



**Groundwater Sample Results,
Level 2 Laboratory Report, Level 4 Laboratory Report,
Electronic Data Deliverable, Data Validation Report,
Sample Location Report, SDG 1700887**

NSWC

White Oak MD

December 2020

August 01, 2017

Vista Work Order No. 1700887

Ms. Nia Nikmanesh
KMEA
2423 Hoover Avenue
National City, CA 91950

Dear Ms. Nikmanesh,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 15, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'NSWC White Oak'.

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.

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

Sincerely,

Karen J. Volpente for

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. 1700887

Case Narrative

Sample Condition on Receipt:

Six 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 chemist noted that samples "IRPSite 6-GW-06GW01-20170712", "IRPSite 6-GW-06GW02-20170712", "Site 33-GW-33GW01-20170712", "Building 110-GW-110GW01-20170712", and "IRPSite 6-GW-06FD01-20170712" had a thick layer of particulate and were centrifuged prior to extraction. The chemist also noted that a limited amount of sample volume was left after centrifuging for samples "IRPSite 6-GW-06GW01-20170712" and "IRPSite 6-GW-06GW02-20170712".

The samples were extracted and analyzed for a selected list of 14 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 labeled standard 13C2-PFTeDA in the OPR was below the method acceptance criteria at 36.3%. All other OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
B7G0079-BLK1	B7G0079-BLK1	Modified EPA Method 537	13C2-PFTeDA	H	45.1
B7G0079-BS1	B7G0079-BS1	Modified EPA Method 537	13C2-PFTeDA	H	36.3

H = Recovery was outside laboratory acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1700887-01	IRPSite 6-GW-06GW01-20170712	12-Jul-17 09:30	15-Jul-17 09:06	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700887-02	IRPSite 6-GW-06GW02-20170712	12-Jul-17 11:00	15-Jul-17 09:06	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700887-03	IRPSite 6-GW-FRB01-20170712	12-Jul-17 11:05	15-Jul-17 09:06	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700887-04	Site 33-GW-33GW01-20170712	12-Jul-17 15:30	15-Jul-17 09:06	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700887-05	Building 110-GW-110GW01-20170712	12-Jul-17 12:45	15-Jul-17 09:06	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700887-06	IRPSite 6-GW-06FD01-20170712	12-Jul-17 11:10	15-Jul-17 09:06	HDPE Bottle, 125 mL HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank						Modified EPA Method 537			
Matrix: Aqueous Sample Size: 0.125 L		QC Batch: B7G0079 Date Extracted: 20-Jul-2017 11:18		Lab Sample: B7G0079-BLK1 Date Analyzed: 31-Jul-17 11:02 Column: BEH C18 31-Jul-17 14:54 Column: BEH C18					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.79	5.00	8.00		IS 13C3-PFBS	106	50 - 150	
PFHxA	ND	2.18	5.00	8.00		IS 13C2-PFHxA	87.3	50 - 150	
PFHpA	ND	0.591	5.00	8.00		IS 13C4-PFHpA	86.9	50 - 150	
PFHxS	ND	0.947	5.00	8.00		IS 18O2-PFHxS	92.3	50 - 150	
PFOA	ND	0.651	5.00	8.00		IS 13C2-PFOA	85.3	50 - 150	
PFOS	ND	0.807	5.00	8.00		IS 13C8-PFOS	89.5	50 - 150	
PFNA	ND	0.810	5.00	8.00		IS 13C5-PFNA	91.2	50 - 150	
PFDA	ND	1.49	5.00	8.00		IS 13C2-PFDA	76.5	50 - 150	
MeFOSAA	ND	1.65	5.00	8.00		IS d3-MeFOSAA	50.5	50 - 150	
PFUnA	ND	1.05	5.00	8.00		IS 13C2-PFUnA	59.0	50 - 150	
EtFOSAA	ND	1.37	5.00	8.00		IS d5-EtFOSAA	50.3	50 - 150	
PFDaA	ND	0.792	5.00	8.00		IS 13C2-PFDaA	56.4	50 - 150	
PFTTrDA	ND	0.494	5.00	8.00		IS 13C2-PFTeDA	45.1	50 - 150	H
PFTeDA	ND	0.755	5.00	8.00					

DL - Detection limit
RL - Reporting limit

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	QC Batch: B7G0079	Lab Sample: B7G0079-BS1
Sample Size: 0.125 L	Date Extracted: 20-Jul-2017 11:18	Date Analyzed: 31-Jul-17 10:37 Column: BEH C18 31-Jul-17 14:11 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	74.1	80.0	92.6	70 - 130	IS 13C3-PFBS	107	50 - 150
PFHxA	86.7	80.0	108	70 - 130	IS 13C2-PFHxA	93.6	50 - 150
PFHpA	87.0	80.0	109	70 - 130	IS 13C4-PFHpA	86.2	50 - 150
PFHxS	83.0	80.0	104	70 - 130	IS 18O2-PFHxS	88.3	50 - 150
PFOA	90.3	80.0	113	70 - 130	IS 13C2-PFOA	90.4	50 - 150
PFOS	76.5	80.0	95.7	70 - 130	IS 13C8-PFOS	92.9	50 - 150
PFNA	77.6	80.0	97.0	70 - 130	IS 13C5-PFNA	91.2	50 - 150
PFDA	77.5	80.0	96.9	70 - 130	IS 13C2-PFDA	76.4	50 - 150
MeFOSAA	94.5	80.0	118	70 - 130	IS d3-MeFOSAA	52.0	50 - 150
PFUnA	87.6	80.0	110	70 - 130	IS 13C2-PFUnA	61.6	50 - 150
EtFOSAA	82.3	80.0	103	70 - 130	IS d5-EtFOSAA	56.7	50 - 150
PFDoA	79.7	80.0	99.7	70 - 130	IS 13C2-PFDoA	57.7	50 - 150
PFTTrDA	75.3	80.0	94.1	60 - 130	IS 13C2-PFTeDA	36.3	50 - 150
PFTeDA	95.3	80.0	119	70 - 130			

LCL-UCL - Lower control limit - upper control limit

Sample ID: IRPSite 6-GW-06GW01-20170712 **Modified EPA Method 537**

Client Data		Sample Data		Laboratory Data			
Name:	KMEA	Matrix:	Aqueous	Lab Sample:	1700887-01	Date Received:	15-Jul-2017 9:06
Project:	NSWC White Oak	Sample Size:	0.0834 L	QC Batch:	B7G0079	Date Extracted:	20-Jul-2017 11:18
Date Collected:	12-Jul-2017 9:30			Date Analyzed:	31-Jul-17 11:15	Column:	BEH C18
Location:	IRP Site 6				31-Jul-17 15:06	Column:	BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	4.56	2.68	7.49	12.0	J	IS 13C3-PFBS	105	50 - 150	
PFHxA	11.1	3.27	7.49	12.0	J	IS 13C2-PFHxA	94.0	50 - 150	
PFHpA	4.77	0.886	7.49	12.0	J	IS 13C4-PFHpA	99.5	50 - 150	
PFHxS	4.93	1.42	7.49	12.0	J	IS 18O2-PFHxS	94.1	50 - 150	
PFOA	11.3	0.975	7.49	12.0	J	IS 13C2-PFOA	84.9	50 - 150	
PFOS	5.47	1.21	7.49	12.0	J	IS 13C8-PFOS	88.6	50 - 150	
PFNA	1.27	1.21	7.49	12.0	J	IS 13C5-PFNA	84.4	50 - 150	
PFDA	ND	2.23	7.49	12.0		IS 13C2-PFDA	72.9	50 - 150	
MeFOSAA	ND	2.47	7.49	12.0		IS d3-MeFOSAA	58.5	50 - 150	
PFOA	ND	1.57	7.49	12.0		IS 13C2-PFOA	59.3	50 - 150	
EtFOSAA	ND	2.05	7.49	12.0		IS d5-EtFOSAA	59.3	50 - 150	
PFDoA	ND	1.19	7.49	12.0		IS 13C2-PFDoA	52.0	50 - 150	
PFTTrDA	ND	0.740	7.49	12.0		IS 13C2-PFTTrDA	50.2	50 - 150	
PFTeDA	ND	1.13	7.49	12.0					

DL - Detection limit
RL - Reporting limit

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: IRPSite 6-GW-06GW02-20170712

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data					
Name:	KMEA	Matrix:	Aqueous	Lab Sample:	1700887-02	Date Received:	15-Jul-2017 9:06		
Project:	NSWC White Oak	Sample Size:	0.0994 L	QC Batch:	B7G0079	Date Extracted:	20-Jul-2017 11:18		
Date Collected:	12-Jul-2017 11:00			Date Analyzed:	31-Jul-17 11:27	Column:	BEH C18		
Location:	IRP Site 6				31-Jul-17 15:19	Column:	BEH C18		
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	21.8	2.25	6.29	10.1		IS 13C3-PFBS	123	50 - 150	
PFHxA	20.0	2.74	6.29	10.1		IS 13C2-PFHxA	97.9	50 - 150	
PFHpA	10.3	0.743	6.29	10.1		IS 13C4-PFHpA	99.2	50 - 150	
PFHxS	6.18	1.19	6.29	10.1	J	IS 18O2-PFHxS	95.5	50 - 150	
PFOA	20.1	0.819	6.29	10.1		IS 13C2-PFOA	90.4	50 - 150	
PFOS	16.5	1.01	6.29	10.1		IS 13C8-PFOS	93.1	50 - 150	
PFNA	3.81	1.02	6.29	10.1	J	IS 13C5-PFNA	89.4	50 - 150	
PFDA	ND	1.87	6.29	10.1		IS 13C2-PFDA	81.6	50 - 150	
MeFOSAA	ND	2.08	6.29	10.1		IS d3-MeFOSAA	65.1	50 - 150	
PFOA	ND	1.32	6.29	10.1		IS 13C2-PFOA	67.4	50 - 150	
EtFOSAA	ND	1.72	6.29	10.1		IS d5-EtFOSAA	66.6	50 - 150	
PFDoA	ND	0.996	6.29	10.1		IS 13C2-PFDoA	64.3	50 - 150	
PFTTrDA	ND	0.621	6.29	10.1		IS 13C2-PFTTrDA	51.1	50 - 150	
PFTeDA	ND	0.950	6.29	10.1					

DL - Detection limit
RL - Reporting limit

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: IRPSite 6-GW-FRB01-20170712

Modified EPA Method 537

Client Data		Sample Data			Laboratory Data				
Name:	KMEA	Matrix:	Aqueous		Lab Sample:	1700887-03	Date Received:	15-Jul-2017 9:06	
Project:	NSWC White Oak	Sample Size:	0.114 L		QC Batch:	B7G0079	Date Extracted:	20-Jul-2017 11:18	
Date Collected:	12-Jul-2017 11:05				Date Analyzed:	31-Jul-17 11:40	Column:	BEH C18	
Location:	IRP Site 6					31-Jul-17 15:32	Column:	BEH C18	

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.96	5.48	8.74		IS 13C3-PFBS	106	50 - 150	
PFHxA	ND	2.38	5.48	8.74		IS 13C2-PFHxA	101	50 - 150	
PFHpA	ND	0.645	5.48	8.74		IS 13C4-PFHpA	88.2	50 - 150	
PFHxS	ND	1.03	5.48	8.74		IS 18O2-PFHxS	94.7	50 - 150	
PFOA	ND	0.711	5.48	8.74		IS 13C2-PFOA	87.7	50 - 150	
PFOS	ND	0.881	5.48	8.74		IS 13C8-PFOS	107	50 - 150	
PFNA	ND	0.885	5.48	8.74		IS 13C5-PFNA	94.4	50 - 150	
PFDA	ND	1.63	5.48	8.74		IS 13C2-PFDA	80.5	50 - 150	
MeFOSAA	ND	1.80	5.48	8.74		IS d3-MeFOSAA	63.0	50 - 150	
PFOA	ND	1.15	5.48	8.74		IS 13C2-PFOA	66.7	50 - 150	
EtFOSAA	ND	1.50	5.48	8.74		IS d5-EtFOSAA	55.7	50 - 150	
PFDoA	ND	0.865	5.48	8.74		IS 13C2-PFDoA	66.2	50 - 150	
PFTeDA	ND	0.540	5.48	8.74		IS 13C2-PFTeDA	59.0	50 - 150	
PFTeDA	ND	0.825	5.48	8.74					

DL - Detection limit
RL - Reporting limit

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: Site 33-GW-33GW01-20170712

Modified EPA Method 537

Client Data		Sample Data			Laboratory Data				
Name:	KMEA	Matrix:	Aqueous		Lab Sample:	1700887-04	Date Received:	15-Jul-2017 9:06	
Project:	NSWC White Oak	Sample Size:	0.121 L		QC Batch:	B7G0079	Date Extracted:	20-Jul-2017 11:18	
Date Collected:	12-Jul-2017 15:30				Date Analyzed:	31-Jul-17 11:52	Column:	BEH C18	
Location:	Site 33					31-Jul-17 15:44	Column:	BEH C18	
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	10.7	1.85	5.17	8.28		IS 13C3-PFBS	110	50 - 150	
PFHxA	68.1	2.26	5.17	8.28		IS 13C2-PFHxA	95.7	50 - 150	
PFHpA	8.36	0.611	5.17	8.28		IS 13C4-PFHpA	99.8	50 - 150	
PFHxS	155	0.980	5.17	8.28		IS 18O2-PFHxS	93.3	50 - 150	
PFOA	90.6	0.674	5.17	8.28		IS 13C2-PFOA	88.9	50 - 150	
PFOS	28.1	0.835	5.17	8.28		IS 13C8-PFOS	96.2	50 - 150	
PFNA	1.42	0.838	5.17	8.28	J	IS 13C5-PFNA	83.7	50 - 150	
PFDA	ND	1.54	5.17	8.28		IS 13C2-PFDA	81.1	50 - 150	
MeFOSAA	ND	1.71	5.17	8.28		IS d3-MeFOSAA	65.7	50 - 150	
PFUnA	ND	1.09	5.17	8.28		IS 13C2-PFUnA	70.9	50 - 150	
EtFOSAA	ND	1.42	5.17	8.28		IS d5-EtFOSAA	63.8	50 - 150	
PFDoA	ND	0.819	5.17	8.28		IS 13C2-PFDoA	68.6	50 - 150	
PFTTrDA	ND	0.511	5.17	8.28		IS 13C2-PFTeDA	58.5	50 - 150	
PFTeDA	ND	0.781	5.17	8.28					

DL - Detection limit
RL - Reporting limit

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: Building 110-GW-110GW01-20170712 **Modified EPA Method 537**

Client Data	Sample Data	Laboratory Data
Name: KMEA	Matrix: Aqueous	Lab Sample: 1700887-05 Date Received: 15-Jul-2017 9:06
Project: NSWC White Oak	Sample Size: 0.118 L	QC Batch: B7G0079 Date Extracted: 20-Jul-2017 11:18
Date Collected: 12-Jul-2017 12:45		Date Analyzed: 31-Jul-17 12:05 Column: BEH C18
Location: Building 110		31-Jul-17 15:57 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	39.2	1.90	5.30	8.49		IS 13C3-PFBS	103	50 - 150	
PFHxA	120	2.31	5.30	8.49		IS 13C2-PFHxA	92.3	50 - 150	
PFHpA	17.6	0.627	5.30	8.49		IS 13C4-PFHpA	93.1	50 - 150	
PFHxS	610	1.01	5.30	8.49		IS 18O2-PFHxS	91.2	50 - 150	
PFOA	135	0.691	5.30	8.49		IS 13C2-PFOA	88.3	50 - 150	
PFOS	1230	4.28	26.5	42.5	D	IS 13C8-PFOS	101	50 - 150	D
PFNA	ND	0.860	5.30	8.49		IS 13C5-PFNA	76.1	50 - 150	
PFDA	ND	1.58	5.30	8.49		IS 13C2-PFDA	73.8	50 - 150	
MeFOSAA	ND	1.75	5.30	8.49		IS d3-MeFOSAA	57.3	50 - 150	
PFOA	ND	1.11	5.30	8.49		IS 13C2-PFOA	59.6	50 - 150	
EtFOSAA	ND	1.45	5.30	8.49		IS d5-EtFOSAA	65.2	50 - 150	
PFDoA	ND	0.841	5.30	8.49		IS 13C2-PFDoA	58.5	50 - 150	
PFTTrDA	ND	0.524	5.30	8.49		IS 13C2-PFTTrDA	53.3	50 - 150	
PFTeDA	ND	0.801	5.30	8.49					

DL - Detection limit
RL - Reporting limit

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: IRPSite 6-GW-06FD01-20170712

Modified EPA Method 537

Client Data		Sample Data		Laboratory Data					
Name:	KMEA	Matrix:	Aqueous	Lab Sample:	1700887-06	Date Received:	15-Jul-2017 9:06		
Project:	NSWC White Oak	Sample Size:	0.106 L	QC Batch:	B7G0079	Date Extracted:	20-Jul-2017 11:18		
Date Collected:	12-Jul-2017 11:10			Date Analyzed:	31-Jul-17 12:30	Column:	BEH C18		
Location:	Duplicate				31-Jul-17 16:09	Column:	BEH C18		

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	21.7	2.11	5.90	9.44		IS 13C3-PFBS	116	50 - 150	
PFHxA	17.6	2.57	5.90	9.44		IS 13C2-PFHxA	103	50 - 150	
PFHpA	9.00	0.697	5.90	9.44	J	IS 13C4-PFHpA	106	50 - 150	
PFHxS	5.70	1.12	5.90	9.44	J	IS 18O2-PFHxS	93.8	50 - 150	
PFOA	20.6	0.768	5.90	9.44		IS 13C2-PFOA	99.9	50 - 150	
PFOS	13.5	0.952	5.90	9.44		IS 13C8-PFOS	91.3	50 - 150	
PFNA	2.80	0.956	5.90	9.44	J	IS 13C5-PFNA	90.7	50 - 150	
PFDA	ND	1.76	5.90	9.44		IS 13C2-PFDA	87.0	50 - 150	
MeFOSAA	ND	1.95	5.90	9.44		IS d3-MeFOSAA	59.7	50 - 150	
PFOA	ND	1.24	5.90	9.44		IS 13C2-PFOA	69.0	50 - 150	
EtFOSAA	ND	1.62	5.90	9.44		IS d5-EtFOSAA	66.6	50 - 150	
PFDoA	ND	0.935	5.90	9.44		IS 13C2-PFDoA	63.1	50 - 150	
PFTTrDA	ND	0.583	5.90	9.44		IS 13C2-PFTTrDA	50.9	50 - 150	
PFTeDA	ND	0.891	5.90	9.44					

DL - Detection limit
RL - Reporting limit

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

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
Nevada Division of Environmental Protection	CA004132017-1
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
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

For Laboratory Use Only
 Laboratory Project ID: 1700887 Temp: -0.7 °C
 Storage ID: WR-2 Storage Secured: Yes No

Project ID: NSWC White Oak PO#: TO 008 Sampler: Diego Gonzalez
(name)

TAT Standard: 21 days
 (check one): Rush (surcharge may apply)
 14 days 7 days Specify: 10 days

Invoice to: Name Amec Foster Wheeler E&I, Inc. Company Amec Foster Wheeler E&I, Inc. Address 9210 Sky Park Court City San Diego State CA Ph# (633) 639-3400 Fax#

Relinquished by (printed name and signature) Diego Gonzalez Date 7/14/17 Time 1015 Received by (printed name and signature) FedEx Date Time

Relinquished by (printed name and signature) FedEx Date 07/15/17 Time 0900 Received by (printed name and signature) Beth Benedict B. Benedict Date 07/15/17 Time 0908

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.:

Add Analysis(es) Requested			Container(s)												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	Mod. EPA 537	Unmodified 537

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	COPLANAR PCBs	209 CONGENERS	PBDE	PAH	WHO-29	Mod. EPA 537	Unmodified 537	Comments		
IRPSite 6-GW-06GW01-20170712	7/12	0930	IRP Site 6	2	P	AQ																X	
IRPSite 6-GW-06GW01-20170712	7/12	1100	IRP Site 6	2	P	AQ																	X
IRP Site 6-SW-FR301-20170712	7/12	1105	IRP Site 6	2	P	AQ																	X
Site 33-GW-33GW01-20170712	7/12	1530	Site 33	2	P	AQ																	X
Building 110-GW-110GW01-20170712	7/12	1245	Building 110	2	P	AQ																	X

Special Instructions/Comments: Unpreserved 125 mL poly containers; Grab groundwater samples.
 • Grab sample - 06GW01 - has one full bottle and one ~ 90% full due to well drying up. Contacted Vista and confirmed amount is sufficient
 • Analyze for PFOA, PFOS, and PFBS by USEPA 537 Mod.
 Contract No. N62473-16-D-2405

SEND DOCUMENTATION AND RESULTS TO:

Name: Medora Hacker / Marie Bevier
 Company: Amec Foster Wheeler E&I
 Address: 9210 Sky Park Court
 City: San Diego State: CA Zip: 92123
 Phone: 633.639.3400 Fax:
 Email: medora.hacker@amecfw.com / marie.bevier@amecfw.com

Container Types: P= HDPE, PJ= HDPE Jar Bottle Preservation Type: T = Thiosulfate, Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, O = Other; TZ = Trizma; SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:

Sample Log-in Checklist

Vista Work Order #: 1700887 TAT 14

Samples Arrival:	Date/Time 07/15/17 0906	Initials: UBBB	Location: WR-2
			Shelf/Rack: NA
Logged In:	Date/Time 07/15/17 1317	Initials: BBB	Location: WR2
			Shelf/Rack: B6
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
	<input type="checkbox"/> GSO	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
	<input type="checkbox"/> Other		
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C: 0.0 (uncorrected)	Time: 0912	Thermometer ID: DT-3	
Temp °C: -0.7 (corrected)	Probe used: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

	YES	NO	NA
Adequate Sample Volume Received? <u>AMB</u>	<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	<input checked="" type="checkbox"/>		
Trk # <u>7796 35 86 3103</u>			
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"/>	<input checked="" type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			<input checked="" type="checkbox"/>
Preservation Documented:	<input type="checkbox"/> Na ₂ S ₂ O ₃	<input type="checkbox"/> Trizma	<input checked="" type="checkbox"/> None
	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Shipping Container	<input type="checkbox"/> Vista	<input type="checkbox"/> Client	<input type="checkbox"/> Retain
	<input type="checkbox"/> Return	<input type="checkbox"/> Dispose	

Comments: Samples IRP site 6-GW-06GW01-20170712
 ↓ ↓ ↓ ↓ WD2
Site 33-GW-33GW01-20170712
Building 110-GW-110GW01-20170712
IRP site 6-GW-06FD01-20170712 } All these samples have particulate present.

August 01, 2017

Vista Work Order No. 1700887

Ms. Nia Nikmanesh
KMEA
2423 Hoover Avenue
National City, CA 91950

Dear Ms. Nikmanesh,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 15, 2017. This sample set was analyzed on a rush turn-around time, under your Project Name 'NSWC White Oak'.

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.

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

Sincerely,

Karoly Volpente
for

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. 1700887

Case Narrative

Sample Condition on Receipt:

Six 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 chemist noted that samples "IRPSite 6-GW-06GW01-20170712", "IRPSite 6-GW-06GW02-20170712", "Site 33-GW-33GW01-20170712", "Building 110-GW-110GW01-20170712", and "IRPSite 6-GW-06FD01-20170712" had a thick layer of particulate and were centrifuged prior to extraction. The chemist also noted that a limited amount of sample volume was left after centrifuging for samples "IRPSite 6-GW-06GW01-20170712" and "IRPSite 6-GW-06GW02-20170712".

The samples were extracted and analyzed for a selected list of 14 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 labeled standard 13C2-PFTeDA in the OPR was below the method acceptance criteria at 36.3%. All other OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
B7G0079-BLK1	B7G0079-BLK1	Modified EPA Method 537	13C2-PFTeDA	H	45.1
B7G0079-BS1	B7G0079-BS1	Modified EPA Method 537	13C2-PFTeDA	H	36.3

H = Recovery was outside laboratory acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1700887-01	IRPSite 6-GW-06GW01-20170712	12-Jul-17 09:30	15-Jul-17 09:06	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700887-02	IRPSite 6-GW-06GW02-20170712	12-Jul-17 11:00	15-Jul-17 09:06	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700887-03	IRPSite 6-GW-FRB01-20170712	12-Jul-17 11:05	15-Jul-17 09:06	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700887-04	Site 33-GW-33GW01-20170712	12-Jul-17 15:30	15-Jul-17 09:06	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700887-05	Building 110-GW-110GW01-20170712	12-Jul-17 12:45	15-Jul-17 09:06	HDPE Bottle, 125 mL HDPE Bottle, 125 mL
1700887-06	IRPSite 6-GW-06FD01-20170712	12-Jul-17 11:10	15-Jul-17 09:06	HDPE Bottle, 125 mL HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank **Modified EPA Method 537**

Matrix: Aqueous	QC Batch: B7G0079	Lab Sample: B7G0079-BLK1
Sample Size: 0.125 L	Date Extracted: 20-Jul-2017 11:18	Date Analyzed: 31-Jul-17 11:02 Column: BEH C18 31-Jul-17 14:54 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.79	5.00	8.00		IS 13C3-PFBS	106	50 - 150	
PFHxA	ND	2.18	5.00	8.00		IS 13C2-PFHxA	87.3	50 - 150	
PFHpA	ND	0.591	5.00	8.00		IS 13C4-PFHpA	86.9	50 - 150	
PFHxS	ND	0.947	5.00	8.00		IS 18O2-PFHxS	92.3	50 - 150	
PFOA	ND	0.651	5.00	8.00		IS 13C2-PFOA	85.3	50 - 150	
PFOS	ND	0.807	5.00	8.00		IS 13C8-PFOS	89.5	50 - 150	
PFNA	ND	0.810	5.00	8.00		IS 13C5-PFNA	91.2	50 - 150	
PFDA	ND	1.49	5.00	8.00		IS 13C2-PFDA	76.5	50 - 150	
MeFOSAA	ND	1.65	5.00	8.00		IS d3-MeFOSAA	50.5	50 - 150	
PFUnA	ND	1.05	5.00	8.00		IS 13C2-PFUnA	59.0	50 - 150	
EtFOSAA	ND	1.37	5.00	8.00		IS d5-EtFOSAA	50.3	50 - 150	
PFDaA	ND	0.792	5.00	8.00		IS 13C2-PFDaA	56.4	50 - 150	
PFTTrDA	ND	0.494	5.00	8.00		IS 13C2-PFTeDA	45.1	50 - 150	H
PFTeDA	ND	0.755	5.00	8.00					

DL - Detection limit
RL - Reporting limit

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	QC Batch: B7G0079	Lab Sample: B7G0079-BS1
Sample Size: 0.125 L	Date Extracted: 20-Jul-2017 11:18	Date Analyzed: 31-Jul-17 10:37 Column: BEH C18 31-Jul-17 14:11 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
PFBS	74.1	80.0	92.6	70 - 130	IS 13C3-PFBS	107	50 - 150
PFHxA	86.7	80.0	108	70 - 130	IS 13C2-PFHxA	93.6	50 - 150
PFHpA	87.0	80.0	109	70 - 130	IS 13C4-PFHpA	86.2	50 - 150
PFHxS	83.0	80.0	104	70 - 130	IS 18O2-PFHxS	88.3	50 - 150
PFOA	90.3	80.0	113	70 - 130	IS 13C2-PFOA	90.4	50 - 150
PFOS	76.5	80.0	95.7	70 - 130	IS 13C8-PFOS	92.9	50 - 150
PFNA	77.6	80.0	97.0	70 - 130	IS 13C5-PFNA	91.2	50 - 150
PFDA	77.5	80.0	96.9	70 - 130	IS 13C2-PFDA	76.4	50 - 150
MeFOSAA	94.5	80.0	118	70 - 130	IS d3-MeFOSAA	52.0	50 - 150
PFUnA	87.6	80.0	110	70 - 130	IS 13C2-PFUnA	61.6	50 - 150
EtFOSAA	82.3	80.0	103	70 - 130	IS d5-EtFOSAA	56.7	50 - 150
PFDoA	79.7	80.0	99.7	70 - 130	IS 13C2-PFDoA	57.7	50 - 150
PFTTrDA	75.3	80.0	94.1	60 - 130	IS 13C2-PFTeDA	36.3	50 - 150
PFTeDA	95.3	80.0	119	70 - 130			

LCL-UCL - Lower control limit - upper control limit

Sample ID: IRPSite 6-GW-06GW01-20170712 **Modified EPA Method 537**

Client Data	Sample Data	Laboratory Data
Name: KMEA	Matrix: Aqueous	Lab Sample: 1700887-01 Date Received: 15-Jul-2017 9:06
Project: NSWC White Oak	Sample Size: 0.0834 L	QC Batch: B7G0079 Date Extracted: 20-Jul-2017 11:18
Date Collected: 12-Jul-2017 9:30		Date Analyzed: 31-Jul-17 11:15 Column: BEH C18
Location: IRP Site 6		31-Jul-17 15:06 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	4.56	2.68	7.49	12.0	J	IS 13C3-PFBS	105	50 - 150	
PFHxA	11.1	3.27	7.49	12.0	J	IS 13C2-PFHxA	94.0	50 - 150	
PFHpA	4.77	0.886	7.49	12.0	J	IS 13C4-PFHpA	99.5	50 - 150	
PFHxS	4.93	1.42	7.49	12.0	J	IS 18O2-PFHxS	94.1	50 - 150	
PFOA	11.3	0.975	7.49	12.0	J	IS 13C2-PFOA	84.9	50 - 150	
PFOS	5.47	1.21	7.49	12.0	J	IS 13C8-PFOS	88.6	50 - 150	
PFNA	1.27	1.21	7.49	12.0	J	IS 13C5-PFNA	84.4	50 - 150	
PFDA	ND	2.23	7.49	12.0		IS 13C2-PFDA	72.9	50 - 150	
MeFOSAA	ND	2.47	7.49	12.0		IS d3-MeFOSAA	58.5	50 - 150	
PFOA	ND	1.57	7.49	12.0		IS 13C2-PFOA	59.3	50 - 150	
EtFOSAA	ND	2.05	7.49	12.0		IS d5-EtFOSAA	59.3	50 - 150	
PFDoA	ND	1.19	7.49	12.0		IS 13C2-PFDoA	52.0	50 - 150	
PFTTrDA	ND	0.740	7.49	12.0		IS 13C2-PFTTrDA	50.2	50 - 150	
PFTeDA	ND	1.13	7.49	12.0					

DL - Detection limit
 RL - Reporting limit

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: IRPSite 6-GW-06GW02-20170712 **Modified EPA Method 537**

Client Data	Sample Data	Laboratory Data
Name: KMEA	Matrix: Aqueous	Lab Sample: 1700887-02 Date Received: 15-Jul-2017 9:06
Project: NSWC White Oak	Sample Size: 0.0994 L	QC Batch: B7G0079 Date Extracted: 20-Jul-2017 11:18
Date Collected: 12-Jul-2017 11:00		Date Analyzed: 31-Jul-17 11:27 Column: BEH C18
Location: IRP Site 6		31-Jul-17 15:19 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	21.8	2.25	6.29	10.1		IS 13C3-PFBS	123	50 - 150	
PFHxA	20.0	2.74	6.29	10.1		IS 13C2-PFHxA	97.9	50 - 150	
PFHpA	10.3	0.743	6.29	10.1		IS 13C4-PFHpA	99.2	50 - 150	
PFHxS	6.18	1.19	6.29	10.1	J	IS 18O2-PFHxS	95.5	50 - 150	
PFOA	20.1	0.819	6.29	10.1		IS 13C2-PFOA	90.4	50 - 150	
PFOS	16.5	1.01	6.29	10.1		IS 13C8-PFOS	93.1	50 - 150	
PFNA	3.81	1.02	6.29	10.1	J	IS 13C5-PFNA	89.4	50 - 150	
PFDA	ND	1.87	6.29	10.1		IS 13C2-PFDA	81.6	50 - 150	
MeFOSAA	ND	2.08	6.29	10.1		IS d3-MeFOSAA	65.1	50 - 150	
PFOA	ND	1.32	6.29	10.1		IS 13C2-PFOA	67.4	50 - 150	
EtFOSAA	ND	1.72	6.29	10.1		IS d5-EtFOSAA	66.6	50 - 150	
PFDaA	ND	0.996	6.29	10.1		IS 13C2-PFDaA	64.3	50 - 150	
PFTeDA	ND	0.621	6.29	10.1		IS 13C2-PFTeDA	51.1	50 - 150	
PFTeDA	ND	0.950	6.29	10.1					

DL - Detection limit
RL - Reporting limit

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: IRPSite 6-GW-FRB01-20170712

Modified EPA Method 537

Client Data		Sample Data			Laboratory Data				
Name:	KMEA	Matrix:	Aqueous		Lab Sample:	1700887-03	Date Received:	15-Jul-2017 9:06	
Project:	NSWC White Oak	Sample Size:	0.114 L		QC Batch:	B7G0079	Date Extracted:	20-Jul-2017 11:18	
Date Collected:	12-Jul-2017 11:05				Date Analyzed:	31-Jul-17 11:40	Column:	BEH C18	
Location:	IRP Site 6					31-Jul-17 15:32	Column:	BEH C18	

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	ND	1.96	5.48	8.74		IS 13C3-PFBS	106	50 - 150	
PFHxA	ND	2.38	5.48	8.74		IS 13C2-PFHxA	101	50 - 150	
PFHpA	ND	0.645	5.48	8.74		IS 13C4-PFHpA	88.2	50 - 150	
PFHxS	ND	1.03	5.48	8.74		IS 18O2-PFHxS	94.7	50 - 150	
PFOA	ND	0.711	5.48	8.74		IS 13C2-PFOA	87.7	50 - 150	
PFOS	ND	0.881	5.48	8.74		IS 13C8-PFOS	107	50 - 150	
PFNA	ND	0.885	5.48	8.74		IS 13C5-PFNA	94.4	50 - 150	
PFDA	ND	1.63	5.48	8.74		IS 13C2-PFDA	80.5	50 - 150	
MeFOSAA	ND	1.80	5.48	8.74		IS d3-MeFOSAA	63.0	50 - 150	
PFOA	ND	1.15	5.48	8.74		IS 13C2-PFOA	66.7	50 - 150	
EtFOSAA	ND	1.50	5.48	8.74		IS d5-EtFOSAA	55.7	50 - 150	
PFDoA	ND	0.865	5.48	8.74		IS 13C2-PFDoA	66.2	50 - 150	
PFTTrDA	ND	0.540	5.48	8.74		IS 13C2-PFTTrDA	59.0	50 - 150	
PFTeDA	ND	0.825	5.48	8.74					

DL - Detection limit
 RL - Reporting limit

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: Site 33-GW-33GW01-20170712

Modified EPA Method 537

Client Data		Sample Data			Laboratory Data				
Name:	KMEA	Matrix:	Aqueous		Lab Sample:	1700887-04	Date Received:	15-Jul-2017 9:06	
Project:	NSWC White Oak	Sample Size:	0.121 L		QC Batch:	B7G0079	Date Extracted:	20-Jul-2017 11:18	
Date Collected:	12-Jul-2017 15:30				Date Analyzed:	31-Jul-17 11:52	Column:	BEH C18	
Location:	Site 33					31-Jul-17 15:44	Column:	BEH C18	

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	10.7	1.85	5.17	8.28		IS 13C3-PFBS	110	50 - 150	
PFHxA	68.1	2.26	5.17	8.28		IS 13C2-PFHxA	95.7	50 - 150	
PFHpA	8.36	0.611	5.17	8.28		IS 13C4-PFHpA	99.8	50 - 150	
PFHxS	155	0.980	5.17	8.28		IS 18O2-PFHxS	93.3	50 - 150	
PFOA	90.6	0.674	5.17	8.28		IS 13C2-PFOA	88.9	50 - 150	
PFOS	28.1	0.835	5.17	8.28		IS 13C8-PFOS	96.2	50 - 150	
PFNA	1.42	0.838	5.17	8.28	J	IS 13C5-PFNA	83.7	50 - 150	
PFDA	ND	1.54	5.17	8.28		IS 13C2-PFDA	81.1	50 - 150	
MeFOSAA	ND	1.71	5.17	8.28		IS d3-MeFOSAA	65.7	50 - 150	
PFUnA	ND	1.09	5.17	8.28		IS 13C2-PFUnA	70.9	50 - 150	
EtFOSAA	ND	1.42	5.17	8.28		IS d5-EtFOSAA	63.8	50 - 150	
PFDoA	ND	0.819	5.17	8.28		IS 13C2-PFDoA	68.6	50 - 150	
PFTTrDA	ND	0.511	5.17	8.28		IS 13C2-PFTeDA	58.5	50 - 150	
PFTeDA	ND	0.781	5.17	8.28					

DL - Detection limit
 RL - Reporting limit

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: Building 110-GW-110GW01-20170712 **Modified EPA Method 537**

Client Data	Sample Data	Laboratory Data
Name: KMEA	Matrix: Aqueous	Lab Sample: 1700887-05 Date Received: 15-Jul-2017 9:06
Project: NSWC White Oak	Sample Size: 0.118 L	QC Batch: B7G0079 Date Extracted: 20-Jul-2017 11:18
Date Collected: 12-Jul-2017 12:45		Date Analyzed: 31-Jul-17 12:05 Column: BEH C18
Location: Building 110		31-Jul-17 15:57 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	39.2	1.90	5.30	8.49		IS 13C3-PFBS	103	50 - 150	
PFHxA	120	2.31	5.30	8.49		IS 13C2-PFHxA	92.3	50 - 150	
PFHpA	17.6	0.627	5.30	8.49		IS 13C4-PFHpA	93.1	50 - 150	
PFHxS	610	1.01	5.30	8.49		IS 18O2-PFHxS	91.2	50 - 150	
PFOA	135	0.691	5.30	8.49		IS 13C2-PFOA	88.3	50 - 150	
PFOS	1230	4.28	26.5	42.5	D	IS 13C8-PFOS	101	50 - 150	D
PFNA	ND	0.860	5.30	8.49		IS 13C5-PFNA	76.1	50 - 150	
PFDA	ND	1.58	5.30	8.49		IS 13C2-PFDA	73.8	50 - 150	
MeFOSAA	ND	1.75	5.30	8.49		IS d3-MeFOSAA	57.3	50 - 150	
PFOA	ND	1.11	5.30	8.49		IS 13C2-PFOA	59.6	50 - 150	
EtFOSAA	ND	1.45	5.30	8.49		IS d5-EtFOSAA	65.2	50 - 150	
PFDoA	ND	0.841	5.30	8.49		IS 13C2-PFDoA	58.5	50 - 150	
PFTTrDA	ND	0.524	5.30	8.49		IS 13C2-PFTTrDA	53.3	50 - 150	
PFTeDA	ND	0.801	5.30	8.49					

DL - Detection limit
RL - Reporting limit

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: IRPSite 6-GW-06FD01-20170712

Modified EPA Method 537

Client Data		Sample Data			Laboratory Data				
Name:	KMEA	Matrix:	Aqueous		Lab Sample:	1700887-06	Date Received:	15-Jul-2017 9:06	
Project:	NSWC White Oak	Sample Size:	0.106 L		QC Batch:	B7G0079	Date Extracted:	20-Jul-2017 11:18	
Date Collected:	12-Jul-2017 11:10				Date Analyzed:	31-Jul-17 12:30	Column:	BEH C18	
Location:	Duplicate					31-Jul-17 16:09	Column:	BEH C18	
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
PFBS	21.7	2.11	5.90	9.44		IS 13C3-PFBS	116	50 - 150	
PFHxA	17.6	2.57	5.90	9.44		IS 13C2-PFHxA	103	50 - 150	
PFHpA	9.00	0.697	5.90	9.44	J	IS 13C4-PFHpA	106	50 - 150	
PFHxS	5.70	1.12	5.90	9.44	J	IS 18O2-PFHxS	93.8	50 - 150	
PFOA	20.6	0.768	5.90	9.44		IS 13C2-PFOA	99.9	50 - 150	
PFOS	13.5	0.952	5.90	9.44		IS 13C8-PFOS	91.3	50 - 150	
PFNA	2.80	0.956	5.90	9.44	J	IS 13C5-PFNA	90.7	50 - 150	
PFDA	ND	1.76	5.90	9.44		IS 13C2-PFDA	87.0	50 - 150	
MeFOSAA	ND	1.95	5.90	9.44		IS d3-MeFOSAA	59.7	50 - 150	
PFOA	ND	1.24	5.90	9.44		IS 13C2-PFOA	69.0	50 - 150	
EtFOSAA	ND	1.62	5.90	9.44		IS d5-EtFOSAA	66.6	50 - 150	
PFDoA	ND	0.935	5.90	9.44		IS 13C2-PFDoA	63.1	50 - 150	
PFTTrDA	ND	0.583	5.90	9.44		IS 13C2-PFTTrDA	50.9	50 - 150	
PFTeDA	ND	0.891	5.90	9.44					

DL - Detection limit
RL - Reporting limit

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

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

CERTIFICATIONS

Accrediting Authority	Certificate Number
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1175673
Nevada Division of Environmental Protection	CA004132017-1
New Hampshire Environmental Accreditation Program	207716
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	013
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	8621
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

For Laboratory Use Only
 Laboratory Project ID: 1700887 Temp: -0.7 °C
 Storage ID: WR-2 Storage Secured: Yes No

Project ID: NSWC White Oak PO#: TO 008 Sampler: Diego Gonzalez
 (name)

TAT Standard: 21 days
 (check one): Rush (surcharge may apply)
 14 days 7 days Specify: 10 days

Invoice to: Name Amec Foster Wheeler E&I, Inc. Company Amec Foster Wheeler E&I, Inc. Address 9210 Sky Park Court City San Diego State CA Ph# (619) 639-3400 Fax#

Relinquished by (printed name and signature) Diego Gonzalez Date 7/14/17 Time 1015 Received by (printed name and signature) FedEx Date Time

Relinquished by (printed name and signature) FedEx Date 07/15/17 Time 0900 Received by (printed name and signature) Beth Benedict B. Benedict Date 07/15/17 Time 0908

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.:

Add Analysis(es) Requested			Container(s)												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	Mod. EPA 537	Unmodified 537

Sample ID	Date	Time	Location/Sample Description	Quantity	Type	Matrix	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	2378-TCDD	2378-TCDD/TCDF	PCDD/PCDF	TOTALS	COPLANAR PCBs	209 CONGENERS	PBDE	PAH	WHO-29	Mod. EPA 537	Unmodified 537	Comments	
IRPSite 6-GW-06GW01-20170712	7/12	0930	IRP Site 6	2	P	AQ																X
IRPSite 6-GW-06GW01-20170712	7/12	1100	IRP Site 6	2	P	AQ																X
IRP Site 6-SW-FR301-20170712	7/12	1105	IRP Site 6	2	P	AQ																X
Site 33-GW-33GW01-20170712	7/12	1530	Site 33	2	P	AQ																X
Building 110-GW-110GW01-20170712	7/12	1245 1300	Building 110	2	P	AQ																X

Special Instructions/Comments: Unpreserved 125 mL poly containers; Grab groundwater samples.
 • Grab sample - 06GW01 - has one full bottle and one ~ 90% full. due to well drying up. Contacted Vista and confirmed amount is sufficient
 • Analyze for PFOA, PFOS, and PFBS by USEPA 537 Mod.
Contract No. N62473-16-D-2405

SEND DOCUMENTATION AND RESULTS TO:

Name: Medora Hackler / Marie Bevier
 Company: Amec Foster Wheeler E&I
 Address: 9210 Sky Park Court
 City: San Diego State: CA Zip: 92123
 Phone: 619.639.3400 Fax:
 Email: medora.hackler@amecfw.com / marie.bevier@amecfw.com

Container Types: P= HDPE, PJ= HDPE Jar Bottle Preservation Type: T = Thiosulfate, Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, O = Other; TZ = Trizma; SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other:

CHAIN OF CUSTODY

For Laboratory Use Only
 Laboratory Project ID: 1700887 Temp: -0.7 °C
 Storage ID: WR-2 Storage Secured: Yes No

Project ID: NSWC White Oak PO#: TO 008 Sampler: D. Gonzalez
 (name)

TAT Standard: 21 days
 (check one): Rush (surcharge may apply) 14 days 7 days Specify: 10 days

Invoice to: Name Amec Foster Wheeler E&I Company Amec Foster Wheeler E&I Address 9210 Sky Park Court City San Diego State CA Ph# (603) 639-3400 Fax#

Relinquished by (printed name and signature) Dingo Gonzalez Date 7/14/17 Time 1015 Received by (printed name and signature) FedEx Date Time

Relinquished by (printed name and signature) FedEx Date 07/15/17 Time 0906 Received by (printed name and signature) Beth Benedict & Benedict Date 07/15/17 Time 0909

SHIP TO: Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 (916) 673-1520 * Fax (916) 673-0106
 ATTN: Karen L Volpendesta
 Method of Shipment: FedEx
 Tracking No.:

Add Analysis(es) Requested			Container(s)													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	Mod. EPA 537	Unmodified 537

Sample ID	Date	Time	Location/Sample Description
<u>IRPSite 6-GW-06FD01</u> <u>-20170712</u>	<u>7/12</u>	<u>1110</u>	<u>Duplicate</u>

Special Instructions/Comments: IRP Site 6 Duplicate

SEND DOCUMENTATION AND RESULTS TO:

Name: Medora Hachler / Marie Bevier
 Company: Amec Foster Wheeler E&I
 Address: 9210 Sky Park Court
 City: San Diego State: CA Zip: 92123
 Phone: 603-639-3400 Fax:
 Email: medora.hachler@amec.com marie.bevier@amec.com

Container Types: P= HDPE, PJ= HDPE Jar
 Bottle Preservation Type: T = Thiosulfate, TZ = Trizma:
 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:

Sample Log-in Checklist

Vista Work Order #: 1700887 TAT 14

Samples Arrival:	Date/Time 07/15/17 0906	Initials: UBBB	Location: WR-2
			Shelf/Rack: NA
Logged In:	Date/Time 07/15/17 1317	Initials: BBB	Location: WR2
			Shelf/Rack: B6
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
	<input type="checkbox"/> GSO	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
	<input type="checkbox"/> Other		
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C:	0.0 (uncorrected)	Time: 0912	Thermometer ID: DT-3
Temp °C:	-0.7 (corrected)	Probe used: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

	YES	NO	NA
Adequate Sample Volume Received? <u>AMB</u>	<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	<input checked="" type="checkbox"/>		
Trk # <u>7796 35 86 3103</u>			
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"/>	<input checked="" type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			<input checked="" type="checkbox"/>
Preservation Documented:	<input type="checkbox"/> Na ₂ S ₂ O ₃	<input type="checkbox"/> Trizma	<input checked="" type="checkbox"/> None
	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Shipping Container	<input type="checkbox"/> Vista	<input type="checkbox"/> Client	<input type="checkbox"/> Retain
	<input type="checkbox"/> Return	<input type="checkbox"/> Dispose	

Comments: Samples IRP site 6-GW-06GW01-20170712
 ↓ ↓ ↓ ↓ WD2
Site 33-GW-33GW01-20170712
Building 110-GW-110GW01-20170712
IRP site 6-GW-06FD01-20170712 } All these samples have particulate present.

EXTRACTION INFORMATION

Process Sheet
Workorder: 1700887

Prep Expiration: 2017-Jul-26
 Client: KMEA

Workorder Due: 31-Jul-17 00:00

TAT: 16

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

Prep Batch: B70071

Prep Data Entered: HB 7/21/17
Date and Initials

Version: 537 (14 Analyte)

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700887-01 A	<input checked="" type="checkbox"/>	IRPSite 6-GW-06GW01-20170712	15-Jul-17 09:06	WR-2 B-6	
1700887-02 A	<input checked="" type="checkbox"/>	IRPSite 6-GW-06GW02-20170712	15-Jul-17 09:06	WR-2 B-6	
1700887-03 A	<input checked="" type="checkbox"/>	IRPSite 6-GW-FRB01-20170712	15-Jul-17 09:06	WR-2 B-6	
1700887-04 A	<input checked="" type="checkbox"/>	Site 33-GW-33GW01-20170712	15-Jul-17 09:06	WR-2 B-6	
1700887-05 A	<input checked="" type="checkbox"/>	Building 110-GW-110GW01-20170712	15-Jul-17 09:06	WR-2 B-6	
1700887-06 A	<input checked="" type="checkbox"/>	IRPSite 6-GW-06FD01-20170712	15-Jul-17 09:06	WR-2 B-6	

WO Comments: Samples contain particulate. Centrifuge and decant.

Vista PM: Martha Maier

Vial Box ID: Save US

Sample Reconciled By: HB 7/21/17

Batch: B7G0079

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1700875-01	0.11821 ✓	NA	NA	1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700875-02	0.11912 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700875-03	0.11822 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700875-04	0.11793 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700875-05	0.11994 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700884-01	0.11935 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700884-02	0.11989 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700884-03	0.11984 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700884-04	0.11984 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700887-01	0.08342 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700887-02	0.09939 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700887-03	0.11445 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700887-04	0.12081 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700887-05	0.11776 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
1700887-06	0.10593 ✓			1000	20-Jul-17 11:18	BAP			Aqueous	537M PFAS DOD (LOQ as
B7G0079-BLK1	0.125 ✓			1000	20-Jul-17 11:18	BAP				QC
B7G0079-BS1	0.125 ✓			1000	20-Jul-17 11:18	BAP	17D2705 ✓	10 ✓		QC

HIB 7/21/17

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS DOD (LOO as mRL)

B7G0079

Chemist: BP
 Prep Date/Time: 20 18-Jul-17 11:18
BP 7-20-17

Prepared using: LCMS - SPE Extraction-LCMS

C	VISTA Sample ID	pH Before	pH After	Chlorine (Cl)	Drops HCl Added	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	RS CHEM/WIT DATE
<input type="checkbox"/>	B7G0079-BLK1	5	2	0	NO 32	NA	NA	(0.125)	BP 7-20-17	7-20-17	BP 7-20-17
<input type="checkbox"/>	B7G0079-BS1	5	2	0	NO 32	↓	↓	↓			
<input type="checkbox"/>	1700875-01 (A)	6	2	0	3	144.93	26.72	0.11821	↓	↓	↓
<input type="checkbox"/>	1700875-02 (A)	6	2	0	3	145.83	26.71	0.11912			
<input type="checkbox"/>	1700875-03 (A)	6	2	0	3	141.94	26.72	0.11822			
<input type="checkbox"/>	1700875-04	6	2	0	3	144.96	27.03	0.11793			
<input type="checkbox"/>	1700875-05	5	2	0	2	146.55	26.61	0.11994			
<input type="checkbox"/>	1700884-01 (A)	6	2	0	3	146.09	26.74	0.11935			
<input type="checkbox"/>	1700884-02 (A)	5	2	0	2	145.69	26.71	0.11898			
<input type="checkbox"/>	1700884-03	5	2	0	2	146.55	26.71	0.11984			
<input type="checkbox"/>	1700884-04	5	2	0	2	146.70	26.86	0.11964			
<input type="checkbox"/>	1700887-01 (A) (B) (C)	5	2	0	2	109.95	26.53	0.8342 ✓			
<input type="checkbox"/>	1700887-02 (A) (B) (C)	6	2	0	3	125.99	26.60	0.09939 ✓			
<input type="checkbox"/>	1700887-03	5	2	0	2	141.37	26.92	0.11445 ✓			
<input type="checkbox"/>	1700887-04 (A) (B)	5	2	0	2	147.43	26.62	0.12081 ✓			
<input type="checkbox"/>	1700887-05 (A) (B)	5	2	0	2	144.36	26.66	0.11776 ✓			

C7G0079

IS Name <u>17G1307, 10uL</u> (V6)	NS Name <u>1702705, 10uL</u> (V1)	RS Name <u>17F3038, 10uL</u> (V3)	SPE Chem: <u>Strata X-AW 33µm 200mg</u> 6 mL Ele SOLV: <u>0.5% NH₄OH in MeOH/MeOH</u> Final Volume(s) <u>1uL</u>	Check Out: <u>HB 7/18/17</u> Chemist/Date: <u>HB 7/18/17</u> Check In: <u>empty</u> Chemist/Date: <u>empty</u> Balance ID: <u>HRMS-8</u> pH Adjusted: Chemist/Date: <u>HB 7/18/17</u>
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Comments: Assume 1 g = 1 mL (A) samples were centrifuged to remove particulate. HB 7/18/17 (B) samples had thick layer of particulate. HB 7/18/17 (C) limited sample amount after centrifuging particulate out. HB 7/18/17

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS DOD (LOO as mRL)

B7G0079

Chemist: BP

Prep Date/Time: 30 Jul-17 11:18
BP 7.20.17

Prepared using: LCMS - SPE Extraction-LCMS

C	VISTA Sample ID	pH Before	pH After	Chlorine (Cl)	Drops HCl Added	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE	RS CHEM/WIT DATE
<input type="checkbox"/>	1700887-06 <u>(A)(B)</u>	<u>5</u>	<u>2</u>	<u>0</u>	<u>2</u>	<u>132.52</u>	<u>26.59</u>	<u>0.10593</u>	<u>BP 7.20.17</u>	<u>7/20/17</u>	<u>BP 7/20/17</u>

IS Name	NS Name	RS Name	SPE Chem:	Ele SOLV:	Final Volume(s)	Check Out:	Check In:	Balance ID:	pH Adjusted:
<u>1761307, 102</u> <u>(V6)</u>	<u>1712705, 102</u> <u>(V1)</u>	<u>177-7638, 102</u> <u>(V5)</u>	<u>Stata XAW 33µm 200mg</u> <u>10mL</u>	<u>0.5% NH₄OH in MeOH/MeOH</u>	<u>1mL</u>	<u>HB 7/18/17</u>	<u>HB 7/18/17 HP 7/18/17</u> <u>Empty</u>	<u>HRMS-8</u>	<u>HB 7/18/17</u>

Comments: Assume 1 g = 1 mL (A) sample was centrifuged to remove particulate. HB 7/18/17 (B) sample had thick layer of particulate. HB 7/18/17

SAMPLE DATA – MODIFIED EPA METHOD 537

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-8.qld

Last Altered: Monday, July 31, 2017 11:22:46 Pacific Daylight Time

Printed: Monday, July 31, 2017 11:23:09 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: B7G0079-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170731G2_8, Date: 31-Jul-2017, Time: 11:02:39

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299.0 > 79.7		3.938e3		0.125			
2	4 PFHxA	312.9 > 268.9		4.470e3		0.125			
3	5 PFHpA	363 > 318.9		5.864e3		0.125			
4	6 PFHxS	398.9 > 79.6		3.430e3		0.125			
5	7 PFOA	413.0 > 368.7	6.025e1	1.194e4		0.125	4.22		
6	8 PFNA	463.0 > 418.8		5.289e3		0.125			
7	9 PFOS	499.0 > 79.9		6.175e3		0.125			
8	10 PFDA	512.7 > 219.0	5.251e0	9.635e3		0.125	4.87		
9	12 13C3-PFBS	302.0 > 98.8	3.938e3	1.420e4	0.263	0.125	2.89	106	106
10	14 13C2-PFHxA	315.0 > 269.8	4.470e3	1.420e4	0.361	0.125	3.27	87.3	87.3
11	15 13C4-PFHpA	367.2 > 321.8	5.864e3	1.420e4	0.475	0.125	3.81	86.9	86.9
12	16 18O2-PFHxS	403 > 102.6	3.430e3	9.048e3	0.411	0.125	3.93	92.3	92.3
13	17 13C2-PFOA	414.9 > 369.7	1.194e4	4.928e3	2.843	0.125	4.22	85.3	85.3
14	18 13C5-PFNA	468.2 > 422.9	5.289e3	6.794e3	0.854	0.125	4.56	91.2	91.2
15	19 13C2-PFDA	514.8 > 469.7	9.635e3	7.235e3	1.742	0.125	4.86	76.5	76.5
16	20 13C8-PFOS	507.0 > 79.9	6.175e3	7.445e3	0.927	0.125	4.63	89.5	89.5
17	22 13C5-PFHxA	318 > 272.9	1.420e4	1.420e4	1.000	0.125	3.27	100	100
18	23 13C3-PFHxS	401.9 > 79.9	9.048e3	9.048e3	1.000	0.125	3.93	100	100
19	24 13C8-PFOA	421.3 > 376	4.928e3	4.928e3	1.000	0.125	4.22	100	100
20	25 13C9-PFNA	472.2 > 426.9	6.794e3	6.794e3	1.000	0.125	4.56	100	100
21	26 13C4-PFOS	503.0 > 79.9	7.445e3	7.445e3	1.000	0.125	4.63	100	100
22	27 13C6-PFDA	519.10 > 473.70	7.235e3	7.235e3	1.000	0.125	4.86	100	100
23	28 Total PFBS	299.0 > 79.7		3.938e3		0.125			
24	29 Total PFHxS	398.9 > 79.6		3.430e3		0.125			
25	30 Total PFOA	413.0 > 368.7		1.194e4		0.125			
26	31 Total PFOS	499.0 > 79.9		6.175e3		0.125			

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-8.qld

Last Altered: Monday, July 31, 2017 11:22:46 Pacific Daylight Time

Printed: Monday, July 31, 2017 11:23:09 Pacific Daylight Time

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Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: B7G0079-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170731G2_8, Date: 31-Jul-2017, Time: 11:02:39

Total PFBS

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total PFHxS

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total PFOA

#	Name	Trace	RT	Area	IS Area	Conc.
1	7 PFOA	413.0 > 368.7	4.22	60.253	11944.127	

Total PFOS

#	Name	Trace	RT	Area	IS Area	Conc.
1						

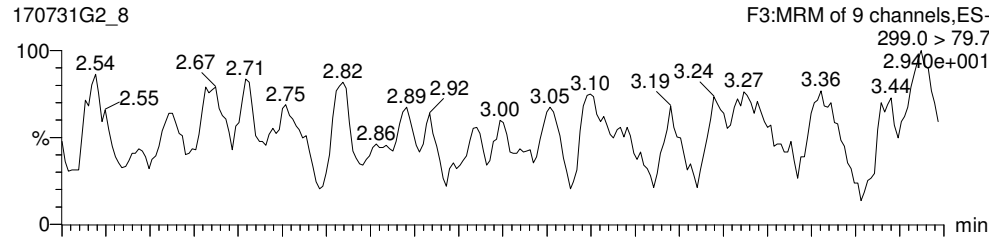
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Printed: Monday, July 31, 2017 11:23:09 Pacific Daylight Time

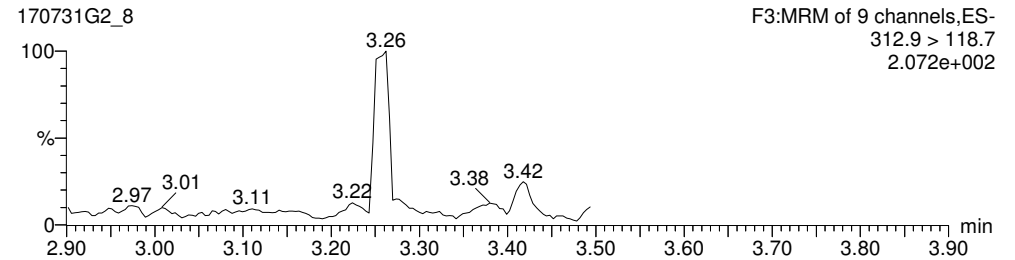
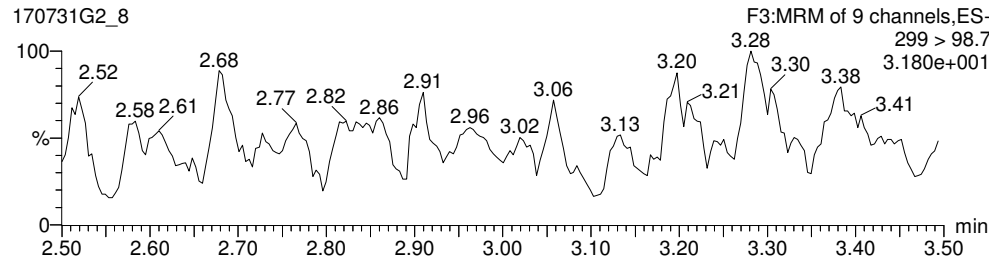
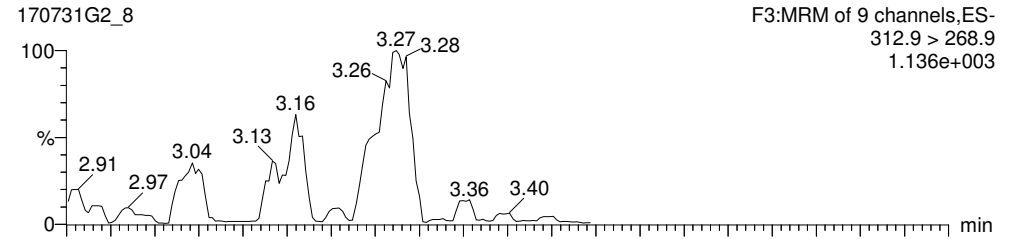
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ID: B7G0079-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170731G2_8, Date: 31-Jul-2017, Time: 11:02:39, Instrument: , Lab: , User:

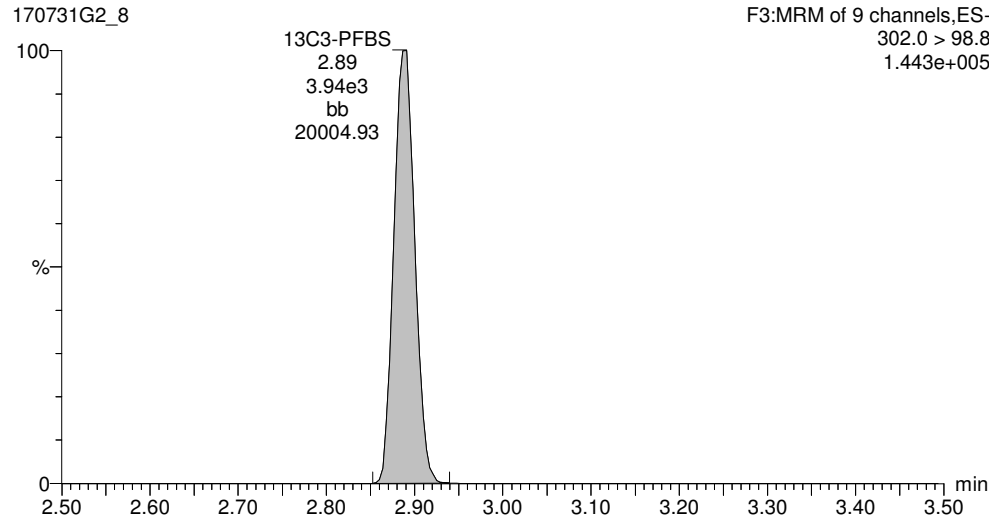
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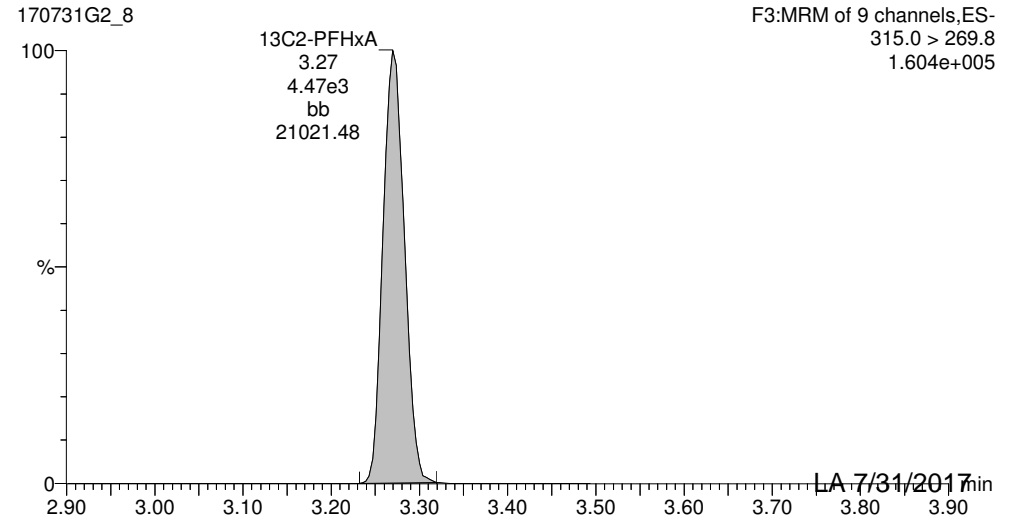
PFHxA



13C3-PFBS



13C2-PFHxA



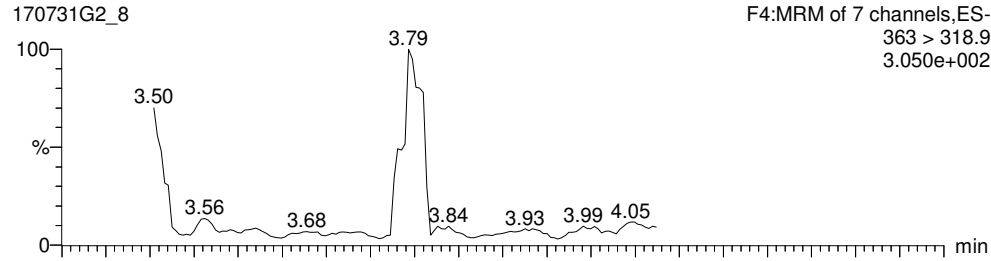
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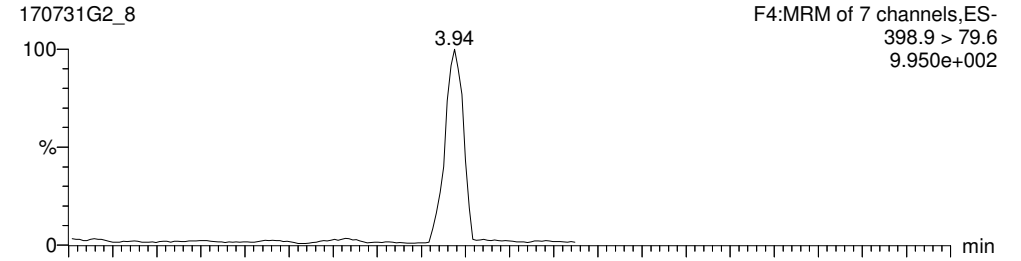
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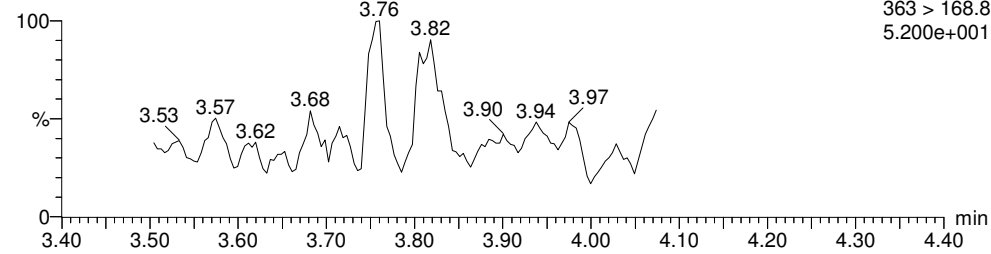
PFHpA



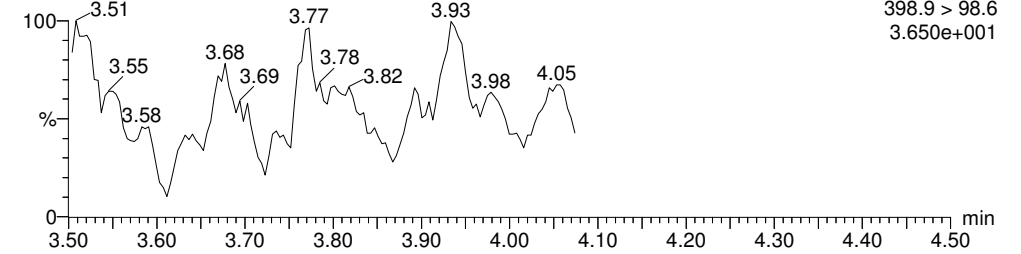
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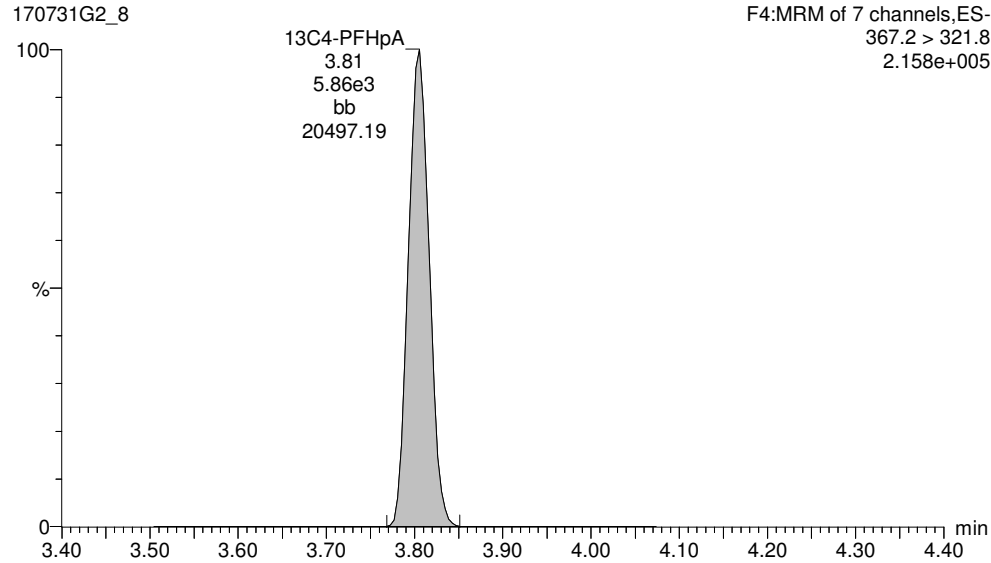
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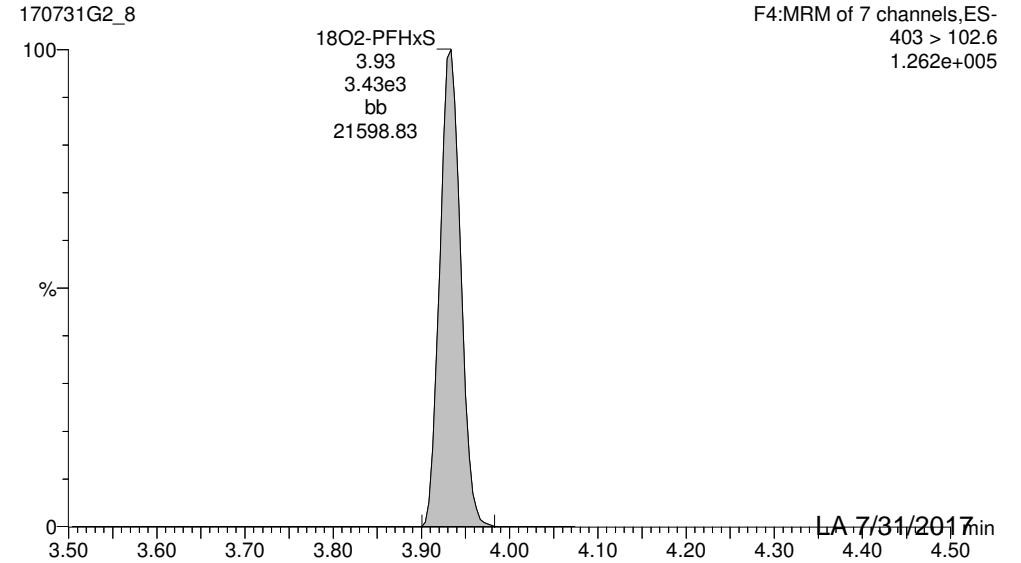
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13C4-PFHpA



18O2-PFHxS

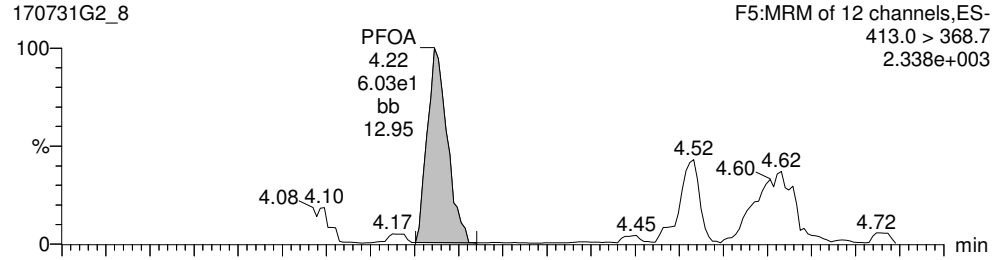


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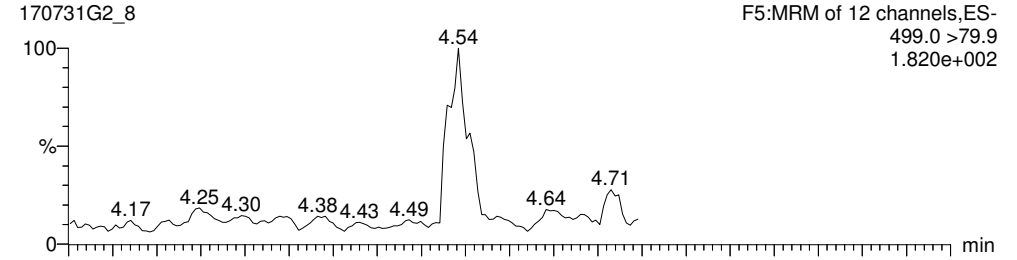
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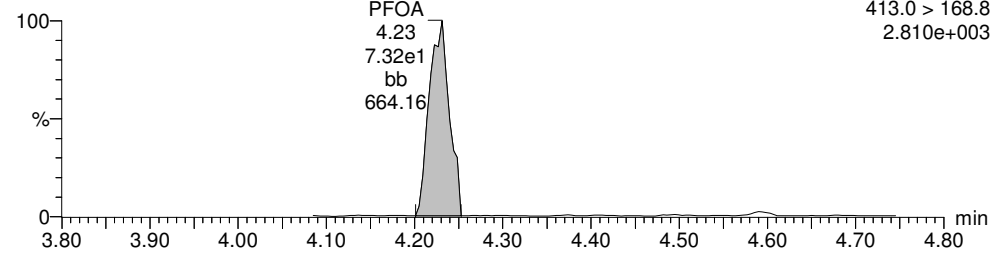
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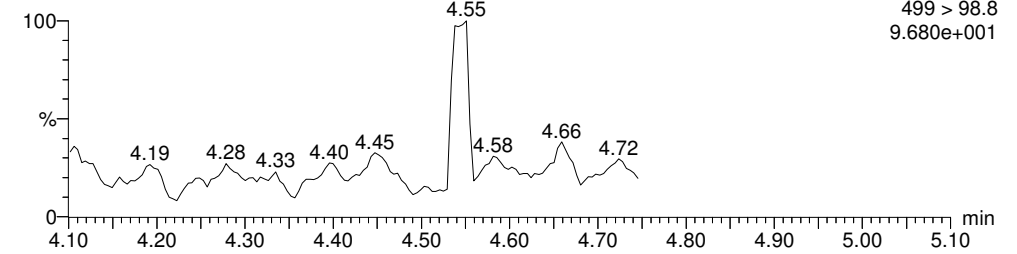
Total PFOS



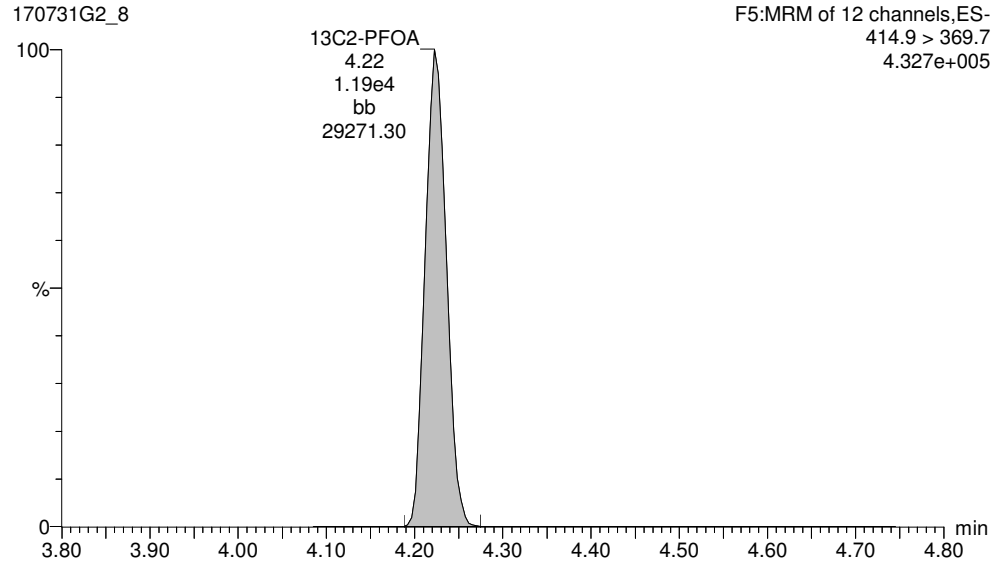
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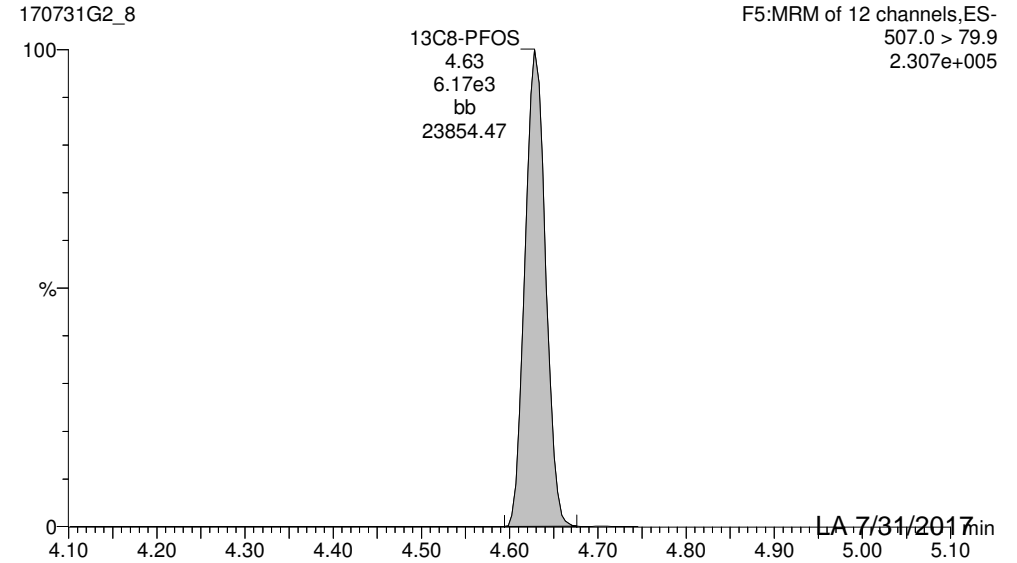
170731G2_8



13C2-PFOA



13C8-PFOS



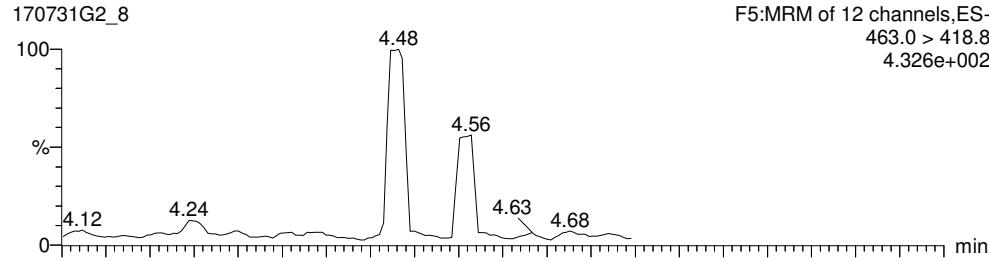
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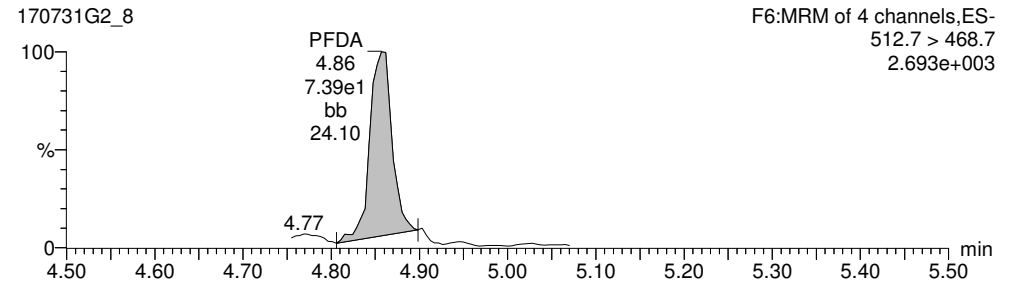
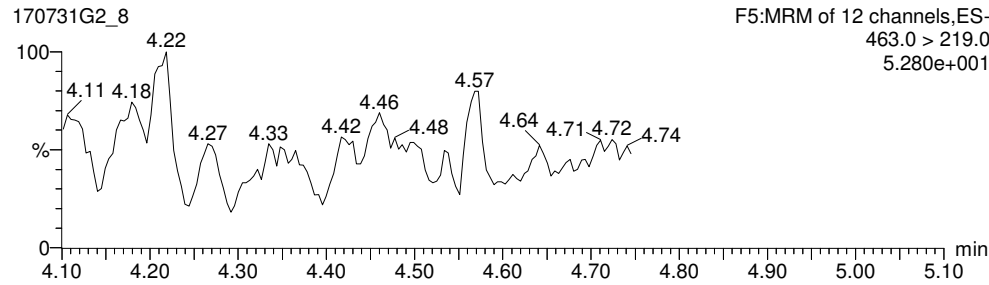
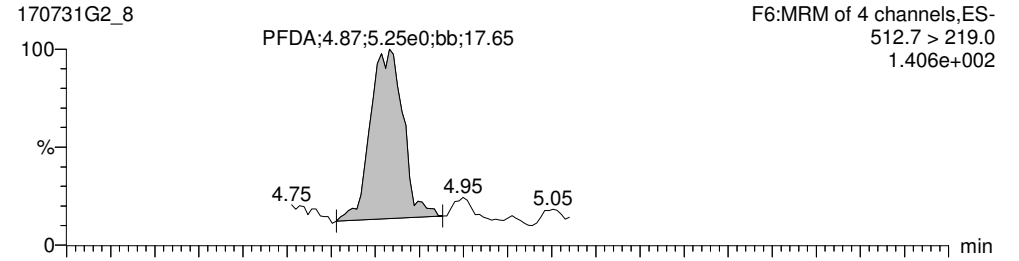
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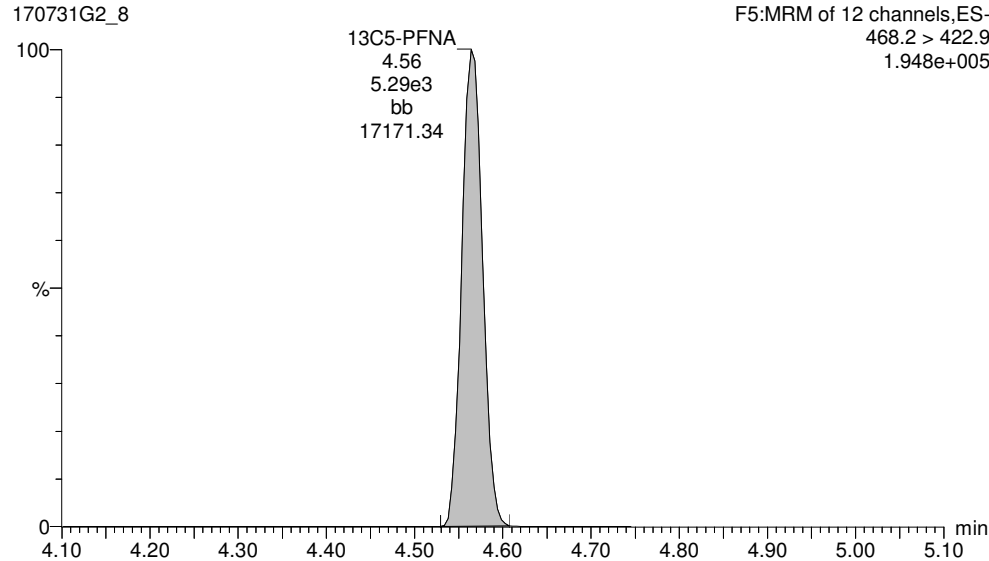
PFNA



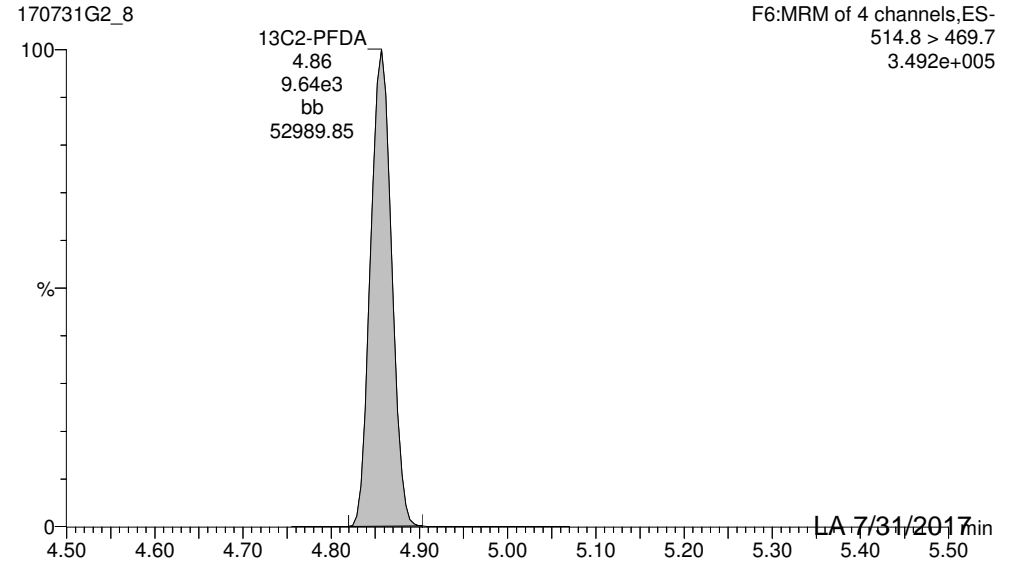
PFDA



13C5-PFNA



13C2-PFDA



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-8.qld

Last Altered: Monday, July 31, 2017 11:22:46 Pacific Daylight Time
Printed: Monday, July 31, 2017 11:23:09 Pacific Daylight Time

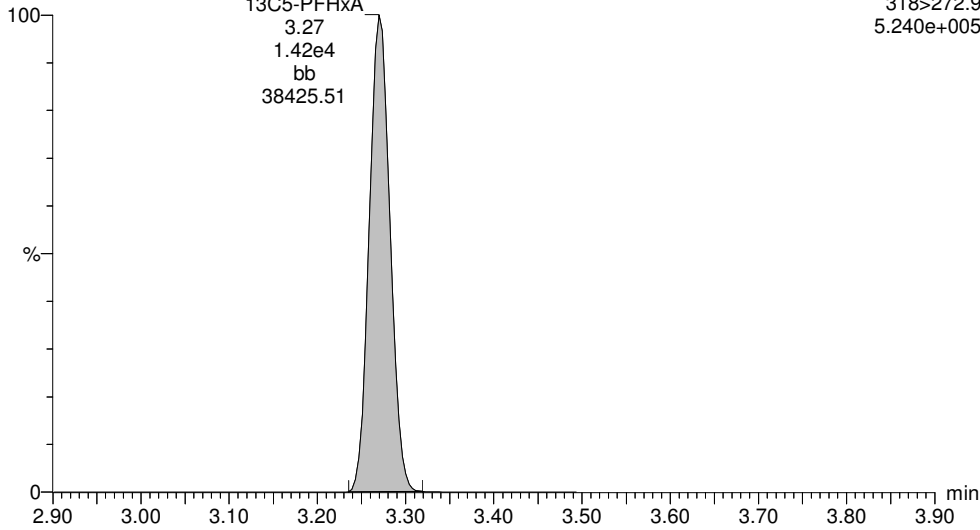
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13C5-PFHxA

170731G2_8

13C5-PFHxA
3.27
1.42e4
bb
38425.51

F3:MRM of 9 channels,ES-
318>272.9
5.240e+005

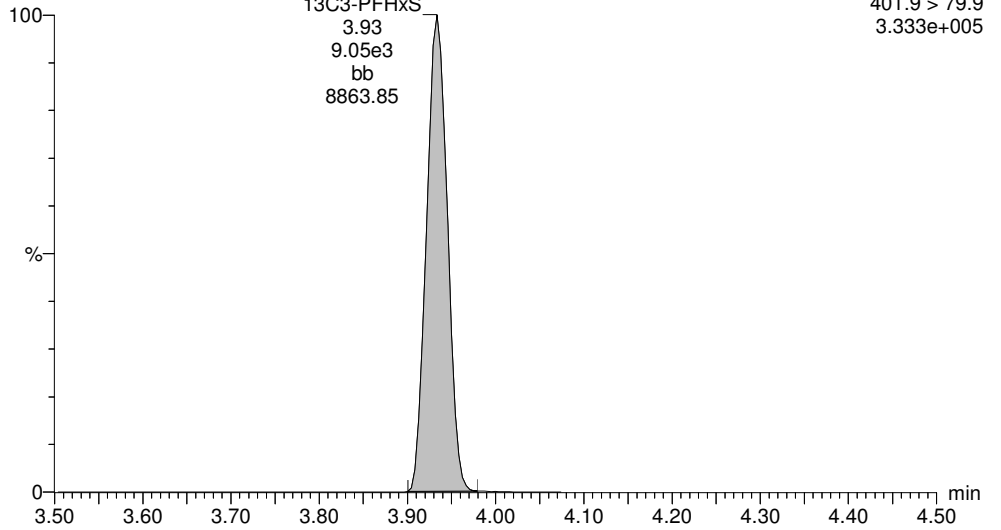


13C3-PFHxS

170731G2_8

13C3-PFHxS
3.93
9.05e3
bb
8863.85

F4:MRM of 7 channels,ES-
401.9 > 79.9
3.333e+005

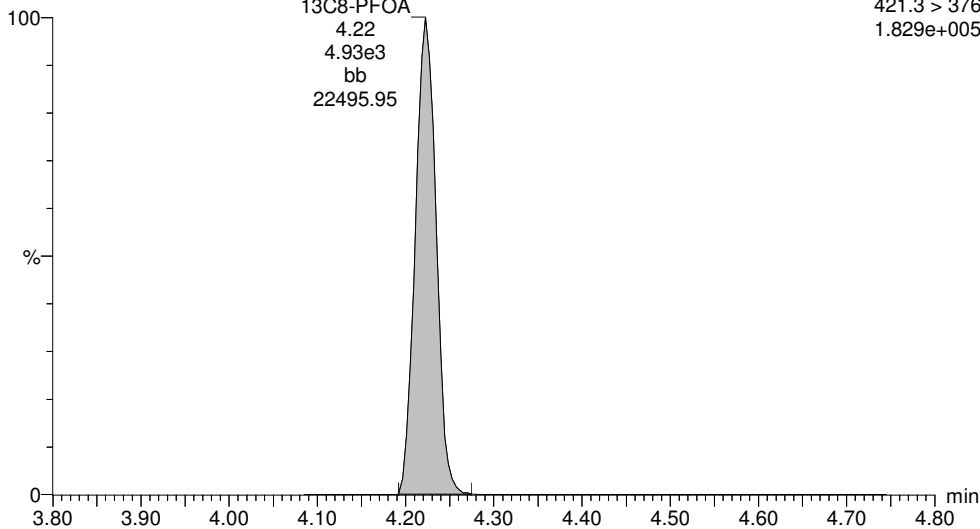


13C8-PFOA

170731G2_8

13C8-PFOA
4.22
4.93e3
bb
22495.95

F5:MRM of 12 channels,ES-
421.3 > 376
1.829e+005

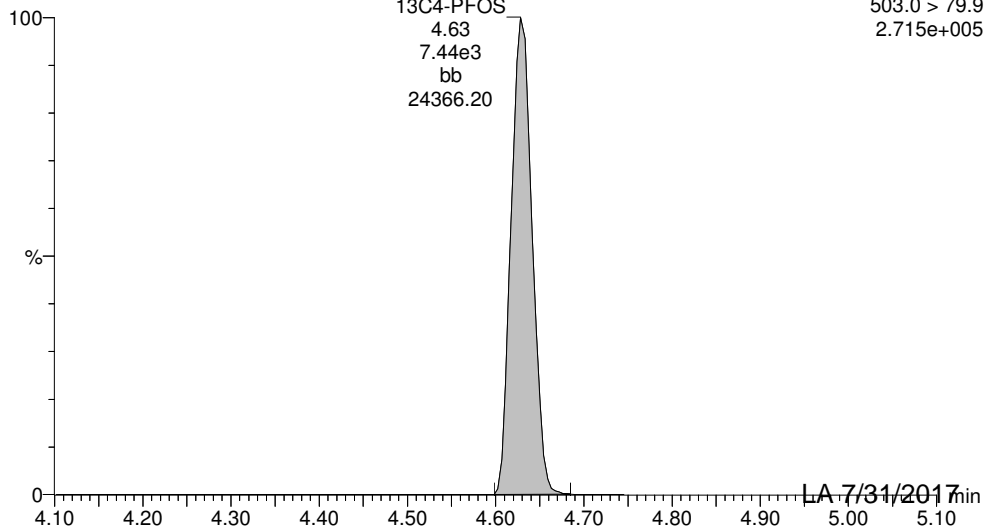


13C4-PFOS

170731G2_8

13C4-PFOS
4.63
7.44e3
bb
24366.20

F5:MRM of 12 channels,ES-
503.0 > 79.9
2.715e+005



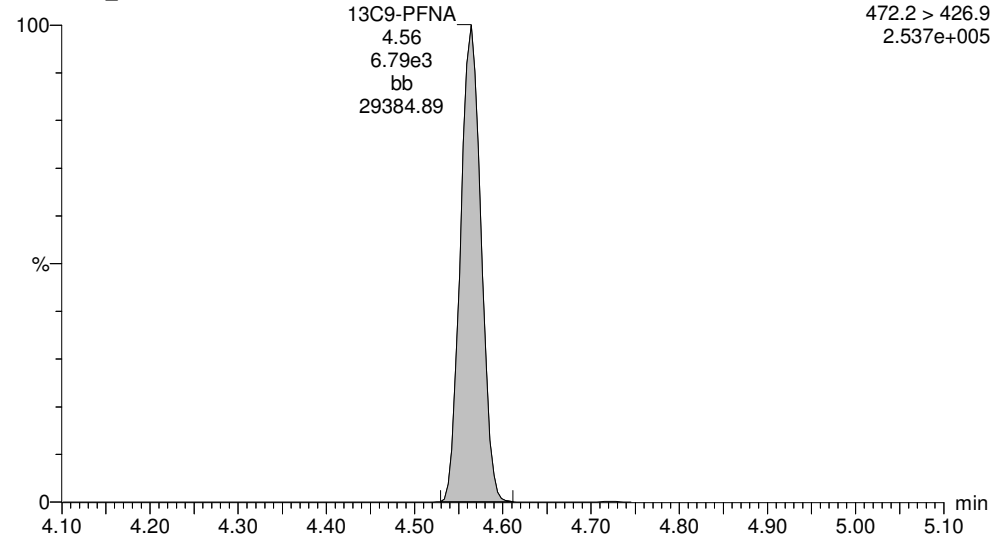
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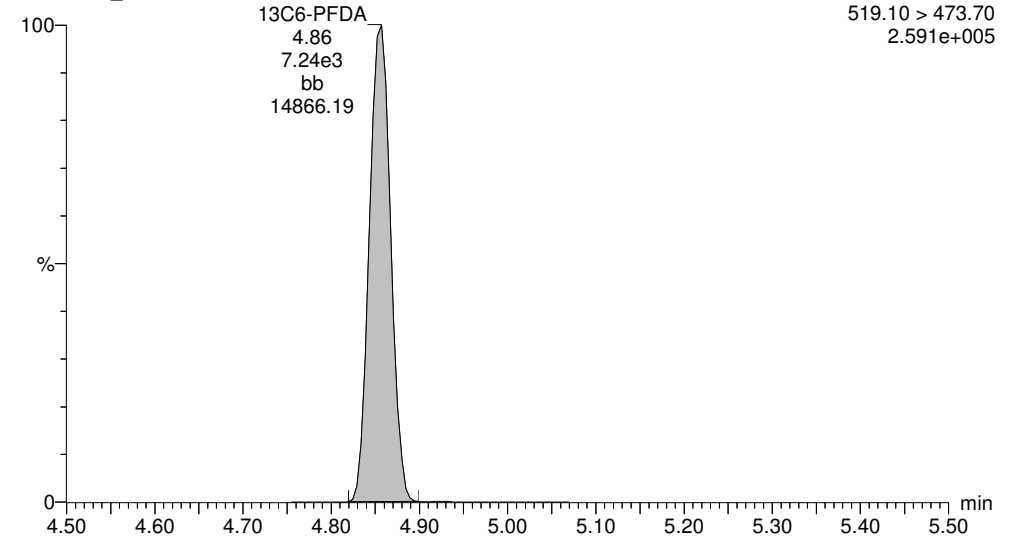
13C9-PFNA

170731G2_8



13C6-PFDA

170731G2_8



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-6.qld

Last Altered: Monday, July 31, 2017 16:24:20 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:26:16 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: B7G0079-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170731G1_6, Date: 31-Jul-2017, Time: 14:54:16

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	2 N-MeFOSAA	570.1 > 419.0		2.887e3		0.125			
2	4 PFUnA	563 > 518.9	2.897e2	1.446e4		0.125	5.12		
3	5 N-EtFOSAA	584.2 > 419.0		3.389e3		0.125			
4	6 PFDoA	612.9 > 318.8		1.771e4		0.125			
5	7 PFTeDA	662.9 > 618.9		0.000e0		0.125			
6	8 PFTeDA	712.9 > 668.8	1.682e2	1.496e4		0.125	5.73		
7	10 d3-N-MeFOSAA	573.3 > 419.0	2.887e3	1.666e4	0.026	0.125	4.99	657	50.5
8	11 13C2-PFUnA	565 > 519.8	1.446e4	1.666e4	1.471	0.125	5.12	59.0	59.0
9	12 d5-N-EtFOSAA	589.3 > 419.0	3.389e3	1.666e4	0.031	0.125	5.11	654	50.3
10	13 13C2-PFDoA	615 > 569.7	1.771e4	1.666e4	1.887	0.125	5.36	56.4	56.4
11	14 13C2-PFTeDA	715 > 669.7	1.496e4	1.666e4	1.990	0.125	5.74	45.1	45.1
12	15 13C7-PFUnA	570.1 > 524.8	1.666e4	1.666e4	1.000	0.125	5.12	100	100
13	16 Total N-MeFOSAA	570.1 > 419.0		2.887e3		0.125			
14	17 Total N-EtFOSAA	584.2 > 419.0		3.389e3		0.125			

H

Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-6.qld

Last Altered: Monday, July 31, 2017 16:24:20 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:26:16 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: B7G0079-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170731G1_6, Date: 31-Jul-2017, Time: 14:54:16

Total N-MeFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total N-EtFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

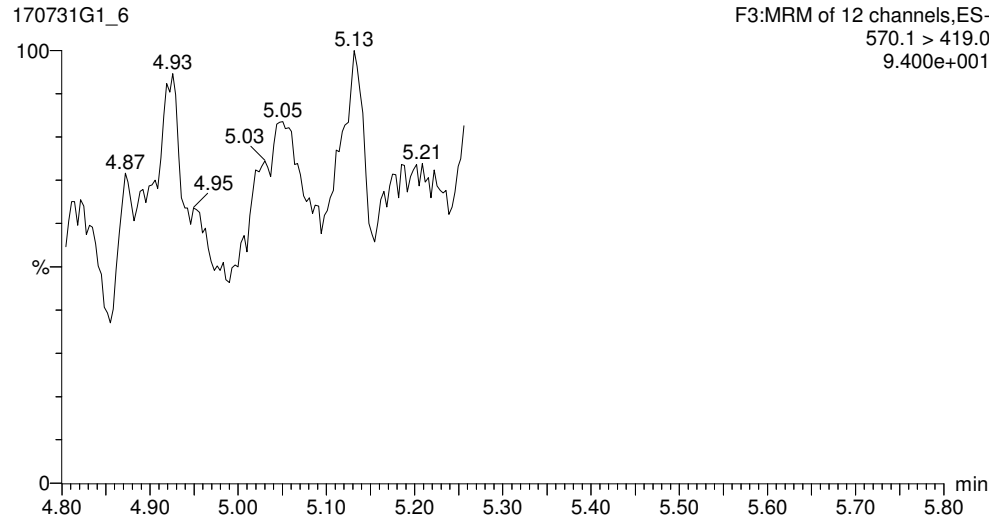
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Printed: Monday, July 31, 2017 16:26:16 Pacific Daylight Time

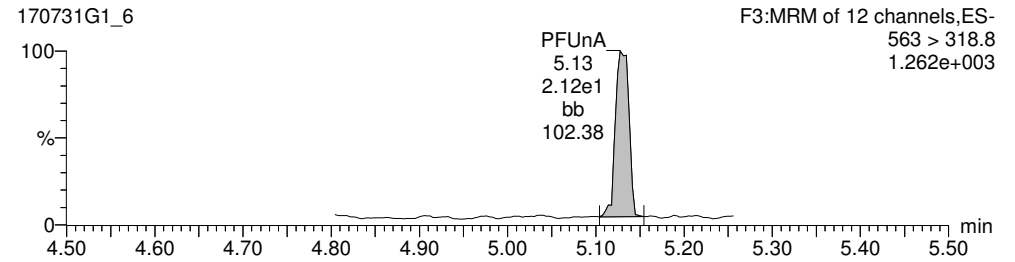
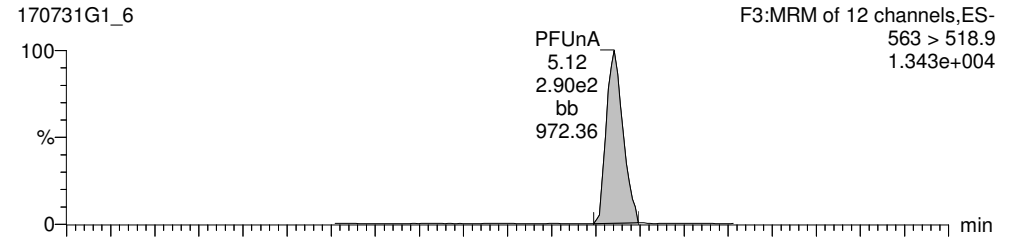
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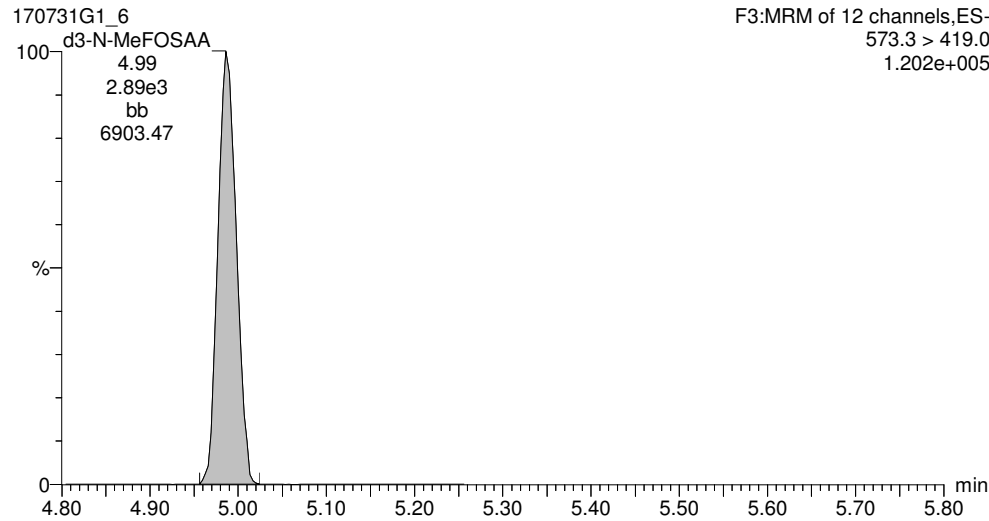
Total N-MeFOSAA



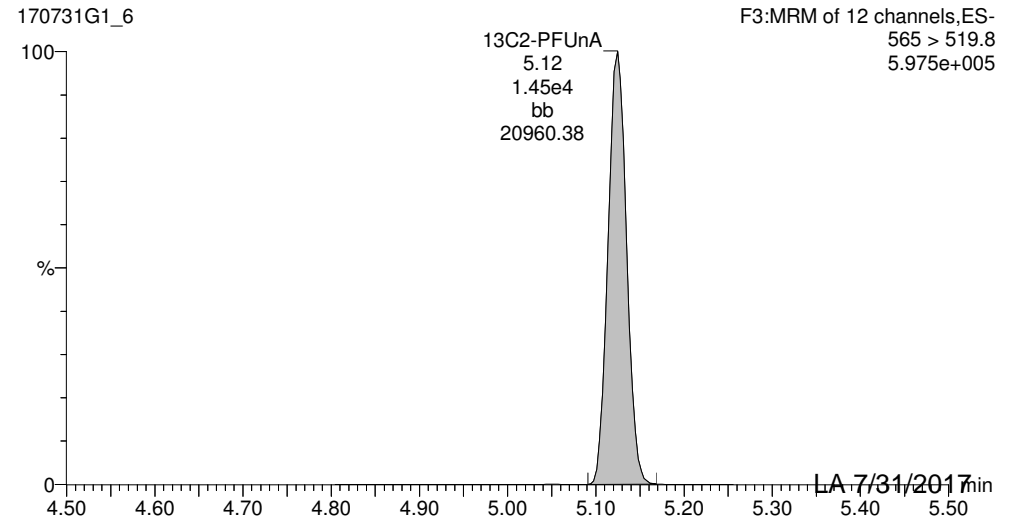
PFUnA



d3-N-MeFOSAA



13C2-PFUnA

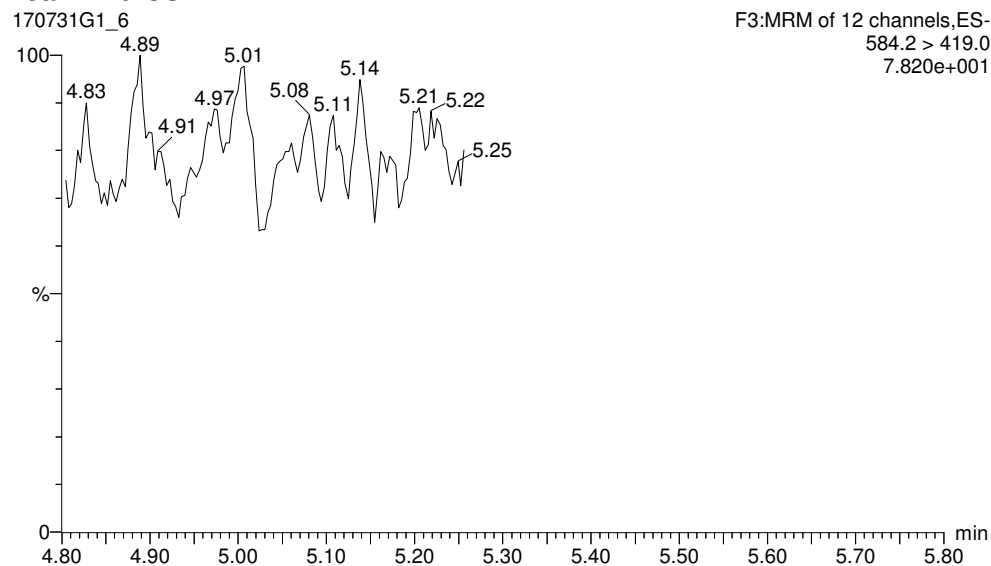


Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-6.qld

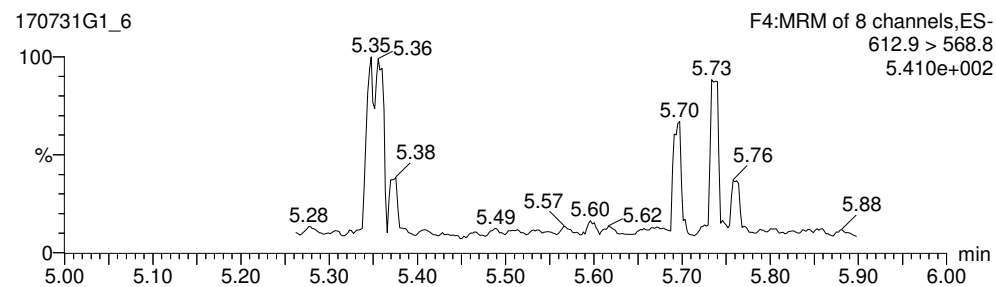
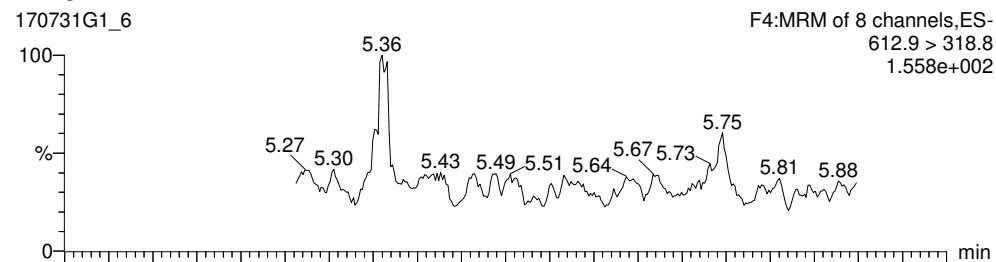
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Printed: Monday, July 31, 2017 16:26:16 Pacific Daylight Time

ID: B7G0079-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170731G1_6, Date: 31-Jul-2017, Time: 14:54:16, Instrument: , Lab: , User:

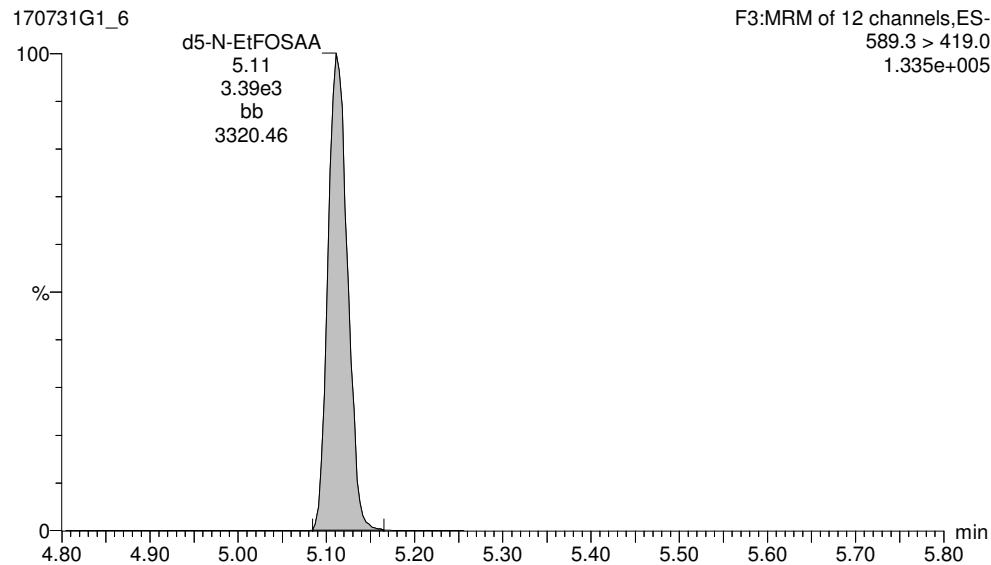
Total N-EtFOSAA



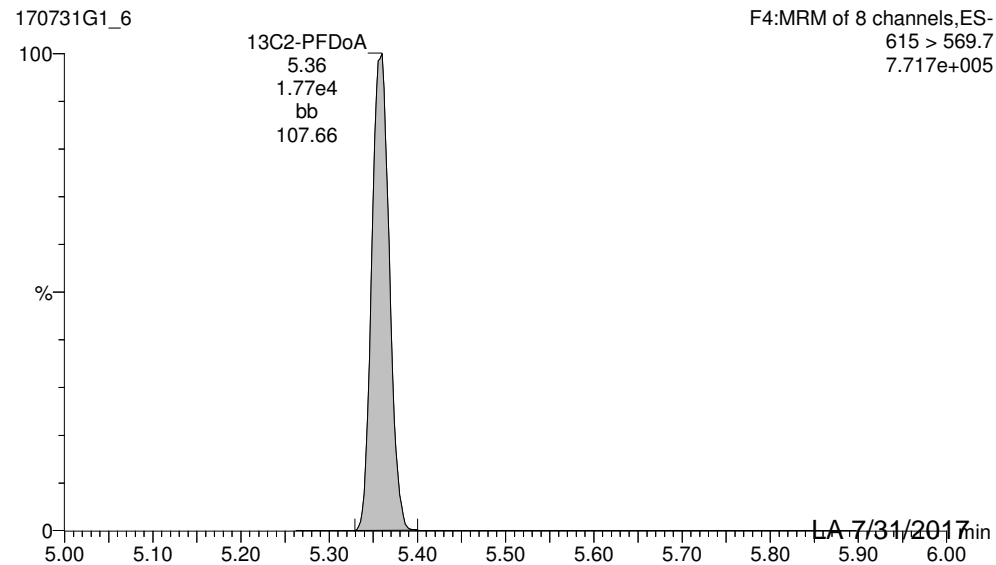
PFDoA



d5-N-EtFOSAA



13C2-PFDoA

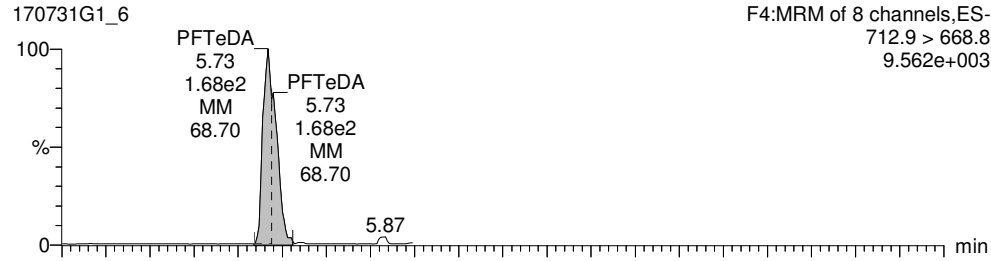


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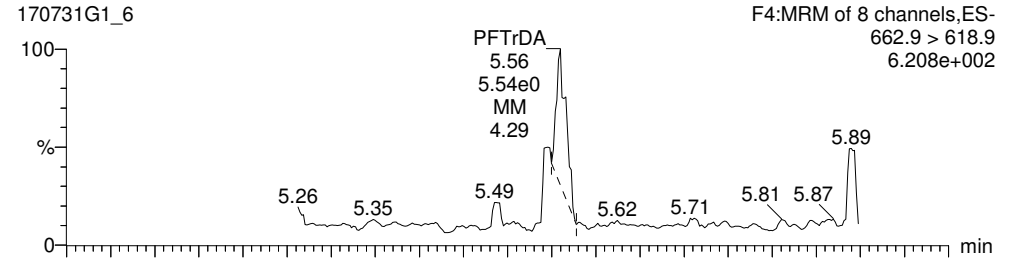
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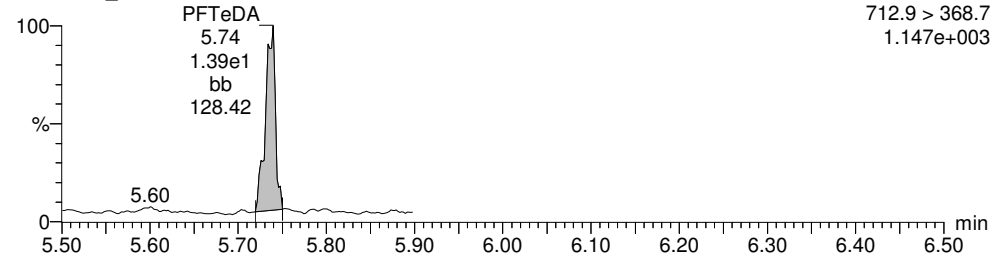
PFTeDA



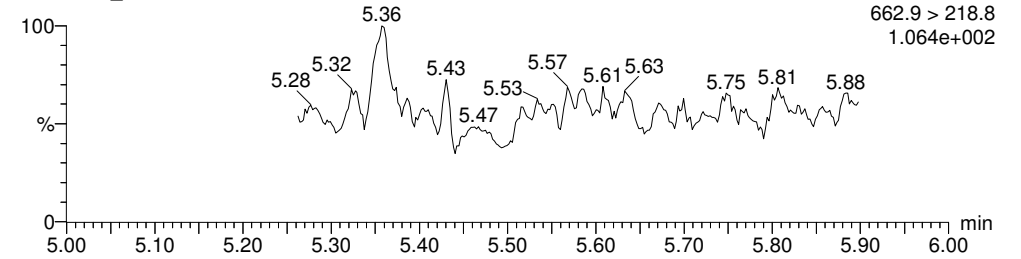
PFTrDA



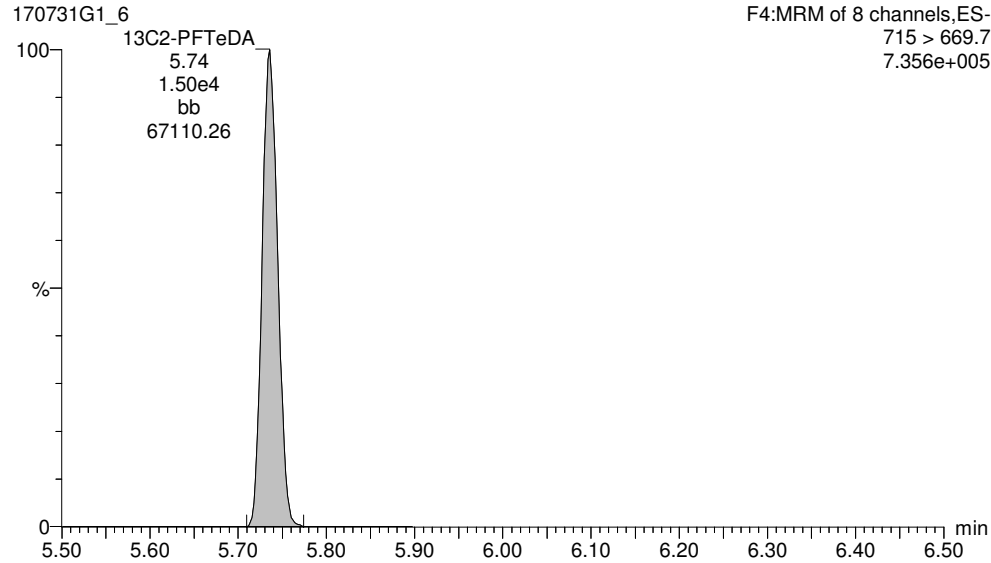
170731G1_6



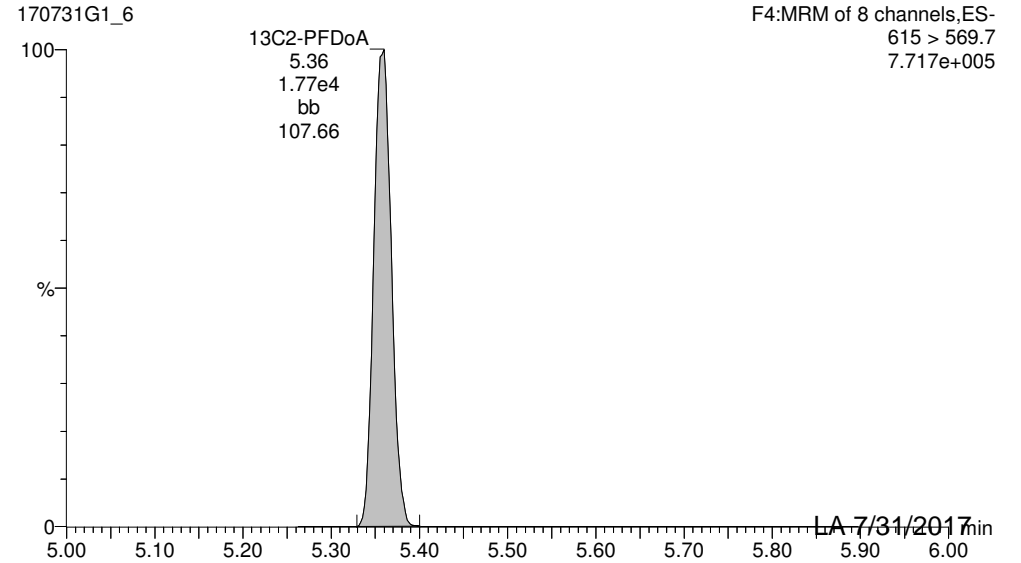
170731G1_6



13C2-PFTeDA



13C2-PFDoA



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-6.qld

Last Altered: Monday, July 31, 2017 16:24:20 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:26:16 Pacific Daylight Time

ID: B7G0079-BLK1 Method Blank 0.125, Description: Method Blank, Name: 170731G1_6, Date: 31-Jul-2017, Time: 14:54:16, Instrument: , Lab: , User:

13C7-PFUnA

170731G1_6

F3:MRM of 12 channels,ES-
570.1 > 524.8
6.770e+005



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-6.qld

Last Altered: Monday, July 31, 2017 11:16:53 Pacific Daylight Time

Printed: Monday, July 31, 2017 11:18:39 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: B7G0079-BS1 OPR 0.125, Description: OPR, Name: 170731G2_6, Date: 31-Jul-2017, Time: 10:37:29

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299.0 > 79.7	5.126e3	4.141e3		0.125	2.89	74.1	92.6
2	4 PFHxA	312.9 > 268.9	8.241e3	4.969e3		0.125	3.27	86.7	108
3	5 PFHpA	363 > 318.9	1.035e4	6.038e3		0.125	3.81	87.0	109
4	6 PFHxS	398.9 > 79.6	4.500e3	3.031e3		0.125	3.93	83.0	104
5	7 PFOA	413.0 > 368.7	8.000e3	1.100e4		0.125	4.23	90.3	113
6	8 PFNA	463.0 > 418.8	8.763e3	4.884e3		0.125	4.56	77.6	97.0
7	9 PFOS	499.0 > 79.9	2.303e3	6.359e3		0.125	4.63	76.5	95.7
8	10 PFDA	512.7 > 219.0	1.413e3	9.155e3		0.125	4.86	77.5	96.9
9	12 13C3-PFBS	302.0 > 98.8	4.141e3	1.473e4	0.263	0.125	2.89	107	107
10	14 13C2-PFHxA	315.0 > 269.8	4.969e3	1.473e4	0.361	0.125	3.27	93.6	93.6
11	15 13C4-PFHpA	367.2 > 321.8	6.038e3	1.473e4	0.475	0.125	3.81	86.2	86.2
12	16 18O2-PFHxS	403 > 102.6	3.031e3	8.357e3	0.411	0.125	3.93	88.3	88.3
13	17 13C2-PFOA	414.9 > 369.7	1.100e4	4.279e3	2.843	0.125	4.22	90.4	90.4
14	18 13C5-PFNA	468.2 > 422.9	4.884e3	6.276e3	0.854	0.125	4.56	91.2	91.2
15	19 13C2-PFDA	514.8 > 469.7	9.155e3	6.876e3	1.742	0.125	4.86	76.4	76.4
16	20 13C8-PFOS	507.0 > 79.9	6.359e3	7.385e3	0.927	0.125	4.63	92.9	92.9
17	22 13C5-PFHxA	318 > 272.9	1.473e4	1.473e4	1.000	0.125	3.27	100	100
18	23 13C3-PFHxS	401.9 > 79.9	8.357e3	8.357e3	1.000	0.125	3.93	100	100
19	24 13C8-PFOA	421.3 > 376	4.279e3	4.279e3	1.000	0.125	4.22	100	100
20	25 13C9-PFNA	472.2 > 426.9	6.276e3	6.276e3	1.000	0.125	4.56	100	100
21	26 13C4-PFOS	503.0 > 79.9	7.385e3	7.385e3	1.000	0.125	4.63	100	100
22	27 13C6-PFDA	519.10 > 473.70	6.876e3	6.876e3	1.000	0.125	4.86	100	100
23	28 Total PFBS	299.0 > 79.7		4.141e3		0.125		74.1	
24	29 Total PFHxS	398.9 > 79.6		3.031e3		0.125		83.0	
25	30 Total PFOA	413.0 > 368.7		1.100e4		0.125		90.3	
26	31 Total PFOS	499.0 > 79.9		6.359e3		0.125		76.5	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-6.qld

Last Altered: Monday, July 31, 2017 11:16:53 Pacific Daylight Time

Printed: Monday, July 31, 2017 11:18:39 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: B7G0079-BS1 OPR 0.125, Description: OPR, Name: 170731G2_6, Date: 31-Jul-2017, Time: 10:37:29

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFBS	299.0 > 79.7	2.89	5126.127	4140.785	74.1

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	6 PFHxS	398.9 > 79.6	3.93	4500.121	3030.833	83.0

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	7 PFOA	413.0 > 368.7	4.23	8000.339	10997.512	90.3

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	9 PFOS	499.0 > 79.9	4.63	2302.586	6359.301	76.5

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-6.qld

Last Altered: Monday, July 31, 2017 11:16:53 Pacific Daylight Time

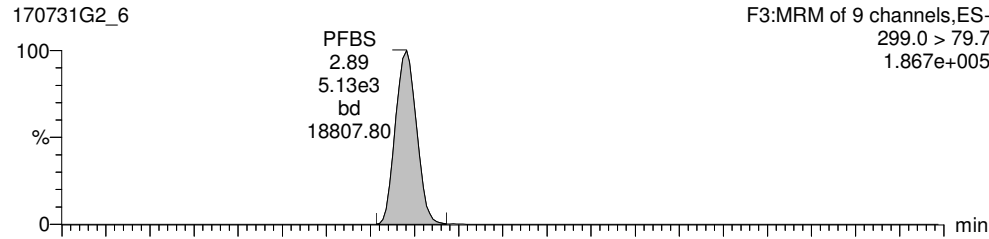
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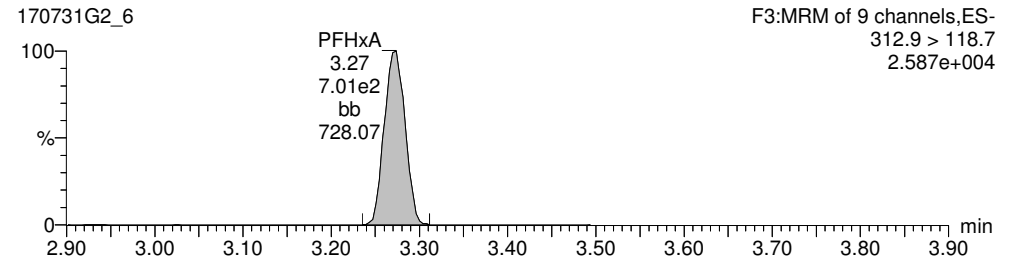
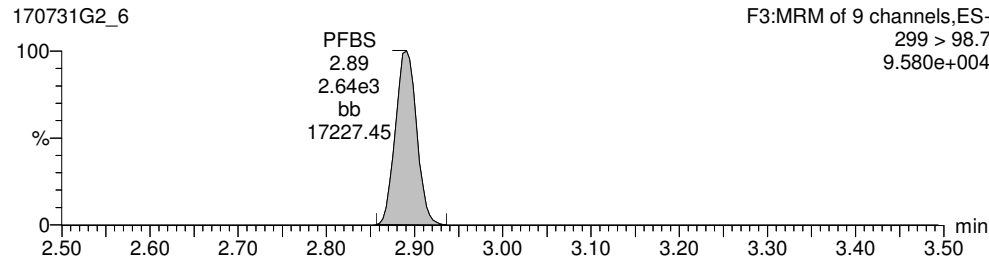
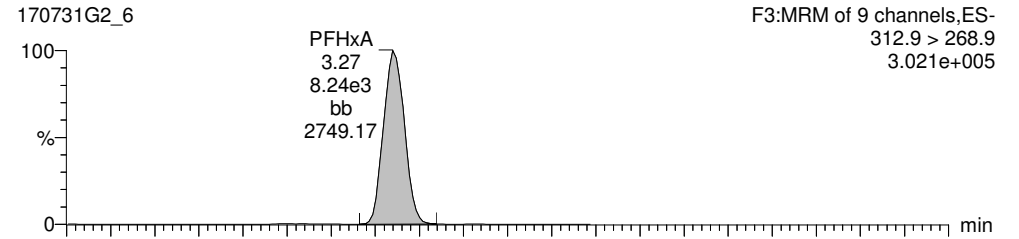
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ID: B7G0079-BS1 OPR 0.125, Description: OPR, Name: 170731G2_6, Date: 31-Jul-2017, Time: 10:37:29, Instrument: , Lab: , User:

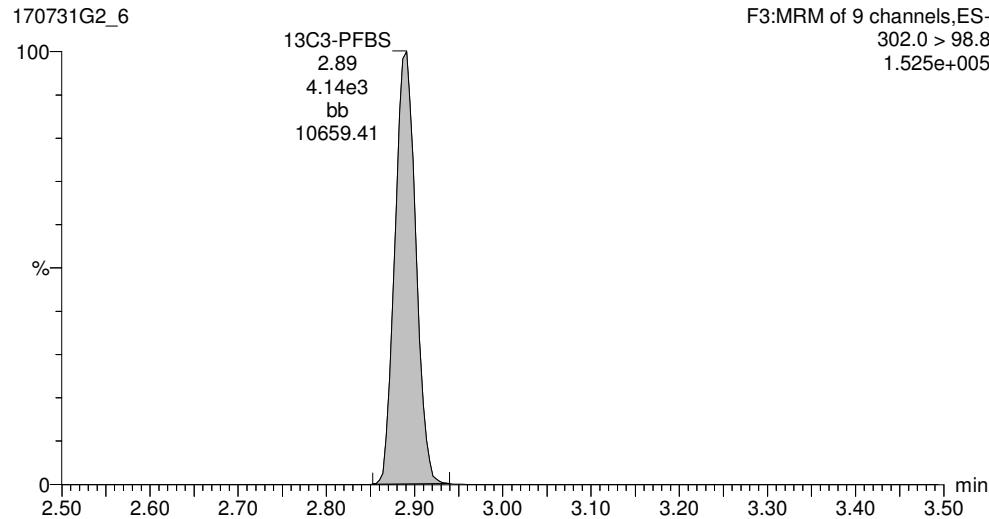
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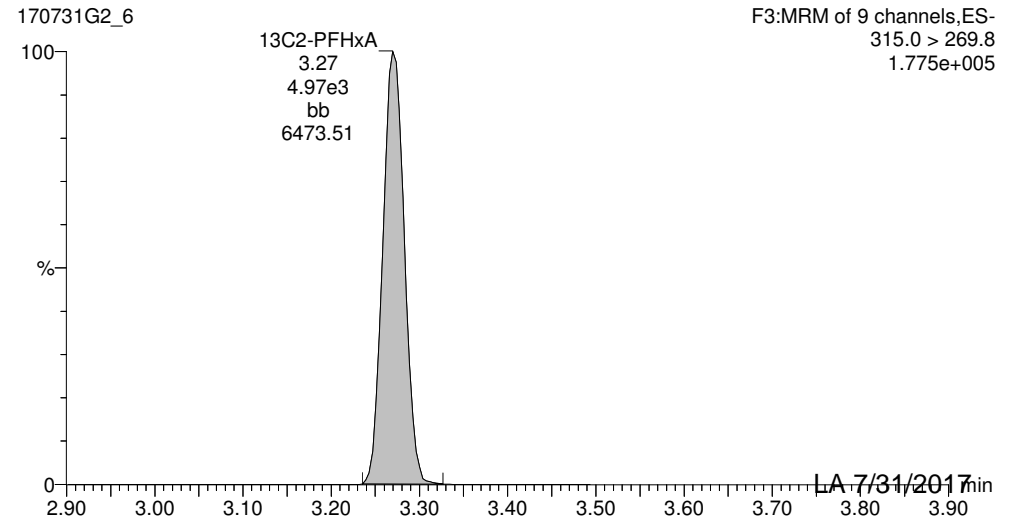
PFHxA



13C3-PFBS



13C2-PFHxA



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-6.qld

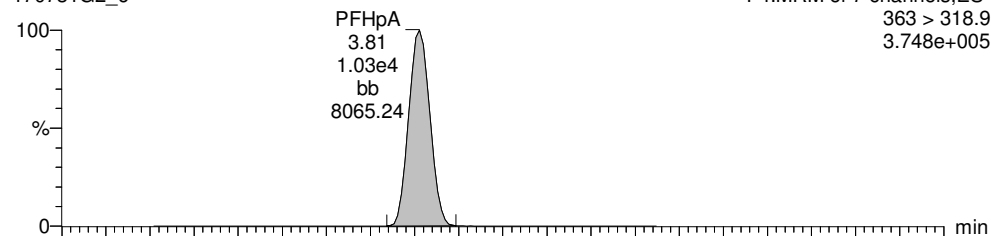
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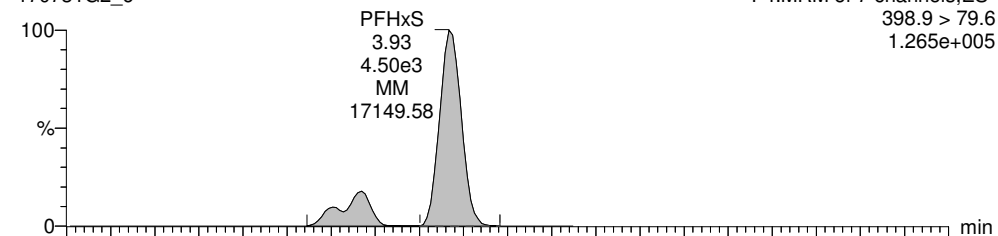
PFHpA

170731G2_6

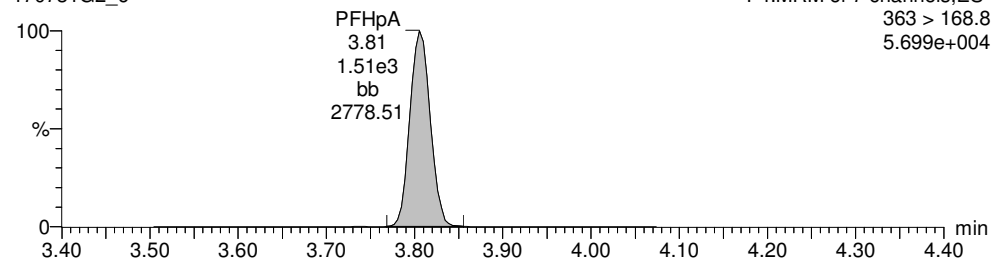


Total PFHxS

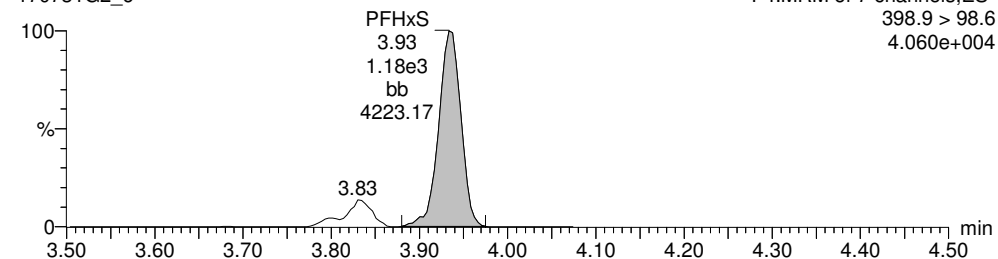
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170731G2_6

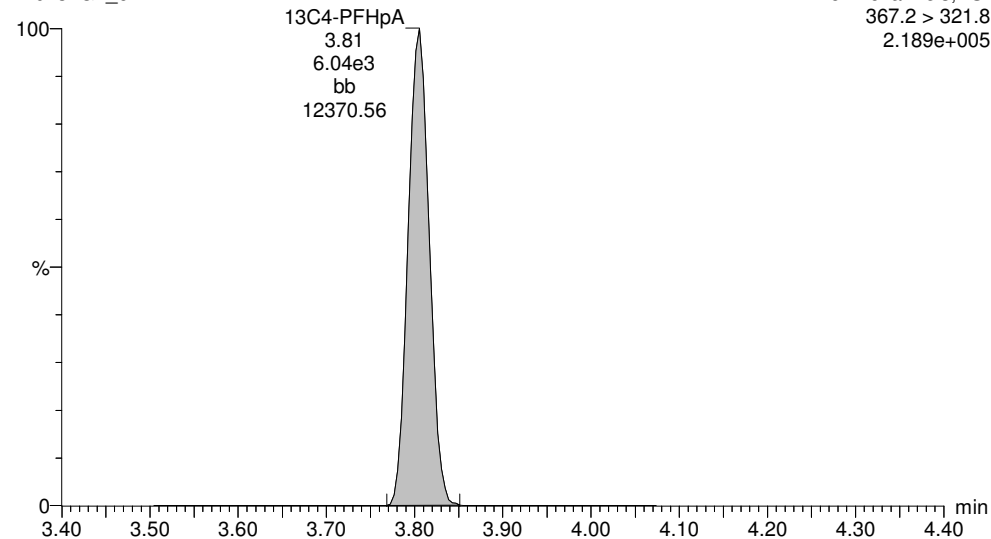


170731G2_6



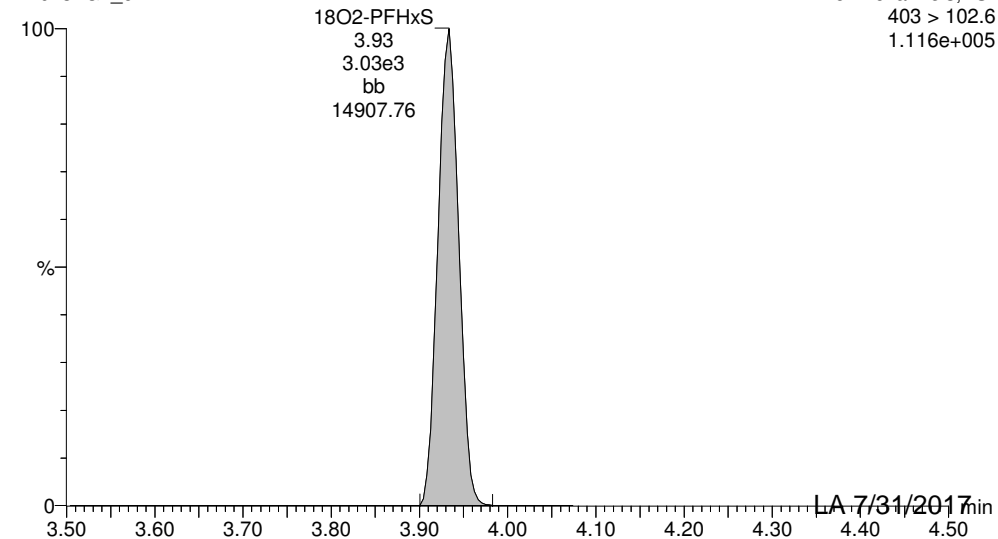
13C4-PFHpA

170731G2_6



18O2-PFHxS

170731G2_6



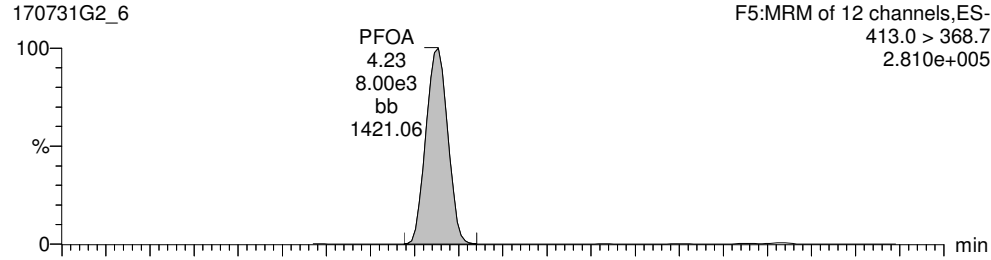
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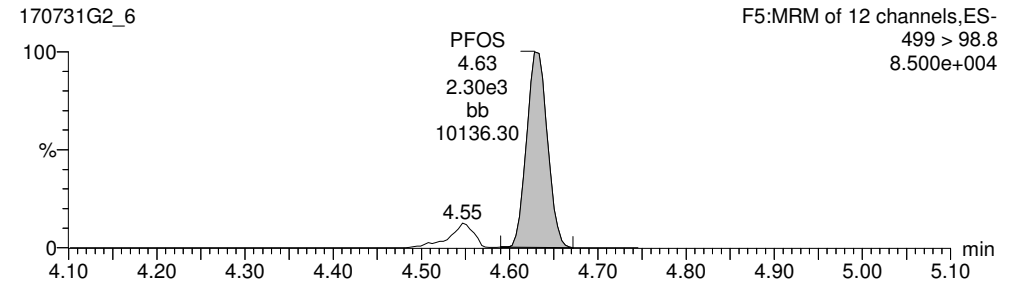
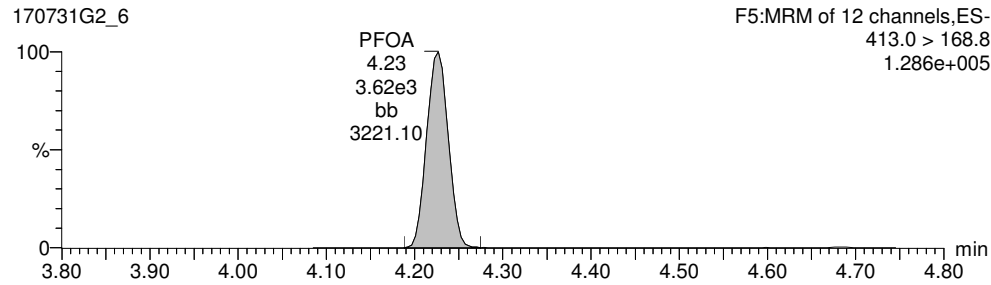
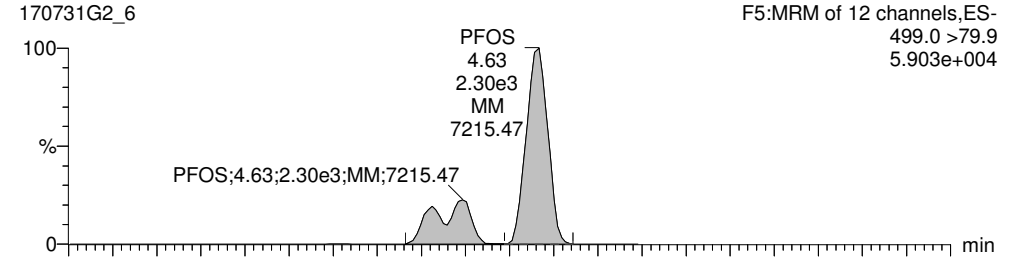
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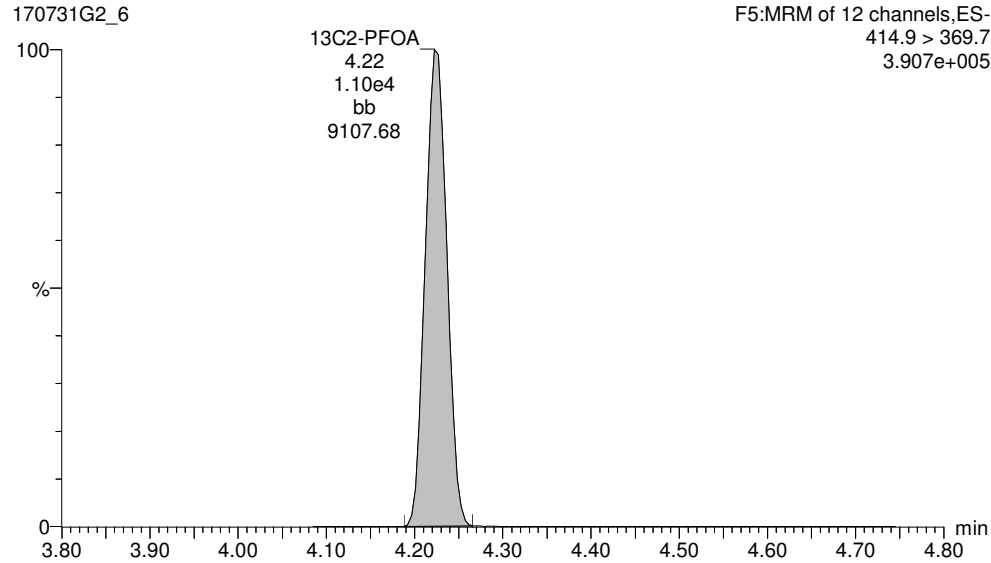
Total PFOA



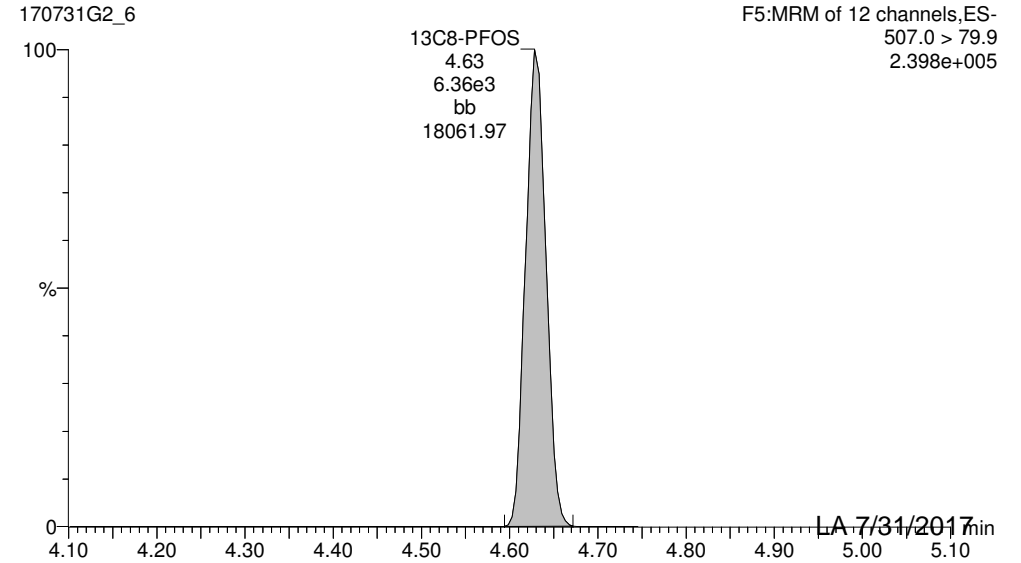
Total PFOS



13C2-PFOA



13C8-PFOS



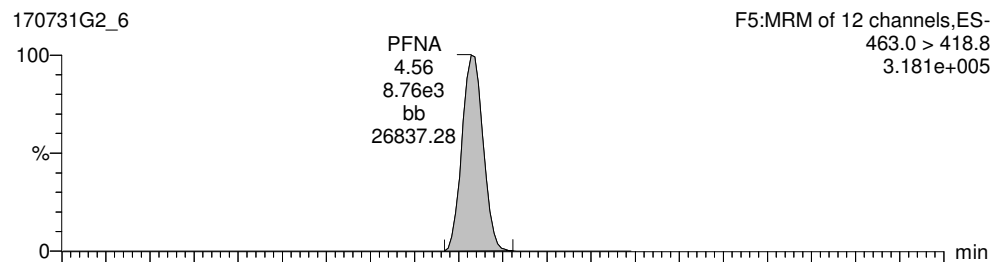
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Last Altered: Monday, July 31, 2017 11:16:53 Pacific Daylight Time

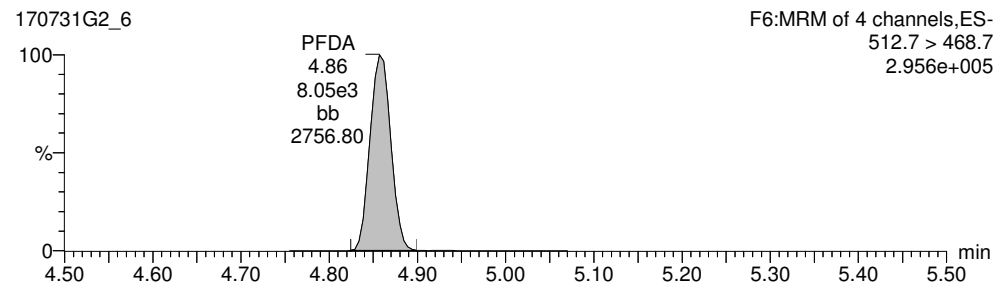
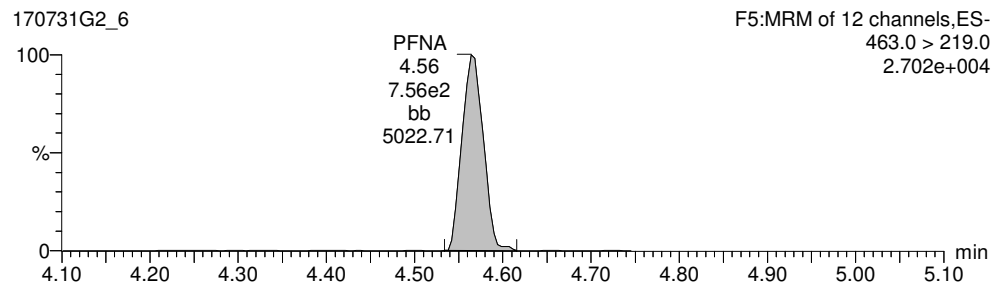
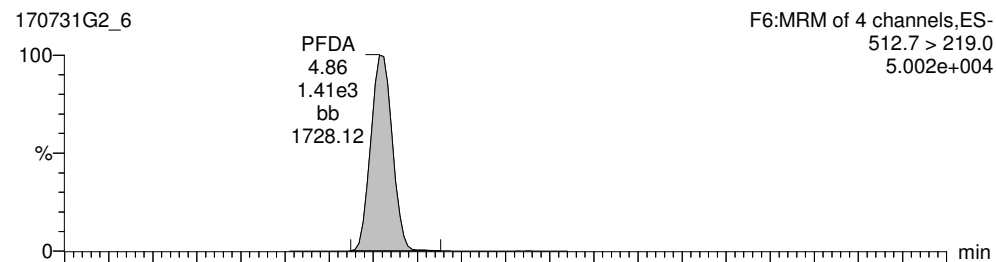
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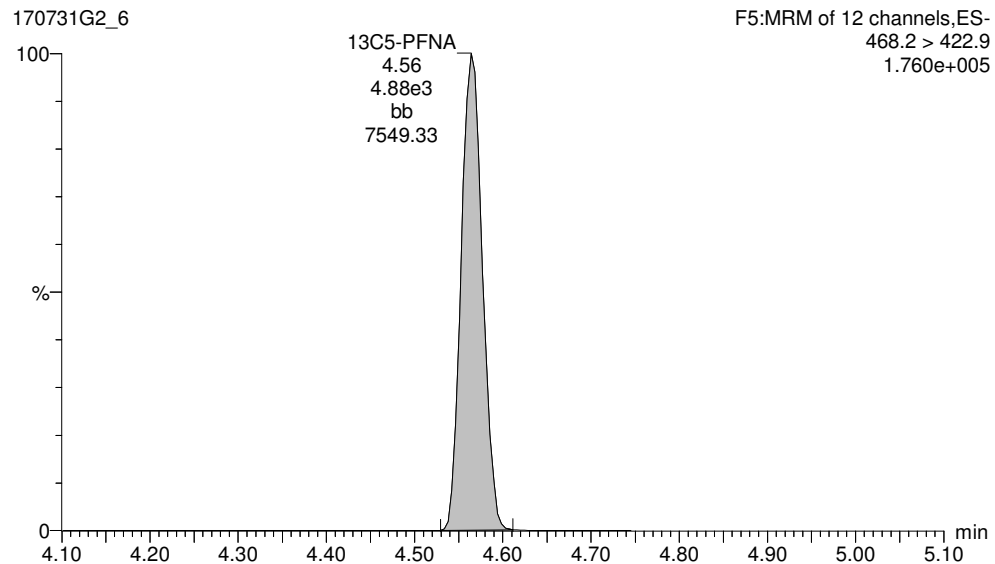
PFNA



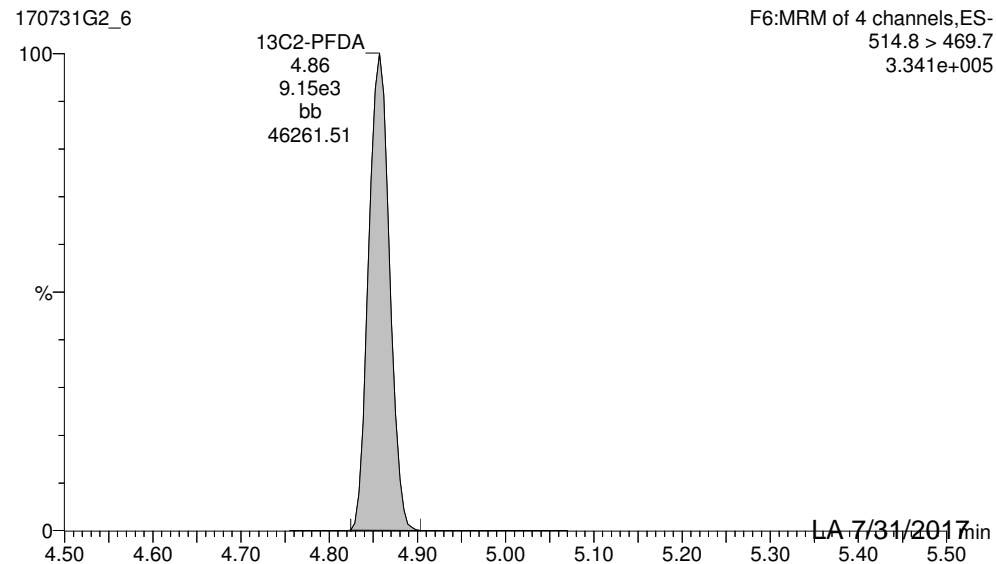
PFDA



13C5-PFNA



13C2-PFDA



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-6.qld

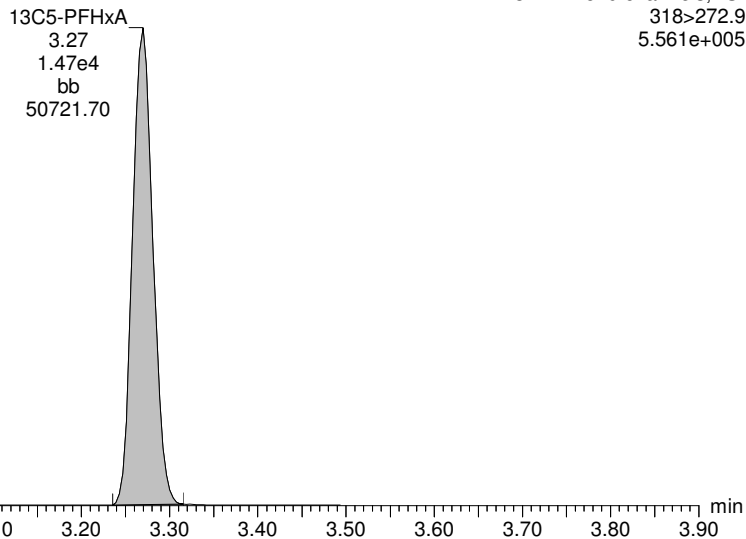
Last Altered: Monday, July 31, 2017 11:16:53 Pacific Daylight Time

Printed: Monday, July 31, 2017 11:18:39 Pacific Daylight Time

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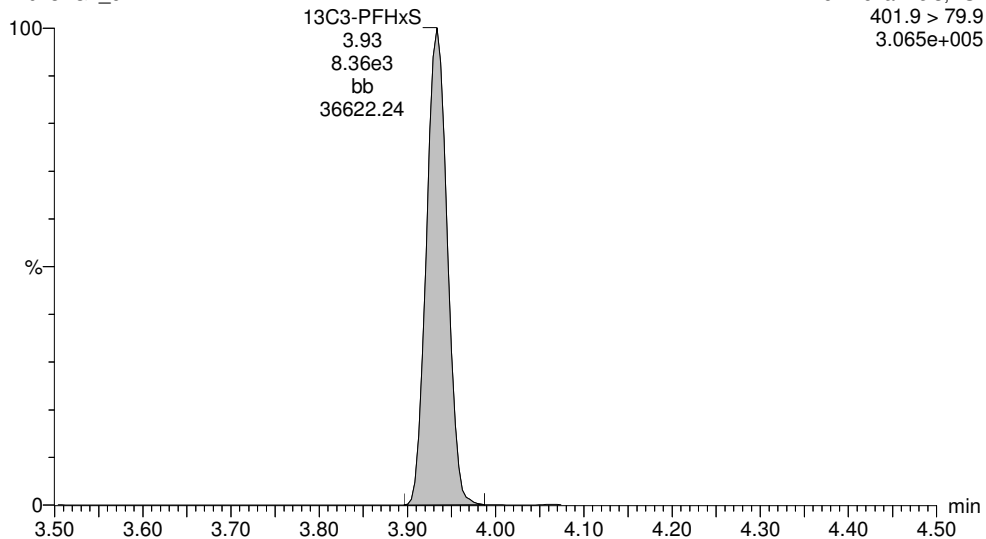
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170731G2_6



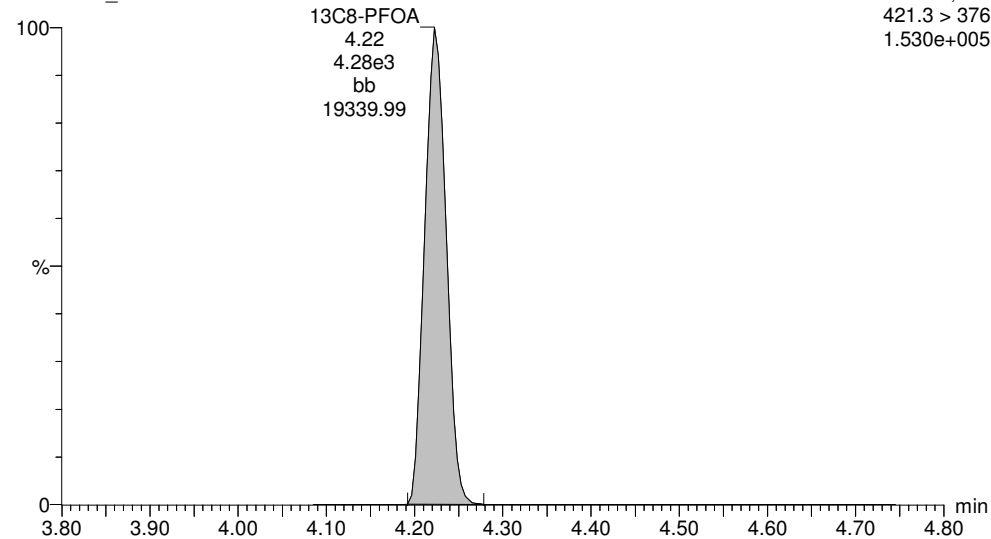
13C3-PFHxS

170731G2_6



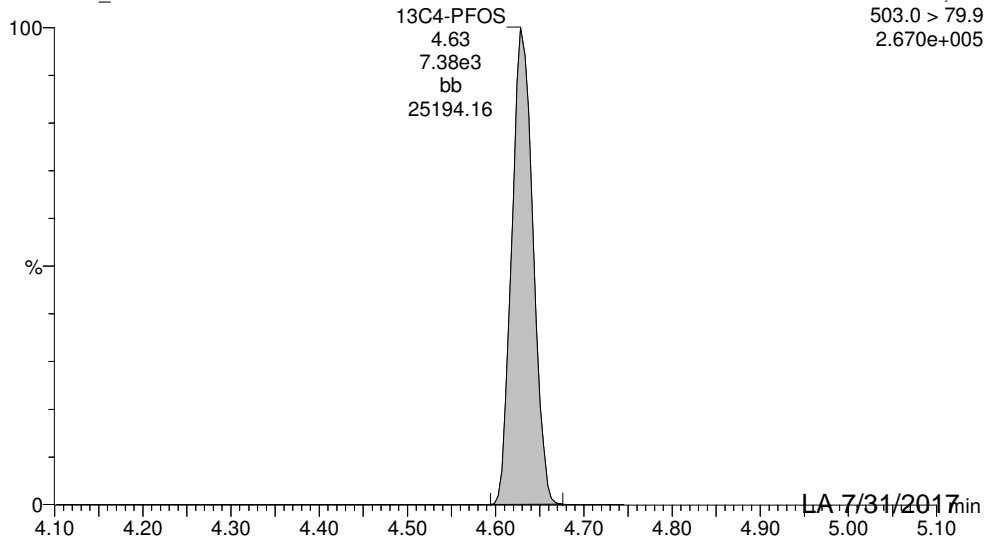
13C8-PFOA

170731G2_6



13C4-PFOS

170731G2_6



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-6.qld

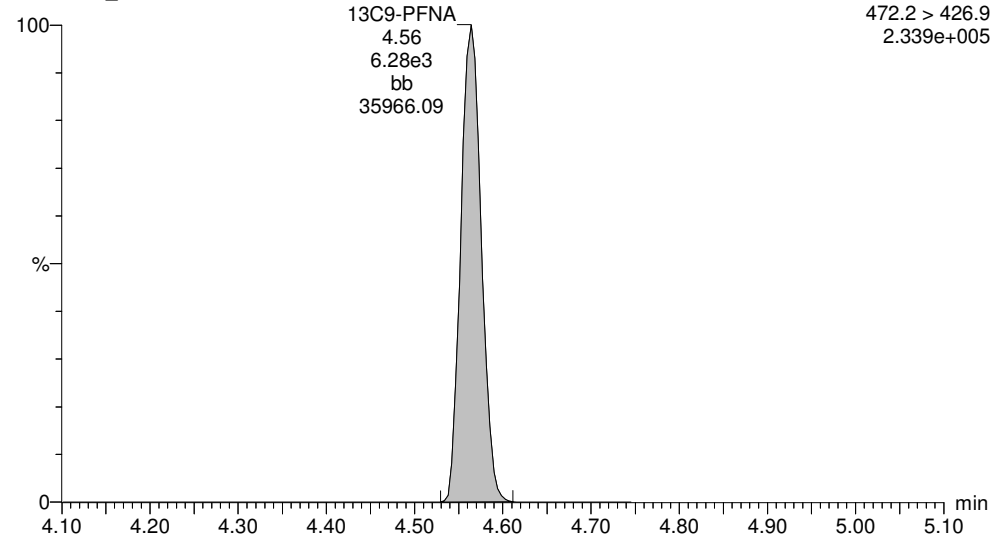
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Printed: Monday, July 31, 2017 11:18:39 Pacific Daylight Time

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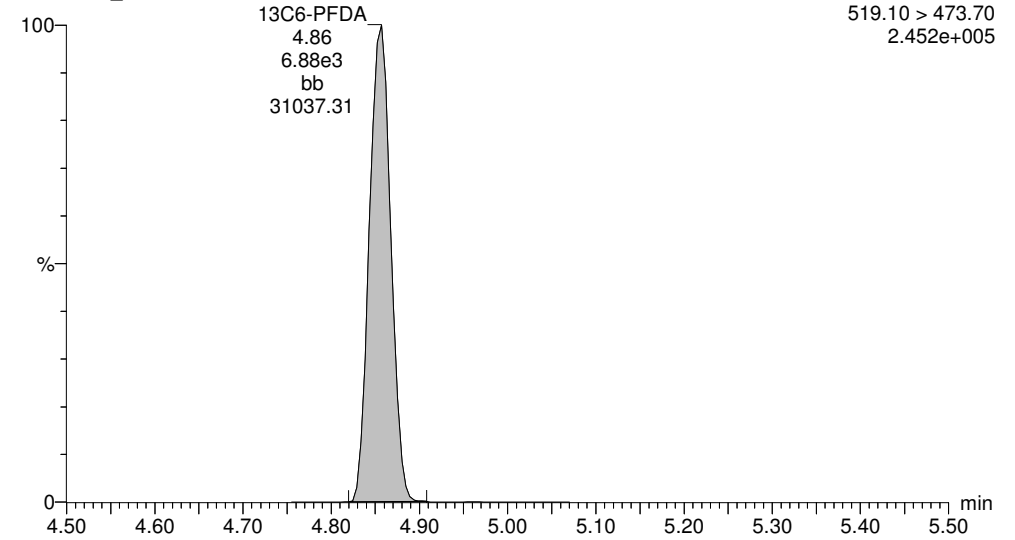
13C9-PFNA

170731G2_6



13C6-PFDA

170731G2_6



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-4.qld

Last Altered: Monday, July 31, 2017 14:58:08 Pacific Daylight Time

Printed: Monday, July 31, 2017 14:59:31 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: B7G0079-BS1 OPR 0.125, Description: OPR, Name: 170731G1_4, Date: 31-Jul-2017, Time: 14:11:43

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	2 N-MeFOSAA	570.1 > 419.0	4.623e3	2.203e3		0.125	4.99	94.5	118
2	4 PFUnA	563 > 518.9	9.547e3	1.118e4		0.125	5.12	87.6	110
3	5 N-EtFOSAA	584.2 > 419.0	3.102e3	2.829e3		0.125	5.11	82.3	103
4	6 PFDoA	612.9 > 318.8	1.305e3	1.345e4		0.125	5.36	79.7	99.7
5	7 PFTrDA	662.9 > 618.9	1.019e4	0.000e0		0.125	5.56	75.3	94.1
6	8 PFTeDA	712.9 > 668.8	7.787e3	8.910e3		0.125	5.73	95.3	119
7	10 d3-N-MeFOSAA	573.3 > 419.0	2.203e3	1.234e4	0.026	0.125	4.98	677	52.0
8	11 13C2-PFUnA	565 > 519.8	1.118e4	1.234e4	1.471	0.125	5.12	61.6	61.6
9	12 d5-N-EtFOSAA	589.3 > 419.0	2.829e3	1.234e4	0.031	0.125	5.11	737	56.7
10	13 13C2-PFDoA	615 > 569.7	1.345e4	1.234e4	1.887	0.125	5.35	57.7	57.7
11	14 13C2-PFTeDA	715 > 669.7	8.910e3	1.234e4	1.990	0.125	5.73	36.3	36.3 ^H
12	15 13C7-PFUnA	570.1 > 524.8	1.234e4	1.234e4	1.000	0.125	5.11	100	100
13	16 Total N-MeFOSAA	570.1 > 419.0		2.203e3		0.125		94.5	
14	17 Total N-EtFOSAA	584.2 > 419.0		2.829e3		0.125		82.3	

Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-4.qld

Last Altered: Monday, July 31, 2017 14:58:08 Pacific Daylight Time

Printed: Monday, July 31, 2017 14:59:31 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: B7G0079-BS1 OPR 0.125, Description: OPR, Name: 170731G1_4, Date: 31-Jul-2017, Time: 14:11:43

Total N-MeFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1	2 N-MeFOSAA	570.1 > 419.0	4.99	4622.846	2202.750	94.5

Total N-EtFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1	5 N-EtFOSAA	584.2 > 419.0	5.11	3102.213	2829.002	82.3

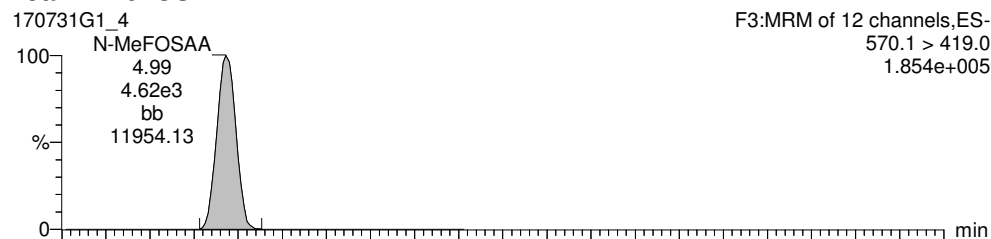
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Last Altered: Monday, July 31, 2017 14:58:08 Pacific Daylight Time
Printed: Monday, July 31, 2017 14:59:31 Pacific Daylight Time

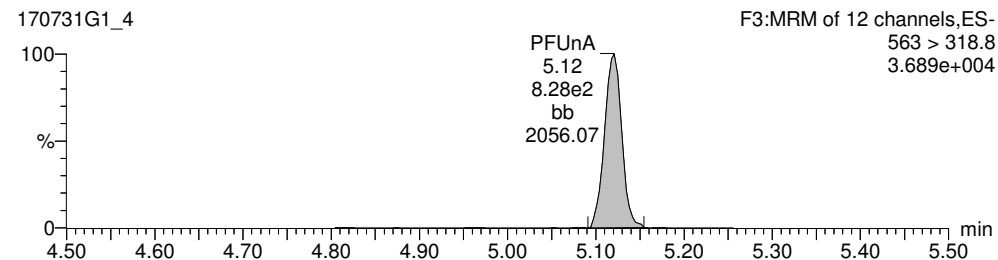
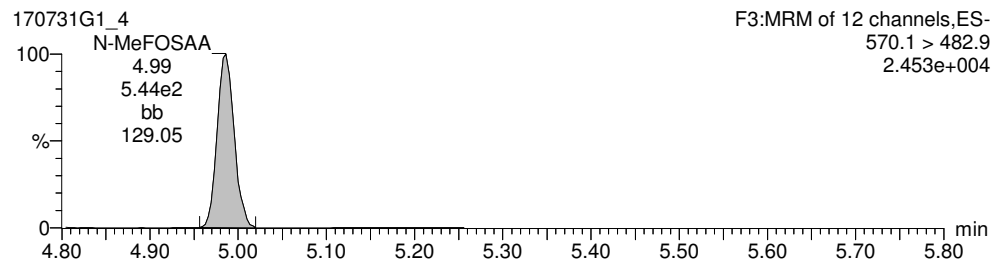
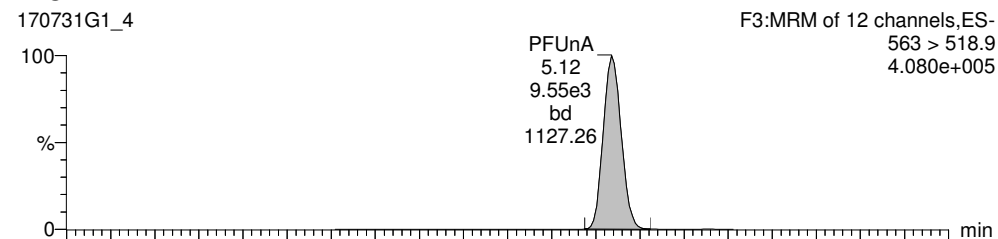
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Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: B7G0079-BS1 OPR 0.125, Description: OPR, Name: 170731G1_4, Date: 31-Jul-2017, Time: 14:11:43, Instrument: , Lab: , User:

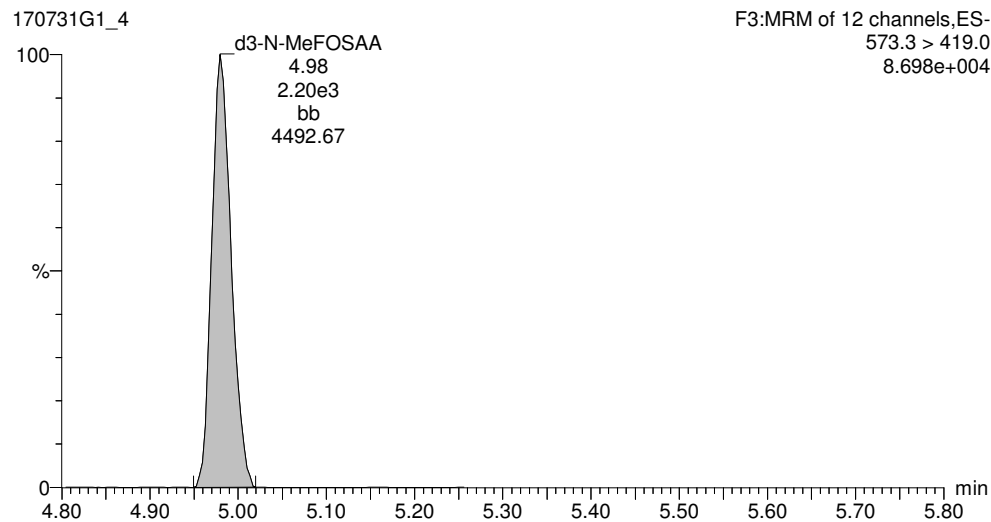
Total N-MeFOSAA



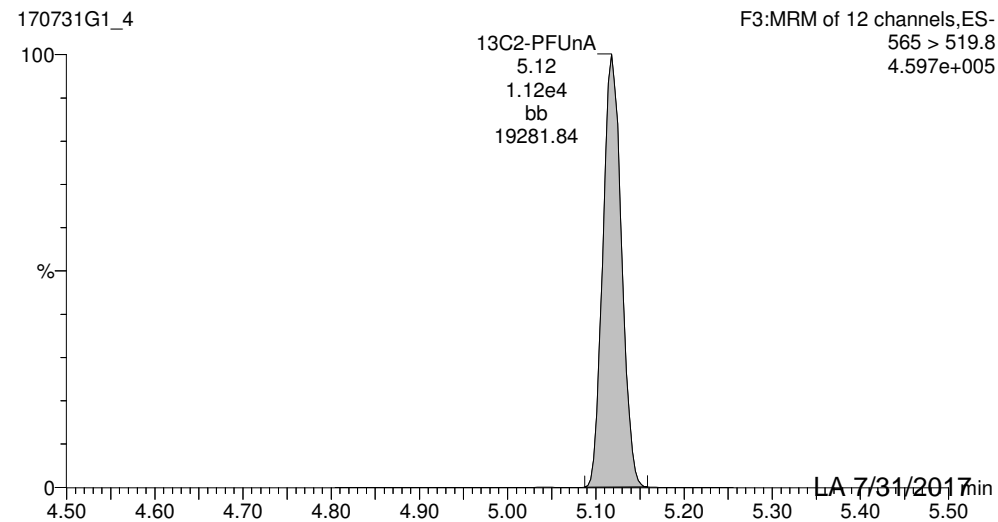
PFUa



d3-N-MeFOSAA



13C2-PFUa

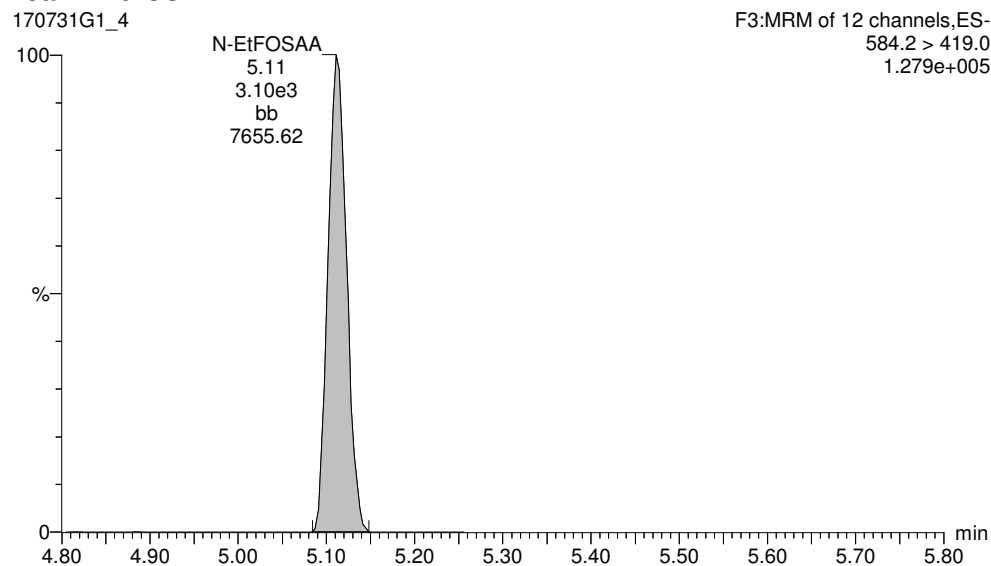


Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-4.qld

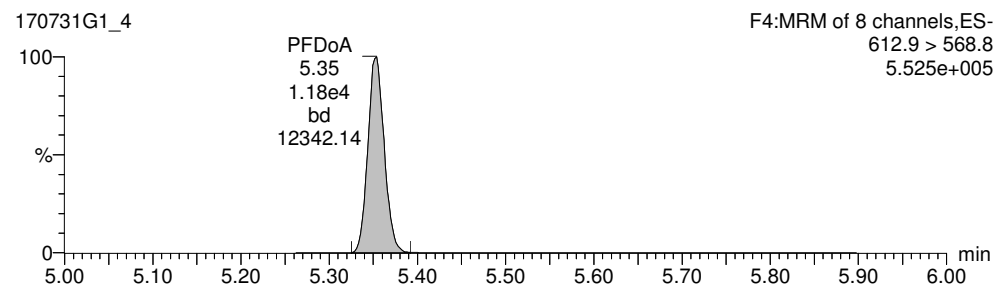
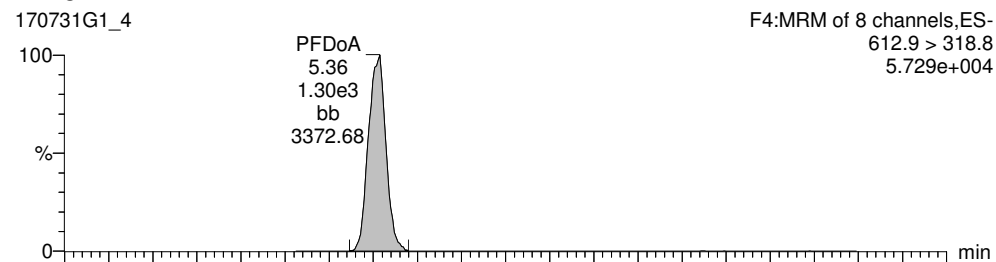
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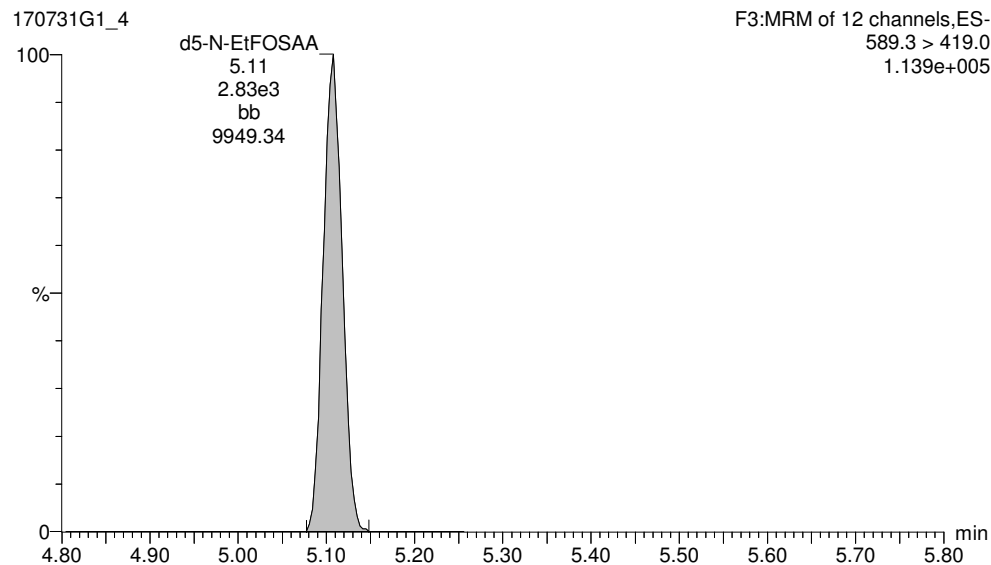
Total N-EtFOSAA



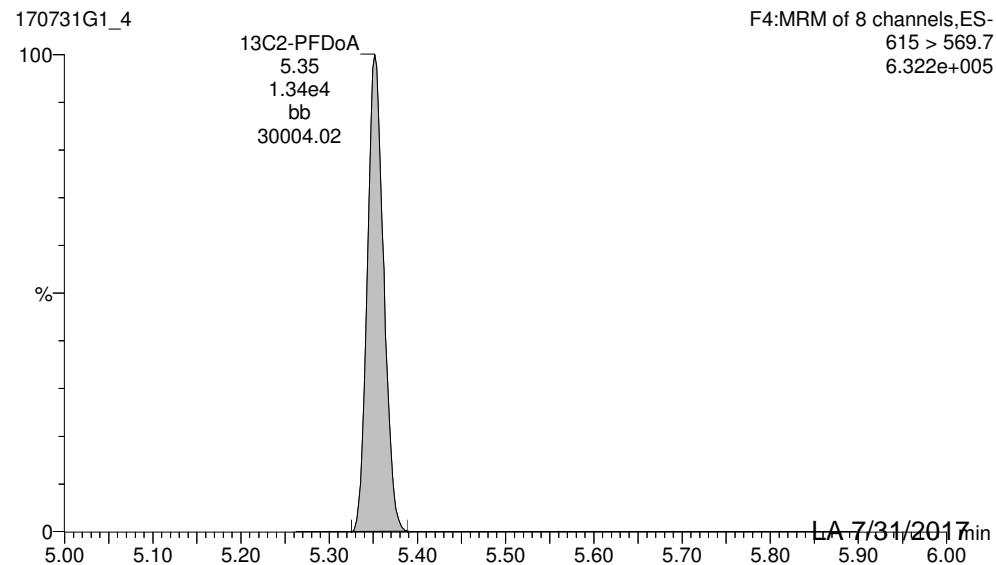
PFDoA



d5-N-EtFOSAA



13C2-PFDoA

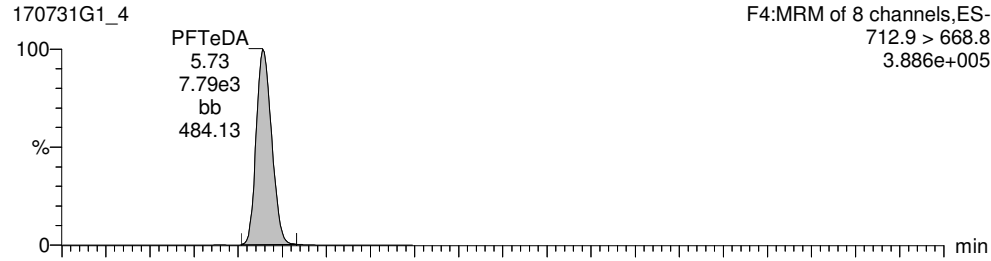


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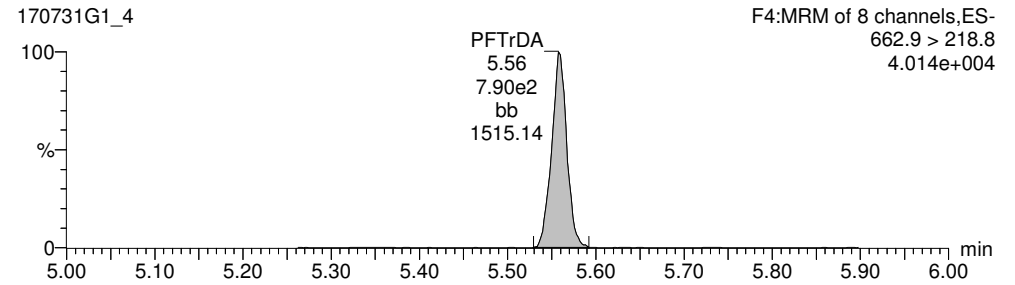
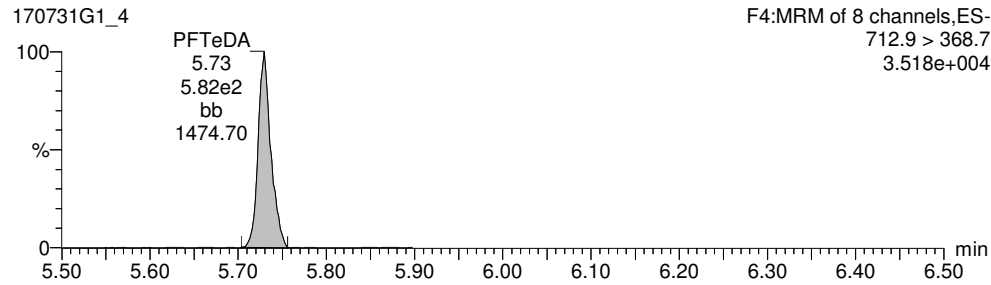
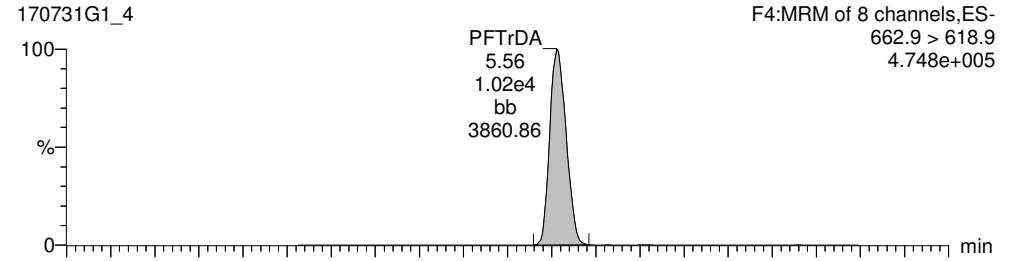
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Printed: Monday, July 31, 2017 14:59:31 Pacific Daylight Time

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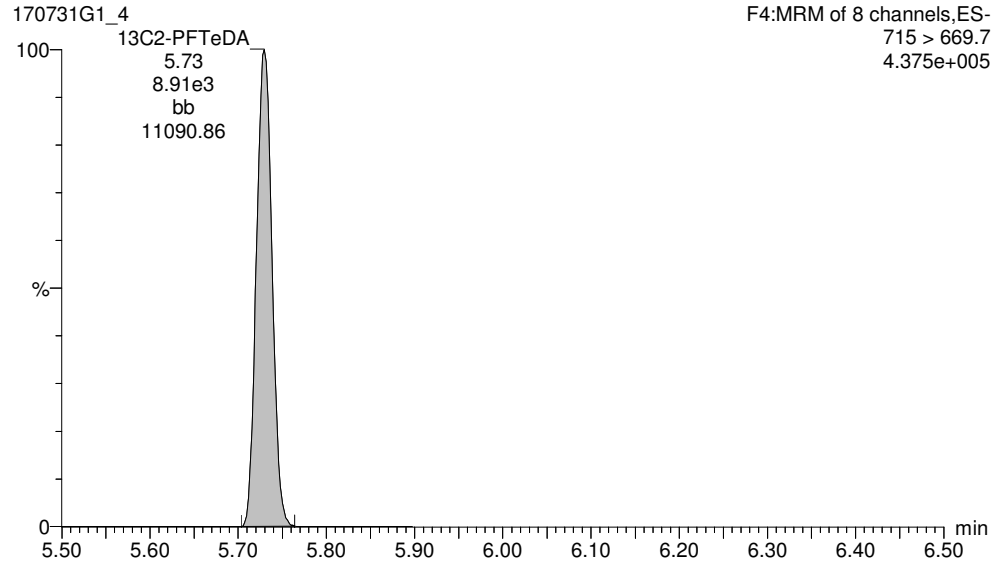
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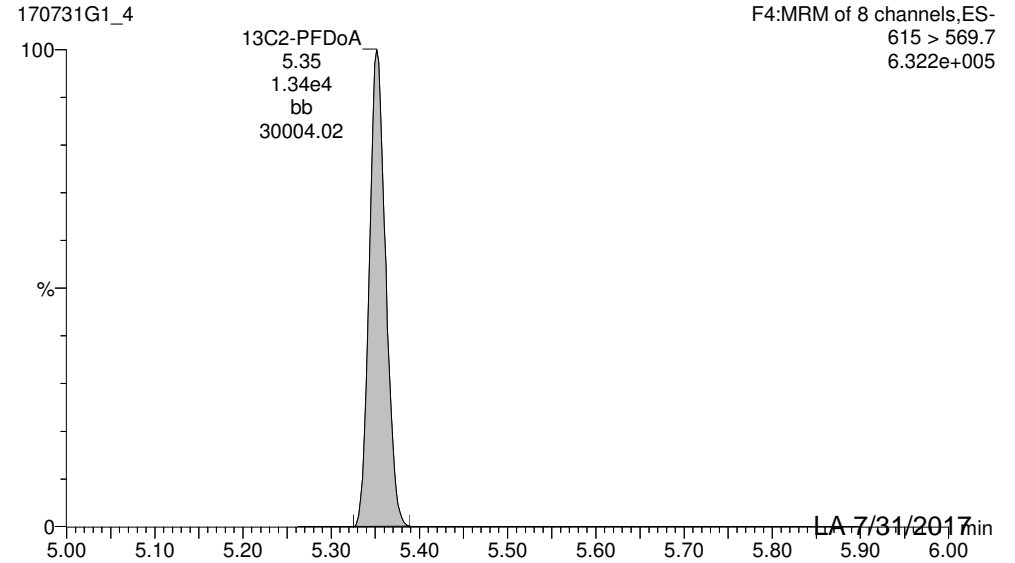
PFTrDA



13C2-PFTeDA



13C2-PFDoA



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-4.qld

Last Altered: Monday, July 31, 2017 14:58:08 Pacific Daylight Time

Printed: Monday, July 31, 2017 14:59:31 Pacific Daylight Time

ID: B7G0079-BS1 OPR 0.125, Description: OPR, Name: 170731G1_4, Date: 31-Jul-2017, Time: 14:11:43, Instrument: , Lab: , User:

13C7-PFUnA

170731G1_4

F3:MRM of 12 channels,ES-
570.1 > 524.8
5.027e+005



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-9.qld

Last Altered: Monday, July 31, 2017 12:28:24 Pacific Daylight Time

Printed: Monday, July 31, 2017 12:29:19 Pacific Daylight Time

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Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-01 IRPSite 6-GW-06GW01-20170712 0.08342, Description: IRPSite 6-GW-06GW01-20170712, Name: 170731G2_9, Date: 31-Jul-2017, Time: 11:15:11

