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NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Combined Level 2 and Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG 1700906

Naval Air Warfare Center Trenton
Trenton, New Jersey

August 2019

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

N62376.SF.001178
NAWC TRENTON
5090.3c

LABORATORY DATA PACKAGE, 1700906, NAWC TRENTON, NJ

08/09/2017

VISTA ANALYTICAL LABORATORY

August 09, 2017

Vista Work Order No. 1700906

Ms. Mary Mang
Tetra Tech
661 Andersen Drive, Foster Plaza 7
Pittsburgh, PA 15220

Dear Ms. Mang,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 19, 2017. This sample set was analyzed on a standard turn-around time, under your Project Name 'NAWC Trenton'. The SDG Number is WE08.

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. Volpendesta 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 Analytical Laboratory 1104 Windfield Way El Dorado Hills, CA 95762 ph: 916-673-1520 fx: 916-673-0106 www.vista-analytical.com

SDG Number WE08
Vista Work Order No. 1700906
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

Samples "MW-50BR-20170717", "MW-06BR-20170717", "MW-12BR-20170718", and "MW-02BR-20170718" contained particulate and were centrifuged prior to extraction.

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 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
1700906-04	MW-12BR-20170718	Modified EPA Method 537	13C3-PFBS	H	161
B7G0105-BS1	B7G0105-BS1	Modified EPA Method 537	13C3-PFBS	H	165

H = Recovery was outside laboratory acceptance criteria.

In addition, the laboratory QC officer must read and sign a copy of the Quality Assurance Review Form displayed on the next page of this Attachment. Electronic deliverables are not considered to be complete without the accompanying Quality Assurance Review Form.

I Anna Helak, as the designated Quality Assurance Officer, hereby attest that all electronic deliverables have been thoroughly reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at (916) 673-1520 If there are any questions or problems with the enclosed electronic deliverables.

Signature: _____ Title: QA Manager Date: 8-9-17

Revision 9
ISG
08/18/16

TABLE OF CONTENTS

Case Narrative..... 1

Signed Attestation Statement..... 3

Table of Contents..... 4

Sample Inventory..... 5

Analytical Results..... 6

Qualifiers..... 15

Certifications..... 16

Sample Receipt..... 19

Correspondence..... 21

Extraction Information..... 24

Sample Data - Modified EPA Method 537..... 30

Continuing Calibration..... 104

Initial Calibration..... 150

PFAS Standards..... 412

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1700906-01	MW-50BR-20170717	17-Jul-17 13:55	19-Jul-17 09:15	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700906-02	MW-06BR-20170717	17-Jul-17 16:10	19-Jul-17 09:15	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700906-03	RB-04-20170717	17-Jul-17 18:00	19-Jul-17 09:15	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700906-04	MW-12BR-20170718	18-Jul-17 13:00	19-Jul-17 09:15	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700906-05	MW-02BR-20170718	18-Jul-17 15:15	19-Jul-17 09:15	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL
1700906-06	RB-05-20170718	18-Jul-17 18:00	19-Jul-17 09:15	HDPE Bottle, 125 mL
				HDPE Bottle, 125 mL

ANALYTICAL RESULTS

Sample ID: Method Blank

Modified EPA Method 537

Matrix: Aqueous
Sample Size: 0.250 L

QC Batch: B7G0105
Date Extracted: 24-Jul-2017 7:38

Lab Sample: B7G0105-BLK1
Date Analyzed: 24-Jul-17 23:42 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.895	2.50	4.00	
PFHxA	ND	1.09	2.50	4.00	
PFHpA	ND	0.296	2.50	4.00	
PFHxS	ND	0.474	2.50	4.00	
PFOA	ND	0.326	2.50	4.00	
PFOS	ND	0.404	2.50	4.00	
PFNA	ND	0.405	2.50	4.00	
PFDA	ND	0.745	2.50	4.00	
MeFOSAA	ND	0.825	2.50	4.00	
PFUnA	ND	0.525	2.50	4.00	
EtFOSAA	ND	0.685	2.50	4.00	
PFDoA	ND	0.396	2.50	4.00	
PFTrDA	ND	0.247	2.50	4.00	
PFTeDA	ND	0.378	2.50	4.00	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	129	50 - 150	
IS	13C2-PFHxA	109	50 - 150	
IS	13C4-PFHpA	82.6	50 - 150	
IS	18O2-PFHxS	120	50 - 150	
IS	13C2-PFOA	104	50 - 150	
IS	13C8-PFOS	108	50 - 150	
IS	13C5-PFNA	95.7	50 - 150	
IS	13C2-PFDA	95.3	50 - 150	
IS	d3-MeFOSAA	92.7	50 - 150	
IS	13C2-PFUnA	91.0	50 - 150	
IS	d5-EtFOSAA	92.9	50 - 150	
IS	13C2-PFDoA	92.0	50 - 150	
IS	13C2-PFTeDA	78.6	50 - 150	

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:	B7G0105	Lab Sample:	B7G0105-BS1
Sample Size:	0.250 L	Date Extracted:	24-Jul-2017 7:38	Date Analyzed:	24-Jul-17 23:21 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	37.2	40.0	93.0	70 - 130
PFHxA	36.8	40.0	92.1	70 - 130
PFHpA	38.6	40.0	96.4	70 - 130
PFHxS	34.7	40.0	86.9	70 - 130
PFOA	38.1	40.0	95.3	70 - 130
PFOS	31.0	40.0	77.5	70 - 130
PFNA	39.1	40.0	97.9	70 - 130
PFDA	37.3	40.0	93.4	70 - 130
MeFOSAA	39.8	40.0	99.5	70 - 130
PFUnA	36.9	40.0	92.2	70 - 130
EtFOSAA	36.9	40.0	92.2	70 - 130
PFDoA	37.2	40.0	93.0	70 - 130
PFTrDA	39.1	40.0	97.8	60 - 130
PFTeDA	38.9	40.0	97.1	70 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	165	50 - 150
IS	13C2-PFHxA	114	50 - 150
IS	13C4-PFHpA	95.2	50 - 150
IS	18O2-PFHxS	121	50 - 150
IS	13C2-PFOA	113	50 - 150
IS	13C8-PFOS	128	50 - 150
IS	13C5-PFNA	116	50 - 150
IS	13C2-PFDA	95.9	50 - 150
IS	d3-MeFOSAA	94.4	50 - 150
IS	13C2-PFUnA	87.9	50 - 150
IS	d5-EtFOSAA	97.5	50 - 150
IS	13C2-PFDoA	92.5	50 - 150
IS	13C2-PFTeDA	83.6	50 - 150

LCL-UCL - Lower control limit - upper control limit

Sample ID: MW-50BR-20170717

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 17-Jul-2017 13:55
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700906-01 Date Received: 19-Jul-2017 9:15
QC Batch: B7G0105 Date Extracted: 24-Jul-2017 7:38
Date Analyzed: 24-Jul-17 23:53 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	42.9	1.85	5.17	8.26	
PFHxA	78.8	2.25	5.17	8.26	
PFHpA	25.6	0.610	5.17	8.26	
PFHxS	195	0.978	5.17	8.26	
PFOA	15.5	0.672	5.17	8.26	
PFOS	96.6	0.833	5.17	8.26	
PFNA	1.00	0.836	5.17	8.26	J
PFDA	ND	1.54	5.17	8.26	
MeFOSAA	ND	1.70	5.17	8.26	
PFUnA	ND	1.08	5.17	8.26	
EtFOSAA	ND	1.41	5.17	8.26	
PFDoA	ND	0.818	5.17	8.26	
PFTrDA	ND	0.510	5.17	8.26	
PFTeDA	ND	0.780	5.17	8.26	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	140	50 - 150	
IS	13C2-PFHxA	110	50 - 150	
IS	13C4-PFHpA	94.8	50 - 150	
IS	18O2-PFHxS	106	50 - 150	
IS	13C2-PFOA	107	50 - 150	
IS	13C8-PFOS	97.8	50 - 150	
IS	13C5-PFNA	101	50 - 150	
IS	13C2-PFDA	102	50 - 150	
IS	d3-MeFOSAA	102	50 - 150	
IS	13C2-PFUnA	95.3	50 - 150	
IS	d5-EtFOSAA	109	50 - 150	
IS	13C2-PFDoA	86.3	50 - 150	
IS	13C2-PFTeDA	75.1	50 - 150	

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: MW-06BR-20170717

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 17-Jul-2017 16:10
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700906-02 Date Received: 19-Jul-2017 9:15
QC Batch: B7G0105 Date Extracted: 24-Jul-2017 7:38
Date Analyzed: 25-Jul-17 00:03 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.85	5.17	8.28	
PFHxA	ND	2.26	5.17	8.28	
PFHpA	ND	0.611	5.17	8.28	
PFHxS	ND	0.980	5.17	8.28	
PFOA	ND	0.673	5.17	8.28	
PFOS	ND	0.835	5.17	8.28	
PFNA	ND	0.838	5.17	8.28	
PFDA	ND	1.54	5.17	8.28	
MeFOSAA	ND	1.71	5.17	8.28	
PFUnA	ND	1.09	5.17	8.28	
EtFOSAA	ND	1.42	5.17	8.28	
PFDoA	ND	0.819	5.17	8.28	
PFTrDA	ND	0.511	5.17	8.28	
PFTeDA	ND	0.781	5.17	8.28	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	147	50 - 150	
IS	13C2-PFHxA	112	50 - 150	
IS	13C4-PFHpA	98.4	50 - 150	
IS	18O2-PFHxS	122	50 - 150	
IS	13C2-PFOA	111	50 - 150	
IS	13C8-PFOS	126	50 - 150	
IS	13C5-PFNA	103	50 - 150	
IS	13C2-PFDA	111	50 - 150	
IS	d3-MeFOSAA	116	50 - 150	
IS	13C2-PFUnA	94.3	50 - 150	
IS	d5-EtFOSAA	107	50 - 150	
IS	13C2-PFDoA	93.1	50 - 150	
IS	13C2-PFTeDA	69.3	50 - 150	

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: RB-04-20170717

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 17-Jul-2017 18:00
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.120 L

Laboratory Data

Lab Sample: 1700906-03 Date Received: 19-Jul-2017 9:15
QC Batch: B7G0105 Date Extracted: 24-Jul-2017 7:38
Date Analyzed: 25-Jul-17 00:14 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.86	5.21	8.32	
PFHxA	ND	2.27	5.21	8.32	
PFHpA	ND	0.615	5.21	8.32	
PFHxS	ND	0.985	5.21	8.32	
PFOA	ND	0.677	5.21	8.32	
PFOS	ND	0.839	5.21	8.32	
PFNA	ND	0.842	5.21	8.32	
PFDA	ND	1.55	5.21	8.32	
MeFOSAA	ND	1.72	5.21	8.32	
PFUnA	ND	1.09	5.21	8.32	
EtFOSAA	ND	1.42	5.21	8.32	
PFDoA	ND	0.824	5.21	8.32	
PFTrDA	ND	0.514	5.21	8.32	
PFTeDA	ND	0.785	5.21	8.32	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	150	50 - 150	
IS	13C2-PFHxA	105	50 - 150	
IS	13C4-PFHpA	94.6	50 - 150	
IS	18O2-PFHxS	110	50 - 150	
IS	13C2-PFOA	96.7	50 - 150	
IS	13C8-PFOS	106	50 - 150	
IS	13C5-PFNA	95.2	50 - 150	
IS	13C2-PFDA	102	50 - 150	
IS	d3-MeFOSAA	92.3	50 - 150	
IS	13C2-PFUnA	85.6	50 - 150	
IS	d5-EtFOSAA	84.5	50 - 150	
IS	13C2-PFDoA	89.2	50 - 150	
IS	13C2-PFTeDA	83.1	50 - 150	

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: MW-12BR-20170718

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 18-Jul-2017 13:00
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700906-04 Date Received: 19-Jul-2017 9:15
QC Batch: B7G0105 Date Extracted: 24-Jul-2017 7:38
Date Analyzed: 25-Jul-17 00:25 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	45.6	1.85	5.17	8.25	
PFHxA	136	2.25	5.17	8.25	
PFHpA	31.3	0.609	5.17	8.25	
PFHxS	285	0.976	5.17	8.25	
PFOA	26.8	0.671	5.17	8.25	
PFOS	812	0.832	5.17	8.25	
PFNA	1.59	0.835	5.17	8.25	J
PFDA	ND	1.54	5.17	8.25	
MeFOSAA	ND	1.70	5.17	8.25	
PFUnA	ND	1.08	5.17	8.25	
EtFOSAA	ND	1.41	5.17	8.25	
PFDoA	ND	0.816	5.17	8.25	
PFTrDA	ND	0.509	5.17	8.25	
PFTeDA	ND	0.778	5.17	8.25	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	161	50 - 150	H
IS	13C2-PFHxA	118	50 - 150	
IS	13C4-PFHpA	97.3	50 - 150	
IS	18O2-PFHxS	111	50 - 150	
IS	13C2-PFOA	107	50 - 150	
IS	13C8-PFOS	112	50 - 150	
IS	13C5-PFNA	92.0	50 - 150	
IS	13C2-PFDA	99.2	50 - 150	
IS	d3-MeFOSAA	97.6	50 - 150	
IS	13C2-PFUnA	96.6	50 - 150	
IS	d5-EtFOSAA	99.4	50 - 150	
IS	13C2-PFDoA	90.5	50 - 150	
IS	13C2-PFTeDA	94.2	50 - 150	

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: MW-02BR-20170718

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 18-Jul-2017 15:15
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700906-05 Date Received: 19-Jul-2017 9:15
QC Batch: B7G0105 Date Extracted: 24-Jul-2017 7:38
Date Analyzed: 25-Jul-17 00:36 Column: BEH C18
26-Jul-17 00:06 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	298	1.85	5.17	8.28	
PFHxA	852	11.3	25.8	41.4	D
PFHpA	446	0.611	5.17	8.28	
PFHxS	1500	4.90	25.8	41.4	D
PFOA	341	0.674	5.17	8.28	
PFOS	1160	4.17	25.8	41.4	D
PFNA	114	0.838	5.17	8.28	
PFDA	3.29	1.54	5.17	8.28	J
MeFOSAA	ND	1.71	5.17	8.28	
PFUnA	ND	1.09	5.17	8.28	
EtFOSAA	ND	1.42	5.17	8.28	
PFDoA	ND	0.819	5.17	8.28	
PFTrDA	ND	0.511	5.17	8.28	
PFTeDA	ND	0.781	5.17	8.28	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	142	50 - 150	
IS	13C2-PFHxA	109	50 - 150	D
IS	13C4-PFHpA	99.6	50 - 150	
IS	18O2-PFHxS	113	50 - 150	D
IS	13C2-PFOA	108	50 - 150	
IS	13C8-PFOS	105	50 - 150	D
IS	13C5-PFNA	100	50 - 150	
IS	13C2-PFDA	94.5	50 - 150	
IS	d3-MeFOSAA	108	50 - 150	
IS	13C2-PFUnA	89.5	50 - 150	
IS	d5-EtFOSAA	97.7	50 - 150	
IS	13C2-PFDoA	97.6	50 - 150	
IS	13C2-PFTeDA	92.6	50 - 150	

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: RB-05-20170718

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 18-Jul-2017 18:00
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.122 L

Laboratory Data

Lab Sample: 1700906-06
QC Batch: B7G0105
Date Analyzed: 25-Jul-17 00:47 Column: BEH C18
Date Received: 19-Jul-2017 9:15
Date Extracted: 24-Jul-2017 7:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.84	5.12	8.23	
PFHxA	ND	2.24	5.12	8.23	
PFHpA	ND	0.608	5.12	8.23	
PFHxS	ND	0.974	5.12	8.23	
PFOA	ND	0.670	5.12	8.23	
PFOS	ND	0.830	5.12	8.23	
PFNA	ND	0.833	5.12	8.23	
PFDA	ND	1.53	5.12	8.23	
MeFOSAA	ND	1.70	5.12	8.23	
PFUnA	ND	1.08	5.12	8.23	
EtFOSAA	ND	1.41	5.12	8.23	
PFDoA	ND	0.815	5.12	8.23	
PFTrDA	ND	0.508	5.12	8.23	
PFTeDA	ND	0.777	5.12	8.23	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	150	50 - 150	
IS	13C2-PFHxA	106	50 - 150	
IS	13C4-PFHpA	96.7	50 - 150	
IS	18O2-PFHxS	122	50 - 150	
IS	13C2-PFOA	93.7	50 - 150	
IS	13C8-PFOS	120	50 - 150	
IS	13C5-PFNA	98.4	50 - 150	
IS	13C2-PFDA	103	50 - 150	
IS	d3-MeFOSAA	82.3	50 - 150	
IS	13C2-PFUnA	79.3	50 - 150	
IS	d5-EtFOSAA	80.7	50 - 150	
IS	13C2-PFDoA	76.2	50 - 150	
IS	13C2-PFTeDA	71.0	50 - 150	

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
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

Submit by Email*

Vista

CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY
Laboratory Project ID: 1700906 Temp 4.0 °C
Storage ID: WR-2 Storage Secured: Yes ☑ No ☐

TAT: (Check One)
Standard ◉ 21 days
Rush (surcharge may apply)
◯ 14 days ◯ 7 days Specify:

Project I.D.: NAWC Trenton P.O. #: 1132341-WR3 Sampler: Chuck Myer (Name)

Invoice to: Name	Company	Address	City	State	Zip	Ph#	Fax #
Tetra Tech	Foster Plaza VII	661 Anderson Drive	Pittsburgh	PA	15220	412-921-7090	412-921-4040

Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Chuck Myer	7/18/2017	18:00	Marissa Sparks	7/19/17	0932
Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

See "Sample Log-in Checklist" for additional sample information

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.: 6612 1992 7209

ATTN: Sample Custodian

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA1613 2378-TCDD	EPA1613 2378-TCDD/TCDF	EPA8290 PCDD/PCDF	EPA8290 2378-TCDD	EPA8280 2378-TCDD/TCDF	EPA8280 PCDD/PCDF	EPA1668 2378-TCDD	EPA1668 2378-TCDD/TCDF	EPA1614 PCDD/PCDF	CARB429 TOTALS	CARB429 COPLANAR PCBs	CARB429 209 CONGENERS	CARB429 PBDE	CARB429 PAH	CARB429 WHO-29	UCMR3 EPA Method 537 PFAS 14
MW-50BR-20170717	7/17/17	13:55	Trenton	2	PJ	AQ															x	
MW-06BR-20170717	7/17/17	16:10	Trenton	2	PJ	AQ															x	
RB-04-20170717	7/17/17	18:00	Trenton	2	PJ	AQ															x	
MW-12BR-20170718	7/18/17	13:00	Trenton	2	PJ	AQ															x	
MW-02BR-20170718	7/18/17	15:15	Trenton	2	PJ	AQ															x	
RB-05-20170718	7/18/17	18:00	Trenton	2	PJ	AQ															x	

Special Instructions/Comments:
FedEx 6612 1992 7209

SEND DOCUMENTATION AND RESULTS TO:
Name: Mary Mang
Company: Tetra Tech
Address: 234 Mall Blvd Suite 260
City: King of Prussia State: PA Zip: 19406
Phone: 610-382-1174 Fax: 610-491-9645
Email: mary.mang@tetratech.com

Container Types: A = 1 Liter Amber, G = Glass Jar
P = PUF, T = MM5 Train, O = Other PJ

***Bottle Preservative Type:** ☐ T = Thiosulfate,
☐ O = Other

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

Vista Analytical Laboratory

Sample Log-in Checklist

Vista Work Order #: 1700906 **TAT** SH

Samples Arrival:	**Date/Time** 7/19/17 0915	**Initials:** MWS	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 07/19/17 1337	**Initials:** JBJB	**Location:** WR.2 **Shelf/Rack:** A4

Delivered By:	(FedEx)	UPS	On Trac	GSO	DHL	Hand Delivered	Other
Preservation:	(Ice)		Blue Ice		Dry Ice		None

Temp °C: 4.4	(uncorrected)	**Time:** 0930	**Thermometer ID:** IR-2
Temp °C: 4.0	(corrected)	**Probe used:** Yes☐ No☒	

	YES	NO	NA
Adequate Sample Volume Received? A/B	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Shipping Documentation Present?	✓		
Airbill — Trk # 6612 1992 7209	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

Preservation Documented:	$Na_2S_2O_3$	Trizma	(None)	Yes	No	(NA)
Shipping Container	Vista	(Client)	Retain	(Return)	Dispose	

Comments:

Correspondence

Karen Volpendesta

From: Karen Volpendesta
Sent: Tuesday, July 25, 2017 7:57 AM
To: 'Ritchie, Megan'
Cc: Mang, Mary; Martha Maier
Subject: RE: Vista Work Order #1700906; NAWC Trenton

Good morning Megan,

Ok, we will keep the Work Orders as is. I will email the sample receiving acknowledgements in separate emails.

Thank you,
Karen

From: Ritchie, Megan [mailto:Megan.Ritchie@tetratech.com]
Sent: Tuesday, July 25, 2017 5:06 AM
To: Karen Volpendesta <kvol@vista-analytical.com>
Cc: Mang, Mary <Mary.Mang@tetratech.com>
Subject: RE: Vista Work Order #1700906; NAWC Trenton

Karen,

That works for us to keep the 6 samples in their own SDG.

Thanks,
Megan

From: Karen Volpendesta [mailto:kvol@vista-analytical.com]
Sent: Monday, July 24, 2017 7:29 PM
To: Mang, Mary <Mary.Mang@tetratech.com>; Ritchie, Megan <Megan.Ritchie@tetratech.com>
Subject: FW: Vista Work Order #1700906; NAWC Trenton

Mary, Megan,

The attached document states that all SDGs must contain 20 samples.

For Vista Work Order #1700906, there are only 6 samples. Is that ok?

We also received samples on Friday, 7/21 with 17 samples and samples on Saturday, 7/22 with 6 samples. Please advise on the SDGs and I will send out the sample receiving acknowledgement for the samples we recently received.

Thank you,
Karen

From: Karen Volpendesta
Sent: Thursday, July 20, 2017 9:32 AM
To: Mang, Mary <Mary.Mang@tetratech.com>; Ritchie, Megan <Megan.Ritchie@tetratech.com>

Cc: Martha Maier <mmaier@vista-analytical.com>
Subject: Vista Work Order #1700906; NAWC Trenton

Mary,

Please find attached the sample receiving acknowledgement for Vista Analytical Work Order: 1700906.

These samples will be analyzed by Modified EPA Method 537 for the list of 14 analytes.

If you have any questions, please contact me or Martha Maier at (916) 673-1520. We appreciate your business.

Best Regards,

Karen L. Volpendesta
(formerly Lopez)
Project Manager

Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
Phone: (916) 673-1520
www.vista-analytical.com
Hours: Monday, Tuesday, & Thursday, 8am-4:30pm

A woman-owned, small business enterprise.

EXTRACTION INFORMATION

Process Sheet

Workorder: 1700906

Prep Expiration: 2017-Aug-01
Client: Tetra Tech

Workorder Due: 09-Aug-17 00:00

TAT: 21

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

Prep Batch: B760105

Prep Data Entered: HB 7/25/17
Date and Initials

Version: 537 (14 Analyte)

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700906-01	☑	MW-50BR-20170717	19-Jul-17 09:15	WR-2 A-4	
1700906-02	☑	MW-06BR-20170717	19-Jul-17 09:15	WR-2 A-4	
1700906-03	☑	RB-04-20170717	19-Jul-17 09:15	WR-2 A-4	
1700906-04	☑	MW-12BR-20170718	19-Jul-17 09:15	WR-2 A-4	
1700906-05	☑	MW-02BR-20170718	19-Jul-17 09:15	WR-2 A-4	
1700906-06	☑	RB-05-20170718	19-Jul-17 09:15	WR-2 A-4	

WO Comments: **Attach balance check doc.**

Vista PM: Martha Maier

Vial Box ID: So fish treated

Sample Reconciled By: BP 7/24/17

Vista Analytical Laboratory

HRMS - 8

BALANCE CALIBRATION CHECK

Weights # 22370 and 7718

Date	☑ for Weight # verification	Weight 1 1 g (0.9900 – 1.0100)	Weight 2 100 g (99.00 – 101.00)	Weight 3 2000 g (1980 – 2020)	Initials	Acceptable? (Y/N)
7/19/17	✓	1.00	100.00	2000.00	KBF	Y
7/20/17	✓	1.01	100.01	2000.04	BSS	Y
7/21/17	✓	0.99	100.00	2000.00	EL	Y
7.24.17	✓	1.00	100.01	2000.01	BP	Y
7/24/17	✓	1.00	100.01	2000.00	EL	Y
7/25/17	✓	1.00	99.99	2000.02	HB	Y

Comments:

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS

Method: 537M PFAS DOD (LOO as mRL)

B7G0105

Chemist: BP

Prep Date/Time: 24-Jul-17 07:38

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 C7G0087	RS CHEM/WIT DATE
☐	B7G0105-BLK1	5	2	0	3	NA	NA	(0.250)	BP KBF 7/24/17	BP KBF 7/24/17	BP KBF 7/24/17
☐	B7G0105-BS1	5	2	0	3	↓	↓	↓	↓	↓	↓
☐	B7G0105-MS1 1700907-03	6	2	0	3	145.15	27.03	0.11812			
☐	B7G0105-MSD1 1700907-03	6	2	0	3	148.62	26.97	0.12165			
☐	1700906-01 (A)	5	2	0	2	147.83	26.76	0.12107			
☐	1700906-02 (A)	5	2	0	2	147.52	26.69	0.12083			
☐	1700906-03	5	2	0	2	146.92	26.74	0.12018			
☐	1700906-04 (A)	5	2	0	2	147.98	26.71	0.12127			
☐	1700906-05 (A)	5	2	0	2	147.56	26.76	0.12082			
☐	1700906-06	5	2	0	2	148.22	26.71	0.12151			
☐	1700907-01	5	2	0	2	146.82	27.02	0.11980			
☐	1700907-02	5	2	0	2	146.82	26.97	0.11985			
☐	1700907-03	6	2	0	3	147.40	27.00	0.12040			
☐	1700907-04 (A) (B)	6	2	0	3	147.63	27.10	0.12053			
☐	1700907-05	6	2	0	3	149.96	27.02	0.12294			
☐	1700907-06 (A) (B)	6	2	0	3	143.20	26.93	0.11627	↓	↓	↓

IS Name	NS Name	RS Name (V2)
17G1307, 10uL (L6)	17D2705, 10uL (W)	17F3038, 10mL

SPE Chem: Strata-X-AW 33um 200mg/6mL

Ele SOLV: MeOH / 0.5% NH_4OH in MeOH

Final Volume(s): 1 mL

Check Out: Chemist/Date: BP 7.24.17

Check In: Chemist/Date: NA

Balance ID: HRMS-8

pH Adjusted: Chemist/Date: HB 7/24/17

Comments: Assume 1 g = 1 mL (A) samples were centrifuged to remove particulate. HB 7/24/17 (B) samples still discolored after centrifuge. HB 7/24/17

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS

Method: 537M PFAS DOD (LOO as mRL)

B7G0105

Chemist: BP

Prep Date/Time: 24-Jul-17 07:38

Prepared using: LCMS - SPE Extraction-LCMS

C7G0087

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
☐	1700907-07	5	2	0	2	147.64	26.95	0.12069	BP KBF 7/24/17	BP KBF 7/24/17	BP KBF 7/24/17
☐	1700907-08	5	2	0	2	146.66	27.05	0.11961			
☐	1700907-09 (A)(B)	6	2	0	3	142.91	26.97	0.11594			
☐	1700907-10 (A)(B)(C)	6	2	0	3	140.91	27.06	0.11385			
☐	1700919-01	5	2	0	3	265.61	25.42	0.24019			
☐	1700919-02	5	2	0	3	271.98	25.49	0.24649			
☐	1700919-03	5	2	0	3	267.55	25.66	0.24189			

(A) samples were centrifuged to remove particulate. HB 7/24/17 (B) samples still discolored after centrifuge HB 7/24/17

(C) Glassware malfunction, sample lost during elution BP 7.24.17

IS Name	NS Name	RS Name (V2)	SPE Chem: Strata X-AW 33u 200mg/6mL	Check Out: Chemist/Date: BP 7.24.17
176 1307, 10mL (V6)	1702705, 10mL (V1)	17F 3038, 10mL	Ele SOLV: 0.5% NH4OH in MeOH/MeOH	Check In: Chemist/Date: NA
			Final Volume(s): 1mL	Balance ID: HRMS-8
				pH Adjusted: Chemist/Date: HB 7/24/17

Comments: Assume 1 g = 1 mL

Batch: B7G0105

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1700906-01	0.12107 ✓	NA	NA	1000	24-Jul-17 07:38	BAP			Aqueous	537M PFAS DOD (LOQ as
1700906-02	0.12083 ✓			1000	24-Jul-17 07:38	BAP			Aqueous	537M PFAS DOD (LOQ as
1700906-03	0.12018 ✓			1000	24-Jul-17 07:38	BAP			Aqueous	537M PFAS DOD (LOQ as
1700906-04	0.12127 ✓			1000	24-Jul-17 07:38	BAP			Aqueous	537M PFAS DOD (LOQ as
1700906-05	0.12082 ✓			1000	24-Jul-17 07:38	BAP			Aqueous	537M PFAS DOD (LOQ as
1700906-06	0.12151 ✓			1000	24-Jul-17 07:38	BAP			Aqueous	537M PFAS DOD (LOQ as
1700907-01	0.1198 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-02	0.11985 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-03	0.1204 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-03	0.1204 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS
1700907-04	0.12053 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-05	0.12294 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-06	0.11627 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-07	0.12069 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-08	0.11961 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-09	0.11594 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-10	0.11385 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700919-01	0.24019 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS
1700919-02	0.24649 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS
1700919-03	0.24189 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS
B7G0105-BLK1	0.25 ✓			1000	24-Jul-17 07:38	BAP				QC
B7G0105-BS1	0.25 ✓			1000	24-Jul-17 07:38	BAP	17D2705 ✓	10 ✓		QC
B7G0105-MS1	0.11812 ✓			1000	24-Jul-17 07:38	BAP	17D2705 ✓	10 ✓		QC
B7G0105-MSD1	0.12165 ✓			1000	24-Jul-17 07:38	BAP	17D2705 ✓	10 ✓		QC

HB 7/25/17

SAMPLE DATA – MODIFIED EPA METHOD 537

Vista Analytical Laboratory

Reviewed MM 7/28/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-58.qld

Last Altered: Tuesday, July 25, 2017 14:50:07 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 14:50:22 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_58, Date: 24-Jul-2017, Time: 23:42:34, ID: B7G0105-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7		3.54e3	0.250		2.96				
2	4	PFHxA	313.2 > 268.9		1.06e4	0.250		3.19				
3	5	PFHpA	363 > 318.9		2.23e4	0.250		3.45				
4	6	PFHxS	398.9 > 79.6	3.90e0	2.62e3	0.250		3.56	3.57	0.0186	0.0704	
5	8	PFOA	413 > 368.7		3.16e4	0.250		3.65				
6	10	PFNA	462.9 > 418.8		2.79e4	0.250		3.83				
7	12	PFOS	499 > 79.9		5.61e3	0.250		3.89				
8	13	PFDA	513 > 468.8		2.39e4	0.250		4.01				
9	15	N-MeFOSAA	570.1 > 419		5.12e3	0.250		4.03				
10	16	N-EtFOSAA	584.2 > 419		5.22e3	0.250		4.10				
11	17	PFUnA	562.9 > 518.9		2.71e4	0.250		4.17				
12	19	PFDoA	612.9 > 318.8		2.69e3	0.250		4.34				

AC 7/25/17

Vista Analytical Laboratory

Reviewed MM 7/28/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-58.qld

Last Altered: Tuesday, July 25, 2017 14:50:07 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 14:51:25 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_58, Date: 24-Jul-2017, Time: 23:42:34, ID: B7G0105-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	21	PFTrDA	662.9 > 618.9		2.69e3	0.250		4.50				
2	22	PFTeDA	712.9 > 668.8		1.69e4	0.250		4.68				
3	28	13C3-PFBA	216.1 > 171.8	1.75e4	1.96e4	0.250	0.820	1.54	1.56	11.1	54.4	108.7
4	29	13C3-PFPeA	266 > 221.8	2.75e4	3.53e4	0.250	0.248	2.77	2.81	3.90	62.8	125.6
5	30	13C3-PFBS	302 > 98.8	3.54e3	3.53e4	0.250	0.031	2.96	3.00	0.502	64.5	129.0
6	31	13C2-PFHxA	315 > 269.8	1.06e4	3.53e4	0.250	0.276	3.19	3.23	1.50	21.7	108.7
7	32	13C4-PFHpA	367.2 > 321.8	2.23e4	3.53e4	0.250	0.306	3.45	3.49	3.16	41.3	82.6
8	33	18O2-PFHxS	403 > 102.6	2.62e3	5.59e3	0.250	0.393	3.56	3.56	5.86	59.7	119.5
9	34	13C2-6:2 FTS	429.1 > 408.9	4.63e3	2.84e4	0.250	0.158	3.64	3.68	2.04	51.8	103.6
10	35	13C2-PFOA	414.9 > 369.7	3.16e4	2.84e4	0.250	1.067	3.65	3.69	13.9	52.2	104.4
11	36	13C5-PFNA	468.2 > 422.9	2.79e4	3.42e4	0.250	0.852	3.83	3.86	10.2	47.8	95.7
12	37	13C8-PFOSA	506.1 > 77.7	2.42e3	3.10e4	0.250	0.098	3.84	3.87	0.976	39.7	79.5
13	38	13C8-PFOS	507 > 79.9	5.61e3	5.54e3	0.250	0.936	3.89	3.91	12.7	54.1	108.3
14	39	13C2-PFDA	515.1 > 469.9	2.39e4	3.10e4	0.250	0.810	4.01	4.03	9.65	47.7	95.3
15	40	13C2-8:2 FTS	529.1 > 508.7	2.78e3	3.10e4	0.250	0.086	4.00	4.03	1.12	52.3	104.6
16	41	d3-N-MeFOSAA	573.3 > 419	5.12e3	3.10e4	0.250	0.014	4.03	4.06	2.06	603	92.7
17	42	d5-N-EtFOSAA	589.3 > 419	5.22e3	3.10e4	0.250	0.014	4.12	4.12	2.11	604	92.9
18	43	13C2-PFUnA	565 > 519.8	2.71e4	3.10e4	0.250	0.962	4.17	4.19	10.9	45.5	91.0
19	44	13C2-PFDoA	615 > 569.7	2.69e3	3.10e4	0.250	0.094	4.34	4.36	1.09	46.0	92.0
20	46	13C2-PFTeDA	714.8 > 669.6	1.69e4	3.10e4	0.250	0.694	4.68	4.71	6.82	39.3	78.6
21	48	13C2-PFHxDA	815 > 769.7	6.14e3	3.10e4	0.250	0.843	5.06	5.08	2.48	11.7	58.7
22	51	13C4-PFBA	217 > 171.8	1.96e4	1.96e4	0.250	1.000	1.54	1.56	12.5	50.0	100.0
23	52	13C5-PFHxA	318 > 272.9	3.53e4	3.53e4	0.250	1.000	3.19	3.23	5.00	20.0	100.0
24	53	13C3-PFHxS	401.9 > 79.9	5.59e3	5.59e3	0.250	1.000	3.56	3.56	12.5	50.0	100.0
25	54	13C8-PFOA	421.3 > 376	2.84e4	2.84e4	0.250	1.000	3.65	3.68	12.5	50.0	100.0
26	55	13C9-PFNA	472.2 > 426.9	3.42e4	3.42e4	0.250	1.000	3.83	3.86	12.5	50.0	100.0
27	56	13C4-PFOS	503 > 79.9	5.54e3	5.54e3	0.250	1.000	3.89	3.91	12.5	50.0	100.0
28	57	13C6-PFDA	519.1 > 473.7	3.10e4	3.10e4	0.250	1.000	4.01	4.03	12.5	50.0	100.0
29	58	13C7-PFUnA	570.1 > 524.8	3.10e4	3.10e4	0.250	1.000	4.17	4.20	12.5	50.0	100.0
30	59	Total PFBS	299 > 79.7	0.00e0	3.54e3	0.250		2.96		0.000		
31	60	Total PFHxS	398.9 > 79.6	3.90e0	2.62e3	0.250		3.52		0.0186	0.0704	
32	61	Total PFOA	413 > 368.7	0.00e0	3.16e4	0.250		3.65		0.000		

AC 7/25/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-58.qld

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Printed: Tuesday, July 25, 2017 14:51:25 Pacific Daylight Time

Name: 170724M1_58, Date: 24-Jul-2017, Time: 23:42:34, ID: B7G0105-BLK1 Method Blank 0.125, Description: Method Blank

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	62	Total PFOS	499 > 79.9	0.00e0	5.61e3	0.250		3.89		0.000		
34	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	5.12e3	0.250		4.03		0.000		
35	64	Total N-EtFOSAA	584.2 > 419	0.00e0	5.22e3	0.250		4.17		0.000		

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Vista Analytical Laboratory

Reviewed MM 7/25/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-58.qld

Last Altered: Tuesday, July 25, 2017 14:50:07 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 14:50:22 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_58, Date: 24-Jul-2017, Time: 23:42:34, ID: B7G0105-BLK1 Method Blank 0.125, Description: Method Blank

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.57	3.903	2621.499	0.019	MM	0.1

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7			31615.711		MM-I	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			5116.406		MM-I	

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419			5220.282		MM-I	

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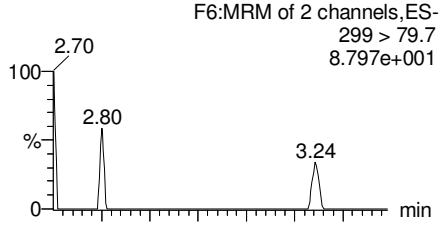
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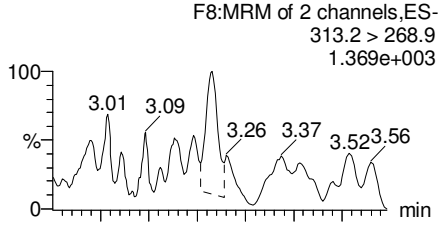
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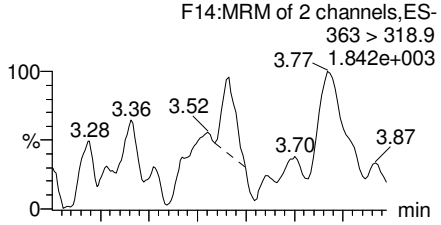
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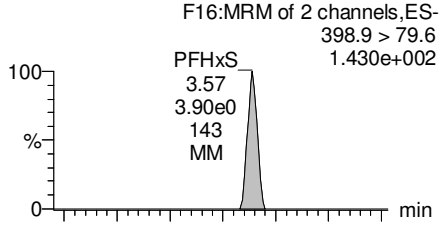
PFHxA



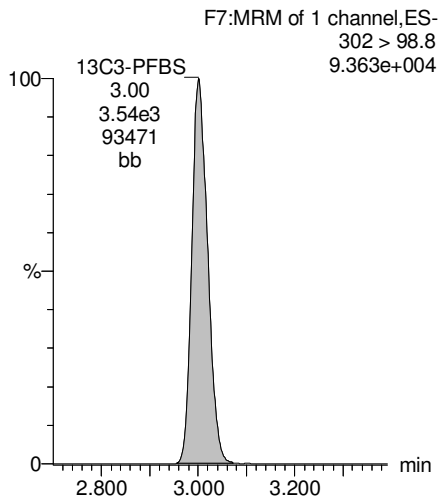
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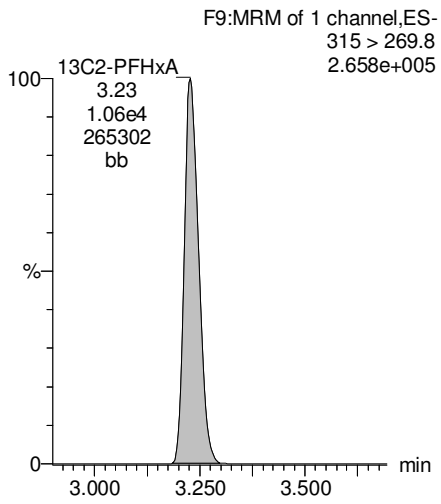
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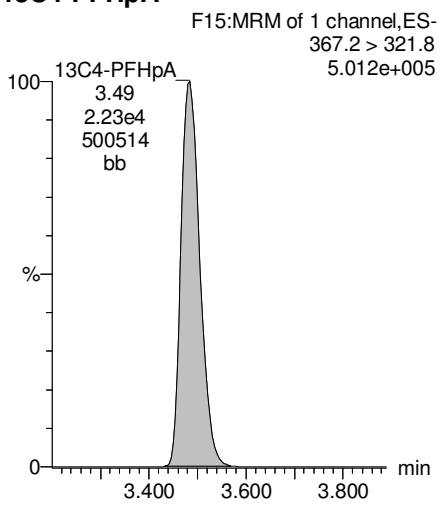
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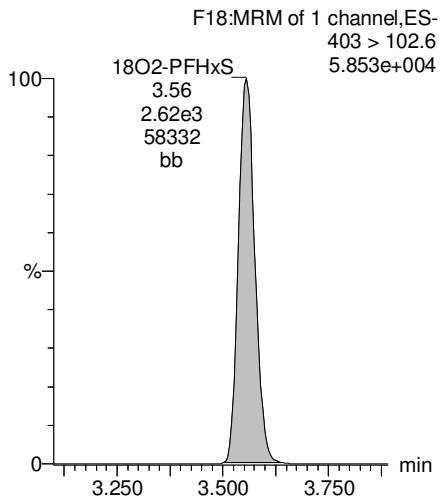
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



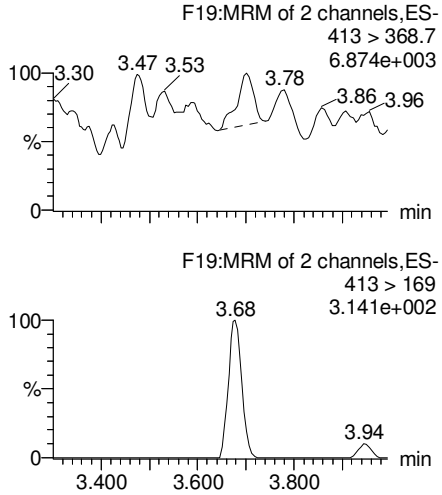
AC 7/25/17

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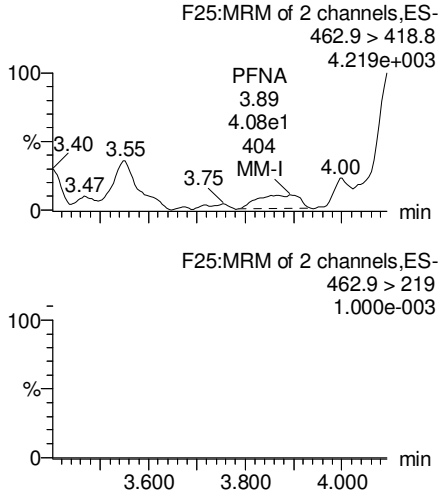
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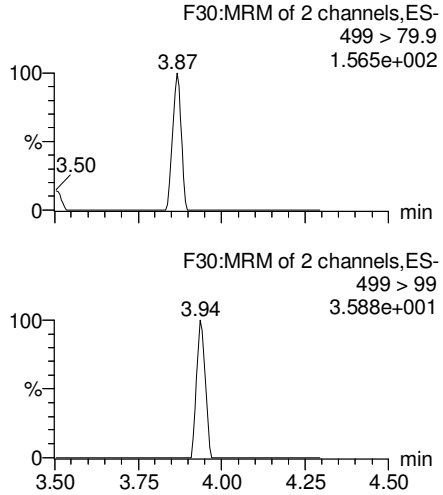
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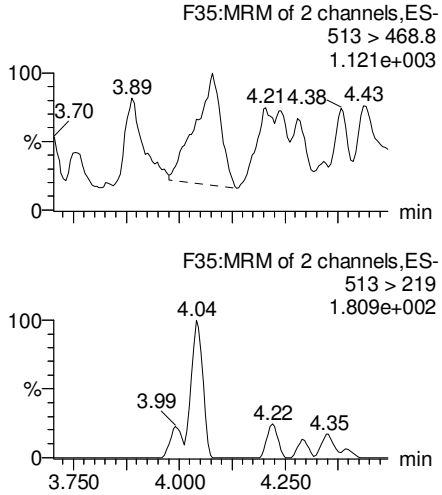
PFNA



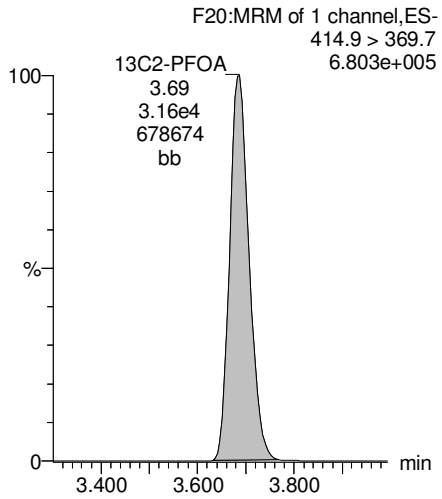
Total PFOS



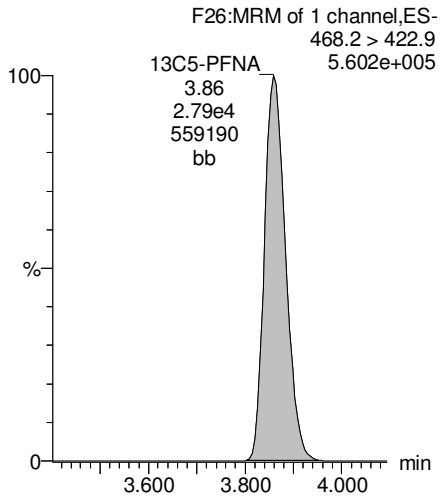
PFDA



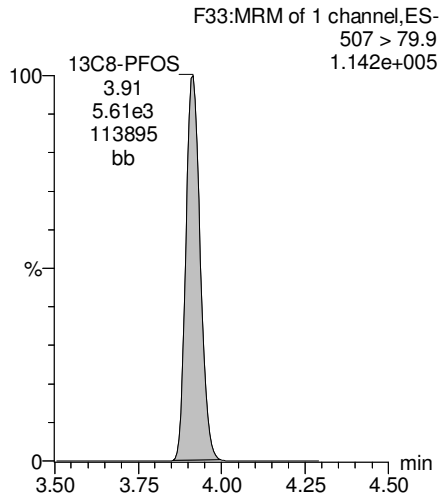
13C2-PFOA



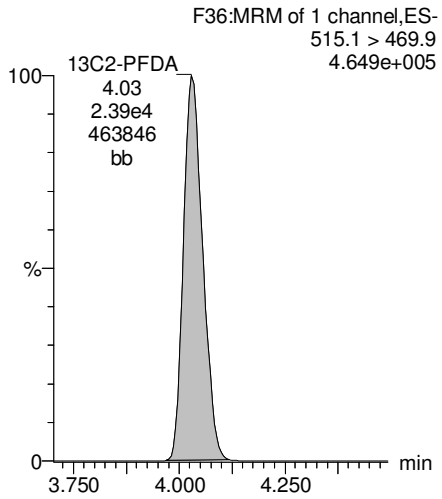
13C5-PFNA



13C8-PFOS



13C2-PFDA



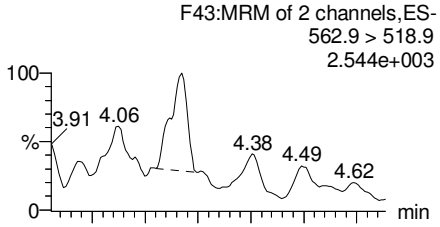
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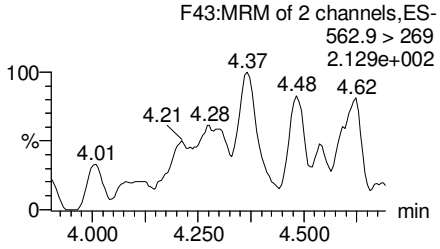
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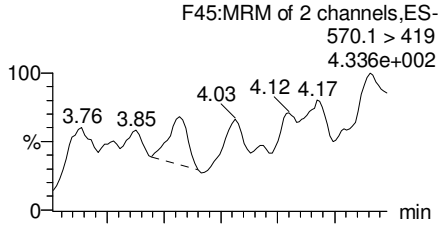
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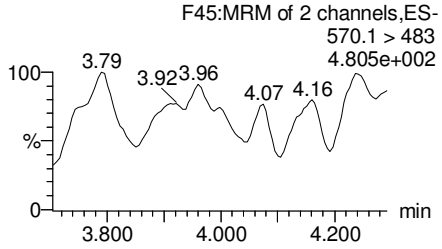
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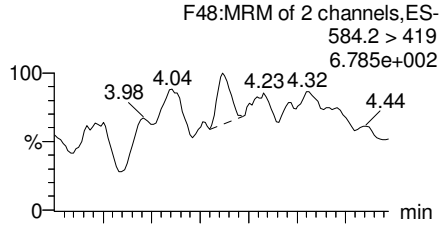


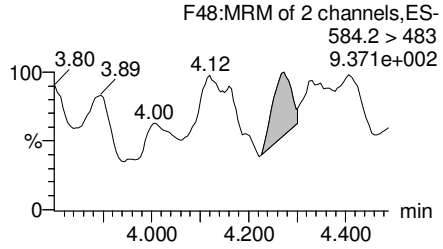
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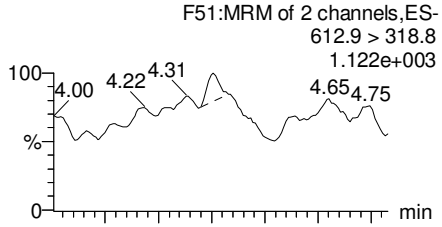


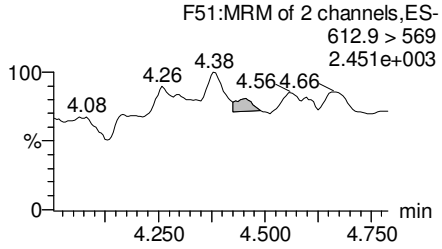
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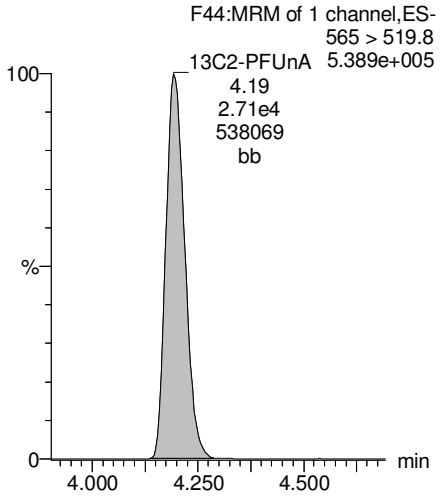


PFDoA

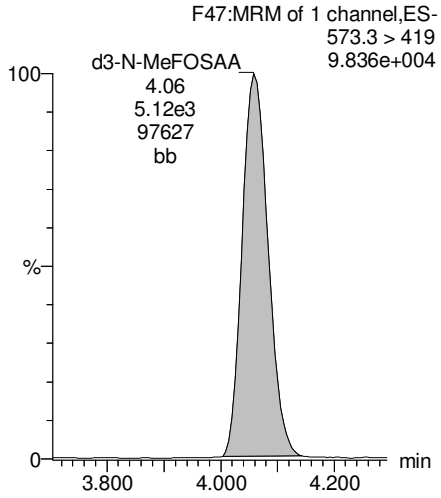




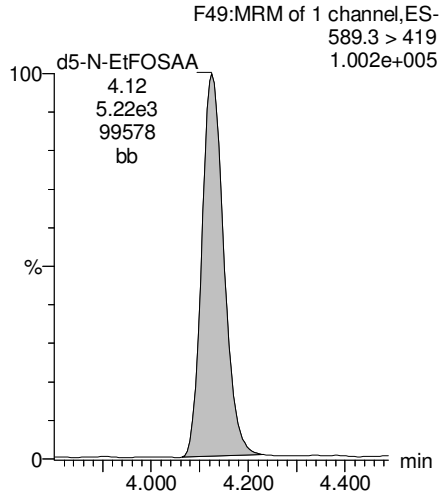
13C2-PFUnA



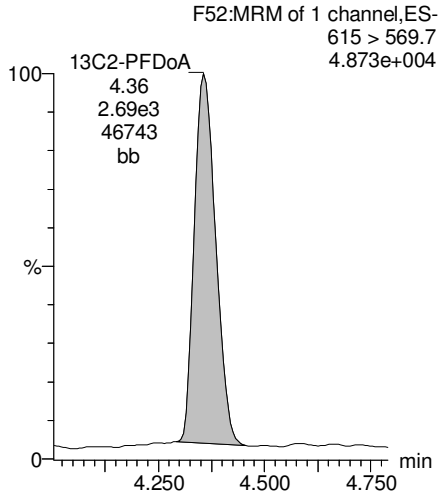
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



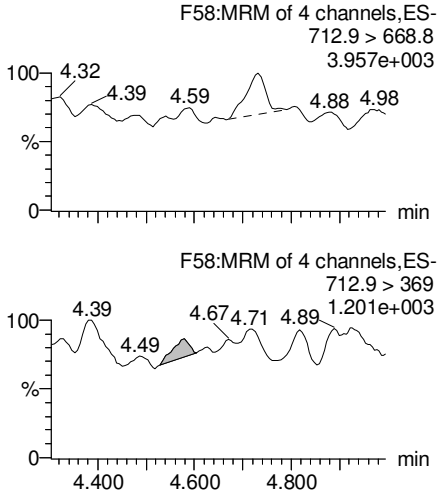
AC 7/25/17

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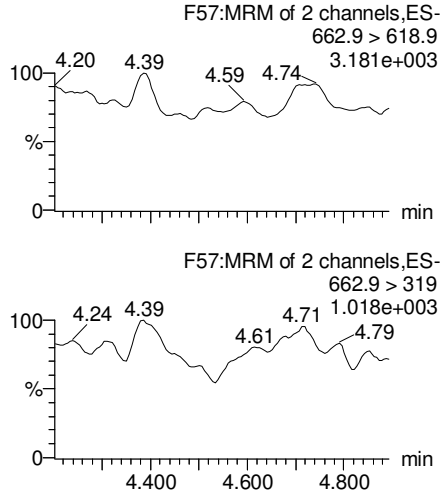
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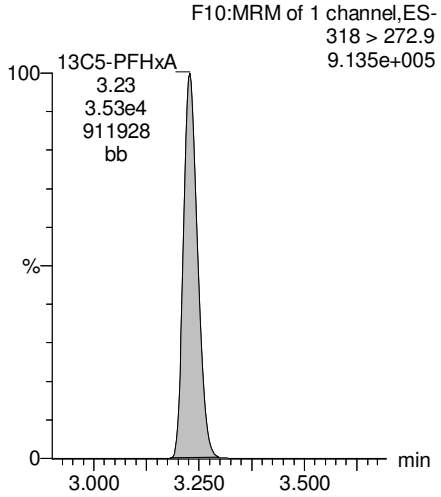
PFTeDA



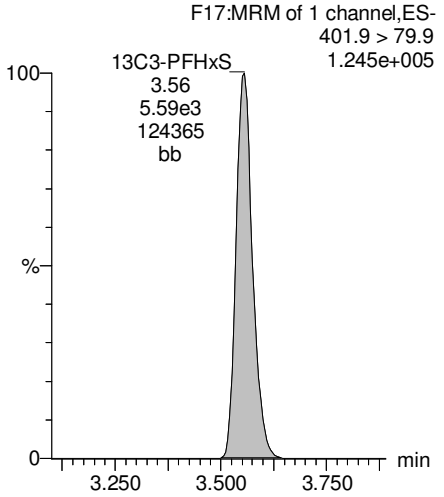
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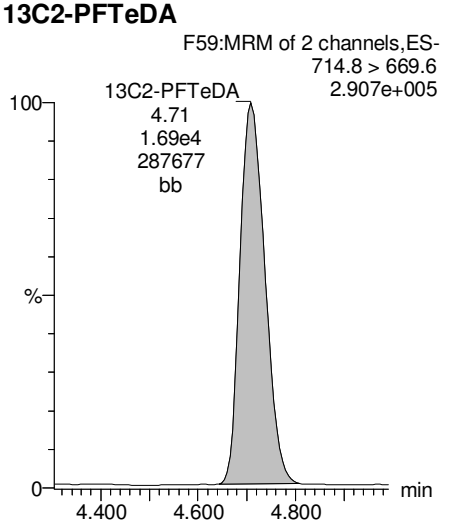
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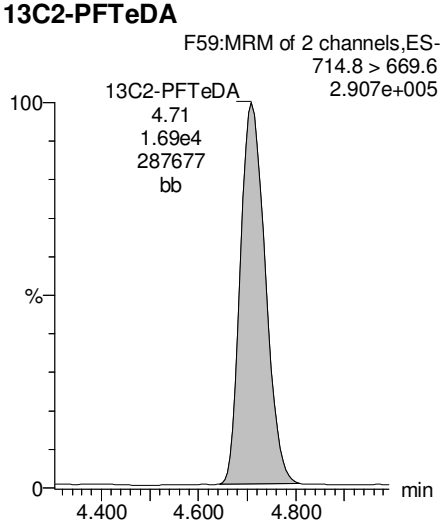
13C3-PFHxS



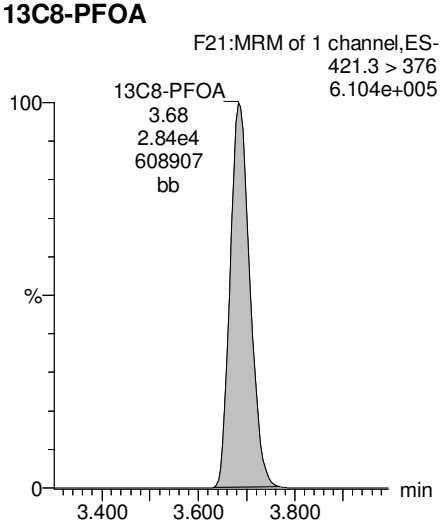
13C2-PFTeDA



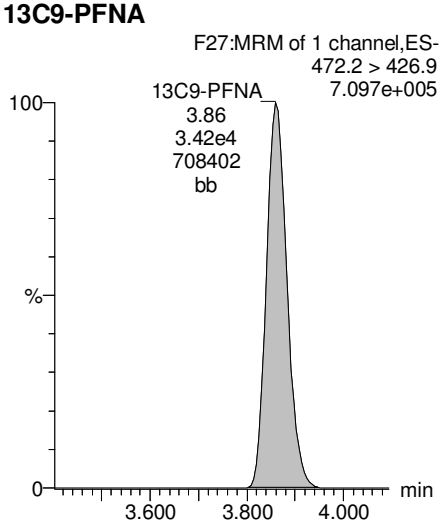
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



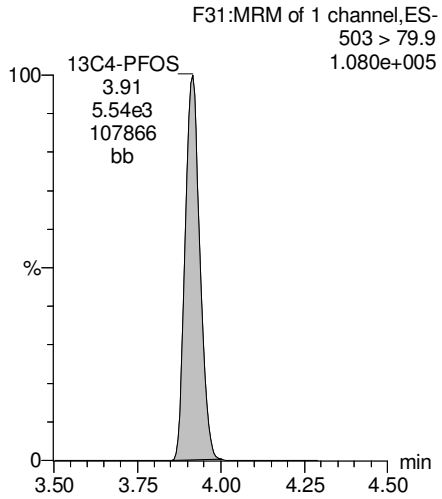
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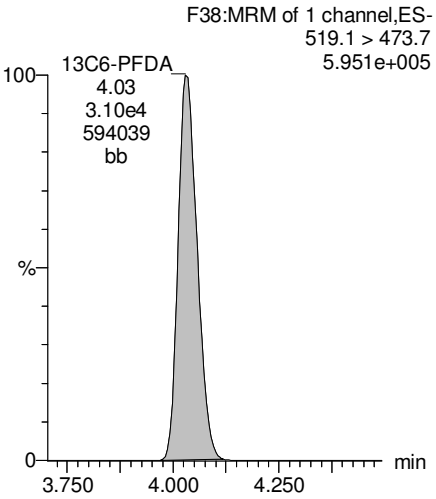
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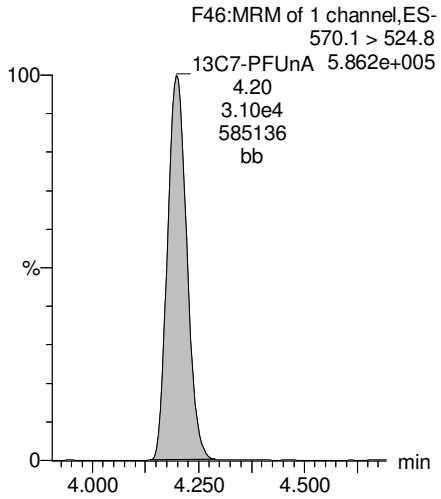
13C4-PFOS



13C6-PFDA



13C7-PFUnA



AC 7/25/17

Vista Analytical Laboratory

Reviewed MM 7/28/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-56.qld

Last Altered: Tuesday, July 25, 2017 14:45:12 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 14:46:01 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_56, Date: 24-Jul-2017, Time: 23:21:17, ID: B7G0105-BS1 OPR 0.125, Description: OPR

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	4.90e3	3.54e3	0.250		2.96	3.00	17.3	37.2	93.0
2	4	PFHxA	313.2 > 268.9	2.45e4	8.69e3	0.250		3.19	3.23	14.1	36.8	92.1
3	5	PFHpA	363 > 318.9	1.95e4	2.01e4	0.250		3.45	3.49	12.2	38.6	96.4
4	6	PFHxS	398.9 > 79.6	2.97e3	2.52e3	0.250		3.56	3.56	14.7	34.7	86.9
5	8	PFOA	413 > 368.7	2.29e4	3.03e4	0.250		3.65	3.68	9.45	38.1	95.3
6	10	PFNA	462.9 > 418.8	2.23e4	2.56e4	0.250		3.83	3.86	10.9	39.1	97.9
7	12	PFOS	499 > 79.9	4.27e3	5.82e3	0.250		3.89	3.91	9.17	31.0	77.5
8	13	PFDA	513 > 468.8	2.28e4	2.33e4	0.250		4.01	4.03	12.2	37.3	93.4
9	15	N-MeFOSAA	570.1 > 419	5.82e3	4.78e3	0.250		4.03	4.06	198	39.8	99.5
10	16	N-EtFOSAA	584.2 > 419	4.61e3	5.03e3	0.250		4.10	4.12	149	36.9	92.2
11	17	PFUnA	562.9 > 518.9	1.57e4	2.41e4	0.250		4.17	4.20	8.15	36.9	92.2
12	19	PFDoA	612.9 > 318.8	1.75e3	2.49e3	0.250		4.34	4.36	8.78	37.2	93.0

AC 7/25/17

Vista Analytical Laboratory

Reviewed MM 7/28/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-56.qld

Last Altered: Tuesday, July 25, 2017 14:45:12 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 14:46:39 Pacific Daylight Time

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_56, Date: 24-Jul-2017, Time: 23:21:17, ID: B7G0105-BS1 OPR 0.125, Description: OPR

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	21	PFTrDA	662.9 > 618.9	2.16e4	2.49e3	0.250		4.50	4.53	109	39.1	97.8
2	22	PFTeDA	712.9 > 668.8	1.48e4	1.65e4	0.250		4.68	4.71	11.2	38.9	97.1
3	28	13C3-PFBA	216.1 > 171.8	1.45e4	1.53e4	0.250	0.820	1.54	1.56	11.9	57.8	115.6
4	29	13C3-PFPeA	266 > 221.8	2.33e4	2.76e4	0.250	0.248	2.77	2.80	4.23	68.1	136.3
5	30	13C3-PFBS	302 > 98.8	3.54e3	2.76e4	0.250	0.031	2.96	3.00	0.641	82.4	164.9
6	31	13C2-PFHxA	315 > 269.8	8.69e3	2.76e4	0.250	0.276	3.19	3.23	1.58	22.8	114.0
7	32	13C4-PFHpA	367.2 > 321.8	2.01e4	2.76e4	0.250	0.306	3.45	3.49	3.64	47.6	95.2
8	33	18O2-PFHxS	403 > 102.6	2.52e3	5.31e3	0.250	0.393	3.56	3.56	5.93	60.4	120.8
9	34	13C2-6:2 FTS	429.1 > 408.9	4.26e3	2.51e4	0.250	0.158	3.64	3.67	2.12	53.9	107.8
10	35	13C2-PFOA	414.9 > 369.7	3.03e4	2.51e4	0.250	1.067	3.65	3.68	15.1	56.6	113.2
11	36	13C5-PFNA	468.2 > 422.9	2.56e4	2.59e4	0.250	0.852	3.83	3.86	12.3	57.9	115.8
12	37	13C8-PFOSA	506.1 > 77.7	1.93e3	2.85e4	0.250	0.098	3.84	3.87	0.848	34.5	69.1
13	38	13C8-PFOS	507 > 79.9	5.82e3	4.88e3	0.250	0.936	3.89	3.91	14.9	63.7	127.5
14	39	13C2-PFDA	515.1 > 469.9	2.33e4	3.00e4	0.250	0.810	4.01	4.03	9.71	47.9	95.9
15	40	13C2-8:2 FTS	529.1 > 508.7	2.75e3	3.00e4	0.250	0.086	4.00	4.02	1.15	53.5	107.1
16	41	d3-N-MeFOSAA	573.3 > 419	4.78e3	2.85e4	0.250	0.014	4.03	4.06	2.10	613	94.4
17	42	d5-N-EtFOSAA	589.3 > 419	5.03e3	2.85e4	0.250	0.014	4.12	4.12	2.21	634	97.5
18	43	13C2-PFUnA	565 > 519.8	2.41e4	2.85e4	0.250	0.962	4.17	4.19	10.6	43.9	87.9
19	44	13C2-PFDoA	615 > 569.7	2.49e3	2.85e4	0.250	0.094	4.34	4.36	1.09	46.3	92.5
20	46	13C2-PFTeDA	714.8 > 669.6	1.65e4	2.85e4	0.250	0.694	4.68	4.71	7.26	41.8	83.6
21	48	13C2-PFHxDA	815 > 769.7	4.97e3	2.85e4	0.250	0.843	5.06	5.08	2.18	10.4	51.8
22	51	13C4-PFBA	217 > 171.8	1.53e4	1.53e4	0.250	1.000	1.54	1.56	12.5	50.0	100.0
23	52	13C5-PFHxA	318 > 272.9	2.76e4	2.76e4	0.250	1.000	3.19	3.23	5.00	20.0	100.0
24	53	13C3-PFHxS	401.9 > 79.9	5.31e3	5.31e3	0.250	1.000	3.56	3.56	12.5	50.0	100.0
25	54	13C8-PFOA	421.3 > 376	2.51e4	2.51e4	0.250	1.000	3.65	3.68	12.5	50.0	100.0
26	55	13C9-PFNA	472.2 > 426.9	2.59e4	2.59e4	0.250	1.000	3.83	3.86	12.5	50.0	100.0
27	56	13C4-PFOS	503 > 79.9	4.88e3	4.88e3	0.250	1.000	3.89	3.91	12.5	50.0	100.0
28	57	13C6-PFDA	519.1 > 473.7	3.00e4	3.00e4	0.250	1.000	4.01	4.03	12.5	50.0	100.0
29	58	13C7-PFUnA	570.1 > 524.8	2.85e4	2.85e4	0.250	1.000	4.17	4.19	12.5	50.0	100.0
30	59	Total PFBS	299 > 79.7	4.90e3	3.54e3	0.250		2.96		17.3	37.2	
31	60	Total PFHxS	398.9 > 79.6	2.97e3	2.52e3	0.250		3.52		14.7	34.7	
32	61	Total PFOA	413 > 368.7	2.29e4	3.03e4	0.250		3.65		9.45	38.1	

AC 7/25/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-56.qld

Last Altered: Tuesday, July 25, 2017 14:45:12 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 14:46:39 Pacific Daylight Time

Name: 170724M1_56, Date: 24-Jul-2017, Time: 23:21:17, ID: B7G0105-BS1 OPR 0.125, Description: OPR

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
33	62	Total PFOS	499 > 79.9	4.27e3	5.82e3	0.250		3.89		9.17	31.0	
34	63	Total N-Me-FOSAA	570.1 > 419	5.82e3	4.78e3	0.250		4.03		198	39.8	
35	64	Total N-EtFOSAA	584.2 > 419	4.61e3	5.03e3	0.250		4.17		149	36.9	

AC 7/25/17

Reviewed MM 7/25/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-56.qld

Last Altered: Tuesday, July 25, 2017 14:45:12 Pacific Daylight Time
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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_56, Date: 24-Jul-2017, Time: 23:21:17, ID: B7G0105-BS1 OPR 0.125, Description: OPR

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.00	4895.586	3537.808	17.297	bb	37.2

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	2968.387	2521.699	14.714	MM	34.7

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.68	22877.299	30261.107	9.450	bb	38.1

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	4271.778	5823.700	9.169	MM	31.0

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419	4.06	5817.072	4782.984	197.633	bb	39.8

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419	4.12	4606.583	5032.711	148.741	bb	36.9

AC 7/25/17

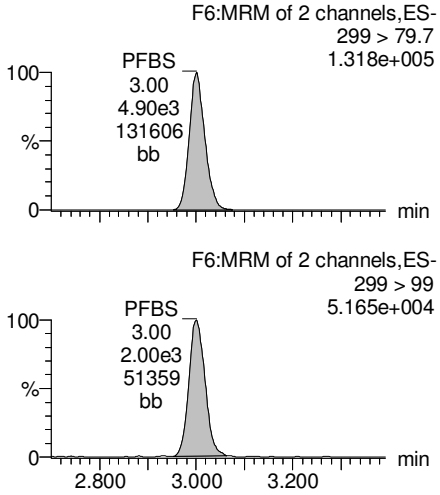
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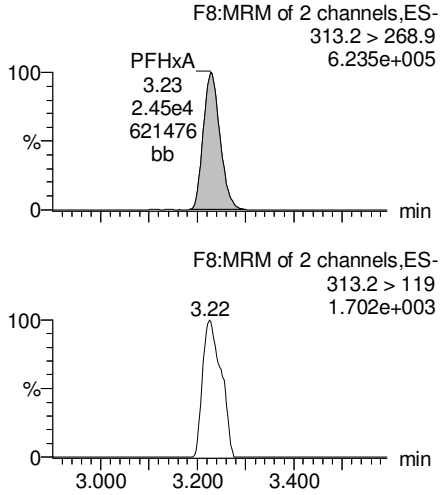
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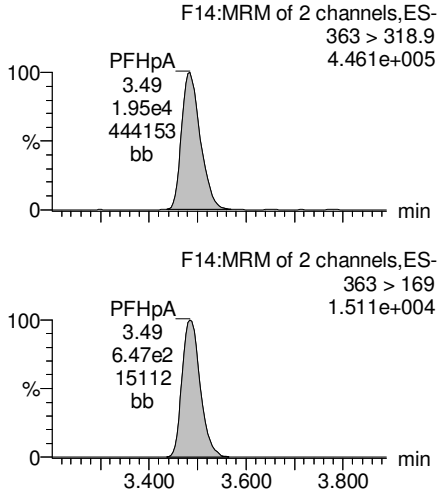
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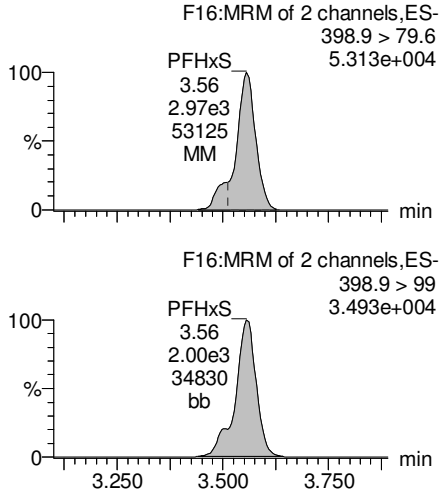
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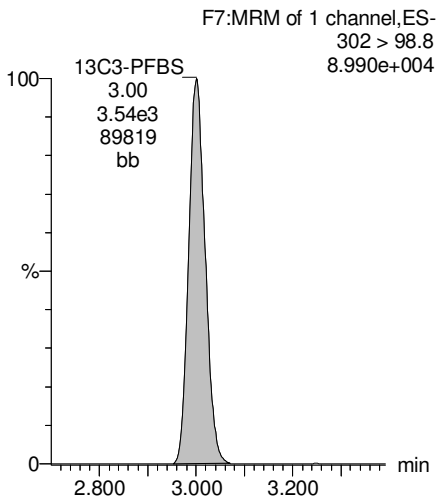
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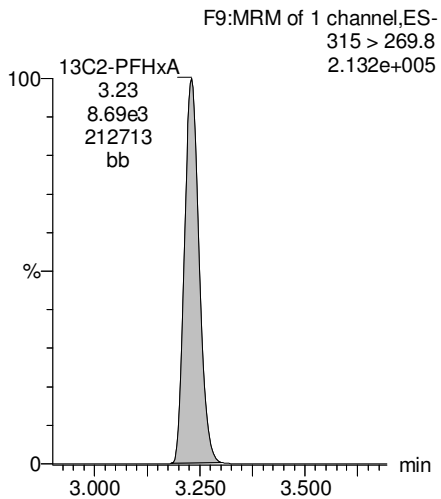
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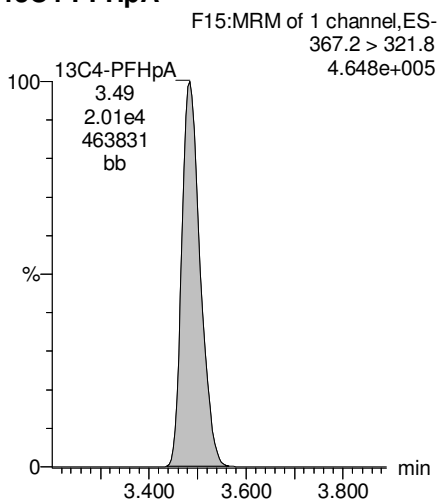
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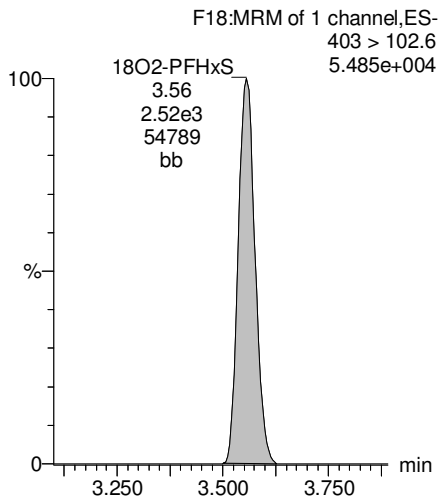
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13C4-PFHpA



18O2-PFHxS



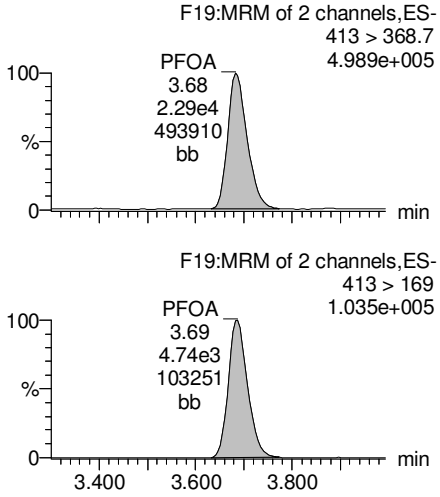
AC 7/25/17

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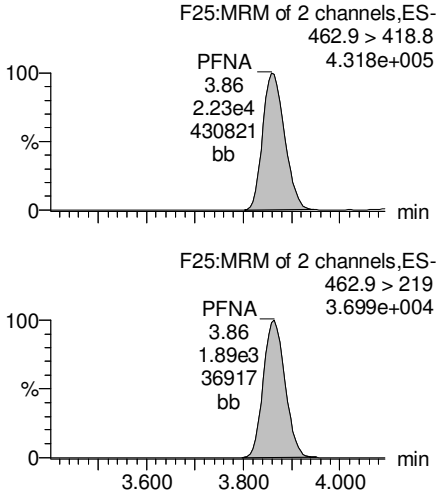
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Name: 170724M1_56, Date: 24-Jul-2017, Time: 23:21:17, ID: B7G0105-BS1 OPR 0.125, Description: OPR

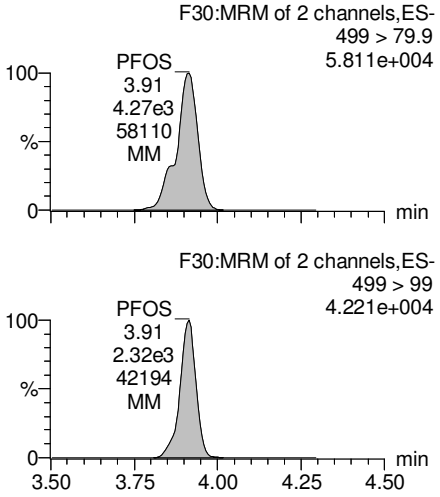
Total PFOA



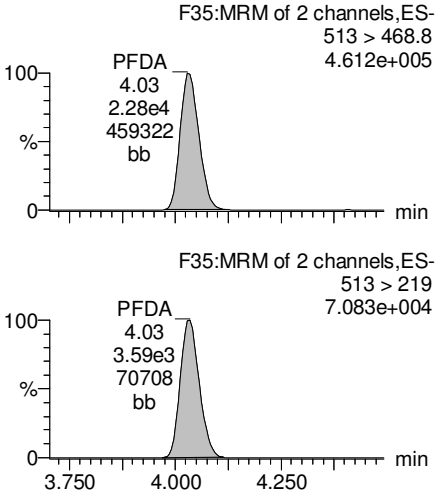
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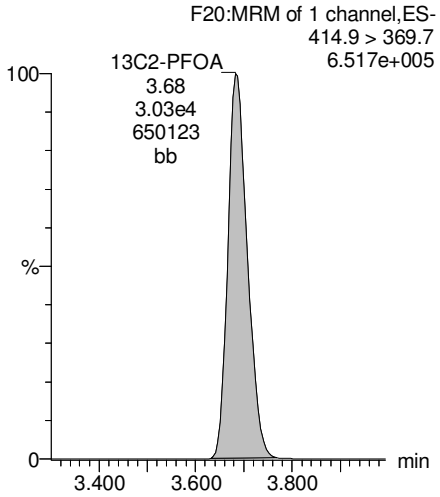
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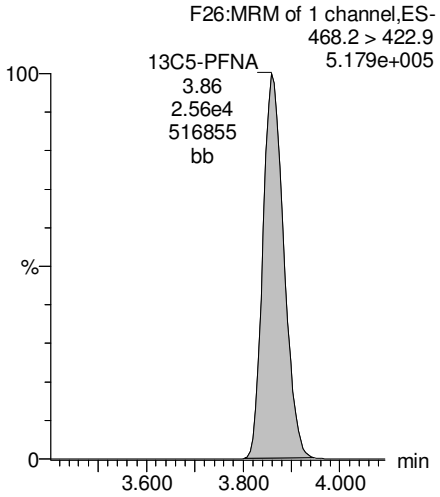
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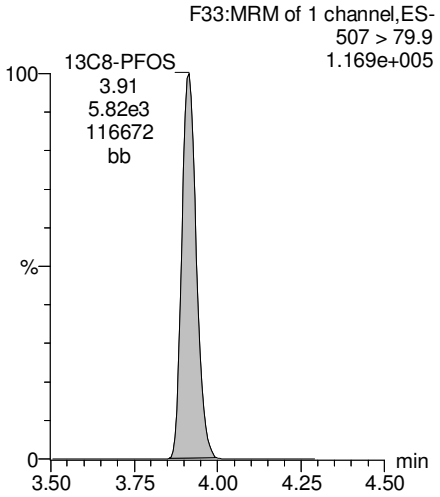
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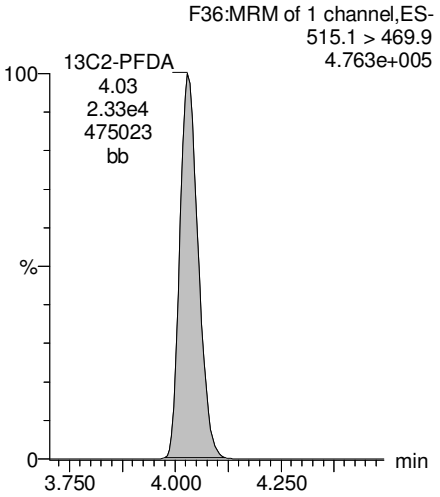
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13C8-PFOS



13C2-PFDA



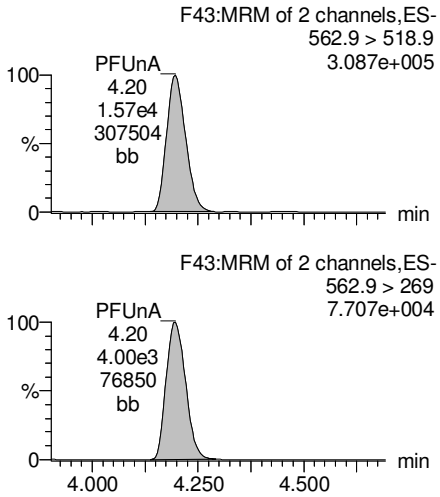
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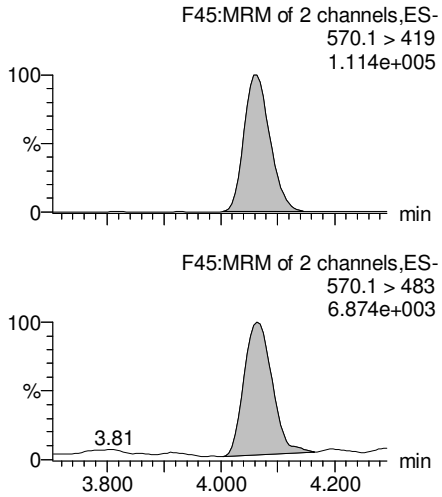
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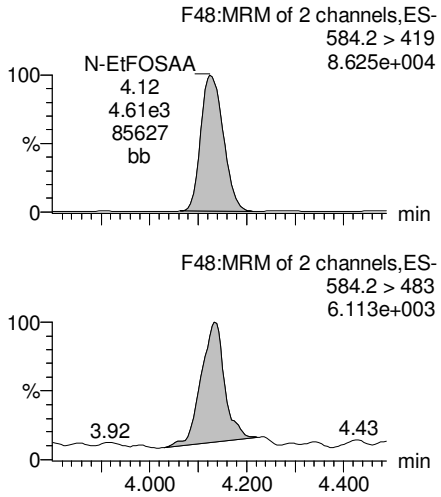
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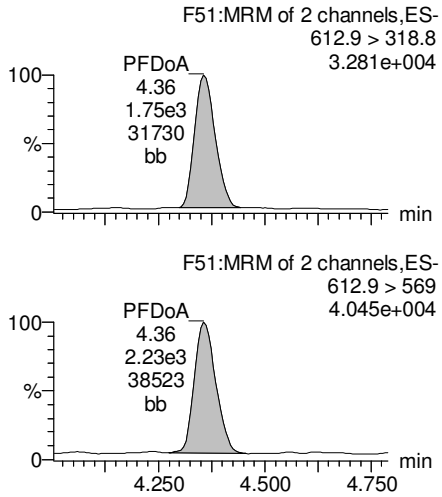
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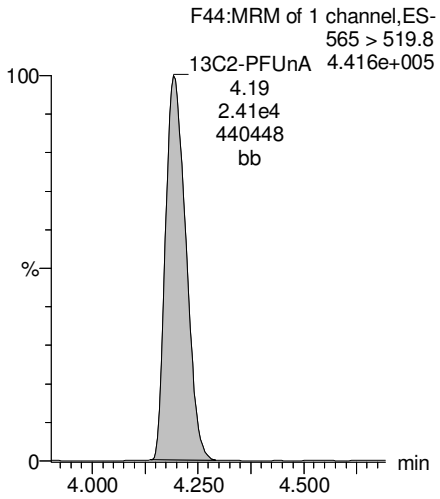
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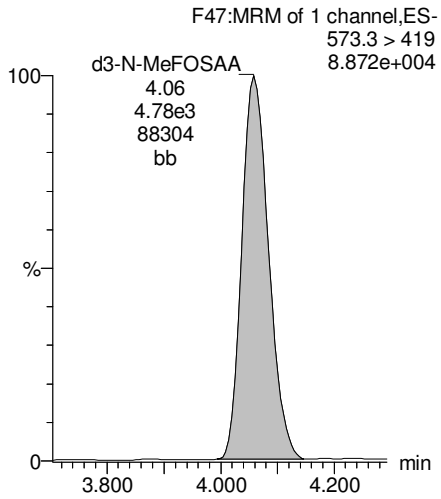
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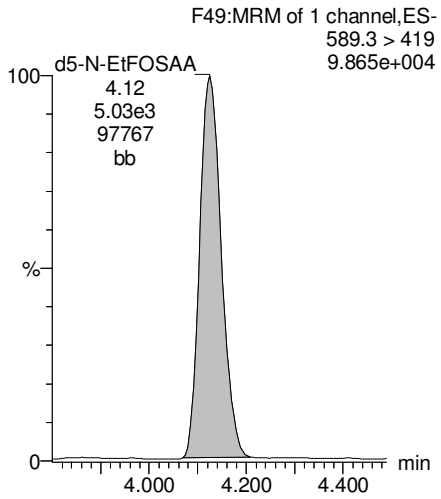
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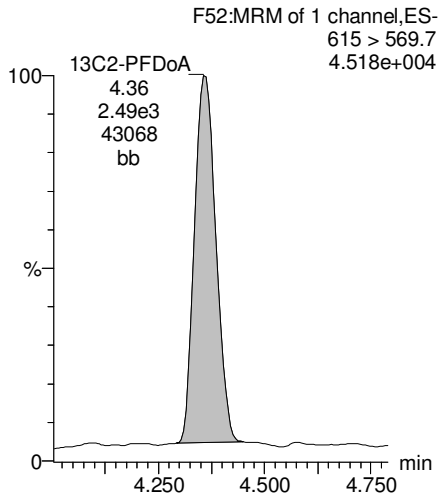
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



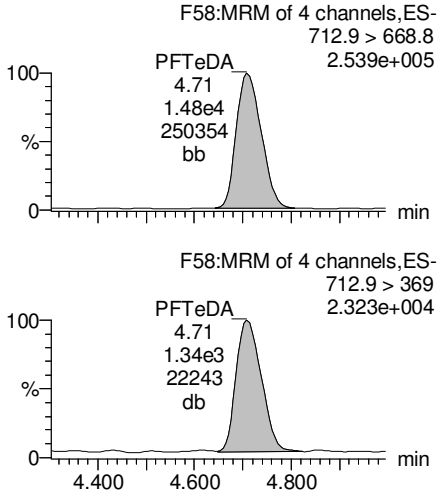
AC 7/25/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-56.qld

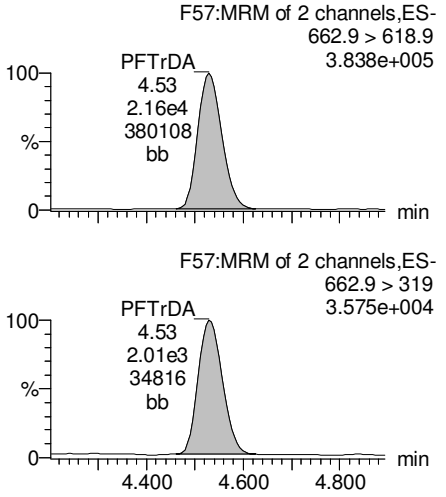
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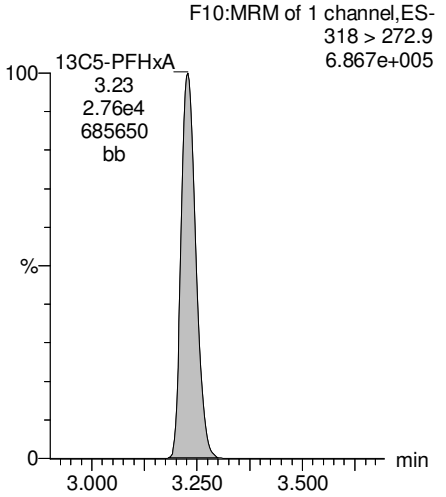
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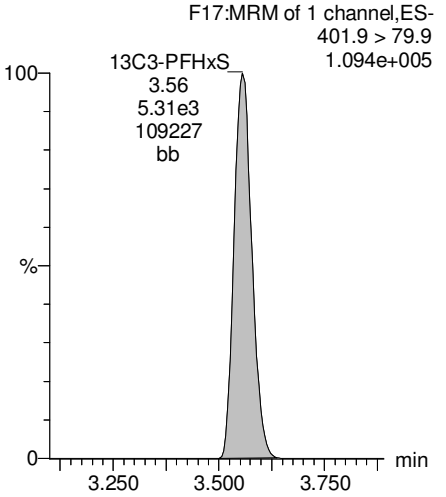
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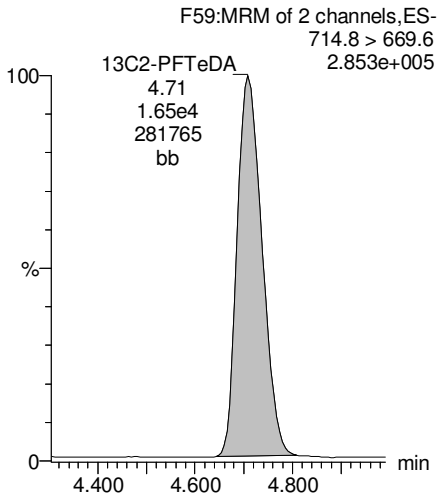
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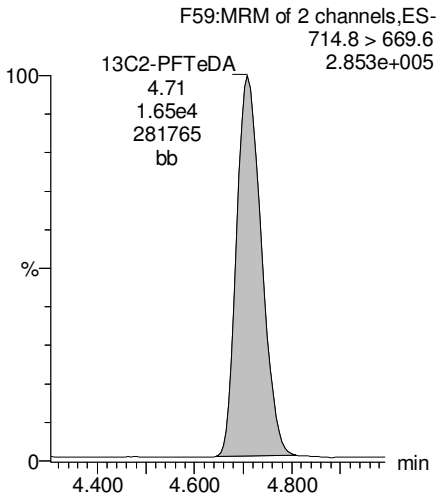
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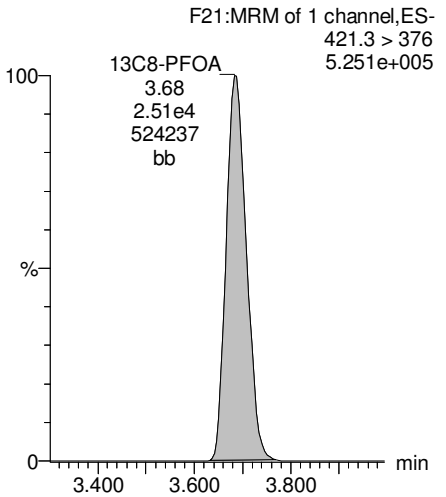
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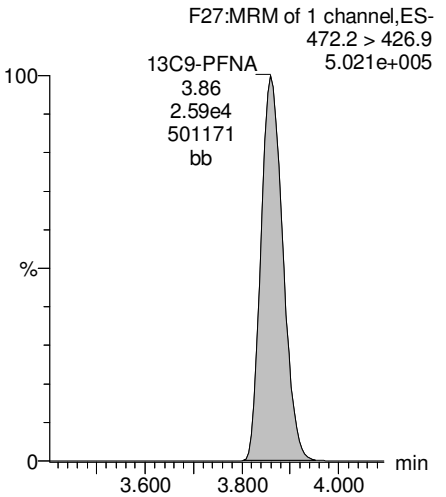
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



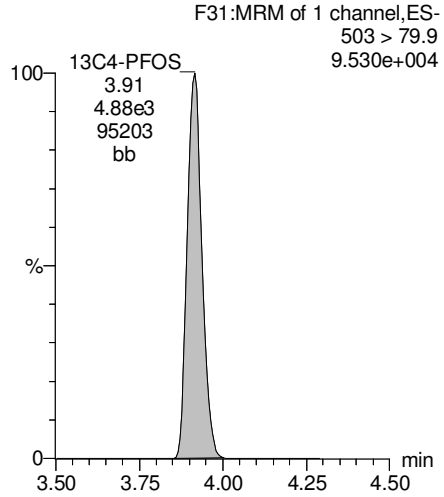
AC 7/25/17

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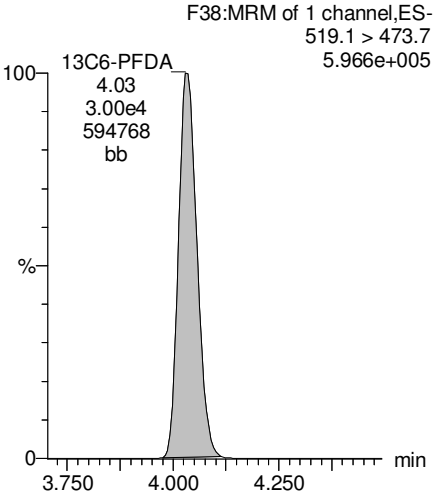
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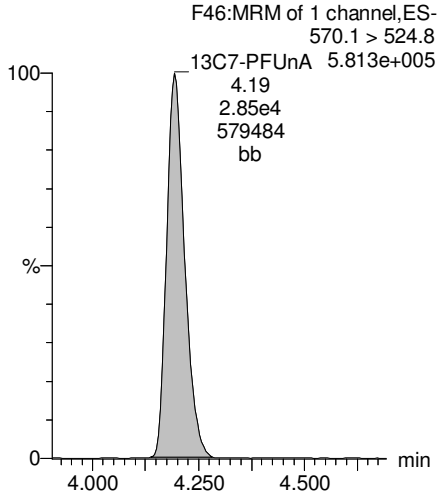
13C4-PFOS



13C6-PFDA



13C7-PFUnA



AC 7/25/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-59.qld

Last Altered: Monday, August 07, 2017 14:55:07 Pacific Daylight Time
Printed: Monday, August 07, 2017 14:57:11 Pacific Daylight Time

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_59, Date: 24-Jul-2017, Time: 23:53:12, ID: 1700906-01 MW-50BR-20170717 0.125, Description: MW-50BR-20170717

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	2.92e3	3.86e3	0.1211		2.96	3.00	9.46	41.9	
2	4	PFHxA	313.2 > 268.9	3.13e4	1.07e4	0.1211		3.19	3.23	14.6	78.8	
3	5	PFHpA	363 > 318.9	8.15e3	2.56e4	0.1211		3.45	3.49	3.97	25.6	
4	6	PFHxS	398.9 > 79.6	8.23e3	2.61e3	0.1211		3.56	3.56	39.4	195	
5	8	PFOA	413 > 368.7	5.83e3	3.62e4	0.1211		3.65	3.68	2.02	15.5	
6	10	PFNA	462.9 > 418.8	6.60e2	2.94e4	0.1211		3.83	3.86	0.280	1.00	
7	12	PFOS	499 > 79.9	6.58e3	5.98e3	0.1211		3.89	3.86	13.8	96.6	
8	13	PFDA	513 > 468.8	5.44e1	2.80e4	0.1211		4.01	4.02	0.0243		
9	15	N-MeFOSAA	570.1 > 419		6.41e3	0.1211		4.03				
10	16	N-EtFOSAA	584.2 > 419		6.96e3	0.1211		4.10				
11	17	PFUnA	562.9 > 518.9		3.23e4	0.1211		4.17				
12	19	PFDoA	612.9 > 318.8		2.87e3	0.1211		4.34				

AC 8/7/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-59.qld

Last Altered: Monday, August 07, 2017 14:55:07 Pacific Daylight Time
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Name: 170724M1_59, Date: 24-Jul-2017, Time: 23:53:12, ID: 1700906-01 MW-50BR-20170717 0.125, Description: MW-50BR-20170717

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	21	PFTrDA	662.9 > 618.9		2.87e3	0.1211		4.50				
2	22	PFTeDA	712.9 > 668.8		1.84e4	0.1211		4.68				
3	30	13C3-PFBS	302 > 98.8	3.86e3	3.54e4	0.1211	0.031	2.96	3.00	0.545	145	140.2
4	31	13C2-PFHxA	315 > 269.8	1.07e4	3.54e4	0.1211	0.276	3.19	3.23	1.52	45.4	109.9
5	32	13C4-PFHpA	367.2 > 321.8	2.56e4	3.54e4	0.1211	0.306	3.45	3.49	3.62	97.9	94.8
6	33	18O2-PFHxS	403 > 102.6	2.61e3	6.26e3	0.1211	0.393	3.56	3.56	5.22	110	106.3
7	34	13C2-6:2 FTS	429.1 > 408.9	5.11e3	3.18e4	0.1211	0.158	3.64	3.67	2.01	105	101.8
8	35	13C2-PFOA	414.9 > 369.7	3.62e4	3.18e4	0.1211	1.067	3.65	3.68	14.2	110	106.5
9	36	13C5-PFNA	468.2 > 422.9	2.94e4	3.42e4	0.1211	0.852	3.83	3.86	10.8	104	101.0
10	37	13C8-PFOSA	506.1 > 77.7	2.74e3	3.53e4	0.1211	0.098	3.84	3.87	0.971	81.7	79.1
11	38	13C8-PFOS	507 > 79.9	5.98e3	6.53e3	0.1211	0.936	3.89	3.91	11.4	101	97.8
12	39	13C2-PFDA	515.1 > 469.9	2.80e4	3.38e4	0.1211	0.810	4.01	4.03	10.4	106	102.3
13	40	13C2-8:2 FTS	529.1 > 508.7	3.60e3	3.38e4	0.1211	0.086	4.00	4.03	1.33	128	124.2
14	41	d3-N-MeFOSAA	573.3 > 419	6.41e3	3.53e4	0.1211	0.014	4.03	4.06	2.27	1370	102.1
15	42	d5-N-EtFOSAA	589.3 > 419	6.96e3	3.53e4	0.1211	0.014	4.12	4.12	2.47	1460	108.8
16	43	13C2-PFUnA	565 > 519.8	3.23e4	3.53e4	0.1211	0.962	4.17	4.19	11.5	98.4	95.3
17	44	13C2-PFDoA	615 > 569.7	2.87e3	3.53e4	0.1211	0.094	4.34	4.36	1.02	89.1	86.3
18	46	13C2-PFTeDA	714.8 > 669.6	1.84e4	3.53e4	0.1211	0.694	4.68	4.71	6.52	77.5	75.1
19	52	13C5-PFHxA	318 > 272.9	3.54e4	3.54e4	0.1211	1.000	3.19	3.23	5.00	41.3	100.0
20	53	13C3-PFHxS	401.9 > 79.9	6.26e3	6.26e3	0.1211	1.000	3.56	3.56	12.5	103	100.0
21	54	13C8-PFOA	421.3 > 376	3.18e4	3.18e4	0.1211	1.000	3.65	3.68	12.5	103	100.0
22	55	13C9-PFNA	472.2 > 426.9	3.42e4	3.42e4	0.1211	1.000	3.83	3.86	12.5	103	100.0
23	56	13C4-PFOS	503 > 79.9	6.53e3	6.53e3	0.1211	1.000	3.89	3.91	12.5	103	100.0
24	57	13C6-PFDA	519.1 > 473.7	3.38e4	3.38e4	0.1211	1.000	4.01	4.03	12.5	103	100.0
25	58	13C7-PFUnA	570.1 > 524.8	3.53e4	3.53e4	0.1211	1.000	4.17	4.20	12.5	103	100.0
26	59	Total PFBS	299 > 79.7	3.02e3	3.86e3	0.1211		2.96		9.77	42.9	
27	60	Total PFHxS	398.9 > 79.6	8.23e3	2.61e3	0.1211		3.52		39.4	195	
28	61	Total PFOA	413 > 368.7	6.43e3	3.62e4	0.1211		3.65		2.22	15.5	
29	62	Total PFOS	499 > 79.9	6.58e3	5.98e3	0.1211		3.89		13.8	96.6	
30	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	6.41e3	0.1211		4.03		0.000		
31	64	Total N-EtFOSAA	584.2 > 419	0.00e0	6.96e3	0.1211		4.17		0.000		

AC 8/7/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-59.qld

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Printed: Monday, August 07, 2017 14:57:11 Pacific Daylight Time

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Name: 170724M1_59, Date: 24-Jul-2017, Time: 23:53:12, ID: 1700906-01 MW-50BR-20170717 0.125, Description: MW-50BR-20170717

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.00	2921.536	3859.108	9.463	bb	41.9
2	59	Total PFBS	299 > 79.7	2.89	93.560	3859.108	0.303	bb	1.0

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	8231.446	2612.834	39.380	MM	194.5

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.68	5834.700	36157.746	2.017	db	15.5
2	61	Total PFOA	413 > 368.7	3.63	593.461	36157.746	0.205	bd	0.0

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.86	6582.954	5975.961	13.770	MM	96.6

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
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AC 8/7/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

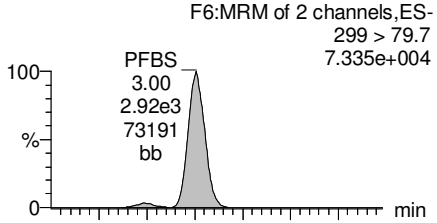
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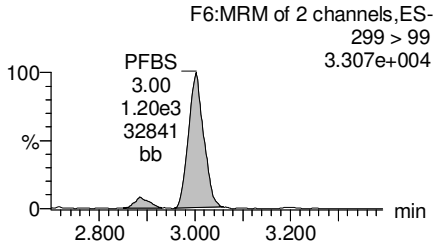
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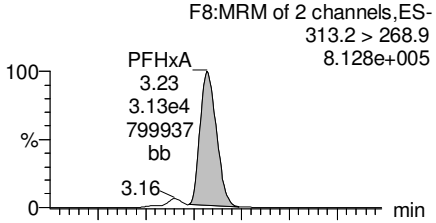
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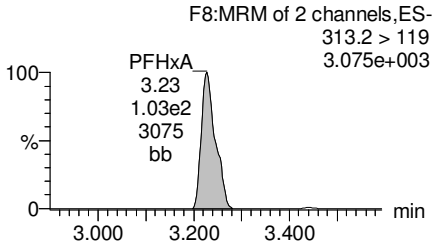
Total PFBS



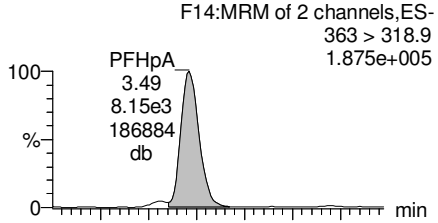


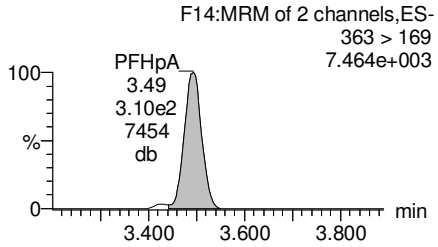
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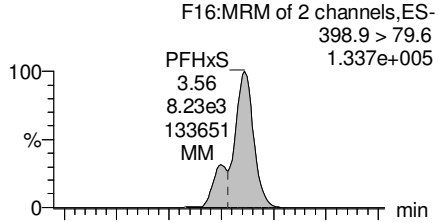


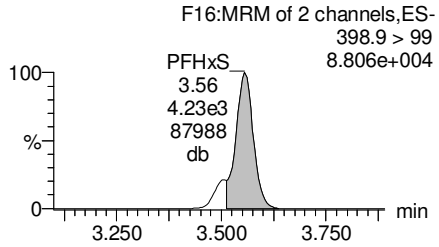
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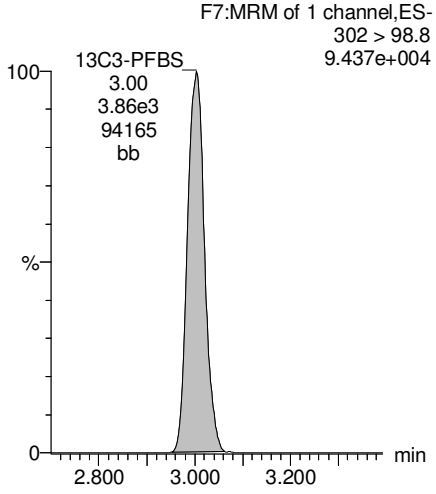


Total PFHxS

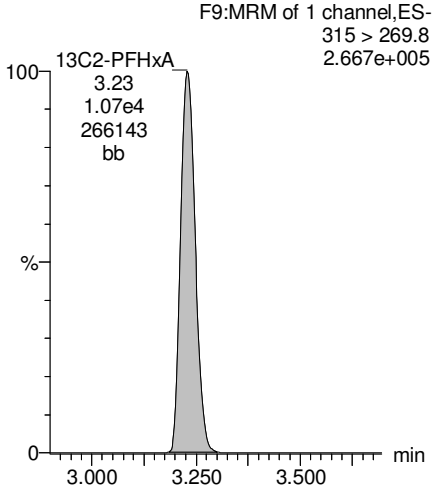




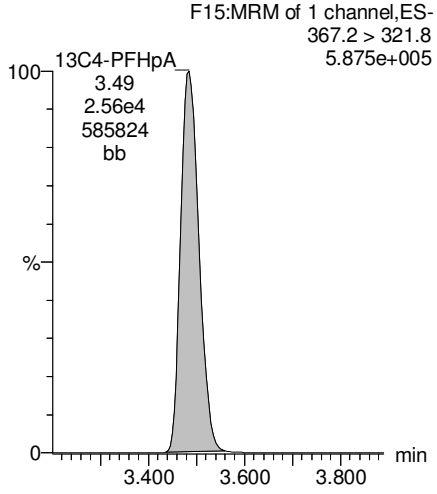
13C3-PFBS



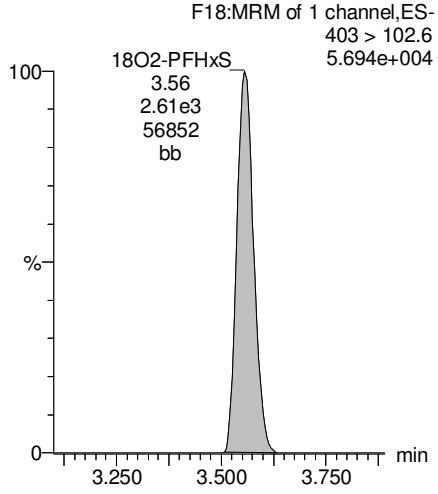
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



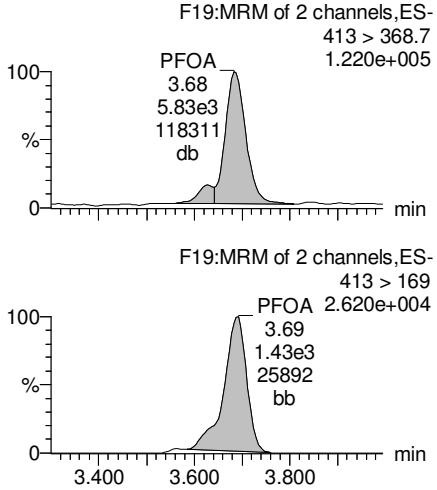
AC 8/7/17

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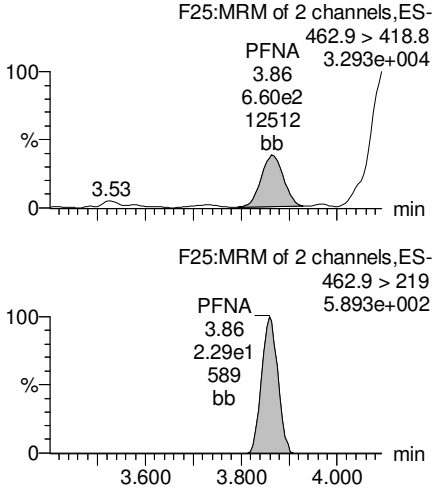
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Printed: Monday, August 07, 2017 14:57:11 Pacific Daylight Time

Name: 170724M1_59, Date: 24-Jul-2017, Time: 23:53:12, ID: 1700906-01 MW-50BR-20170717 0.125, Description: MW-50BR-20170717

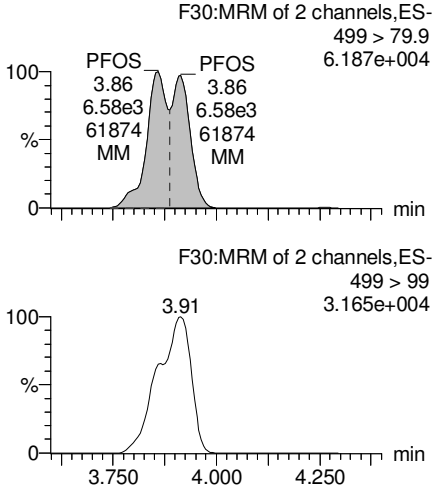
Total PFOA



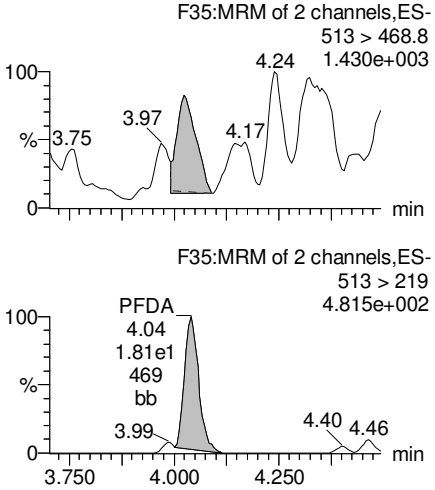
PFNA



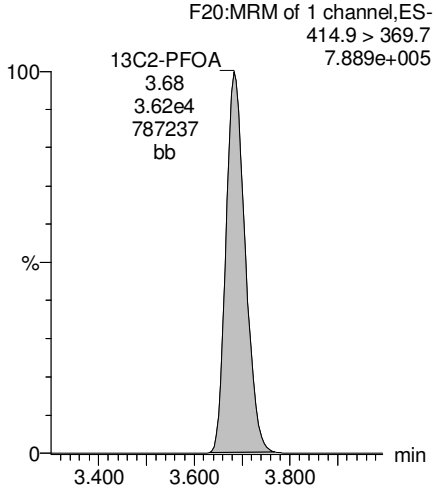
Total PFOS



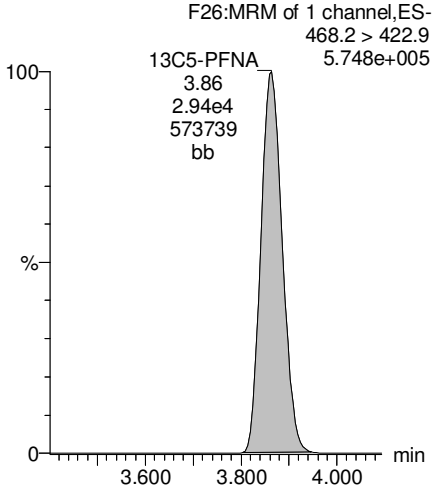
PFDA



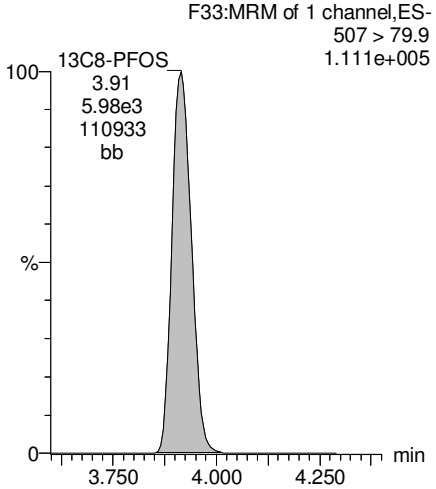
13C2-PFOA



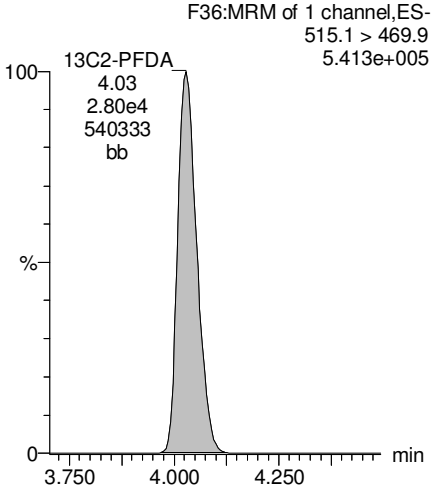
13C5-PFNA



13C8-PFOS



13C2-PFDA



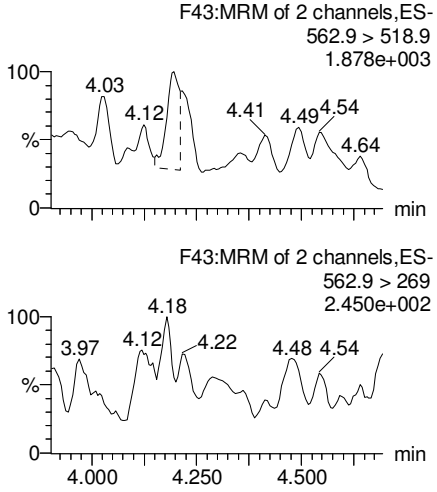
AC 8/7/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-59.qld

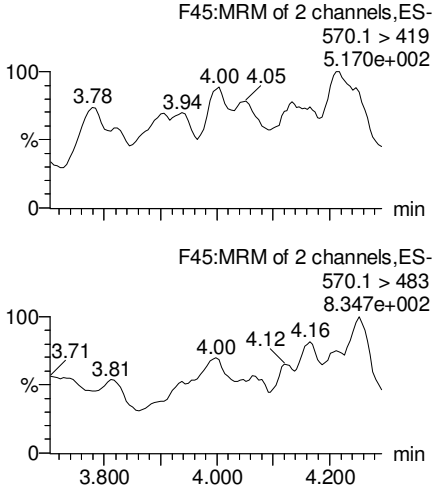
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Printed: Monday, August 07, 2017 14:57:11 Pacific Daylight Time

Name: 170724M1_59, Date: 24-Jul-2017, Time: 23:53:12, ID: 1700906-01 MW-50BR-20170717 0.125, Description: MW-50BR-20170717

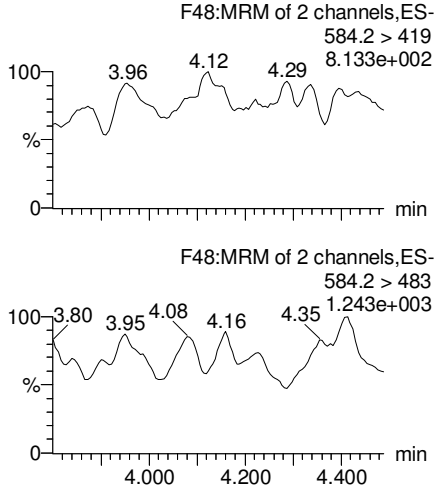
PFUnA



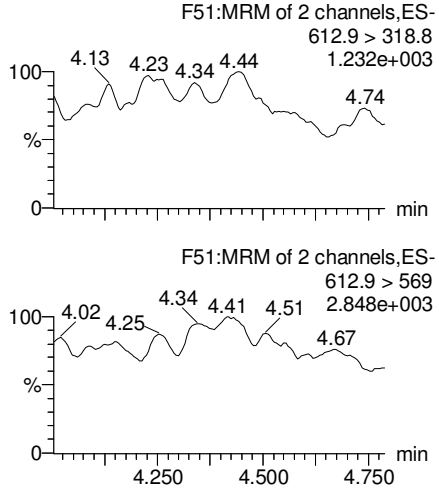
N-MeFOSAA



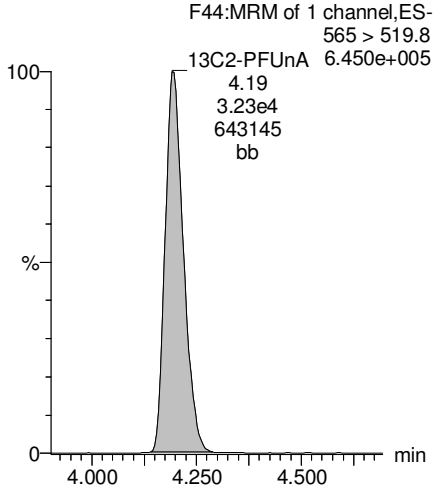
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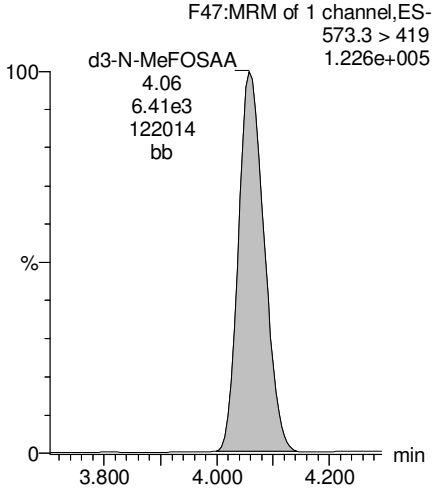
PFDoA



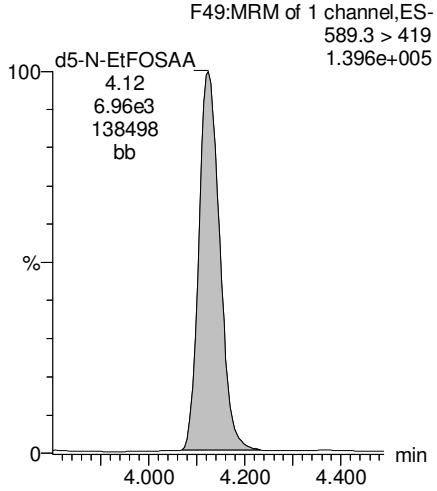
13C2-PFUnA



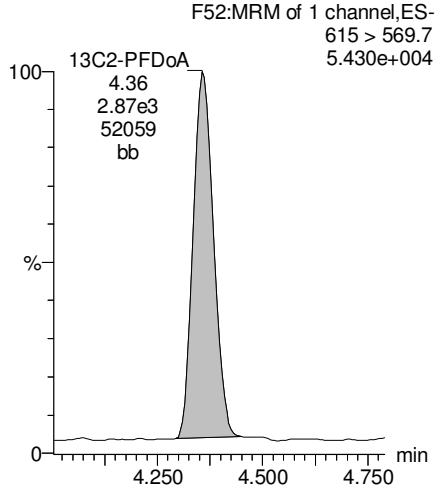
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



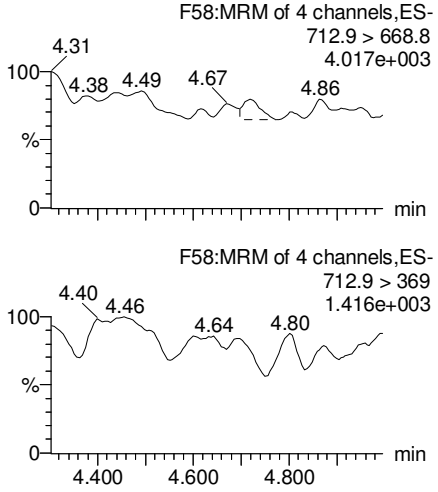
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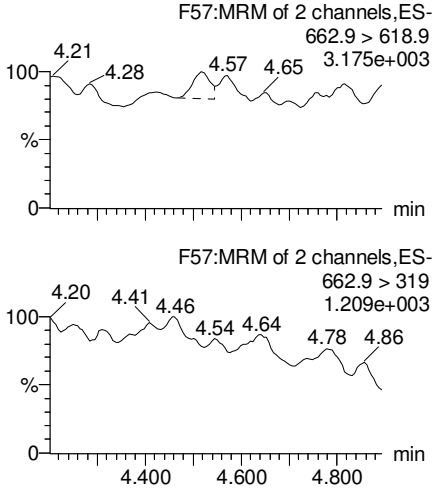
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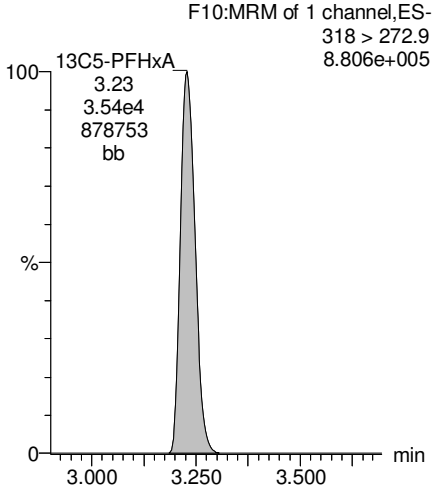
PFTeDA



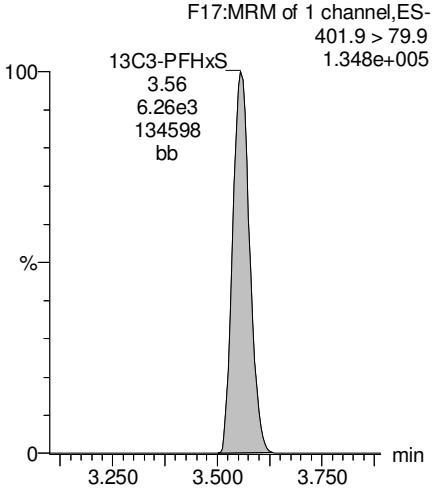
PFTrDA



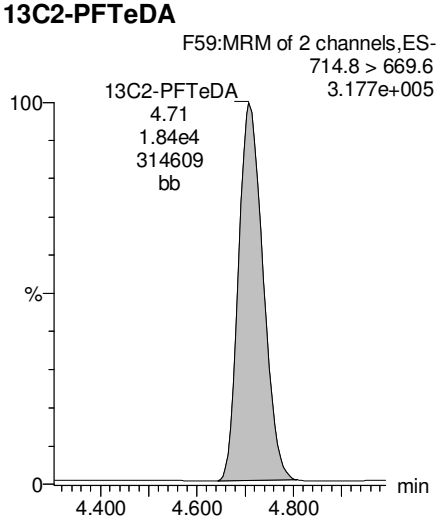
13C5-PFHxA



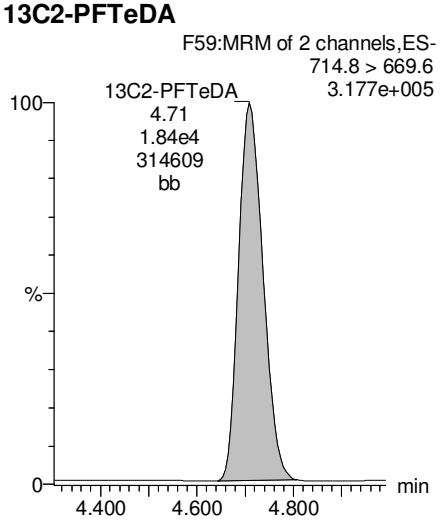
13C3-PFHxS



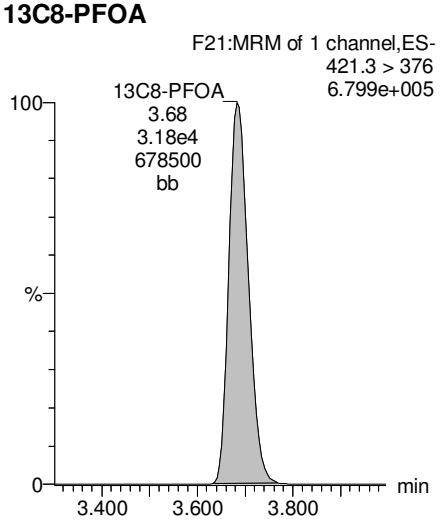
13C2-PFTeDA



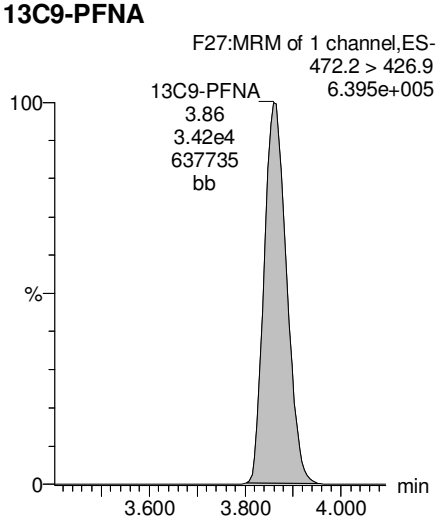
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



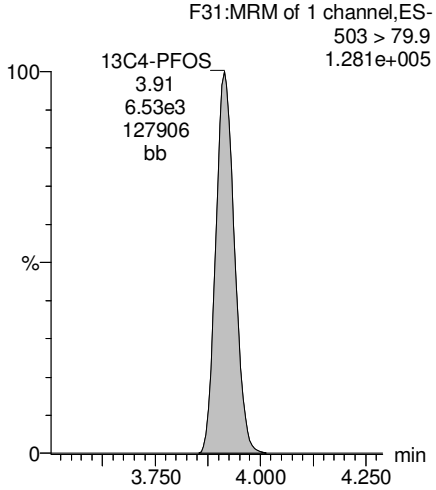
AC 8/7/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-59.qld

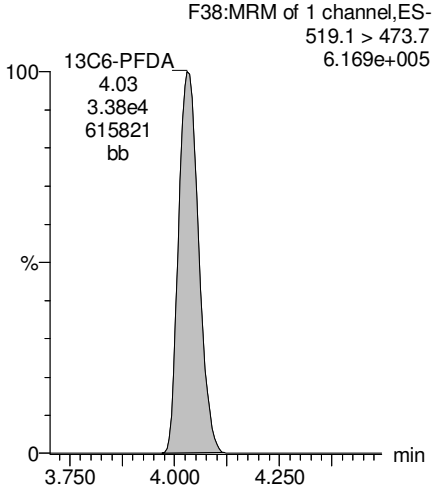
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Printed: Monday, August 07, 2017 14:57:11 Pacific Daylight Time

Name: 170724M1_59, Date: 24-Jul-2017, Time: 23:53:12, ID: 1700906-01 MW-50BR-20170717 0.125, Description: MW-50BR-20170717

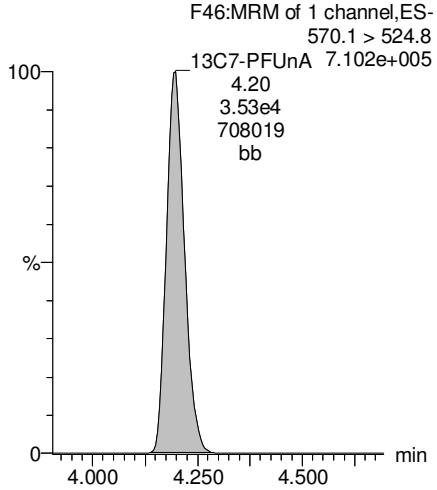
13C4-PFOS



13C6-PFDA



13C7-PFUnA



AC 8/7/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-60.qld

Last Altered: Monday, July 31, 2017 15:22:18 Pacific Daylight Time
Printed: Monday, July 31, 2017 15:23:08 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_60, Date: 25-Jul-2017, Time: 00:03:59, ID: 1700906-02 MW-06BR-20170717 0.125, Description: MW-06BR-20170717

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7		4.32e3	0.1208		2.96				
2	4	PFHxA	313.2 > 268.9		1.17e4	0.1208		3.19				
3	5	PFHpA	363 > 318.9		2.84e4	0.1208		3.45				
4	6	PFHxS	398.9 > 79.6	1.96e0	3.02e3	0.1208		3.56	3.55	0.00809	0.0946	
5	8	PFOA	413 > 368.7		3.81e4	0.1208		3.65				
6	10	PFNA	462.9 > 418.8		3.38e4	0.1208		3.83				
7	12	PFOS	499 > 79.9	3.43e1	7.49e3	0.1208		3.89	3.85	0.0573	0.271	
8	13	PFDA	513 > 468.8		3.08e4	0.1208		4.01				
9	15	N-MeFOSAA	570.1 > 419		6.83e3	0.1208		4.03				
10	16	N-EtFOSAA	584.2 > 419		6.41e3	0.1208		4.10				
11	17	PFUnA	562.9 > 518.9		3.00e4	0.1208		4.17				
12	19	PFDoA	612.9 > 318.8		2.91e3	0.1208		4.34				

GM 7/31/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-60.qld

Last Altered: Monday, July 31, 2017 15:22:18 Pacific Daylight Time
Printed: Monday, July 31, 2017 15:23:23 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_60, Date: 25-Jul-2017, Time: 00:03:59, ID: 1700906-02 MW-06BR-20170717 0.125, Description: MW-06BR-20170717

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	21	PFTrDA	662.9 > 618.9		2.91e3	0.1208		4.50				
2	22	PFTeDA	712.9 > 668.8		1.59e4	0.1208		4.68				
3	30	13C3-PFBS	302 > 98.8	4.32e3	3.78e4	0.1208	0.031	2.96	3.00	0.572	152	147.1
4	31	13C2-PFHxA	315 > 269.8	1.17e4	3.78e4	0.1208	0.276	3.19	3.23	1.55	46.3	111.8
5	32	13C4-PFHpA	367.2 > 321.8	2.84e4	3.78e4	0.1208	0.306	3.45	3.48	3.76	102	98.4
6	33	18O2-PFHxS	403 > 102.6	3.02e3	6.29e3	0.1208	0.393	3.56	3.56	6.01	127	122.4
7	35	13C2-PFOA	414.9 > 369.7	3.81e4	3.22e4	0.1208	1.067	3.65	3.69	14.8	115	110.7
8	36	13C5-PFNA	468.2 > 422.9	3.38e4	3.86e4	0.1208	0.852	3.83	3.86	10.9	106	102.5
9	38	13C8-PFOS	507 > 79.9	7.49e3	6.37e3	0.1208	0.936	3.89	3.91	14.7	130	125.6
10	39	13C2-PFDA	515.1 > 469.9	3.08e4	3.44e4	0.1208	0.810	4.01	4.03	11.2	115	110.8

GM 7/31/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-60.qld

Last Altered: Monday, July 31, 2017 15:22:18 Pacific Daylight Time
Printed: Monday, July 31, 2017 15:23:40 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_60, Date: 25-Jul-2017, Time: 00:03:59, ID: 1700906-02 MW-06BR-20170717 0.125, Description: MW-06BR-20170717

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	41	d3-N-MeFOSAA	573.3 > 419	6.83e3	3.31e4	0.1208	0.014	4.03	4.06	2.58	1560	116.0
2	42	d5-N-EtFOSAA	589.3 > 419	6.41e3	3.31e4	0.1208	0.014	4.12	4.12	2.42	1440	107.0
3	43	13C2-PFUnA	565 > 519.8	3.00e4	3.31e4	0.1208	0.962	4.17	4.20	11.3	97.6	94.3
4	44	13C2-PFDoA	615 > 569.7	2.91e3	3.31e4	0.1208	0.094	4.34	4.36	1.10	96.3	93.1
5	46	13C2-PFTeDA	714.8 > 669.6	1.59e4	3.31e4	0.1208	0.694	4.68	4.71	6.02	71.7	69.3
6	52	13C5-PFHxA	318 > 272.9	3.78e4	3.78e4	0.1208	1.000	3.19	3.22	5.00	41.4	100.0
7	53	13C3-PFHxS	401.9 > 79.9	6.29e3	6.29e3	0.1208	1.000	3.56	3.56	12.5	103	100.0
8	54	13C8-PFOA	421.3 > 376	3.22e4	3.22e4	0.1208	1.000	3.65	3.68	12.5	103	100.0
9	55	13C9-PFNA	472.2 > 426.9	3.86e4	3.86e4	0.1208	1.000	3.83	3.86	12.5	103	100.0
10	56	13C4-PFOS	503 > 79.9	6.37e3	6.37e3	0.1208	1.000	3.89	3.91	12.5	103	100.0
11	57	13C6-PFDA	519.1 > 473.7	3.44e4	3.44e4	0.1208	1.000	4.01	4.03	12.5	103	100.0
12	58	13C7-PFUnA	570.1 > 524.8	3.31e4	3.31e4	0.1208	1.000	4.17	4.19	12.5	103	100.0
13	59	Total PFBS	299 > 79.7	0.00e0	4.32e3	0.1208		2.96		0.000		
14	60	Total PFHxS	398.9 > 79.6	1.96e0	3.02e3	0.1208		3.52		0.00809	0.0946	
15	61	Total PFOA	413 > 368.7	0.00e0	3.81e4	0.1208		3.65		0.000		
16	62	Total PFOS	499 > 79.9	3.43e1	7.49e3	0.1208		3.89		0.0573	0.271	
17	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	6.83e3	0.1208		4.03		0.000		
18	64	Total N-EtFOSAA	584.2 > 419	0.00e0	6.41e3	0.1208		4.17		0.000		

GM 7/31/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-60.qld

Last Altered: Monday, July 31, 2017 15:22:18 Pacific Daylight Time
Printed: Monday, July 31, 2017 15:23:40 Pacific Daylight Time

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Name: 170724M1_60, Date: 25-Jul-2017, Time: 00:03:59, ID: 1700906-02 MW-06BR-20170717 0.125, Description: MW-06BR-20170717

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7			4321.180		MM-I	

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.55	1.956	3023.027	0.008	MM	0.1

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7			38081.078		MM-I	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.85	34.319	7486.628	0.057	MM	0.3

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			6830.442		MM-I	

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419			6414.387		MM-I	

GM 7/31/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

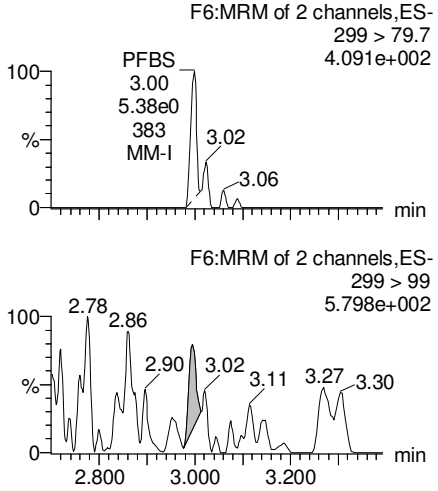
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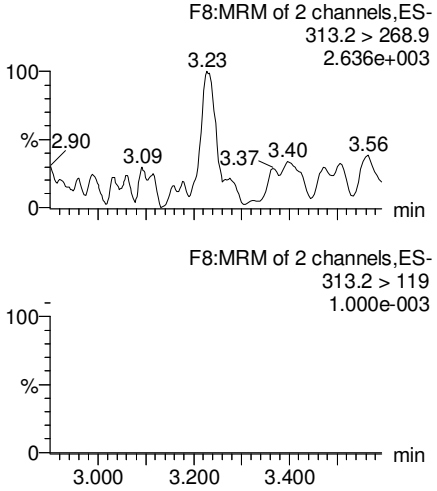
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Name: 170724M1_60, Date: 25-Jul-2017, Time: 00:03:59, ID: 1700906-02 MW-06BR-20170717 0.125, Description: MW-06BR-20170717

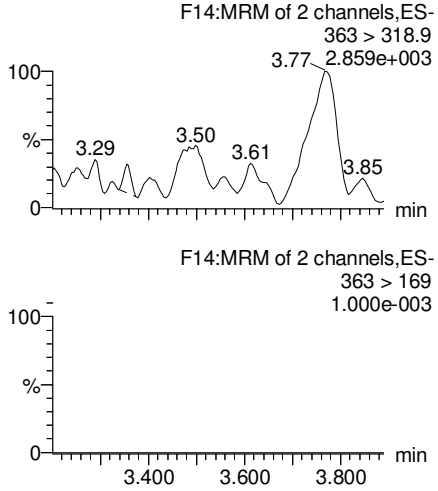
Total PFBS



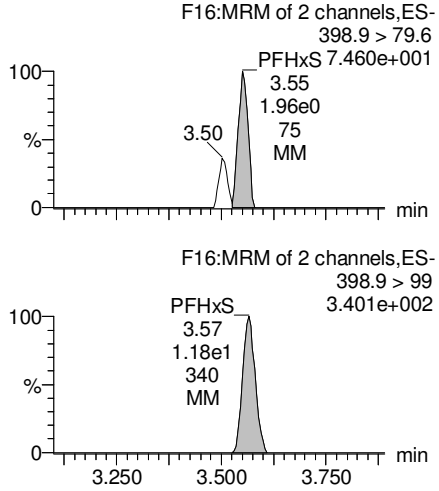
PFHxA



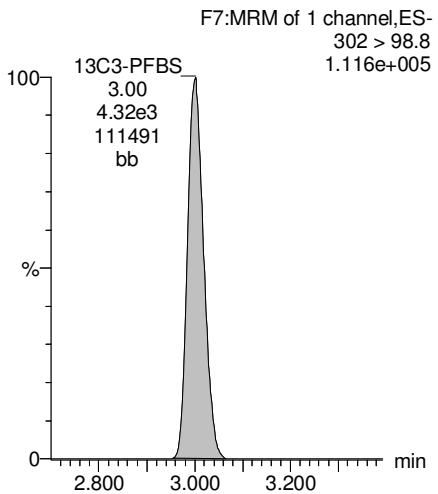
PFHpA



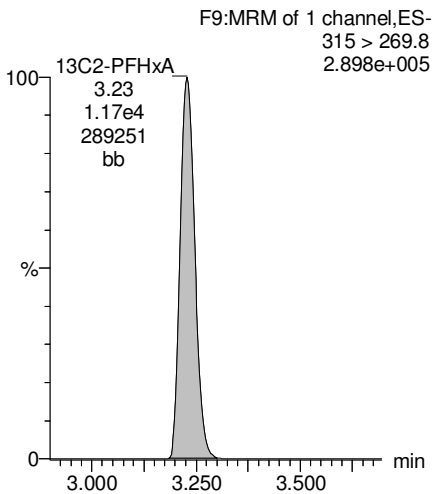
Total PFHxS



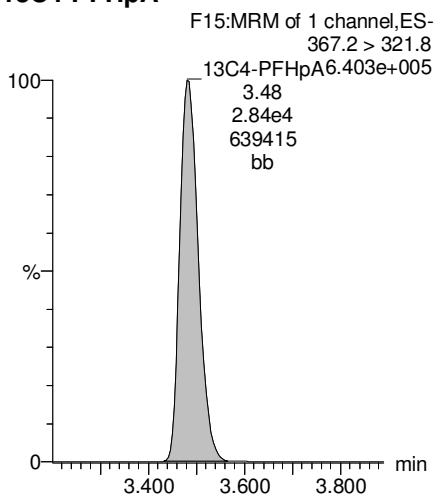
13C3-PFBS



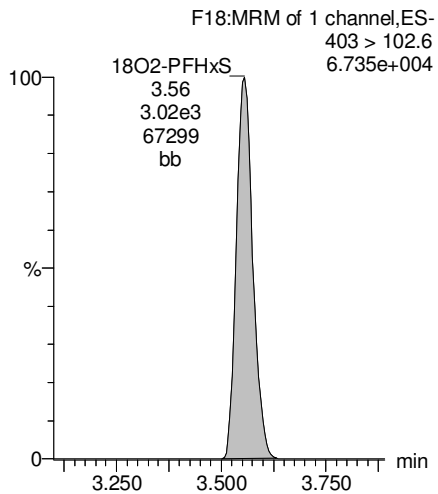
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



