



**Groundwater Sample Results,  
Level 2 Laboratory Report, Level 4 Laboratory Report,  
Electronic Data Deliverable, Data Validation Report,  
and the Sample Location Report, SDG 1601420**

*Naval Air Station Oceana  
Virginia Beach, Virginia*

July 2019

November 23, 2016

**Vista Work Order No. 1601420**

Ms. Tiffany Hill  
CH2M Hill  
1100 NE Circle Blvd. Suite 300  
Corvallis, OR 97330

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on November 09, 2016. This sample set was analyzed on a rush turn-around time, under your Project Name 'Oceana PFCs (CTO-WE14)'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at [mmaier@vista-analytical.com](mailto:mmaier@vista-analytical.com).

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier  
Laboratory Director



*Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.*

**Vista Work Order No. 1601420**

**Case Narrative**

**Sample Condition on Receipt:**

Three aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

**Analytical Notes:**

**Modified EPA Method 537**

The samples were extracted and analyzed for a selected list of 6 PFAS using Modified EPA Method 537.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 the LOQ. The OPR recoveries were within the method acceptance criteria

The labeled standard recoveries for all QC and field samples were within the QAPP acceptance criteria.

## TABLE OF CONTENTS

Case Narrative.....	1
Table of Contents.....	3
Sample Inventory.....	4
Analytical Results.....	5
Qualifiers.....	11
Certifications.....	12
Sample Receipt.....	15

# Sample Inventory Report

<b>Vista Sample ID</b>	<b>Client Sample ID</b>	<b>Sampled</b>	<b>Received</b>	<b>Components/Containers</b>
1601420-01	FTWG-MW-02-1116	08-Nov-16 08:00	09-Nov-16 09:17	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1601420-02	OC-EB110816	08-Nov-16 09:05	09-Nov-16 09:17	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1601420-03	OC-FB110816	08-Nov-16 09:10	09-Nov-16 09:17	HDPE Bottle, 125 mL HDPE Bottle, 125 mL

## **ANALYTICAL RESULTS**

**Sample ID: Method Blank****Modified EPA Method 537**Matrix: Aqueous  
Sample Size: 0.125 LQC Batch: B6K0124  
Date Extracted: 17-Nov-2016 9:42Lab Sample: B6K0124-BLK1  
Date Analyzed: 22-Nov-16 19:17 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.79	4.00	8.00		IS 13C3-PFBS	115	60 - 150	
PFHpA	0.802	0.591	2.00	8.00	J	IS 13C4-PFHpA	95.3	60 - 150	
PFHxS	ND	0.947	2.00	8.00		IS 18O2-PFHxS	92.1	60 - 150	
PFOA	ND	0.651	2.00	8.00		IS 13C2-PFOA	92.0	60 - 150	
PFOS	1.71	0.807	0.900	8.00	J	IS 13C8-PFOS	111	60 - 150	
PFNA	ND	0.810	2.00	8.00		IS 13C5-PFNA	90.5	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

**Sample ID: OPR**

**Modified EPA Method 537**

Matrix: Aqueous Sample Size: 0.125 L	QC Batch: B6K0124 Date Extracted: 17-Nov-2016 9:42	Lab Sample: B6K0124-BS1 Date Analyzed: 22-Nov-16 18:39 Column: BEH C18					
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	88.8	80.0	111	60 - 130	IS 13C3-PFBS	100	60 - 150
PFHpA	88.0	80.0	110	70 - 130	IS 13C4-PFHpA	89.1	60 - 150
PFHxS	90.1	80.0	113	70 - 130	IS 18O2-PFHxS	89.4	60 - 150
PFOA	84.6	80.0	106	70 - 130	IS 13C2-PFOA	81.1	60 - 150
PFOS	89.7	80.0	112	70 - 130	IS 13C8-PFOS	93.6	60 - 150
PFNA	88.2	80.0	110	50 - 130	IS 13C5-PFNA	80.8	50 - 150

LCL-UCL - Lower control limit - upper control limit



**Sample ID: FTWG-MW-02-1116****Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1601420-01	Date Received:	09-Nov-2016 9:17
Project:	Oceana PFCs (CTO-WE14)	Sample Size:	0.108 L	QC Batch:	B6K0124	Date Extracted:	17-Nov-2016 9:42
Date Collected:	08-Nov-2016 8:00			Date Analyzed:	22-Nov-16 20:07	Column:	BEH C18
Location:							

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	7.94	2.08	4.63	9.30	J	IS 13C3-PFBS	114	60 - 150	
PFHpA	8.36	0.687	2.31	9.30	J, B	IS 13C4-PFHpA	67.5	60 - 150	
PFHxS	11.0	1.10	2.31	9.30		IS 18O2-PFHxS	94.8	60 - 150	
PFOA	90.3	0.757	2.31	9.30		IS 13C2-PFOA	83.2	60 - 150	
PFOS	40.1	0.938	1.04	9.30	B	IS 13C8-PFOS	78.3	60 - 150	
PFNA	3.59	0.942	2.31	9.30	J	IS 13C5-PFNA	76.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

**Sample ID: OC-EB110816****Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1601420-02	Date Received:	09-Nov-2016 9:17
Project:	Oceana PFCs (CTO-WE14)	Sample Size:	0.132 L	QC Batch:	B6K0124	Date Extracted:	17-Nov-2016 9:42
Date Collected:	08-Nov-2016 9:05			Date Analyzed:	22-Nov-16 20:20	Column:	BEH C18
Location:							

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.69	3.79	7.58		IS 13C3-PFBS	99.4	60 - 150	
PFHpA	0.771	0.560	1.89	7.58	J, B	IS 13C4-PFHpA	83.2	60 - 150	
PFHxS	ND	0.897	1.89	7.58		IS 18O2-PFHxS	95.5	60 - 150	
PFOA	ND	0.616	1.89	7.58		IS 13C2-PFOA	82.5	60 - 150	
PFOS	1.75	0.764	0.852	7.58	J, B	IS 13C8-PFOS	92.0	60 - 150	
PFNA	ND	0.767	1.89	7.58		IS 13C5-PFNA	83.5	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

**Sample ID: OC-FB110816****Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1601420-03	Date Received:	09-Nov-2016 9:17
Project:	Oceana PFCs (CTO-WE14)	Sample Size:	0.128 L	QC Batch:	B6K0124	Date Extracted:	17-Nov-2016 9:42
Date Collected:	08-Nov-2016 9:10			Date Analyzed:	22-Nov-16 20:32	Column:	BEH C18
Location:							

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.75	3.91	7.84		IS 13C3-PFBS	108	60 - 150	
PFHpA	0.780	0.579	1.95	7.84	J, B	IS 13C4-PFHpA	88.8	60 - 150	
PFHxS	ND	0.928	1.95	7.84		IS 18O2-PFHxS	94.5	60 - 150	
PFOA	ND	0.638	1.95	7.84		IS 13C2-PFOA	97.0	60 - 150	
PFOS	3.48	0.791	0.879	7.84	J, B	IS 13C8-PFOS	86.4	60 - 150	
PFNA	0.866	0.793	1.95	7.84	J	IS 13C5-PFNA	86.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

## **DATA QUALIFIERS & ABBREVIATIONS**

<b>B</b>	<b>This compound was also detected in the method blank.</b>
<b>D</b>	<b>Dilution</b>
<b>E</b>	<b>The associated compound concentration exceeded the calibration range of the instrument.</b>
<b>H</b>	<b>Recovery and/or RPD was outside laboratory acceptance limits.</b>
<b>I</b>	<b>Chemical Interference</b>
<b>J</b>	<b>The amount detected is below the Reporting Limit/LOQ.</b>
<b>M</b>	<b>Estimated Maximum Possible Concentration. (CA Region 2 projects only)</b>
<b>*</b>	<b>See Cover Letter</b>
<b>Conc.</b>	<b>Concentration</b>
<b>NA</b>	<b>Not applicable</b>
<b>ND</b>	<b>Not Detected</b>
<b>TEQ</b>	<b>Toxic Equivalency</b>

**Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.**

## CERTIFICATIONS

<b>Accrediting Authority</b>	<b>Certificate Number</b>
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2014022
Nevada Division of Environmental Protection	CA004132015-1
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-004
Pennsylvania Department of Environmental Protection	012
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-15-6
Virginia Department of General Services	7923
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

*Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request*

## NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

# CHAIN OF CUSTODY

1601420  
1.3°C

*For Laboratory Use Only*  
 Laboratory Project ID: \_\_\_\_\_  
 Storage ID: \_\_\_\_\_  
 Temperature: \_\_\_\_\_ °C  
 Store Secured: Yes  No

Project ID: OCEANA PFCs (CTU-WE14) P.O.#: 10006-7-105690 Sampler: MARITA CLAY/MARKOST  
 (name)

TAT (check one):  21 days  14 days  7 days  
 Standard: Rush (surcharge may apply) Specify: \_\_\_\_\_

Invoice to: Name: TIFFANY HILL Company: CH2M Address: 5701 CLEVELAND ST City: VIRGINIA BEACH State: VA Ph#: 541-768-3109 Fax#: \_\_\_\_\_

Relinquished by (printed name and signature): [Signature] Date: 11/8/16 Time: 1530 Received by (printed name and signature): Marissa Sparks Date: 11/9/16 Time: 0934

SHIP TO: Vista Analytical Laboratory  
 1104 Windfield Way  
 El Dorado Hills, CA 95762  
 (916) 673-1520 \* Fax (916) 673-0106  
  
 Method of Shipment: FEDEX  
 Tracking No.: \_\_\_\_\_  
 ATTN: MARTHA MAIER

Sample ID	Date	Time	Location/Sample Description	Add Analysis(es) Requested														Comments					
				Quantity	Type	Matrix	2378-TcDD	2378-TcDD/TCDF	PcDD/PCDF	2378-TcDD	2378-TcDD/TCDF	PcDD/PCDF	2378-TcDD	2378-TcDD/TCDF	PcDD/PCDF	TOTALS	COPLANAR PCBs		209 CONGENERS	PBDE	PAH	WHO-29	Med. EPA 537
* FTWG-MW-02-1116	11/9/16	0800	OCEANA	2	O	AQ																2	
OC-EB 110816	11/8/16	0905	OCEANA	2	O	EB																2	EQUIPMENT BLANK
OC-FB 110816	11/9/16	0910	OCEANA	2	O	FB																2	FIELD BLANK

Special Instructions/Comments: NO DURG CONDUCTED, SAMPLE HAS STRONG PETROLEUM ODOR AND MAY HAVE FREE PRODUCT

SEND DOCUMENTATION AND RESULTS TO:

Name: TIFFANY HILL  
 Company: CH2M  
 Address: 5701 CLEVELAND ST  
 City: VIRGINIA BEACH State: VA Zip: 23462  
 Phone: 541-768-3109 Fax: \_\_\_\_\_  
 Email: TIFFANY.HILL@CH2M.COM

Container Types: A = 1 Liter Amber, G = Glass Jar  
 P = PUF, T = MM5, O = Other: 125mL HDPE  
 Bottle Preservation Type: T = Thiosulfate, O = Other: \_\_\_\_\_

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other: \_\_\_\_\_

~~GW - GROUNDWATER~~



SAMPLE LOG-IN CHECKLIST



Vista Project #: 11/9/16 1601420 TAT 14

Samples Arrival:	Date/Time 11/9/16 0917	Initials: WMS	Location: WR-2
			Shelf/Rack: NA
Logged In:	Date/Time 11/09/16 1023	Initials: WMS	Location: WR-2
			Shelf/Rack: E4
Delivered By:	<input checked="" type="radio"/> FedEx	<input type="radio"/> UPS	<input type="radio"/> On Trac
		<input type="radio"/> DHL	<input type="radio"/> Hand Delivered
	<input type="radio"/> Other		
Preservation:	<input checked="" type="radio"/> Ice	<input type="radio"/> Blue Ice	<input type="radio"/> Dry Ice
	<input type="radio"/> None		
Temp °C: 1.06 (uncorrected)	Time: 0933	Thermometer ID: IR-1	
Temp °C: 1.03 (corrected)	Probe used: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Airbill	Trk # 7845 8753 0081		
Sample Container Intact?	<input checked="" type="checkbox"/>		
Sample Custody Seals Intact?			<input checked="" type="checkbox"/>
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
COC Anomaly/Sample Acceptance Form completed?		<input checked="" type="checkbox"/>	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			<input checked="" type="checkbox"/>
Preservation Documented:	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Trizma	Yes No <input checked="" type="checkbox"/> NA
Shipping Container	Vista	<input checked="" type="checkbox"/> Client	<input checked="" type="checkbox"/> Retain <input checked="" type="checkbox"/> Return <input type="checkbox"/> Dispose

Comments:

November 23, 2016

**Vista Work Order No. 1601420**

Ms. Tiffany Hill  
CH2M Hill  
1100 NE Circle Blvd. Suite 300  
Corvallis, OR 97330

Dear Ms. Hill,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on November 09, 2016. This sample set was analyzed on a rush turn-around time, under your Project Name 'Oceana PFCs (CTO-WE14)'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at [mmaier@vista-analytical.com](mailto:mmaier@vista-analytical.com).

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier  
Laboratory Director



*Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.*

**Vista Work Order No. 1601420**

**Case Narrative**

**Sample Condition on Receipt:**

Three aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

**Analytical Notes:**

Sample "FTWG-MW-02-1116" contained particulate and was centrifuged prior to extraction.

**Modified EPA Method 537**

The samples were extracted and analyzed for a selected list of 6 PFAS using Modified EPA Method 537.

**Holding Times**

The samples were extracted and analyzed within the method hold times.

**Quality Control**

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 the LOQ. The OPR recoveries were within the method acceptance criteria

The labeled standard recoveries for all QC and field samples were within the QAPP acceptance criteria.

## TABLE OF CONTENTS

Case Narrative.....	1
Table of Contents.....	3
Sample Inventory.....	4
Analytical Results.....	5
Qualifiers.....	11
Certifications.....	12
Sample Receipt.....	15
Extraction Information.....	17
Sample Data - Modified EPA Method 537.....	21
Continuing Calibration.....	57
Initial Calibration.....	82

# Sample Inventory Report

<b>Vista Sample ID</b>	<b>Client Sample ID</b>	<b>Sampled</b>	<b>Received</b>	<b>Components/Containers</b>
1601420-01	FTWG-MW-02-1116	08-Nov-16 08:00	09-Nov-16 09:17	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1601420-02	OC-EB110816	08-Nov-16 09:05	09-Nov-16 09:17	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1601420-03	OC-FB110816	08-Nov-16 09:10	09-Nov-16 09:17	HDPE Bottle, 125 mL HDPE Bottle, 125 mL

## **ANALYTICAL RESULTS**

Sample ID: Method Blank						Modified EPA Method 537			
Matrix: Aqueous		QC Batch: B6K0124		Lab Sample: B6K0124-BLK1		Date Analyzed: 22-Nov-16 19:17 Column: BEH C18			
Sample Size: 0.125 L		Date Extracted: 17-Nov-2016 9:42							
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.79	4.00	8.00		IS 13C3-PFBS	115	60 - 150	
PFHpA	0.802	0.591	2.00	8.00	J	IS 13C4-PFHpA	95.3	60 - 150	
PFHxS	ND	0.947	2.00	8.00		IS 18O2-PFHxS	92.1	60 - 150	
PFOA	ND	0.651	2.00	8.00		IS 13C2-PFOA	92.0	60 - 150	
PFOS	1.71	0.807	0.900	8.00	J	IS 13C8-PFOS	111	60 - 150	
PFNA	ND	0.810	2.00	8.00		IS 13C5-PFNA	90.5	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

**Sample ID: OPR**

**Modified EPA Method 537**

Matrix: Aqueous Sample Size: 0.125 L	QC Batch: B6K0124 Date Extracted: 17-Nov-2016 9:42	Lab Sample: B6K0124-BS1 Date Analyzed: 22-Nov-16 18:39 Column: BEH C18					
Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	88.8	80.0	111	60 - 130	IS 13C3-PFBS	100	60 - 150
PFHpA	88.0	80.0	110	70 - 130	IS 13C4-PFHpA	89.1	60 - 150
PFHxS	90.1	80.0	113	70 - 130	IS 18O2-PFHxS	89.4	60 - 150
PFOA	84.6	80.0	106	70 - 130	IS 13C2-PFOA	81.1	60 - 150
PFOS	89.7	80.0	112	70 - 130	IS 13C8-PFOS	93.6	60 - 150
PFNA	88.2	80.0	110	50 - 130	IS 13C5-PFNA	80.8	50 - 150

LCL-UCL - Lower control limit - upper control limit



**Sample ID: FTWG-MW-02-1116****Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1601420-01	Date Received:	09-Nov-2016 9:17
Project:	Oceana PFCs (CTO-WE14)	Sample Size:	0.108 L	QC Batch:	B6K0124	Date Extracted:	17-Nov-2016 9:42
Date Collected:	08-Nov-2016 8:00			Date Analyzed:	22-Nov-16 20:07	Column:	BEH C18
Location:							

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	7.94	2.08	4.63	9.30	J	IS 13C3-PFBS	114	60 - 150	
PFHpA	8.36	0.687	2.31	9.30	J, B	IS 13C4-PFHpA	67.5	60 - 150	
PFHxS	11.0	1.10	2.31	9.30		IS 18O2-PFHxS	94.8	60 - 150	
PFOA	90.3	0.757	2.31	9.30		IS 13C2-PFOA	83.2	60 - 150	
PFOS	40.1	0.938	1.04	9.30	B	IS 13C8-PFOS	78.3	60 - 150	
PFNA	3.59	0.942	2.31	9.30	J	IS 13C5-PFNA	76.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

**Sample ID: OC-EB110816****Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1601420-02	Date Received:	09-Nov-2016 9:17
Project:	Oceana PFCs (CTO-WE14)	Sample Size:	0.132 L	QC Batch:	B6K0124	Date Extracted:	17-Nov-2016 9:42
Date Collected:	08-Nov-2016 9:05			Date Analyzed:	22-Nov-16 20:20	Column:	BEH C18
Location:							

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.69	3.79	7.58		IS 13C3-PFBS	99.4	60 - 150	
PFHpA	0.771	0.560	1.89	7.58	J, B	IS 13C4-PFHpA	83.2	60 - 150	
PFHxS	ND	0.897	1.89	7.58		IS 18O2-PFHxS	95.5	60 - 150	
PFOA	ND	0.616	1.89	7.58		IS 13C2-PFOA	82.5	60 - 150	
PFOS	1.75	0.764	0.852	7.58	J, B	IS 13C8-PFOS	92.0	60 - 150	
PFNA	ND	0.767	1.89	7.58		IS 13C5-PFNA	83.5	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

**Sample ID: OC-FB110816****Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	CH2M Hill	Matrix:	Aqueous	Lab Sample:	1601420-03	Date Received:	09-Nov-2016 9:17
Project:	Oceana PFCs (CTO-WE14)	Sample Size:	0.128 L	QC Batch:	B6K0124	Date Extracted:	17-Nov-2016 9:42
Date Collected:	08-Nov-2016 9:10			Date Analyzed:	22-Nov-16 20:32	Column:	BEH C18
Location:							

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.75	3.91	7.84		IS 13C3-PFBS	108	60 - 150	
PFHpA	0.780	0.579	1.95	7.84	J, B	IS 13C4-PFHpA	88.8	60 - 150	
PFHxS	ND	0.928	1.95	7.84		IS 18O2-PFHxS	94.5	60 - 150	
PFOA	ND	0.638	1.95	7.84		IS 13C2-PFOA	97.0	60 - 150	
PFOS	3.48	0.791	0.879	7.84	J, B	IS 13C8-PFOS	86.4	60 - 150	
PFNA	0.866	0.793	1.95	7.84	J	IS 13C5-PFNA	86.0	50 - 150	

LCL-UCL - Lower control limit - upper control limit

Results reported to DL.

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.

Only the linear isomer is reported for all other analytes.

## **DATA QUALIFIERS & ABBREVIATIONS**

<b>B</b>	<b>This compound was also detected in the method blank.</b>
<b>D</b>	<b>Dilution</b>
<b>E</b>	<b>The associated compound concentration exceeded the calibration range of the instrument.</b>
<b>H</b>	<b>Recovery and/or RPD was outside laboratory acceptance limits.</b>
<b>I</b>	<b>Chemical Interference</b>
<b>J</b>	<b>The amount detected is below the Reporting Limit/LOQ.</b>
<b>M</b>	<b>Estimated Maximum Possible Concentration. (CA Region 2 projects only)</b>
<b>*</b>	<b>See Cover Letter</b>
<b>Conc.</b>	<b>Concentration</b>
<b>NA</b>	<b>Not applicable</b>
<b>ND</b>	<b>Not Detected</b>
<b>TEQ</b>	<b>Toxic Equivalency</b>

**Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.**

## CERTIFICATIONS

<b>Accrediting Authority</b>	<b>Certificate Number</b>
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2014022
Nevada Division of Environmental Protection	CA004132015-1
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-004
Pennsylvania Department of Environmental Protection	012
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-15-6
Virginia Department of General Services	7923
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

*Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request*

## NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A





### SAMPLE LOG-IN CHECKLIST



Vista Project #: 11/9/16 1601420 TAT 14

Samples Arrival:	Date/Time 11/9/16 0917	Initials: WMS	Location: WR-2 Shelf/Rack: NA
Logged In:	Date/Time 11/09/16 1023	Initials: WMS	Location: WR-2 Shelf/Rack: E4
Delivered By:	<input checked="" type="radio"/> FedEx	<input type="radio"/> UPS	<input type="radio"/> On Trac
	<input type="radio"/> DHL	<input type="radio"/> Hand Delivered	<input type="radio"/> Other
Preservation:	<input checked="" type="radio"/> Ice	<input type="radio"/> Blue Ice	<input type="radio"/> Dry Ice
	<input type="radio"/> None		
Temp °C: 1.06	(uncorrected)	Time: 0933	Thermometer ID: IR-1
Temp °C: 1.03	(corrected)	Probe used: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill	✓		
Trk # 7845 8753 0081			
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓
Preservation Documented:	Yes	No	NA
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Trizma	
Shipping Container	Vista	Client	Return
	Retain	Return	Dispose

Comments:

## **EXTRACTION INFORMATION**

Process Sheet  
Workorder: **1601420**

Prep Expiration: 11/22/2016  
Client: CH2M Hill

Workorder Due: **23-Nov-16 00:00**  
TAT: 14

Method: **537 PFAS DOD (LOQ as mRL)**  
Matrix: **Aqueous**

Prep Batch: B6K0124

Prep Data Entered: 11/18/16 am  
Date and Initials

Version: UCMR 3 (6 Analyte)

Initial Sequence: SGK00508

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1601420-01	<input checked="" type="checkbox"/>	FTWG-MW-02-1116	09-Nov-16 09:17	WR-2 E-4	
1601420-02	<input checked="" type="checkbox"/>	OC-EB110816	09-Nov-16 09:17	WR-2 E-4	
1601420-03	<input checked="" type="checkbox"/>	OC-FB110816	09-Nov-16 09:17	WR-2 E-4	

**WO Comments: List of 6, include Total PFOA.  
Per COC: No purge conducted, sample has strong petroleum odor and may have free product.**

Vista PM: Martha Maier

Vial Box ID: Reptar

Sample Reconciled By: [Signature] 11/17/16  
Page 1 of 1

# Percent Solids



Project: B6K0124

Balance ID: HRMS 8

Sample ID	Chemist: <u>NA</u>		Chemist: <u>NA</u>		Chemist/Dat	
	Boat Wt.	Sample + Boat Wt.	Residue + Boat Wt.	pH before	pH after	
1601365-07				5	2	
J -09				5	2	
1601398-02				5	2	
1601420-01				6	2	
J -02				5	2	
J -03				5	2	
1601447-01				6	2	
J -02				6	2	

- Procedure:**
- Tare the balance.
  - Record Boat Weight.
  - Add 2 - 10 g of sample.
  - Record Wet Wt. + Boat Wt.
  - Dry in oven overnight at 107°C.
  - Tare the balance.
  - Record Residue + Boat Wt.

- Notes:**
- \* 2 drops HCl used to adjust pH  
JS W/17/14
- Methods 8280, 613, 1613, 8290, 1614 - pH < 9
  - Methods 1668/PCN - pH 2-3
  - NCASI 551 - pH 1

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537 PFAS DOD (LOO as mRL)

B6K0124

Chemist: G. Mendola

Prep Date/Time: 17-Nov-16 09:42

Prepared using: LCMS - SPE Extraction-LCMS

C	VISTA Sample ID	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	RS CHEM/WIT DATE
<input type="checkbox"/>	B6K0124-BLK1	NA	NA	(0.125)	SM JS 11/17/16	JS 11/17/16	SM JS 11/17/16
<input type="checkbox"/>	B6K0124-BS1	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	B6K0124-BSD1	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1601365-07	155.16	27.37	0.12779	↓	↓	↓
<input type="checkbox"/>	1601365-09	158.09	27.46	0.13063	↓	↓	↓
<input type="checkbox"/>	1601398-02	156.17	26.80	0.12937	↓	↓	↓
<input type="checkbox"/>	1601420-01	133.97	26.43	0.10754 ✓	↓	↓	↓
<input type="checkbox"/>	1601420-02	159.04	27.03	0.13201 ✓	↓	↓	↓
<input type="checkbox"/>	1601420-03	154.73	27.13	0.1276 ✓	↓	↓	↓
<input type="checkbox"/>	1601447-01	153.20	27.13	0.12607	↓	↓	↓
<input type="checkbox"/>	1601447-02	150.88	27.00	0.12388	↓	↓	↓

- Ⓐ Some Sample Smells like petroleum. JS 11/17/14
- Ⓑ Sample contained particulate. Transferred to secondary container and centrifuged then decanted back into original container. JS 11/17/14
- Ⓒ Sample contained particulate. Transferred to secondary container and centrifuged then decanted into new bottle due to excess particulate adhering to inside of original. JS 11/17/14
- Ⓓ First centrifuge did not separate all particulate. Had to transfer to smaller tubes and centrifuge at higher speed. JS 11/17/14

IS Name ⑬ 60I2604, 10ul	NS Name ① 60I1601, 10ul	RS Name ⑮ 60K1105, 10ul	SPE Chem: Skata KAW 33um 20mg/6m Ele SOLV: 0.5% NH <sub>4</sub> OH in MeOH + MeOH Final Volume(s) 1ml	Check Out: Chemist/Date: JS 11/17/16 Check In: Chemist/Date: NA Balance ID: HRMS8
-------------------------------	-------------------------------	-------------------------------	---	---

Comments: Assume 1 g = 1 mL

Ⓒ Particulate still suspended in sample after second centrifuge. JS 11/17/16

**SAMPLE DATA – MODIFIED EPA METHOD 537**

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-45.qld

Last Altered: Wednesday, November 23, 2016 12:58:33 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:58:45 PM Pacific Standard Time

Method: Untitled 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: B6K0124-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161122G2\_45, Date: 22-Nov-2016, Time: 19:17:09

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299 > 79.7	5.618e0	6.223e3		0.125	3.11	0.701	
2	5 PFHpA	363 > 318.9	1.766e1	1.281e4		0.125	3.99	0.802	
3	6 PFHxS	398.9 > 79.6	3.797e1	4.886e3		0.125	4.10	0.575	
4	8 PFOA	413 > 368.7	1.141e2	1.816e4		0.125	4.37		
5	10 PFOS	499 > 79.9		6.872e3		0.125			
6	11 PFNA	463 > 418.8		9.378e3		0.125			
7	15 13C3-PFPeA	266>221.8	7.380e3	1.788e4	0.448	0.125	2.86	92.2	92.2
8	16 13C3-PFBS	302.0 > 98.8	6.223e3	1.788e4	0.302	0.125	3.11	115	115
9	18 13C4-PFHpA	367.2 > 321.8	1.281e4	1.180e4	1.139	0.125	3.99	95.3	95.3
10	19 18O2-PFHxS	403 > 102.6	4.886e3	1.180e4	0.449	0.125	4.10	92.1	92.1
11	20 13C2-6:2 FTS	429.1 > 408.9	3.854e3	5.290e3	1.073	0.125	4.33	67.9	67.9
12	21 13C2-PFOA	414.9 > 369.7	1.816e4	8.728e3	2.262	0.125	4.38	92.0	92.0
13	22 13C8-PFOS	507.0 > 79.9	6.872e3	6.545e3	0.944	0.125	4.78	111	111
14	23 13C5-PFNA	468.2 > 422.9	9.378e3	9.576e3	1.082	0.125	4.72	90.5	90.5
15	24 13C2-PFDA	515.1 > 469.9	7.371e3	8.540e3	1.019	0.125	5.02	84.7	84.7
16	25 13C2-8:2 FTS	529.1 > 508.7	3.222e3	5.290e3	0.569	0.125	4.99	107	107
17	26 13C4-PFBA	217 > 171.8	1.656e4	1.656e4	1.000	0.125	1.90	100	100
18	27 13C2-4:2 FTS	329.2 > 308.9	5.290e3	5.290e3	1.000	0.125	3.38	100	100
19	28 13C5-PFHxA	318.0 > 272.9	1.788e4	1.788e4	1.000	0.125	3.48	100	100
20	29 13C3-PFHxS	401.9 > 79.9	1.180e4	1.180e4	1.000	0.125	4.10	100	100
21	30 13C8-PFOA	421.3 > 376	8.728e3	8.728e3	1.000	0.125	4.38	100	100
22	31 13C4-PFOS	503.0 > 79.9	6.545e3	6.545e3	1.000	0.125	4.78	100	100
23	32 13C9-PFNA	472.2 > 426.9	9.576e3	9.576e3	1.000	0.125	4.72	100	100
24	33 13C6-PFDA	519.1 > 473.7	8.540e3	8.540e3	1.000	0.125	5.02	100	100
25	34 Total PFBS	299 > 79.7		4.886e3		0.125		0.701	
26	35 Total PFHxS	398.9 > 79.6		4.886e3		0.125		0.575	
27	36 Total PFOA	413 > 368.7		1.816e4		0.125			
28	37 Total PFOS	499 > 79.9		6.872e3		0.125		1.71	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-45.qld

Last Altered: Wednesday, November 23, 2016 12:58:33 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:58:45 PM Pacific Standard Time

Method: Untitled 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: B6K0124-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161122G2\_45, Date: 22-Nov-2016, Time: 19:17:09

**Total PFBS**

#	Name	Trace	RT	Area	IS Area	Conc.
1	3 PFBS	299 > 79.7	3.11	5.618	6222.724	0.7

**Total PFHxS**

#	Name	Trace	RT	Area	IS Area	Conc.
1	6 PFHxS	398.9 > 79.6	4.10	37.967	4885.943	0.6

**Total PFOA**

#	Name	Trace	RT	Area	IS Area	Conc.
1	8 PFOA	413 > 368.7	4.37	114.109	18156.068	

**Total PFOS**

#	Name	Trace	RT	Area	IS Area	Conc.
1	37 Total PFOS	499 > 79.9	4.70	6.935	6872.397	1.7



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-45.qld

Last Altered: Wednesday, November 23, 2016 12:58:33 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:58:45 PM Pacific Standard Time

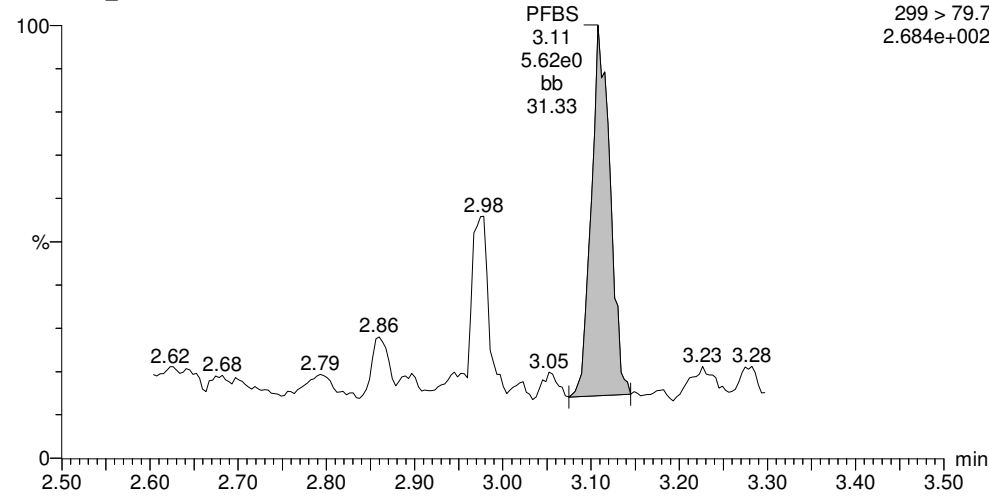
Method: Untitled 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: B6K0124-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161122G2\_45, Date: 22-Nov-2016, Time: 19:17:09, Instrument: , Lab: , User:

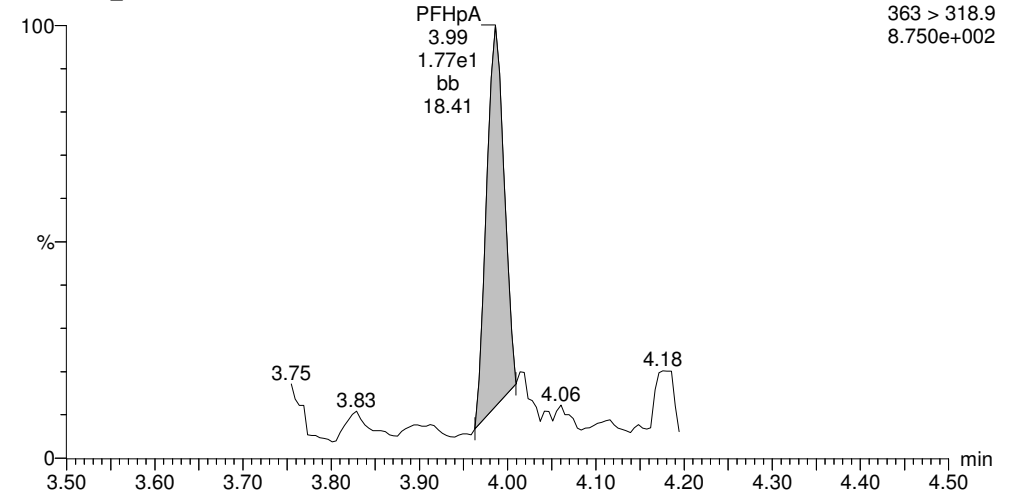
**Total PFBS**

161122G2\_45



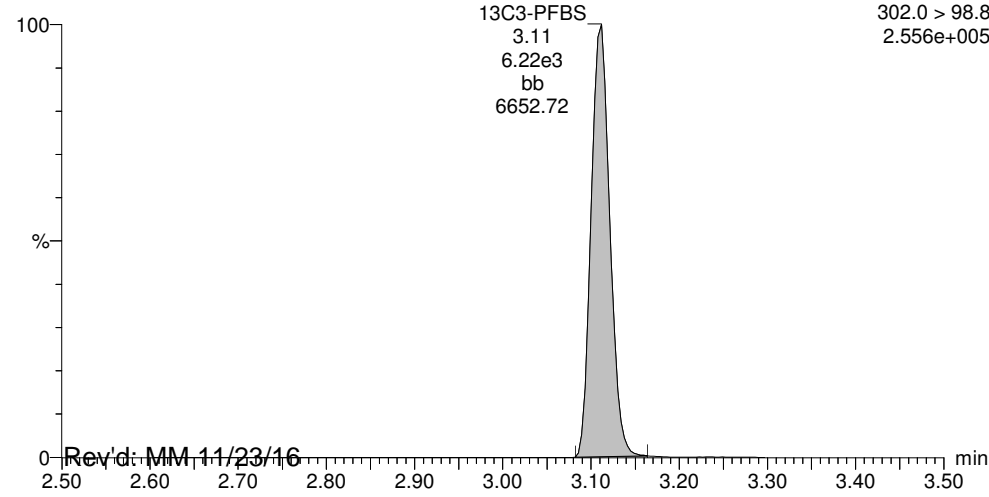
**PFHpA**

161122G2\_45



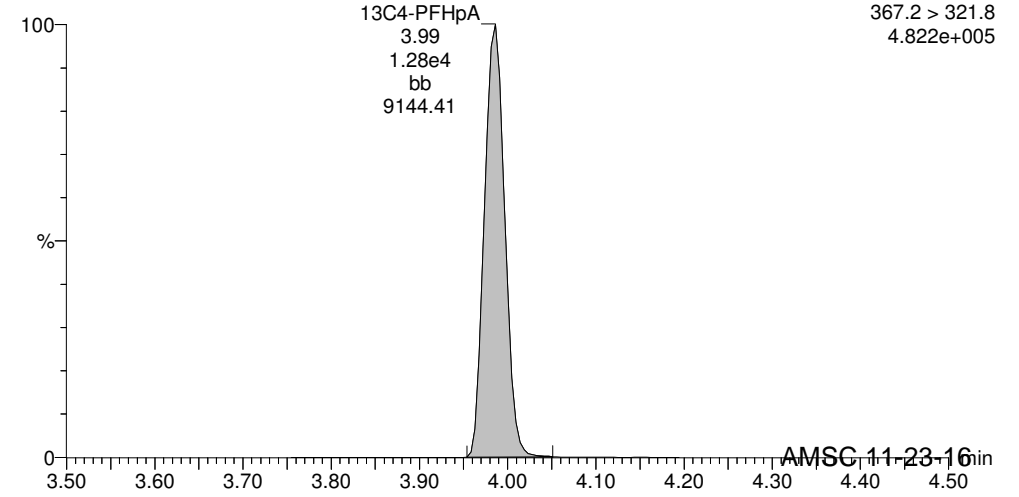
**13C3-PFBS**

161122G2\_45



**13C4-PFHpA**

161122G2\_45



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-45.qld

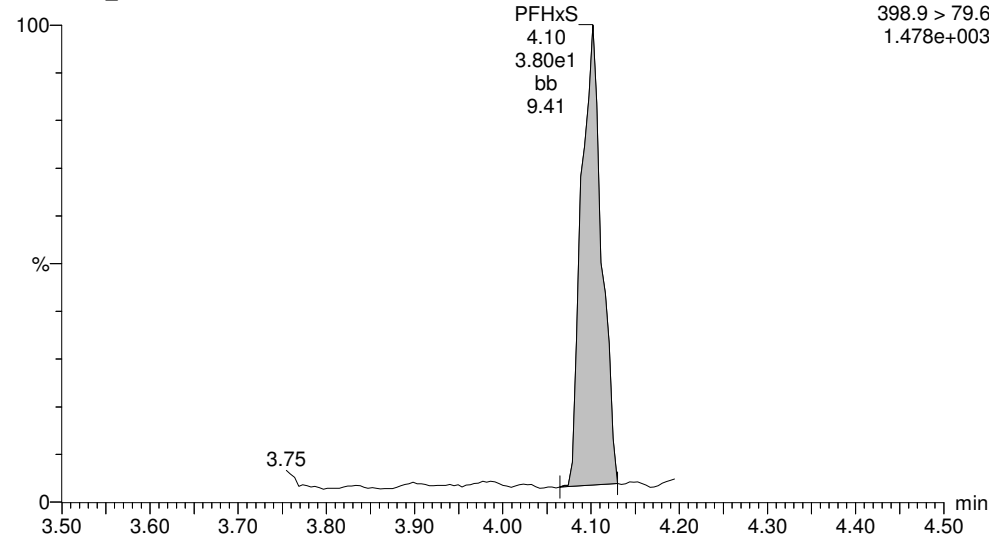
Last Altered: Wednesday, November 23, 2016 12:58:33 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:58:45 PM Pacific Standard Time

ID: B6K0124-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161122G2\_45, Date: 22-Nov-2016, Time: 19:17:09, Instrument: , Lab: , User:

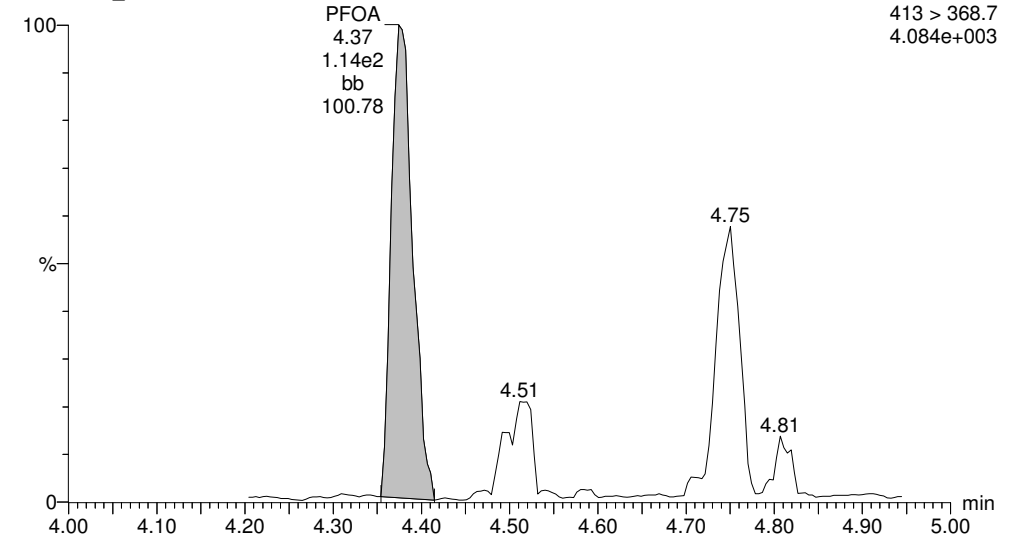
**Total PFHxS**

161122G2\_45



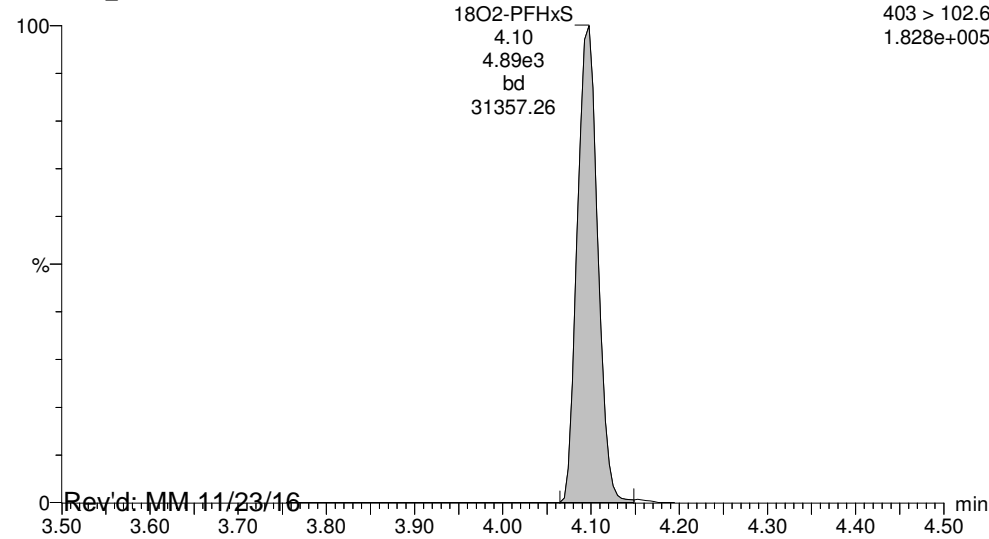
**Total PFOA**

161122G2\_45



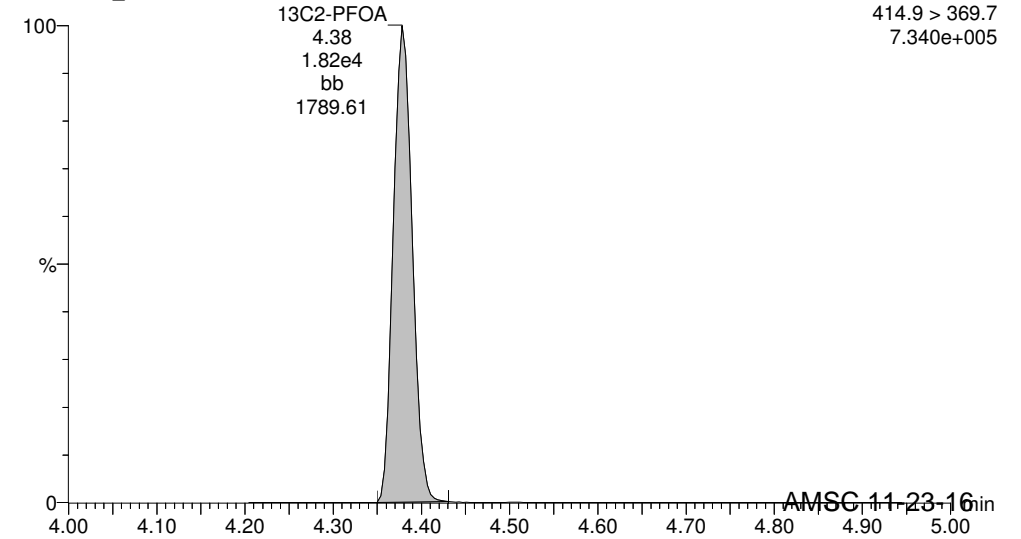
**18O2-PFHxS**

161122G2\_45



**13C2-PFOA**

161122G2\_45



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-45.qld

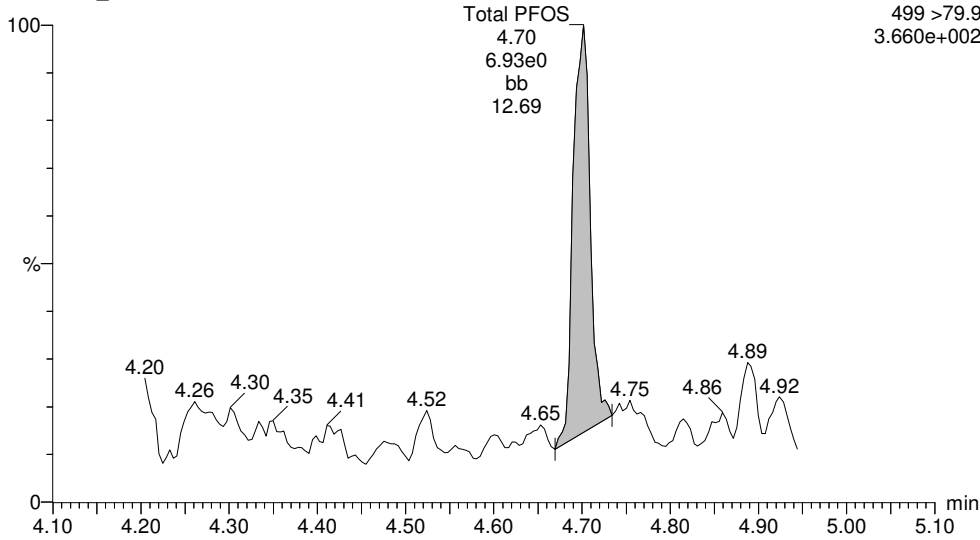
Last Altered: Wednesday, November 23, 2016 12:58:33 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:58:45 PM Pacific Standard Time

ID: B6K0124-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161122G2\_45, Date: 22-Nov-2016, Time: 19:17:09, Instrument: , Lab: , User:

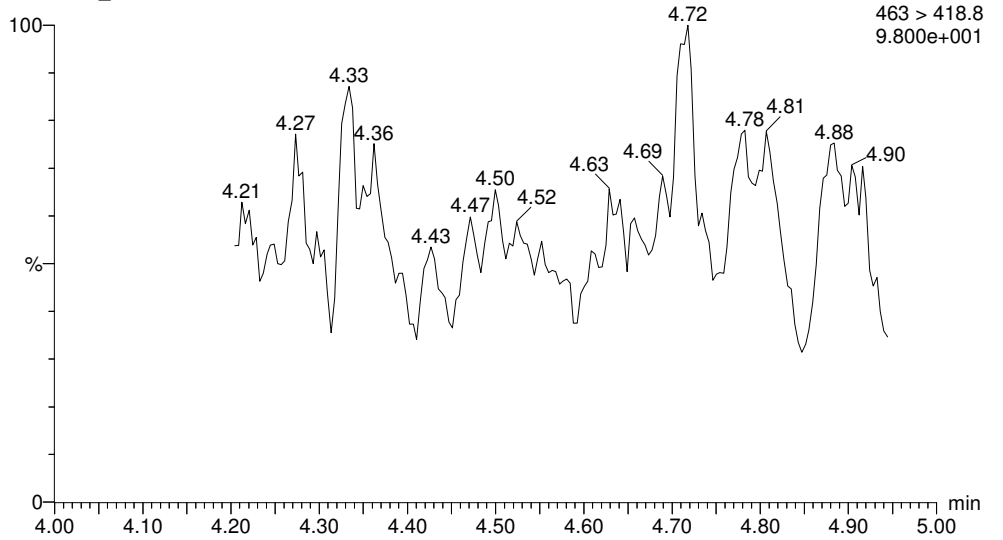
**Total PFOS**

161122G2\_45



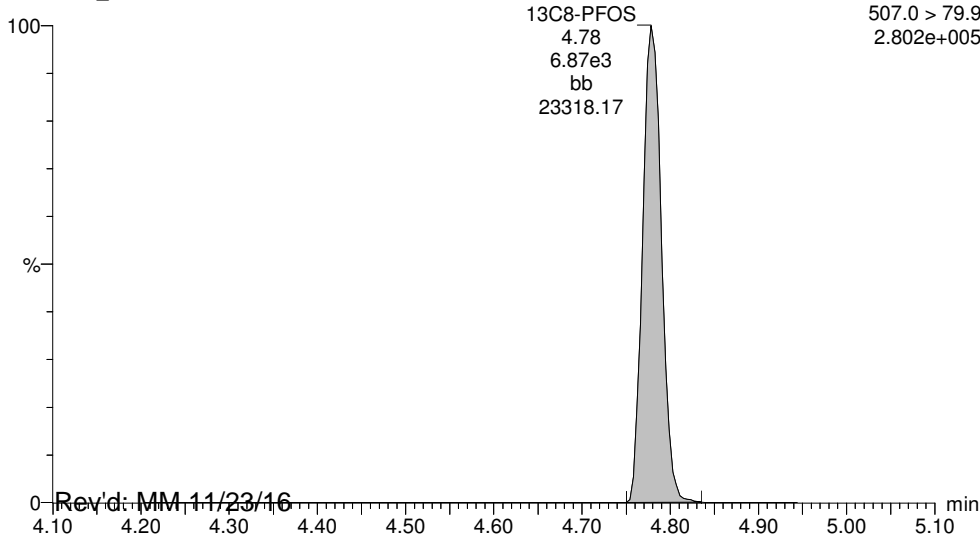
**PFNA**

161122G2\_45



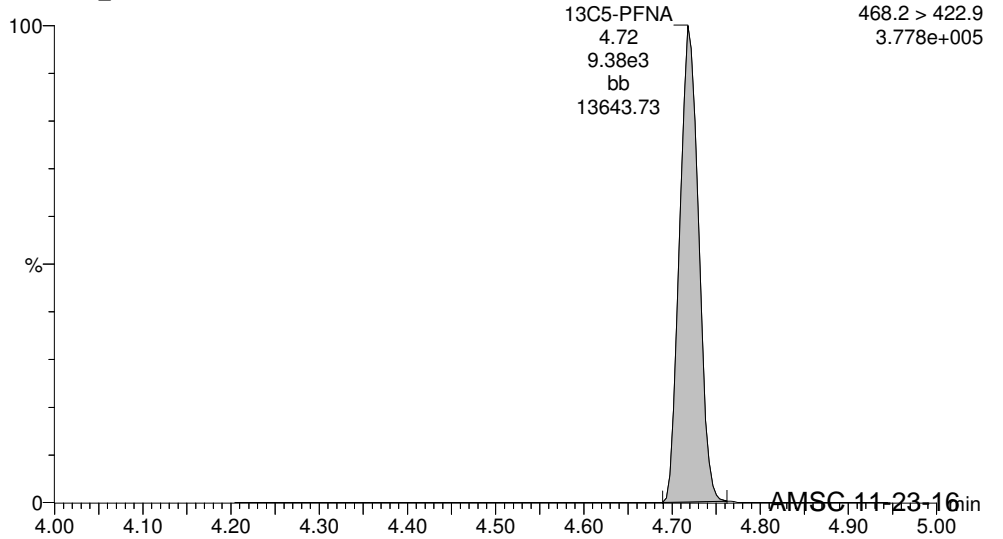
**13C8-PFOS**

161122G2\_45



**13C5-PFNA**

161122G2\_45



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-45.qld

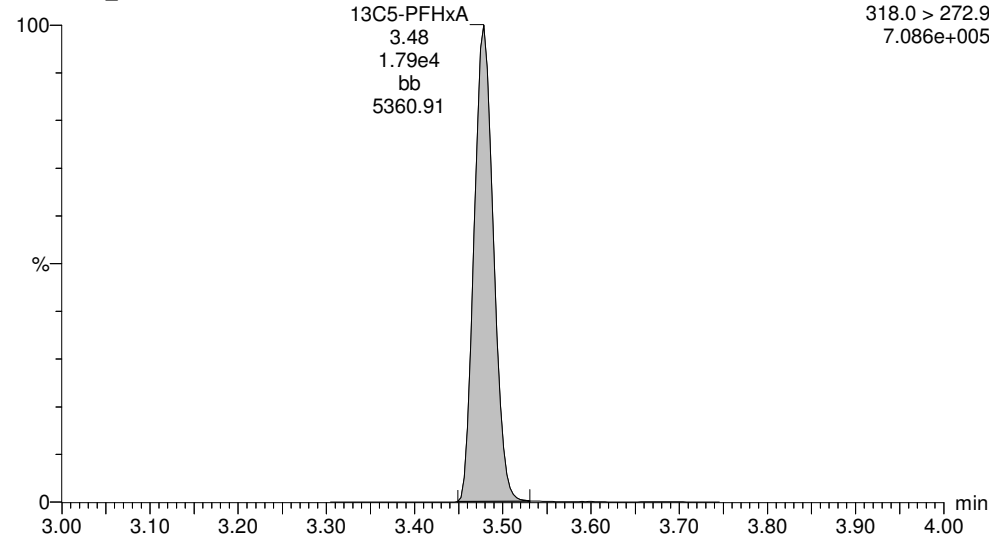
Last Altered: Wednesday, November 23, 2016 12:58:33 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:58:45 PM Pacific Standard Time

ID: B6K0124-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161122G2\_45, Date: 22-Nov-2016, Time: 19:17:09, Instrument: , Lab: , User:

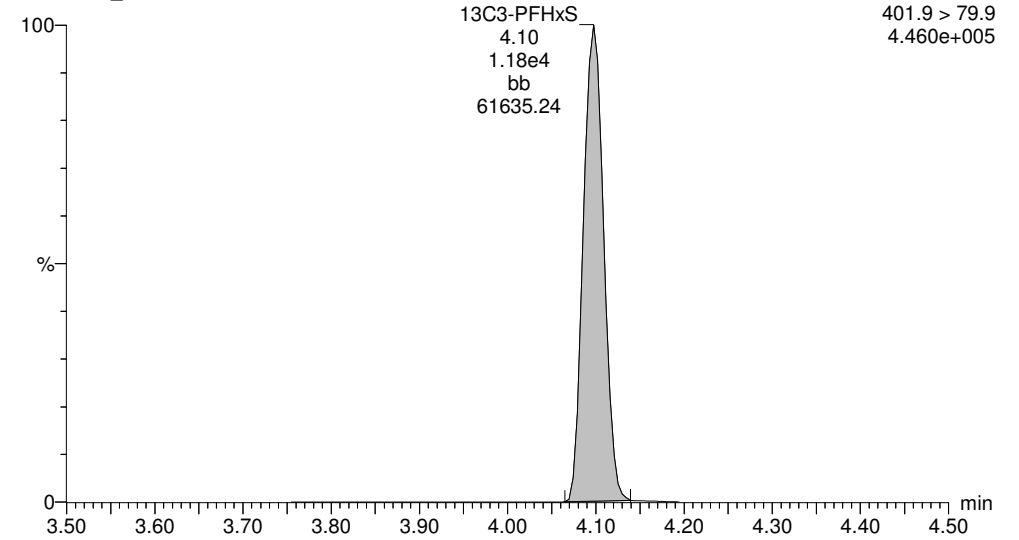
**13C5-PFHxA**

161122G2\_45



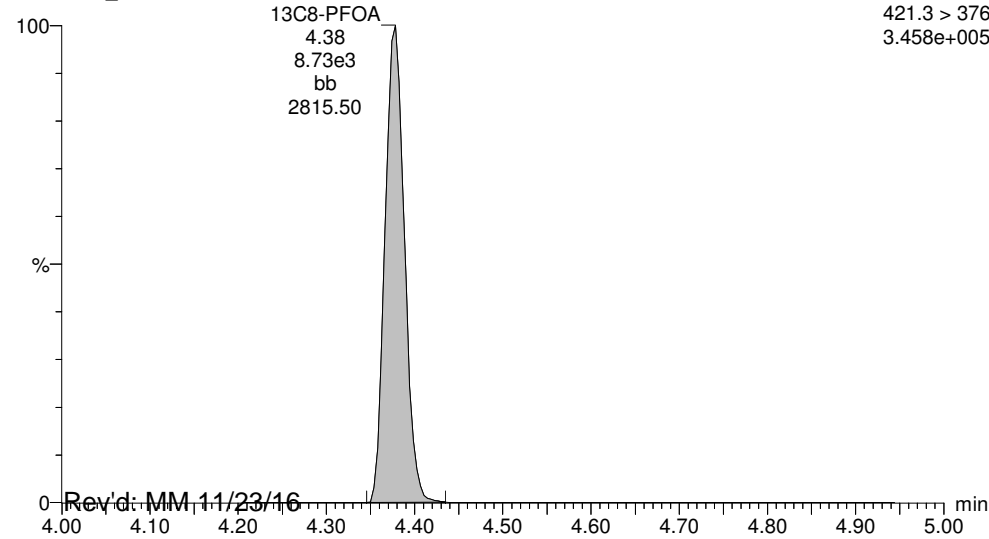
**13C3-PFHxS**

161122G2\_45



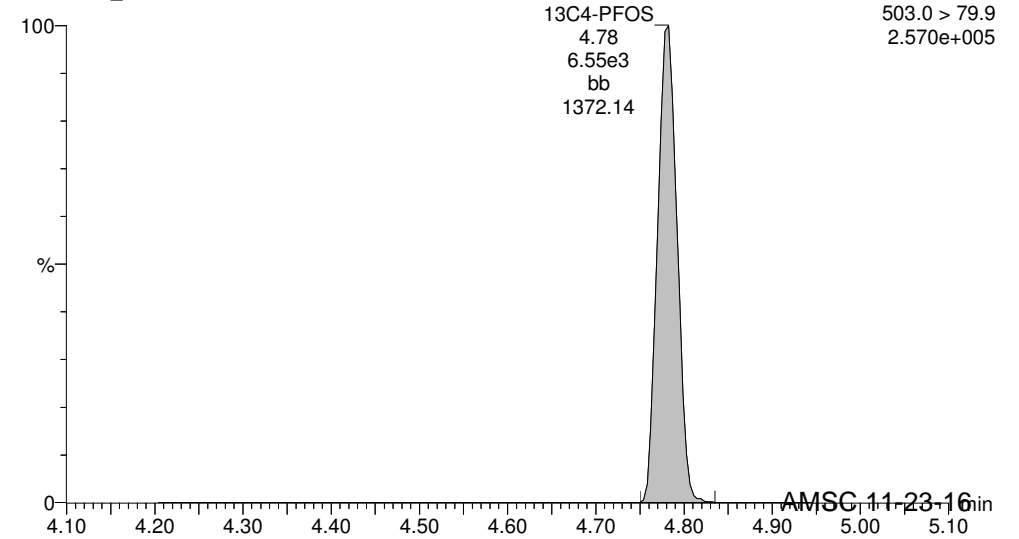
**13C8-PFOA**

161122G2\_45



**13C4-PFOS**

161122G2\_45



Rev'd: MM, 11/23/16

AMSC, 11-23-16

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-45.qld

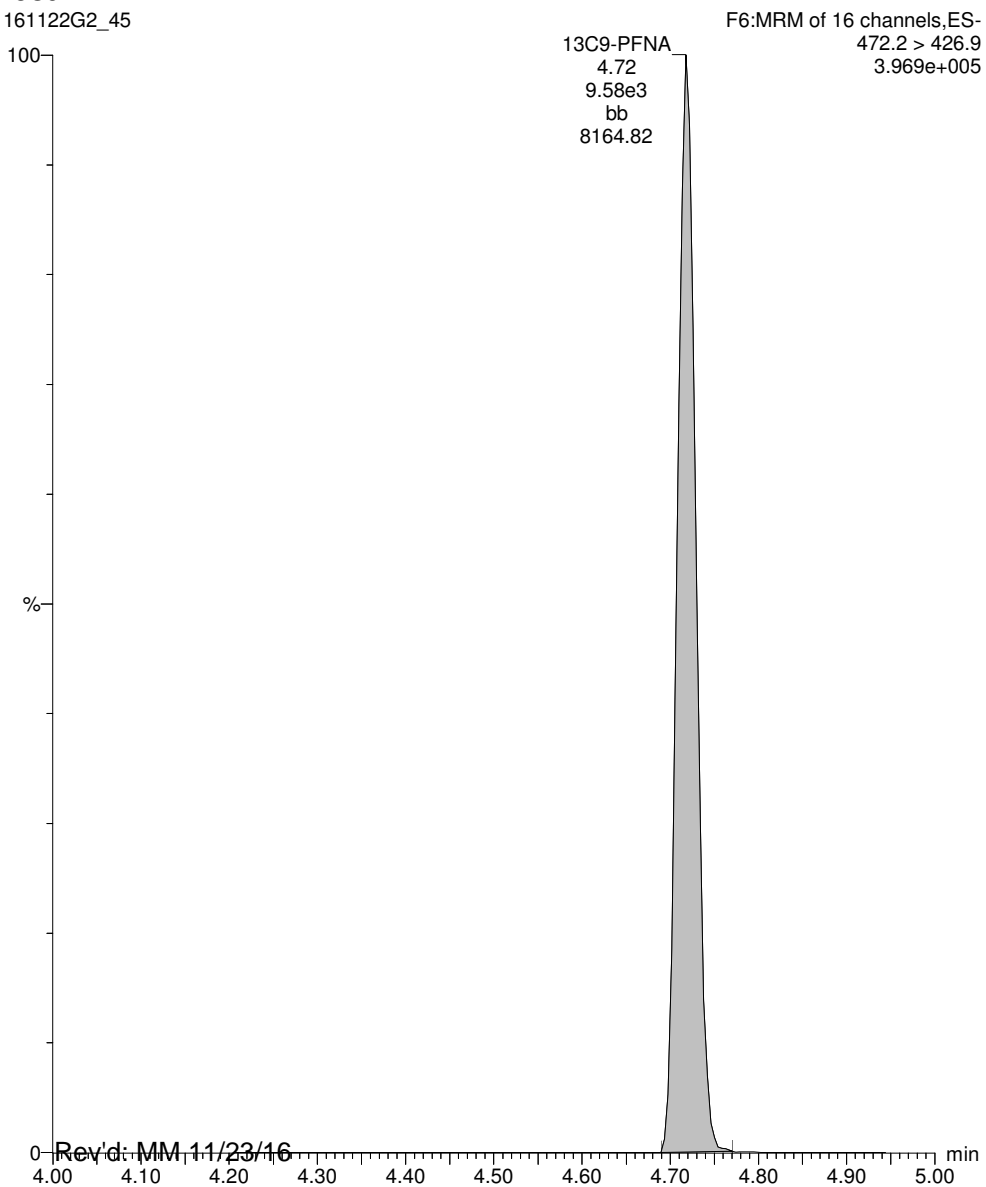
Last Altered: Wednesday, November 23, 2016 12:58:33 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:58:45 PM Pacific Standard Time

ID: B6K0124-BLK1 Method Blank 0.125, Description: Method Blank, Name: 161122G2\_45, Date: 22-Nov-2016, Time: 19:17:09, Instrument: , Lab: , User:

13C9-PFNA

161122G2\_45



Rev'd: MM, 11/23/16

Work Order 1601420

AMSC 11-23-16

Page 28 of 176

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-42.qld

Last Altered: Wednesday, November 23, 2016 11:38:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:39:32 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: B6K0124-BS1 LCS 0.125, Description: LCS, Name: 161122G2\_42, Date: 22-Nov-2016, Time: 18:39:18

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299 > 79.7	9.372e3	5.931e3		0.125	3.11	88.8	111
2	5 PFHpA	363 > 318.9	1.796e4	1.324e4		0.125	3.99	88.0	110
3	6 PFHxS	398.9 > 79.6	8.120e3	5.242e3		0.125	4.10	90.1	113
4	8 PFOA	413 > 368.7	1.695e4	2.205e4		0.125	4.38	84.6	106
5	10 PFOS	499 > 79.9	5.123e3	6.971e3		0.125	4.78	89.7	112
6	11 PFNA	463 > 418.8	1.505e4	1.050e4		0.125	4.72	88.2	110
7	15 13C3-PFPeA	266>221.8	8.006e3	1.964e4	0.448	0.125	2.86	91.1	91.1
8	16 13C3-PFBS	302.0 > 98.8	5.931e3	1.964e4	0.302	0.125	3.11	100	100
9	18 13C4-PFHpA	367.2 > 321.8	1.324e4	1.305e4	1.139	0.125	3.98	89.1	89.1
10	19 18O2-PFHxS	403 > 102.6	5.242e3	1.305e4	0.449	0.125	4.09	89.4	89.4
11	20 13C2-6:2 FTS	429.1 > 408.9	5.040e3	5.913e3	1.073	0.125	4.33	79.4	79.4
12	21 13C2-PFOA	414.9 > 369.7	2.205e4	1.202e4	2.262	0.125	4.38	81.1	81.1
13	22 13C8-PFOS	507.0 > 79.9	6.971e3	7.889e3	0.944	0.125	4.78	93.6	93.6
14	23 13C5-PFNA	468.2 > 422.9	1.050e4	1.201e4	1.082	0.125	4.72	80.8	80.8
15	24 13C2-PFDA	515.1 > 469.9	7.679e3	1.019e4	1.019	0.125	5.02	74.0	74.0
16	25 13C2-8:2 FTS	529.1 > 508.7	3.163e3	5.913e3	0.569	0.125	5.00	94.0	94.0
17	26 13C4-PFBA	217 > 171.8	1.656e4	1.656e4	1.000	0.125	1.90	100	100
18	27 13C2-4:2 FTS	329.2 > 308.9	5.913e3	5.913e3	1.000	0.125	3.38	100	100
19	28 13C5-PFHxA	318.0 > 272.9	1.964e4	1.964e4	1.000	0.125	3.48	100	100
20	29 13C3-PFHxS	401.9 > 79.9	1.305e4	1.305e4	1.000	0.125	4.10	100	100
21	30 13C8-PFOA	421.3 > 376	1.202e4	1.202e4	1.000	0.125	4.38	100	100
22	31 13C4-PFOS	503.0 > 79.9	7.889e3	7.889e3	1.000	0.125	4.78	100	100
23	32 13C9-PFNA	472.2 > 426.9	1.201e4	1.201e4	1.000	0.125	4.72	100	100
24	33 13C6-PFDA	519.1 > 473.7	1.019e4	1.019e4	1.000	0.125	5.02	100	100
25	34 Total PFBS	299 > 79.7		5.242e3		0.125		88.8	
26	35 Total PFHxS	398.9 > 79.6		5.242e3		0.125		90.1	
27	36 Total PFOA	413 > 368.7		2.205e4		0.125		84.6	
28	37 Total PFOS	499 > 79.9		6.971e3		0.125		91.4	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-42.qld

Last Altered: Wednesday, November 23, 2016 11:38:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:39:32 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: B6K0124-BS1 LCS 0.125, Description: LCS, Name: 161122G2\_42, Date: 22-Nov-2016, Time: 18:39:18

**Total PFBS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFBS	299 > 79.7	3.11	9372.376	5930.602	88.8

**Total PFHxS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	6 PFHxS	398.9 > 79.6	4.10	8119.572	5242.404	90.1

**Total PFOA**

	# Name	Trace	RT	Area	IS Area	Conc.
1	8 PFOA	413 > 368.7	4.38	16946.016	22046.008	84.6

**Total PFOS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	10 PFOS	499 > 79.9	4.78	5123.127	6970.836	89.7
2	37 Total PFOS	499 > 79.9	4.70	10.611	6970.836	1.8

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-42.qld

Last Altered: Wednesday, November 23, 2016 11:38:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:39:32 AM Pacific Standard Time

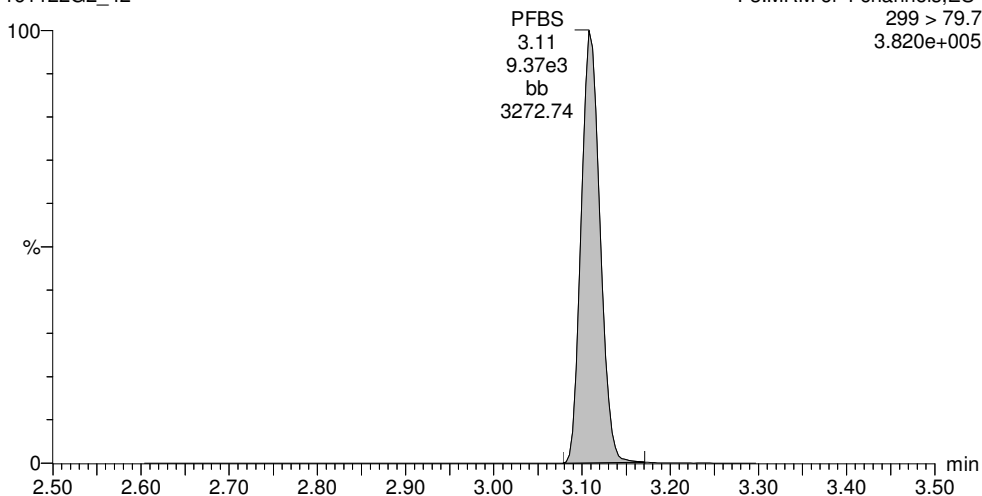
Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: B6K0124-BS1 LCS 0.125, Description: LCS, Name: 161122G2\_42, Date: 22-Nov-2016, Time: 18:39:18, Instrument: , Lab: , User:

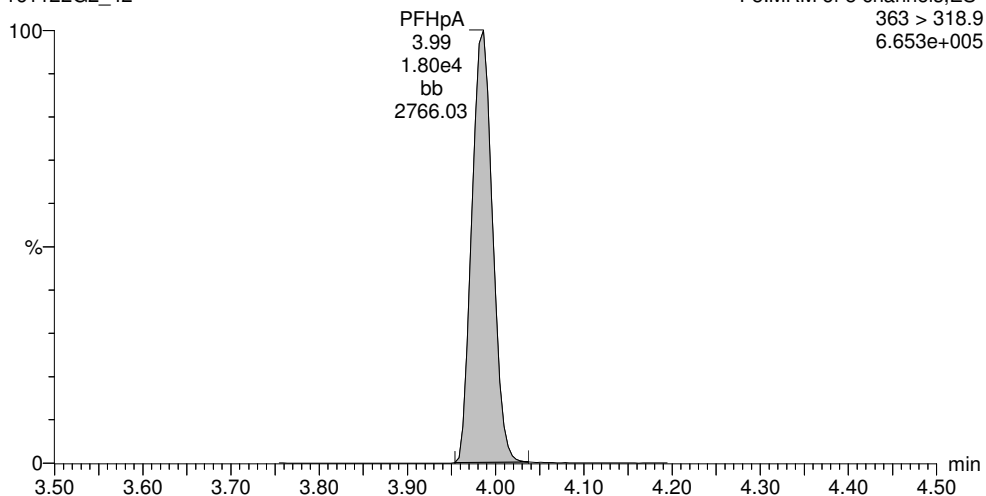
**Total PFBS**

161122G2\_42



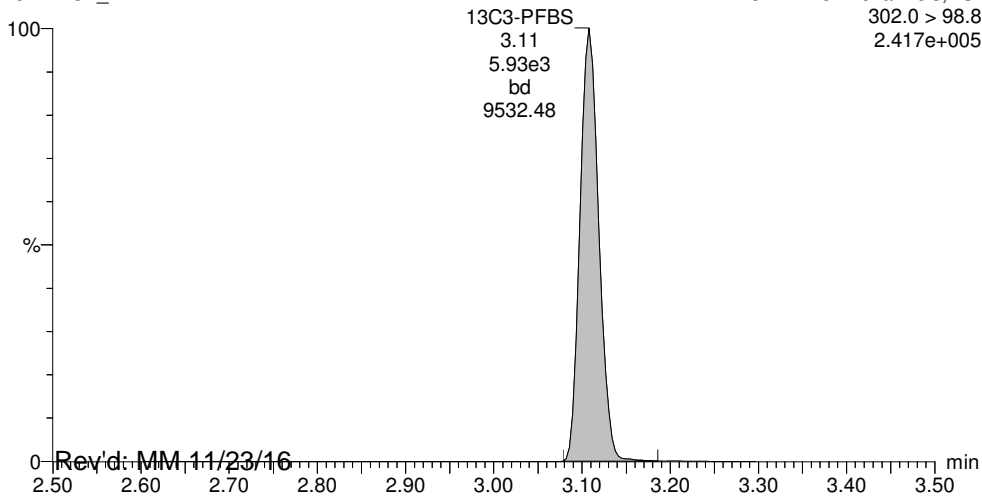
**PFHpA**

161122G2\_42



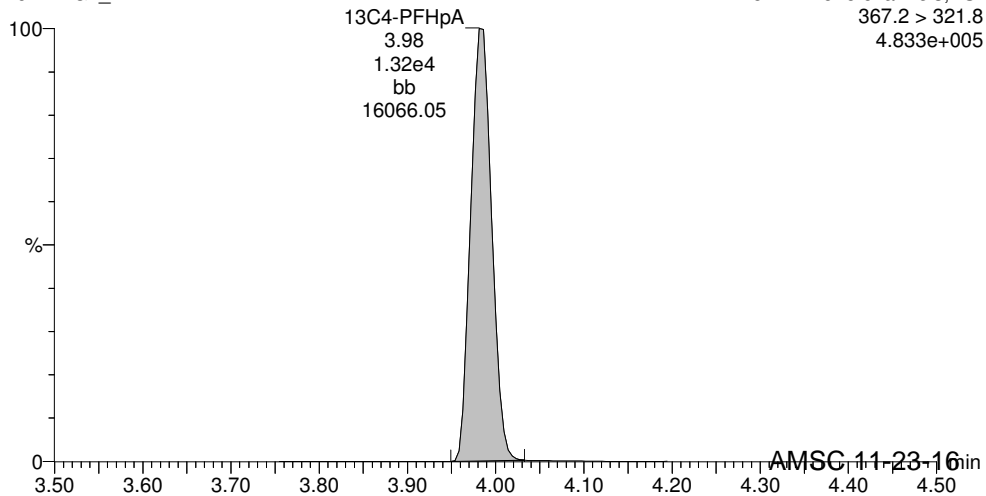
**13C3-PFBS**

161122G2\_42



**13C4-PFHpA**

161122G2\_42



Rev'd: MM 11/23/16

AMSC 11-23-16



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-42.qld

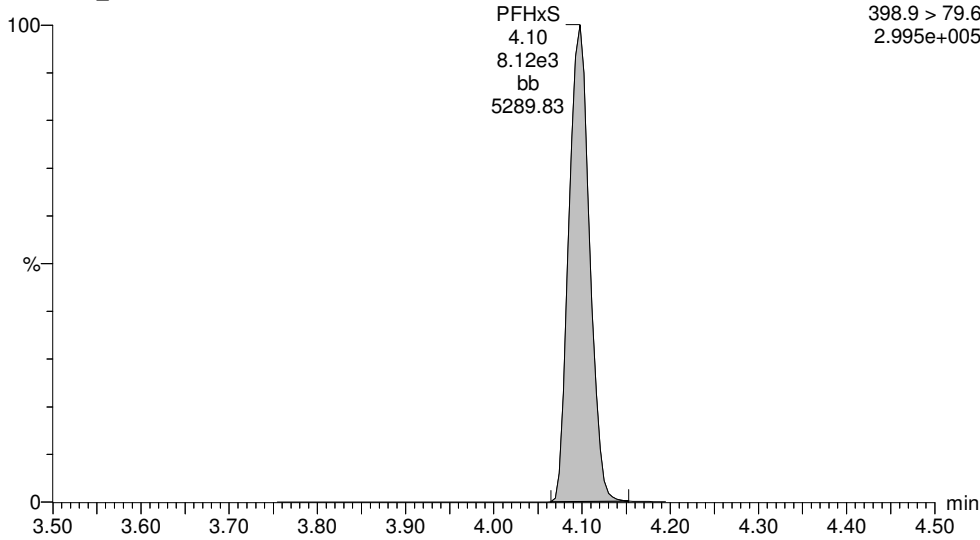
Last Altered: Wednesday, November 23, 2016 11:38:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:39:32 AM Pacific Standard Time

ID: B6K0124-BS1 LCS 0.125, Description: LCS, Name: 161122G2\_42, Date: 22-Nov-2016, Time: 18:39:18, Instrument: , Lab: , User:

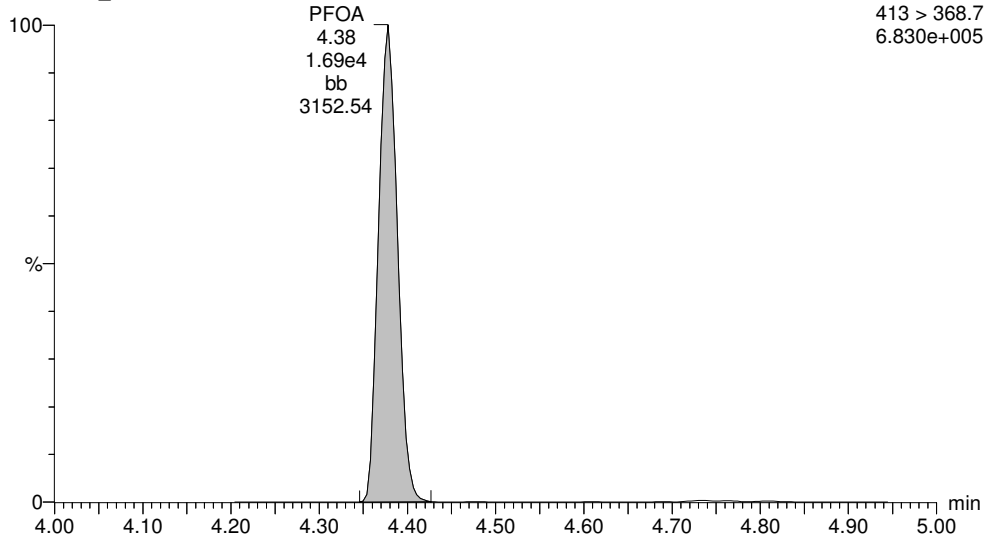
**Total PFHxS**

161122G2\_42



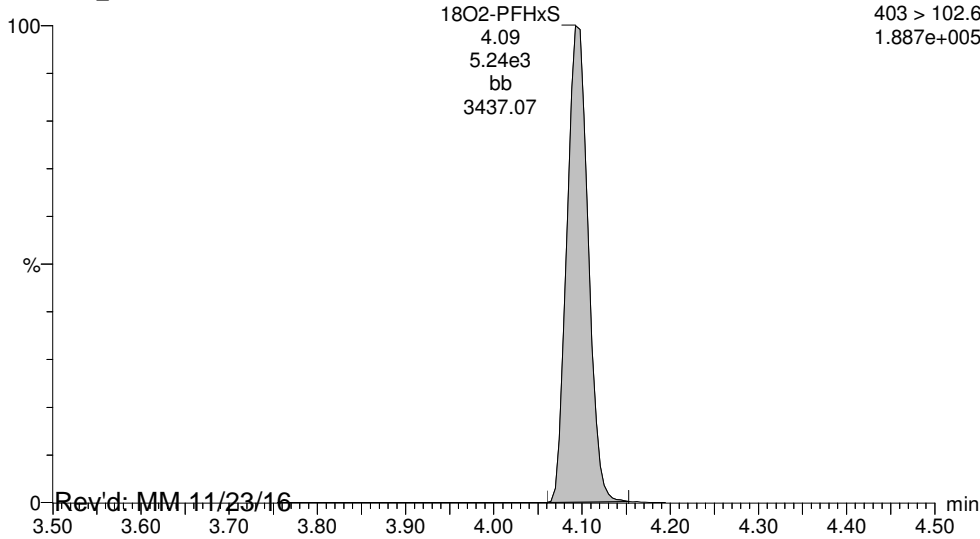
**Total PFOA**

161122G2\_42



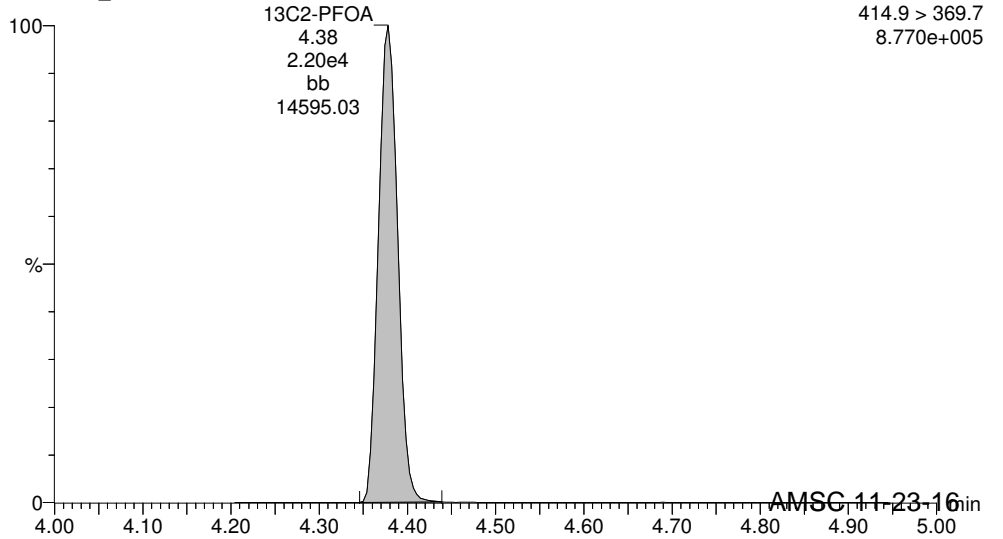
**18O2-PFHxS**

161122G2\_42



**13C2-PFOA**

161122G2\_42



Rev'd: MM, 11/23/16

AMSC, 11-23-16

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-42.qld

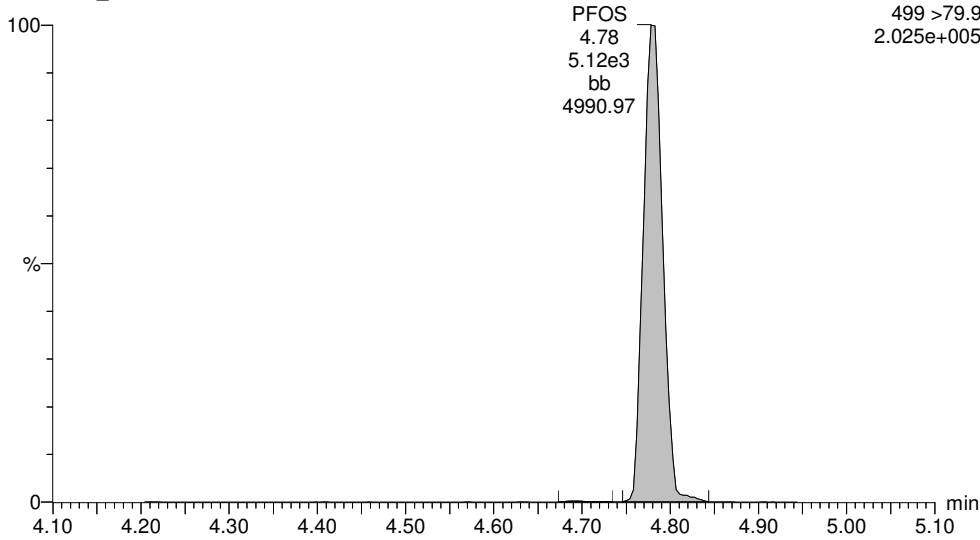
Last Altered: Wednesday, November 23, 2016 11:38:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:39:32 AM Pacific Standard Time