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299.0 > 79.7	5.232e2	5.427e3		0.0834	2.89	4.56	
2	4 PFHxA	312.9 > 268.9	1.023e3	6.701e3		0.0834	3.26	11.1	
3	5 PFHpA	363 > 318.9	7.695e2	9.347e3		0.0834	3.80	4.77	
4	6 PFHxS	398.9 > 79.6	3.880e2	5.765e3		0.0834	3.93	4.93	
5	7 PFOA	413.0 > 368.7	1.386e3	2.048e4		0.0834	4.22	11.3	
6	8 PFNA	463.0 > 418.8	2.161e2	8.414e3		0.0834	4.57	1.27	
7	9 PFOS	499.0 > 79.9	1.899e2	9.751e3		0.0834	4.63	5.47	
8	10 PFDA	512.7 > 219.0	3.768e1	1.260e4		0.0834	4.86	0.601	
9	12 13C3-PFBS	302.0 > 98.8	5.427e3	1.976e4	0.263	0.0834	2.88	157	104
10	14 13C2-PFHxA	315.0 > 269.8	6.701e3	1.976e4	0.361	0.0834	3.25	141	94.0
11	15 13C4-PFHpA	367.2 > 321.8	9.347e3	1.976e4	0.475	0.0834	3.80	149	99.5
12	16 18O2-PFHxS	403 > 102.6	5.765e3	1.492e4	0.411	0.0834	3.93	141	94.1
13	17 13C2-PFOA	414.9 > 369.7	2.048e4	8.483e3	2.843	0.0834	4.22	127	84.9
14	18 13C5-PFNA	468.2 > 422.9	8.414e3	1.168e4	0.854	0.0834	4.56	126	84.4
15	19 13C2-PFDA	514.8 > 469.7	1.260e4	9.920e3	1.742	0.0834	4.86	109	72.9
16	20 13C8-PFOS	507.0 > 79.9	9.751e3	1.187e4	0.927	0.0834	4.63	133	88.6
17	22 13C5-PFHxA	318 > 272.9	1.976e4	1.976e4	1.000	0.0834	3.25	150	100
18	23 13C3-PFHxS	401.9 > 79.9	1.492e4	1.492e4	1.000	0.0834	3.93	150	100
19	24 13C8-PFOA	421.3 > 376	8.483e3	8.483e3	1.000	0.0834	4.22	150	100
20	25 13C9-PFNA	472.2 > 426.9	1.168e4	1.168e4	1.000	0.0834	4.56	150	100
21	26 13C4-PFOS	503.0 > 79.9	1.187e4	1.187e4	1.000	0.0834	4.63	150	100
22	27 13C6-PFDA	519.10 > 473.70	9.920e3	9.920e3	1.000	0.0834	4.85	150	100
23	28 Total PFBS	299.0 > 79.7		5.427e3		0.0834		4.56	
24	29 Total PFHxS	398.9 > 79.6		5.765e3		0.0834		4.93	
25	30 Total PFOA	413.0 > 368.7		2.048e4		0.0834		11.3	
26	31 Total PFOS	499.0 > 79.9		9.751e3		0.0834		5.47	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-9.qld

Last Altered: Monday, July 31, 2017 12:28:24 Pacific Daylight Time

Printed: Monday, July 31, 2017 12:29:19 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-01 IRPSite 6-GW-06GW01-20170712 0.08342, Description: IRPSite 6-GW-06GW01-20170712, Name: 170731G2_9, Date: 31-Jul-2017, Time: 11:15:11

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFBS	299.0 > 79.7	2.89	523.245	5426.815	4.6

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	6 PFHxS	398.9 > 79.6	3.93	388.047	5764.691	4.9

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	7 PFOA	413.0 > 368.7	4.22	1385.920	20478.307	11.3
2	30 Total PFOA	413.0 > 368.7	4.13	148.209	20478.307	

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	9 PFOS	499.0 > 79.9	4.63	189.872	9751.255	5.5

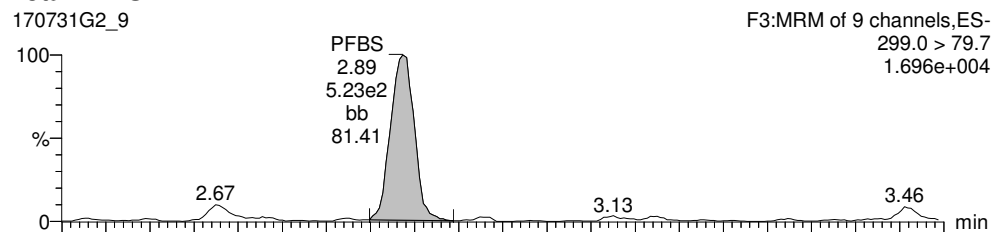
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Printed: Monday, July 31, 2017 12:29:19 Pacific Daylight Time

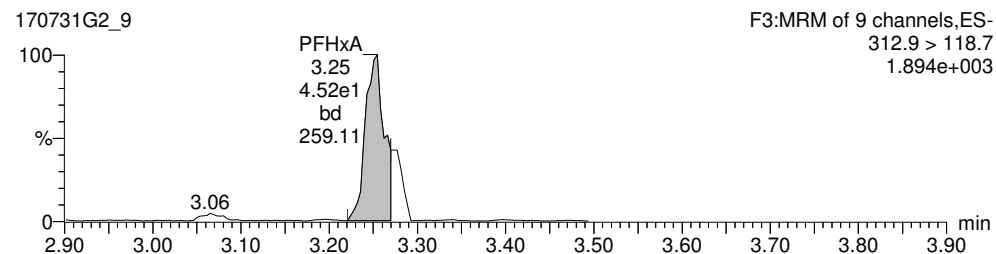
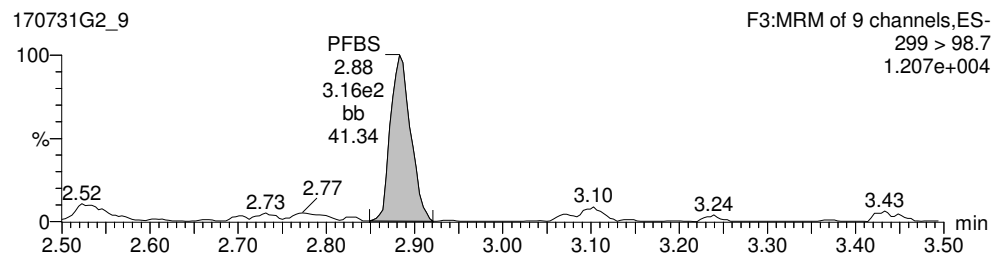
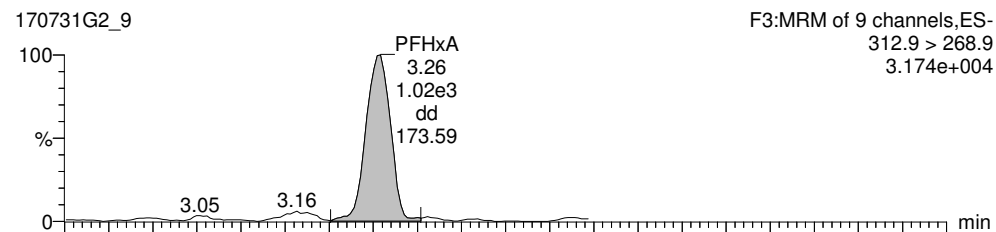
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Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-01 IRPSite 6-GW-06GW01-20170712 0.08342, Description: IRPSite 6-GW-06GW01-20170712, Name: 170731G2_9, Date: 31-Jul-2017, Time: 11:15:11,
Instrument: , Lab: , User:

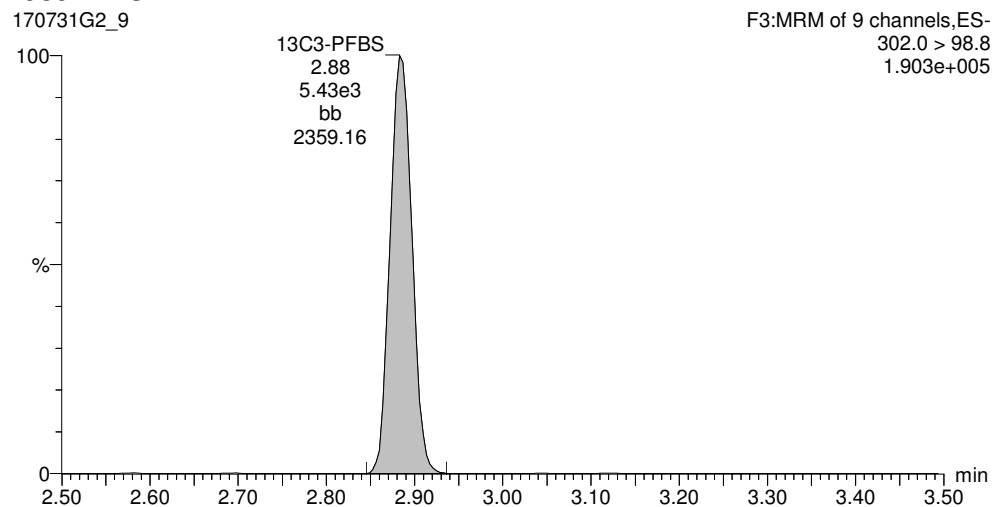
Total PFBS



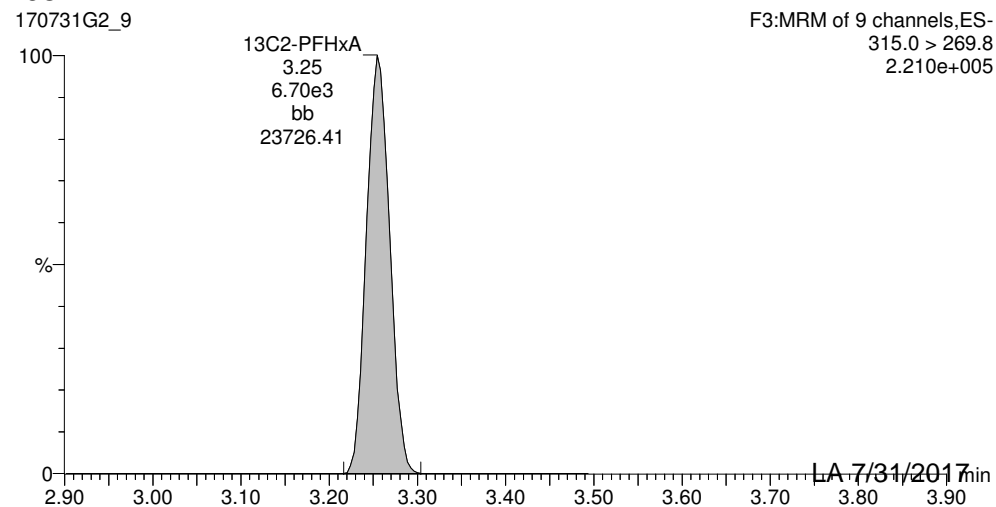
PFHxA



13C3-PFBS



13C2-PFHxA

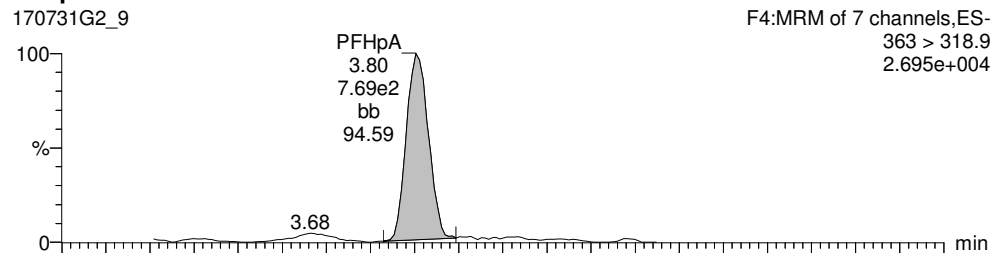


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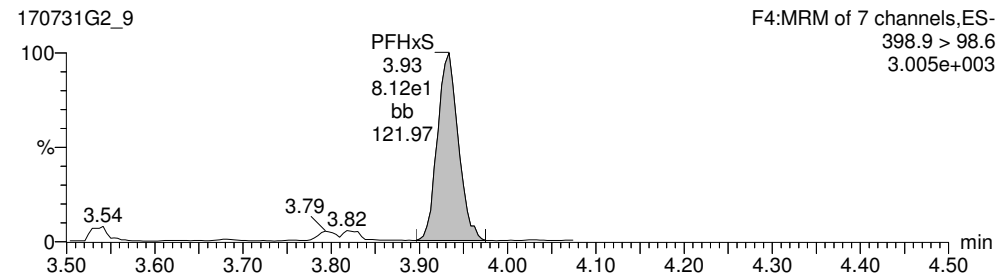
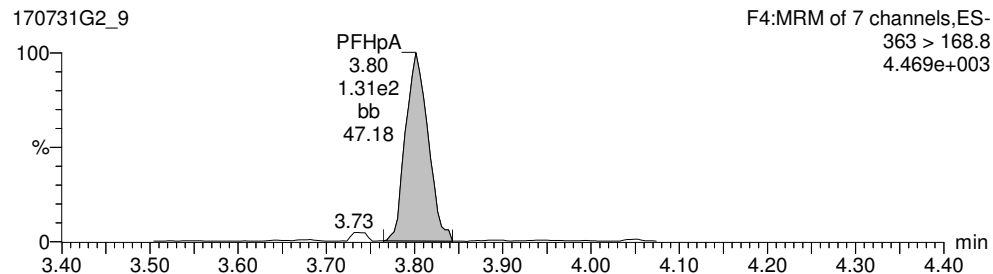
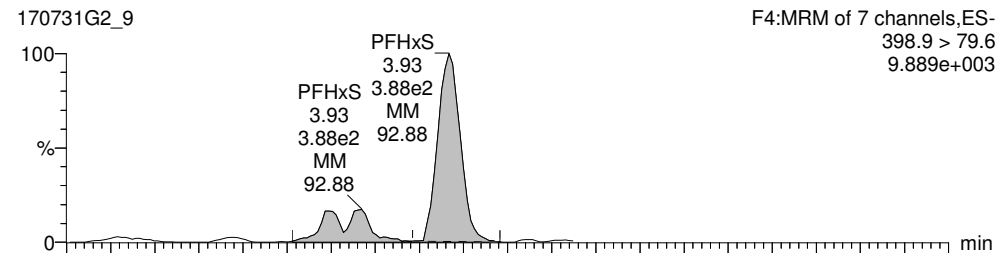
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Printed: Monday, July 31, 2017 12:29:19 Pacific Daylight Time

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Instrument: , Lab: , User:

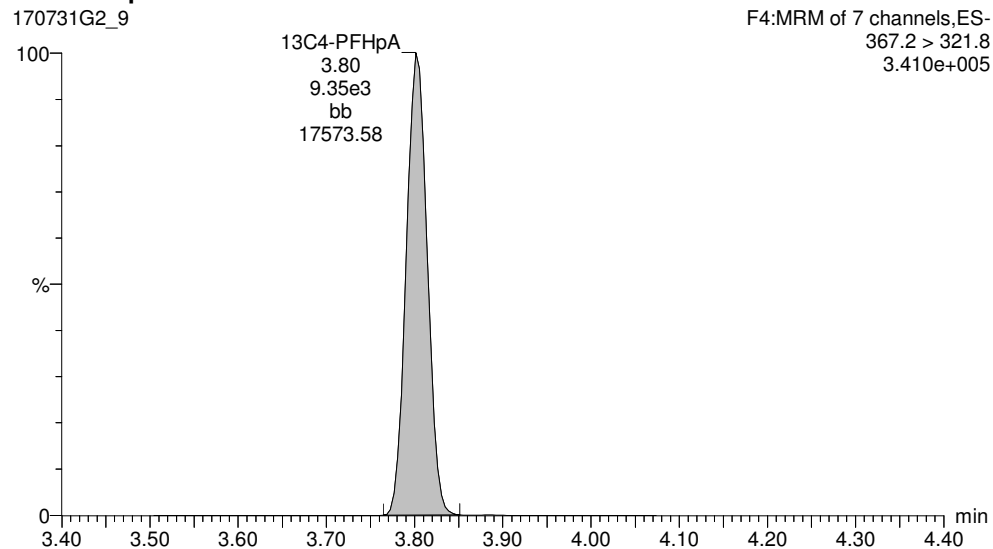
PFHpA



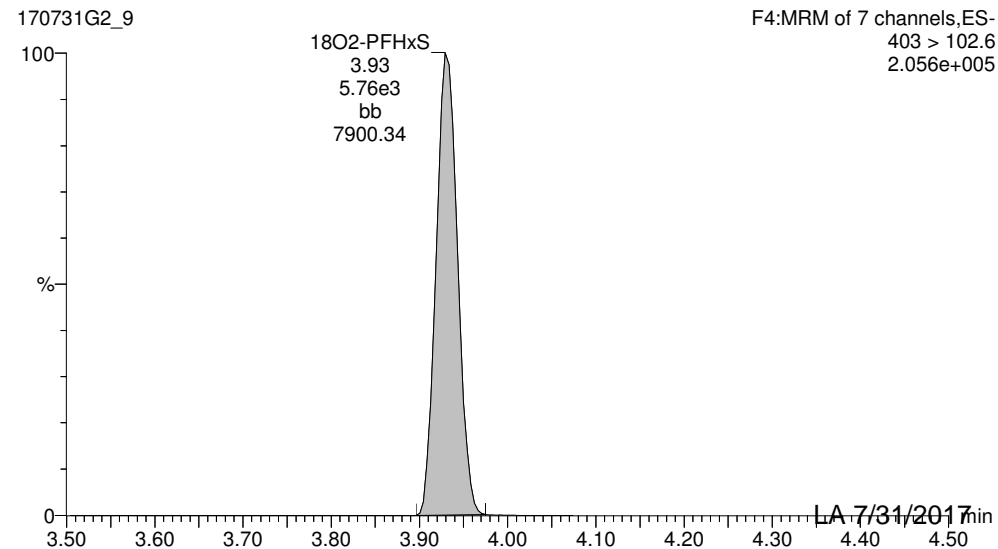
Total PFHxS



13C4-PFHpA



18O2-PFHxS

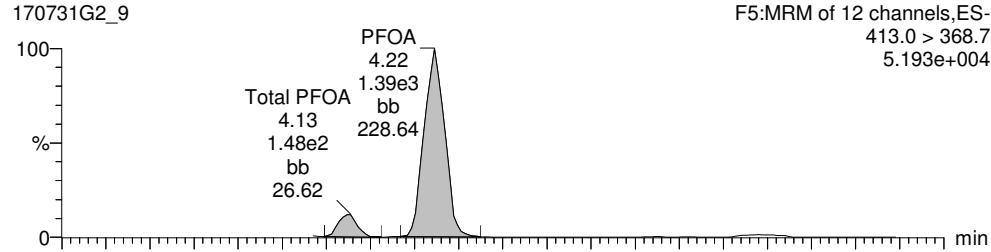


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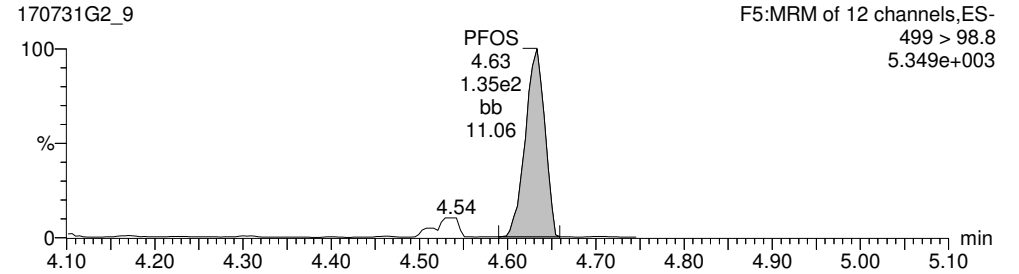
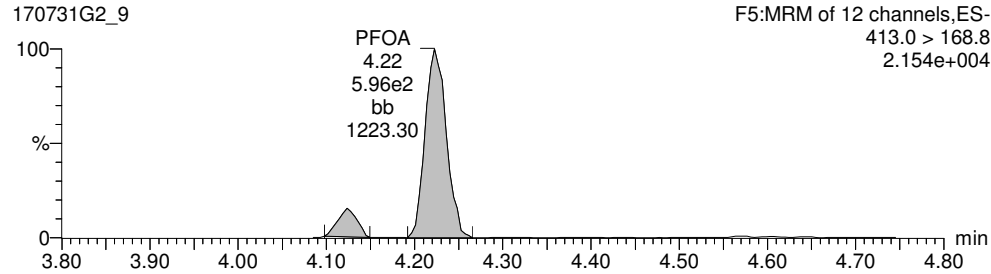
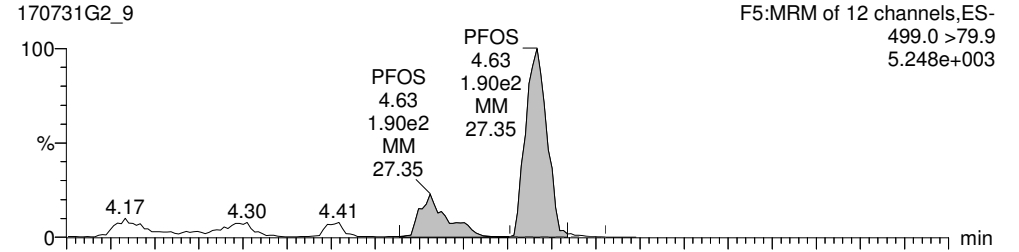
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Instrument: , Lab: , User:

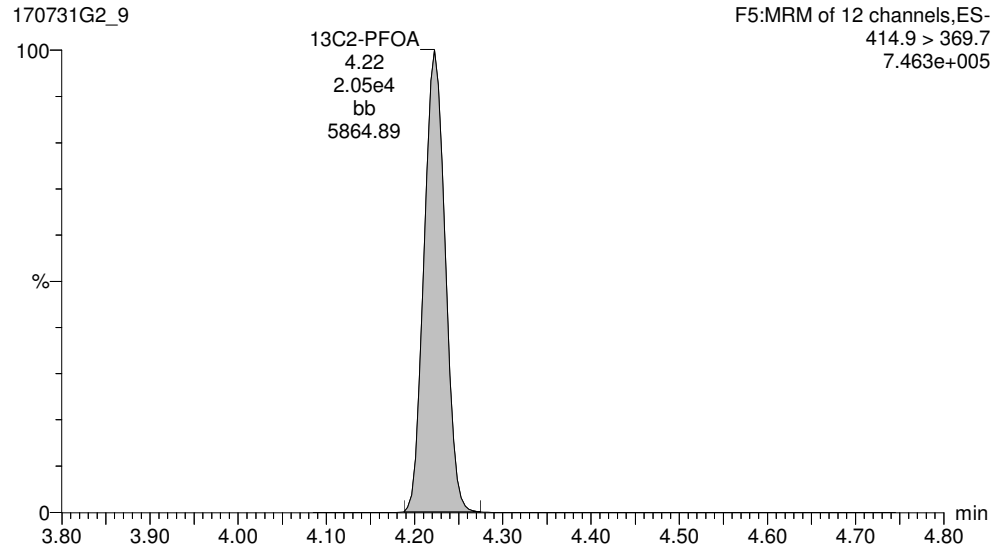
Total PFOA



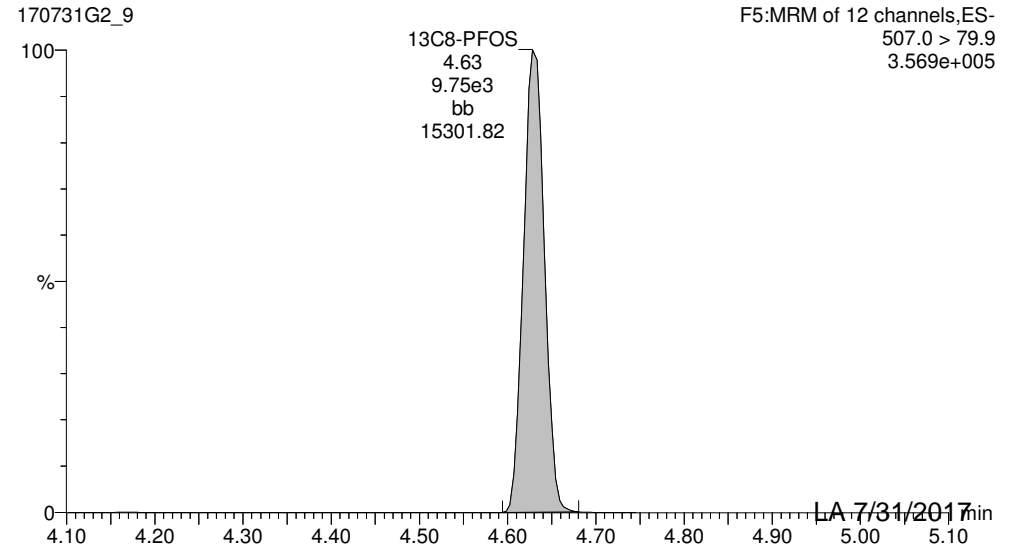
Total PFOS



13C2-PFOA



13C8-PFOS

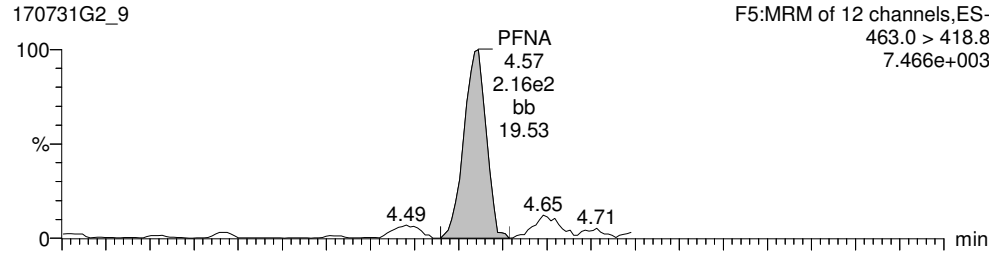


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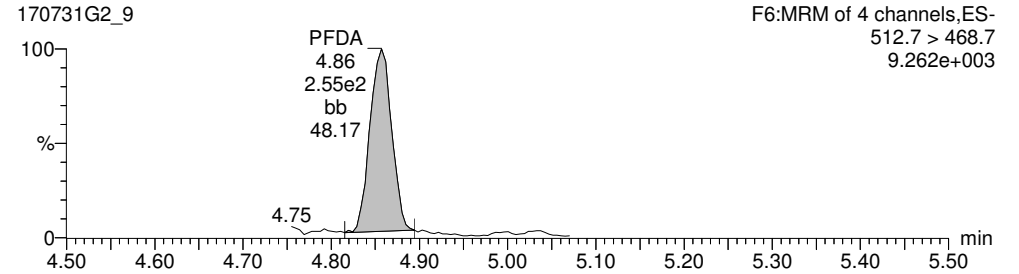
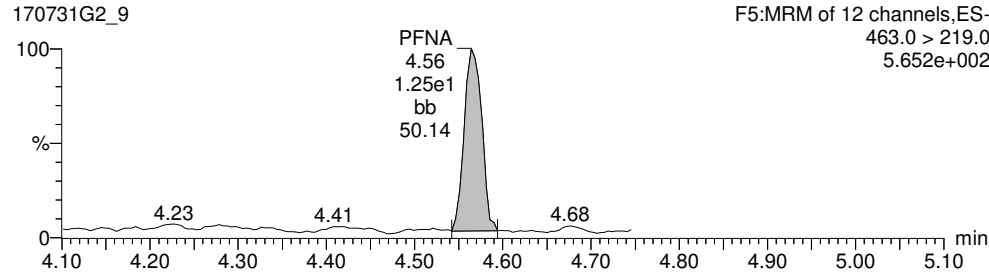
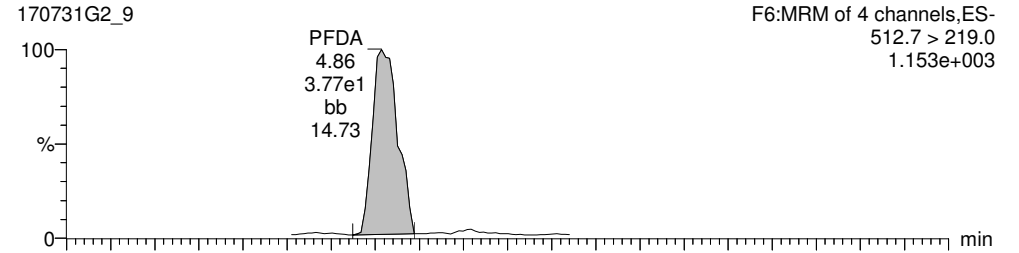
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Printed: Monday, July 31, 2017 12:29:19 Pacific Daylight Time

ID: 1700887-01 IRPSite 6-GW-06GW01-20170712 0.08342, Description: IRPSite 6-GW-06GW01-20170712, Name: 170731G2_9, Date: 31-Jul-2017, Time: 11:15:11,
Instrument: , Lab: , User:

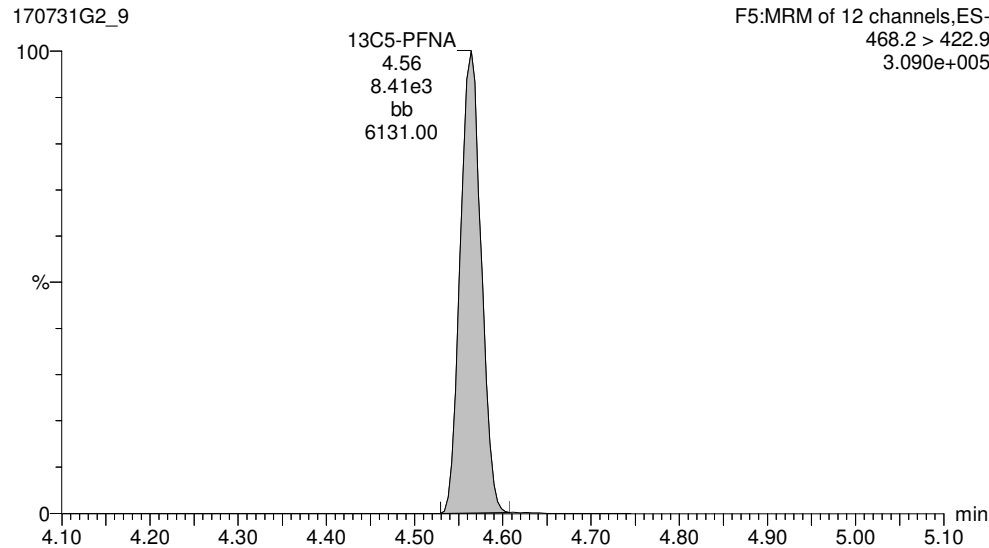
PFNA



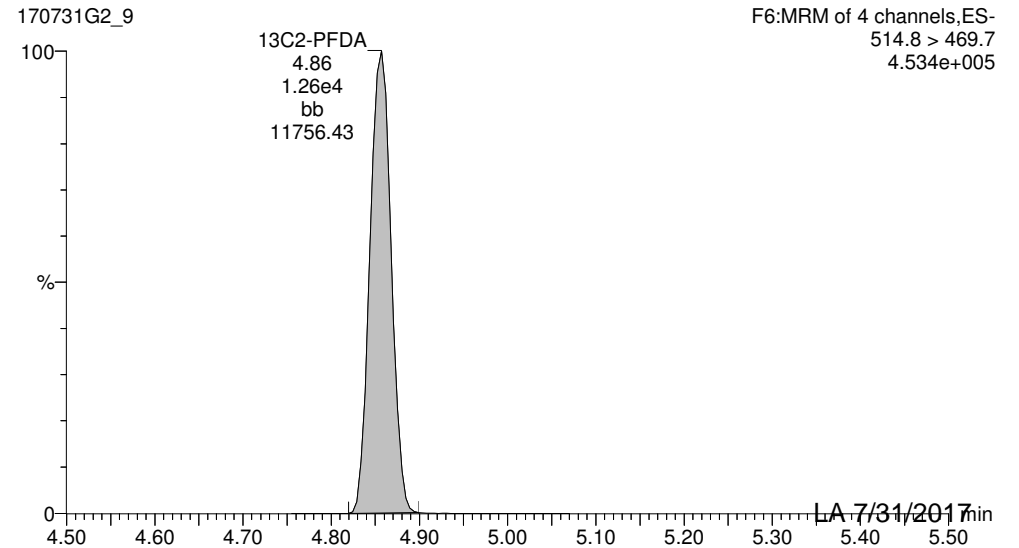
PFDA



13C5-PFNA



13C2-PFDA

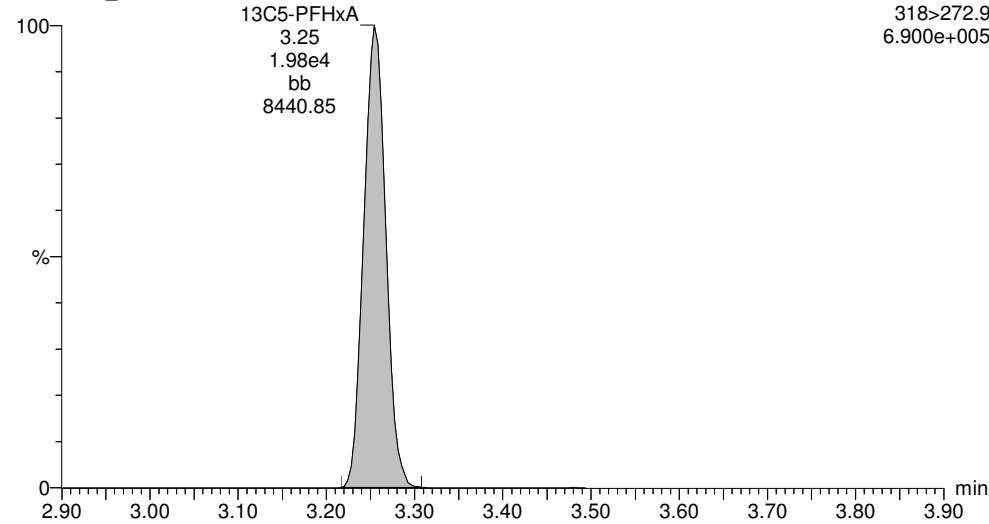


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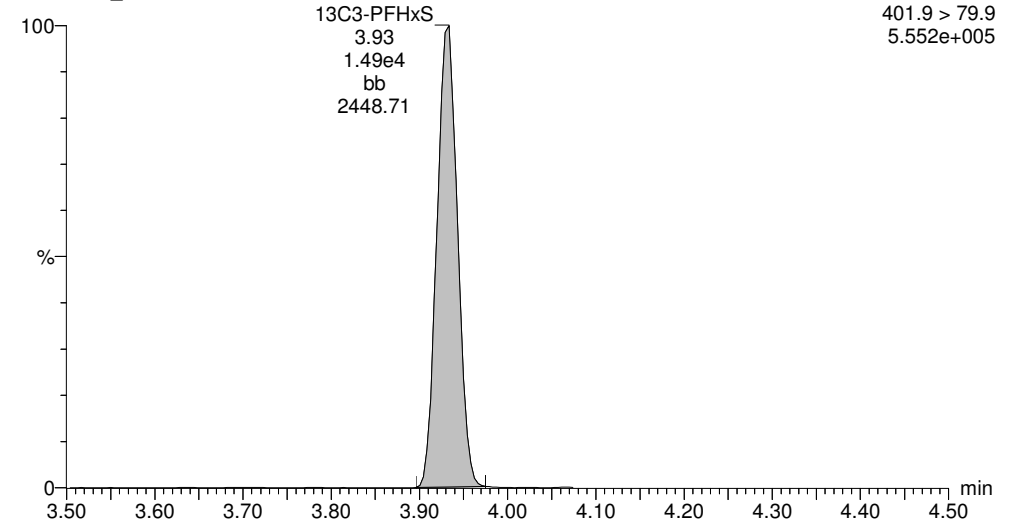
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Printed: Monday, July 31, 2017 12:29:19 Pacific Daylight Time

ID: 1700887-01 IRPSite 6-GW-06GW01-20170712 0.08342, Description: IRPSite 6-GW-06GW01-20170712, Name: 170731G2_9, Date: 31-Jul-2017, Time: 11:15:11,
Instrument: , Lab: , User:

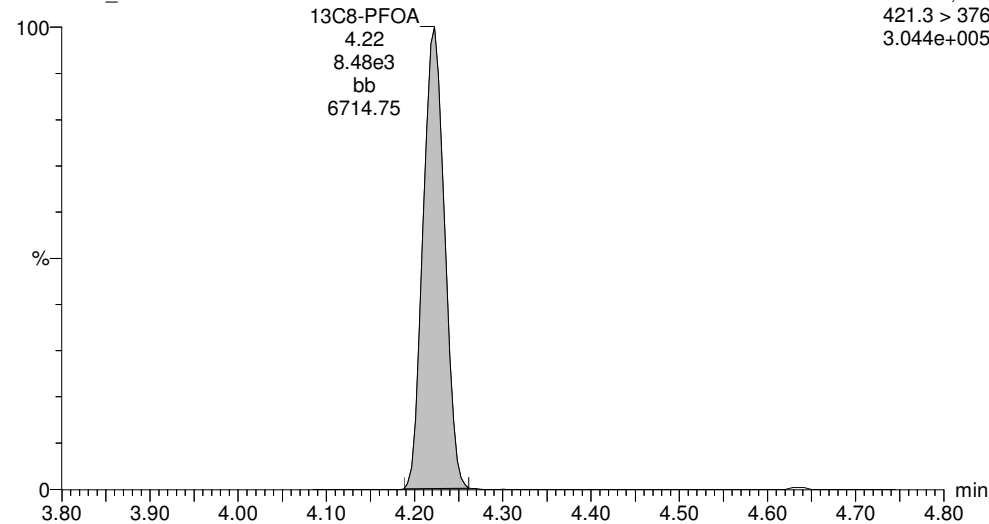
13C5-PFHxA
170731G2_9



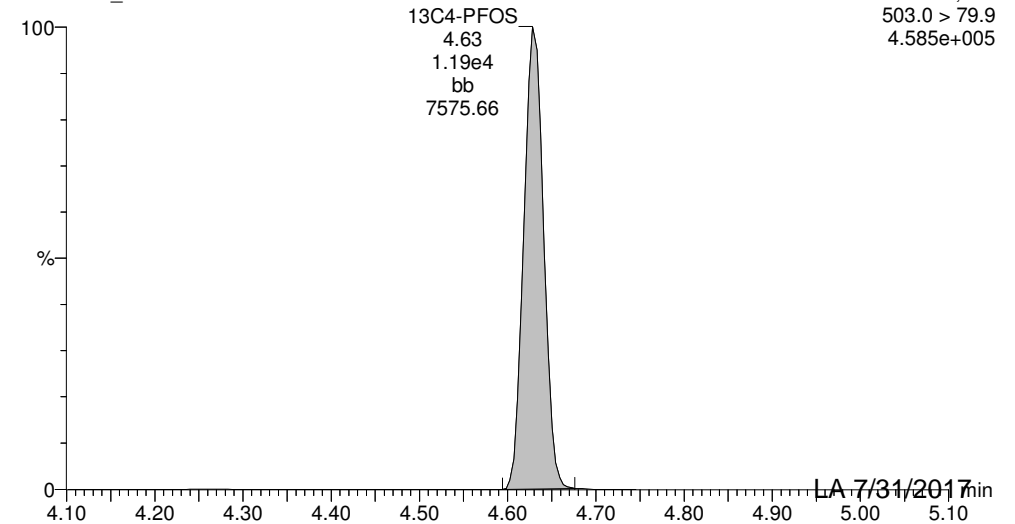
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170731G2_9



13C8-PFOA
170731G2_9



13C4-PFOS
170731G2_9

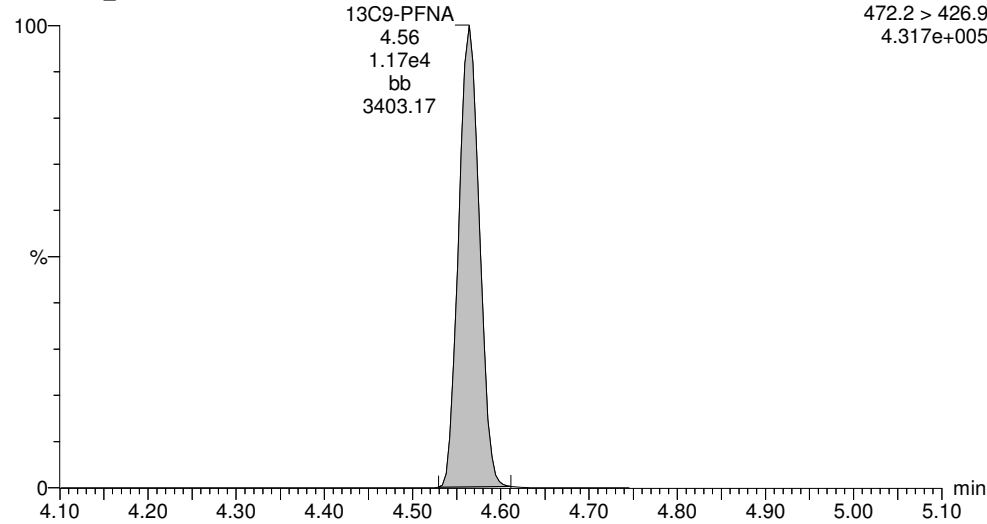


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Printed: Monday, July 31, 2017 12:29:19 Pacific Daylight Time

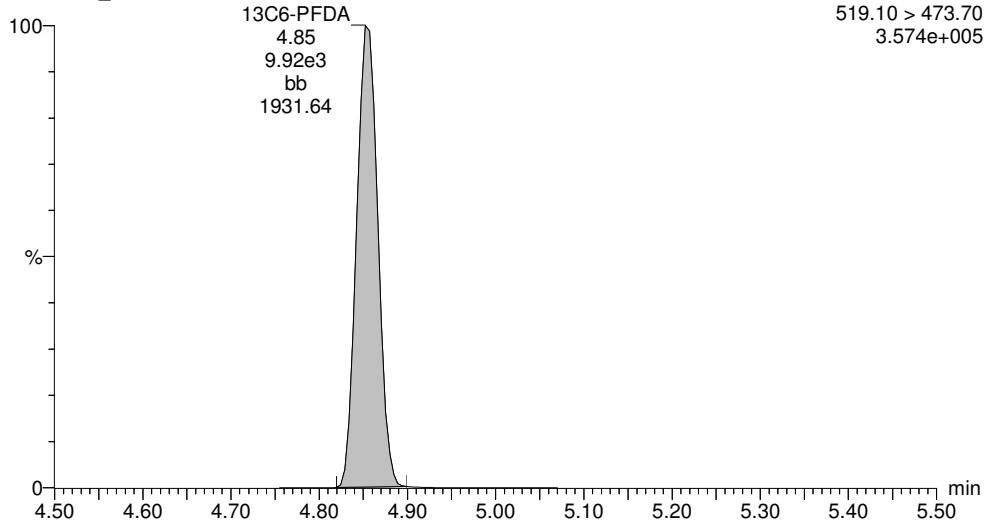
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Instrument: , Lab: , User:

13C9-PFNA
170731G2_9



F5:MRM of 12 channels,ES-
472.2 > 426.9
4.317e+005

13C6-PFDA
170731G2_9



F6:MRM of 4 channels,ES-
519.10 > 473.70
3.574e+005

Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-7.qld

Last Altered: Monday, July 31, 2017 16:33:46 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:33:55 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-01 IRPSite 6-GW-06GW01-20170712 0.08342, Description: IRPSite 6-GW-06GW01-20170712, Name: 170731G1_7, Date: 31-Jul-2017, Time: 15:06:51

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	2 N-MeFOSAA	570.1 > 419.0		4.045e3		0.0834			
2	4 PFUnA	563 > 518.9	3.974e2	1.757e4		0.0834	5.12	0.265	
3	5 N-EtFOSAA	584.2 > 419.0		4.827e3		0.0834			
4	6 PFDoA	612.9 > 318.8		1.977e4		0.0834			
5	7 PFTrDA	662.9 > 618.9		0.000e0		0.0834			
6	8 PFTeDA	712.9 > 668.8	1.704e2	2.013e4		0.0834	5.73		
7	10 d3-N-MeFOSAA	573.3 > 419.0	4.045e3	2.015e4	0.026	0.0834	4.98	1140	58.5
8	11 13C2-PFUnA	565 > 519.8	1.757e4	2.015e4	1.471	0.0834	5.12	88.8	59.3
9	12 d5-N-EtFOSAA	589.3 > 419.0	4.827e3	2.015e4	0.031	0.0834	5.11	1150	59.3
10	13 13C2-PFDoA	615 > 569.7	1.977e4	2.015e4	1.887	0.0834	5.35	77.9	52.0
11	14 13C2-PFTeDA	715 > 669.7	2.013e4	2.015e4	1.990	0.0834	5.73	75.2	50.2
12	15 13C7-PFUnA	570.1 > 524.8	2.015e4	2.015e4	1.000	0.0834	5.12	150	100
13	16 Total N-MeFOSAA	570.1 > 419.0		4.045e3		0.0834			
14	17 Total N-EtFOSAA	584.2 > 419.0		4.827e3		0.0834			

Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-7.qld

Last Altered: Monday, July 31, 2017 16:33:46 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:33:55 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-01 IRPSite 6-GW-06GW01-20170712 0.08342, Description: IRPSite 6-GW-06GW01-20170712, Name: 170731G1_7, Date: 31-Jul-2017, Time: 15:06:51

Total N-MeFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total N-EtFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

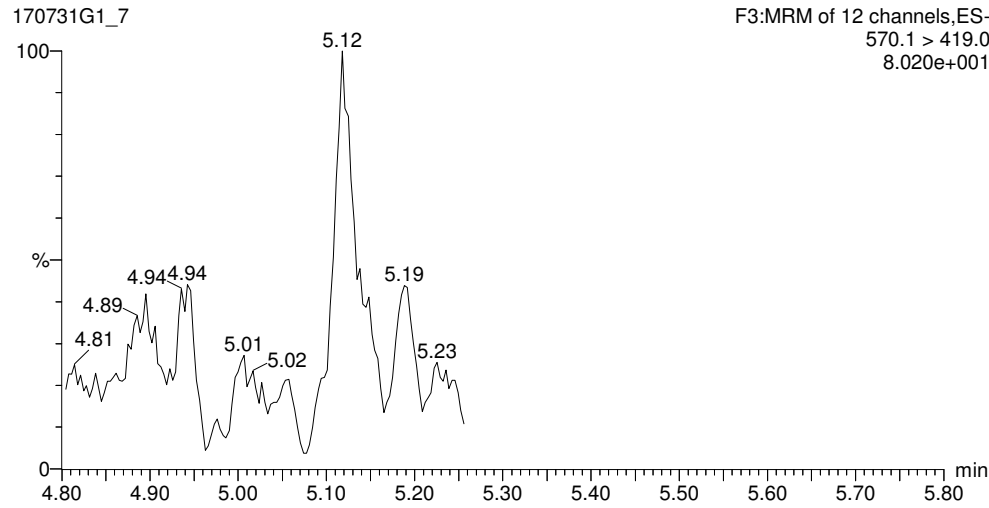
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Printed: Monday, July 31, 2017 16:33:55 Pacific Daylight Time

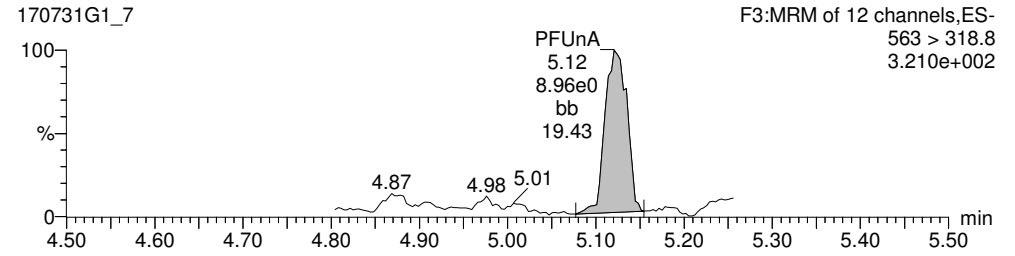
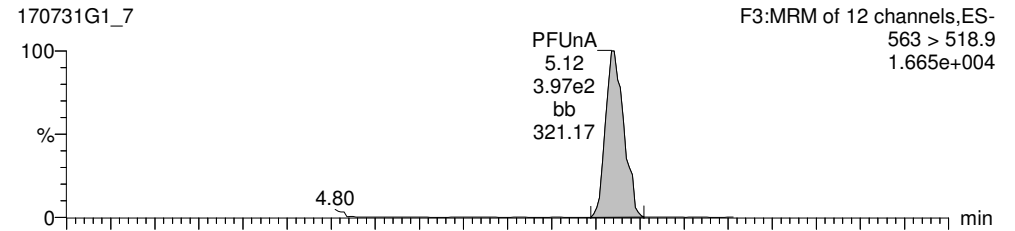
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ID: 1700887-01 IRPSite 6-GW-06GW01-20170712 0.08342, Description: IRPSite 6-GW-06GW01-20170712, Name: 170731G1_7, Date: 31-Jul-2017, Time: 15:06:51,
Instrument: , Lab: , User:

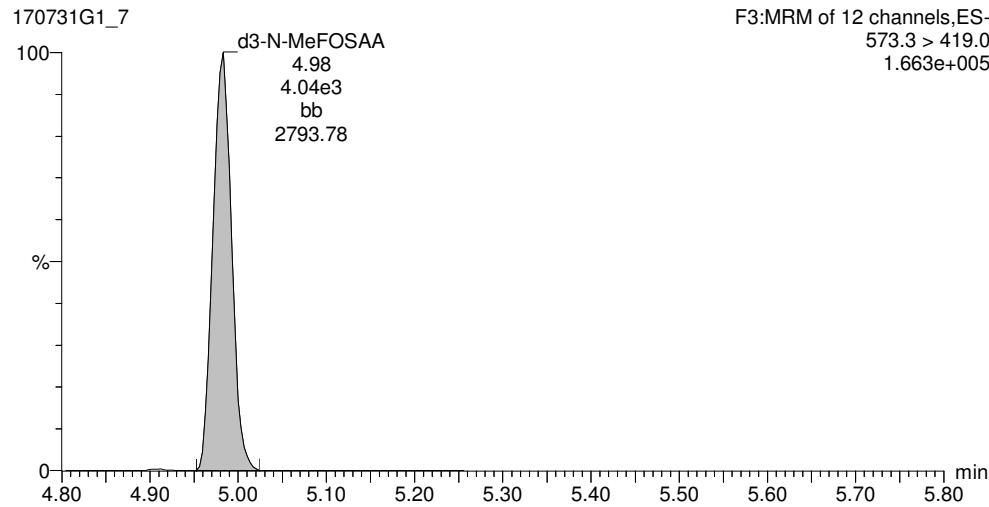
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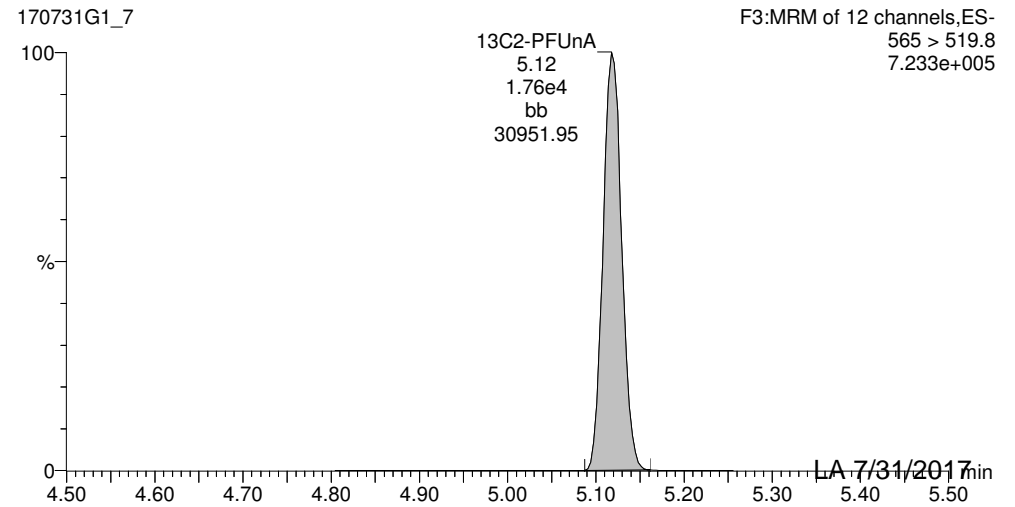
PFUaA



d3-N-MeFOSAA



13C2-PFUaA

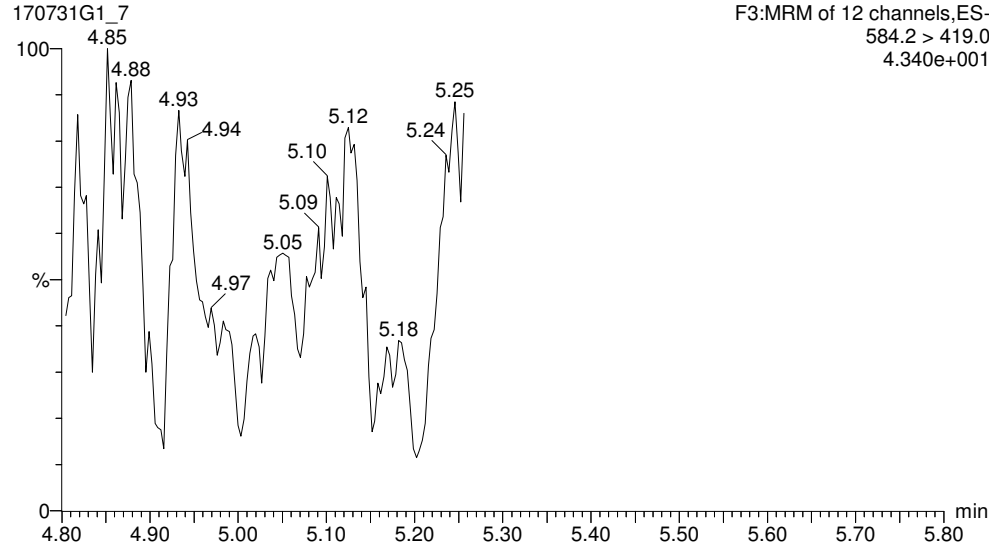


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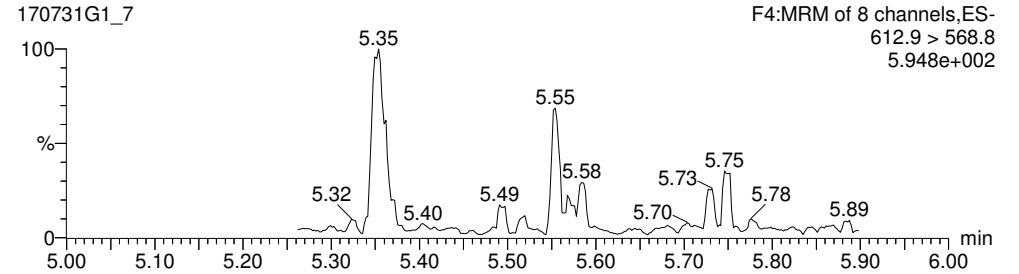
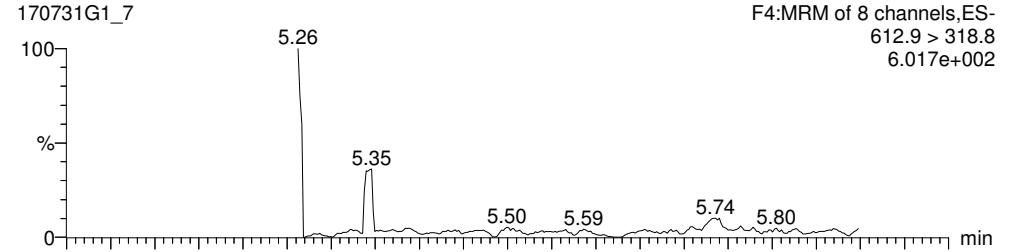
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Printed: Monday, July 31, 2017 16:33:55 Pacific Daylight Time

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Instrument: , Lab: , User:

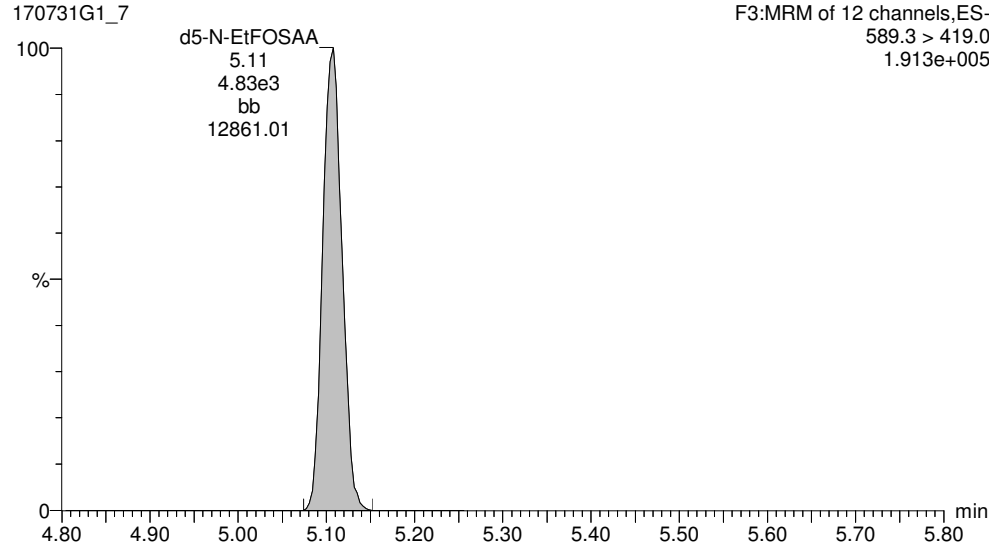
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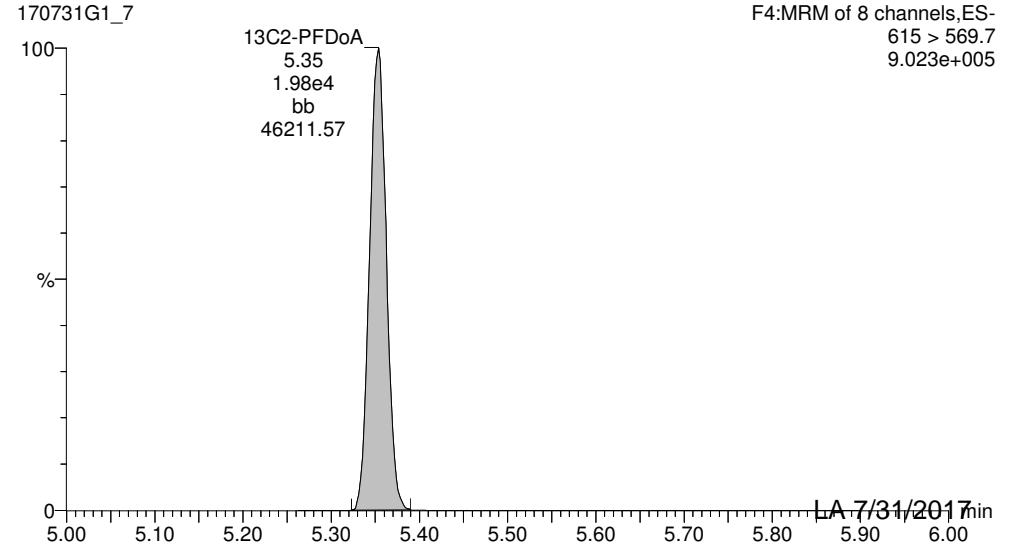
PFDoA



d5-N-EtFOSAA



13C2-PFDoA

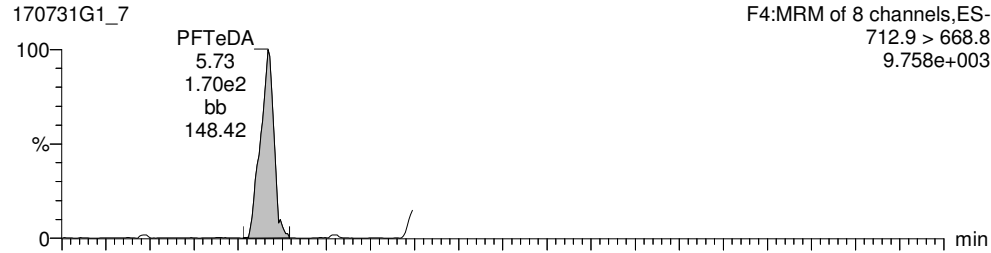


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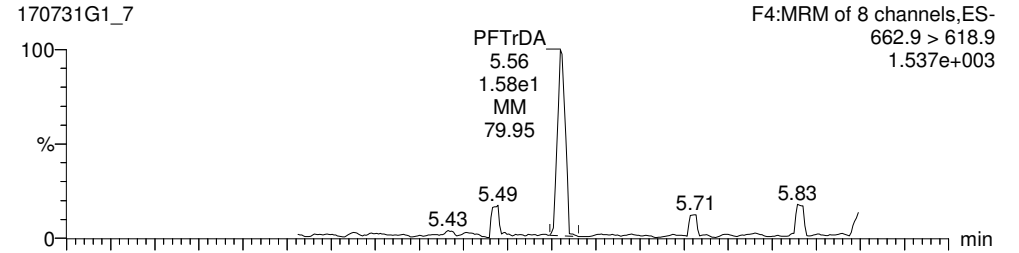
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Printed: Monday, July 31, 2017 16:33:55 Pacific Daylight Time

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Instrument: , Lab: , User:

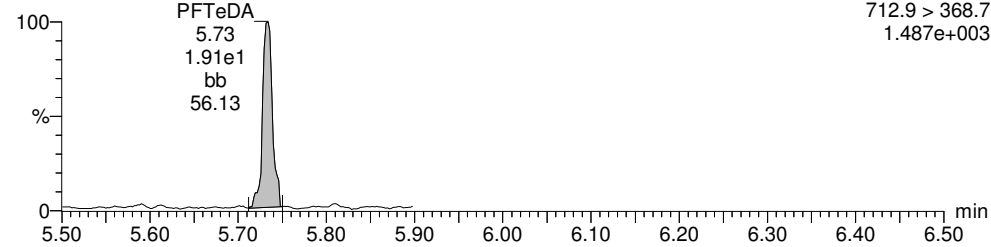
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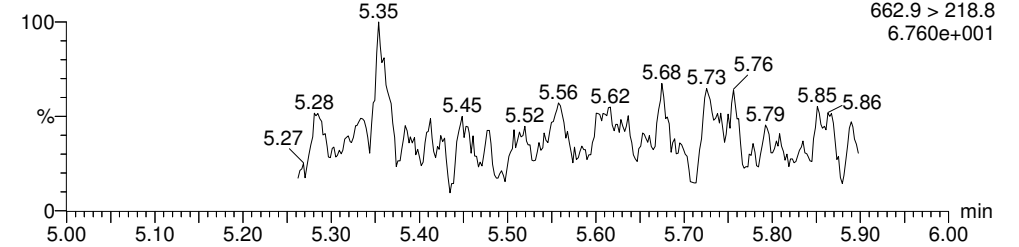
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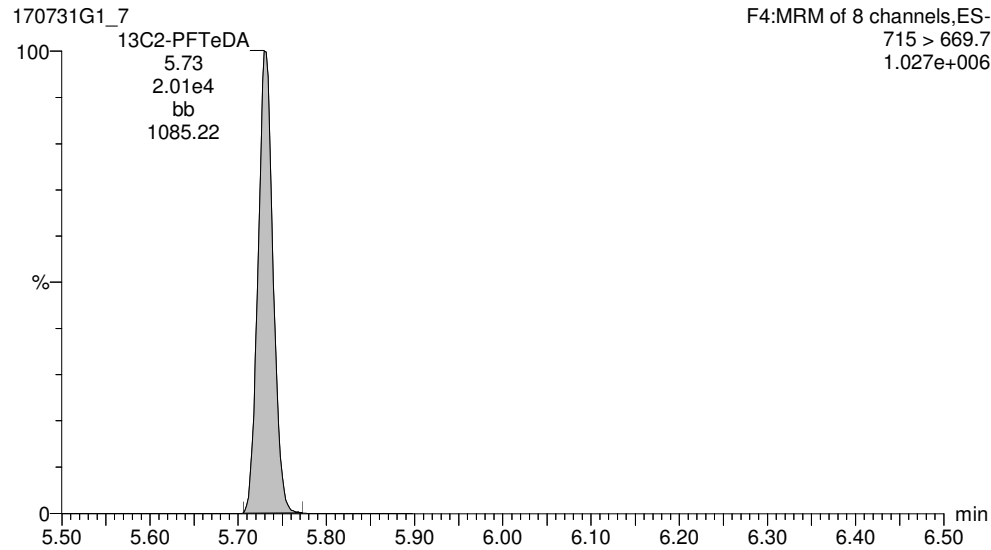
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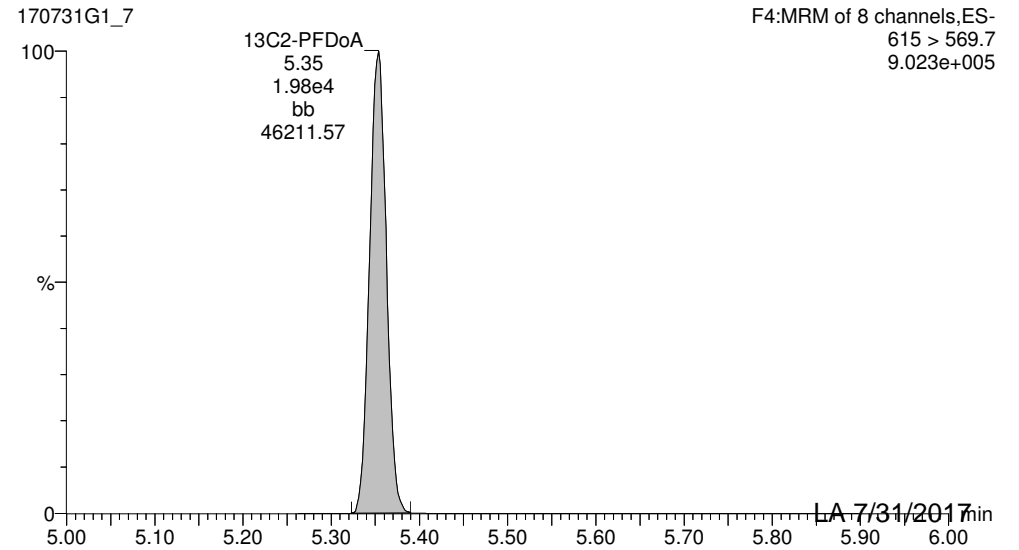
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13C2-PFTeDA



13C2-PFDoA



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-7.qld

Last Altered: Monday, July 31, 2017 16:33:46 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:33:55 Pacific Daylight Time

ID: 1700887-01 IRPSite 6-GW-06GW01-20170712 0.08342, Description: IRPSite 6-GW-06GW01-20170712, Name: 170731G1_7, Date: 31-Jul-2017, Time: 15:06:51,
Instrument: , Lab: , User:

13C7-PFUnA

170731G1_7

F3:MRM of 12 channels,ES-
570.1 > 524.8
8.425e+005



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-10.qld

Last Altered: Monday, July 31, 2017 12:41:11 Pacific Daylight Time

Printed: Monday, July 31, 2017 12:42:46 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-02 IRPSite 6-GW-06GW02-20170712 0.09939, Description: IRPSite 6-GW-06GW02-20170712, Name: 170731G2_10, Date: 31-Jul-2017, Time: 11:27:45

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299.0 > 79.7	1.610e3	4.933e3		0.0994	2.87	21.8	
2	4 PFHxA	312.9 > 268.9	1.702e3	5.404e3		0.0994	3.26	20.0	
3	5 PFHpA	363 > 318.9	1.298e3	7.220e3		0.0994	3.80	10.3	
4	6 PFHxS	398.9 > 79.6	4.447e2	4.626e3		0.0994	3.93	6.18	
5	7 PFOA	413.0 > 368.7	1.977e3	1.510e4		0.0994	4.22	19.5	
6	8 PFNA	463.0 > 418.8	4.072e2	5.320e3		0.0994	4.56	3.81	
7	9 PFOS	499.0 > 79.9	3.607e2	5.639e3		0.0994	4.63	16.5	
8	10 PFDA	512.7 > 219.0	2.920e1	7.928e3		0.0994	4.86	0.944	
9	12 13C3-PFBS	302.0 > 98.8	4.933e3	1.530e4	0.263	0.0994	2.87	154	123
10	14 13C2-PFHxA	315.0 > 269.8	5.404e3	1.530e4	0.361	0.0994	3.26	123	97.9
11	15 13C4-PFHpA	367.2 > 321.8	7.220e3	1.530e4	0.475	0.0994	3.80	125	99.2
12	16 18O2-PFHxS	403 > 102.6	4.626e3	1.179e4	0.411	0.0994	3.93	120	95.5
13	17 13C2-PFOA	414.9 > 369.7	1.510e4	5.872e3	2.843	0.0994	4.22	114	90.4
14	18 13C5-PFNA	468.2 > 422.9	5.320e3	6.975e3	0.854	0.0994	4.56	112	89.4
15	19 13C2-PFDA	514.8 > 469.7	7.928e3	5.581e3	1.742	0.0994	4.86	103	81.6
16	20 13C8-PFOS	507.0 > 79.9	5.639e3	6.535e3	0.927	0.0994	4.63	117	93.1
17	22 13C5-PFHxA	318 > 272.9	1.530e4	1.530e4	1.000	0.0994	3.26	126	100
18	23 13C3-PFHxS	401.9 > 79.9	1.179e4	1.179e4	1.000	0.0994	3.93	126	100
19	24 13C8-PFOA	421.3 > 376	5.872e3	5.872e3	1.000	0.0994	4.22	126	100
20	25 13C9-PFNA	472.2 > 426.9	6.975e3	6.975e3	1.000	0.0994	4.56	126	100
21	26 13C4-PFOS	503.0 > 79.9	6.535e3	6.535e3	1.000	0.0994	4.63	126	100
22	27 13C6-PFDA	519.10 > 473.70	5.581e3	5.581e3	1.000	0.0994	4.86	126	100
23	28 Total PFBS	299.0 > 79.7		4.933e3		0.0994		21.8	
24	29 Total PFHxS	398.9 > 79.6		4.626e3		0.0994		6.18	
25	30 Total PFOA	413.0 > 368.7		1.510e4		0.0994		20.1	
26	31 Total PFOS	499.0 > 79.9		5.639e3		0.0994		16.5	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-10.qld

Last Altered: Monday, July 31, 2017 12:41:11 Pacific Daylight Time

Printed: Monday, July 31, 2017 12:42:46 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-02 IRPSite 6-GW-06GW02-20170712 0.09939, Description: IRPSite 6-GW-06GW02-20170712, Name: 170731G2_10, Date: 31-Jul-2017, Time: 11:27:45

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFBS	299.0 > 79.7	2.87	1609.669	4933.027	21.8

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	6 PFHxS	398.9 > 79.6	3.93	444.730	4626.080	6.2

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	30 Total PFOA	413.0 > 368.7	4.12	174.042	15097.119	0.7
2	7 PFOA	413.0 > 368.7	4.22	1977.068	15097.119	19.5

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	9 PFOS	499.0 > 79.9	4.63	360.718	5639.413	16.5

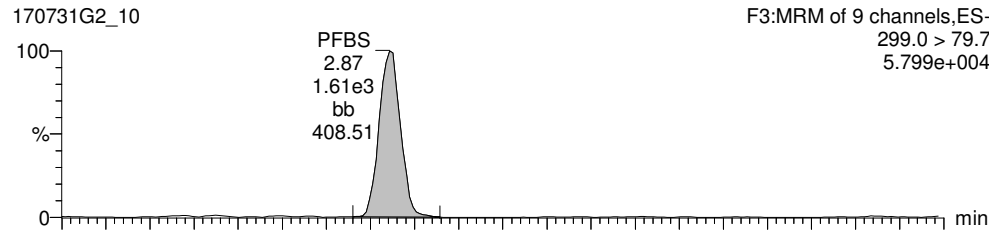
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Printed: Monday, July 31, 2017 12:42:46 Pacific Daylight Time

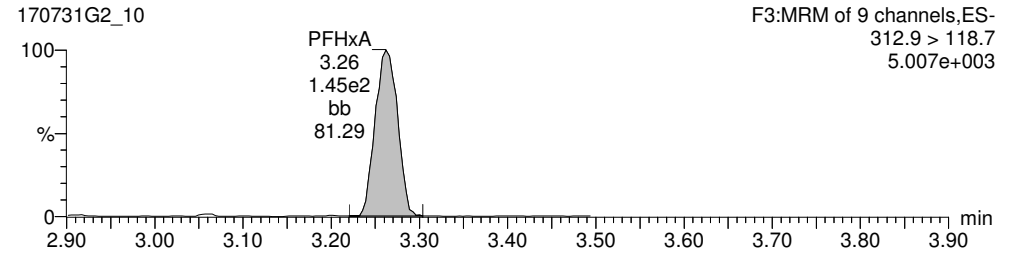
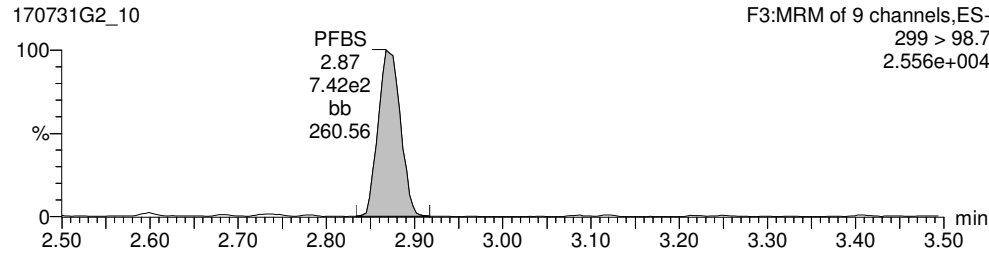
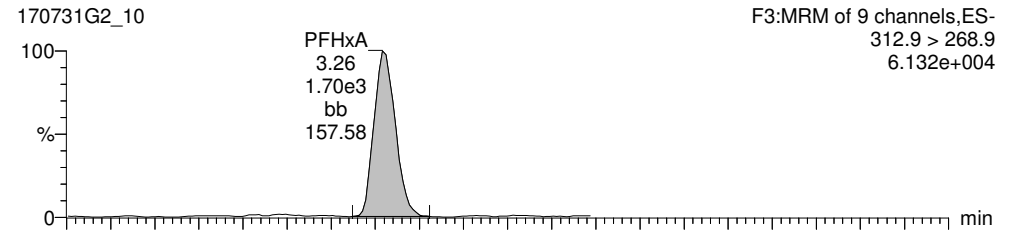
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ID: 1700887-02 IRPSite 6-GW-06GW02-20170712 0.09939, Description: IRPSite 6-GW-06GW02-20170712, Name: 170731G2_10, Date: 31-Jul-2017, Time: 11:27:45,
Instrument: , Lab: , User:

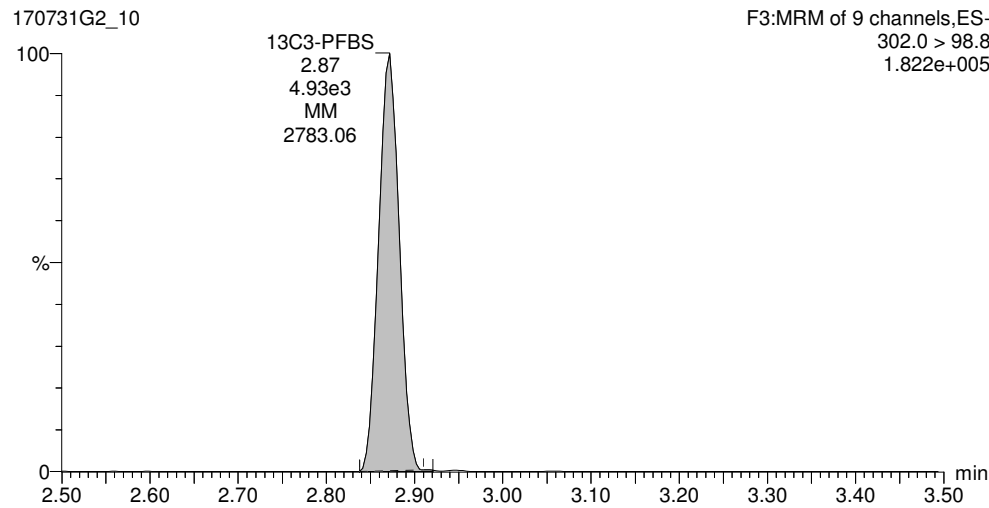
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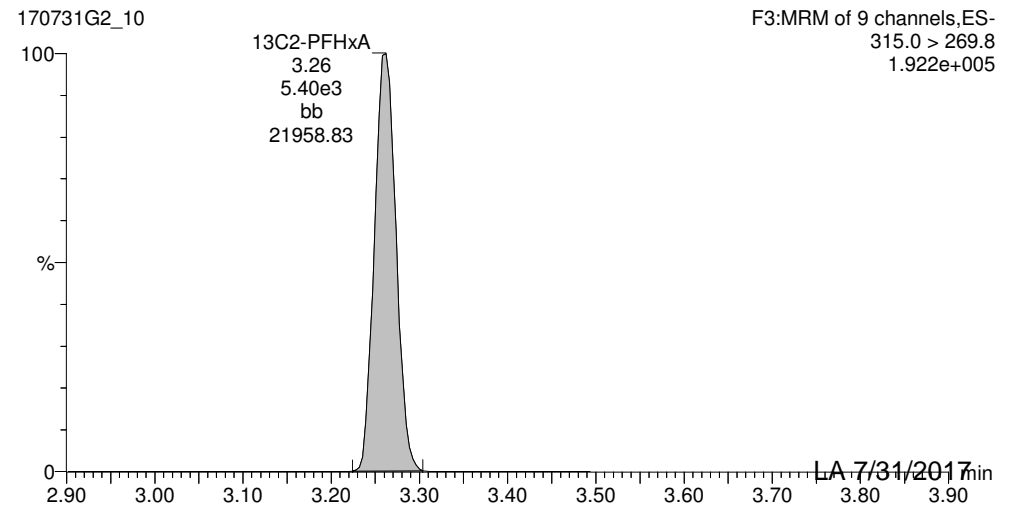
PFHxA



13C3-PFBS



13C2-PFHxA

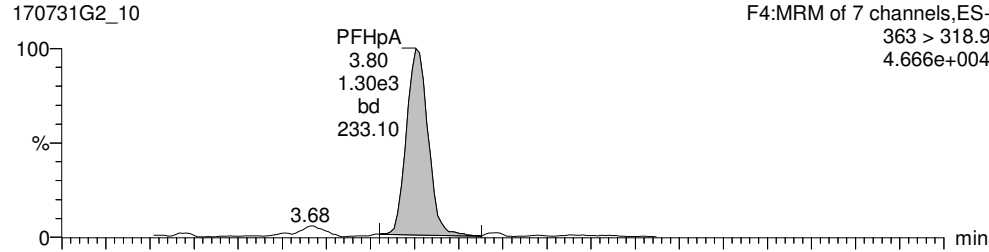


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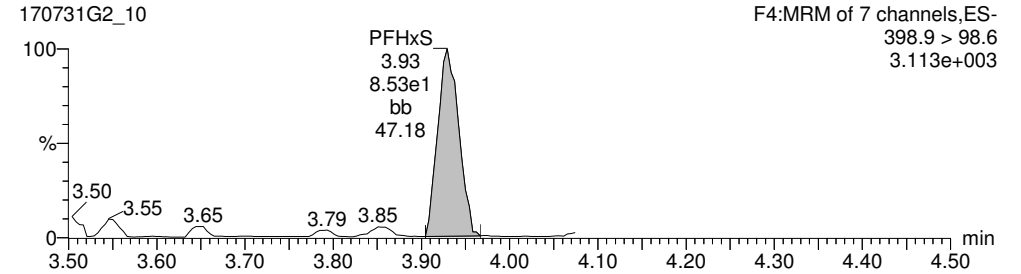
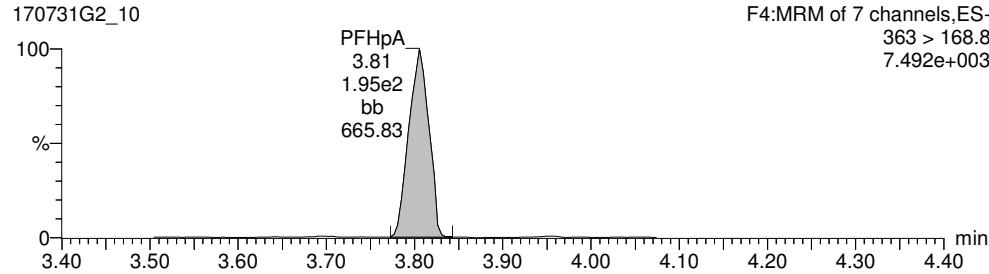
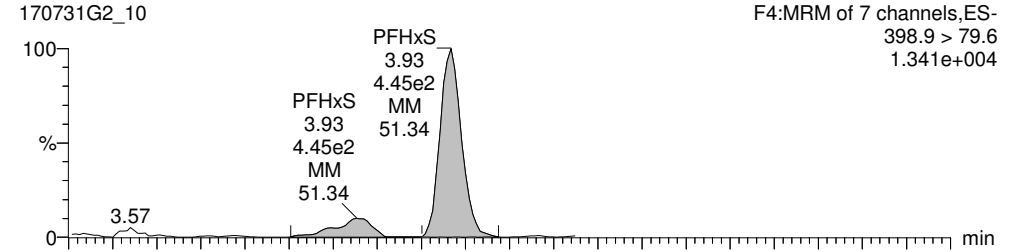
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Printed: Monday, July 31, 2017 12:42:46 Pacific Daylight Time

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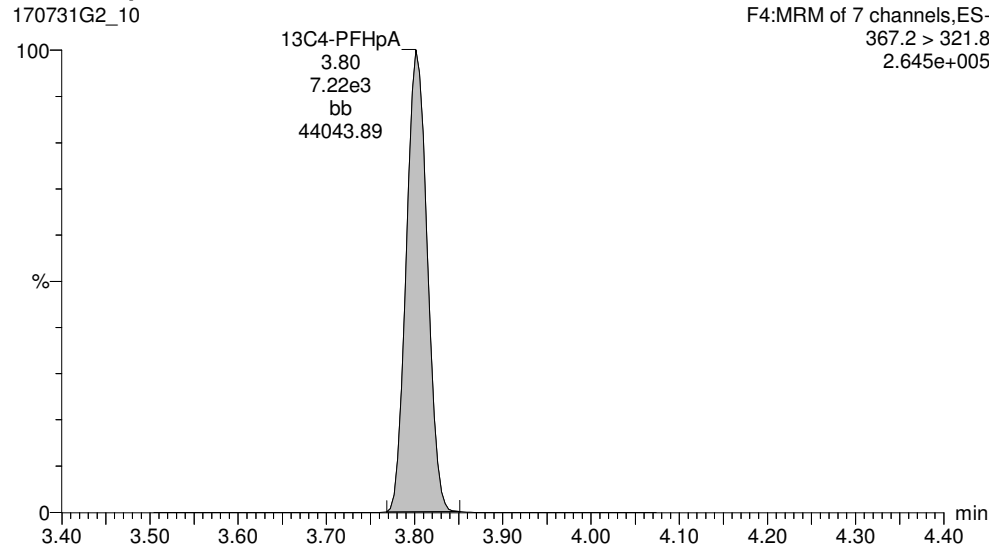
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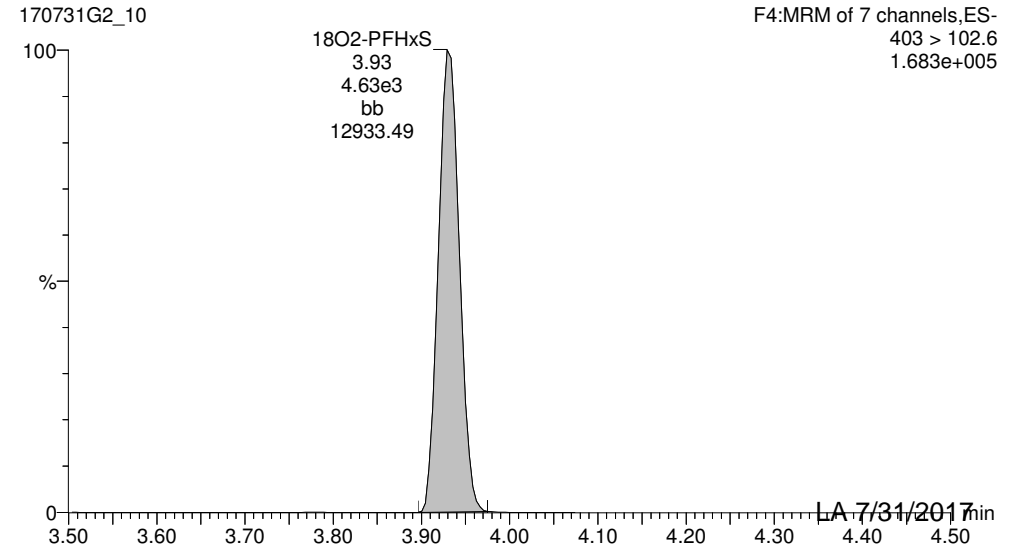
Total PFHxS



13C4-PFHpA



18O2-PFHxS



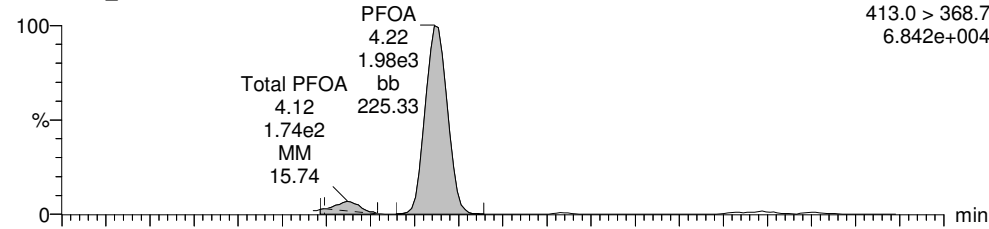
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Printed: Monday, July 31, 2017 12:42:46 Pacific Daylight Time

ID: 1700887-02 IRPSite 6-GW-06GW02-20170712 0.09939, Description: IRPSite 6-GW-06GW02-20170712, Name: 170731G2_10, Date: 31-Jul-2017, Time: 11:27:45,
Instrument: , Lab: , User:

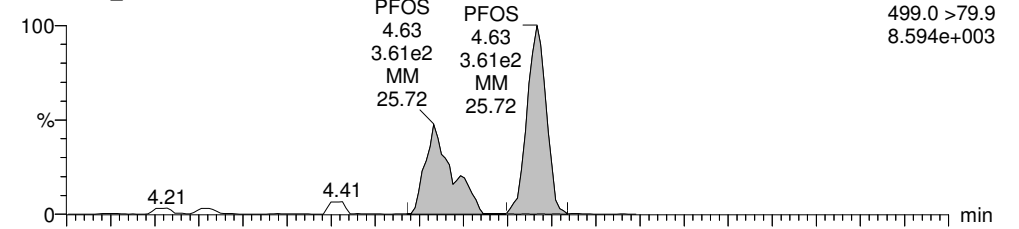
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170731G2_10

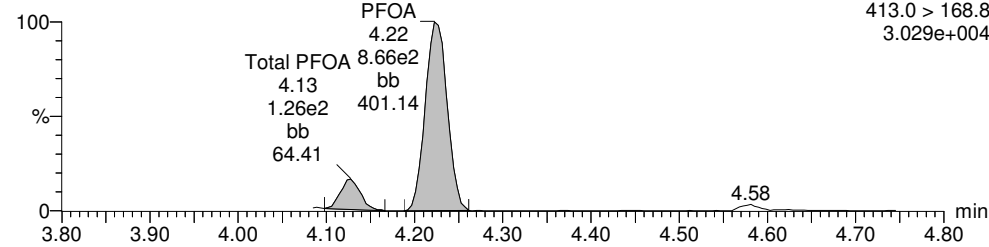


Total PFOS

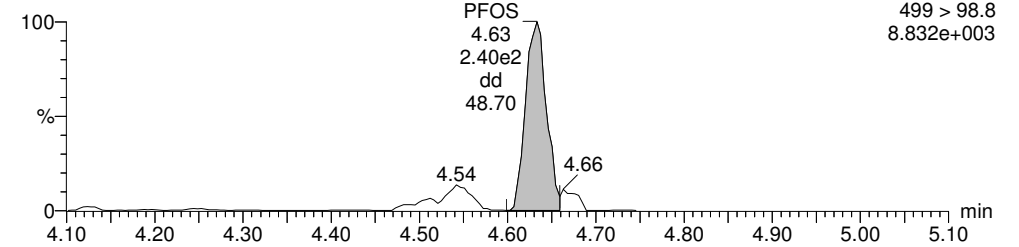
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170731G2_10

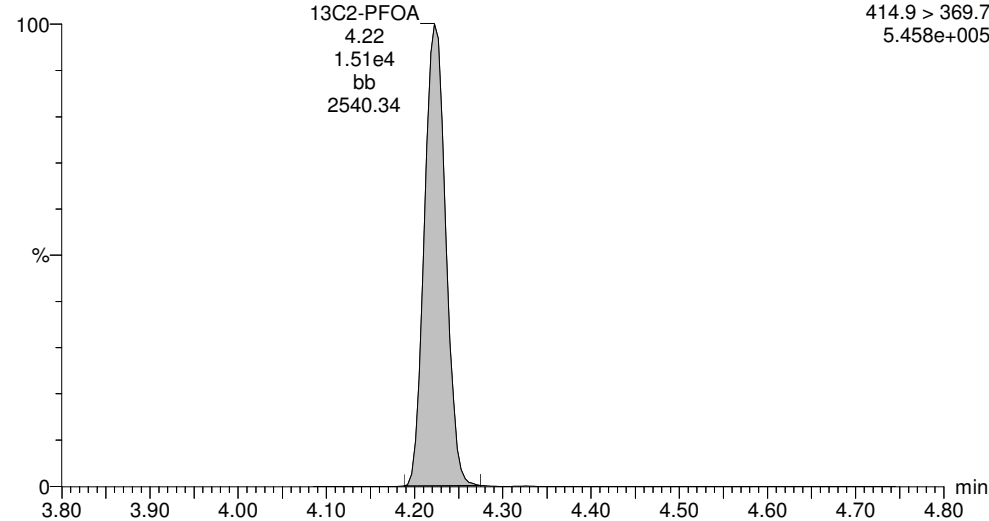


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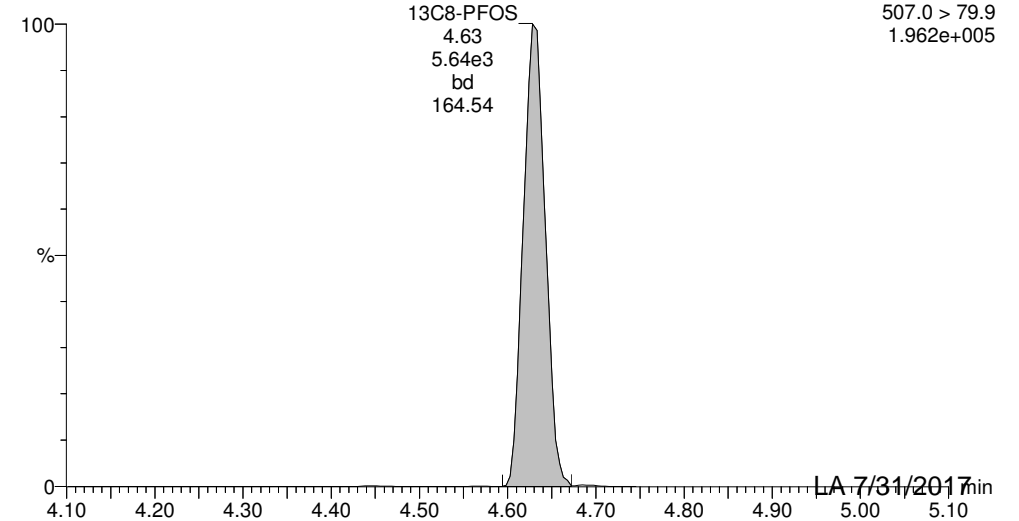
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170731G2_10



13C8-PFOS

170731G2_10

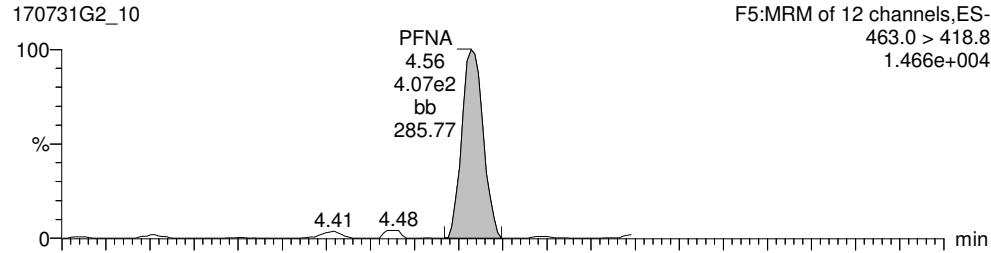


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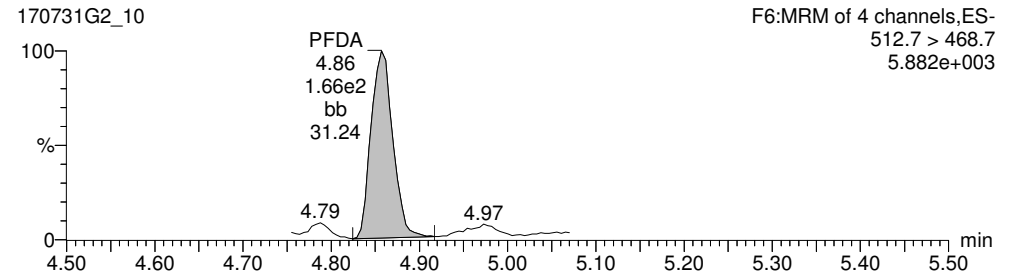
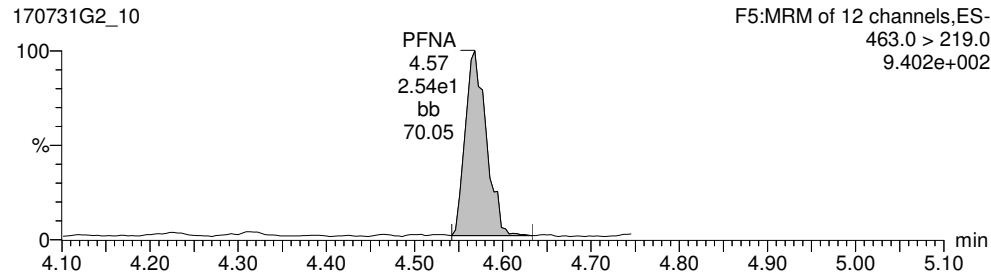
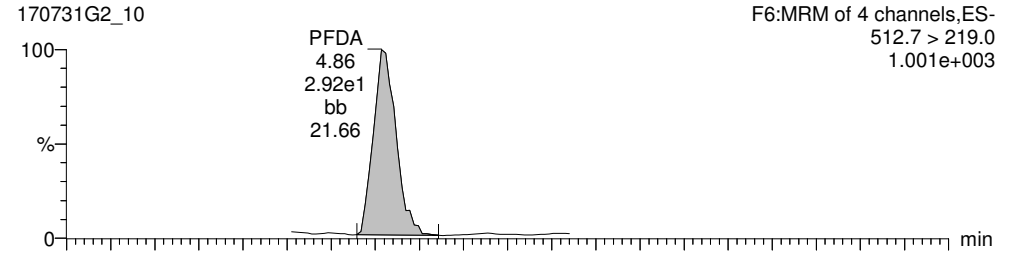
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Instrument: , Lab: , User:

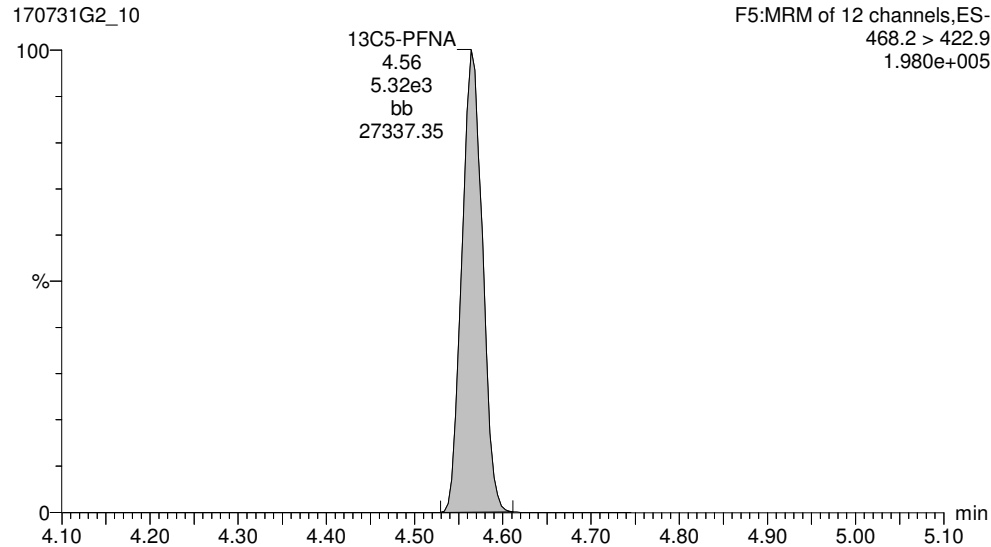
PFNA



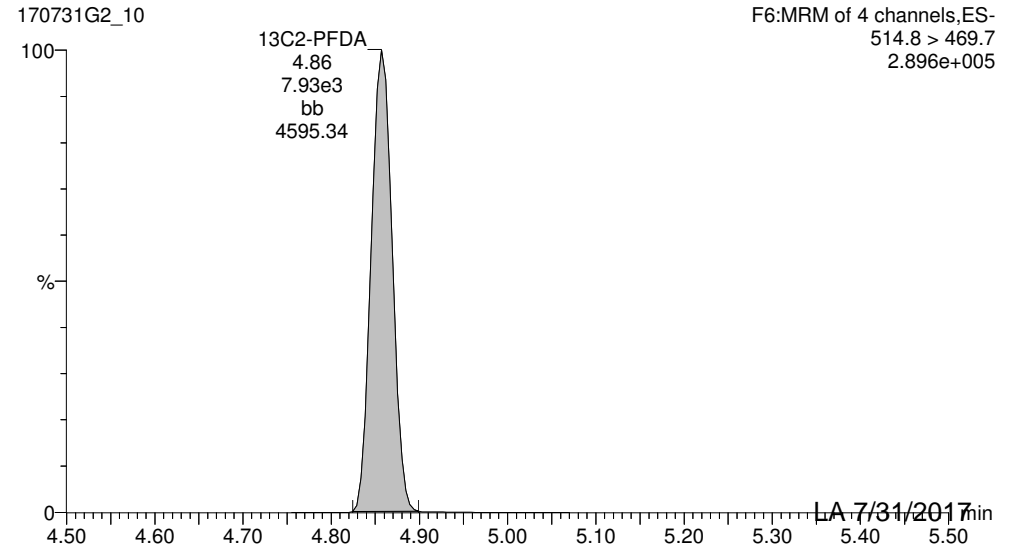
PFDA



13C5-PFNA



13C2-PFDA



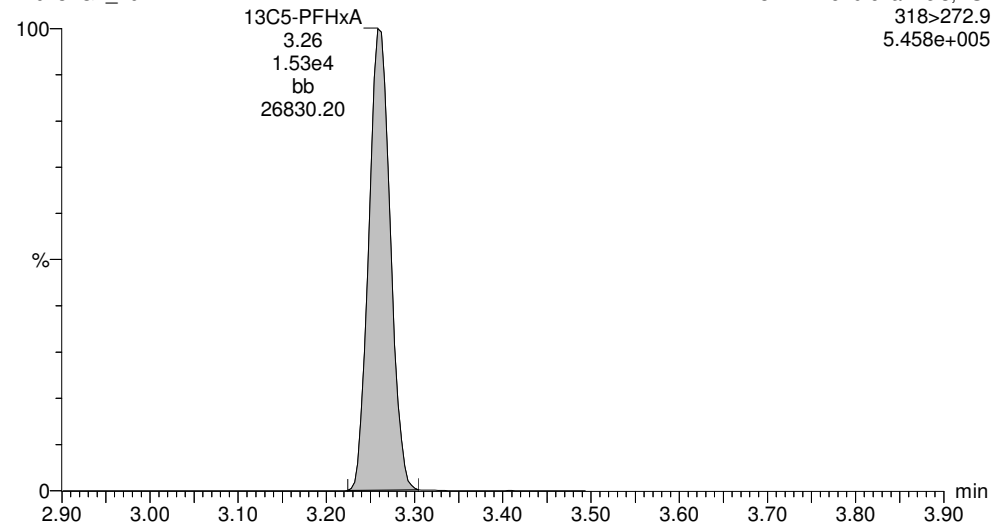
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Last Altered: Monday, July 31, 2017 12:41:11 Pacific Daylight Time
Printed: Monday, July 31, 2017 12:42:46 Pacific Daylight Time

ID: 1700887-02 IRPSite 6-GW-06GW02-20170712 0.09939, Description: IRPSite 6-GW-06GW02-20170712, Name: 170731G2_10, Date: 31-Jul-2017, Time: 11:27:45,
Instrument: , Lab: , User:

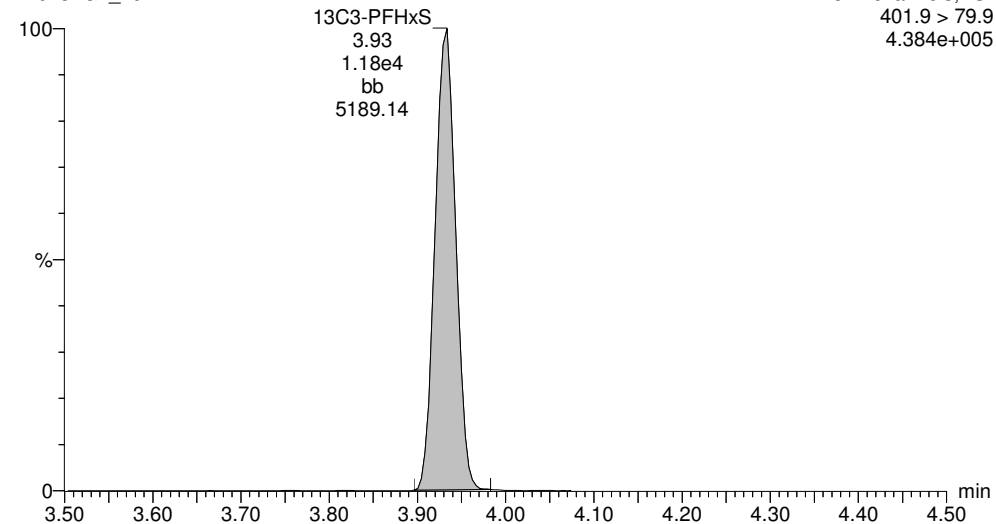
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170731G2_10



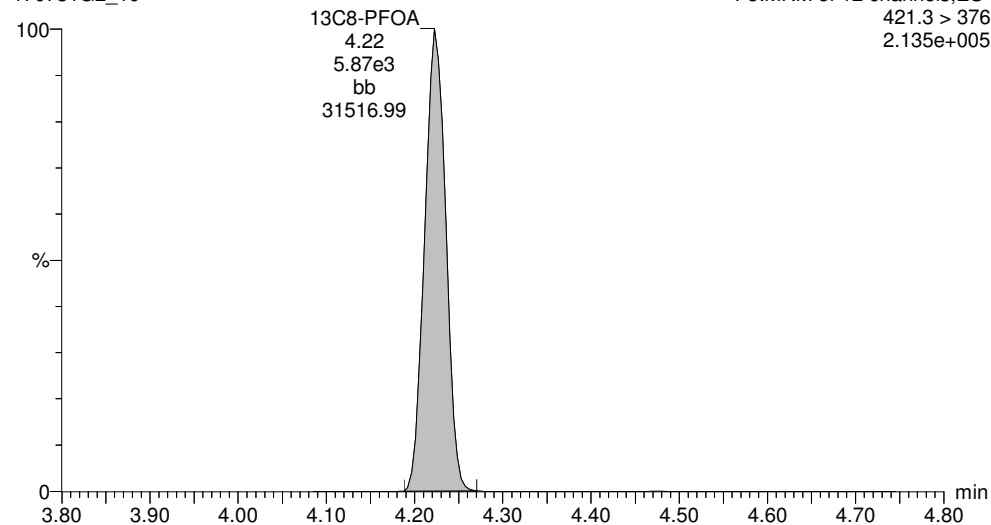
13C3-PFHxS

170731G2_10



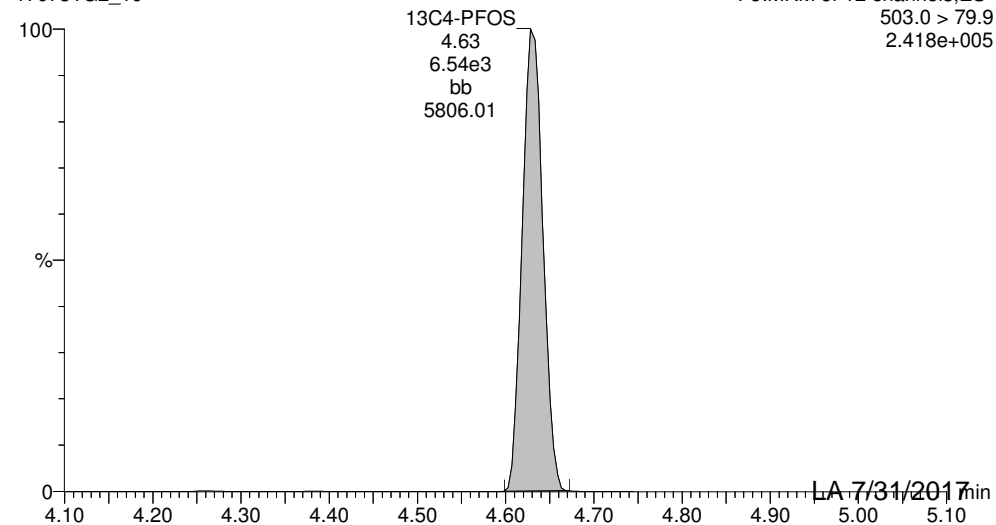
13C8-PFOA

170731G2_10



13C4-PFOS

170731G2_10



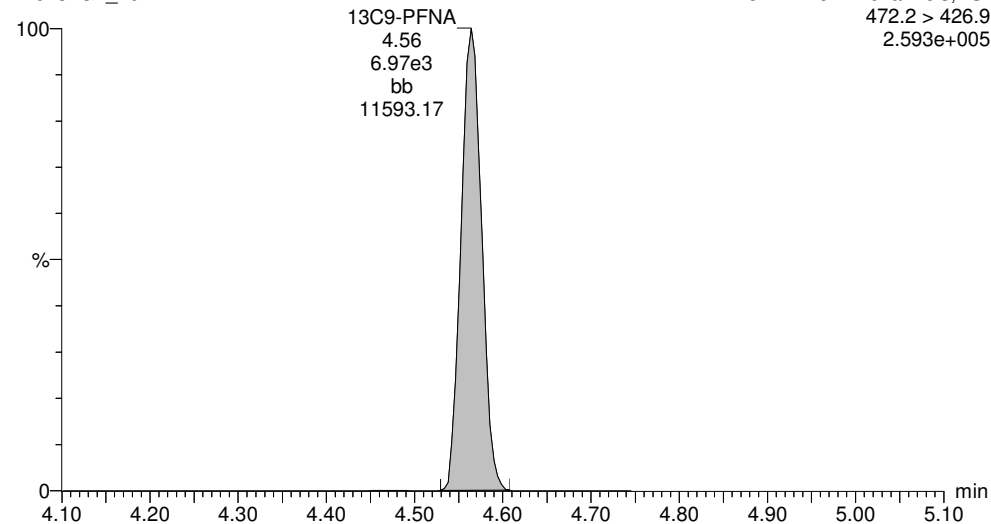
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Printed: Monday, July 31, 2017 12:42:46 Pacific Daylight Time

ID: 1700887-02 IRPSite 6-GW-06GW02-20170712 0.09939, Description: IRPSite 6-GW-06GW02-20170712, Name: 170731G2_10, Date: 31-Jul-2017, Time: 11:27:45,
Instrument: , Lab: , User:

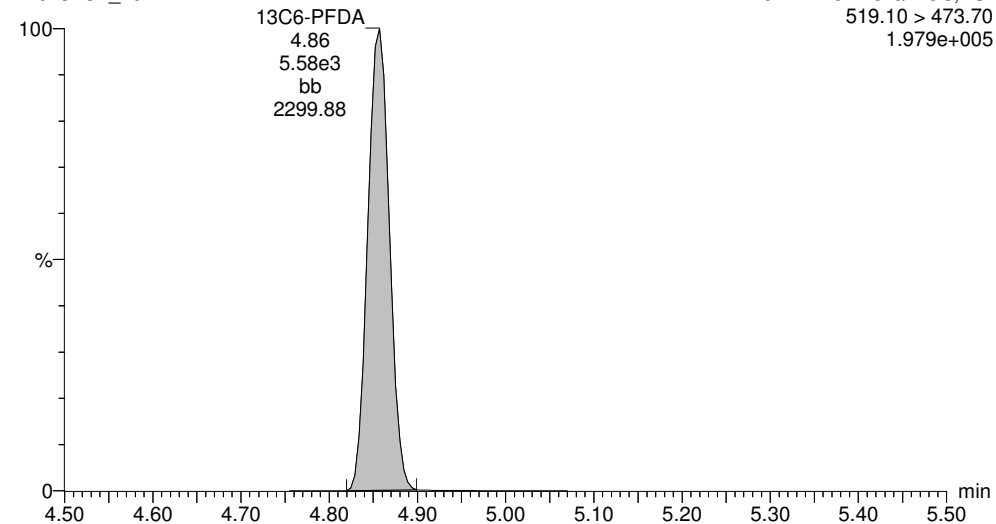
13C9-PFNA

170731G2_10



13C6-PFDA

170731G2_10



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-8.qld

Last Altered: Monday, July 31, 2017 16:29:16 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:29:52 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-02 IRPSite 6-GW-06GW02-20170712 0.09939, Description: IRPSite 6-GW-06GW02-20170712, Name: 170731G1_8, Date: 31-Jul-2017, Time: 15:19:26

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	2 N-MeFOSAA	570.1 > 419.0		3.463e3		0.0994			
2	4 PFUnA	563 > 518.9	2.974e2	1.537e4		0.0994	5.12		
3	5 N-EtFOSAA	584.2 > 419.0		4.175e3		0.0994			
4	6 PFDoA	612.9 > 318.8		1.880e4		0.0994			
5	7 PFTeDA	662.9 > 618.9		0.000e0		0.0994			
6	8 PFTeDA	712.9 > 668.8	1.366e2	1.575e4		0.0994	5.73		
7	10 d3-N-MeFOSAA	573.3 > 419.0	3.463e3	1.550e4	0.026	0.0994	4.98	1070	65.1
8	11 13C2-PFUnA	565 > 519.8	1.537e4	1.550e4	1.471	0.0994	5.12	84.8	67.4
9	12 d5-N-EtFOSAA	589.3 > 419.0	4.175e3	1.550e4	0.031	0.0994	5.10	1090	66.6
10	13 13C2-PFDoA	615 > 569.7	1.880e4	1.550e4	1.887	0.0994	5.35	80.8	64.3
11	14 13C2-PFTeDA	715 > 669.7	1.575e4	1.550e4	1.990	0.0994	5.73	64.2	51.1
12	15 13C7-PFUnA	570.1 > 524.8	1.550e4	1.550e4	1.000	0.0994	5.12	126	100
13	16 Total N-MeFOSAA	570.1 > 419.0		3.463e3		0.0994			
14	17 Total N-EtFOSAA	584.2 > 419.0		4.175e3		0.0994			

Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-8.qld

Last Altered: Monday, July 31, 2017 16:29:16 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:29:52 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-02 IRPSite 6-GW-06GW02-20170712 0.09939, Description: IRPSite 6-GW-06GW02-20170712, Name: 170731G1_8, Date: 31-Jul-2017, Time: 15:19:26

Total N-MeFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total N-EtFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

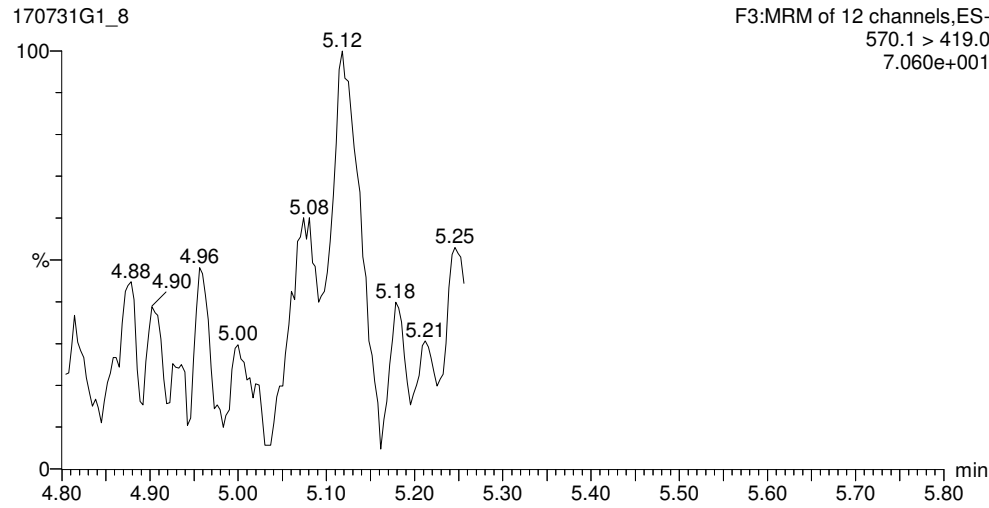
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Last Altered: Monday, July 31, 2017 16:29:16 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:29:52 Pacific Daylight Time

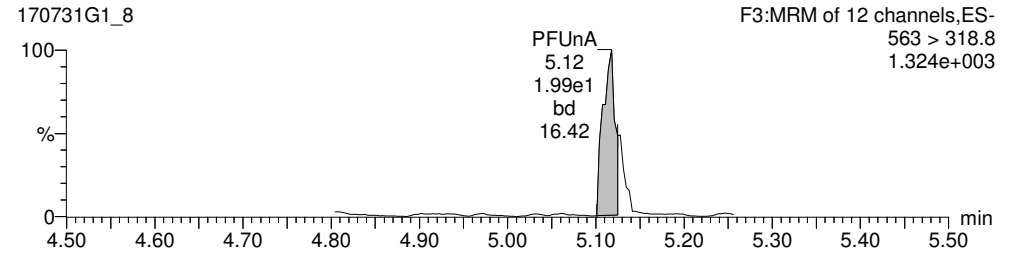
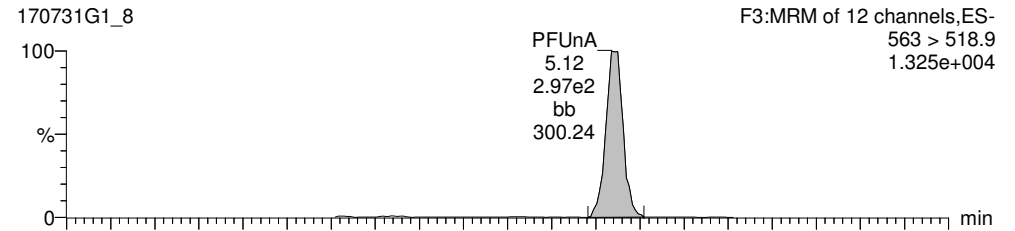
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ID: 1700887-02 IRPSite 6-GW-06GW02-20170712 0.09939, Description: IRPSite 6-GW-06GW02-20170712, Name: 170731G1_8, Date: 31-Jul-2017, Time: 15:19:26,
Instrument: , Lab: , User:

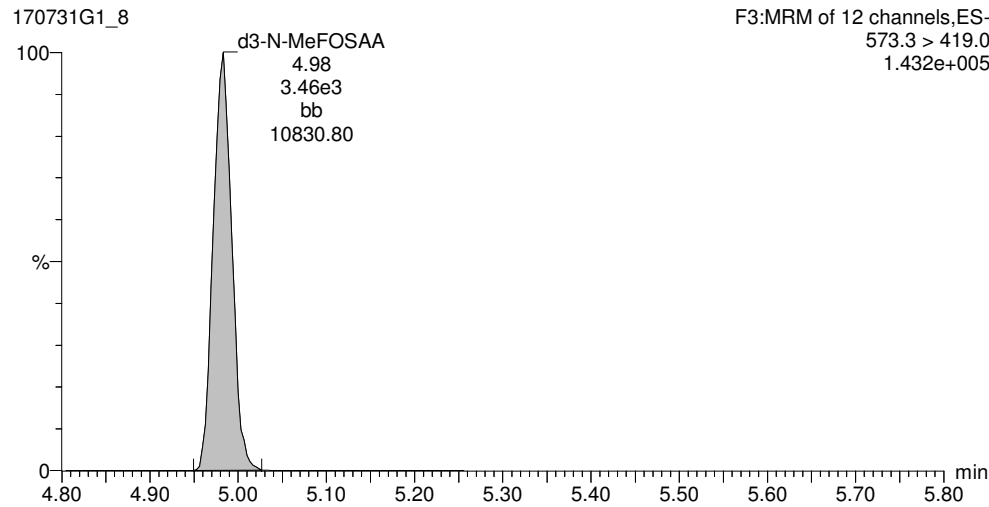
Total N-MeFOSAA



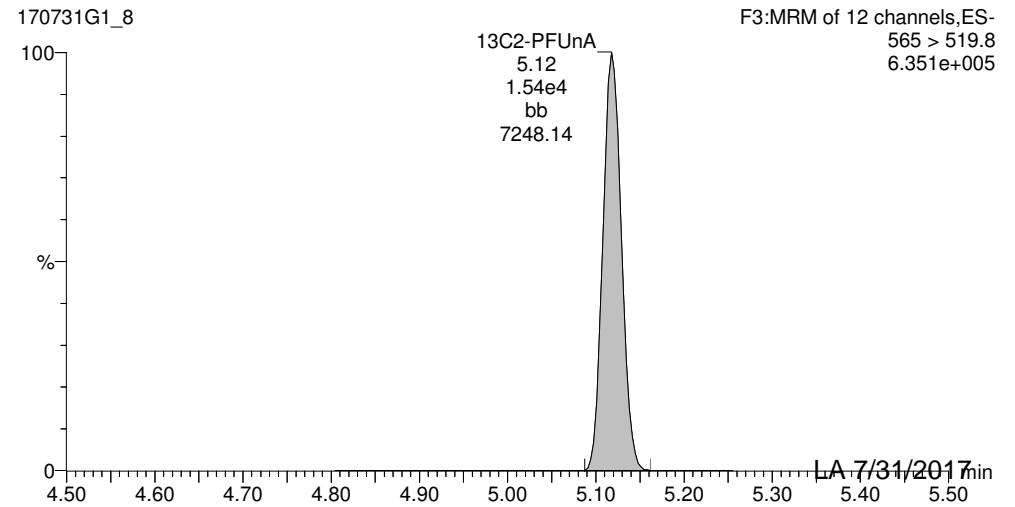
PFUaA



d3-N-MeFOSAA



13C2-PFUaA

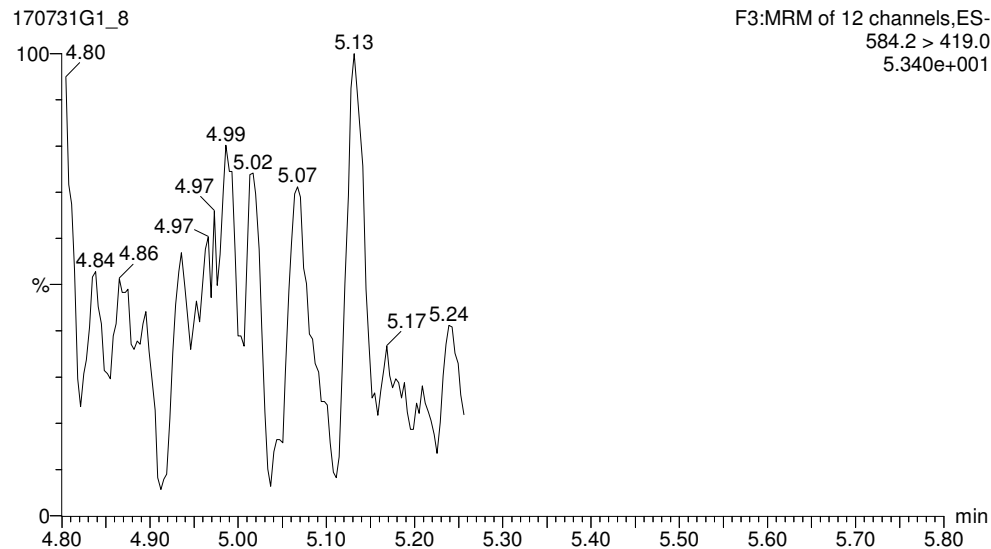


Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-8.qld

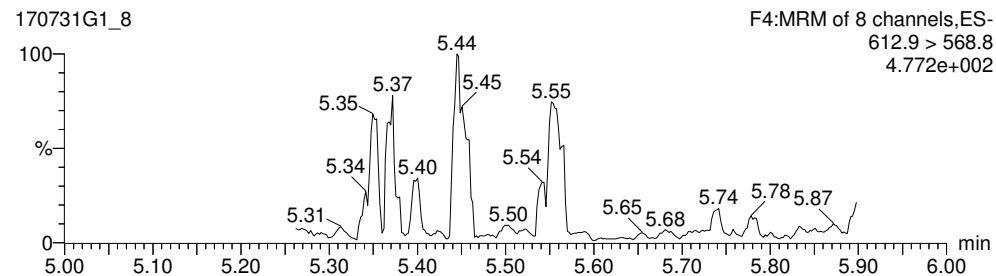
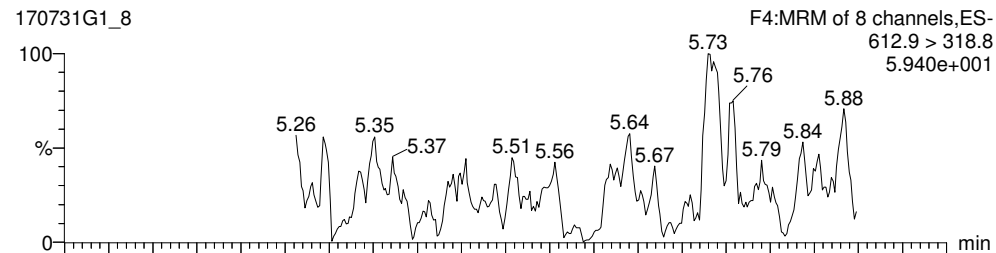
Last Altered: Monday, July 31, 2017 16:29:16 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:29:52 Pacific Daylight Time

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Instrument: , Lab: , User:

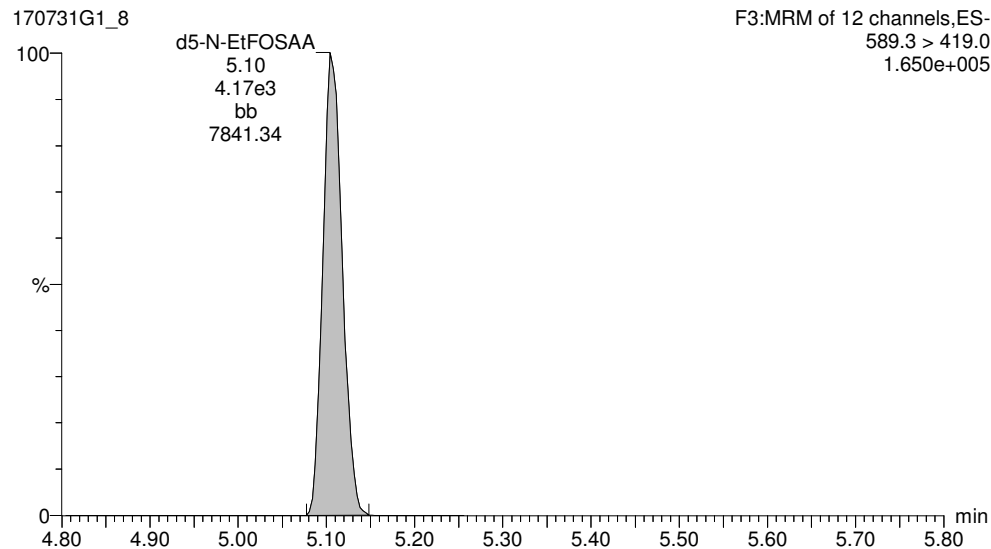
Total N-EtFOSAA



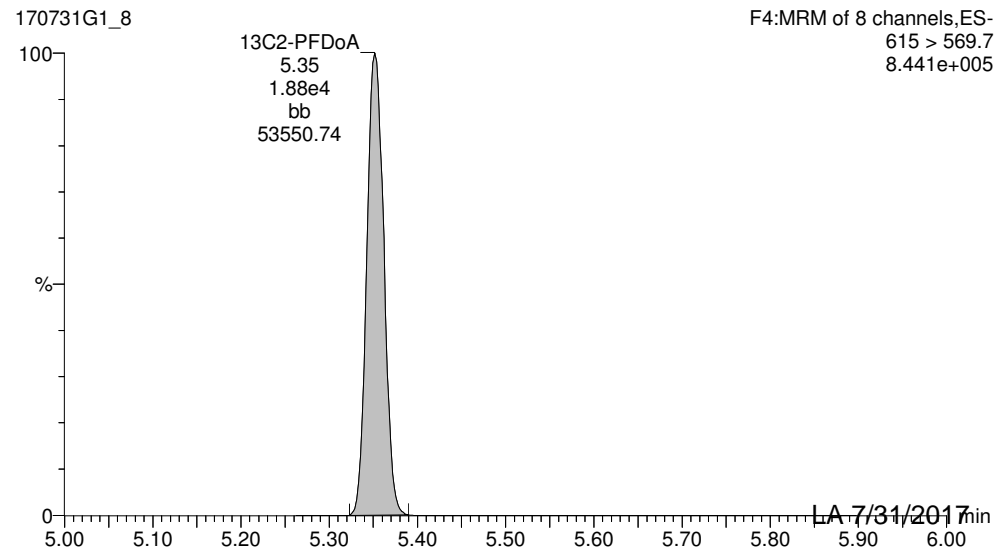
PFDoA



d5-N-EtFOSAA



13C2-PFDoA

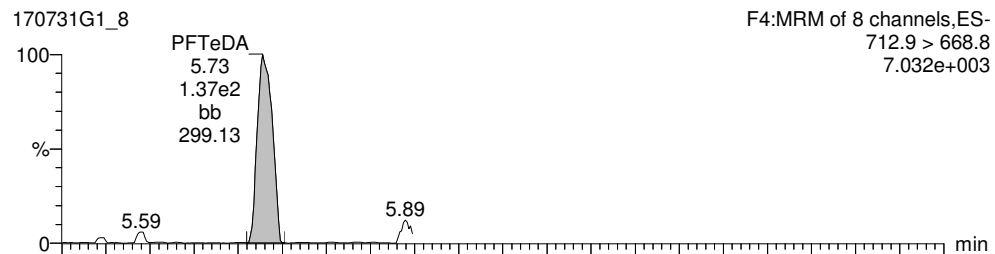


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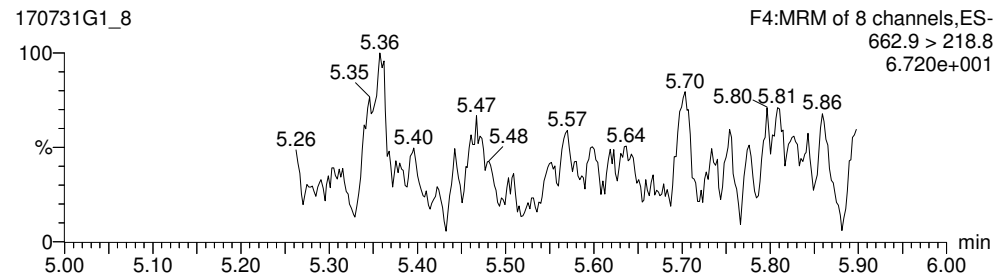
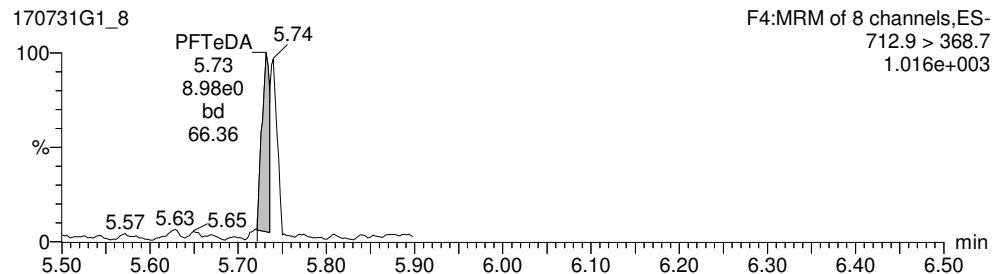
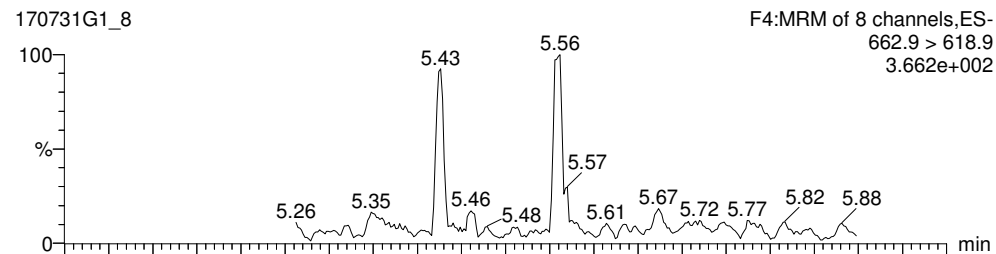
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ID: 1700887-02 IRPSite 6-GW-06GW02-20170712 0.09939, Description: IRPSite 6-GW-06GW02-20170712, Name: 170731G1_8, Date: 31-Jul-2017, Time: 15:19:26,
Instrument: , Lab: , User:

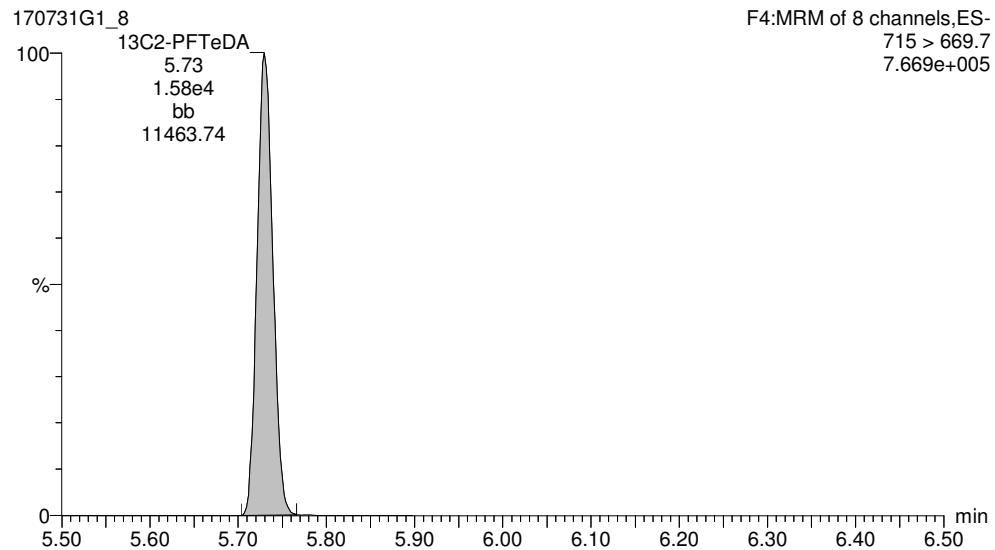
PFTeDA



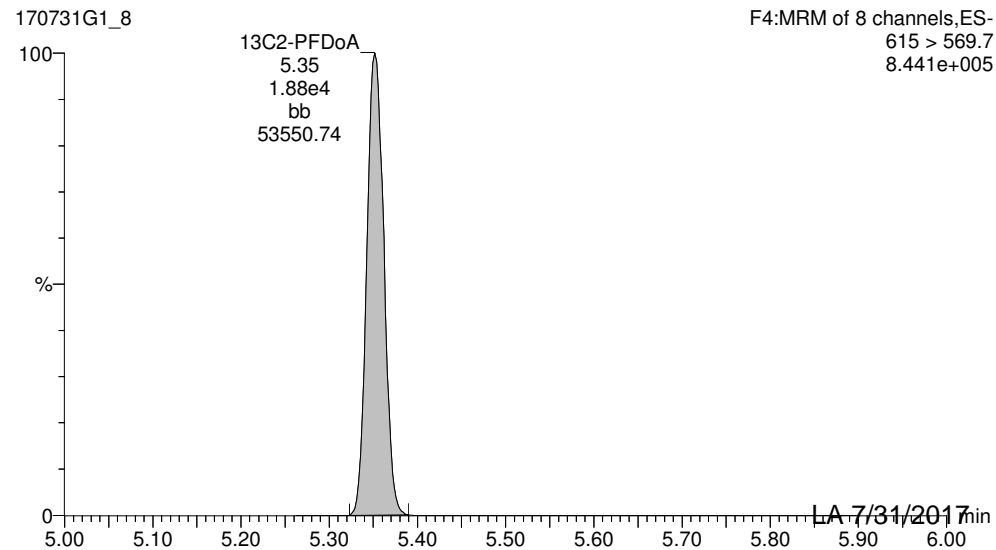
PFTrDA



13C2-PFTeDA



13C2-PFDoA



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-8.qld

Last Altered: Monday, July 31, 2017 16:29:16 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:29:52 Pacific Daylight Time

ID: 1700887-02 IRPSite 6-GW-06GW02-20170712 0.09939, Description: IRPSite 6-GW-06GW02-20170712, Name: 170731G1_8, Date: 31-Jul-2017, Time: 15:19:26,
Instrument: , Lab: , User:

13C7-PFUnA

170731G1_8

F3:MRM of 12 channels,ES-
570.1 > 524.8
6.356e+005



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-11.qld

Last Altered: Monday, July 31, 2017 12:45:49 Pacific Daylight Time

Printed: Monday, July 31, 2017 12:50:38 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G2_11, Date: 31-Jul-2017, Time: 11:40:15

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299.0 > 79.7		3.613e3		0.114			
2	4 PFHxA	312.9 > 268.9		4.718e3		0.114			
3	5 PFHpA	363 > 318.9		5.440e3		0.114			
4	6 PFHxS	398.9 > 79.6	1.362e1	3.050e3		0.114	3.94		
5	7 PFOA	413.0 > 368.7	5.493e1	1.100e4		0.114	4.22		
6	8 PFNA	463.0 > 418.8		4.357e3		0.114			
7	9 PFOS	499.0 > 79.9		5.638e3		0.114			
8	10 PFDA	512.7 > 219.0	9.769e0	7.502e3		0.114	4.86		
9	12 13C3-PFBS	302.0 > 98.8	3.613e3	1.297e4	0.263	0.114	2.89	116	106
10	14 13C2-PFHxA	315.0 > 269.8	4.718e3	1.297e4	0.361	0.114	3.27	110	101
11	15 13C4-PFHpA	367.2 > 321.8	5.440e3	1.297e4	0.475	0.114	3.81	96.3	88.2
12	16 18O2-PFHxS	403 > 102.6	3.050e3	7.847e3	0.411	0.114	3.93	103	94.7
13	17 13C2-PFOA	414.9 > 369.7	1.100e4	4.412e3	2.843	0.114	4.22	95.8	87.7
14	18 13C5-PFNA	468.2 > 422.9	4.357e3	5.408e3	0.854	0.114	4.56	103	94.4
15	19 13C2-PFDA	514.8 > 469.7	7.502e3	5.353e3	1.742	0.114	4.86	87.9	80.5
16	20 13C8-PFOS	507.0 > 79.9	5.638e3	5.683e3	0.927	0.114	4.63	117	107
17	22 13C5-PFHxA	318 > 272.9	1.297e4	1.297e4	1.000	0.114	3.27	109	100
18	23 13C3-PFHxS	401.9 > 79.9	7.847e3	7.847e3	1.000	0.114	3.93	109	100
19	24 13C8-PFOA	421.3 > 376	4.412e3	4.412e3	1.000	0.114	4.22	109	100
20	25 13C9-PFNA	472.2 > 426.9	5.408e3	5.408e3	1.000	0.114	4.56	109	100
21	26 13C4-PFOS	503.0 > 79.9	5.683e3	5.683e3	1.000	0.114	4.63	109	100
22	27 13C6-PFDA	519.10 > 473.70	5.353e3	5.353e3	1.000	0.114	4.86	109	100
23	28 Total PFBS	299.0 > 79.7		3.613e3		0.114			
24	29 Total PFHxS	398.9 > 79.6		3.050e3		0.114			
25	30 Total PFOA	413.0 > 368.7		1.100e4		0.114			
26	31 Total PFOS	499.0 > 79.9		5.638e3		0.114			

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-11.qld

Last Altered: Monday, July 31, 2017 12:45:49 Pacific Daylight Time

Printed: Monday, July 31, 2017 12:50:38 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G2_11, Date: 31-Jul-2017, Time: 11:40:15

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	3.94	13.618	3049.991	

Total PFOA

#	Name	Trace	RT	Area	IS Area	Conc.
1	7 PFOA	413.0 > 368.7	4.22	54.930	11002.534	

Total PFOS

#	Name	Trace	RT	Area	IS Area	Conc.
1						

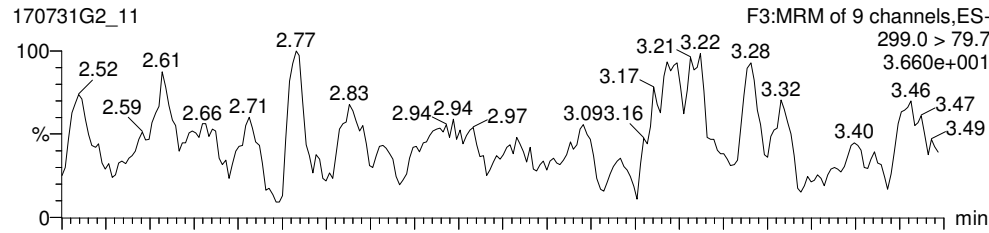
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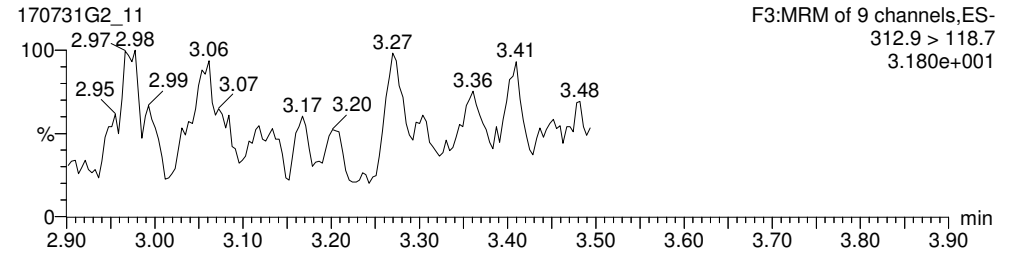
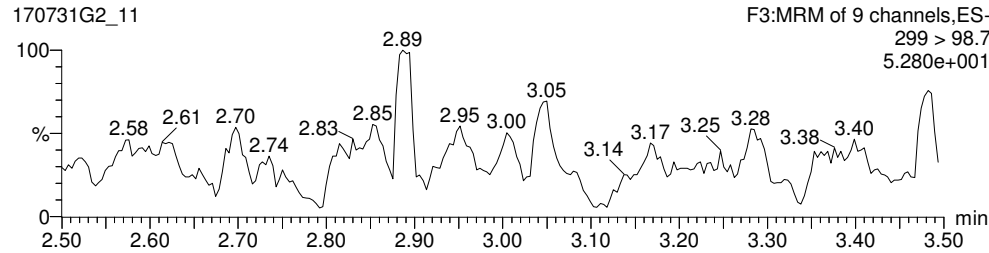
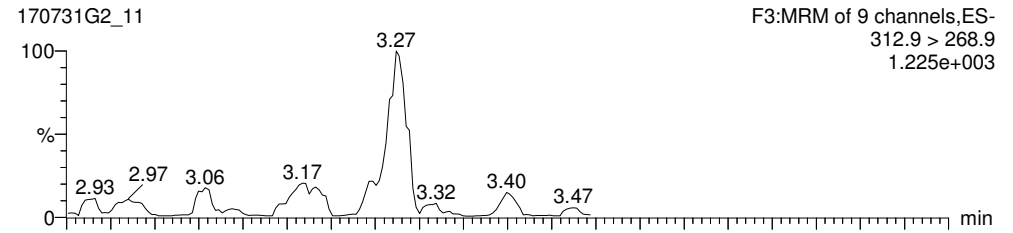
Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G2_11, Date: 31-Jul-2017, Time: 11:40:15, Instrument: ,
Lab: , User:

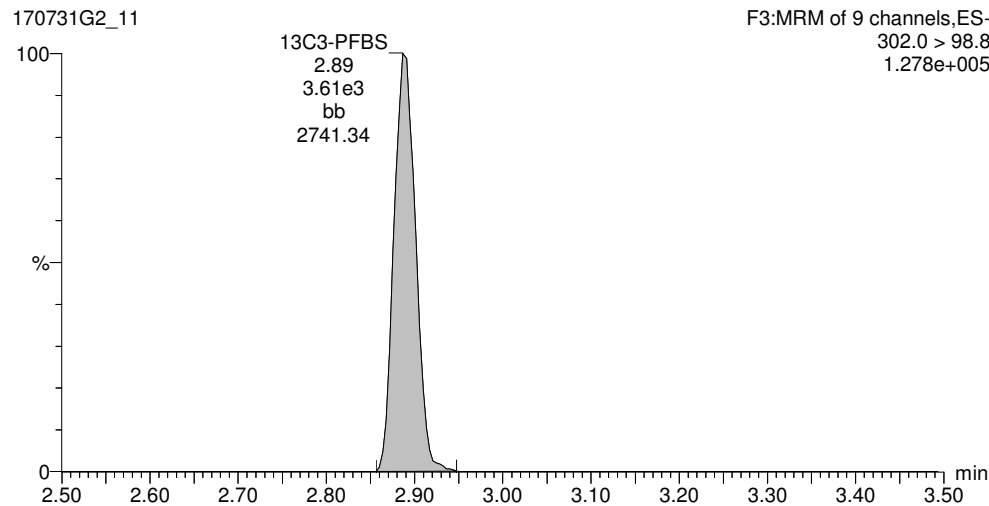
Total PFBS



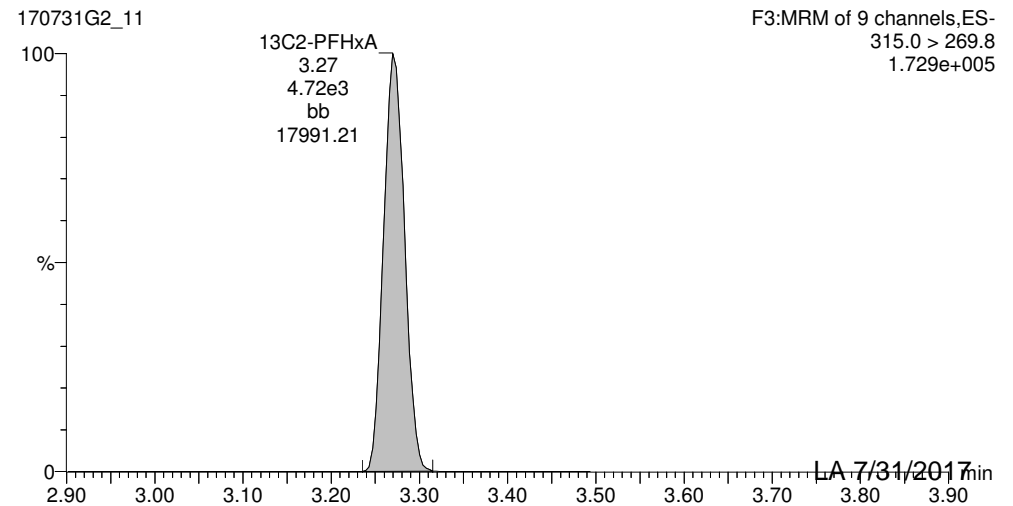
PFHxA



13C3-PFBS



13C2-PFHxA

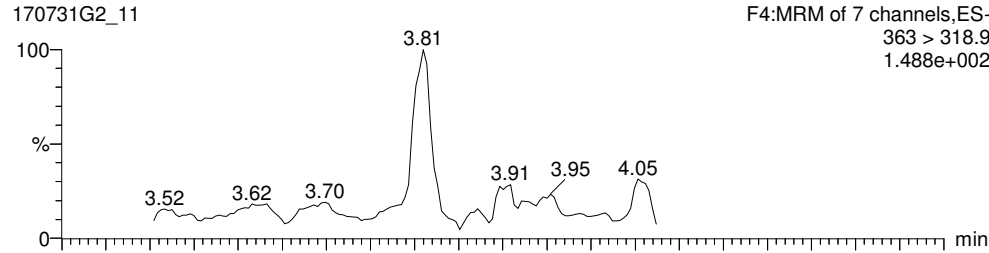


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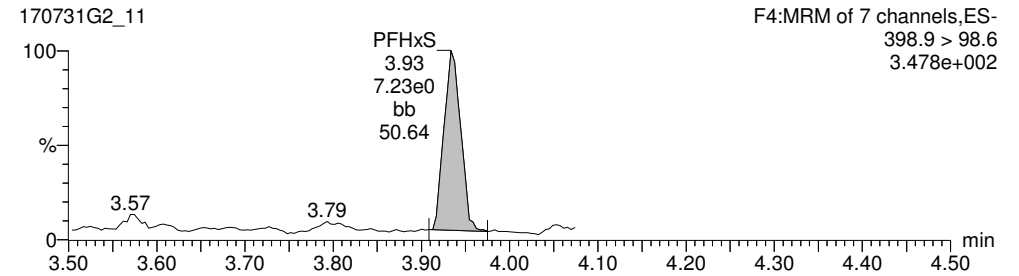
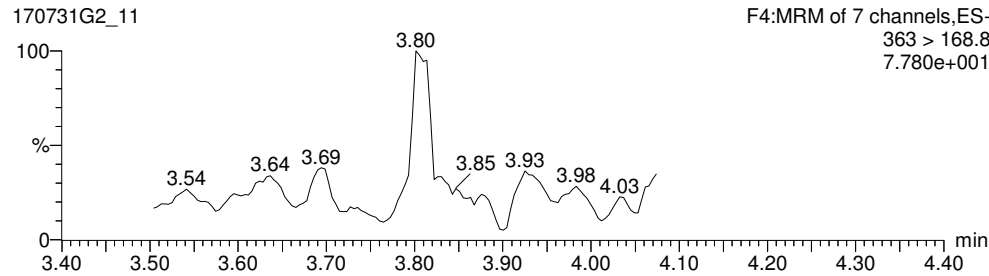
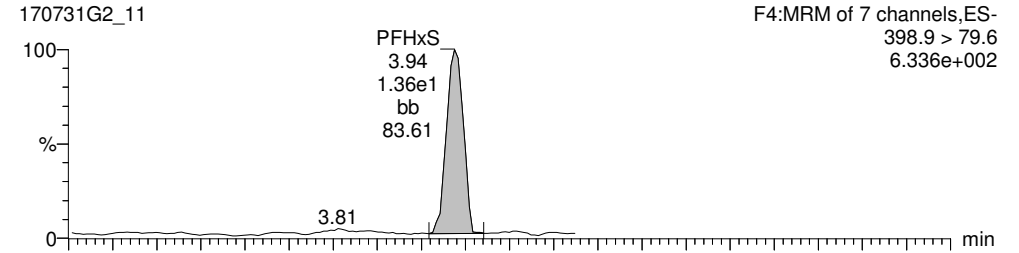
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Printed: Monday, July 31, 2017 12:50:38 Pacific Daylight Time

ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G2_11, Date: 31-Jul-2017, Time: 11:40:15, Instrument: , Lab: , User:

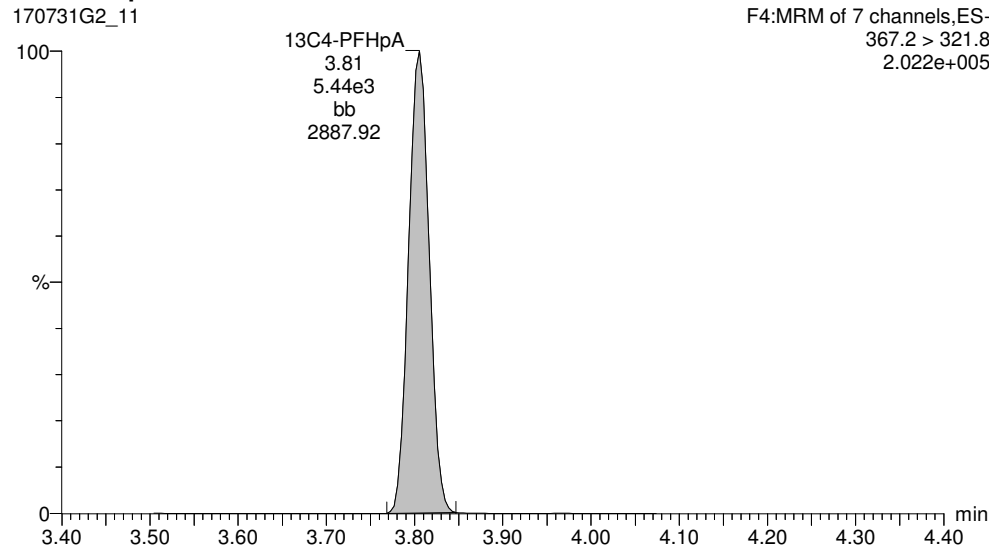
PFHpA



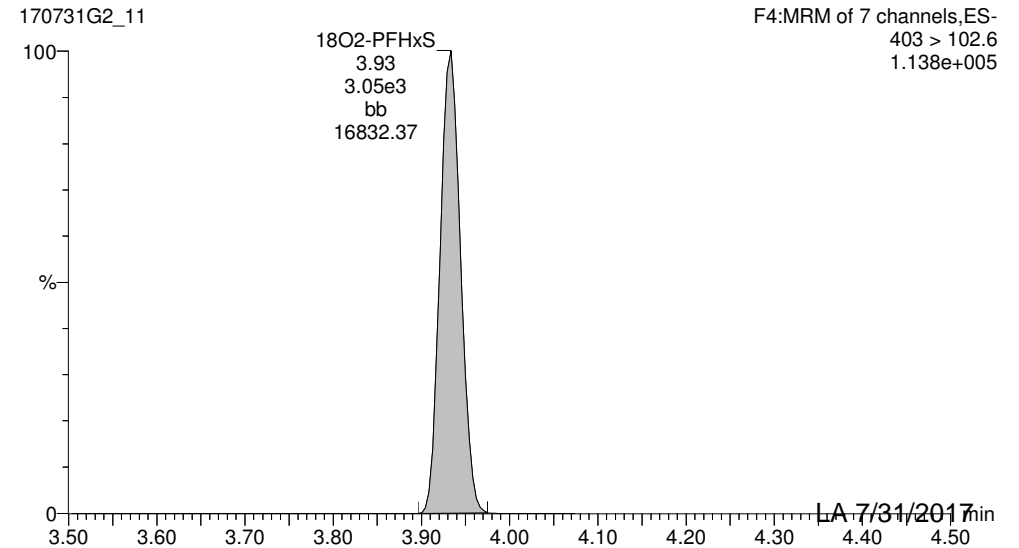
Total PFHxS



13C4-PFHpA



18O2-PFHxS



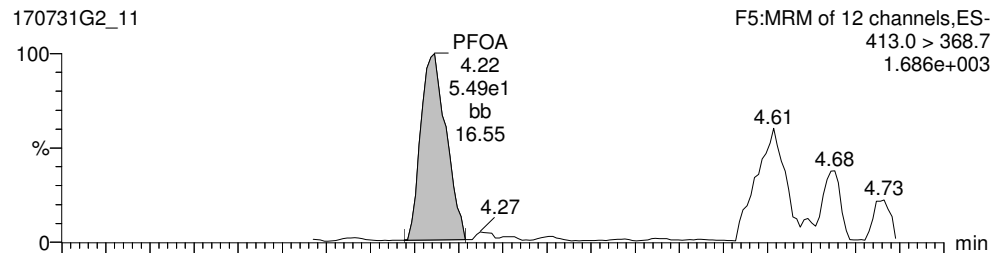
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Last Altered: Monday, July 31, 2017 12:45:49 Pacific Daylight Time
Printed: Monday, July 31, 2017 12:50:38 Pacific Daylight Time

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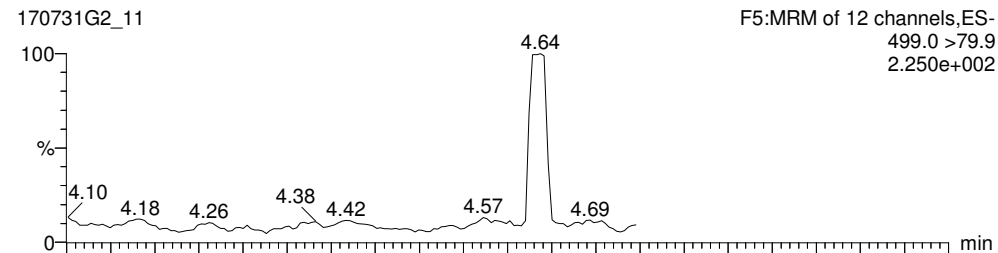
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170731G2_11

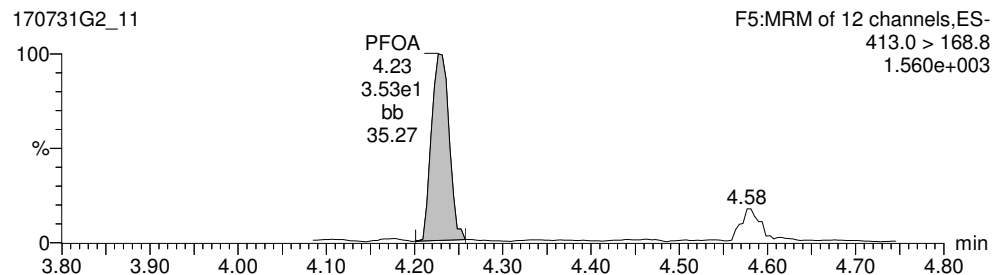


Total PFOS

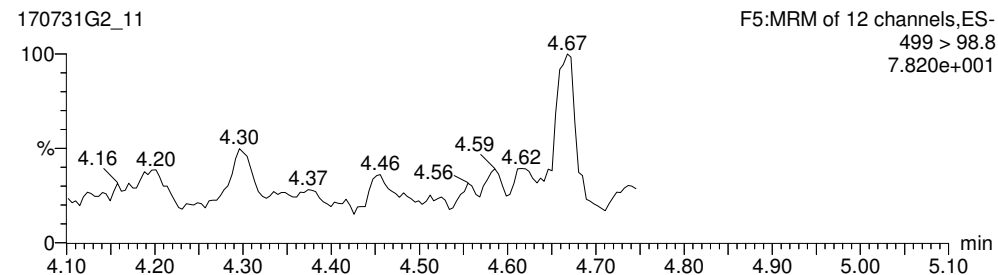
170731G2_11



170731G2_11

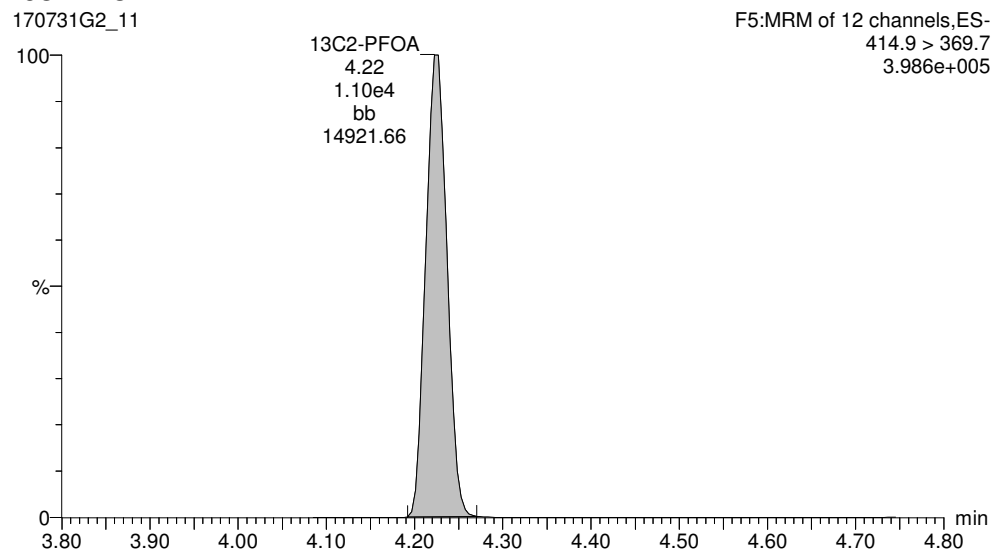


170731G2_11



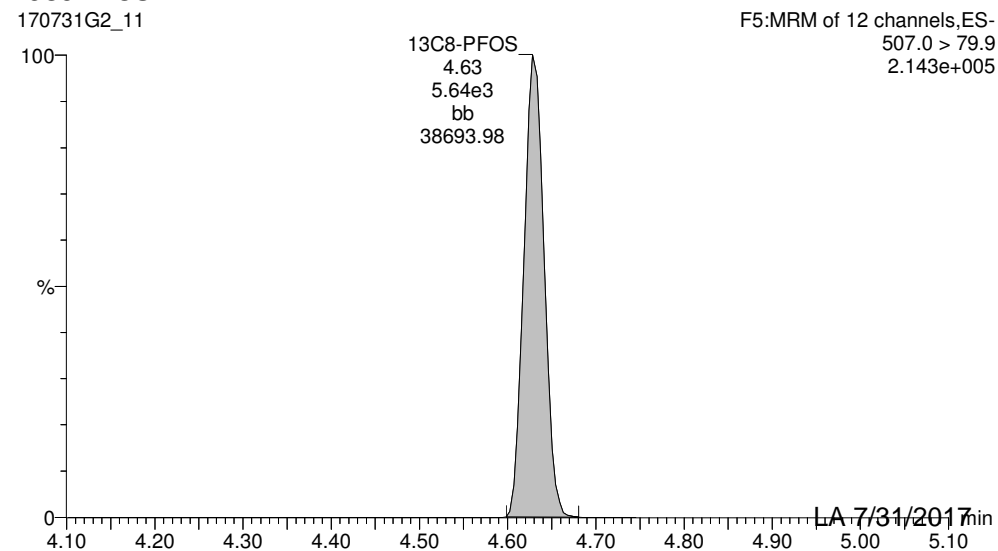
13C2-PFOA

170731G2_11



13C8-PFOS

170731G2_11

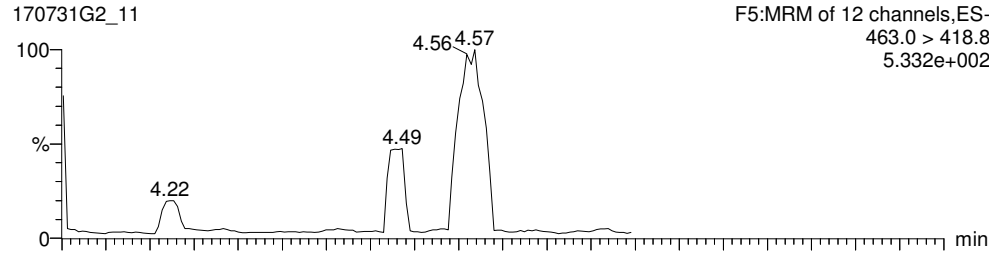


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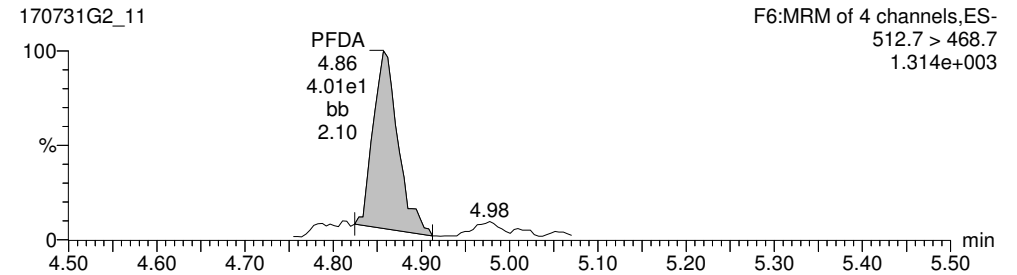
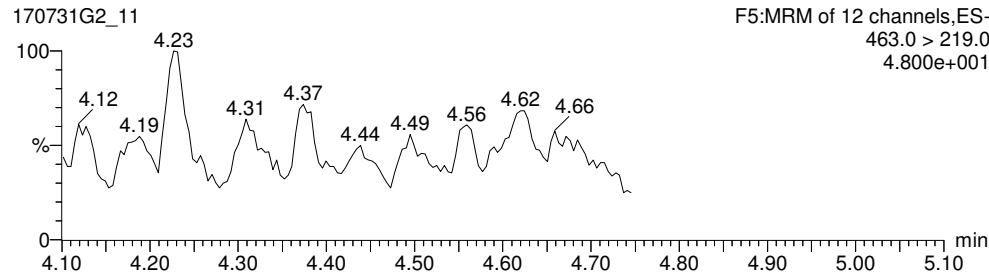
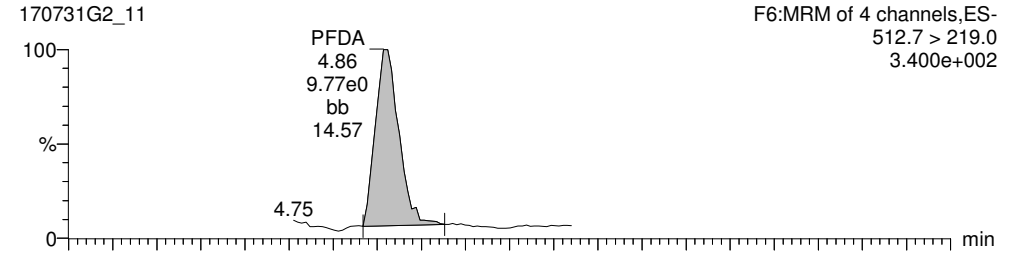
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ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G2_11, Date: 31-Jul-2017, Time: 11:40:15, Instrument: , Lab: , User:

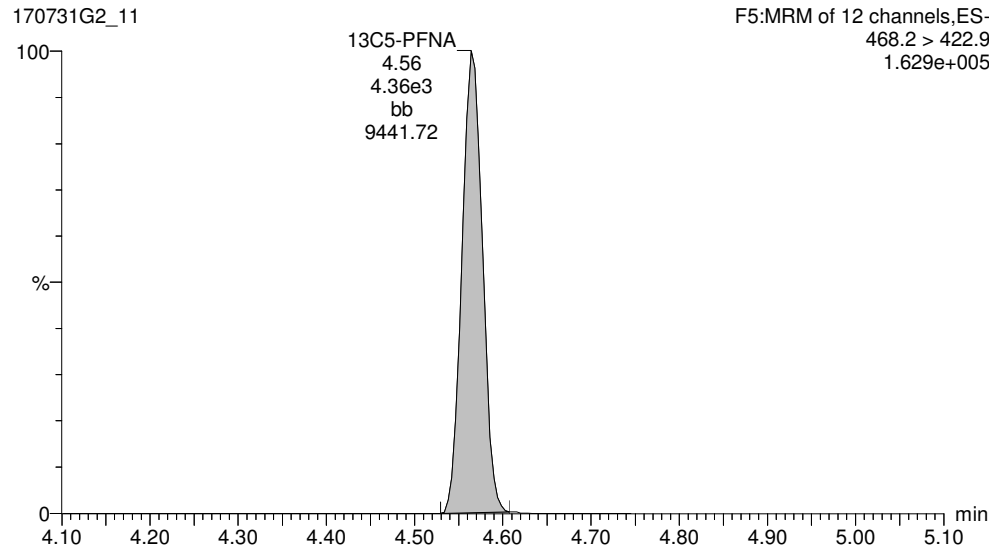
PFNA



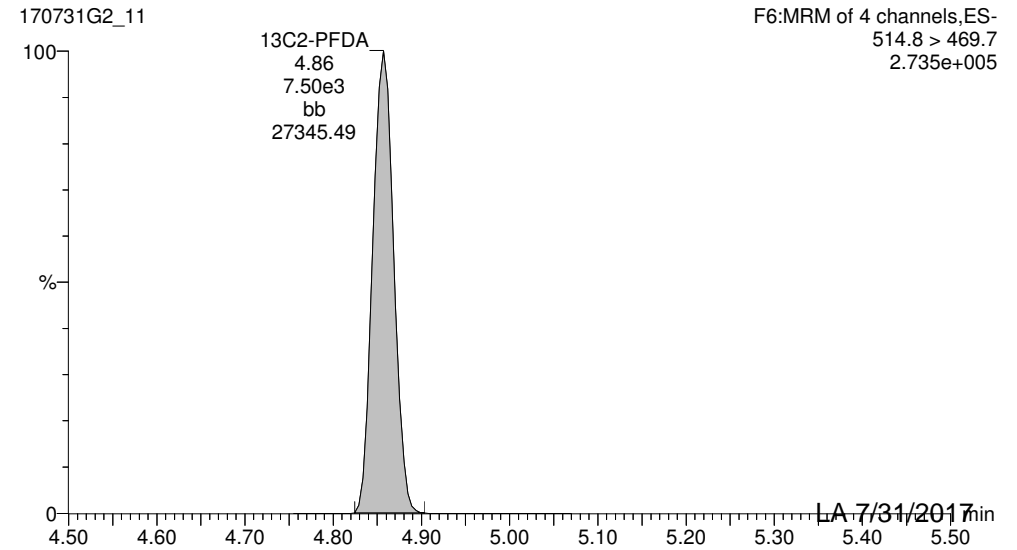
PFDA



13C5-PFNA



13C2-PFDA



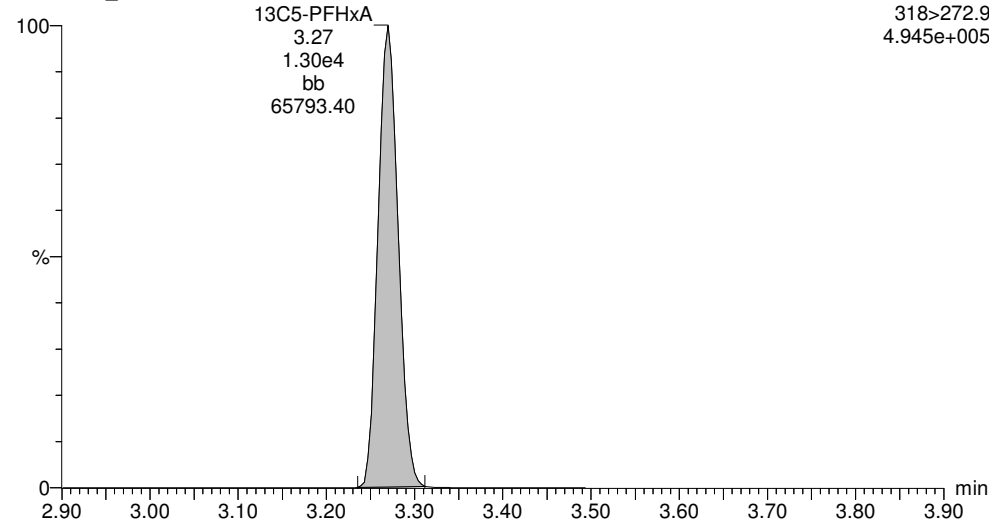
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Printed: Monday, July 31, 2017 12:50:38 Pacific Daylight Time

ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G2_11, Date: 31-Jul-2017, Time: 11:40:15, Instrument: , Lab: , User:

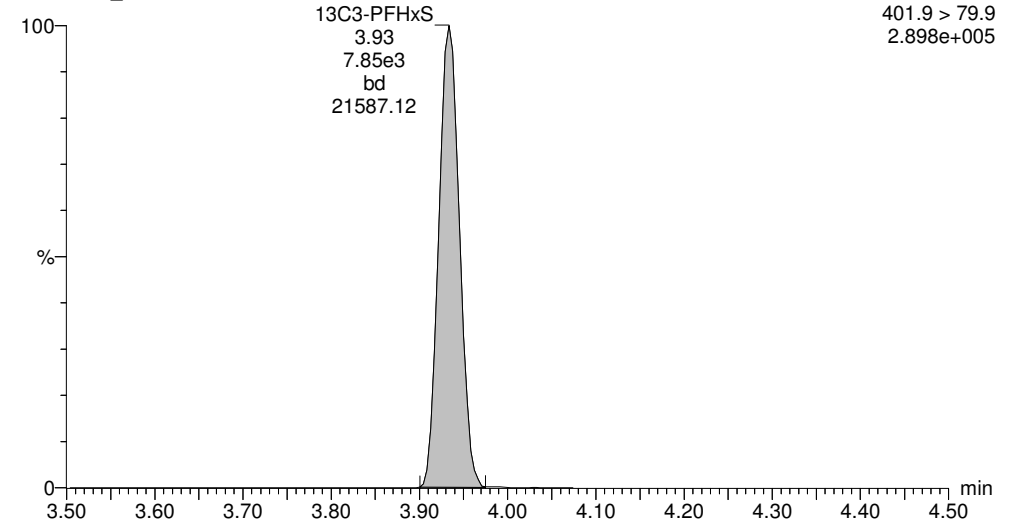
13C5-PFHxA

170731G2_11



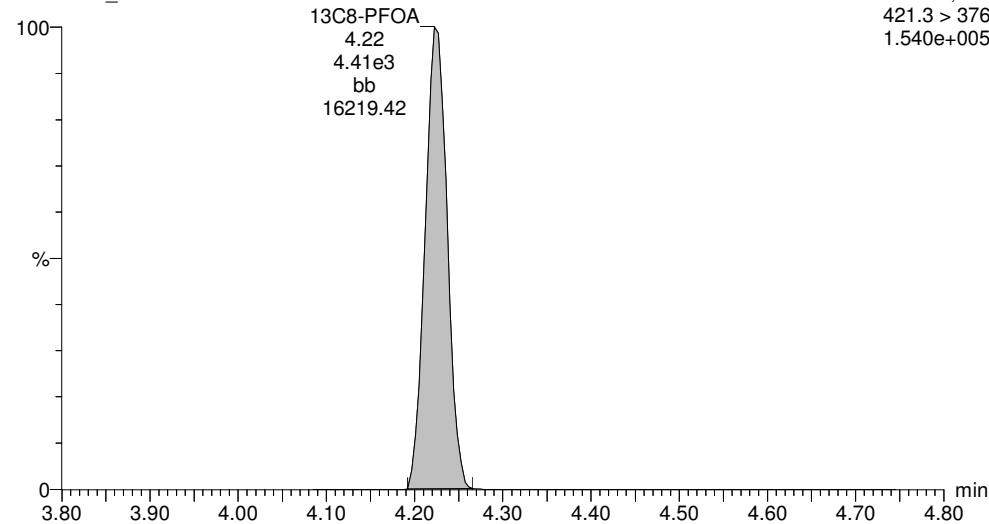
13C3-PFHxS

170731G2_11



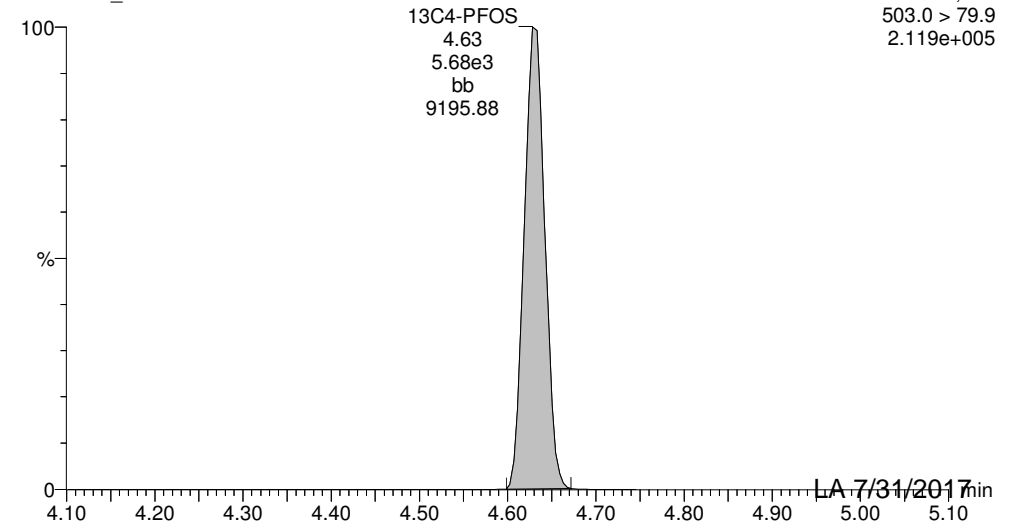
13C8-PFOA

170731G2_11



13C4-PFOS

170731G2_11



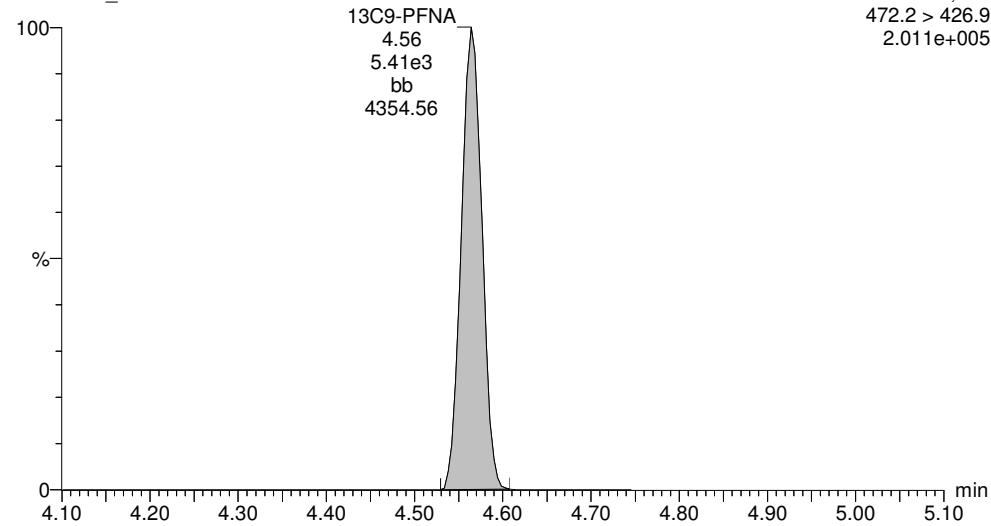
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ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G2_11, Date: 31-Jul-2017, Time: 11:40:15, Instrument: , Lab: , User:

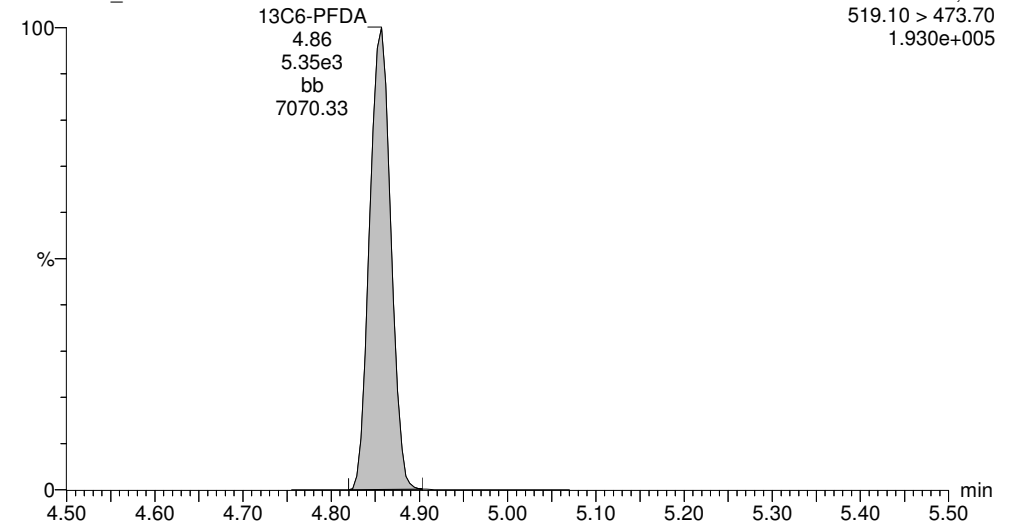
13C9-PFNA

170731G2_11



13C6-PFDA

170731G2_11



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-9.qld

Last Altered: Monday, July 31, 2017 16:31:12 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:32:01 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G1_9, Date: 31-Jul-2017, Time: 15:32:02

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	2 N-MeFOSAA	570.1 > 419.0		2.358e3		0.114			
2	4 PFUnA	563 > 518.9	9.249e1	1.072e4		0.114	5.12		
3	5 N-EtFOSAA	584.2 > 419.0		2.458e3		0.114			
4	6 PFDoA	612.9 > 318.8		1.363e4		0.114			
5	7 PFTTrDA	662.9 > 618.9		0.000e0		0.114			
6	8 PFTeDA	712.9 > 668.8	1.418e2	1.282e4		0.114	5.73		
7	10 d3-N-MeFOSAA	573.3 > 419.0	2.358e3	1.092e4	0.026	0.114	4.98	894	63.0
8	11 13C2-PFUnA	565 > 519.8	1.072e4	1.092e4	1.471	0.114	5.12	72.9	66.7
9	12 d5-N-EtFOSAA	589.3 > 419.0	2.458e3	1.092e4	0.031	0.114	5.10	791	55.7
10	13 13C2-PFDoA	615 > 569.7	1.363e4	1.092e4	1.887	0.114	5.35	72.3	66.2
11	14 13C2-PFTeDA	715 > 669.7	1.282e4	1.092e4	1.990	0.114	5.73	64.4	59.0
12	15 13C7-PFUnA	570.1 > 524.8	1.092e4	1.092e4	1.000	0.114	5.12	109	100
13	16 Total N-MeFOSAA	570.1 > 419.0		2.358e3		0.114			
14	17 Total N-EtFOSAA	584.2 > 419.0		2.458e3		0.114			

Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-9.qld

Last Altered: Monday, July 31, 2017 16:31:12 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:32:01 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G1_9, Date: 31-Jul-2017, Time: 15:32:02

Total N-MeFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total N-EtFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

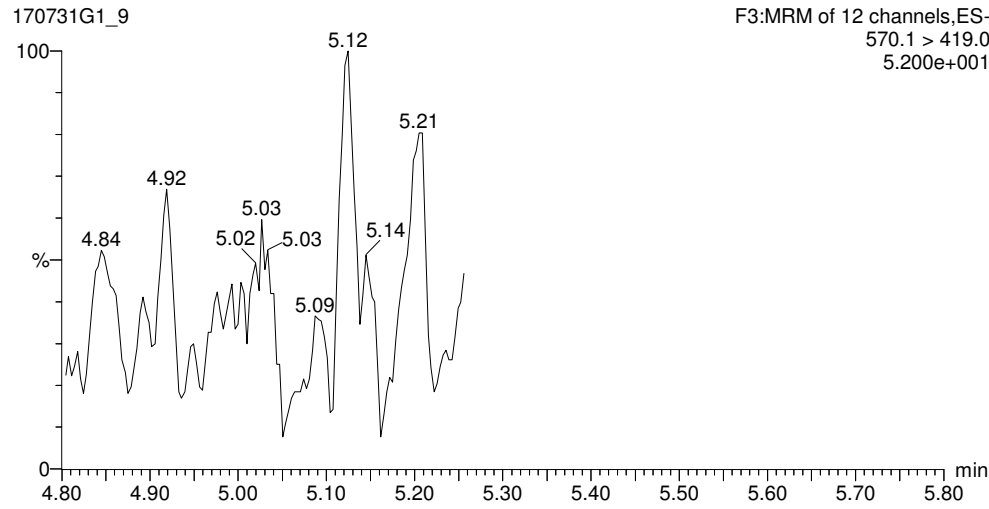
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Last Altered: Monday, July 31, 2017 16:31:12 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:32:01 Pacific Daylight Time

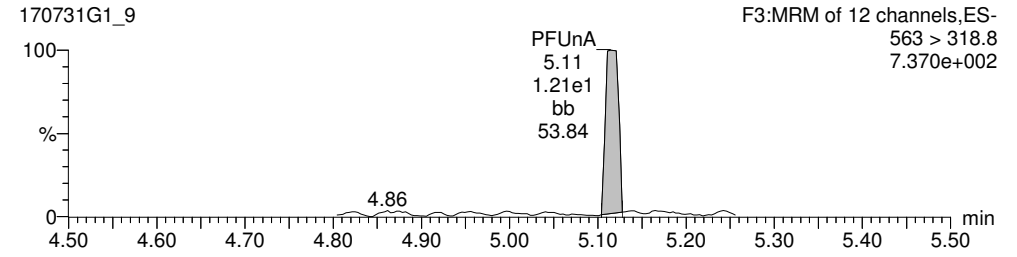
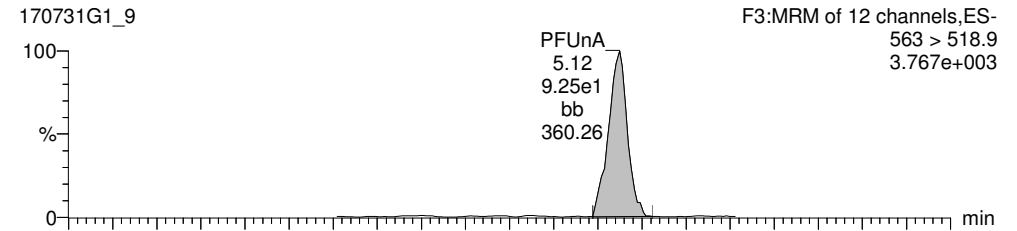
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ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G1_9, Date: 31-Jul-2017, Time: 15:32:02, Instrument: ,
Lab: , User:

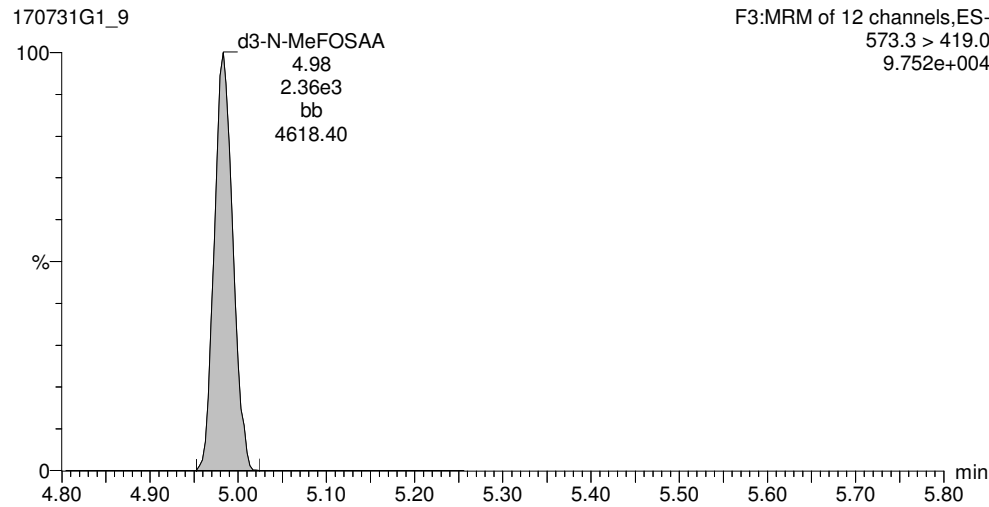
Total N-MeFOSAA



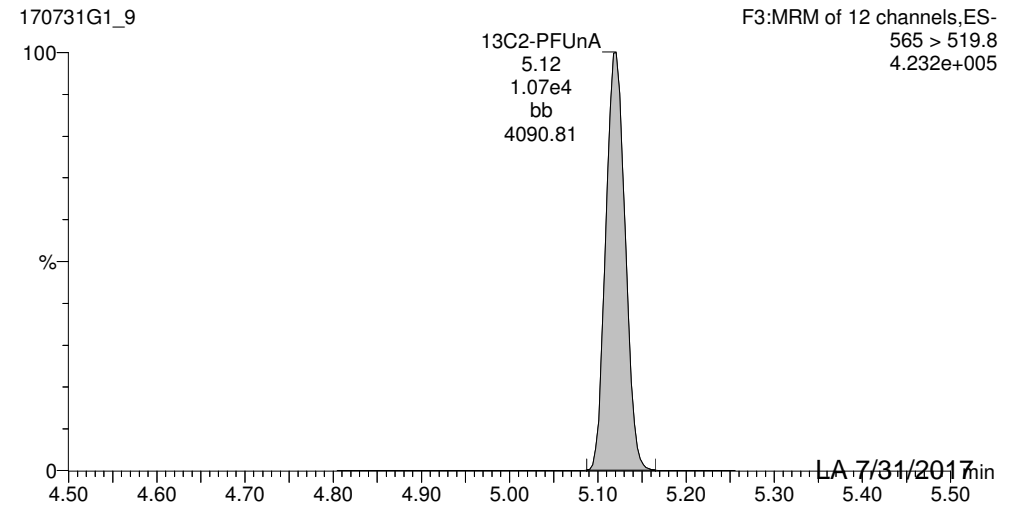
PfUnA



d3-N-MeFOSAA



13C2-PFUnA

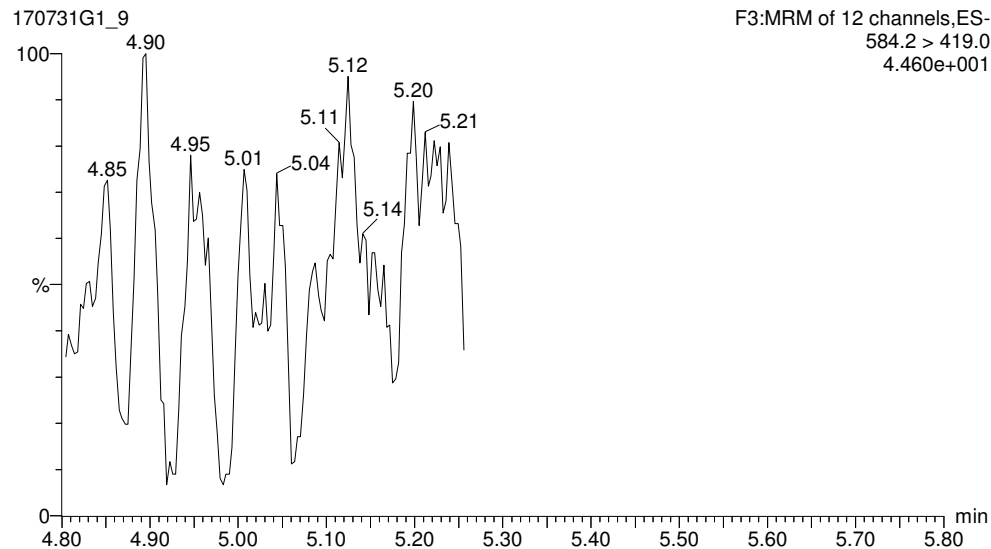


Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-9.qld

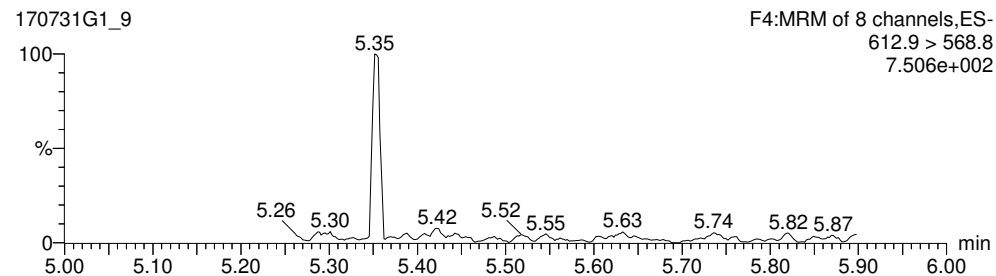
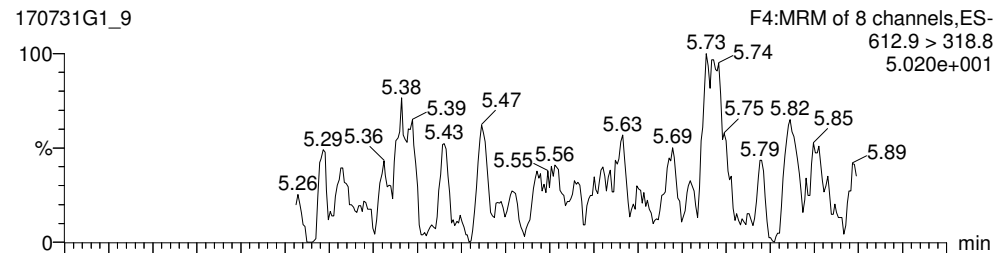
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Printed: Monday, July 31, 2017 16:32:01 Pacific Daylight Time

ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G1_9, Date: 31-Jul-2017, Time: 15:32:02, Instrument: , Lab: , User:

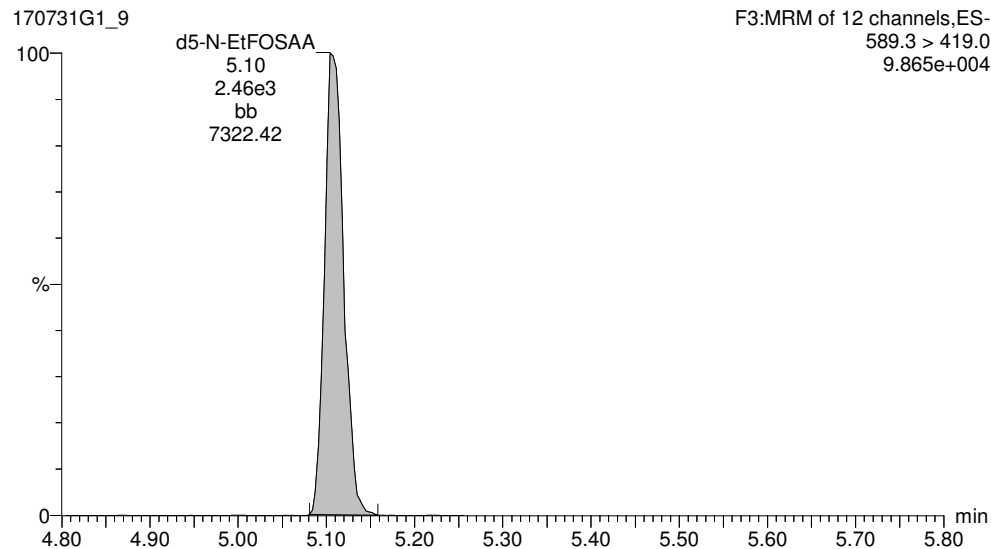
Total N-EtFOSAA



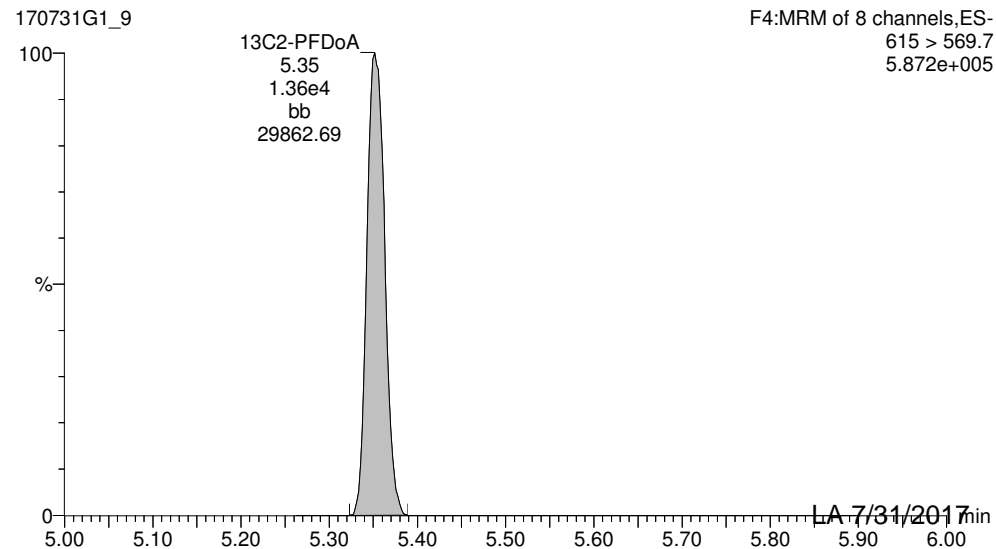
PFDoA



d5-N-EtFOSAA



13C2-PFDoA

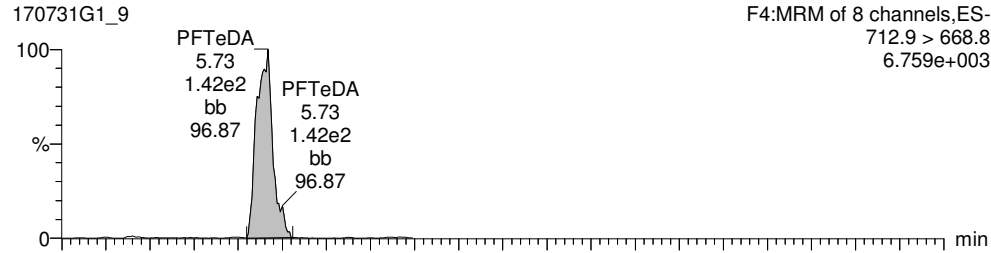


Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-9.qld

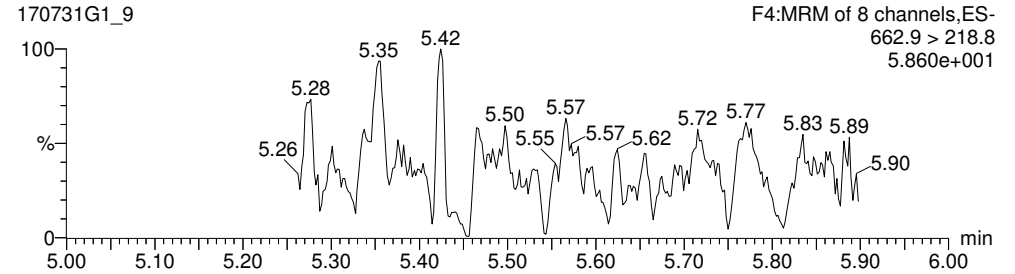
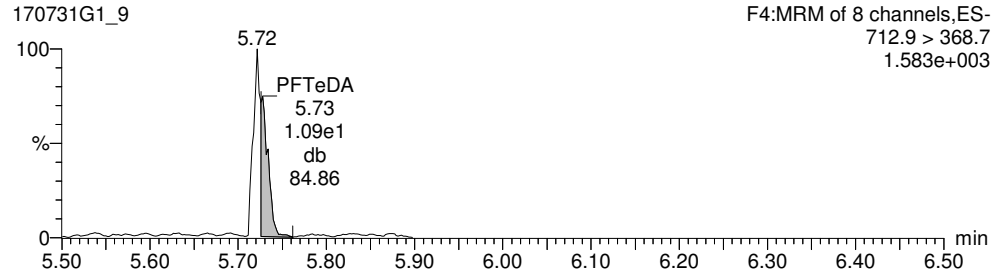
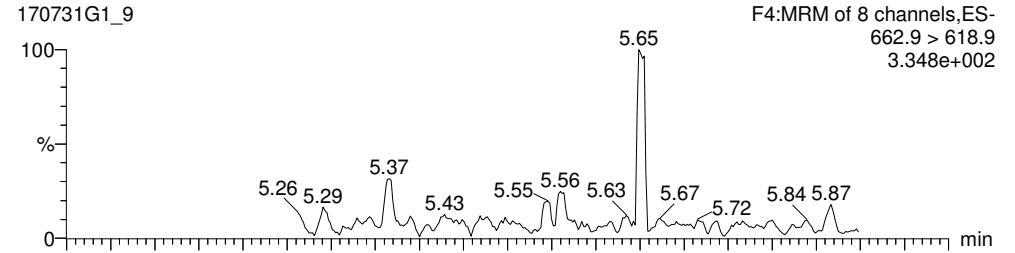
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ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G1_9, Date: 31-Jul-2017, Time: 15:32:02, Instrument: , Lab: , User:

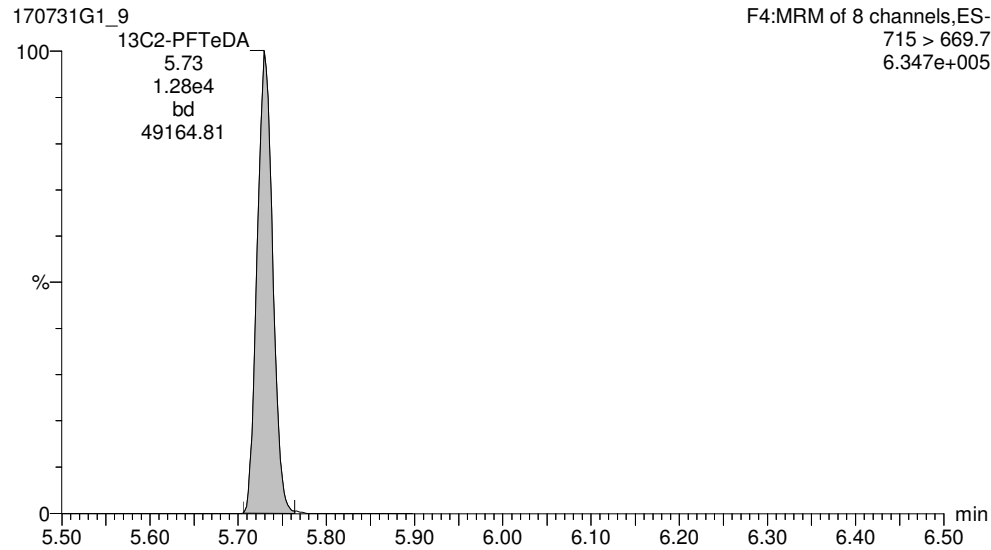
PFTeDA



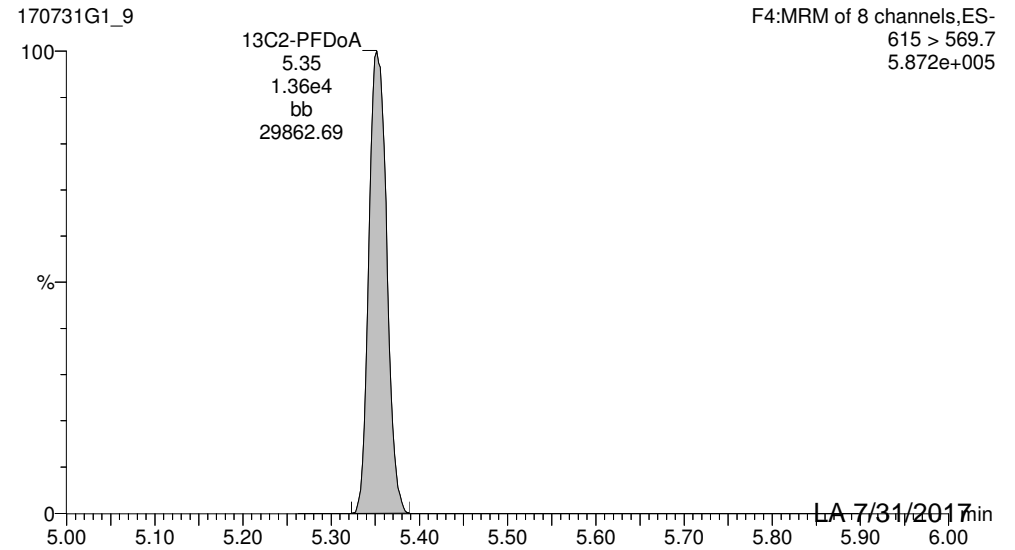
PFTrDA



13C2-PFTeDA



13C2-PFDoA



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-9.qld

Last Altered: Monday, July 31, 2017 16:31:12 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:32:01 Pacific Daylight Time

ID: 1700887-03 IRPSite 6-GW-FRB01-20170712 0.11445, Description: IRPSite 6-GW-FRB01-20170712, Name: 170731G1_9, Date: 31-Jul-2017, Time: 15:32:02, Instrument: , Lab: , User:

13C7-PFUnA

170731G1_9

F3:MRM of 12 channels,ES-
570.1 > 524.8
4.442e+005



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-12.qld

Last Altered: Monday, July 31, 2017 12:53:02 Pacific Daylight Time

Printed: Monday, July 31, 2017 12:53:31 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G2_12, Date: 31-Jul-2017, Time: 11:52:47

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299.0 > 79.7	7.286e2	3.405e3		0.121	2.89	10.7	
2	4 PFHxA	312.9 > 268.9	5.154e3	4.082e3		0.121	3.27	68.1	
3	5 PFHpA	363 > 318.9	9.975e2	5.613e3		0.121	3.81	8.36	
4	6 PFHxS	398.9 > 79.6	8.882e3	3.330e3		0.121	3.94	155	
5	7 PFOA	413.0 > 368.7	7.641e3	1.231e4		0.121	4.23	79.6	
6	8 PFNA	463.0 > 418.8	1.649e2	4.351e3		0.121	4.56	1.42	
7	9 PFOS	499.0 > 79.9	7.735e2	5.951e3		0.121	4.63	28.1	
8	10 PFDA	512.7 > 219.0	2.506e1	8.371e3		0.121	4.86	0.416	
9	12 13C3-PFBS	302.0 > 98.8	3.405e3	1.182e4	0.263	0.121	2.89	113	110
10	14 13C2-PFHxA	315.0 > 269.8	4.082e3	1.182e4	0.361	0.121	3.27	99.1	95.7
11	15 13C4-PFHpA	367.2 > 321.8	5.613e3	1.182e4	0.475	0.121	3.81	103	99.8
12	16 18O2-PFHxS	403 > 102.6	3.330e3	8.697e3	0.411	0.121	3.93	96.5	93.3
13	17 13C2-PFOA	414.9 > 369.7	1.231e4	4.869e3	2.843	0.121	4.23	92.0	88.9
14	18 13C5-PFNA	468.2 > 422.9	4.351e3	6.088e3	0.854	0.121	4.57	86.6	83.7
15	19 13C2-PFDA	514.8 > 469.7	8.371e3	5.928e3	1.742	0.121	4.86	83.9	81.1
16	20 13C8-PFOS	507.0 > 79.9	5.951e3	6.673e3	0.927	0.121	4.63	99.5	96.2
17	22 13C5-PFHxA	318 > 272.9	1.182e4	1.182e4	1.000	0.121	3.27	103	100
18	23 13C3-PFHxS	401.9 > 79.9	8.697e3	8.697e3	1.000	0.121	3.93	103	100
19	24 13C8-PFOA	421.3 > 376	4.869e3	4.869e3	1.000	0.121	4.22	103	100
20	25 13C9-PFNA	472.2 > 426.9	6.088e3	6.088e3	1.000	0.121	4.57	103	100
21	26 13C4-PFOS	503.0 > 79.9	6.673e3	6.673e3	1.000	0.121	4.63	103	100
22	27 13C6-PFDA	519.10 > 473.70	5.928e3	5.928e3	1.000	0.121	4.86	103	100
23	28 Total PFBS	299.0 > 79.7		3.405e3		0.121		10.7	
24	29 Total PFHxS	398.9 > 79.6		3.330e3		0.121		155	
25	30 Total PFOA	413.0 > 368.7		1.231e4		0.121		90.6	
26	31 Total PFOS	499.0 > 79.9		5.951e3		0.121		28.1	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-12.qld

Last Altered: Monday, July 31, 2017 12:53:02 Pacific Daylight Time

Printed: Monday, July 31, 2017 12:53:31 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G2_12, Date: 31-Jul-2017, Time: 11:52:47

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFBS	299.0 > 79.7	2.89	728.623	3404.713	10.7

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	6 PFHxS	398.9 > 79.6	3.94	8881.569	3330.308	154.6

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	30 Total PFOA	413.0 > 368.7	4.12	1140.732	12312.276	11.1
2	7 PFOA	413.0 > 368.7	4.23	7640.729	12312.276	79.6

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	9 PFOS	499.0 > 79.9	4.63	773.549	5950.658	28.1

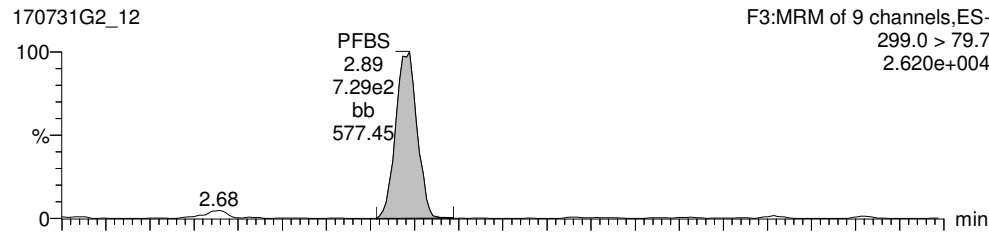
Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-12.qld

Last Altered: Monday, July 31, 2017 12:53:02 Pacific Daylight Time
Printed: Monday, July 31, 2017 12:53:31 Pacific Daylight Time

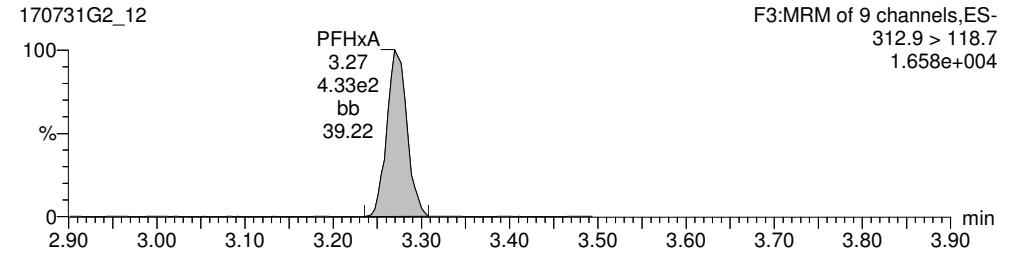
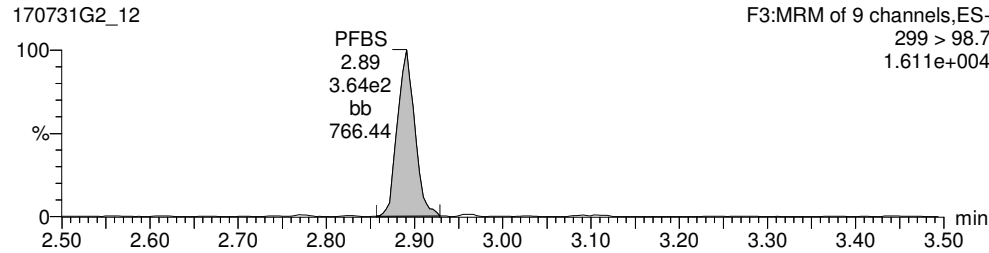
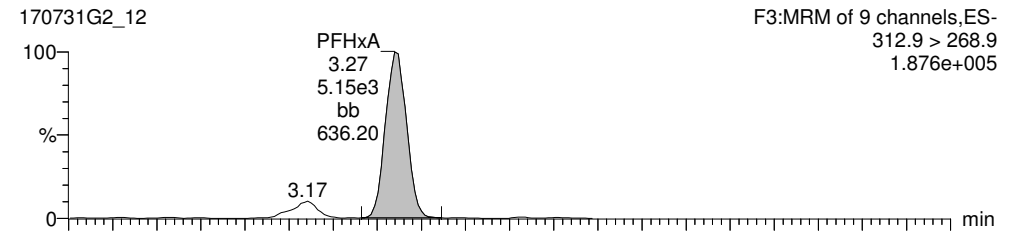
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ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G2_12, Date: 31-Jul-2017, Time: 11:52:47, Instrument: ,
Lab: , User:

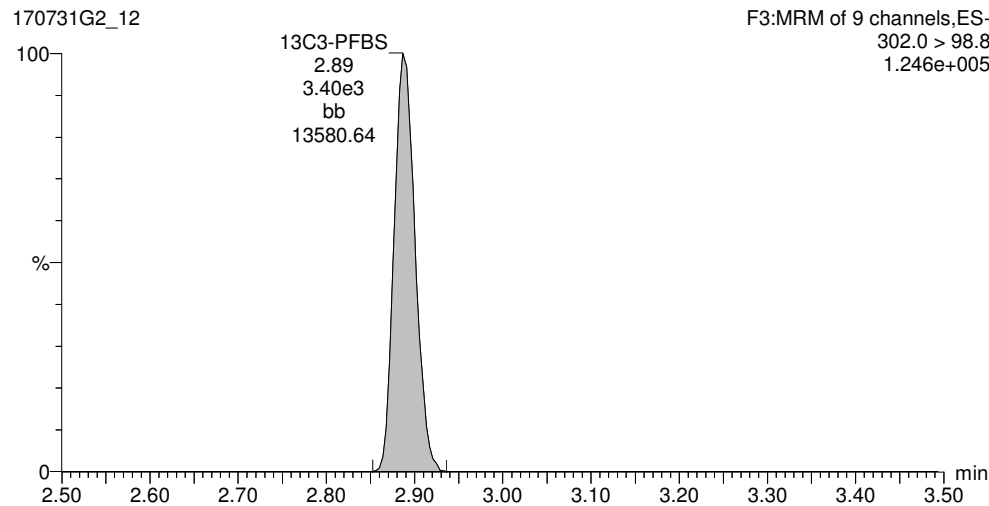
Total PFBS



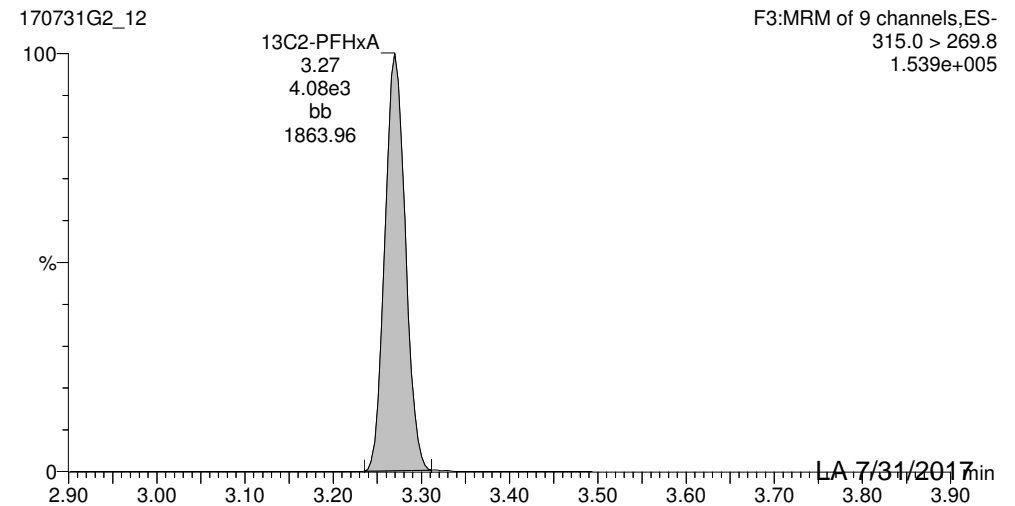
PFHxA



13C3-PFBS



13C2-PFHxA

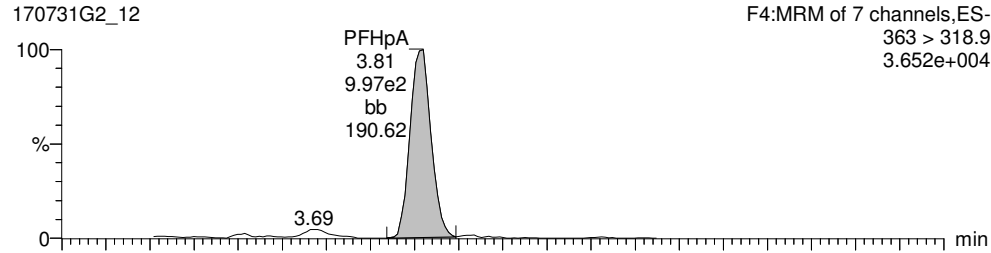


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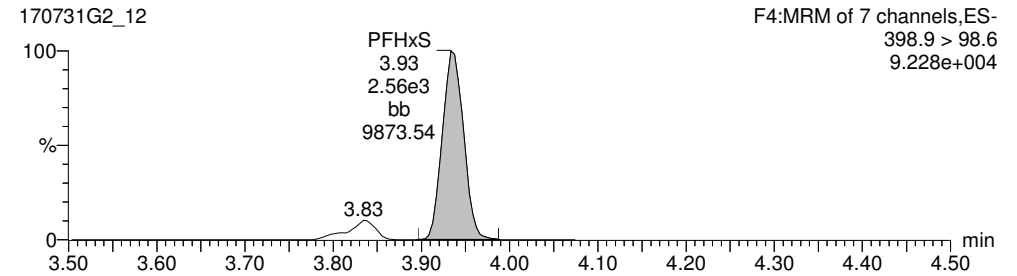
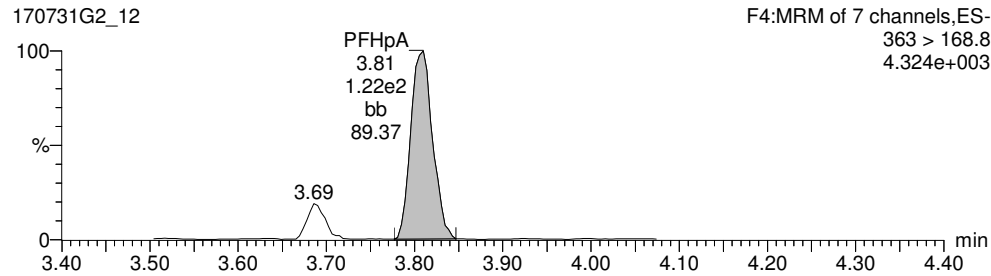
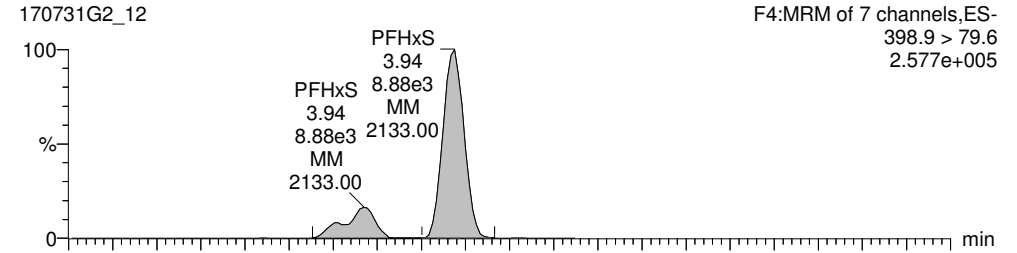
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Printed: Monday, July 31, 2017 12:53:31 Pacific Daylight Time

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G2_12, Date: 31-Jul-2017, Time: 11:52:47, Instrument: , Lab: , User:

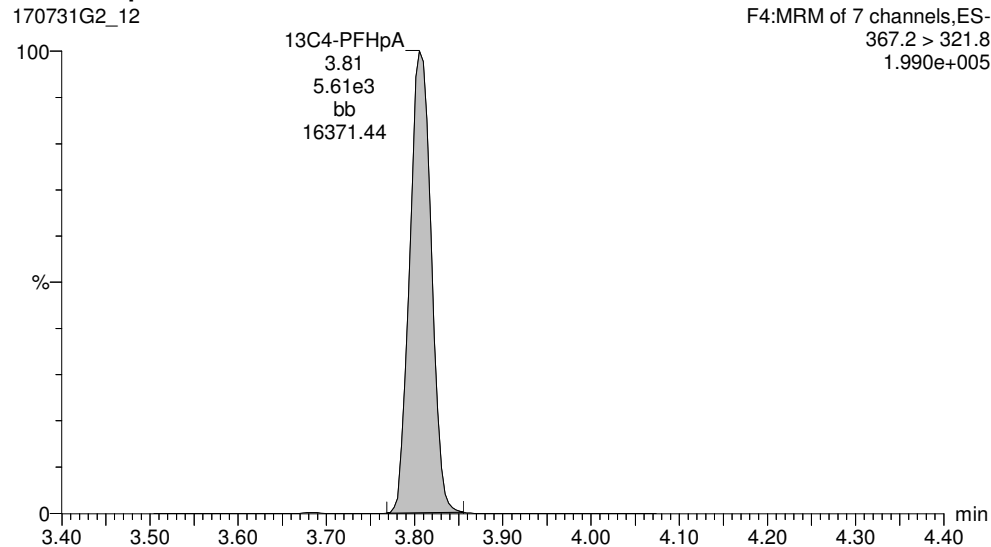
PFHpA



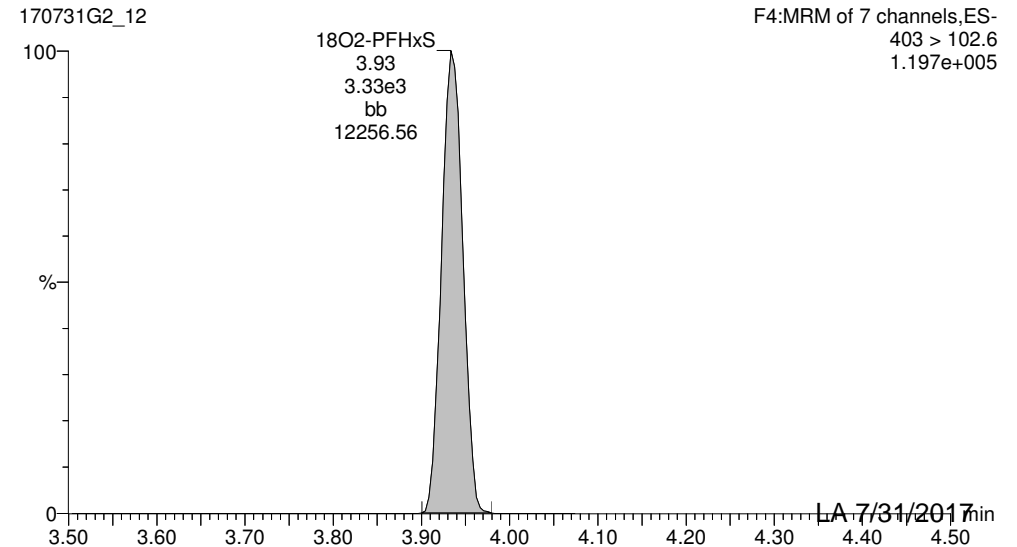
Total PFHxS



13C4-PFHpA



18O2-PFHxS

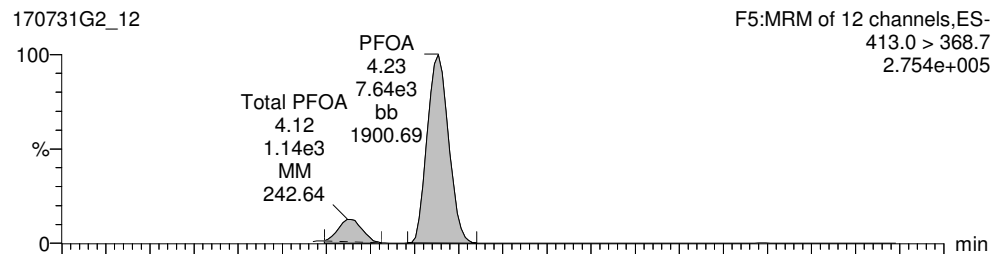


Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-12.qld

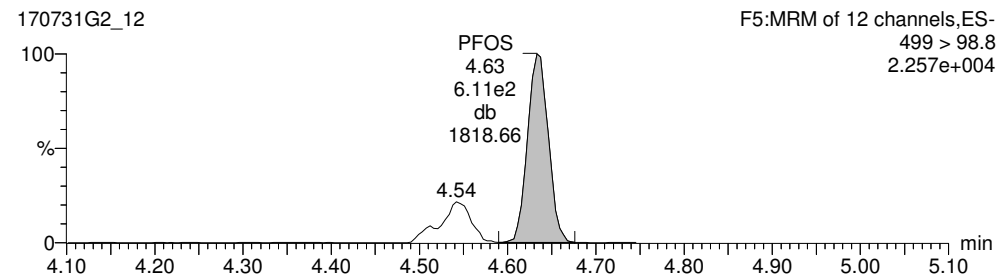
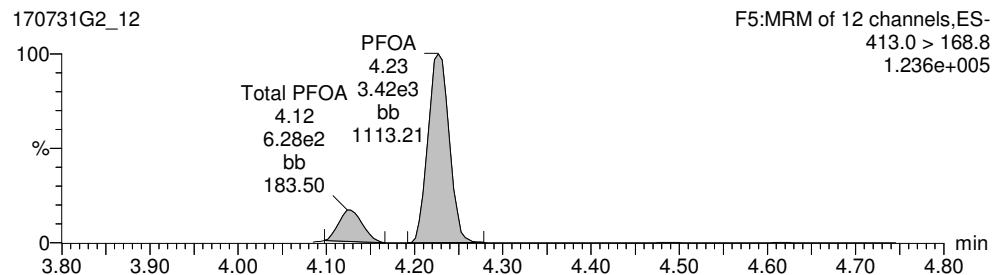
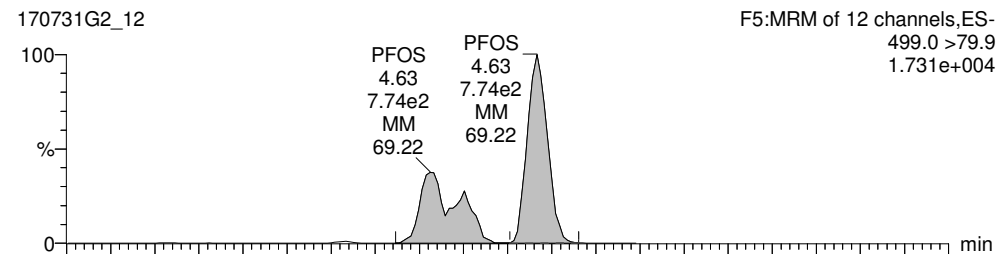
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Printed: Monday, July 31, 2017 12:53:31 Pacific Daylight Time

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G2_12, Date: 31-Jul-2017, Time: 11:52:47, Instrument: , Lab: , User:

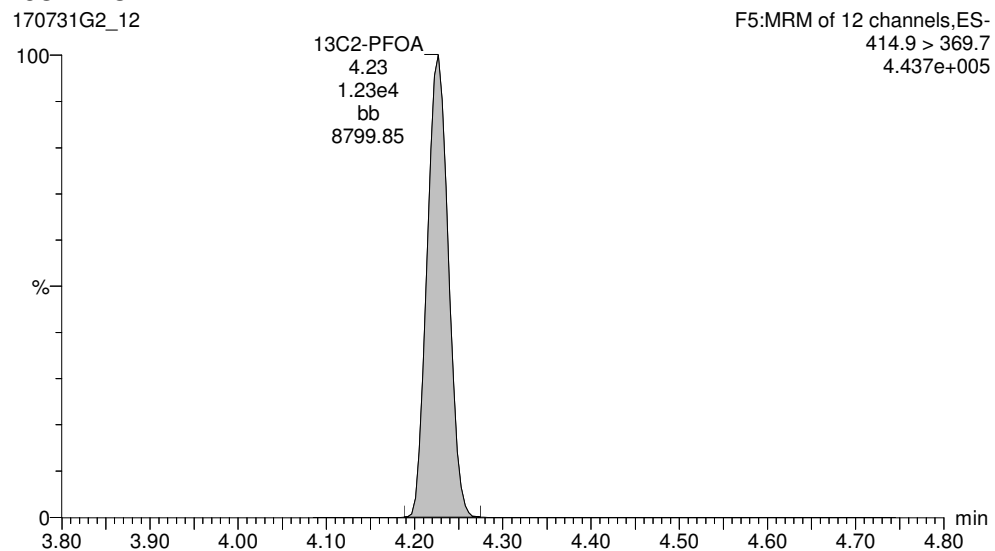
Total PFOA



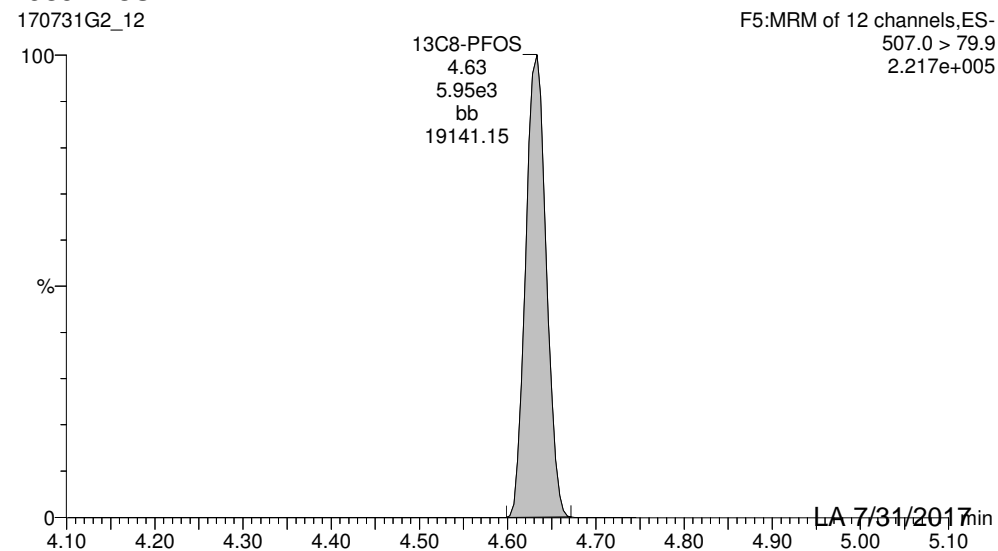
Total PFOS



13C2-PFOA



13C8-PFOS

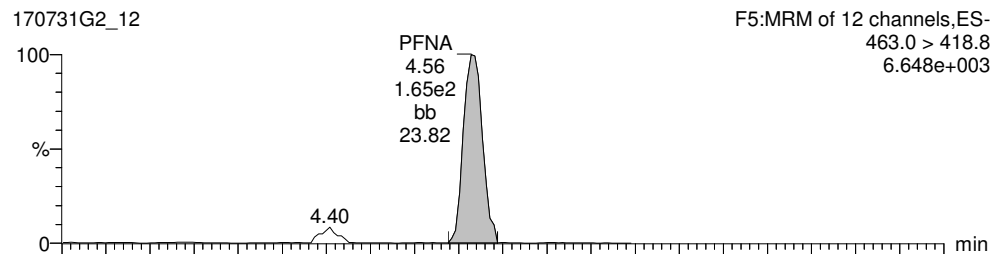


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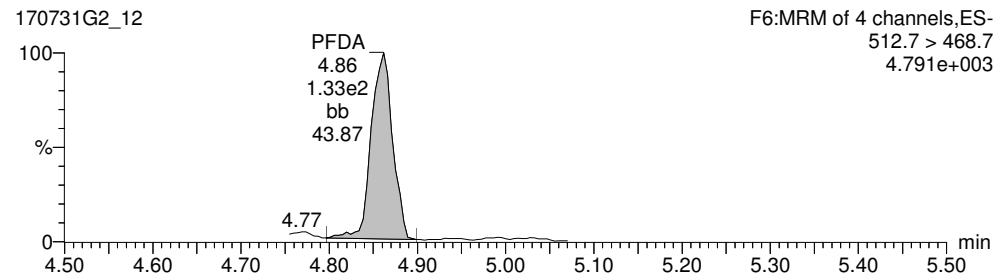
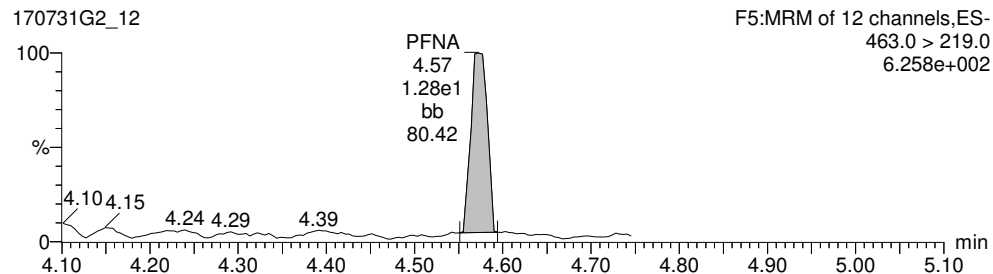
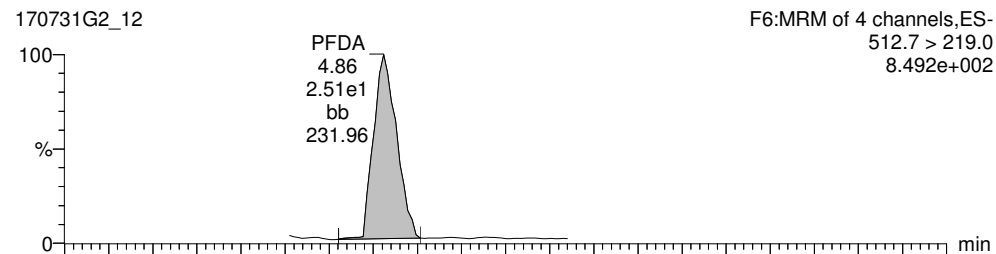
Last Altered: Monday, July 31, 2017 12:53:02 Pacific Daylight Time
Printed: Monday, July 31, 2017 12:53:31 Pacific Daylight Time

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G2_12, Date: 31-Jul-2017, Time: 11:52:47, Instrument: , Lab: , User:

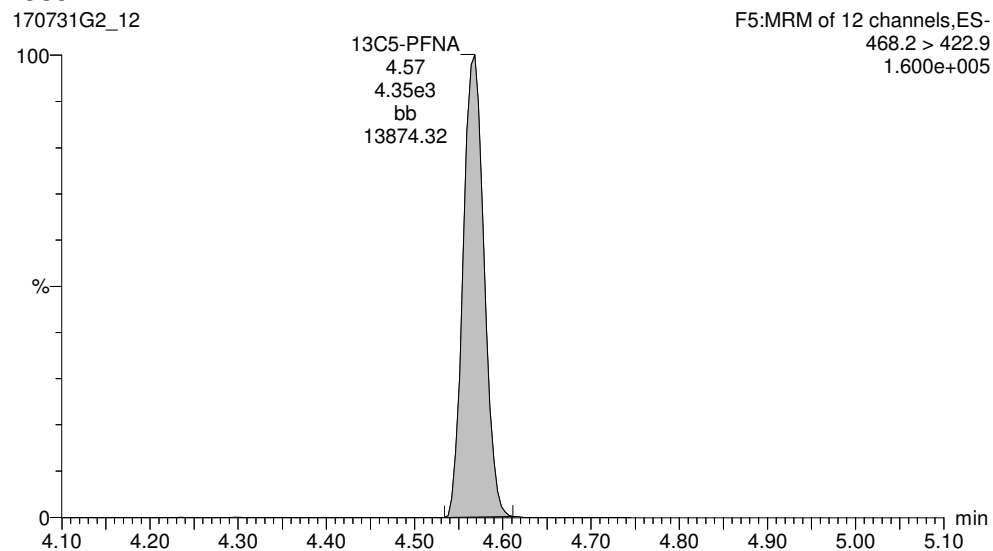
PFNA



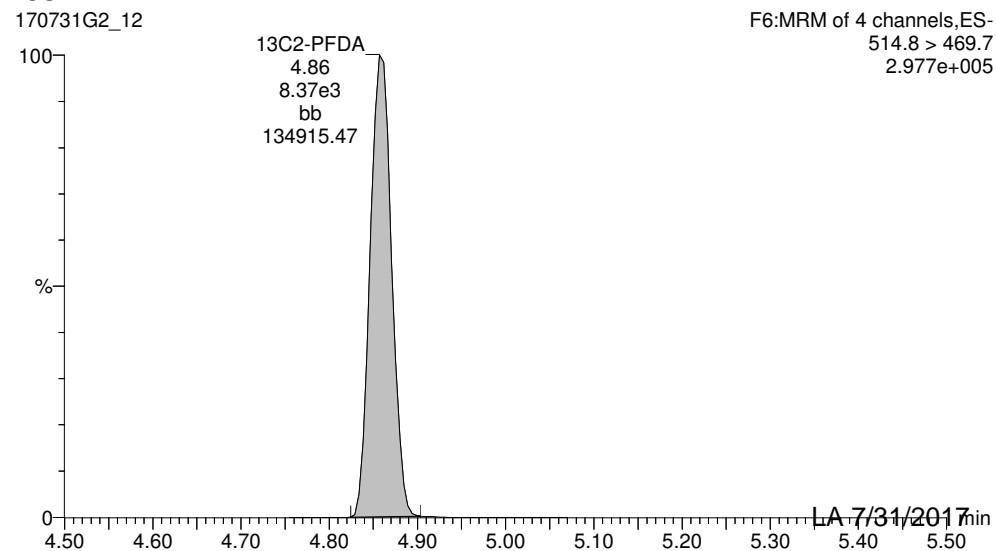
PFDA



13C5-PFNA



13C2-PFDA



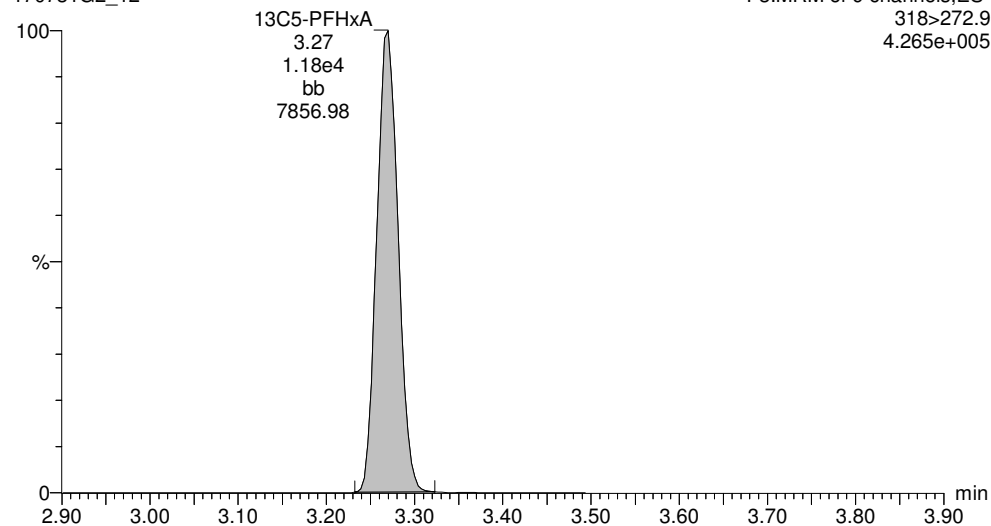
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Last Altered: Monday, July 31, 2017 12:53:02 Pacific Daylight Time
Printed: Monday, July 31, 2017 12:53:31 Pacific Daylight Time

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G2_12, Date: 31-Jul-2017, Time: 11:52:47, Instrument: , Lab: , User:

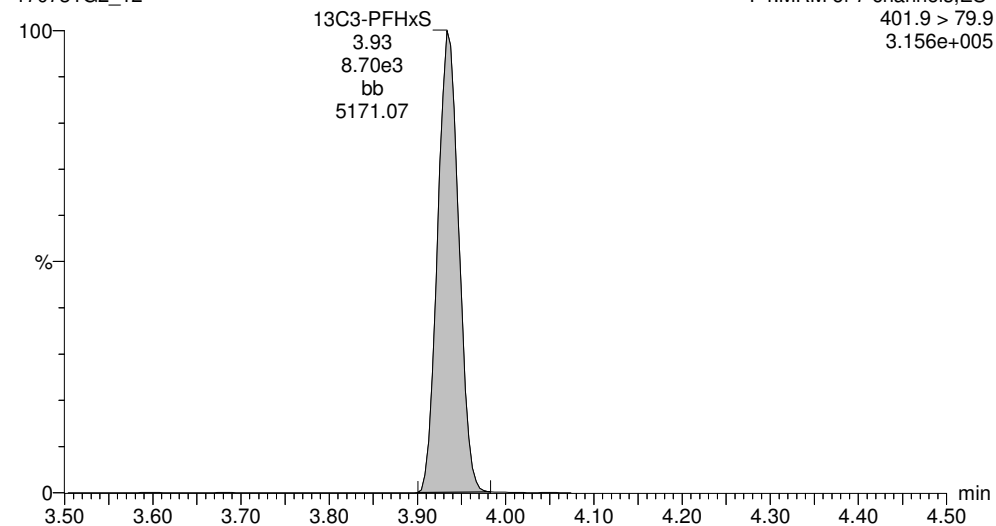
13C5-PFHxA

170731G2_12



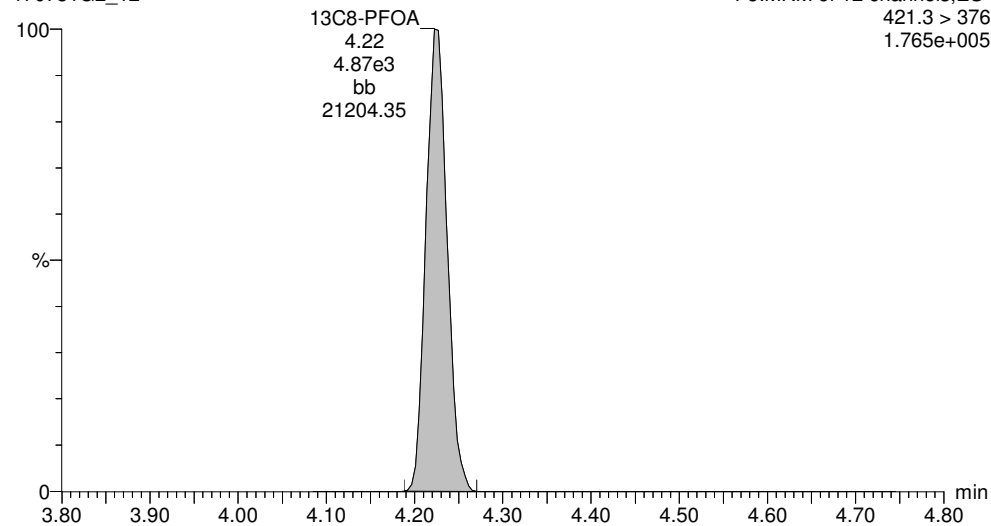
13C3-PFHxS

170731G2_12



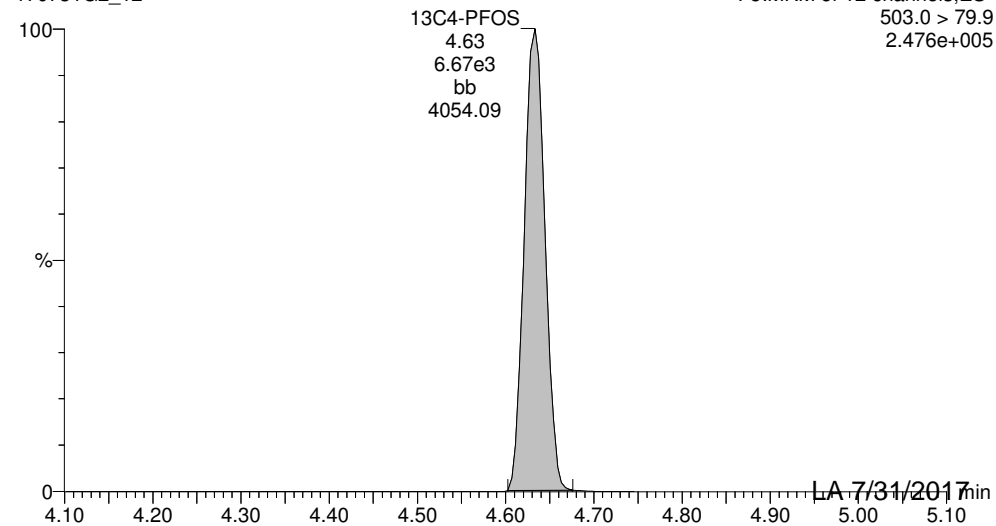
13C8-PFOA

170731G2_12



13C4-PFOS

170731G2_12

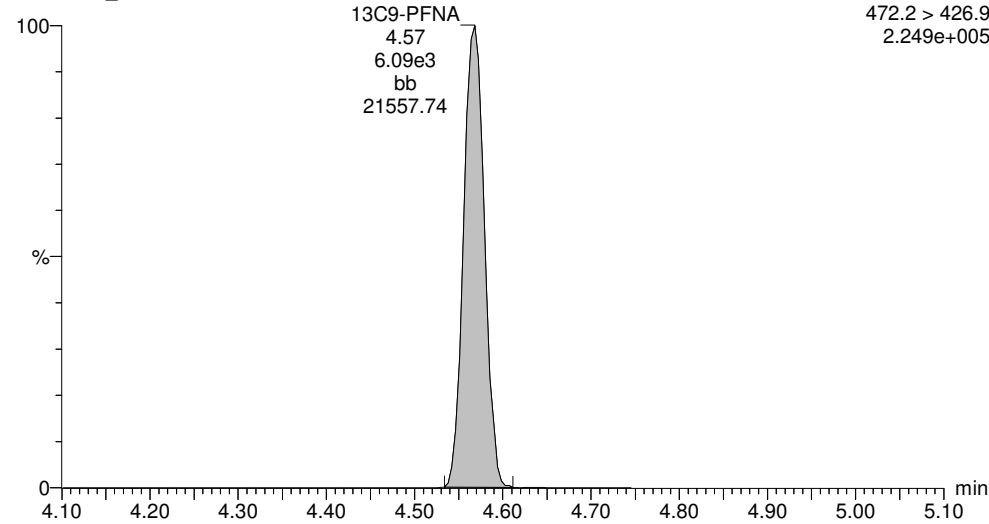


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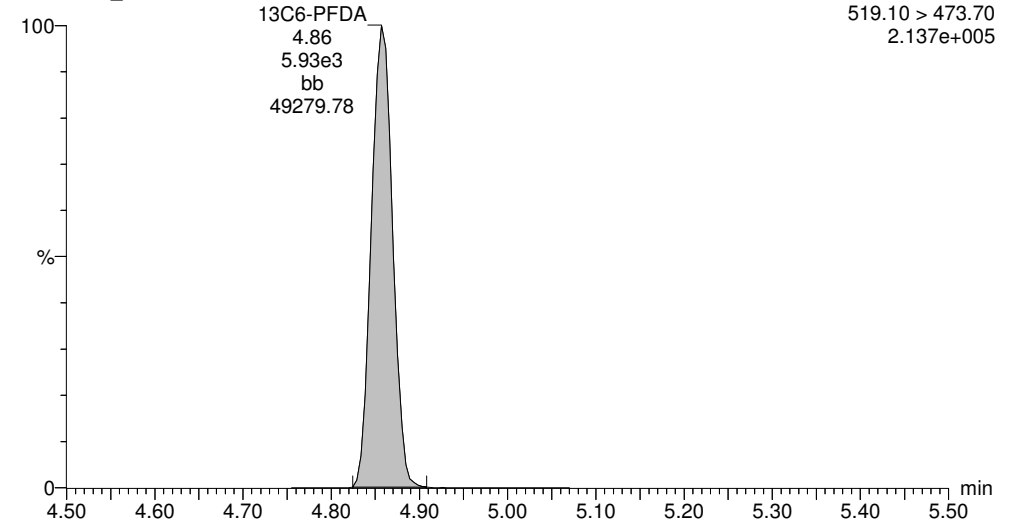
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Printed: Monday, July 31, 2017 12:53:31 Pacific Daylight Time

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G2_12, Date: 31-Jul-2017, Time: 11:52:47, Instrument: , Lab: , User:

13C9-PFNA
170731G2_12



13C6-PFDA
170731G2_12



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-10.qld

Last Altered: Monday, July 31, 2017 16:33:01 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:34:52 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G1_10, Date: 31-Jul-2017, Time: 15:44:39

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	2 N-MeFOSAA	570.1 > 419.0		2.507e3		0.121			
2	4 PFUnA	563 > 518.9	1.694e2	1.161e4		0.121	5.12		
3	5 N-EtFOSAA	584.2 > 419.0		2.871e3		0.121			
4	6 PFDoA	612.9 > 318.8		1.441e4		0.121			
5	7 PFTTrDA	662.9 > 618.9		0.000e0		0.121			
6	8 PFTeDA	712.9 > 668.8	1.643e2	1.296e4		0.121	5.74	0.0306	
7	10 d3-N-MeFOSAA	573.3 > 419.0	2.507e3	1.112e4	0.026	0.121	4.98	884	65.7
8	11 13C2-PFUnA	565 > 519.8	1.161e4	1.112e4	1.471	0.121	5.12	73.4	70.9
9	12 d5-N-EtFOSAA	589.3 > 419.0	2.871e3	1.112e4	0.031	0.121	5.11	859	63.8
10	13 13C2-PFDoA	615 > 569.7	1.441e4	1.112e4	1.887	0.121	5.35	71.0	68.6
11	14 13C2-PFTeDA	715 > 669.7	1.296e4	1.112e4	1.990	0.121	5.73	60.6	58.5
12	15 13C7-PFUnA	570.1 > 524.8	1.112e4	1.112e4	1.000	0.121	5.12	103	100
13	16 Total N-MeFOSAA	570.1 > 419.0		2.507e3		0.121			
14	17 Total N-EtFOSAA	584.2 > 419.0		2.871e3		0.121			

Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-10.qld

Last Altered: Monday, July 31, 2017 16:33:01 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:34:52 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G1_10, Date: 31-Jul-2017, Time: 15:44:39

Total N-MeFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total N-EtFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

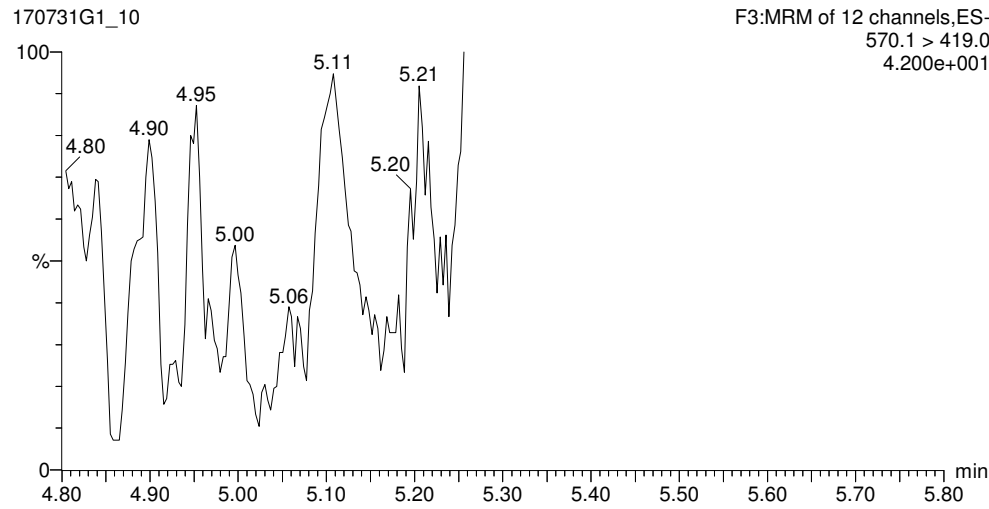
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Last Altered: Monday, July 31, 2017 16:33:01 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:34:52 Pacific Daylight Time

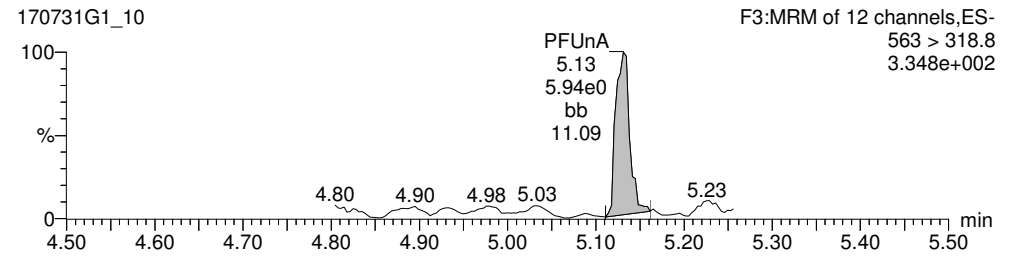
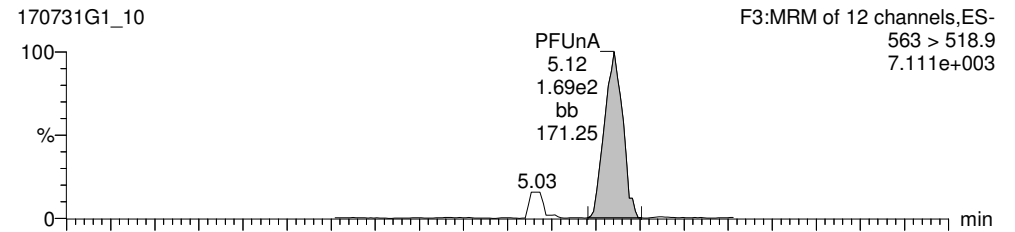
Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G1_10, Date: 31-Jul-2017, Time: 15:44:39, Instrument: ,
Lab: , User:

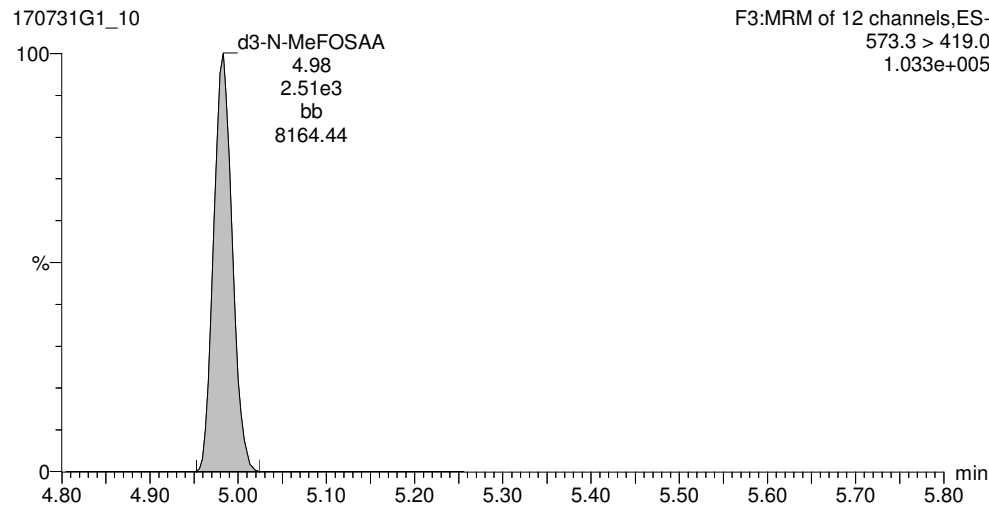
Total N-MeFOSAA



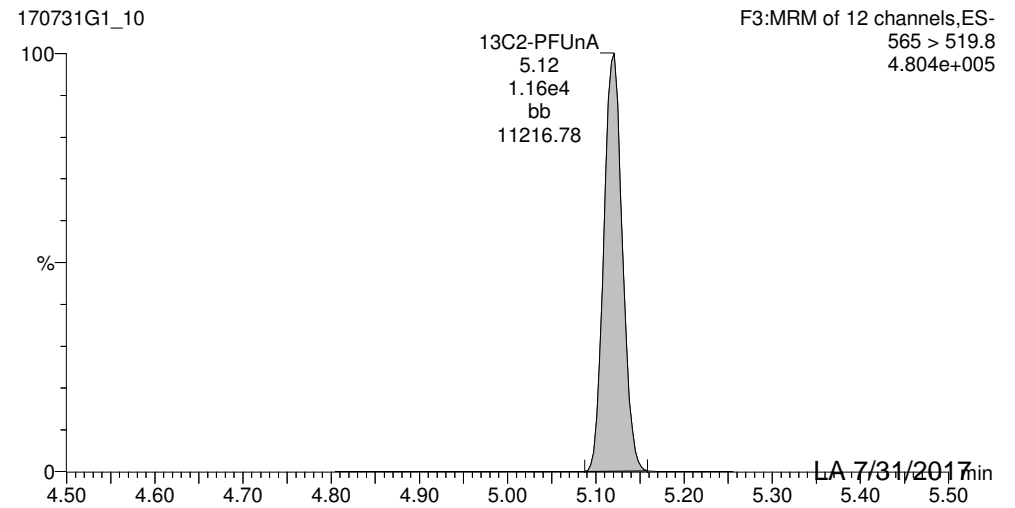
PfUnA



d3-N-MeFOSAA



13C2-PFUnA



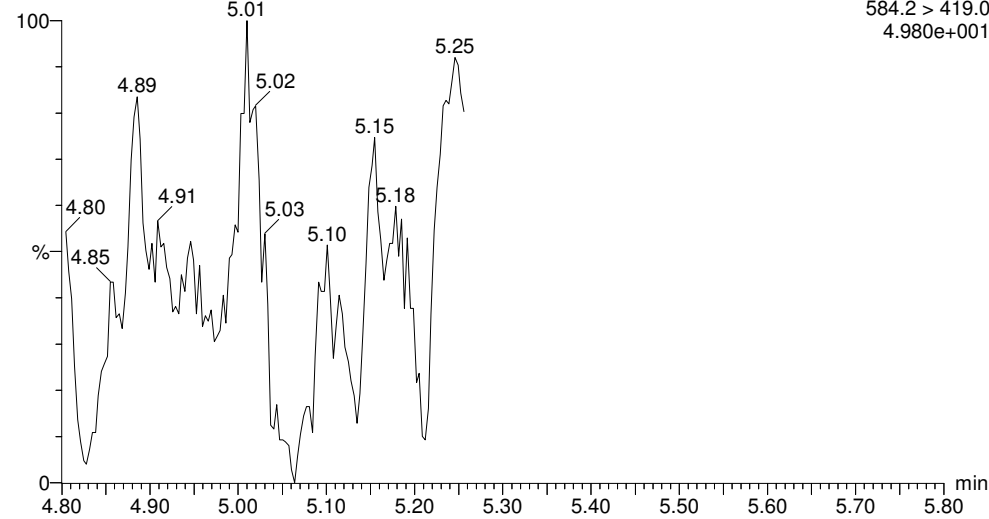
Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-10.qld

Last Altered: Monday, July 31, 2017 16:33:01 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:34:52 Pacific Daylight Time

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G1_10, Date: 31-Jul-2017, Time: 15:44:39, Instrument: , Lab: , User:

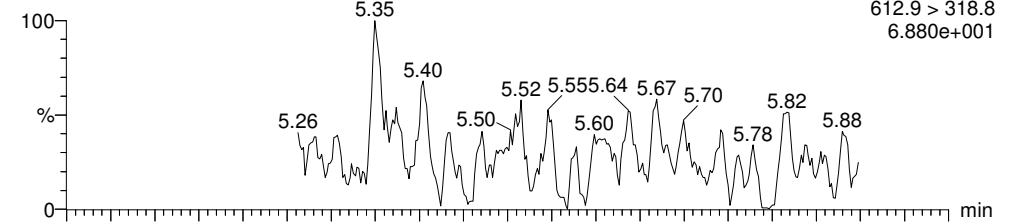
Total N-EtFOSAA

170731G1_10

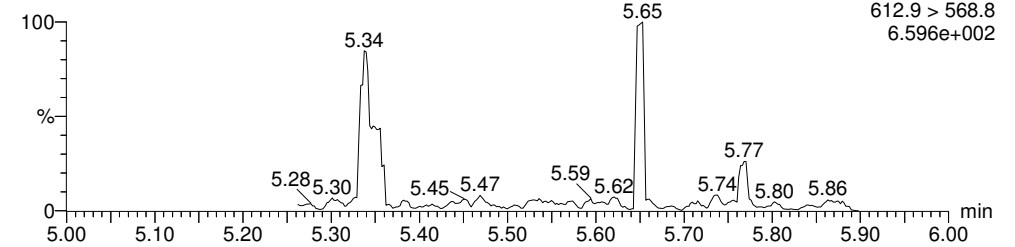


PFDoA

170731G1_10

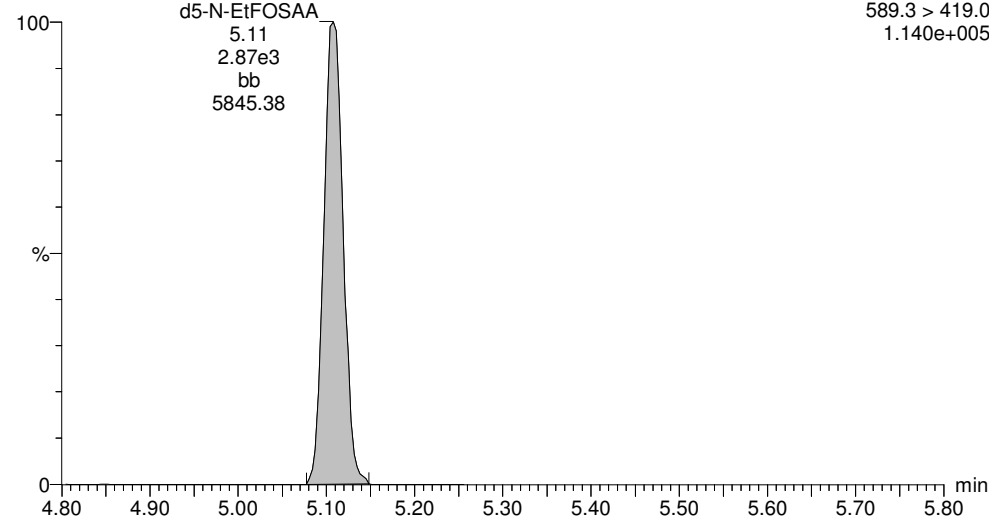


170731G1_10



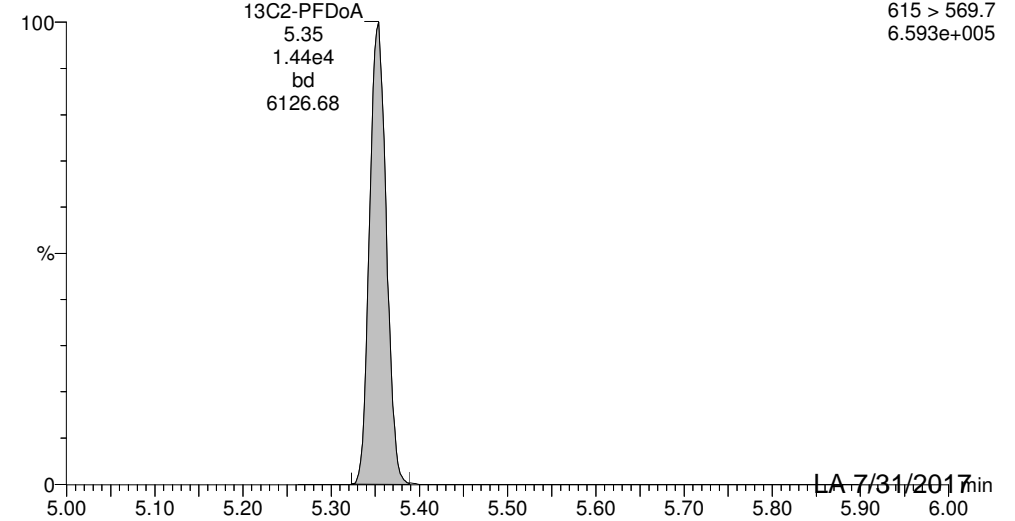
d5-N-EtFOSAA

170731G1_10



13C2-PFDoA

170731G1_10

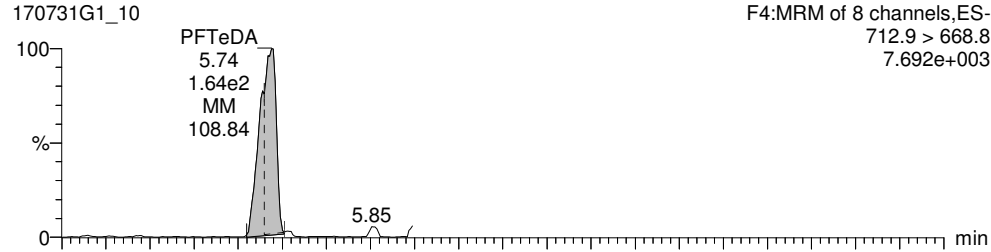


Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-10.qld

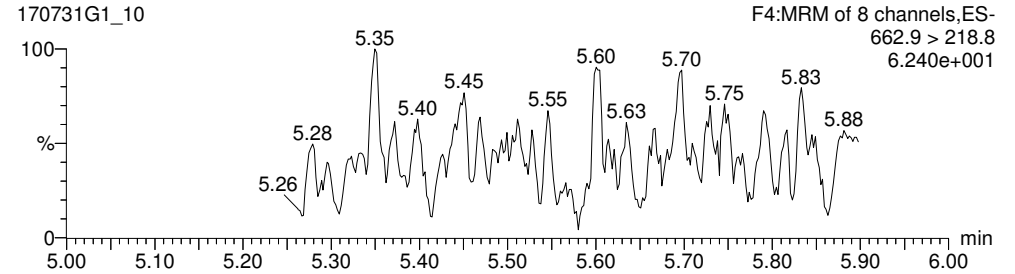
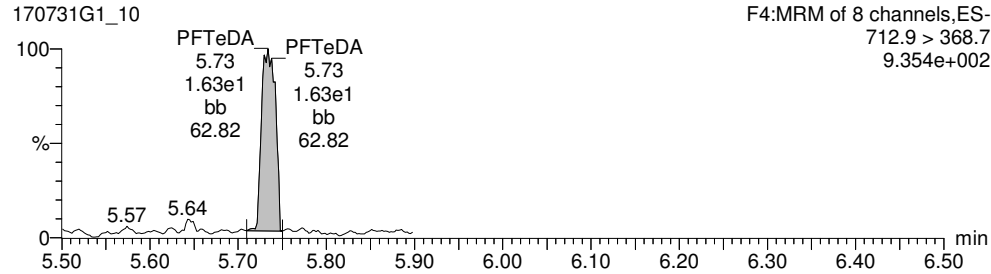
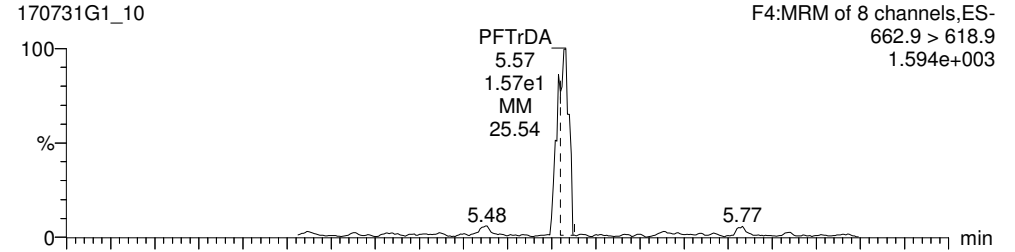
Last Altered: Monday, July 31, 2017 16:33:01 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:34:52 Pacific Daylight Time

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G1_10, Date: 31-Jul-2017, Time: 15:44:39, Instrument: , Lab: , User:

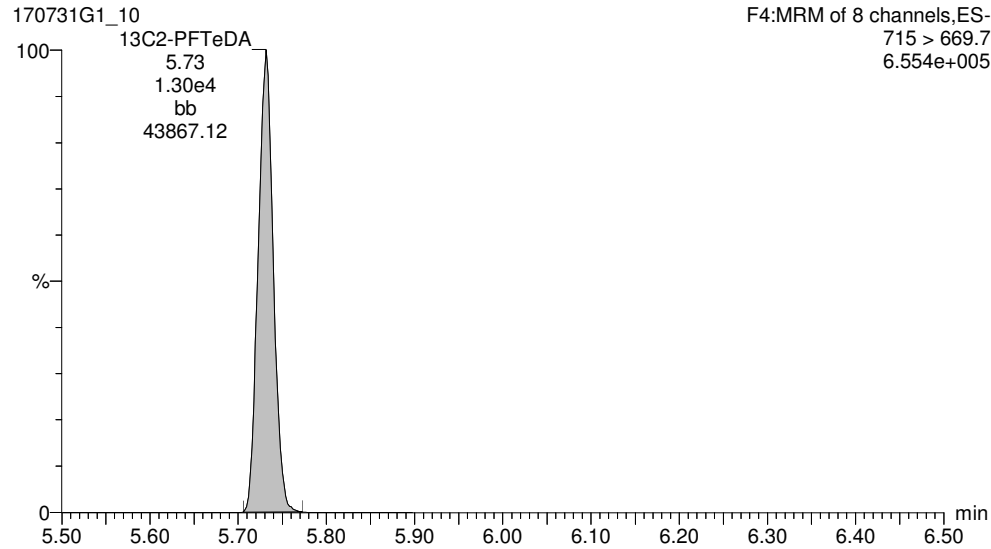
PFTeDA



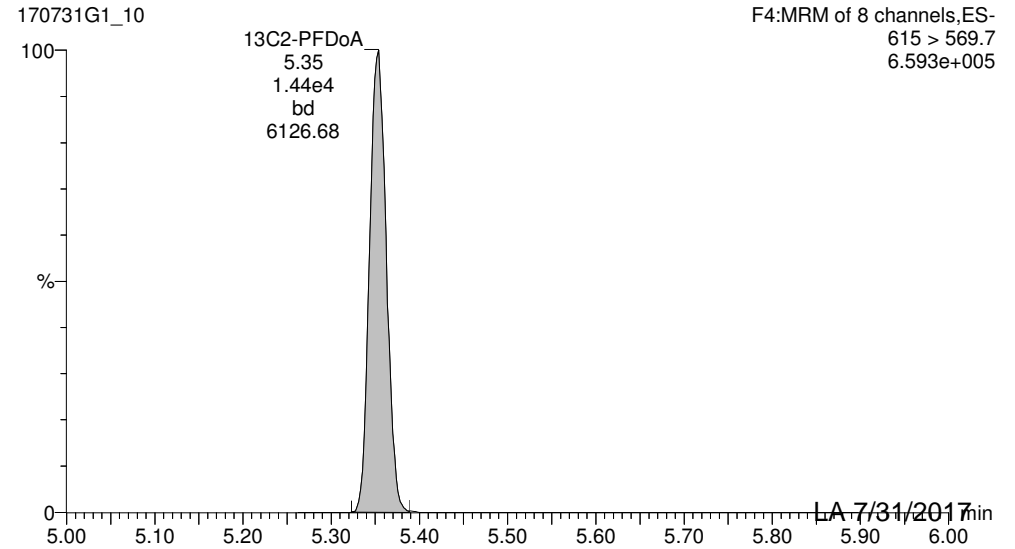
PFTrDA



13C2-PFTeDA



13C2-PFDaA



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-10.qld

Last Altered: Monday, July 31, 2017 16:33:01 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:34:52 Pacific Daylight Time

ID: 1700887-04 Site 33-GW-33GW01-20170712 0.12081, Description: Site 33-GW-33GW01-20170712, Name: 170731G1_10, Date: 31-Jul-2017, Time: 15:44:39, Instrument: , Lab: , User:

13C7-PFUnA

170731G1_10

F3:MRM of 12 channels,ES-
570.1 > 524.8
4.632e+005



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-13.qld

Last Altered: Monday, July 31, 2017 12:55:49 Pacific Daylight Time

Printed: Monday, July 31, 2017 12:56:08 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G2_13, Date: 31-Jul-2017, Time: 12:05:21

#	Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299.0 > 79.7	2.401e3	3.748e3		0.118	2.89	39.2	
2	4 PFHxA	312.9 > 268.9	1.001e4	4.626e3		0.118	3.27	120	
3	5 PFHpA	363 > 318.9	2.108e3	6.155e3		0.118	3.81	17.6	
4	6 PFHxS	398.9 > 79.6	3.239e4	3.168e3		0.118	3.94	610	
5	7 PFOA	413.0 > 368.7	1.109e4	1.287e4		0.118	4.23	114	
6	8 PFNA	463.0 > 418.8		4.010e3		0.118			
7	9 PFOS	499.0 > 79.9	2.667e4	4.907e3		0.118	4.63	1230 *	
8	10 PFDA	512.7 > 219.0	1.405e1	7.234e3		0.118	4.86		
9	12 13C3-PFBS	302.0 > 98.8	3.748e3	1.391e4	0.263	0.118	2.89	109	103
10	14 13C2-PFHxA	315.0 > 269.8	4.626e3	1.391e4	0.361	0.118	3.27	97.9	92.3
11	15 13C4-PFHpA	367.2 > 321.8	6.155e3	1.391e4	0.475	0.118	3.81	98.8	93.1
12	16 18O2-PFHxS	403 > 102.6	3.168e3	8.457e3	0.411	0.118	3.93	96.8	91.2
13	17 13C2-PFOA	414.9 > 369.7	1.287e4	5.127e3	2.843	0.118	4.23	93.7	88.3
14	18 13C5-PFNA	468.2 > 422.9	4.010e3	6.176e3	0.854	0.118	4.57	80.7	76.1
15	19 13C2-PFDA	514.8 > 469.7	7.234e3	5.624e3	1.742	0.118	4.86	78.4	73.8
16	20 13C8-PFOS	507.0 > 79.9	4.907e3	4.952e3	0.927	0.118	4.63	113	107
17	22 13C5-PFHxA	318 > 272.9	1.391e4	1.391e4	1.000	0.118	3.27	106	100
18	23 13C3-PFHxS	401.9 > 79.9	8.457e3	8.457e3	1.000	0.118	3.93	106	100
19	24 13C8-PFOA	421.3 > 376	5.127e3	5.127e3	1.000	0.118	4.23	106	100
20	25 13C9-PFNA	472.2 > 426.9	6.176e3	6.176e3	1.000	0.118	4.57	106	100
21	26 13C4-PFOS	503.0 > 79.9	4.952e3	4.952e3	1.000	0.118	4.63	106	100
22	27 13C6-PFDA	519.10 > 473.70	5.624e3	5.624e3	1.000	0.118	4.86	106	100
23	28 Total PFBS	299.0 > 79.7		3.748e3		0.118		39.2	
24	29 Total PFHxS	398.9 > 79.6		3.168e3		0.118		610	
25	30 Total PFOA	413.0 > 368.7		1.287e4		0.118		135	
26	31 Total PFOS	499.0 > 79.9		4.907e3		0.118		1230	

*SEE DILUTION

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Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-13.qld

Last Altered: Monday, July 31, 2017 12:55:49 Pacific Daylight Time

Printed: Monday, July 31, 2017 12:56:08 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G2_13, Date: 31-Jul-2017, Time: 12:05:21

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFBS	299.0 > 79.7	2.89	2401.042	3748.206	39.2

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	6 PFHxS	398.9 > 79.6	3.94	32390.773	3168.106	609.7

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	30 Total PFOA	413.0 > 368.7	4.13	2140.067	12866.975	21.2
2	7 PFOA	413.0 > 368.7	4.23	11085.630	12866.975	113.7

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	9 PFOS	499.0 > 79.9	4.63	26674.246	4907.274	1226.9

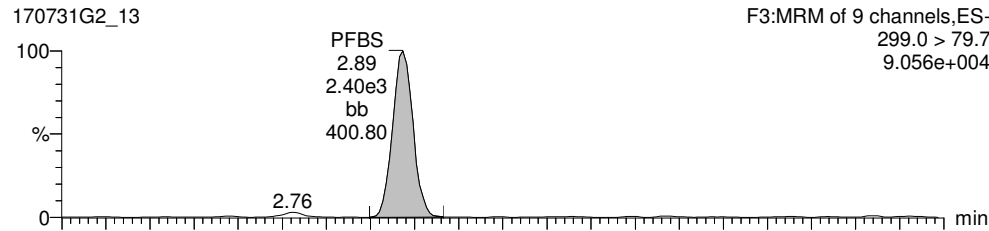
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Last Altered: Monday, July 31, 2017 12:55:49 Pacific Daylight Time
Printed: Monday, July 31, 2017 12:56:08 Pacific Daylight Time

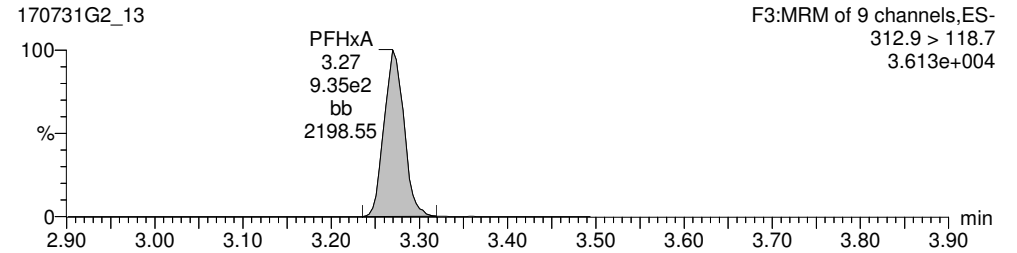
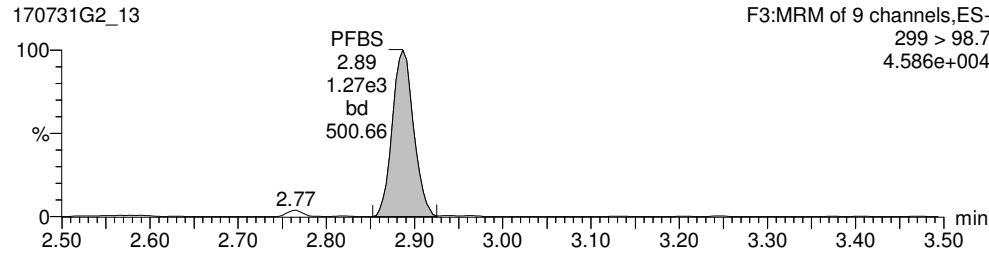
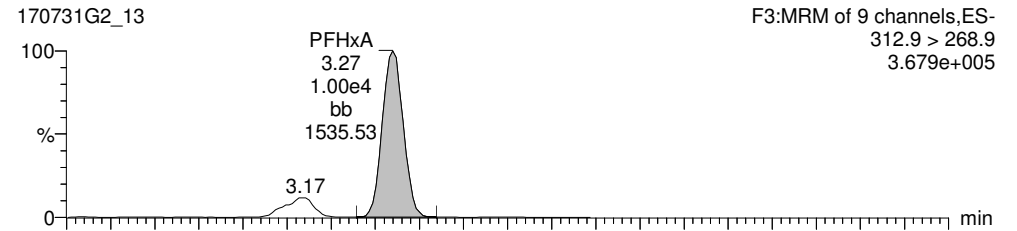
Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G2_13, Date: 31-Jul-2017, Time: 12:05:21,
Instrument: , Lab: , User:

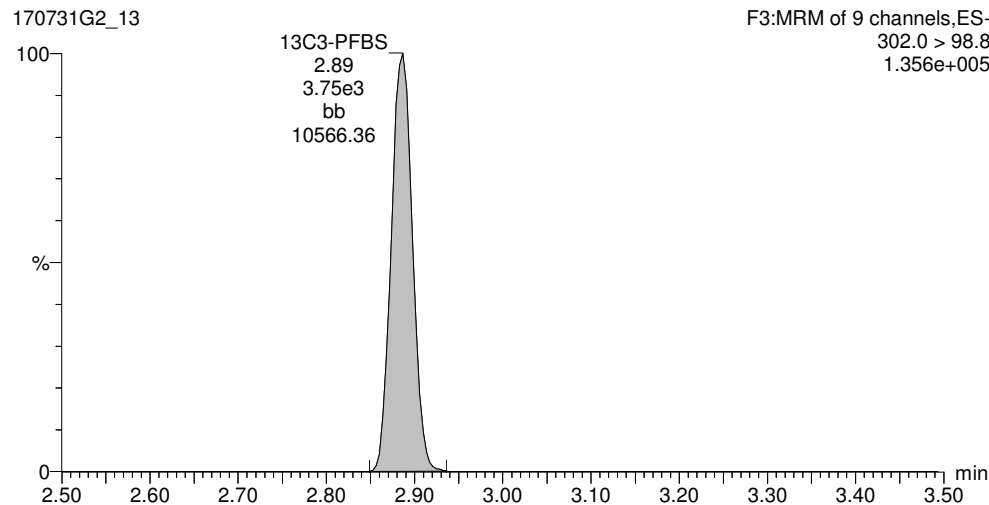
Total PFBS



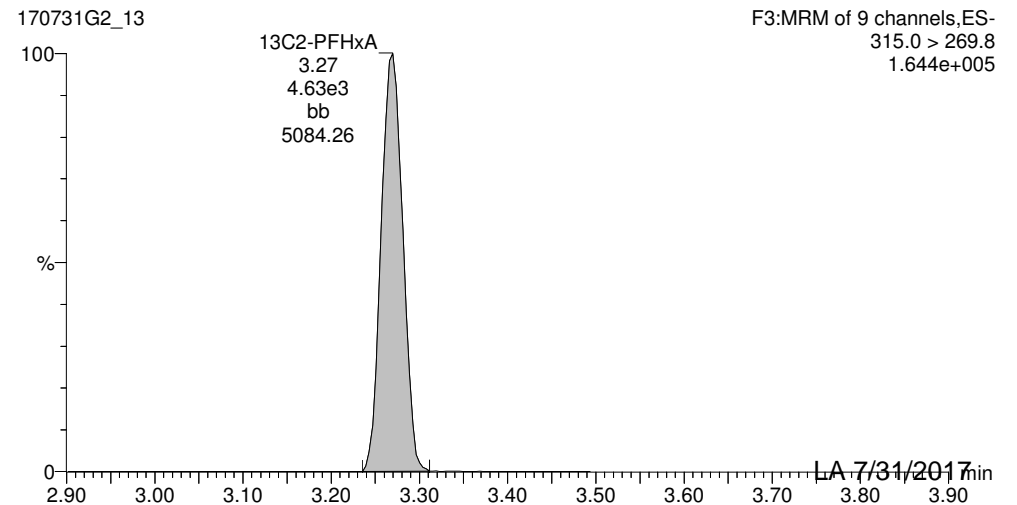
PFHxA



13C3-PFBS



13C2-PFHxA

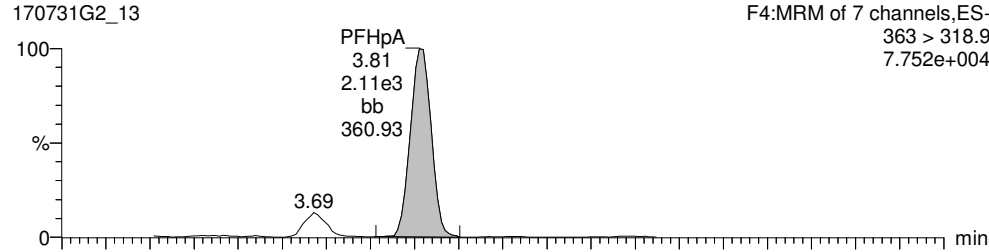


Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-13.qld

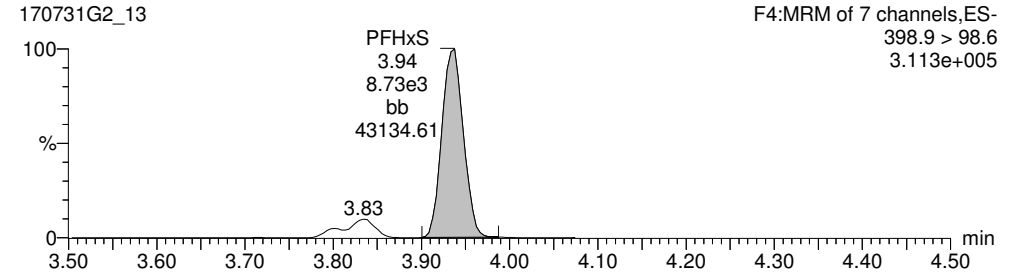
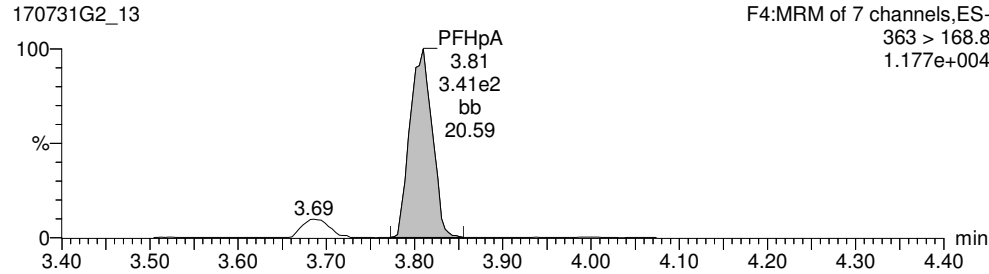
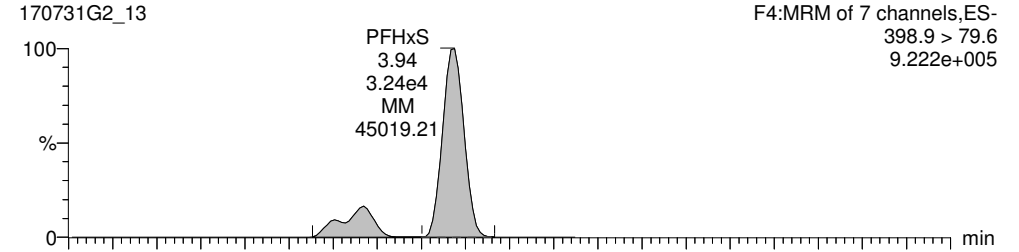
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Printed: Monday, July 31, 2017 12:56:08 Pacific Daylight Time

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G2_13, Date: 31-Jul-2017, Time: 12:05:21, Instrument: , Lab: , User:

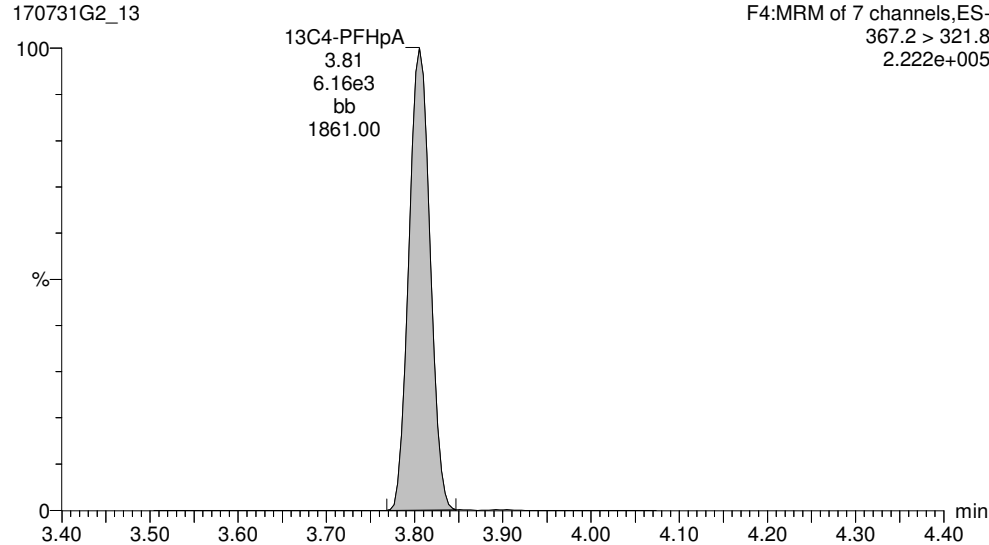
PFHpA



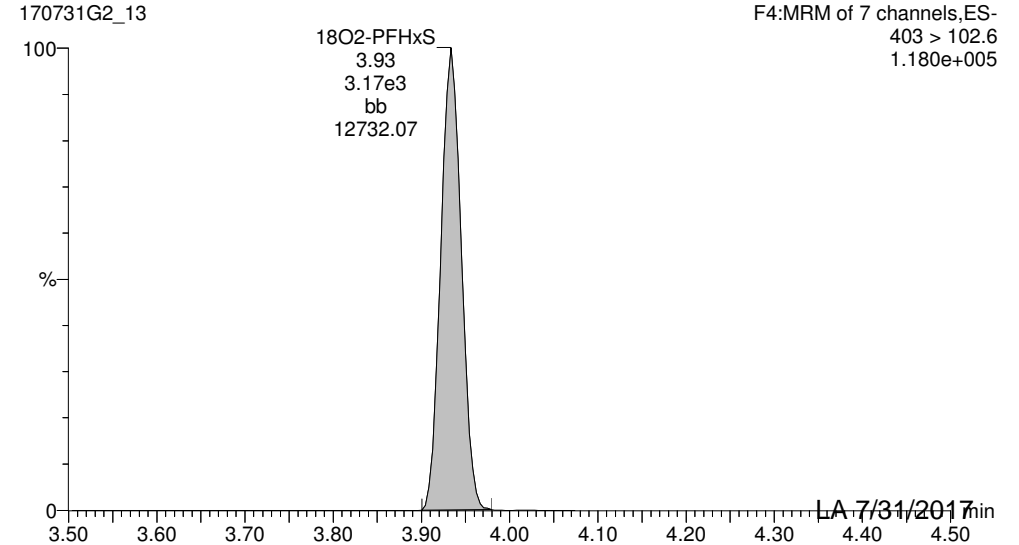
Total PFHxS



13C4-PFHpA



18O2-PFHxS



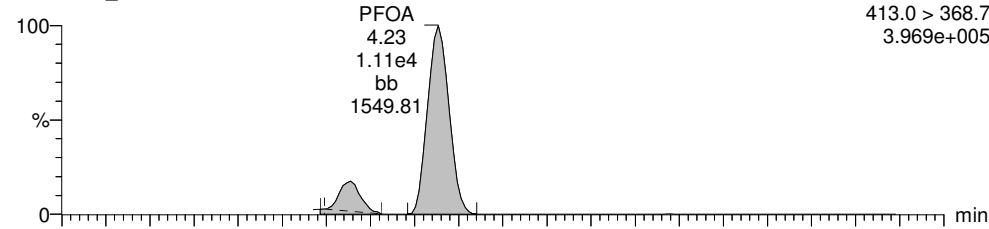
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Last Altered: Monday, July 31, 2017 12:55:49 Pacific Daylight Time
Printed: Monday, July 31, 2017 12:56:08 Pacific Daylight Time

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G2_13, Date: 31-Jul-2017, Time: 12:05:21, Instrument: , Lab: , User:

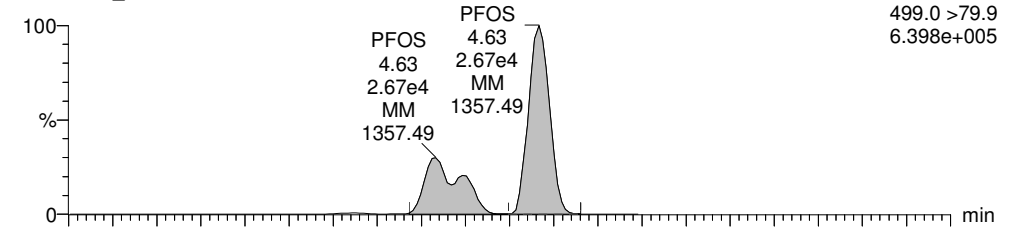
Total PFOA

170731G2_13

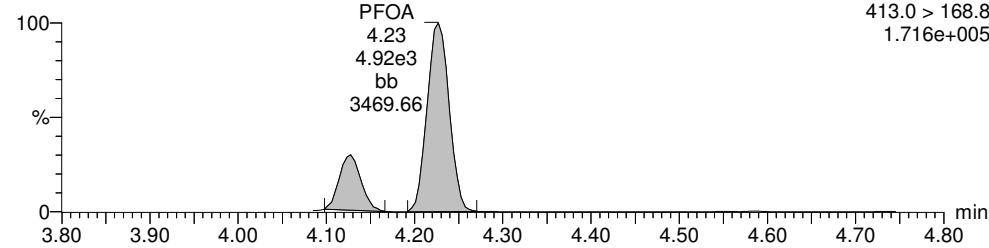


Total PFOS

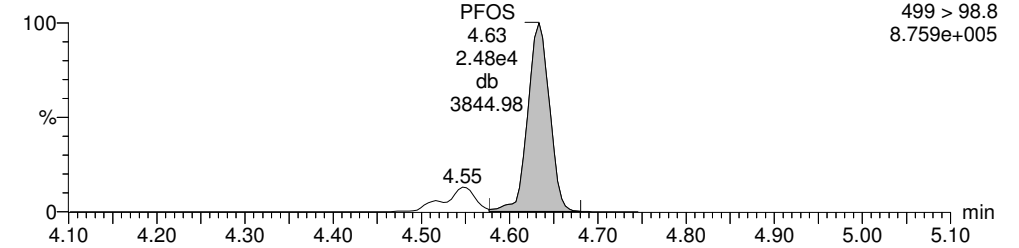
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170731G2_13

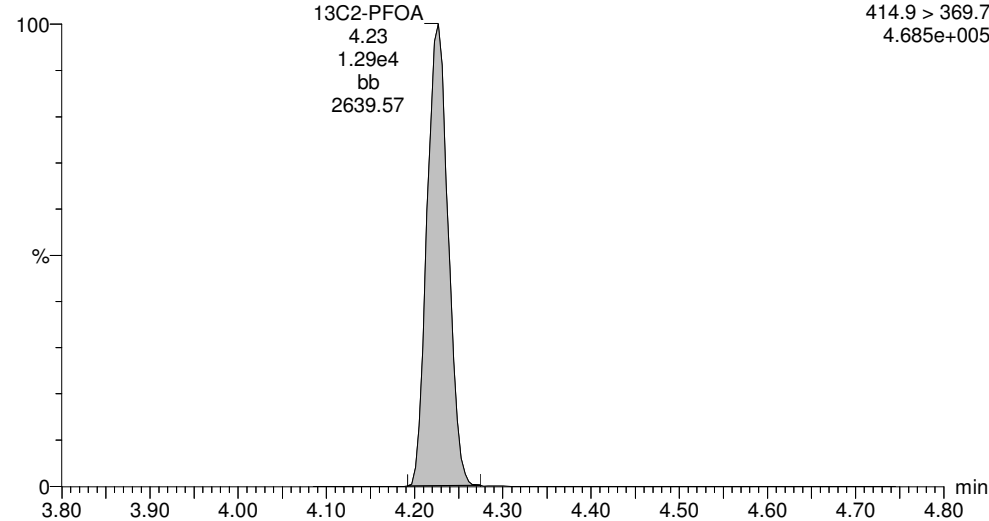


170731G2_13



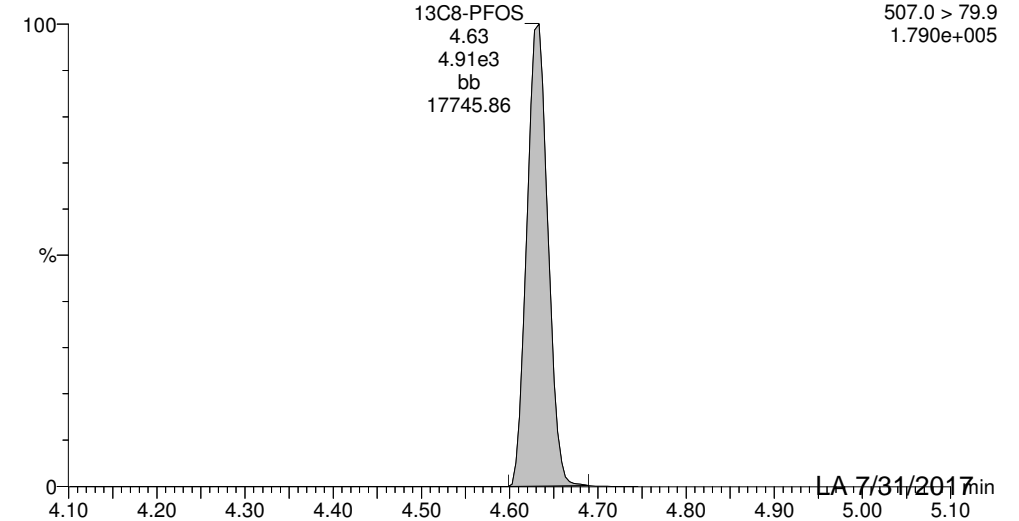
13C2-PFOA

170731G2_13



13C8-PFOS

170731G2_13

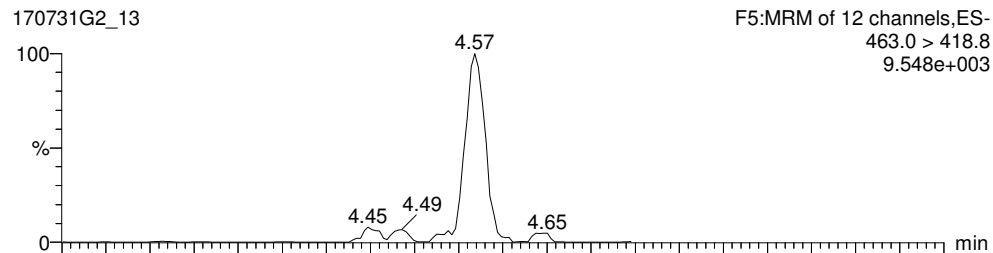


Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-13.qld

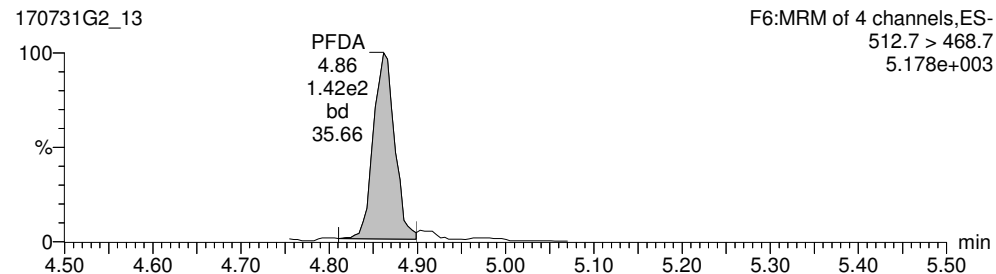
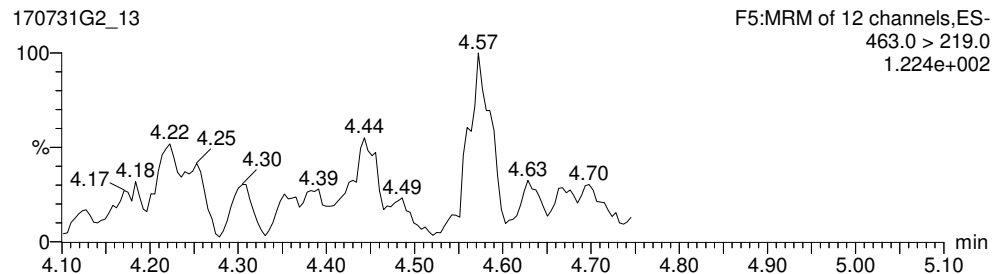
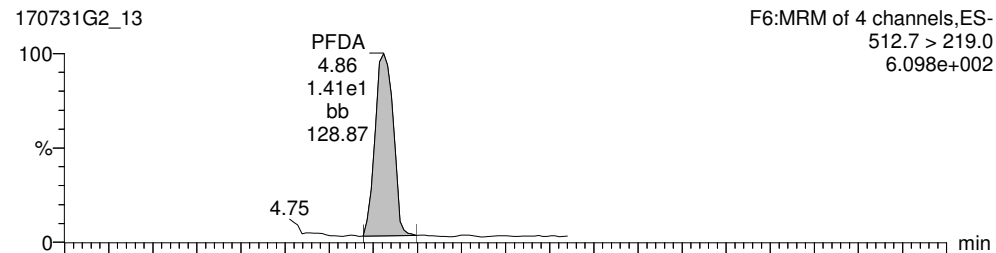
Last Altered: Monday, July 31, 2017 12:55:49 Pacific Daylight Time
Printed: Monday, July 31, 2017 12:56:08 Pacific Daylight Time

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G2_13, Date: 31-Jul-2017, Time: 12:05:21, Instrument: , Lab: , User:

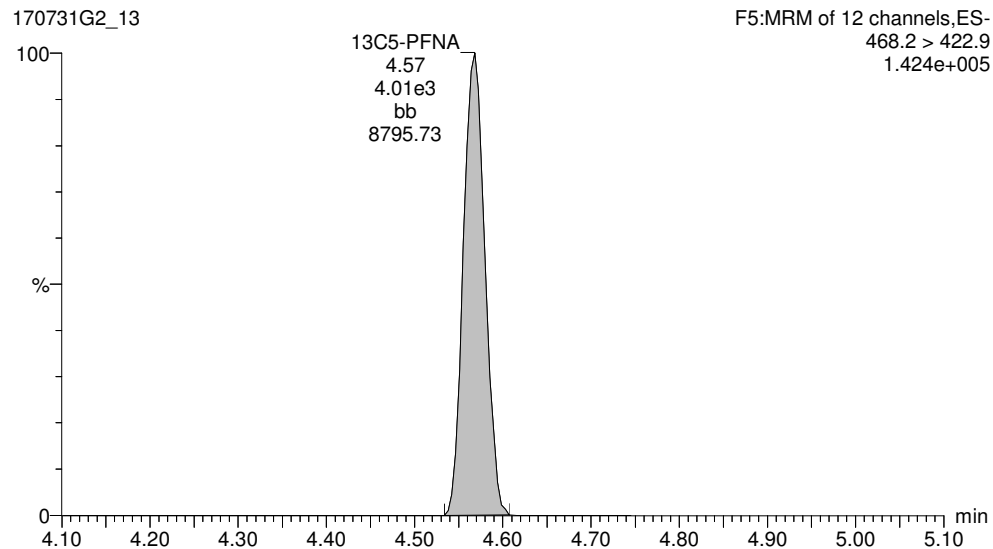
PFNA



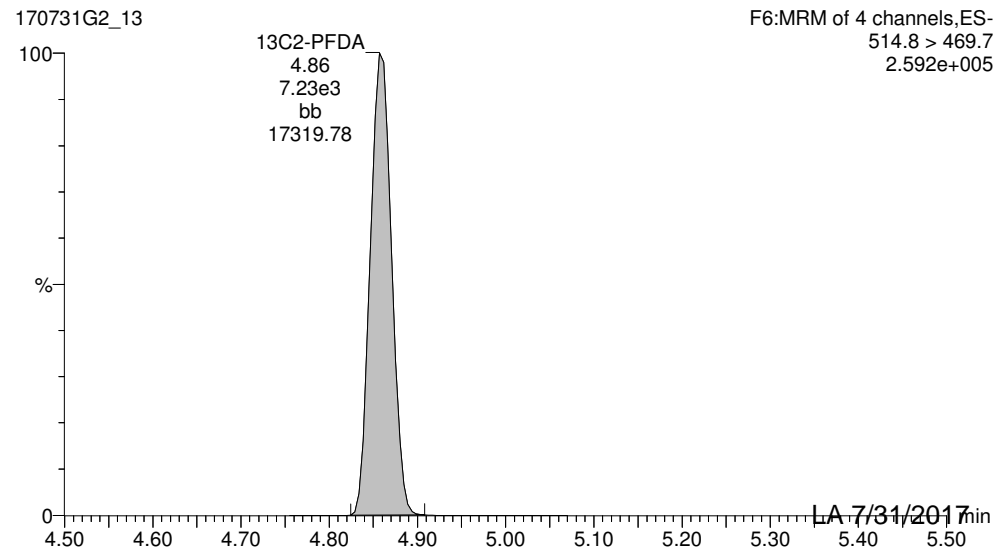
PFDA



13C5-PFNA



13C2-PFDA



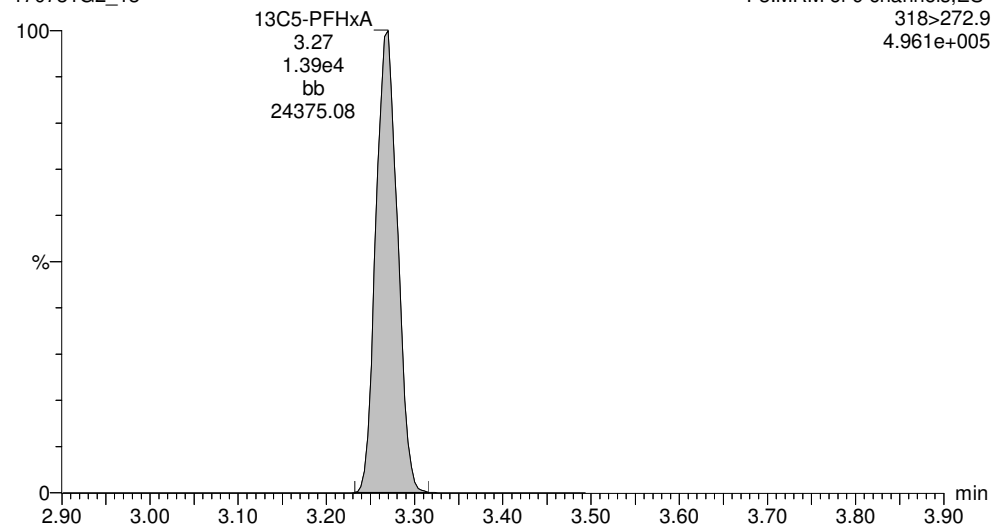
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Last Altered: Monday, July 31, 2017 12:55:49 Pacific Daylight Time
Printed: Monday, July 31, 2017 12:56:08 Pacific Daylight Time

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G2_13, Date: 31-Jul-2017, Time: 12:05:21, Instrument: , Lab: , User:

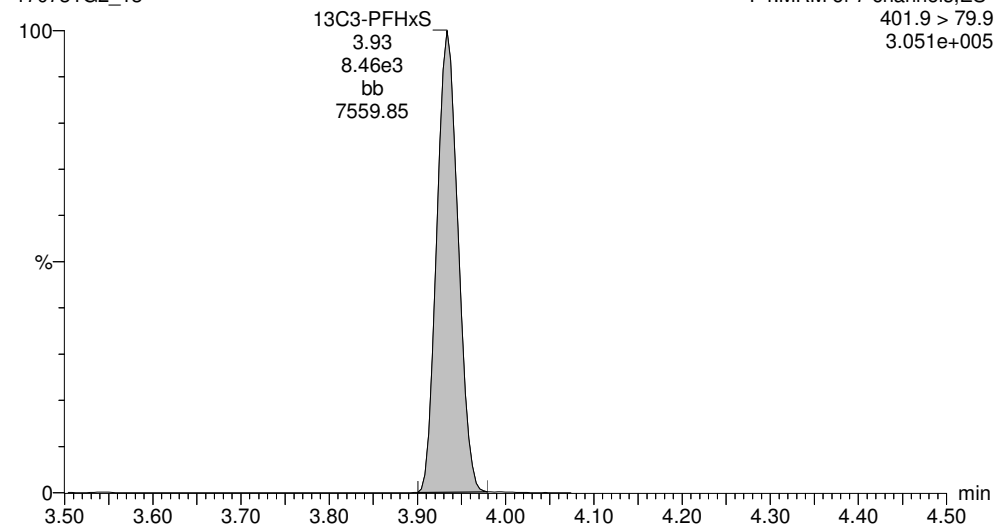
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170731G2_13



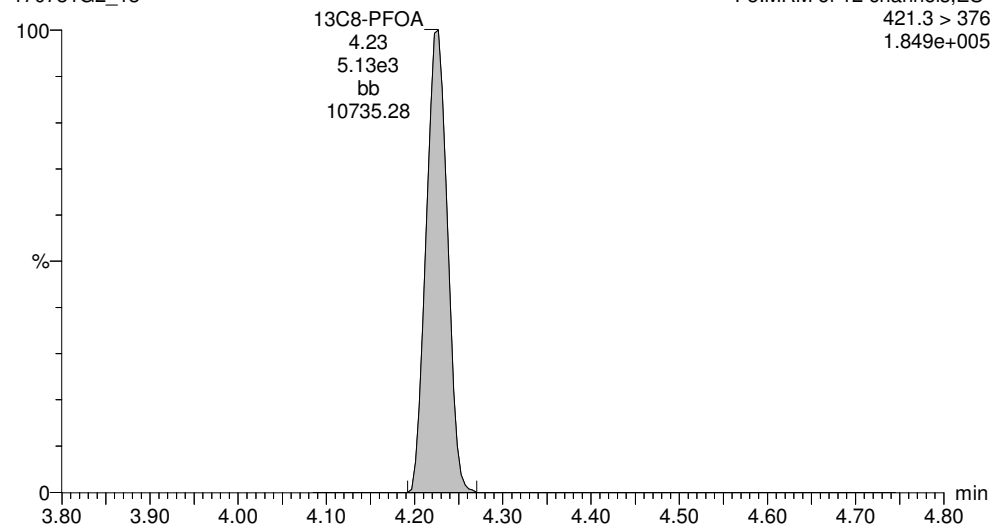
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170731G2_13



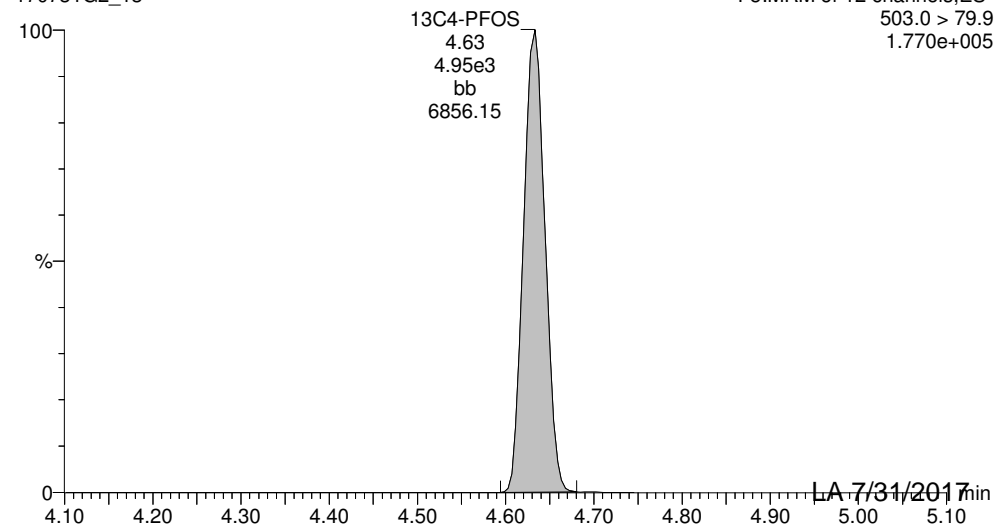
13C8-PFOA

170731G2_13



13C4-PFOS

170731G2_13



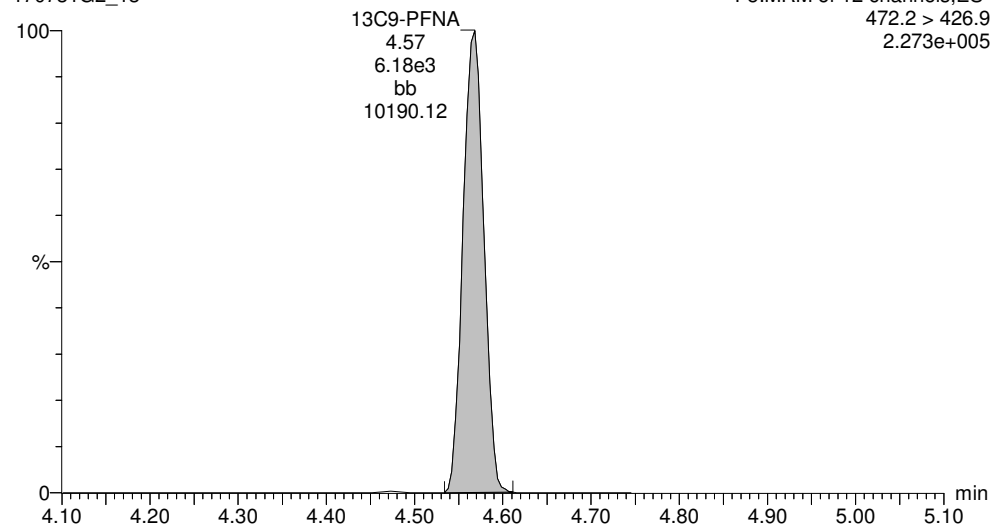
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Last Altered: Monday, July 31, 2017 12:55:49 Pacific Daylight Time
Printed: Monday, July 31, 2017 12:56:08 Pacific Daylight Time

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G2_13, Date: 31-Jul-2017, Time: 12:05:21, Instrument: , Lab: , User:

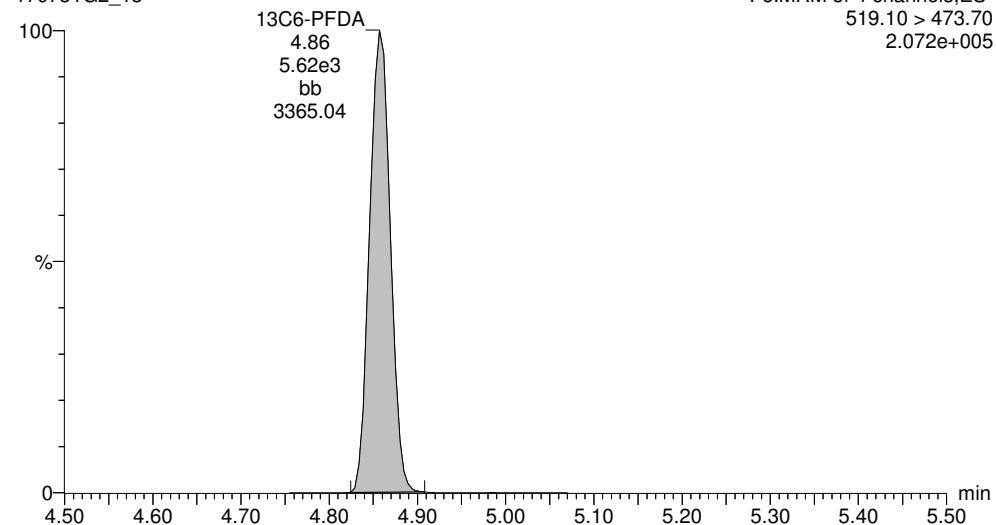
13C9-PFNA

170731G2_13



13C6-PFDA

170731G2_13



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-11.qld

Last Altered: Monday, July 31, 2017 16:35:58 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:37:00 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G1_11, Date: 31-Jul-2017, Time: 15:57:16

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	2 N-MeFOSAA	570.1 > 419.0		2.865e3		0.118			
2	4 PFUnA	563 > 518.9	2.777e2	1.278e4		0.118	5.12	0.0883	
3	5 N-EtFOSAA	584.2 > 419.0		3.846e3		0.118			
4	6 PFDoA	612.9 > 318.8		1.610e4		0.118			
5	7 PFTeDA	662.9 > 618.9		0.000e0		0.118			
6	8 PFTeDA	712.9 > 668.8	1.799e2	1.548e4		0.118	5.73		
7	10 d3-N-MeFOSAA	573.3 > 419.0	2.865e3	1.459e4	0.026	0.118	4.98	791	57.3
8	11 13C2-PFUnA	565 > 519.8	1.278e4	1.459e4	1.471	0.118	5.12	63.2	59.6
9	12 d5-N-EtFOSAA	589.3 > 419.0	3.846e3	1.459e4	0.031	0.118	5.11	900	65.2
10	13 13C2-PFDoA	615 > 569.7	1.610e4	1.459e4	1.887	0.118	5.35	62.1	58.5
11	14 13C2-PFTeDA	715 > 669.7	1.548e4	1.459e4	1.990	0.118	5.73	56.6	53.3
12	15 13C7-PFUnA	570.1 > 524.8	1.459e4	1.459e4	1.000	0.118	5.12	106	100
13	16 Total N-MeFOSAA	570.1 > 419.0		2.865e3		0.118			
14	17 Total N-EtFOSAA	584.2 > 419.0		3.846e3		0.118			

Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-11.qld

Last Altered: Monday, July 31, 2017 16:35:58 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:37:00 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G1_11, Date: 31-Jul-2017, Time: 15:57:16

Total N-MeFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total N-EtFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

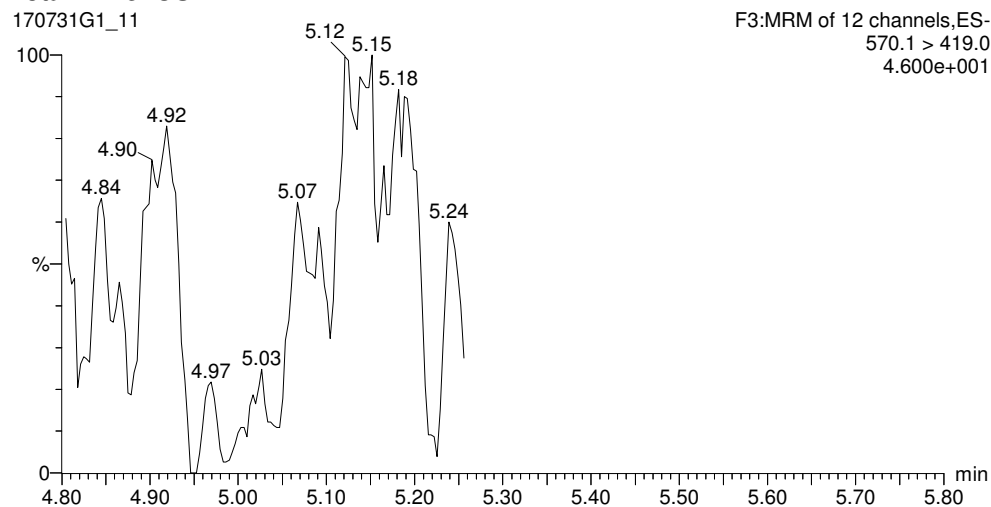
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Last Altered: Monday, July 31, 2017 16:35:58 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:37:00 Pacific Daylight Time

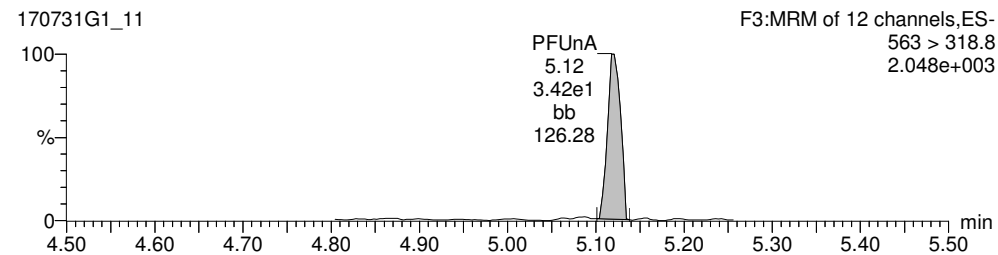
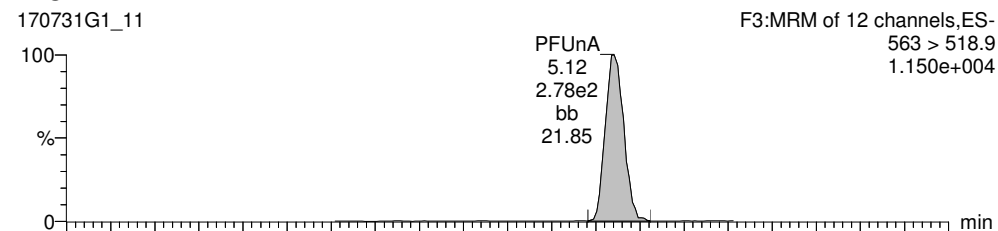
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ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G1_11, Date: 31-Jul-2017, Time: 15:57:16,
Instrument: , Lab: , User:

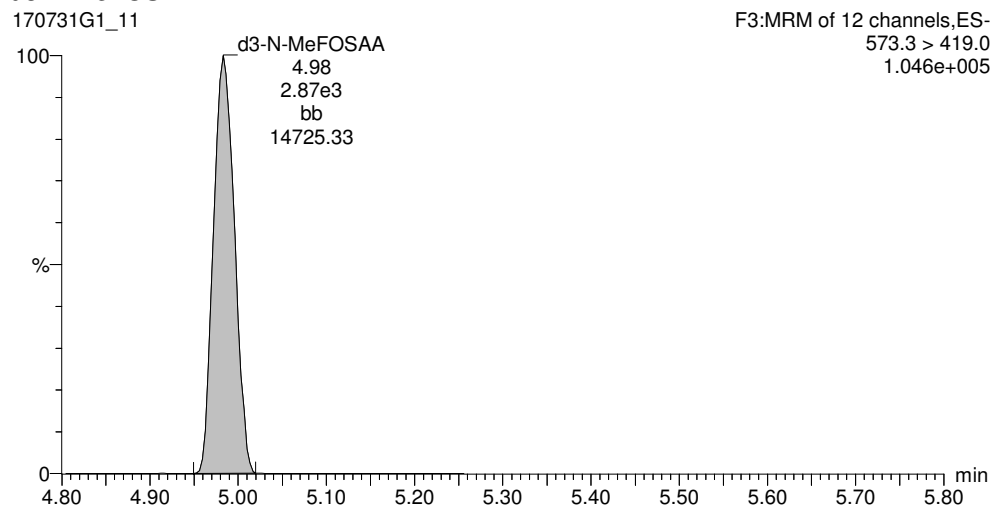
Total N-MeFOSAA



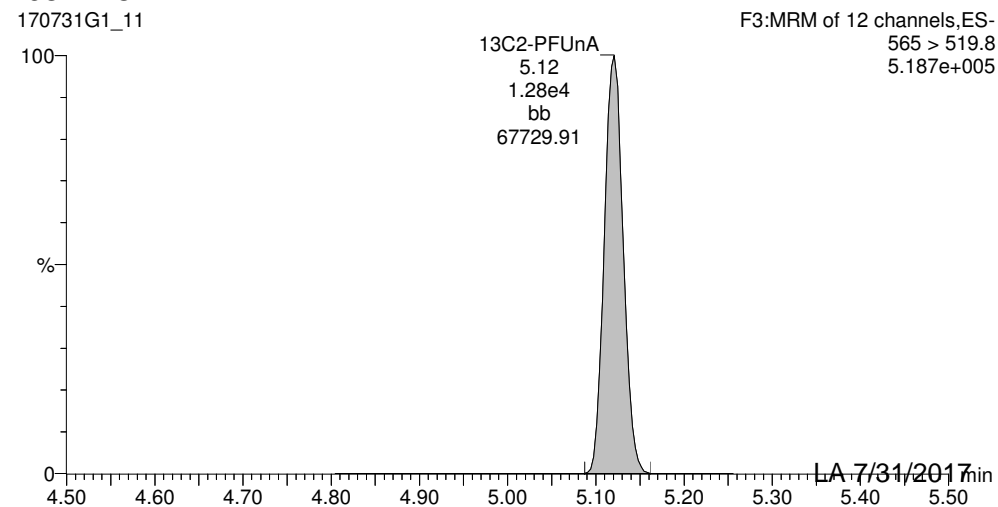
PFUa



d3-N-MeFOSAA



13C2-PFUa



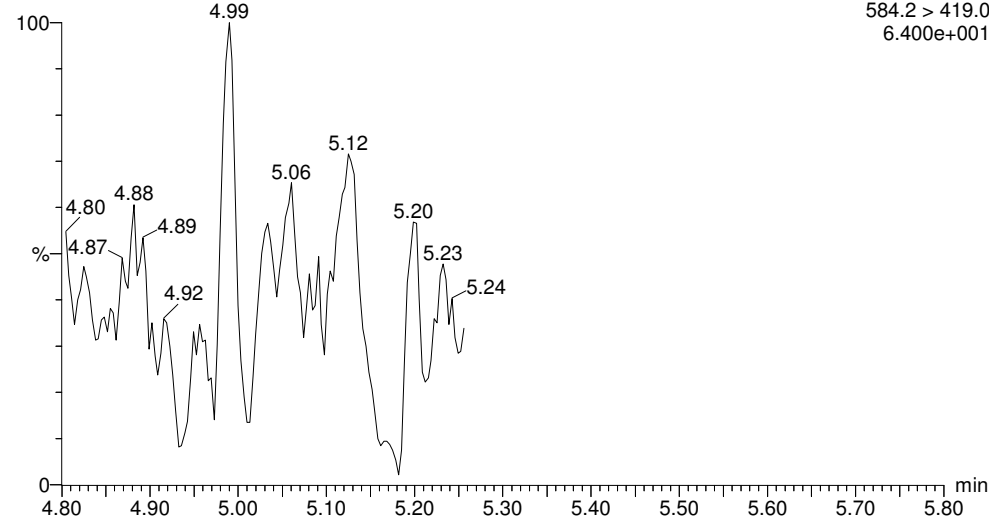
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Last Altered: Monday, July 31, 2017 16:35:58 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:37:00 Pacific Daylight Time

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G1_11, Date: 31-Jul-2017, Time: 15:57:16, Instrument: , Lab: , User:

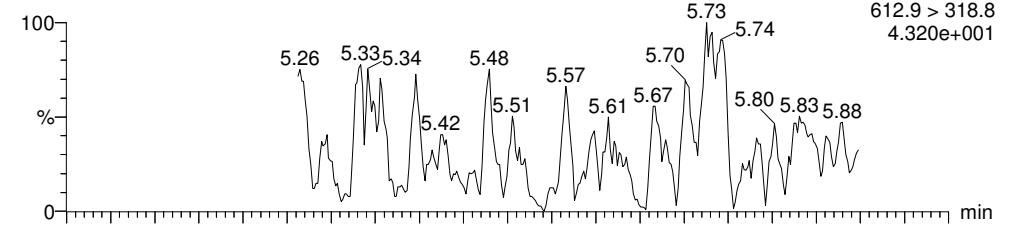
Total N-EtFOSAA

170731G1_11

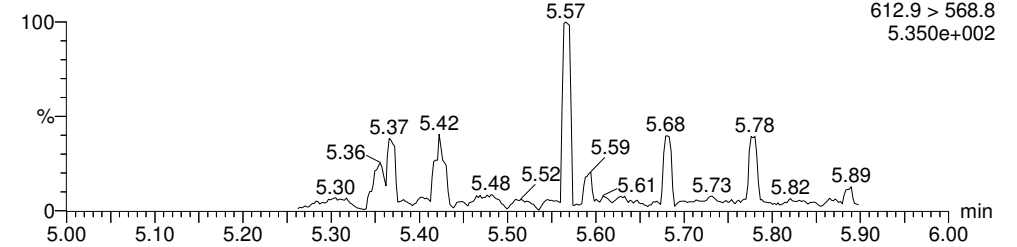


PFDoA

170731G1_11

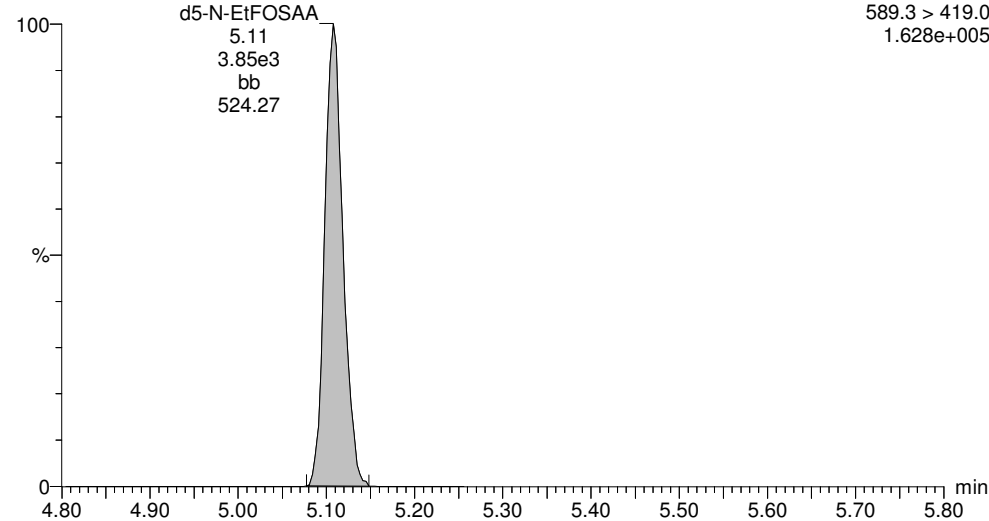


170731G1_11



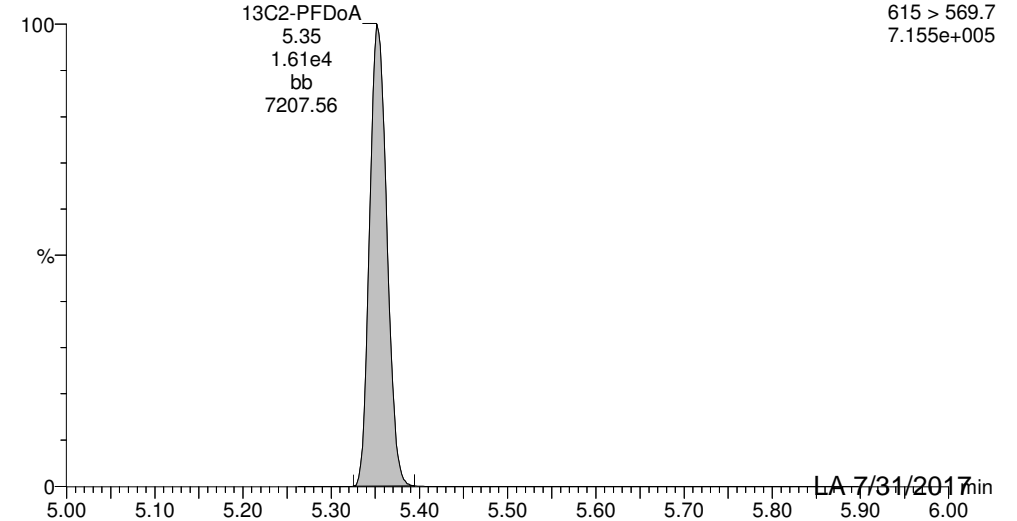
d5-N-EtFOSAA

170731G1_11



13C2-PFDoA

170731G1_11

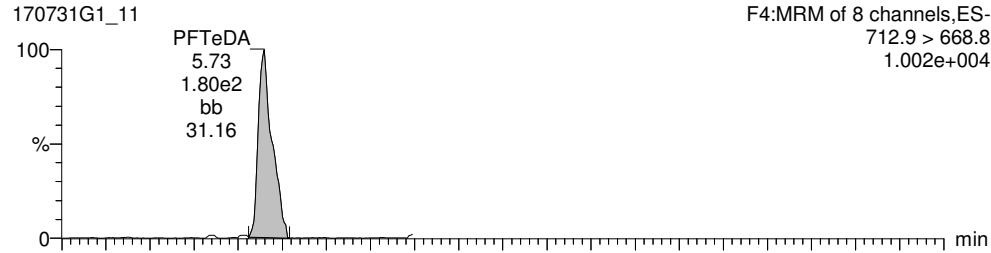


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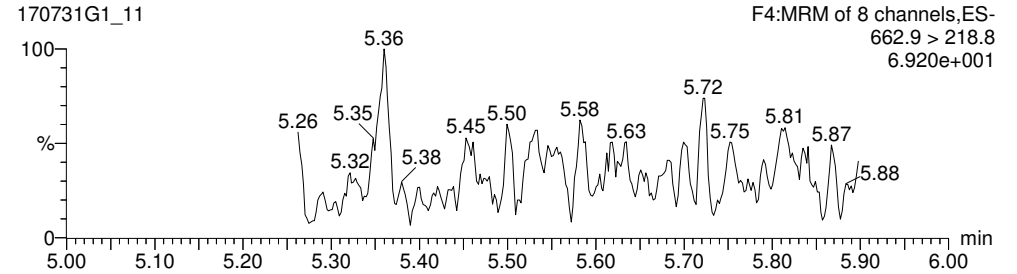
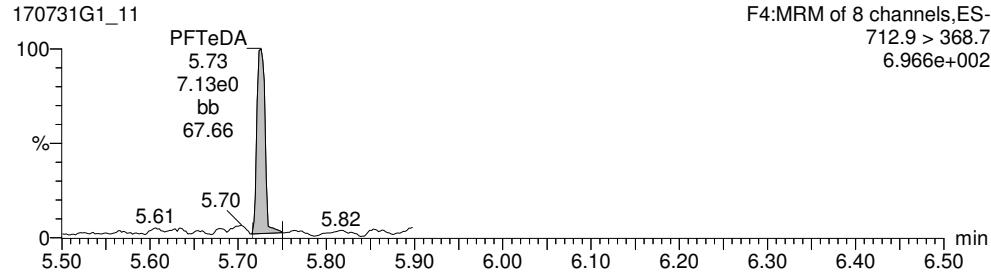
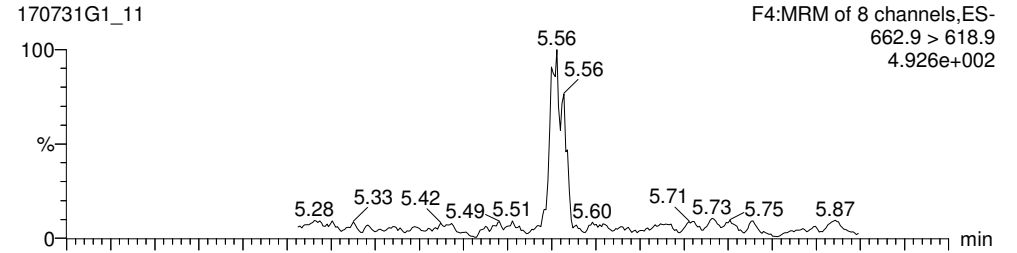
Last Altered: Monday, July 31, 2017 16:35:58 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:37:00 Pacific Daylight Time

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G1_11, Date: 31-Jul-2017, Time: 15:57:16, Instrument: , Lab: , User:

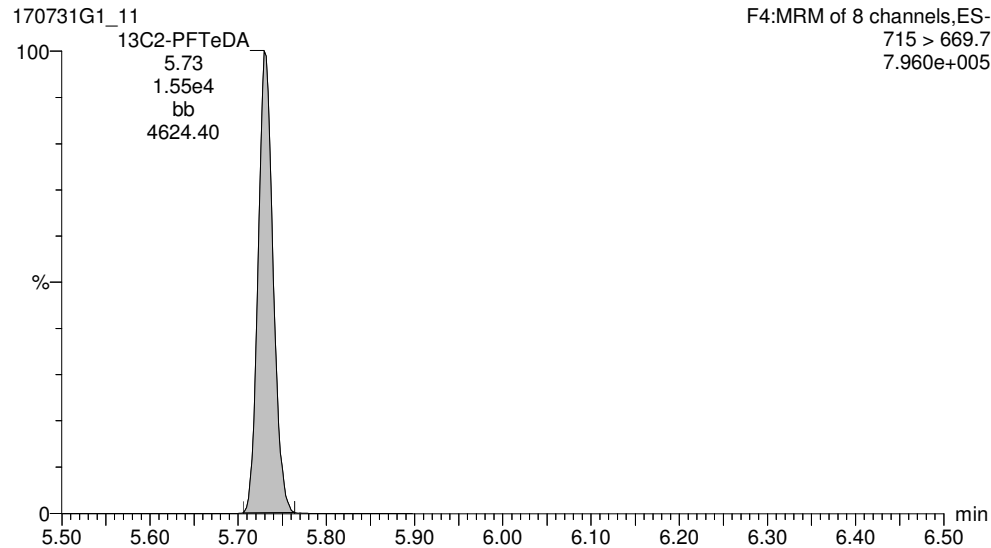
PFTeDA



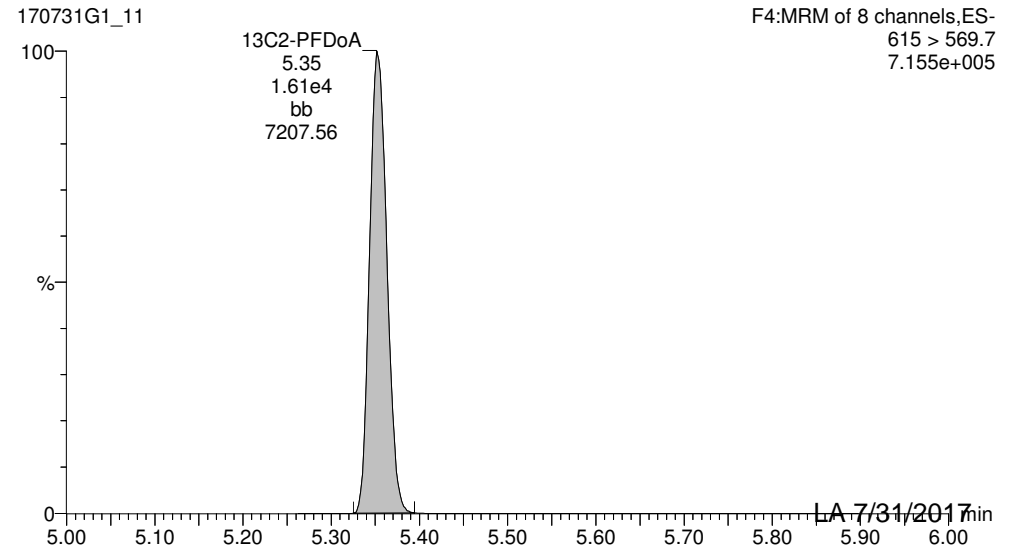
PFTrDA



13C2-PFTeDA



13C2-PFDoA



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-11.qld

Last Altered: Monday, July 31, 2017 16:35:58 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:37:00 Pacific Daylight Time

ID: 1700887-05 Building 110-GW-110GW01-20170712 0.1177, Description: Building 110-GW-110GW01-20170712, Name: 170731G1_11, Date: 31-Jul-2017, Time: 15:57:16,
Instrument: , Lab: , User:

13C7-PFUnA

170731G1_11

F3:MRM of 12 channels,ES-
570.1 > 524.8
5.778e+005



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-16.qld

Last Altered: Monday, July 31, 2017 13:00:55 Pacific Daylight Time

Printed: Monday, July 31, 2017 13:02:40 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-05@5X Building 110-GW-110GW01-20170712, Description: Building 110-GW-110GW01-20170712, Name: 170731G2_16, Date: 31-Jul-2017, Time: 12:43:01

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	9 PFOS	499.0 >79.9	3.178e3	5.836e2		0.118	4.64	1230	
2	20 13C8-PFOS	507.0 > 79.9	5.836e2	6.210e2	0.927	0.118	4.63	108	101
3	26 13C4-PFOS	503.0 > 79.9	6.210e2	6.210e2	1.000	0.118	4.64	106	100
4	31 Total PFOS	499.0 >79.9		5.836e2		0.118		1230	

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-16.qld

Last Altered: Monday, July 31, 2017 13:00:55 Pacific Daylight Time

Printed: Monday, July 31, 2017 13:02:40 Pacific Daylight Time

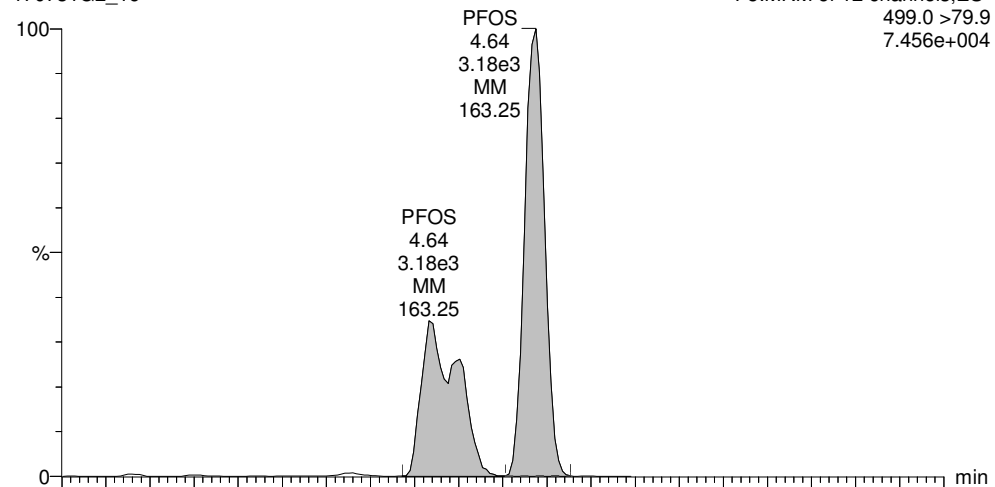
Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-05@5X Building 110-GW-110GW01-20170712, Description: Building 110-GW-110GW01-20170712, Name: 170731G2_16, Date: 31-Jul-2017, Time: 12:43:01, Instrument: , Lab: , User:

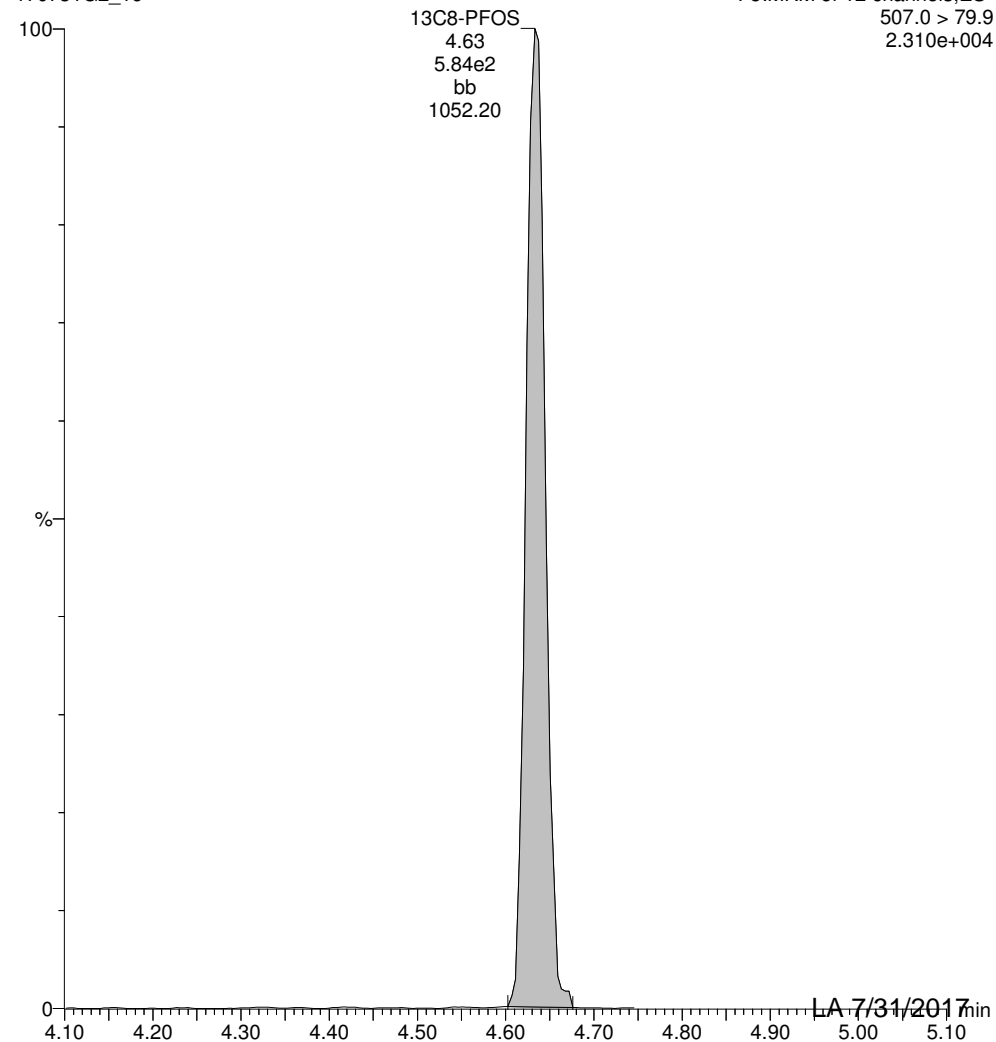
Total PFOS

170731G2_16

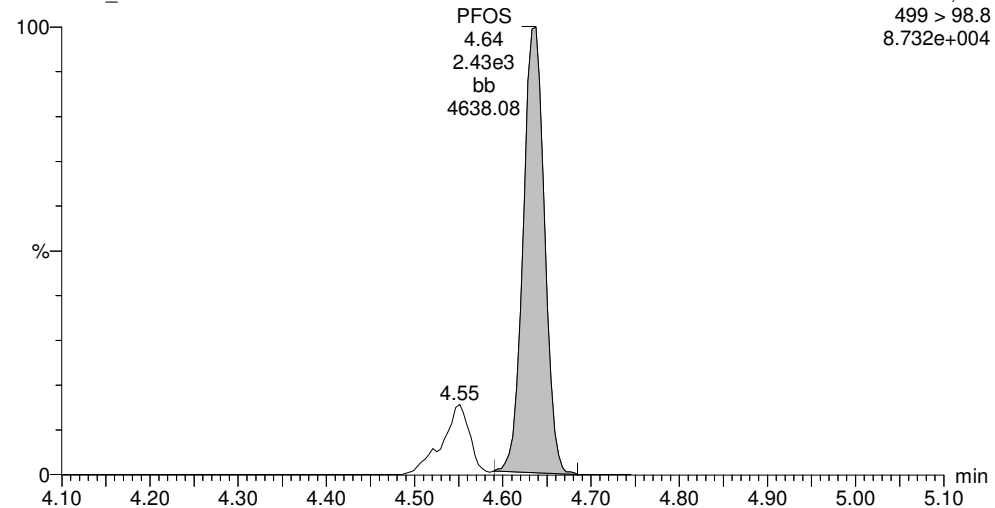


13C8-PFOS

170731G2_16



170731G2_16



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-16.qld

Last Altered: Monday, July 31, 2017 13:00:55 Pacific Daylight Time

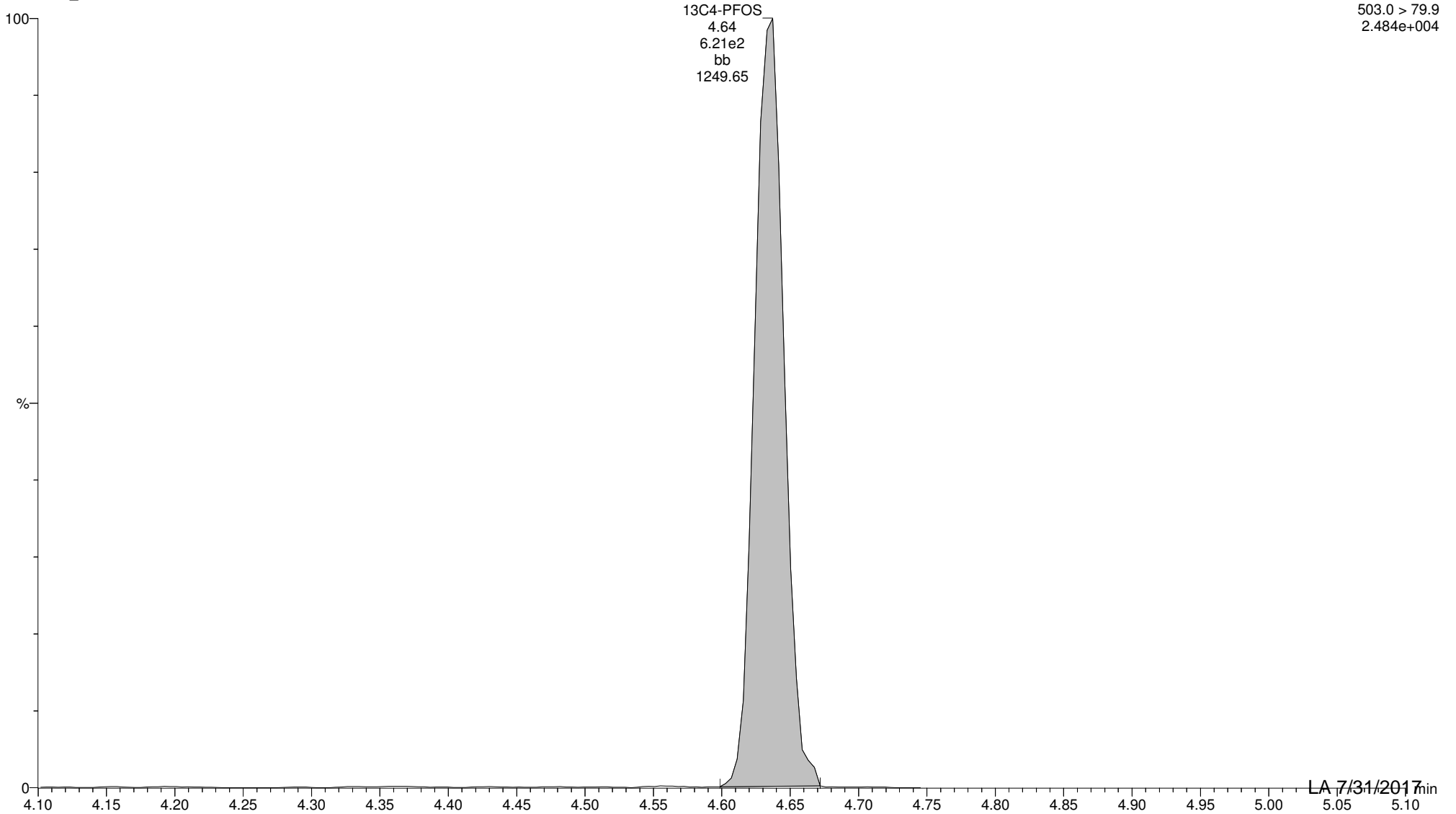
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ID: 1700887-05@5X Building 110-GW-110GW01-20170712, Description: Building 110-GW-110GW01-20170712, Name: 170731G2_16, Date: 31-Jul-2017, Time: 12:43:01,
Instrument: , Lab: , User:

13C4-PFOS

170731G2_16

F5:MRM of 12 channels,ES-
503.0 > 79.9
2.484e+004



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-15.qld

Last Altered: Monday, July 31, 2017 12:59:17 Pacific Daylight Time

Printed: Monday, July 31, 2017 12:59:37 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G2_15, Date: 31-Jul-2017, Time: 12:30:29

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	3 PFBS	299.0 > 79.7	2.353e3	6.866e3		0.106	2.87	21.7	
2	4 PFHxA	312.9 > 268.9	2.458e3	8.311e3		0.106	3.26	17.6	
3	5 PFHpA	363 > 318.9	1.910e3	1.132e4		0.106	3.81	9.00	
4	6 PFHxS	398.9 > 79.6	6.004e2	6.344e3		0.106	3.93	5.70	
5	7 PFOA	413.0 > 368.7	3.252e3	2.345e4		0.106	4.23	19.4	
6	8 PFNA	463.0 > 418.8	4.461e2	7.278e3		0.106	4.57	2.80	
7	9 PFOS	499.0 > 79.9	3.767e2	6.719e3		0.106	4.63	13.5	
8	10 PFDA	512.7 > 219.0	2.658e1	7.957e3		0.106	4.86	0.681	
9	12 13C3-PFBS	302.0 > 98.8	6.866e3	2.245e4	0.263	0.106	2.87	137	116
10	14 13C2-PFHxA	315.0 > 269.8	8.311e3	2.245e4	0.361	0.106	3.26	121	103
11	15 13C4-PFHpA	367.2 > 321.8	1.132e4	2.245e4	0.475	0.106	3.80	125	106
12	16 18O2-PFHxS	403 > 102.6	6.344e3	1.646e4	0.411	0.106	3.93	111	93.8
13	17 13C2-PFOA	414.9 > 369.7	2.345e4	8.254e3	2.843	0.106	4.23	118	99.9
14	18 13C5-PFNA	468.2 > 422.9	7.278e3	9.397e3	0.854	0.106	4.57	107	90.7
15	19 13C2-PFDA	514.8 > 469.7	7.957e3	5.253e3	1.742	0.106	4.86	103	87.0
16	20 13C8-PFOS	507.0 > 79.9	6.719e3	7.937e3	0.927	0.106	4.63	108	91.3
17	22 13C5-PFHxA	318 > 272.9	2.245e4	2.245e4	1.000	0.106	3.26	118	100
18	23 13C3-PFHxS	401.9 > 79.9	1.646e4	1.646e4	1.000	0.106	3.93	118	100
19	24 13C8-PFOA	421.3 > 376	8.254e3	8.254e3	1.000	0.106	4.22	118	100
20	25 13C9-PFNA	472.2 > 426.9	9.397e3	9.397e3	1.000	0.106	4.57	118	100
21	26 13C4-PFOS	503.0 > 79.9	7.937e3	7.937e3	1.000	0.106	4.63	118	100
22	27 13C6-PFDA	519.10 > 473.70	5.253e3	5.253e3	1.000	0.106	4.86	118	100
23	28 Total PFBS	299.0 > 79.7		6.866e3		0.106		21.7	
24	29 Total PFHxS	398.9 > 79.6		6.344e3		0.106		5.70	
25	30 Total PFOA	413.0 > 368.7		2.345e4		0.106		20.6	
26	31 Total PFOS	499.0 > 79.9		6.719e3		0.106		13.5	

Vista Analytical Laboratory Q1

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-15.qld

Last Altered: Monday, July 31, 2017 12:59:17 Pacific Daylight Time

Printed: Monday, July 31, 2017 12:59:37 Pacific Daylight Time

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Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G2_15, Date: 31-Jul-2017, Time: 12:30:29

Total PFBS

	# Name	Trace	RT	Area	IS Area	Conc.
1	3 PFBS	299.0 > 79.7	2.87	2353.283	6865.844	21.7

Total PFHxS

	# Name	Trace	RT	Area	IS Area	Conc.
1	6 PFHxS	398.9 > 79.6	3.93	600.405	6344.049	5.7

Total PFOA

	# Name	Trace	RT	Area	IS Area	Conc.
1	30 Total PFOA	413.0 > 368.7	4.12	359.528	23449.838	1.2
2	7 PFOA	413.0 > 368.7	4.23	3251.505	23449.838	19.4

Total PFOS

	# Name	Trace	RT	Area	IS Area	Conc.
1	9 PFOS	499.0 > 79.9	4.63	376.683	6718.627	13.5

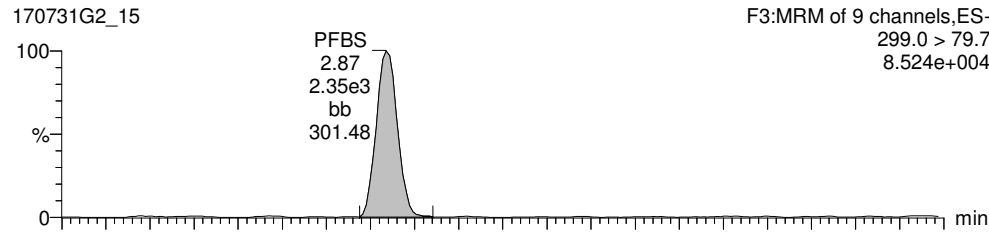
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Printed: Monday, July 31, 2017 12:59:37 Pacific Daylight Time

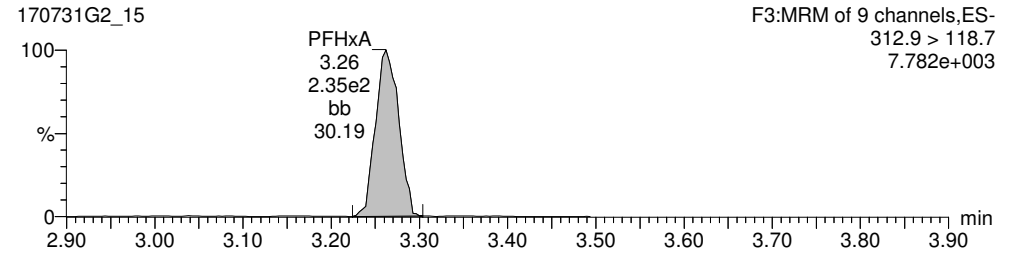
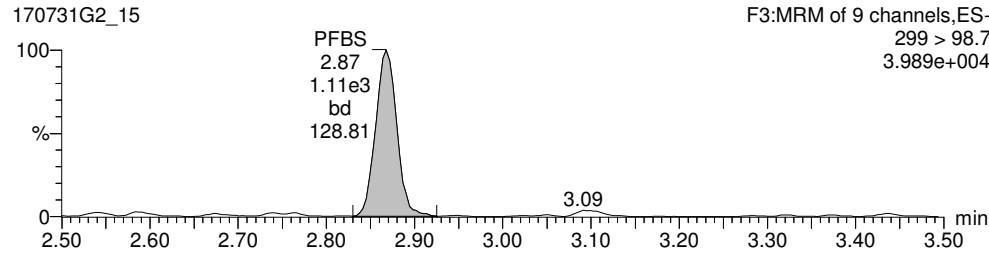
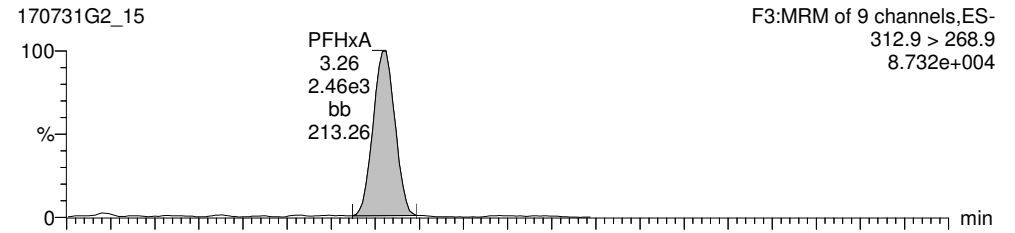
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ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G2_15, Date: 31-Jul-2017, Time: 12:30:29,
Instrument: , Lab: , User:

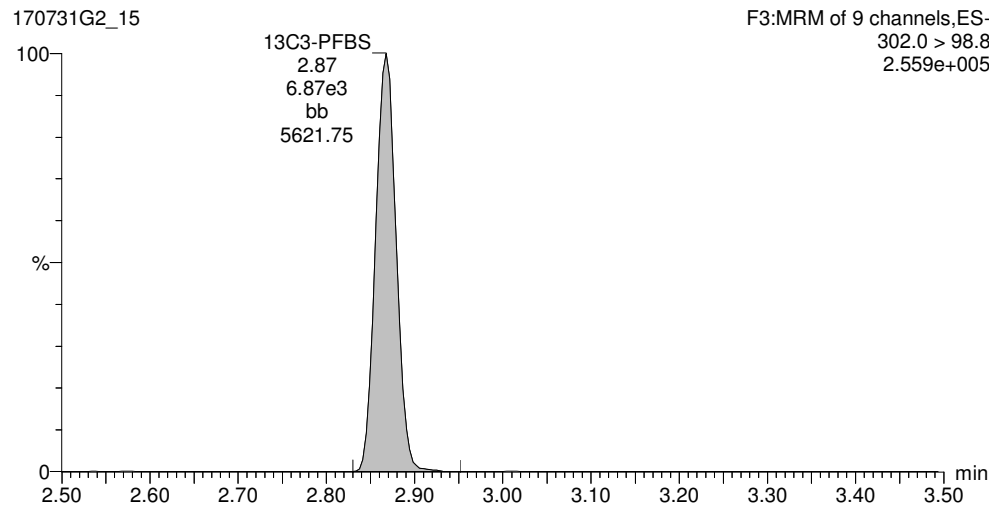
Total PFBS



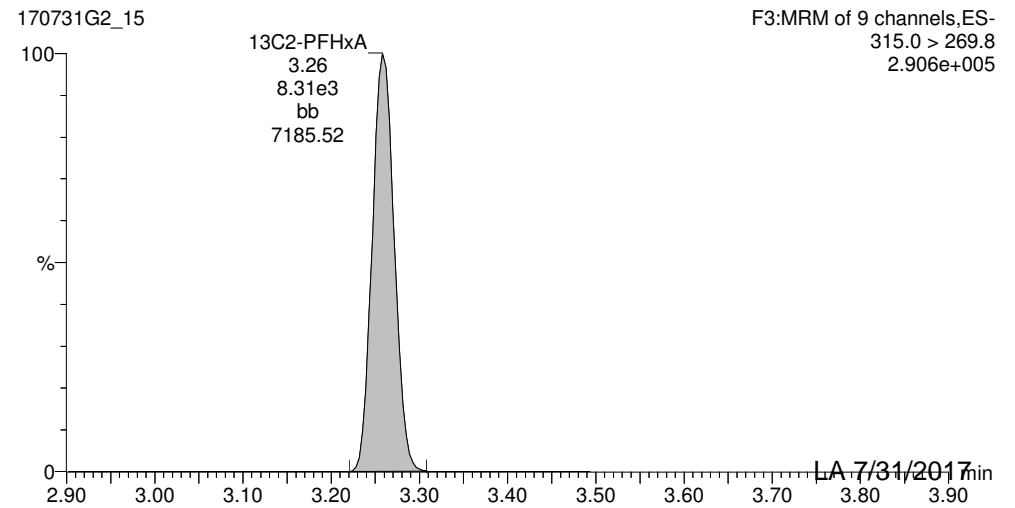
PFHxA



13C3-PFBS



13C2-PFHxA

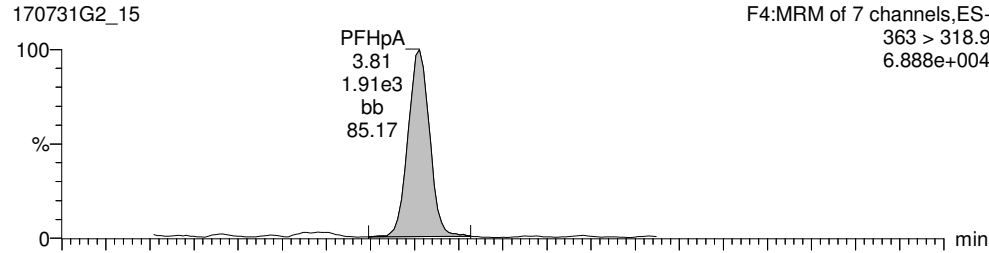


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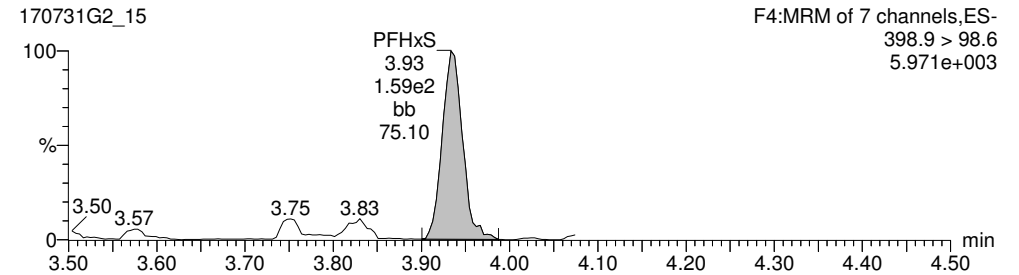
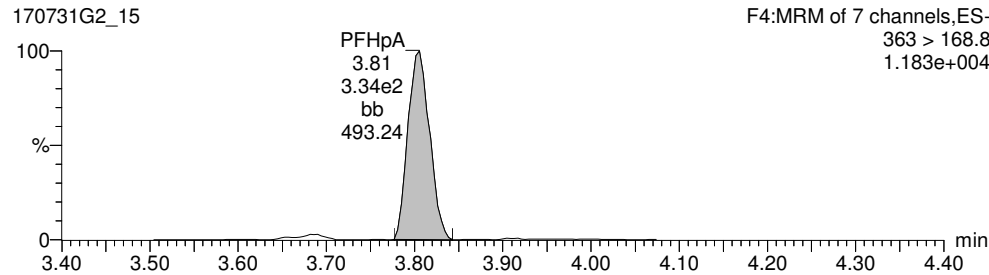
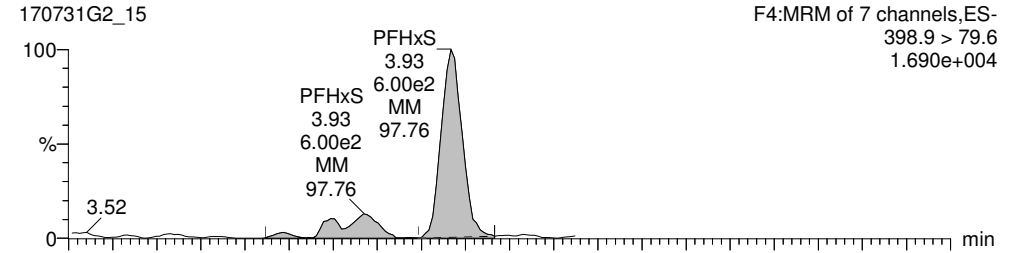
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Printed: Monday, July 31, 2017 12:59:37 Pacific Daylight Time

ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G2_15, Date: 31-Jul-2017, Time: 12:30:29,
Instrument: , Lab: , User:

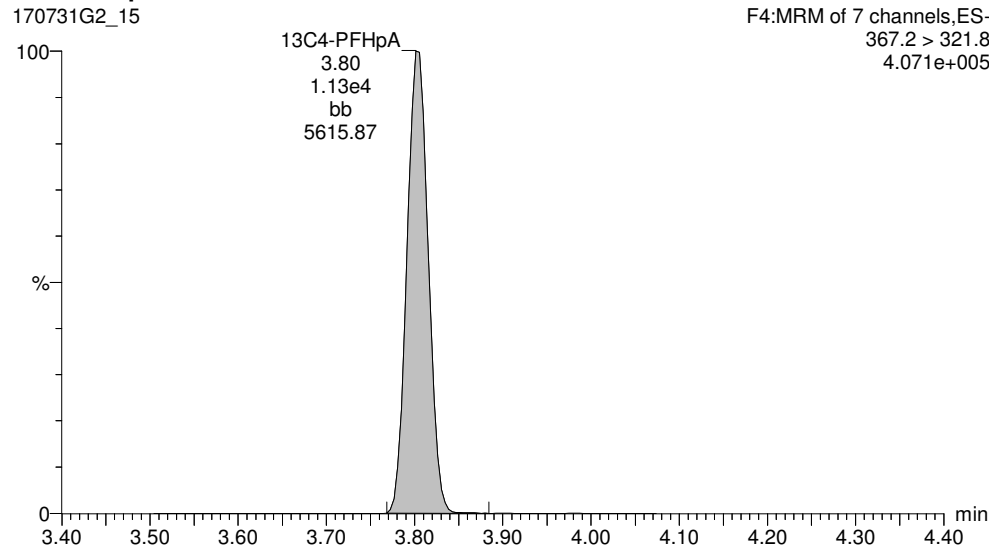
PFHpA



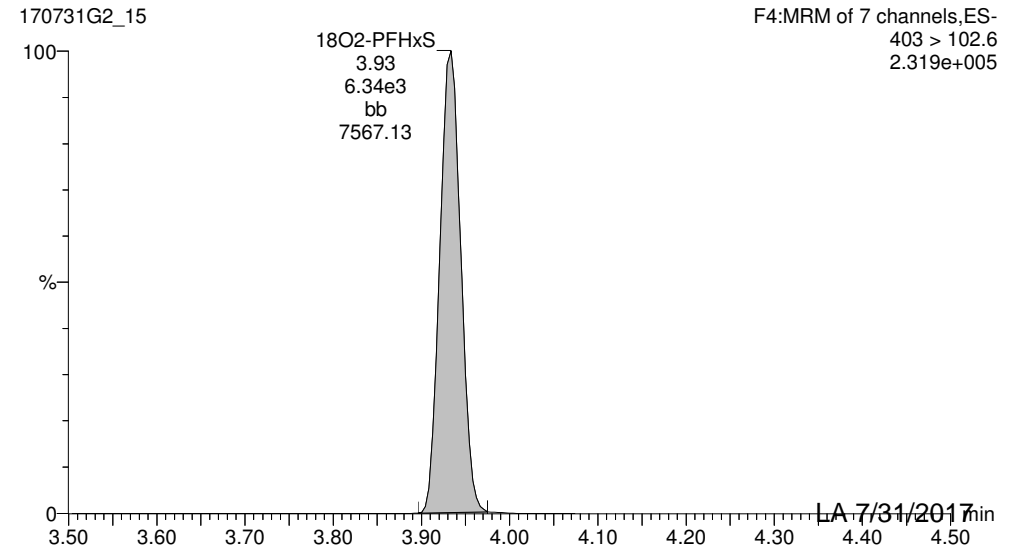
Total PFHxS



13C4-PFHpA



18O2-PFHxS



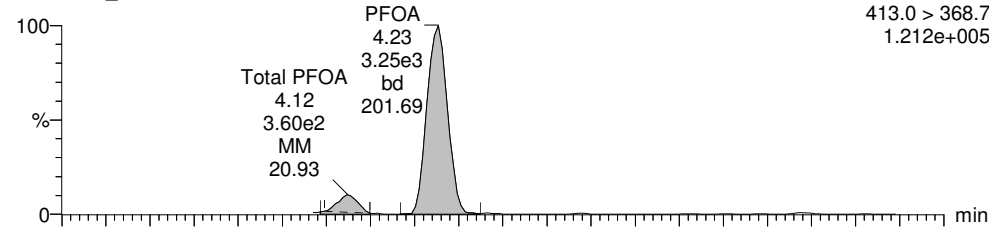
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Last Altered: Monday, July 31, 2017 12:59:17 Pacific Daylight Time
Printed: Monday, July 31, 2017 12:59:37 Pacific Daylight Time

ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G2_15, Date: 31-Jul-2017, Time: 12:30:29,
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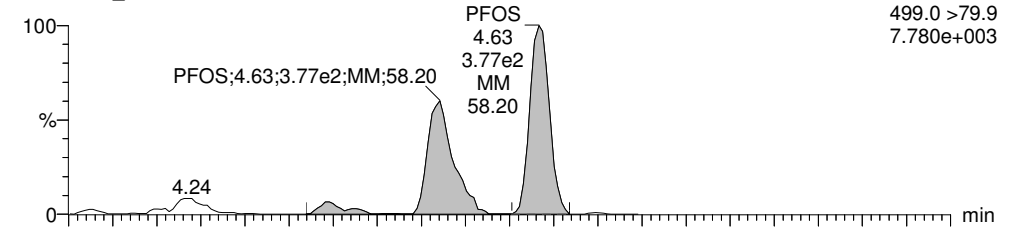
Total PFOA

170731G2_15

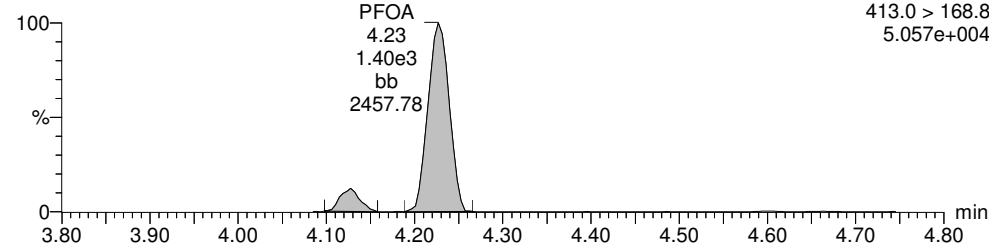


Total PFOS

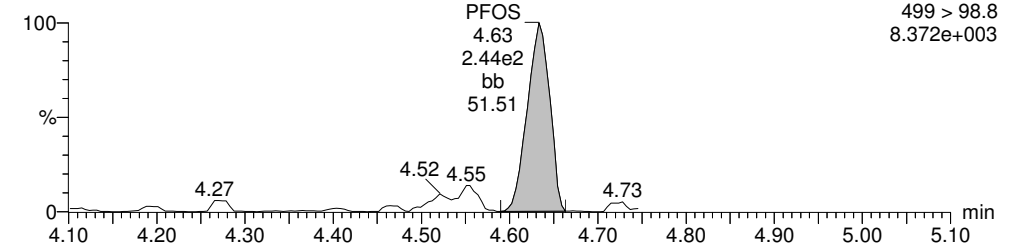
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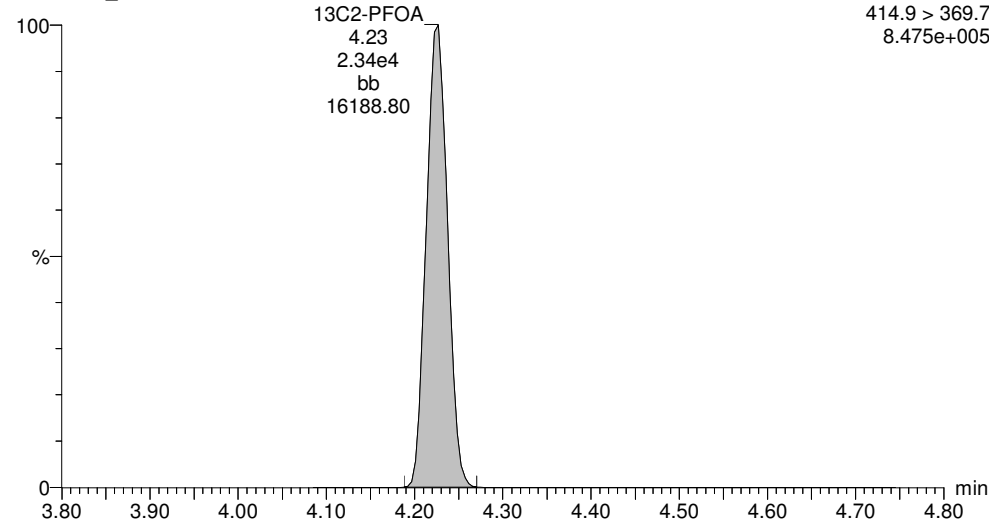


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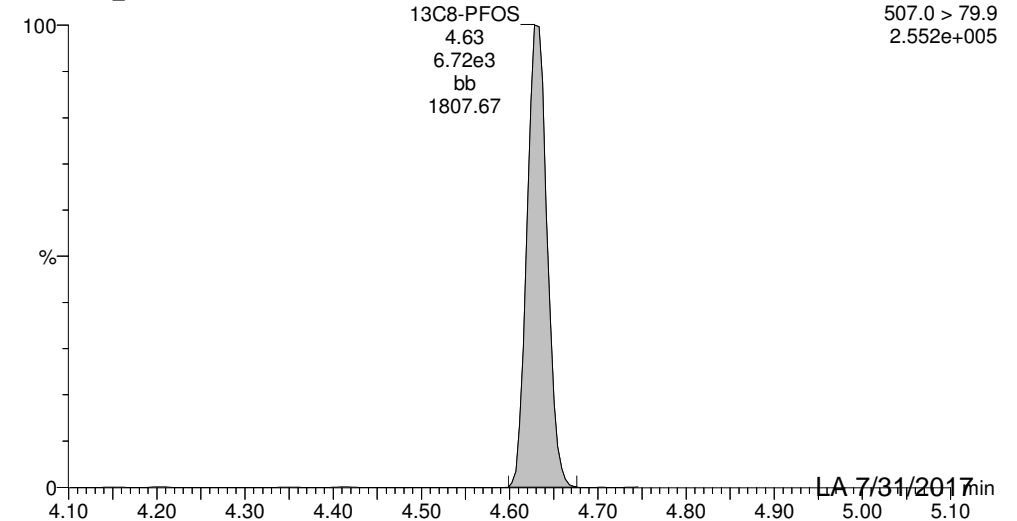
13C2-PFOA

170731G2_15



13C8-PFOS

170731G2_15

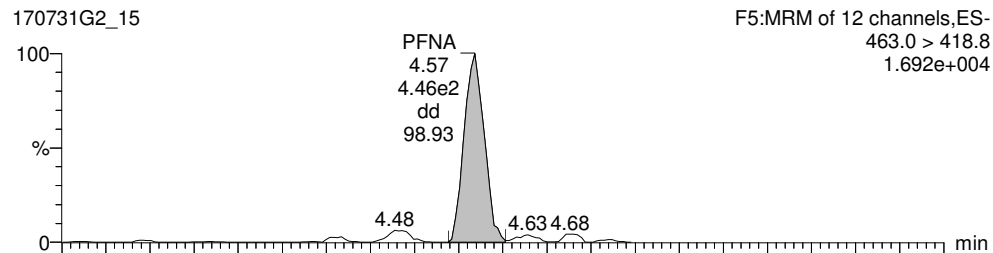


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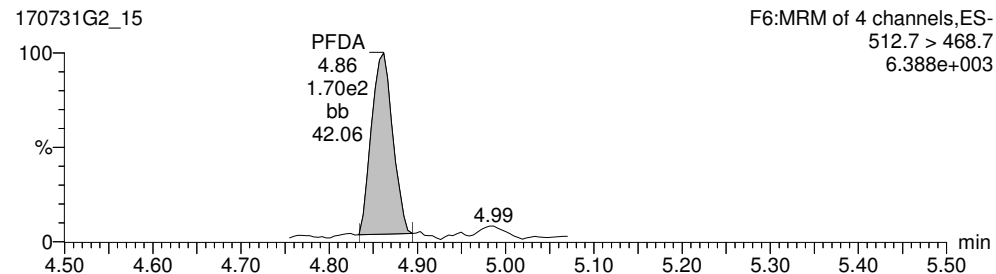
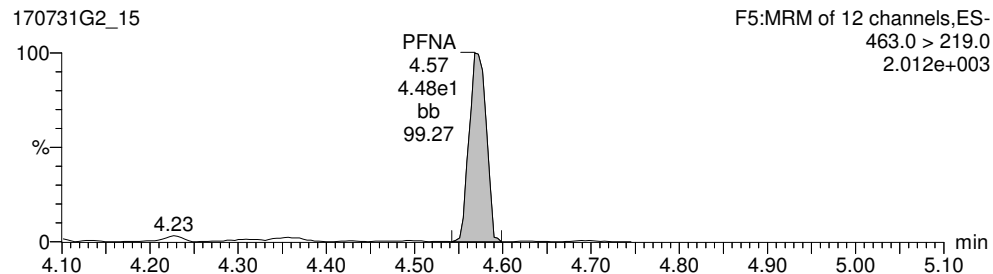
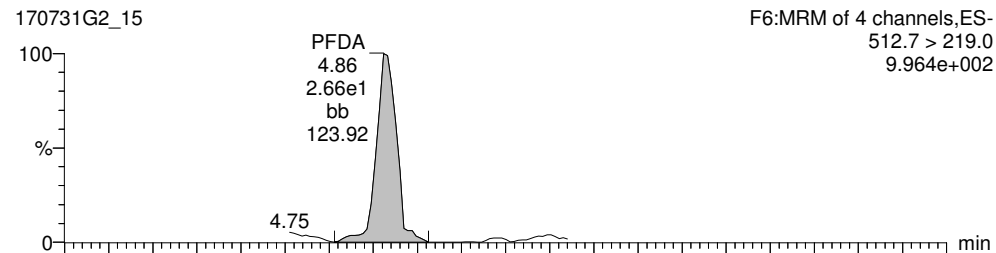
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Printed: Monday, July 31, 2017 12:59:37 Pacific Daylight Time

ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G2_15, Date: 31-Jul-2017, Time: 12:30:29,
Instrument: , Lab: , User:

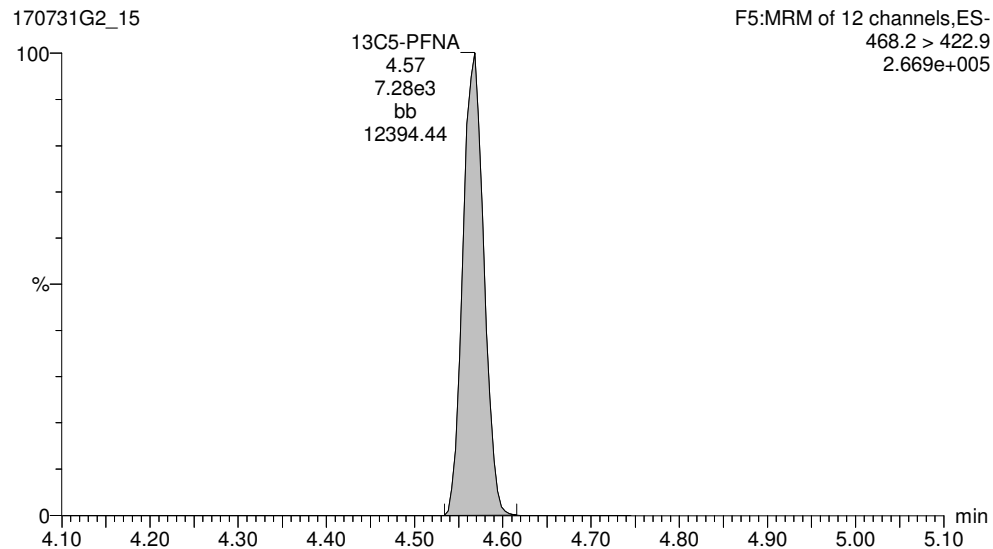
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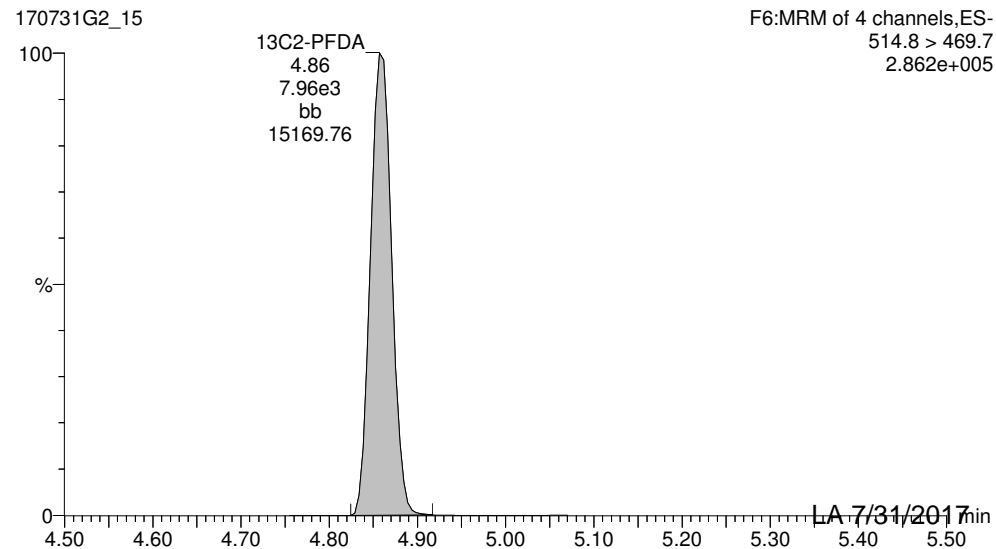
PFDA



13C5-PFNA



13C2-PFDA



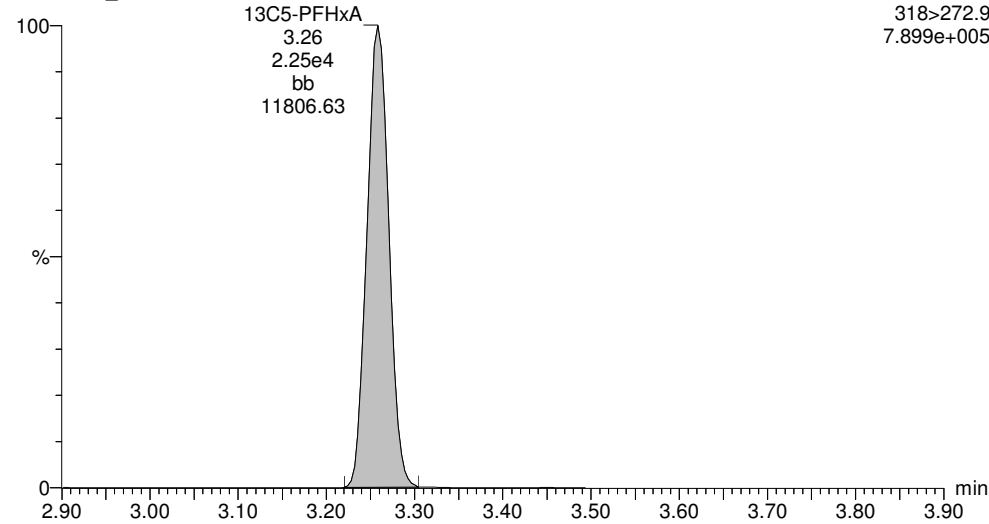
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Printed: Monday, July 31, 2017 12:59:37 Pacific Daylight Time

ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G2_15, Date: 31-Jul-2017, Time: 12:30:29,
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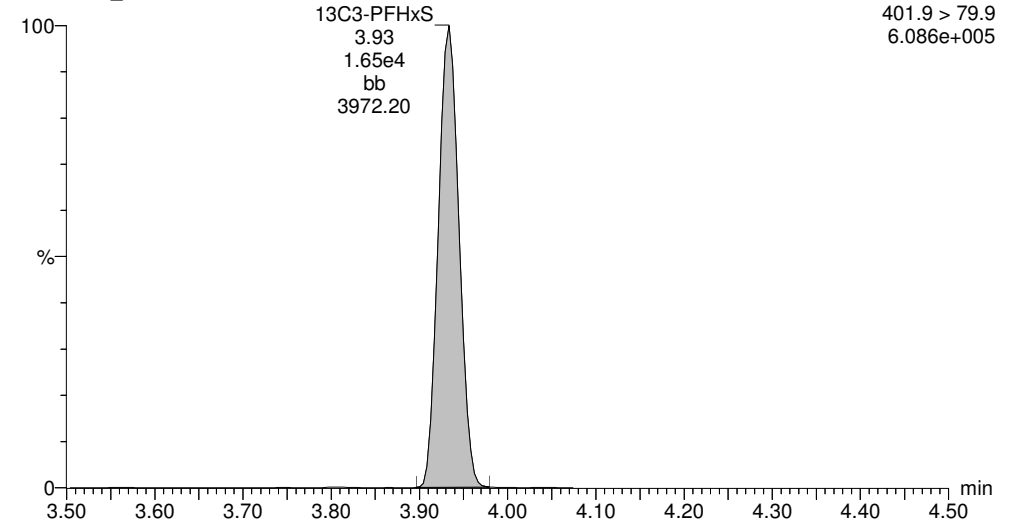
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170731G2_15



