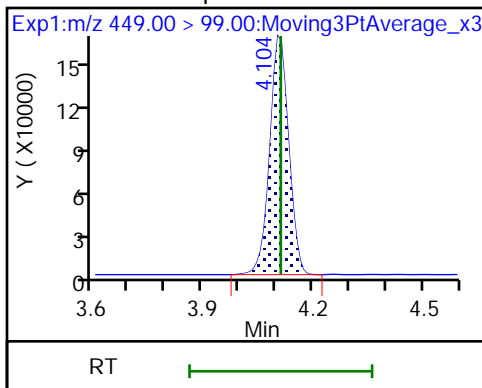
33 Perfluoroheptanesulfonic acid



33 Perfluoroheptanesulfonic acid

D 34 M2-6:2 FTS

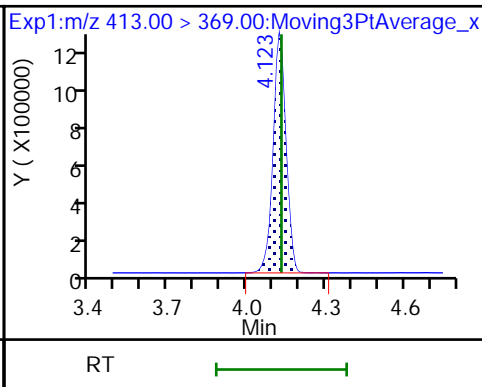
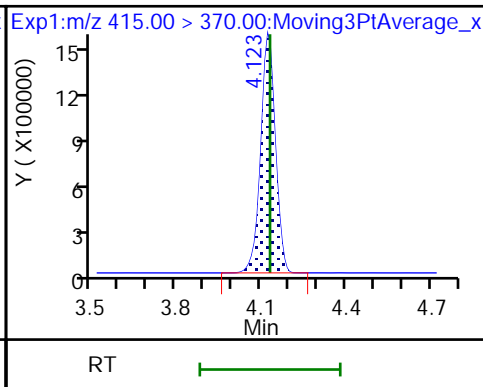
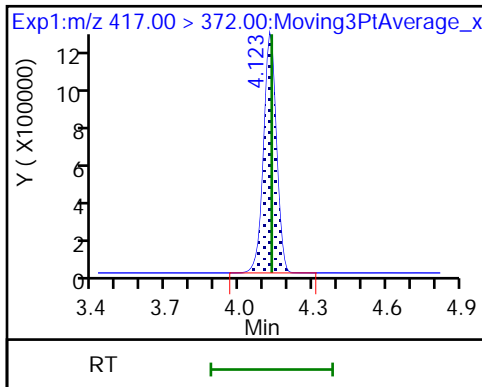
35 6:2 FTS