ID: B6K0124-BS1 LCS 0.125, Description: LCS, Name: 161122G2\_42, Date: 22-Nov-2016, Time: 18:39:18, Instrument: , Lab: , User:

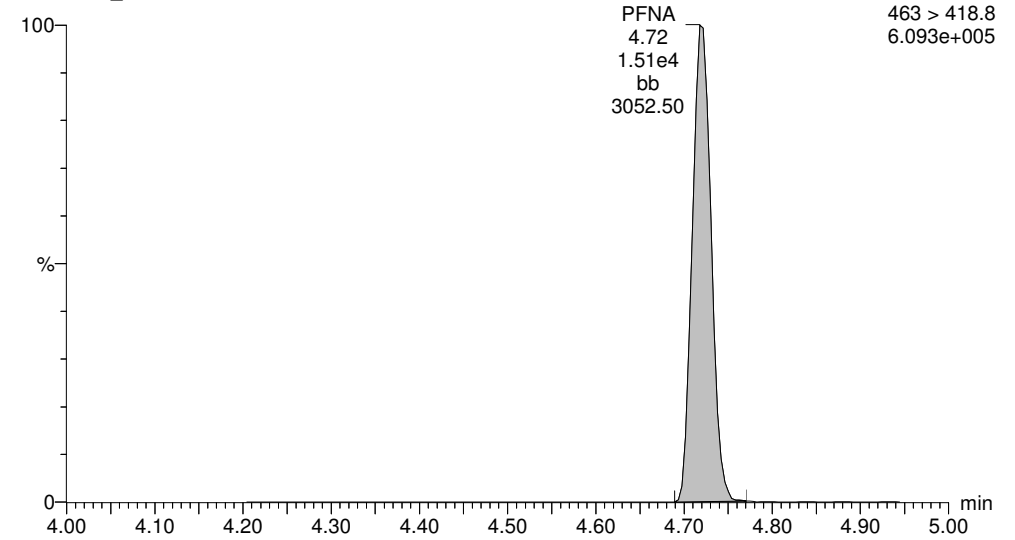
**Total PFOS**

161122G2\_42



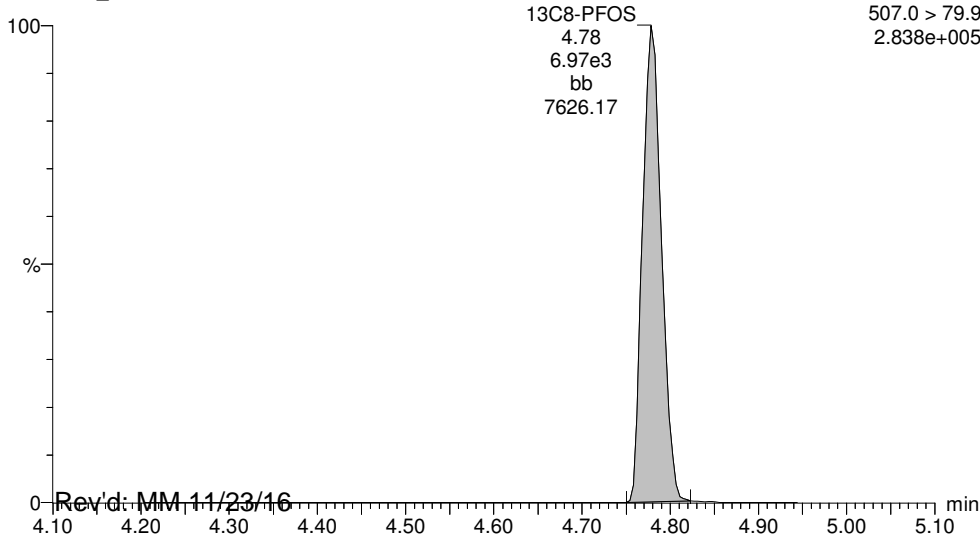
**PFNA**

161122G2\_42



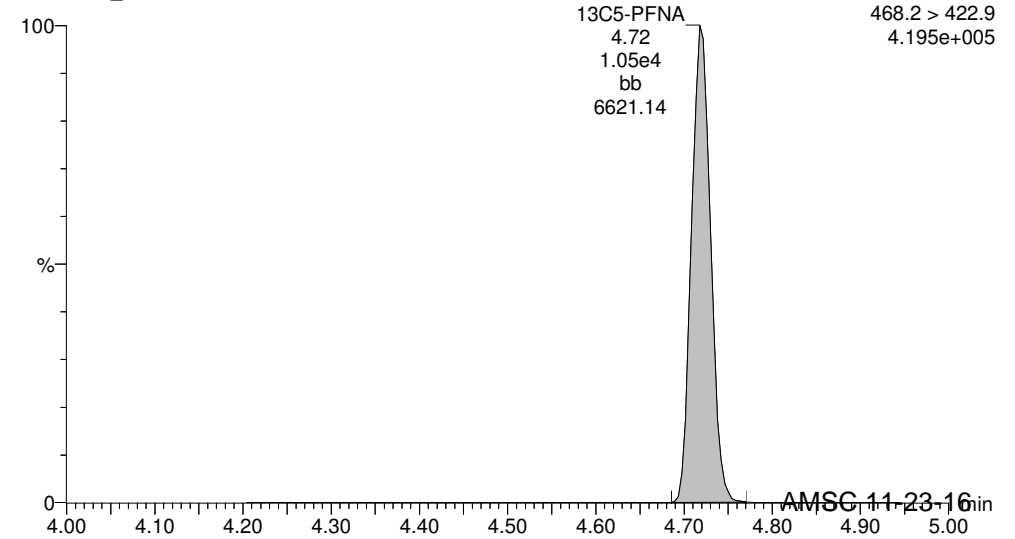
**13C8-PFOS**

161122G2\_42



**13C5-PFNA**

161122G2\_42



Rev'd: MM 11/23/16

AMSC 11-23-16

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-42.qld

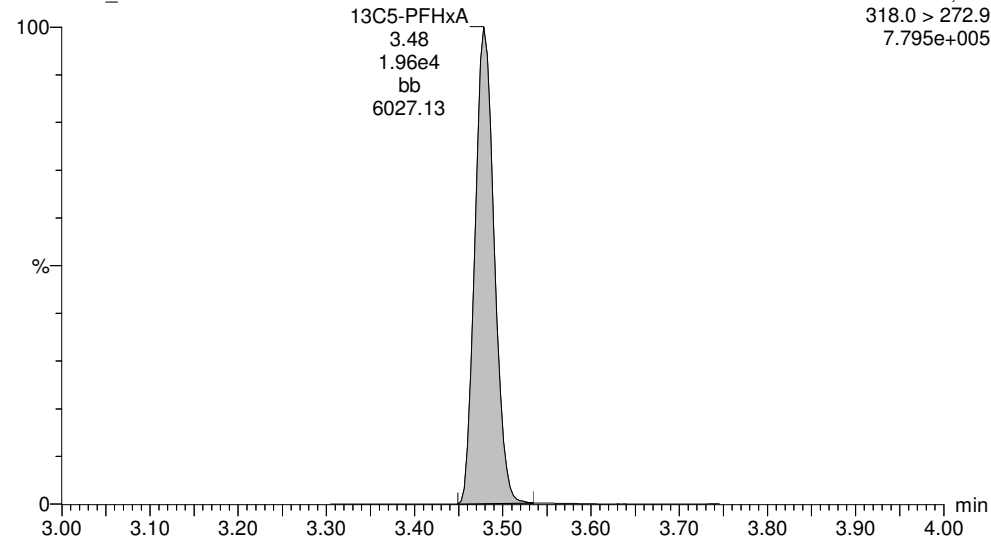
Last Altered: Wednesday, November 23, 2016 11:38:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:39:32 AM Pacific Standard Time

ID: B6K0124-BS1 LCS 0.125, Description: LCS, Name: 161122G2\_42, Date: 22-Nov-2016, Time: 18:39:18, Instrument: , Lab: , User:

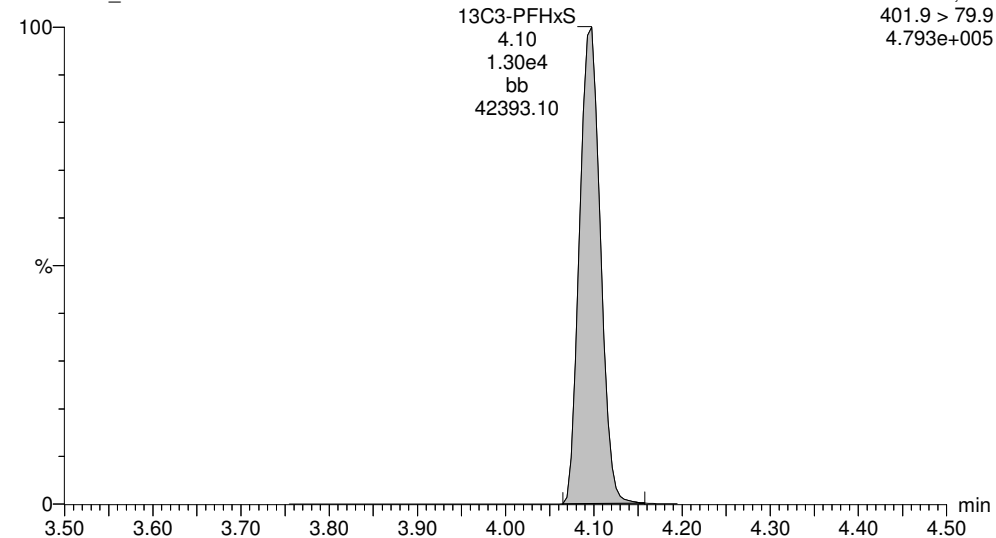
**13C5-PFHxA**

161122G2\_42



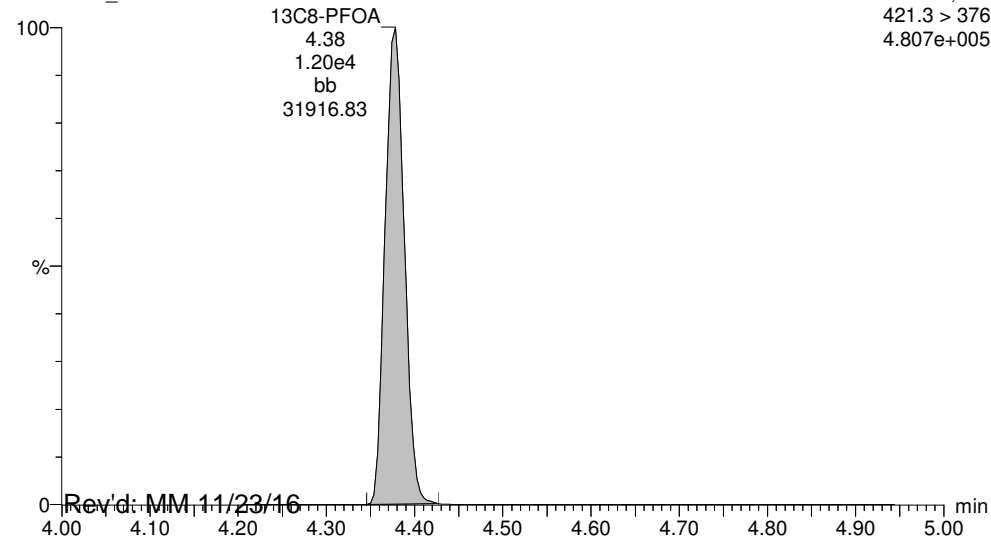
**13C3-PFHxS**

161122G2\_42



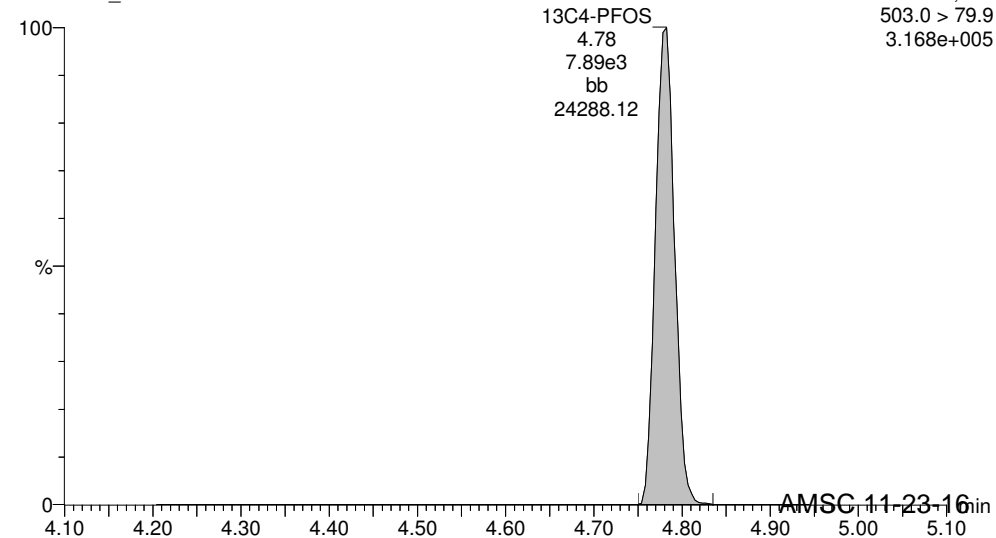
**13C8-PFOA**

161122G2\_42



**13C4-PFOS**

161122G2\_42



Rev'd: MM, 11/23/16

AMSC, 11-23-16

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-42.qld

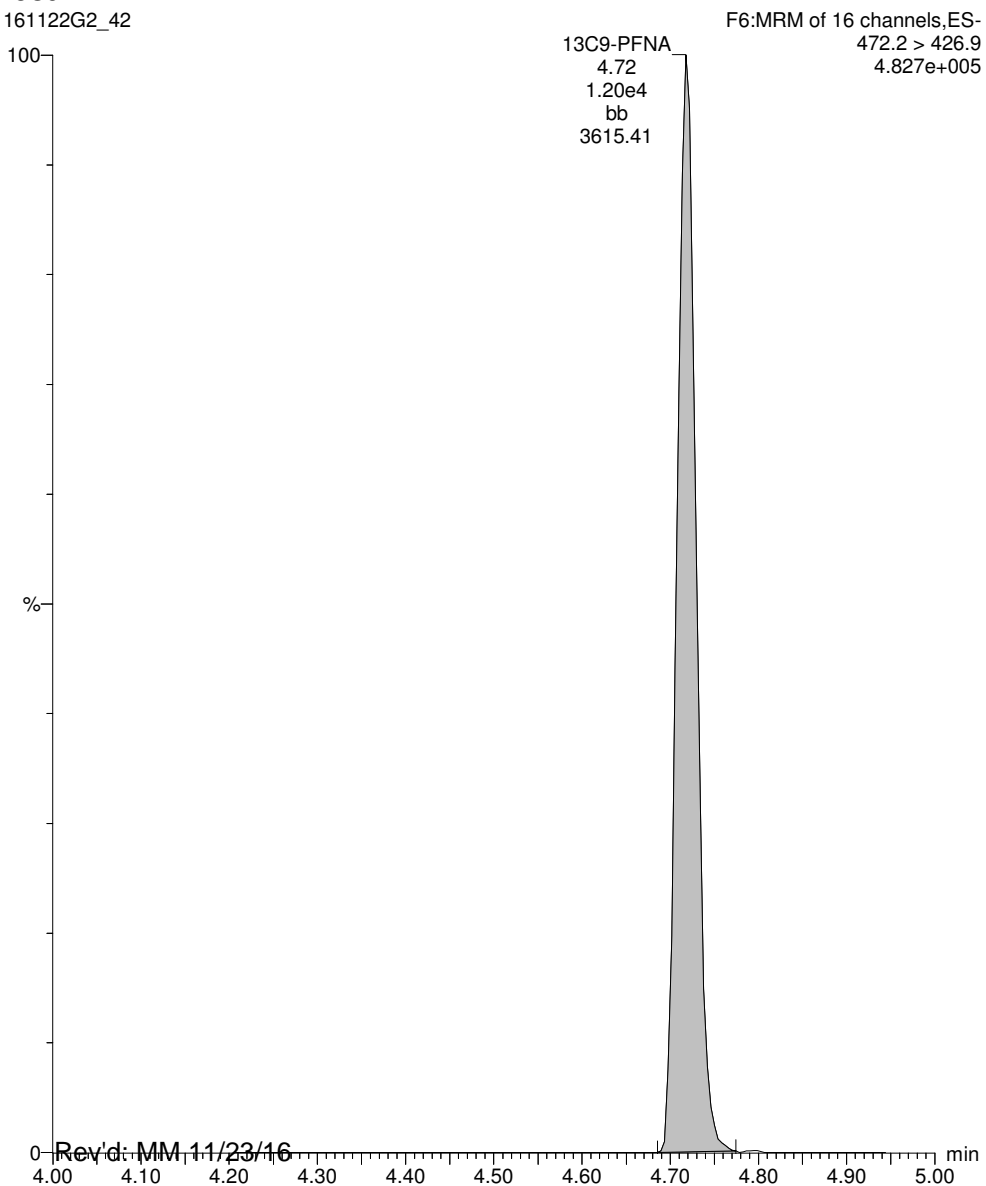
Last Altered: Wednesday, November 23, 2016 11:38:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:39:32 AM Pacific Standard Time

ID: B6K0124-BS1 LCS 0.125, Description: LCS, Name: 161122G2\_42, Date: 22-Nov-2016, Time: 18:39:18, Instrument: , Lab: , User:

13C9-PFNA

161122G2\_42



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-49.qld

Last Altered: Wednesday, November 23, 2016 11:18:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:22:27 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: 1601420-01 FTWG-MW-02-1116 0.10754, Description: FTWG-MW-02-1116, Name: 161122G2\_49, Date: 22-Nov-2016, Time: 20:07:33

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299 > 79.7	2.995e2	6.074e3		0.108	3.09	3.95	
2	5 PFHpA	363 > 318.9	1.231e3	1.224e4		0.108	3.98	8.36	
3	6 PFHxS	398.9 > 79.6	8.743e2	6.780e3		0.108	4.10	8.85	
4	8 PFOA	413 > 368.7	1.335e4	2.186e4		0.108	4.38	78.0	
5	10 PFOS	499 > 79.9	1.010e3	8.131e3		0.108	4.78	19.1	
6	11 PFNA	463 > 418.8	4.307e2	1.162e4		0.108	4.72	3.59	
7	15 13C3-PFPeA	266>221.8	6.636e3	1.760e4	0.448	0.108	2.83	97.9	84.2
8	16 13C3-PFBS	302.0 > 98.8	6.074e3	1.760e4	0.302	0.108	3.09	133	114
9	18 13C4-PFHpA	367.2 > 321.8	1.224e4	1.592e4	1.139	0.108	3.98	78.5	67.5
10	19 18O2-PFHxS	403 > 102.6	6.780e3	1.592e4	0.449	0.108	4.09	110	94.8
11	20 13C2-6:2 FTS	429.1 > 408.9	8.341e3	7.404e3	1.073	0.108	4.33	122	105
12	21 13C2-PFOA	414.9 > 369.7	2.186e4	1.162e4	2.262	0.108	4.38	96.7	83.2
13	22 13C8-PFOS	507.0 > 79.9	8.131e3	1.101e4	0.944	0.108	4.78	91.0	78.3
14	23 13C5-PFNA	468.2 > 422.9	1.162e4	1.413e4	1.082	0.108	4.72	88.3	76.0
15	24 13C2-PFDA	515.1 > 469.9	7.365e3	9.975e3	1.019	0.108	5.02	84.2	72.4
16	25 13C2-8:2 FTS	529.1 > 508.7	4.659e3	7.404e3	0.569	0.108	5.00	129	111
17	26 13C4-PFBA	217 > 171.8	1.497e4	1.497e4	1.000	0.108	1.86	116	100
18	27 13C2-4:2 FTS	329.2 > 308.9	7.404e3	7.404e3	1.000	0.108	3.36	116	100
19	28 13C5-PFHxA	318.0 > 272.9	1.760e4	1.760e4	1.000	0.108	3.46	116	100
20	29 13C3-PFHxS	401.9 > 79.9	1.592e4	1.592e4	1.000	0.108	4.10	116	100
21	30 13C8-PFOA	421.3 > 376	1.162e4	1.162e4	1.000	0.108	4.38	116	100
22	31 13C4-PFOS	503.0 > 79.9	1.101e4	1.101e4	1.000	0.108	4.78	116	100
23	32 13C9-PFNA	472.2 > 426.9	1.413e4	1.413e4	1.000	0.108	4.72	116	100
24	33 13C6-PFDA	519.1 > 473.7	9.975e3	9.975e3	1.000	0.108	5.02	116	100
25	34 Total PFBS	299 > 79.7		6.780e3		0.108		7.94	
26	35 Total PFHxS	398.9 > 79.6		6.780e3		0.108		11.0	
27	36 Total PFOA	413 > 368.7		2.186e4		0.108		90.3	
28	37 Total PFOS	499 > 79.9		8.131e3		0.108		40.1	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-49.qld

Last Altered: Wednesday, November 23, 2016 11:18:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:22:27 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: 1601420-01 FTWG-MW-02-1116 0.10754, Description: FTWG-MW-02-1116, Name: 161122G2\_49, Date: 22-Nov-2016, Time: 20:07:33

**Total PFBS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	34 Total PFBS	299 > 79.7	3.01	40.950	6779.996	1.1
2	34 Total PFBS	299 > 79.7	2.98	23.444	6779.996	1.0
3	34 Total PFBS	299 > 79.7	2.94	12.915	6779.996	0.9
4	34 Total PFBS	299 > 79.7	2.92	23.635	6779.996	1.0
5	3 PFBS	299 > 79.7	3.09	299.532	6073.823	4.0

**Total PFHxS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	6 PFHxS	398.9 > 79.6	4.10	874.251	6779.996	8.9
2	35 Total PFHxS	398.9 > 79.6	4.04	7.934	6779.996	0.2
3	35 Total PFHxS	398.9 > 79.6	4.00	106.591	6779.996	1.2
4	35 Total PFHxS	398.9 > 79.6	3.97	55.791	6779.996	0.7

**Total PFOA**

	# Name	Trace	RT	Area	IS Area	Conc.
1	36 Total PFOA	413 > 368.7	4.29	2245.526	21862.822	12.3
2	8 PFOA	413 > 368.7	4.38	13354.808	21862.822	78.0

**Total PFOS**

	# Name	Trace	RT	Area	IS Area	Conc.
1	10 PFOS	499 > 79.9	4.78	1009.828	8130.825	19.1
2	37 Total PFOS	499 > 79.9	4.69	274.795	8130.825	6.6
3	37 Total PFOS	499 > 79.9	4.66	733.157	8130.825	14.4

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-49.qld

Last Altered: Wednesday, November 23, 2016 11:18:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:22:27 AM Pacific Standard Time

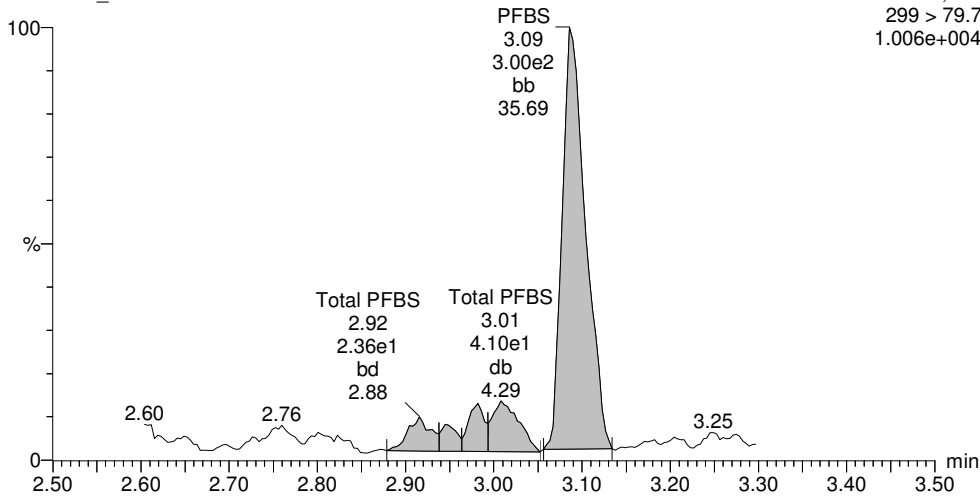
Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: 1601420-01 FTWG-MW-02-1116 0.10754, Description: FTWG-MW-02-1116, Name: 161122G2\_49, Date: 22-Nov-2016, Time: 20:07:33, Instrument: , Lab: , User:

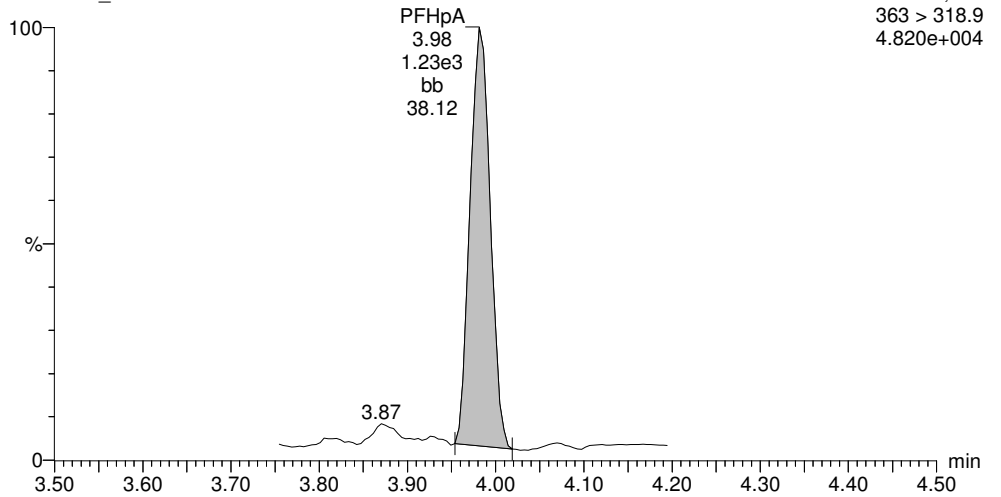
**Total PFBS**

161122G2\_49



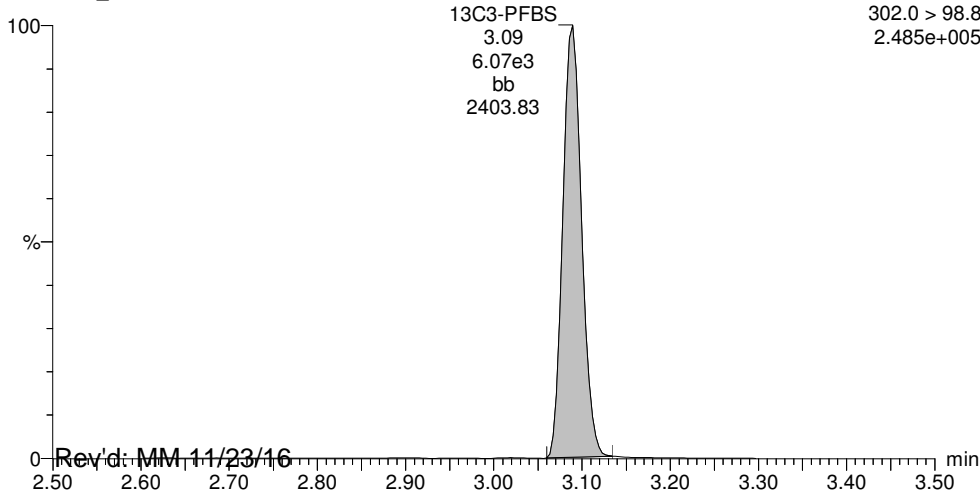
**PFHpA**

161122G2\_49



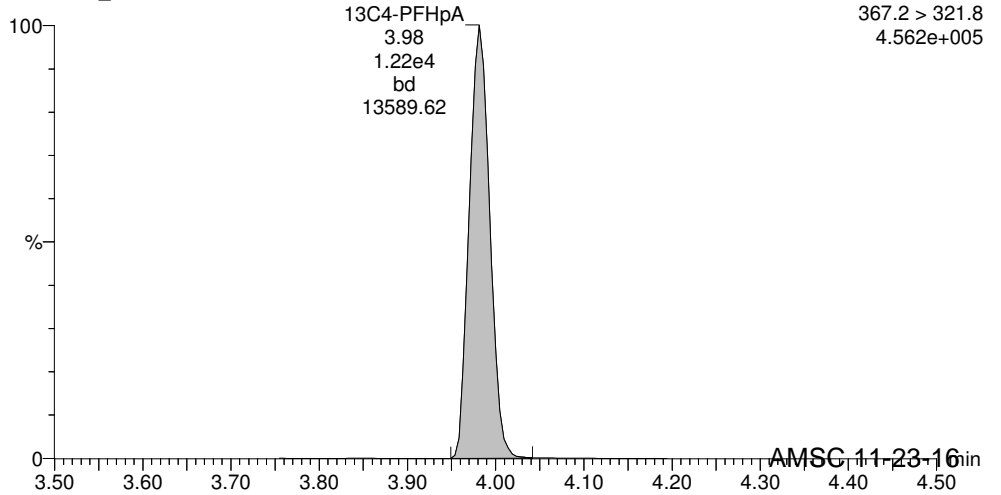
**13C3-PFBS**

161122G2\_49



**13C4-PFHpA**

161122G2\_49



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-49.qld

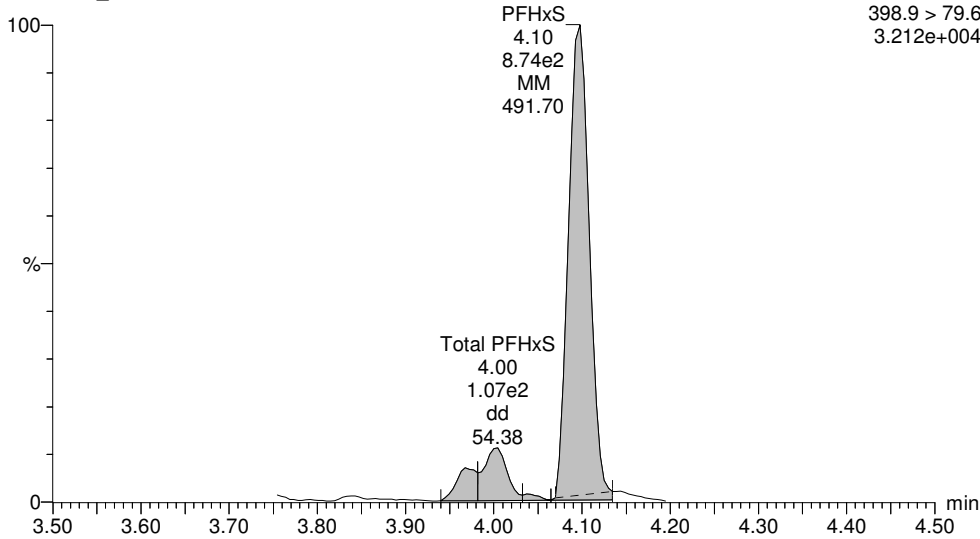
Last Altered: Wednesday, November 23, 2016 11:18:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:22:27 AM Pacific Standard Time

ID: 1601420-01 FTWG-MW-02-1116 0.10754, Description: FTWG-MW-02-1116, Name: 161122G2\_49, Date: 22-Nov-2016, Time: 20:07:33, Instrument: , Lab: , User:

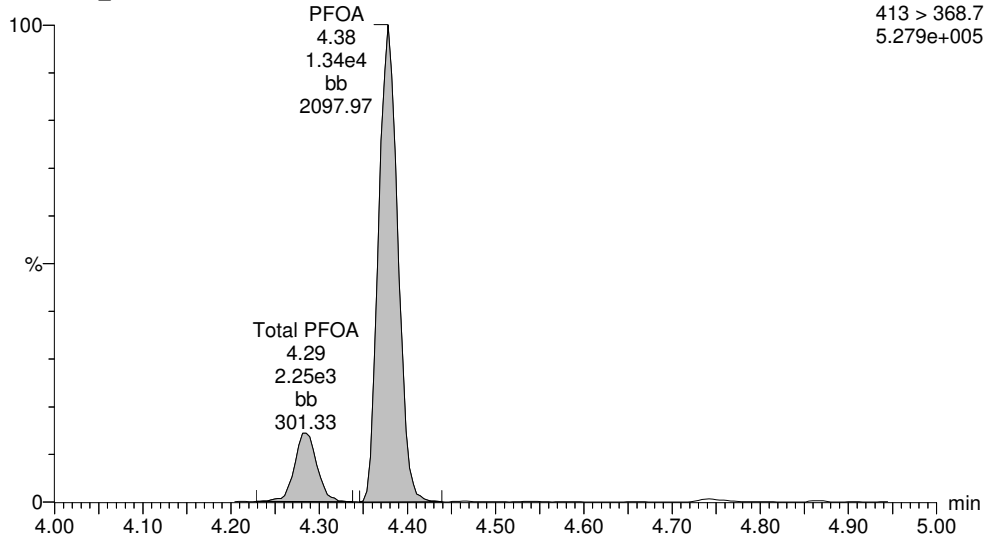
**Total PFHxS**

161122G2\_49



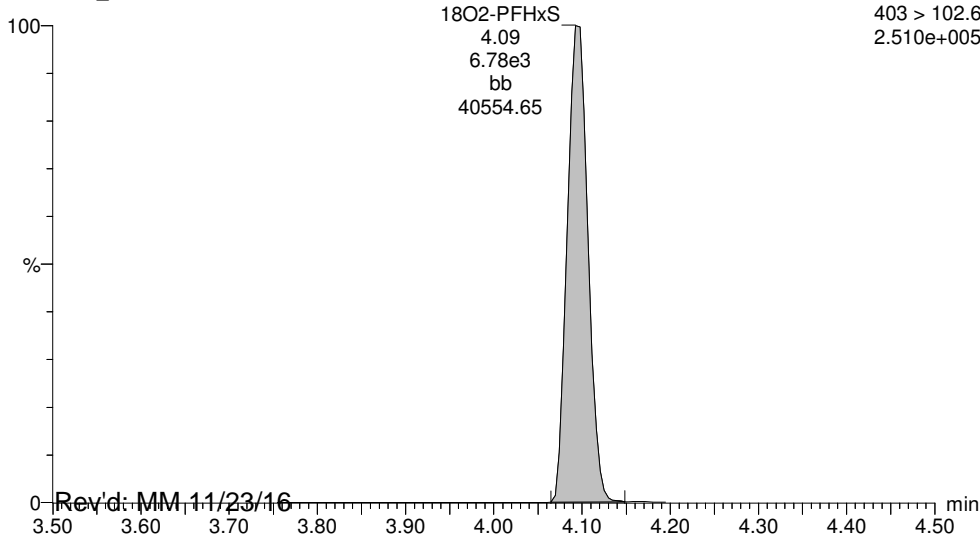
**Total PFOA**

161122G2\_49



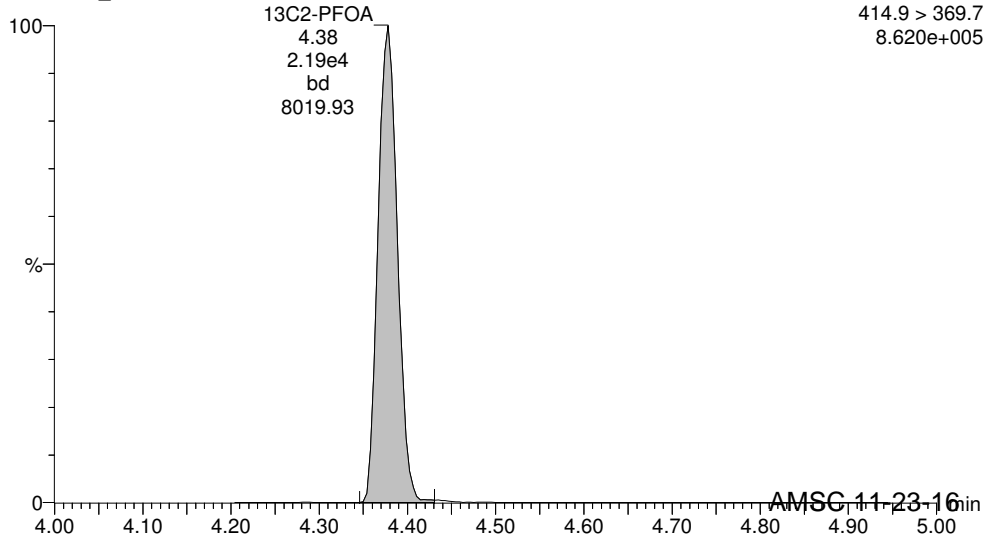
**18O2-PFHxS**

161122G2\_49



**13C2-PFOA**

161122G2\_49



Rev'd: MM, 11/23/16

AMSC, 11-23-16



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-49.qld

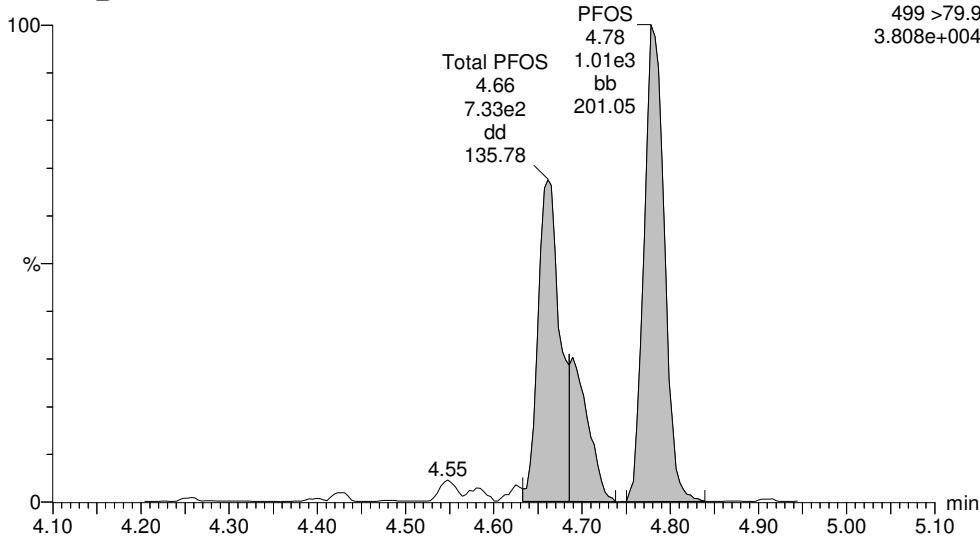
Last Altered: Wednesday, November 23, 2016 11:18:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:22:27 AM Pacific Standard Time

ID: 1601420-01 FTWG-MW-02-1116 0.10754, Description: FTWG-MW-02-1116, Name: 161122G2\_49, Date: 22-Nov-2016, Time: 20:07:33, Instrument: , Lab: , User:

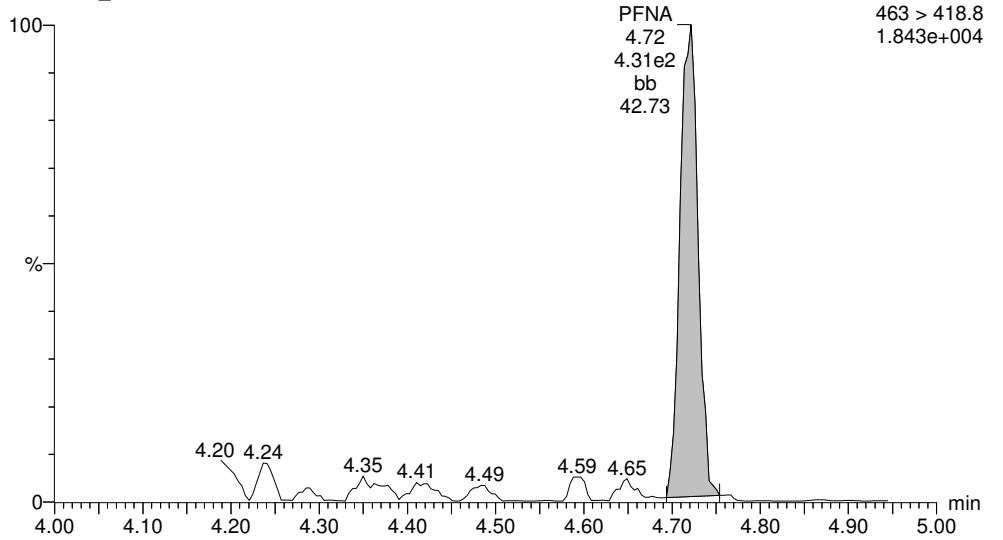
**Total PFOS**

161122G2\_49



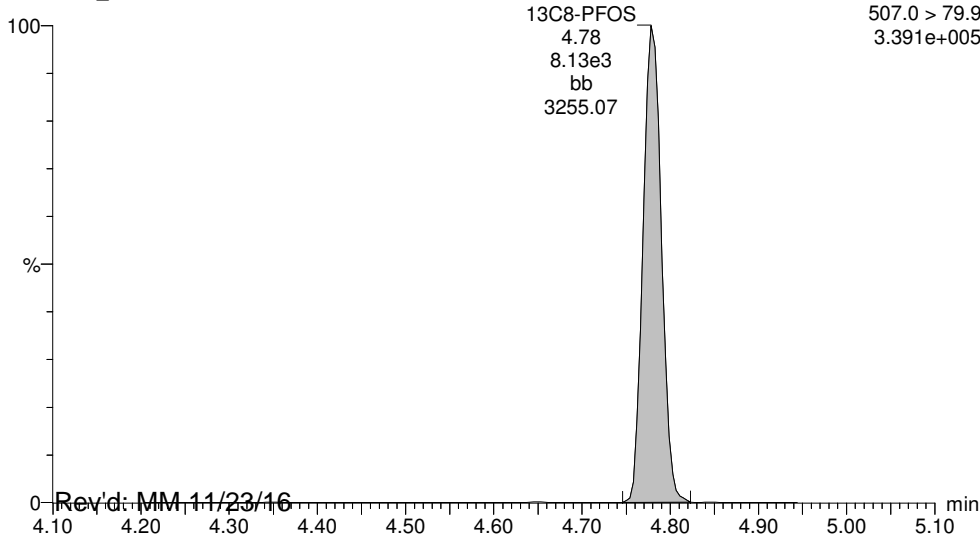
**PFNA**

161122G2\_49



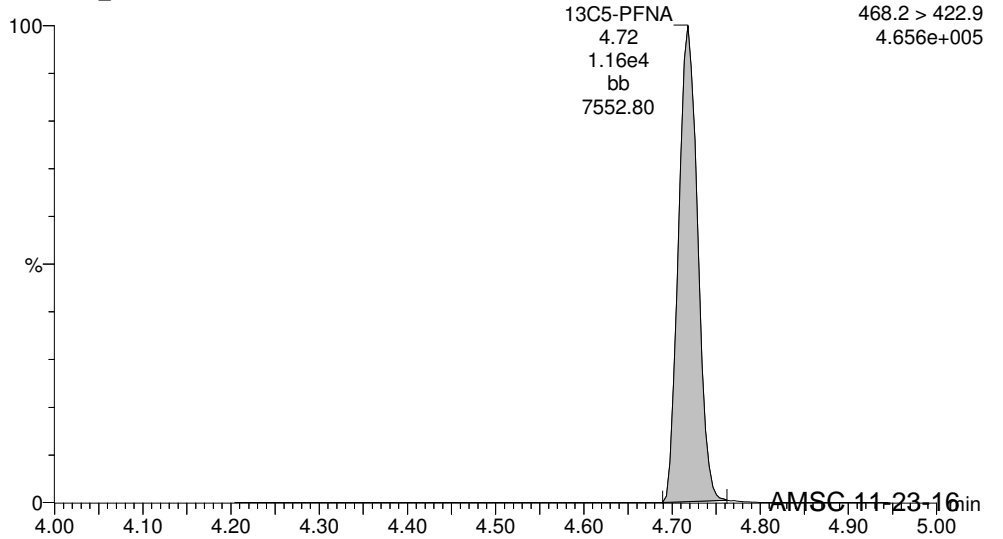
**13C8-PFOS**

161122G2\_49



**13C5-PFNA**

161122G2\_49



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-49.qld

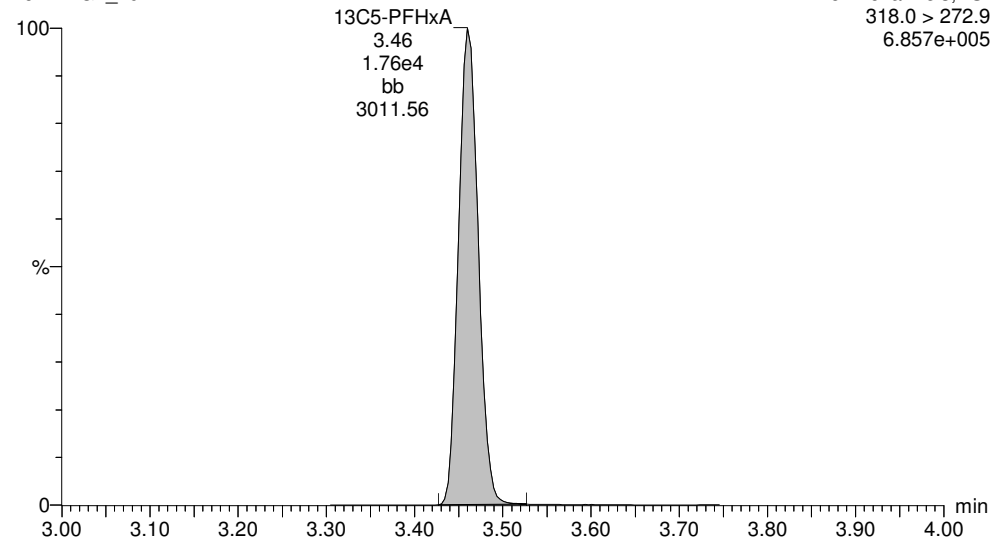
Last Altered: Wednesday, November 23, 2016 11:18:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:22:27 AM Pacific Standard Time

ID: 1601420-01 FTWG-MW-02-1116 0.10754, Description: FTWG-MW-02-1116, Name: 161122G2\_49, Date: 22-Nov-2016, Time: 20:07:33, Instrument: , Lab: , User:

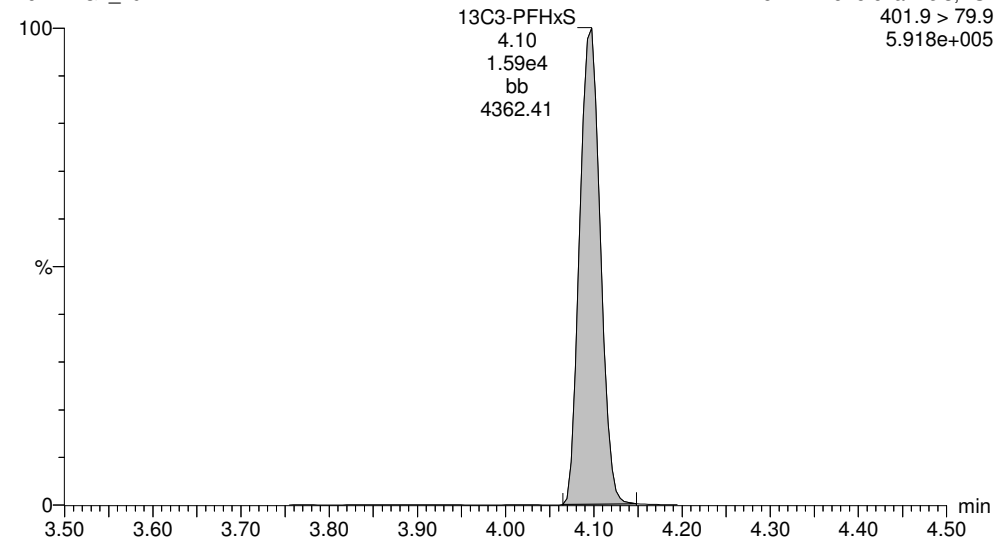
**13C5-PFHxA**

161122G2\_49



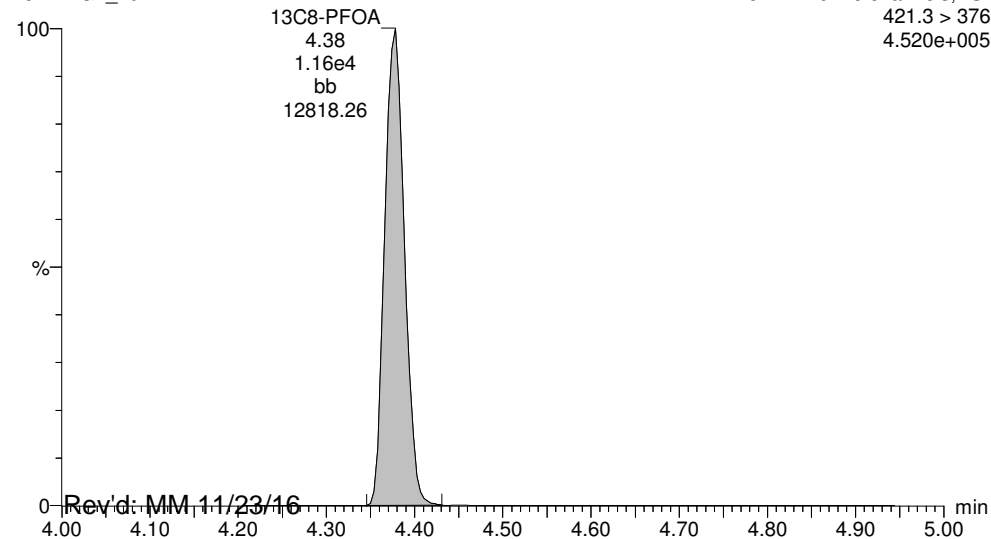
**13C3-PFHxS**

161122G2\_49



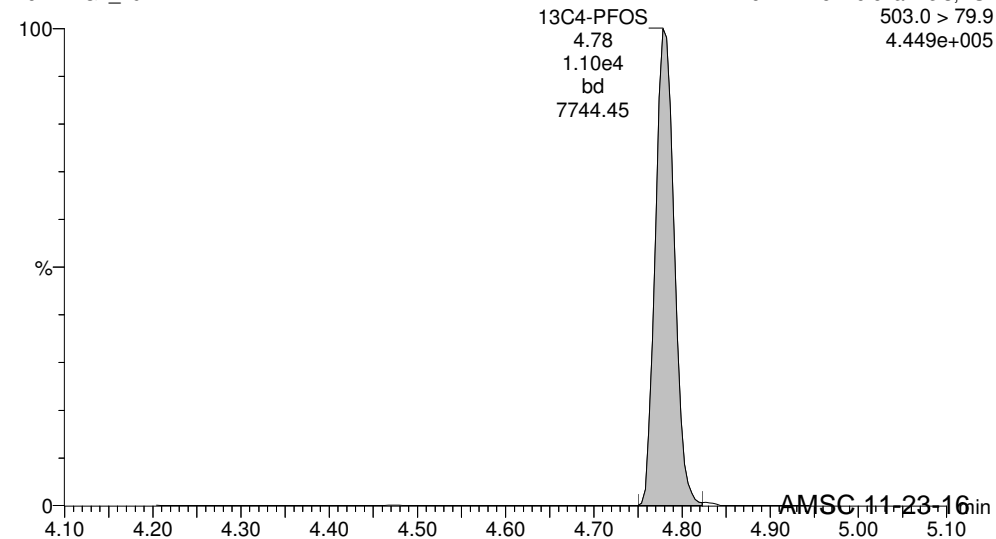
**13C8-PFOA**

161122G2\_49



**13C4-PFOS**

161122G2\_49



Rev'd: MM, 11/23/16

AMSC, 11-23-16

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-49.qld

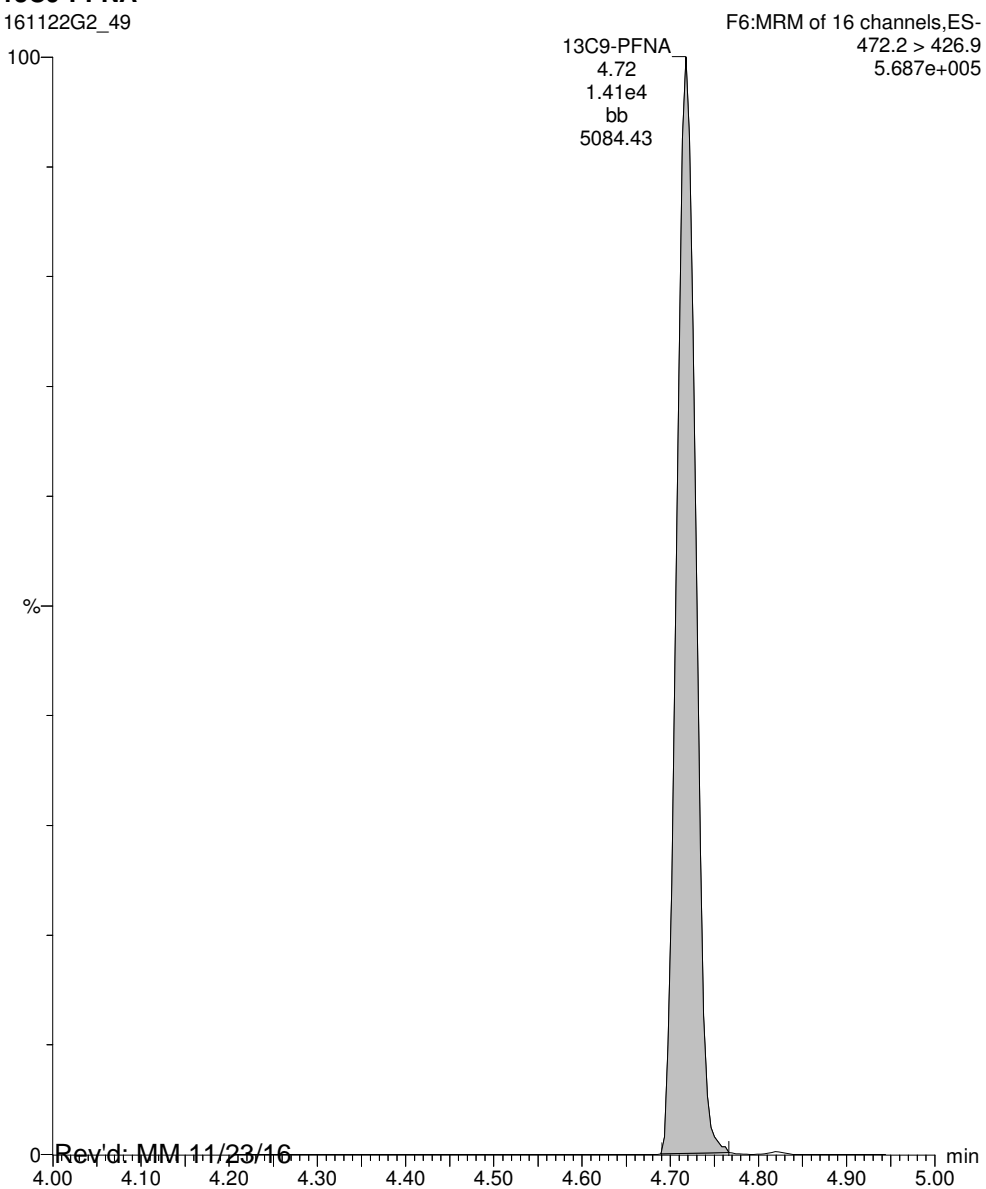
Last Altered: Wednesday, November 23, 2016 11:18:54 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:22:27 AM Pacific Standard Time

ID: 1601420-01 FTWG-MW-02-1116 0.10754, Description: FTWG-MW-02-1116, Name: 161122G2\_49, Date: 22-Nov-2016, Time: 20:07:33, Instrument: , Lab: , User:

13C9-PFNA

161122G2\_49



Rev'd: MM, 11/23/16

Work Order 1601420

AMSC 11-23-16

Page 42 of 176

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-50.qld

Last Altered: Wednesday, November 23, 2016 12:53:55 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:54:29 PM Pacific Standard Time

Method: Untitled 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: 1601420-02 OC-EB110816 0.13201, Description: OC-EB110816, Name: 161122G2\_50, Date: 22-Nov-2016, Time: 20:20:10

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299 > 79.7		5.834e3		0.132			
2	5 PFHpA	363 > 318.9	2.133e1	1.357e4		0.132	3.99	0.771	
3	6 PFHxS	398.9 > 79.6	4.980e1	6.151e3		0.132	4.10	0.563	
4	8 PFOA	413 > 368.7	2.751e2	2.383e4		0.132	4.38	0.442	
5	10 PFOS	499 > 79.9		8.121e3		0.132			
6	11 PFNA	463 > 418.8		1.154e4		0.132			
7	15 13C3-PFPeA	266>221.8	8.303e3	1.943e4	0.448	0.132	2.87	90.4	95.5
8	16 13C3-PFBS	302.0 > 98.8	5.834e3	1.943e4	0.302	0.132	3.11	94.1	99.4
9	18 13C4-PFHpA	367.2 > 321.8	1.357e4	1.433e4	1.139	0.132	3.99	78.7	83.2
10	19 18O2-PFHxS	403 > 102.6	6.151e3	1.433e4	0.449	0.132	4.10	90.4	95.5
11	20 13C2-6:2 FTS	429.1 > 408.9	4.364e3	5.618e3	1.073	0.132	4.33	68.5	72.4
12	21 13C2-PFOA	414.9 > 369.7	2.383e4	1.277e4	2.262	0.132	4.38	78.2	82.5
13	22 13C8-PFOS	507.0 > 79.9	8.121e3	9.351e3	0.944	0.132	4.78	87.1	92.0
14	23 13C5-PFNA	468.2 > 422.9	1.154e4	1.277e4	1.082	0.132	4.72	79.1	83.5
15	24 13C2-PFDA	515.1 > 469.9	9.124e3	1.134e4	1.019	0.132	5.02	74.7	78.9
16	25 13C2-8:2 FTS	529.1 > 508.7	4.615e3	5.618e3	0.569	0.132	4.99	137	144
17	26 13C4-PFBA	217 > 171.8	1.741e4	1.741e4	1.000	0.132	1.90	94.7	100
18	27 13C2-4:2 FTS	329.2 > 308.9	5.618e3	5.618e3	1.000	0.132	3.38	94.7	100
19	28 13C5-PFHxA	318.0 > 272.9	1.943e4	1.943e4	1.000	0.132	3.48	94.7	100
20	29 13C3-PFHxS	401.9 > 79.9	1.433e4	1.433e4	1.000	0.132	4.10	94.7	100
21	30 13C8-PFOA	421.3 > 376	1.277e4	1.277e4	1.000	0.132	4.38	94.7	100
22	31 13C4-PFOS	503.0 > 79.9	9.351e3	9.351e3	1.000	0.132	4.78	94.7	100
23	32 13C9-PFNA	472.2 > 426.9	1.277e4	1.277e4	1.000	0.132	4.72	94.7	100
24	33 13C6-PFDA	519.1 > 473.7	1.134e4	1.134e4	1.000	0.132	5.02	94.7	100
25	34 Total PFBS	299 > 79.7		6.151e3		0.132			
26	35 Total PFHxS	398.9 > 79.6		6.151e3		0.132		0.563	
27	36 Total PFOA	413 > 368.7		2.383e4		0.132		0.442	
28	37 Total PFOS	499 > 79.9		8.121e3		0.132		1.75	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-50.qld

Last Altered: Wednesday, November 23, 2016 12:53:55 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:54:29 PM Pacific Standard Time

Method: Untitled 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: 1601420-02 OC-EB110816 0.13201, Description: OC-EB110816, Name: 161122G2\_50, Date: 22-Nov-2016, Time: 20:20:10

**Total PFBS**

#	Name	Trace	RT	Area	IS Area	Conc.
1						

**Total PFHxS**

#	Name	Trace	RT	Area	IS Area	Conc.
1	6 PFHxS	398.9 > 79.6	4.10	49.796	6150.883	0.6

**Total PFOA**

#	Name	Trace	RT	Area	IS Area	Conc.
1	36 Total PFOA	413 > 368.7	4.31	7.060	23833.754	
2	8 PFOA	413 > 368.7	4.38	275.110	23833.754	0.4

**Total PFOS**

#	Name	Trace	RT	Area	IS Area	Conc.
1	37 Total PFOS	499 > 79.9	4.69	17.576	8120.717	1.8

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-50.qld

Last Altered: Wednesday, November 23, 2016 12:53:55 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:54:29 PM Pacific Standard Time

Method: Untitled 22 Nov 2016 14:48:20

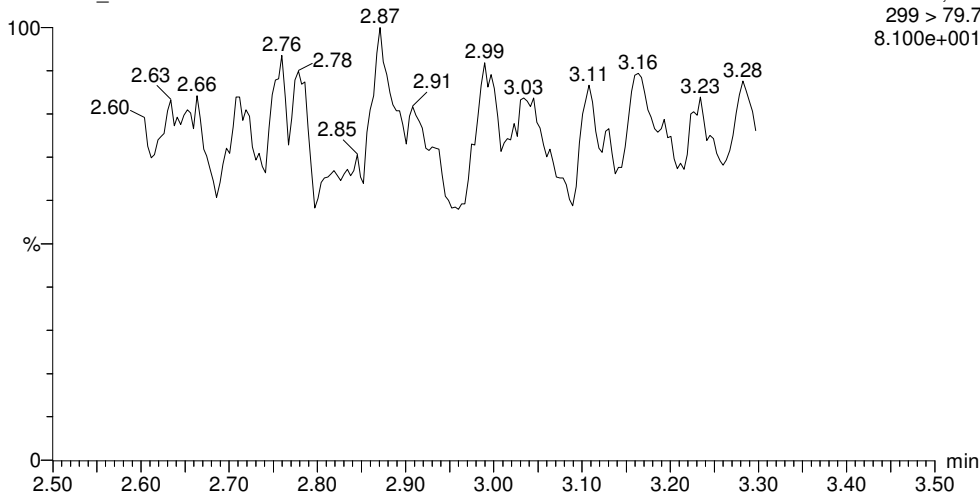
Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: 1601420-02 OC-EB110816 0.13201, Description: OC-EB110816, Name: 161122G2\_50, Date: 22-Nov-2016, Time: 20:20:10, Instrument: , Lab: , User:

**Total PFBS**

161122G2\_50

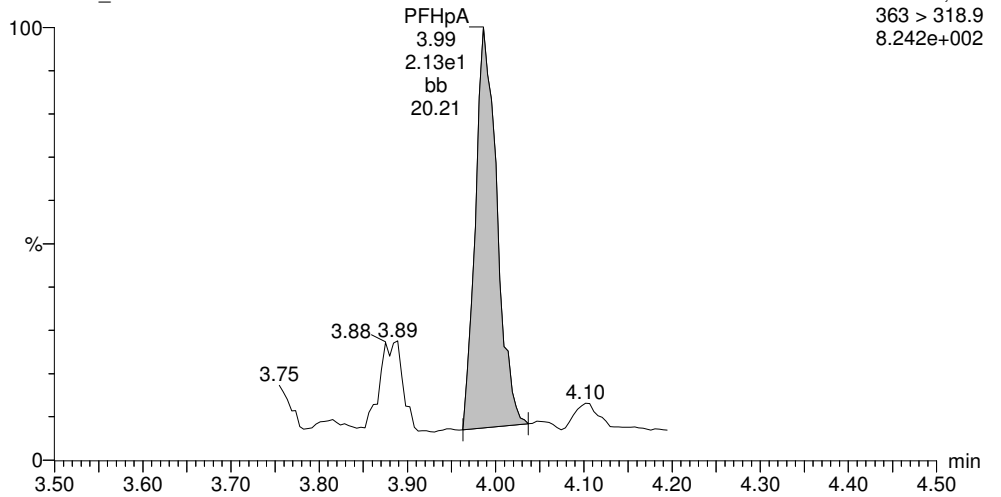
F3:MRM of 4 channels,ES-  
299 > 79.7  
8.100e+001



**PFHpA**

161122G2\_50

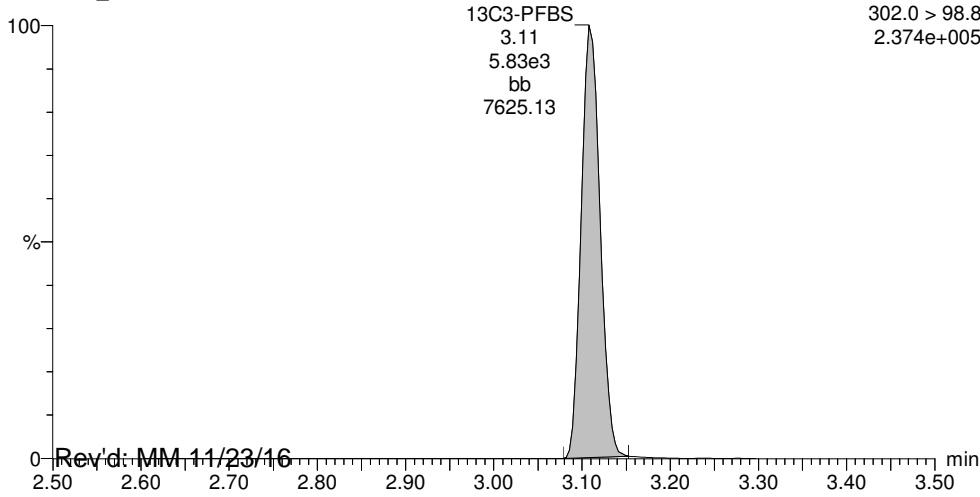
F5:MRM of 5 channels,ES-  
363 > 318.9  
8.242e+002



**13C3-PFBS**

161122G2\_50

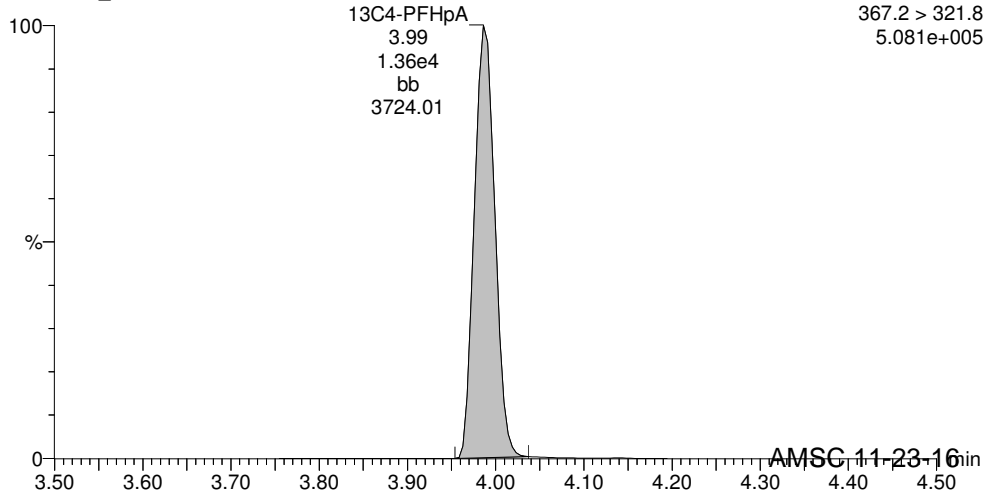
F3:MRM of 4 channels,ES-  
302.0 > 98.8  
2.374e+005



**13C4-PFHpA**

161122G2\_50

F5:MRM of 5 channels,ES-  
367.2 > 321.8  
5.081e+005



Rev'd: MM 11/23/16

AMSC 11-23-16

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-50.qld

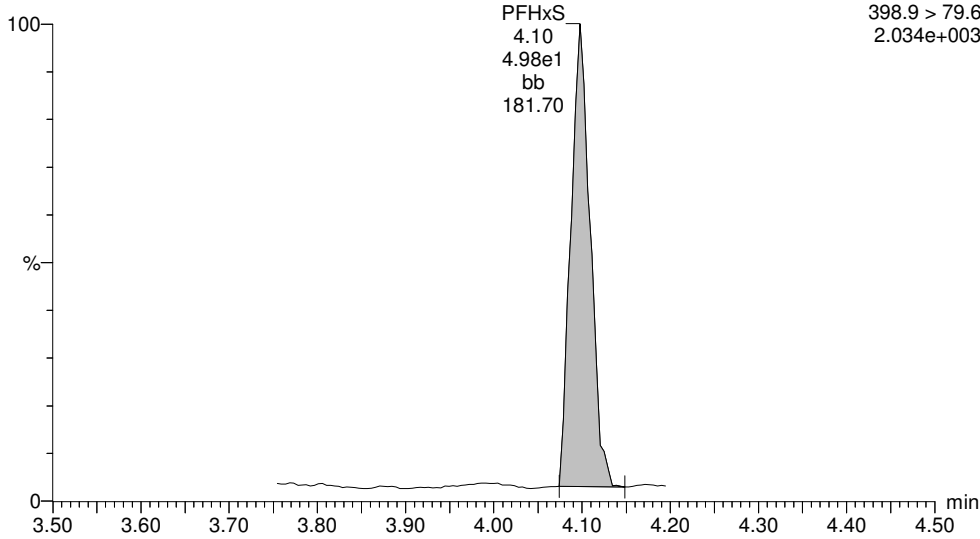
Last Altered: Wednesday, November 23, 2016 12:53:55 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:54:29 PM Pacific Standard Time

ID: 1601420-02 OC-EB110816 0.13201, Description: OC-EB110816, Name: 161122G2\_50, Date: 22-Nov-2016, Time: 20:20:10, Instrument: , Lab: , User:

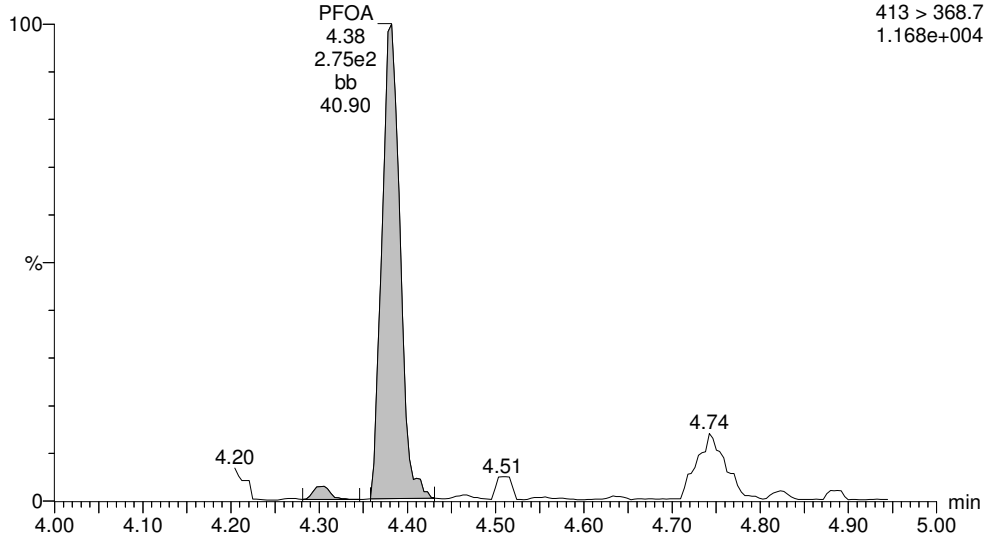
**Total PFHxS**

161122G2\_50



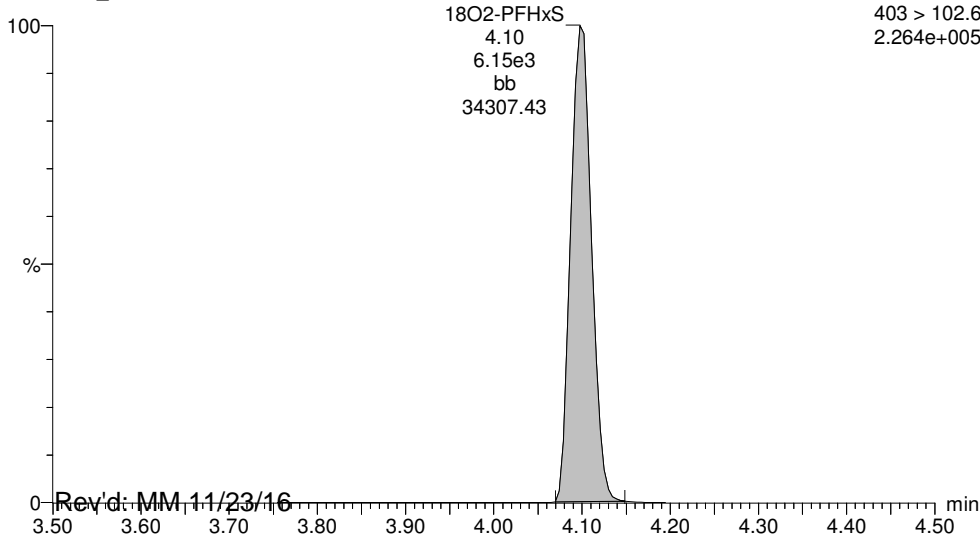
**Total PFOA**

161122G2\_50



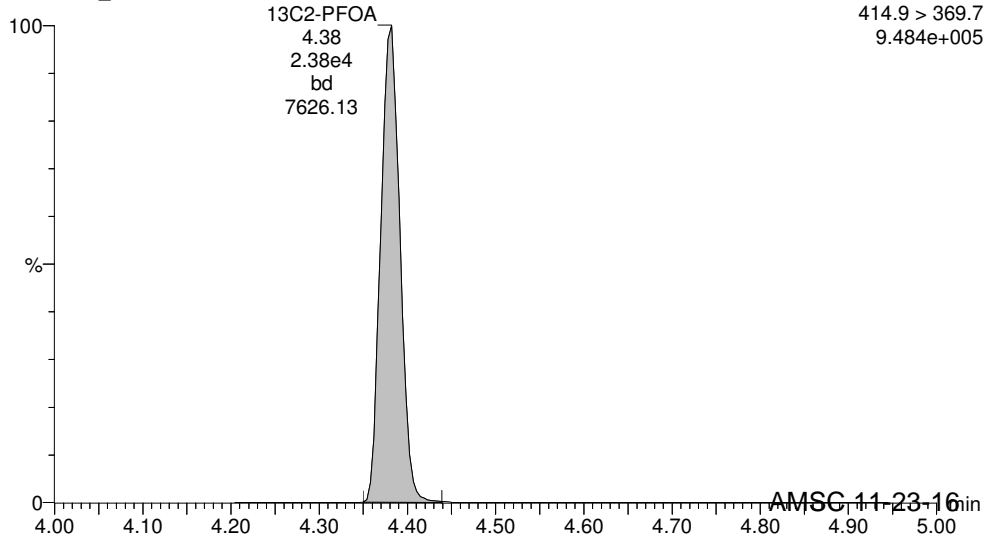
**18O2-PFHxS**

161122G2\_50



**13C2-PFOA**

161122G2\_50



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-50.qld

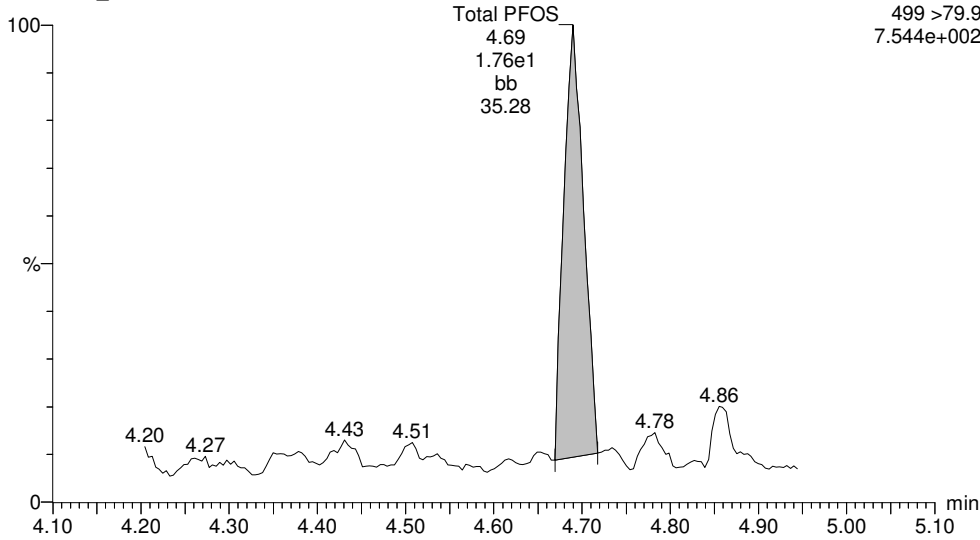
Last Altered: Wednesday, November 23, 2016 12:53:55 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:54:29 PM Pacific Standard Time

ID: 1601420-02 OC-EB110816 0.13201, Description: OC-EB110816, Name: 161122G2\_50, Date: 22-Nov-2016, Time: 20:20:10, Instrument: , Lab: , User:

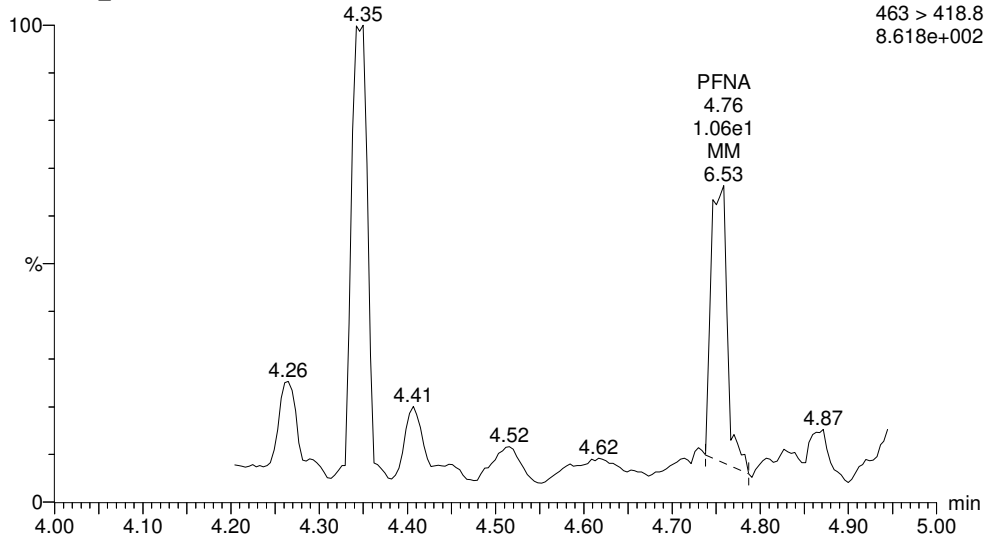
**Total PFOS**

161122G2\_50



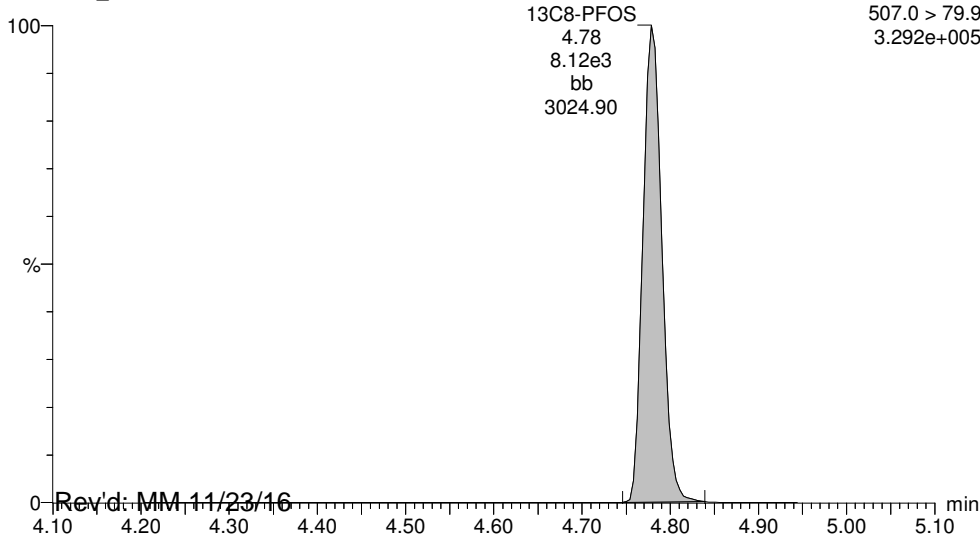
**PFNA**

161122G2\_50



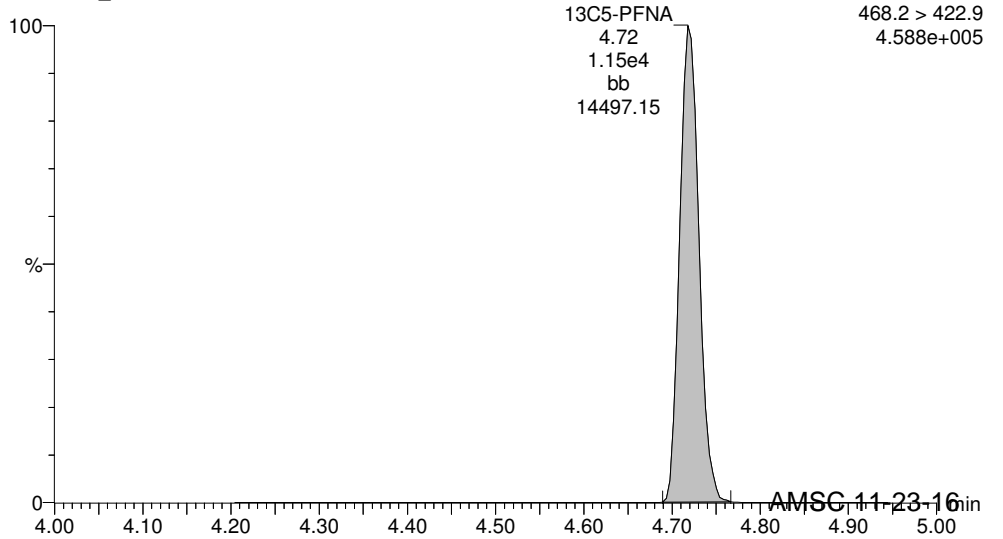
**13C8-PFOS**

161122G2\_50



**13C5-PFNA**

161122G2\_50



Rev'd: MM 11/23/16

AMSC 11-23-16



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-50.qld

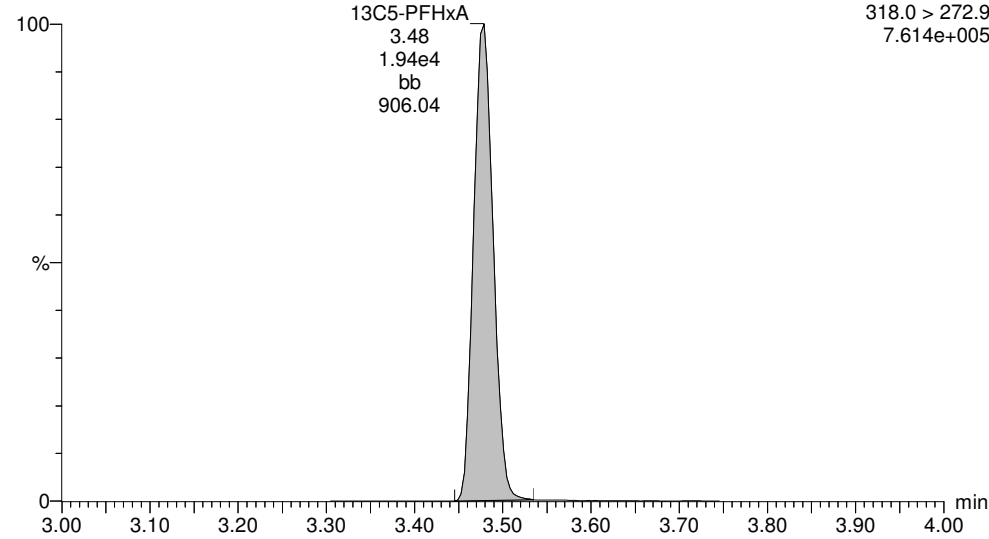
Last Altered: Wednesday, November 23, 2016 12:53:55 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:54:29 PM Pacific Standard Time