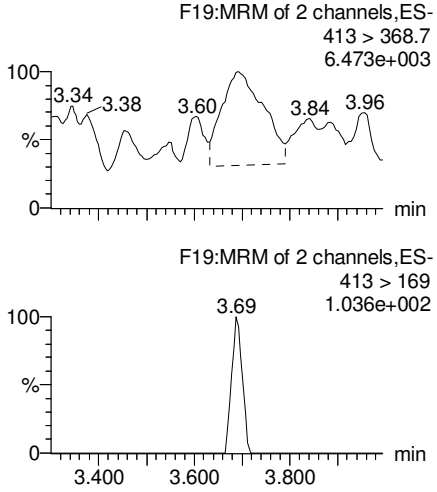
GM 7/31/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-60.qld

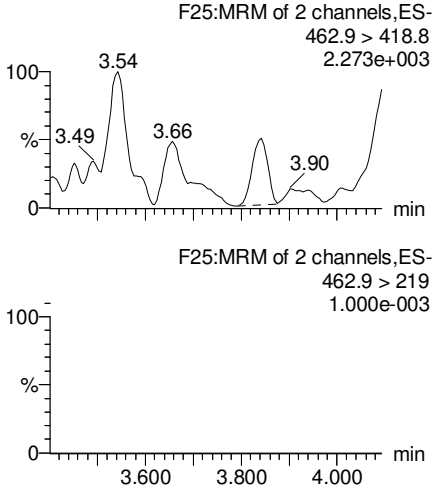
Last Altered: Monday, July 31, 2017 15:22:18 Pacific Daylight Time
Printed: Monday, July 31, 2017 15:23:40 Pacific Daylight Time

Name: 170724M1_60, Date: 25-Jul-2017, Time: 00:03:59, ID: 1700906-02 MW-06BR-20170717 0.125, Description: MW-06BR-20170717

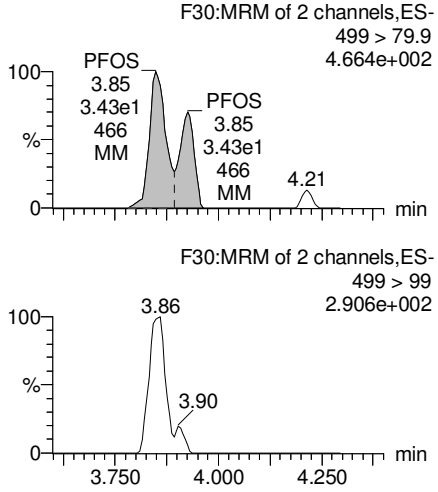
Total PFOA



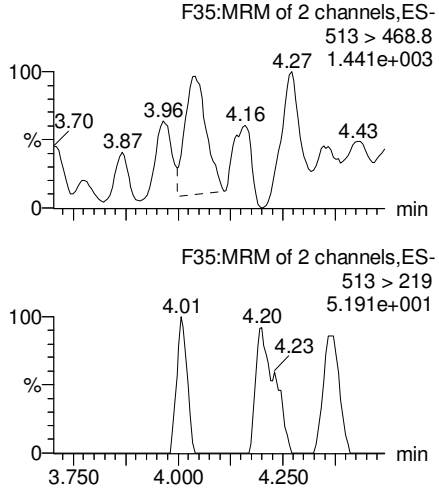
PFNA



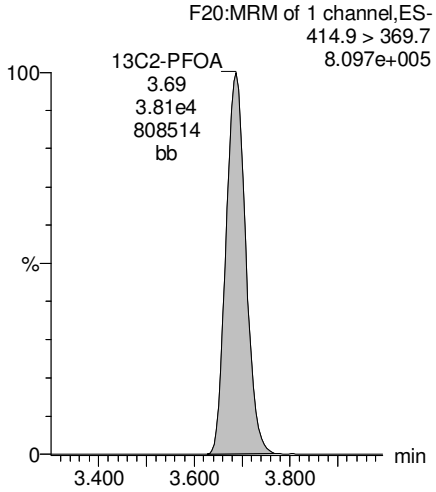
Total PFOS



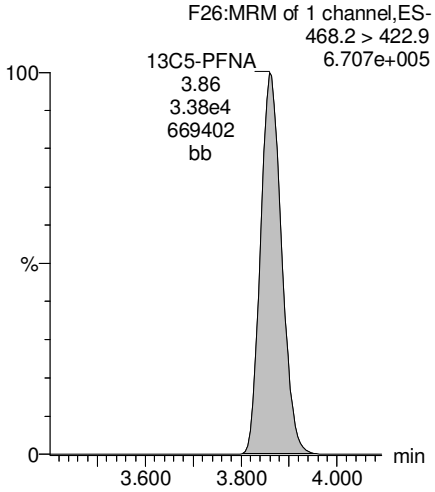
PFDA



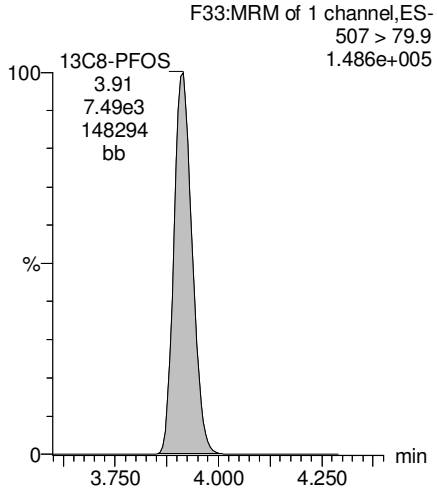
13C2-PFOA



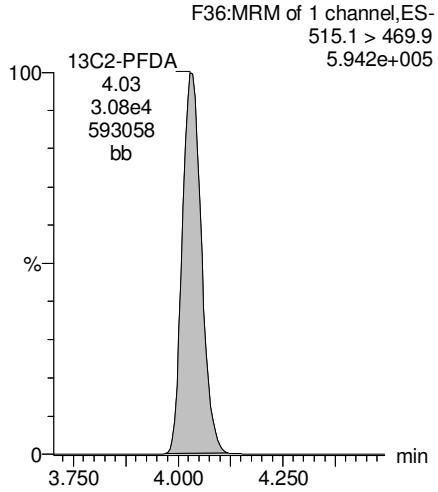
13C5-PFNA



13C8-PFOS



13C2-PFDA



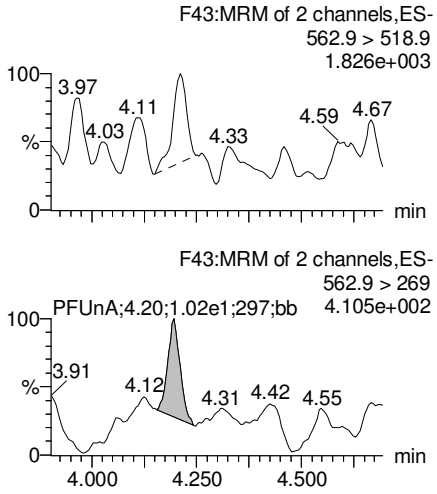
GM 7/31/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-60.qld

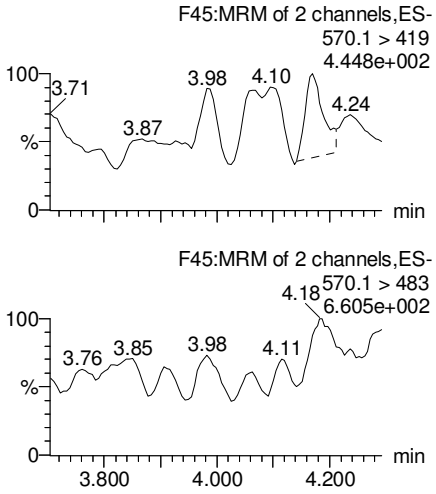
Last Altered: Monday, July 31, 2017 15:22:18 Pacific Daylight Time
Printed: Monday, July 31, 2017 15:23:40 Pacific Daylight Time

Name: 170724M1_60, Date: 25-Jul-2017, Time: 00:03:59, ID: 1700906-02 MW-06BR-20170717 0.125, Description: MW-06BR-20170717

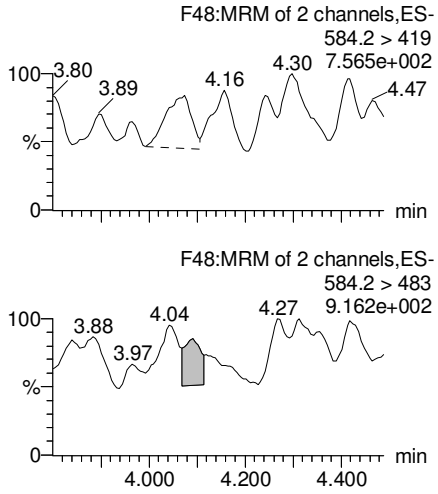
PFUnA



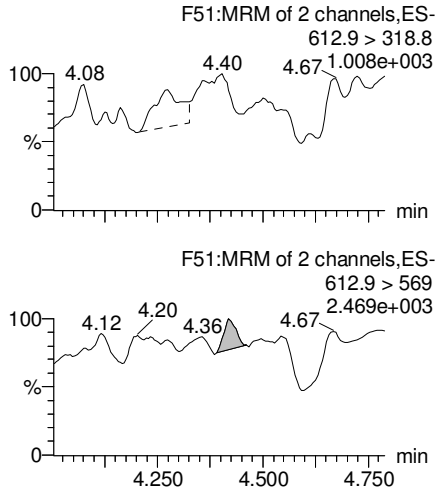
N-MeFOSAA



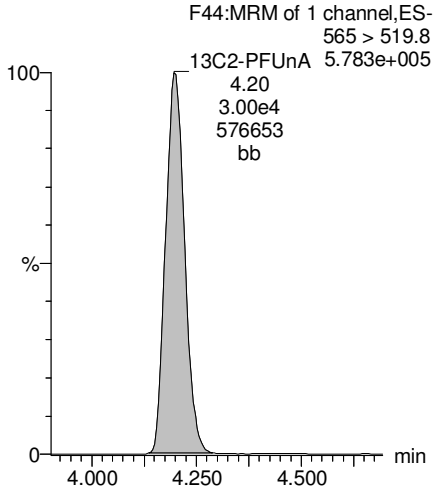
N-EtFOSAA



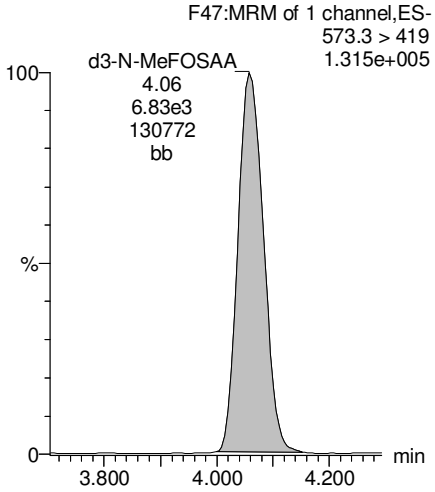
PFDoA



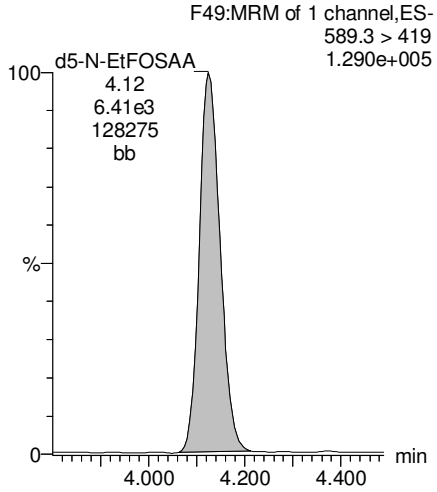
13C2-PFUnA



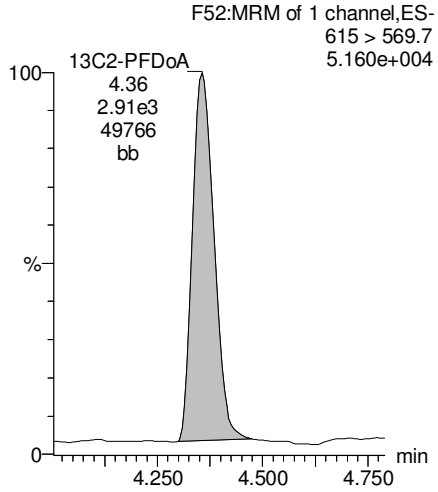
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



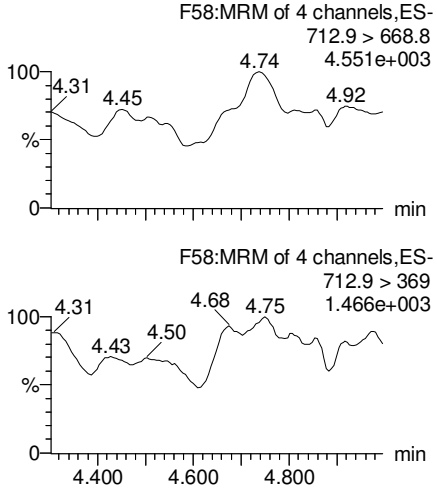
GM 7/31/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-60.qld

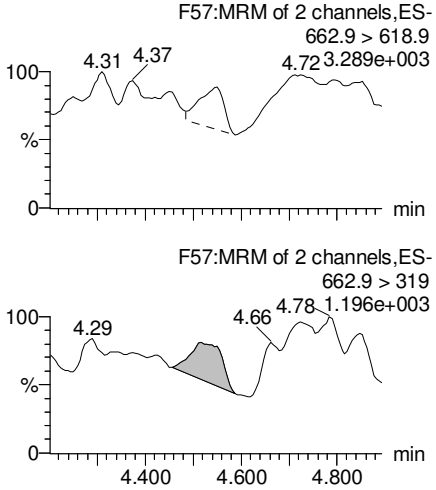
Last Altered: Monday, July 31, 2017 15:22:18 Pacific Daylight Time
Printed: Monday, July 31, 2017 15:23:40 Pacific Daylight Time

Name: 170724M1_60, Date: 25-Jul-2017, Time: 00:03:59, ID: 1700906-02 MW-06BR-20170717 0.125, Description: MW-06BR-20170717

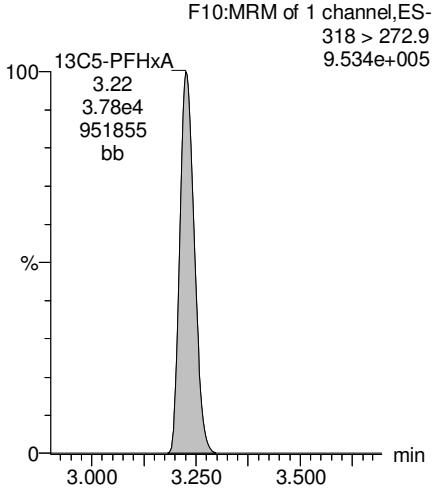
PFTeDA



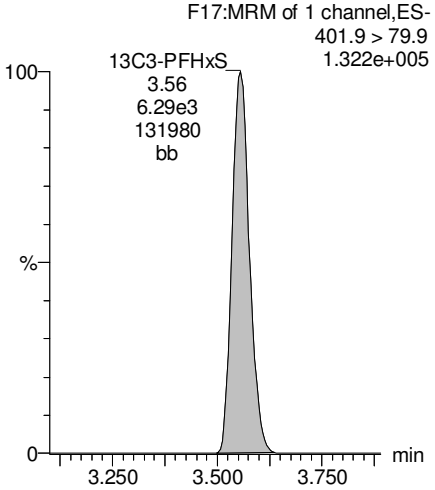
PFTrDA



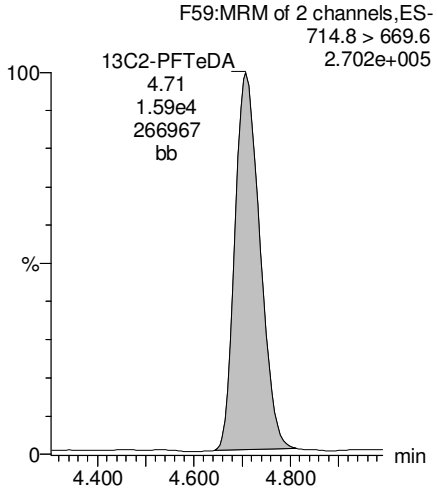
13C5-PFHxA



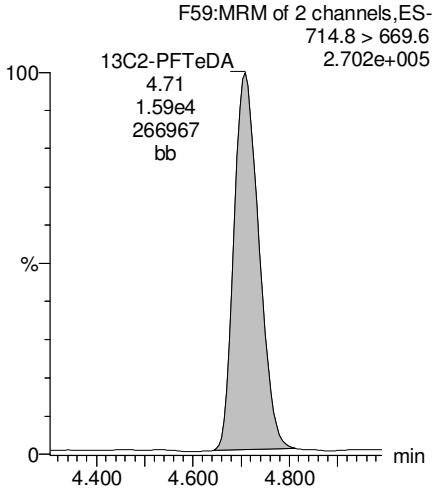
13C3-PFHxS



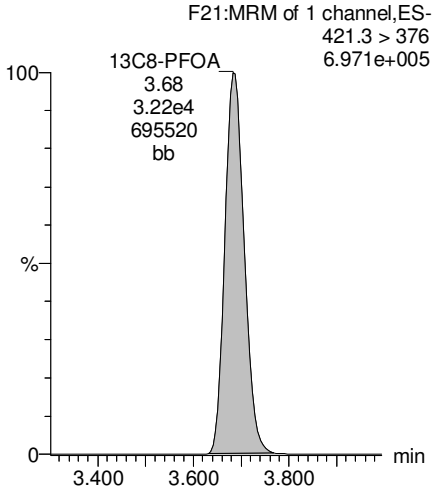
13C2-PFTeDA



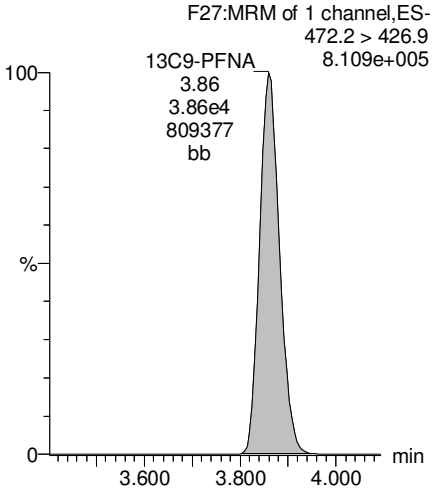
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



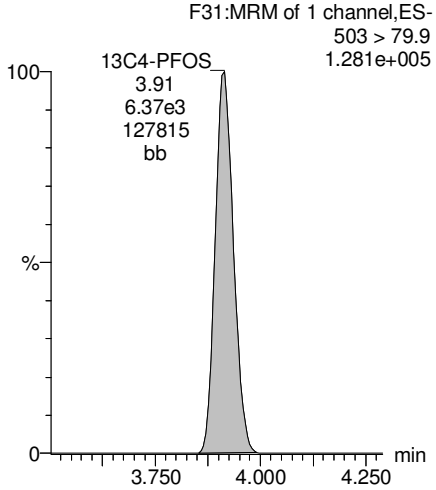
GM 7/31/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-60.qld

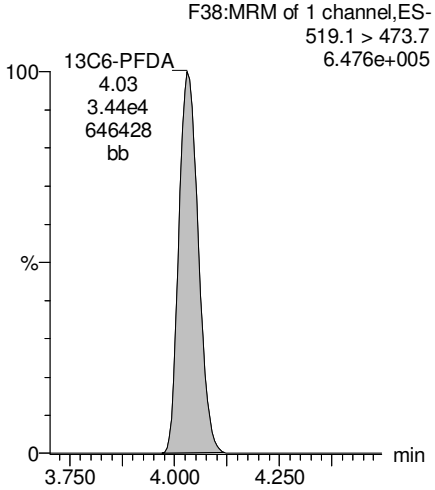
Last Altered: Monday, July 31, 2017 15:22:18 Pacific Daylight Time
Printed: Monday, July 31, 2017 15:23:40 Pacific Daylight Time

Name: 170724M1_60, Date: 25-Jul-2017, Time: 00:03:59, ID: 1700906-02 MW-06BR-20170717 0.125, Description: MW-06BR-20170717

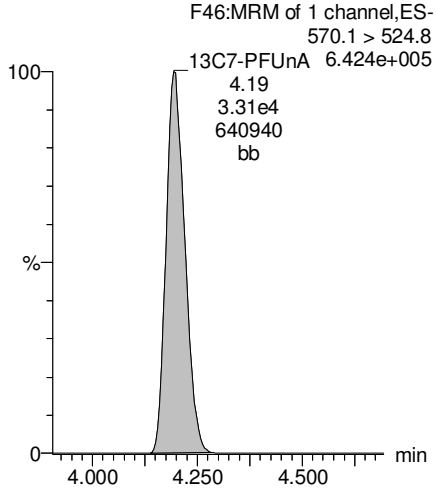
13C4-PFOS



13C6-PFDA



13C7-PFUnA



GM 7/31/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-61.qld

Last Altered: Monday, August 07, 2017 15:01:03 Pacific Daylight Time
Printed: Monday, August 07, 2017 15:01:21 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 01 Aug 2017 09:55:07
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_61, Date: 25-Jul-2017, Time: 00:14:37, ID: 1700906-03 RB-04-20170717 0.125, Description: RB-04-20170717

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7		2.96e3	0.1202		2.96				
2	4	PFHxA	313.2 > 268.9		7.38e3	0.1202		3.19				
3	5	PFHpA	363 > 318.9		1.84e4	0.1202		3.45				
4	6	PFHxS	398.9 > 79.6		2.17e3	0.1202		3.56				
5	8	PFOA	413 > 368.7		2.45e4	0.1202		3.65				
6	10	PFNA	462.9 > 418.8		2.10e4	0.1202		3.83				
7	12	PFOS	499 > 79.9		5.08e3	0.1202		3.89				
8	13	PFDA	513 > 468.8		2.33e4	0.1202		4.01				
9	15	N-MeFOSAA	570.1 > 419		4.25e3	0.1202		4.03				
10	16	N-EtFOSAA	584.2 > 419		3.96e3	0.1202		4.10				
11	17	PFUnA	562.9 > 518.9		2.13e4	0.1202		4.17				
12	19	PFDoA	612.9 > 318.8		2.18e3	0.1202		4.34				

AC 8/7/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-61.qld

Last Altered: Monday, August 07, 2017 15:01:03 Pacific Daylight Time
Printed: Monday, August 07, 2017 15:02:05 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 01 Aug 2017 09:55:07
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_61, Date: 25-Jul-2017, Time: 00:14:37, ID: 1700906-03 RB-04-20170717 0.125, Description: RB-04-20170717

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	21	PFTrDA	662.9 > 618.9		2.18e3	0.1202		4.50				
2	22	PFTeDA	712.9 > 668.8		1.49e4	0.1202		4.68				
3	30	13C3-PFBS	302 > 98.8	2.96e3	2.54e4	0.1202	0.031	2.96	3.00	0.583	156	149.9
4	31	13C2-PFHxA	315 > 269.8	7.38e3	2.54e4	0.1202	0.276	3.19	3.23	1.45	43.7	105.1
5	32	13C4-PFHpA	367.2 > 321.8	1.84e4	2.54e4	0.1202	0.306	3.45	3.49	3.62	98.4	94.6
6	33	18O2-PFHxS	403 > 102.6	2.17e3	5.00e3	0.1202	0.393	3.56	3.56	5.41	115	110.2
7	34	13C2-6:2 FTS	429.1 > 408.9	3.73e3	2.38e4	0.1202	0.158	3.64	3.68	1.97	104	99.7
8	35	13C2-PFOA	414.9 > 369.7	2.45e4	2.38e4	0.1202	1.067	3.65	3.68	12.9	101	96.7
9	36	13C5-PFNA	468.2 > 422.9	2.10e4	2.59e4	0.1202	0.852	3.83	3.86	10.1	99.0	95.2
10	37	13C8-PFOSA	506.1 > 77.7	1.60e3	2.59e4	0.1202	0.098	3.84	3.87	0.772	65.4	62.9
11	38	13C8-PFOS	507 > 79.9	5.08e3	5.13e3	0.1202	0.936	3.89	3.91	12.4	110	105.8
12	39	13C2-PFDA	515.1 > 469.9	2.33e4	2.81e4	0.1202	0.810	4.01	4.03	10.3	106	102.0
13	40	13C2-8:2 FTS	529.1 > 508.7	2.40e3	2.81e4	0.1202	0.086	4.00	4.03	1.07	104	99.8
14	41	d3-N-MeFOSAA	573.3 > 419	4.25e3	2.59e4	0.1202	0.014	4.03	4.06	2.05	1250	92.3
15	42	d5-N-EtFOSAA	589.3 > 419	3.96e3	2.59e4	0.1202	0.014	4.12	4.12	1.91	1140	84.5
16	43	13C2-PFUnA	565 > 519.8	2.13e4	2.59e4	0.1202	0.962	4.17	4.19	10.3	89.0	85.6
17	44	13C2-PFDoA	615 > 569.7	2.18e3	2.59e4	0.1202	0.094	4.34	4.36	1.05	92.8	89.2
18	46	13C2-PFTeDA	714.8 > 669.6	1.49e4	2.59e4	0.1202	0.694	4.68	4.71	7.22	86.5	83.1
19	52	13C5-PFHxA	318 > 272.9	2.54e4	2.54e4	0.1202	1.000	3.19	3.23	5.00	41.6	100.0
20	53	13C3-PFHxS	401.9 > 79.9	5.00e3	5.00e3	0.1202	1.000	3.56	3.56	12.5	104	100.0
21	54	13C8-PFOA	421.3 > 376	2.38e4	2.38e4	0.1202	1.000	3.65	3.69	12.5	104	100.0
22	55	13C9-PFNA	472.2 > 426.9	2.59e4	2.59e4	0.1202	1.000	3.83	3.86	12.5	104	100.0
23	56	13C4-PFOS	503 > 79.9	5.13e3	5.13e3	0.1202	1.000	3.89	3.91	12.5	104	100.0
24	57	13C6-PFDA	519.1 > 473.7	2.81e4	2.81e4	0.1202	1.000	4.01	4.03	12.5	104	100.0
25	58	13C7-PFUnA	570.1 > 524.8	2.59e4	2.59e4	0.1202	1.000	4.17	4.20	12.5	104	100.0
26	59	Total PFBS	299 > 79.7	0.00e0	2.96e3	0.1202		2.96		0.000		
27	60	Total PFHxS	398.9 > 79.6	0.00e0	2.17e3	0.1202		3.52		0.000		
28	61	Total PFOA	413 > 368.7	0.00e0	2.45e4	0.1202		3.65		0.000		
29	62	Total PFOS	499 > 79.9	0.00e0	5.08e3	0.1202		3.89		0.000		
30	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	4.25e3	0.1202		4.03		0.000		
31	64	Total N-EtFOSAA	584.2 > 419	0.00e0	3.96e3	0.1202		4.17		0.000		

AC 8/7/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-61.qld

Last Altered: Monday, August 07, 2017 15:01:03 Pacific Daylight Time
Printed: Monday, August 07, 2017 15:01:21 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 01 Aug 2017 09:55:07
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_61, Date: 25-Jul-2017, Time: 00:14:37, ID: 1700906-03 RB-04-20170717 0.125, Description: RB-04-20170717

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7			24521.285		MM-I	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			4249.606		MM-I	

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419			3961.533		MM-I	

AC 8/7/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

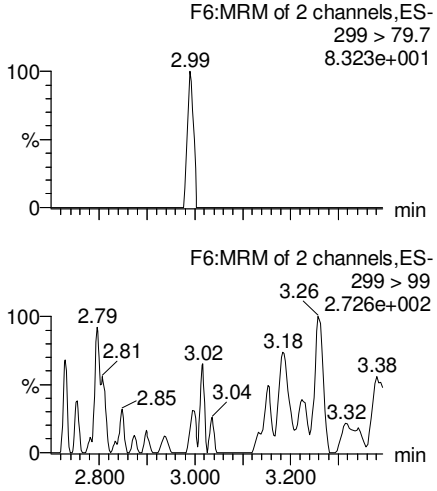
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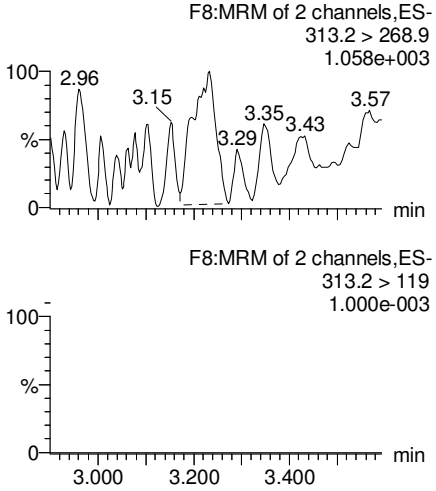
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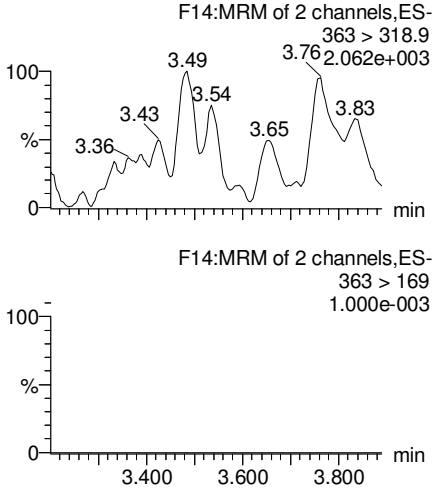
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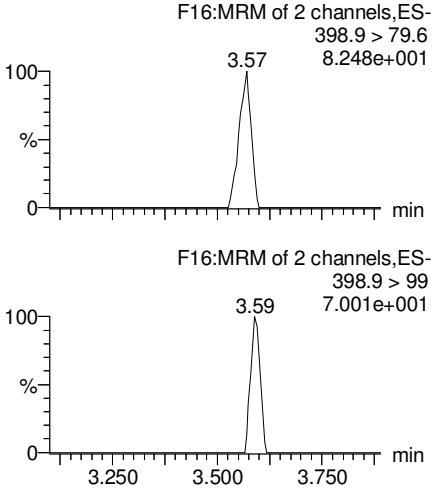
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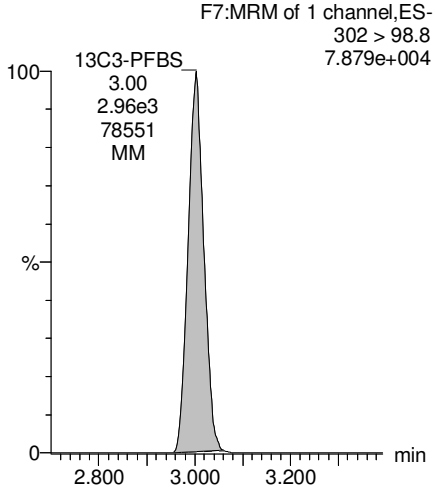
PFHpA



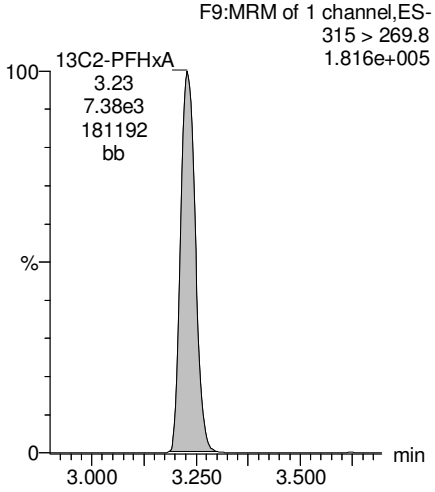
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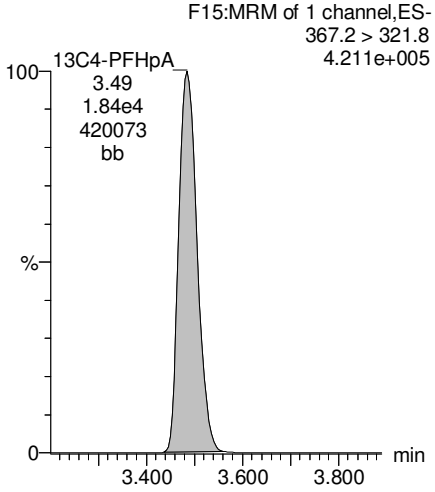
13C3-PFBS



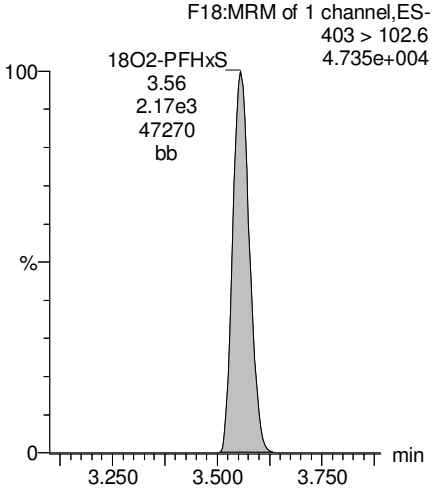
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



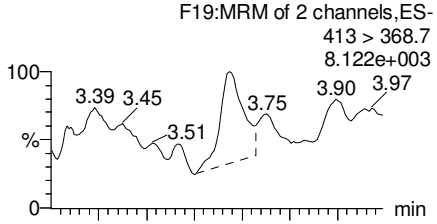
AC 8/7/17

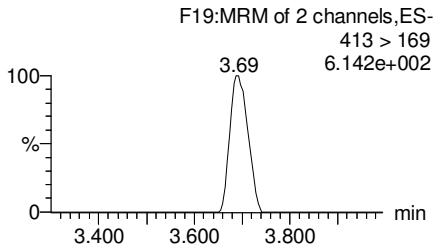
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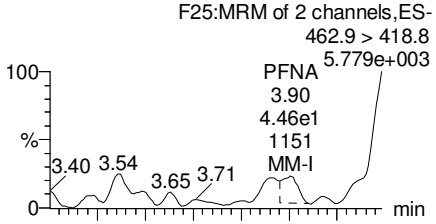
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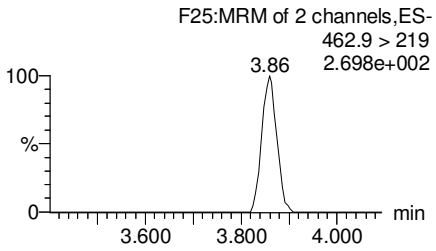
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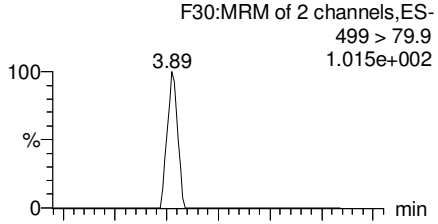


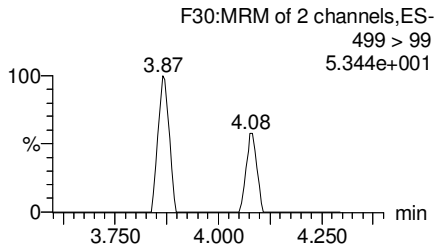
PFNA



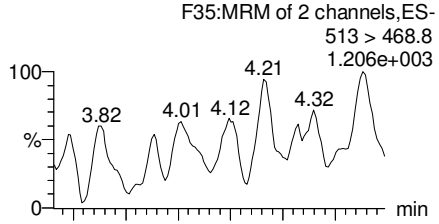


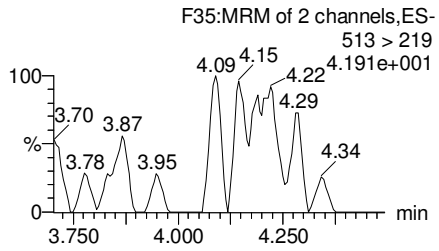
Total PFOS



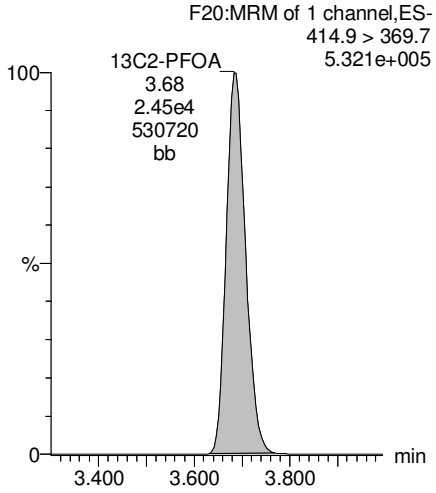


PFDA

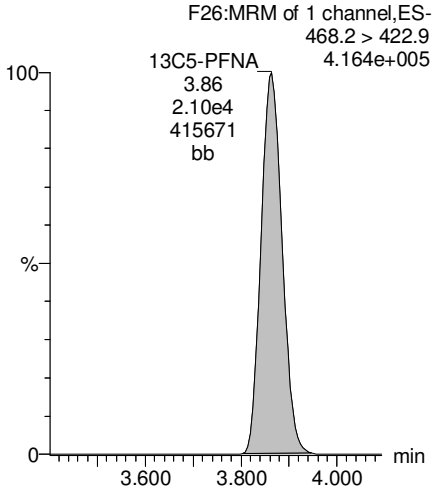




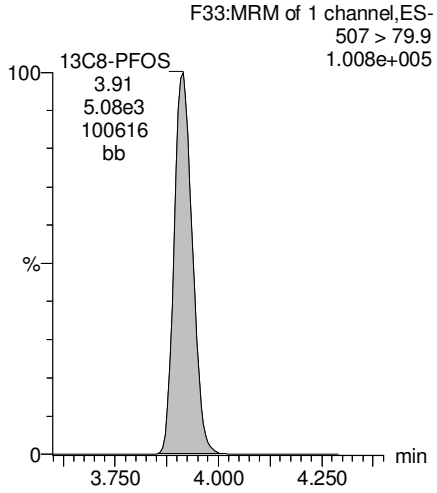
13C2-PFOA



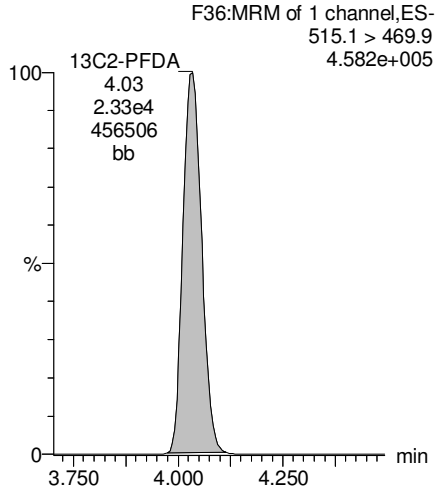
13C5-PFNA



13C8-PFOS



13C2-PFDA



AC 8/7/17

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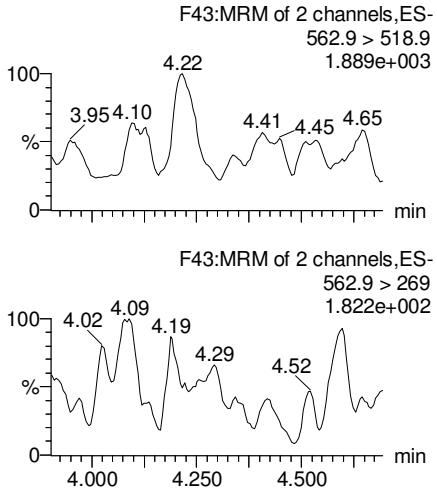
Rev'd: MM 8/8/17

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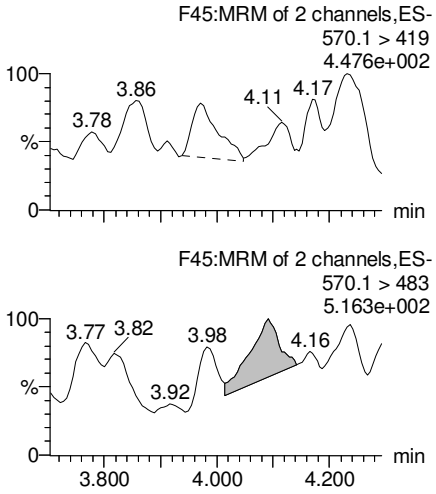
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Name: 170724M1_61, Date: 25-Jul-2017, Time: 00:14:37, ID: 1700906-03 RB-04-20170717 0.125, Description: RB-04-20170717

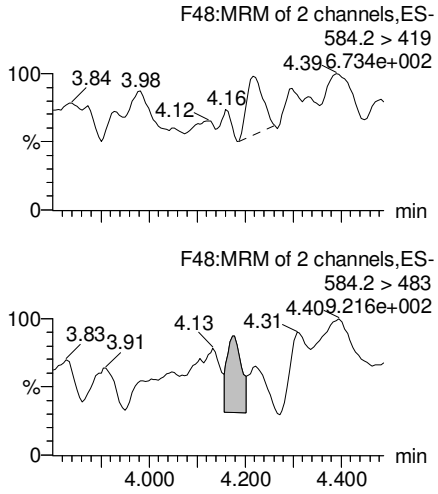
PFUnA



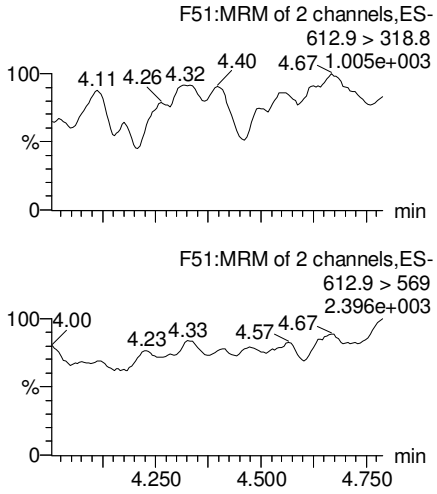
N-MeFOSAA



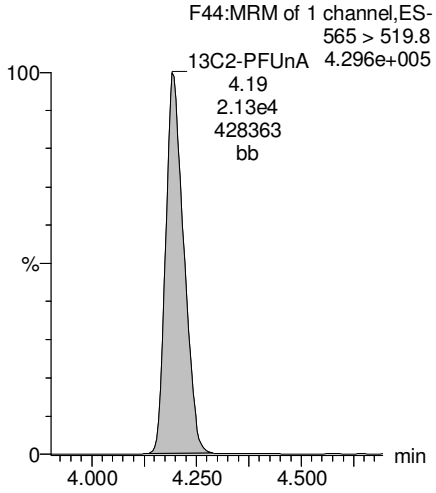
N-EtFOSAA



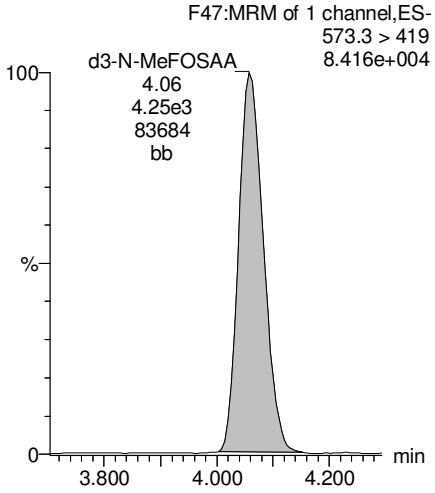
PFDoA



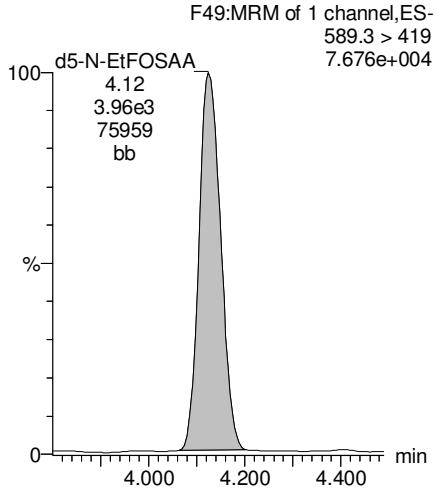
13C2-PFUnA



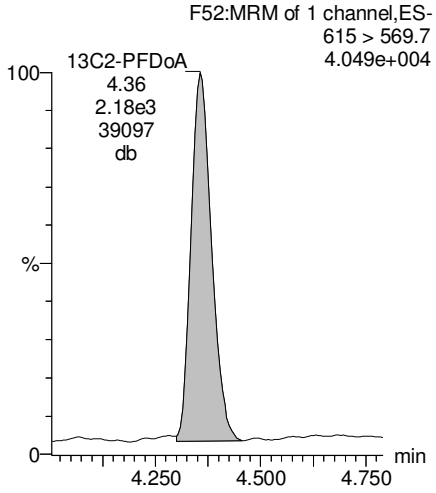
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



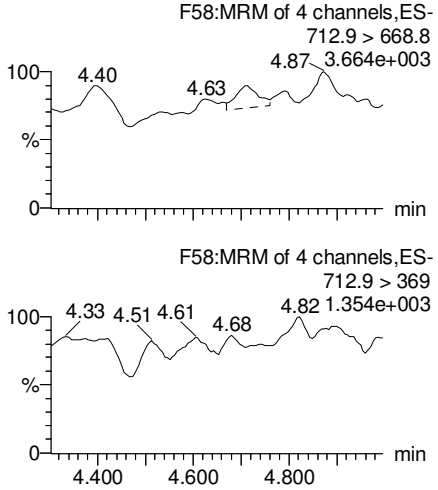
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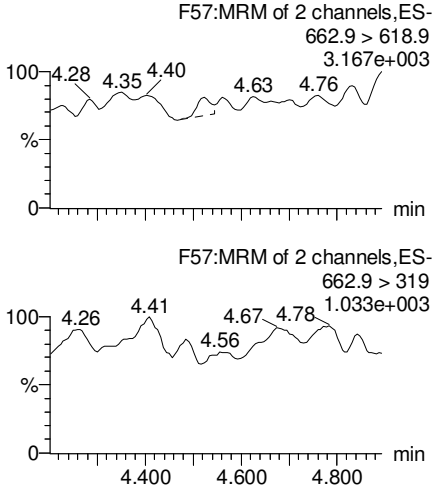
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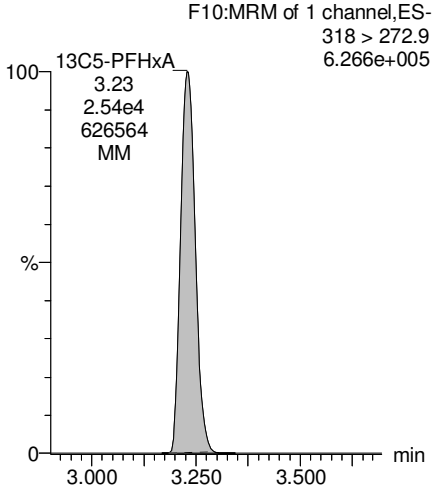
PFTeDA



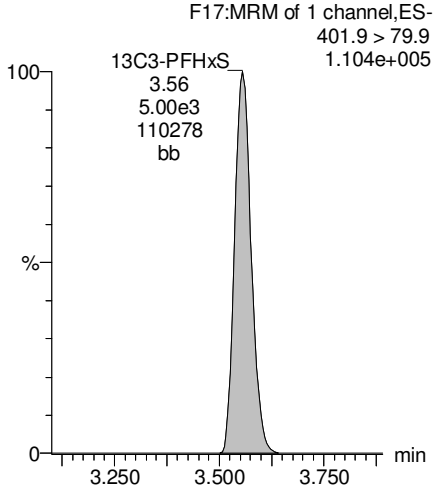
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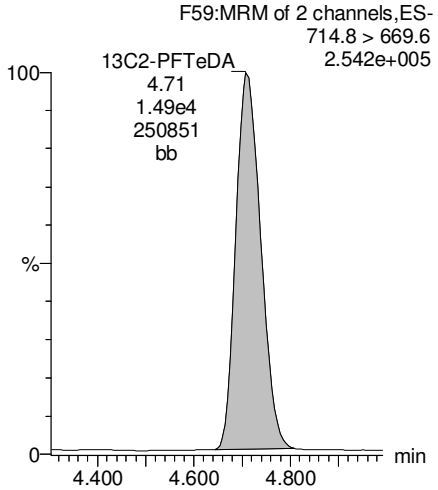
13C5-PFHxA



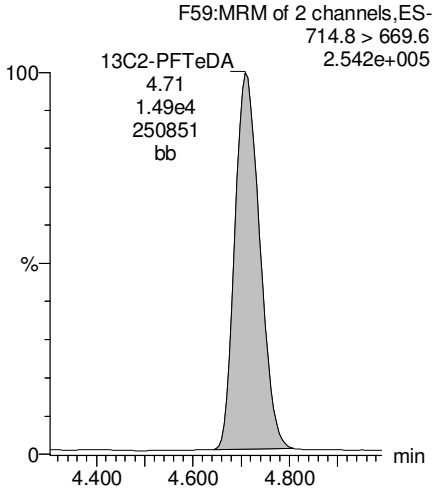
13C3-PFHxS



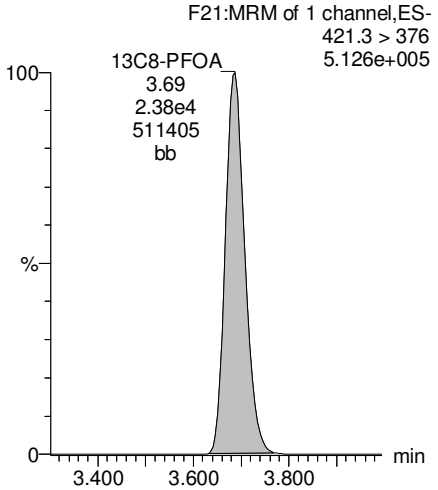
13C2-PFTeDA



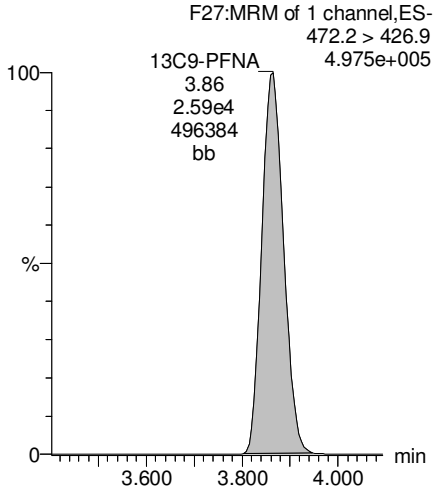
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



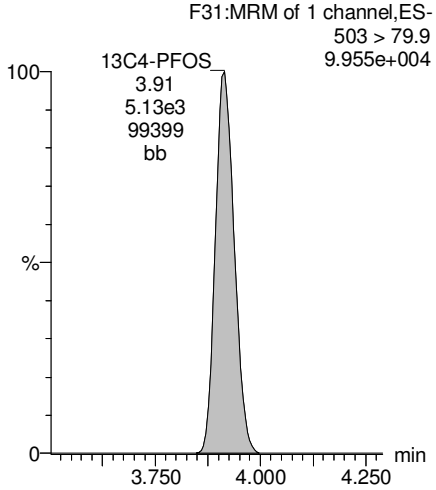
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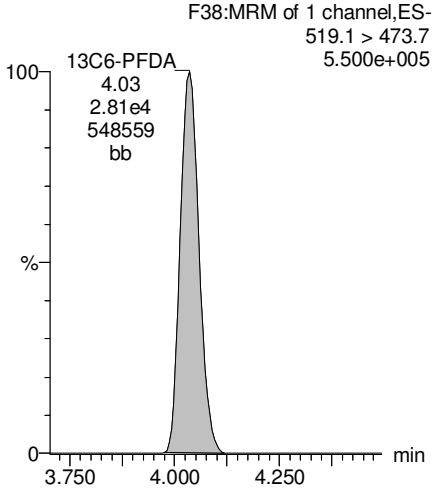
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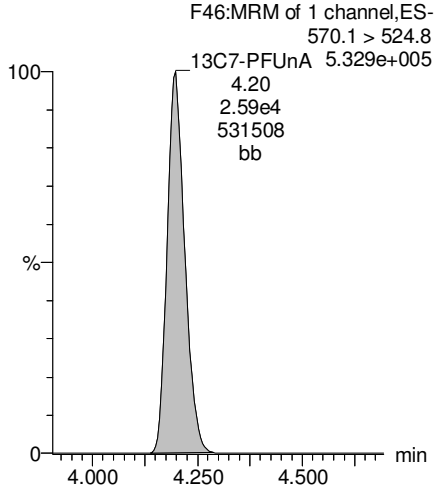
13C4-PFOS



13C6-PFDA



13C7-PFUnA



AC 8/7/17

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Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-62.qld

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_62, Date: 25-Jul-2017, Time: 00:25:24, ID: 1700906-04 MW-12BR-20170718 0.125, Description: MW-12BR-20170718

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1	3	PFBS	299 > 79.7	2.91e3	3.56e3	0.1213		2.96	3.00	10.2	45.3	
2	4	PFHxA	313.2 > 268.9	4.64e4	9.24e3	0.1213		3.19	3.23	25.1	136	
3	5	PFHpA	363 > 318.9	8.18e3	2.11e4	0.1213		3.45	3.49	4.84	31.3	
4	6	PFHxS	398.9 > 79.6	1.15e4	2.52e3	0.1213		3.56	3.56	57.2	285	
5	8	PFOA	413 > 368.7	8.02e3	3.07e4	0.1213		3.65	3.69	3.27	26.0	
6	10	PFNA	462.9 > 418.8	7.34e2	2.55e4	0.1213		3.83	3.86	0.359	1.59	
7	12	PFOS	499 > 79.9	4.80e4	5.69e3	0.1213		3.89	3.91	105	812	
8	13	PFDA	513 > 468.8	3.60e2	2.66e4	0.1213		4.01	4.03	0.169	0.261	
9	15	N-MeFOSAA	570.1 > 419		5.26e3	0.1213		4.03				
10	16	N-EtFOSAA	584.2 > 419		5.45e3	0.1213		4.10				
11	17	PFUnA	562.9 > 518.9		2.81e4	0.1213		4.17				
12	19	PFDoA	612.9 > 318.8		2.59e3	0.1213		4.34				

AC 8/7/17

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Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-62.qld

Last Altered: Monday, August 07, 2017 15:07:31 Pacific Daylight Time
Printed: Monday, August 07, 2017 15:08:33 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 01 Aug 2017 09:55:07
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_62, Date: 25-Jul-2017, Time: 00:25:24, ID: 1700906-04 MW-12BR-20170718 0.125, Description: MW-12BR-20170718

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1	21	PFTrDA	662.9 > 618.9		2.59e3	0.1213		4.50				
2	22	PFTeDA	712.9 > 668.8		1.98e4	0.1213		4.68				
3	30	13C3-PFBS	302 > 98.8	3.56e3	2.84e4	0.1213	0.031	2.96	3.00	0.626	166	161.1
4	31	13C2-PFHxA	315 > 269.8	9.24e3	2.84e4	0.1213	0.276	3.19	3.23	1.63	48.5	117.7
5	32	13C4-PFHpA	367.2 > 321.8	2.11e4	2.84e4	0.1213	0.306	3.45	3.49	3.72	100	97.3
6	33	18O2-PFHxS	403 > 102.6	2.52e3	5.78e3	0.1213	0.393	3.56	3.56	5.44	114	110.9
7	34	13C2-6:2 FTS	429.1 > 408.9	5.70e3	2.69e4	0.1213	0.158	3.64	3.67	2.65	138	134.3
8	35	13C2-PFOA	414.9 > 369.7	3.07e4	2.69e4	0.1213	1.067	3.65	3.68	14.3	110	106.8
9	36	13C5-PFNA	468.2 > 422.9	2.55e4	3.26e4	0.1213	0.852	3.83	3.86	9.80	94.8	92.0
10	37	13C8-PFOSA	506.1 > 77.7	1.88e3	3.03e4	0.1213	0.098	3.84	3.87	0.778	65.3	63.3
11	38	13C8-PFOS	507 > 79.9	5.69e3	5.42e3	0.1213	0.936	3.89	3.91	13.1	116	112.2
12	39	13C2-PFDA	515.1 > 469.9	2.66e4	3.31e4	0.1213	0.810	4.01	4.03	10.0	102	99.2
13	40	13C2-8:2 FTS	529.1 > 508.7	3.01e3	3.31e4	0.1213	0.086	4.00	4.03	1.14	109	106.2
14	41	d3-N-MeFOSAA	573.3 > 419	5.26e3	3.03e4	0.1213	0.014	4.03	4.06	2.17	1310	97.6
15	42	d5-N-EtFOSAA	589.3 > 419	5.45e3	3.03e4	0.1213	0.014	4.12	4.13	2.25	1330	99.4
16	43	13C2-PFUnA	565 > 519.8	2.81e4	3.03e4	0.1213	0.962	4.17	4.20	11.6	99.6	96.6
17	44	13C2-PFDoA	615 > 569.7	2.59e3	3.03e4	0.1213	0.094	4.34	4.36	1.07	93.3	90.5
18	46	13C2-PFTeDA	714.8 > 669.6	1.98e4	3.03e4	0.1213	0.694	4.68	4.71	8.17	97.1	94.2
19	52	13C5-PFHxA	318 > 272.9	2.84e4	2.84e4	0.1213	1.000	3.19	3.23	5.00	41.2	100.0
20	53	13C3-PFHxS	401.9 > 79.9	5.78e3	5.78e3	0.1213	1.000	3.56	3.56	12.5	103	100.0
21	54	13C8-PFOA	421.3 > 376	2.69e4	2.69e4	0.1213	1.000	3.65	3.68	12.5	103	100.0
22	55	13C9-PFNA	472.2 > 426.9	3.26e4	3.26e4	0.1213	1.000	3.83	3.86	12.5	103	100.0
23	56	13C4-PFOS	503 > 79.9	5.42e3	5.42e3	0.1213	1.000	3.89	3.91	12.5	103	100.0
24	57	13C6-PFDA	519.1 > 473.7	3.31e4	3.31e4	0.1213	1.000	4.01	4.03	12.5	103	100.0
25	58	13C7-PFUnA	570.1 > 524.8	3.03e4	3.03e4	0.1213	1.000	4.17	4.20	12.5	103	100.0
26	59	Total PFBS	299 > 79.7	2.96e3	3.56e3	0.1213		2.96		10.4	45.6	
27	60	Total PFHxS	398.9 > 79.6	1.15e4	2.52e3	0.1213		3.52		57.2	285	
28	61	Total PFOA	413 > 368.7	8.71e3	3.07e4	0.1213		3.65		3.55	26.8	
29	62	Total PFOS	499 > 79.9	4.80e4	5.69e3	0.1213		3.89		105	812	
30	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	5.26e3	0.1213		4.03		0.000		
31	64	Total N-EtFOSAA	584.2 > 419	0.00e0	5.45e3	0.1213		4.17		0.000		

AC 8/7/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-62.qld

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Name: 170724M1_62, Date: 25-Jul-2017, Time: 00:25:24, ID: 1700906-04 MW-12BR-20170718 0.125, Description: MW-12BR-20170718

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.00	2913.218	3556.310	10.240	bb	45.3
2	59	Total PFBS	299 > 79.7	2.89	45.931	3556.310	0.161	bb	0.4

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	11515.554	2518.423	57.157	MM	284.7

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.69	8016.772	30684.752	3.266	db	26.0
2	61	Total PFOA	413 > 368.7	3.63	695.436	30684.752	0.283	bd	0.7

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	47997.828	5692.210	105.402	MM	812.0

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419			5452.733		MM-I	

AC 8/7/17

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Rev'd: MM 8/8/17

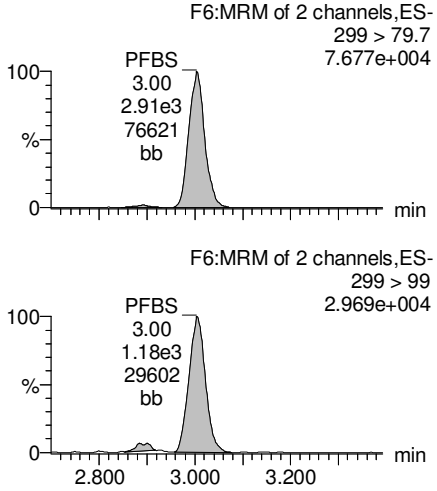
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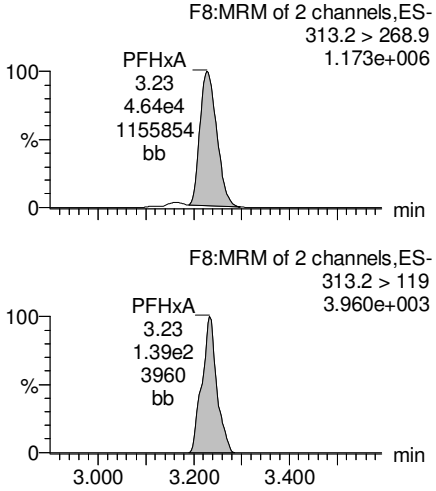
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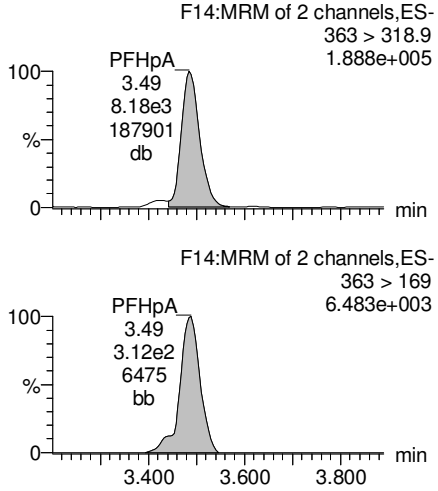
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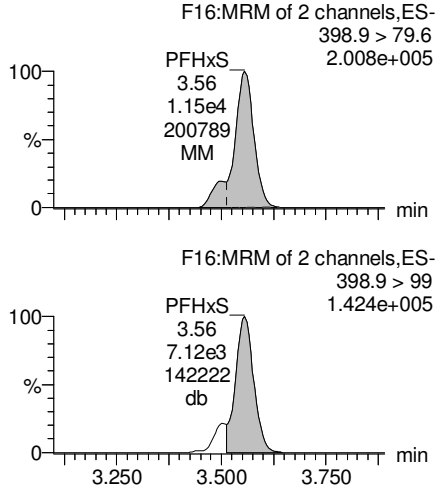
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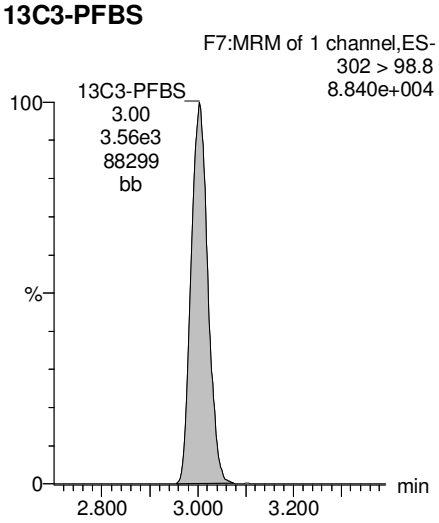
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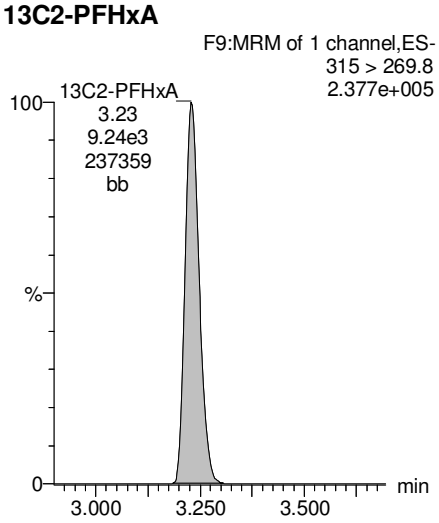
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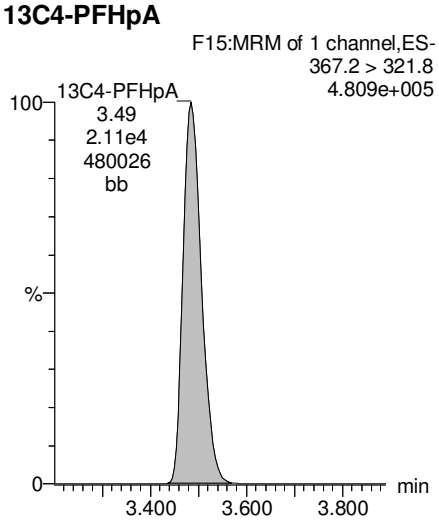
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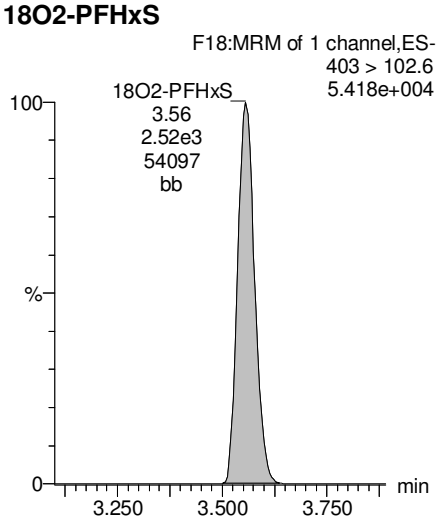
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13C4-PFHpA



18O2-PFHxS



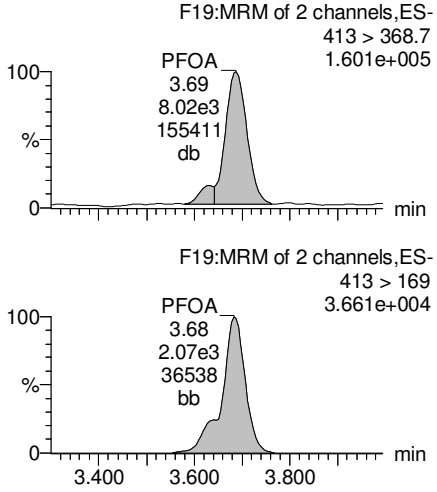
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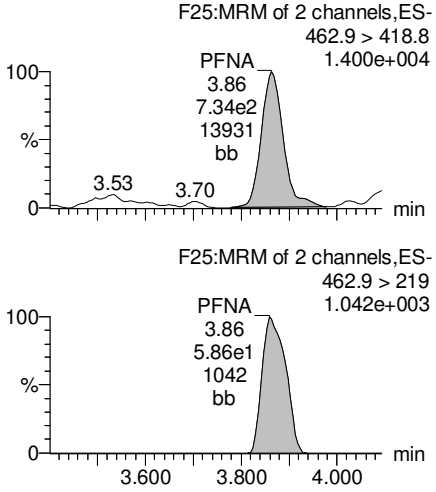
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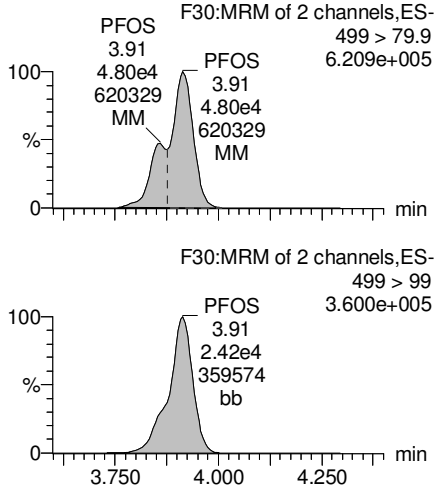
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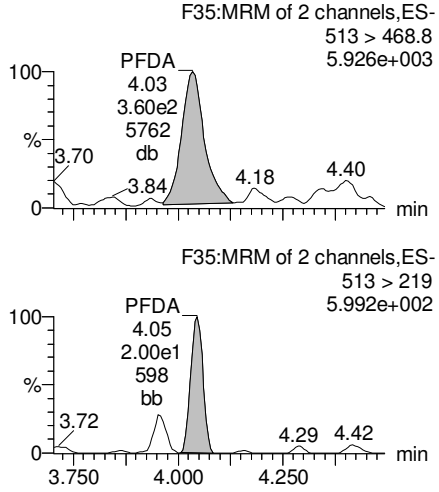
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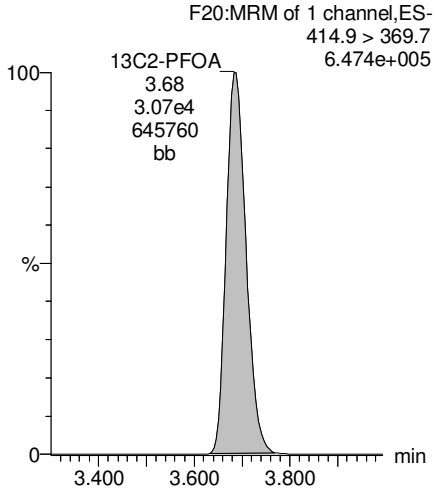
Total PFOS



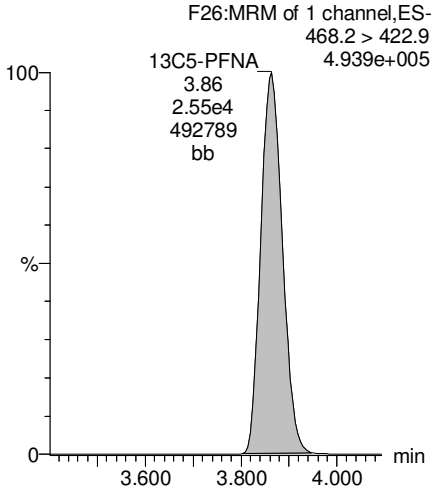
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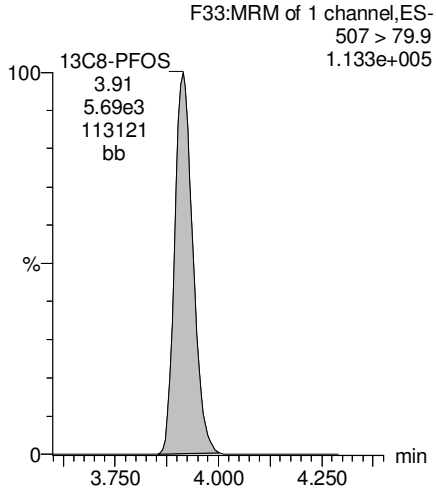
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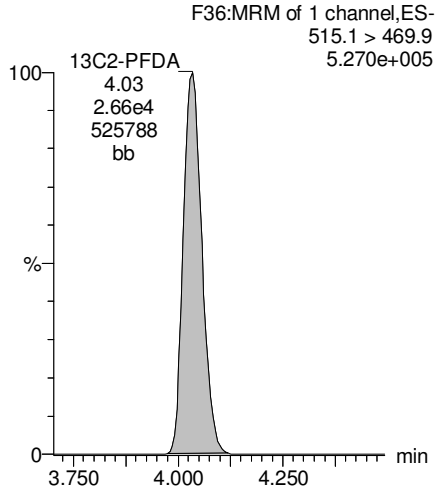
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13C8-PFOS



13C2-PFDA



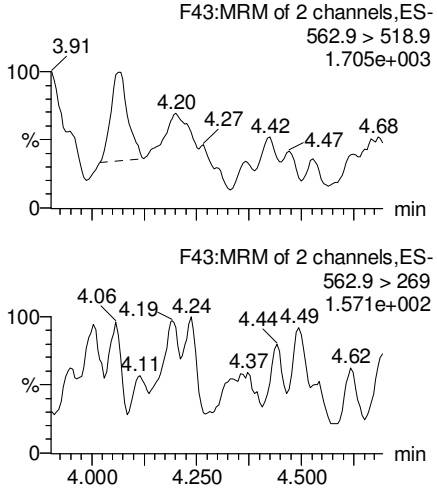
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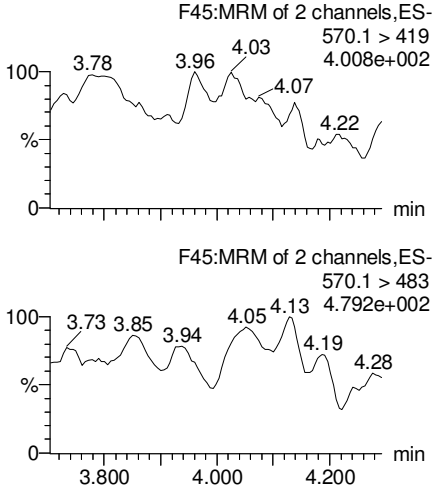
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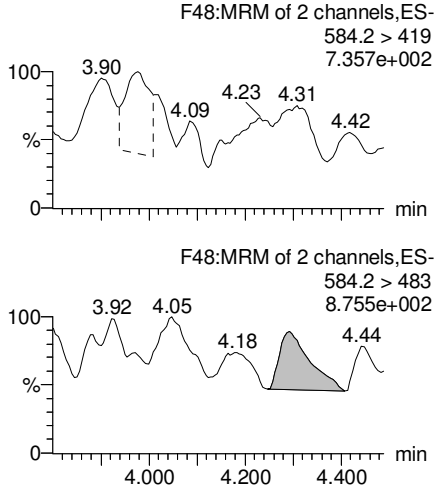
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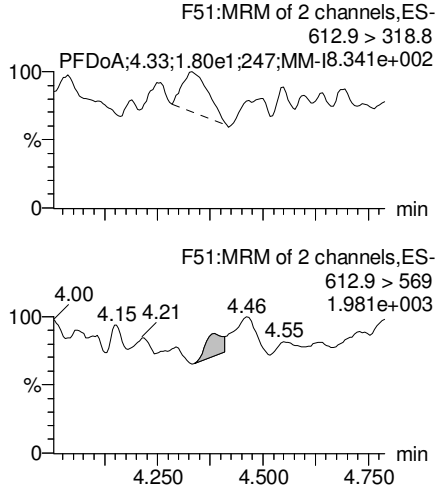
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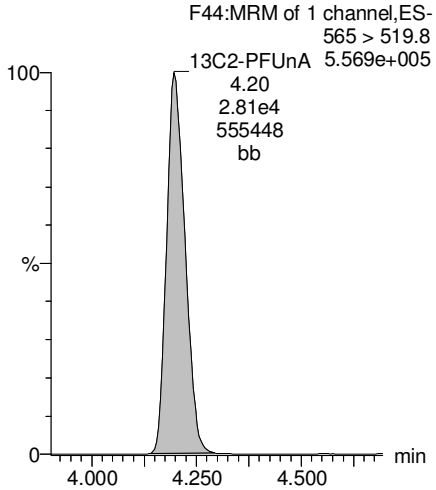
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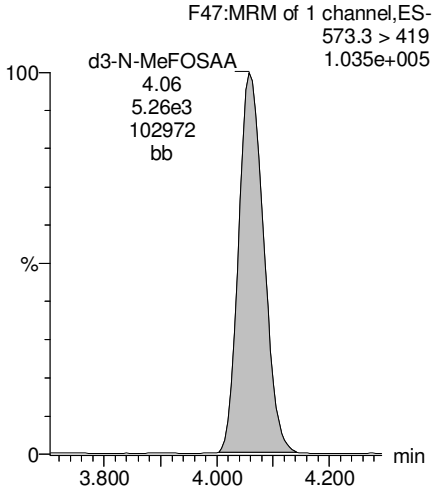
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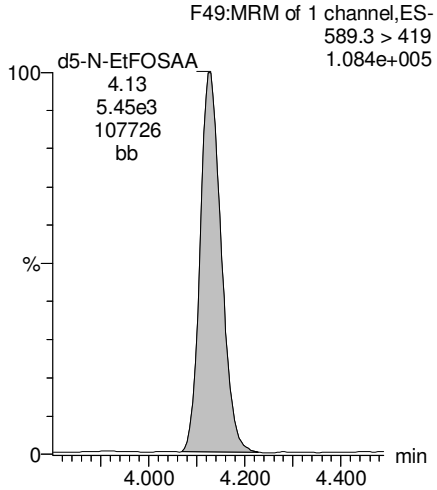
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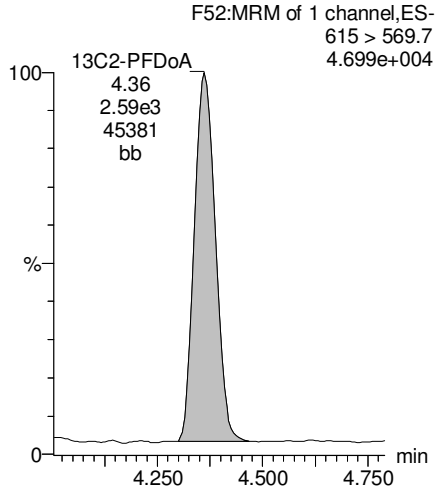
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



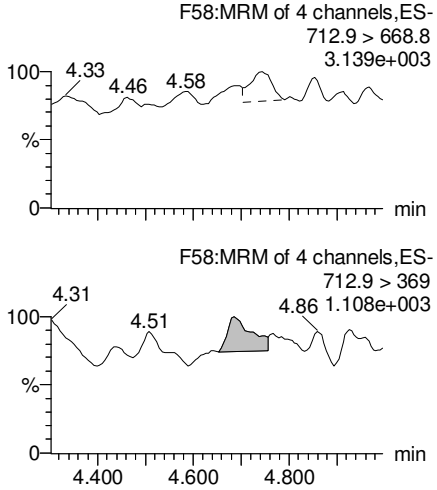
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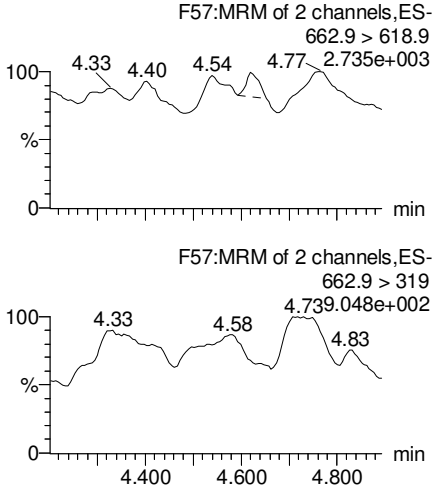
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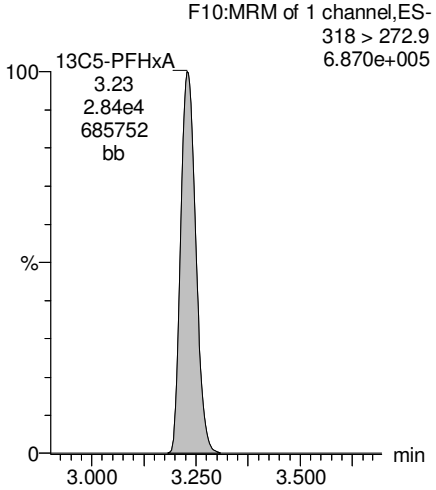
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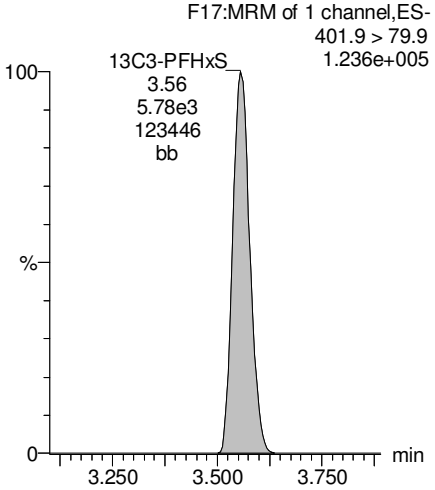
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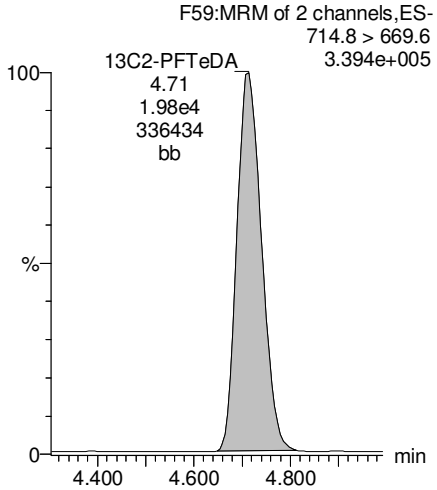
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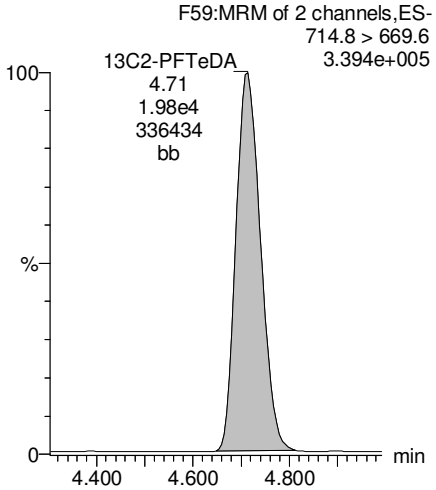
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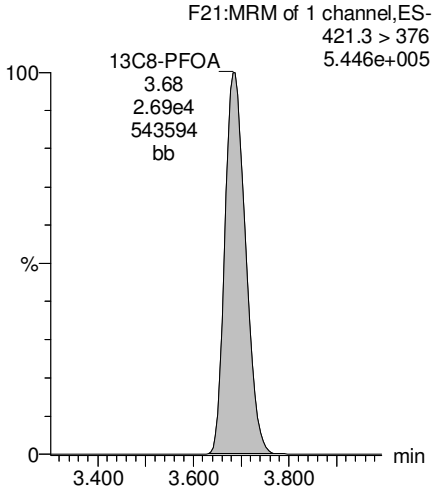
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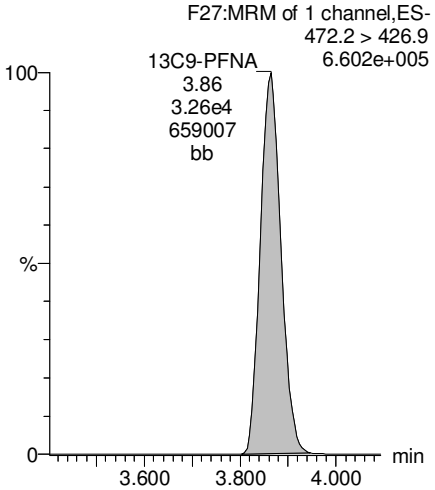
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13C8-PFOA



13C9-PFNA



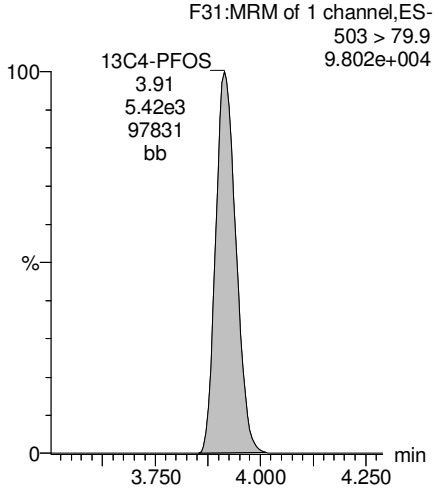
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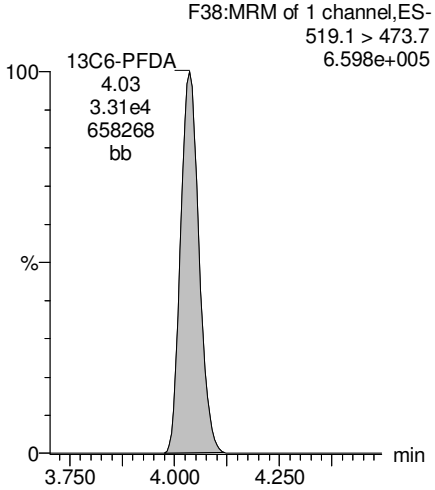
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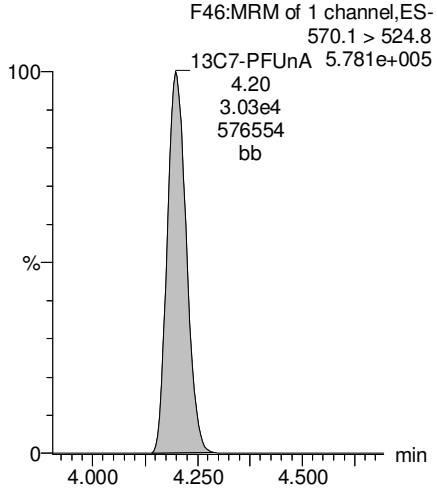
13C4-PFOS



13C6-PFDA



13C7-PFUnA



AC 8/7/17

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Rev'd: MM 8/8/17

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_63, Date: 25-Jul-2017, Time: 00:36:20, ID: 1700906-05 MW-02BR-20170718 0.125, Description: MW-02BR-20170718

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7	1.54e4	2.96e3	0.1208		2.96	3.00	65.2	291	
2	4	PFHxA	313.2 > 268.9	2.47e5	7.92e3	0.1208		3.19	3.22	156	853	
3	5	PFHpA	363 > 318.9	1.10e5	2.04e4	0.1208		3.45	3.48	67.7	446	
4	6	PFHxS	398.9 > 79.6	4.22e4	2.15e3	0.1208		3.56	3.56	245	1400	
5	8	PFOA	413 > 368.7	8.42e4	2.66e4	0.1208		3.65	3.68	39.6	336	
6	10	PFNA	462.9 > 418.8	2.79e4	2.28e4	0.1208		3.83	3.86	15.3	114	
7	12	PFOS	499 > 79.9	5.77e4	4.91e3	0.1208		3.89	3.91	147	1200	
8	13	PFDA	513 > 468.8	1.12e3	2.18e4	0.1208		4.01	4.03	0.644	3.29	
9	15	N-MeFOSAA	570.1 > 419		5.02e3	0.1208		4.03				
10	16	N-EtFOSAA	584.2 > 419		4.62e3	0.1208		4.10				
11	17	PFUnA	562.9 > 518.9		2.25e4	0.1208		4.17				
12	19	PFDoA	612.9 > 318.8		2.40e3	0.1208		4.34				

AC 8/7/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-63.qld

Last Altered: Monday, August 07, 2017 15:12:43 Pacific Daylight Time
Printed: Monday, August 07, 2017 15:13:32 Pacific Daylight Time

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Name: 170724M1_63, Date: 25-Jul-2017, Time: 00:36:20, ID: 1700906-05 MW-02BR-20170718 0.125, Description: MW-02BR-20170718

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	21	PFTrDA	662.9 > 618.9		2.40e3	0.1208		4.50				
2	22	PFTeDA	712.9 > 668.8		1.68e4	0.1208		4.68				
3	30	13C3-PFBS	302 > 98.8	2.96e3	2.68e4	0.1208	0.031	2.96	3.00	0.552	147	141.9
4	31	13C2-PFHxA	315 > 269.8	7.92e3	2.68e4	0.1208	0.276	3.19	3.23	1.48	44.3	107.0
5	32	13C4-PFHpA	367.2 > 321.8	2.04e4	2.68e4	0.1208	0.306	3.45	3.48	3.80	103	99.6
6	33	18O2-PFHxS	403 > 102.6	2.15e3	4.70e3	0.1208	0.393	3.56	3.56	5.73	121	116.6
7	34	13C2-6:2 FTS	429.1 > 408.9	5.84e3	2.30e4	0.1208	0.158	3.64	3.67	3.18	167	161.3
8	35	13C2-PFOA	414.9 > 369.7	2.66e4	2.30e4	0.1208	1.067	3.65	3.68	14.5	112	108.4
9	36	13C5-PFNA	468.2 > 422.9	2.28e4	2.67e4	0.1208	0.852	3.83	3.86	10.7	104	100.2
10	37	13C8-PFOSA	506.1 > 77.7	1.96e3	2.61e4	0.1208	0.098	3.84	3.87	0.937	79.0	76.3
11	38	13C8-PFOS	507 > 79.9	4.91e3	4.66e3	0.1208	0.936	3.89	3.91	13.2	116	112.5
12	39	13C2-PFDA	515.1 > 469.9	2.18e4	2.85e4	0.1208	0.810	4.01	4.03	9.57	97.8	94.5
13	40	13C2-8:2 FTS	529.1 > 508.7	2.47e3	2.85e4	0.1208	0.086	4.00	4.02	1.08	105	101.3
14	41	d3-N-MeFOSAA	573.3 > 419	5.02e3	2.61e4	0.1208	0.014	4.03	4.06	2.41	1450	108.1
15	42	d5-N-EtFOSAA	589.3 > 419	4.62e3	2.61e4	0.1208	0.014	4.12	4.12	2.21	1310	97.7
16	43	13C2-PFUnA	565 > 519.8	2.25e4	2.61e4	0.1208	0.962	4.17	4.19	10.8	92.6	89.5
17	44	13C2-PFDoA	615 > 569.7	2.40e3	2.61e4	0.1208	0.094	4.34	4.36	1.15	101	97.6
18	46	13C2-PFTeDA	714.8 > 669.6	1.68e4	2.61e4	0.1208	0.694	4.68	4.71	8.03	95.8	92.6
19	52	13C5-PFHxA	318 > 272.9	2.68e4	2.68e4	0.1208	1.000	3.19	3.22	5.00	41.4	100.0
20	53	13C3-PFHxS	401.9 > 79.9	4.70e3	4.70e3	0.1208	1.000	3.56	3.56	12.5	103	100.0
21	54	13C8-PFOA	421.3 > 376	2.30e4	2.30e4	0.1208	1.000	3.65	3.68	12.5	103	100.0
22	55	13C9-PFNA	472.2 > 426.9	2.67e4	2.67e4	0.1208	1.000	3.83	3.86	12.5	103	100.0
23	56	13C4-PFOS	503 > 79.9	4.66e3	4.66e3	0.1208	1.000	3.89	3.91	12.5	103	100.0
24	57	13C6-PFDA	519.1 > 473.7	2.85e4	2.85e4	0.1208	1.000	4.01	4.03	12.5	103	100.0
25	58	13C7-PFUnA	570.1 > 524.8	2.61e4	2.61e4	0.1208	1.000	4.17	4.20	12.5	103	100.0
26	59	Total PFBS	299 > 79.7	1.58e4	2.96e3	0.1208		2.96		66.8	298	
27	60	Total PFHxS	398.9 > 79.6	4.22e4	2.15e3	0.1208		3.52		245	1400	
28	61	Total PFOA	413 > 368.7	8.60e4	2.66e4	0.1208		3.65		40.4	341	
29	62	Total PFOS	499 > 79.9	5.77e4	4.91e3	0.1208		3.89		147	1200	
30	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	5.02e3	0.1208		4.03		0.000		
31	64	Total N-EtFOSAA	584.2 > 419	0.00e0	4.62e3	0.1208		4.17		0.000		

AC 8/7/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-63.qld

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_63, Date: 25-Jul-2017, Time: 00:36:20, ID: 1700906-05 MW-02BR-20170718 0.125, Description: MW-02BR-20170718

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	3	PFBS	299 > 79.7	3.00	15415.351	2956.740	65.170	bb	290.9
2	59	Total PFBS	299 > 79.7	2.89	379.568	2956.740	1.605	bb	6.8

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	6	PFHxS	398.9 > 79.6	3.56	42225.949	2152.891	245.170	MM	1397.6

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7	3.68	84193.797	26571.709	39.607	MM	336.0
2	61	Total PFOA	413 > 368.7	3.63	1791.302	26571.709	0.843	MM	5.5

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9	3.91	57735.195	4905.168	147.128	MM	1201.7

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			5023.183		MM-I	

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	16	N-EtFOSAA	584.2 > 419			4623.559		MM-I	

AC 8/7/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

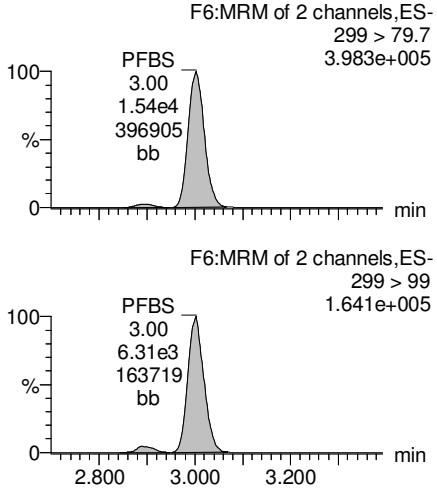
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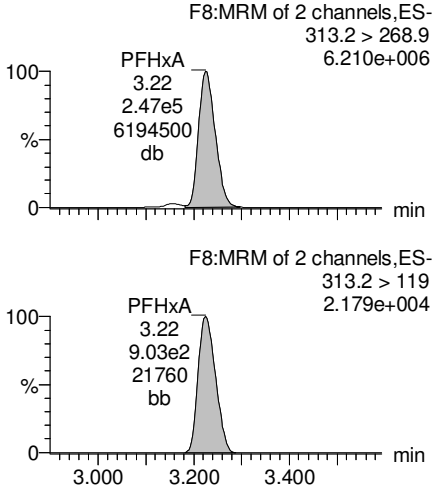
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Name: 170724M1_63, Date: 25-Jul-2017, Time: 00:36:20, ID: 1700906-05 MW-02BR-20170718 0.125, Description: MW-02BR-20170718

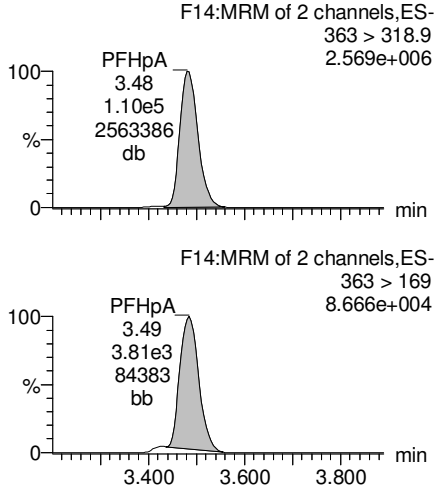
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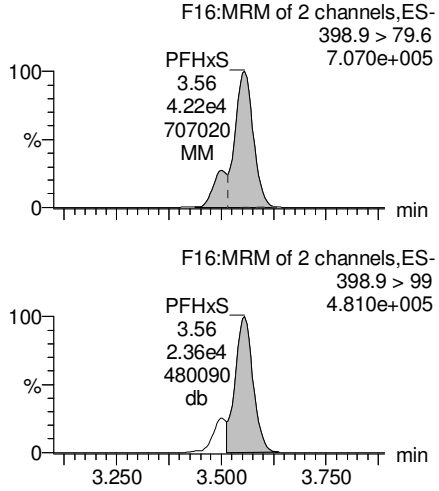
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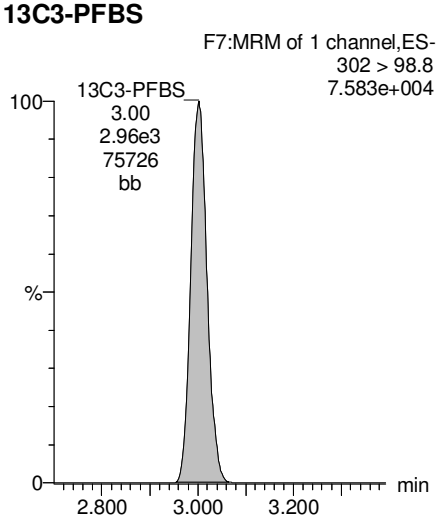
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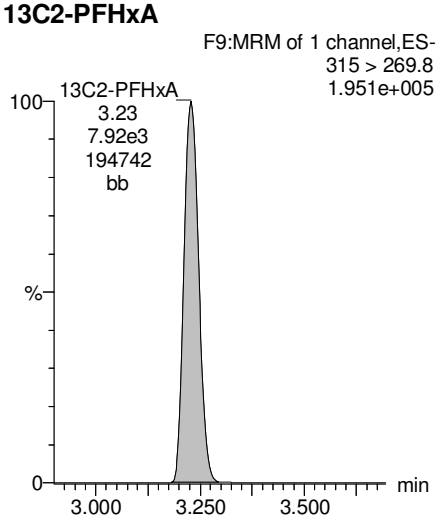
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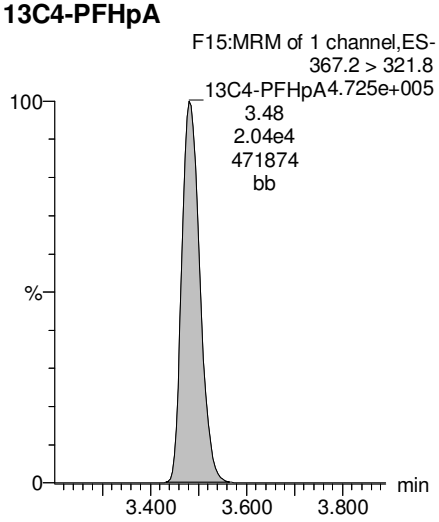
13C3-PFBS



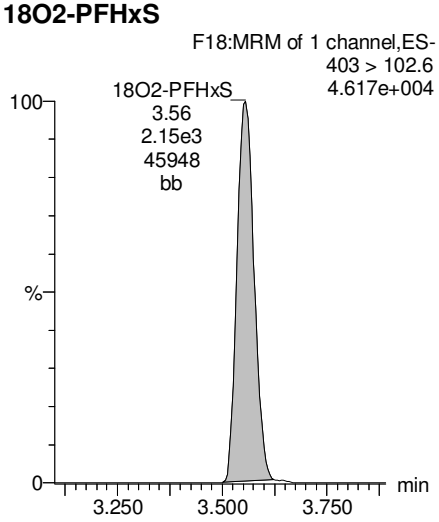
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13C4-PFHpA



18O2-PFHxS



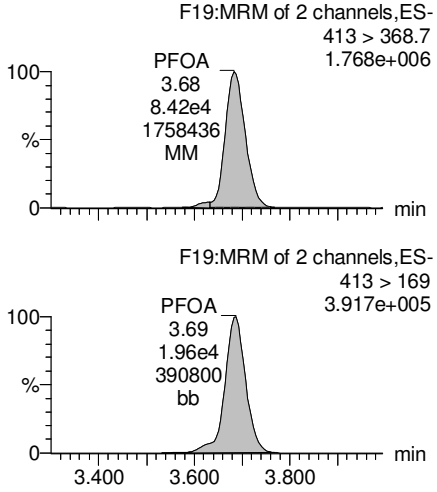
AC 8/7/17

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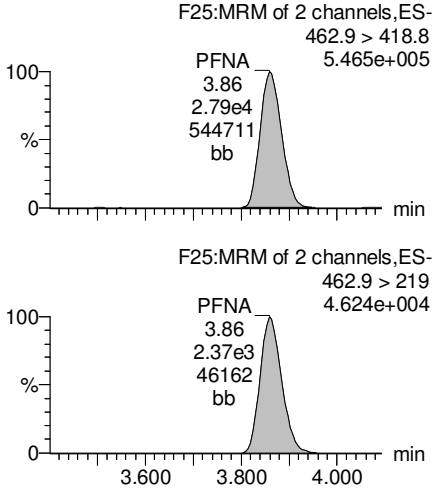
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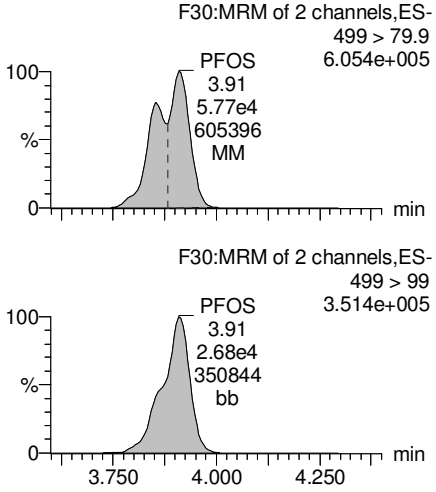
Total PFOA



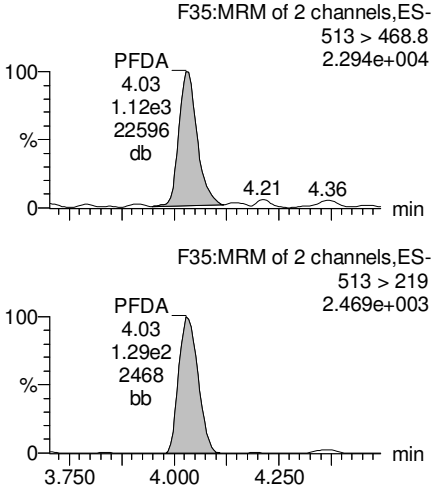
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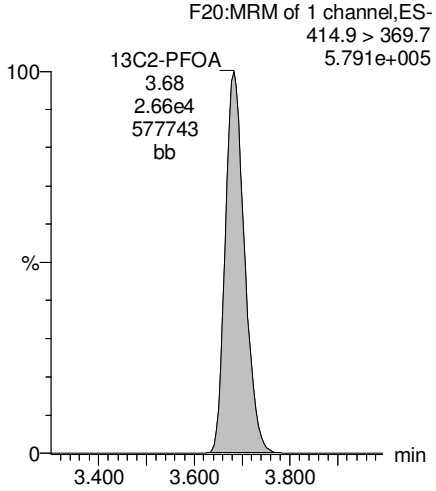
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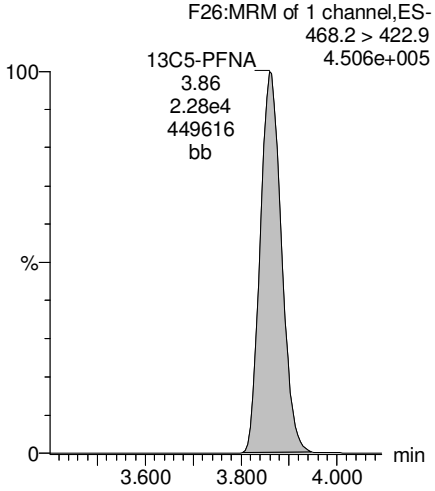
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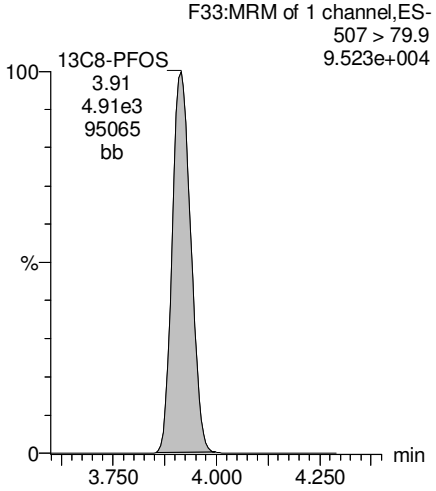
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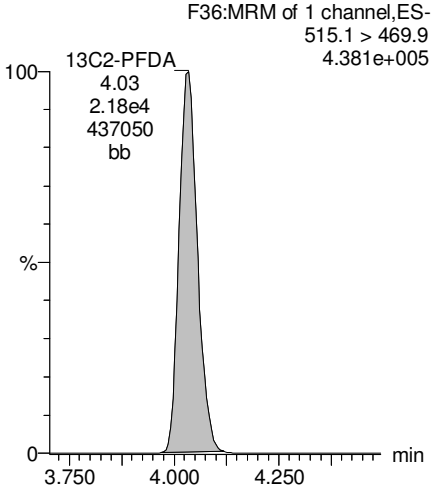
13C5-PFNA



13C8-PFOS



13C2-PFDA



AC 8/7/17

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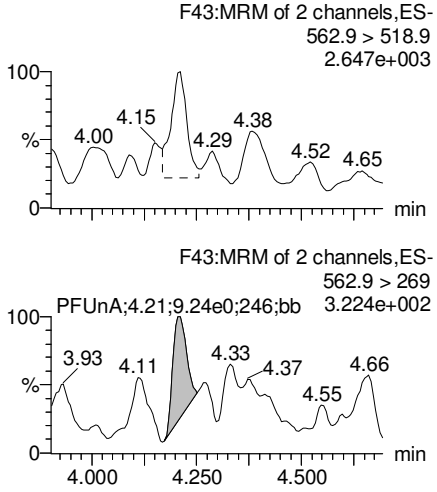
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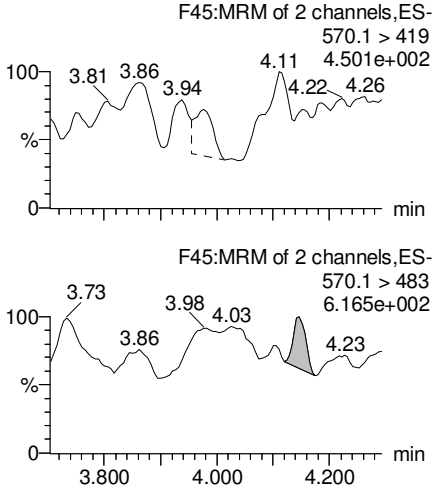
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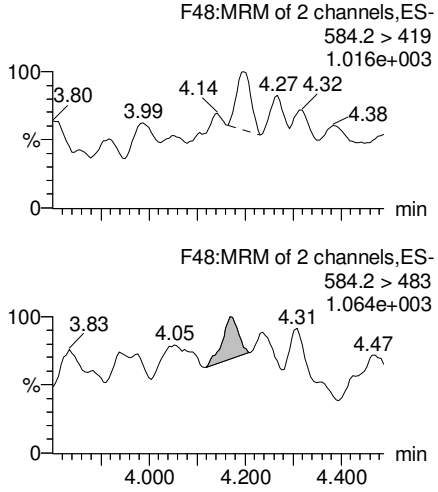
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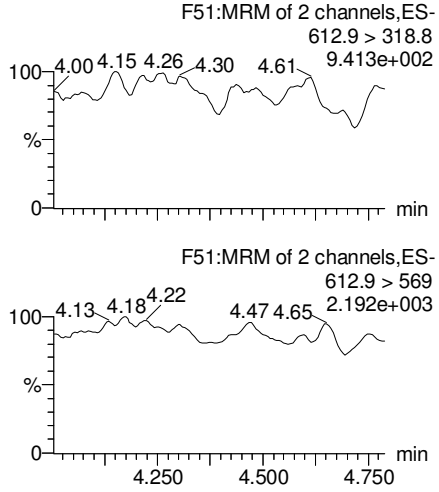
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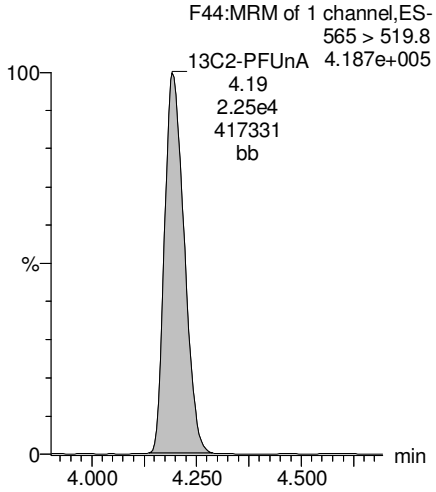
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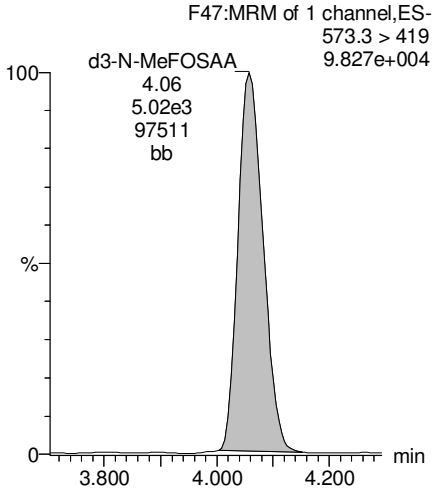
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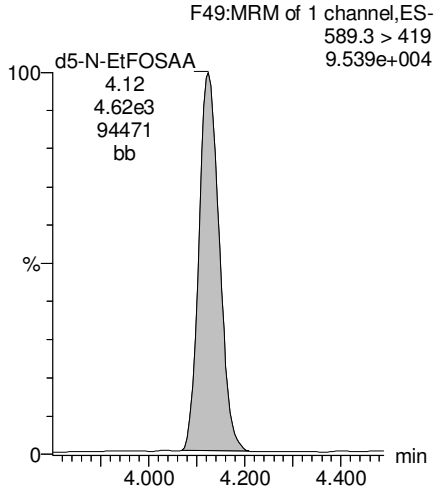
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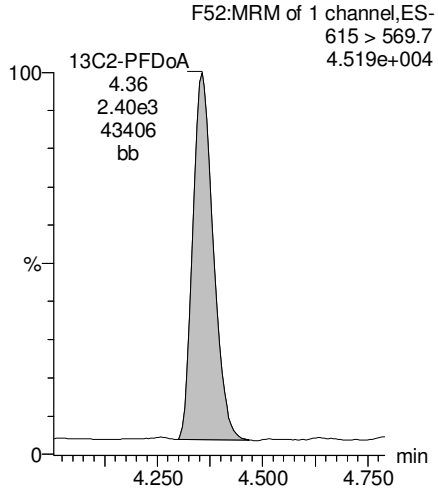
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



AC 8/7/17

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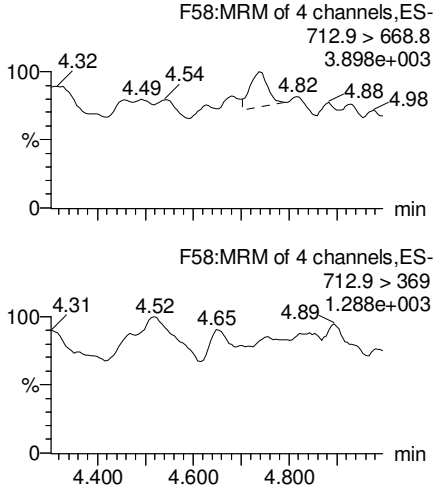
Rev'd: MM 8/8/17

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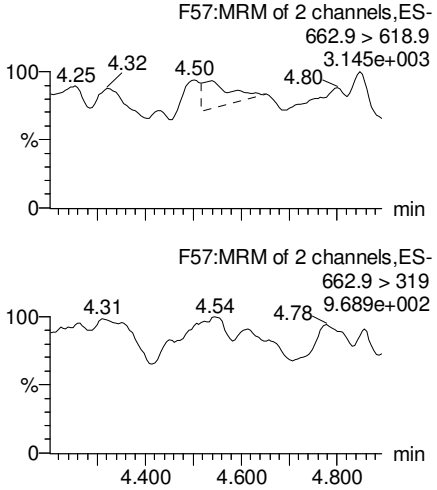
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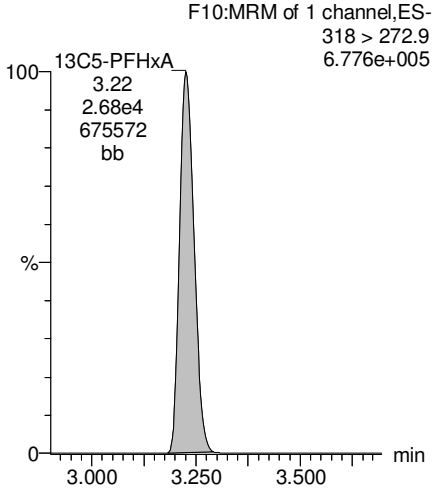
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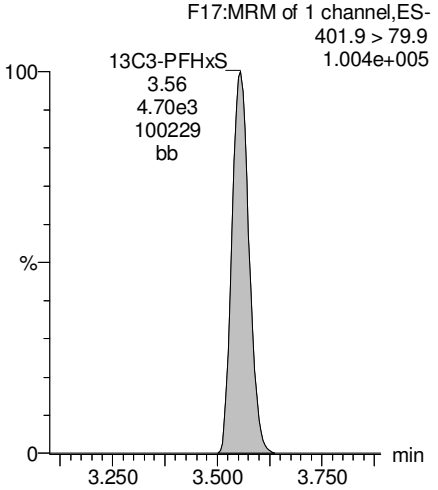
PFTrDA



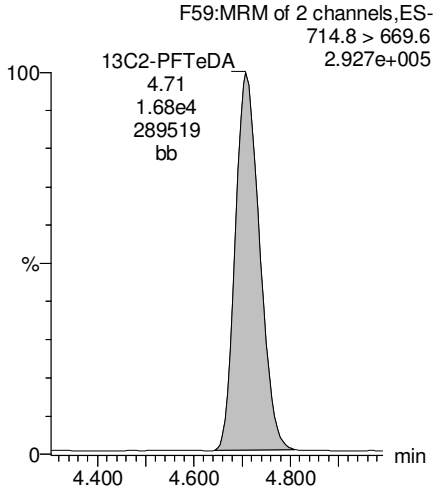
13C5-PFHxA



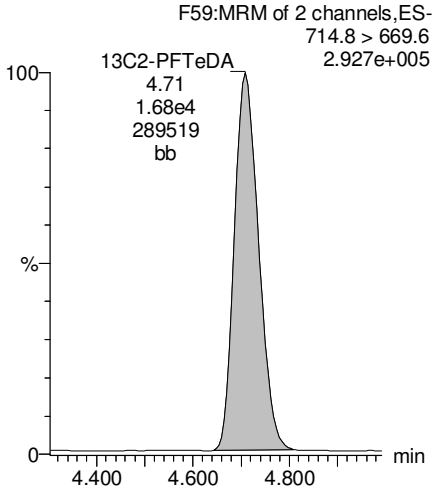
13C3-PFHxS



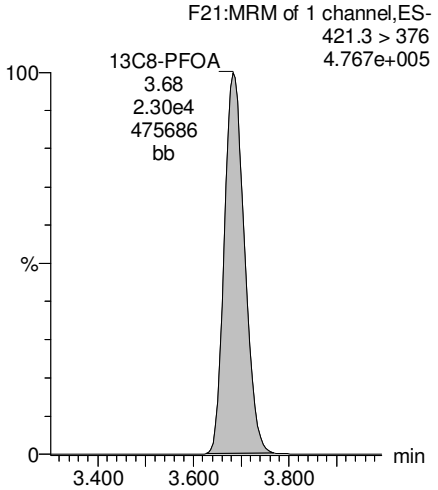
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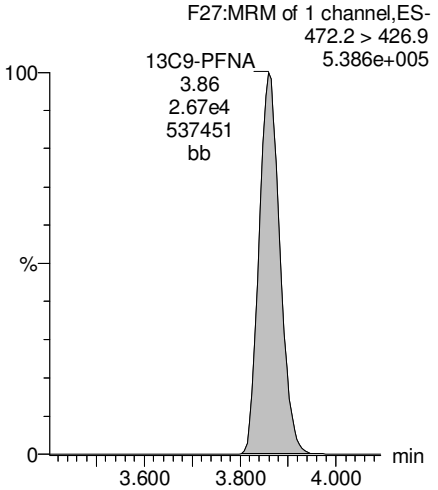
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13C8-PFOA



13C9-PFNA



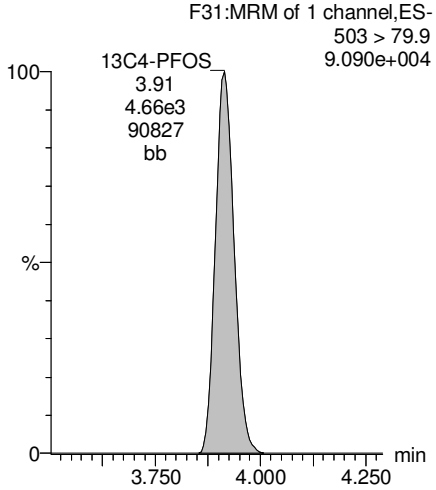
AC 8/7/17

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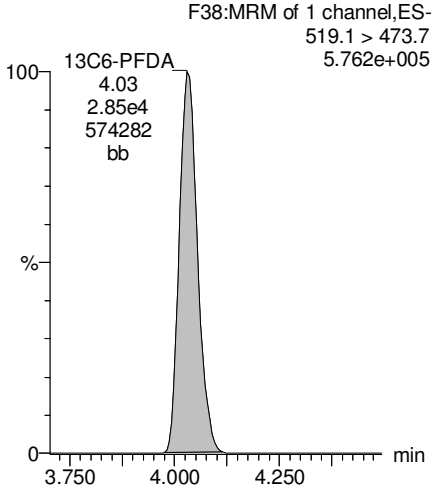
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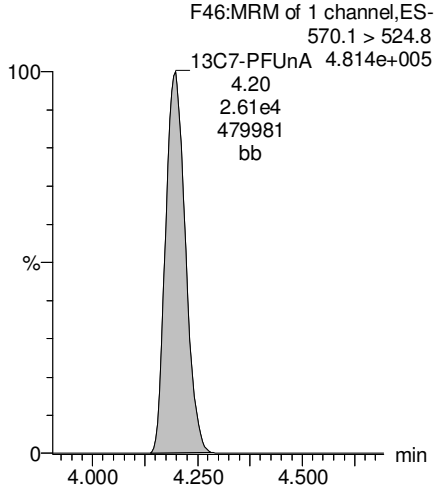
13C4-PFOS



13C6-PFDA



13C7-PFUnA



AC 8/7/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170725M1\170725M1-56.qld

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Name: 170725M1_56, Date: 26-Jul-2017, Time: 00:06:56, ID: 1700906-05@5X MW-02BR-20170718 0.125, Description: MW-02BR-20170718

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	4	PFHxA	313.2 > 268.9	4.90e4	1.57e3	0.1208		3.19	3.22	156	852	
2	6	PFHxS	398.9 > 79.6	8.66e3	4.17e2	0.1208		3.56	3.56	259	1500	
3	12	PFOS	499 > 79.9	1.08e4	9.44e2	0.1208		3.89	3.91	143	1160	
4	31	13C2-PFHxA	315 > 269.8	1.57e3	5.21e3	0.1208	0.276	3.19	3.23	1.51	45.2	109.2
5	33	18O2-PFHxS	403 > 102.6	4.17e2	9.44e2	0.1208	0.393	3.56	3.56	5.52	116	112.5
6	38	13C8-PFOS	507 > 79.9	9.44e2	9.57e2	0.1208	0.936	3.89	3.91	12.3	109	105.4
7	52	13C5-PFHxA	318 > 272.9	5.21e3	5.21e3	0.1208	1.000	3.19	3.22	5.00	41.4	100.0
8	53	13C3-PFHxS	401.9 > 79.9	9.44e2	9.44e2	0.1208	1.000	3.56	3.56	12.5	103	100.0
9	54	13C8-PFOA	421.3 > 376	4.24e3	4.24e3	0.1208	1.000	3.65	3.69	12.5	103	100.0
10	55	13C9-PFNA	472.2 > 426.9	5.10e3	5.10e3	0.1208	1.000	3.83	3.86	12.5	103	100.0
11	56	13C4-PFOS	503 > 79.9	9.57e2	9.57e2	0.1208	1.000	3.89	3.91	12.5	103	100.0
12	57	13C6-PFDA	519.1 > 473.7	5.08e3	5.08e3	0.1208	1.000	4.01	4.03	12.5	103	100.0
13	58	13C7-PFUnA	570.1 > 524.8	4.33e3	4.33e3	0.1208	1.000	4.17	4.20	12.5	103	100.0
14	59	Total PFBS	299 > 79.7	2.74e3	5.01e2	0.1208		2.96		68.3	304	
15	60	Total PFHxS	398.9 > 79.6	8.66e3	4.17e2	0.1208		3.52		259	1500	
16	61	Total PFOA	413 > 368.7	1.82e4	5.50e3	0.1208		3.65		41.1	349	
17	62	Total PFOS	499 > 79.9	1.08e4	9.44e2	0.1208		3.89		143	1160	

AC 8/8/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

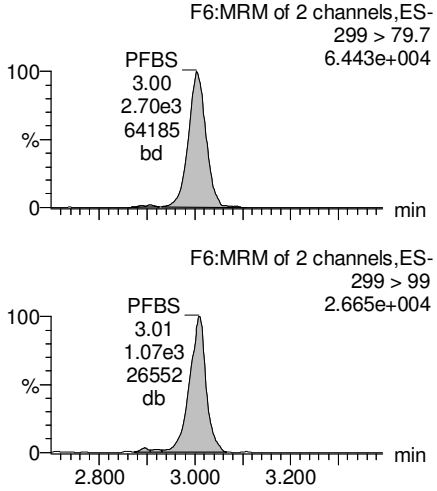
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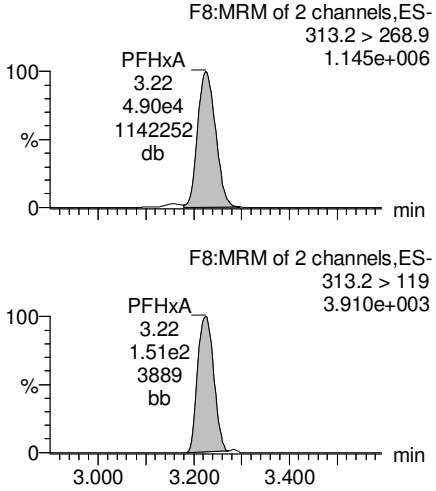
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Name: 170725M1_56, Date: 26-Jul-2017, Time: 00:06:56, ID: 1700906-05@5X MW-02BR-20170718 0.125, Description: MW-02BR-20170718

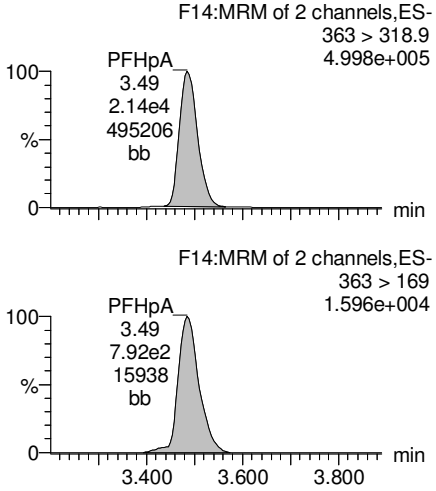
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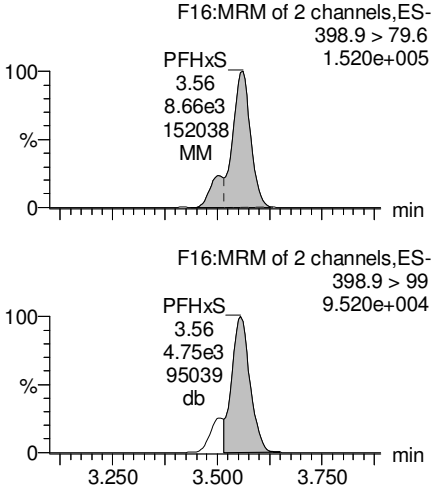
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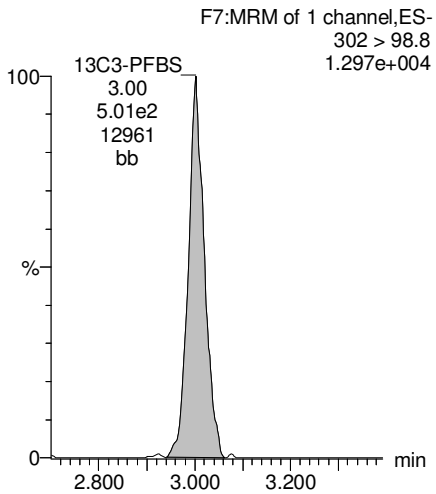
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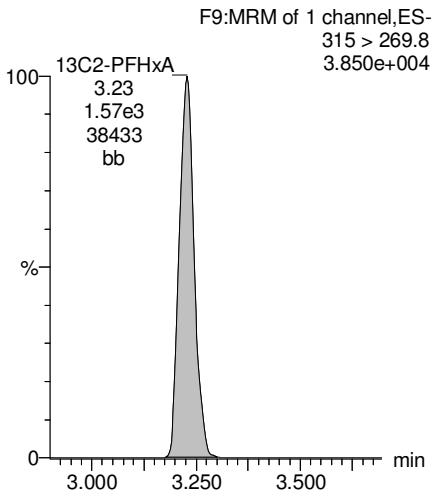
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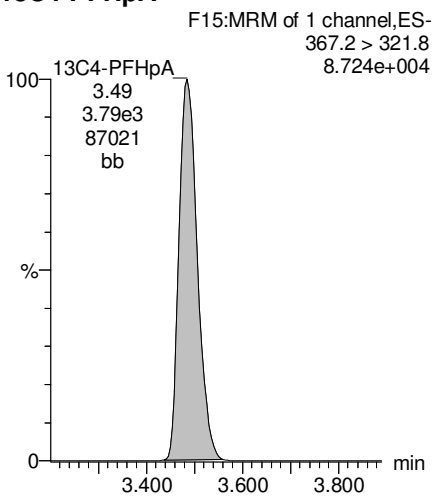
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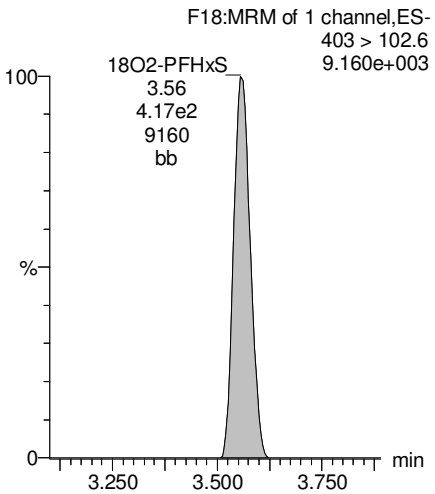
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13C4-PFHpA



18O2-PFHxS



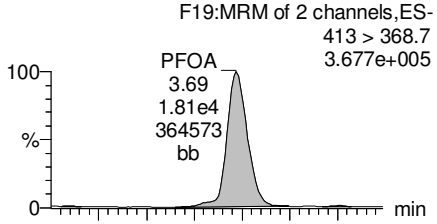
AC 8/8/17

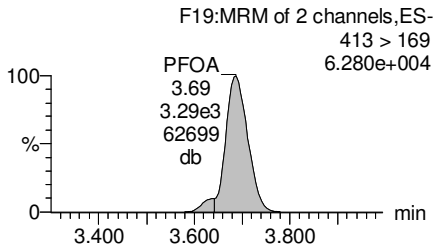
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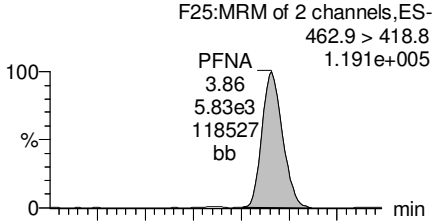
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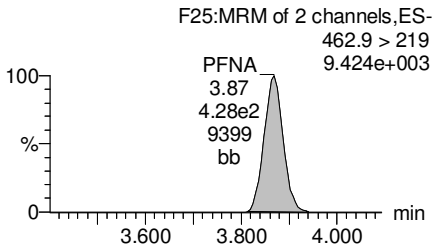
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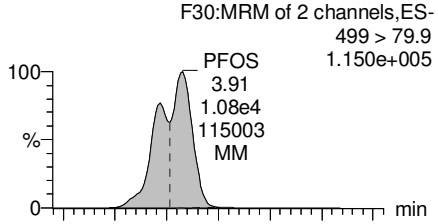


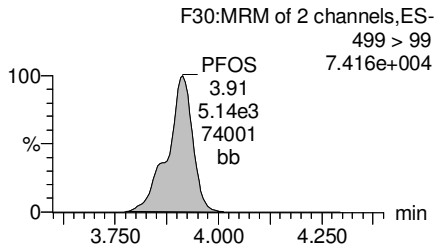
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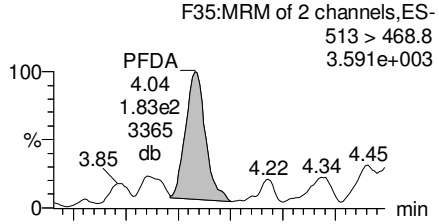


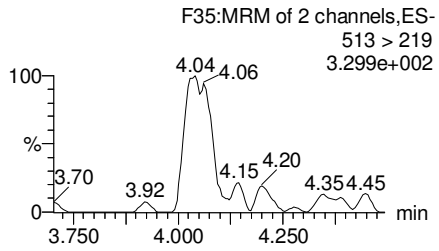
Total PFOS



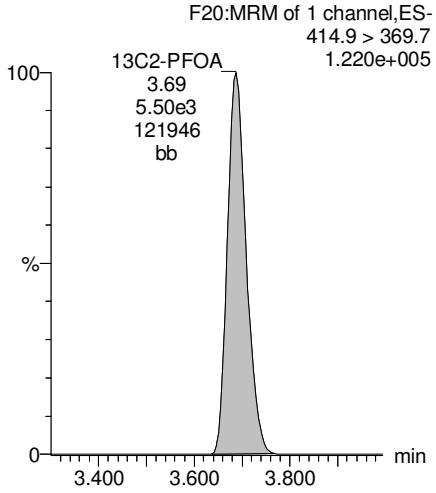


PFDA

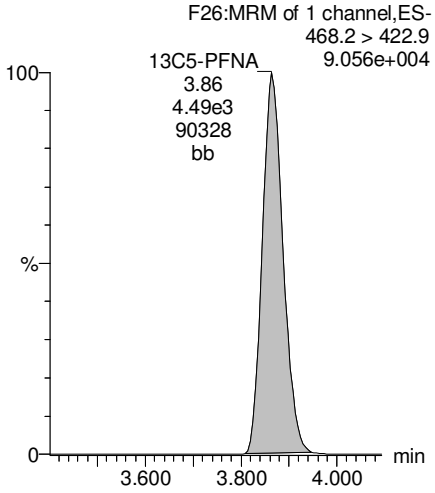




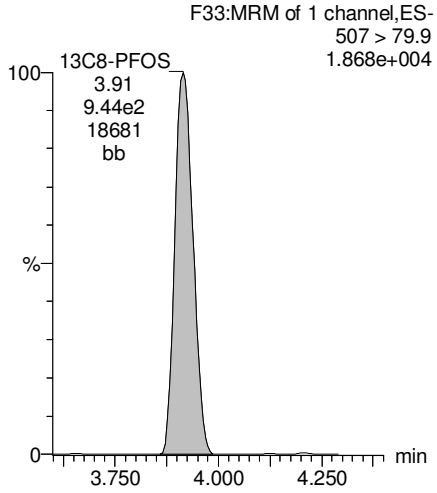
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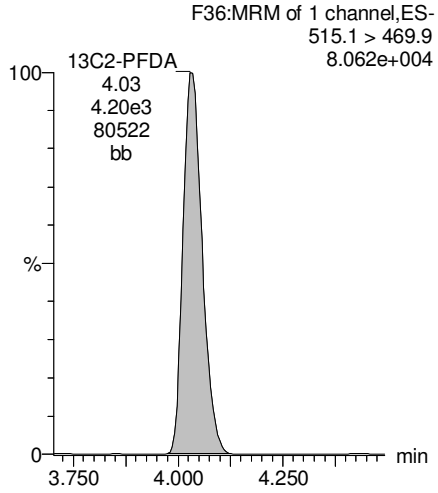
13C5-PFNA



13C8-PFOS



13C2-PFDA



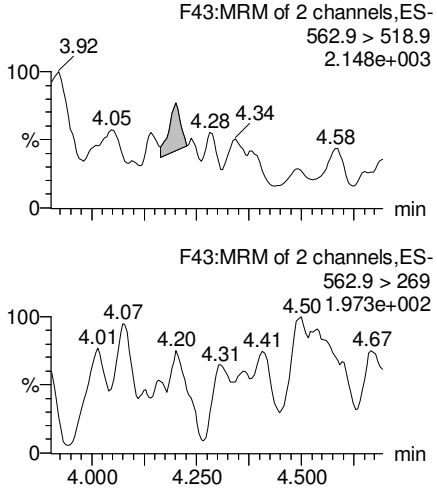
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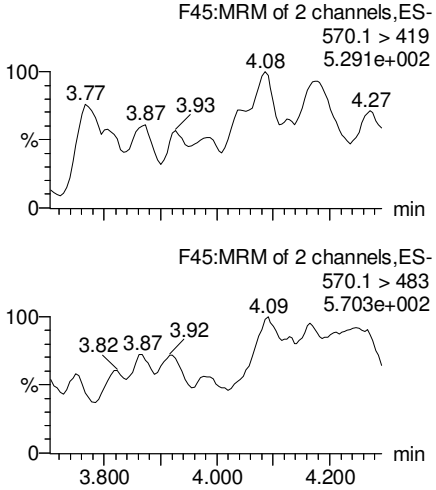
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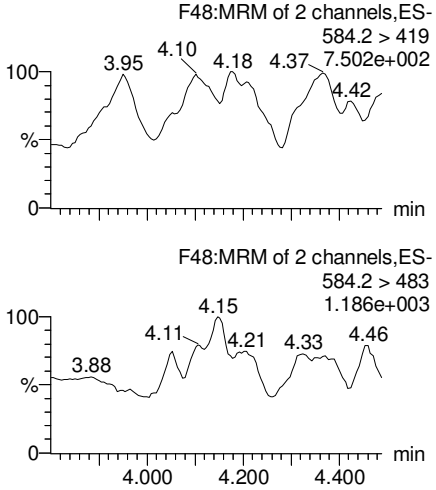
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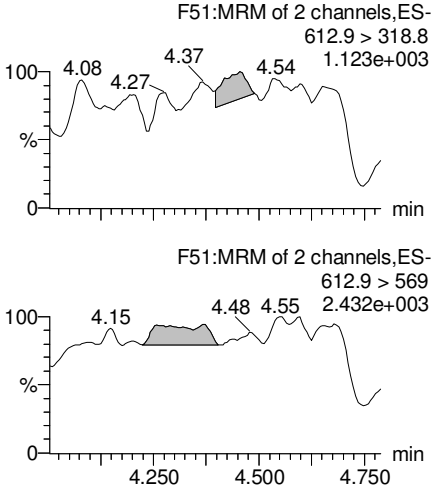
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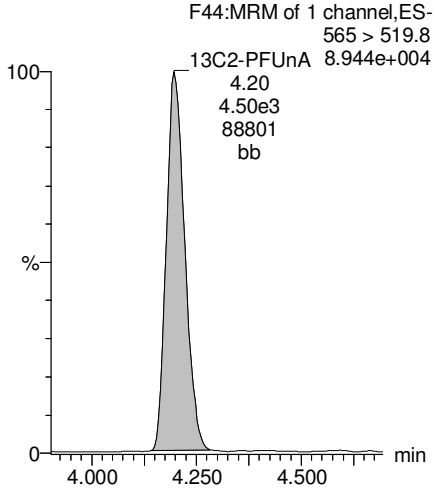
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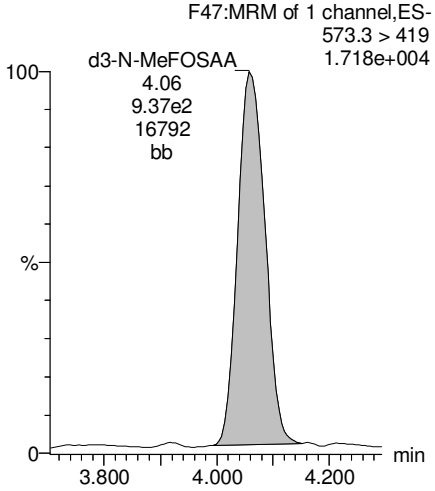
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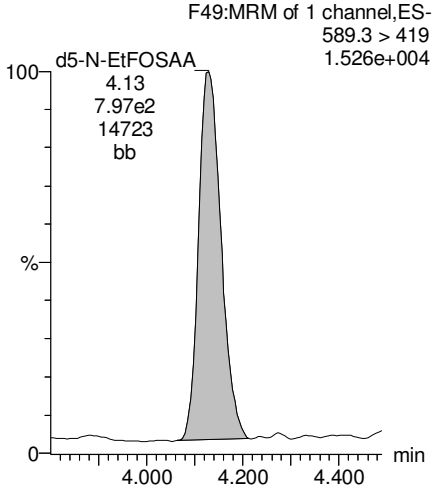
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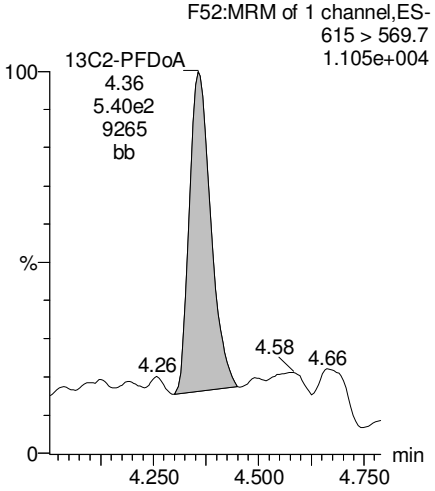
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