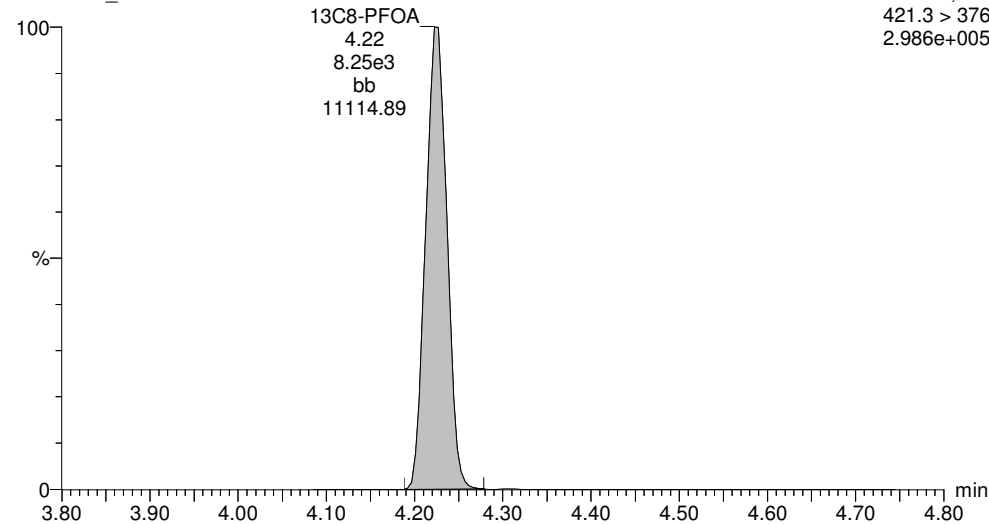
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170731G2_15



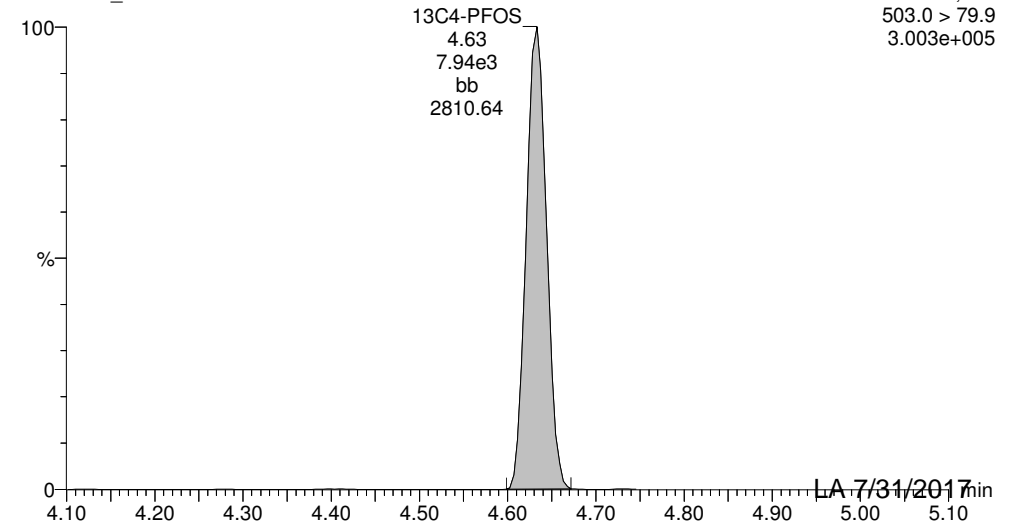
13C8-PFOA

170731G2_15



13C4-PFOS

170731G2_15

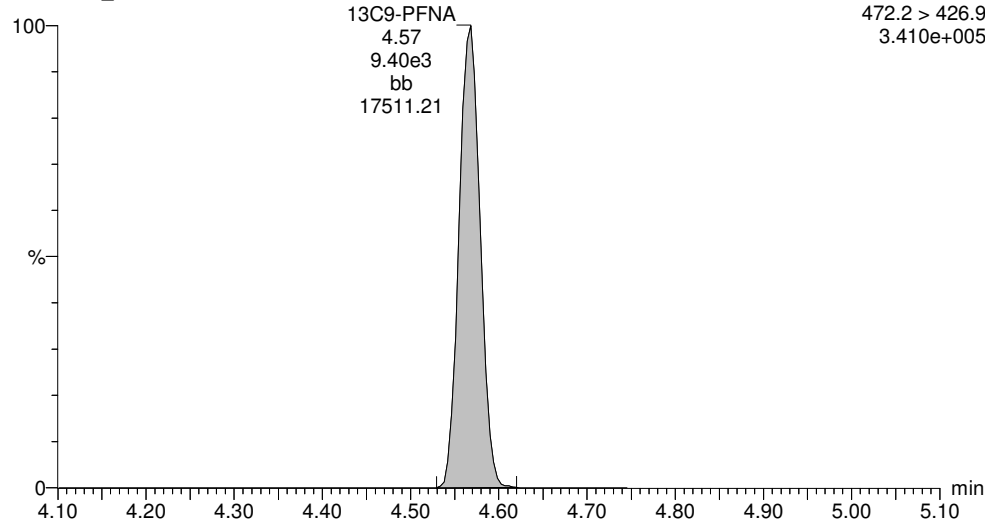


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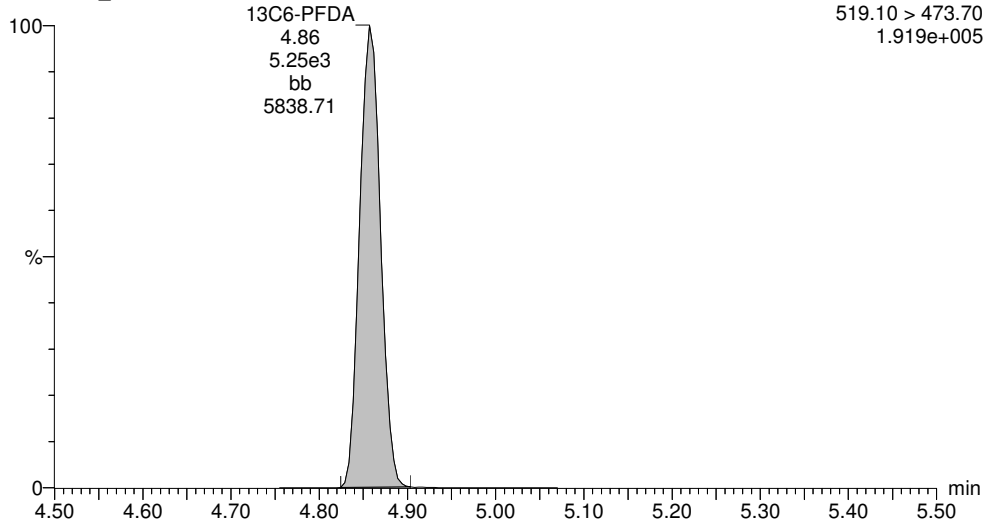
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Instrument: , Lab: , User:

13C9-PFNA
170731G2_15



13C6-PFDA
170731G2_15



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-12.qld

Last Altered: Monday, July 31, 2017 16:38:13 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:38:38 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G1_12, Date: 31-Jul-2017, Time: 16:09:57

	# Name	Trace	Peak Area	IS Resp	RRF Mean	wt/vol	RT	Conc.	%Rec
1	2 N-MeFOSAA	570.1 > 419.0		3.555e3		0.106			
2	4 PFUnA	563 > 518.9	4.184e2	1.764e4		0.106	5.12	0.345	
3	5 N-EtFOSAA	584.2 > 419.0		4.679e3		0.106			
4	6 PFDoA	612.9 > 318.8	9.195e0	2.068e4		0.106	5.36	0.385	
5	7 PFTeDA	662.9 > 618.9		0.000e0		0.106			
6	8 PFTeDA	712.9 > 668.8	1.608e2	1.760e4		0.106	5.73		
7	10 d3-N-MeFOSAA	573.3 > 419.0	3.555e3	1.738e4	0.026	0.106	4.99	915	59.7
8	11 13C2-PFUnA	565 > 519.8	1.764e4	1.738e4	1.471	0.106	5.12	81.4	69.0
9	12 d5-N-EtFOSAA	589.3 > 419.0	4.679e3	1.738e4	0.031	0.106	5.11	1020	66.6
10	13 13C2-PFDoA	615 > 569.7	2.068e4	1.738e4	1.887	0.106	5.36	74.4	63.1
11	14 13C2-PFTeDA	715 > 669.7	1.760e4	1.738e4	1.990	0.106	5.73	60.1	50.9
12	15 13C7-PFUnA	570.1 > 524.8	1.738e4	1.738e4	1.000	0.106	5.12	118	100
13	16 Total N-MeFOSAA	570.1 > 419.0		3.555e3		0.106			
14	17 Total N-EtFOSAA	584.2 > 419.0		4.679e3		0.106			

Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-12.qld

Last Altered: Monday, July 31, 2017 16:38:13 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:38:38 Pacific Daylight Time

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Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G1_12, Date: 31-Jul-2017, Time: 16:09:57

Total N-MeFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

Total N-EtFOSAA

#	Name	Trace	RT	Area	IS Area	Conc.
1						

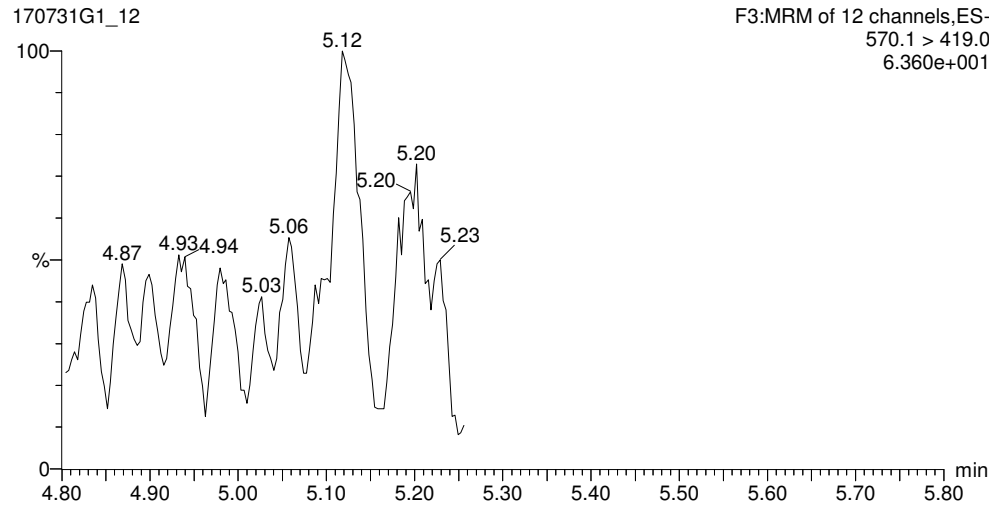
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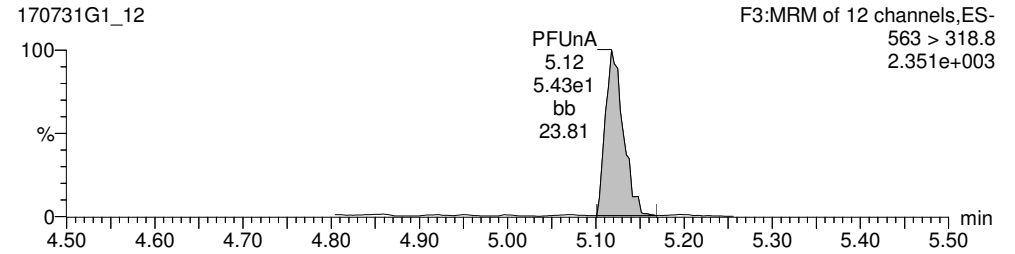
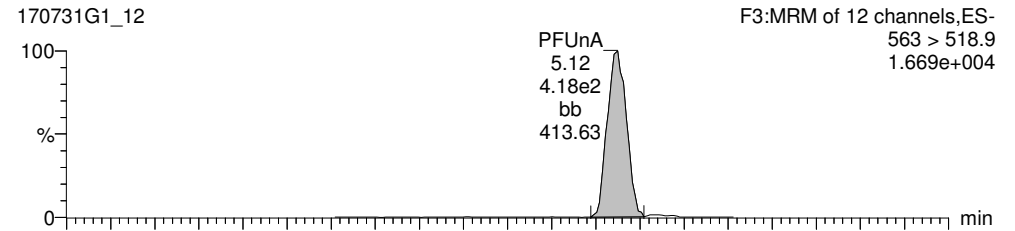
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ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G1_12, Date: 31-Jul-2017, Time: 16:09:57,
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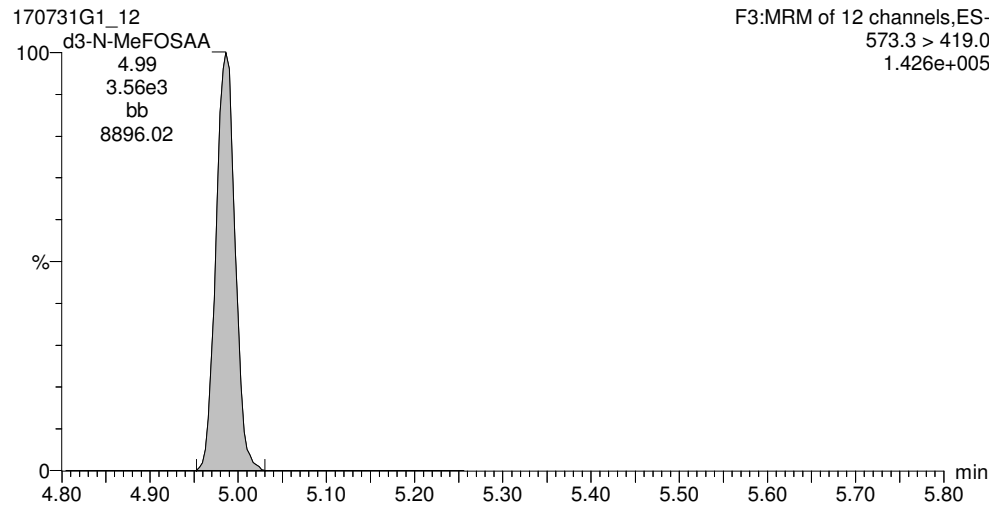
Total N-MeFOSAA



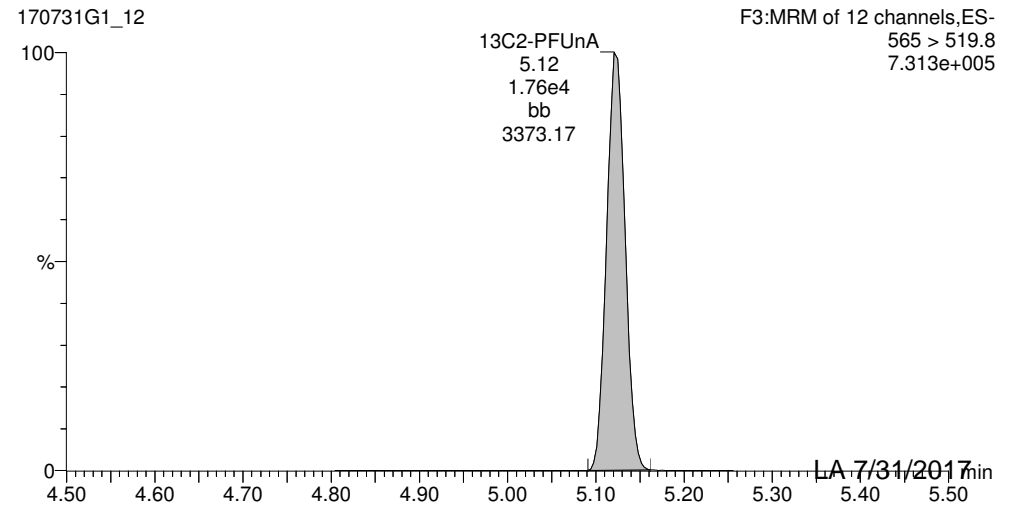
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d3-N-MeFOSAA



13C2-PFUnA

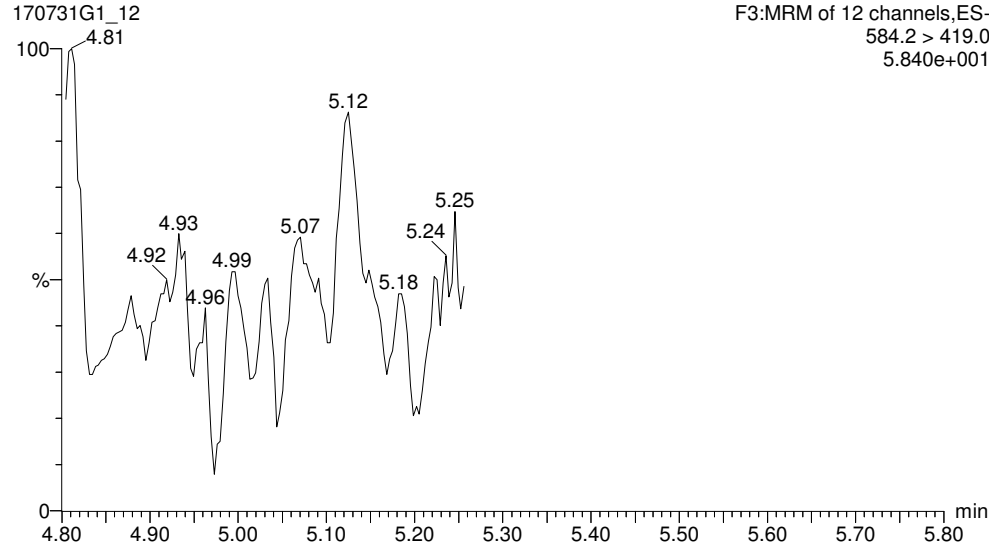


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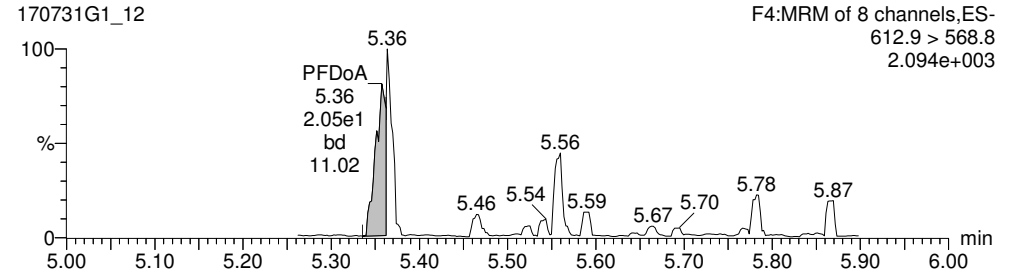
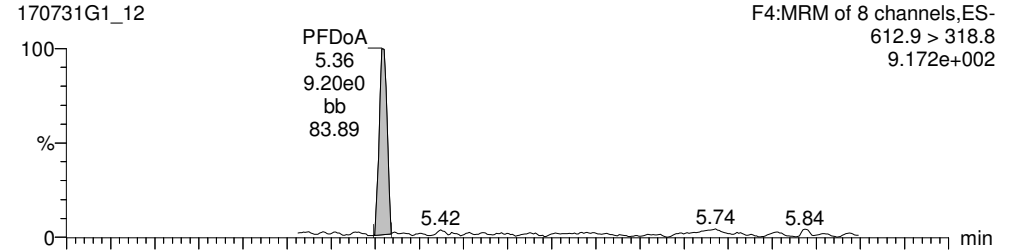
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Printed: Monday, July 31, 2017 16:38:38 Pacific Daylight Time

ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G1_12, Date: 31-Jul-2017, Time: 16:09:57,
Instrument: , Lab: , User:

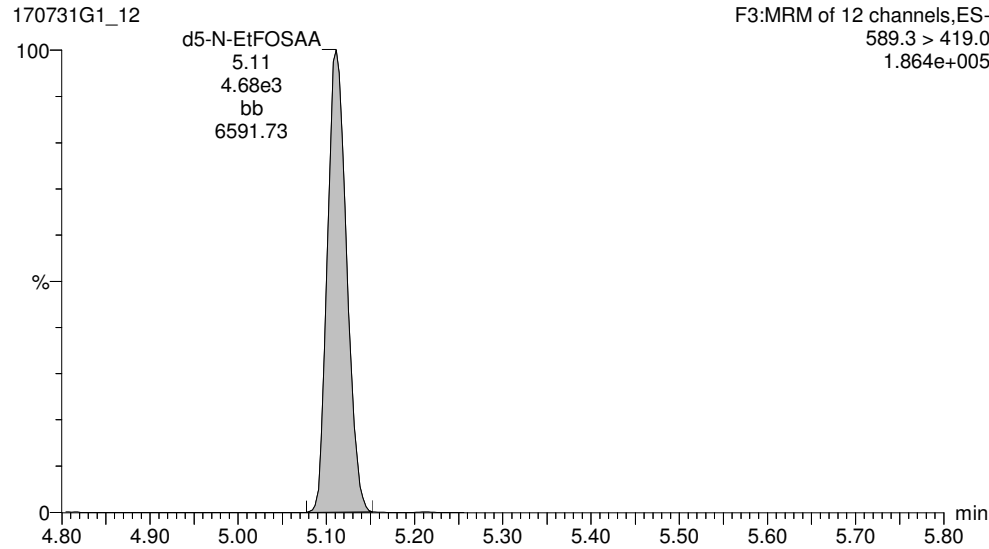
Total N-EtFOSAA



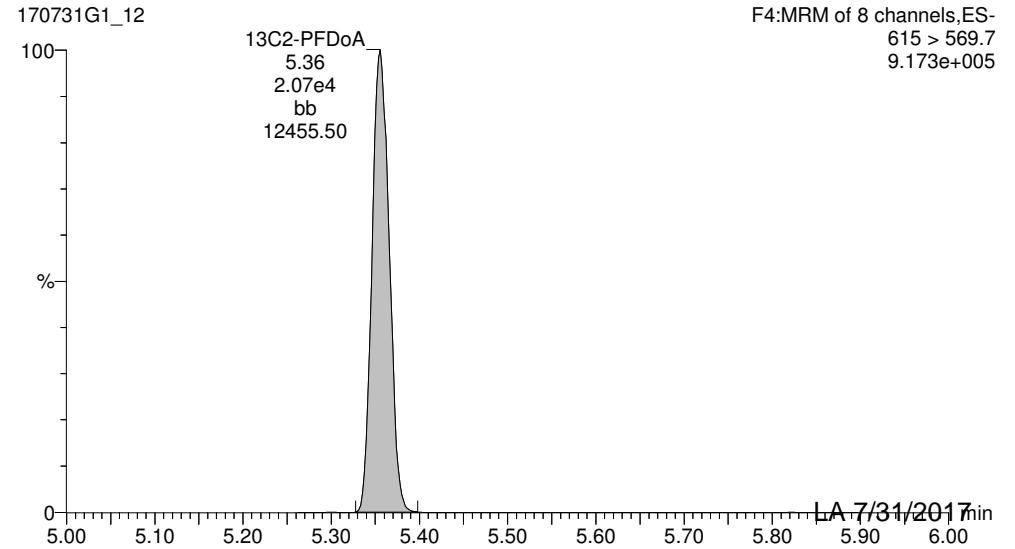
PFDoA



d5-N-EtFOSAA



13C2-PFDoA

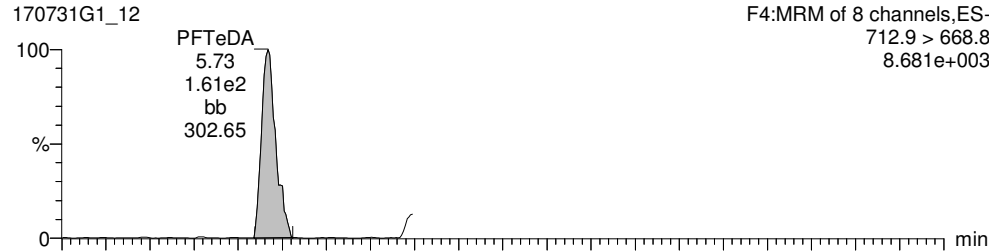


Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-12.qld

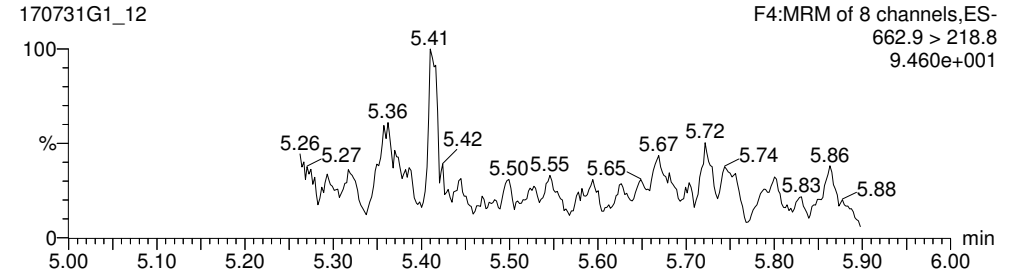
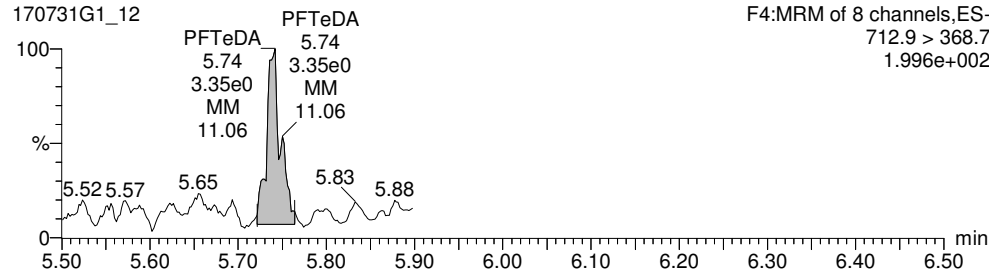
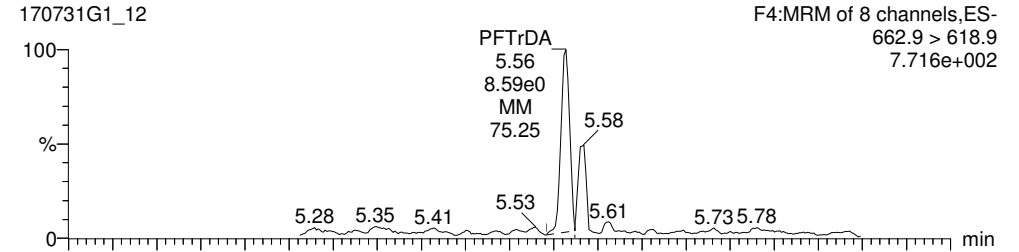
Last Altered: Monday, July 31, 2017 16:38:13 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:38:38 Pacific Daylight Time

ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G1_12, Date: 31-Jul-2017, Time: 16:09:57,
Instrument: , Lab: , User:

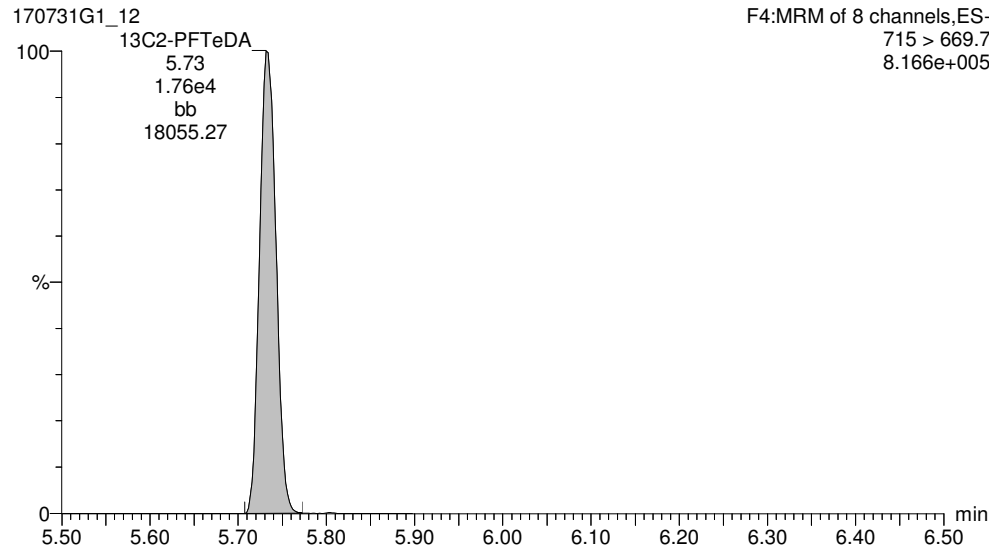
PFTeDA



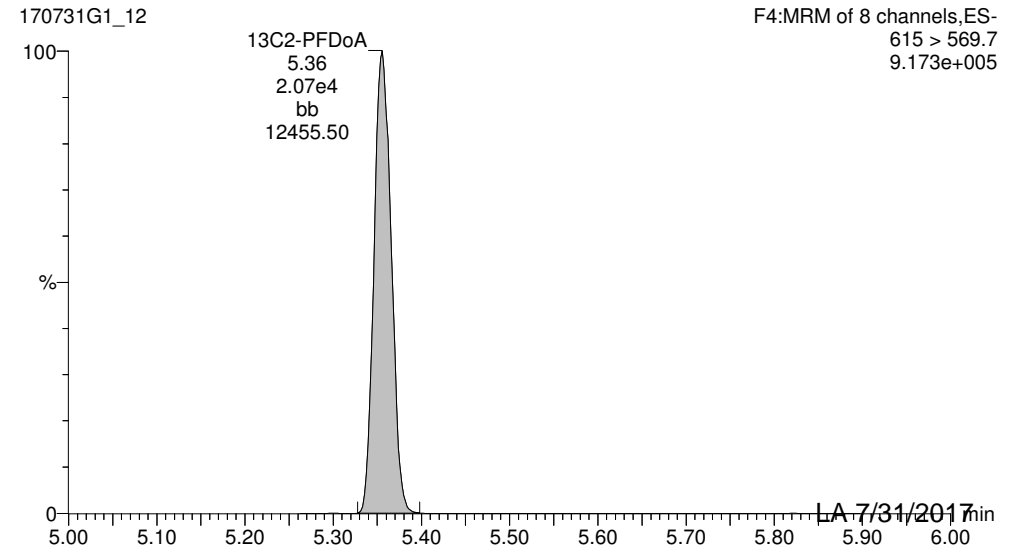
PFTrDA



13C2-PFTeDA



13C2-PFDaA



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-12.qld

Last Altered: Monday, July 31, 2017 16:38:13 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:38:38 Pacific Daylight Time

ID: 1700887-06 IRPSite 6-GW-06FD01-20170712 0.10593, Description: IRPSite 6-GW-06FD01-20170712, Name: 170731G1_12, Date: 31-Jul-2017, Time: 16:09:57,
Instrument: , Lab: , User:

13C7-PFUnA

170731G1_12

F3:MRM of 12 channels,ES-
570.1 > 524.8
7.178e+005



CONTINUING CALIBRATION

Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-2.qld

Last Altered: Monday, July 31, 2017 14:37:21 Pacific Daylight Time

Printed: Monday, July 31, 2017 14:39:02 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

Name: 170731G1_2, Date: 31-Jul-2017, Time: 13:46:30, ID: ST170731G1-1 PFC CS-1 17G3102, Description: PFC CS-1 17G3102 B

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFOSA	498.1 > 77.7	1.28e3	2.20e4		1.000	4.61	0.479	95.9
2	2 N-MeFOSAA	570.1 > 419.0	4.90e2	6.46e3		1.000	4.99	0.419	83.7
3	3 PFDS	598.8 > 98.7	6.36e2	2.91e4		1.000	5.15	0.636	127.1
4	4 PFUnA	563 > 518.9	1.88e3	2.91e4		1.000	5.12	0.572	114.4
5	5 N-EtFOSAA	584.2 > 419.0	2.71e2	8.21e3		1.000	5.12	0.366	73.2
6	6 PFDoA	612.9 > 318.8	1.45e2	3.92e4		1.000	5.35	0.375	75.1
7	7 PFTTrDA	662.9 > 618.9	1.94e3	0.00e0		1.000	5.56	0.517	103.4
8	8 PFTeDA	712.9 > 668.8	2.22e3	4.01e4		1.000	5.73	0.595	118.9
9	9 13C8-PFOSA	506.1 > 77.7	2.20e4	2.13e4	1.146	1.000	4.61	11.2	90.0
10	10 d3-N-MeFOSAA	573.3 > 419.0	6.46e3	2.13e4	0.026	1.000	4.98	144	88.5
11	11 13C2-PFUnA	565 > 519.8	2.91e4	2.13e4	1.471	1.000	5.12	11.6	93.0
12	12 d5-N-EtFOSAA	589.3 > 419.0	8.21e3	2.13e4	0.031	1.000	5.11	155	95.3
13	13 13C2-PFDoA	615 > 569.7	3.92e4	2.13e4	1.887	1.000	5.35	12.2	97.5
14	14 13C2-PFTeDA	715 > 669.7	4.01e4	2.13e4	1.990	1.000	5.73	11.8	94.6
15	15 13C7-PFUnA	570.1 > 524.8	2.13e4	2.13e4	1.000	1.000	5.12	12.5	100.0

70-130

50-150

Rel 7/31/17

Dataset: Untitled

Last Altered: Monday, July 31, 2017 16:53:40 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:53:54 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

Compound name: PFOSA

	Name	ID	Acq.Date	Acq.Time
1	170731G1_1	IPA	31-Jul-17	13:33:35
2	170731G1_2	ST170731G1-1 PFC CS-1 17G3102	31-Jul-17	13:46:30
3	170731G1_3	IPA	31-Jul-17	13:59:06
4	170731G1_4	B7G0079-BS1 OPR 0.125	31-Jul-17	14:11:43
5	170731G1_5	IPA	31-Jul-17	14:24:17
6	170731G1_6	B7G0079-BLK1 Method Blank 0.125	31-Jul-17	14:54:16
7	170731G1_7	1700887-01 IRPSite 6-GW-06GW01-2017071...	31-Jul-17	15:06:51
8	170731G1_8	1700887-02 IRPSite 6-GW-06GW02-2017071...	31-Jul-17	15:19:26
9	170731G1_9	1700887-03 IRPSite 6-GW-FRB01-20170712 ...	31-Jul-17	15:32:02
10	170731G1_10	1700887-04 Site 33-GW-33GW01-20170712 ...	31-Jul-17	15:44:39
11	170731G1_11	1700887-05 Building 110-GW-110GW01-2017...	31-Jul-17	15:57:16
12	170731G1_12	1700887-06 IRPSite 6-GW-06FD01-20170712...	31-Jul-17	16:09:57
13	170731G1_13	IPA	31-Jul-17	16:22:30
14	170731G1_14	ST170731G1-2 PFC CS3 17G3102	31-Jul-17	16:35:07
15	170731G1_15			

LC Calibration Standards Review Checklist Q1

		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	
Calibration ID: <u>ST170931G1 - 1</u>	(L) M H	NA <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>NA</u> <input type="checkbox"/>
Calibration ID: <u>- 2</u>	L (M) H	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Calibration ID: _____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calibration ID: _____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calibration ID: _____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calibration ID: _____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calibration ID: _____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calibration ID: _____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calibration ID: _____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Calibration ID: _____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Full Mass Cal. Date: 4/5/17

Run Log Present:

of Samples per Sequence Checked:

Reviewed By: CP 7/31/17
Initials/Date

Comments:
 B L14 - 2 TRANS

Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-2.qld

Last Altered: Monday, July 31, 2017 14:37:21 Pacific Daylight Time

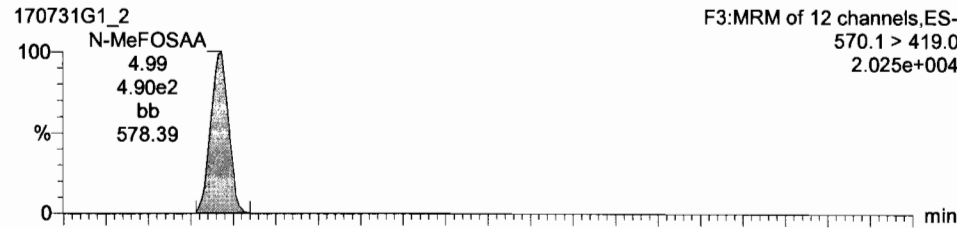
Printed: Monday, July 31, 2017 14:38:48 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

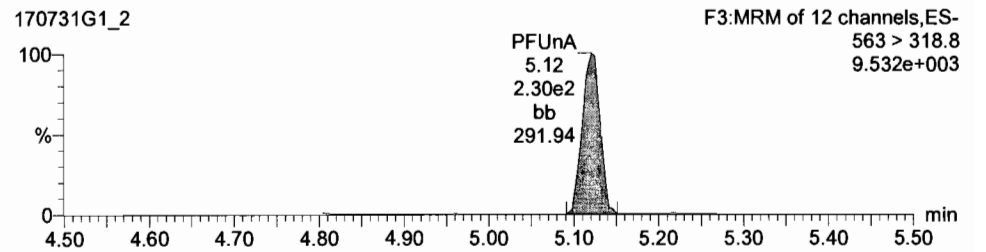
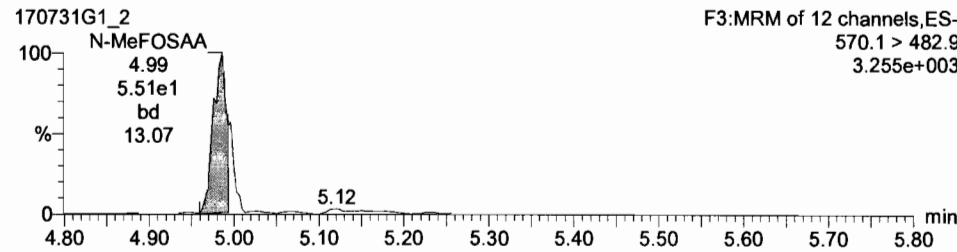
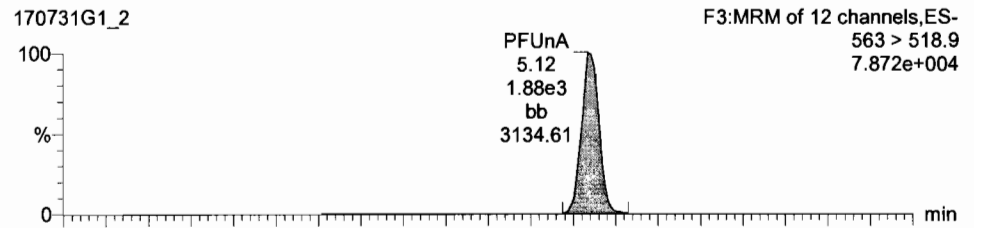
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: ST170731G1-1 PFC CS-1 17G3102, Description: PFC CS-1 17G3102 B, Name: 170731G1_2, Date: 31-Jul-2017, Time: 13:46:30, Instrument: , Lab: , User:

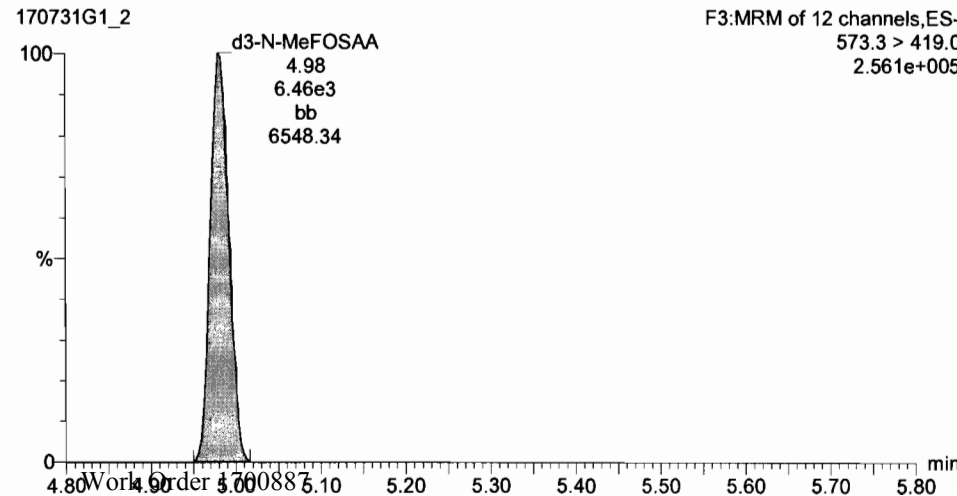
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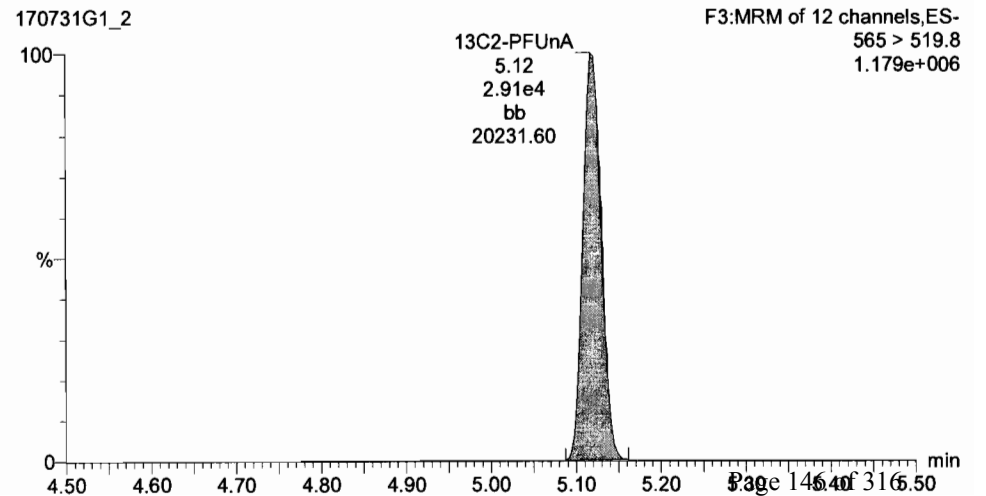
PFUnA



d3-N-MeFOSAA



13C2-PFUnA



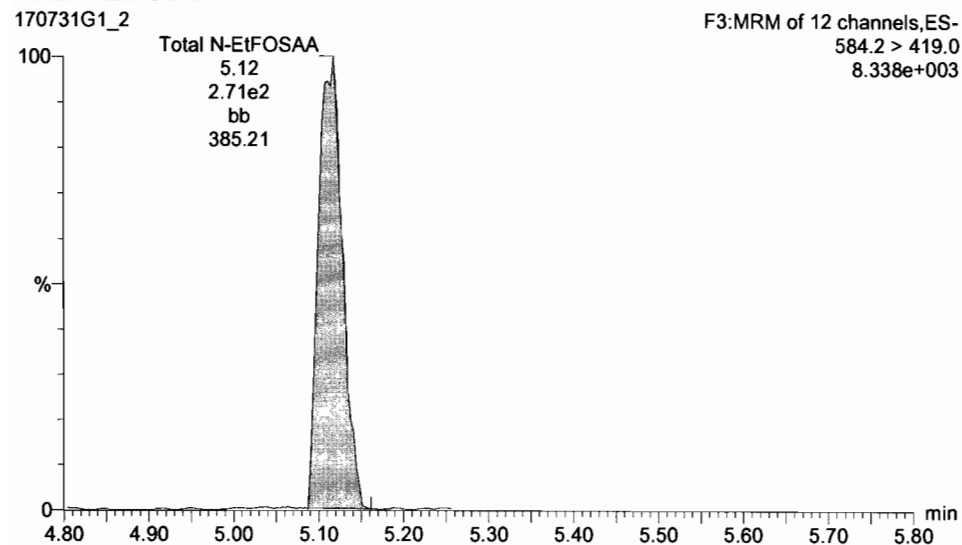
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Last Altered: Monday, July 31, 2017 14:37:21 Pacific Daylight Time

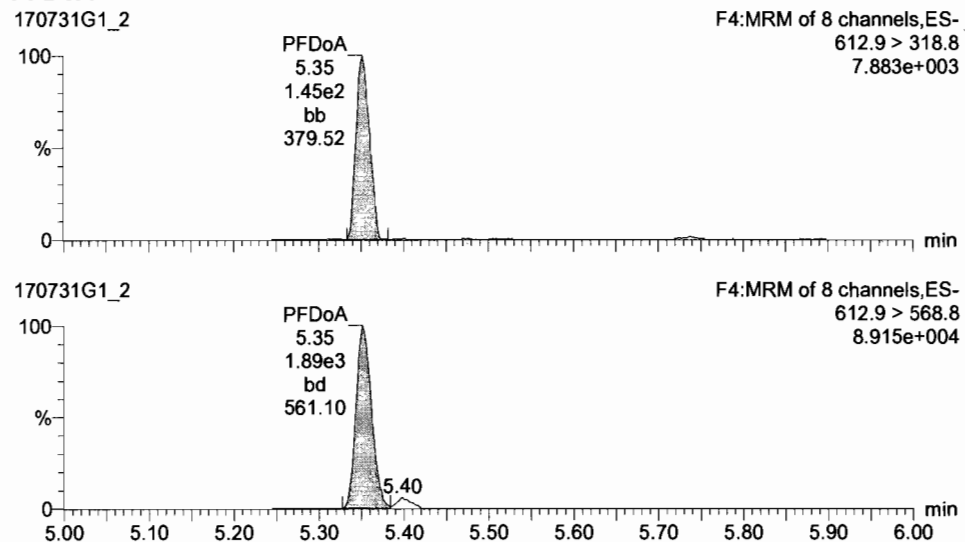
Printed: Monday, July 31, 2017 14:38:48 Pacific Daylight Time

ID: ST170731G1-1 PFC CS-1 17G3102, Description: PFC CS-1 17G3102 B, Name: 170731G1_2, Date: 31-Jul-2017, Time: 13:46:30, Instrument: , Lab: , User:

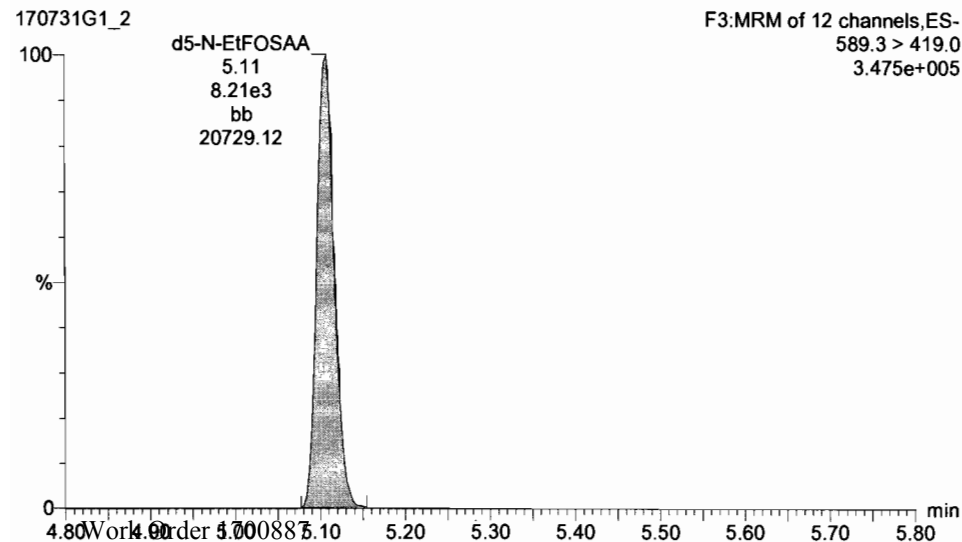
Total N-EtFOSAA



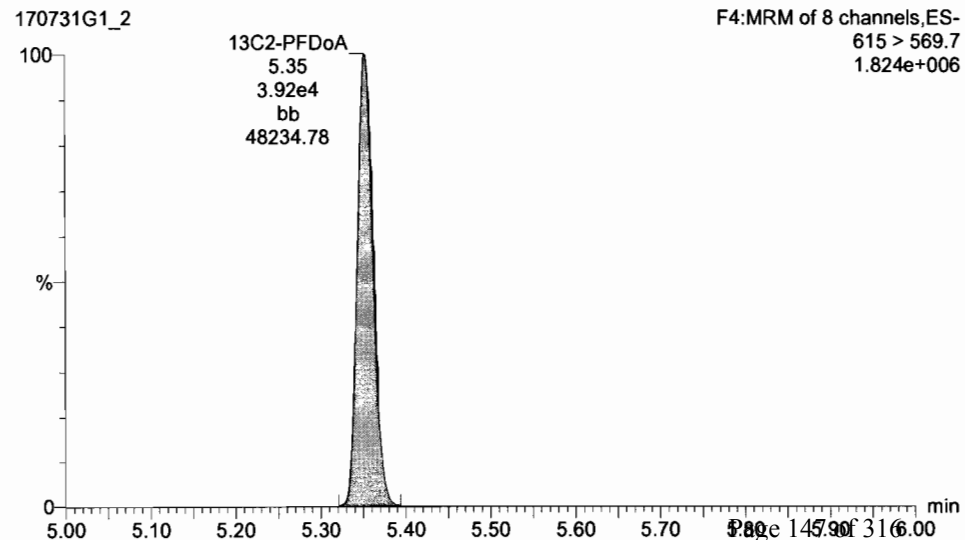
PFDoA



d5-N-EtFOSAA



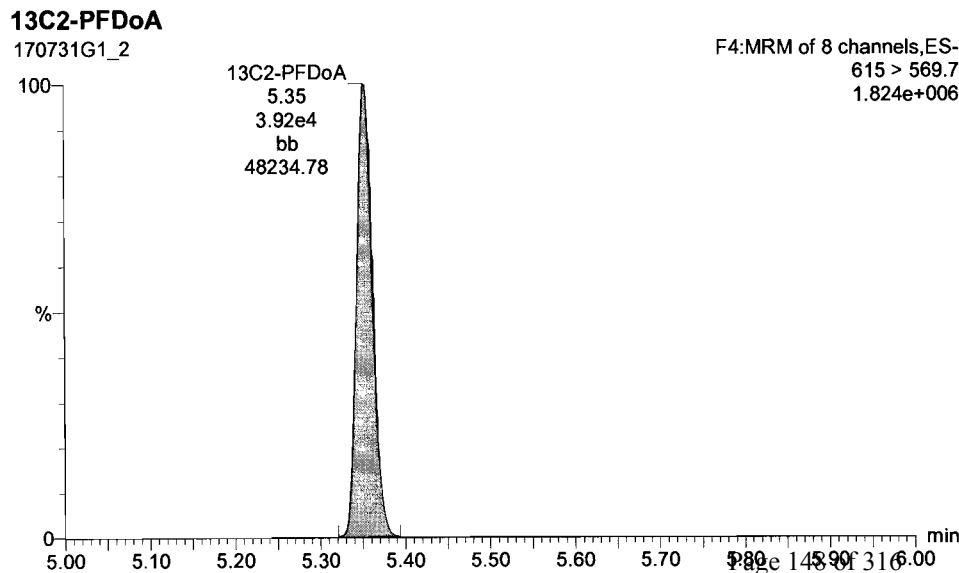
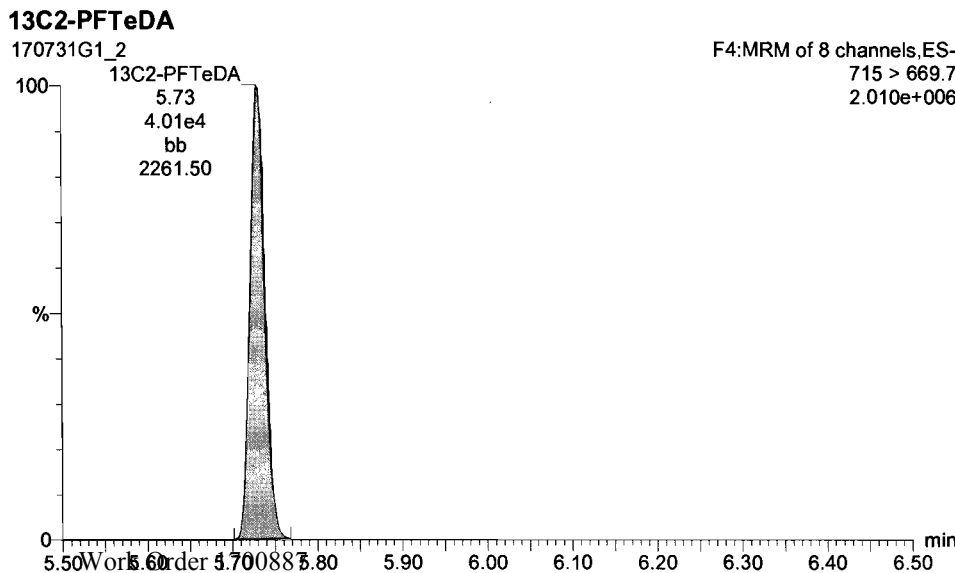
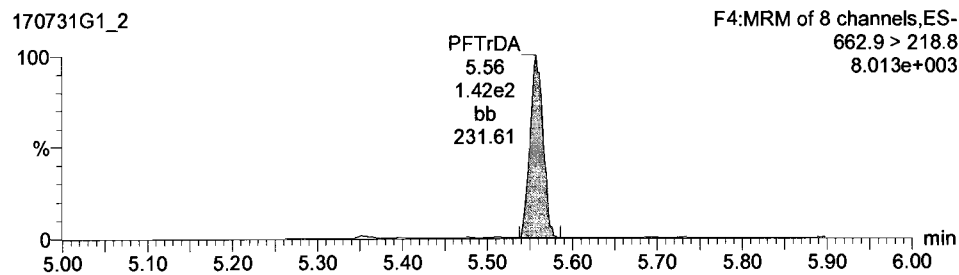
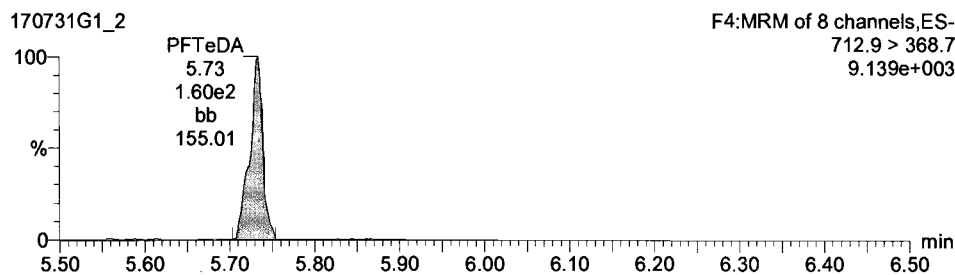
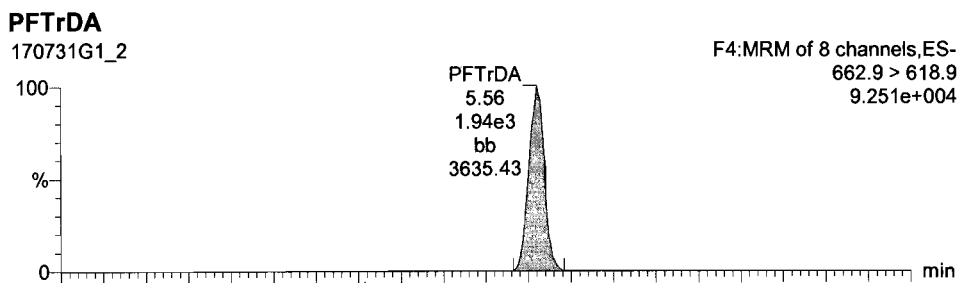
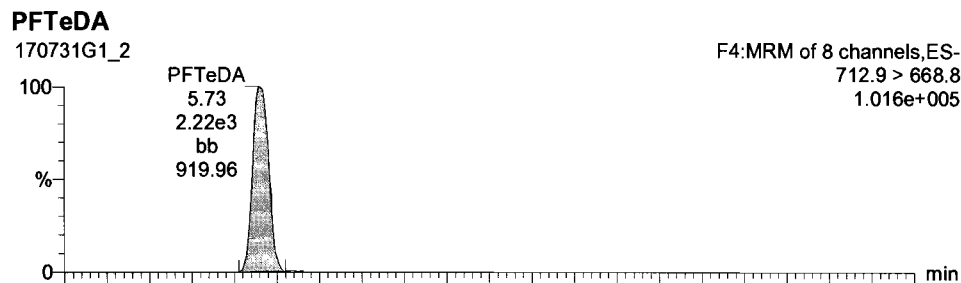
13C2-PFDoA



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-2.qld

Last Altered: Monday, July 31, 2017 14:37:21 Pacific Daylight Time
Printed: Monday, July 31, 2017 14:38:48 Pacific Daylight Time

ID: ST170731G1-1 PFC CS-1 17G3102, Description: PFC CS-1 17G3102 B, Name: 170731G1_2, Date: 31-Jul-2017, Time: 13:46:30, Instrument: , Lab: , User:



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-2.qld

Last Altered: Monday, July 31, 2017 14:37:21 Pacific Daylight Time

Printed: Monday, July 31, 2017 14:38:48 Pacific Daylight Time

ID: ST170731G1-1 PFC CS-1 17G3102, Description: PFC CS-1 17G3102 B, Name: 170731G1_2, Date: 31-Jul-2017, Time: 13:46:30, Instrument: , Lab: , User:

13C7-PFUnA

170731G1_2

F3:MRM of 12 channels,ES-

570.1 > 524.8

8.630e+005



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-14.qld

Last Altered: Monday, July 31, 2017 16:52:30 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:53:26 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

Name: 170731G1_14, Date: 31-Jul-2017, Time: 16:35:07, ID: ST170731G1-2 PFC CS3 17G3102, Description: PFC CS3 17G3102 B

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFOSA	498.1 > 77.7	2.05e4	2.00e4		1.000	4.61	10.4	103.8
2	2 N-MeFOSAA	570.1 > 419.0	1.06e4	6.65e3		1.000	4.99	8.91	89.1
3	3 PFDS	598.8 > 98.7	1.10e4	2.77e4		1.000	5.15	10.8	107.8
4	4 PFUnA	563 > 518.9	2.12e4	2.77e4		1.000	5.12	9.79	97.9
5	5 N-EtFOSAA	584.2 > 419.0	7.43e3	5.76e3		1.000	5.11	12.1	121.3
6	6 PFDoA	612.9 > 318.8	3.63e3	3.50e4		1.000	5.35	10.7	106.6
7	7 PFTeDA	662.9 > 618.9	3.48e4	0.00e0		1.000	5.56	9.63	96.3
8	8 PFTeDA	712.9 > 668.8	2.96e4	3.97e4		1.000	5.73	10.1	101.2
9	9 13C8-PFOSA	506.1 > 77.7	2.00e4	1.93e4	1.146	1.000	4.61	11.3	90.6
10	10 d3-N-MeFOSAA	573.3 > 419.0	6.65e3	1.93e4	0.026	1.000	4.98	163	100.5
11	11 13C2-PFUnA	565 > 519.8	2.77e4	1.93e4	1.471	1.000	5.12	12.2	97.8
12	12 d5-N-EtFOSAA	589.3 > 419.0	5.76e3	1.93e4	0.031	1.000	5.11	120	73.9
13	13 13C2-PFDoA	615 > 569.7	3.50e4	1.93e4	1.887	1.000	5.35	12.0	96.1
14	14 13C2-PFTeDA	715 > 669.7	3.97e4	1.93e4	1.990	1.000	5.73	12.9	103.5
15	15 13C7-PFUnA	570.1 > 524.8	1.93e4	1.93e4	1.000	1.000	5.12	12.5	100.0

70-130
↓
50-150
↓

you 7/31/17

Dataset: Untitled

Last Altered: Monday, July 31, 2017 16:53:40 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:53:54 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

Compound name: PFOSA

Name	ID	Acq.Date	Acq.Time
170731G1_1	IPA	31-Jul-17	13:33:35
170731G1_2	ST170731G1-1 PFC CS-1 17G3102	31-Jul-17	13:46:30
170731G1_3	IPA	31-Jul-17	13:59:06
170731G1_4	B7G0079-BS1 OPR 0.125	31-Jul-17	14:11:43
170731G1_5	IPA	31-Jul-17	14:24:17
170731G1_6	B7G0079-BLK1 Method Blank 0.125	31-Jul-17	14:54:16
170731G1_7	1700887-01 IRPSite 6-GW-06GW01-2017071...	31-Jul-17	15:06:51
170731G1_8	1700887-02 IRPSite 6-GW-06GW02-2017071...	31-Jul-17	15:19:26
170731G1_9	1700887-03 IRPSite 6-GW-FRB01-20170712 ...	31-Jul-17	15:32:02
170731G1_10	1700887-04 Site 33-GW-33GW01-20170712 ...	31-Jul-17	15:44:39
170731G1_11	1700887-05 Building 110-GW-110GW01-2017...	31-Jul-17	15:57:16
170731G1_12	1700887-06 IRPSite 6-GW-06FD01-20170712...	31-Jul-17	16:09:57
170731G1_13	IPA	31-Jul-17	16:22:30
170731G1_14	ST170731G1-2 PFC CS3 17G3102	31-Jul-17	16:35:07
170731G1_15			

Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-14.qld

Last Altered: Monday, July 31, 2017 16:52:30 Pacific Daylight Time

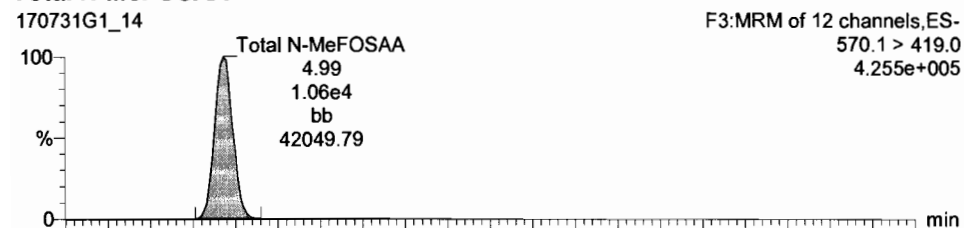
Printed: Monday, July 31, 2017 16:53:16 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

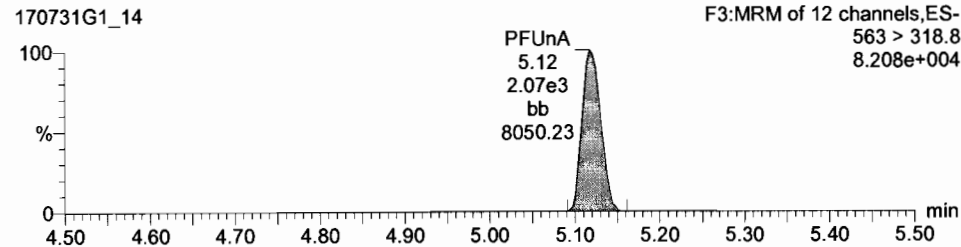
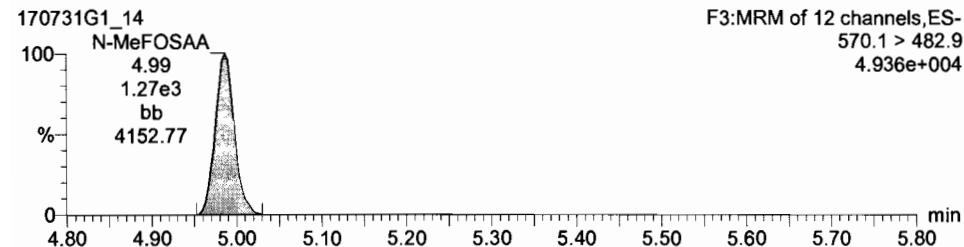
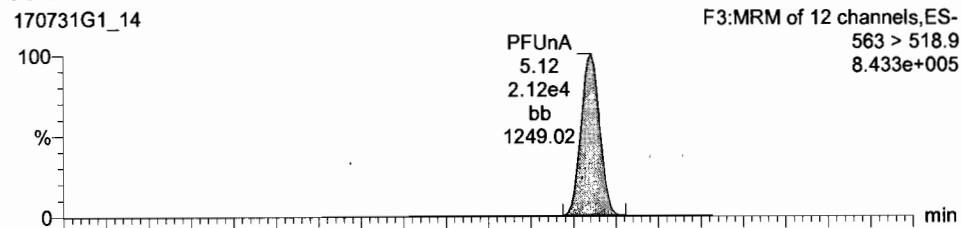
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: ST170731G1-2 PFC CS3 17G3102, Description: PFC CS3 17G3102 B, Name: 170731G1_14, Date: 31-Jul-2017, Time: 16:35:07, Instrument: , Lab: , User:

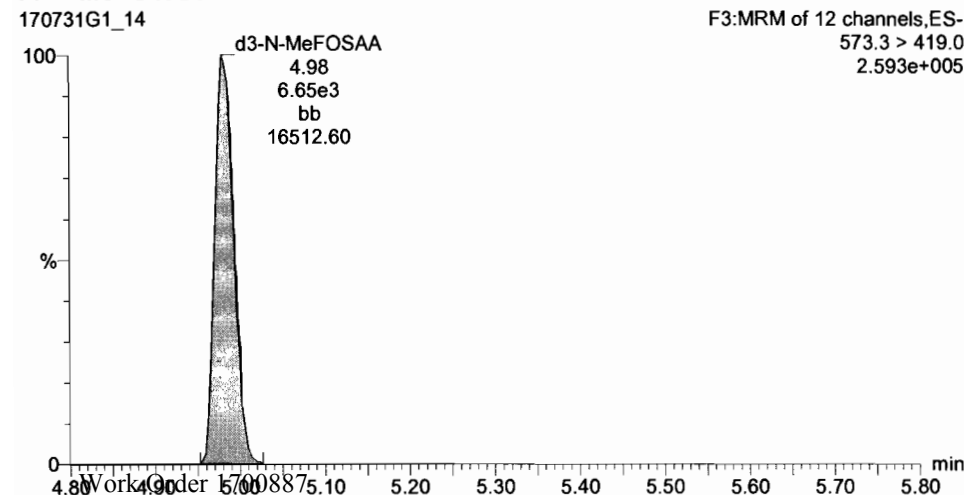
Total N-MeFOSAA



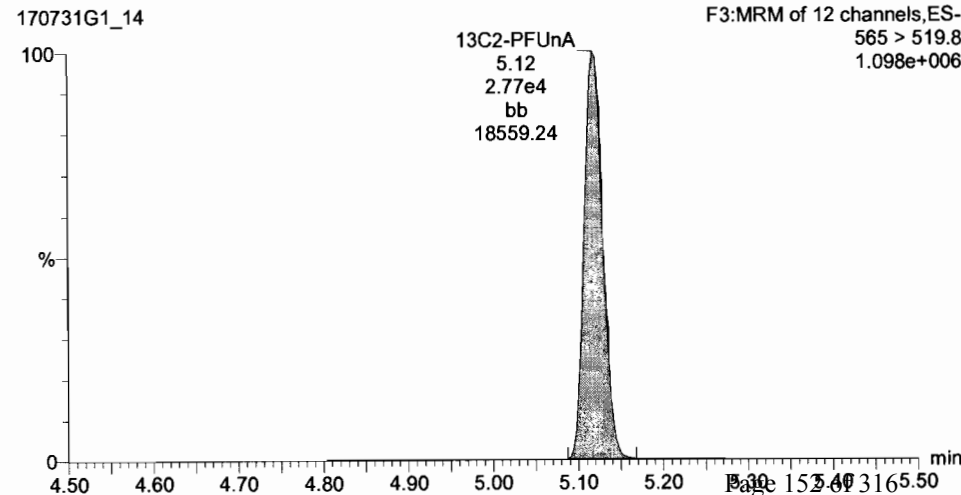
PFUa



d3-N-MeFOSAA



13C2-PFUa



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-14.qld

Last Altered: Monday, July 31, 2017 16:52:30 Pacific Daylight Time

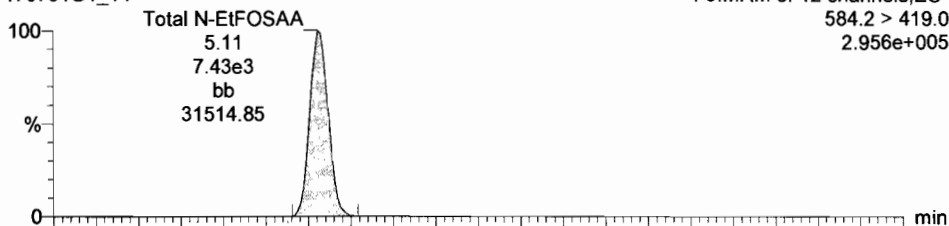
Printed: Monday, July 31, 2017 16:53:16 Pacific Daylight Time

ID: ST170731G1-2 PFC CS3 17G3102, Description: PFC CS3 17G3102 B, Name: 170731G1_14, Date: 31-Jul-2017, Time: 16:35:07, Instrument: , Lab: , User:

Total N-EtFOSAA

170731G1_14

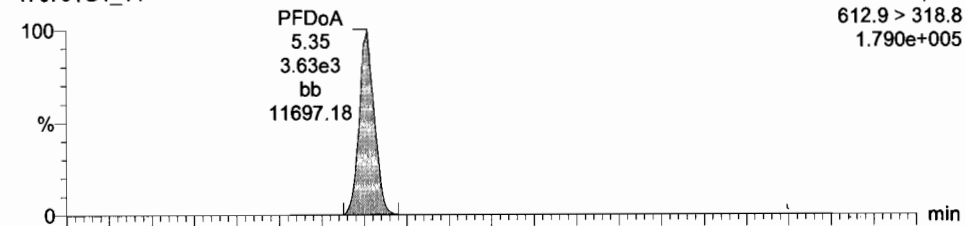
F3:MRM of 12 channels,ES-
584.2 > 419.0
2.956e+005



PFDoA

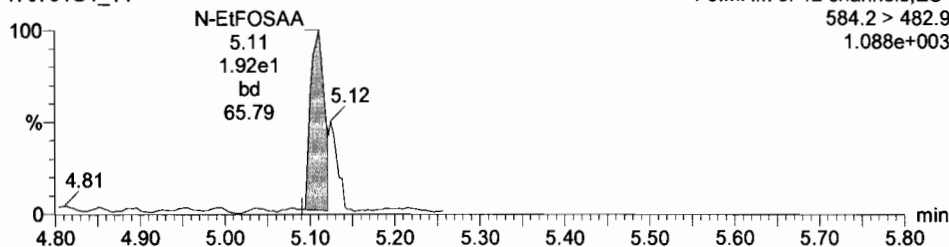
170731G1_14

F4:MRM of 8 channels,ES-
612.9 > 318.8
1.790e+005



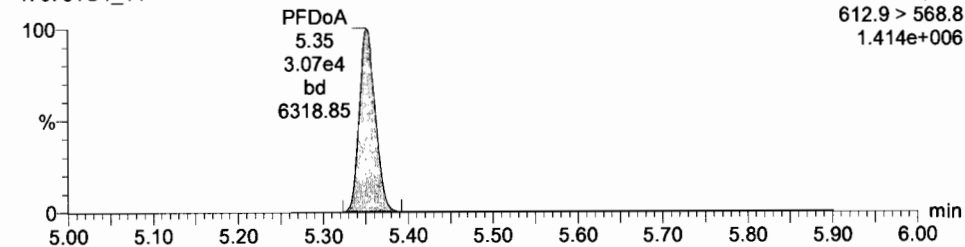
170731G1_14

F3:MRM of 12 channels,ES-
584.2 > 482.9
1.088e+003



170731G1_14

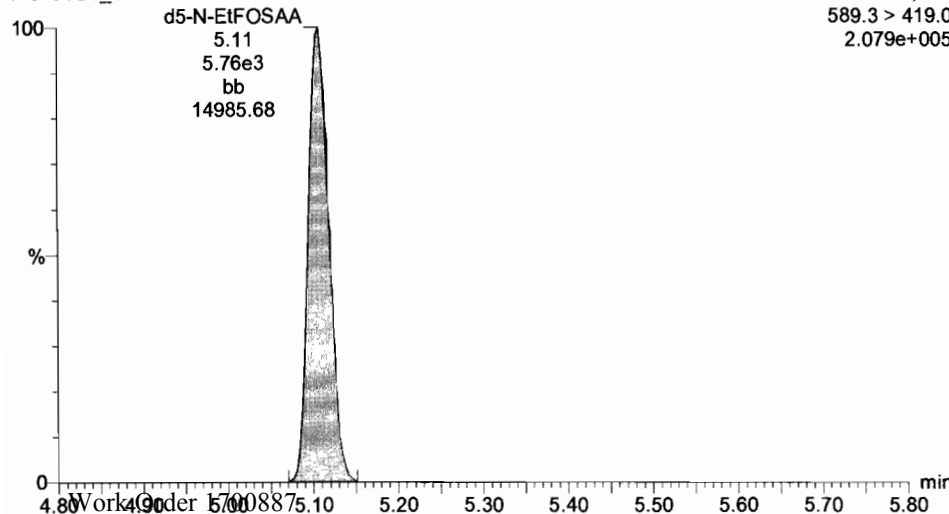
F4:MRM of 8 channels,ES-
612.9 > 568.8
1.414e+006



d5-N-EtFOSAA

170731G1_14

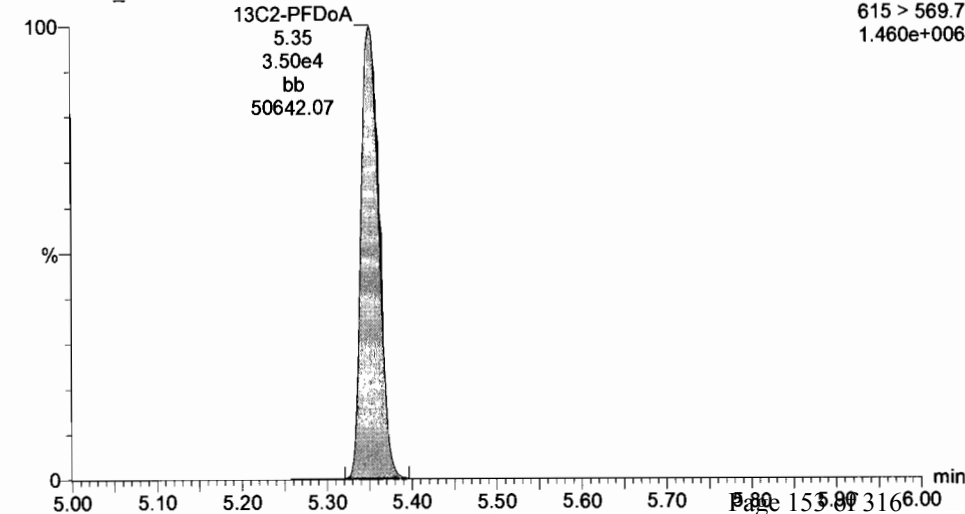
F3:MRM of 12 channels,ES-
589.3 > 419.0
2.079e+005



13C2-PFDoA

170731G1_14

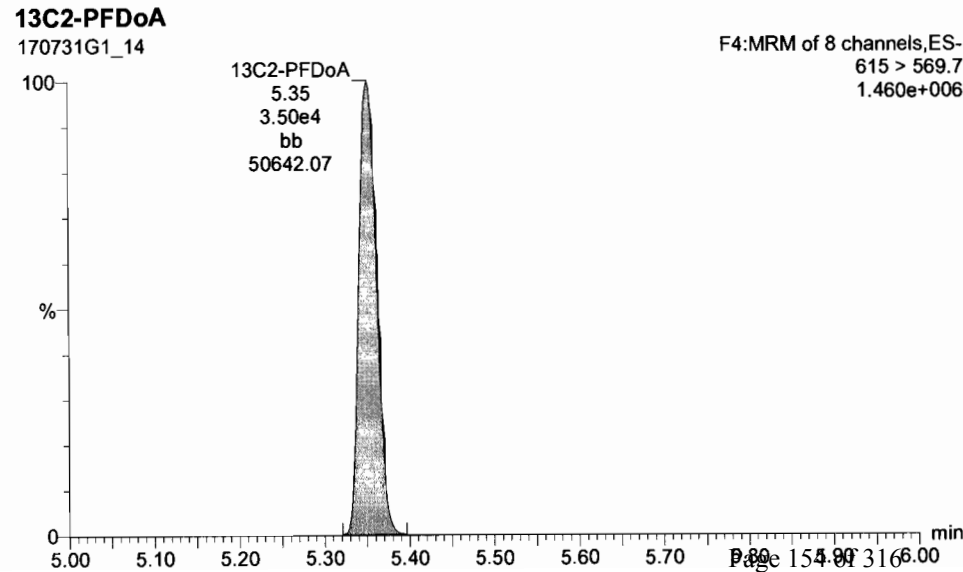
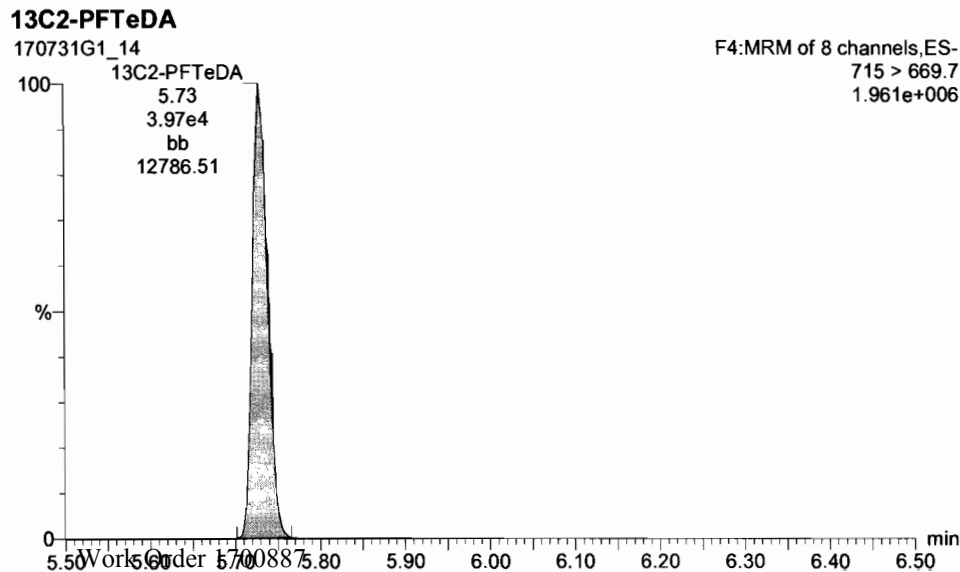
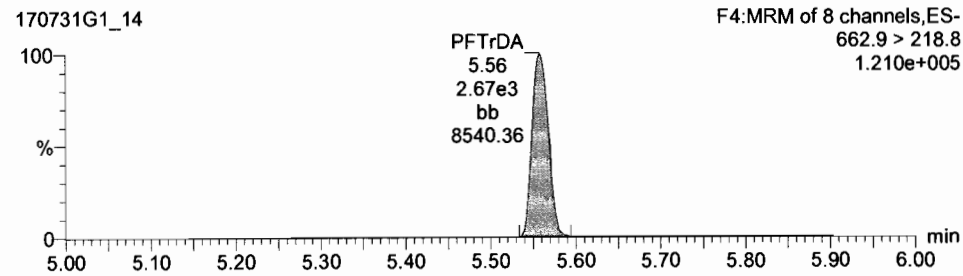
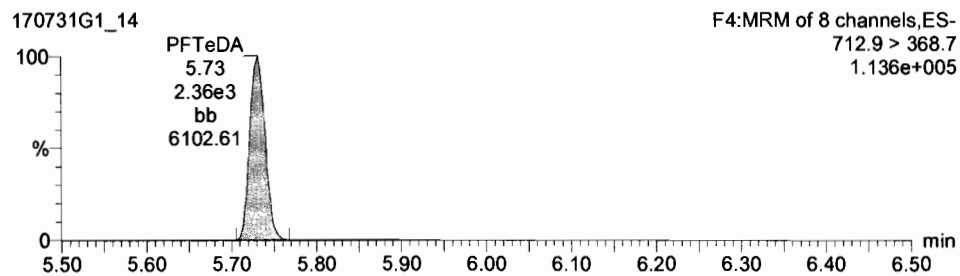
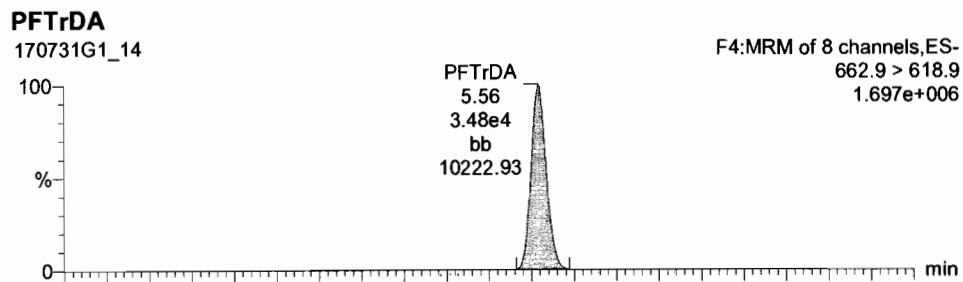
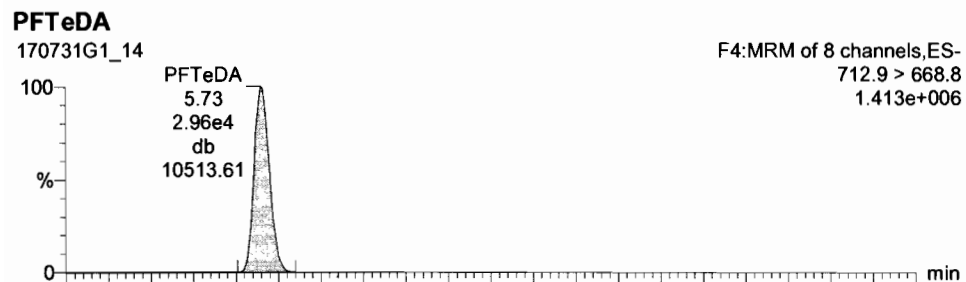
F4:MRM of 8 channels,ES-
615 > 569.7
1.460e+006



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-14.qld

Last Altered: Monday, July 31, 2017 16:52:30 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:53:16 Pacific Daylight Time

ID: ST170731G1-2 PFC CS3 17G3102, Description: PFC CS3 17G3102 B, Name: 170731G1_14, Date: 31-Jul-2017, Time: 16:35:07, Instrument: , Lab: , User:



Dataset: U:\G1.PRO\Results\2017\170731G1\170731G1-14.qld

Last Altered: Monday, July 31, 2017 16:52:30 Pacific Daylight Time

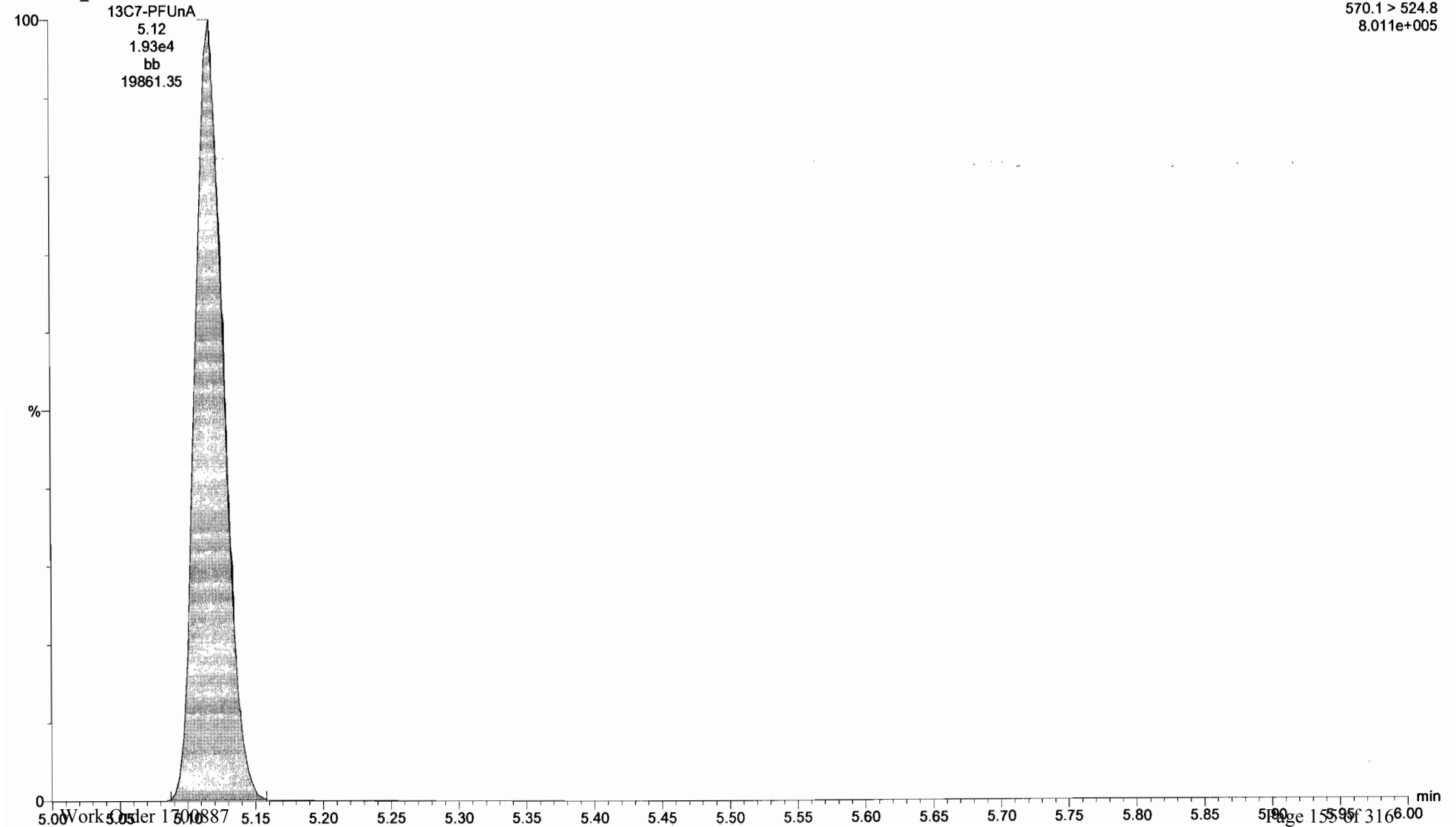
Printed: Monday, July 31, 2017 16:53:16 Pacific Daylight Time

ID: ST170731G1-2 PFC CS3 17G3102, Description: PFC CS3 17G3102 B, Name: 170731G1_14, Date: 31-Jul-2017, Time: 16:35:07, Instrument: , Lab: , User:

13C7-PFUnA

170731G1_14

F3:MRM of 12 channels,ES-
570.1 > 524.8
8.011e+005



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-4.qld

Last Altered: Monday, July 31, 2017 10:38:20 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:59:08 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

Name: 170731G2_4, Date: 31-Jul-2017, Time: 10:12:39, ID: ST170731G2-2 PFC CS0 17G2609, Description: PFC CS0 17G2609 A

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc	%Rec
1	1 PFBA	212.9 > 168.9	2.04e3	2.71e4		1.000	1.72	1.20	119.5
2	2 PFPeA	263.0 > 218.8	9.76e2	1.04e4		1.000	2.61	1.02	102.1
3	3 PFBS	299.0 > 79.7	1.05e3	6.54e3		1.000	2.88	0.876	87.6
4	4 PFHxA	312.9 > 268.9	1.47e3	8.61e3		1.000	3.27	1.04	104.2
5	5 PFHpA	363 > 318.9	2.10e3	1.12e4		1.000	3.81	1.07	107.2
6	6 PFHxS	398.9 > 79.6	1.01e3	6.09e3		1.000	3.94	1.10	110.0
7	7 PFOA	413.0 > 368.7	2.05e3	2.27e4		1.000	4.23	1.30	129.6
8	8 PFNA	463.0 > 418.8	1.88e3	1.07e4		1.000	4.57	0.914	91.4
9	9 PFOS	499.0 > 79.9	3.63e2	1.03e4		1.000	4.63	0.872	87.2
10	10 PFDA	512.7 > 219.0	2.82e2	1.41e4		1.000	4.86	1.13	112.7
11	11 13C3-PFBA	215.9 > 171.8	2.71e4	2.54e4	1.183	1.000	1.71	11.3	90.3
12	12 13C3-PFBS	302.0 > 98.8	6.54e3	2.35e4	0.263	1.000	2.88	13.2	105.7
13	13 13C3-PFPeA	266.0 > 221.8	1.04e4	2.35e4	0.446	1.000	2.61	12.4	99.0
14	14 13C2-PFHxA	315.0 > 269.8	8.61e3	2.35e4	0.361	1.000	3.27	12.7	101.4
15	15 13C4-PFHpA	367.2 > 321.8	1.12e4	2.35e4	0.475	1.000	3.81	12.5	100.0
16	16 18O2-PFHxS	403 > 102.6	6.09e3	1.57e4	0.411	1.000	3.93	11.8	94.4
17	17 13C2-PFOA	414.9 > 369.7	2.27e4	8.50e3	2.843	1.000	4.23	11.7	94.0
18	18 13C5-PFNA	468.2 > 422.9	1.07e4	1.23e4	0.854	1.000	4.57	12.7	101.9
19	19 13C2-PFDA	514.8 > 469.7	1.41e4	9.51e3	1.742	1.000	4.86	10.6	84.8
20	20 13C8-PFOS	507.0 > 79.9	1.03e4	1.14e4	0.927	1.000	4.63	12.2	97.6
21	21 13C4-PFBA	216.9 > 171.8	2.54e4	2.54e4	1.000	1.000	1.71	12.5	100.0
22	22 13C5-PFHxA	318 > 272.9	2.35e4	2.35e4	1.000	1.000	3.27	12.5	100.0
23	23 13C3-PFHxS	401.9 > 79.9	1.57e4	1.57e4	1.000	1.000	3.93	12.5	100.0
24	24 13C8-PFOA	421.3 > 376	8.50e3	8.50e3	1.000	1.000	4.22	12.5	100.0
25	25 13C9-PFNA	472.2 > 426.9	1.23e4	1.23e4	1.000	1.000	4.57	12.5	100.0
26	26 13C4-PFOS	503.0 > 79.9	1.14e4	1.14e4	1.000	1.000	4.63	12.5	100.0
27	27 13C6-PFDA	519.10 > 47...	9.51e3	9.51e3	1.000	1.000	4.86	12.5	100.0

70-130

you to 7/31/17
RA 7/31/17

50-150

↓

Dataset: Untitled

Last Altered: Monday, July 31, 2017 17:00:48 Pacific Daylight Time
Printed: Monday, July 31, 2017 17:00:55 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170731G2_1	IPA	31-Jul-17	09:32:17
2	170731G2_2	Ⓐ ST170731G2-1 PFC CS-1 17G3103	31-Jul-17	09:44:30
3	170731G2_3	IPA	31-Jul-17	09:57:00
4	170731G2_4	ST170731G2-2 PFC CS0 17G2609	31-Jul-17	10:12:39
5	170731G2_5	IPA	31-Jul-17	10:24:52
6	170731G2_6	B7G0079-BS1 OPR 0.125	31-Jul-17	10:37:29
7	170731G2_7	IPA	31-Jul-17	10:50:03
8	170731G2_8	B7G0079-BLK1 Method Blank 0.125	31-Jul-17	11:02:39
9	170731G2_9	1700887-01 IRPSite 6-GW-06GW01-2017071...	31-Jul-17	11:15:11
10	170731G2_10	1700887-02 IRPSite 6-GW-06GW02-2017071...	31-Jul-17	11:27:45
11	170731G2_11	1700887-03 IRPSite 6-GW-FRB01-20170712 ...	31-Jul-17	11:40:15
12	170731G2_12	1700887-04 Site 33-GW-33GW01-20170712 ...	31-Jul-17	11:52:47
13	170731G2_13	1700887-05 Building 110-GW-110GW01-2017...	31-Jul-17	12:05:21
14	170731G2_14	IPA	31-Jul-17	12:17:54
15	170731G2_15	1700887-06 IRPSite 6-GW-06FD01-20170712...	31-Jul-17	12:30:29
16	170731G2_16	1700887-05@5X Building 110-GW-110GW01...	31-Jul-17	12:43:01
17	170731G2_17	IPA	31-Jul-17	12:55:34
18	170731G2_18	ST170731G2-3 PFC CS3 17G3104	31-Jul-17	13:08:18
19	170731G2_19	IPA	31-Jul-17	13:20:57

Ⓐ INJECTION NOT USED. YOU 7/31/17

LC Calibration Standards Review Checklist 01

Calibration ID:		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	
<u>8T17073192 - 2</u>	(L M H)	^{NA} <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <u>NA</u>
<u>- 3</u>	(L M H)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
_____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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_____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
_____	L M H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Full Mass Cal. Date: 4/5/17

Run Log Present:

of Samples per Sequence Checked:

Reviewed By: CP 7/31/17
Initials/Date

Comments:

A L16 - 2TRANS

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-4.qld

Last Altered: Monday, July 31, 2017 10:38:20 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:58:40 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

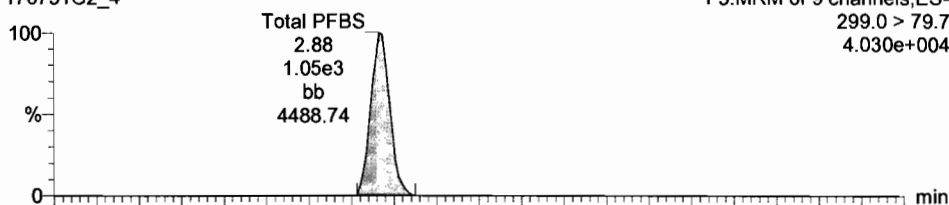
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: ST170731G2-2 PFC CS0 17G2609, Description: PFC CS0 17G2609 A, Name: 170731G2_4, Date: 31-Jul-2017, Time: 10:12:39, Instrument: , Lab: , User:

Total PFBS

170731G2_4

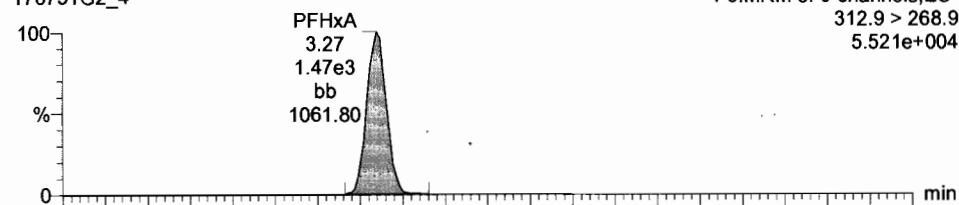
F3:MRM of 9 channels,ES-
299.0 > 79.7
4.030e+004



PFHxA

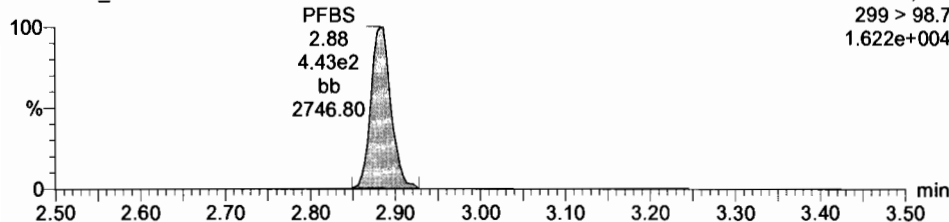
170731G2_4

F3:MRM of 9 channels,ES-
312.9 > 268.9
5.521e+004



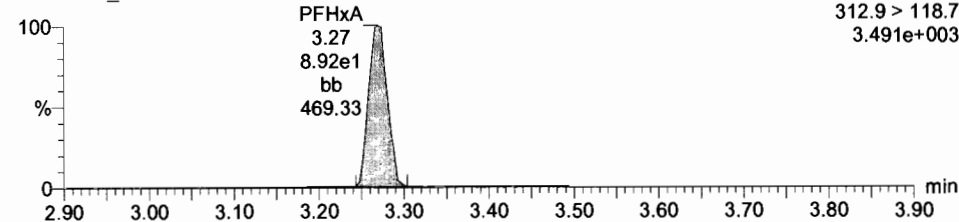
170731G2_4

F3:MRM of 9 channels,ES-
299 > 98.7
1.622e+004



170731G2_4

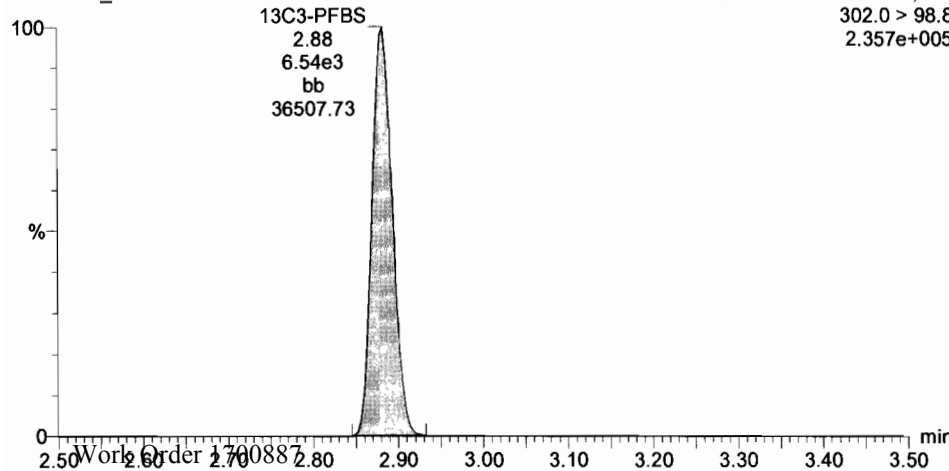
F3:MRM of 9 channels,ES-
312.9 > 118.7
3.491e+003



13C3-PFBS

170731G2_4

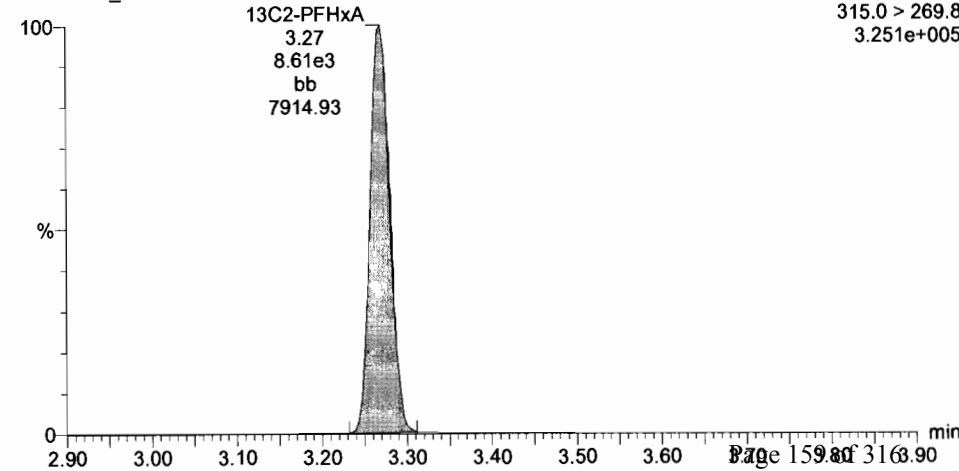
F3:MRM of 9 channels,ES-
302.0 > 98.8
2.357e+005



13C2-PFHxA

170731G2_4

F3:MRM of 9 channels,ES-
315.0 > 269.8
3.251e+005



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-4.qld

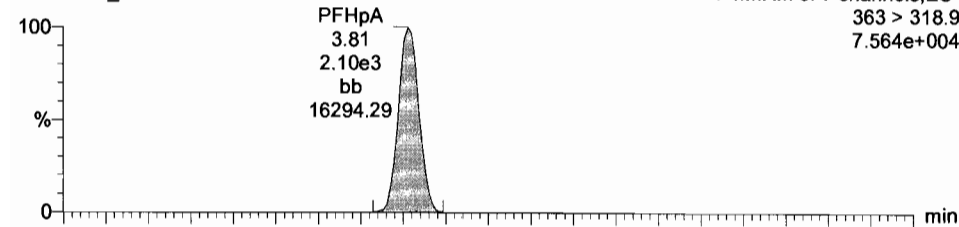
Last Altered: Monday, July 31, 2017 10:38:20 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:58:40 Pacific Daylight Time

ID: ST170731G2-2 PFC CS0 17G2609, Description: PFC CS0 17G2609 A, Name: 170731G2_4, Date: 31-Jul-2017, Time: 10:12:39, Instrument: , Lab: , User:

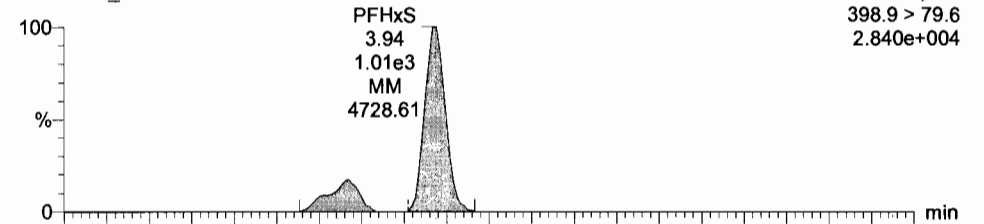
PFHpA

170731G2_4

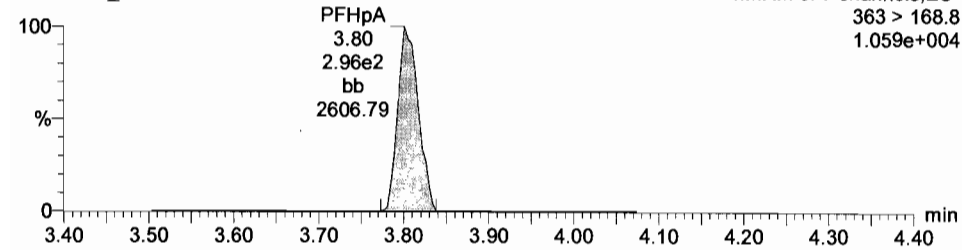


Total PFHxS

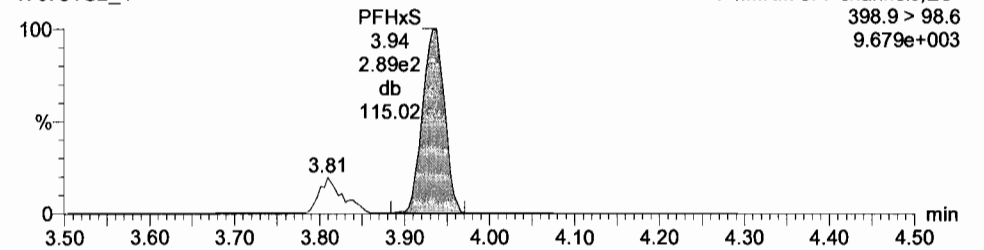
170731G2_4



170731G2_4

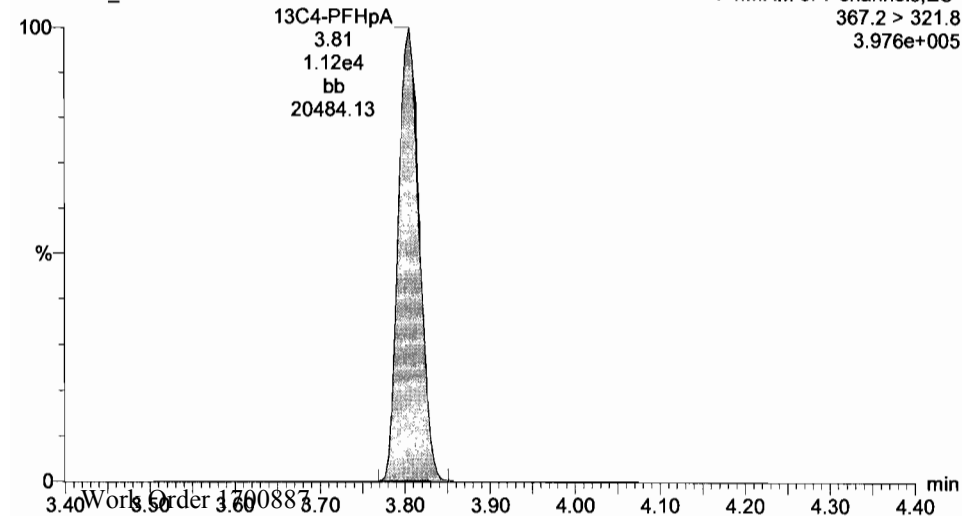


170731G2_4



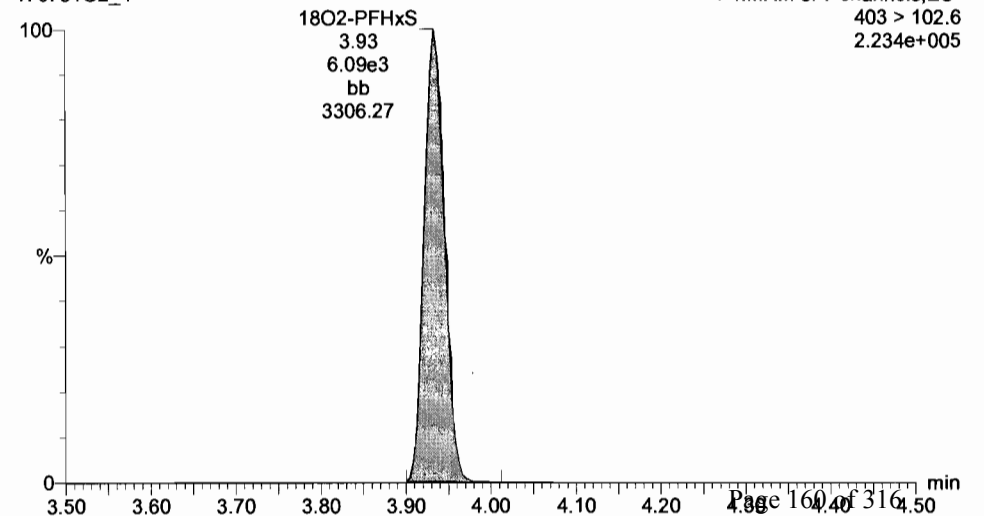
13C4-PFHpA

170731G2_4



18O2-PFHxS

170731G2_4



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-4.qld

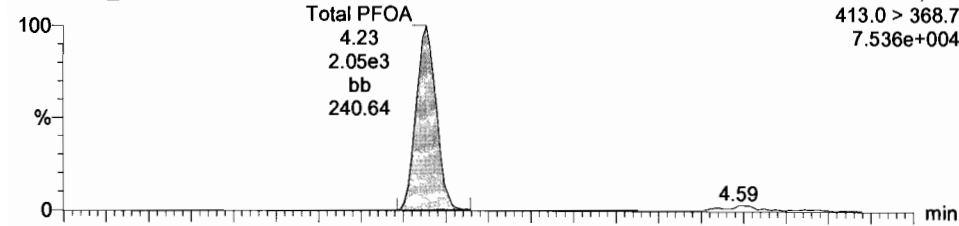
Last Altered: Monday, July 31, 2017 10:38:20 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:58:40 Pacific Daylight Time

ID: ST170731G2-2 PFC CS0 17G2609, Description: PFC CS0 17G2609 A, Name: 170731G2_4, Date: 31-Jul-2017, Time: 10:12:39, Instrument: , Lab: , User:

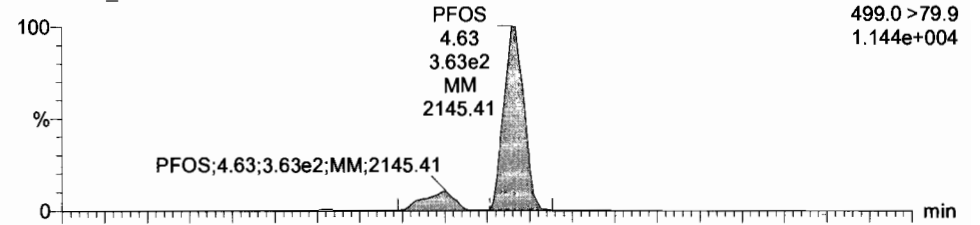
Total PFOA

170731G2_4

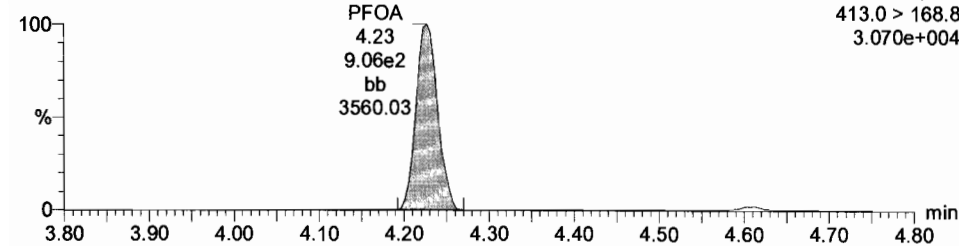


Total PFOS

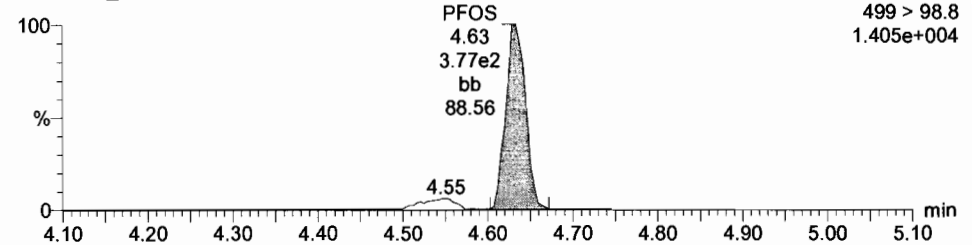
170731G2_4



170731G2_4

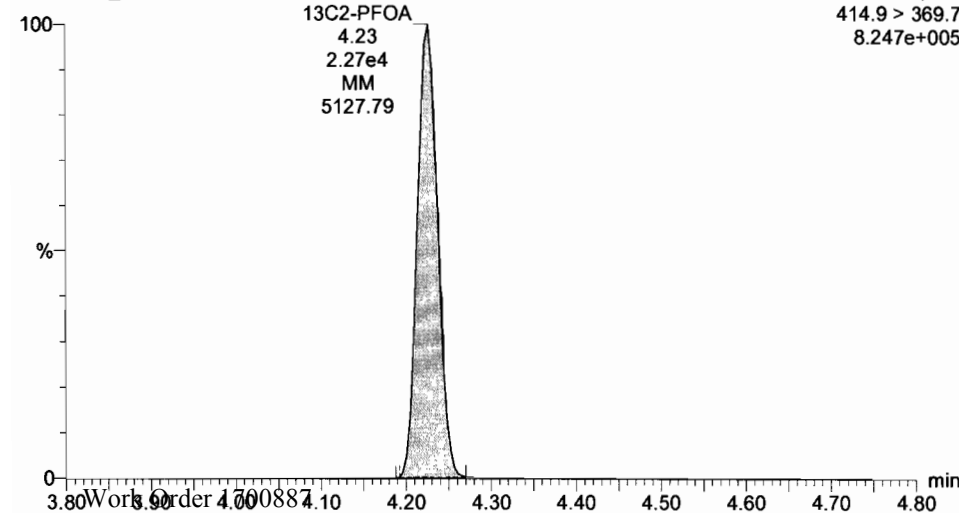


170731G2_4



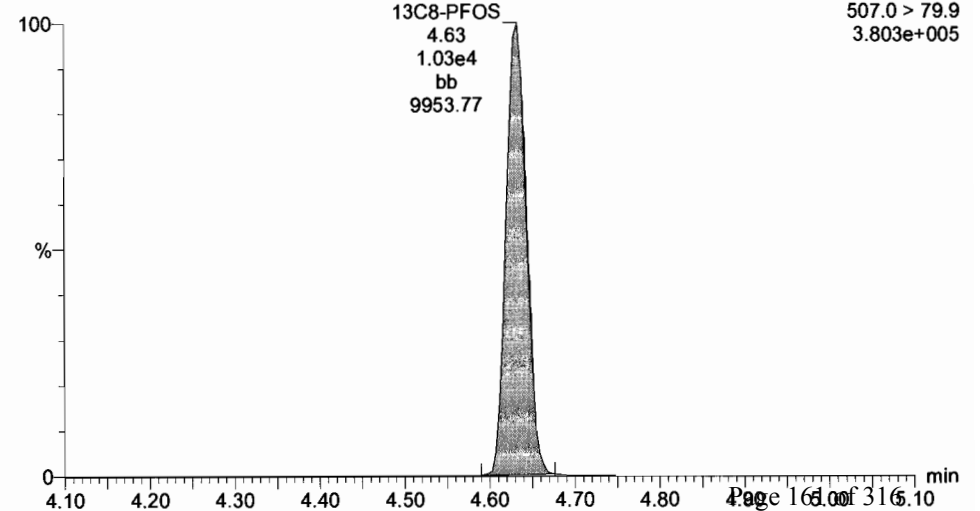
13C2-PFOA

170731G2_4



13C8-PFOS

170731G2_4



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-4.qld

Last Altered: Monday, July 31, 2017 10:38:20 Pacific Daylight Time

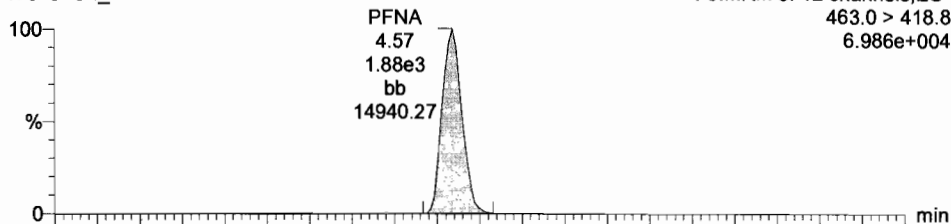
Printed: Monday, July 31, 2017 16:58:40 Pacific Daylight Time

ID: ST170731G2-2 PFC CS0 17G2609, Description: PFC CS0 17G2609 A, Name: 170731G2_4, Date: 31-Jul-2017, Time: 10:12:39, Instrument: , Lab: , User:

PFNA

170731G2_4

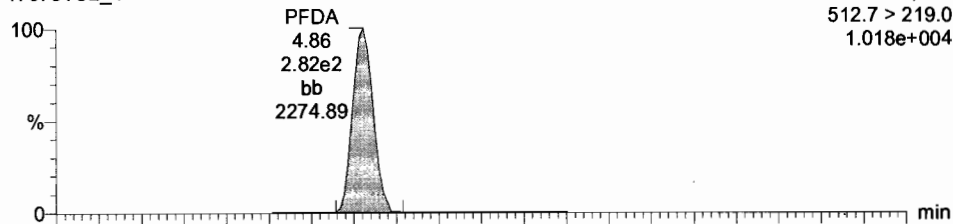
F5:MRM of 12 channels,ES-
463.0 > 418.8
6.986e+004



PFDA

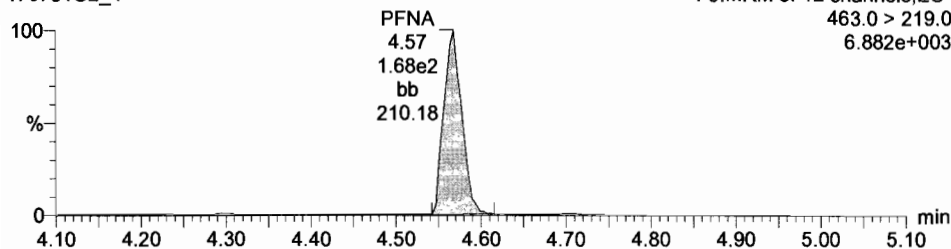
170731G2_4

F6:MRM of 4 channels,ES-
512.7 > 219.0
1.018e+004



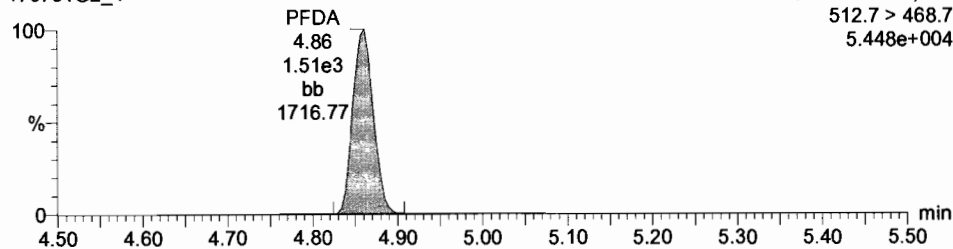
170731G2_4

F5:MRM of 12 channels,ES-
463.0 > 219.0
6.882e+003



170731G2_4

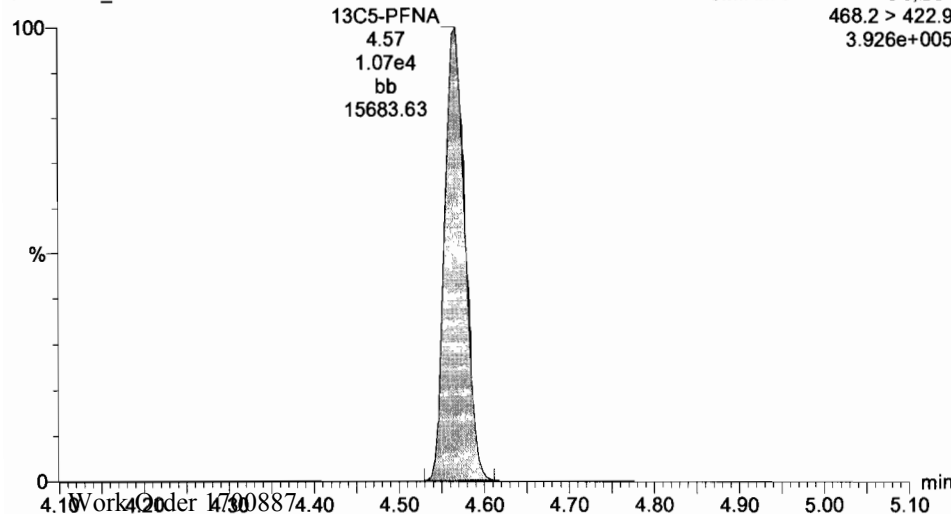
F6:MRM of 4 channels,ES-
512.7 > 468.7
5.448e+004



13C5-PFNA

170731G2_4

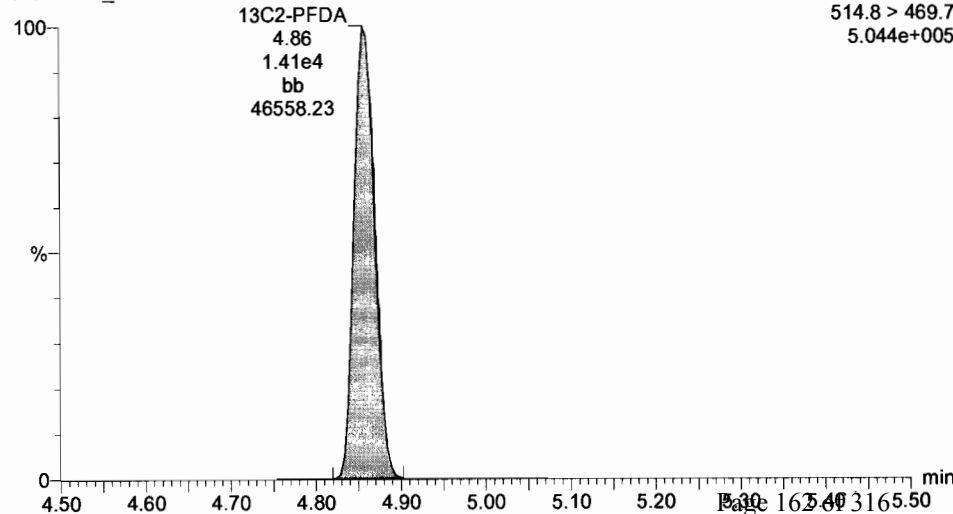
F5:MRM of 12 channels,ES-
468.2 > 422.9
3.926e+005



13C2-PFDA

170731G2_4

F6:MRM of 4 channels,ES-
514.8 > 469.7
5.044e+005



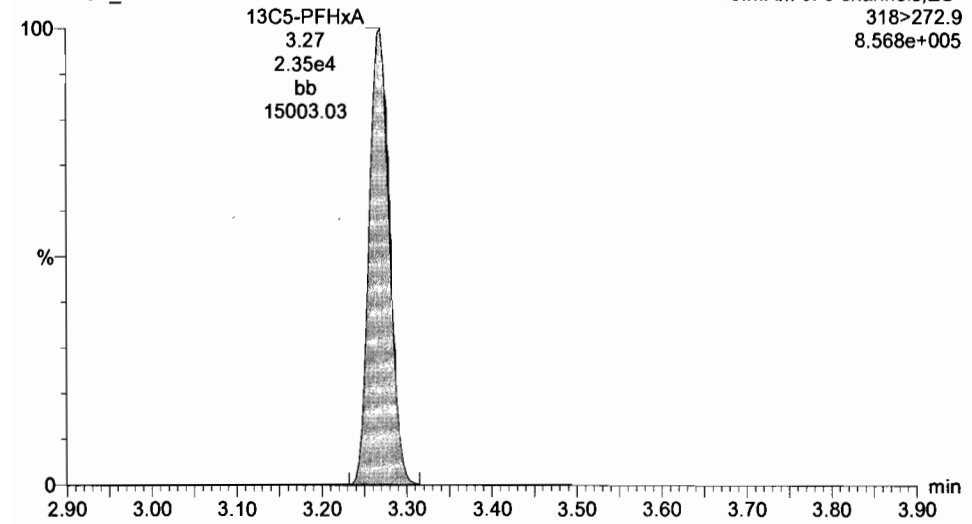
Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-4.qld

Last Altered: Monday, July 31, 2017 10:38:20 Pacific Daylight Time

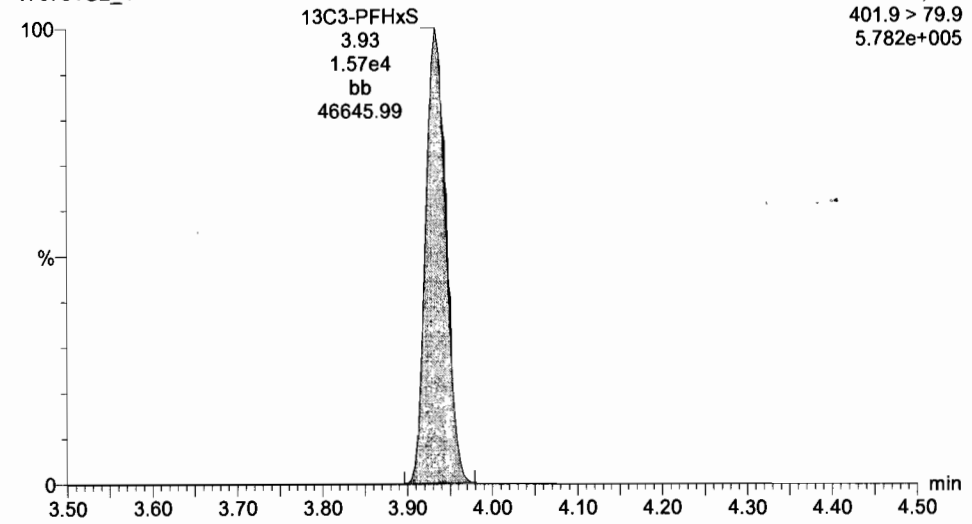
Printed: Monday, July 31, 2017 16:58:40 Pacific Daylight Time

ID: ST170731G2-2 PFC CS0 17G2609, Description: PFC CS0 17G2609 A, Name: 170731G2_4, Date: 31-Jul-2017, Time: 10:12:39, Instrument: , Lab: , User:

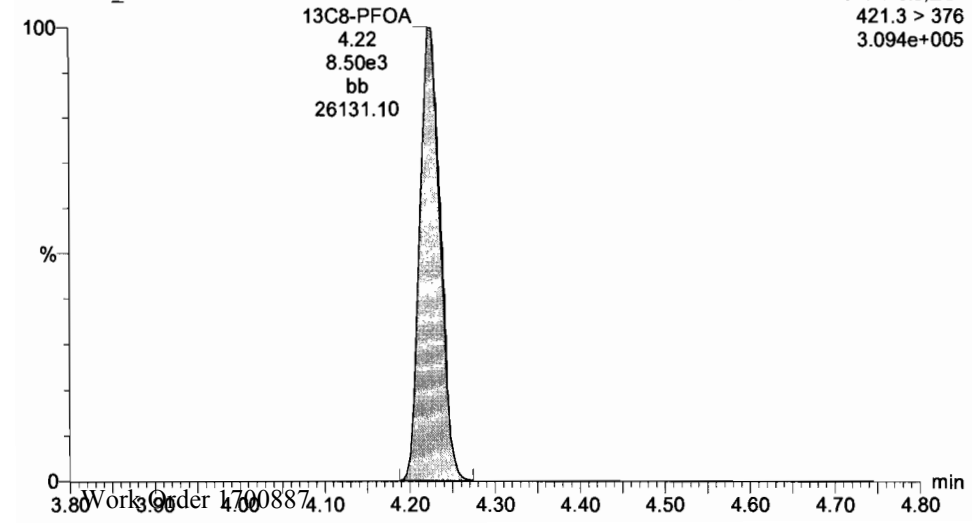
13C5-PFHxA
170731G2_4



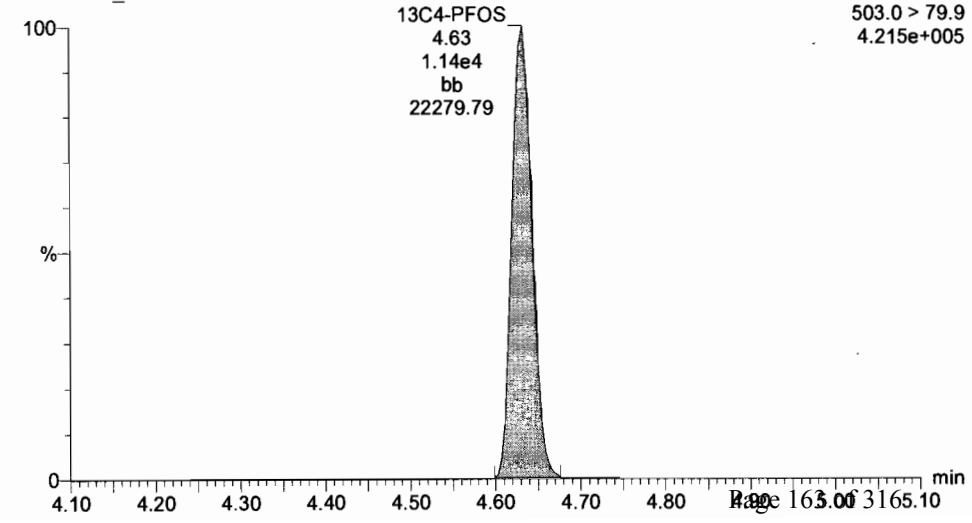
13C3-PFHxS
170731G2_4



13C8-PFOA
170731G2_4



13C4-PFOS
170731G2_4



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-4.qld

Last Altered: Monday, July 31, 2017 10:38:20 Pacific Daylight Time

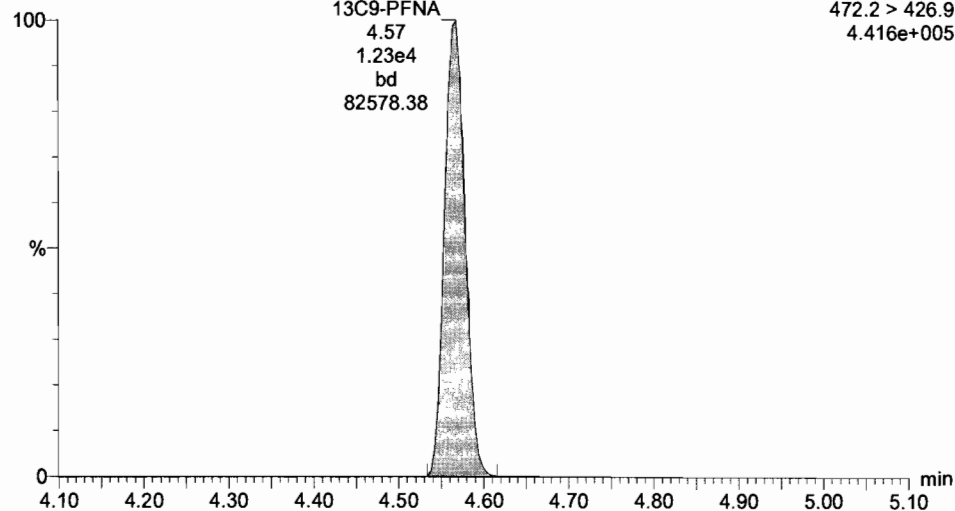
Printed: Monday, July 31, 2017 16:58:40 Pacific Daylight Time

ID: ST170731G2-2 PFC CS0 17G2609, Description: PFC CS0 17G2609 A, Name: 170731G2_4, Date: 31-Jul-2017, Time: 10:12:39, Instrument: , Lab: , User:

13C9-PFNA

170731G2_4

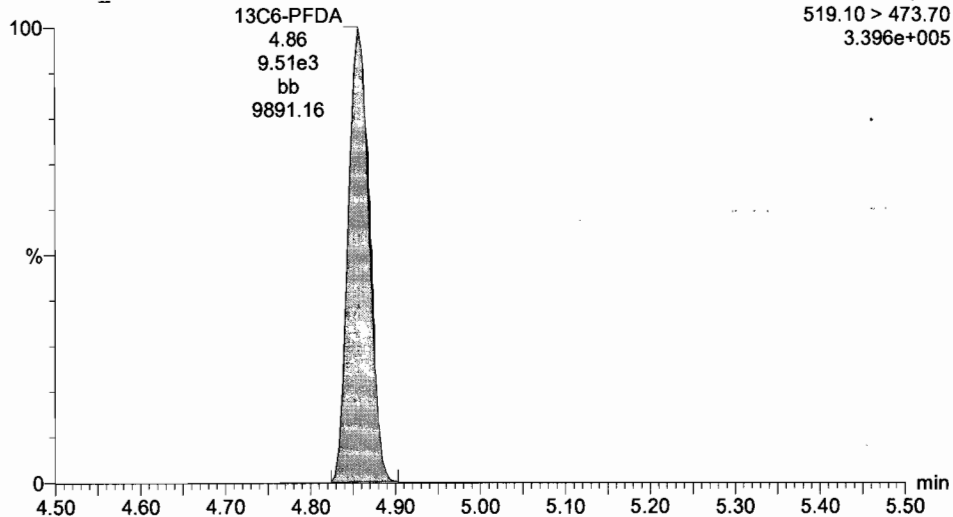
F5:MRM of 12 channels,ES-
472.2 > 426.9
4.416e+005



13C6-PFDA

170731G2_4

F6:MRM of 4 channels,ES-
519.10 > 473.70
3.396e+005



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-18.qld

Last Altered: Monday, July 31, 2017 13:41:38 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:59:22 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

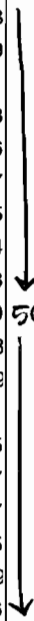
Name: 170731G2_18, Date: 31-Jul-2017, Time: 13:08:18, ID: ST170731G2-3 PFC CS3 17G3104, Description: PFC CS3 17G3104 A

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBA	212.9 > 168.9	1.58e4	2.75e4		1.000	1.65	9.51	95.1
2	2 PFPeA	263.0 > 218.8	7.67e3	9.65e3		1.000	2.61	8.98	89.8
3	3 PFBS	299.0 > 79.7	7.98e3	5.93e3		1.000	2.89	10.1	100.9
4	4 PFHxA	312.9 > 268.9	1.18e4	9.05e3		1.000	3.27	8.51	85.1
5	5 PFHpA	363 > 318.9	1.70e4	1.11e4		1.000	3.81	9.73	97.3
6	6 PFHxS	398.9 > 79.6	8.10e3	6.04e3		1.000	3.94	9.36	93.6
7	7 PFOA	413.0 > 368.7	1.57e4	2.40e4		1.000	4.23	10.2	101.7
8	8 PFNA	463.0 > 418.8	1.73e4	1.05e4		1.000	4.57	8.85	88.5
9	9 PFOS	499.0 > 79.9	3.95e3	1.26e4		1.000	4.63	8.24	82.4
10	10 PFDA	512.7 > 219.0	2.93e3	2.04e4		1.000	4.86	8.98	89.8
11	11 13C3-PFBA	215.9 > 171.8	2.75e4	1.93e4	1.183	1.000	1.64	15.1	121.0
12	12 13C3-PFBS	302.0 > 98.8	5.93e3	1.93e4	0.263	1.000	2.89	14.6	116.8
13	13 13C3-PFPeA	266.0 > 221.8	9.65e3	1.93e4	0.446	1.000	2.61	14.0	111.9
14	14 13C2-PFHxA	315.0 > 269.8	9.05e3	1.93e4	0.361	1.000	3.27	16.3	130.1
15	15 13C4-PFHpA	367.2 > 321.8	1.11e4	1.93e4	0.475	1.000	3.81	15.1	120.5
16	16 18O2-PFHxS	403 > 102.6	6.04e3	1.20e4	0.411	1.000	3.94	15.3	122.7
17	17 13C2-PFOA	414.9 > 369.7	2.40e4	6.61e3	2.843	1.000	4.23	16.0	127.7
18	18 13C5-PFNA	468.2 > 422.9	1.05e4	9.53e3	0.854	1.000	4.57	16.2	129.5
19	19 13C2-PFDA	514.8 > 469.7	2.04e4	1.05e4	1.742	1.000	4.86	14.0	111.9
20	20 13C8-PFOS	507.0 > 79.9	1.26e4	1.12e4	0.927	1.000	4.63	15.2	121.6
21	21 13C4-PFBA	216.9 > 171.8	1.93e4	1.93e4	1.000	1.000	1.64	12.5	100.0
22	22 13C5-PFHxA	318 > 272.9	1.93e4	1.93e4	1.000	1.000	3.27	12.5	100.0
23	23 13C3-PFHxS	401.9 > 79.9	1.20e4	1.20e4	1.000	1.000	3.94	12.5	100.0
24	24 13C8-PFOA	421.3 > 376	6.61e3	6.61e3	1.000	1.000	4.23	12.5	100.0
25	25 13C9-PFNA	472.2 > 426.9	9.53e3	9.53e3	1.000	1.000	4.57	12.5	100.0
26	26 13C4-PFOS	503.0 > 79.9	1.12e4	1.12e4	1.000	1.000	4.63	12.5	100.0
27	27 13C6-PFDA	519.10 > 47...	1.05e4	1.05e4	1.000	1.000	4.86	12.5	100.0

70-130

50-150

you 7/31/17



Dataset: Untitled

Last Altered: Monday, July 31, 2017 17:00:48 Pacific Daylight Time

Printed: Monday, July 31, 2017 17:00:55 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

Compound name: PFBA

Name	ID	Acq.Date	Acq.Time
170731G2_1	IPA	31-Jul-17	09:32:17
170731G2_2	Ⓐ ST170731G2-1 PFC CS-1 17G3103	31-Jul-17	09:44:30
170731G2_3	IPA	31-Jul-17	09:57:00
170731G2_4	ST170731G2-2 PFC CS0 17G2609	31-Jul-17	10:12:39
170731G2_5	IPA	31-Jul-17	10:24:52
170731G2_6	B7G0079-BS1 OPR 0.125	31-Jul-17	10:37:29
170731G2_7	IPA	31-Jul-17	10:50:03
170731G2_8	B7G0079-BLK1 Method Blank 0.125	31-Jul-17	11:02:39
170731G2_9	1700887-01 IRPSite 6-GW-06GW01-2017071...	31-Jul-17	11:15:11
170731G2_10	1700887-02 IRPSite 6-GW-06GW02-2017071...	31-Jul-17	11:27:45
170731G2_11	1700887-03 IRPSite 6-GW-FRB01-20170712 ...	31-Jul-17	11:40:15
170731G2_12	1700887-04 Site 33-GW-33GW01-20170712 ...	31-Jul-17	11:52:47
170731G2_13	1700887-05 Building 110-GW-110GW01-2017...	31-Jul-17	12:05:21
170731G2_14	IPA	31-Jul-17	12:17:54
170731G2_15	1700887-06 IRPSite 6-GW-06FD01-20170712...	31-Jul-17	12:30:29
170731G2_16	1700887-05@5X Building 110-GW-110GW01-...	31-Jul-17	12:43:01
170731G2_17	IPA	31-Jul-17	12:55:34
170731G2_18	ST170731G2-3 PFC CS3 17G3104	31-Jul-17	13:08:18
170731G2_19	IPA	31-Jul-17	13:20:57

Ⓐ INJECTION NOT USED. YOU 7/31/17

Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-18.qld

Last Altered: Monday, July 31, 2017 13:41:38 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:59:33 Pacific Daylight Time

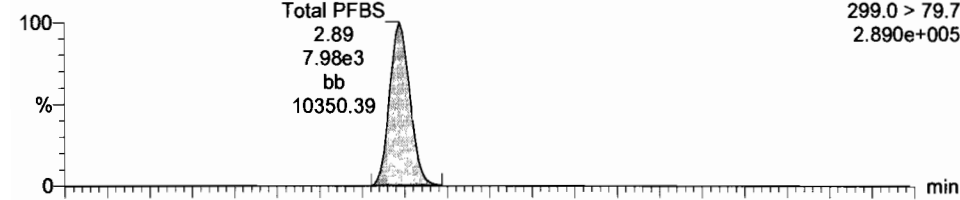
Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: ST170731G2-3 PFC CS3 17G3104, Description: PFC CS3 17G3104 A, Name: 170731G2_18, Date: 31-Jul-2017, Time: 13:08:18, Instrument: , Lab: , User:

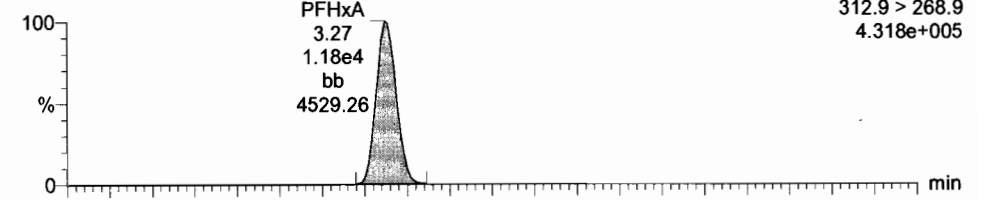
Total PFBS

170731G2_18

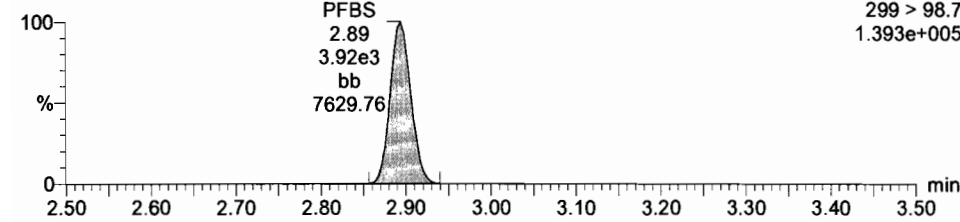


PFHxA

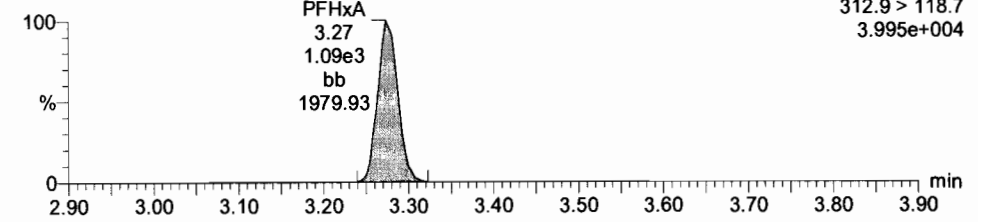
170731G2_18



170731G2_18

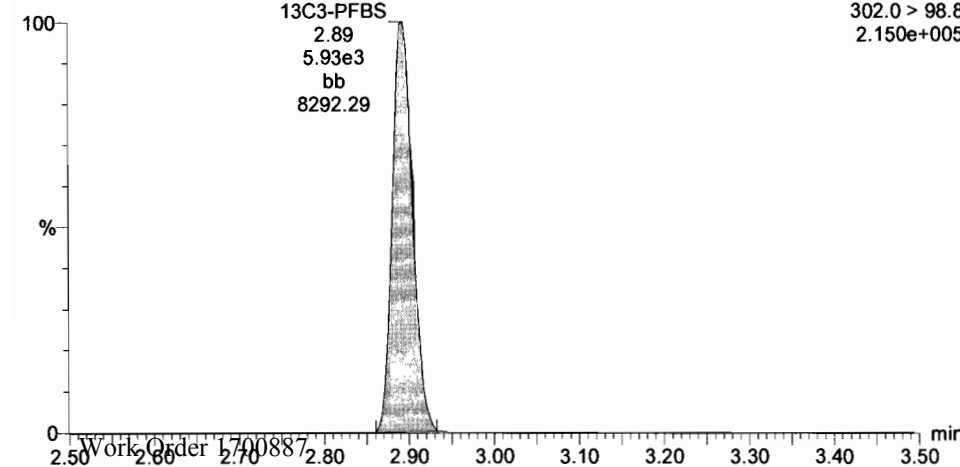


170731G2_18



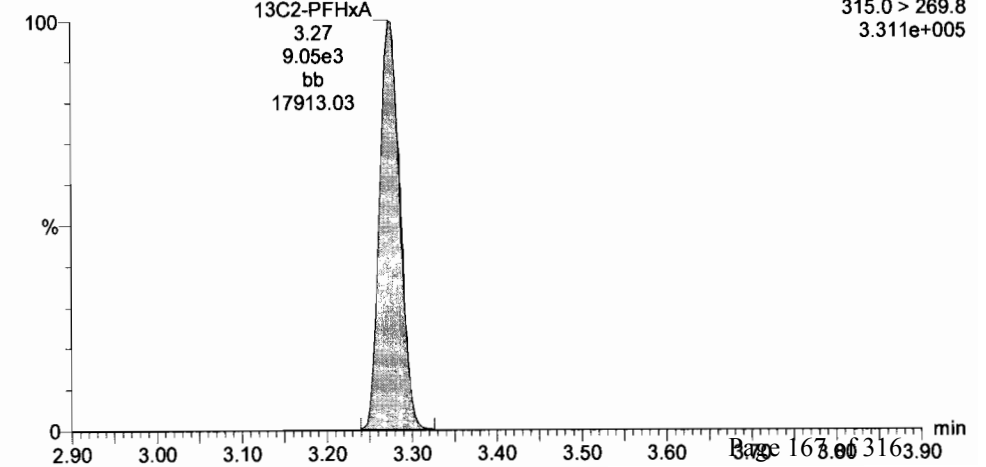
13C3-PFBS

170731G2_18



13C2-PFHxA

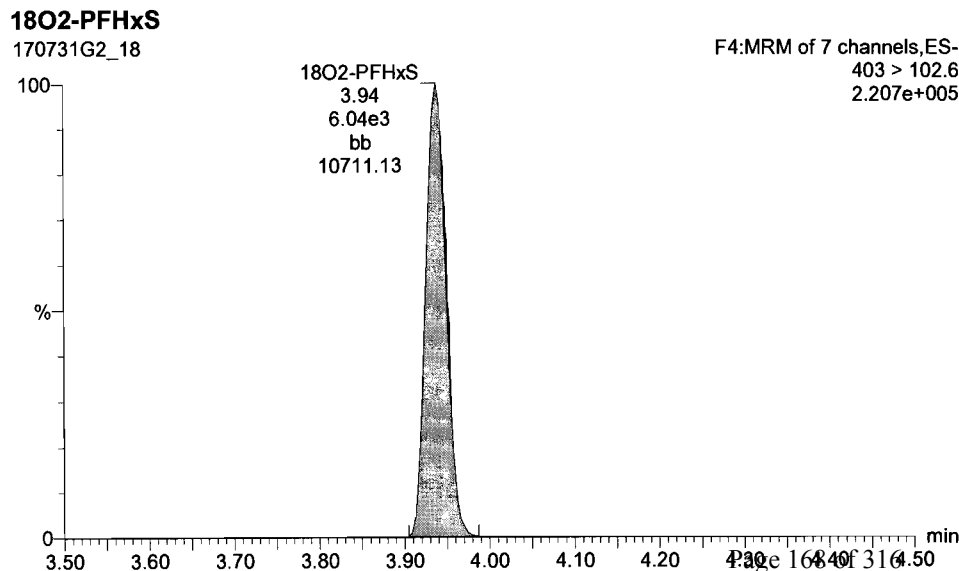
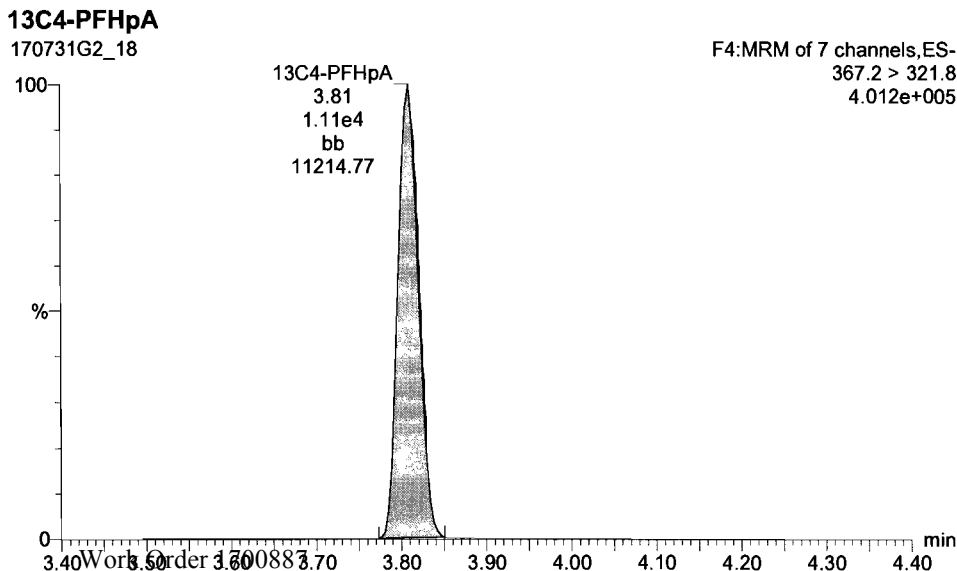
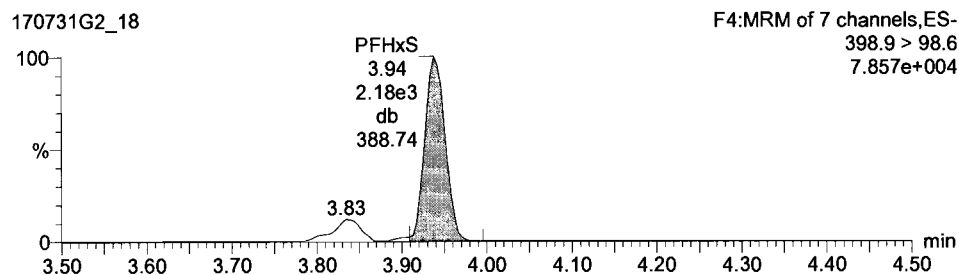
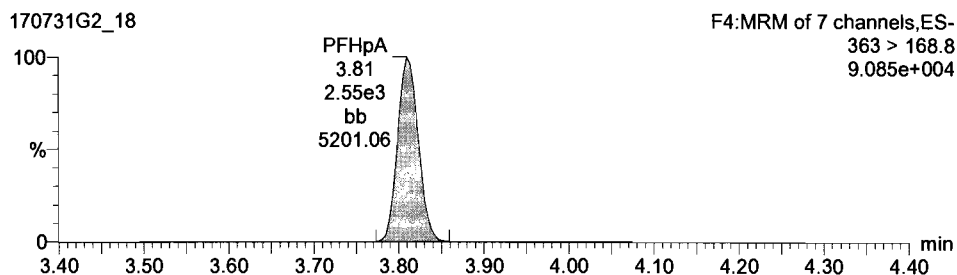
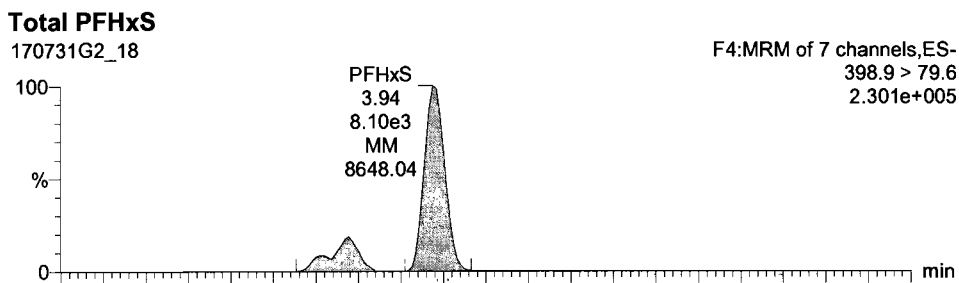
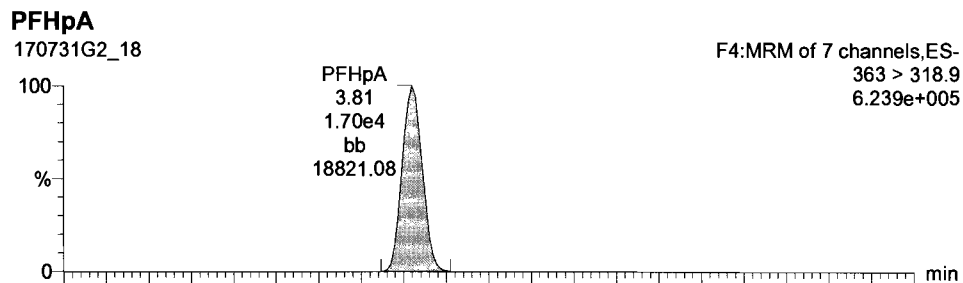
170731G2_18



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-18.qld

Last Altered: Monday, July 31, 2017 13:41:38 Pacific Daylight Time
Printed: Monday, July 31, 2017 16:59:33 Pacific Daylight Time

ID: ST170731G2-3 PFC CS3 17G3104, Description: PFC CS3 17G3104 A, Name: 170731G2_18, Date: 31-Jul-2017, Time: 13:08:18, Instrument: , Lab: , User:



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Last Altered: Monday, July 31, 2017 13:41:38 Pacific Daylight Time

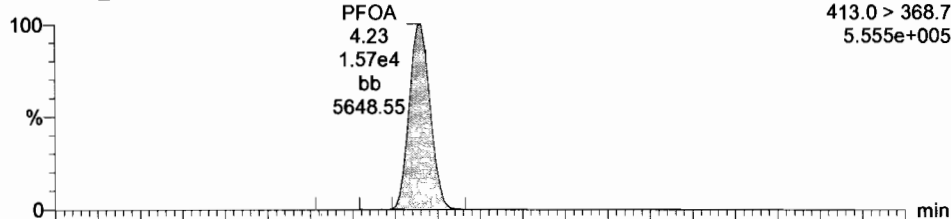
Printed: Monday, July 31, 2017 16:59:33 Pacific Daylight Time

ID: ST170731G2-3 PFC CS3 17G3104, Description: PFC CS3 17G3104 A, Name: 170731G2_18, Date: 31-Jul-2017, Time: 13:08:18, Instrument: , Lab: , User:

Total PFOA

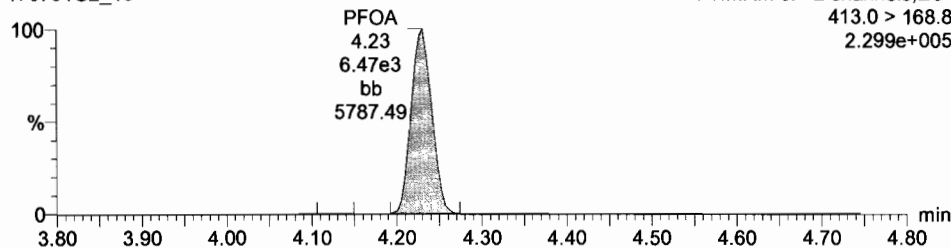
170731G2_18

F5:MRM of 12 channels,ES-
413.0 > 368.7
5.555e+005



170731G2_18

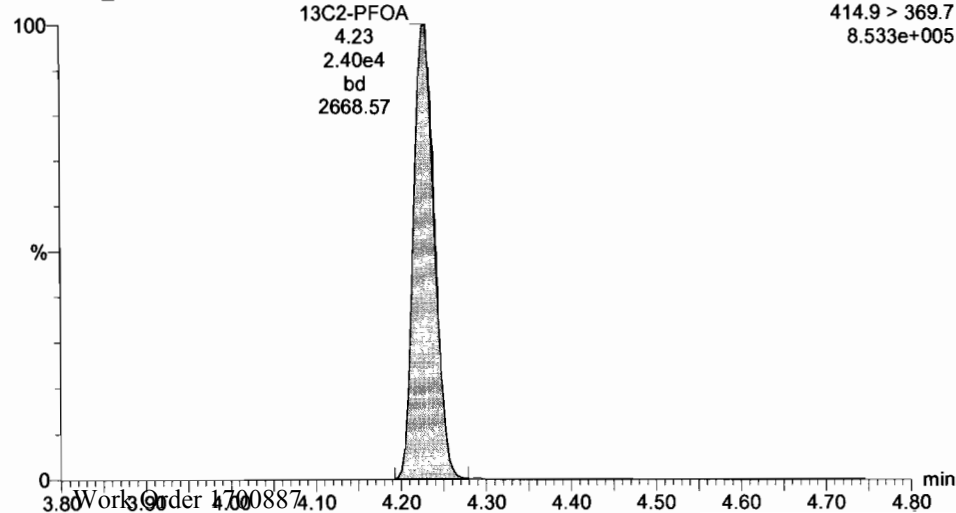
F5:MRM of 12 channels,ES-
413.0 > 168.8
2.299e+005



13C2-PFOA

170731G2_18

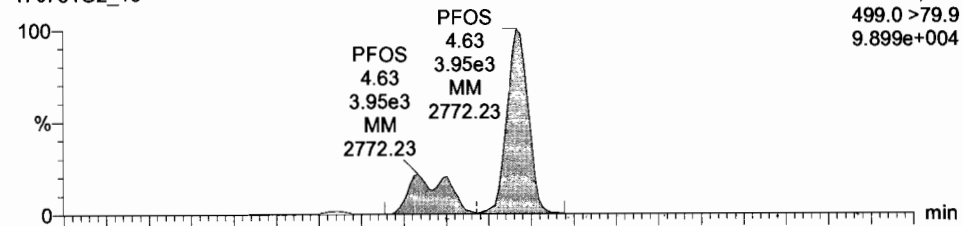
F5:MRM of 12 channels,ES-
414.9 > 369.7
8.533e+005



Total PFOS

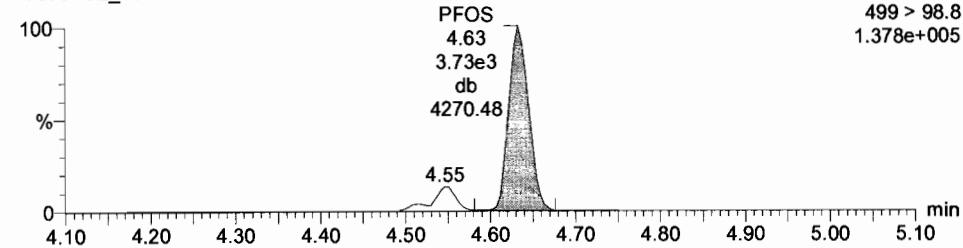
170731G2_18

F5:MRM of 12 channels,ES-
499.0 > 79.9
9.899e+004



170731G2_18

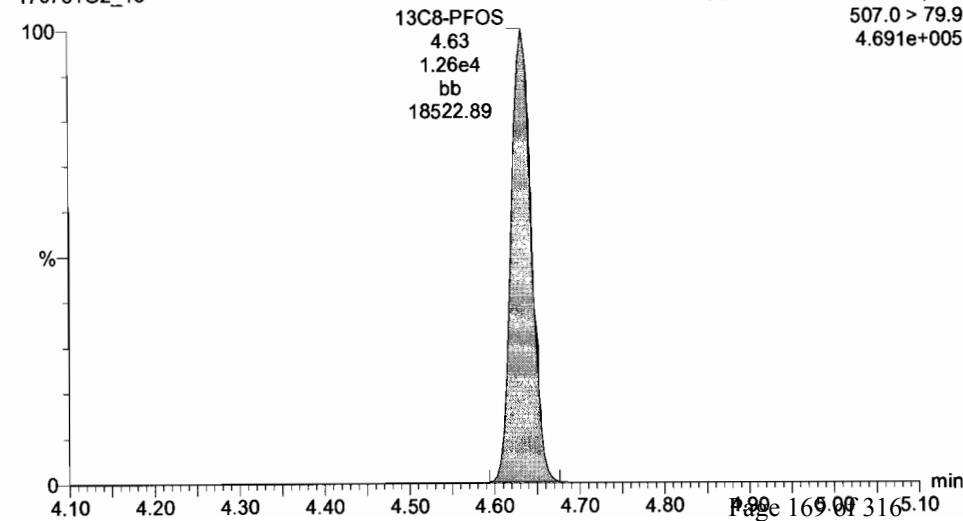
F5:MRM of 12 channels,ES-
499 > 98.8
1.378e+005



13C8-PFOS

170731G2_18

F5:MRM of 12 channels,ES-
507.0 > 79.9
4.691e+005



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-18.qld

Last Altered: Monday, July 31, 2017 13:41:38 Pacific Daylight Time

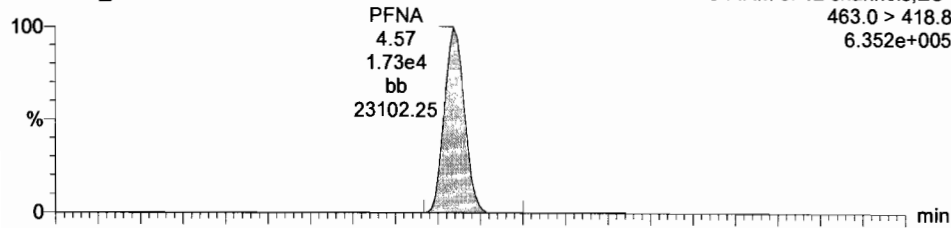
Printed: Monday, July 31, 2017 16:59:33 Pacific Daylight Time

ID: ST170731G2-3 PFC CS3 17G3104, Description: PFC CS3 17G3104 A, Name: 170731G2_18, Date: 31-Jul-2017, Time: 13:08:18, Instrument: , Lab: , User:

PFNA

170731G2_18

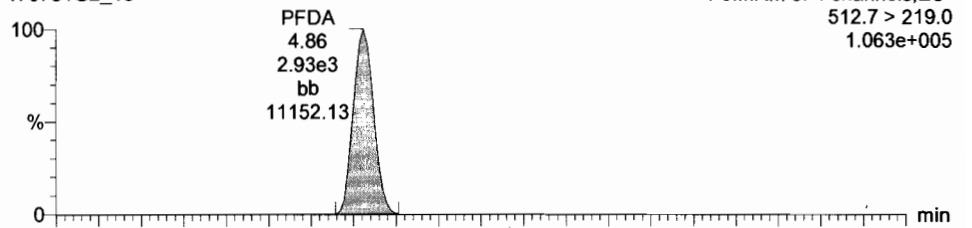
F5:MRM of 12 channels,ES-
463.0 > 418.8
6.352e+005



PFDA

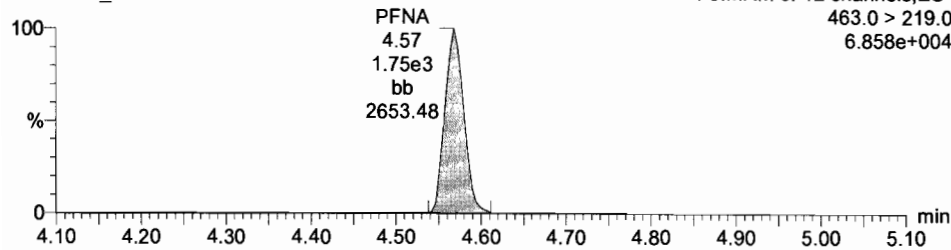
170731G2_18

F6:MRM of 4 channels,ES-
512.7 > 219.0
1.063e+005



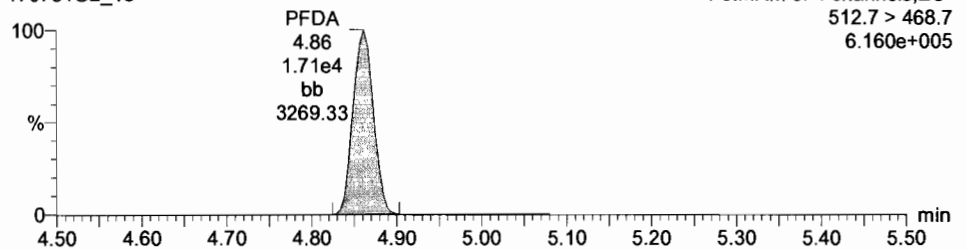
170731G2_18

F5:MRM of 12 channels,ES-
463.0 > 219.0
6.858e+004



170731G2_18

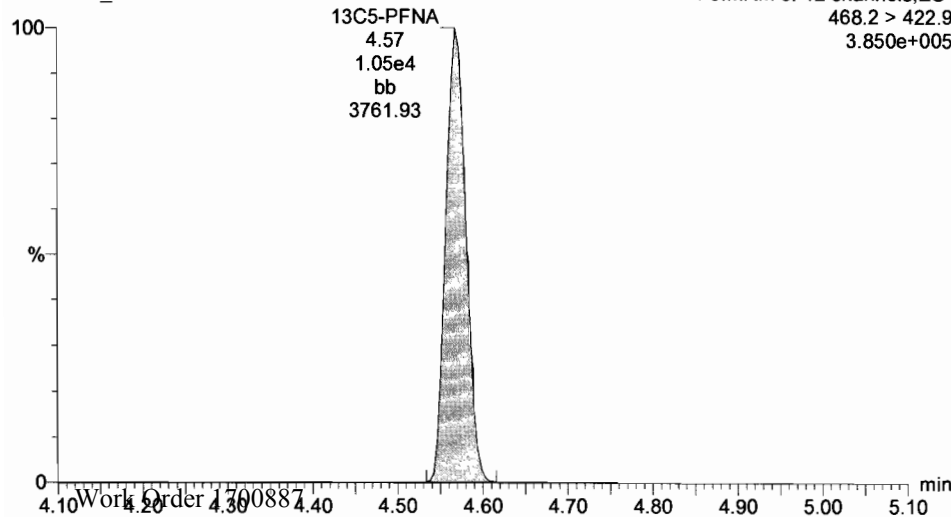
F6:MRM of 4 channels,ES-
512.7 > 468.7
6.160e+005



13C5-PFNA

170731G2_18

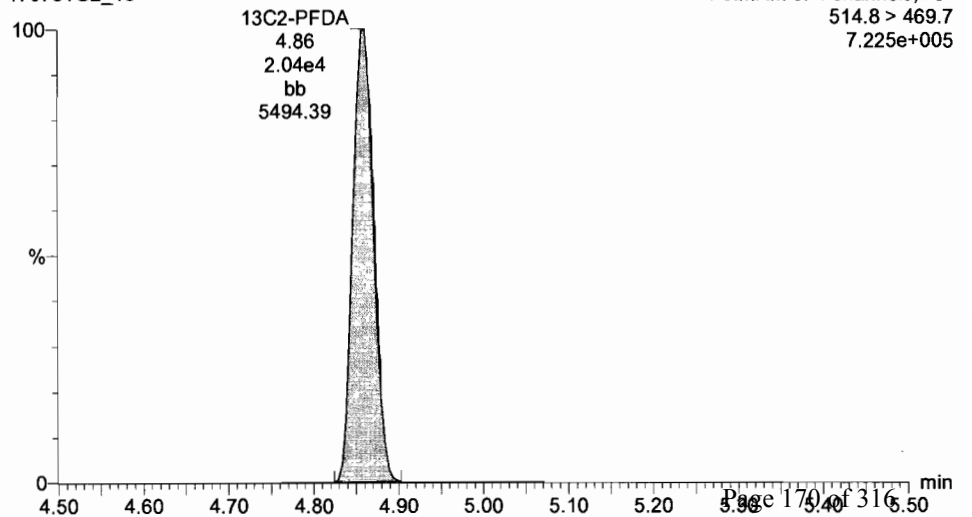
F5:MRM of 12 channels,ES-
468.2 > 422.9
3.850e+005



13C2-PFDA

170731G2_18

F6:MRM of 4 channels,ES-
514.8 > 469.7
7.225e+005



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-18.qld

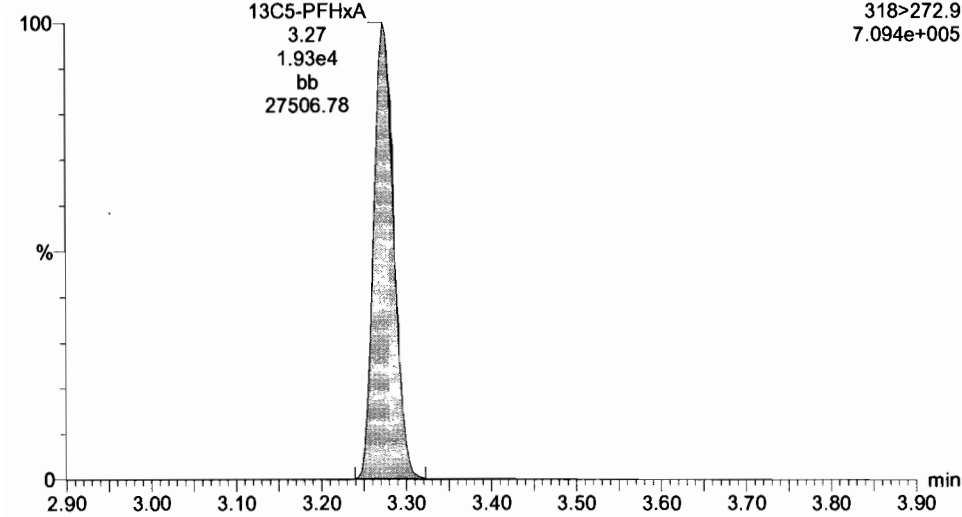
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Printed: Monday, July 31, 2017 16:59:33 Pacific Daylight Time

ID: ST170731G2-3 PFC CS3 17G3104, Description: PFC CS3 17G3104 A, Name: 170731G2_18, Date: 31-Jul-2017, Time: 13:08:18, Instrument: , Lab: , User:

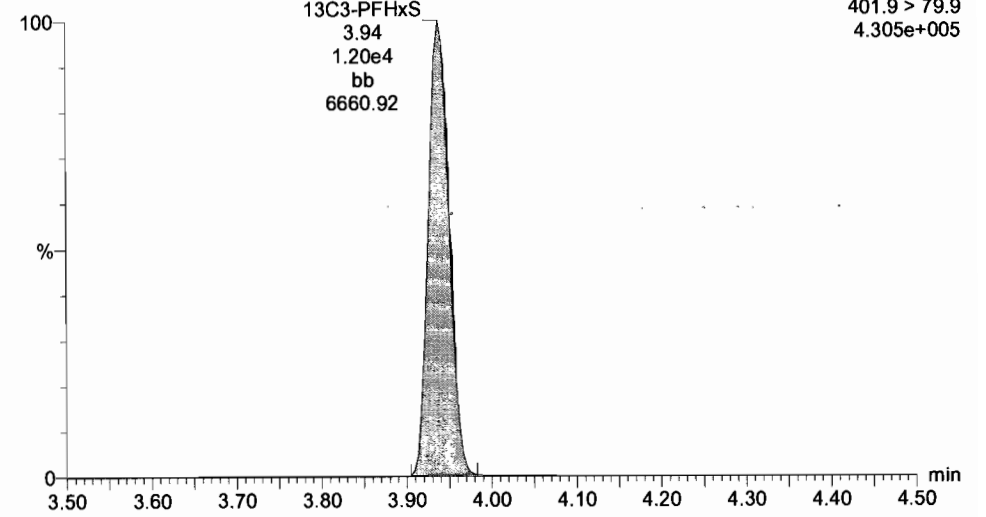
13C5-PFHxA

170731G2_18



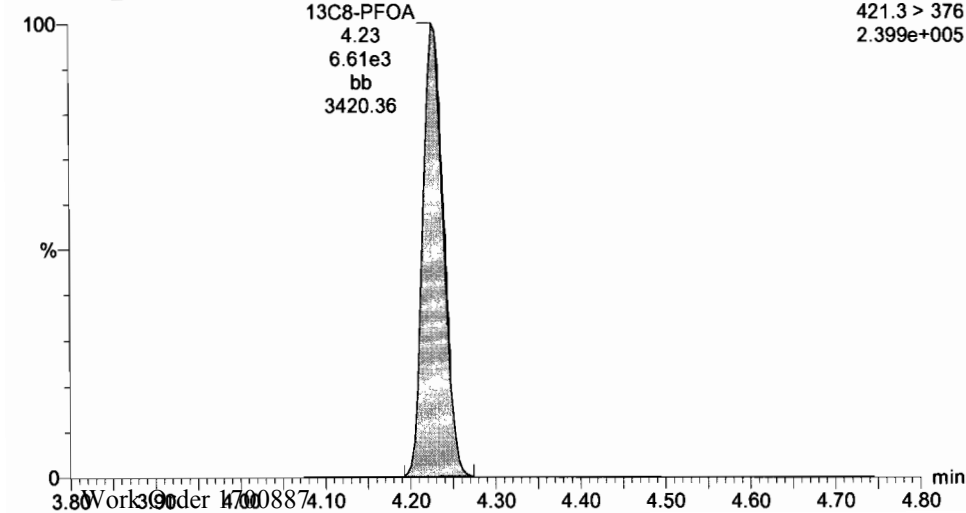
13C3-PFHxS

170731G2_18



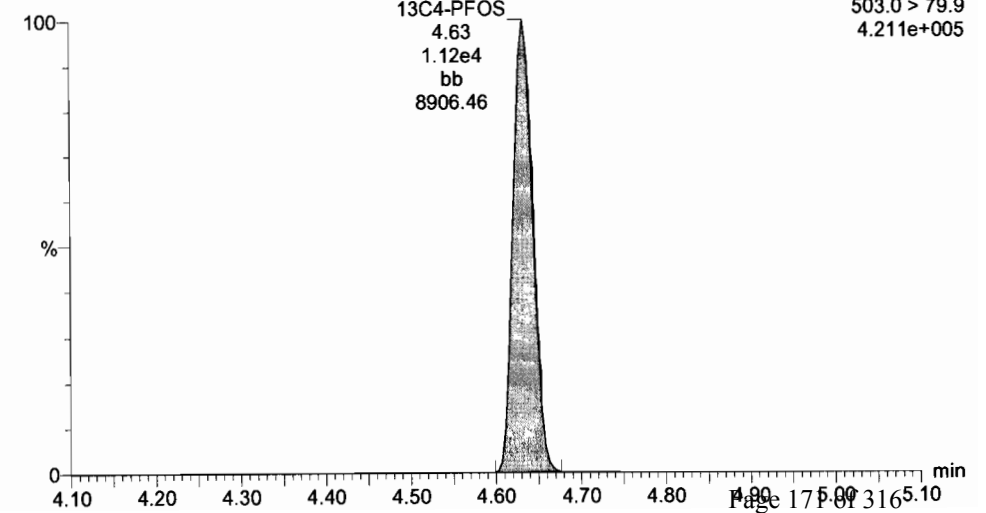
13C8-PFOA

170731G2_18



13C4-PFOS

170731G2_18



Dataset: U:\G1.PRO\Results\2017\170731G2\170731G2-18.qld

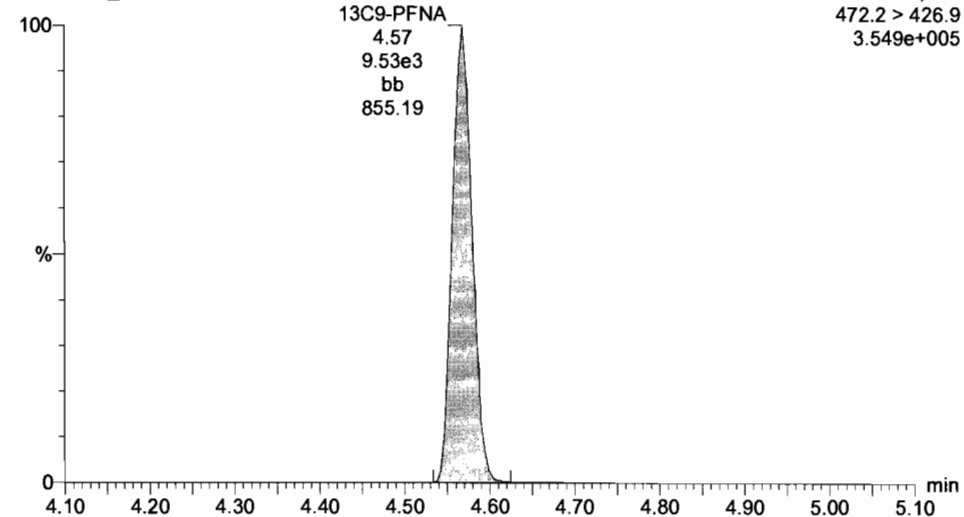
Last Altered: Monday, July 31, 2017 13:41:38 Pacific Daylight Time

Printed: Monday, July 31, 2017 16:59:33 Pacific Daylight Time

ID: ST170731G2-3 PFC CS3 17G3104, Description: PFC CS3 17G3104 A, Name: 170731G2_18, Date: 31-Jul-2017, Time: 13:08:18, Instrument: , Lab: , User:

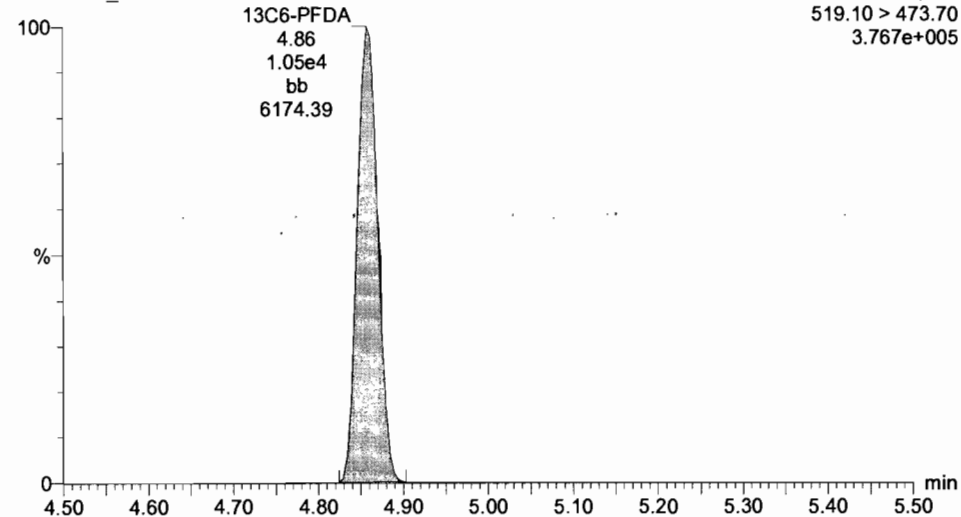
13C9-PFNA

170731G2_18



13C6-PFDA

170731G2_18



INITIAL CALIBRATION

Vista Analytical Laboratory Q2

Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

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Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

Compound name: PFBA

Correlation coefficient: $r = 0.999824$, $r^2 = 0.999647$

Calibration curve: $0.747533 * x + 0.048007$

Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)

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

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	170727G1_2	0.250	1.67	3.78e2	2.10e4	0.238	-5.0	0.903
2	170727G1_3	0.500	1.68	7.43e2	2.27e4	0.483	-3.4	0.818
3	170727G1_4	1.00	1.68	1.40e3	2.13e4	1.04	3.7	0.823
4	170727G1_5	2.00	1.67	2.90e3	2.25e4	2.09	4.3	0.804
5	170727G1_6	5.00	1.68	6.65e3	2.07e4	5.30	5.9	0.801
6	170727G1_7	10.0	1.67	1.45e4	2.55e4	9.44	-5.6	0.710
7	170727G1_8	50.0	1.68	6.31e4	2.11e4	49.9	-0.2	0.747
8	170727G1_9	100	1.68	1.32e5	2.19e4	100	0.3	0.750

Handwritten:
 Xca 7/27/17
 ✓ AC 7/27/17

Compound name: PFPeA

Correlation coefficient: $r = 0.999667$, $r^2 = 0.999334$

Calibration curve: $1.10054 * x + 0.0486908$

Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)

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

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	170727G1_2	0.250	2.62	1.86e2	7.64e3	0.233	-6.8	1.22
2	170727G1_3	0.500	2.63	3.85e2	8.33e3	0.481	-3.8	1.16
3	170727G1_4	1.00	2.63	7.66e2	7.75e3	1.08	7.8	1.23
4	170727G1_5	2.00	2.63	1.54e3	8.54e3	2.01	0.5	1.13
5	170727G1_6	5.00	2.63	3.71e3	7.82e3	5.34	6.8	1.18
6	170727G1_7	10.0	2.63	7.58e3	9.10e3	9.42	-5.8	1.04
7	170727G1_8	50.0	2.63	3.27e4	7.23e3	51.2	2.5	1.13
8	170727G1_9	100	2.62	6.37e4	7.31e3	98.9	-1.1	1.09

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Compound name: PFBS

Correlation coefficient: $r = 0.999365$, $r^2 = 0.998731$

Calibration curve: $1.60766 * x + 0.593256$

Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)

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

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	0.250	2.91	1.56e2	4.70e3			1.66
2	2 170727G1_3	0.500	2.91	5.18e2	4.48e3	0.531	6.1	2.89
3	3 170727G1_4	1.00	2.91	7.48e2	4.63e3	0.886	-11.4	2.02
4	4 170727G1_5	2.00	2.91	1.51e3	5.33e3	1.83	-8.6	1.77
5	5 170727G1_6	5.00	2.91	3.40e3	4.48e3	5.53	10.7	1.90
6	6 170727G1_7	10.0	2.91	7.34e3	5.40e3	10.2	1.9	1.70
7	7 170727G1_8	50.0	2.91	2.94e4	4.38e3	51.7	3.4	1.67
8	8 170727G1_9	100	2.91	5.18e4	4.10e3	97.8	-2.2	1.58

Compound name: PFHxA

Correlation coefficient: $r = 0.999065$, $r^2 = 0.998131$

Calibration curve: $1.89981 * x + 0.153363$

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.	%Dev	RRF
1	1 170727G1_2	0.250	3.28	2.81e2	5.77e3	0.240	-4.0	2.44
2	2 170727G1_3	0.500	3.28	5.54e2	7.04e3	0.436	-12.7	1.97
3	3 170727G1_4	1.00	3.28	1.13e3	6.35e3	1.09	8.6	2.22
4	4 170727G1_5	2.00	3.28	2.22e3	6.86e3	2.04	2.2	2.02
5	5 170727G1_6	5.00	3.28	5.20e3	5.84e3	5.78	15.6	2.23
6	6 170727G1_7	10.0	3.28	1.11e4	7.89e3	9.21	-7.9	1.77
7	7 170727G1_8	50.0	3.28	4.46e4	6.09e3	48.2	-3.7	1.83
8	8 170727G1_9	100	3.29	8.84e4	5.71e3	102	1.8	1.94

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Compound name: PFHpA

Correlation coefficient: $r = 0.999666$, $r^2 = 0.999332$

Calibration curve: $1.94658 * x + 0.2548$

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.	%Dev	RRF
1	1 170727G1_2	0.250	3.81	3.78e2	7.45e3	0.195	-22.1	2.54
2	2 170727G1_3	0.500	3.82	8.08e2	8.06e3	0.513	2.6	2.51
3	3 170727G1_4	1.00	3.81	1.65e3	8.77e3	1.08	7.5	2.35
4	4 170727G1_5	2.00	3.81	3.13e3	8.92e3	2.13	6.3	2.20
5	5 170727G1_6	5.00	3.81	7.12e3	8.20e3	5.45	9.0	2.17
6	6 170727G1_7	10.0	3.81	1.60e4	1.05e4	9.60	-4.0	1.89
7	7 170727G1_8	50.0	3.81	6.42e4	8.09e3	50.8	1.7	1.98
8	8 170727G1_9	100	3.81	1.21e5	7.84e3	99.0	-1.0	1.93

Compound name: PFHxS

Correlation coefficient: $r = 0.999617$, $r^2 = 0.999233$

Calibration curve: $1.77848 * x + 0.109682$

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.	%Dev	RRF
1	1 170727G1_2	0.250	3.94	1.62e2	3.88e3	0.232	-7.1	2.09
2	2 170727G1_3	0.500	3.95	4.30e2	4.68e3	0.584	16.7	2.30
3	3 170727G1_4	1.00	3.94	6.02e2	4.35e3	0.911	-8.9	1.73
4	4 170727G1_5	2.00	3.94	1.37e3	4.63e3	2.02	1.2	1.85
5	5 170727G1_6	5.00	3.94	3.35e3	4.52e3	5.15	3.0	1.85
6	6 170727G1_7	10.0	3.94	7.31e3	5.48e3	9.31	-6.9	1.67
7	7 170727G1_8	50.0	3.94	3.04e4	4.15e3	51.4	2.8	1.83
8	8 170727G1_9	100	3.94	5.94e4	4.21e3	99.1	-0.9	1.76

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Compound name: PFOA

Correlation coefficient: $r = 0.998786$, $r^2 = 0.997574$

Calibration curve: $0.797511 * x + 0.0924786$

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

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

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	0.250	4.24	3.42e2	1.63e4	0.213	-15.0	1.05
2	2 170727G1_3	0.500	4.24	7.66e2	1.67e4	0.602	20.4	1.14
3	3 170727G1_4	1.00	4.23	1.34e3	1.73e4	1.10	10.0	0.969
4	4 170727G1_5	2.00	4.24	2.75e3	1.86e4	2.21	10.3	0.926
5	5 170727G1_6	5.00	4.24	7.23e3	1.80e4	6.16	23.3	1.00
6	6 170727G1_7	10.0	4.24	1.44e4	2.24e4	9.96	-0.4	0.804
7	7 170727G1_8	50.0	4.24	5.59e4	1.77e4	49.4	-1.3	0.789
8	8 170727G1_9	100	4.24	1.14e5	1.80e4	99.2	-0.8	0.792

Compound name: PFNA

Coefficient of Determination: $R^2 = 0.999639$

Calibration curve: $-0.00237877 * x^2 + 2.32641 * x + 0.0752635$

Response type: Internal Std (Ref 18), 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.	%Dev	RRF
1	1 170727G1_2	0.250	4.58	2.70e2	4.96e3	0.260	4.1	2.72
2	2 170727G1_3	0.500	4.58	6.08e2	6.55e3	0.466	-6.7	2.32
3	3 170727G1_4	1.00	4.58	1.08e3	5.92e3	0.954	-4.6	2.29
4	4 170727G1_5	2.00	4.58	2.72e3	6.93e3	2.08	4.0	2.45
5	5 170727G1_6	5.00	4.58	6.11e3	6.11e3	5.37	7.3	2.50
6	6 170727G1_7	10.0	4.58	1.31e4	7.36e3	9.60	-4.0	2.22
7	7 170727G1_8	50.0	4.58	6.15e4	6.96e3	50.0	-0.0	2.21
8	8 170727G1_9	100	4.58	1.22e5	7.32e3	100	0.0	2.09

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Compound name: PFOS

Correlation coefficient: $r = 0.999145$, $r^2 = 0.998292$

Calibration curve: $0.470087 * x + 0.0287104$

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

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

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	0.250	4.64	6.12e1	5.46e3	0.237	-5.3	0.560
2	2 170727G1_3	0.500	4.64	1.27e2	6.34e3	0.472	-5.5	0.502
3	3 170727G1_4	1.00	4.64	2.59e2	6.56e3	0.990	-1.0	0.494
4	4 170727G1_5	2.00	4.64	5.73e2	7.61e3	1.94	-2.9	0.471
5	5 170727G1_6	5.00	4.64	1.51e3	7.06e3	5.61	12.2	0.533
6	6 170727G1_7	10.0	4.64	3.08e3	8.09e3	10.1	0.6	0.476
7	7 170727G1_8	50.0	4.64	1.54e4	7.84e3	52.4	4.7	0.493
8	8 170727G1_9	100	4.64	3.11e4	8.50e3	97.1	-2.9	0.457

Compound name: PFDA

Coefficient of Determination: $R^2 = 0.999346$

Calibration curve: $-0.000179878 * x^2 + 0.198072 * x + 0.02746$

Response type: Internal Std (Ref 19), 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.	%Dev	RRF
1	1 170727G1_2	0.250	4.87	4.13e1	8.28e3	0.176	-29.6	0.249
2	2 170727G1_3	0.500	4.87	1.24e2	1.08e4	0.592	18.3	0.289
3	3 170727G1_4	1.00	4.87	1.85e2	1.06e4	0.967	-3.3	0.219
4	4 170727G1_5	2.00	4.87	4.71e2	1.25e4	2.24	11.8	0.235
5	5 170727G1_6	5.00	4.87	9.70e2	1.15e4	5.23	4.5	0.212
6	6 170727G1_7	10.0	4.87	1.93e3	1.22e4	9.95	-0.5	0.198
7	7 170727G1_8	50.0	4.87	1.03e4	1.38e4	49.2	-1.7	0.187
8	8 170727G1_9	100	4.87	2.06e4	1.42e4	100	0.5	0.181

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Compound name: 13C3-PFBA

Response Factor: 1.18261

RRF SD: 0.0351574, Relative SD: 2.97286

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	1.67	2.10e4	1.77e4	12.5	0.2	1.18
2	2 170727G1_3	12.5	1.67	2.27e4	1.84e4	13.1	4.6	1.24
3	3 170727G1_4	12.5	1.67	2.13e4	1.76e4	12.8	2.6	1.21
4	4 170727G1_5	12.5	1.67	2.25e4	1.91e4	12.5	-0.2	1.18
5	5 170727G1_6	12.5	1.67	2.07e4	1.79e4	12.3	-1.9	1.16
6	6 170727G1_7	12.5	1.67	2.55e4	2.11e4	12.8	2.0	1.21
7	7 170727G1_8	12.5	1.67	2.11e4	1.85e4	12.1	-3.5	1.14
8	8 170727G1_9	12.5	1.67	2.19e4	1.93e4	12.0	-3.8	1.14

Compound name: 13C3-PFBS

Response Factor: 0.262761

RRF SD: 0.0164175, Relative SD: 6.24805

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	2.91	4.70e3	1.73e4	12.9	3.2	0.271
2	2 170727G1_3	12.5	2.91	4.48e3	1.90e4	11.2	-10.1	0.236
3	3 170727G1_4	12.5	2.91	4.63e3	1.62e4	13.6	8.6	0.285
4	4 170727G1_5	12.5	2.91	5.33e3	1.95e4	13.0	4.2	0.274
5	5 170727G1_6	12.5	2.91	4.48e3	1.70e4	12.5	0.1	0.263
6	6 170727G1_7	12.5	2.91	5.40e3	2.04e4	12.6	0.8	0.265
7	7 170727G1_8	12.5	2.91	4.38e3	1.64e4	12.7	1.4	0.266
8	8 170727G1_9	12.5	2.91	4.10e3	1.70e4	11.5	-8.1	0.241

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Compound name: 13C3-PFPeA

Response Factor: 0.446443

RRF SD: 0.0151073, Relative SD: 3.38392

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	2.63	7.64e3	1.73e4	12.3	-1.2	0.441
2	2 170727G1_3	12.5	2.63	8.33e3	1.90e4	12.3	-1.6	0.439
3	3 170727G1_4	12.5	2.63	7.75e3	1.62e4	13.4	7.0	0.478
4	4 170727G1_5	12.5	2.63	8.54e3	1.95e4	12.3	-1.6	0.439
5	5 170727G1_6	12.5	2.63	7.82e3	1.70e4	12.9	2.9	0.459
6	6 170727G1_7	12.5	2.63	9.10e3	2.04e4	12.5	-0.1	0.446
7	7 170727G1_8	12.5	2.63	7.23e3	1.64e4	12.3	-1.5	0.440
8	8 170727G1_9	12.5	2.62	7.31e3	1.70e4	12.0	-3.7	0.430

Compound name: 13C2-PFHxA

Response Factor: 0.360561

RRF SD: 0.0226683, Relative SD: 6.28695

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	3.28	5.77e3	1.73e4	11.5	-7.6	0.333
2	2 170727G1_3	12.5	3.28	7.04e3	1.90e4	12.9	3.0	0.372
3	3 170727G1_4	12.5	3.28	6.35e3	1.62e4	13.6	8.6	0.391
4	4 170727G1_5	12.5	3.28	6.86e3	1.95e4	12.2	-2.2	0.353
5	5 170727G1_6	12.5	3.28	5.84e3	1.70e4	11.9	-5.0	0.343
6	6 170727G1_7	12.5	3.28	7.89e3	2.04e4	13.4	7.3	0.387
7	7 170727G1_8	12.5	3.28	6.09e3	1.64e4	12.8	2.7	0.370
8	8 170727G1_9	12.5	3.28	5.71e3	1.70e4	11.6	-6.8	0.336

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Compound name: 13C4-PFHpA

Response Factor: 0.475457

RRF SD: 0.0400935, Relative SD: 8.43262

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	3.81	7.45e3	1.73e4	11.3	-9.6	0.430
2	2 170727G1_3	12.5	3.81	8.06e3	1.90e4	11.2	-10.6	0.425
3	3 170727G1_4	12.5	3.81	8.77e3	1.62e4	14.2	13.6	0.540
4	4 170727G1_5	12.5	3.81	8.92e3	1.95e4	12.0	-3.6	0.458
5	5 170727G1_6	12.5	3.81	8.20e3	1.70e4	12.7	1.2	0.481
6	6 170727G1_7	12.5	3.81	1.05e4	2.04e4	13.6	8.5	0.516
7	7 170727G1_8	12.5	3.81	8.09e3	1.64e4	12.9	3.4	0.492
8	8 170727G1_9	12.5	3.81	7.84e3	1.70e4	12.1	-3.0	0.461

Compound name: 18O2-PFHxS

Response Factor: 0.41062

RRF SD: 0.0152633, Relative SD: 3.71715

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	3.94	3.88e3	9.33e3	12.7	1.3	0.416
2	2 170727G1_3	12.5	3.94	4.68e3	1.09e4	13.1	4.9	0.431
3	3 170727G1_4	12.5	3.94	4.35e3	1.09e4	12.1	-3.3	0.397
4	4 170727G1_5	12.5	3.94	4.63e3	1.19e4	11.8	-5.4	0.388
5	5 170727G1_6	12.5	3.94	4.52e3	1.07e4	12.8	2.7	0.422
6	6 170727G1_7	12.5	3.94	5.48e3	1.30e4	12.8	2.5	0.421
7	7 170727G1_8	12.5	3.94	4.15e3	1.05e4	12.0	-3.9	0.395
8	8 170727G1_9	12.5	3.94	4.21e3	1.01e4	12.6	1.1	0.415

Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

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Compound name: 13C2-PFOA

Response Factor: 2.84292

RRF SD: 0.169045, Relative SD: 5.94617

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	4.23	1.63e4	5.56e3	12.9	3.2	2.94
2	2 170727G1_3	12.5	4.24	1.67e4	6.24e3	11.8	-5.6	2.68
3	3 170727G1_4	12.5	4.24	1.73e4	6.06e3	12.5	0.3	2.85
4	4 170727G1_5	12.5	4.24	1.86e4	6.19e3	13.2	5.6	3.00
5	5 170727G1_6	12.5	4.23	1.80e4	5.76e3	13.8	10.1	3.13
6	6 170727G1_7	12.5	4.24	2.24e4	8.45e3	11.6	-7.0	2.64
7	7 170727G1_8	12.5	4.24	1.77e4	6.39e3	12.2	-2.5	2.77
8	8 170727G1_9	12.5	4.24	1.80e4	6.59e3	12.0	-4.1	2.73