ID: 1601420-02 OC-EB110816 0.13201, Description: OC-EB110816, Name: 161122G2\_50, Date: 22-Nov-2016, Time: 20:20:10, Instrument: , Lab: , User:

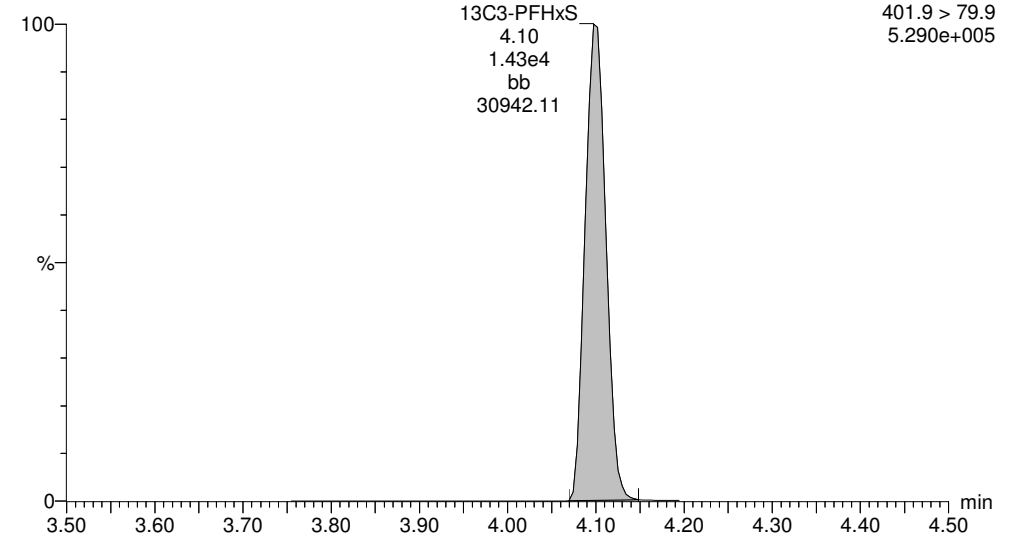
**13C5-PFHxA**

161122G2\_50



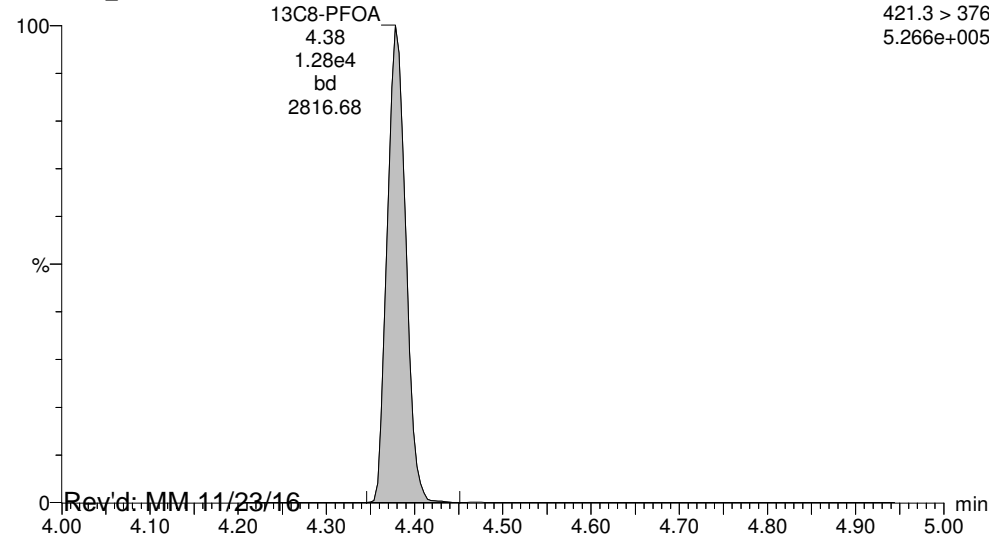
**13C3-PFHxS**

161122G2\_50



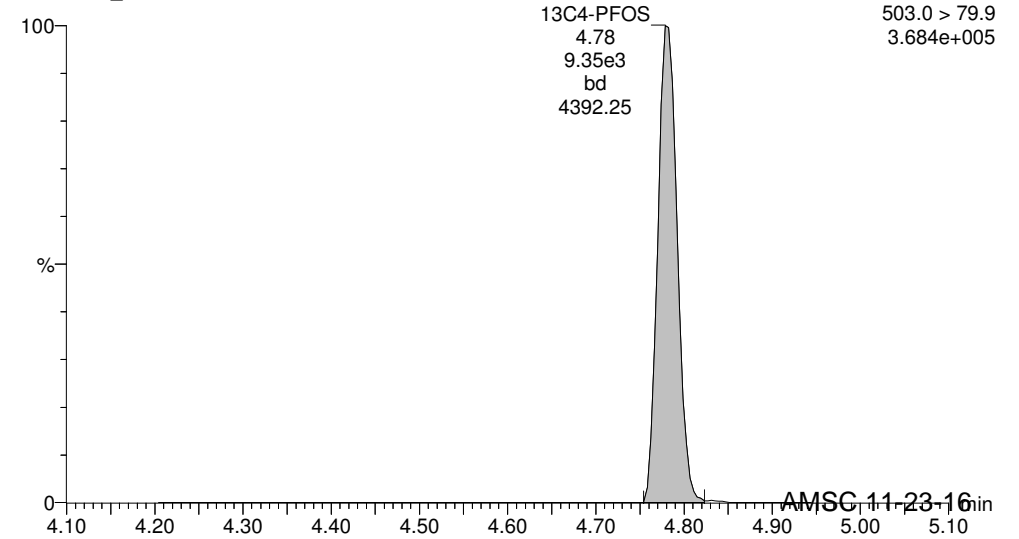
**13C8-PFOA**

161122G2\_50



**13C4-PFOS**

161122G2\_50



Rev'd: MM, 11/23/16

AMSC, 11-23-16

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-50.qld

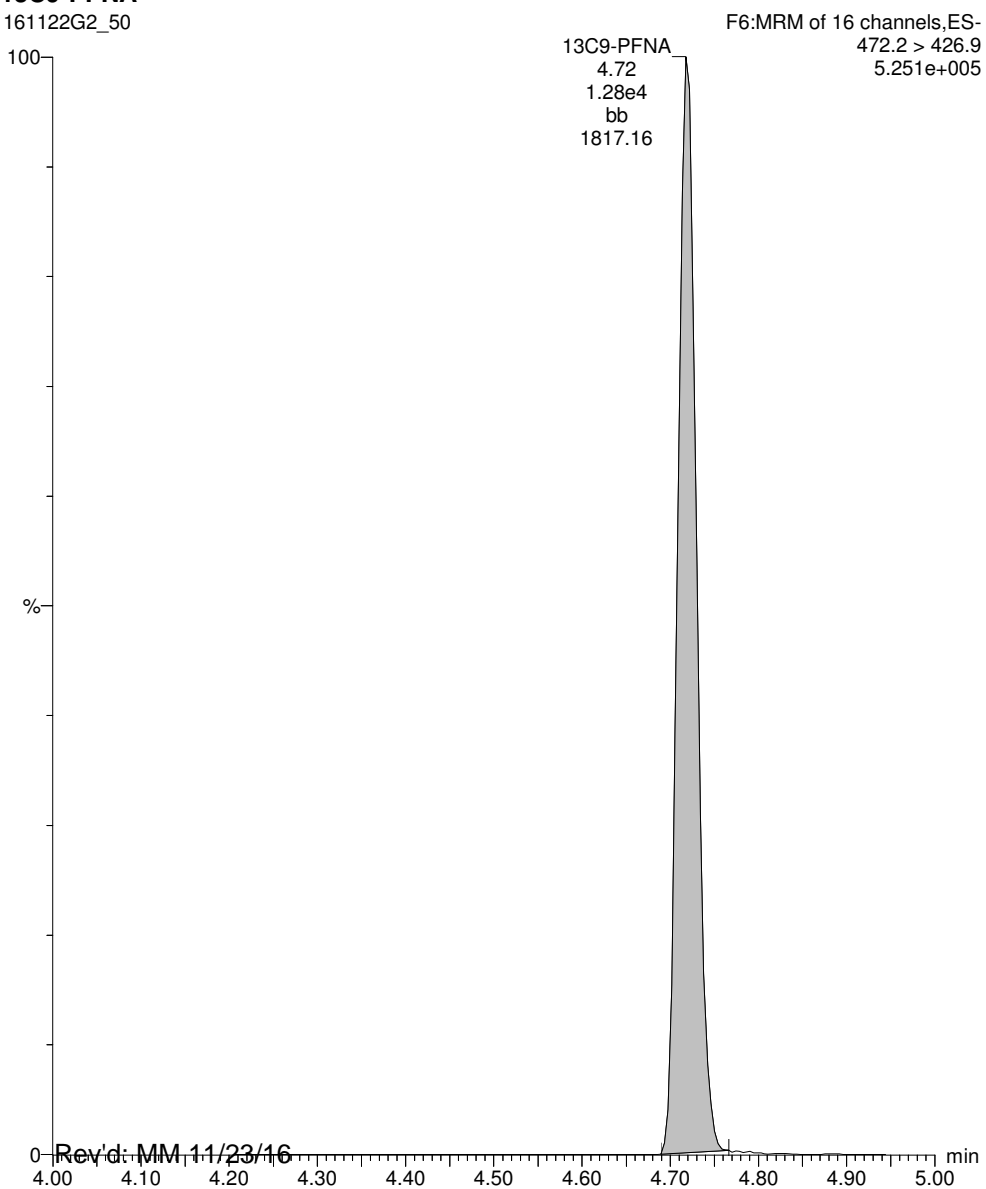
Last Altered: Wednesday, November 23, 2016 12:53:55 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 12:54:29 PM Pacific Standard Time

ID: 1601420-02 OC-EB110816 0.13201, Description: OC-EB110816, Name: 161122G2\_50, Date: 22-Nov-2016, Time: 20:20:10, Instrument: , Lab: , User:

13C9-PFNA

161122G2\_50



Rev'd: MM, 11/23/16

Work Order 1601420

AMSC 11-23-16

Page 49 of 176

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-51.qld

Last Altered: Wednesday, November 23, 2016 11:32:19 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:32:32 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: 1601420-03 OC-FB110816 0.1276, Description: OC-FB110816, Name: 161122G2\_51, Date: 22-Nov-2016, Time: 20:32:48

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299 > 79.7		6.023e3		0.128			
2	5 PFHxA	363 > 318.9	1.670e1	1.289e4		0.128	3.99	0.780	
3	6 PFHxS	398.9 > 79.6	3.327e1	5.414e3		0.128	4.10	0.471	
4	8 PFOA	413 > 368.7	2.465e2	2.078e4		0.128	4.38	0.492	
5	10 PFOS	499 > 79.9	6.852e0	6.458e3		0.128	4.77	1.68	
6	11 PFNA	463 > 418.8	9.410e0	1.089e4		0.128	4.72	0.866	
7	15 13C3-PFPeA	266>221.8	7.727e3	1.841e4	0.448	0.128	2.86	91.8	93.8
8	16 13C3-PFBS	302.0 > 98.8	6.023e3	1.841e4	0.302	0.128	3.11	106	108
9	18 13C4-PFHxA	367.2 > 321.8	1.289e4	1.275e4	1.139	0.128	3.99	87.0	88.8
10	19 18O2-PFHxS	403 > 102.6	5.414e3	1.275e4	0.449	0.128	4.10	92.5	94.5
11	20 13C2-6:2 FTS	429.1 > 408.9	4.781e3	5.792e3	1.073	0.128	4.33	75.4	76.9
12	21 13C2-PFOA	414.9 > 369.7	2.078e4	9.474e3	2.262	0.128	4.38	95.0	97.0
13	22 13C8-PFOS	507.0 > 79.9	6.458e3	7.926e3	0.944	0.128	4.78	84.6	86.4
14	23 13C5-PFNA	468.2 > 422.9	1.089e4	1.170e4	1.082	0.128	4.72	84.3	86.0
15	24 13C2-PFDA	515.1 > 469.9	8.956e3	1.167e4	1.019	0.128	5.02	73.8	75.3
16	25 13C2-8:2 FTS	529.1 > 508.7	3.397e3	5.792e3	0.569	0.128	4.99	101	103
17	26 13C4-PFBA	217 > 171.8	1.709e4	1.709e4	1.000	0.128	1.90	98.0	100
18	27 13C2-4:2 FTS	329.2 > 308.9	5.792e3	5.792e3	1.000	0.128	3.38	98.0	100
19	28 13C5-PFHxA	318.0 > 272.9	1.841e4	1.841e4	1.000	0.128	3.48	98.0	100
20	29 13C3-PFHxS	401.9 > 79.9	1.275e4	1.275e4	1.000	0.128	4.10	98.0	100
21	30 13C8-PFOA	421.3 > 376	9.474e3	9.474e3	1.000	0.128	4.38	98.0	100
22	31 13C4-PFOS	503.0 > 79.9	7.926e3	7.926e3	1.000	0.128	4.78	98.0	100
23	32 13C9-PFNA	472.2 > 426.9	1.170e4	1.170e4	1.000	0.128	4.72	98.0	100
24	33 13C6-PFDA	519.1 > 473.7	1.167e4	1.167e4	1.000	0.128	5.02	98.0	100
25	34 Total PFBS	299 > 79.7		5.414e3		0.128			
26	35 Total PFHxS	398.9 > 79.6		5.414e3		0.128		0.471	
27	36 Total PFOA	413 > 368.7		2.078e4		0.128		0.492	
28	37 Total PFOS	499 > 79.9		6.458e3		0.128		3.48	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-51.qld

Last Altered: Wednesday, November 23, 2016 11:32:19 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:32:32 AM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: 1601420-03 OC-FB110816 0.1276, Description: OC-FB110816, Name: 161122G2\_51, Date: 22-Nov-2016, Time: 20:32:48

**Total PFBS**

#	Name	Trace	RT	Area	IS Area	Conc.
1						

**Total PFHxS**

#	Name	Trace	RT	Area	IS Area	Conc.
1	6 PFHxS	398.9 > 79.6	4.10	33.272	5413.959	0.5

**Total PFOA**

#	Name	Trace	RT	Area	IS Area	Conc.
1	8 PFOA	413 > 368.7	4.38	246.514	20783.029	0.5

**Total PFOS**

#	Name	Trace	RT	Area	IS Area	Conc.
1	10 PFOS	499 > 79.9	4.77	6.852	6458.327	1.7
2	37 Total PFOS	499 > 79.9	4.69	13.442	6458.327	1.8

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-51.qld

Last Altered: Wednesday, November 23, 2016 11:32:19 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:32:32 AM Pacific Standard Time

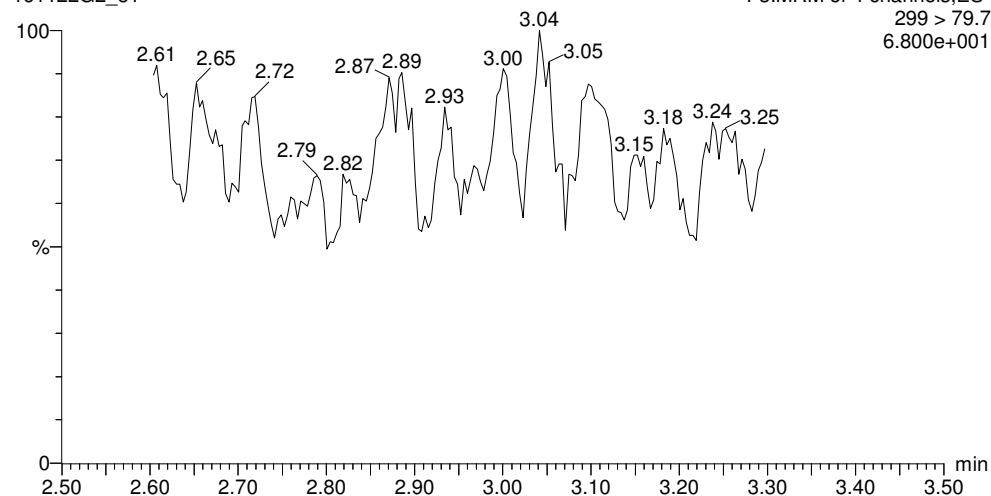
Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: 1601420-03 OC-FB110816 0.1276, Description: OC-FB110816, Name: 161122G2\_51, Date: 22-Nov-2016, Time: 20:32:48, Instrument: , Lab: , User:

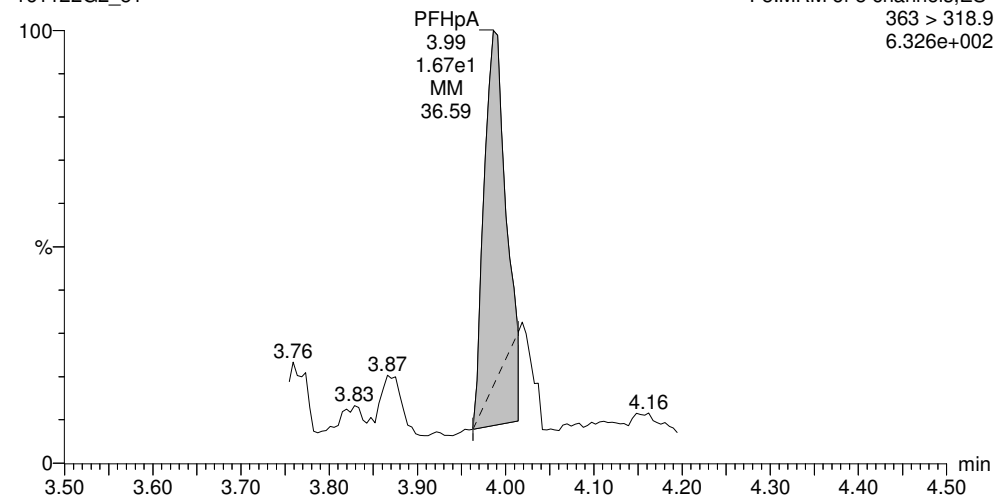
**Total PFBS**

161122G2\_51



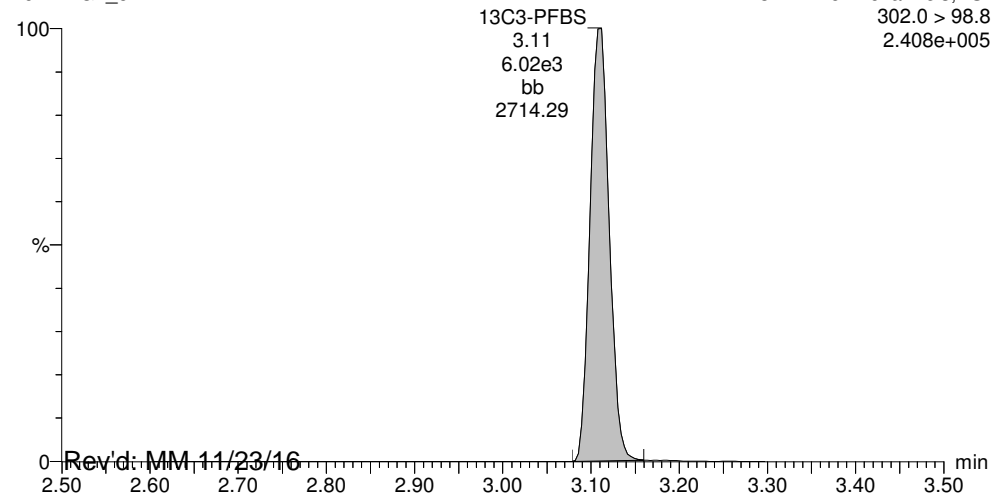
**PFHpA**

161122G2\_51



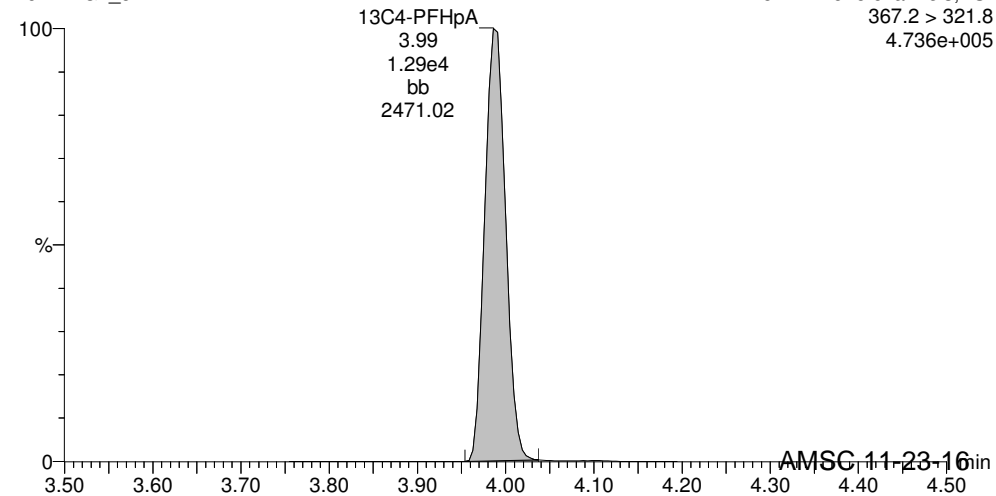
**13C3-PFBS**

161122G2\_51



**13C4-PFHpA**

161122G2\_51



Rev'd: MM 11/23/16

AMSC 11-23-16

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-51.qld

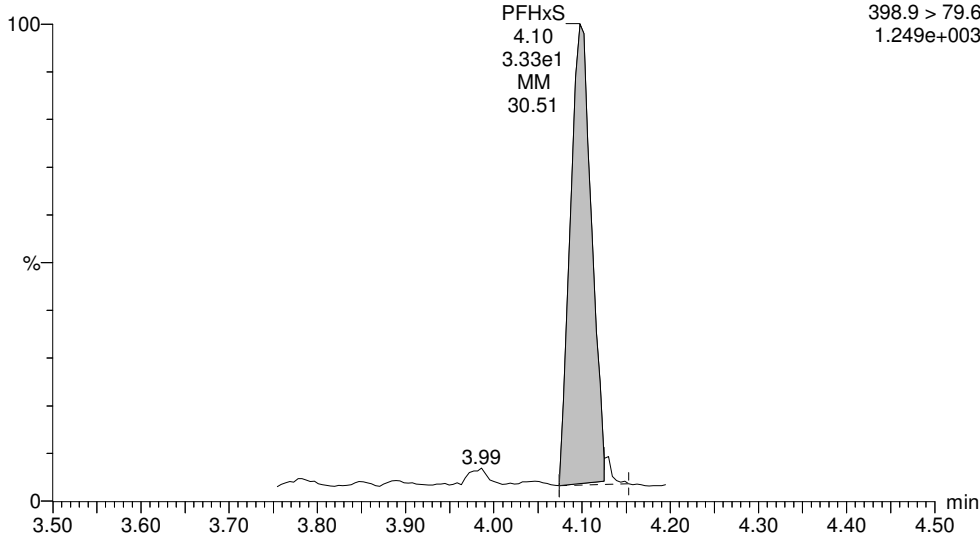
Last Altered: Wednesday, November 23, 2016 11:32:19 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:32:32 AM Pacific Standard Time

ID: 1601420-03 OC-FB110816 0.1276, Description: OC-FB110816, Name: 161122G2\_51, Date: 22-Nov-2016, Time: 20:32:48, Instrument: , Lab: , User:

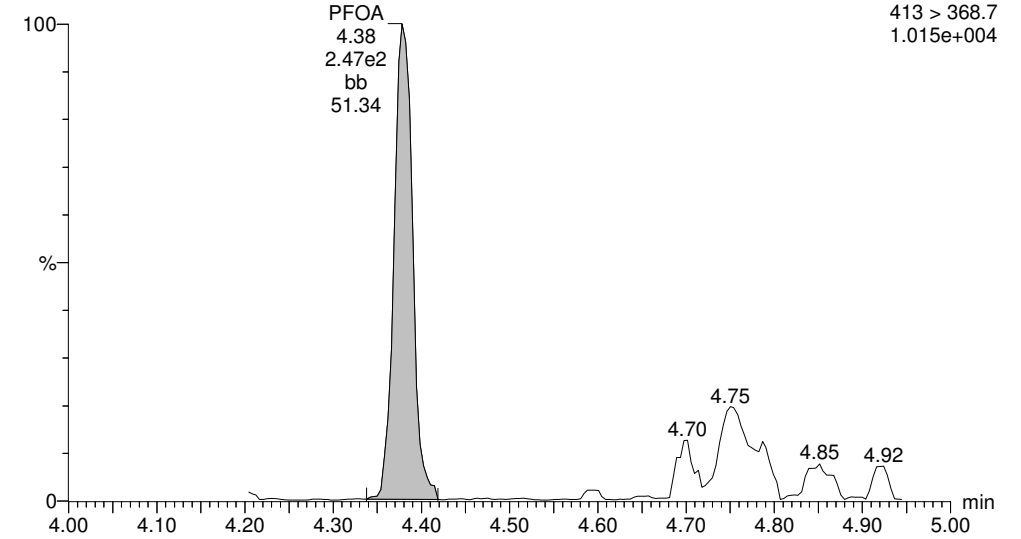
**Total PFHxS**

161122G2\_51



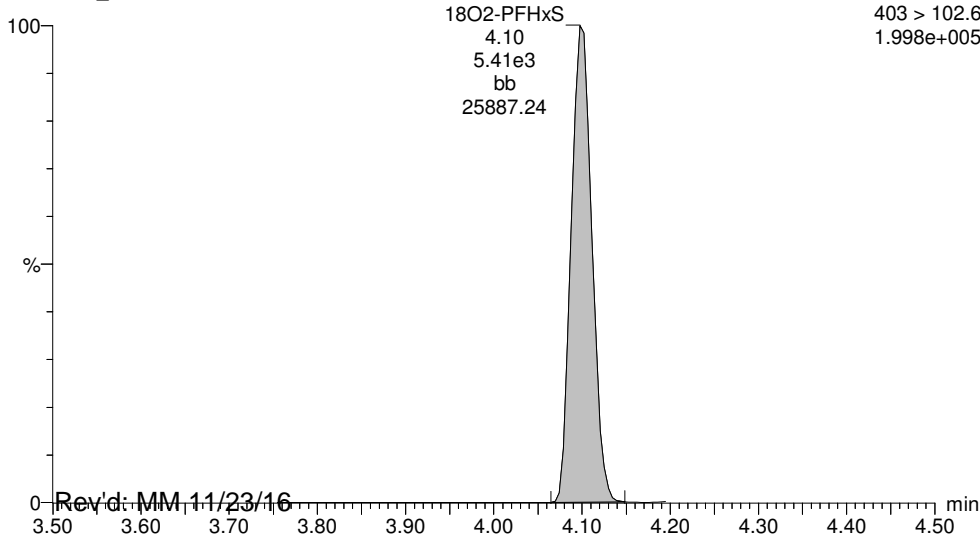
**Total PFOA**

161122G2\_51



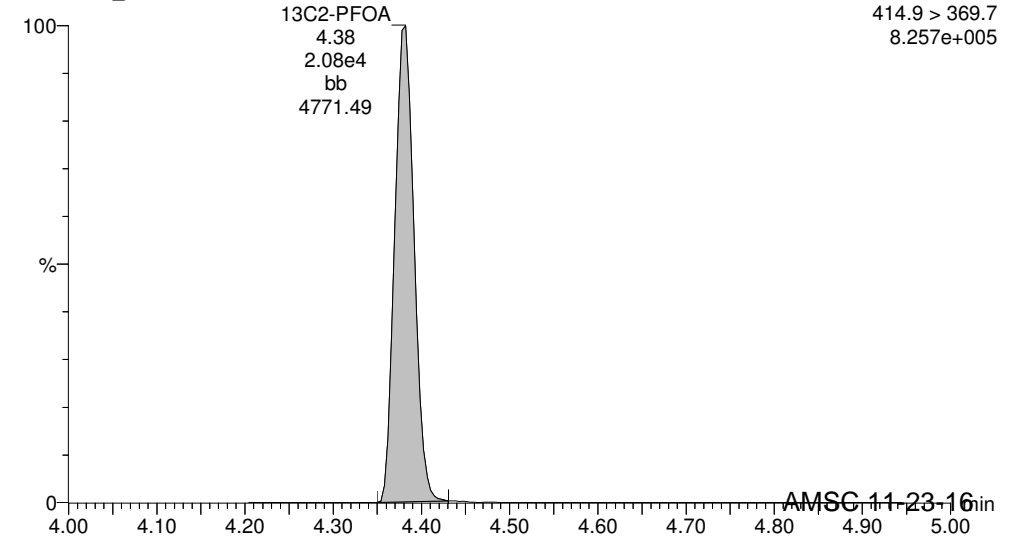
**18O2-PFHxS**

161122G2\_51



**13C2-PFOA**

161122G2\_51



Rev'd: MM, 11/23/16

AMSC, 11-23-16

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-51.qld

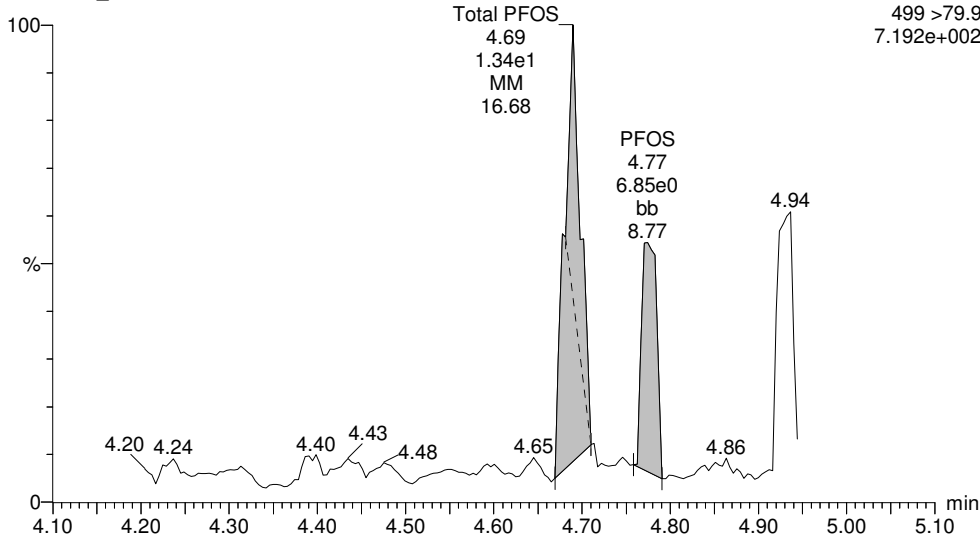
Last Altered: Wednesday, November 23, 2016 11:32:19 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:32:32 AM Pacific Standard Time

ID: 1601420-03 OC-FB110816 0.1276, Description: OC-FB110816, Name: 161122G2\_51, Date: 22-Nov-2016, Time: 20:32:48, Instrument: , Lab: , User:

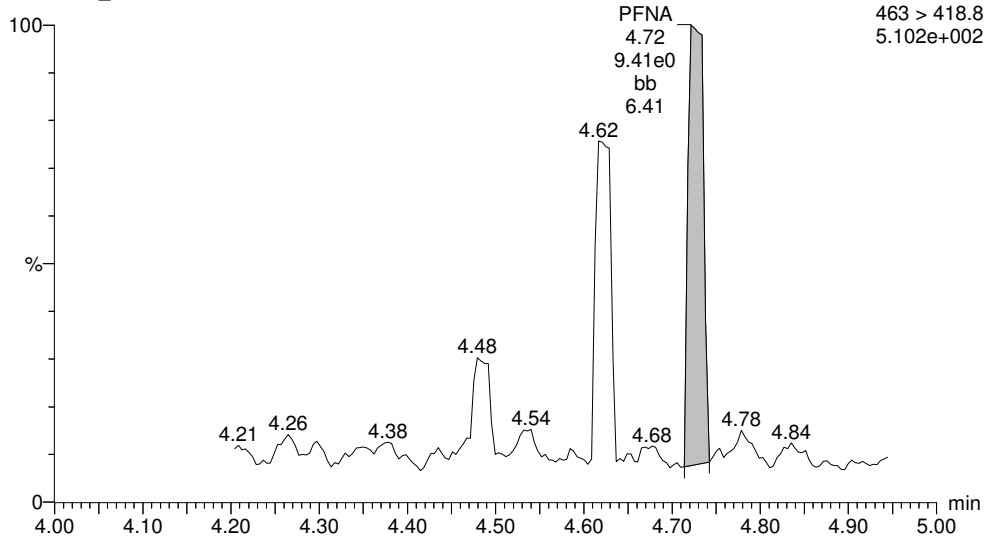
**Total PFOS**

161122G2\_51



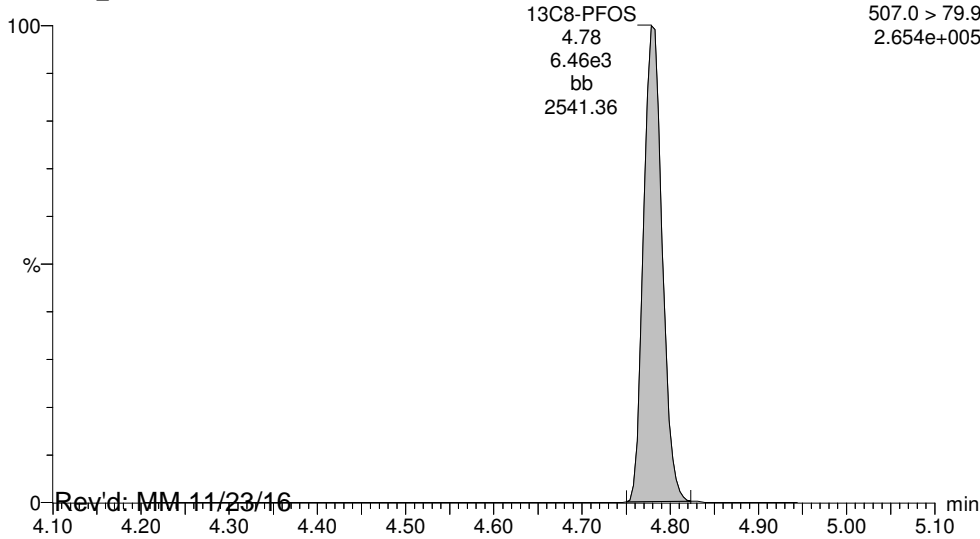
**PFNA**

161122G2\_51



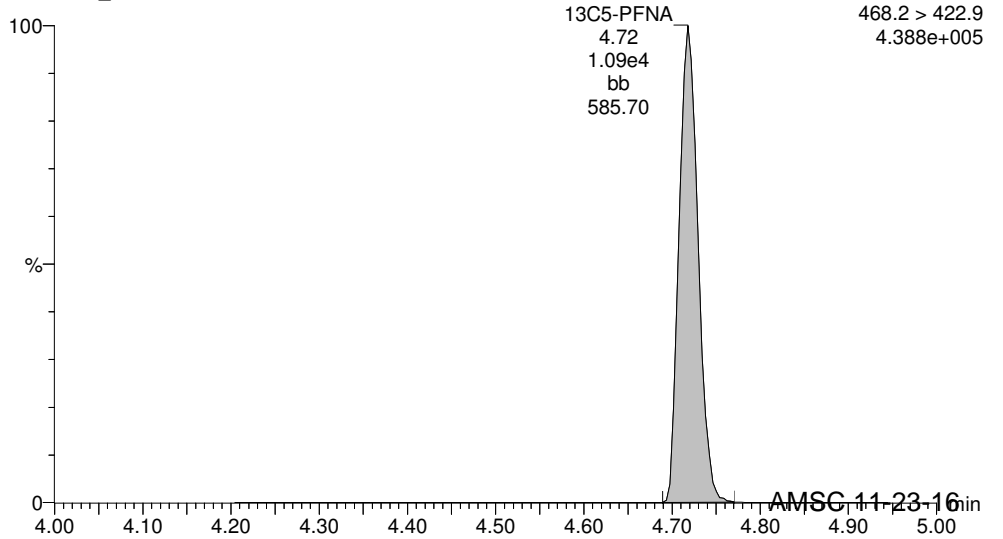
**13C8-PFOS**

161122G2\_51



**13C5-PFNA**

161122G2\_51



Rev'd: MM 11/23/16

AMSC 11-23-16

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-51.qld

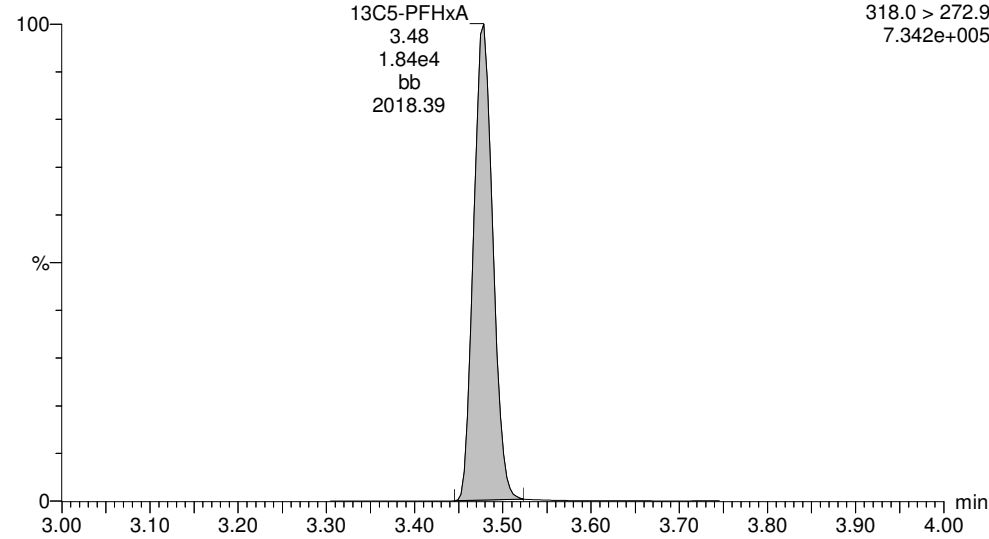
Last Altered: Wednesday, November 23, 2016 11:32:19 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:32:32 AM Pacific Standard Time

ID: 1601420-03 OC-FB110816 0.1276, Description: OC-FB110816, Name: 161122G2\_51, Date: 22-Nov-2016, Time: 20:32:48, Instrument: , Lab: , User:

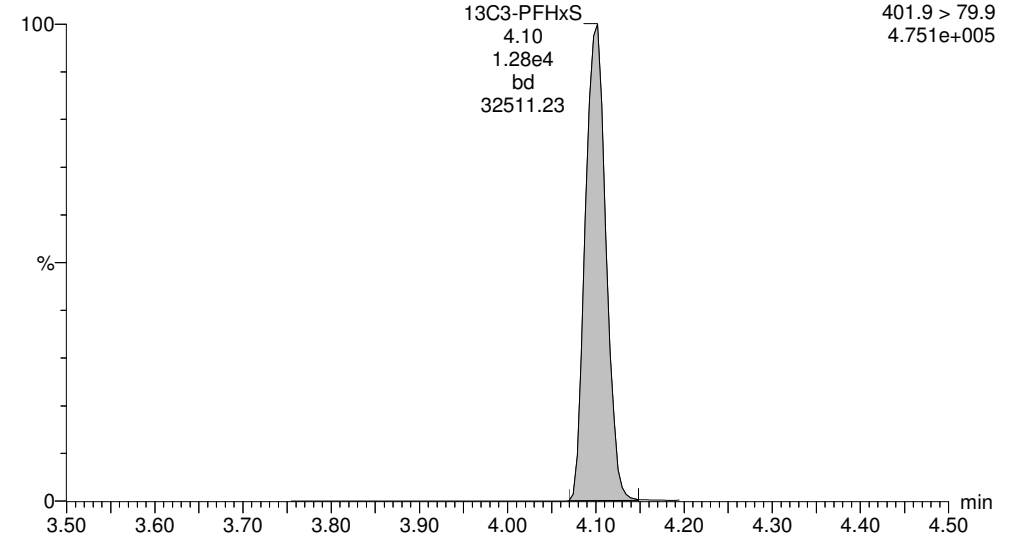
**13C5-PFHxA**

161122G2\_51



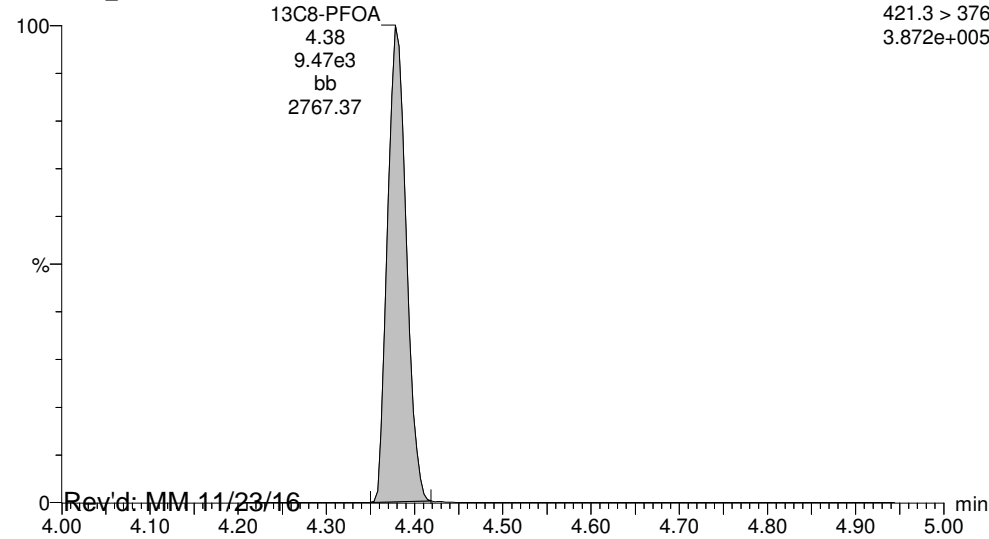
**13C3-PFHxS**

161122G2\_51



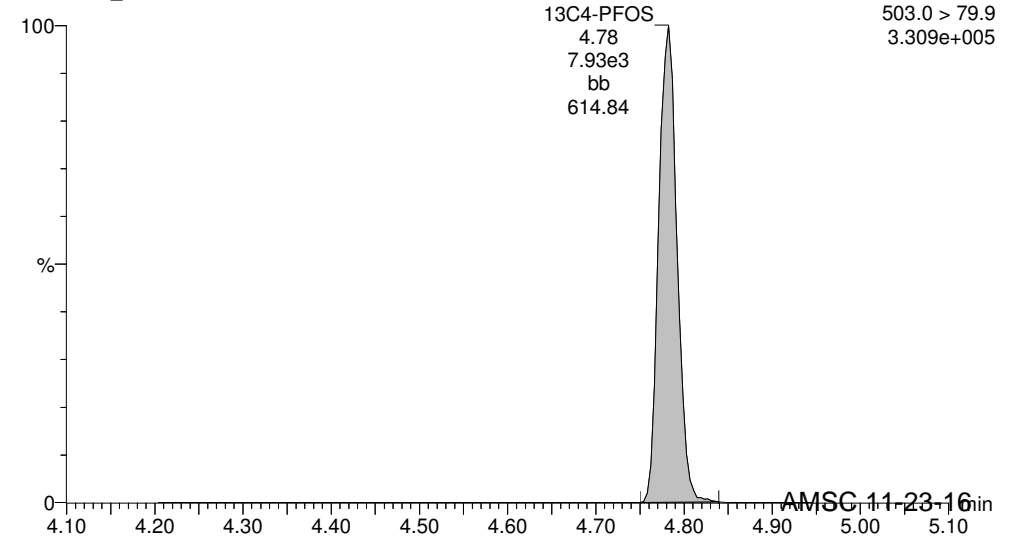
**13C8-PFOA**

161122G2\_51



**13C4-PFOS**

161122G2\_51



Rev'd: MM, 11/23/16

AMSC, 11-23-16



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-51.qld

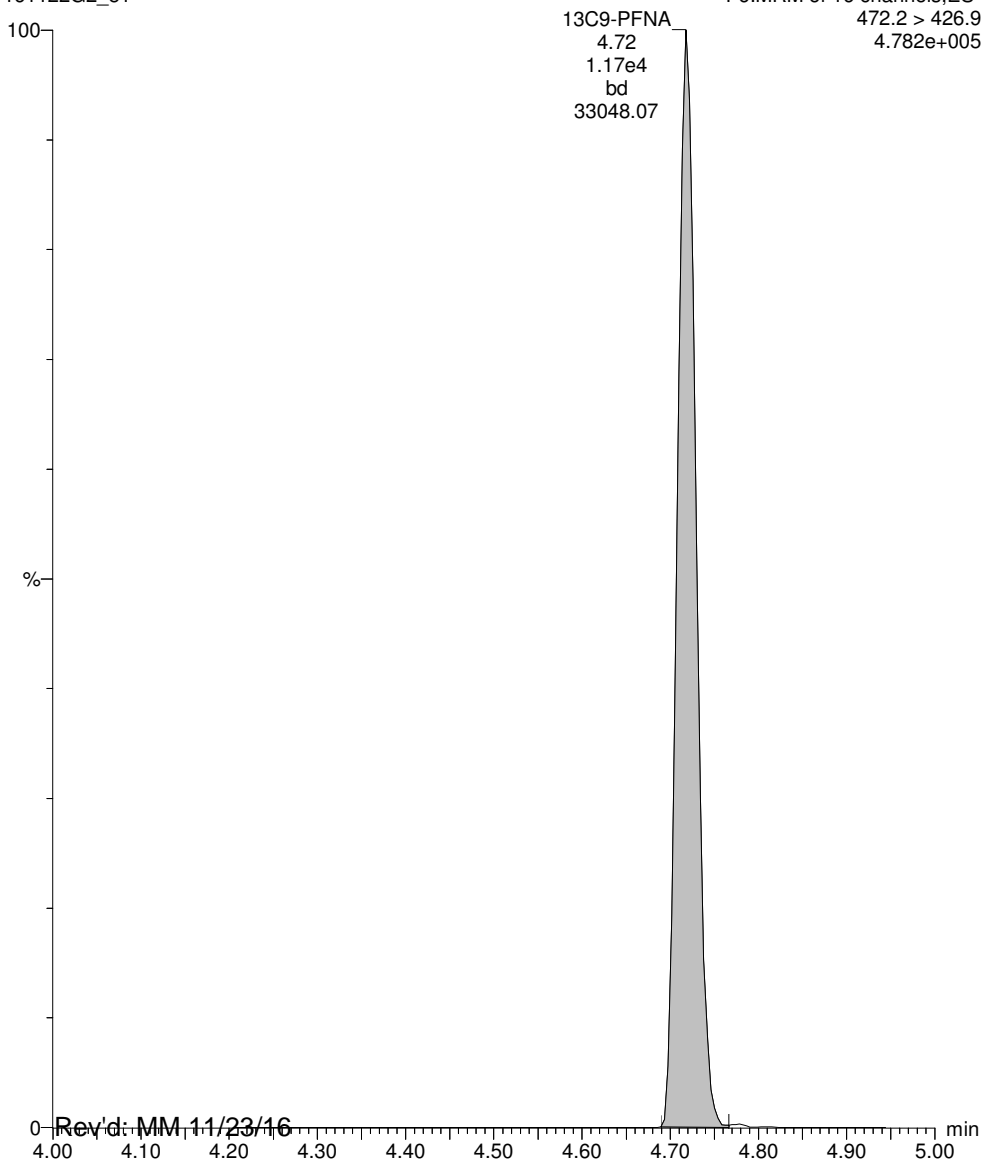
Last Altered: Wednesday, November 23, 2016 11:32:19 AM Pacific Standard Time

Printed: Wednesday, November 23, 2016 11:32:32 AM Pacific Standard Time

ID: 1601420-03 OC-FB110816 0.1276, Description: OC-FB110816, Name: 161122G2\_51, Date: 22-Nov-2016, Time: 20:32:48, Instrument: , Lab: , User:

13C9-PFNA

161122G2\_51



Rev'd: MM, 11/23/16

Work Order 1601420

AMSC 11-23-16

Page 56 of 176

**CONTINUING CALIBRATION**

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-40.qld

Last Altered: Wednesday, November 23, 2016 4:13:24 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 4:14:40 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: ST161122G2\_12 AMSC 11/23/16 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_40, Date: 22-Nov-2016, Time: 18:14:00, Task:

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBA	213.1 > 168.8	1.977e4	1.963e4		1.00	1.95	25.6	103
2	2 PFPeA	263.1 > 218.9	1.729e4	8.372e3		1.00	2.86	25.9	103
3	3 PFBS	299 > 79.7	2.227e4	6.227e3		1.00	3.11	25.0	100
4	4 PFHxA	313.2 > 268.9	1.407e4	4.366e3		1.00	3.48	26.9	108
5	5 PFHpA	363 > 318.9	4.578e4	1.424e4		1.00	3.99	26.0	104
6	6 PFHxS	398.9 > 79.6	2.033e4	5.732e3		1.00	4.10	25.8	103
7	7 6:2 FTS	427.1 > 407	5.208e3	5.692e3		1.00	4.33	25.7	103
8	8 PFOA	413 > 368.7	4.588e4	2.448e4		1.00	4.38	25.9	104
9	9 PFHpS	449 > 98.7	4.575e3	2.448e4		1.00	4.46	25.6	102
10	10 PFOS	499 > 79.9	1.262e4	7.336e3		1.00	4.78	26.0	104
11	11 PFNA	463 > 418.8	4.163e4	1.231e4		1.00	4.72	25.9	103
12	12 PFDA	513 > 468.8	1.319e4	9.349e3		1.00	5.02	29.6	118
13	13 8:2 FTS	527 > 506.9	4.026e3	3.332e3		1.00	5.00	31.0	124
14	14 13C3-PFBA	216.1 > 171.8	1.963e4	1.562e4	1.205	1.00	1.95	13.0	104
15	15 13C3-PFPeA	266 > 221.8	8.372e3	1.777e4	0.448	1.00	2.86	13.2	105
16	16 13C3-PFBS	302.0 > 98.8	6.227e3	1.777e4	0.302	1.00	3.11	14.5	116
17	17 13C2-PFHxA	315 > 269.8	4.366e3	1.777e4	0.620	1.00	3.48	4.96	99.2
18	18 13C4-PFHpA	367.2 > 321.8	1.424e4	1.280e4	1.139	1.00	3.99	12.2	97.7
19	19 18O2-PFHxS	403 > 102.6	5.732e3	1.280e4	0.449	1.00	4.10	12.5	99.6
20	20 13C2-6:2 FTS	429.1 > 408.9	5.692e3	5.527e3	1.073	1.00	4.33	12.0	96.0
21	21 13C2-PFOA	414.9 > 369.7	2.448e4	1.047e4	2.262	1.00	4.38	12.9	103
22	22 13C8-PFOS	507.0 > 79.9	7.336e3	7.686e3	0.944	1.00	4.78	12.6	101
23	23 13C5-PFNA	468.2 > 422.9	1.231e4	1.138e4	1.082	1.00	4.72	12.5	99.9
24	24 13C2-PFDA	515.1 > 469.9	9.349e3	9.001e3	1.019	1.00	5.02	12.7	102
25	25 13C2-8:2 FTS	529.1 > 508.7	3.332e3	5.527e3	0.569	1.00	4.99	13.2	106
26	26 13C4-PFBA	217 > 171.8	1.562e4	1.562e4	1.000	1.00	1.94	12.5	100
27	27 13C2-4:2 FTS	329.2 > 308.9	5.527e3	5.527e3	1.000	1.00	3.38	12.5	100
28	28 13C5-PFHxA	318.0 > 272.9	1.777e4	1.777e4	1.000	1.00	3.48	12.5	100
29	29 13C3-PFHxS	401.9 > 79.9	1.280e4	1.280e4	1.000	1.00	4.10	12.5	100
30	30 13C8-PFOA	421.3 > 376	1.047e4	1.047e4	1.000	1.00	4.38	12.5	100
31	31 13C4-PFOS	503.0 > 79.9	7.686e3	7.686e3	1.000	1.00	4.78	12.5	100

75-125  
↓  
60-150  
↓  
40-150  
60-150  
↓  
50-150  
60-150  
40-150

AMSC  
11/23/16  
PW  
11/23/16

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-40.qld

Last Altered: Wednesday, November 23, 2016 4:13:24 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 4:14:40 PM Pacific Standard Time

ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_40, Date: 22-Nov-2016, Time: 18:14:00, Task:

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
32	32 13C9-PFNA	472.2 > 426.9	1.138e4	1.138e4	1.000	1.00	4.72	12.5	100
33	33 13C6-PFDA	519.1 > 473.7	9.001e3	9.001e3	1.000	1.00	5.02	12.5	100
34	34 Total PFBS	299 > 79.7		5.732e3		1.00		25.0	
35	35 Total PFHxS	398.9 > 79.6		5.732e3		1.00		25.8	
36	36 Total PFOA	413 > 368.7		2.448e4		1.00		25.9	
37	37 Total PFOS	499 > 79.9		7.336e3		1.00		26.3	

Dataset: Untitled

Last Altered: Wednesday, November 23, 2016 4:28:09 PM Pacific Standard Time  
 Printed: Wednesday, November 23, 2016 4:29:29 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20  
 Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	161122G2_1	IPA	22-Nov-16	09:47:54
2	161122G2_2	ST161122G2-2 PFC CS-1 16K1705	22-Nov-16	10:00:32
3	161122G2_3	ST161122G2-3 PFC CS0 16K1706	22-Nov-16	10:13:07
4	161122G2_4	ST161122G2-4 PFC CS1 16K1707	22-Nov-16	10:25:42
5	161122G2_5	ST161122G2-5 PFC CS2 16K1708	22-Nov-16	10:38:18
6	161122G2_6	ST161122G2-6 PFC CS3 16K1709	22-Nov-16	10:50:54
7	161122G2_7	ST161122G2-7 PFC CS3.5 16K1710	22-Nov-16	11:03:32
8	161122G2_8	ST161122G2-8 PFC CS4 16K1711	22-Nov-16	11:16:11
9	161122G2_9	ST161122G2-9 PFC CS4.5 16K1712	22-Nov-16	11:28:50
10	161122G2_10	ST161122G2-10 PFC CS5 16K1713	22-Nov-16	11:41:28
11	161122G2_11	IPA	22-Nov-16	11:54:03
12	161122G2_12	SS161122G2-1 PFC SS 16K2201	22-Nov-16	12:06:50
13	161122G2_13	IPA	22-Nov-16	12:19:32
14	161122G2_14	B6K0111-BS1 OPR 0.125	22-Nov-16	12:32:23
15	161122G2_15	B6K0125-BS1 OPR 0.125	22-Nov-16	12:58:17
16	161122G2_16	IPA	22-Nov-16	13:11:00
17	161122G2_17	B6K0125-BLK1 Method Blank 0.125	22-Nov-16	13:23:45
18	161122G2_18	1601433-01 WURTS_LF030/LF031_Eff-16110...	22-Nov-16	13:36:25
19	161122G2_19	1601433-02 WURTS-EB013JH-110816 0.12917	22-Nov-16	13:49:03
20	161122G2_20	1601433-03 WURTS-FB001Lab-110916 0.130...	22-Nov-16	14:01:41
21	161122G2_21	1601433-04 WURTS-FB002Novi-110916 0.12...	22-Nov-16	14:14:20
22	161122G2_22	1601433-05 WURTS-VAS05006-17-20 0.12957	22-Nov-16	14:26:54
23	161122G2_23	1601433-06 WURTS-VAS05006-27-30 0.12495	22-Nov-16	14:39:29
24	161122G2_24	1601433-07 WURTS-VAS05006-37-40 0.12989	22-Nov-16	14:52:05
25	161122G2_25	1601433-08 WURTS-VAS05006-47-50 0.12929	22-Nov-16	15:04:42
26	161122G2_26	1601433-09 WURTS-VAS17002-17-20 0.12603	22-Nov-16	15:17:18
27	161122G2_27	1601433-10 WURTS-VAS17002-27-30 0.12796	22-Nov-16	15:29:56
28	161122G2_28	IPA -11 AMSC 11/23/16	22-Nov-16	15:42:34
29	161122G2_29	ST161122G2-7 PFC CS3.5 16K1710	22-Nov-16	15:55:12
30	161122G2_30	IPA	22-Nov-16	16:07:50
31	Work Order 1601433-11	1601433-11 WURTS-VAS17002-37-40 0.1279	22-Nov-16	16:20:28

Dataset: Untitled

Last Altered: Wednesday, November 23, 2016 4:28:09 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 4:29:29 PM Pacific Standard Time

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
32	161122G2_32	1601433-12 WURTS-VAS17002-46.5-49.5 0.1...	22-Nov-16	16:33:07
33	161122G2_33	1601433-13 WURTS-EB014JH-110916 0.12806	22-Nov-16	16:45:42
34	161122G2_34	1601433-14 WURTS-VAS11022-17-20 0.12232	22-Nov-16	16:58:17
35	161122G2_35	1601433-15 WURTS-VAS11022-17-20_FD 0.1...	22-Nov-16	17:10:54
36	161122G2_36	1601433-16 WURTS-VAS11022-27-30 0.12713	22-Nov-16	17:23:30
37	161122G2_37	1601433-17 WURTS-VAS11022-37-40 0.1263	22-Nov-16	17:36:06
38	161122G2_38	1601433-18 WURTS-VAS11022-47-450 0.128...	22-Nov-16	17:48:44
39	161122G2_39	IPA -12 AMSC 11/23/16	22-Nov-16	18:01:22
40	161122G2_40	ST161122G2_39 PFC CS3.5 16K1710	22-Nov-16	18:14:00
41	161122G2_41	IPA	22-Nov-16	18:26:38
42	161122G2_42	B6K0124-BS1 LCS 0.125	22-Nov-16	18:39:18
43	161122G2_43	B6K0124-BSD1 LCS Dup 0.125	22-Nov-16	18:51:56
44	161122G2_44	IPA	22-Nov-16	19:04:31
45	161122G2_45	B6K0124-BLK1 Method Blank 0.125	22-Nov-16	19:17:09
46	161122G2_46	1601365-07 SW-NRES031-FRB-10252016 0....	22-Nov-16	19:29:44
47	161122G2_47	1601365-09 SW-NRES032-FRB-10252016 0....	22-Nov-16	19:42:20
48	161122G2_48	1601398-02 SW-NRES020-FRB-110116 0.129...	22-Nov-16	19:54:56
49	161122G2_49	1601420-01 FTWG-MW-02-1116 0.10754	22-Nov-16	20:07:33
50	161122G2_50	1601420-02 OC-EB110816 0.13201	22-Nov-16	20:20:10
51	161122G2_51	1601420-03 OC-FB110816 0.1276	22-Nov-16	20:32:48
52	161122G2_52	IPA -13 AMSC 11/23/16	22-Nov-16	20:45:27
53	161122G2_53	ST161122G2_52 PFC CS3.5 16K1710	22-Nov-16	20:58:05
54	161122G2_54	IPA	22-Nov-16	21:10:43
55	161122G2_55	IPA	22-Nov-16	21:23:21
56	161122G2_56	PFTEDA QC F1	22-Nov-16	21:35:59
57	161122G2_57	PFTEDA QC F3	22-Nov-16	21:48:34
58	161122G2_58	PFTEDA QC F4	22-Nov-16	22:01:09
59	161122G2_59	IPA	22-Nov-16	22:13:45

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-40.qld

Last Altered: Wednesday, November 23, 2016 4:13:24 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 4:14:40 PM Pacific Standard Time

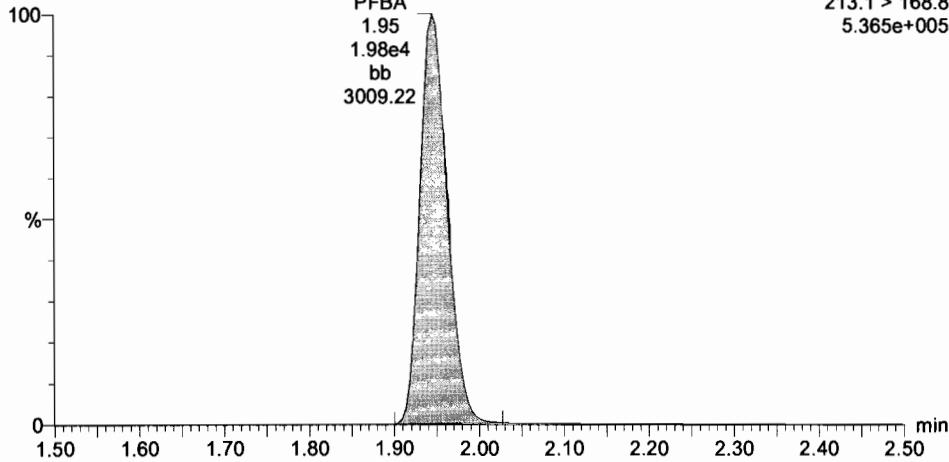
Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_40, Date: 22-Nov-2016, Time: 18:14:00, Instrument: , Lab: , User:

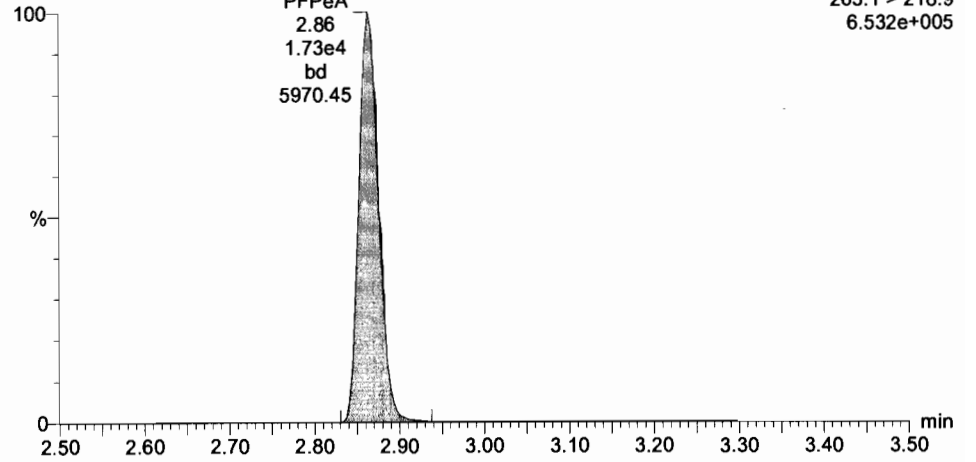
**PFBA**

161122G2\_40



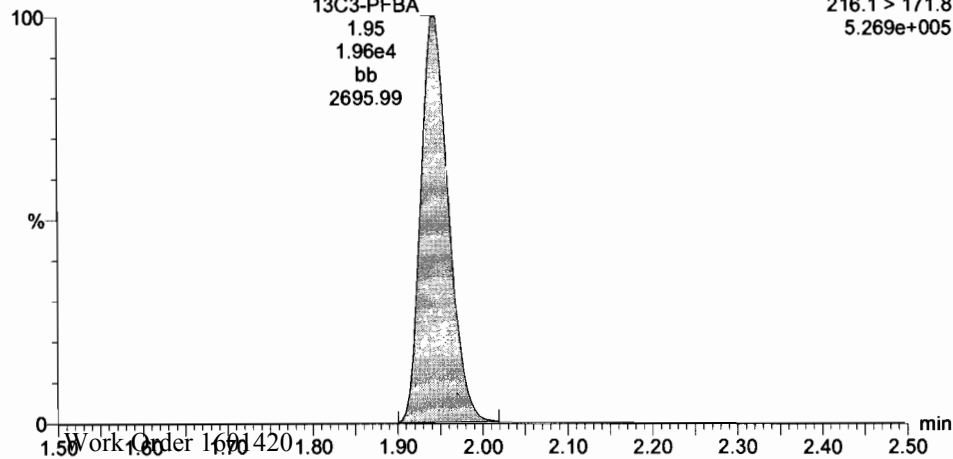
**PFPeA**

161122G2\_40



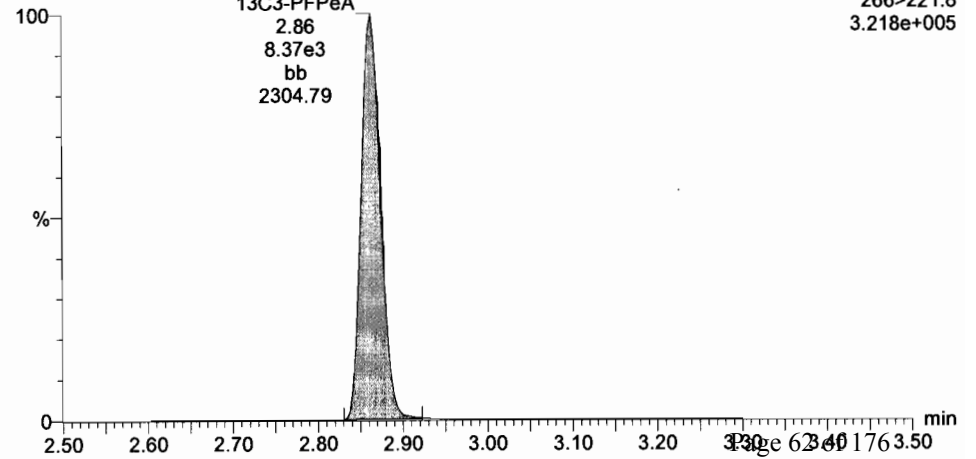
**13C3-PFBA**

161122G2\_40



**13C3-PFPeA**

161122G2\_40



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-40.qld

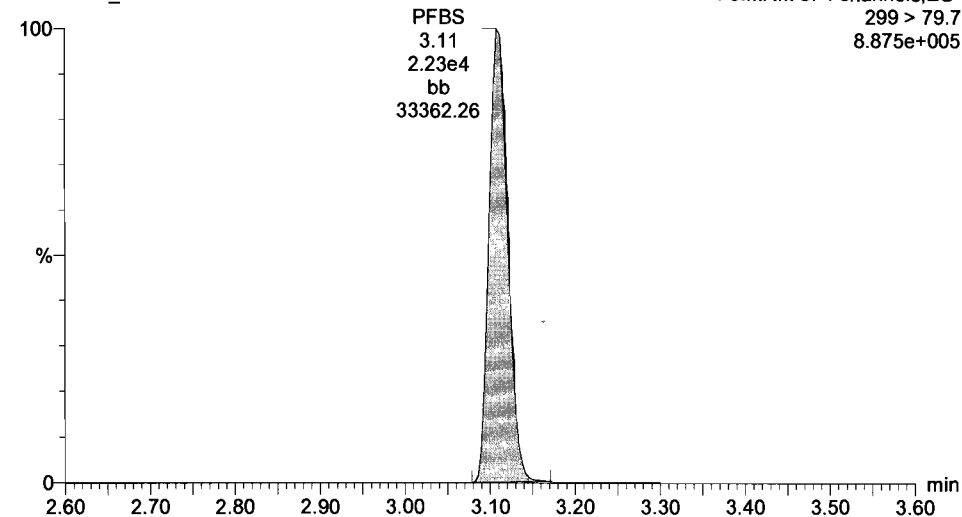
Last Altered: Wednesday, November 23, 2016 4:13:24 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 4:14:40 PM Pacific Standard Time

ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_40, Date: 22-Nov-2016, Time: 18:14:00, Instrument: , Lab: , User:

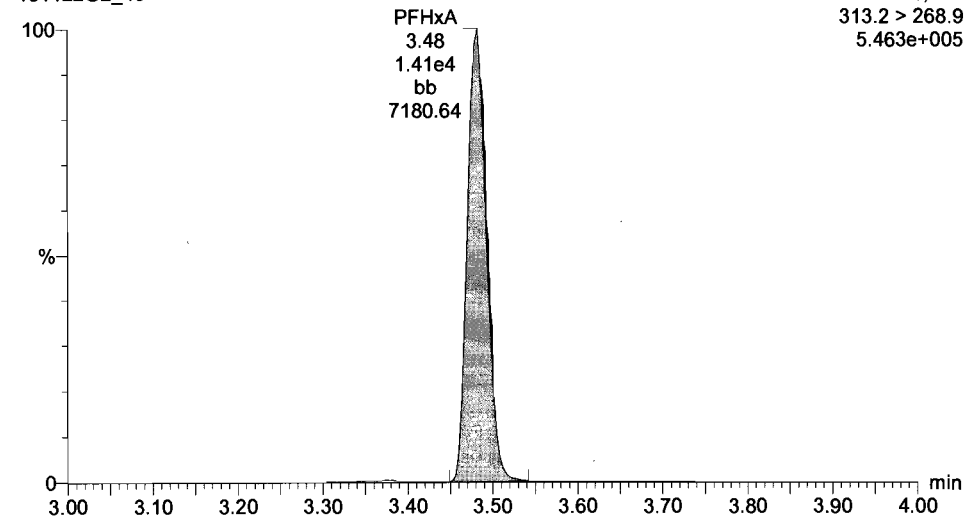
**Total PFBS**

161122G2\_40



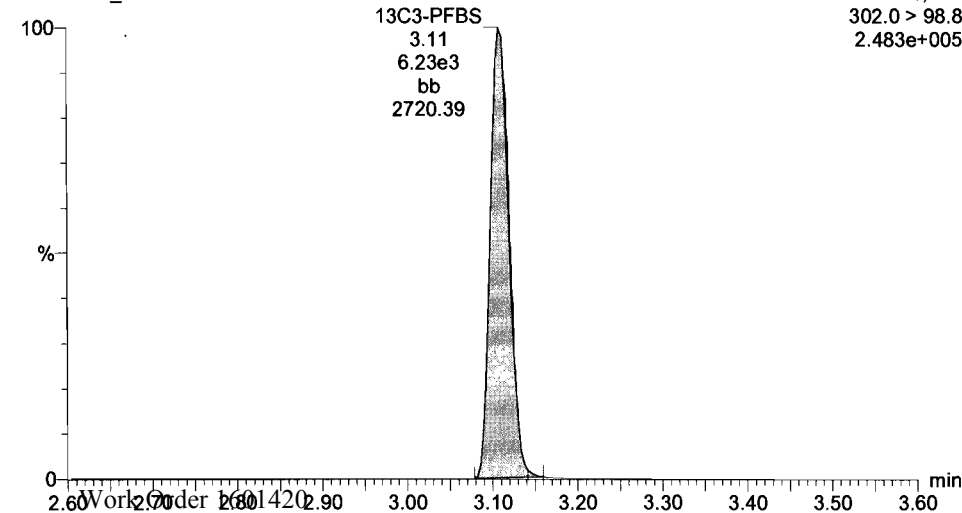
**PFHxA**

161122G2\_40



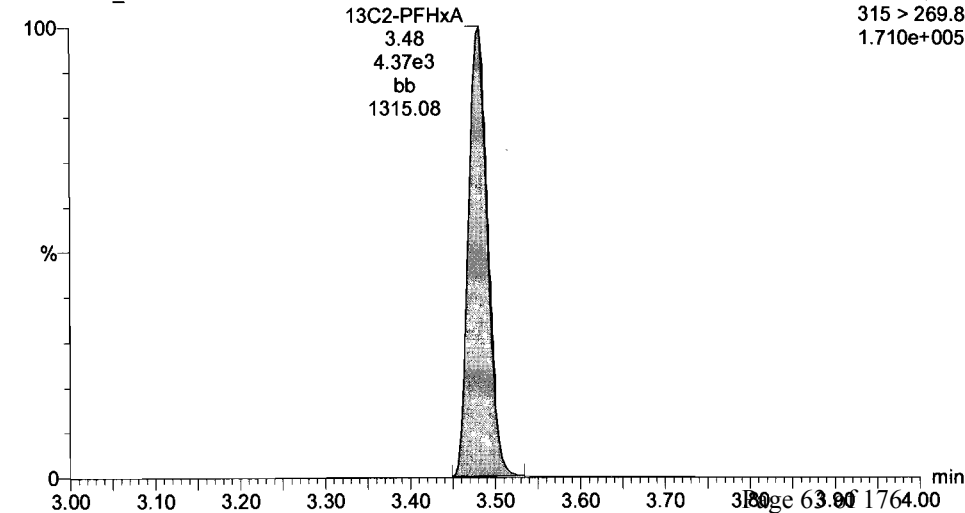
**13C3-PFBS**

161122G2\_40



**13C2-PFHxA**

161122G2\_40





Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-40.qld

Last Altered: Wednesday, November 23, 2016 4:13:24 PM Pacific Standard Time

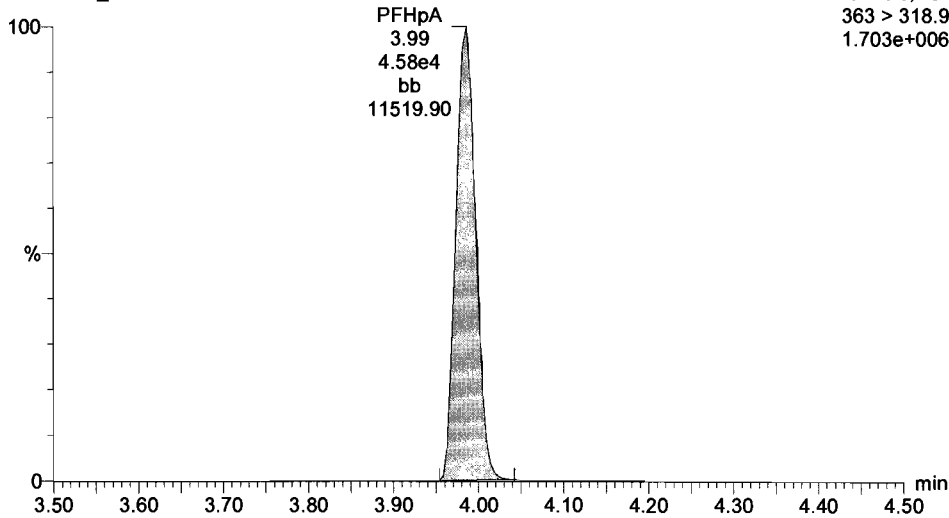
Printed: Wednesday, November 23, 2016 4:14:40 PM Pacific Standard Time

ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_40, Date: 22-Nov-2016, Time: 18:14:00, Instrument: , Lab: , User:

**PFHpA**

161122G2\_40

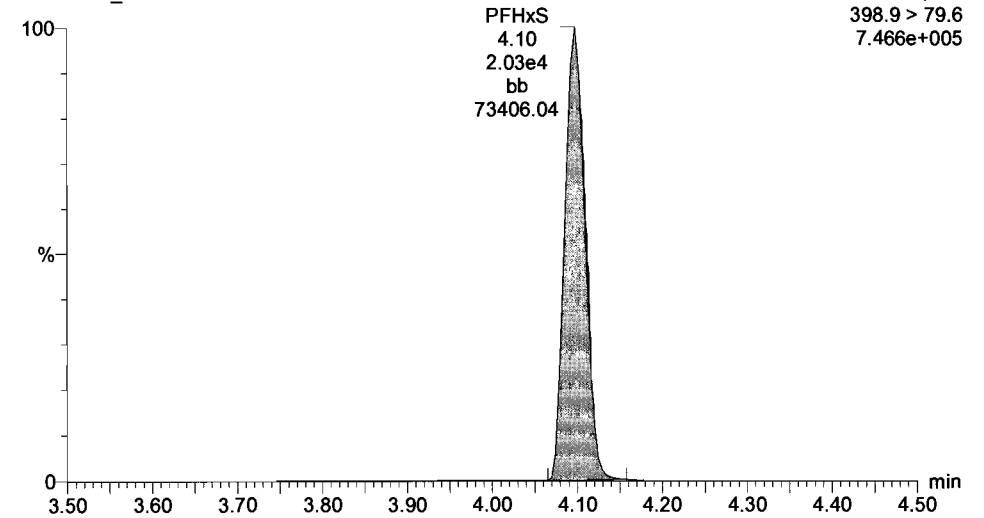
F5:MRM of 5 channels,ES-  
363 > 318.9  
1.703e+006



**Total PFHxS**

161122G2\_40

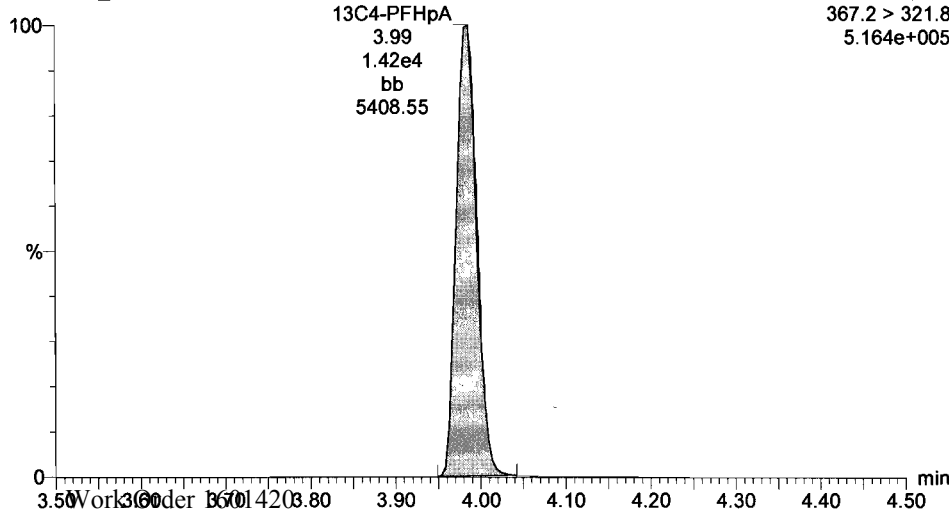
F5:MRM of 5 channels,ES-  
398.9 > 79.6  
7.466e+005



**13C4-PFHpA**

161122G2\_40

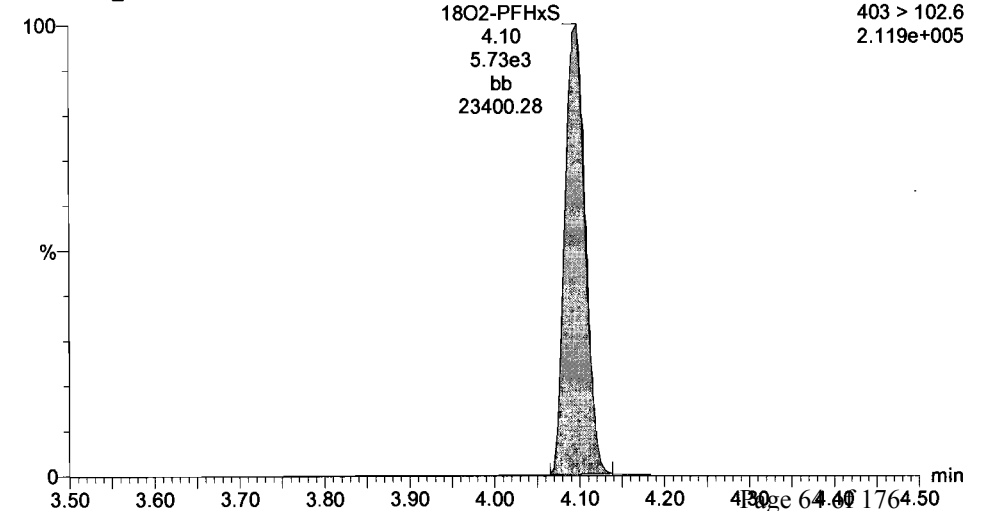
F5:MRM of 5 channels,ES-  
367.2 > 321.8  
5.164e+005