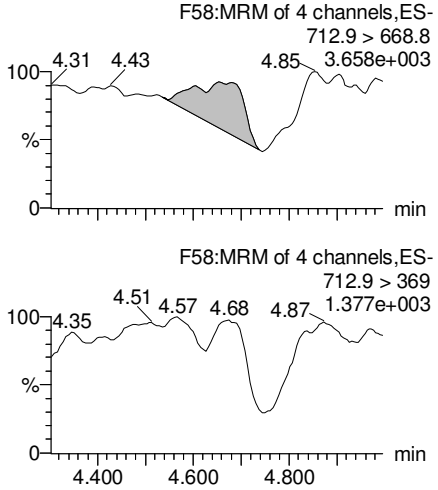
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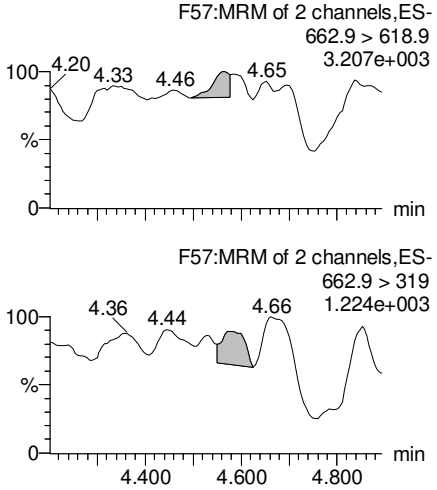
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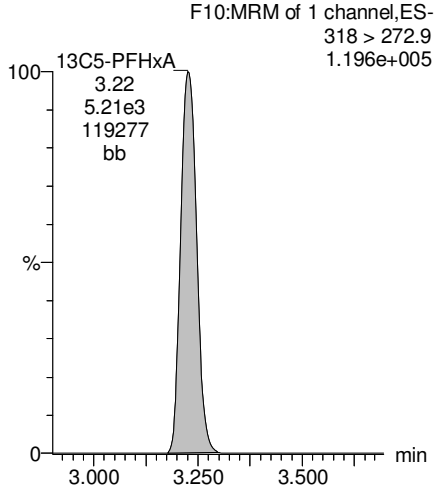
PFTeDA



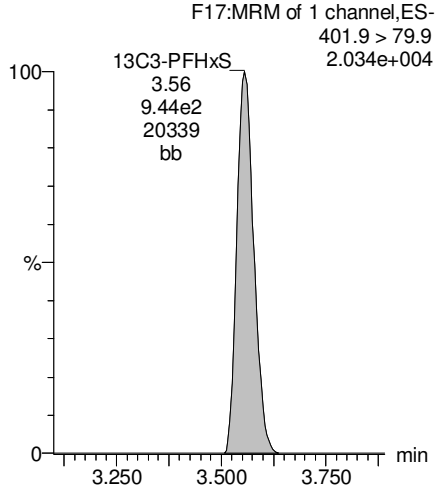
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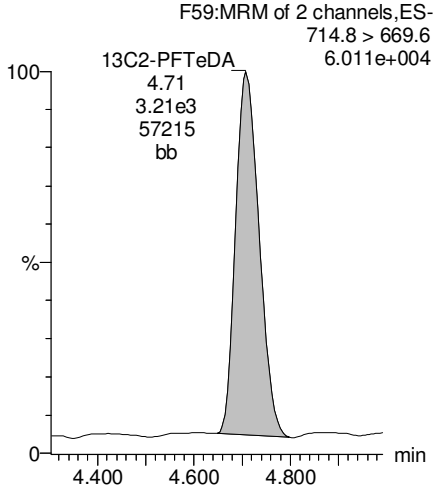
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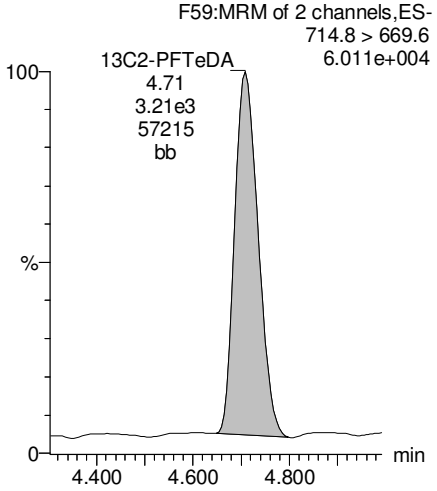
13C3-PFHxS



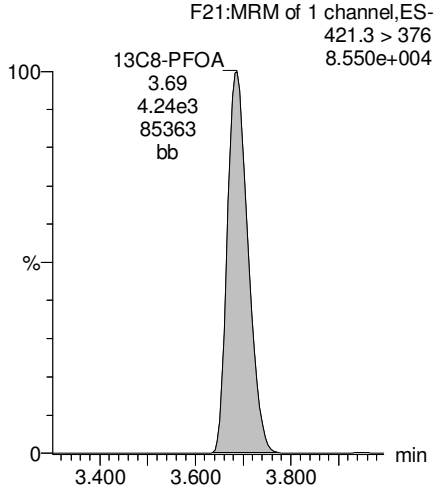
13C2-PFTeDA



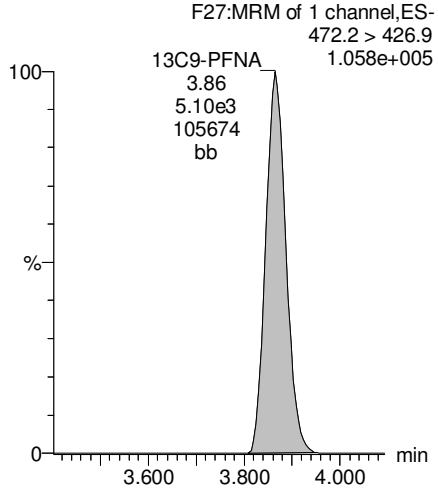
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



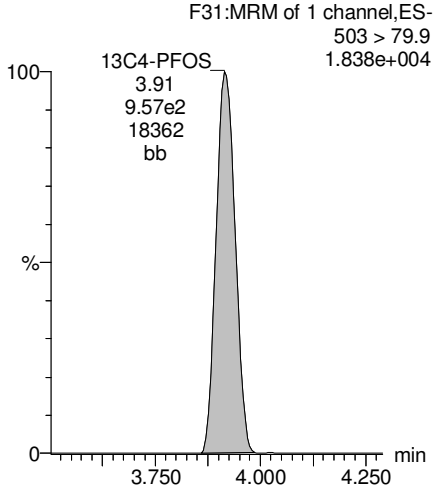
AC 8/8/17

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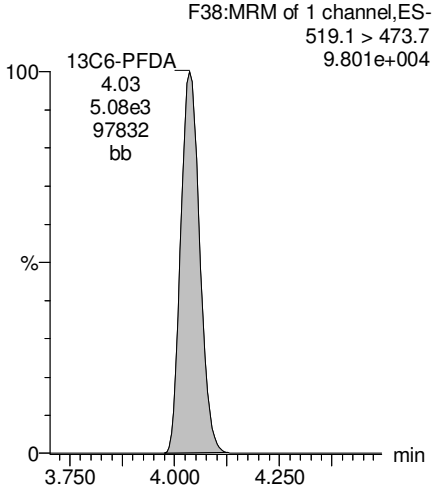
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Printed: Tuesday, August 08, 2017 14:34:35 Pacific Daylight Time

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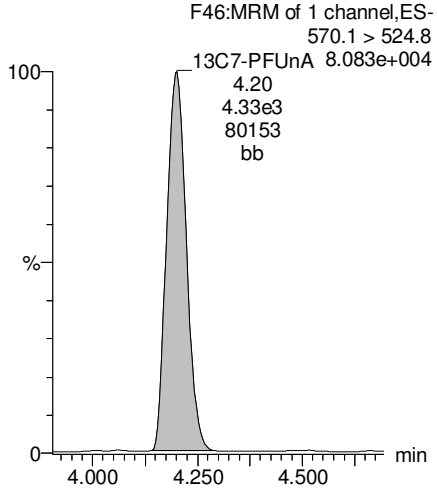
13C4-PFOS



13C6-PFDA



13C7-PFUnA



AC 8/8/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-64.qld

Last Altered: Monday, August 07, 2017 15:19:32 Pacific Daylight Time
Printed: Monday, August 07, 2017 15:19:57 Pacific Daylight Time

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_64, Date: 25-Jul-2017, Time: 00:47:21, ID: 1700906-06 RB-05-20170718 0.125, Description: RB-05-20170718

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	3	PFBS	299 > 79.7		3.48e3	0.1215		2.96				
2	4	PFHxA	313.2 > 268.9		8.75e3	0.1215		3.19				
3	5	PFHpA	363 > 318.9		2.20e4	0.1215		3.45				
4	6	PFHxS	398.9 > 79.6		2.45e3	0.1215		3.56				
5	8	PFOA	413 > 368.7		2.69e4	0.1215		3.65				
6	10	PFNA	462.9 > 418.8		2.57e4	0.1215		3.83				
7	12	PFOS	499 > 79.9		5.75e3	0.1215		3.89				
8	13	PFDA	513 > 468.8		2.18e4	0.1215		4.01				
9	15	N-MeFOSAA	570.1 > 419		4.22e3	0.1215		4.03				
10	16	N-EtFOSAA	584.2 > 419		4.22e3	0.1215		4.10				
11	17	PFUnA	562.9 > 518.9		2.20e4	0.1215		4.17				
12	19	PFDoA	612.9 > 318.8		2.07e3	0.1215		4.34				

AC 8/7/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-64.qld

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Name: 170724M1_64, Date: 25-Jul-2017, Time: 00:47:21, ID: 1700906-06 RB-05-20170718 0.125, Description: RB-05-20170718

	#	Name	Trace	Area	IS Area	Wt./Vol.	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	21	PFTrDA	662.9 > 618.9		2.07e3	0.1215		4.50				
2	22	PFTeDA	712.9 > 668.8		1.42e4	0.1215		4.68				
3	30	13C3-PFBS	302 > 98.8	3.48e3	2.98e4	0.1215	0.031	2.96	3.00	0.583	154	149.9
4	31	13C2-PFHxA	315 > 269.8	8.75e3	2.98e4	0.1215	0.276	3.19	3.23	1.47	43.7	106.1
5	32	13C4-PFHpA	367.2 > 321.8	2.20e4	2.98e4	0.1215	0.306	3.45	3.48	3.69	99.4	96.7
6	33	18O2-PFHxS	403 > 102.6	2.45e3	5.12e3	0.1215	0.393	3.56	3.55	5.99	125	121.9
7	34	13C2-6:2 FTS	429.1 > 408.9	4.54e3	2.69e4	0.1215	0.158	3.64	3.67	2.11	110	107.1
8	35	13C2-PFOA	414.9 > 369.7	2.69e4	2.69e4	0.1215	1.067	3.65	3.68	12.5	96.4	93.7
9	36	13C5-PFNA	468.2 > 422.9	2.57e4	3.06e4	0.1215	0.852	3.83	3.86	10.5	101	98.4
10	37	13C8-PFOSA	506.1 > 77.7	1.80e3	2.88e4	0.1215	0.098	3.84	3.87	0.782	65.5	63.7
11	38	13C8-PFOS	507 > 79.9	5.75e3	5.10e3	0.1215	0.936	3.89	3.91	14.1	124	120.4
12	39	13C2-PFDA	515.1 > 469.9	2.18e4	2.60e4	0.1215	0.810	4.01	4.03	10.5	106	103.3
13	40	13C2-8:2 FTS	529.1 > 508.7	2.81e3	2.60e4	0.1215	0.086	4.00	4.03	1.35	130	126.3
14	41	d3-N-MeFOSAA	573.3 > 419	4.22e3	2.88e4	0.1215	0.014	4.03	4.06	1.83	1100	82.3
15	42	d5-N-EtFOSAA	589.3 > 419	4.22e3	2.88e4	0.1215	0.014	4.12	4.12	1.83	1080	80.7
16	43	13C2-PFUnA	565 > 519.8	2.20e4	2.88e4	0.1215	0.962	4.17	4.20	9.54	81.6	79.3
17	44	13C2-PFDoA	615 > 569.7	2.07e3	2.88e4	0.1215	0.094	4.34	4.35	0.899	78.3	76.2
18	46	13C2-PFTeDA	714.8 > 669.6	1.42e4	2.88e4	0.1215	0.694	4.68	4.71	6.16	73.0	71.0
19	52	13C5-PFHxA	318 > 272.9	2.98e4	2.98e4	0.1215	1.000	3.19	3.23	5.00	41.1	100.0
20	53	13C3-PFHxS	401.9 > 79.9	5.12e3	5.12e3	0.1215	1.000	3.56	3.56	12.5	103	100.0
21	54	13C8-PFOA	421.3 > 376	2.69e4	2.69e4	0.1215	1.000	3.65	3.68	12.5	103	100.0
22	55	13C9-PFNA	472.2 > 426.9	3.06e4	3.06e4	0.1215	1.000	3.83	3.86	12.5	103	100.0
23	56	13C4-PFOS	503 > 79.9	5.10e3	5.10e3	0.1215	1.000	3.89	3.91	12.5	103	100.0
24	57	13C6-PFDA	519.1 > 473.7	2.60e4	2.60e4	0.1215	1.000	4.01	4.03	12.5	103	100.0
25	58	13C7-PFUnA	570.1 > 524.8	2.88e4	2.88e4	0.1215	1.000	4.17	4.19	12.5	103	100.0
26	59	Total PFBS	299 > 79.7	0.00e0	3.48e3	0.1215		2.96		0.000		
27	60	Total PFHxS	398.9 > 79.6	0.00e0	2.45e3	0.1215		3.52		0.000		
28	61	Total PFOA	413 > 368.7	0.00e0	2.69e4	0.1215		3.65		0.000		
29	62	Total PFOS	499 > 79.9	0.00e0	5.75e3	0.1215		3.89		0.000		
30	63	Total N-Me-FOSAA	570.1 > 419	0.00e0	4.22e3	0.1215		4.03		0.000		
31	64	Total N-EtFOSAA	584.2 > 419	0.00e0	4.22e3	0.1215		4.17		0.000		

AC 8/7/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-64.qld

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Name: 170724M1_64, Date: 25-Jul-2017, Time: 00:47:21, ID: 1700906-06 RB-05-20170718 0.125, Description: RB-05-20170718

Total PFBS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total PFHxS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1									

Total PFOA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	8	PFOA	413 > 368.7			26873.512		MM-I	

Total PFOS

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	12	PFOS	499 > 79.9			5751.131		MM-I	

Total N-Me-FOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
1	15	N-MeFOSAA	570.1 > 419			4218.539		MM-I	

Total N-EtFOSAA

	#	Name	Trace	RT	Area	IS Area	Response	Primary Flags	Conc.
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AC 8/7/17

Vista Analytical Laboratory

Rev'd: MM 8/8/17

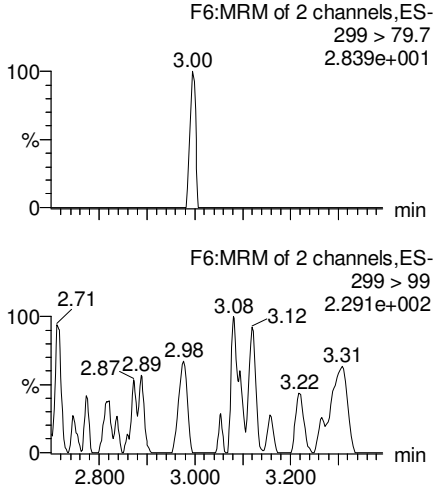
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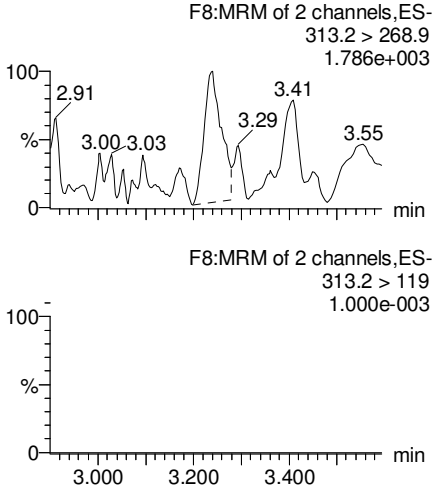
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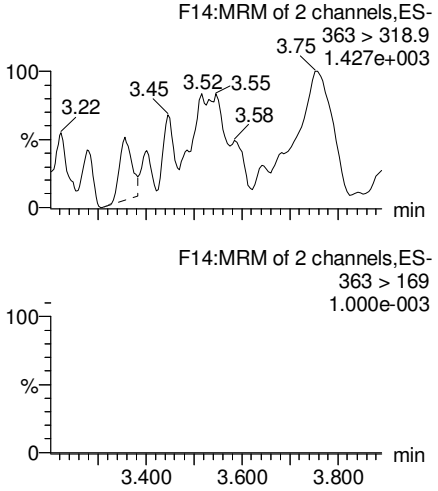
Total PFBS



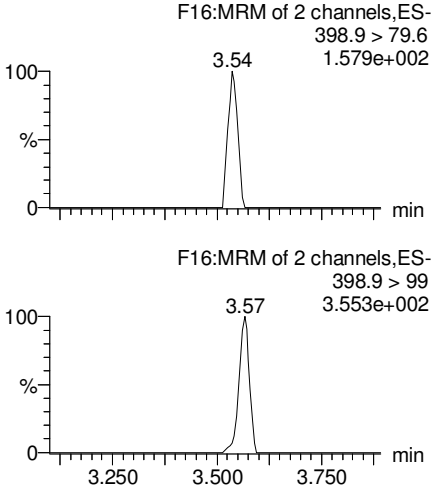
PFHxA



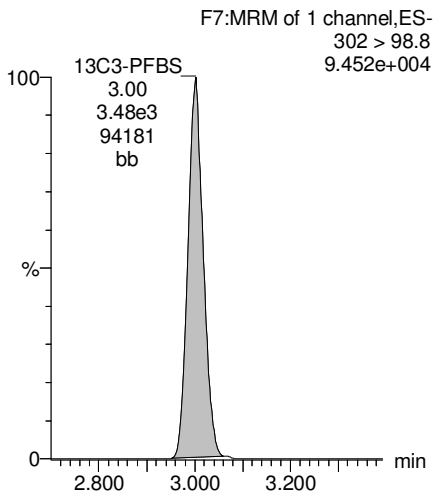
PFHpA



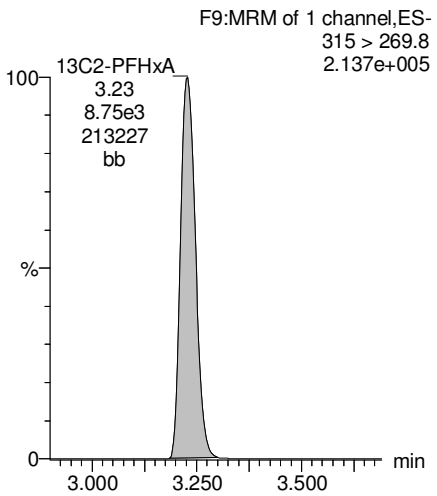
Total PFHxS



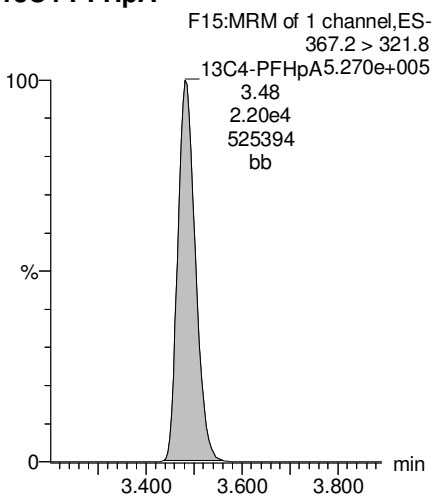
13C3-PFBS



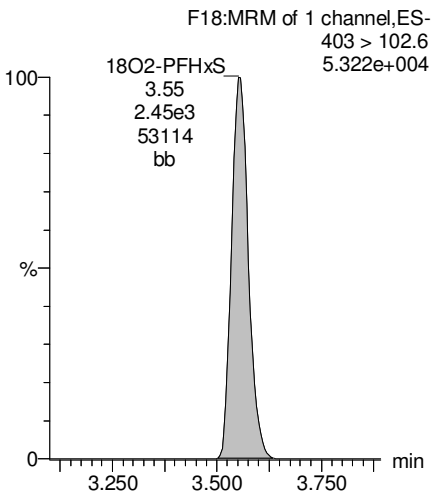
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS



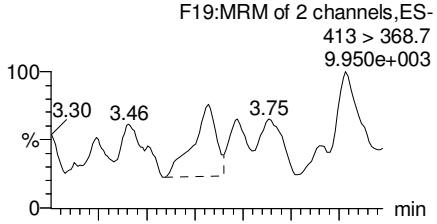
AC 8/7/17

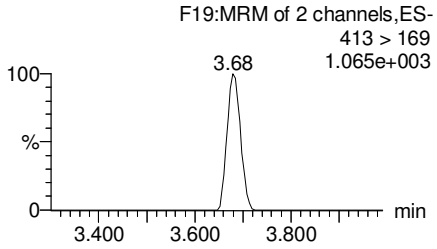
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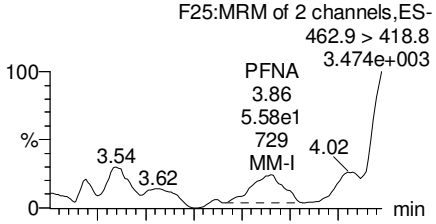
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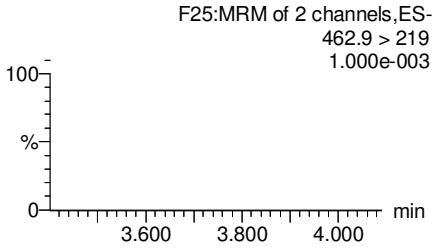
Total PFOA



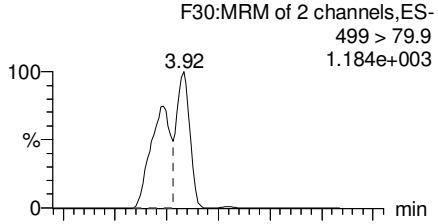


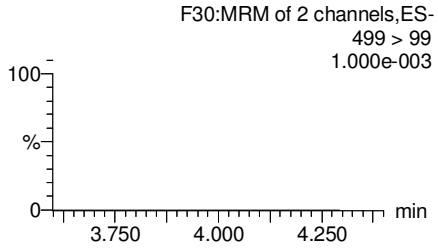
PFNA



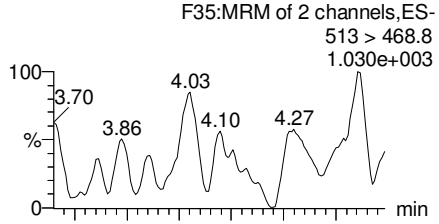


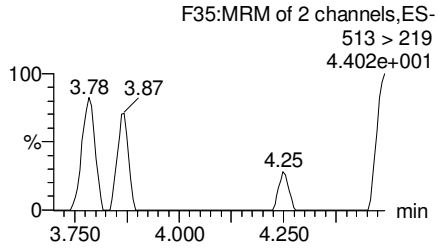
Total PFOS



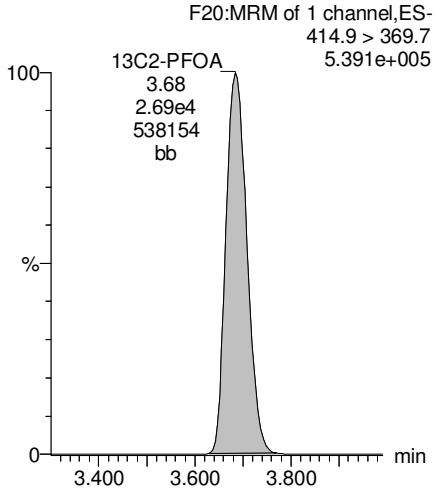


PFDA

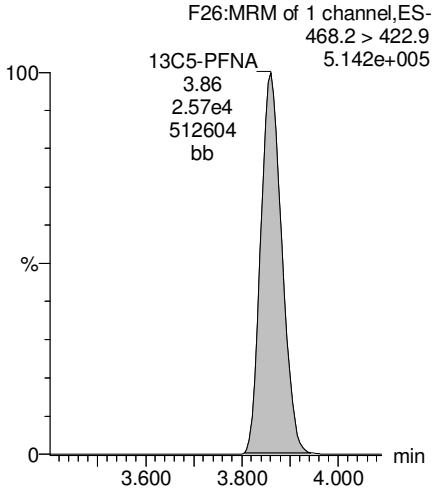




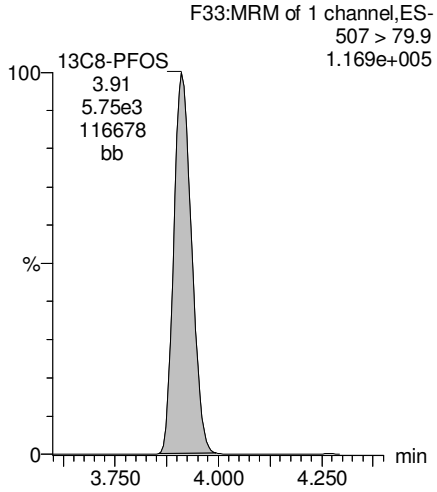
13C2-PFOA



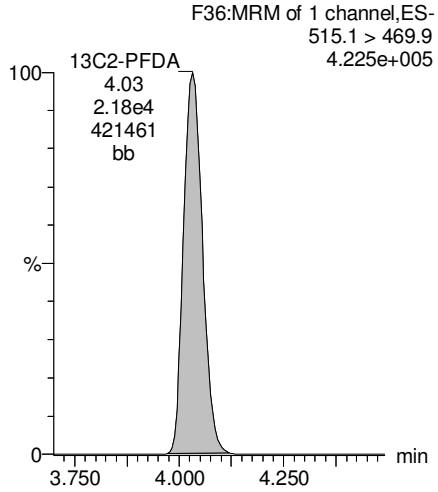
13C5-PFNA



13C8-PFOS



13C2-PFDA



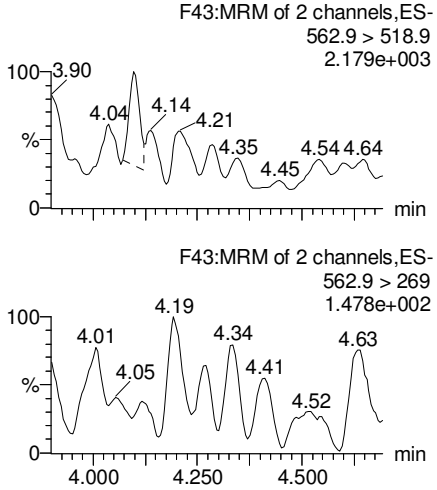
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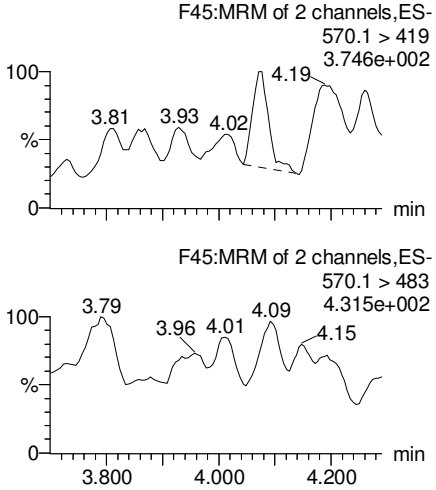
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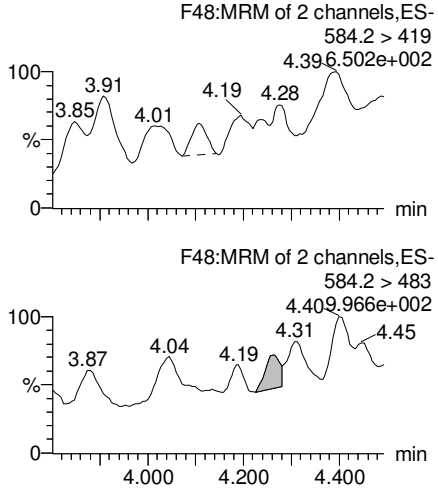
PFUnA



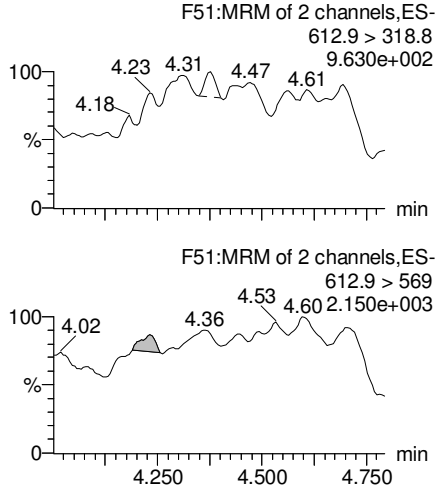
N-MeFOSAA



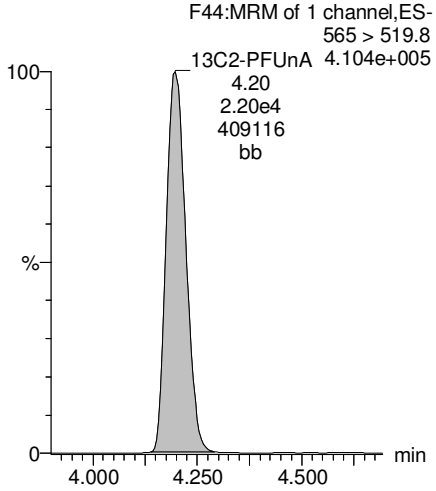
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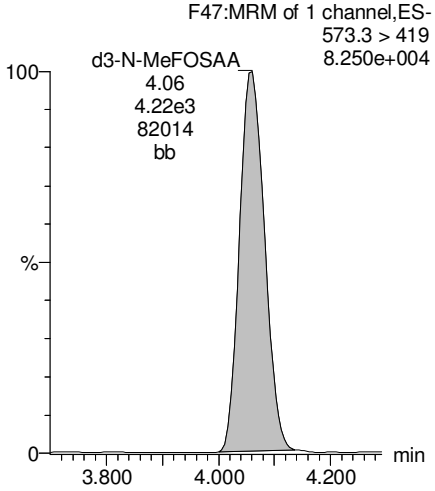
PFDoA



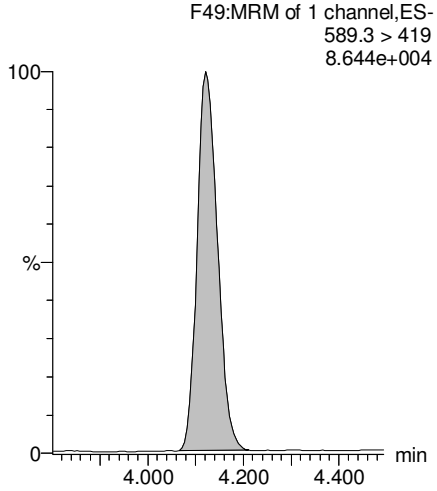
13C2-PFUnA



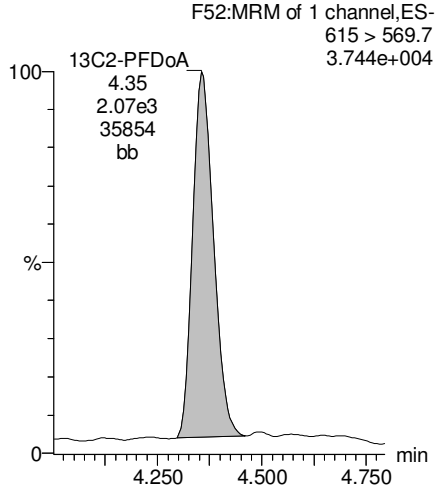
d3-N-MeFOSAA



d5-N-EtFOSAA



13C2-PFDoA



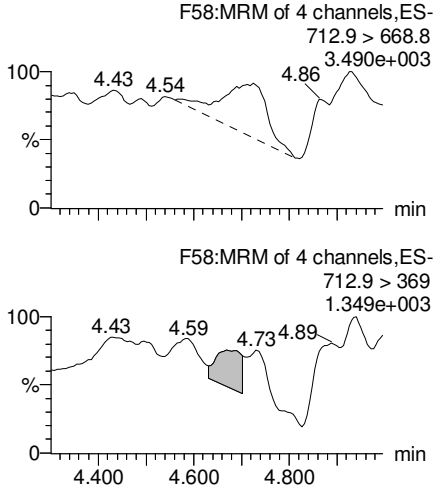
AC 8/7/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-64.qld

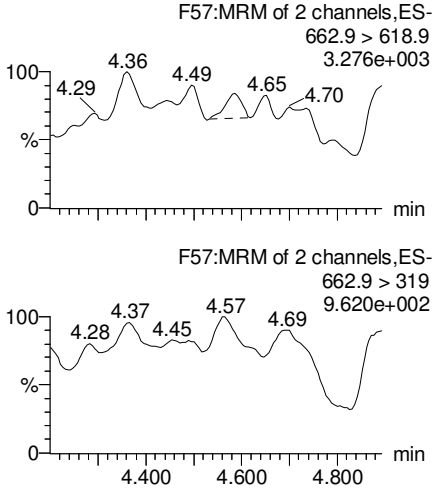
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Printed: Monday, August 07, 2017 15:19:57 Pacific Daylight Time

Name: 170724M1_64, Date: 25-Jul-2017, Time: 00:47:21, ID: 1700906-06 RB-05-20170718 0.125, Description: RB-05-20170718

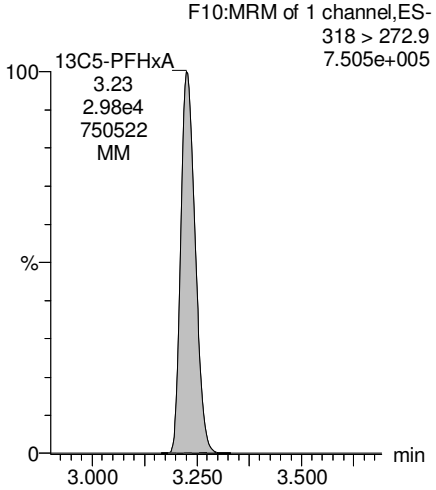
PFTeDA



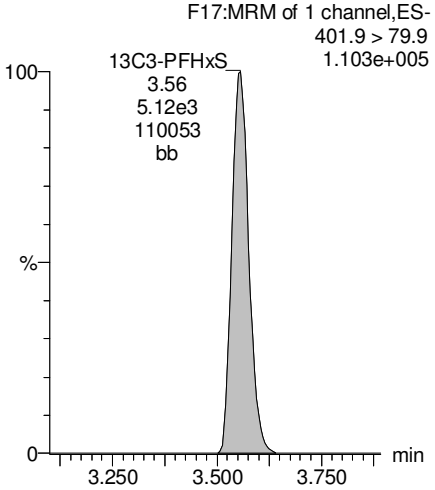
PFTrDA



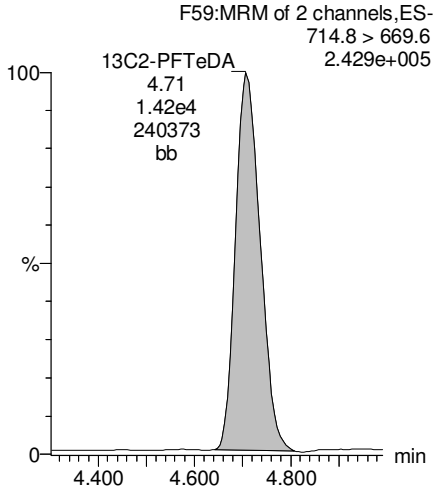
13C5-PFHxA



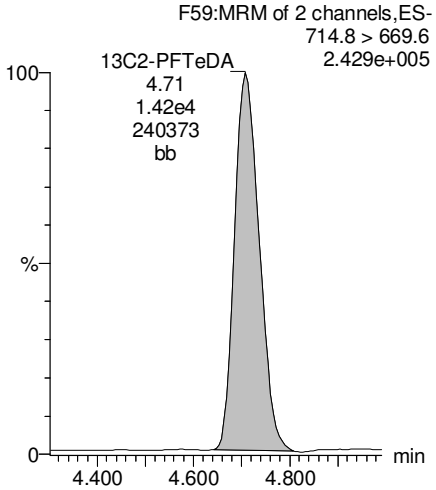
13C3-PFHxS



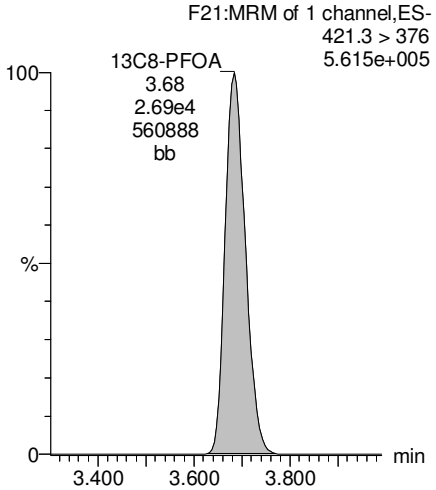
13C2-PFTeDA



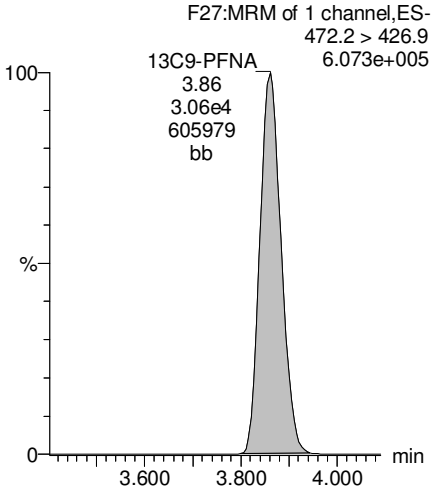
13C2-PFTeDA



13C8-PFOA



13C9-PFNA



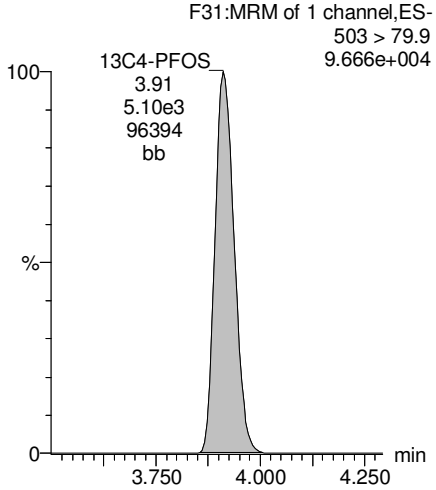
AC 8/7/17

Dataset: U:\Q4.PRO\results\170724M1\170724M1-64.qld

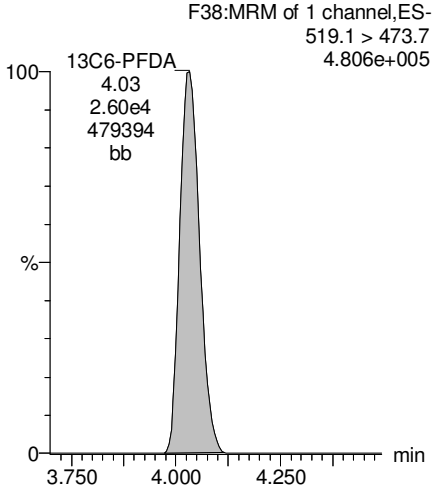
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Printed: Monday, August 07, 2017 15:19:57 Pacific Daylight Time

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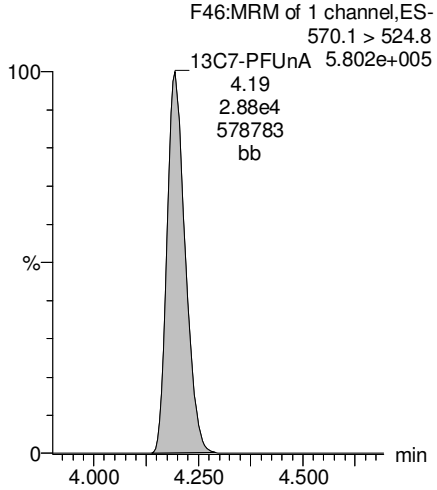
13C4-PFOS



13C6-PFDA



13C7-PFUnA



AC 8/7/17

CONTINUING CALIBRATION

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-54.qld

Last Altered: Tuesday, July 25, 2017 10:45:03 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:46:06 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

AC 7/25/17

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	1	L-PFBA	213.0 > 168.8	13717.317	14841.831		1.000	1.56	9.63	96.26
2	2	Br-PFBA	213.0 > 168.8		14841.831		1.000			
3	3	L-PFPeA	263.1 > 218.9	23137.586	29721.047		1.000	2.81	9.63	96.31
4	4	Br-PFPeA	263.1 > 218.9		29721.047		1.000			
5	5	L-PFBS	299 > 79.7	5388.239	3666.354		1.000	3.00	9.88	98.77
6	6	Br-PFBS	299 > 79.7		3666.354		1.000			
7	7	L-PFHxA	313.2 > 268.9	38028.445	12560.093		1.000	3.23	9.92	99.24
8	8	Br-PFHxA	313.2 > 268.9	29.740	12560.093		1.000	3.15		
9	9	L-PFHpA	363 > 318.9	35389.406	35390.621		1.000	3.49	9.91	99.08
10	10	Br-PFHpA	363 > 318.9	73.087	35390.621		1.000	3.36		
11	11	L-PFHxS	398.9 > 79.6	4523.582	3743.138		1.000	3.56	9.38	93.79
12	12	Br-PFHxS	398.9 > 79.6		3743.138		1.000			
13	13	L-6:2 FTS	427.1 > 407	7485.944	9068.308		1.000	3.67	9.75	97.53
14	14	Br-6:2 FTS	427.1 > 407		9068.308		1.000			
15	15	L-PFOA	413 > 368.7	51977.324	63225.359		1.000	3.68	10.38	103.79
16	16	Br-PFOA	413 > 368.7	38.392	63225.359		1.000	3.56		
17	17	L-PFHpS	448.9 > 98.8	4945.654	63225.359		1.000	3.74	10.85	108.53
18	18	Br-PFHpS	448.9 > 98.8		63225.359		1.000			
19	19	L-PFNA	462.9 > 418.8	58359.652	65988.719		1.000	3.86	9.94	99.37
20	20	Br-PFNA	462.9 > 418.8		65988.719		1.000			
21	21	L-PFOSA	498.1 > 77.8	6377.556	7101.229		1.000	3.87	10.65	106.52
22	22	Br-PFOSA	498.1 > 77.8		7101.229		1.000			
23	23	L-PFOS	499 > 79.9	10311.557	12179.149		1.000	3.91	8.92	89.22
24	24	Br-PFOS	499 > 79.9		12179.149		1.000			
25	25	L-PFDA	513 > 468.8	57795.934	63113.398		1.000	4.03	8.72	87.25
26	26	Br-PFDA	513 > 468.8		63113.398		1.000			
27	27	L-8:2 FTS	527 > 506.9	6590.332	5991.518		1.000	4.03	9.38	93.77
28	28	Br-8:2 FTS	527 > 506.9		5991.518		1.000			
29	29	L-N-MeFOSAA	570.1>419	16503.994	13933.809		1.000	4.06	10.01	100.11
30	30	Br-N-MeFOSAA	570.1>419		13933.809		1.000			
31	31	L-N-EtFOSAA	584.2>419	12592.925	14393.751		1.000	4.13	8.96	89.64

70-130

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-54.qld

Last Altered: Tuesday, July 25, 2017 10:45:03 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:46:06 Pacific Daylight Time

Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
32	32	Br-N-EtFOSAA	584.2>419		14393.751		1.000			
33	33	L-PFUnA	562.9 > 518.9	43380.402	66093.086		1.000	4.20	9.29	92.87
34	34	Br-PFUnA	562.9 > 518.9		66093.086		1.000			
35	35	L-PFDS	598.9 > 98.7	4549.397	66093.086		1.000	4.24	9.66	96.63
36	36	Br-PFDS	598.9 > 98.7		66093.086		1.000			
37	37	L-PFDoA	612.9 > 318.8	5090.924	7241.331		1.000	4.36	9.30	92.99
38	38	Br-PFDoA	612.9 > 318.8		7241.331		1.000			
39	39	L-N-MeFOSA	512.1>168.9	10713.910	30558.729		1.000	4.41	9.47	94.74
40	40	Br-N-MeFOSA			30558.729					
41	41	L-PFTrDA	662.9 > 618.9	62943.777	7241.331		1.000	4.53	9.79	97.92
42	42	Br-PFTrDA	662.9 > 618.9		49154.664		1.000			
43	43	L-PFTeDA	712.9 > 668.8	43981.219	49154.664		1.000	4.71	9.70	97.00
44	44	Br-PFTeDA	712.9 > 668.8		49154.664		1.000			
45	45	L-N-EtFOSA	526.1>168.9	12841.630	41816.922		1.000	4.98	9.86	98.58
46	46	Br-N-EtFOSA	526.1>168.9	20.190	41816.922		1.000	4.88		
47	47	L-PFHxDA	812.8 > 768.9	65001.813	24112.928		1.000	5.08	9.85	98.51
48	48	Br-PFHxDA	812.8 > 768.9		24112.928		1.000			
49	49	L-PFODA	912.8 > 868.8	61969.875	24112.928		1.000	5.45	9.97	99.68
50	50	Br-PFODA	912.8 > 868.8		24112.928		1.000			
51	51	L-N-MeFOSE	616.1>58.9	15692.072	46741.930		1.000	5.44	9.51	95.06
52	52	Br-N-MeFOSE	616.1>58.9		46741.930		1.000			
53	53	L-N-EtFOSE	630.1>58.9	17749.732	46536.496		1.000	5.61	9.51	95.14
54	54	Br-N-EtFOSE	630.1>58.9		46536.496		1.000			
55	55	13C3-PFBA	216.1 > 171.8	14841.831	17771.932	0.821	1.000	1.56	12.72	101.77
56	56	13C3-PFPeA	266 > 221.8	29721.047	17771.932	1.617	1.000	2.81	12.92	103.40
57	57	13C3-PFBS	302 > 98.8	3666.354	17771.932	0.203	1.000	3.00	12.72	101.73
58	58	13C2-PFHxA	315 > 269.8	12560.093	44936.813	0.276	1.000	3.23	5.06	101.13
59	59	13C4-PFHpA	367.2 > 321.8	35390.621	44936.813	0.306	1.000	3.49	12.89	103.11
60	60	18O2-PFHxS	403 > 102.6	3743.138	8924.657	0.393	1.000	3.56	13.35	106.76
61	61	13C2-6:2 FTS	429.1 > 408.9	9068.308	63225.359	0.147	1.000	3.67	12.16	97.25
62	62	13C2-PFOA	414.9 > 369.7	63225.359	60232.691	1.067	1.000	3.68	12.29	98.33
63	63	13C5-PFNA	468.2 > 422.9	65988.719	77770.828	0.852	1.000	3.86	12.45	99.57
64	64	13C8-PFOSA	506.1 > 77.7	7101.229	75659.602	0.098	1.000	3.87	11.94	95.54
65	65	13C8-PFOS	507 > 79.9	12179.149	12400.646	0.937	1.000	3.91	13.10	104.79

70-130

50-150

Dataset: U:\Q4.PRO\results\170724M1\170724M1-54.qld

Last Altered: Tuesday, July 25, 2017 10:45:03 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:46:06 Pacific Daylight Time

Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
66	66	13C2-PFDA	515.1 > 469.9	63113.398	76913.242	0.810	1.000	4.03	12.67	101.33
67	67	13C2-8:2 FTS	529.1 > 508.7	5991.518	63113.398	0.106	1.000	4.03	11.21	89.64
68	68	d3-N-MeFOSAA	573.3>419	13933.809	75659.602	0.178	1.000	4.06	12.93	103.43
69	69	d5-N-EtFOSAA	589.3>419	14393.751	75659.602	0.181	1.000	4.12	13.11	104.87
70	70	13C2-PFUnA	565 > 519.8	66093.086	75659.602	0.962	1.000	4.20	11.35	90.80
71	71	13C2-PFDoA	615 > 569.7	7241.331	75659.602	0.094	1.000	4.36	12.67	101.36
72	72	d3-N-MeFOSA	515.2>168.9	30558.729	75659.602	0.413	1.000	4.44	12.23	97.81
73	73	13C2-PFTeDA	714.8 > 669.6	49154.664	75659.602	0.694	1.000	4.71	11.70	93.57
74	74	d5-N-EtFOSA	531.1>168.9	41816.922	75659.602	0.581	1.000	5.02	11.88	95.07
75	75	13C2-PFHxDA	815 > 769.7	24112.928	75659.602	0.843	1.000	5.08	4.73	94.51
76	76	d7-N-MeFOSE	623.1>58.9	46741.930	75659.602	0.656	1.000	5.43	11.78	94.24
77	77	d9-N-EtFOSE	639.2>58.8	46536.496	75659.602	0.641	1.000	5.60	11.99	95.95
78	78	13C4-PFBA	217 > 171.8	17771.932	17771.932	1.000	1.000	1.56	12.50	100.00
79	79	13C5-PFHxA	318 > 272.9	44936.813	44936.813	1.000	1.000	3.23	5.00	100.00
80	80	13C3-PFHxS	401.9 > 79.9	8924.657	8924.657	1.000	1.000	3.56	12.50	100.00
81	81	13C8-PFOA	421.3 > 376	60232.691	60232.691	1.000	1.000	3.68	12.50	100.00
82	82	13C9-PFNA	472.2 > 426.9	77770.828	77770.828	1.000	1.000	3.86	12.50	100.00
83	83	13C4-PFOS	503 > 79.9	12400.646	12400.646	1.000	1.000	3.91	12.50	100.00
84	84	13C6-PFDA	519.1 > 473.7	76913.242	76913.242	1.000	1.000	4.03	12.50	100.00
85	85	13C7-PFUnA	570.1 > 524.8	75659.602	75659.602	1.000	1.000	4.20	12.50	100.00

50-150

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Dataset: Untitled

Last Altered: Tuesday, July 25, 2017 10:51:31 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:51:42 Pacific Daylight Time

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Compound name: L-PFBA

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1	170724M1_2	IPA	24-Jul-17	13:40:23
2	170724M1_3	ST170724M1-1 PFC CS-2 17G2422	24-Jul-17	13:51:04
3	170724M1_4	ST170724M1-2 PFC CS-1 17G2119	24-Jul-17	14:01:50
4	170724M1_5	ST170724M1-3 PFC CS0 17G2423	24-Jul-17	14:12:36
5	170724M1_6	ST170724M1-4 PFC CS1 17G2424	24-Jul-17	14:23:23
6	170724M1_7	ST170724M1-5 PFC CS2 17G2425	24-Jul-17	14:34:02
7	170724M1_8	ST170724M1-6 PFC CS3 17G2118	24-Jul-17	14:44:48
8	170724M1_9	ST170724M1-7 PFC CS4 17G2426	24-Jul-17	14:55:34
9	170724M1_10	ST170724M1-8 PFC CS5 17G2427	24-Jul-17	15:06:35
10	170724M1_11	IPA	24-Jul-17	15:17:30
11	170724M1_12	SS170724M4-1 PFC SSS 17G2421	24-Jul-17	15:28:15
12	170724M1_13	IPA	24-Jul-17	15:39:01
13	170724M1_14	B7G0099-BS1 OPR 0.125	24-Jul-17	15:49:42
14	170724M1_15	B7G0100-BS1 OPR 1	24-Jul-17	16:00:26
15	170724M1_16	B7G0102-BS1 OPR 0.125	24-Jul-17	16:11:04
16	170724M1_17	IPA	24-Jul-17	16:21:42
17	170724M1_18	B7G0099-BLK1 Method Blank 0.125	24-Jul-17	16:32:21
18	170724M1_19	B7G0100-BLK1 Method Blank 1	24-Jul-17	16:42:59
19	170724M1_20	B7G0102-BLK1 Method Blank 0.125	24-Jul-17	16:53:38
20	170724M1_21	1700732-01RE2 SW-46 0.11925	24-Jul-17	17:04:16
21	170724M1_22	1700732-02RE1 SW-52 0.1184	24-Jul-17	17:14:54
22	170724M1_23	1700732-03RE1 MW PFC 05 0.12347	24-Jul-17	17:25:33
23	170724M1_24	1700732-04RE1 MW PFC 03 0.11929	24-Jul-17	17:36:18
24	170724M1_25	1700891-01 STEM L1 0.125	24-Jul-17	17:46:58
25	170724M1_26	1700891-02 STEM L2 0.125	24-Jul-17	17:57:36
26	170724M1_27	1700891-03 STEM L3 0.125	24-Jul-17	18:08:48
27	170724M1_28	1700891-04 STEM L4 0.125	24-Jul-17	18:19:41
28	170724M1_29	1700891-05 DECON-1M 0.125	24-Jul-17	18:30:28
29	170724M1_30	1700894-01 POND 2 at PD 0.125	24-Jul-17	18:41:06
30	170724M1_31	IPA	24-Jul-17	18:51:45
31	170724M1_32	ST170724M1-9 PFC CS3 17G2118	24-Jul-17	19:02:23

Vista Analytical Laboratory

Dataset: Untitled

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32	170724M1_33	IPA	24-Jul-17	19:13:01
33	170724M1_34	1700894-02 POND 1 at PD 0.125	24-Jul-17	19:23:40
34	170724M1_35	1700894-03 POND 1 -STAFF 0.125	24-Jul-17	19:34:18
35	170724M1_36	1700894-04 SEED-POND 1 0.125	24-Jul-17	19:44:56
36	170724M1_37	1700732-05RE1 SD-46 3.2	24-Jul-17	19:55:35
37	170724M1_38	1700732-06RE1 SD-52 1.17	24-Jul-17	20:06:31
38	170724M1_39	1700732-07RE1 SB-19-01 1.25	24-Jul-17	20:17:32
39	170724M1_40	1700732-08RE1 SB 25-01 1.15	24-Jul-17	20:28:11
40	170724M1_41	1700732-09RE1 SB 27-01 1.17	24-Jul-17	20:39:33
41	170724M1_42	1700732-10RE1 SB-19-4.5-5.5 1.22	24-Jul-17	20:50:13
42	170724M1_43	1700732-11RE1 SB-25-0506 1.28	24-Jul-17	21:00:51
43	170724M1_44	IPA	24-Jul-17	21:11:30
44	170724M1_45	ST170724M1-10 PFC CS3 17G2118	24-Jul-17	21:22:08
45	170724M1_46	IPA	24-Jul-17	21:32:54
46	170724M1_47	1700732-12RE1 SB-25-0607 1.23	24-Jul-17	21:43:41
47	170724M1_48	1700732-13RE1 SB-27-0708 1.26	24-Jul-17	21:54:19
48	170724M1_49	1700732-14RE1 SB-27-1213 1.31	24-Jul-17	22:04:58
49	170724M1_50	1700834-01RE1 82191.05 1.17	24-Jul-17	22:15:59
50	170724M1_51	1700834-02RE1 82191.07 1.32	24-Jul-17	22:27:35
51	170724M1_52	1700891-06 VEL FOAM 0.125	24-Jul-17	22:38:44
52	170724M1_53	IPA	24-Jul-17	22:49:22
53	170724M1_54	ST170724M1-11 PFC CS3 17G2118	24-Jul-17	23:00:00
54	170724M1_55	IPA	24-Jul-17	23:10:39

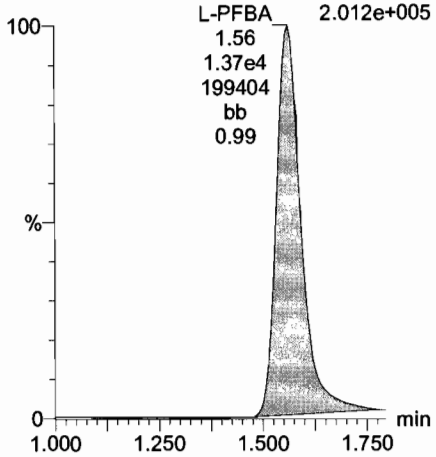
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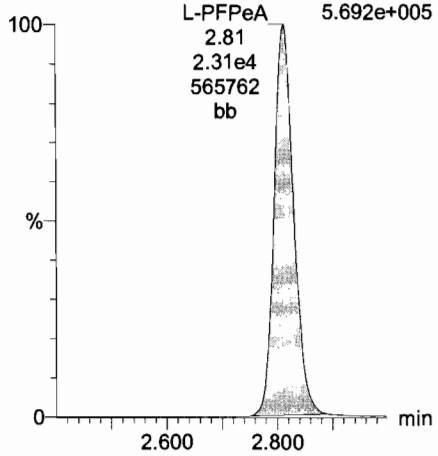
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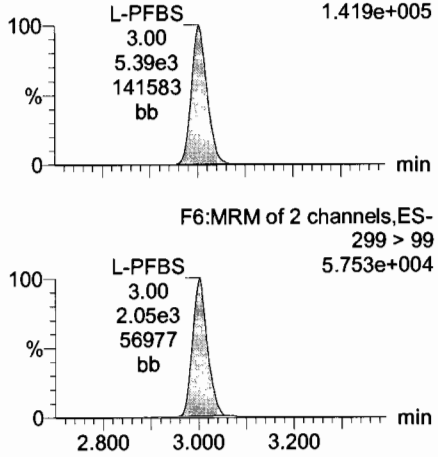
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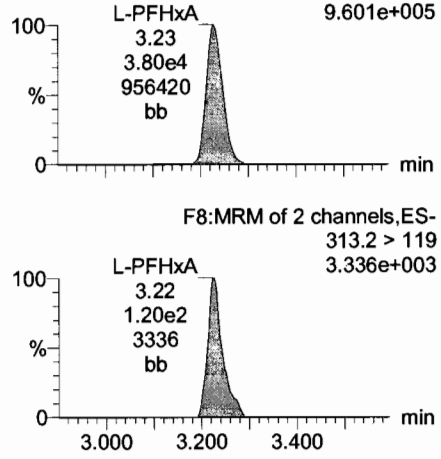
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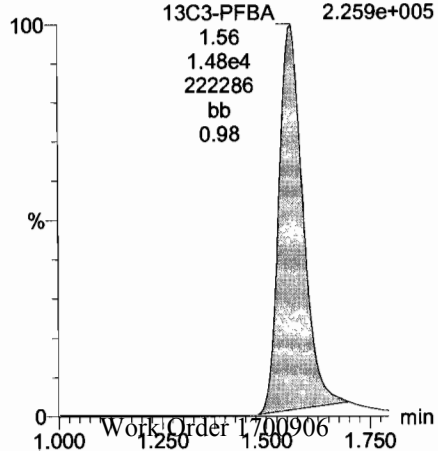
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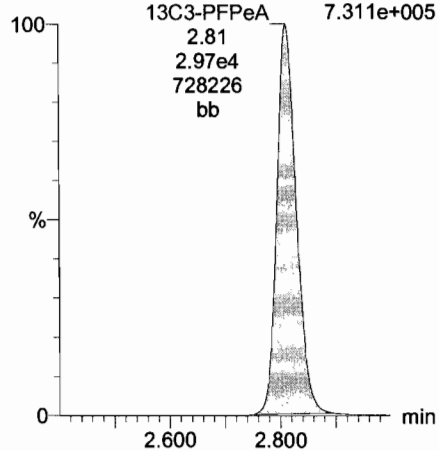
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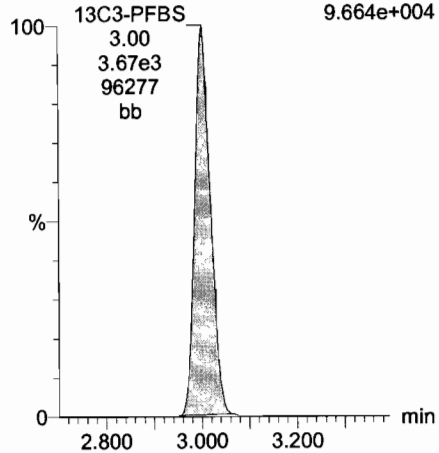
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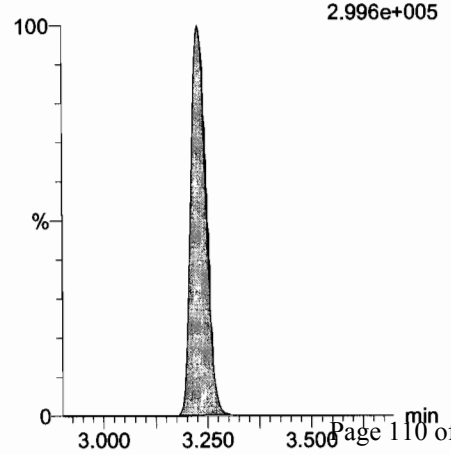
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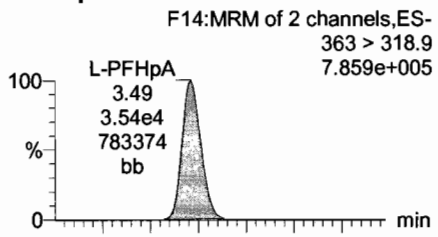


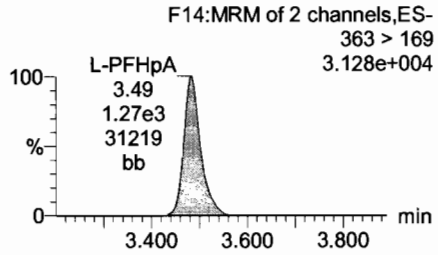
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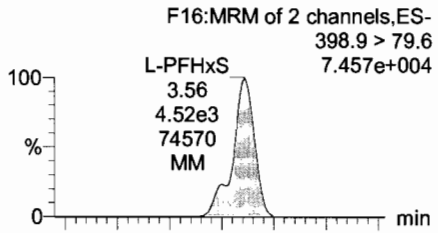
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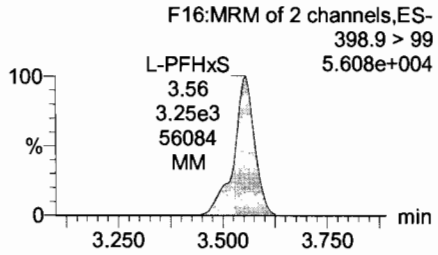
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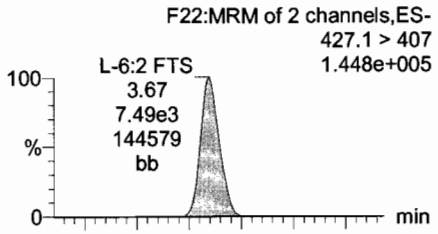


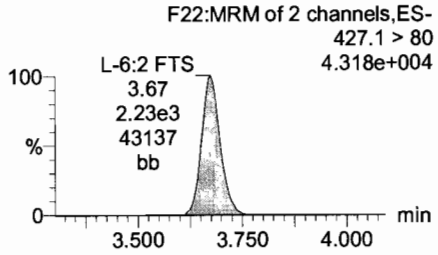
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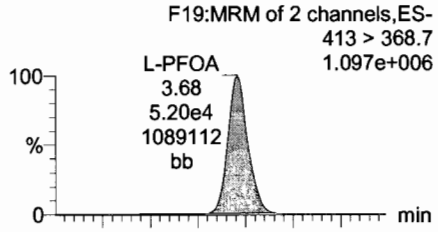


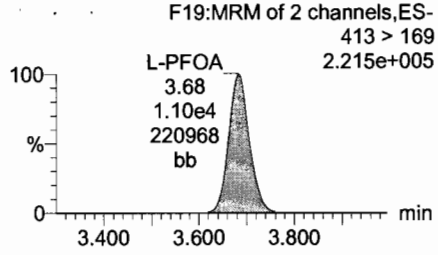
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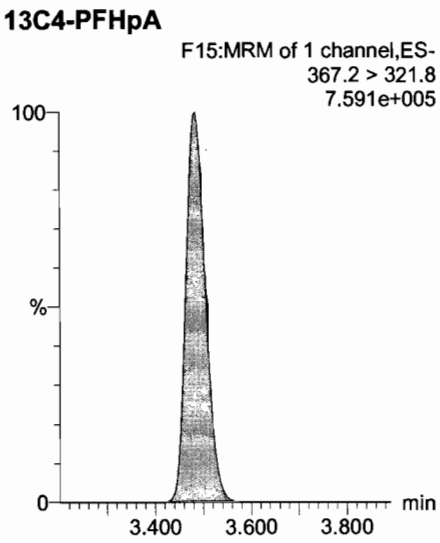


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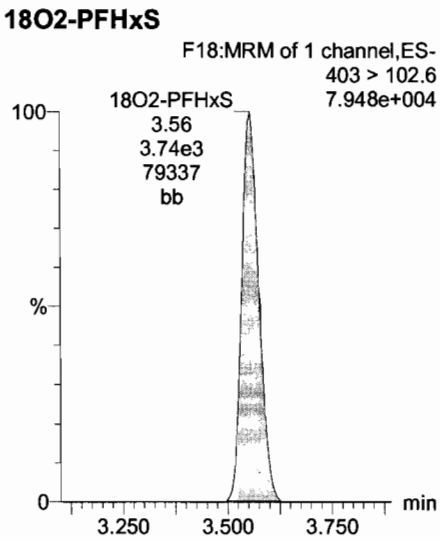




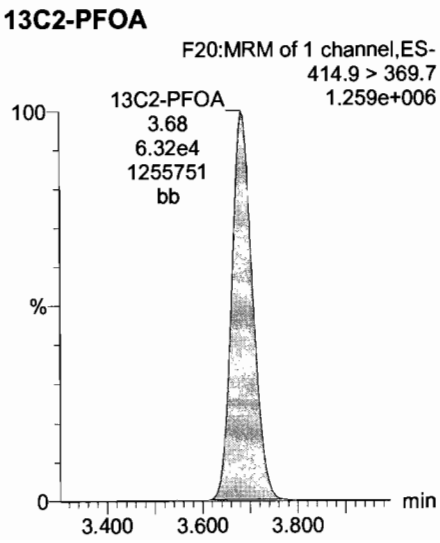
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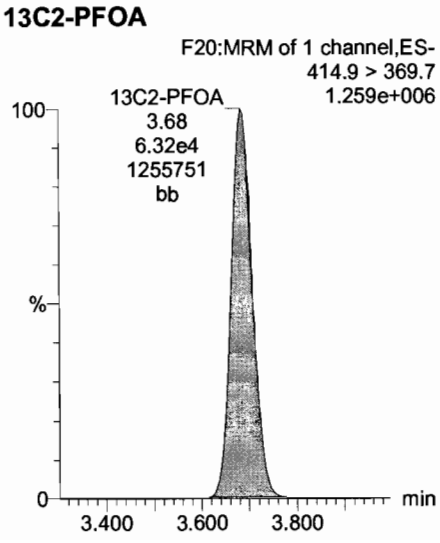
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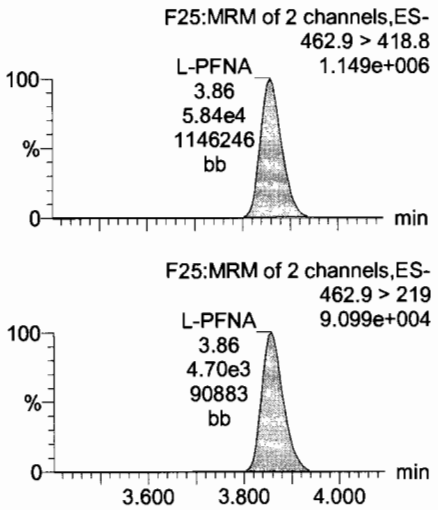


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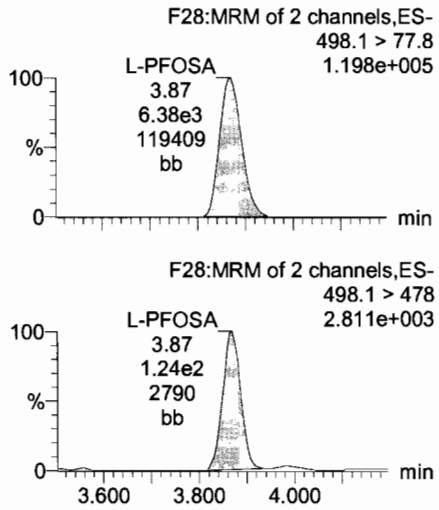
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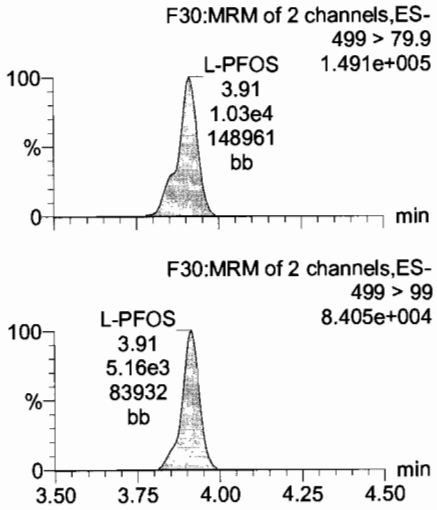
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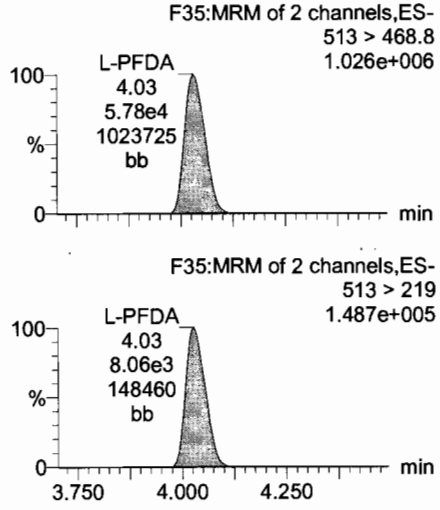
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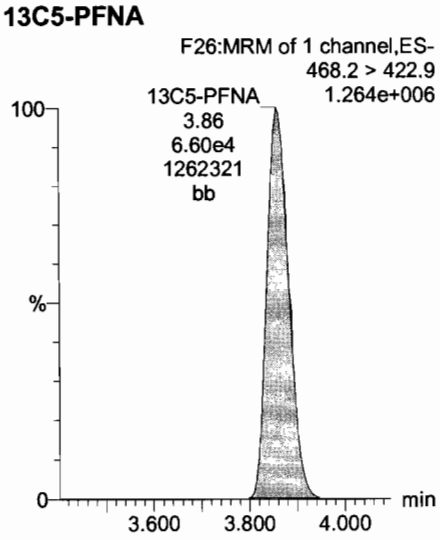
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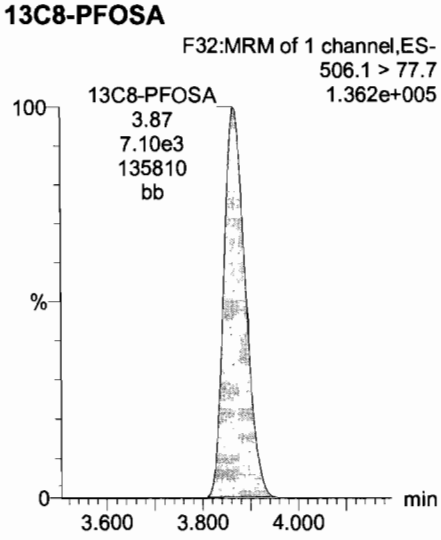
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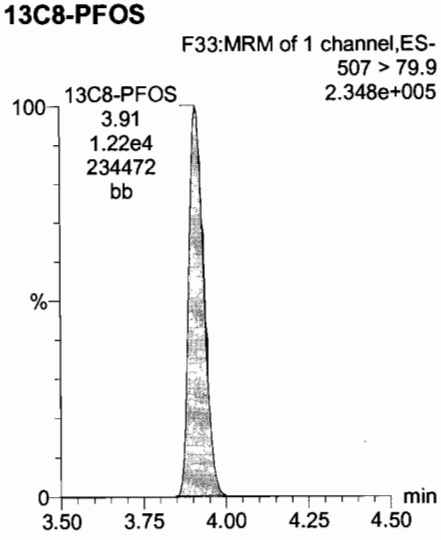
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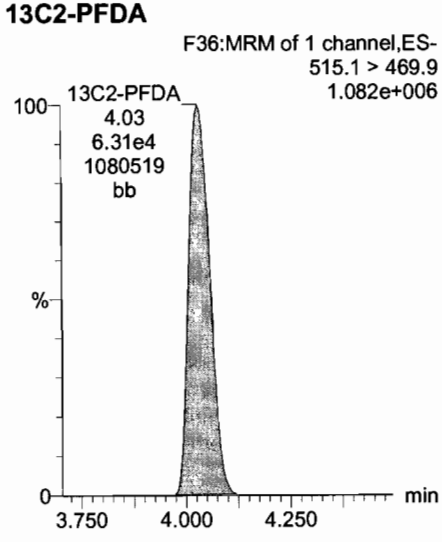
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13C8-PFOS



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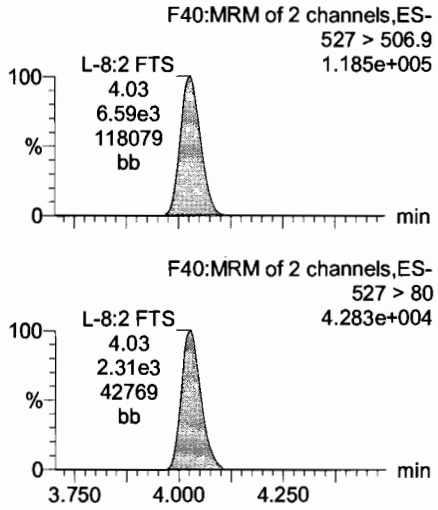


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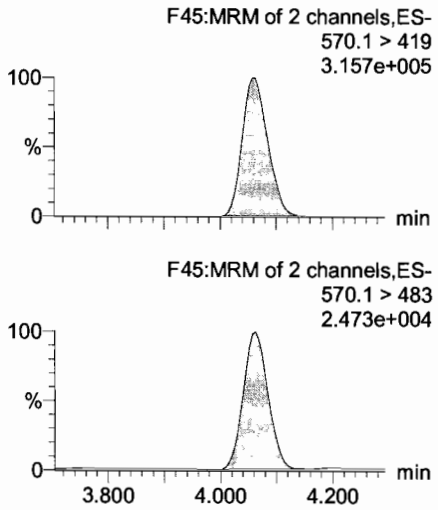
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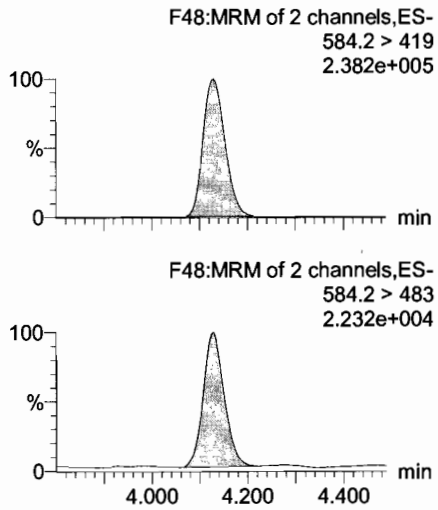
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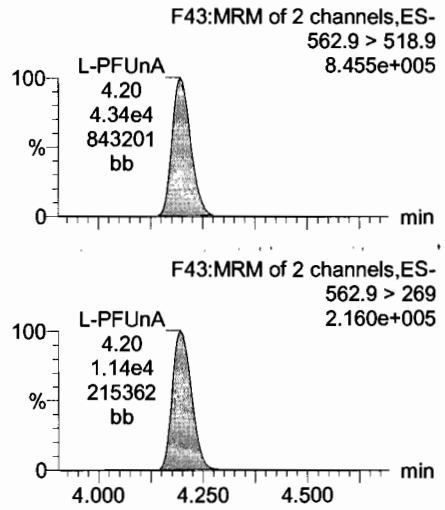
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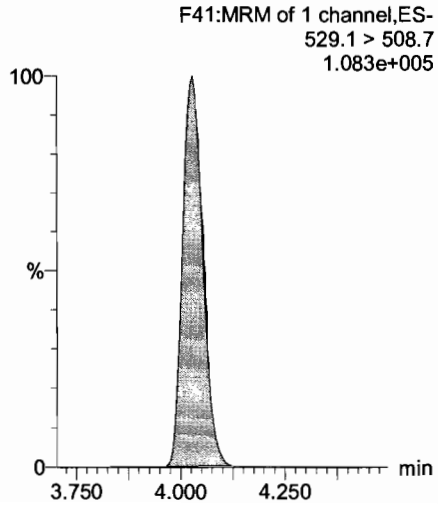
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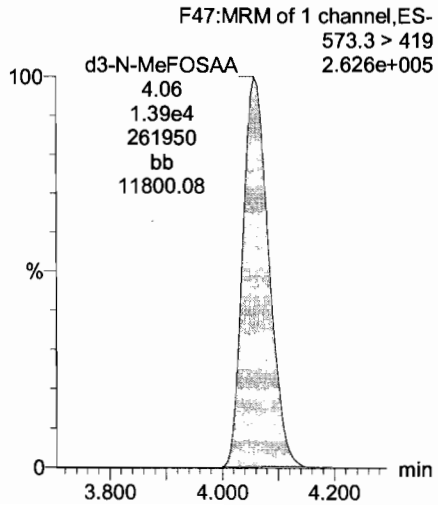
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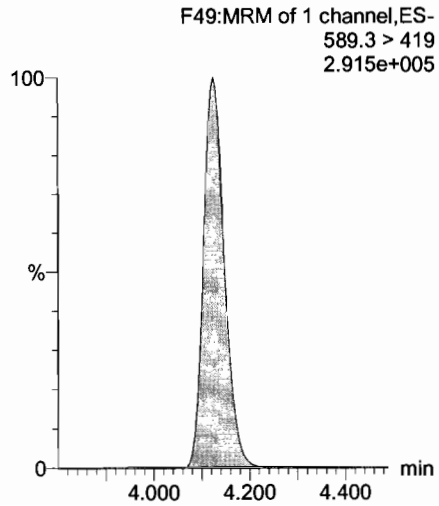
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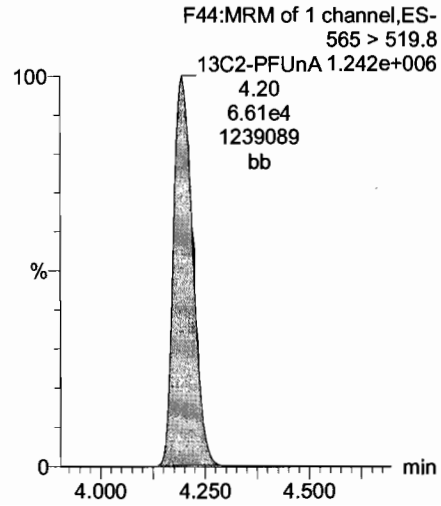
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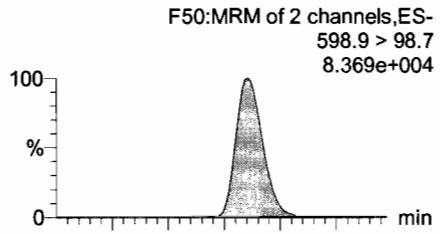


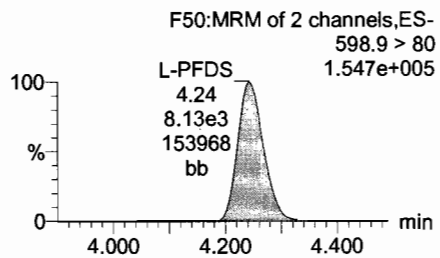
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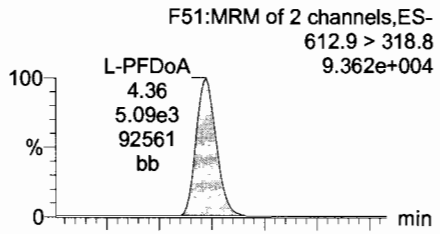
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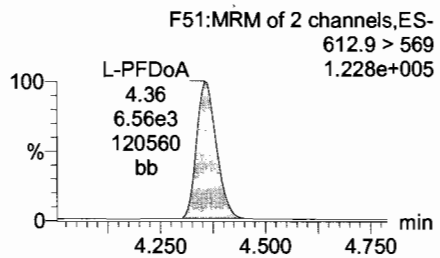
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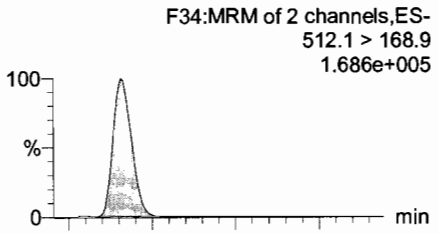


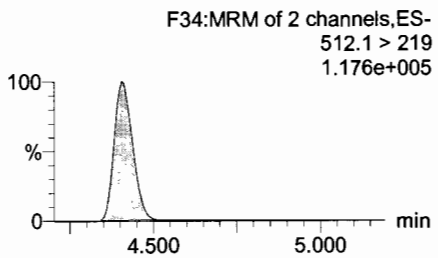
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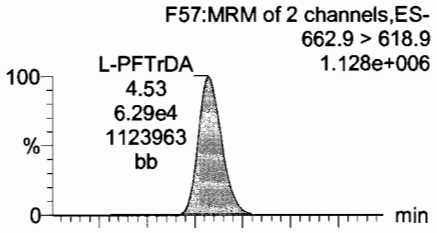


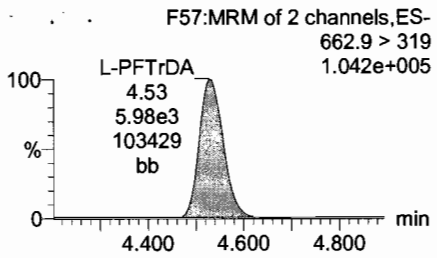
L-N-MeFOSA



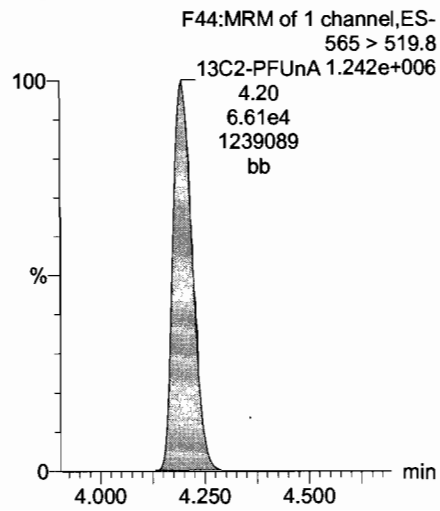


L-PFTrDA

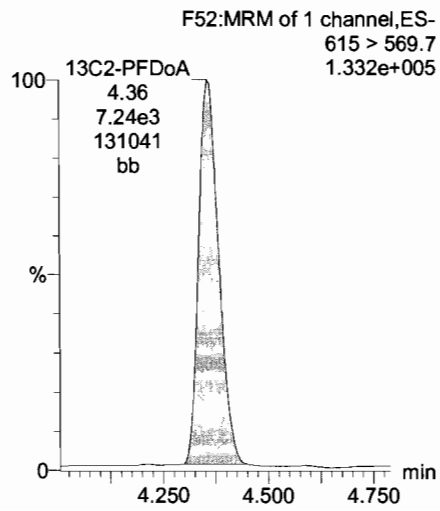




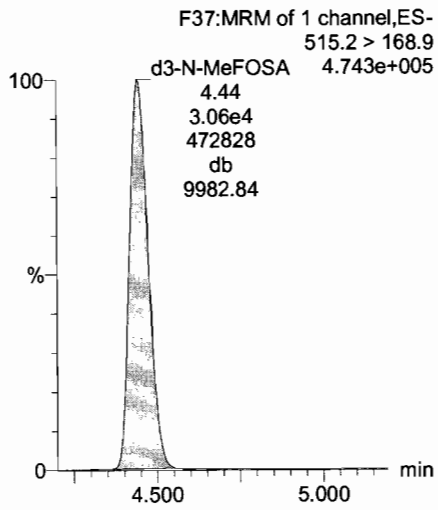
13C2-PFUnA



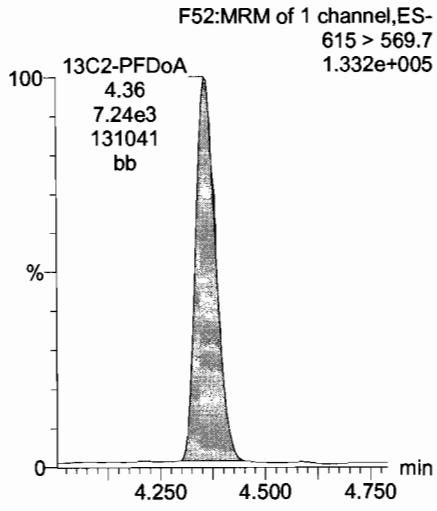
13C2-PFDoA



d3-N-MeFOSA



13C2-PFDoA

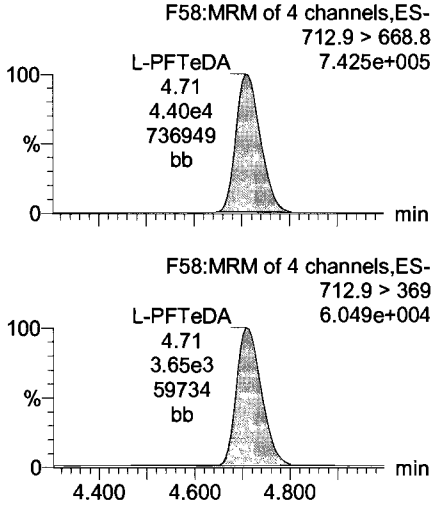


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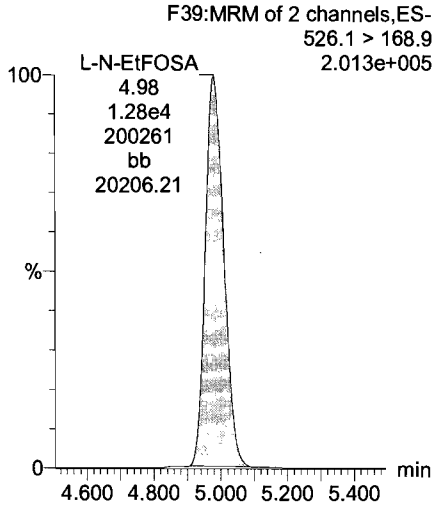
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Printed: Tuesday, July 25, 2017 10:46:20 Pacific Daylight Time

Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

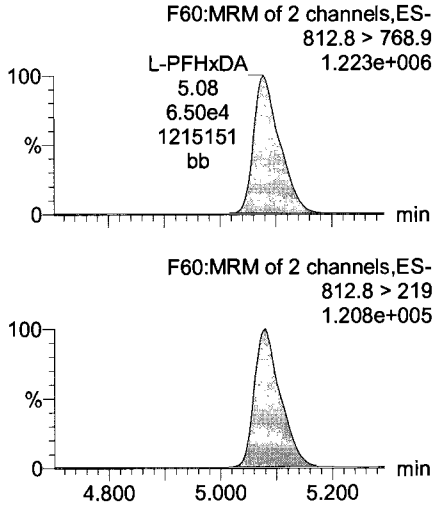
L-PFTeDA



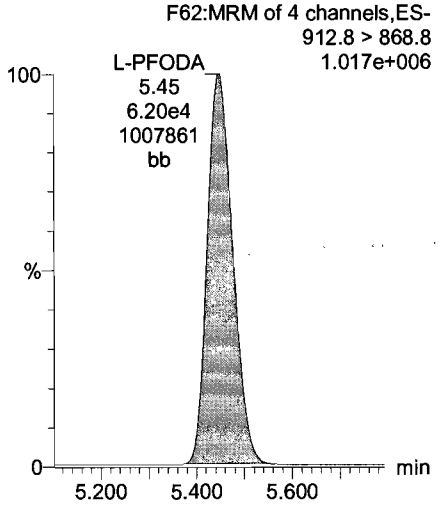
L-N-EtFOSA



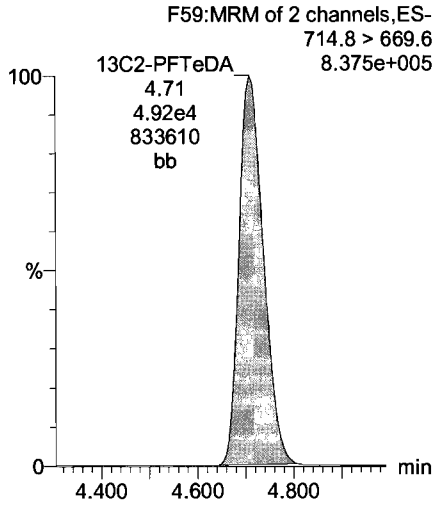
L-PFHxDA



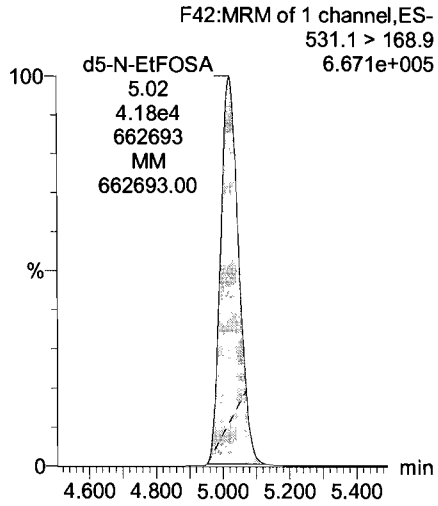
L-PFODA



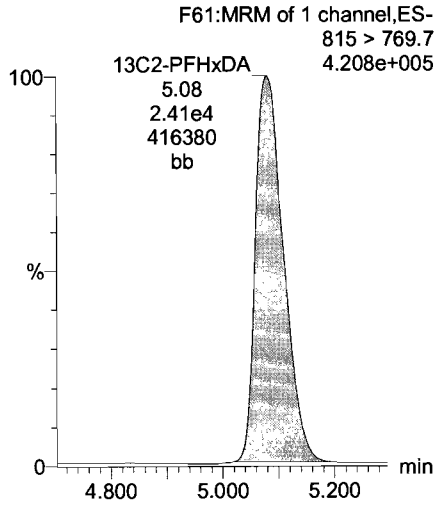
13C2-PFTeDA



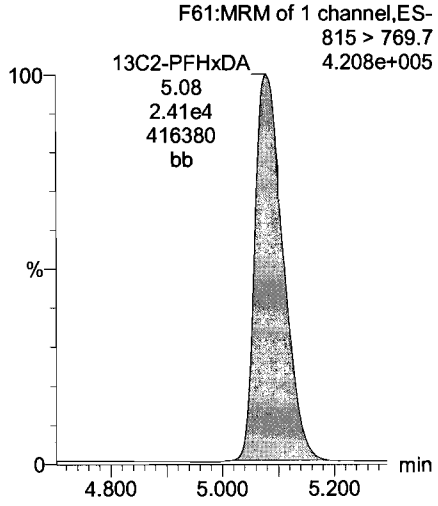
d5-N-EtFOSA



13C2-PFHxDA



13C2-PFHxDA

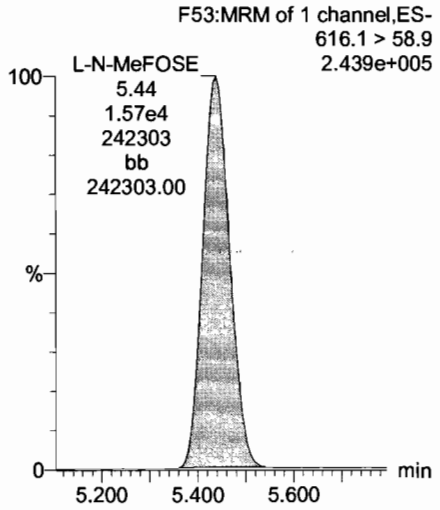


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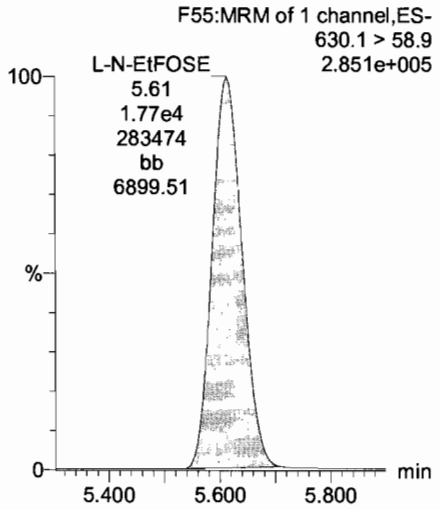
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Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

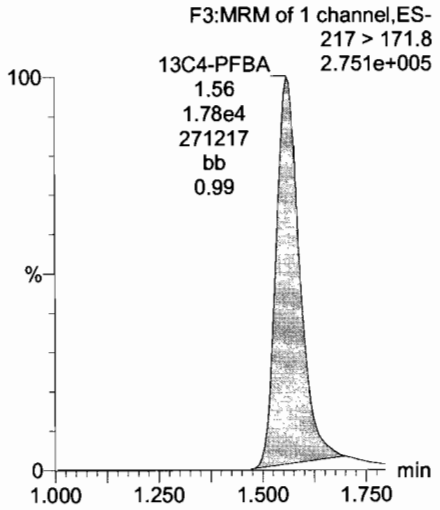
L-N-MeFOSE



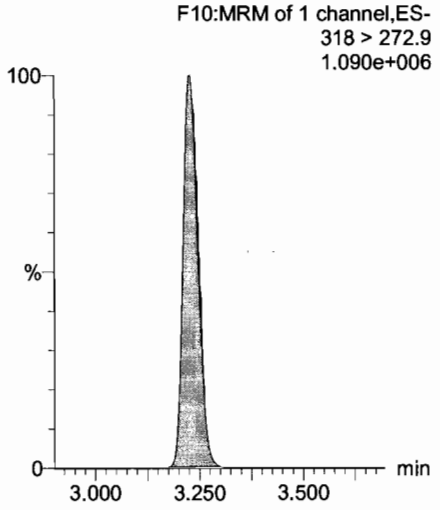
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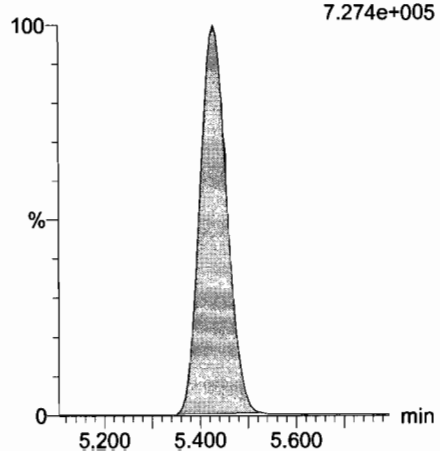
13C4-PFBA



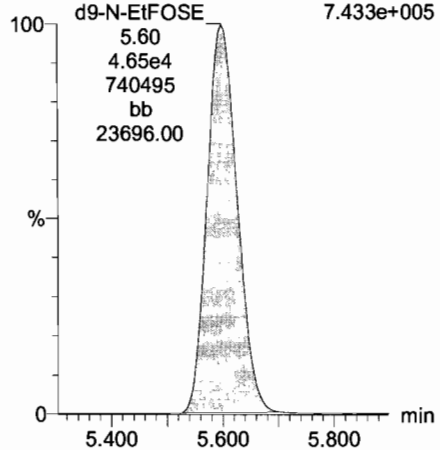
13C5-PFHxA



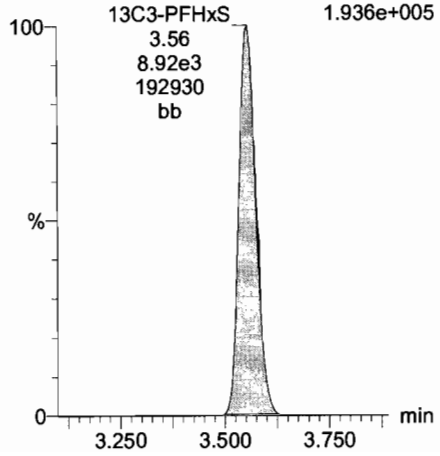
d7-N-MeFOSE



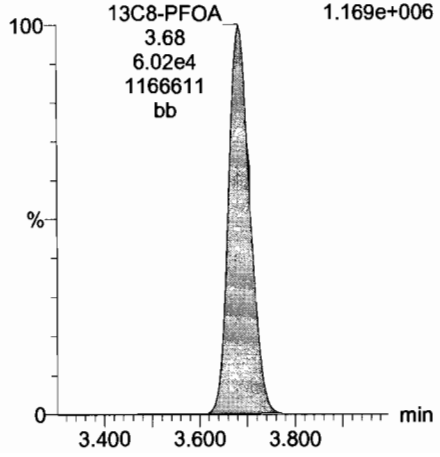
d9-N-EtFOSE



13C3-PFHxS



13C8-PFOA

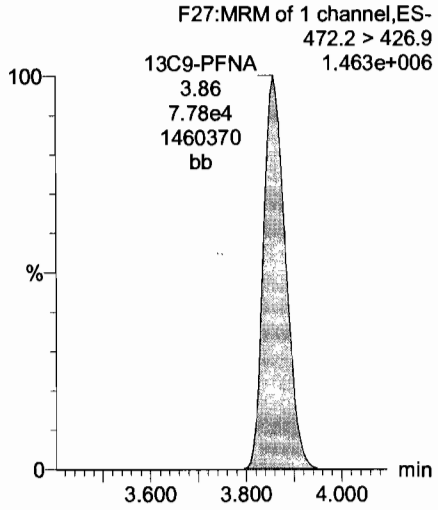


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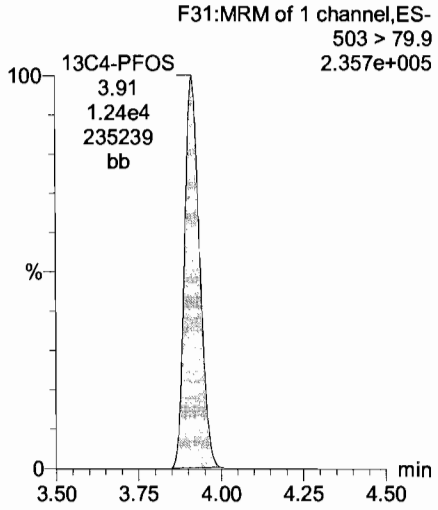
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Printed: Tuesday, July 25, 2017 10:46:20 Pacific Daylight Time

Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

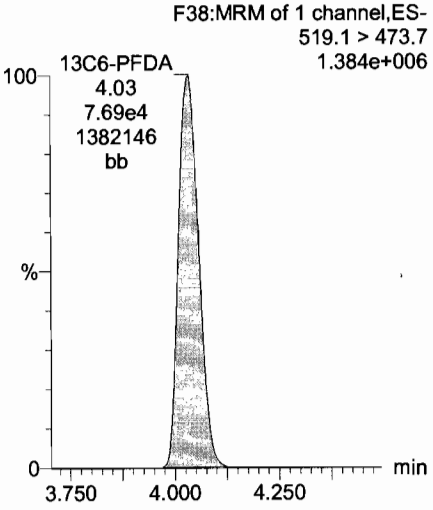
13C9-PFNA



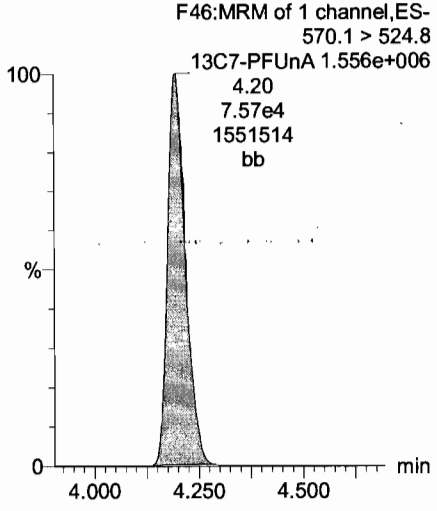
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Dataset: U:\Q4.PRO\results\170724M1\170724M1-72.qld

Last Altered: Tuesday, July 25, 2017 14:19:54 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 14:20:46 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

AC 7/25/17

Name: 170724M1_72, Date: 25-Jul-2017, Time: 02:12:47, ID: ST170724M1-12 PFC CS3 17G2118, Description: PFC CS3 17G2118

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.34e4	1.52e4		1.54	1.56	11.0	9.65	96.5
2	2	PFPeA	263.1 > 218.9	2.43e4	3.14e4		2.77	2.81	9.68	9.65	96.5
3	3	PFBS	299 > 79.7	5.79e3	4.14e3		2.96	3.00	17.5	9.40	94.0
4	4	PFHxA	313.2 > 268.9	3.86e4	1.37e4		3.19	3.22	14.0	9.19	91.9
5	5	PFHpA	363 > 318.9	4.04e4	4.17e4		3.45	3.48	12.1	9.60	96.0
6	6	PFHxS	398.9 > 79.6	4.85e3	4.13e3		3.56	3.55	14.7	8.67	86.7
7	7	6:2 FTS	427.1 > 407	8.32e3	9.88e3		3.64	3.67	10.5	9.96	99.6
8	8	PFOA	413 > 368.7	5.16e4	6.77e4		3.65	3.68	9.54	9.62	96.2
9	9	PFHpS	448.9 > 98.8	5.25e3	6.77e4		3.71	3.74	0.970	10.8	107.6
10	10	PFNA	462.9 > 418.8	5.83e4	6.70e4		3.83	3.86	10.9	9.77	97.7
11	11	PFOSA	498.1 > 77.8	6.36e3	7.87e3		3.84	3.86	10.1	9.58	95.8
12	12	PFOS	499 > 79.9	1.04e4	1.27e4		3.89	3.91	10.2	8.60	86.0
13	13	PFDA	513 > 468.8	5.85e4	6.79e4		4.01	4.03	10.8	8.20	82.0
14	14	8:2 FTS	527 > 506.9	6.80e3	6.46e3		4.00	4.02	13.2	8.93	89.3
15	15	N-MeFOSAA	570.1 > 419	1.72e4	1.48e4		4.03	4.06	188	9.47	94.7
16	16	N-EtFOSAA	584.2 > 419	1.37e4	1.52e4		4.10	4.13	147	9.11	91.1
17	17	PFUnA	562.9 > 518.9	4.38e4	7.08e4		4.17	4.19	7.74	8.75	87.5
18	18	PFDS	598.9 > 98.7	4.82e3	7.08e4		4.22	4.24	0.851	9.56	95.6
19	19	PFDoA	612.9 > 318.8	5.24e3	6.94e3		4.34	4.36	9.44	10.0	100.1
20	20	N-MeFOSA	512.1 > 168.9	1.10e4	3.17e4		4.29	4.41	51.8	49.7	99.4
21	21	PFTrDA	662.9 > 618.9	6.58e4	6.94e3		4.50	4.53	119	10.7	106.8
22	22	PFTeDA	712.9 > 668.8	4.33e4	4.53e4		4.68	4.71	11.9	10.4	103.8
23	23	N-EtFOSA	526.1 > 168.9	1.33e4	4.39e4		4.87	4.98	45.3	49.8	99.5
24	24	PFHxDA	812.8 > 768.9	6.24e4	2.27e4		5.06	5.08	13.7	10.0	100.4
25	25	PFODA	912.8 > 868.8	5.70e4	2.27e4		5.43	5.44	12.5	9.75	97.5
26	26	N-MeFOSE	616.1 > 58.9	1.63e4	4.79e4		5.42	5.43	51.1	49.8	99.7
27	27	N-EtFOSE	630.1 > 58.9	1.82e4	4.80e4		5.59	5.61	56.8	48.2	96.5
28	28	13C3-PFBA	216.1 > 171.8	1.52e4	1.83e4	0.820	1.54	1.56	10.4	12.6	101.0
29	29	13C3-PFPeA	266 > 221.8	3.14e4	4.81e4	0.248	2.77	2.80	3.27	13.2	105.3
30	30	13C3-PFBS	302 > 98.8	4.14e3	4.81e4	0.031	2.96	3.00	0.431	13.9	110.8
31	31	13C2-PFHxA	315 > 269.8	1.37e4	4.81e4	0.276	3.19	3.22	1.43	5.17	103.5

70-130

50-150

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-72.qld

Last Altered: Tuesday, July 25, 2017 14:19:54 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 14:20:46 Pacific Daylight Time

Name: 170724M1_72, Date: 25-Jul-2017, Time: 02:12:47, ID: ST170724M1-12 PFC CS3 17G2118, Description: PFC CS3 17G2118

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFHpA	367.2 > 321.8	4.17e4	4.81e4	0.306	3.45	3.48	4.34	14.2	113.6
33	33	18O2-PFHxS	403 > 102.6	4.13e3	9.59e3	0.393	3.56	3.56	5.38	13.7	109.7
34	34	13C2-6:2 FTS	429.1 > 408.9	9.88e3	7.04e4	0.158	3.64	3.67	1.75	11.1	88.9
35	35	13C2-PFOA	414.9 > 369.7	6.77e4	7.04e4	1.067	3.65	3.68	12.0	11.3	90.0
36	36	13C5-PFNA	468.2 > 422.9	6.70e4	7.81e4	0.852	3.83	3.86	10.7	12.6	100.7
37	37	13C8-PFOSA	506.1 > 77.7	7.87e3	7.21e4	0.098	3.84	3.87	1.36	13.9	111.1
38	38	13C8-PFOS	507 > 79.9	1.27e4	1.33e4	0.936	3.89	3.91	12.0	12.8	102.6
39	39	13C2-PFDA	515.1 > 469.9	6.79e4	6.62e4	0.810	4.01	4.03	12.8	15.8	126.5
40	40	13C2-8:2 FTS	529.1 > 508.7	6.46e3	6.62e4	0.086	4.00	4.02	1.22	14.2	114.0
41	41	d3-N-MeFOSAA	573.3 > 419	1.48e4	7.21e4	0.014	4.03	4.06	2.57	188	115.5
42	42	d5-N-EtFOSAA	589.3 > 419	1.52e4	7.21e4	0.014	4.12	4.12	2.63	188	115.9
43	43	13C2-PFUnA	565 > 519.8	7.08e4	7.21e4	0.962	4.17	4.19	12.3	12.8	102.0
44	44	13C2-PFDoA	615 > 569.7	6.94e3	7.21e4	0.094	4.34	4.36	1.20	12.7	101.9
45	45	d3-N-MeFOSA	515.2 > 168.9	3.17e4	7.21e4	0.034	4.29	4.45	5.50	160	106.6
46	46	13C2-PFTeDA	714.8 > 669.6	4.53e4	7.21e4	0.694	4.68	4.71	7.86	11.3	90.6
47	47	d5-N-ETFOSA	531.1 > 168.9	4.39e4	7.21e4	0.049	5.01	5.02	7.61	156	104.2
48	48	13C2-PFHxDA	815 > 769.7	2.27e4	7.21e4	0.843	5.06	5.08	3.94	4.68	93.5
49	49	d7-N-MeFOSE	623.1 > 58.9	4.79e4	7.21e4	0.055	5.42	5.42	8.30	152	101.3
50	50	d9-N-EtFOSE	639.2 > 58.8	4.80e4	7.21e4	0.053	5.59	5.59	8.32	156	103.8
51	51	13C4-PFBA	217 > 171.8	1.83e4	1.83e4	1.000	1.54	1.56	12.5	12.5	100.0
52	52	13C5-PFHxA	318 > 272.9	4.81e4	4.81e4	1.000	3.19	3.23	5.00	5.00	100.0
53	53	13C3-PFHxS	401.9 > 79.9	9.59e3	9.59e3	1.000	3.56	3.56	12.5	12.5	100.0
54	54	13C8-PFOA	421.3 > 376	7.04e4	7.04e4	1.000	3.65	3.68	12.5	12.5	100.0
55	55	13C9-PFNA	472.2 > 426.9	7.81e4	7.81e4	1.000	3.83	3.86	12.5	12.5	100.0
56	56	13C4-PFOS	503 > 79.9	1.33e4	1.33e4	1.000	3.89	3.91	12.5	12.5	100.0
57	57	13C6-PFDA	519.1 > 473.7	6.62e4	6.62e4	1.000	4.01	4.03	12.5	12.5	100.0
58	58	13C7-PFUnA	570.1 > 524.8	7.21e4	7.21e4	1.000	4.17	4.19	12.5	12.5	100.0

50-150

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Dataset: Untitled

Last Altered: Tuesday, July 25, 2017 14:26:59 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 14:27:19 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Compound name: PFBA

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1	170724M1_71	IPA	25-Jul-17	02:02:09
2	170724M1_72	ST170724M1-12 PFC CS3 17G2118	25-Jul-17	02:12:47
3	170724M1_73	IPA	25-Jul-17	02:23:26
4	170724M1_74	1700907-05 AT028-MW17-03-071717-1355 0....	25-Jul-17	02:34:04
5	170724M1_75	1700907-06 AT028-MW17-07-071717-1520 0....	25-Jul-17	02:44:43
6	170724M1_76	1700907-07 AT028-FB-01-071817-0800 0.125	25-Jul-17	02:55:21
7	170724M1_77	1700907-08 AT028-MW17-05-071817-0835 0....	25-Jul-17	03:05:59
8	170724M1_78	1700907-09 AT028-MW17-01-071817-0950 0....	25-Jul-17	03:16:38
9	170724M1_79	1700907-10 AT028-DUP-01-071717-1200 0.125	25-Jul-17	03:27:24
10	170724M1_80	1700919-01 MW-322-071917 0.125	25-Jul-17	03:38:11
11	170724M1_81	1700919-02 MW-88-071917 0.125	25-Jul-17	03:48:49
12	170724M1_82	1700919-03 MW-44-071917 0.125	25-Jul-17	03:59:36
13	170724M1_83	IPA	25-Jul-17	04:10:14
14	170724M1_84	ST170724M1-13 PFC CS3 17G2118	25-Jul-17	04:20:52
15	170724M1_85	IPA	25-Jul-17	04:31:31

LC Calibration Standards Review Checklist Q4

			ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	N/A
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Calibration ID:	↓ -13	L (M) H	☐	☑	☑	☑	☑	☑	☑
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:		L M H	☐	☐	☐	☐	☐	☐	☐
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Full Mass Cal. Date: 6/21/17

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Reviewed By: [illegible] 7/25/17
Initials/Date

Comments:
Full List

Vista Analytical Laboratory

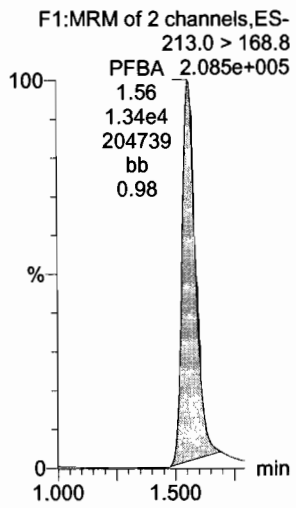
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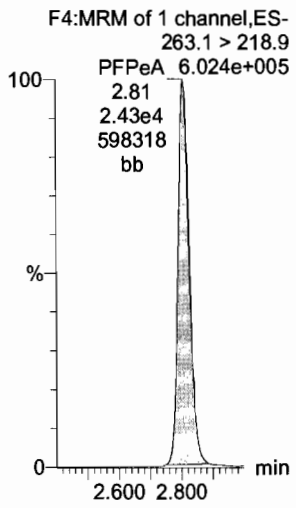
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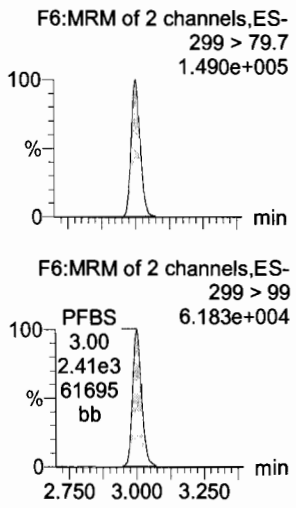
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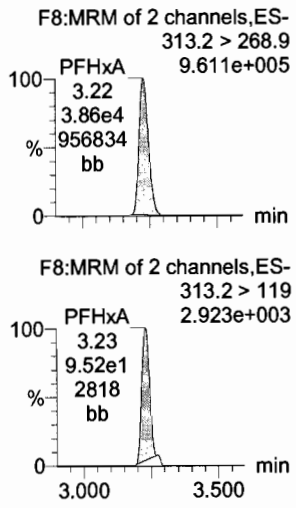
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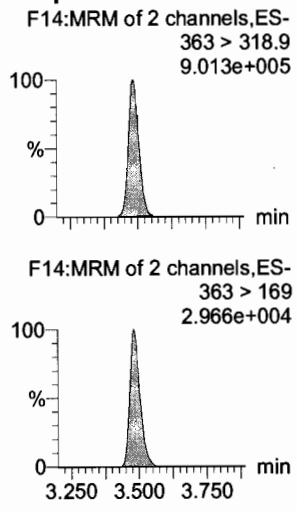
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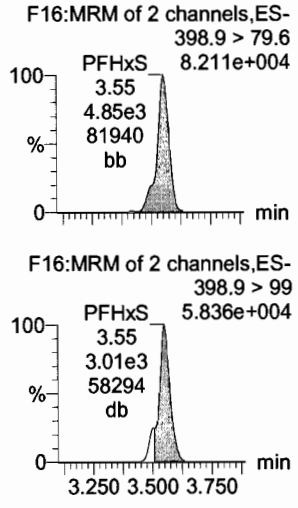
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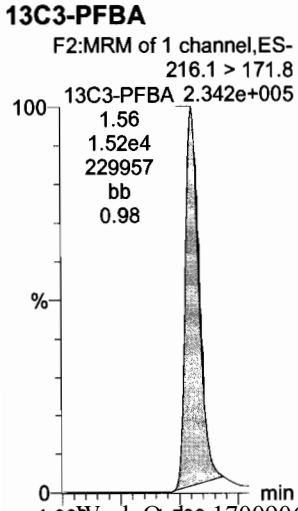
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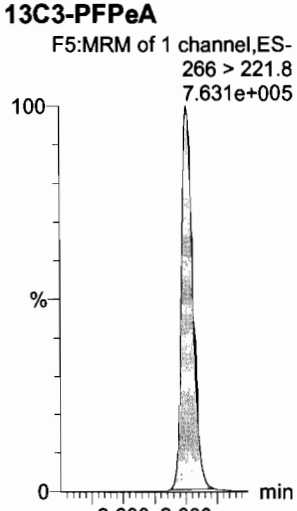
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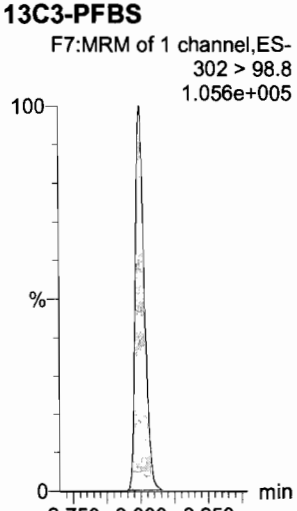
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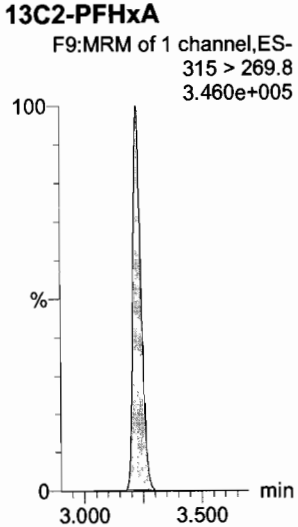
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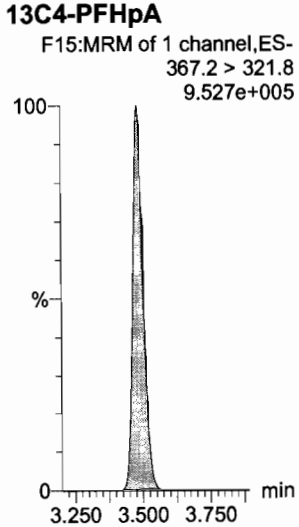
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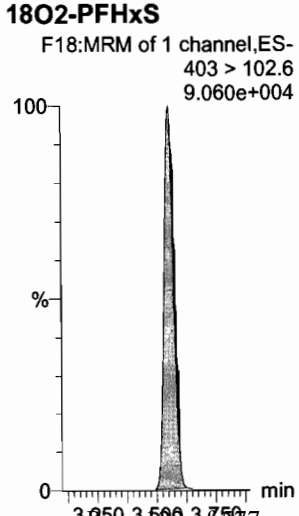
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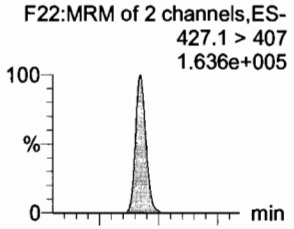


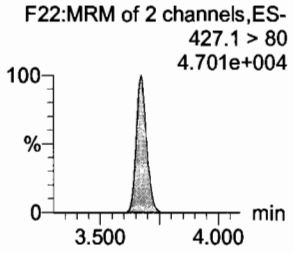
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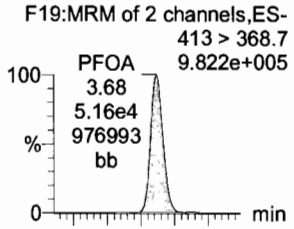
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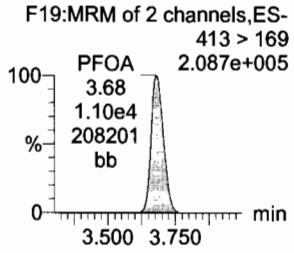
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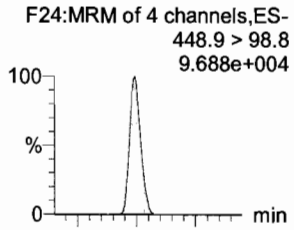


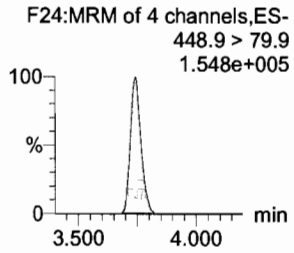
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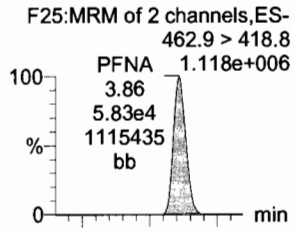


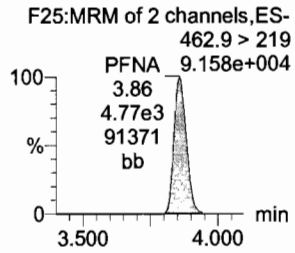
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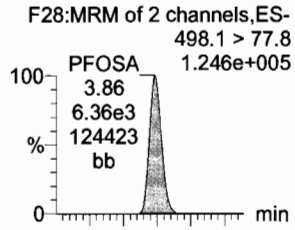


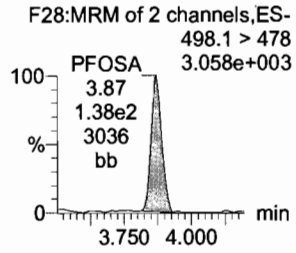
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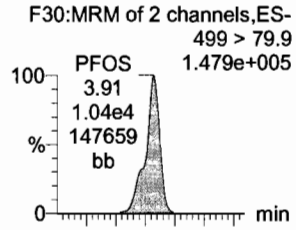


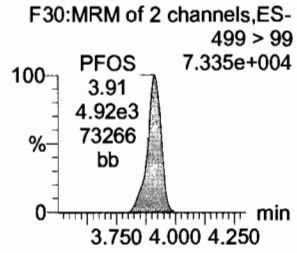
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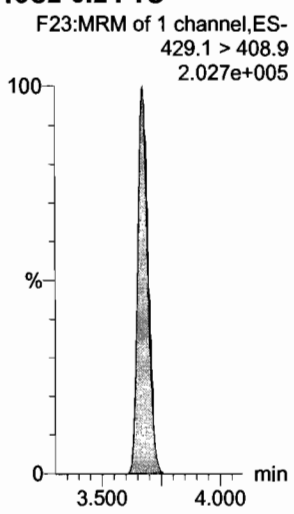


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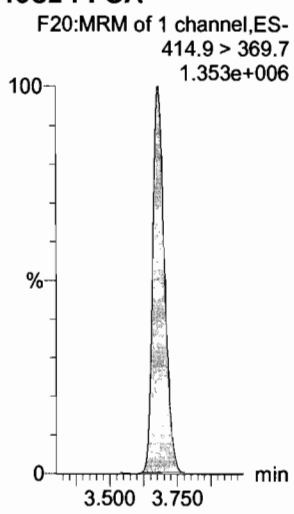




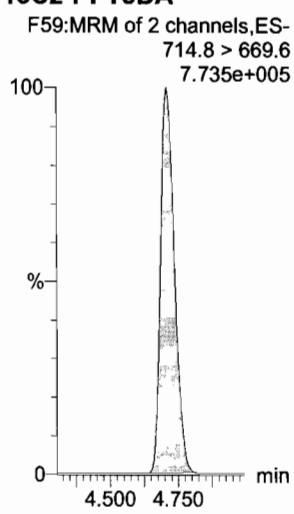
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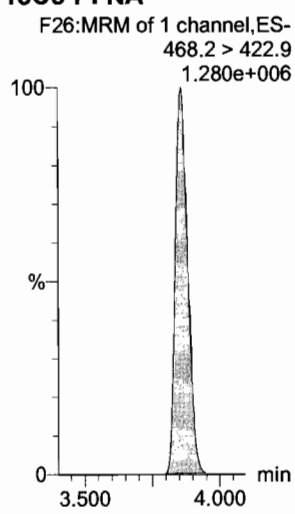
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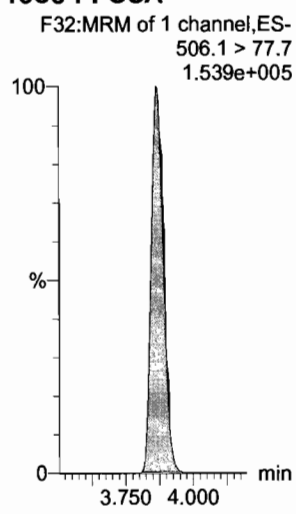
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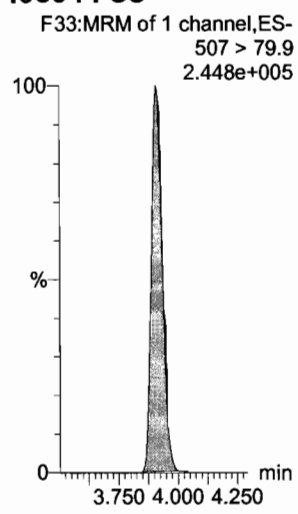
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13C8-PFOSA



13C8-PFOS

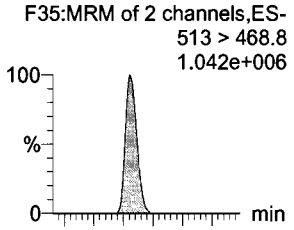


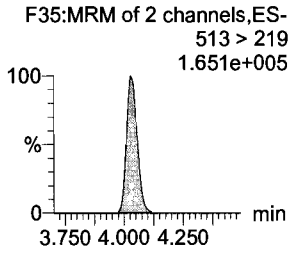
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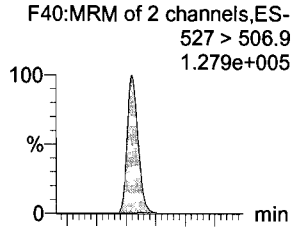
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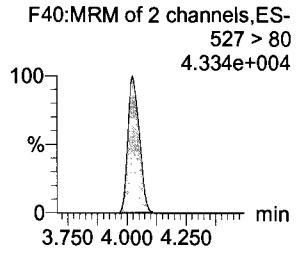
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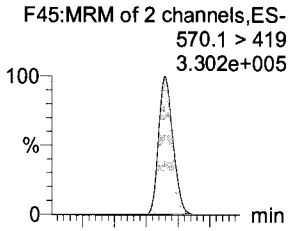


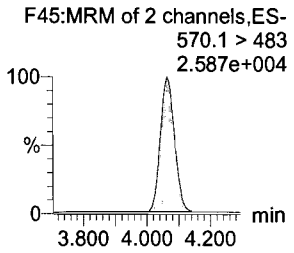
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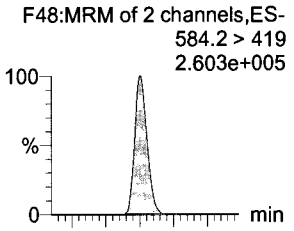


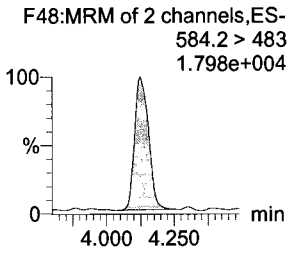
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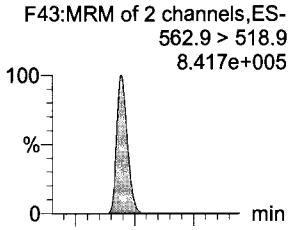


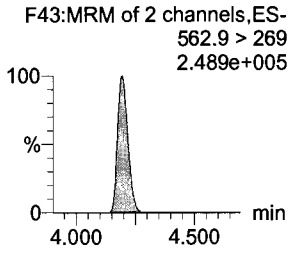
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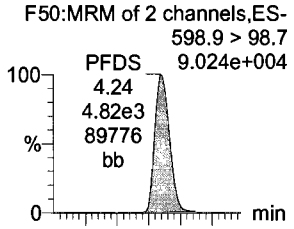


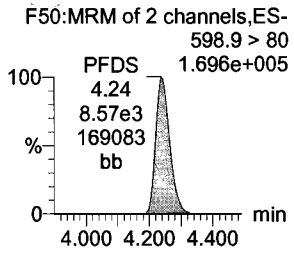
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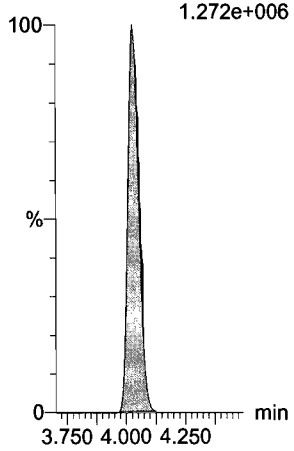


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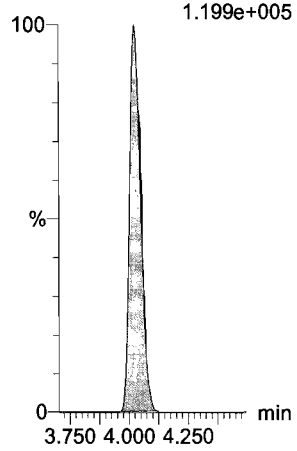




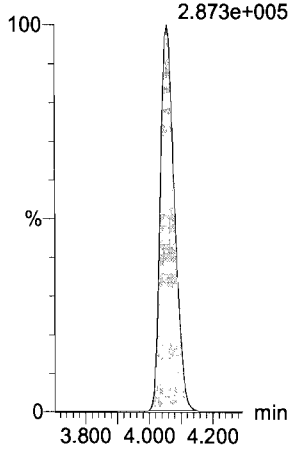
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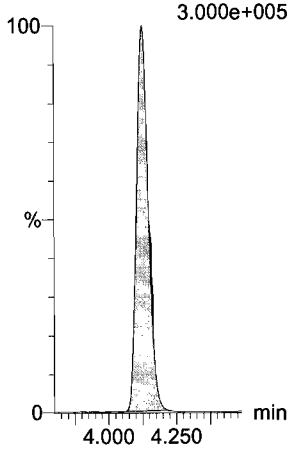
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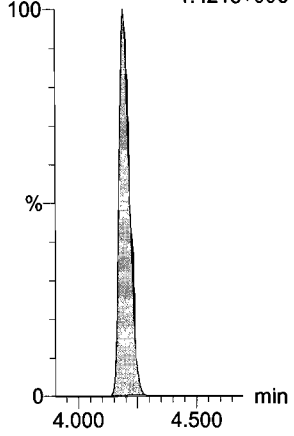
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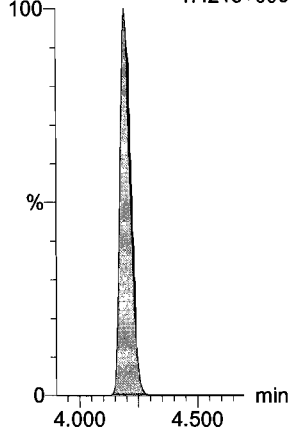
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13C2-PFUnA

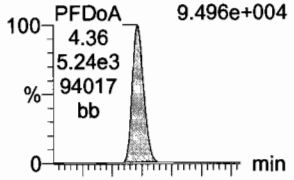


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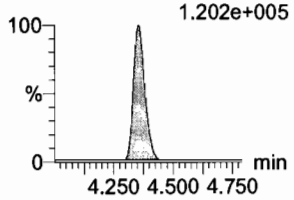
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Printed: Tuesday, July 25, 2017 14:20:46 Pacific Daylight Time

Name: 170724M1_72, Date: 25-Jul-2017, Time: 02:12:47, ID: ST170724M1-12 PFC CS3 17G2118, Description: PFC CS3 17G2118

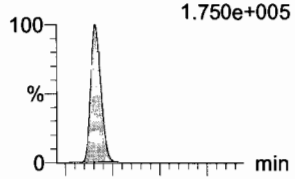
PFDoA
F51:MRM of 2 channels,ES-
612.9 > 318.8
9.496e+004
PFDoA
4.36
5.24e3
94017
bb



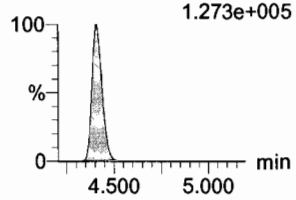
F51:MRM of 2 channels,ES-
612.9 > 569
1.202e+005



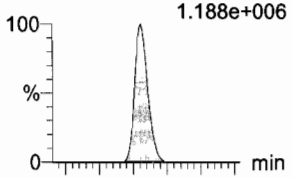
N-MeFOSA
F34:MRM of 2 channels,ES-
512.1 > 168.9
1.750e+005



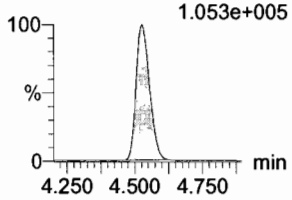
F34:MRM of 2 channels,ES-
512.1 > 219
1.273e+005



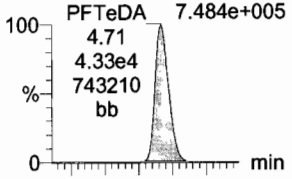
PFTrDA
F57:MRM of 2 channels,ES-
662.9 > 618.9
1.188e+006



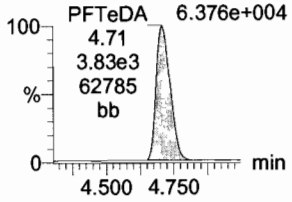
F57:MRM of 2 channels,ES-
662.9 > 319
1.053e+005



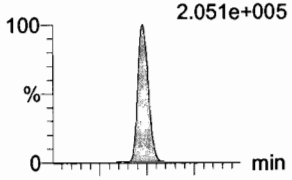
PFTeDA
F58:MRM of 4 channels,ES-
712.9 > 668.8
7.484e+005
PFTeDA
4.71
4.33e4
743210
bb



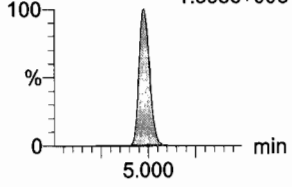
F58:MRM of 4 channels,ES-
712.9 > 369
6.376e+004
PFTeDA
4.71
3.83e3
62785
bb



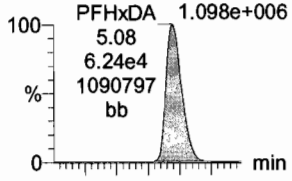
N-EtFOSA
F39:MRM of 2 channels,ES-
526.1 > 168.9
2.051e+005



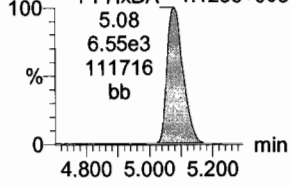
F39:MRM of 2 channels,ES-
526.1 > 219
1.398e+005



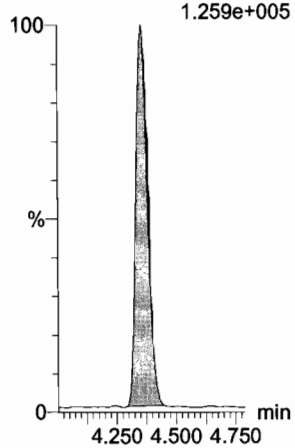
PFHxDA
F60:MRM of 2 channels,ES-
812.8 > 768.9
1.098e+006
PFHxDA
5.08
6.24e4
1090797
bb



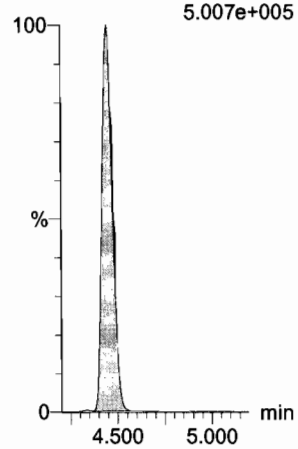
F60:MRM of 2 channels,ES-
812.8 > 219
1.125e+005
PFHxDA
5.08
6.55e3
111716
bb



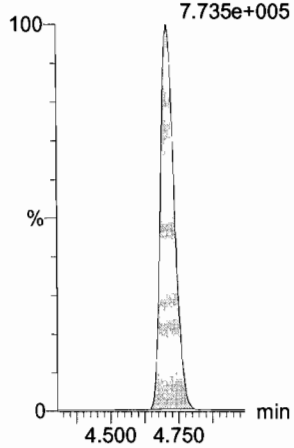
13C2-PFDoA
F52:MRM of 1 channel,ES-
615 > 569.7
1.259e+005



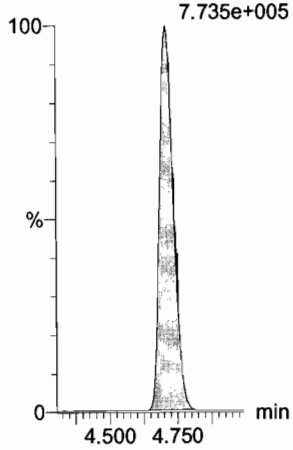
d3-N-MeFOSA
F37:MRM of 1 channel,ES-
515.2 > 168.9
5.007e+005



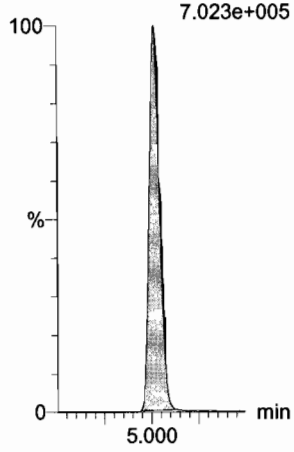
13C2-PFTeDA
F59:MRM of 2 channels,ES-
714.8 > 669.6
7.735e+005



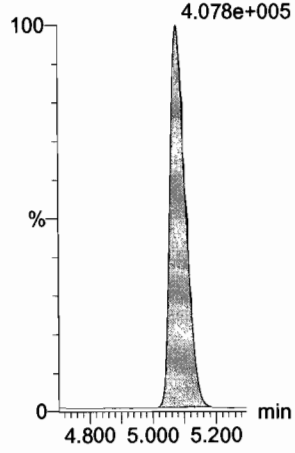
13C2-PFTeDA
F59:MRM of 2 channels,ES-
714.8 > 669.6
7.735e+005



d5-N-ETFOSA
F42:MRM of 1 channel,ES-
531.1 > 168.9
7.023e+005



13C2-PFHxDA
F61:MRM of 1 channel,ES-
815 > 769.7
4.078e+005

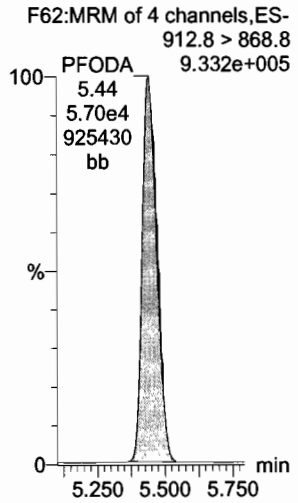


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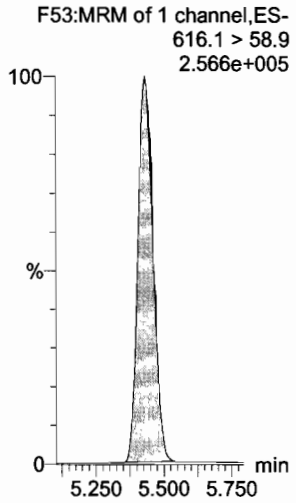
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Printed: Tuesday, July 25, 2017 14:20:46 Pacific Daylight Time

Name: 170724M1_72, Date: 25-Jul-2017, Time: 02:12:47, ID: ST170724M1-12 PFC CS3 17G2118, Description: PFC CS3 17G2118