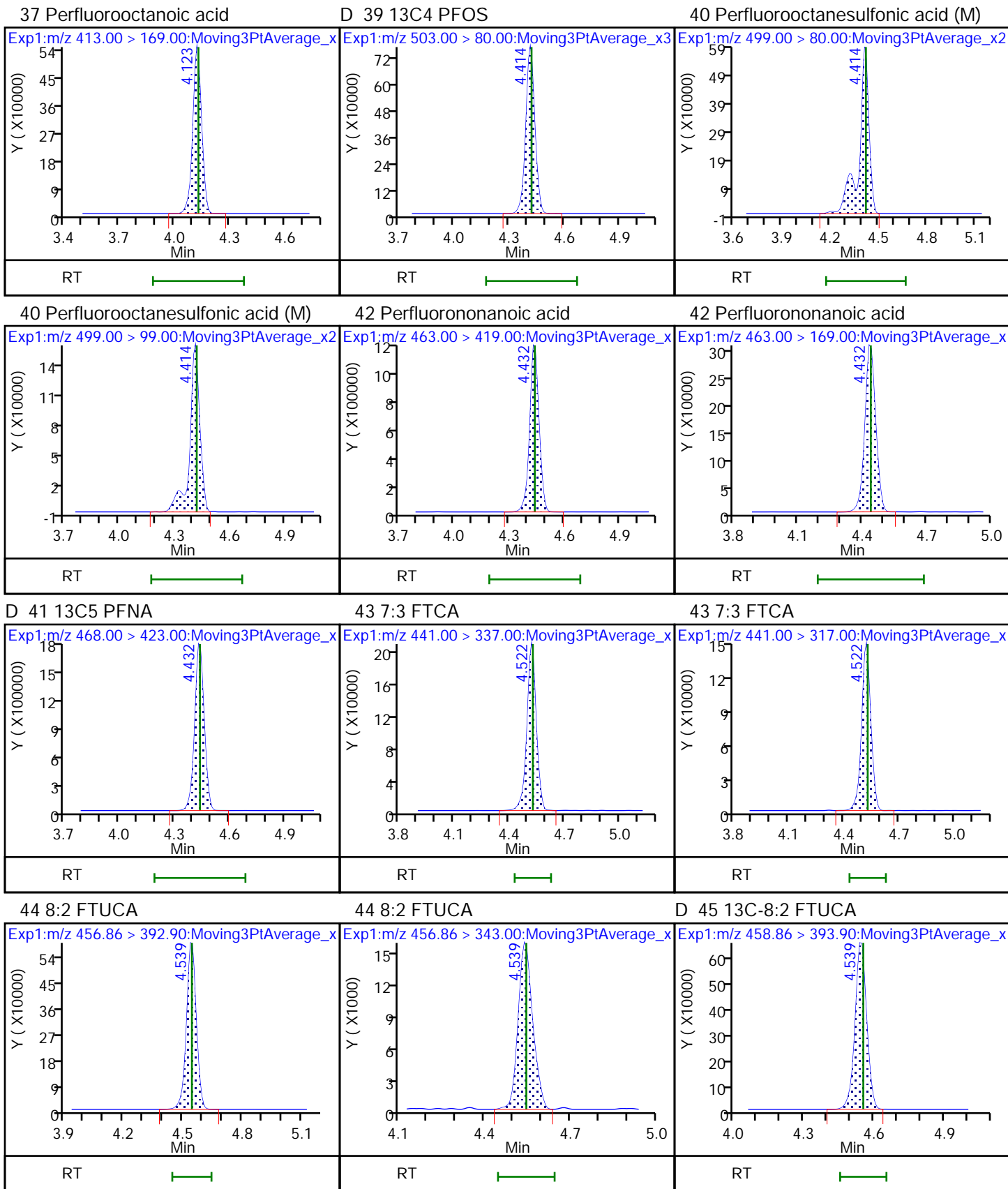
D 31 13C4 PFOA

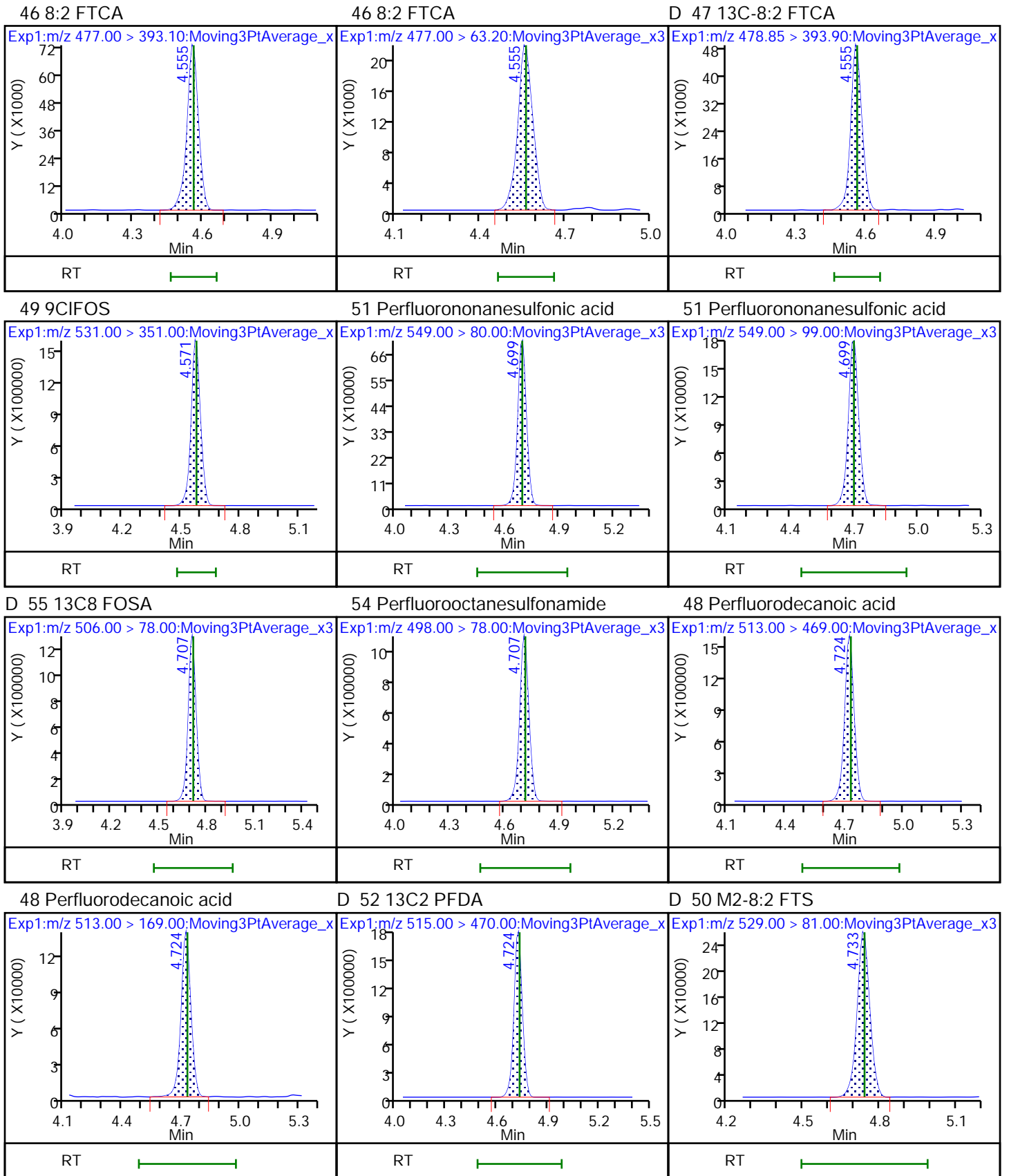
\* 30 13C2 PFOA

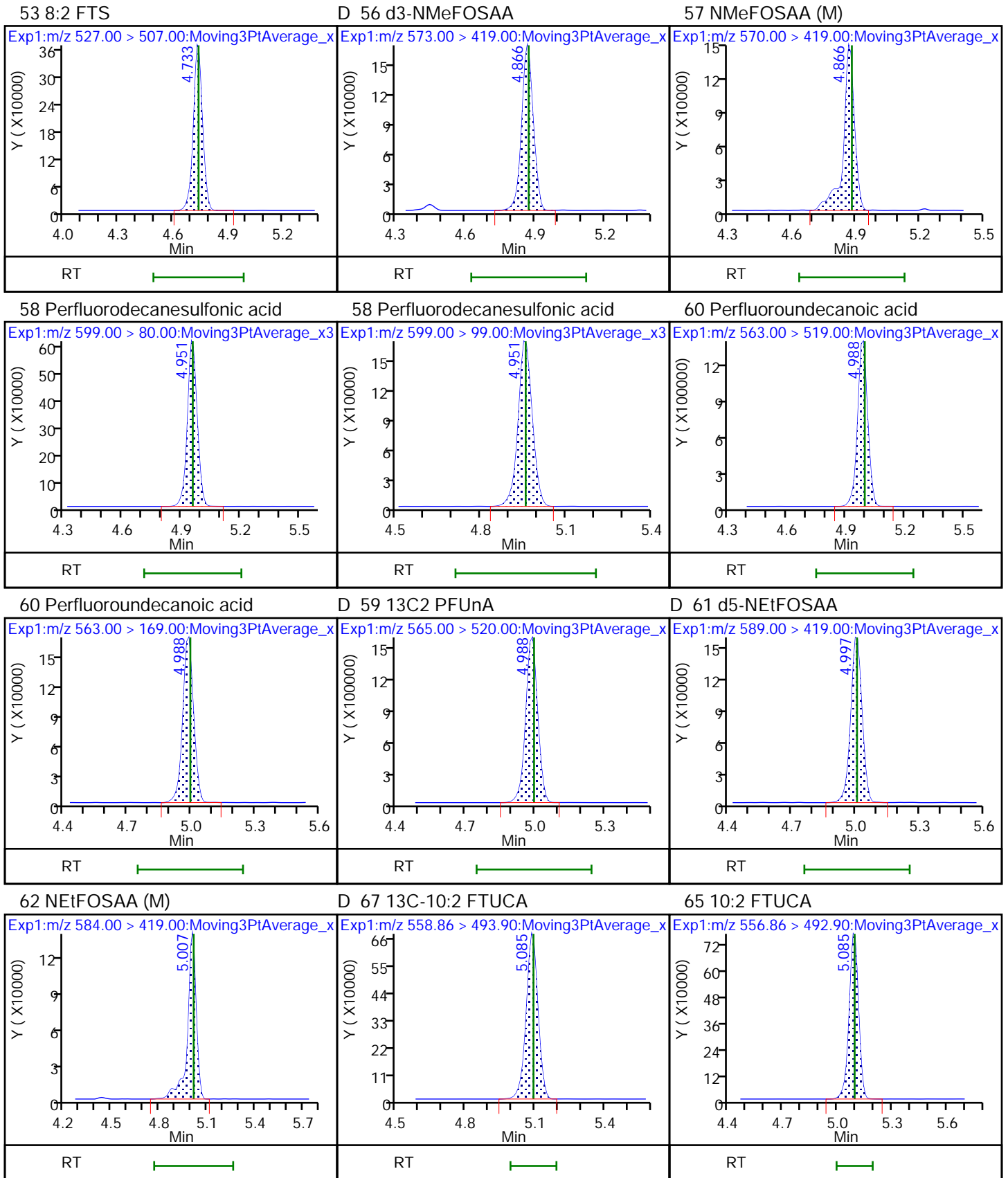
37 Perfluorooctanoic acid

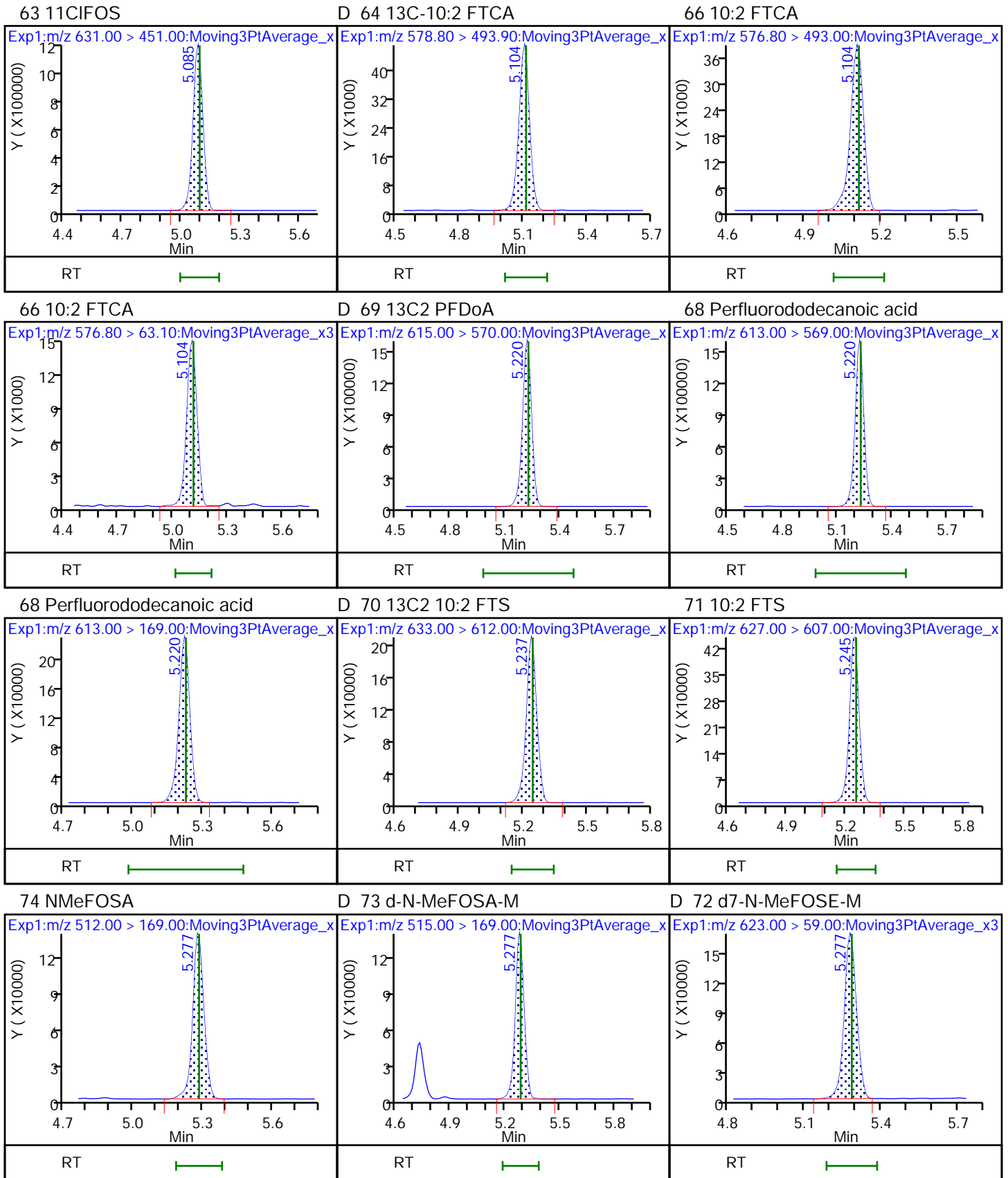


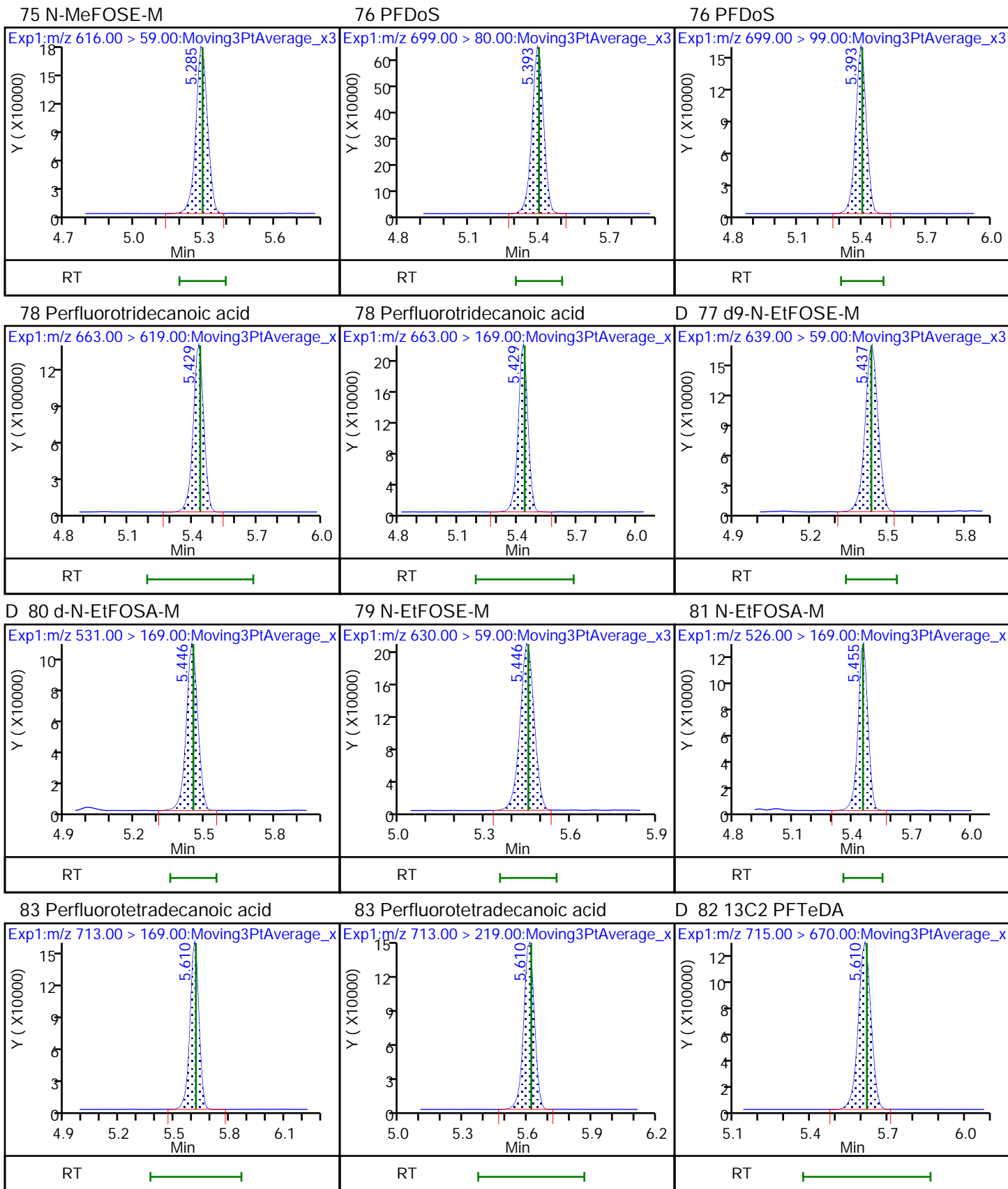








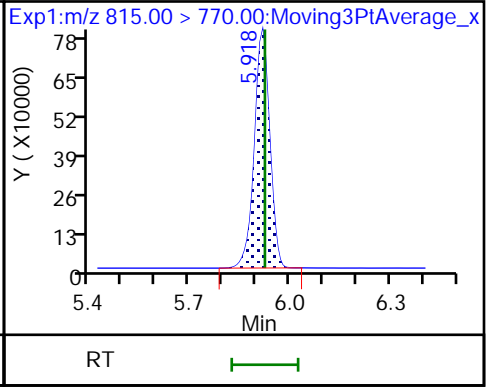
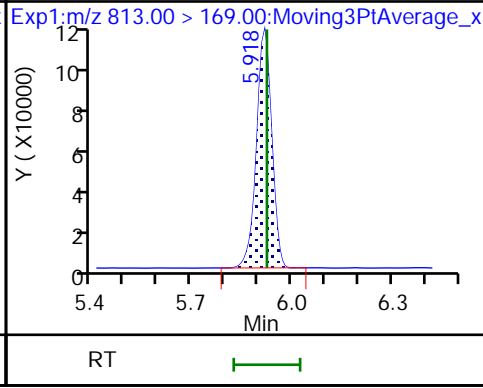
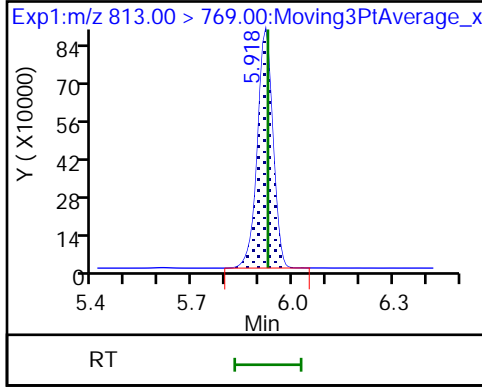




85 Perfluorohexadecanoic acid

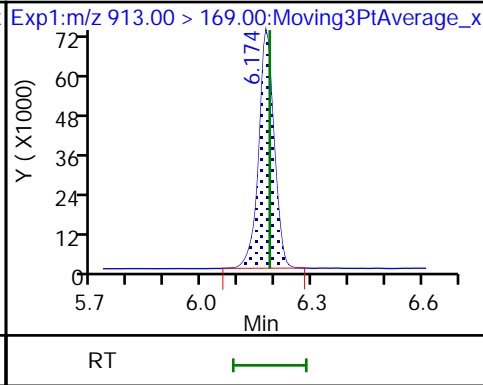
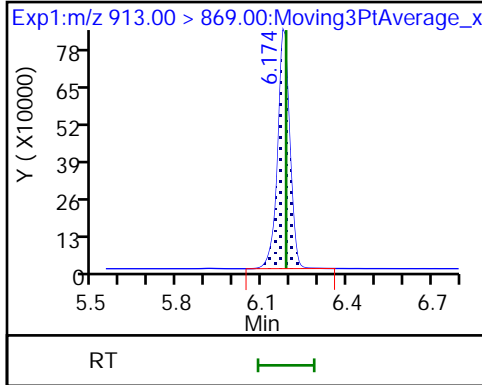
85 Perfluorohexadecanoic acid

D 84 13C2 PFHxDA



86 Perfluorooctadecanoic acid

86 Perfluorooctadecanoic acid



PFAS BATCH WORKSHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Batch Number: 58905 Batch Start Date: 02/15/22 14:06 Batch Analyst: Stout, David W

Batch Method: None Batch End Date: 02/17/22 08:22

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	63xxMPFC_IDA 00037	63xxPFC3LSP 00006		
MB 140-58905/1		None, Split, 537 (modified)		1 Sample	360 mL	0.5 mL			