**18O2-PFHxS**

161122G2\_40

F5:MRM of 5 channels,ES-  
403 > 102.6  
2.119e+005



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-40.qld

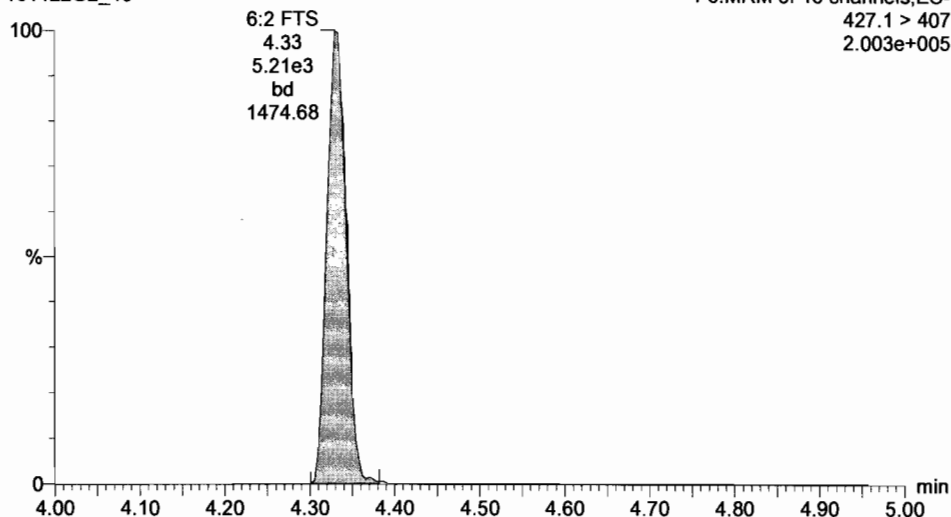
Last Altered: Wednesday, November 23, 2016 4:13:24 PM Pacific Standard Time  
Printed: Wednesday, November 23, 2016 4:14:40 PM Pacific Standard Time

ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_40, Date: 22-Nov-2016, Time: 18:14:00, Instrument: , Lab: , User:

6:2 FTS

161122G2\_40

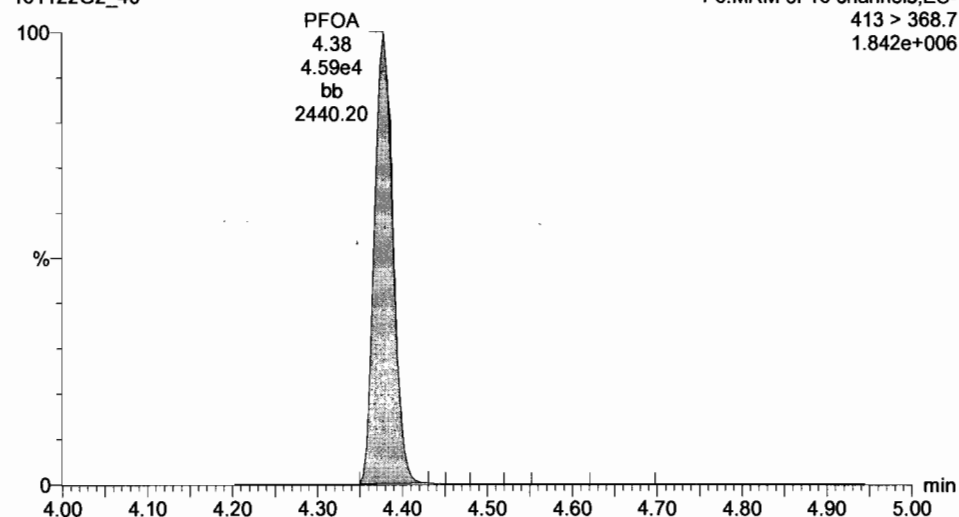
F6:MRM of 16 channels,ES-  
427.1 > 407  
2.003e+005



Total PFOA

161122G2\_40

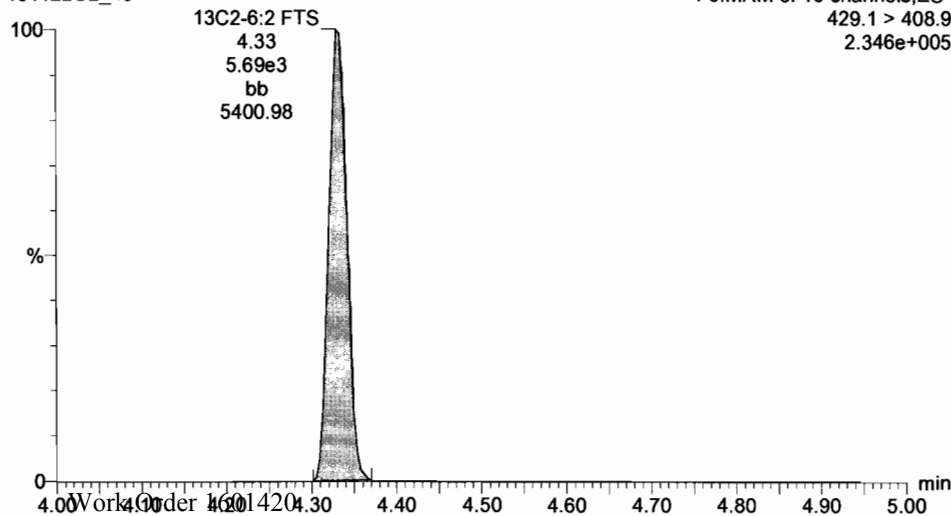
F6:MRM of 16 channels,ES-  
413 > 368.7  
1.842e+006



13C2-6:2 FTS

161122G2\_40

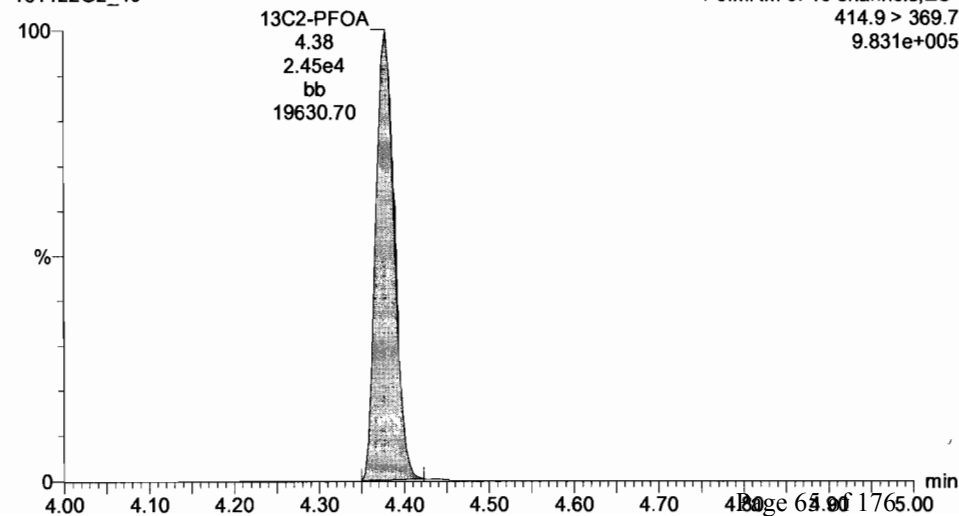
F6:MRM of 16 channels,ES-  
429.1 > 408.9  
2.346e+005



13C2-PFOA

161122G2\_40

F6:MRM of 16 channels,ES-  
414.9 > 369.7  
9.831e+005



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-40.qld

Last Altered: Wednesday, November 23, 2016 4:13:24 PM Pacific Standard Time

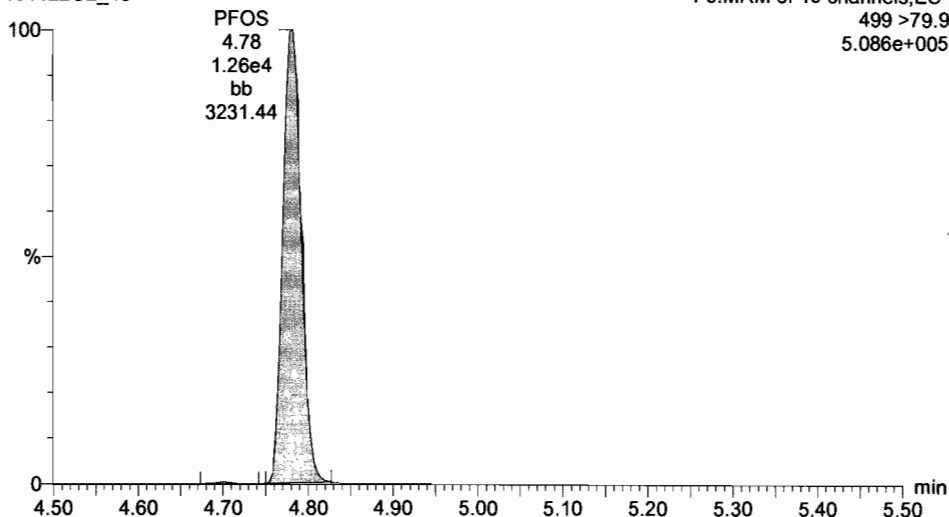
Printed: Wednesday, November 23, 2016 4:14:40 PM Pacific Standard Time

ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_40, Date: 22-Nov-2016, Time: 18:14:00, Instrument: , Lab: , User:

**Total PFOS**

161122G2\_40

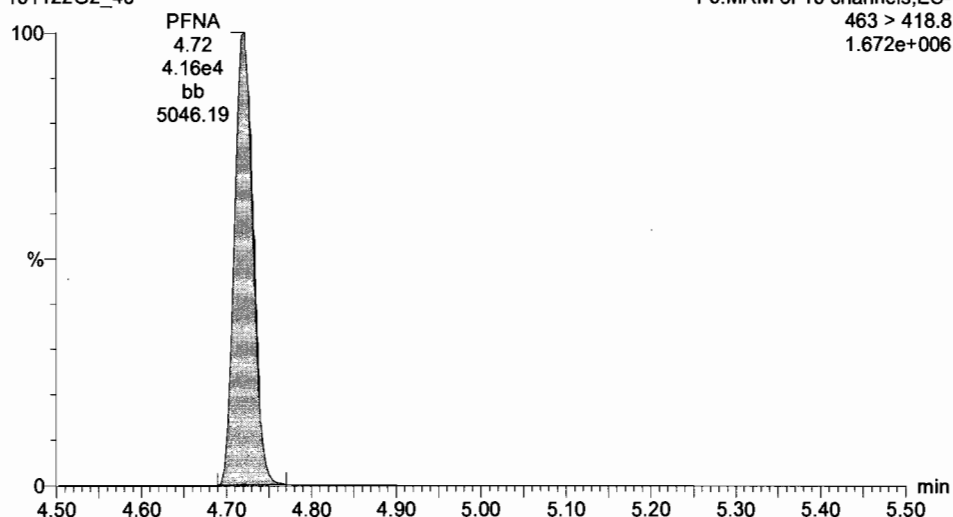
F6:MRM of 16 channels,ES-  
499 >79.9  
5.086e+005



**PFNA**

161122G2\_40

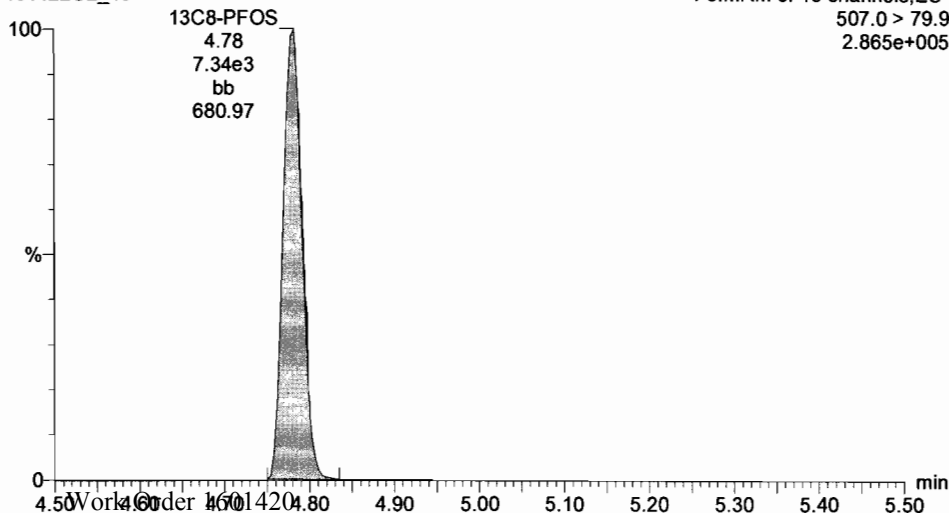
F6:MRM of 16 channels,ES-  
463 > 418.8  
1.672e+006



**13C8-PFOS**

161122G2\_40

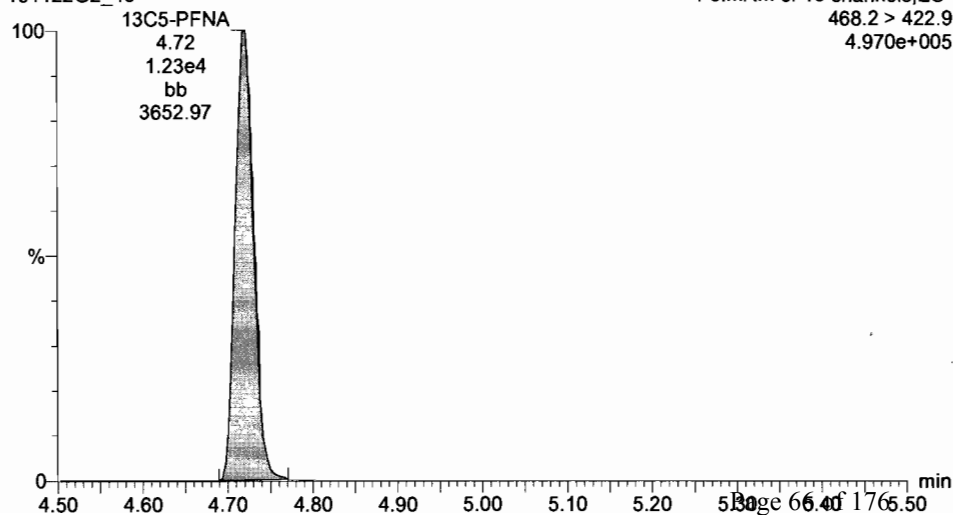
F6:MRM of 16 channels,ES-  
507.0 > 79.9  
2.865e+005



**13C5-PFNA**

161122G2\_40

F6:MRM of 16 channels,ES-  
468.2 > 422.9  
4.970e+005



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-40.qld

Last Altered: Wednesday, November 23, 2016 4:13:24 PM Pacific Standard Time

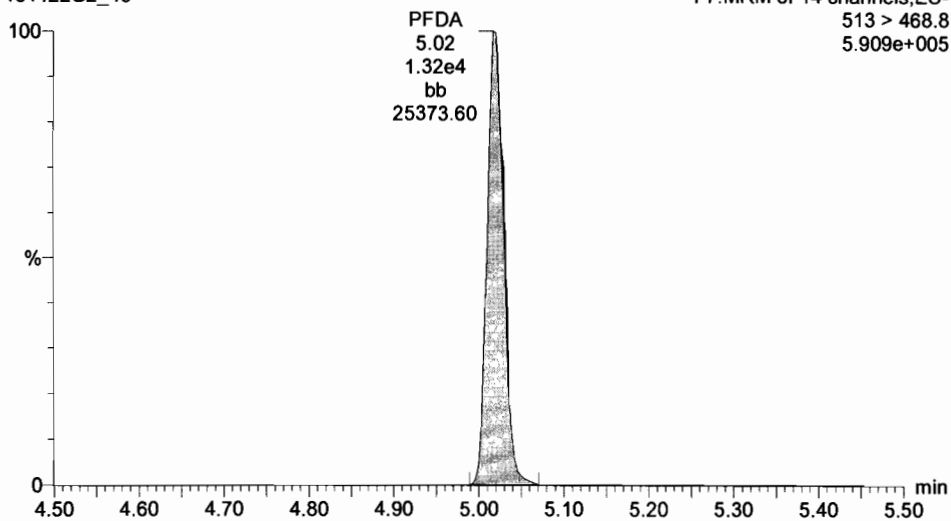
Printed: Wednesday, November 23, 2016 4:14:40 PM Pacific Standard Time

ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_40, Date: 22-Nov-2016, Time: 18:14:00, Instrument: , Lab: , User:

**PFDA**

161122G2\_40

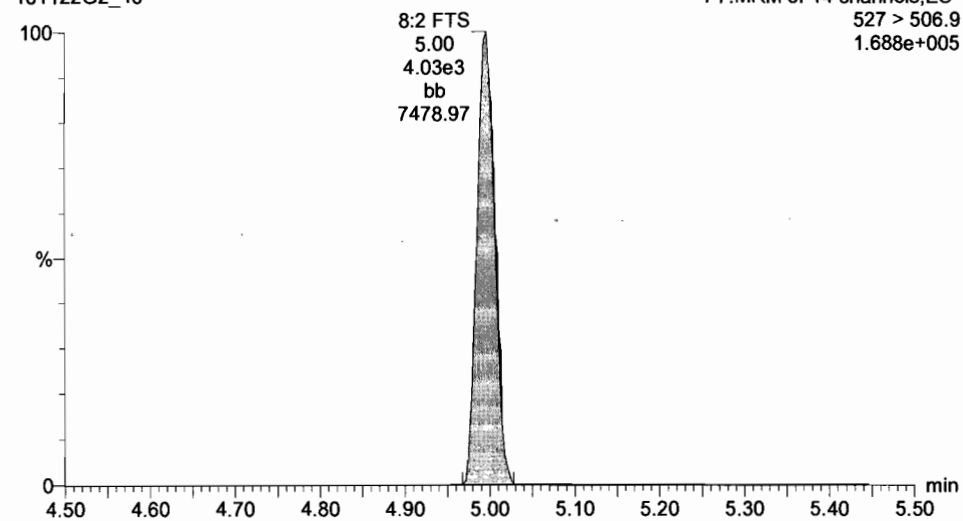
F7:MRM of 14 channels,ES-  
513 > 468.8  
5.909e+005



**8:2 FTS**

161122G2\_40

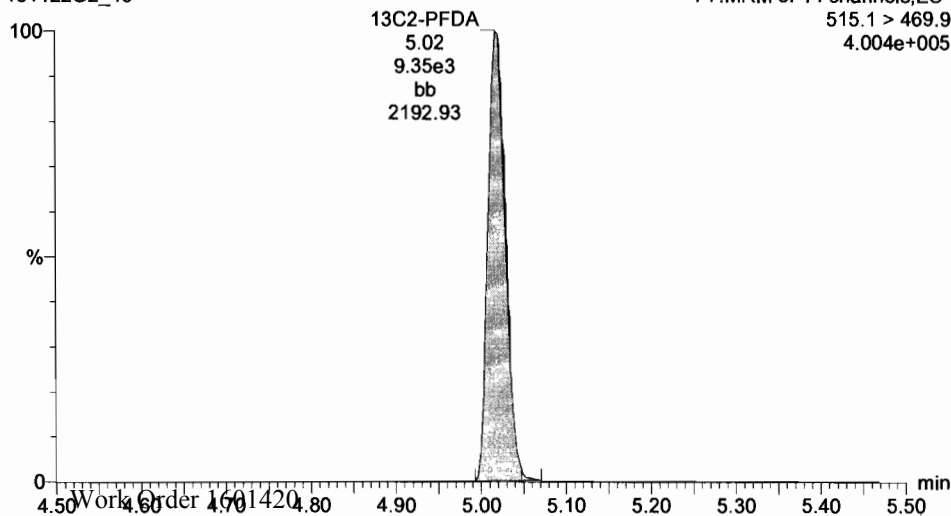
F7:MRM of 14 channels,ES-  
527 > 506.9  
1.688e+005



**13C2-PFDA**

161122G2\_40

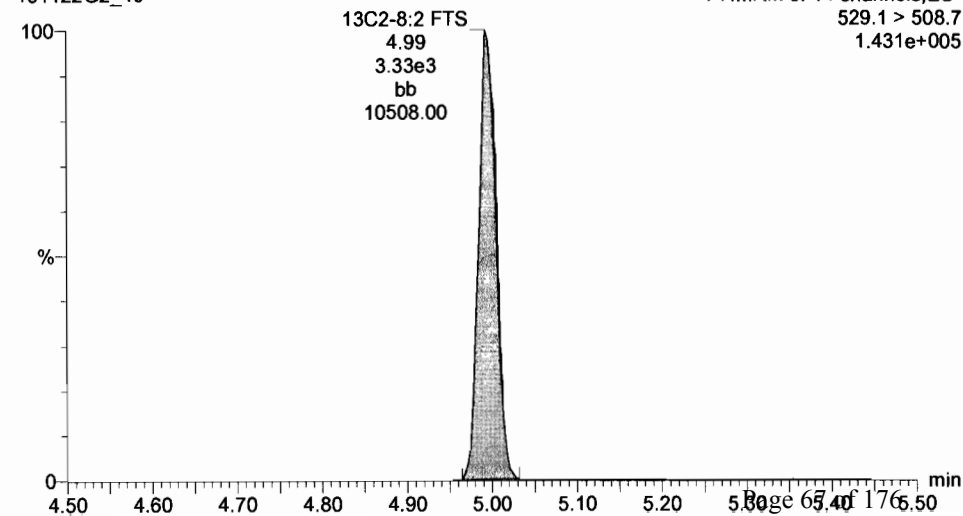
F7:MRM of 14 channels,ES-  
515.1 > 469.9  
4.004e+005



**13C2-8:2 FTS**

161122G2\_40

F7:MRM of 14 channels,ES-  
529.1 > 508.7  
1.431e+005



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-40.qld

Last Altered: Wednesday, November 23, 2016 4:13:24 PM Pacific Standard Time

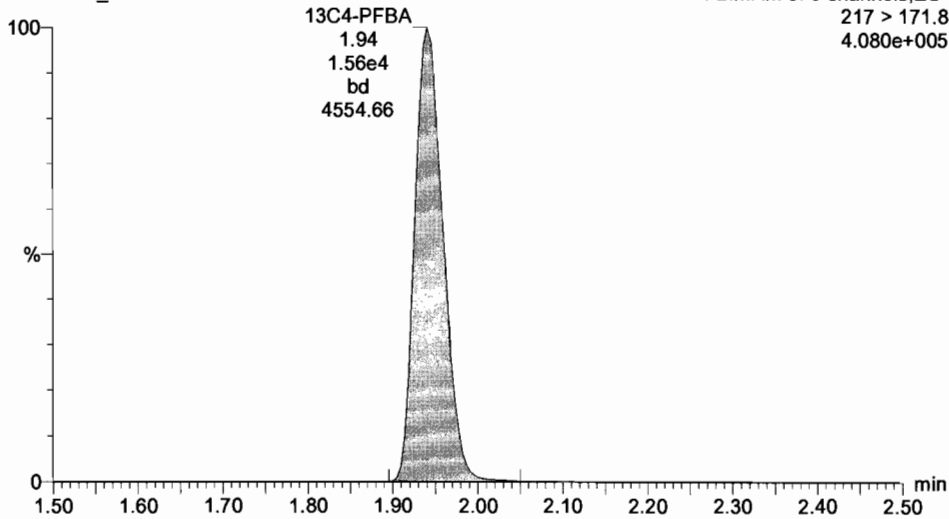
Printed: Wednesday, November 23, 2016 4:14:40 PM Pacific Standard Time

ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_40, Date: 22-Nov-2016, Time: 18:14:00, Instrument: , Lab: , User:

**13C4-PFBA**

161122G2\_40

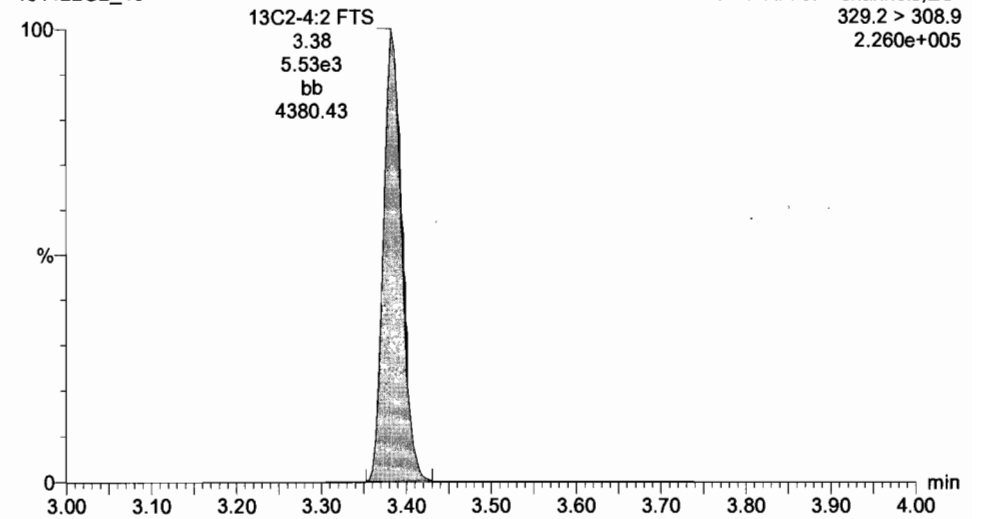
F2:MRM of 3 channels,ES-  
217 > 171.8  
4.080e+005



**13C2-4:2 FTS**

161122G2\_40

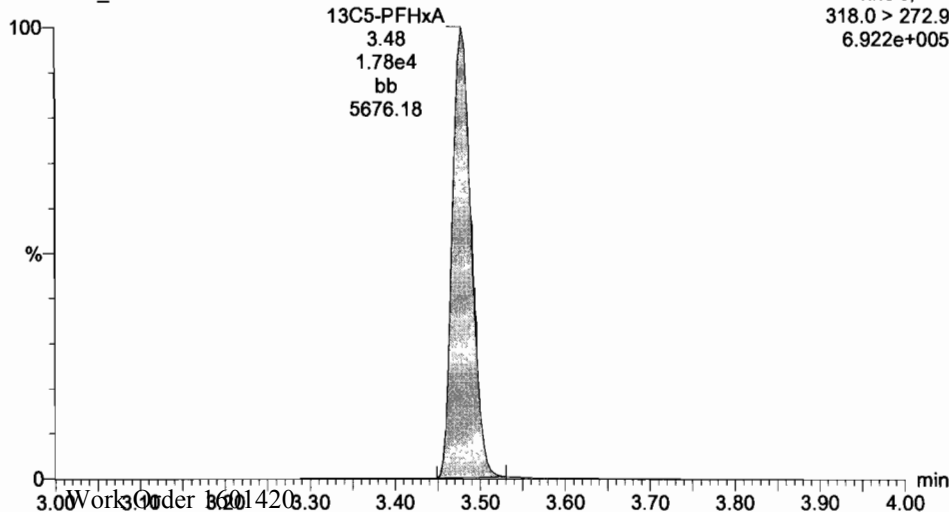
F4:MRM of 4 channels,ES-  
329.2 > 308.9  
2.260e+005



**13C5-PFHxA**

161122G2\_40

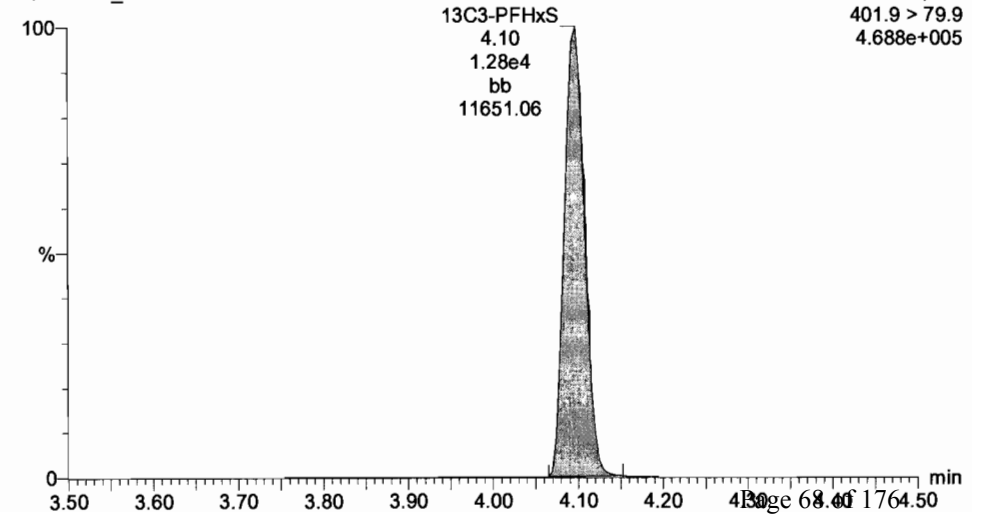
F4:MRM of 4 channels,ES-  
318.0 > 272.9  
6.922e+005



**13C3-PFHxS**

161122G2\_40

F5:MRM of 5 channels,ES-  
401.9 > 79.9  
4.688e+005



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-40.qld

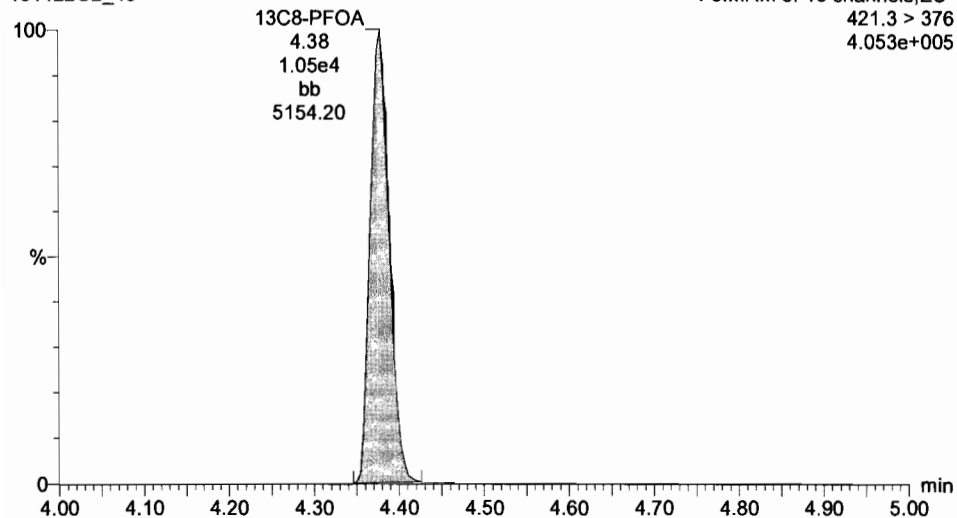
Last Altered: Wednesday, November 23, 2016 4:13:24 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 4:14:40 PM Pacific Standard Time

ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_40, Date: 22-Nov-2016, Time: 18:14:00, Instrument: , Lab: , User:

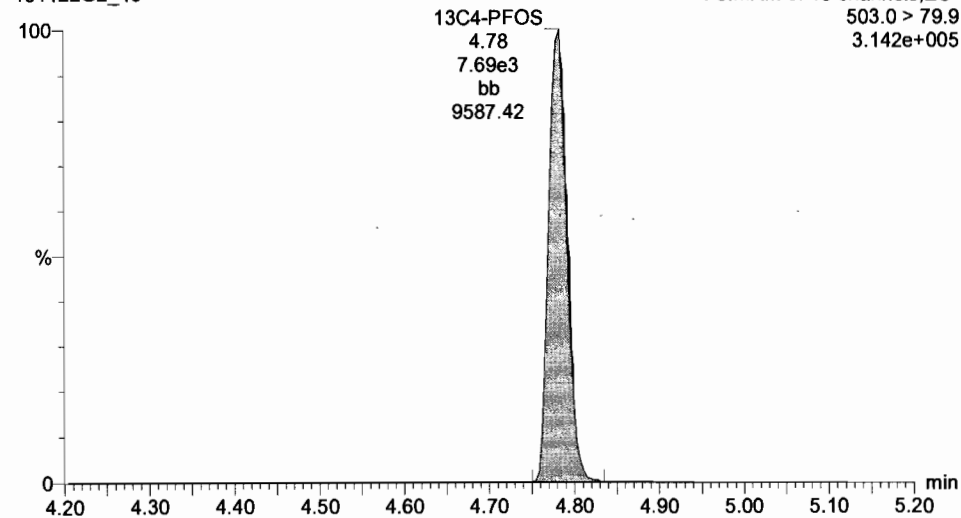
**13C8-PFOA**

161122G2\_40



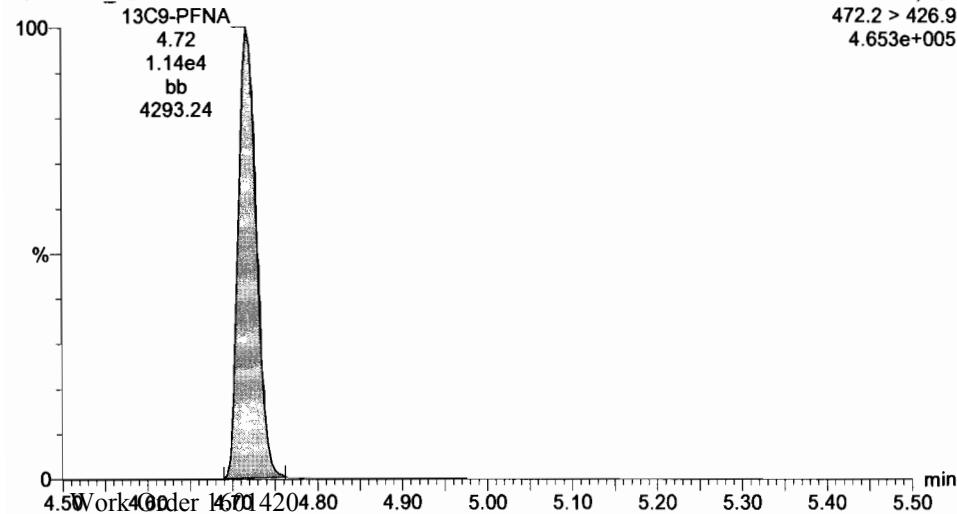
**13C4-PFOS**

161122G2\_40



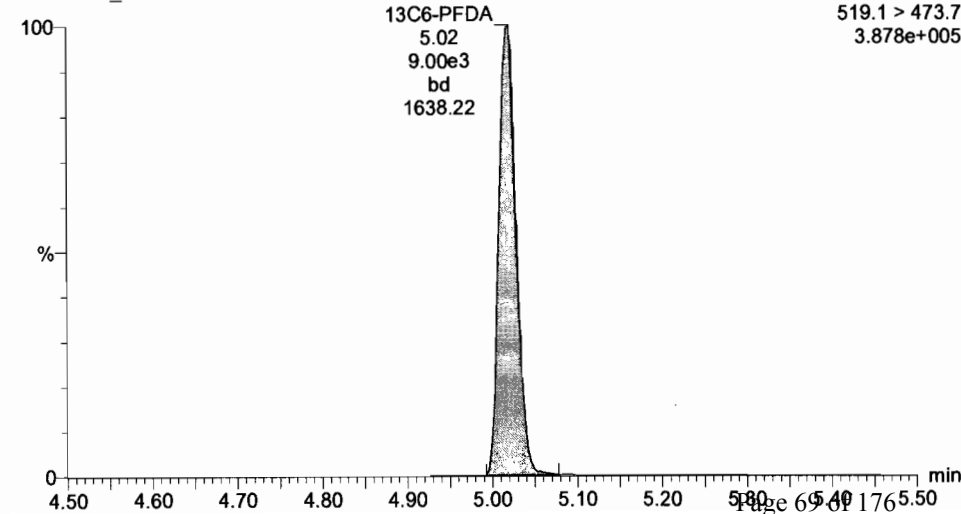
**13C9-PFNA**

161122G2\_40



**13C6-PFDA**

161122G2\_40



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-53.qld

Last Altered: Wednesday, November 23, 2016 4:16:51 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 4:17:47 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20

Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: ST161122G2-<sup>13</sup> PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_53, Date: 22-Nov-2016, Time: 20:58:05, Task:

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	1 PFBA	213.1 > 168.8	2.225e4	2.212e4		1.00	1.95	25.6	102
2	2 PFPeA	263.1 > 218.9	1.846e4	8.617e3		1.00	2.87	26.8	107
3	3 PFBS	299 > 79.7	2.168e4	6.219e3		1.00	3.11	24.4	97.6
4	4 PFHxA	313.2 > 268.9	1.539e4	4.923e3		1.00	3.48	26.1	104
5	5 PFHpA	363 > 318.9	4.776e4	1.454e4		1.00	3.99	26.5	106
6	6 PFHxS	398.9 > 79.6	2.159e4	6.014e3		1.00	4.10	26.1	104
7	7 6:2 FTS	427.1 > 407	5.574e3	6.001e3		1.00	4.33	26.1	104
8	8 PFOA	413 > 368.7	4.818e4	2.549e4		1.00	4.38	26.2	105
9	9 PFHpS	449 > 98.7	5.236e3	2.549e4		1.00	4.46	28.1	112
10	10 PFOS	499 > 79.9	1.446e4	7.346e3		1.00	4.78	29.7	119
11	11 PFNA	463 > 418.8	4.251e4	1.282e4		1.00	4.72	25.3	101
12	12 PFDA	513 > 468.8	1.200e4	9.881e3		1.00	5.02	25.5	102
13	13 8:2 FTS	527 > 506.9	2.999e3	3.313e3		1.00	5.00	23.0	92.1
14	14 13C3-PFBA	216.1 > 171.8	2.212e4	1.801e4	1.205	1.00	1.95	12.7	102
15	15 13C3-PFPeA	266 > 221.8	8.617e3	1.973e4	0.448	1.00	2.86	12.2	97.6
16	16 13C3-PFBS	302.0 > 98.8	6.219e3	1.973e4	0.302	1.00	3.11	13.0	104
17	17 13C2-PFHxA	315 > 269.8	4.923e3	1.973e4	0.620	1.00	3.48	5.04	101
18	18 13C4-PFHpA	367.2 > 321.8	1.454e4	1.330e4	1.139	1.00	3.99	12.0	96.0
19	19 18O2-PFHxS	403 > 102.6	6.014e3	1.330e4	0.449	1.00	4.10	12.6	101
20	20 13C2-6:2 FTS	429.1 > 408.9	6.001e3	6.035e3	1.073	1.00	4.34	11.6	92.7
21	21 13C2-PFOA	414.9 > 369.7	2.549e4	1.127e4	2.262	1.00	4.38	12.5	99.9
22	22 13C8-PFOS	507.0 > 79.9	7.346e3	8.090e3	0.944	1.00	4.78	12.0	96.2
23	23 13C5-PFNA	468.2 > 422.9	1.282e4	1.074e4	1.082	1.00	4.72	13.8	110
24	24 13C2-PFDA	515.1 > 469.9	9.881e3	9.669e3	1.019	1.00	5.02	12.5	100
25	25 13C2-8:2 FTS	529.1 > 508.7	3.313e3	6.035e3	0.569	1.00	5.00	12.1	96.5
26	26 13C4-PFBA	217 > 171.8	1.801e4	1.801e4	1.000	1.00	1.95	12.5	100
27	27 13C2-4:2 FTS	329.2 > 308.9	6.035e3	6.035e3	1.000	1.00	3.38	12.5	100
28	28 13C5-PFHxA	318.0 > 272.9	1.973e4	1.973e4	1.000	1.00	3.48	12.5	100
29	29 13C3-PFHxS	401.9 > 79.9	1.330e4	1.330e4	1.000	1.00	4.10	12.5	100
30	30 13C8-PFOA	421.3 > 376	1.127e4	1.127e4	1.000	1.00	4.38	12.5	100
31	31 13C4-PFOS	503.0 > 79.9	8.090e3	8.090e3	1.000	1.00	4.78	12.5	100

75-125  
60-150  
40-150  
60-150  
50-150  
60-150  
40-150

AMSC  
11/23/16  
PW  
11/23/16

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-53.qld

Last Altered: Wednesday, November 23, 2016 4:16:51 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 4:17:47 PM Pacific Standard Time

ID: ST161122G2-8 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_53, Date: 22-Nov-2016, Time: 20:58:05, Task:

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc	%Rec
32	32 13C9-PFNA	472.2 > 426.9	1.074e4	1.074e4	1.000	1.00	4.72	12.5	100
33	33 13C6-PFDA	519.1 > 473.7	9.669e3	9.669e3	1.000	1.00	5.02	12.5	100
34	34 Total PFBS	299 > 79.7		6.014e3		1.00		24.4	
35	35 Total PFHxS	398.9 > 79.6		6.014e3		1.00		26.1	
36	36 Total PFOA	413 > 368.7		2.549e4		1.00		26.2	
37	37 Total PFOS	499 > 79.9		7.346e3		1.00		30.2	



Dataset: Untitled

Last Altered: Wednesday, November 23, 2016 4:28:09 PM Pacific Standard Time  
 Printed: Wednesday, November 23, 2016 4:29:29 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20  
 Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	161122G2_1	IPA	22-Nov-16	09:47:54
2	161122G2_2	ST161122G2-2 PFC CS-1 16K1705	22-Nov-16	10:00:32
3	161122G2_3	ST161122G2-3 PFC CS0 16K1706	22-Nov-16	10:13:07
4	161122G2_4	ST161122G2-4 PFC CS1 16K1707	22-Nov-16	10:25:42
5	161122G2_5	ST161122G2-5 PFC CS2 16K1708	22-Nov-16	10:38:18
6	161122G2_6	ST161122G2-6 PFC CS3 16K1709	22-Nov-16	10:50:54
7	161122G2_7	ST161122G2-7 PFC CS3.5 16K1710	22-Nov-16	11:03:32
8	161122G2_8	ST161122G2-8 PFC CS4 16K1711	22-Nov-16	11:16:11
9	161122G2_9	ST161122G2-9 PFC CS4.5 16K1712	22-Nov-16	11:28:50
10	161122G2_10	ST161122G2-10 PFC CS5 16K1713	22-Nov-16	11:41:28
11	161122G2_11	IPA	22-Nov-16	11:54:03
12	161122G2_12	SS161122G2-1 PFC SS 16K2201	22-Nov-16	12:06:50
13	161122G2_13	IPA	22-Nov-16	12:19:32
14	161122G2_14	B6K0111-BS1 OPR 0.125	22-Nov-16	12:32:23
15	161122G2_15	B6K0125-BS1 OPR 0.125	22-Nov-16	12:58:17
16	161122G2_16	IPA	22-Nov-16	13:11:00
17	161122G2_17	B6K0125-BLK1 Method Blank 0.125	22-Nov-16	13:23:45
18	161122G2_18	1601433-01 WURTS_LF030/LF031_Eff-16110...	22-Nov-16	13:36:25
19	161122G2_19	1601433-02 WURTS-EB013JH-110816 0.12917	22-Nov-16	13:49:03
20	161122G2_20	1601433-03 WURTS-FB001Lab-110916 0.130...	22-Nov-16	14:01:41
21	161122G2_21	1601433-04 WURTS-FB002Novi-110916 0.12...	22-Nov-16	14:14:20
22	161122G2_22	1601433-05 WURTS-VAS05006-17-20 0.12957	22-Nov-16	14:26:54
23	161122G2_23	1601433-06 WURTS-VAS05006-27-30 0.12495	22-Nov-16	14:39:29
24	161122G2_24	1601433-07 WURTS-VAS05006-37-40 0.12989	22-Nov-16	14:52:05
25	161122G2_25	1601433-08 WURTS-VAS05006-47-50 0.12929	22-Nov-16	15:04:42
26	161122G2_26	1601433-09 WURTS-VAS17002-17-20 0.12603	22-Nov-16	15:17:18
27	161122G2_27	1601433-10 WURTS-VAS17002-27-30 0.12796	22-Nov-16	15:29:56
28	161122G2_28	IPA -11 AMSC 11/23/16	22-Nov-16	15:42:34
29	161122G2_29	ST161122G2-7 PFC CS3.5 16K1710	22-Nov-16	15:55:12
30	161122G2_30	IPA	22-Nov-16	16:07:50
31	161122G2_31	1601433-11 WURTS-VAS17002-37-40 0.1279	22-Nov-16	16:20:28

Work Order 1601431

Dataset: Untitled

Last Altered: Wednesday, November 23, 2016 4:28:09 PM Pacific Standard Time  
Printed: Wednesday, November 23, 2016 4:29:29 PM Pacific Standard Time

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
32	161122G2_32	1601433-12 WURTS-VAS17002-46.5-49.5 0.1...	22-Nov-16	16:33:07
33	161122G2_33	1601433-13 WURTS-EB014JH-110916 0.12806	22-Nov-16	16:45:42
34	161122G2_34	1601433-14 WURTS-VAS11022-17-20 0.12232	22-Nov-16	16:58:17
35	161122G2_35	1601433-15 WURTS-VAS11022-17-20_FD 0.1...	22-Nov-16	17:10:54
36	161122G2_36	1601433-16 WURTS-VAS11022-27-30 0.12713	22-Nov-16	17:23:30
37	161122G2_37	1601433-17 WURTS-VAS11022-37-40 0.1263	22-Nov-16	17:36:06
38	161122G2_38	1601433-18 WURTS-VAS11022-47-450 0.128...	22-Nov-16	17:48:44
39	161122G2_39	IPA <i>-12 AMSC 11/23/16</i>	22-Nov-16	18:01:22
40	161122G2_40	ST161122G2 <sup>1</sup> PFC CS3.5 16K1710	22-Nov-16	18:14:00
41	161122G2_41	IPA	22-Nov-16	18:26:38
42	161122G2_42	B6K0124-BS1 LCS 0.125	22-Nov-16	18:39:18
43	161122G2_43	B6K0124-BS1 LCS Dup 0.125	22-Nov-16	18:51:56
44	161122G2_44	IPA	22-Nov-16	19:04:31
45	161122G2_45	B6K0124-BLK1 Method Blank 0.125	22-Nov-16	19:17:09
46	161122G2_46	1601365-07 SW-NRES031-FRB-10252016 0....	22-Nov-16	19:29:44
47	161122G2_47	1601365-09 SW-NRES032-FRB-10252016 0....	22-Nov-16	19:42:20
48	161122G2_48	1601398-02 SW-NRES020-FRB-110116 0.129...	22-Nov-16	19:54:56
49	161122G2_49	1601420-01 FTWG-MW-02-1116 0.10754	22-Nov-16	20:07:33
50	161122G2_50	1601420-02 OC-EB110816 0.13201	22-Nov-16	20:20:10
51	161122G2_51	1601420-03 OC-FB110816 0.1276	22-Nov-16	20:32:48
52	161122G2_52	IPA <i>-13 AMSC 11/23/16</i>	22-Nov-16	20:45:27
53	161122G2_53	ST161122G2 <sup>2</sup> PFC CS3.5 16K1710	22-Nov-16	20:58:05
54	161122G2_54	IPA	22-Nov-16	21:10:43
55	161122G2_55	IPA	22-Nov-16	21:23:21
56	161122G2_56	PFTEDA QC F1	22-Nov-16	21:35:59
57	161122G2_57	PFTEDA QC F3	22-Nov-16	21:48:34
58	161122G2_58	PFTEDA QC F4	22-Nov-16	22:01:09
59	161122G2_59	IPA	22-Nov-16	22:13:45

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-53.qld

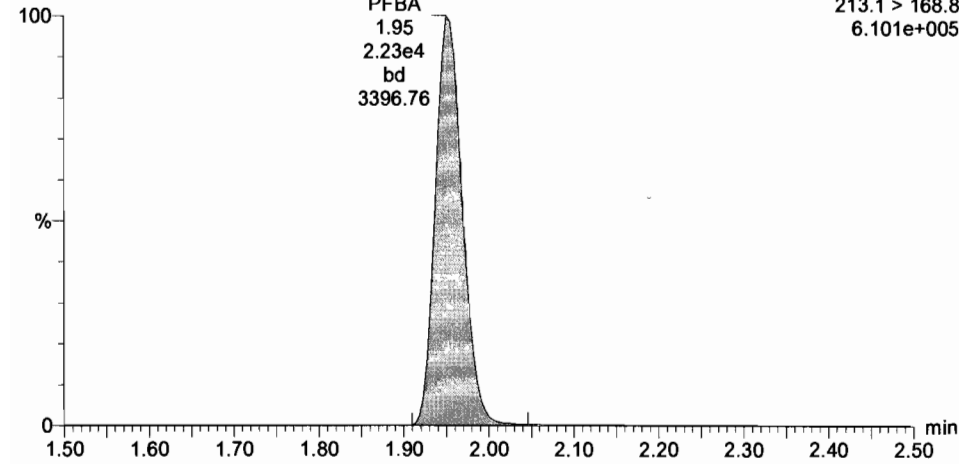
Last Altered: Wednesday, November 23, 2016 4:16:51 PM Pacific Standard Time  
Printed: Wednesday, November 23, 2016 4:17:47 PM Pacific Standard Time

Method: U:\G1.pro\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20  
Calibration: U:\G1.pro\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

ID: ST161122G2-8 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_53, Date: 22-Nov-2016, Time: 20:58:05, Instrument: , Lab: , User:

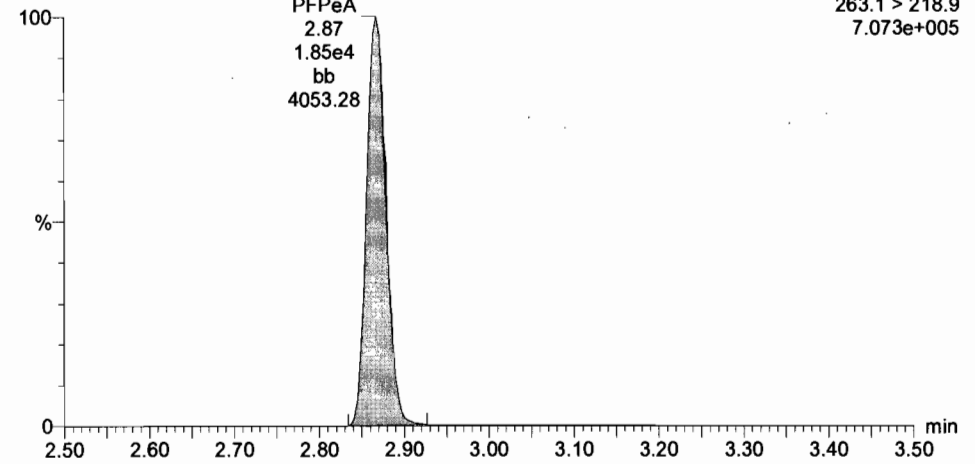
**PFBA**

161122G2\_53



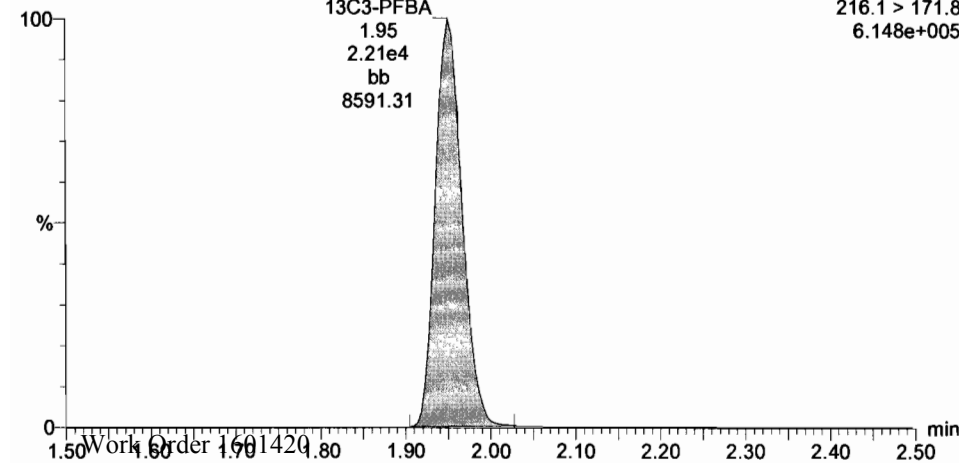
**PFPeA**

161122G2\_53



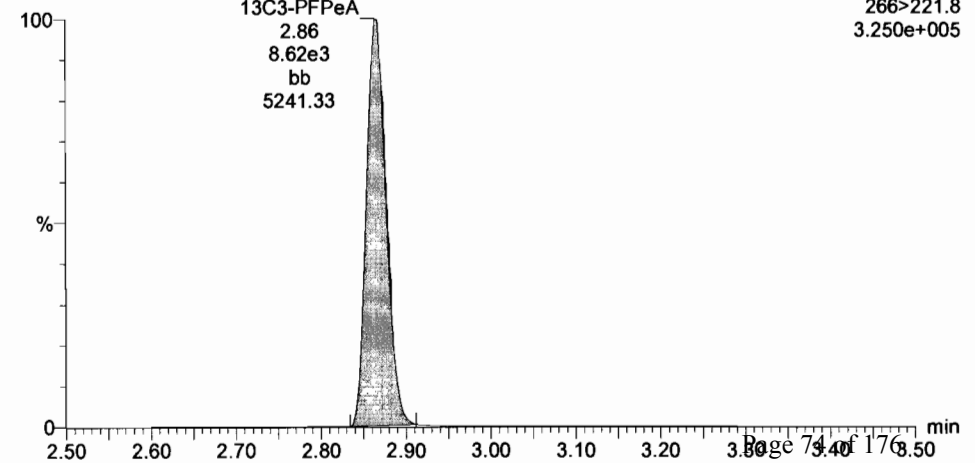
**13C3-PFBA**

161122G2\_53



**13C3-PFPeA**

161122G2\_53



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-53.qld

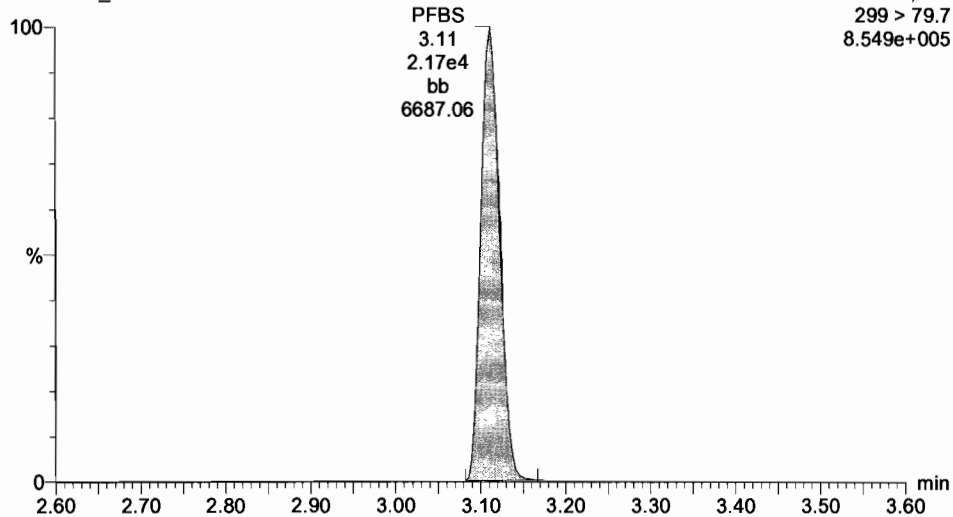
Last Altered: Wednesday, November 23, 2016 4:16:51 PM Pacific Standard Time  
Printed: Wednesday, November 23, 2016 4:17:47 PM Pacific Standard Time

ID: ST161122G2-8 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_53, Date: 22-Nov-2016, Time: 20:58:05, Instrument: , Lab: , User:

**Total PFBS**

161122G2\_53

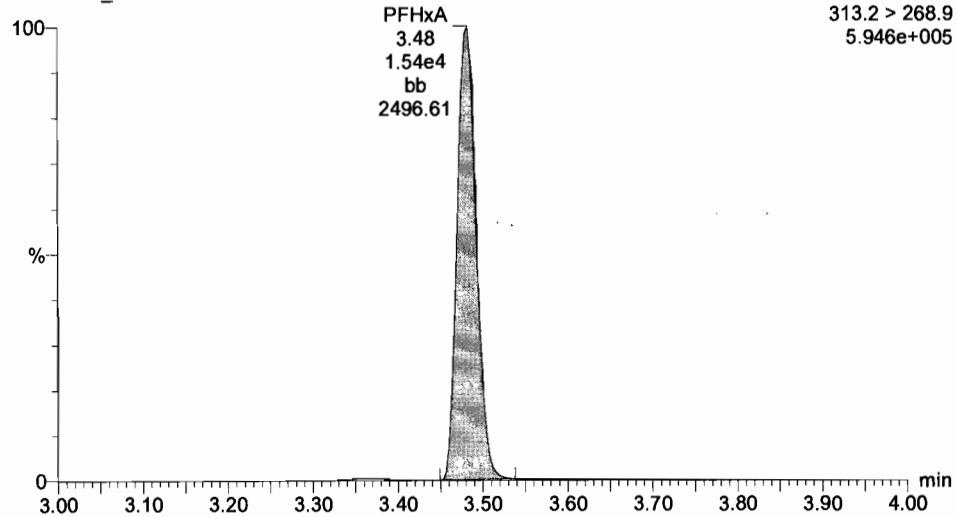
F3:MRM of 4 channels,ES-  
299 > 79.7  
8.549e+005



**PFHxA**

161122G2\_53

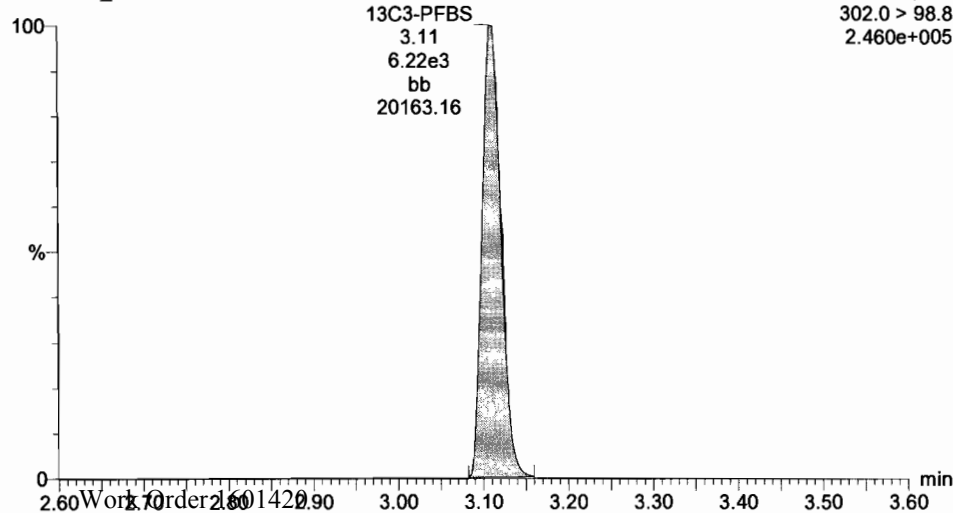
F4:MRM of 4 channels,ES-  
313.2 > 268.9  
5.946e+005



**13C3-PFBS**

161122G2\_53

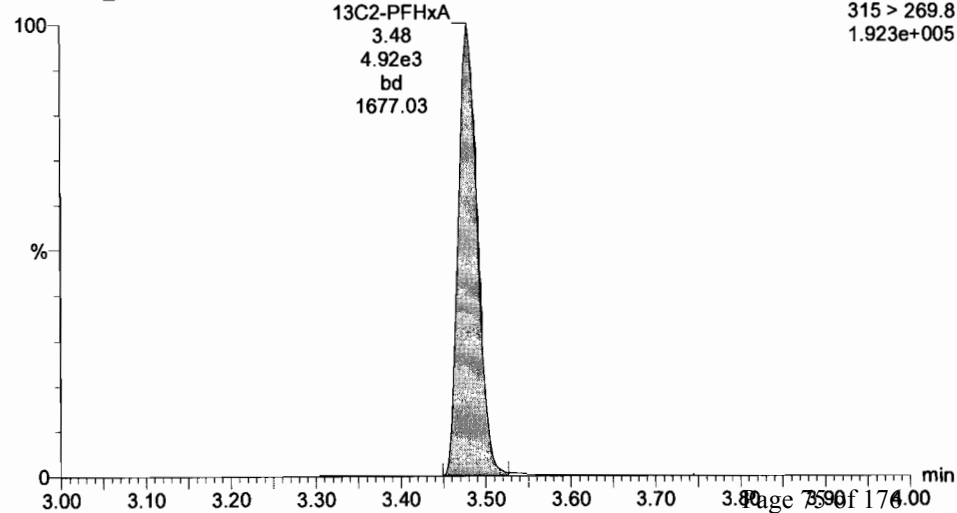
F3:MRM of 4 channels,ES-  
302.0 > 98.8  
2.460e+005



**13C2-PFHxA**

161122G2\_53

F4:MRM of 4 channels,ES-  
315 > 269.8  
1.923e+005



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-53.qld

Last Altered: Wednesday, November 23, 2016 4:16:51 PM Pacific Standard Time

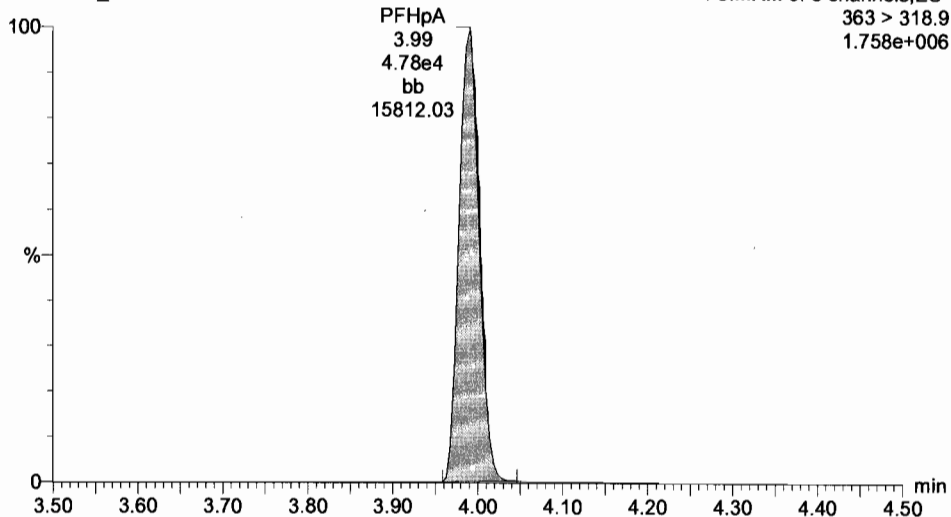
Printed: Wednesday, November 23, 2016 4:17:47 PM Pacific Standard Time

ID: ST161122G2-8 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_53, Date: 22-Nov-2016, Time: 20:58:05, Instrument: , Lab: , User:

**PFHpA**

161122G2\_53

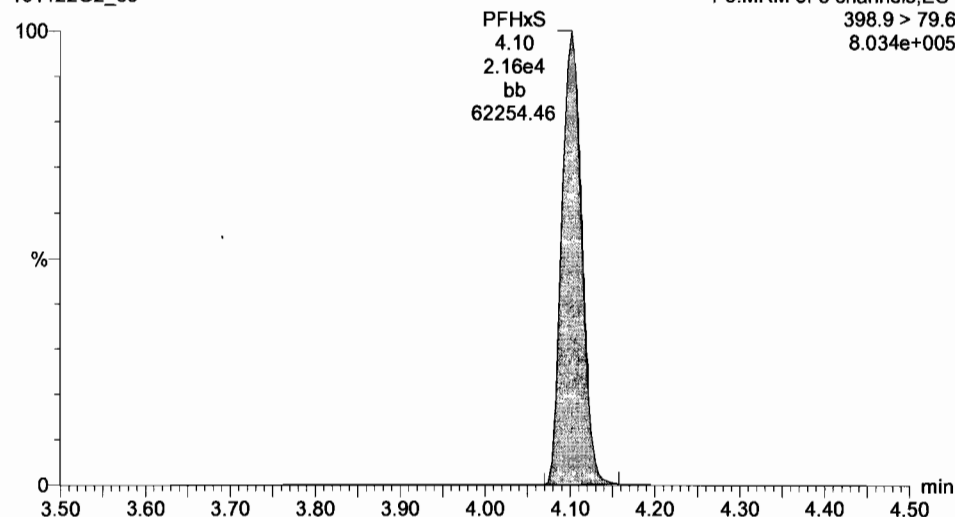
F5:MRM of 5 channels,ES-  
363 > 318.9  
1.758e+006



**Total PFHxS**

161122G2\_53

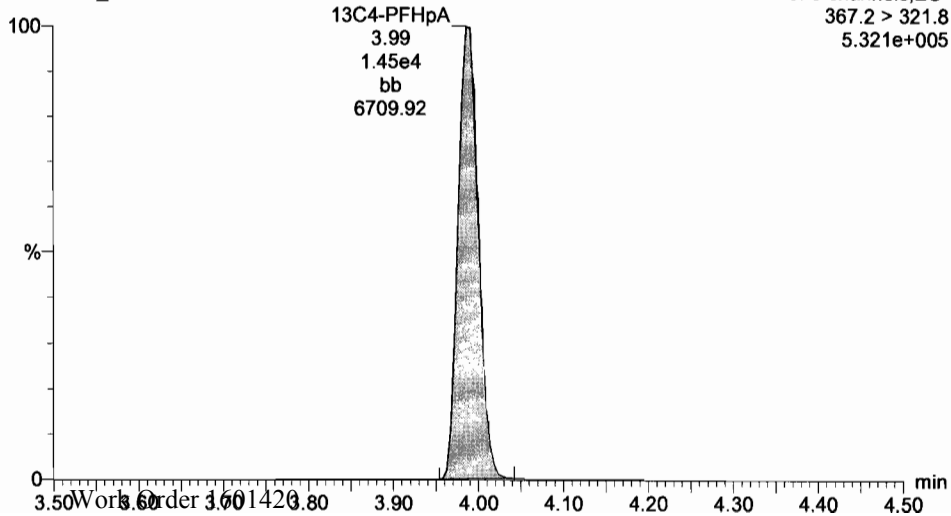
F5:MRM of 5 channels,ES-  
398.9 > 79.6  
8.034e+005



**13C4-PFHpA**

161122G2\_53

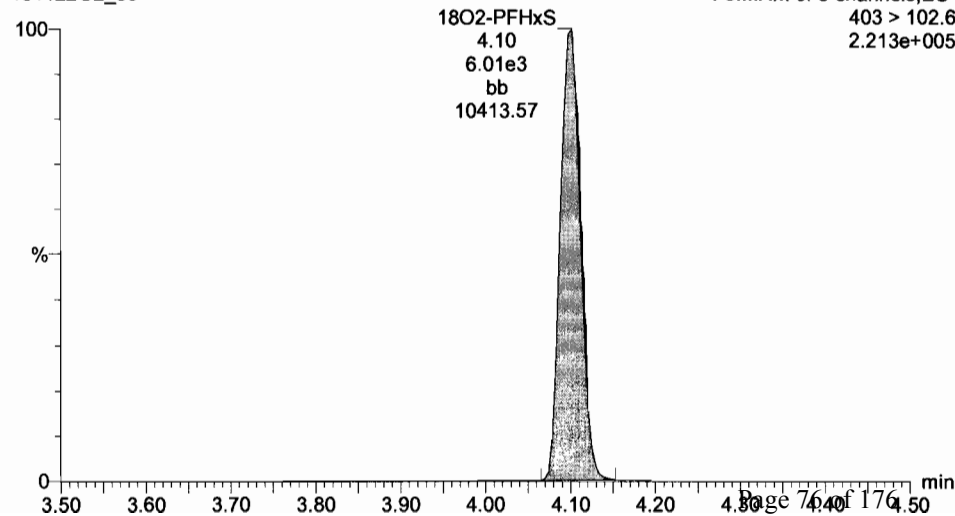
F5:MRM of 5 channels,ES-  
367.2 > 321.8  
5.321e+005



**18O2-PFHxS**

161122G2\_53

F5:MRM of 5 channels,ES-  
403 > 102.6  
2.213e+005



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-53.qld

Last Altered: Wednesday, November 23, 2016 4:16:51 PM Pacific Standard Time

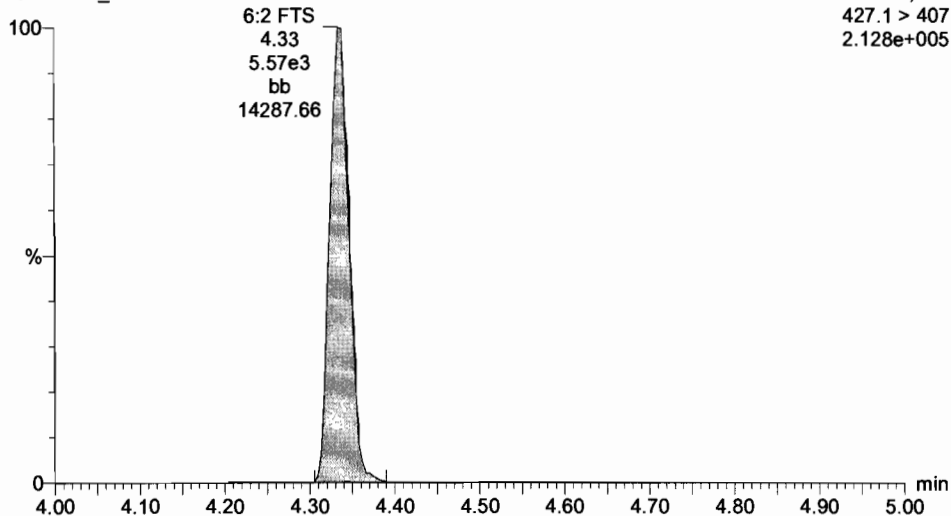
Printed: Wednesday, November 23, 2016 4:17:47 PM Pacific Standard Time

ID: ST161122G2-8 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_53, Date: 22-Nov-2016, Time: 20:58:05, Instrument: , Lab: , User:

**6:2 FTS**

161122G2\_53

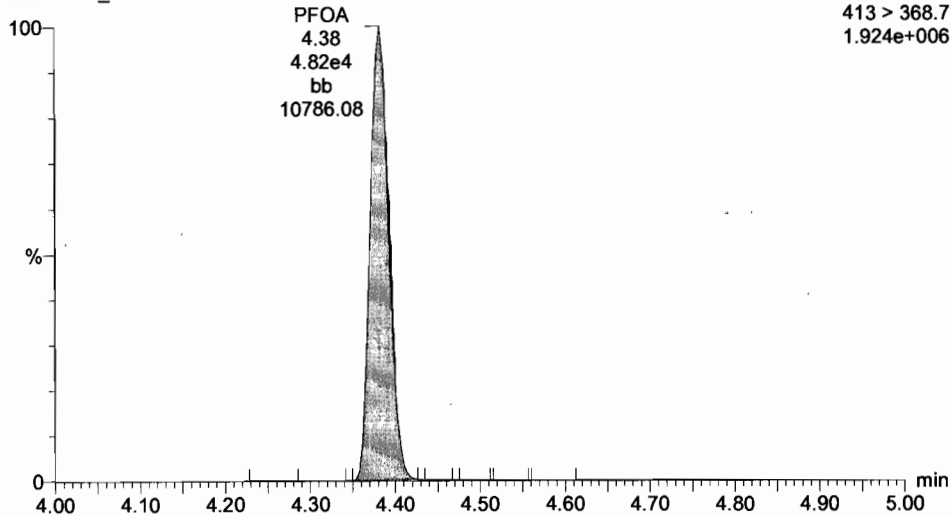
F6:MRM of 16 channels,ES-  
427.1 > 407  
2.128e+005



**Total PFOA**

161122G2\_53

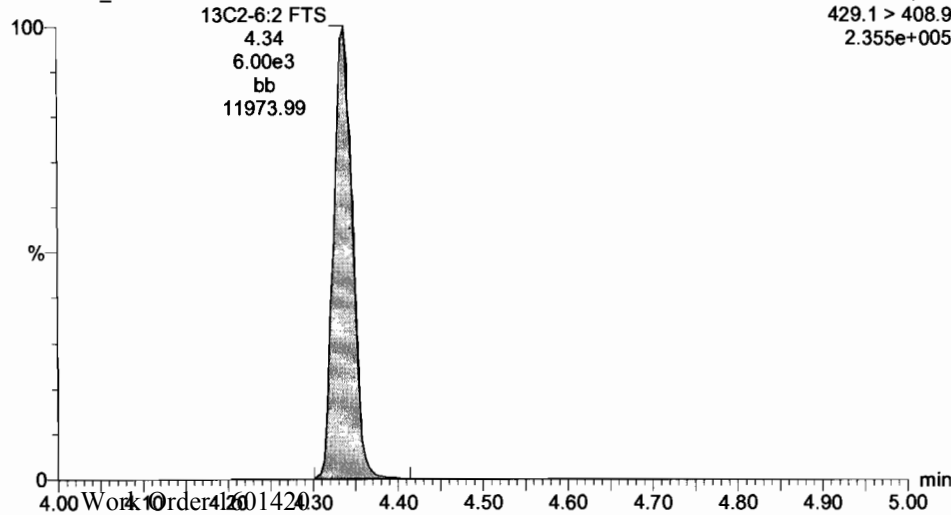
F6:MRM of 16 channels,ES-  
413 > 368.7  
1.924e+006



**13C2-6:2 FTS**

161122G2\_53

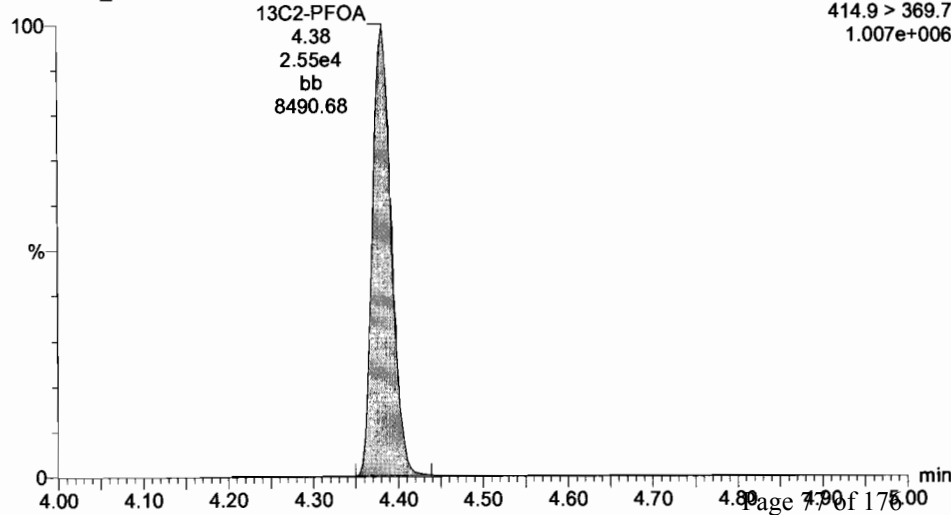
F6:MRM of 16 channels,ES-  
429.1 > 408.9  
2.355e+005



**13C2-PFOA**

161122G2\_53

F6:MRM of 16 channels,ES-  
414.9 > 369.7  
1.007e+006



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-53.qld

Last Altered: Wednesday, November 23, 2016 4:16:51 PM Pacific Standard Time

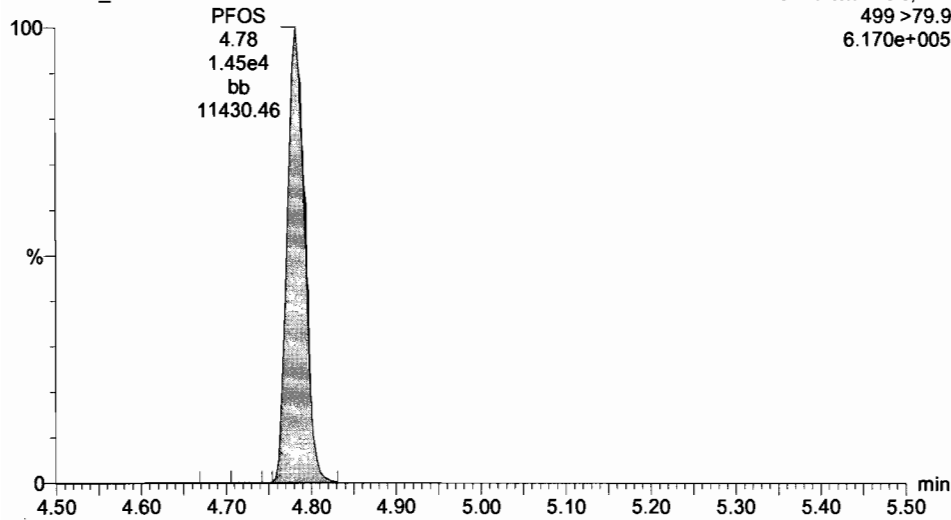
Printed: Wednesday, November 23, 2016 4:17:47 PM Pacific Standard Time

ID: ST161122G2-8 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_53, Date: 22-Nov-2016, Time: 20:58:05, Instrument: , Lab: , User:

**Total PFOS**

161122G2\_53

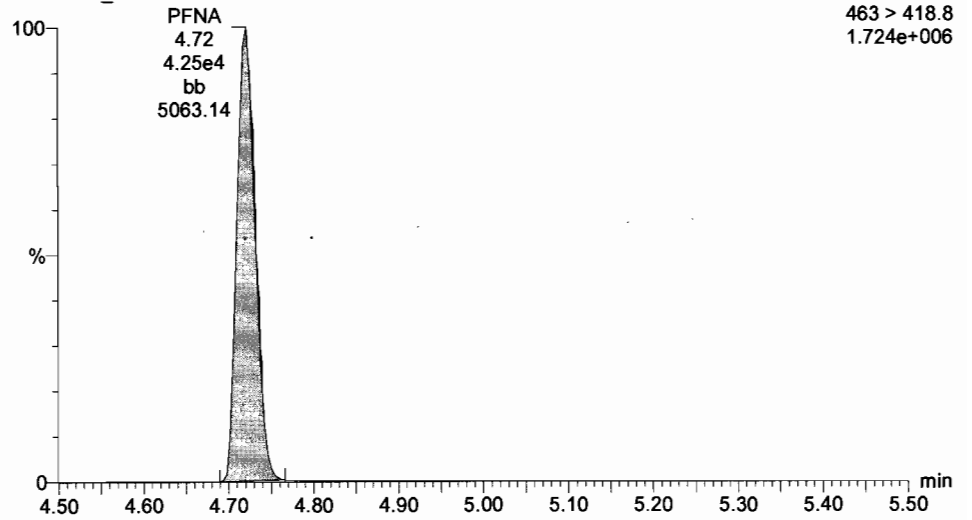
F6:MRM of 16 channels,ES-  
499 > 79.9  
6.170e+005



**PFNA**

161122G2\_53

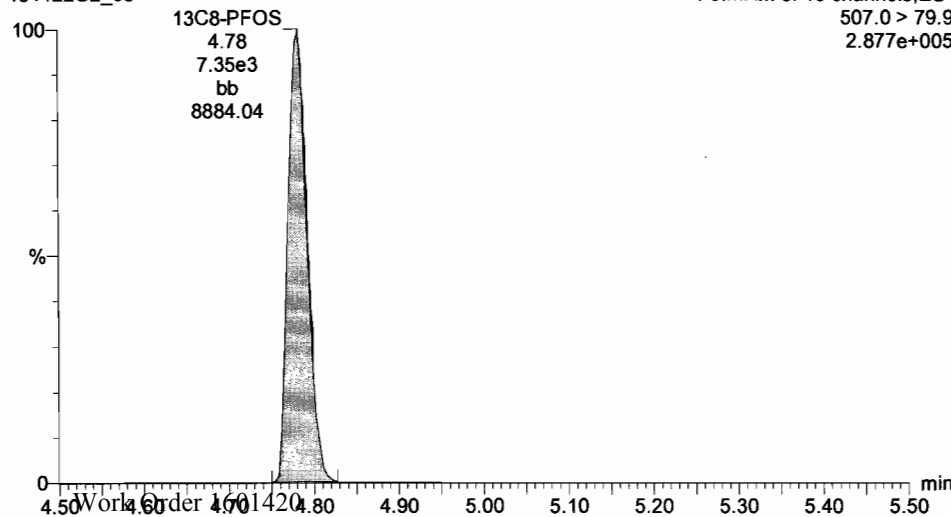
F6:MRM of 16 channels,ES-  
463 > 418.8  
1.724e+006



**13C8-PFOS**

161122G2\_53

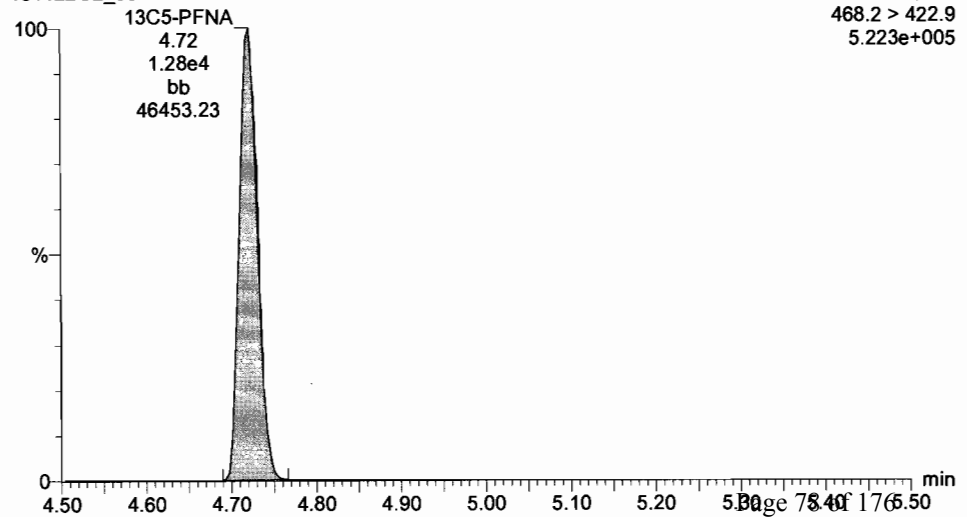
F6:MRM of 16 channels,ES-  
507.0 > 79.9  
2.877e+005