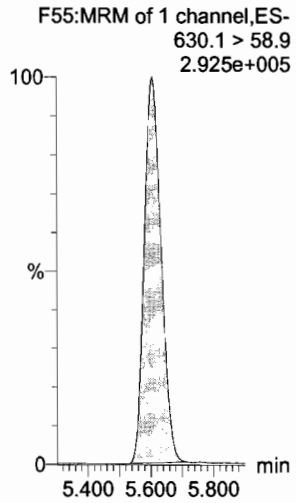
PFODA



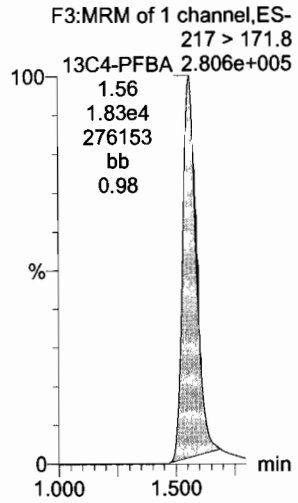
N-MeFOSE



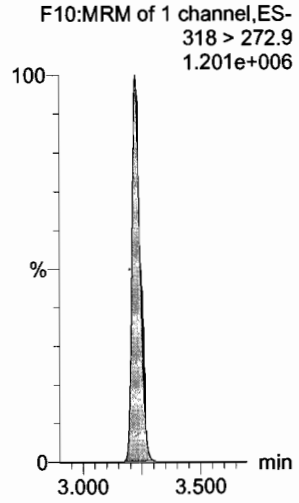
N-EtFOSE



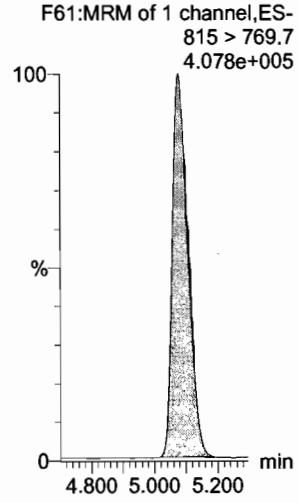
13C4-PFBA



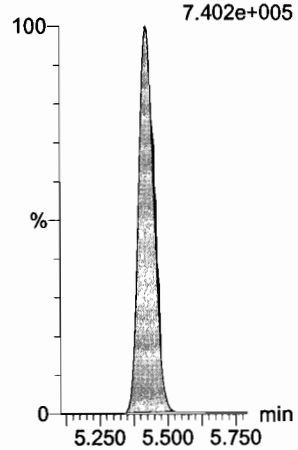
13C5-PFHxA



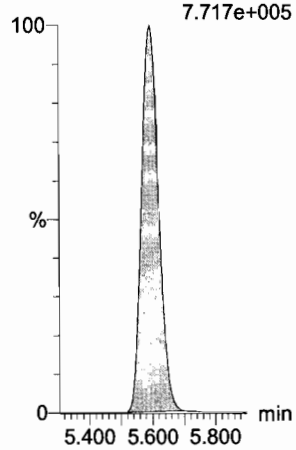
13C2-PFHxDA



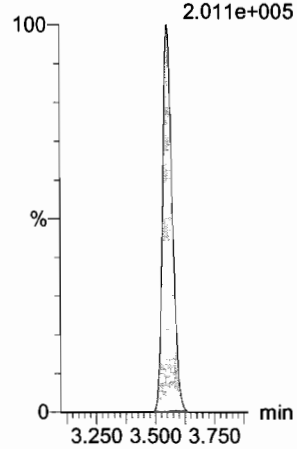
d7-N-MeFOSE



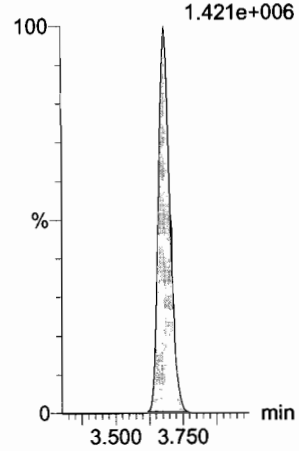
d9-N-EtFOSE



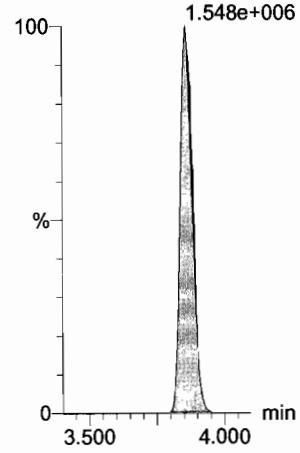
13C3-PFHxS



13C8-PFOA



13C9-PFNA

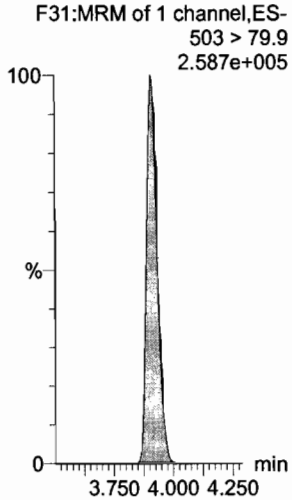


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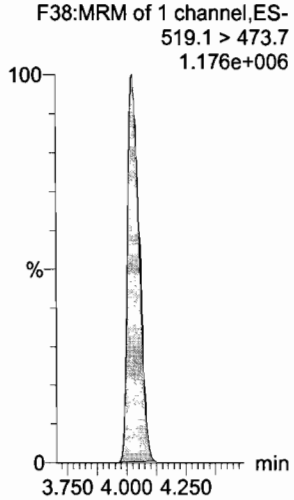
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Printed: Tuesday, July 25, 2017 14:20:46 Pacific Daylight Time

Name: 170724M1_72, Date: 25-Jul-2017, Time: 02:12:47, ID: ST170724M1-12 PFC CS3 17G2118, Description: PFC CS3 17G2118

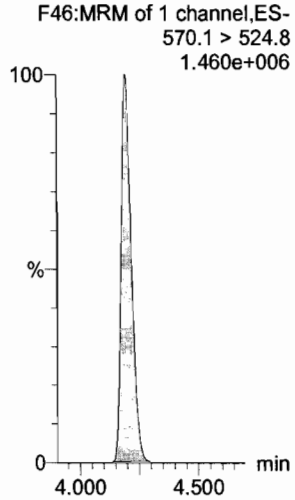
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-51.qld

Last Altered: Wednesday, July 26, 2017 09:59:30 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:00:02 Pacific Daylight Time

AC 7/26/17

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.49e4	1.71e4		1.54	1.58	10.9	9.52	95.2
2	2	PFPeA	263.1 > 218.9	2.65e4	3.47e4		2.77	2.82	9.57	9.54	95.4
3	3	PFBS	299 > 79.7	6.14e3	4.30e3		2.96	3.01	17.8	9.59	95.9
4	4	PFHxA	313.2 > 268.9	4.45e4	1.57e4		3.19	3.23	14.2	9.32	93.2
5	5	PFHpA	363 > 318.9	4.13e4	4.43e4		3.45	3.49	11.6	9.23	92.3
6	6	PFHxS	398.9 > 79.6	5.59e3	4.02e3		3.56	3.56	17.4	10.3	102.8
7	7	6:2 FTS	427.1 > 407	8.69e3	1.04e4		3.64	3.68	10.4	9.87	98.7
8	8	PFOA	413 > 368.7	6.44e4	7.91e4		3.65	3.69	10.2	10.3	102.9
9	9	PFHpS	448.9 > 98.8	5.87e3	7.91e4		3.71	3.75	0.927	10.3	102.9
10	10	PFNA	462.9 > 418.8	6.72e4	7.16e4		3.83	3.86	11.7	10.6	105.6
11	11	PFOSA	498.1 > 77.8	6.08e3	7.73e3		3.84	3.88	9.84	9.33	93.3
12	12	PFOS	499 > 79.9	1.14e4	1.38e4		3.89	3.91	10.3	8.69	86.9
13	13	PFDA	513 > 468.8	6.75e4	6.64e4		4.01	4.04	12.7	9.69	96.9
14	14	8:2 FTS	527 > 506.9	8.09e3	7.23e3		4.00	4.03	14.0	9.50	95.0
15	15	N-MeFOSAA	570.1 > 419	1.90e4	1.54e4		4.03	4.06	200	10.1	100.9
16	16	N-EtFOSAA	584.2 > 419	1.50e4	1.62e4		4.10	4.13	151	9.35	93.5
17	17	PFUnA	562.9 > 518.9	5.27e4	7.67e4		4.17	4.20	8.58	9.73	97.3
18	18	PFDS	598.9 > 98.7	5.12e3	7.67e4		4.22	4.24	0.835	9.38	93.8
19	19	PFDoA	612.9 > 318.8	5.82e3	8.31e3		4.34	4.36	8.76	9.27	92.7
20	20	N-MeFOSA	512.1 > 168.9	1.09e4	3.26e4		4.29	4.45	50.3	48.2	96.5
21	21	PFTrDA	662.9 > 618.9	7.61e4	8.31e3		4.50	4.53	114	10.3	103.1
22	22	PFTeDA	712.9 > 668.8	5.14e4	5.71e4		4.68	4.71	11.3	9.76	97.6
23	23	N-EtFOSA	526.1 > 168.9	1.37e4	4.48e4		4.87	5.01	45.8	50.3	100.5
24	24	PFHxDA	812.8 > 768.9	7.15e4	2.70e4		5.06	5.08	13.2	9.68	96.8
25	25	PFODA	912.8 > 868.8	6.82e4	2.70e4		5.43	5.44	12.6	9.83	98.3
26	26	N-MeFOSE	616.1 > 58.9	1.61e4	4.83e4		5.42	5.44	49.9	48.7	97.3
27	27	N-EtFOSE	630.1 > 58.9	1.83e4	4.86e4		5.59	5.61	56.5	48.0	96.1
28	28	13C3-PFBA	216.1 > 171.8	1.71e4	2.01e4	0.820	1.54	1.58	10.6	13.0	103.8
29	29	13C3-PFPeA	266 > 221.8	3.47e4	5.52e4	0.248	2.77	2.82	3.14	12.6	101.1
30	30	13C3-PFBS	302 > 98.8	4.30e3	5.52e4	0.031	2.96	3.01	0.389	12.5	100.1
31	31	13C2-PFHxA	315 > 269.8	1.57e4	5.52e4	0.276	3.19	3.23	1.42	5.13	102.6

70-130

50-150

Dataset: U:\Q4.PRO\results\170725M1\170725M1-51.qld

Last Altered: Wednesday, July 26, 2017 09:59:30 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:00:02 Pacific Daylight Time

Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFHpA	367.2 > 321.8	4.43e4	5.52e4	0.306	3.45	3.49	4.01	13.1	105.0
33	33	18O2-PFHxS	403 > 102.6	4.02e3	1.03e4	0.393	3.56	3.56	4.89	12.5	99.7
34	34	13C2-6:2 FTS	429.1 > 408.9	1.04e4	7.52e4	0.158	3.64	3.68	1.73	11.0	87.8
35	35	13C2-PFOA	414.9 > 369.7	7.91e4	7.52e4	1.067	3.65	3.69	13.1	12.3	98.5
36	36	13C5-PFNA	468.2 > 422.9	7.16e4	8.12e4	0.852	3.83	3.86	11.0	12.9	103.4
37	37	13C8-PFOSA	506.1 > 77.7	7.73e3	7.68e4	0.098	3.84	3.87	1.26	12.8	102.4
38	38	13C8-PFOS	507 > 79.9	1.38e4	1.44e4	0.936	3.89	3.91	12.0	12.8	102.7
39	39	13C2-PFDA	515.1 > 469.9	6.64e4	8.67e4	0.810	4.01	4.04	9.58	11.8	94.6
40	40	13C2-8:2 FTS	529.1 > 508.7	7.23e3	8.67e4	0.086	4.00	4.03	1.04	12.2	97.5
41	41	d3-N-MeFOSAA	573.3 > 419	1.54e4	7.68e4	0.014	4.03	4.06	2.51	183	112.6
42	42	d5-N-EtFOSAA	589.3 > 419	1.62e4	7.68e4	0.014	4.12	4.13	2.63	189	116.1
43	43	13C2-PFUnA	565 > 519.8	7.67e4	7.68e4	0.962	4.17	4.20	12.5	13.0	103.8
44	44	13C2-PFDoA	615 > 569.7	8.31e3	7.68e4	0.094	4.34	4.36	1.35	14.3	114.6
45	45	d3-N-MeFOSA	515.2 > 168.9	3.26e4	7.68e4	0.034	4.29	4.48	5.30	154	102.6
46	46	13C2-PFTeDA	714.8 > 669.6	5.71e4	7.68e4	0.694	4.68	4.71	9.29	13.4	107.0
47	47	d5-N-ETFOSA	531.1 > 168.9	4.48e4	7.68e4	0.049	5.01	5.05	7.29	150	99.8
48	48	13C2-PFHxDA	815 > 769.7	2.70e4	7.68e4	0.843	5.06	5.08	4.39	5.21	104.2
49	49	d7-N-MeFOSE	623.1 > 58.9	4.83e4	7.68e4	0.055	5.42	5.43	7.85	144	95.8
50	50	d9-N-EtFOSE	639.2 > 58.8	4.86e4	7.68e4	0.053	5.59	5.60	7.91	148	98.7
51	51	13C4-PFBA	217 > 171.8	2.01e4	2.01e4	1.000	1.54	1.58	12.5	12.5	100.0
52	52	13C5-PFHxA	318 > 272.9	5.52e4	5.52e4	1.000	3.19	3.23	5.00	5.00	100.0
53	53	13C3-PFHxS	401.9 > 79.9	1.03e4	1.03e4	1.000	3.56	3.56	12.5	12.5	100.0
54	54	13C8-PFOA	421.3 > 376	7.52e4	7.52e4	1.000	3.65	3.69	12.5	12.5	100.0
55	55	13C9-PFNA	472.2 > 426.9	8.12e4	8.12e4	1.000	3.83	3.87	12.5	12.5	100.0
56	56	13C4-PFOS	503 > 79.9	1.44e4	1.44e4	1.000	3.89	3.91	12.5	12.5	100.0
57	57	13C6-PFDA	519.1 > 473.7	8.67e4	8.67e4	1.000	4.01	4.03	12.5	12.5	100.0
58	58	13C7-PFUnA	570.1 > 524.8	7.68e4	7.68e4	1.000	4.17	4.20	12.5	12.5	100.0

50-150

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Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Compound name: PFBA

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1	170725M1_1	IPA	25-Jul-17	14:15:31
2	170725M1_2	ST170725M1-1 PFC CS-1 17G2502	25-Jul-17	14:26:15
3	170725M1_3	B7G0107-BS1 OPR 0.125	25-Jul-17	14:36:53
4	170725M1_4	IPA	25-Jul-17	14:47:39
5	170725M1_5	B7G0107-BLK1 Method Blank 0.125	25-Jul-17	14:58:18
6	170725M1_6	1700851-01RE1 SB 01_20170710 0.12032	25-Jul-17	15:08:56
7	170725M1_7	1700851-02RE1 EB 01_20170710 0.11963	25-Jul-17	15:19:35
8	170725M1_8	1700851-03RE1 18-GW-18MCAS03-5-20170...	25-Jul-17	15:30:13
9	170725M1_9	1700851-04RE1 18-GW-18MCAS03-2-20170...	25-Jul-17	15:40:51
10	170725M1_10	1700851-05RE1 18-GW-18MCAS02-5-20170...	25-Jul-17	15:51:30
11	170725M1_11	1700851-06RE1 18-GW-18MCAS07-3-20170...	25-Jul-17	16:02:08
12	170725M1_12	1700851-07RE1 24-GW-24MW08B-20170710...	25-Jul-17	16:12:47
13	170725M1_13	1700851-08RE1 DUP03-20170710 0.12071	25-Jul-17	16:23:25
14	170725M1_14	1700851-09RE1 24-GW-24EX11-20170710 0....	25-Jul-17	16:34:03
15	170725M1_15	1700851-10RE1 SGV-GW-SGV Transfer Stati...	25-Jul-17	16:44:46
16	170725M1_16	B7G0107-MS2 Matrix Spike 0.11945	25-Jul-17	16:55:33
17	170725M1_17	B7G0107-MSD2 Matrix Spike Dup 0.12098	25-Jul-17	17:06:33
18	170725M1_18	IPA	25-Jul-17	17:17:45
19	170725M1_19	ST170725M1-2 PFC CS3 17G2503	25-Jul-17	17:28:43
20	170725M1_20	IPA	25-Jul-17	17:39:41
21	170725M1_21	1700852-01RE1 EB 02_20170711 0.12122	25-Jul-17	17:50:30
22	170725M1_22	1700852-02RE1 DUP01-20170711 0.11996	25-Jul-17	18:01:17
23	170725M1_23	1700852-03RE1 1-GW-01-MW204-20170711 ...	25-Jul-17	18:12:03
24	170725M1_24	B7G0107-MS1 Matrix Spike 0.12078	25-Jul-17	18:22:49
25	170725M1_25	B7G0107-MSD1 Matrix Spike Dup 0.11599	25-Jul-17	18:33:36
26	170725M1_26	1700852-04RE1 1-GW-01-MW206-20170711 ...	25-Jul-17	18:44:23
27	170725M1_27	1700852-05RE1 2-GW-02DGMW59-2017071...	25-Jul-17	18:55:10
28	170725M1_28	1700852-06RE1 2-GW-02NEW16-20170711 ...	25-Jul-17	19:05:57
29	170725M1_29	1700852-07RE1 5-GW-05-DGMW68A-20170...	25-Jul-17	19:16:44
30	170725M1_30	1700852-08RE1 1-GW-01-PZ20-20170711 0....	25-Jul-17	19:27:29
31	170725M1_31	1700852-09RE1 1-GW-02-MW209-20170711 ...	25-Jul-17	19:38:30

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Compound name: PFBA

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33	170725M1_33	ST170725M1-3 PFC CS3 17G2503	25-Jul-17	20:00:29
34	170725M1_34	IPA	25-Jul-17	20:11:07
35	170725M1_35	B7G0108-BS1 OPR 0.125	25-Jul-17	20:21:46
36	170725M1_36	IPA	25-Jul-17	20:32:24
37	170725M1_37	B7G0108-BLK1 Method Blank 0.125	25-Jul-17	20:43:03
38	170725M1_38	1700856-01RE1 INFLUENT-20170710 0.121	25-Jul-17	20:53:41
39	170725M1_39	1700856-02RE1 DUP05-20170710 0.11647	25-Jul-17	21:04:19
40	170725M1_40	1700856-03RE1 MID-POINT-20170710 0.11731	25-Jul-17	21:14:58
41	170725M1_41	1700856-04RE1 EFFLUENT-20170710 0.12084	25-Jul-17	21:25:36
42	170725M1_42	B7G0108-MS1 Matrix Spike 0.12162	25-Jul-17	21:36:14
43	170725M1_43	B7G0108-MSD1 Matrix Spike Dup 0.11849	25-Jul-17	21:47:01
44	170725M1_44	1700856-05RE1 MW-37S-20170711 0.11696	25-Jul-17	21:57:39
45	170725M1_45	1700856-06RE1 ERB-01-20170711 0.12043	25-Jul-17	22:08:34
46	170725M1_46	1700856-07RE1 11-MW-1-20170710 0.11482	25-Jul-17	22:19:33
47	170725M1_47	1700856-08RE1 LF-MW-54BR-20170710 0.11...	25-Jul-17	22:30:16
48	170725M1_48	1700856-09RE1 MW-48BR-20170711 0.12084	25-Jul-17	22:40:54
49	170725M1_49	1700856-10RE1 MW-34S-20170711 0.11812	25-Jul-17	22:51:33
50	170725M1_50	IPA	25-Jul-17	23:02:11
51	170725M1_51	ST170725M1-4 PFC CS3 17G2503	25-Jul-17	23:12:50
52	170725M1_52	IPA	25-Jul-17	23:23:36
53	170725M1_53	1700856-11RE1 MW-31BR-20170711 0.11774	25-Jul-17	23:34:14
54	170725M1_54	1700856-12RE1 MW-31S-20170711 0.11732	25-Jul-17	23:45:01
55	170725M1_55	1700732-04RE1@5X MW PFC 03 0.11929	25-Jul-17	23:55:47
56	170725M1_56	1700906-05@5X MW-02BR-20170718 0.125	26-Jul-17	00:06:56
57	170725M1_57	1700907-04@5X AT028-MW17-06-071717-13...	26-Jul-17	00:18:17
58	170725M1_58	1700907-09@5X AT028-MW17-01-071817-09...	26-Jul-17	00:29:47
59	170725M1_59	IPA	26-Jul-17	00:40:33
60	170725M1_60	ST170725M1-5 PFC CS3 17G2503	26-Jul-17	00:51:21
61	170725M1_61	IPA	26-Jul-17	01:02:08
62	170725M1_62	1700845-01@5X MW-29S-20170707 0.12034	26-Jul-17	01:12:49
63	170725M1_63	1700845-02@5X DUP04-20170707 0.12279	26-Jul-17	01:23:33
64	170725M1_64	1700845-03@20X MW-27S-20170707 0.11824	26-Jul-17	01:34:11
65	170725M1_65	B7G0033-MS1@20X Matrix Spike 0.12283	26-Jul-17	01:44:49

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Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Compound name: PFBA

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67	170725M1_67	1700845-04@5X MW-30S-20170707 0.11933	26-Jul-17	02:06:06
68	170725M1_68	1700894-02@5X POND 1 at PD 0.125	26-Jul-17	02:16:53
69	170725M1_69	1700894-03@5X POND 1 -STAFF 0.125	26-Jul-17	02:27:50
70	170725M1_70	1700894-04@10X SEED-POND 1 0.125	26-Jul-17	02:38:34
71	170725M1_71	1700732-05RE1 SD-46 3.2	26-Jul-17	02:49:12
72	170725M1_72	IPA	26-Jul-17	02:59:50
73	170725M1_73	ST170725M1-6 PFC CS3 17G2503	26-Jul-17	03:10:29
74	170725M1_74	IPA	26-Jul-17	03:21:15

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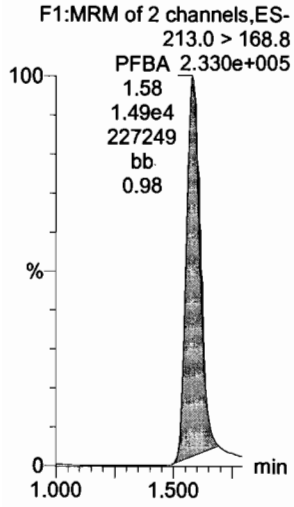
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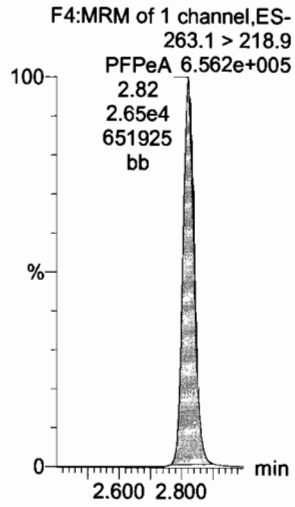
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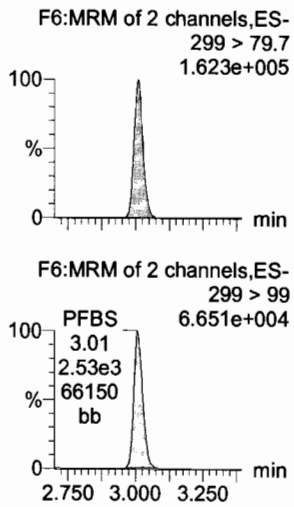
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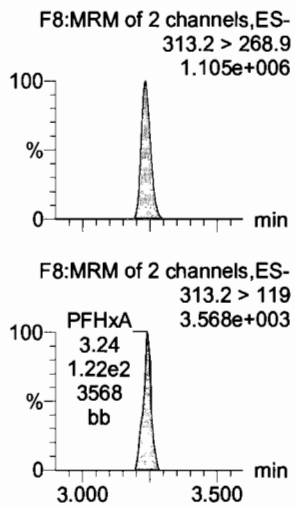
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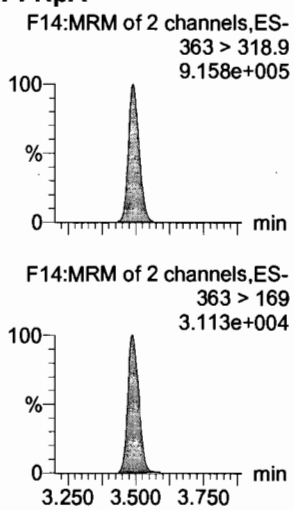
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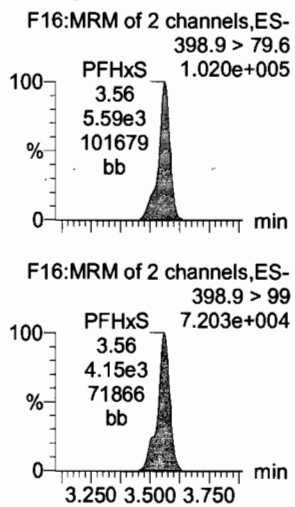
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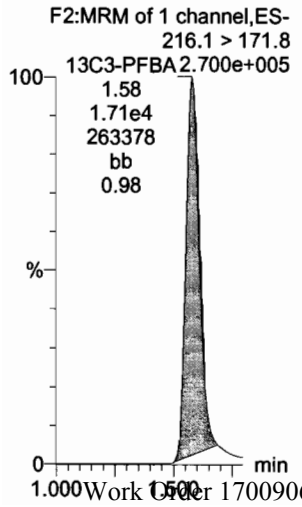
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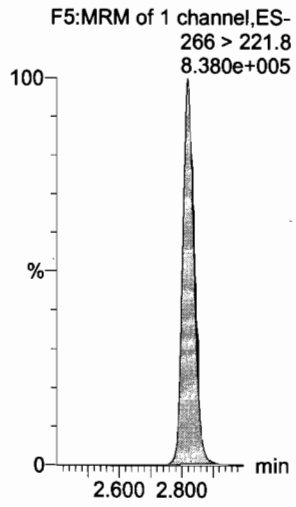
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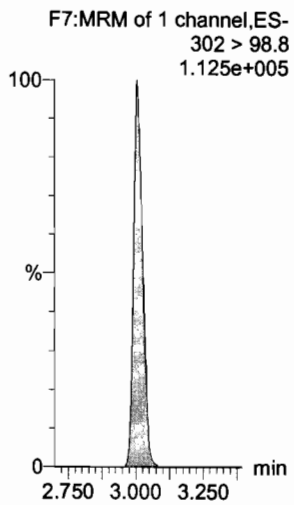
13C3-PFBA



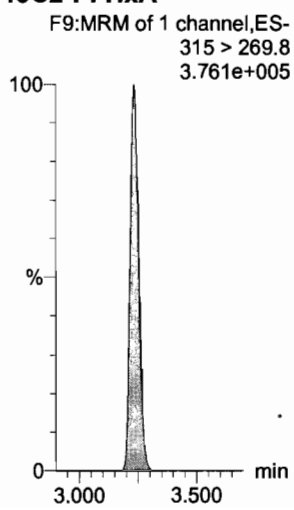
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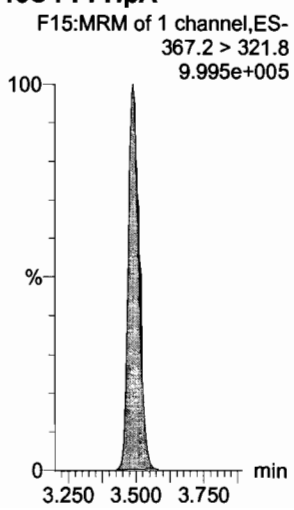
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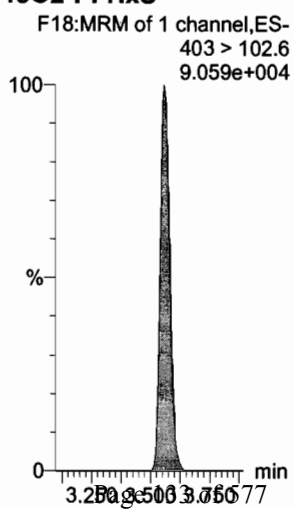
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13C4-PFHpA



18O2-PFHxS

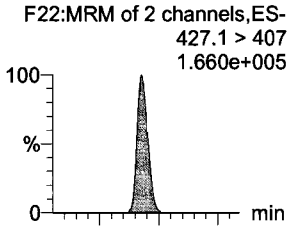


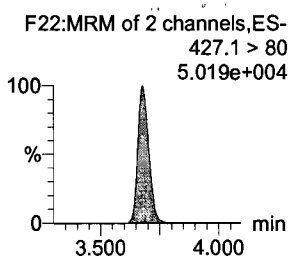
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Printed: Wednesday, July 26, 2017 10:00:02 Pacific Daylight Time

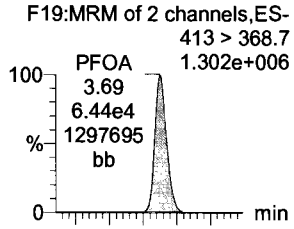
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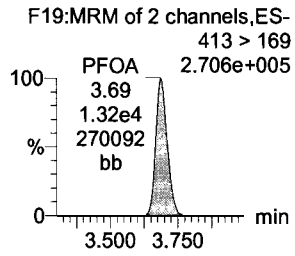
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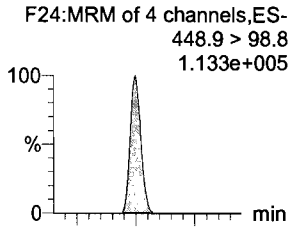


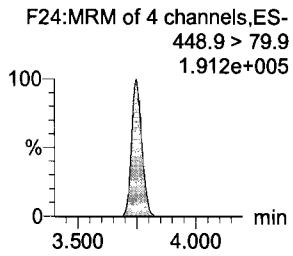
PFOA



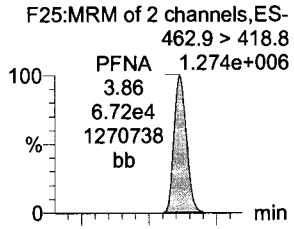


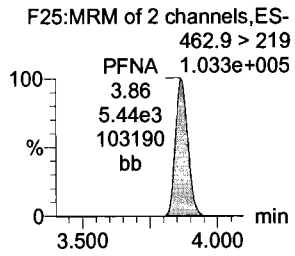
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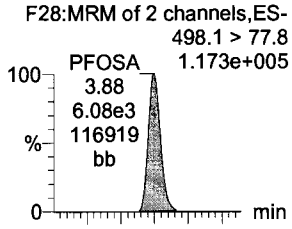


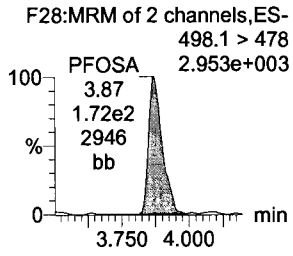
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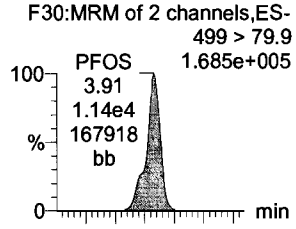


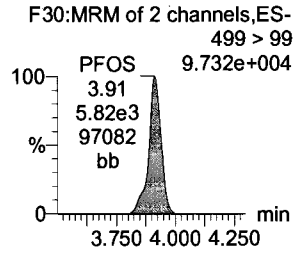
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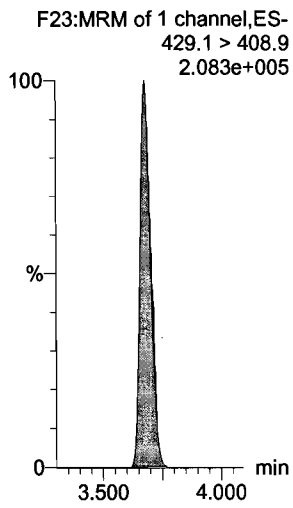


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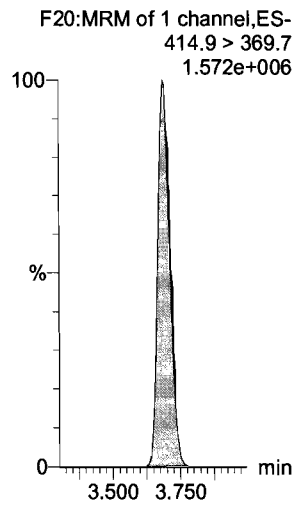




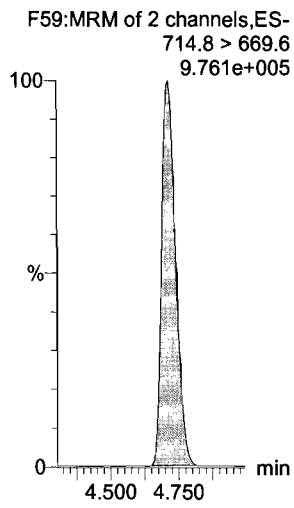
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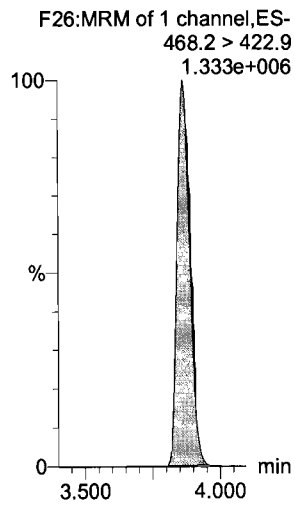
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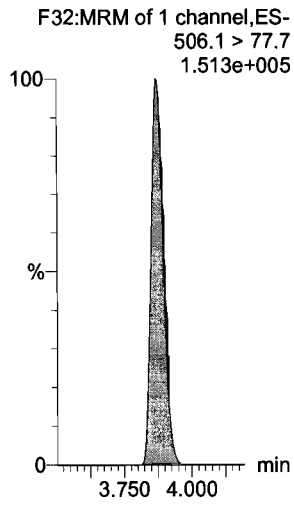
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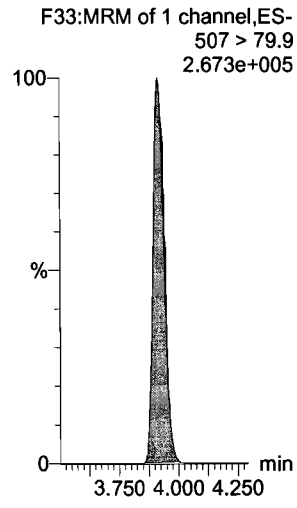
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13C8-PFOSA



13C8-PFOS



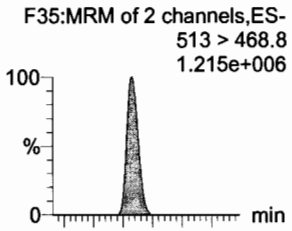
Vista Analytical Laboratory

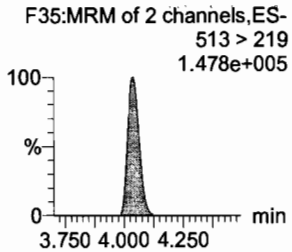
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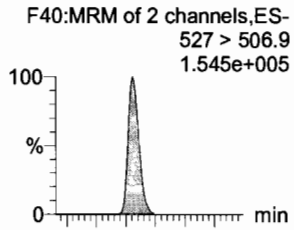
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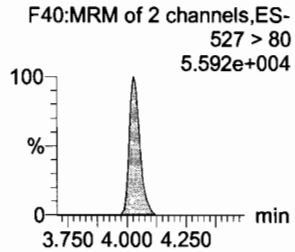
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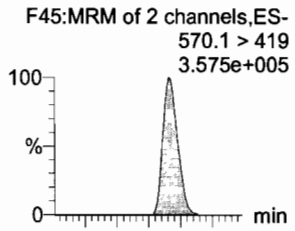


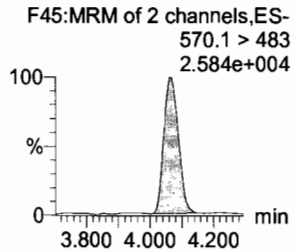
8:2 FTS



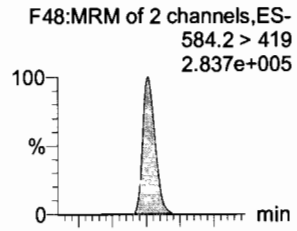


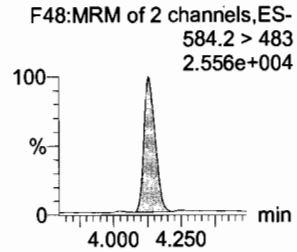
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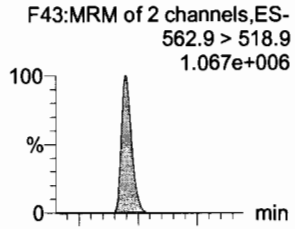


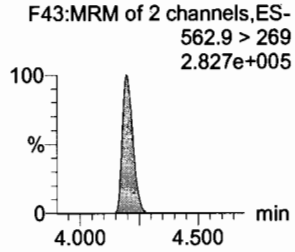
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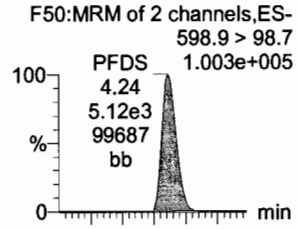


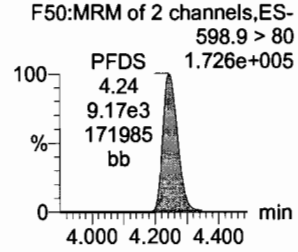
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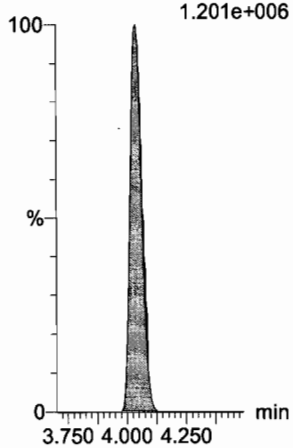


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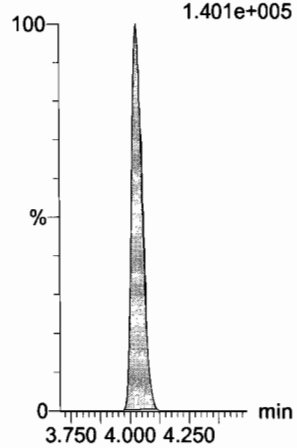




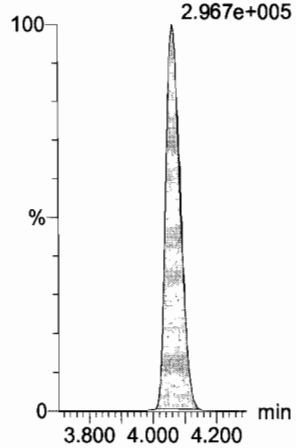
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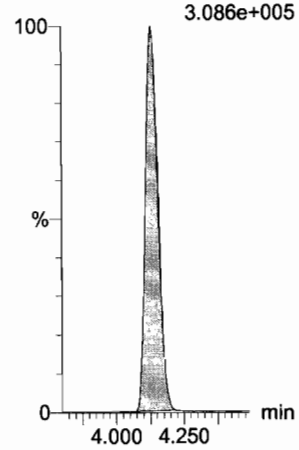
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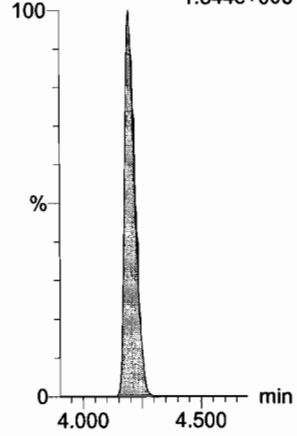
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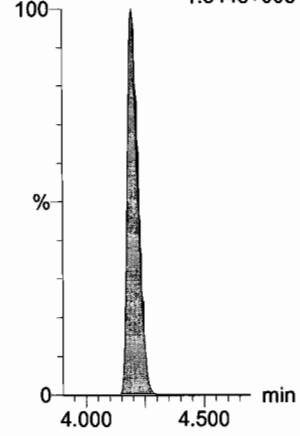
d5-N-EtFOSAA



13C2-PFUnA



13C2-PFUnA

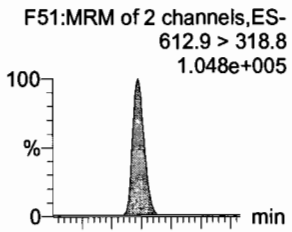


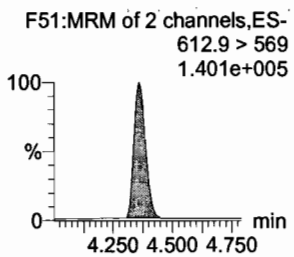
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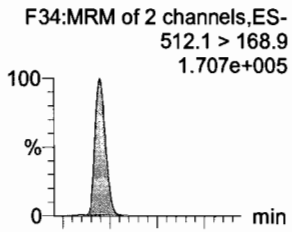
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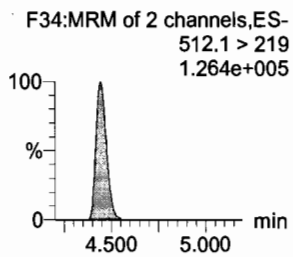
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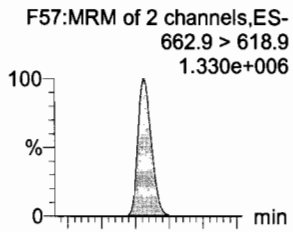


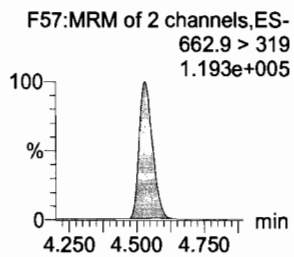
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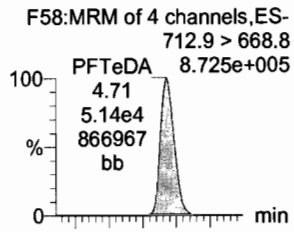


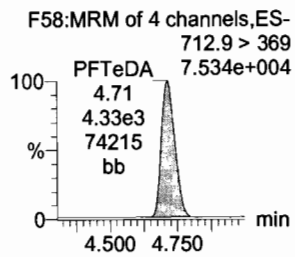
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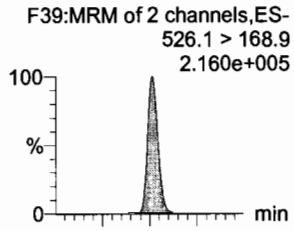


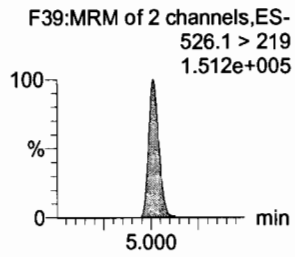
PFTeDA



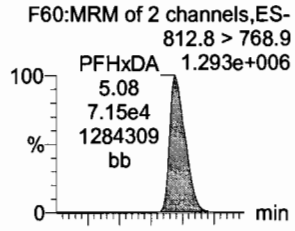


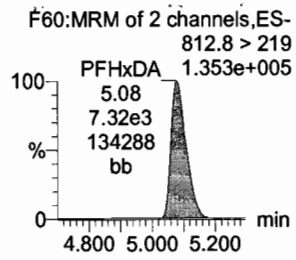
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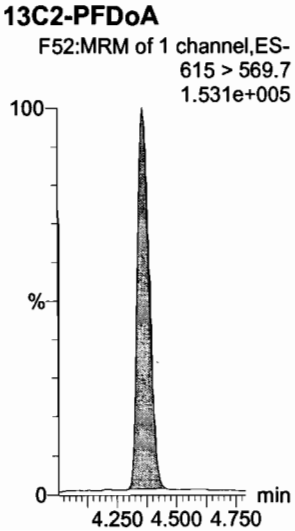


PFHxDA

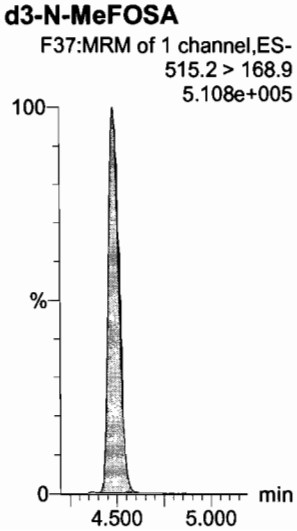




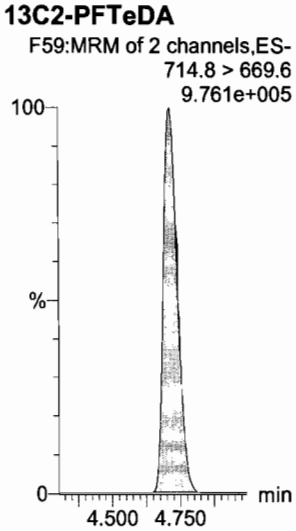
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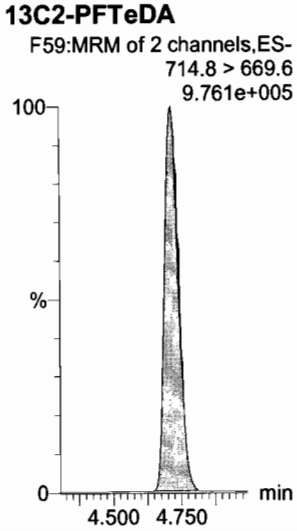
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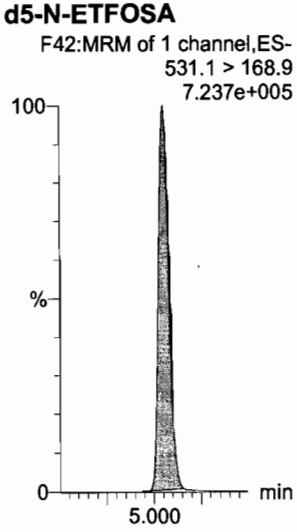
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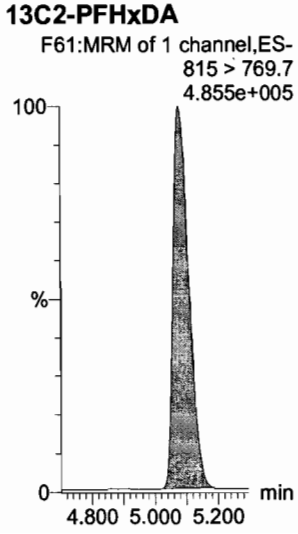
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d5-N-ETFOSA



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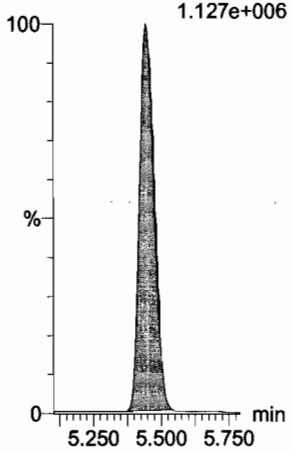


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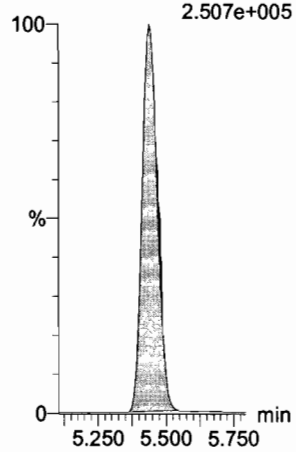
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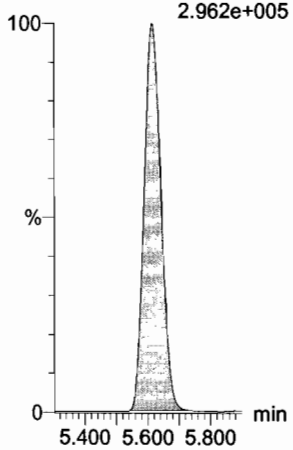
PFODA
F62:MRM of 4 channels,ES-
912.8 > 868.8
1.127e+006



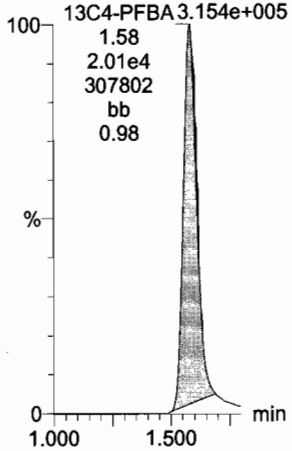
N-MeFOSE
F53:MRM of 1 channel,ES-
616.1 > 58.9
2.507e+005



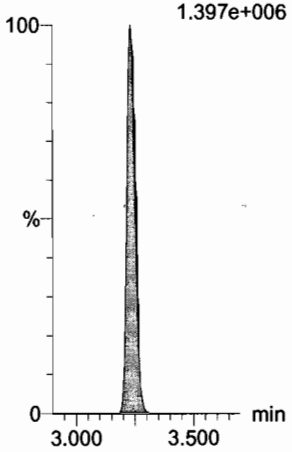
N-EtFOSE
F55:MRM of 1 channel,ES-
630.1 > 58.9
2.962e+005



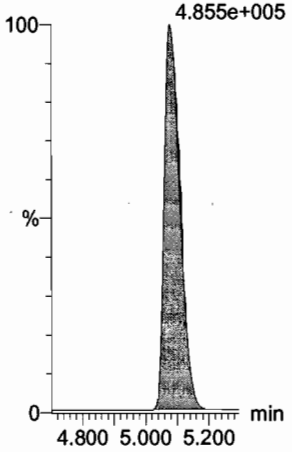
13C4-PFBA
F3:MRM of 1 channel,ES-
217 > 171.8
3.154e+005
13C4-PFBA
1.58
2.01e4
307802
bb
0.98



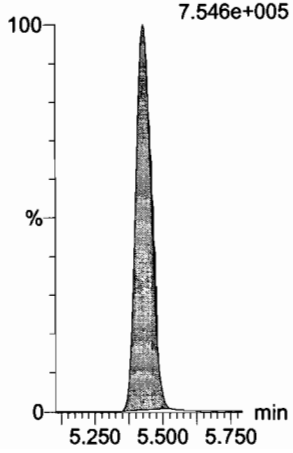
13C5-PFHxA
F10:MRM of 1 channel,ES-
318 > 272.9
1.397e+006



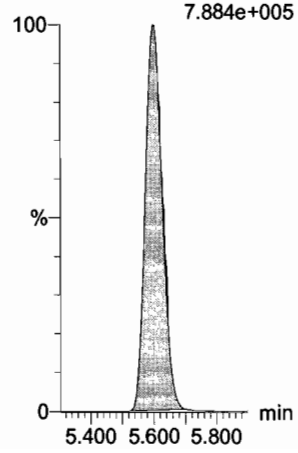
13C2-PFHxDA
F61:MRM of 1 channel,ES-
815 > 769.7
4.855e+005



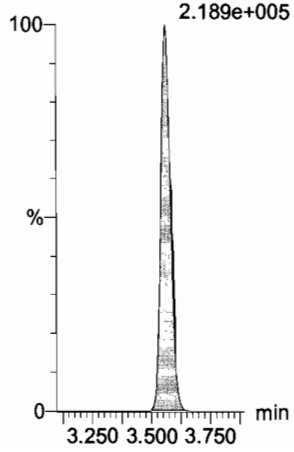
d7-N-MeFOSE
F54:MRM of 1 channel,ES-
623.1 > 58.9
7.546e+005



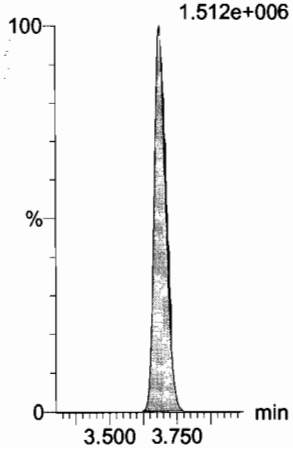
d9-N-EtFOSE
F56:MRM of 1 channel,ES-
639.2 > 58.8
7.884e+005



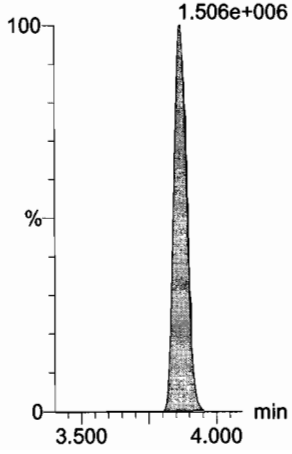
13C3-PFHxS
F17:MRM of 1 channel,ES-
401.9 > 79.9
2.189e+005



13C8-PFOA
F21:MRM of 1 channel,ES-
421.3 > 376
1.512e+006



13C9-PFNA
F27:MRM of 1 channel,ES-
472.2 > 426.9
1.506e+006

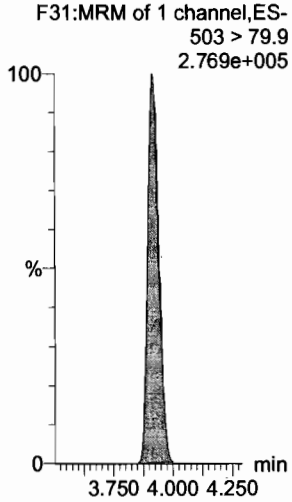


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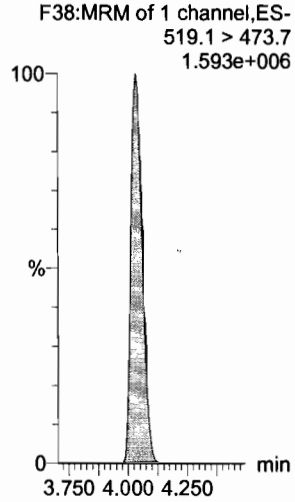
Last Altered: Wednesday, July 26, 2017 09:59:30 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:00:02 Pacific Daylight Time

Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

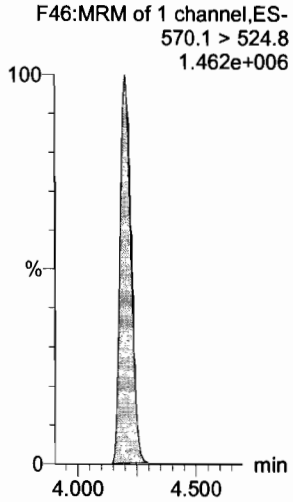
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Dataset: U:\Q4.PRO\results\170725M1\170725M1-60.qld

Last Altered: Wednesday, July 26, 2017 10:00:49 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

AC 7/26/17

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.50e4	1.73e4		1.54	1.59	10.8	9.45	94.5
2	2	PFPeA	263.1 > 218.9	2.79e4	3.61e4		2.77	2.82	9.66	9.63	96.3
3	3	PFBS	299 > 79.7	6.39e3	4.38e3		2.96	3.01	18.2	9.79	97.9
4	4	PFHxA	313.2 > 268.9	4.47e4	1.60e4		3.19	3.23	14.0	9.17	91.7
5	5	PFHpA	363 > 318.9	4.33e4	4.49e4		3.45	3.49	12.0	9.55	95.5
6	6	PFHxS	398.9 > 79.6	5.99e3	4.53e3		3.56	3.56	16.5	9.76	97.6
7	7	6:2 FTS	427.1 > 407	9.91e3	1.07e4		3.64	3.67	11.6	11.0	109.8
8	8	PFOA	413 > 368.7	6.56e4	7.43e4		3.65	3.68	11.0	11.2	111.5
9	9	PFHpS	448.9 > 98.8	6.44e3	7.43e4		3.71	3.75	1.08	12.0	120.4
10	10	PFNA	462.9 > 418.8	6.59e4	7.47e4		3.83	3.86	11.0	9.91	99.1
11	11	PFOSA	498.1 > 77.8	6.45e3	7.86e3		3.84	3.87	10.3	9.72	97.2
12	12	PFOS	499 > 79.9	1.22e4	1.42e4		3.89	3.91	10.7	9.06	90.6
13	13	PFDA	513 > 468.8	7.36e4	7.73e4		4.01	4.03	11.9	9.08	90.8
14	14	8:2 FTS	527 > 506.9	8.88e3	7.56e3		4.00	4.03	14.7	10.0	100.0
15	15	N-MeFOSAA	570.1 > 419	1.98e4	1.69e4		4.03	4.06	191	9.62	96.2
16	16	N-EtFOSAA	584.2 > 419	1.52e4	1.67e4		4.10	4.13	147	9.13	91.3
17	17	PFUnA	562.9 > 518.9	5.38e4	8.83e4		4.17	4.20	7.61	8.60	86.0
18	18	PFDS	598.9 > 98.7	5.33e3	8.83e4		4.22	4.24	0.755	8.46	84.6
19	19	PFDoA	612.9 > 318.8	5.59e3	8.53e3		4.34	4.36	8.19	8.66	86.6
20	20	N-MeFOSA	512.1 > 168.9	1.16e4	3.34e4		4.29	4.45	52.0	49.9	99.7
21	21	PFTrDA	662.9 > 618.9	7.42e4	8.53e3		4.50	4.53	109	9.78	97.8
22	22	PFTeDA	712.9 > 668.8	5.17e4	5.93e4		4.68	4.71	10.9	9.45	94.5
23	23	N-EtFOSA	526.1 > 168.9	1.39e4	4.52e4		4.87	5.02	46.0	50.5	101.0
24	24	PFHxDA	812.8 > 768.9	7.46e4	2.86e4		5.06	5.08	13.0	9.53	95.3
25	25	PFODA	912.8 > 868.8	6.84e4	2.86e4		5.43	5.44	12.0	9.30	93.0
26	26	N-MeFOSE	616.1 > 58.9	1.65e4	4.88e4		5.42	5.44	50.6	49.4	98.7
27	27	N-EtFOSE	630.1 > 58.9	1.87e4	4.91e4		5.59	5.62	57.2	48.6	97.2
28	28	13C3-PFBA	216.1 > 171.8	1.73e4	2.04e4	0.820	1.54	1.59	10.6	12.9	103.2
29	29	13C3-PFPeA	266 > 221.8	3.61e4	5.68e4	0.248	2.77	2.82	3.17	12.8	102.3
30	30	13C3-PFBS	302 > 98.8	4.38e3	5.68e4	0.031	2.96	3.01	0.386	12.4	99.2
31	31	13C2-PFHxA	315 > 269.8	1.60e4	5.68e4	0.276	3.19	3.23	1.41	5.09	101.7

70-130

50-150

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Dataset: U:\Q4.PRO\results\170725M1\170725M1-60.qld

Last Altered: Wednesday, July 26, 2017 10:00:49 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

	# Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32 13C4-PFHpA	367.2 > 321.8	4.49e4	5.68e4	0.306	3.45	3.49	3.96	12.9	103.6
33	33 18O2-PFHxS	403 > 102.6	4.53e3	1.12e4	0.393	3.56	3.56	5.04	12.8	102.6
34	34 13C2-6:2 FTS	429.1 > 408.9	1.07e4	7.14e4	0.158	3.64	3.68	1.88	11.9	95.1
35	35 13C2-PFOA	414.9 > 369.7	7.43e4	7.14e4	1.067	3.65	3.69	13.0	12.2	97.5
36	36 13C5-PFNA	468.2 > 422.9	7.47e4	8.57e4	0.852	3.83	3.86	10.9	12.8	102.3
37	37 13C8-PFOSA	506.1 > 77.7	7.86e3	8.09e4	0.098	3.84	3.87	1.21	12.4	98.8
38	38 13C8-PFOS	507 > 79.9	1.42e4	1.49e4	0.936	3.89	3.91	11.9	12.8	102.1
39	39 13C2-PFDA	515.1 > 469.9	7.73e4	8.93e4	0.810	4.01	4.03	10.8	13.4	106.9
40	40 13C2-8:2 FTS	529.1 > 508.7	7.56e3	8.93e4	0.086	4.00	4.03	1.06	12.4	98.9
41	41 d3-N-MeFOSAA	573.3 > 419	1.69e4	8.09e4	0.014	4.03	4.06	2.60	190	116.9
42	42 d5-N-EtFOSAA	589.3 > 419	1.67e4	8.09e4	0.014	4.12	4.13	2.58	185	114.0
43	43 13C2-PFUnA	565 > 519.8	8.83e4	8.09e4	0.962	4.17	4.20	13.6	14.2	113.4
44	44 13C2-PFDoA	615 > 569.7	8.53e3	8.09e4	0.094	4.34	4.36	1.32	14.0	111.7
45	45 d3-N-MeFOSA	515.2 > 168.9	3.34e4	8.09e4	0.034	4.29	4.49	5.16	150	100.1
46	46 13C2-PFTeDA	714.8 > 669.6	5.93e4	8.09e4	0.694	4.68	4.71	9.15	13.2	105.4
47	47 d5-N-ETFOSA	531.1 > 168.9	4.52e4	8.09e4	0.049	5.01	5.05	6.99	144	95.7
48	48 13C2-PFHxDA	815 > 769.7	2.86e4	8.09e4	0.843	5.06	5.08	4.42	5.24	104.8
49	49 d7-N-MeFOSE	623.1 > 58.9	4.88e4	8.09e4	0.055	5.42	5.43	7.54	138	92.0
50	50 d9-N-EtFOSE	639.2 > 58.8	4.91e4	8.09e4	0.053	5.59	5.60	7.58	142	94.5
51	51 13C4-PFBA	217 > 171.8	2.04e4	2.04e4	1.000	1.54	1.59	12.5	12.5	100.0
52	52 13C5-PFHxA	318 > 272.9	5.68e4	5.68e4	1.000	3.19	3.23	5.00	5.00	100.0
53	53 13C3-PFHxS	401.9 > 79.9	1.12e4	1.12e4	1.000	3.56	3.56	12.5	12.5	100.0
54	54 13C8-PFOA	421.3 > 376	7.14e4	7.14e4	1.000	3.65	3.69	12.5	12.5	100.0
55	55 13C9-PFNA	472.2 > 426.9	8.57e4	8.57e4	1.000	3.83	3.86	12.5	12.5	100.0
56	56 13C4-PFOS	503 > 79.9	1.49e4	1.49e4	1.000	3.89	3.92	12.5	12.5	100.0
57	57 13C6-PFDA	519.1 > 473.7	8.93e4	8.93e4	1.000	4.01	4.03	12.5	12.5	100.0
58	58 13C7-PFUnA	570.1 > 524.8	8.09e4	8.09e4	1.000	4.17	4.20	12.5	12.5	100.0

50-150

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Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170725M1_1	IPA	25-Jul-17	14:15:31
2	170725M1_2	ST170725M1-1 PFC CS-1 17G2502	25-Jul-17	14:26:15
3	170725M1_3	B7G0107-BS1 OPR 0.125	25-Jul-17	14:36:53
4	170725M1_4	IPA	25-Jul-17	14:47:39
5	170725M1_5	B7G0107-BLK1 Method Blank 0.125	25-Jul-17	14:58:18
6	170725M1_6	1700851-01RE1 SB 01_20170710 0.12032	25-Jul-17	15:08:56
7	170725M1_7	1700851-02RE1 EB 01_20170710 0.11963	25-Jul-17	15:19:35
8	170725M1_8	1700851-03RE1 18-GW-18MCAS03-5-20170...	25-Jul-17	15:30:13
9	170725M1_9	1700851-04RE1 18-GW-18MCAS03-2-20170...	25-Jul-17	15:40:51
10	170725M1_10	1700851-05RE1 18-GW-18MCAS02-5-20170...	25-Jul-17	15:51:30
11	170725M1_11	1700851-06RE1 18-GW-18MCAS07-3-20170...	25-Jul-17	16:02:08
12	170725M1_12	1700851-07RE1 24-GW-24MW08B-20170710...	25-Jul-17	16:12:47
13	170725M1_13	1700851-08RE1 DUP03-20170710 0.12071	25-Jul-17	16:23:25
14	170725M1_14	1700851-09RE1 24-GW-24EX11-20170710 0....	25-Jul-17	16:34:03
15	170725M1_15	1700851-10RE1 SGV-GW-SGV Transfer Stati...	25-Jul-17	16:44:46
16	170725M1_16	B7G0107-MS2 Matrix Spike 0.11945	25-Jul-17	16:55:33
17	170725M1_17	B7G0107-MSD2 Matrix Spike Dup 0.12098	25-Jul-17	17:06:33
18	170725M1_18	IPA	25-Jul-17	17:17:45
19	170725M1_19	ST170725M1-2 PFC CS3 17G2503	25-Jul-17	17:28:43
20	170725M1_20	IPA	25-Jul-17	17:39:41
21	170725M1_21	1700852-01RE1 EB 02_20170711 0.12122	25-Jul-17	17:50:30
22	170725M1_22	1700852-02RE1 DUP01-20170711 0.11996	25-Jul-17	18:01:17
23	170725M1_23	1700852-03RE1 1-GW-01-MW204-20170711 ...	25-Jul-17	18:12:03
24	170725M1_24	B7G0107-MS1 Matrix Spike 0.12078	25-Jul-17	18:22:49
25	170725M1_25	B7G0107-MSD1 Matrix Spike Dup 0.11599	25-Jul-17	18:33:36
26	170725M1_26	1700852-04RE1 1-GW-01-MW206-20170711 ...	25-Jul-17	18:44:23
27	170725M1_27	1700852-05RE1 2-GW-02DGMW59-2017071...	25-Jul-17	18:55:10
28	170725M1_28	1700852-06RE1 2-GW-02NEW16-20170711 ...	25-Jul-17	19:05:57
29	170725M1_29	1700852-07RE1 5-GW-05-DGMW68A-20170...	25-Jul-17	19:16:44
30	170725M1_30	1700852-08RE1 1-GW-01-PZ20-20170711 0....	25-Jul-17	19:27:29
31	170725M1_31	1700852-09RE1 1-GW-02-MW209-20170711 ...	25-Jul-17	19:38:30

Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Compound name: PFBA

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32	170725M1_32	IPA	25-Jul-17	19:49:44
33	170725M1_33	ST170725M1-3 PFC CS3 17G2503	25-Jul-17	20:00:29
34	170725M1_34	IPA	25-Jul-17	20:11:07
35	170725M1_35	B7G0108-BS1 OPR 0.125	25-Jul-17	20:21:46
36	170725M1_36	IPA	25-Jul-17	20:32:24
37	170725M1_37	B7G0108-BLK1 Method Blank 0.125	25-Jul-17	20:43:03
38	170725M1_38	1700856-01RE1 INFLUENT-20170710 0.121	25-Jul-17	20:53:41
39	170725M1_39	1700856-02RE1 DUP05-20170710 0.11647	25-Jul-17	21:04:19
40	170725M1_40	1700856-03RE1 MID-POINT-20170710 0.11731	25-Jul-17	21:14:58
41	170725M1_41	1700856-04RE1 EFFLUENT-20170710 0.12084	25-Jul-17	21:25:36
42	170725M1_42	B7G0108-MS1 Matrix Spike 0.12162	25-Jul-17	21:36:14
43	170725M1_43	B7G0108-MSD1 Matrix Spike Dup 0.11849	25-Jul-17	21:47:01
44	170725M1_44	1700856-05RE1 MW-37S-20170711 0.11696	25-Jul-17	21:57:39
45	170725M1_45	1700856-06RE1 ERB-01-20170711 0.12043	25-Jul-17	22:08:34
46	170725M1_46	1700856-07RE1 11-MW-1-20170710 0.11482	25-Jul-17	22:19:33
47	170725M1_47	1700856-08RE1 LF-MW-54BR-20170710 0.11...	25-Jul-17	22:30:16
48	170725M1_48	1700856-09RE1 MW-48BR-20170711 0.12084	25-Jul-17	22:40:54
49	170725M1_49	1700856-10RE1 MW-34S-20170711 0.11812	25-Jul-17	22:51:33
50	170725M1_50	IPA	25-Jul-17	23:02:11
51	170725M1_51	ST170725M1-4 PFC CS3 17G2503	25-Jul-17	23:12:50
52	170725M1_52	IPA	25-Jul-17	23:23:36
53	170725M1_53	1700856-11RE1 MW-31BR-20170711 0.11774	25-Jul-17	23:34:14
54	170725M1_54	1700856-12RE1 MW-31S-20170711 0.11732	25-Jul-17	23:45:01
55	170725M1_55	1700732-04RE1@5X MW PFC 03 0.11929	25-Jul-17	23:55:47
56	170725M1_56	1700906-05@5X MW-02BR-20170718 0.125	26-Jul-17	00:06:56
57	170725M1_57	1700907-04@5X AT028-MW17-06-071717-13...	26-Jul-17	00:18:17
58	170725M1_58	1700907-09@5X AT028-MW17-01-071817-09...	26-Jul-17	00:29:47
59	170725M1_59	IPA	26-Jul-17	00:40:33
60	170725M1_60	ST170725M1-5 PFC CS3 17G2503	26-Jul-17	00:51:21
61	170725M1_61	IPA	26-Jul-17	01:02:08
62	170725M1_62	1700845-01@5X MW-29S-20170707 0.12034	26-Jul-17	01:12:49
63	170725M1_63	1700845-02@5X DUP04-20170707 0.12279	26-Jul-17	01:23:33
64	170725M1_64	1700845-03@20X MW-27S-20170707 0.11824	26-Jul-17	01:34:11
65	170725M1_65	B7G0033-MS1@20X Matrix Spike 0.12283	26-Jul-17	01:44:49

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Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
66	170725M1_66	B7G0033-MSD1@20X Matrix Spike Dup 0.124	26-Jul-17	01:55:28
67	170725M1_67	1700845-04@5X MW-30S-20170707 0.11933	26-Jul-17	02:06:06
68	170725M1_68	1700894-02@5X POND 1 at PD 0.125	26-Jul-17	02:16:53
69	170725M1_69	1700894-03@5X POND 1 -STAFF 0.125	26-Jul-17	02:27:50
70	170725M1_70	1700894-04@10X SEED-POND 1 0.125	26-Jul-17	02:38:34
71	170725M1_71	1700732-05RE1 SD-46 3.2	26-Jul-17	02:49:12
72	170725M1_72	IPA	26-Jul-17	02:59:50
73	170725M1_73	ST170725M1-6 PFC CS3 17G2503	26-Jul-17	03:10:29
74	170725M1_74	IPA	26-Jul-17	03:21:15

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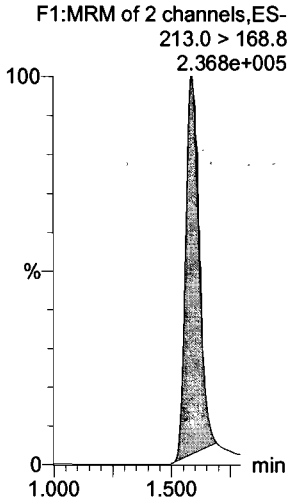
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Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

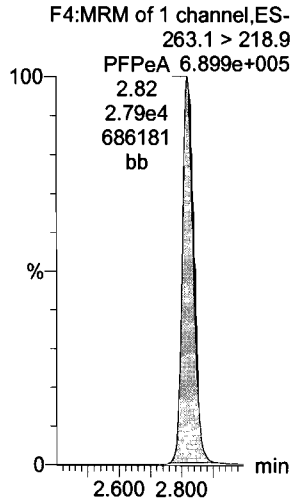
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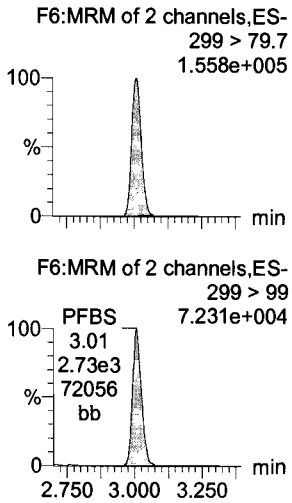
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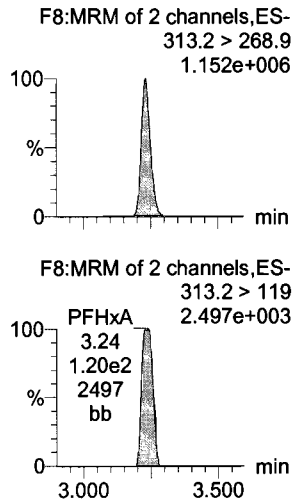
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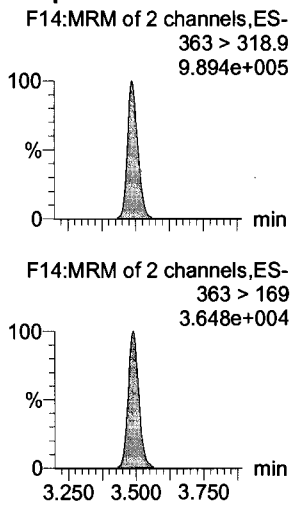
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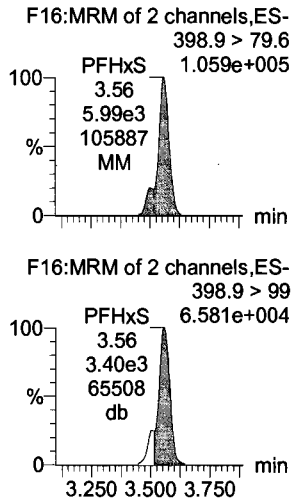
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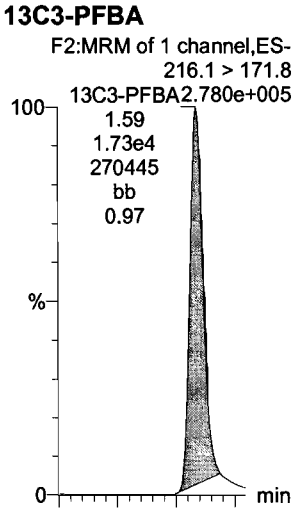
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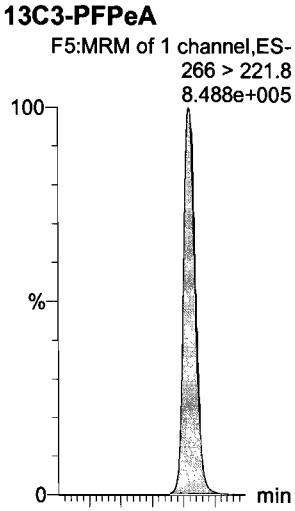
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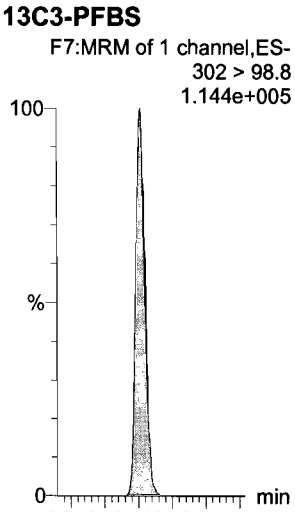
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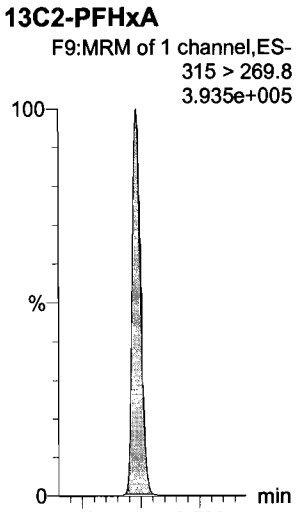
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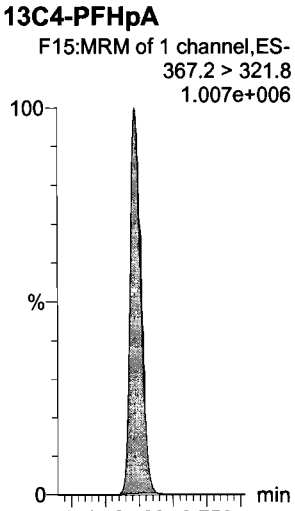
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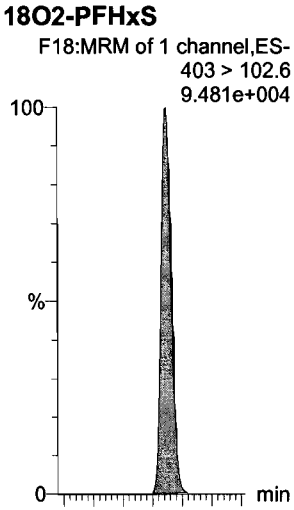
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13C4-PFHpA



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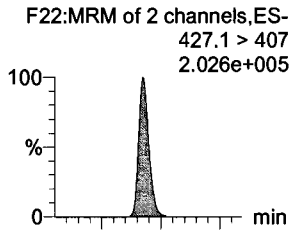


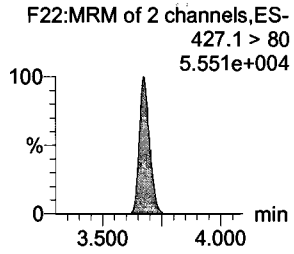
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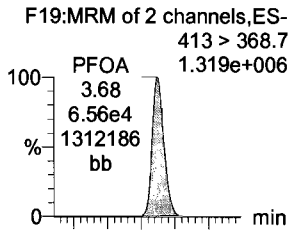
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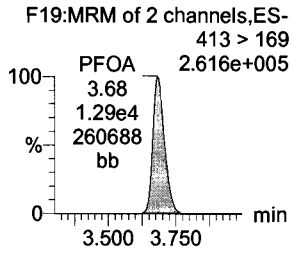
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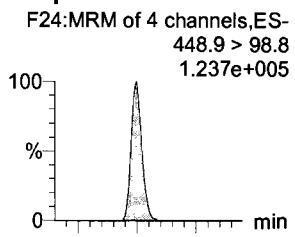


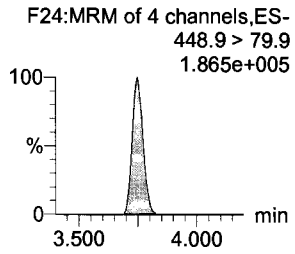
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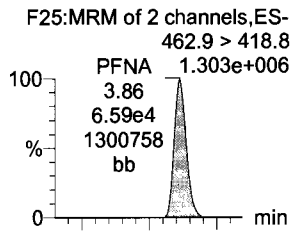


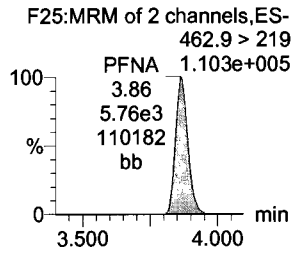
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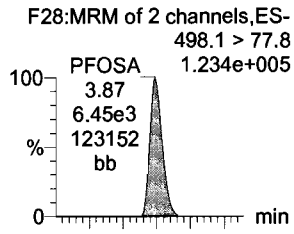


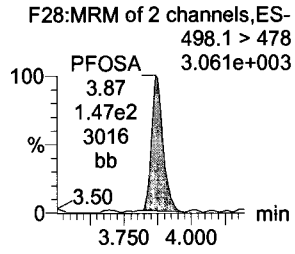
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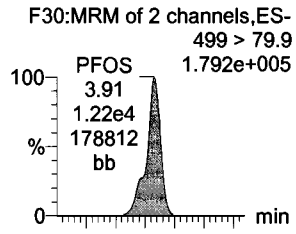


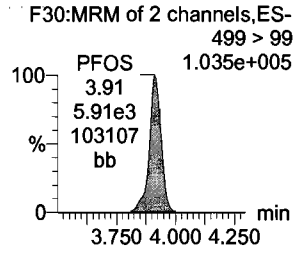
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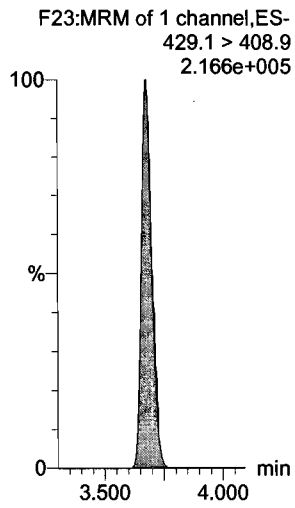


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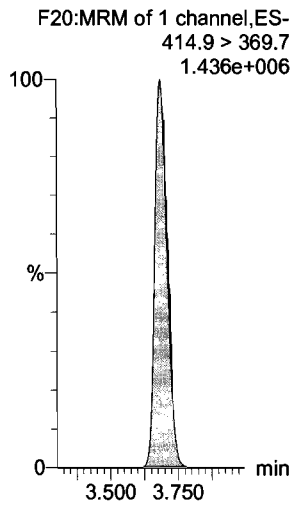




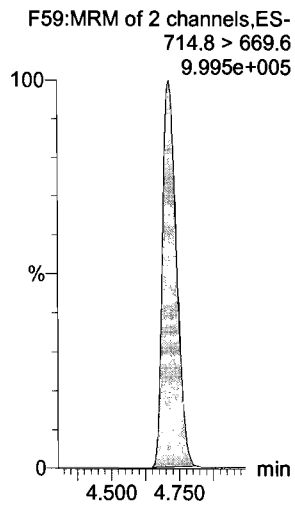
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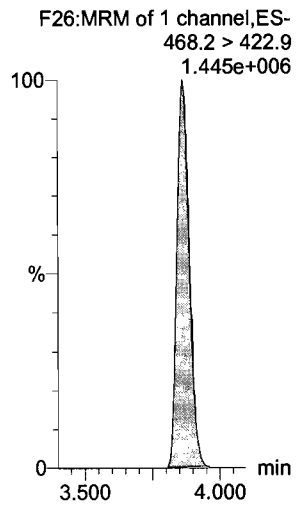
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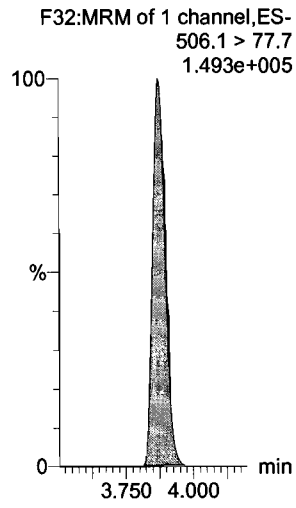
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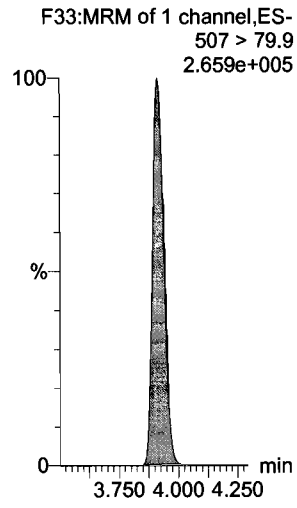
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13C8-PFOSA



13C8-PFOS

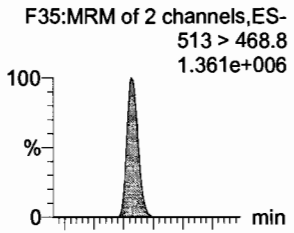


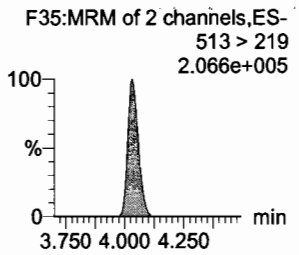
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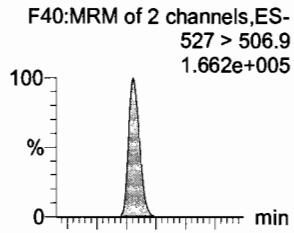
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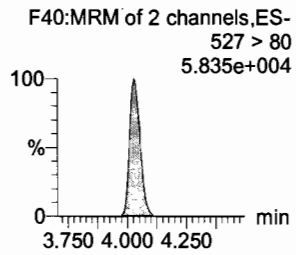
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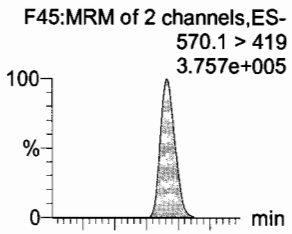


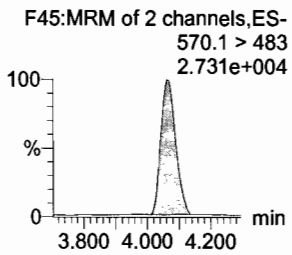
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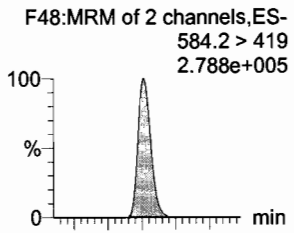


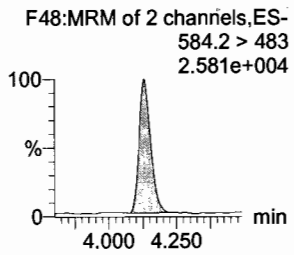
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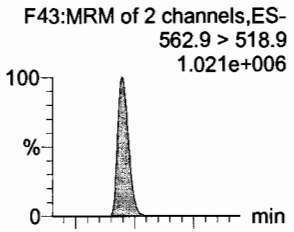


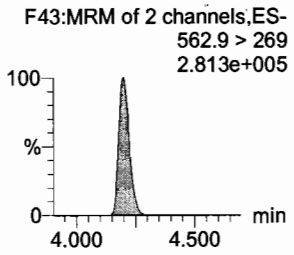
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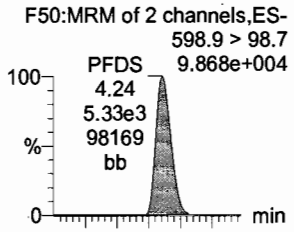


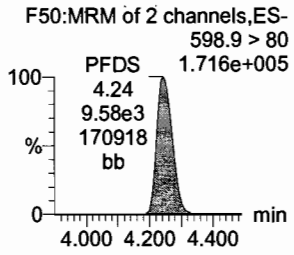
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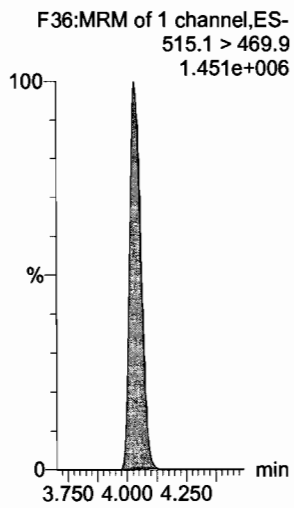


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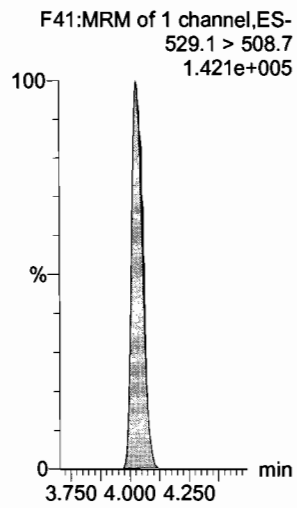




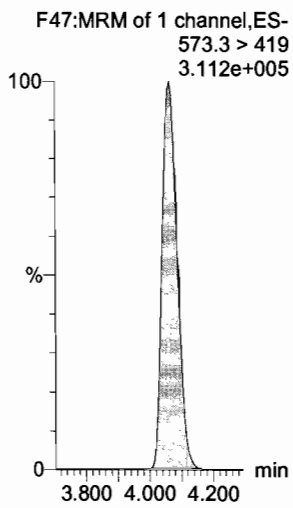
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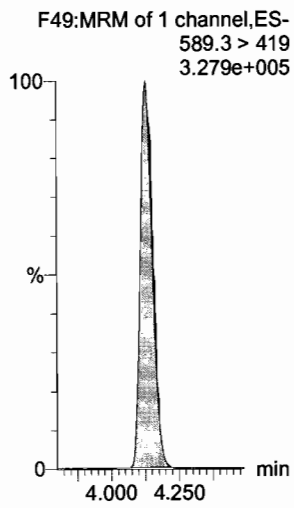
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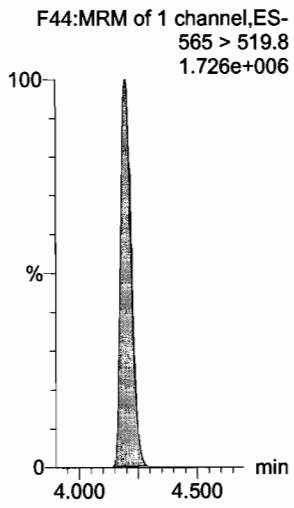
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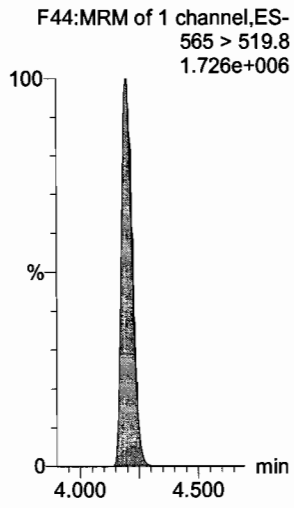
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13C2-PFUnA



13C2-PFUnA

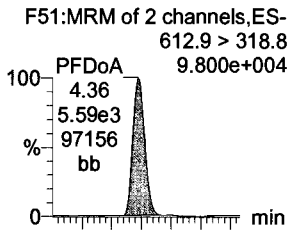


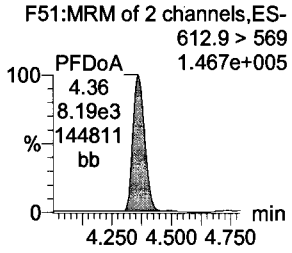
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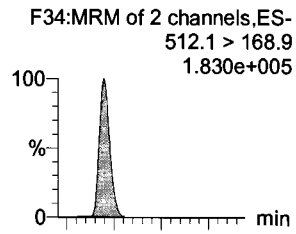
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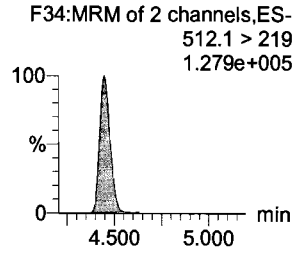
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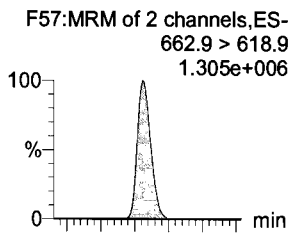


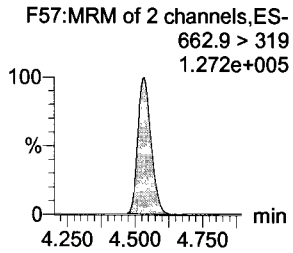
N-MeFOSA



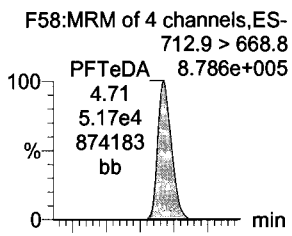


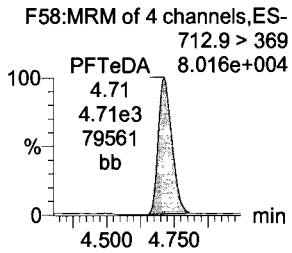
PFTrDA



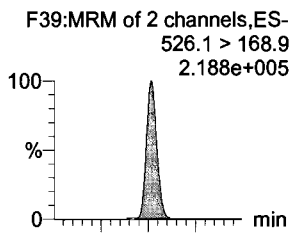


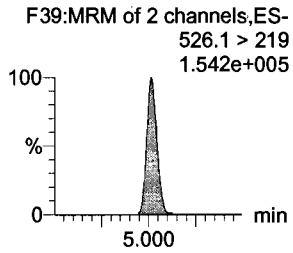
PFTeDA



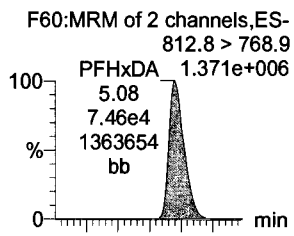


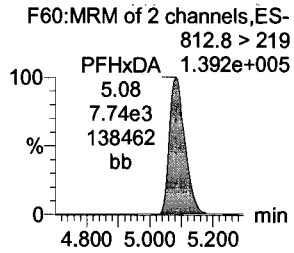
N-EtFOSA



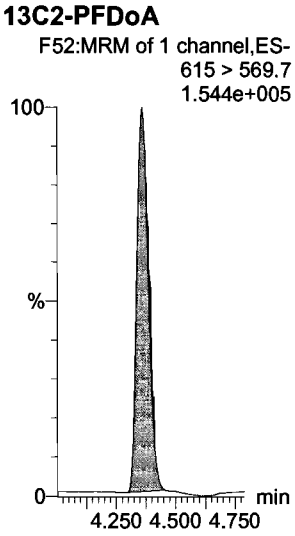


PFHxDA

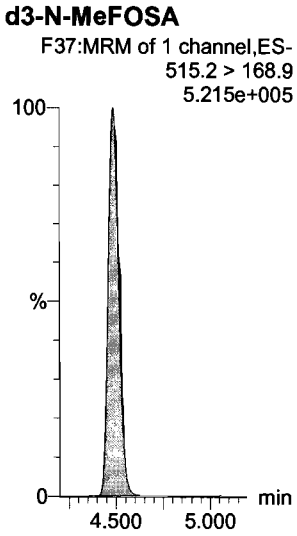




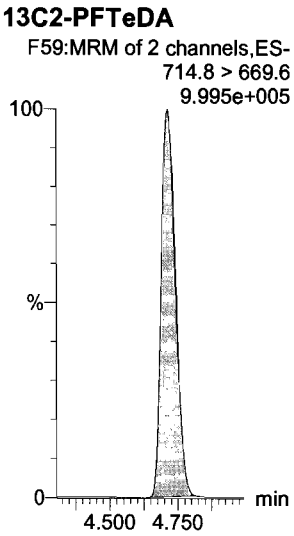
13C2-PFDoA



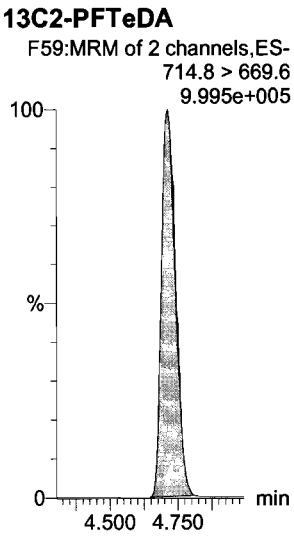
d3-N-MeFOSA



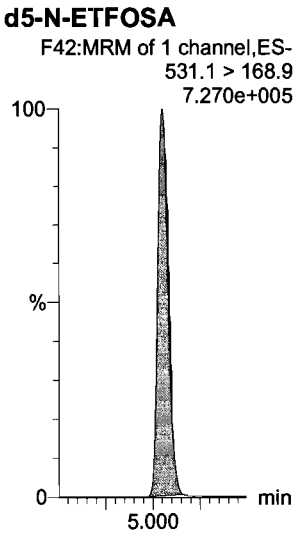
13C2-PFTeDA



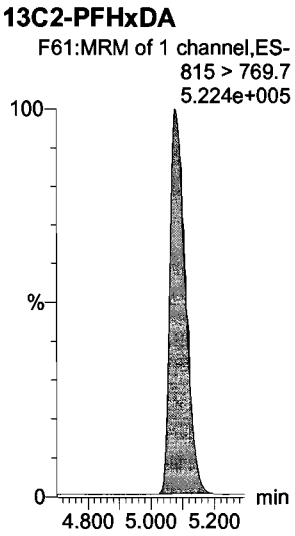
13C2-PFTeDA



d5-N-ETFOSA



13C2-PFHxDA

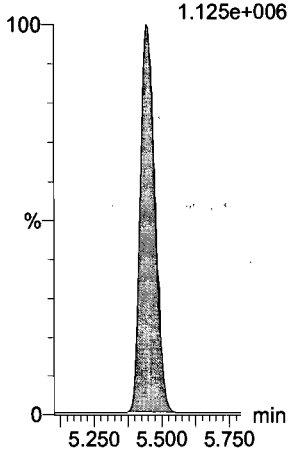


Dataset: U:\Q4.PRO\results\170725M1\170725M1-60.qld

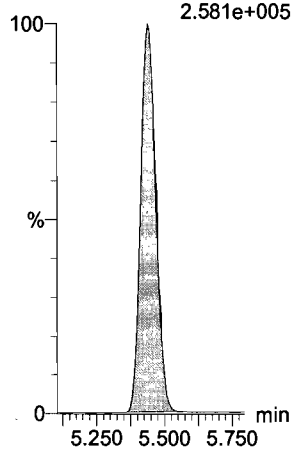
Last Altered: Wednesday, July 26, 2017 10:00:49 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

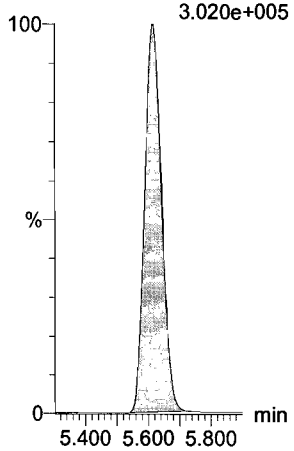
PFODA
F62:MRM of 4 channels,ES-
912.8 > 868.8
1.125e+006



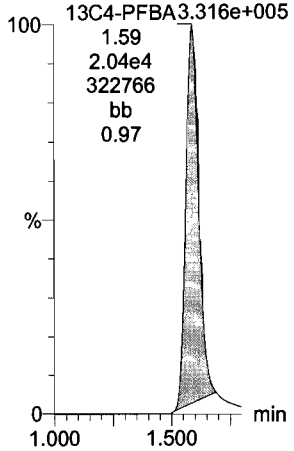
N-MeFOSE
F53:MRM of 1 channel,ES-
616.1 > 58.9
2.581e+005



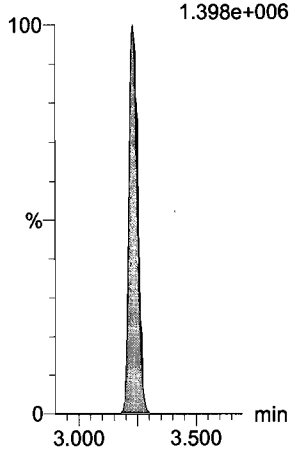
N-EtFOSE
F55:MRM of 1 channel,ES-
630.1 > 58.9
3.020e+005



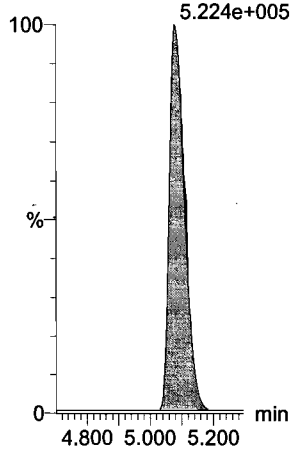
13C4-PFBA
F3:MRM of 1 channel,ES-
217 > 171.8
3.316e+005
13C4-PFBA
1.59
2.04e4
322766
bb
0.97



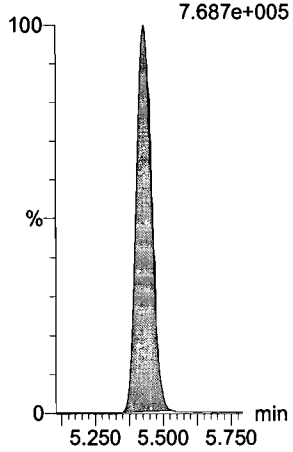
13C5-PFHxA
F10:MRM of 1 channel,ES-
318 > 272.9
1.398e+006



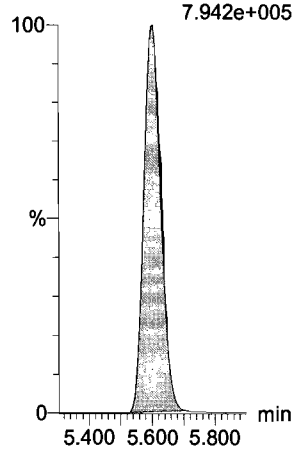
13C2-PFHxDA
F61:MRM of 1 channel,ES-
815 > 769.7
5.224e+005



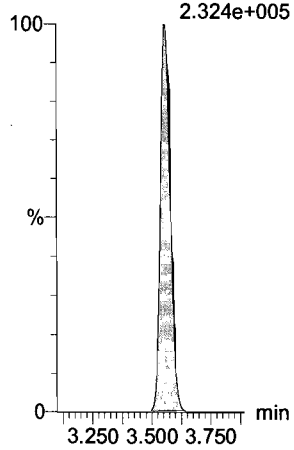
d7-N-MeFOSE
F54:MRM of 1 channel,ES-
623.1 > 58.9
7.687e+005



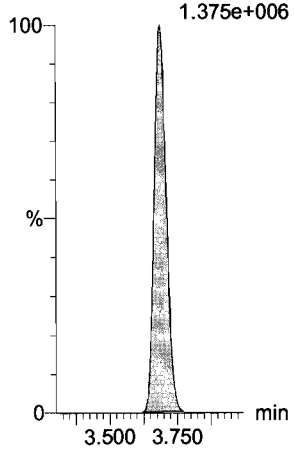
d9-N-EtFOSE
F56:MRM of 1 channel,ES-
639.2 > 58.8
7.942e+005



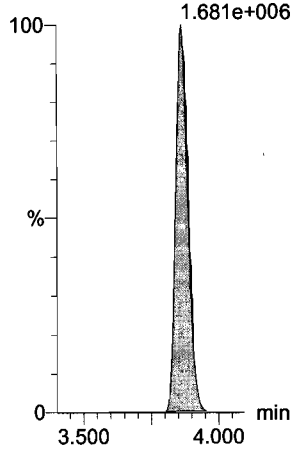
13C3-PFHxS
F17:MRM of 1 channel,ES-
401.9 > 79.9
2.324e+005



13C8-PFOA
F21:MRM of 1 channel,ES-
421.3 > 376
1.375e+006



13C9-PFNA
F27:MRM of 1 channel,ES-
472.2 > 426.9
1.681e+006

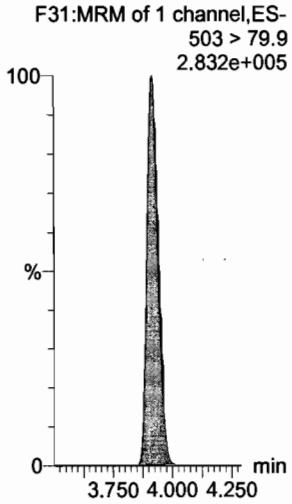


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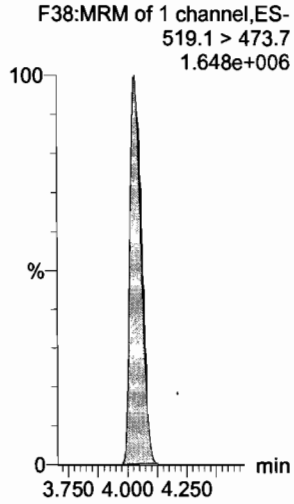
Last Altered: Wednesday, July 26, 2017 10:00:49 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

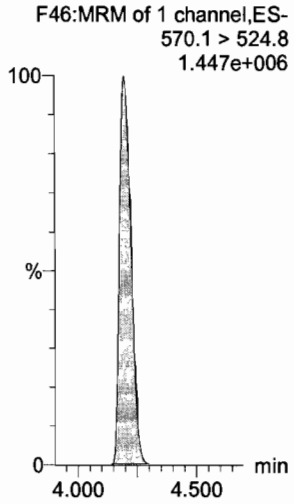
13C4-PFOS



13C6-PFDA



13C7-PFUnA



INITIAL CALIBRATION

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:22:13
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

AC 7/24/17

7/24/17

Compound name: PFBA
Correlation coefficient: r = 0.999644, r^2 = 0.999287
Calibration curve: 1.1275 * x + 0.163356
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	0.250	1.55	407.719	12354.435	0.413	0.2	-11.6	NO	0.999	NO	bb
2	2 170724M1_4	Standard	0.500	1.55	682.657	12177.060	0.701	0.5	-4.7	NO	0.999	NO	bb
3	3 170724M1_5	Standard	1.000	1.55	1308.852	12151.235	1.346	1.0	4.9	NO	0.999	NO	bb
4	4 170724M1_6	Standard	2.000	1.55	2608.698	12859.778	2.536	2.1	5.2	NO	0.999	NO	bb
5	5 170724M1_7	Standard	5.000	1.55	6350.984	12263.796	6.473	5.6	11.9	NO	0.999	NO	bb
6	6 170724M1_8	Standard	10.000	1.55	11274.906	12983.228	10.855	9.5	-5.2	NO	0.999	NO	bb
7	7 170724M1_9	Standard	50.000	1.55	55148.398	12298.162	56.053	49.6	-0.9	NO	0.999	NO	bb
8	8 170724M1_10	Standard	100.000	1.57	109673.492	12111.065	113.196	100.2	0.2	NO	0.999	NO	bb

Compound name: PFPeA
Correlation coefficient: r = 0.999528, r^2 = 0.999056
Calibration curve: 0.99208 * x + 0.104629
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	0.250	2.80	607.592	24708.574	0.307	0.2	-18.3	NO	0.999	NO	bb
2	2 170724M1_4	Standard	0.500	2.80	1138.424	24374.584	0.584	0.5	-3.4	NO	0.999	NO	bb
3	3 170724M1_5	Standard	1.000	2.80	2230.288	24321.555	1.146	1.0	5.0	NO	0.999	NO	bb
4	4 170724M1_6	Standard	2.000	2.80	4575.088	25826.396	2.214	2.1	6.3	NO	0.999	NO	bb
5	5 170724M1_7	Standard	5.000	2.80	11044.060	24387.125	5.661	5.6	12.0	NO	0.999	NO	bb
6	6 170724M1_8	Standard	10.000	2.81	20066.025	25621.486	9.790	9.8	-2.4	NO	0.999	NO	bb
7	7 170724M1_9	Standard	50.000	2.80	97100.672	23859.781	50.870	51.2	2.3	NO	0.999	NO	bb
8	8 170724M1_10	Standard	100.000	2.81	190500.000	24378.607	97.678	98.4	-1.6	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFBS
Correlation coefficient: r = 0.999611, r^2 = 0.999223
Calibration curve: 1.85223 * x + 0.0752948
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.00	116.281	3068.403	0.474	0.2	-14.0	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	3.00	214.965	3020.354	0.890	0.4	-12.1	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	2.99	512.501	3001.774	2.134	1.1	11.2	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	3.00	1085.602	3295.993	4.117	2.2	9.1	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.00	2583.207	3132.764	10.307	5.5	10.5	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.00	4677.829	3302.426	17.706	9.5	-4.8	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.00	22355.119	2994.649	93.313	50.3	0.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.00	43420.234	2946.134	184.225	99.4	-0.6	NO	0.999	NO	bb

Compound name: PFHxA
Correlation coefficient: r = 0.999648, r^2 = 0.999296
Calibration curve: 1.50967 * x + 0.157344
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.22	1079.404	11341.955	0.476	0.2	-15.6	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	3.22	1906.946	10636.292	0.896	0.5	-2.1	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.22	3807.136	10865.864	1.752	1.1	5.6	NO	0.999	NO	db
4	4	170724M1_6	Standard	2.000	3.22	7912.540	12006.801	3.295	2.1	3.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.22	18325.188	10585.094	8.656	5.6	12.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.22	34348.887	11649.966	14.742	9.7	-3.4	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.22	154915.125	10379.170	74.628	49.3	-1.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.22	320392.531	10569.161	151.570	100.3	0.3	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFHpA
Correlation coefficient: r = 0.999811, r^2 = 0.999621
Calibration curve: 1.25322 * x + 0.0796155
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.47	835.892	29540.787	0.354	0.2	-12.5	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	3.48	1686.437	28831.211	0.731	0.5	4.0	NO	1.000	NO	db
3	3	170724M1_5	Standard	1.000	3.48	3129.354	30065.992	1.301	1.0	-2.5	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	3.48	6923.302	31499.152	2.747	2.1	6.4	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	3.48	17221.189	31478.633	6.838	5.4	7.9	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	3.48	32050.246	32505.703	12.325	9.8	-2.3	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	3.48	148752.578	30043.684	61.890	49.3	-1.4	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	3.48	294885.219	29270.332	125.932	100.4	0.4	NO	1.000	NO	bb

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.999711
Calibration curve: -0.00151846 * x^2 + 1.70838 * x + -0.0114403
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.56	73.733	2957.523	0.312	0.2	-24.3	NO	1.000	NO	MM
2	2	170724M1_4	Standard	0.500	3.55	233.030	2945.944	0.989	0.6	17.2	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	3.55	387.605	2882.763	1.681	1.0	-0.9	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	3.55	883.679	3069.216	3.599	2.1	5.9	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	3.55	2121.650	3078.477	8.615	5.1	1.4	NO	1.000	NO	MM
6	6	170724M1_8	Standard	10.000	3.55	3757.863	2827.577	16.613	9.8	-1.8	NO	1.000	NO	MM
7	7	170724M1_9	Standard	50.000	3.55	19494.768	2990.466	81.487	49.9	-0.2	NO	1.000	NO	MM
8	8	170724M1_10	Standard	100.000	3.55	36940.883	2965.238	155.725	100.1	0.1	NO	1.000	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.997533
Calibration curve: -0.00313053 * x^2 + 1.07473 * x + 0.134469
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.67	204.440	7589.777	0.337	0.2	-24.7	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.67	400.907	7687.979	0.652	0.5	-3.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.67	747.740	7427.477	1.258	1.0	4.9	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.66	1573.173	7868.375	2.499	2.2	10.7	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.66	3802.596	7544.070	6.301	5.8	16.7	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.67	6777.476	8079.142	10.486	9.9	-0.8	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.67	31001.344	8775.410	44.159	47.5	-4.9	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.66	59887.281	9696.150	77.205	102.0	2.0	NO	0.998	NO	bb

Compound name: PFOA
Correlation coefficient: r = 0.999233, r^2 = 0.998466
Calibration curve: 0.970801 * x + 0.199778
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.67	1654.212	55437.824	0.373	0.2	-28.6	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.67	2766.273	52853.566	0.654	0.5	-6.4	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.67	5264.665	53444.164	1.231	1.1	6.3	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.68	10233.177	55652.324	2.298	2.2	8.1	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.68	26080.451	55510.707	5.873	5.8	16.9	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.68	45105.969	54392.293	10.366	10.5	4.7	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.67	220048.344	55876.563	49.226	50.5	1.0	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.68	421252.813	55196.383	95.399	98.1	-1.9	NO	0.998	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFHpS
Correlation coefficient: r = 0.999150, r^2 = 0.998301
Calibration curve: 0.0887442 * x + 0.014645
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.74	113.671	55437.824	0.026	0.1	-50.5	NO	0.998	NO	bbX
2	2	170724M1_4	Standard	0.500	3.74	222.089	52853.566	0.053	0.4	-14.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.73	522.454	53444.164	0.122	1.2	21.2	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.74	936.558	55652.324	0.210	2.2	10.3	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.73	2346.630	55510.707	0.528	5.8	15.8	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.74	4004.412	54392.293	0.920	10.2	2.0	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.74	19773.092	55876.563	4.423	49.7	-0.6	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.74	38852.836	55196.383	8.799	99.0	-1.0	NO	0.998	NO	bb

Compound name: PFNA
Correlation coefficient: r = 0.998659, r^2 = 0.997320
Calibration curve: 1.09835 * x + 0.147218
Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.85	1506.464	55001.828	0.342	0.2	-28.9	NO	0.997	NO	MM
2	2	170724M1_4	Standard	0.500	3.85	2694.965	54762.438	0.615	0.4	-14.8	NO	0.997	NO	bb
3	3	170724M1_5	Standard	1.000	3.85	5691.902	55321.512	1.286	1.0	3.7	NO	0.997	NO	bb
4	4	170724M1_6	Standard	2.000	3.85	12559.827	59225.996	2.651	2.3	14.0	NO	0.997	NO	bb
5	5	170724M1_7	Standard	5.000	3.85	29286.219	53341.520	6.863	6.1	22.3	NO	0.997	NO	bb
6	6	170724M1_8	Standard	10.000	3.85	53683.984	56161.168	11.949	10.7	7.4	NO	0.997	NO	bb
7	7	170724M1_9	Standard	50.000	3.85	236461.688	55495.742	53.261	48.4	-3.3	NO	0.997	NO	bb
8	8	170724M1_10	Standard	100.000	3.85	475993.000	54308.789	109.557	99.6	-0.4	NO	0.997	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFOSA
Correlation coefficient: r = 0.998808, r^2 = 0.997616
Calibration curve: 1.0493 * x + 0.0489398
Response type: Internal Std (Ref 37), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.86	163.860	6633.945	0.309	0.2	-1.0	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.85	301.866	6613.513	0.571	0.5	-0.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.85	477.914	6491.109	0.920	0.8	-17.0	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.86	1315.264	7021.902	2.341	2.2	9.2	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.86	2927.381	6519.732	5.613	5.3	6.0	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.86	5570.263	6576.866	10.587	10.0	0.4	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.86	26459.754	5926.425	55.809	53.1	6.3	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.86	50171.699	6190.267	101.312	96.5	-3.5	NO	0.998	NO	bb

Compound name: PFOS
Coefficient of Determination: R^2 = 0.999148
Calibration curve: -0.00122032 * x^2 + 1.19038 * x + 0.0183073
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.90	300.610	10711.932	0.351	0.3	11.8	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	3.90	466.042	10010.674	0.582	0.5	-5.3	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.90	1032.724	10207.536	1.265	1.0	4.8	NO	0.999	NO	MM
4	4	170724M1_6	Standard	2.000	3.90	1981.837	10715.066	2.312	1.9	-3.5	NO	0.999	NO	MM
5	5	170724M1_7	Standard	5.000	3.90	5099.578	10217.659	6.239	5.3	5.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.90	8336.075	9647.514	10.801	9.1	-8.6	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.91	43091.355	9325.974	57.757	51.2	2.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.90	78910.156	9278.883	106.303	99.4	-0.6	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFDA
Correlation coefficient: r = 0.999397, r^2 = 0.998795
Calibration curve: 1.29731 * x + 0.128184
Response type: Internal Std (Ref 39), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.02	1671.759	55156.438	0.379	0.2	-22.7	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	4.02	3226.587	49449.902	0.816	0.5	6.0	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.02	6606.647	59736.465	1.382	1.0	-3.3	NO	0.999	NO	db
4	4	170724M1_6	Standard	2.000	4.02	14672.154	61862.684	2.965	2.2	9.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.02	32741.914	53915.461	7.591	5.8	15.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.02	60142.156	58734.430	12.800	9.8	-2.3	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.03	291430.906	57610.250	63.233	48.6	-2.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.02	519240.375	49628.984	130.781	100.7	0.7	NO	0.999	NO	bb

Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.996738
Calibration curve: -0.00420182 * x^2 + 1.49722 * x + 0.133523
Response type: Internal Std (Ref 40), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.01	116.059	5712.626	0.254	0.1	-67.8	NO	0.997	NO	bbX
2	2	170724M1_4	Standard	0.500	4.02	436.336	5926.817	0.920	0.5	5.2	NO	0.997	NO	bb
3	3	170724M1_5	Standard	1.000	4.01	704.575	5605.082	1.571	1.0	-3.7	NO	0.997	NO	bb
4	4	170724M1_6	Standard	2.000	4.01	1467.688	6033.180	3.041	2.0	-2.4	NO	0.997	NO	bb
5	5	170724M1_7	Standard	5.000	4.02	3942.699	5463.454	9.021	6.0	20.8	NO	0.997	NO	bb
6	6	170724M1_8	Standard	10.000	4.02	6715.274	5614.961	14.950	10.2	1.9	NO	0.997	NO	bb
7	7	170724M1_9	Standard	50.000	4.02	29821.402	6078.795	61.323	47.1	-5.8	NO	0.997	NO	bb
8	8	170724M1_10	Standard	100.000	4.02	56335.957	6441.568	109.321	102.3	2.3	NO	0.997	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999848
Calibration curve: -0.0104077 * x^2 + 19.9194 * x + 0.547687
Response type: Internal Std (Ref 41), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.05	448.925	12099.400	6.029	0.3	10.1	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	4.05	716.809	11504.973	10.124	0.5	-3.8	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	4.06	1261.768	11265.637	18.200	0.9	-11.3	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.05	3173.830	12505.027	41.243	2.0	2.3	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.05	7648.363	12072.939	102.946	5.2	3.1	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.05	14431.390	11803.941	198.671	10.0	-0.0	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	4.05	69860.063	11737.307	967.195	49.8	-0.3	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	4.05	130379.672	11210.404	1889.914	100.1	0.1	NO	1.000	NO	bb

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.999908
Calibration curve: -0.00439744 * x^2 + 16.1657 * x + 0.0580373
Response type: Internal Std (Ref 42), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.12	300.173	12172.007	4.007	0.2	-2.3	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	4.12	550.297	11615.228	7.699	0.5	-5.5	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	4.12	1245.830	11653.344	17.372	1.1	7.1	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.12	2483.220	12504.510	32.270	2.0	-0.3	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.12	6280.812	12228.059	83.466	5.2	3.3	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.12	12176.978	12339.168	160.364	9.9	-0.6	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	4.12	57061.832	11695.135	792.855	49.7	-0.6	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	4.12	112917.555	11651.338	1574.849	100.1	0.1	NO	1.000	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFUnA
Coefficient of Determination: R^2 = 0.998430
Calibration curve: -0.0020331 * x^2 + 0.901478 * x + 0.00751751
Response type: Internal Std (Ref 43), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.18	1408.556	65735.461	0.268	0.3	15.6	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	4.19	2456.148	63870.914	0.481	0.5	5.1	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	4.19	4367.807	64348.984	0.848	0.9	-6.5	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	4.19	9271.418	67160.539	1.726	1.9	-4.3	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	4.19	22206.646	66089.180	4.200	4.7	-6.0	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	4.19	40104.945	61335.543	8.173	9.3	-7.5	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	4.19	187190.781	55960.629	41.813	52.6	5.2	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	4.19	357250.000	64722.215	68.997	98.3	-1.7	NO	0.998	NO	bb

Compound name: PFDS
Coefficient of Determination: R^2 = 0.998889
Calibration curve: -0.000220781 * x^2 + 0.0914068 * x + -0.00228704
Response type: Internal Std (Ref 43), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.24	125.500	65735.461	0.024	0.3	14.5	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	4.24	213.650	63870.914	0.042	0.5	-3.4	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	4.23	432.153	64348.984	0.084	0.9	-5.4	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.24	998.163	67160.539	0.186	2.1	3.4	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.23	2251.549	66089.180	0.426	4.7	-5.2	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.23	4080.028	61335.543	0.831	9.3	-6.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.24	18621.564	55960.629	4.160	52.1	4.2	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.23	35549.465	64722.215	6.866	98.6	-1.4	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999700
Calibration curve: -0.000446703 * x^2 + 0.926687 * x + 0.203454
Response type: Internal Std (Ref 44), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.34	212.884	6396.985	0.416	0.2	-8.3	NO	1.000	NO	MM
2	2	170724M1_4	Standard	0.500	4.35	285.030	5632.353	0.633	0.5	-7.4	NO	1.000	NO	MM
3	3	170724M1_5	Standard	1.000	4.35	576.941	5998.723	1.202	1.1	7.8	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.35	1144.260	6584.378	2.172	2.1	6.3	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.35	2601.126	6419.244	5.065	5.3	5.2	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.35	4871.013	6690.135	9.101	9.6	-3.5	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	4.35	21850.346	6031.607	45.283	49.8	-0.3	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	4.35	43781.789	6184.443	88.492	100.1	0.1	NO	1.000	NO	bb

Compound name: N-MeFOSA
Correlation coefficient: r = 0.999273, r^2 = 0.998546
Calibration curve: 1.0376 * x + 0.213391
Response type: Internal Std (Ref 45), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	1.250	4.39	228.733	27834.387	1.233	1.0	-21.4	NO	0.999	NO	MM
2	2	170724M1_4	Standard	2.500	4.39	521.665	26795.877	2.920	2.6	4.3	NO	0.999	NO	db
3	3	170724M1_5	Standard	5.000	4.39	1023.477	27001.328	5.686	5.3	5.5	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	4.39	2219.793	28178.129	11.817	11.2	11.8	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	4.39	5367.556	27075.477	29.737	28.5	13.8	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	4.39	9739.016	27395.363	53.325	51.2	2.4	NO	0.999	NO	db
7	7	170724M1_9	Standard	250.000	4.39	46919.371	26470.068	265.882	256.0	2.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	500.000	4.39	92806.148	27480.182	506.580	488.0	-2.4	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFTrDA
Correlation coefficient: r = 0.999414, r^2 = 0.998828
Calibration curve: 10.9255 * x + 1.79
Response type: Internal Std (Ref 44), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.52	1936.804	6396.985	3.785	0.2	-27.0	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	4.52	3347.446	5632.353	7.429	0.5	3.2	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.52	6246.435	5998.723	13.016	1.0	2.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.52	13537.021	6584.378	25.699	2.2	9.4	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.52	32633.807	6419.244	63.547	5.7	13.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.52	58224.531	6690.135	108.788	9.8	-2.1	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.52	270796.875	6031.607	561.204	51.2	2.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.52	531631.563	6184.443	1074.534	98.2	-1.8	NO	0.999	NO	bb

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999057
Calibration curve: -0.000800394 * x^2 + 1.14875 * x + 0.111533
Response type: Internal Std (Ref 46), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.70	1552.113	52611.504	0.369	0.2	-10.4	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	4.70	2285.720	43220.855	0.661	0.5	-4.3	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.70	4798.681	44254.344	1.355	1.1	8.4	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.70	9477.179	47041.410	2.518	2.1	4.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.70	23144.785	45392.488	6.374	5.5	9.4	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.70	40819.449	48426.250	10.536	9.1	-8.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.70	191033.828	42647.246	55.992	50.4	0.8	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.70	370959.375	43405.691	106.829	99.8	-0.2	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: N-EtFOSA
Correlation coefficient: r = 0.999689, r^2 = 0.999377
Calibration curve: 0.904115 * x + 0.326191
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	1.250	4.96	337.684	39437.277	1.284	1.1	-15.2	NO	0.999	NO	bb
2	2	170724M1_4	Standard	2.500	4.97	613.630	37412.609	2.460	2.4	-5.6	NO	0.999	NO	bb
3	3	170724M1_5	Standard	5.000	4.97	1267.991	37050.801	5.133	5.3	6.3	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	4.96	2697.465	40104.539	10.089	10.8	8.0	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	4.97	6431.737	38083.547	25.333	27.7	10.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	4.97	11627.879	39916.621	43.696	48.0	-4.1	NO	0.999	NO	db
7	7	170724M1_9	Standard	250.000	4.96	57443.004	37926.309	227.189	250.9	0.4	NO	0.999	NO	db
8	8	170724M1_10	Standard	500.000	4.97	116042.914	38657.641	450.272	497.7	-0.5	NO	0.999	NO	db

Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999358
Calibration curve: -0.000715061 * x^2 + 1.34773 * x + 0.264398
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.07	2816.818	25428.396	0.554	0.2	-14.1	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	5.07	3878.399	21542.566	0.900	0.5	-5.6	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.07	7068.157	21611.141	1.635	1.0	1.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.07	14417.972	22044.896	3.270	2.2	11.6	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.07	33676.410	22327.822	7.541	5.4	8.3	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.07	61493.496	22552.494	13.633	10.0	-0.3	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.07	276231.906	21452.613	64.382	48.8	-2.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.07	545977.438	21228.160	128.597	100.6	0.6	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFODA
Correlation coefficient: r = 0.999378, r^2 = 0.998756
Calibration curve: 1.27561 * x + 0.10098
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.43	1893.557	25428.396	0.372	0.2	-14.9	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	5.44	3335.536	21542.566	0.774	0.5	5.5	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.44	6573.281	21611.141	1.521	1.1	11.3	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.44	13511.143	22044.896	3.064	2.3	16.2	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.44	32601.881	22327.822	7.301	5.6	12.9	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.44	59011.938	22552.494	13.083	10.2	1.8	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.43	274924.375	21452.613	64.077	50.2	0.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.44	534414.688	21228.160	125.874	98.6	-1.4	NO	0.999	NO	bb

Compound name: N-MeFOSE
Correlation coefficient: r = 0.999476, r^2 = 0.998953
Calibration curve: 1.01603 * x + 0.461771
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	1.250	5.43	419.747	45355.609	1.388	0.9	-27.1	NO	0.999	NO	bb
2	2	170724M1_4	Standard	2.500	5.43	827.391	42298.965	2.934	2.4	-2.7	NO	0.999	NO	bb
3	3	170724M1_5	Standard	5.000	5.43	1698.216	42181.715	6.039	5.5	9.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	5.43	3509.137	44882.496	11.728	11.1	10.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	5.43	8229.911	42480.406	29.060	28.1	12.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	5.43	14647.859	44502.430	49.372	48.1	-3.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	250.000	5.43	72247.016	42011.336	257.955	253.4	1.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	500.000	5.43	142986.313	42682.813	502.496	494.1	-1.2	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: N-EtFOSE
Correlation coefficient: r = 0.999680, r^2 = 0.999361
Calibration curve: 1.16673 * x + 0.501898
Response type: Internal Std (Ref 50), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	1.250	5.60	493.408	44922.563	1.648	1.0	-21.4	NO	0.999	NO	bb
2	2	170724M1_4	Standard	2.500	5.61	917.078	40989.961	3.356	2.4	-2.2	NO	0.999	NO	bb
3	3	170724M1_5	Standard	5.000	5.61	1793.908	40752.352	6.603	5.2	4.6	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	5.60	3804.083	43177.285	13.216	10.9	9.0	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	5.61	9310.704	42231.566	33.070	27.9	11.7	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	5.61	16671.494	42902.656	58.288	49.5	-0.9	NO	0.999	NO	bb
7	7	170724M1_9	Standard	250.000	5.60	80911.422	41552.719	292.080	249.9	-0.0	NO	0.999	NO	bb
8	8	170724M1_10	Standard	500.000	5.61	163300.031	42219.305	580.185	496.8	-0.6	NO	0.999	NO	bb

Compound name: 13C3-PFBA
Response Factor: 0.820483
RRF SD: 0.00867593, Relative SD: 1.05742
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	1.54	12354.435	15090.568	10.234	12.5	-0.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	1.55	12177.060	14962.116	10.173	12.4	-0.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	1.54	12151.235	14894.126	10.198	12.4	-0.6	NO		NO	bb
4	4	170724M1_6	Standard	12.500	1.55	12859.778	15482.658	10.382	12.7	1.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	1.55	12263.796	15091.931	10.158	12.4	-1.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	1.55	12983.228	15599.055	10.404	12.7	1.4	NO		NO	bb
7	7	170724M1_9	Standard	12.500	1.55	12298.162	14839.394	10.359	12.6	1.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	1.56	12111.065	14929.445	10.140	12.4	-1.1	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 13C3-PFPeA
Response Factor: 0.248174
RRF SD: 0.00555735, Relative SD: 2.2393
Response type: Internal Std (Ref 52), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	2.80	24708.574	40367.738	3.060	12.3	-1.3	NO		NO	bb
2	2	170724M1_4	Standard	12.500	2.80	24374.584	38823.406	3.139	12.6	1.2	NO		NO	bb
3	3	170724M1_5	Standard	12.500	2.80	24321.555	37967.629	3.203	12.9	3.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	2.80	25826.396	42133.270	3.065	12.3	-1.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	2.80	24387.125	39088.754	3.119	12.6	0.6	NO		NO	bb
6	6	170724M1_8	Standard	12.500	2.81	25621.486	41725.730	3.070	12.4	-1.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	2.80	23859.781	39920.477	2.988	12.0	-3.7	NO		NO	bb
8	8	170724M1_10	Standard	12.500	2.81	24378.607	38428.922	3.172	12.8	2.2	NO		NO	bb

Compound name: 13C3-PFBS
Response Factor: 0.0311034
RRF SD: 0.000697979, Relative SD: 2.24406
Response type: Internal Std (Ref 52), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.00	3068.403	40367.738	0.380	12.2	-2.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.00	3020.354	38823.406	0.389	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.00	3001.774	37967.629	0.395	12.7	1.7	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.00	3295.993	42133.270	0.391	12.6	0.6	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.00	3132.764	39088.754	0.401	12.9	3.1	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.00	3302.426	41725.730	0.396	12.7	1.8	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.00	2994.649	39920.477	0.375	12.1	-3.5	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.00	2946.134	38428.922	0.383	12.3	-1.4	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 13C2-PFHxA
Response Factor: 0.27639
RRF SD: 0.00850433, Relative SD: 3.07693
Response type: Internal Std (Ref 52), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	5.000	3.22	11341.955	40367.738	1.405	5.1	1.7	NO		NO	bb
2	2	170724M1_4	Standard	5.000	3.22	10636.292	38823.406	1.370	5.0	-0.9	NO		NO	bb
3	3	170724M1_5	Standard	5.000	3.22	10865.864	37967.629	1.431	5.2	3.5	NO		NO	bb
4	4	170724M1_6	Standard	5.000	3.22	12006.801	42133.270	1.425	5.2	3.1	NO		NO	bb
5	5	170724M1_7	Standard	5.000	3.22	10585.094	39088.754	1.354	4.9	-2.0	NO		NO	bb
6	6	170724M1_8	Standard	5.000	3.22	11649.966	41725.730	1.396	5.1	1.0	NO		NO	bb
7	7	170724M1_9	Standard	5.000	3.22	10379.170	39920.477	1.300	4.7	-5.9	NO		NO	bb
8	8	170724M1_10	Standard	5.000	3.22	10569.161	38428.922	1.375	5.0	-0.5	NO		NO	bb

Compound name: 13C4-PFHpA
Response Factor: 0.305626
RRF SD: 0.0102637, Relative SD: 3.35826
Response type: Internal Std (Ref 52), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.48	29540.787	40367.738	3.659	12.0	-4.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.48	28831.211	38823.406	3.713	12.1	-2.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.48	30065.992	37967.629	3.959	13.0	3.6	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.48	31499.152	42133.270	3.738	12.2	-2.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.48	31478.633	39088.754	4.027	13.2	5.4	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.48	32505.703	41725.730	3.895	12.7	2.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.48	30043.684	39920.477	3.763	12.3	-1.5	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.48	29270.332	38428.922	3.808	12.5	-0.3	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 18O2-PFHxS
Response Factor: 0.392715
RRF SD: 0.0177977, Relative SD: 4.53197
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.55	2957.523	7582.089	4.876	12.4	-0.7	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.55	2945.944	7322.380	5.029	12.8	2.4	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.55	2882.763	7368.760	4.890	12.5	-0.4	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.55	3069.216	7556.806	5.077	12.9	3.4	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.55	3078.477	7669.834	5.017	12.8	2.2	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.55	2827.577	8056.833	4.387	11.2	-10.6	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.55	2990.466	7531.759	4.963	12.6	1.1	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.55	2965.238	7365.456	5.032	12.8	2.5	NO		NO	bb

Compound name: 13C2-6:2 FTS
Response Factor: 0.157694
RRF SD: 0.0188884, Relative SD: 11.9778
Response type: Internal Std (Ref 54), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.66	7589.777	50417.762	1.882	11.9	-4.5	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.66	7687.979	52862.527	1.818	11.5	-7.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.66	7427.477	49459.691	1.877	11.9	-4.8	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.67	7868.375	51986.957	1.892	12.0	-4.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.66	7544.070	54009.070	1.746	11.1	-11.4	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.67	8079.142	53144.688	1.900	12.1	-3.6	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.67	8775.410	49946.758	2.196	13.9	11.4	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.67	9696.150	49303.969	2.458	15.6	24.7	NO		NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 13C2-PFOA
Response Factor: 1.0675
RRF SD: 0.0457168, Relative SD: 4.28261
Response type: Internal Std (Ref 54), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.67	55437.824	50417.762	13.745	12.9	3.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.67	52853.566	52862.527	12.498	11.7	-6.3	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.67	53444.164	49459.691	13.507	12.7	1.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.67	55652.324	51986.957	13.381	12.5	0.3	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.67	55510.707	54009.070	12.848	12.0	-3.7	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.68	54392.293	53144.688	12.793	12.0	-4.1	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.67	55876.563	49946.758	13.984	13.1	4.8	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.67	55196.383	49303.969	13.994	13.1	4.9	NO		NO	bb

Compound name: 13C5-PFNA
Response Factor: 0.852128
RRF SD: 0.0623325, Relative SD: 7.31492
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.85	55001.828	63362.148	10.851	12.7	1.9	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.85	54762.438	66233.305	10.335	12.1	-3.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.85	55321.512	62897.914	10.994	12.9	3.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.85	59225.996	73098.813	10.128	11.9	-4.9	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.85	53341.520	71059.133	9.383	11.0	-11.9	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.85	56161.168	60050.086	11.690	13.7	9.8	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.85	55495.742	67689.273	10.248	12.0	-3.8	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.85	54308.789	58608.688	11.583	13.6	8.7	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 13C8-PFOSA
Response Factor: 0.0982354
RRF SD: 0.00607611, Relative SD: 6.18526
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	12.500	3.86	6633.945	66110.742	1.254	12.8	2.1	NO		NO	bb
2	2 170724M1_4	Standard	12.500	3.85	6613.513	63178.059	1.309	13.3	6.6	NO		NO	bb
3	3 170724M1_5	Standard	12.500	3.86	6491.109	65533.590	1.238	12.6	0.8	NO		NO	bb
4	4 170724M1_6	Standard	12.500	3.86	7021.902	74336.992	1.181	12.0	-3.8	NO		NO	bb
5	5 170724M1_7	Standard	12.500	3.86	6519.732	73722.414	1.105	11.3	-10.0	NO		NO	bb
6	6 170724M1_8	Standard	12.500	3.86	6576.866	61426.844	1.338	13.6	9.0	NO		NO	bb
7	7 170724M1_9	Standard	12.500	3.86	5926.425	63456.004	1.167	11.9	-4.9	NO		NO	bb
8	8 170724M1_10	Standard	12.500	3.86	6190.267	62878.969	1.231	12.5	0.2	NO		NO	bb

Compound name: 13C8-PFOS
Response Factor: 0.935738
RRF SD: 0.0307604, Relative SD: 3.28729
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	12.500	3.90	10711.932	10984.350	12.190	13.0	4.2	NO		NO	bb
2	2 170724M1_4	Standard	12.500	3.90	10010.674	10756.134	11.634	12.4	-0.5	NO		NO	bb
3	3 170724M1_5	Standard	12.500	3.90	10207.536	10707.182	11.917	12.7	1.9	NO		NO	bb
4	4 170724M1_6	Standard	12.500	3.90	10715.066	11395.518	11.754	12.6	0.5	NO		NO	bb
5	5 170724M1_7	Standard	12.500	3.90	10217.659	10582.909	12.069	12.9	3.2	NO		NO	bb
6	6 170724M1_8	Standard	12.500	3.90	9647.514	10701.979	11.268	12.0	-3.7	NO		NO	bb
7	7 170724M1_9	Standard	12.500	3.91	9325.974	10546.740	11.053	11.8	-5.5	NO		NO	bb
8	8 170724M1_10	Standard	12.500	3.90	9278.883	9922.027	11.690	12.5	-0.1	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 13C2-PFDA
Response Factor: 0.809787
RRF SD: 0.0475325, Relative SD: 5.86975
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.02	55156.438	71538.672	9.638	11.9	-4.8	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.02	49449.902	67518.039	9.155	11.3	-9.6	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.02	59736.465	67946.188	10.990	13.6	8.6	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.02	61862.684	75237.898	10.278	12.7	1.5	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.02	53915.461	68309.617	9.866	12.2	-2.5	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.02	58734.430	69500.219	10.564	13.0	4.4	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.03	57610.250	72719.445	9.903	12.2	-2.2	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.02	49628.984	58601.402	10.586	13.1	4.6	NO		NO	bb

Compound name: 13C2-8:2 FTS
Response Factor: 0.0855752
RRF SD: 0.010191, Relative SD: 11.9089
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.01	5712.626	71538.672	0.998	11.7	-6.7	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.02	5926.817	67518.039	1.097	12.8	2.6	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.01	5605.082	67946.188	1.031	12.0	-3.6	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.01	6033.180	75237.898	1.002	11.7	-6.3	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.02	5463.454	68309.617	1.000	11.7	-6.5	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.02	5614.961	69500.219	1.010	11.8	-5.6	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.02	6078.795	72719.445	1.045	12.2	-2.3	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.02	6441.568	58601.402	1.374	16.1	28.5	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: d3-N-MeFOSAA
Response Factor: 0.0136964
RRF SD: 0.000727833, Relative SD: 5.31404
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	162.500	4.05	12099.400	66110.742	2.288	167.0	2.8	NO		NO	bb
2	2	170724M1_4	Standard	162.500	4.05	11504.973	63178.059	2.276	166.2	2.3	NO		NO	bb
3	3	170724M1_5	Standard	162.500	4.05	11265.637	65533.590	2.149	156.9	-3.5	NO		NO	bb
4	4	170724M1_6	Standard	162.500	4.05	12505.027	74336.992	2.103	153.5	-5.5	NO		NO	bb
5	5	170724M1_7	Standard	162.500	4.05	12072.939	73722.414	2.047	149.5	-8.0	NO		NO	bb
6	6	170724M1_8	Standard	162.500	4.05	11803.941	61426.844	2.402	175.4	7.9	NO		NO	bb
7	7	170724M1_9	Standard	162.500	4.05	11737.307	63456.004	2.312	168.8	3.9	NO		NO	bb
8	8	170724M1_10	Standard	162.500	4.05	11210.404	62878.969	2.229	162.7	0.1	NO		NO	bb

Compound name: d5-N-EtFOSAA
Response Factor: 0.0139456
RRF SD: 0.000844744, Relative SD: 6.05742
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	162.500	4.12	12172.007	66110.742	2.301	165.0	1.6	NO		NO	bb
2	2	170724M1_4	Standard	162.500	4.12	11615.228	63178.059	2.298	164.8	1.4	NO		NO	bb
3	3	170724M1_5	Standard	162.500	4.12	11653.344	65533.590	2.223	159.4	-1.9	NO		NO	bb
4	4	170724M1_6	Standard	162.500	4.12	12504.510	74336.992	2.103	150.8	-7.2	NO		NO	bb
5	5	170724M1_7	Standard	162.500	4.12	12228.059	73722.414	2.073	148.7	-8.5	NO		NO	bb
6	6	170724M1_8	Standard	162.500	4.12	12339.168	61426.844	2.511	180.1	10.8	NO		NO	bb
7	7	170724M1_9	Standard	162.500	4.12	11695.135	63456.004	2.304	165.2	1.7	NO		NO	bb
8	8	170724M1_10	Standard	162.500	4.12	11651.338	62878.969	2.316	166.1	2.2	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 13C2-PFUnA
Response Factor: 0.962105
RRF SD: 0.058365, Relative SD: 6.06639
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.18	65735.461	66110.742	12.429	12.9	3.3	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.18	63870.914	63178.059	12.637	13.1	5.1	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.19	64348.984	65533.590	12.274	12.8	2.1	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.18	67160.539	74336.992	11.293	11.7	-6.1	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.19	66089.180	73722.414	11.206	11.6	-6.8	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.19	61335.543	61426.844	12.481	13.0	3.8	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.18	55960.629	63456.004	11.024	11.5	-8.3	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.19	64722.215	62878.969	12.866	13.4	7.0	NO		NO	bb

Compound name: 13C2-PFDoA
Response Factor: 0.0944269
RRF SD: 0.00712756, Relative SD: 7.54822
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.34	6396.985	66110.742	1.210	12.8	2.5	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.35	5632.353	63178.059	1.114	11.8	-5.6	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.35	5998.723	65533.590	1.144	12.1	-3.1	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.35	6584.378	74336.992	1.107	11.7	-6.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.35	6419.244	73722.414	1.088	11.5	-7.8	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.35	6690.135	61426.844	1.361	14.4	15.3	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.35	6031.607	63456.004	1.188	12.6	0.7	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.35	6184.443	62878.969	1.229	13.0	4.2	NO		NO	bd