LCS 140-58905/2		None, Split, 537 (modified)		1 Sample	360 mL	0.5 mL	1 mL		
LCSD 140-58905/3		None, Split, 537 (modified)		1 Sample	360 mL	0.5 mL	1 mL		
MB 140-58905/14		None, Split, 537 (modified)		1 Sample	360 mL	0.5 mL			
140-26392-A-2	T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT	None, Split, 537 (modified)	T	1 Sample	360 mL	0.5 mL			
140-26392-A-4	T-2118 QC OTM-45 Q2 CB IMPINGERS BREAKTHROUGH XAD-2 RESIN TUBE PBT	None, Split, 537 (modified)	T	1 Sample	360 mL	0.5 mL			
140-26392-A-6	T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH4OH RB	None, Split, 537 (modified)	T	1 Sample	360 mL	0.5 mL			
140-26392-A-8	T-2113,2112,2110 QC OTM-45 Q2 CB BH BT	None, Split, 537 (modified)	T	1 Sample	360 mL	0.5 mL			
140-26392-A-10	T-2109 QC OTM-45 Q2 CB BREAKTHROUGH XAD-2 RESIN TUBE BT	None, Split, 537 (modified)	T	1 Sample	360 mL	0.5 mL			
140-26392-A-11	C-2575 MEDIA CHECK XAD	None, Split, 537 (modified)	T	1 Sample	360 mL	0.5 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