**13C5-PFNA**

161122G2\_53

F6:MRM of 16 channels,ES-  
468.2 > 422.9  
5.223e+005



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-53.qld

Last Altered: Wednesday, November 23, 2016 4:16:51 PM Pacific Standard Time

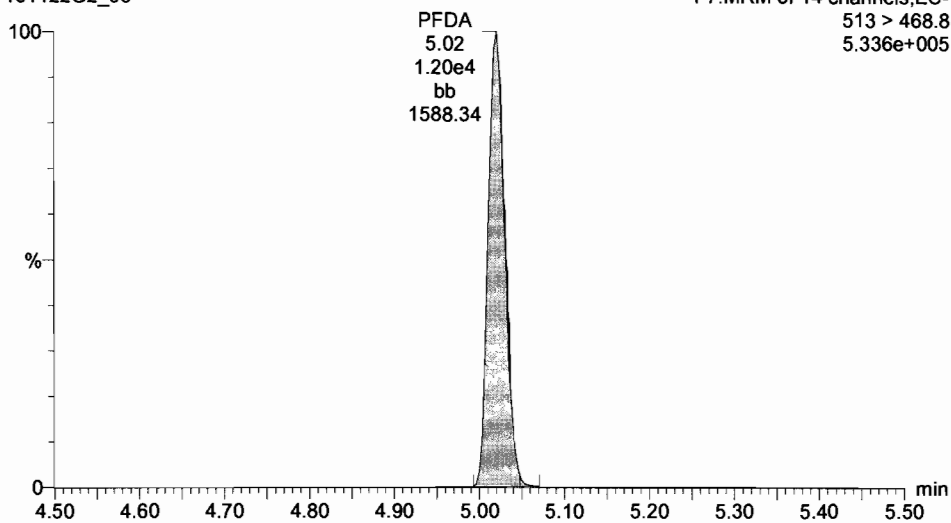
Printed: Wednesday, November 23, 2016 4:17:47 PM Pacific Standard Time

ID: ST161122G2-8 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_53, Date: 22-Nov-2016, Time: 20:58:05, Instrument: , Lab: , User:

**PFDA**

161122G2\_53

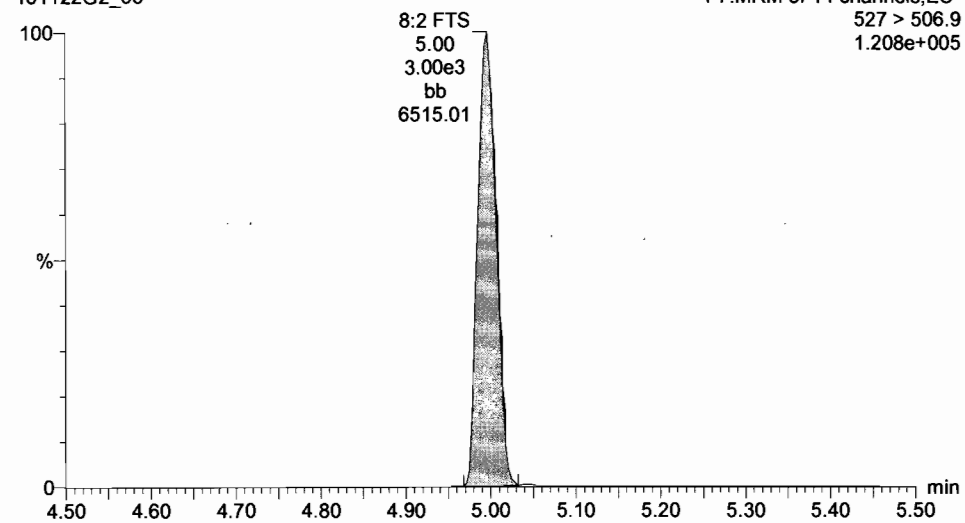
F7:MRM of 14 channels,ES-  
513 > 468.8  
5.336e+005



**8:2 FTS**

161122G2\_53

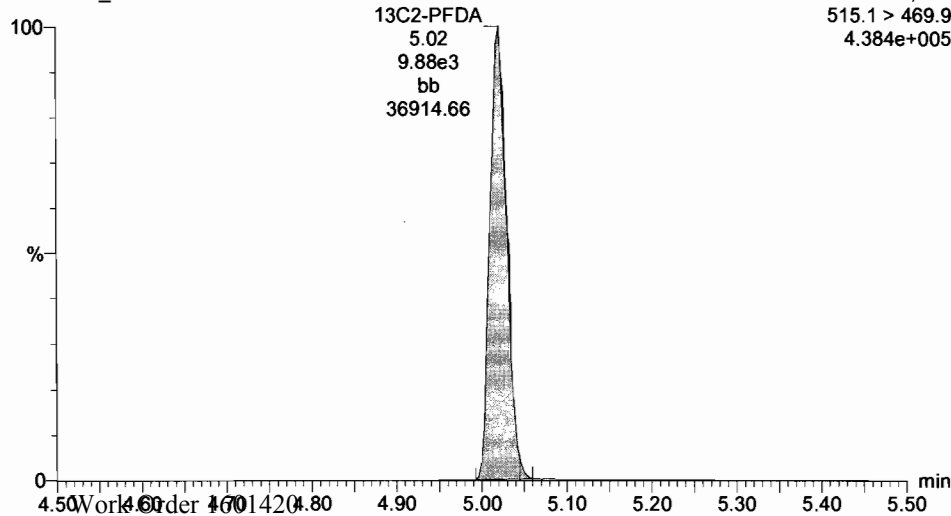
F7:MRM of 14 channels,ES-  
527 > 506.9  
1.208e+005



**13C2-PFDA**

161122G2\_53

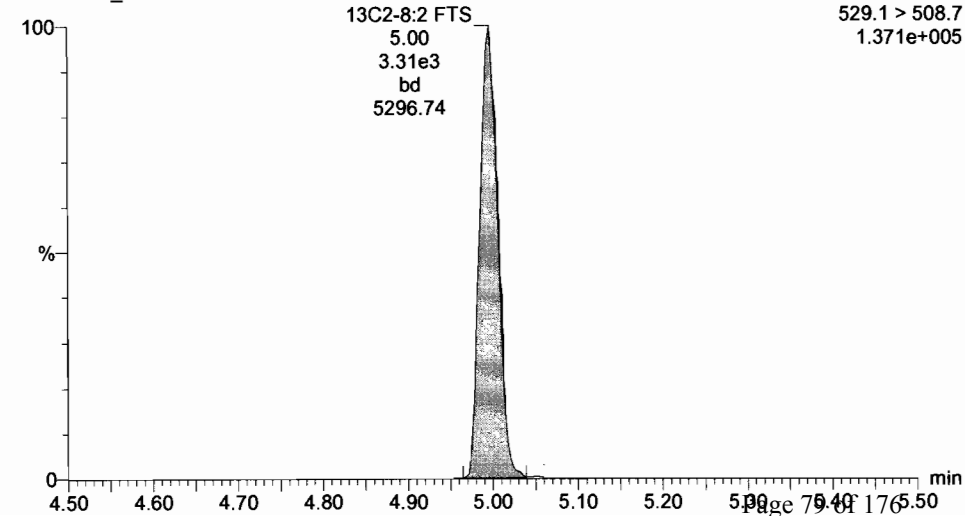
F7:MRM of 14 channels,ES-  
515.1 > 469.9  
4.384e+005



**13C2-8:2 FTS**

161122G2\_53

F7:MRM of 14 channels,ES-  
529.1 > 508.7  
1.371e+005





Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-53.qld

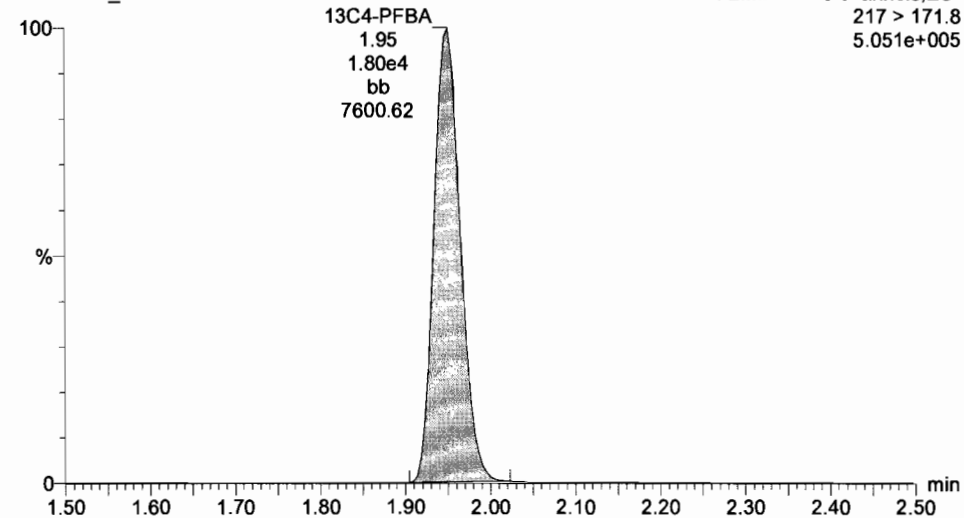
Last Altered: Wednesday, November 23, 2016 4:16:51 PM Pacific Standard Time

Printed: Wednesday, November 23, 2016 4:17:47 PM Pacific Standard Time

ID: ST161122G2-8 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_53, Date: 22-Nov-2016, Time: 20:58:05, Instrument: , Lab: , User:

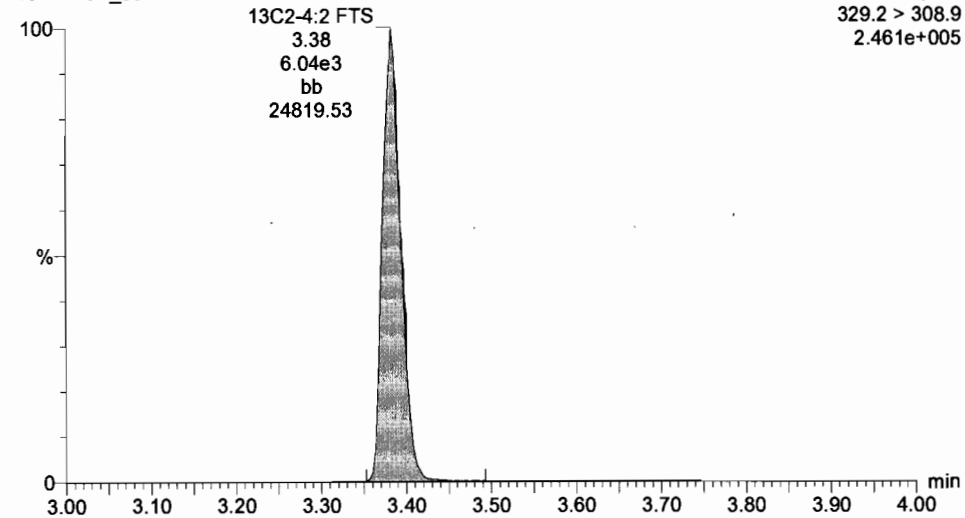
**13C4-PFBA**

161122G2\_53



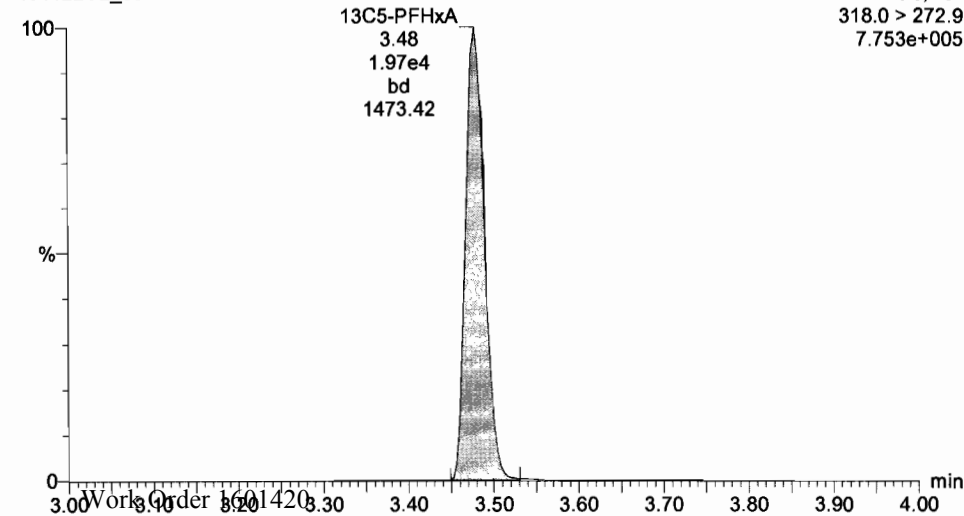
**13C2-4:2 FTS**

161122G2\_53



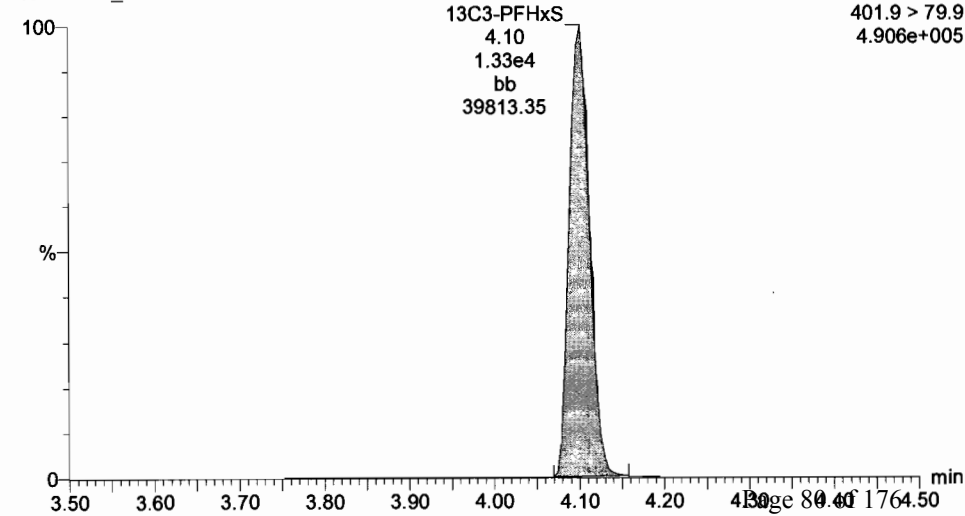
**13C5-PFHxA**

161122G2\_53



**13C3-PFHxS**

161122G2\_53



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-53.qld

Last Altered: Wednesday, November 23, 2016 4:16:51 PM Pacific Standard Time

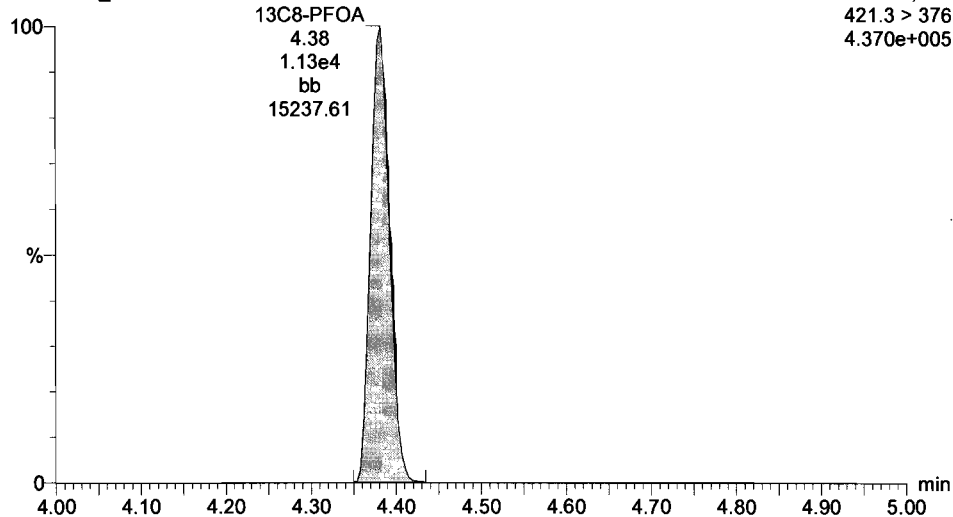
Printed: Wednesday, November 23, 2016 4:17:47 PM Pacific Standard Time

ID: ST161122G2-8 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A, Name: 161122G2\_53, Date: 22-Nov-2016, Time: 20:58:05, Instrument: , Lab: , User:

**13C8-PFOA**

161122G2\_53

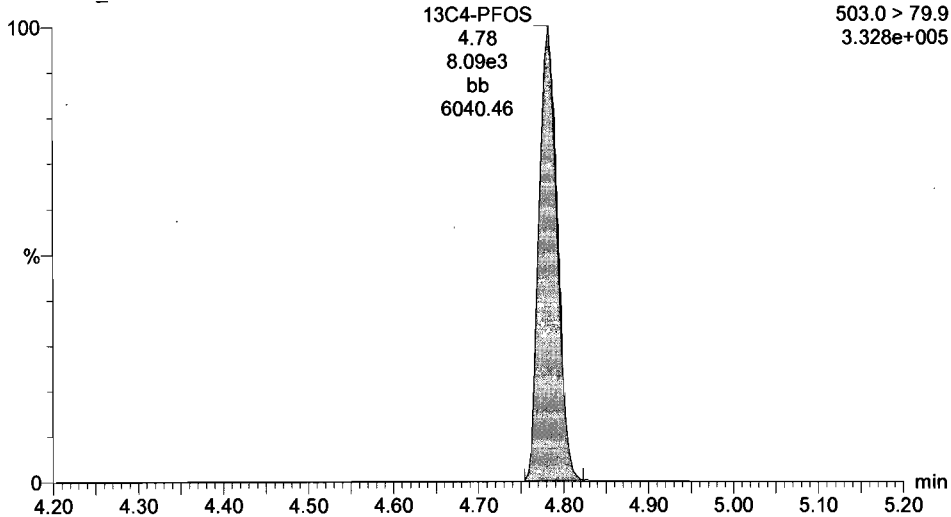
F6:MRM of 16 channels,ES-  
421.3 > 376  
4.370e+005



**13C4-PFOS**

161122G2\_53

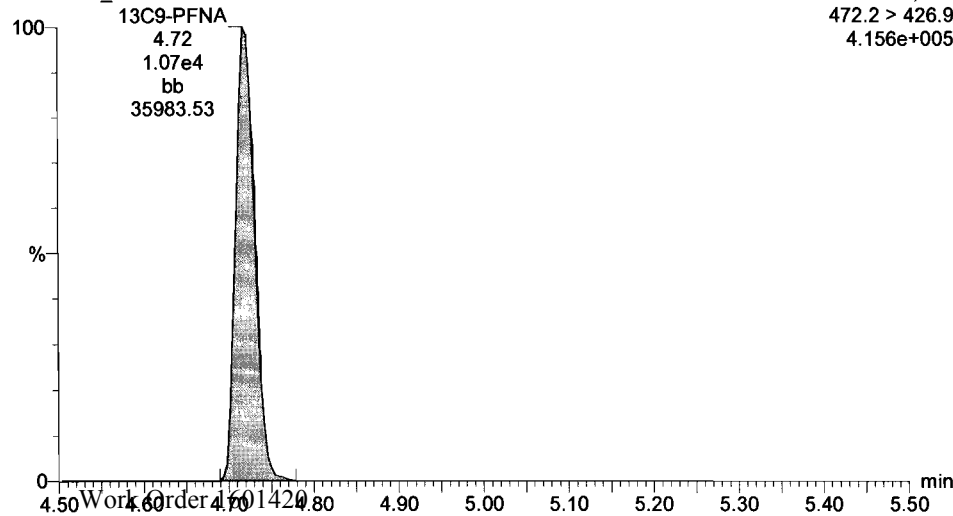
F6:MRM of 16 channels,ES-  
503.0 > 79.9  
3.328e+005



**13C9-PFNA**

161122G2\_53

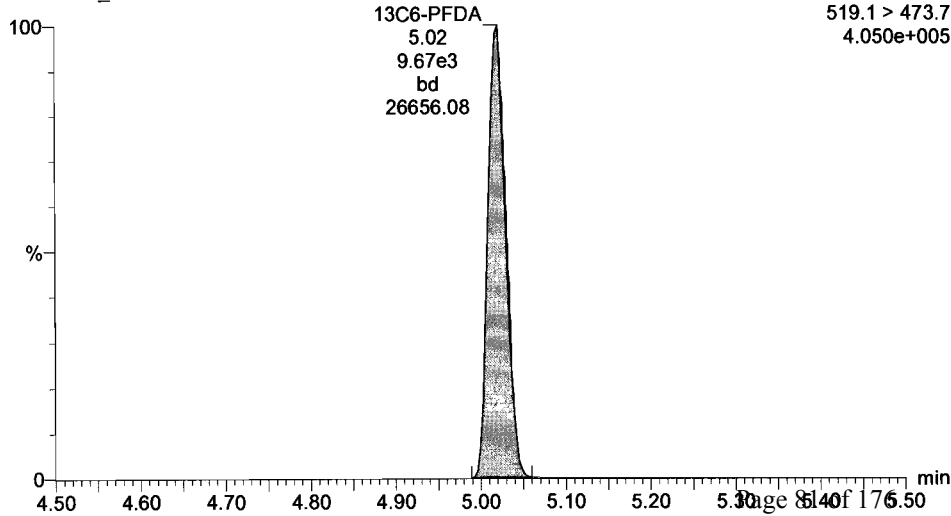
F6:MRM of 16 channels,ES-  
472.2 > 426.9  
4.156e+005



**13C6-PFDA**

161122G2\_53

F7:MRM of 14 channels,ES-  
519.1 > 473.7  
4.050e+005



## **INITIAL CALIBRATION**

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:05

Calibration: U:\G1.PRO\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

**Compound name: PFBA**

Correlation coefficient:  $r = 0.999216$ ,  $r^2 = 0.998432$

Calibration curve:  $0.492927 * x + -0.0410615$

Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	0.500	1.93	4.29e2	2.07e4	0.608	0.518	21.7
2	2 161122G2_3	1.00	1.93	7.79e2	2.25e4	0.959	0.432	-4.1
3	3 161122G2_4	2.00	1.93	1.63e3	2.32e4	1.86	0.439	-6.8
4	4 161122G2_5	5.00	1.93	3.55e3	2.31e4	3.97	0.383	-20.6
5	5 161122G2_6	10.0	1.93	8.96e3	2.17e4	10.6	0.516	5.6
6	6 161122G2_7	25.0	1.93	1.94e4	1.87e4	26.4	0.519	5.5
7	7 161122G2_8	50.0	1.93	3.75e4	1.90e4	50.0	0.492	0.0
8	8 161122G2_9	75.0	1.93	5.74e4	1.98e4	73.5	0.482	-2.0
9	9 161122G2_10	100	1.93	7.24e4	1.83e4	101	0.496	0.7

AC  
11/22/16

**Compound name: PFPeA**

Correlation coefficient:  $r = 0.999341$ ,  $r^2 = 0.998683$

Calibration curve:  $1.00273 * x + -0.119981$

Response type: Internal Std ( Ref 15 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	0.500	2.85	3.66e2	9.28e3	0.611	0.986	22.2
2	2 161122G2_3	1.00	2.85	6.80e2	9.67e3	0.996	0.879	-0.4
3	3 161122G2_4	2.00	2.86	1.32e3	9.90e3	1.79	0.836	-10.6
4	4 161122G2_5	5.00	2.85	3.20e3	1.02e4	4.02	0.782	-19.6
5	5 161122G2_6	10.0	2.85	8.05e3	9.55e3	10.6	1.05	6.4
6	6 161122G2_7	25.0	2.85	1.68e4	8.18e3	25.7	1.03	2.7
7	7 161122G2_8	50.0	2.85	3.26e4	8.27e3	49.3	0.986	-1.5
8	8 161122G2_9	75.0	2.85	4.96e4	8.14e3	76.0	1.01	1.4
9	9 161122G2_10	100	2.85	5.76e4	7.23e3	99.5	0.996	-0.5

CS 4.5 & 5 excluded  
from 6:2 FTS regression.

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: PFBS**

Correlation coefficient:  $r = 0.999283$ ,  $r^2 = 0.998566$

Calibration curve:  $1.79216 * x + -0.145672$

Response type: Internal Std ( Ref 16 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#.Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	0.500	3.10	4.84e2	6.26e3	0.620	1.93	24.1
2	2 161122G2_3	1.00	3.10	8.53e2	6.27e3	1.03	1.70	3.1
3	3 161122G2_4	2.00	3.10	1.59e3	6.78e3	1.72	1.47	-14.0
4	4 161122G2_5	5.00	3.10	4.15e3	7.36e3	4.01	1.41	-19.7
5	5 161122G2_6	10.0	3.10	9.73e3	6.40e3	10.7	1.90	7.0
6	6 161122G2_7	25.0	3.10	2.06e4	5.76e3	25.0	1.79	-0.1
7	7 161122G2_8	50.0	3.10	3.75e4	5.35e3	48.9	1.75	-2.2
8	8 161122G2_9	75.0	3.10	5.77e4	5.29e3	76.2	1.82	1.6
9	9 161122G2_10	100	3.10	7.03e4	4.89e3	100	1.80	0.4

**Compound name: PFHxA**

Correlation coefficient:  $r = 0.999245$ ,  $r^2 = 0.998491$

Calibration curve:  $0.598427 * x + 0.0095449$

Response type: Internal Std ( Ref 17 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#.Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	0.500	3.47	3.91e2	5.21e3	0.612	0.751	22.3
2	2 161122G2_3	1.00	3.47	6.55e2	5.44e3	0.989	0.602	-1.1
3	3 161122G2_4	2.00	3.47	1.13e3	5.54e3	1.69	0.512	-15.3
4	4 161122G2_5	5.00	3.47	2.82e3	5.55e3	4.23	0.508	-15.5
5	5 161122G2_6	10.0	3.47	6.63e3	5.30e3	10.4	0.625	4.3
6	6 161122G2_7	25.0	3.47	1.40e4	4.52e3	25.9	0.621	3.6
7	7 161122G2_8	50.0	3.47	2.69e4	4.31e3	52.1	0.624	4.2
8	8 161122G2_9	75.0	3.47	4.00e4	4.48e3	74.5	0.594	-0.7
9	9 161122G2_10	100	3.47	4.95e4	4.22e3	98.0	0.587	-2.0

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: PFHpA**

Correlation coefficient:  $r = 0.999639$ ,  $r^2 = 0.999279$

Calibration curve:  $1.55279 * x + -0.138431$

Response type: Internal Std ( Ref 18 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#.Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	0.500	3.98	9.73e2	1.51e4	0.608	1.61	21.5
2	2 161122G2_3	1.00	3.98	1.74e3	1.58e4	0.979	1.38	-2.1
3	3 161122G2_4	2.00	3.98	3.68e3	1.71e4	1.82	1.34	-9.2
4	4 161122G2_5	5.00	3.98	8.49e3	1.63e4	4.28	1.30	-14.3
5	5 161122G2_6	10.0	3.98	2.03e4	1.60e4	10.3	1.58	3.0
6	6 161122G2_7	25.0	3.98	4.48e4	1.42e4	25.4	1.57	1.7
7	7 161122G2_8	50.0	3.98	8.30e4	1.36e4	49.2	1.52	-1.7
8	8 161122G2_9	75.0	3.98	1.27e5	1.35e4	75.5	1.56	0.7
9	9 161122G2_10	100	3.98	1.54e5	1.23e4	100	1.56	0.4

**Compound name: PFHxS**

Correlation coefficient:  $r = 0.998761$ ,  $r^2 = 0.997524$

Calibration curve:  $1.72095 * x + -0.0266266$

Response type: Internal Std ( Ref 19 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#.Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	0.500	4.09	4.64e2	6.01e3	0.576	1.93	15.3
2	2 161122G2_3	1.00	4.09	8.63e2	6.30e3	1.01	1.71	1.1
3	3 161122G2_4	2.00	4.09	1.70e3	7.02e3	1.78	1.51	-11.2
4	4 161122G2_5	5.00	4.09	3.79e3	6.33e3	4.36	1.49	-12.8
5	5 161122G2_6	10.0	4.09	8.81e3	6.15e3	10.4	1.79	4.1
6	6 161122G2_7	25.0	4.09	2.00e4	5.33e3	27.2	1.87	8.9
7	7 161122G2_8	50.0	4.09	3.53e4	5.46e3	47.1	1.62	-5.9
8	8 161122G2_9	75.0	4.09	5.41e4	5.36e3	73.4	1.68	-2.2
9	9 161122G2_10	100	4.09	7.00e4	4.95e3	103	1.77	2.7

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: 6:2 FTS**

Coefficient of Determination:  $R^2 = 0.978941$

Calibration curve:  $0.00135992 * x^2 + 0.414129 * x + -0.114975$

Response type: Internal Std ( Ref 20 ), Area \* ( IS Conc. / IS Area )

Curve type: 2nd Order, Origin: Exclude, Weighting:  $1/x^2$ , Axis trans: None

	#.Name	Std. Conc	RT	Resp	IS Resp	Conc	RRF	%Dev
1	1 161122G2_2	0.500	4.33	4.92e1	6.03e3	0.523	0.204	4.6
2	2 161122G2_3	1.00	4.33	1.34e2	6.29e3	0.919	0.267	-8.1
3	3 161122G2_4	2.00	4.33	3.55e2	6.05e3	2.03	0.366	1.7
4	4 161122G2_5	5.00	4.32	9.08e2	6.94e3	4.17	0.327	-16.6
5	5 161122G2_6	10.0	4.32	1.95e3	5.43e3	10.7	0.449	7.3
6	6 161122G2_7	25.0	4.32	5.91e3	5.54e3	29.6	0.534	18.5
7	7 161122G2_8	50.0	4.32	9.32e3	5.35e3	45.9	0.436	-8.1
8	8 161122G2_9	75.0	4.32	1.61e4	7.05e3	58.2	0.381	-22.5
9	9 161122G2_10	100	4.32	2.02e4	6.58e3	74.5	0.383	-25.5

**Compound name: PFOA**

Correlation coefficient:  $r = 0.999524$ ,  $r^2 = 0.999048$

Calibration curve:  $0.899906 * x + 0.0917344$

Response type: Internal Std ( Ref 21 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting:  $1/x$ , Axis trans: None

	#.Name	Std. Conc	RT	Resp	IS Resp	Conc	RRF	%Dev
1	1 161122G2_2	0.500	4.37	1.09e3	2.40e4	0.527	1.13	5.5
2	2 161122G2_3	1.00	4.37	2.24e3	2.87e4	0.983	0.976	-1.7
3	3 161122G2_4	2.00	4.37	4.08e3	2.79e4	1.93	0.915	-3.4
4	4 161122G2_5	5.00	4.37	9.24e3	2.85e4	4.40	0.811	-11.9
5	5 161122G2_6	10.0	4.37	2.04e4	2.60e4	10.8	0.982	8.1
6	6 161122G2_7	25.0	4.37	4.59e4	2.44e4	26.0	0.941	4.2
7	7 161122G2_8	50.0	4.37	8.53e4	2.35e4	50.3	0.908	0.7
8	8 161122G2_9	75.0	4.37	1.30e5	2.38e4	75.6	0.908	0.8
9	9 161122G2_10	100	4.37	1.53e5	2.17e4	97.9	0.882	-2.1

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: PFHpS**

Correlation coefficient:  $r = 0.997800$ ,  $r^2 = 0.995604$

Calibration curve:  $0.0921515 * x + -0.0228444$

Response type: Internal Std ( Ref 21 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	0.500	4.45	5.82e1	2.40e4	0.577	0.0606	15.3
2	2 161122G2_3	1.00	4.45	1.24e2	2.87e4	0.834	0.0540	-16.6
3	3 161122G2_4	2.00	4.45	3.98e2	2.79e4	2.18	0.0892	9.2
4	4 161122G2_5	5.00	4.45	9.47e2	2.85e4	4.76	0.0832	-4.8
5	5 161122G2_6	10.0	4.45	1.65e3	2.60e4	8.86	0.0794	-11.4
6	6 161122G2_7	25.0	4.45	5.10e3	2.44e4	28.6	0.105	14.5
7	7 161122G2_8	50.0	4.45	8.06e3	2.35e4	46.8	0.0858	-6.4
8	8 161122G2_9	75.0	4.45	1.27e4	2.38e4	72.8	0.0891	-3.0
9	9 161122G2_10	100	4.45	1.64e4	2.17e4	103	0.0948	3.1

**Compound name: PFOS**

Correlation coefficient:  $r = 0.996761$ ,  $r^2 = 0.993532$

Calibration curve:  $0.83439 * x + -0.165838$

Response type: Internal Std ( Ref 22 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	0.500	4.78	1.21e2	5.26e3	0.543	0.574	8.5
2	2 161122G2_3	1.00	4.77	3.67e2	7.35e3	0.947	0.624	-5.3
3	3 161122G2_4	2.00	4.77	8.56e2	8.95e3	1.63	0.598	-18.4
4	4 161122G2_5	5.00	4.77	2.17e3	6.87e3	4.93	0.790	-1.4
5	5 161122G2_6	10.0	4.77	4.69e3	7.23e3	9.90	0.810	-1.0
6	6 161122G2_7	25.0	4.77	1.42e4	6.95e3	30.8	1.02	23.3
7	7 161122G2_8	50.0	4.78	1.92e4	5.80e3	49.9	0.830	-0.1
8	8 161122G2_9	75.0	4.77	3.52e4	7.19e3	73.6	0.817	-1.8
9	9 161122G2_10	100	4.77	4.44e4	6.93e3	96.1	0.800	-3.9



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: PFNA**

Correlation coefficient:  $r = 0.997674$ ,  $r^2 = 0.995354$

Calibration curve:  $1.64181 * x + -0.17063$

Response type: Internal Std ( Ref 23 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#.Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	0.500	4.72	5.63e2	1.06e4	0.509	1.33	1.7
2	2 161122G2_3	1.00	4.71	1.61e3	1.33e4	1.02	1.51	2.5
3	3 161122G2_4	2.00	4.71	3.31e3	1.23e4	2.16	1.68	7.8
4	4 161122G2_5	5.00	4.71	7.19e3	1.28e4	4.37	1.40	-12.5
5	5 161122G2_6	10.0	4.71	1.72e4	1.33e4	10.0	1.63	0.1
6	6 161122G2_7	25.0	4.71	4.06e4	1.21e4	25.6	1.67	2.3
7	7 161122G2_8	50.0	4.71	6.88e4	1.04e4	50.5	1.65	1.0
8	8 161122G2_9	75.0	4.71	1.10e5	1.23e4	68.0	1.49	-9.3
9	9 161122G2_10	100	4.71	1.49e5	1.07e4	106	1.74	6.3

**Compound name: PFDA**

Correlation coefficient:  $r = 0.998669$ ,  $r^2 = 0.997340$

Calibration curve:  $0.596457 * x + -0.0200723$

Response type: Internal Std ( Ref 24 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#.Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	0.500	5.01	1.30e2	6.01e3	0.486	0.540	-2.7
2	2 161122G2_3	1.00	5.01	3.72e2	8.51e3	0.949	0.546	-5.1
3	3 161122G2_4	2.00	5.01	8.65e2	8.73e3	2.11	0.620	5.6
4	4 161122G2_5	5.00	5.01	1.70e3	8.07e3	4.44	0.526	-11.1
5	5 161122G2_6	10.0	5.01	3.83e3	7.02e3	11.5	0.683	14.8
6	6 161122G2_7	25.0	5.01	1.25e4	1.01e4	26.1	0.622	4.4
7	7 161122G2_8	50.0	5.01	1.45e4	6.60e3	46.1	0.550	-7.7
8	8 161122G2_9	75.0	5.01	3.19e4	8.88e3	75.4	0.599	0.5
9	9 161122G2_10	100	5.01	4.34e4	8.96e3	101	0.605	1.5

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: 8:2 FTS**

Coefficient of Determination: R<sup>2</sup> = 0.984052

Calibration curve: -0.000479329 \* x<sup>2</sup> + 0.502189 \* x + 0.00235356

Response type: Internal Std ( Ref 25 ), Area \* ( IS Conc. / IS Area )

Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#.Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	0.500	4.99	4.13e1	2.12e3	0.479	0.486	-4.1
2	2 161122G2_3	1.00	4.99	1.45e2	3.66e3	0.984	0.496	-1.6
3	3 161122G2_4	2.00	4.99	2.64e2	2.69e3	2.44	0.613	22.1
4	4 161122G2_5	5.00	4.99	4.56e2	2.74e3	4.16	0.416	-16.8
5	5 161122G2_6	10.0	4.99	1.14e3	3.15e3	9.07	0.452	-9.3
6	6 161122G2_7	25.0	4.99	4.23e3	3.62e3	29.9	0.584	19.7
7	7 161122G2_8	50.0	4.99	4.24e3	2.69e3	40.8	0.394	-18.4
8	8 161122G2_9	75.0	4.99	1.23e4	3.97e3	84.1	0.518	12.1
9	9 161122G2_10	100	4.99	1.62e4	4.58e3	96.8	0.441	-3.2

**Compound name: 13C3-PFBA**

Response Factor: 1.20506

RRF SD: 0.0553973, Relative SD: 4.59706

Response type: Internal Std ( Ref 26 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	#.Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	1.93	2.07e4	1.76e4	12.2	1.18	-2.2
2	2 161122G2_3	12.5	1.93	2.25e4	1.85e4	12.6	1.22	1.0
3	3 161122G2_4	12.5	1.93	2.32e4	1.80e4	13.4	1.29	7.0
4	4 161122G2_5	12.5	1.93	2.31e4	1.91e4	12.6	1.21	0.8
5	5 161122G2_6	12.5	1.93	2.17e4	1.69e4	13.3	1.29	6.8
6	6 161122G2_7	12.5	1.93	1.87e4	1.58e4	12.3	1.18	-2.0
7	7 161122G2_8	12.5	1.93	1.90e4	1.64e4	12.1	1.16	-3.6
8	8 161122G2_9	12.5	1.93	1.98e4	1.66e4	12.4	1.20	-0.7
9	9 161122G2_10	12.5	1.93	1.83e4	1.63e4	11.6	1.12	-7.1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: 13C3-PFPeA**

Response Factor: 0.447597

RRF SD: 0.0175301, Relative SD: 3.9165

Response type: Internal Std ( Ref 28 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	2.85	9.28e3	2.07e4	12.5	0.448	0.1
2	2 161122G2_3	12.5	2.85	9.67e3	2.17e4	12.4	0.445	-0.6
3	3 161122G2_4	12.5	2.85	9.90e3	2.11e4	13.1	0.469	4.8
4	4 161122G2_5	12.5	2.85	1.02e4	2.20e4	13.0	0.466	4.1
5	5 161122G2_6	12.5	2.85	9.55e3	2.15e4	12.4	0.445	-0.6
6	6 161122G2_7	12.5	2.85	8.18e3	1.89e4	12.1	0.434	-3.1
7	7 161122G2_8	12.5	2.85	8.27e3	1.78e4	13.0	0.465	3.9
8	8 161122G2_9	12.5	2.85	8.14e3	1.84e4	12.4	0.443	-1.0
9	9 161122G2_10	12.5	2.85	7.23e3	1.75e4	11.6	0.414	-7.5

**Compound name: 13C3-PFBS**

Response Factor: 0.302055

RRF SD: 0.0171236, Relative SD: 5.66905

Response type: Internal Std ( Ref 28 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	3.10	6.26e3	2.07e4	12.5	0.302	0.1
2	2 161122G2_3	12.5	3.10	6.27e3	2.17e4	11.9	0.288	-4.6
3	3 161122G2_4	12.5	3.10	6.78e3	2.11e4	13.3	0.321	6.4
4	4 161122G2_5	12.5	3.10	7.36e3	2.20e4	13.8	0.335	10.8
5	5 161122G2_6	12.5	3.10	6.40e3	2.15e4	12.3	0.298	-1.4
6	6 161122G2_7	12.5	3.10	5.76e3	1.89e4	12.6	0.306	1.1
7	7 161122G2_8	12.5	3.10	5.35e3	1.78e4	12.5	0.301	-0.4
8	8 161122G2_9	12.5	3.10	5.29e3	1.84e4	11.9	0.288	-4.7
9	9 161122G2_10	12.5	3.10	4.89e3	1.75e4	11.6	0.280	-7.3

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: 13C2-PFHxA**

Response Factor: 0.619528

RRF SD: 0.0178176, Relative SD: 2.876

Response type: Internal Std ( Ref 28 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	5.00	3.47	5.21e3	2.07e4	5.07	0.628	1.4
2	2 161122G2_3	5.00	3.47	5.44e3	2.17e4	5.05	0.626	1.0
3	3 161122G2_4	5.00	3.47	5.54e3	2.11e4	5.29	0.656	5.9
4	4 161122G2_5	5.00	3.47	5.55e3	2.20e4	5.09	0.631	1.8
5	5 161122G2_6	5.00	3.47	5.30e3	2.15e4	4.98	0.617	-0.4
6	6 161122G2_7	5.00	3.47	4.52e3	1.89e4	4.83	0.598	-3.4
7	7 161122G2_8	5.00	3.47	4.31e3	1.78e4	4.89	0.606	-2.2
8	8 161122G2_9	5.00	3.47	4.48e3	1.84e4	4.92	0.610	-1.5
9	9 161122G2_10	5.00	3.47	4.22e3	1.75e4	4.87	0.603	-2.6

**Compound name: 13C4-PFHpA**

Response Factor: 1.13869

RRF SD: 0.046436, Relative SD: 4.078

Response type: Internal Std ( Ref 29 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	3.98	1.51e4	1.32e4	12.6	1.14	0.5
2	2 161122G2_3	12.5	3.97	1.58e4	1.36e4	12.7	1.16	1.9
3	3 161122G2_4	12.5	3.98	1.71e4	1.42e4	13.2	1.21	5.8
4	4 161122G2_5	12.5	3.97	1.63e4	1.48e4	12.1	1.10	-3.3
5	5 161122G2_6	12.5	3.97	1.60e4	1.44e4	12.2	1.11	-2.4
6	6 161122G2_7	12.5	3.97	1.42e4	1.23e4	12.7	1.16	1.7
7	7 161122G2_8	12.5	3.97	1.36e4	1.16e4	12.8	1.17	2.7
8	8 161122G2_9	12.5	3.97	1.35e4	1.17e4	12.7	1.15	1.3
9	9 161122G2_10	12.5	3.97	1.23e4	1.18e4	11.5	1.05	-8.2

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: 18O2-PFHxS**

Response Factor: 0.449434

RRF SD: 0.0241405, Relative SD: 5.37132

Response type: Internal Std ( Ref 29 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	4.09	6.01e3	1.32e4	12.6	0.455	1.1
2	2 161122G2_3	12.5	4.09	6.30e3	1.36e4	12.9	0.463	3.1
3	3 161122G2_4	12.5	4.09	7.02e3	1.42e4	13.7	0.494	9.8
4	4 161122G2_5	12.5	4.09	6.33e3	1.48e4	11.9	0.428	-4.8
5	5 161122G2_6	12.5	4.09	6.15e3	1.44e4	11.9	0.427	-5.0
6	6 161122G2_7	12.5	4.09	5.33e3	1.23e4	12.1	0.434	-3.4
7	7 161122G2_8	12.5	4.08	5.46e3	1.16e4	13.0	0.468	4.2
8	8 161122G2_9	12.5	4.09	5.36e3	1.17e4	12.7	0.456	1.5
9	9 161122G2_10	12.5	4.09	4.95e3	1.18e4	11.7	0.420	-6.6

**Compound name: 13C2-6:2 FTS**

Response Factor: 1.07309

RRF SD: 0.0967215, Relative SD: 9.01333

Response type: Internal Std ( Ref 27 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	4.33	6.03e3	5.89e3	11.9	1.02	-4.5
2	2 161122G2_3	12.5	4.33	6.29e3	5.82e3	12.6	1.08	0.7
3	3 161122G2_4	12.5	4.33	6.05e3	5.56e3	12.7	1.09	1.3
4	4 161122G2_5	12.5	4.32	6.94e3	5.84e3	13.8	1.19	10.8
5	5 161122G2_6	12.5	4.32	5.43e3	5.76e3	11.0	0.942	-12.2
6	6 161122G2_7	12.5	4.32	5.54e3	4.77e3	13.5	1.16	8.2
7	7 161122G2_8	12.5	4.32	5.35e3	5.78e3	10.8	0.925	-13.8
8	8 161122G2_9	12.5	4.32	7.05e3	5.95e3	13.8	1.18	10.3
9	9 161122G2_10	12.5	4.32	6.58e3	6.18e3	12.4	1.06	-0.8

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: 13C2-PFOA**

Response Factor: 2.26193

RRF SD: 0.103705, Relative SD: 4.58481

Response type: Internal Std ( Ref 30 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	4.37	2.40e4	1.14e4	11.7	2.12	-6.4
2	2 161122G2_3	12.5	4.37	2.87e4	1.22e4	13.0	2.36	4.4
3	3 161122G2_4	12.5	4.37	2.79e4	1.22e4	12.6	2.28	0.8
4	4 161122G2_5	12.5	4.37	2.85e4	1.19e4	13.3	2.40	6.0
5	5 161122G2_6	12.5	4.37	2.60e4	1.12e4	12.9	2.33	3.0
6	6 161122G2_7	12.5	4.37	2.44e4	1.17e4	11.5	2.09	-7.7
7	7 161122G2_8	12.5	4.37	2.35e4	1.03e4	12.6	2.28	0.9
8	8 161122G2_9	12.5	4.37	2.38e4	1.06e4	12.4	2.24	-1.2
9	9 161122G2_10	12.5	4.37	2.17e4	9.56e3	12.5	2.27	0.2

**Compound name: 13C8-PFOS**

Response Factor: 0.943547

RRF SD: 0.0953243, Relative SD: 10.1028

Response type: Internal Std ( Ref 31 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	4.77	5.26e3	6.09e3	11.4	0.863	-8.5
2	2 161122G2_3	12.5	4.77	7.35e3	8.00e3	12.2	0.918	-2.7
3	3 161122G2_4	12.5	4.77	8.95e3	7.63e3	15.5	1.17	24.2
4	4 161122G2_5	12.5	4.77	6.87e3	7.71e3	11.8	0.892	-5.5
5	5 161122G2_6	12.5	4.77	7.23e3	7.12e3	13.5	1.02	7.6
6	6 161122G2_7	12.5	4.77	6.95e3	7.59e3	12.1	0.917	-2.9
7	7 161122G2_8	12.5	4.77	5.80e3	6.40e3	12.0	0.906	-4.0
8	8 161122G2_9	12.5	4.77	7.19e3	7.90e3	12.1	0.910	-3.5
9	9 161122G2_10	12.5	4.77	6.93e3	7.73e3	11.9	0.898	-4.9

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: 13C5-PFNA**

Response Factor: 1.08198

RRF SD: 0.109173, Relative SD: 10.0901

Response type: Internal Std ( Ref 32 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	4.71	1.06e4	9.86e3	12.4	1.07	-0.7
2	2 161122G2_3	12.5	4.71	1.33e4	1.10e4	14.0	1.21	11.8
3	3 161122G2_4	12.5	4.71	1.23e4	1.19e4	12.0	1.04	-4.3
4	4 161122G2_5	12.5	4.71	1.28e4	1.06e4	14.0	1.21	12.3
5	5 161122G2_6	12.5	4.71	1.33e4	1.18e4	13.0	1.13	4.1
6	6 161122G2_7	12.5	4.71	1.21e4	1.04e4	13.4	1.16	7.4
7	7 161122G2_8	12.5	4.71	1.04e4	1.14e4	10.5	0.909	-16.0
8	8 161122G2_9	12.5	4.71	1.23e4	1.16e4	12.3	1.07	-1.4
9	9 161122G2_10	12.5	4.71	1.07e4	1.14e4	10.8	0.938	-13.3

**Compound name: 13C2-PFDA**

Response Factor: 1.01921

RRF SD: 0.0876435, Relative SD: 8.59913

Response type: Internal Std ( Ref 33 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	5.01	6.01e3	6.35e3	11.6	0.947	-7.1
2	2 161122G2_3	12.5	5.01	8.51e3	9.85e3	10.6	0.864	-15.2
3	3 161122G2_4	12.5	5.01	8.73e3	8.39e3	12.8	1.04	2.1
4	4 161122G2_5	12.5	5.01	8.07e3	7.46e3	13.3	1.08	6.1
5	5 161122G2_6	12.5	5.01	7.02e3	6.59e3	13.1	1.07	4.5
6	6 161122G2_7	12.5	5.01	1.01e4	9.85e3	12.5	1.02	0.3
7	7 161122G2_8	12.5	5.01	6.60e3	5.70e3	14.2	1.16	13.6
8	8 161122G2_9	12.5	5.01	8.88e3	8.46e3	12.9	1.05	2.9
9	9 161122G2_10	12.5	5.01	8.96e3	9.48e3	11.6	0.945	-7.3

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: 13C2-8:2 FTS**

Response Factor: 0.568768

RRF SD: 0.137212, Relative SD: 24.1245

Response type: Internal Std ( Ref 27 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	#.Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	4.99	2.12e3	5.89e3	7.93	0.361	-36.6
2	2 161122G2_3	12.5	4.99	3.66e3	5.82e3	13.8	0.629	10.6
3	3 161122G2_4	12.5	4.99	2.69e3	5.56e3	10.6	0.483	-15.1
4	4 161122G2_5	12.5	4.99	2.74e3	5.84e3	10.3	0.468	-17.7
5	5 161122G2_6	12.5	4.99	3.15e3	5.76e3	12.0	0.546	-4.1
6	6 161122G2_7	12.5	4.99	3.62e3	4.77e3	16.7	0.759	33.4
7	7 161122G2_8	12.5	4.99	2.69e3	5.78e3	10.2	0.466	-18.0
8	8 161122G2_9	12.5	4.99	3.97e3	5.95e3	14.7	0.667	17.3
9	9 161122G2_10	12.5	4.99	4.58e3	6.18e3	16.3	0.740	30.1

**Compound name: 13C4-PFBA**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 26 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	#.Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	1.93	1.76e4	1.76e4	12.5	1.00	0.0
2	2 161122G2_3	12.5	1.92	1.85e4	1.85e4	12.5	1.00	0.0
3	3 161122G2_4	12.5	1.93	1.80e4	1.80e4	12.5	1.00	0.0
4	4 161122G2_5	12.5	1.93	1.91e4	1.91e4	12.5	1.00	0.0
5	5 161122G2_6	12.5	1.93	1.69e4	1.69e4	12.5	1.00	0.0
6	6 161122G2_7	12.5	1.93	1.58e4	1.58e4	12.5	1.00	0.0
7	7 161122G2_8	12.5	1.93	1.64e4	1.64e4	12.5	1.00	0.0
8	8 161122G2_9	12.5	1.93	1.66e4	1.66e4	12.5	1.00	0.0
9	9 161122G2_10	12.5	1.92	1.63e4	1.63e4	12.5	1.00	0.0



Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: 13C2-4:2 FTS**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 27 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	3.37	5.89e3	5.89e3	12.5	1.00	0.0
2	2 161122G2_3	12.5	3.37	5.82e3	5.82e3	12.5	1.00	0.0
3	3 161122G2_4	12.5	3.37	5.56e3	5.56e3	12.5	1.00	0.0
4	4 161122G2_5	12.5	3.38	5.84e3	5.84e3	12.5	1.00	0.0
5	5 161122G2_6	12.5	3.38	5.76e3	5.76e3	12.5	1.00	0.0
6	6 161122G2_7	12.5	3.38	4.77e3	4.77e3	12.5	1.00	0.0
7	7 161122G2_8	12.5	3.38	5.78e3	5.78e3	12.5	1.00	0.0
8	8 161122G2_9	12.5	3.38	5.95e3	5.95e3	12.5	1.00	0.0
9	9 161122G2_10	12.5	3.38	6.18e3	6.18e3	12.5	1.00	0.0

**Compound name: 13C5-PFHxA**

Response Factor: 1

RRF SD: 3.92523e-017, Relative SD: 3.92523e-015

Response type: Internal Std ( Ref 28 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	3.47	2.07e4	2.07e4	12.5	1.00	0.0
2	2 161122G2_3	12.5	3.46	2.17e4	2.17e4	12.5	1.00	0.0
3	3 161122G2_4	12.5	3.47	2.11e4	2.11e4	12.5	1.00	0.0
4	4 161122G2_5	12.5	3.47	2.20e4	2.20e4	12.5	1.00	0.0
5	5 161122G2_6	12.5	3.47	2.15e4	2.15e4	12.5	1.00	0.0
6	6 161122G2_7	12.5	3.47	1.89e4	1.89e4	12.5	1.00	0.0
7	7 161122G2_8	12.5	3.47	1.78e4	1.78e4	12.5	1.00	0.0
8	8 161122G2_9	12.5	3.47	1.84e4	1.84e4	12.5	1.00	-0.0
9	9 161122G2_10	12.5	3.47	1.75e4	1.75e4	12.5	1.00	0.0

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: 13C3-PFHxS**

Response Factor: 1  
RRF SD: 7.85046e-017, Relative SD: 7.85046e-015  
Response type: Internal Std ( Ref 29 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	4.09	1.32e4	1.32e4	12.5	1.00	0.0
2	2 161122G2_3	12.5	4.09	1.36e4	1.36e4	12.5	1.00	0.0
3	3 161122G2_4	12.5	4.09	1.42e4	1.42e4	12.5	1.00	0.0
4	4 161122G2_5	12.5	4.09	1.48e4	1.48e4	12.5	1.00	0.0
5	5 161122G2_6	12.5	4.09	1.44e4	1.44e4	12.5	1.00	0.0
6	6 161122G2_7	12.5	4.09	1.23e4	1.23e4	12.5	1.00	0.0
7	7 161122G2_8	12.5	4.09	1.16e4	1.16e4	12.5	1.00	0.0
8	8 161122G2_9	12.5	4.09	1.17e4	1.17e4	12.5	1.00	0.0
9	9 161122G2_10	12.5	4.09	1.18e4	1.18e4	12.5	1.00	0.0

**Compound name: 13C8-PFOA**

Response Factor: 1  
RRF SD: 0, Relative SD: 0  
Response type: Internal Std ( Ref 30 ), Area \* ( IS Conc. / IS Area )  
Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	4.37	1.14e4	1.14e4	12.5	1.00	0.0
2	2 161122G2_3	12.5	4.37	1.22e4	1.22e4	12.5	1.00	0.0
3	3 161122G2_4	12.5	4.37	1.22e4	1.22e4	12.5	1.00	0.0
4	4 161122G2_5	12.5	4.37	1.19e4	1.19e4	12.5	1.00	0.0
5	5 161122G2_6	12.5	4.37	1.12e4	1.12e4	12.5	1.00	0.0
6	6 161122G2_7	12.5	4.37	1.17e4	1.17e4	12.5	1.00	0.0
7	7 161122G2_8	12.5	4.37	1.03e4	1.03e4	12.5	1.00	0.0
8	8 161122G2_9	12.5	4.37	1.06e4	1.06e4	12.5	1.00	0.0
9	9 161122G2_10	12.5	4.37	9.56e3	9.56e3	12.5	1.00	0.0

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: 13C4-PFOS**

Response Factor: 1

RRF SD: 7.85046e-017, Relative SD: 7.85046e-015

Response type: Internal Std ( Ref 31 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	4.78	6.09e3	6.09e3	12.5	1.00	0.0
2	2 161122G2_3	12.5	4.77	8.00e3	8.00e3	12.5	1.00	0.0
3	3 161122G2_4	12.5	4.78	7.63e3	7.63e3	12.5	1.00	0.0
4	4 161122G2_5	12.5	4.77	7.71e3	7.71e3	12.5	1.00	0.0
5	5 161122G2_6	12.5	4.77	7.12e3	7.12e3	12.5	1.00	0.0
6	6 161122G2_7	12.5	4.77	7.59e3	7.59e3	12.5	1.00	0.0
7	7 161122G2_8	12.5	4.78	6.40e3	6.40e3	12.5	1.00	0.0
8	8 161122G2_9	12.5	4.77	7.90e3	7.90e3	12.5	1.00	0.0
9	9 161122G2_10	12.5	4.77	7.73e3	7.73e3	12.5	1.00	0.0

**Compound name: 13C9-PFNA**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 32 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	4.71	9.86e3	9.86e3	12.5	1.00	0.0
2	2 161122G2_3	12.5	4.71	1.10e4	1.10e4	12.5	1.00	0.0
3	3 161122G2_4	12.5	4.71	1.19e4	1.19e4	12.5	1.00	0.0
4	4 161122G2_5	12.5	4.71	1.06e4	1.06e4	12.5	1.00	0.0
5	5 161122G2_6	12.5	4.71	1.18e4	1.18e4	12.5	1.00	0.0
6	6 161122G2_7	12.5	4.71	1.04e4	1.04e4	12.5	1.00	0.0
7	7 161122G2_8	12.5	4.71	1.14e4	1.14e4	12.5	1.00	0.0
8	8 161122G2_9	12.5	4.71	1.16e4	1.16e4	12.5	1.00	0.0
9	9 161122G2_10	12.5	4.71	1.14e4	1.14e4	12.5	1.00	0.0

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:27:47 Pacific Standard Time

**Compound name: 13C6-PFDA**

Response Factor: 1

RRF SD: 3.92523e-017, Relative SD: 3.92523e-015

Response type: Internal Std ( Ref 33 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	#-Name	Std. Conc	RT	Resp	IS Resp	Conc.	RRF	%Dev
1	1 161122G2_2	12.5	5.01	6.35e3	6.35e3	12.5	1.00	0.0
2	2 161122G2_3	12.5	5.01	9.85e3	9.85e3	12.5	1.00	0.0
3	3 161122G2_4	12.5	5.01	8.39e3	8.39e3	12.5	1.00	0.0
4	4 161122G2_5	12.5	5.01	7.46e3	7.46e3	12.5	1.00	0.0
5	5 161122G2_6	12.5	5.01	6.59e3	6.59e3	12.5	1.00	0.0
6	6 161122G2_7	12.5	5.01	9.85e3	9.85e3	12.5	1.00	0.0
7	7 161122G2_8	12.5	5.01	5.70e3	5.70e3	12.5	1.00	0.0
8	8 161122G2_9	12.5	5.01	8.46e3	8.46e3	12.5	1.00	-0.0
9	9 161122G2_10	12.5	5.01	9.48e3	9.48e3	12.5	1.00	0.0

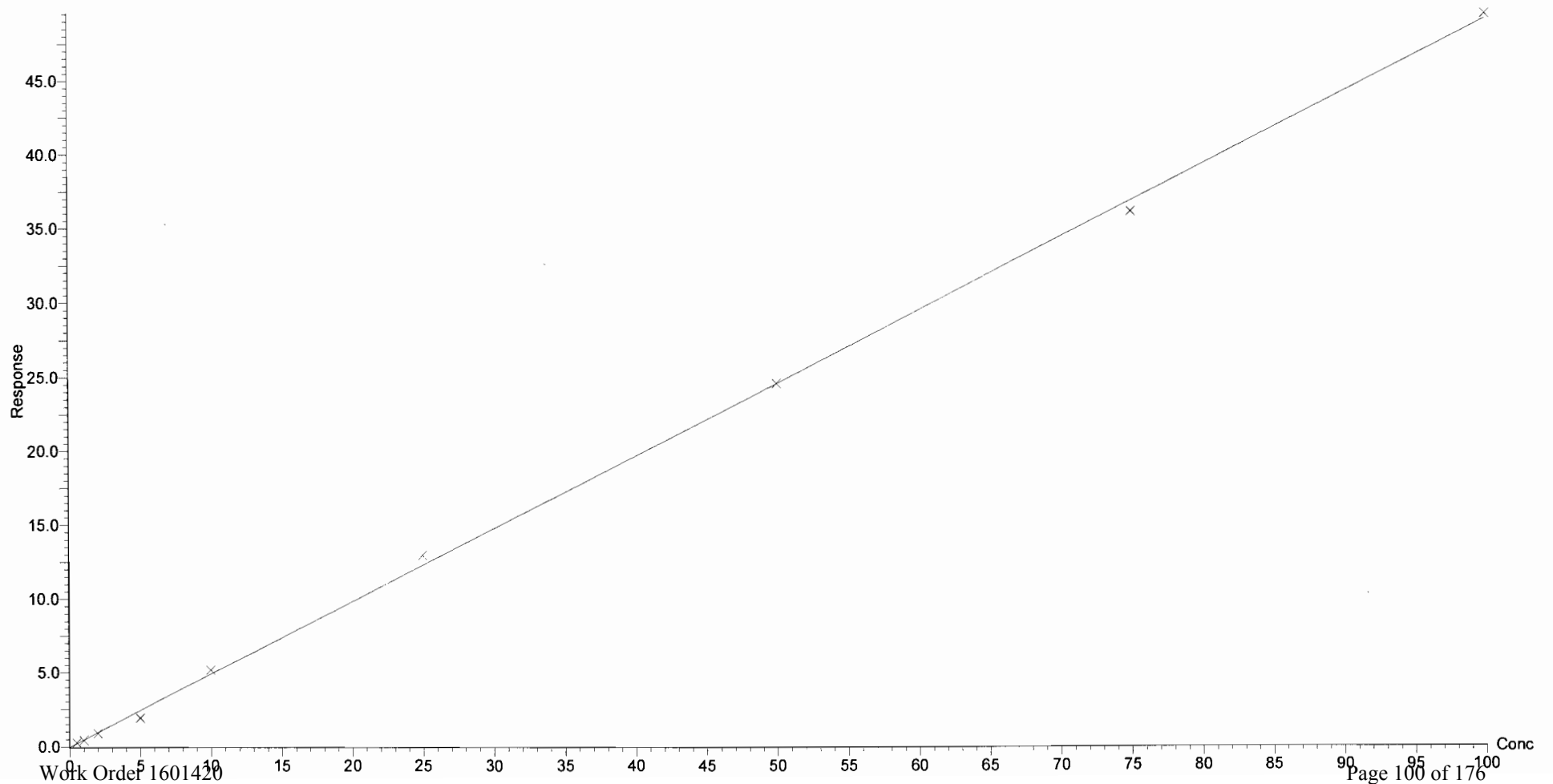
Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:05  
Calibration: U:\G1.PRO\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

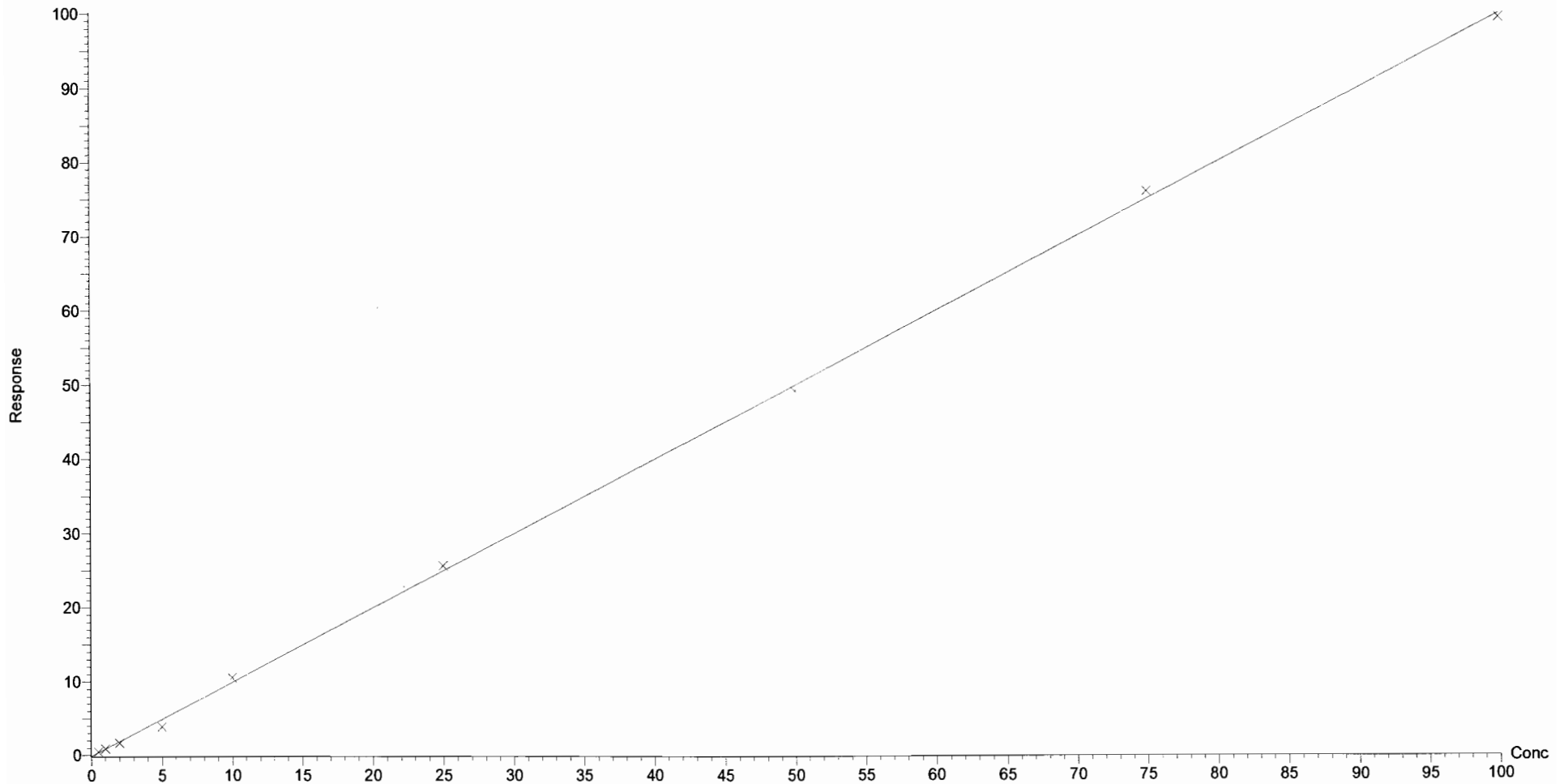
Compound name: PFBA  
Correlation coefficient:  $r = 0.999216$ ,  $r^2 = 0.998432$   
Calibration curve:  $0.492927 * x + -0.0410615$   
Response type: Internal Std ( Ref 14 ), Area \* ( IS Conc. / IS Area )  
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

Compound name: PFPeA  
Correlation coefficient:  $r = 0.999341$ ,  $r^2 = 0.998683$   
Calibration curve:  $1.00273 * x + -0.119981$   
Response type: Internal Std ( Ref 15 ), Area \* ( IS Conc. / IS Area )  
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

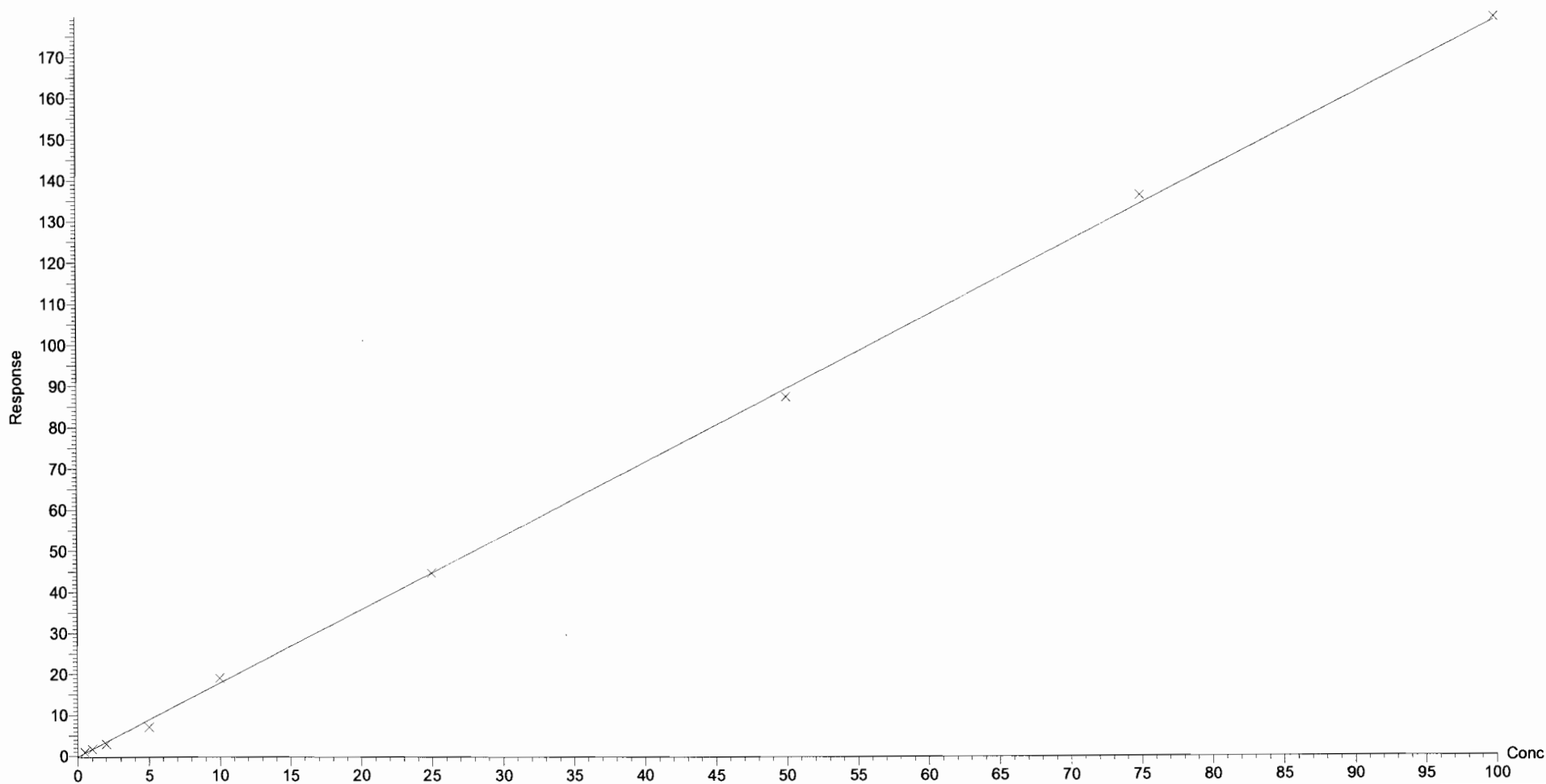
Compound name: PFBS

Correlation coefficient:  $r = 0.999283$ ,  $r^2 = 0.998566$

Calibration curve:  $1.79216 * x + -0.145672$

Response type: Internal Std ( Ref 16 ), Area \* ( IS Conc. / IS Area )

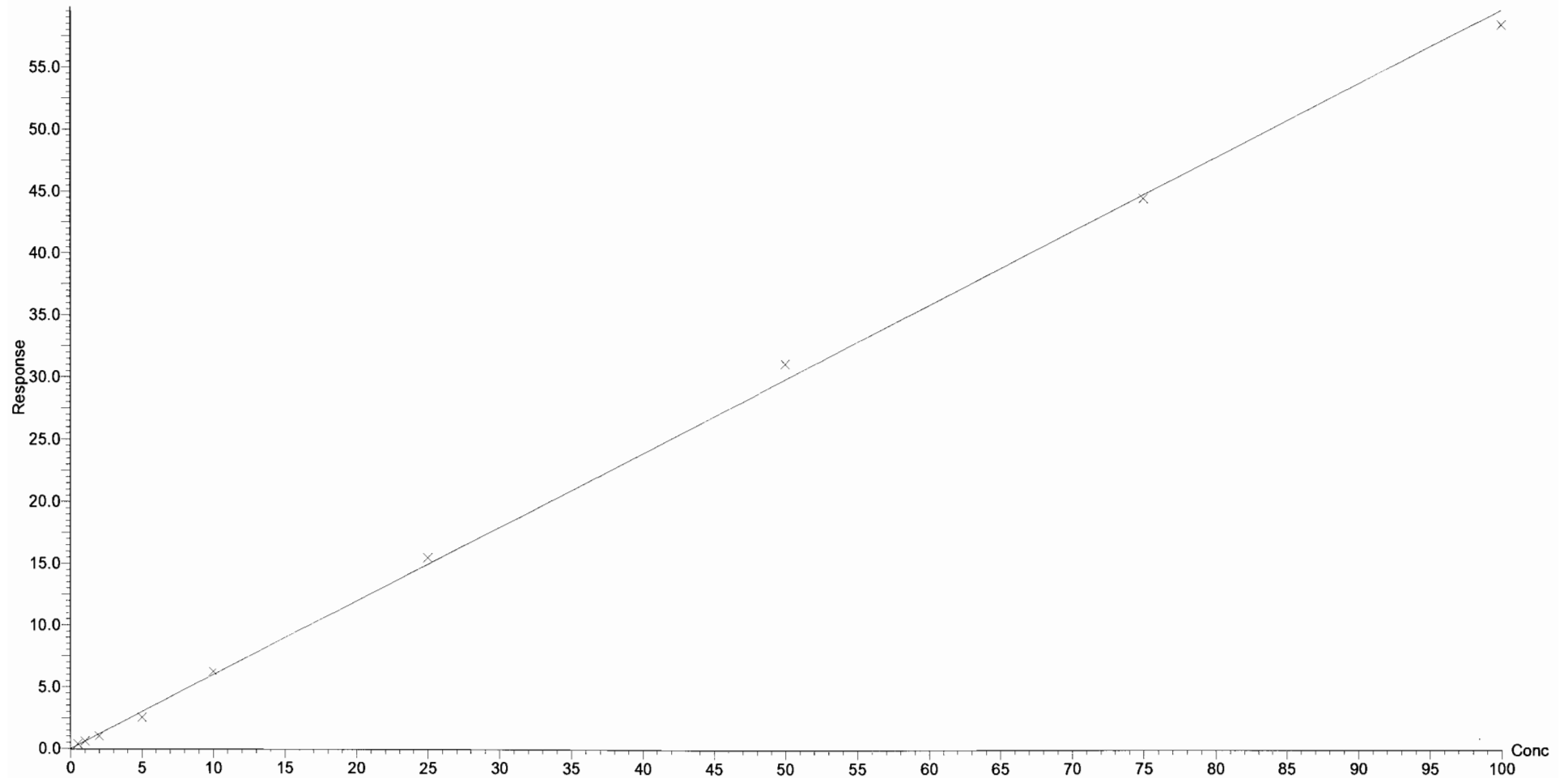
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

Compound name: PFHxA  
Correlation coefficient:  $r = 0.999245$ ,  $r^2 = 0.998491$   
Calibration curve:  $0.598427 * x + 0.0095449$   
Response type: Internal Std ( Ref 17 ), Area \* ( IS Conc. / IS Area )  
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None





Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

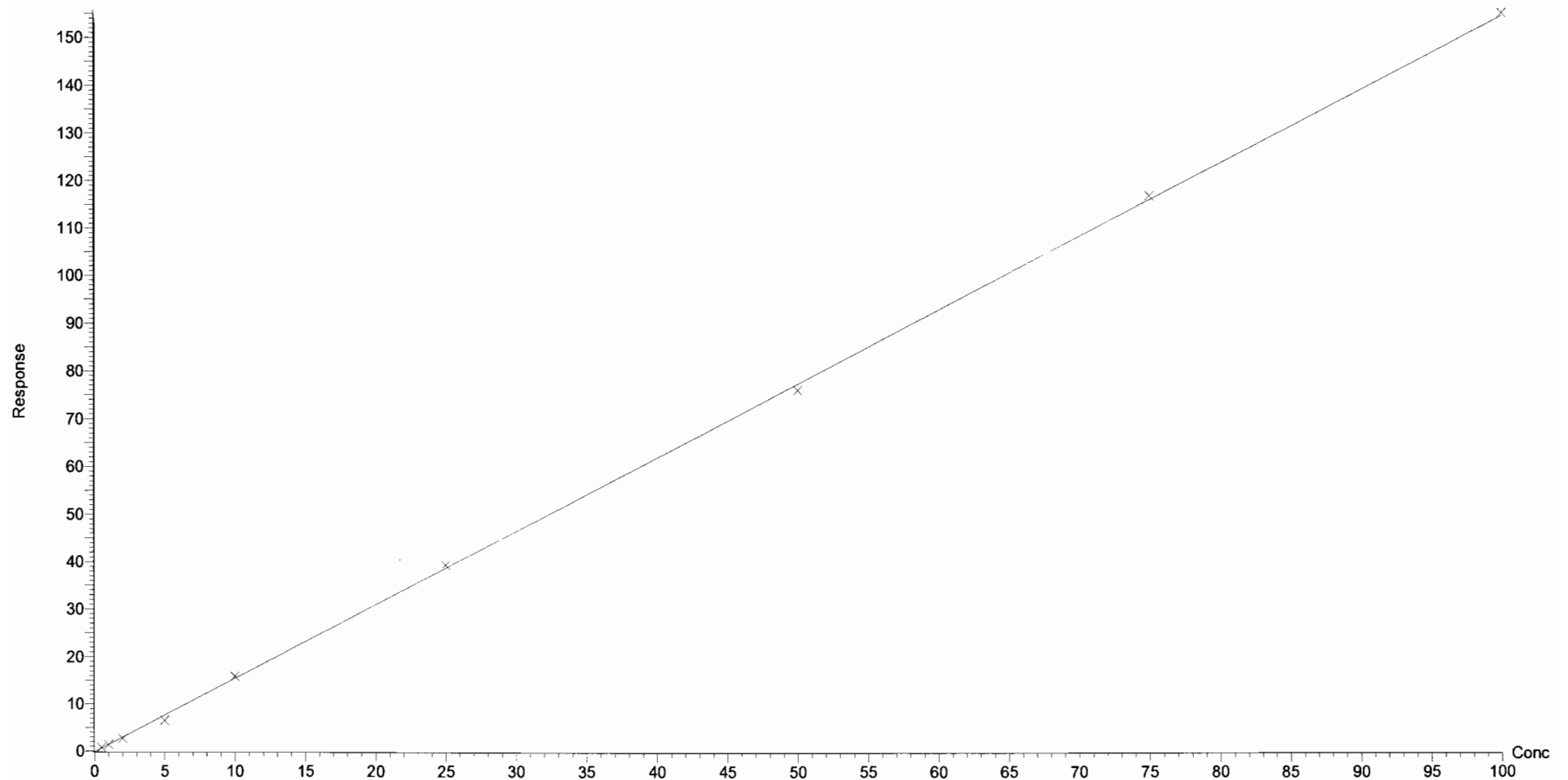
Compound name: PFHpA

Correlation coefficient:  $r = 0.999639$ ,  $r^2 = 0.999279$

Calibration curve:  $1.55279 * x + -0.138431$

Response type: Internal Std ( Ref 18 ), Area \* ( IS Conc. / IS Area )

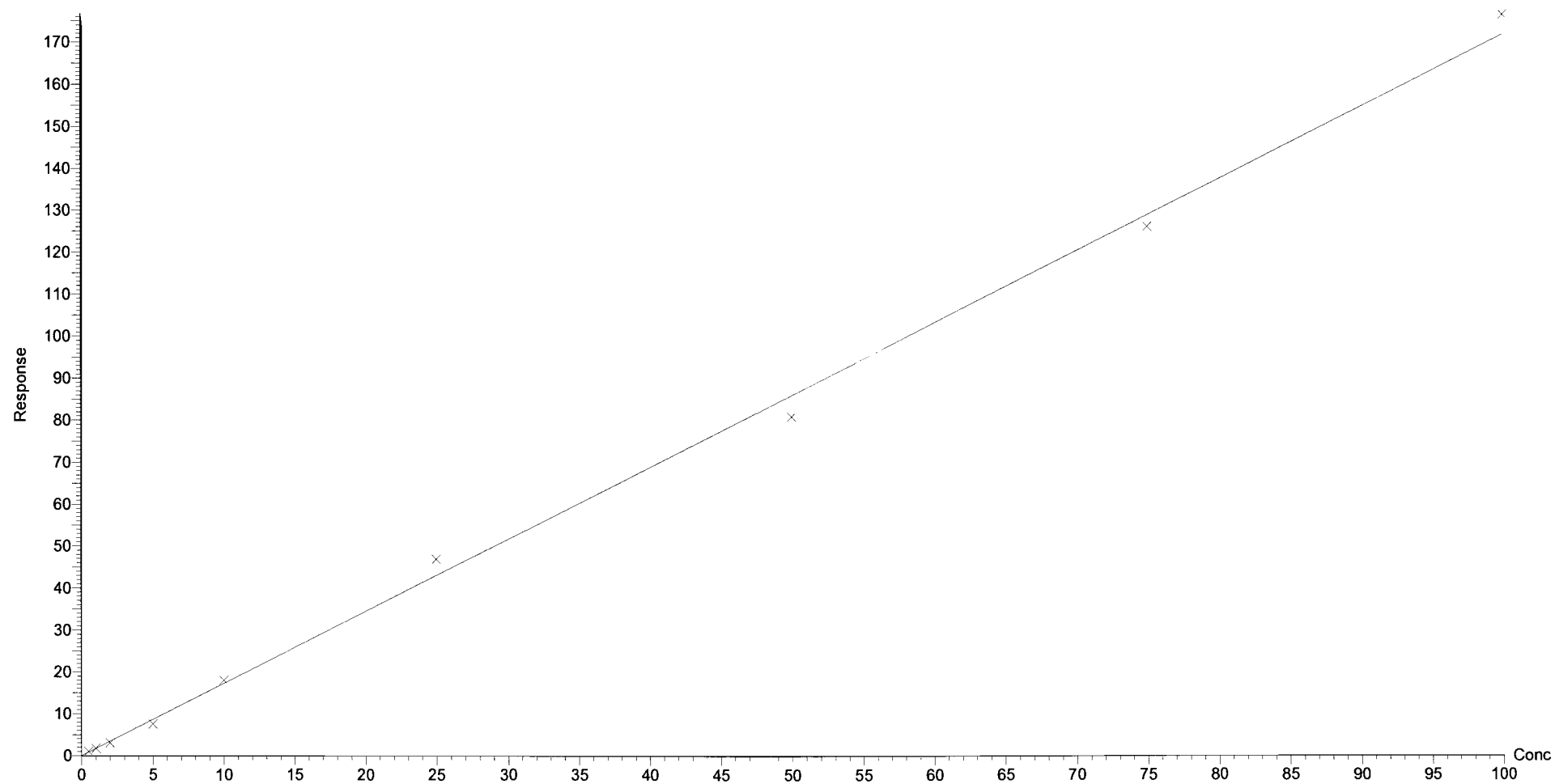
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

Compound name: PFHxS  
Correlation coefficient:  $r = 0.998761$ ,  $r^2 = 0.997524$   
Calibration curve:  $1.72095 * x + -0.0266266$   
Response type: Internal Std ( Ref 19 ), Area \* ( IS Conc. / IS Area )  
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