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: d3-N-MeFOSA
Response Factor: 0.0344131
RRF SD: 0.00225283, Relative SD: 6.54642
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	150.000	4.42	27834.387	66110.742	5.263	152.9	2.0	NO		NO	bb
2	2 170724M1_4	Standard	150.000	4.42	26795.877	63178.059	5.302	154.1	2.7	NO		NO	bb
3	3 170724M1_5	Standard	150.000	4.42	27001.328	65533.590	5.150	149.7	-0.2	NO		NO	bb
4	4 170724M1_6	Standard	150.000	4.42	28178.129	74336.992	4.738	137.7	-8.2	NO		NO	bb
5	5 170724M1_7	Standard	150.000	4.42	27075.477	73722.414	4.591	133.4	-11.1	NO		NO	bb
6	6 170724M1_8	Standard	150.000	4.43	27395.363	61426.844	5.575	162.0	8.0	NO		NO	bb
7	7 170724M1_9	Standard	150.000	4.42	26470.068	63456.004	5.214	151.5	1.0	NO		NO	bb
8	8 170724M1_10	Standard	150.000	4.43	27480.182	62878.969	5.463	158.7	5.8	NO		NO	bb

Compound name: 13C2-PFTeDA
Response Factor: 0.694311
RRF SD: 0.0655535, Relative SD: 9.44152
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	12.500	4.70	52611.504	66110.742	9.948	14.3	14.6	NO		NO	bb
2	2 170724M1_4	Standard	12.500	4.70	43220.855	63178.059	8.551	12.3	-1.5	NO		NO	bb
3	3 170724M1_5	Standard	12.500	4.70	44254.344	65533.590	8.441	12.2	-2.7	NO		NO	bb
4	4 170724M1_6	Standard	12.500	4.70	47041.410	74336.992	7.910	11.4	-8.9	NO		NO	bb
5	5 170724M1_7	Standard	12.500	4.70	45392.488	73722.414	7.697	11.1	-11.3	NO		NO	bb
6	6 170724M1_8	Standard	12.500	4.70	48426.250	61426.844	9.854	14.2	13.5	NO		NO	bb
7	7 170724M1_9	Standard	12.500	4.70	42647.246	63456.004	8.401	12.1	-3.2	NO		NO	bb
8	8 170724M1_10	Standard	12.500	4.70	43405.691	62878.969	8.629	12.4	-0.6	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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Compound name: d5-N-ETFOSA
Response Factor: 0.0486714
RRF SD: 0.00353064, Relative SD: 7.25403
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	150.000	5.00	39437.277	66110.742	7.457	153.2	2.1	NO		NO	MM
2	2	170724M1_4	Standard	150.000	5.01	37412.609	63178.059	7.402	152.1	1.4	NO		NO	MM
3	3	170724M1_5	Standard	150.000	5.01	37050.801	65533.590	7.067	145.2	-3.2	NO		NO	MM
4	4	170724M1_6	Standard	150.000	5.01	40104.539	74336.992	6.744	138.6	-7.6	NO		NO	MM
5	5	170724M1_7	Standard	150.000	5.01	38083.547	73722.414	6.457	132.7	-11.6	NO		NO	MM
6	6	170724M1_8	Standard	150.000	5.01	39916.621	61426.844	8.123	166.9	11.3	NO		NO	MM
7	7	170724M1_9	Standard	150.000	5.01	37926.309	63456.004	7.471	153.5	2.3	NO		NO	MM
8	8	170724M1_10	Standard	150.000	5.01	38657.641	62878.969	7.685	157.9	5.3	NO		NO	MM

Compound name: 13C2-PFHxDA
Response Factor: 0.843007
RRF SD: 0.0734853, Relative SD: 8.71705
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	5.000	5.07	25428.396	66110.742	4.808	5.7	14.1	NO		NO	bb
2	2	170724M1_4	Standard	5.000	5.07	21542.566	63178.059	4.262	5.1	1.1	NO		NO	bb
3	3	170724M1_5	Standard	5.000	5.07	21611.141	65533.590	4.122	4.9	-2.2	NO		NO	bb
4	4	170724M1_6	Standard	5.000	5.07	22044.896	74336.992	3.707	4.4	-12.1	NO		NO	bb
5	5	170724M1_7	Standard	5.000	5.07	22327.822	73722.414	3.786	4.5	-10.2	NO		NO	bb
6	6	170724M1_8	Standard	5.000	5.07	22552.494	61426.844	4.589	5.4	8.9	NO		NO	bb
7	7	170724M1_9	Standard	5.000	5.07	21452.613	63456.004	4.226	5.0	0.3	NO		NO	bb
8	8	170724M1_10	Standard	5.000	5.07	21228.160	62878.969	4.220	5.0	0.1	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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Compound name: d7-N-MeFOSE
Response Factor: 0.054631
RRF SD: 0.0039309, Relative SD: 7.19536
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	150.000	5.42	45355.609	66110.742	8.576	157.0	4.6	NO		NO	bb
2	2	170724M1_4	Standard	150.000	5.42	42298.965	63178.059	8.369	153.2	2.1	NO		NO	bb
3	3	170724M1_5	Standard	150.000	5.42	42181.715	65533.590	8.046	147.3	-1.8	NO		NO	bb
4	4	170724M1_6	Standard	150.000	5.42	44882.496	74336.992	7.547	138.1	-7.9	NO		NO	bb
5	5	170724M1_7	Standard	150.000	5.42	42480.406	73722.414	7.203	131.8	-12.1	NO		NO	bb
6	6	170724M1_8	Standard	150.000	5.42	44502.430	61426.844	9.056	165.8	10.5	NO		NO	bb
7	7	170724M1_9	Standard	150.000	5.42	42011.336	63456.004	8.276	151.5	1.0	NO		NO	bb
8	8	170724M1_10	Standard	150.000	5.42	42682.813	62878.969	8.485	155.3	3.5	NO		NO	bb

Compound name: d9-N-EtFOSE
Response Factor: 0.0534223
RRF SD: 0.00380471, Relative SD: 7.12196
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	150.000	5.59	44922.563	66110.742	8.494	159.0	6.0	NO		NO	bb
2	2	170724M1_4	Standard	150.000	5.59	40989.961	63178.059	8.110	151.8	1.2	NO		NO	bb
3	3	170724M1_5	Standard	150.000	5.59	40752.352	65533.590	7.773	145.5	-3.0	NO		NO	bb
4	4	170724M1_6	Standard	150.000	5.59	43177.285	74336.992	7.260	135.9	-9.4	NO		NO	bb
5	5	170724M1_7	Standard	150.000	5.59	42231.566	73722.414	7.161	134.0	-10.6	NO		NO	bb
6	6	170724M1_8	Standard	150.000	5.59	42902.656	61426.844	8.730	163.4	8.9	NO		NO	bb
7	7	170724M1_9	Standard	150.000	5.59	41552.719	63456.004	8.185	153.2	2.1	NO		NO	bb
8	8	170724M1_10	Standard	150.000	5.59	42219.305	62878.969	8.393	157.1	4.7	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 1.02787e-016, Relative SD: 1.02787e-014
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	1.55	15090.568	15090.568	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	1.55	14962.116	14962.116	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	1.55	14894.126	14894.126	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	1.55	15482.658	15482.658	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	1.55	15091.931	15091.931	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	1.55	15599.055	15599.055	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	1.55	14839.394	14839.394	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	1.56	14929.445	14929.445	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 52), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	5.000	3.22	40367.738	40367.738	5.000	5.0	0.0	NO		NO	bb
2	2	170724M1_4	Standard	5.000	3.22	38823.406	38823.406	5.000	5.0	0.0	NO		NO	bb
3	3	170724M1_5	Standard	5.000	3.22	37967.629	37967.629	5.000	5.0	0.0	NO		NO	bb
4	4	170724M1_6	Standard	5.000	3.22	42133.270	42133.270	5.000	5.0	0.0	NO		NO	bb
5	5	170724M1_7	Standard	5.000	3.22	39088.754	39088.754	5.000	5.0	0.0	NO		NO	bb
6	6	170724M1_8	Standard	5.000	3.22	41725.730	41725.730	5.000	5.0	0.0	NO		NO	bb
7	7	170724M1_9	Standard	5.000	3.23	39920.477	39920.477	5.000	5.0	0.0	NO		NO	bb
8	8	170724M1_10	Standard	5.000	3.22	38428.922	38428.922	5.000	5.0	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 7.26812e-017, Relative SD: 7.26812e-015
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.55	7582.089	7582.089	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.55	7322.380	7322.380	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.55	7368.760	7368.760	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.55	7556.806	7556.806	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.55	7669.834	7669.834	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.55	8056.833	8056.833	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.55	7531.759	7531.759	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.55	7365.456	7365.456	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 9.3831e-017, Relative SD: 9.3831e-015
Response type: Internal Std (Ref 54), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.67	50417.762	50417.762	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.67	52862.527	52862.527	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.67	49459.691	49459.691	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.67	51986.957	51986.957	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.68	54009.070	54009.070	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.68	53144.688	53144.688	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.67	49946.758	49946.758	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.67	49303.969	49303.969	12.500	12.5	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 9.3831e-017, Relative SD: 9.3831e-015
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.85	63362.148	63362.148	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.85	66233.305	66233.305	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.85	62897.914	62897.914	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.85	73098.813	73098.813	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.85	71059.133	71059.133	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.85	60050.086	60050.086	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.86	67689.273	67689.273	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.85	58608.688	58608.688	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.90	10984.350	10984.350	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.90	10756.134	10756.134	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.90	10707.182	10707.182	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.90	11395.518	11395.518	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.90	10582.909	10582.909	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.90	10701.979	10701.979	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.91	10546.740	10546.740	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.90	9922.027	9922.027	12.500	12.5	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 1.25887e-016, Relative SD: 1.25887e-014
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.02	71538.672	71538.672	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.02	67518.039	67518.039	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.02	67946.188	67946.188	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.02	75237.898	75237.898	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.02	68309.617	68309.617	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.02	69500.219	69500.219	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.03	72719.445	72719.445	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.02	58601.402	58601.402	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C7-PFUnA
Response Factor: 1
RRF SD: 1.45362e-016, Relative SD: 1.45362e-014
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.18	66110.742	66110.742	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.19	63178.059	63178.059	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.18	65533.590	65533.590	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.19	74336.992	74336.992	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.19	73722.414	73722.414	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.19	61426.844	61426.844	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.18	63456.004	63456.004	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.19	62878.969	62878.969	12.500	12.5	0.0	NO		NO	bb

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, July 24, 2017 15:48:17 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:50:08 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:34:12
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170724M1_2	IPA	24-Jul-17	13:40:23
2	170724M1_3	ST170724M1-1 PFC CS-2 17G2422	24-Jul-17	13:51:04
3	170724M1_4	ST170724M1-2 PFC CS-1 17G2119	24-Jul-17	14:01:50
4	170724M1_5	ST170724M1-3 PFC CS0 17G2423	24-Jul-17	14:12:36
5	170724M1_6	ST170724M1-4 PFC CS1 17G2424	24-Jul-17	14:23:23
6	170724M1_7	ST170724M1-5 PFC CS2 17G2425	24-Jul-17	14:34:02
7	170724M1_8	ST170724M1-6 PFC CS3 17G2118	24-Jul-17	14:44:48
8	170724M1_9	ST170724M1-7 PFC CS4 17G2426	24-Jul-17	14:55:34
9	170724M1_10	ST170724M1-8 PFC CS5 17G2427	24-Jul-17	15:06:35
10	170724M1_11	IPA	24-Jul-17	15:17:30
11	170724M1_12	SS170724M4-1 PFC SSS 17G2421	24-Jul-17	15:28:15

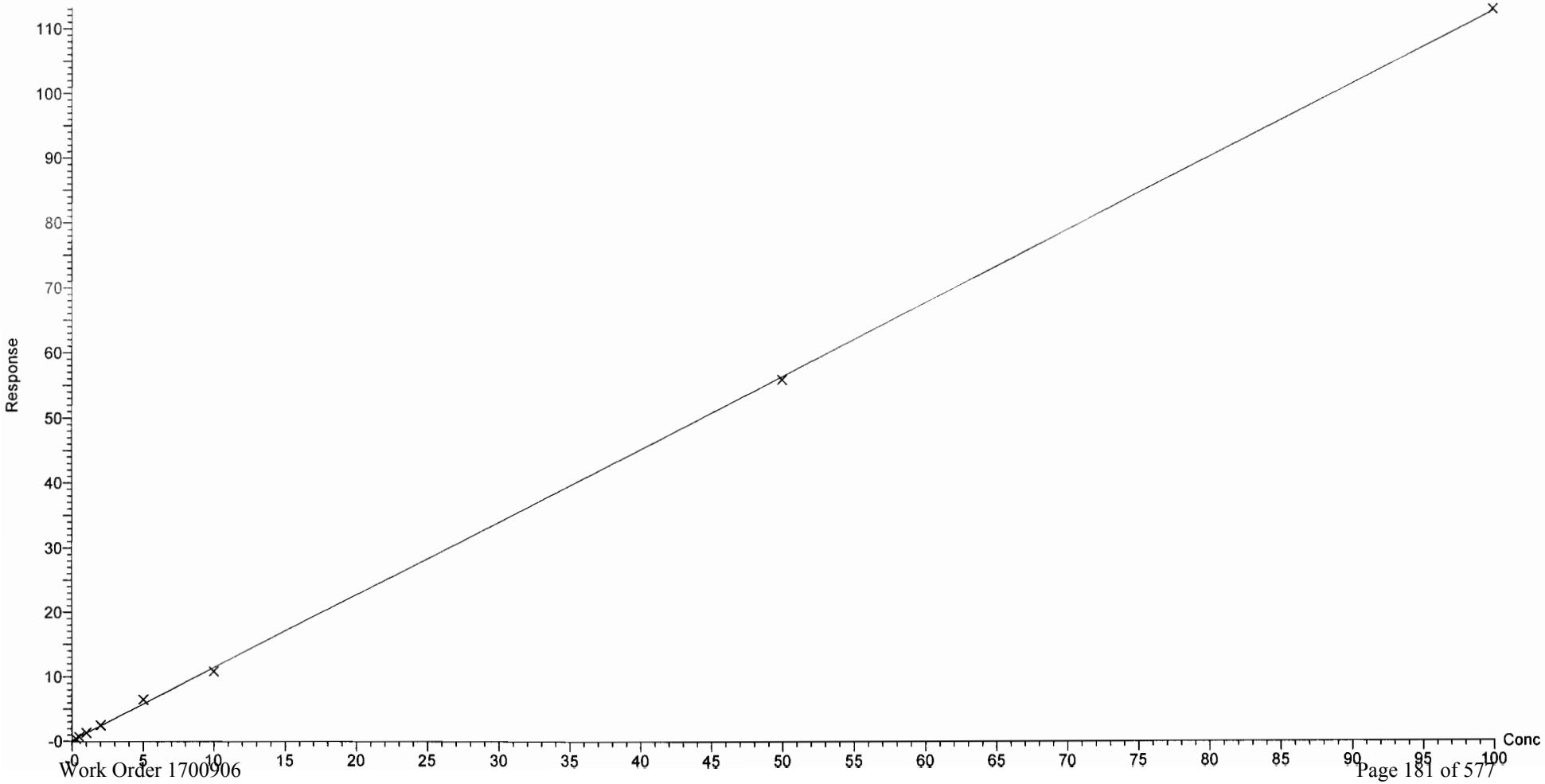
Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:22:13
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

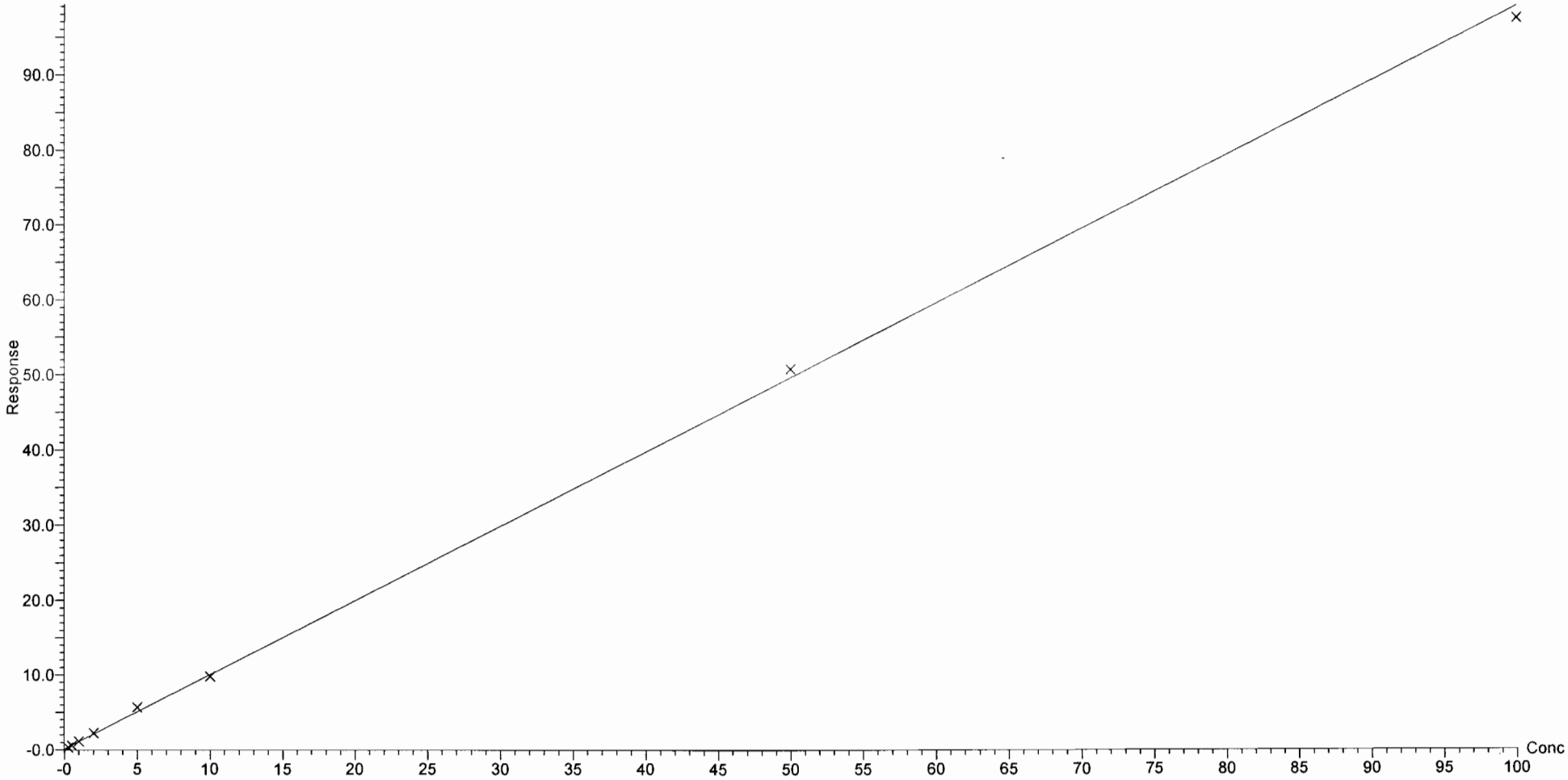
Compound name: PFBA
Correlation coefficient: r = 0.999644, r^2 = 0.999287
Calibration curve: 1.1275 * x + 0.163356
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

Compound name: PFPeA
Correlation coefficient: r = 0.999528, r^2 = 0.999056
Calibration curve: 0.99208 * x + 0.104629
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

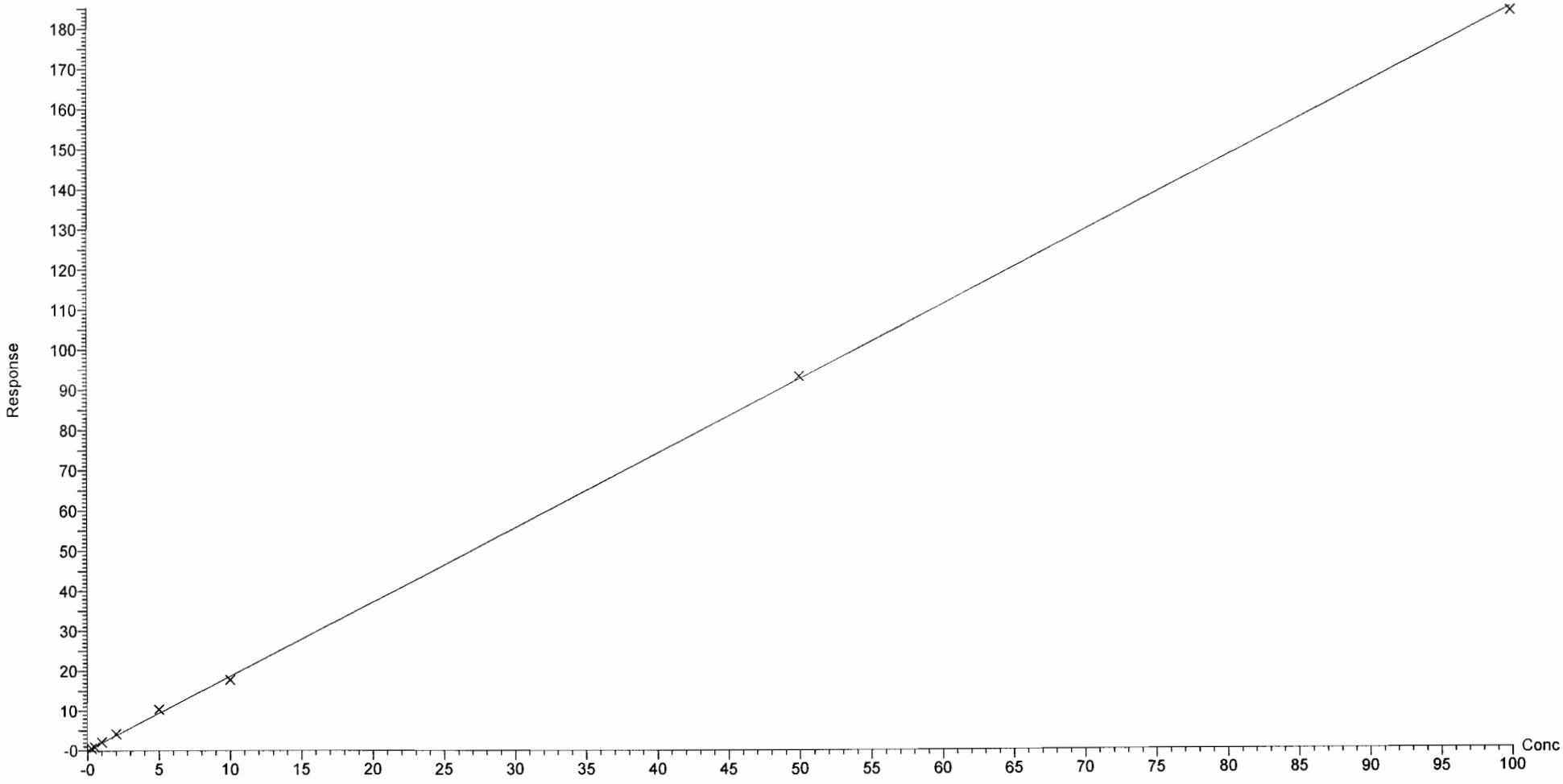


Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

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Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

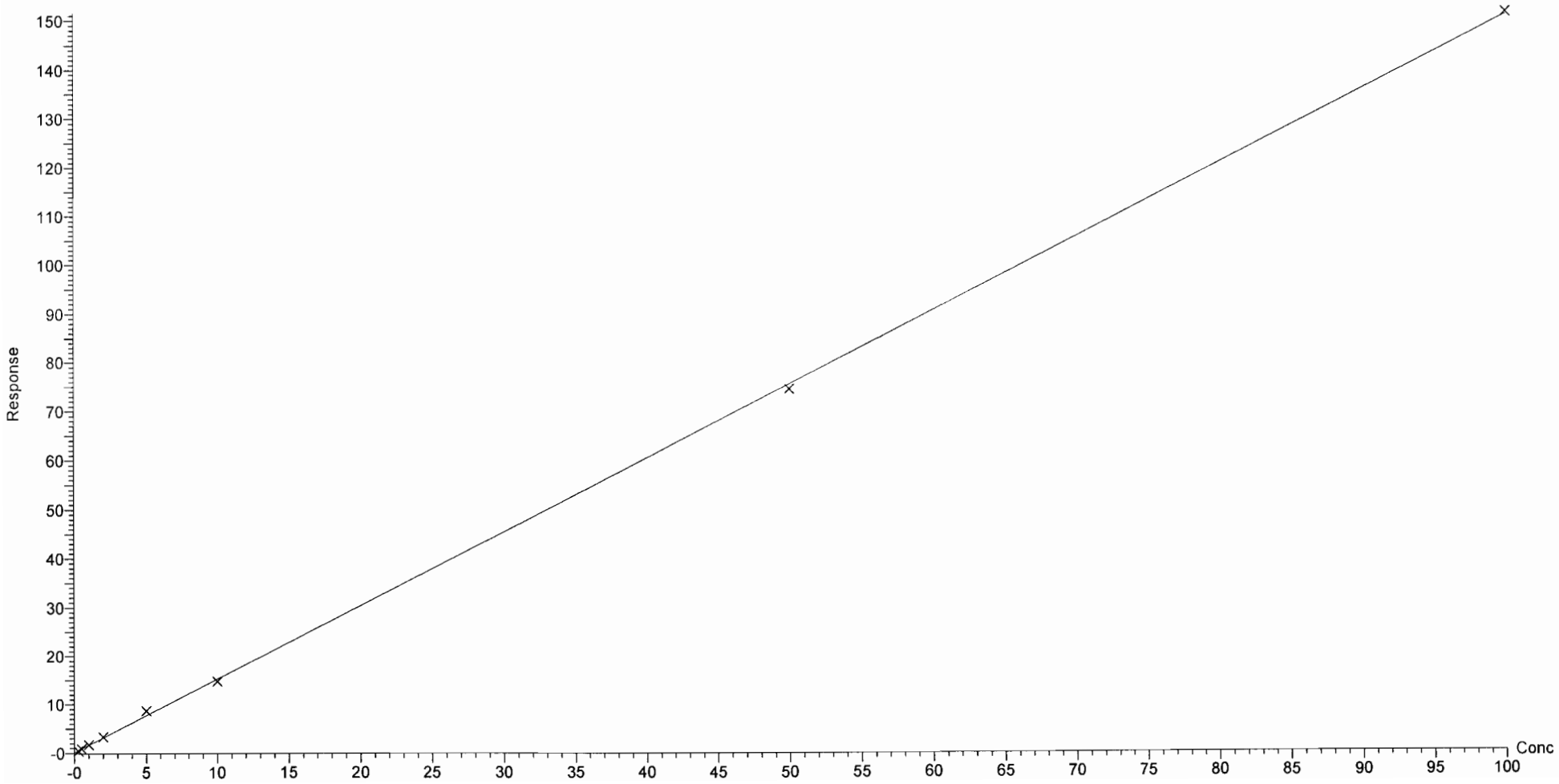
Compound name: PFBS
Correlation coefficient: r = 0.999611, r^2 = 0.999223
Calibration curve: 1.85223 * x + 0.0752948
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

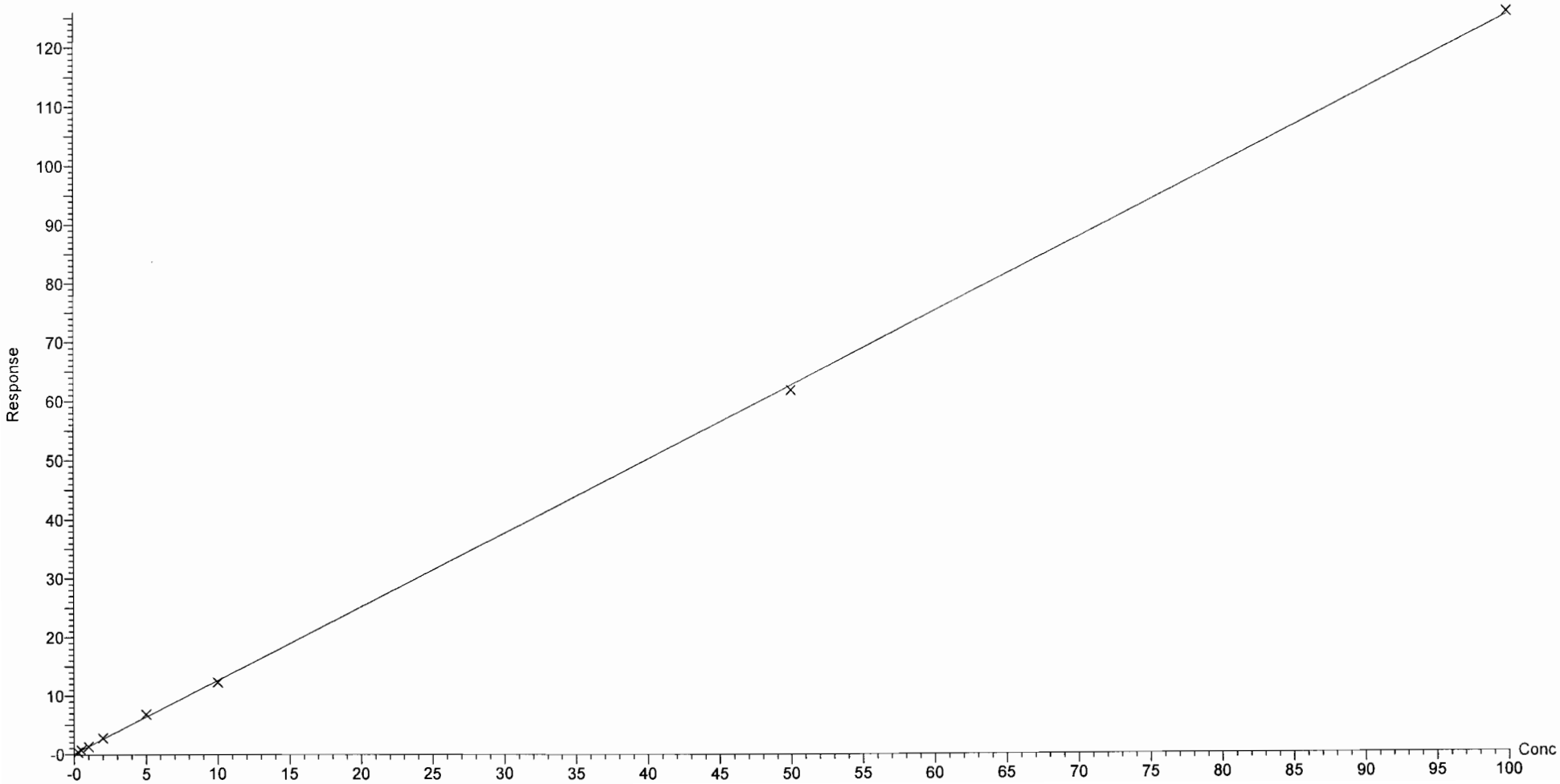
Compound name: PFHxA
Correlation coefficient: r = 0.999648, r^2 = 0.999296
Calibration curve: 1.50967 * x + 0.157344
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

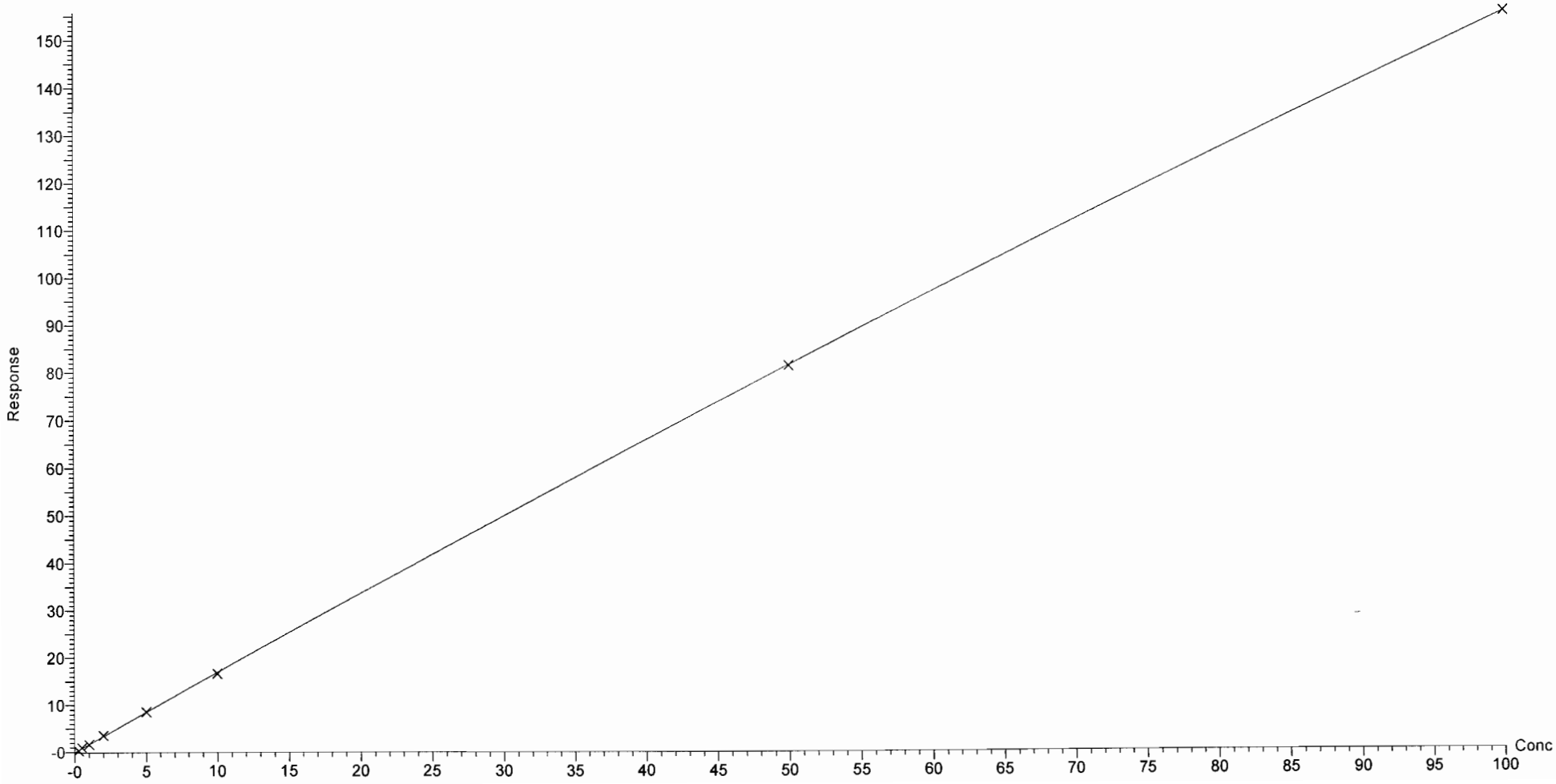
Compound name: PFHpA
Correlation coefficient: r = 0.999811, r^2 = 0.999621
Calibration curve: 1.25322 * x + 0.0796155
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.999711
Calibration curve: -0.00151846 * x^2 + 1.70838 * x + -0.0114403
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

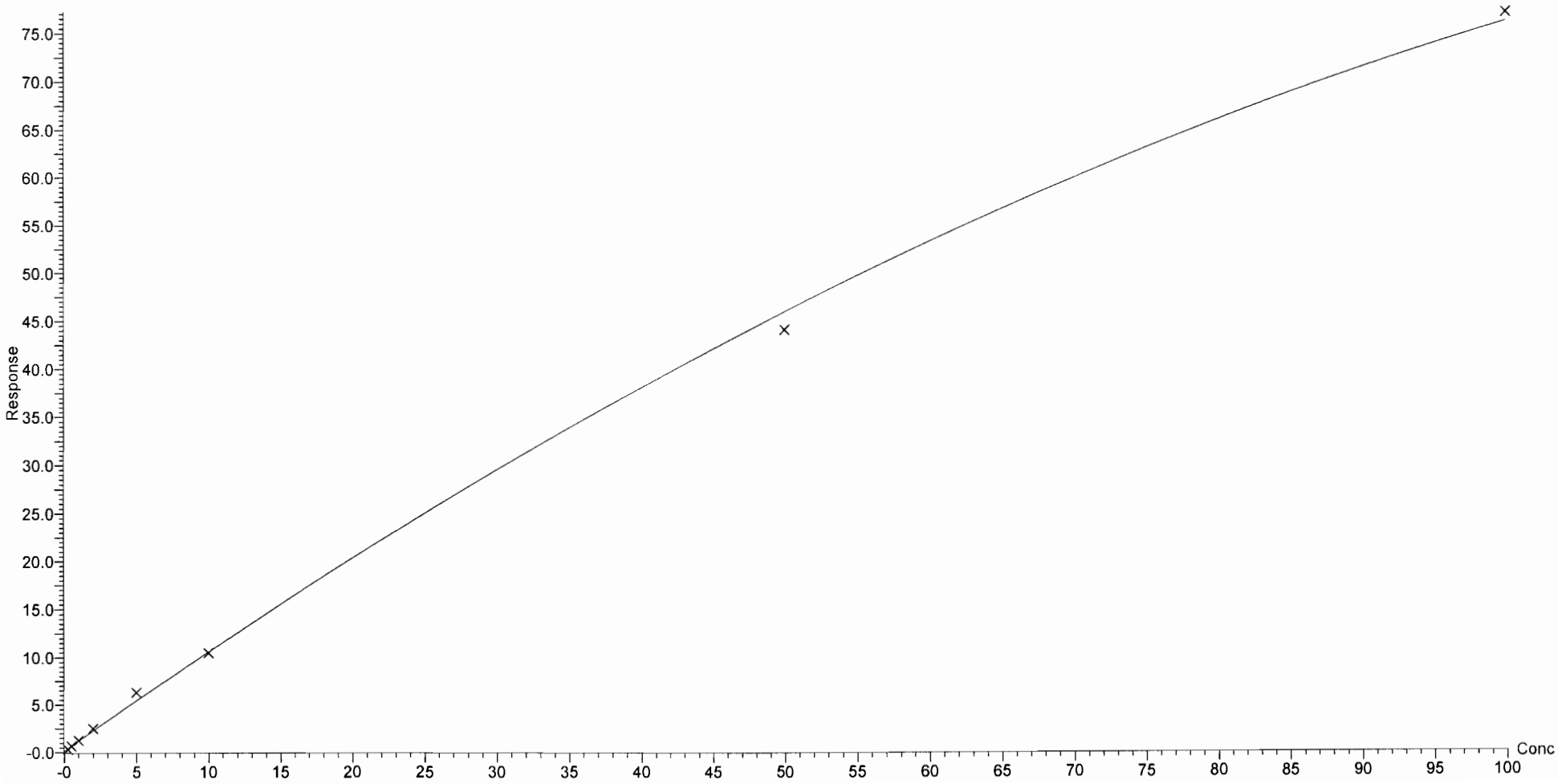


Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

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Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

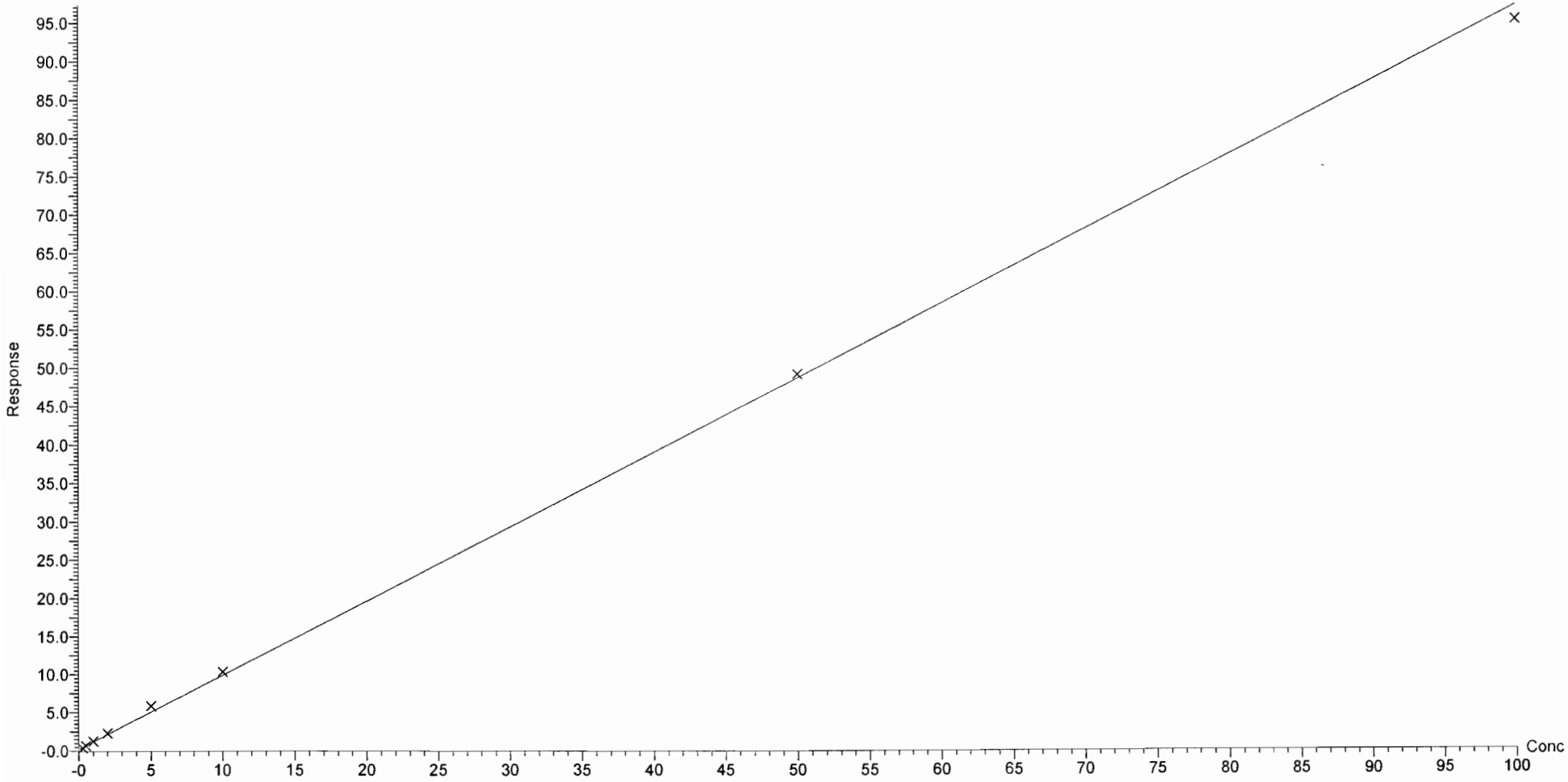
Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.997533
Calibration curve: -0.00313053 * x^2 + 1.07473 * x + 0.134469
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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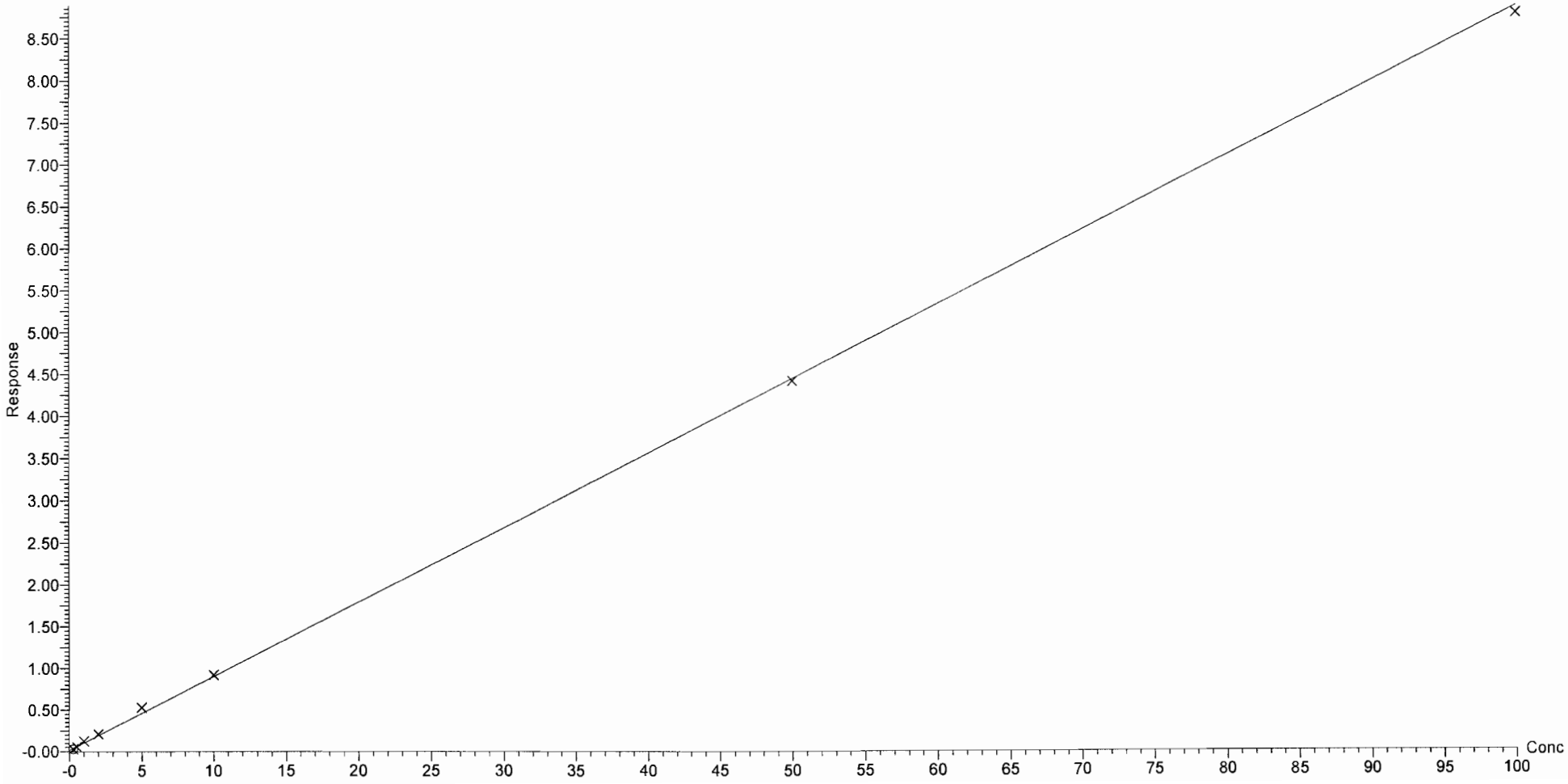
Compound name: PFOA
Correlation coefficient: r = 0.999233, r^2 = 0.998466
Calibration curve: 0.970801 * x + 0.199778
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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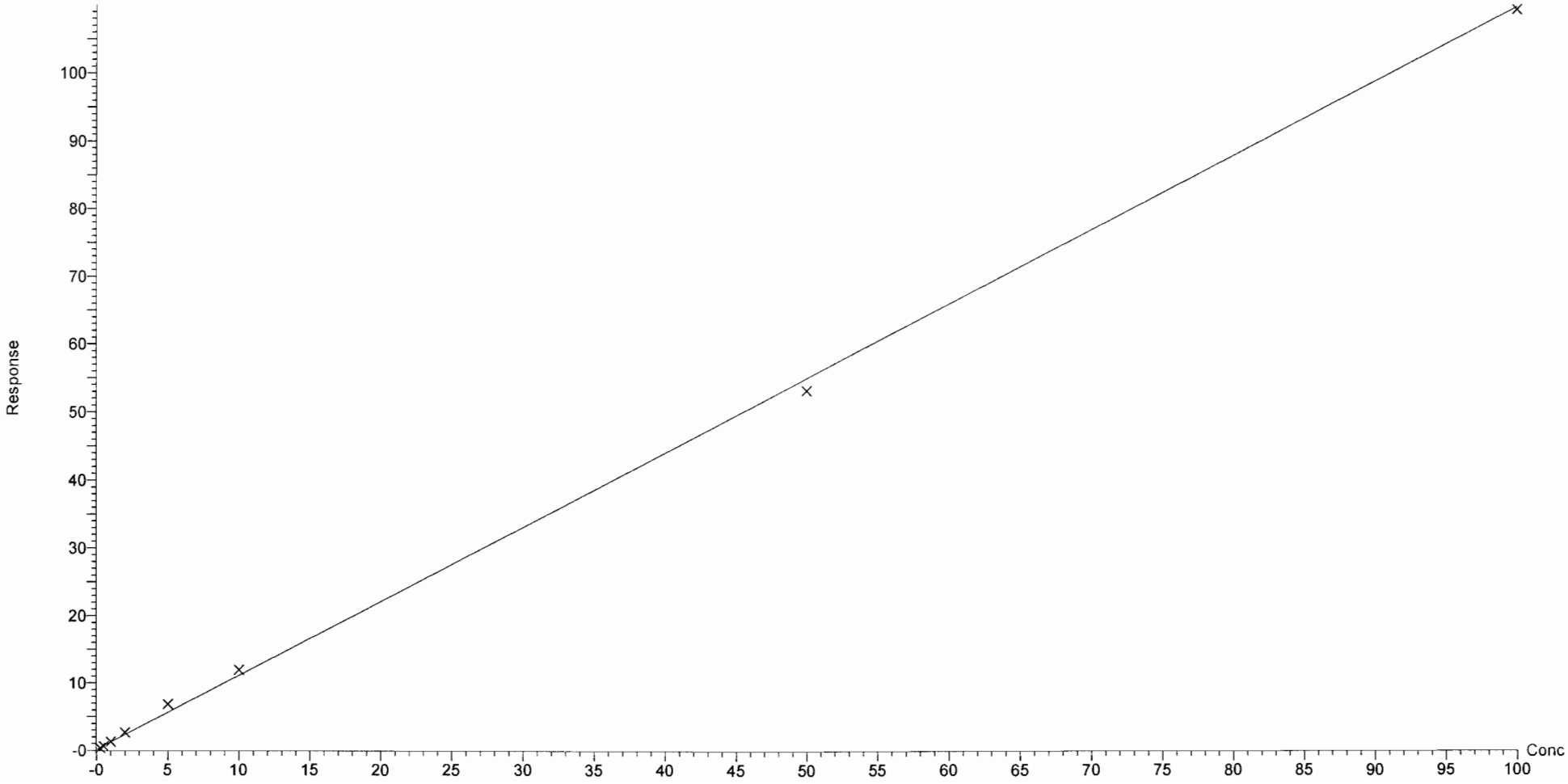
Compound name: PFHpS
Correlation coefficient: r = 0.999150, r^2 = 0.998301
Calibration curve: 0.0887442 * x + 0.014645
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

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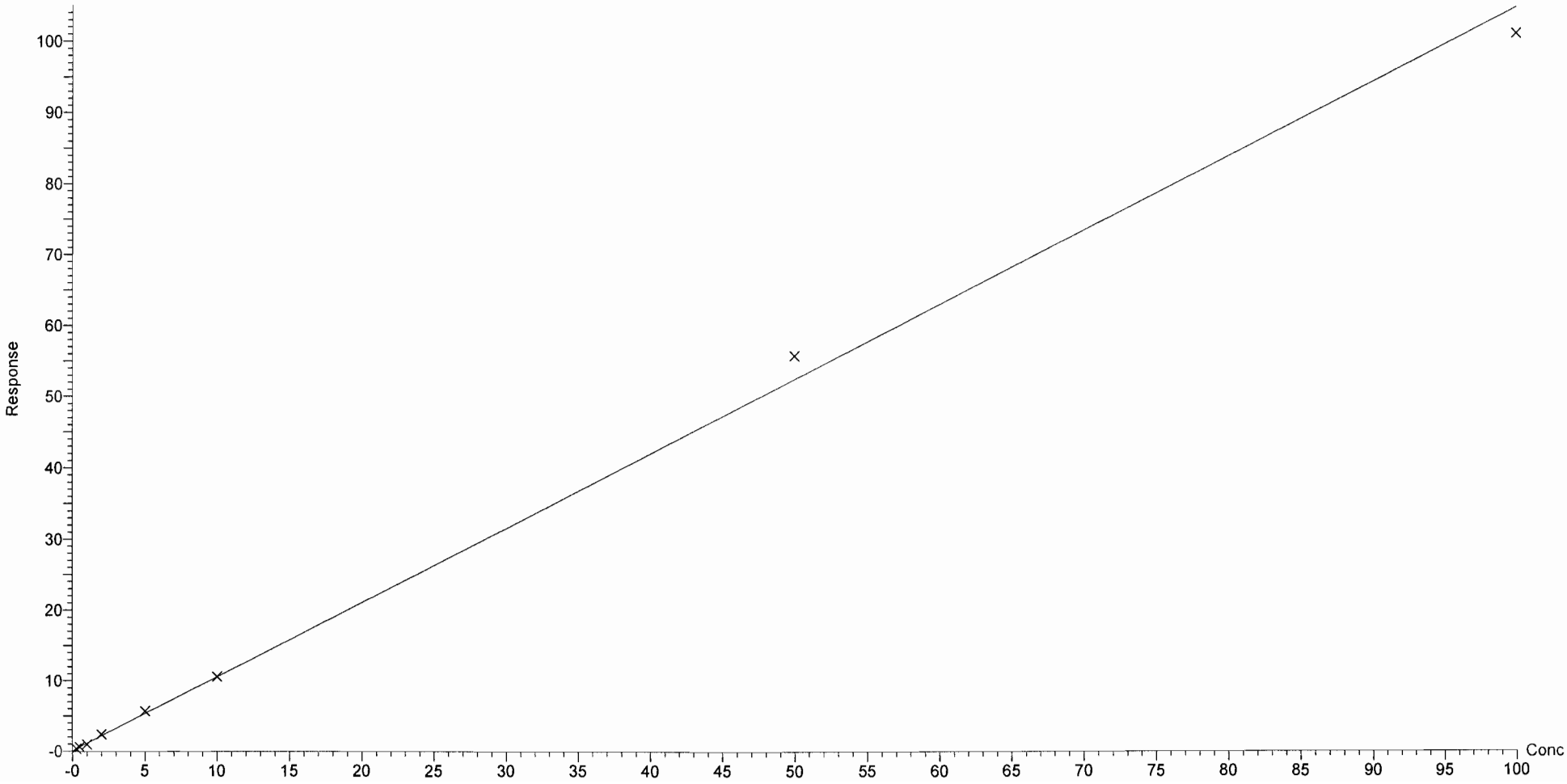
Compound name: PFNA
Correlation coefficient: r = 0.998659, r^2 = 0.997320
Calibration curve: 1.09835 * x + 0.147218
Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

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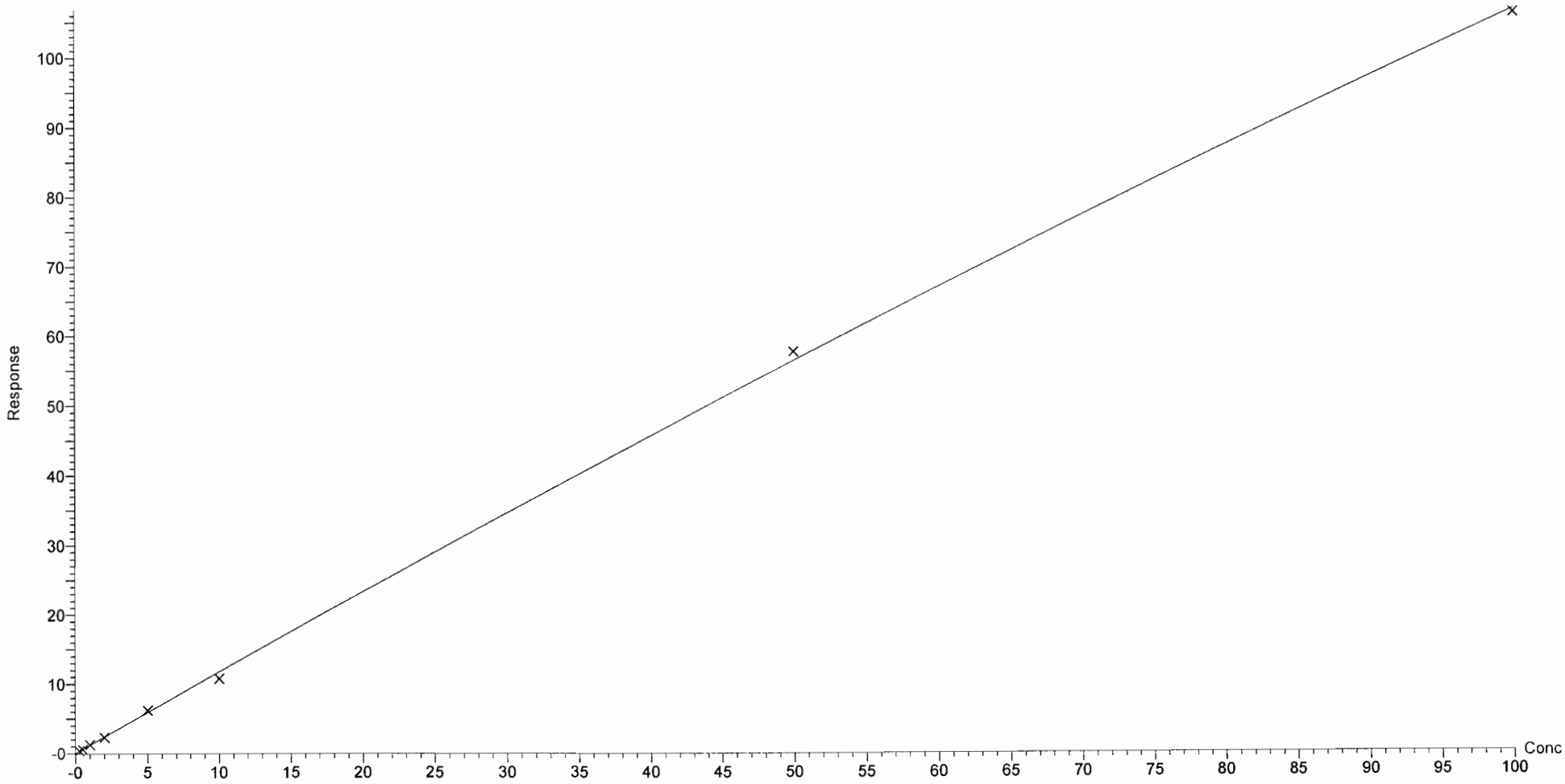
Compound name: PFOSA
Correlation coefficient: r = 0.998808, r^2 = 0.997616
Calibration curve: 1.0493 * x + 0.0489398
Response type: Internal Std (Ref 37), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

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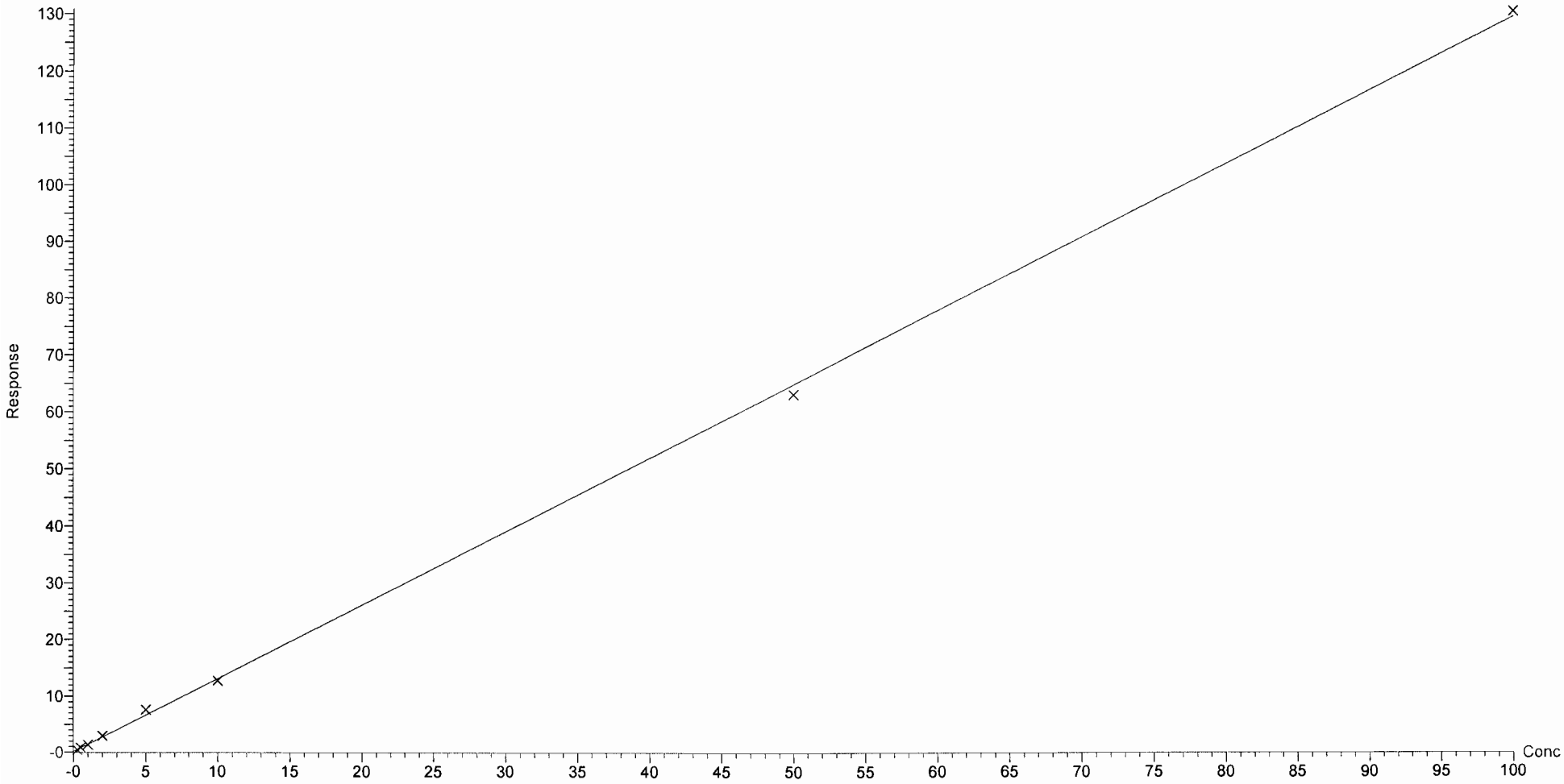
Compound name: PFOS
Coefficient of Determination: R^2 = 0.999148
Calibration curve: -0.00122032 * x^2 + 1.19038 * x + 0.0183073
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

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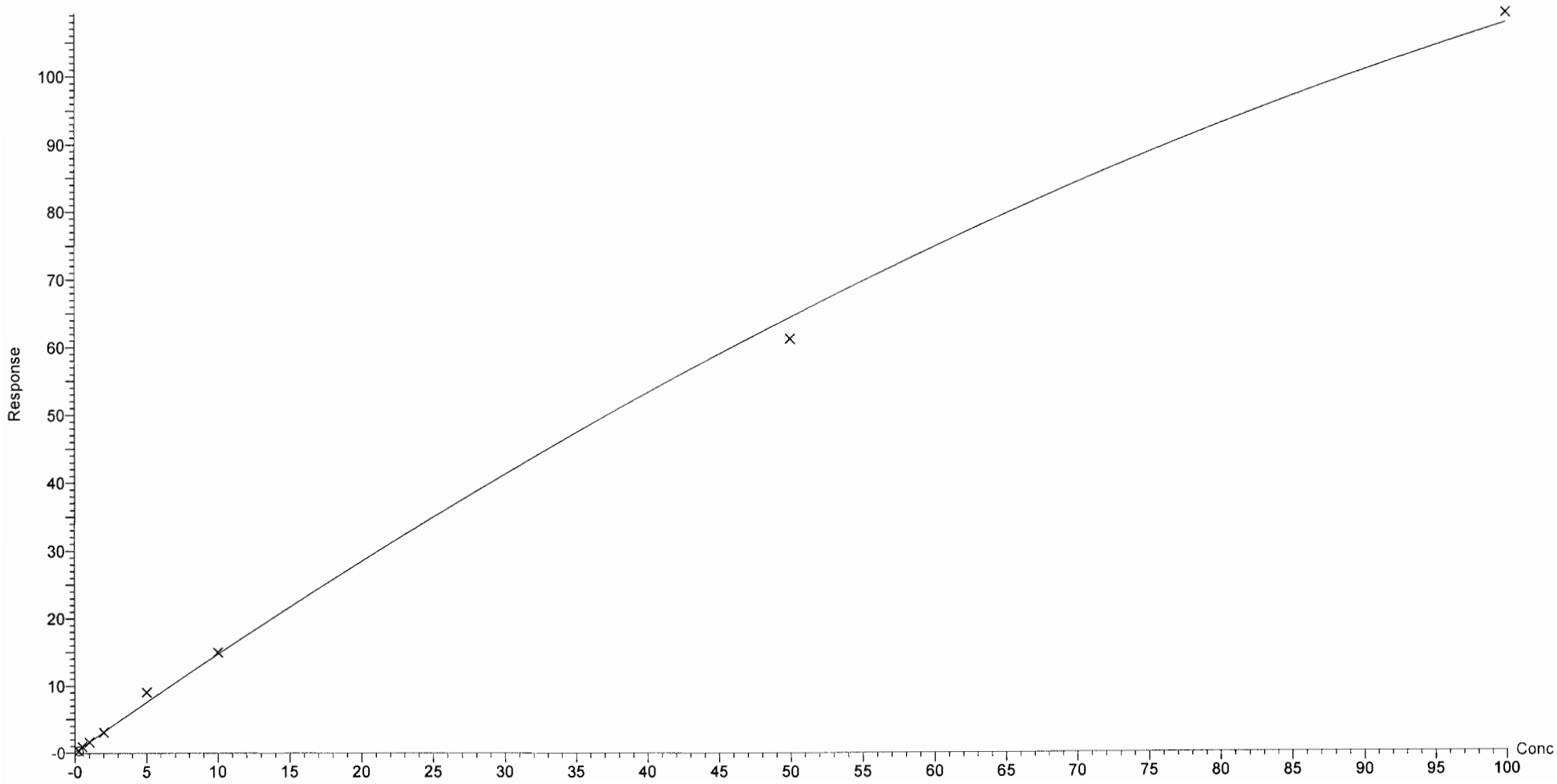
Compound name: PFDA
Correlation coefficient: r = 0.999397, r^2 = 0.998795
Calibration curve: 1.29731 * x + 0.128184
Response type: Internal Std (Ref 39), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

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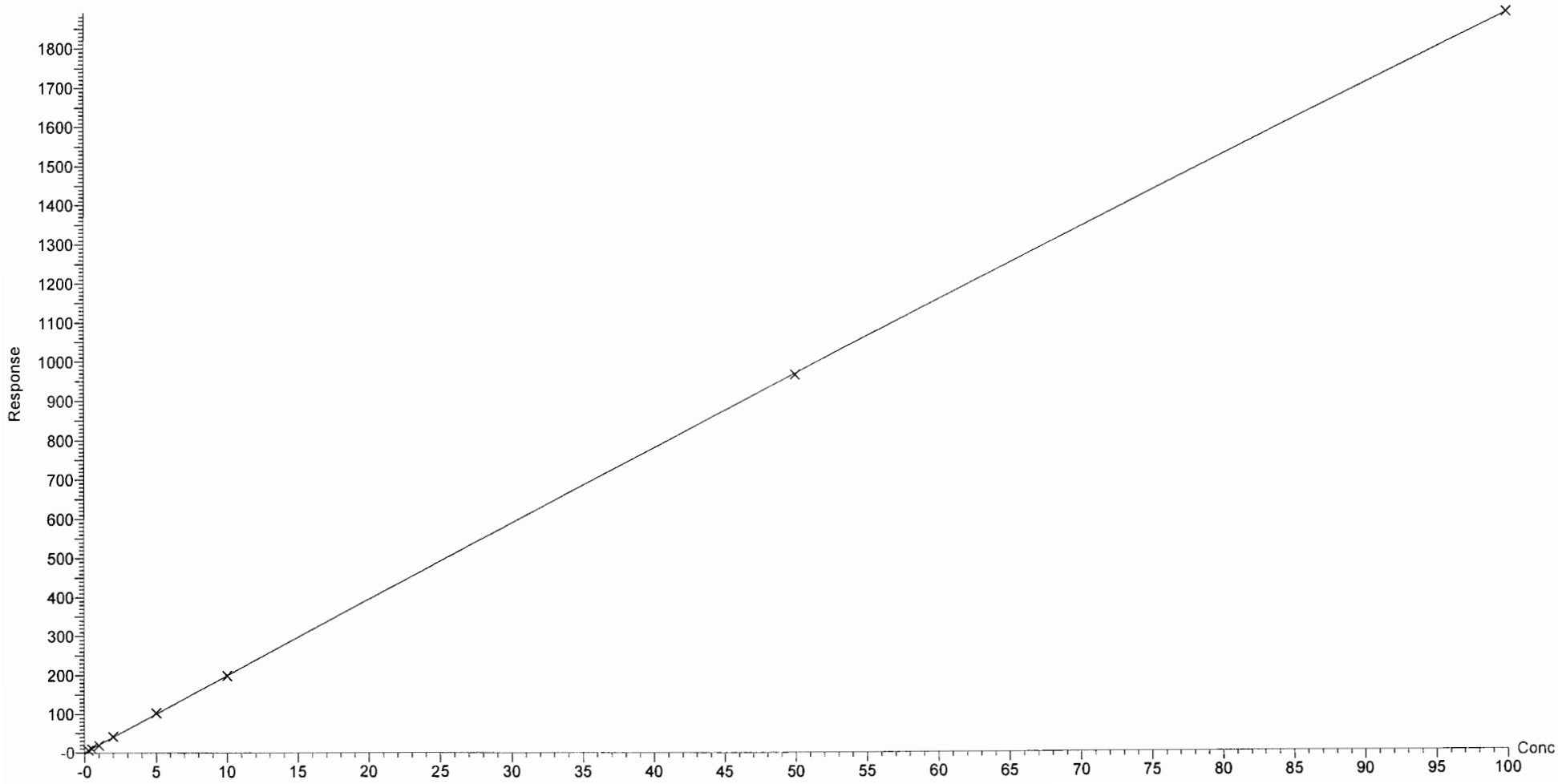
Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.996738
Calibration curve: -0.00420182 * x^2 + 1.49722 * x + 0.133523
Response type: Internal Std (Ref 40), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

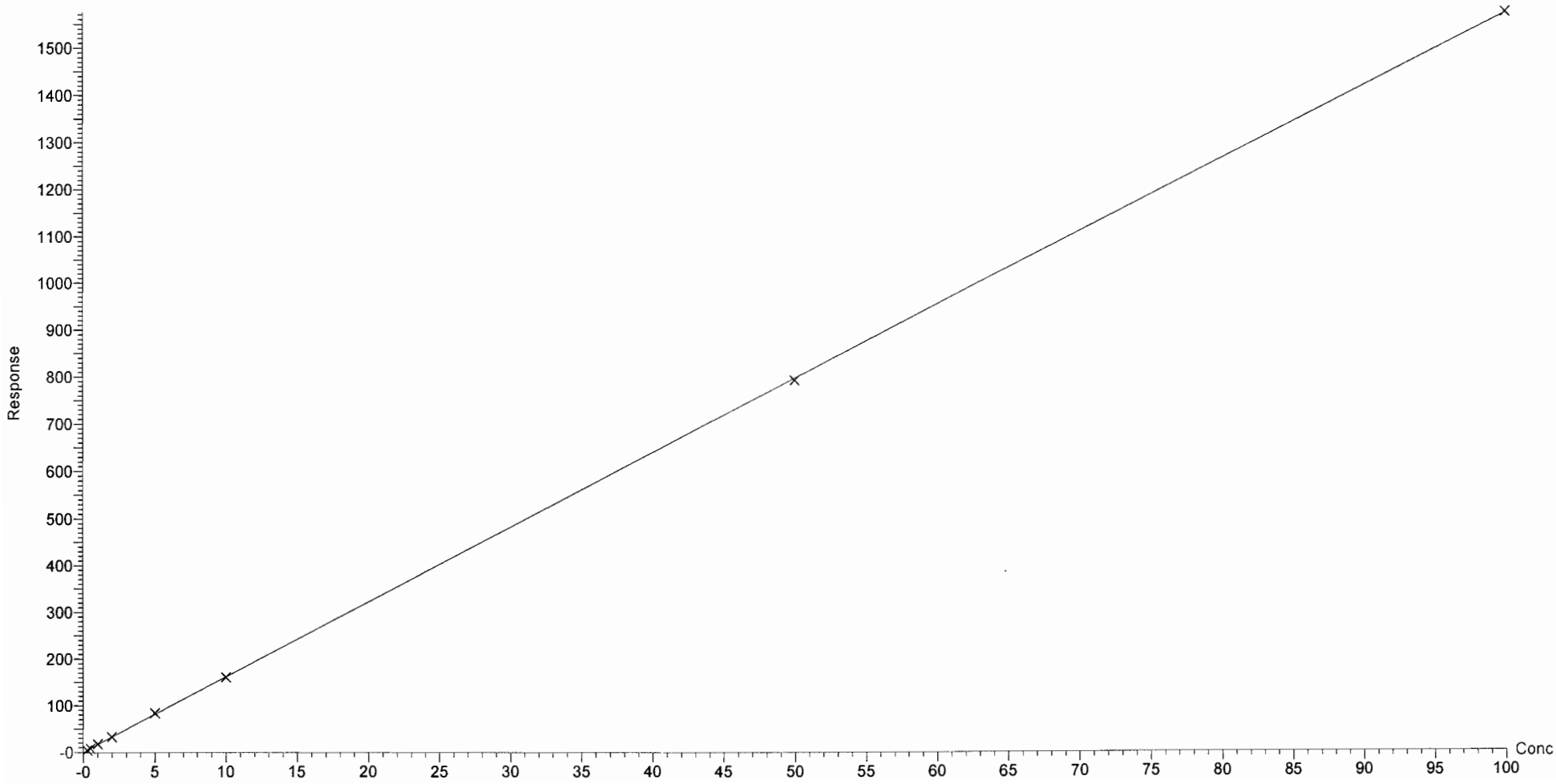
Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999848
Calibration curve: -0.0104077 * x^2 + 19.9194 * x + 0.547687
Response type: Internal Std (Ref 41), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

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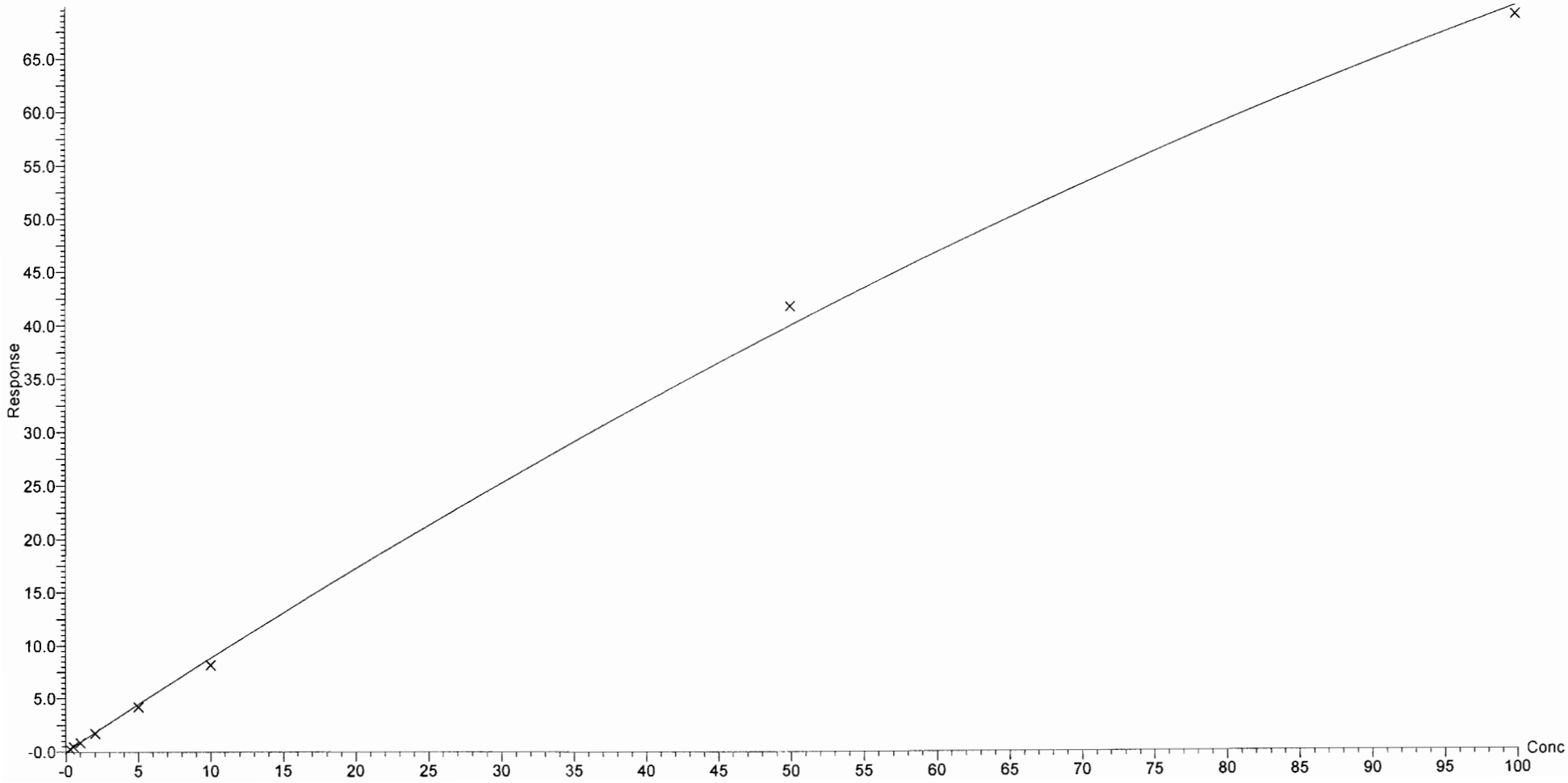
Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.999908
Calibration curve: -0.00439744 * x^2 + 16.1657 * x + 0.0580373
Response type: Internal Std (Ref 42), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

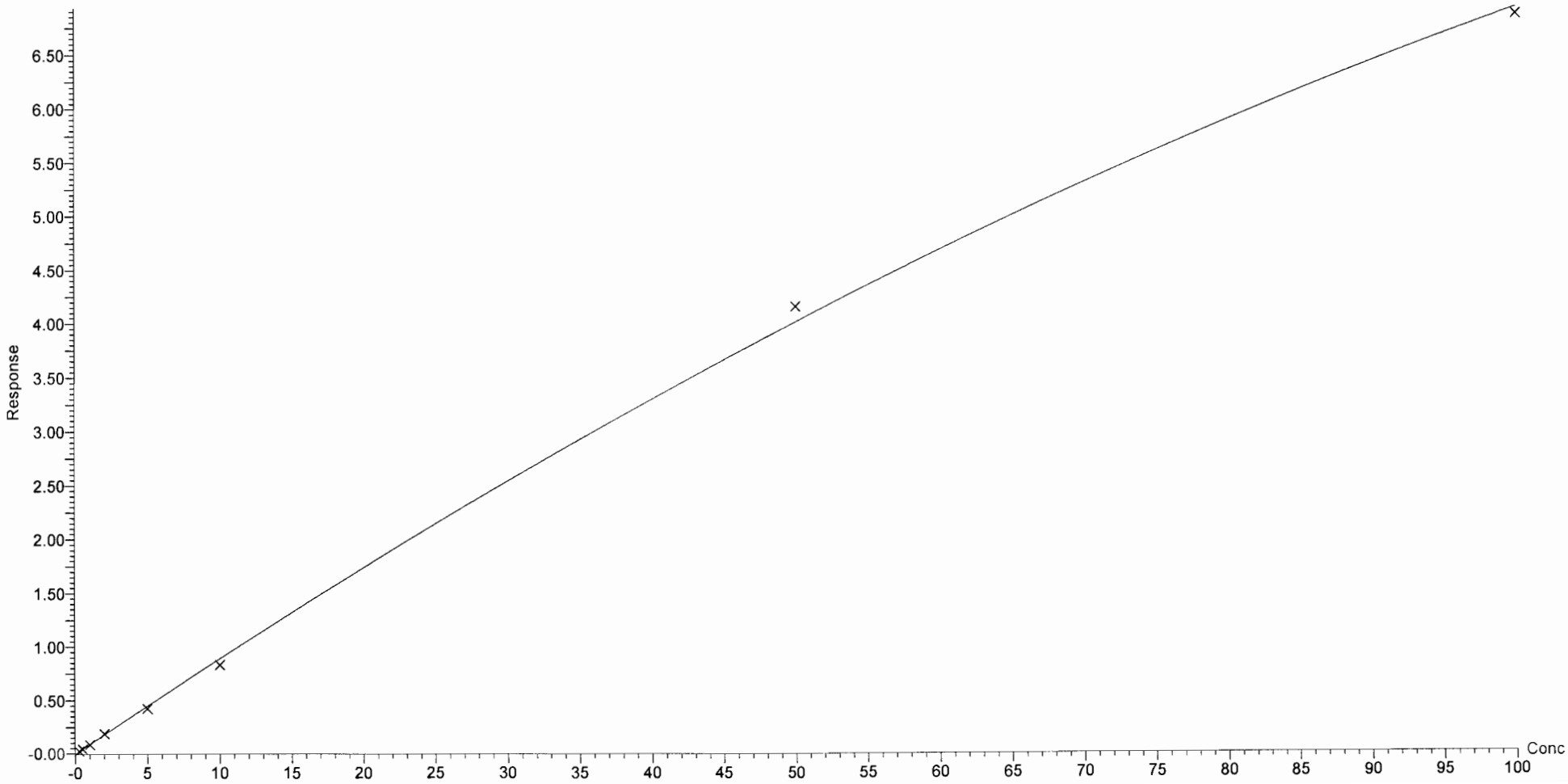
Compound name: PFUnA
Coefficient of Determination: R^2 = 0.998430
Calibration curve: -0.0020331 * x^2 + 0.901478 * x + 0.00751751
Response type: Internal Std (Ref 43), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

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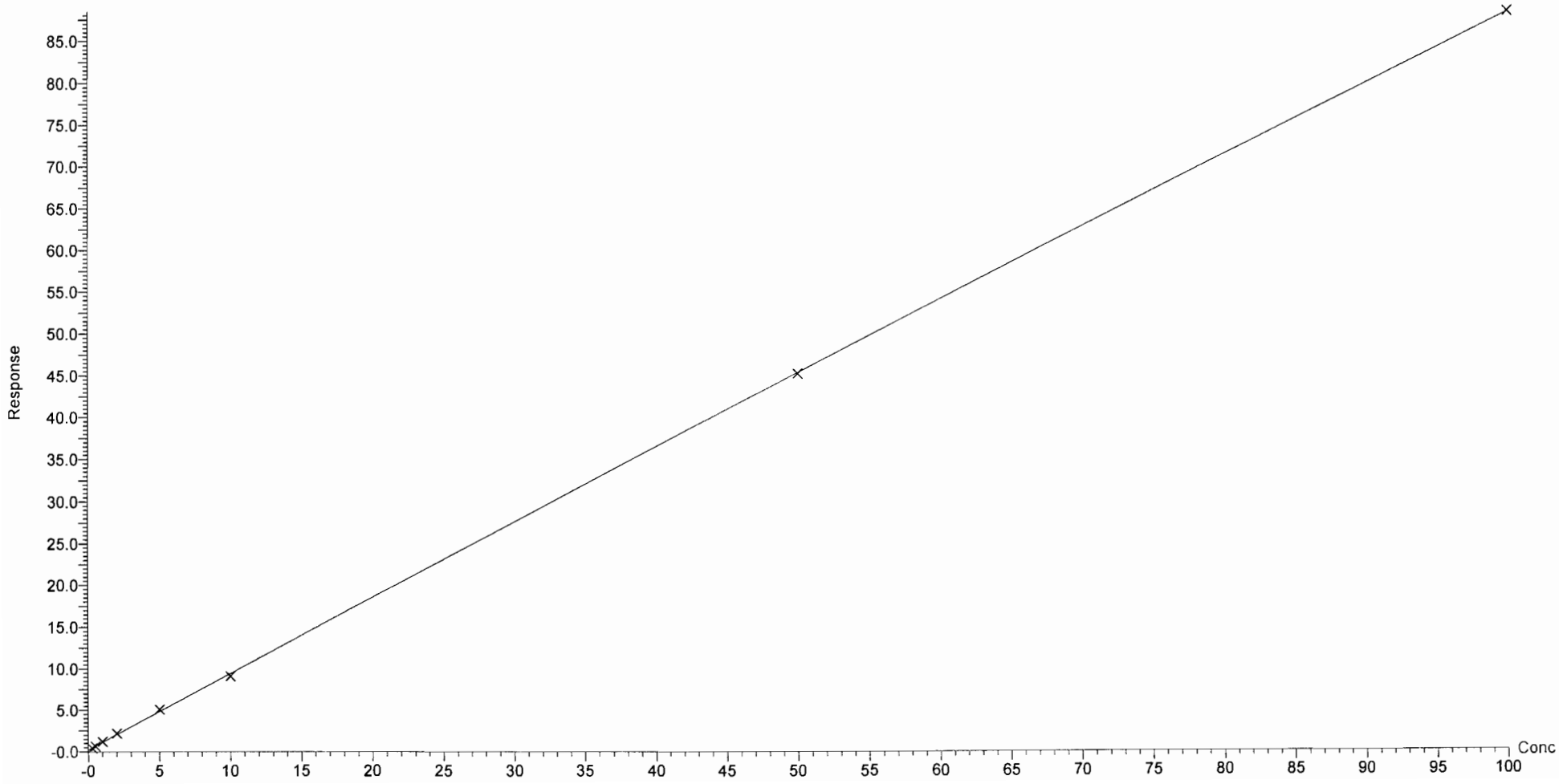
Compound name: PFDS
Coefficient of Determination: R^2 = 0.998889
Calibration curve: -0.000220781 * x^2 + 0.0914068 * x + -0.00228704
Response type: Internal Std (Ref 43), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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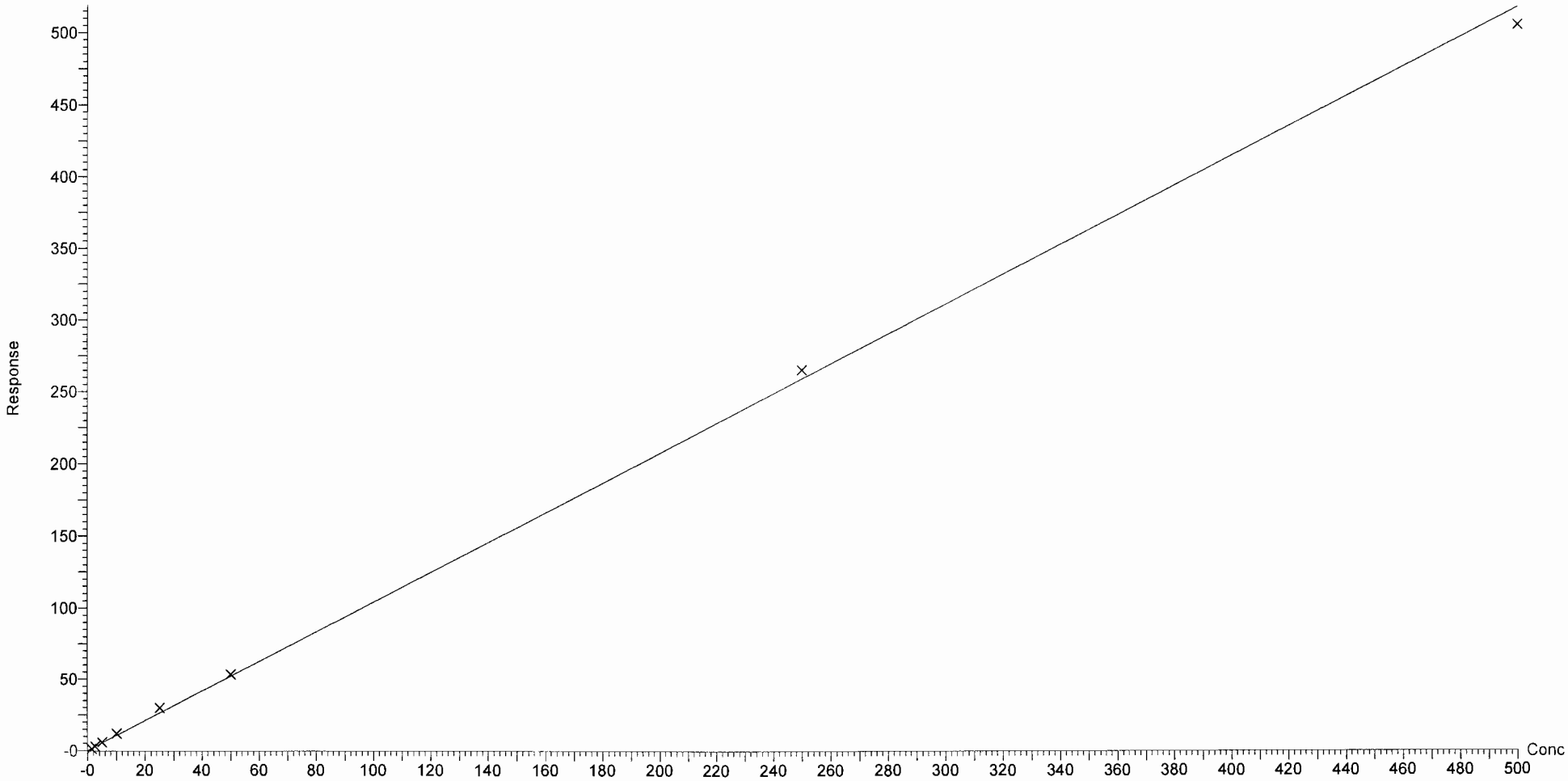
Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999700
Calibration curve: -0.000446703 * x^2 + 0.926687 * x + 0.203454
Response type: Internal Std (Ref 44), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

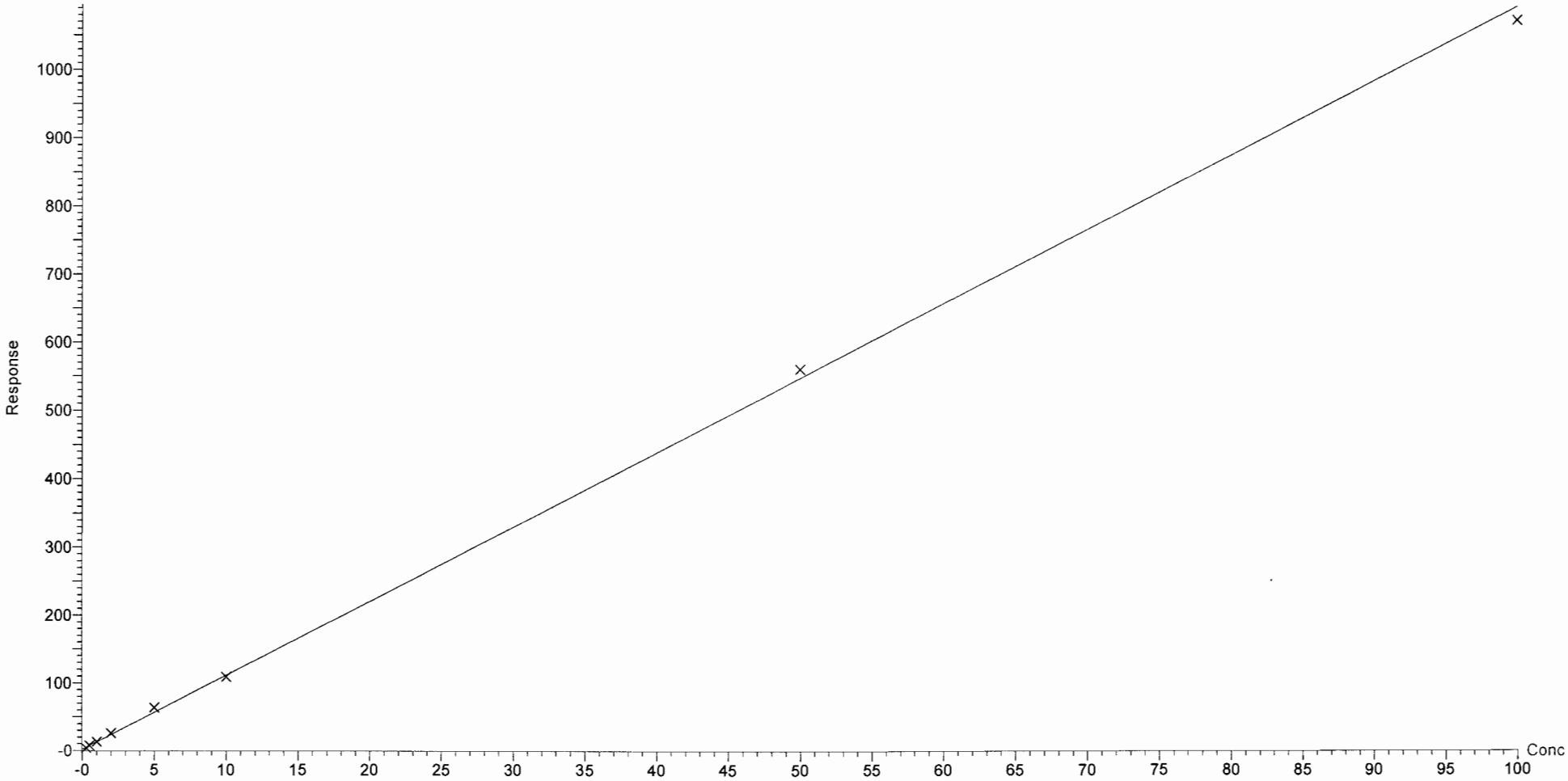
Compound name: N-MeFOSA
Correlation coefficient: r = 0.999273, r^2 = 0.998546
Calibration curve: 1.0376 * x + 0.213391
Response type: Internal Std (Ref 45), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

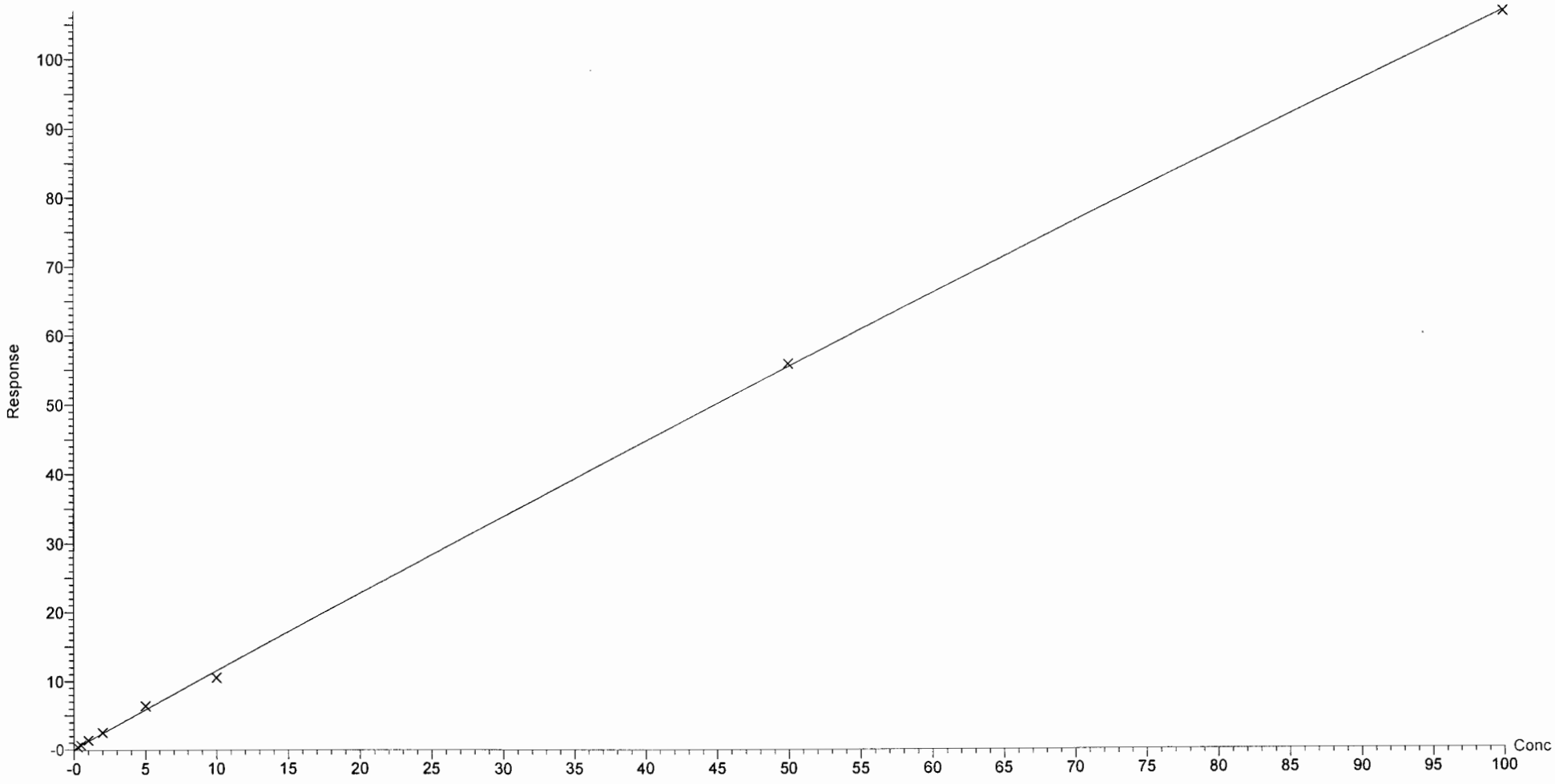
Compound name: PFTrDA
Correlation coefficient: r = 0.999414, r^2 = 0.998828
Calibration curve: 10.9255 * x + 1.79
Response type: Internal Std (Ref 44), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

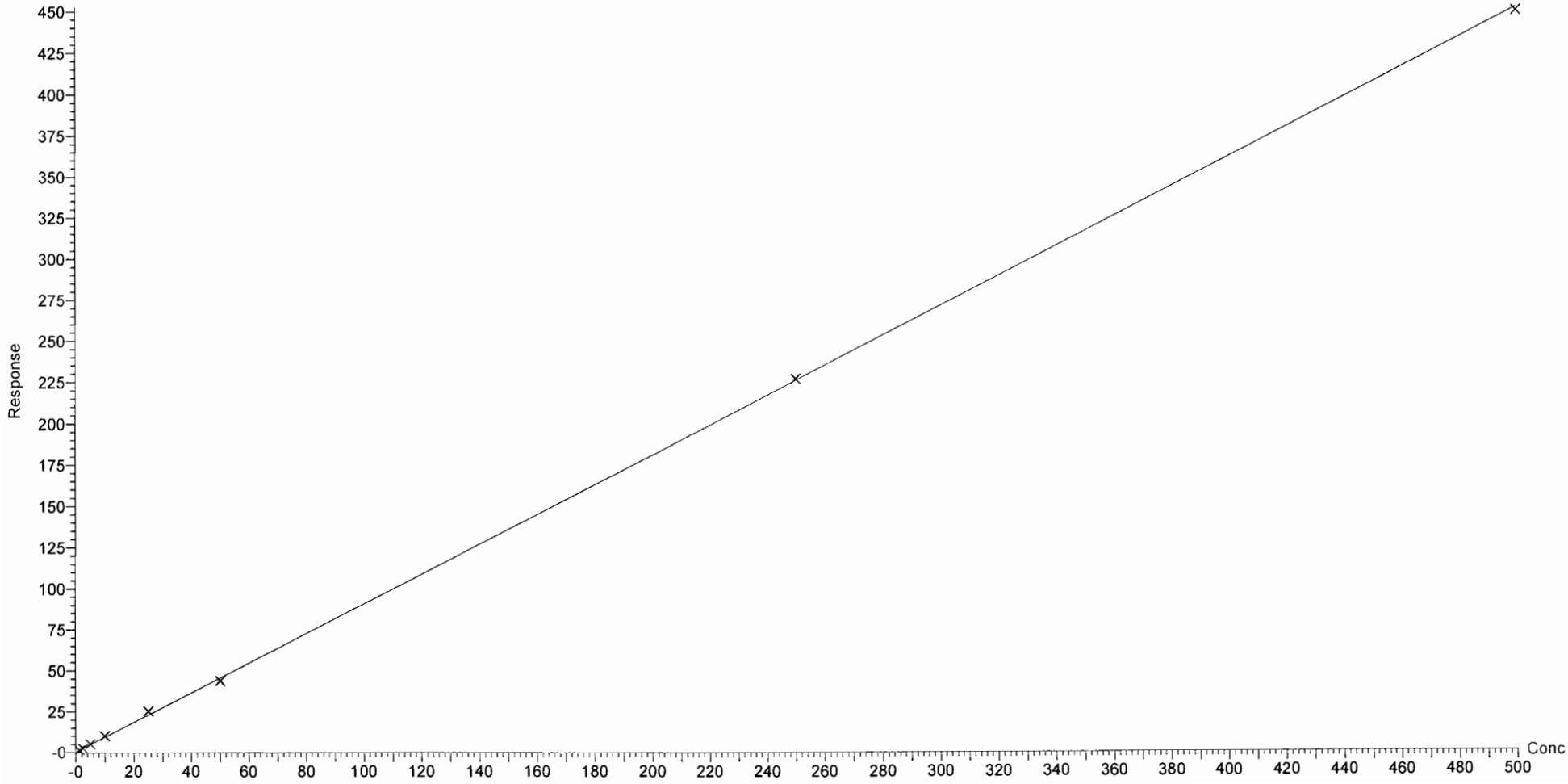
Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999057
Calibration curve: -0.000800394 * x^2 + 1.14875 * x + 0.111533
Response type: Internal Std (Ref 46), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

Compound name: N-EtFOSA
Correlation coefficient: r = 0.999689, r^2 = 0.999377
Calibration curve: 0.904115 * x + 0.326191
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

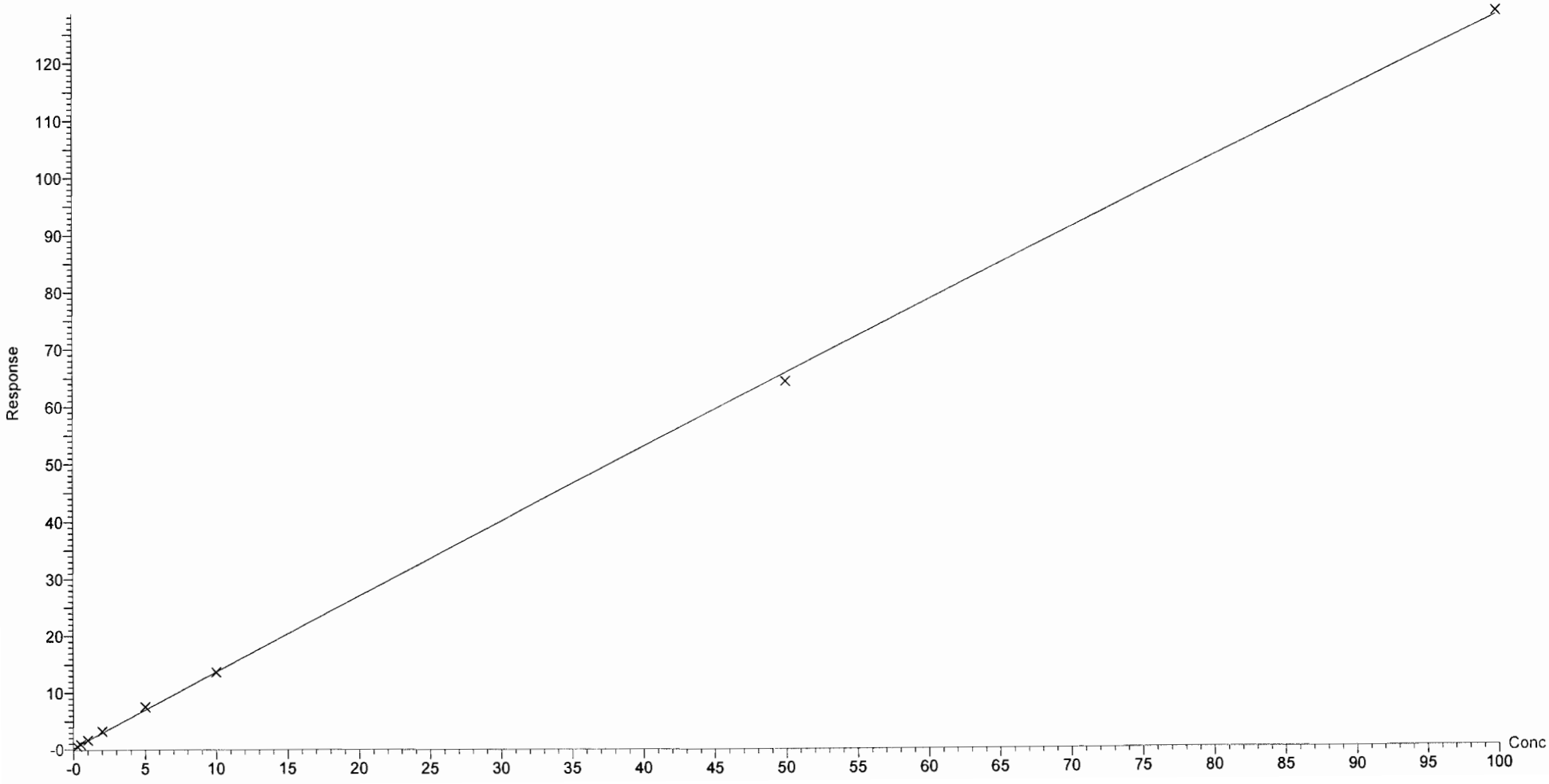


Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

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Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

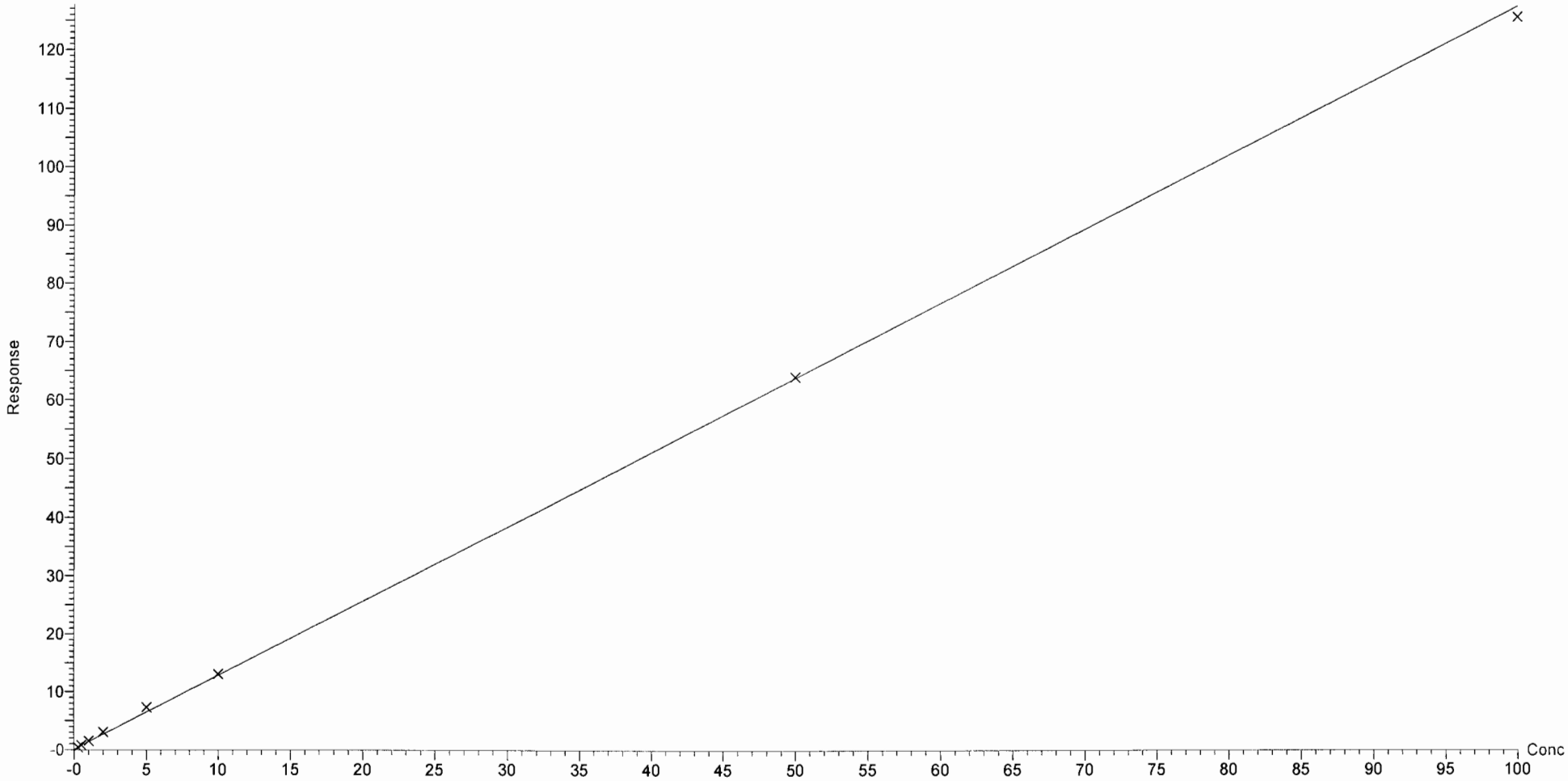
Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999358
Calibration curve: -0.000715061 * x^2 + 1.34773 * x + 0.264398
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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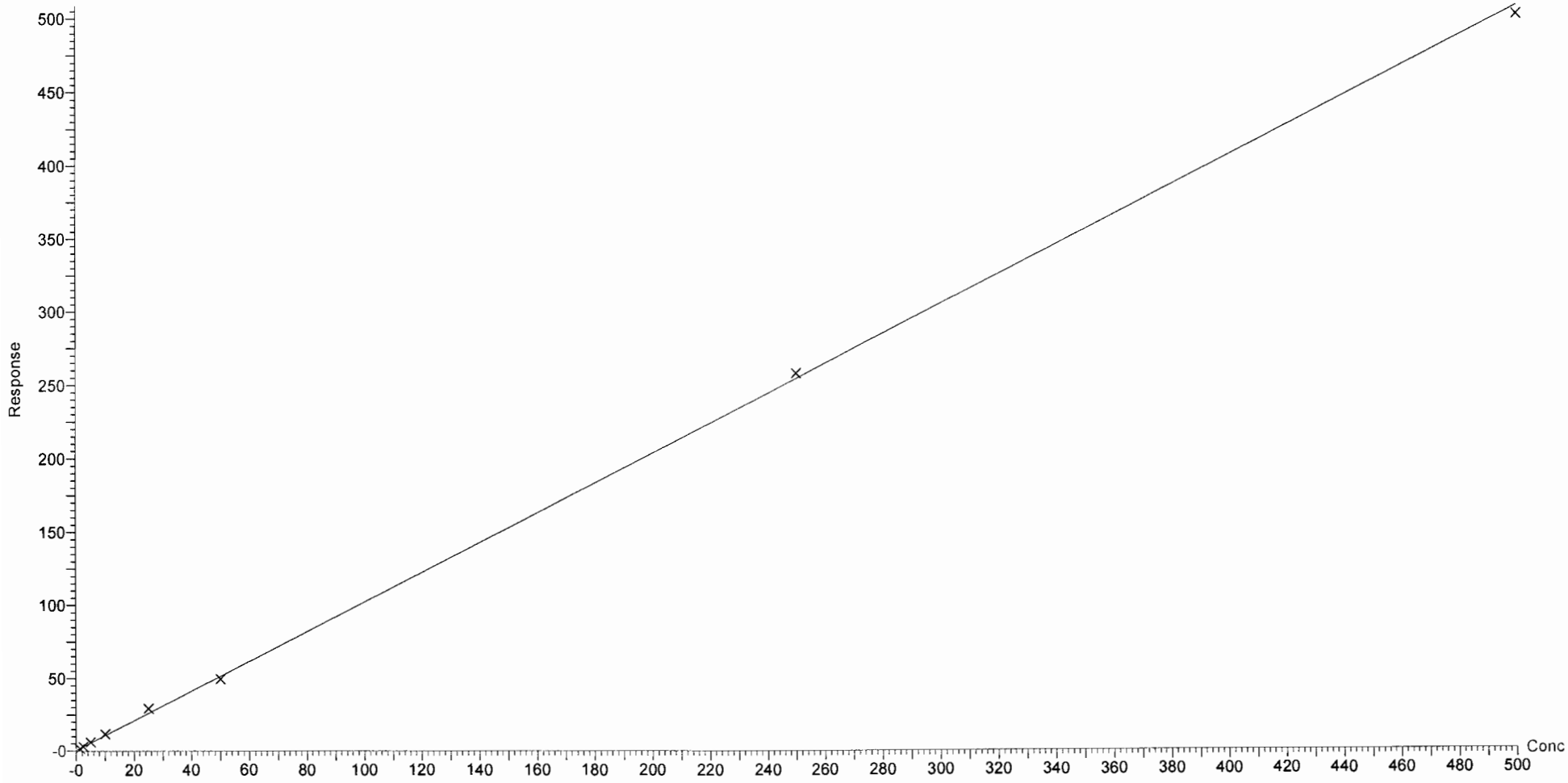
Compound name: PFODA
Correlation coefficient: r = 0.999378, r^2 = 0.998756
Calibration curve: 1.27561 * x + 0.10098
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
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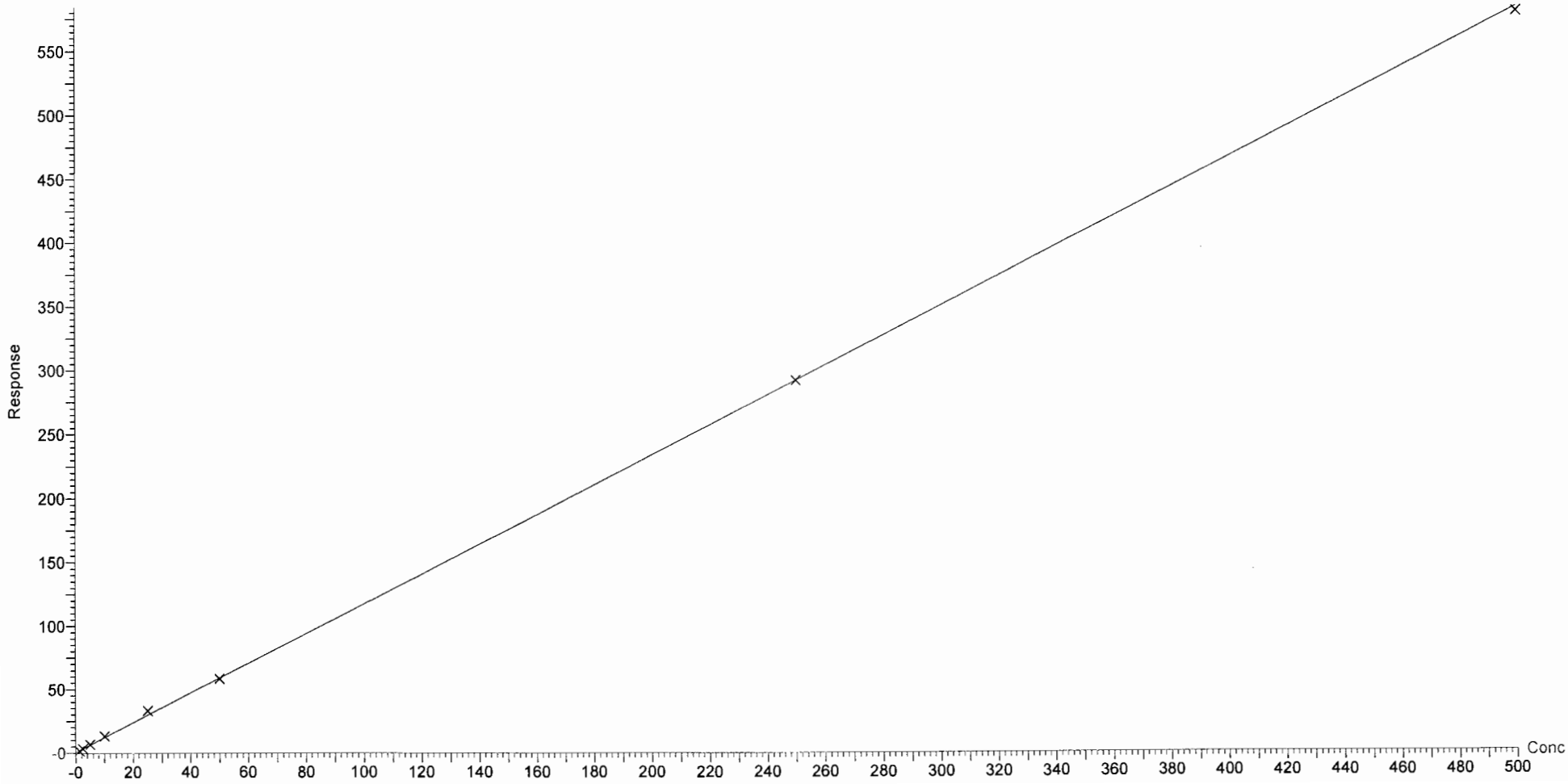
Compound name: N-MeFOSE
Correlation coefficient: r = 0.999476, r^2 = 0.998953
Calibration curve: 1.01603 * x + 0.461771
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:37:22 Pacific Daylight Time

Compound name: N-EtFOSE
Correlation coefficient: r = 0.999680, r^2 = 0.999361
Calibration curve: 1.16673 * x + 0.501898
Response type: Internal Std (Ref 50), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory

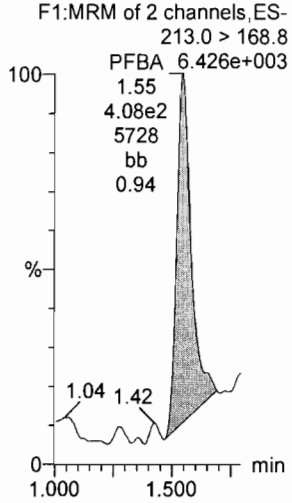
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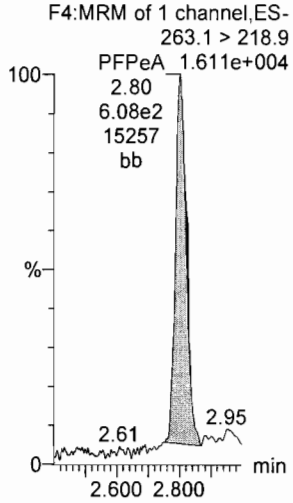
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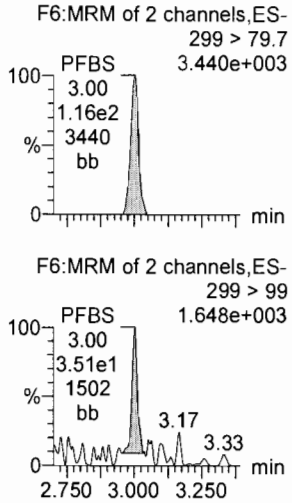
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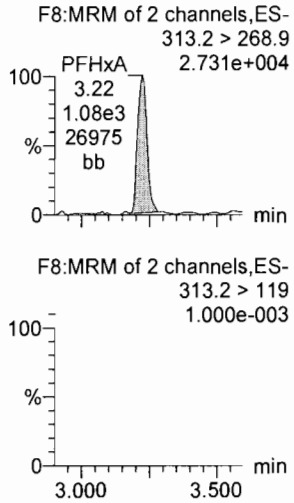
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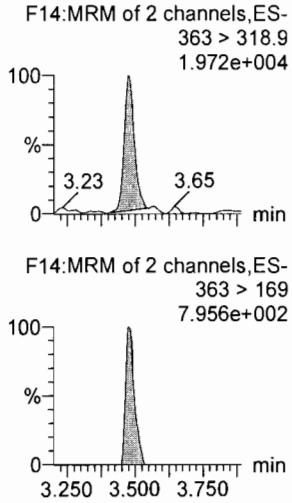
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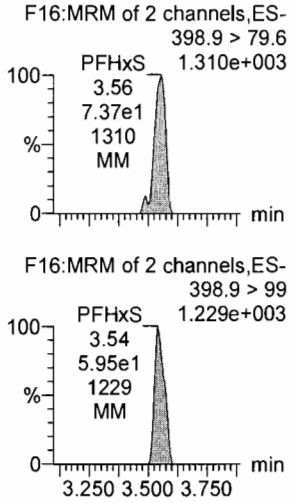
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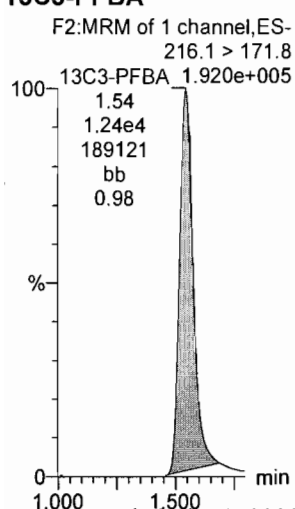
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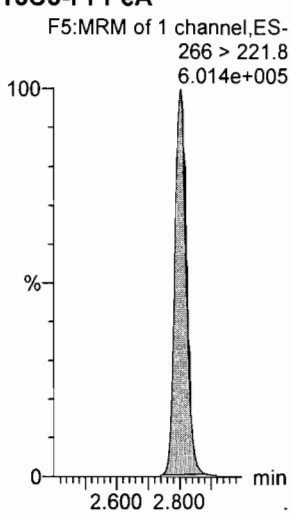
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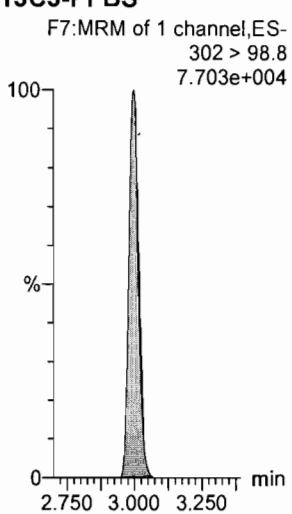
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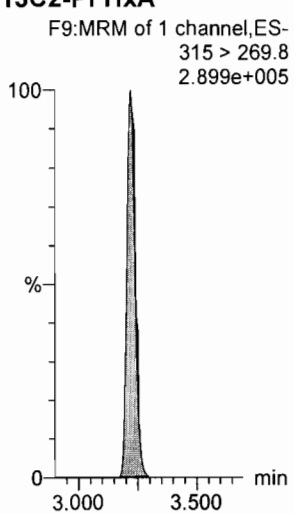
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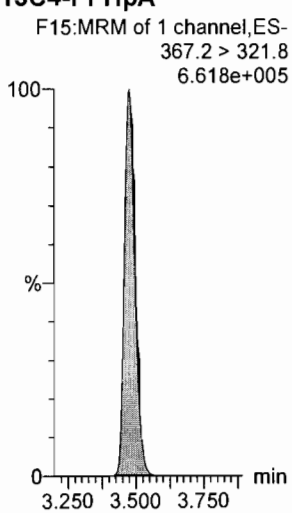
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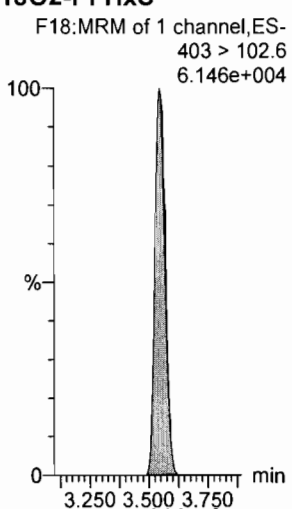
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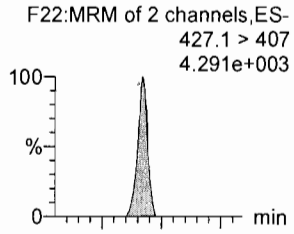


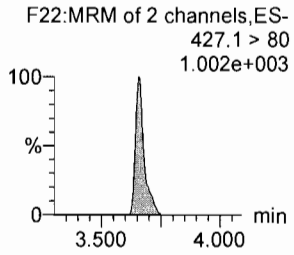
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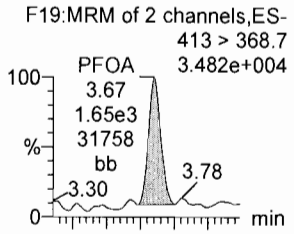
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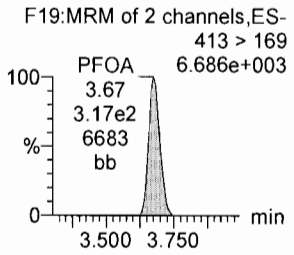
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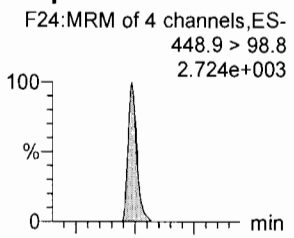


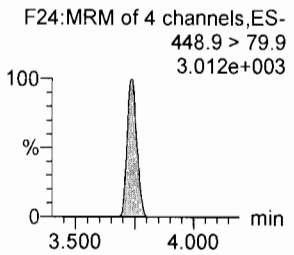
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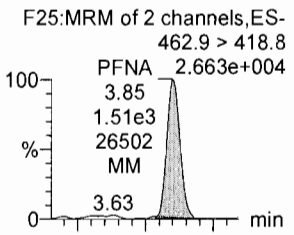


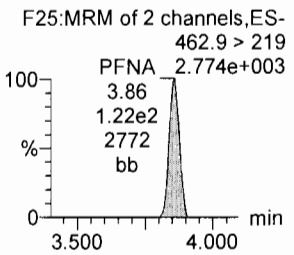
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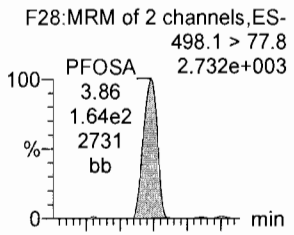


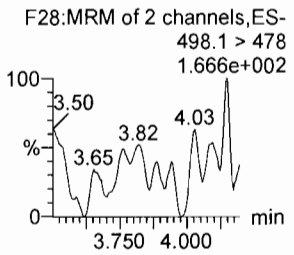
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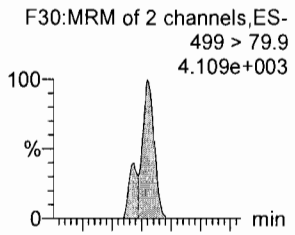


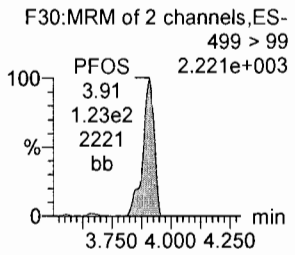
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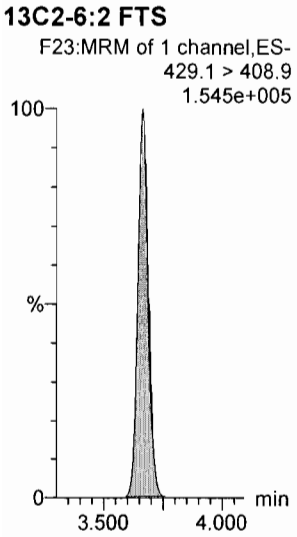


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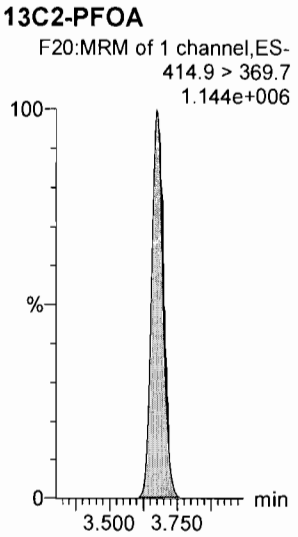




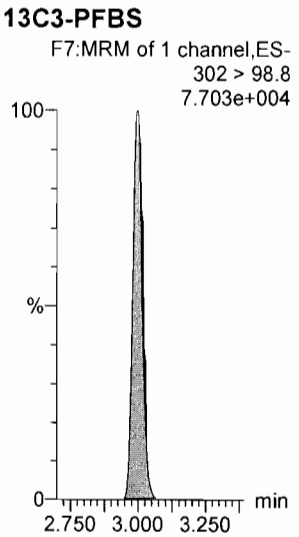
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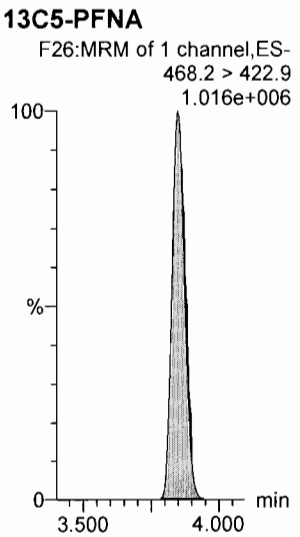
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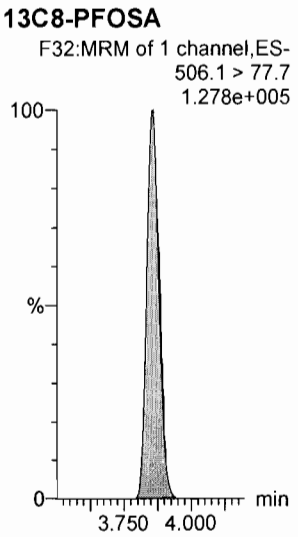
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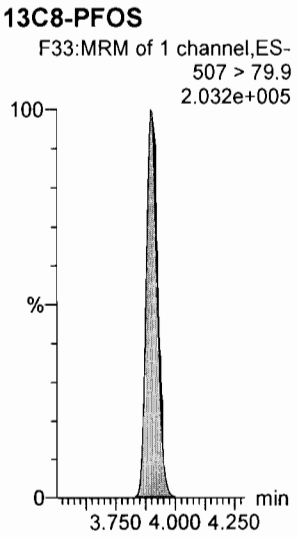
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13C8-PFOSA



13C8-PFOS

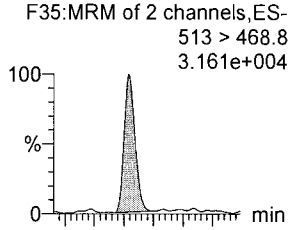


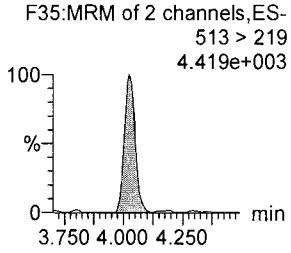
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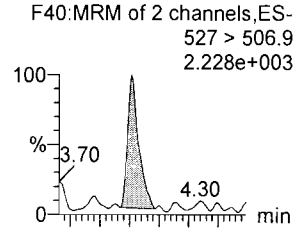
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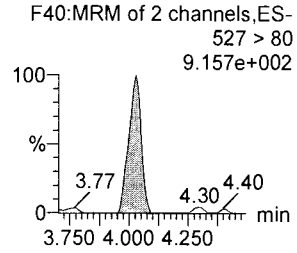
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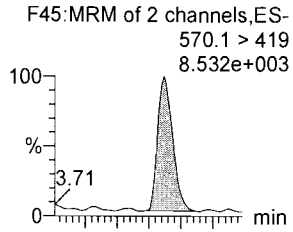


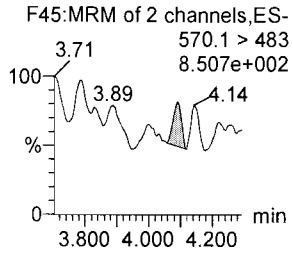
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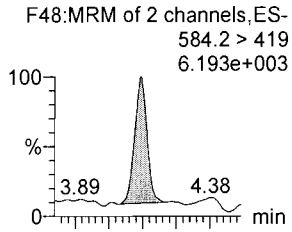


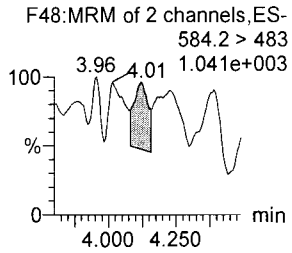
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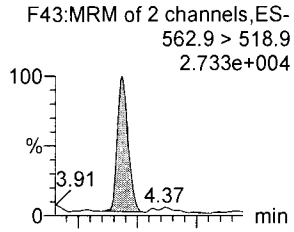


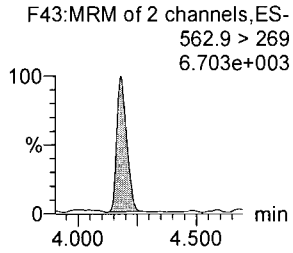
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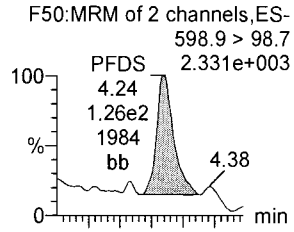


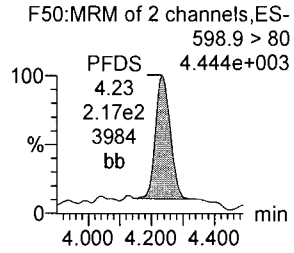
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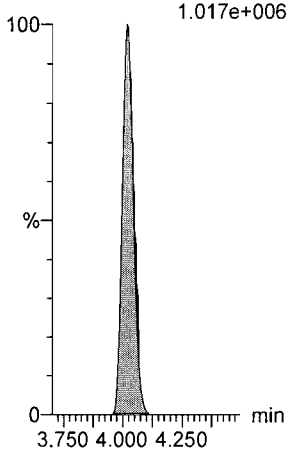


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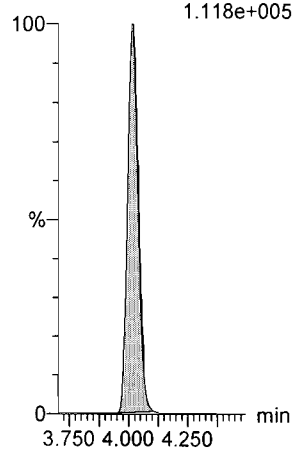




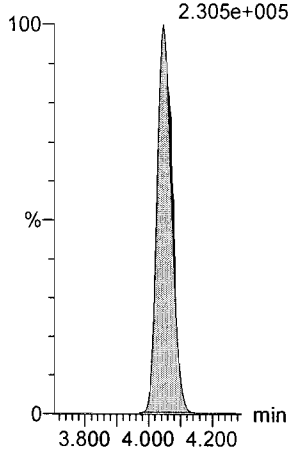
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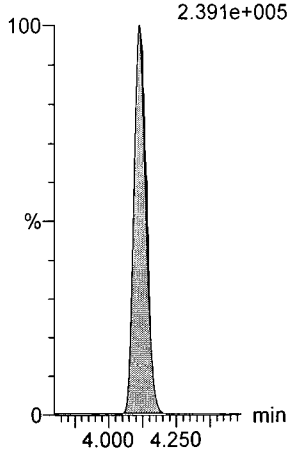
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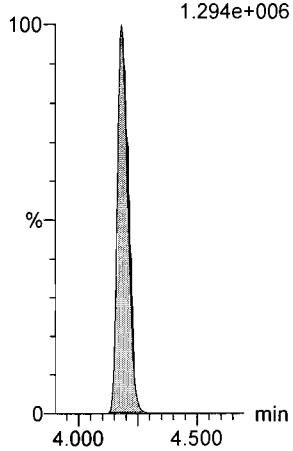
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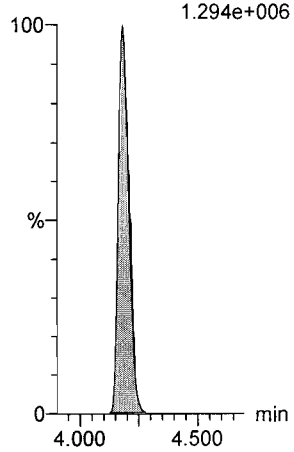
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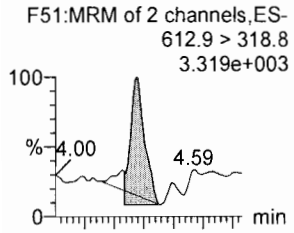


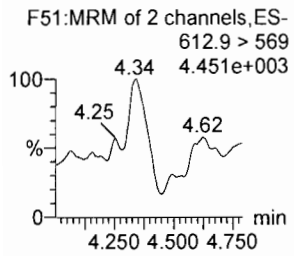
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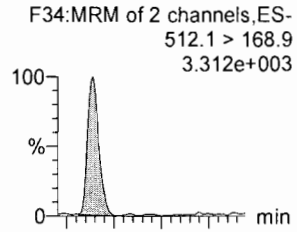
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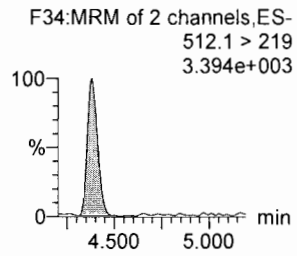
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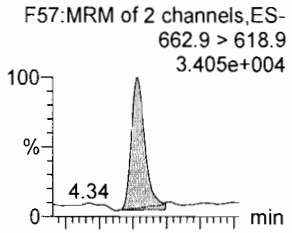


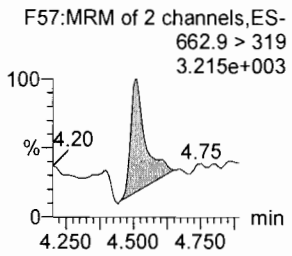
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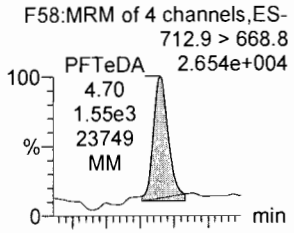


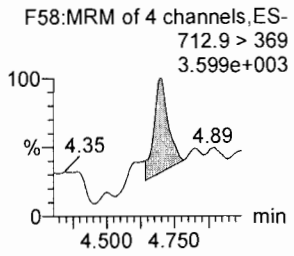
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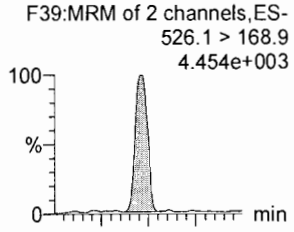