537 (modified)

PFAS BATCH WORKSHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Batch Number: 58905 Batch Start Date: 02/15/22 14:06 Batch Analyst: Stout, David W

Batch Method: None Batch End Date: 02/17/22 08:22

Batch Notes	
H2O/ 5% NH4OH ID	463637
Extraction 1 Start Time	02/16/2022 16:10
Extraction 1 End Time	02/16/2022 10:41
Extraction 2 Start Time	02/16/2022 13:41
Extraction 2 End Time	02/17/2022 08:00
Analyst ID - Extraction	DWS/CAC
Analyst ID - Spike Analyst	DWS
Analyst ID - Spike Witness Analyst	CAC
Methanol ID	5% NH4OH / MeOH 463637
PVDF Filter ID	419756
XAD ID	460816
Hot Block ID	F/G
Oven, Bath or Block Temperature 1	60 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



PFAS BATCH WORKSHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Batch Number: 58914 Batch Start Date: 02/16/22 07:38 Batch Analyst: Clark, Courtney A

Batch Method: None Batch End Date: 02/17/22 09:21

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	63xxMPFC_IDA 00037	63xxPFC3LSP 00006	
MB 140-58914/1		None, Split, 537 (modified)		1 Sample	50 mL	CALC NOT SET TO RUN	0.5 mL		
LCS 140-58914/2		None, Split, 537 (modified)		1 Sample	50 mL	CALC NOT SET TO RUN	0.5 mL	1 mL	
LCSD 140-58914/3		None, Split, 537 (modified)		1 Sample	50 mL	CALC NOT SET TO RUN	0.5 mL	1 mL	
140-26392-A-1	T-2124,2123 QC OTM-45 Q2 CB FH PBT	None, Split, 537 (modified)	T	1 Sample	100 mL	CALC NOT SET TO RUN	0.5 mL		
140-26392-A-7	T-2115,2114 QC OTM-45 Q2 CB FH BT	None, Split, 537 (modified)	T	1 Sample	124 mL	CALC NOT SET TO RUN	0.5 mL		

Batch Notes	
H2O/ 5% NH4OH ID	463637
Extraction Start Date	02/16/2022
Extraction Start time	09:42
Extraction End Date	02/17/2022
Extraction End time	09:21
Analyst ID - Extraction	cac
Analyst ID - Spike Analyst	dws
Analyst ID - Spike Witness Analyst	cac
Filter ID	419756
Hot Block ID	G
Oven, Bath or Block Temperature 1	60 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

537 (modified)

PFAS BATCH WORKSHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Batch Number: 58961 Batch Start Date: 02/17/22 08:27 Batch Analyst: Clark, Courtney A

Batch Method: Split Batch End Date: 02/19/22 11:38

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	63xxMPFOA-IS 00044			
MB 140-58905/1-A		Split, 537 (modified)		180 mL	10 mL	250 uL			
LCS 140-58905/2-A		Split, 537 (modified)		180 mL	10 mL	250 uL			
LCS 140-58905/3-A		Split, 537 (modified)		180 mL	10 mL	250 uL			
MB 140-58905/14-A		Split, 537 (modified)		180 mL	10 mL	250 uL			
140-26392-A-2-A	T-2122,2121,2119 QC OTM-45 Q2 CB BH PBT	Split, 537 (modified)	T	180 mL	10 mL	250 uL			
140-26392-A-4-A	T-2118 QC OTM-45 Q2 CB IMPINGERS BREAKTHROUGH XAD-2 RESIN TUBE PBT	Split, 537 (modified)	T	180 mL	10 mL	250 uL			
140-26392-A-6-A	T-2116 QC OTM-45 Q2 CB MEOH WITH 5% NH4OH RE	Split, 537 (modified)	T	180 mL	10 mL	250 uL			
140-26392-A-8-A	T-2113,2112,2110 QC OTM-45 Q2 CB BH BT	Split, 537 (modified)	T	180 mL	10 mL	250 uL			
140-26392-A-10-A	T-2109 QC OTM-45 Q2 CB BREAKTHROUGH XAD-2 RESIN TUBE BT	Split, 537 (modified)	T	180 mL	10 mL	250 uL			
140-26392-A-11-A	C-2575 MEDIA CHECK XAD	Split, 537 (modified)	T	180 mL	10 mL	250 uL			

Batch Notes	
Analyst ID - IS Reagent Drop	cac
Analyst ID - IS Reagent Drop Witness	jrc

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

537 (modified)

Eurofins TestAmerica Knoxville Extraction Sheet  
PFAS in Source Air Back Half Fraction

Prep Batch Number: 140-58905  
 Split Batch Number: 58911  
 TALS Prep Chain: LCMS\_BH\_Prep -> Split\_SA\_LCMS

Sample ID	Measure associated rinses using a graduated cylinder and record volume (mL)	Create MB and LCS/D by using clean XAD and placing in 500mL Nalgene container	Empty all XAD from traps into 500mL Nalgene containers	Add 50 ng/mL IS (IDA) to all samples & QC. Record volume in TALS.	Add 20 ng/mL native spike (TA) to LCS/D. Record volume in TALS.	Add rinses and MeOH/5% NH4OH to the appropriate volume. Record volume of extraction solvent (mL)	Extraction 1 on shaker table for 18hr minimum	Decant solvent from 1st extraction into a separate Nalgene container	Add remaining rinses and MeOH/5% NH4OH to the appropriate volume. Record volume of extraction solvent (mL)	Extraction 2 on shaker table for 18hr minimum	Combine 1st extraction solvent with the 2nd extraction solvent	Place on hotblock at 60 deg C. Concentrate to <10mL.	Transfer to 10mL polypropylene tube. Place on N-EVAP and concentrate to near dryness. Add 2mL DI water.	Add 50ng/mL internal standard. Record volume in TALS. Bring to final volume in methanol. Filter using plastic syringe and 0.45µm PVDE filter disk.
MB 140-58905/1	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
LCS 140-58905/2	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
LCSD 140-58905/3	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26390-A-2 (140-463743)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26390-A-4 (140-463747)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26390-A-6 (140-463750)	300	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26390-A-8 (140-463754)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26390-A-10 (140-463757)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26390-A-12 (140-463761)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26391-A-2 (140-463764)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26391-A-4 (140-463768)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26391-A-6 (140-463771)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26391-A-8 (140-463775)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
MB 140-58905/14	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26391-A-10 (140-463778)	294	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26391-A-12 (140-463782)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26392-A-2 (140-463800)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26392-A-4 (140-463804)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26392-A-6 (140-463806)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26392-A-8 (140-463809)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26392-A-10 (140-463813)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
140-26392-A-11 (140-463814)	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
CRC 219122	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
CRC 2115	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
CRC 2119	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
CRC 2116	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
CRC 2117	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
CRC 2118	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓
CRC 2119	NA	✓	✓	✓	✓	190	✓	✓	✓	✓	✓	✓	✓	✓

OP136R2 081721 PFAS Back Half (TALS)

PFAS BATCH WORKSHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Batch Number: 58963 Batch Start Date: 02/17/22 09:21 Batch Analyst: Clark, Courtney A

Batch Method: Split Batch End Date: 02/18/22 14:25

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	63xxMPFOA-IS 00044			
MB 140-58914/1-A		Split, 537 (modified)		24 mL	10 mL	0.25 mL			
LCS 140-58914/2-A		Split, 537 (modified)		25 mL	10 mL	0.25 mL			
LCSD 140-58914/3-A		Split, 537 (modified)		21 mL	10 mL	0.25 mL			
140-26392-A-1-A	T-2124,2123 QC OTM-45 Q2 CB FH PBT	Split, 537 (modified)	T	50 mL	10 mL	0.25 mL			
140-26392-A-7-A	T-2115,2114 QC OTM-45 Q2 CB FH BT	Split, 537 (modified)	T	62 mL	10 mL	0.25 mL			

Batch Notes	
Analyst ID - IS Reagent Drop	DWS
Analyst ID - IS Reagent Drop Witness	EDD

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

**EurofinsTestAmerica Knoxville Extraction Sheet**  
**PFAS in Source Air Front Half Fraction**

Prep Batch Number: 58914  
 Split Batch Number: 58914/3  
 TALS Prep Chain: LCMS\_FH Prep --> Split\_SA\_LCMS