Compound name: 13C5-PFNA

Response Factor: 0.853546

RRF SD: 0.0383372, Relative SD: 4.49152

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	4.58	4.96e3	5.69e3	12.8	2.1	0.872
2	2 170727G1_3	12.5	4.58	6.55e3	7.13e3	13.5	7.6	0.919
3	3 170727G1_4	12.5	4.58	5.92e3	7.07e3	12.3	-1.9	0.838
4	4 170727G1_5	12.5	4.58	6.93e3	8.26e3	12.3	-1.7	0.839
5	5 170727G1_6	12.5	4.57	6.11e3	6.89e3	13.0	3.8	0.886
6	6 170727G1_7	12.5	4.58	7.36e3	9.28e3	11.6	-7.0	0.794
7	7 170727G1_8	12.5	4.58	6.96e3	8.18e3	12.5	-0.3	0.851
8	8 170727G1_9	12.5	4.58	7.32e3	8.82e3	12.2	-2.8	0.830

Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

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Compound name: 13C2-PFDA

Response Factor: 1.74189

RRF SD: 0.0344803, Relative SD: 1.97948

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	4.87	8.28e3	4.70e3	12.6	1.0	1.76
2	2 170727G1_3	12.5	4.87	1.08e4	6.26e3	12.3	-1.4	1.72
3	3 170727G1_4	12.5	4.87	1.06e4	6.00e3	12.7	1.3	1.76
4	4 170727G1_5	12.5	4.87	1.25e4	7.21e3	12.5	-0.1	1.74
5	5 170727G1_6	12.5	4.87	1.15e4	6.64e3	12.4	-0.8	1.73
6	6 170727G1_7	12.5	4.87	1.22e4	7.25e3	12.0	-3.7	1.68
7	7 170727G1_8	12.5	4.87	1.38e4	7.73e3	12.8	2.8	1.79
8	8 170727G1_9	12.5	4.87	1.42e4	8.08e3	12.6	0.9	1.76

Compound name: 13C8-PFOS

Response Factor: 0.927146

RRF SD: 0.0309514, Relative SD: 3.33836

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	4.64	5.46e3	6.02e3	12.2	-2.1	0.907
2	2 170727G1_3	12.5	4.64	6.34e3	6.85e3	12.5	-0.1	0.927
3	3 170727G1_4	12.5	4.64	6.56e3	7.35e3	12.0	-3.7	0.893
4	4 170727G1_5	12.5	4.64	7.61e3	8.50e3	12.1	-3.4	0.895
5	5 170727G1_6	12.5	4.64	7.06e3	7.46e3	12.8	2.1	0.947
6	6 170727G1_7	12.5	4.64	8.09e3	8.74e3	12.5	-0.2	0.925
7	7 170727G1_8	12.5	4.64	7.84e3	8.39e3	12.6	0.7	0.934
8	8 170727G1_9	12.5	4.64	8.50e3	8.61e3	13.3	6.6	0.988

Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

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Compound name: 13C4-PFBA

Response Factor: 1

RRF SD: 0, Relative SD: 0

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	1.66	1.77e4	1.77e4	12.5	0.0	1.00
2	2 170727G1_3	12.5	1.67	1.84e4	1.84e4	12.5	0.0	1.00
3	3 170727G1_4	12.5	1.67	1.76e4	1.76e4	12.5	0.0	1.00
4	4 170727G1_5	12.5	1.67	1.91e4	1.91e4	12.5	0.0	1.00
5	5 170727G1_6	12.5	1.68	1.79e4	1.79e4	12.5	0.0	1.00
6	6 170727G1_7	12.5	1.67	2.11e4	2.11e4	12.5	0.0	1.00
7	7 170727G1_8	12.5	1.67	1.85e4	1.85e4	12.5	0.0	1.00
8	8 170727G1_9	12.5	1.67	1.93e4	1.93e4	12.5	0.0	1.00

Compound name: 13C5-PFHxA

Response Factor: 1

RRF SD: 0, Relative SD: 0

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	3.28	1.73e4	1.73e4	12.5	0.0	1.00
2	2 170727G1_3	12.5	3.28	1.90e4	1.90e4	12.5	0.0	1.00
3	3 170727G1_4	12.5	3.28	1.62e4	1.62e4	12.5	0.0	1.00
4	4 170727G1_5	12.5	3.28	1.95e4	1.95e4	12.5	0.0	1.00
5	5 170727G1_6	12.5	3.28	1.70e4	1.70e4	12.5	0.0	1.00
6	6 170727G1_7	12.5	3.28	2.04e4	2.04e4	12.5	0.0	1.00
7	7 170727G1_8	12.5	3.28	1.64e4	1.64e4	12.5	0.0	1.00
8	8 170727G1_9	12.5	3.28	1.70e4	1.70e4	12.5	0.0	1.00

Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

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Compound name: 13C3-PFHxS

Response Factor: 1

RRF SD: 0, Relative SD: 0

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	3.94	9.33e3	9.33e3	12.5	0.0	1.00
2	2 170727G1_3	12.5	3.94	1.09e4	1.09e4	12.5	0.0	1.00
3	3 170727G1_4	12.5	3.94	1.09e4	1.09e4	12.5	0.0	1.00
4	4 170727G1_5	12.5	3.94	1.19e4	1.19e4	12.5	0.0	1.00
5	5 170727G1_6	12.5	3.94	1.07e4	1.07e4	12.5	0.0	1.00
6	6 170727G1_7	12.5	3.94	1.30e4	1.30e4	12.5	0.0	1.00
7	7 170727G1_8	12.5	3.94	1.05e4	1.05e4	12.5	0.0	1.00
8	8 170727G1_9	12.5	3.94	1.01e4	1.01e4	12.5	0.0	1.00

Compound name: 13C8-PFOA

Response Factor: 1

RRF SD: 0, Relative SD: 0

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170727G1_2	12.5	4.23	5.56e3	5.56e3	12.5	0.0	1.00
2	2 170727G1_3	12.5	4.24	6.24e3	6.24e3	12.5	0.0	1.00
3	3 170727G1_4	12.5	4.23	6.06e3	6.06e3	12.5	0.0	1.00
4	4 170727G1_5	12.5	4.23	6.19e3	6.19e3	12.5	0.0	1.00
5	5 170727G1_6	12.5	4.23	5.76e3	5.76e3	12.5	0.0	1.00
6	6 170727G1_7	12.5	4.24	8.45e3	8.45e3	12.5	0.0	1.00
7	7 170727G1_8	12.5	4.24	6.39e3	6.39e3	12.5	0.0	1.00
8	8 170727G1_9	12.5	4.24	6.59e3	6.59e3	12.5	0.0	1.00

Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

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Compound name: 13C9-PFNA

Response Factor: 1

RRF SD: 4.19625e-017, Relative SD: 4.19625e-015

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc	%Dev	RRF
1	1 170727G1_2	12.5	4.57	5.69e3	5.69e3	12.5	0.0	1.00
2	2 170727G1_3	12.5	4.58	7.13e3	7.13e3	12.5	0.0	1.00
3	3 170727G1_4	12.5	4.58	7.07e3	7.07e3	12.5	0.0	1.00
4	4 170727G1_5	12.5	4.58	8.26e3	8.26e3	12.5	0.0	1.00
5	5 170727G1_6	12.5	4.57	6.89e3	6.89e3	12.5	-0.0	1.00
6	6 170727G1_7	12.5	4.58	9.28e3	9.28e3	12.5	0.0	1.00
7	7 170727G1_8	12.5	4.58	8.18e3	8.18e3	12.5	0.0	1.00
8	8 170727G1_9	12.5	4.57	8.82e3	8.82e3	12.5	0.0	1.00

Compound name: 13C4-PFOS

Response Factor: 1

RRF SD: 5.93439e-017, Relative SD: 5.93439e-015

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc	%Dev	RRF
1	1 170727G1_2	12.5	4.64	6.02e3	6.02e3	12.5	0.0	1.00
2	2 170727G1_3	12.5	4.64	6.85e3	6.85e3	12.5	0.0	1.00
3	3 170727G1_4	12.5	4.64	7.35e3	7.35e3	12.5	0.0	1.00
4	4 170727G1_5	12.5	4.64	8.50e3	8.50e3	12.5	0.0	1.00
5	5 170727G1_6	12.5	4.64	7.46e3	7.46e3	12.5	0.0	1.00
6	6 170727G1_7	12.5	4.64	8.74e3	8.74e3	12.5	-0.0	1.00
7	7 170727G1_8	12.5	4.64	8.39e3	8.39e3	12.5	-0.0	1.00
8	8 170727G1_9	12.5	4.64	8.61e3	8.61e3	12.5	0.0	1.00

Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

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Compound name: 13C6-PFDA

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.	%Dev	RRF
1	1 170727G1_2	12.5	4.87	4.70e3	4.70e3	12.5	0.0	1.00
2	2 170727G1_3	12.5	4.87	6.26e3	6.26e3	12.5	0.0	1.00
3	3 170727G1_4	12.5	4.87	6.00e3	6.00e3	12.5	0.0	1.00
4	4 170727G1_5	12.5	4.87	7.21e3	7.21e3	12.5	0.0	1.00
5	5 170727G1_6	12.5	4.87	6.64e3	6.64e3	12.5	0.0	1.00
6	6 170727G1_7	12.5	4.87	7.25e3	7.25e3	12.5	0.0	1.00
7	7 170727G1_8	12.5	4.87	7.73e3	7.73e3	12.5	0.0	1.00
8	8 170727G1_9	12.5	4.87	8.08e3	8.08e3	12.5	0.0	1.00

Dataset: Untitled

Last Altered: Thursday, July 27, 2017 15:00:56 Pacific Daylight Time

Printed: Thursday, July 27, 2017 15:01:11 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170727G1_1	IPA	27-Jul-17	11:32:09
2	170727G1_2	ST170727G1-1 PFC CS-2 17G2714	27-Jul-17	11:44:22
3	170727G1_3	ST170727G1-2 PFC CS-1 17G2715	27-Jul-17	11:56:54
4	170727G1_4	ST170727G1-3 PFC CS0 17G2716	27-Jul-17	12:09:31
5	170727G1_5	ST170727G1-4 PFC CS1 17G2717	27-Jul-17	12:21:58
6	170727G1_6	ST170727G1-5 PFC CS2 17G2718	27-Jul-17	12:34:32
7	170727G1_7	ST170727G1-6 PFC CS3 17G2719	27-Jul-17	12:47:11
8	170727G1_8	ST170727G1-7 PFC CS4 17G2720	27-Jul-17	12:59:35
9	170727G1_9	ST170727G1-8 PFC CS5 17G2721	27-Jul-17	13:12:08
10	170727G1_10	IPA	27-Jul-17	13:24:41
11	170727G1_11	SS170727G1-1 PFC SSS 17G2713	27-Jul-17	13:37:14
12	170727G1_12	IPA	27-Jul-17	13:49:43

Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

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Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

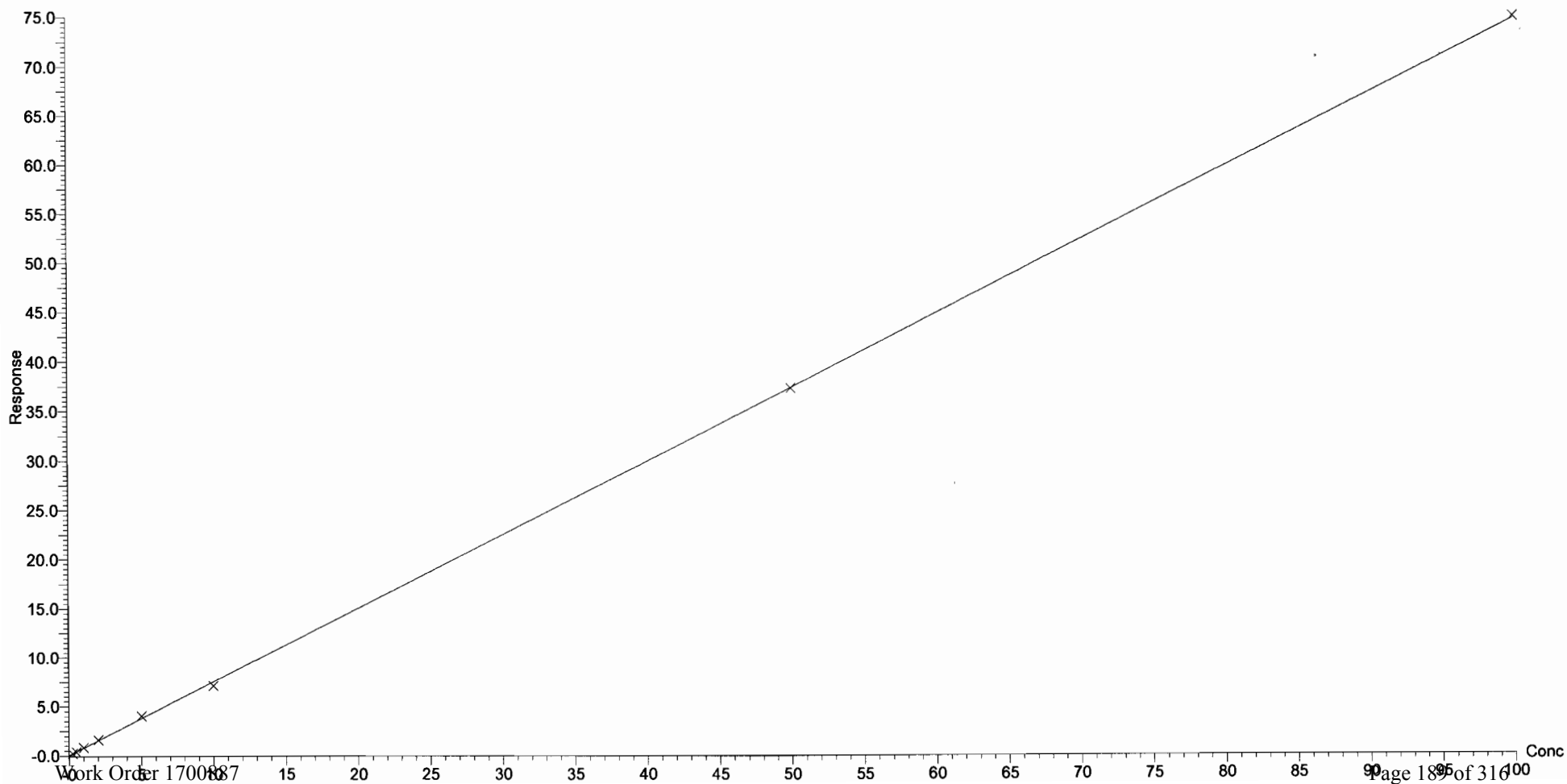
Compound name: PFBA

Correlation coefficient: $r = 0.999824$, $r^2 = 0.999647$

Calibration curve: $0.747533 * x + 0.048007$

Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)

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



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

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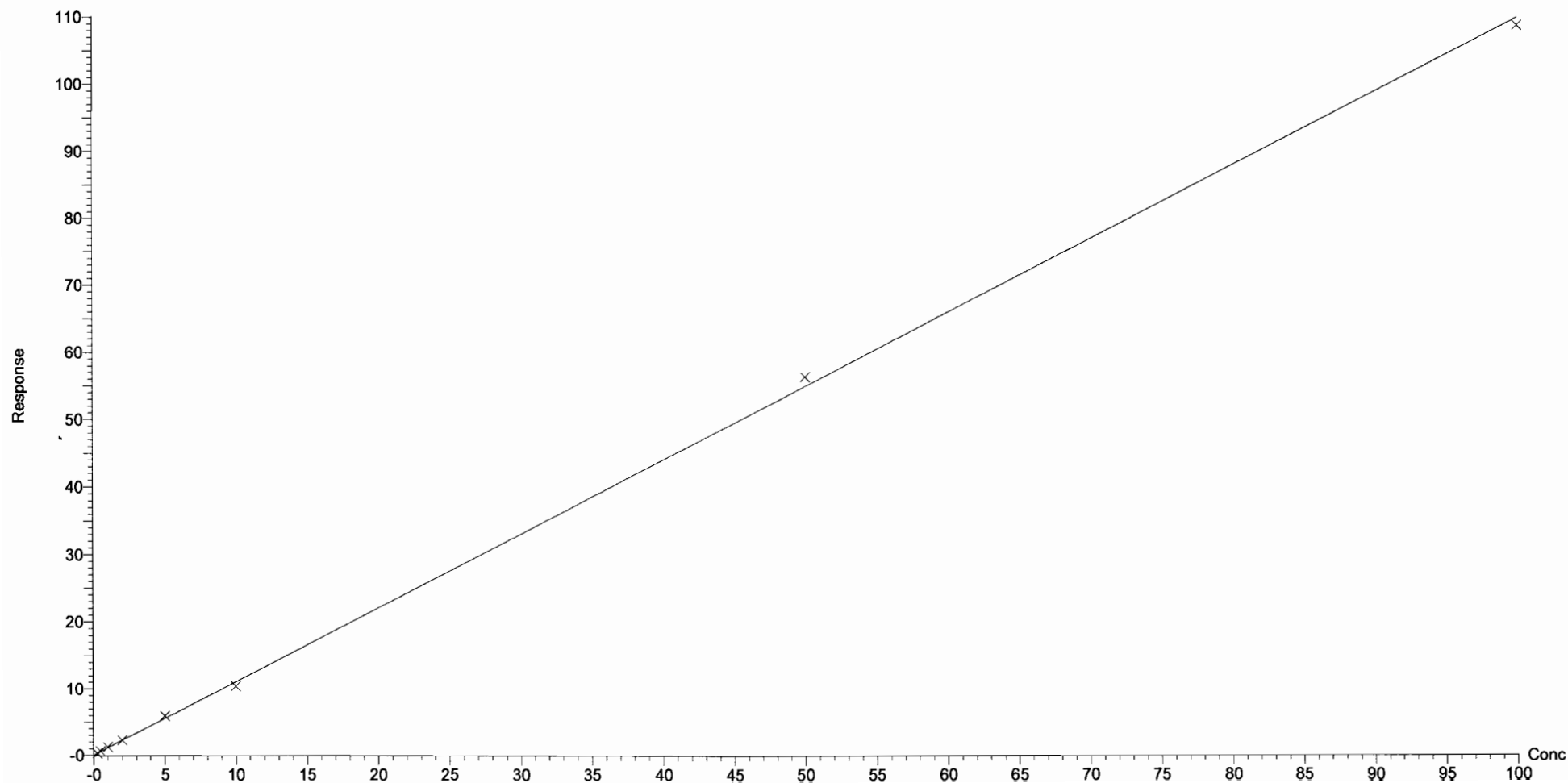
Compound name: PFPeA

Correlation coefficient: $r = 0.999667$, $r^2 = 0.999334$

Calibration curve: $1.10054 * x + 0.0486908$

Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)

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



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

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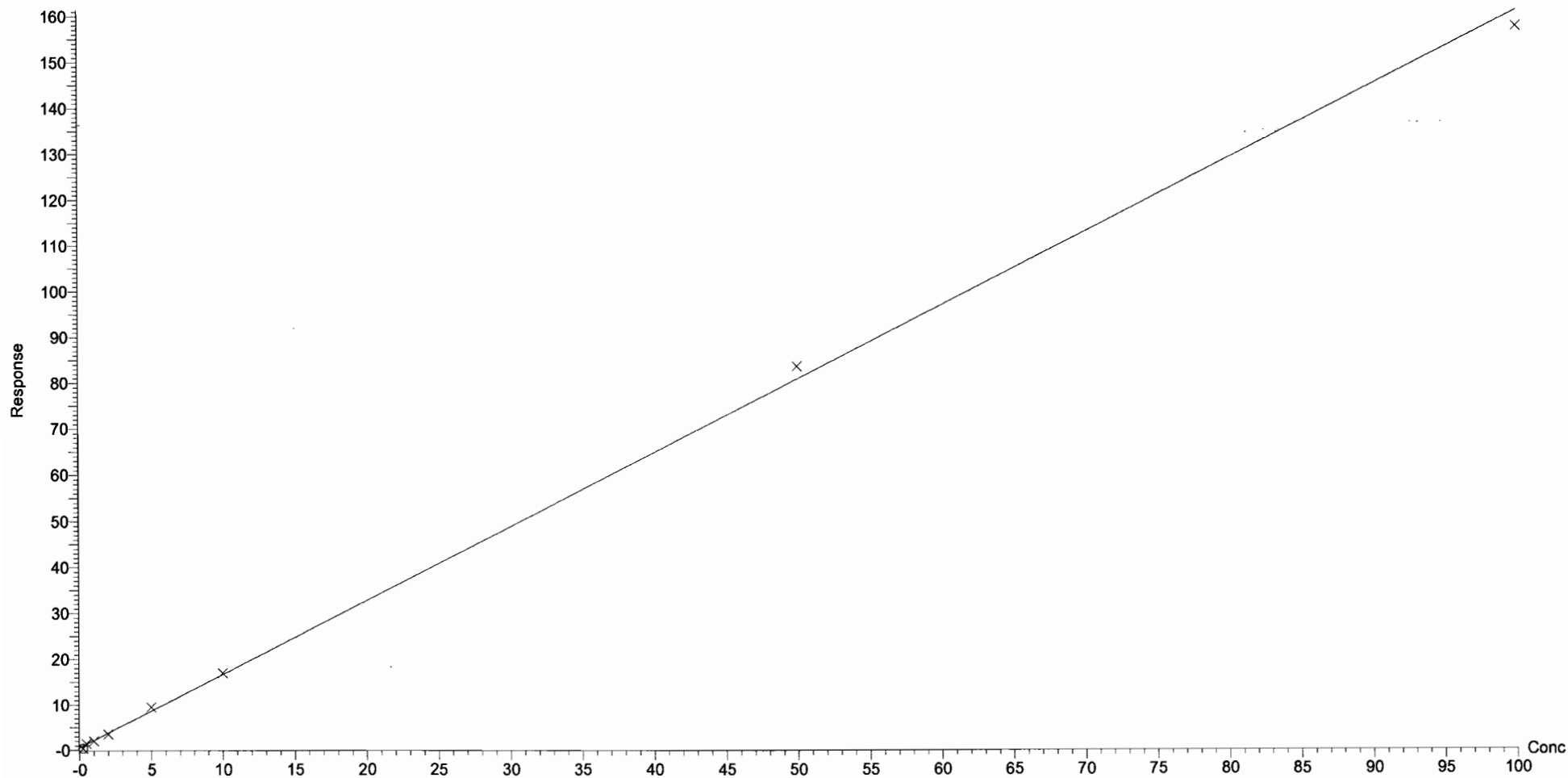
Compound name: PFBS

Correlation coefficient: $r = 0.999365$, $r^2 = 0.998731$

Calibration curve: $1.60766 * x + 0.593256$

Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)

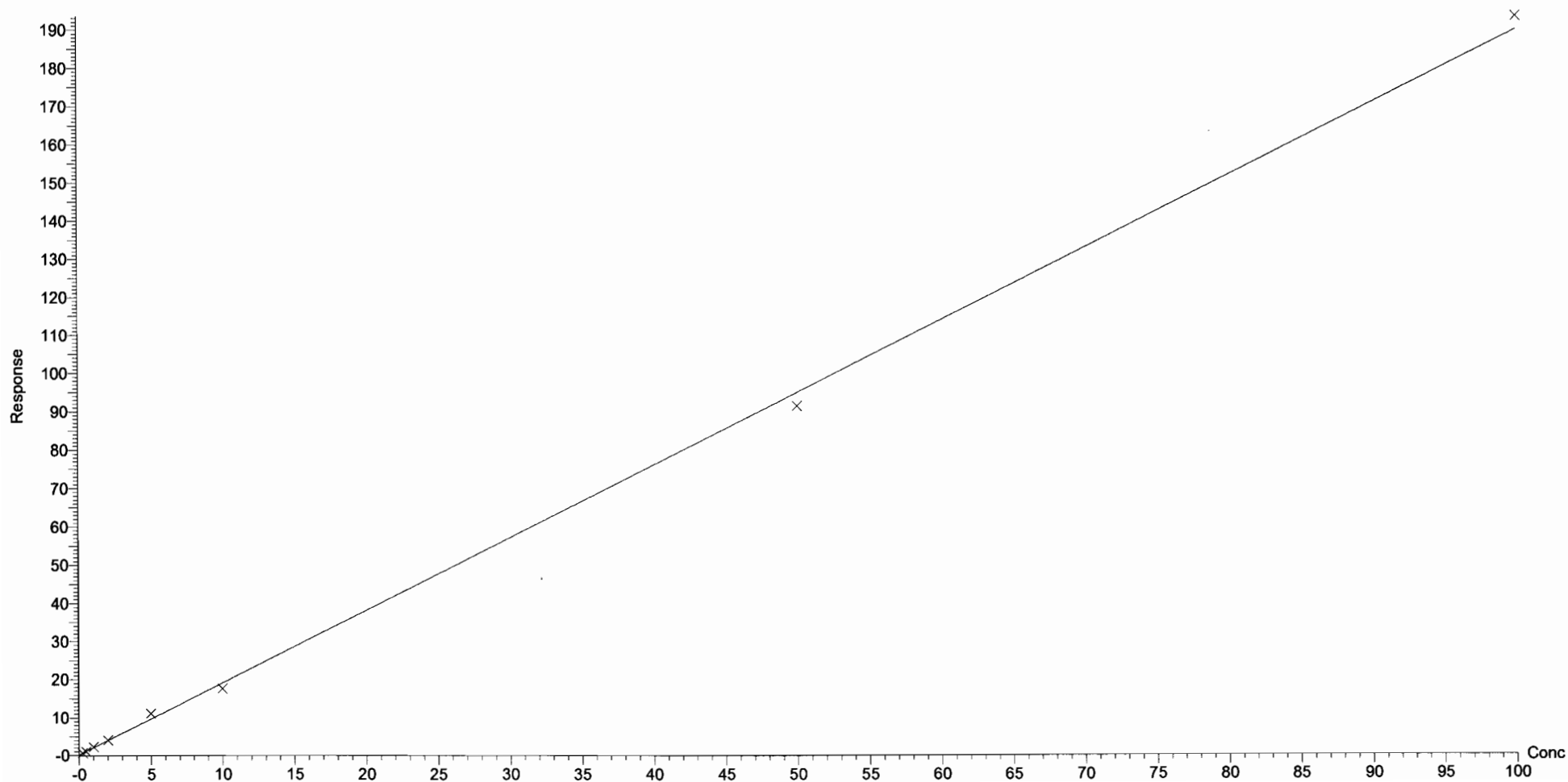
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

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Compound name: PFHxA
Correlation coefficient: $r = 0.999065$, $r^2 = 0.998131$
Calibration curve: $1.89981 * x + 0.153363$
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\2017\170727G1\170727G1-CRV.qld

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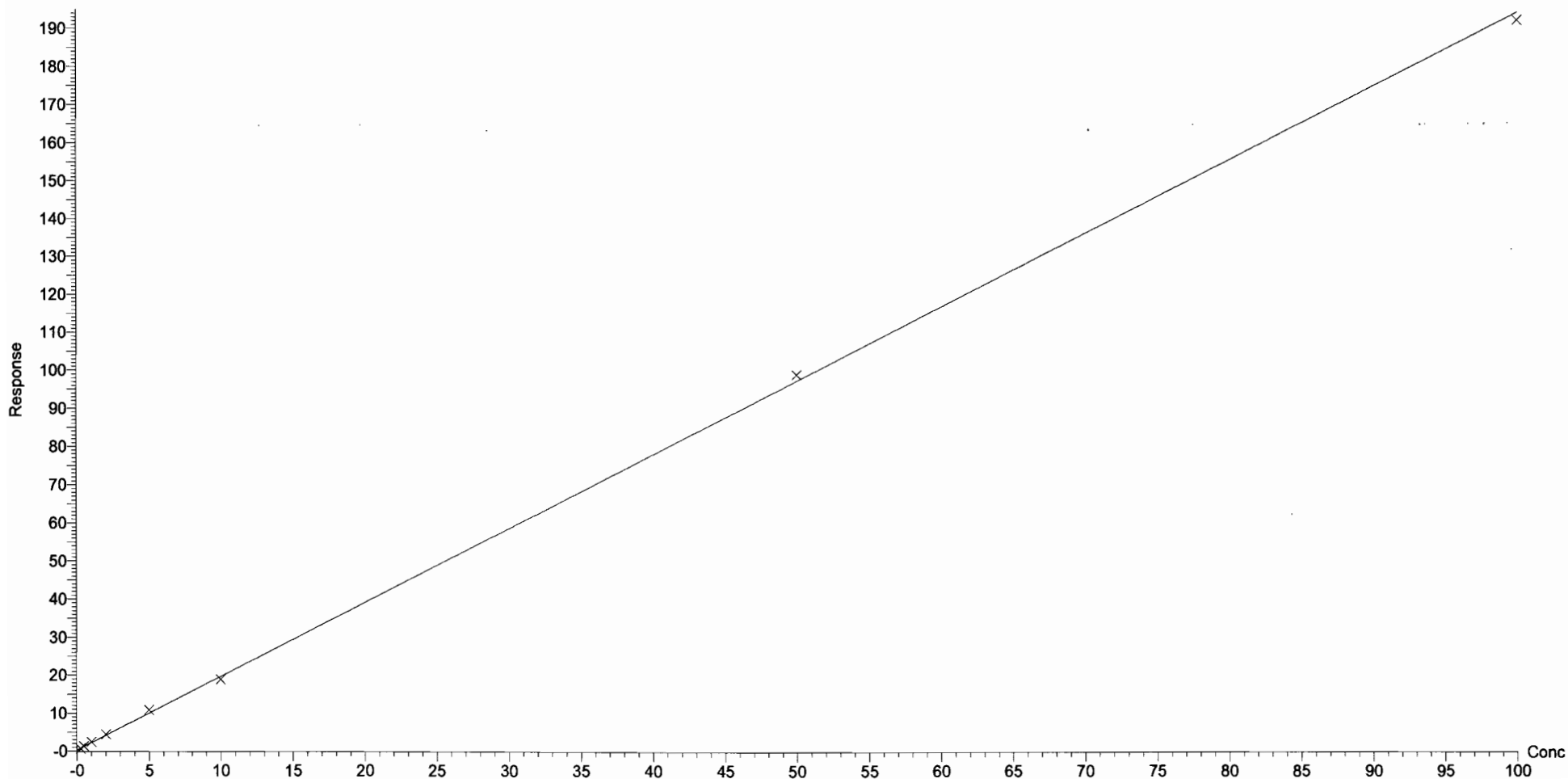
Compound name: PFHpA

Correlation coefficient: $r = 0.999666$, $r^2 = 0.999332$

Calibration curve: $1.94658 * x + 0.2548$

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\2017\170727G1\170727G1-CRV.qld

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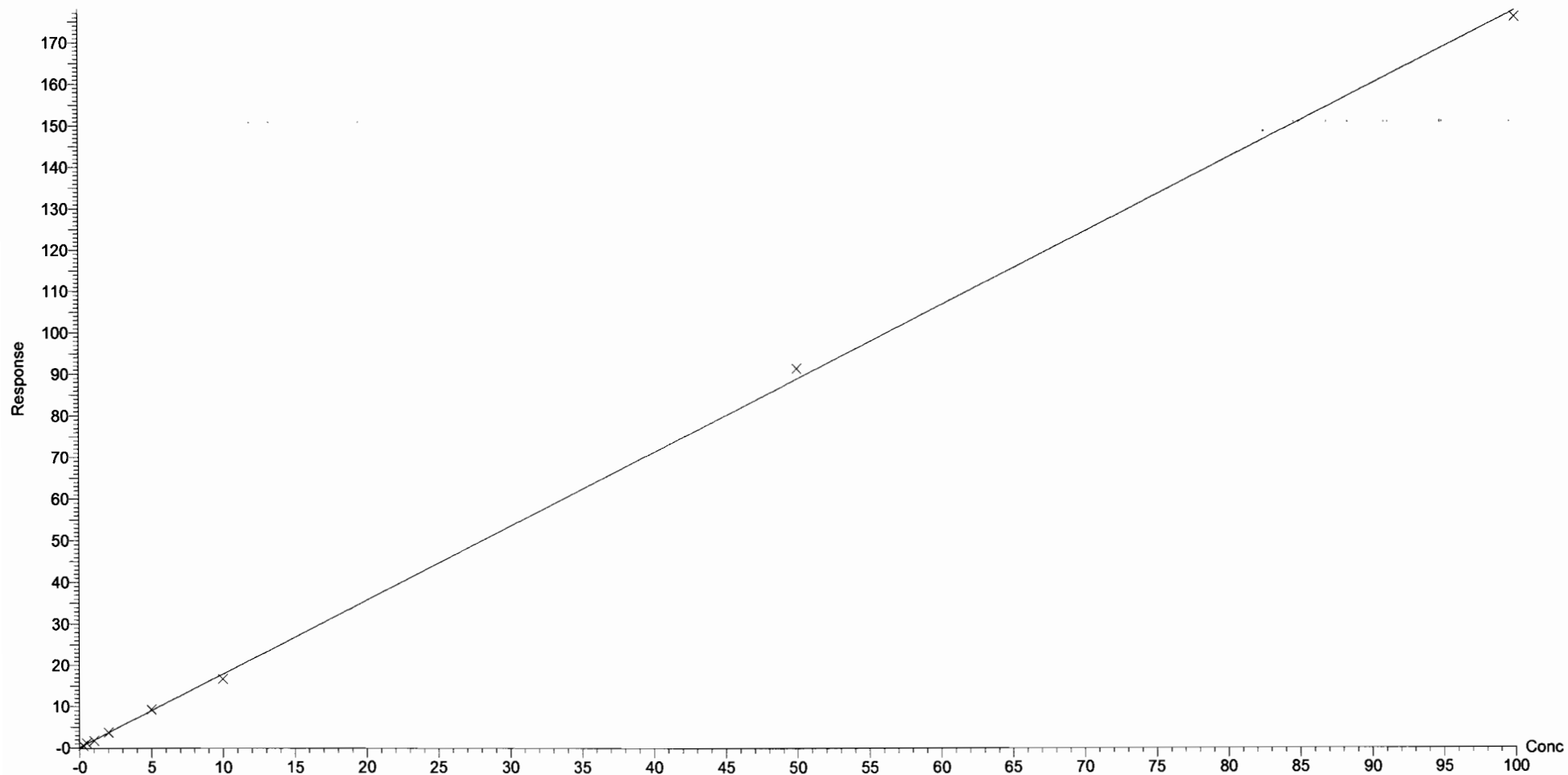
Compound name: PFHxS

Correlation coefficient: $r = 0.999617$, $r^2 = 0.999233$

Calibration curve: $1.77848 * x + 0.109682$

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\2017\170727G1\170727G1-CRV.qld

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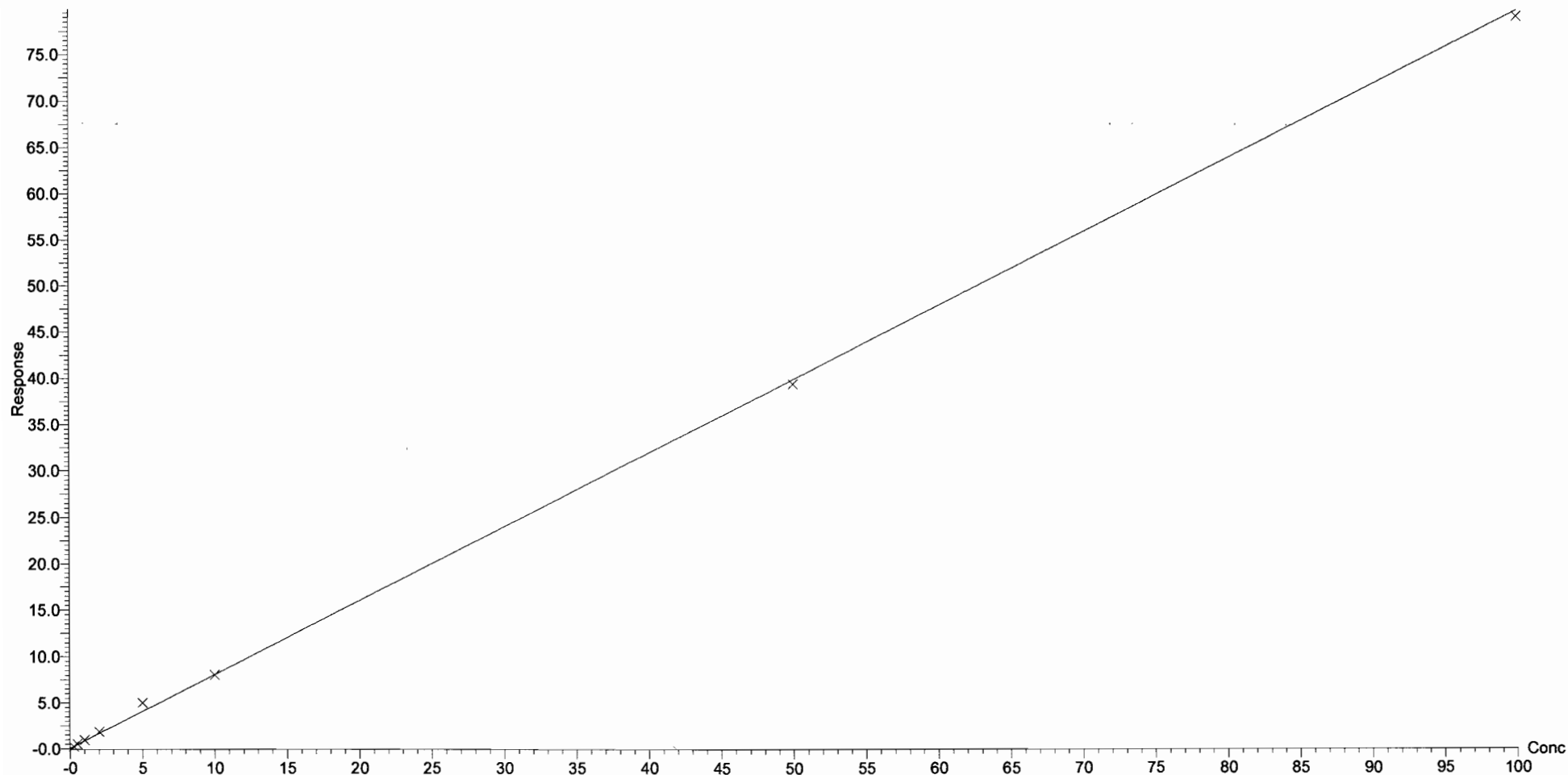
Compound name: PFOA

Correlation coefficient: $r = 0.998786$, $r^2 = 0.997574$

Calibration curve: $0.797511 * x + 0.0924786$

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

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



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:52:38 Pacific Daylight Time

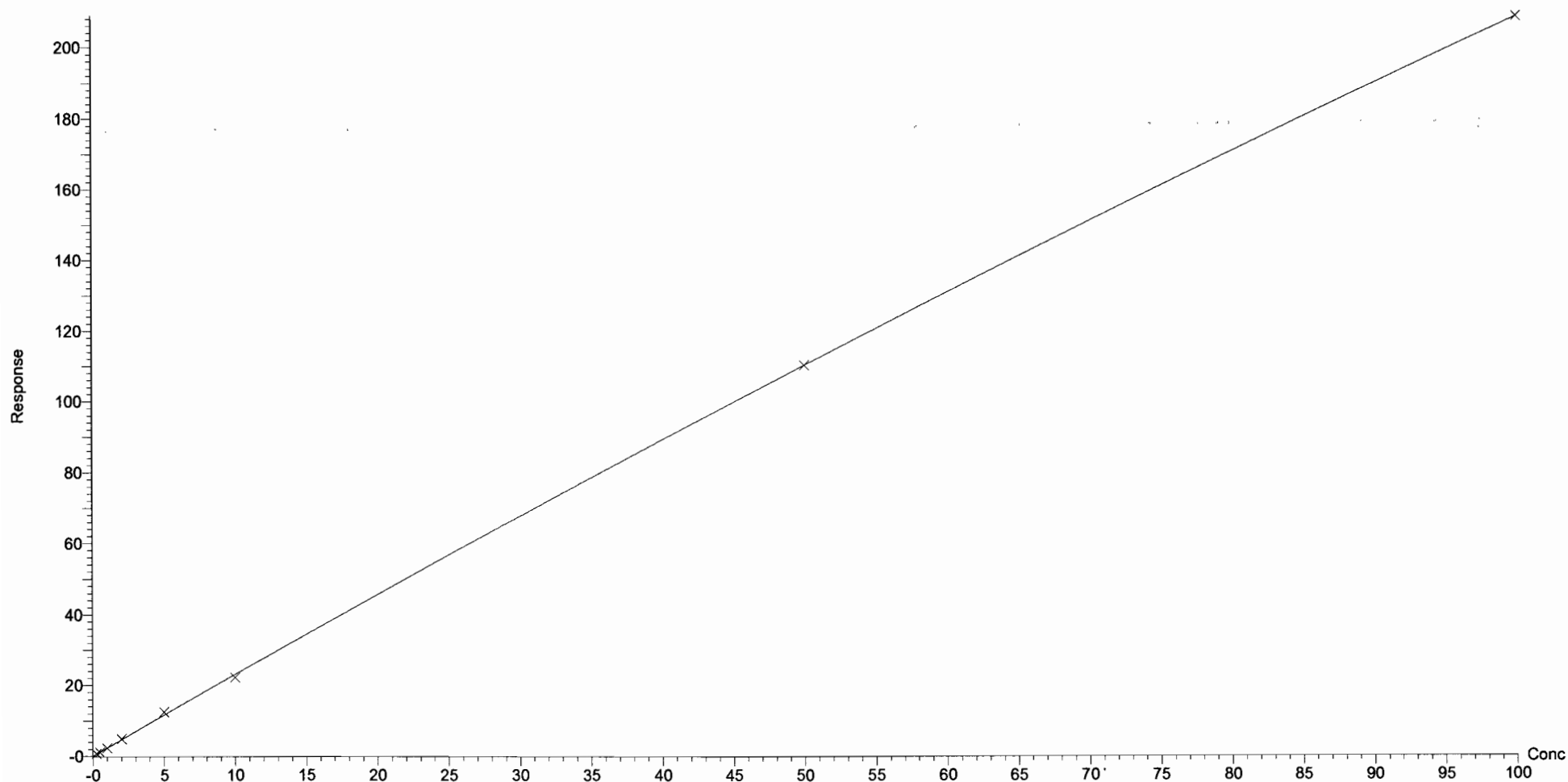
Compound name: PFNA

Coefficient of Determination: $R^2 = 0.999639$

Calibration curve: $-0.00237877 * x^2 + 2.32641 * x + 0.0752635$

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

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



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:52:38 Pacific Daylight Time

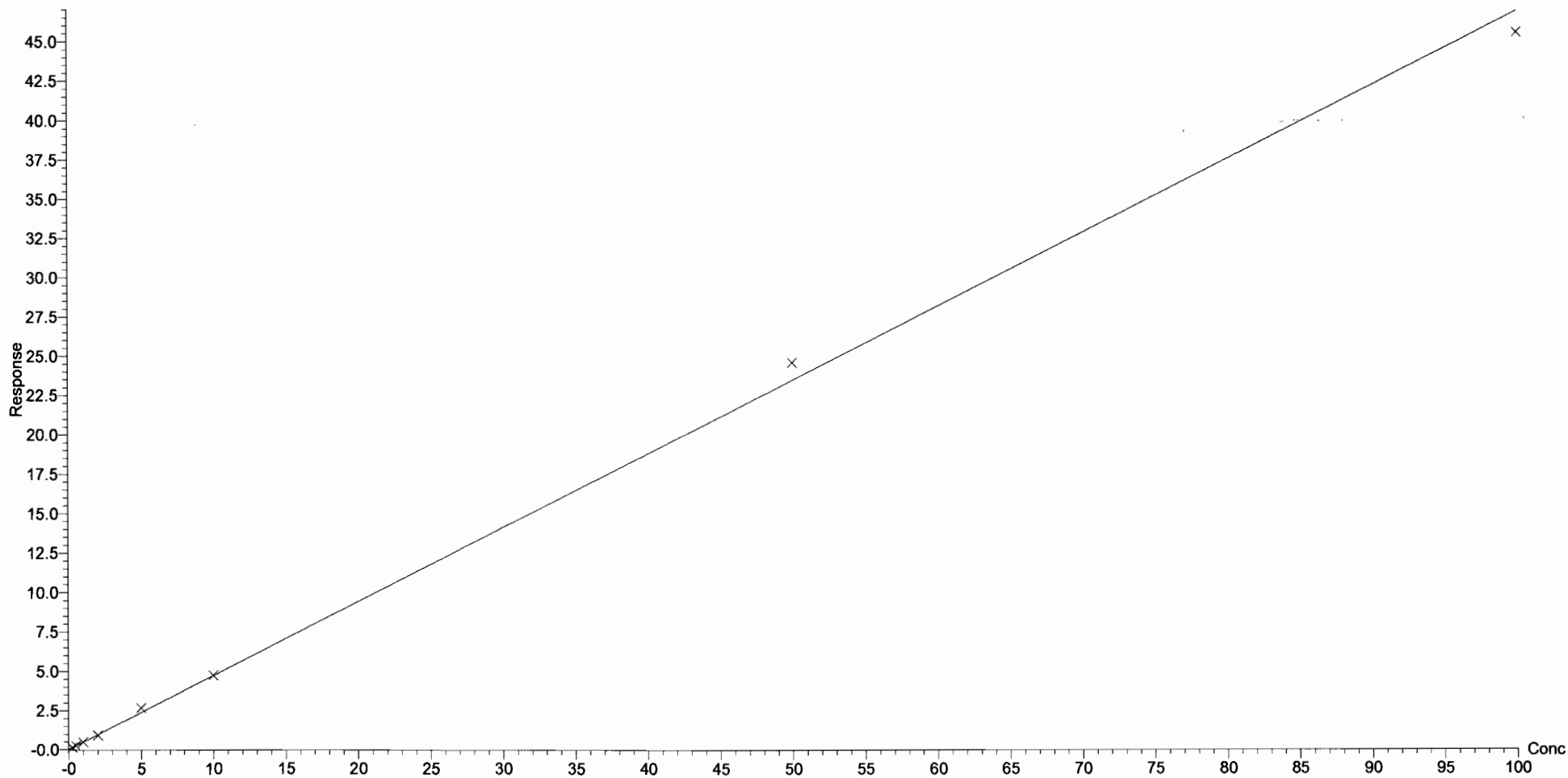
Compound name: PFOS

Correlation coefficient: $r = 0.999145$, $r^2 = 0.998292$

Calibration curve: $0.470087 * x + 0.0287104$

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

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



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:52:38 Pacific Daylight Time

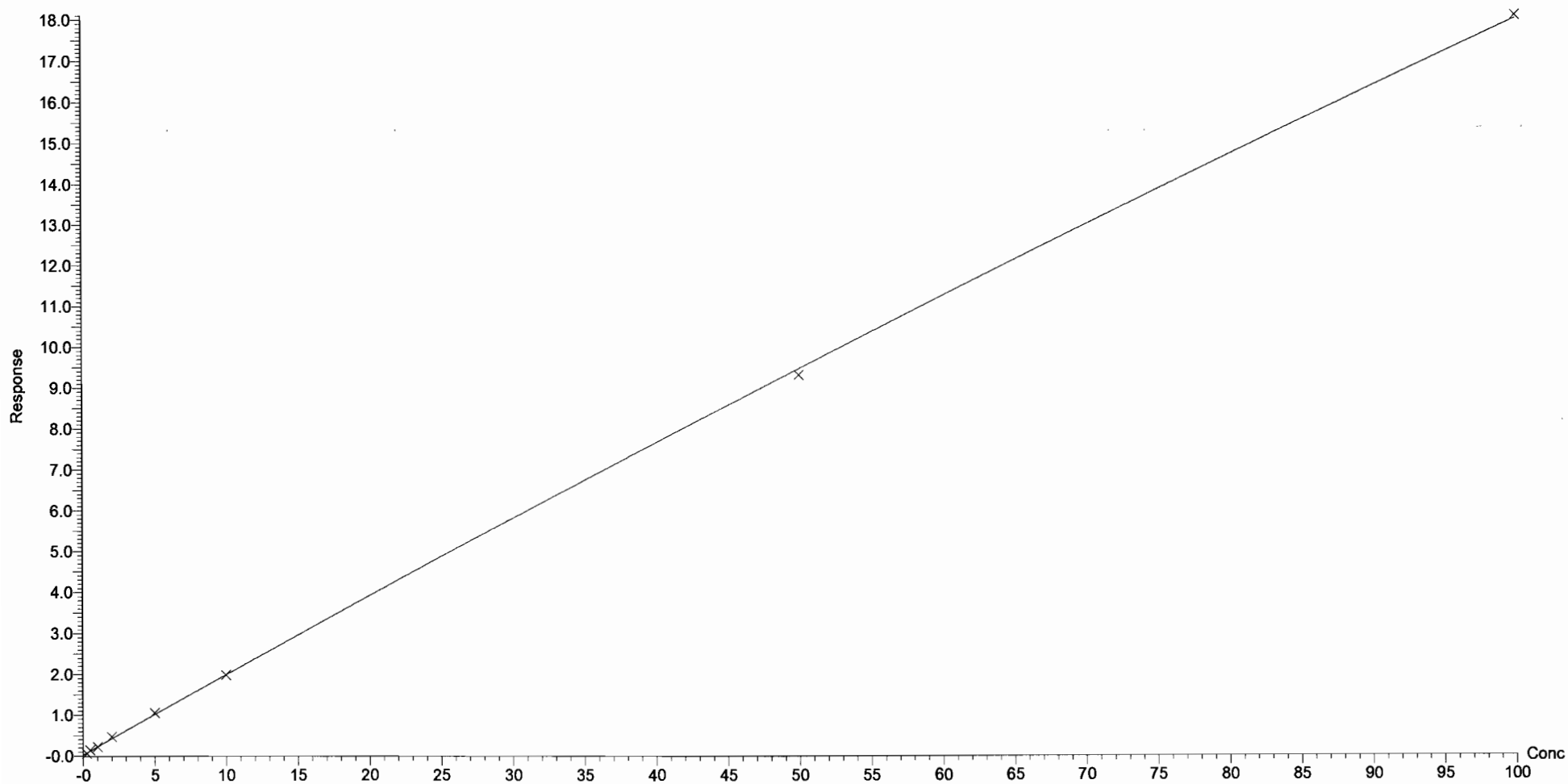
Compound name: PFDA

Coefficient of Determination: $R^2 = 0.999346$

Calibration curve: $-0.000179878 * x^2 + 0.198072 * x + 0.02746$

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

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



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

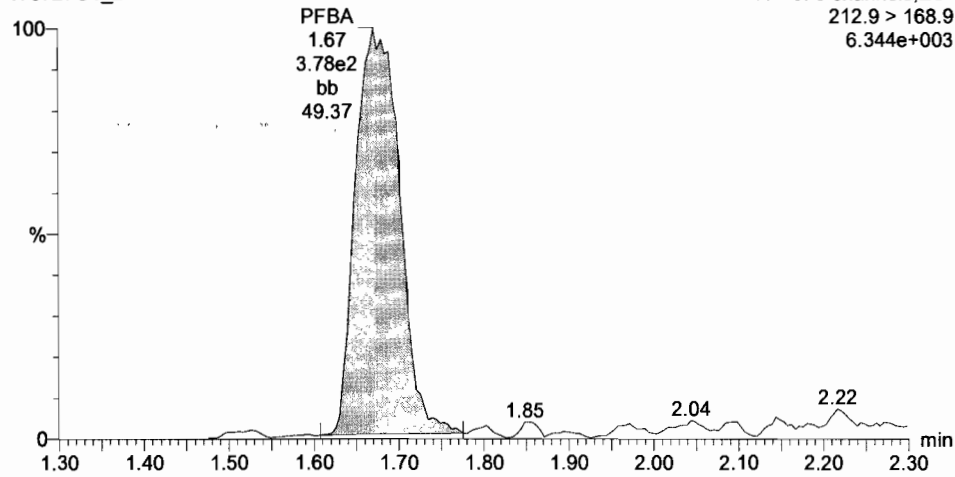
Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: ST170727G1-1 PFC CS-2 17G2714, Description: PFC CS-2 17G2714 A, Name: 170727G1_2, Date: 27-Jul-2017, Time: 11:44:22, Instrument: , Lab: , User:

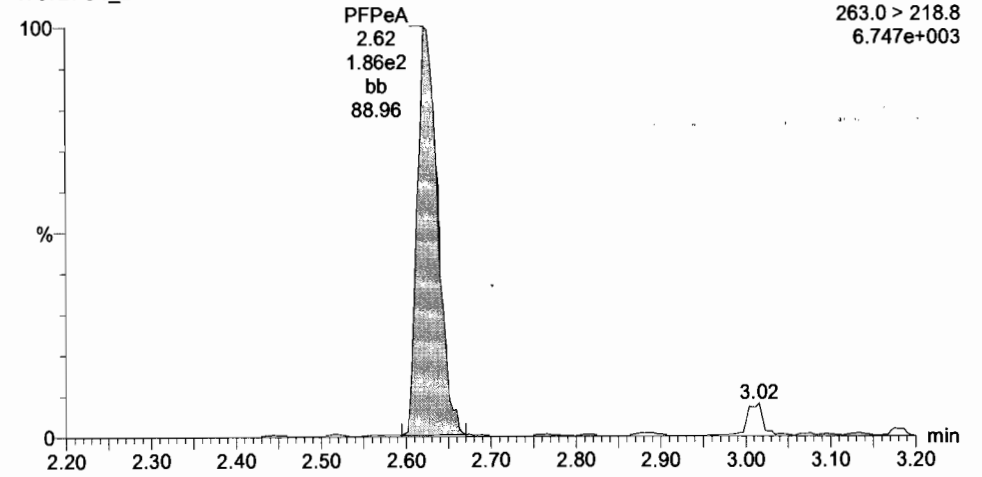
PFBA

170727G1_2



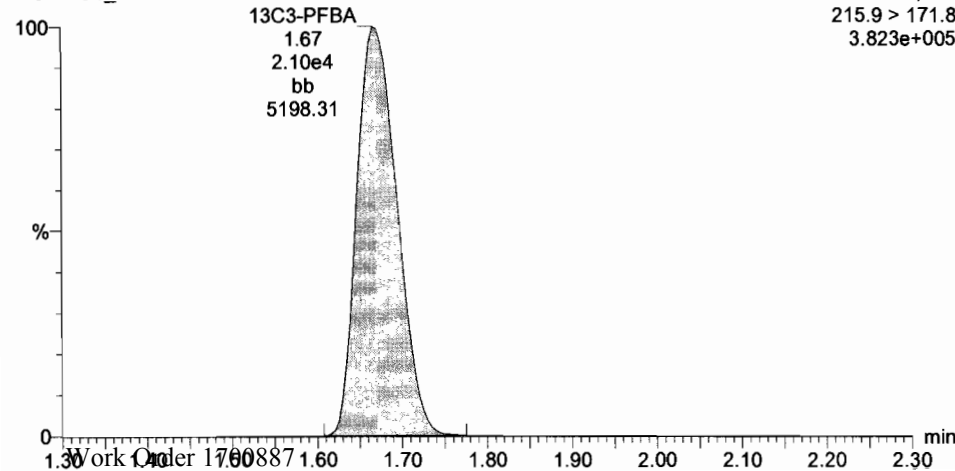
PFPeA

170727G1_2



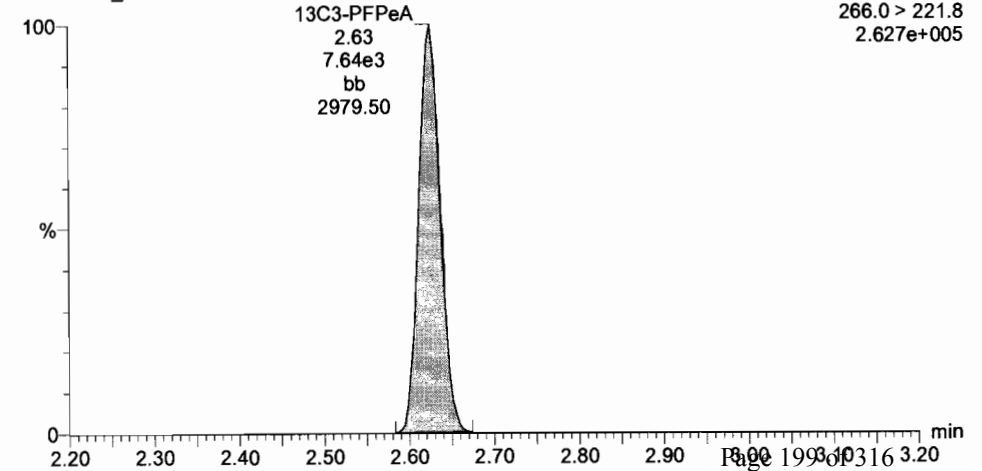
13C3-PFBA

170727G1_2



13C3-PFPeA

170727G1_2



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

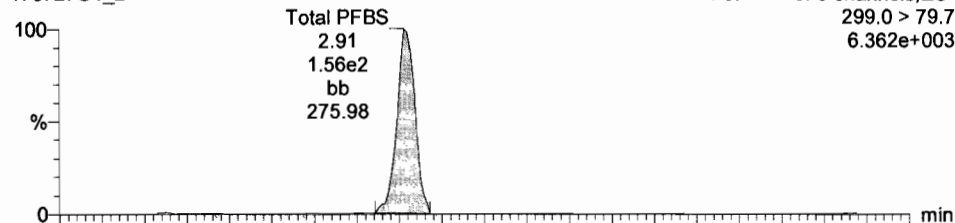
Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-1 PFC CS-2 17G2714, Description: PFC CS-2 17G2714 A, Name: 170727G1_2, Date: 27-Jul-2017, Time: 11:44:22, Instrument: , Lab: , User:

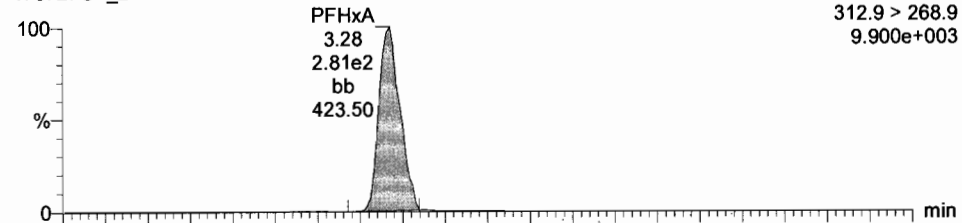
Total PFBS

170727G1_2

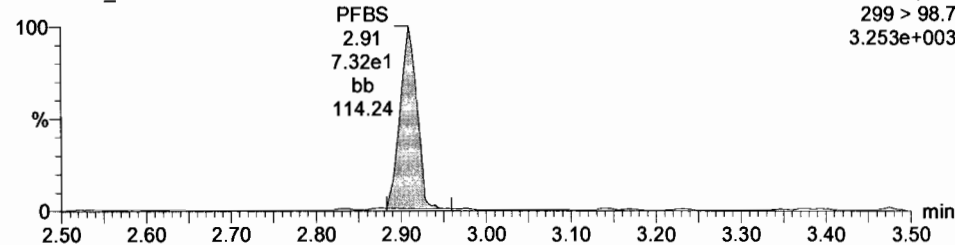


PFHxA

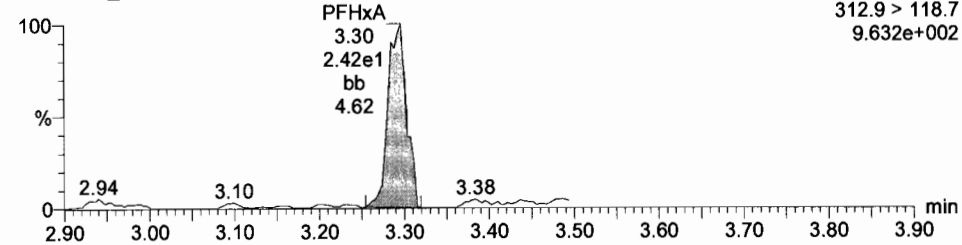
170727G1_2



170727G1_2

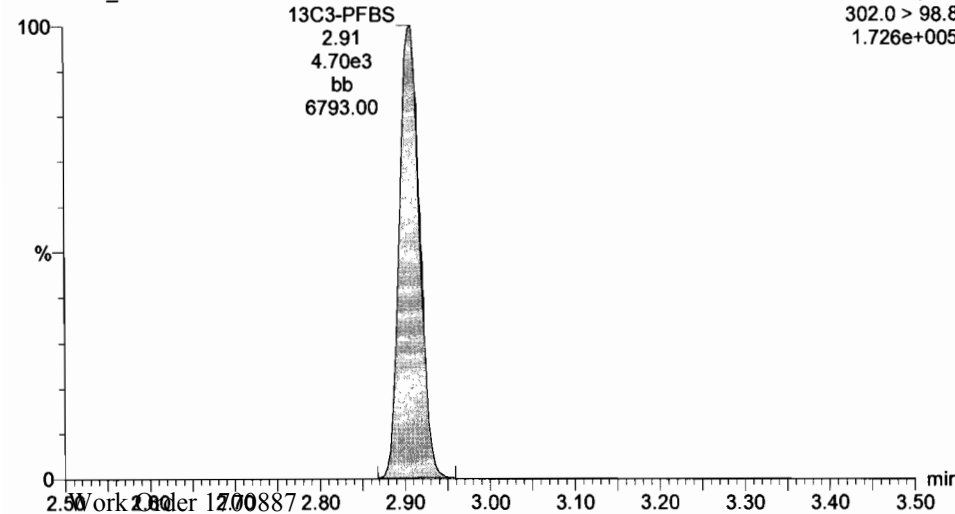


170727G1_2



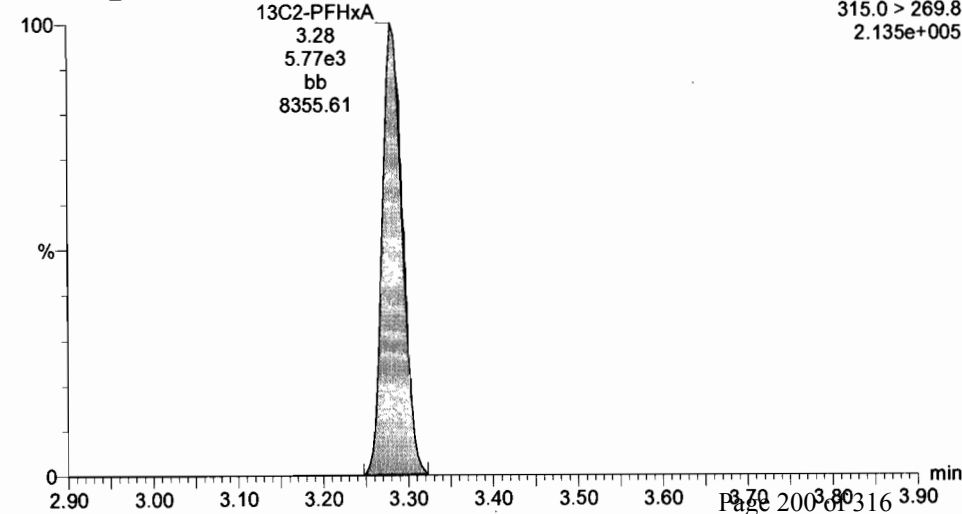
13C3-PFBS

170727G1_2



13C2-PFHxA

170727G1_2



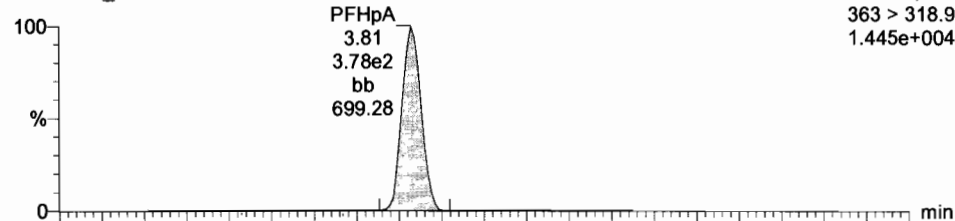
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Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-1 PFC CS-2 17G2714, Description: PFC CS-2 17G2714 A, Name: 170727G1_2, Date: 27-Jul-2017, Time: 11:44:22, Instrument: , Lab: , User:

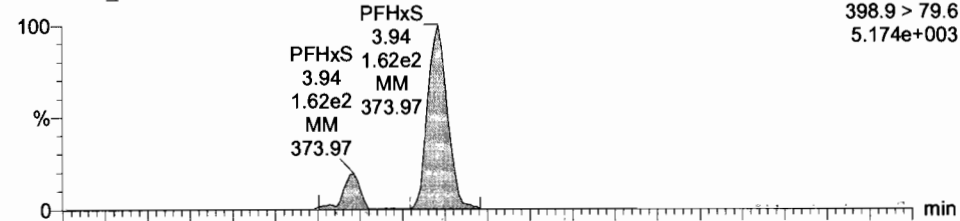
PFHpA

170727G1_2

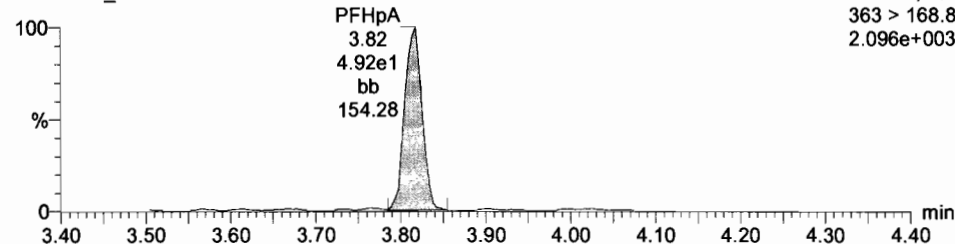


Total PFHxS

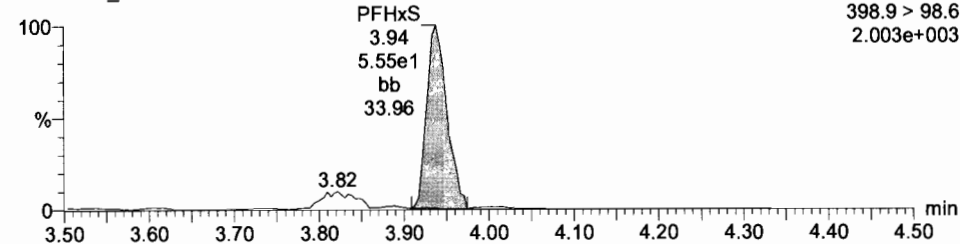
170727G1_2



170727G1_2

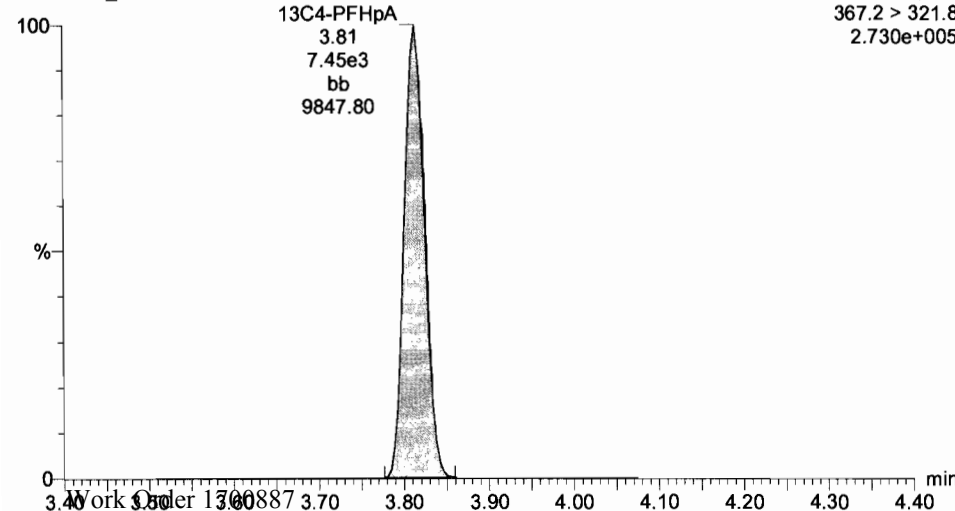


170727G1_2



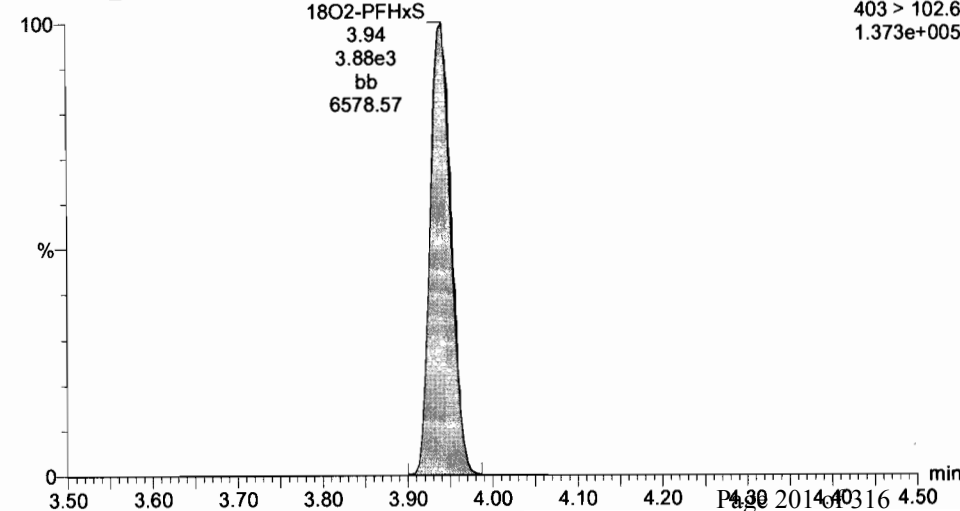
13C4-PFHpA

170727G1_2



18O2-PFHxS

170727G1_2



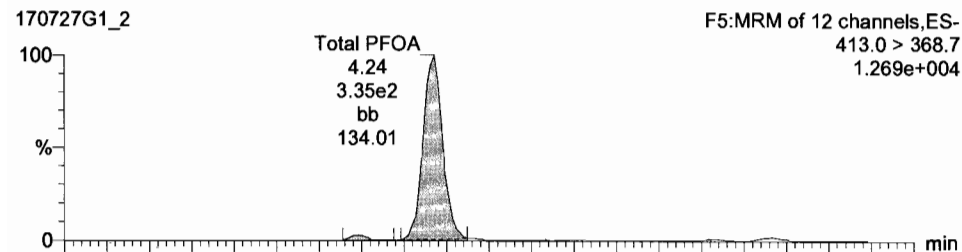
Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

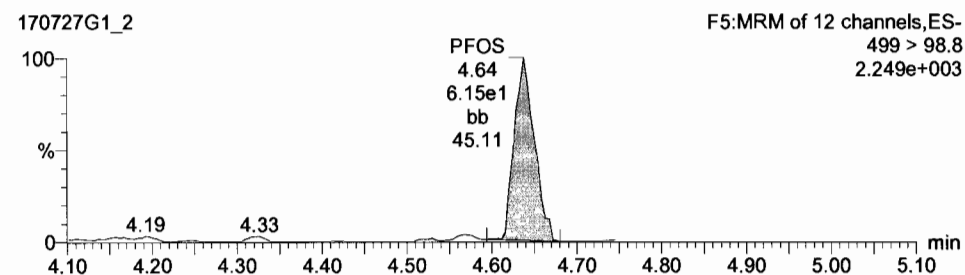
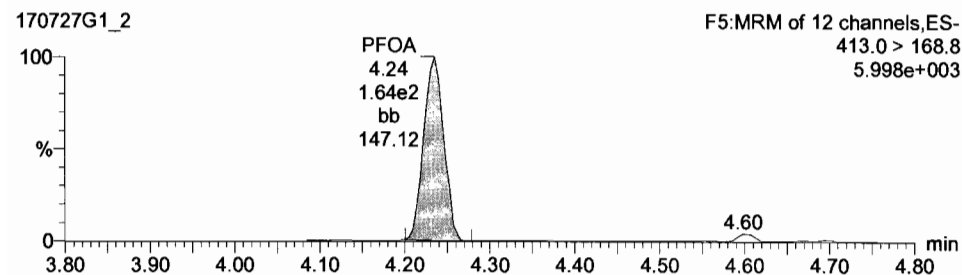
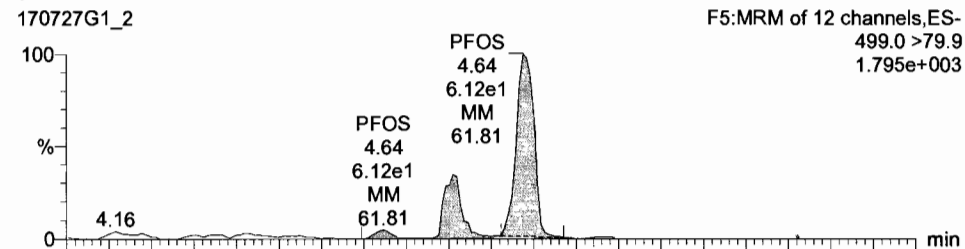
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-1 PFC CS-2 17G2714, Description: PFC CS-2 17G2714 A, Name: 170727G1_2, Date: 27-Jul-2017, Time: 11:44:22, Instrument: , Lab: , User:

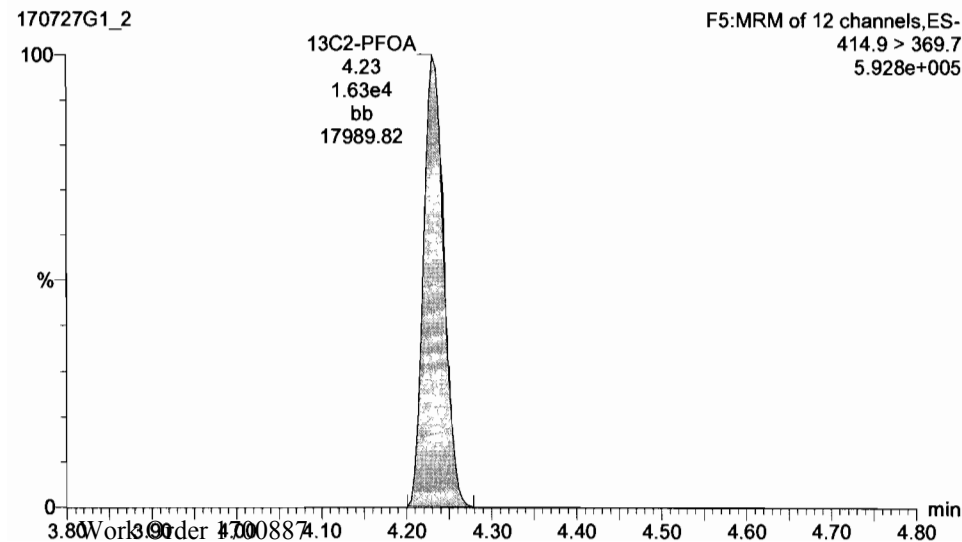
Total PFOA



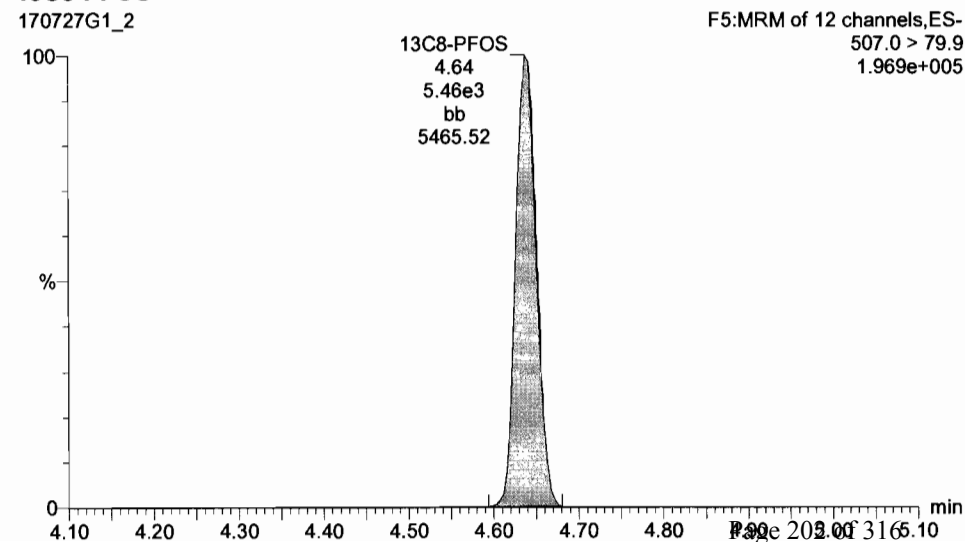
Total PFOS



13C2-PFOA



13C8-PFOS



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

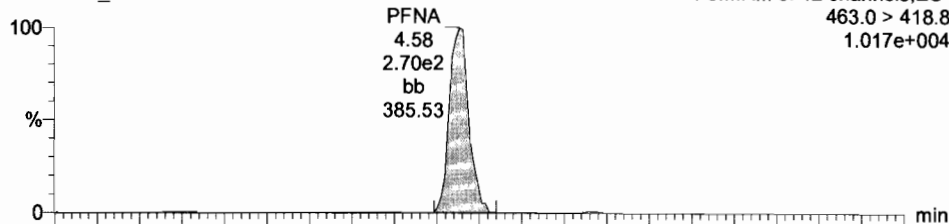
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-1 PFC CS-2 17G2714, Description: PFC CS-2 17G2714 A, Name: 170727G1_2, Date: 27-Jul-2017, Time: 11:44:22, Instrument: , Lab: , User:

PFNA

170727G1_2

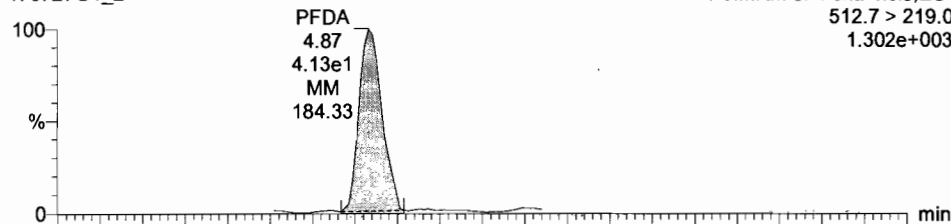
F5:MRM of 12 channels,ES-
463.0 > 418.8
1.017e+004



PFDA

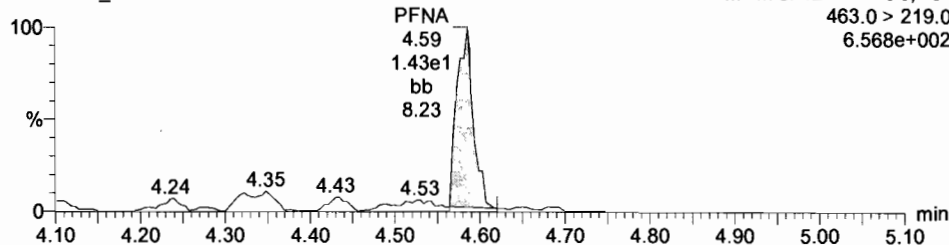
170727G1_2

F6:MRM of 4 channels,ES-
512.7 > 219.0
1.302e+003



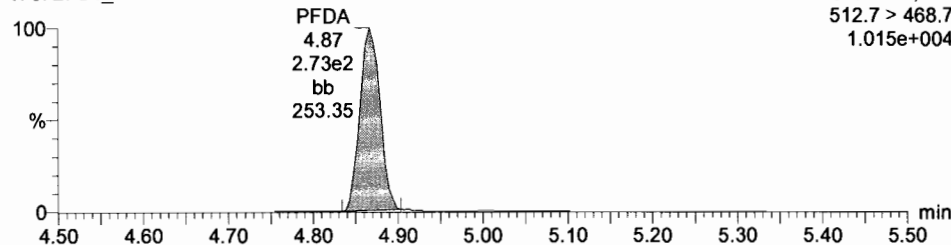
170727G1_2

F5:MRM of 12 channels,ES-
463.0 > 219.0
6.568e+002



170727G1_2

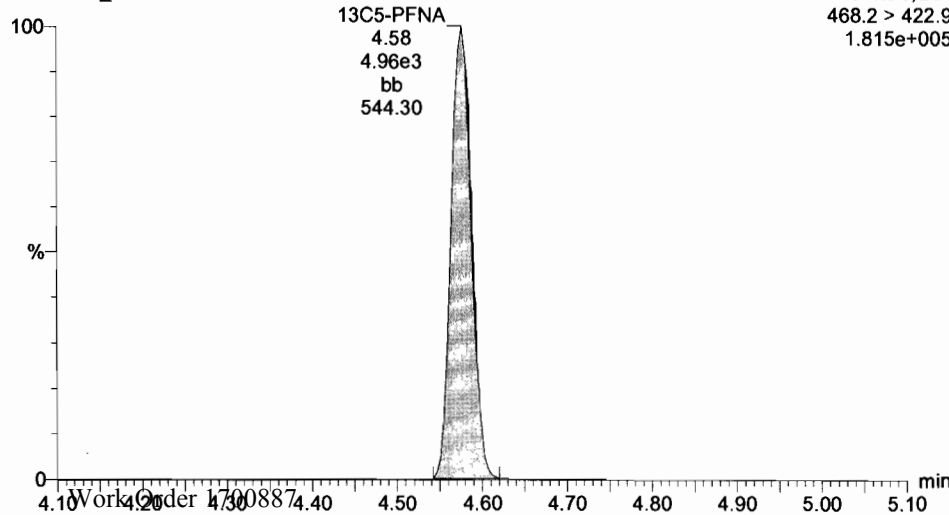
F6:MRM of 4 channels,ES-
512.7 > 468.7
1.015e+004



13C5-PFNA

170727G1_2

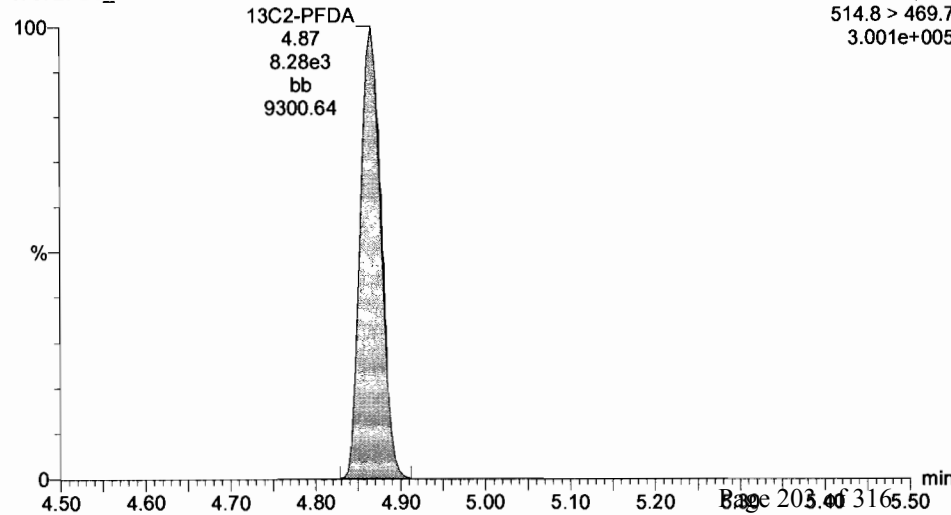
F5:MRM of 12 channels,ES-
468.2 > 422.9
1.815e+005



13C2-PFDA

170727G1_2

F6:MRM of 4 channels,ES-
514.8 > 469.7
3.001e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

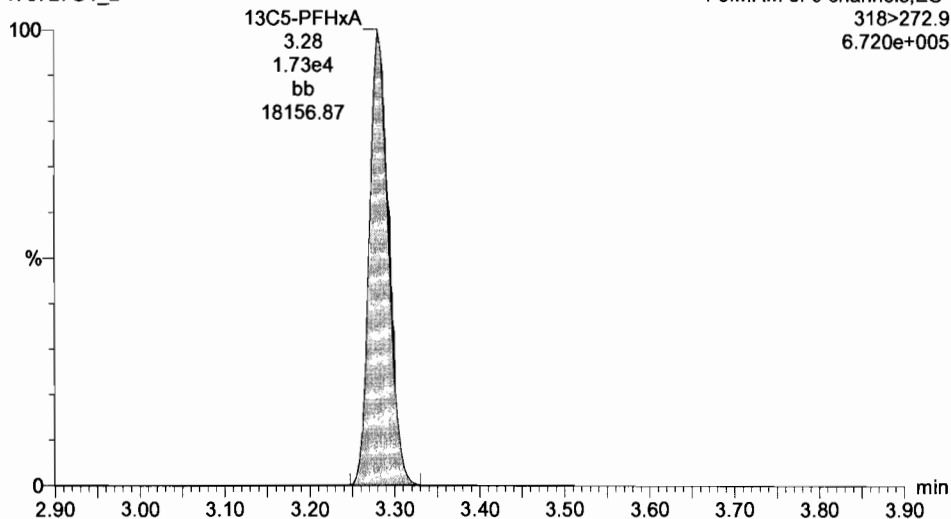
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ID: ST170727G1-1 PFC CS-2 17G2714, Description: PFC CS-2 17G2714 A, Name: 170727G1_2, Date: 27-Jul-2017, Time: 11:44:22, Instrument: , Lab: , User:

13C5-PFHxA

170727G1_2

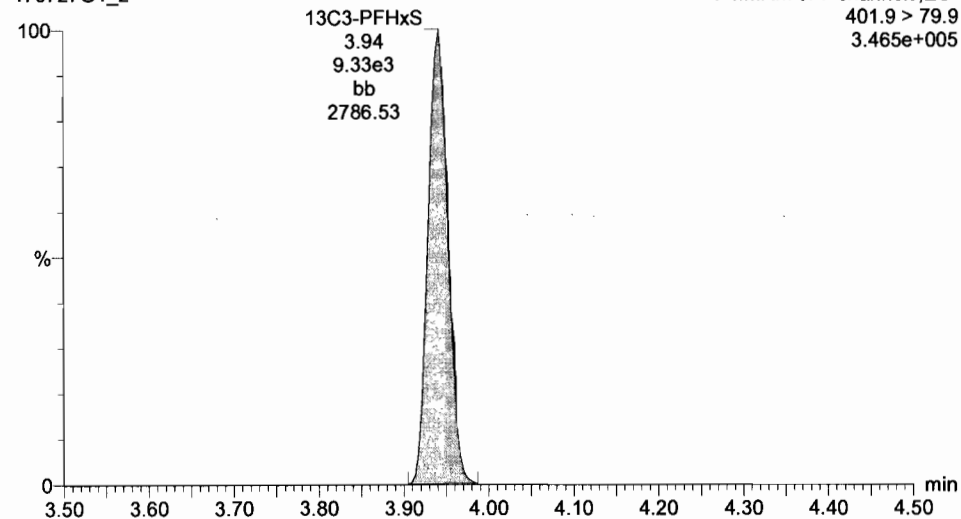
F3:MRM of 9 channels,ES-
318>272.9
6.720e+005



13C3-PFHxS

170727G1_2

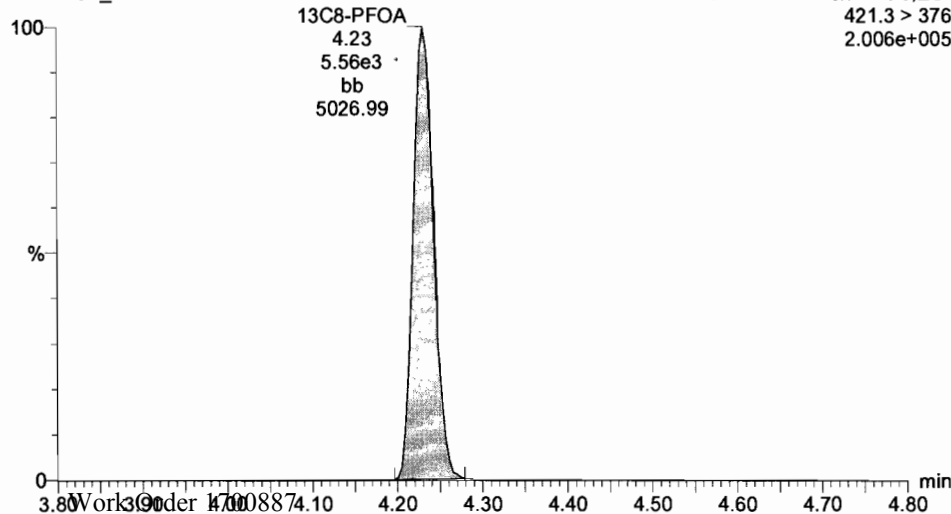
F4:MRM of 7 channels,ES-
401.9 > 79.9
3.465e+005



13C8-PFOA

170727G1_2

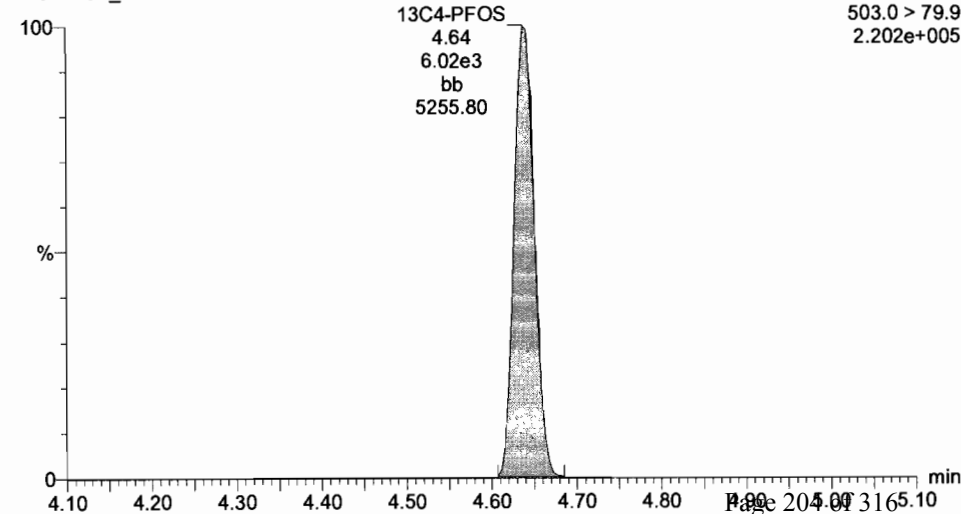
F5:MRM of 12 channels,ES-
421.3 > 376
2.006e+005



13C4-PFOS

170727G1_2

F5:MRM of 12 channels,ES-
503.0 > 79.9
2.202e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

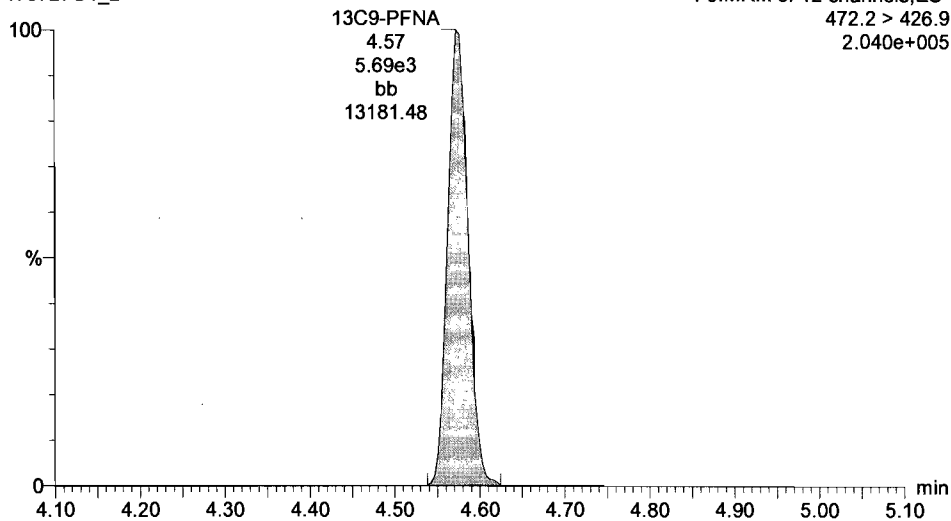
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ID: ST170727G1-1 PFC CS-2 17G2714, Description: PFC CS-2 17G2714 A, Name: 170727G1_2, Date: 27-Jul-2017, Time: 11:44:22, Instrument: , Lab: , User:

13C9-PFNA

170727G1_2

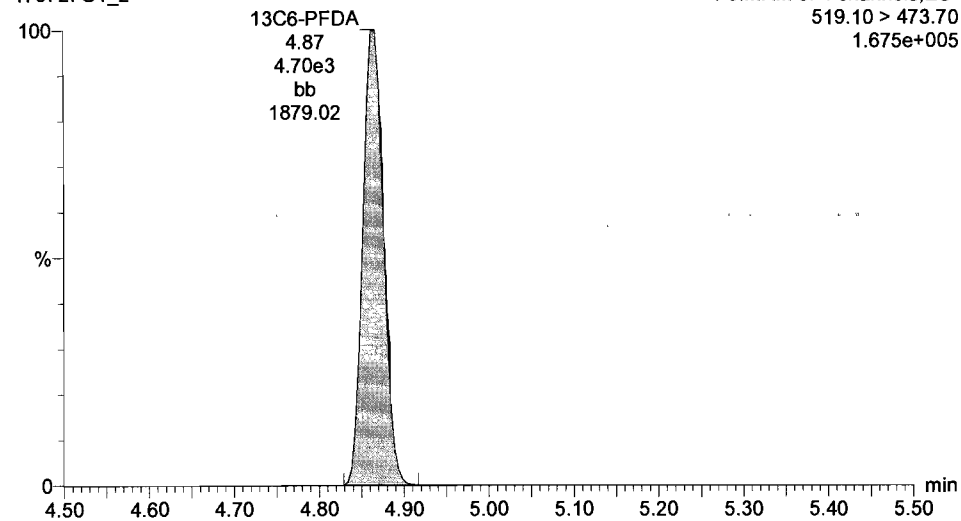
F5:MRM of 12 channels,ES-
472.2 > 426.9
2.040e+005



13C6-PFDA

170727G1_2

F6:MRM of 4 channels,ES-
519.10 > 473.70
1.675e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

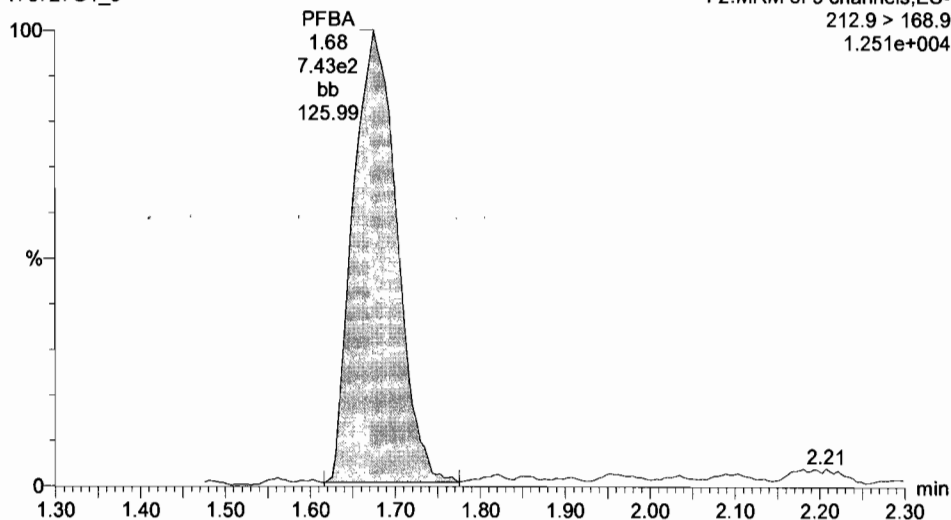
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ID: ST170727G1-2 PFC CS-1 17G2715, Description: PFC CS-1 17G2715 A, Name: 170727G1_3, Date: 27-Jul-2017, Time: 11:56:54, Instrument: , Lab: , User:

PFBA

170727G1_3

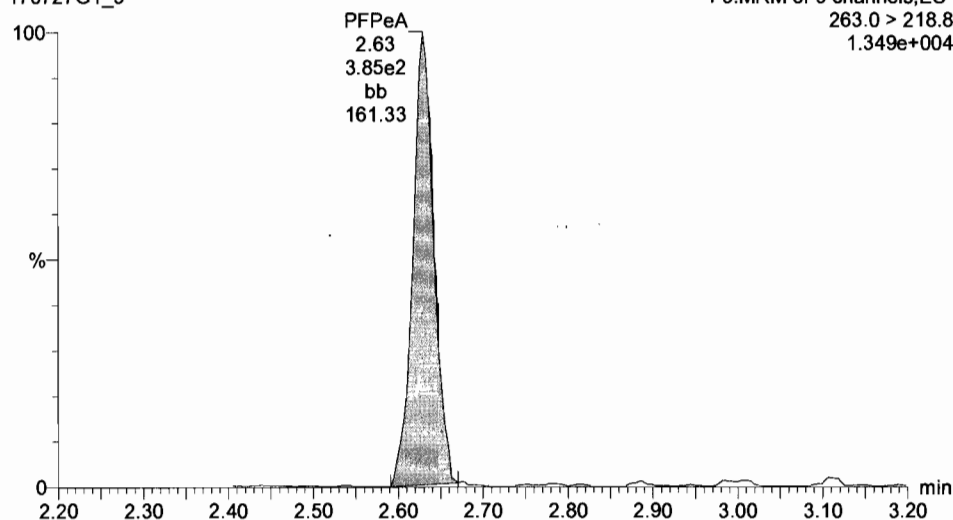
F2:MRM of 3 channels,ES-
212.9 > 168.9
1.251e+004



PFPeA

170727G1_3

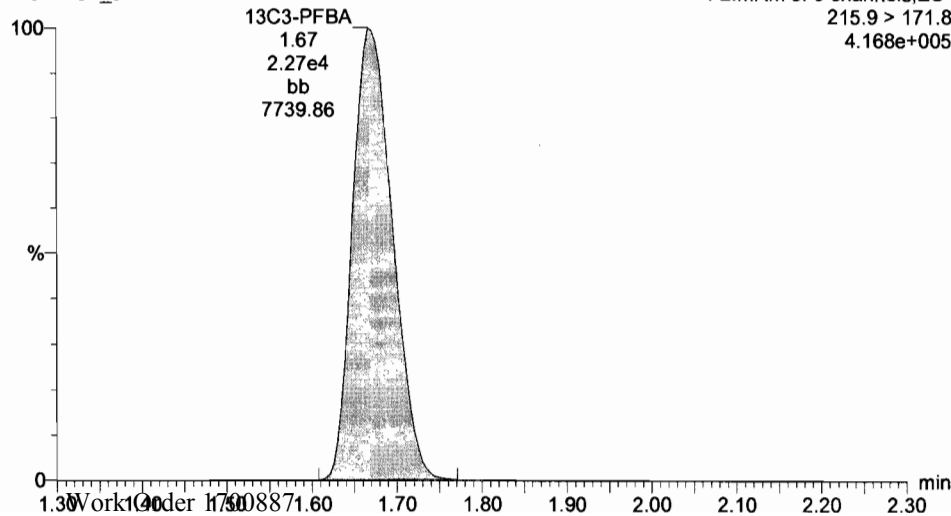
F3:MRM of 9 channels,ES-
263.0 > 218.8
1.349e+004



13C3-PFBA

170727G1_3

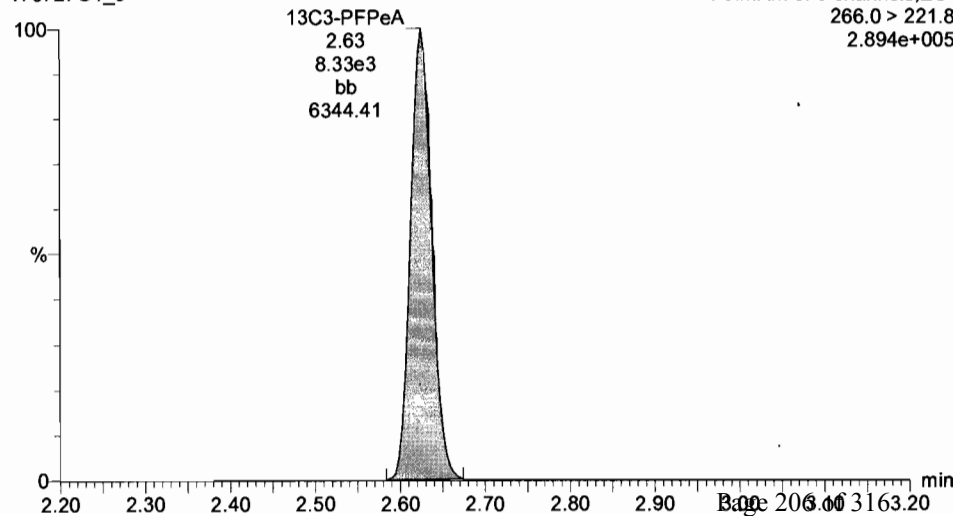
F2:MRM of 3 channels,ES-
215.9 > 171.8
4.168e+005



13C3-PFPeA

170727G1_3

F3:MRM of 9 channels,ES-
266.0 > 221.8
2.894e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

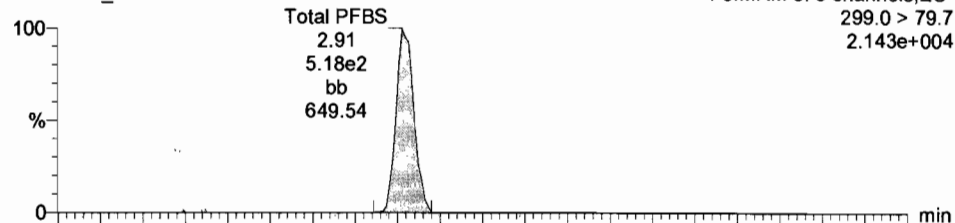
Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-2 PFC CS-1 17G2715, Description: PFC CS-1 17G2715 A, Name: 170727G1_3, Date: 27-Jul-2017, Time: 11:56:54, Instrument: , Lab: , User:

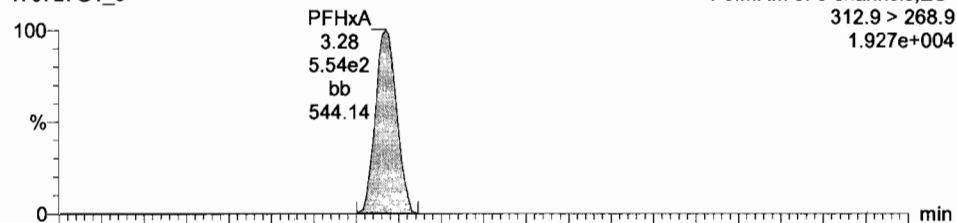
Total PFBS

170727G1_3

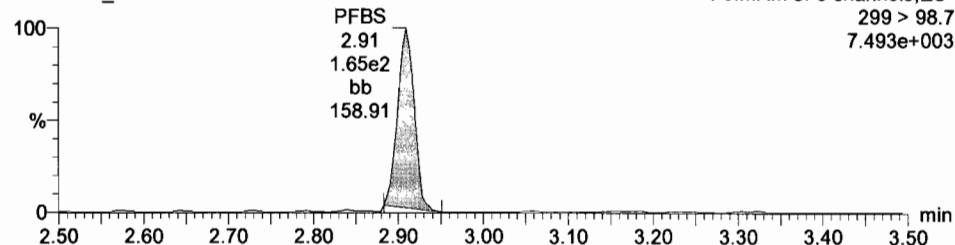


PFHxA

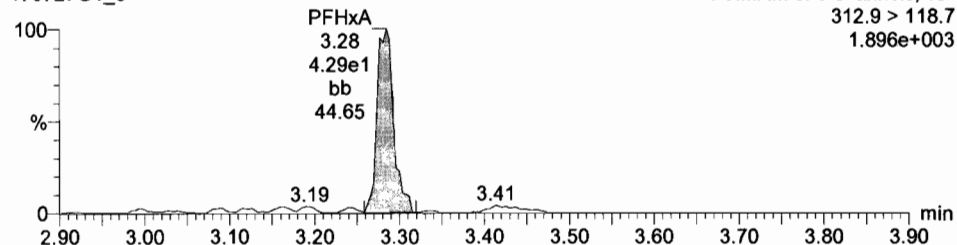
170727G1_3



170727G1_3

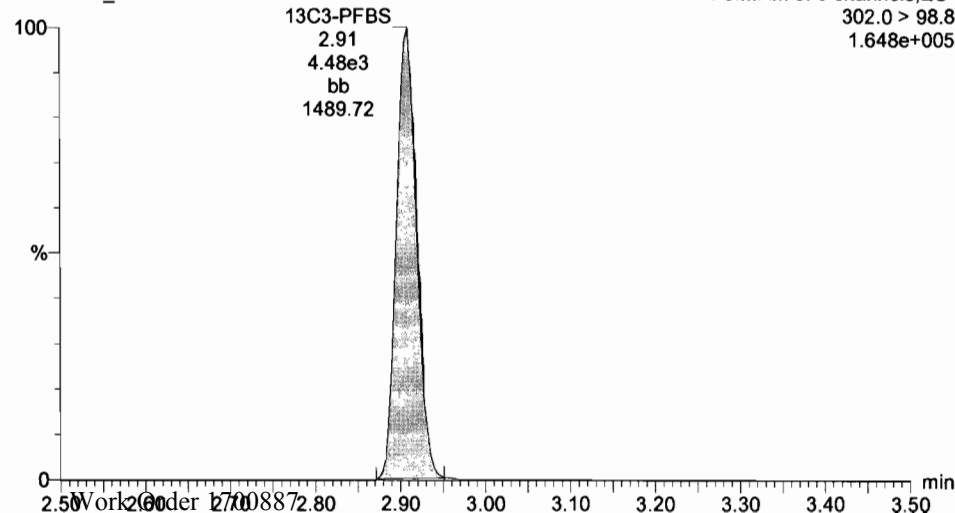


170727G1_3



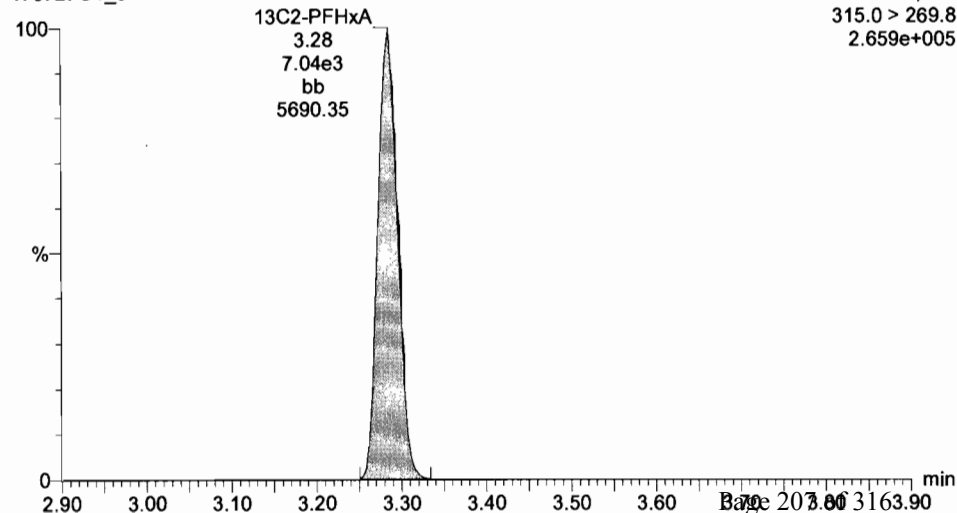
13C3-PFBS

170727G1_3



13C2-PFHxA

170727G1_3



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

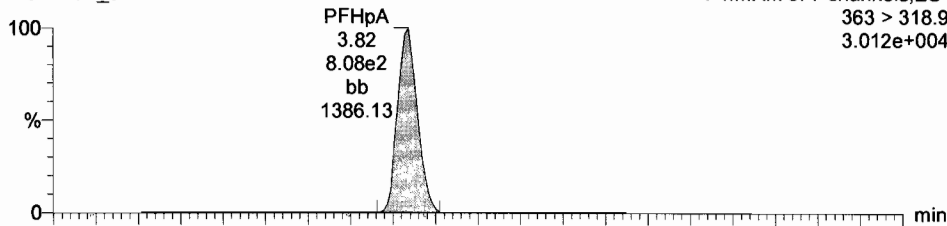
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-2 PFC CS-1 17G2715, Description: PFC CS-1 17G2715 A, Name: 170727G1_3, Date: 27-Jul-2017, Time: 11:56:54, Instrument: , Lab: , User:

PFHpA

170727G1_3

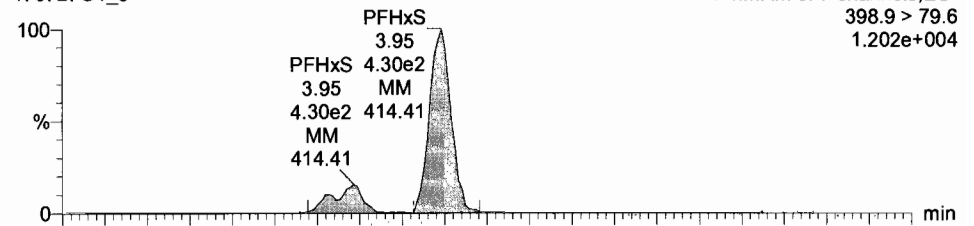
F4:MRM of 7 channels,ES-
363 > 318.9
3.012e+004



Total PFHxS

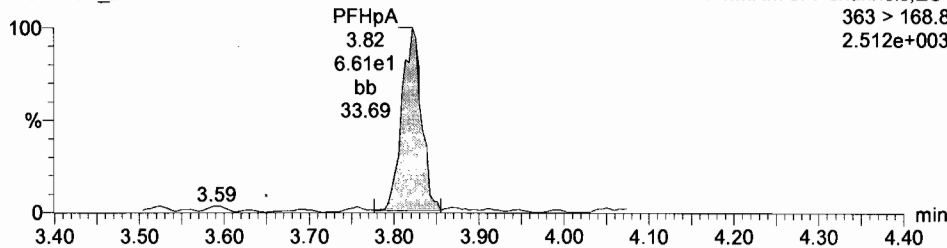
170727G1_3

F4:MRM of 7 channels,ES-
398.9 > 79.6
1.202e+004



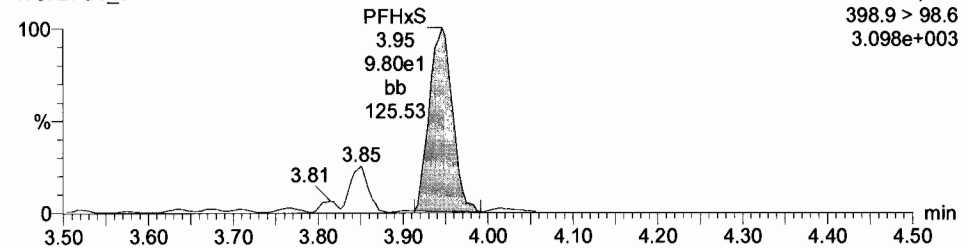
170727G1_3

F4:MRM of 7 channels,ES-
363 > 168.8
2.512e+003



170727G1_3

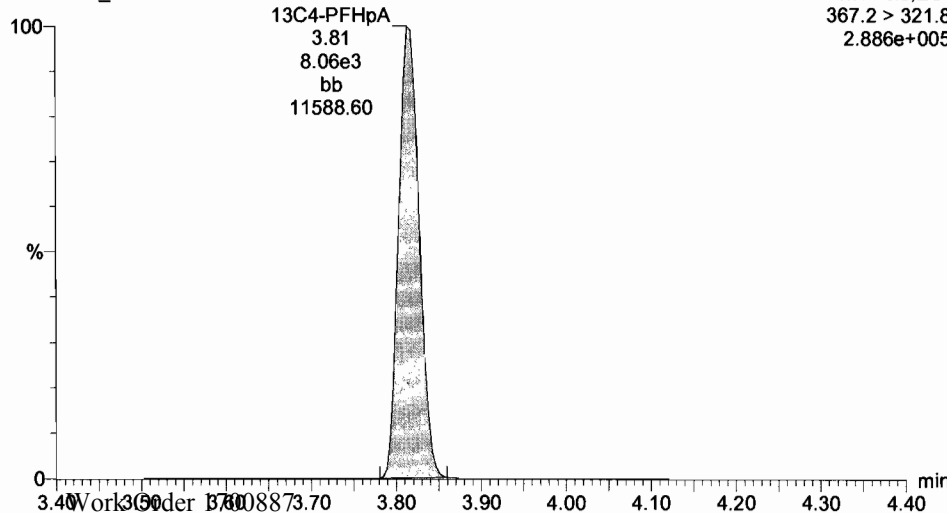
F4:MRM of 7 channels,ES-
398.9 > 98.6
3.098e+003



13C4-PFHpA

170727G1_3

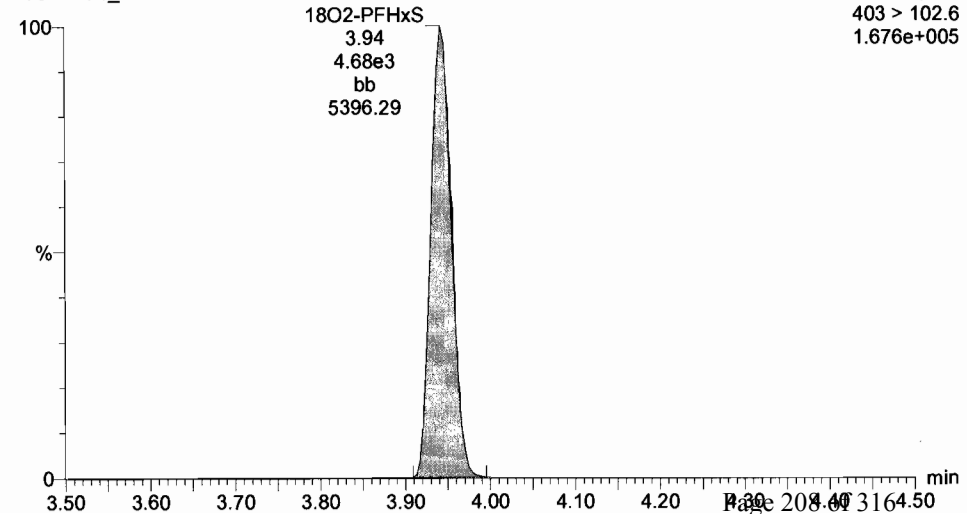
F4:MRM of 7 channels,ES-
367.2 > 321.8
2.886e+005



18O2-PFHxS

170727G1_3

F4:MRM of 7 channels,ES-
403 > 102.6
1.676e+005

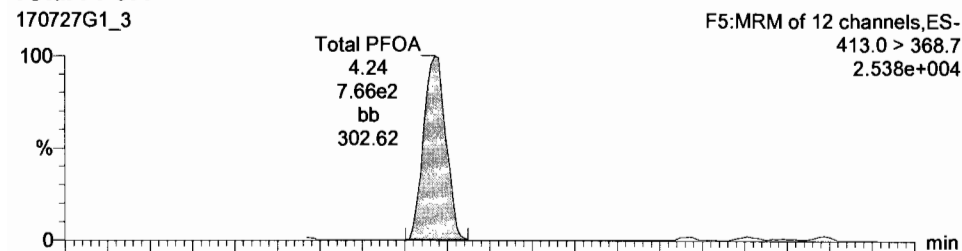


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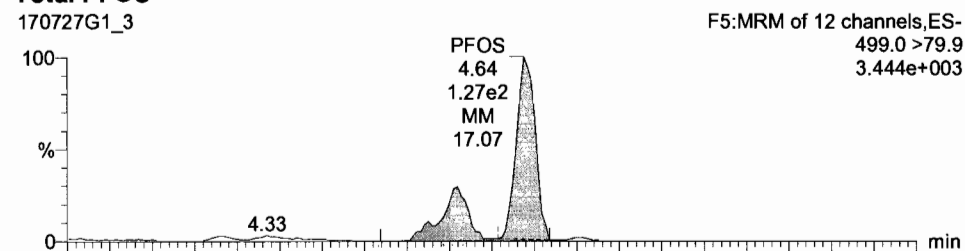
Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-2 PFC CS-1 17G2715, Description: PFC CS-1 17G2715 A, Name: 170727G1_3, Date: 27-Jul-2017, Time: 11:56:54, Instrument: , Lab: , User:

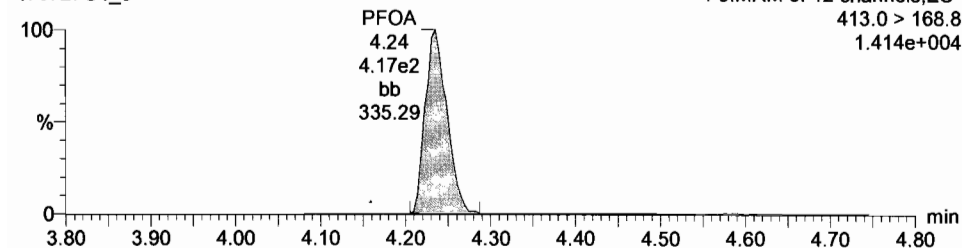
Total PFOA



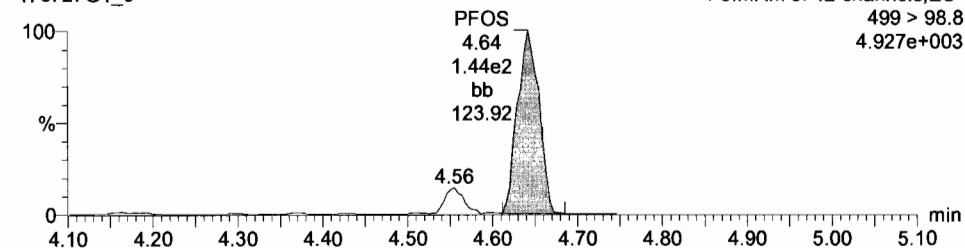
Total PFOS



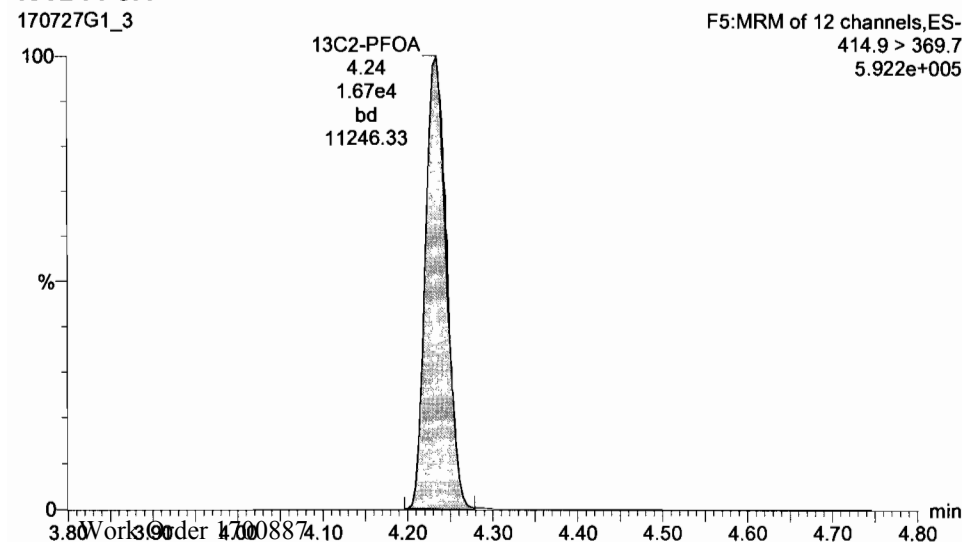
170727G1_3



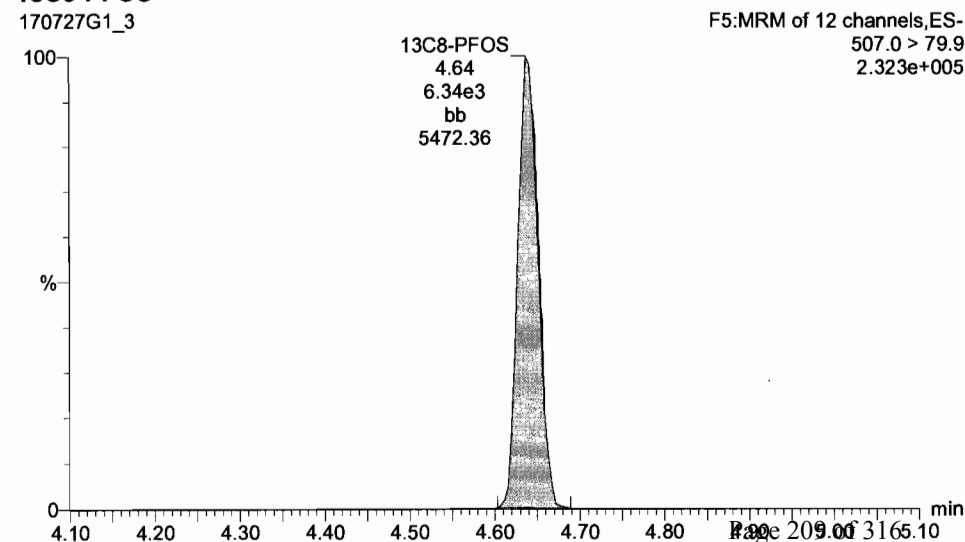
170727G1_3



13C2-PFOA



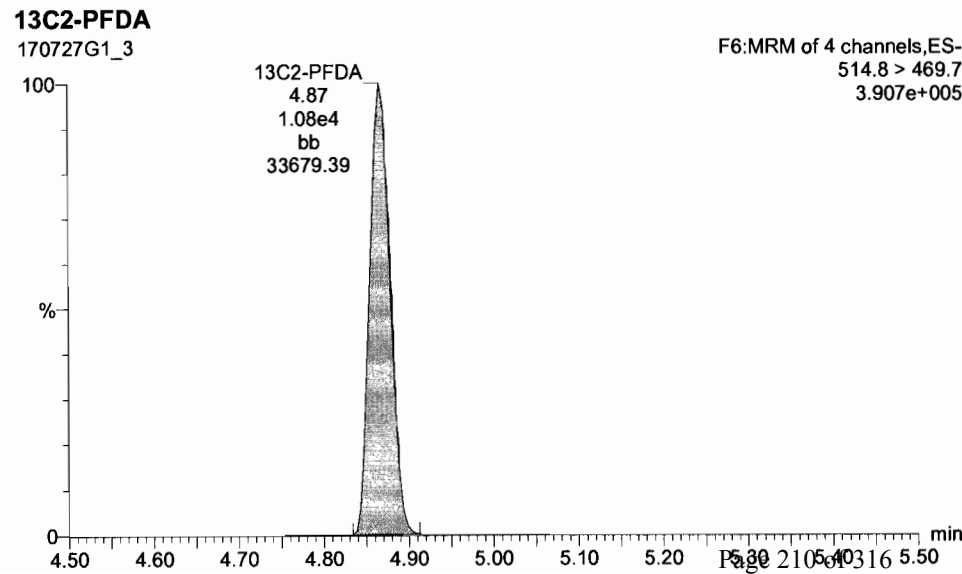
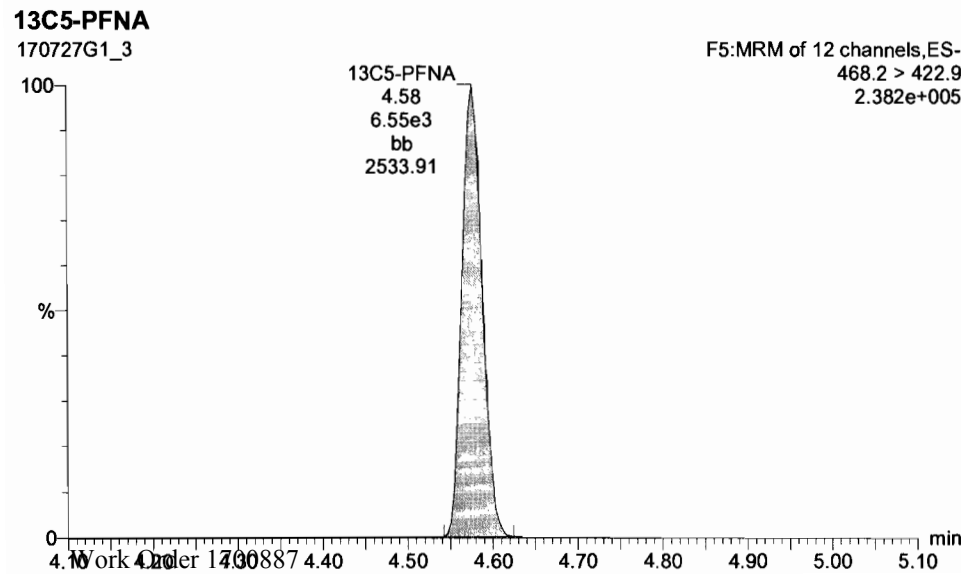
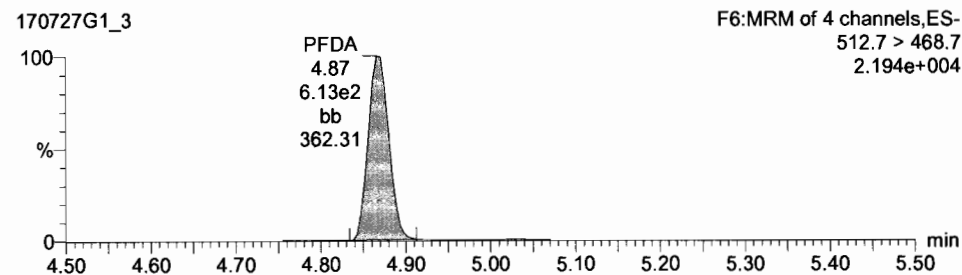
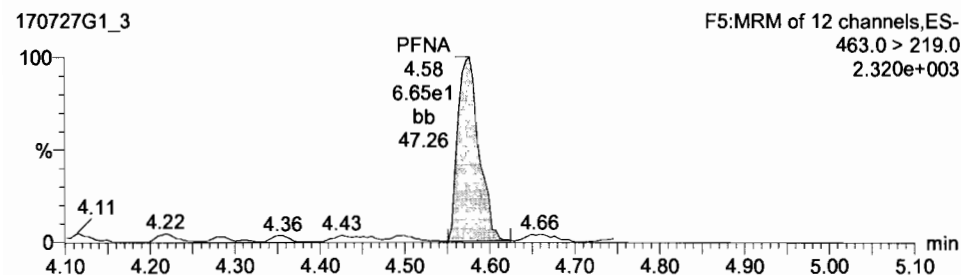
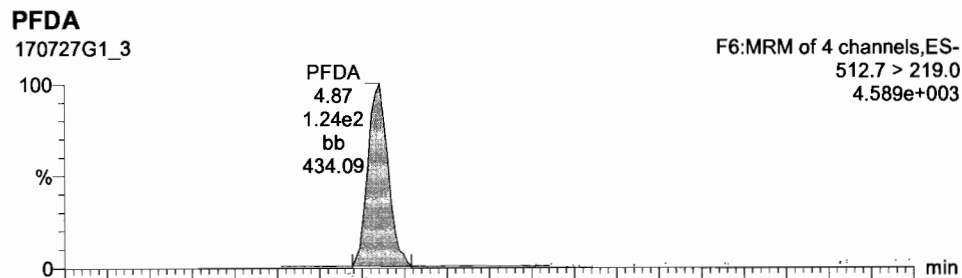
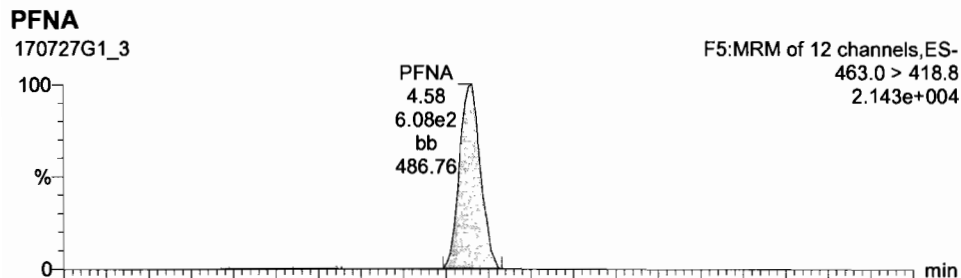
13C8-PFOS



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-2 PFC CS-1 17G2715, Description: PFC CS-1 17G2715 A, Name: 170727G1_3, Date: 27-Jul-2017, Time: 11:56:54, Instrument: , Lab: , User:



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

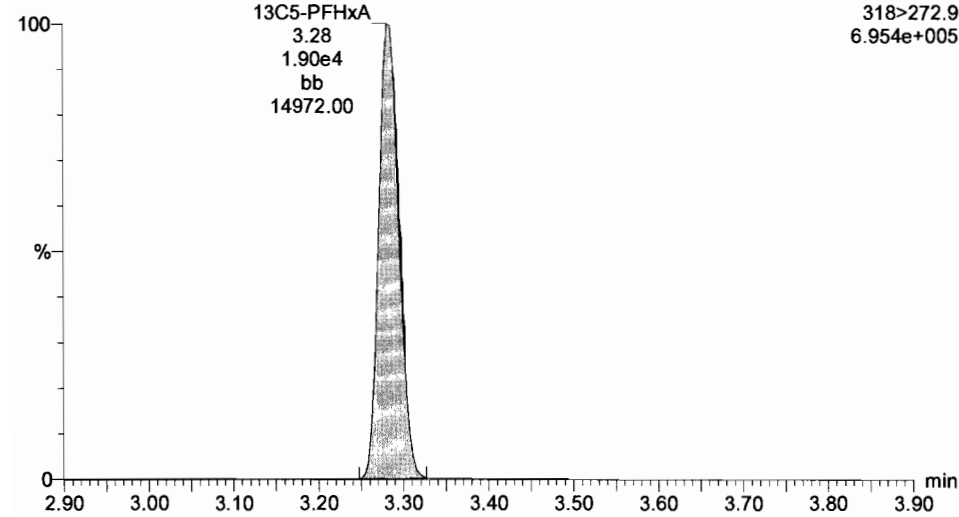
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Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-2 PFC CS-1 17G2715, Description: PFC CS-1 17G2715 A, Name: 170727G1_3, Date: 27-Jul-2017, Time: 11:56:54, Instrument: , Lab: , User:

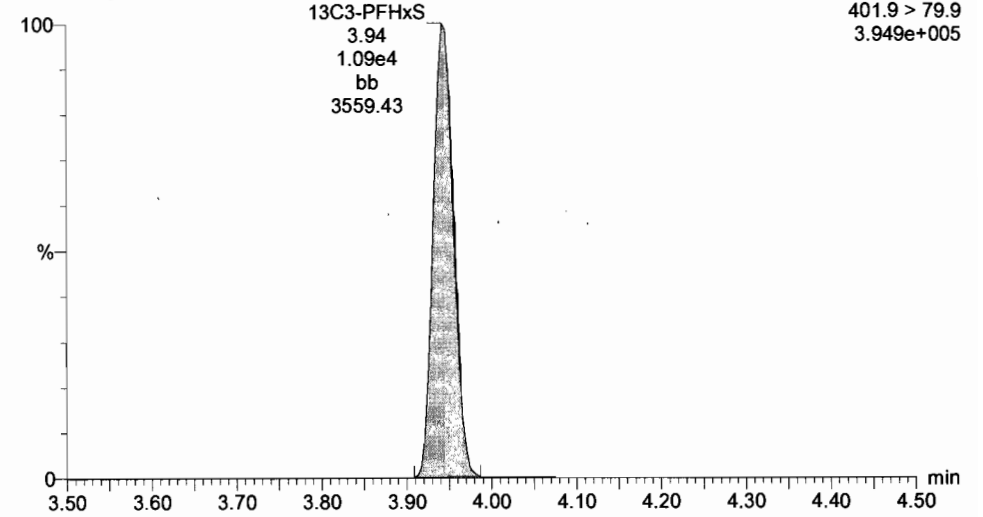
13C5-PFHxA

170727G1_3



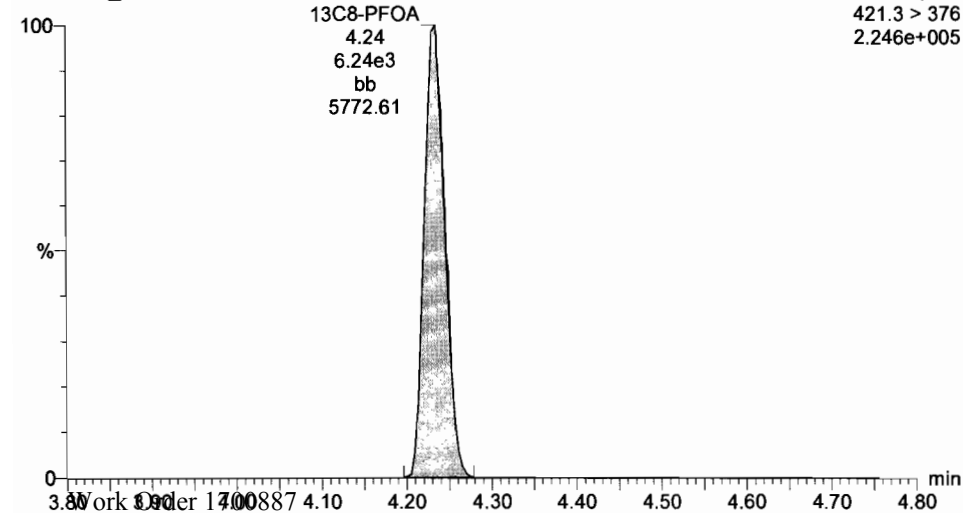
13C3-PFHxS

170727G1_3



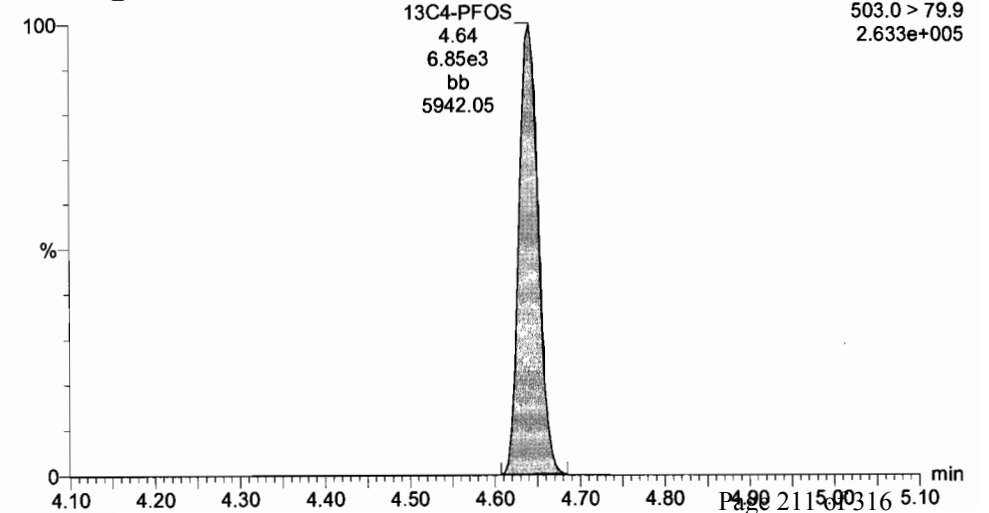
13C8-PFOA

170727G1_3



13C4-PFOS

170727G1_3



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

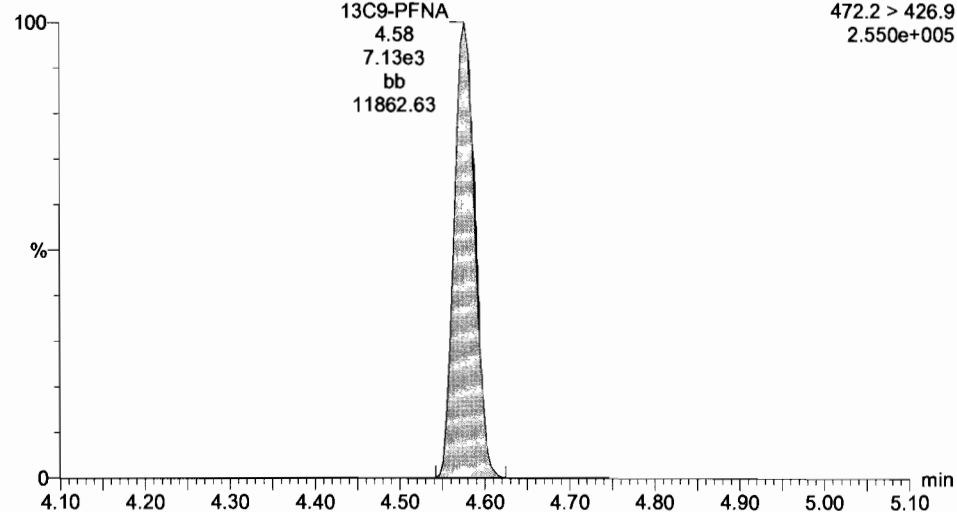
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Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-2 PFC CS-1 17G2715, Description: PFC CS-1 17G2715 A, Name: 170727G1_3, Date: 27-Jul-2017, Time: 11:56:54, Instrument: , Lab: , User:

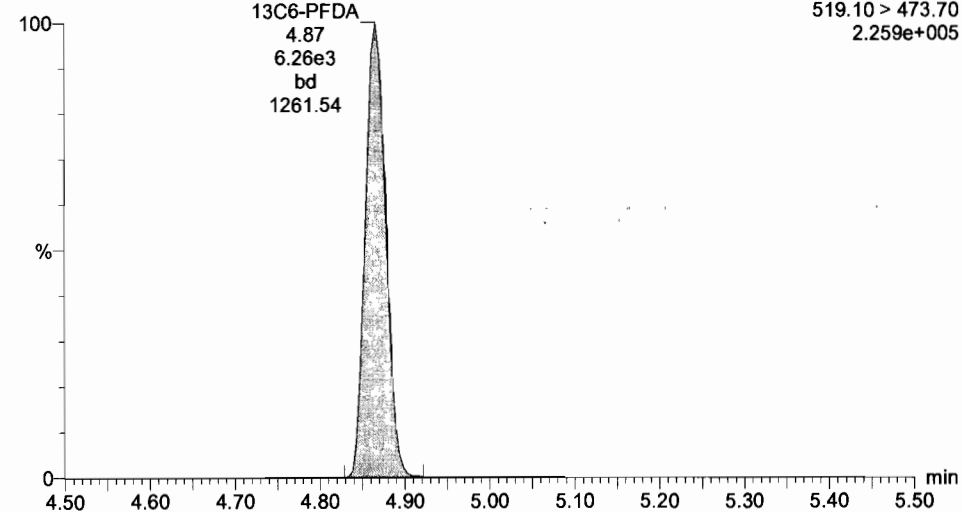
13C9-PFNA

170727G1_3



13C6-PFDA

170727G1_3



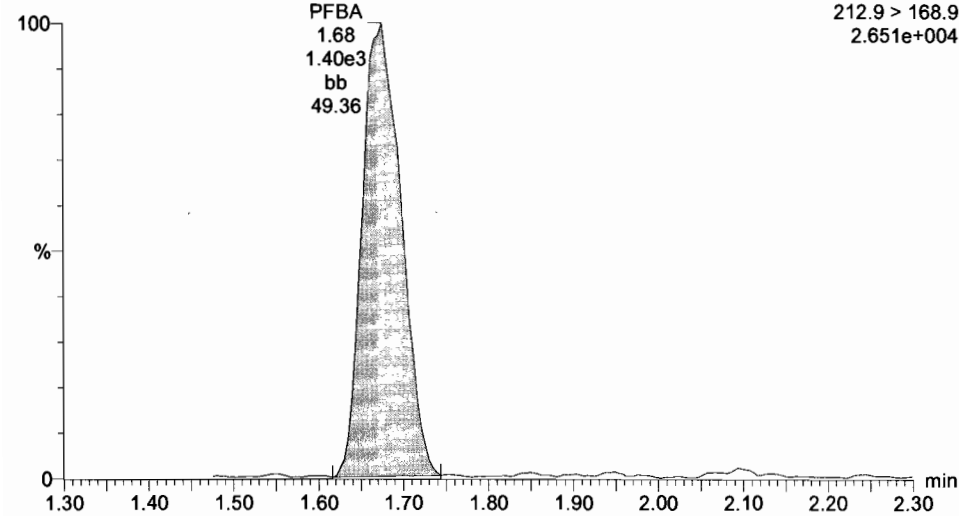
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Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-3 PFC CS0 17G2716, Description: PFC CS0 17G2716 A, Name: 170727G1_4, Date: 27-Jul-2017, Time: 12:09:31, Instrument: , Lab: , User:

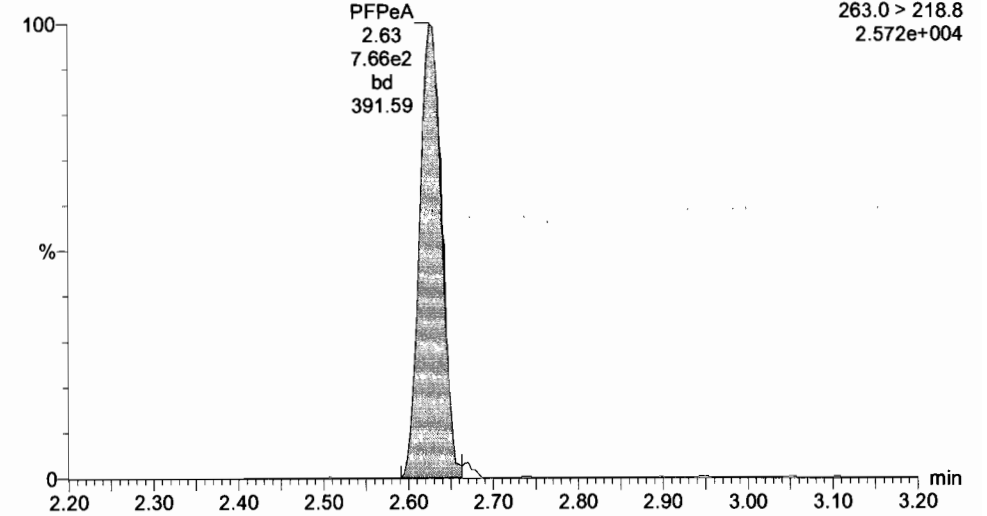
PFBA

170727G1_4



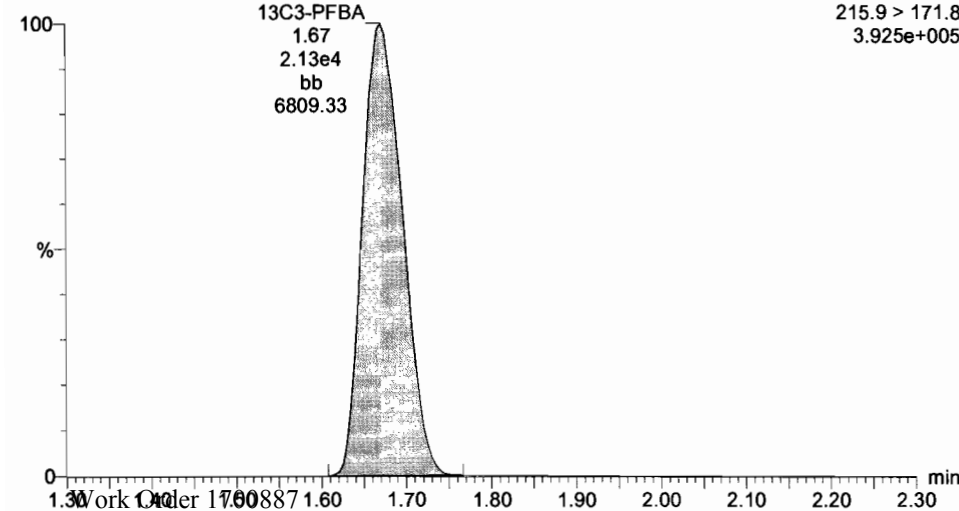
PFPeA

170727G1_4



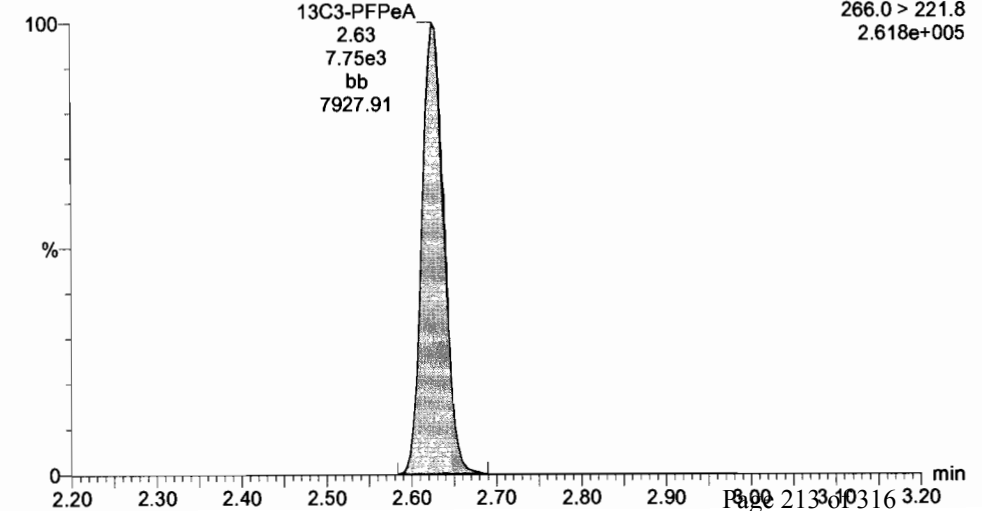
13C3-PFBA

170727G1_4



13C3-PFPeA

170727G1_4



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

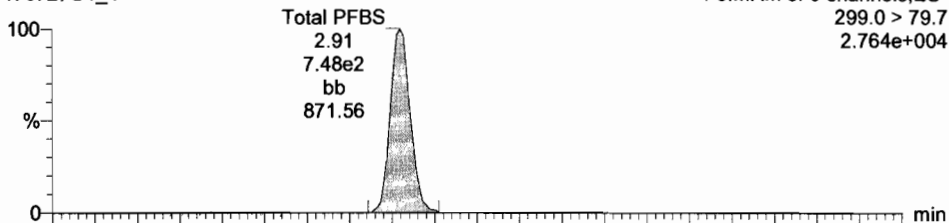
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Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-3 PFC CS0 17G2716, Description: PFC CS0 17G2716 A, Name: 170727G1_4, Date: 27-Jul-2017, Time: 12:09:31, Instrument: , Lab: , User:

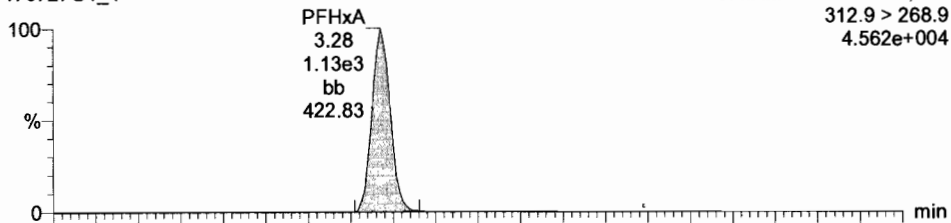
Total PFBS

170727G1_4

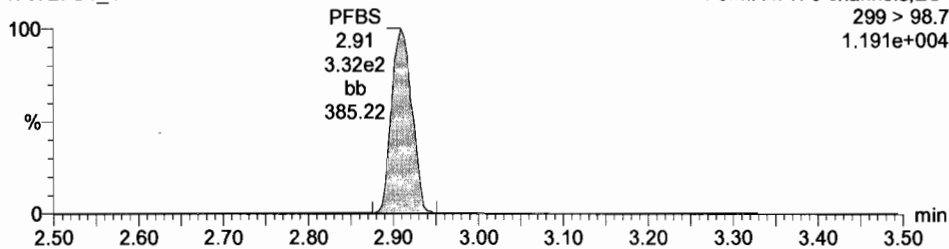


PFHxA

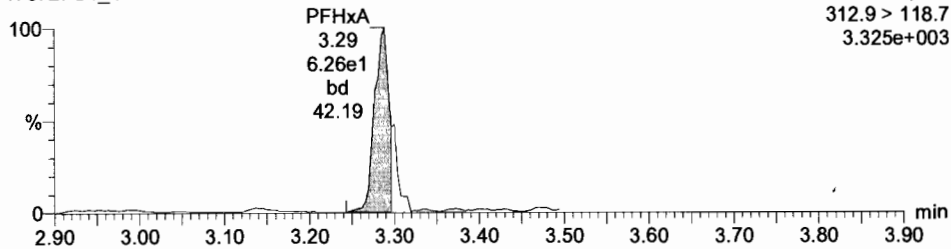
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170727G1_4

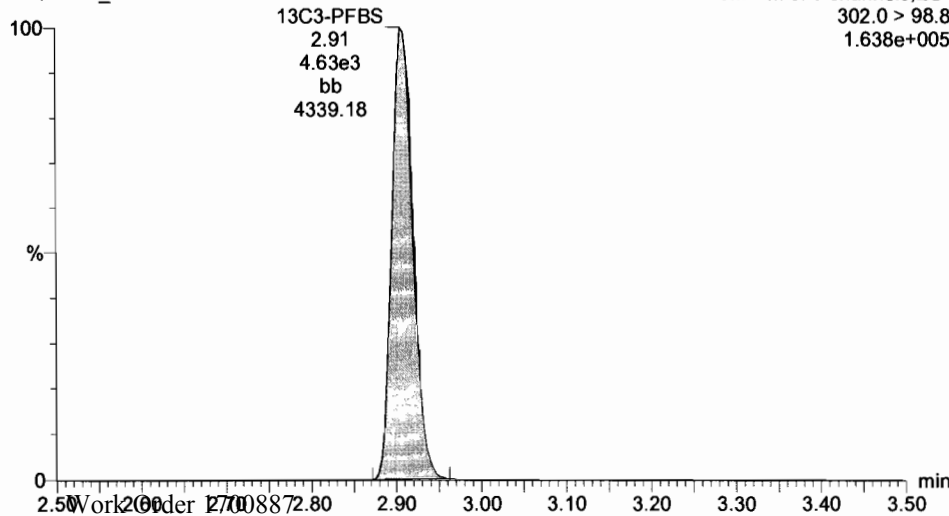


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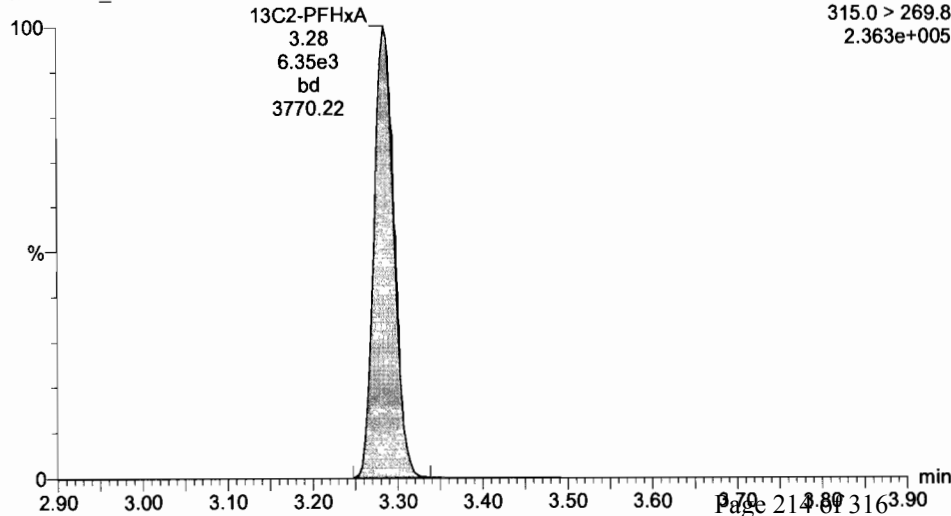
13C3-PFBS

170727G1_4



13C2-PFHxA

170727G1_4



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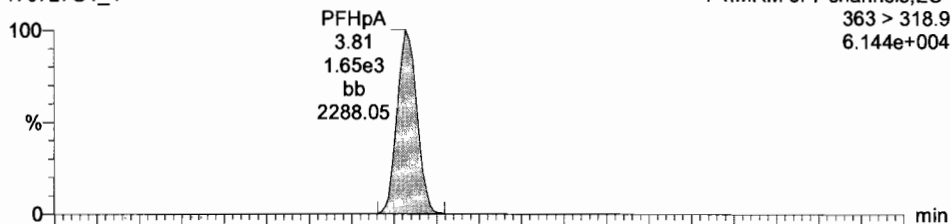
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ID: ST170727G1-3 PFC CS0 17G2716, Description: PFC CS0 17G2716 A, Name: 170727G1_4, Date: 27-Jul-2017, Time: 12:09:31, Instrument: , Lab: , User:

PFHpA

170727G1_4

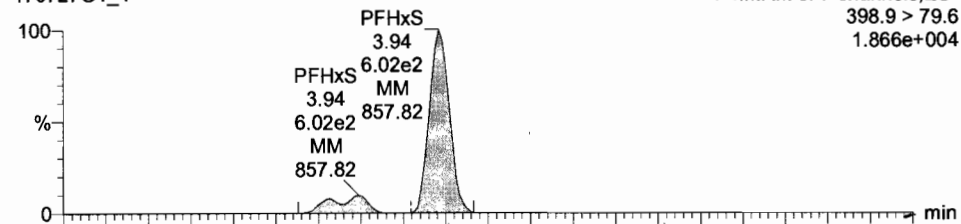
F4:MRM of 7 channels,ES-
363 > 318.9
6.144e+004



Total PFHxS

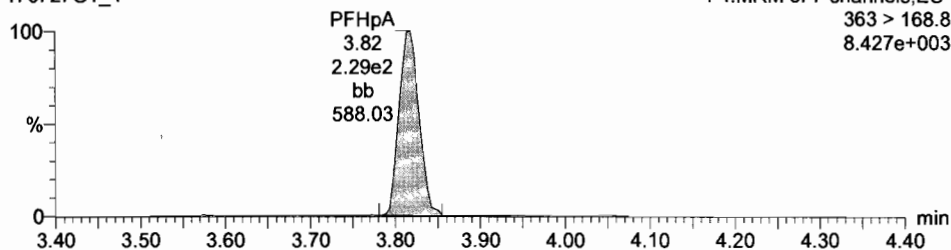
170727G1_4

F4:MRM of 7 channels,ES-
398.9 > 79.6
1.866e+004



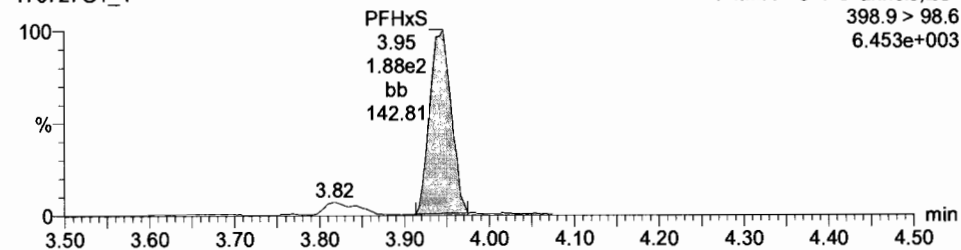
170727G1_4

F4:MRM of 7 channels,ES-
363 > 168.8
8.427e+003



170727G1_4

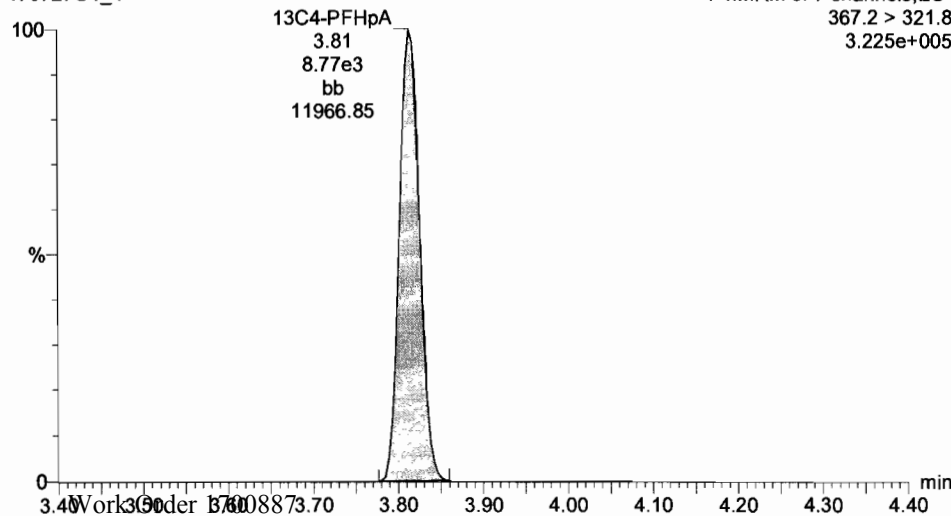
F4:MRM of 7 channels,ES-
398.9 > 98.6
6.453e+003



13C4-PFHpA

170727G1_4

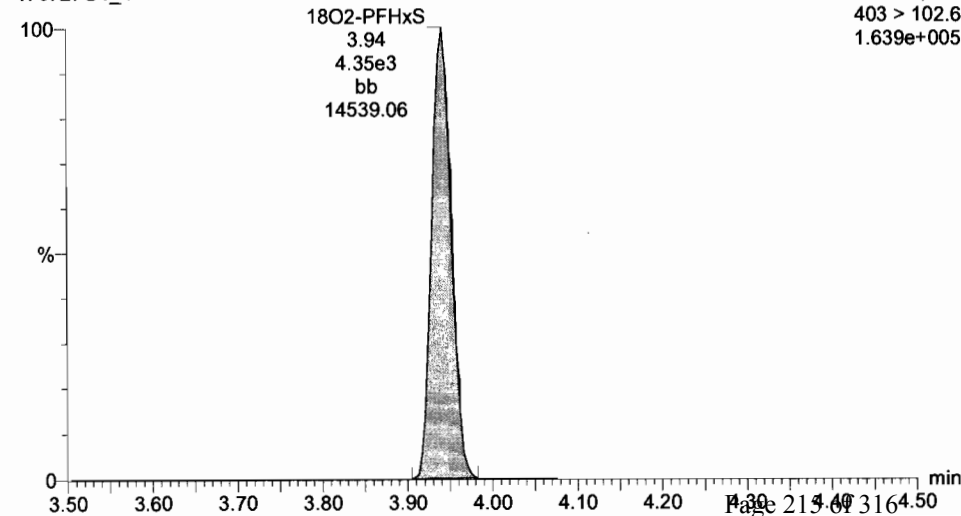
F4:MRM of 7 channels,ES-
367.2 > 321.8
3.225e+005



18O2-PFHxS

170727G1_4

F4:MRM of 7 channels,ES-
403 > 102.6
1.639e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

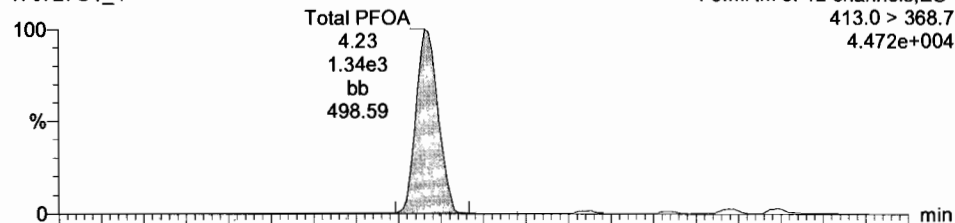
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Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-3 PFC CS0 17G2716, Description: PFC CS0 17G2716 A, Name: 170727G1_4, Date: 27-Jul-2017, Time: 12:09:31, Instrument: , Lab: , User:

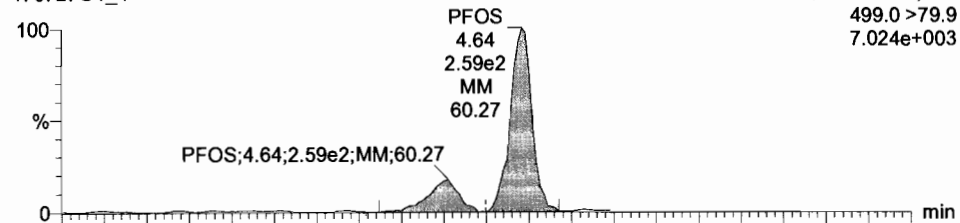
Total PFOA

170727G1_4

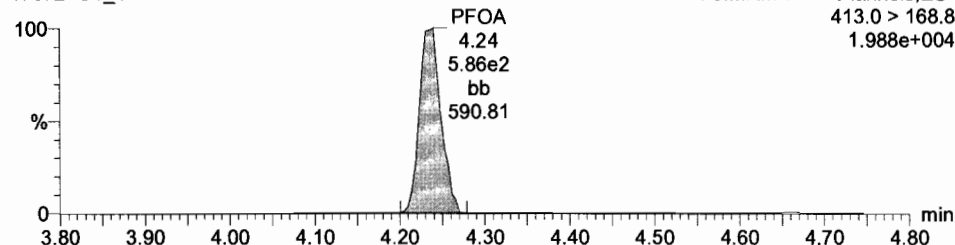


Total PFOS

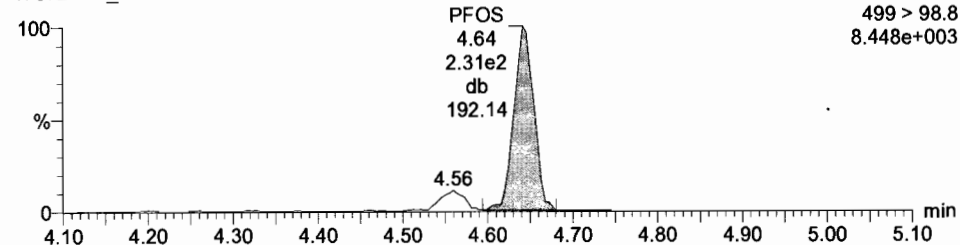
170727G1_4



170727G1_4

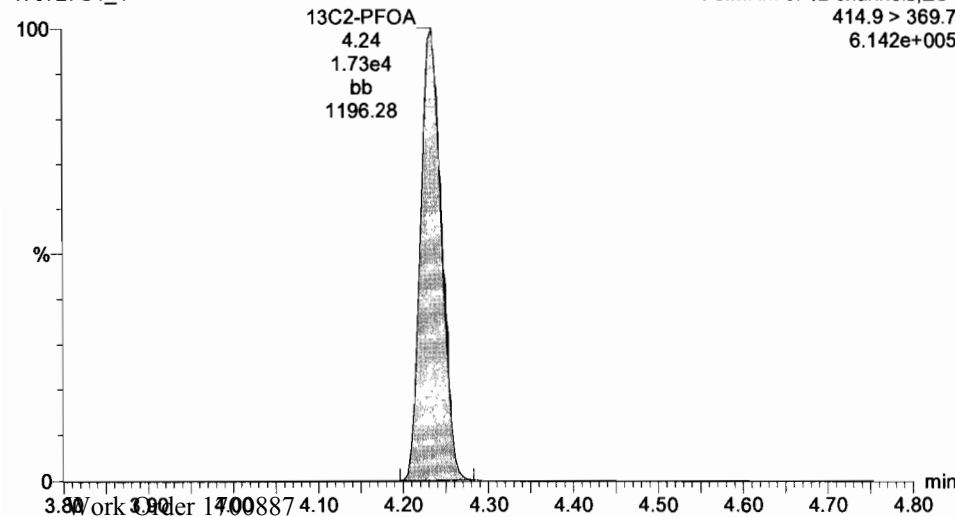


170727G1_4



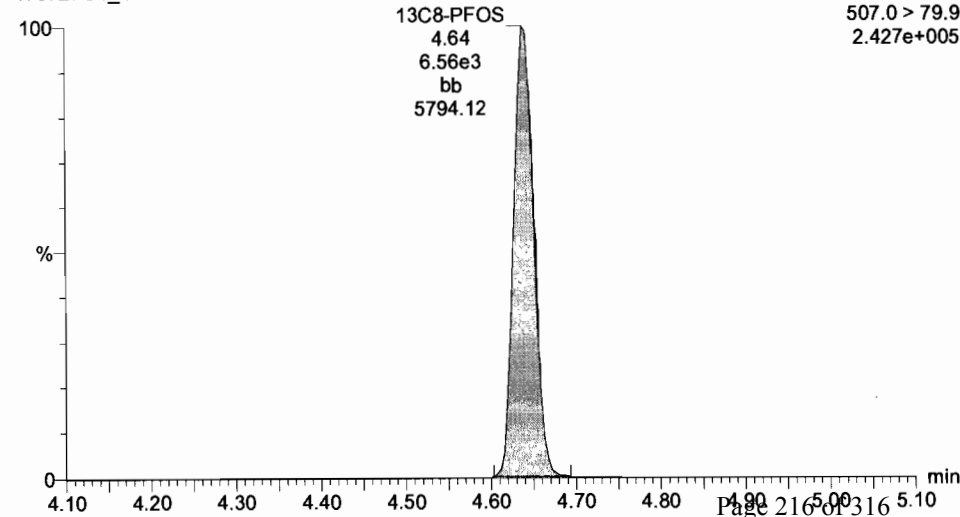
13C2-PFOA

170727G1_4



13C8-PFOS

170727G1_4



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

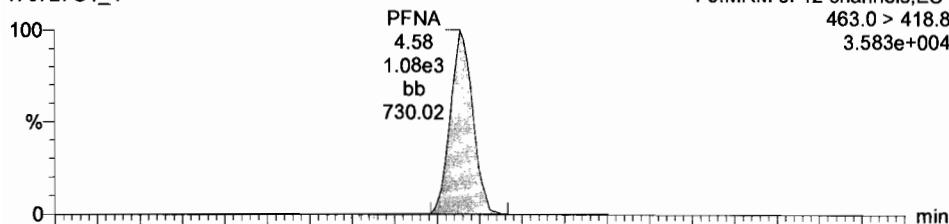
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-3 PFC CS0 17G2716, Description: PFC CS0 17G2716 A, Name: 170727G1_4, Date: 27-Jul-2017, Time: 12:09:31, Instrument: , Lab: , User:

PFNA

170727G1_4

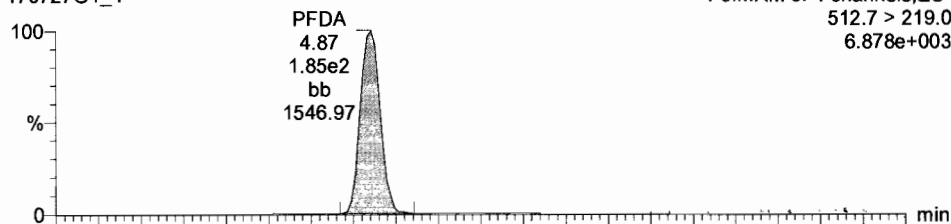
F5:MRM of 12 channels,ES-
463.0 > 418.8
3.583e+004



PFDA

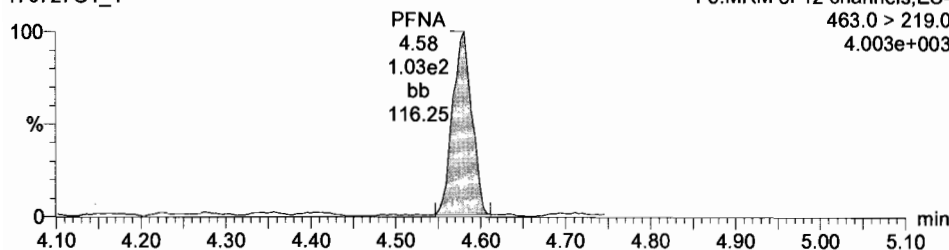
170727G1_4

F6:MRM of 4 channels,ES-
512.7 > 219.0
6.878e+003



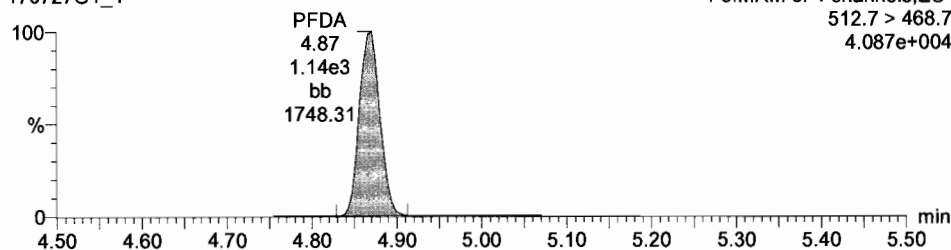
170727G1_4

F5:MRM of 12 channels,ES-
463.0 > 219.0
4.003e+003



170727G1_4

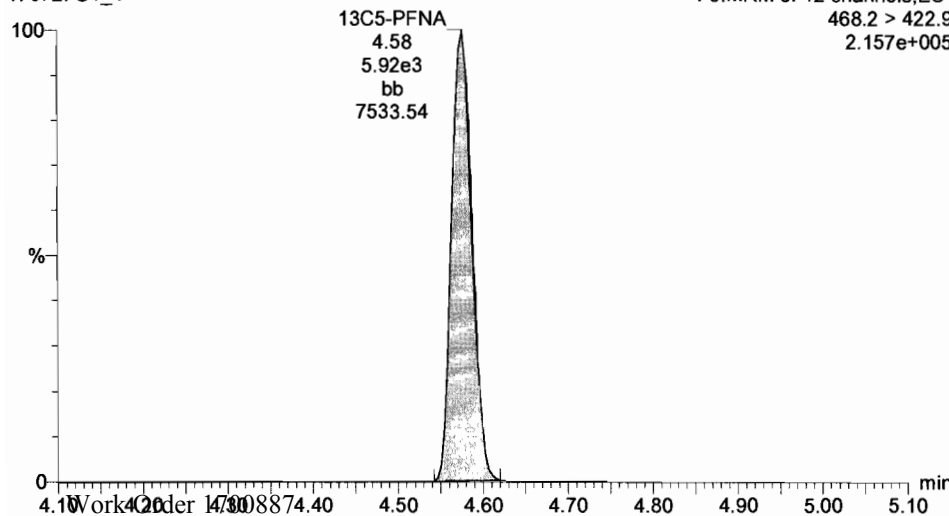
F6:MRM of 4 channels,ES-
512.7 > 468.7
4.087e+004



13C5-PFNA

170727G1_4

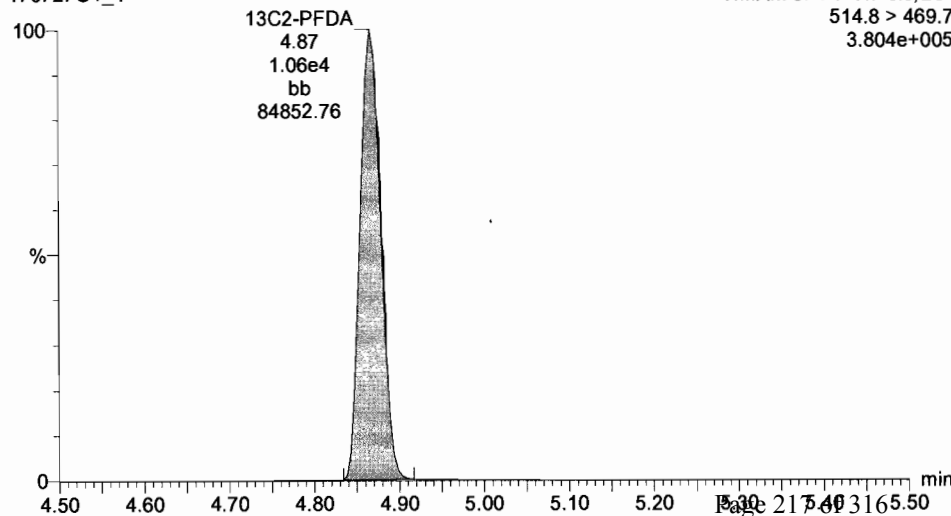
F5:MRM of 12 channels,ES-
468.2 > 422.9
2.157e+005



13C2-PFDA

170727G1_4

F6:MRM of 4 channels,ES-
514.8 > 469.7
3.804e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

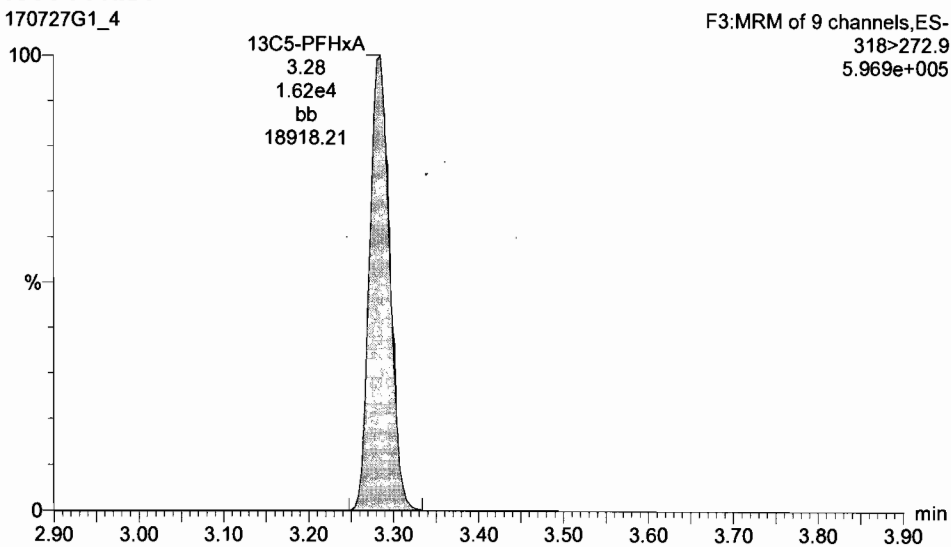
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Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-3 PFC CS0 17G2716, Description: PFC CS0 17G2716 A, Name: 170727G1_4, Date: 27-Jul-2017, Time: 12:09:31, Instrument: , Lab: , User:

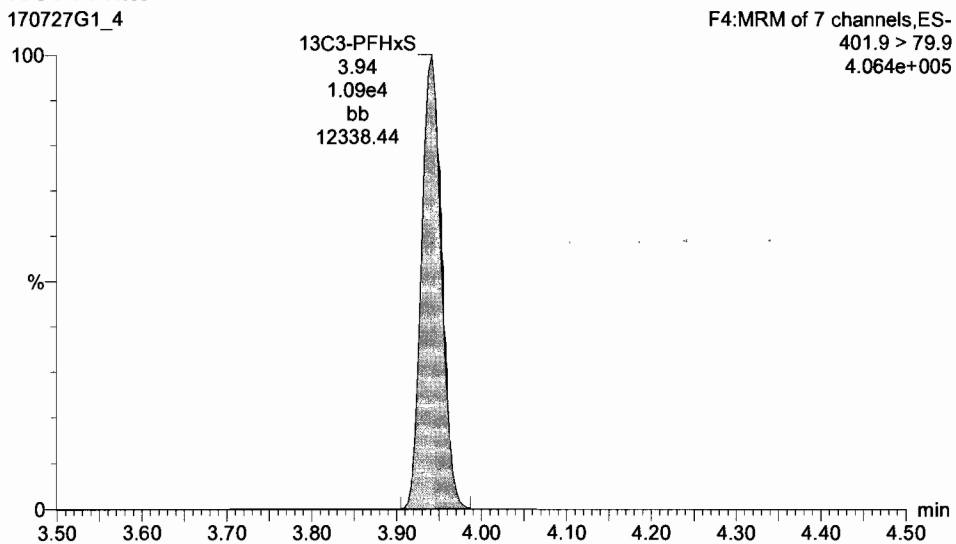
13C5-PFHxA

170727G1_4



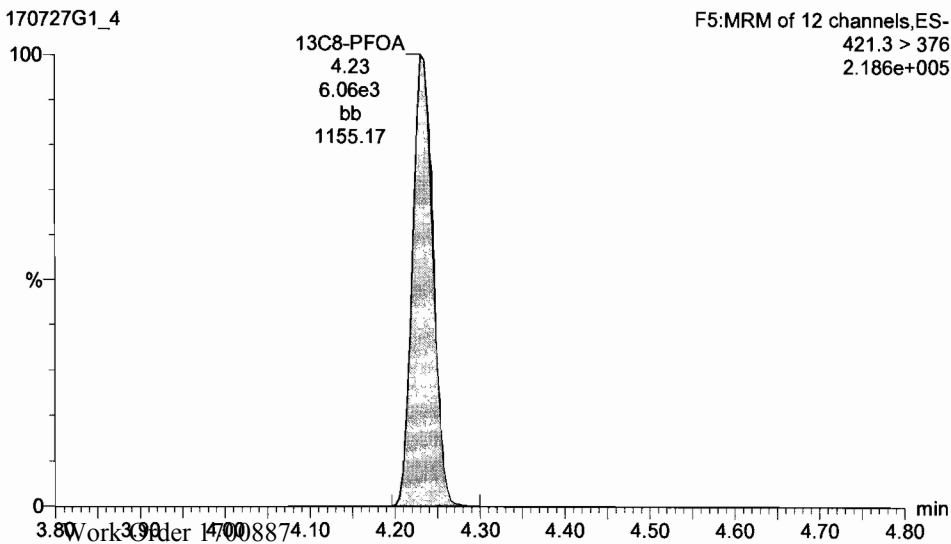
13C3-PFHxS

170727G1_4



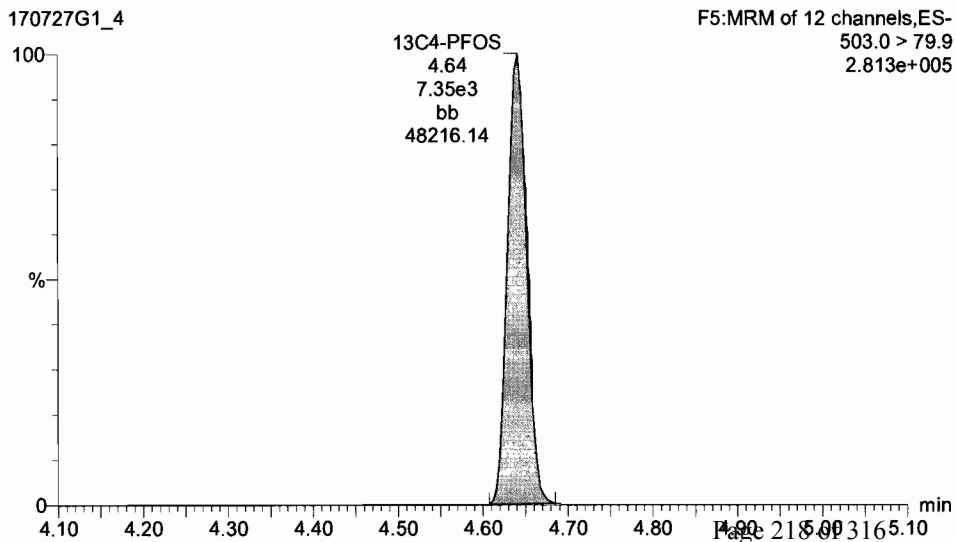
13C8-PFOA

170727G1_4



13C4-PFOS

170727G1_4



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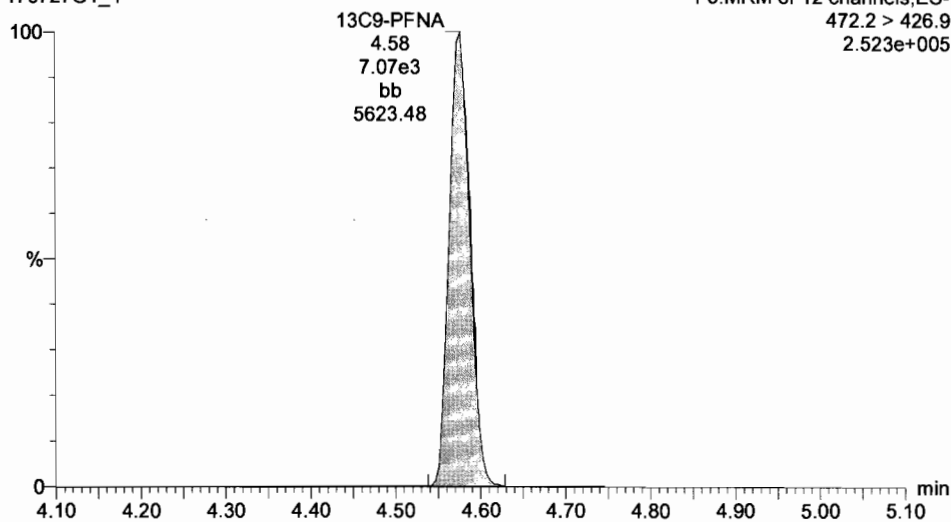
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ID: ST170727G1-3 PFC CS0 17G2716, Description: PFC CS0 17G2716 A, Name: 170727G1_4, Date: 27-Jul-2017, Time: 12:09:31, Instrument: , Lab: , User:

13C9-PFNA

170727G1_4

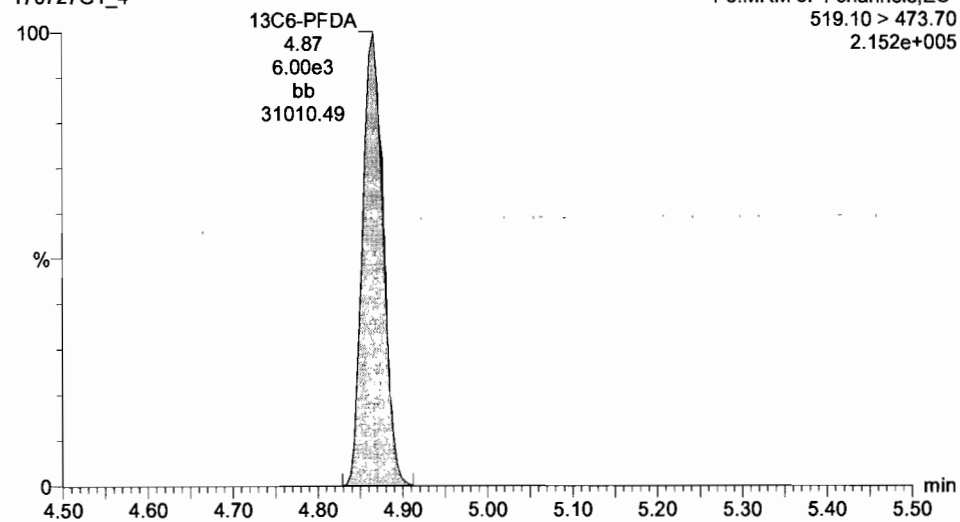
F5:MRM of 12 channels,ES-
472.2 > 426.9
2.523e+005



13C6-PFDA

170727G1_4

F6:MRM of 4 channels,ES-
519.10 > 473.70
2.152e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

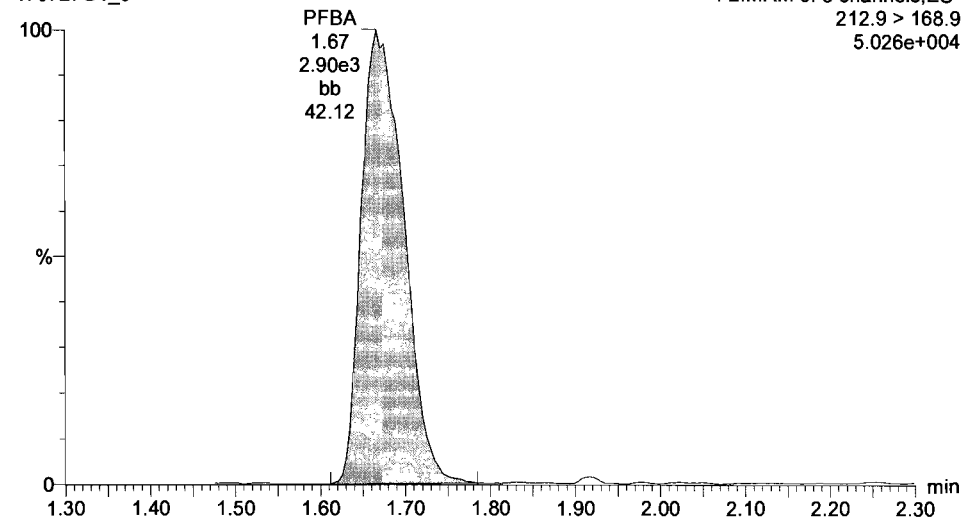
Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-4 PFC CS1 17G2717, Description: PFC CS1 17G2717 A, Name: 170727G1_5, Date: 27-Jul-2017, Time: 12:21:58, Instrument: , Lab: , User:

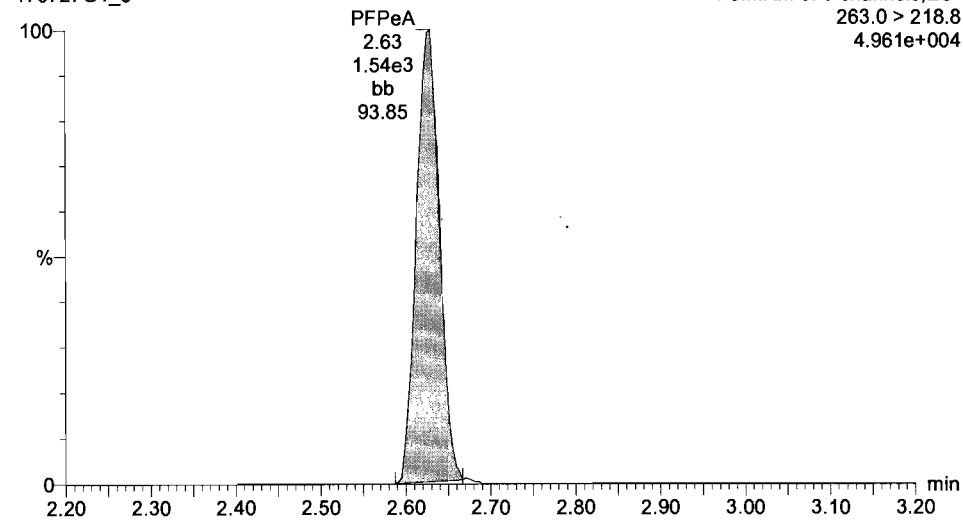
PFBA

170727G1_5



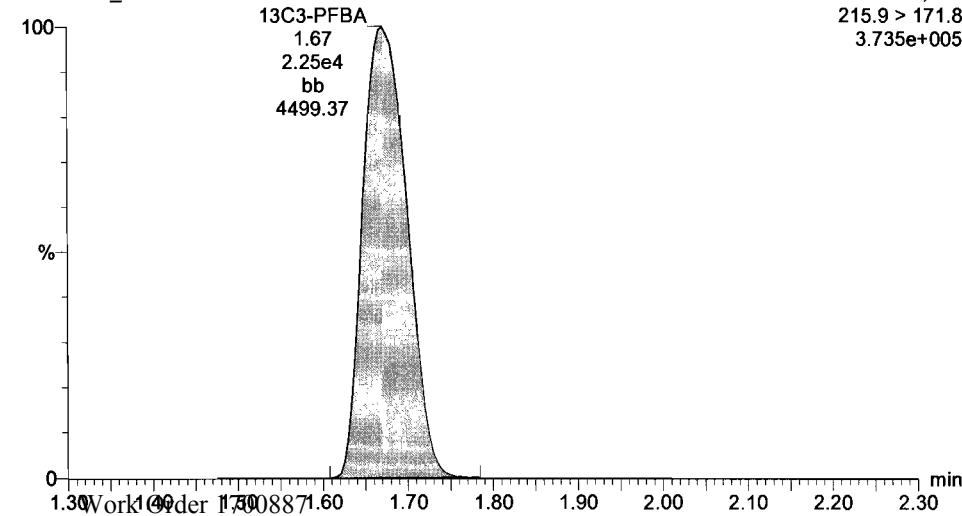
PFPeA

170727G1_5



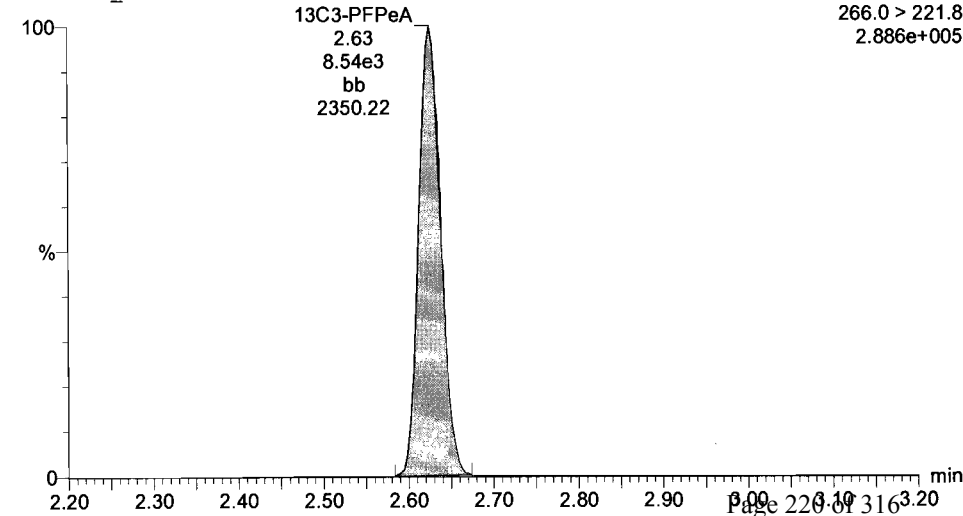
13C3-PFBA

170727G1_5



13C3-PFPeA

170727G1_5



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

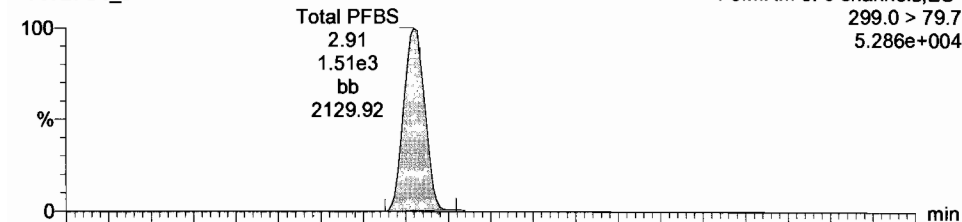
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Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-4 PFC CS1 17G2717, Description: PFC CS1 17G2717 A, Name: 170727G1_5, Date: 27-Jul-2017, Time: 12:21:58, Instrument: , Lab: , User:

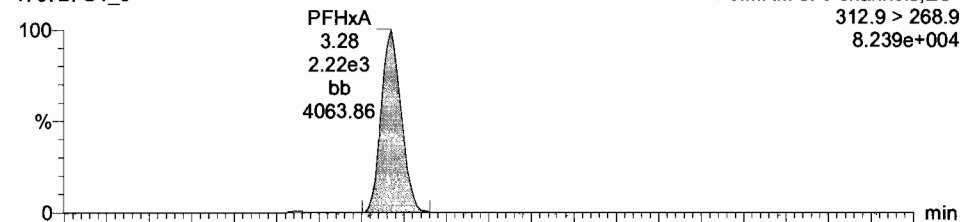
Total PFBS

170727G1_5

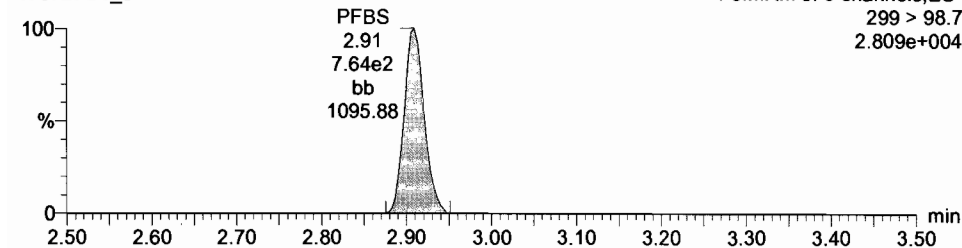


PFHxA

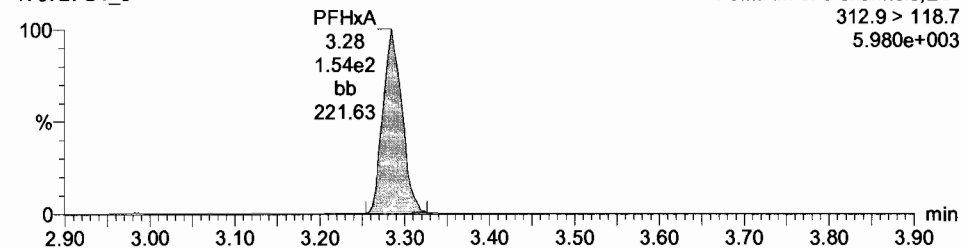
170727G1_5



170727G1_5

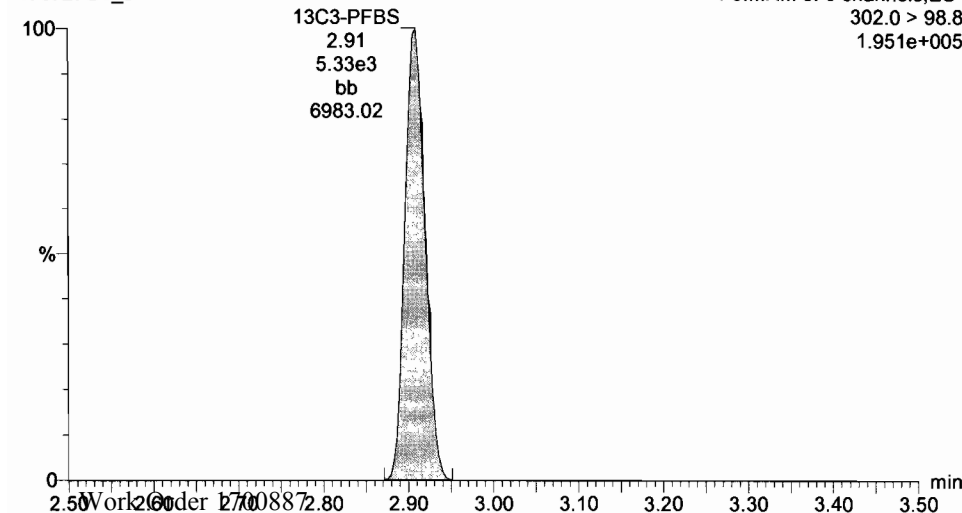


170727G1_5



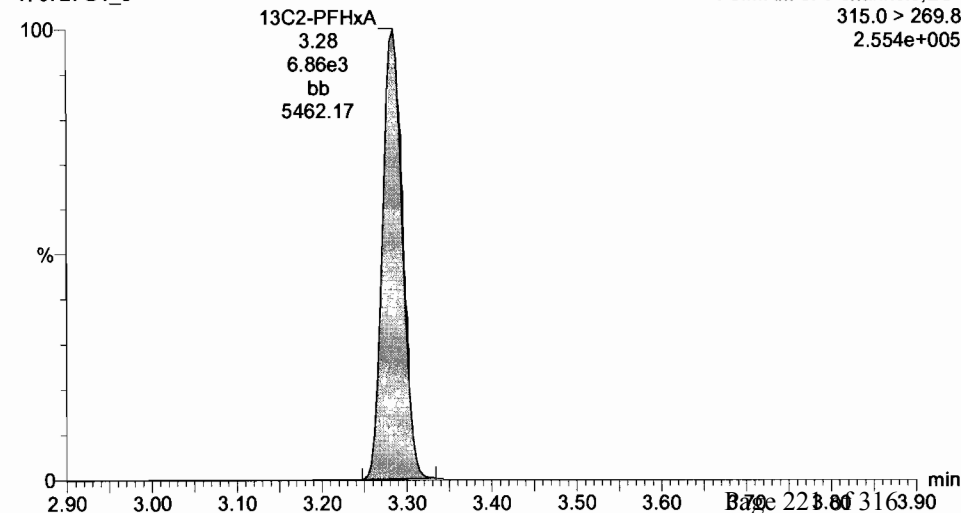
13C3-PFBS

170727G1_5



13C2-PFHxA

170727G1_5



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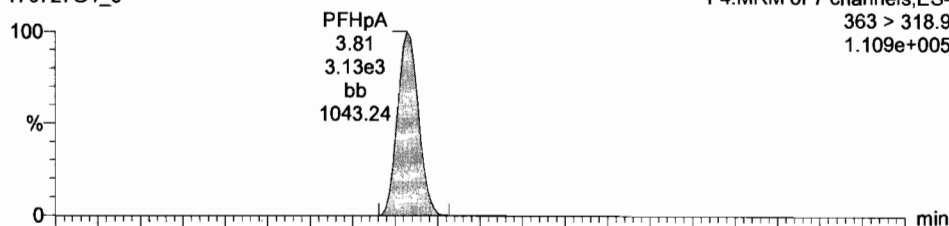
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ID: ST170727G1-4 PFC CS1 17G2717, Description: PFC CS1 17G2717 A, Name: 170727G1_5, Date: 27-Jul-2017, Time: 12:21:58, Instrument: , Lab: , User:

PFHpA

170727G1_5

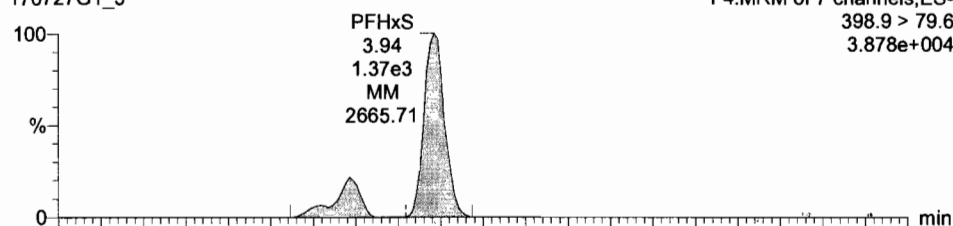
F4:MRM of 7 channels,ES-
363 > 318.9
1.109e+005



Total PFHxS

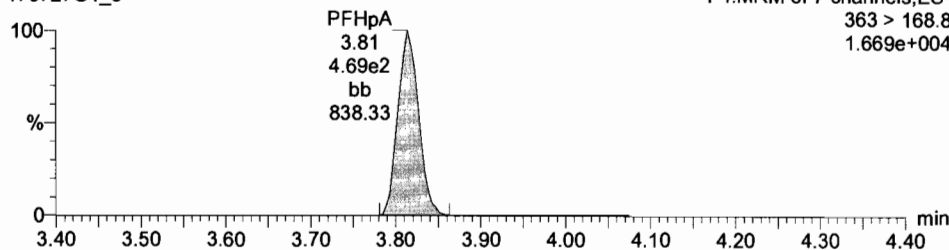
170727G1_5

F4:MRM of 7 channels,ES-
398.9 > 79.6
3.878e+004



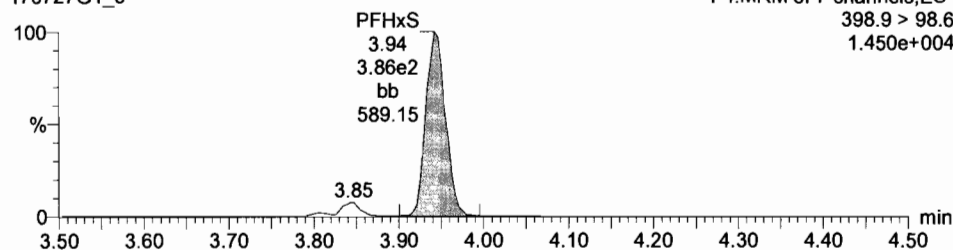
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F4:MRM of 7 channels,ES-
363 > 168.8
1.669e+004



170727G1_5

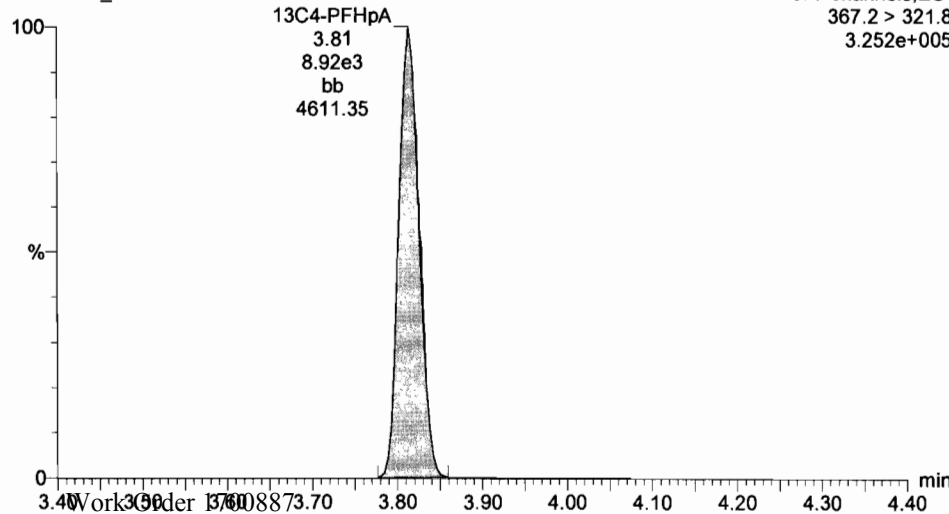
F4:MRM of 7 channels,ES-
398.9 > 98.6
1.450e+004



13C4-PFHpA

170727G1_5

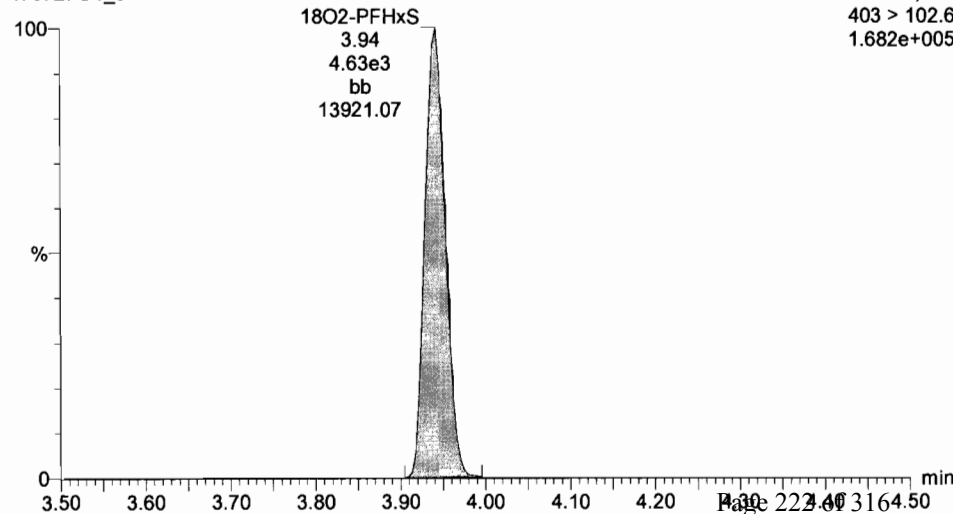
F4:MRM of 7 channels,ES-
367.2 > 321.8
3.252e+005



18O2-PFHxS

170727G1_5

F4:MRM of 7 channels,ES-
403 > 102.6
1.682e+005

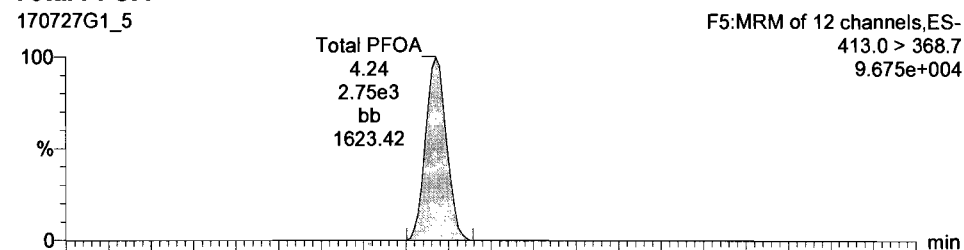


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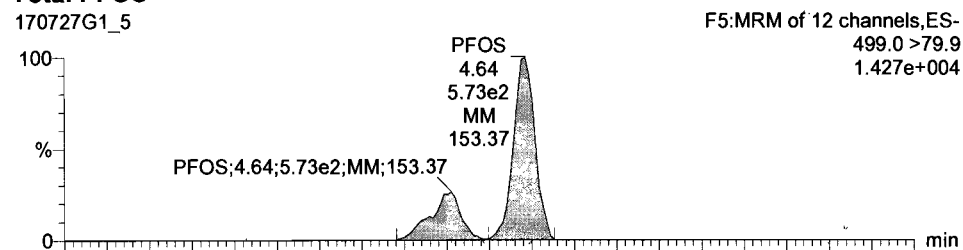
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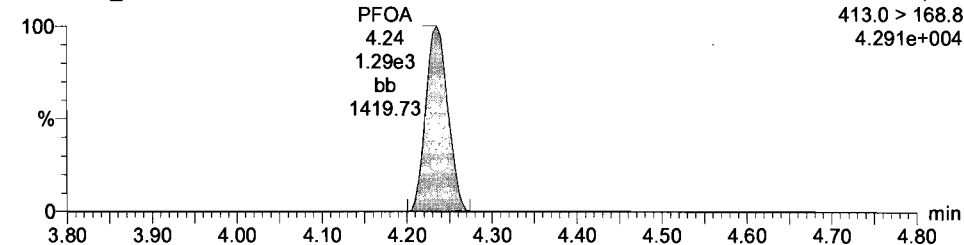
Total PFOA



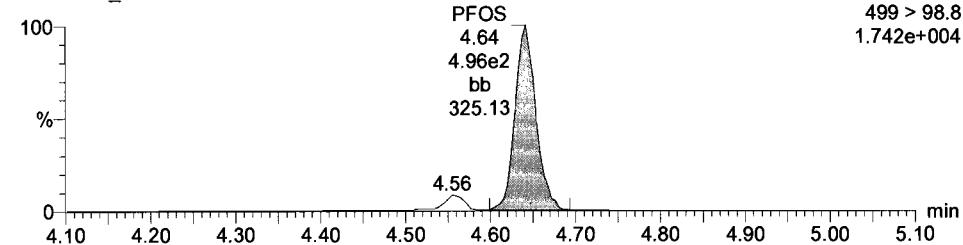
Total PFOS



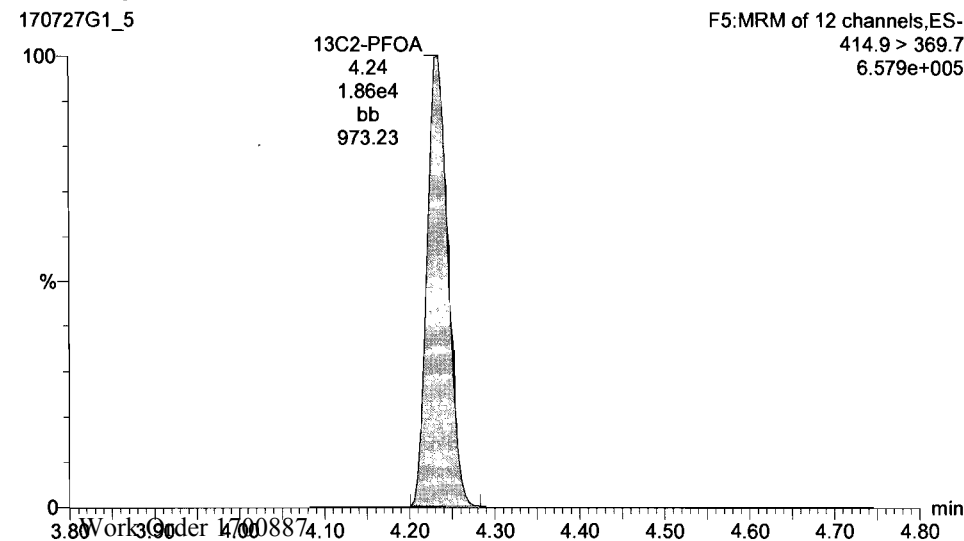
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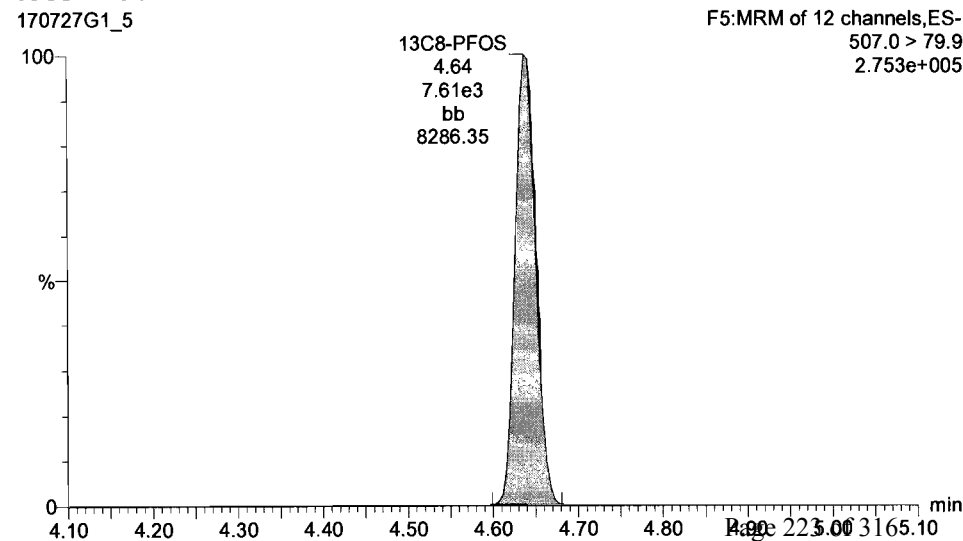
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13C2-PFOA



13C8-PFOS



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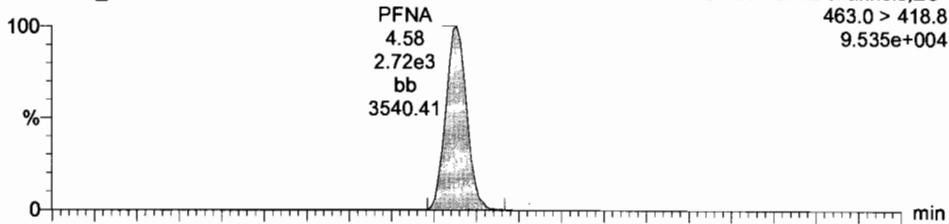
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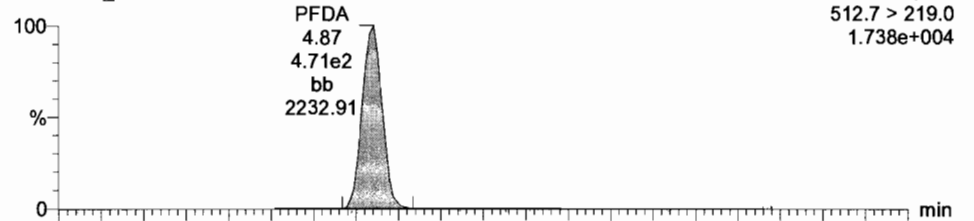
PFNA

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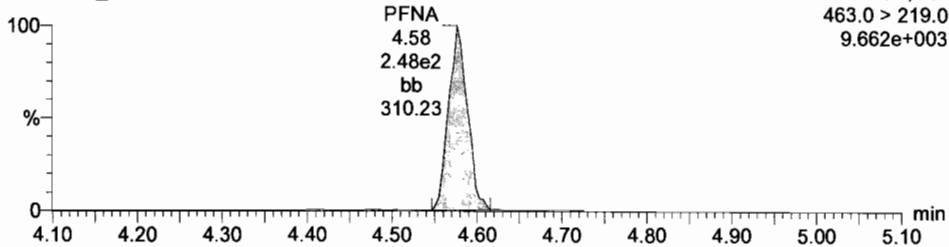


PFDA

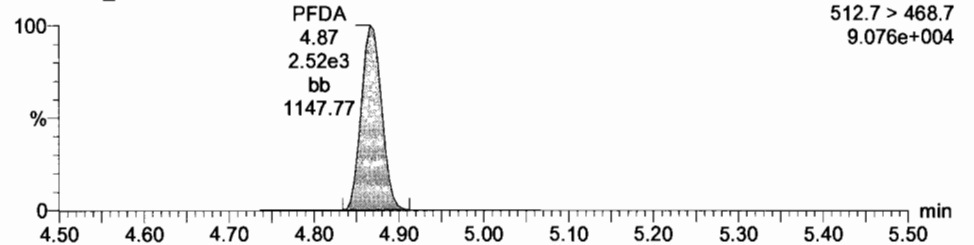
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170727G1_5

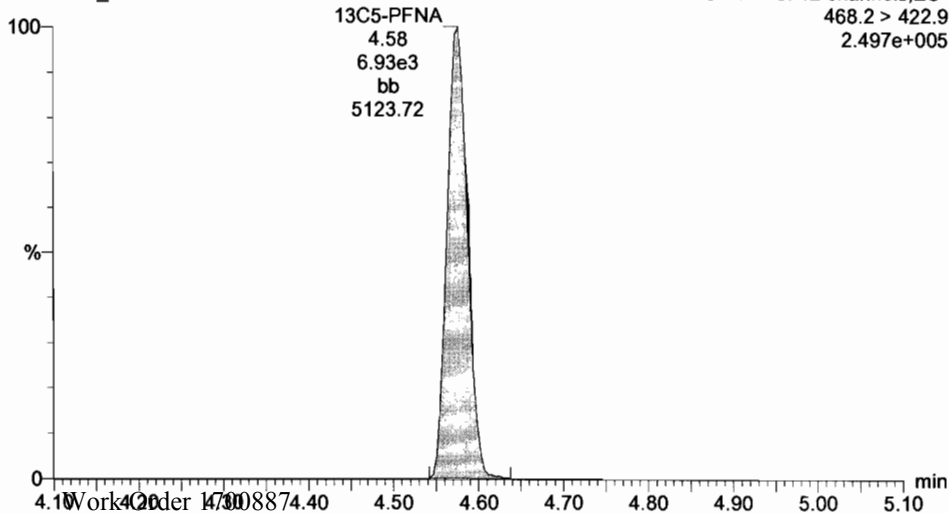


170727G1_5



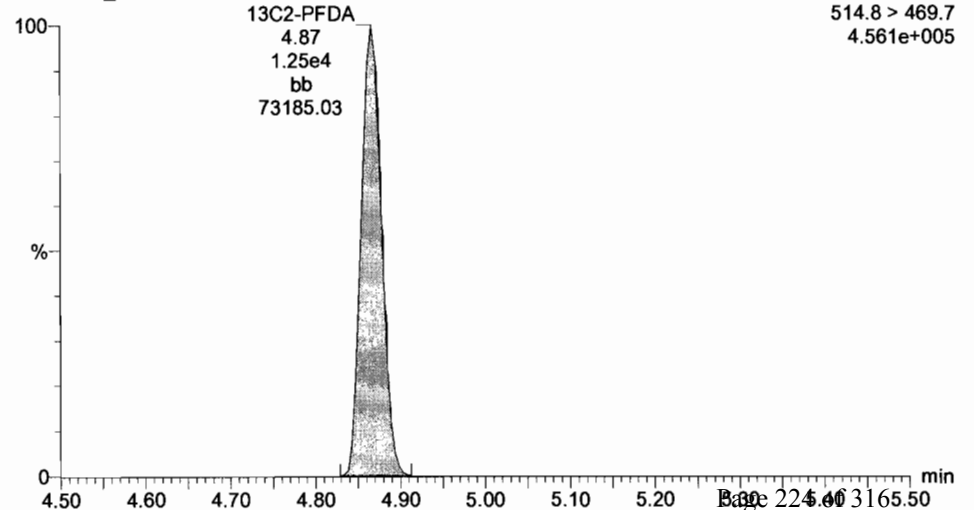
13C5-PFNA

170727G1_5



13C2-PFDA

170727G1_5



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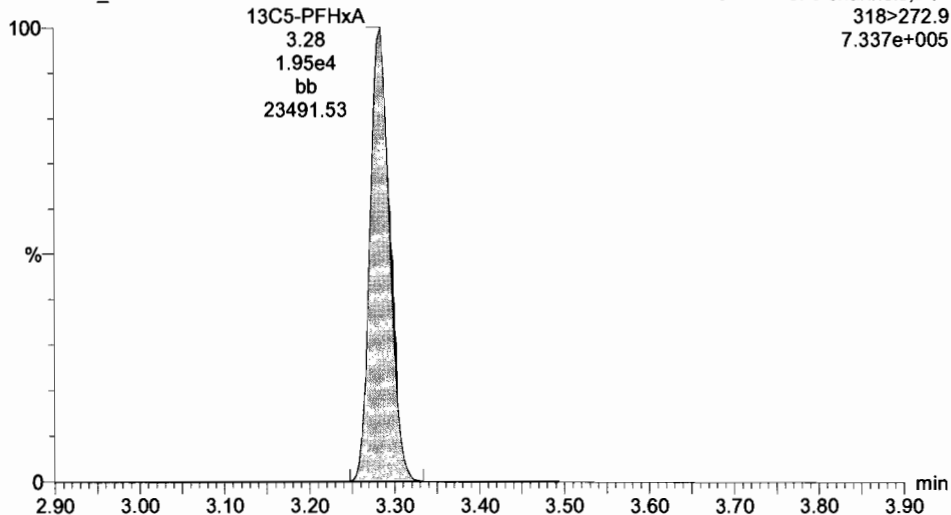
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ID: ST170727G1-4 PFC CS1 17G2717, Description: PFC CS1 17G2717 A, Name: 170727G1_5, Date: 27-Jul-2017, Time: 12:21:58, Instrument: , Lab: , User:

13C5-PFHxA

170727G1_5

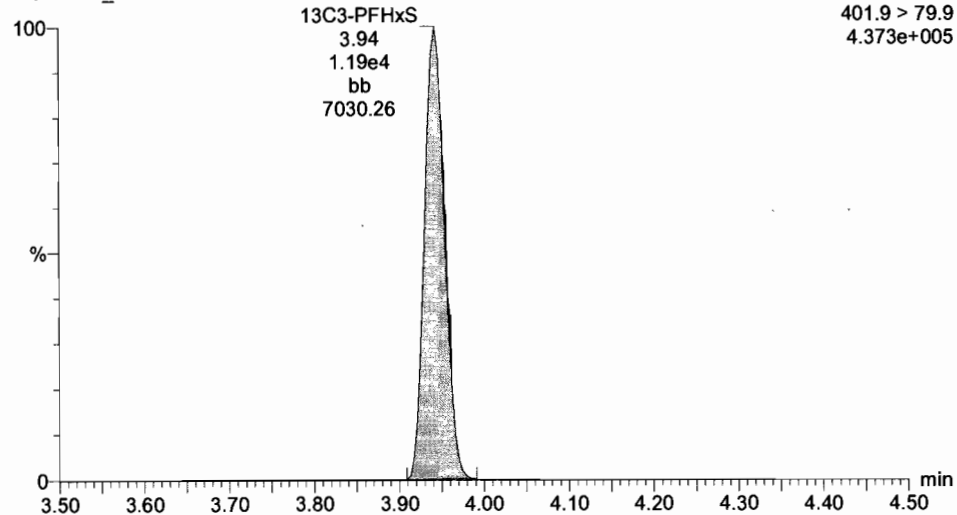
F3:MRM of 9 channels,ES-
318>272.9
7.337e+005



13C3-PFHxS

170727G1_5

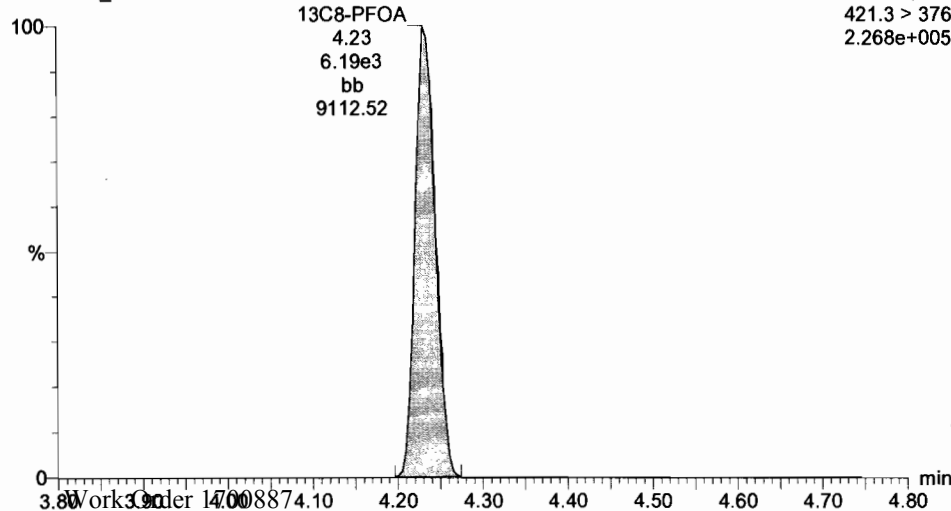
F4:MRM of 7 channels,ES-
401.9 > 79.9
4.373e+005



13C8-PFOA

170727G1_5

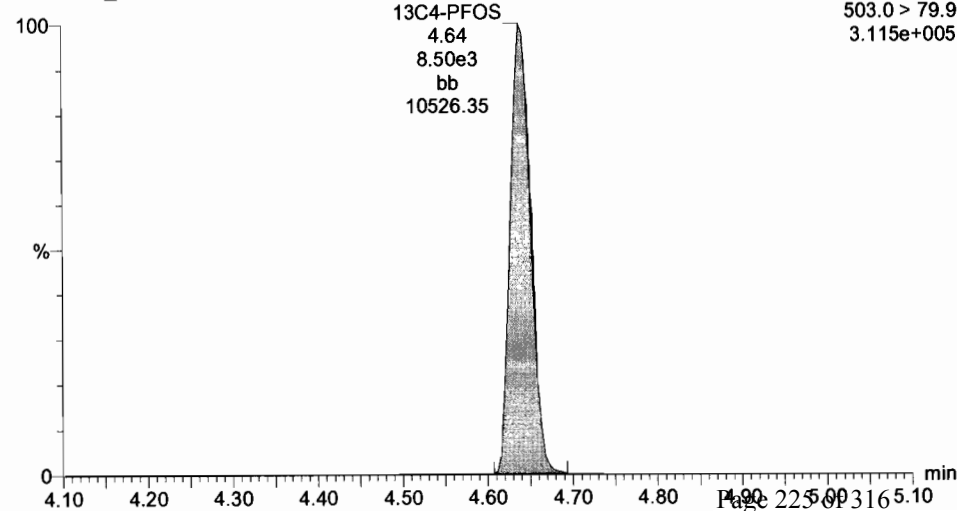
F5:MRM of 12 channels,ES-
421.3 > 376
2.268e+005



13C4-PFOS

170727G1_5

F5:MRM of 12 channels,ES-
503.0 > 79.9
3.115e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

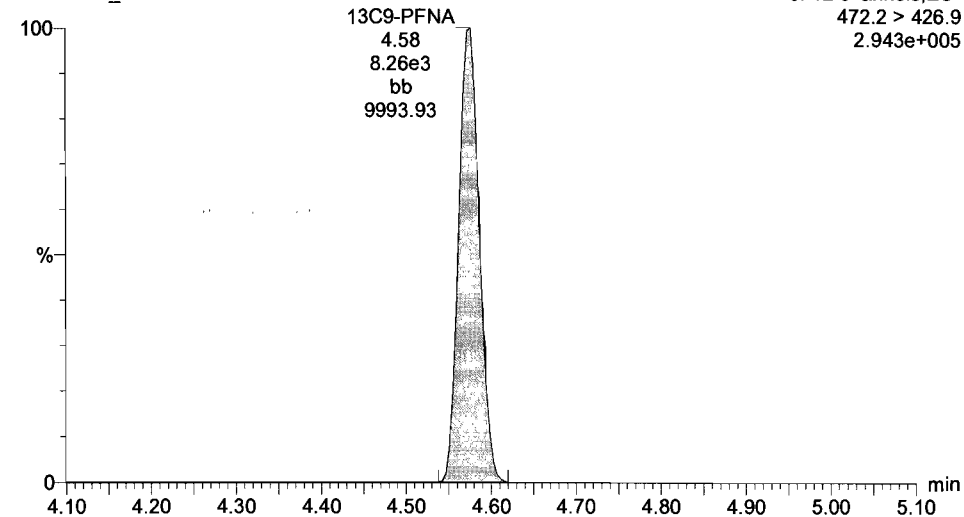
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ID: ST170727G1-4 PFC CS1 17G2717, Description: PFC CS1 17G2717 A, Name: 170727G1_5, Date: 27-Jul-2017, Time: 12:21:58, Instrument: , Lab: , User:

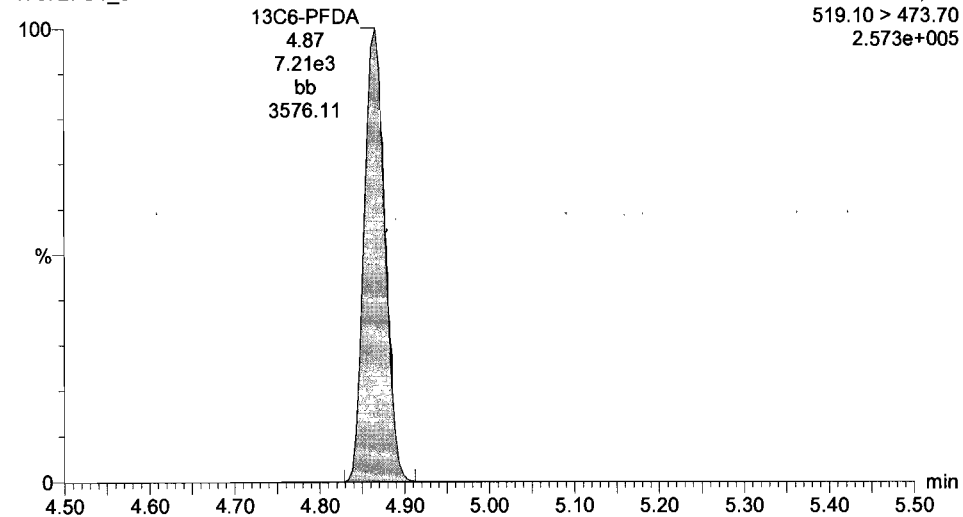
13C9-PFNA

170727G1_5



13C6-PFDA

170727G1_5



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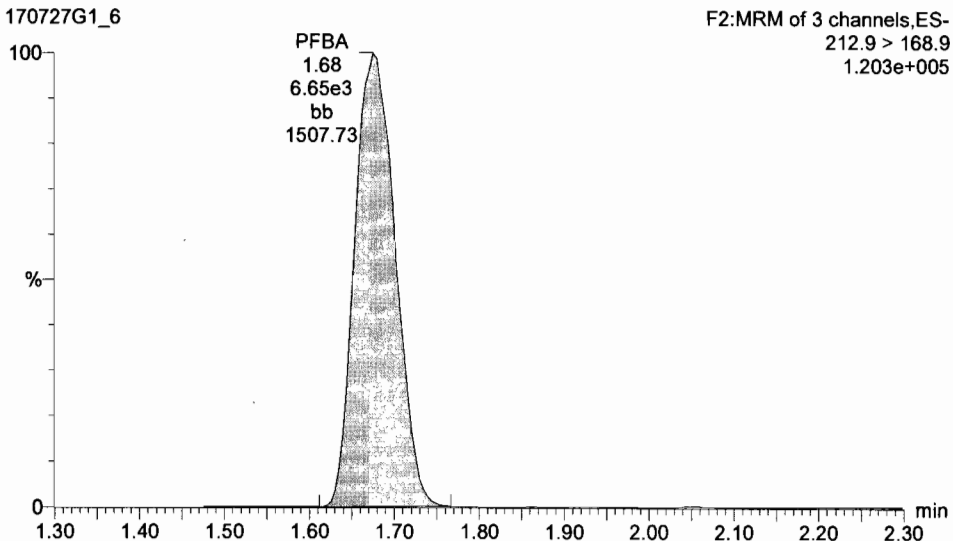
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ID: ST170727G1-5 PFC CS2 17G2718, Description: PFC CS2 17G2718 A, Name: 170727G1_6, Date: 27-Jul-2017, Time: 12:34:32, Instrument: , Lab: , User:

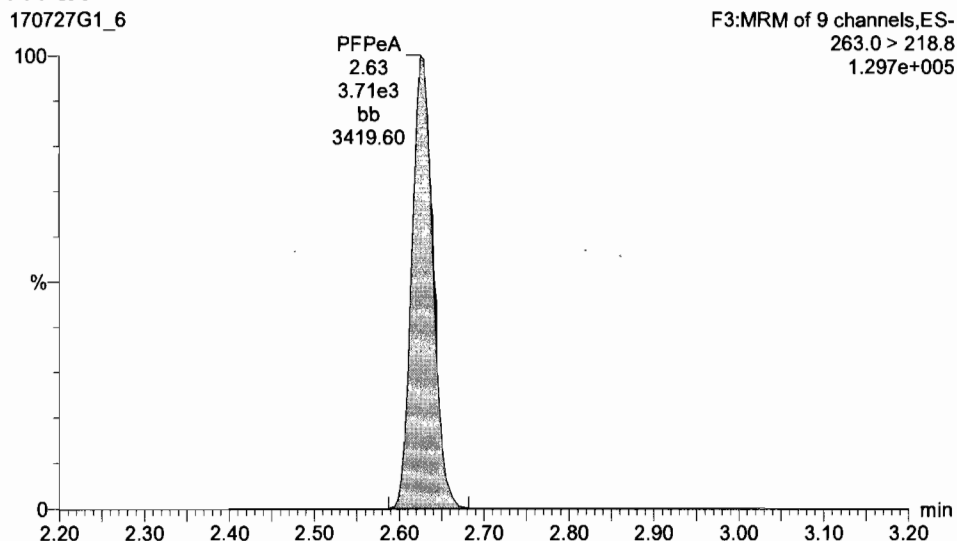
PFBA

170727G1_6



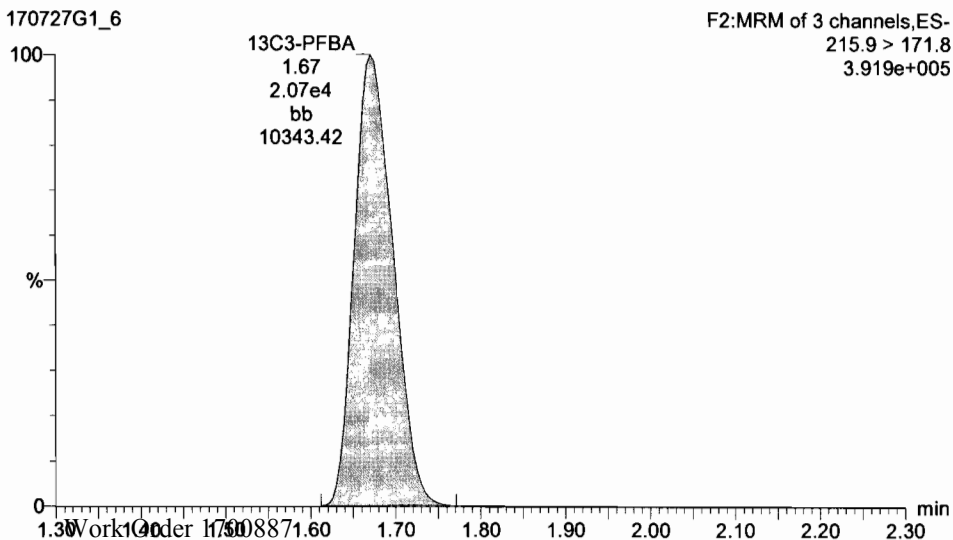
PFPeA

170727G1_6



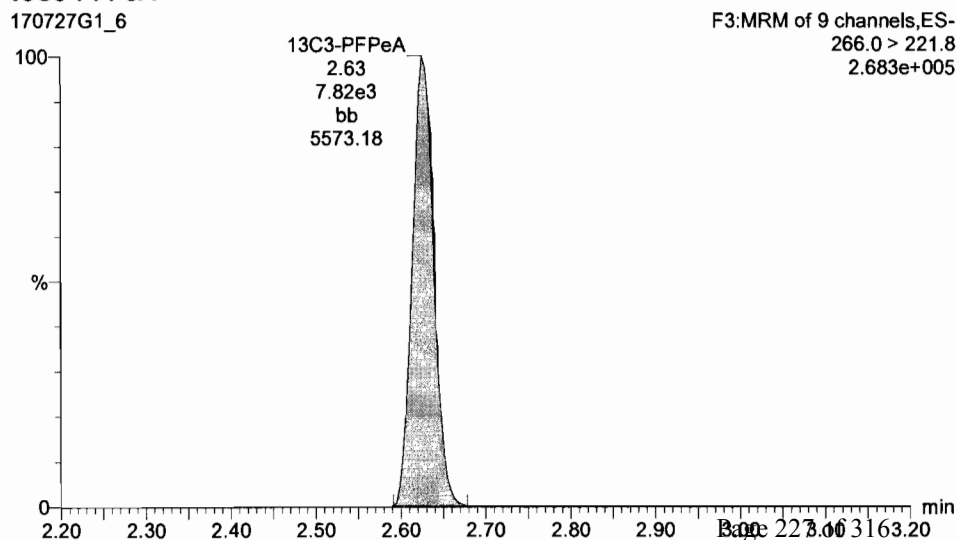
13C3-PFBA

170727G1_6



13C3-PFPeA

170727G1_6



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

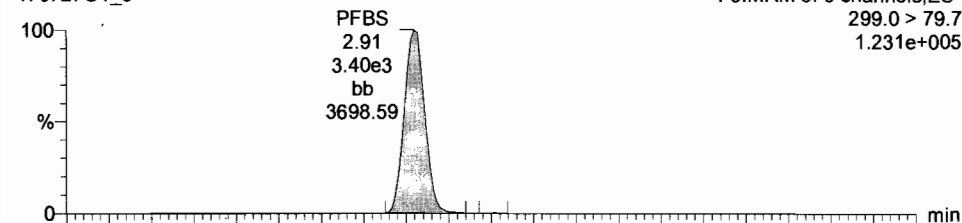
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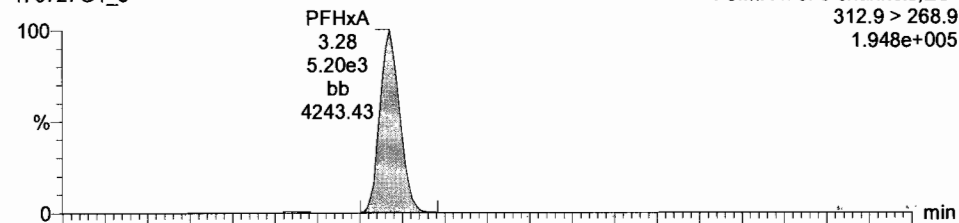
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170727G1_6

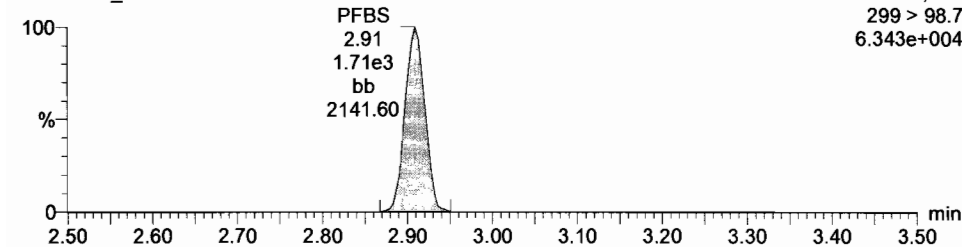


PFHxA

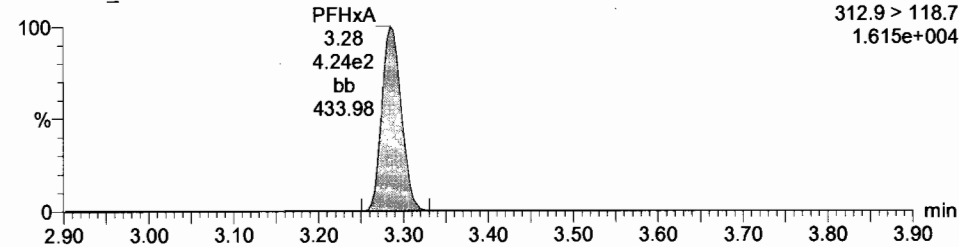
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170727G1_6

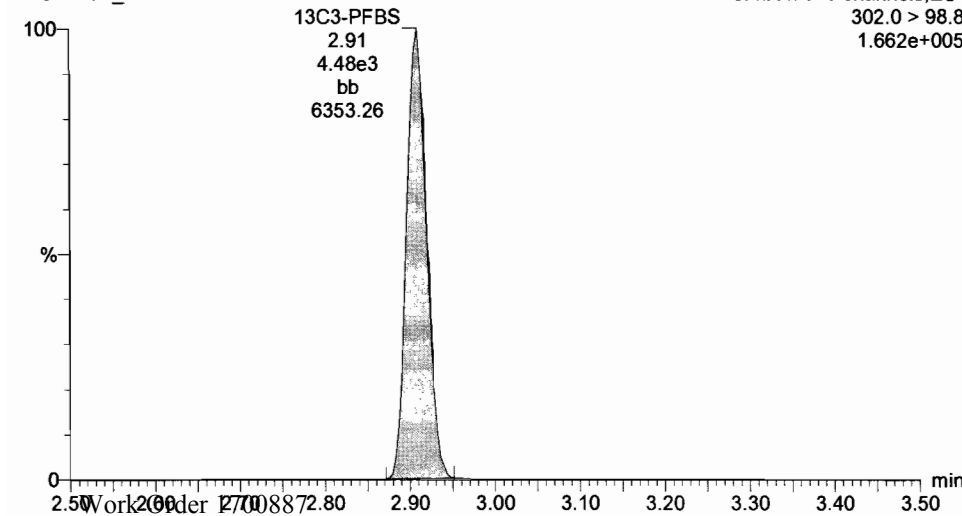


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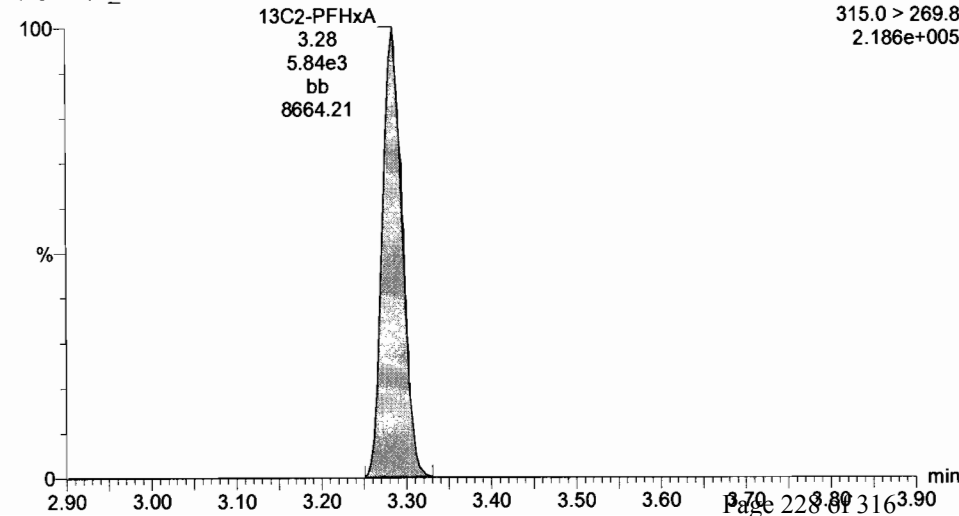
13C3-PFBS

170727G1_6



13C2-PFHxA

170727G1_6



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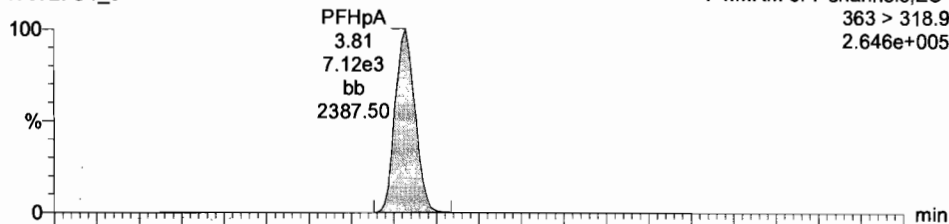
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PFHpA

170727G1_6

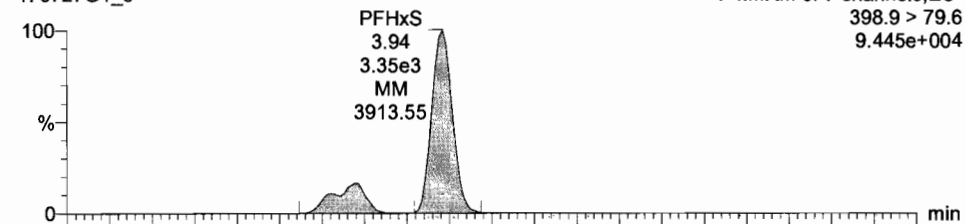
F4:MRM of 7 channels,ES-
363 > 318.9
2.646e+005



Total PFHxS

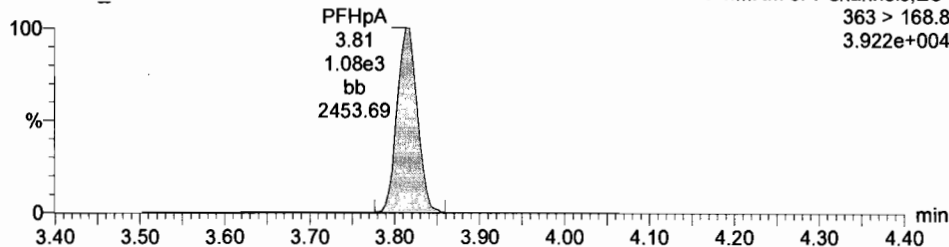
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F4:MRM of 7 channels,ES-
398.9 > 79.6
9.445e+004



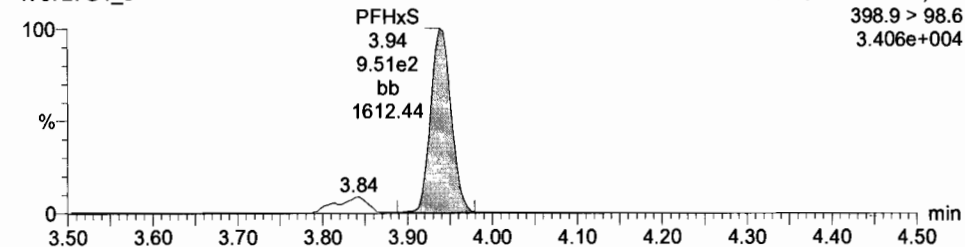
170727G1_6

F4:MRM of 7 channels,ES-
363 > 168.8
3.922e+004



170727G1_6

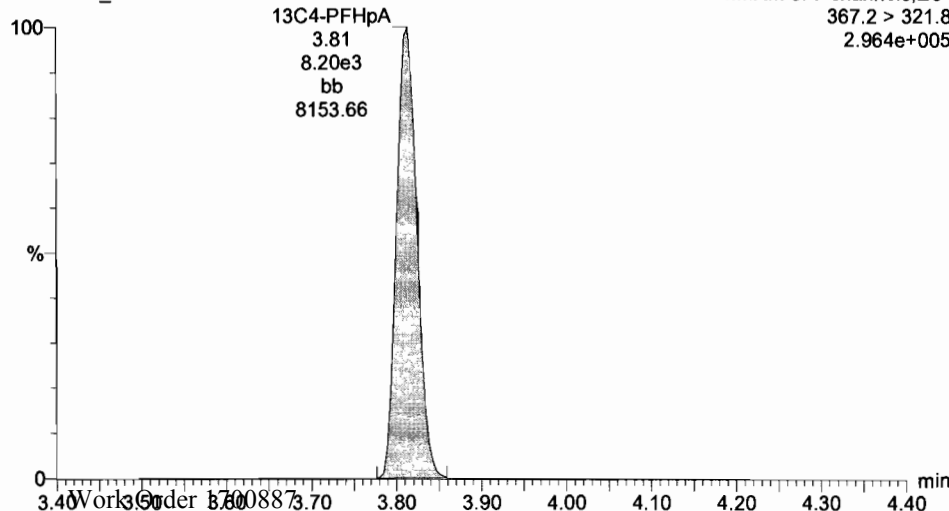
F4:MRM of 7 channels,ES-
398.9 > 98.6
3.406e+004



13C4-PFHpA

170727G1_6

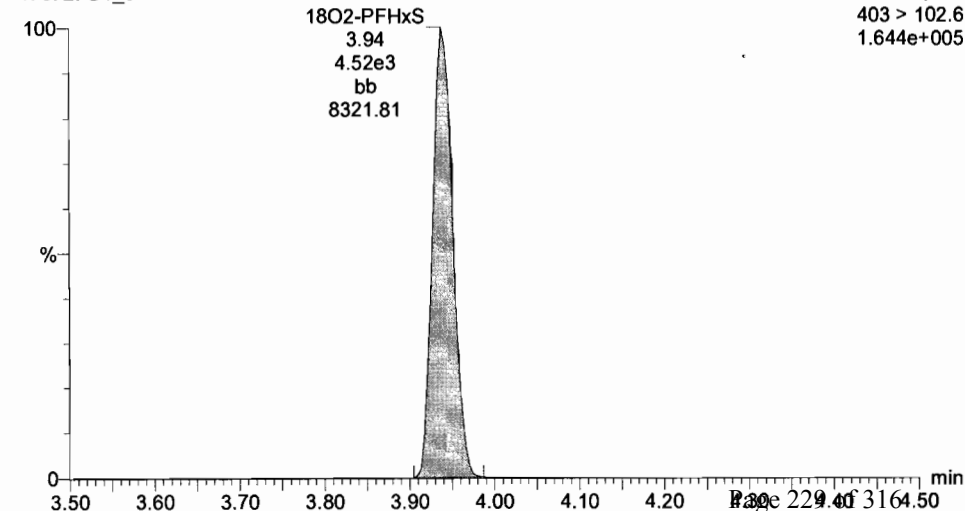
F4:MRM of 7 channels,ES-
367.2 > 321.8
2.964e+005



18O2-PFHxS

170727G1_6

F4:MRM of 7 channels,ES-
403 > 102.6
1.644e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

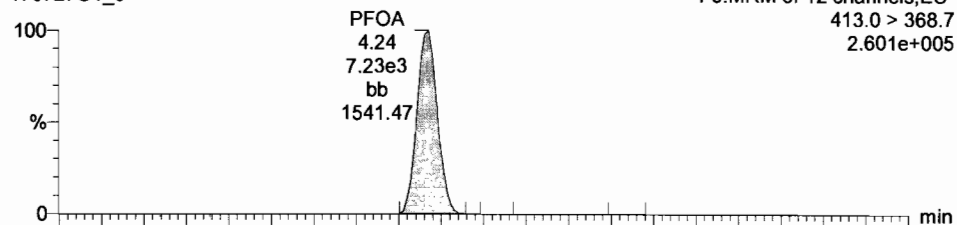
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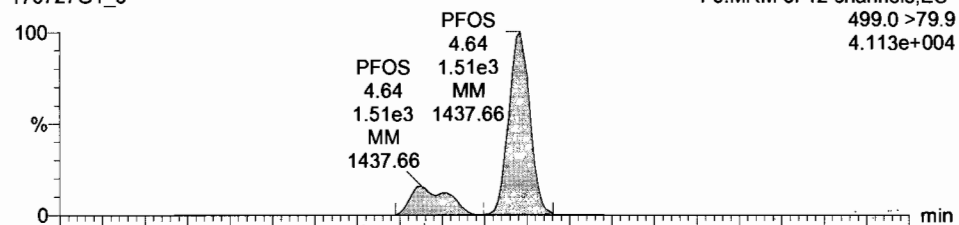
Total PFOA

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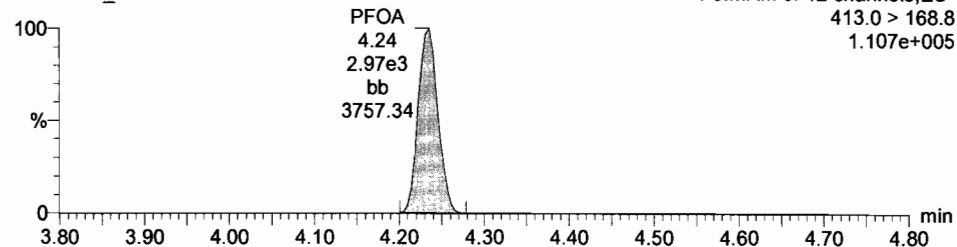


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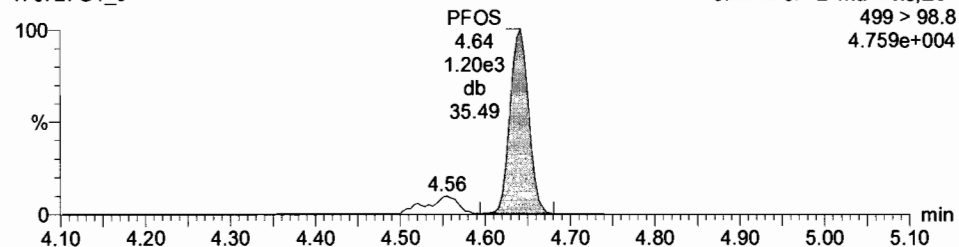
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170727G1_6

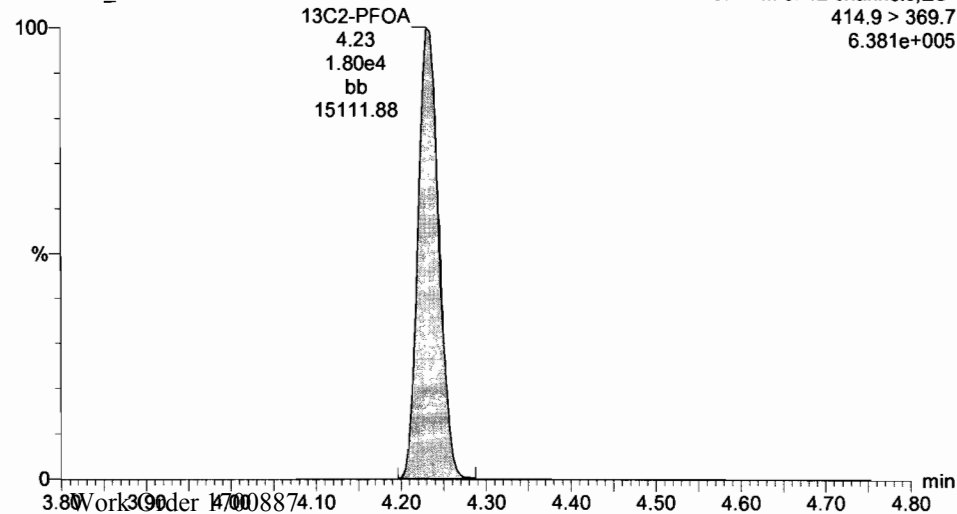


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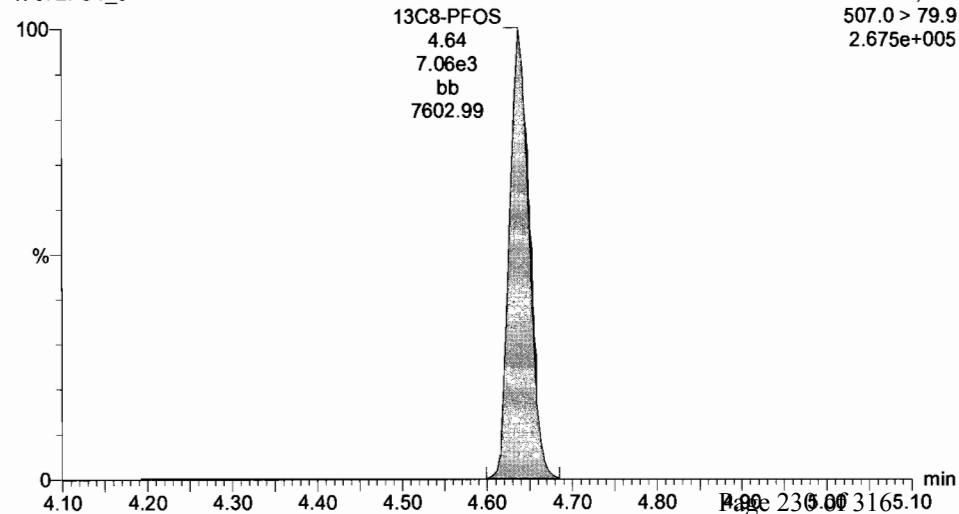
13C2-PFOA

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13C8-PFOS

170727G1_6



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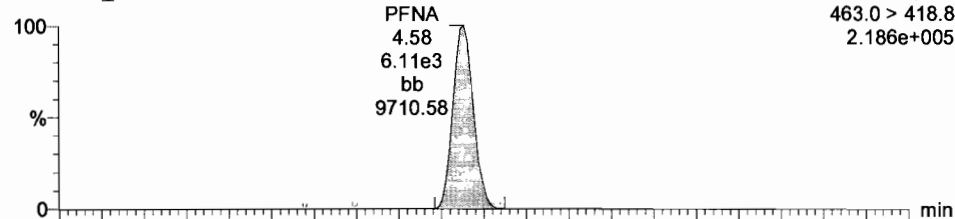
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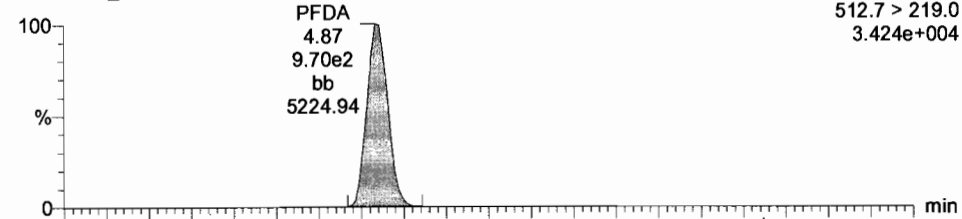
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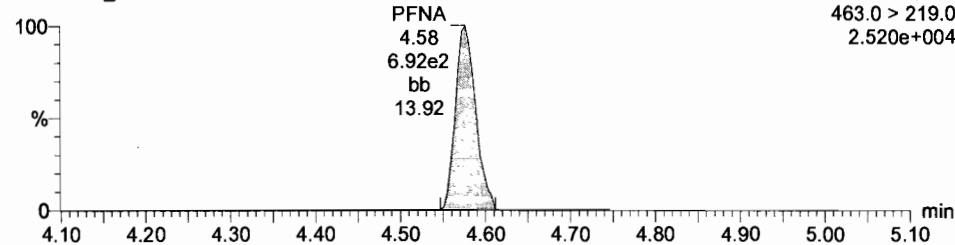


PFDA

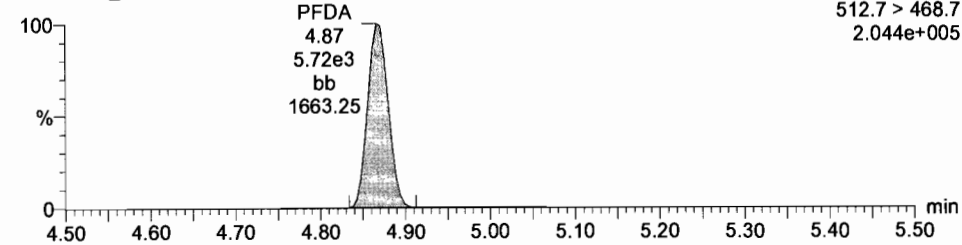
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170727G1_6

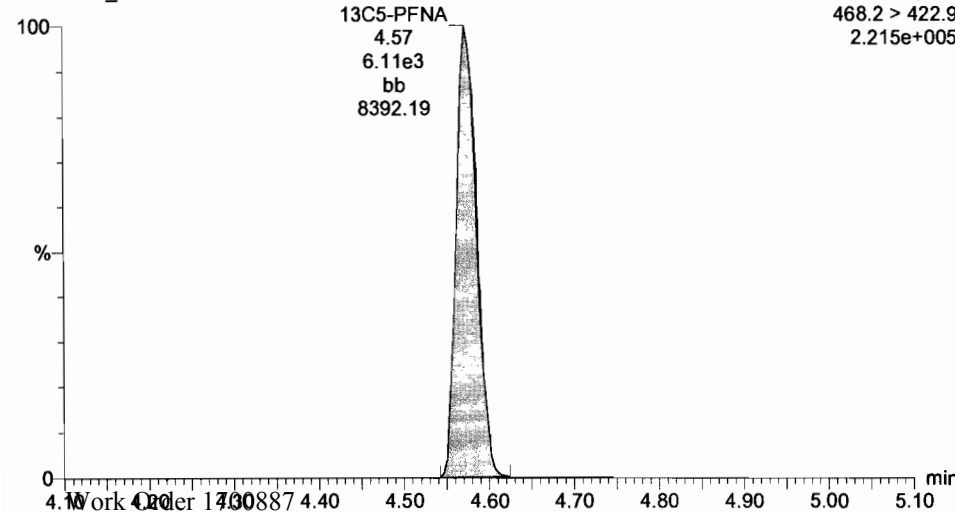


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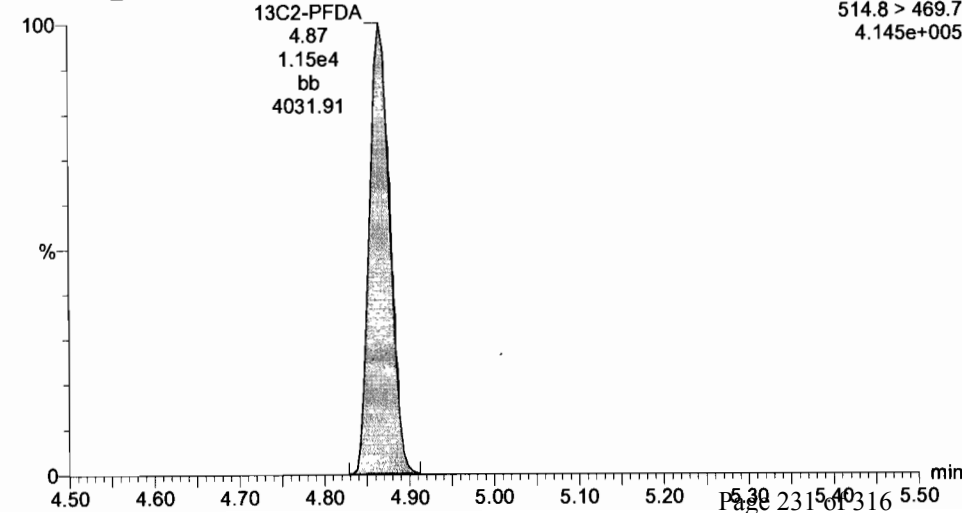
13C5-PFNA

170727G1_6



13C2-PFDA

170727G1_6



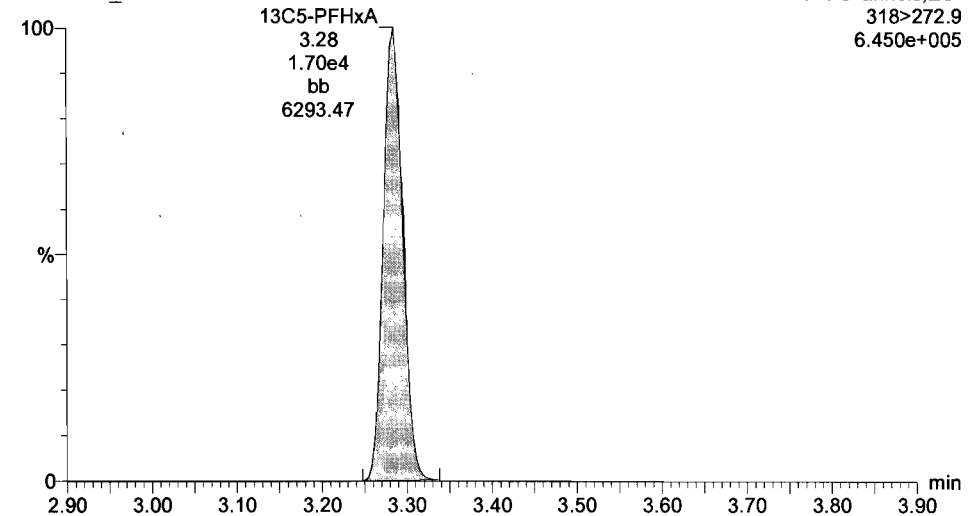
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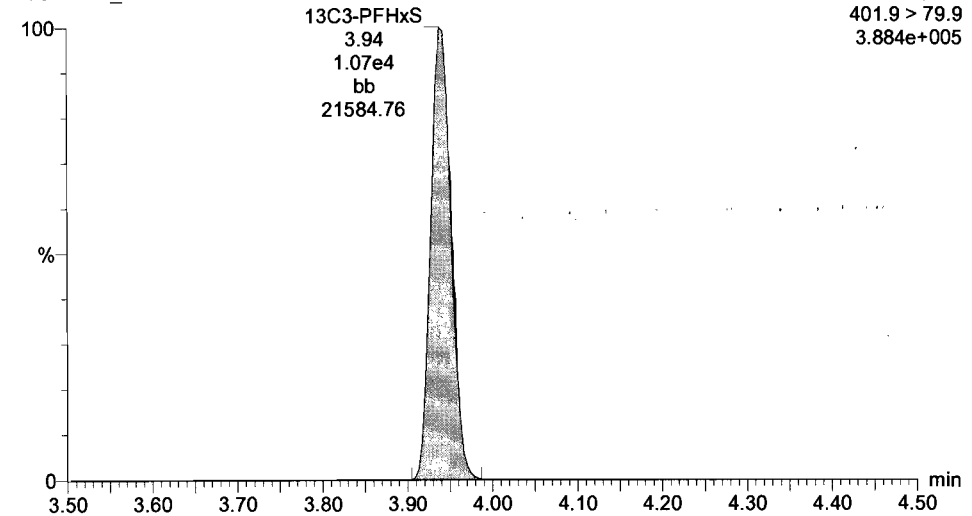
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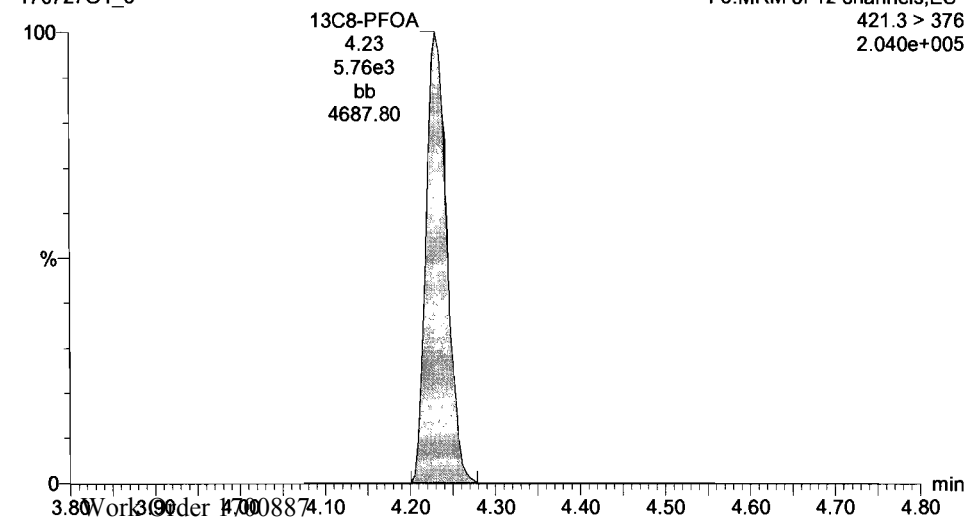
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170727G1_6



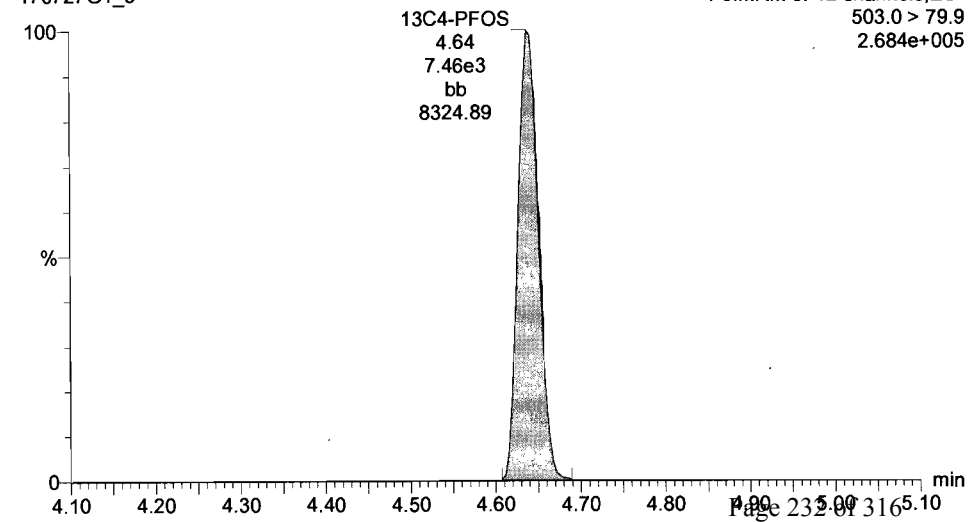
13C3-PFHxS
170727G1_6



13C8-PFOA
170727G1_6



13C4-PFOS
170727G1_6



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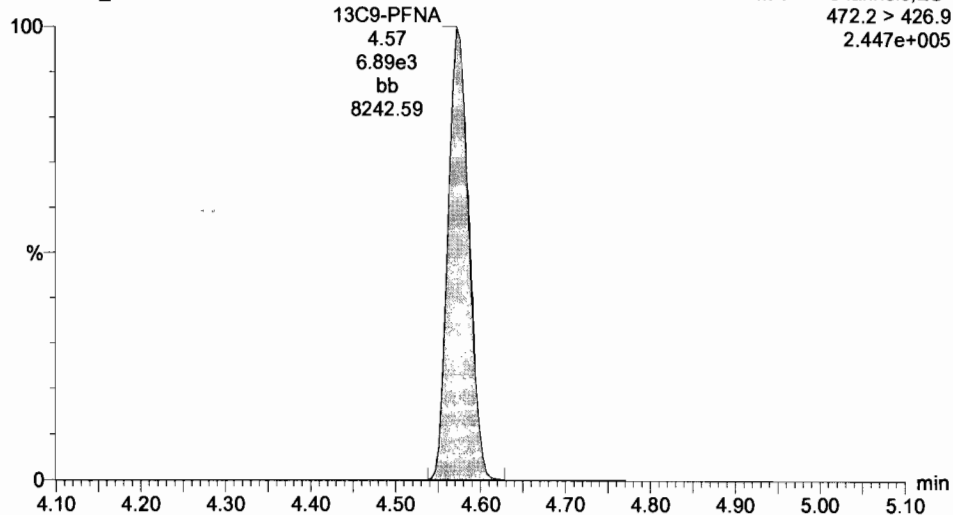
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13C9-PFNA

170727G1_6

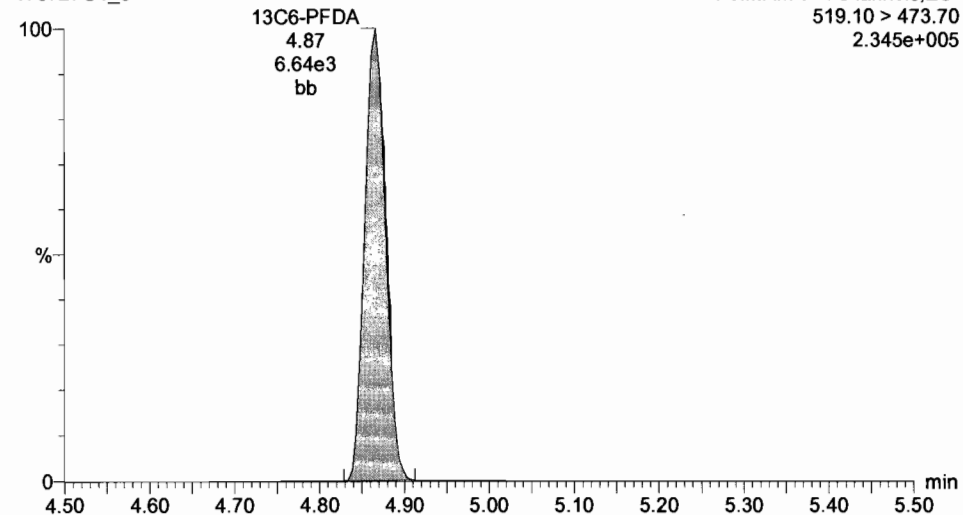
F5:MRM of 12 channels,ES-
472.2 > 426.9
2.447e+005



13C6-PFDA

170727G1_6

F6:MRM of 4 channels,ES-
519.10 > 473.70
2.345e+005



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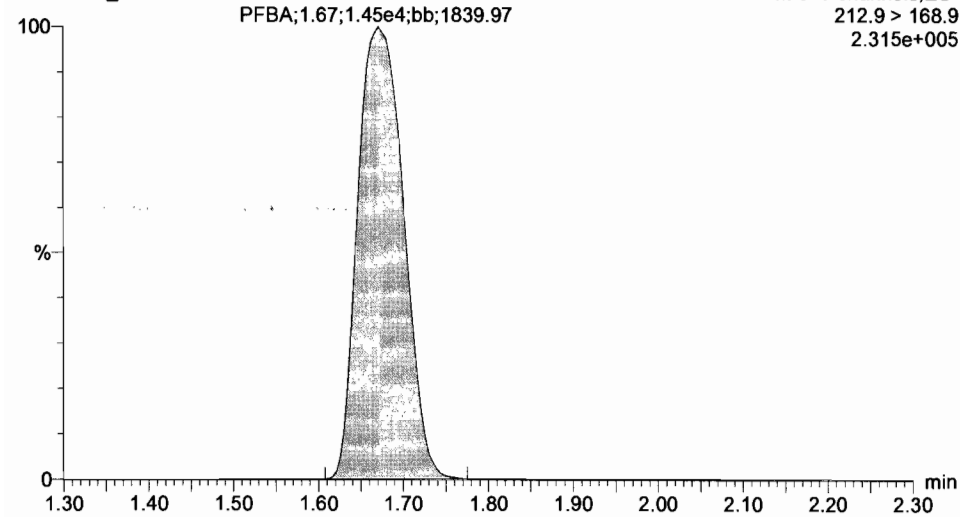
Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-6 PFC CS3 17G2719, Description: PFC CS3 17G2719 A, Name: 170727G1_7, Date: 27-Jul-2017, Time: 12:47:11, Instrument: , Lab: , User:

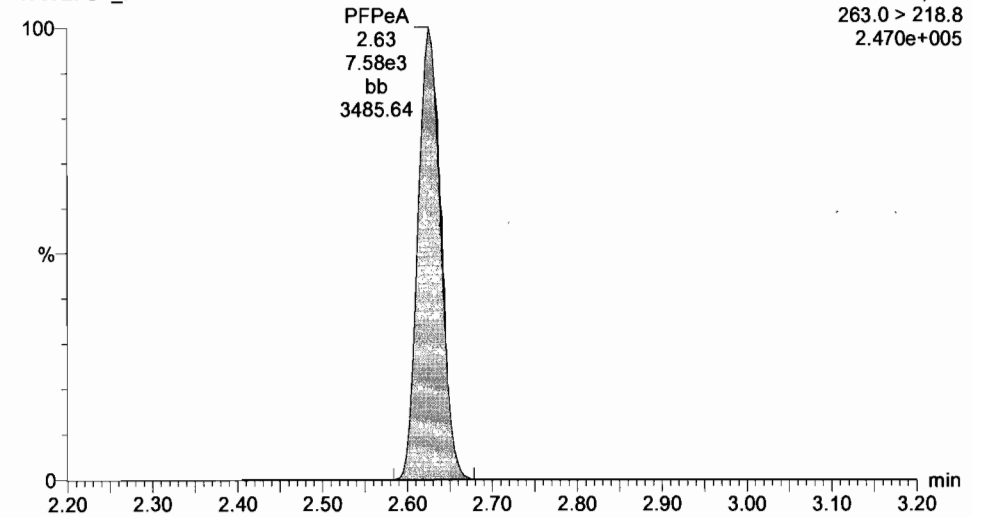
PFBA

170727G1_7



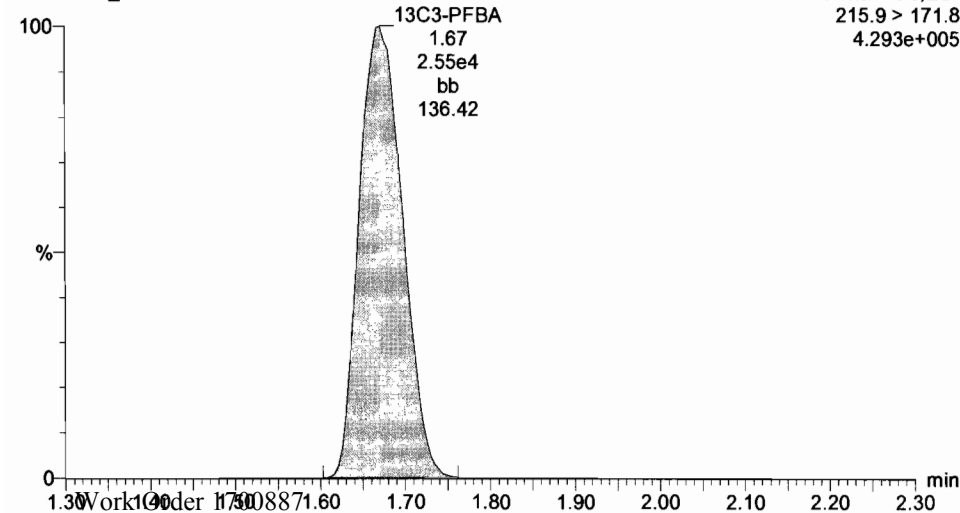
PFPeA

170727G1_7



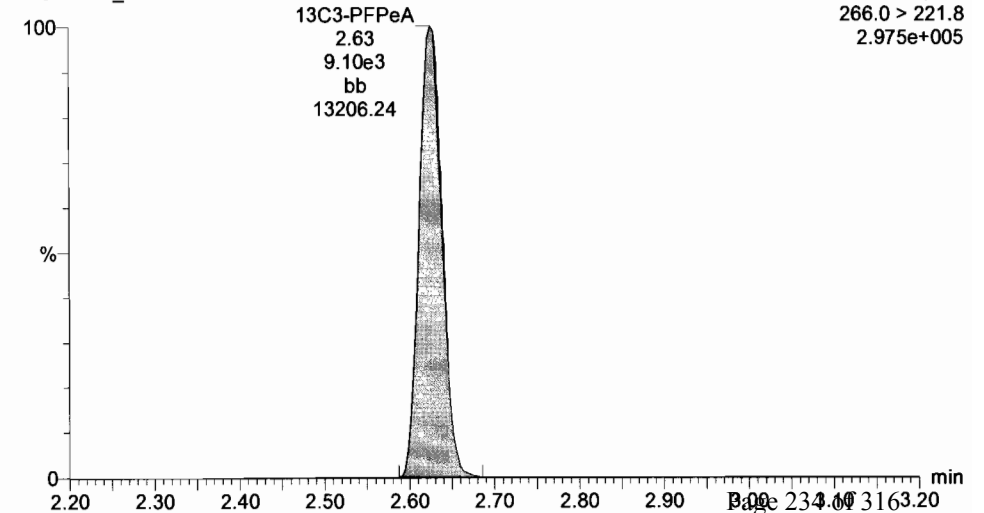
13C3-PFBA

170727G1_7



13C3-PFPeA

170727G1_7



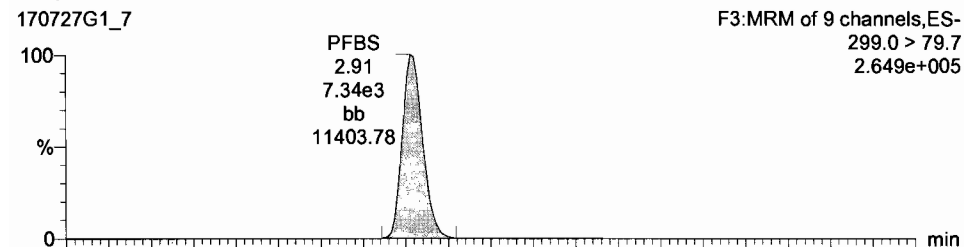
Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

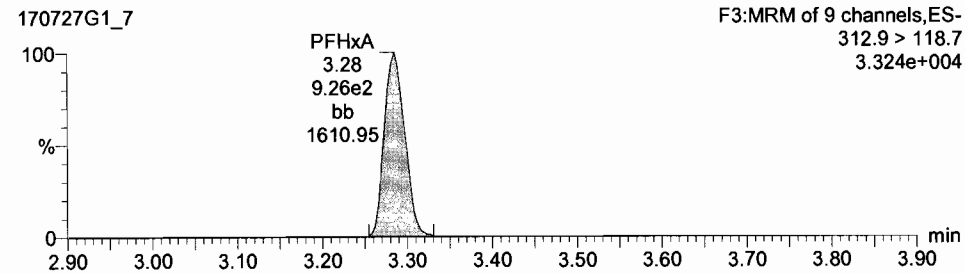
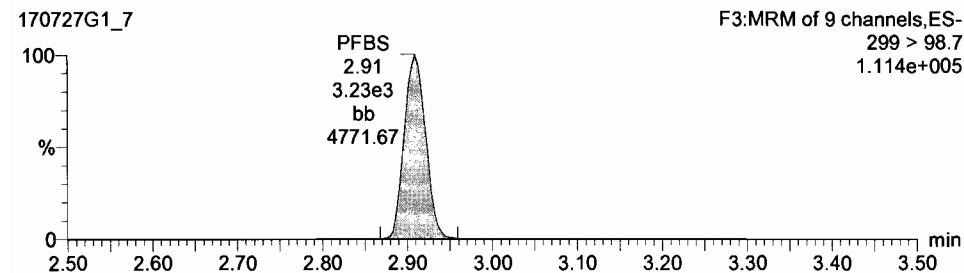
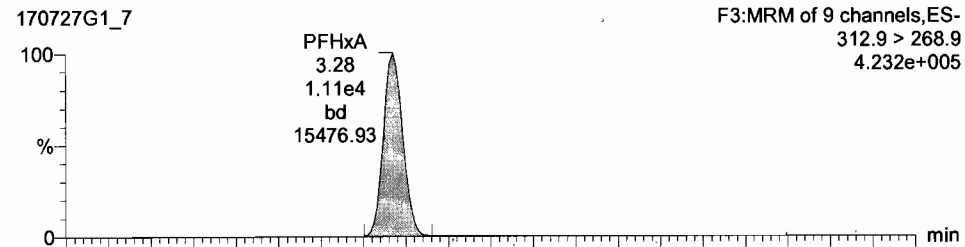
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-6 PFC CS3 17G2719, Description: PFC CS3 17G2719 A, Name: 170727G1_7, Date: 27-Jul-2017, Time: 12:47:11, Instrument: , Lab: , User:

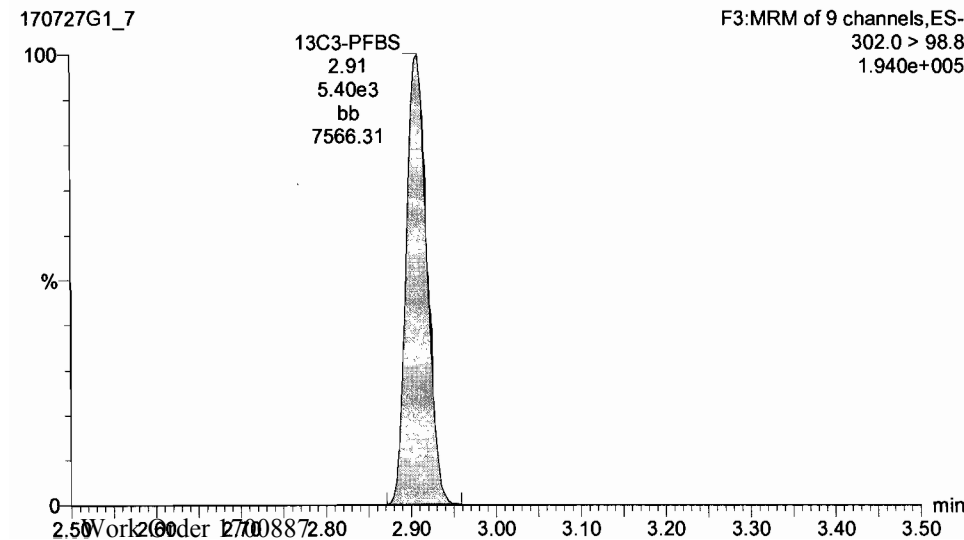
Total PFBS



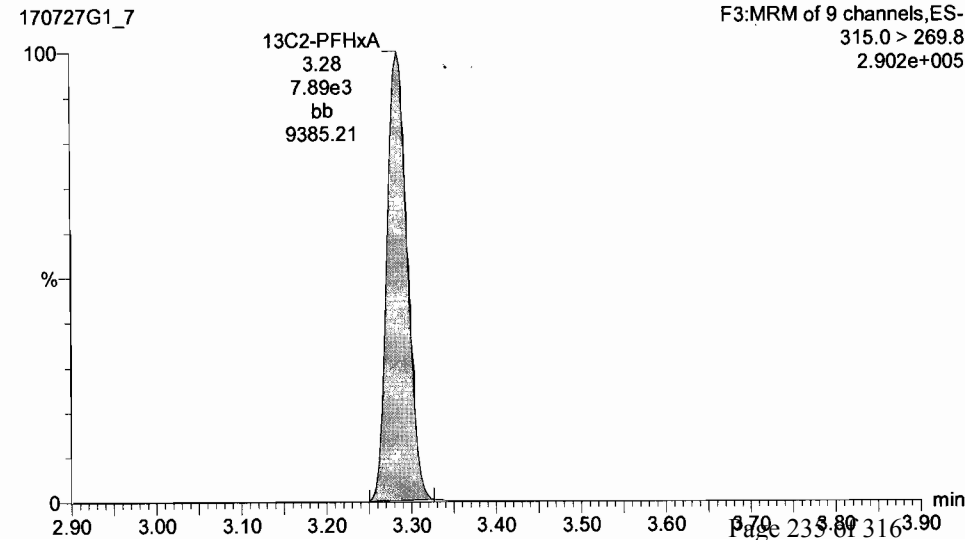
PFHxA



13C3-PFBS



13C2-PFHxA



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

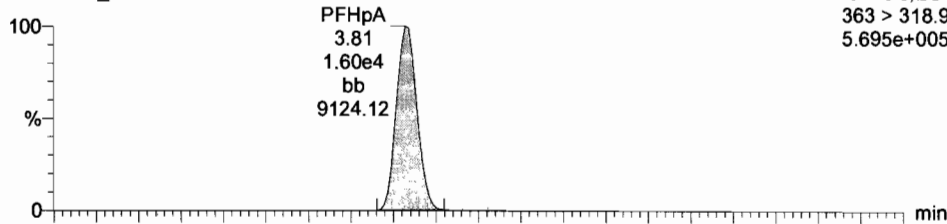
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-6 PFC CS3 17G2719, Description: PFC CS3 17G2719 A, Name: 170727G1_7, Date: 27-Jul-2017, Time: 12:47:11, Instrument: , Lab: , User:

PFHpA

170727G1_7

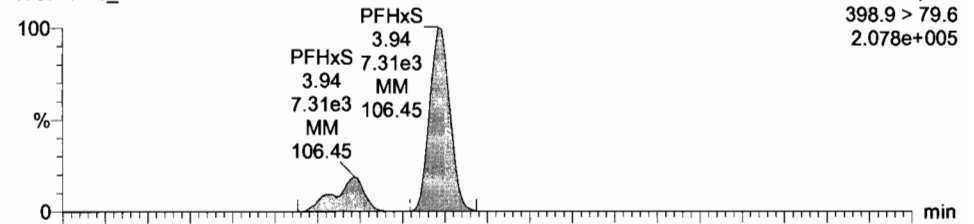
F4:MRM of 7 channels,ES-
363 > 318.9
5.695e+005



Total PFHxS

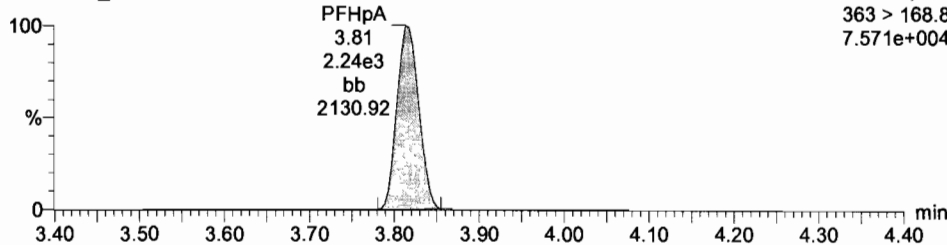
170727G1_7

F4:MRM of 7 channels,ES-
398.9 > 79.6
2.078e+005



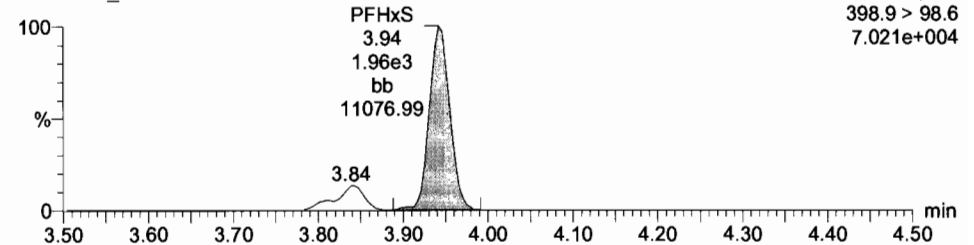
170727G1_7

F4:MRM of 7 channels,ES-
363 > 168.8
7.571e+004



170727G1_7

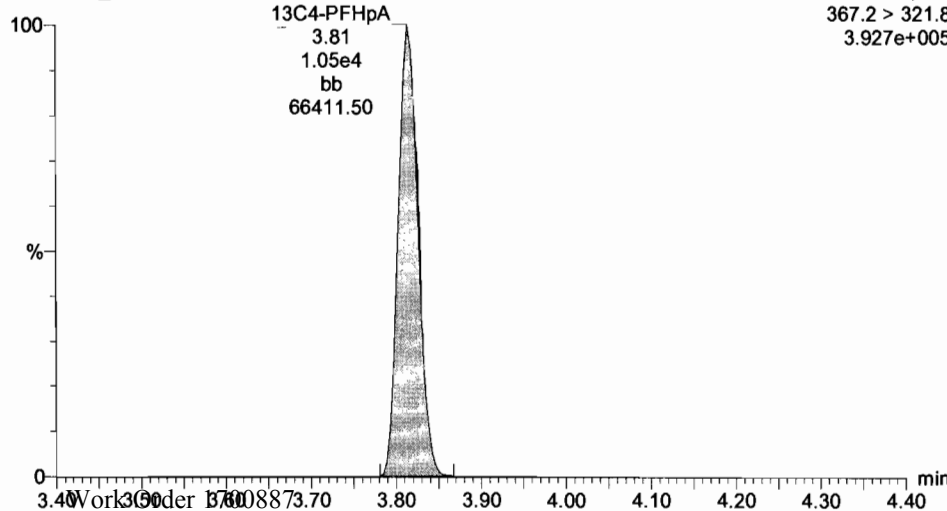
F4:MRM of 7 channels,ES-
398.9 > 98.6
7.021e+004



13C4-PFHpA

170727G1_7

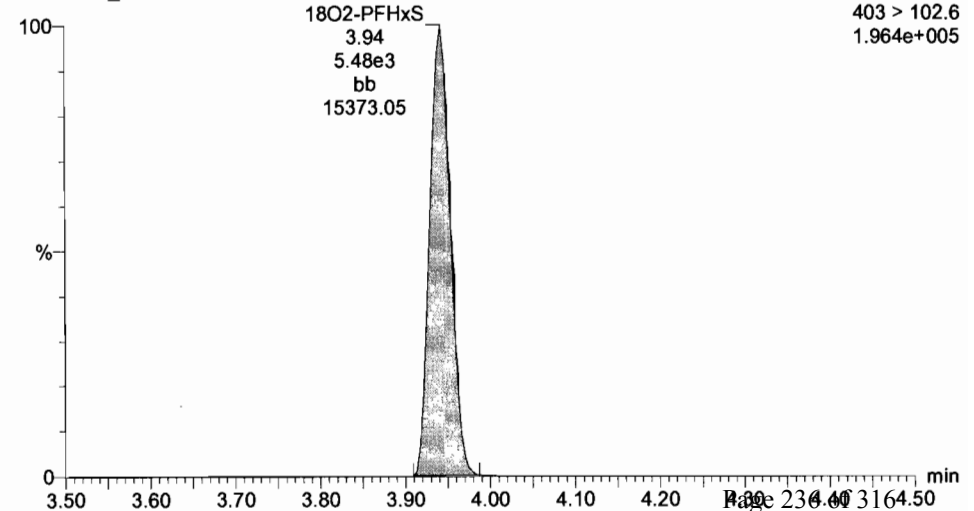
F4:MRM of 7 channels,ES-
367.2 > 321.8
3.927e+005



18O2-PFHxS

170727G1_7

F4:MRM of 7 channels,ES-
403 > 102.6
1.964e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

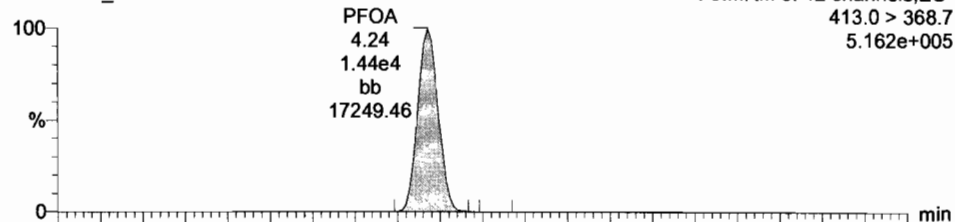
Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-6 PFC CS3 17G2719, Description: PFC CS3 17G2719 A, Name: 170727G1_7, Date: 27-Jul-2017, Time: 12:47:11, Instrument: , Lab: , User:

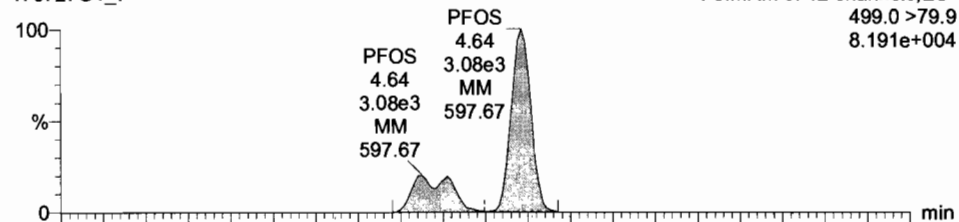
Total PFOA

170727G1_7

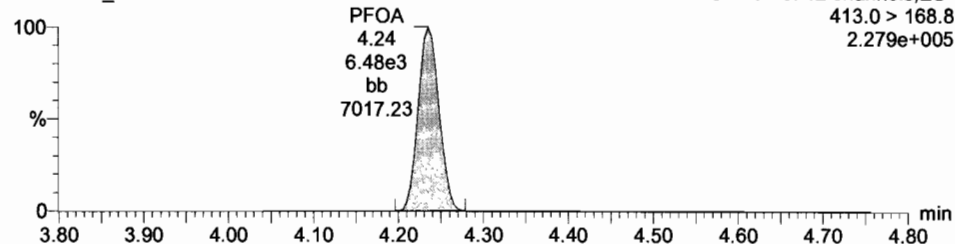


Total PFOS

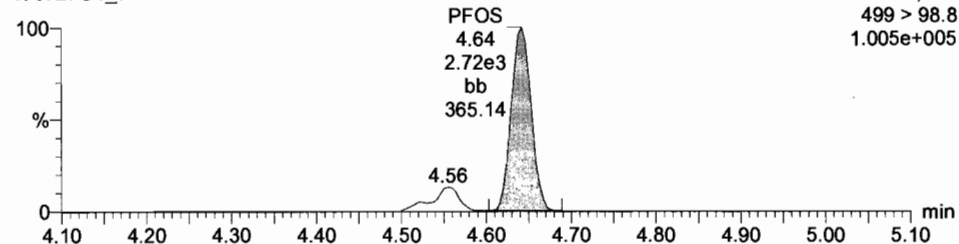
170727G1_7



170727G1_7

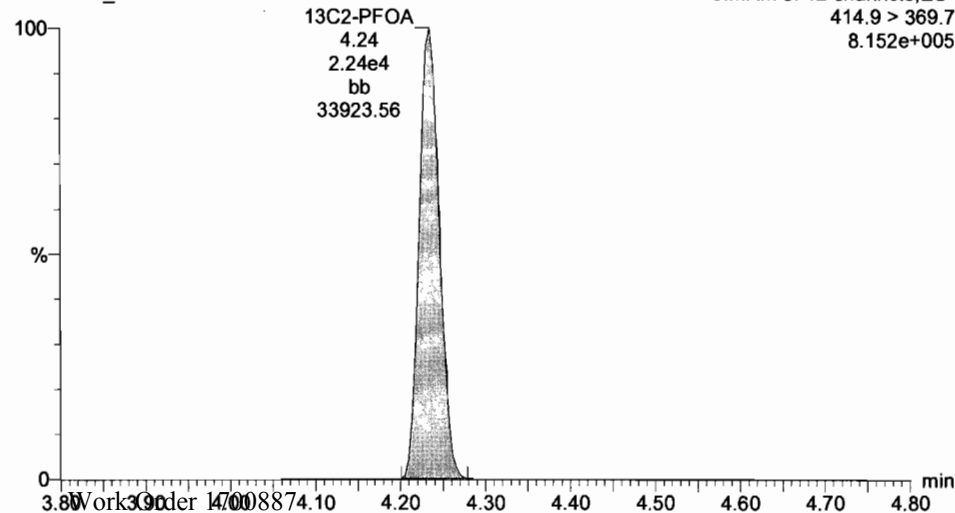


170727G1_7



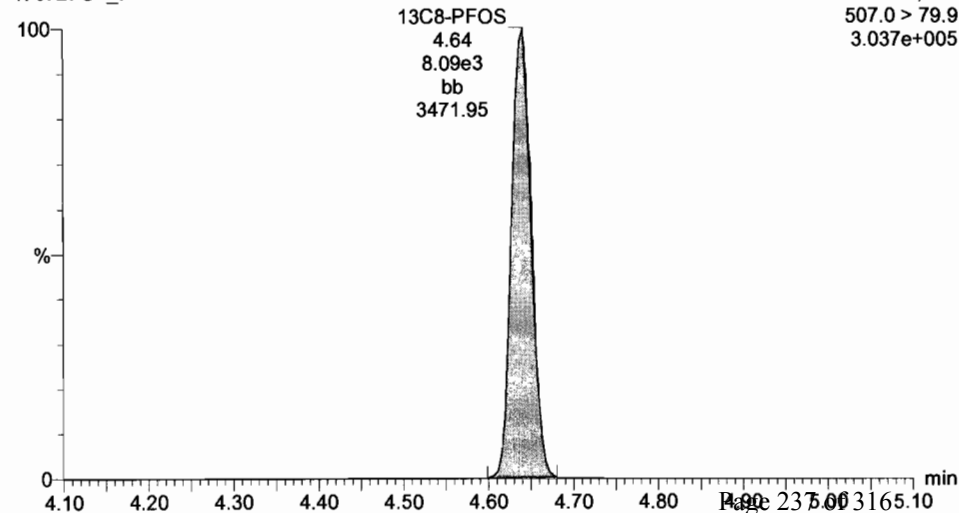
13C2-PFOA

170727G1_7



13C8-PFOS

170727G1_7



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

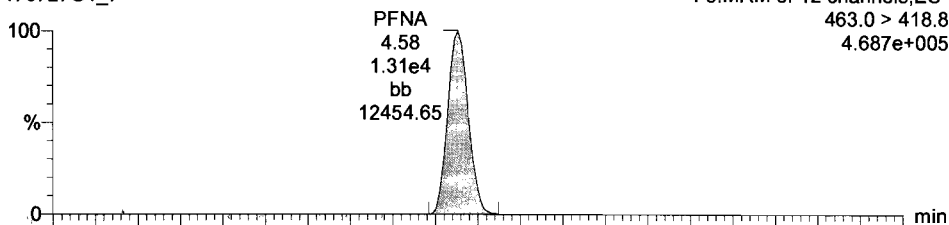
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-6 PFC CS3 17G2719, Description: PFC CS3 17G2719 A, Name: 170727G1_7, Date: 27-Jul-2017, Time: 12:47:11, Instrument: , Lab: , User:

PFNA

170727G1_7

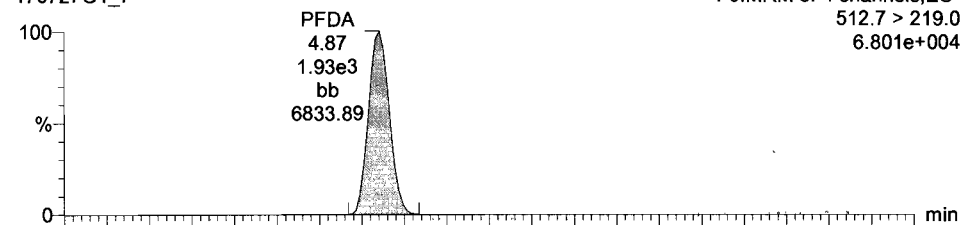
F5:MRM of 12 channels,ES-
463.0 > 418.8
4.687e+005



PFDA

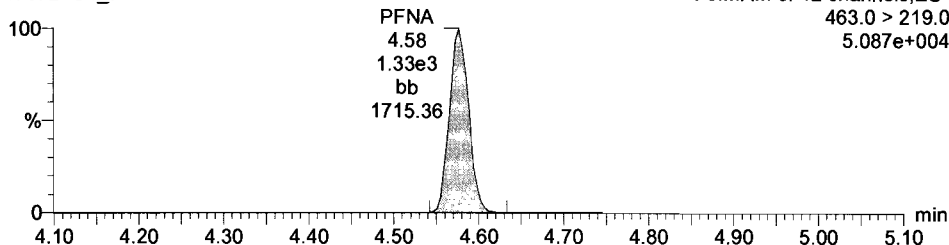
170727G1_7

F6:MRM of 4 channels,ES-
512.7 > 219.0
6.801e+004



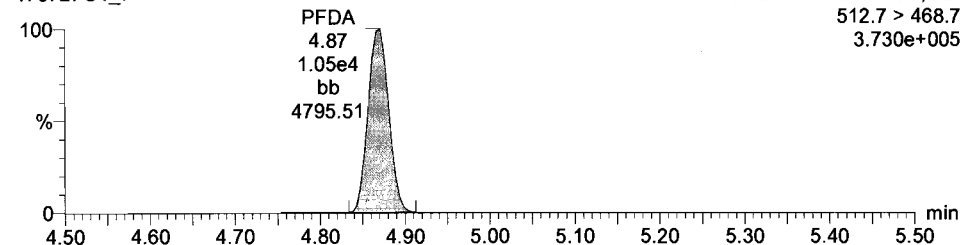
170727G1_7

F5:MRM of 12 channels,ES-
463.0 > 219.0
5.087e+004



170727G1_7

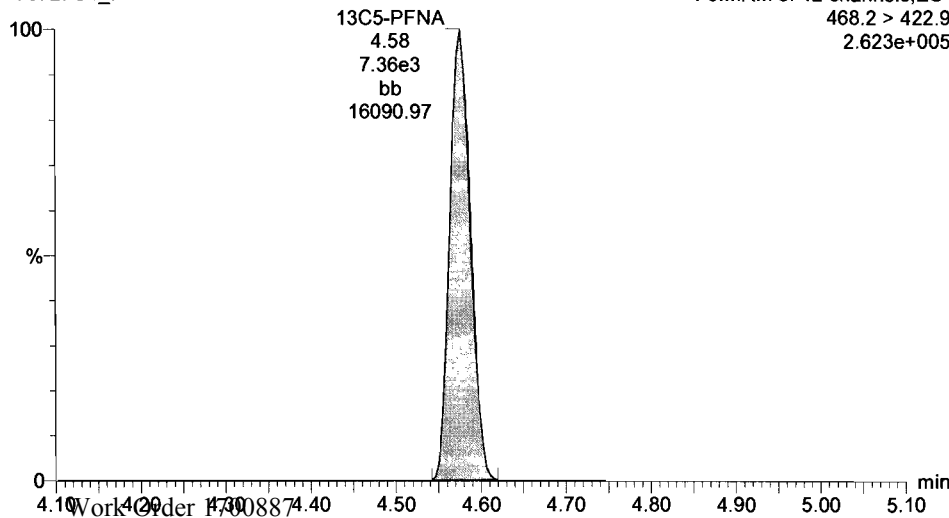
F6:MRM of 4 channels,ES-
512.7 > 468.7
3.730e+005



13C5-PFNA

170727G1_7

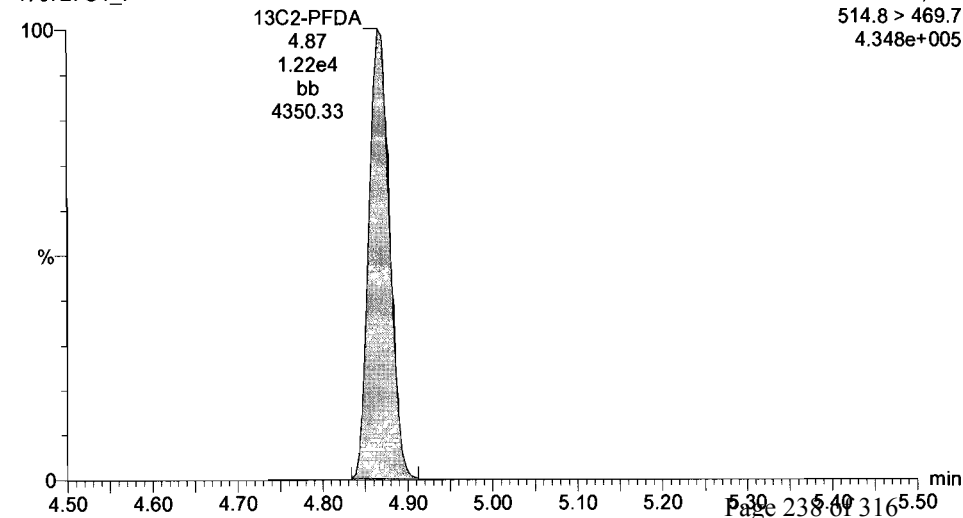
F5:MRM of 12 channels,ES-
468.2 > 422.9
2.623e+005



13C2-PFDA

170727G1_7

F6:MRM of 4 channels,ES-
514.8 > 469.7
4.348e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

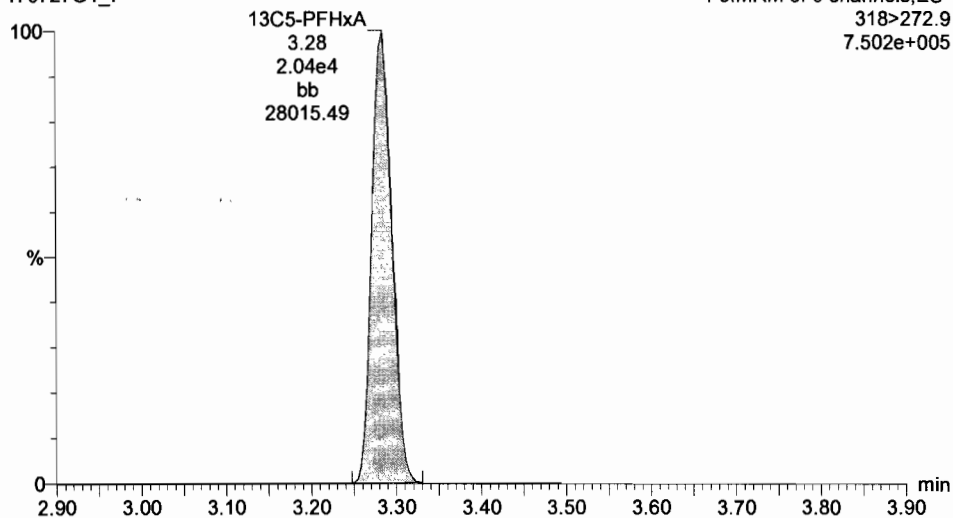
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-6 PFC CS3 17G2719, Description: PFC CS3 17G2719 A, Name: 170727G1_7, Date: 27-Jul-2017, Time: 12:47:11, Instrument: , Lab: , User:

13C5-PFHxA

170727G1_7

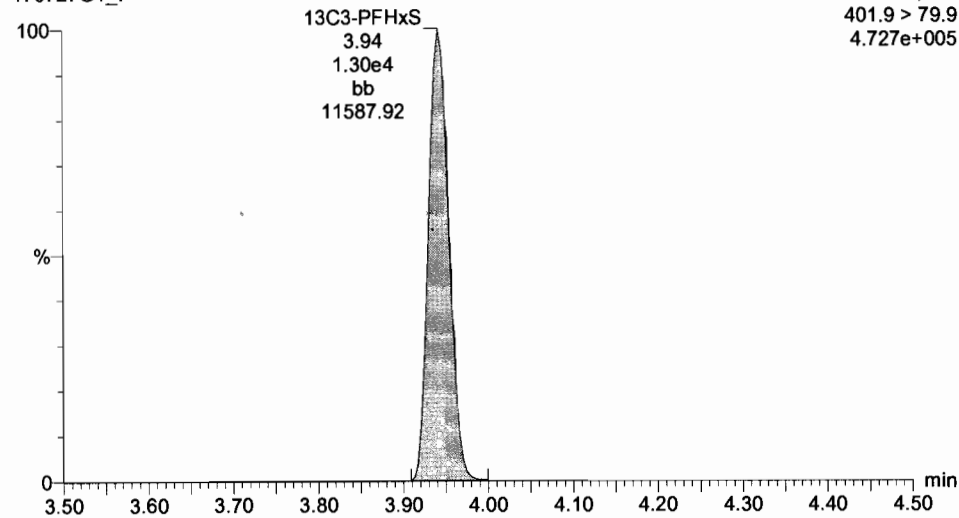
F3:MRM of 9 channels,ES-
318>272.9
7.502e+005



13C3-PFHxS

170727G1_7

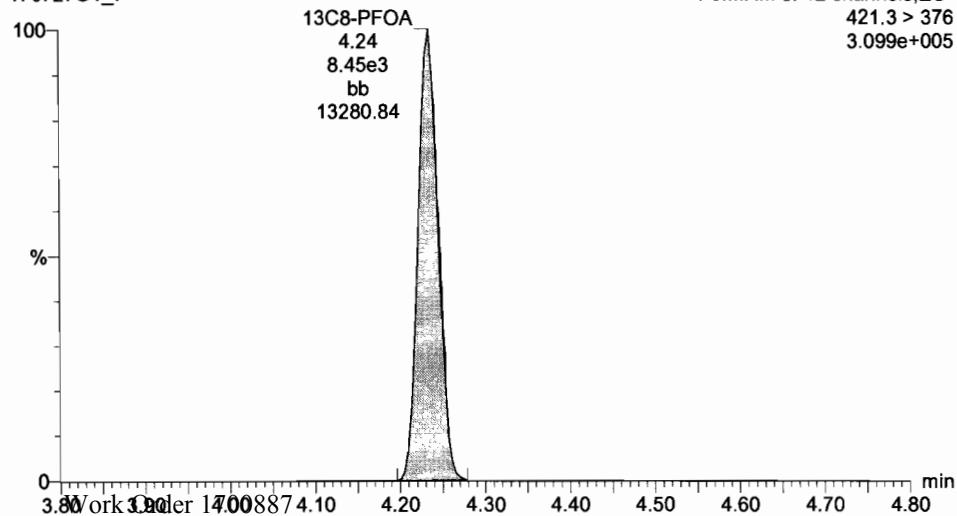
F4:MRM of 7 channels,ES-
401.9 > 79.9
4.727e+005



13C8-PFOA

170727G1_7

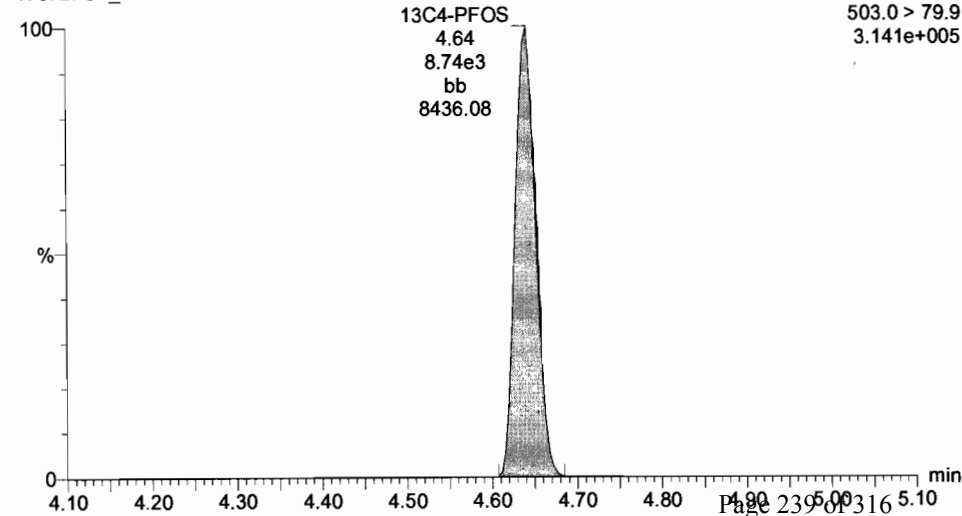
F5:MRM of 12 channels,ES-
421.3 > 376
3.099e+005



13C4-PFOS

170727G1_7

F5:MRM of 12 channels,ES-
503.0 > 79.9
3.141e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

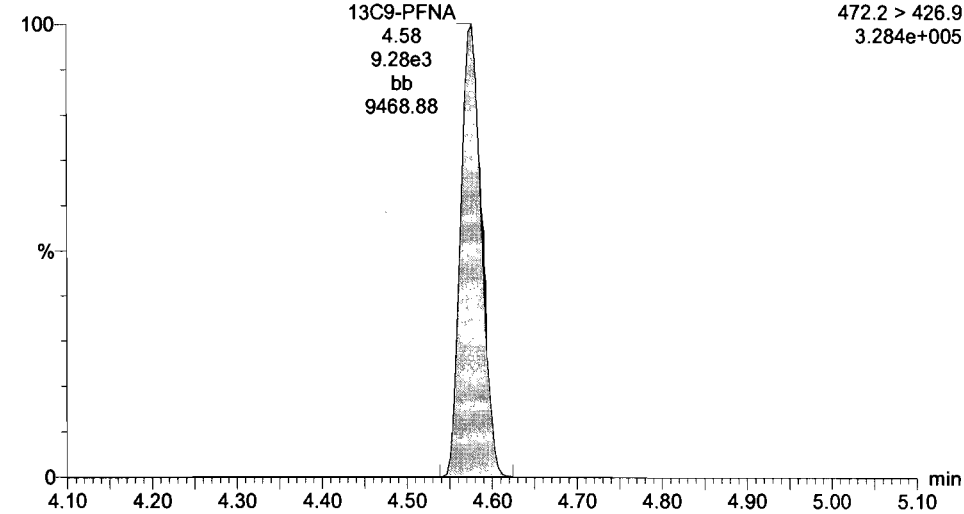
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Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-6 PFC CS3 17G2719, Description: PFC CS3 17G2719 A, Name: 170727G1_7, Date: 27-Jul-2017, Time: 12:47:11, Instrument: , Lab: , User:

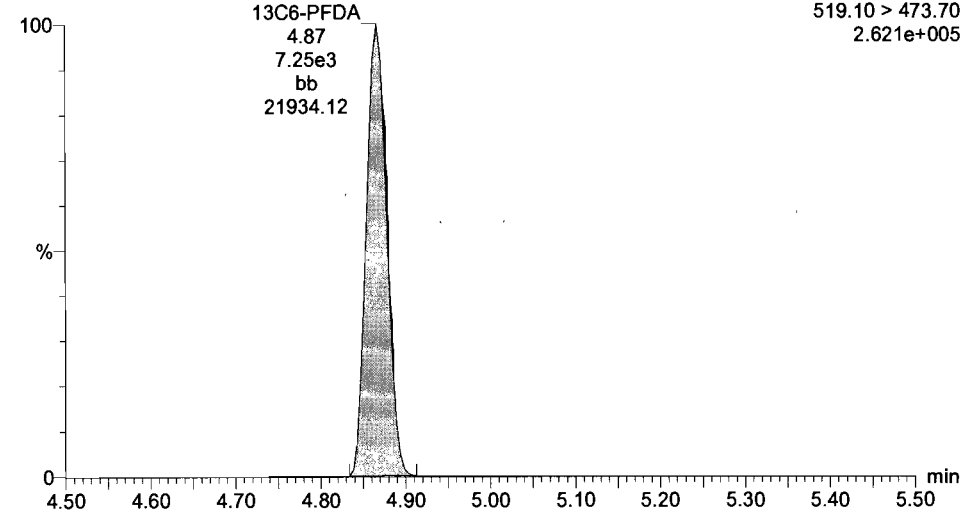
13C9-PFNA

170727G1_7



13C6-PFDA

170727G1_7



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

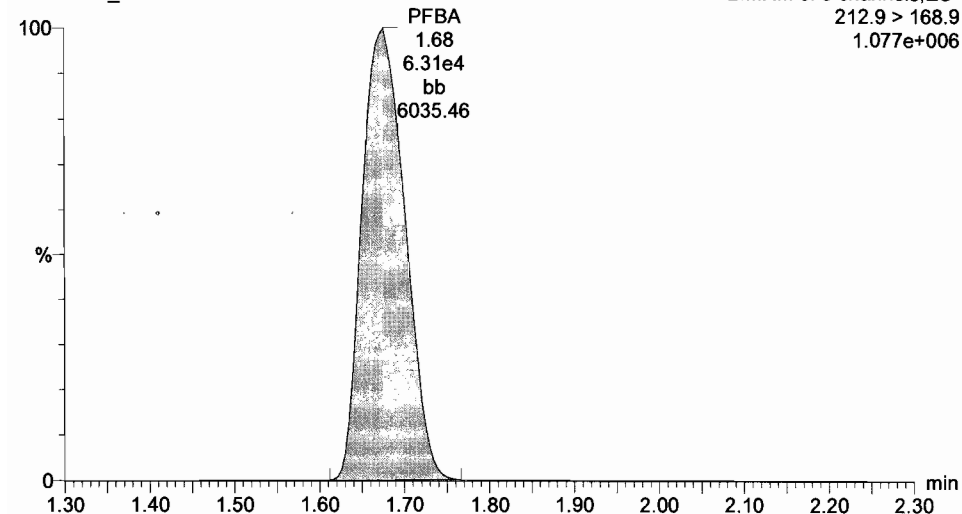
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Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-7 PFC CS4 17G2720, Description: PFC CS4 17G2720 A, Name: 170727G1_8, Date: 27-Jul-2017, Time: 12:59:35, Instrument: , Lab: , User:

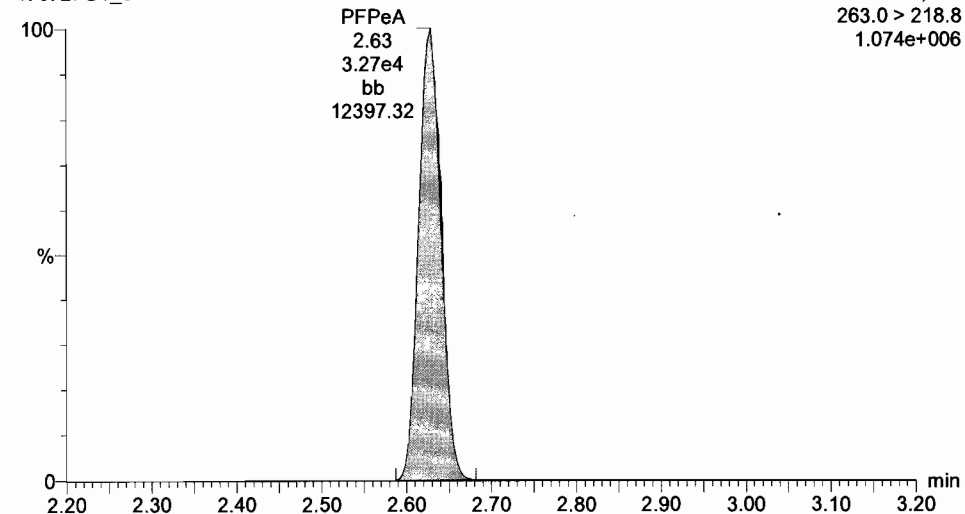
PFBA

170727G1_8



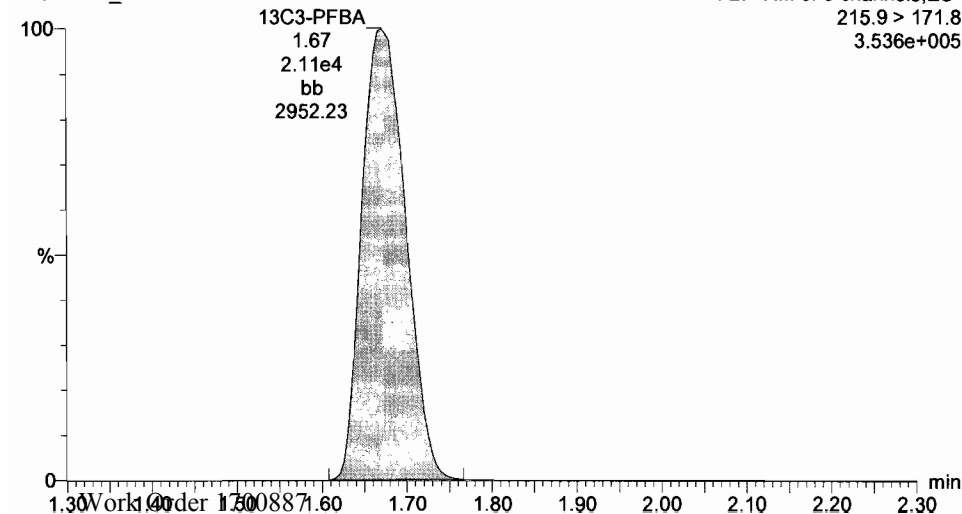
PFPeA

170727G1_8



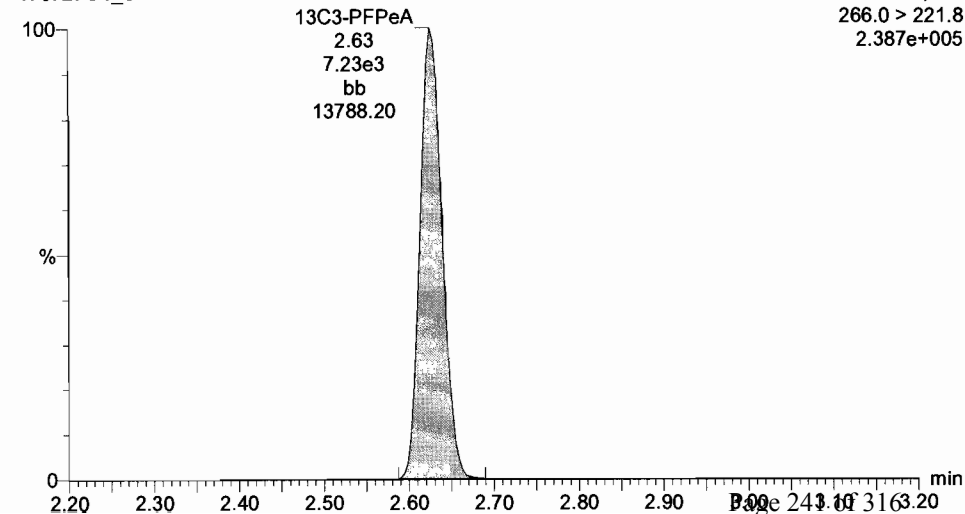
13C3-PFBA

170727G1_8



13C3-PFPeA

170727G1_8



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

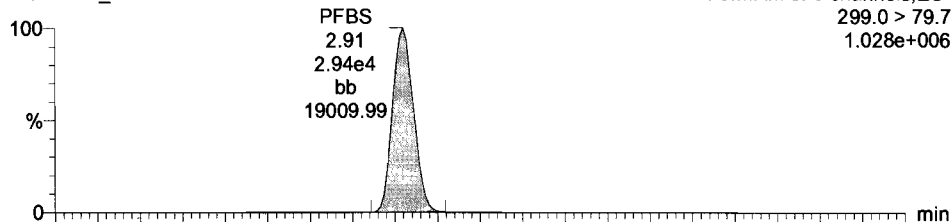
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ID: ST170727G1-7 PFC CS4 17G2720, Description: PFC CS4 17G2720 A, Name: 170727G1_8, Date: 27-Jul-2017, Time: 12:59:35, Instrument: , Lab: , User:

Total PFBS

170727G1_8

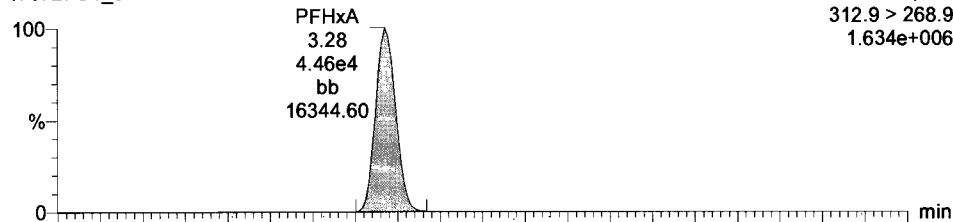
F3:MRM of 9 channels,ES-
299.0 > 79.7
1.028e+006



PFHxA

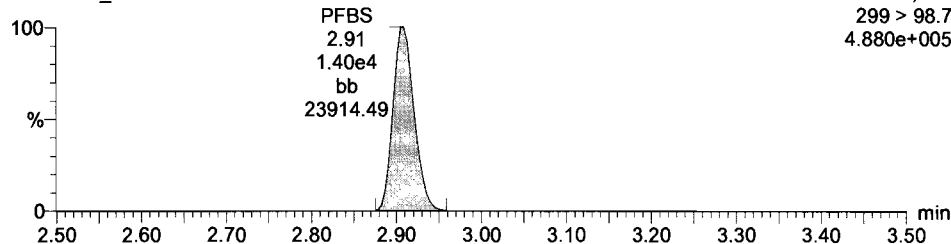
170727G1_8

F3:MRM of 9 channels,ES-
312.9 > 268.9
1.634e+006



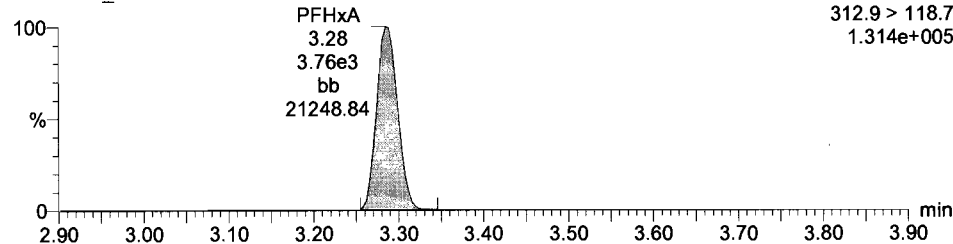
170727G1_8

F3:MRM of 9 channels,ES-
299 > 98.7
4.880e+005



170727G1_8

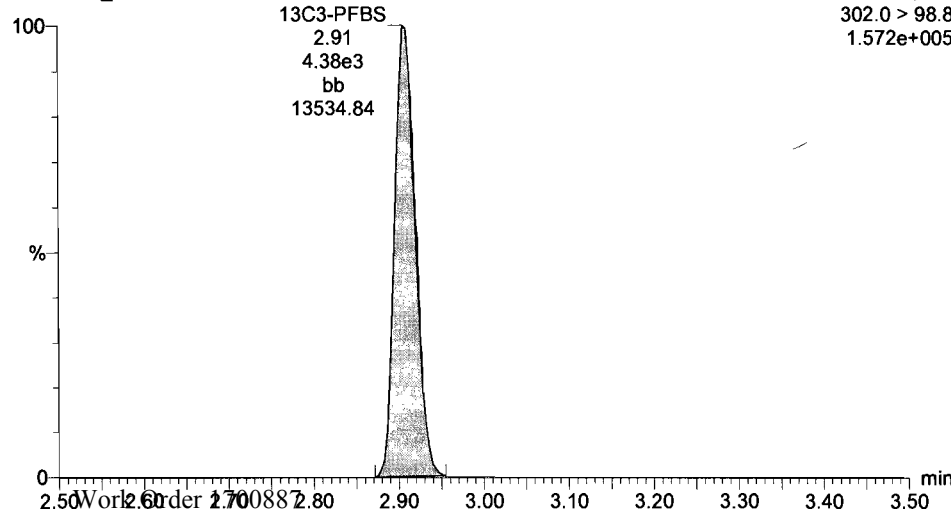
F3:MRM of 9 channels,ES-
312.9 > 118.7
1.314e+005



13C3-PFBS

170727G1_8

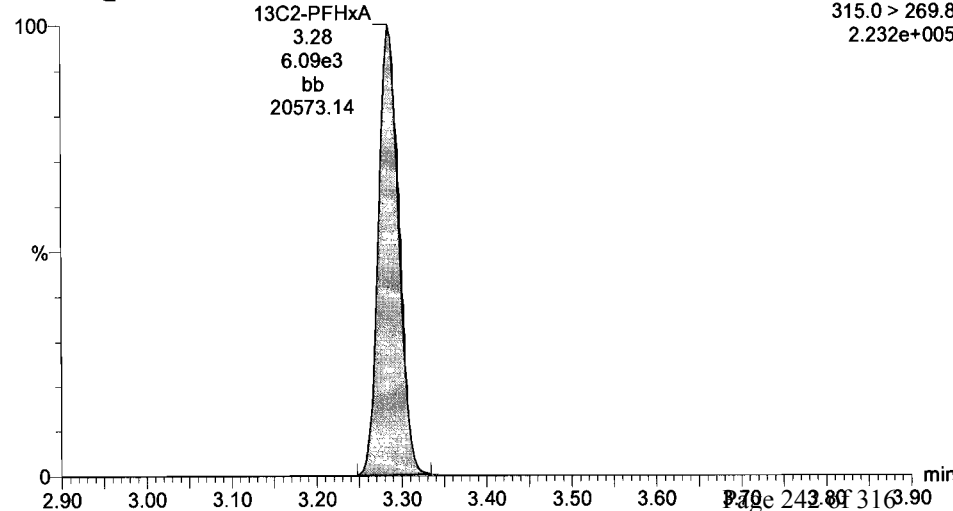
F3:MRM of 9 channels,ES-
302.0 > 98.8
1.572e+005



13C2-PFHxA

170727G1_8

F3:MRM of 9 channels,ES-
315.0 > 269.8
2.232e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

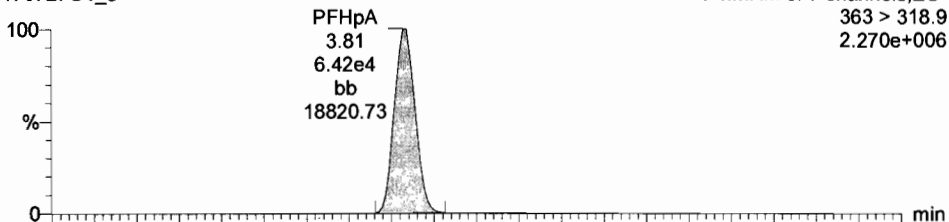
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Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-7 PFC CS4 17G2720, Description: PFC CS4 17G2720 A, Name: 170727G1_8, Date: 27-Jul-2017, Time: 12:59:35, Instrument: , Lab: , User:

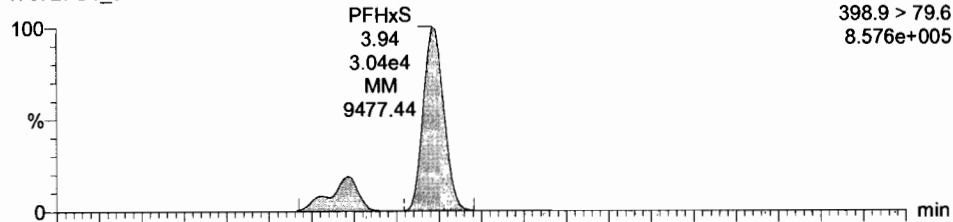
PFHpA

170727G1_8

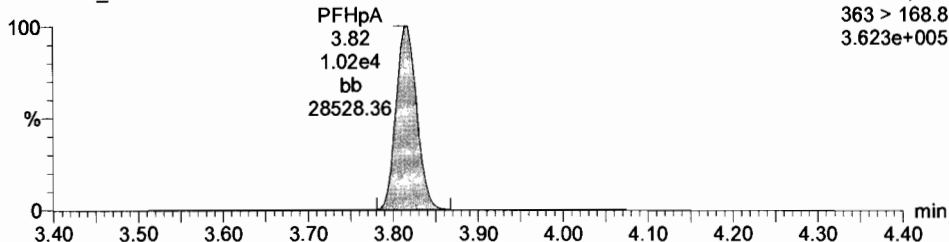


Total PFHxS

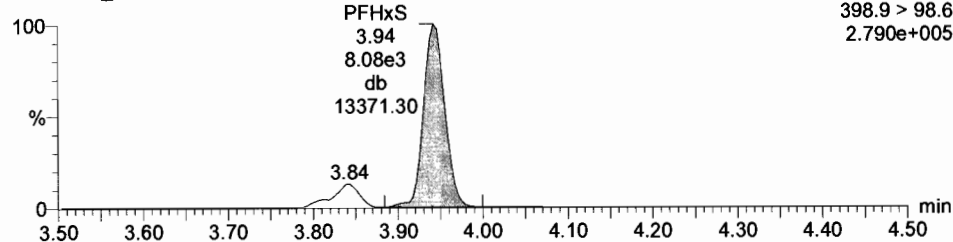
170727G1_8



170727G1_8

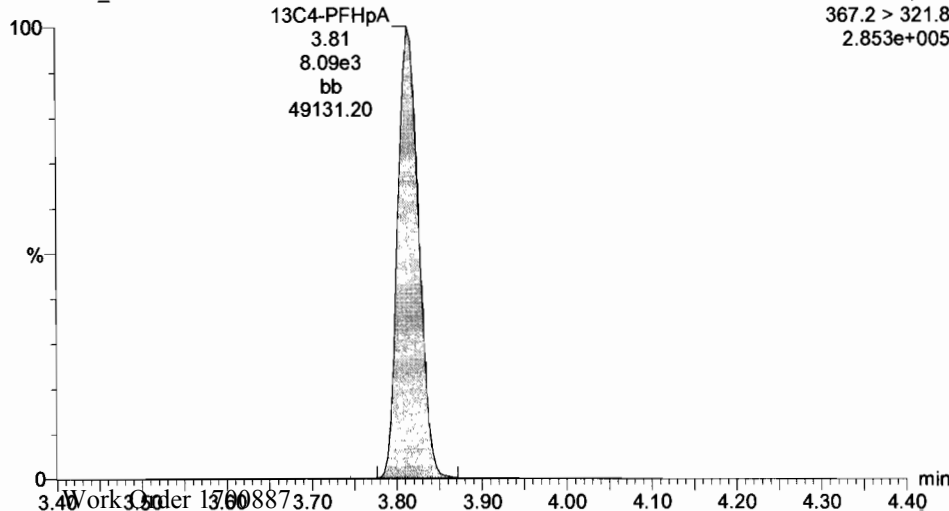


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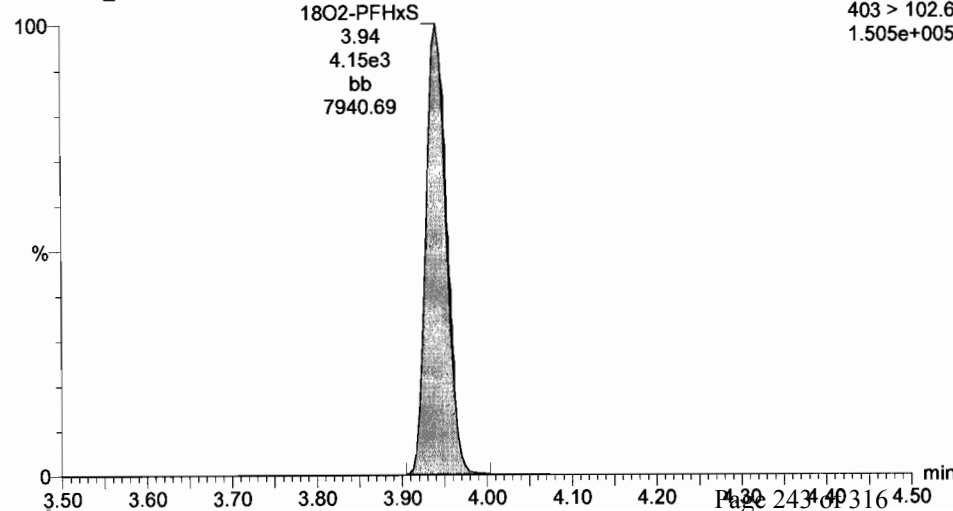
13C4-PFHpA

170727G1_8



18O2-PFHxS

170727G1_8

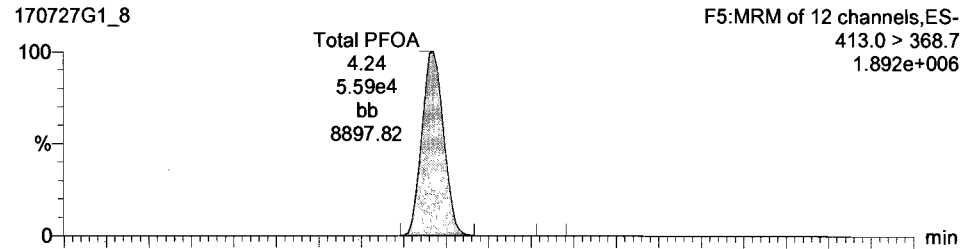


Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

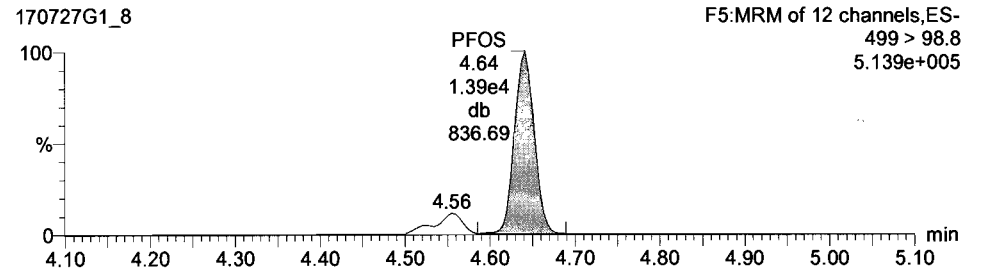
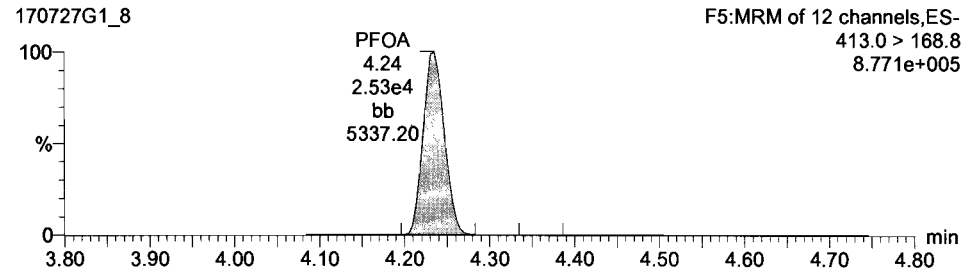
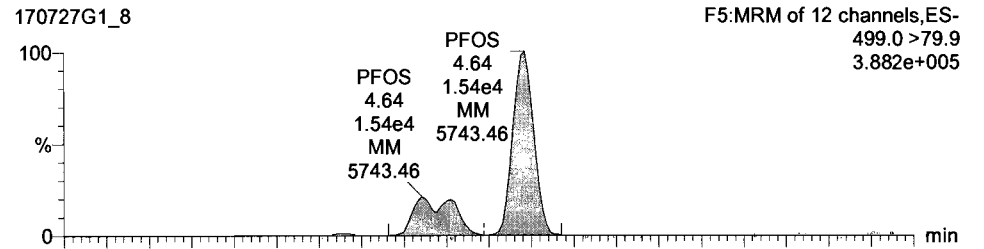
Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-7 PFC CS4 17G2720, Description: PFC CS4 17G2720 A, Name: 170727G1_8, Date: 27-Jul-2017, Time: 12:59:35, Instrument: , Lab: , User:

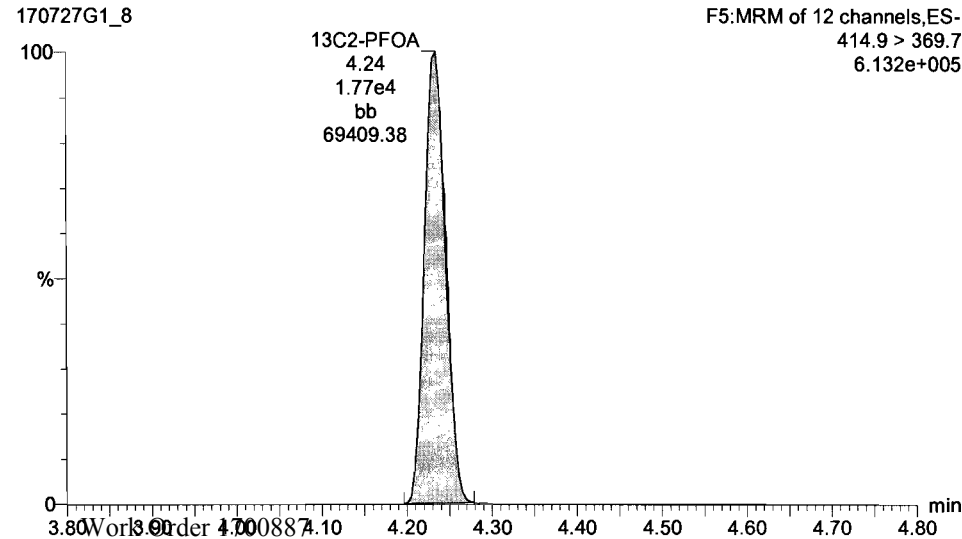
Total PFOA



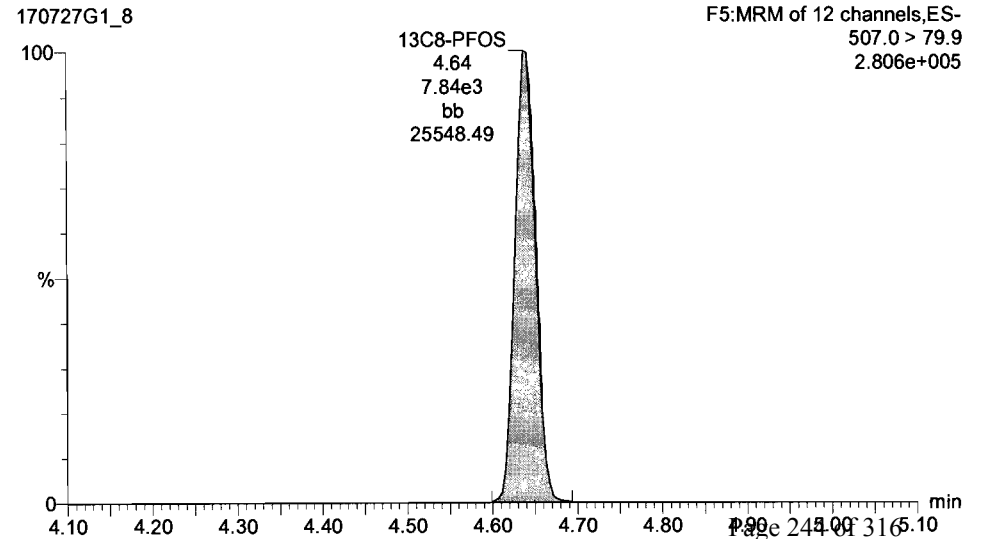
Total PFOS



13C2-PFOA



13C8-PFOS



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

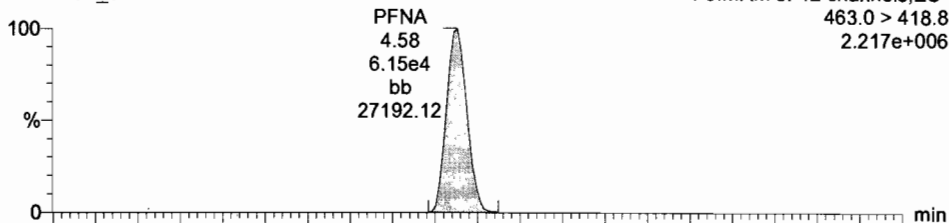
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-7 PFC CS4 17G2720, Description: PFC CS4 17G2720 A, Name: 170727G1_8, Date: 27-Jul-2017, Time: 12:59:35, Instrument: , Lab: , User:

PFNA

170727G1_8

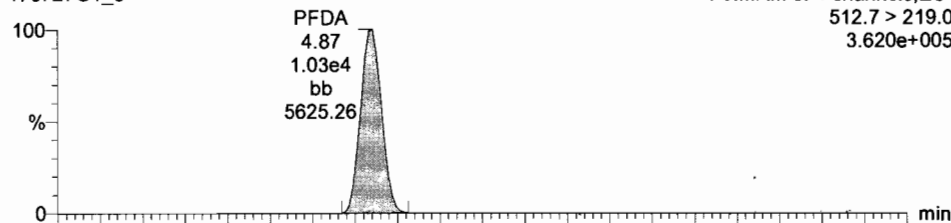
F5:MRM of 12 channels,ES-
463.0 > 418.8
2.217e+006



PFDA

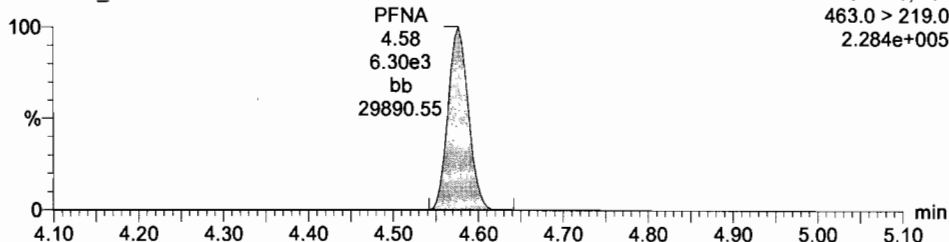
170727G1_8

F6:MRM of 4 channels,ES-
512.7 > 219.0
3.620e+005



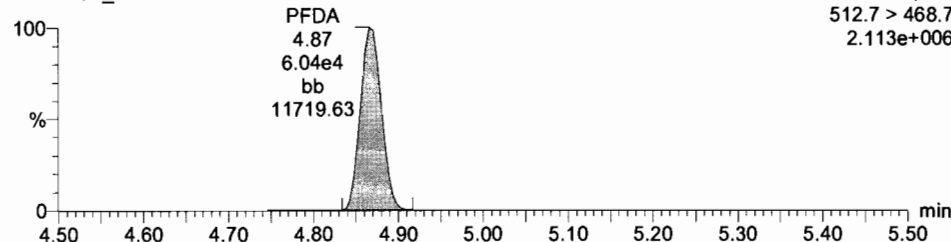
170727G1_8

F5:MRM of 12 channels,ES-
463.0 > 219.0
2.284e+005



170727G1_8

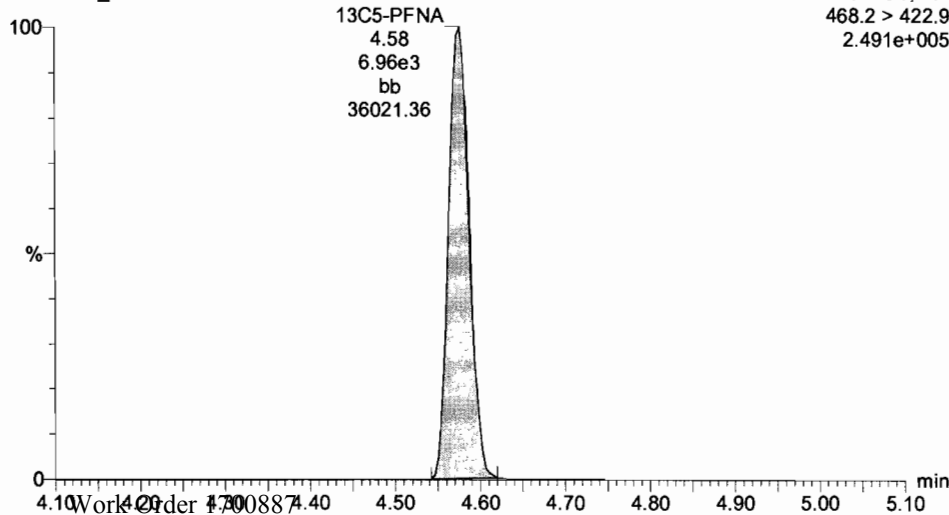
F6:MRM of 4 channels,ES-
512.7 > 468.7
2.113e+006



13C5-PFNA

170727G1_8

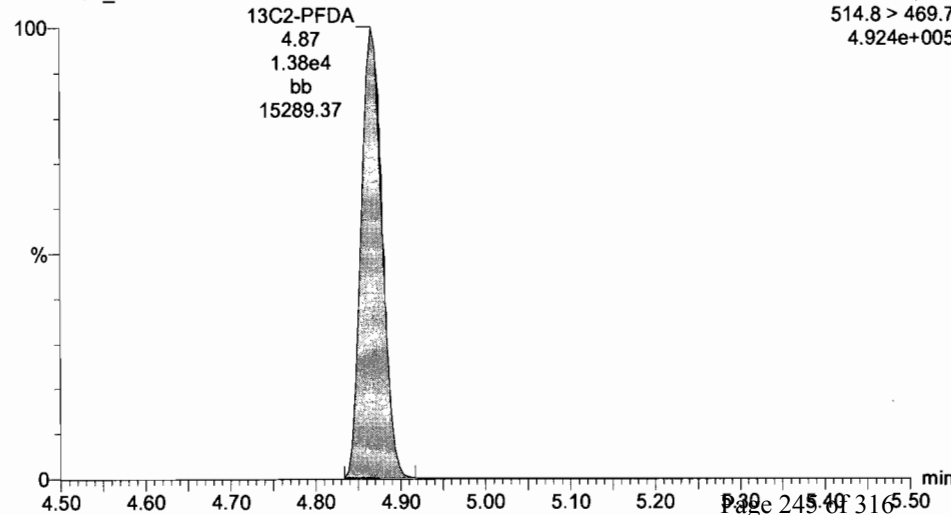
F5:MRM of 12 channels,ES-
468.2 > 422.9
2.491e+005



13C2-PFDA

170727G1_8

F6:MRM of 4 channels,ES-
514.8 > 469.7
4.924e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

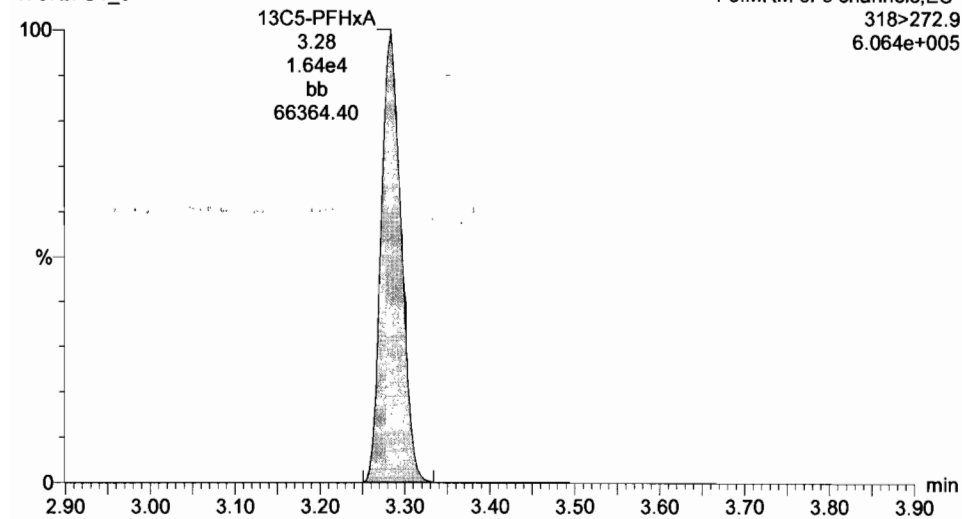
Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-7 PFC CS4 17G2720, Description: PFC CS4 17G2720 A, Name: 170727G1_8, Date: 27-Jul-2017, Time: 12:59:35, Instrument: , Lab: , User:

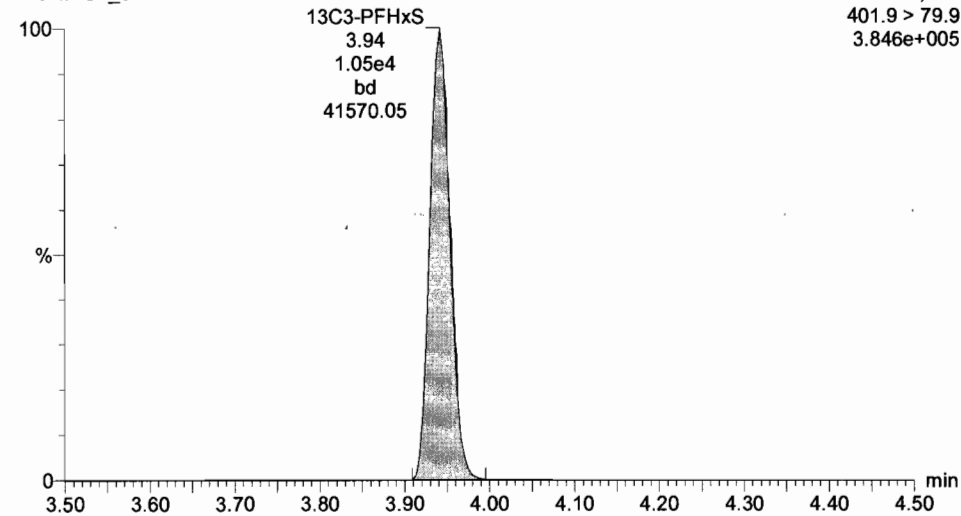
13C5-PFHxA

170727G1_8



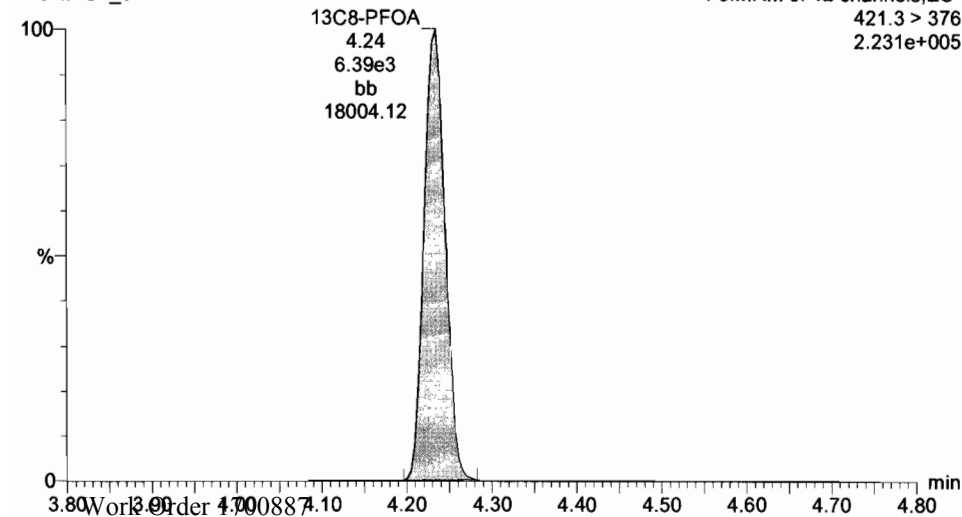
13C3-PFHxS

170727G1_8



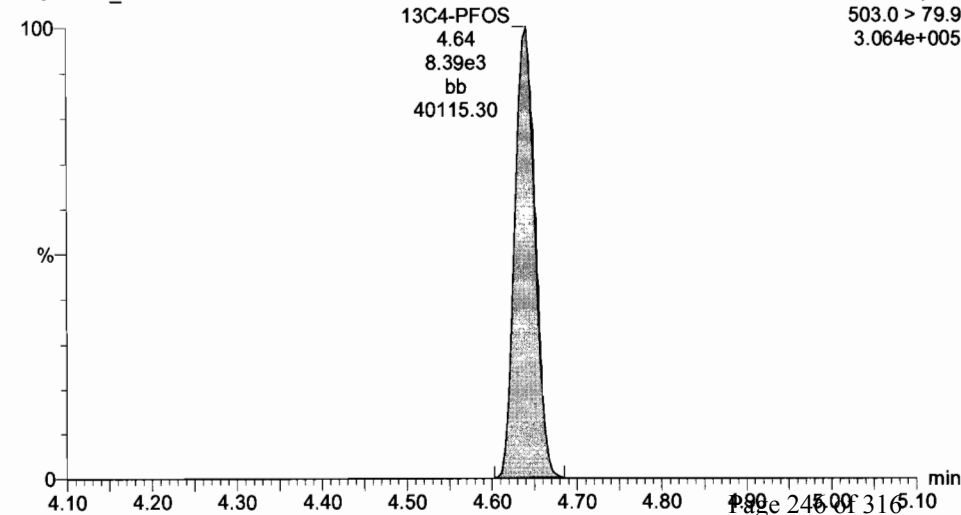
13C8-PFOA

170727G1_8



13C4-PFOS

170727G1_8



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

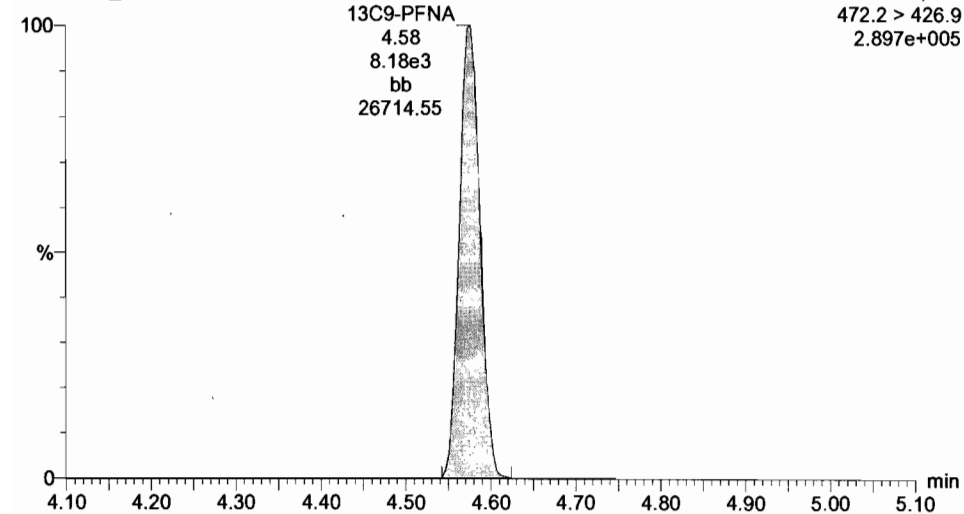
Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-7 PFC CS4 17G2720, Description: PFC CS4 17G2720 A, Name: 170727G1_8, Date: 27-Jul-2017, Time: 12:59:35, Instrument: , Lab: , User:

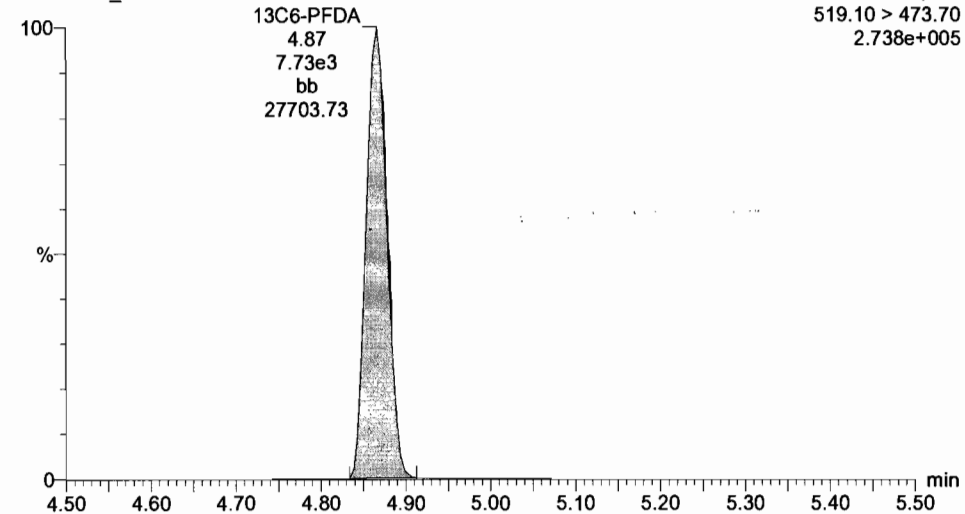
13C9-PFNA

170727G1_8



13C6-PFDA

170727G1_8



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

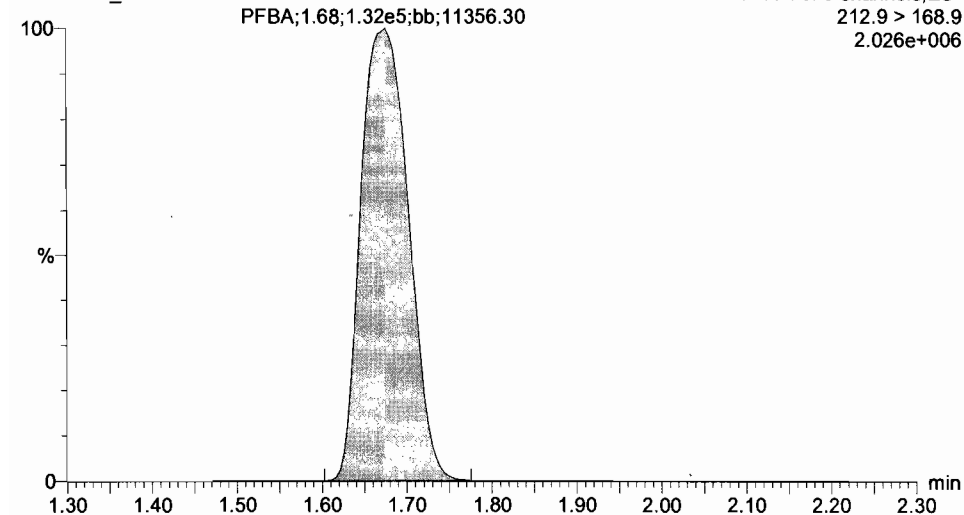
Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-8 PFC CS5 17G2721, Description: PFC CS5 17G2721 A, Name: 170727G1_9, Date: 27-Jul-2017, Time: 13:12:08, Instrument: , Lab: , User:

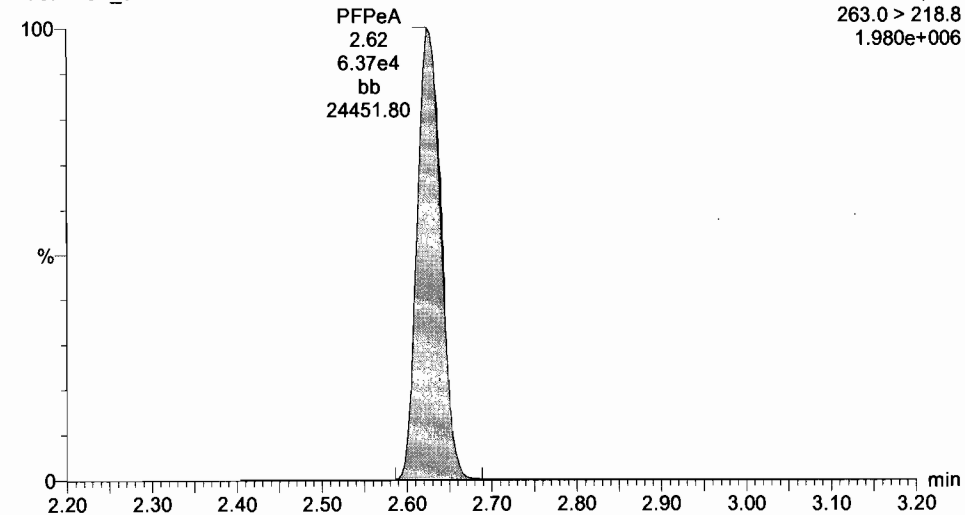
PFBA

170727G1_9



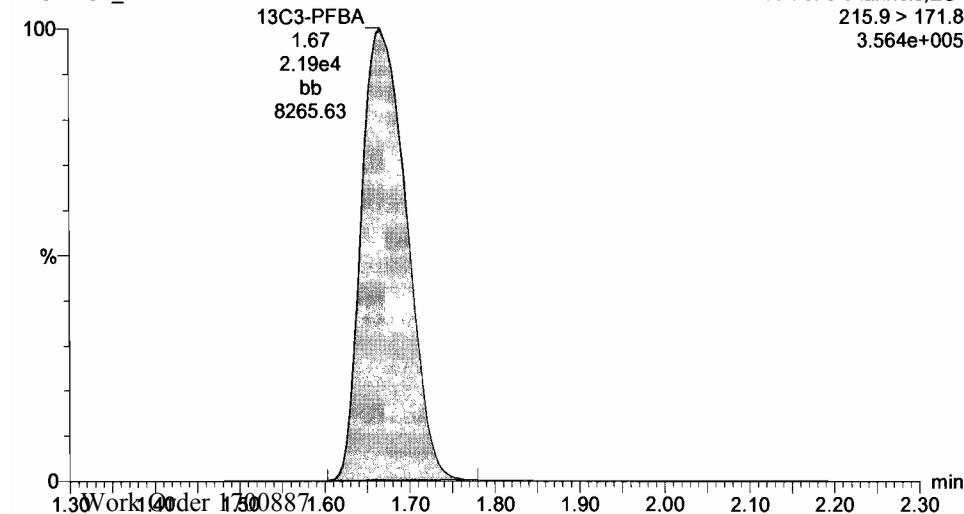
PFPeA

170727G1_9



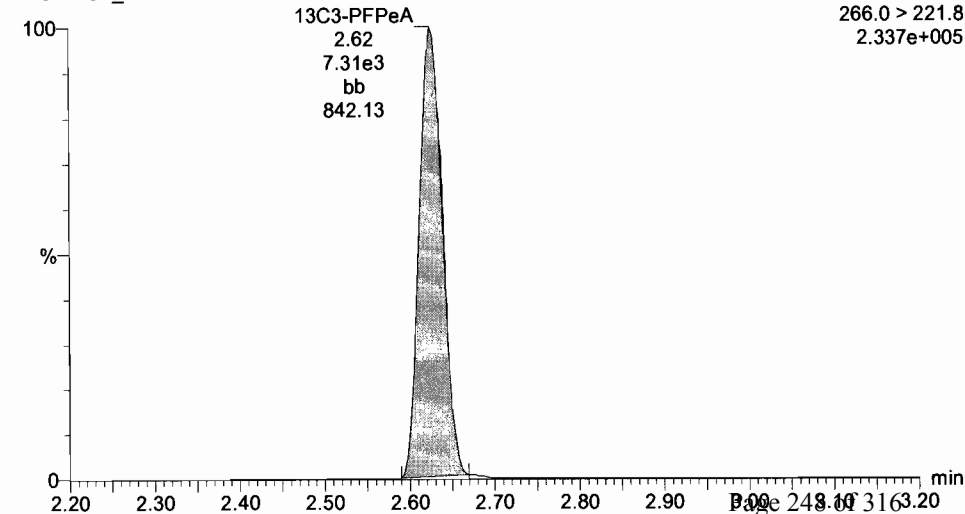
13C3-PFBA

170727G1_9



13C3-PFPeA

170727G1_9



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

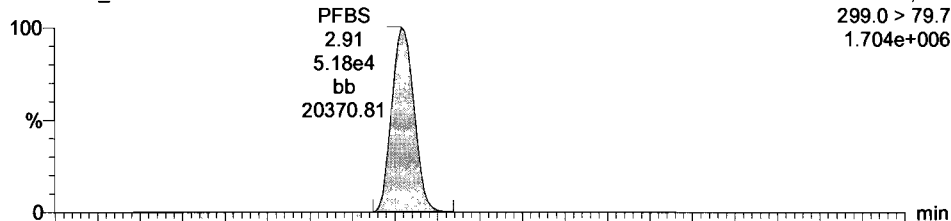
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-8 PFC CS5 17G2721, Description: PFC CS5 17G2721 A, Name: 170727G1_9, Date: 27-Jul-2017, Time: 13:12:08, Instrument: , Lab: , User:

Total PFBS

170727G1_9

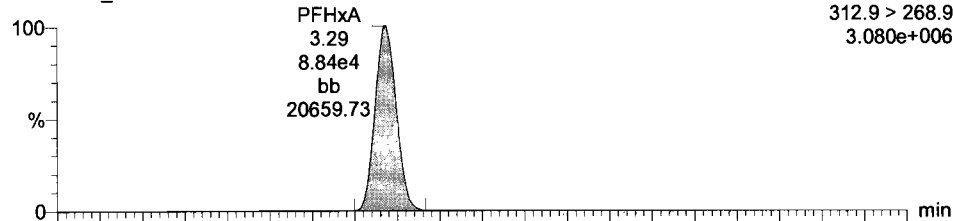
F3:MRM of 9 channels,ES-
299.0 > 79.7
1.704e+006



PFHxA

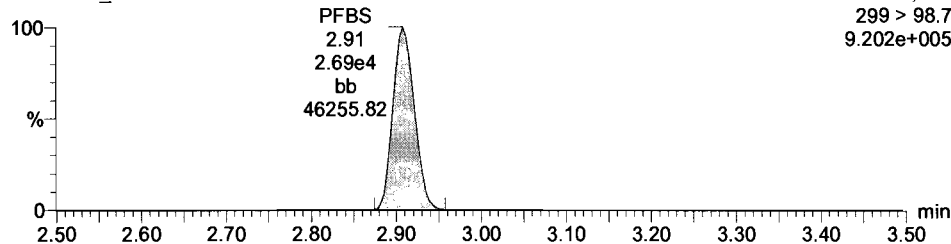
170727G1_9

F3:MRM of 9 channels,ES-
312.9 > 268.9
3.080e+006



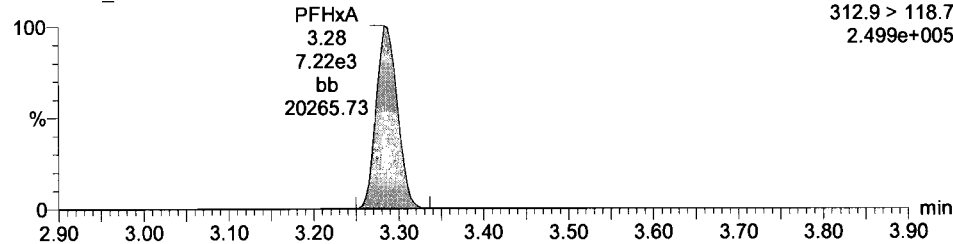
170727G1_9

F3:MRM of 9 channels,ES-
299 > 98.7
9.202e+005



170727G1_9

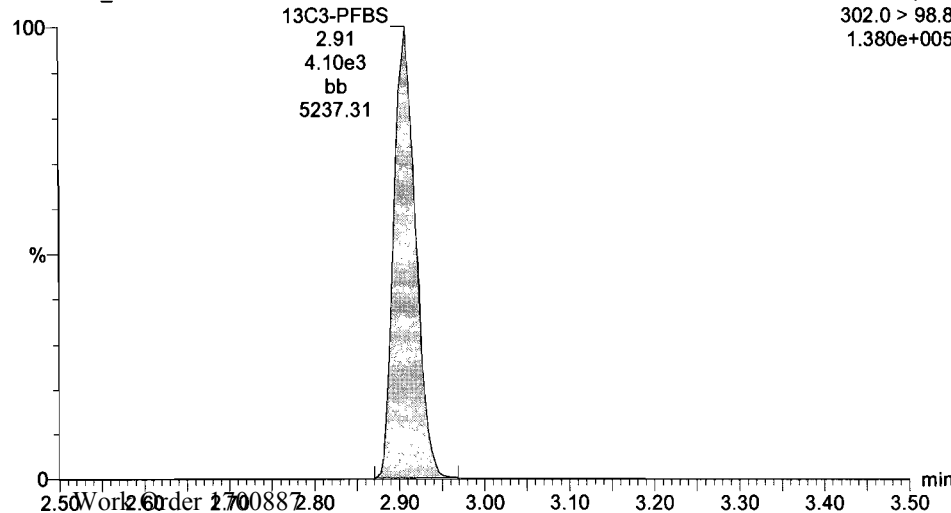
F3:MRM of 9 channels,ES-
312.9 > 118.7
2.499e+005



13C3-PFBS

170727G1_9

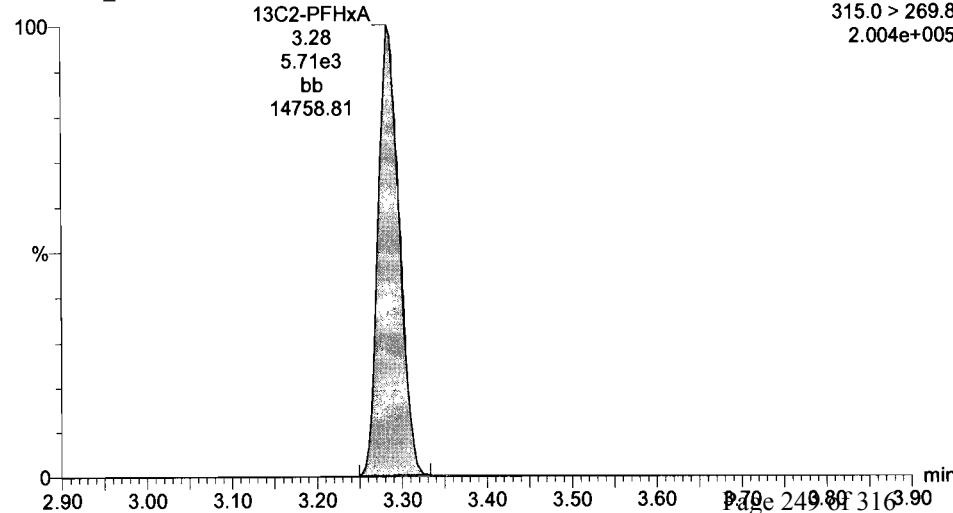
F3:MRM of 9 channels,ES-
302.0 > 98.8
1.380e+005



13C2-PFHxA

170727G1_9

F3:MRM of 9 channels,ES-
315.0 > 269.8
2.004e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

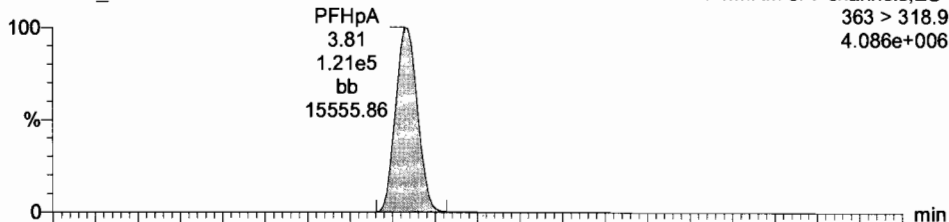
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-8 PFC CS5 17G2721, Description: PFC CS5 17G2721 A, Name: 170727G1_9, Date: 27-Jul-2017, Time: 13:12:08, Instrument: , Lab: , User:

PFHpA

170727G1_9

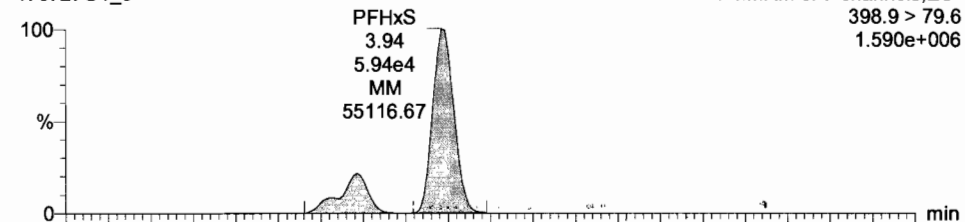
F4:MRM of 7 channels,ES-
363 > 318.9
4.086e+006



Total PFHxS

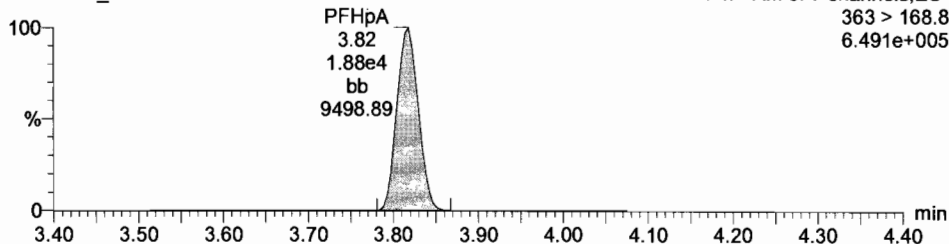
170727G1_9

F4:MRM of 7 channels,ES-
398.9 > 79.6
1.590e+006



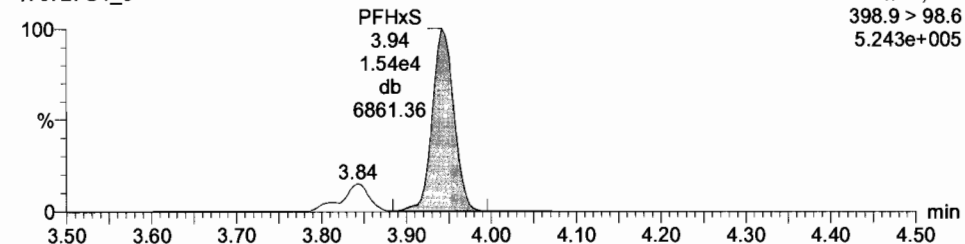
170727G1_9

F4:MRM of 7 channels,ES-
363 > 168.8
6.491e+005



170727G1_9

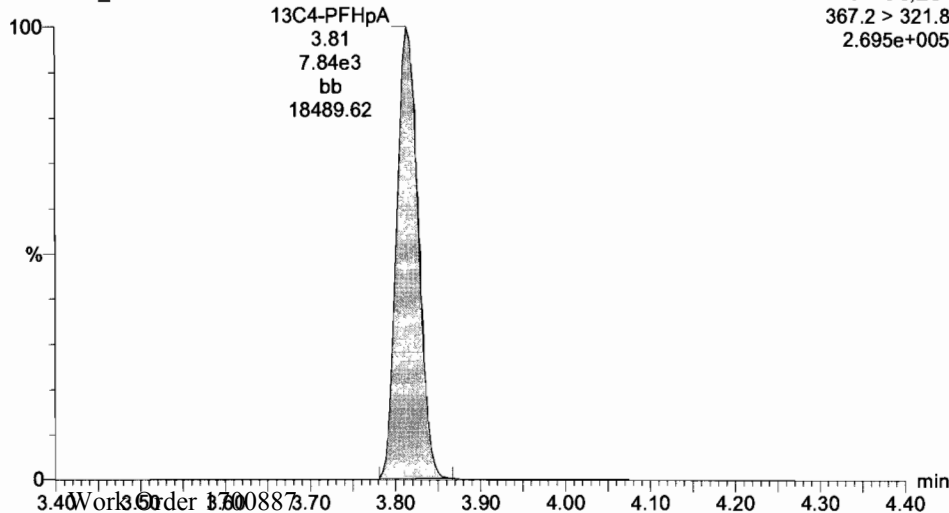
F4:MRM of 7 channels,ES-
398.9 > 98.6
5.243e+005



13C4-PFHpA

170727G1_9

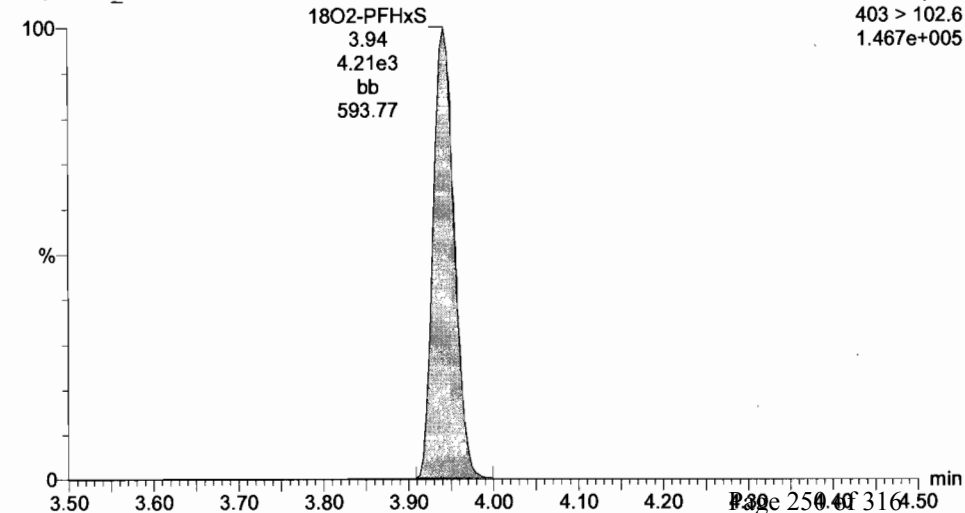
F4:MRM of 7 channels,ES-
367.2 > 321.8
2.695e+005



18O2-PFHxS

170727G1_9

F4:MRM of 7 channels,ES-
403 > 102.6
1.467e+005



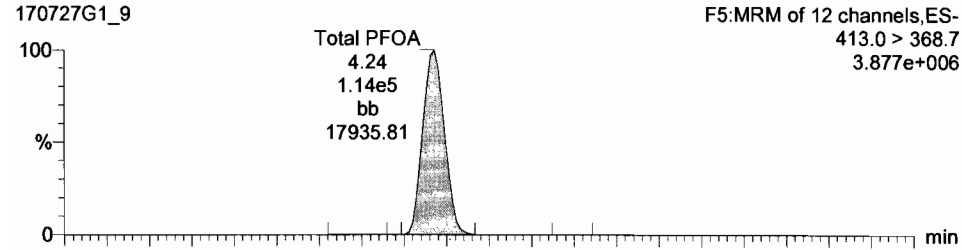
Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

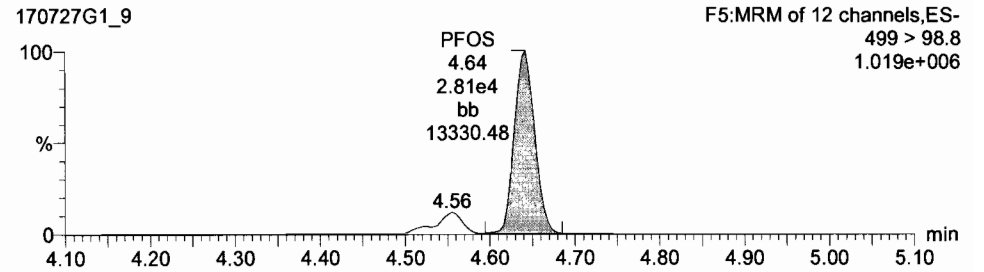
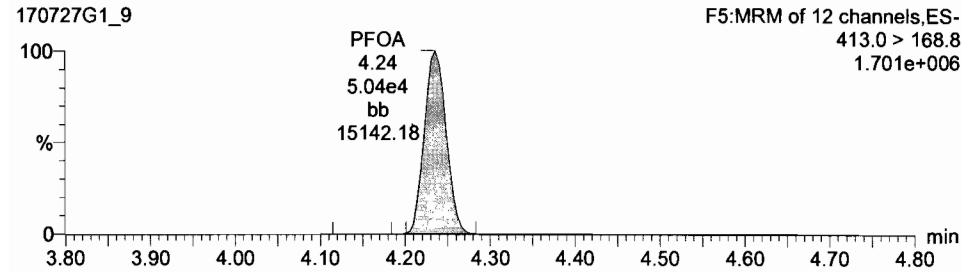
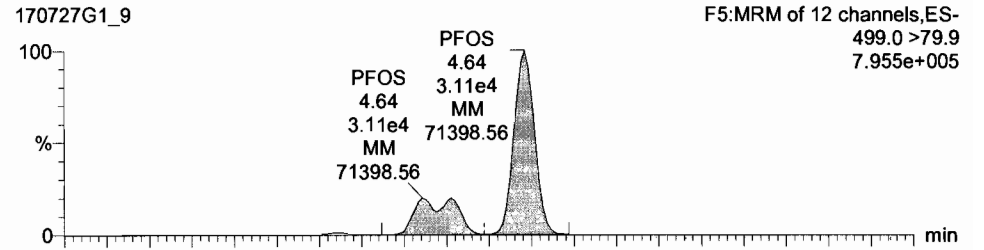
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-8 PFC CS5 17G2721, Description: PFC CS5 17G2721 A, Name: 170727G1_9, Date: 27-Jul-2017, Time: 13:12:08, Instrument: , Lab: , User:

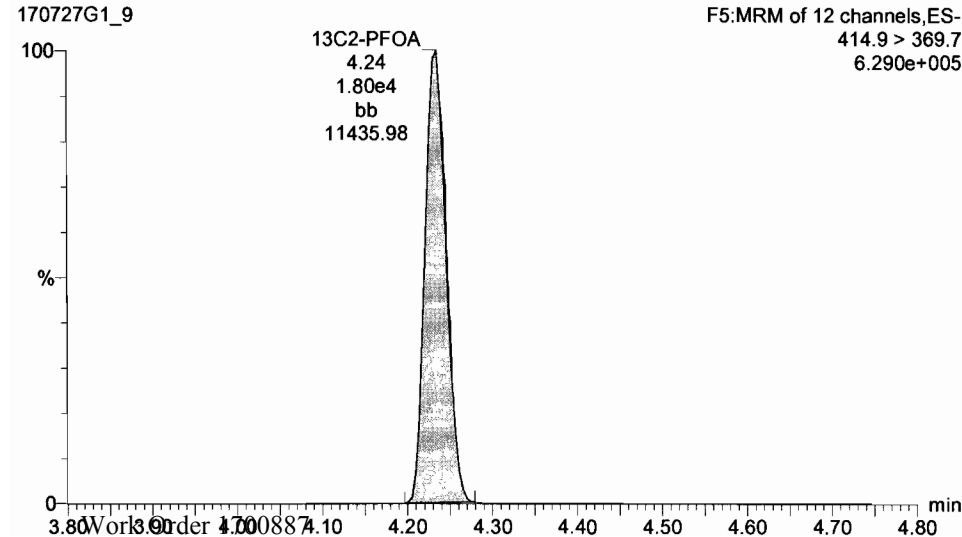
Total PFOA



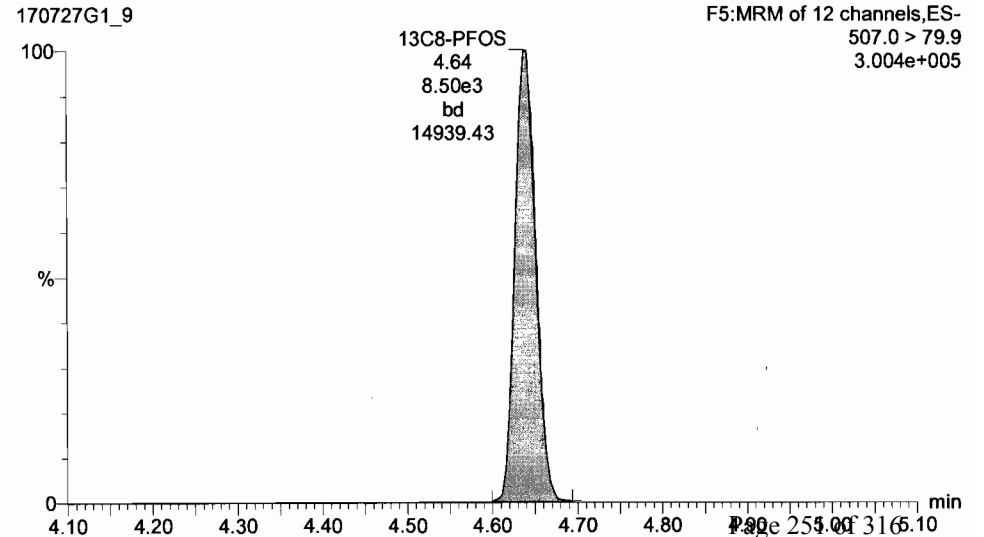
Total PFOS



13C2-PFOA



13C8-PFOS



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time

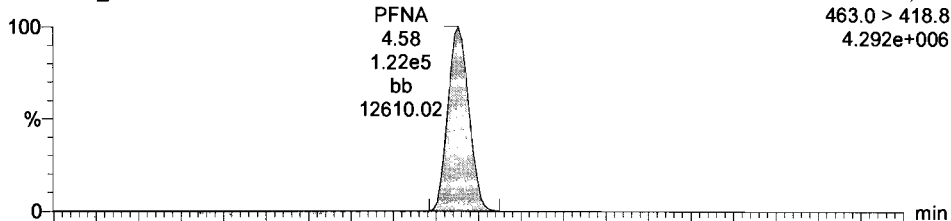
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-8 PFC CS5 17G2721, Description: PFC CS5 17G2721 A, Name: 170727G1_9, Date: 27-Jul-2017, Time: 13:12:08, Instrument: , Lab: , User:

PFNA

170727G1_9

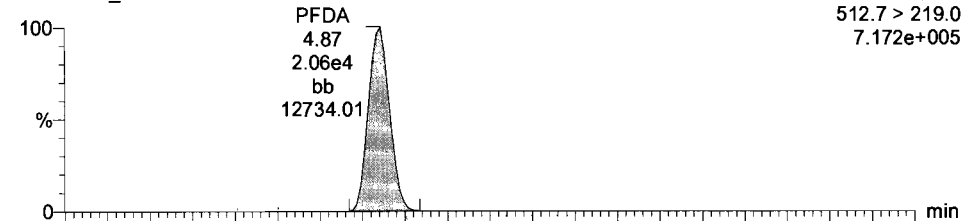
F5:MRM of 12 channels,ES-
463.0 > 418.8
4.292e+006



PFDA

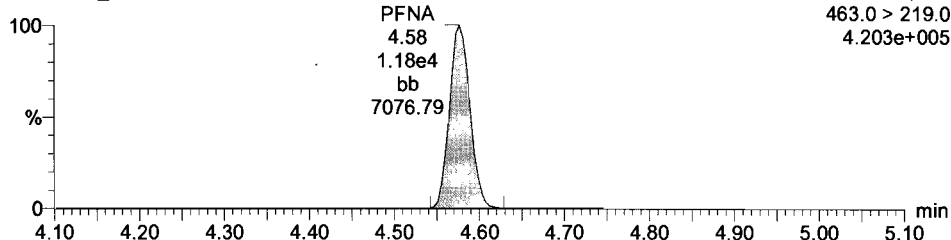
170727G1_9

F6:MRM of 4 channels,ES-
512.7 > 219.0
7.172e+005



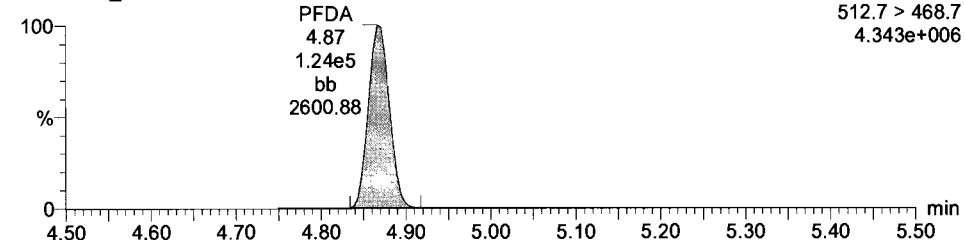
170727G1_9

F5:MRM of 12 channels,ES-
463.0 > 219.0
4.203e+005



170727G1_9

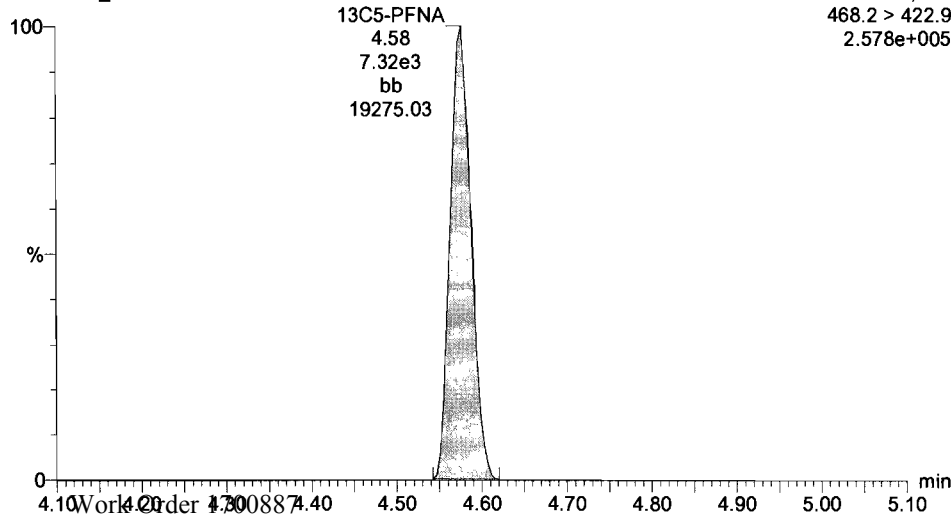
F6:MRM of 4 channels,ES-
512.7 > 468.7
4.343e+006



13C5-PFNA

170727G1_9

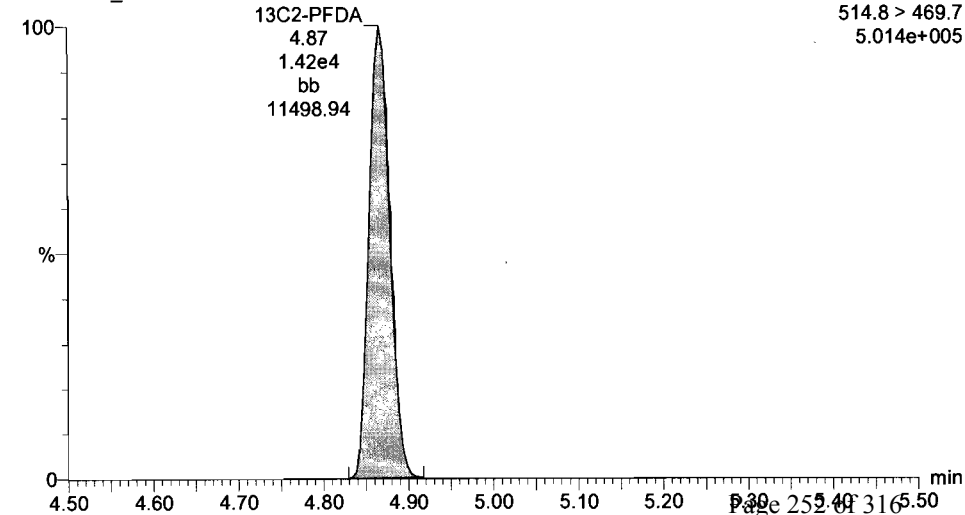
F5:MRM of 12 channels,ES-
468.2 > 422.9
2.578e+005



13C2-PFDA

170727G1_9

F6:MRM of 4 channels,ES-
514.8 > 469.7
5.014e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-CRV.qld

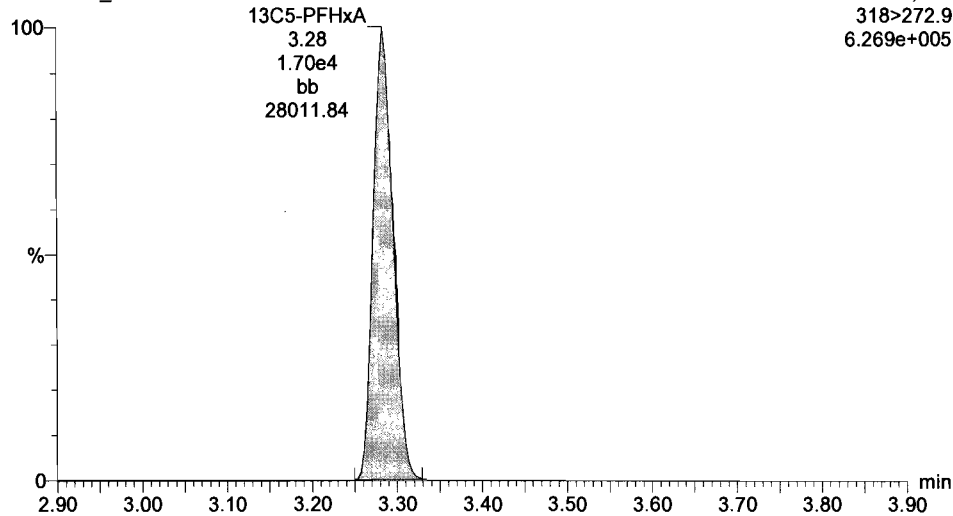
Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-8 PFC CS5 17G2721, Description: PFC CS5 17G2721 A, Name: 170727G1_9, Date: 27-Jul-2017, Time: 13:12:08, Instrument: , Lab: , User:

13C5-PFHxA

170727G1_9

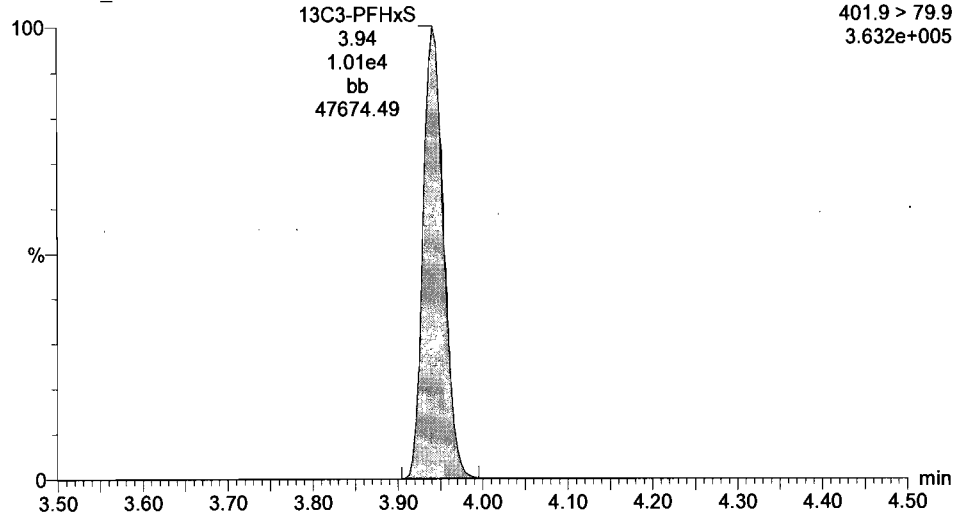
F3:MRM of 9 channels,ES-
318>272.9
6.269e+005



13C3-PFHxS

170727G1_9

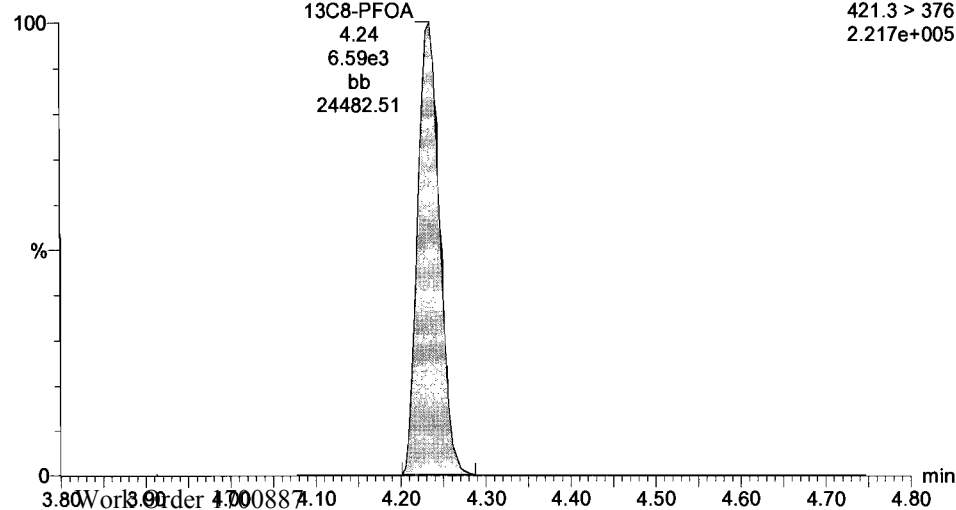
F4:MRM of 7 channels,ES-
401.9 > 79.9
3.632e+005



13C8-PFOA

170727G1_9

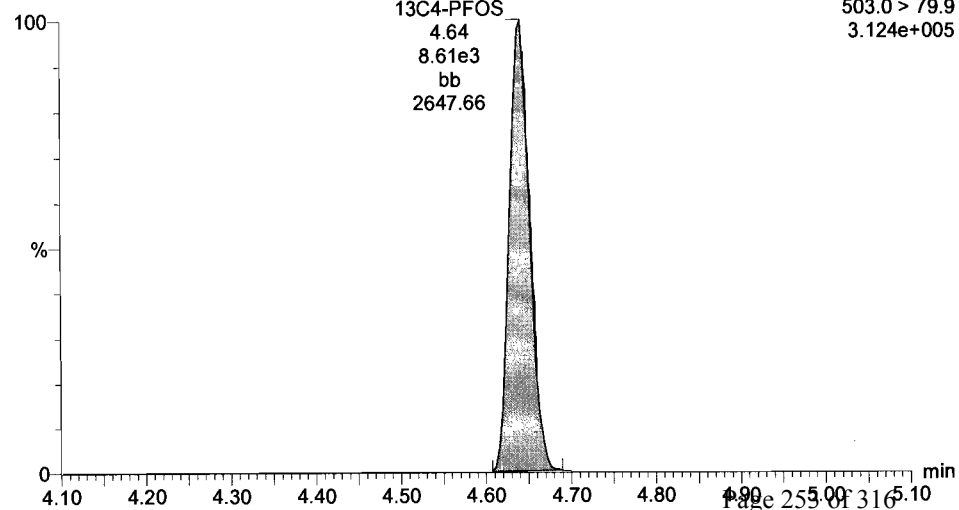
F5:MRM of 12 channels,ES-
421.3 > 376
2.217e+005



13C4-PFOS

170727G1_9

F5:MRM of 12 channels,ES-
503.0 > 79.9
3.124e+005



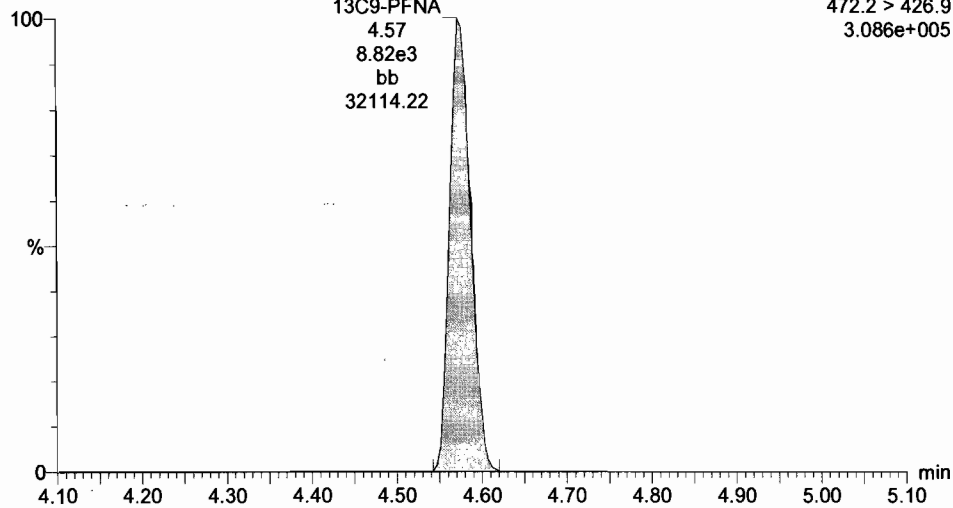
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Last Altered: Thursday, July 27, 2017 14:48:06 Pacific Daylight Time
Printed: Thursday, July 27, 2017 14:52:56 Pacific Daylight Time

ID: ST170727G1-8 PFC CS5 17G2721, Description: PFC CS5 17G2721 A, Name: 170727G1_9, Date: 27-Jul-2017, Time: 13:12:08, Instrument: , Lab: , User:

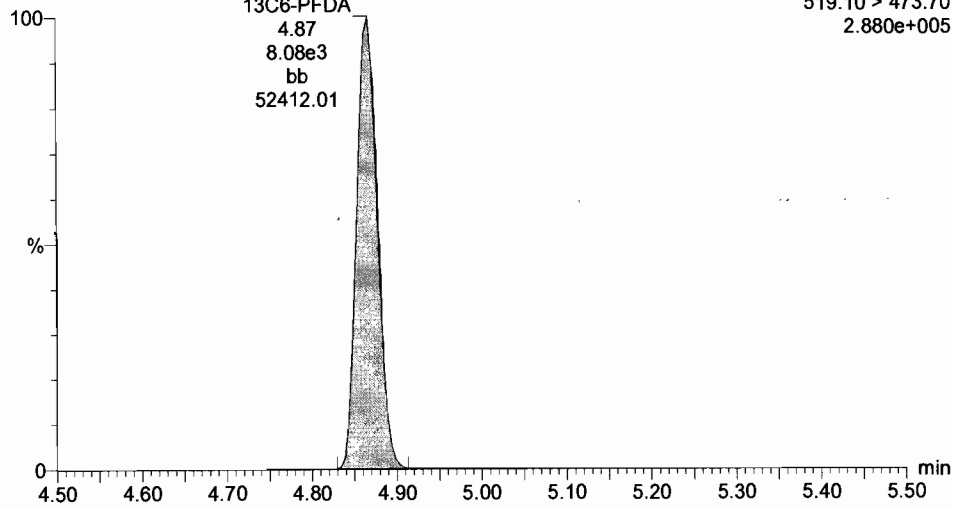
13C9-PFNA
170727G1_9

F5:MRM of 12 channels,ES-
472.2 > 426.9
3.086e+005



13C6-PFDA
170727G1_9

F6:MRM of 4 channels,ES-
519.10 > 473.70
2.880e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-11.qld

Last Altered: Thursday, July 27, 2017 14:54:17 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:55:09 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

Name: 170727G1_11, Date: 27-Jul-2017, Time: 13:37:14, ID: SS170727G1-1 PFC SSS 17G2713, Description: PFC SSS 17G2713

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFBA	212.9 > 168.9	1.32e4	2.05e4		1.000	1.67	10.7	107.1
2	2 PFPeA	263.0 > 218.8	7.15e3	7.69e3		1.000	2.63	10.5	105.2
3	3 PFBS	299.0 > 79.7	5.63e3	4.75e3		1.000	2.91	8.84	88.4
4	4 PFHxA	312.9 > 268.9	1.00e4	6.50e3		1.000	3.29	10.1	101.0
5	5 PFHpA	363 > 318.9	1.41e4	8.41e3		1.000	3.82	10.7	106.6
6	6 PFHxS	398.9 > 79.6	6.09e3	4.53e3		1.000	3.95	9.38	93.8
7	7 PFOA	413.0 > 368.7	1.28e4	1.85e4		1.000	4.24	10.7	107.3
8	8 PFNA	463.0 > 418.8	1.13e4	5.97e3		1.000	4.58	10.3	102.8
9	9 PFOS	499.0 > 79.9	2.54e3	7.28e3		1.000	4.64	9.20	92.0
10	10 PFDA	512.7 > 219.0	1.65e3	1.13e4		1.000	4.87	9.14	91.4
11	11 13C3-PFBA	215.9 > 171.8	2.05e4	1.93e4	1.183	1.000	1.67	11.3	90.1
12	12 13C3-PFBS	302.0 > 98.8	4.75e3	1.63e4	0.263	1.000	2.91	13.8	110.7
13	13 13C3-PFPeA	266.0 > 221.8	7.69e3	1.63e4	0.446	1.000	2.63	13.2	105.3
14	14 13C2-PFHxA	315.0 > 269.8	6.50e3	1.63e4	0.361	1.000	3.29	13.8	110.2
15	15 13C4-PFHpA	367.2 > 321.8	8.41e3	1.63e4	0.475	1.000	3.82	13.5	108.3
16	16 18O2-PFHxS	403 > 102.6	4.53e3	1.12e4	0.411	1.000	3.95	12.3	98.2
17	17 13C2-PFOA	414.9 > 369.7	1.85e4	6.32e3	2.843	1.000	4.24	12.9	103.1
18	18 13C5-PFNA	468.2 > 422.9	5.97e3	7.44e3	0.854	1.000	4.58	11.7	94.0
19	19 13C2-PFDA	514.8 > 469.7	1.13e4	6.36e3	1.742	1.000	4.87	12.8	102.1
20	20 13C8-PFOS	507.0 > 79.9	7.28e3	7.78e3	0.927	1.000	4.64	12.6	100.9
21	21 13C4-PFBA	216.9 > 171.8	1.93e4	1.93e4	1.000	1.000	1.67	12.5	100.0
22	22 13C5-PFHxA	318 > 272.9	1.63e4	1.63e4	1.000	1.000	3.28	12.5	100.0
23	23 13C3-PFHxS	401.9 > 79.9	1.12e4	1.12e4	1.000	1.000	3.95	12.5	100.0
24	24 13C8-PFOA	421.3 > 376	6.32e3	6.32e3	1.000	1.000	4.24	12.5	100.0
25	25 13C9-PFNA	472.2 > 426.9	7.44e3	7.44e3	1.000	1.000	4.58	12.5	100.0
26	26 13C4-PFOS	503.0 > 79.9	7.78e3	7.78e3	1.000	1.000	4.64	12.5	100.0
27	27 13C6-PFDA	519.10 > 47...	6.36e3	6.36e3	1.000	1.000	4.87	12.5	100.0

70-130

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Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-11.qld

Last Altered: Thursday, July 27, 2017 14:54:17 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:54:55 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_14or16_2trans_0712.mdb 12 Jul 2017 13:38:17

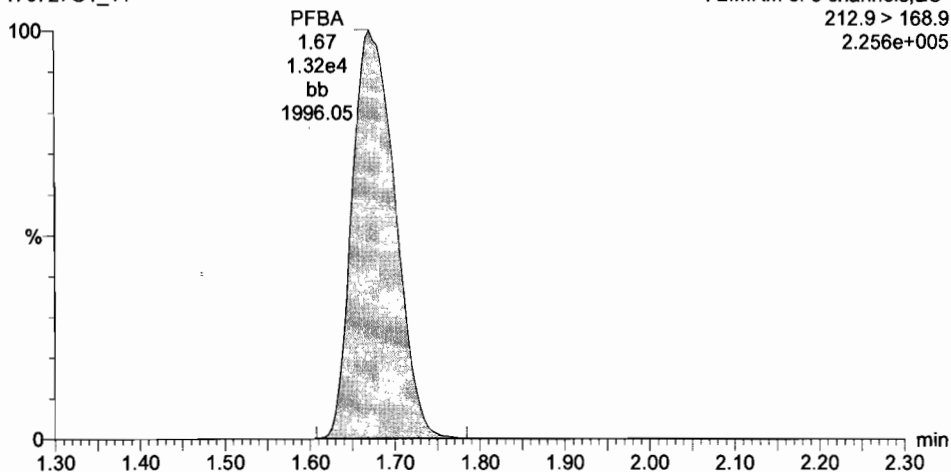
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-27-17_L16_2Trans_A_NEW.cdb 27 Jul 2017 14:48:06

ID: SS170727G1-1 PFC SSS 17G2713, Description: PFC SSS 17G2713, Name: 170727G1_11, Date: 27-Jul-2017, Time: 13:37:14, Instrument: , Lab: , User:

PFBA

170727G1_11

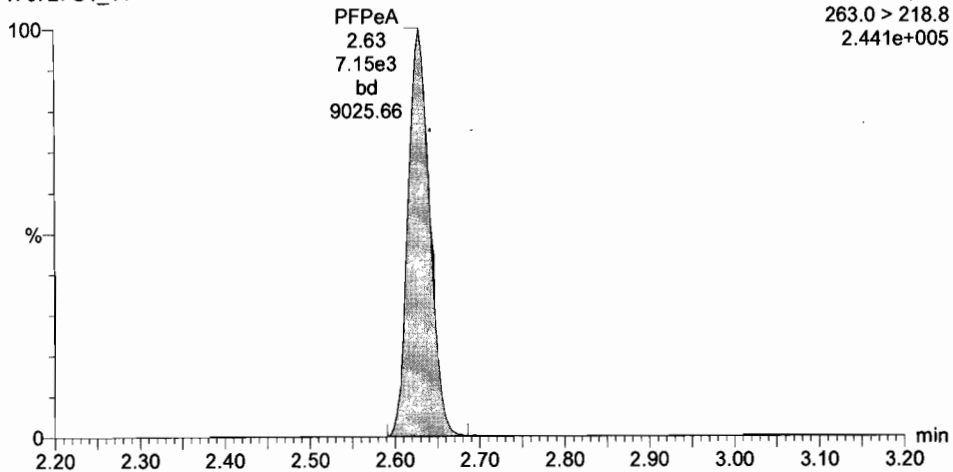
F2:MRM of 3 channels,ES-
212.9 > 168.9
2.256e+005



PFPeA

170727G1_11

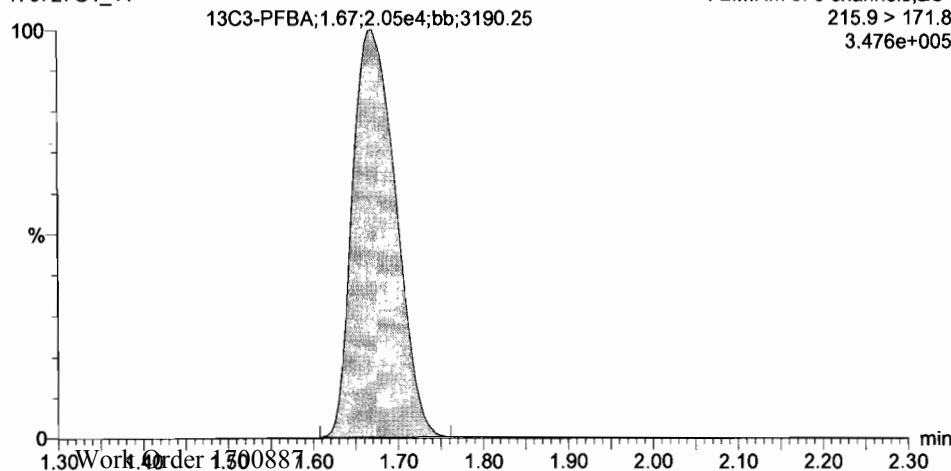
F3:MRM of 9 channels,ES-
263.0 > 218.8
2.441e+005



13C3-PFBA

170727G1_11

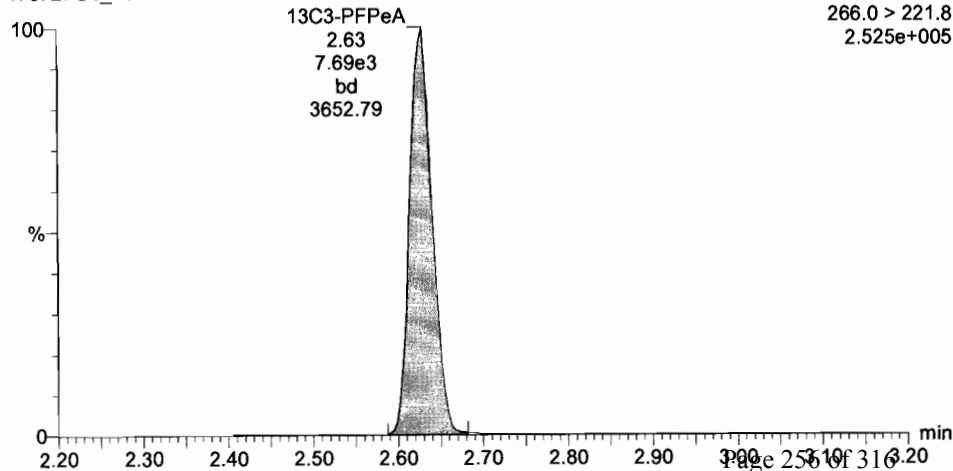
F2:MRM of 3 channels,ES-
215.9 > 171.8
3.476e+005



13C3-PFPeA

170727G1_11

F3:MRM of 9 channels,ES-
266.0 > 221.8
2.525e+005



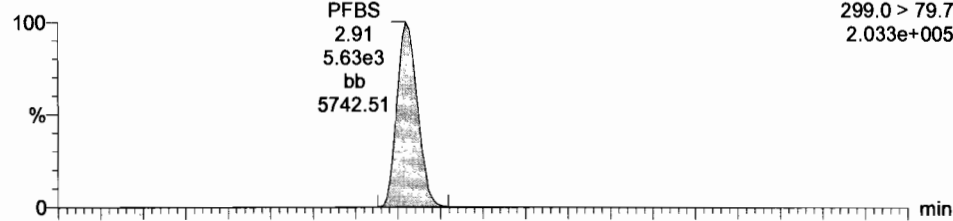
Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-11.qld

Last Altered: Thursday, July 27, 2017 14:54:17 Pacific Daylight Time
Printed: Thursday, July 27, 2017 14:54:55 Pacific Daylight Time

ID: SS170727G1-1 PFC SSS 17G2713, Description: PFC SSS 17G2713, Name: 170727G1_11, Date: 27-Jul-2017, Time: 13:37:14, Instrument: , Lab: , User:

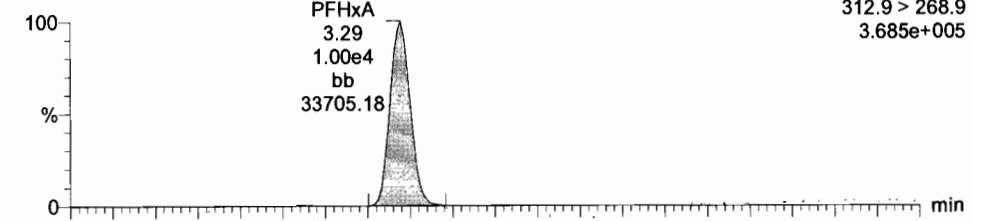
Total PFBS

170727G1_11

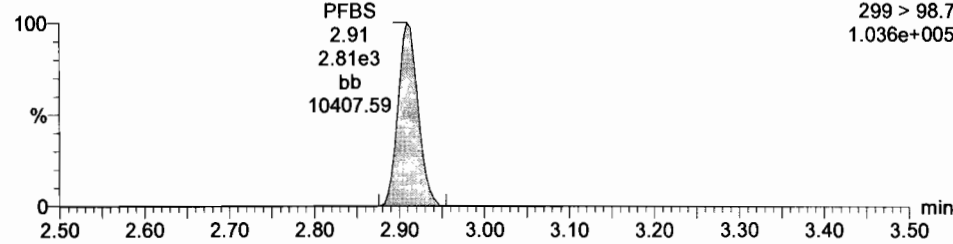


PFHxA

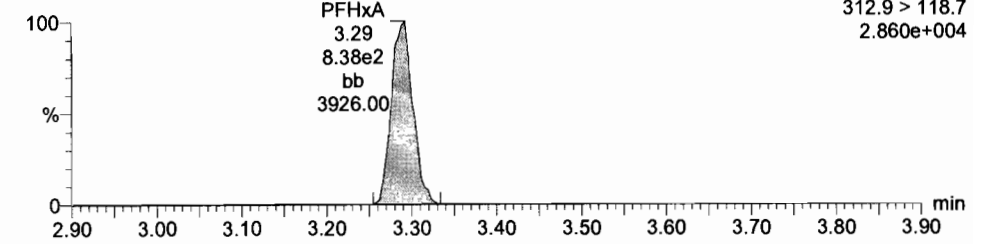
170727G1_11



170727G1_11

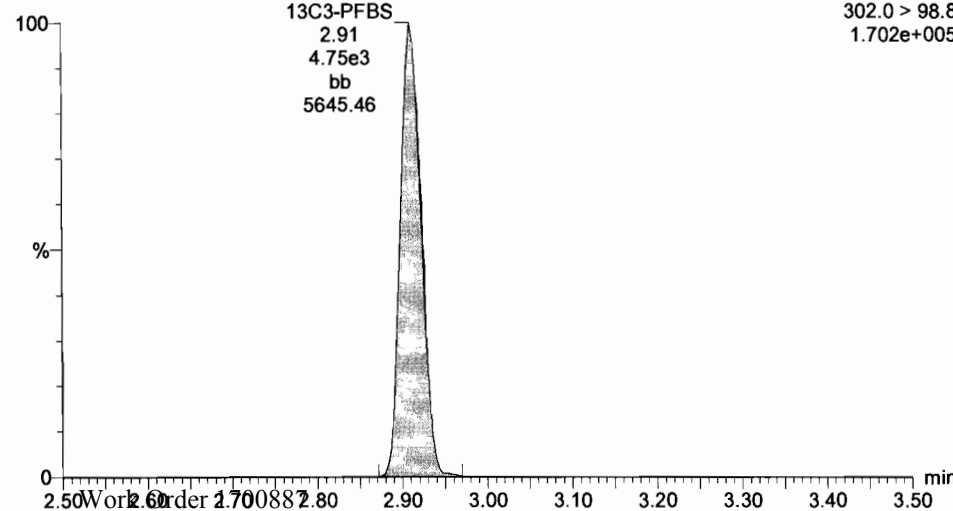


170727G1_11



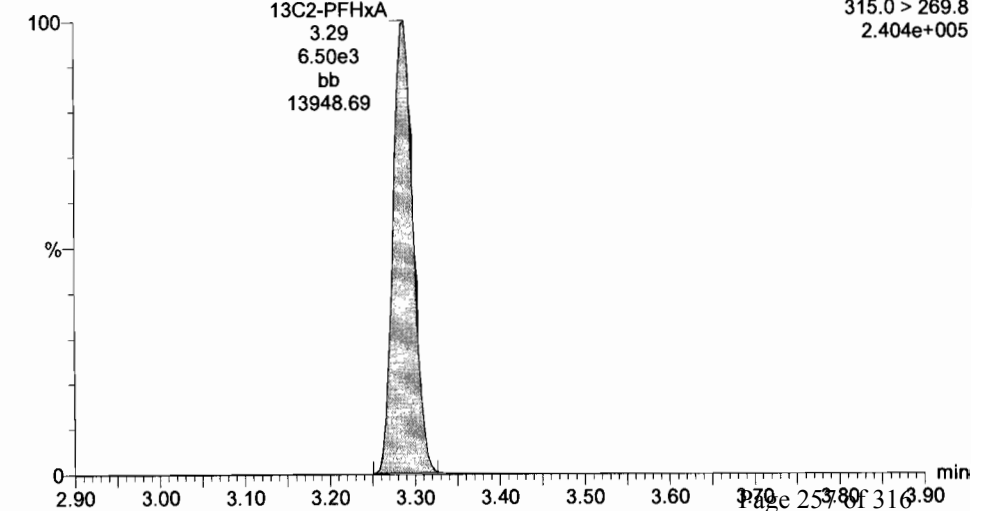
13C3-PFBS

170727G1_11



13C2-PFHxA

170727G1_11



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-11.qld

Last Altered: Thursday, July 27, 2017 14:54:17 Pacific Daylight Time

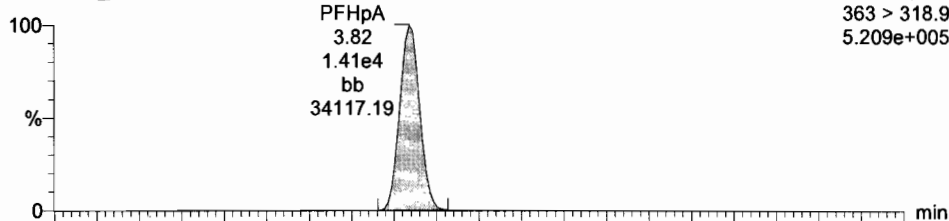
Printed: Thursday, July 27, 2017 14:54:55 Pacific Daylight Time

ID: SS170727G1-1 PFC SSS 17G2713, Description: PFC SSS 17G2713, Name: 170727G1_11, Date: 27-Jul-2017, Time: 13:37:14, Instrument: , Lab: , User:

PFHpA

170727G1_11

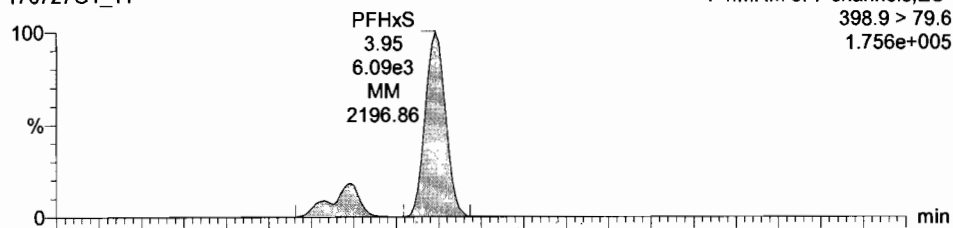
F4:MRM of 7 channels,ES-
363 > 318.9
5.209e+005



Total PFHxS

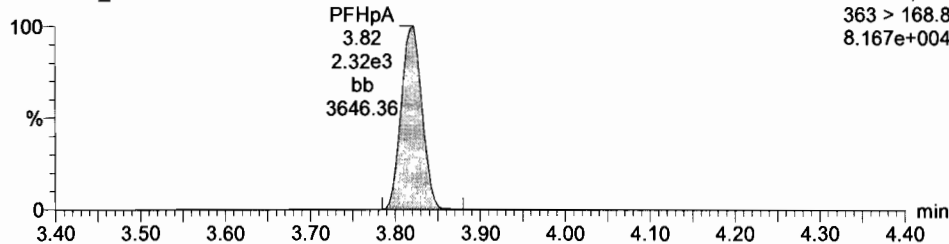
170727G1_11

F4:MRM of 7 channels,ES-
398.9 > 79.6
1.756e+005



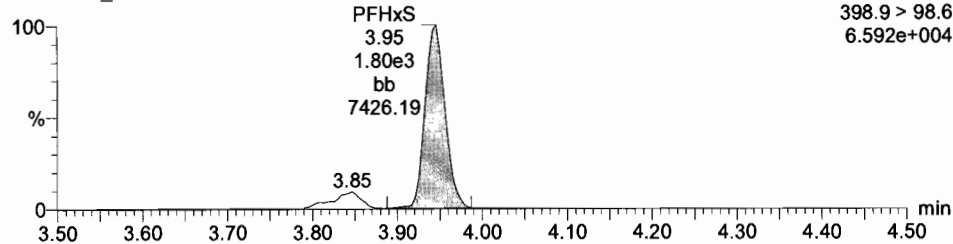
170727G1_11

F4:MRM of 7 channels,ES-
363 > 168.8
8.167e+004



170727G1_11

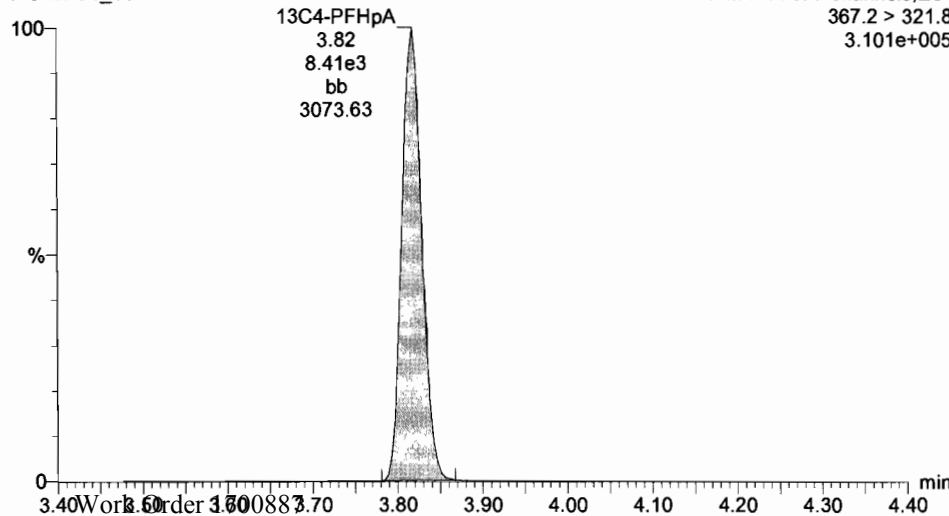
F4:MRM of 7 channels,ES-
398.9 > 98.6
6.592e+004



13C4-PFHpA

170727G1_11

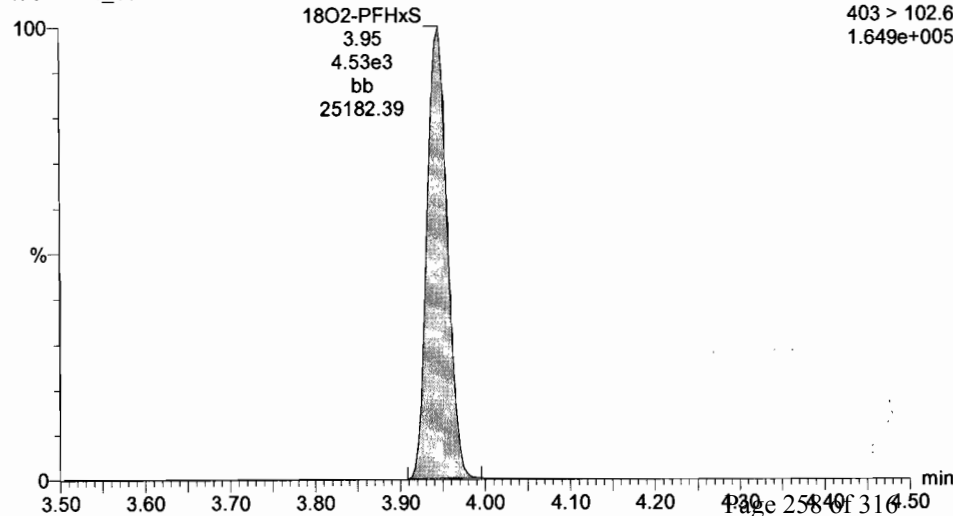
F4:MRM of 7 channels,ES-
367.2 > 321.8
3.101e+005



18O2-PFHxS

170727G1_11

F4:MRM of 7 channels,ES-
403 > 102.6
1.649e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-11.qld

Last Altered: Thursday, July 27, 2017 14:54:17 Pacific Daylight Time

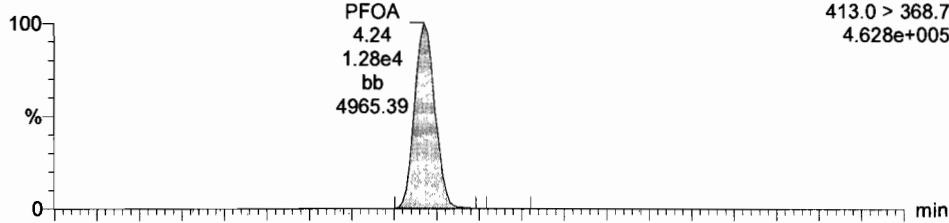
Printed: Thursday, July 27, 2017 14:54:55 Pacific Daylight Time

ID: SS170727G1-1 PFC SSS 17G2713, Description: PFC SSS 17G2713, Name: 170727G1_11, Date: 27-Jul-2017, Time: 13:37:14, Instrument: , Lab: , User:

Total PFOA

170727G1_11

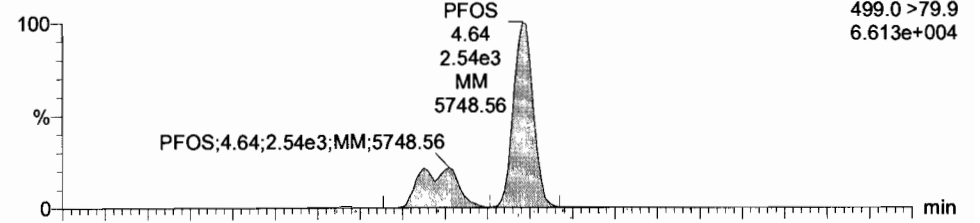
F5:MRM of 12 channels,ES-
413.0 > 368.7
4.628e+005



Total PFOS

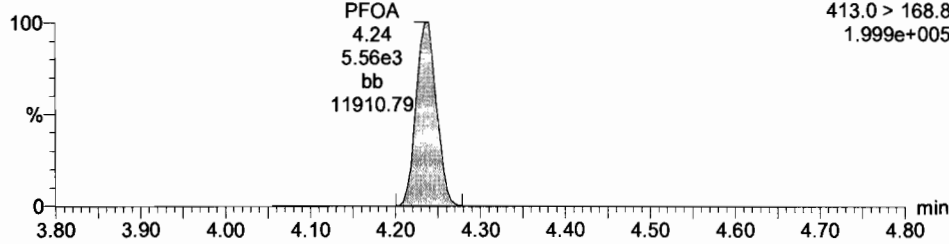
170727G1_11

F5:MRM of 12 channels,ES-
499.0 > 79.9
6.613e+004



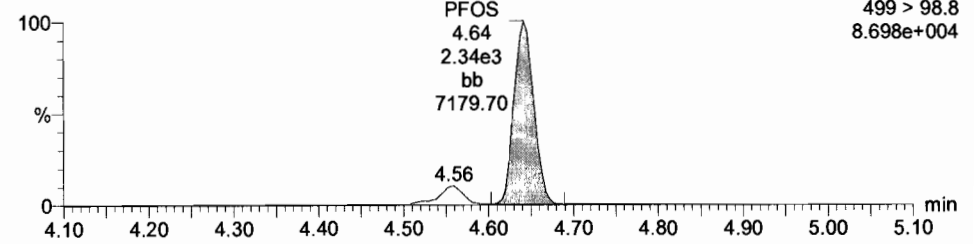
170727G1_11

F5:MRM of 12 channels,ES-
413.0 > 168.8
1.999e+005



170727G1_11

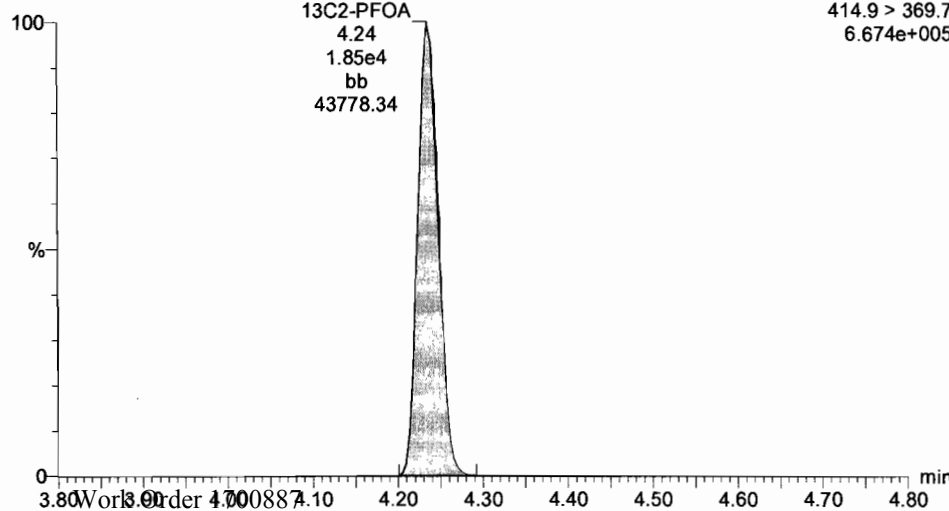
F5:MRM of 12 channels,ES-
499 > 98.8
8.698e+004



13C2-PFOA

170727G1_11

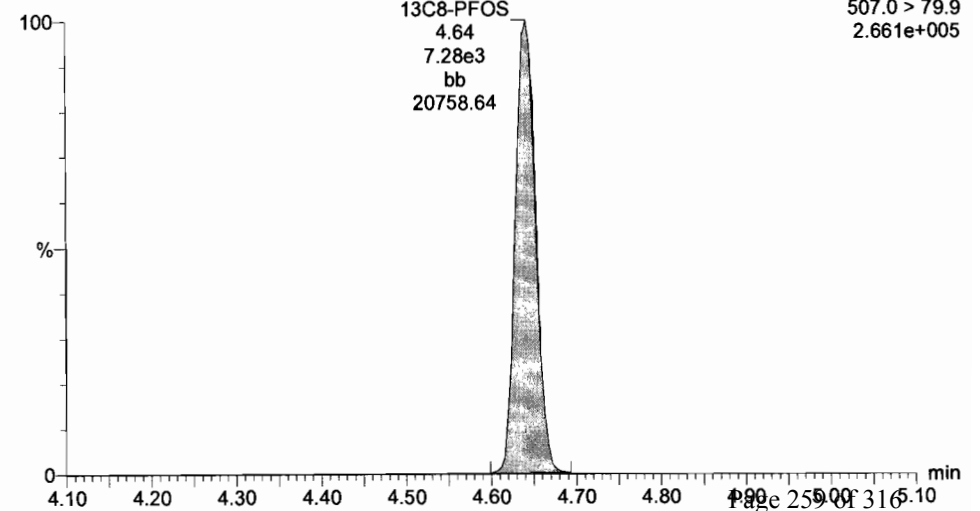
F5:MRM of 12 channels,ES-
414.9 > 369.7
6.674e+005



13C8-PFOS

170727G1_11

F5:MRM of 12 channels,ES-
507.0 > 79.9
2.661e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-11.qld

Last Altered: Thursday, July 27, 2017 14:54:17 Pacific Daylight Time

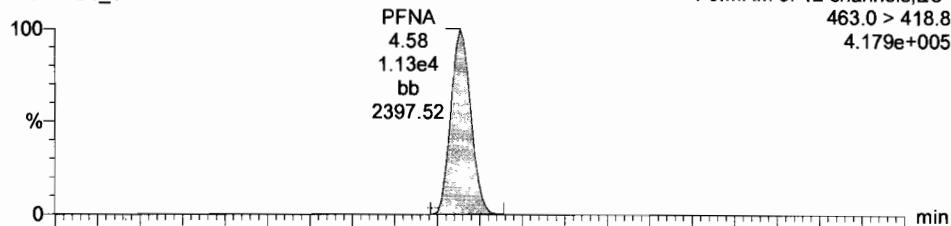
Printed: Thursday, July 27, 2017 14:54:55 Pacific Daylight Time

ID: SS170727G1-1 PFC SSS 17G2713, Description: PFC SSS 17G2713, Name: 170727G1_11, Date: 27-Jul-2017, Time: 13:37:14, Instrument: , Lab: , User:

PFNA

170727G1_11

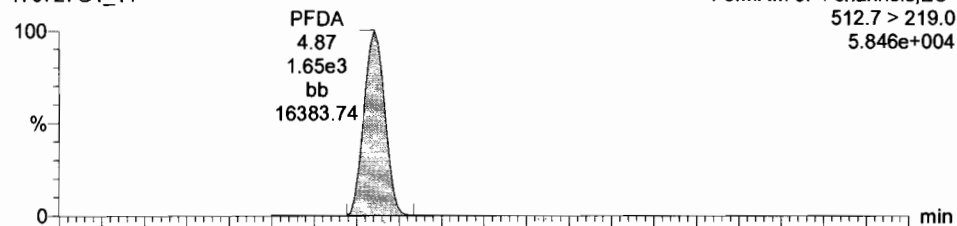
F5:MRM of 12 channels,ES-
463.0 > 418.8
4.179e+005



PFDA

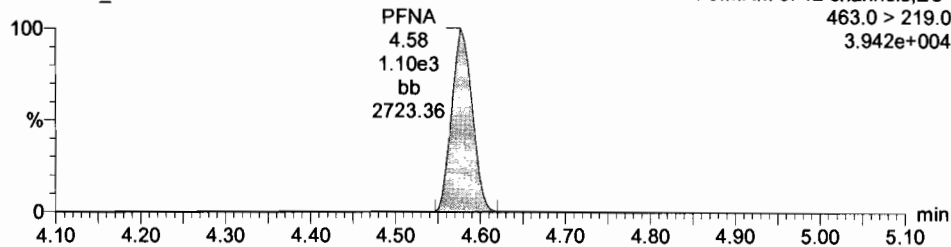
170727G1_11

F6:MRM of 4 channels,ES-
512.7 > 219.0
5.846e+004



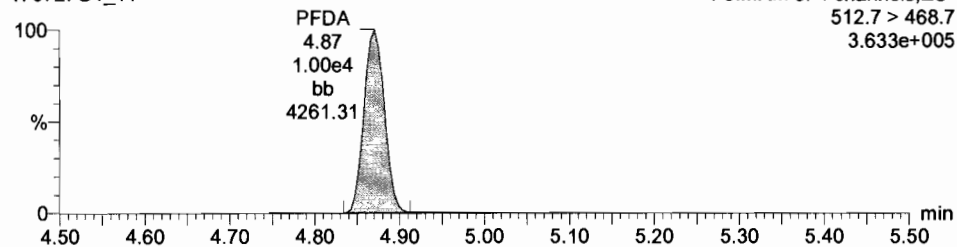
170727G1_11

F5:MRM of 12 channels,ES-
463.0 > 219.0
3.942e+004



170727G1_11

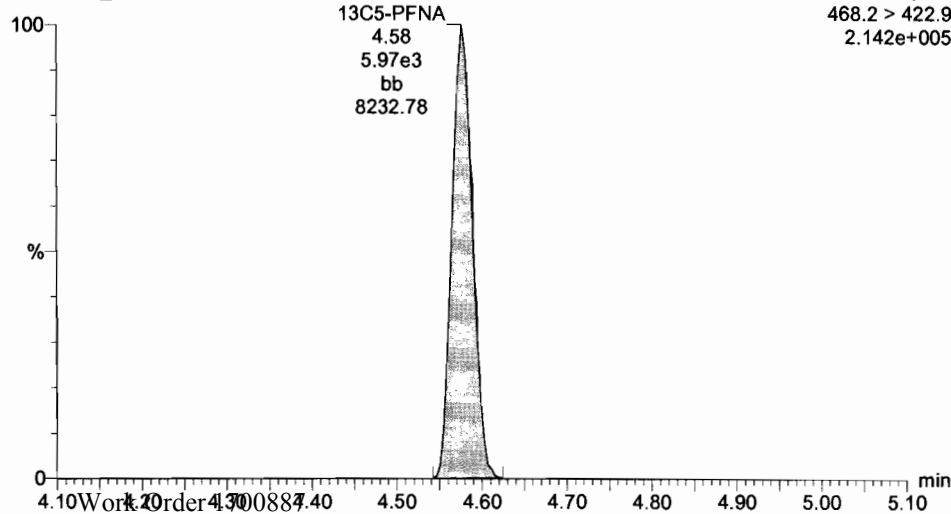
F6:MRM of 4 channels,ES-
512.7 > 468.7
3.633e+005



13C5-PFNA

170727G1_11

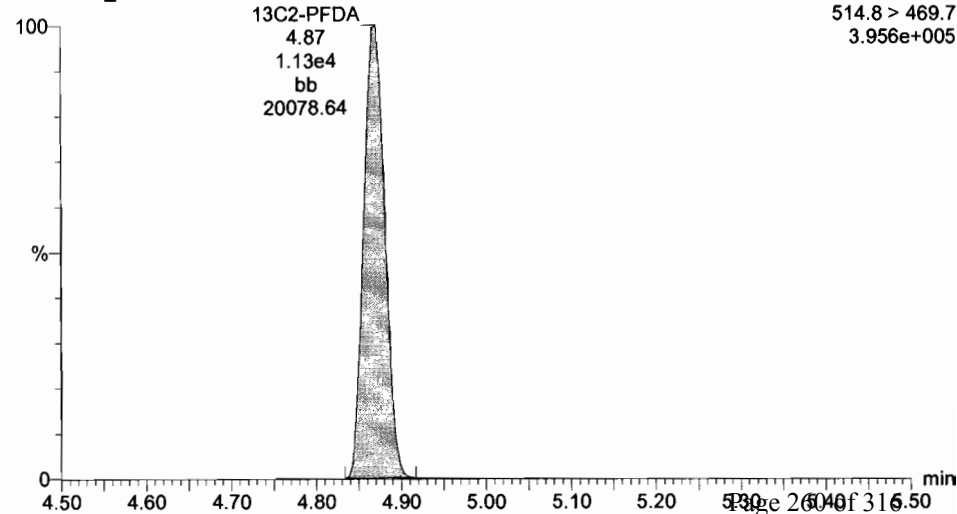
F5:MRM of 12 channels,ES-
468.2 > 422.9
2.142e+005



13C2-PFDA

170727G1_11

F6:MRM of 4 channels,ES-
514.8 > 469.7
3.956e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-11.qld

Last Altered: Thursday, July 27, 2017 14:54:17 Pacific Daylight Time

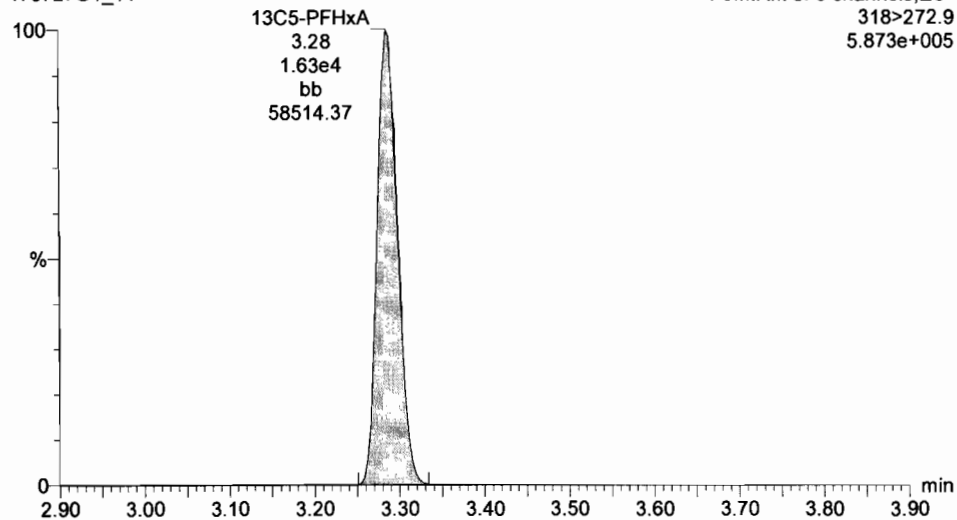
Printed: Thursday, July 27, 2017 14:54:55 Pacific Daylight Time

ID: SS170727G1-1 PFC SSS 17G2713, Description: PFC SSS 17G2713, Name: 170727G1_11, Date: 27-Jul-2017, Time: 13:37:14, Instrument: , Lab: , User:

13C5-PFHxA

170727G1_11

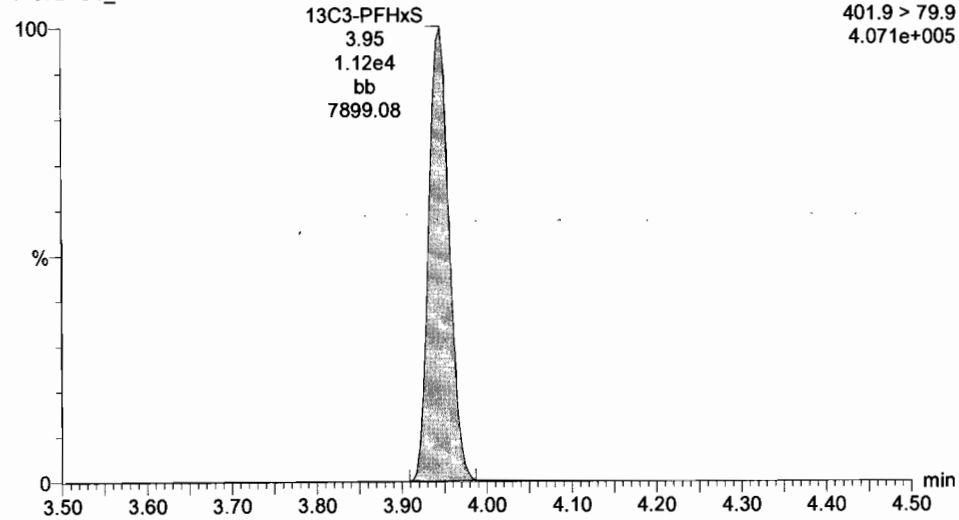
F3:MRM of 9 channels,ES-
318>272.9
5.873e+005



13C3-PFHxS

170727G1_11

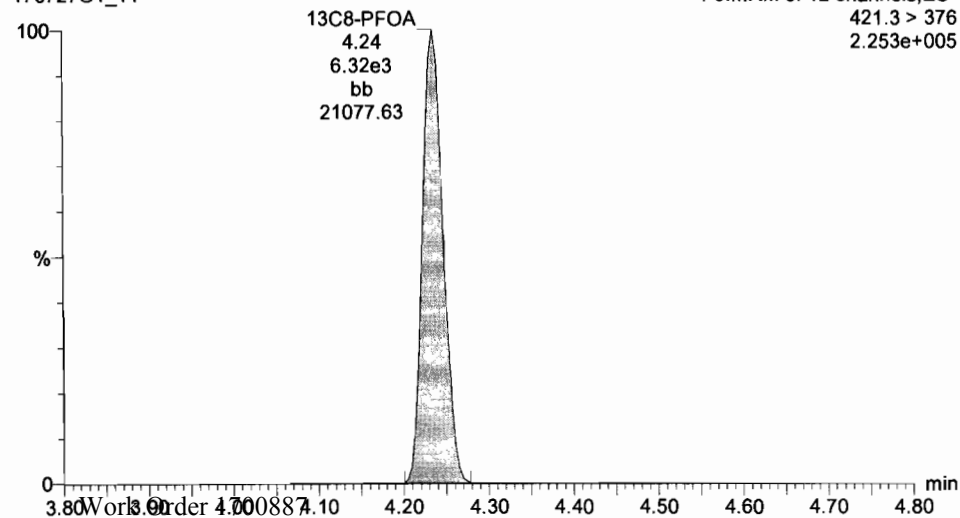
F4:MRM of 7 channels,ES-
401.9 > 79.9
4.071e+005



13C8-PFOA

170727G1_11

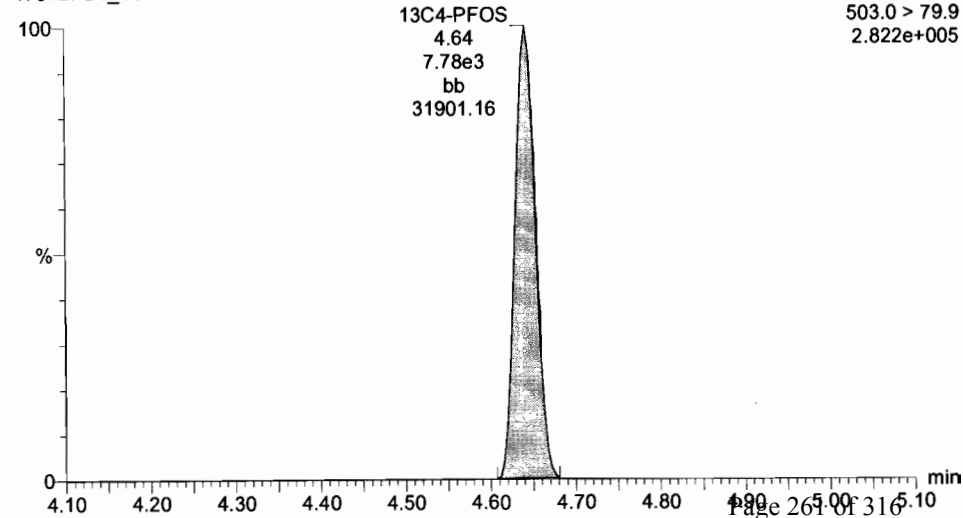
F5:MRM of 12 channels,ES-
421.3 > 376
2.253e+005



13C4-PFOS

170727G1_11

F5:MRM of 12 channels,ES-
503.0 > 79.9
2.822e+005



Dataset: U:\G1.PRO\Results\2017\170727G1\170727G1-11.qld

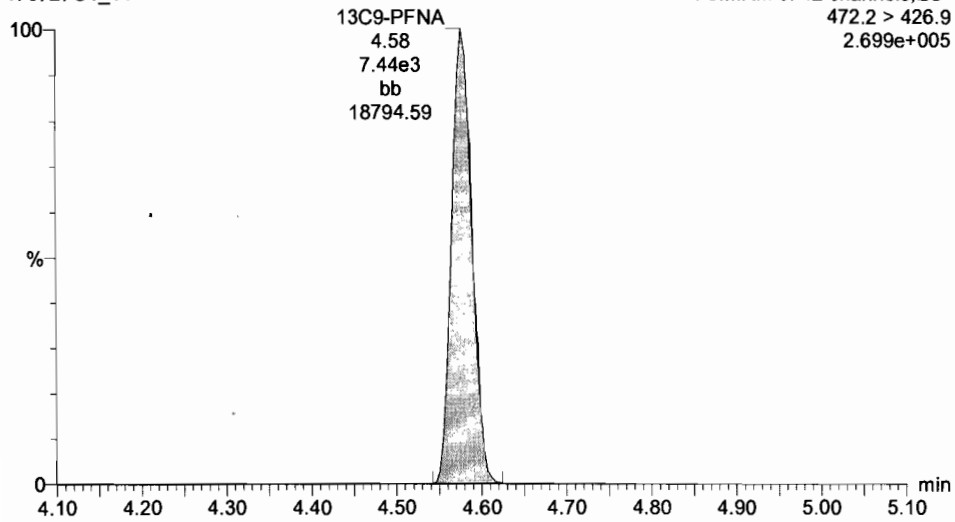
Last Altered: Thursday, July 27, 2017 14:54:17 Pacific Daylight Time

Printed: Thursday, July 27, 2017 14:54:55 Pacific Daylight Time

ID: SS170727G1-1 PFC SSS 17G2713, Description: PFC SSS 17G2713, Name: 170727G1_11, Date: 27-Jul-2017, Time: 13:37:14, Instrument: , Lab: , User:

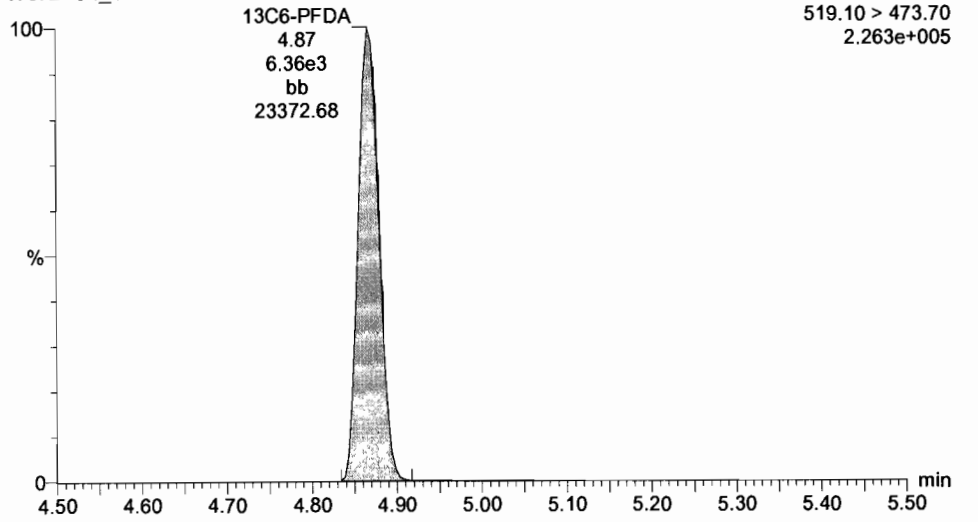
13C9-PFNA
170727G1_11

F5:MRM of 12 channels,ES-
472.2 > 426.9
2.699e+005



13C6-PFDA
170727G1_11

F6:MRM of 4 channels,ES-
519.10 > 473.70
2.263e+005



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:51:45 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

Compound name: PFOSA

Correlation coefficient: $r = 0.999923$, $r^2 = 0.999847$

Calibration curve: $1.21764 * x + 0.142512$

Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)

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

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170728G1_2	0.250	4.60	8.11e2	2.39e4	0.231	-7.4	1.70
2	2 170728G1_3	0.500	4.60	1.43e3	2.42e4	0.489	-2.3	1.47
3	3 170728G1_4	1.00	4.59	2.68e3	2.52e4	0.976	-2.4	1.33
4	4 170728G1_5	2.00	4.60	3.04e3	1.39e4	2.14	6.9	1.37
5	5 170728G1_6	5.00	4.60	1.20e4	2.31e4	5.22	4.3	1.30
6	6 170728G1_7	10.0	4.60	2.24e4	2.24e4	10.1	1.5	1.25
7	7 170728G1_8	50.0	4.60	9.72e4	2.00e4	49.9	-0.3	1.22
8	8 170728G1_9	100	4.60	1.68e5	1.73e4	99.7	-0.3	1.22

Ken 7/31/17

am 7/31/17

Compound name: N-MeFOSAA

Coefficient of Determination: $R^2 = 0.999599$

Calibration curve: $-0.0288624 * x^2 + 29.2151 * x + 0.0851315$

Response type: Internal Std (Ref 10), 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.	%Dev	RRF
1	1 170728G1_2	0.250	4.97	4.35e2	7.62e3	0.315	25.8	37.1
2	2 170728G1_3	0.500	4.97	4.93e2	6.79e3	0.401	-19.8	23.6
3	3 170728G1_4	1.00	4.97	1.20e3	7.24e3	0.920	-8.0	26.9
4	4 170728G1_5	2.00	4.97	1.56e3	4.15e3	2.09	4.6	30.5
5	5 170728G1_6	5.00	4.98	5.72e3	6.62e3	4.82	-3.5	28.1
6	6 170728G1_7	10.0	4.98	1.13e4	6.31e3	10.0	0.5	29.1
7	7 170728G1_8	50.0	4.97	5.31e4	6.17e3	50.3	0.6	27.9
8	8 170728G1_9	100	4.97	9.12e4	5.64e3	99.8	-0.2	26.3

Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:51:45 Pacific Daylight Time

Compound name: PFDS

Coefficient of Determination: $R^2 = 0.999845$

Calibration curve: $0.00050466 * x^2 + 0.454912 * x - 0.0161039$

Response type: Internal Std (Ref 11), 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.	%Dev.	RRF
1	1 170728G1_2	0.250	5.14	2.55e2	3.18e4	0.256	2.3	0.401
2	2 170728G1_3	0.500	5.14	5.53e2	3.12e4	0.522	4.4	0.443
3	3 170728G1_4	1.00	5.13	1.10e3	3.15e4	0.992	-0.8	0.436
4	4 170728G1_5	2.00	5.14	1.16e3	1.71e4	1.89	-5.3	0.423
5	5 170728G1_6	5.00	5.14	5.41e3	3.10e4	4.80	-4.0	0.436
6	6 170728G1_7	10.0	5.14	1.16e4	3.06e4	10.4	3.7	0.475
7	7 170728G1_8	50.0	5.14	4.81e4	2.51e4	49.9	-0.2	0.479
8	8 170728G1_9	100	5.14	8.47e4	2.10e4	100	0.0	0.505

Compound name: PFUnA

Correlation coefficient: $r = 0.999740$, $r^2 = 0.999481$

Calibration curve: $0.950369 * x + 0.261679$

Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)

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

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev.	RRF
1	1 170728G1_2	0.250	5.10	1.12e3	3.18e4	0.187	-25.2	1.76
2	2 170728G1_3	0.500	5.10	1.99e3	3.12e4	0.563	12.6	1.59
3	3 170728G1_4	1.00	5.10	3.01e3	3.15e4	0.982	-1.8	1.19
4	4 170728G1_5	2.00	5.10	3.37e3	1.71e4	2.32	16.0	1.23
5	5 170728G1_6	5.00	5.11	1.25e4	3.10e4	5.03	0.5	1.01
6	6 170728G1_7	10.0	5.11	2.34e4	3.06e4	9.78	-2.2	0.956
7	7 170728G1_8	50.0	5.11	9.65e4	2.51e4	50.3	0.6	0.961
8	8 170728G1_9	100	5.11	1.59e5	2.10e4	99.6	-0.4	0.949

Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:51:45 Pacific Daylight Time

Compound name: N-EtFOSAA

Coefficient of Determination: $R^2 = 0.999066$

Calibration curve: $-0.0319951 * x^2 + 17.7619 * x - 1.1299$

Response type: Internal Std (Ref 12), 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.	%Dev	RRF
1	1 170728G1_2	0.250	5.10	1.67e2	9.15e3	0.230	-7.9	11.8
2	2 170728G1_3	0.500	5.10	4.69e2	8.77e3	0.554	10.7	17.4
3	3 170728G1_4	1.00	5.10	9.50e2	8.60e3	1.08	7.7	18.0
4	4 170728G1_5	2.00	5.10	1.01e3	5.41e3	1.78	-11.0	15.2
5	5 170728G1_6	5.00	5.10	4.06e3	8.08e3	4.70	-6.0	16.3
6	6 170728G1_7	10.0	5.10	8.84e3	7.73e3	10.7	7.4	18.6
7	7 170728G1_8	50.0	5.10	3.22e4	6.56e3	49.4	-1.3	16.0
8	8 170728G1_9	100	5.10	5.05e4	5.62e3	100	0.3	14.6

Compound name: PFDoA

Correlation coefficient: $r = 0.999801, r^2 = 0.999601$

Calibration curve: $0.121673 * x + 0.000589951$

Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)

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

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170728G1_2	0.250	5.34	1.06e2	4.00e4	0.268	7.4	0.133
2	2 170728G1_3	0.500	5.34	1.68e2	3.98e4	0.429	-14.2	0.106
3	3 170728G1_4	1.00	5.33	3.50e2	3.87e4	0.924	-7.6	0.113
4	4 170728G1_5	2.00	5.34	4.94e2	2.34e4	2.17	8.3	0.132
5	5 170728G1_6	5.00	5.34	2.00e3	4.03e4	5.09	1.7	0.124
6	6 170728G1_7	10.0	5.34	3.90e3	3.82e4	10.5	4.9	0.128
7	7 170728G1_8	50.0	5.34	1.59e4	3.26e4	50.2	0.4	0.122
8	8 170728G1_9	100	5.34	2.62e4	2.71e4	99.2	-0.8	0.121

Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

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Compound name: PFTrDA

Correlation coefficient: $r = 0.999657$, $r^2 = 0.999315$

Calibration curve: $1.21286 * x + -0.015692$

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

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

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170728G1_2	0.250	5.54	9.84e2	0.00e0	0.261	4.3	1.20
2	2 170728G1_3	0.500	5.54	2.09e3	0.00e0	0.536	7.3	1.27
3	3 170728G1_4	1.00	5.54	3.83e3	0.00e0	0.970	-3.0	1.16
4	4 170728G1_5	2.00	5.54	4.37e3	0.00e0	1.98	-1.0	1.19
5	5 170728G1_6	5.00	5.55	2.00e4	0.00e0	5.06	1.3	1.23
6	6 170728G1_7	10.0	5.54	3.43e4	0.00e0	9.02	-9.8	1.09
7	7 170728G1_8	50.0	5.54	1.63e5	0.00e0	50.0	0.0	1.21
8	8 170728G1_9	100	5.54	2.78e5	0.00e0	101	0.9	1.22

Compound name: PFTeDA

Correlation coefficient: $r = 0.998269$, $r^2 = 0.996541$

Calibration curve: $0.904178 * x + 0.15515$

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

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

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170728G1_2	0.250	5.72	1.15e3	4.19e4	0.208	-17.0	1.37
2	2 170728G1_3	0.500	5.72	2.48e3	4.23e4	0.637	27.4	1.46
3	3 170728G1_4	1.00	5.72	4.25e3	4.37e4	1.17	17.3	1.22
4	4 170728G1_5	2.00	5.72	4.03e3	2.24e4	2.32	15.8	1.12
5	5 170728G1_6	5.00	5.72	1.83e4	4.14e4	5.94	18.9	1.11
6	6 170728G1_7	10.0	5.72	3.20e4	4.03e4	10.8	8.1	0.993
7	7 170728G1_8	50.0	5.72	1.27e5	3.47e4	50.4	0.9	0.915
8	8 170728G1_9	100	5.72	2.08e5	2.96e4	97.2	-2.8	0.881

Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

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Compound name: 13C8-PFOSA

Response Factor: 1.14586

RRF SD: 0.0797179, Relative SD: 6.95702

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

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170728G1_2	12.5	4.59	2.39e4	2.03e4	12.9	2.9	1.18
2	2 170728G1_3	12.5	4.59	2.42e4	2.24e4	11.8	-5.7	1.08
3	3 170728G1_4	12.5	4.59	2.52e4	2.02e4	13.6	8.8	1.25
4	4 170728G1_5	12.5	4.59	1.39e4	1.26e4	12.0	-3.7	1.10
5	5 170728G1_6	12.5	4.60	2.31e4	2.24e4	11.3	-9.9	1.03
6	6 170728G1_7	12.5	4.60	2.24e4	1.91e4	12.8	2.4	1.17
7	7 170728G1_8	12.5	4.60	2.00e4	1.82e4	12.0	-4.0	1.10
8	8 170728G1_9	12.5	4.60	1.73e4	1.38e4	13.7	9.3	1.25

Compound name: d3-N-MeFOSAA

Response Factor: 0.0263732

RRF SD: 0.0028797, Relative SD: 10.919

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

Curve type: RF

	# Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170728G1_2	163	4.97	7.62e3	2.03e4	178	9.6	0.0289
2	2 170728G1_3	163	4.97	6.79e3	2.24e4	144	-11.7	0.0233
3	3 170728G1_4	163	4.97	7.24e3	2.02e4	170	4.4	0.0275
4	4 170728G1_5	163	4.97	4.15e3	1.26e4	157	-3.6	0.0254
5	5 170728G1_6	163	4.97	6.62e3	2.24e4	140	-13.6	0.0228
6	6 170728G1_7	163	4.97	6.31e3	1.91e4	157	-3.6	0.0254
7	7 170728G1_8	163	4.97	6.17e3	1.82e4	161	-0.8	0.0262
8	8 170728G1_9	163	4.97	5.64e3	1.38e4	194	19.4	0.0315

Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

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Compound name: 13C2-PFUnA

Response Factor: 1.47077

RRF SD: 0.0998621, Relative SD: 6.78977

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170728G1_2	12.5	5.10	3.18e4	2.03e4	13.3	6.6	1.57
2	2 170728G1_3	12.5	5.10	3.12e4	2.24e4	11.8	-5.5	1.39
3	3 170728G1_4	12.5	5.10	3.15e4	2.02e4	13.2	5.9	1.56
4	4 170728G1_5	12.5	5.10	1.71e4	1.26e4	11.5	-7.6	1.36
5	5 170728G1_6	12.5	5.11	3.10e4	2.24e4	11.8	-5.6	1.39
6	6 170728G1_7	12.5	5.10	3.06e4	1.91e4	13.6	8.8	1.60
7	7 170728G1_8	12.5	5.10	2.51e4	1.82e4	11.7	-6.0	1.38
8	8 170728G1_9	12.5	5.11	2.10e4	1.38e4	12.9	3.4	1.52

Compound name: d5-N-EtFOSAA

Response Factor: 0.0310895

RRF SD: 0.00247479, Relative SD: 7.96021

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170728G1_2	163	5.09	9.15e3	2.03e4	182	11.7	0.0347
2	2 170728G1_3	163	5.09	8.77e3	2.24e4	157	-3.2	0.0301
3	3 170728G1_4	163	5.09	8.60e3	2.02e4	171	5.2	0.0327
4	4 170728G1_5	163	5.09	5.41e3	1.26e4	173	6.5	0.0331
5	5 170728G1_6	163	5.10	8.08e3	2.24e4	145	-10.6	0.0278
6	6 170728G1_7	163	5.09	7.73e3	1.91e4	163	0.1	0.0311
7	7 170728G1_8	163	5.09	6.56e3	1.82e4	145	-10.6	0.0278
8	8 170728G1_9	163	5.09	5.62e3	1.38e4	164	0.9	0.0314

Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

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Compound name: 13C2-PFDoA

Response Factor: 1.88683

RRF SD: 0.0900852, Relative SD: 4.77443

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170728G1_2	12.5	5.34	4.00e4	2.03e4	13.1	4.6	1.97
2	2 170728G1_3	12.5	5.34	3.98e4	2.24e4	11.8	-5.9	1.77
3	3 170728G1_4	12.5	5.34	3.87e4	2.02e4	12.7	1.5	1.91
4	4 170728G1_5	12.5	5.34	2.34e4	1.26e4	12.3	-1.4	1.86
5	5 170728G1_6	12.5	5.34	4.03e4	2.24e4	11.9	-4.5	1.80
6	6 170728G1_7	12.5	5.33	3.82e4	1.91e4	13.3	6.1	2.00
7	7 170728G1_8	12.5	5.33	3.26e4	1.82e4	11.9	-4.7	1.80
8	8 170728G1_9	12.5	5.33	2.71e4	1.38e4	13.1	4.4	1.97

Compound name: 13C2-PFTeDA

Response Factor: 1.9899

RRF SD: 0.148011, Relative SD: 7.43812

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170728G1_2	12.5	5.72	4.19e4	2.03e4	13.0	3.8	2.07
2	2 170728G1_3	12.5	5.72	4.23e4	2.24e4	11.9	-5.1	1.89
3	3 170728G1_4	12.5	5.72	4.37e4	2.02e4	13.6	8.5	2.16
4	4 170728G1_5	12.5	5.72	2.24e4	1.26e4	11.2	-10.5	1.78
5	5 170728G1_6	12.5	5.72	4.14e4	2.24e4	11.6	-6.9	1.85
6	6 170728G1_7	12.5	5.72	4.03e4	1.91e4	13.3	6.2	2.11
7	7 170728G1_8	12.5	5.72	3.47e4	1.82e4	12.0	-3.8	1.91
8	8 170728G1_9	12.5	5.72	2.96e4	1.38e4	13.5	7.9	2.15

Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

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Compound name: 13C7-PFUnA

Response Factor: 1

RRF SD: 4.19625e-017, Relative SD: 4.19625e-015

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

Curve type: RF

#	Name	Std. Conc	RT	Resp	IS Resp	Conc.	%Dev	RRF
1	1 170728G1_2	12.5	5.10	2.03e4	2.03e4	12.5	0.0	1.00
2	2 170728G1_3	12.5	5.10	2.24e4	2.24e4	12.5	0.0	1.00
3	3 170728G1_4	12.5	5.10	2.02e4	2.02e4	12.5	0.0	1.00
4	4 170728G1_5	12.5	5.10	1.26e4	1.26e4	12.5	0.0	1.00
5	5 170728G1_6	12.5	5.11	2.24e4	2.24e4	12.5	0.0	1.00
6	6 170728G1_7	12.5	5.10	1.91e4	1.91e4	12.5	0.0	1.00
7	7 170728G1_8	12.5	5.10	1.82e4	1.82e4	12.5	0.0	1.00
8	8 170728G1_9	12.5	5.10	1.38e4	1.38e4	12.5	-0.0	1.00

Dataset: Untitled

Last Altered: Monday, July 31, 2017 08:52:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:56:26 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

Compound name: PFOSA

	Name	ID	Acq.Date	Acq.Time
1	170728G1_1	IPA	28-Jul-17	16:05:47
2	170728G1_2	ST170728G1-1 PFC CS-2 17G2824	28-Jul-17	16:18:24
3	170728G1_3	ST170728G1-2 PFC CS-1 17G2825	28-Jul-17	16:30:58
4	170728G1_4	ST170728G1-3 PFC CS0 17G2826	28-Jul-17	16:43:33
5	170728G1_5	ST170728G1-4 PFC CS1 17G2827	28-Jul-17	16:56:09
6	170728G1_6	ST170728G1-5 PFC CS2 17G2828	28-Jul-17	17:09:04
7	170728G1_7	ST170728G1-6 PFC CS3 17G2829	28-Jul-17	17:21:42
8	170728G1_8	ST170728G1-7 PFC CS4 17G2830	28-Jul-17	17:34:20
9	170728G1_9	ST170728G1-8 PFC CS5 17G2831	28-Jul-17	17:47:02
10	170728G1_10	IPA	28-Jul-17	17:59:40
11	170728G1_11	SS170728G1-1 PFC SSS 17G2823	28-Jul-17	18:12:17
12	170728G1_12	IPA	28-Jul-17	18:24:50

Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:49:44 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

Calibration: U:\G1.PRO\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

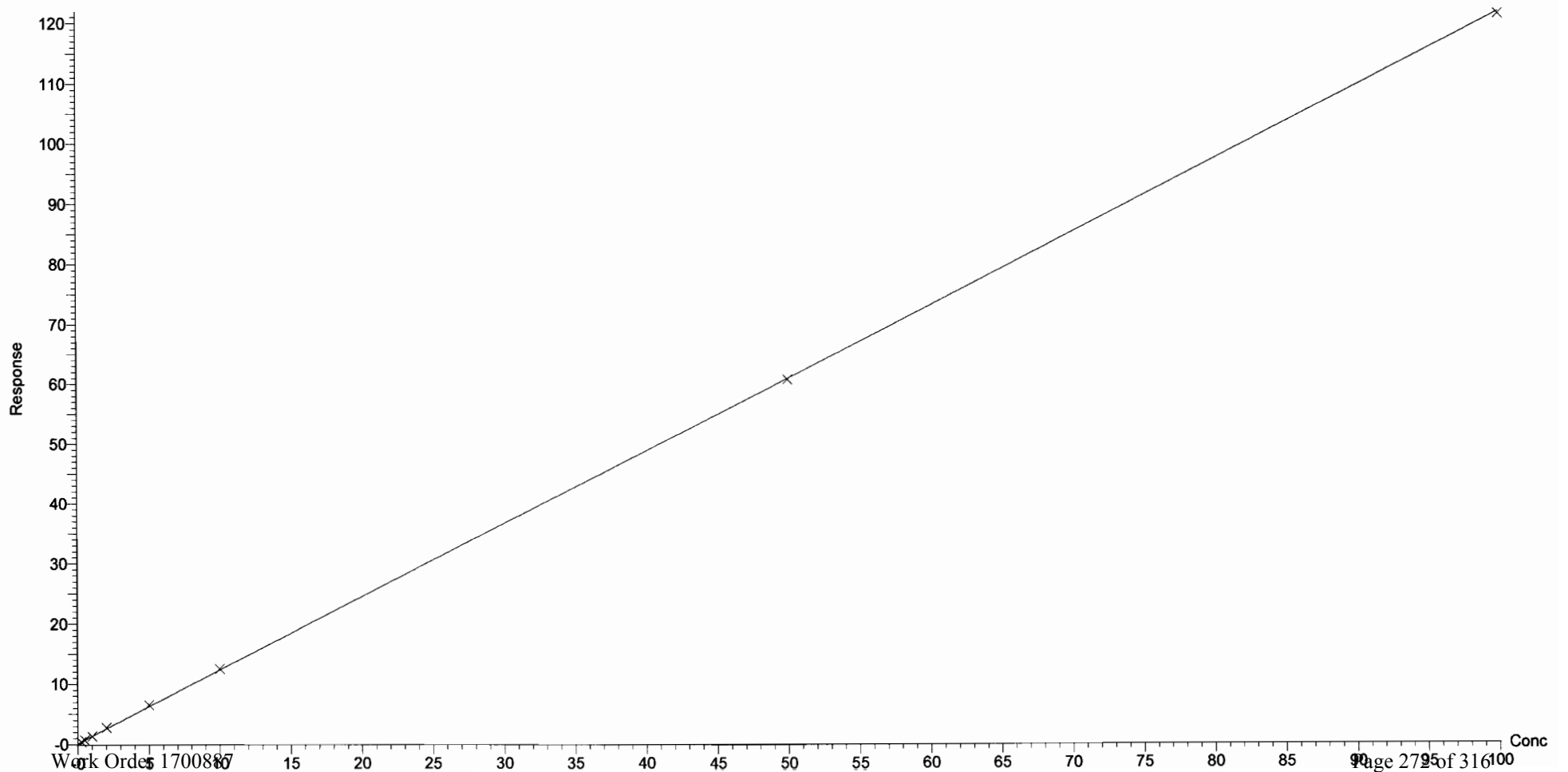
Compound name: PFOSA

Correlation coefficient: $r = 0.999923$, $r^2 = 0.999847$

Calibration curve: $1.21764 * x + 0.142512$

Response type: Internal Std (Ref 9), Area * (IS Conc. / IS Area)

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

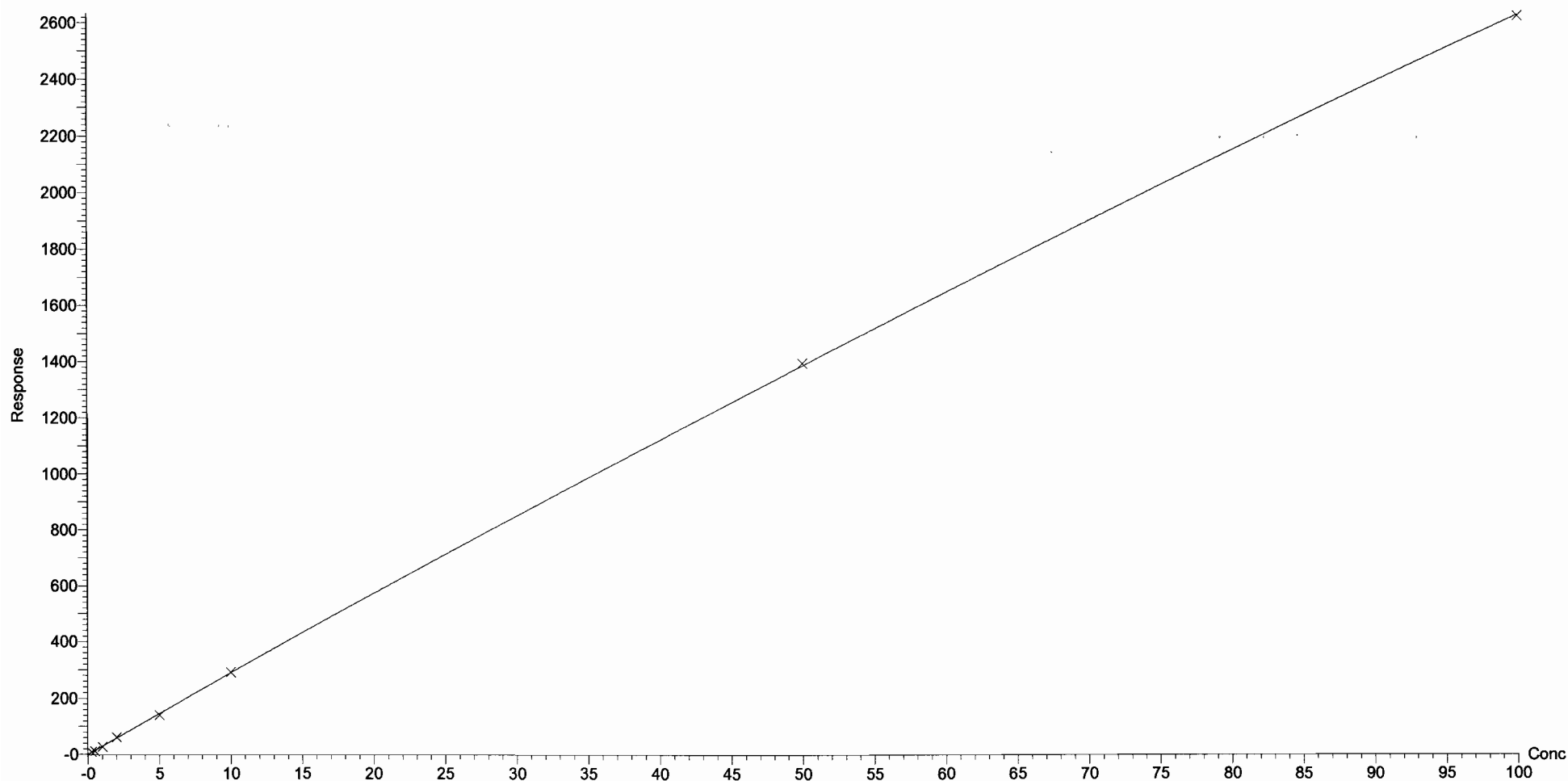


Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:49:44 Pacific Daylight Time

Compound name: N-MeFOSAA
Coefficient of Determination: $R^2 = 0.999599$
Calibration curve: $-0.0288624 * x^2 + 29.2151 * x + 0.0851315$
Response type: Internal Std (Ref 10), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:49:44 Pacific Daylight Time

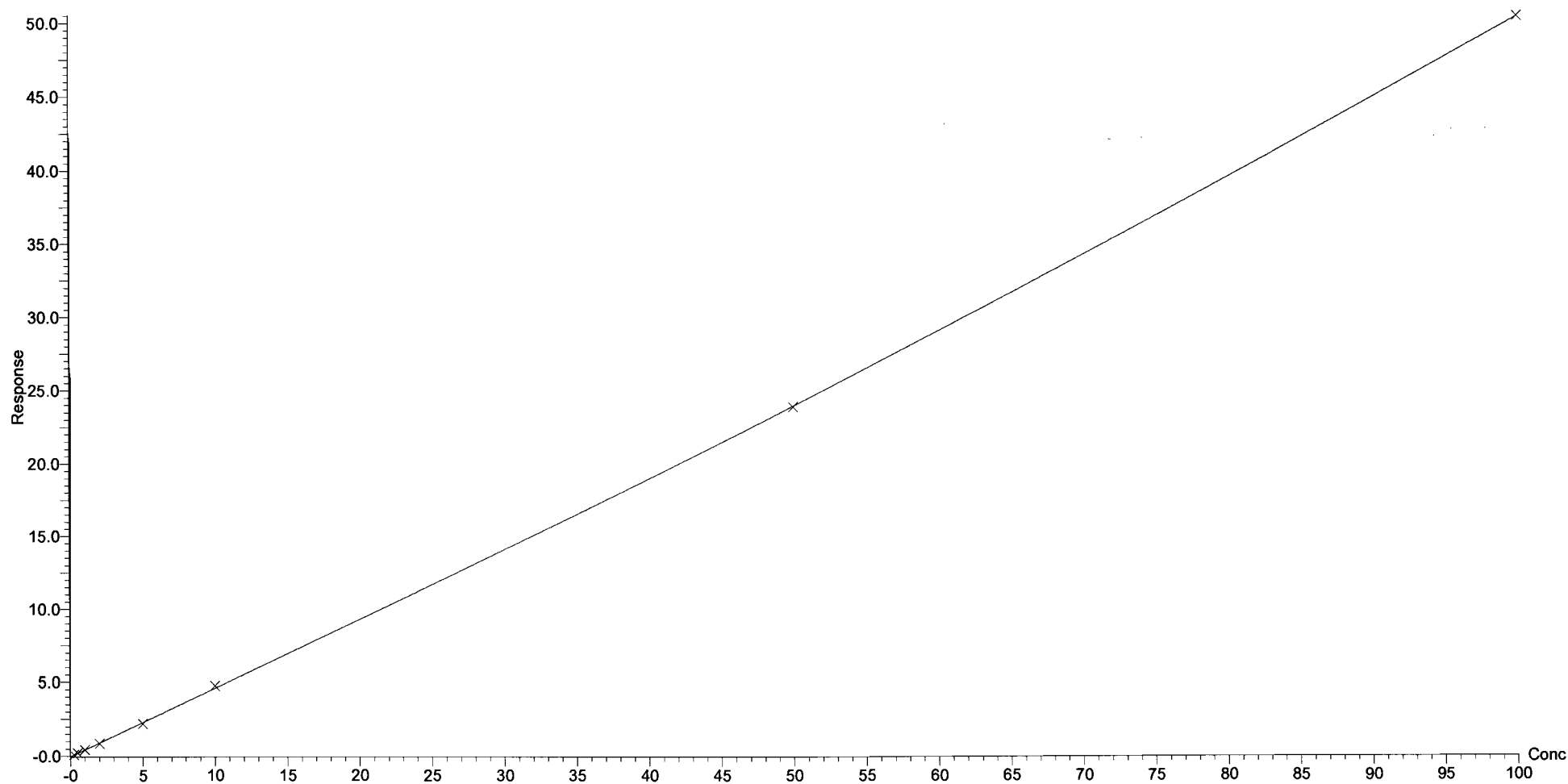
Compound name: PFDS

Coefficient of Determination: $R^2 = 0.999845$

Calibration curve: $0.00050466 * x^2 + 0.454912 * x + -0.0161039$

Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)

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



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:49:44 Pacific Daylight Time

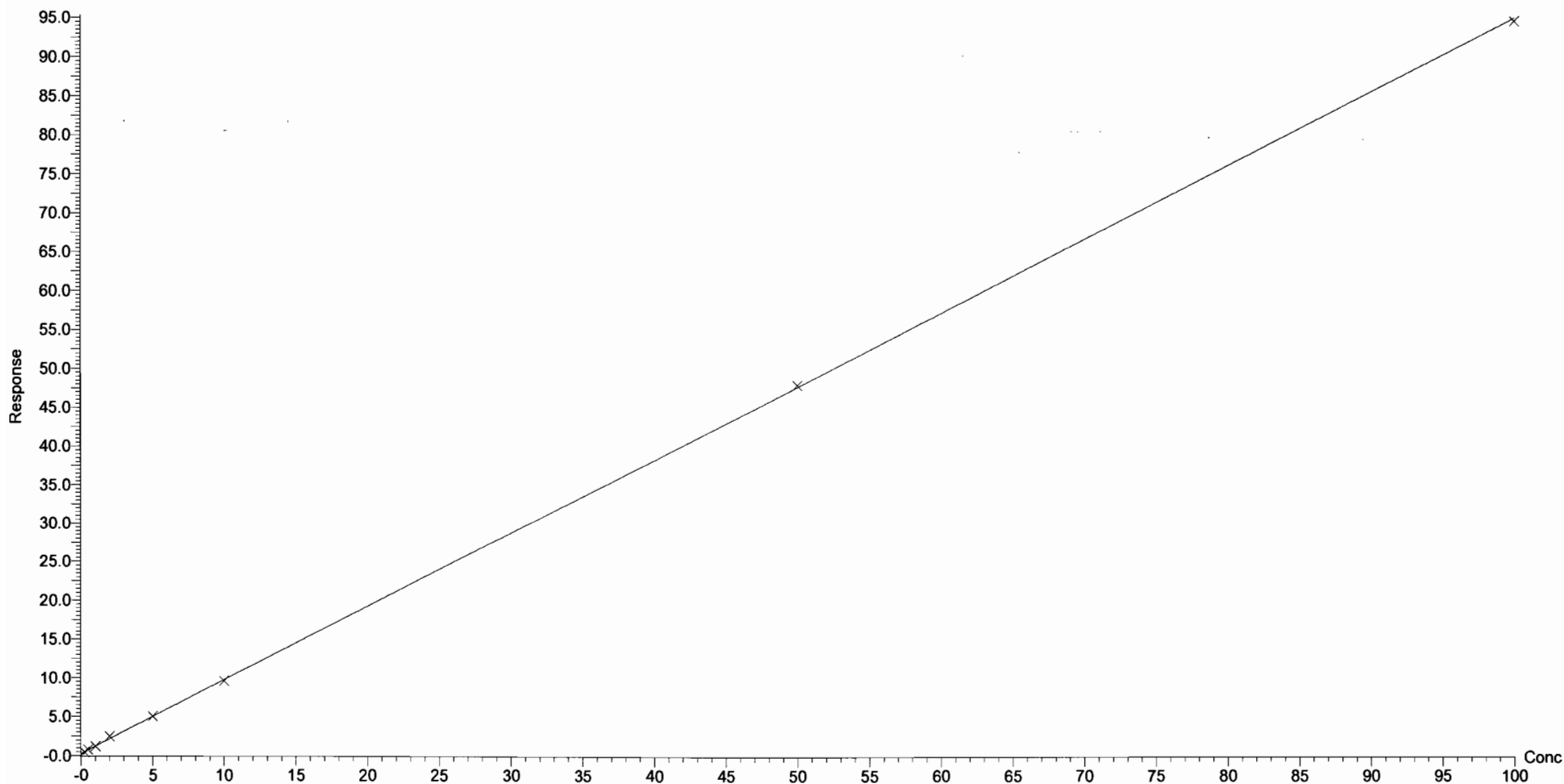
Compound name: PFUnA

Correlation coefficient: $r = 0.999740$, $r^2 = 0.999481$

Calibration curve: $0.950369 * x + 0.261679$

Response type: Internal Std (Ref 11), Area * (IS Conc. / IS Area)

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

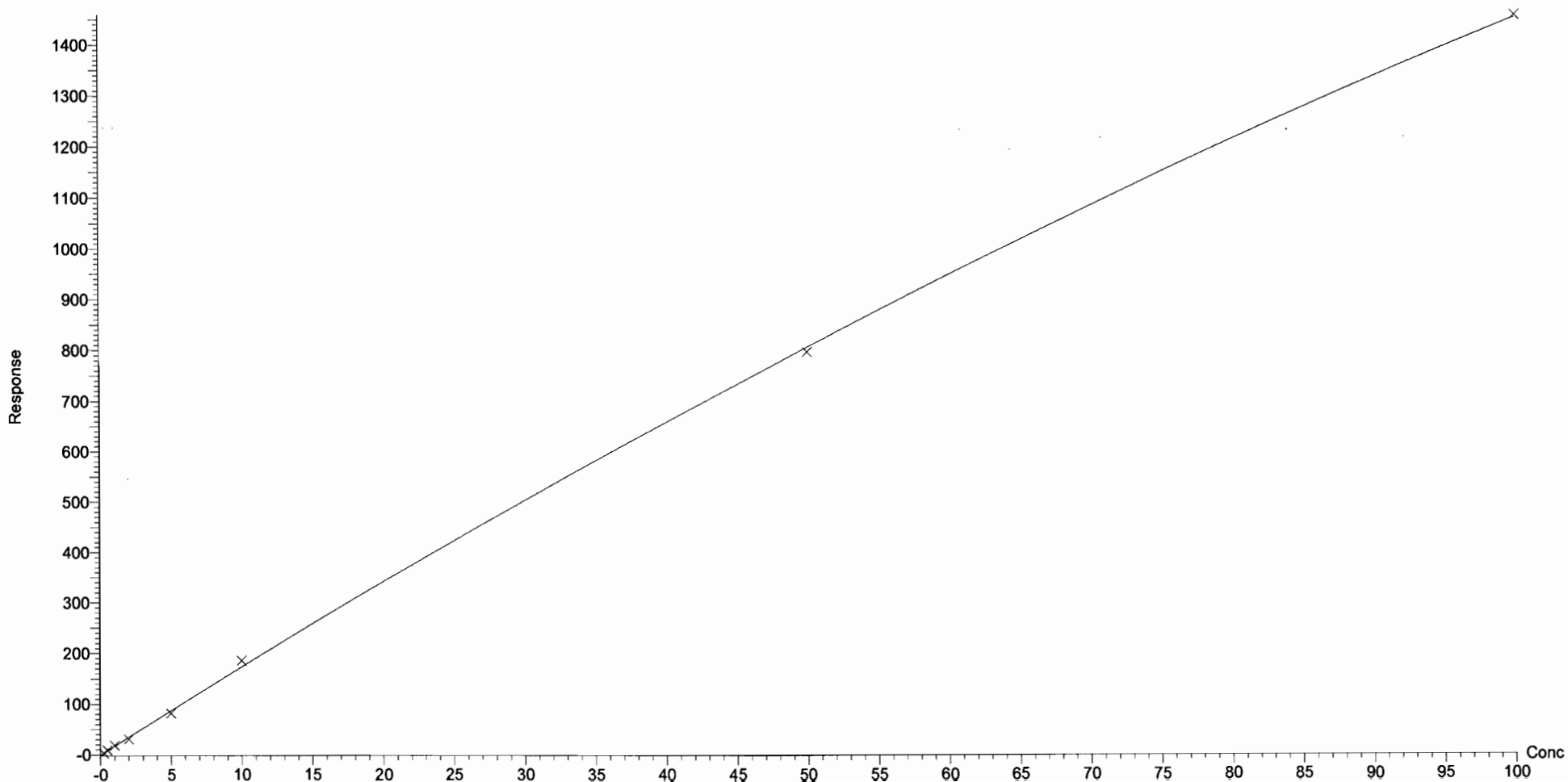


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Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:49:44 Pacific Daylight Time

Compound name: N-EtFOSAA
Coefficient of Determination: $R^2 = 0.999066$
Calibration curve: $-0.0319951 * x^2 + 17.7619 * x + -1.1299$
Response type: Internal Std (Ref 12), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:49:44 Pacific Daylight Time

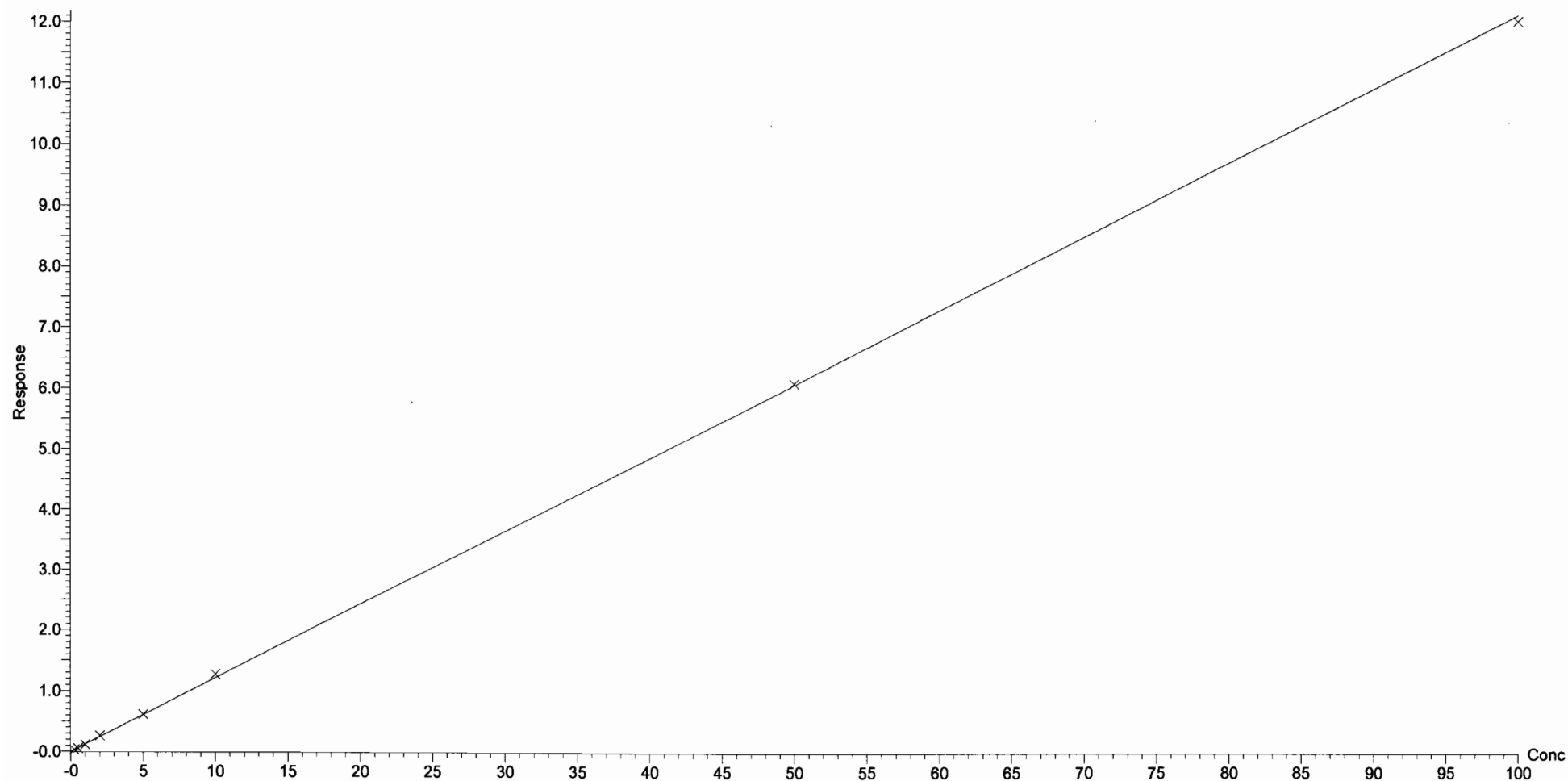
Compound name: PFDoA

Correlation coefficient: $r = 0.999801$, $r^2 = 0.999601$

Calibration curve: $0.121673 * x + 0.000589951$

Response type: Internal Std (Ref 13), Area * (IS Conc. / IS Area)

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

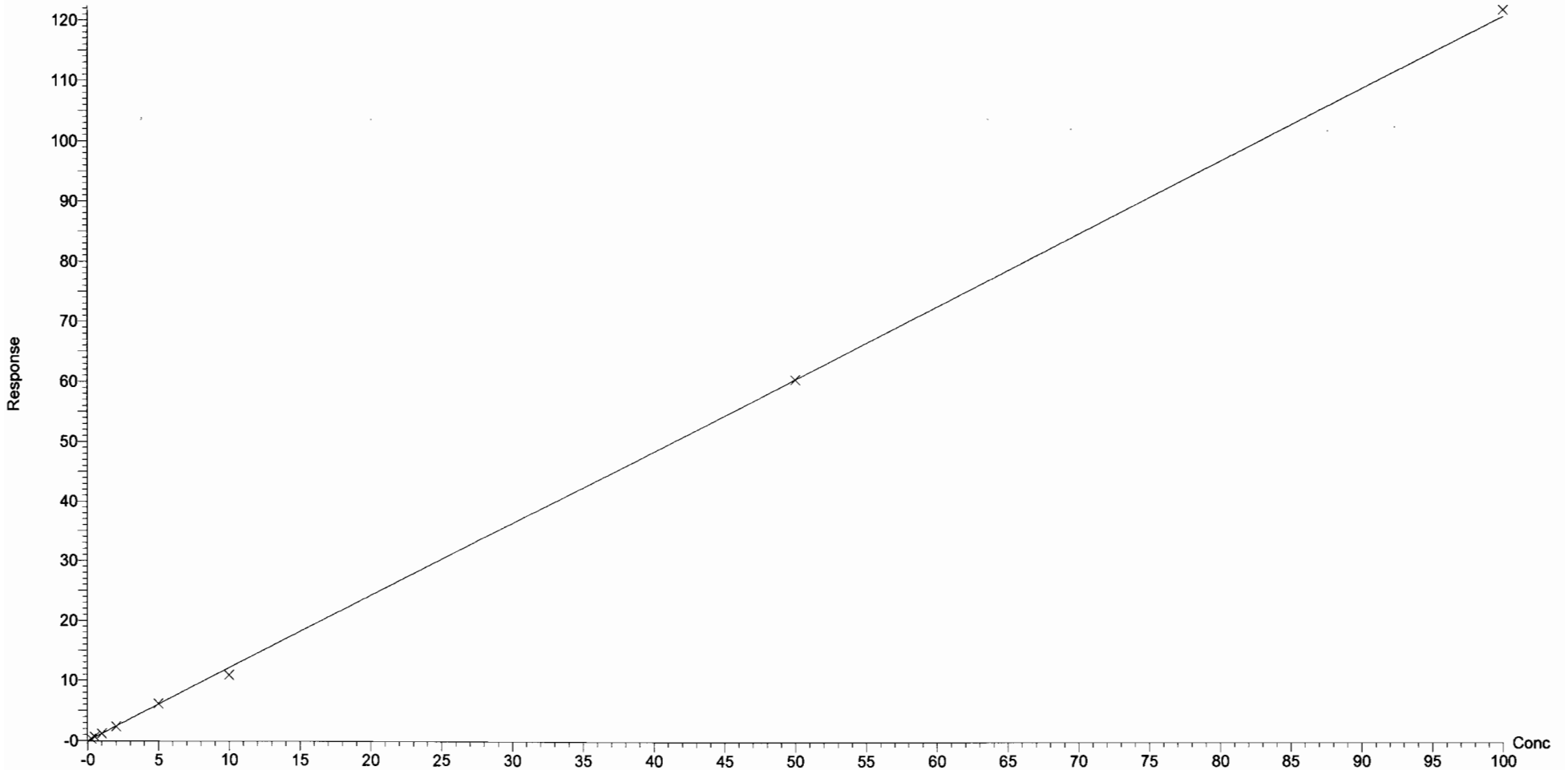


Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:49:44 Pacific Daylight Time

Compound name: PFTTrDA
Correlation coefficient: $r = 0.999657$, $r^2 = 0.999315$
Calibration curve: $1.21286 * x + -0.015692$
Response type: Internal Std (Ref Multiple), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:49:44 Pacific Daylight Time

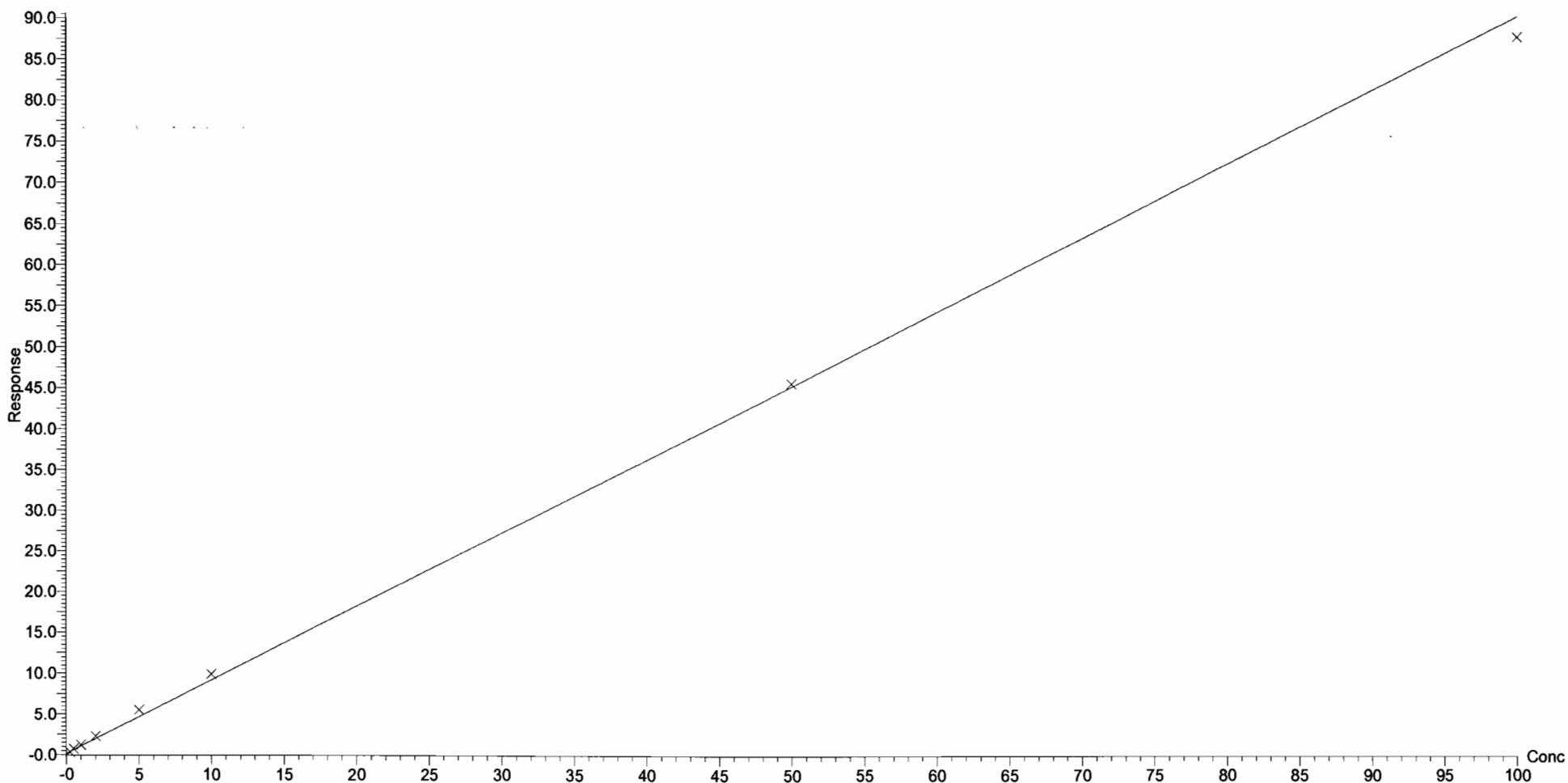
Compound name: PFTeDA

Correlation coefficient: $r = 0.998269$, $r^2 = 0.996541$

Calibration curve: $0.904178 * x + 0.15515$

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

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



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

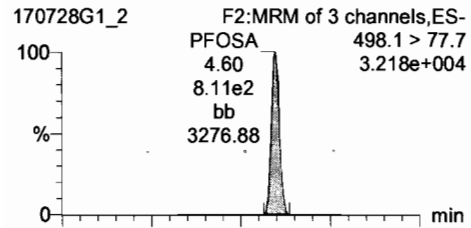
Printed: Monday, July 31, 2017 08:50:08 Pacific Daylight Time

Method: U:\G1.PRO\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

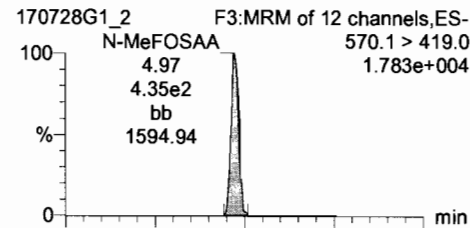
Calibration: U:\G1.PRO\CurveDB\IC18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: ST170728G1-1 PFC CS-2 17G2824, Description: PFC CS-2 17G2824 B, Name: 170728G1_2, Date: 28-Jul-2017, Time: 16:18:24, Instrument: , Lab: , User:

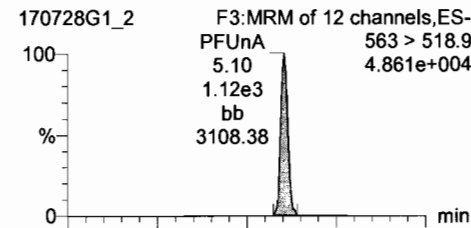
PFOSA



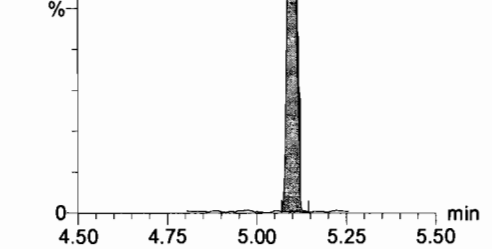
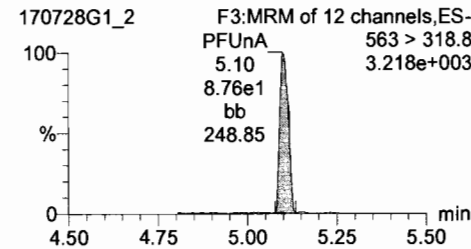
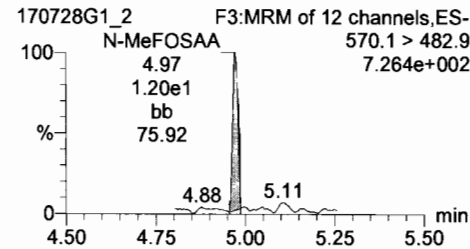
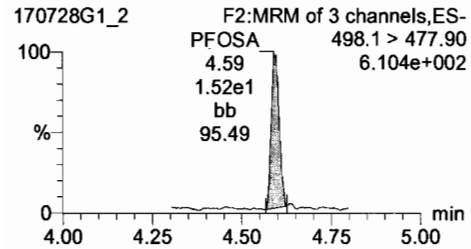
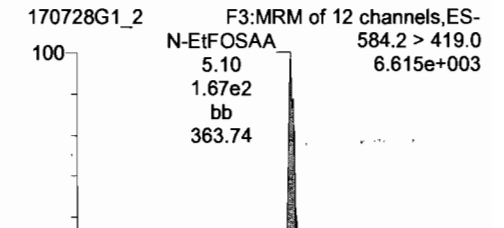
Total N-MeFOSAA



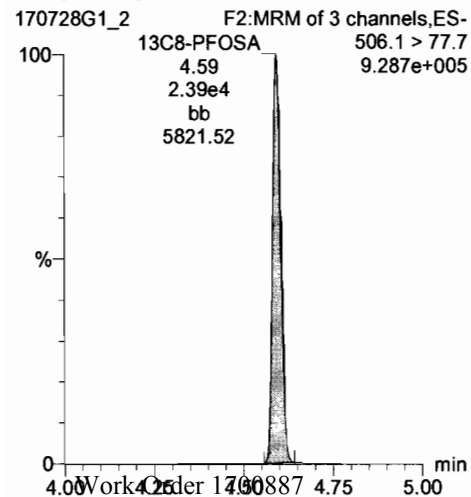
PFUnA



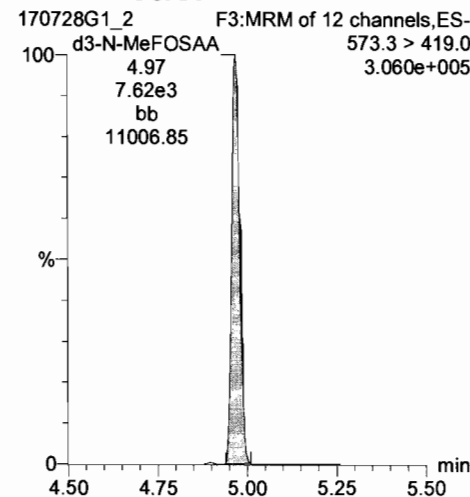
Total N-EtFOSAA



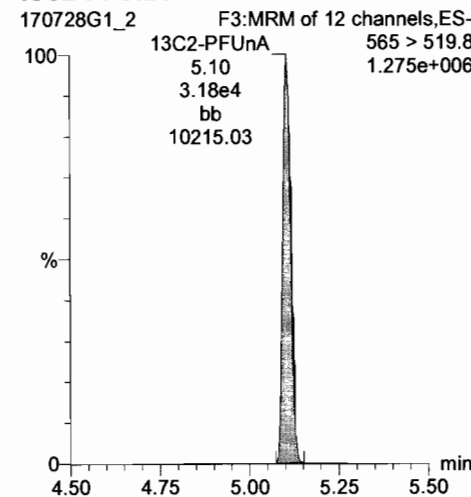
13C8-PFOSA



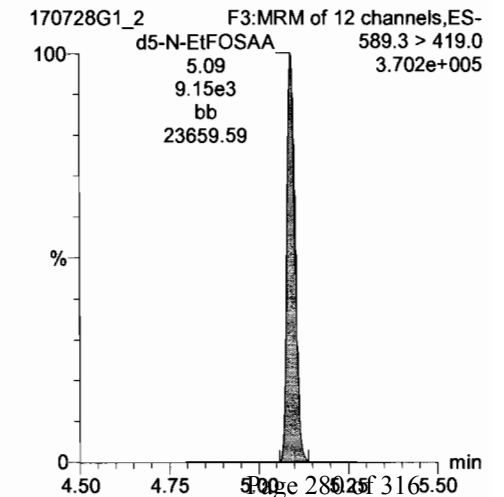
d3-N-MeFOSAA



13C2-PFUnA



d5-N-EtFOSAA



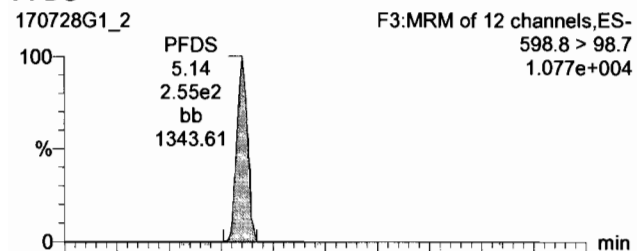
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Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

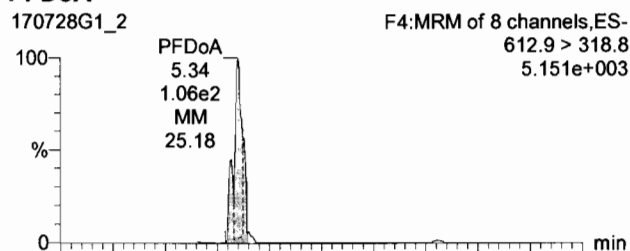
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ID: ST170728G1-1 PFC CS-2 17G2824, Description: PFC CS-2 17G2824 B, Name: 170728G1_2, Date: 28-Jul-2017, Time: 16:18:24, Instrument: , Lab: , User:

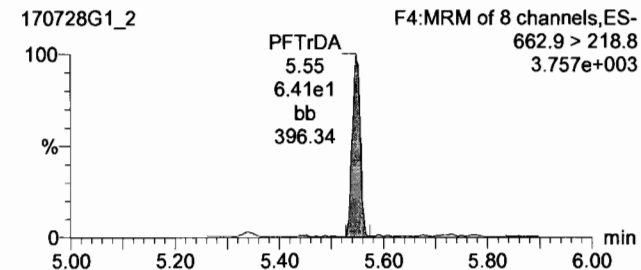
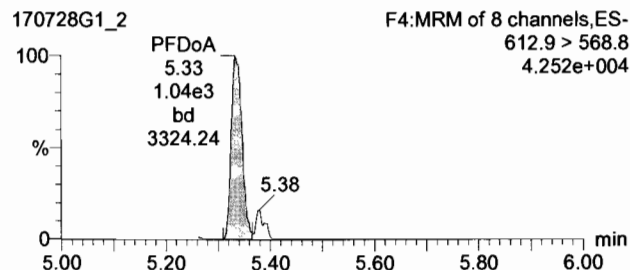
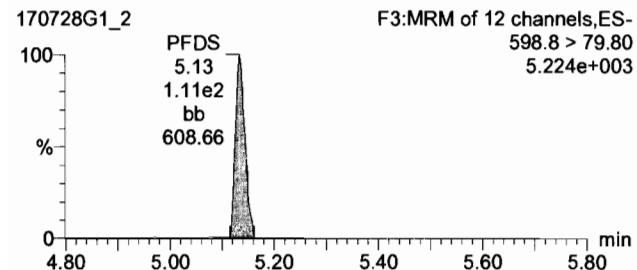
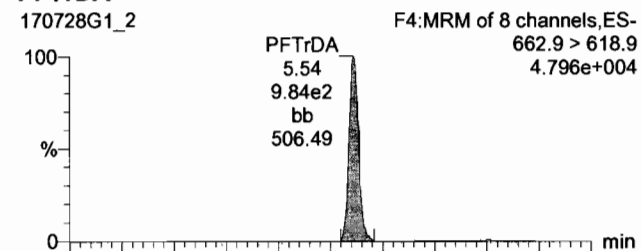
PFDS



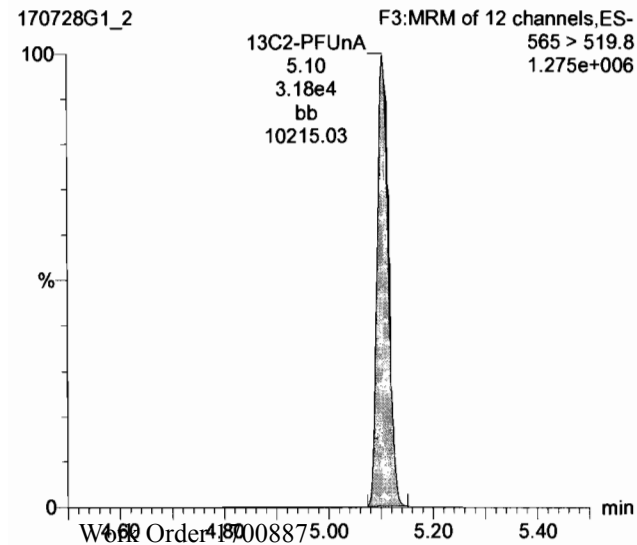
PFDaA



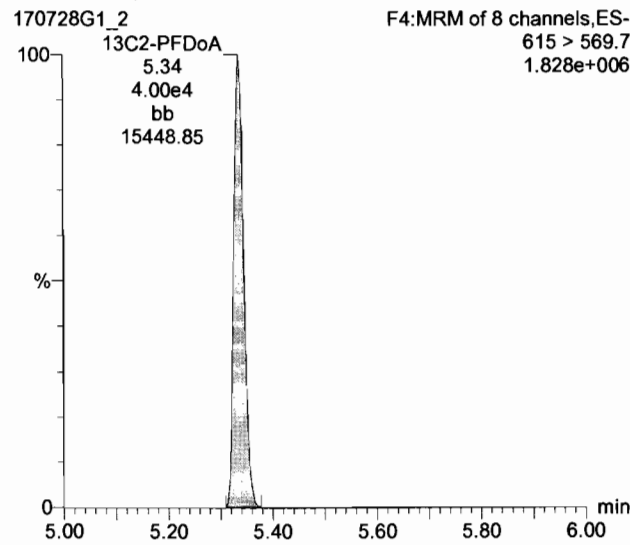
PFTrDA



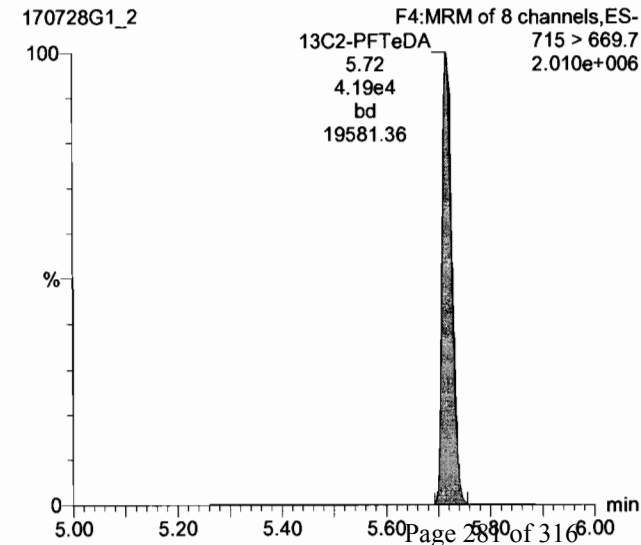
13C2-PFUnA



13C2-PFDaA



13C2-PFTeDA



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

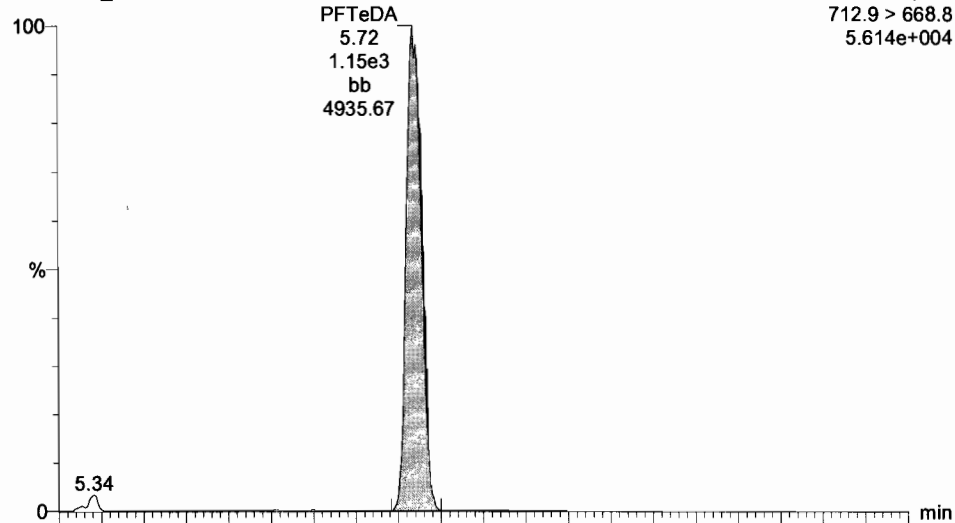
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Printed: Monday, July 31, 2017 08:50:08 Pacific Daylight Time

ID: ST170728G1-1 PFC CS-2 17G2824, Description: PFC CS-2 17G2824 B, Name: 170728G1_2, Date: 28-Jul-2017, Time: 16:18:24, Instrument: , Lab: , User:

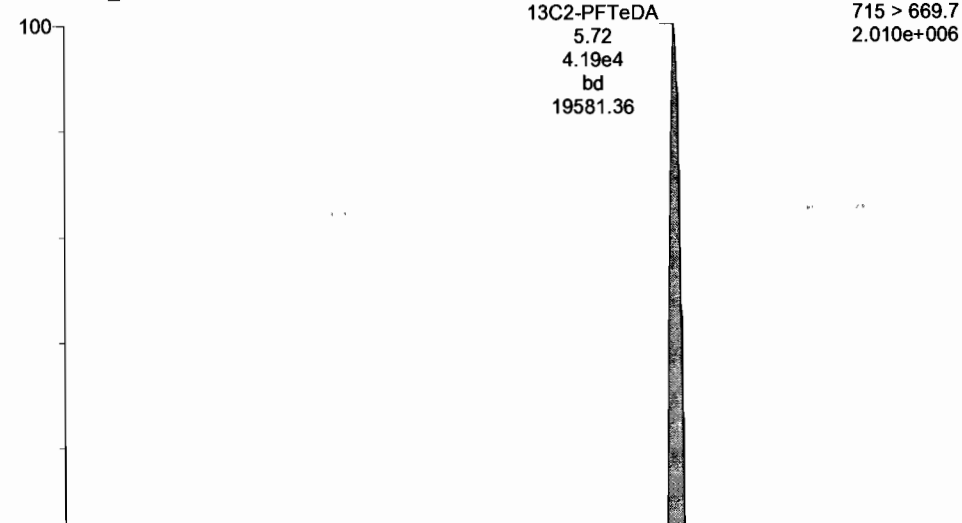
PFTeDA

170728G1_2

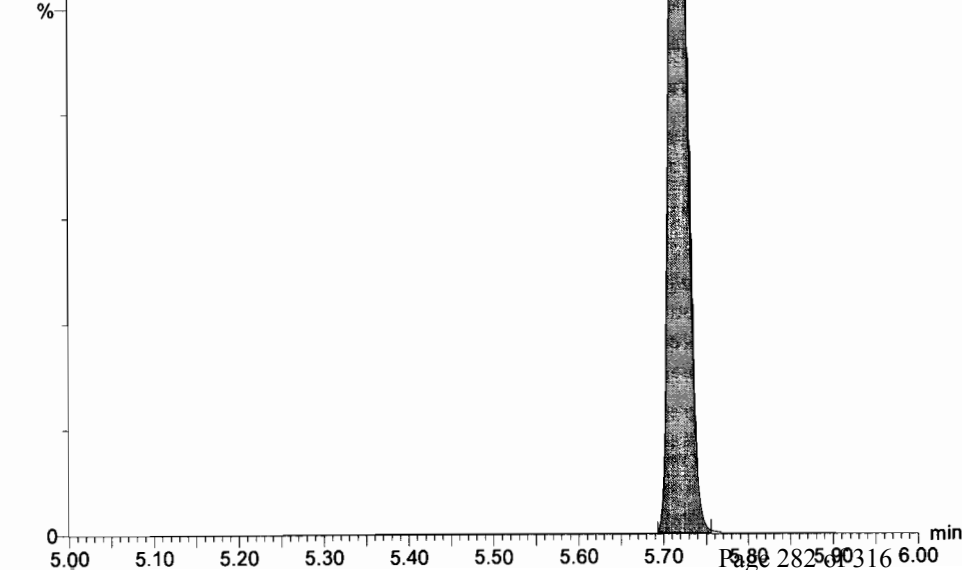
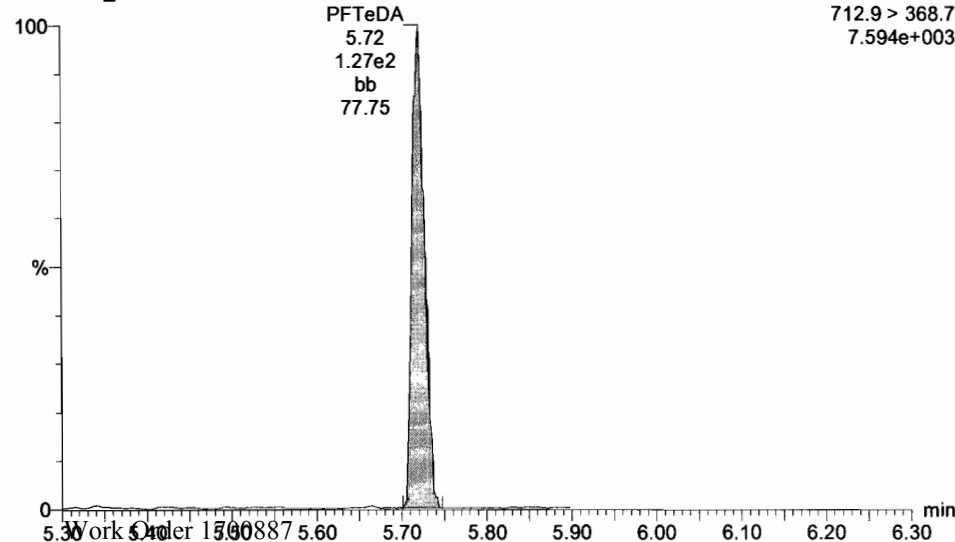


13C2-PFTeDA

170728G1_2



170728G1_2



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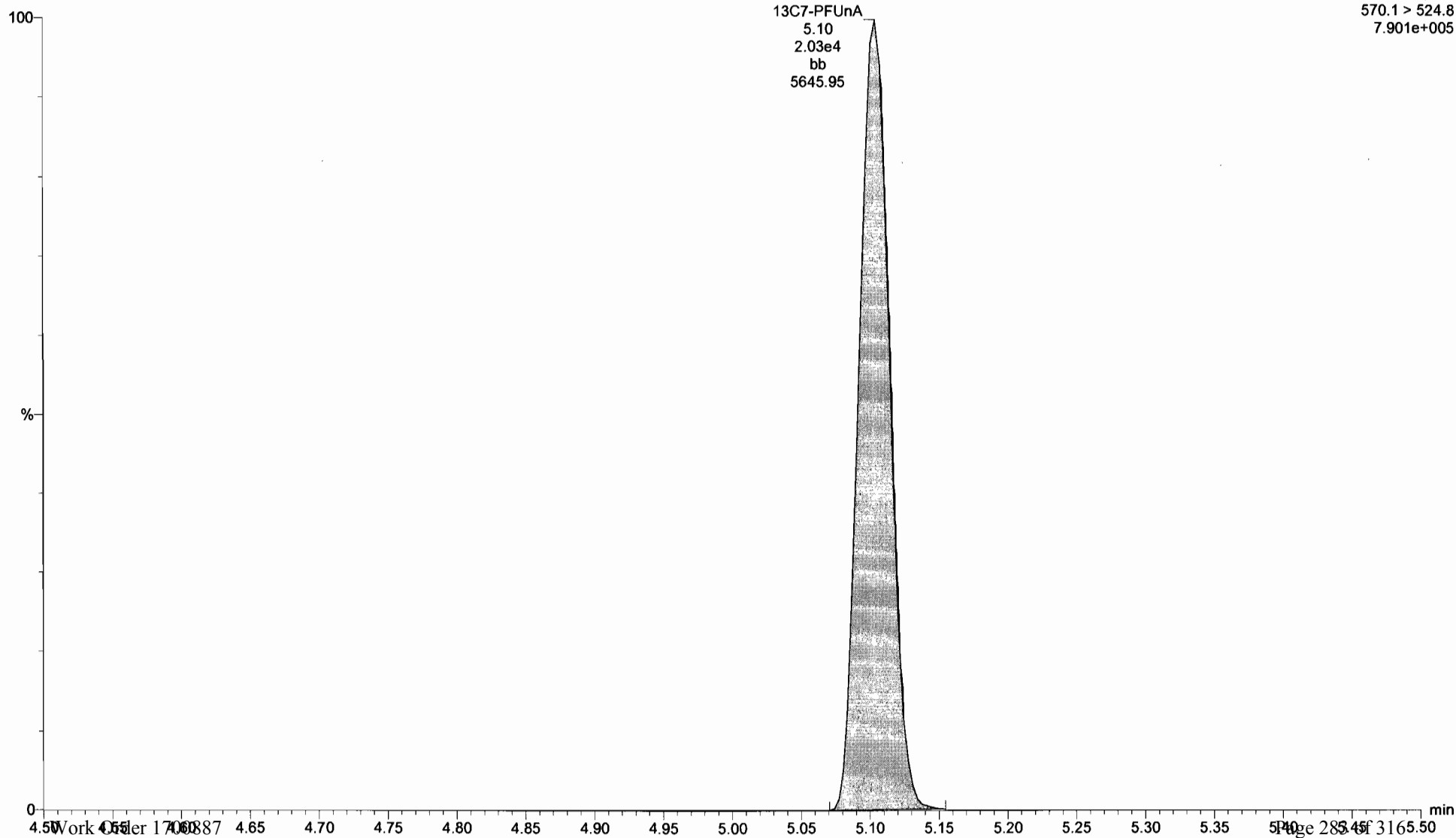
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ID: ST170728G1-1 PFC CS-2 17G2824, Description: PFC CS-2 17G2824 B, Name: 170728G1_2, Date: 28-Jul-2017, Time: 16:18:24, Instrument: , Lab: , User:

13C7-PFUnA

170728G1_2

F3:MRM of 12 channels,ES-
570.1 > 524.8
7.901e+005

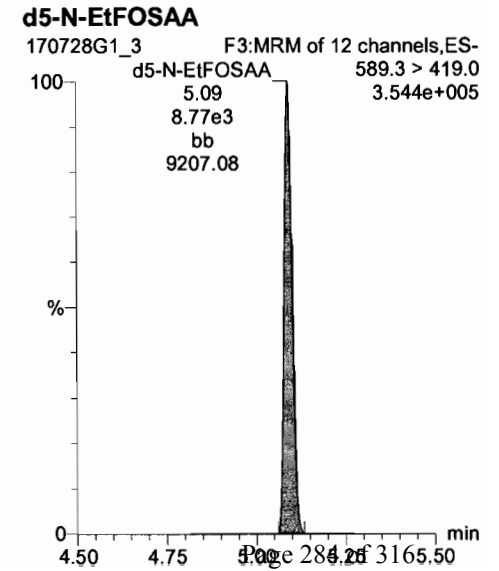
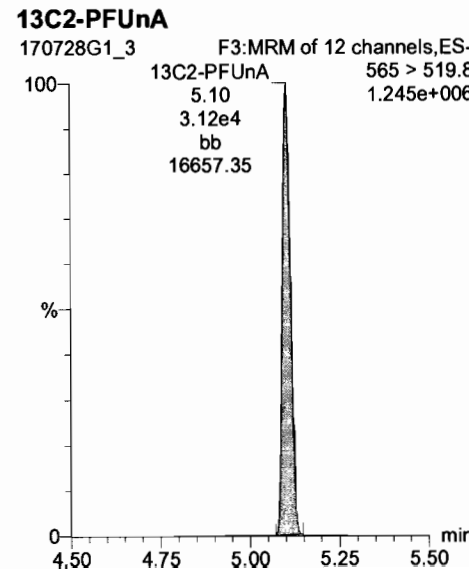
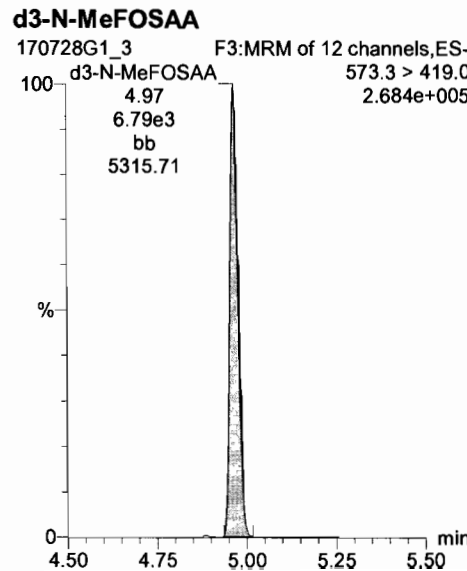
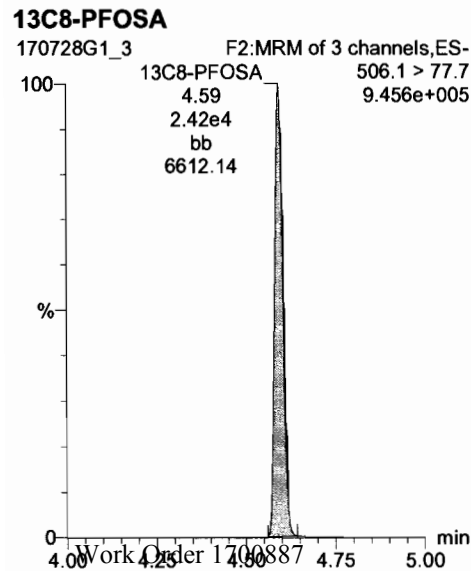
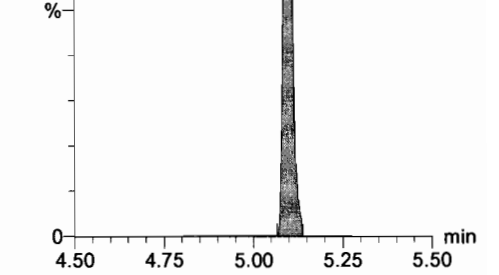
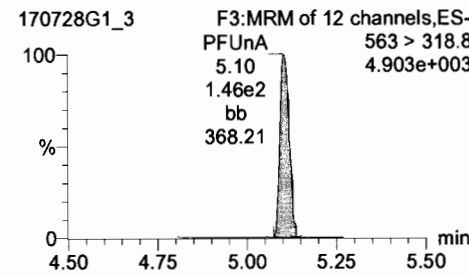
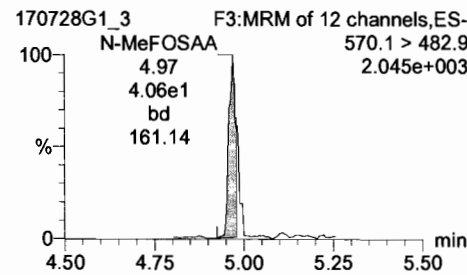
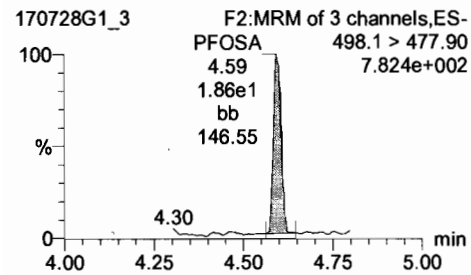
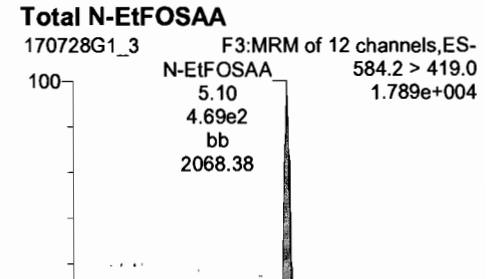
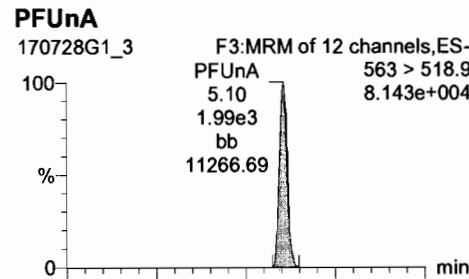
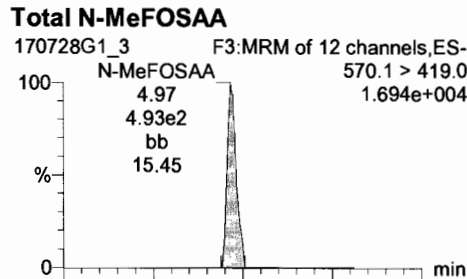
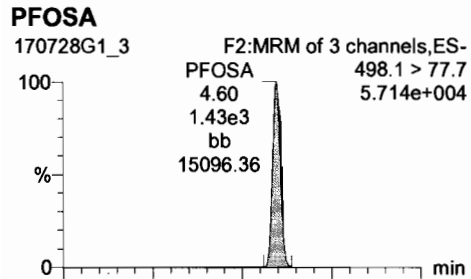


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Printed: Monday, July 31, 2017 08:50:08 Pacific Daylight Time

ID: ST170728G1-2 PFC CS-1 17G2825, Description: PFC CS-1 17G2825 B, Name: 170728G1_3, Date: 28-Jul-2017, Time: 16:30:58, Instrument: , Lab: , User:



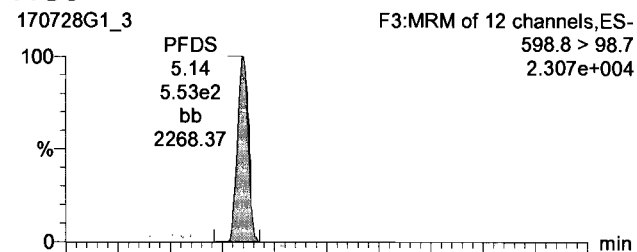
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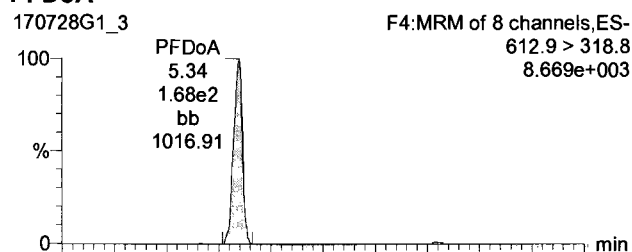
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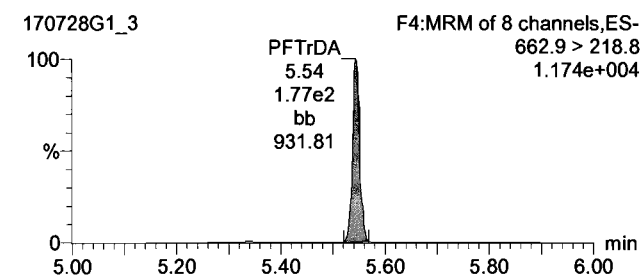
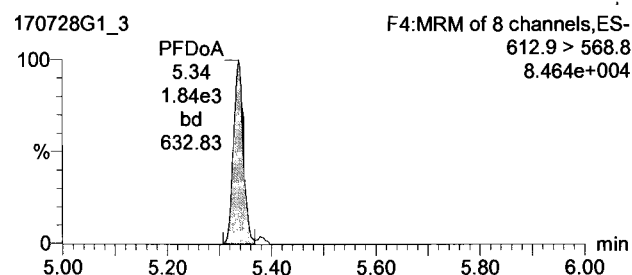
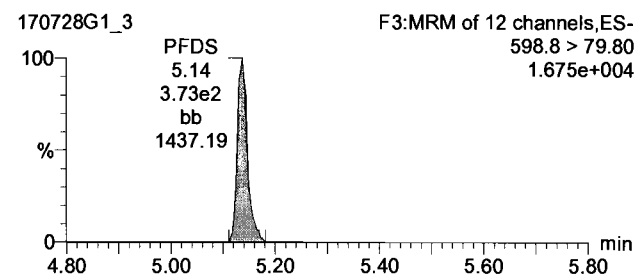
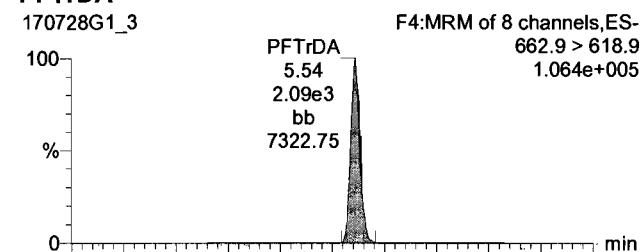
PFDS



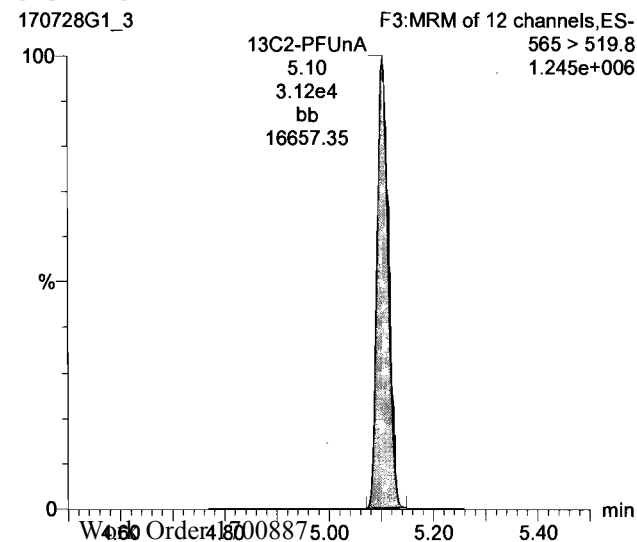
PFDaA



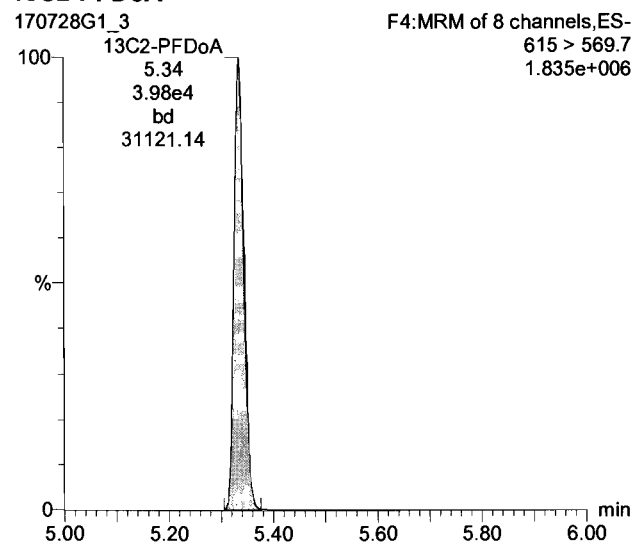
PFTrDA



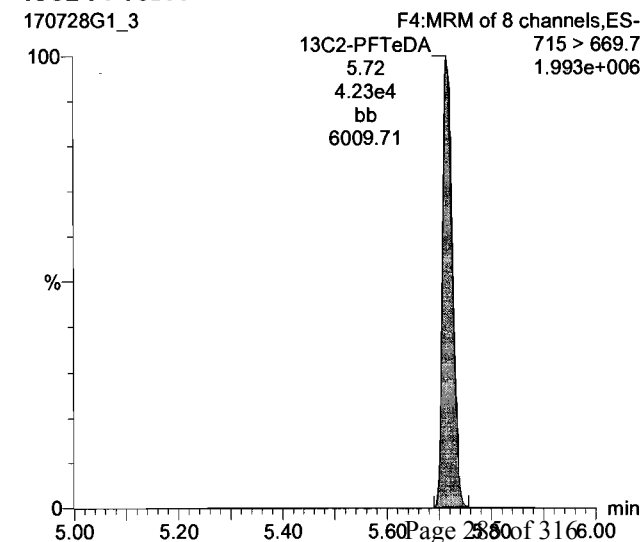
13C2-PFUnA



13C2-PFDaA



13C2-PFTeDA



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

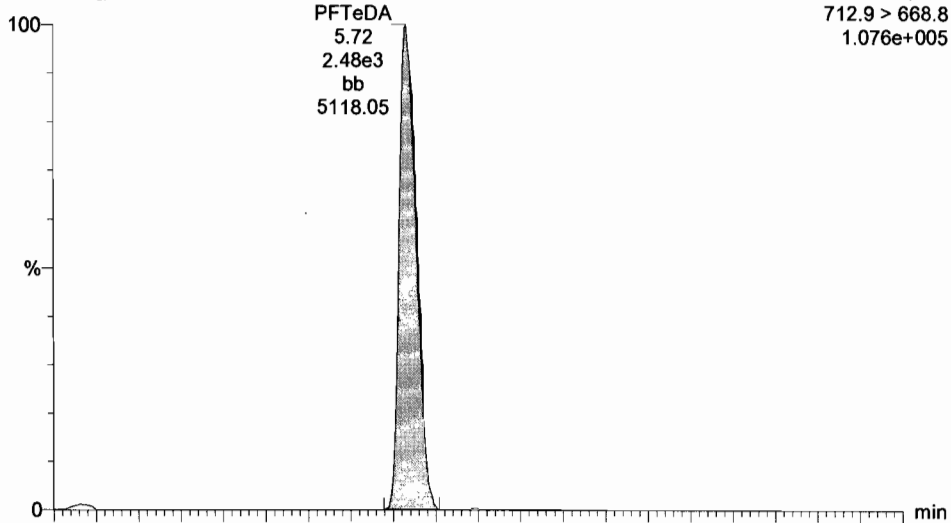
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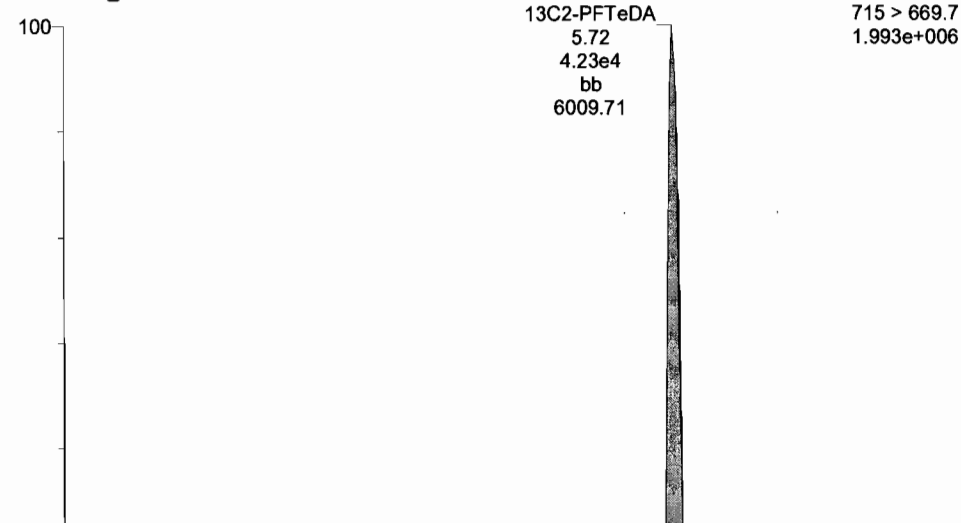
PFTeDA

170728G1_3

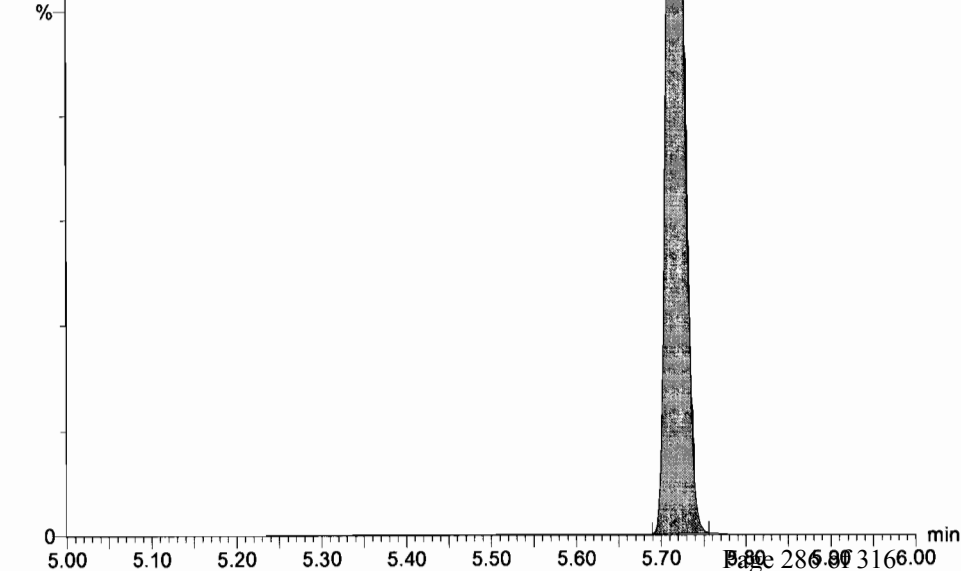
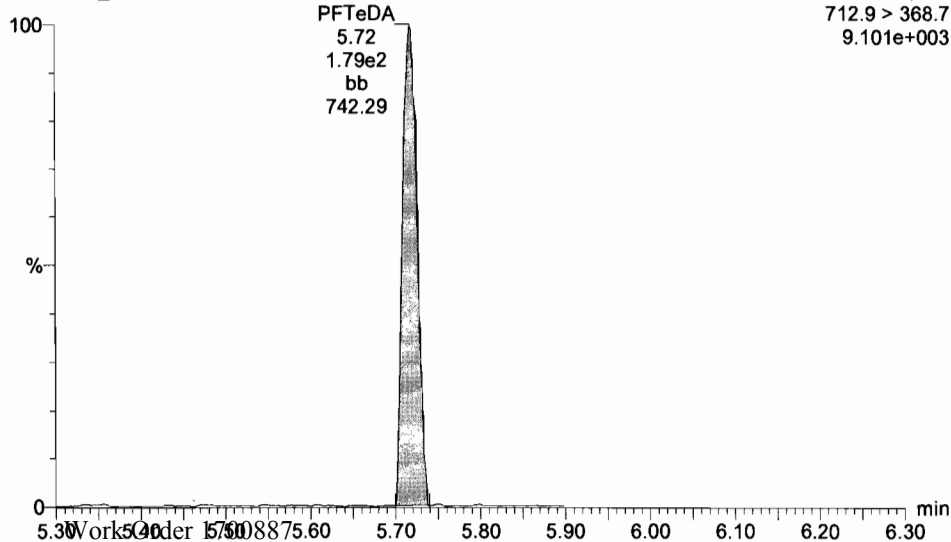


13C2-PFTeDA

170728G1_3



170728G1_3



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

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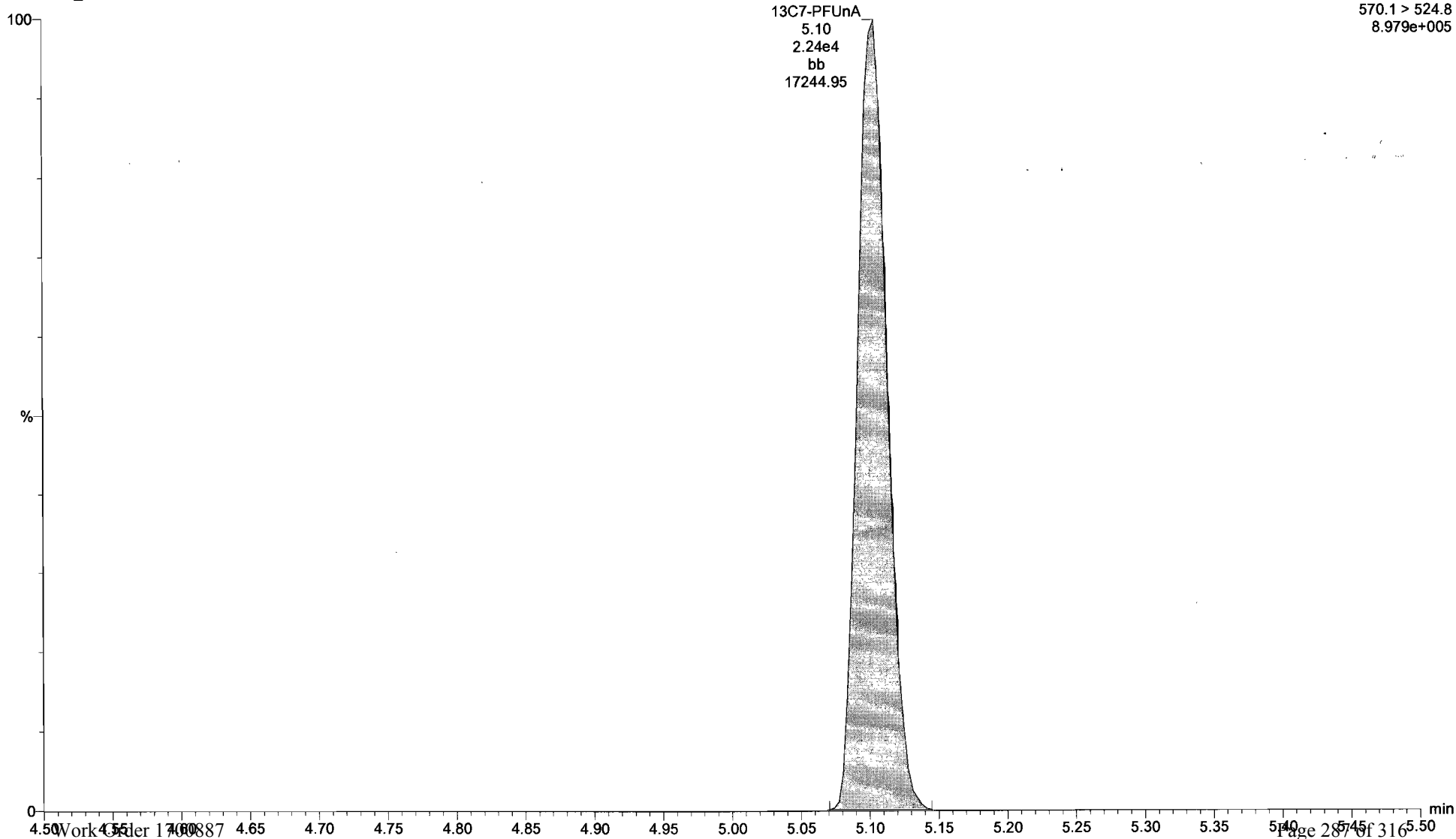
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13C7-PFUnA

170728G1_3

F3:MRM of 12 channels,ES-
570.1 > 524.8
8.979e+005

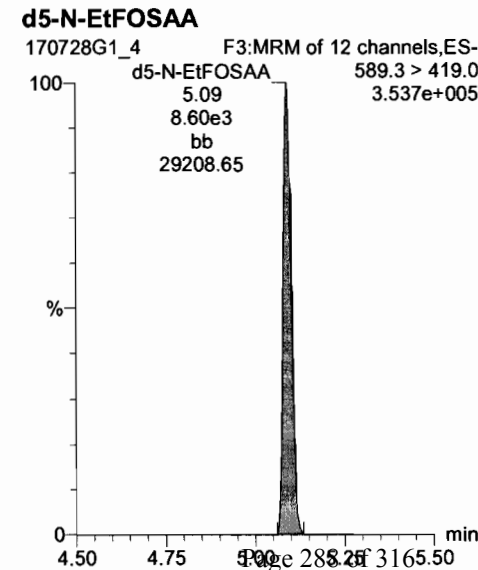
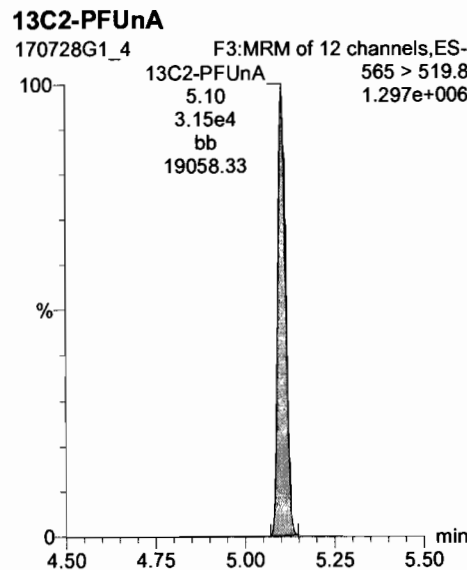
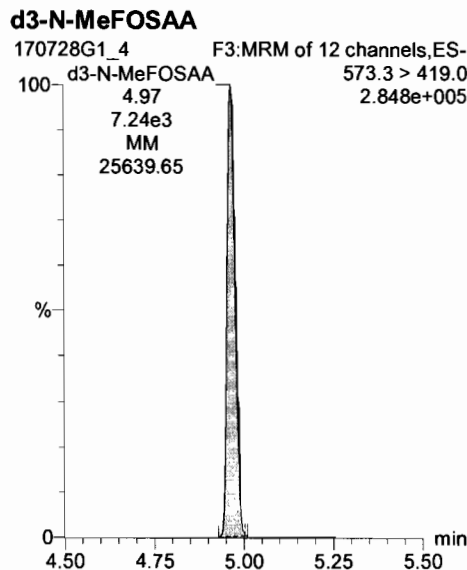
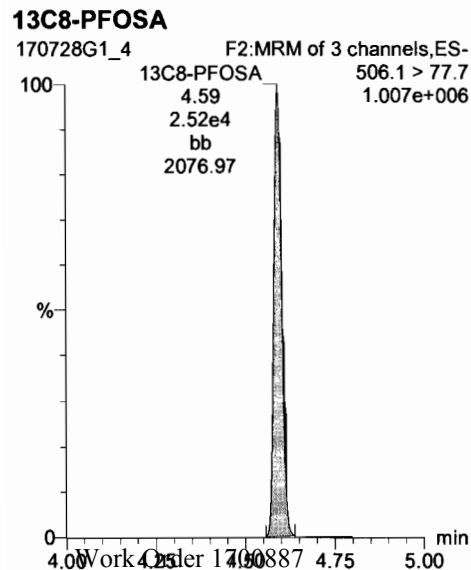
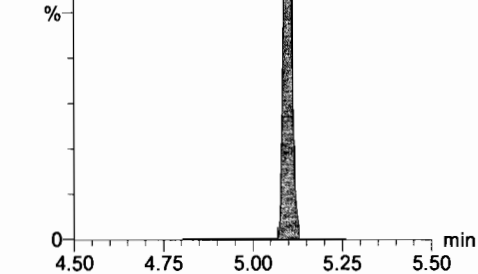
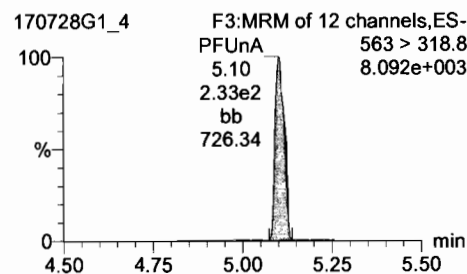
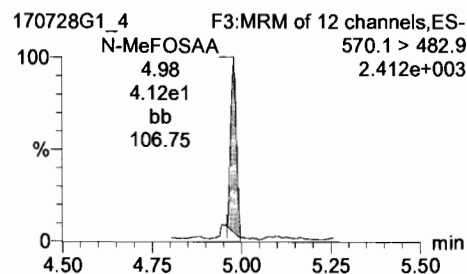
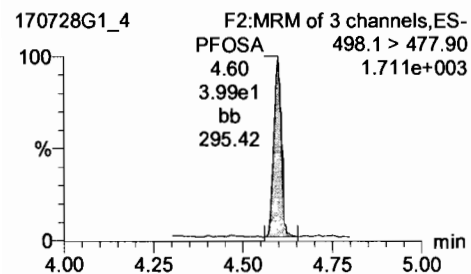
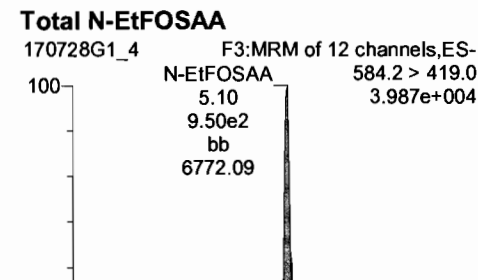
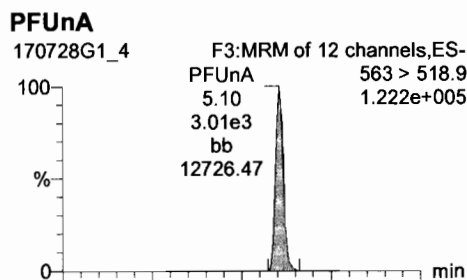
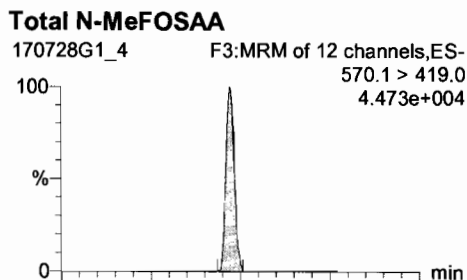
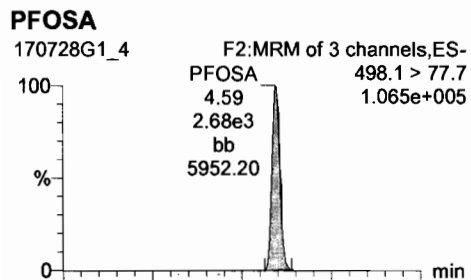


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Printed: Monday, July 31, 2017 08:50:08 Pacific Daylight Time

ID: ST170728G1-3 PFC CS0 17G2826, Description: PFC CS 0 17G2826 B, Name: 170728G1_4, Date: 28-Jul-2017, Time: 16:43:33, Instrument: , Lab: , User:

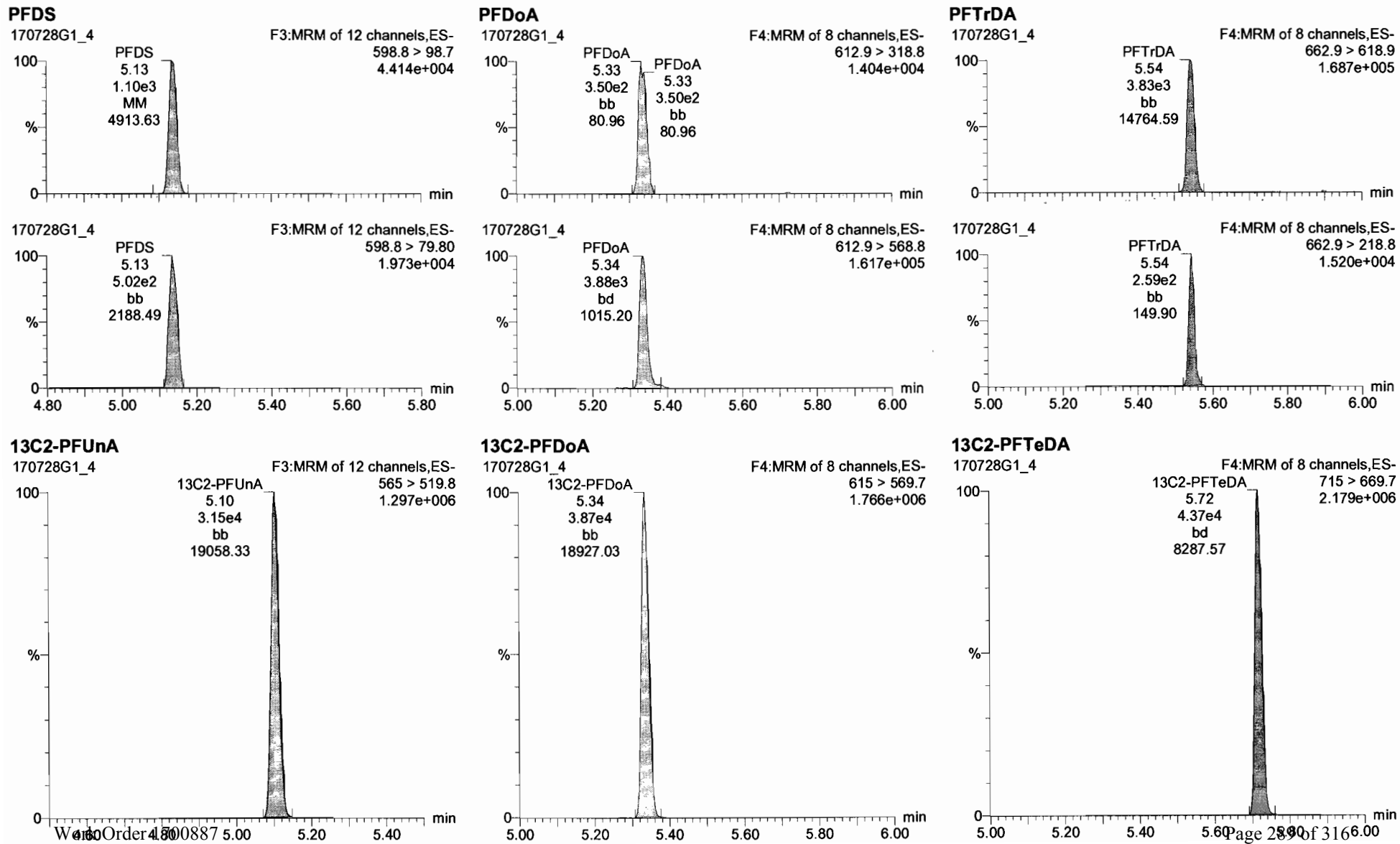


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Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:50:08 Pacific Daylight Time

ID: ST170728G1-3 PFC CS0 17G2826, Description: PFC CS 0 17G2826 B, Name: 170728G1_4, Date: 28-Jul-2017, Time: 16:43:33, Instrument: , Lab: , User:



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

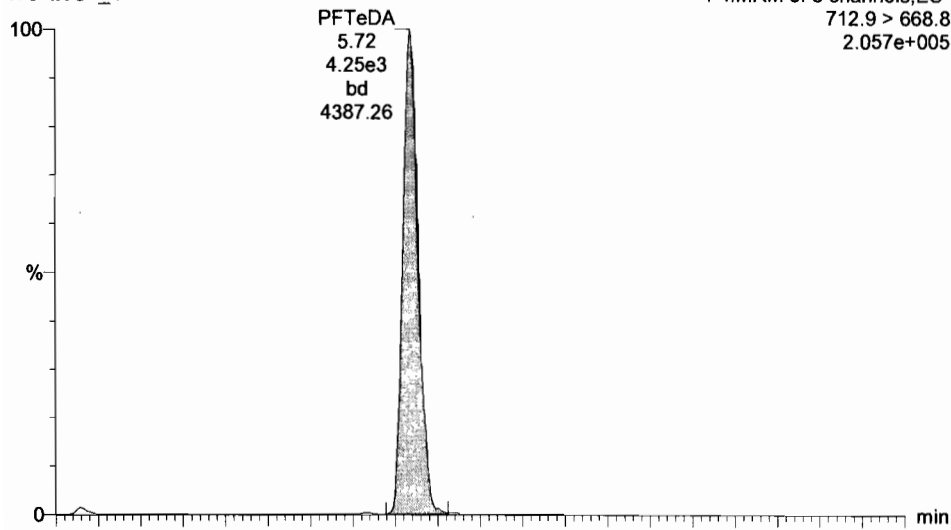
Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

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ID: ST170728G1-3 PFC CS0 17G2826, Description: PFC CS 0 17G2826 B, Name: 170728G1_4, Date: 28-Jul-2017, Time: 16:43:33, Instrument: , Lab: , User:

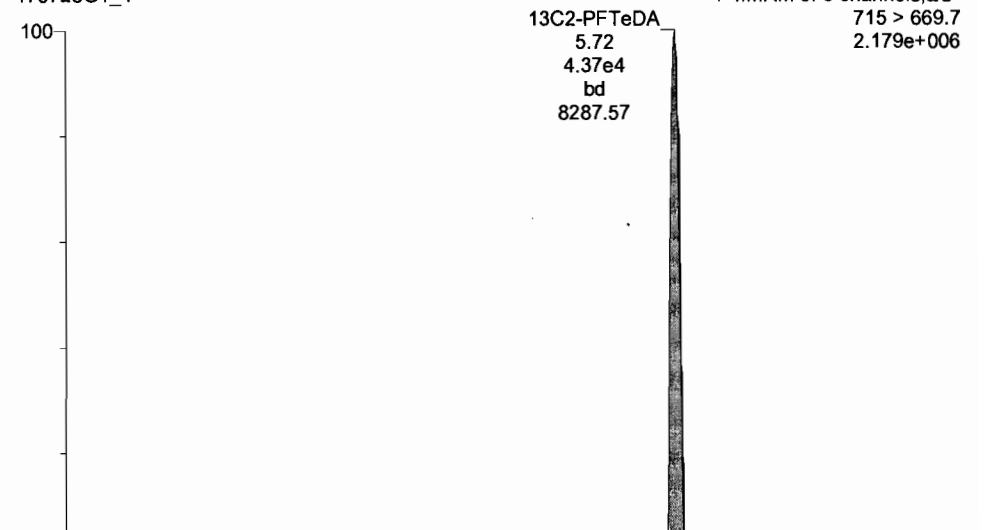
PFTeDA

170728G1_4

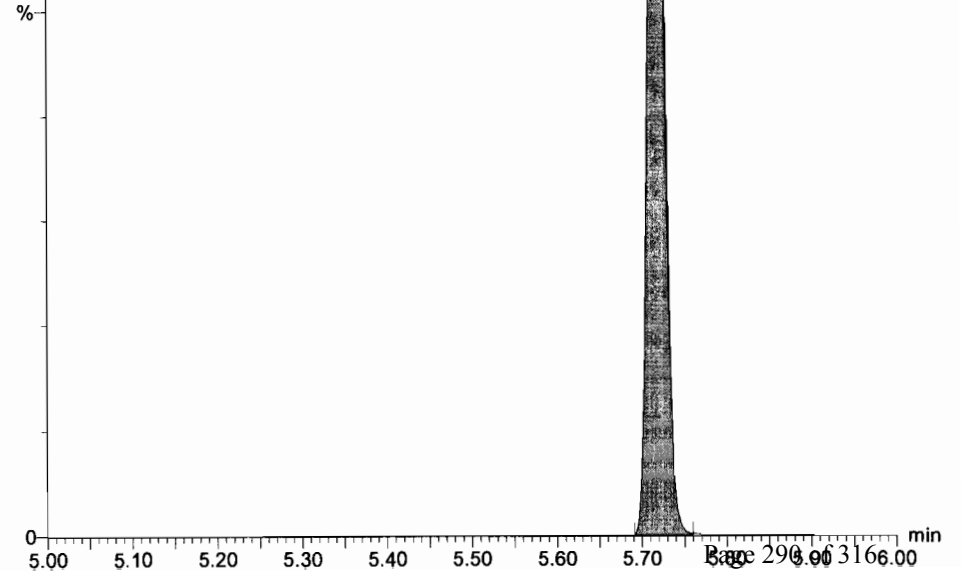
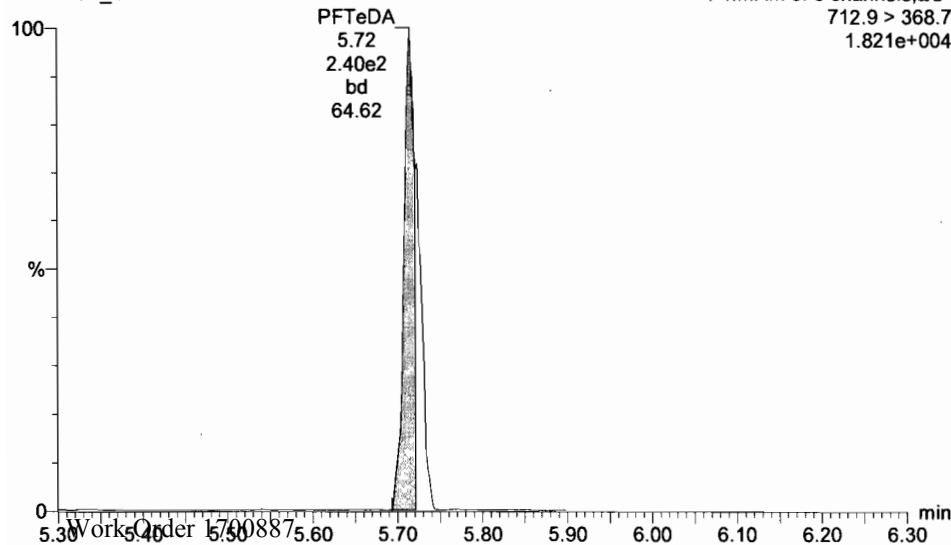


13C2-PFTeDA

170728G1_4



170728G1_4



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

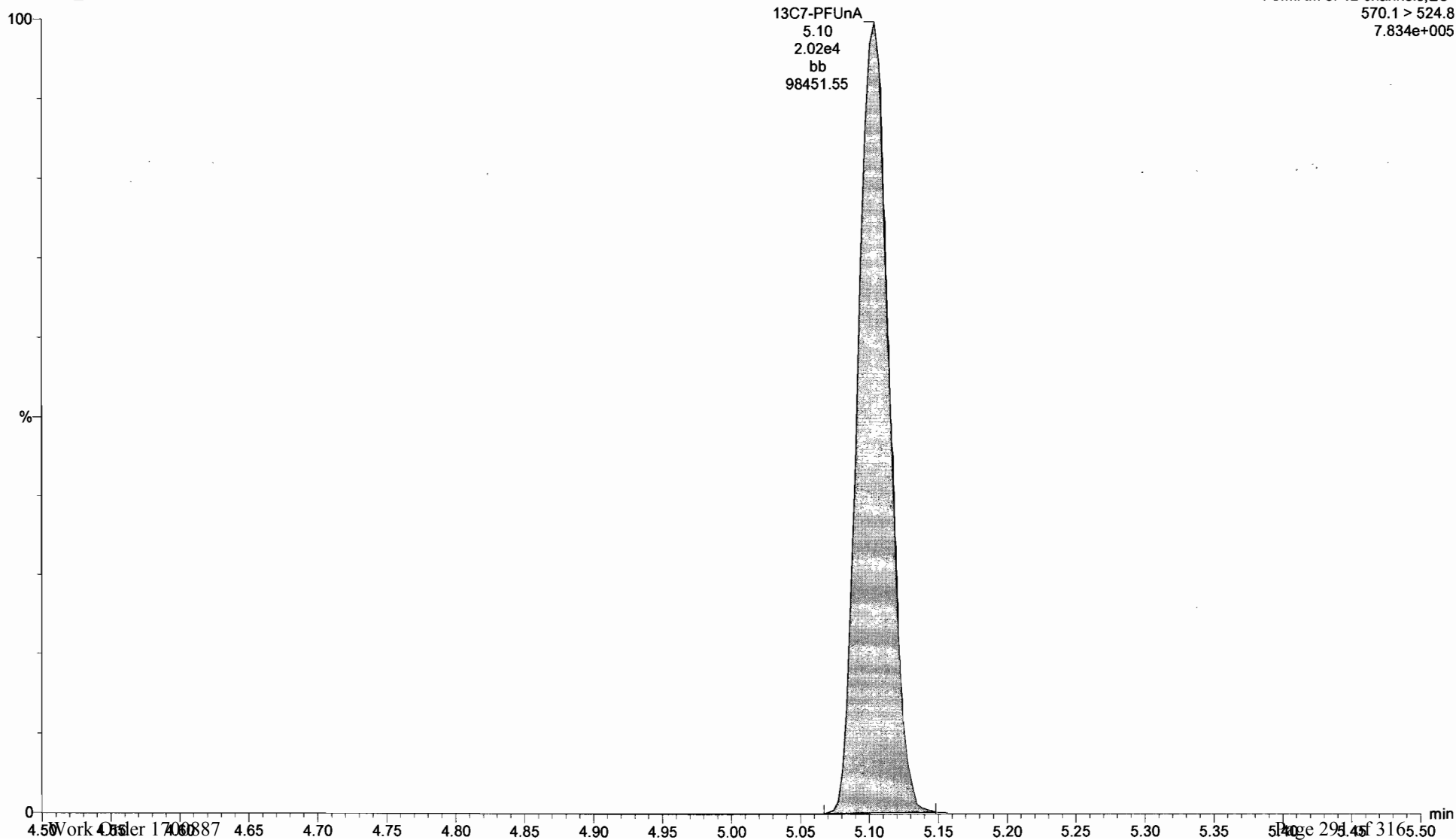
Printed: Monday, July 31, 2017 08:50:08 Pacific Daylight Time

ID: ST170728G1-3 PFC CS0 17G2826, Description: PFC CS 0 17G2826 B, Name: 170728G1_4, Date: 28-Jul-2017, Time: 16:43:33, Instrument: , Lab: , User:

13C7-PFUnA

170728G1_4

F3:MRM of 12 channels,ES-
570.1 > 524.8
7.834e+005

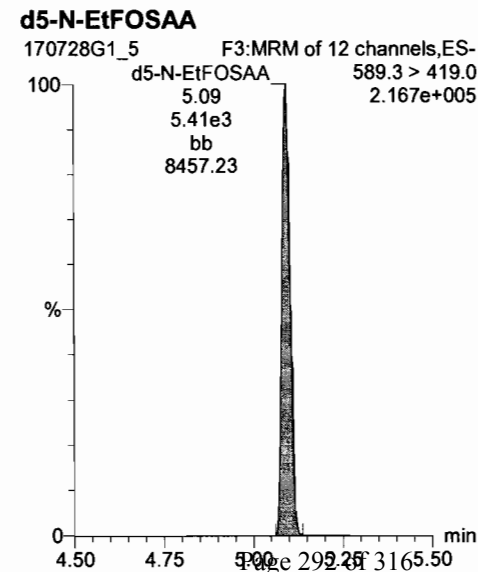
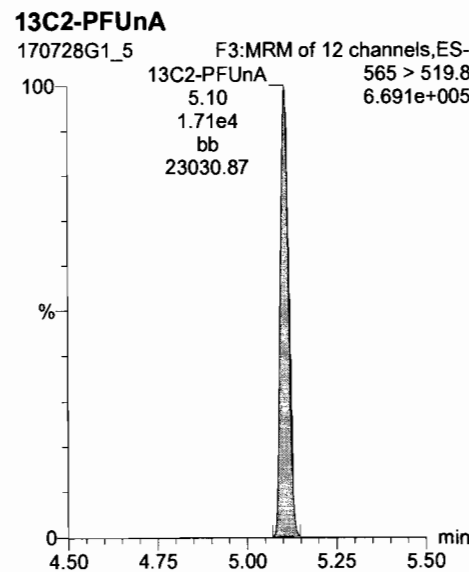
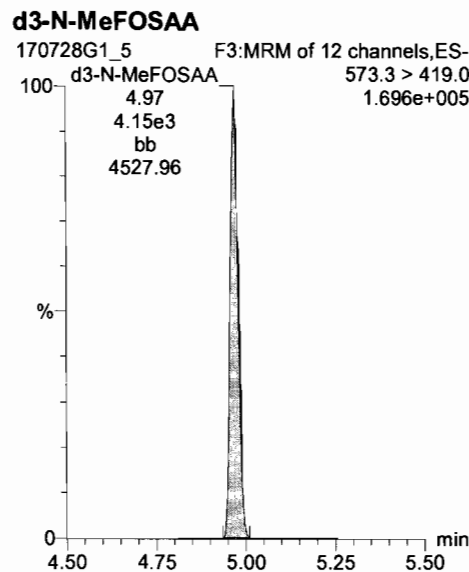
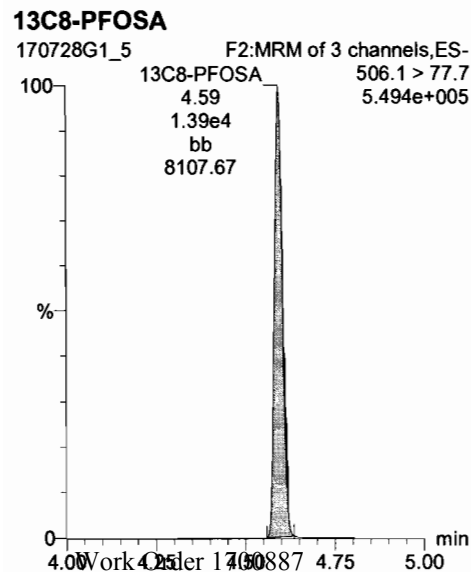
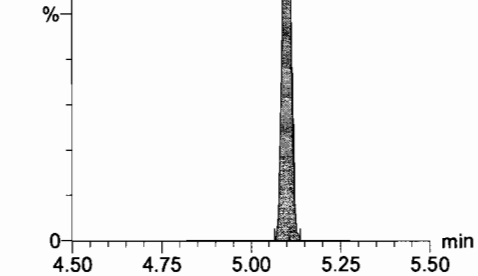
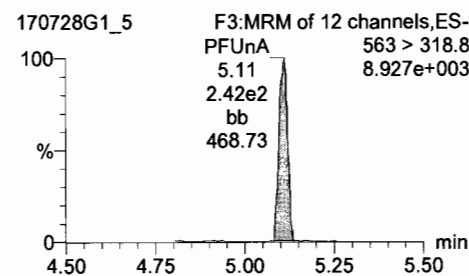
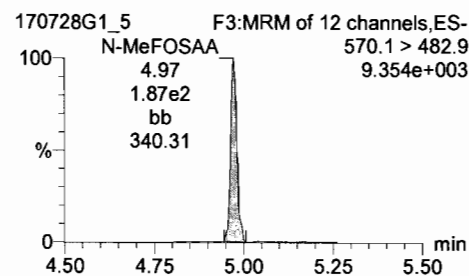
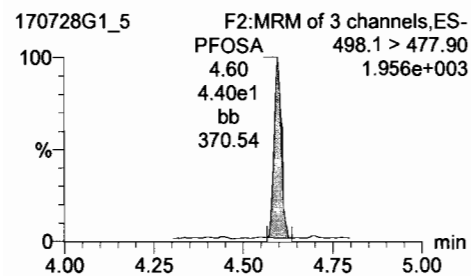
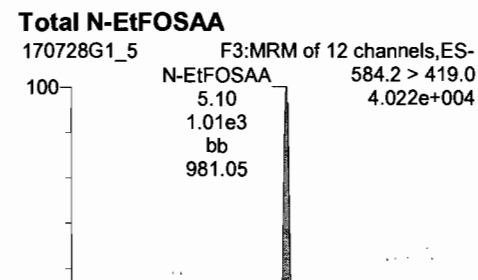
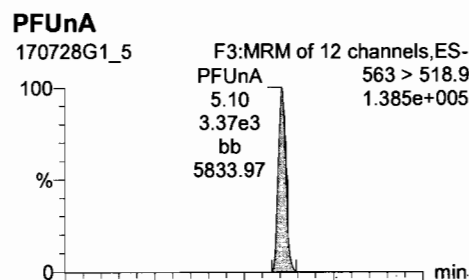
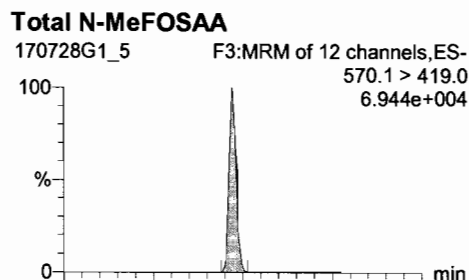
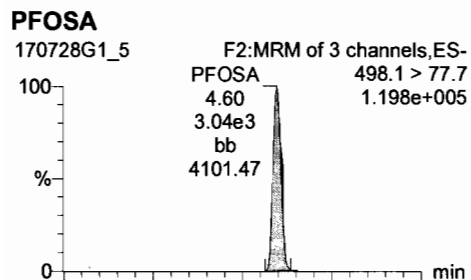


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Printed: Monday, July 31, 2017 08:50:08 Pacific Daylight Time

ID: ST170728G1-4 PFC CS1 17G2827, Description: PFC CS1 17G2827 B, Name: 170728G1_5, Date: 28-Jul-2017, Time: 16:56:09, Instrument: , Lab: , User:



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

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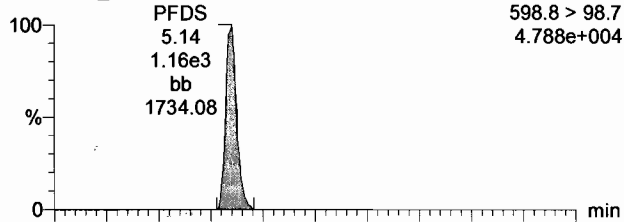
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PFDS

170728G1_5

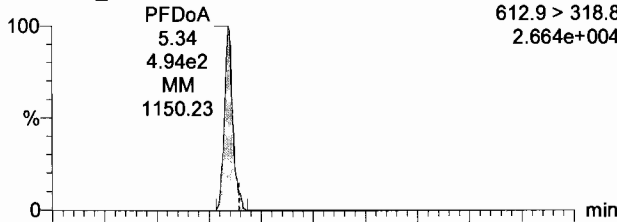
F3:MRM of 12 channels,ES-
598.8 > 98.7
4.788e+004



PFDaA

170728G1_5

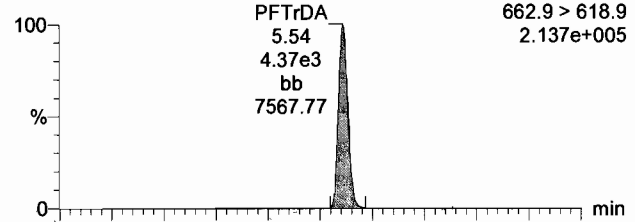
F4:MRM of 8 channels,ES-
612.9 > 318.8
2.664e+004



PFTrDA

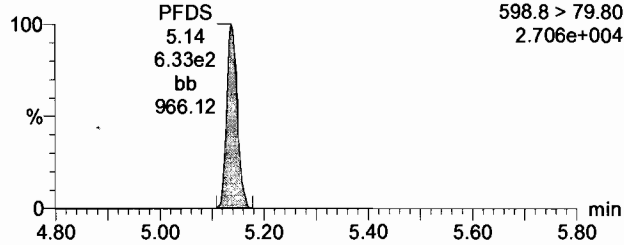
170728G1_5

F4:MRM of 8 channels,ES-
662.9 > 618.9
2.137e+005



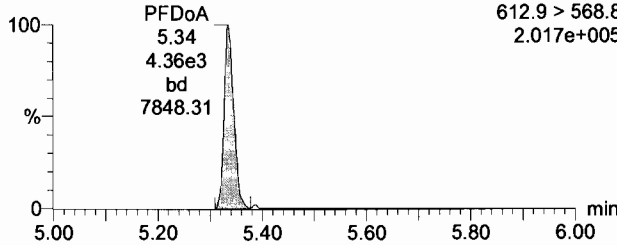
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F3:MRM of 12 channels,ES-
598.8 > 79.80
2.706e+004



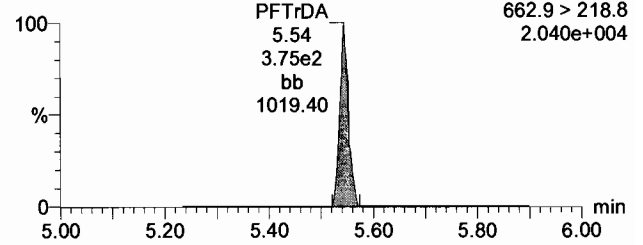
170728G1_5

F4:MRM of 8 channels,ES-
612.9 > 568.8
2.017e+005



170728G1_5

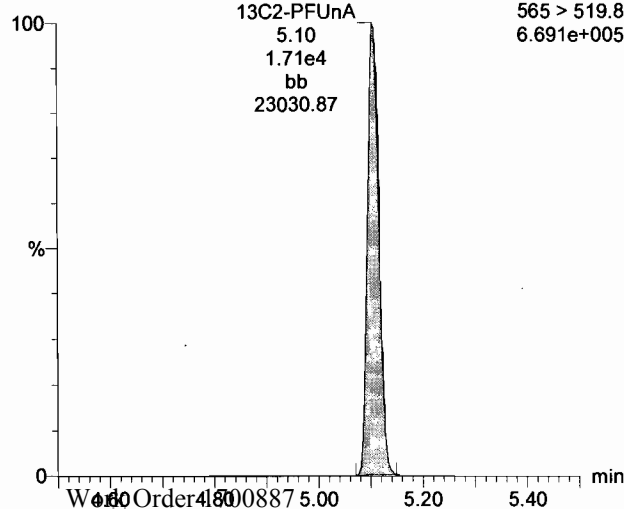
F4:MRM of 8 channels,ES-
662.9 > 218.8
2.040e+004



13C2-PFUnA

170728G1_5

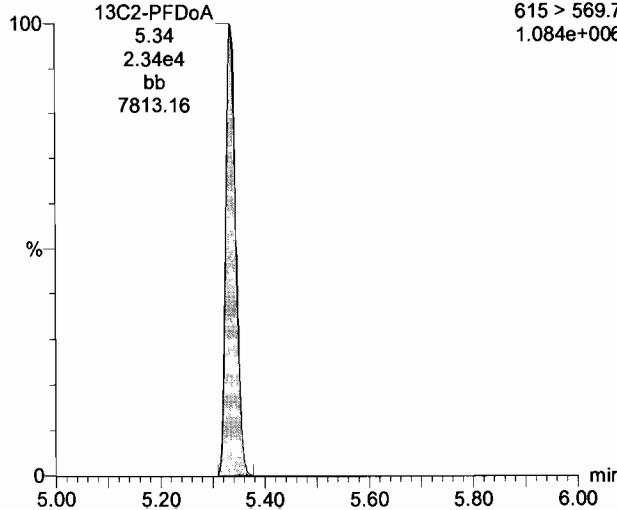
F3:MRM of 12 channels,ES-
565 > 519.8
6.691e+005



13C2-PFDaA

170728G1_5

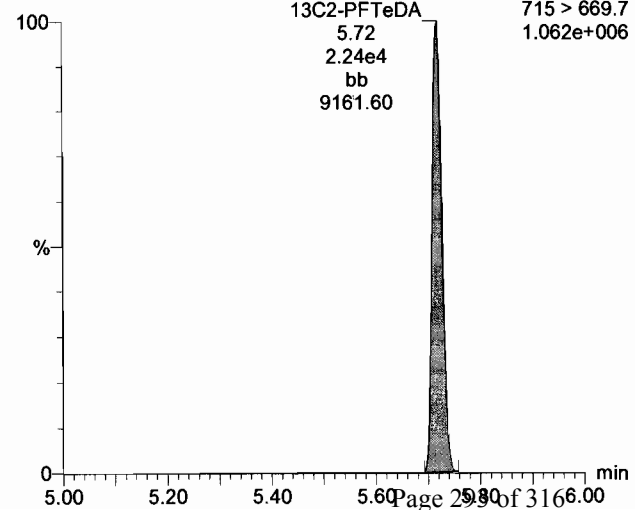
F4:MRM of 8 channels,ES-
615 > 569.7
1.084e+006



13C2-PFTeDA

170728G1_5

F4:MRM of 8 channels,ES-
715 > 669.7
1.062e+006



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

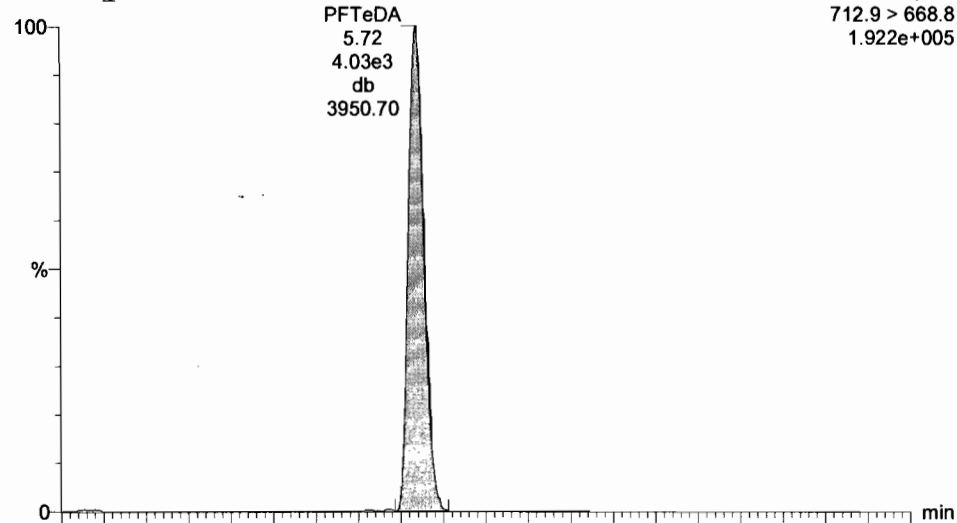
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ID: ST170728G1-4 PFC CS1 17G2827, Description: PFC CS1 17G2827 B, Name: 170728G1_5, Date: 28-Jul-2017, Time: 16:56:09, Instrument: , Lab: , User:

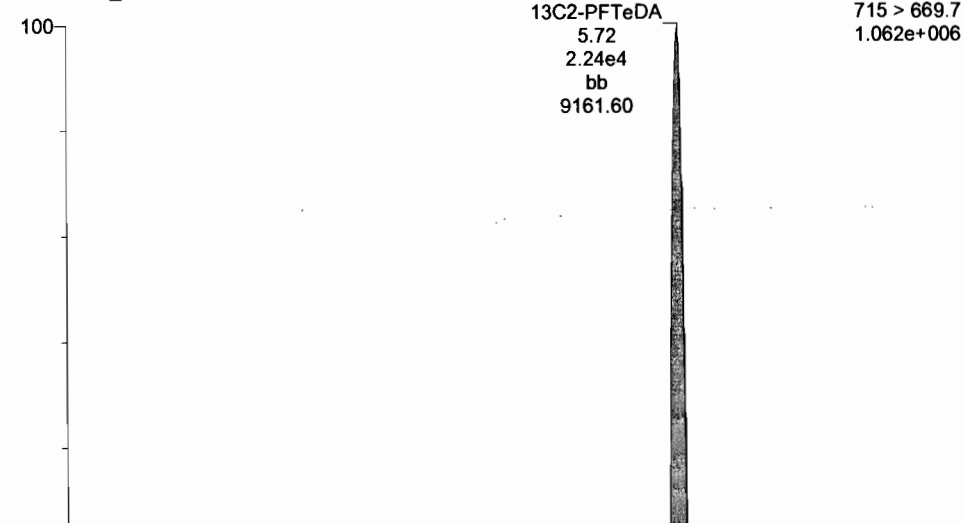
PFTeDA

170728G1_5

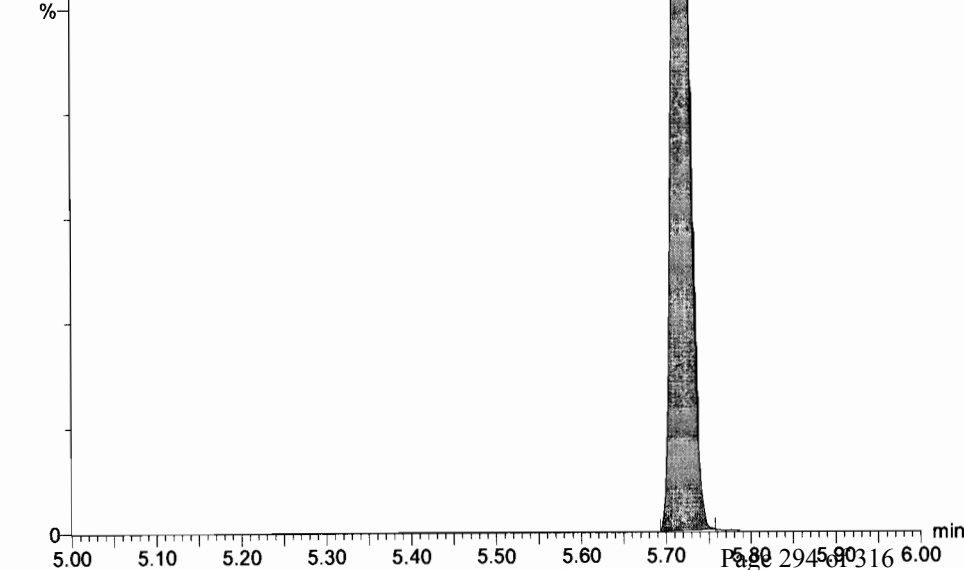
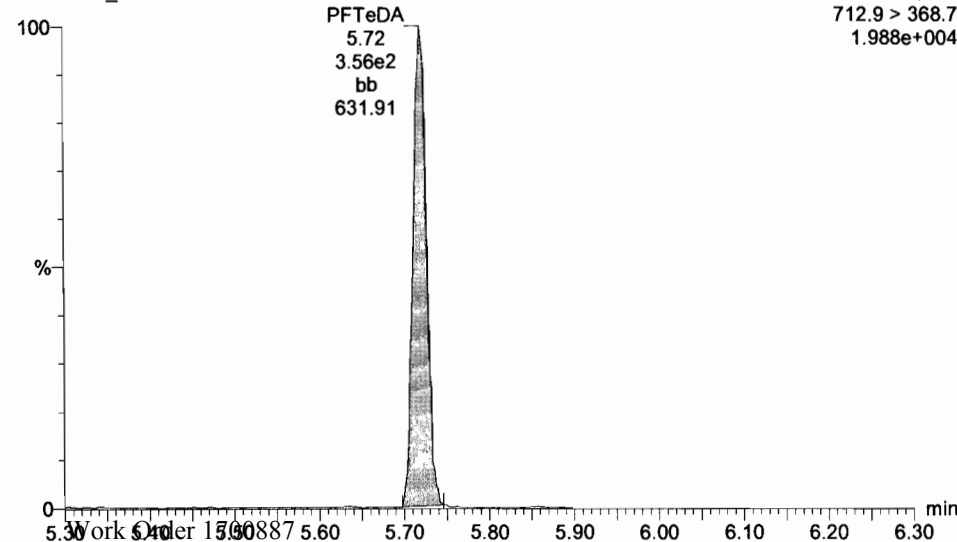


13C2-PFTeDA

170728G1_5



170728G1_5



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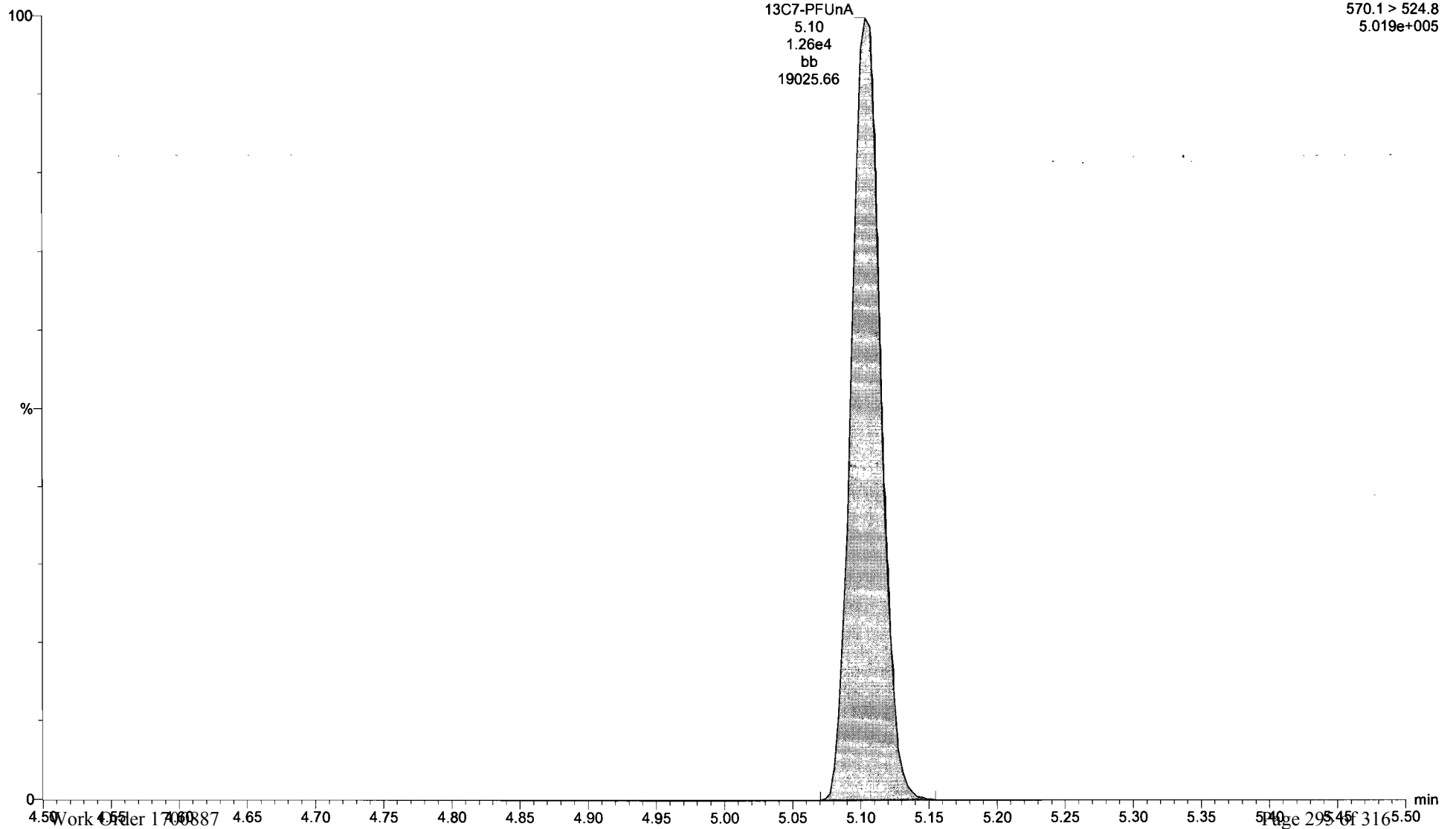
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13C7-PFUnA

170728G1_5

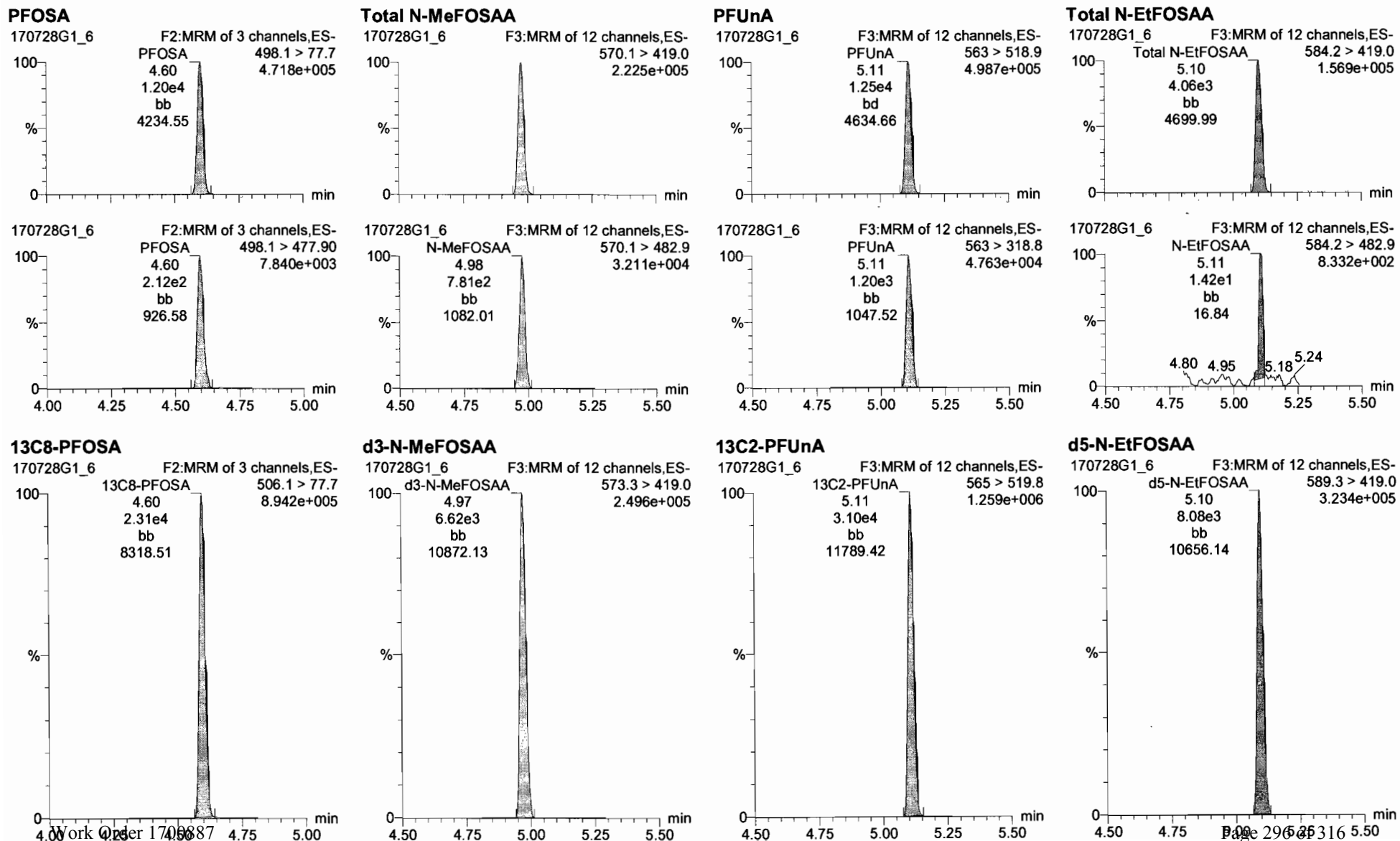
F3:MRM of 12 channels,ES-
570.1 > 524.8
5.019e+005



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time
Printed: Monday, July 31, 2017 08:50:08 Pacific Daylight Time

ID: ST170728G1-5 PFC CS2 17G2828, Description: PFC CS2 17G2828 B, Name: 170728G1_6, Date: 28-Jul-2017, Time: 17:09:04, Instrument: , Lab: , User:



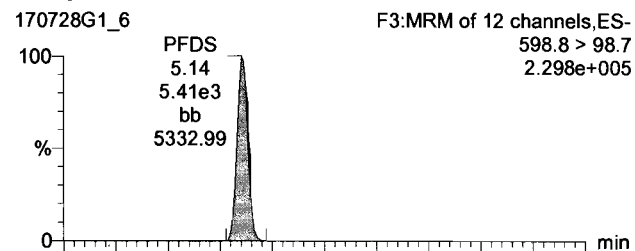
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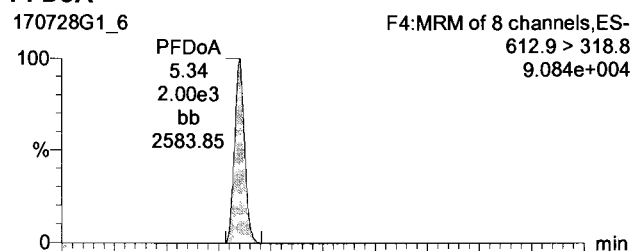
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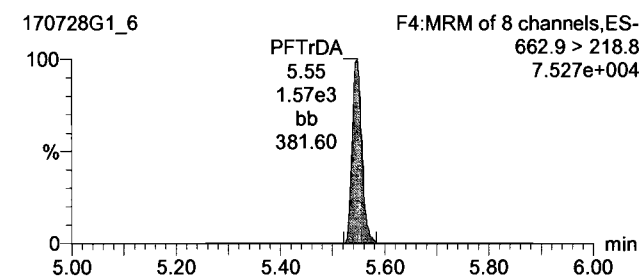
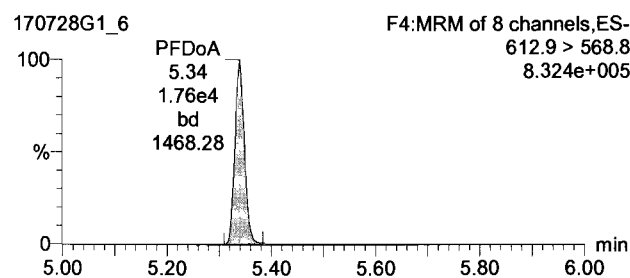
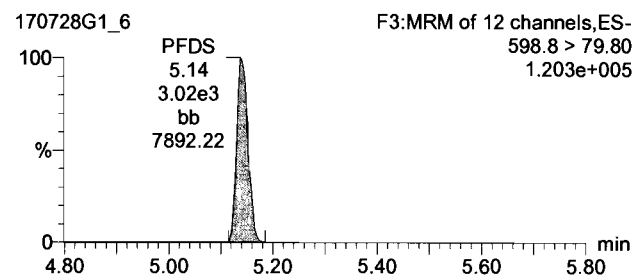
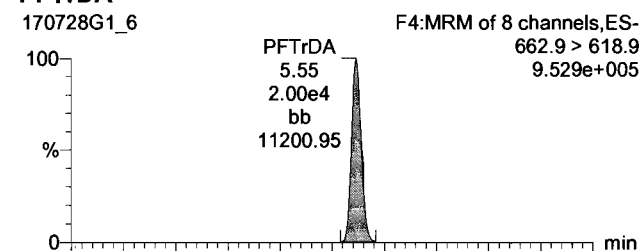
PFDS



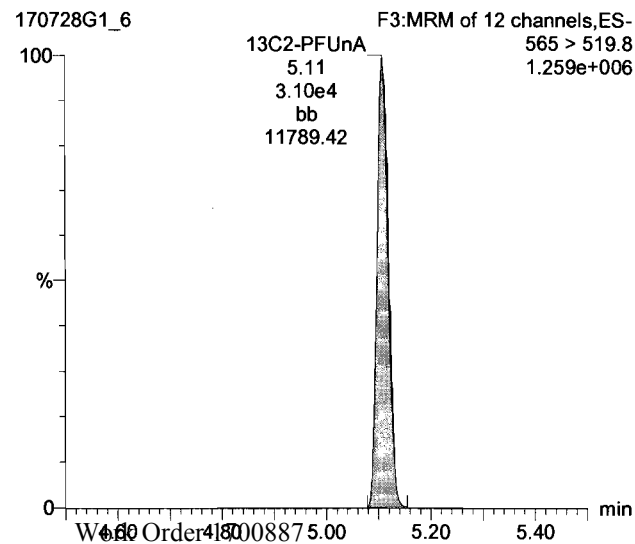
PFDoA



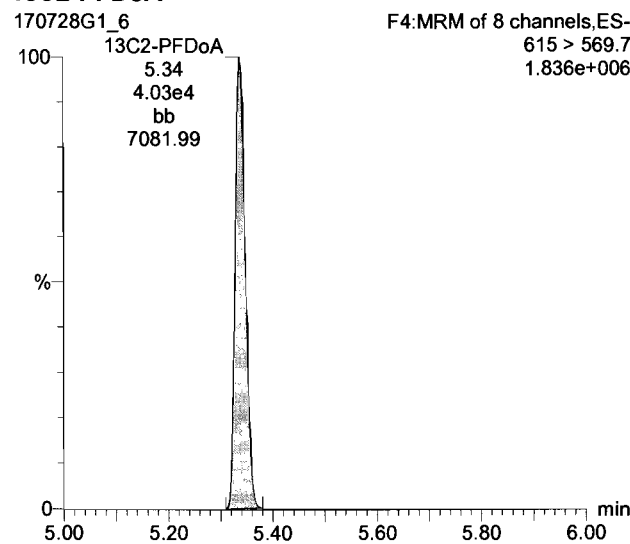
PFTrDA



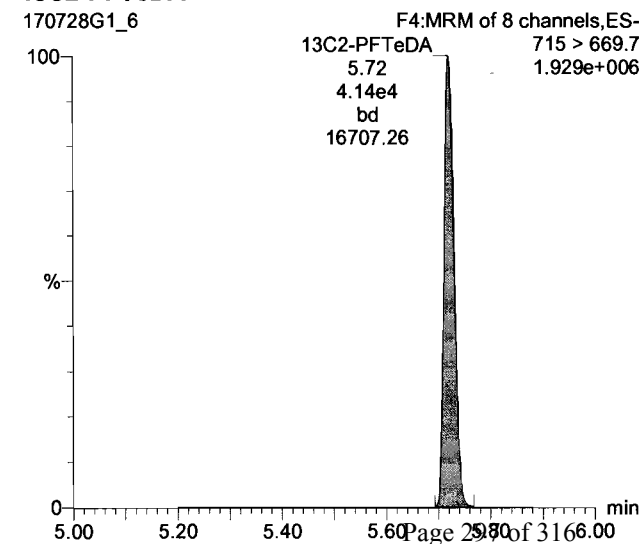
13C2-PFUnA



13C2-PFDoA



13C2-PFTeDA



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

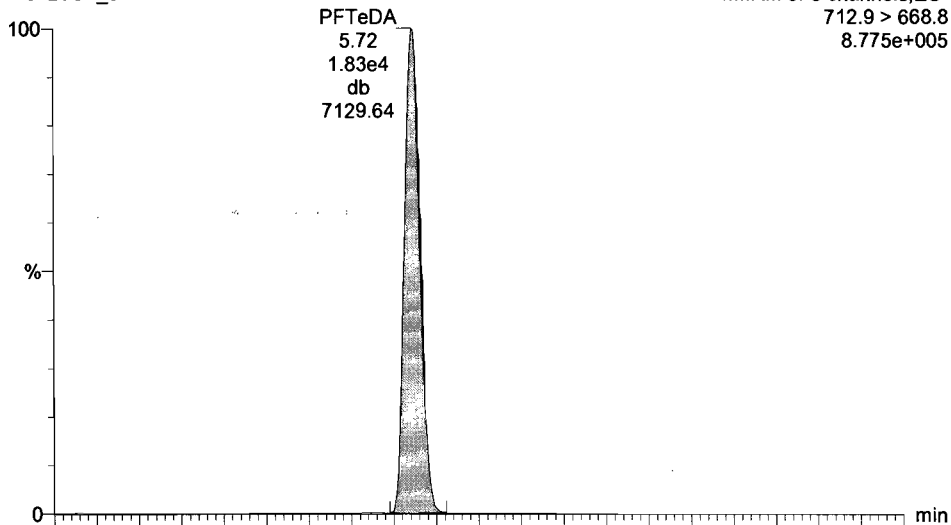
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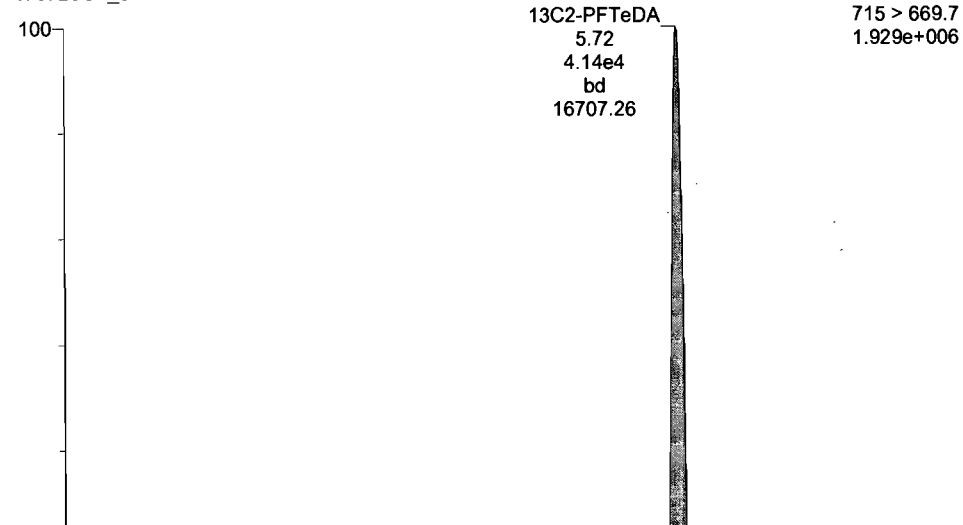
PFTeDA

170728G1_6

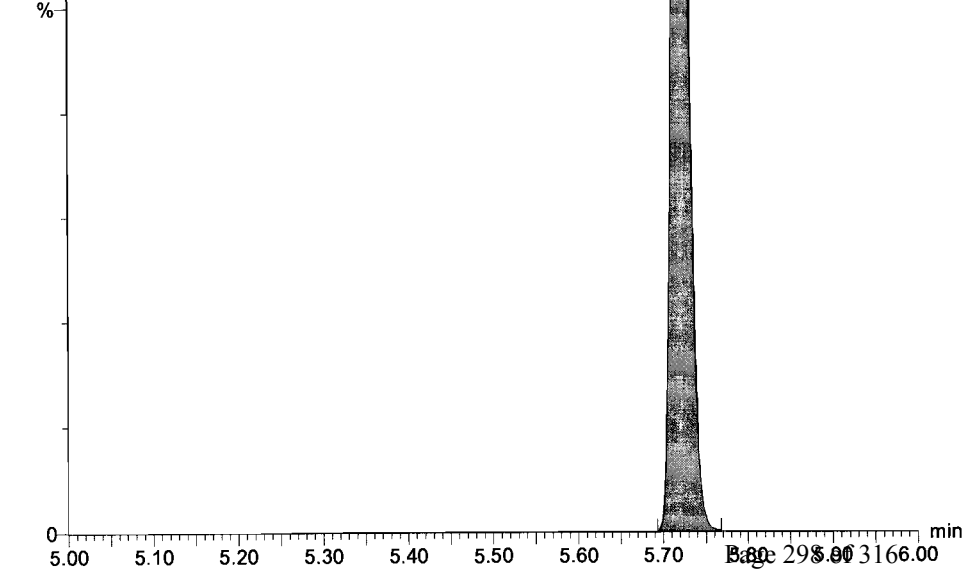
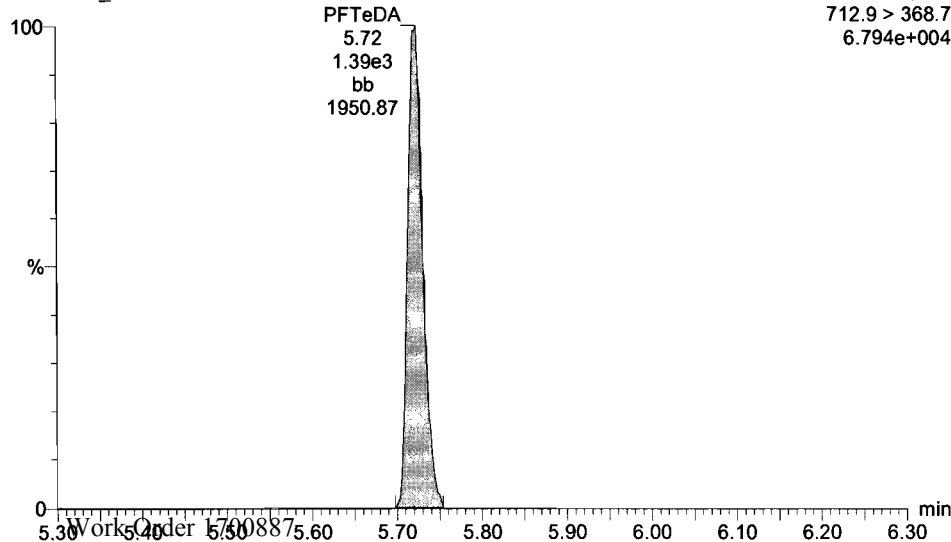


13C2-PFTeDA

170728G1_6



170728G1_6



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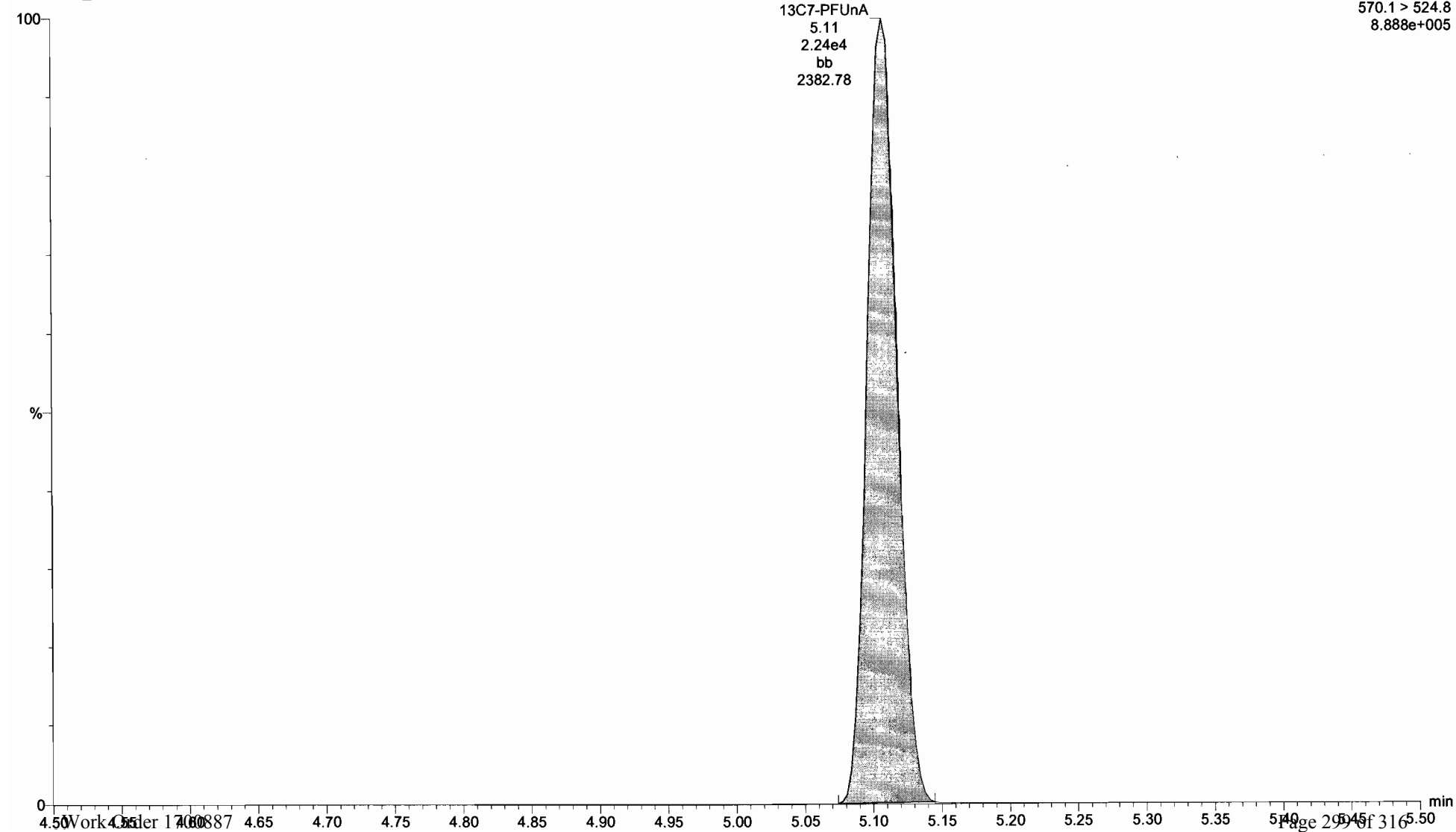
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13C7-PFUnA

170728G1_6

F3:MRM of 12 channels,ES-
570.1 > 524.8
8.888e+005

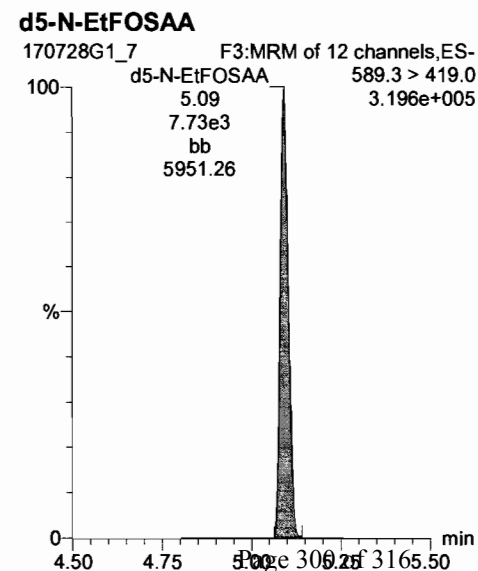
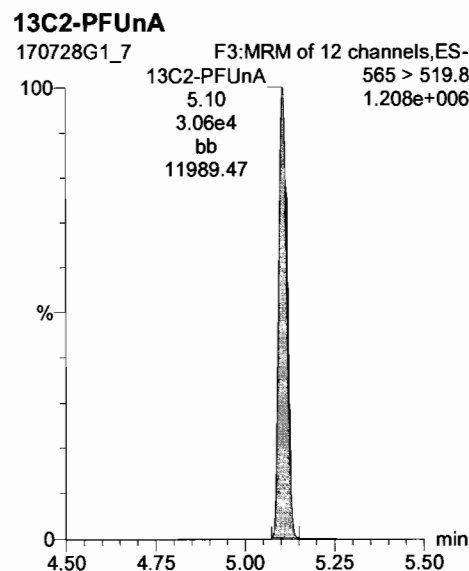
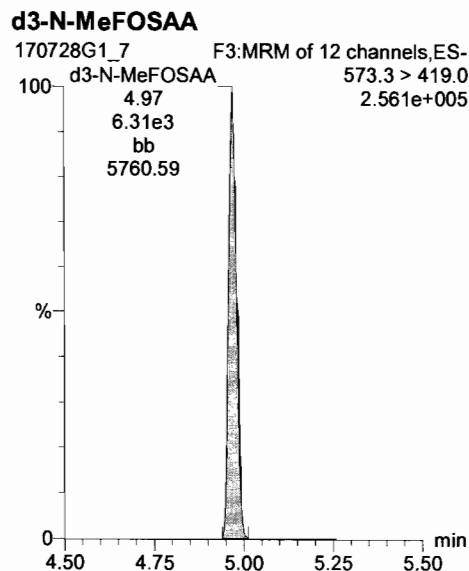
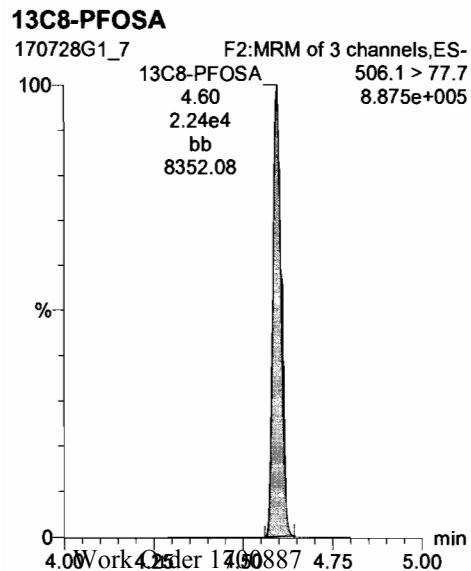
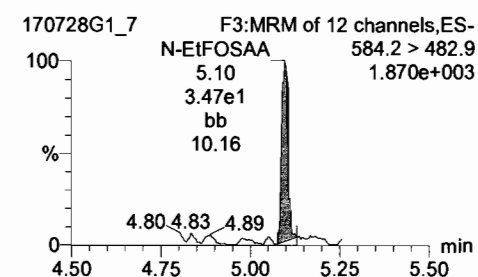
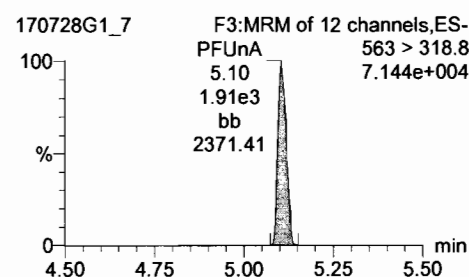
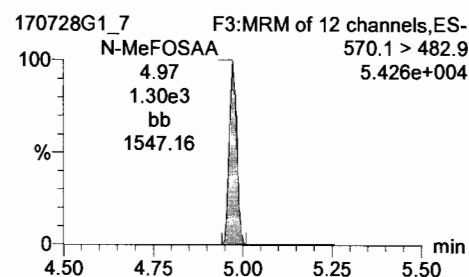
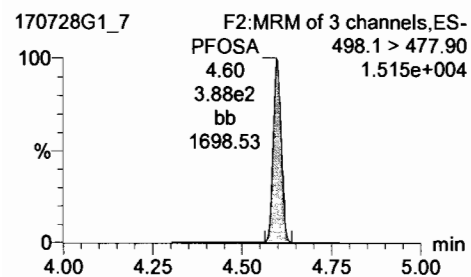
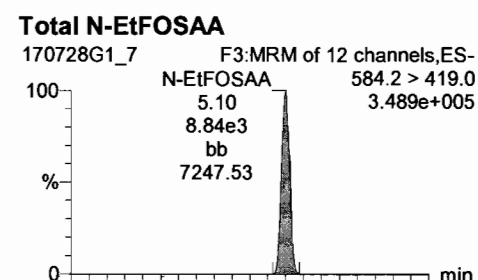
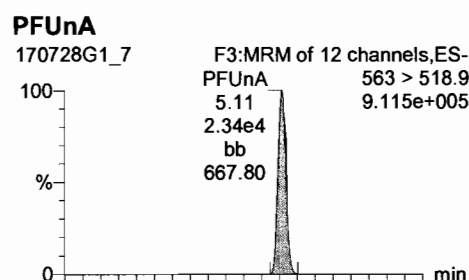
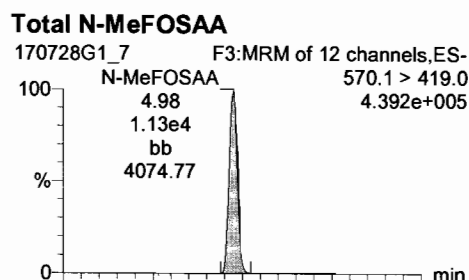
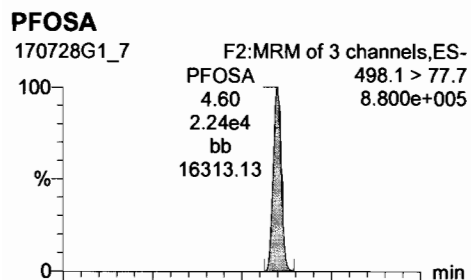


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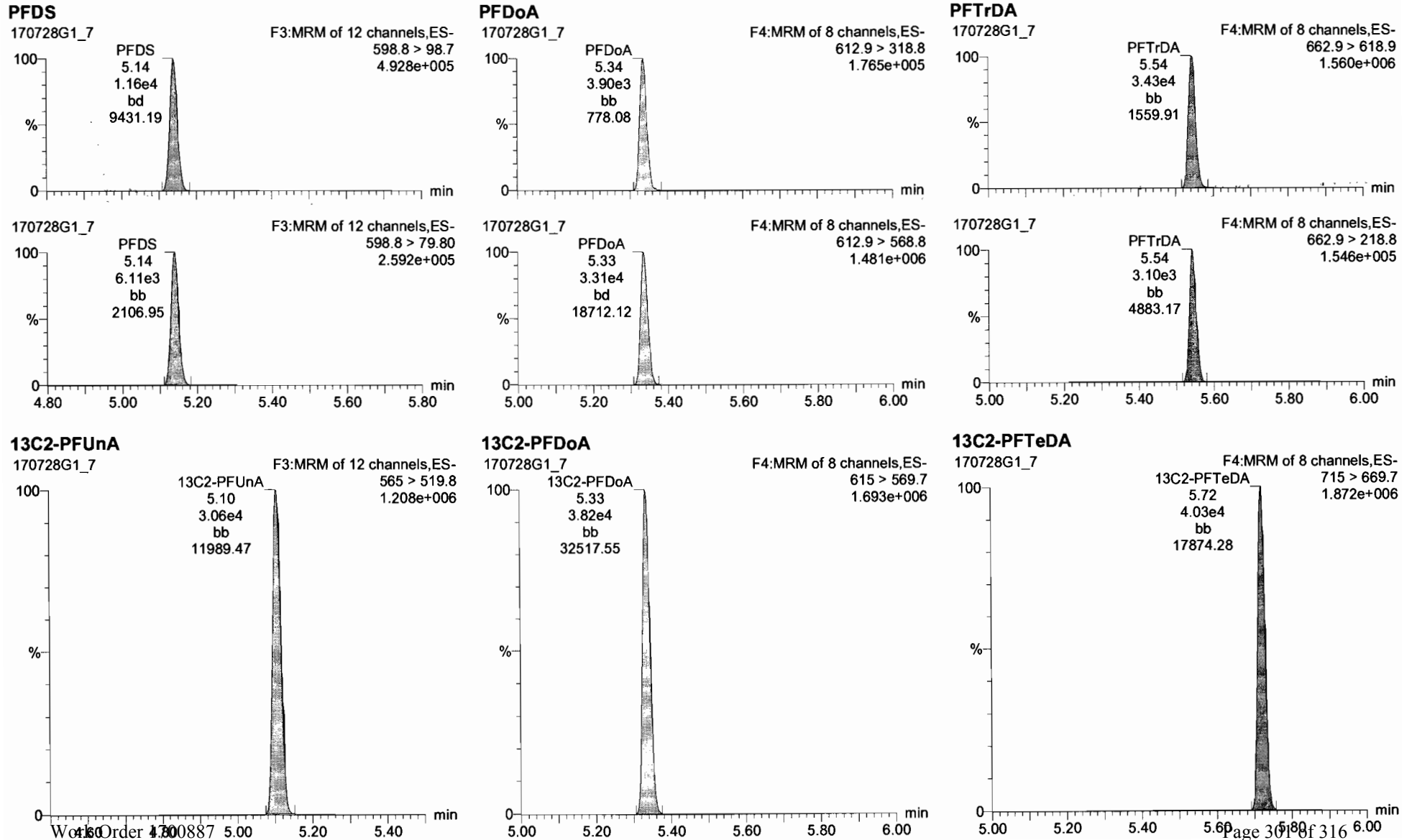
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Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

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Printed: Monday, July 31, 2017 08:50:08 Pacific Daylight Time

ID: ST170728G1-6 PFC CS3 17G2829, Description: PFC CS3 17G2829 B, Name: 170728G1_7, Date: 28-Jul-2017, Time: 17:21:42, Instrument: , Lab: , User:

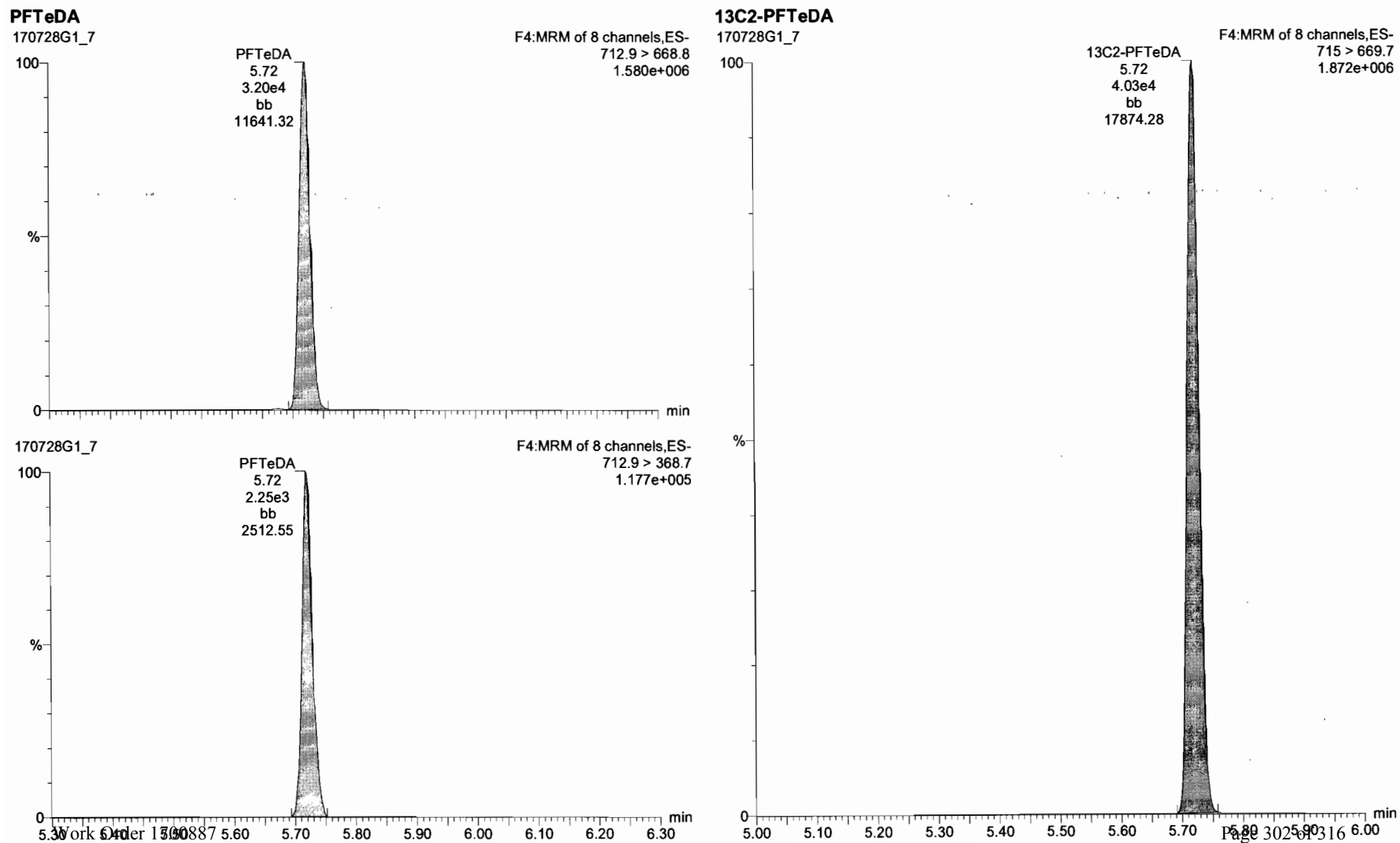


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ID: ST170728G1-6 PFC CS3 17G2829, Description: PFC CS3 17G2829 B, Name: 170728G1_7, Date: 28-Jul-2017, Time: 17:21:42, Instrument: , Lab: , User:



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

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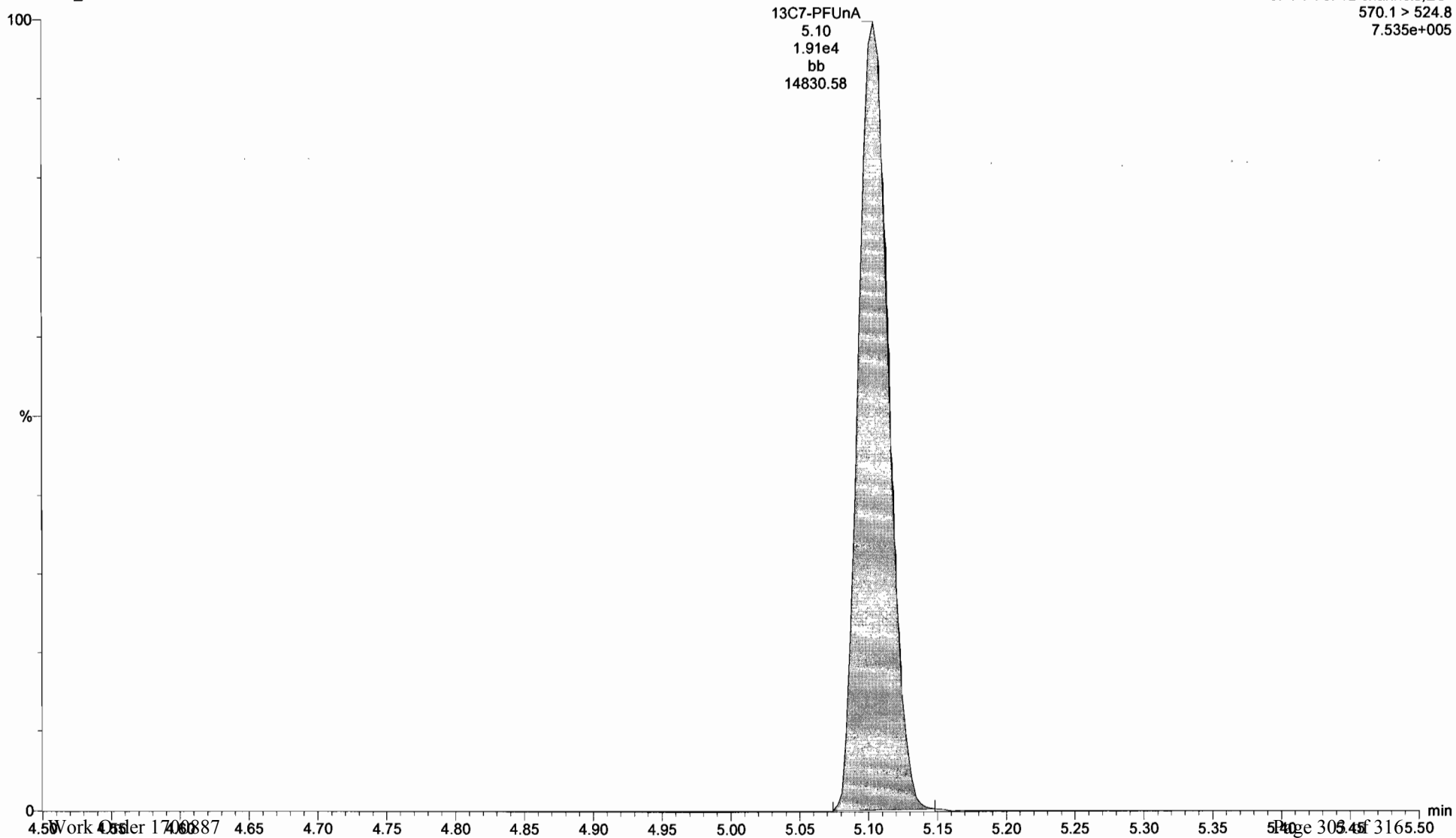
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13C7-PFUnA

170728G1_7

F3:MRM of 12 channels,ES-
570.1 > 524.8
7.535e+005

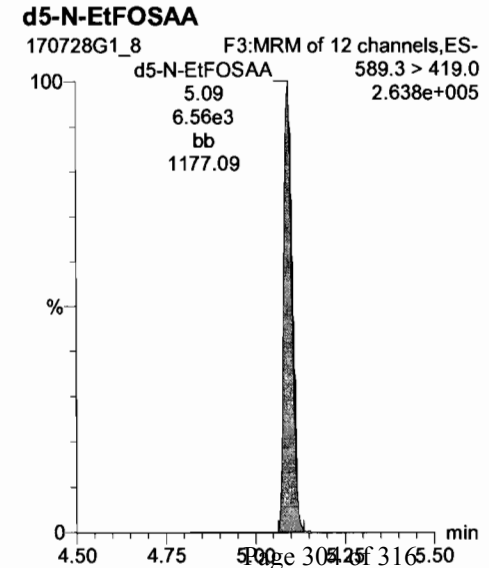
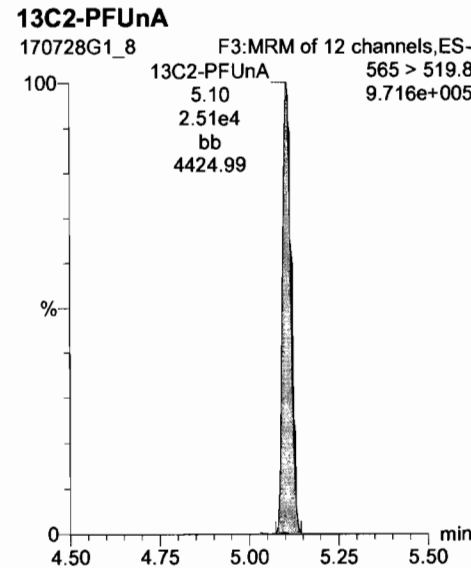
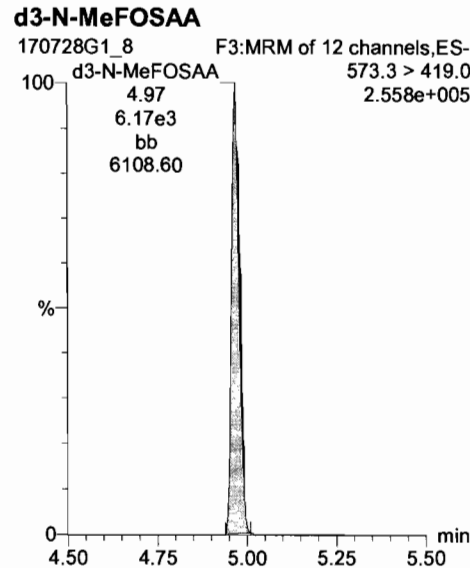
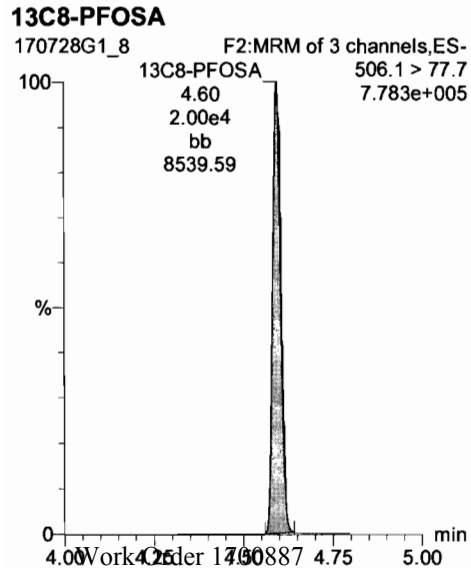
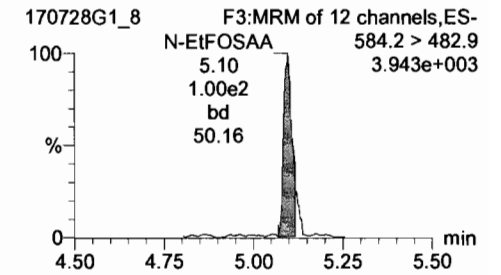
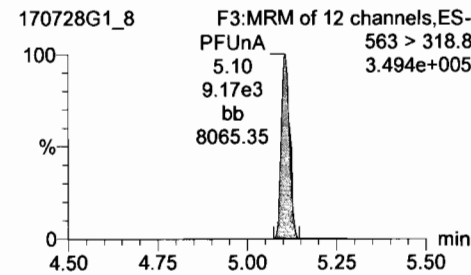
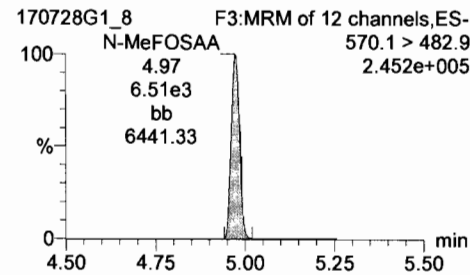
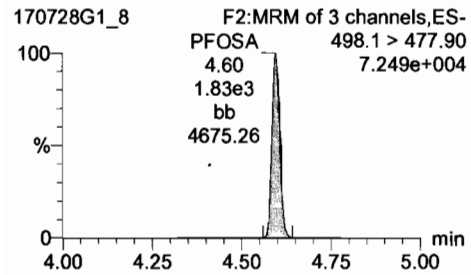
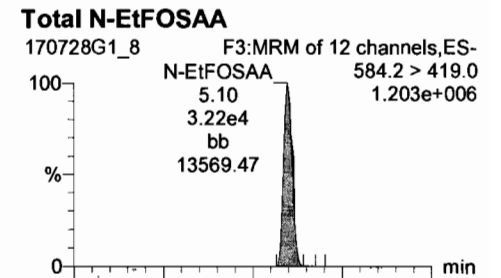
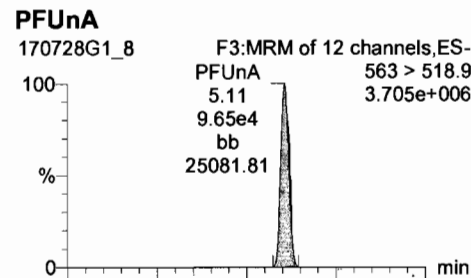
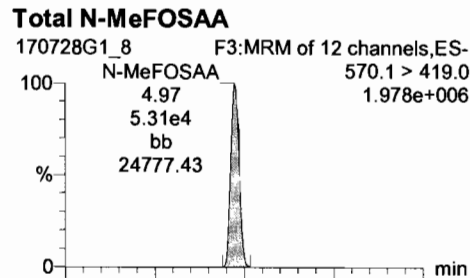
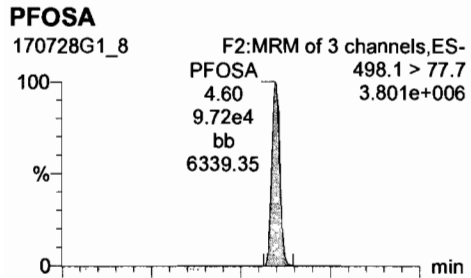


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Last Altered: Monday, July 31, 2017 08:37:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:50:08 Pacific Daylight Time

ID: ST170728G1-7 PFC CS4 17G2830, Description: PFC CS4 17G2830 B, Name: 170728G1_8, Date: 28-Jul-2017, Time: 17:34:20, Instrument: , Lab: , User:



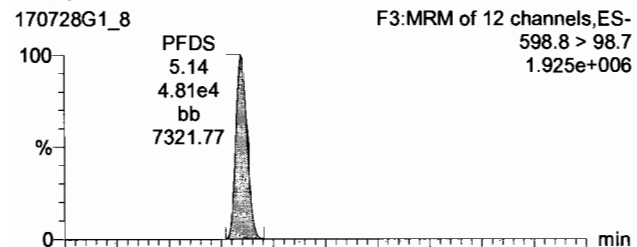
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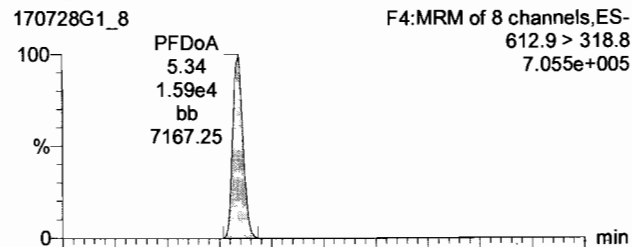
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ID: ST170728G1-7 PFC CS4 17G2830, Description: PFC CS4 17G2830 B, Name: 170728G1_8, Date: 28-Jul-2017, Time: 17:34:20, Instrument: , Lab: , User:

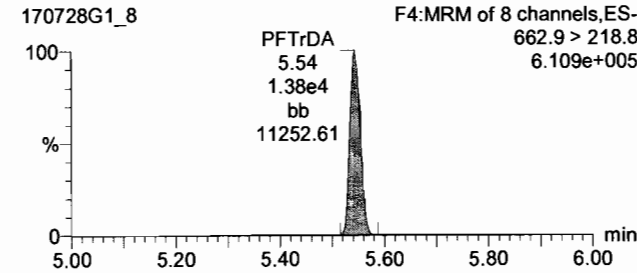
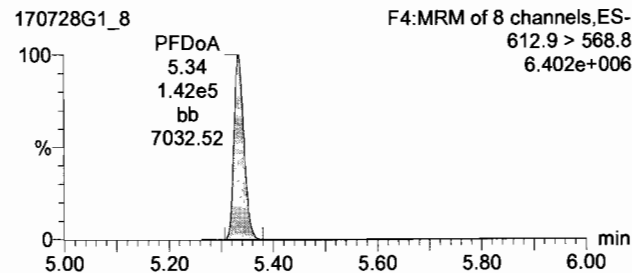
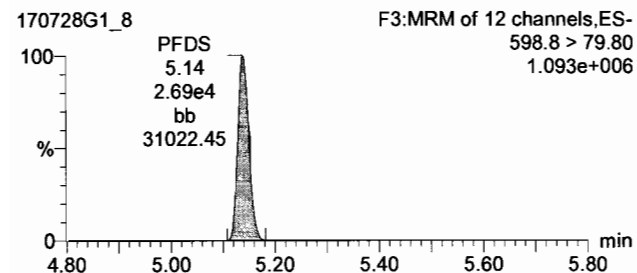
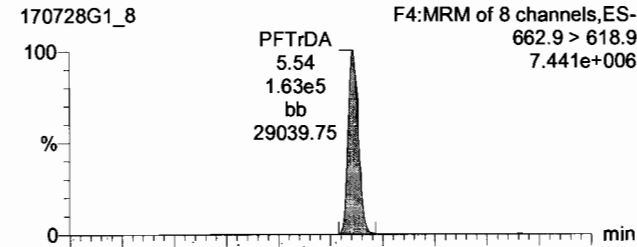
PFDS



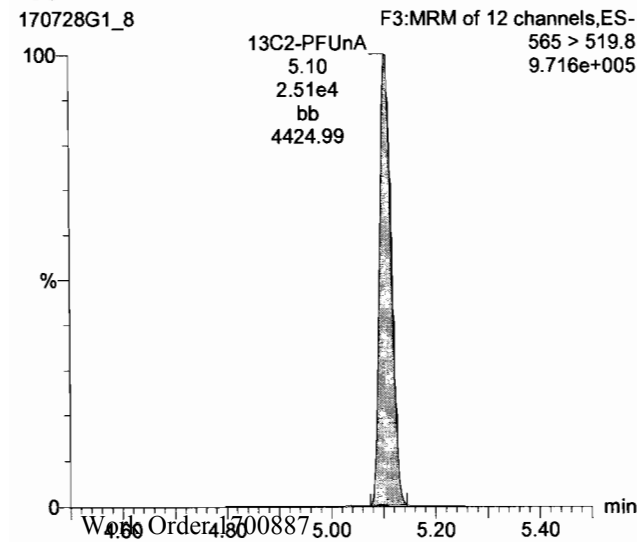
PFDaA



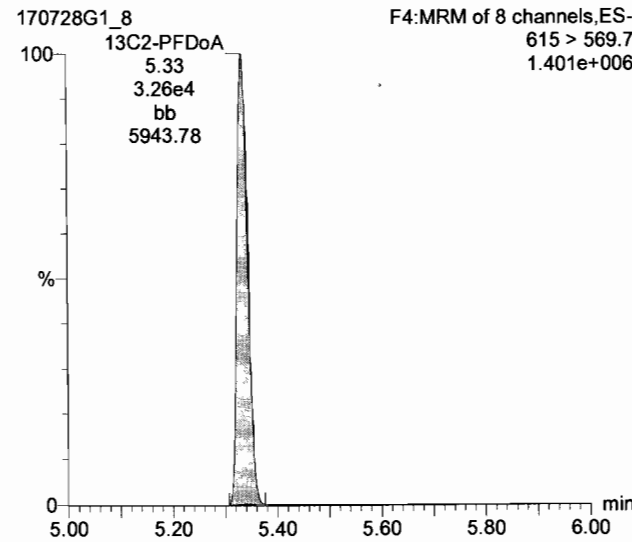
PFTTrDA



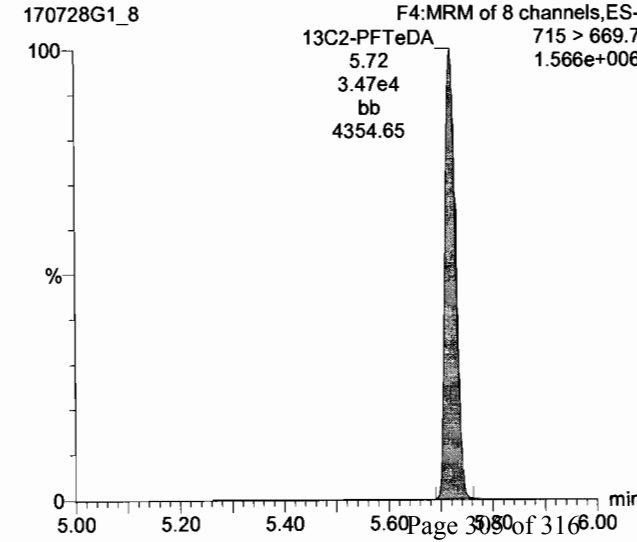
13C2-PFUnA



13C2-PFDaA



13C2-PFTeDA



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

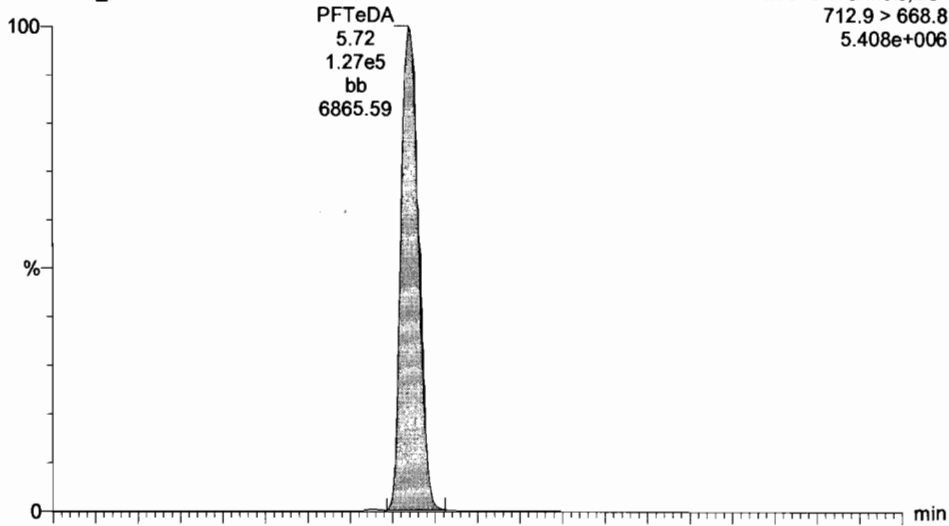
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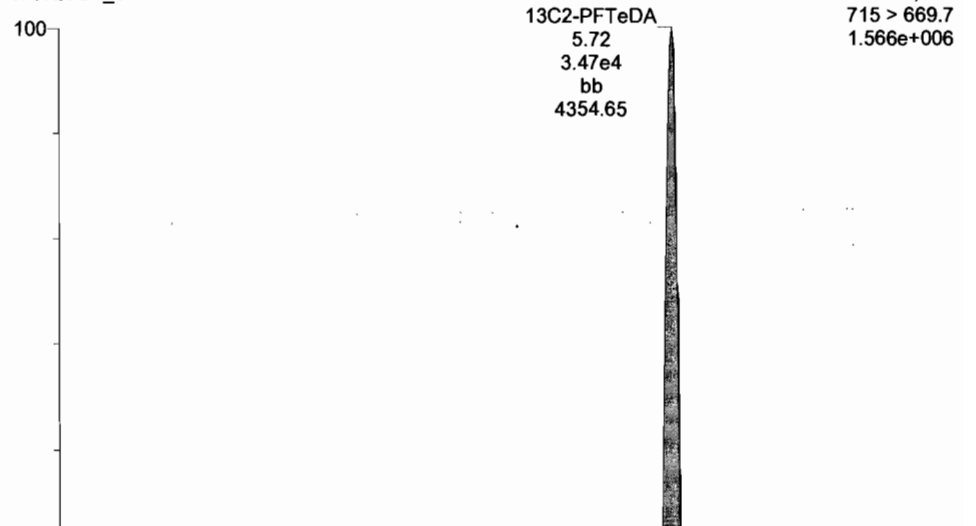
PFTeDA

170728G1_8

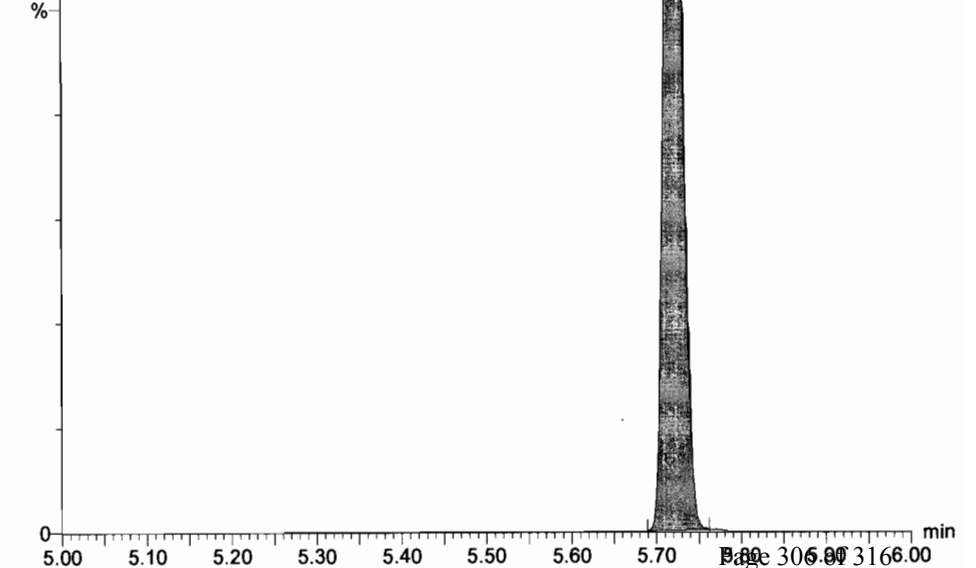
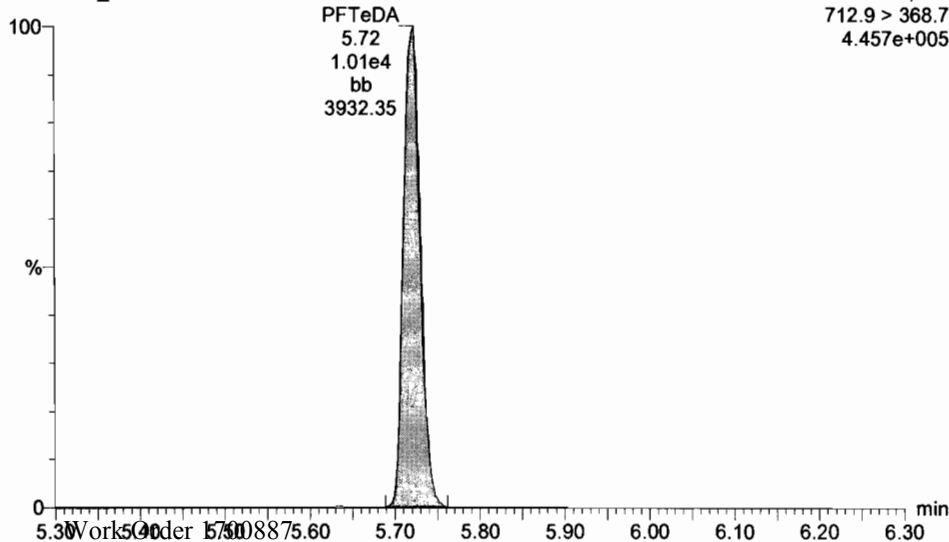


13C2-PFTeDA

170728G1_8



170728G1_8



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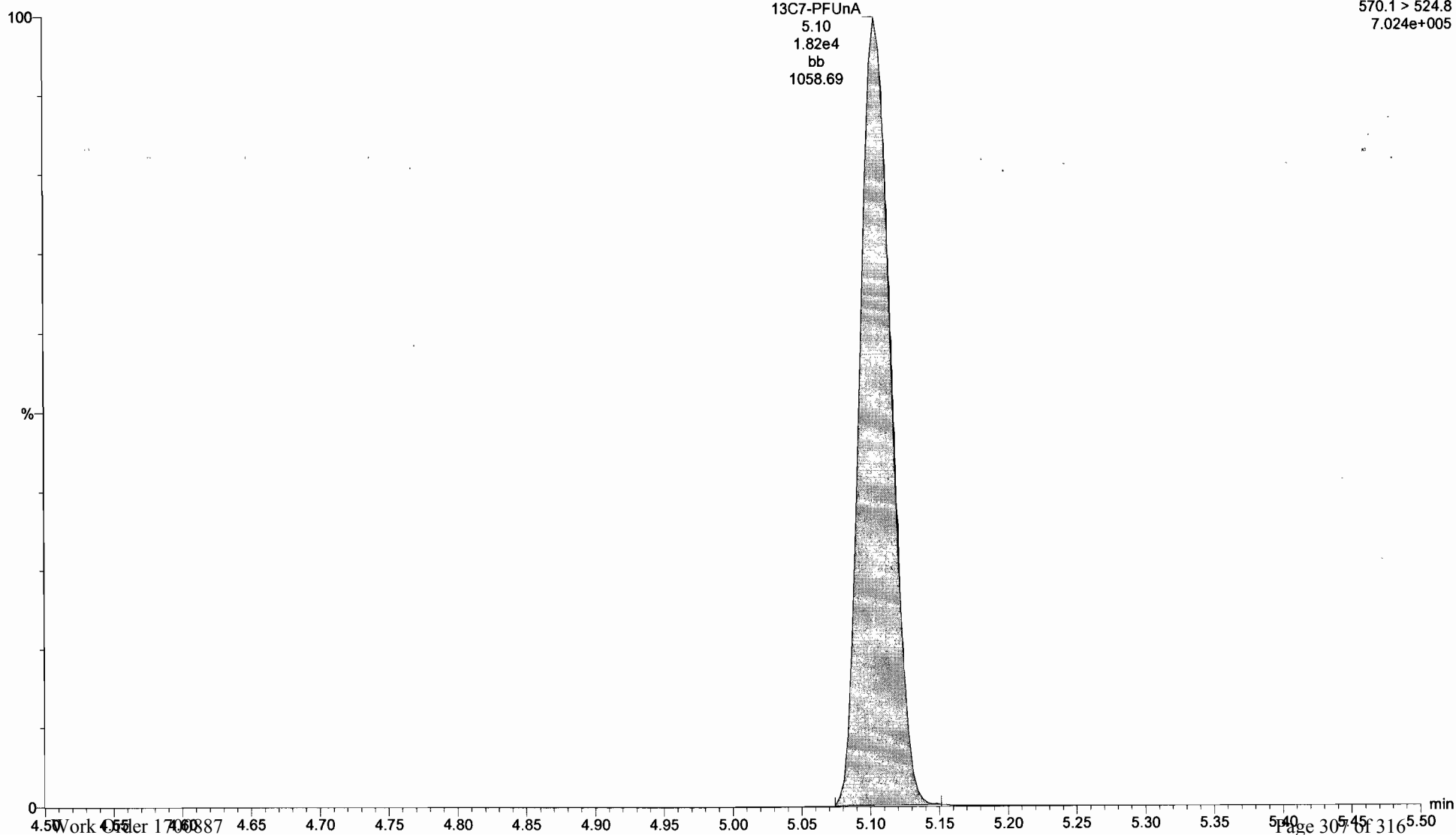
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13C7-PFUnA

170728G1_8

F3:MRM of 12 channels,ES-
570.1 > 524.8
7.024e+005

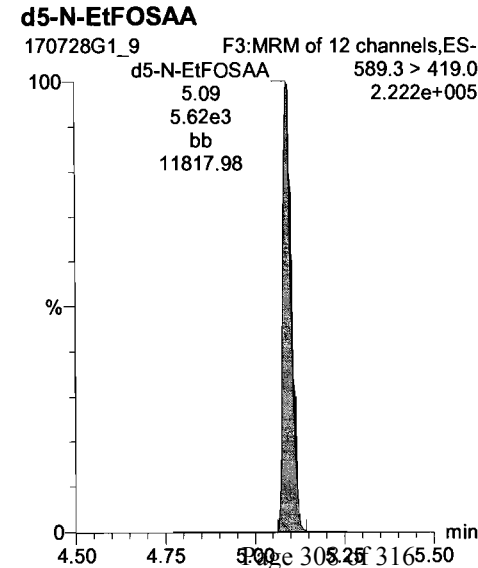
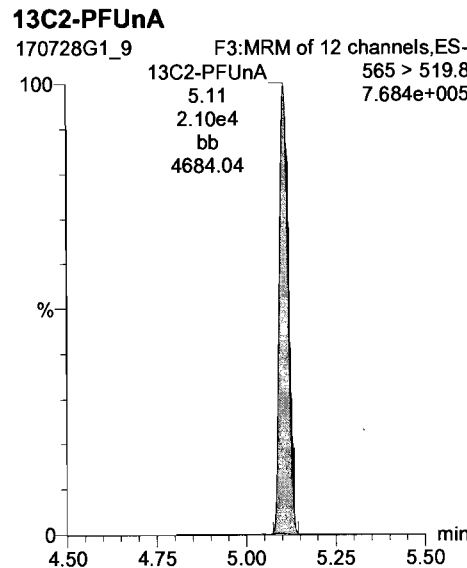
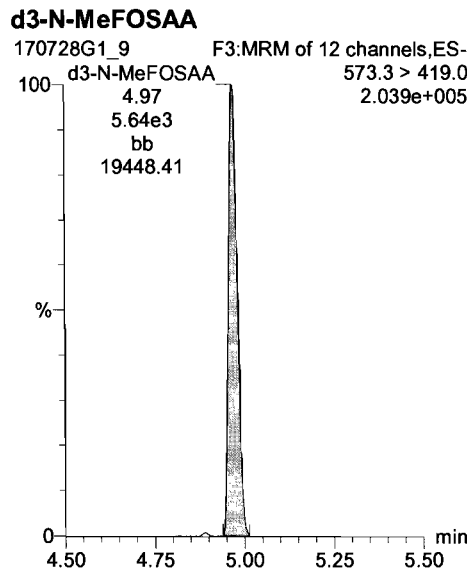
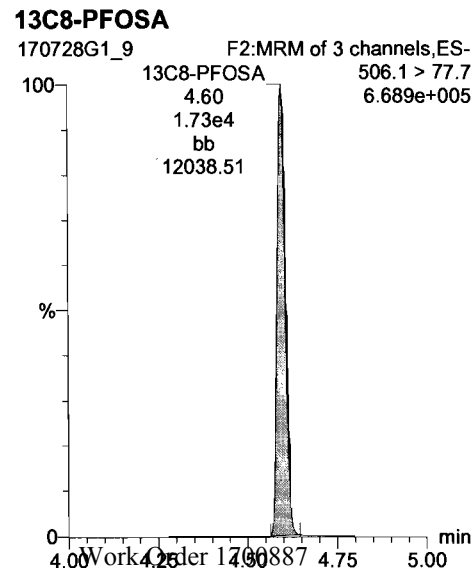
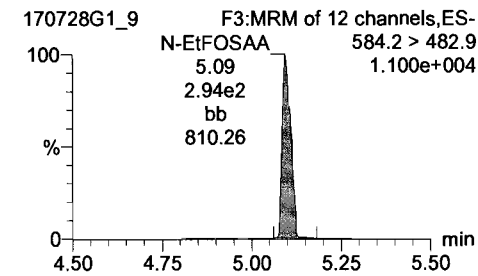
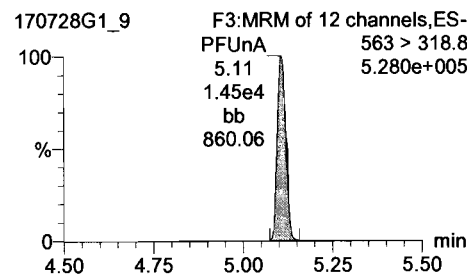
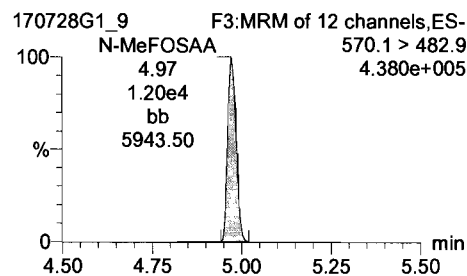
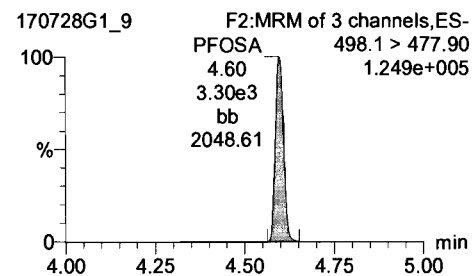
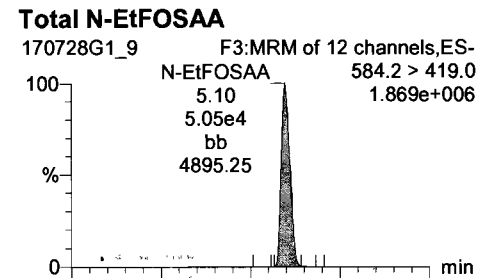
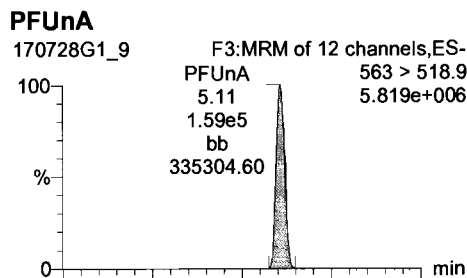
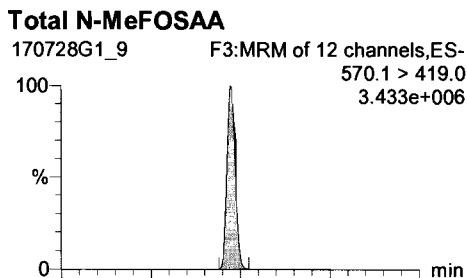
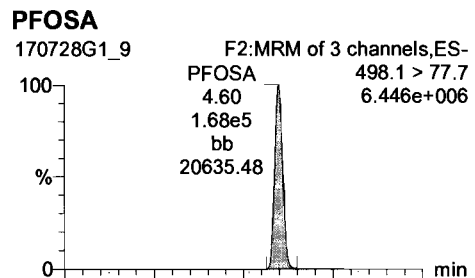


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Printed: Monday, July 31, 2017 08:50:08 Pacific Daylight Time

ID: ST170728G1-8 PFC CS5 17G2831, Description: PFC CS5 17G2831 B, Name: 170728G1_9, Date: 28-Jul-2017, Time: 17:47:02, Instrument: , Lab: , User:



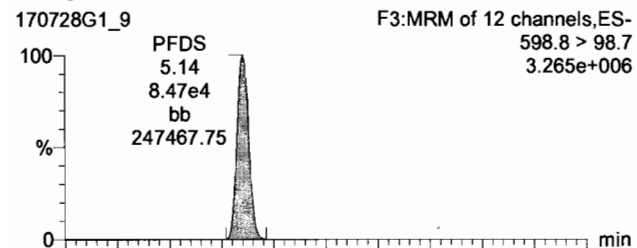
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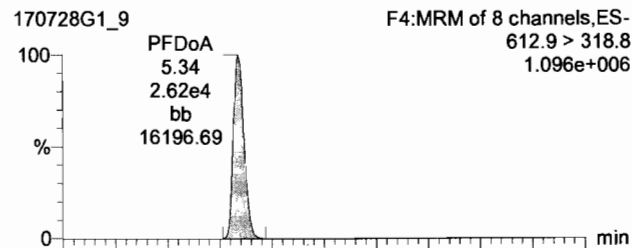
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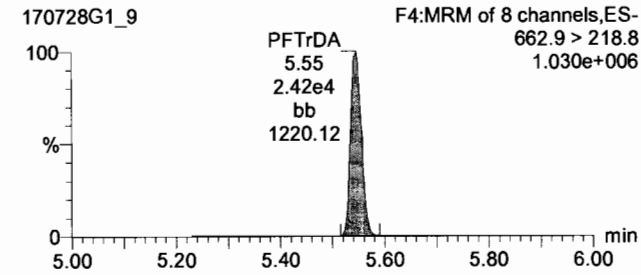
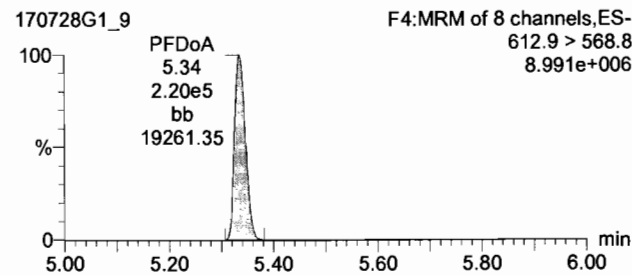
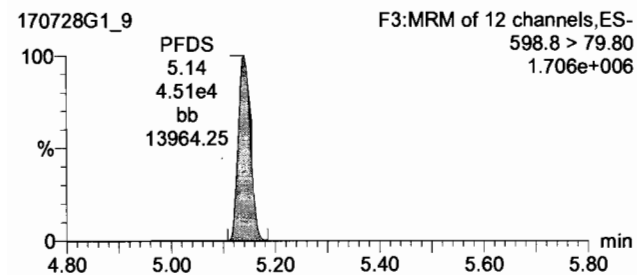
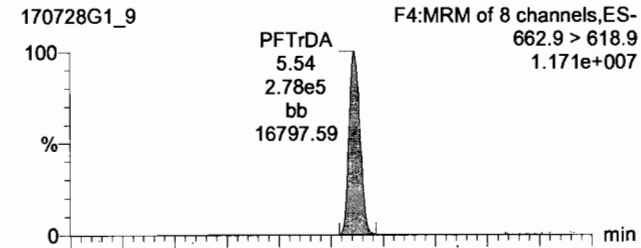
PFDS



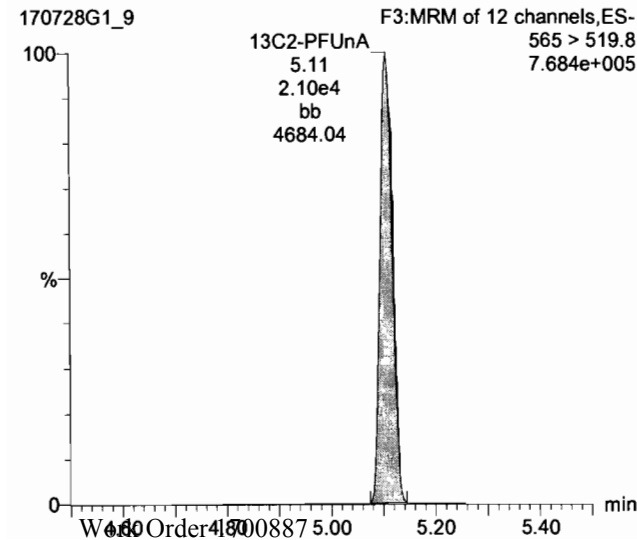
PFDaA



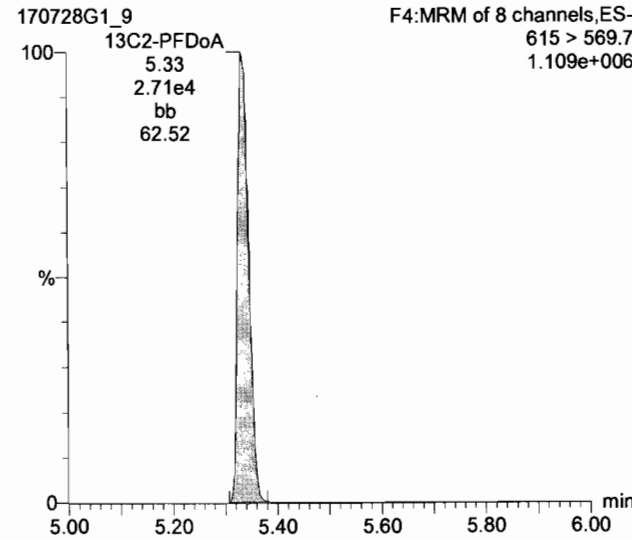
PFTrDA



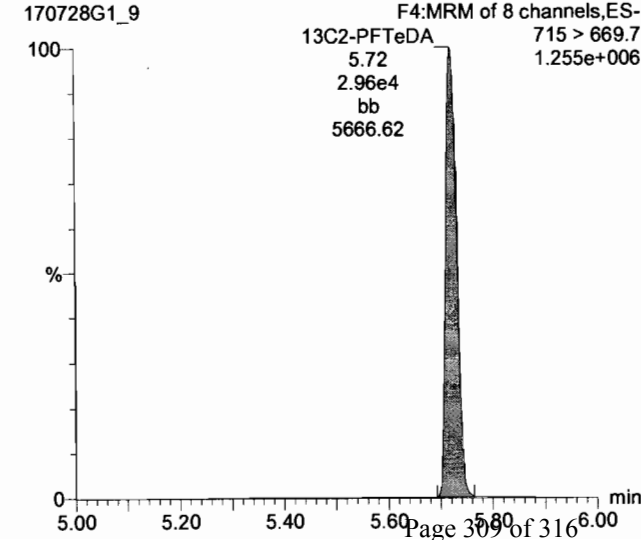
13C2-PFUnA



13C2-PFDaA



13C2-PFTeDA



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-CRV.qld

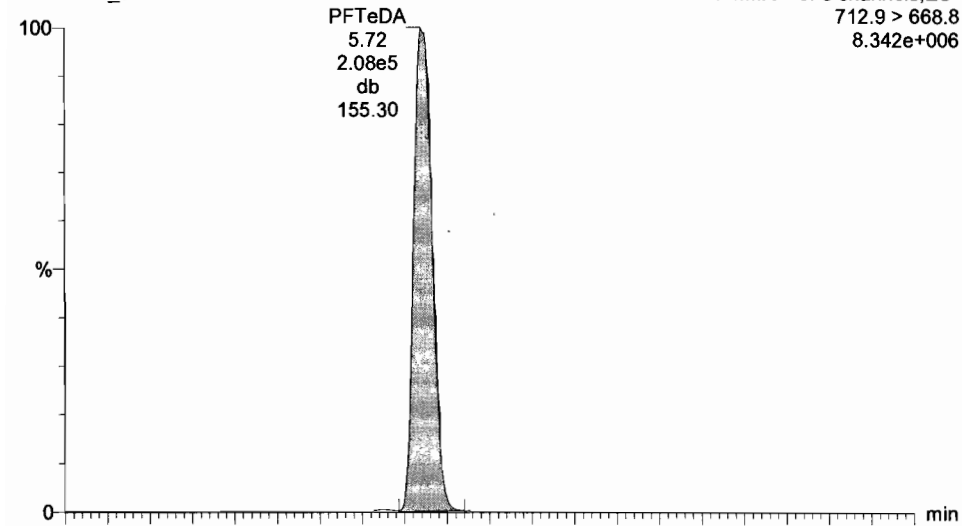
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Printed: Monday, July 31, 2017 08:50:08 Pacific Daylight Time

ID: ST170728G1-8 PFC CS5 17G2831, Description: PFC CS5 17G2831 B, Name: 170728G1_9, Date: 28-Jul-2017, Time: 17:47:02, Instrument: , Lab: , User:

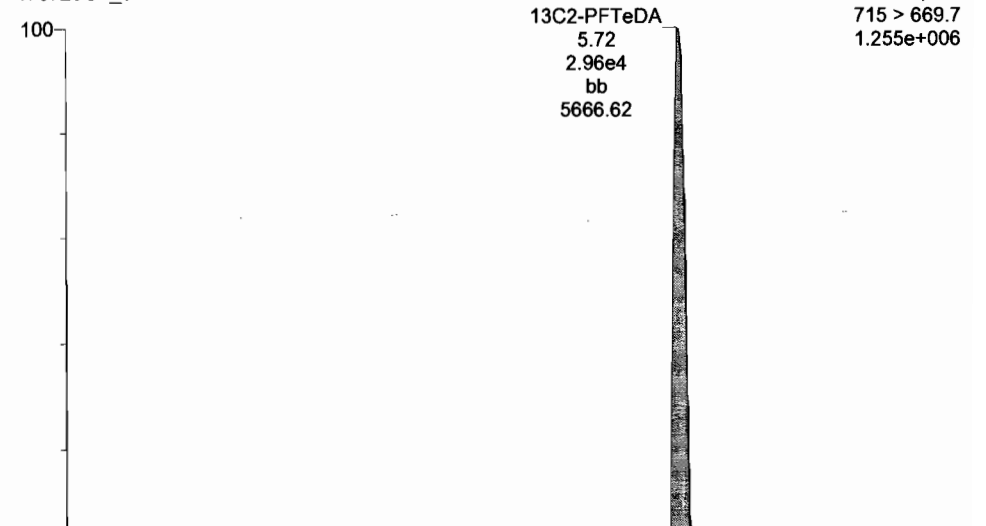
PFTeDA

170728G1_9

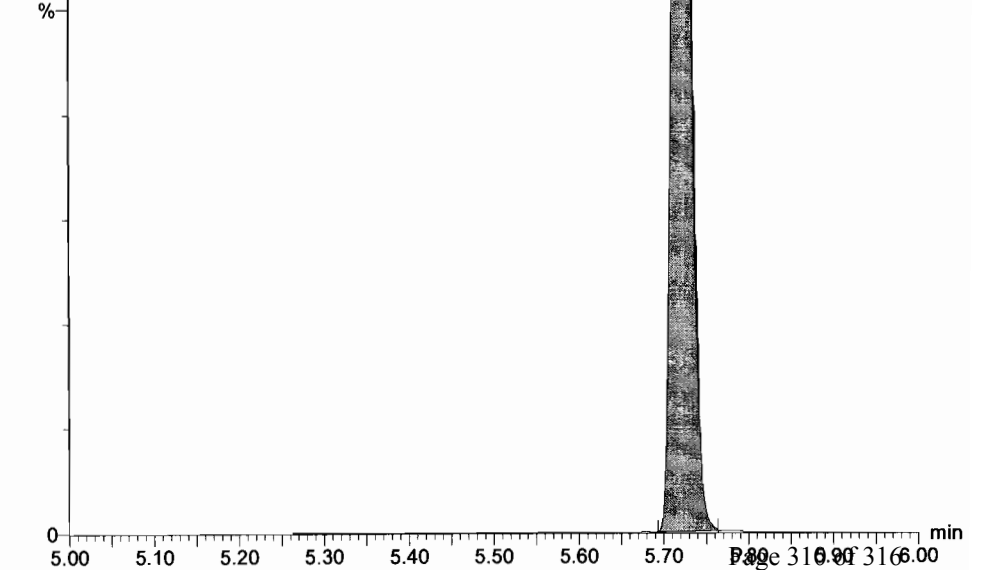
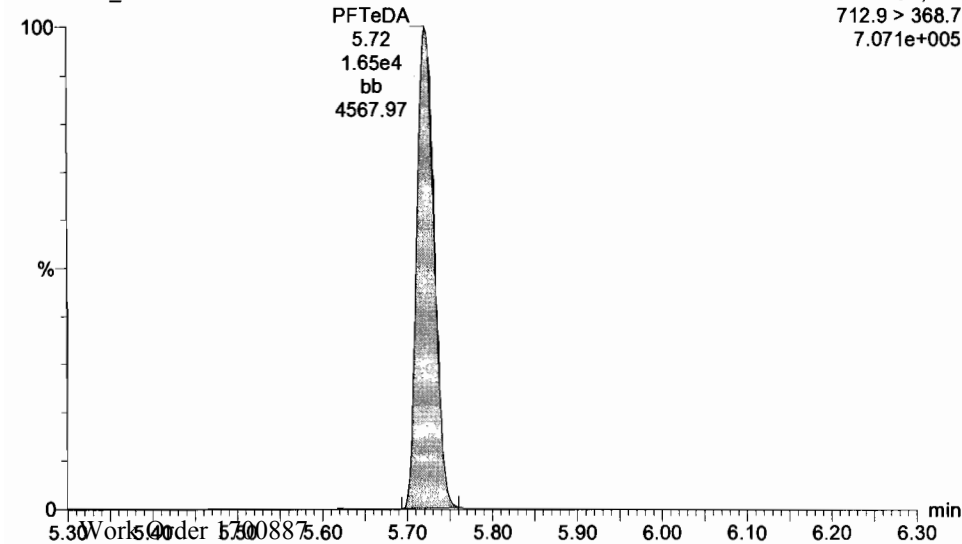


13C2-PFTeDA

170728G1_9



170728G1_9



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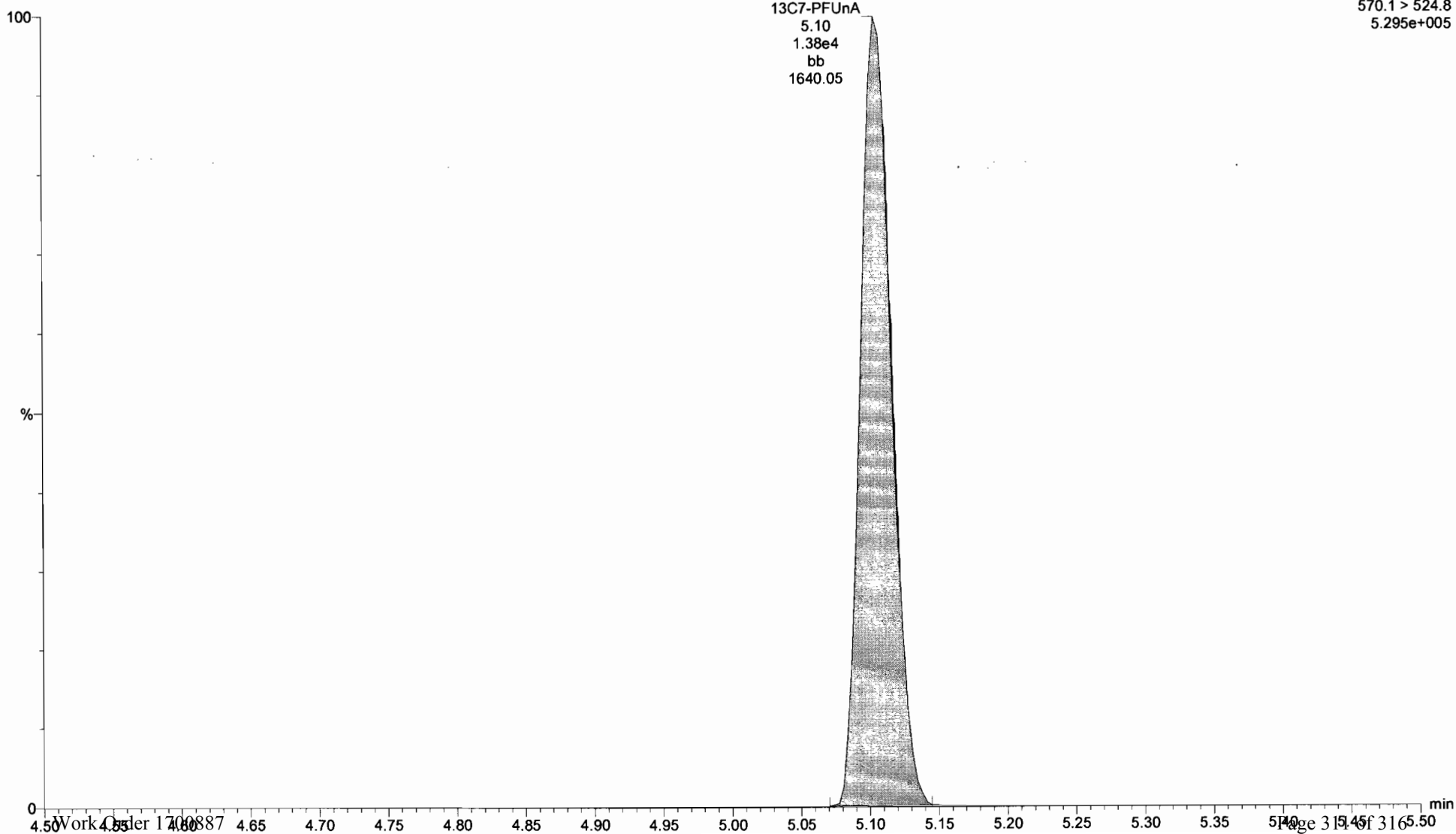
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13C7-PFUnA

170728G1_9

F3:MRM of 12 channels,ES-
570.1 > 524.8
5.295e+005



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-11.qld

Last Altered: Monday, July 31, 2017 08:57:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:58:52 Pacific Daylight Time

Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

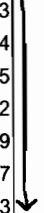
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

Name: 170728G1_11, Date: 28-Jul-2017, Time: 18:12:17, ID: SS170728G1-1 PFC SSS 17G2823, Description: PFC SSS 17G2823 B

#	Name	Trace	Response	IS Resp	RRF	Wt/Vol	RT	Conc.	%Rec
1	1 PFOSA	498.1 > 77.7	2.03e4	2.21e4		1.000	4.60	9.32	93.2
2	2 N-MeFOSAA	570.1 > 419.0	1.00e4	6.76e3		1.000	4.98	8.33	83.3
3	3 PFDS	598.8 > 98.7	9.53e3	2.79e4		1.000	5.14	9.34	93.4
4	4 PFUnA	563 > 518.9	2.08e4	2.79e4		1.000	5.11	9.55	95.5
5	5 N-EtFOSAA	584.2 > 419.0	7.19e3	7.64e3		1.000	5.10	8.82	88.2
6	6 PFDoA	612.9 > 318.8	3.57e3	3.74e4		1.000	5.34	9.79	97.9
7	7 PFTTrDA	662.9 > 618.9	3.40e4	0.00e0		1.000	5.54	9.17	91.7
8	8 PFTeDA	712.9 > 668.8	3.05e4	3.91e4		1.000	5.72	10.6	106.3
9	9 13C8-PFOSA	506.1 > 77.7	2.21e4	1.86e4	1.146	1.000	4.60	13.0	103.8
10	10 d3-N-MeFOSAA	573.3 > 419.0	6.76e3	1.86e4	0.026	1.000	4.97	172	106.1
11	11 13C2-PFUnA	565 > 519.8	2.79e4	1.86e4	1.471	1.000	5.11	12.7	101.9
12	12 d5-N-EtFOSAA	589.3 > 419.0	7.64e3	1.86e4	0.031	1.000	5.09	165	101.8
13	13 13C2-PFDoA	615 > 569.7	3.74e4	1.86e4	1.887	1.000	5.34	13.3	106.7
14	14 13C2-PFTeDA	715 > 669.7	3.91e4	1.86e4	1.990	1.000	5.72	13.2	105.6
15	15 13C7-PFUnA	570.1 > 524.8	1.86e4	1.86e4	1.000	1.000	5.10	12.5	100.0

70-130

See 7/31/17



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-11.qld

Last Altered: Monday, July 31, 2017 08:57:52 Pacific Daylight Time

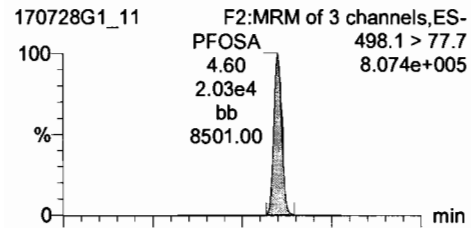
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Method: U:\G1.pro\MethDB\PFAS_B_2TRAN_0714.mdb 14 Jul 2017 15:36:03

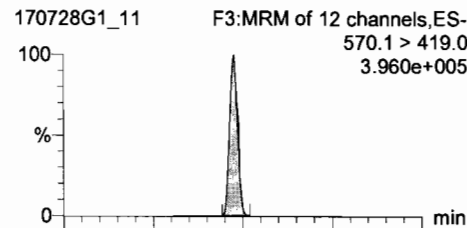
Calibration: U:\G1.pro\CurveDB\C18_VAL-PFC_Q1_7-28-17_B_2Trans_NEW.cdb 31 Jul 2017 08:37:52

ID: SS170728G1-1 PFC SSS 17G2823, Description: PFC SSS 17G2823 B, Name: 170728G1_11, Date: 28-Jul-2017, Time: 18:12:17, Instrument: , Lab: , User:

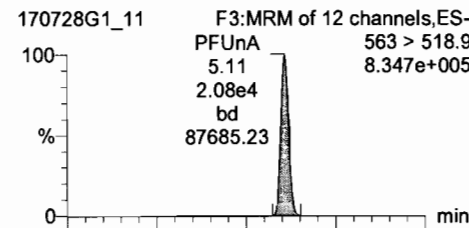
PFOSA



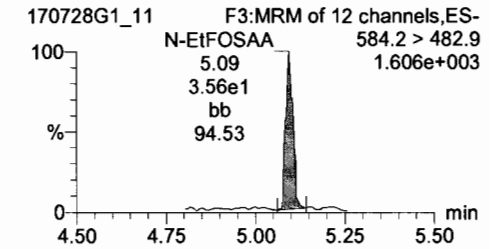
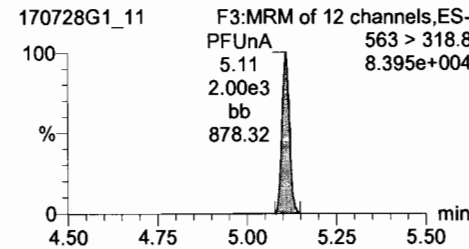
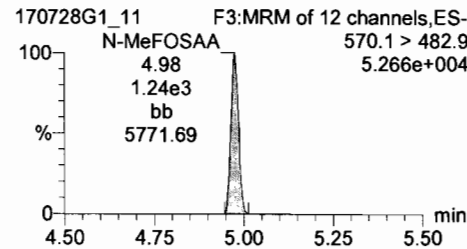
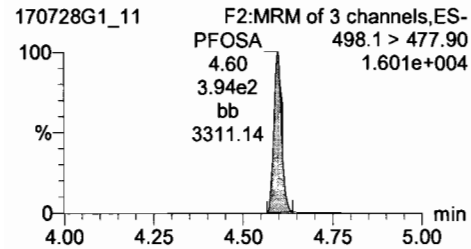
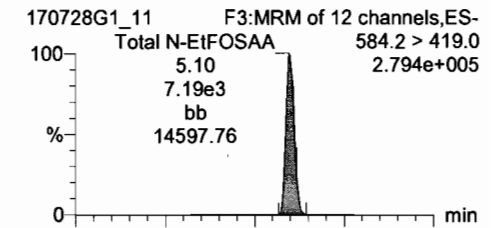
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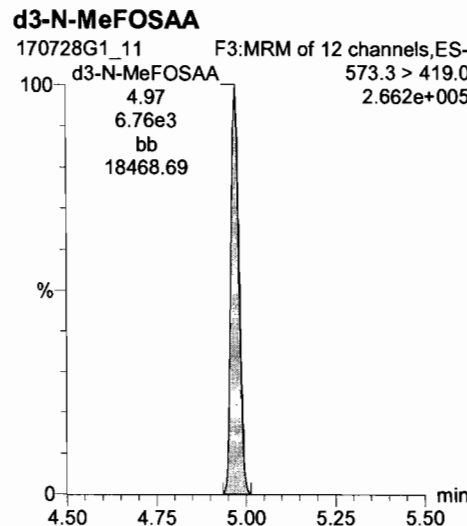
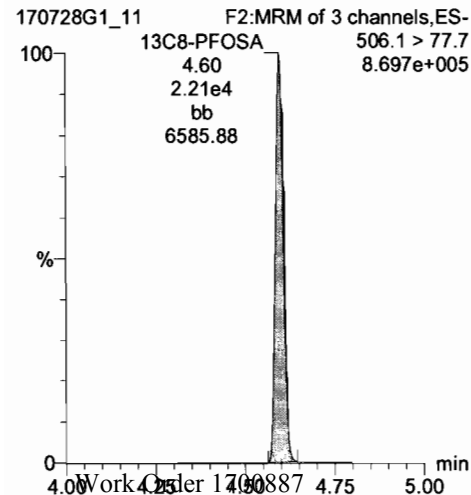
PFUnA



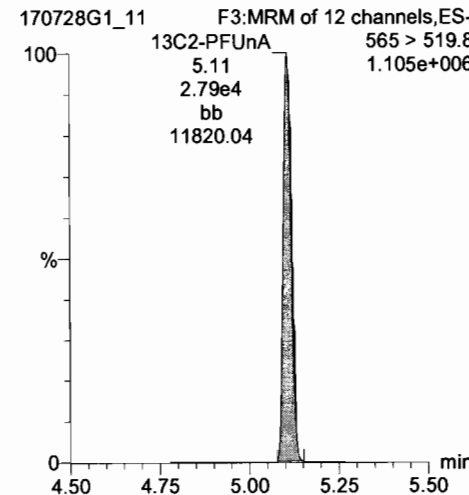
Total N-EtFOSAA



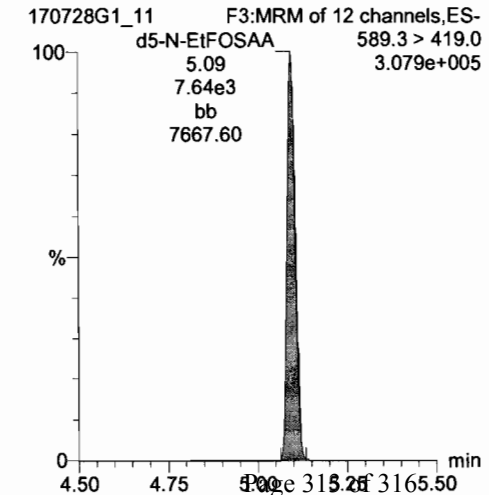
13C8-PFOSA



13C2-PFUnA



d5-N-EtFOSAA

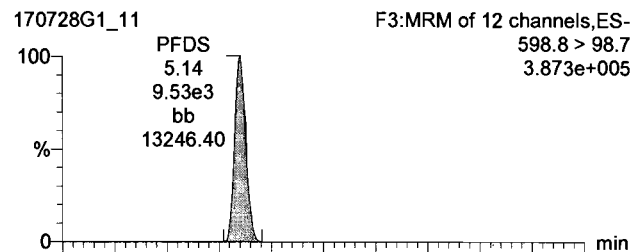


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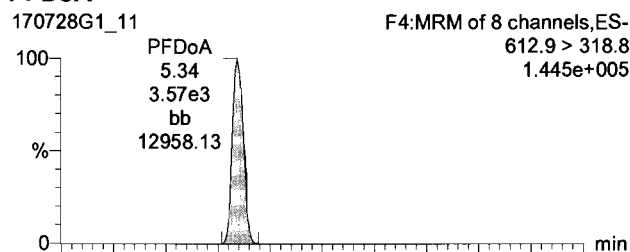
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ID: SS170728G1-1 PFC SSS 17G2823, Description: PFC SSS 17G2823 B, Name: 170728G1_11, Date: 28-Jul-2017, Time: 18:12:17, Instrument: , Lab: , User:

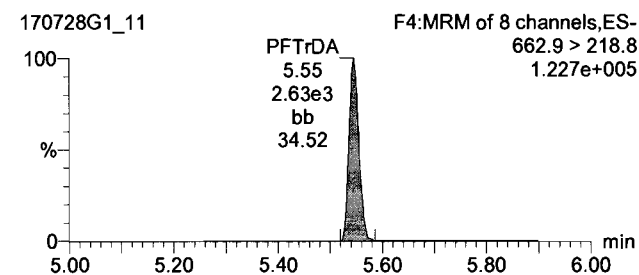
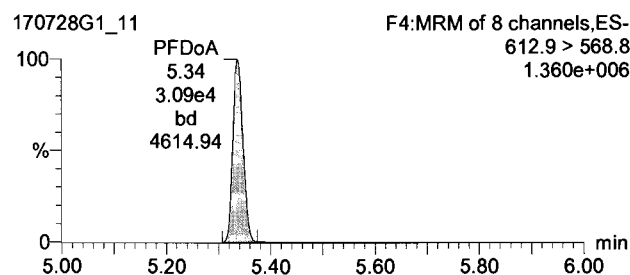
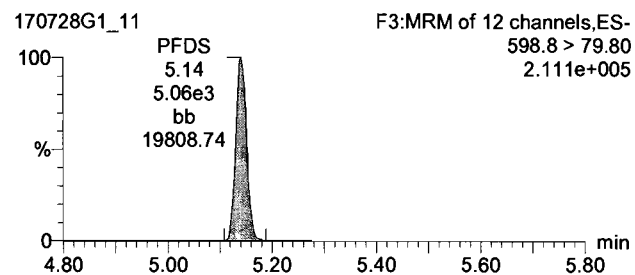
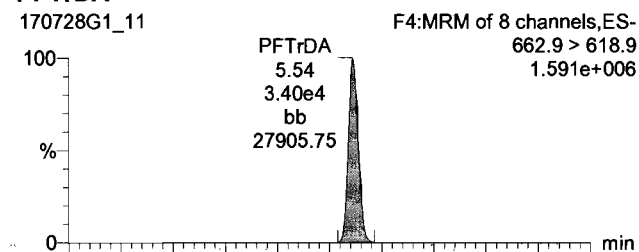
PFDS



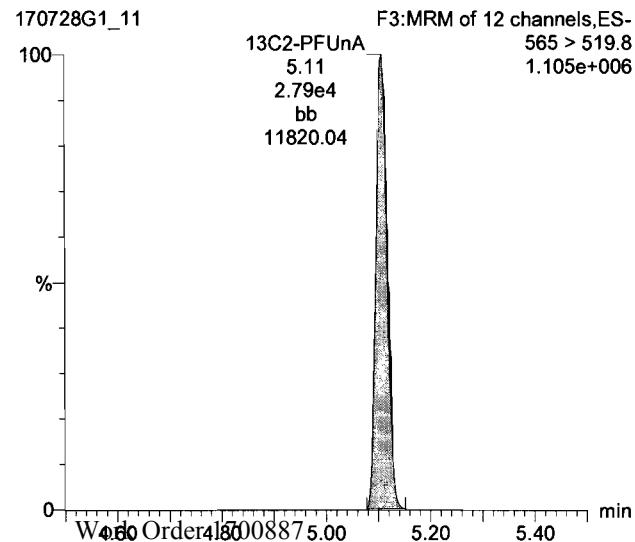
PFDoA



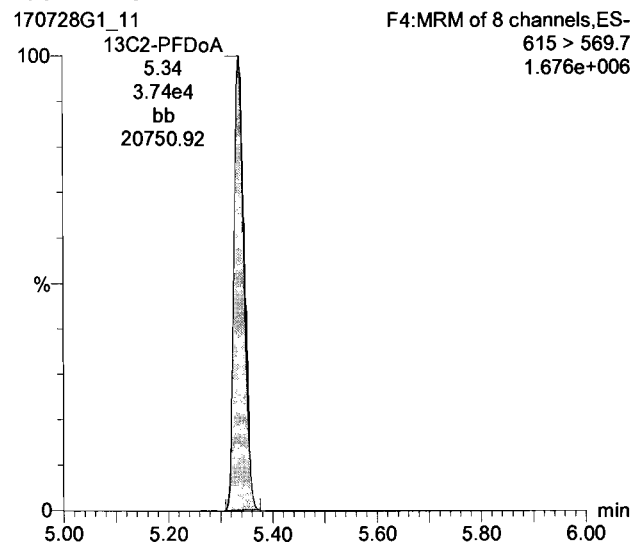
PFTrDA



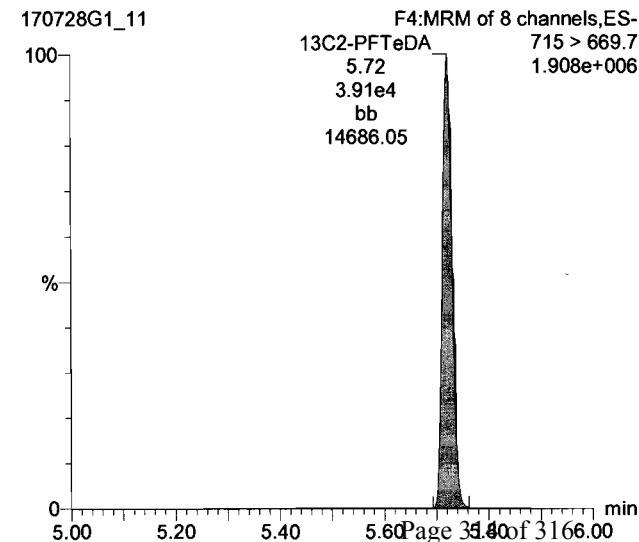
13C2-PFUnA



13C2-PFDoA



13C2-PFTeDA



Dataset: U:\G1.PRO\Results\2017\170728G1\170728G1-11.qld

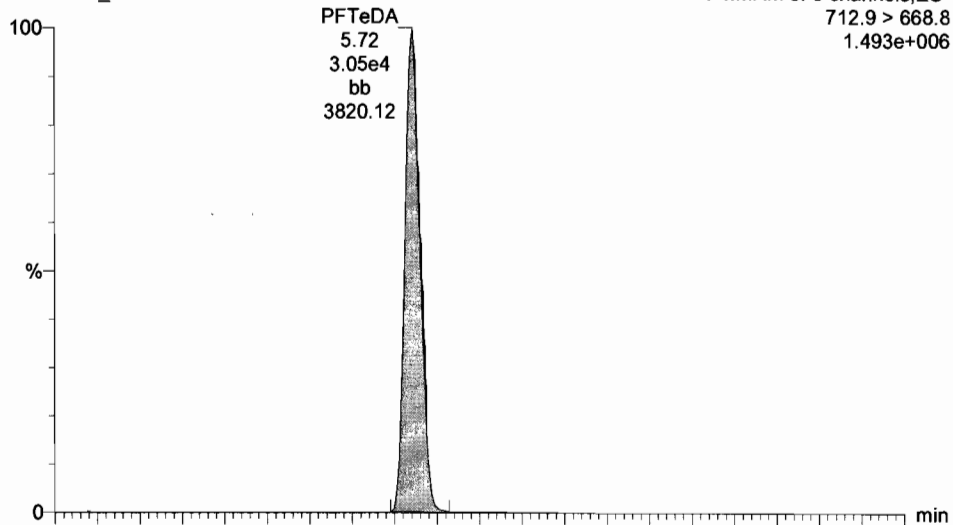
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Printed: Monday, July 31, 2017 08:58:38 Pacific Daylight Time

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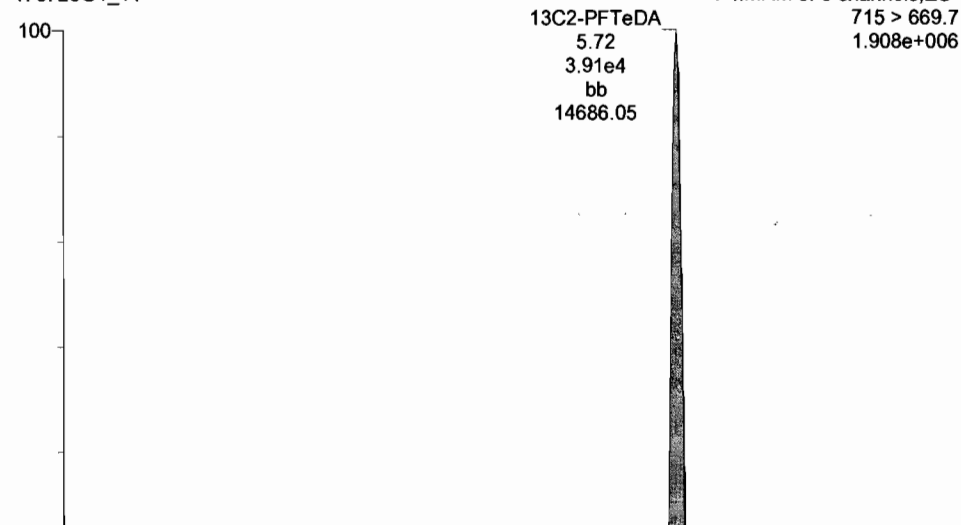
PFTeDA

170728G1_11

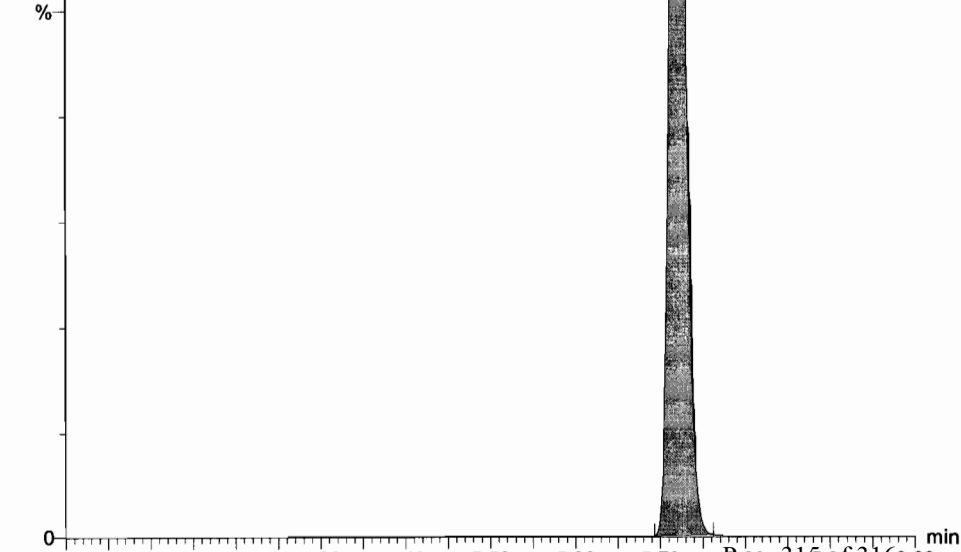
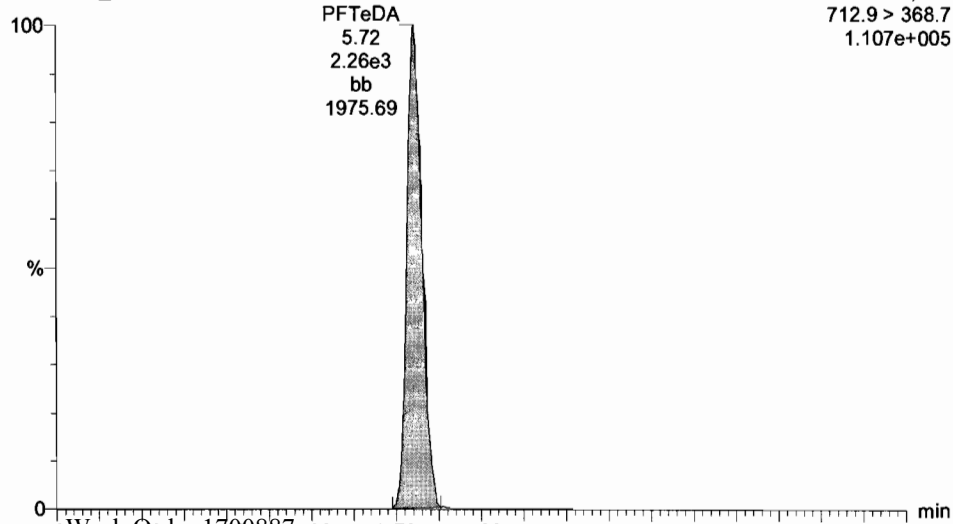


13C2-PFTeDA

170728G1_11



170728G1_11



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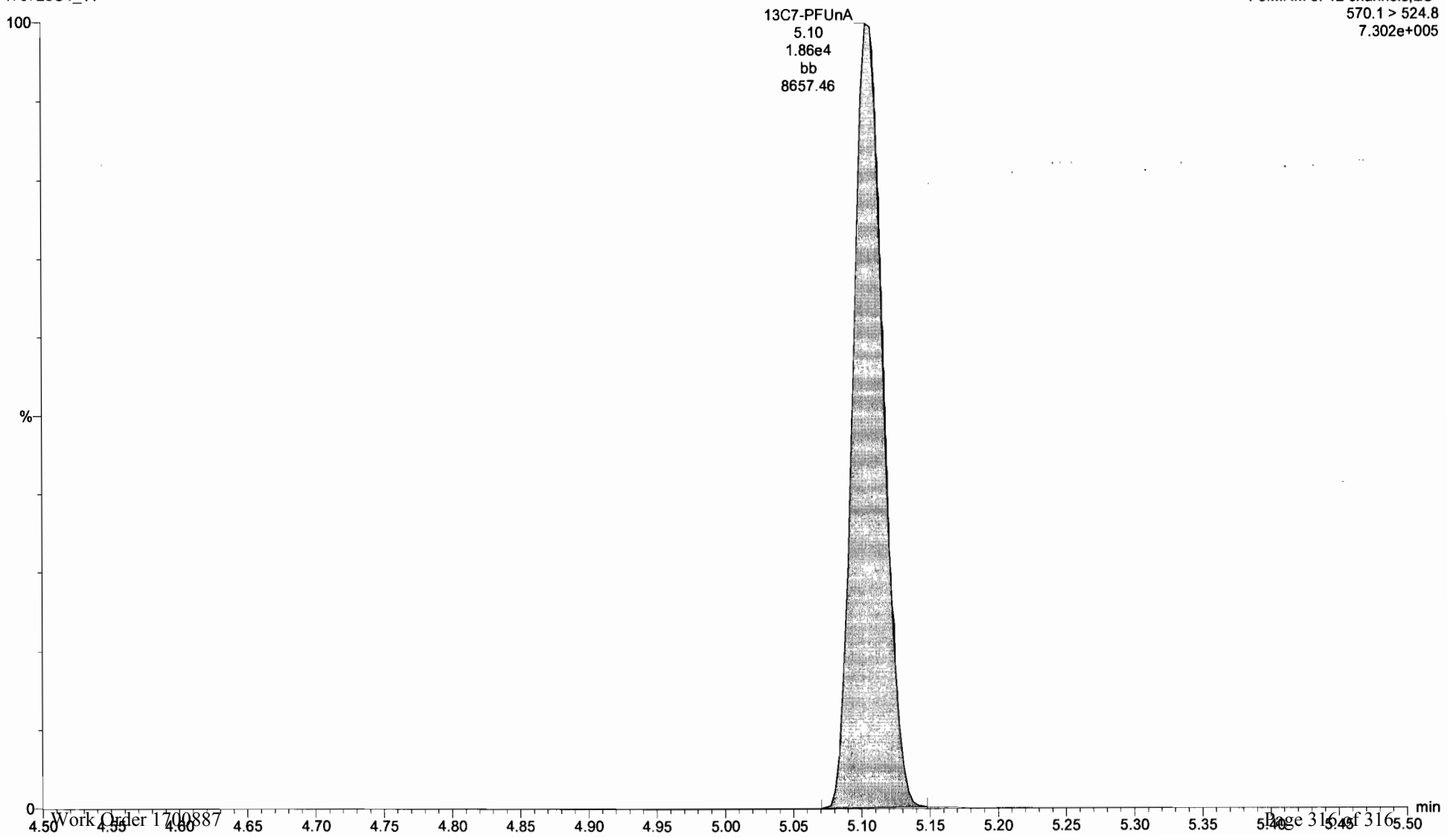
Last Altered: Monday, July 31, 2017 08:57:52 Pacific Daylight Time

Printed: Monday, July 31, 2017 08:58:38 Pacific Daylight Time

ID: SS170728G1-1 PFC SSS 17G2823, Description: PFC SSS 17G2823 B, Name: 170728G1_11, Date: 28-Jul-2017, Time: 18:12:17, Instrument: , Lab: , User:

13C7-PFUnA
170728G1_11

F3:MRM of 12 channels,ES-
570.1 > 524.8
7.302e+005



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(PFHPA)","4.77","","TRG","Yes","Y","J","Y","0.886","7.49","12.0","NG_L","NG_L","","","","","","","","","","",
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(PFNA)","1.27","","TRG","Yes","Y","J","Y","1.21","7.49","12.0","NG_L","NG_L","","","","","","","","","","",
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(PFUNA)","","","TRG","Yes","N","U","Y","1.57","7.49","12.0","NG_L","NG_L","","","","","","","","","","",
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"IRPSite 6-GW-06GW01-20170712","537_MOD","07/31/17","15:06","N","NA","000","2991-50-
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(PFDOA)","","","TRG","Yes","N","U","Y","1.19","7.49","12.0","NG_L","NG_L","","","","","","","","","","",
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"Site 33-GW-33GW01-20170712","537_MOD","07/31/17","11:52","N","NA","000","13C8-PFOS","13C8-PFOS","96.2","IS","Yes","Y","Y","PCT_REC","100","96.2","96.2","50","150",""

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"Site 33-GW-33GW01-20170712","537_MOD","07/31/17","15:44","N","NA","000","d3-MeFOSAA","d3-MeFOSAA","65.7","IS","Yes","Y","Y","PCT_REC","100","65.7","65.7","50","150",""

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"Site 33-GW-33GW01-20170712","537_MOD","07/31/17","15:44","N","NA","000","13C2-PFDoA","13C2-PFDoA","68.6","IS","Yes","Y","Y","PCT_REC","100","68.6","68.6","50","150",""

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"Building 110-GW-110GW01-20170712","537_MOD","07/31/17","12:05","N","NA","000","375-73-5","PFBS","39.2","TRG","Yes","Y","Y","1.90","5.30","8.49","NG_L","NG_L","50","150",""

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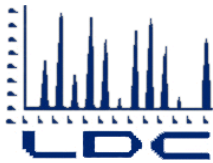
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,
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"IRPSite 6-GW-06FD01-20170712","537_MOD","07/31/17","12:30","N","NA","000","1763-23-1","HEPTADEC AFLUOROACTANESULFONIC ACID SOLUTION","13.5","","TRG","Yes","Y","","Y","0.952","5.90","9.44","NG_L","NG_L","","","50","150","150"
""
,
,
"IRPSite 6-GW-06FD01-20170712","537_MOD","07/31/17","12:30","N","NA","000","375-95-1","PERFLUORONONANOIC ACID (PFNA)","2.80","","TRG","Yes","Y","J","Y","0.956","5.90","9.44","NG_L","NG_L","","","50","150","150"
"" "" "" "" ""
,
,
"IRPSite 6-GW-06FD01-20170712","537_MOD","07/31/17","12:30","N","NA","000","335-76-2","PERFLUORODECANOIC ACID

"IRPSite 6-GW-06FD01-20170712","537_MOD","07/31/17","16:09","N","NA","000","13C2-PFDoA","13C2-PFDoA","63.1","IS","Yes","Y","Y","Y","PCT_REC","100","63.1","63.1","50","150",
"IRPSite 6-GW-06FD01-20170712","537_MOD","07/31/17","16:09","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","50.9","IS","Yes","Y","Y","Y","PCT_REC","100","50.9","50.9","50","150",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","375-73-5","PFBS","TRG","Yes","N","U","Y","1.79","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID (PFHXA)","TRG","Yes","N","U","Y","2.18","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","TRG","Yes","N","U","Y","0.591","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID (PFHXS)","TRG","Yes","N","U","Y","0.947","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","335-67-1","PERFLUOROOCCTANOIC ACID (PFOA)","TRG","Yes","N","U","Y","0.651","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","1763-23-1","HEPTADEC AFLUOROACTANESULFONIC ACID SOLUTION","TRG","Yes","N","U","Y","0.807","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","375-95-1","PERFLUORONONANOIC ACID (PFNA)","TRG","Yes","N","U","Y","0.810","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","335-76-2","PERFLUORODECANOIC ACID (PFDA)","TRG","Yes","N","U","Y","1.49","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","14:54","N","NA","000","2355-31-9","MeFOSAA","TRG","Yes","N","U","Y","1.65","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","14:54","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID (PFUNA)","TRG","Yes","N","U","Y","1.05","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","14:54","N","NA","000","2991-50-6","EtFOSAA","TRG","Yes","N","U","Y","1.37","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","14:54","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID (PFDOA)","TRG","Yes","N","U","Y","0.792","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","14:54","N","NA","000","72629-94-8","PFTeDA","TRG","Yes","N","U","Y","0.494","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","14:54","N","NA","000","376-06-7","PFTeDA","TRG","Yes","N","U","Y","0.755","5.00","8.00","NG_L","NG_L",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","13C3-PFBS","13C3-PFBS","106","IS","Yes","Y","Y","Y","PCT_REC","100","106","106","50","150",

"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","13C2-PFHxA","13C2-PFHxA","87.3","IS","Yes","Y","Y","PCT_REC","100","87.3","87.3","50","150",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","13C4-PFHpA","13C4-PFHpA","86.9","IS","Yes","Y","Y","PCT_REC","100","86.9","86.9","50","150",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","18O2-PFHxS","18O2-PFHxS","92.3","IS","Yes","Y","Y","PCT_REC","100","92.3","92.3","50","150",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","13C2-PFOA","13C2-PFOA","85.3","IS","Yes","Y","Y","PCT_REC","100","85.3","85.3","50","150",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","13C8-PFOS","13C8-PFOS","89.5","IS","Yes","Y","Y","PCT_REC","100","89.5","89.5","50","150",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","13C5-PFNA","13C5-PFNA","91.2","IS","Yes","Y","Y","PCT_REC","100","91.2","91.2","50","150",
"B7G0079-BLK1","537_MOD","07/31/17","11:02","N","NA","000","13C2-PFDA","13C2-PFDA","76.5","IS","Yes","Y","Y","PCT_REC","100","76.5","76.5","50","150",
"B7G0079-BLK1","537_MOD","07/31/17","14:54","N","NA","000","d3-MeFOSAA","d3-MeFOSAA","50.5","IS","Yes","Y","Y","PCT_REC","100","50.5","50.5","50","150",
"B7G0079-BLK1","537_MOD","07/31/17","14:54","N","NA","000","13C2-PFUnA","13C2-PFUnA","59.0","IS","Yes","Y","Y","PCT_REC","100","59.0","59.0","50","150",
"B7G0079-BLK1","537_MOD","07/31/17","14:54","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","50.3","IS","Yes","Y","Y","PCT_REC","100","50.3","50.3","50","150",
"B7G0079-BLK1","537_MOD","07/31/17","14:54","N","NA","000","13C2-PFDoA","13C2-PFDoA","56.4","IS","Yes","Y","Y","PCT_REC","100","56.4","56.4","50","150",
"B7G0079-BLK1","537_MOD","07/31/17","14:54","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","45.1","IS","Yes","Y","H","Y","PCT_REC","100","45.1","45.1","50","150",
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","375-73-5","PFBS","74.1","TRG","Yes","Y","Y","1.79","5.00","8.00","NG_L","NG_L","80.0","74.1","92.6","70","130",
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID (PFHXA)","86.7","TRG","Yes","Y","Y","2.18","5.00","8.00","NG_L","NG_L","80.0","86.7","108","70","130",
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","87.0","TRG","Yes","Y","Y","0.591","5.00","8.00","NG_L","NG_L","80.0","87.0","109","70","130",
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID (PFHXS)","83.0","TRG","Yes","Y","Y","0.947","5.00","8.00","NG_L","NG_L","80.0","83.0","104","70","130",
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","335-67-1","PERFLUOROOCCTANOIC ACID (PFOA)","90.3","TRG","Yes","Y","Y","0.651","5.00","8.00","NG_L","NG_L","80.0","90.3","113","70","130",
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","1763-23-1","HEPTADEC AFLUOROACTANESULFONIC ACID SOLUTION

","76.5","","TRG","Yes","Y","","Y","0.807","5.00","8.00","NG_L","NG_L","","","","80.0","76.5","95.7","","","","","70","130","","","",""
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","375-95-1","PERFLUORONONANOIC ACID (PFNA)","77.6","","TRG","Yes","Y","","Y","0.810","5.00","8.00","NG_L","NG_L","","","","80.0","77.6","97.0","","","","70","130","","","",""
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","335-76-2","PERFLUORODECANOIC ACID (PFDA)","77.5","","TRG","Yes","Y","","Y","1.49","5.00","8.00","NG_L","NG_L","","","","80.0","77.5","96.9","","","","70","130","","","",""
"B7G0079-BS1","537_MOD","07/31/17","14:11","N","NA","000","2355-31-9","MeFOSAA","94.5","","TRG","Yes","Y","","Y","1.65","5.00","8.00","NG_L","NG_L","","","","80.0","94.5","118","","","","70","130","","","",""
"B7G0079-BS1","537_MOD","07/31/17","14:11","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID (PFUNA)","87.6","","TRG","Yes","Y","","Y","1.05","5.00","8.00","NG_L","NG_L","","","","80.0","87.6","110","","","","70","130","","","",""
"B7G0079-BS1","537_MOD","07/31/17","14:11","N","NA","000","2991-50-6","EtFOSAA","82.3","","TRG","Yes","Y","","Y","1.37","5.00","8.00","NG_L","NG_L","","","","80.0","82.3","103","","","","70","130","","","",""
"B7G0079-BS1","537_MOD","07/31/17","14:11","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID (PFDOA)","79.7","","TRG","Yes","Y","","Y","0.792","5.00","8.00","NG_L","NG_L","","","","80.0","79.7","99.7","","","","70","130","","","",""
"B7G0079-BS1","537_MOD","07/31/17","14:11","N","NA","000","72629-94-8","PFTTrDA","75.3","","TRG","Yes","Y","","Y","0.494","5.00","8.00","NG_L","NG_L","","","","80.0","75.3","94.1","","","","60","130","","","",""
"B7G0079-BS1","537_MOD","07/31/17","14:11","N","NA","000","376-06-7","PFTeDA","95.3","","TRG","Yes","Y","","Y","0.755","5.00","8.00","NG_L","NG_L","","","","80.0","95.3","119","","","","70","130","","","",""
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","13C3-PFBS","13C3-PFBS","107","","IS","Yes","Y","","Y","","","","PCT_REC","","","","100","107","107","","","","50","150","","","",""
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","13C2-PFHxA","13C2-PFHxA","93.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","100","93.6","93.6","","","","50","150","","","",""
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","13C4-PFHpA","13C4-PFHpA","86.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","100","86.2","86.2","","","","50","150","","","",""
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","18O2-PFHxS","18O2-PFHxS","88.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","100","88.3","88.3","","","","50","150","","","",""
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","13C2-PFOA","13C2-PFOA","90.4","","IS","Yes","Y","","Y","","","","PCT_REC","","","","100","90.4","90.4","","","","50","150","","","",""
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","13C8-PFOS","13C8-PFOS","92.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","100","92.9","92.9","","","","50","150","","","",""
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","13C5-PFNA","13C5-PFNA","91.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","100","91.2","91.2","","","","50","150","","","",""
"B7G0079-BS1","537_MOD","07/31/17","10:37","N","NA","000","13C2-PFDA","13C2-PFDA","76.4","","IS","Yes","Y","","Y","","","","PCT_REC","","","","100","76.4","76.4","","","","50","150","","","",""
"B7G0079-BS1","537_MOD","07/31/17","14:11","N","NA","000","d3-MeFOSAA","d3-MeFOSAA","52.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","100","52.0","52.0","","","","50","150","","","",""
"B7G0079-BS1","537_MOD","07/31/17","14:11","N","NA","000","13C2-PFUnA","13C2-

PFUnA", "61.6", "", "IS", "Yes", "Y", "", "Y", "", "", "", "PCT_REC", "", "", "", "", "100", "61.6", "61.6", "", "", "", "", "", "50", "150", "
" " " " " "
"B7G0079-BS1", "537_MOD", "07/31/17", "14:11", "N", "NA", "000", "d5-EtFOSAA", "d5-
EtFOSAA", "56.7", "", "IS", "Yes", "Y", "", "Y", "", "", "", "PCT_REC", "", "", "", "", "100", "56.7", "56.7", "", "", "", "", "", "50", "150"
" " " " " "
"B7G0079-BS1", "537_MOD", "07/31/17", "14:11", "N", "NA", "000", "13C2-PFDoA", "13C2-
PFDoA", "57.7", "", "IS", "Yes", "Y", "", "Y", "", "", "", "PCT_REC", "", "", "", "", "100", "57.7", "57.7", "", "", "", "", "", "50", "150", "
" " " " " "
"B7G0079-BS1", "537_MOD", "07/31/17", "14:11", "N", "NA", "000", "13C2-PFTeDA", "13C2-
PFTeDA", "36.3", "", "IS", "Yes", "Y", "H", "Y", "", "", "", "PCT_REC", "", "", "", "", "100", "36.3", "36.3", "", "", "", "", "", "50", "15"
0", "", "+", "", ""



LABORATORY DATA CONSULTANTS, INC.

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AMEC Foster Wheeler, Inc.
7376 SW Durham Road
Portland, OR 97224
Attn: Ms. Medora Hackler

August 8, 2017

SUBJECT: White Oak, Data Validation

Dear Ms. Hackler,

Enclosed are the final validation reports for the fraction listed below. These SDGs were received on August 2, 2017. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #39198:

<u>SDG #</u>	<u>Fraction</u>
1700803, 1700804, 1700887	Perfluorinated Alkyl Acids

The data validation was performed under Stage 2B & 4 guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Sampling and Analysis Plan for Initial Assessment of Perf-fluorinated Compounds or Per-and Polyfluoralkyl Substances Sites at Various Base Realignment and Closure Installations, June 2017
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.1, 2017
- USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review, January 2017
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: White Oak
LDC Report Date: August 4, 2017
Parameters: Perfluorinated Alkyl Acids
Validation Level: Stage 2B
Laboratory: Vista Analytical Laboratory
Sample Delivery Group (SDG): 1700803

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
IRPSite7-GW-46GW205-20170628	1700803-03	Water	06/28/17
IRPSite7-GW-FD01-20170628	1700803-04	Water	06/28/17
IRPSite7-GW-07GW202-20170628	1700803-05	Water	06/28/17
IRPSite5-GW-04GW81S-20170628	1700803-08	Water	06/28/17
IRPSite5-GW-04GW80-20170628	1700803-09	Water	06/28/17
IRPSite5-GW-04GW80-20170628MS	1700803-09MS	Water	06/28/17
IRPSite5-GW-04GW80-20170628MSD	1700803-09MSD	Water	06/28/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan (Field Sampling and Analysis Plan) for Initial Assessment of Perf-fluorinated Compounds (PFCS) or Per- and Polyfluoralkyl Substances (PFAS) Sites at Various Base Realignment and Closure (BRAC) Installations (June 2017), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluorinated Alkyl Acids by Environmental Protection Agency (EPA) Method 537

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance check was performed prior to initial calibration.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

For each calibration point, the percent differences (%D) of its true value were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Standard	Compound	%D	Associated Samples	Flag	- A or P
07/10/17	ICAL-CS02	PFD _o A	-56.9	All samples in SDG 1700803	UJ (all non-detects)	P
07/10/17	ICAL-CS2	PFD _o A	+36.9	All samples in SDG 1700803	NA	-

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples IRPSite7-GW-FRB01-20170628 and IRPSite5-GW-FRB01-20170628 were identified as field rinsate blanks. No contaminants were found.

Samples EB01 and EB02 were identified as equipment blanks. No contaminants were found.

Sample SB01 was identified as a source blank. No contaminants were found.

VII. Surrogates

Surrogates were not performed for this SDG.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
IRPSite5-GW-04GW80-20170628MS/MSD (IRPSite5-GW-04GW80-20170628)	PFD _o A	-	185 (70-130)	NA	-

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
IRPSite5-GW-04GW80-20170628MS/MSD (IRPSite5-GW-04GW80-20170628)	PFD _o A PFT _r DA	66.2 (≤30) 70.1 (≤30)	NA	-

IX. Ongoing Precision Recovery Samples

Ongoing precision recovery (OPR) samples were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples IRPSite7-GW-46GW205-20170628 and IRPSite7-GW-FD01-20170628 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ng/L)		RPD (Limits)	Differences (Limits)	Flag	A or P
	IRPSite7-GW-46GW205-20170628	IRPSite7-GW-FD01-20170628				
PFBS	6.05	2.48	-	3.57 (≤8.49)	-	-
PFHpA	2.92	4.95	-	2.03 (≤8.49)	-	-
PFHxS	7.69	20.2	-	12.51 (≤8.49)	J (all detects)	A
PFOA	7.05	15.2	-	8.15 (≤8.49)	-	-
PFOS	6.07	22.6	-	16.53 (≤8.49)	J (all detects)	A
PFHxA	5.30U	8.15	-	2.85 (≤8.49)	-	-
PFNA	5.30U	1.02	-	4.28 (≤8.49)	-	-

XI. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

Sample	Internal Standards	Area (Limits)	Affected Compound	Flag	A or P
IRPSite7-GW-46GW205-20170628	¹³ C ₂ -PFDoA ¹³ C ₂ -PFTeDA	4.20 (50-150) 4.90 (50-150)	PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
IRPSite7-GW-FD01-20170628	¹³ C ₂ -PFDoA ¹³ C ₂ -PFTeDA	19.4 (50-150) 9.60 (50-150)	PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
IRPSite7-GW-07GW202-20170628	¹³ C ₂ -PFDoA ¹³ C ₂ -PFTeDA	31.2 (50-150) 20.1 (50-150)	PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
IRPSite5-GW-04GW81S-20170628	¹³ C ₂ -PFDoA ¹³ C ₂ -PFTeDA	10.7 (50-150) 25.6 (50-150)	PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P
IRPSite5-GW-04GW80-20170628	¹³ C ₂ -PFDoA ¹³ C ₂ -PFTeDA	36.6 (50-150) 26.3 (50-150)	PFDoA PFTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P

XII. Compound Quantitation

The laboratory limit of quantitation (LOQ) and limit of detection (LOD) with no moisture or dilution are higher than the QAPP LOQ and LOD.

The laboratory detection limit (DL) with no moisture or dilution for PFOS is higher than the QAPP DL.

Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to initial calibration %D, field duplicate differences, and internal standards area, data were qualified as estimated in five samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

White Oak

Perfluorinated Alkyl Acids - Data Qualification Summary - SDG 1700803

Sample	Compound	Flag	A or P	Reason
IRPSite7-GW-46GW205-20170628 IRPSite7-GW-FD01-20170628 IRPSite7-GW-07GW202-20170628 IRPSite5-GW-04GW81S-20170628 IRPSite5-GW-04GW80-20170628	PFDoA	UJ (all non-detects)	P	Initial calibration (%D)
IRPSite7-GW-46GW205-20170628 IRPSite7-GW-FD01-20170628	PFHxS PFOS	J (all detects) J (all detects)	A	Field duplicates (RPD)
IRPSite7-GW-46GW205-20170628 IRPSite7-GW-FD01-20170628 IRPSite7-GW-07GW202-20170628 IRPSite5-GW-04GW81S-20170628 IRPSite5-GW-04GW80-20170628	PFDoA PFTTrDA PFTeDA	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	P	Internal standards (area)

White Oak

Perfluorinated Alkyl Acids - Laboratory Blank Data Qualification Summary - SDG 1700803

No Sample Data Qualified in this SDG

LDC #: 39198A96

VALIDATION COMPLETENESS WORKSHEET

Date: 8/2/17

SDG #: 1700803

Stage 2B

Page: 1 of 1

Laboratory: Vista Analytical Laboratory

Reviewer: CV

2nd Reviewer: PT

METHOD: LCMS Perfluorinated Alkyl Acids (EPA Method 537)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	AA A	RSD ≤ 20% . γ, = 39% [*] ICV ≤ 30%
IV.	Continuing calibration	A	RSD ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	SB=1. EB=2. 10. FB=6.7
VII.	Surrogate spikes	N	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	A	OPR
X.	Field duplicates	SW	D=3+4
XI.	Internal standards	SW	
XII.	Compound quantitation RL/LOQ/LODs	SW	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinsate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

SB=Source blank
 OTHER:

	Client ID	Lab ID	Matrix	Date
1	SB01	1700803-01	Water	06/28/17
2	EB01	1700803-02	Water	06/28/17
3	IRPSite7-GW-46GW205-20170628	1700803-03	Water	06/28/17
4	IRPSite7-GW-FD01-20170628	1700803-04	Water	06/28/17
5	IRPSite7-GW-07GW202-20170628	1700803-05	Water	06/28/17
6	IRPSite7-GW-FRB01-20170628	1700803-06	Water	06/28/17
7	IRPSite5-GW-FRB01-20170628	1700803-07	Water	06/28/17
8	IRPSite5-GW-04GW81S-20170628	1700803-08	Water	06/28/17
9	IRPSite5-GW-04GW80-20170628	1700803-09	Water	06/28/17
10	EB02	1700803-10	Water	06/28/17
11	IRPSite5-GW-04GW80-20170628MS	1700803-09MS	Water	06/28/17
12	IRPSite5-GW-04GW80-20170628MSD	1700803-09MSD	Water	06/28/17
13				

* 30% for each calibration pt. and 50% for lowest pt.

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. Perfluorohexanoic acid (PFHxA)				
B. Perfluoroheptanoic acid (PFHpA)				
C. Perfluorooctanoic acid (PFOA)				
D. Perfluorononanoic acid (PFNA)				
E. Perfluorodecanoic acid (PFDA)				
F. Perfluoroundecanoic acid (PFUnA)				
G. Perfluorododecanoic acid (PFDoA)				
H. Perfluorotridecanoic acid (PFTriA)				
I. Perfluorotetradecanoic acid (PFTeA)				
J. Perfluorobutanesulfonic acid (PFBS)				
K. Perfluorohexanesulfonic acid (PFHxS)				
L. Perfluorheptanesulfonic acid (PFHpS)				
M. Perfluorooctanesulfonic acid (PFOS)				
N. Perfluorodecanesulfonic acid (PFDS)				
O. Perfluorooctane Sulfonamide (FOSA)				
P. Perfluorobutanoic acid (PFBA)				
Q. Perfluoropentanoic acid (PFPeA)				
R. 6:2FTS				
S. 8:2FTS				

LDC#: 3998A76

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: 9
2nd Reviewer: 71

METHOD: PFCs (Method 537 mod)

Compound	Concentration (ng/L)		(≤ 30) RPD	Difference	Limits	Qual
	3	4				
J	6.05	2.48		3.57	≤ 8.49	
B	2.92	4.95		2.03	≤ 8.49	
K	7.69	20.2		12.51	≤ 8.49	<u>Not/A</u>
C	7.05	15.2		8.15	≤ 8.49	
M	6.07	22.6		16.53	≤ 8.49	<u>Not/A</u>
A	5.30U	8.15		2.85	≤ 8.49	
D	5.30U	1.02		4.28	≤ 8.49	

VALIDATION FINDINGS WORKSHEET
Internal Standards

METHOD: LC/MS PFCs

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all internal standard area counts within 50-150% limits?

Y N N/A Were the retention times of the internal standards within +/- 30 seconds of the retention times of the associated calibration standard?

#	Date	Sample ID	Internal Standard	Area (Limits)	RT (Limits)	Qualifications
		BT40014-B4H	13C2-PFDoA	29.5 (50-150)		↓ <u>U</u> <u>N</u> <u>F</u> (PFDoA)
			13C2-PFTrDA	11.3 ↓		↓ (PFTrDA)
						↓ (PFTrDA)
		BT40054-B4H	13C2-PFDoA	14.0 (50-150)		↓ <u>U</u> <u>N</u> <u>F</u> (PFDoA)
			13C2-PFTrDA	39.8 ↓		↓ (PFTrDA)
						↓ (PFTrDA)
		3	13C2-PFDoA	4.20 (50-150)		↓ <u>U</u> <u>N</u> <u>F</u> * (NO)
			13C2-PFTrDA	4.90 (50-150)		
		4		19.4		
				9.60		
		5		31.2		
				20.1		
		8		10.7		
				25.6		
		8				
		9		36.6		
				26.3 ↓		
		11 (MS)		28.8		No Qual
				12.2		

(* PFDoA, PFTrDA, PFTrDA)

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: White Oak

LDC Report Date: August 4, 2017

Parameters: Perfluorinated Alkyl Acids

Validation Level: Stage 2B & 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 1700804

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
IRPSite7-GW-07GW41-20170629	1700804-01	Water	06/29/17
IRPSite5-GW-05GW01-20170629	1700804-02	Water	06/29/17
IRPSite5-GW-FD01-20170629	1700804-03	Water	06/29/17
IRPSite33-GW-11MW204D-20170629	1700804-05	Water	06/29/17
IRPSite33-GW-11MW204S 20170629	1700804-06	Water	06/29/17
Bldg 110-GW-11MW205D-20170629	1700804-07	Water	06/29/17
Bldg 110-GW-11MW205S 20170629	1700804-09	Water	06/29/17
IRPSite7-GW-07GW102 20170629**	1700804-10**	Water	06/29/17
IRPSite5-GW-04GW82-20170629	1700804-11	Water	06/29/17

**Indicates sample underwent Stage 4 validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan (Field Sampling and Analysis Plan) for Initial Assessment of Perfluorinated Compounds (PFCS) or Per- and Polyfluoralkyl Substances (PFAS) Sites at Various Base Realignment and Closure (BRAC) Installations (June 2017), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluorinated Alkyl Acids by Environmental Protection Agency (EPA) Method 537

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Stage 4 data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance check was performed prior to initial calibration.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

For each calibration point, the percent differences (%D) of its true value were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Standard	Compound	%D	Associated Samples	Flag	A or P
07/10/17	ICAL-CS02	PFD _o A	-56.9	All samples in SDG 1700804	UJ (all non-detects)	P
07/10/17	ICAL-CS2	PFD _o A	+36.9	All samples in SDG 1700804	NA	-

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Standard	Compound	%D	Associated Samples	Flag	A or P
07/13/17	170713M1_20	PFD _o A	+98.0	All samples in SDG 1700804	NA	-

Date	Standard	Compound	%D	Associated Samples	Flag	A or P
07/13/17	170713M1_35	PFD _o A	+135	IRPSite5-GW-04GW82-20170629	NA	-

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples IRPSite7-GW-FRB01-20170628, IRPSite5-GW-FRB01-20170628 (both from SDG 1700803), IRPSite33-GW-FRB01-20170629, and Bldg 110-GW-FRB01 20170629 were identified as field rinsate blanks. No contaminants were found.

Sample SB01 (from SDG 1700803) was identified as a source blank. No contaminants were found.

VII. Surrogates

Surrogates were not performed for this SDG.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Ongoing Precision Recovery Samples

Ongoing precision recovery (OPR) samples were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples IRPSite5-GW-05GW01-20170629 and IRPSite5-GW-FD01-20170629 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ng/L)		RPD (Limits)	Differences (Limits)	Flag	A or P
	IRPSite5-GW-05GW01-20170629	IRPSite5-GW-FD01-20170629				
PFHxA	6.98	6.86	-	0.12 (≤8.88)	-	-
PFHpA	3.96	3.17	-	0.79 (≤8.88)	-	-

Compound	Concentration (ng/L)		RPD (Limits)	Differences (Limits)	Flag	A or P
	IRPSite5-GW-05GW01-20170629	IRPSite5-GW-FD01-20170629				
PFHxS	61.1	64.9	6 (≤30)	-	-	-
PFOA	48.8	51.3	5 (≤30)	-	-	-
PFOS	205	199	3 (≤30)	-	-	-
PFNA	3.24	2.82	-	0.42 (≤8.88)	-	-
PFBS	5.43U	2.30	-	3.13 (≤8.88)	-	-

XI. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

Sample	Internal Standards	Area (Limits)	Affected Compound	Flag	A or P
IRPSite5-GW-05GW01-20170629	¹³ C ₂ -PFDoA	37.4 (50-150)	PFDoA PFTriA	UJ (all non-detects) UJ (all non-detects)	P
IRPSite33-GW-11MW204D-20170629	¹³ C ₂ -PFDoA	37.4 (50-150)	PFDoA PFTriA	UJ (all non-detects) UJ (all non-detects)	P
Bldg 110-GW-11MW205D-20170629	¹³ C ₂ -PFDoA	41.4 (50-150)	PFDoA PFTriA	UJ (all non-detects) UJ (all non-detects)	P
IRPSite5-GW-04GW82-20170629	¹³ C ₂ -PFDoA	37.0 (50-150)	PFDoA PFTriA	UJ (all non-detects) UJ (all non-detects)	P

XII. Compound Quantitation

The laboratory limit of quantitation (LOQ) and limit of detection (LOD) with no moisture or dilution are higher than the QAPP LOQ and LOD.

The laboratory detection limit (DL) with no moisture or dilution for PFOS is higher than the QAPP DL.

All compound quantitations met validation criteria for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to initial calibration %D and internal standards area, data were qualified as estimated in nine samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

White Oak

Perfluorinated Alkyl Acids - Data Qualification Summary - SDG 1700804

Sample	Compound	Flag	A or P	Reason
IRPSite7-GW-07GW41-20170629 IRPSite5-GW-05GW01-20170629 IRPSite5-GW-FD01-20170629 IRPSite33-GW-11MW204D-20170629 IRPSite33-GW-11MW204S 20170629 Bldg 110-GW-11MW205D-20170629 Bldg 110-GW-11MW205S 20170629 IRPSite7-GW-07GW102 20170629** IRPSite5-GW-04GW82-20170629	PFD _o A	UJ (all non-detects)	P	Initial calibration (%D)
IRPSite5-GW-05GW01-20170629 IRPSite33-GW-11MW204D-20170629 Bldg 110-GW-11MW205D-20170629 IRPSite5-GW-04GW82-20170629	PFD _o A PFTriA	UJ (all non-detects) UJ (all non-detects)	P	Internal standards (area)

White Oak

Perfluorinated Alkyl Acids - Laboratory Blank Data Qualification Summary - SDG 1700804

No Sample Data Qualified in this SDG

LDC #: 39198B96

VALIDATION COMPLETENESS WORKSHEET

SDG #: 1700804

Stage 2B/4

Laboratory: Vista Analytical Laboratory

Date: 8/2/17

Page: 6 of 1

Reviewer: [Signature]

2nd Reviewer: [Signature]

METHOD: LCMS Perfluorinated Alkyl Acids (EPA Method 537)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	W/A	RSD ≤ 20%, 1 st 70D ≤ 35%*, ICV ≤ 35/0
IV.	Continuing calibration	W	CCV ≤ 35/0
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FRB=4,8,IRPSite7-GW-FRB01-20170628,IRPSite5-GW-FRB01-20170628 (1700803)
VII.	Surrogate spikes	N	SB=SB01 (1700803)
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	OPR
X.	Field duplicates	W	D=2+3
XI.	Internal standards	W	
XII.	Compound quantitation RL/LOQ/LODs	W	Not reviewed for Stage 2B validation
XIII.	Target compound identification	A	Not reviewed for Stage 2B validation
XIV.	System performance	A	Not reviewed for Stage 2B validation
XV.	Overall assessment of data	A	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet

ND = No compounds detected
R = Rinsate
FB = Field blank

D = Duplicate
TB = Trip blank
EB = Equipment blank

SB=Source blank
OTHER:

** Indicates sample underwent Stage 4 validation

	Client ID	Lab ID	Matrix	Date
1	IRPSite7-GW-07GW41-20170629	1700804-01	Water	06/29/17
2	IRPSite5-GW-05GW01-20170629	1700804-02	Water	06/29/17
3	IRPSite5-GW-FD01-20170629	1700804-03	Water	06/29/17
4	IRPSite33-GW-FRB01-20170629	1700804-04	Water	06/29/17
5	IRPSite33-GW-11MW204D-20170629	1700804-05	Water	06/29/17
6	IRPSite33-GW-11MW204S-20170629	1700804-06	Water	06/29/17
7	Bldg 110-GW-11MW205D-20170629	1700804-07	Water	06/29/17
8	Bldg 110-GW-FRB01-20170629	1700804-08	Water	06/29/17
9	Bldg 110-GW-11MW205S-20170629	1700804-09	Water	06/29/17
10	IRPSite7-GW-07GW102-20170629**	1700804-10**	Water	06/29/17
11	IRPSite5-GW-04GW82-20170629 20170629	1700804-11	Water	06/29/17
12				
13				

* see next page in ICA section

Method: LCMS (EPA Method 537)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	/			
Was cooler temperature criteria met?	/			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the specified criteria?	/		/	
Were all samples analyzed within the 12 hour clock criteria?	/			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	/			
Were all percent relative standard deviations (%RSD) \leq 20%?	/			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of \geq 0.990?	/			
Were all analytes within 70-130% or percent differences (%D) \leq 30% of their true value for each calibration standard		/		
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	/			
Were all percent differences (%D) \leq 30%?	/			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	/			
Were all percent differences (%D) of the continuing calibration \leq 30%?	/			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	/			
Was a laboratory blank analyzed for each matrix and concentration?	/			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		/		
VI. Field blanks				
Were field blanks identified in this SDG?	/			
Were target compounds detected in the field blanks?		/		
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.		/		
Was a MS/MSD analyzed every 20 samples of each matrix?			/	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			/	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	/			

VALIDATION FINDINGS CHECKLIST

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	<input checked="" type="checkbox"/>			
Were target compounds detected in the field duplicates?.	<input checked="" type="checkbox"/>			
XI. Internal standards				
Were internal standard area counts within $\pm 50\%$ of the associated calibration standard?		<input checked="" type="checkbox"/>		
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	<input checked="" type="checkbox"/>			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	<input checked="" type="checkbox"/>			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	<input checked="" type="checkbox"/>			
Were chromatogram peaks verified and accounted for?	<input checked="" type="checkbox"/>			
XIV. System performance				
System performance was found to be acceptable.	<input checked="" type="checkbox"/>			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>			

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. Perfluorohexanoic acid (PFHxA)				
B. Perfluoroheptanoic acid (PFHpA)				
C. Perfluorooctanoic acid (PFOA)				
D. Perfluorononanoic acid (PFNA)				
E. Perfluorodecanoic acid (PFDA)				
F. Perfluoroundecanoic acid (PFUnA)				
G. Perfluorododecanoic acid (PFDoA)				
H. Perfluorotridecanoic acid (PFTriA)				
I. Perfluorotetradecanoic acid (PFTeA)				
J. Perfluorobutanesulfonic acid (PFBS)				
K. Perfluorohexanesulfonic acid (PFHxS)				
L. Perfluoroheptanesulfonic acid (PFHpS)				
M. Perfluorooctanesulfonic acid (PFOS)				
N/Perfluorodecanesulfonic acid (PFDS)				
O. Perfluorooctane Sulfonamide (FOSA)				
P. Perfluorobutanoic acid (PFBA)				
Q. Perfluoropentanoic acid (PFPeA)				
R. 6:2FTS				
S. 8:2FTS				

LDC#: 39198B96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: PFCs (Method 537 mod)

Compound	Concentration (ng/L)		(<30) RPD	Difference	Limits	Qual
	2	3				
A	6.98	6.86		0.12	≤8.88	
B	3.96	3.17		0.79	≤8.88	
K	61.1	64.9	6			
C	48.8	51.3	5			
M	205	199	3			
D	3.24	2.82		0.42	≤8.88	
J	5.43U	2.30		3.13	≤8.88	

LDC#: 39198B96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

Method: LC/MS/MS PFCs

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
7/10/2017	Q4	PFBS	0	0.4380675	0.25
			s1	1.1565725	0.50
			s2	1.8657437	1.00
			s3	4.9570275	2.00
			s4	9.7347175	5.00
			s5	22.092078	10.00
			s6	112.84108	50.00
			s7	230.883470	100.00

Regression Output

Reported *

Constant	-0.636769	-0.143808
Std Err of Y Est		
R Squared	0.999849	0.998952
Degrees of Freedom		
X Coefficient(s)	2.305558	2.282190
Std Err of Coef.		
Correlation Coefficient	0.999925	
Coefficient of Determination (r ²)	0.999849	0.998952

* 1/x W+

LDC #: 39198B96

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: GC HPLC/MS

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC-SC)/SA

Where: SSC = Spiked sample concentration

SC = Concentration

SA = Spike added

RPD = |SSCLCS - SSCLCSD| * 2 / (SSCLCS + SSCLCSD)

LCS = Laboratory control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: _____

Compound	Spike Added (NS/L)		Spiked Sample Concentration (NS/L)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
<u>PFBS</u>	<u>80.0</u>	<u>NA</u>	<u>65.5</u>	<u>NA</u>	<u>81.9</u>	<u>81.9</u>				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC HPLC MS

Y N N/A
Y N N/A

Were all reported results recalculated and verified for all level IV samples?
 Were all recalculated results for detected target compounds agree within 10% of the reported results?

Concentration = $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

Example:

Sample ID. 10 Compound Name PFBS

- A= Area or height of the compound to be measured
- Fv= Final Volume of extract
- Df= Dilution Factor
- RF= Average response factor of the compound
In the initial calibration
- Vs= Initial volume of the sample
- Ws= Initial weight of the sample
- %S= Percent Solid

Concentration = $\frac{(870 \times 125)}{1620} + 0.143808 (1)$
 $\frac{(2.2819)(0.121)}{}$
 = 9.05 ng/L

#	Sample ID	Compound	Reported Concentrations (<u>ng/L</u>)	Recalculated Results Concentrations ()	Qualifications
	<u>10</u>	<u>PFBS</u>	<u>9.06</u>		

Comments: _____

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: White Oak

LDC Report Date: August 4, 2017

Parameters: Perfluorinated Alkyl Acids

Validation Level: Stage 2B & 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 1700887

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
IRPSite 6-GW-06GW01-20170712	1700887-01	Water	07/12/17
IRPSite 6-GW-06GW02-20170712	1700887-02	Water	07/12/17
Site 33-GW-33GW01-20170712	1700887-04	Water	07/12/17
Building110-GW-110GW01-20170712**	1700887-05**	Water	07/12/17
IRPSite 6-GW-06FD01-20170712	1700887-06	Water	07/12/17

**Indicates sample underwent Stage 4 validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan (Field Sampling and Analysis Plan) for Initial Assessment of Perfluorinated Compounds (PFCS) or Per- and Polyfluoroalkyl Substances (PFAS) Sites at Various Base Realignment and Closure (BRAC) Installations (June 2017), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.1 (2017), and a modified outline of the USEPA National Functional Guidelines (NFG) for Organic Superfund Methods Data Review (January 2017). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Perfluorinated Alkyl Acids by Environmental Protection Agency (EPA) Method 537

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Stage 4 data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

- J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.
- U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).
- UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.
- R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.
- NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance check was performed prior to initial calibration.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 20.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

For each calibration point, the percent differences (%D) of its true value were less than or equal to 30.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples IRPSite33-GW-FRB01-20170629, Bldg 110-GW-FRB01 20170629 (both from SDG 1700804), and IRPSite 6-GW-FRB01-20170712 were identified as field rinsate blanks. No contaminants were found.

Sample SB01 (from SDG 1700803) was identified as a source blank. No contaminants were found.

VII. Surrogates

Surrogates were not performed for this SDG.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Ongoing Precision Recovery Samples

Ongoing precision recovery (OPR) samples were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples IRPSite 6-GW-06GW02-20170712 and IRPSite 6-GW-06FD01-20170712 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ng/L)		RPD (Limits)	Differences (Limits)	Flag	A or P
	IRPSite 6-GW-06GW02-20170712	IRPSite 6-GW-06FD01-20170712				
PFBS	21.8	21.7	0 (≤ 30)	-	-	-
PFHxA	20.0	17.6	13 (≤ 30)	-	-	-
PFHpA	10.3	9.00	-	1.3 (≤ 10.1)	-	-
PFHxS	6.18	5.70	-	0.48 (≤ 10.1)	-	-
PFOA	20.1	20.6	2 (≤ 30)	-	-	-
PFOS	16.5	13.5	20 (≤ 30)	-	-	-
PFNA	3.81	2.80	-	1.01 (≤ 10.1)	-	-

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

The laboratory limit of quantitation (LOQ) and limit of detection (LOD) with no moisture or dilution are higher than the QAPP LOQ and LOD.

The laboratory detection limit (DL) with no moisture or dilution for PFOS is higher than the QAPP DL.

All compound quantitations met validation criteria for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

**White Oak
Perfluorinated Alkyl Acids - Data Qualification Summary - SDG 1700887**

No Sample Data Qualified in this SDG

**White Oak
Perfluorinated Alkyl Acids - Laboratory Blank Data Qualification Summary - SDG
1700887**

No Sample Data Qualified in this SDG

LDC #: 39198C96
 SDG #: 1700887
 Laboratory: Vista Analytical Laboratory

VALIDATION COMPLETENESS WORKSHEET

Stage 2B/4

Date: 8/3/17
 Page: 1 of 9
 Reviewer: [Signature]
 2nd Reviewer: [Signature]

METHOD: LCMS Perfluorinated Alkyl Acids (EPA Method 537)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/D	RSD ≤ 20%. Y? TAD ≤ 30%*. ICV ≤ 30%
IV.	Continuing calibration	A	CCV ≤ 30%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FRB=3, IRPSite33-GW-FRB01-20170629, Bldg 110-GW-FRB01 20170629 (1700802)
VII.	Surrogate spikes	N	SB=SB01 (1700803)
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	OPR
X.	Field duplicates	W	D=2+6
XI.	Internal standards	W	
XII.	Compound quantitation RL/LOQ/LODs	W	Not reviewed for Stage 2B validation
XIII.	Target compound identification	A	Not reviewed for Stage 2B validation
XIV.	System performance	A	Not reviewed for Stage 2B validation
XV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
 N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
 SW = See worksheet FB = Field blank EB = Equipment blank

** Indicates sample underwent Stage 4 validation

	Client ID	Lab ID	Matrix	Date
1	IRPSite 6-GW-06GW01-20170712	1700887-01	Water	07/12/17
2	IRPSite 6-GW-06GW02-20170712	1700887-02	Water	07/12/17
3	IRPSite 6-GW-FRB01-20170712	1700887-03	Water	07/12/17
4	Site 33-GW-33GW01-20170712	1700887-04	Water	07/12/17
5	Building110-GW-110GW01-20170712**	1700887-05**	Water	07/12/17
6	IRPSite 6-GW-06FD01-20170712	1700887-06	Water	07/12/17
7				
8				

Notes:

* see next page in lca section

Method: LCMS (EPA Method 537)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was cooler temperature criteria met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the specified criteria?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were all samples analyzed within the 12 hour clock criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent relative standard deviations (%RSD) \leq 20%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit criteria of > 0.990 ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all analytes within 70-130% or percent differences (%D) \leq 30% of their true value for each calibration standard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) \leq 30%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all percent differences (%D) of the continuing calibration \leq 30%?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was a laboratory blank analyzed for each matrix and concentration?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VI. Field blanks				
Were field blanks identified in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were target compounds detected in the field blanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Was a MS/MSD analyzed every 20 samples of each matrix?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per extraction batch?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were target compounds detected in the field duplicates?.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XI. Internal standards				
Were internal standard area counts within $\pm 50\%$ of the associated calibration standard?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were chromatogram peaks verified and accounted for?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XIV. System performance				
System performance was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

TARGET COMPOUND WORKSHEET

METHOD: PFOS/PFOAs

A. Perfluorohexanoic acid (PFHxA)				
B. Perfluoroheptanoic acid (PFHpA)				
C. Perfluorooctanoic acid (PFOA)				
D. Perfluorononanoic acid (PFNA)				
E. Perfluorodecanoic acid (PFDA)				
F. Perfluoroundecanoic acid (PFUnA)				
G. Perfluorododecanoic acid (PFDoA)				
H. Perfluorotridecanoic acid (PFTriA)				
I. Perfluorotetradecanoic acid (PFTeA)				
J. Perfluorobutanesulfonic acid (PFBS)				
K. Perfluorohexanesulfonic acid (PFHxS)				
L. Perfluoroheptanesulfonic acid (PFHpS)				
M. Perfluorooctanesulfonic acid (PFOS)				
N. Perfluorodecanesulfonic acid (PFDS)				
O. Perfluorooctane Sulfonamide (FOSA)				
P. Perfluorobutanoic acid (PFBA)				
Q. Perfluoropentanoic acid (PFPeA)				
R. 6:2FTS				
S. 8:2FTS				

LDC#: 39198096

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [Signature]
2nd Reviewer: [Signature]

METHOD: PFCs (Method 537 mod)

Compound	Concentration (ng/L)		(≤ 30) RPD	Difference	Limits	Qual
	2	6				
J	21.8	21.7	0			
A	20.0	17.6	13			
B	10.3	9.00		1.3	≤ 10.1	
K	6.18	5.70		0.48	≤ 10.1	
C	20.1	20.6	2			
M	16.5	13.5	20			
D	3.81	2.80		1.01	≤ 10.1	

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and Reported RLs

METHOD: LC/MS PFCs

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

- Y N N/A Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?
Y N N/A Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?

#	Date	Sample ID	Finding	Qualifications
		All	Lab reported LOD/LOQ > LOD/LOQ in the QAPP	Text
		All	The DL for PFOS = 0.807 ng/L, DL in the QAPP = 0.305 ng/L	Text

Comments: See sample calculation verification worksheet for recalculations

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: LC/MS/MS PFCs

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
7/27/2017	Q2	PFBS	s1	1.4453125	0.50
			s2	2.0194375	1.00
			s3	3.541275	2.00
			s4	9.4866062	5.00
			s5	16.99074	10.00
			s6	83.904108	50.00
			s7	157.926820	100.00

Regression Output**Reported**

Constant	1.183817	0.593256
Std Err of Y Est		
R Squared	0.999221	0.998731
Degrees of Freedom		
X Coefficient(s)	1.584733	1.607660
Std Err of Coef.		
Correlation Coefficient	0.999611	
Coefficient of Determination (r ²)	0.999221	0.998731

LDC#: 39198C96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 2 of 2Reviewer: 92nd Reviewer: F2

Method: LC/MS/MS PFCs

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
7/28/2017	Q2	PFDoA	0	0.0331250	0.25
			s1	0.0527637	0.50
			s2	0.1130487	1.00
			s3	0.266025	2.00
			s4	0.6203462	5.00
			s5	1.2761775	10.00
			s6	6.096625	50.00
			s7	12.084870	100.00

Regression Output**Reported**

Constant	0.017917	0.000590
Std Err of Y Est		
R Squared	0.999957	0.999601
Degrees of Freedom		
X Coefficient(s)	0.120887	0.121673
Std Err of Coef.		
Correlation Coefficient	0.999979	
Coefficient of Determination (r ²)	0.999957	0.999601

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

METHOD: GC HPLC MS

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC-SC)/SA
 RPD = |SSCLCS - SSCLCSD| * 2 / (SSCLCS + SSCLCSD)

Where: SSC = Spiked sample concentration
 SA = Spike added
 LCS = Laboratory control sample percent recovery

SC = Concentration
 LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: B750079-BS1

Compound	Spike Added (NS/A)		Spiked Sample Concentration (NS/L)		LCS		LCSD		LCS/LCSD	
	LCS	LCSD	LCS	LCSD	Percent Recovery		Percent Recovery		RPD	
					Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
<u>PTBS</u>	<u>80.0</u>	<u>NA</u>	<u>74.1</u>	<u>NA</u>	<u>92.6</u>	<u>92.6</u>				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

METHOD: GC HPLC MS

Y N N/A
 Y N N/A

Were all reported results recalculated and verified for all level IV samples?
 Were all recalculated results for detected target compounds agree within 10% of the reported results?

Concentration = $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

Example:

Sample ID. 5 Compound Name PFBS

- A= Area or height of the compound to be measured
- Fv= Final Volume of extract
- Df= Dilution Factor
- RF= Average response factor of the compound
In the initial calibration
- Vs= Initial volume of the sample
- Ws= Initial weight of the sample
- %S= Percent Solid

Concentration = $\frac{(2.40103 \times 12.5)}{(3.74823)} - 0.593256$
 $(1.60766) (0.118)$
 = 39.1 mg/L

#	Sample ID	Compound	Reported Concentrations (<u>mg/L</u>)	Recalculated Results Concentrations ()	Qualifications
	<u>5</u>	<u>PFBS</u>	<u>39.2</u>		

Comments: _____

LDC #: 39198

EDD POPULATION COMPLETENESS WORKSHEET

Date: 8/7/17
 Page: 1 of 1
 2nd Reviewer: OG

The LDC job number listed above was entered by JE

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	Y	
Ib.	- All samples present/match report?	Y	
Ic.	- All reported analytes present?	Y	
Id.	- <u>10%</u> or 100% verification of EDD?	Y	
II.	EDD Preparation/Entry	-	
IIa.	- Carryover U/J?	-	
IIb.	- Reason Codes used? If so, note which codes.	Y	client
IIc.	- Additional Information (QC Level, Validator, Validated Y/N, etc.)	Y	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (e.g. UJ)?	Y	
IIIb.	- Do all qualified detect results have detect qualifier (e.g. J)?	Y	
IIIc.	- If reason codes are used, do all qualified results have reason code field populated, and vice versa?	Y	
IIId.	- Does the detect flag require changing for blank qualifier? If so, are all U results marked ND?	+	
IIIe.	- Do blank concentrations in report match EDD where data was qualified due to blank contamination?	-	
IIIf.	- Were multiple results reported due to dilutions/reanalysis? If so, were results qualified appropriately?	+	
IIIg.	- Are there any discrepancies between the data packet and the EDD?	N	

Notes: *see discrepancy sheet

INSTALLATION_ID	SITE_NAME	LOCATION_NAME	LOCATION_TYPE	LOCATION_TYPE_DESC	COORD_X	COORD_Y	SAMPLE_NAME	SAMPLE_MATRIX	SAMPLE_MATRIX_DESC	COLLECT_DATE	ANALYTICAL_METHOD_GRP_DESC	SDG
WHITE_OAK_NSWC	SITE 00011 - TBC	110GW01	WLM	Monitoring Well	-76.980793	39.039437	BUILDING 110-GW-110GW01-20170712	WG	Ground water	12-Jul-17	Perfluoroalkyl Compounds	1700887
WHITE_OAK_NSWC	SITE 00046 - TBC	06GW02	WLM	Monitoring Well	-76.954145	39.042818	IRPSITE 6-GW-06FD01-20170712	WG	Ground water	12-Jul-17	Perfluoroalkyl Compounds	1700887
WHITE_OAK_NSWC	SITE 00046 - TBC	06GW01	WLM	Monitoring Well	-76.954427	39.042814	IRPSITE 6-GW-06GW01-20170712	WG	Ground water	12-Jul-17	Perfluoroalkyl Compounds	1700887
WHITE_OAK_NSWC	SITE 00046 - TBC	06GW02	WLM	Monitoring Well	-76.954145	39.042818	IRPSITE 6-GW-06GW02-20170712	WG	Ground water	12-Jul-17	Perfluoroalkyl Compounds	1700887
WHITE_OAK_NSWC	SITE 00011 - TBC	33GW01	WLM	Monitoring Well	-76.982534	39.038288	SITE 33-GW-33GW01-20170712	WG	Ground water	12-Jul-17	Perfluoroalkyl Compounds	1700887

*Coordinate system is WGS 1984 UTM Zone 14N (Meters)
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