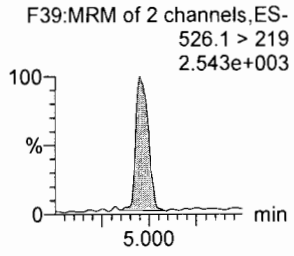
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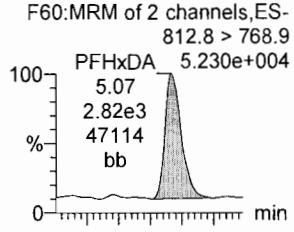


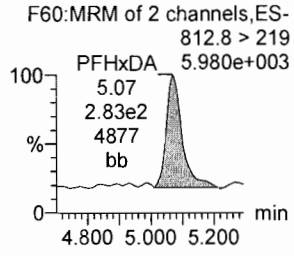
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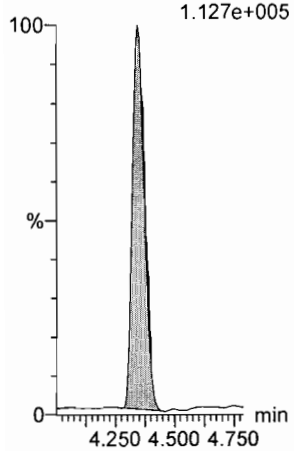


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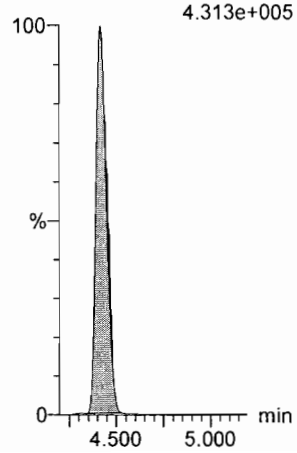




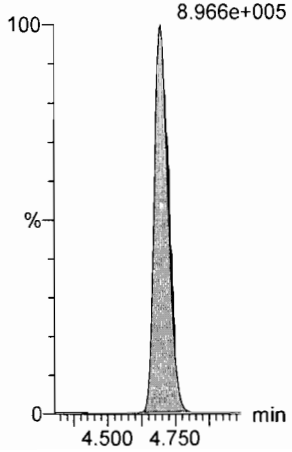
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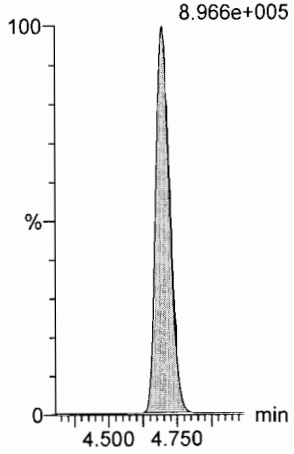
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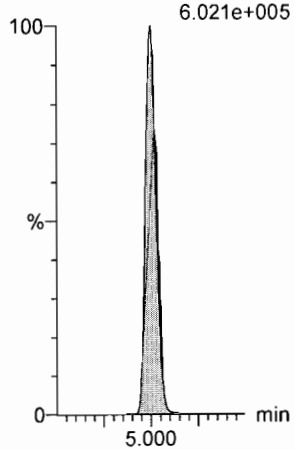
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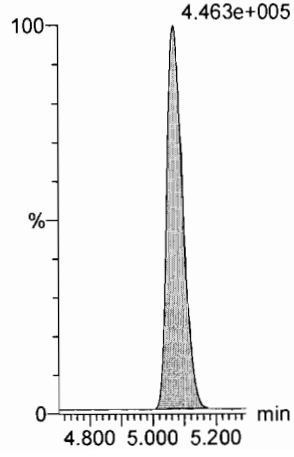
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d5-N-ETFOSA



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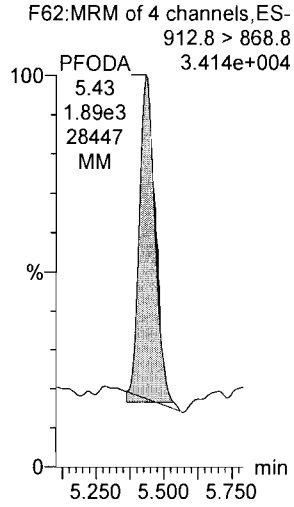


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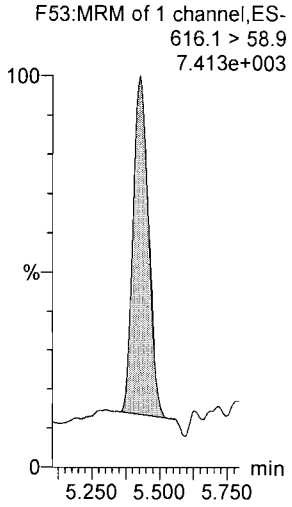
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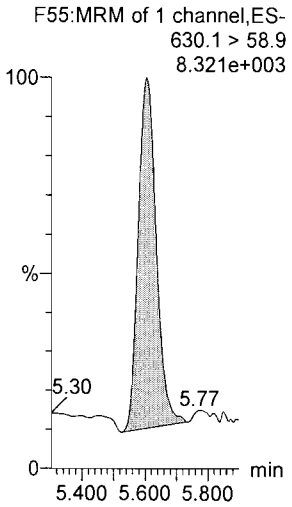
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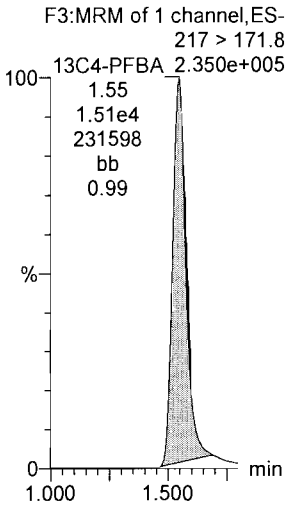
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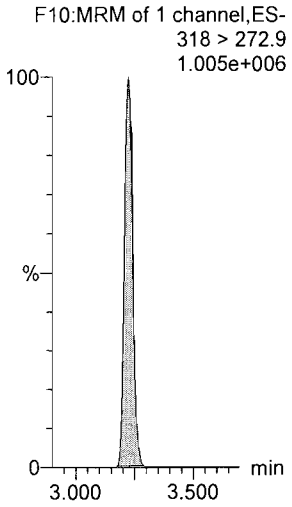
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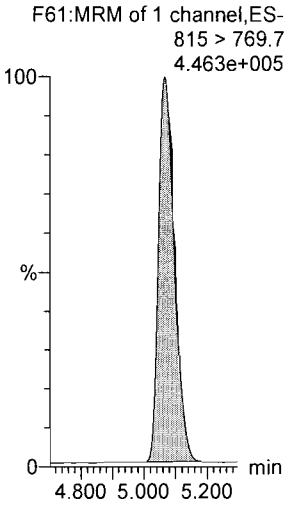
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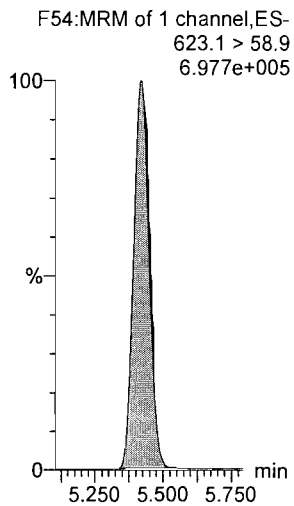
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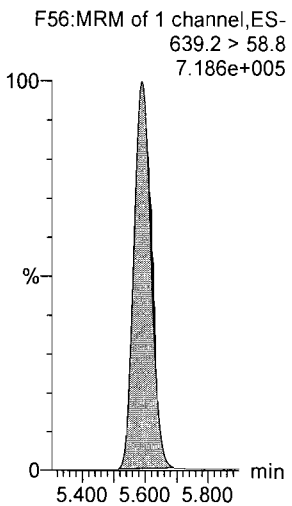
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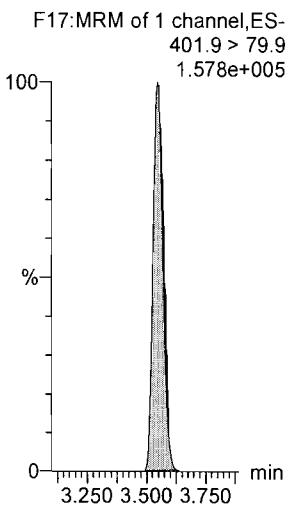
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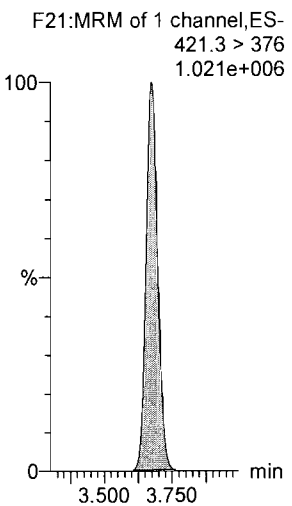
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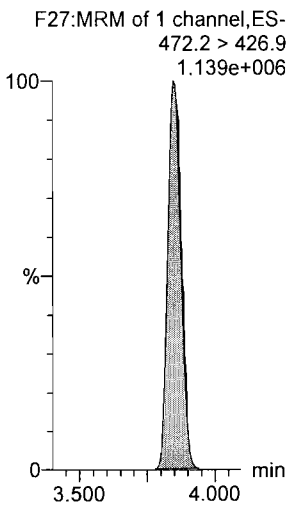
13C3-PFHxS



13C8-PFOA



13C9-PFNA

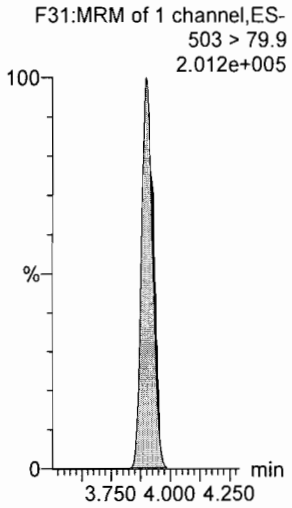


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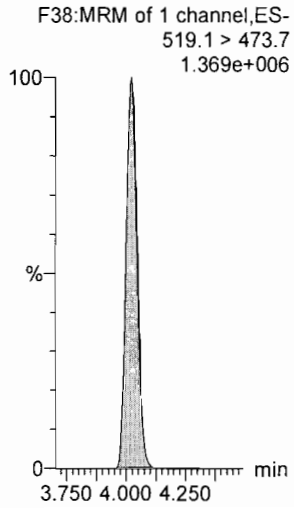
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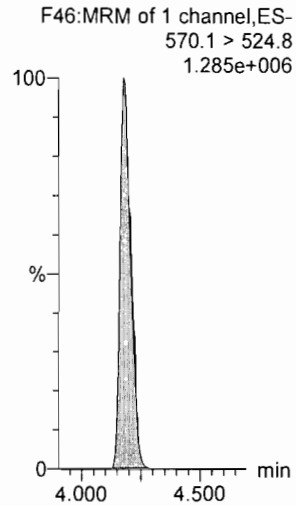
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13C6-PFDA



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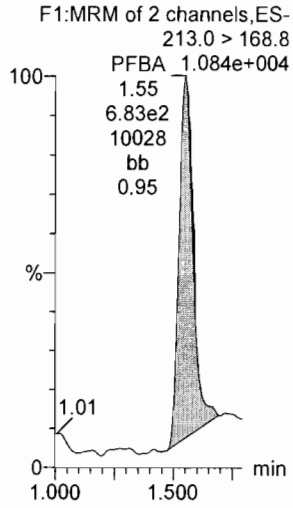


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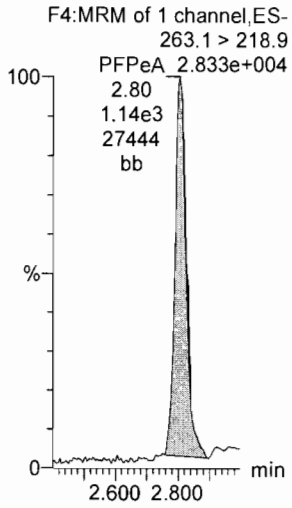
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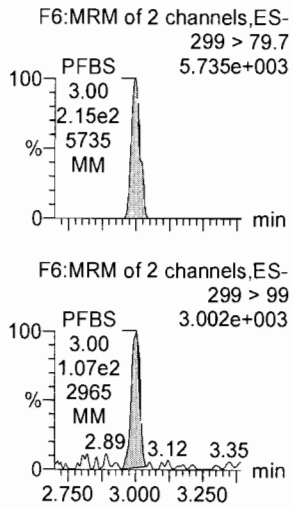
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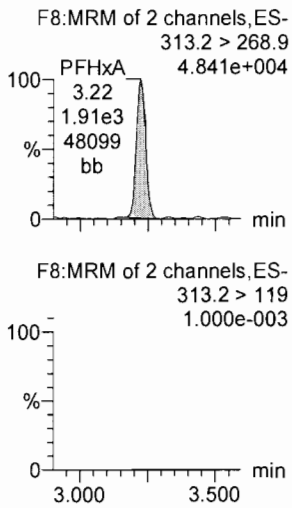
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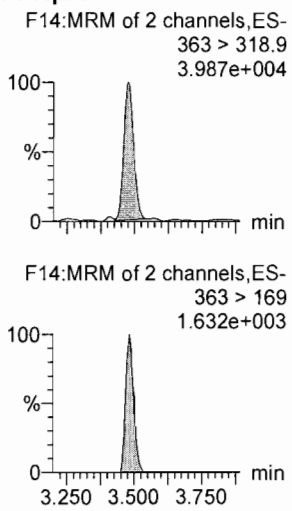
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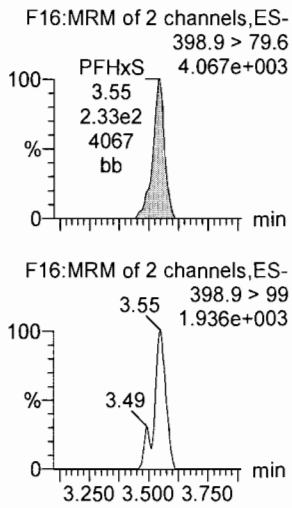
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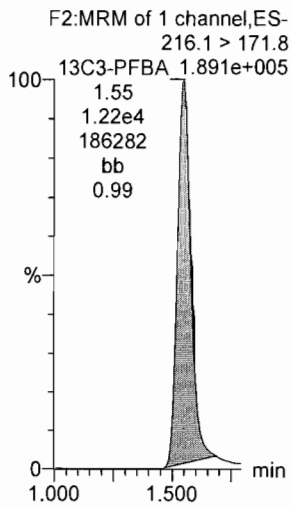
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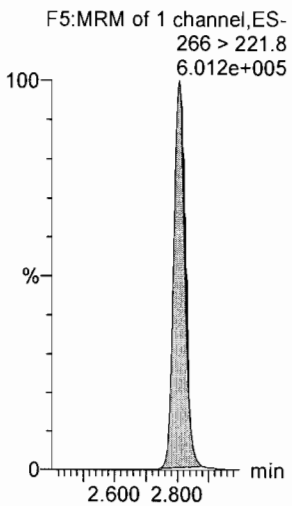
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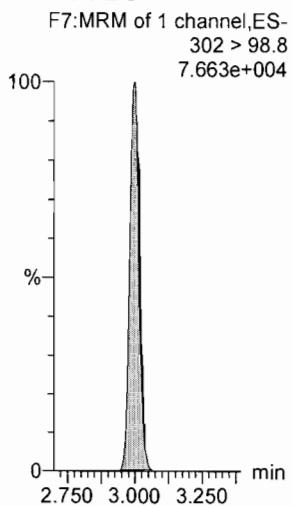
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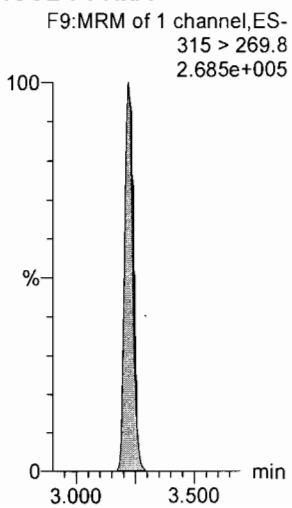
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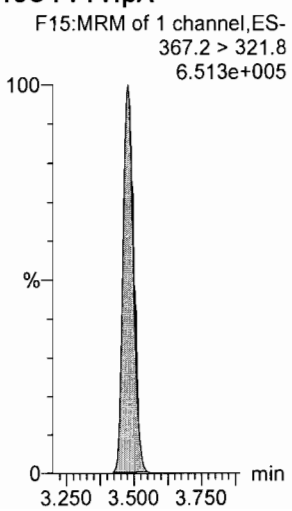
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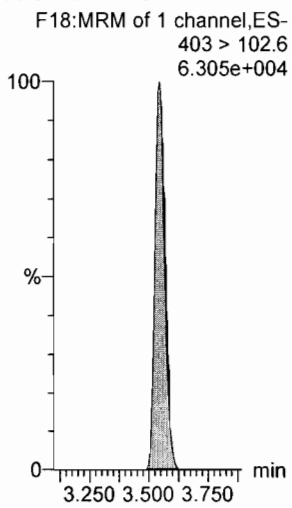
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS

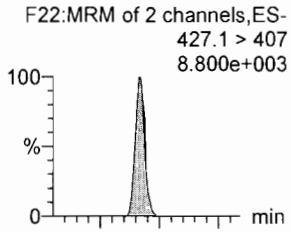


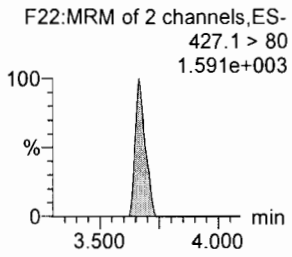
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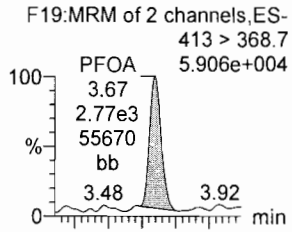
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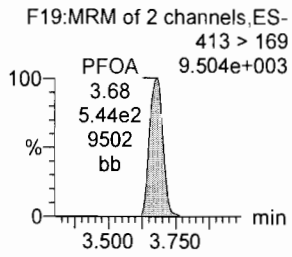
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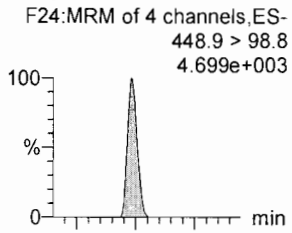


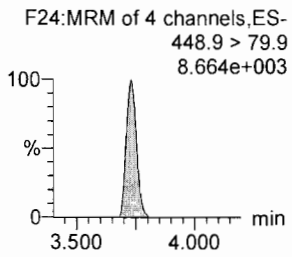
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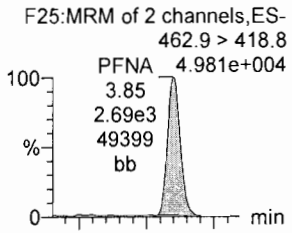


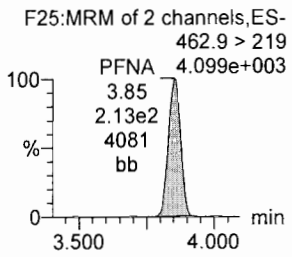
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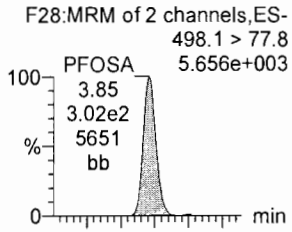


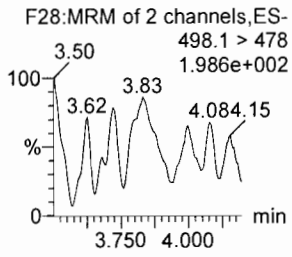
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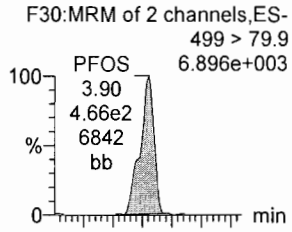


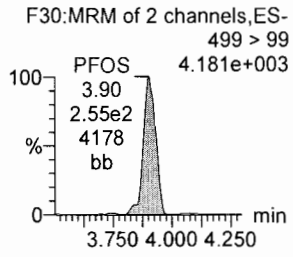
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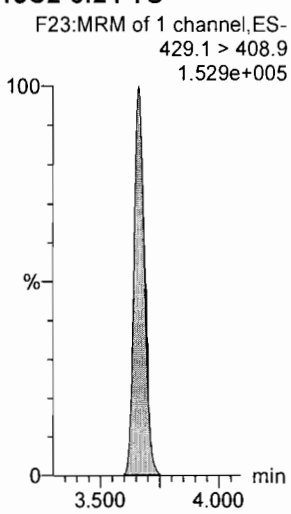


PFOS

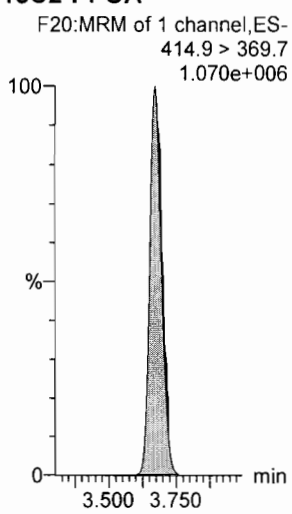




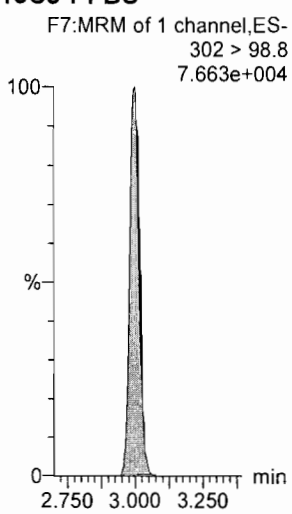
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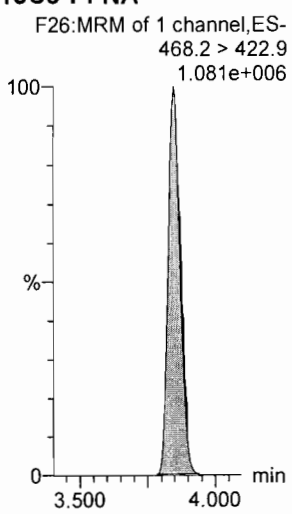
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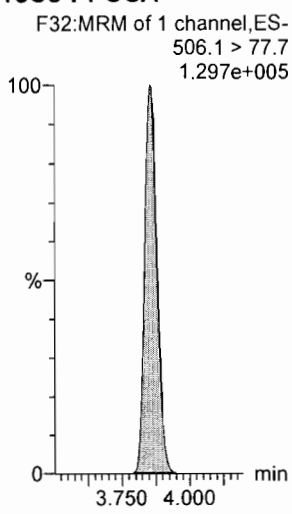
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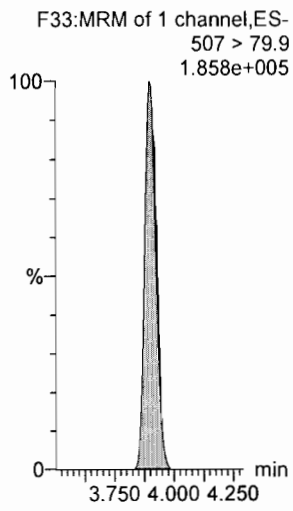
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13C8-PFOSA



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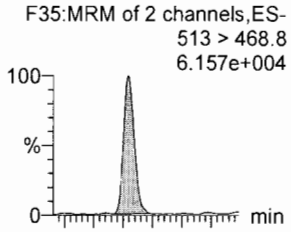


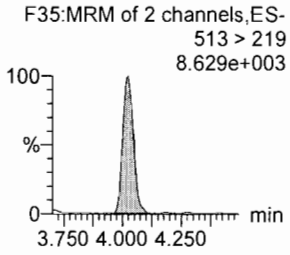
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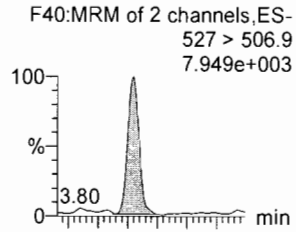
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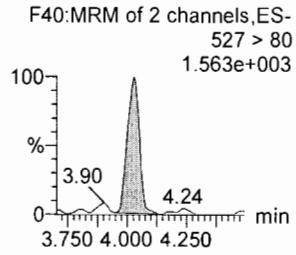
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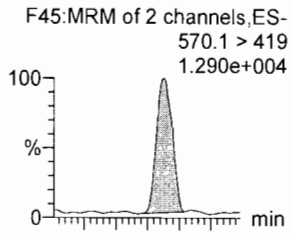


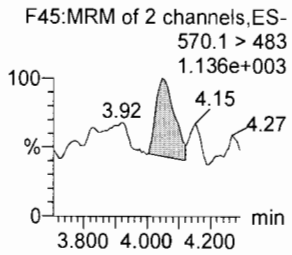
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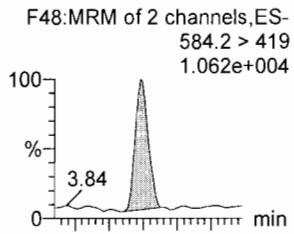


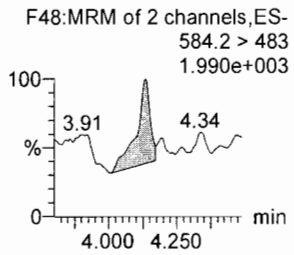
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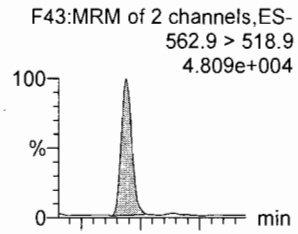


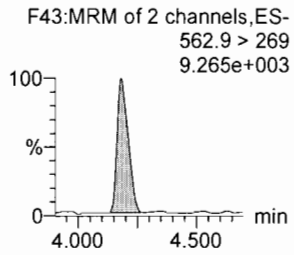
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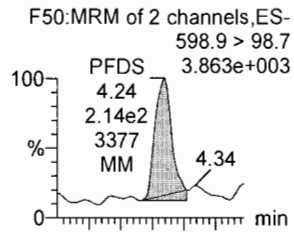


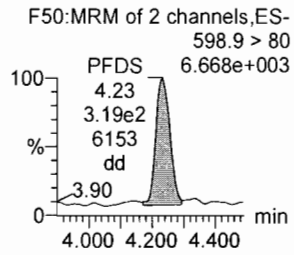
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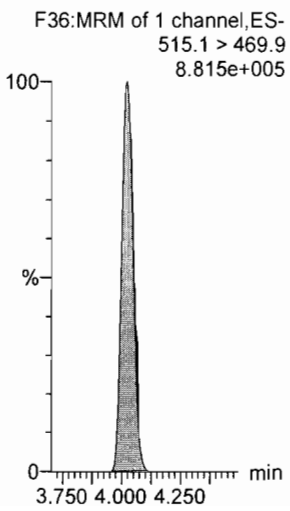


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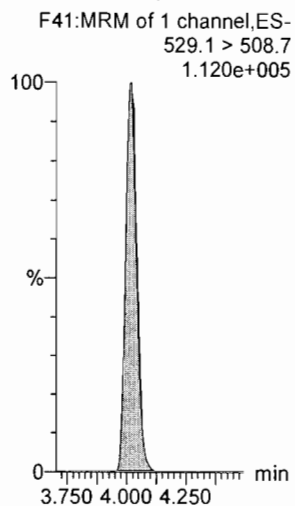




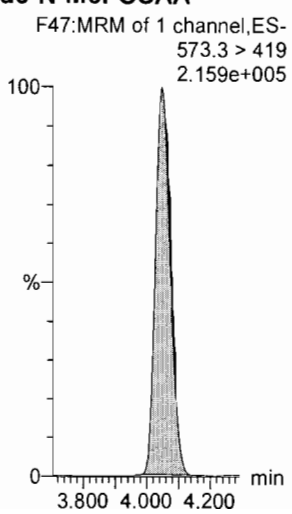
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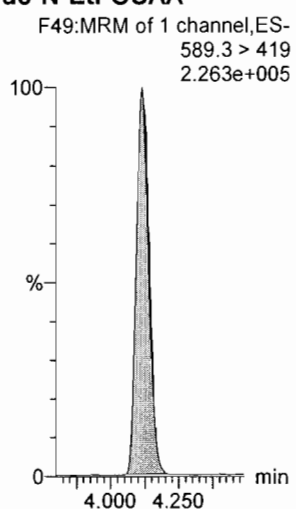
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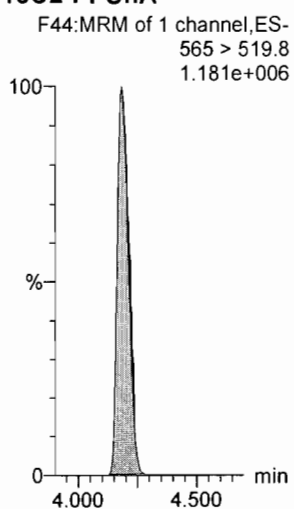
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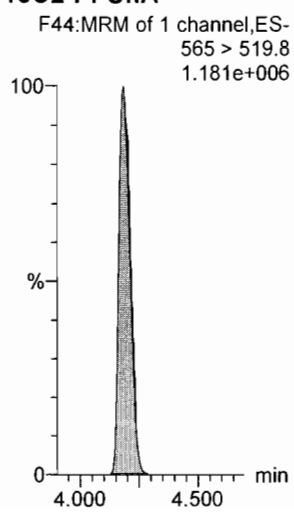
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13C2-PFUnA



13C2-PFUnA

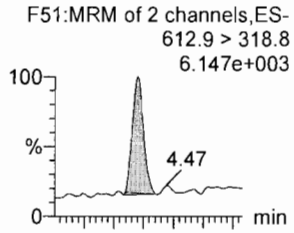


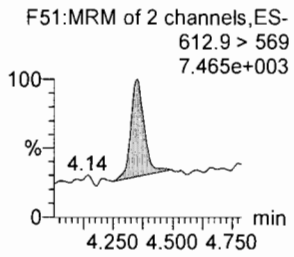
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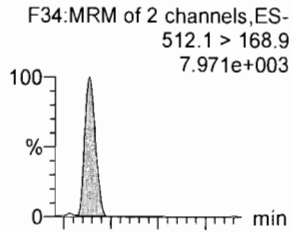
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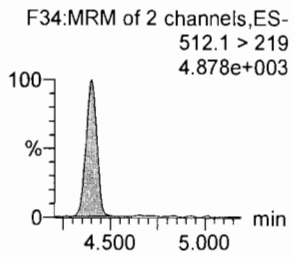
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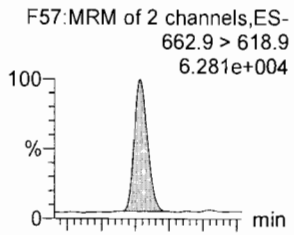


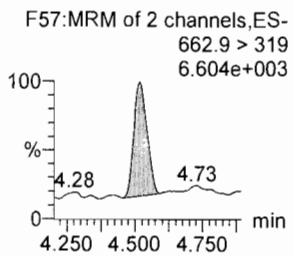
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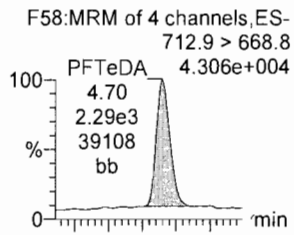


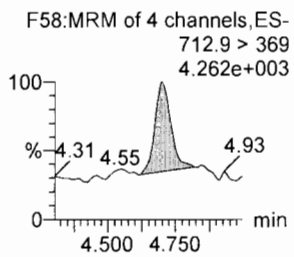
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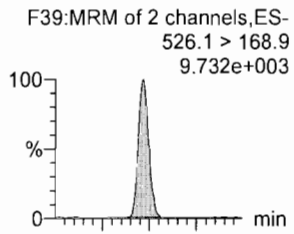


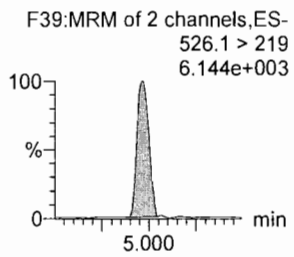
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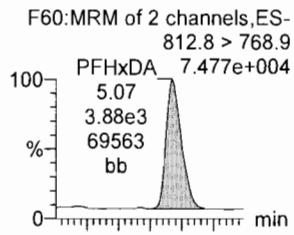


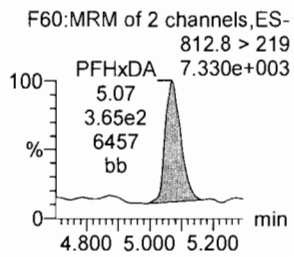
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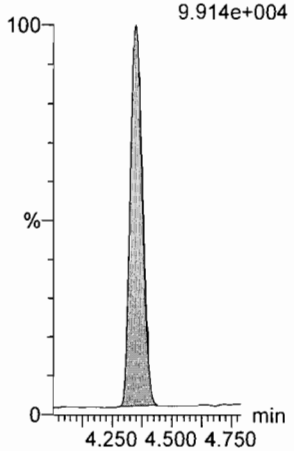


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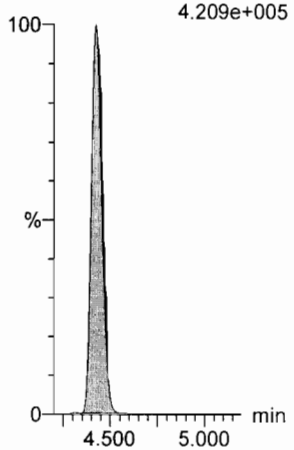




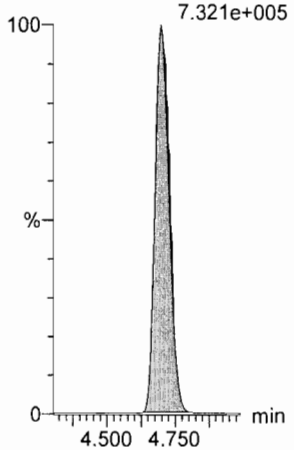
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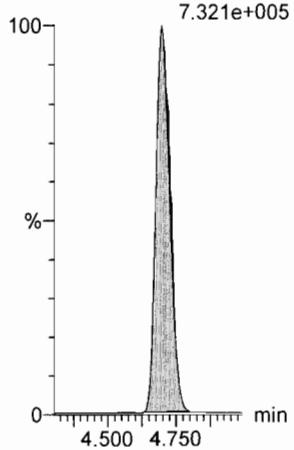
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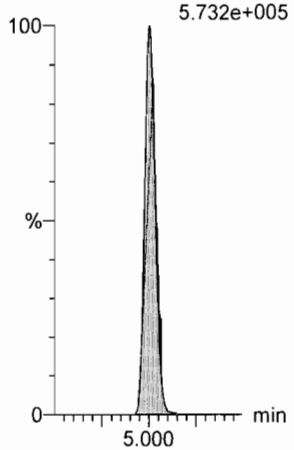
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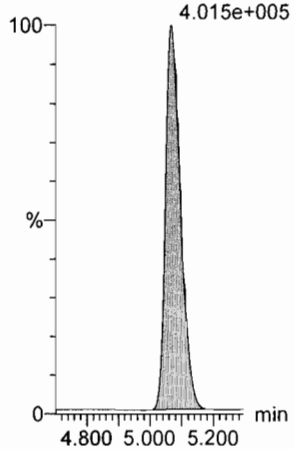
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d5-N-ETFOSA



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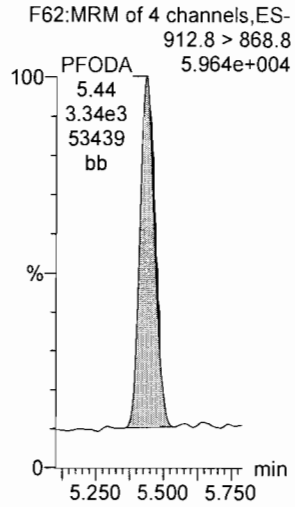


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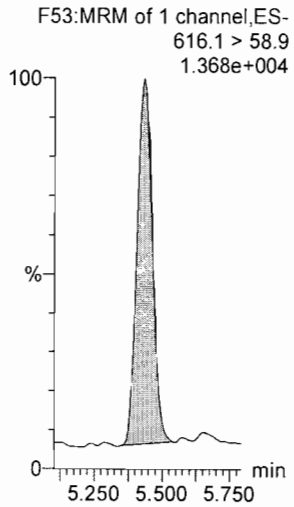
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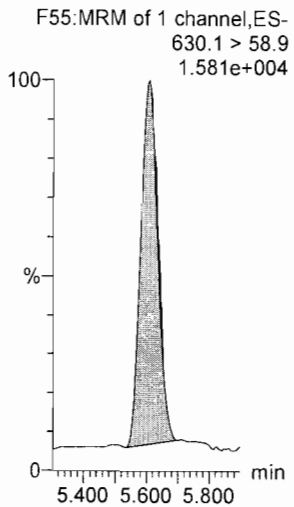
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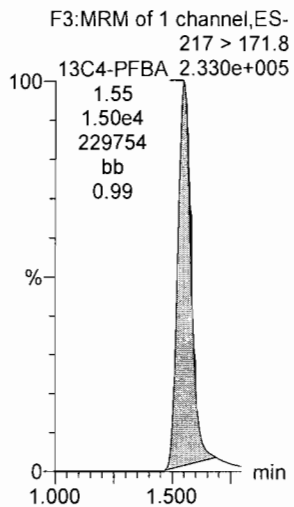
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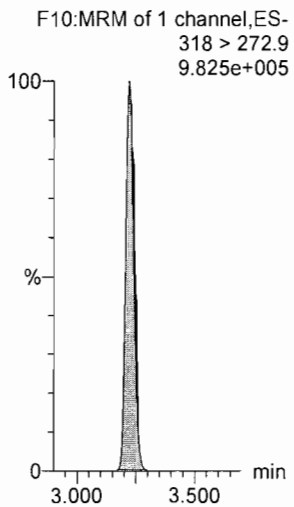
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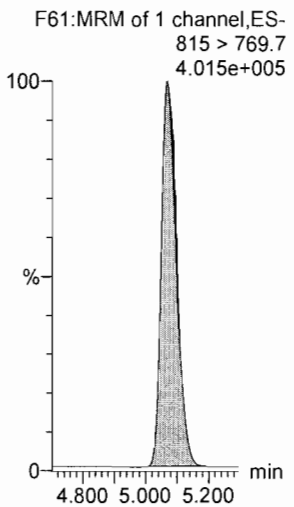
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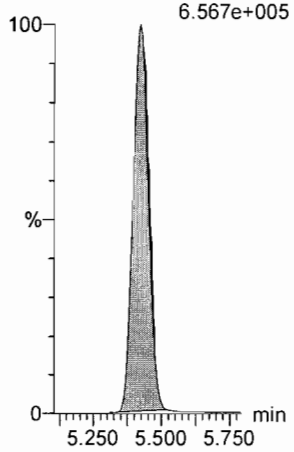
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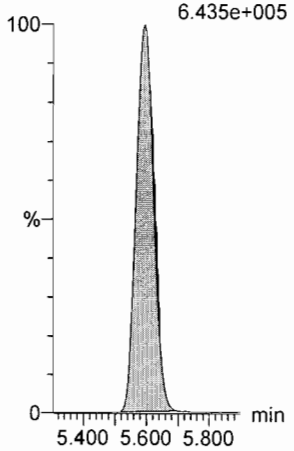
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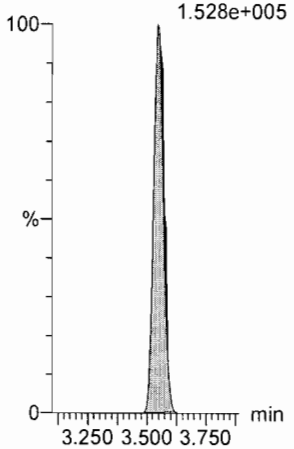
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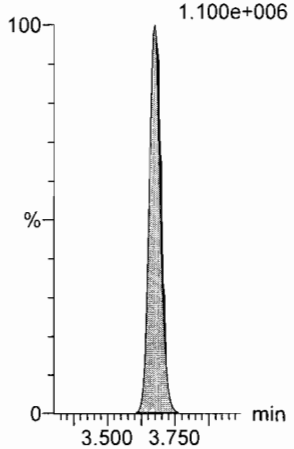
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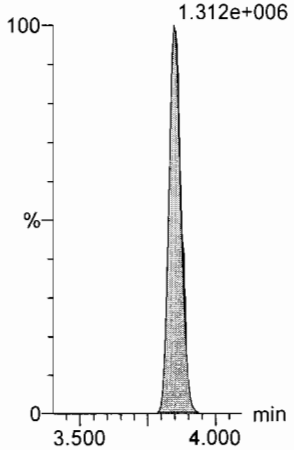
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13C8-PFOA



13C9-PFNA

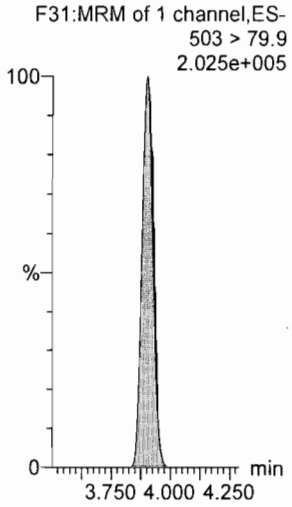


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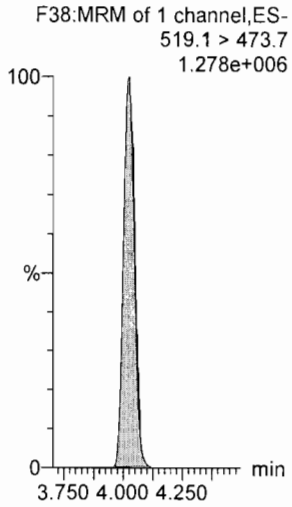
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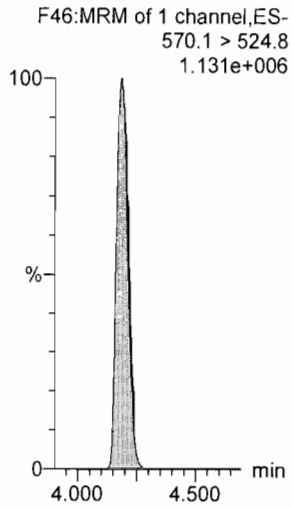
13C4-PFOS



13C6-PFDA



13C7-PFUnA

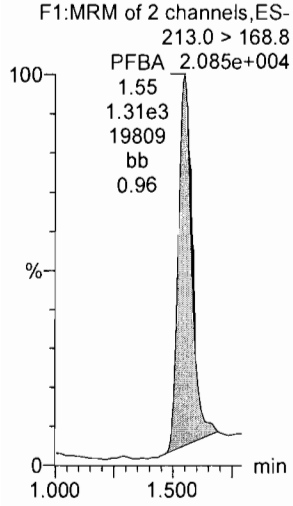


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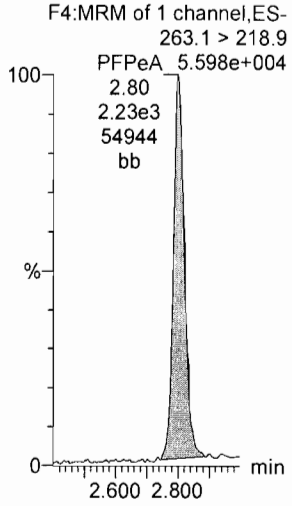
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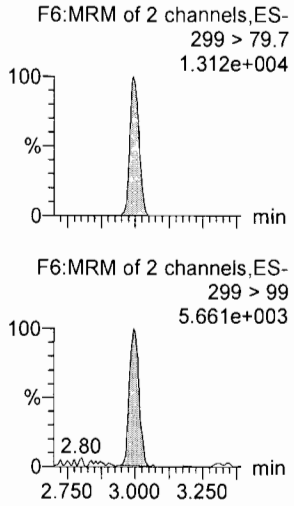
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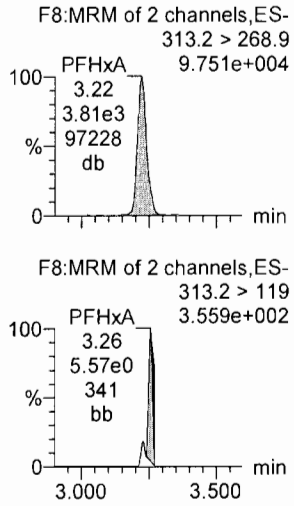
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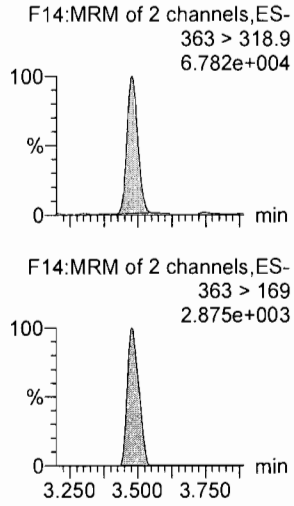
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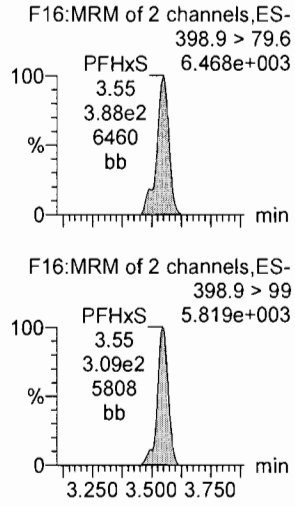
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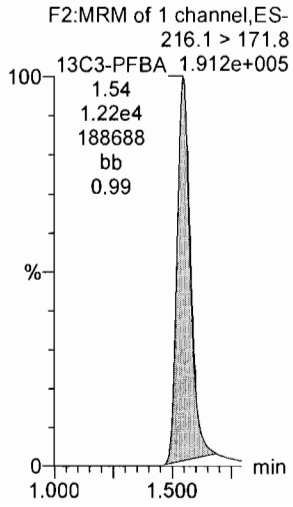
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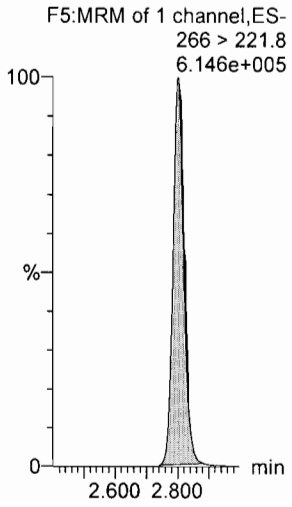
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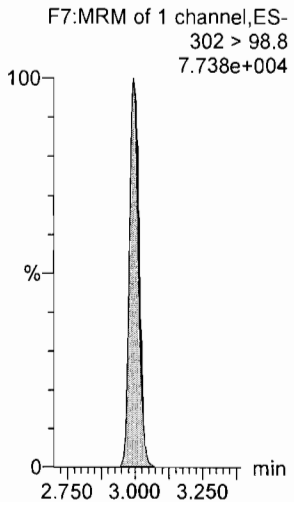
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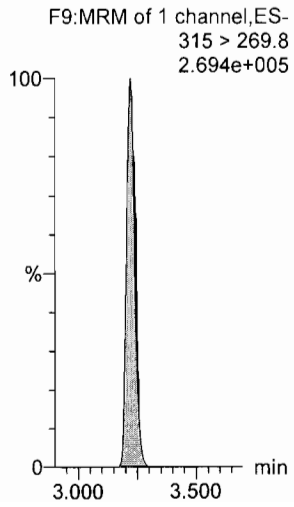
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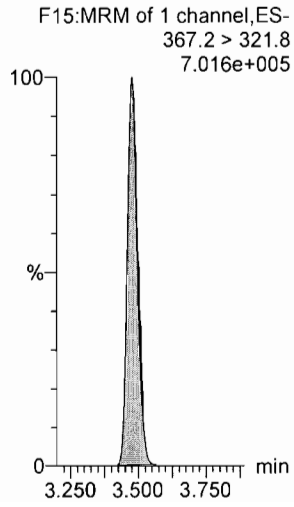
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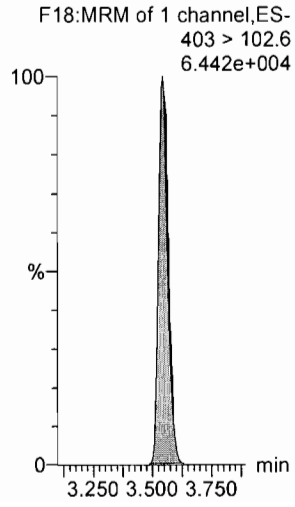
13C2-PFHxA



13C4-PFHpA



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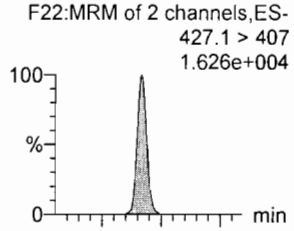


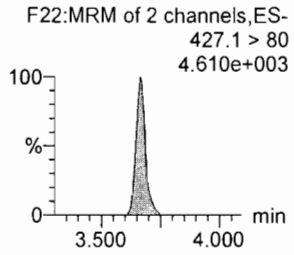
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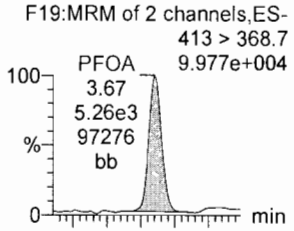
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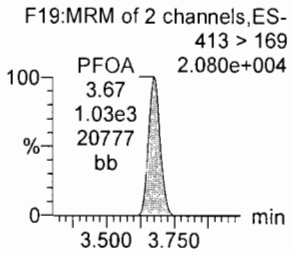
6:2 FTS



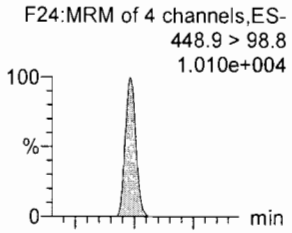


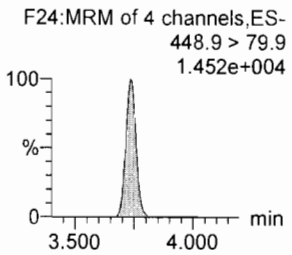
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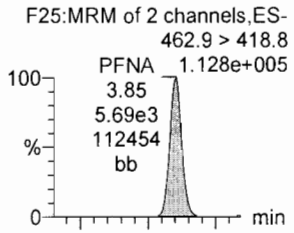


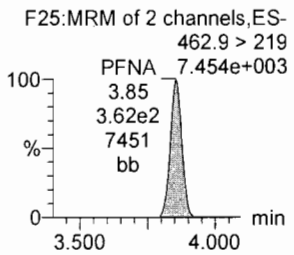
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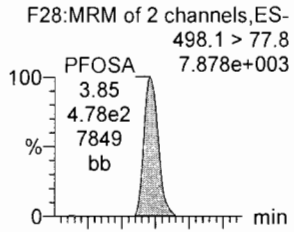


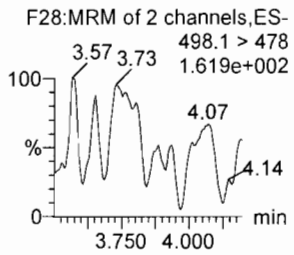
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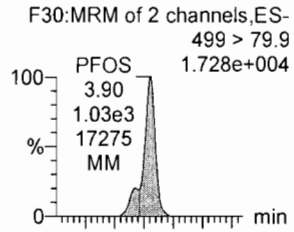


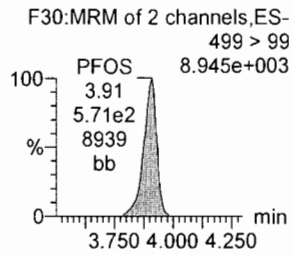
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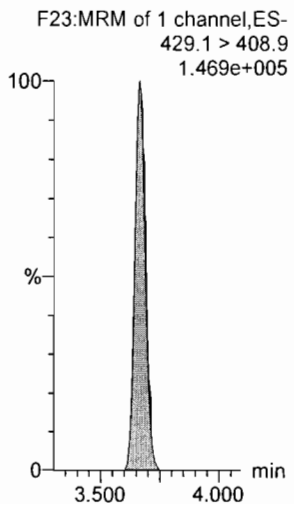


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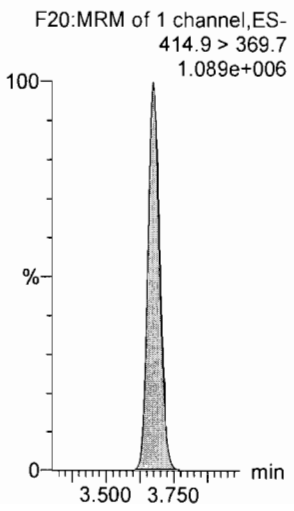




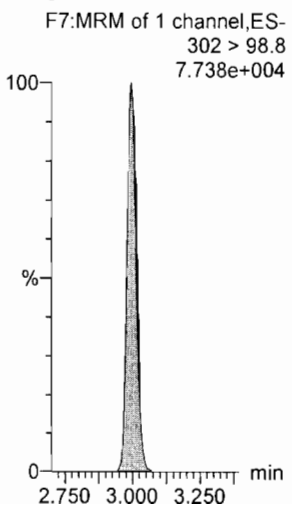
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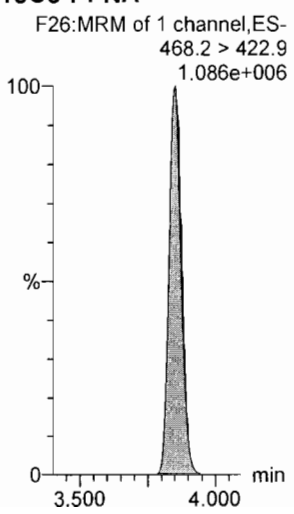
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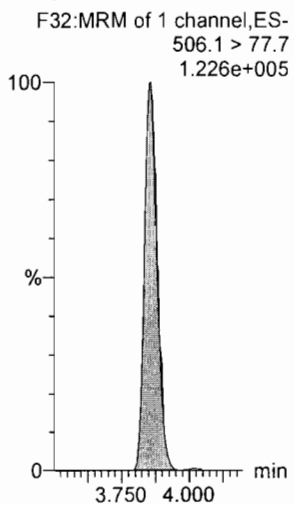
13C3-PFBS



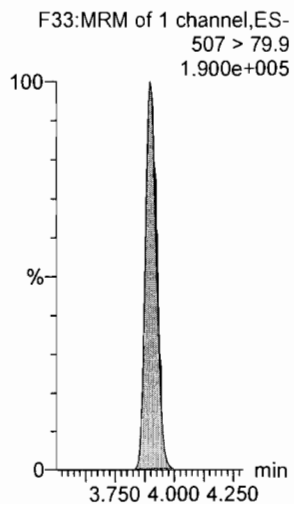
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13C8-PFOSA



13C8-PFOS

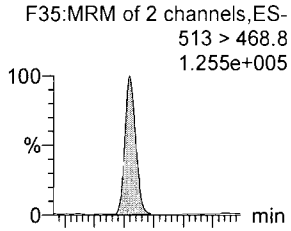


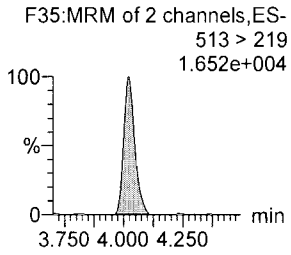
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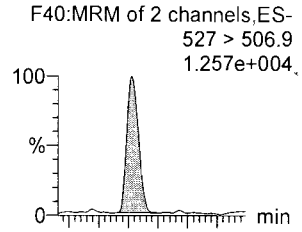
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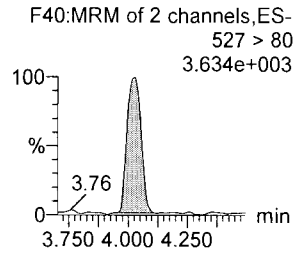
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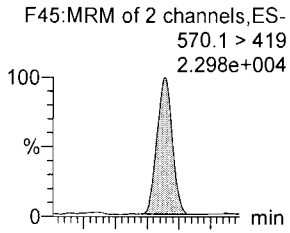


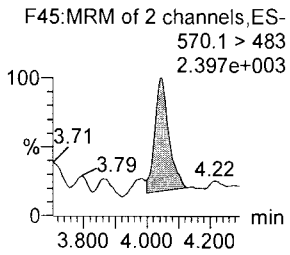
8:2 FTS



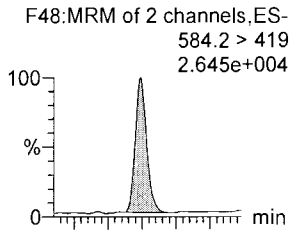


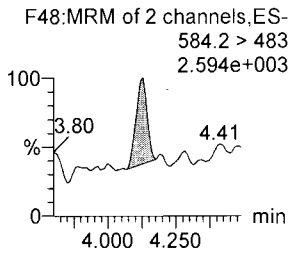
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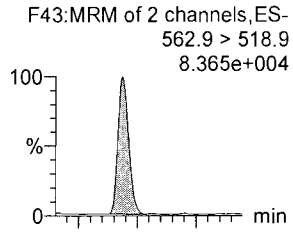


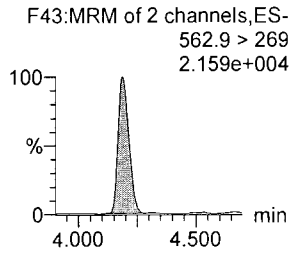
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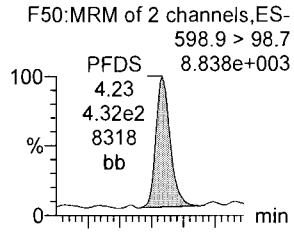


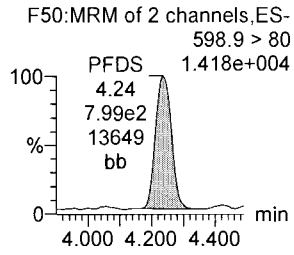
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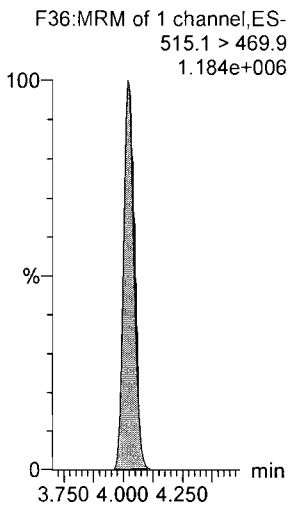


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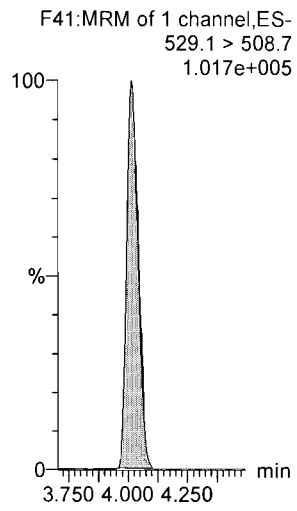




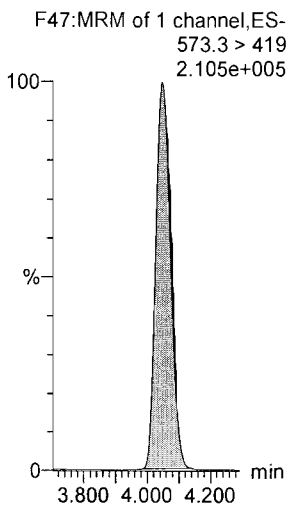
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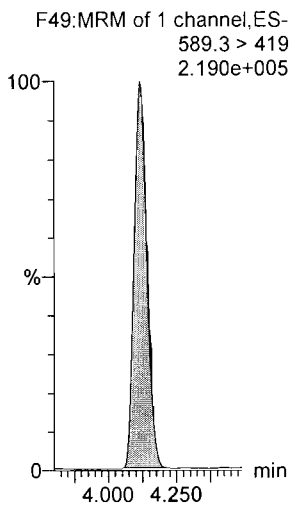
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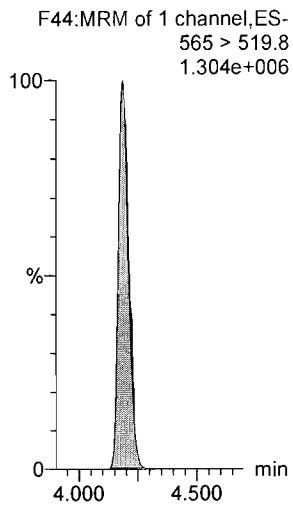
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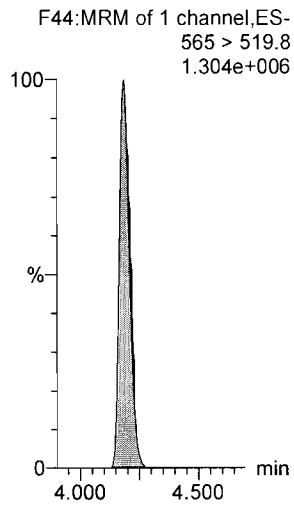
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13C2-PFUnA



13C2-PFUnA

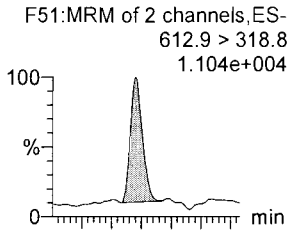


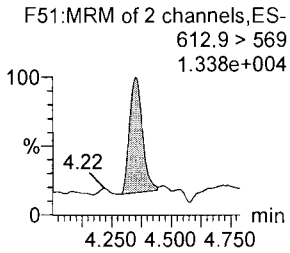
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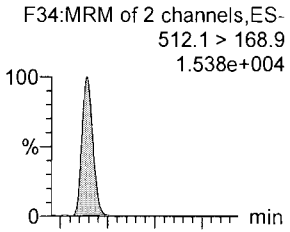
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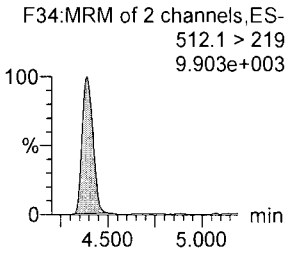
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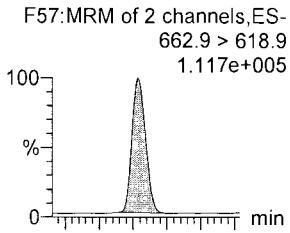


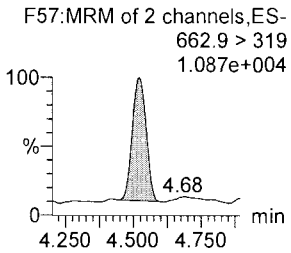
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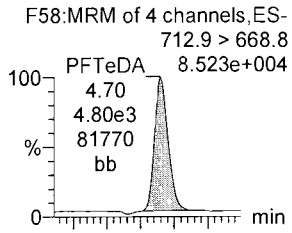


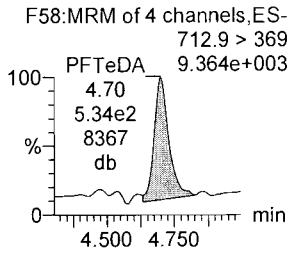
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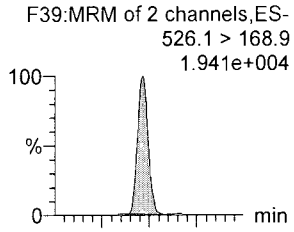


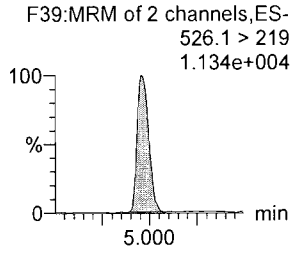
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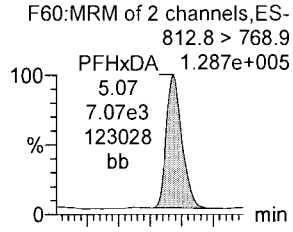


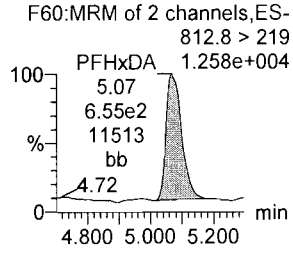
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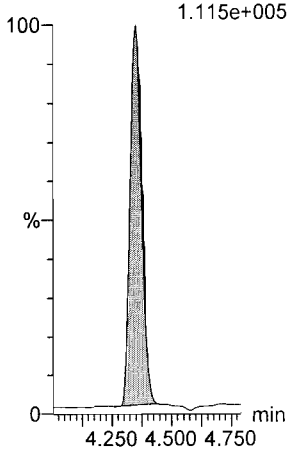


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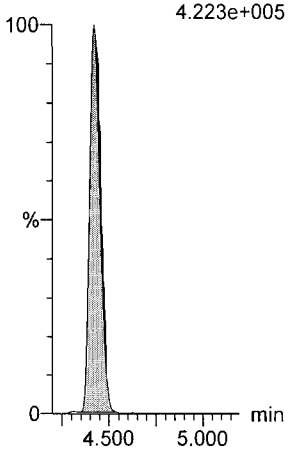




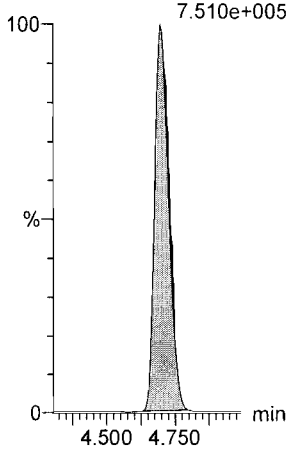
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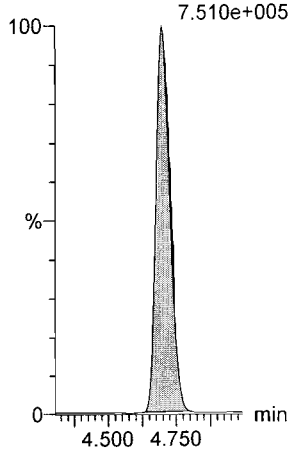
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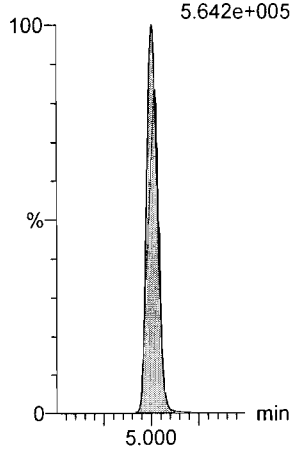
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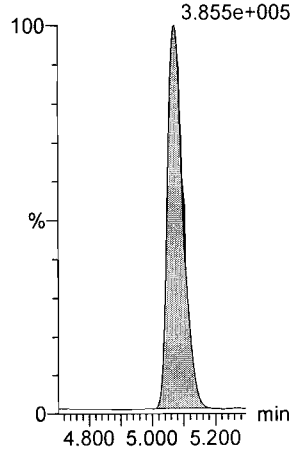
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d5-N-ETFOSA



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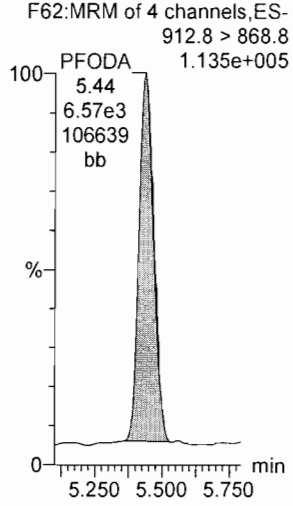


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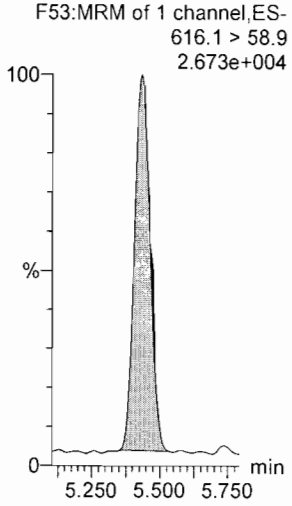
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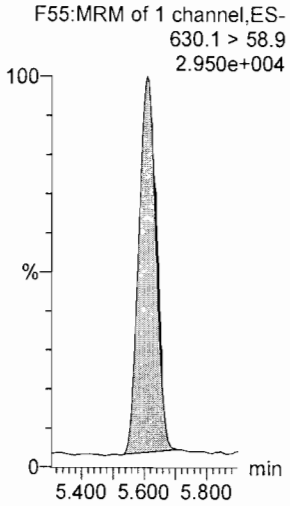
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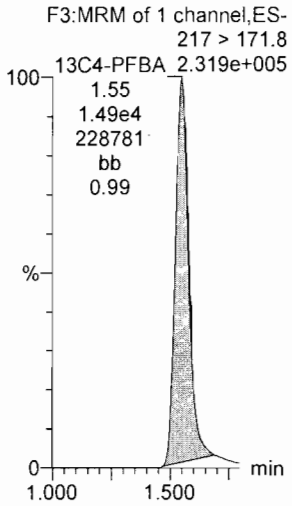
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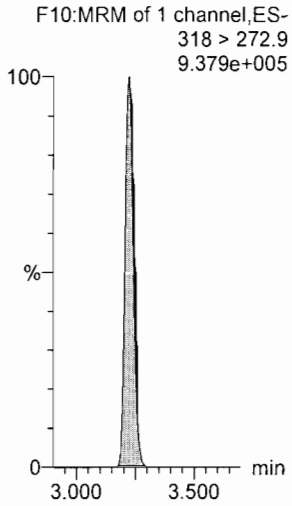
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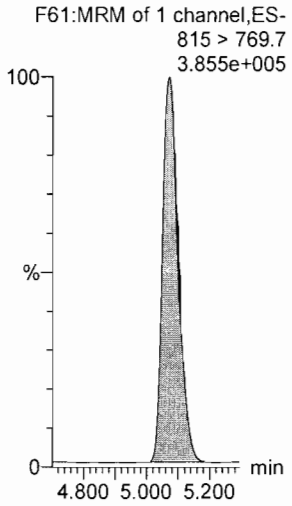
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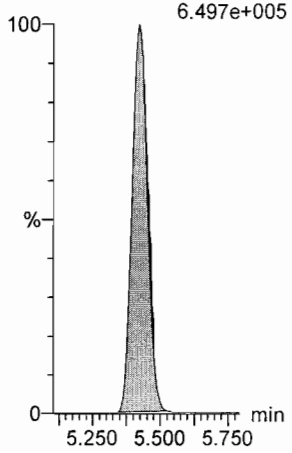
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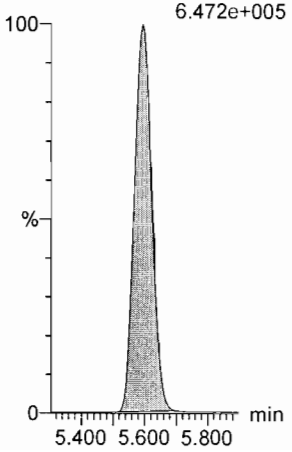
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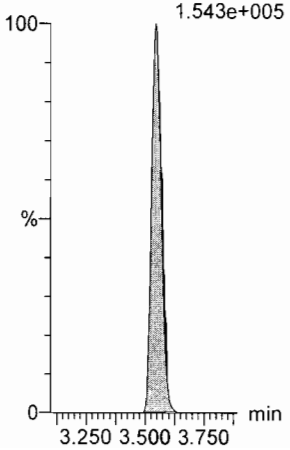
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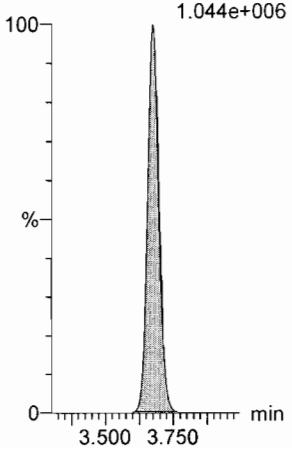
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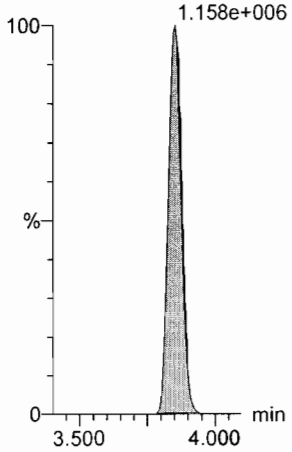
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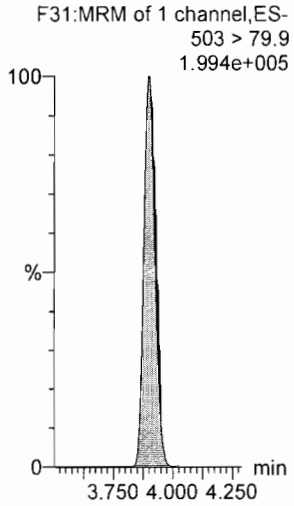


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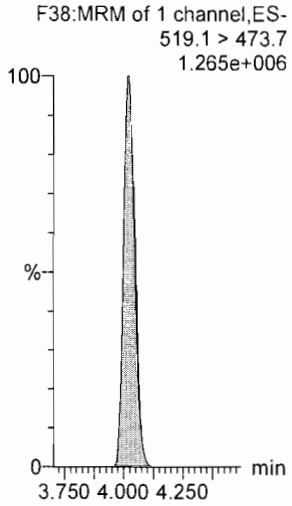
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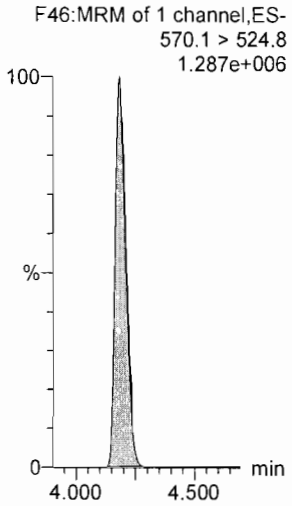
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13C6-PFDA



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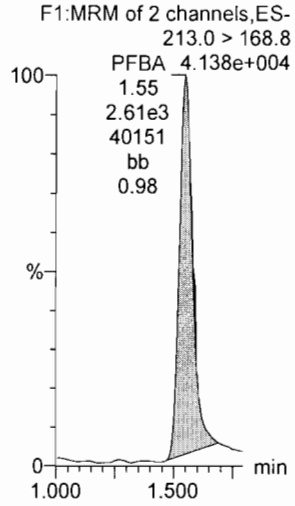


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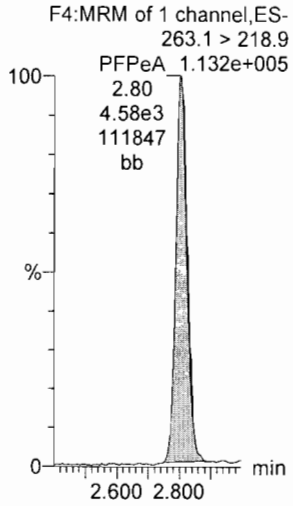
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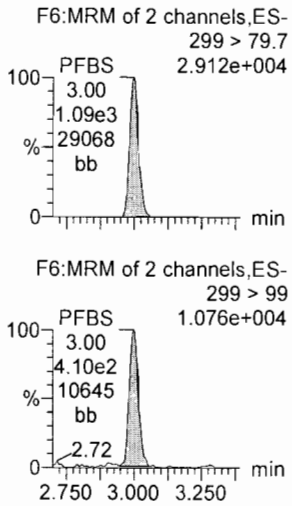
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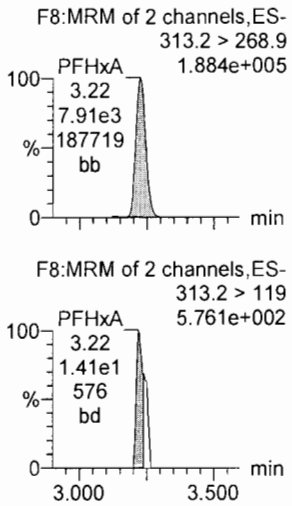
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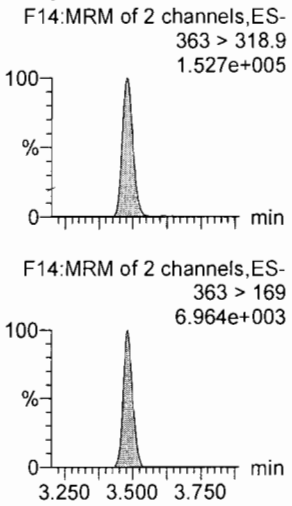
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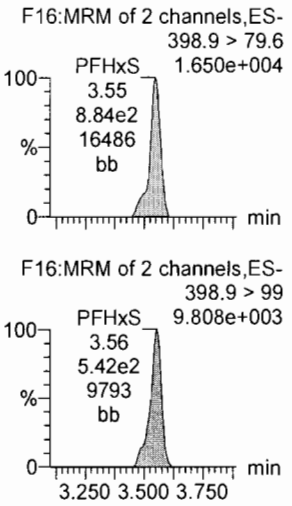
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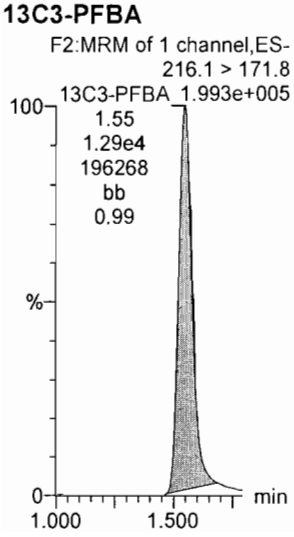
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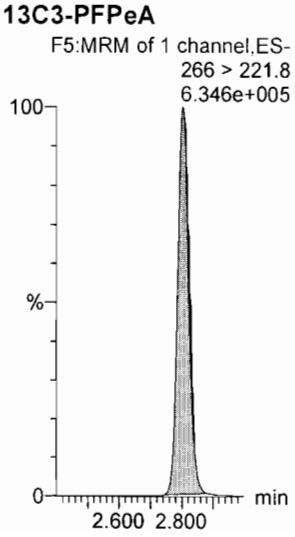
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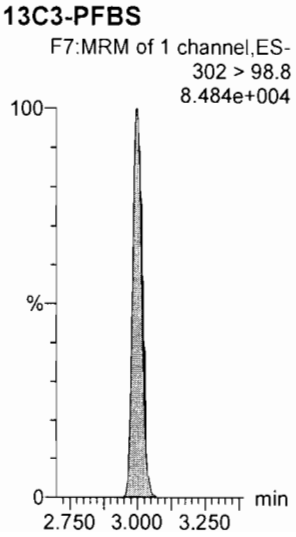
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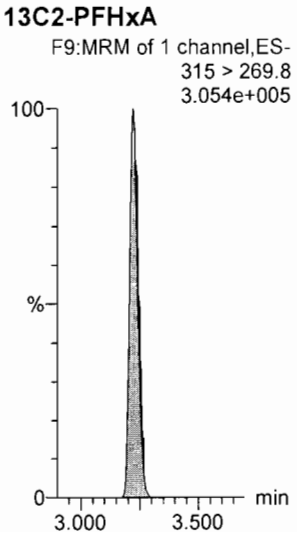
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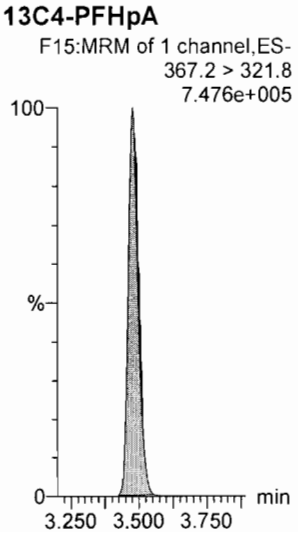
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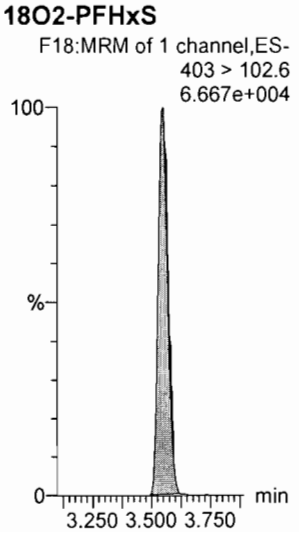
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13C4-PFHpA



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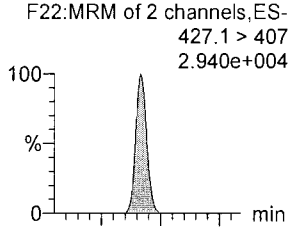


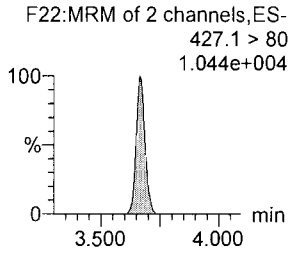
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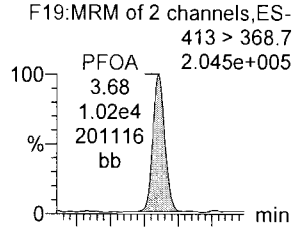
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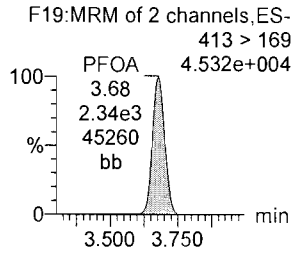
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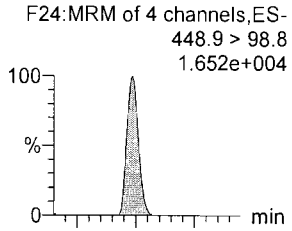


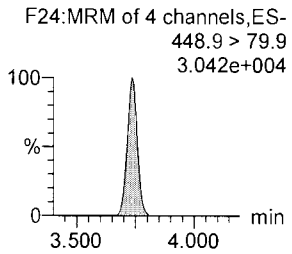
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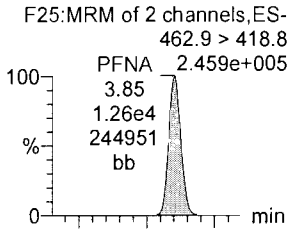


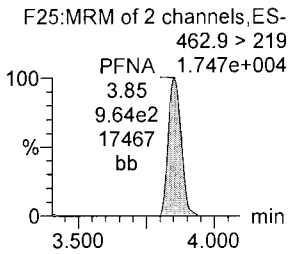
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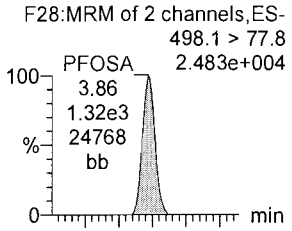


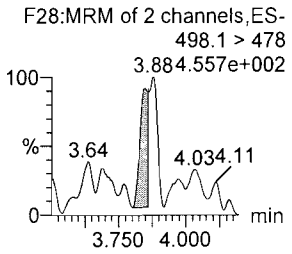
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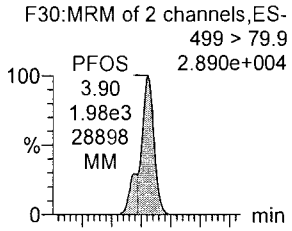


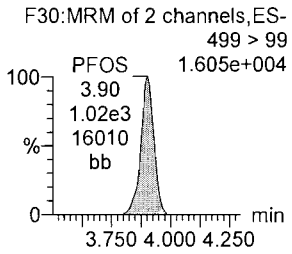
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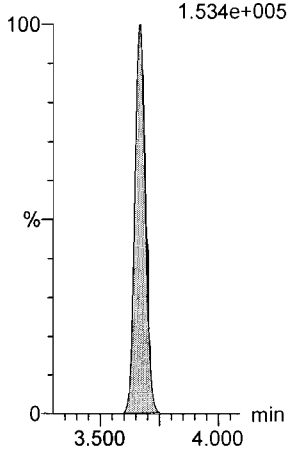


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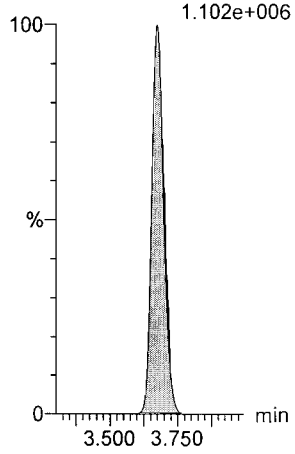




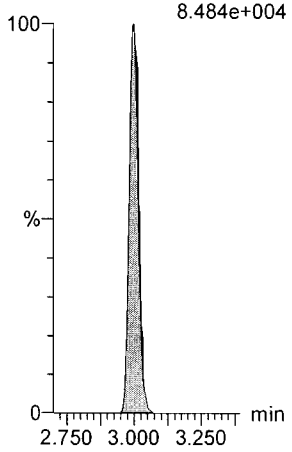
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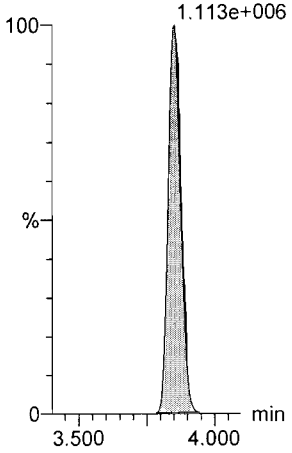
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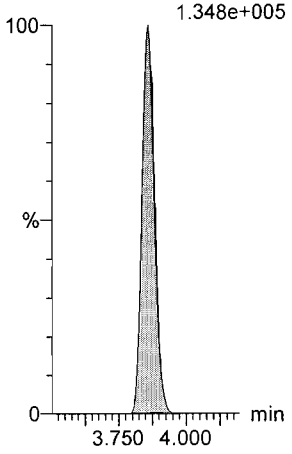
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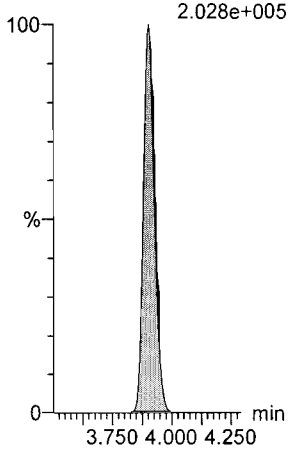
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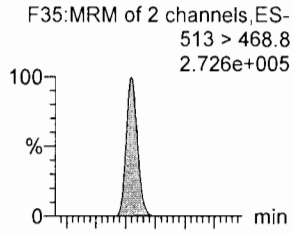


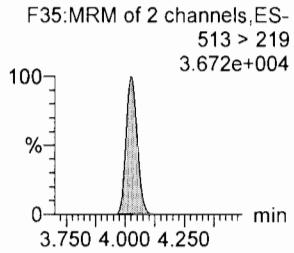
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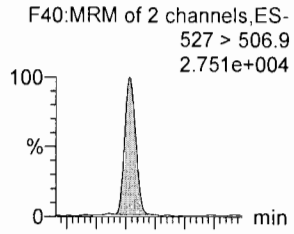
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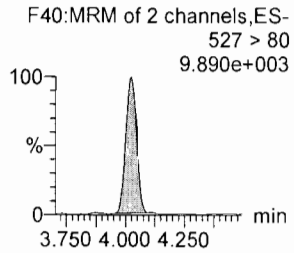
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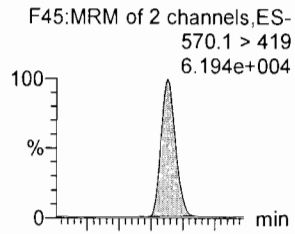


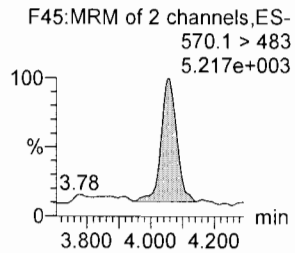
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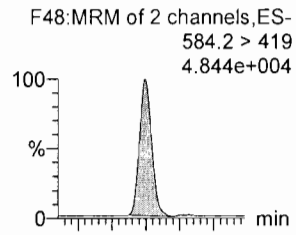


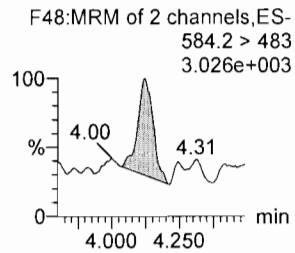
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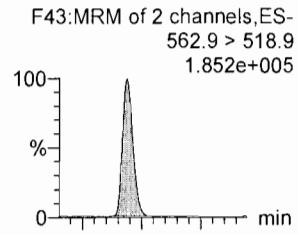


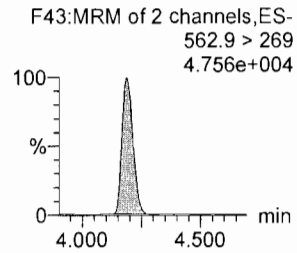
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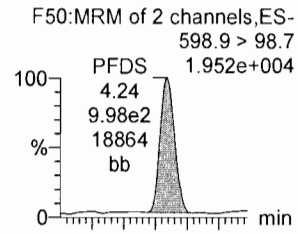


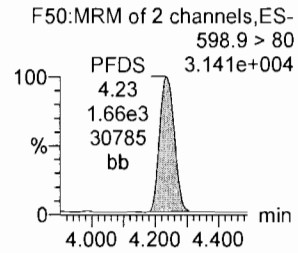
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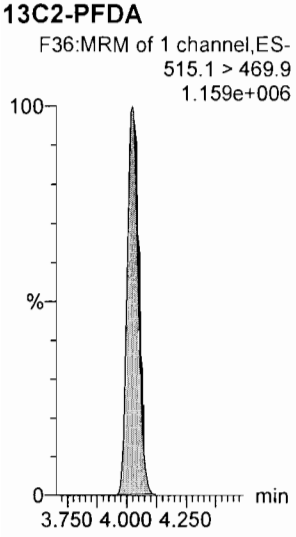


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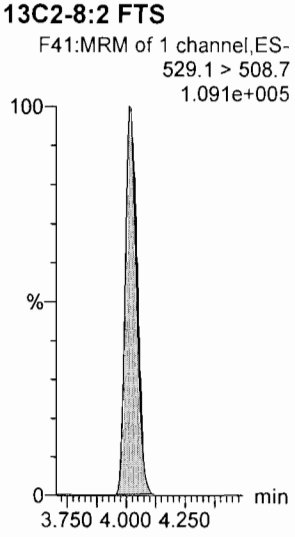




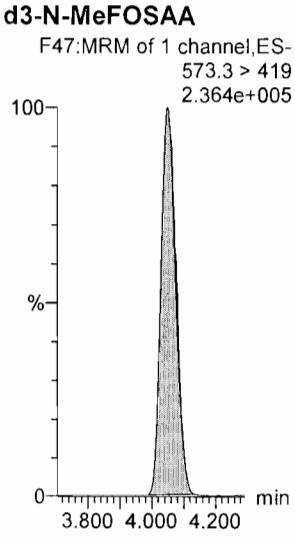
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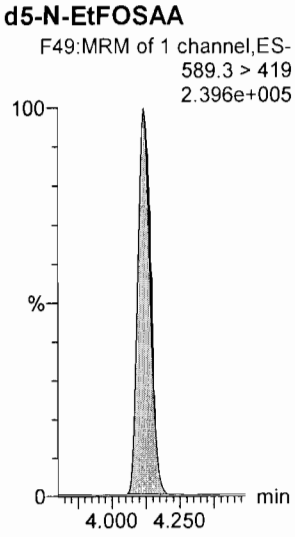
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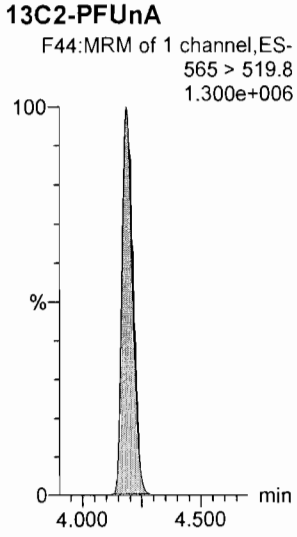
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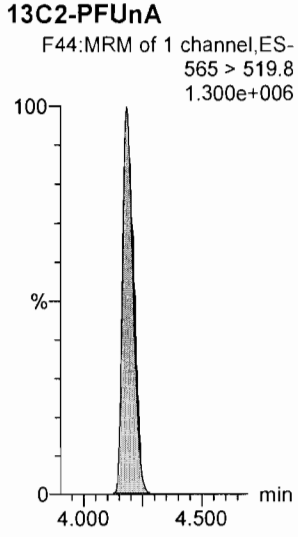
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13C2-PFUnA



13C2-PFUnA

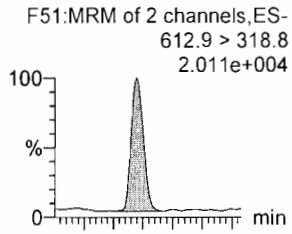


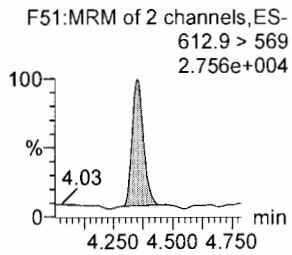
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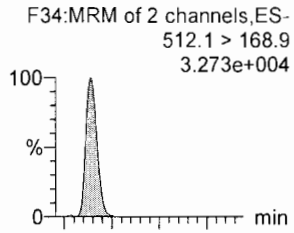
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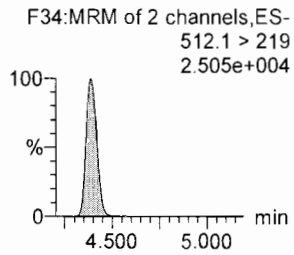
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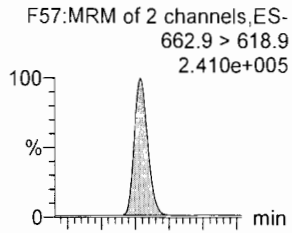


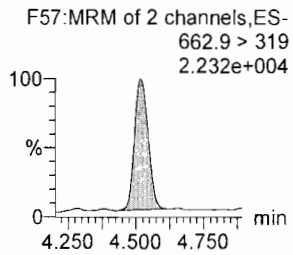
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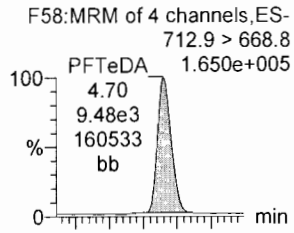


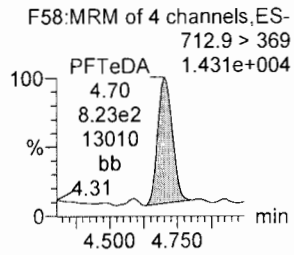
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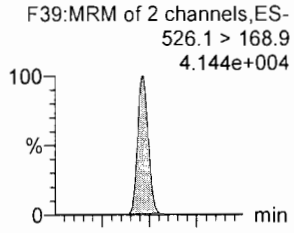


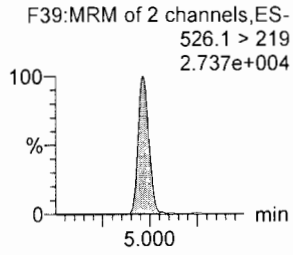
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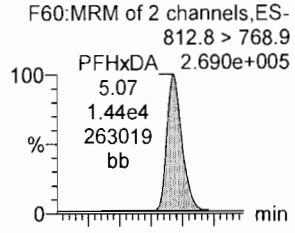


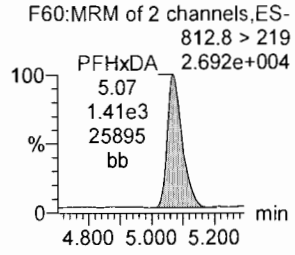
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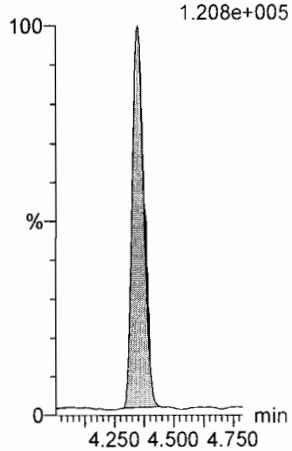


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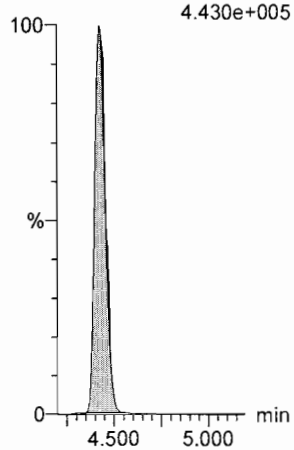




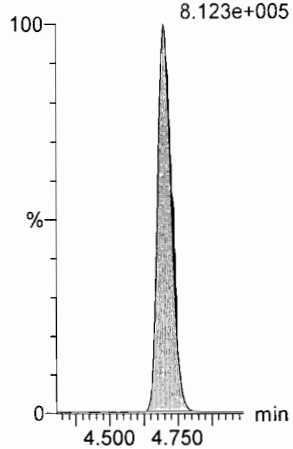
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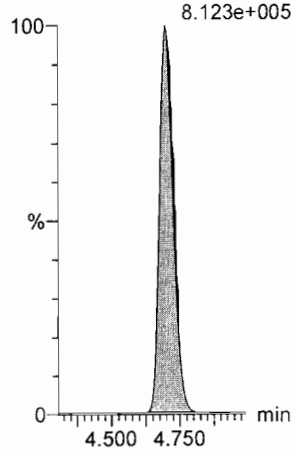
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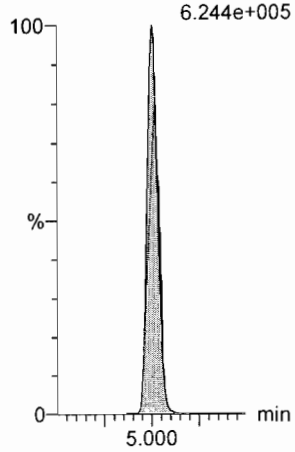
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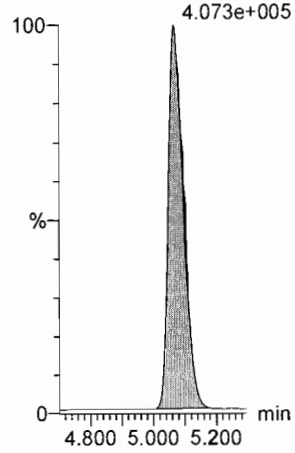
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d5-N-ETFOSA



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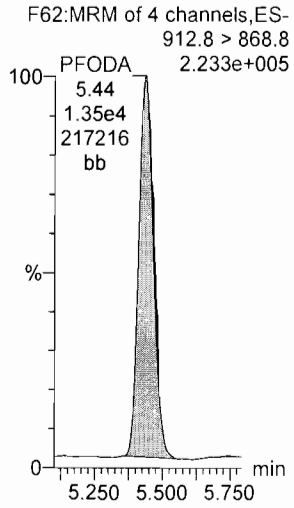


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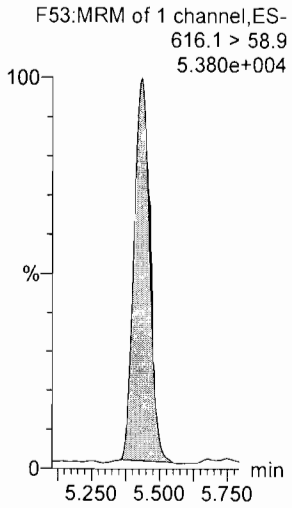
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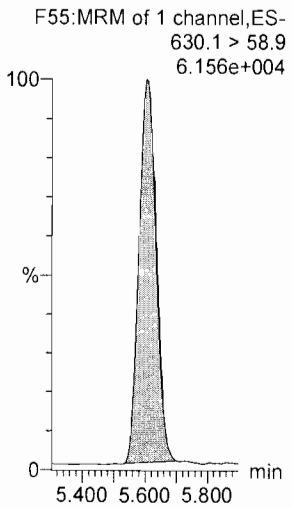
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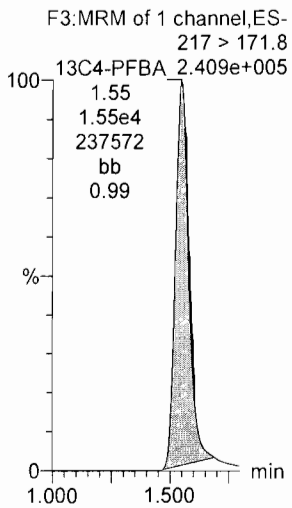
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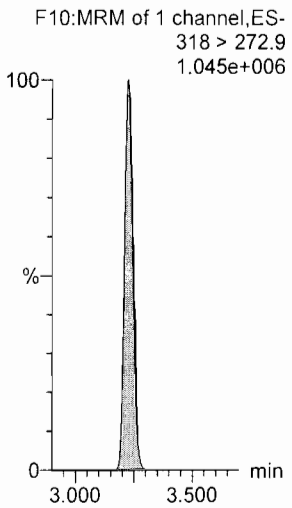
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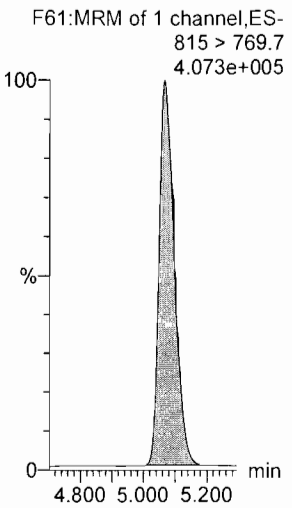
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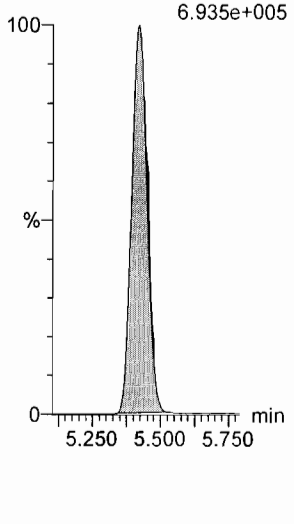
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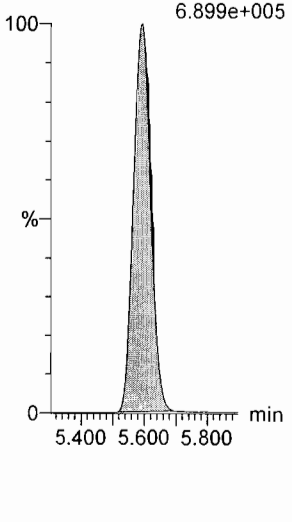
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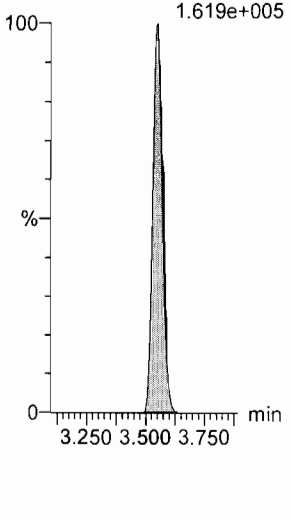
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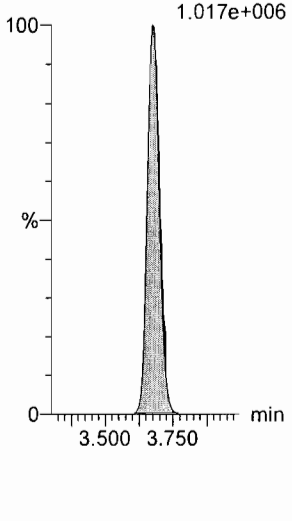
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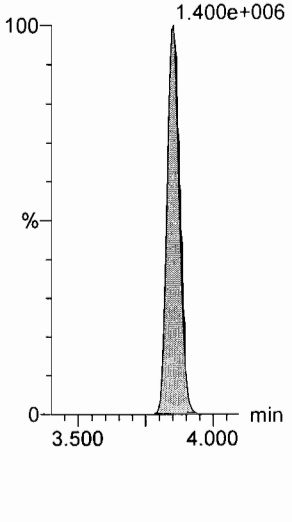
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13C8-PFOA



13C9-PFNA

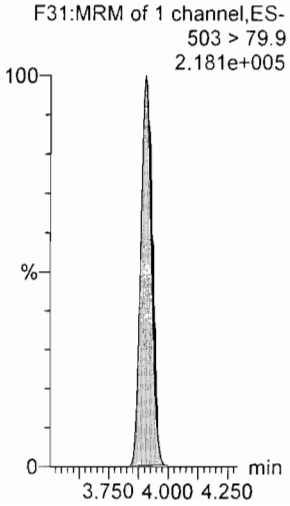


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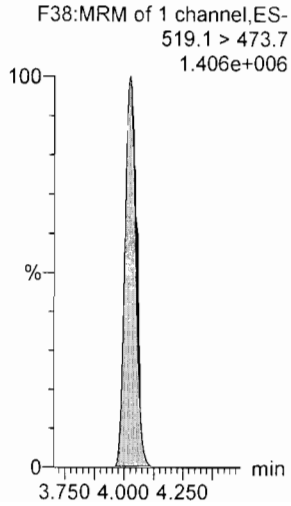
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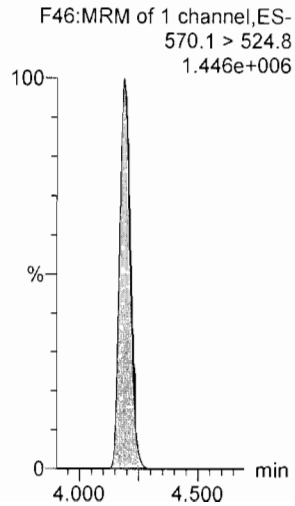
13C4-PFOS



13C6-PFDA



13C7-PFUnA

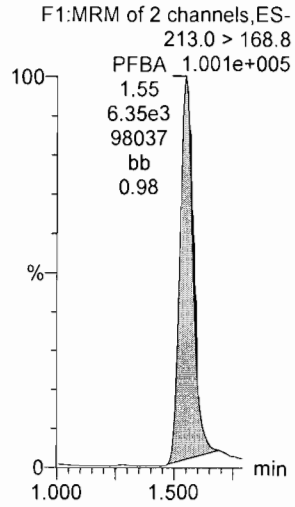


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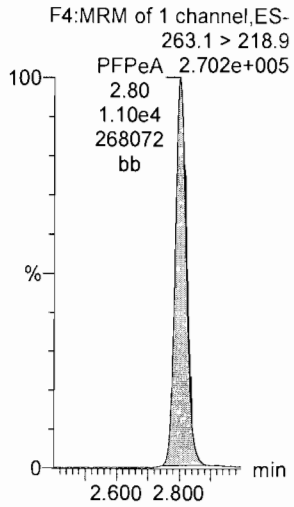
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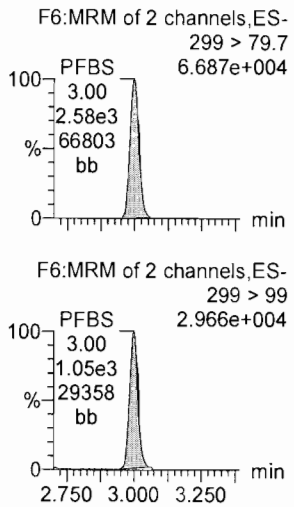
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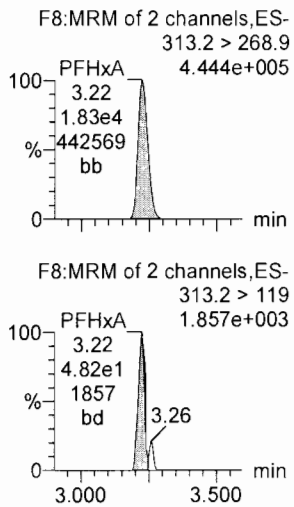
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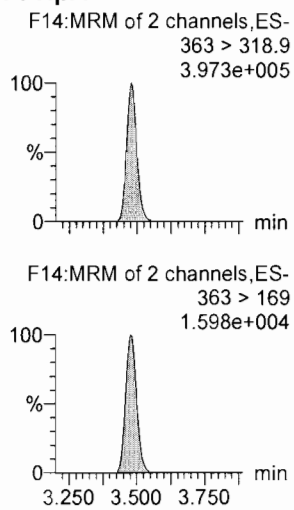
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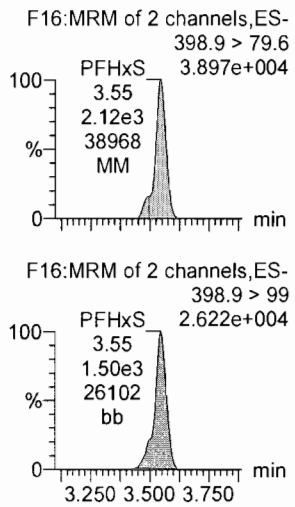
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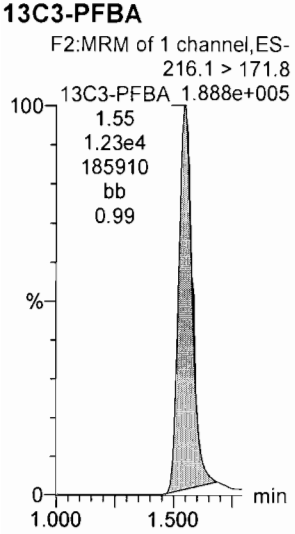
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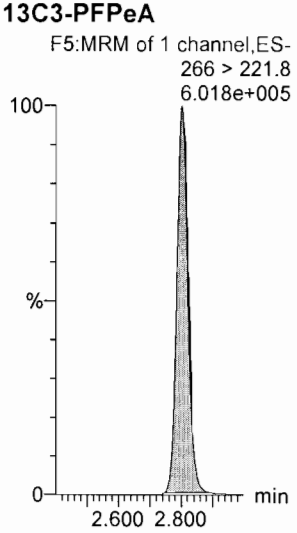
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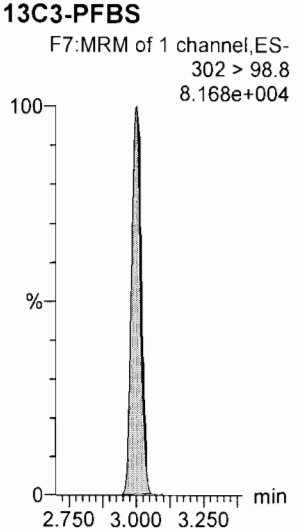
13C3-PFBA



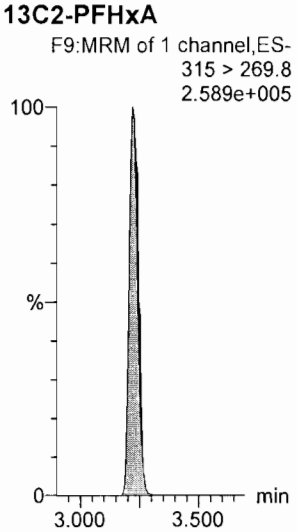
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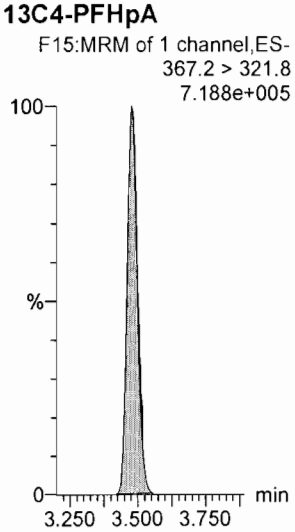
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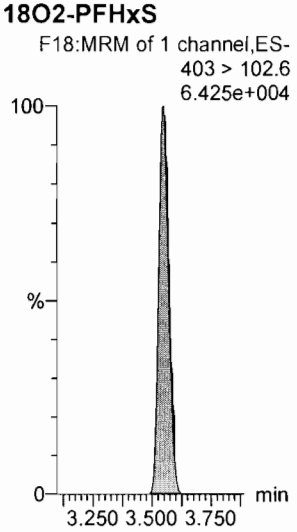
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13C4-PFHpA



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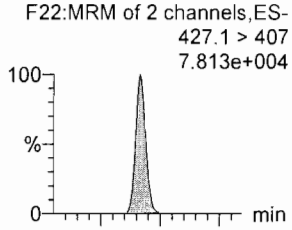


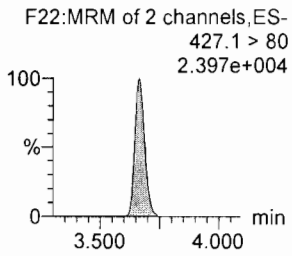
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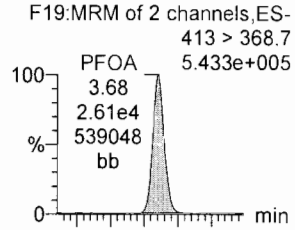
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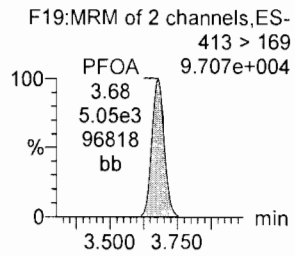
6:2 FTS



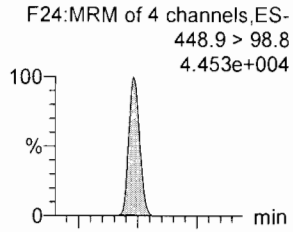


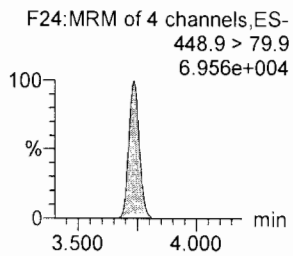
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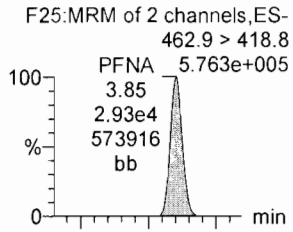


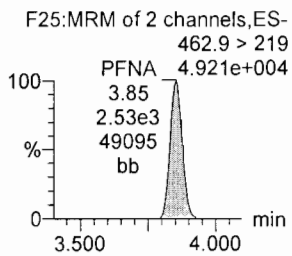
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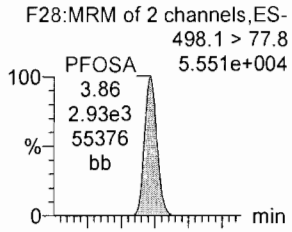


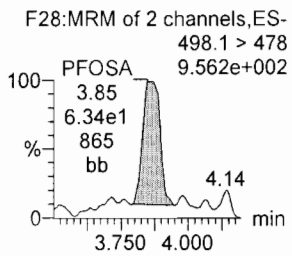
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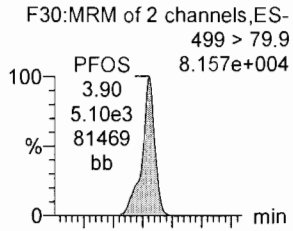


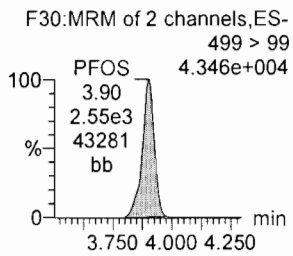
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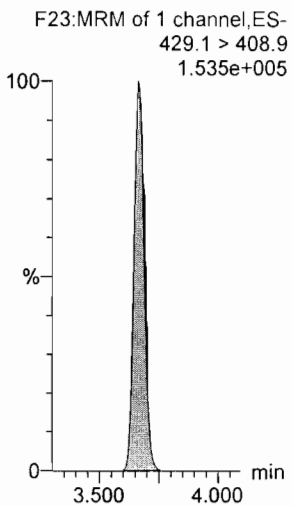


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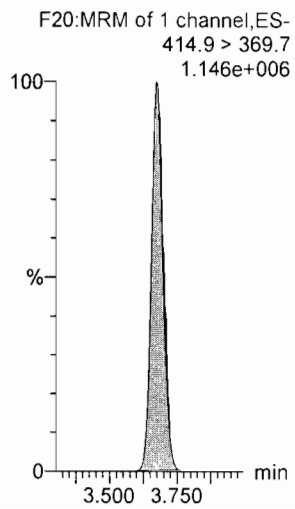




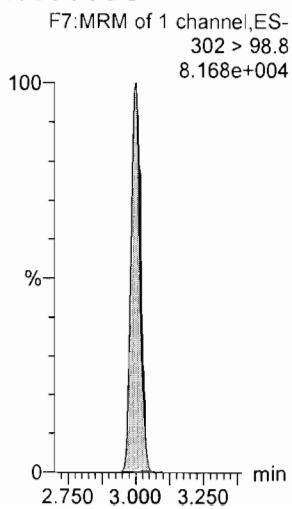
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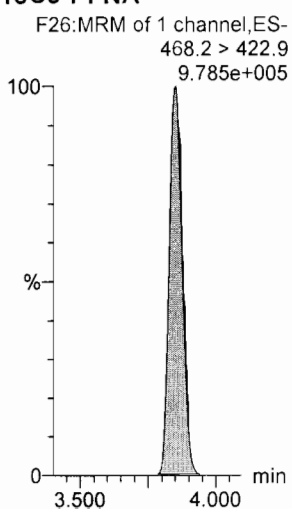
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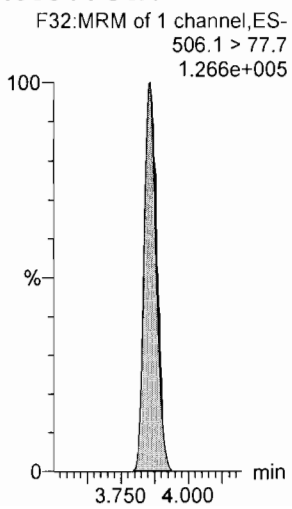
13C3-PFBS



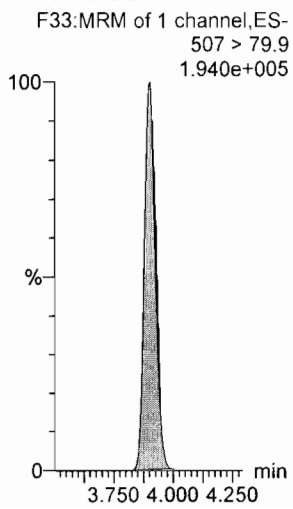
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13C8-PFOSA



13C8-PFOS

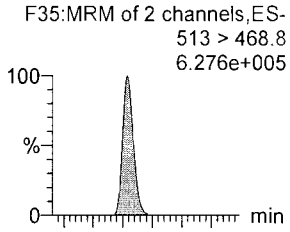


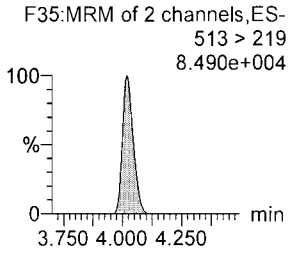
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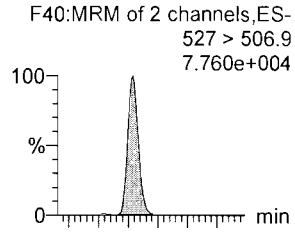
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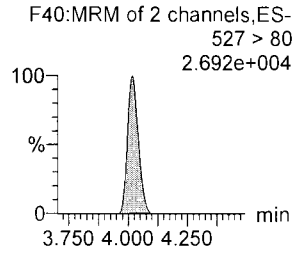
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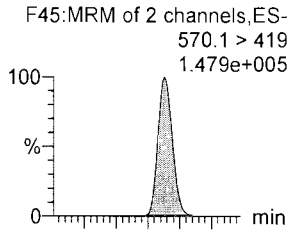


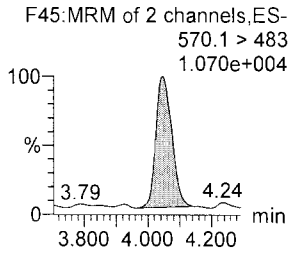
8:2 FTS



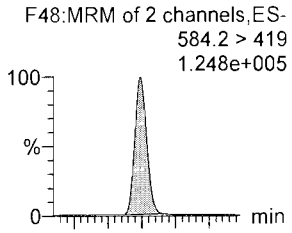


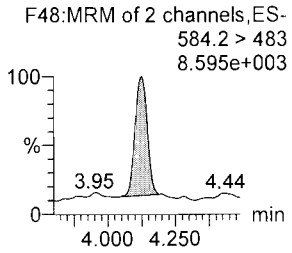
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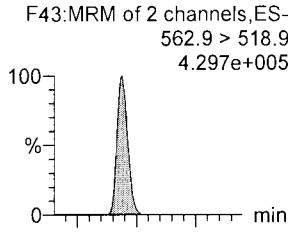


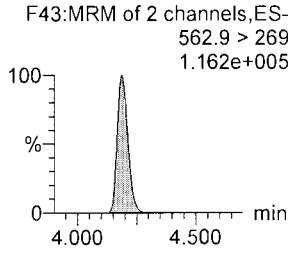
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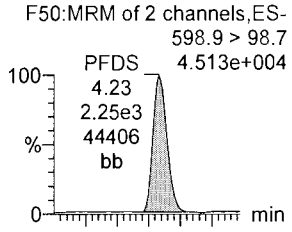


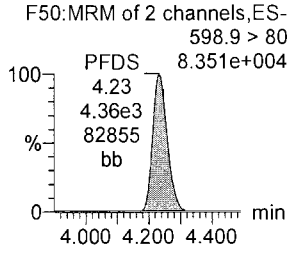
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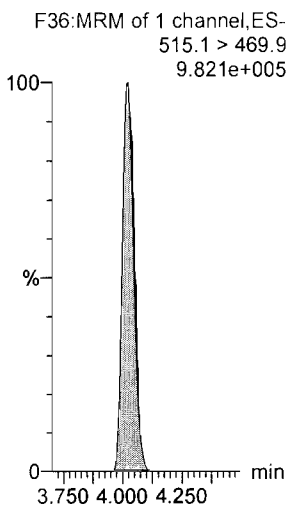


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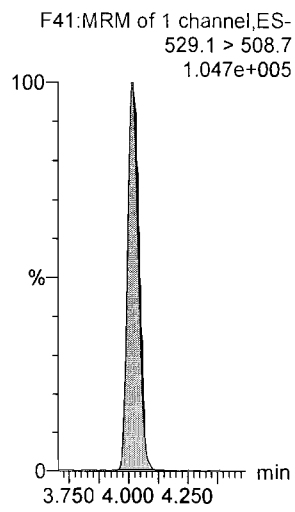




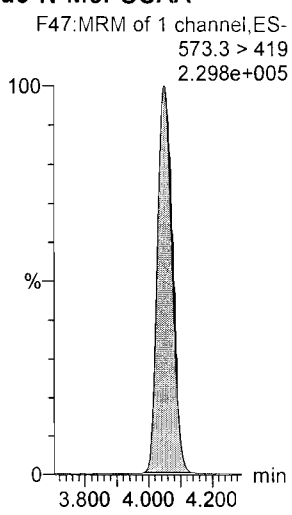
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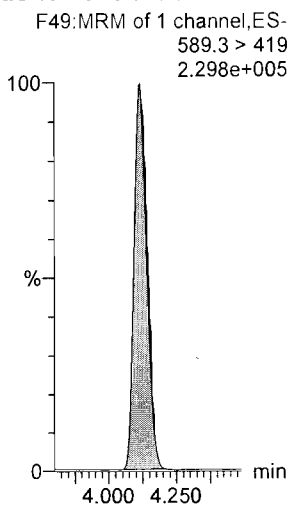
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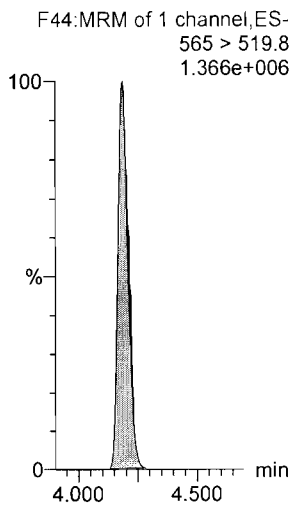
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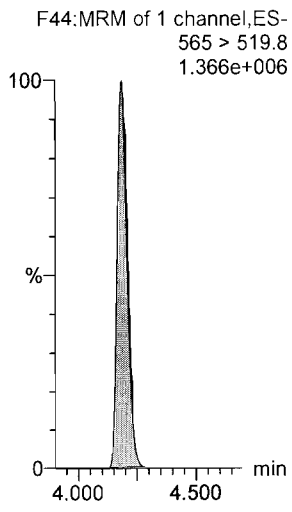
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13C2-PFUnA



13C2-PFUnA

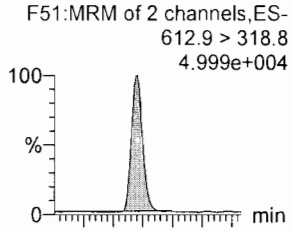


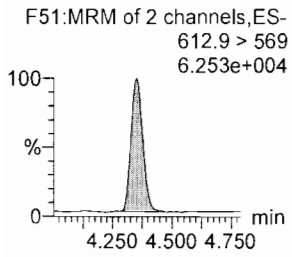
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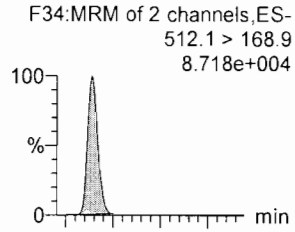
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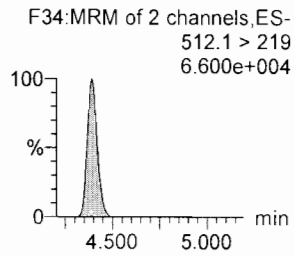
PFDoA



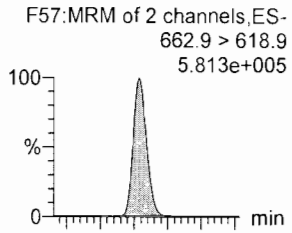


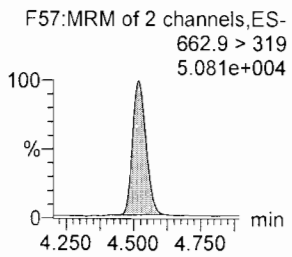
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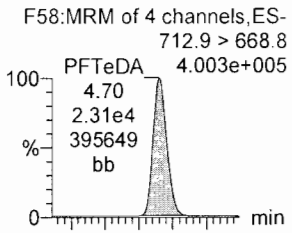


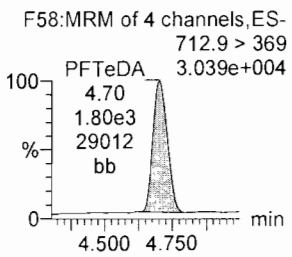
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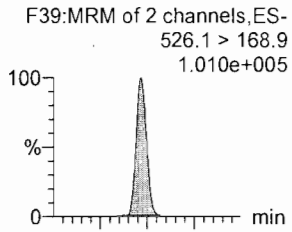


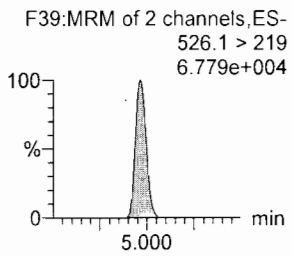
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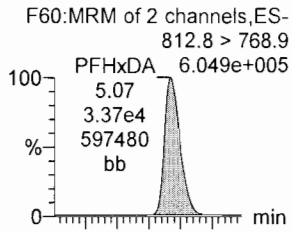


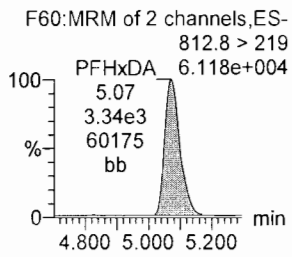
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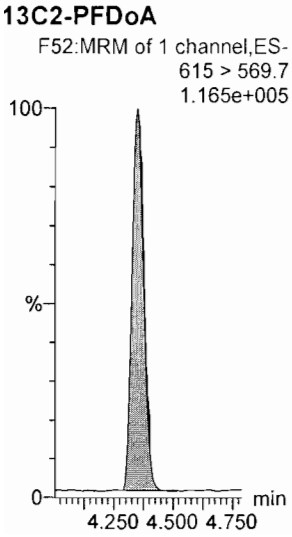


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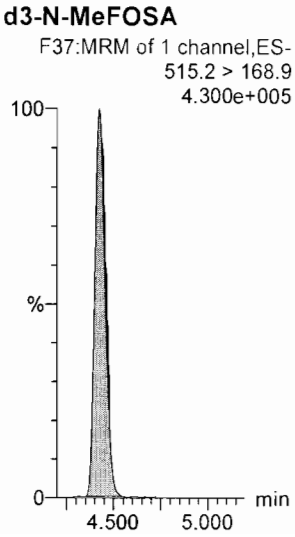




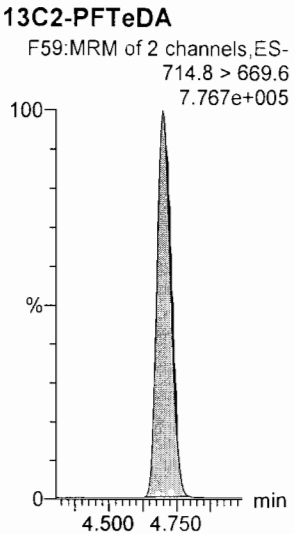
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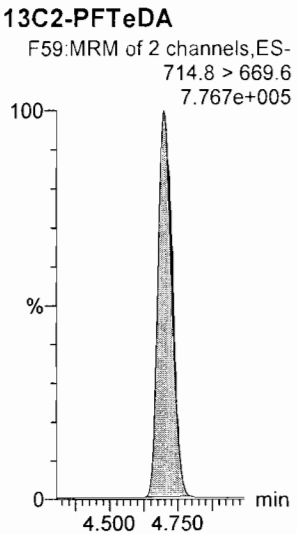
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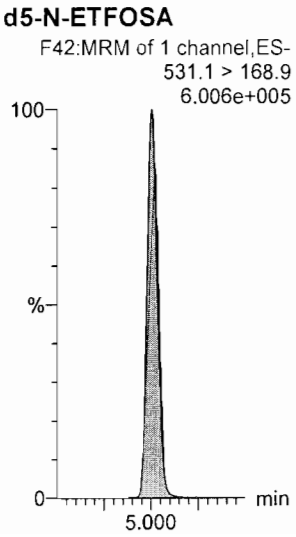
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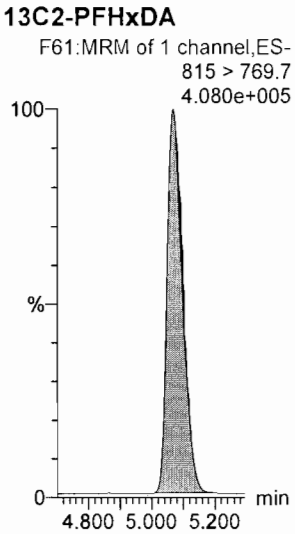
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d5-N-ETFOSA



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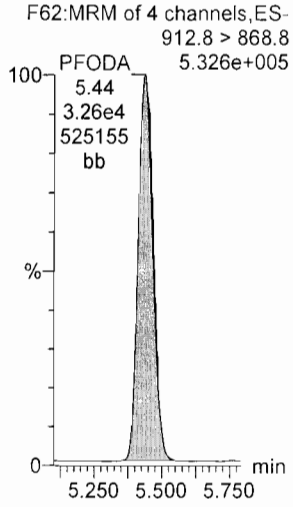


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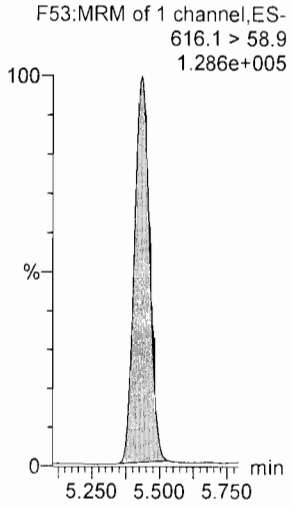
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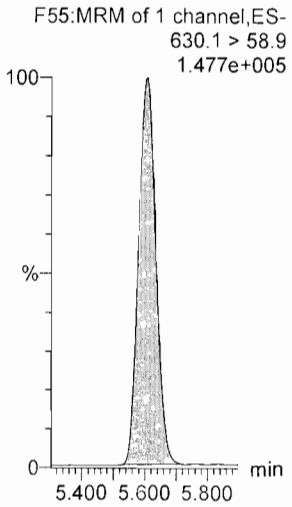
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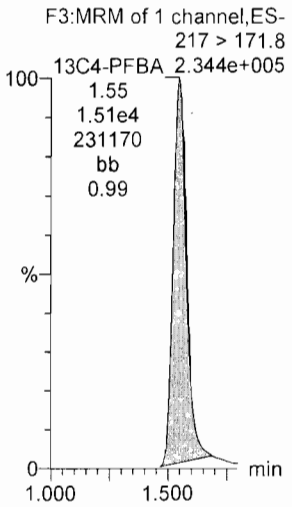
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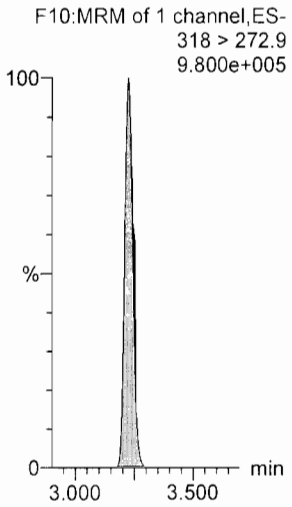
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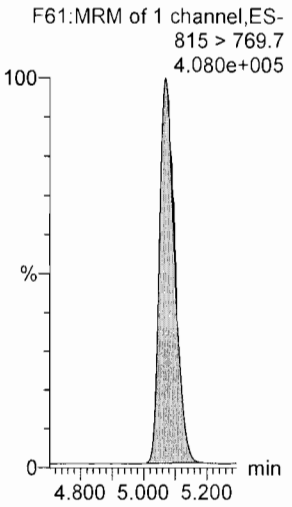
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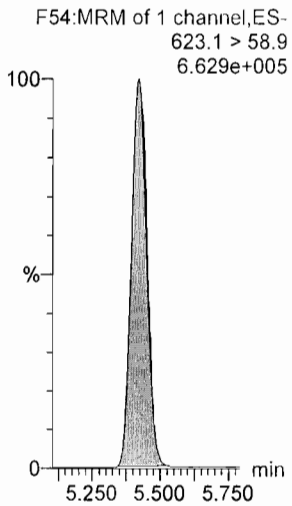
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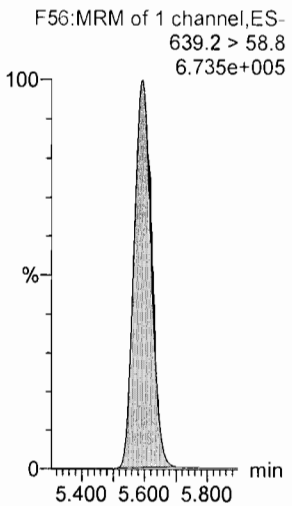
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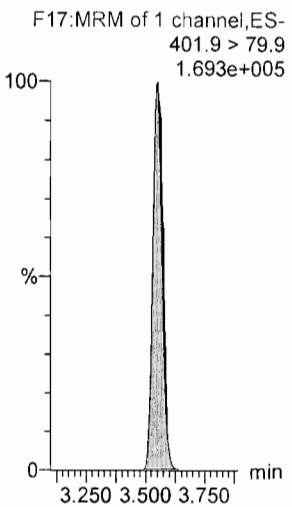
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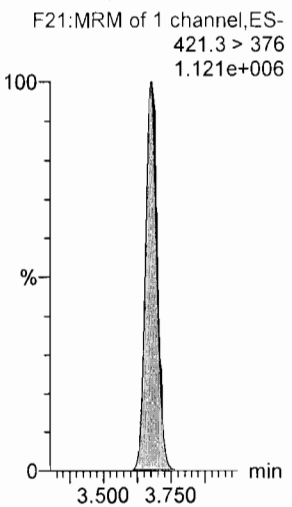
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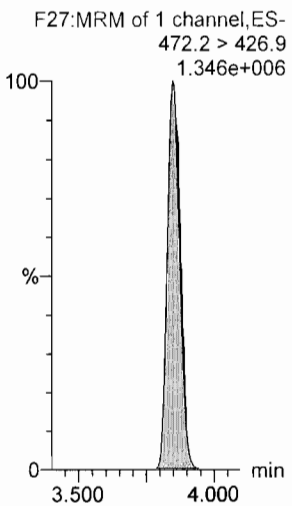
13C3-PFHxS



13C8-PFOA



13C9-PFNA

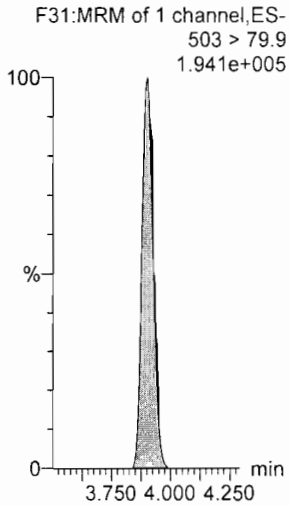


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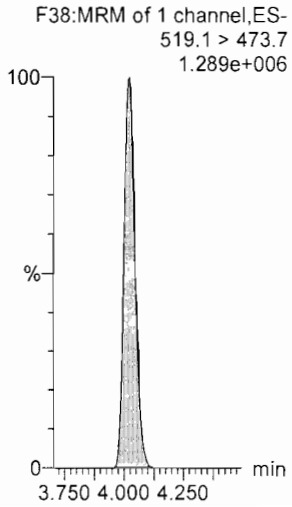
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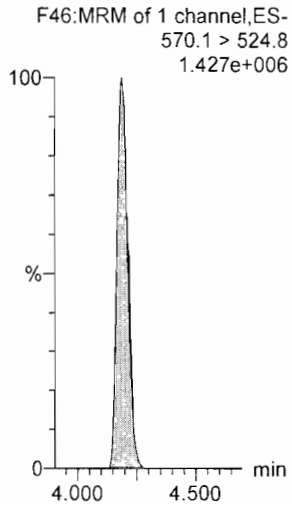
13C4-PFOS