Sample ID	Measure associated rinses using a graduated cylinder and record volume (mL)	Push down filter with tweezers in bottle	Create MB and LCS/D by using clean filter and placing in 125mL container	Add 50 ng/mL IS (IDA) to all samples & QC. Record volume in TALS.	Add 20 ng/mL native spike (TA) to LCS/D.	Add rinses and MeOH/5% NH4OH to the extraction solvent (mL)	Extract on shaker table for 18hr minimum	Filter sample using filter paper and plastic funnel	Place on hotblock at 60 deg C. Concentrate to <10mL.	Transfer to 10mL polypropylene tube. Place on N-EVAP and concentrate to near dryness. Add 2mL DI water.	Add 50ng/mL internal standard. Record volume in TALS. Bring to final volume in methanol. Filter using plastic syringe and 0.45um PVDF filter disk.
MB 140-58914/1	NA				NA						
LCS 140-58914/2											
LCSD 140-58914/3											
140-26390-B-1 (140-463742)	98				NA						
140-26390-B-5 (140-463749)	96										
140-26390-B-9 (140-463756)	93										
140-26391-B-1 (140-463763)	94										
140-26391-B-5 (140-463770)	57										
140-26391-B-9 (140-463777)	96										
140-26392-A-1 (140-463798)	100										
140-26392-A-7 (140-463807)	124										
140-26397-A-25-A	NA CAC/AP/7							CAC/AP/5			
	2116							2116			

*Handwritten notes:*  
 CAC/AP/7  
 2116  
 2116  
 CAC/AP/5  
 2116  
 2116  
 2116  
 2116  
 2116

PFAS BATCH WORKSHEET

Lab Name: Eurofins Knoxville Job No.: 140-26392-1

SDG No.: \_\_\_\_\_

Batch Number: 58967 Batch Start Date: 02/17/22 09:59 Batch Analyst: Stout, David W

Batch Method: PFAS Prep Batch End Date: 02/18/22 08:22

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	63xxMPFC_IDA 00037	63xxMPFOA-IS 00045	63xxPFC3LSP 00006	AnalysisComment
MB 140-58967/1		PFAS Prep, 537 (modified)		1 Sample	10 mL	250 uL	250 uL		
LCS 140-58967/2		PFAS Prep, 537 (modified)		1 Sample	10 mL	250 uL	250 uL	0.5 mL	
LCSD 140-58967/3		PFAS Prep, 537 (modified)		1 Sample	10 mL	250 uL	250 uL	0.5 mL	
140-26392-A-3	T-2120 QC OTM-45 Q2 CB IMPINGERS 1,2& COND PBT	PFAS Prep, 537 (modified)	T	1 Sample	10 mL	250 uL	250 uL		received 295mL; used 2mL
140-26392-A-5	T-2117 QC OTM-45 Q2 CB DI WATER RB	PFAS Prep, 537 (modified)	T	1 Sample	10 mL	250 uL	250 uL		received 300mL; used 2mL
140-26392-A-9	T-2111 QC OTM-45 Q2 CB IMPINGERS 1,2&3 COND BT	PFAS Prep, 537 (modified)	T	1 Sample	10 mL	250 uL	250 uL		received 340mL; used 2mL

Batch Notes	
Solvent	MeOH Lot: 214330
Analyst ID - Spike Analyst	dws
Analyst ID - Spike Witness Analyst	cac

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 140-58967

Method Code: 140-LCMS\_COND\_Prep-140

Analyst: Stout, David W

Batch Open: 2/17/2022 9:59:00AM

Batch End:

## Leaching Procedure for Condensate

Input Sample Lab ID (Analytical Method)	SDG (Job #)	GrossWt TareWt	InitAmnt FinAmnt	PHs Rcvd Adj1 Adj2	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
1 MB-140-58967/1 N/A	N/A		1 Sample		N/A	N/A	N/A		MB-140-58967/1-A
2 LCS-140-58967/2 N/A	N/A		1 Sample		N/A	N/A	N/A		LCS-140-58967/2-A
3 LCSD-140-58967/3 N/A	N/A		1 Sample		N/A	N/A	N/A		LCSD-140-58967/3-A
4 140-26390-A-3 (PFC_IDA)	N/A (140-26390-1)	290mL			2/25/22	10_Days	4		140-26390-A-3-A
5 140-26390-A-7 (PFC_IDA)	N/A (140-26390-1)	295mL			2/25/22	10_Days	4		140-26390-A-7-A
6 140-26390-A-11 (PFC_IDA)	N/A (140-26390-1)	300mL			2/25/22	10_Days	4		140-26390-A-11-A
7 140-26391-A-3 (PFC_IDA)	N/A (140-26391-1)	295mL			2/25/22	10_Days	4		140-26391-A-3-A
8 140-26391-A-7 (PFC_IDA)	N/A (140-26391-1)	290mL			2/25/22	10_Days	4		140-26391-A-7-A
9 140-26391-A-11 (PFC_IDA)	N/A (140-26391-1)	300mL			2/25/22	10_Days	4		140-26391-A-11-A
10 140-26392-A-3 (PFC_IDA)	N/A (140-26392-1)	(295mL)	1 Sample		2/25/22	10_Days	4		140-26392-A-3-A

# Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)



Batch Number: 140-58967

Analyst: Stout, David W

Batch Open: 2/17/2022 9:59:00AM

Batch End:

Method Code: 140-LCMS\_COND\_Prep-140

11	140-26392-A-5 (PFC_IDA)	N/A (140-26392-1)	(300 $\mu$ l)	1 Sample			2/25/22	10_Days	4	 140-26392-A-5-A
12	140-26392-A-9 (PFC_IDA)	N/A (140-26392-1)	(340 $\mu$ l)	1 Sample			2/25/22	10_Days	4	 140-26392-A-9-A

## Batch Notes

SPE Cartridge Type

SPE Cartridge Lot ID

Balance ID

H2O ID

Extraction Start Date

Extraction Start time

Pipette/Syringe/Dispenser ID

Solvent

Acid ID

Elution Solution ID

Extraction End Date

Extraction End time

Analyst ID - Spike Analyst

Analyst ID - Spike Witness Analyst

Batch Comment



# Shipping and Receiving Documents

**Request for Analysis/Chain-of-Custody – RFA/COC #003**  
**The Chemours Company – Fayetteville NC**  
**Q4 Carbon Bed Field QC Samples Repeat**



Environment Testing  
America

<b>Project Identification:</b>	<b>Chemours Emissions Test</b>
Client Name:	The Chemours Company FC, LLC
Client Contact:	Christel Compton Office: (910) 678-1213 Cell: (910) 975-3386
TestAmerica Project Manager:	Courtney Adkins Office: (865) 291-3019
TestAmerica Program Manager:	Billy Anderson Office: (865) 291-3080 Cell: (865) 206-9004

<b>Laboratory Deliverable Turnaround Requirements:</b>	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	28 Days from Lab Receipt

**Analytical Testing QC Requirements:**  
 The Legend for ProjecB- Specific Quality Control Testing is designated in the "QC" column as follows: "BT" = Blank Train, "RB" = Reagent Blank, "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, "PB" = Proof Blank, "TB" = Trip Blank

<b>Laboratory Destination:</b>	Eurofins TestAmerica 5815 Middlebrook Pike Knoxville, TN 37921
<b>Lab Phone Number:</b>	865.291.3000
<b>Courier:</b>	Hand Deliver

**Project Deliverables:**  
 Report analytical results on TALS Report form Std\_Tal\_L4. Include "Field Sample Number", "Sample Type", and "Run Number" on all TALS Reports.

<b>Analytical Parameter:</b>	<b>Holding Time Requirements:</b>	<b>Preservation Requirements:</b>
HFPO-DA (CAS No. 13252-13-6) & PFOA (CAS No. 335-67-1)	14 Days to Extraction; 40 Days to Analysis	Cool, 4°C

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2124 QC OTM-45 Q2 CB Filter PBT  (Combine with T-2123)	QC	2/10/22	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	Particulate Filter (82.6 mm Whatman Glass Microfiber)  OTM-45 Proof Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front- Half Probe Rinse to assist the solvent extraction of the Filter sample. Analyze for HFPO-DA.
T-2123 QC OTM-45 Q2 CB FH of Filter Holder & Probe MeOH Rinse PBT  (Combine with B- 1658)	QC	2/10/22	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse  OTM-45 Proof Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the Filter extraction.



140-26392 Chain of Custody

Request for Analysis/Chain-of-Custody – RFA/COC #003  
 The Chemours Company – Fayetteville NC  
 Q4 Carbon Bed Field QC Samples Repeat



Environment Testing  
 America

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2122 QC OTM-45 Q2 CB XAD-2 Resin Tube PBT	QC	2/10/22	Proof Blank Train	XAD-2 Resin Tube	XAD-2 Resin Tube  OTM-45 Proof Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA.
T-2121 QC OTM-45 Q2 CB BH of Filter Holder & Coil Condenser MeOH Rinse PBT  (Combine with T-2122)	QC	2/10/22	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse  OTM-45 Proof Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA.
T-2120 QC OTM-45 Q2 CB Impingers 1,2 & 3 Condensate PBT	QC	2/10/22	Proof Blank Train	1 Liter HDPE Wide-Mouth Bottle	Impinger #1, #2 & #3 Condensate  OTM-45 Proof Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Analyze for HFPO-DA.
T-2119 QC OTM-45 Q2 CB Impinger Glassware MeOH Rinse PBT  (Combine with T-2122)	QC	2/10/22	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse  OTM-45 Proof Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the XAD-2 Resin Extraction.
T-2118 QC OTM-45 Q2 CB Breakthrough XAD-2 Resin Tube PBT	QC	2/10/22	Proof Blank Train	XAD-2 Resin Tube	Breakthrough XAD-2 Resin Tube  OTM-45 Proof Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA.