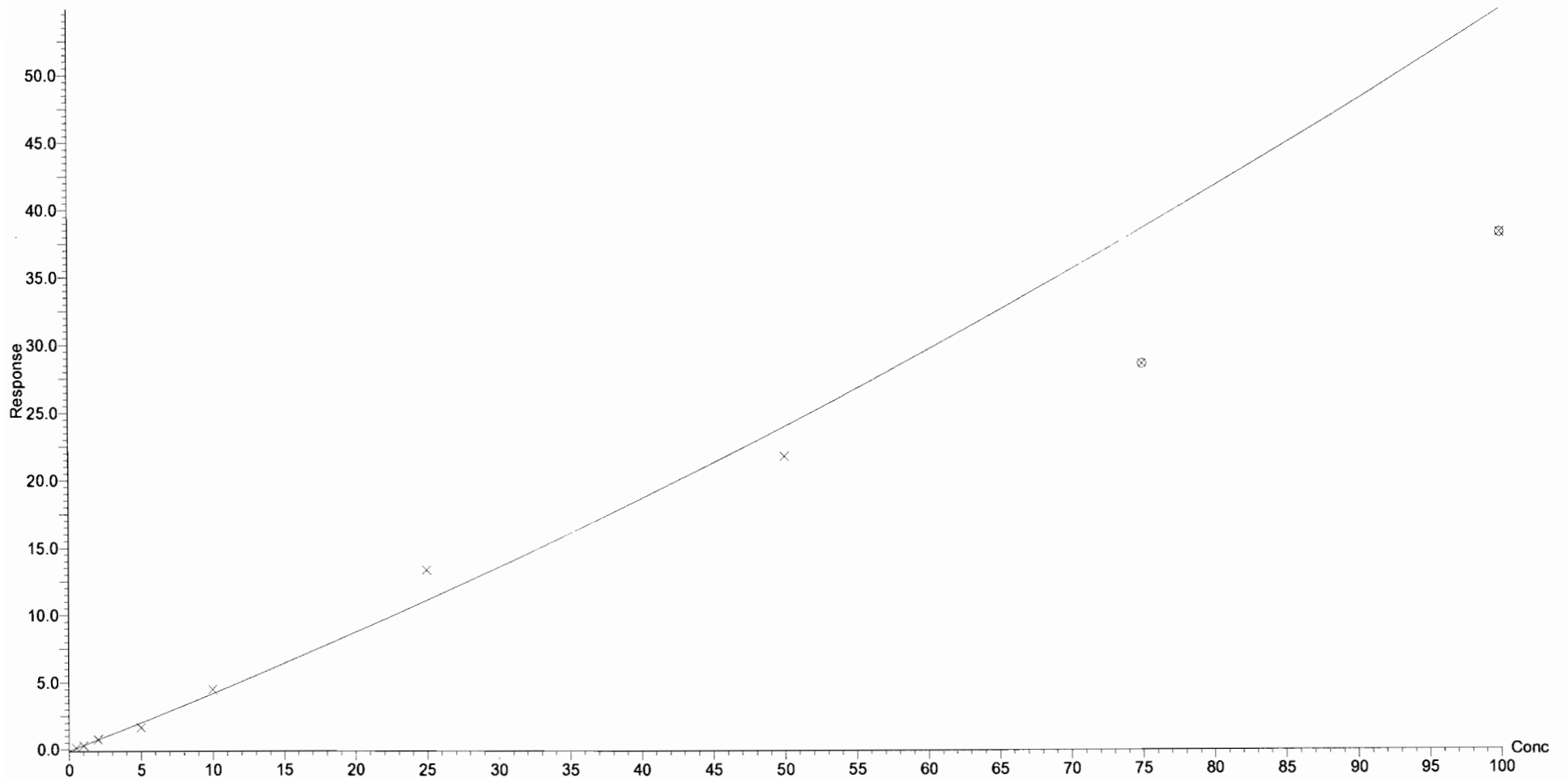


Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

Compound name: 6:2 FTS  
Coefficient of Determination:  $R^2 = 0.978941$   
Calibration curve:  $0.00135992 * x^2 + 0.414129 * x + -0.114975$   
Response type: Internal Std ( Ref 20 ), Area \* ( IS Conc. / IS Area )  
Curve type: 2nd Order, Origin: Exclude, Weighting:  $1/x^2$ , Axis trans: None



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

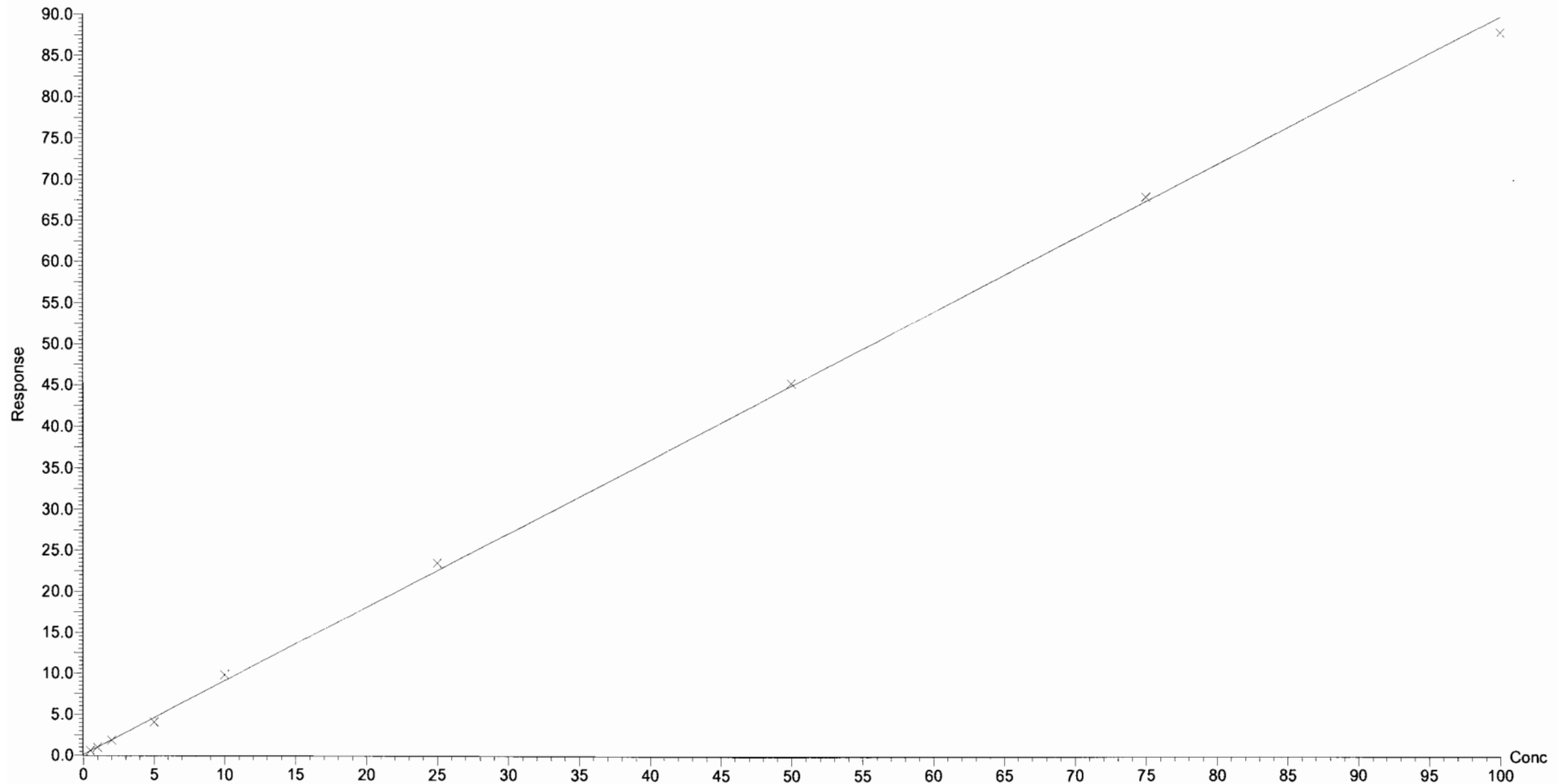
Compound name: PFOA

Correlation coefficient:  $r = 0.999524$ ,  $r^2 = 0.999048$

Calibration curve:  $0.899906 * x + 0.0917344$

Response type: Internal Std ( Ref 21 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

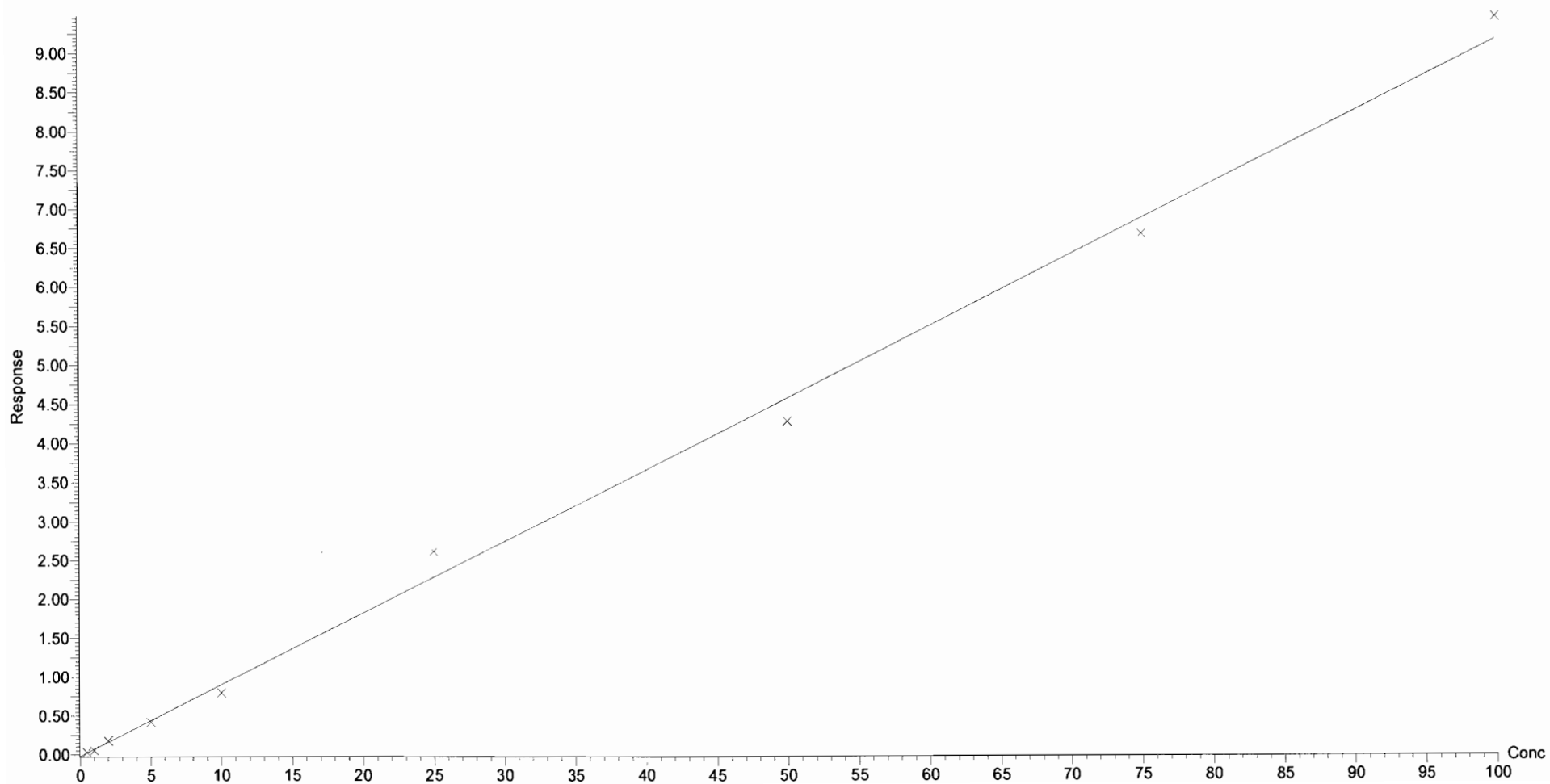
Compound name: PFHpS

Correlation coefficient:  $r = 0.997800$ ,  $r^2 = 0.995604$

Calibration curve:  $0.0921515 * x + -0.0228444$

Response type: Internal Std ( Ref 21 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

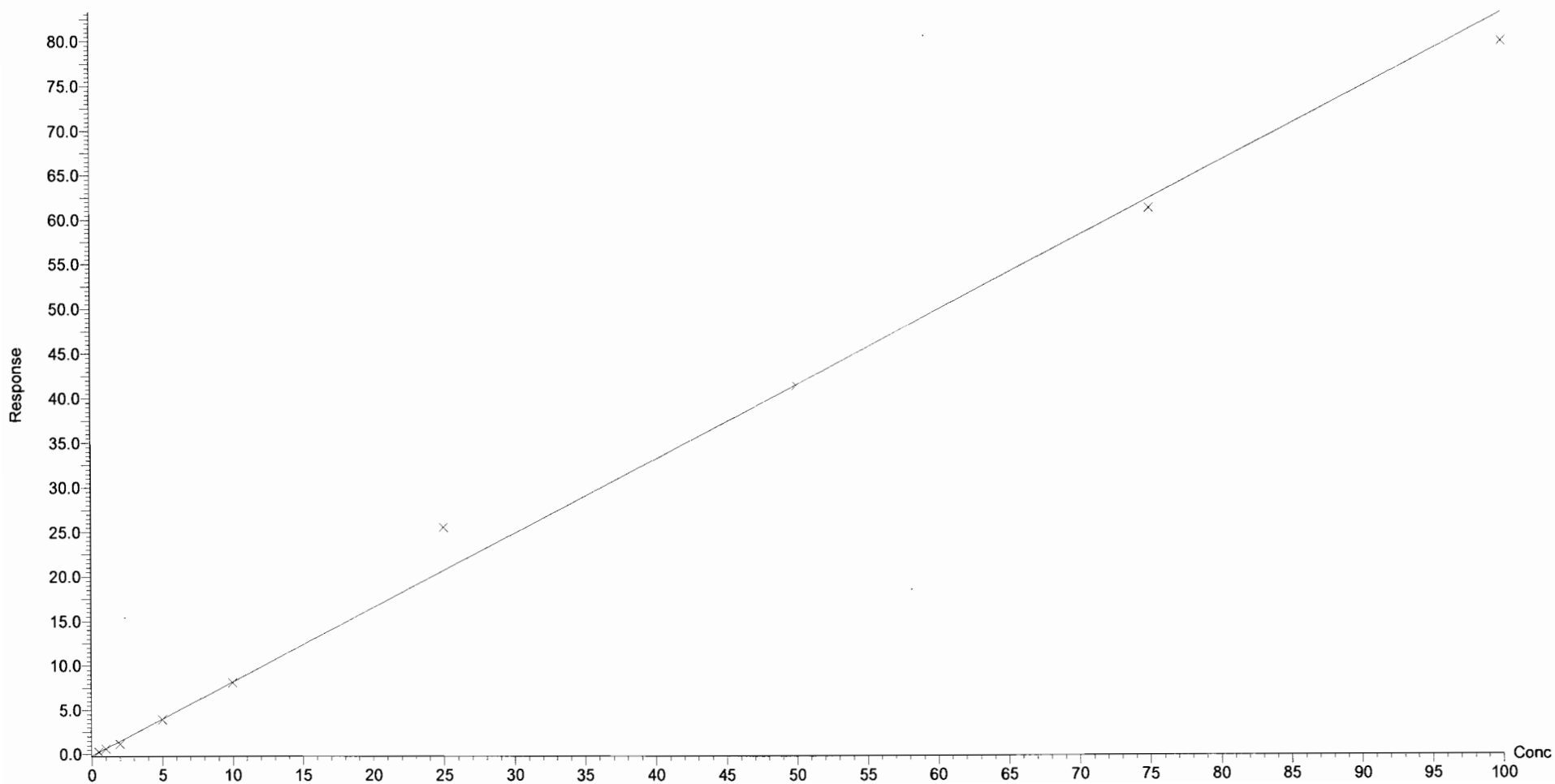
Compound name: PFOS

Correlation coefficient:  $r = 0.996761$ ,  $r^2 = 0.993532$

Calibration curve:  $0.83439 * x + -0.165838$

Response type: Internal Std ( Ref 22 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

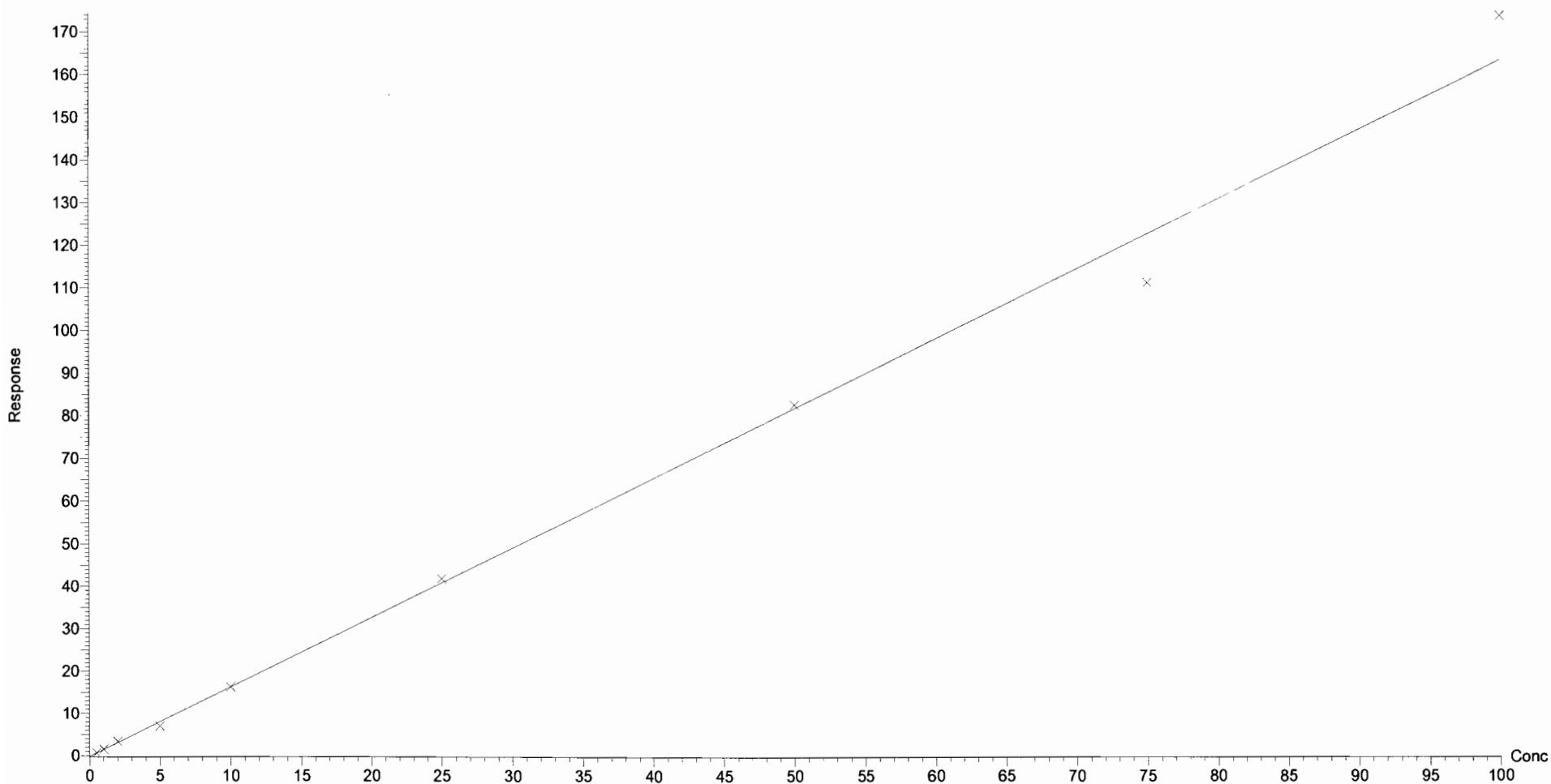
Compound name: PFNA

Correlation coefficient:  $r = 0.997674$ ,  $r^2 = 0.995354$

Calibration curve:  $1.64181 * x + -0.17063$

Response type: Internal Std ( Ref 23 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

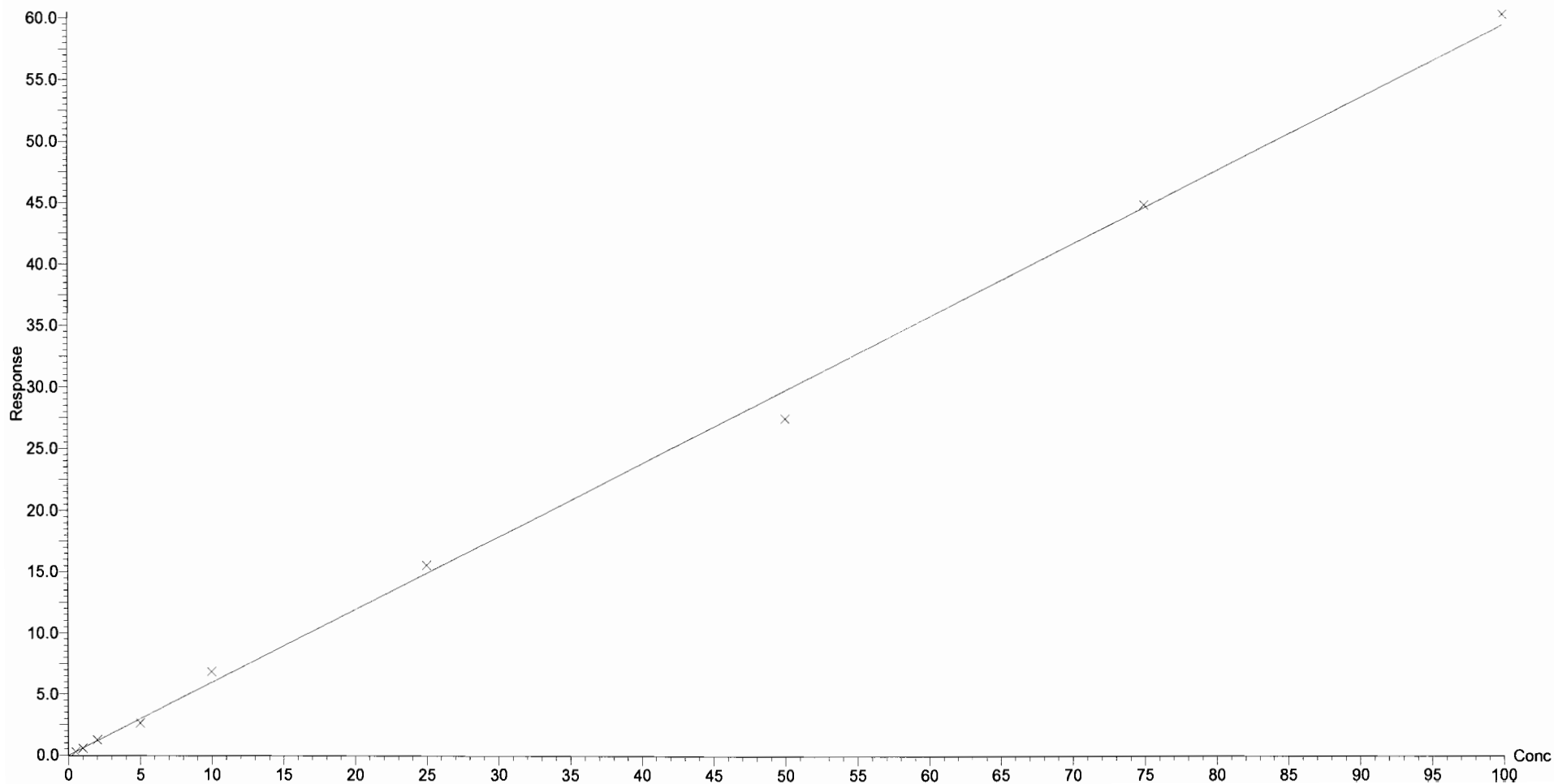
Compound name: PFDA

Correlation coefficient:  $r = 0.998669$ ,  $r^2 = 0.997340$

Calibration curve:  $0.596457 * x + -0.0200723$

Response type: Internal Std ( Ref 24 ), Area \* ( IS Conc. / IS Area )

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None





Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-CRV.qld

Last Altered: Tuesday, November 22, 2016 15:25:21 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:26:22 Pacific Standard Time

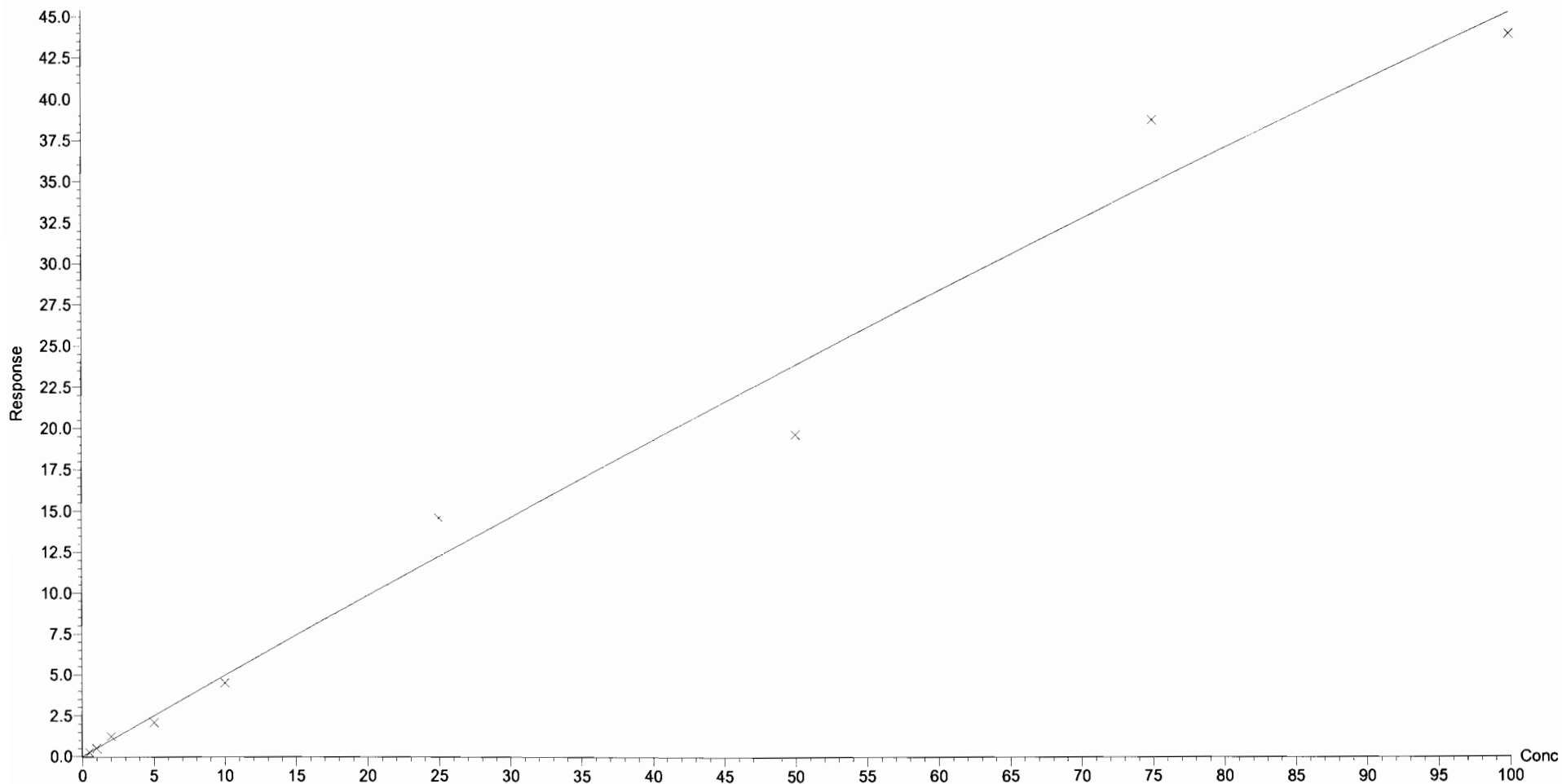
Compound name: 8:2 FTS

Coefficient of Determination:  $R^2 = 0.984052$

Calibration curve:  $-0.000479329 * x^2 + 0.502189 * x + 0.00235356$

Response type: Internal Std ( Ref 25 ), Area \* ( IS Conc. / IS Area )

Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 15:08:21 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 15:09:10 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20  
Calibration: U:\G1.PRO\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 14:59:27

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	161122G2_1	IPA	22-Nov-16	09:47:54
2	161122G2_2	ST161122G2-2 PFC CS-1 16K1705	22-Nov-16	10:00:32
3	161122G2_3	ST161122G2-3 PFC CS0 16K1706	22-Nov-16	10:13:07
4	161122G2_4	ST161122G2-4 PFC CS1 16K1707	22-Nov-16	10:25:42
5	161122G2_5	ST161122G2-5 PFC CS2 16K1708	22-Nov-16	10:38:18
6	161122G2_6	ST161122G2-6 PFC CS3 16K1709	22-Nov-16	10:50:54
7	161122G2_7	ST161122G2-7 PFC CS3.5 16K1710	22-Nov-16	11:03:32
8	161122G2_8	ST161122G2-8 PFC CS4 16K1711	22-Nov-16	11:16:11
9	161122G2_9	ST161122G2-9 PFC CS4.5 16K1712	22-Nov-16	11:28:50
10	161122G2_10	ST161122G2-10 PFC CS5 16K1713	22-Nov-16	11:41:28
11	161122G2_11	IPA	22-Nov-16	11:54:03
12	161122G2_12	SS161122G2-1 PFC SS 16K2201	22-Nov-16	12:06:50
13	161122G2_13	IPA	22-Nov-16	12:19:32

Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

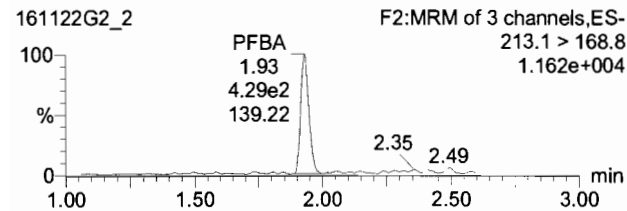
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:05

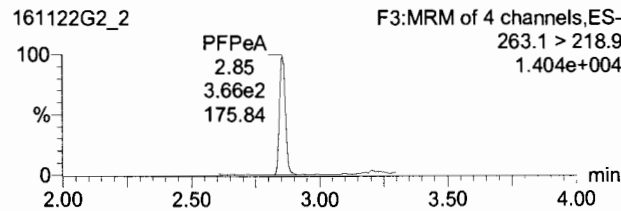
Calibration: 22 Nov 2016 14:43:00

Name: 161122G2\_2, Date: 22-Nov-2016, Time: 10:00:32, ID: ST161122G2-2 PFC CS-1 16K1705, Description: PFC CS-1 16K1705 A

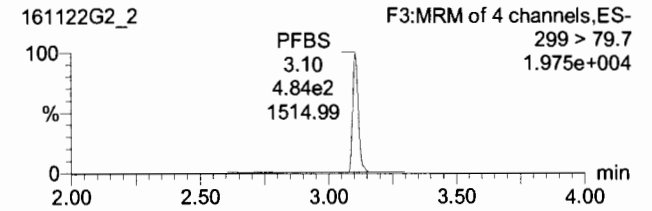
**PFBA**



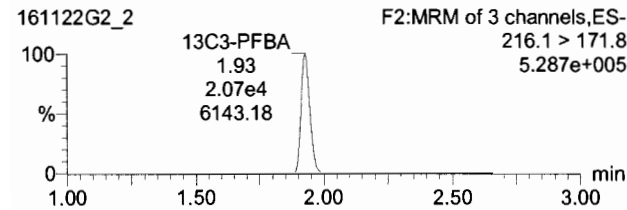
**PFPeA**



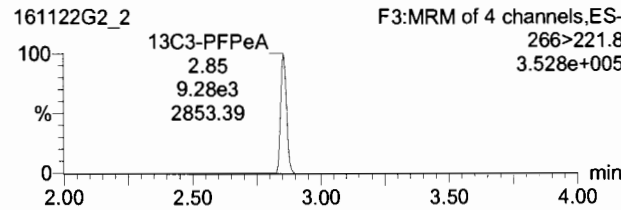
**PFBS**



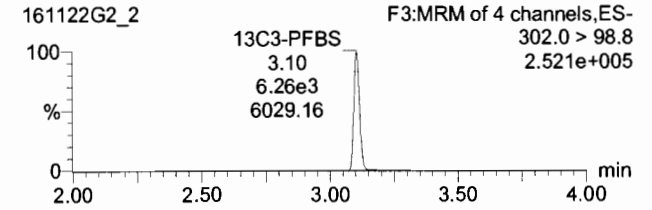
**13C3-PFBA**



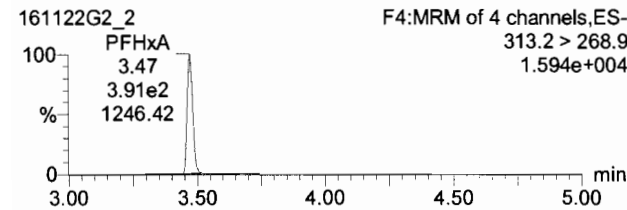
**13C3-PFPeA**



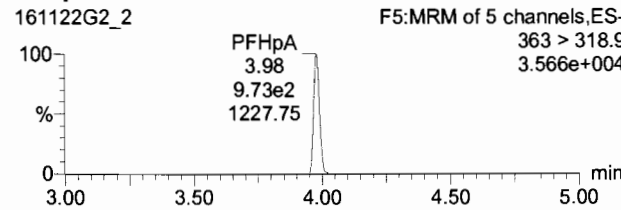
**13C3-PFBS**



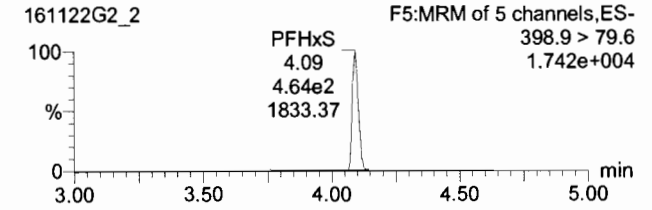
**PFHxA**



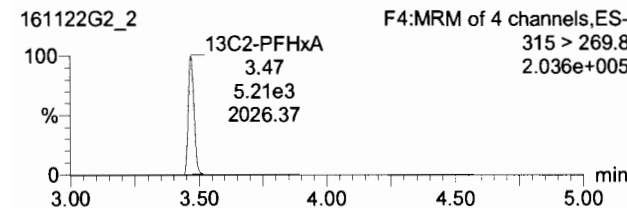
**PFHpA**



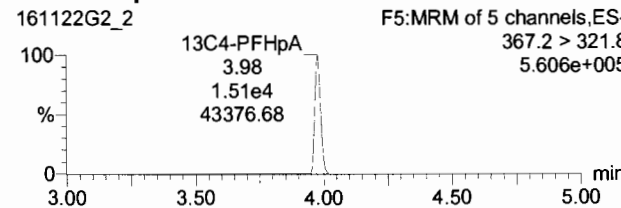
**PFHxS**



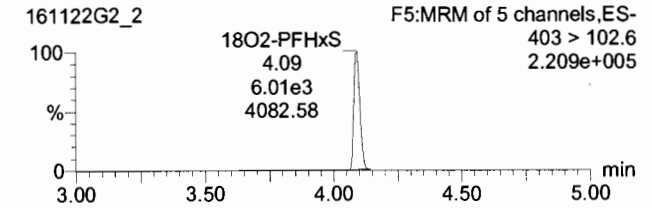
**13C2-PFHxA**



**13C4-PFHpA**



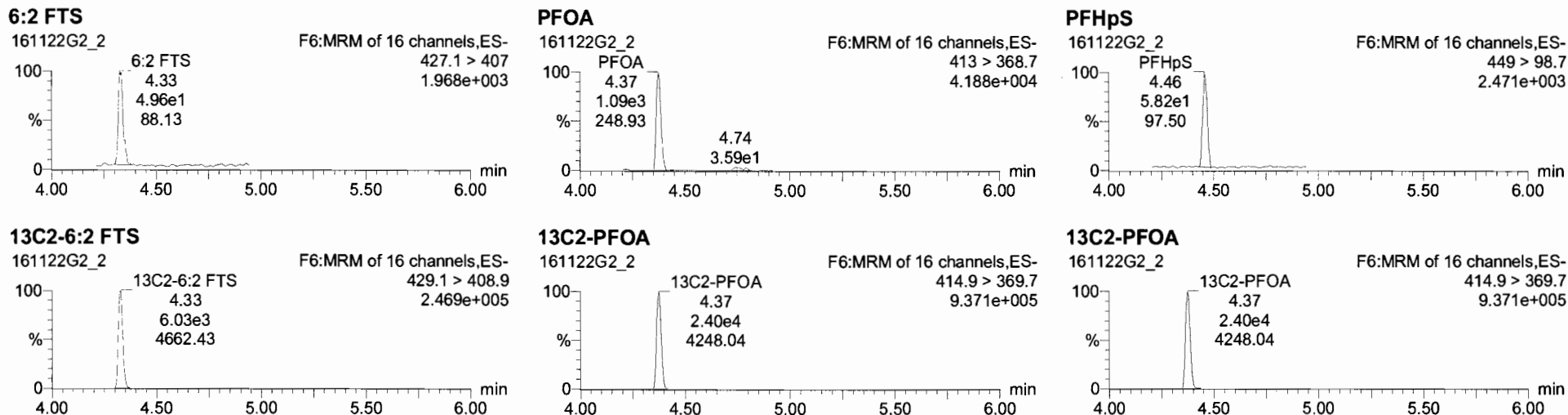
**18O2-PFHxS**



Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

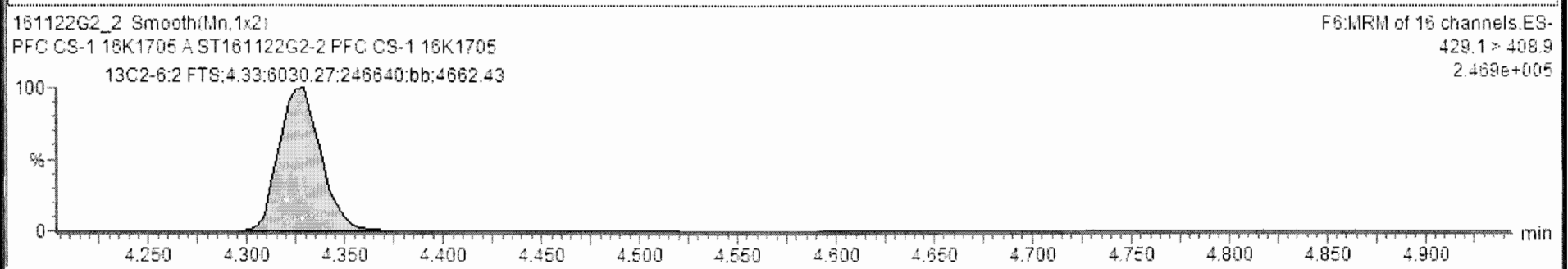
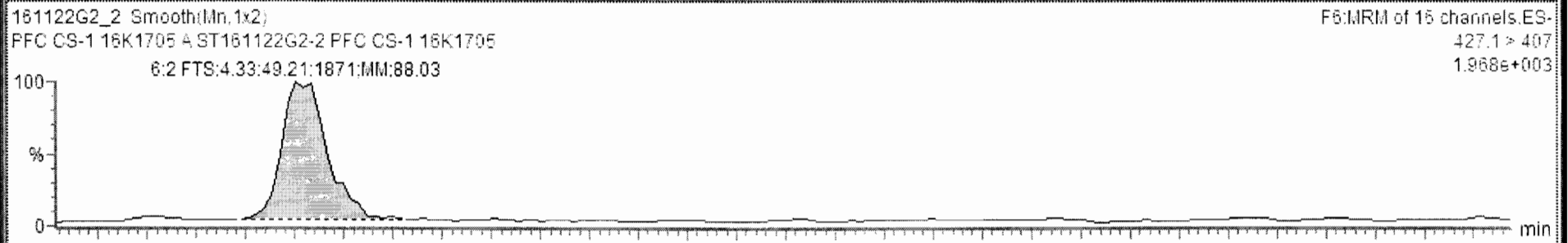
Name: 161122G2\_2, Date: 22-Nov-2016, Time: 10:00:32, ID: ST161122G2-2 PFC CS-1 16K1705, Description: PFC CS-1 16K1705 A





161122G2\_2 - ST161122G2-2 PFC CS-1 16K1705 - PFC CS-1 16K1705 A

Name	Trace	Area	Response	RRF	Wt/VoL	RT	Conc.	%Rec	DL	%RSD	Coeff. Of D...
1	PFBA	213.1 > 168.8	4.29e2	0.259	0.518	1.93	0.608	121.7	0.0932282		0.9984
2	PFPeA	263.1 > 218.9	3.66e2	0.493	0.986	2.85	0.611	122.2	0.1266747		0.9987
3	PFBS	299 > 79.7	4.84e2	0.966	1.932	3.10	0.620	124.1	0.0821816		0.9986
4	PFHxA	313.2 > 268.9	3.91e2	0.376	0.751	3.47	0.612	122.3	0.0000000		0.9985
5	PFHpA	363 > 318.9	9.73e2	0.805	1.610	3.98	0.608	121.5	0.0901896		0.9993
6	PFHxS	398.9 > 79.8	4.64e2	0.965	1.931	4.09	0.576	115.3	0.0162512		0.9975
7	6:2 FTS	427.1 > 407	4.92e1	0.102	0.204	4.33	0.523	104.6	0.2638680		0.9789
8	PFOA	413 > 368.7	1.09e3	0.566	1.133	4.37	0.527	105.5	0.0000000		0.9990
9	PFHpS	449 > 98.7	5.82e1	0.030	0.061	4.46	0.577	115.3	0.2567614		0.9958
10	PFOS	499 > 79.9	1.21e2	0.267	0.574	4.76	0.543	108.5	0.2386134		0.9935
11	PFNA	463 > 418.8	5.63e2	0.664	1.329	4.72	0.509	101.7	0.1047001		0.9954
12	PFDA	513 > 468.8	1.30e2	0.270	0.540	5.01	0.486	97.3	0.0368964		0.9973
13	6:2 FTS	527 > 506.9	4.13e1	0.243	0.486	4.99	0.485	97.0	0.0169968		0.9823



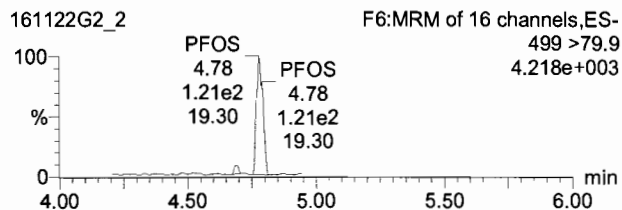
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

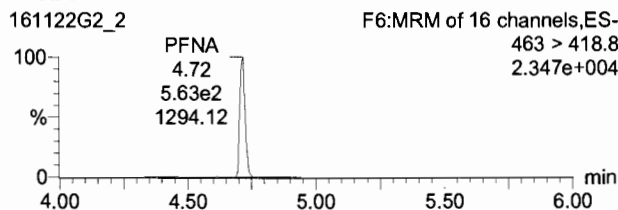
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_2, Date: 22-Nov-2016, Time: 10:00:32, ID: ST161122G2-2 PFC CS-1 16K1705, Description: PFC CS-1 16K1705 A

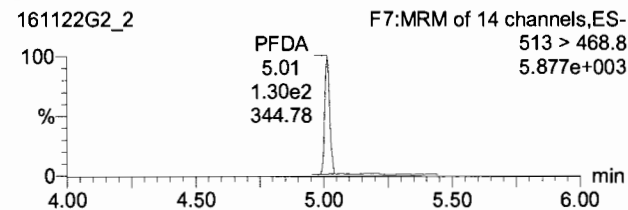
**PFOS**



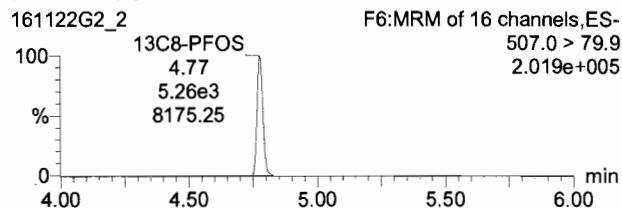
**PFNA**



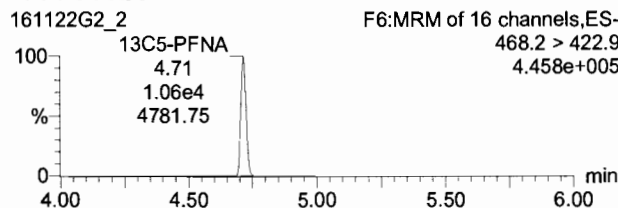
**PFDA**



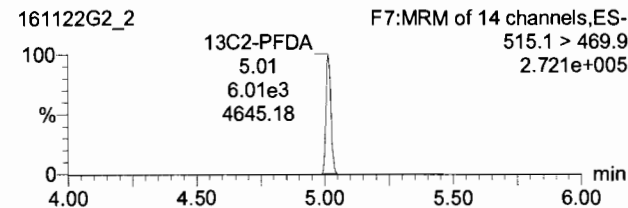
**13C8-PFOS**



**13C5-PFNA**



**13C2-PFDA**

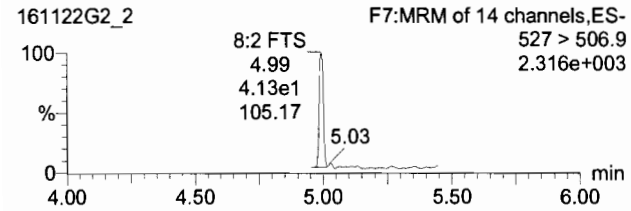


Dataset: Untitled

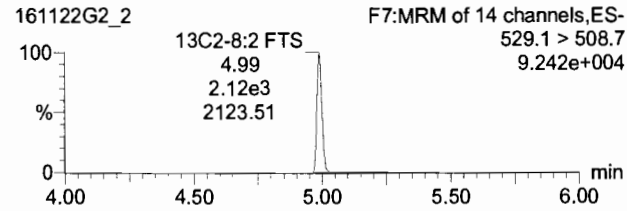
Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_2, Date: 22-Nov-2016, Time: 10:00:32, ID: ST161122G2-2 PFC CS-1 16K1705, Description: PFC CS-1 16K1705 A

8:2 FTS

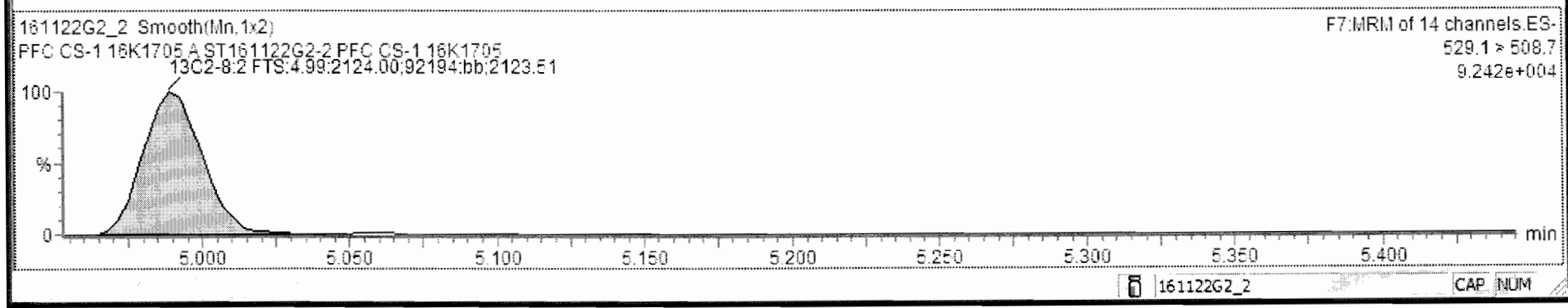
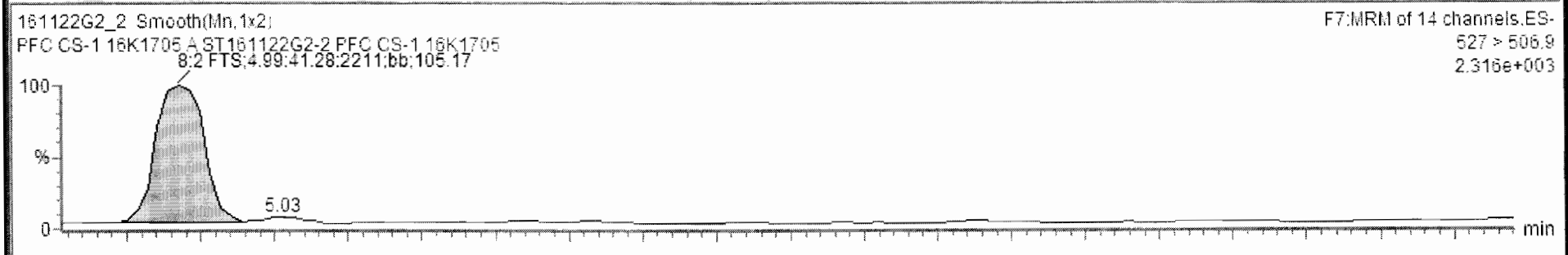


13C2-8:2 FTS



161122G2\_2 - ST161122G2-2 PFC CS-1 16K1705 - PFC CS-1 16K1705 A

Name	Trace	Area	RRF	Wt/Vol	Pred. RT	RT	Conc.	>MDL	%Rec	DL
4	PFHxA	313.2 > 268.9	3.91e2	1.000	3.47	3.47	0.612	NO	122.3	0.0000000
5	PFHpA	263 > 318.9	9.73e2	1.000	3.98	3.98	0.608	NO	121.5	0.0903976
6	PFHxS	398.9 > 79.6	4.64e2	1.000	4.09	4.09	0.578	NO	115.3	0.0164070
7	6:2 FTS	427.1 > 407	4.92e1	1.000	4.33	4.33	0.645	NO	129.1	0.4501268
8	PFOA	413 > 365.7	1.09e3	1.000	4.37	4.37	0.527	NO	105.5	0.0000000
9	PFHpS	449 > 98.7	5.82e1	1.000	4.37	4.45	0.577	NO	115.3	0.2585335
10	PFOS	499 > 79.9	1.21e2	1.000	4.78	4.78	0.543	NO	108.5	0.2465854
11	PFNA	463 > 418.8	5.63e2	1.000	4.71	4.72	0.509	NO	101.7	0.1048546
12	PFDA	513 > 468.8	1.30e2	1.000	5.01	5.01	0.486	NO	97.3	0.0375452
13	8:2 FTS	527 > 506.9	4.13e1	1.000	4.99	4.99	0.479	NO	95.9	0.0123962
14	13C3-PFBA	216.1 > 171.8	2.07e4	1.21	1.93	1.93	12.2	NO	97.8	0.0060004
15	13C3-PFPeA	266 > 221.8	9.28e3	0.448	2.83	2.85	12.5	NO	100.1	0.0125741
16	13C3-PFBS	302.0 > 96.8	6.26e3	0.302	3.09	3.10	12.5	NO	100.1	0.0062980





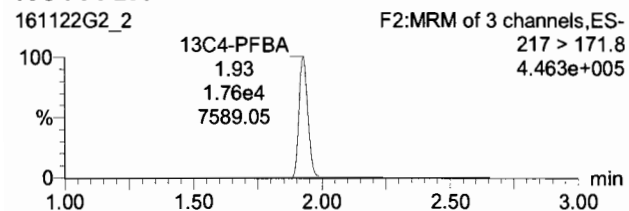
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

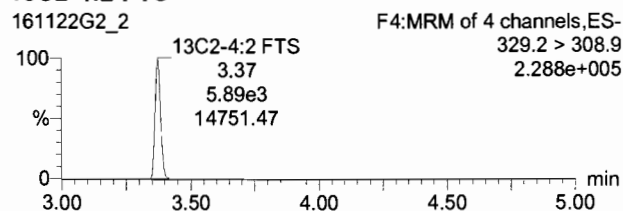
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_2, Date: 22-Nov-2016, Time: 10:00:32, ID: ST161122G2-2 PFC CS-1 16K1705, Description: PFC CS-1 16K1705 A

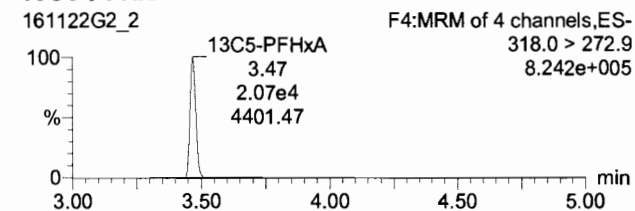
**13C4-PFBA**



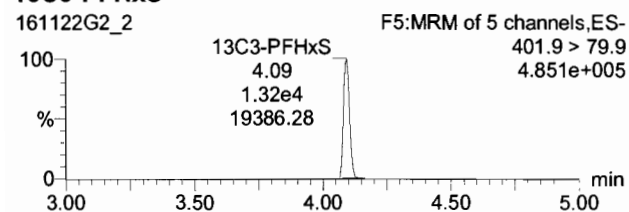
**13C2-4:2 FTS**



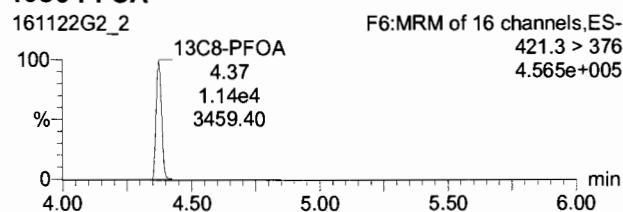
**13C5-PFHxA**



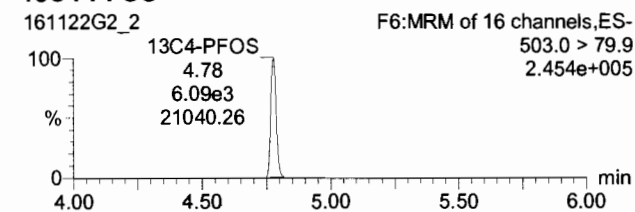
**13C3-PFHxS**



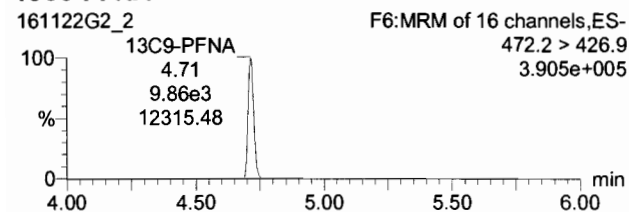
**13C8-PFOA**



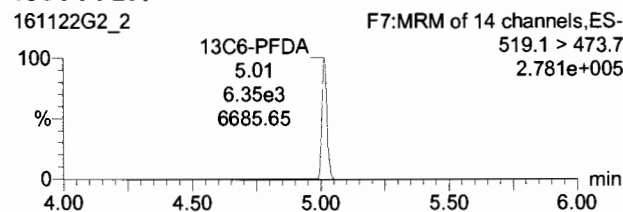
**13C4-PFOS**



**13C9-PFNA**



**13C6-PFDA**

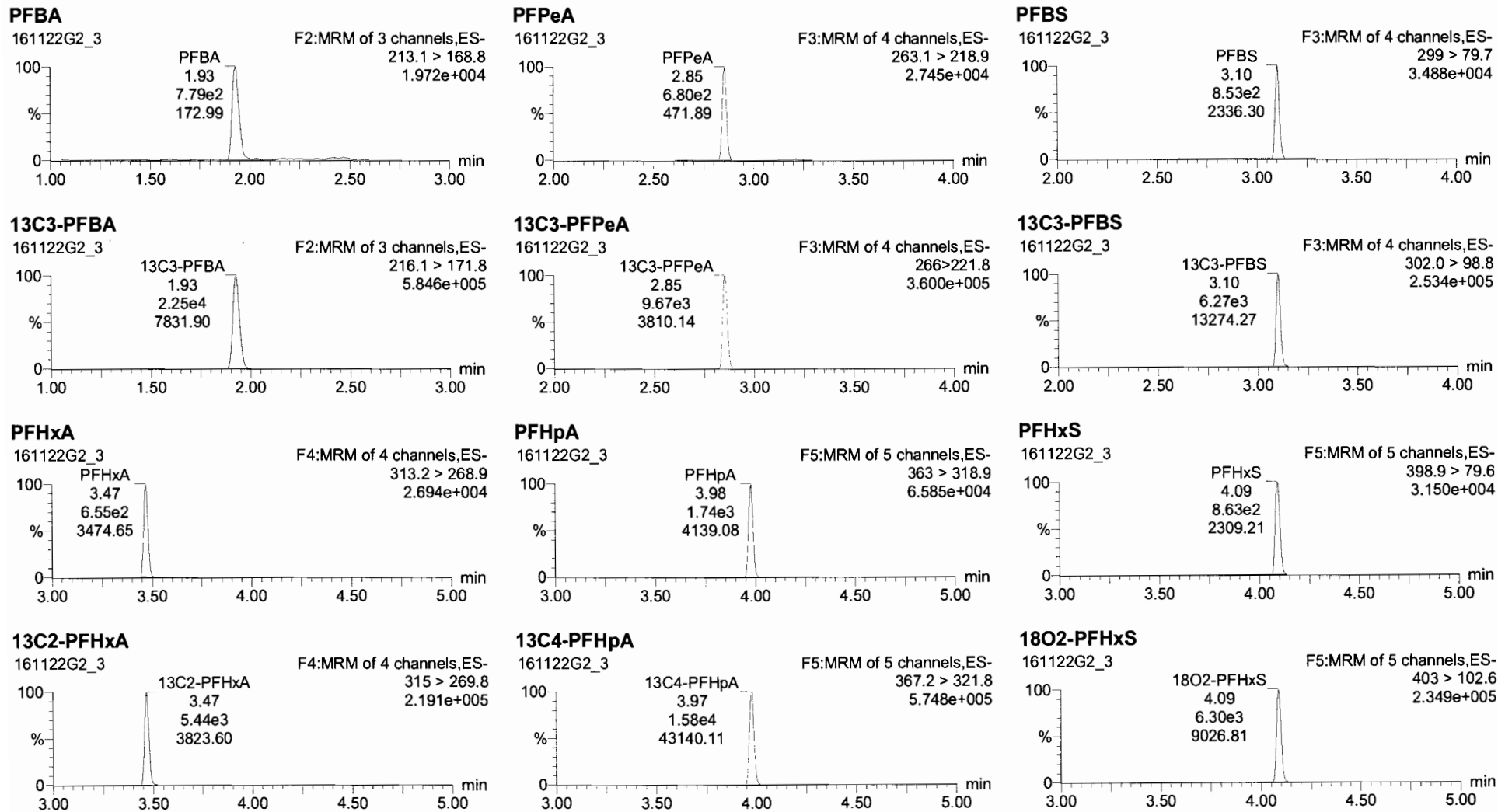


Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_3, Date: 22-Nov-2016, Time: 10:13:07, ID: ST161122G2-3 PFC CS0 16K1706, Description: PFC CS0 16K1706 A

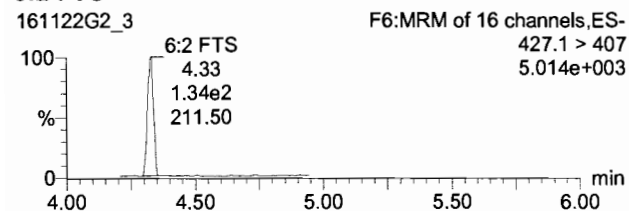


Dataset: Untitled

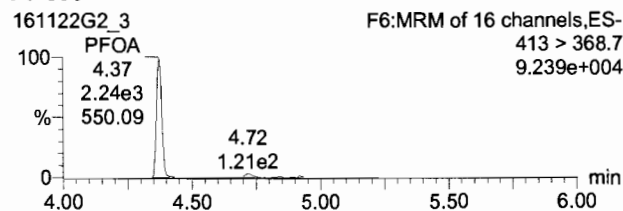
Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_3, Date: 22-Nov-2016, Time: 10:13:07, ID: ST161122G2-3 PFC CS0 16K1706, Description: PFC CS0 16K1706 A

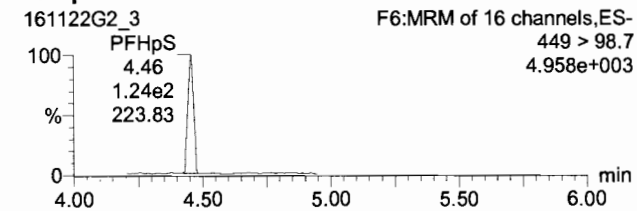
**6:2 FTS**



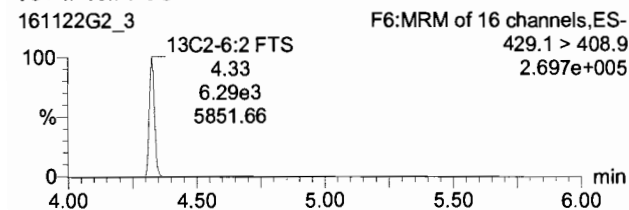
**PFOA**



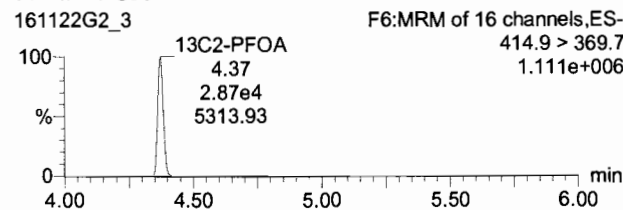
**PFHpS**



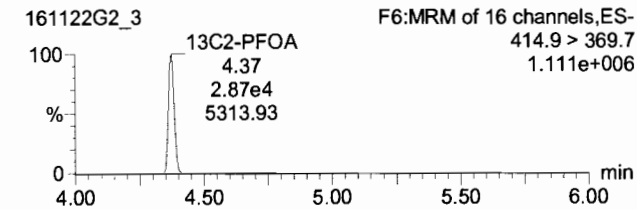
**13C2-6:2 FTS**



**13C2-PFOA**



**13C2-PFOA**



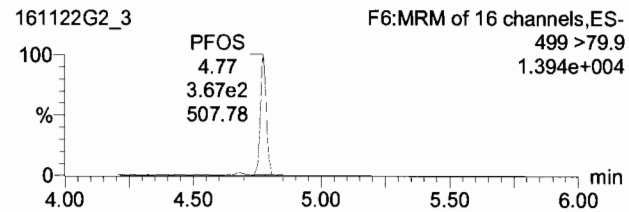
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

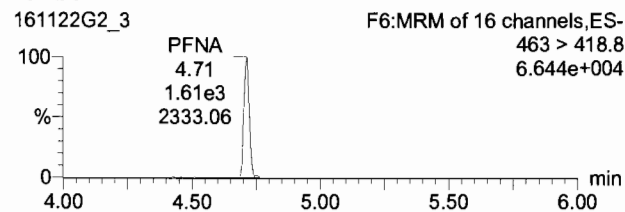
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_3, Date: 22-Nov-2016, Time: 10:13:07, ID: ST161122G2-3 PFC CS0 16K1706, Description: PFC CS0 16K1706 A

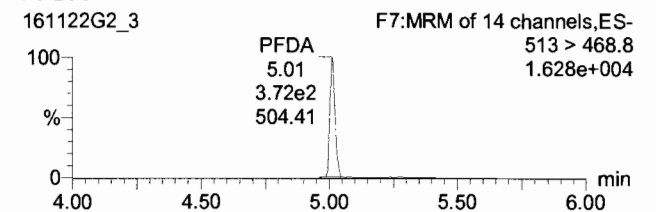
**PFOS**



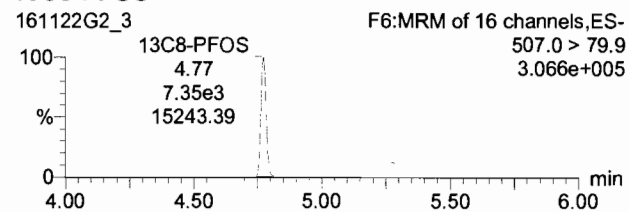
**PFNA**



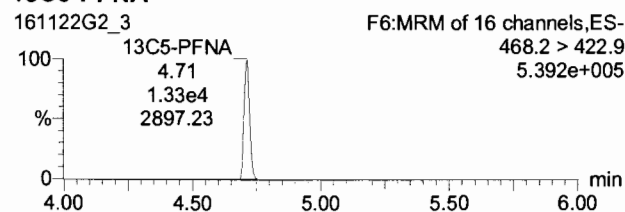
**PFDA**



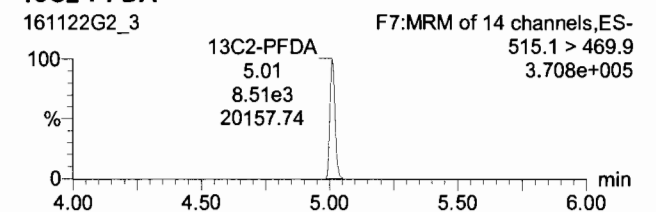
**13C8-PFOS**



**13C5-PFNA**



**13C2-PFDA**



Dataset: Untitled

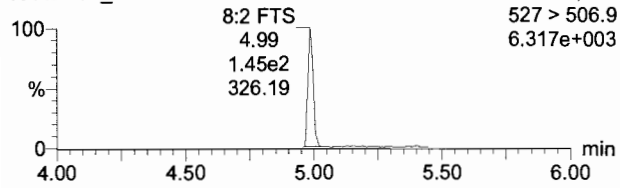
Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_3, Date: 22-Nov-2016, Time: 10:13:07, ID: ST161122G2-3 PFC CS0 16K1706, Description: PFC CS0 16K1706 A

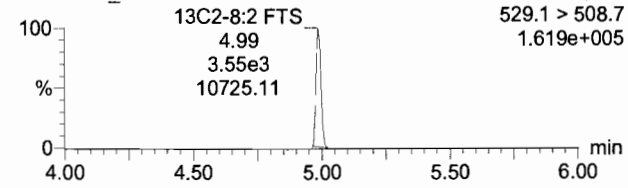
**8:2 FTS**

161122G2\_3



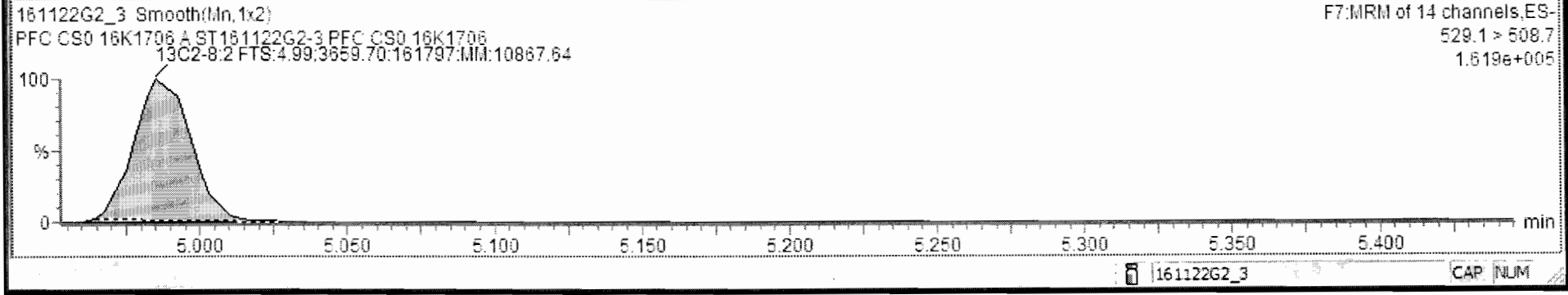
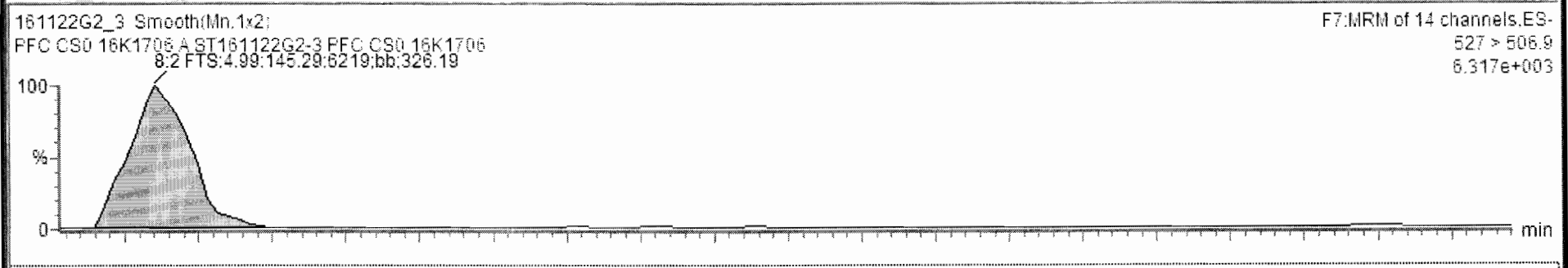
**13C2-8:2 FTS**

161122G2\_3



161122G2\_3 - ST161122G2-3 PFC CS0 16K1706 - PFC CS0 16K1706 A

Name	Trace	Area	RRF	Wt/Vol	Pred. RT	RT	Conc.	>MDL	%Rec	DL
4 PFHxA	313.2 > 268.9	6.55e2		1.000	3.47	3.47	0.989	NO	98.9	0.0000000
5 PFHpA	363 > 318.9	1.74e3		1.000	3.97	3.96	0.979	NO	97.9	0.0697062
6 PFHxS	398.9 > 79.6	8.63e2		1.000	4.09	4.09	1.01	NO	101.1	0.0165248
7 6:2 FTS	427.1 > 407	1.34e2		1.000	4.33	4.33	0.971	NO	97.1	0.4490742
8 PFOA	413 > 368.7	2.24e3		1.000	4.37	4.37	0.983	NO	98.3	0.0000000
9 PFHpS	449 > 98.7	1.24e2		1.000	4.37	4.45	0.834	NO	83.4	0.2545461
10 PFOS	499 > 79.9	3.67e2		1.000	4.78	4.77	0.947	NO	94.7	0.2020921
11 PFNA	483 > 418.8	1.61e3		1.000	4.71	4.71	1.02	NO	102.5	0.1049328
12 PFDA	513 > 468.8	3.72e2		1.000	5.01	5.01	0.949	NO	94.9	0.0381871
13 8:2 FTS	527 > 506.9	1.45e2		1.000	4.99	4.99	0.984	NO	98.4	0.0027010
14 13C3-PFBA	216.1 > 171.8	2.25e4	1.21	1.000	1.92	1.92	12.6	NO	101.0	0.0041450
15 13C3-PFPeA	266 > 221.8	9.67e3	0.448	1.000	2.83	2.85	12.4	NO	99.4	0.0077179
16 13C3-PFBS	302.0 > 98.8	6.27e3	0.302	1.000	3.09	3.10	11.9	NO	95.4	0.0023082



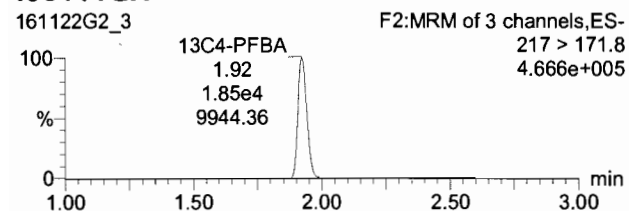
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

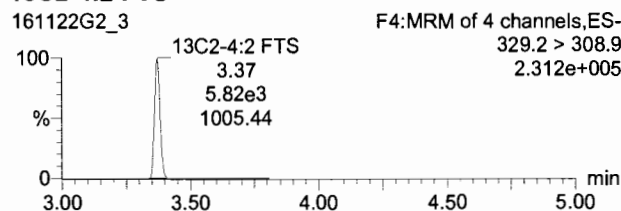
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_3, Date: 22-Nov-2016, Time: 10:13:07, ID: ST161122G2-3 PFC CS0 16K1706, Description: PFC CS0 16K1706 A

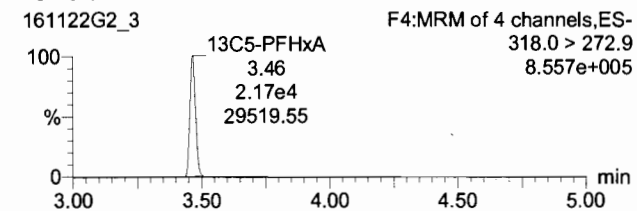
**13C4-PFBA**



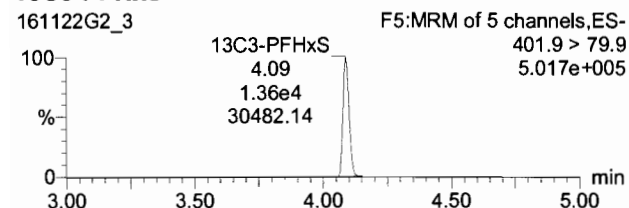
**13C2-4:2 FTS**



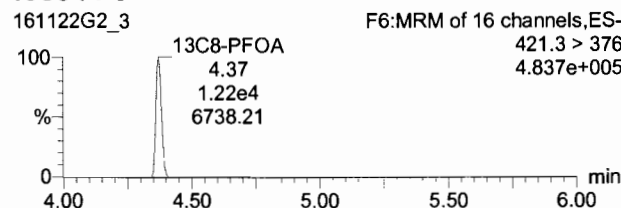
**13C5-PFHxA**



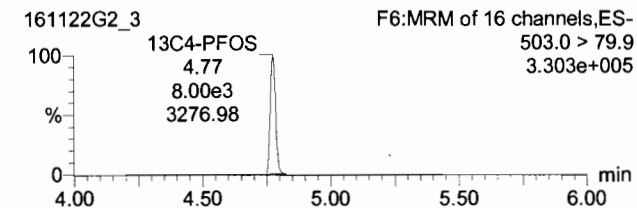
**13C3-PFHxS**



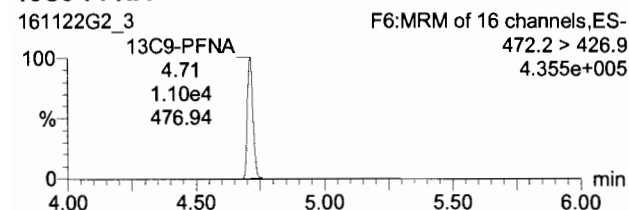
**13C8-PFOA**



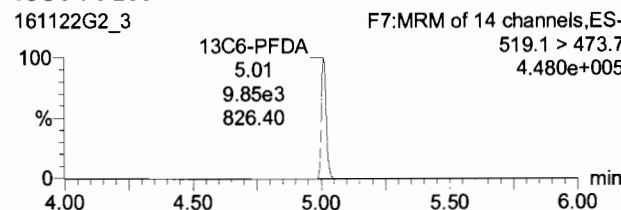
**13C4-PFOS**



**13C9-PFNA**



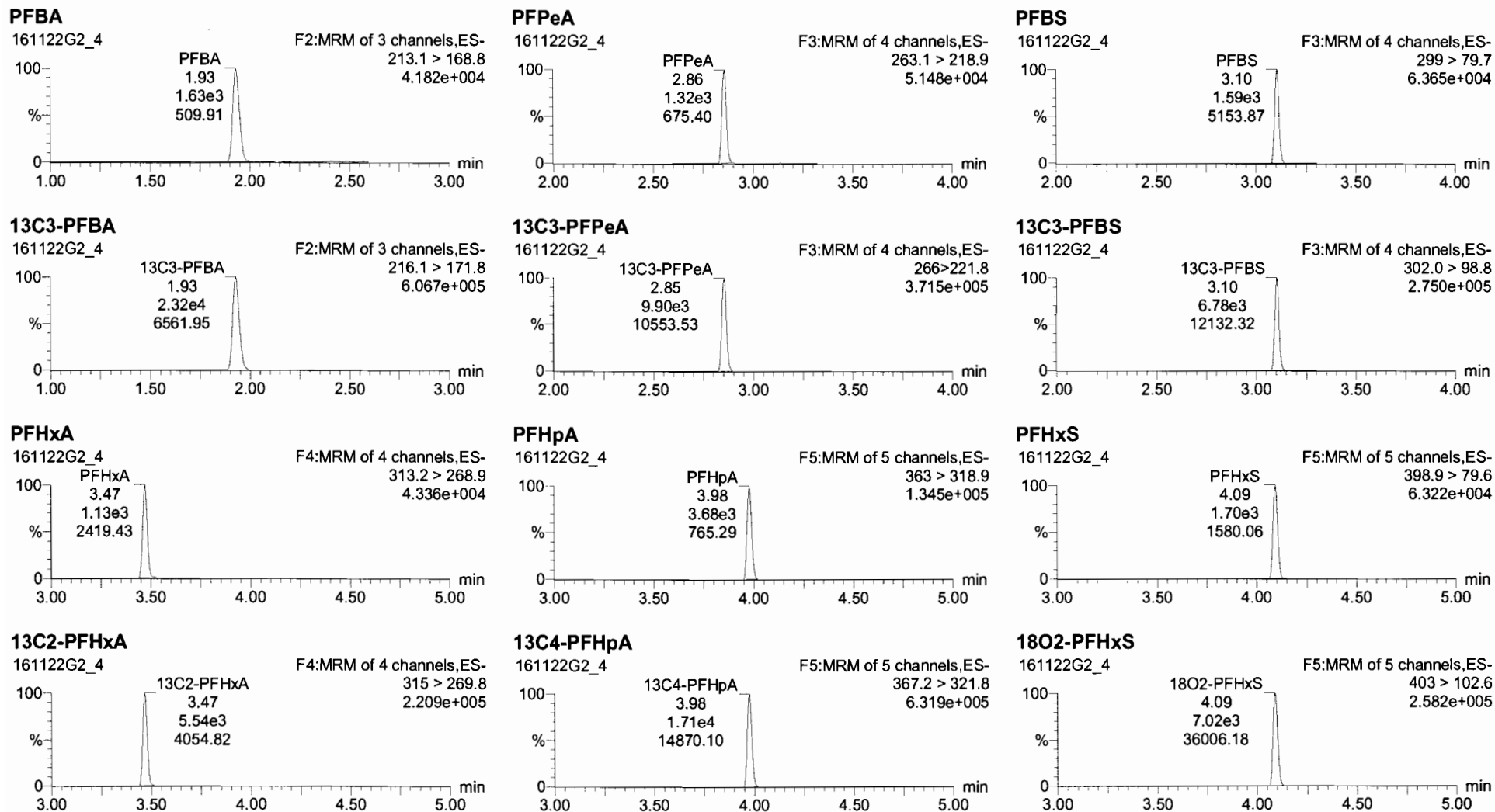
**13C6-PFDA**



Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_4, Date: 22-Nov-2016, Time: 10:25:42, ID: ST161122G2-4 PFC CS1 16K1707, Description: PFC CS1 16K1707 A



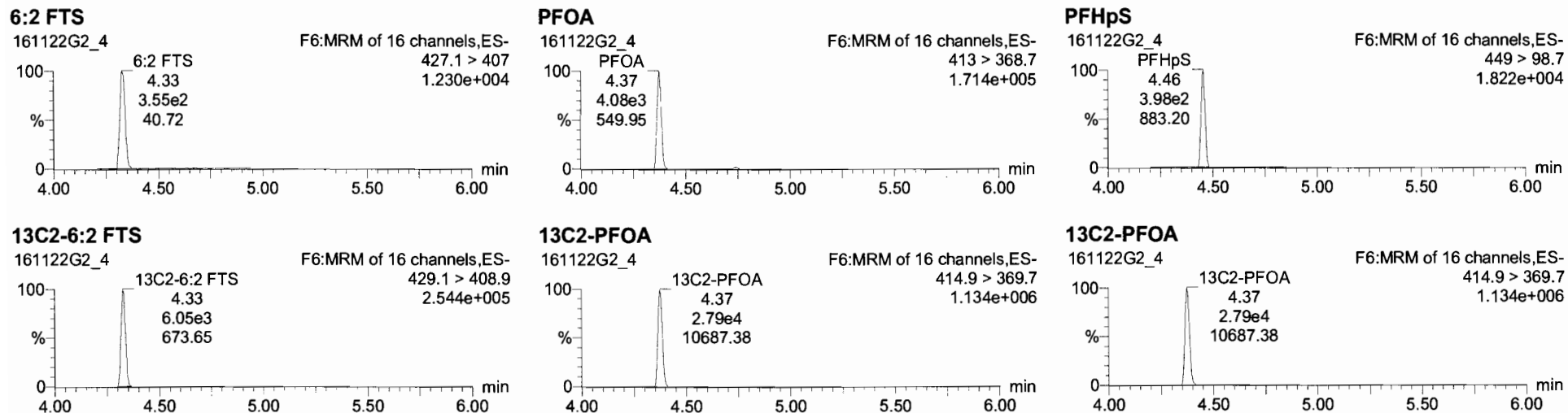


Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

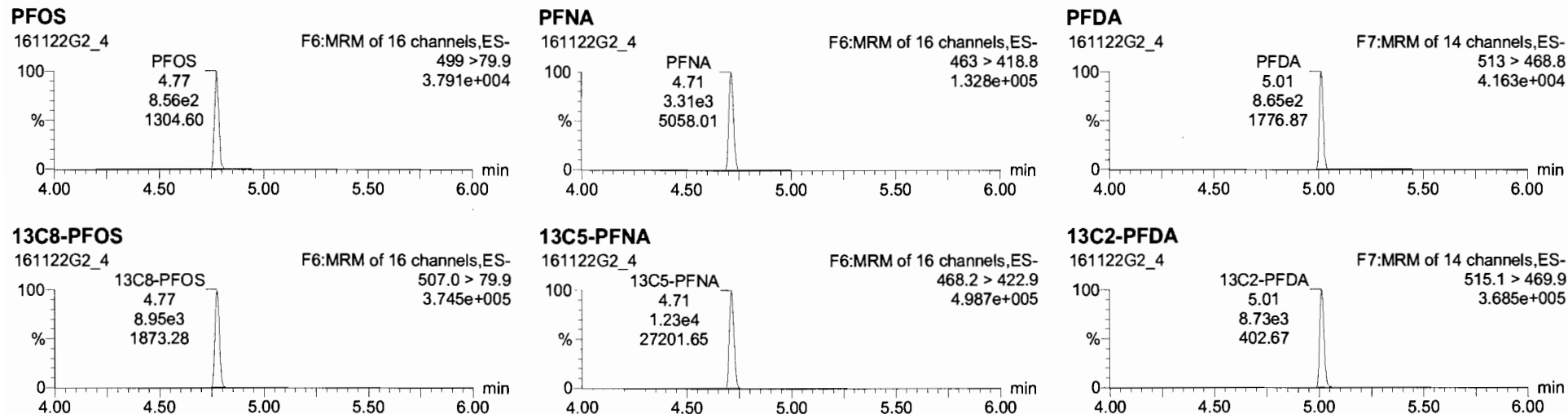
Name: 161122G2\_4, Date: 22-Nov-2016, Time: 10:25:42, ID: ST161122G2-4 PFC CS1 16K1707, Description: PFC CS1 16K1707 A



Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_4, Date: 22-Nov-2016, Time: 10:25:42, ID: ST161122G2-4 PFC CS1 16K1707, Description: PFC CS1 16K1707 A



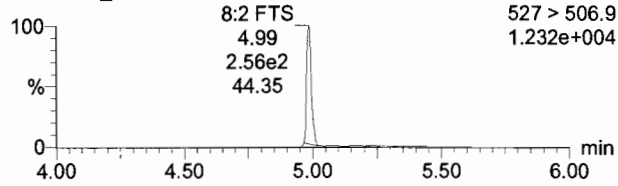
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_4, Date: 22-Nov-2016, Time: 10:25:42, ID: ST161122G2-4 PFC CS1 16K1707, Description: PFC CS1 16K1707 A

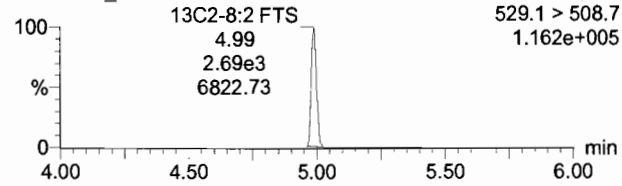
8:2 FTS

161122G2\_4



13C2-8:2 FTS

161122G2\_4



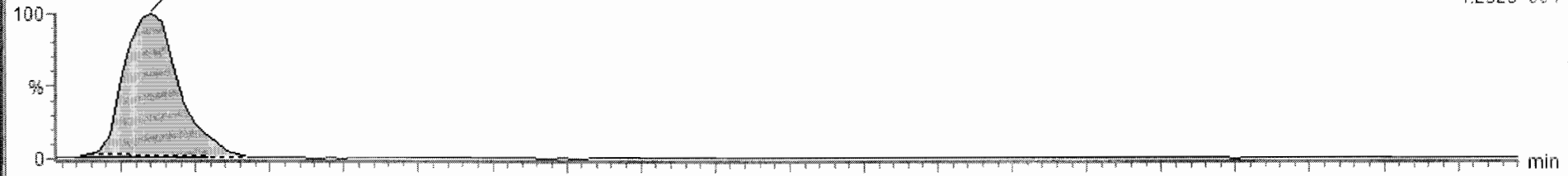


161122G2\_4 - ST161122G2-4 PFC CS1 16K1707 - PFC CS1 16K1707 A

Name	Trace	Area	RRF	Wt/VoL	Pred.RT	RT	Conc.	>MDL	%Rec	DL
4	PFHxA	313.2 > 268.9	1.13e3	1.000	3.47	3.47	1.69	NO	84.7	0.0000000
5	PFHpA	263 > 318.9	3.68e3	1.000	3.98	2.98	1.82	NO	90.8	0.0947461
6	PFHxS	398.9 > 79.6	1.70e3	1.000	4.09	4.09	1.78	NO	88.8	0.0182811
7	6:2 FTS	427.1 > 407	3.55e2	1.000	4.33	4.33	1.90	NO	94.8	0.5167321
8	PFOA	413 > 368.7	4.08e3	1.000	4.37	4.37	1.93	NO	98.8	0.0000000
9	PFHpS	449 > 98.7	3.98e2	1.000	4.37	4.45	2.18	NO	109.2	0.2540463
10	PFOS	499 > 79.9	8.56e2	1.000	4.78	4.77	1.63	NO	81.8	0.2016580
11	PFNA	483 > 418.8	3.31e3	1.000	4.71	4.71	2.16	NO	107.8	0.1049312
12	PFDA	513 > 468.8	8.65e2	1.000	5.01	5.01	2.11	NO	105.6	0.0369790
13	6:2 FTS	527 > 506.9	2.64e2	1.000	4.99	4.99	2.44	NO	122.1	0.1423108
14	13C3-PFBA	216.1 > 171.8	2.32e4	1.21	1.93	1.93	13.4	NO	107.0	0.0051901
15	13C3-PFPeA	266 > 221.8	9.90e3	0.448	2.83	2.85	13.1	NO	104.8	0.0029331
16	13C3-PFBS	302.0 > 98.8	6.78e3	0.302	3.09	3.10	13.3	NO	106.4	0.0028004

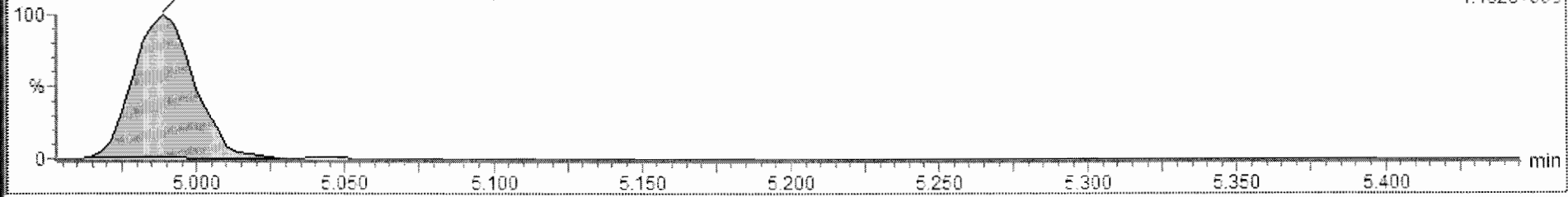
161122G2\_4 Smooth(f.n.1x2)  
 PFC CS1 16K1707 A ST161122G2-4 PFC CS1 16K1707  
 8:2 FTS:4.99;263.53;12211.111;44.97

F7:MRM of 14 channels.ES-  
 527 > 506.9  
 1.232e+004



161122G2\_4 Smooth(f.n.1x2)  
 PFC CS1 16K1707 A ST161122G2-4 PFC CS1 16K1707  
 13C2-8:2 FTS:4.99;2686.69;115004;bb;6822.73

F7:MRM of 14 channels.ES-  
 529.1 > 508.7  
 1.162e+005



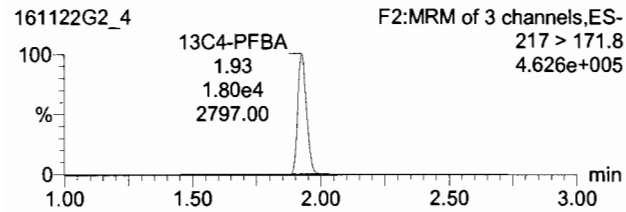
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

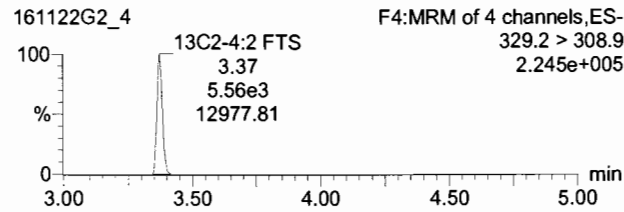
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_4, Date: 22-Nov-2016, Time: 10:25:42, ID: ST161122G2-4 PFC CS1 16K1707, Description: PFC CS1 16K1707 A

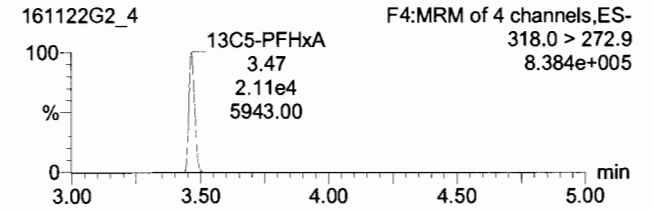
**13C4-PFBA**



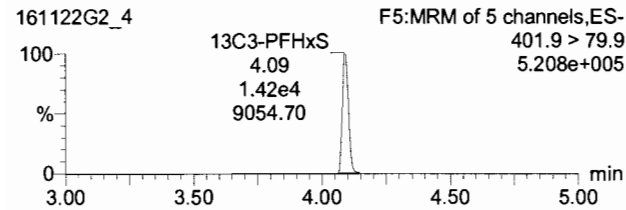
**13C2-4:2 FTS**



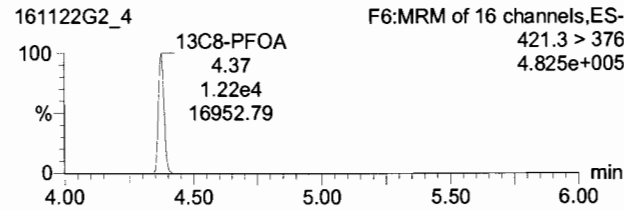
**13C5-PFHxA**



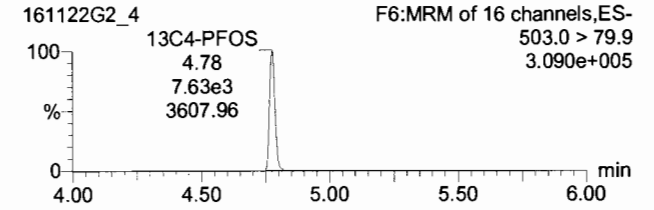
**13C3-PFHxS**



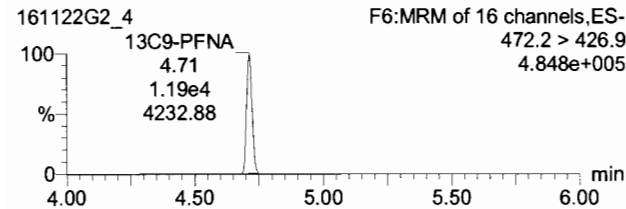
**13C8-PFOA**



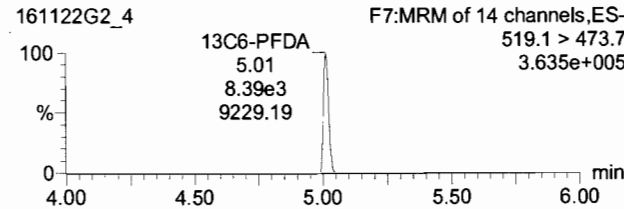
**13C4-PFOS**



**13C9-PFNA**



**13C6-PFDA**



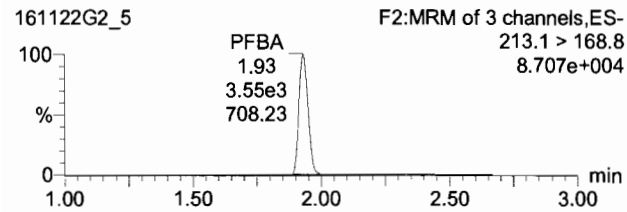
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

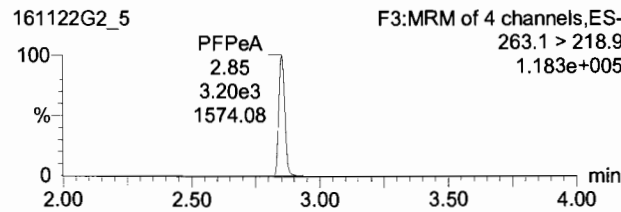
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_5, Date: 22-Nov-2016, Time: 10:38:18, ID: ST161122G2-5 PFC CS2 16K1708, Description: PFC CS2 16K1708 A

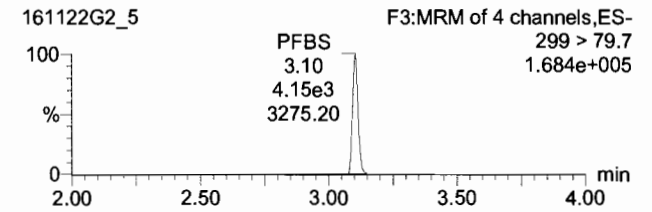
**PFBA**



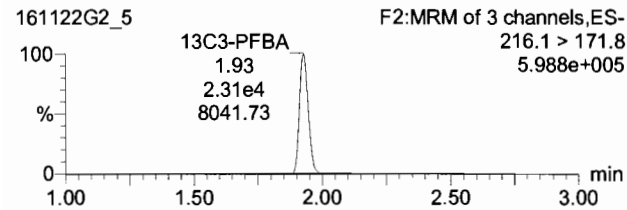
**PFPeA**



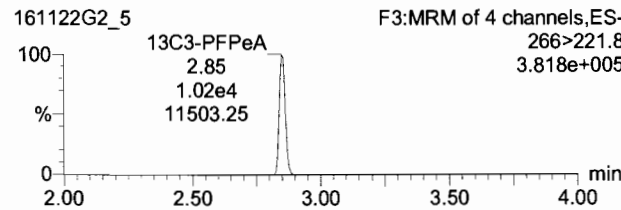
**PFBS**



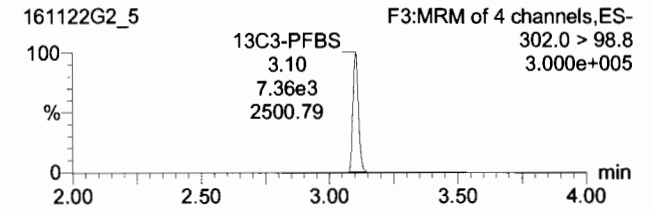
**13C3-PFBA**



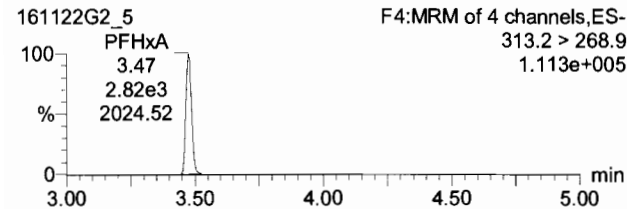
**13C3-PFPeA**



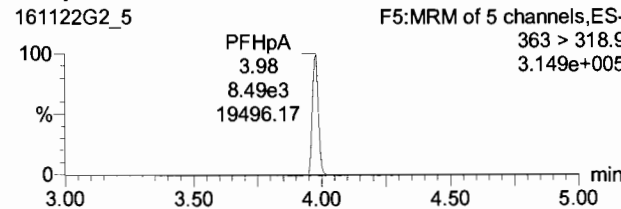
**13C3-PFBS**



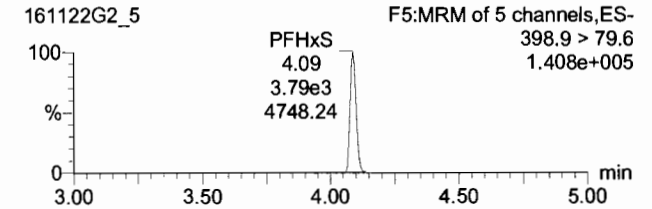
**PFHxA**



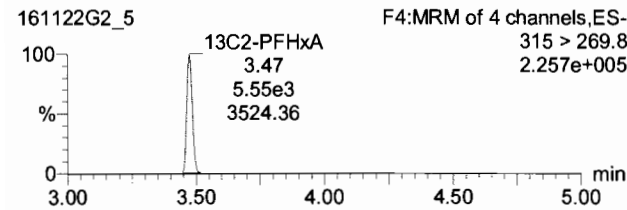
**PFHpA**



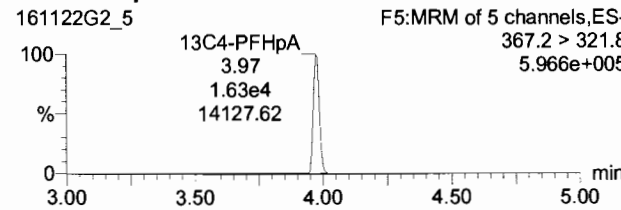
**PFHxS**



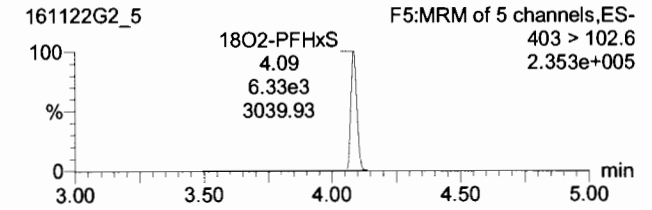
**13C2-PFHxA**



**13C4-PFHpA**



**18O2-PFHxS**



Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

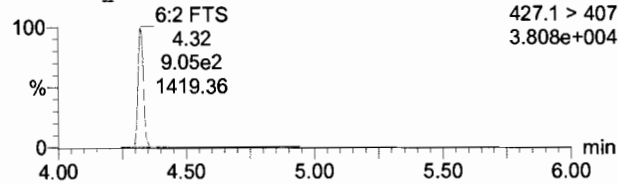
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_5, Date: 22-Nov-2016, Time: 10:38:18, ID: ST161122G2-5 PFC CS2 16K1708, Description: PFC CS2 16K1708 A

**6:2 FTS**

161122G2\_5

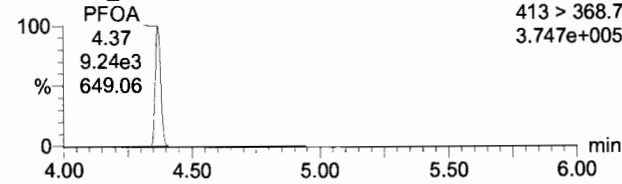
F6:MRM of 16 channels,ES-  
427.1 > 407  
3.808e+004



**PFOA**

161122G2\_5

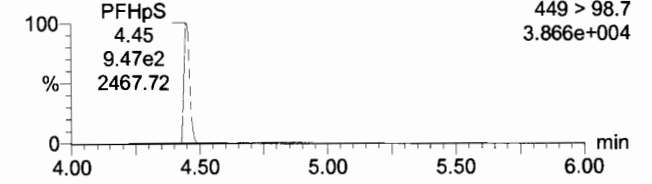
F6:MRM of 16 channels,ES-  
413 > 368.7  
3.747e+005



**PFHpS**

161122G2\_5

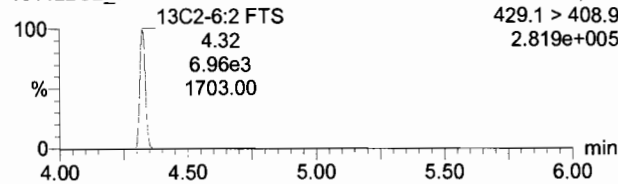
F6:MRM of 16 channels,ES-  
449 > 98.7  
3.866e+004



**13C2-6:2 FTS**

161122G2\_5

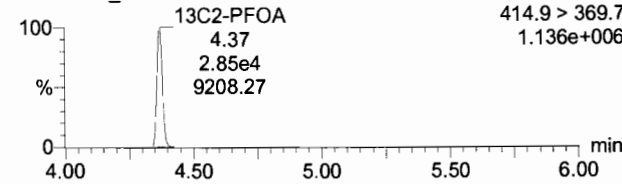
F6:MRM of 16 channels,ES-  
429.1 > 408.9  
2.819e+005



**13C2-PFOA**

161122G2\_5

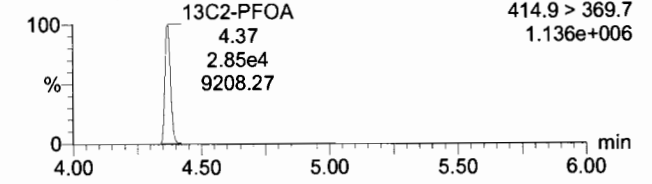
F6:MRM of 16 channels,ES-  
414.9 > 369.7  
1.136e+006



**13C2-PFOA**

161122G2\_5

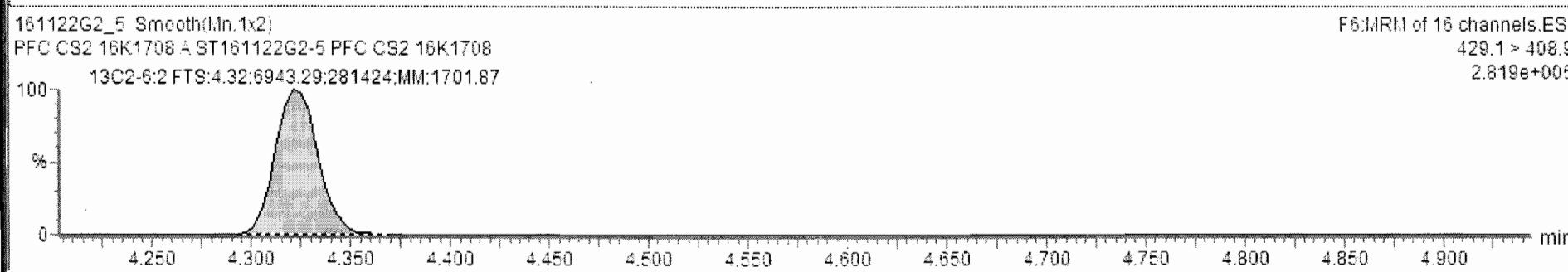
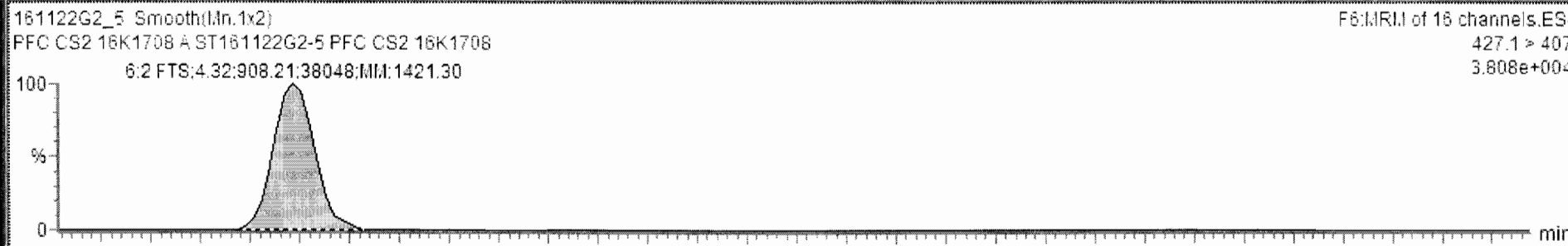
F6:MRM of 16 channels,ES-  
414.9 > 369.7  
1.136e+006





161122G2\_5 - ST161122G2-5 PFC CS2 16K1708 - PFC CS2 16K1708 A

Name	Trace	Area	Response	RRF	Wt/Vol	RT	Conc.	%Rec	DL	%RSD	Coeff. Of D...
4	PFHxA	313.2 > 268.9	2.82e3	2.538	0.508	1.000	3.47	4.23	84.5	0.0000000	0.9985
5	PFHpA	363 > 318.9	8.49e3	8.514	1.303	1.000	3.98	4.28	85.7	0.0898946	0.9993
6	PFHxS	398.9 > 79.6	3.79e3	7.475	1.495	1.000	4.09	4.36	87.2	0.0177626	0.9975
7	6:2 FTS	427.1 > 407	9.08e2	1.635	0.327	1.000	4.32	4.17	83.4	0.2827957	0.9789
8	PFOA	413 > 368.7	9.24e3	4.054	0.811	1.000	4.37	4.40	88.1	0.0000000	0.9990
9	PFHpS	449 > 98.7	9.47e2	0.416	0.083	1.000	4.45	4.76	95.2	0.2525704	0.9956
10	PFOS	499 > 79.9	2.17e3	3.949	0.790	1.000	4.77	4.93	98.6	0.2032607	0.9935
11	PFNA	463 > 418.8	7.19e3	7.012	1.402	1.000	4.71	4.37	87.5	0.1046439	0.9954
12	PFDA	513 > 468.8	1.70e3	2.630	0.526	1.000	5.01	4.44	88.9	0.0382137	0.9973
13	8:2 FTS	527 > 506.9	4.40e2	2.081	0.416	1.000	4.99	4.15	82.9	0.0149202	0.9823
14	13C3-PFBA	216.1 > 171.8	2.31e4	15.177	1.214	1.000	1.93	12.6	100.8	0.0039178	4.60
15	13C3-PFPeA	266 > 221.8	1.02e4	5.822	0.466	1.000	2.85	13.0	104.1	0.0026412	3.92
16	13C3-PFBS	302.0 > 98.8	7.36e3	4.183	0.335	1.000	3.10	13.8	110.8	0.0141320	5.67

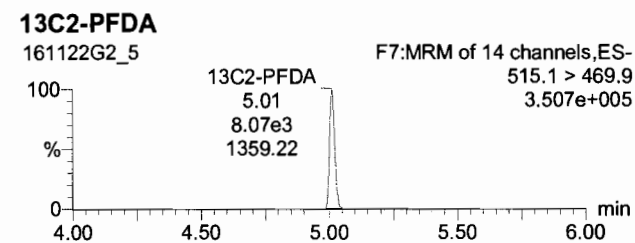
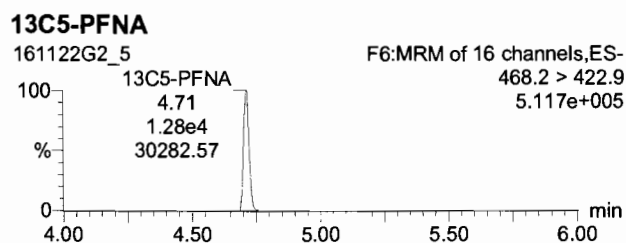
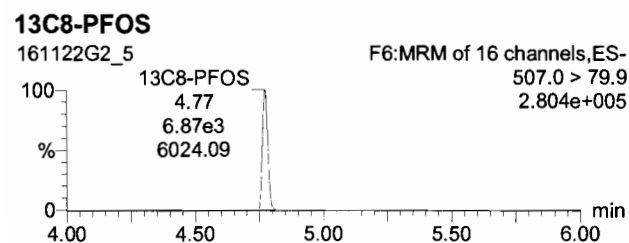
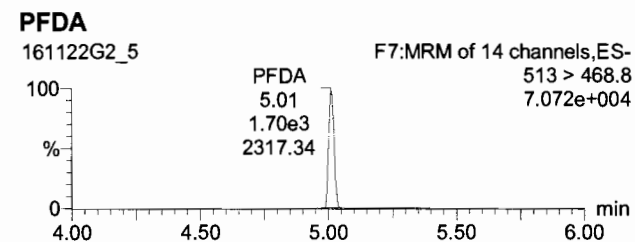
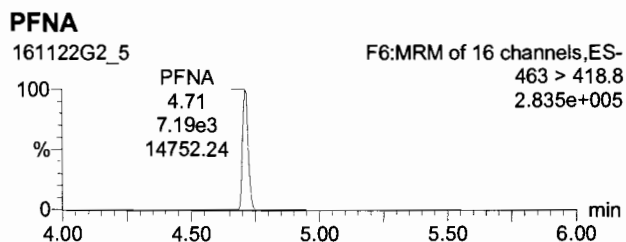
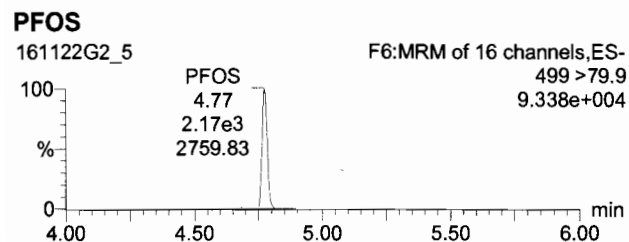




Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_5, Date: 22-Nov-2016, Time: 10:38:18, ID: ST161122G2-5 PFC CS2 16K1708, Description: PFC CS2 16K1708 A



Dataset: Untitled

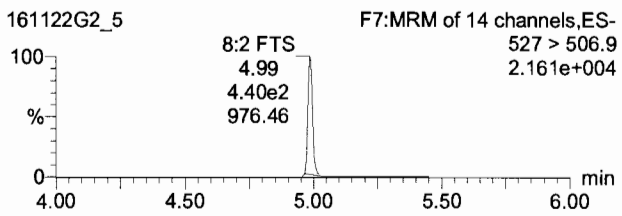
Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_5, Date: 22-Nov-2016, Time: 10:38:18, ID: ST161122G2-5 PFC CS2 16K1708, Description: PFC CS2 16K1708 A

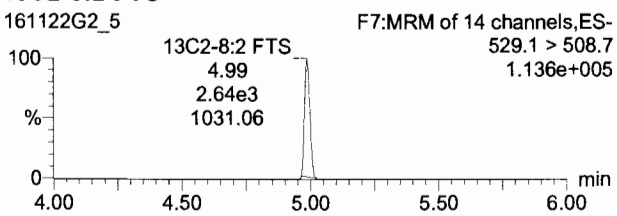
8:2 FTS

161122G2\_5



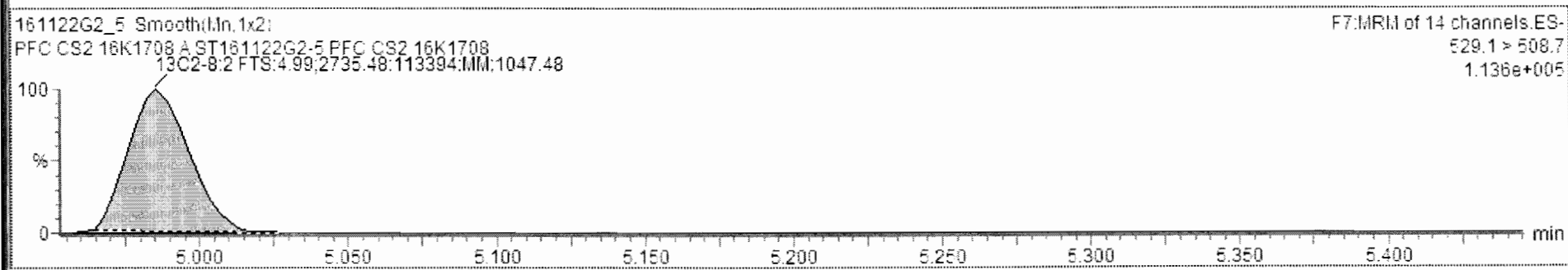
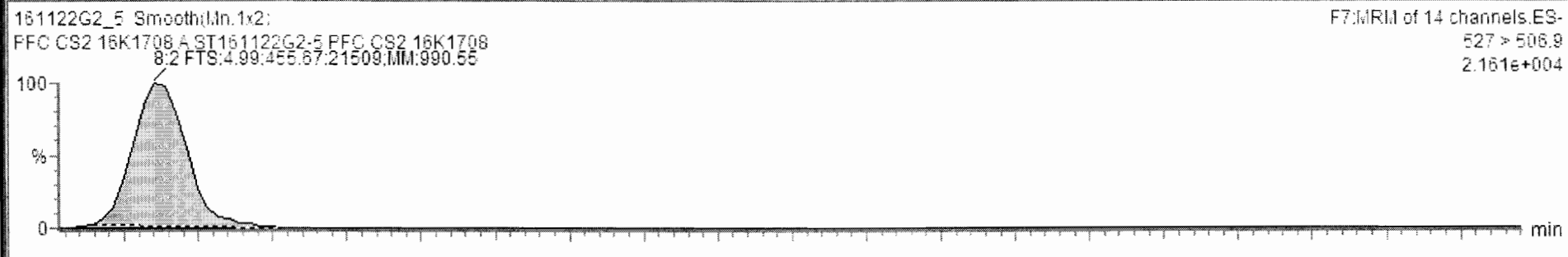
13C2-8:2 FTS

161122G2\_5



161122G2\_5 - ST161122G2-5 PFC CS2 16K1708 - PFC CS2 16K1708 A

Name	Trace	Area	RRF	Wt/Vol	Pred. RT	RT	Conc.	>MDL	%Rec	DL
4	PFHxA	313.2 > 268.9	2.82e3	1.000	3.47	3.47	4.23	NO	84.5	0.0000000
5	PFHpA	363 > 318.9	8.49e3	1.000	3.97	3.98	4.28	NO	85.7	0.0896946
6	PFHxS	398.9 > 79.6	3.79e3	1.000	4.09	4.09	4.36	YES	87.2	0.0177626
7	6:2 FTS	427.1 > 407	9.08e2	1.000	4.32	4.32	3.89	NO	73.9	0.4496157
8	PFOA	413 > 368.7	9.24e3	1.000	4.37	4.37	4.40	YES	88.1	0.0000000
9	PFHpS	449 > 98.7	9.47e2	1.000	4.37	4.45	4.76	YES	95.2	0.2525704
10	PFOS	499 > 79.9	2.17e3	1.000	4.77	4.77	4.93	YES	98.6	0.2032607
11	PFNA	463 > 418.8	7.19e3	1.000	4.71	4.71	4.37	YES	87.5	0.1046438
12	PFDA	513 > 468.8	1.70e3	1.000	5.01	5.01	4.44	NO	88.9	0.0382137
13	8:2 FTS	527 > 508.9	4.56e2	1.000	4.99	4.99	4.16	NO	83.2	0.0072296
14	13C3-PFB4	216.1 > 171.8	2.31e4	1.21	1.93	1.93	12.6	NO	100.8	0.0039178
15	13C3-PFPeA	266 > 221.8	1.02e4	0.448	2.84	2.85	13.0	NO	104.1	0.0026412
16	13C3-PFBS	302.0 > 98.8	7.36e3	0.302	3.10	3.10	13.8	NO	110.8	0.0141320



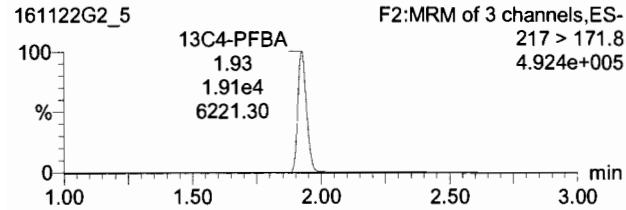
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

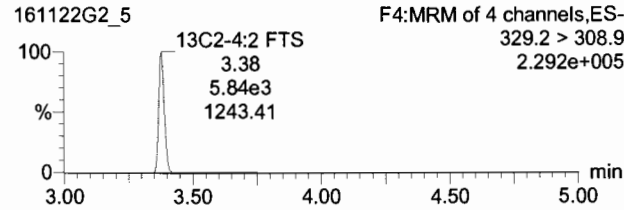
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_5, Date: 22-Nov-2016, Time: 10:38:18, ID: ST161122G2-5 PFC CS2 16K1708, Description: PFC CS2 16K1708 A

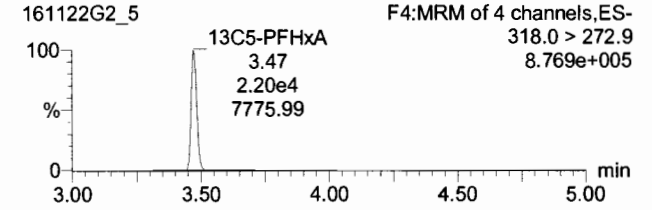
**13C4-PFBA**



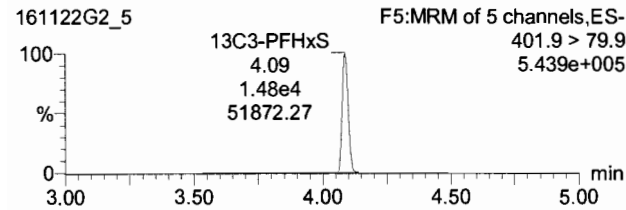
**13C2-4:2 FTS**



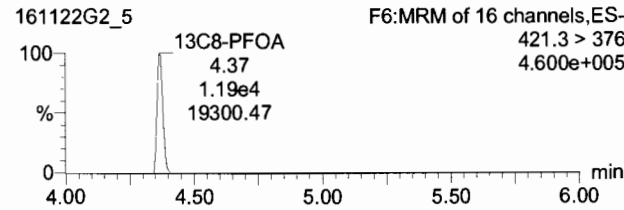
**13C5-PFHxA**



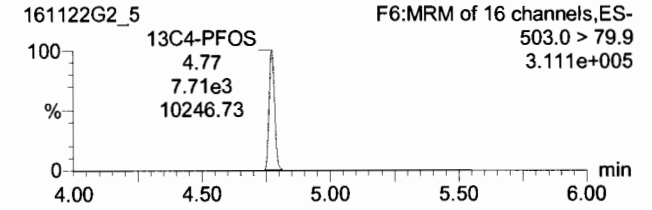
**13C3-PFHxS**



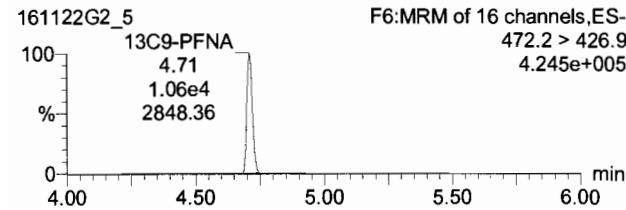
**13C8-PFOA**



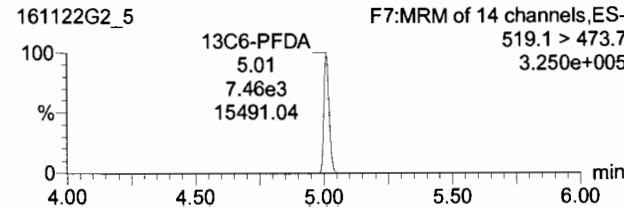
**13C4-PFOS**



**13C9-PFNA**



**13C6-PFDA**

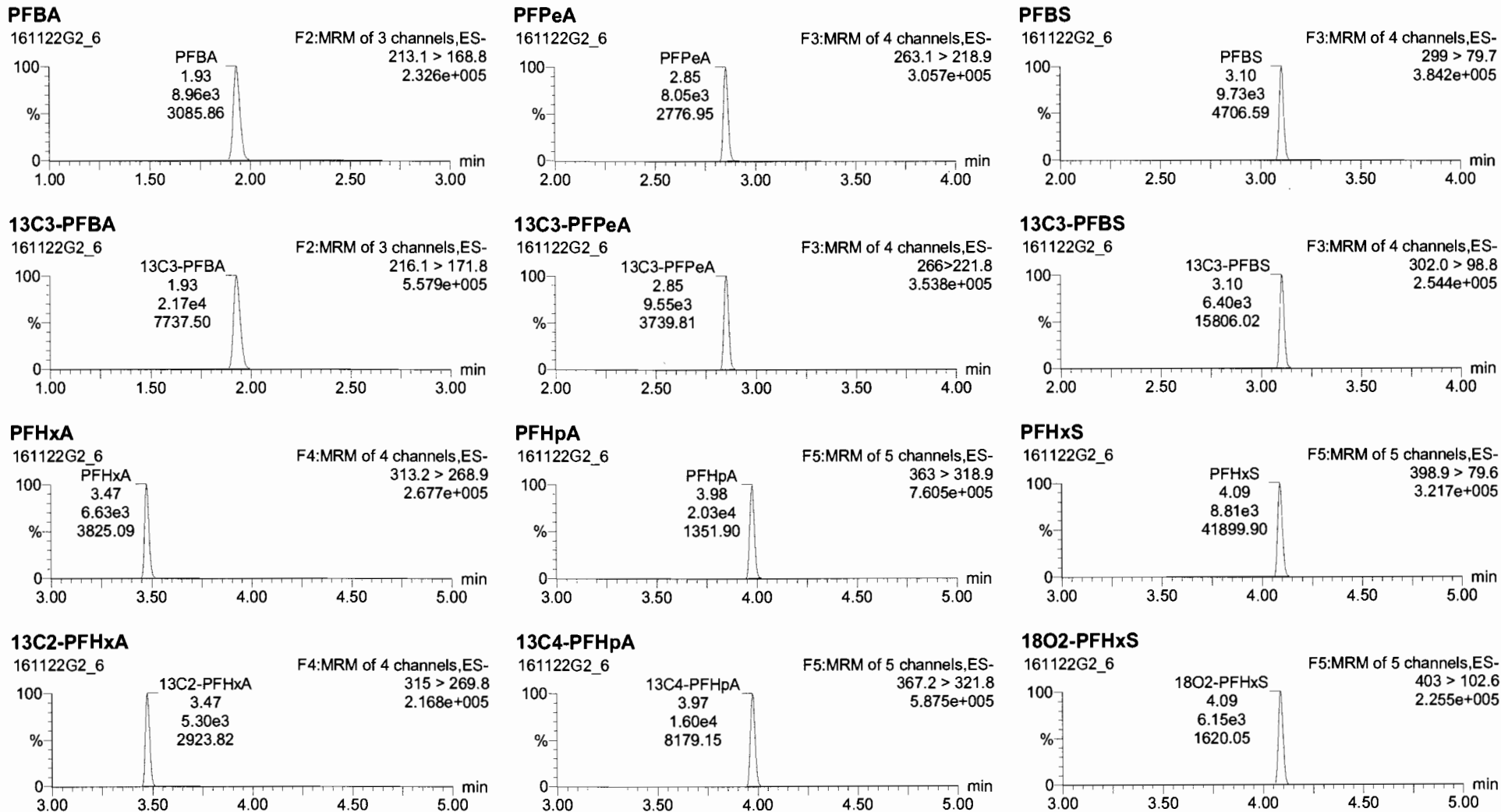


Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_6, Date: 22-Nov-2016, Time: 10:50:54, ID: ST161122G2-6 PFC CS3 16K1709, Description: PFC CS3 16K1709 A



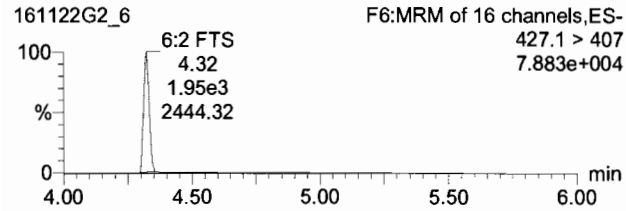
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

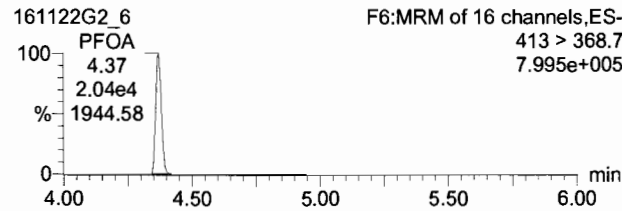
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_6, Date: 22-Nov-2016, Time: 10:50:54, ID: ST161122G2-6 PFC CS3 16K1709, Description: PFC CS3 16K1709 A

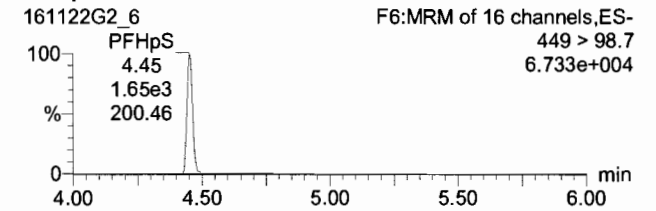
**6:2 FTS**



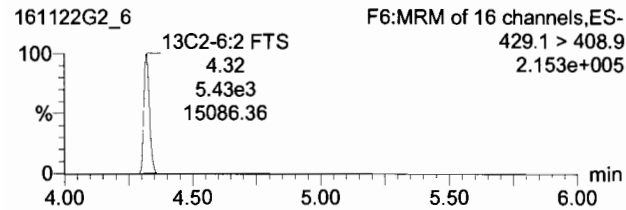
**PFOA**



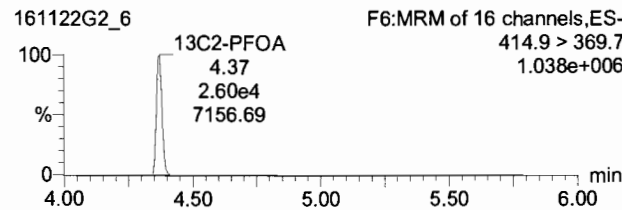
**PFHpS**



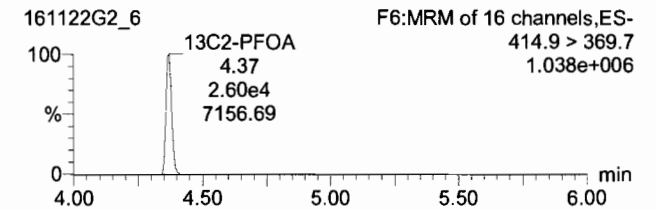
**13C2-6:2 FTS**



**13C2-PFOA**



**13C2-PFOA**



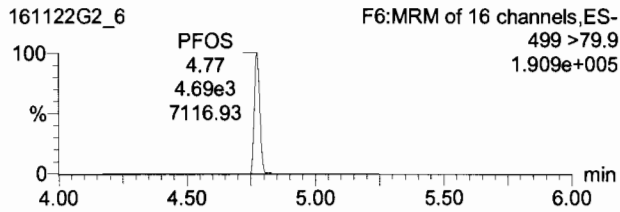
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

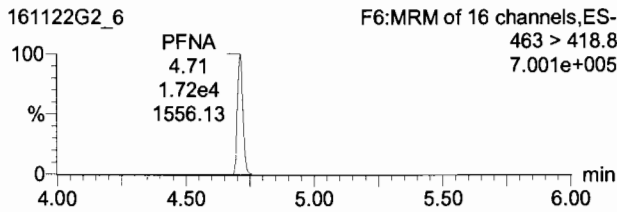
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_6, Date: 22-Nov-2016, Time: 10:50:54, ID: ST161122G2-6 PFC CS3 16K1709, Description: PFC CS3 16K1709 A

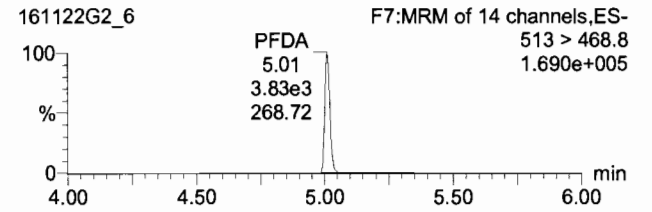
**PFOS**



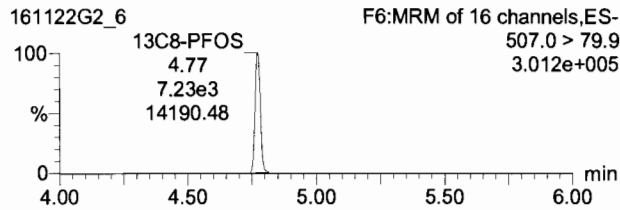
**PFNA**



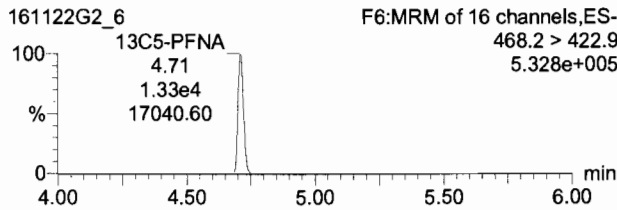
**PFDA**



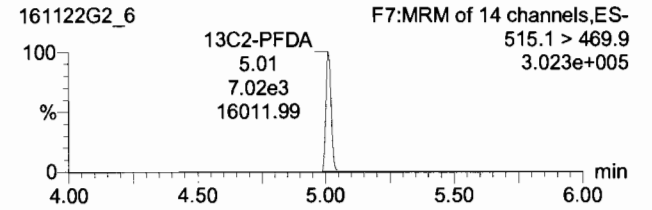
**13C8-PFOS**



**13C5-PFNA**



**13C2-PFDA**



Dataset: Untitled

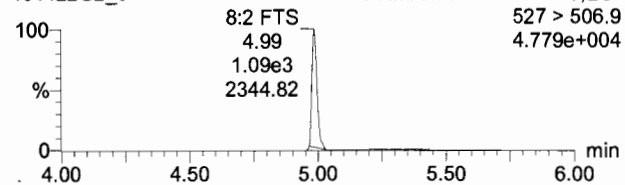
Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_6, Date: 22-Nov-2016, Time: 10:50:54, ID: ST161122G2-6 PFC CS3 16K1709, Description: PFC CS3 16K1709 A

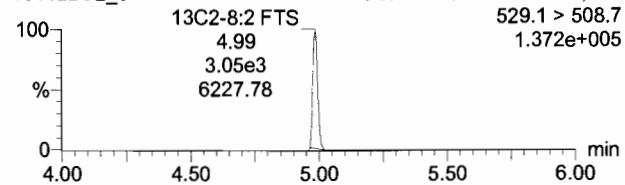
8:2 FTS

161122G2\_6



13C2-8:2 FTS

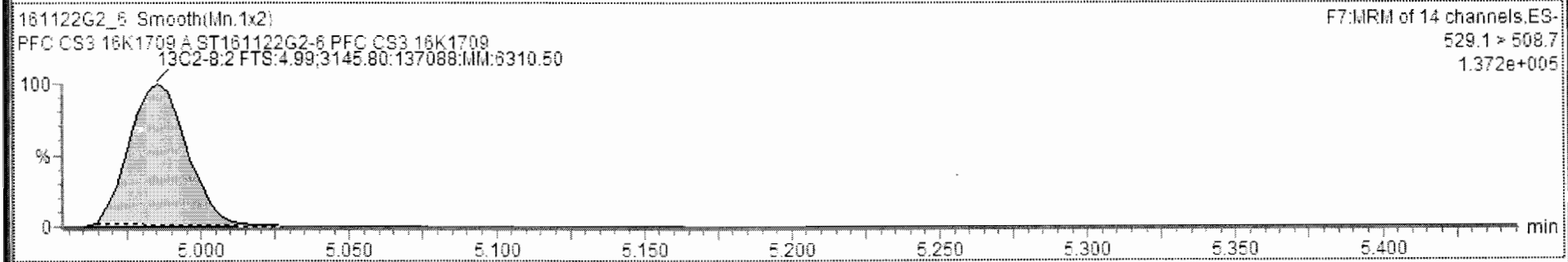
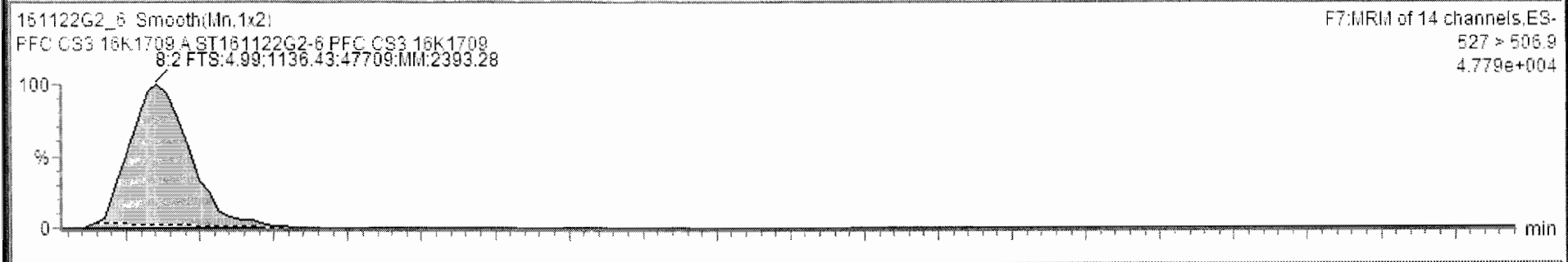
161122G2\_6





161122G2\_6 - ST161122G2-6 PFC CS3 16K1709 - PFC CS3 16K1709 A

Name	Trace	Area	RRF	Wt/VoL	Pred.RT	RT	Conc.	>MDL	%Rec	DL
4	PFHxA	313.2 > 268.9		1.000	3.47	3.47	10.4	YES	104.3	0.0000000
5	PFHpA	363 > 318.9		1.000	3.97	3.98	10.3	YES	103.0	0.1083914
6	PFHxS	398.9 > 79.6		1.000	4.09	4.09	10.4	YES	104.1	0.0160911
7	6:2 FTS	427.1 > 407		1.000	4.32	4.32	9.48	YES	94.8	0.4529547
8	PFOA	413 > 368.7		1.000	4.37	4.37	10.8	YES	108.1	0.0000000
9	PFHpS	449 > 98.7		1.000	4.37	4.45	8.86	YES	88.6	0.3575371
10	PFOS	459 > 79.9		1.000	4.76	4.77	9.90	YES	99.0	0.2020896
11	PFNA	463 > 418.8		1.000	4.71	4.71	10.0	YES	100.1	0.1200018
12	PFDA	513 > 468.8		1.000	5.01	5.01	11.5	NO	114.8	0.1427597
13	8:2 FTS	527 > 506.9		1.000	4.99	4.99	9.07	YES	90.7	0.0043622
14	13C3-PFBA	216.1 > 171.8	1.21	1.000	1.93	1.93	13.3	NO	106.8	0.0044280
15	13C3-PFPeA	266 > 221.8	0.448	1.000	2.84	2.85	12.4	NO	99.4	0.0076173
16	13C3-PFBS	302.0 > 98.8	0.302	1.000	3.10	3.10	12.3	NO	98.6	0.0019245



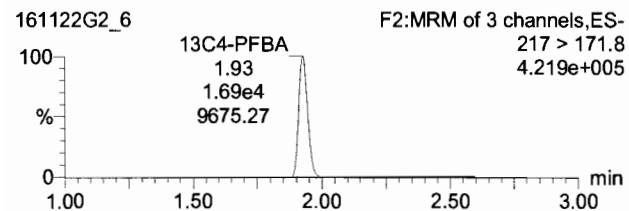
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

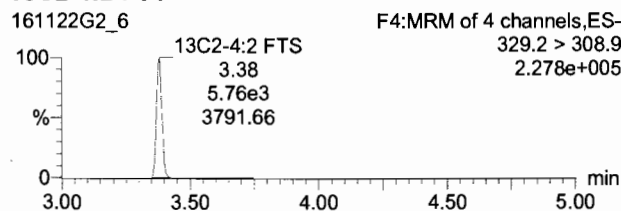
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_6, Date: 22-Nov-2016, Time: 10:50:54, ID: ST161122G2-6 PFC CS3 16K1709, Description: PFC CS3 16K1709 A

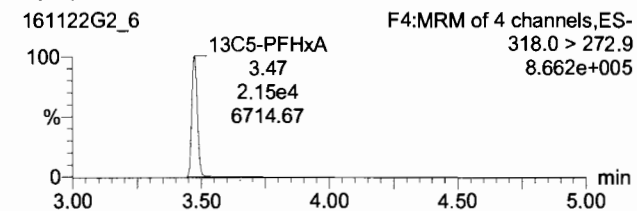
**13C4-PFBA**



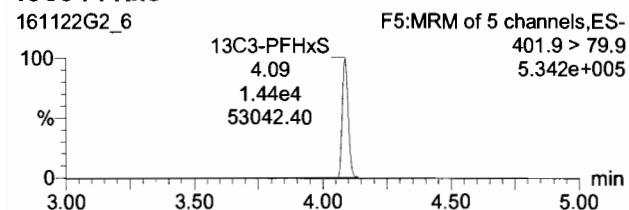
**13C2-4:2 FTS**



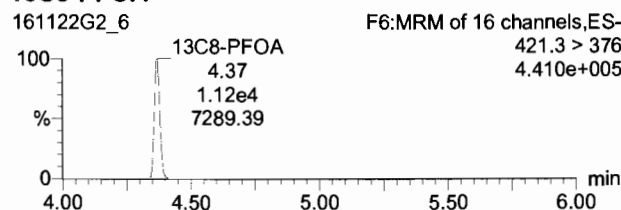
**13C5-PFHxA**



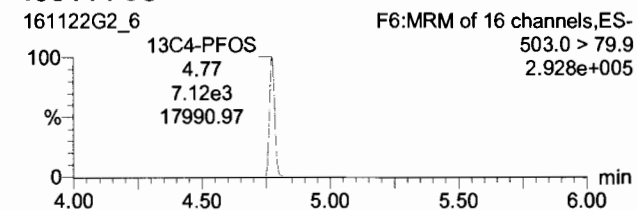
**13C3-PFHxS**



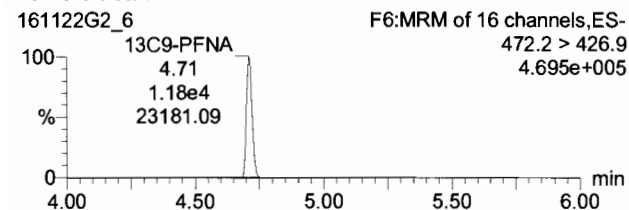
**13C8-PFOA**



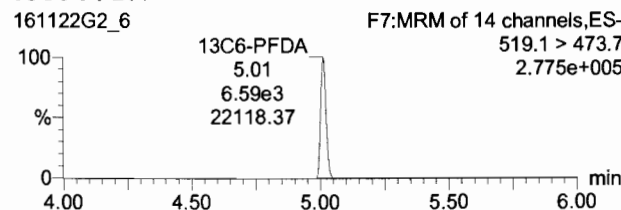
**13C4-PFOS**



**13C9-PFNA**



**13C6-PFDA**

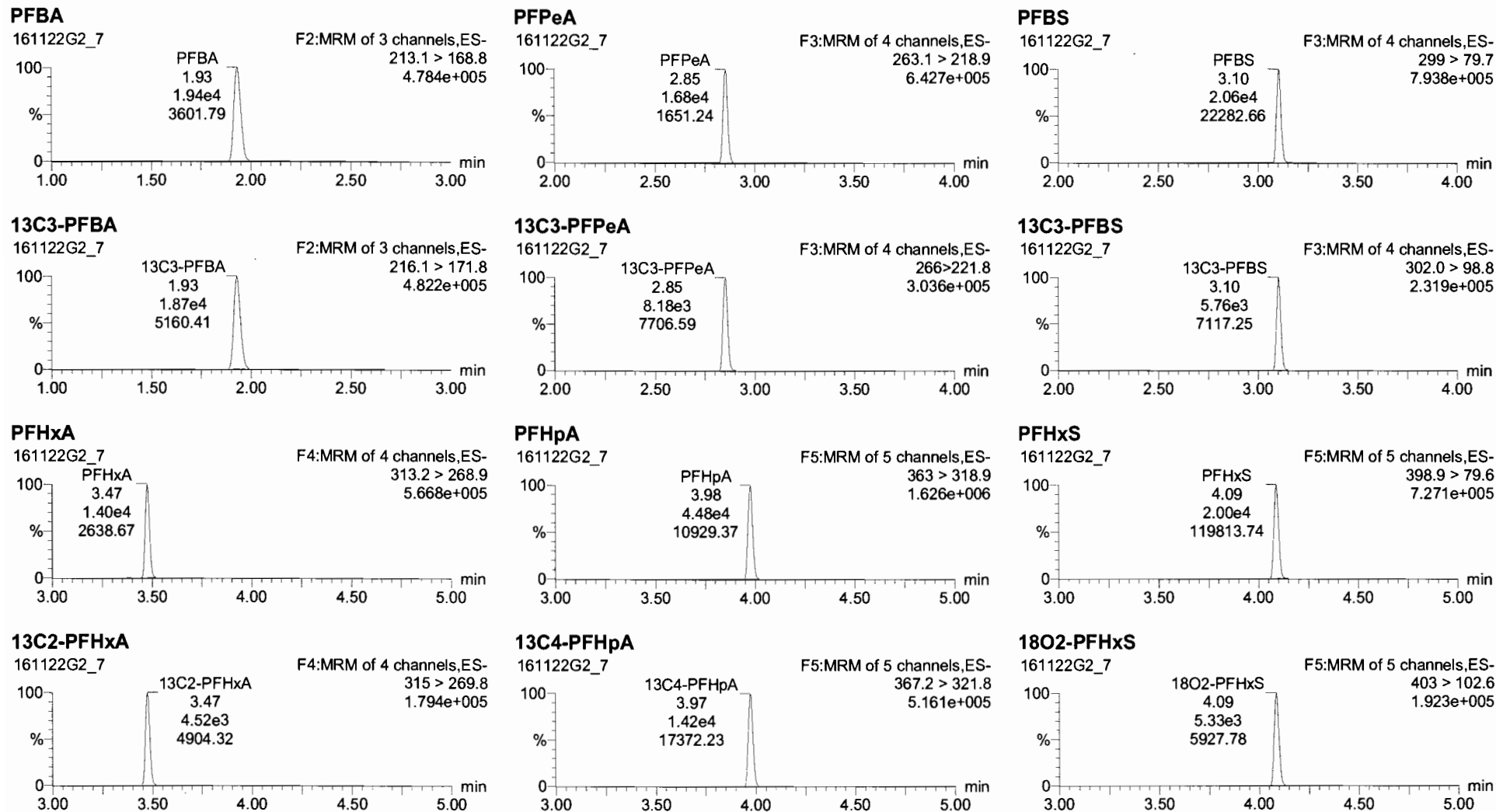


Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

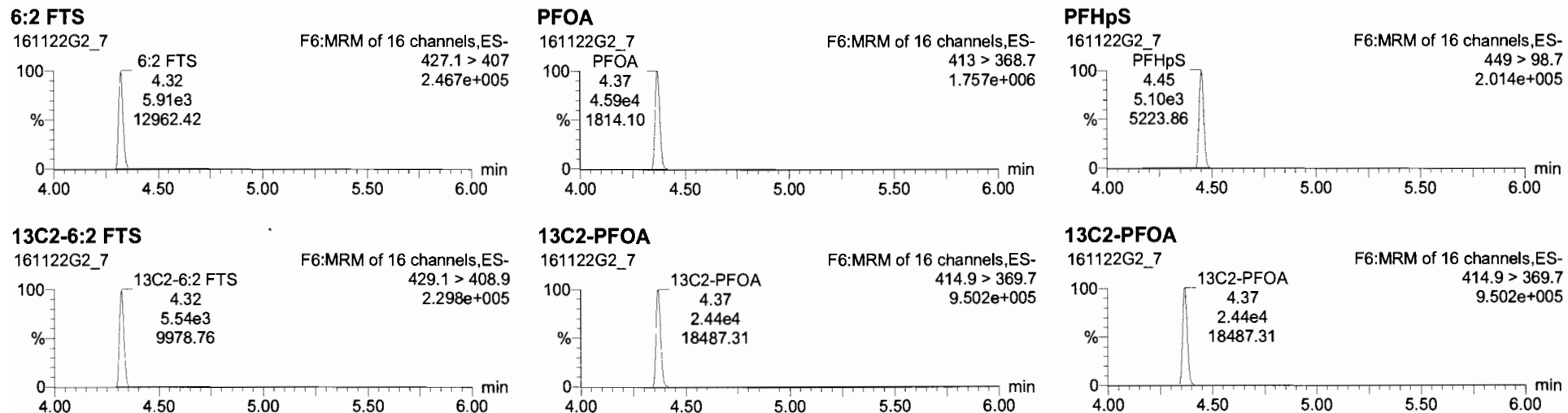
Name: 161122G2\_7, Date: 22-Nov-2016, Time: 11:03:32, ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A



Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_7, Date: 22-Nov-2016, Time: 11:03:32, ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A



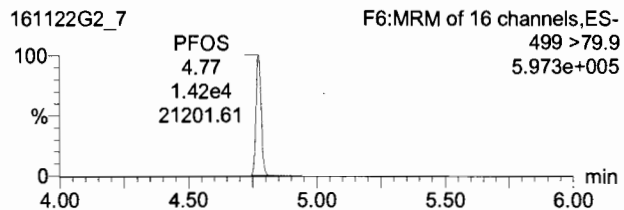
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

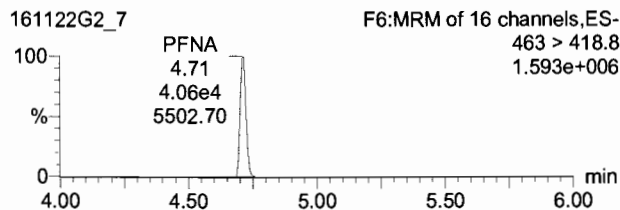
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_7, Date: 22-Nov-2016, Time: 11:03:32, ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A

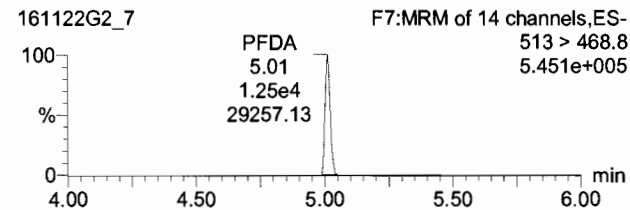
**PFOS**



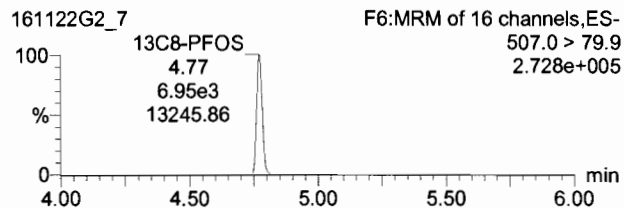
**PFNA**



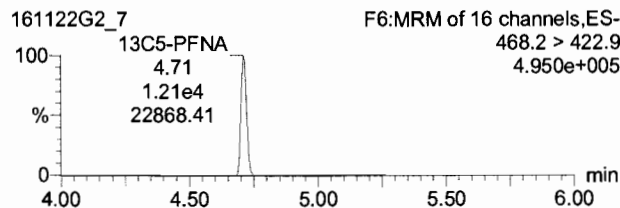
**PFDA**



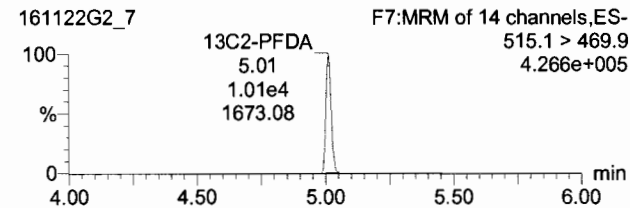
**13C8-PFOS**



**13C5-PFNA**



**13C2-PFDA**



Dataset: Untitled

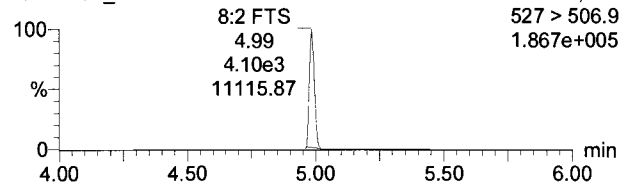
Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_7, Date: 22-Nov-2016, Time: 11:03:32, ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A

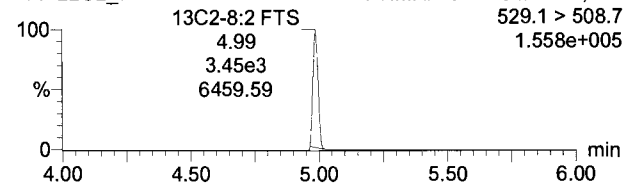
**8:2 FTS**

161122G2\_7



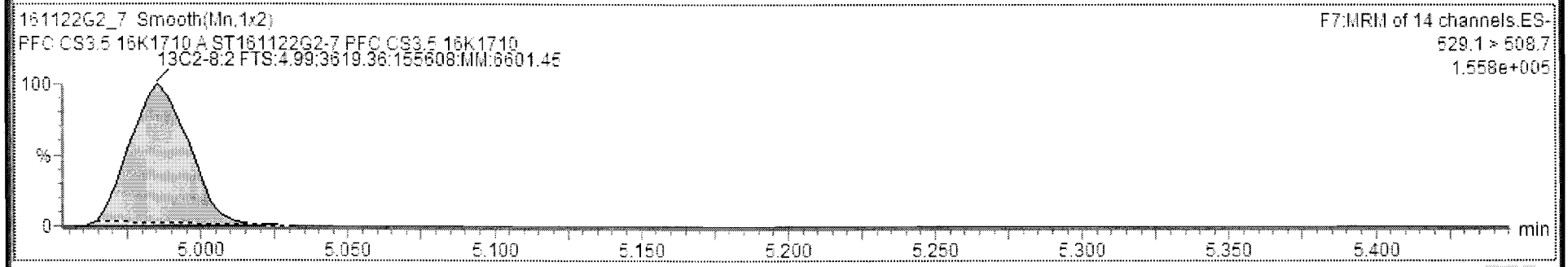
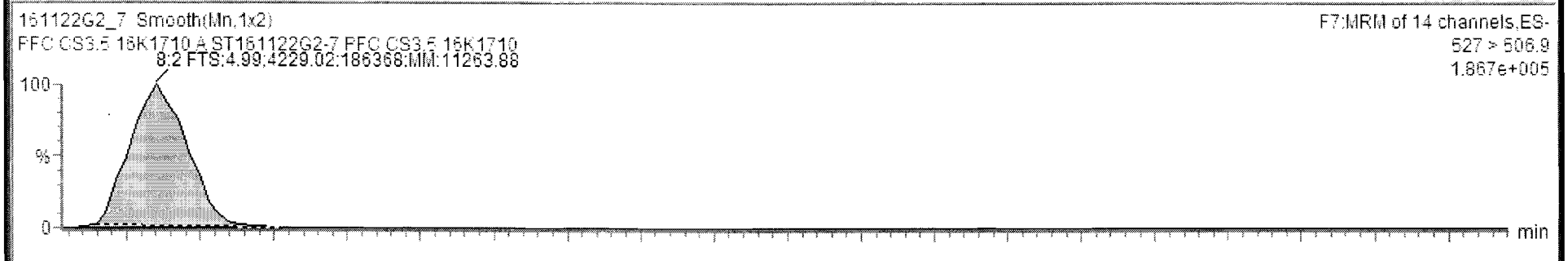
**13C2-8:2 FTS**

161122G2\_7



161122G2\_7 - ST161122G2-7 PFC CS3.5 16K1710 - PFC CS3.5 16K1710 A

Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
4 PFHxA	313.2 > 268.9	1.40e4		1.000	3.47	3.47	25.9	YES	103.8	0.0090379
5 PFHpA	363 > 318.9	4.48e4		1.000	3.97	3.98	25.4	YES	101.7	0.0949494
6 PFHxS	398.9 > 79.6	2.00e4		1.000	4.09	4.09	27.2	YES	108.9	0.0160447
7 6:2 FTS	427.1 > 407	5.91e3		1.000	4.32	4.32	28.5	YES	113.9	0.4488833
8 PFOA	413 > 368.7	4.59e4		1.000	4.37	4.37	26.0	YES	104.2	0.0000000
9 PFHpS	449 > 98.7	5.10e3		1.000	4.37	4.45	28.6	YES	114.5	0.2816466
10 PFOS	459 > 79.9	1.42e4		1.000	4.77	4.77	30.8	YES	123.3	0.2026154
11 PFNA	463 > 418.8	4.06e4		1.000	4.71	4.71	25.6	YES	102.3	0.1150548
12 PFDA	513 > 468.8	1.25e4		1.000	5.01	5.01	26.1	NO	104.4	0.0359396
13 8:2 FTS	527 > 506.9	4.23e3		1.000	4.99	4.99	29.9	YES	119.7	0.0019300
14 13C3-PFBA	216.1 > 171.8	1.87e4	1.21	1.000	1.93	1.93	12.3	NO	98.0	0.0059610
15 13C3-PFPeA	266 > 221.8	6.18e3	0.448	1.000	2.84	2.85	12.1	NO	98.9	0.0036860
16 13C3-PFBS	302.0 > 98.8	5.76e3	0.302	1.000	3.10	3.10	12.6	NO	101.1	0.0045157

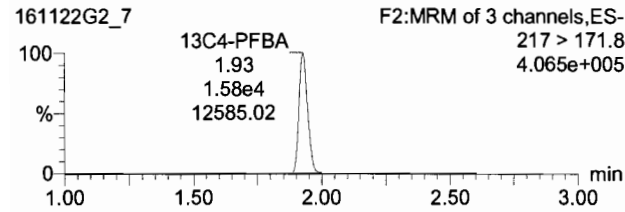


Dataset: Untitled

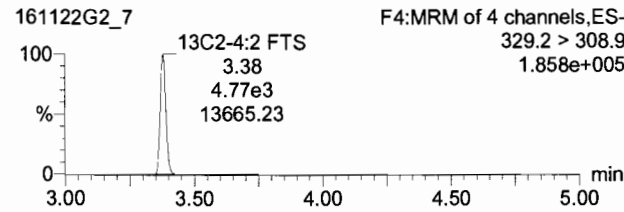
Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_7, Date: 22-Nov-2016, Time: 11:03:32, ID: ST161122G2-7 PFC CS3.5 16K1710, Description: PFC CS3.5 16K1710 A

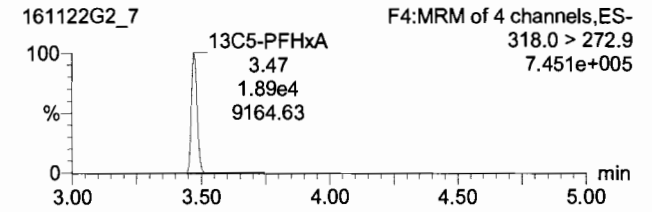
**13C4-PFBA**



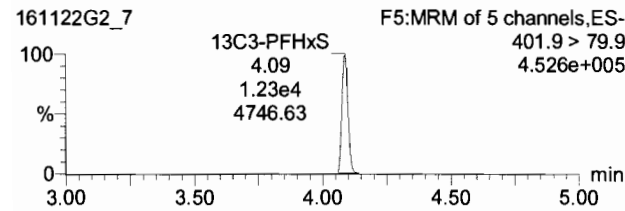
**13C2-4:2 FTS**



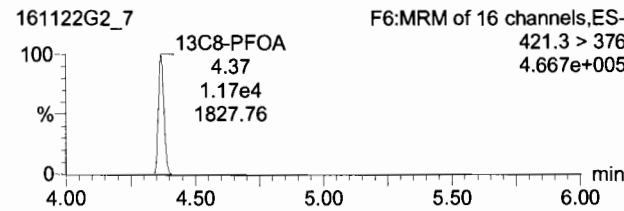
**13C5-PFHxA**



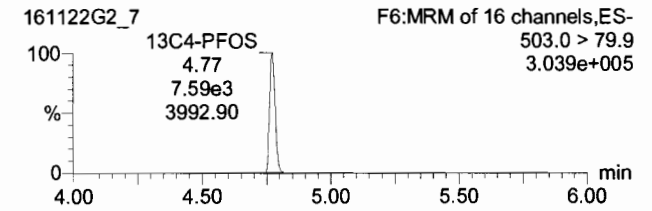
**13C3-PFHxS**



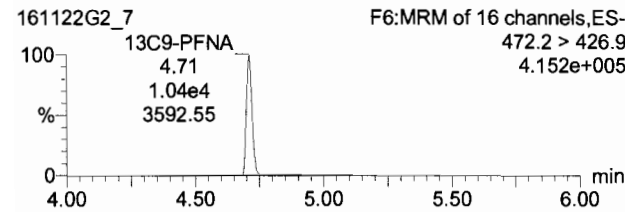
**13C8-PFOA**



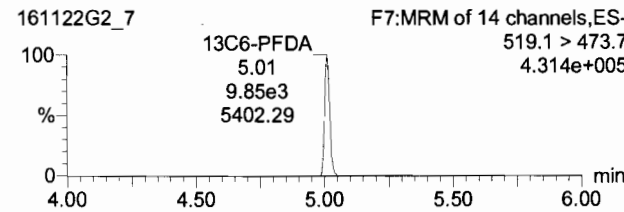
**13C4-PFOS**



**13C9-PFNA**



**13C6-PFDA**



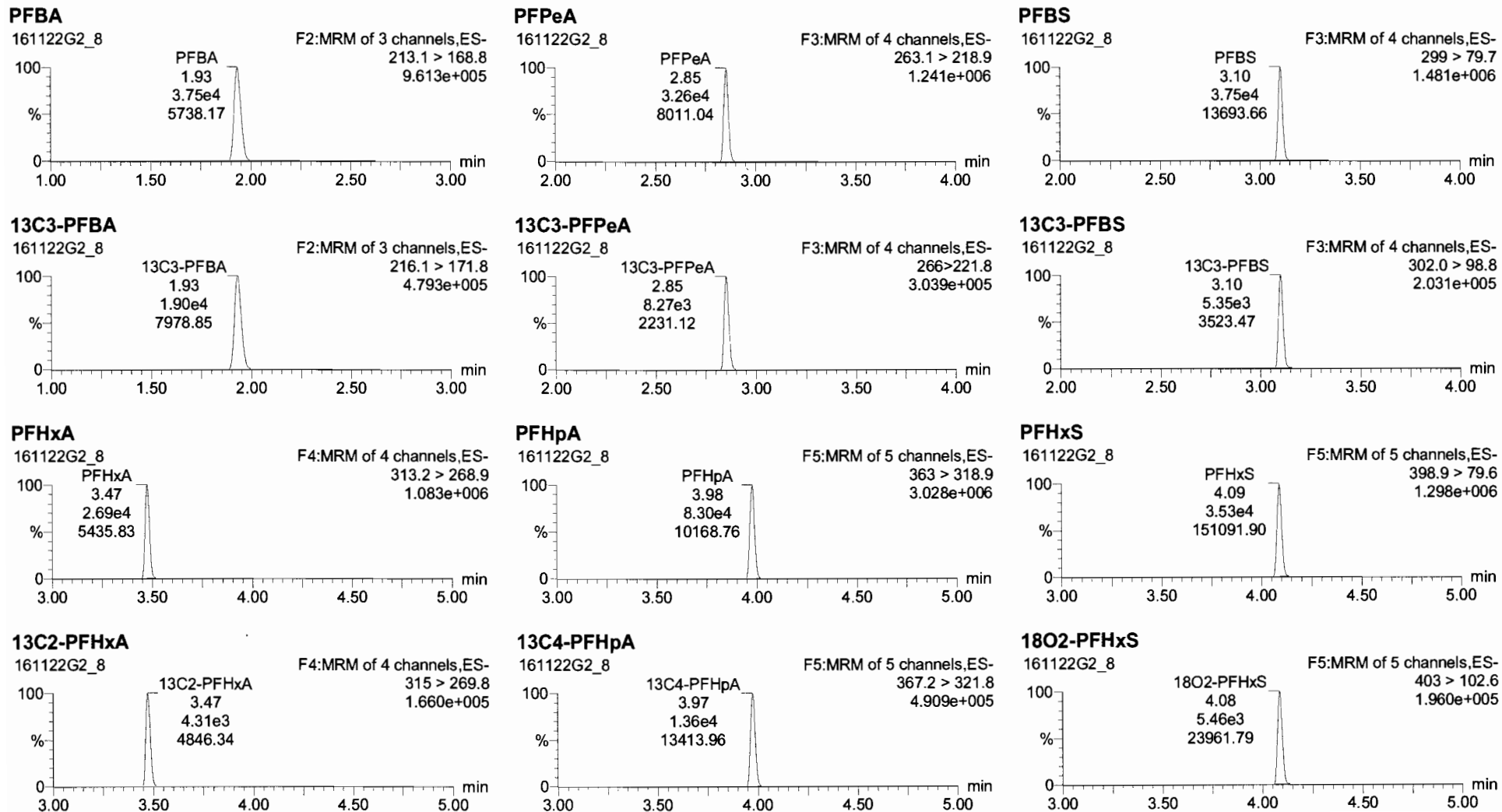


Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_8, Date: 22-Nov-2016, Time: 11:16:11, ID: ST161122G2-8 PFC CS4 16K1711, Description: PFC CS4 16K1711 A



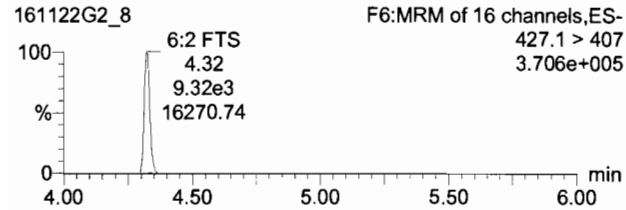
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

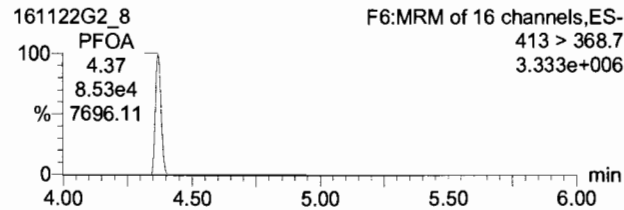
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_8, Date: 22-Nov-2016, Time: 11:16:11, ID: ST161122G2-8 PFC CS4 16K1711, Description: PFC CS4 16K1711 A

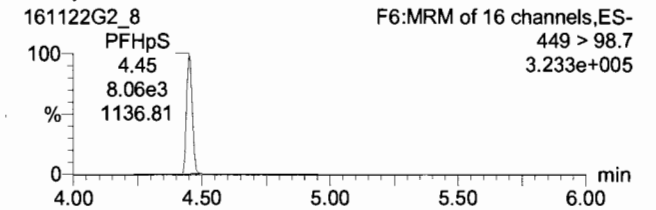
**6:2 FTS**



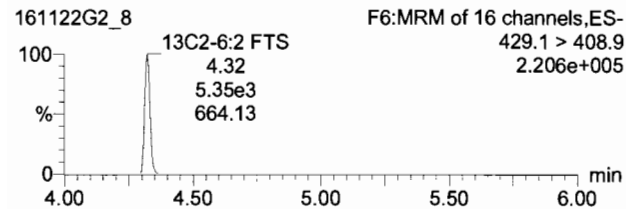
**PFOA**



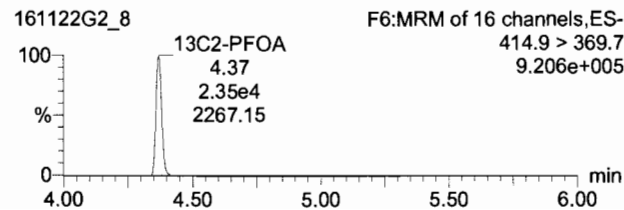
**PFHpS**



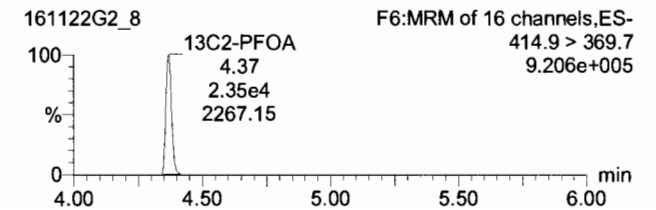
**13C2-6:2 FTS**



**13C2-PFOA**



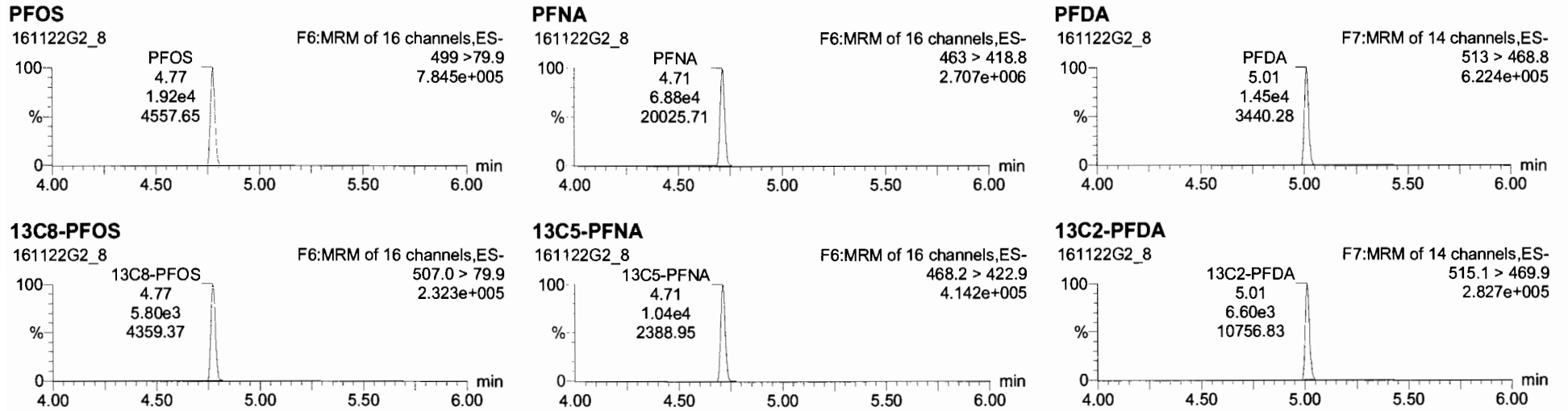
**13C2-PFOA**



Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_8, Date: 22-Nov-2016, Time: 11:16:11, ID: ST161122G2-8 PFC CS4 16K1711, Description: PFC CS4 16K1711 A



Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

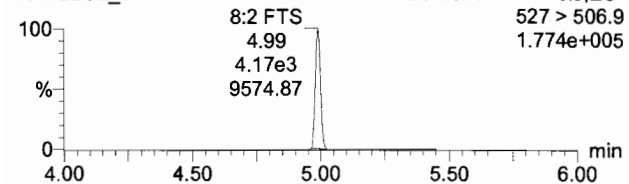
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_8, Date: 22-Nov-2016, Time: 11:16:11, ID: ST161122G2-8 PFC CS4 16K1711, Description: PFC CS4 16K1711 A

8:2 FTS

161122G2\_8

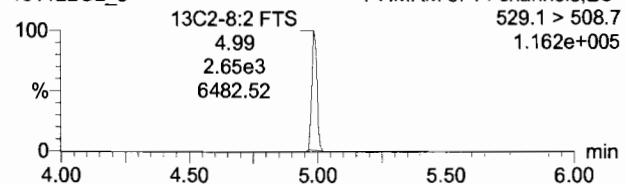
F7:MRM of 14 channels,ES-



13C2-8:2 FTS

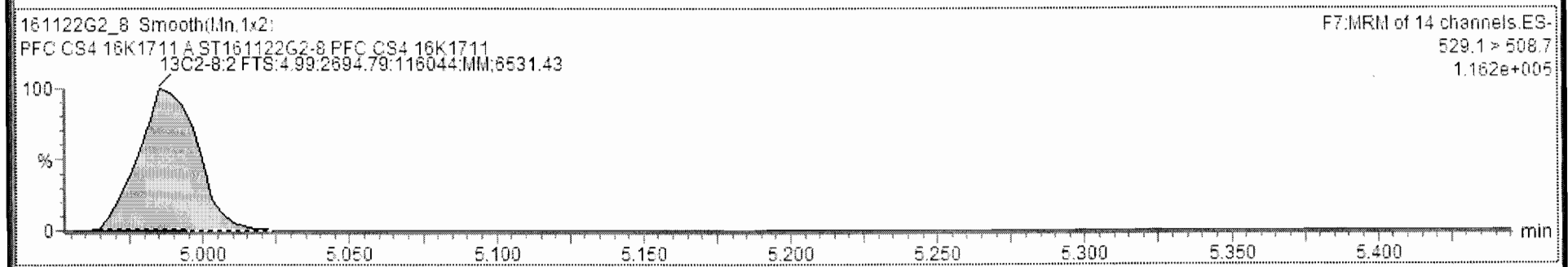
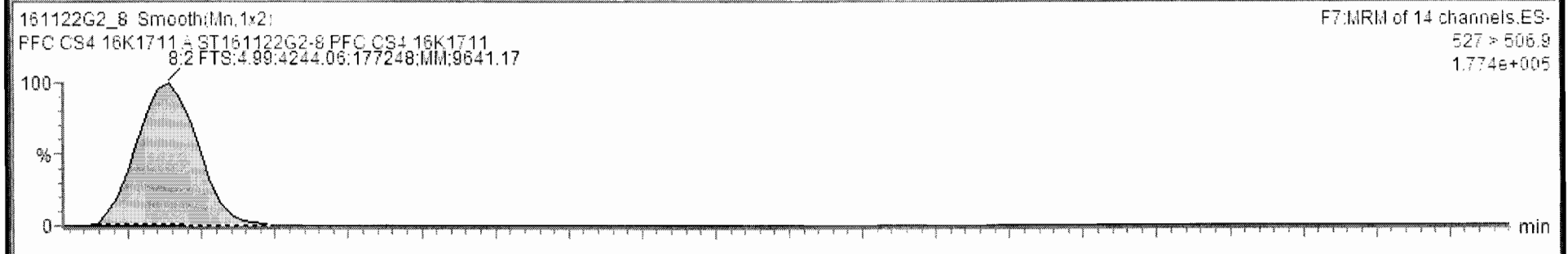
161122G2\_8

F7:MRM of 14 channels,ES-



161122G2\_8 - ST161122G2-8 PFC CS4 16K1711 - PFC CS4 16K1711 A

Name	Trace	Area	RRF	Wt/VoL	Pred.RT	RT	Conc.	>MDL	%Rec	DL
4	PFHxA	313.2 > 268.9		1.000	3.47	3.47	52.1	YES	104.2	0.0090824
5	PFHpA	363 > 318.9		1.000	3.97	3.98	49.2	YES	98.3	0.1013540
6	PFHxS	398.9 > 79.6		1.000	4.08	4.09	47.1	YES	94.1	0.0162677
7	6:2 FTS	427.1 > 407		1.000	4.32	4.32	48.3	YES	96.7	0.4501120
8	PFOA	413 > 368.7		1.000	4.37	4.37	50.3	YES	100.7	0.0000000
9	PFHpS	449 > 98.7		1.000	4.37	4.45	46.8	YES	93.6	0.3525158
10	PFOS	499 > 79.9		1.000	4.78	4.78	49.9	YES	99.9	0.2265026
11	PFNA	483 > 418.8		1.000	4.71	4.71	50.5	YES	101.0	0.1101360
12	PFDA	513 > 468.8		1.000	5.01	5.01	46.1	NO	92.3	0.0671726
13	8:2 FTS	527 > 506.9		1.000	4.99	4.99	40.8	YES	81.6	0.0051719
14	13C3-PFBA	216.1 > 171.8	1.21	1.000	1.93	1.93	12.1	NO	96.4	0.0037281
15	13C3-PFPeA	266 > 221.8	0.448	1.000	2.84	2.85	13.0	NO	103.9	0.0135113
16	13C3-PFBS	302.0 > 98.8	0.302	1.000	3.10	3.10	12.5	NO	99.6	0.0084692



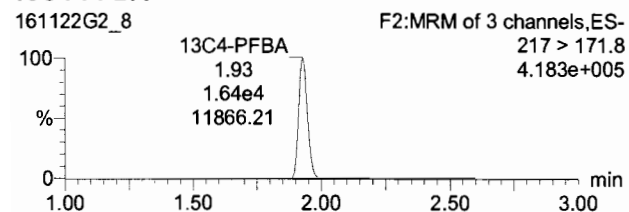
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

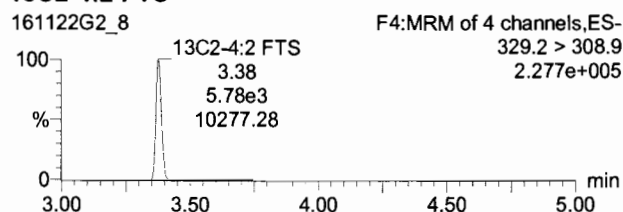
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_8, Date: 22-Nov-2016, Time: 11:16:11, ID: ST161122G2-8 PFC CS4 16K1711, Description: PFC CS4 16K1711 A

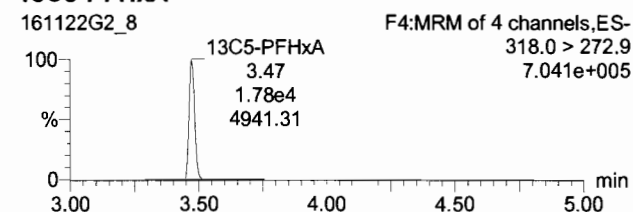
**13C4-PFBA**



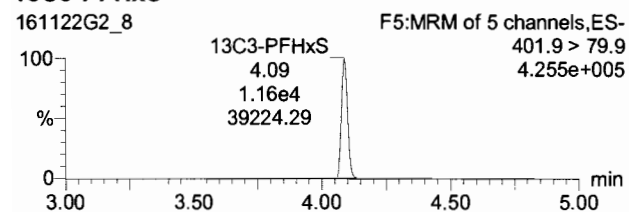
**13C2-4:2 FTS**



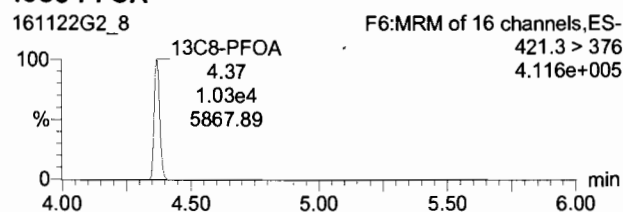
**13C5-PFHxA**



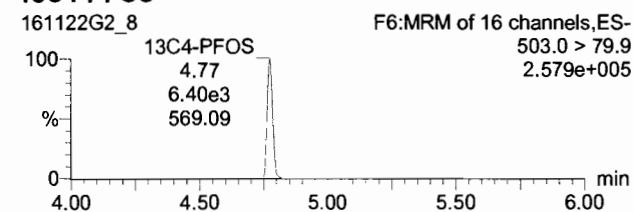
**13C3-PFHxS**



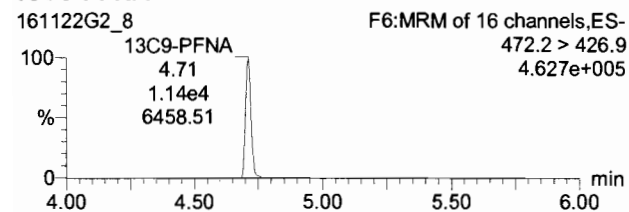
**13C8-PFOA**



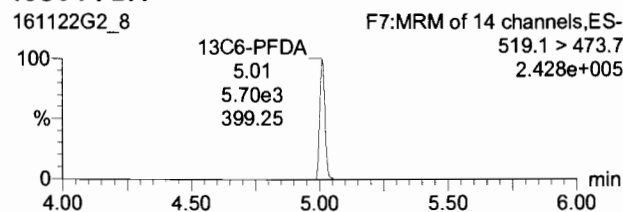
**13C4-PFOS**



**13C9-PFNA**



**13C6-PFDA**

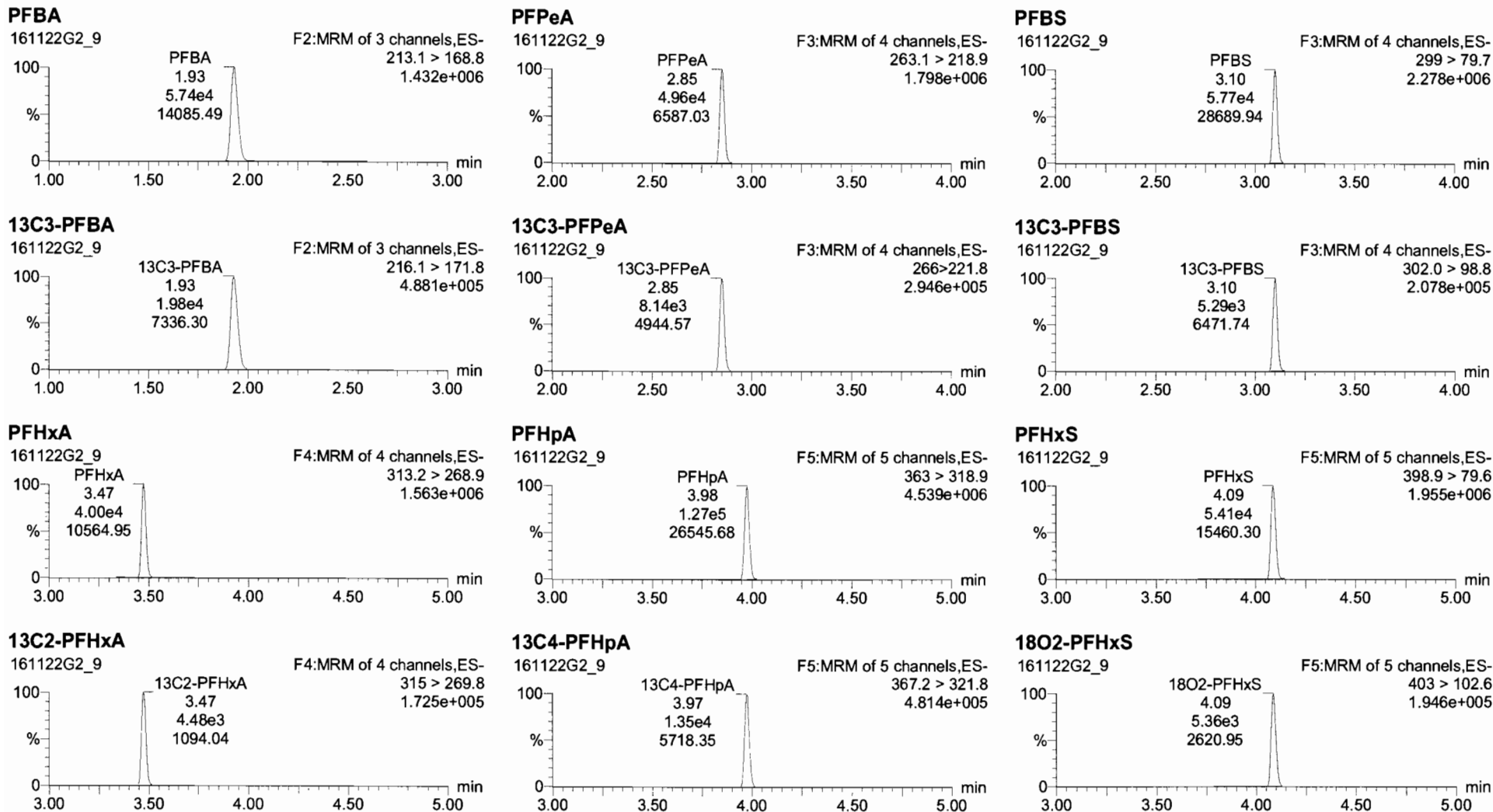


Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_9, Date: 22-Nov-2016, Time: 11:28:50, ID: ST161122G2-9 PFC CS4.5 16K1712, Description: PFC CS4.5 16K17121 A



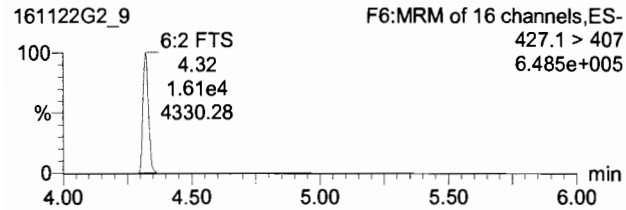
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

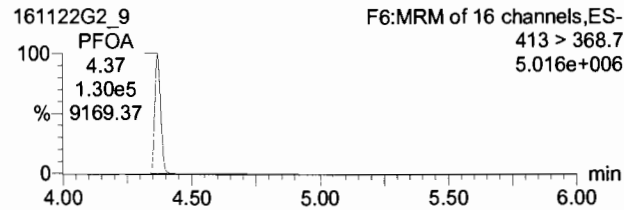
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_9, Date: 22-Nov-2016, Time: 11:28:50, ID: ST161122G2-9 PFC CS4.5 16K1712, Description: PFC CS4.5 16K17121 A

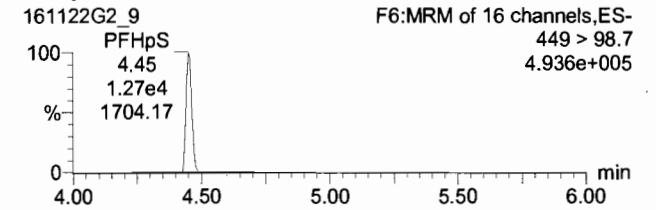
**6:2 FTS**



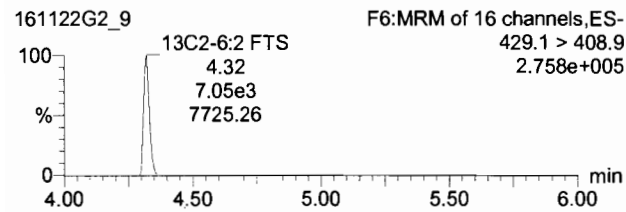
**PFOA**



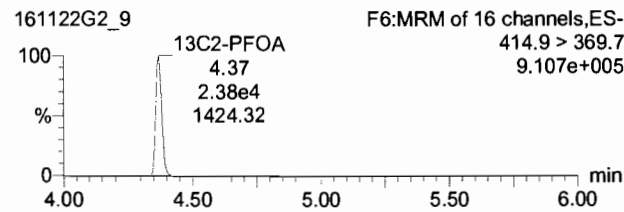
**PFHpS**



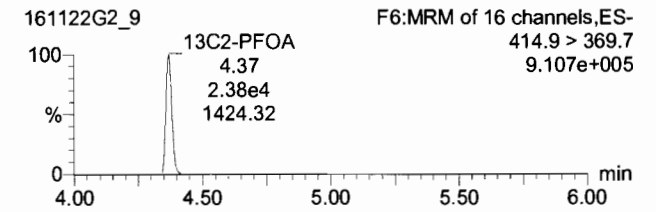
**13C2-6:2 FTS**



**13C2-PFOA**



**13C2-PFOA**





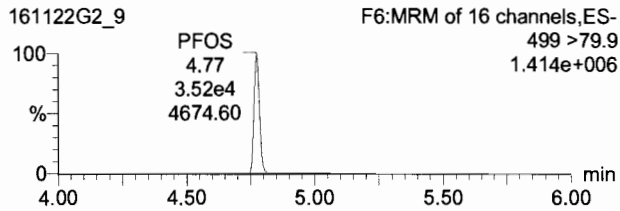
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

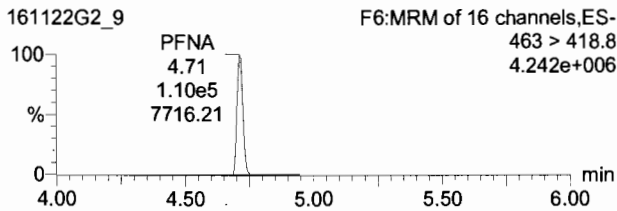
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_9, Date: 22-Nov-2016, Time: 11:28:50, ID: ST161122G2-9 PFC CS4.5 16K1712, Description: PFC CS4.5 16K17121 A

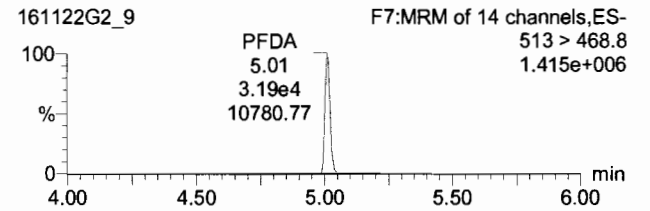
**PFOS**



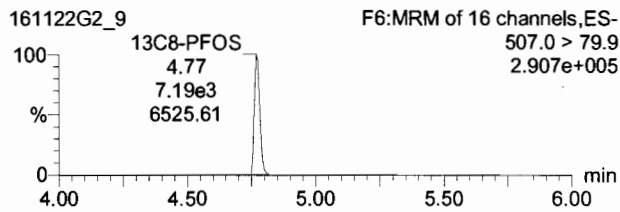
**PFNA**



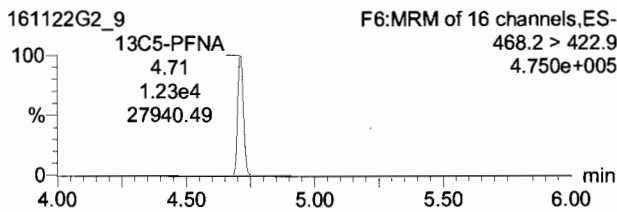
**PFDA**



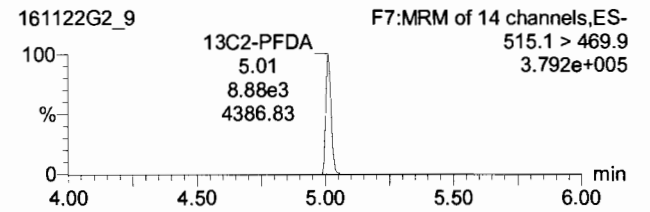
**13C8-PFOS**



**13C5-PFNA**



**13C2-PFDA**



Dataset: Untitled

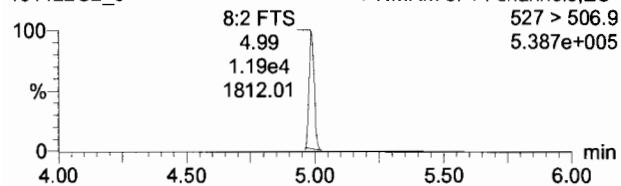
Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_9, Date: 22-Nov-2016, Time: 11:28:50, ID: ST161122G2-9 PFC CS4.5 16K1712, Description: PFC CS4.5 16K17121 A

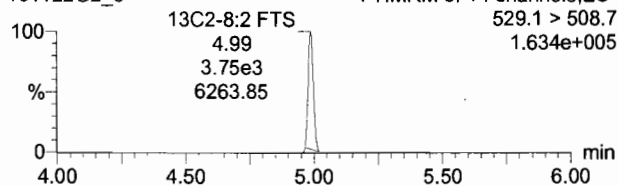
8:2 FTS

161122G2\_9



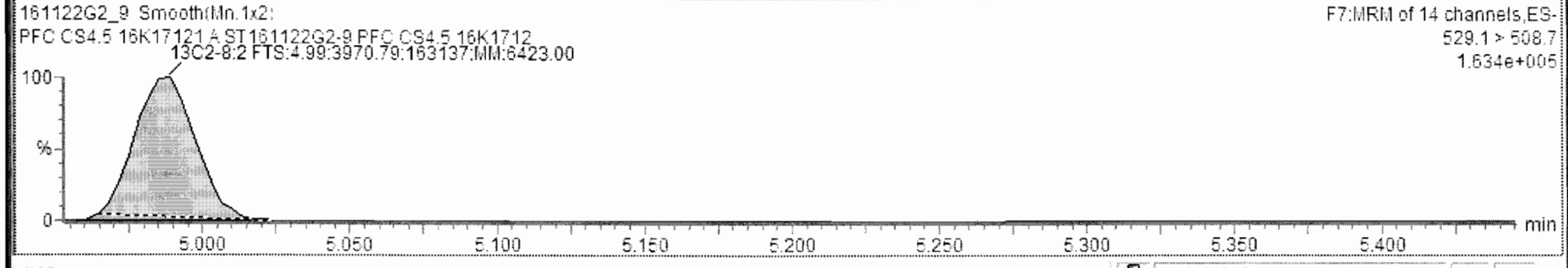
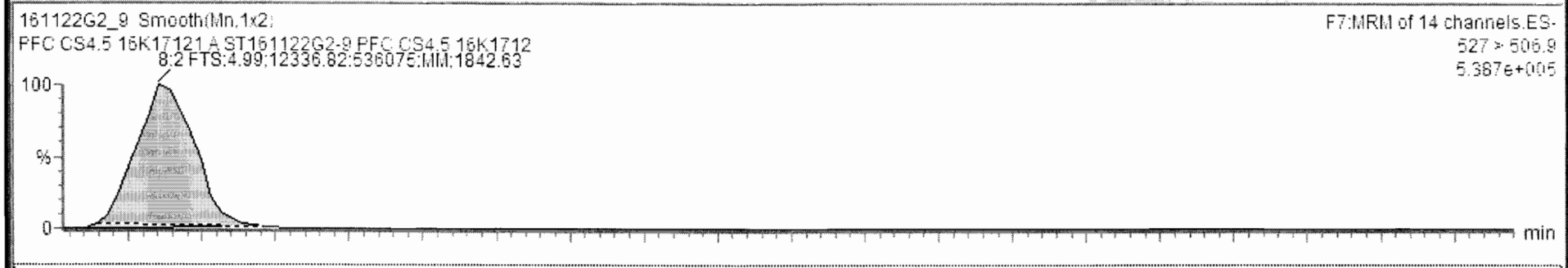
13C2-8:2 FTS

161122G2\_9



161122G2\_9 - ST161122G2-9 PFC CS4.5 16K1712 - PFC CS4.5 16K17121 A

Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
4	PFHxA	313.2 > 288.9		1.000	3.47	3.47	74.5	YES	99.3	0.0019930
5	PFHpA	363 > 318.9		1.000	3.97	3.98	75.5	YES	100.7	0.0962936
6	PFHxS	398.9 > 79.6		1.000	4.09	4.09	73.4	YES	97.8	0.0272887
7	6:2 FTS	427.1 > 407		1.000	4.32	4.32	66.1	YES	88.1	0.4772740
8	PFOA	413 > 368.7		1.000	4.37	4.37	75.6	YES	100.8	0.0000000
9	PFHpS	449 > 98.7		1.000	4.37	4.45	72.8	YES	97.0	0.3559161
10	PFOS	499 > 79.9		1.000	4.77	4.77	73.6	YES	98.2	0.2377618
11	PFNA	463 > 418.8		1.000	4.71	4.71	68.0	YES	90.7	0.1259394
12	PFDA	513 > 468.8		1.000	5.01	5.01	75.4	NO	100.5	0.0517738
13	8:2 FTS	527 > 506.9		1.000	4.99	4.99	84.1	YES	112.1	0.1062973
14	13C3-PFBA	216.1 > 171.8	1.21	1.000	1.93	1.93	12.4	NO	99.3	0.0041429
15	13C3-PFPeA	266 > 221.8	0.448	1.000	2.84	2.85	12.4	NO	99.0	0.0056902
16	13C3-PFBS	302.0 > 98.8	0.302	1.000	3.10	3.10	11.9	NO	95.3	0.0045397



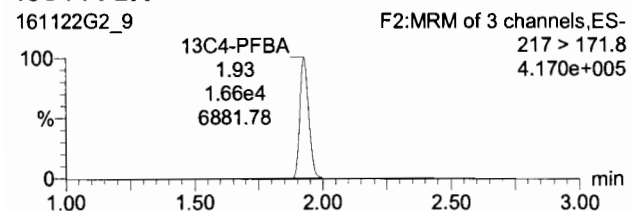
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

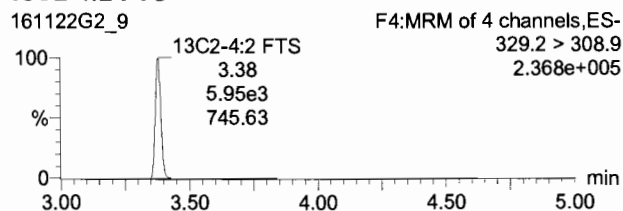
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_9, Date: 22-Nov-2016, Time: 11:28:50, ID: ST161122G2-9 PFC CS4.5 16K1712, Description: PFC CS4.5 16K17121 A

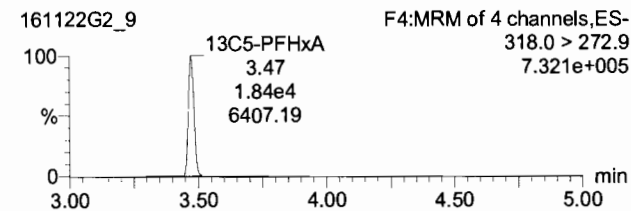
**13C4-PFBA**



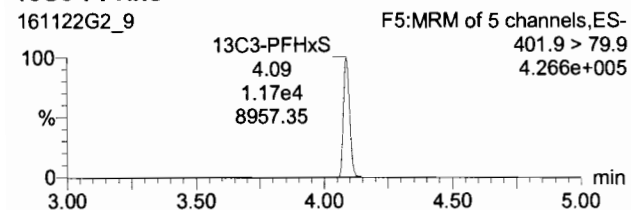
**13C2-4:2 FTS**



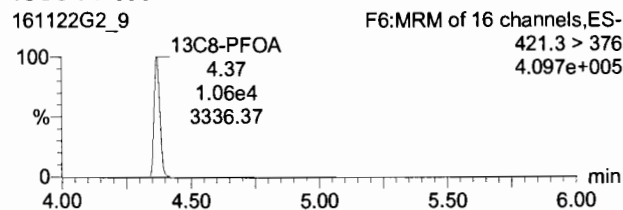
**13C5-PFHxA**



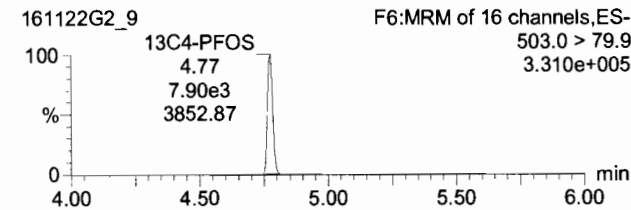
**13C3-PFHxS**



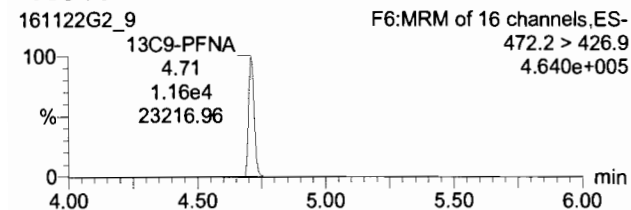
**13C8-PFOA**



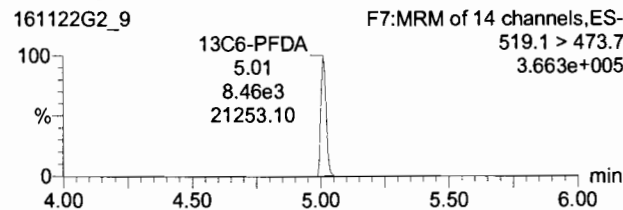
**13C4-PFOS**



**13C9-PFNA**



**13C6-PFDA**

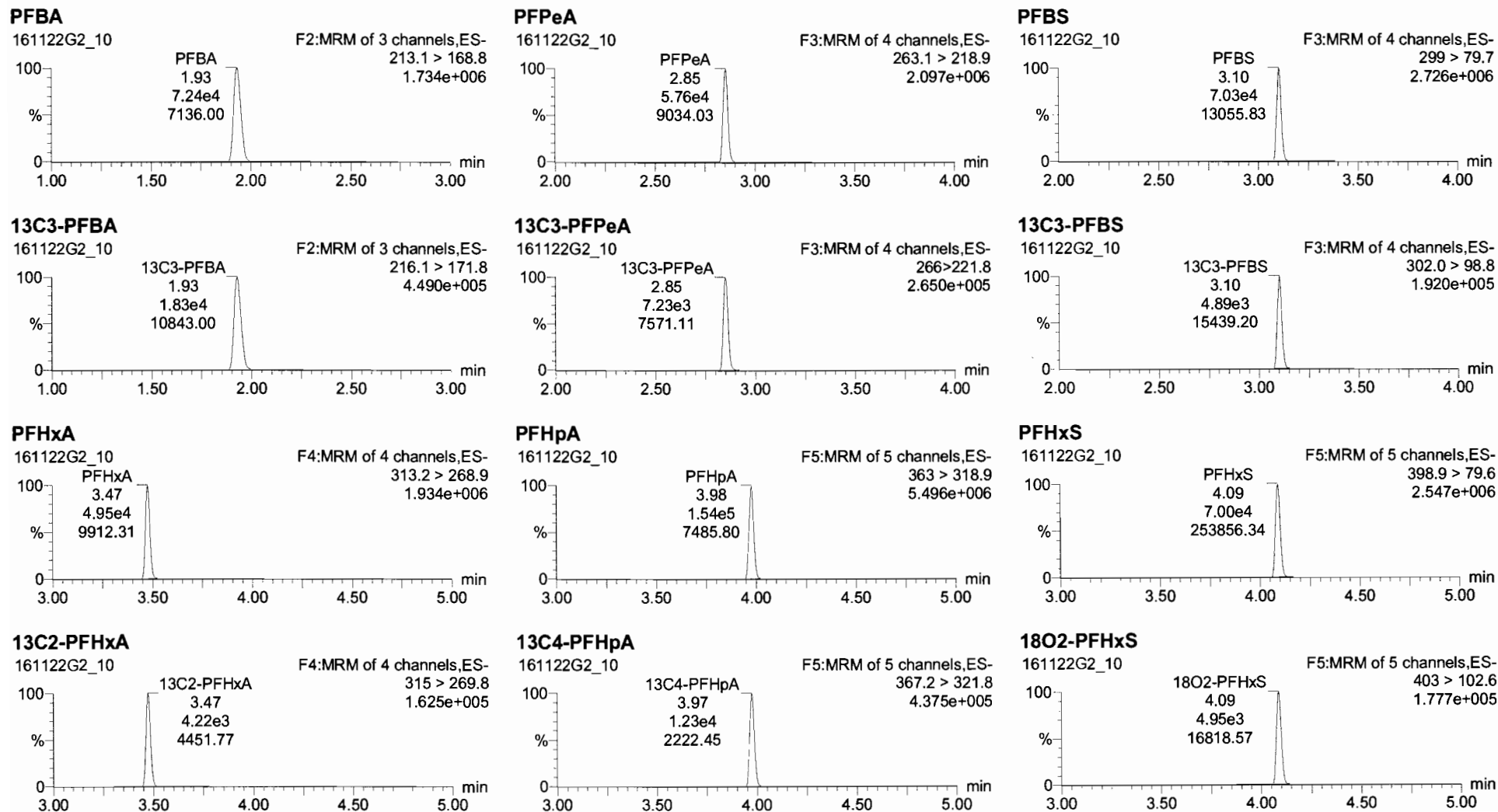


Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time

Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_10, Date: 22-Nov-2016, Time: 11:41:28, ID: ST161122G2-10 PFC CS5 16K1713, Description: PFC CS5 16K1713 A

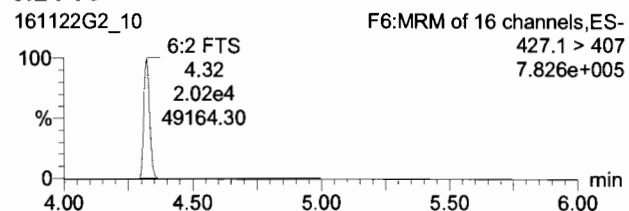


Dataset: Untitled

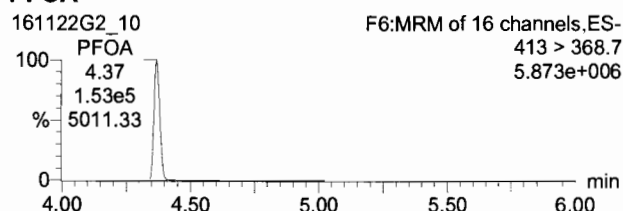
Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_10, Date: 22-Nov-2016, Time: 11:41:28, ID: ST161122G2-10 PFC CS5 16K1713, Description: PFC CS5 16K1713 A

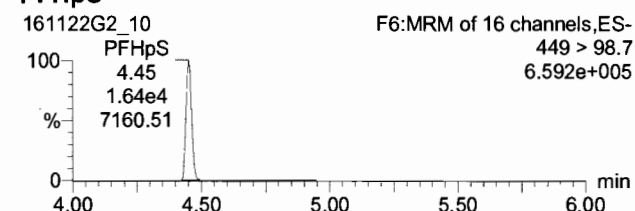
**6:2 FTS**



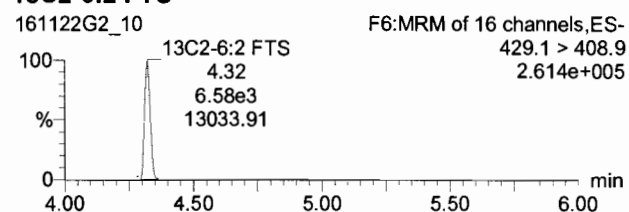
**PFOA**



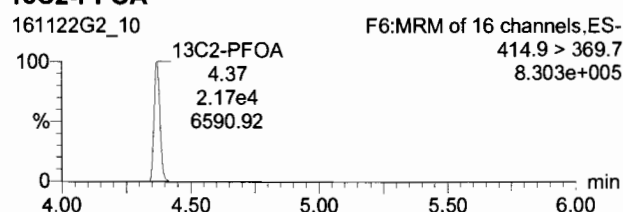
**PFHpS**



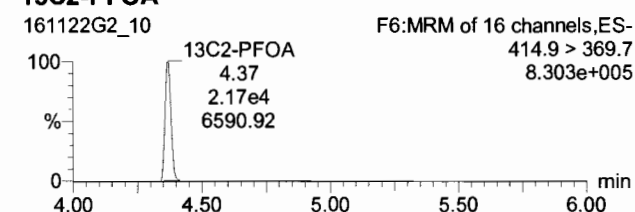
**13C2-6:2 FTS**



**13C2-PFOA**



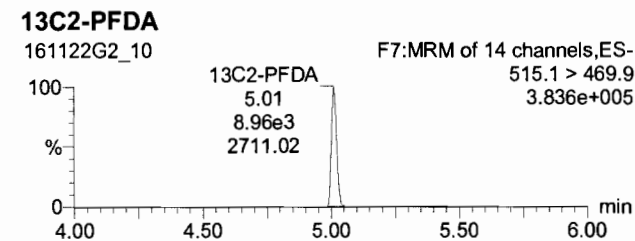
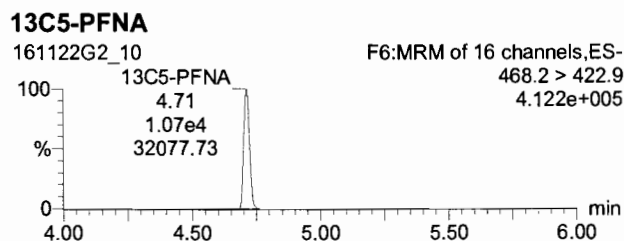
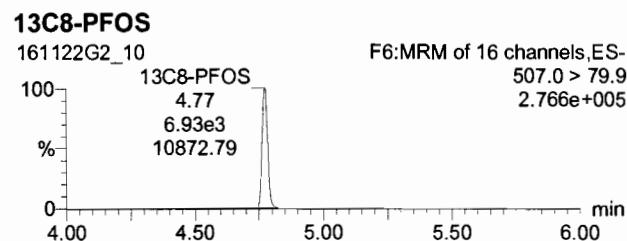
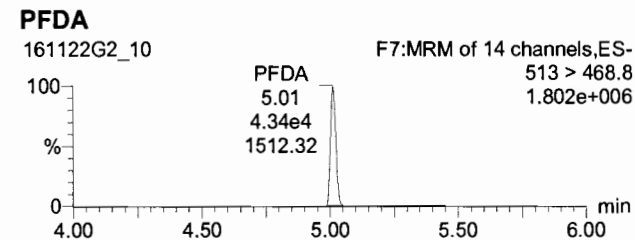
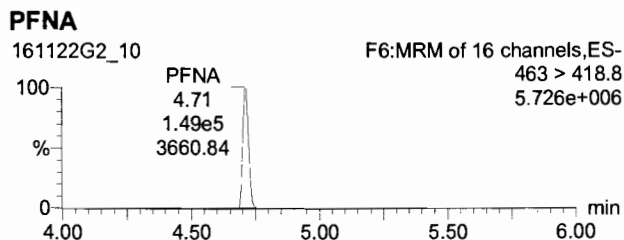
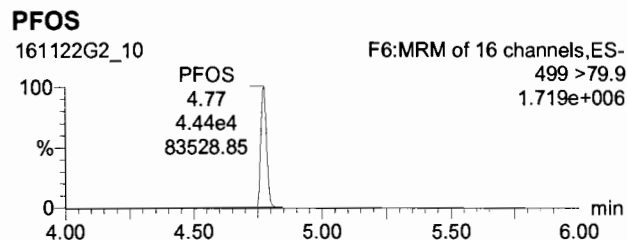
**13C2-PFOA**



Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_10, Date: 22-Nov-2016, Time: 11:41:28, ID: ST161122G2-10 PFC CS5 16K1713, Description: PFC CS5 16K1713 A



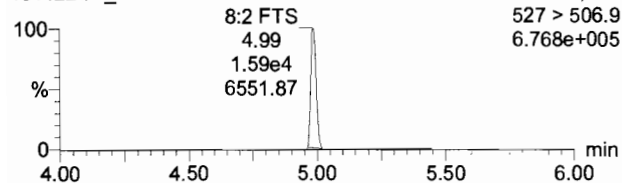
Dataset: Untitled

Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_10, Date: 22-Nov-2016, Time: 11:41:28, ID: ST161122G2-10 PFC CS5 16K1713, Description: PFC CS5 16K1713 A

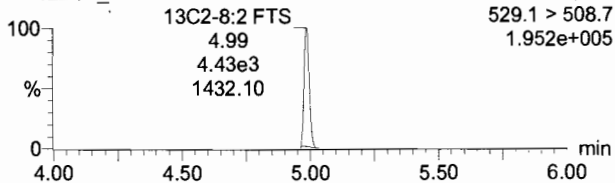
8:2 FTS

161122G2\_10



13C2-8:2 FTS

161122G2\_10





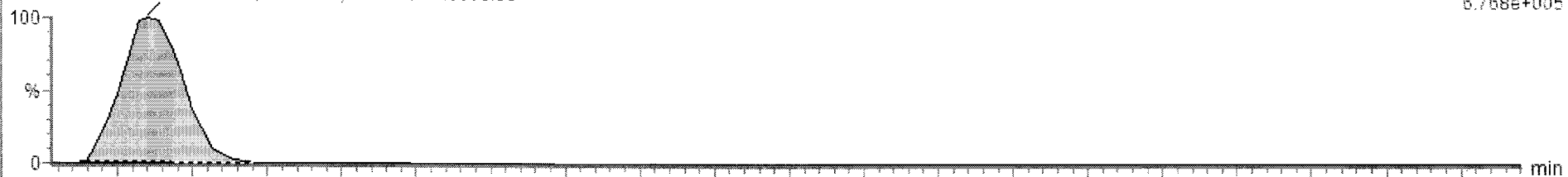


161122G2\_10 - ST161122G2-10 PFC CS5 16K1713 - PFC CS5 16K1713 A

Name	Trace	Area	RRF	Wt/Vol	Pred.RT	RT	Conc.	>MDL	%Rec	DL
4	PFHxA	313.2 > 268.9	4.95e4	1.000	3.47	3.47	98.0	YES	98.0	0.0091413
5	PFHpA	263 > 218.9	1.54e5	1.000	3.97	3.98	100	YES	100.4	0.1228809
6	PFHxS	398.9 > 79.8	7.00e4	1.000	4.09	4.09	103	YES	102.7	0.0184978
7	8:2 FTS	427.1 > 407	2.02e4	1.000	4.32	4.32	95.3	YES	95.3	0.4475018
8	PFOA	413 > 368.7	1.53e5	1.000	4.37	4.37	97.9	YES	97.9	0.0000000
9	PFHpS	449 > 98.7	1.64e4	1.000	4.37	4.45	103	YES	103.1	0.2855073
10	PFOS	499 > 79.9	4.44e4	1.000	4.78	4.77	96.1	YES	96.1	0.2015366
11	PFNA	483 > 418.8	1.49e5	1.000	4.71	4.71	106	YES	106.2	0.1762378
12	PFDA	513 > 468.8	4.34e4	1.000	5.01	5.01	101	NO	101.5	0.1963398
13	8:2 FTS	527 > 506.9	1.62e4	1.000	4.99	4.99	96.8	YES	96.8	0.0280690
14	13C3-PFBA	218.1 > 171.8	1.83e4	1.21	1.92	1.93	11.6	NO	92.9	0.0026509
15	13C3-PFPeA	286 > 221.8	7.23e3	0.448	2.84	2.85	11.6	NO	92.5	0.0036027
16	13C3-PFBS	302.0 > 98.8	4.89e3	0.302	3.10	3.10	11.6	NO	92.7	0.0018920

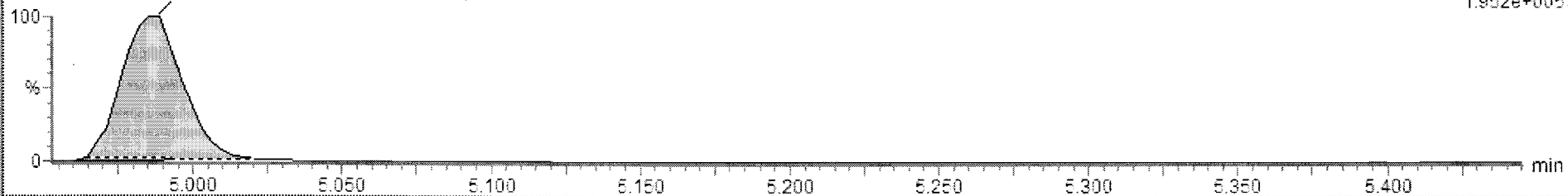
161122G2\_10 Smooth(Mn,1x2)  
 PFC CS5 16K1713 A ST161122G2-10 PFC CS5 16K1713  
 8:2 FTS:4.99;16150.15;674800;MM:6606.53

F7:MRM of 14 channels,ES-  
 527 > 506.9  
 6.768e+005



161122G2\_10 Smooth(Mn,1x2)  
 PFC CS5 16K1713 A ST161122G2-10 PFC CS5 16K1713  
 13C2-8:2 FTS:4.99;4575.85;194048;MM:1452.71

F7:MRM of 14 channels,ES-  
 529.1 > 508.7  
 1.952e+005

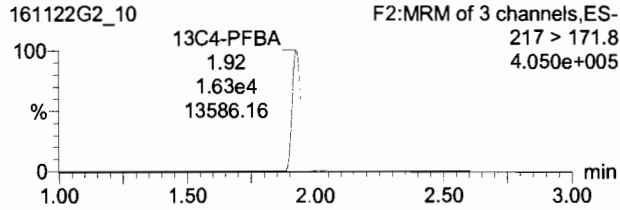


Dataset: Untitled

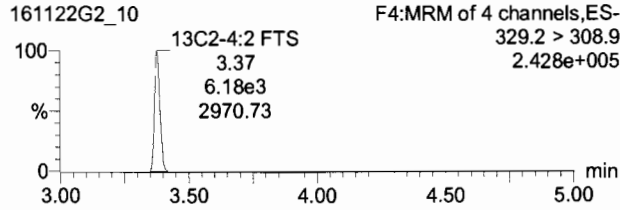
Last Altered: Tuesday, November 22, 2016 14:43:00 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 14:47:59 Pacific Standard Time

Name: 161122G2\_10, Date: 22-Nov-2016, Time: 11:41:28, ID: ST161122G2-10 PFC CS5 16K1713, Description: PFC CS5 16K1713 A

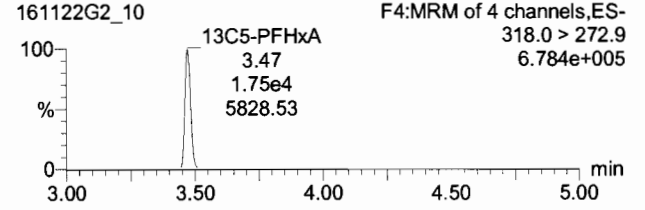
**13C4-PFBA**



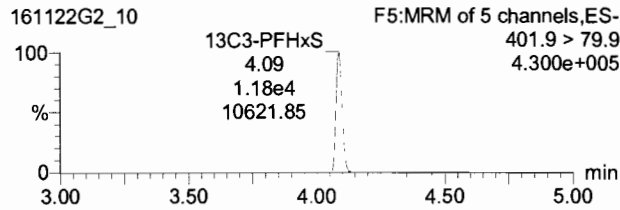
**13C2-4:2 FTS**



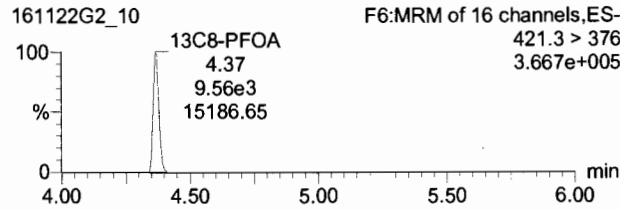
**13C5-PFHxA**



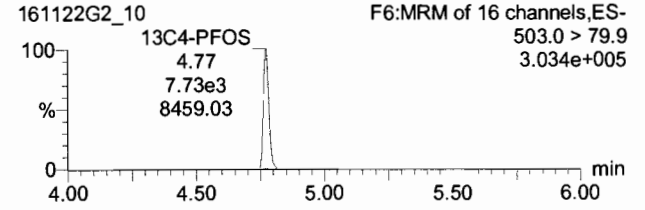
**13C3-PFHxS**



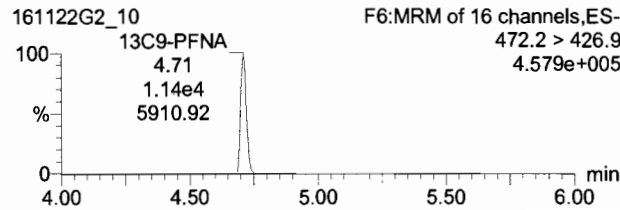
**13C8-PFOA**



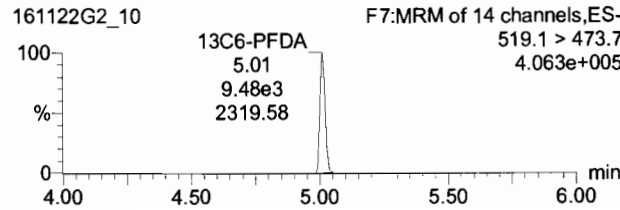
**13C4-PFOS**



**13C9-PFNA**



**13C6-PFDA**



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-12.qld

Last Altered: Tuesday, November 22, 2016 15:30:24 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 15:30:54 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20  
Calibration: U:\G1.PRO\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 15:25:21

Name: 161122G2\_12, Date: 22-Nov-2016, Time: 12:06:50, ID: SS161122G2-1 PFC SS 16K2201, Description: PFC SS 16K2201

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBA	213.1 > 168.8	1.99e4	1.93e4	1.000	1.94	1.94	26.3	105.2
2	2 PFPeA	263.1 > 218.9	1.36e4	8.81e3	1.000	2.85	2.85	19.4	77.4
3	3 PFBS	299 > 79.7	1.87e4	6.07e3	1.000	3.10	3.10	21.5	86.2
4	4 PFHxA	313.2 > 268.9	1.51e4	4.56e3	1.000	3.47	3.47	27.6	110.5
5	5 PFHpA	363 > 318.9	4.67e4	1.40e4	1.000	3.98	3.98	26.9	107.5
6	6 PFHxS	398.9 > 79.6	1.55e4	5.82e3	1.000	4.09	4.09	19.4	77.7
7	7 6:2 FTS	427.1 > 407	4.23e3	5.80e3	1.000	4.32	4.32	20.8	83.4
8	8 PFOA	413 > 368.7	3.78e4	2.49e4	1.000	4.37	4.37	21.0	82.9
9	9 PFHpS	449 > 98.7	4.68e3	2.49e4	1.000	4.45	4.45	25.7	103.0
10	10 PFOS	499 > 79.9	9.75e3	7.54e3	1.000	4.77	4.77	19.6	78.3
11	11 PFNA	463 > 418.8	4.01e4	1.20e4	1.000	4.71	4.71	25.5	102.1
12	12 PFDA	513 > 468.8	1.01e4	9.03e3	1.000	5.01	5.01	23.6	94.4
13	13 8:2 FTS	527 > 506.9	2.65e3	2.91e3	1.000	4.99	4.99	23.2	92.8
14	14 13C3-PFBA	216.1 > 171.8	1.93e4	1.41e4	1.205	1.94	1.94	14.2	113.8
15	15 13C3-PFPeA	266 > 221.8	8.81e3	1.61e4	0.448	2.85	2.85	15.3	122.1
16	16 13C3-PFBS	302.0 > 98.8	6.07e3	1.61e4	0.302	3.10	3.10	15.6	124.7
17	17 13C2-PFHxA	315 > 269.8	4.56e3	1.61e4	0.620	3.47	3.47	5.71	114.1
18	18 13C4-PFHpA	367.2 > 321.8	1.40e4	1.10e4	1.139	3.97	3.97	14.1	112.6
19	19 18O2-PFHxS	403 > 102.6	5.82e3	1.10e4	0.449	4.09	4.09	14.8	118.2
20	20 13C2-6:2 FTS	429.1 > 408.9	5.80e3	4.58e3	1.073	4.32	4.32	14.8	118.1
21	21 13C2-PFOA	414.9 > 369.7	2.49e4	8.18e3	2.262	4.37	4.37	16.8	134.6
22	22 13C8-PFOS	507.0 > 79.9	7.54e3	6.29e3	0.944	4.77	4.77	15.9	127.2
23	23 13C5-PFNA	468.2 > 422.9	1.20e4	9.84e3	1.082	4.71	4.71	14.1	113.0
24	24 13C2-PFDA	515.1 > 469.9	9.03e3	6.86e3	1.019	5.01	5.01	16.1	129.0
25	25 13C2-8:2 FTS	529.1 > 508.7	2.91e3	4.58e3	0.569	4.99	4.99	14.0	111.7
26	26 13C4-PFBA	217 > 171.8	1.41e4	1.41e4	1.000	1.94	1.94	12.5	100.0
27	27 13C2-4:2 FTS	329.2 > 308.9	4.58e3	4.58e3	1.000	3.38	3.38	12.5	100.0
28	28 13C5-PFHxA	318.0 > 272.9	1.61e4	1.61e4	1.000	3.47	3.47	12.5	100.0
29	29 13C3-PFHxS	401.9 > 79.9	1.10e4	1.10e4	1.000	4.09	4.09	12.5	100.0
30	30 13C8-PFOA	421.3 > 376	8.18e3	8.18e3	1.000	4.37	4.37	12.5	100.0
31	31 13C4-PFOS	503.0 > 79.9	6.29e3	6.29e3	1.000	4.77	4.77	12.5	100.0

75-125



AC  
11/22/16  
PW  
11/23/16

Ⓐ Percent recovery based on linear isomer only.

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-12.qld

Last Altered: Tuesday, November 22, 2016 15:30:24 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:30:54 Pacific Standard Time

Name: 161122G2\_12, Date: 22-Nov-2016, Time: 12:06:50, ID: SS161122G2-1 PFC SS 16K2201, Description: PFC SS 16K2201

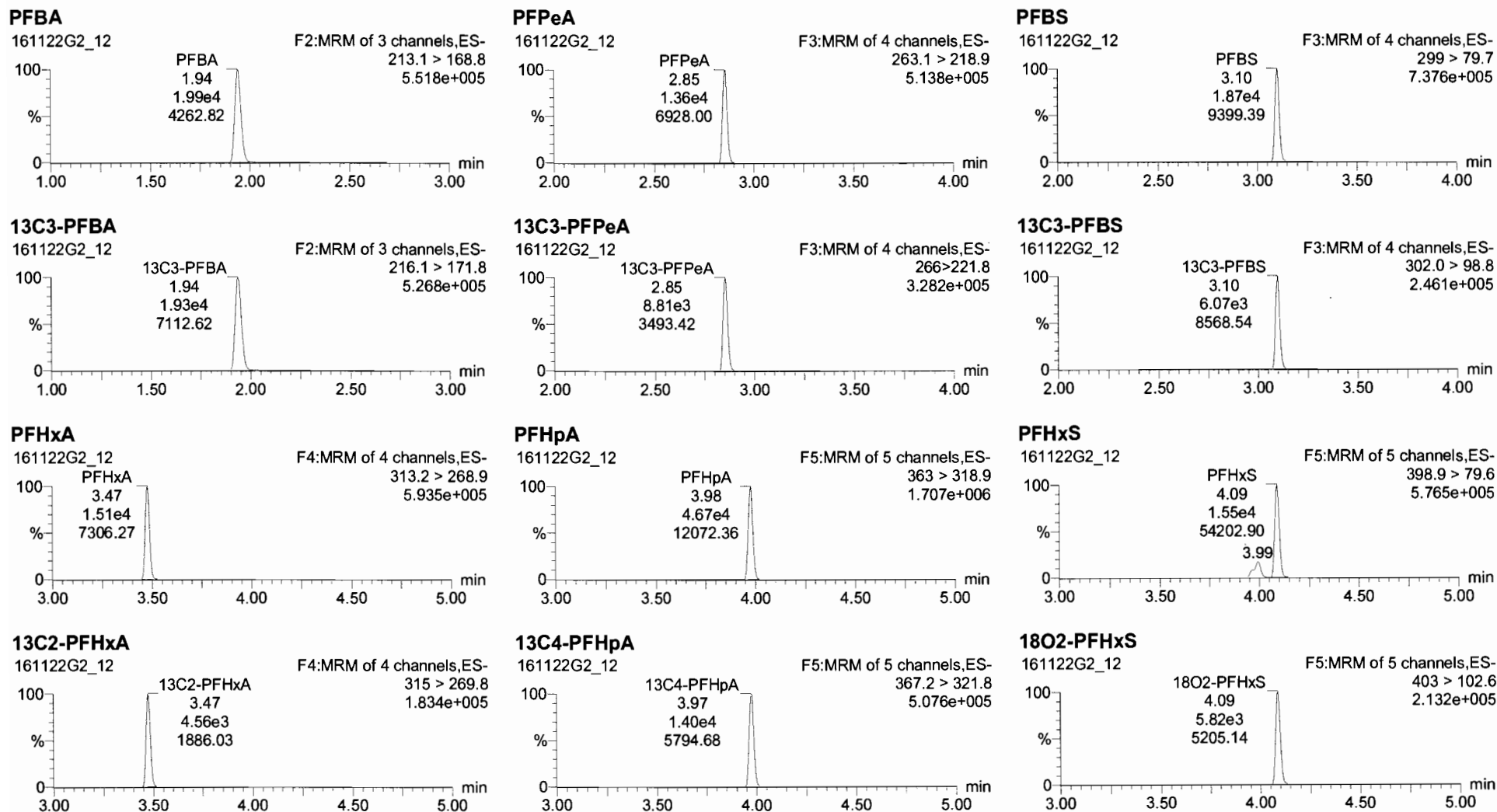
#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc	%Rec
32	32 13C9-PFNA	472.2 > 426.9	9.84e3	9.84e3	1.000	1.000	4.71	12.5	100.0
33	33 13C6-PFDA	519.1 > 473.7	6.86e3	6.86e3	1.000	1.000	5.01	12.5	100.0

Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-1.qld

Last Altered: Tuesday, November 22, 2016 15:10:09 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 15:11:00 Pacific Standard Time

Method: U:\G1.PRO\MethDB\PFAS\_A\_FULL\_LINEAR.mdb 22 Nov 2016 14:48:20  
Calibration: U:\G1.PRO\CurveDB\C18\_VAL-PFC\_Q1\_11-22-16\_FULL\_A.cdb 22 Nov 2016 14:59:27

Name: 161122G2\_12, Date: 22-Nov-2016, Time: 12:06:50, ID: SS161122G2-1 PFC SS 16K2201, Description: PFC SS 16K2201

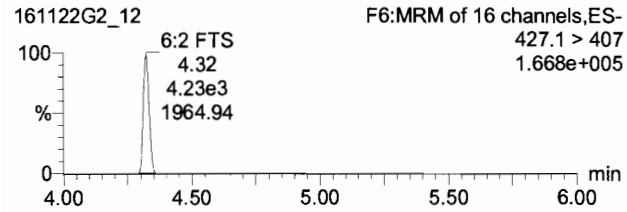


Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-1.qld

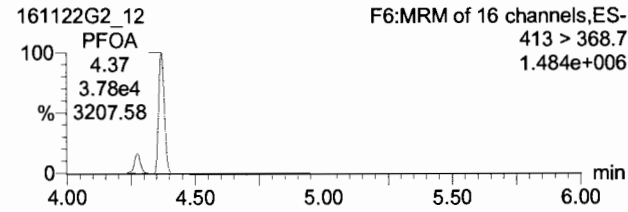
Last Altered: Tuesday, November 22, 2016 15:10:09 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 15:11:00 Pacific Standard Time

Name: 161122G2\_12, Date: 22-Nov-2016, Time: 12:06:50, ID: SS161122G2-1 PFC SS 16K2201, Description: PFC SS 16K2201

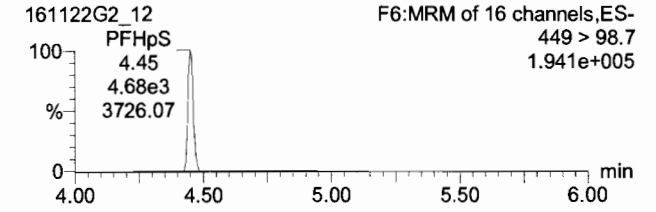
**6:2 FTS**



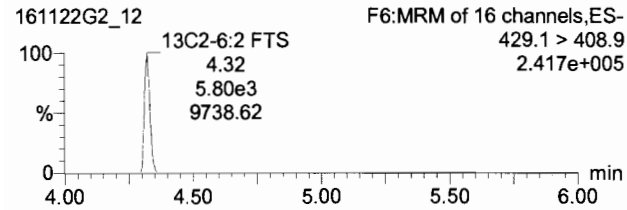
**PFOA**



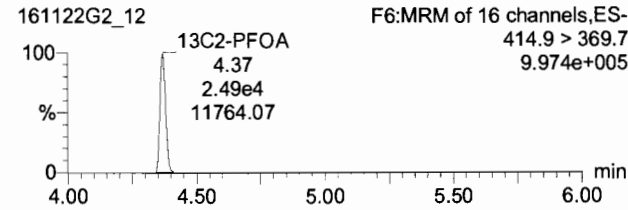
**PFHpS**



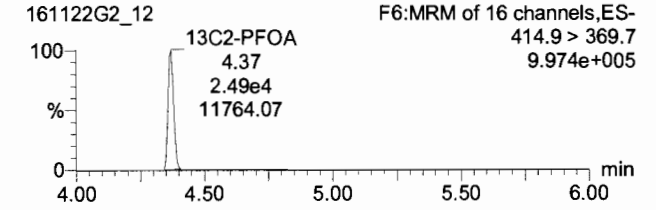
**13C2-6:2 FTS**



**13C2-PFOA**



**13C2-PFOA**

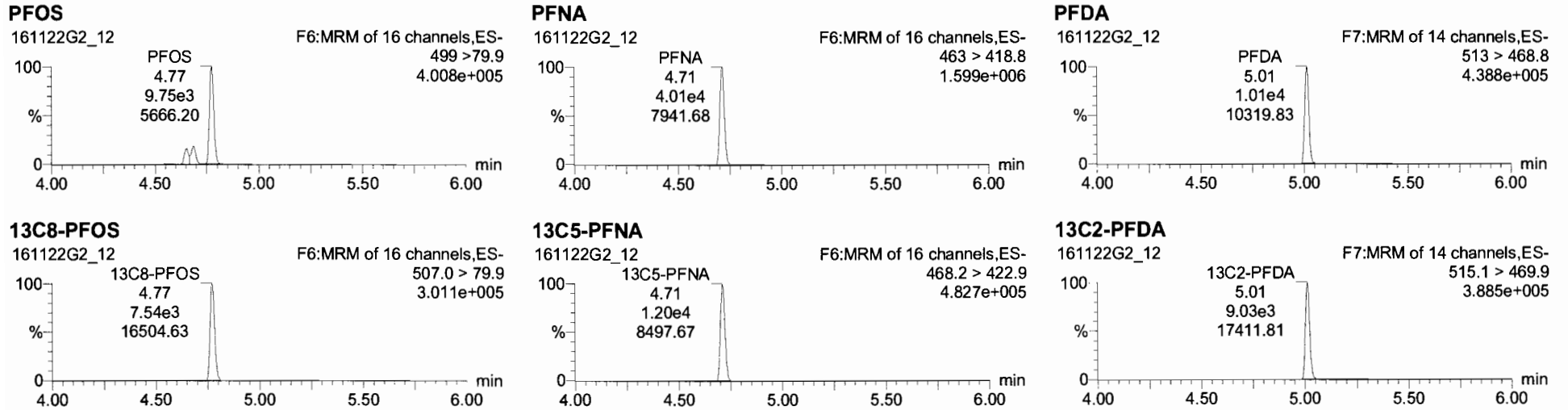


Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-1.qld

Last Altered: Tuesday, November 22, 2016 15:10:09 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:11:00 Pacific Standard Time

Name: 161122G2\_12, Date: 22-Nov-2016, Time: 12:06:50, ID: SS161122G2-1 PFC SS 16K2201, Description: PFC SS 16K2201



Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-1.qld

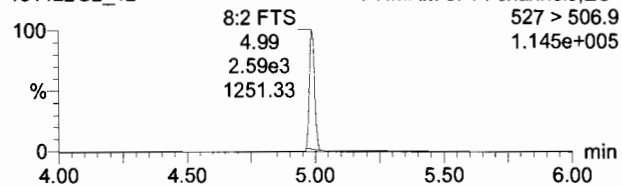
Last Altered: Tuesday, November 22, 2016 15:10:09 Pacific Standard Time

Printed: Tuesday, November 22, 2016 15:11:00 Pacific Standard Time

Name: 161122G2\_12, Date: 22-Nov-2016, Time: 12:06:50, ID: SS161122G2-1 PFC SS 16K2201, Description: PFC SS 16K2201

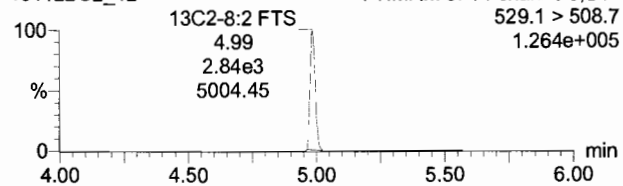
8:2 FTS

161122G2\_12



13C2-8:2 FTS

161122G2\_12



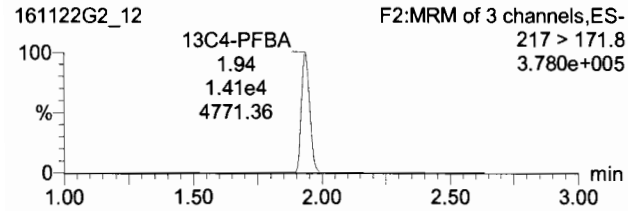


Dataset: U:\G1.PRO\Results\2016\161122G2\161122G2-1.qld

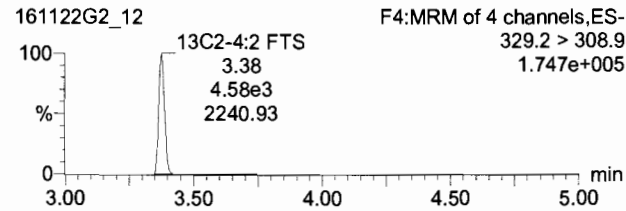
Last Altered: Tuesday, November 22, 2016 15:10:09 Pacific Standard Time  
Printed: Tuesday, November 22, 2016 15:11:00 Pacific Standard Time

Name: 161122G2\_12, Date: 22-Nov-2016, Time: 12:06:50, ID: SS161122G2-1 PFC SS 16K2201, Description: PFC SS 16K2201

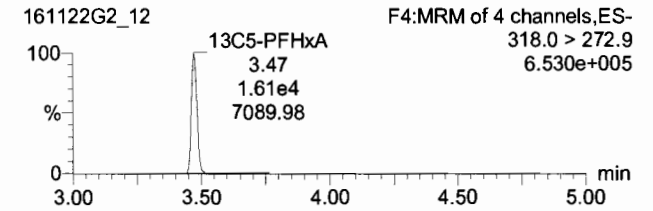
**13C4-PFBA**



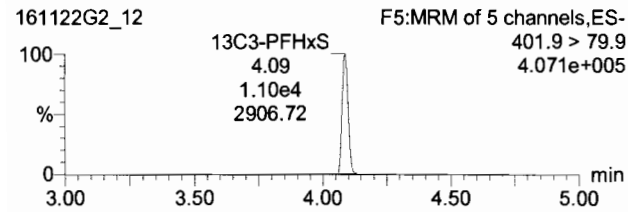
**13C2-4:2 FTS**



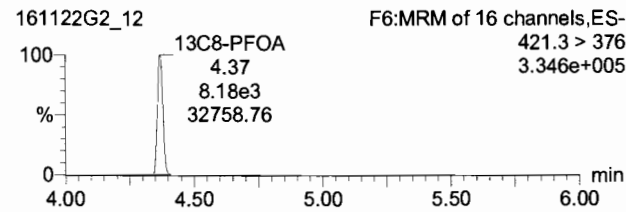
**13C5-PFHxA**



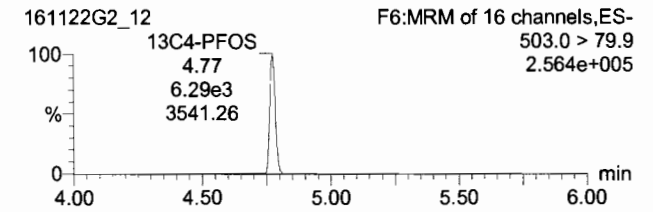
**13C3-PFHxS**



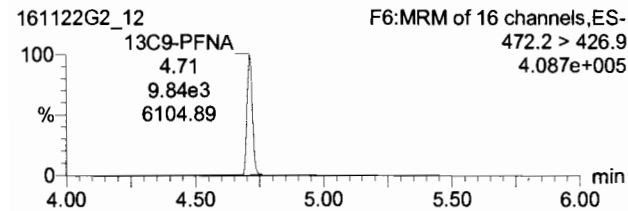
**13C8-PFOA**



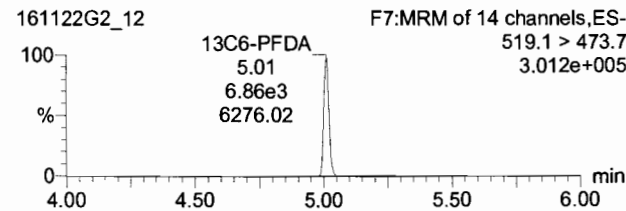
**13C4-PFOS**



**13C9-PFNA**



**13C6-PFDA**









## Data Validation Summary

### Oceana CTO-WE44, NALF Fentress

TO: Tiffany Hill/CVO  
Anita Dodson/VBO

FROM: Tiffany McGlynn/GNV

CC: Herb Kelly/GNV

DATE: December 9, 2016

#### Introduction

The following data validation report discusses the data validation process and findings for Vista Analytical in the Sample Delivery Groups (SDGs) listed in the table below.

Samples were analyzed using the following analytical methods:

- 537 MOD Perfluorinated Hydrocarbons

The samples included in these SDGs are listed in the table below.

SDG	Sample Name	Matrix
1601370	OW11-MW9-1016	Water
1601370	OW11-MW9P-1016	Water
1601370	OW11-MW8-1016	Water
1601370	OW11-MW1-1016	Water
1601370	OW11-MW7-1016	Water
1601370	OW11-MW5-1016	Water
1601370	OW11-MW6-1016	Water
1601370	OW11-MW4-1016	Water
1601370	MW-BG13-1016	Water
1601370	MW-BG13P-1016	Water
1601370	MW-BG12-1016	Water
1601388	MW-BG07-1016	Water

<b>SDG</b>	<b>Sample Name</b>	<b>Matrix</b>
1601388	MW-BG06-1016	Water
1601388	MW-BG05-1016	Water
1601388	MW-BG05P-1016	Water
1601388	MW-BG04-1016	Water
1601388	OC-FB-102816	Water
1601388	MW-BG01-1016	Water
1601388	MW-BG09-1016	Water
1601388	OC-MW04-1016	Water
1601388	MW-BG11-1016	Water
1601401	203MW-19-1116	Water
1601401	JTC-MW-B-1116	Water
1601401	MW-BG10-1116	Water
1601401	OW2C-MW19-1116	Water
1601401	OW2E-MW19-1116	Water
1601401	OW2B-MW41-1116	Water
1601401	OC-EB-110216	Water
1601401	OC-MW03-1116	Water
1601401	OC-MW01-1116	Water
1601401	OC-FB-110216	Water
1601401	OC-MW02-1116	Water
1601401	OW26-MW1-1116	Water
1601401	OW26-MW1P 1116	Water
1601420	FTWG-MW-02-1116	Water
1601420	OC-EB110816	Water
1601420	OC-FB110816	Water
1601437	OW11-MW1-1016	Water
1601437	OW11-MW4-1016	Water
1601437	OW11-MW5-1016	Water
1601437	OW11-MW6-1016	Water
1601437	OW11-MW7-1016	Water
1601437	OW11-MW9-1016	Water
1601437	OW11-MW9P-1016	Water

## **Data Evaluation**

Data was evaluated in accordance with the analytical methods and with the criteria found in the following guidance documents: Sampling and Analysis Plan Basewide Site Inspection for Perfluorinated Compounds Naval Air Station Oceana Virginia Beach, Virginia CTO-WE44 (October 2016) and National Functional Guidelines for Superfund Organic Methods Data Review (September 2016), as applicable. The samples were evaluated based on the following criteria:

- Data Completeness
- Technical Holding Times
- Tuning Instrument
- Initial/Continuing Calibrations
- Blanks
- Internal Standards
- Laboratory Control Samples
- Isotope Dilution Analyte
- Field Duplicates
- Identification/Quantitation
- Reporting Limits

### **Overall Evaluation of Data/Potential Usability Issues**

Specific details regarding qualification of the data are addressed in the sections below. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte, the validator has chosen the qualifier that best indicates possible bias in the results and qualified these data accordingly.

#### **Data Completeness**

The SDG was received complete and intact.

#### **Technical Holding Times**

According to the chain of custody records, sampling was performed on 10/25/16 through 11/8/16. Samples were received at the laboratory 10/27/16 through 11/9/16. All sample preparation and analyses were originally performed within holding time requirements with the exception of selected samples in SDG 1601437, which were re-extracted 15 days out of holding time. These samples were reanalyzed for Perfluorooctane Sulfonate (PFOS) only due to the high concentration detected in the original sample analysis. Affected data are summarized in **Attachment 1**.

## Blanks

Target compounds were detected in the method blanks, equipment blanks, and field blanks as listed in the table below. Affected data are summarized in **Attachment 1**.

Blank ID	Compound	Conc.	Units
B6K0053-BLK1	Perfluorooctane Sulfonate (PFOS)	1.48	NG_L
B6K0124-BLK1	Perfluorooctane Sulfonate (PFOS)	1.71	NG_L
B6K0001-BLK1	Perfluorooctanoic acid (PFOA)	0.818	NG_L
B6K0053-BLK1	Perfluorononanoic acid (PFNA)	0.933	NG_L
OC-FB-110216	Perfluorooctanoic acid (PFOA)	0.691	NG_L
OC-EB-110216	Perfluorooctanoic acid (PFOA)	0.731	NG_L
OC-FB110816	Perfluorononanoic acid (PFNA)	0.866	NG_L
B6K0124-BLK1	Perfluoroheptanoic acid (PFHpA)	0.802	NG_L

## Field Duplicate Precision

Native sample MW-BG13-1016 and field duplicate MW-BG13P-1016 did not meet precision criteria for perfluorohexanesulfonic acid (PFHxS) and PFOS. Affected data are summarized in **Attachment 1**.

## Internal Standards

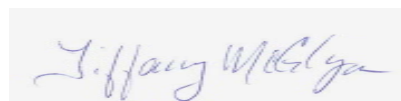
Sample MW-BG13P-1016 exhibited low recoveries in the internal standards. Samples OW26-MW1-1116 and OW26-MW1P 1116 exhibited high recoveries in the internal standards. Affected data are summarized in **Attachment 1**.

## Conclusion

These data can be used in the project decision-making process as qualified by the data quality evaluation process.

Please do not hesitate to contact us about this validation report.

Sincerely,





Tiffany McGlynn

## Qualification Flags

Exclude	More appropriate data exist for this analyte.
R	Data were rejected for use.
UL	Analyte not detected, quantitation limit is potentially biased low.
UJ	Analyte not detected, estimated quantitation limit.
U	Analyte not detected.
B	Not detected substantially above the level reported in laboratory or field blanks.
L	Analyte present, estimated value potentially biased low.
K	Analyte present, estimated value potentially biased high.
N	Analyte identification presumptive; no second column analysis performed or GC/MS tentative identification.
J	Analyte present, estimated value.
NJ	Analysis indicates the presence of an analyte that was "tentatively identified" and the associated value represents its approximate concentration.
None	Placeholder for calculating quality control issues that do not require flagging.
=	Analyte was detected at a concentration greater than the quantitation limit.

## Qualifier Code Reference

<b>Value</b>	<b>Description</b>
%SOL	High Moisture content
2C	Second Column – Poor Dual Column Reproducibility
2S	Second Source – Bad reproducibility between tandem detectors
BD	Blank Spike/Blank Spike Duplicate(LCS/LCSD) Precision
BRL	Below Reporting Limit
BSH	Blank Spike/LCS – High Recovery
BSL	Blank Spike/LCS – Low Recovery
CC	Continuing Calibration
CCBL	Continuing Calibration Blank Contamination
CCH	Continuing Calibration Verification – High Recovery
CCL	Continuing Calibration Verification – Low Recovery
DL	Redundant Result – due to Dilution
EBL	Equipment Blank Contamination
EMPC	Estimated Possible Maximum Concentration
ESH	Extraction Standard - High Recovery
ESL	Extraction Standard - Low Recovery
FBL	Field Blank Contamination
FD	Field Duplicate
HT	Holding Time
ICB	Initial Calibration – Bad Linearity or Curve Function
ICH	Initial Calibration – High Relative Response Factors
ICL	Initial Calibration – Low Relative Response Factors
IR15	Ion ratio exceeds +/- 15% difference
ISH	Internal Standard – High Recovery
ISL	Internal Standard – Low Recovery
LD	Lab Duplicate Reproducibility
LR	Concentration Exceeds Linear Range
MBL	Method Blank Contamination
MDP	Matrix Spike/Matrix Spike Duplicate Precision
MI	Matrix interference obscuring the raw data

<b>Value</b>	<b>Description</b>
MSH	Matrix Spike and/or Matrix Spike Duplicate – High Recovery
MSL	Matrix Spike and/or Matrix Spike Duplicate – Low Recovery
OT	Other
PD	Pesticide Degradation
RE	Redundant Result - due to Reanalysis or Re-extraction
SD	Serial Dilution Reproducibility
SSH	Spiked Surrogate – High Recovery
SSL	Spiked Surrogate – Low Recovery
TBL	Trip Blank Contamination
TN	Tune

LOCATION_NAME	SITE_NAME	INSTALLATION_ID	LOCATION_TYPE	LOCATION_TYPE_DESC	SDG	COORD_X	COORD_Y	ANALYTICAL_METHOD_GRP_DESC	SAMPLE_NAME	SAMPLE_MATRIX	SAMPLE_MATRIX_DESC	COLLECT_DATE
		OCEANA_NAS			1601420			Perfluoroalkyl Compounds	OC-EB110816	WQ	Water for QC samples	08-Nov-16
		OCEANA_NAS			1601420			Perfluoroalkyl Compounds	OC-FB110816	WQ	Water for QC samples	08-Nov-16
		OCEANA_NAS			1601420			Perfluoroalkyl Compounds	OC-EB110816	WQ	Water for QC samples	08-Nov-16
FTWG-MW-02	SWMU 00011, AOC UST 000004	OCEANA_NAS	WLM	Monitoring well	1601420	12204463.95	3465718.41	Perfluoroalkyl Compounds	FTWG-MW-02- 1116	WG	Ground water	08-Nov-16
FTWG-MW-02	SWMU 00011, AOC UST 000004	OCEANA_NAS	WLM	Monitoring well	1601420	12204463.95	3465718.41	Perfluoroalkyl Compounds	FTWG-MW-02- 1116	WG	Ground water	08-Nov-16
FTWG-MW-02	SWMU 00011, AOC UST 000004	OCEANA_NAS	WLM	Monitoring well	1601420	12204463.95	3465718.41	Perfluoroalkyl Compounds	FTWG-MW-02- 1116	WG	Ground water	08-Nov-16
FTWG-MW-02	SWMU 00011, AOC UST 000004	OCEANA_NAS	WLM	Monitoring well	1601420	12204463.95	3465718.41	Perfluoroalkyl Compounds	FTWG-MW-02- 1116	WG	Ground water	08-Nov-16
		OCEANA_NAS			1601420			Perfluoroalkyl Compounds	OC-FB110816	WQ	Water for QC samples	08-Nov-16
FTWG-MW-02	SWMU 00011, AOC UST 000004	OCEANA_NAS	WLM	Monitoring well	1601420	12204463.95	3465718.41	Perfluoroalkyl Compounds	FTWG-MW-02- 1116	WG	Ground water	08-Nov-16
		OCEANA_NAS			1601420			Perfluoroalkyl Compounds	OC-FB110816	WQ	Water for QC samples	08-Nov-16
		OCEANA_NAS			1601420			Perfluoroalkyl Compounds	OC-EB110816	WQ	Water for QC samples	08-Nov-16
		OCEANA_NAS			1601420			Perfluoroalkyl Compounds	OC-FB110816	WQ	Water for QC samples	08-Nov-16
		OCEANA_NAS			1601420			Perfluoroalkyl Compounds	OC-FB110816	WQ	Water for QC samples	08-Nov-16
		OCEANA_NAS			1601420			Perfluoroalkyl Compounds	OC-EB110816	WQ	Water for QC samples	08-Nov-16
		OCEANA_NAS			1601420			Perfluoroalkyl Compounds	OC-EB110816	WQ	Water for QC samples	08-Nov-16
		OCEANA_NAS			1601420			Perfluoroalkyl Compounds	OC-FB110816	WQ	Water for QC samples	08-Nov-16
FTWG-MW-02	SWMU 00011, AOC UST 000004	OCEANA_NAS	WLM	Monitoring well	1601420	12204463.95	3465718.41	Perfluoroalkyl Compounds	FTWG-MW-02- 1116	WG	Ground water	08-Nov-16
		OCEANA_NAS			1601420			Perfluoroalkyl Compounds	OC-EB110816	WQ	Water for QC samples	08-Nov-16