13C6-PFDA



13C7-PFUnA

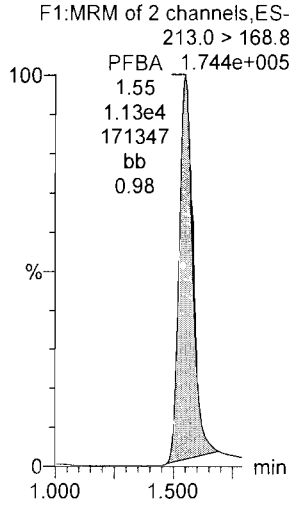


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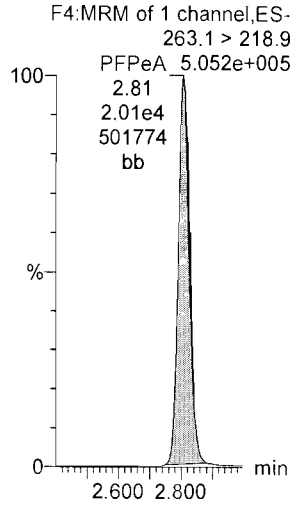
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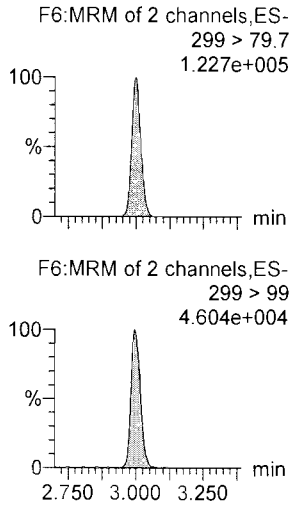
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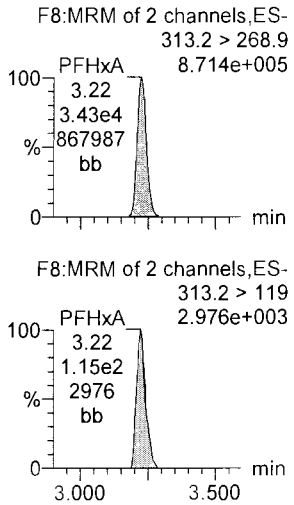
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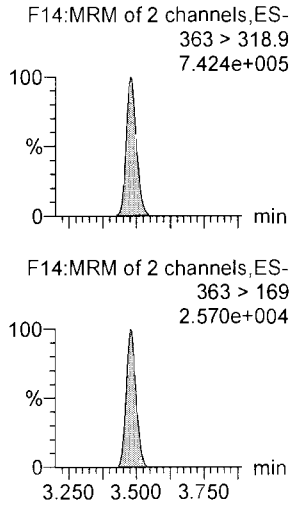
PFBS



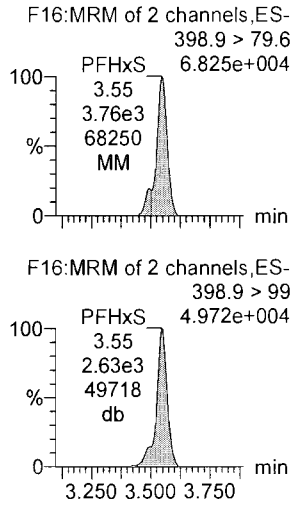
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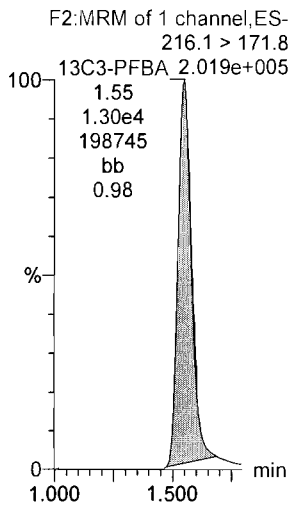
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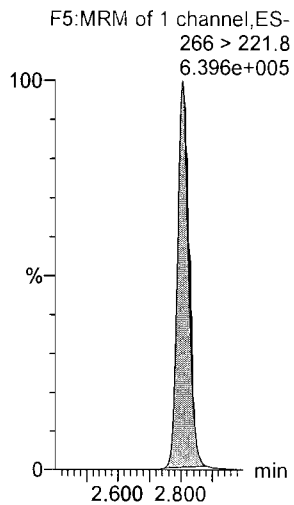
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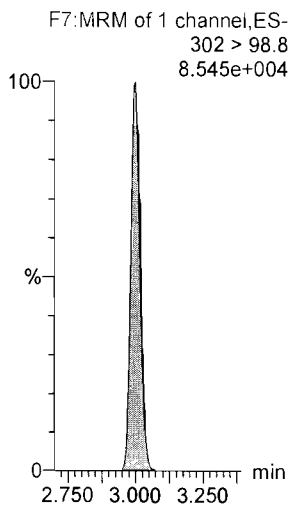
13C3-PFBA



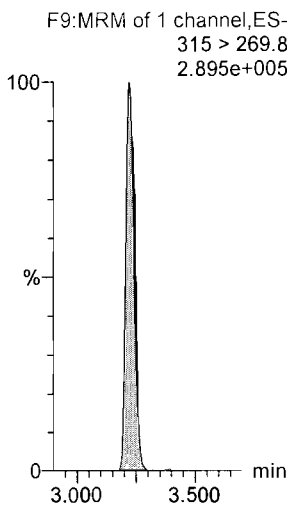
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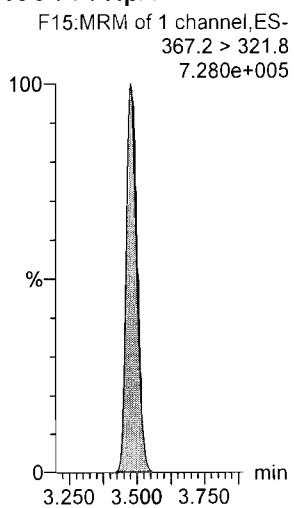
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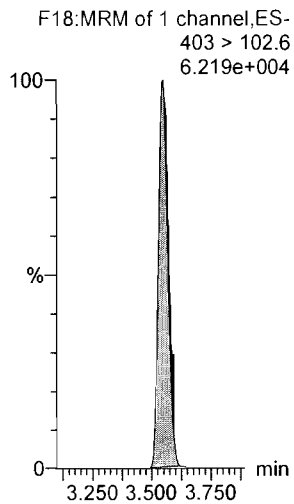
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS

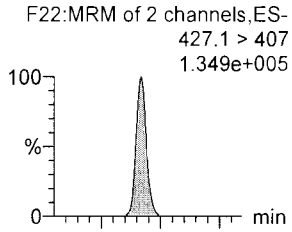


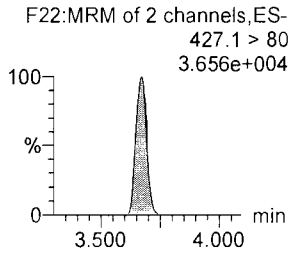
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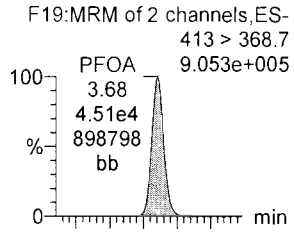
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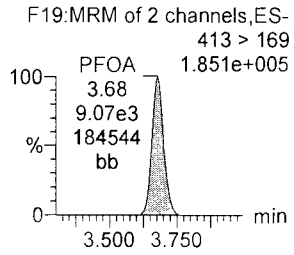
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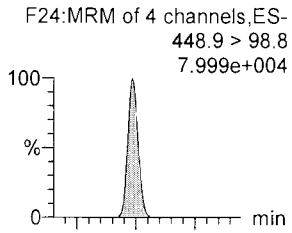


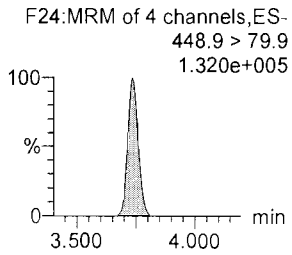
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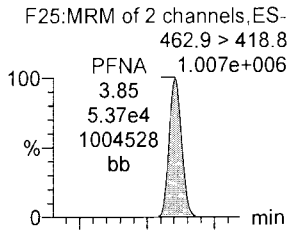


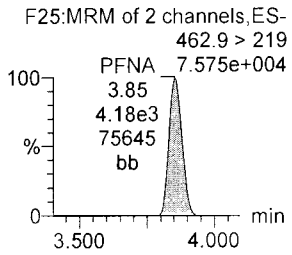
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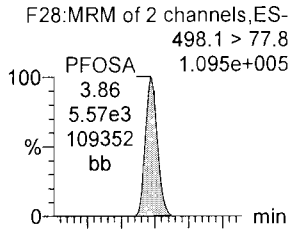


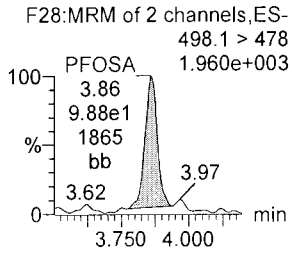
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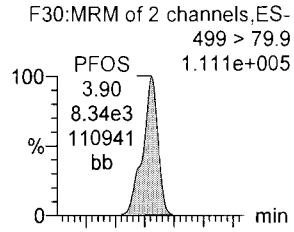


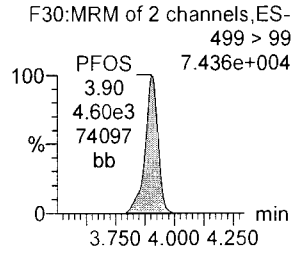
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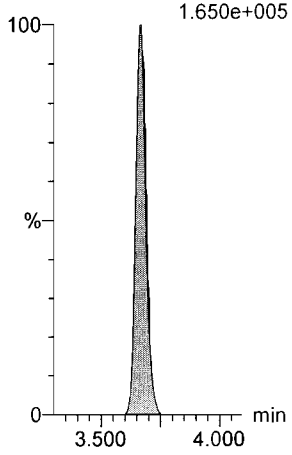


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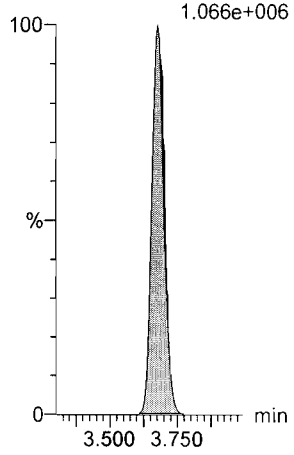




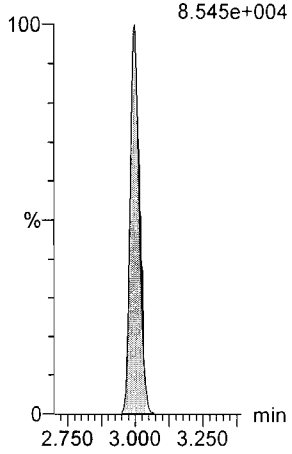
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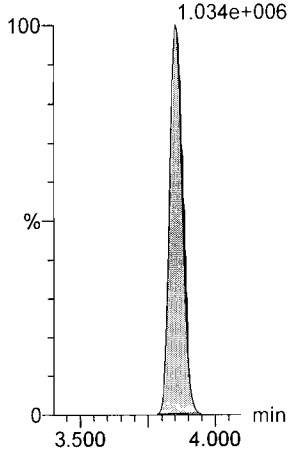
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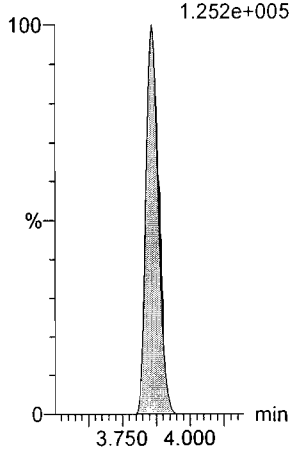
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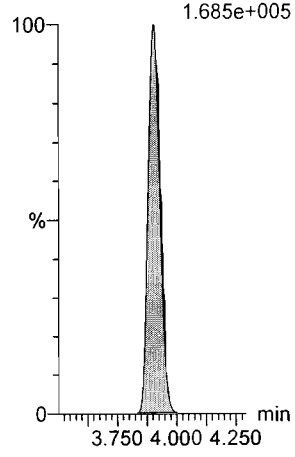
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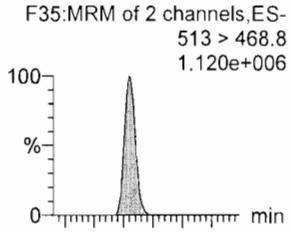


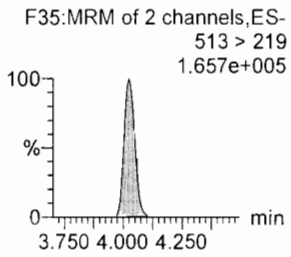
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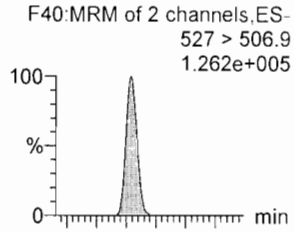
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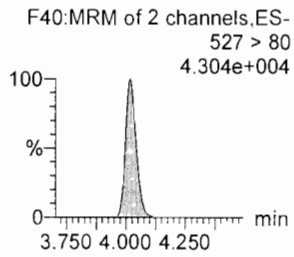
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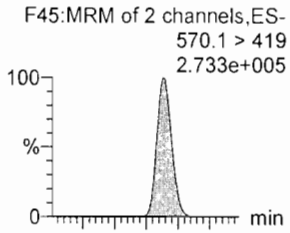


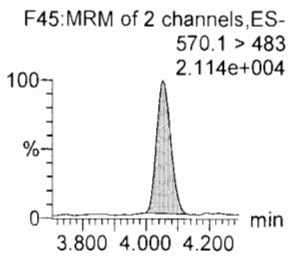
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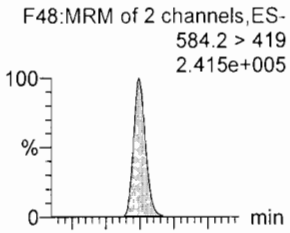


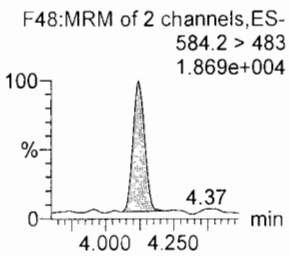
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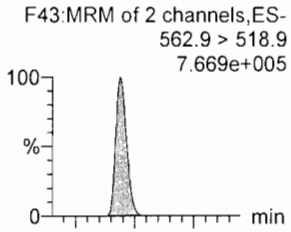


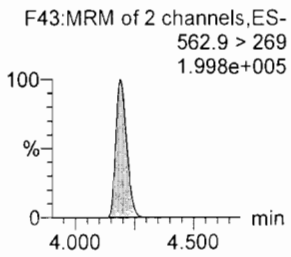
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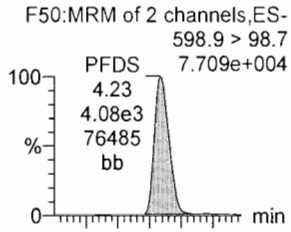


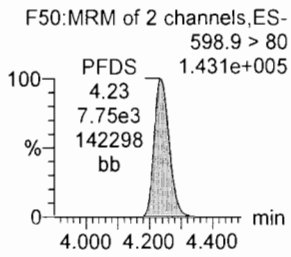
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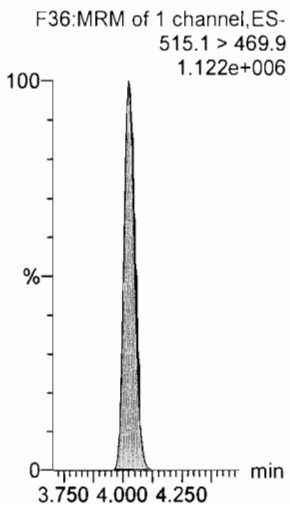


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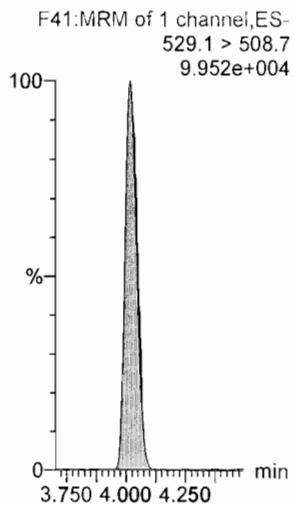




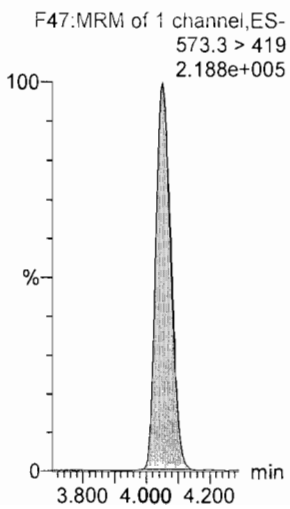
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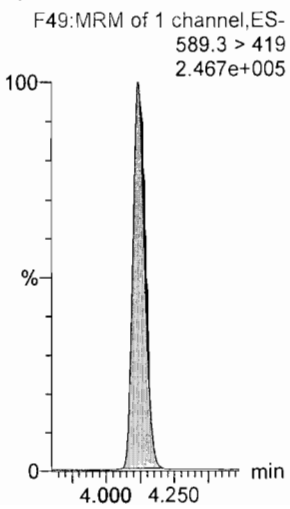
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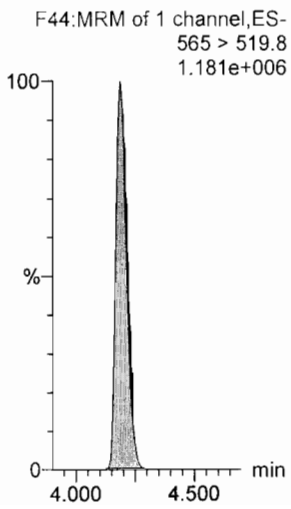
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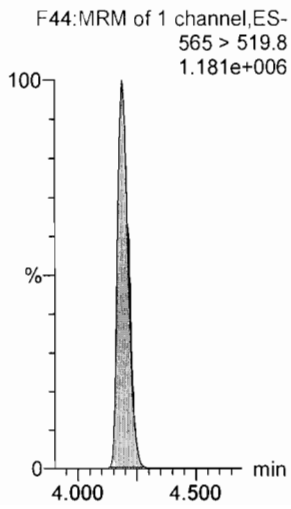
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13C2-PFUnA



13C2-PFUnA

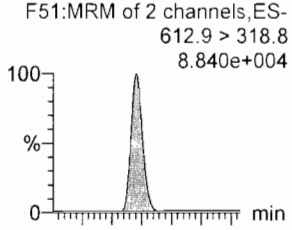


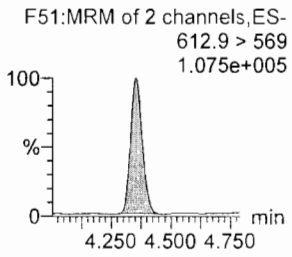
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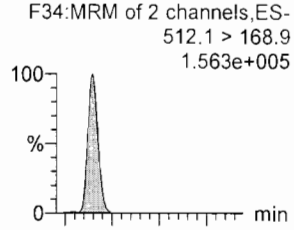
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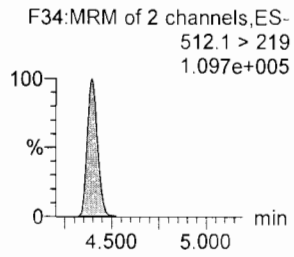
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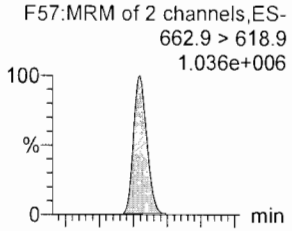


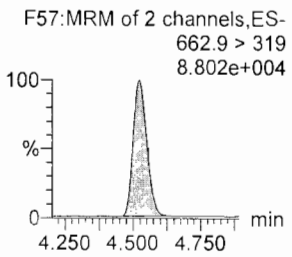
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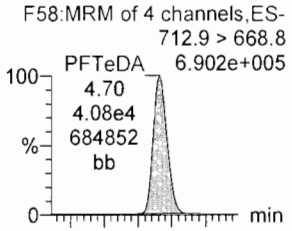


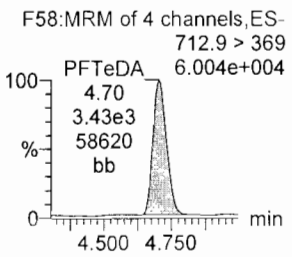
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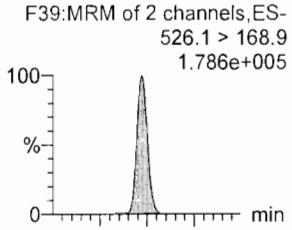


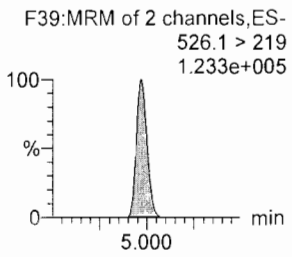
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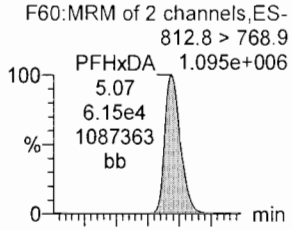


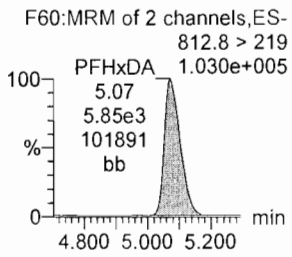
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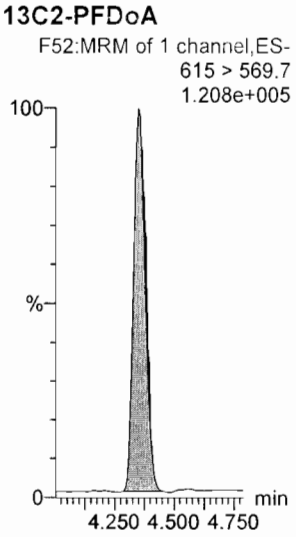


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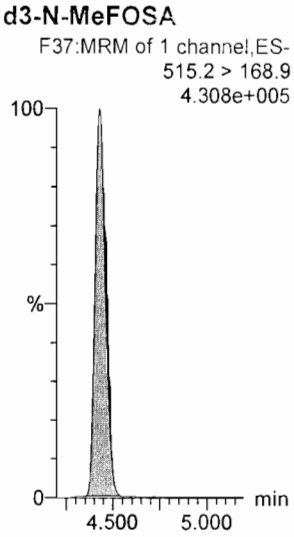




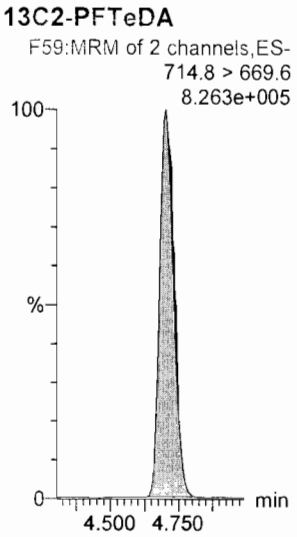
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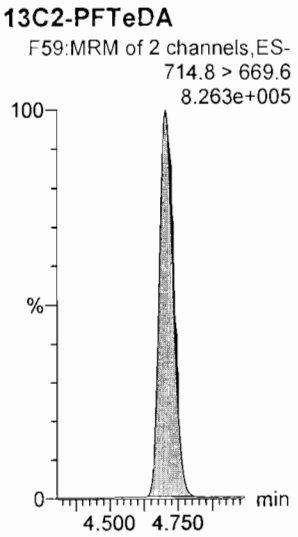
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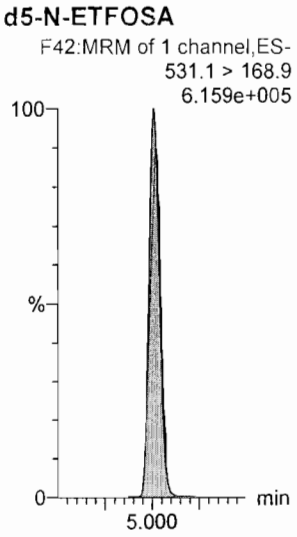
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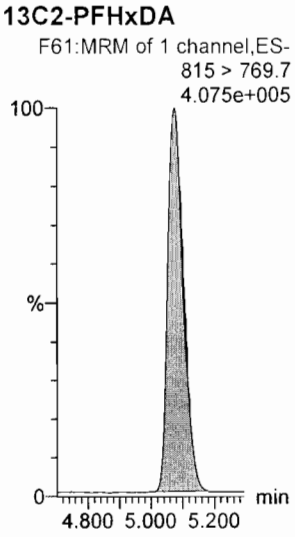
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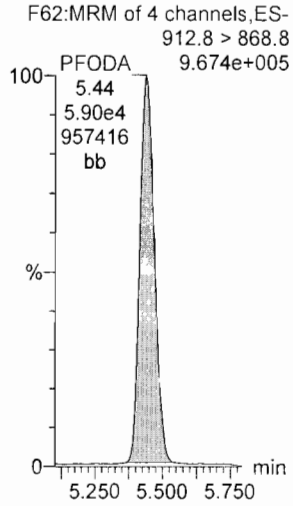


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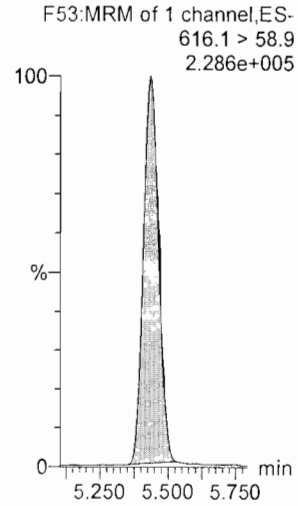
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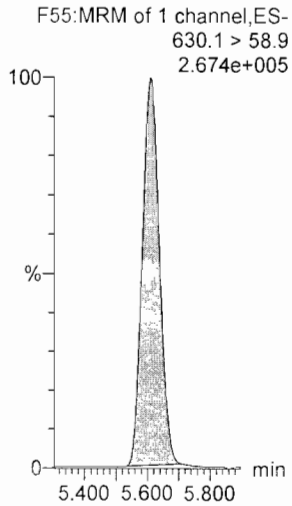
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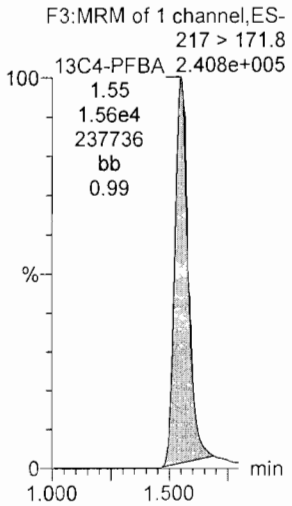
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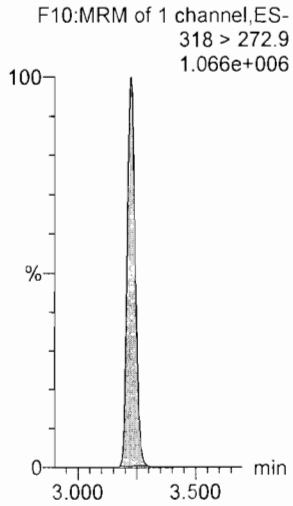
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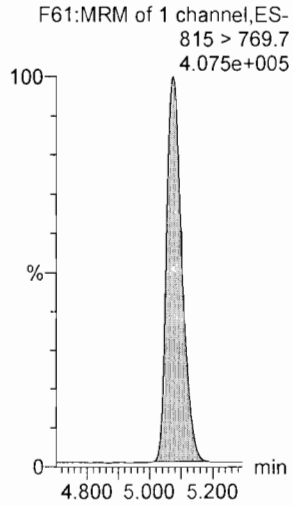
13C4-PFBA



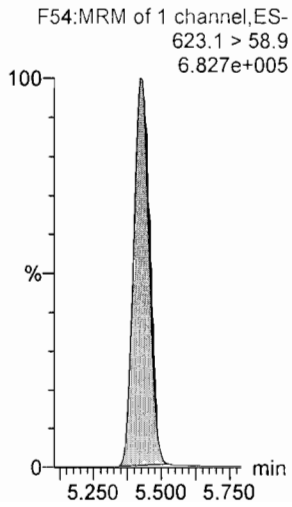
13C5-PFHxA



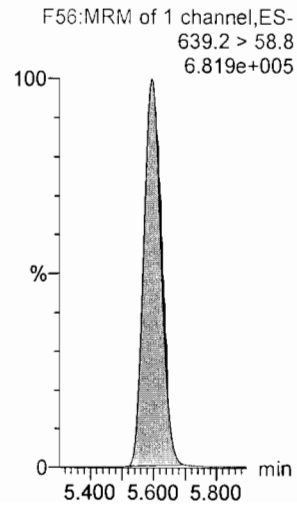
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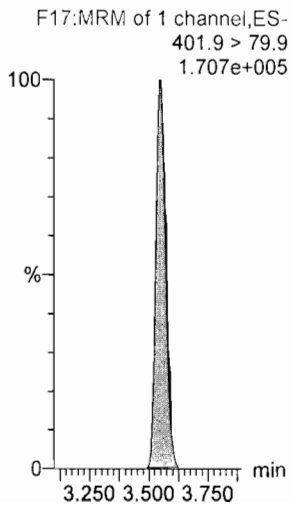
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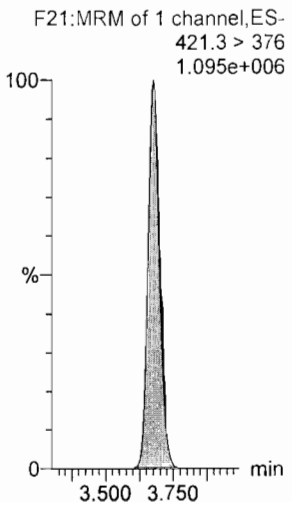
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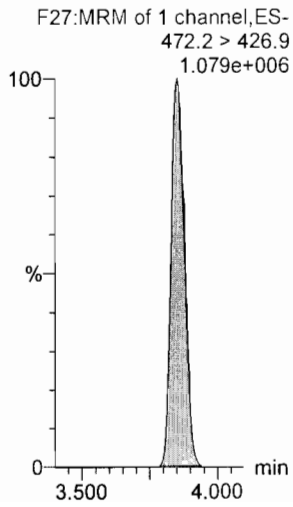
13C3-PFHxS



13C8-PFOA



13C9-PFNA

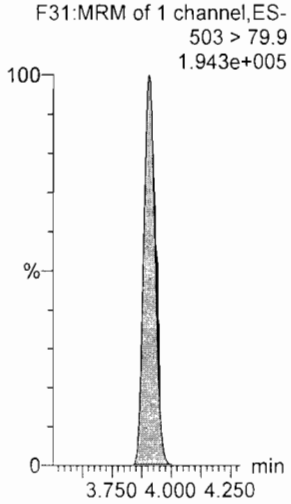


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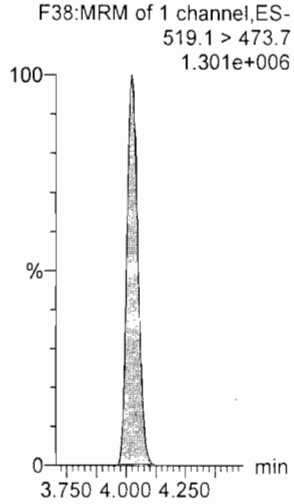
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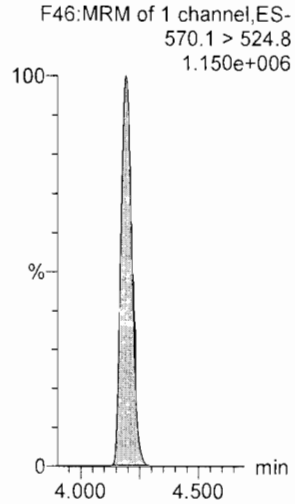
13C4-PFOS



13C6-PFDA



13C7-PFUnA

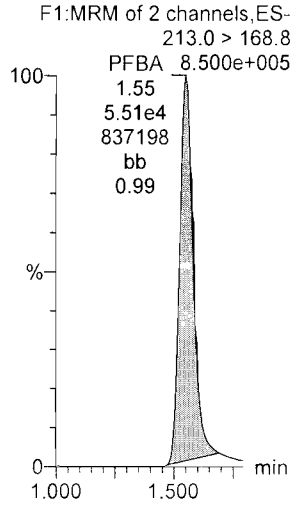


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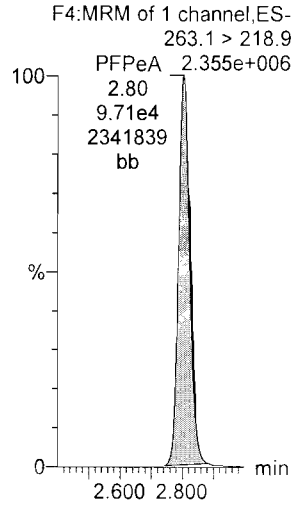
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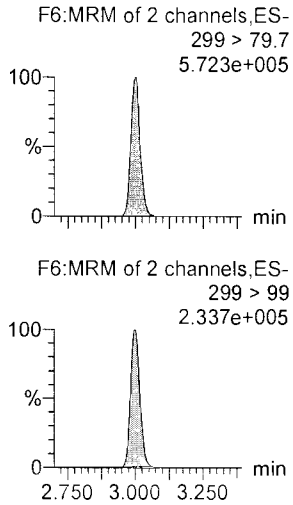
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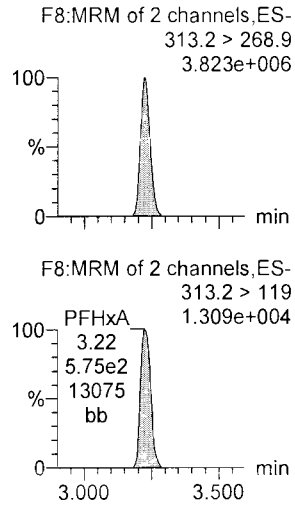
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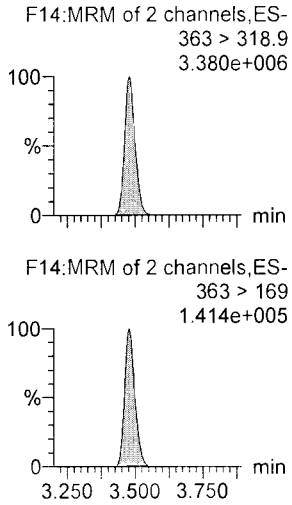
PFBS



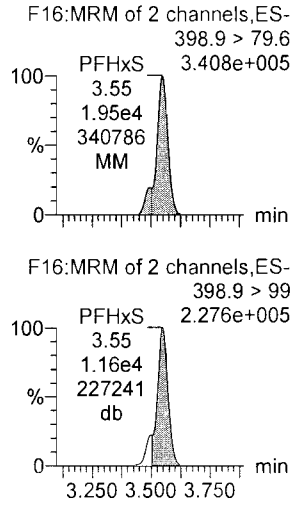
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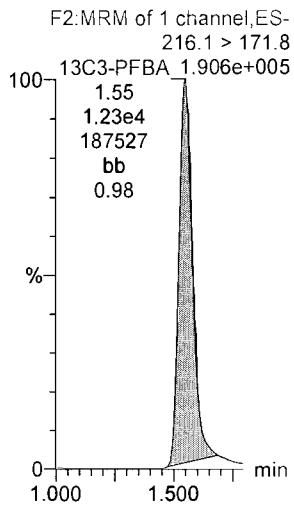
PFHpA



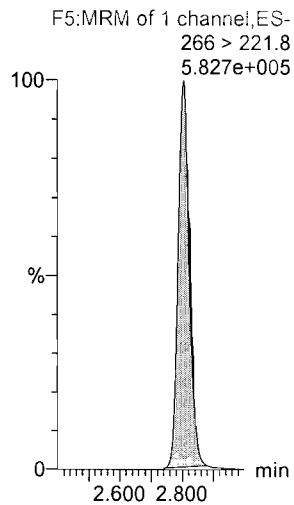
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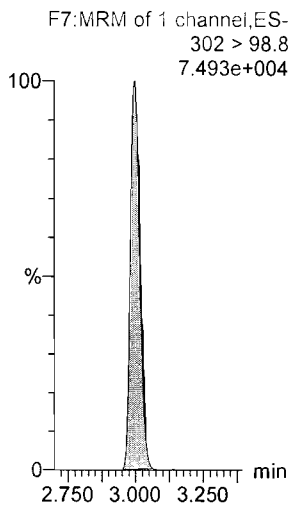
13C3-PFBA



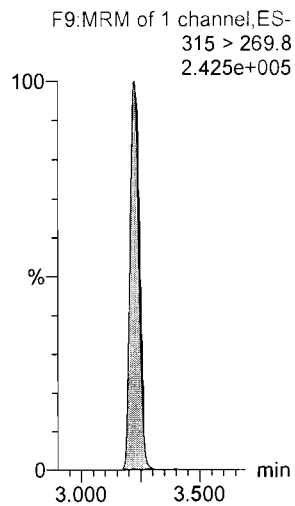
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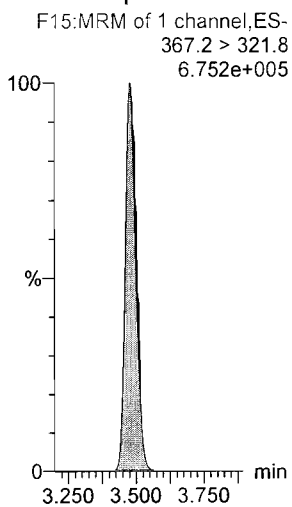
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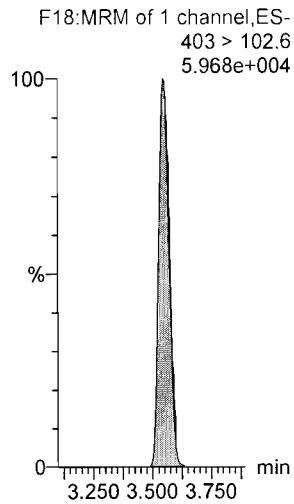
13C2-PFHxA



13C4-PFHpA



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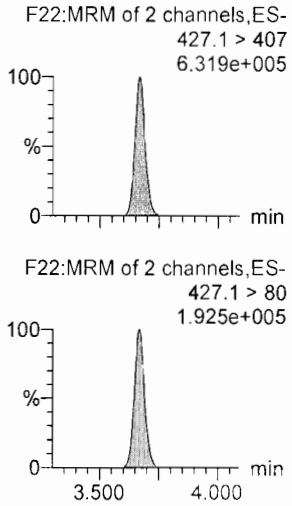


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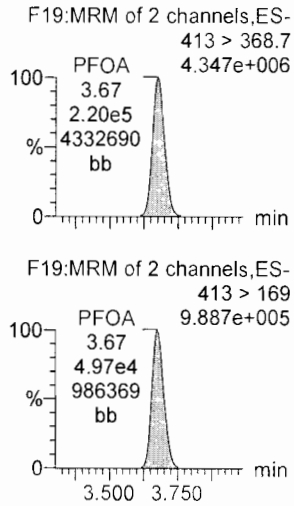
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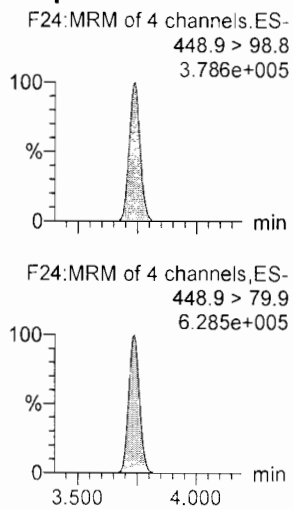
6:2 FTS



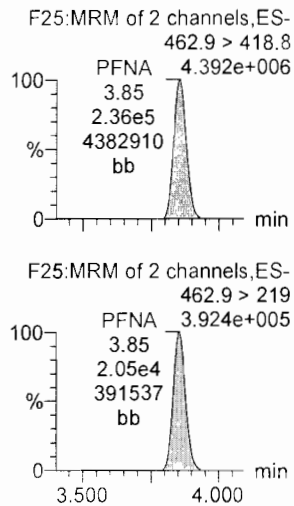
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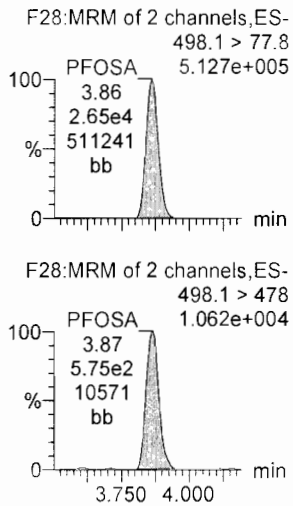
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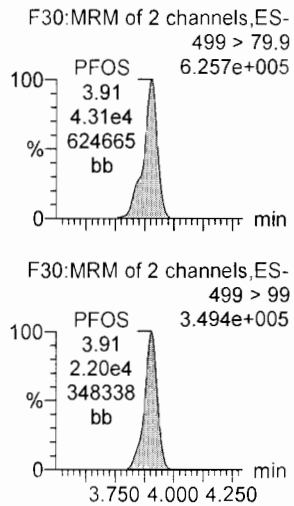
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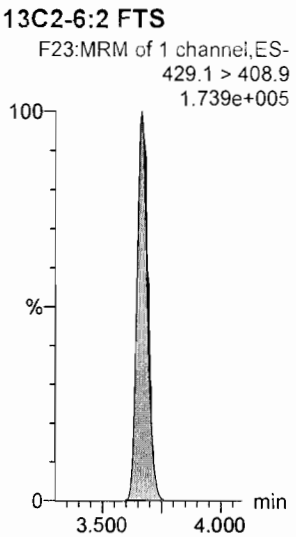
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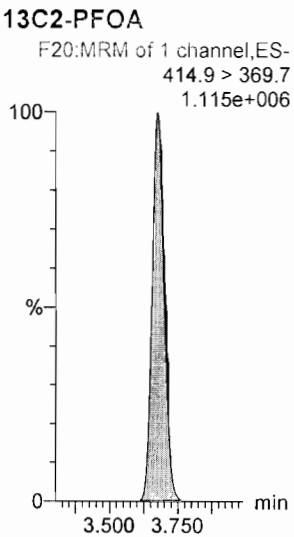
PFOS



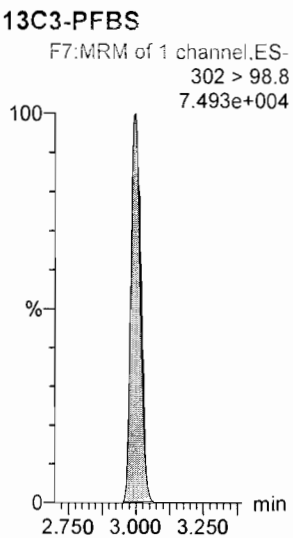
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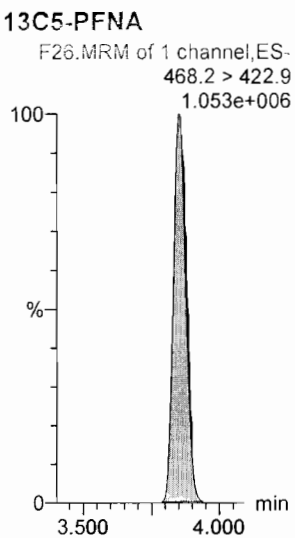
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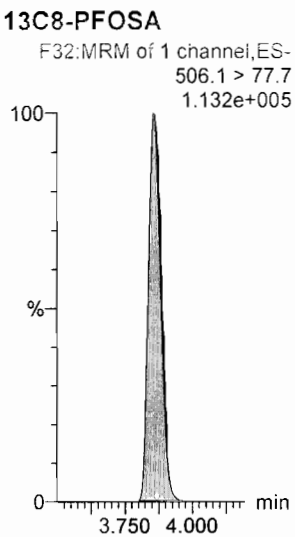
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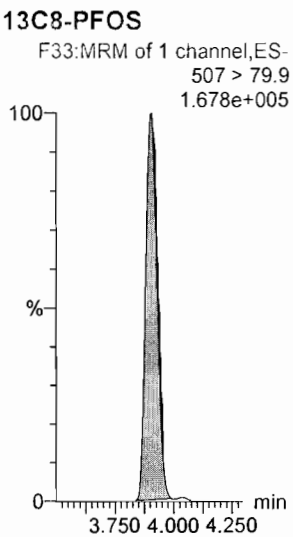
13C5-PFNA



13C8-PFOSA



13C8-PFOS

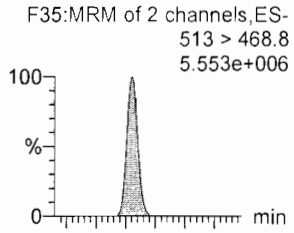


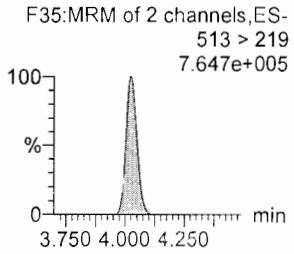
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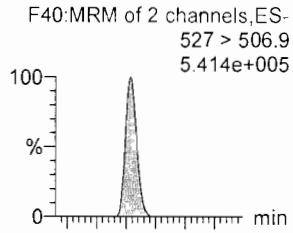
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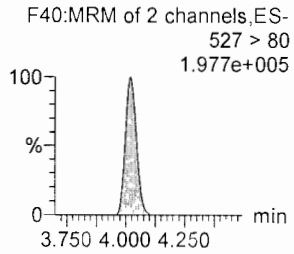
PFDA



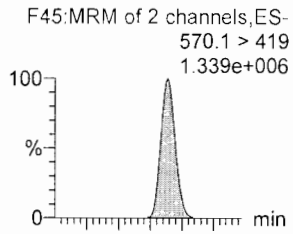


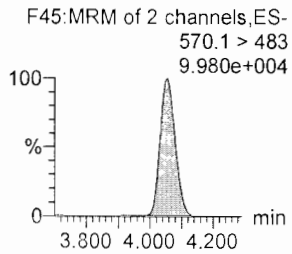
8:2 FTS



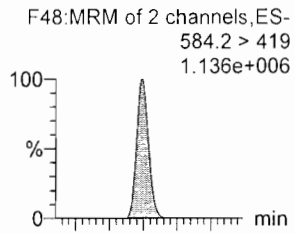


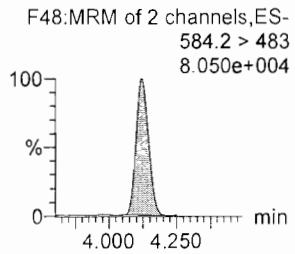
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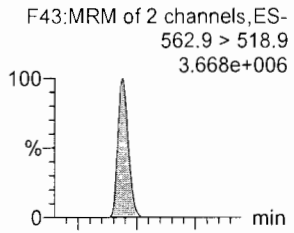


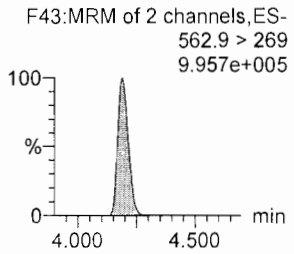
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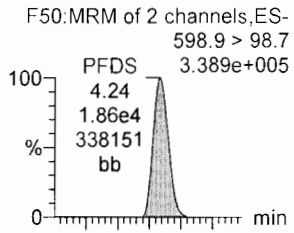


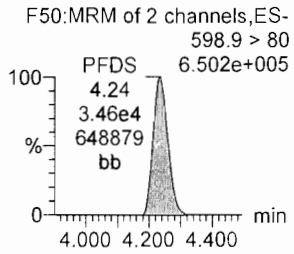
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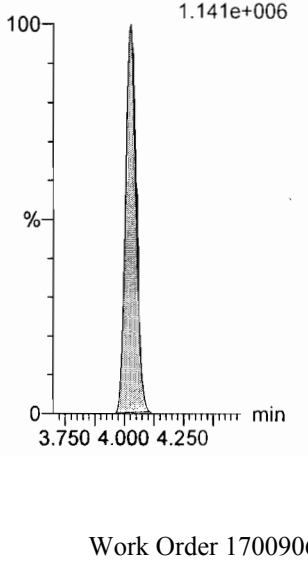


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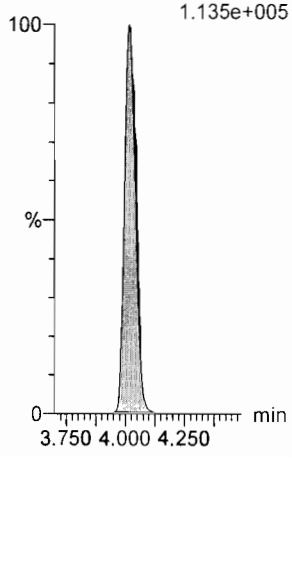




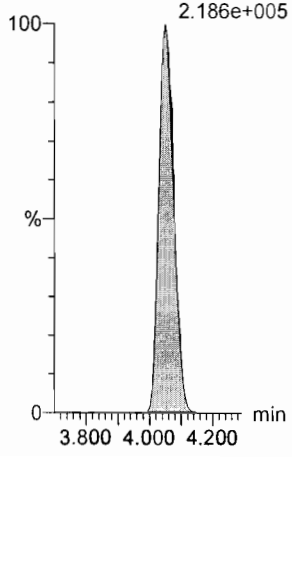
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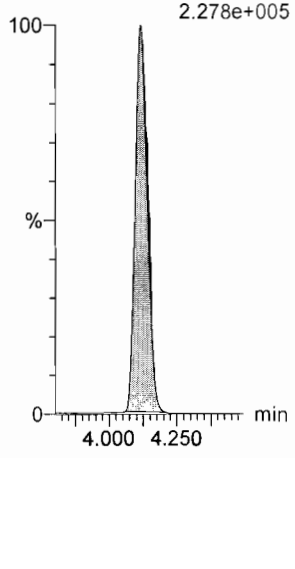
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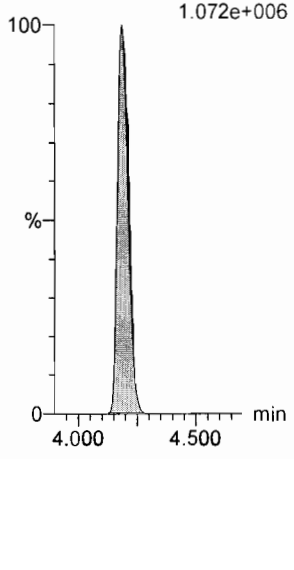
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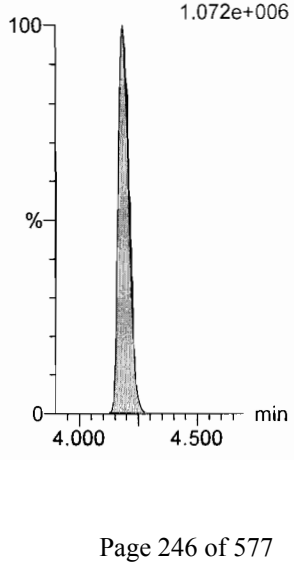
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13C2-PFUnA



13C2-PFUnA

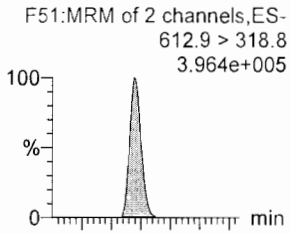


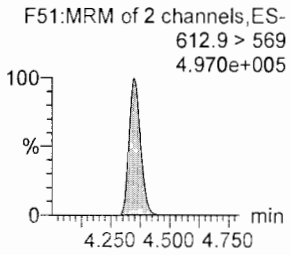
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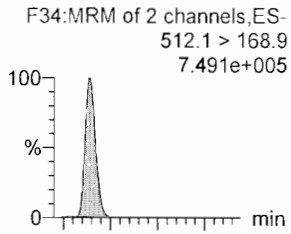
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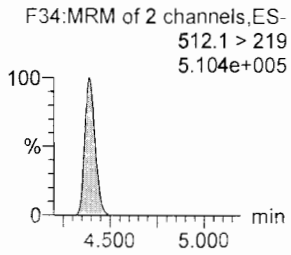
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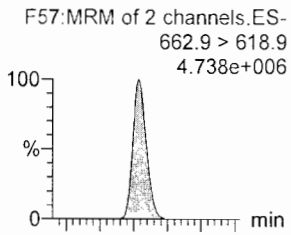


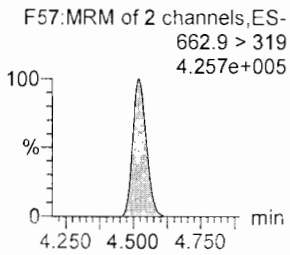
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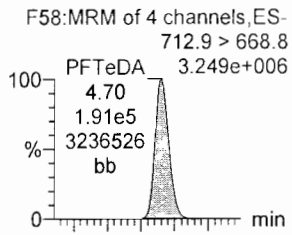


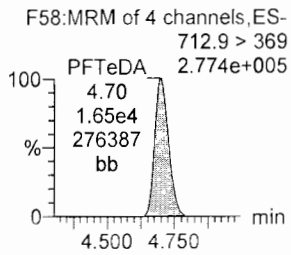
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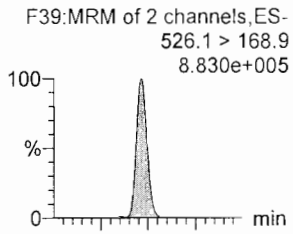


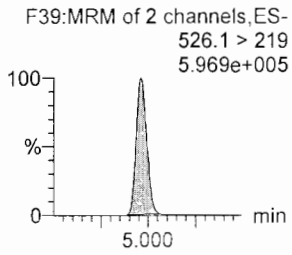
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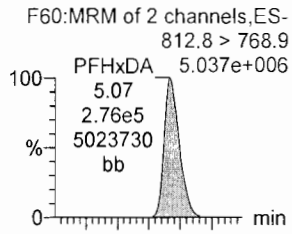


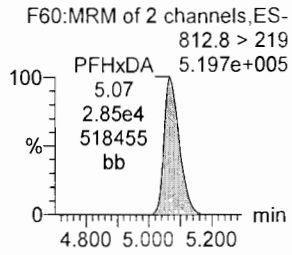
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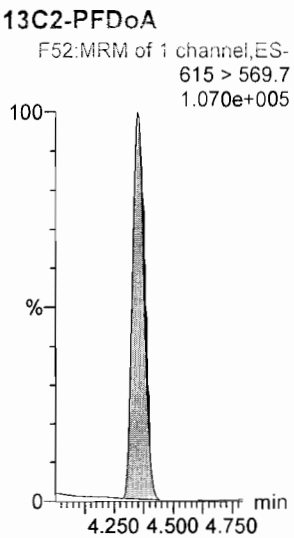


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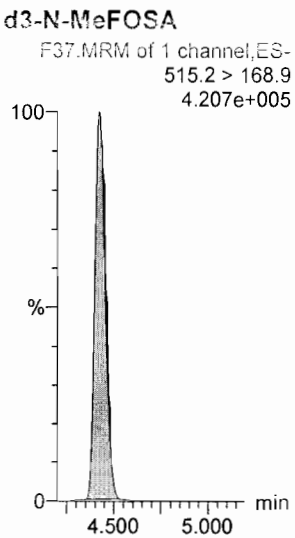




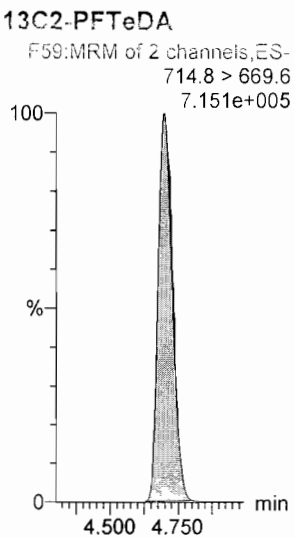
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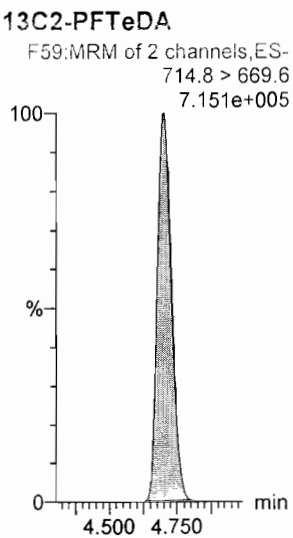
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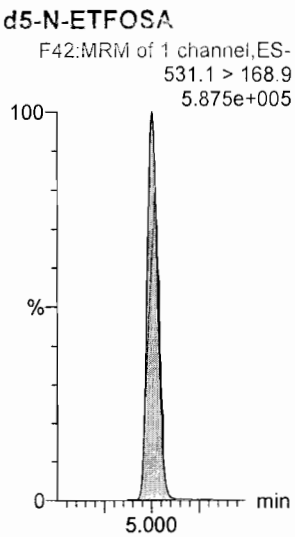
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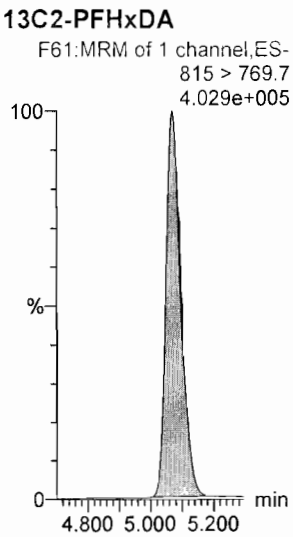
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d5-N-ETFOSA



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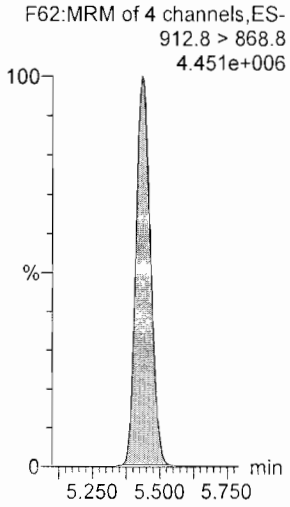


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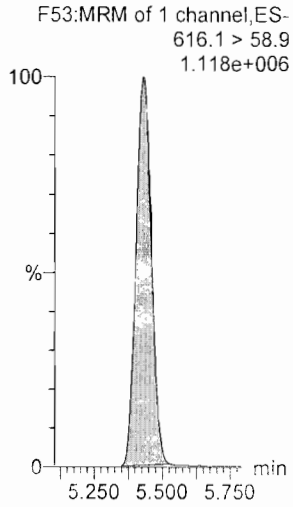
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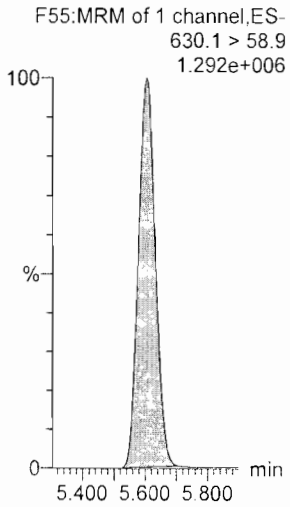
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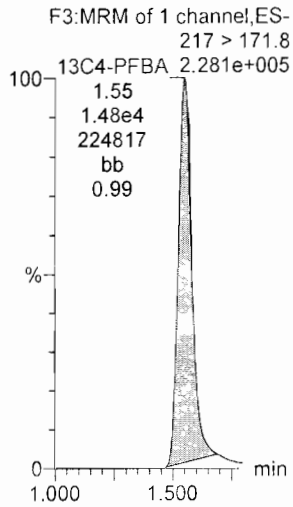
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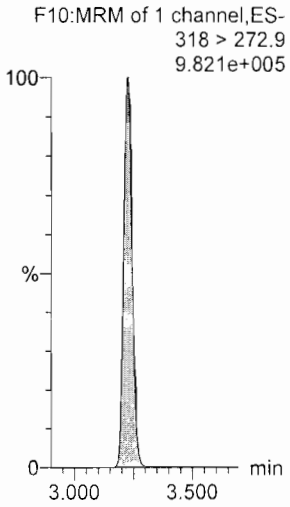
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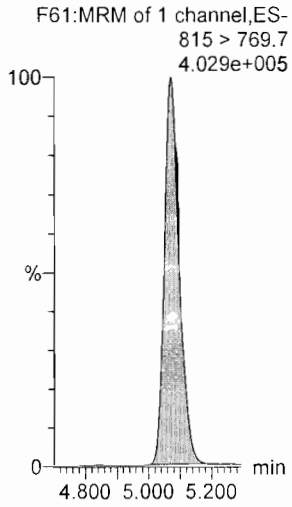
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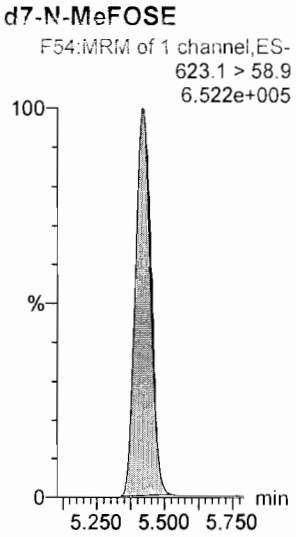
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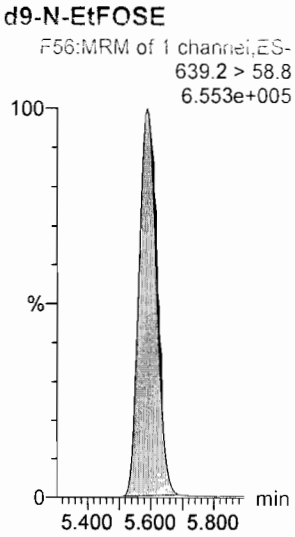
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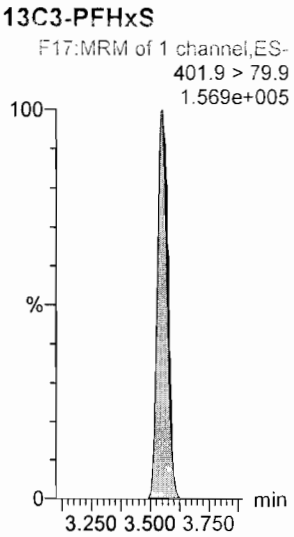
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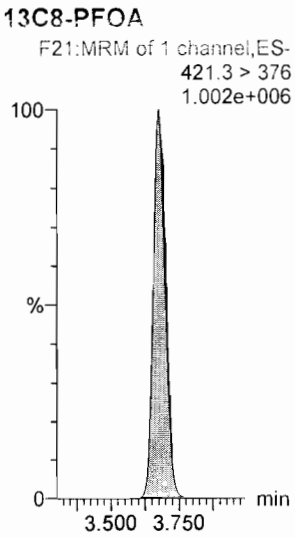
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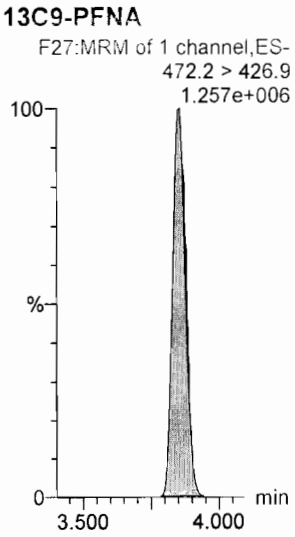
13C3-PFHxS



13C8-PFOA



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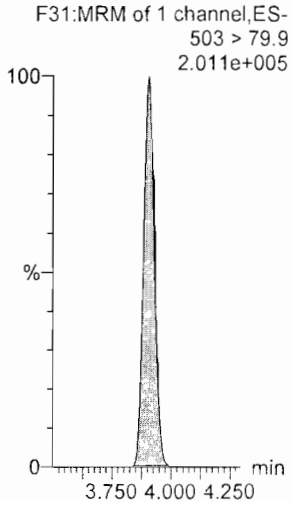


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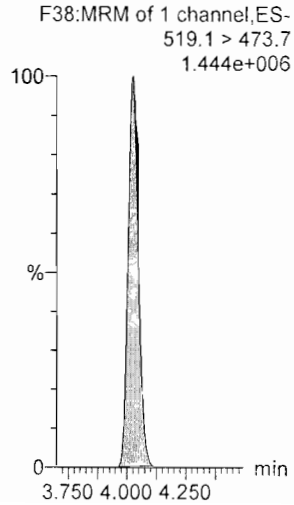
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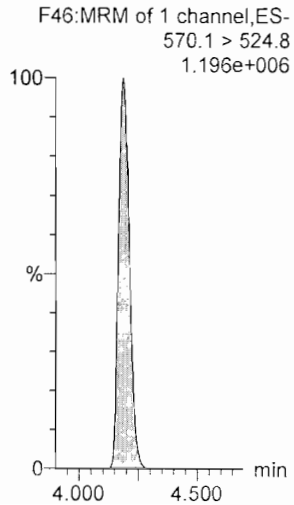
13C4-PFOS



13C6-PFDA



13C7-PFUnA

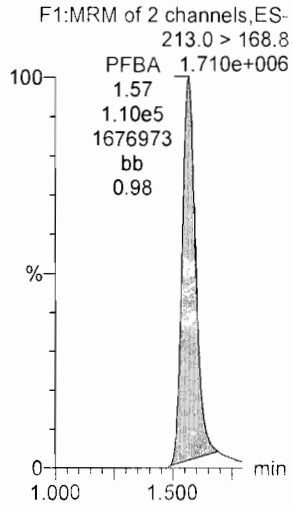


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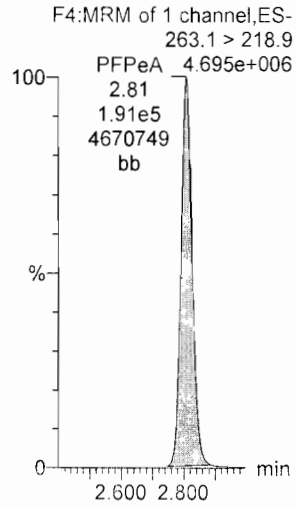
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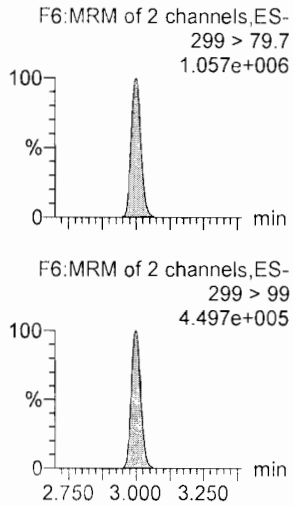
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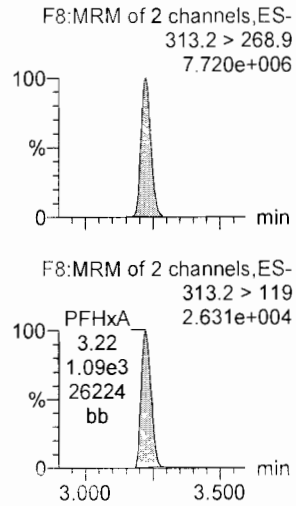
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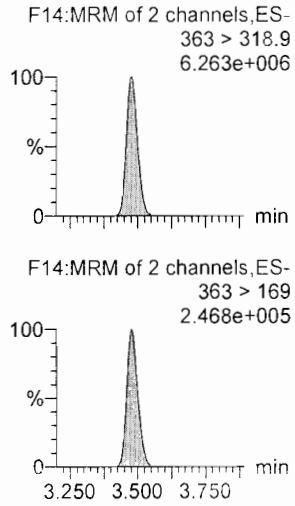
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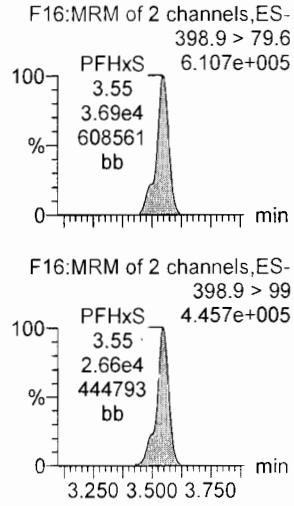
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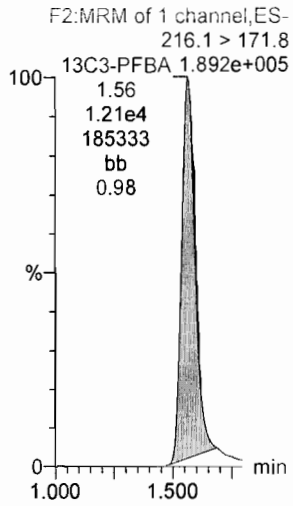
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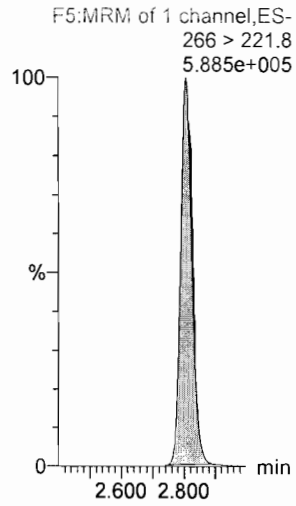
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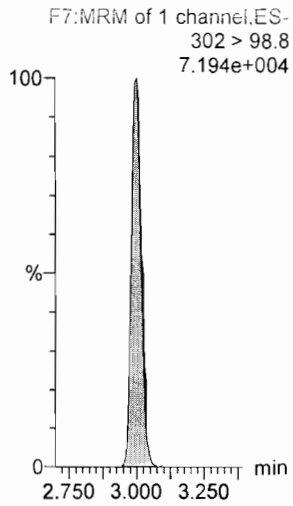
13C3-PFBA



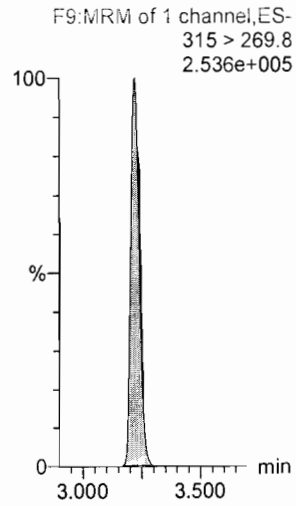
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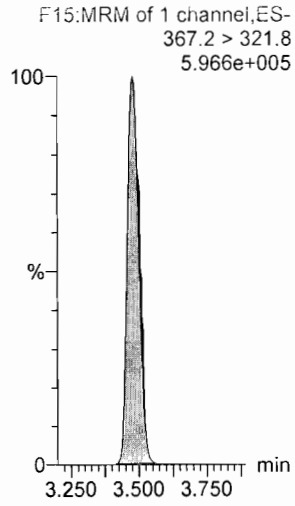
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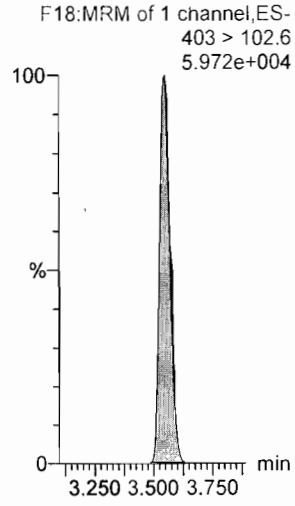
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13C4-PFHpA



18O2-PFHxS

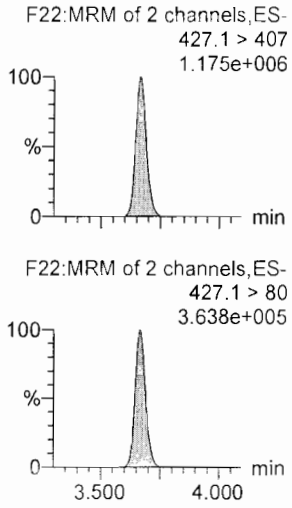


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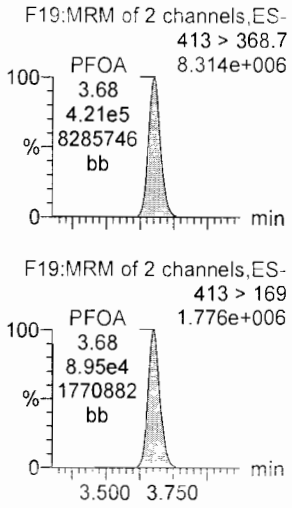
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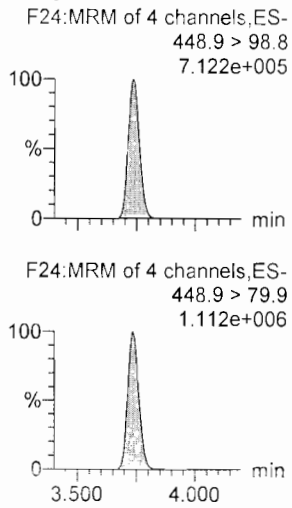
6:2 FTS



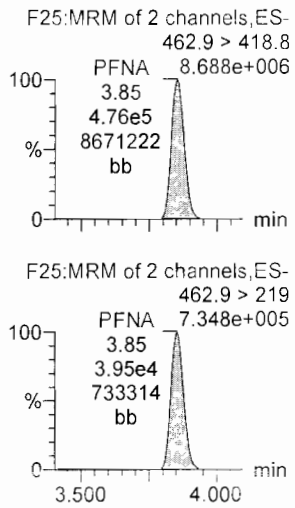
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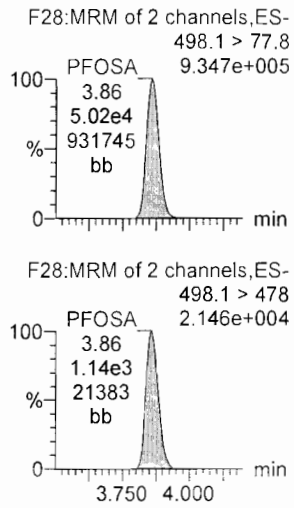
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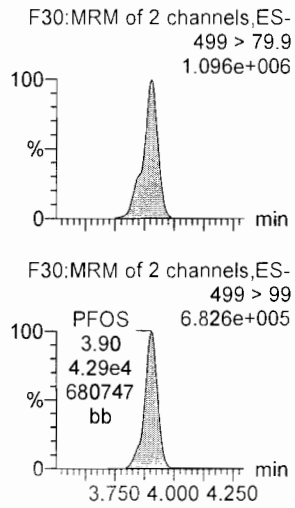
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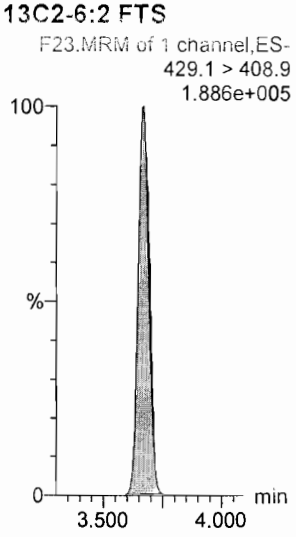
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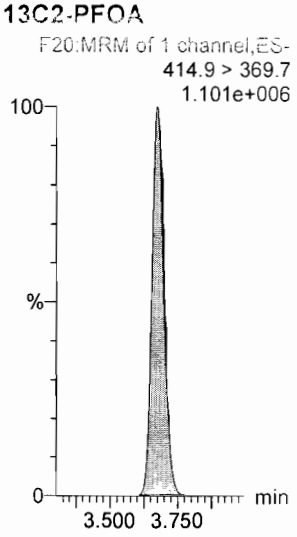
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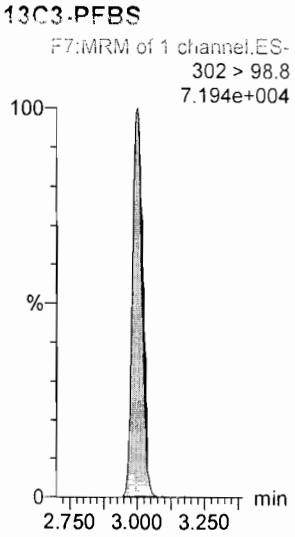
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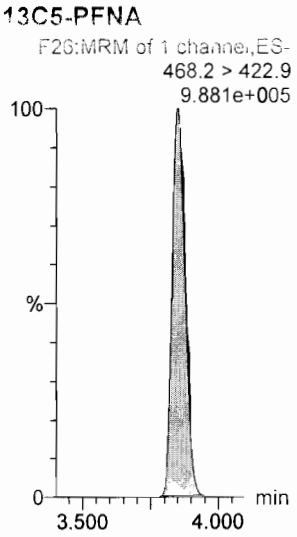
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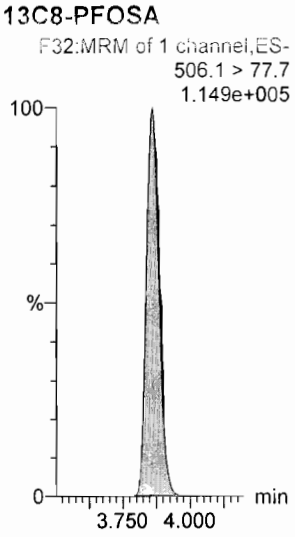
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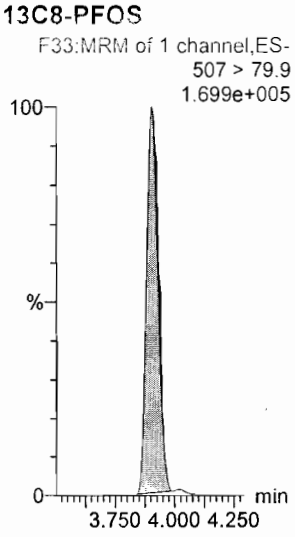
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13C8-PFOSA



13C8-PFOS

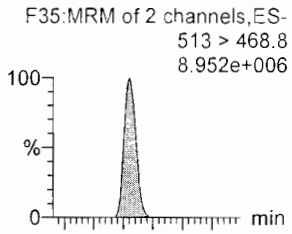


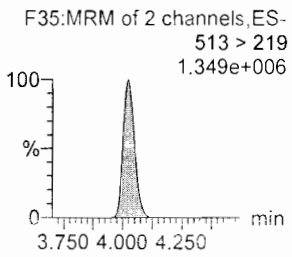
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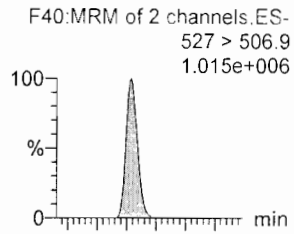
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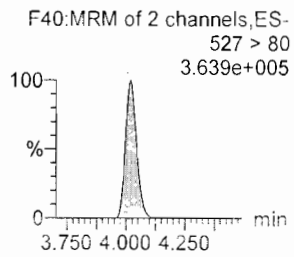
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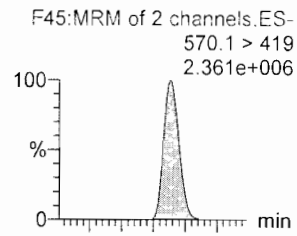


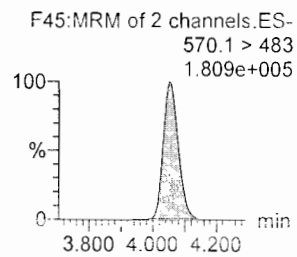
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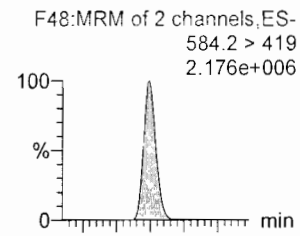


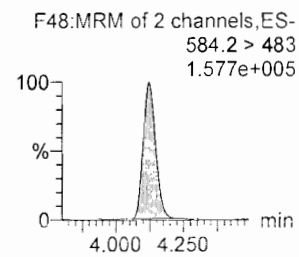
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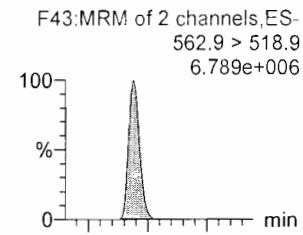


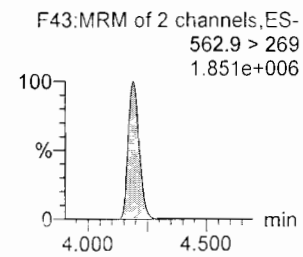
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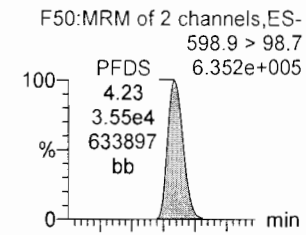


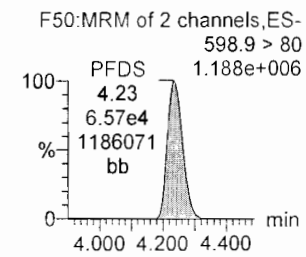
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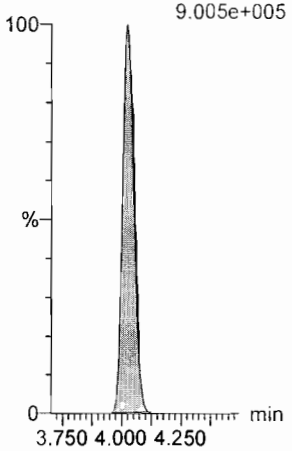


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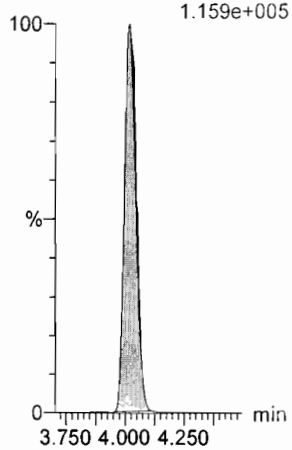




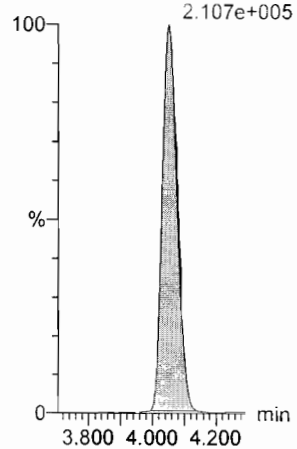
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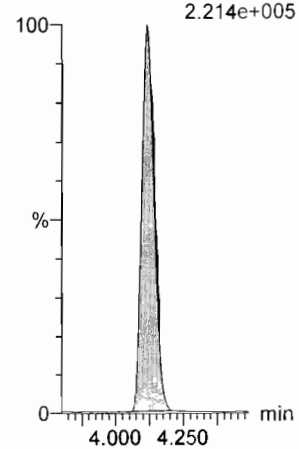
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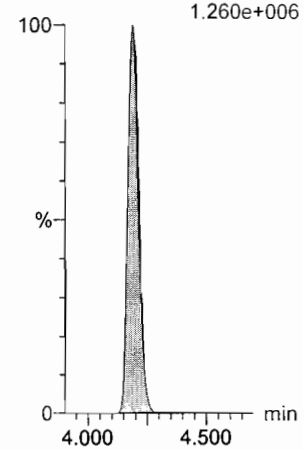
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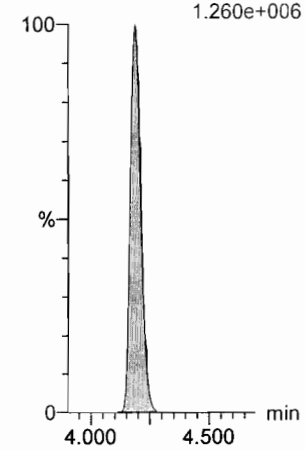
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13C2-PFUnA



13C2-PFUnA

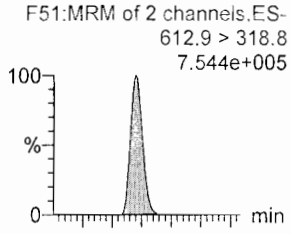


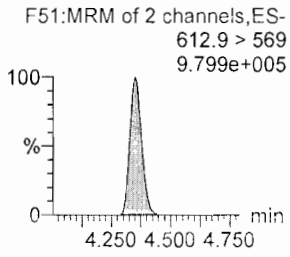
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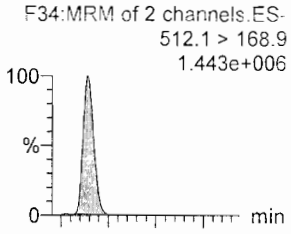
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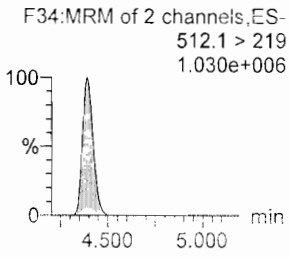
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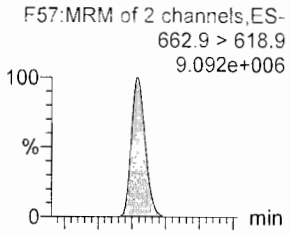


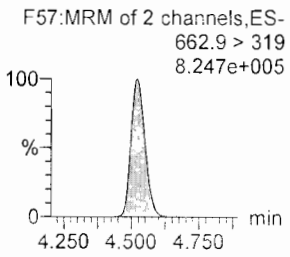
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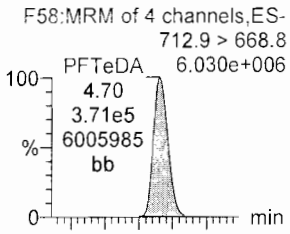


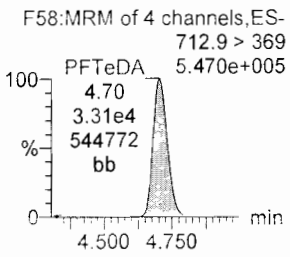
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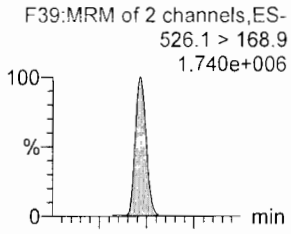


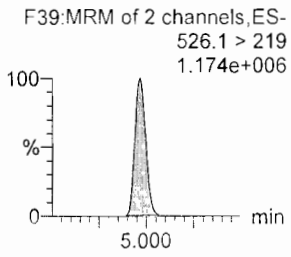
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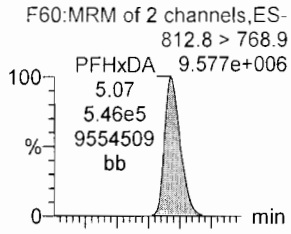


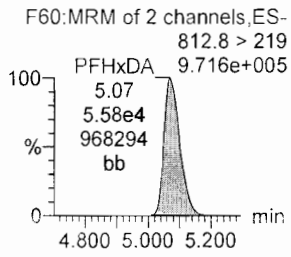
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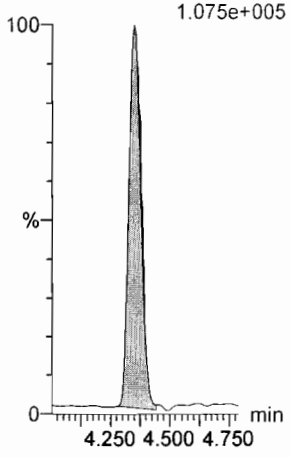


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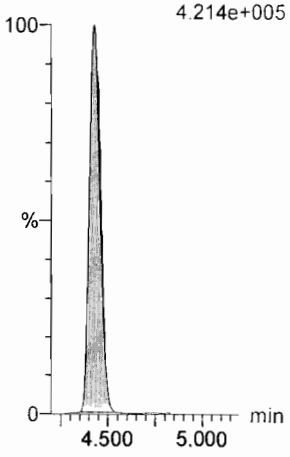




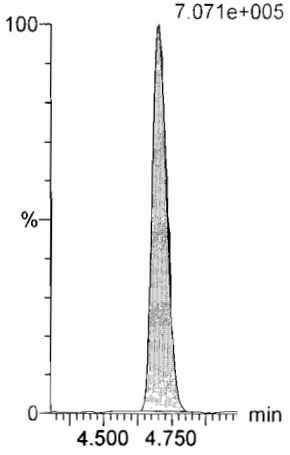
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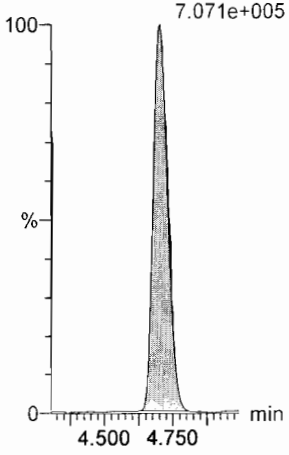
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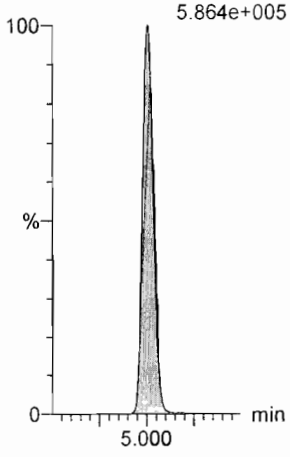
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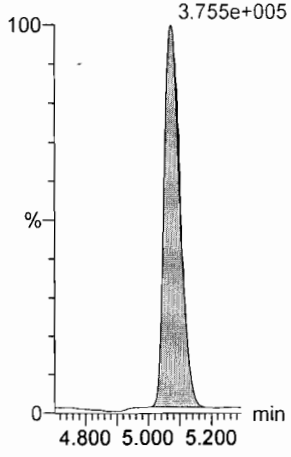
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d5-N-ETFOSA



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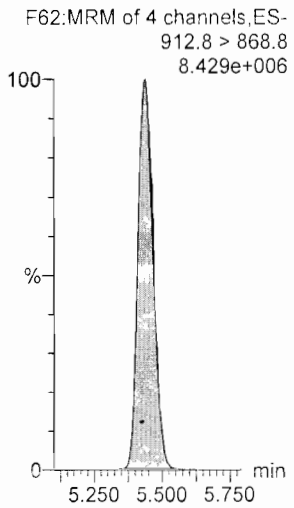


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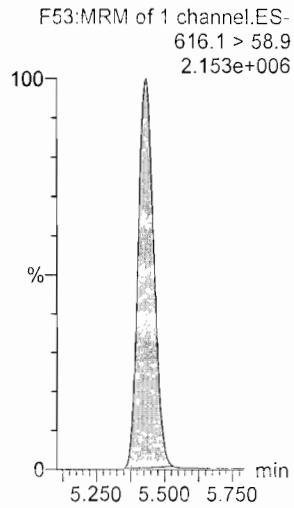
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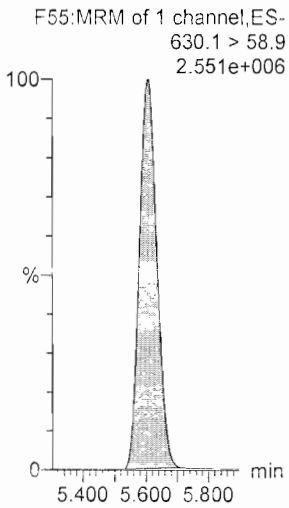
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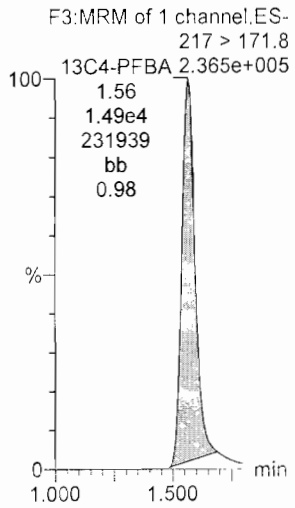
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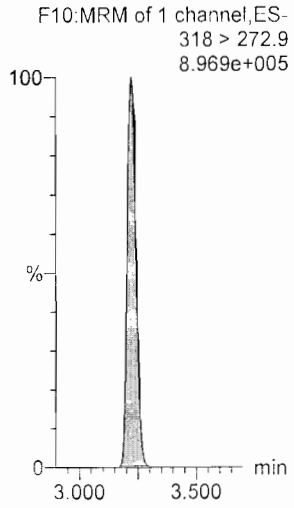
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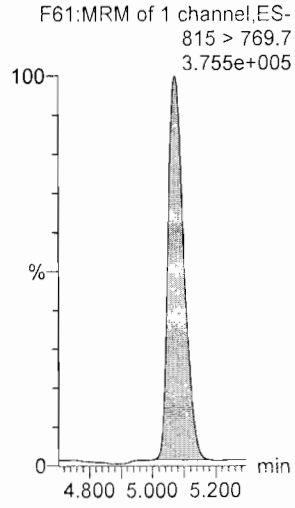
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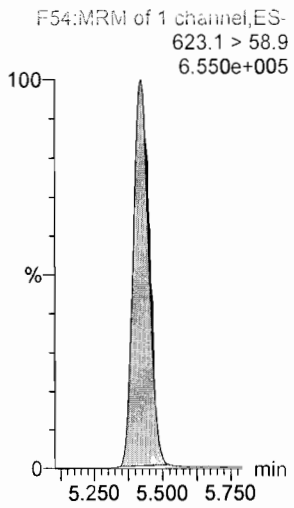
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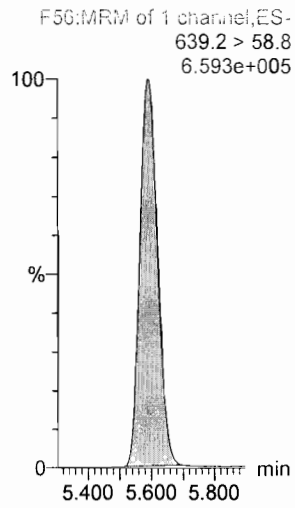
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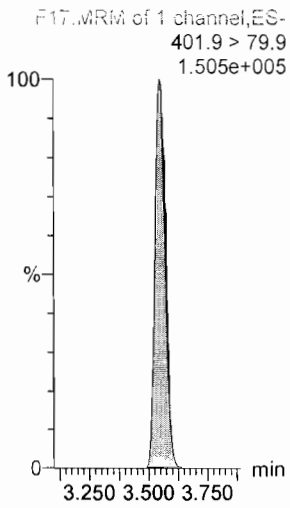
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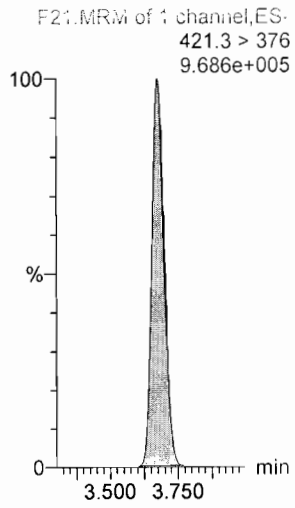
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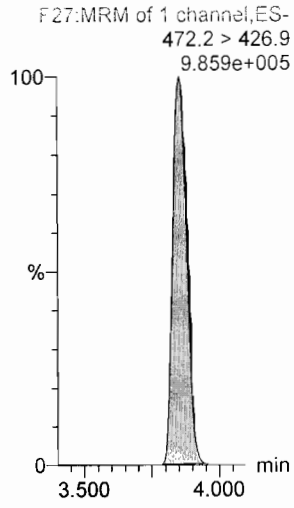
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13C8-PFOA



13C9-PFNA

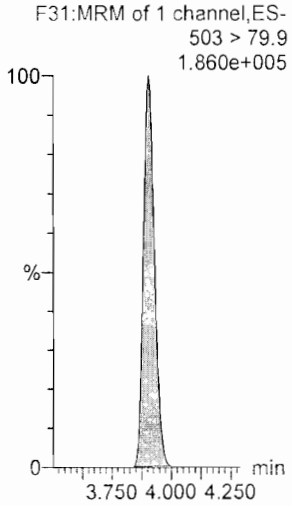


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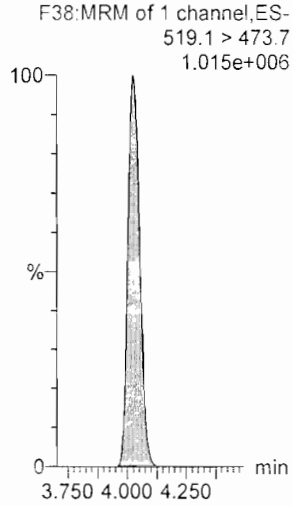
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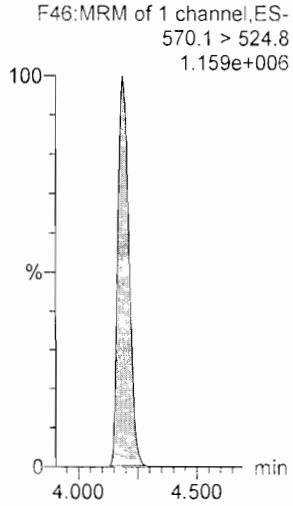
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13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

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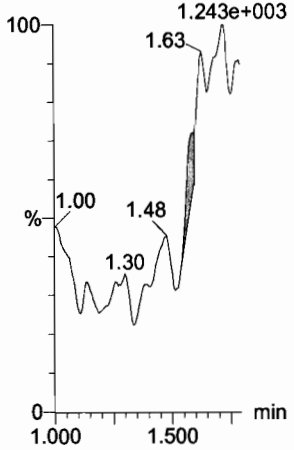
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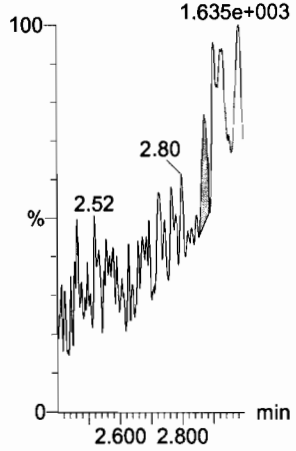
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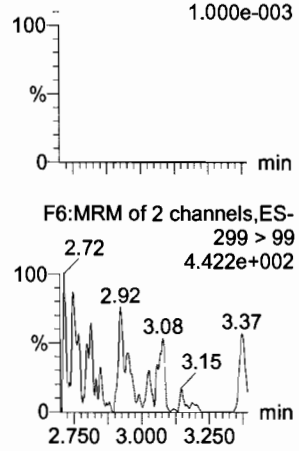
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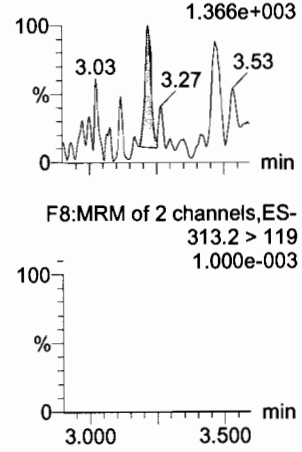
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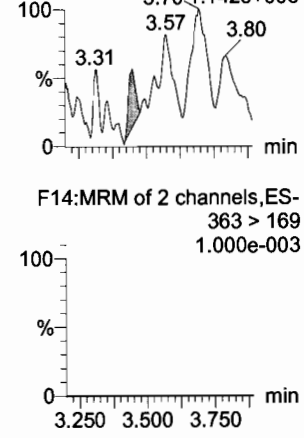
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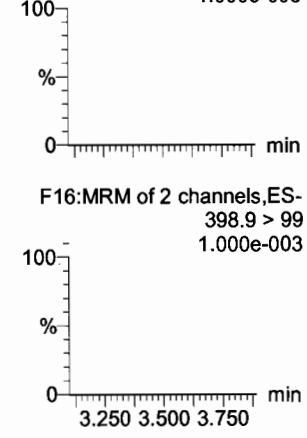
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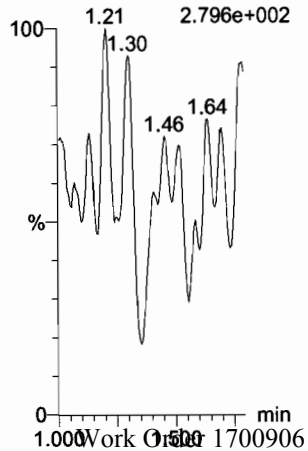
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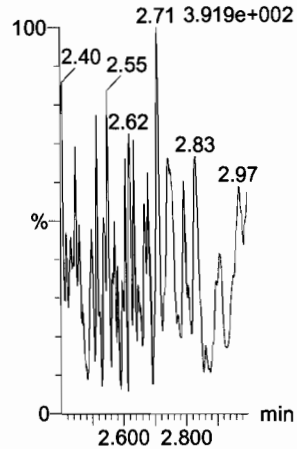
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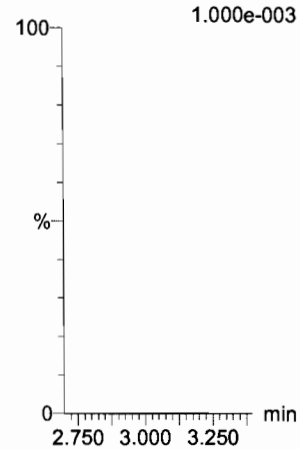
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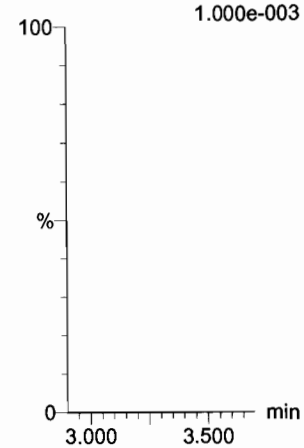
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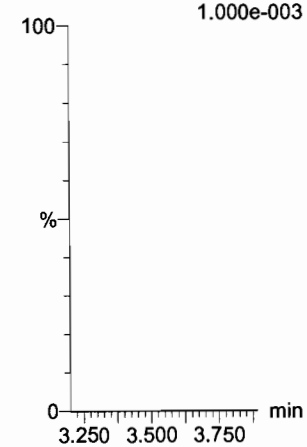
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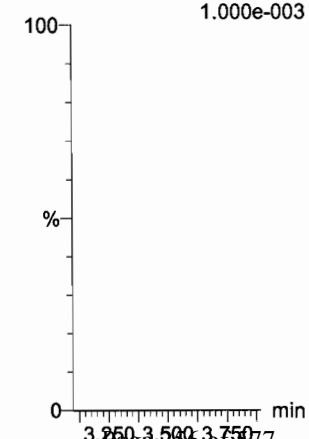
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13C4-PFHpA



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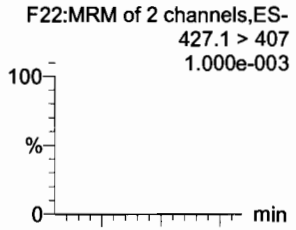
Vista Analytical Laboratory

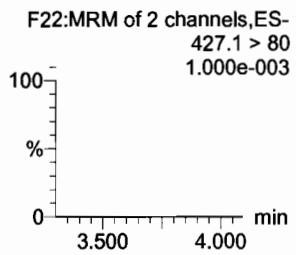
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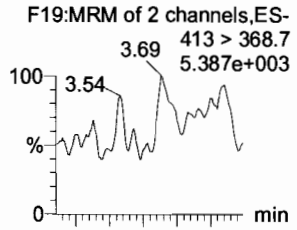
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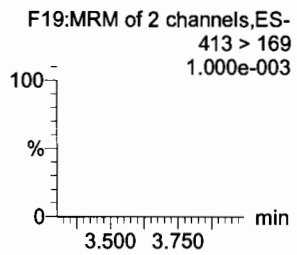
6:2 FTS



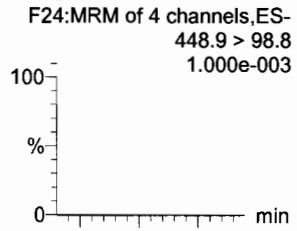


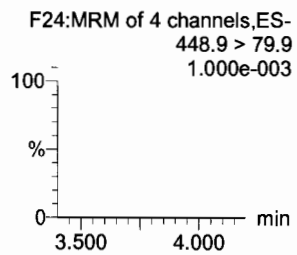
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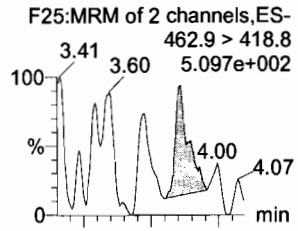


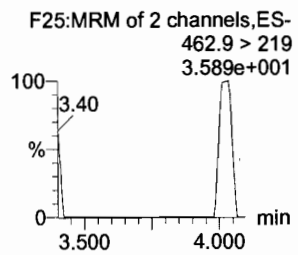
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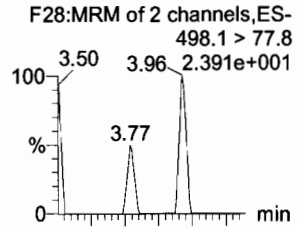


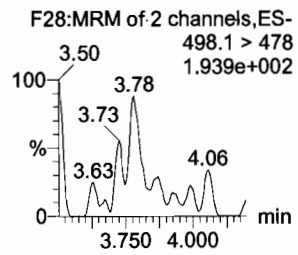
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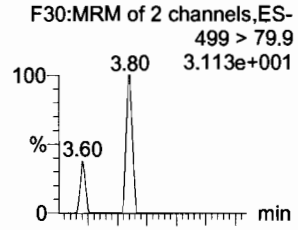


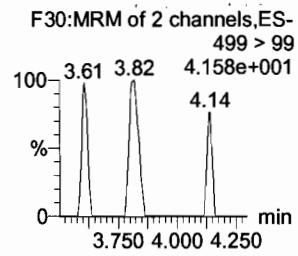
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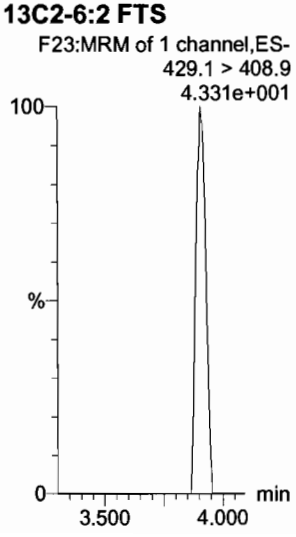


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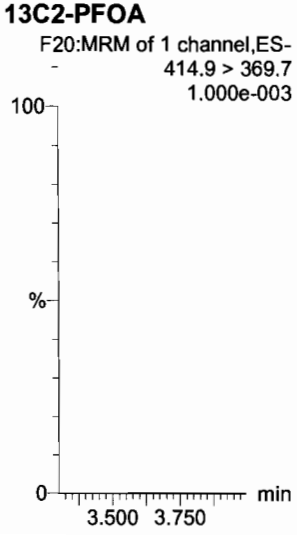




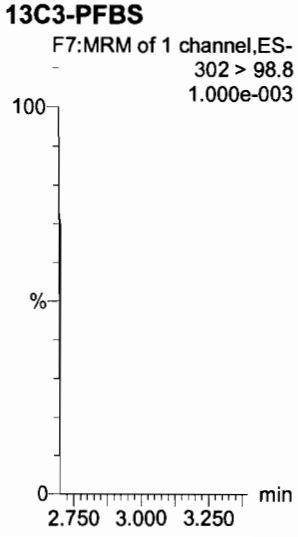
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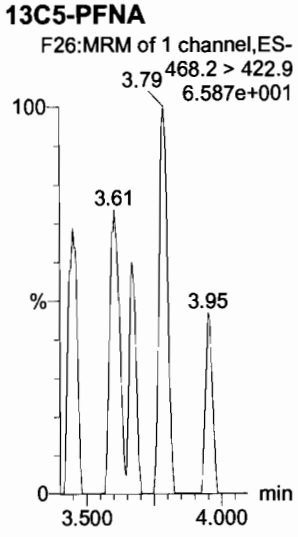
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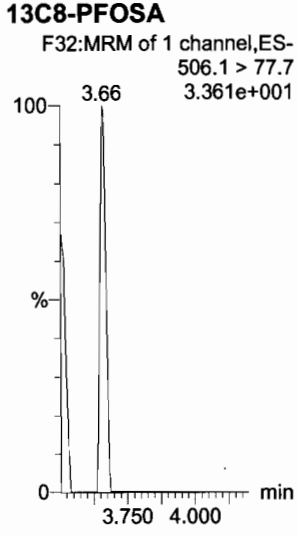
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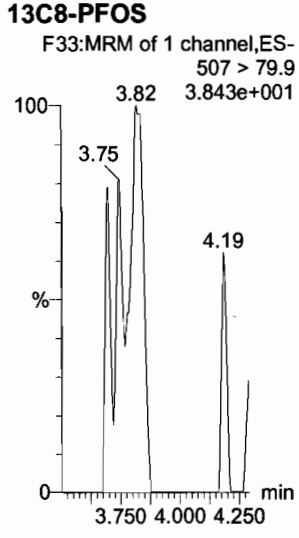
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13C8-PFOSA



13C8-PFOS



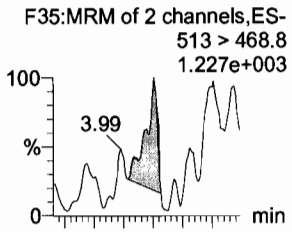
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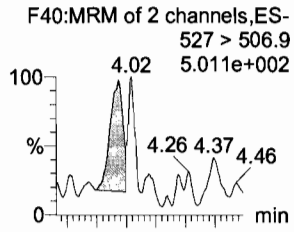
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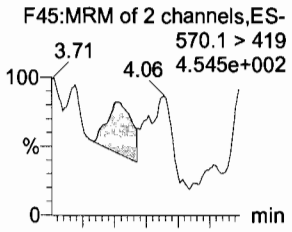
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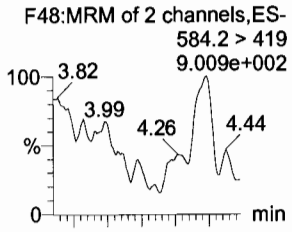
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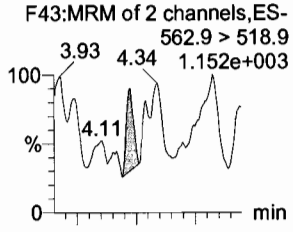
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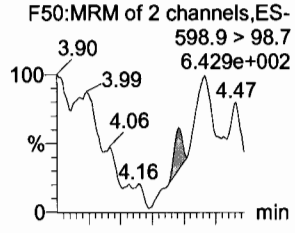
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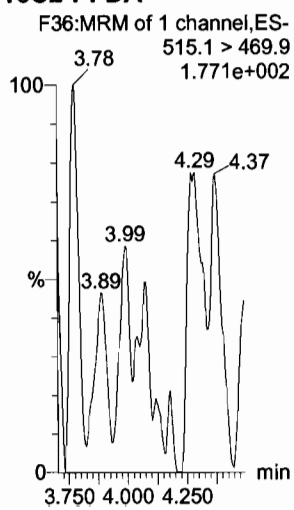
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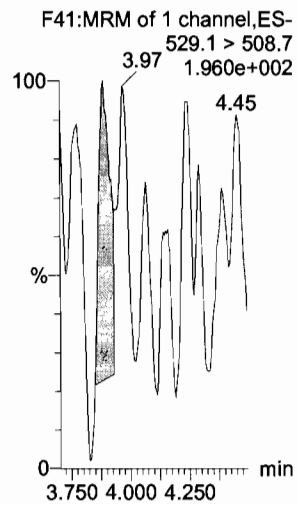
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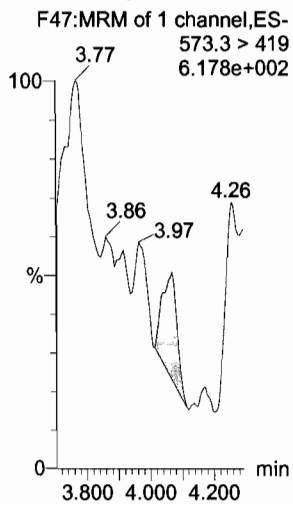
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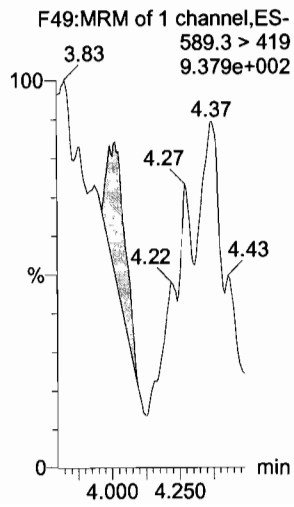
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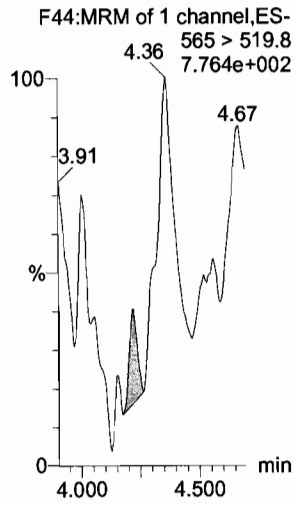
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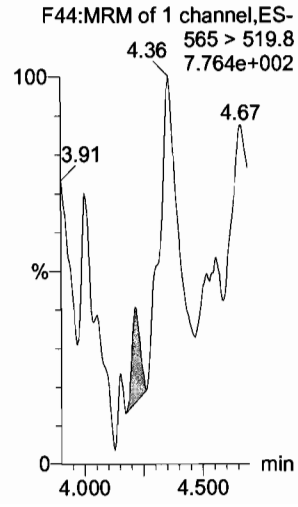
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13C2-PFUnA



13C2-PFUnA

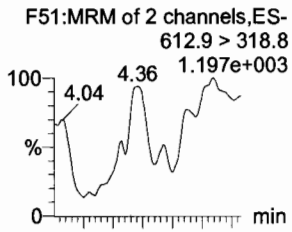


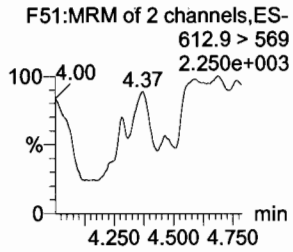
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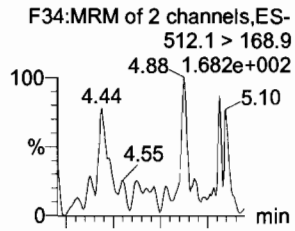
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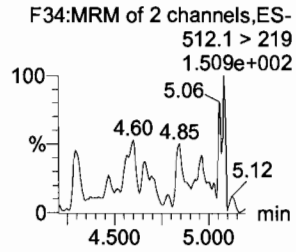
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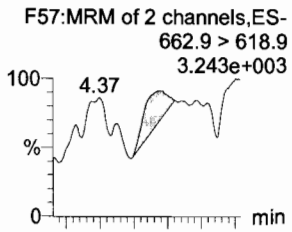


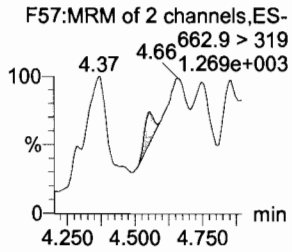
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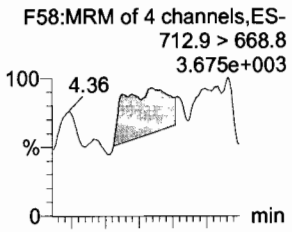


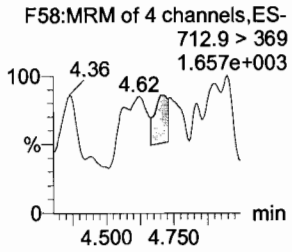
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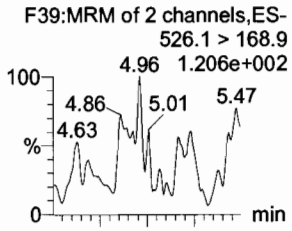


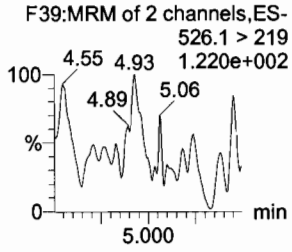
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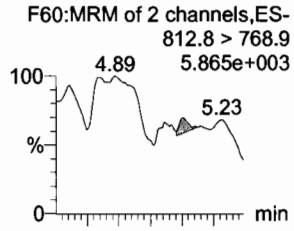


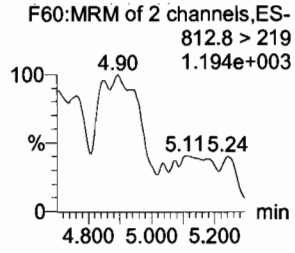
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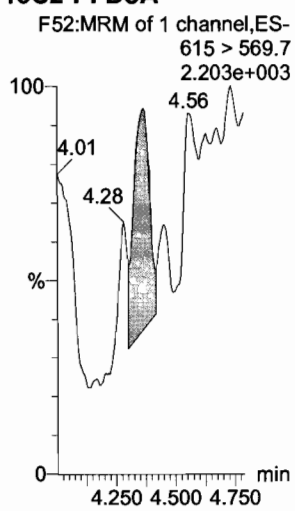


PFHxDA

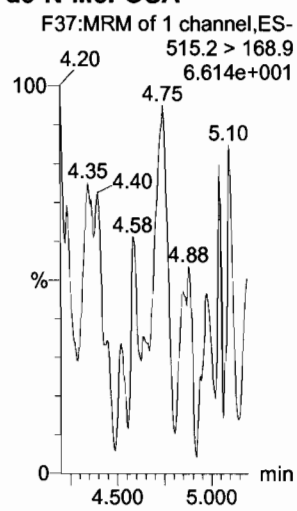




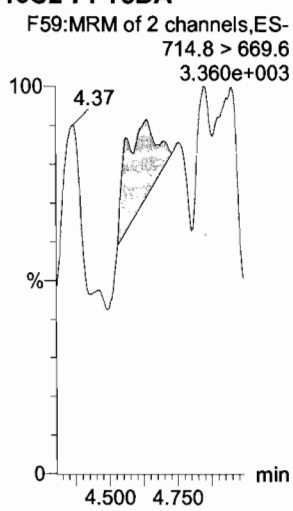
13C2-PFDoA



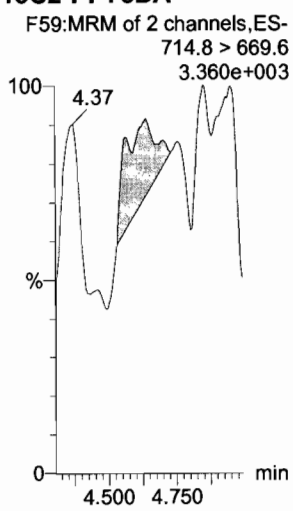
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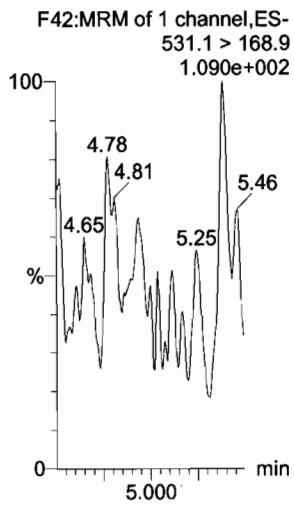
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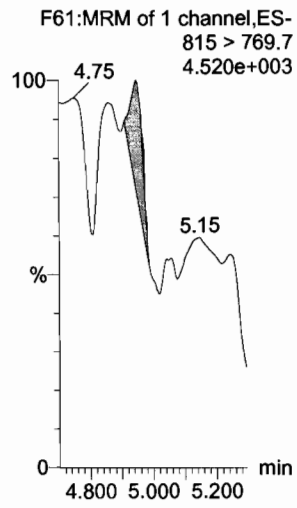
13C2-PFTeDA



d5-N-ETFOSA



13C2-PFHxDA



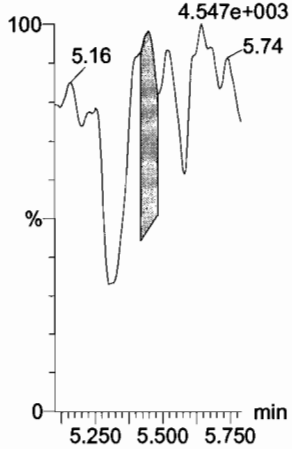
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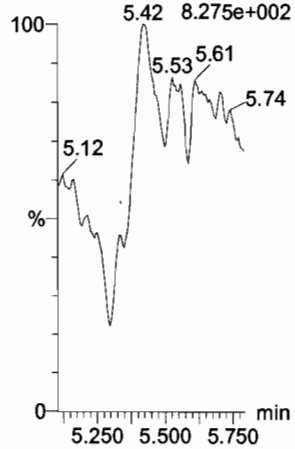
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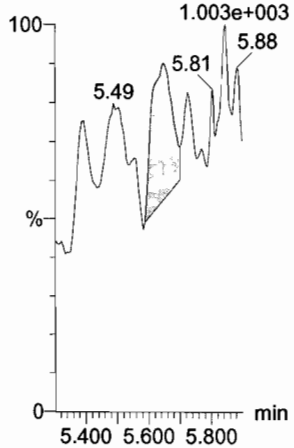
PFODA



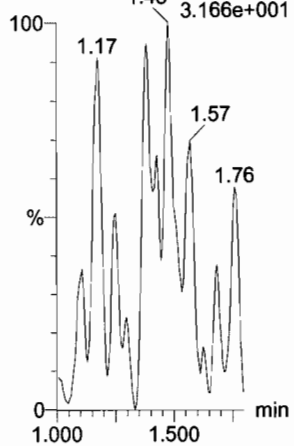
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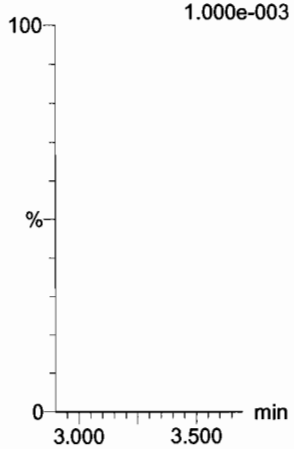
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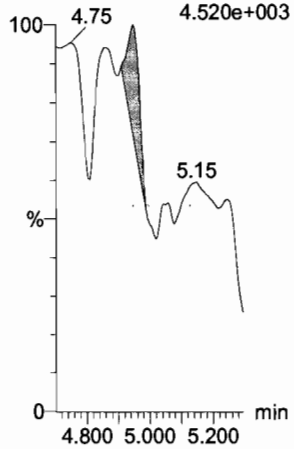
13C4-PFBA



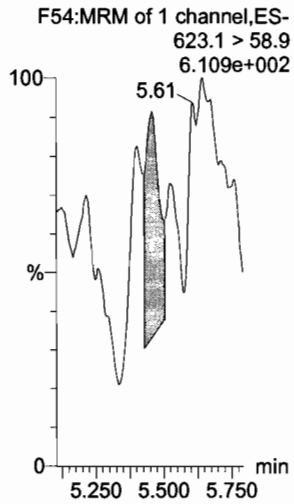
13C5-PFHxA



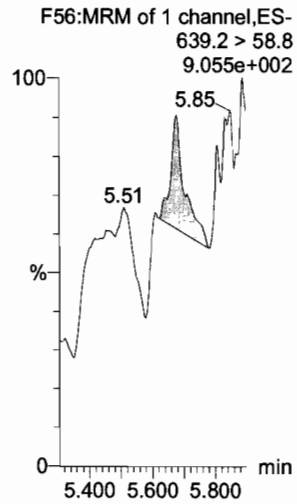
13C2-PFHxDA



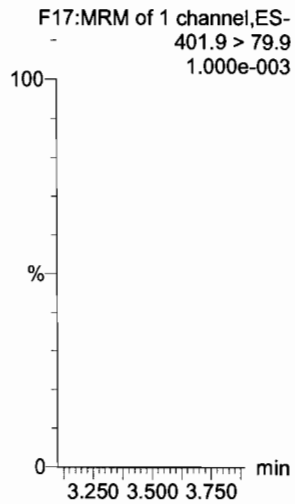
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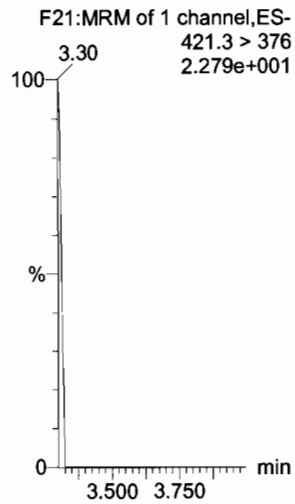
d9-N-EtFOSE



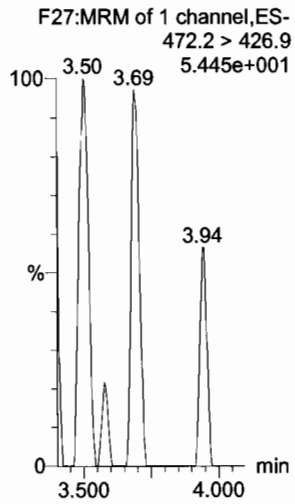
13C3-PFHxS



13C8-PFOA



13C9-PFNA



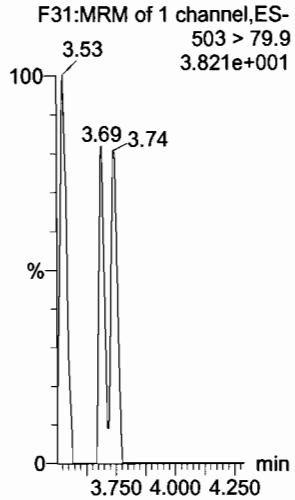
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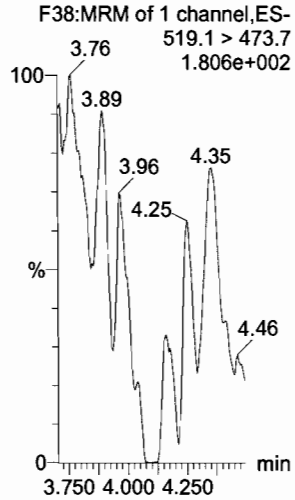
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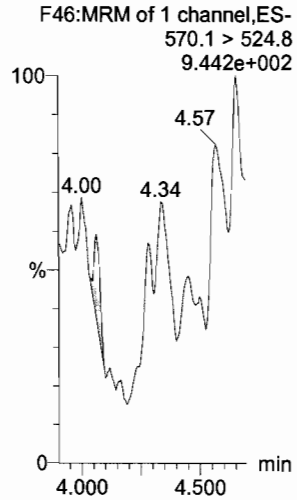
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12.qld

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Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

AC 7/24/17

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	11377.467	12073.278		1.000	1.56	10.30	103.03
2	2	PFPeA	263.1 > 218.9	19853.004	23925.629		1.000	2.81	10.35	103.50
3	3	PFBS	299 > 79.7	4150.350	2957.477		1.000	3.00	9.43	94.30
4	4	PFHxA	313.2 > 268.9	31616.176	10121.942		1.000	3.23	10.24	102.41
5	5	PFHpA	363 > 318.9	29691.209	29688.498		1.000	3.48	9.91	99.12
6	6	PFHxS	398.9 > 79.6	3522.001	2850.923		1.000	3.55	9.12	91.20
7	7	6:2 FTS	427.1 > 407	6778.936	7715.412		1.000	3.67	10.41	104.10
8	8	PFOA	413 > 368.7	48252.109	57527.922		1.000	3.68	10.59	105.94
9	9	PFHpS	448.9 > 98.8	3857.262	57527.922		1.000	3.74	9.28	92.79
10	10	PFNA	462.9 > 418.8	52020.793	55397.191		1.000	3.85	10.55	105.53
11	11	PFOSA	498.1 > 77.8	5708.063	6500.262		1.000	3.86	10.41	104.14
12	12	PFOS	499 > 79.9	8177.322	10272.242		1.000	3.90	8.42	84.17
13	13	PFDA	513 > 468.8	54158.824	56205.117		1.000	4.02	9.19	91.86
14	14	8:2 FTS	527 > 506.9	6486.744	5254.963		1.000	4.02	10.53	105.28
15	15	N-MeFOSAA	570.1 > 419	14470.231	11971.411		1.000	4.06	9.88	98.84
16	16	N-EtFOSAA	584.2 > 419	12443.312	12068.997		1.000	4.12	10.39	103.90
17	17	PFUnA	562.9 > 518.9	37650.797	59926.145		1.000	4.19	8.88	88.81
18	18	PFDS	598.9 > 98.7	3869.410	59926.145		1.000	4.24	9.05	90.53
19	19	PFDoA	612.9 > 318.8	4450.692	5849.101		1.000	4.35	10.09	100.94
20	20	N-MeFOSA	512.1 > 168.9	9.012	26376.414		1.000	4.39		Ⓐ
21	21	PFTrDA	662.9 > 618.9	52553.016	5849.101		1.000	4.52	10.12	101.16
22	22	PFTeDA	712.9 > 668.8	38350.820	40951.586		1.000	4.70	10.17	101.65
23	23	N-EtFOSA	526.1 > 168.9	12.231	6321.303		1.000	4.97		Ⓐ
24	24	PFHxDA	812.8 > 768.9	616.143	19848.846		1.000	5.07		
25	25	PFODA	912.8 > 868.8	230.613	19848.846		1.000	5.44		
26	26	N-MeFOSE	616.1 > 58.9	26.252	40883.168		1.000	5.45		
27	27	N-EtFOSE	630.1 > 58.9		40456.262		1.000			
28	28	13C3-PFBA	216.1 > 171.8	12073.278	14974.247	0.820	1.000	1.55	12.28	98.27
29	29	13C3-PFPeA	266 > 221.8	23925.629	38341.938	0.248	1.000	2.81	12.57	100.58
30	30	13C3-PFBS	302 > 98.8	2957.477	38341.938	0.031	1.000	3.00	12.40	99.20
31	31	13C2-PFHxA	315 > 269.8	10121.942	38341.938	0.276	1.000	3.23	4.78	95.51

70-130

70-130

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-12.qld

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Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

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32	32 13C4-PFHpA	367.2 > 321.8	29688.498	38341.938	0.306	1.000	3.48	12.67	101.34
33	33 18O2-PFHxS	403 > 102.6	2850.923	7151.517	0.393	1.000	3.55	12.69	101.51
34	34 13C2-6:2 FTS	429.1 > 408.9	7715.412	55193.199	0.158	1.000	3.67	11.08	88.65
35	35 13C2-PFOA	414.9 > 369.7	57527.922	55193.199	1.067	1.000	3.68	12.20	97.64
36	36 13C5-PFNA	468.2 > 422.9	55397.191	58314.438	0.852	1.000	3.85	13.94	111.48
37	37 13C8-PFOSA	506.1 > 77.7	6500.262	73602.336	0.098	1.000	3.86	11.24	89.90
38	38 13C8-PFOS	507 > 79.9	10272.242	10242.656	0.936	1.000	3.91	13.40	107.18
39	39 13C2-PFDA	515.1 > 469.9	56205.117	70397.750	0.810	1.000	4.02	12.32	98.59
40	40 13C2-8:2 FTS	529.1 > 508.7	5254.963	70397.750	0.086	1.000	4.02	10.90	87.23
41	41 d3-N-MeFOSAA	573.3 > 419	11971.411	73602.336	0.014	1.000	4.05	148.44	91.35
42	42 d5-N-EtFOSAA	589.3 > 419	12068.997	73602.336	0.014	1.000	4.12	146.98	90.45
43	43 13C2-PFUnA	565 > 519.8	59926.145	73602.336	0.962	1.000	4.19	10.58	84.63
44	44 13C2-PFDoA	615 > 569.7	5849.101	73602.336	0.094	1.000	4.35	10.52	84.16
45	45 d3-N-MeFOSA	515.2 > 168.9	26376.414	73602.336	0.034	1.000	4.43	130.17	86.78
46	46 13C2-PFTeDA	714.8 > 669.6	40951.586	73602.336	0.694	1.000	4.70	10.02	80.14
47	47 d5-N-ETFOSA	531.1 > 168.9	6321.303	73602.336	0.049	1.000	5.01	22.06	14.70
48	48 13C2-PFHxDA	815 > 769.7	19848.846	73602.336	0.843	1.000	5.07	4.00	79.97
49	49 d7-N-MeFOSE	623.1 > 58.9	40883.168	73602.336	0.055	1.000	5.42	127.09	84.73
50	50 d9-N-EtFOSE	639.2 > 58.8	40456.262	73602.336	0.053	1.000	5.59	128.61	85.74
51	51 13C4-PFBA	217 > 171.8	14974.247	14974.247	1.000	1.000	1.55	12.50	100.00
52	52 13C5-PFHxA	318 > 272.9	38341.938	38341.938	1.000	1.000	3.22	5.00	100.00
53	53 13C3-PFHxS	401.9 > 79.9	7151.517	7151.517	1.000	1.000	3.55	12.50	100.00
54	54 13C8-PFOA	421.3 > 376	55193.199	55193.199	1.000	1.000	3.68	12.50	100.00
55	55 13C9-PFNA	472.2 > 426.9	58314.438	58314.438	1.000	1.000	3.85	12.50	100.00
56	56 13C4-PFOS	503 > 79.9	10242.656	10242.656	1.000	1.000	3.91	12.50	100.00
57	57 13C6-PFDA	519.1 > 473.7	70397.750	70397.750	1.000	1.000	4.02	12.50	100.00
58	58 13C7-PFUnA	570.1 > 524.8	73602.336	73602.336	1.000	1.000	4.19	12.50	100.00

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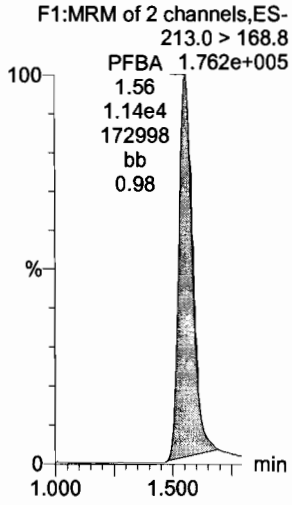
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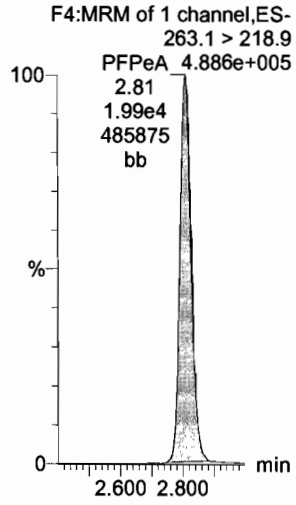
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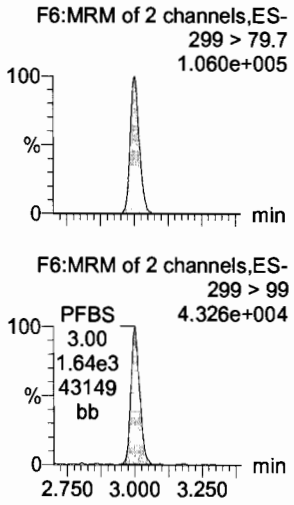
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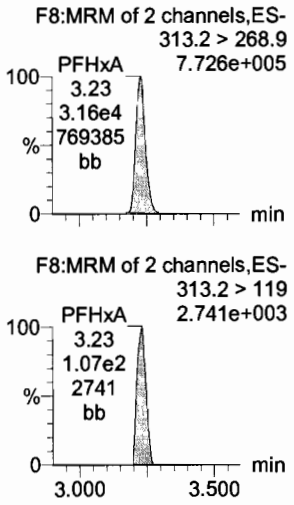
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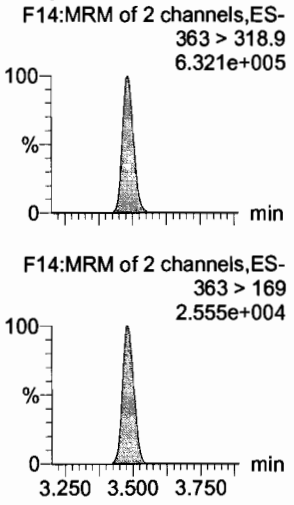
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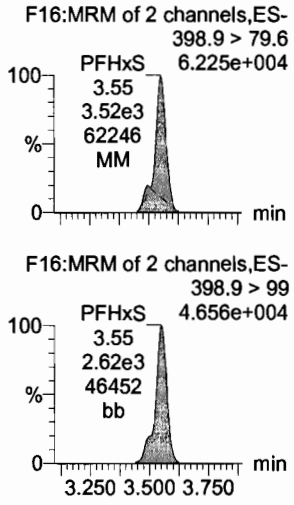
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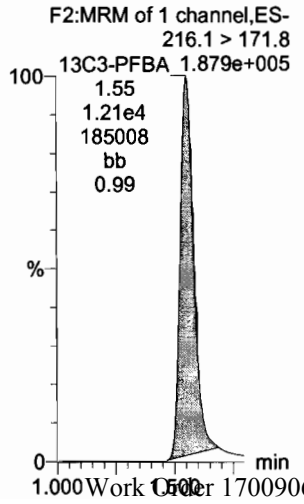
PFHpA