Request for Analysis/Chain-of-Custody – RFA/COC #003  
 The Chemours Company – Fayetteville NC  
 Q4 Carbon Bed Field QC Samples Repeat



Environment Testing  
 America

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2117 QC OTM-45 Q2 CB DI Water RB	QC	2/10/22	Reagent Blank	250 mL HDPE Wide-Mouth Bottle	Deionized (DI) Water Reagent Blank  OTM-45 Reagent Blank  HFPO-DA Analysis	<b>Knoxville:</b> Analyze for HFPO-DA.
T-2116 QC OTM-45 Q2 CB MeOH with 5% NH <sub>4</sub> OH RB	QC	2/10/22	Reagent Blank	250 mL HDPE Wide-Mouth Bottle	Methanol with 5% NH <sub>4</sub> OH Reagent Blank  OTM-45 Reagent Blank  HFPO-DA Analysis	<b>Knoxville:</b> Analyze for HFPO-DA.
T-2115 QC OTM-45 Q2 CB Filter BT  (Combine with T-2114)	QC	2/10/22	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	Particulate Filter (82.6 mm Whatman Glass Microfiber)  OTM-45 Field Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front- Half Probe Rinse to assist the solvent extraction of the Filter sample. Analyze for HFPO-DA.
T-2114 QC OTM-45 Q2 CB FH of Filter Holder & Probe MeOH Rinse BT  (Combine with B- 1667)	QC	2/10/22	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse  OTM-45 Field Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the Filter extraction.
T-2113 QC OTM-45 Q2 CB XAD-2 Resin Tube BT	QC	2/10/22	Field Blank Train	XAD-2 Resin Tube	XAD-2 Resin Tube  OTM-45 Field Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA.

Request for Analysis/Chain-of-Custody – RFA/COC #003  
 The Chemours Company – Fayetteville NC  
 Q4 Carbon Bed Field QC Samples Repeat



Environment Testing  
 America

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Requirements	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2112 QC OTM-45 Q2 CB BH of Filter Holder & Coil Condenser MeOH Rinse BT  (Combine with T-2113)	QC	2/10/22	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse  OTM-45 Field Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA.
T-1602 QC OTM-45 Q2 CB Impingers 1,2 & 3 Condensate BT	QC	2/10/22	Field Blank Train	1 Liter HDPE Wide-Mouth Bottle	Impinger #1, #2 & #3 Condensate  OTM-45 Field Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Analyze for HFPO-DA.
T-2110 QC OTM-45 Q2 CB Impinger Glassware MeOH Rinse BT  (Combine with T-2113)	QC	2/10/22	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse  OTM-45 Field Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Use this solvent sample in the XAD-2 Resin Extraction.
T-2109 QC OTM-45 Q2 CB Breakthrough XAD-2 Resin Tube BT	QC	2/10/22	Field Blank Train	XAD-2 Resin Tube	Breakthrough XAD-2 Resin Tube  OTM-45 Field Blank Train  HFPO-DA Analysis	<b>Knoxville:</b> Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA.



**Sample Receipt Log and Condition of the Samples Upon Receipt:**

Please fill in the following information:

**Comments**

(Please write "NONE" if no comment applicable)

- (1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment. NONE
- (2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA: R70.4 / C70.3°C
- (3) Record any aQ2rent sample loss/breakage. NONE
- (4) Record any unidentified samples transported with this shipment of samples: NONE
- (5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances): HAND DELIVERED, NO CUSTODY SEALS

**Custody Transfer:**

Relinquished By:	<u>Patricia King</u> Name	<u>Alliance</u> Company	<u>2/10/22/2015</u> Date/Time
Accepted By:	<u>Doug Galt</u> Name	<u>ETA KNOX</u> Company	<u>2/10/22 2015</u> Date/Time
Relinquished By:	<u>Doug Galt</u> Name	<u>ETA KNOX</u> Company	<u>2/11/22 1250</u> Date/Time
Accepted By:	<u>Ryan Loman</u> Name	<u>ETA KNOX</u> Company	<u>2-11-22 12:50</u> Date/Time
Relinquished By:	_____ Name	_____ Company	_____ Date/Time
Accepted By:	_____ Name	_____ Company	_____ Date/Time
Relinquished By:	_____ Name	_____ Company	_____ Date/Time
Accepted By:	_____ Name	_____ Company	_____ Date/Time

## Appendix D

Location Chemours Company - Fayetteville Works Facility, NC

Source VEN Carbon Bed Outlet

Project No. 2022-0930

Parameter HFPO-DA

Date	Nozzle ID	#1	#2	Nozzle Diameter (in.)		Difference	Criteria	Material
				#3	Dn (Average)			
2/10/22	G-2	0.255	0.255	0.255	0.255	0.000	≤ 0.004 in.	glass
Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?				
2/10/22	P4-2	no	no	no				
Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length		
2/10/22	TC 5D	48.0	47.0	0.2%	± 1.5 % (absolute)	5 feet		
Field Balance Check								
Date	02/10/22							
Balance ID:	Citizen							
Test Weight ID:	Chemours							
Certified Weight (g):	500.0							
Measured Weight (g):	500.2							
Weight Difference (g):	-0.2	--	--	--	--	--		
Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location			
2/10/22	Weather Station	NA	NA	NA	Fayetteville, NC			
Date	Meter Box ID	Positive Pressure Leak Check						
2/10/22	MB-7	Pass						
Reagent	Lot#	Field Prep performed	Field Lot	Date	By			
DH2O	TA/Eurofins	No	NA	NA	NA			
Methanol/Ammonia Mix	TA/Eurofins	No	NA	NA	NA			



# POST TEST DRY GAS METER CALIBRATION


DATE: 02/23/22      METER BOX #: 7      INITIAL      FINAL      AVG (P<sub>bar</sub>)  
 TECHNICIAN: STP      BAROMETRIC PRESSURE (in Hg): 29.52      29.55      29.535  
 CRITICAL ORIFICE SET SERIAL #: 1393

ORIFICE #	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (FT <sup>3</sup> )		TEMPERATURES °F		ELAPSED TIME (MIN)	DGM DH (in H <sub>2</sub> O)	V <sub>m</sub> (STD)	V <sub>c</sub> (STD)	(3)	Y % Diff to Average Y
				INITIAL	FINAL	DGM INLET INITIAL	DGM OUTLET FINAL						
18	1	0.4961	19.5	37.327	43.773	66	67	10.00	1.4	6.4016	6.3906	0.998	-0.26
	2	0.4961	19.5	43.773	50.194	66	67	10.00	1.4	6.3737	6.3906	1.003	0.18
	3	0.4961	19.5	50.194	56.634	65	68	10.00	1.4	6.3865	6.3967	1.002	0.07
										AVG =			
										AVG =			
										AVG =			

AVERAGE DRY GAS METER CALIBRATION FACTOR, Y = 1.001

PRE-DETERMINED DRY GAS METER CALIBRATION FACTOR, Y = 0.985

PERCENT DIFFERENCE = 1.6

	<b>DGM Calibration-Orifices</b>	Document ID	620.004
		Revision	20.1
		Effective Date	
Issuing Department	Tech Services	Page	1 of 1

**Equipment Detail - Dry Gas Meter**

Console ID: 7  
 Meter S/N: OBG032014  
 Critical Orifice S/N: 1393

**Calibration Detail**

Initial Barometric Pressure, in. Hg (Pb <sub>i</sub> )		29.81					
Final Barometric Pressure, in. Hg (Pb <sub>f</sub> )		29.81					
Average Barometric Pressure, in. Hg (Pb)		29.81					
Critical Orifice ID (Y)	18	18	16	16	26	26	
K' Factor, ft <sup>3</sup> R <sup>1/2</sup> / in. WC-min (K')	0.4961	0.4961	0.4268	0.4268	0.7131	0.7131	
Vacuum Pressure, in. Hg (V <sub>p</sub> )	20.0	20.0	21.0	21.0	17.0	17.0	
Initial DGM Volume, ft <sup>3</sup> (V <sub>m</sub> )	739.041	748.700	758.364	771.352	711.005	724.940	
Final DGM Volume, ft <sup>3</sup> (V <sub>m</sub> <sub>f</sub> )	748.700	758.364	766.777	779.777	724.940	738.914	
Total DGM Volume, ft <sup>3</sup> (V <sub>m</sub> )	9.659	9.664	8.413	8.425	13.935	13.974	
Ambient Temperature, °F (T <sub>a</sub> )	54	54	55	55	55	55	
Initial DGM Temperature, °F (T <sub>m</sub> )	57	57	57	57	57	58	
Final DGM Temperature, °F (T <sub>m</sub> <sub>f</sub> )	57	57	57	57	58	58	
Average DGM Temperature, °F (T <sub>m</sub> )	57	57	57	57	58	58	
Elapsed Time (⊖)	15.00	15.00	15.00	15.00	15.00	15.00	
Meter Orifice Pressure, in. WC (ΔH)	1.30	1.30	1.00	1.00	2.90	2.90	
Standard Meter volume, ft <sup>3</sup> (V <sub>mstd</sub> )	9.8617	9.8668	8.5832	8.5955	14.2696	14.2958	
Standard Critical Orifice Volume, ft <sup>3</sup> (V <sub>cr</sub> )	9.7875	9.7875	8.4121	8.4121	14.0550	14.0550	
Meter Correction Factor (Y)	0.992	0.992	0.980	0.979	0.985	0.983	
Tolerance	--	0.007	0.007	0.005	0.007	0.000	
Orifice Calibration Value (ΔH @)	1.754	1.754	1.825	1.825	1.903	1.901	
Tolerance	--	0.073	0.073	0.002	0.002	0.074	
Orifice Cal Check	--	1.31		1.30		0.82	
<b>Meter Correction Factor (Y)</b>		<b>0.985</b>					
<b>Orifice Calibration Value (ΔH @)</b>		<b>1.827</b>					
<b>Positive Pressure Leak Check</b>		<b>Yes</b>					

**Equipment Detail - Thermocouple Sensor**

Reference Calibrator Make:  
 Reference Calibrator Model:  
 Reference Calibrator S/N:

**Calibration Detail**

Reference Temp.		Display Temp.		Accuracy	Difference
°F	°R	°F	°R	%	°F
0	460	0	460	0.0	0
68	528	-	-	-	-
100	560	100	560	0.0	0
223	683	-	-	-	-
248	708	-	-	-	-
273	733	-	-	-	-
300	760	300	760	0.0	0
400	860	401	861	-0.1	1
500	960	500	960	0.0	0
600	1,060	598	1,058	0.2	2
700	1,160	700	1,160	0.0	0
800	1,260	798	1,258	0.2	2
900	1,360	901	1,361	-0.1	1
1,000	1,460	999	1,459	0.1	1
1,100	1,560	-	-	-	-
1,200	1,660	-	-	-	-

**Personnel**

Calibration By: Jeffrey Sheldon  
 Calibration Date: 1/19/2022  
 Expiration Date: 7/19/2022

### Initial Sample Probe Calibration Form

 Probe ID P4-2/TC-5D

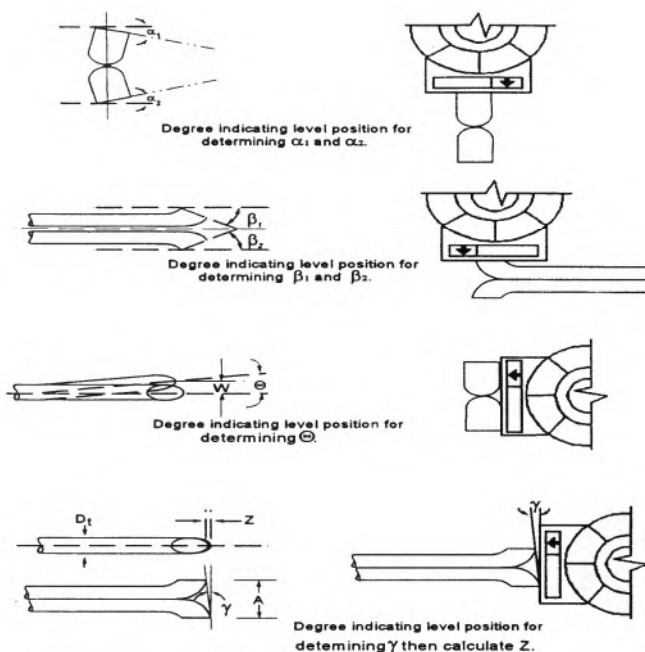
 Date 01/28/21

 Technician SRW

#### "S" Type Pitot Calibration

Is the Pitot Level and Perpendicular?	Yes
Is There any Obstruction?	No
Is the Pitot Damaged	No
$\alpha_1$ (-10° = $\alpha_1$ = + 10°)	2
$\alpha_2$ (-10° = $\alpha_2$ = + 10°)	1
$\beta_1$ (-5° = $\beta_1$ = + 5°)	1
$\beta_2$ (-5° = $\beta_2$ = + 5°)	1
$\gamma$	1
$\Theta$	0
$Z = A \tan \gamma$ (< 0.125")	0.011
$W = A \tan \Theta$ (< 0.03125")	0.0000
$D_t$ (3/16 = $D_t$ = 3/8")	0.251
A	0.650
$A/2D_t$ (1.05 = $P_A/D_t$ = 1.5)	1.295

Source: Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III, Stationary Source-Specific Methods. EPA/600/R-94/038c, September 30, 1994



#### Verification of "S" Type Pitot, Thermocouple and Nozzle Placement

A. Bottom View; showing minimum pitot tube-nozzle separation.

Does X Exceed 0.75 inches? Yes

Does Y Exceed 3 inches? NA

B. Side View; to prevent pitot tube from interfering with gas flow streamlines approaching the nozzle, the impact pressure opening plane of the pitot tube shall be even with or above the nozzle entry plane.

$Y \geq 7.62 \text{ cm (3 in.)}$

#### Thermocouple Calibration

	Ice Bath °R				Ambient °R				Boiling Water °R		
	1	2	3		1	2	3		1	2	3
Reference Temp	493	493	493		525	525	525		672	672	672
Thermocouple Temp	491	491	491		524	524	524		671	671	671
Difference (%)	-0.4	-0.4	-0.4		-0.2	-0.2	-0.2		-0.1	-0.1	-0.1

Temperature values must be within 1.5% of reference temperature

I certify that the probe ID P4-2/TC-5D meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor  $C_p$  of 0.84.

 Certified By: SRW

 Date: 01/28/21

## Post-Test Sample Probe Calibration Form

Probe ID   P4-2 / TC-5D  

### **Visual Inspection**

Do pitot tips appear to be damaged?	<u>  NO  </u>
Do thermocouple wires appear broken or shorted?	<u>  NO  </u>
Do all components appear to be in good condition?	<u>  YES  </u>

### **Post-Test Thermocouple Calibration**

Reference Temperature °F	Thermocouple Temperature °F	Difference °F
<u>  62.6  </u>	<u>  63.6  </u>	<u>  1  </u>

Reference Thermocouple: Fluke S/N: 83450033 traceable to the United States National Institute of Standards and Technology

Acceptable Deviation +/- 2 °F

<u>  YES  </u>	Acceptable
<u>          </u>	Unacceptable

Date   02/23/22  

Technician           STP

Location Chemours Company - Fayetteville Works Facility, NC

Source VEN Carbon Bed Inlet

Project No. 2022-0930

Parameter HFPO-DA


Date	Nozzle ID	#1	#2	Nozzle Diameter (in.)		Difference	Criteria	Material
				#3	Dn (Average)			
2/10/22	G-1	0.256	0.256	0.256	0.256	0.000	≤ 0.004 in.	glass
Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?				
2/10/22	P4-1	no	no	no				
Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length		
2/10/22	TC 7D	48.0	49.0	0.2%	± 1.5 % (absolute)	5 feet		
Field Balance Check								
Date	02/10/22							
	Balance ID: Citizon							
	Test Weight ID: Chemours							
	Certified Weight (g): 500.0							
	Measured Weight (g): 499.8							
	Weight Difference (g): 0.2	--	--	--	--	--	--	--
Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location			
2/10/22	Weather Station	NA	NA	NA	Fayetteville, NC			
Date	Meter Box ID	Positive Pressure Leak Check						
2/10/22	MB 8	Pass						
Reagent	Lot#	Field Prep performed	Field Lot	Date	By			
DH2O	TA/Eurofins	No	NA	NA	NA			
Methanol/Ammonia Mix	TA/Eurofins	No	NA	NA	NA			

# POST TEST DRY GAS METER CALIBRATION

DATE: 02/23/22      METER BOX #: 8      INITIAL      FINAL      AVG (P<sub>bar</sub>)  
 TECHNICIAN: STP      CRITICAL ORIFICE SET SERIAL #: 1393      BAROMETRIC PRESSURE (in Hg): 29.51      29.52      29.515

ORIFICE #	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (FT <sup>3</sup> )		TEMPERATURES °F		ELAPSED TIME (MIN)	DGM DH (in H <sub>2</sub> O)	V <sub>m</sub> (STD)	V <sub>c</sub> (STD)	(3)	Y % Diff to Average Y	DH <sub>0</sub>							
				INITIAL	FINAL	DGM INLET INITIAL	DGM OUTLET FINAL								DGM AVG						
18	1	0.4961	21	431.772	438.218	68	66	67	66	67	66.5	10.00	1.2	6.3971	6.3742	0.996	0.10	1.65			
	2	0.4961	21	438.218	444.696	68	67	68	67	67	67.25	10.00	1.2	6.4197	6.3742	0.993	-0.25	1.65			
	3	0.4961	21	444.696	451.163	67	68	69	67	68	68	68	10.00	1.2	6.3997	6.3802	0.997	0.15	1.64		
										AVG =											
										AVG =											

AVERAGE DRY GAS METER CALIBRATION FACTOR, Y = 0.995  
 PRE-DETERMINED DRY GAS METER CALIBRATION FACTOR, Y = 0.990  
 PERCENT DIFFERENCE = 0.5

	<b>DGM Calibration-Orifices</b>	Document ID	620.004
		Revision	20.1
		Effective Date	
Issuing Department	Tech Services	Page	1 of 1

**Equipment Detail - Dry Gas Meter**

Console ID: 8  
 Meter S/N: 13276842  
 Critical Orifice S/N: 1393

**Calibration Detail**

Initial Barometric Pressure, in. Hg (Pb <sub>i</sub> )		29.88					
Final Barometric Pressure, in. Hg (Pb <sub>f</sub> )		29.88					
Average Barometric Pressure, in. Hg (Pb)		29.88					
Critical Orifice ID (Y)	18	18	16	16	26	26	
K' Factor, ft <sup>3</sup> R <sup>1/2</sup> / in. WC-min (K')	0.4961	0.4961	0.4268	0.4268	0.7131	0.7131	
Vacuum Pressure, in. Hg (V <sub>P</sub> )	20.0	20.0	21.0	21.0	17.5	17.5	
Initial DGM Volume, ft <sup>3</sup> (Vm <sub>i</sub> )	994.240	4.658	14.997	23.460	31.942	46.042	
Final DGM Volume, ft <sup>3</sup> (Vm <sub>f</sub> )	1,004.542	14.997	23.460	31.942	46.042	60.170	
Total DGM Volume, ft <sup>3</sup> (Vm)	10.302	10.339	8.463	8.482	14.100	14.128	
Ambient Temperature, °F (Ta)	62	62	62	62	63	63	
Initial DGM Temperature, °F (Tm <sub>i</sub> )	62	65	66	67	67	68	
Final DGM Temperature, °F (Tm <sub>f</sub> )	65	66	67	67	68	70	
Average DGM Temperature, °F (Tm)	64	66	67	67	68	69	
Elapsed Time (Θ)	16.00	16.00	15.00	15.00	15.00	15.00	
Meter Orifice Pressure, in. WC (ΔH)	1.20	1.20	0.82	0.82	2.40	2.40	
Standard Meter volume, ft <sup>3</sup> (Vmstd)	10.4093	10.4069	8.4945	8.5055	14.1804	14.1682	
Standard Critical Orifice Volume, ft <sup>3</sup> (Vcr)	10.3840	10.3840	8.3751	8.3751	13.9798	13.9798	
Meter Correction Factor (Y)	0.998	0.998	0.986	0.985	0.986	0.987	
Tolerance	--	0.008	0.008	0.004	0.005	0.004	
Orifice Calibration Value (ΔH @)	1.619	1.613	1.485	1.484	1.563	1.559	
Tolerance	--	0.065	0.059	0.069	0.070	0.009	
Orifice Cal Check	--	1.26		1.24		1.14	
<b>Meter Correction Factor (Y)</b>		<b>0.990</b>					
<b>Orifice Calibration Value (ΔH @)</b>		<b>1.554</b>					
<b>Positive Pressure Leak Check</b>		<b>Yes</b>					

**Equipment Detail - Thermocouple Sensor**

Reference Calibrator Make:  
 Reference Calibrator Model:  
 Reference Calibrator S/N:

**Calibration Detail**

Reference Temp.		Display Temp.		Accuracy	Difference
°F	°R	°F	°R	%	°F
0	460	0	460	0.0	0
68	528	-	-	-	-
100	560	100	560	0.0	0
223	683	-	-	-	-
248	708	-	-	-	-
273	733	-	-	-	-
300	760	301	761	-0.1	1
400	860	400	860	0.0	0
500	960	502	962	-0.2	2
600	1,060	598	1,058	0.2	2
700	1,160	701	1,161	-0.1	1
800	1,260	801	1,261	-0.1	1
900	1,360	902	1,362	-0.1	2
1,000	1,460	1,002	1,462	-0.1	2
1,100	1,560	-	-	-	-
1,200	1,660	-	-	-	-

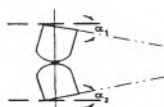
**Personnel**

Calibration By: Jeffrey Sheldon  
 Calibration Date: 1/18/2022  
 Expiration Date: 7/18/2022

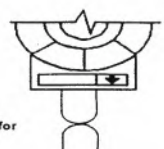
### Initial Sample Probe Calibration Form

Probe ID P4-1/TC-7D      Date 01/28/21      Technician S. Waters

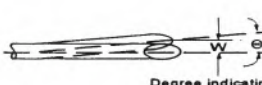
<b>"S" Type Pitot Calibration</b>	
Is the Pitot Level and Perpendicular?	Yes
Is There any Obstruction?	No
Is the Pitot Damaged	No
$\alpha_1$ (-10° = $\alpha_1$ = + 10°)	1
$\alpha_2$ (-10° = $\alpha_2$ = + 10°)	0
$\beta_1$ (-5° = $\beta_1$ = + 5°)	1
$\beta_2$ (-5° = $\beta_2$ = + 5°)	1
$\gamma$	1
$\Theta$	0
$Z = A \tan \gamma$ (< 0.125")	0.011
$W = A \tan \Theta$ (< 0.03125")	0.0000
$D_t$ (3/16 = $D_t$ = 3/8")	0.252
$A$	0.655
$A/2D_t$ (1.05 = $P_A/D_t$ = 1.5)	1.300
Source: Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III, Stationary Source-Specific Methods. EPA/600/R-94/038c, September 30, 1994	



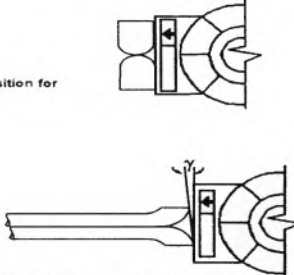
Degree indicating level position for determining  $\alpha_1$  and  $\alpha_2$ .



Degree indicating level position for determining  $\beta_1$  and  $\beta_2$ .

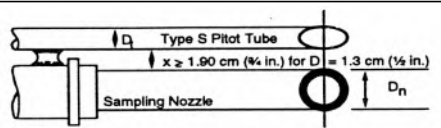


Degree indicating level position for determining  $\Theta$ .



Degree indicating level position for determining  $\gamma$  then calculate Z.

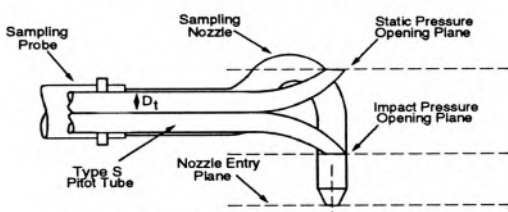
#### Verification of "S" Type Pitot, Thermocouple and Nozzle Placement



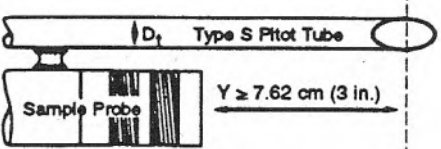
A. Bottom View; showing minimum pitot tube-nozzle separation.

Does X Exceed 0.75 inches? Yes

Does Y Exceed 3 inches? NA



B. Side View; to prevent pitot tube from interfering with gas flow streamlines approaching the nozzle, the impact pressure opening plane of the pitot tube shall be even with or above the nozzle entry plane.



$Y \geq 7.62 \text{ cm (3 in.)}$

	Ice Bath °R				Ambient °R				Boiling Water °R		
	1	2	3		1	2	3		1	2	3
Reference Temp	492	492	492		526	526	526		672	672	672
Thermocouple Temp	492	492	492		525	525	525		672	672	672
Difference (%)	0.0	0.0	0.0		-0.2	-0.2	-0.2		0.0	0.0	0.0

Temperature values must be within 1.5% of reference temperature

I certify that the probe ID P4-1/TC-7D meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor  $C_p$  of 0.84.

Certified By: S. Waters

Date: 01/28/21



## Post-Test Sample Probe Calibration Form

Probe ID   P4-1 / TC-7D  

### **Visual Inspection**

Do pitot tips appear to be damaged?	<u>  NO  </u>
Do thermocouple wires appear broken or shorted?	<u>  NO  </u>
Do all components appear to be in good condition?	<u>  YES  </u>

### **Post-Test Thermocouple Calibration**

Reference Temperature °F	Thermocouple Temperature °F	Difference °F
<u>  64  </u>	<u>  63  </u>	<u>  -1  </u>

Reference Thermocouple: Fluke S/N: 83450033 traceable to the United States National Institute of Standards and Technology

Acceptable Deviation +/- 2 °F

<u>  YES  </u>	Acceptable
<u>          </u>	Unacceptable

Date   02/23/22  

Technician           STP

## Appendix E