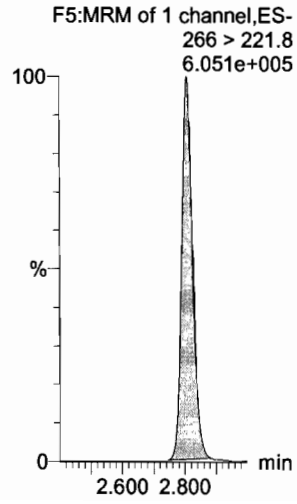
PFHxS



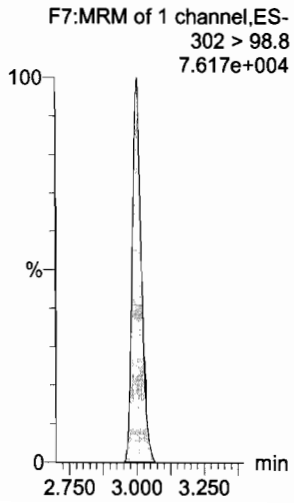
13C3-PFBA



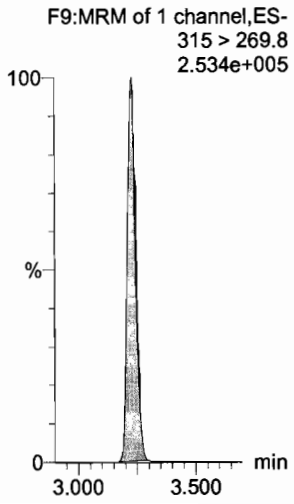
13C3-PFPeA



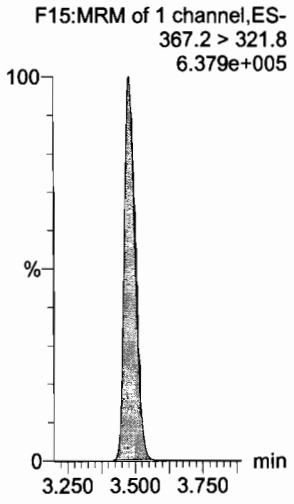
13C3-PFBS



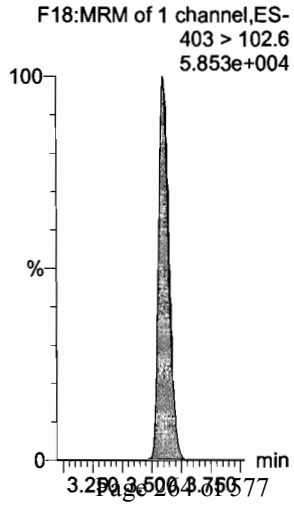
13C2-PFHxA



13C4-PFHpA



18O2-PFHxS

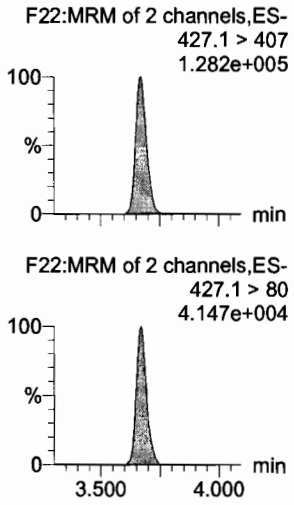


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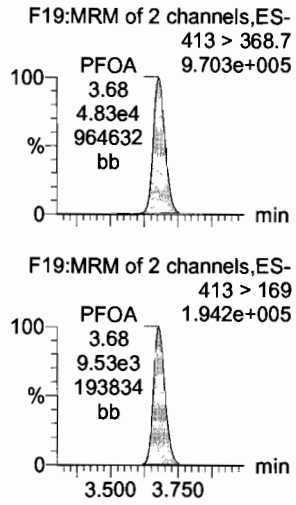
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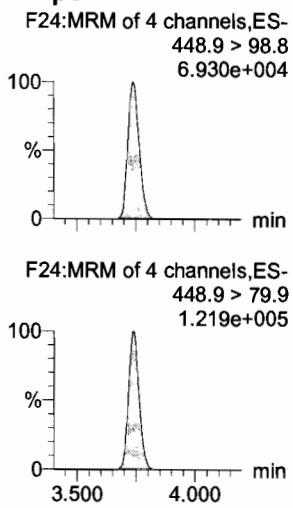
6:2 FTS



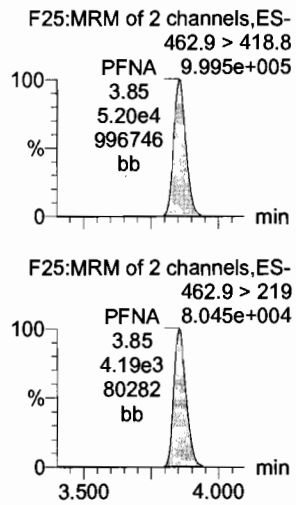
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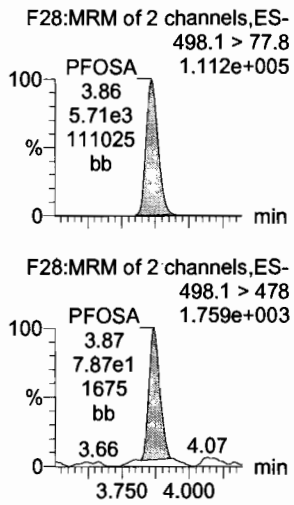
PFHpS



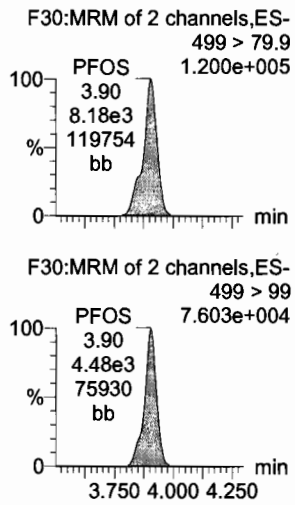
PFNA



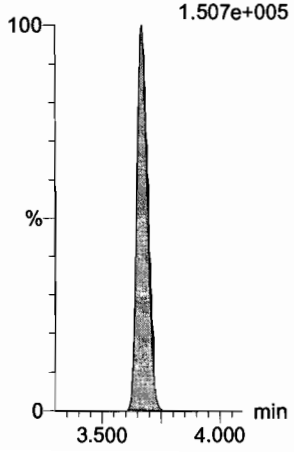
PFOSA



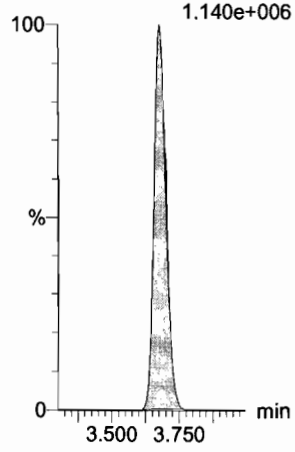
PFOS



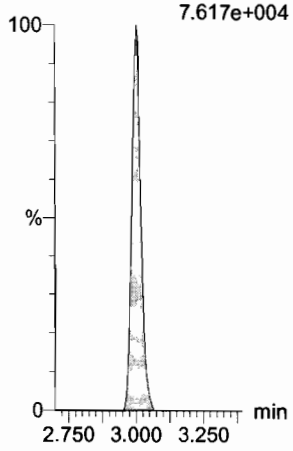
13C2-6:2 FTS



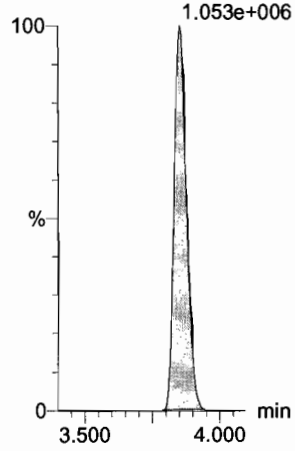
13C2-PFOA



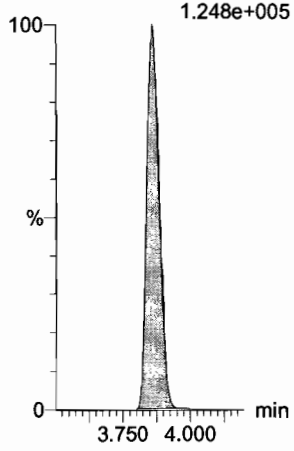
13C3-PFBS



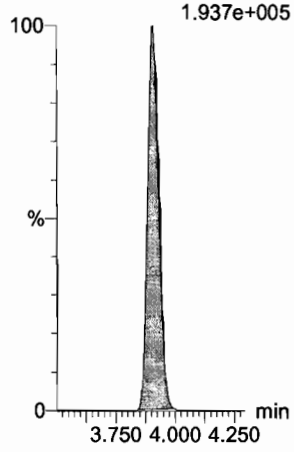
13C5-PFNA



13C8-PFOSA



13C8-PFOS



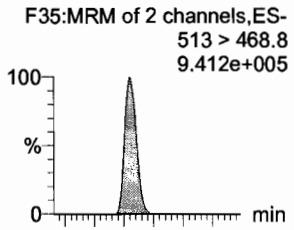
Vista Analytical Laboratory

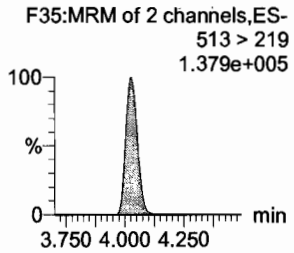
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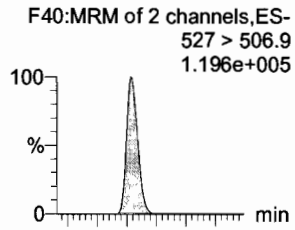
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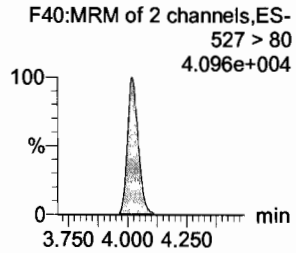
PFDA



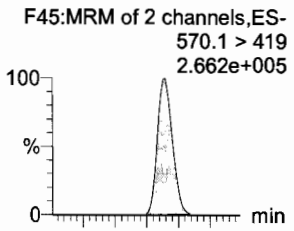


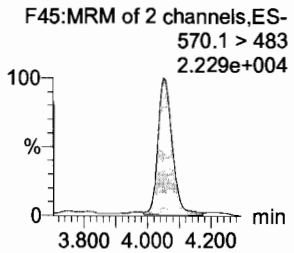
8:2 FTS



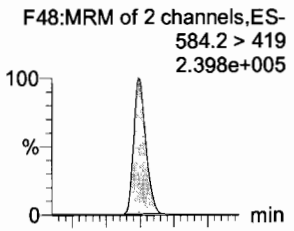


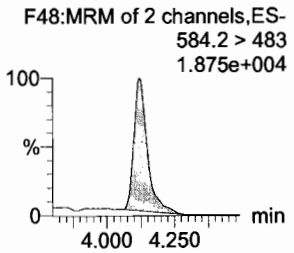
N-MeFOSAA



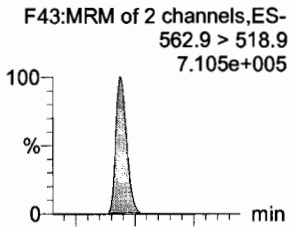


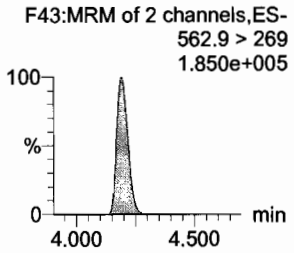
N-EtFOSAA



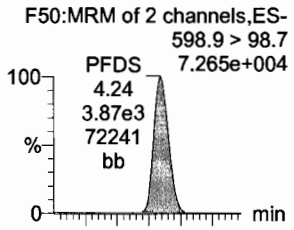


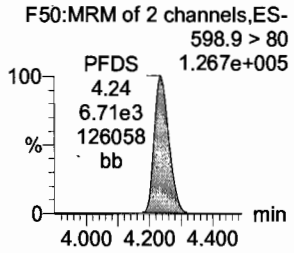
PFUnA



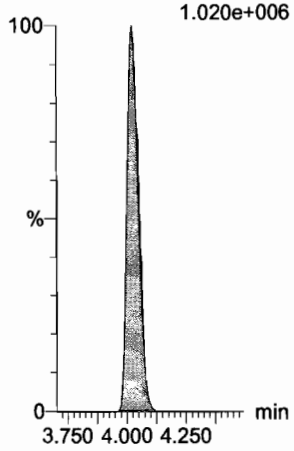


PFDS

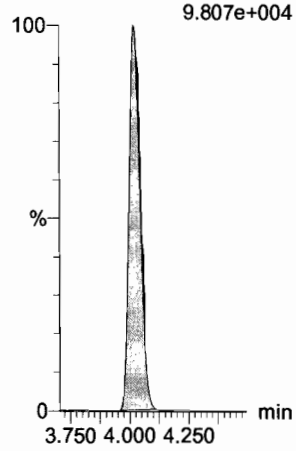




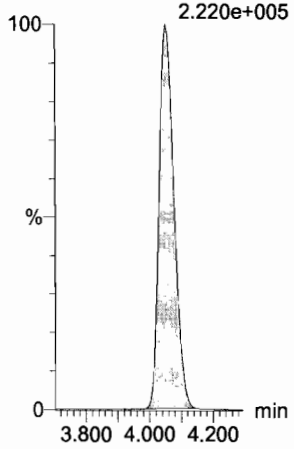
13C2-PFDA



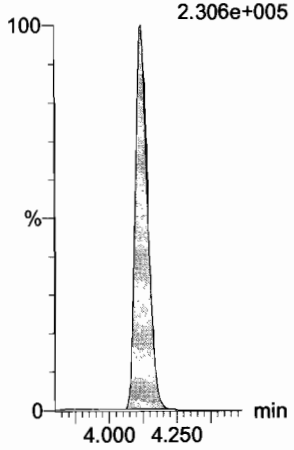
13C2-8:2 FTS



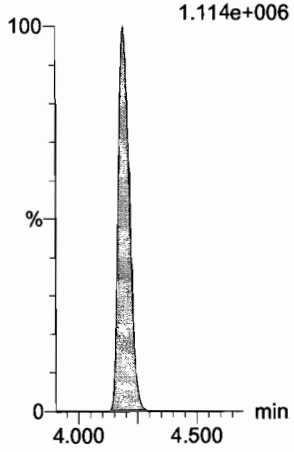
d3-N-MeFOSAA



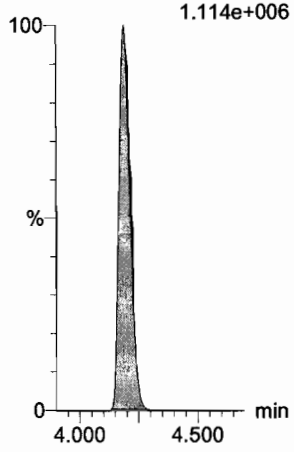
d5-N-EtFOSAA



13C2-PFUnA



13C2-PFUnA

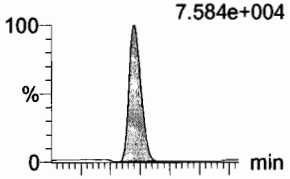


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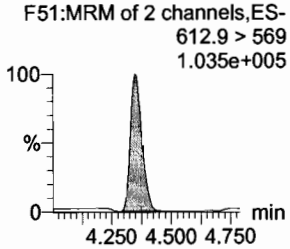
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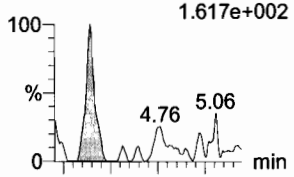
PFDoA
F51:MRM of 2 channels,ES-
612.9 > 318.8
7.584e+004



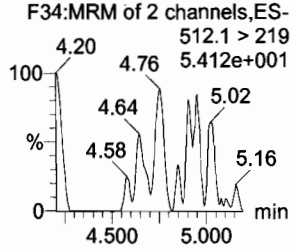
F51:MRM of 2 channels,ES-
612.9 > 569
1.035e+005



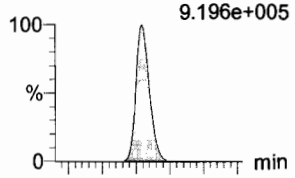
N-MeFOSA
F34:MRM of 2 channels,ES-
512.1 > 168.9
1.617e+002



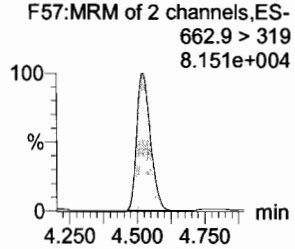
F34:MRM of 2 channels,ES-
512.1 > 219
5.412e+001



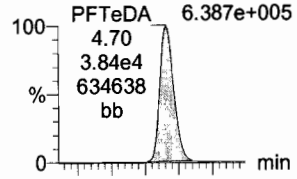
PFTrDA
F57:MRM of 2 channels,ES-
662.9 > 618.9
9.196e+005



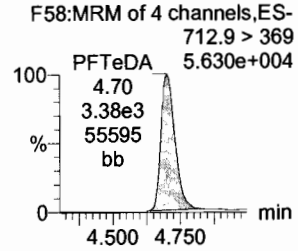
F57:MRM of 2 channels,ES-
662.9 > 319
8.151e+004



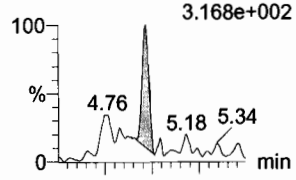
PFTeDA
F58:MRM of 4 channels,ES-
712.9 > 668.8
6.387e+005



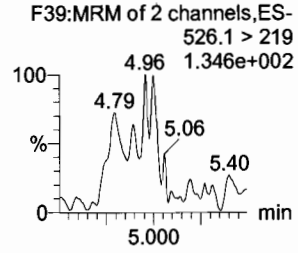
F58:MRM of 4 channels,ES-
712.9 > 369
5.630e+004



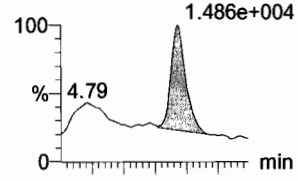
N-EtFOSA
F39:MRM of 2 channels,ES-
526.1 > 168.9
3.168e+002



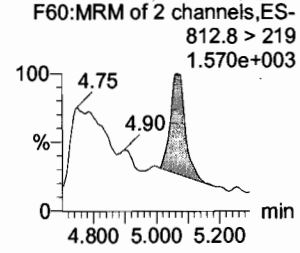
F39:MRM of 2 channels,ES-
526.1 > 219
1.346e+002



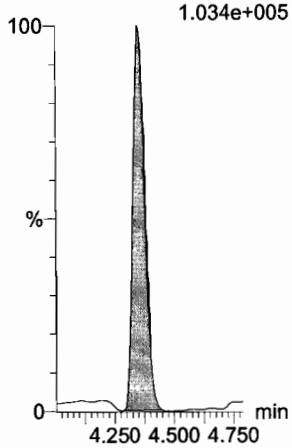
PFHxDA
F60:MRM of 2 channels,ES-
812.8 > 768.9
1.486e+004



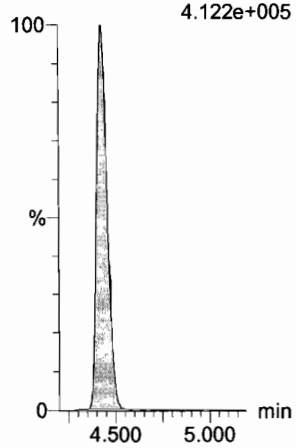
F60:MRM of 2 channels,ES-
812.8 > 219
1.570e+003



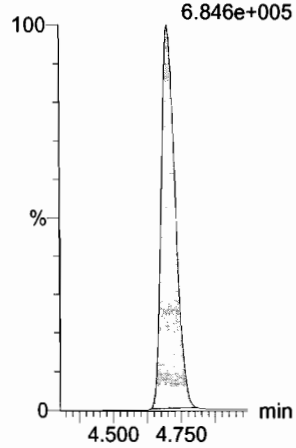
13C2-PFDoA
F52:MRM of 1 channel,ES-
615 > 569.7
1.034e+005



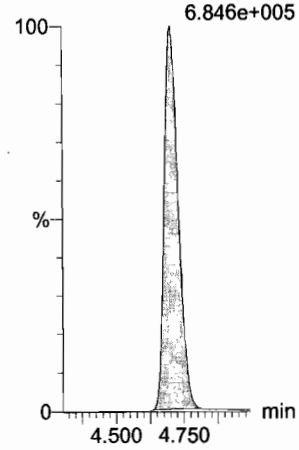
d3-N-MeFOSA
F37:MRM of 1 channel,ES-
515.2 > 168.9
4.122e+005



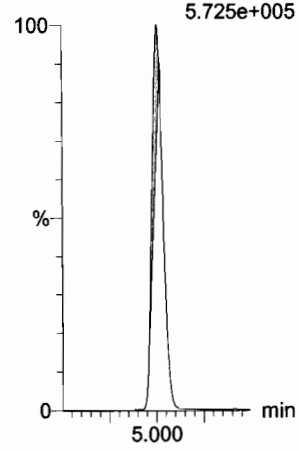
13C2-PFTeDA
F59:MRM of 2 channels,ES-
714.8 > 669.6
6.846e+005



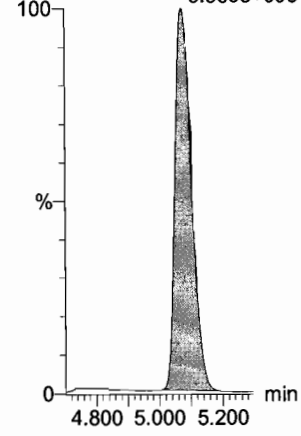
13C2-PFTeDA
F59:MRM of 2 channels,ES-
714.8 > 669.6
6.846e+005



d5-N-ETFOSA
F42:MRM of 1 channel,ES-
531.1 > 168.9
5.725e+005



13C2-PFHxDA
F61:MRM of 1 channel,ES-
815 > 769.7
3.363e+005

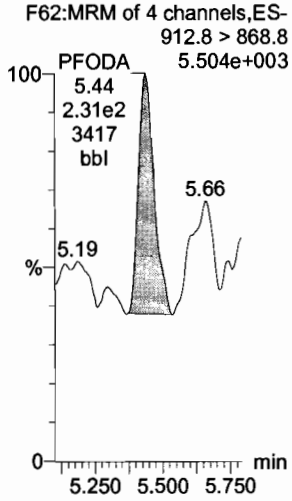


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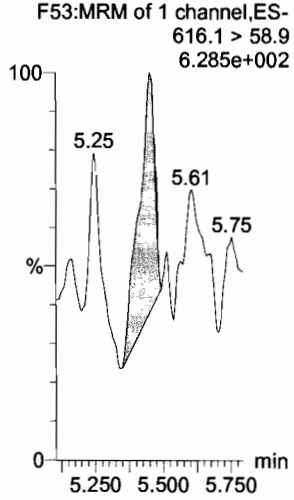
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Printed: Monday, July 24, 2017 15:47:38 Pacific Daylight Time

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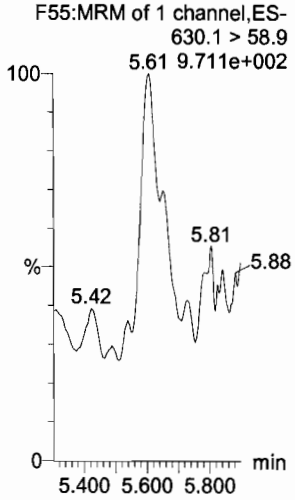
PFODA



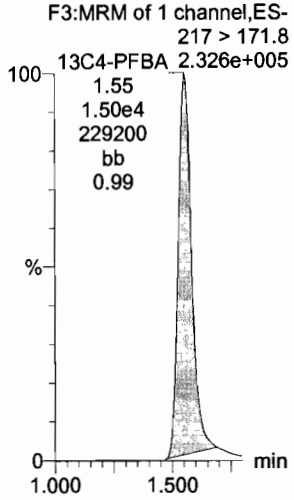
N-MeFOSE



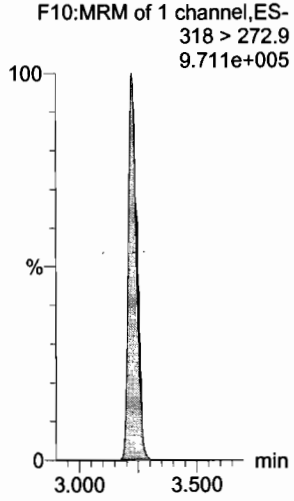
N-EtFOSE



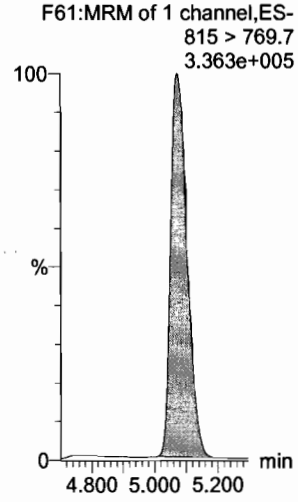
13C4-PFBA



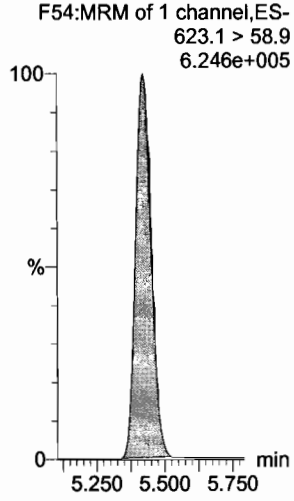
13C5-PFHxA



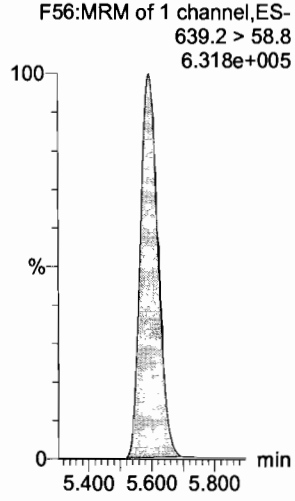
13C2-PFHxDA



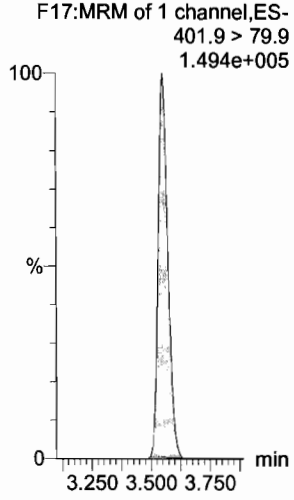
d7-N-MeFOSE



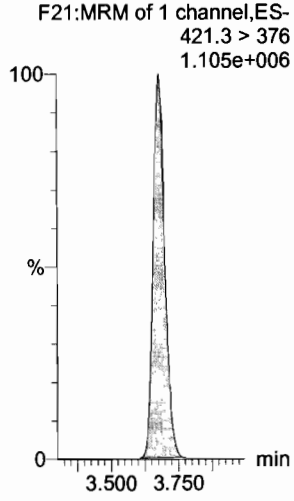
d9-N-EtFOSE



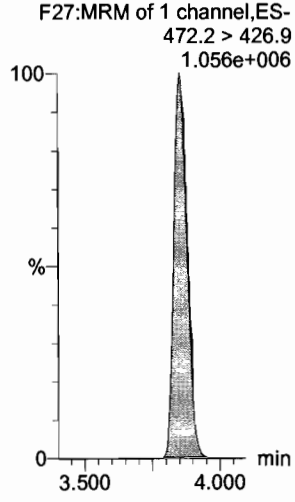
13C3-PFHxS



13C8-PFOA



13C9-PFNA

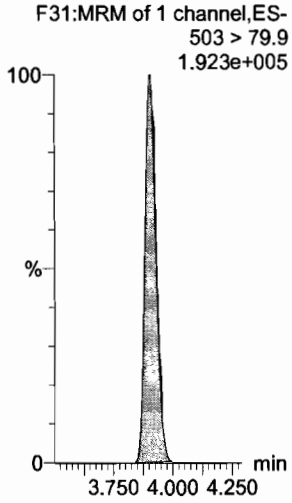


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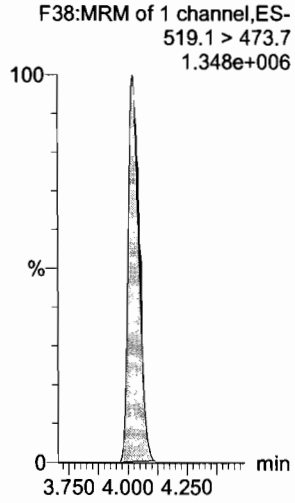
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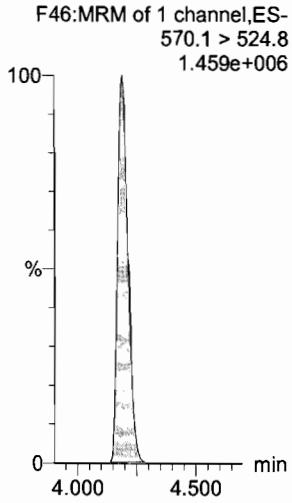
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:29 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

AC 7/25/17
7/25/17

Compound name: L-PFBA
Correlation coefficient: r = 0.999344, r^2 = 0.998689
Calibration curve: 1.18236 * x + 0.171127
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	1.55	435.228	12468.349	0.436	0.2	-10.3	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	1.55	741.837	12306.770	0.753	0.5	-1.5	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	1.55	1369.787	12270.478	1.395	1.0	3.5	NO	0.999	NO	MM
4	4	170724M1_6	Standard	2.000	1.55	2773.183	12997.952	2.667	2.1	5.5	NO	0.999	NO	MM
5	5	170724M1_7	Standard	5.000	1.55	6713.202	12360.005	6.789	5.6	11.9	NO	0.999	NO	MM
6	6	170724M1_8	Standard	10.000	1.55	11594.599	13099.017	11.064	9.2	-7.9	NO	0.999	NO	MM
7	7	170724M1_9	Standard	50.000	1.55	57068.805	12396.041	57.547	48.5	-2.9	NO	0.999	NO	MM
8	8	170724M1_10	Standard	100.000	1.57	118055.859	12273.032	120.239	101.5	1.5	NO	0.999	NO	MM

Compound name: L-PFPeA
Correlation coefficient: r = 0.999647, r^2 = 0.999293
Calibration curve: 1.00022 * x + 0.0979501
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	2.80	607.592	24685.725	0.308	0.2	-16.1	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	2.80	1138.424	24374.584	0.584	0.5	-2.8	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	2.80	2230.288	24321.555	1.146	1.0	4.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	2.80	4575.088	25826.396	2.214	2.1	5.8	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	2.80	11044.060	24387.125	5.661	5.6	11.2	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	2.81	20030.895	25621.486	9.773	9.7	-3.3	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	2.80	97100.672	23859.781	50.870	50.8	1.5	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	2.81	193106.156	24378.607	99.014	98.9	-1.1	NO	0.999	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:29 Pacific Daylight Time

Compound name: L-PFBS
Correlation coefficient: r = 0.999611, r^2 = 0.999223
Calibration curve: 1.85223 * x + 0.0753175
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.00	116.281	3068.403	0.474	0.2	-14.0	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	3.00	214.986	3020.354	0.890	0.4	-12.1	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	2.99	512.501	3001.774	2.134	1.1	11.2	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	3.00	1085.602	3295.993	4.117	2.2	9.1	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.00	2583.207	3132.764	10.307	5.5	10.5	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.00	4677.829	3302.426	17.706	9.5	-4.8	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.00	22355.119	2994.649	93.313	50.3	0.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.00	43420.234	2946.134	184.225	99.4	-0.6	NO	0.999	NO	bb

Compound name: L-PFHxA
Correlation coefficient: r = 0.999652, r^2 = 0.999303
Calibration curve: 1.50961 * x + 0.157846
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.22	1086.304	11341.955	0.479	0.2	-14.9	NO	0.999	NO	db
2	2	170724M1_4	Standard	0.500	3.22	1906.946	10636.292	0.896	0.5	-2.1	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.22	3788.241	10865.864	1.743	1.1	5.0	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	3.22	7912.540	12006.801	3.295	2.1	3.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.22	18325.188	10585.094	8.656	5.6	12.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.22	34348.887	11649.966	14.742	9.7	-3.4	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.22	154915.125	10379.170	74.628	49.3	-1.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.22	320392.531	10569.161	151.570	100.3	0.3	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:29 Pacific Daylight Time

Compound name: L-PFHpA
Correlation coefficient: r = 0.999802, r^2 = 0.999604
Calibration curve: 1.25293 * x + 0.085568
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.47	835.892	29540.787	0.354	0.2	-14.4	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	3.48	1737.110	28831.211	0.753	0.5	6.6	NO	1.000	NO	dd
3	3	170724M1_5	Standard	1.000	3.48	3129.354	29995.297	1.304	1.0	-2.7	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	3.48	6923.302	31499.152	2.747	2.1	6.2	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	3.48	17221.189	31478.633	6.838	5.4	7.8	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	3.48	31977.643	32505.703	12.297	9.7	-2.5	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	3.48	148752.578	30043.684	61.890	49.3	-1.3	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	3.48	294885.219	29270.332	125.932	100.4	0.4	NO	1.000	NO	bb

Compound name: L-PFHxS
Correlation coefficient: r = 0.999641, r^2 = 0.999282
Calibration curve: 1.58457 * x + 0.244547
Response type: Internal Std (Ref 60), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.56	73.733	2948.661	0.313	0.0	-82.8	NO	0.999	NO	MMX
2	2	170724M1_4	Standard	0.500	3.55	233.030	2945.944	0.989	0.5	-6.1	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.55	387.605	2882.763	1.681	0.9	-9.4	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	3.55	883.679	3069.216	3.599	2.1	5.8	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.55	2121.650	3078.477	8.615	5.3	5.6	NO	0.999	NO	MM
6	6	170724M1_8	Standard	10.000	3.55	3756.667	2827.577	16.607	10.3	3.3	NO	0.999	NO	MM
7	7	170724M1_9	Standard	50.000	3.55	19497.047	2990.466	81.497	51.3	2.6	NO	0.999	NO	MM
8	8	170724M1_10	Standard	100.000	3.55	36940.883	2965.238	155.725	98.1	-1.9	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:29 Pacific Daylight Time

Compound name: L-6:2 FTS
Coefficient of Determination: R^2 = 0.997533
Calibration curve: -0.00313053 * x^2 + 1.07473 * x + 0.134469
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.67	204.440	7589.777	0.337	0.2	-24.7	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.67	400.907	7687.979	0.652	0.5	-3.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.67	747.740	7427.477	1.258	1.0	4.9	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.66	1573.173	7868.375	2.499	2.2	10.7	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.66	3802.596	7544.070	6.301	5.8	16.7	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.67	6777.476	8079.142	10.486	9.9	-0.8	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.67	31001.344	8775.410	44.159	47.5	-4.9	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.66	59887.281	9696.150	77.205	102.0	2.0	NO	0.998	NO	bb

Compound name: L-PFOA
Correlation coefficient: r = 0.999233, r^2 = 0.998466
Calibration curve: 0.970801 * x + 0.199778
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.67	1654.212	55437.824	0.373	0.2	-28.6	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.67	2766.273	52853.566	0.654	0.5	-6.4	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.67	5264.665	53444.164	1.231	1.1	6.3	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.68	10233.177	55652.324	2.298	2.2	8.1	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.68	26080.451	55510.707	5.873	5.8	16.9	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.68	45105.969	54392.293	10.366	10.5	4.7	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.67	220048.344	55876.563	49.226	50.5	1.0	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.68	421252.813	55196.383	95.399	98.1	-1.9	NO	0.998	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:29 Pacific Daylight Time

Compound name: L-PFHpS
Correlation coefficient: r = 0.999150, r^2 = 0.998301
Calibration curve: 0.0887442 * x + 0.014645
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.74	113.671	55437.824	0.026	0.1	-50.5	NO	0.998	NO	bbX
2	2	170724M1_4	Standard	0.500	3.74	222.089	52853.566	0.053	0.4	-14.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.73	522.454	53444.164	0.122	1.2	21.2	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.74	936.558	55652.324	0.210	2.2	10.3	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.73	2346.630	55510.707	0.528	5.8	15.8	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.74	4004.412	54392.293	0.920	10.2	2.0	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.74	19773.092	55876.563	4.423	49.7	-0.6	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.74	38852.836	55196.383	8.799	99.0	-1.0	NO	0.998	NO	bb

Compound name: L-PFNA
Correlation coefficient: r = 0.998636, r^2 = 0.997274
Calibration curve: 1.0977 * x + 0.147355
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.85	1504.301	55001.828	0.342	0.2	-29.1	NO	0.997	NO	MM
2	2	170724M1_4	Standard	0.500	3.85	2694.965	54762.438	0.615	0.4	-14.8	NO	0.997	NO	bb
3	3	170724M1_5	Standard	1.000	3.85	5691.902	55321.512	1.286	1.0	3.7	NO	0.997	NO	bb
4	4	170724M1_6	Standard	2.000	3.85	12559.827	59225.996	2.651	2.3	14.0	NO	0.997	NO	bb
5	5	170724M1_7	Standard	5.000	3.85	29286.219	53341.520	6.863	6.1	22.4	NO	0.997	NO	bb
6	6	170724M1_8	Standard	10.000	3.85	53683.984	56161.168	11.949	10.8	7.5	NO	0.997	NO	bb
7	7	170724M1_9	Standard	50.000	3.85	235981.688	55495.742	53.153	48.3	-3.4	NO	0.997	NO	bb
8	8	170724M1_10	Standard	100.000	3.85	475993.000	54308.789	109.557	99.7	-0.3	NO	0.997	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:44 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Compound name: L-PFOSA
Correlation coefficient: r = 0.998808, r^2 = 0.997616
Calibration curve: 1.0493 * x + 0.0489398
Response type: Internal Std (Ref 64), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.86	163.860	6633.945	0.309	0.2	-1.0	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.85	301.866	6613.513	0.571	0.5	-0.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.85	477.914	6491.109	0.920	0.8	-17.0	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.86	1315.264	7021.902	2.341	2.2	9.2	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.86	2927.381	6519.732	5.613	5.3	6.0	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.86	5570.263	6576.866	10.587	10.0	0.4	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.86	26459.754	5926.425	55.809	53.1	6.3	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.86	50171.699	6190.267	101.312	96.5	-3.5	NO	0.998	NO	bb

Compound name: L-PFOS
Coefficient of Determination: R^2 = 0.999053
Calibration curve: -0.00141568 * x^2 + 1.19711 * x + 0.0153867
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.90	300.610	10711.932	0.351	0.3	12.1	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	3.90	466.042	10010.674	0.582	0.5	-5.3	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.90	1032.631	10207.536	1.265	1.0	4.5	NO	0.999	NO	MM
4	4	170724M1_6	Standard	2.000	3.90	1981.837	10715.066	2.312	1.9	-3.9	NO	0.999	NO	MM
5	5	170724M1_7	Standard	5.000	3.90	5099.578	10217.659	6.239	5.2	4.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.90	8336.075	9647.514	10.801	9.1	-8.9	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.91	43091.355	9325.974	57.757	51.4	2.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.90	78910.156	9398.647	104.949	99.3	-0.7	NO	0.999	NO	bb

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Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:44 Pacific Daylight Time

Compound name: L-PFDA
Correlation coefficient: r = 0.999397, r^2 = 0.998794
Calibration curve: 1.29731 * x + 0.12788
Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc.	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.02	1671.759	55156.438	0.379	0.2	-22.6	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	4.02	3226.587	49449.902	0.816	0.5	6.0	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.02	6595.304	59736.465	1.380	1.0	-3.5	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.02	14672.154	61862.684	2.965	2.2	9.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.02	32741.914	53915.461	7.591	5.8	15.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.02	60142.156	58734.430	12.800	9.8	-2.3	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.03	291430.906	57610.250	63.233	48.6	-2.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.02	519240.375	49628.984	130.781	100.7	0.7	NO	0.999	NO	bb

Compound name: L-8:2 FTS
Coefficient of Determination: R^2 = 0.996879
Calibration curve: -0.00401712 * x^2 + 1.47948 * x + 0.229305
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.01	116.059	5712.626	0.254	0.0	-93.3	NO	0.997	NO	bbX
2	2	170724M1_4	Standard	0.500	4.02	436.336	5926.817	0.920	0.5	-6.5	NO	0.997	NO	bb
3	3	170724M1_5	Standard	1.000	4.01	704.575	5605.082	1.571	0.9	-9.1	NO	0.997	NO	bb
4	4	170724M1_6	Standard	2.000	4.01	1476.953	6044.566	3.054	1.9	-4.0	NO	0.997	NO	db
5	5	170724M1_7	Standard	5.000	4.02	3942.699	5463.454	9.021	6.0	20.8	NO	0.997	NO	bb
6	6	170724M1_8	Standard	10.000	4.02	6715.274	5614.961	14.950	10.2	2.3	NO	0.997	NO	bb
7	7	170724M1_9	Standard	50.000	4.02	29821.402	6078.795	61.323	47.4	-5.2	NO	0.997	NO	bb
8	8	170724M1_10	Standard	100.000	4.02	56335.957	6441.568	109.321	102.0	2.0	NO	0.997	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:44 Pacific Daylight Time

Compound name: L-N-MeFOSAA
Correlation coefficient: r = 0.999780, r^2 = 0.999560
Calibration curve: 1.47015 * x + 0.088336
Response type: Internal Std (Ref 68), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	0.250	4.05	448.925	12099.400	0.464	0.3	2.2	NO	1.000	NO	bb
2	2 170724M1_4	Standard	0.500	4.05	716.809	11504.973	0.779	0.5	-6.1	NO	1.000	NO	bb
3	3 170724M1_5	Standard	1.000	4.06	1261.768	11265.637	1.400	0.9	-10.8	NO	1.000	NO	bb
4	4 170724M1_6	Standard	2.000	4.05	3173.830	12505.027	3.173	2.1	4.9	NO	1.000	NO	bb
5	5 170724M1_7	Standard	5.000	4.05	7648.363	12072.939	7.919	5.3	6.5	NO	1.000	NO	bb
6	6 170724M1_8	Standard	10.000	4.05	14431.390	11803.941	15.282	10.3	3.4	NO	1.000	NO	bb
7	7 170724M1_9	Standard	50.000	4.05	69860.063	11737.307	74.400	50.5	1.1	NO	1.000	NO	bb
8	8 170724M1_10	Standard	100.000	4.05	130379.672	11210.404	145.378	98.8	-1.2	NO	1.000	NO	bb

Compound name: L-N-EtFOSAA
Correlation coefficient: r = 0.999919, r^2 = 0.999838
Calibration curve: 1.21714 * x + 0.0255867
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	0.250	4.12	300.173	12172.007	0.308	0.2	-7.1	NO	1.000	NO	bb
2	2 170724M1_4	Standard	0.500	4.12	550.297	11615.228	0.592	0.5	-6.9	NO	1.000	NO	bb
3	3 170724M1_5	Standard	1.000	4.12	1245.830	11681.440	1.333	1.1	7.4	NO	1.000	NO	bb
4	4 170724M1_6	Standard	2.000	4.12	2483.220	12536.644	2.476	2.0	0.7	NO	1.000	NO	bb
5	5 170724M1_7	Standard	5.000	4.12	6280.812	12228.059	6.420	5.3	5.1	NO	1.000	NO	bb
6	6 170724M1_8	Standard	10.000	4.12	12176.978	12339.168	12.336	10.1	1.1	NO	1.000	NO	bb
7	7 170724M1_9	Standard	50.000	4.12	57061.832	11695.135	60.989	50.1	0.2	NO	1.000	NO	bb
8	8 170724M1_10	Standard	100.000	4.12	112917.555	11651.338	121.142	99.5	-0.5	NO	1.000	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:44 Pacific Daylight Time

Compound name: L-PFUnA
Coefficient of Determination: R^2 = 0.998430
Calibration curve: -0.0020331 * x^2 + 0.901478 * x + 0.00751751
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.18	1408.556	65735.461	0.268	0.3	15.6	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	4.19	2456.148	63870.914	0.481	0.5	5.1	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	4.19	4367.807	64348.984	0.848	0.9	-6.5	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	4.19	9271.418	67160.539	1.726	1.9	-4.3	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	4.19	22206.646	66089.180	4.200	4.7	-6.0	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	4.19	40104.945	61335.543	8.173	9.3	-7.5	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	4.19	187190.781	55960.629	41.813	52.6	5.2	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	4.19	357250.000	64722.215	68.997	98.3	-1.7	NO	0.998	NO	bb

Compound name: L-PFDS
Coefficient of Determination: R^2 = 0.998893
Calibration curve: -0.00022062 * x^2 + 0.0913899 * x + -0.00210506
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.24	125.500	65735.461	0.024	0.3	13.7	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	4.24	217.016	63870.914	0.042	0.5	-2.3	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	4.23	432.153	64348.984	0.084	0.9	-5.6	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.24	998.163	67160.539	0.186	2.1	3.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.23	2251.549	66089.180	0.426	4.7	-5.3	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.23	4080.028	61335.543	0.831	9.3	-6.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.24	18621.564	55960.629	4.160	52.1	4.2	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.23	35549.465	64722.215	6.866	98.6	-1.4	NO	0.999	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:35 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Compound name: L-PFDoA
Coefficient of Determination: R^2 = 0.999677
Calibration curve: -0.000480882 * x^2 + 0.928226 * x + 0.197542
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	0.250	4.34	212.884	6396.985	0.416	0.2	-5.9	NO	1.000	NO	MM
2	2 170724M1_4	Standard	0.500	4.35	275.894	5619.458	0.614	0.4	-10.3	NO	1.000	NO	bb
3	3 170724M1_5	Standard	1.000	4.35	576.941	5998.723	1.202	1.1	8.3	NO	1.000	NO	bb
4	4 170724M1_6	Standard	2.000	4.35	1144.260	6584.378	2.172	2.1	6.5	NO	1.000	NO	bb
5	5 170724M1_7	Standard	5.000	4.35	2601.126	6419.244	5.065	5.3	5.2	NO	1.000	NO	bb
6	6 170724M1_8	Standard	10.000	4.35	4871.013	6690.135	9.101	9.6	-3.6	NO	1.000	NO	bb
7	7 170724M1_9	Standard	50.000	4.35	21850.346	6031.607	45.283	49.9	-0.3	NO	1.000	NO	bb
8	8 170724M1_10	Standard	100.000	4.35	43781.789	6198.479	88.291	100.1	0.1	NO	1.000	NO	bb

Compound name: L-N-MeFOSA
Coefficient of Determination: R^2 = 0.999627
Calibration curve: -0.00044986 * x^2 + 0.466744 * x + 0.00081322
Response type: Internal Std (Ref 72), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	0.250	4.39	226.279	27834.387	0.102	0.2	-13.6	NO	1.000	NO	bb
2	2 170724M1_4	Standard	0.500	4.39	521.665	26795.877	0.243	0.5	4.0	NO	1.000	NO	db
3	3 170724M1_5	Standard	1.000	4.39	1023.477	27001.328	0.474	1.0	1.4	NO	1.000	NO	bb
4	4 170724M1_6	Standard	2.000	4.39	2223.965	28178.129	0.987	2.1	5.8	NO	1.000	NO	db
5	5 170724M1_7	Standard	5.000	4.39	5367.556	27075.477	2.478	5.3	6.7	NO	1.000	NO	bb
6	6 170724M1_8	Standard	10.000	4.39	9714.126	27395.363	4.432	9.6	-4.2	NO	1.000	NO	db
7	7 170724M1_9	Standard	50.000	4.39	46919.371	26470.068	22.157	49.9	-0.3	NO	1.000	NO	bb
8	8 170724M1_10	Standard	100.000	4.39	92806.148	27480.182	42.215	100.1	0.1	NO	1.000	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:35 Pacific Daylight Time

Compound name: L-PFTrDA
Correlation coefficient: r = 0.999380, r^2 = 0.998761
Calibration curve: 10.9107 * x + 1.81788
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.52	1928.310	6396.985	3.768	0.2	-28.5	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	4.52	3347.446	5619.458	7.446	0.5	3.2	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.52	6321.527	5998.723	13.173	1.0	4.1	NO	0.999	NO	db
4	4	170724M1_6	Standard	2.000	4.52	13537.021	6584.378	25.699	2.2	9.4	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.52	32633.807	6419.244	63.547	5.7	13.2	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.52	58224.531	6690.135	108.788	9.8	-2.0	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.52	270796.875	6031.607	561.204	51.3	2.5	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.52	531631.563	6198.479	1072.101	98.1	-1.9	NO	0.999	NO	bb

Compound name: L-PFTeDA
Coefficient of Determination: R^2 = 0.999027
Calibration curve: -0.000821655 * x^2 + 1.15082 * x + 0.0988466
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.70	1461.198	52611.504	0.347	0.2	-13.7	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	4.70	2285.720	43220.855	0.661	0.5	-2.3	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.70	4798.681	44254.344	1.355	1.1	9.3	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.70	9477.179	47041.410	2.518	2.1	5.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.70	23144.785	45392.488	6.374	5.5	9.5	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.70	40819.449	48426.250	10.536	9.1	-8.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.70	191033.828	42647.246	55.992	50.4	0.8	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.70	370959.375	43405.691	106.829	99.9	-0.1	NO	0.999	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:35 Pacific Daylight Time

Compound name: L-N-EtFOSA
Coefficient of Determination: R^2 = 0.999522
Calibration curve: -0.000124307 * x^2 + 0.388553 * x + 0.0202947
Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.96	337.684	39336.785	0.107	0.2	-10.4	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	4.97	613.630	37178.340	0.206	0.5	-4.2	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	4.97	1267.991	36953.465	0.429	1.1	5.2	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.96	2697.465	39886.242	0.845	2.1	6.2	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.97	6431.737	37896.902	2.121	5.4	8.3	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.97	11778.675	39747.004	3.704	9.5	-4.9	NO	1.000	NO	MM
7	7	170724M1_9	Standard	50.000	4.96	57443.004	37648.063	19.072	49.8	-0.3	NO	1.000	NO	db
8	8	170724M1_10	Standard	100.000	4.97	116042.914	38501.617	37.675	100.1	0.1	NO	1.000	NO	db

Compound name: L-PFHxDA
Coefficient of Determination: R^2 = 0.999355
Calibration curve: -0.000723556 * x^2 + 1.34849 * x + 0.265371
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.07	2816.818	25428.396	0.554	0.2	-14.4	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	5.07	3873.513	21542.566	0.899	0.5	-6.0	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.07	7123.665	21611.141	1.648	1.0	2.6	NO	0.999	NO	db
4	4	170724M1_6	Standard	2.000	5.07	14417.972	22044.896	3.270	2.2	11.5	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.07	33676.410	22327.822	7.541	5.4	8.2	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.07	61569.332	22552.494	13.650	10.0	-0.2	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.07	276231.906	21452.613	64.382	48.8	-2.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.07	545977.438	21228.160	128.597	100.6	0.6	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:35 Pacific Daylight Time

Compound name: L-PFODA
Correlation coefficient: r = 0.999510, r^2 = 0.999020
Calibration curve: 1.27272 * x + 0.164132
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.43	1979.263	25428.396	0.389	0.2	-29.3	NO	0.999	NO	db
2	2	170724M1_4	Standard	0.500	5.44	3335.536	21542.566	0.774	0.5	-4.1	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.44	6573.281	21611.141	1.521	1.1	6.6	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.44	13511.143	22044.896	3.064	2.3	13.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.44	32601.881	22327.822	7.301	5.6	12.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.44	59011.938	22552.494	13.083	10.2	1.5	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.43	274924.375	21452.613	64.077	50.2	0.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.44	534414.688	21228.160	125.874	98.8	-1.2	NO	0.999	NO	bb

Compound name: L-N-MeFOSE
Coefficient of Determination: R^2 = 0.999231
Calibration curve: -0.0002267 * x^2 + 0.440935 * x + 0.0253969
Response type: Internal Std (Ref 76), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.43	419.747	45355.609	0.116	0.2	-18.1	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	5.43	827.391	42298.965	0.245	0.5	-0.6	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.43	1698.216	42181.715	0.503	1.1	8.4	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.43	3509.137	44882.496	0.977	2.2	8.1	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.43	8229.911	42480.406	2.422	5.4	9.0	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.43	14647.859	44502.430	4.114	9.3	-6.8	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.43	72247.016	42011.336	21.496	50.0	-0.0	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.43	142986.313	42682.813	41.875	100.1	0.1	NO	0.999	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Compound name: L-N-EtFOSE
Coefficient of Determination: R^2 = 0.999487
Calibration curve: -0.000178806 * x^2 + 0.499525 * x + 0.0314909
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.60	493.408	44922.563	0.137	0.2	-15.3	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	5.61	913.176	40989.961	0.278	0.5	-1.1	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.61	1793.908	40752.352	0.550	1.0	3.9	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.60	3804.083	43177.285	1.101	2.1	7.2	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.61	9310.704	42231.566	2.756	5.5	9.3	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.61	16671.494	42902.656	4.857	9.7	-3.1	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.60	80642.430	41552.719	24.259	49.4	-1.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.61	163300.031	42219.305	48.349	100.3	0.3	NO	0.999	NO	bb

Compound name: 13C3-PFBA
Response Factor: 0.820565
RRF SD: 0.00859343, Relative SD: 1.04726
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	1.54	12468.349	15228.836	10.234	12.5	-0.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	1.55	12306.770	15122.477	10.173	12.4	-0.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	1.54	12270.478	15004.507	10.222	12.5	-0.3	NO		NO	bb
4	4	170724M1_6	Standard	12.500	1.55	12997.952	15657.887	10.377	12.6	1.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	1.55	12360.005	15236.371	10.140	12.4	-1.1	NO		NO	bb
6	6	170724M1_8	Standard	12.500	1.55	13099.017	15723.977	10.413	12.7	1.5	NO		NO	bb
7	7	170724M1_9	Standard	12.500	1.55	12396.041	14974.953	10.347	12.6	0.9	NO		NO	bb
8	8	170724M1_10	Standard	12.500	1.56	12273.032	15114.404	10.150	12.4	-1.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C3-PFPeA
Response Factor: 1.61743
RRF SD: 0.0173613, Relative SD: 1.07339
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	2.80	24685.725	15228.836	20.262	12.5	0.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	2.80	24374.584	15122.477	20.148	12.5	-0.3	NO		NO	bb
3	3	170724M1_5	Standard	12.500	2.80	24321.555	15004.507	20.262	12.5	0.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	2.80	25826.396	15657.887	20.618	12.7	2.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	2.80	24387.125	15236.371	20.007	12.4	-1.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	2.81	25621.486	15723.977	20.368	12.6	0.7	NO		NO	bb
7	7	170724M1_9	Standard	12.500	2.80	23859.781	14974.953	19.916	12.3	-1.5	NO		NO	bb
8	8	170724M1_10	Standard	12.500	2.81	24378.607	15114.404	20.162	12.5	-0.3	NO		NO	bb

Compound name: 13C3-PFBS
Response Factor: 0.202788
RRF SD: 0.00545259, Relative SD: 2.68881
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.00	3068.403	15228.836	2.519	12.4	-0.6	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.00	3020.354	15122.477	2.497	12.3	-1.5	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.00	3001.774	15004.507	2.501	12.3	-1.3	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.00	3295.993	15657.887	2.631	13.0	3.8	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.00	3132.764	15236.371	2.570	12.7	1.4	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.00	3302.426	15723.977	2.625	12.9	3.6	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.00	2994.649	14974.953	2.500	12.3	-1.4	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.00	2946.134	15114.404	2.437	12.0	-3.9	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C2-PFHxA
Response Factor: 0.27639
RRF SD: 0.00850433, Relative SD: 3.07693
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	5.000	3.22	11341.955	40367.738	1.405	5.1	1.7	NO		NO	bb
2	2	170724M1_4	Standard	5.000	3.22	10636.292	38823.406	1.370	5.0	-0.9	NO		NO	bb
3	3	170724M1_5	Standard	5.000	3.22	10865.864	37967.629	1.431	5.2	3.5	NO		NO	bb
4	4	170724M1_6	Standard	5.000	3.22	12006.801	42133.270	1.425	5.2	3.1	NO		NO	bb
5	5	170724M1_7	Standard	5.000	3.22	10585.094	39088.754	1.354	4.9	-2.0	NO		NO	bb
6	6	170724M1_8	Standard	5.000	3.22	11649.966	41725.730	1.396	5.1	1.0	NO		NO	bb
7	7	170724M1_9	Standard	5.000	3.22	10379.170	39920.477	1.300	4.7	-5.9	NO		NO	bb
8	8	170724M1_10	Standard	5.000	3.22	10569.161	38428.922	1.375	5.0	-0.5	NO		NO	bb

Compound name: 13C4-PFHpA
Response Factor: 0.305533
RRF SD: 0.0101511, Relative SD: 3.32243
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.48	29540.787	40367.738	3.659	12.0	-4.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.48	28831.211	38823.406	3.713	12.2	-2.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.48	29995.297	37967.629	3.950	12.9	3.4	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.48	31499.152	42133.270	3.738	12.2	-2.1	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.48	31478.633	39088.754	4.027	13.2	5.4	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.48	32505.703	41725.730	3.895	12.7	2.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.48	30043.684	39920.477	3.763	12.3	-1.5	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.48	29270.332	38428.922	3.808	12.5	-0.3	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 18O2-PFHxS
Response Factor: 0.392856
RRF SD: 0.017909, Relative SD: 4.55867
Response type: Internal Std (Ref 80), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.55	2948.661	7582.089	4.861	12.4	-1.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.55	2945.944	7302.217	5.043	12.8	2.7	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.55	2882.763	7346.485	4.905	12.5	-0.1	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.55	3069.216	7556.806	5.077	12.9	3.4	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.55	3078.477	7669.834	5.017	12.8	2.2	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.55	2827.577	8056.833	4.387	11.2	-10.7	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.55	2990.466	7531.759	4.963	12.6	1.1	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.55	2965.238	7365.456	5.032	12.8	2.5	NO		NO	bb

Compound name: 13C2-6:2 FTS
Response Factor: 0.147485
RRF SD: 0.0133447, Relative SD: 9.04815
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.66	7589.777	55437.824	1.711	11.6	-7.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.66	7687.979	52853.566	1.818	12.3	-1.4	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.66	7427.477	53444.164	1.737	11.8	-5.8	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.67	7868.375	55652.324	1.767	12.0	-4.1	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.66	7544.070	55510.707	1.699	11.5	-7.9	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.67	8079.142	54392.293	1.857	12.6	0.7	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.67	8775.410	55876.563	1.963	13.3	6.5	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.67	9696.150	55196.383	2.196	14.9	19.1	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C2-PFOA
Response Factor: 1.0675
RRF SD: 0.0457168, Relative SD: 4.28261
Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.67	55437.824	50417.762	13.745	12.9	3.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.67	52853.566	52862.527	12.498	11.7	-6.3	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.67	53444.164	49459.691	13.507	12.7	1.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.67	55652.324	51986.957	13.381	12.5	0.3	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.67	55510.707	54009.070	12.848	12.0	-3.7	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.68	54392.293	53144.688	12.793	12.0	-4.1	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.67	55876.563	49946.758	13.984	13.1	4.8	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.67	55196.383	49303.969	13.994	13.1	4.9	NO		NO	bb

Compound name: 13C5-PFNA
Response Factor: 0.852128
RRF SD: 0.0623325, Relative SD: 7.31492
Response type: Internal Std (Ref 82), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.85	55001.828	63362.148	10.851	12.7	1.9	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.85	54762.438	66233.305	10.335	12.1	-3.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.85	55321.512	62897.914	10.994	12.9	3.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.85	59225.996	73098.813	10.128	11.9	-4.9	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.85	53341.520	71059.133	9.383	11.0	-11.9	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.85	56161.168	60050.086	11.690	13.7	9.8	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.85	55495.742	67689.273	10.248	12.0	-3.8	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.85	54308.789	58608.688	11.583	13.6	8.7	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C8-PFOSA
Response Factor: 0.0982354
RRF SD: 0.00607611, Relative SD: 6.18526
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.86	6633.945	66110.742	1.254	12.8	2.1	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.85	6613.513	63178.059	1.309	13.3	6.6	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.86	6491.109	65533.590	1.238	12.6	0.8	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.86	7021.902	74336.992	1.181	12.0	-3.8	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.86	6519.732	73722.414	1.105	11.3	-10.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.86	6576.866	61426.844	1.338	13.6	9.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.86	5926.425	63456.004	1.167	11.9	-4.9	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.86	6190.267	62878.969	1.231	12.5	0.2	NO		NO	bb

Compound name: 13C8-PFOS
Response Factor: 0.937247
RRF SD: 0.0310241, Relative SD: 3.31013
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.90	10711.932	10984.350	12.190	13.0	4.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.90	10010.674	10756.134	11.634	12.4	-0.7	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.90	10207.536	10707.182	11.917	12.7	1.7	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.90	10715.066	11395.518	11.754	12.5	0.3	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.90	10217.659	10582.909	12.069	12.9	3.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.90	9647.514	10701.979	11.268	12.0	-3.8	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.91	9325.974	10546.740	11.053	11.8	-5.7	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.90	9398.647	9922.027	11.841	12.6	1.1	NO		NO	bd

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C2-PFDA
Response Factor: 0.809787
RRF SD: 0.0475325, Relative SD: 5.86975
Response type: Internal Std (Ref 84), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.02	55156.438	71538.672	9.638	11.9	-4.8	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.02	49449.902	67518.039	9.155	11.3	-9.6	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.02	59736.465	67946.188	10.990	13.6	8.6	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.02	61862.684	75237.898	10.278	12.7	1.5	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.02	53915.461	68309.617	9.866	12.2	-2.5	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.02	58734.430	69500.219	10.564	13.0	4.4	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.03	57610.250	72719.445	9.903	12.2	-2.2	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.02	49628.984	58601.402	10.586	13.1	4.6	NO		NO	bb

Compound name: 13C2-8:2 FTS
Response Factor: 0.105901
RRF SD: 0.0125981, Relative SD: 11.8961
Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.01	5712.626	55156.438	1.295	12.2	-2.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.02	5926.817	49449.902	1.498	14.1	13.2	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.01	5605.082	59736.465	1.173	11.1	-11.4	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.01	6044.566	61862.684	1.221	11.5	-7.7	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.02	5463.454	53915.461	1.267	12.0	-4.3	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.02	5614.961	58734.430	1.195	11.3	-9.7	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.02	6078.795	57610.250	1.319	12.5	-0.4	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.02	6441.568	49628.984	1.622	15.3	22.6	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: d3-N-MeFOSAA
Response Factor: 0.178053
RRF SD: 0.00946183, Relative SD: 5.31404
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.05	12099.400	66110.742	2.288	12.8	2.8	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.05	11504.973	63178.059	2.276	12.8	2.3	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.05	11265.637	65533.590	2.149	12.1	-3.5	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.05	12505.027	74336.992	2.103	11.8	-5.5	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.05	12072.939	73722.414	2.047	11.5	-8.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.05	11803.941	61426.844	2.402	13.5	7.9	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.05	11737.307	63456.004	2.312	13.0	3.9	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.05	11210.404	62878.969	2.229	12.5	0.1	NO		NO	bb

Compound name: d5-N-EtFOSAA
Response Factor: 0.181401
RRF SD: 0.0108902, Relative SD: 6.0034
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.12	12172.007	66110.742	2.301	12.7	1.5	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.12	11615.228	63178.059	2.298	12.7	1.3	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.12	11681.440	65533.590	2.228	12.3	-1.7	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.12	12536.644	74336.992	2.108	11.6	-7.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.12	12228.059	73722.414	2.073	11.4	-8.6	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.12	12339.168	61426.844	2.511	13.8	10.7	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.12	11695.135	63456.004	2.304	12.7	1.6	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.12	11651.338	62878.969	2.316	12.8	2.1	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C2-PFUnA
Response Factor: 0.962105
RRF SD: 0.058365, Relative SD: 6.06639
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.18	65735.461	66110.742	12.429	12.9	3.3	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.18	63870.914	63178.059	12.637	13.1	5.1	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.19	64348.984	65533.590	12.274	12.8	2.1	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.18	67160.539	74336.992	11.293	11.7	-6.1	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.19	66089.180	73722.414	11.206	11.6	-6.8	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.19	61335.543	61426.844	12.481	13.0	3.8	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.18	55960.629	63456.004	11.024	11.5	-8.3	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.19	64722.215	62878.969	12.866	13.4	7.0	NO		NO	bb

Compound name: 13C2-PFDoA
Response Factor: 0.0944293
RRF SD: 0.00716752, Relative SD: 7.59035
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.34	6396.985	66110.742	1.210	12.8	2.5	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.35	5619.458	63178.059	1.112	11.8	-5.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.35	5998.723	65533.590	1.144	12.1	-3.1	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.35	6584.378	74336.992	1.107	11.7	-6.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.35	6419.244	73722.414	1.088	11.5	-7.8	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.35	6690.135	61426.844	1.361	14.4	15.3	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.35	6031.607	63456.004	1.188	12.6	0.7	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.35	6198.479	62878.969	1.232	13.0	4.4	NO		NO	bd

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: d3-N-MeFOSA
Response Factor: 0.412958
RRF SD: 0.0270339, Relative SD: 6.54642
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.42	27834.387	66110.742	5.263	12.7	2.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.42	26795.877	63178.059	5.302	12.8	2.7	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.42	27001.328	65533.590	5.150	12.5	-0.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.42	28178.129	74336.992	4.738	11.5	-8.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.42	27075.477	73722.414	4.591	11.1	-11.1	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.43	27395.363	61426.844	5.575	13.5	8.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.42	26470.068	63456.004	5.214	12.6	1.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.43	27480.182	62878.969	5.463	13.2	5.8	NO		NO	bb

Compound name: 13C2-PFTeDA
Response Factor: 0.694311
RRF SD: 0.0655535, Relative SD: 9.44152
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.70	52611.504	66110.742	9.948	14.3	14.6	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.70	43220.855	63178.059	8.551	12.3	-1.5	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.70	44254.344	65533.590	8.441	12.2	-2.7	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.70	47041.410	74336.992	7.910	11.4	-8.9	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.70	45392.488	73722.414	7.697	11.1	-11.3	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.70	48426.250	61426.844	9.854	14.2	13.5	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.70	42647.246	63456.004	8.401	12.1	-3.2	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.70	43405.691	62878.969	8.629	12.4	-0.6	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: d5-N-EtFOSA
Response Factor: 0.581331
RRF SD: 0.0422535, Relative SD: 7.26841
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	12.500	5.00	39336.785	66110.742	7.438	12.8	2.4	NO		NO	MM
2	2 170724M1_4	Standard	12.500	5.01	37178.340	63178.059	7.356	12.7	1.2	NO		NO	MM
3	3 170724M1_5	Standard	12.500	5.01	36953.465	65533.590	7.049	12.1	-3.0	NO		NO	MM
4	4 170724M1_6	Standard	12.500	5.01	39886.242	74336.992	6.707	11.5	-7.7	NO		NO	MM
5	5 170724M1_7	Standard	12.500	5.01	37896.902	73722.414	6.426	11.1	-11.6	NO		NO	MM
6	6 170724M1_8	Standard	12.500	5.01	39747.004	61426.844	8.088	13.9	11.3	NO		NO	MM
7	7 170724M1_9	Standard	12.500	5.01	37648.063	63456.004	7.416	12.8	2.1	NO		NO	MM
8	8 170724M1_10	Standard	12.500	5.01	38501.617	62878.969	7.654	13.2	5.3	NO		NO	MM

Compound name: 13C2-PFHxDA
Response Factor: 0.843007
RRF SD: 0.0734853, Relative SD: 8.71705
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	5.000	5.07	25428.396	66110.742	4.808	5.7	14.1	NO		NO	bb
2	2 170724M1_4	Standard	5.000	5.07	21542.566	63178.059	4.262	5.1	1.1	NO		NO	bb
3	3 170724M1_5	Standard	5.000	5.07	21611.141	65533.590	4.122	4.9	-2.2	NO		NO	bb
4	4 170724M1_6	Standard	5.000	5.07	22044.896	74336.992	3.707	4.4	-12.1	NO		NO	bb
5	5 170724M1_7	Standard	5.000	5.07	22327.822	73722.414	3.786	4.5	-10.2	NO		NO	bb
6	6 170724M1_8	Standard	5.000	5.07	22552.494	61426.844	4.589	5.4	8.9	NO		NO	bb
7	7 170724M1_9	Standard	5.000	5.07	21452.613	63456.004	4.226	5.0	0.3	NO		NO	bb
8	8 170724M1_10	Standard	5.000	5.07	21228.160	62878.969	4.220	5.0	0.1	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: d7-N-MeFOSE
Response Factor: 0.655572
RRF SD: 0.0471708, Relative SD: 7.19536
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	5.42	45355.609	66110.742	8.576	13.1	4.6	NO		NO	bb
2	2	170724M1_4	Standard	12.500	5.42	42298.965	63178.059	8.369	12.8	2.1	NO		NO	bb
3	3	170724M1_5	Standard	12.500	5.42	42181.715	65533.590	8.046	12.3	-1.8	NO		NO	bb
4	4	170724M1_6	Standard	12.500	5.42	44882.496	74336.992	7.547	11.5	-7.9	NO		NO	bb
5	5	170724M1_7	Standard	12.500	5.42	42480.406	73722.414	7.203	11.0	-12.1	NO		NO	bb
6	6	170724M1_8	Standard	12.500	5.42	44502.430	61426.844	9.056	13.8	10.5	NO		NO	bb
7	7	170724M1_9	Standard	12.500	5.42	42011.336	63456.004	8.276	12.6	1.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	5.42	42682.813	62878.969	8.485	12.9	3.5	NO		NO	bb

Compound name: d9-N-EtFOSE
Response Factor: 0.641067
RRF SD: 0.0456565, Relative SD: 7.12196
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	5.59	44922.563	66110.742	8.494	13.2	6.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	5.59	40989.961	63178.059	8.110	12.7	1.2	NO		NO	bb
3	3	170724M1_5	Standard	12.500	5.59	40752.352	65533.590	7.773	12.1	-3.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	5.59	43177.285	74336.992	7.260	11.3	-9.4	NO		NO	bb
5	5	170724M1_7	Standard	12.500	5.59	42231.566	73722.414	7.161	11.2	-10.6	NO		NO	bb
6	6	170724M1_8	Standard	12.500	5.59	42902.656	61426.844	8.730	13.6	8.9	NO		NO	bb
7	7	170724M1_9	Standard	12.500	5.59	41552.719	63456.004	8.185	12.8	2.1	NO		NO	bb
8	8	170724M1_10	Standard	12.500	5.59	42219.305	62878.969	8.393	13.1	4.7	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 1.11022e-016, Relative SD: 1.11022e-014
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	1.55	15228.836	15228.836	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	1.55	15122.477	15122.477	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	1.55	15004.507	15004.507	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	1.55	15657.887	15657.887	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	1.55	15236.371	15236.371	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	1.55	15723.977	15723.977	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	1.55	14974.953	14974.953	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	1.56	15114.404	15114.404	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	5.000	3.22	40367.738	40367.738	5.000	5.0	0.0	NO		NO	bb
2	2	170724M1_4	Standard	5.000	3.22	38823.406	38823.406	5.000	5.0	0.0	NO		NO	bb
3	3	170724M1_5	Standard	5.000	3.22	37967.629	37967.629	5.000	5.0	0.0	NO		NO	bb
4	4	170724M1_6	Standard	5.000	3.22	42133.270	42133.270	5.000	5.0	0.0	NO		NO	bb
5	5	170724M1_7	Standard	5.000	3.22	39088.754	39088.754	5.000	5.0	0.0	NO		NO	bb
6	6	170724M1_8	Standard	5.000	3.22	41725.730	41725.730	5.000	5.0	0.0	NO		NO	bb
7	7	170724M1_9	Standard	5.000	3.23	39920.477	39920.477	5.000	5.0	0.0	NO		NO	bb
8	8	170724M1_10	Standard	5.000	3.22	38428.922	38428.922	5.000	5.0	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
Response type: Internal Std (Ref 80), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.55	7582.089	7582.089	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.55	7302.217	7302.217	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.55	7346.485	7346.485	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.55	7556.806	7556.806	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.55	7669.834	7669.834	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.55	8056.833	8056.833	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.55	7531.759	7531.759	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.55	7365.456	7365.456	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 9.3831e-017, Relative SD: 9.3831e-015
Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.67	50417.762	50417.762	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.67	52862.527	52862.527	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.67	49459.691	49459.691	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.67	51986.957	51986.957	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.68	54009.070	54009.070	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.68	53144.688	53144.688	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.67	49946.758	49946.758	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.67	49303.969	49303.969	12.500	12.5	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 9.3831e-017, Relative SD: 9.3831e-015
Response type: Internal Std (Ref 82), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc.	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	12.500	3.85	63362.148	63362.148	12.500	12.5	0.0	NO		NO	bb
2	2 170724M1_4	Standard	12.500	3.85	66233.305	66233.305	12.500	12.5	0.0	NO		NO	bb
3	3 170724M1_5	Standard	12.500	3.85	62897.914	62897.914	12.500	12.5	0.0	NO		NO	bb
4	4 170724M1_6	Standard	12.500	3.85	73098.813	73098.813	12.500	12.5	0.0	NO		NO	bb
5	5 170724M1_7	Standard	12.500	3.85	71059.133	71059.133	12.500	12.5	0.0	NO		NO	bb
6	6 170724M1_8	Standard	12.500	3.85	60050.086	60050.086	12.500	12.5	0.0	NO		NO	bb
7	7 170724M1_9	Standard	12.500	3.86	67689.273	67689.273	12.500	12.5	0.0	NO		NO	bb
8	8 170724M1_10	Standard	12.500	3.85	58608.688	58608.688	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc.	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	12.500	3.90	10984.350	10984.350	12.500	12.5	0.0	NO		NO	bb
2	2 170724M1_4	Standard	12.500	3.90	10756.134	10756.134	12.500	12.5	0.0	NO		NO	bb
3	3 170724M1_5	Standard	12.500	3.90	10707.182	10707.182	12.500	12.5	0.0	NO		NO	bb
4	4 170724M1_6	Standard	12.500	3.90	11395.518	11395.518	12.500	12.5	0.0	NO		NO	bb
5	5 170724M1_7	Standard	12.500	3.90	10582.909	10582.909	12.500	12.5	0.0	NO		NO	bb
6	6 170724M1_8	Standard	12.500	3.90	10701.979	10701.979	12.500	12.5	0.0	NO		NO	bb
7	7 170724M1_9	Standard	12.500	3.91	10546.740	10546.740	12.500	12.5	0.0	NO		NO	bb
8	8 170724M1_10	Standard	12.500	3.90	9922.027	9922.027	12.500	12.5	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 1.25887e-016, Relative SD: 1.25887e-014
Response type: Internal Std (Ref 84), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.02	71538.672	71538.672	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.02	67518.039	67518.039	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.02	67946.188	67946.188	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.02	75237.898	75237.898	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.02	68309.617	68309.617	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.02	69500.219	69500.219	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.03	72719.445	72719.445	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.02	58601.402	58601.402	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C7-PFUnA
Response Factor: 1
RRF SD: 1.45362e-016, Relative SD: 1.45362e-014
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.18	66110.742	66110.742	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.19	63178.059	63178.059	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.18	65533.590	65533.590	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.19	74336.992	74336.992	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.19	73722.414	73722.414	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.19	61426.844	61426.844	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.18	63456.004	63456.004	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.19	62878.969	62878.969	12.500	12.5	0.0	NO		NO	bb

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, July 25, 2017 10:21:43 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:22:48 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Compound name: L-PFBA

	Name	ID	Acq.Date	Acq.Time
1	170724M1_2	IPA	24-Jul-17	13:40:23
2	170724M1_3	ST170724M1-1 PFC CS-2 17G2422	24-Jul-17	13:51:04
3	170724M1_4	ST170724M1-2 PFC CS-1 17G2119	24-Jul-17	14:01:50
4	170724M1_5	ST170724M1-3 PFC CS0 17G2423	24-Jul-17	14:12:36
5	170724M1_6	ST170724M1-4 PFC CS1 17G2424	24-Jul-17	14:23:23
6	170724M1_7	ST170724M1-5 PFC CS2 17G2425	24-Jul-17	14:34:02
7	170724M1_8	ST170724M1-6 PFC CS3 17G2118	24-Jul-17	14:44:48
8	170724M1_9	ST170724M1-7 PFC CS4 17G2426	24-Jul-17	14:55:34
9	170724M1_10	ST170724M1-8 PFC CS5 17G2427	24-Jul-17	15:06:35
10	170724M1_11	IPA	24-Jul-17	15:17:30
11	170724M1_12	SS170724M4-1 PFC SSS 17G2421	24-Jul-17	15:28:15
12	170724M1_13	IPA	24-Jul-17	15:39:01

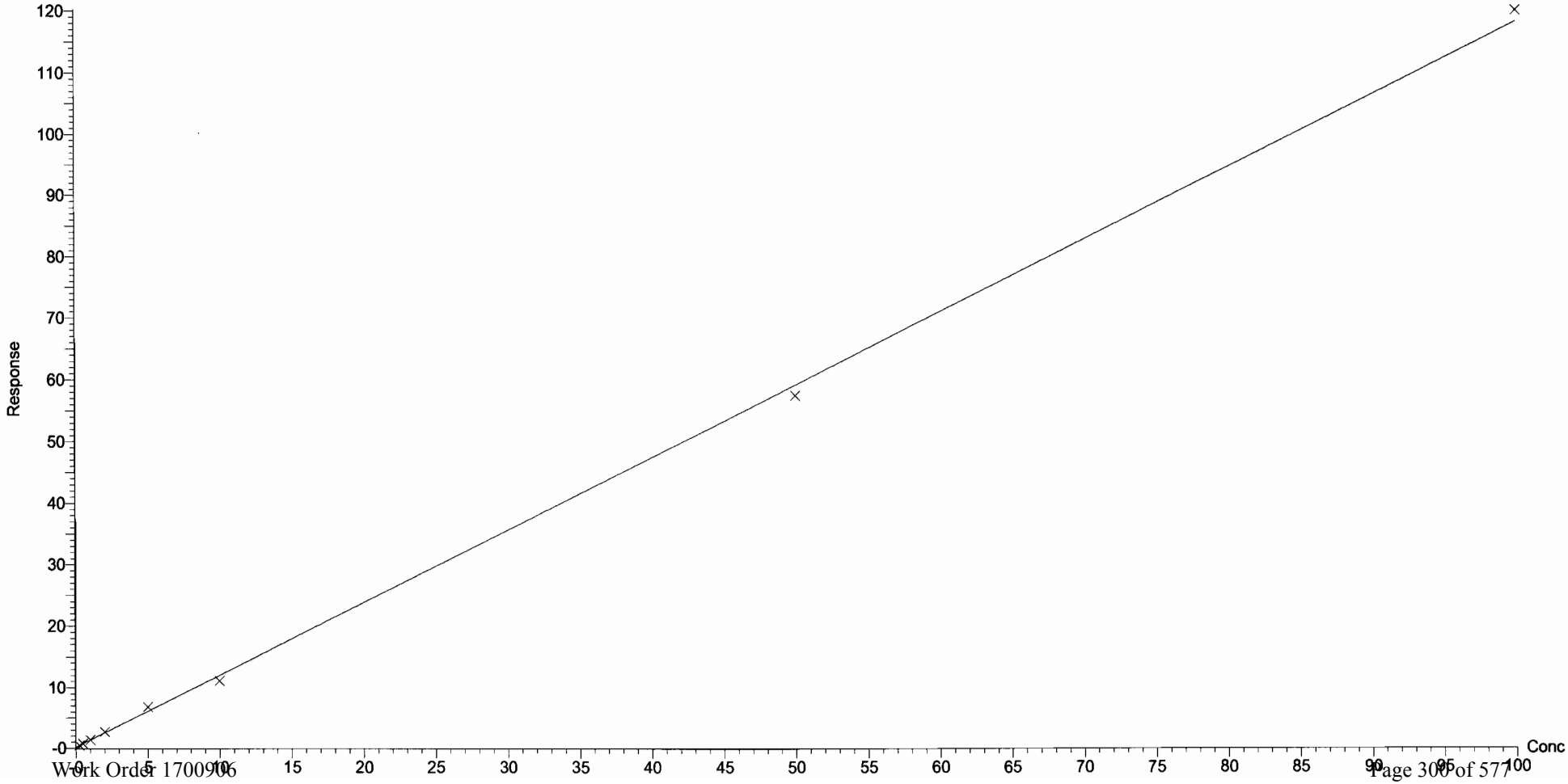
Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:13:40 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

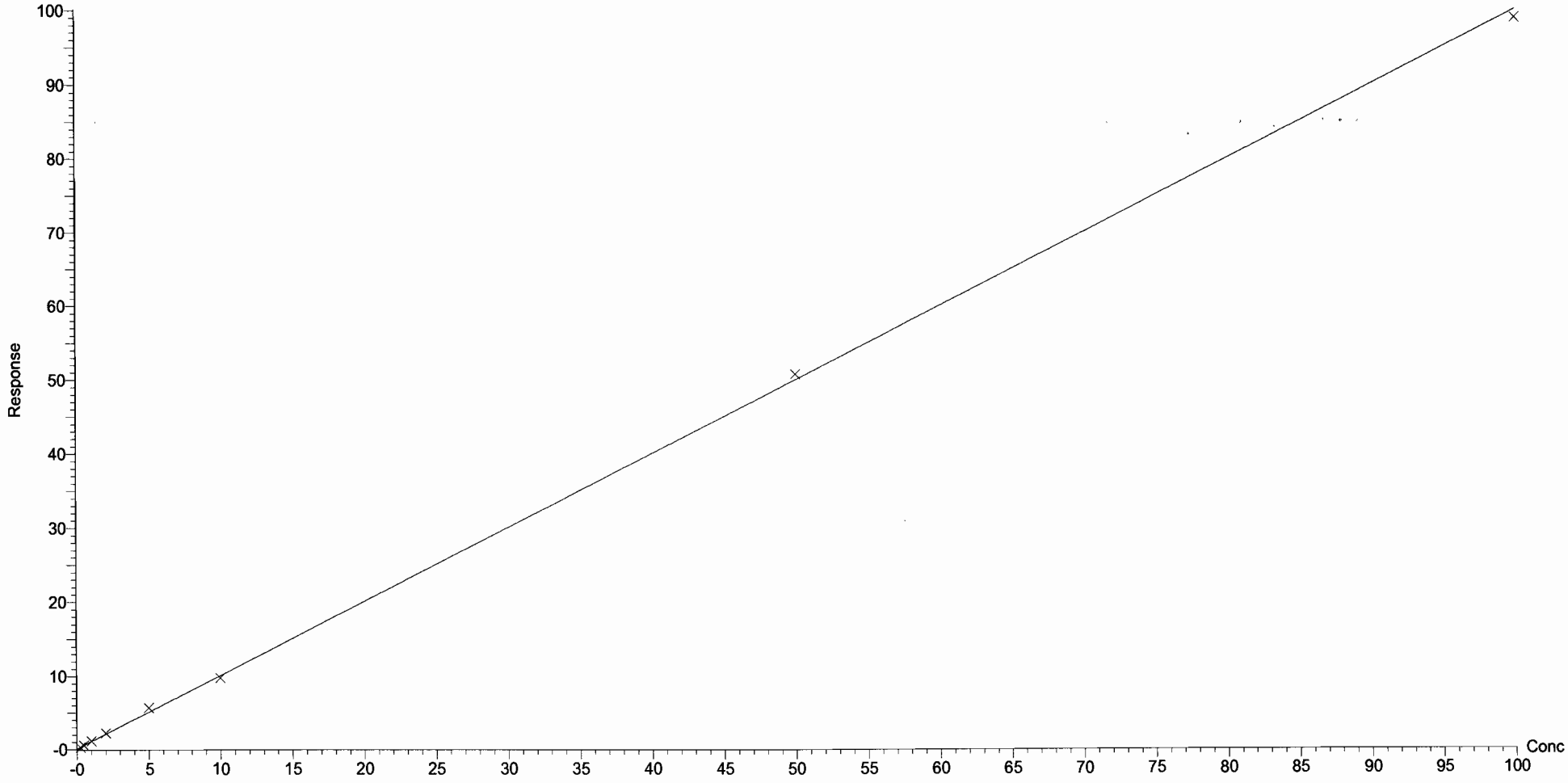
Compound name: L-PFBA
Correlation coefficient: r = 0.999344, r^2 = 0.998689
Calibration curve: 1.18236 * x + 0.171127
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:13:40 Pacific Daylight Time

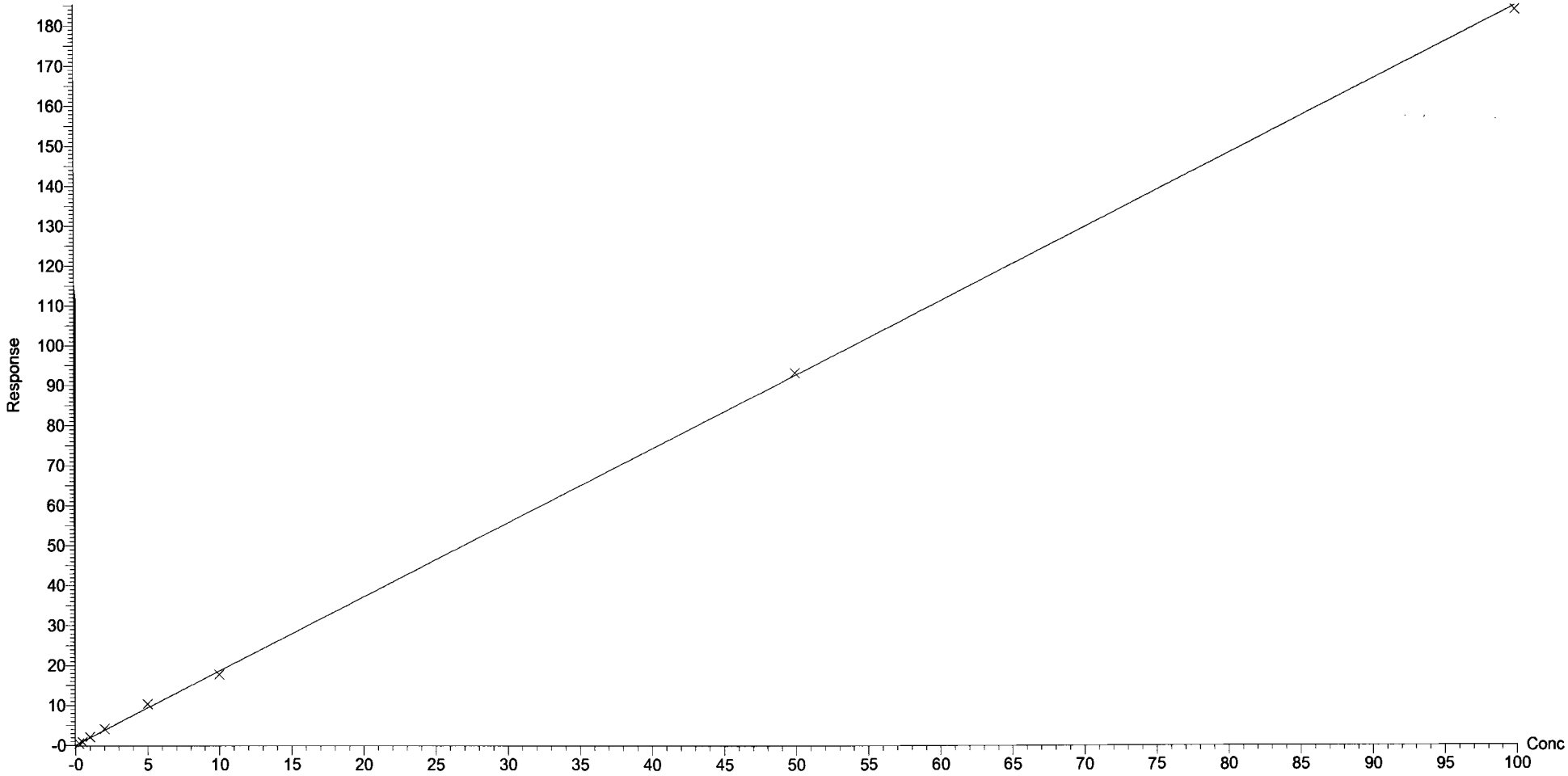
Compound name: L-PFPeA
Correlation coefficient: r = 0.999647, r^2 = 0.999293
Calibration curve: 1.00022 * x + 0.0979501
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:13:40 Pacific Daylight Time

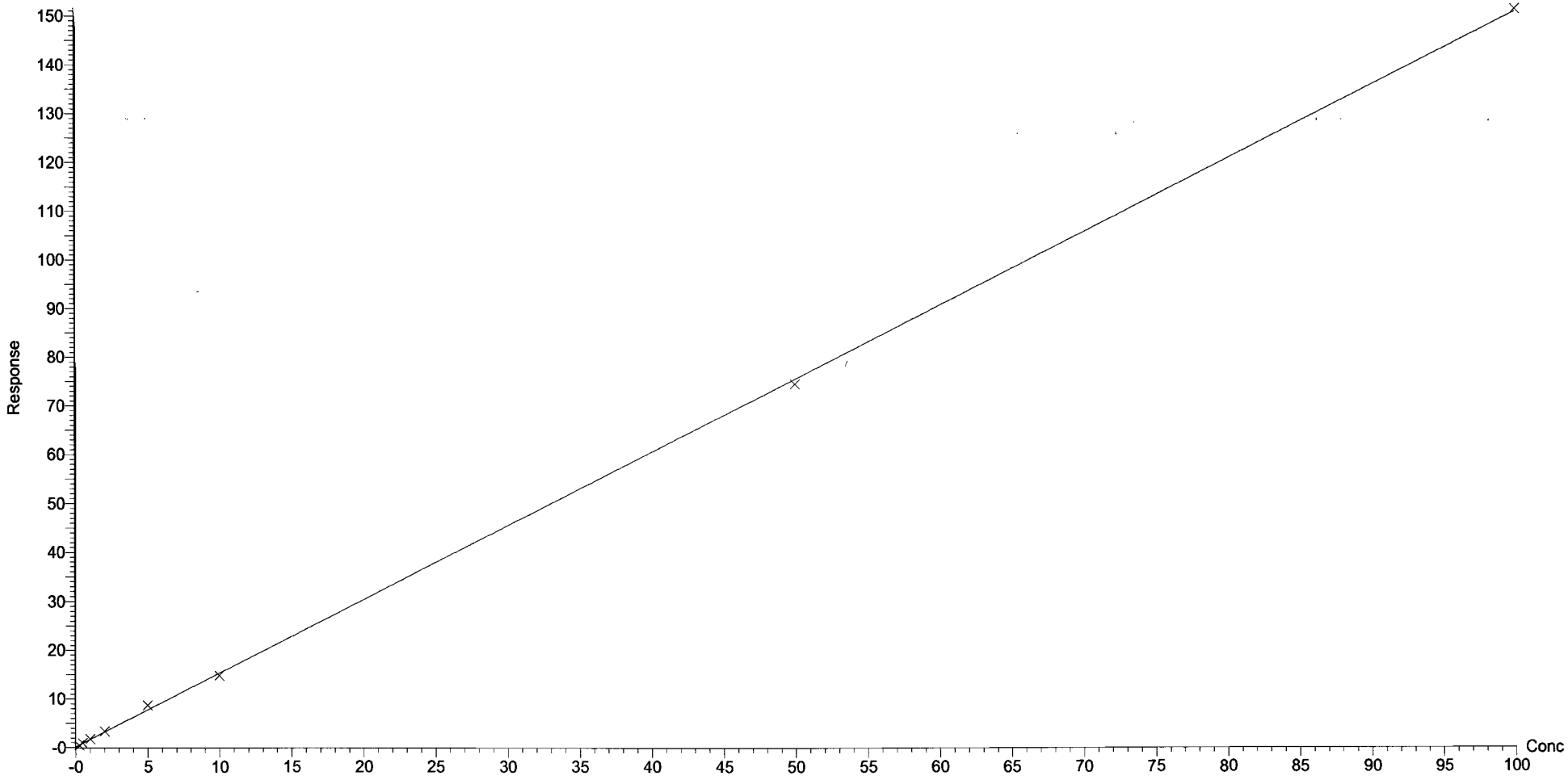
Compound name: L-PFBS
Correlation coefficient: r = 0.999611, r^2 = 0.999223
Calibration curve: 1.85223 * x + 0.0753175
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:13:40 Pacific Daylight Time

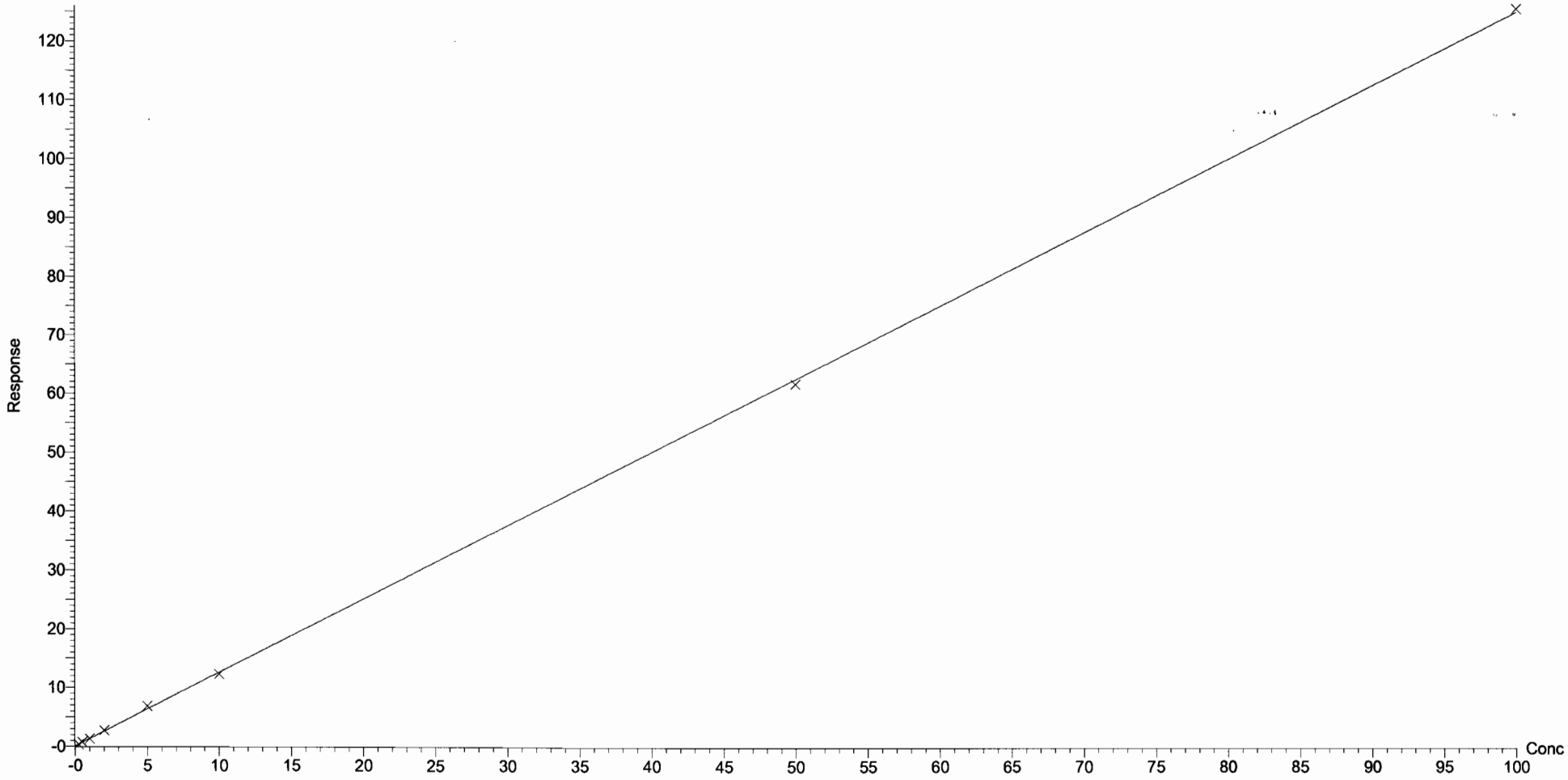
Compound name: L-PFHxA
Correlation coefficient: r = 0.999652, r^2 = 0.999303
Calibration curve: 1.50961 * x + 0.157846
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:13:40 Pacific Daylight Time

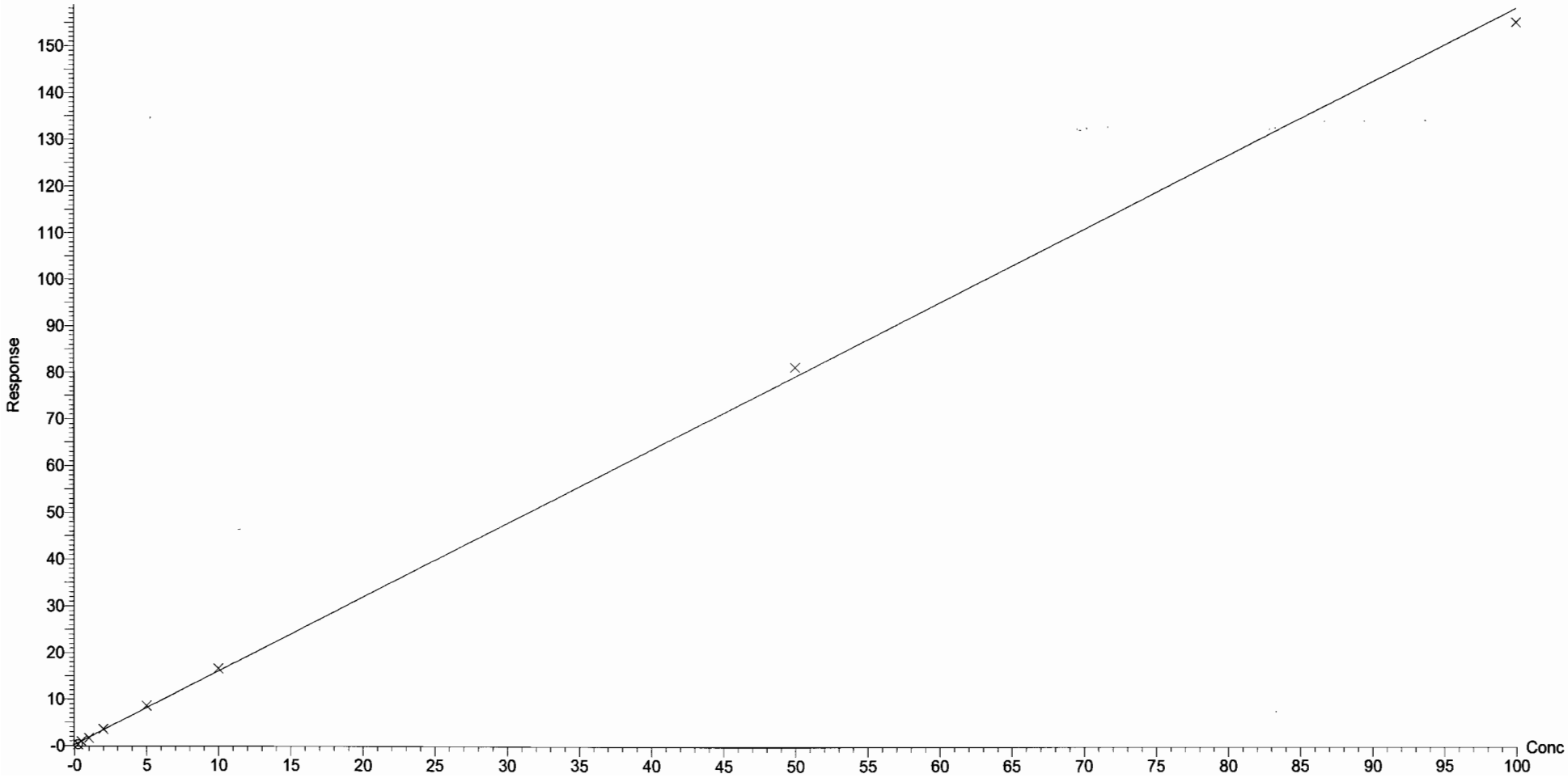
Compound name: L-PFHpA
Correlation coefficient: r = 0.999802, r^2 = 0.999604
Calibration curve: 1.25293 * x + 0.085568
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:13:40 Pacific Daylight Time

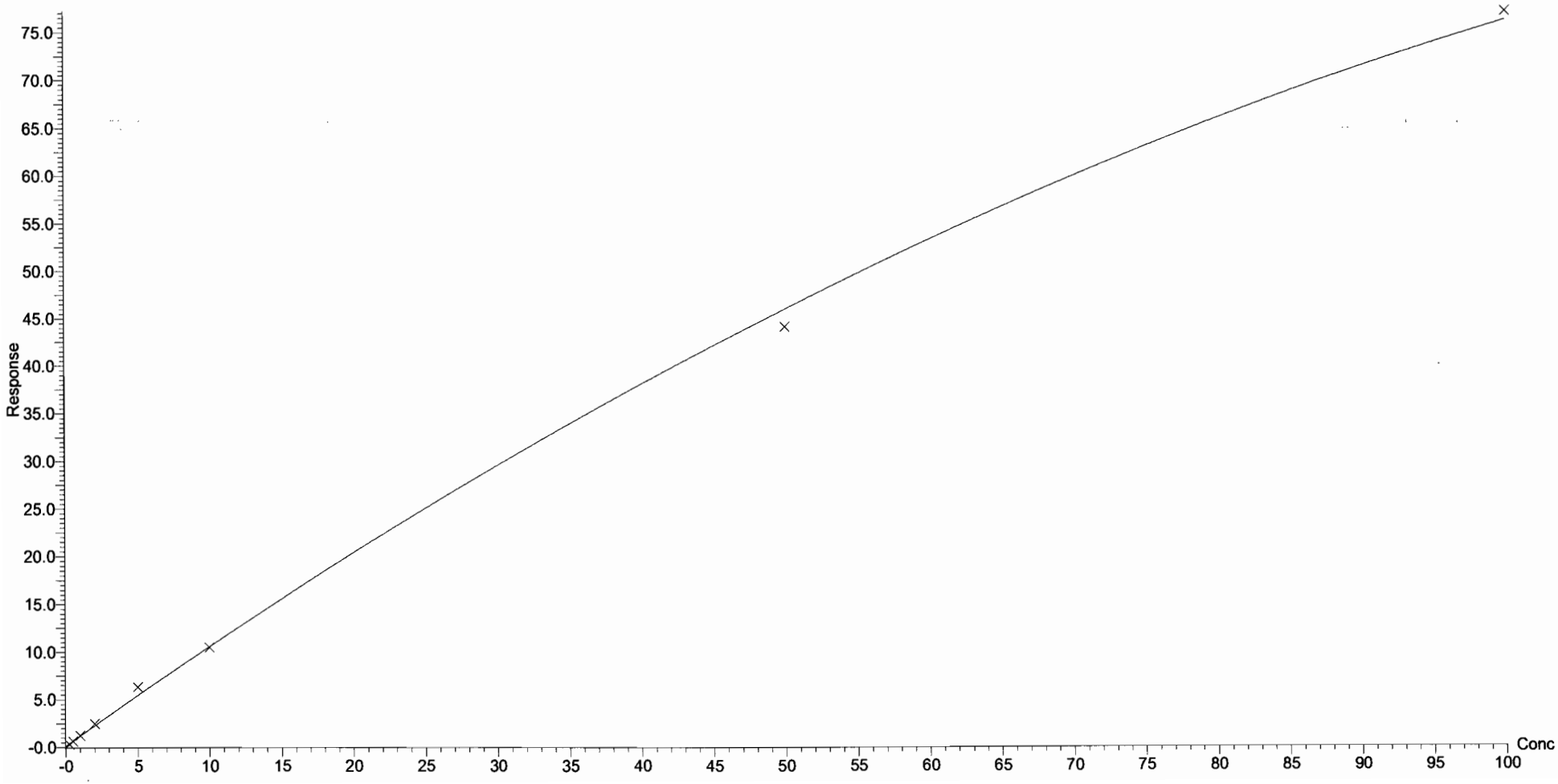
Compound name: L-PFHxS
Correlation coefficient: r = 0.999641, r^2 = 0.999282
Calibration curve: 1.58457 * x + 0.244547
Response type: Internal Std (Ref 60), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:13:40 Pacific Daylight Time

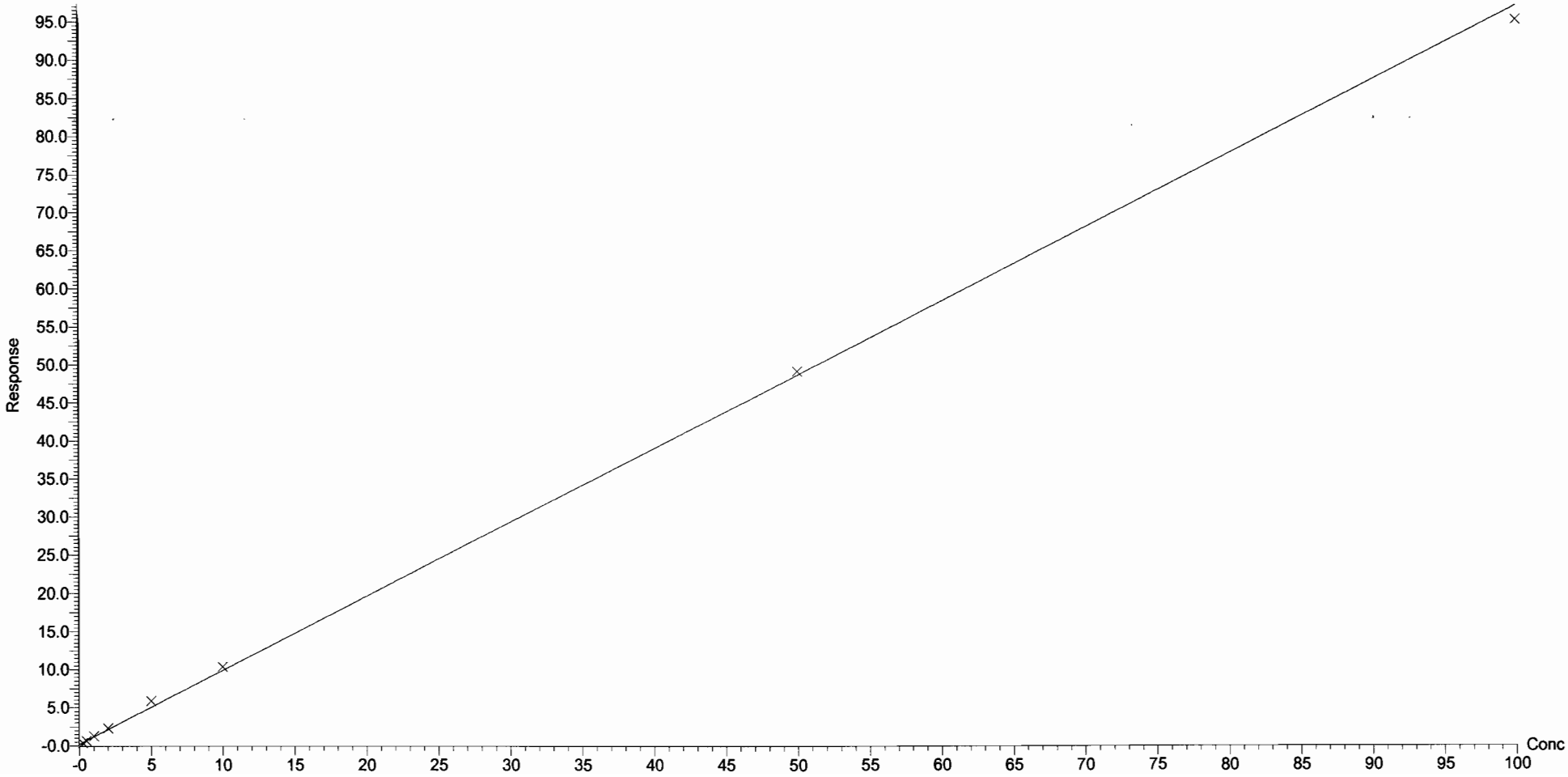
Compound name: L-6:2 FTS
Coefficient of Determination: R^2 = 0.997533
Calibration curve: -0.00313053 * x^2 + 1.07473 * x + 0.134469
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:13:40 Pacific Daylight Time

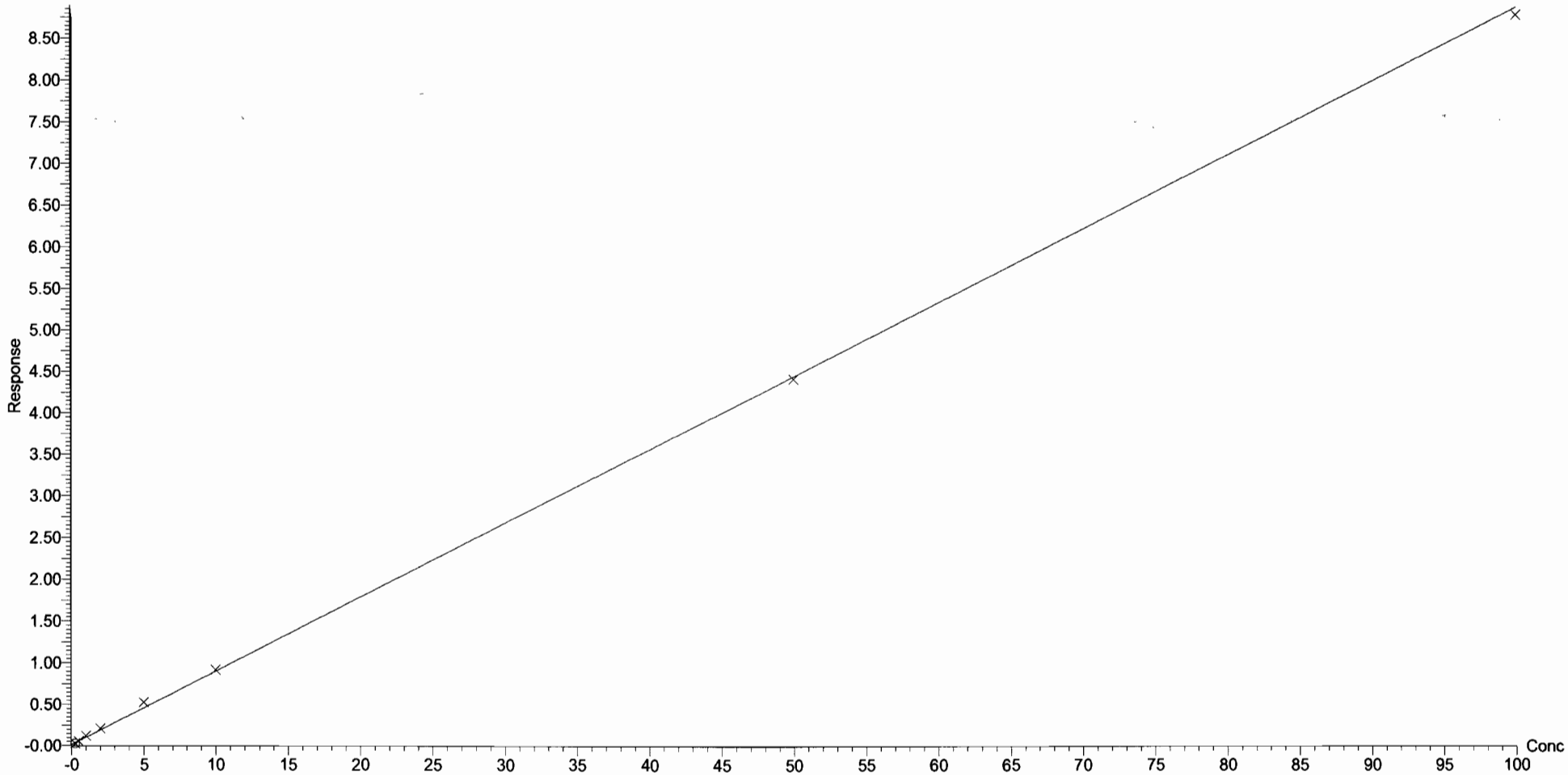
Compound name: L-PFOA
Correlation coefficient: r = 0.999233, r^2 = 0.998466
Calibration curve: 0.970801 * x + 0.199778
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:13:40 Pacific Daylight Time

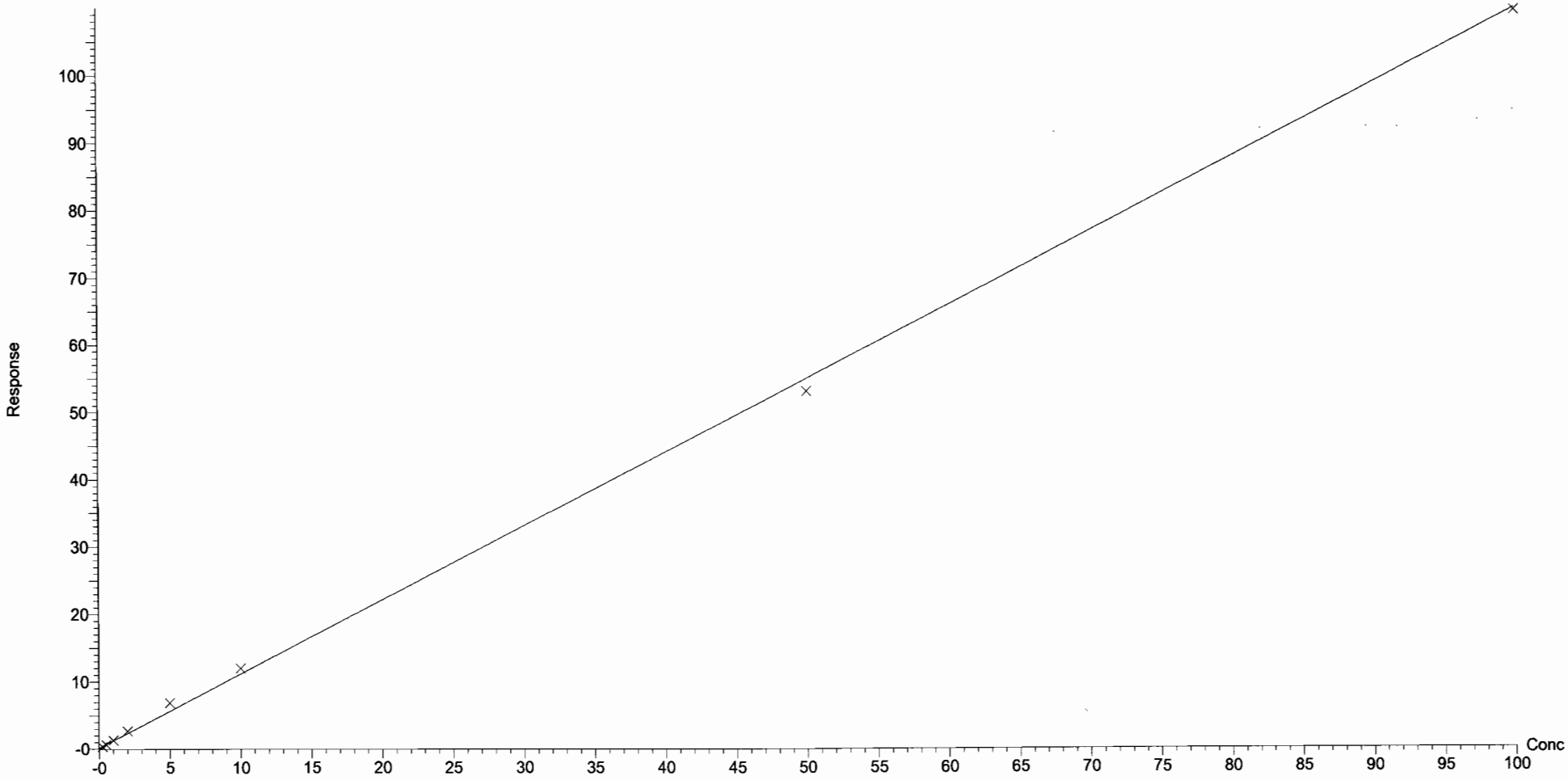
Compound name: L-PFHpS
Correlation coefficient: r = 0.999150, r^2 = 0.998301
Calibration curve: 0.0887442 * x + 0.014645
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:13:40 Pacific Daylight Time

Compound name: L-PFNA
Correlation coefficient: r = 0.998636, r^2 = 0.997274
Calibration curve: 1.0977 * x + 0.147355
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



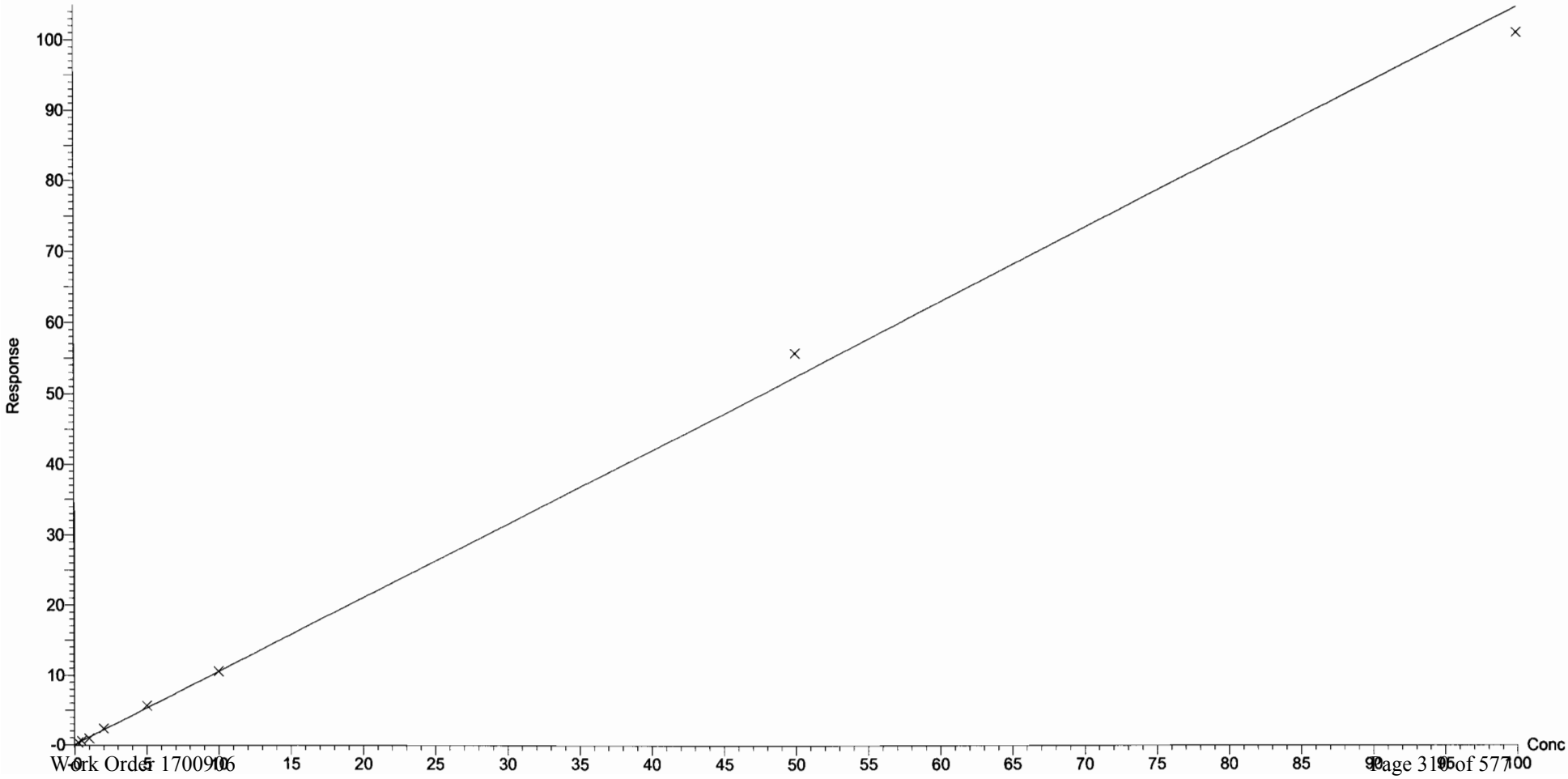
Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:28 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

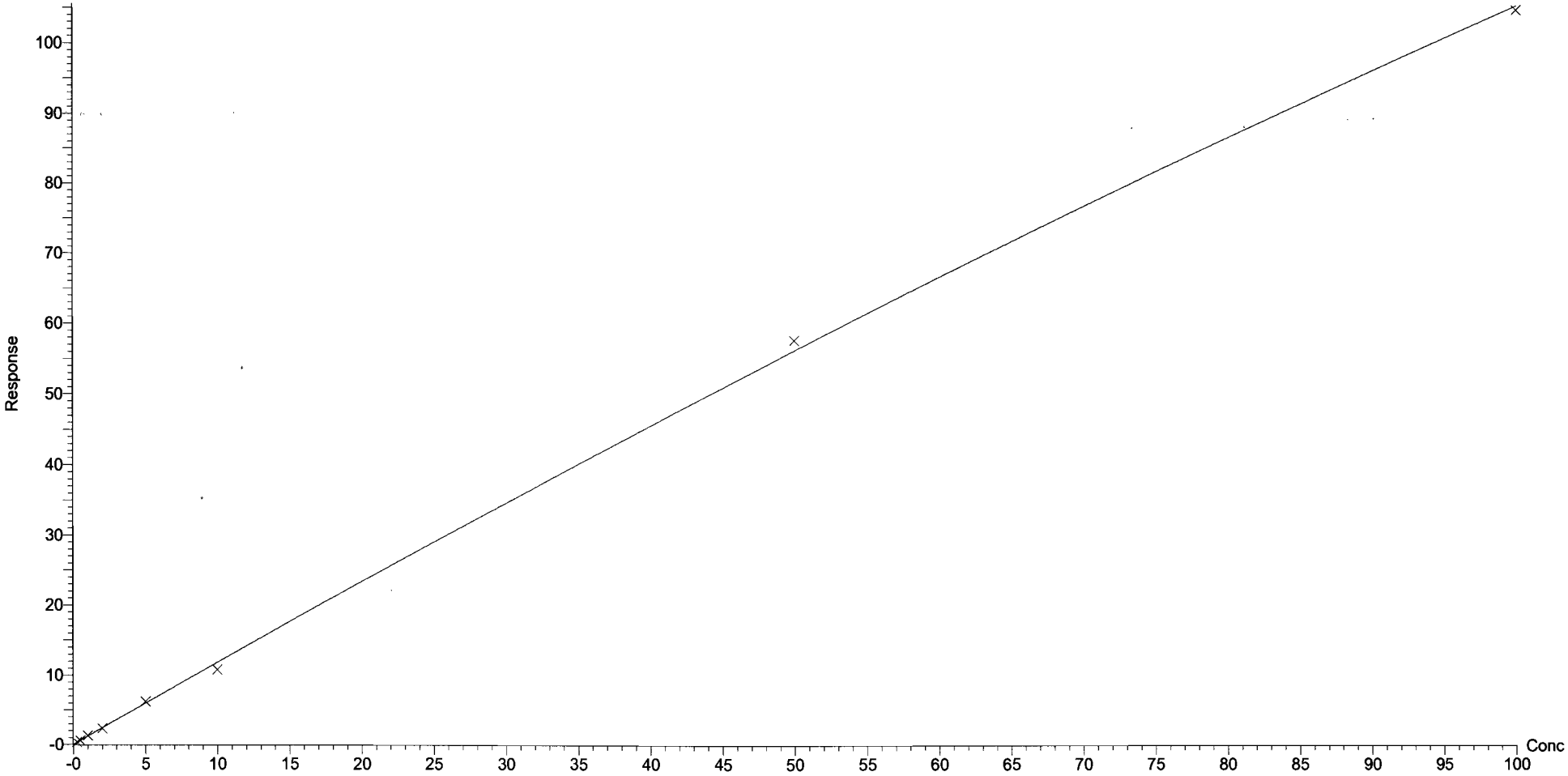
Compound name: L-PFOSA
Correlation coefficient: r = 0.998808, r^2 = 0.997616
Calibration curve: 1.0493 * x + 0.0489398
Response type: Internal Std (Ref 64), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:28 Pacific Daylight Time

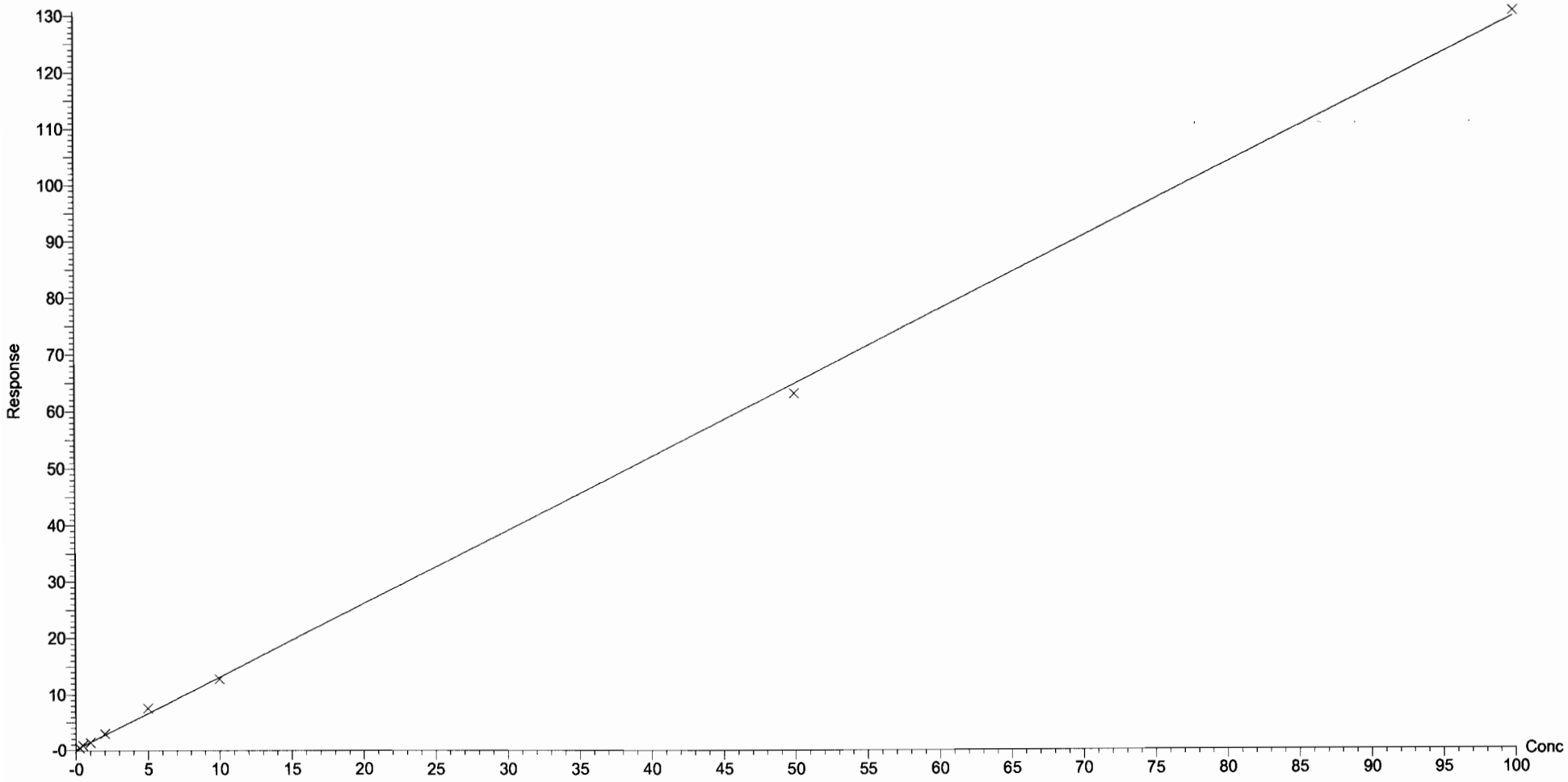
Compound name: L-PFOS
Coefficient of Determination: R^2 = 0.999053
Calibration curve: -0.00141568 * x^2 + 1.19711 * x + 0.0153867
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:28 Pacific Daylight Time

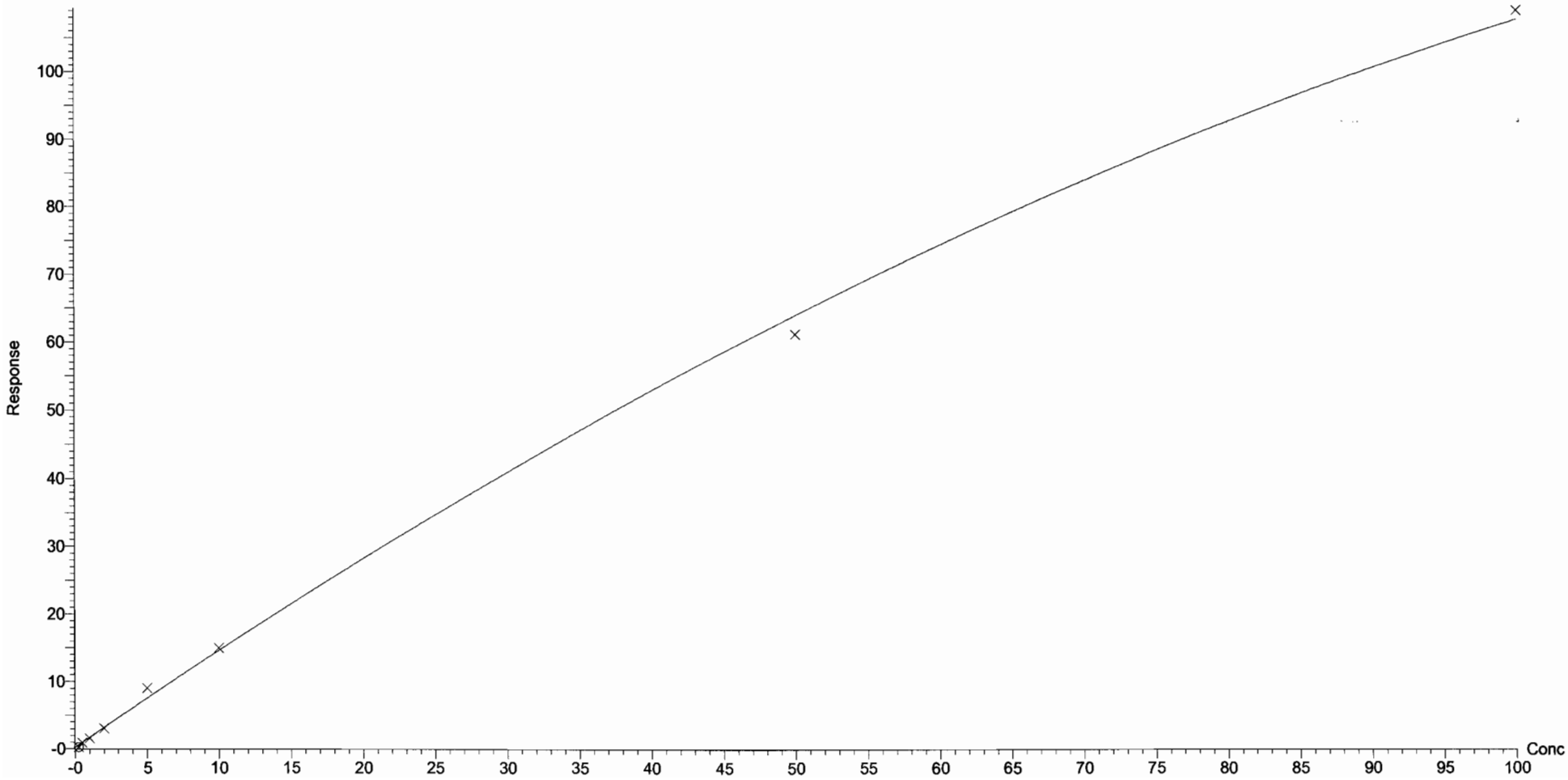
Compound name: L-PFDA
Correlation coefficient: r = 0.999397, r^2 = 0.998794
Calibration curve: 1.29731 * x + 0.12788
Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:28 Pacific Daylight Time

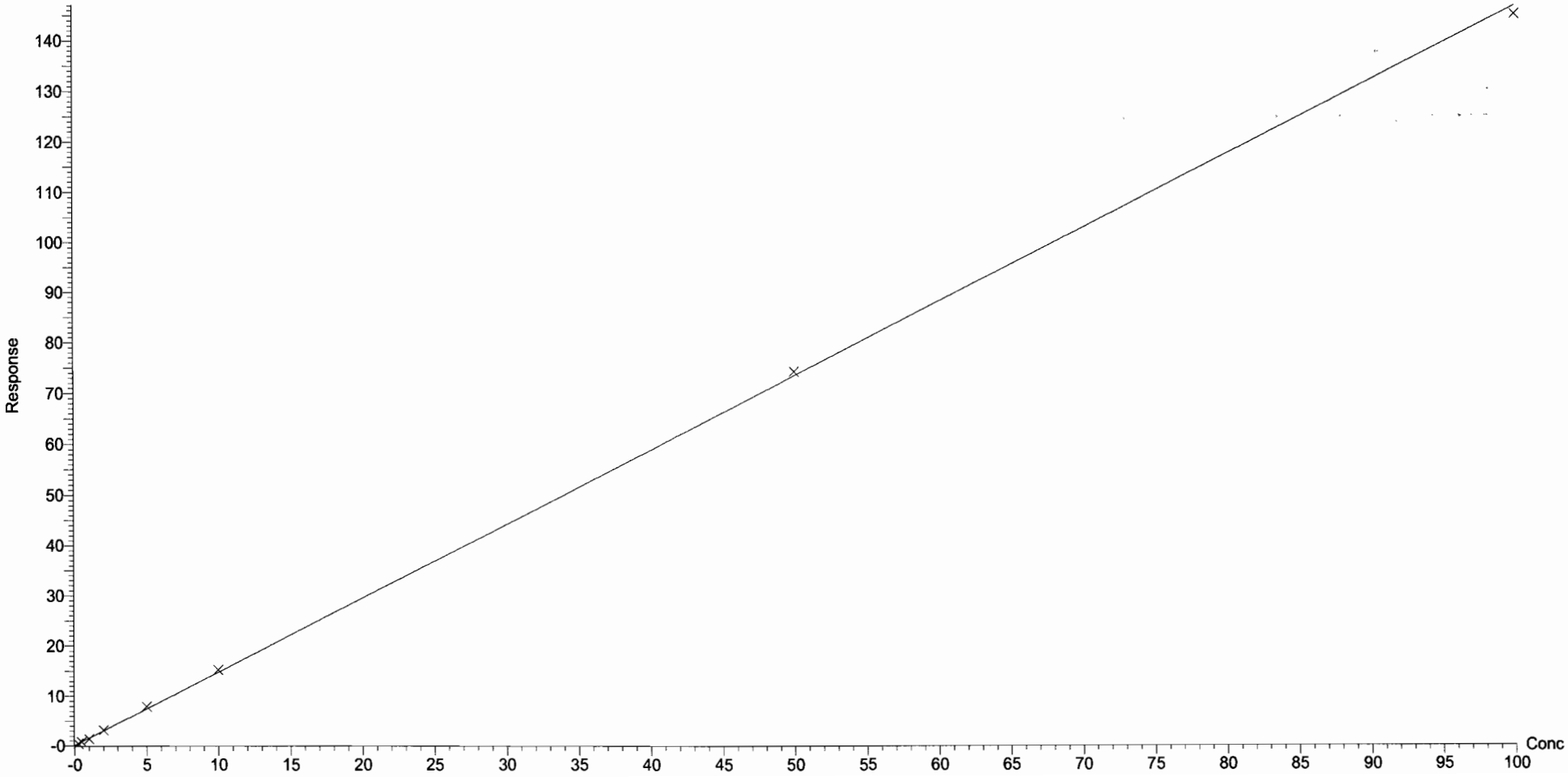
Compound name: L-8:2 FTS
Coefficient of Determination: R^2 = 0.996879
Calibration curve: -0.00401712 * x^2 + 1.47948 * x + 0.229305
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:28 Pacific Daylight Time

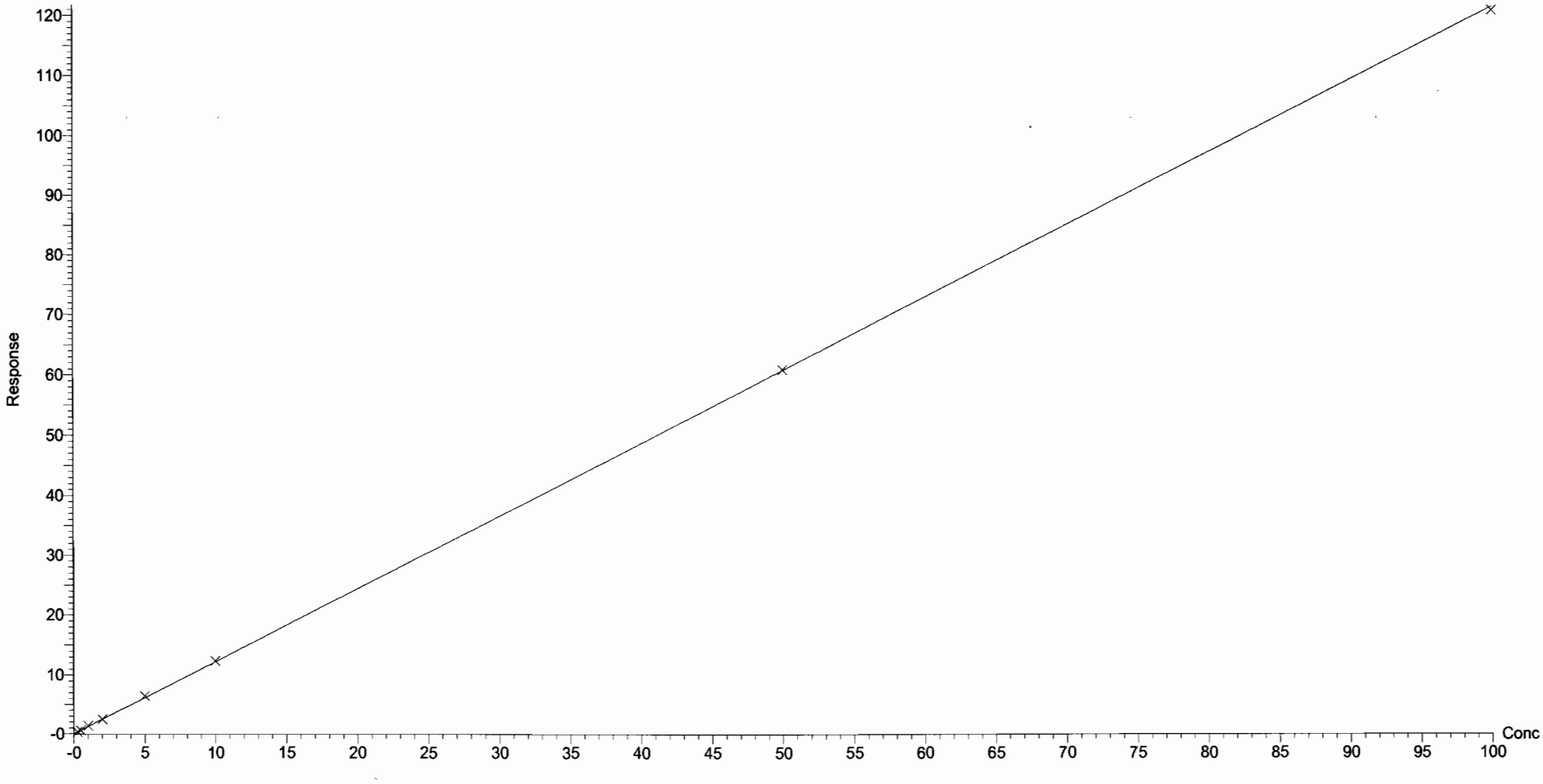
Compound name: L-N-MeFOSAA
Correlation coefficient: r = 0.999780, r^2 = 0.999560
Calibration curve: 1.47015 * x + 0.088336
Response type: Internal Std (Ref 68), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:28 Pacific Daylight Time

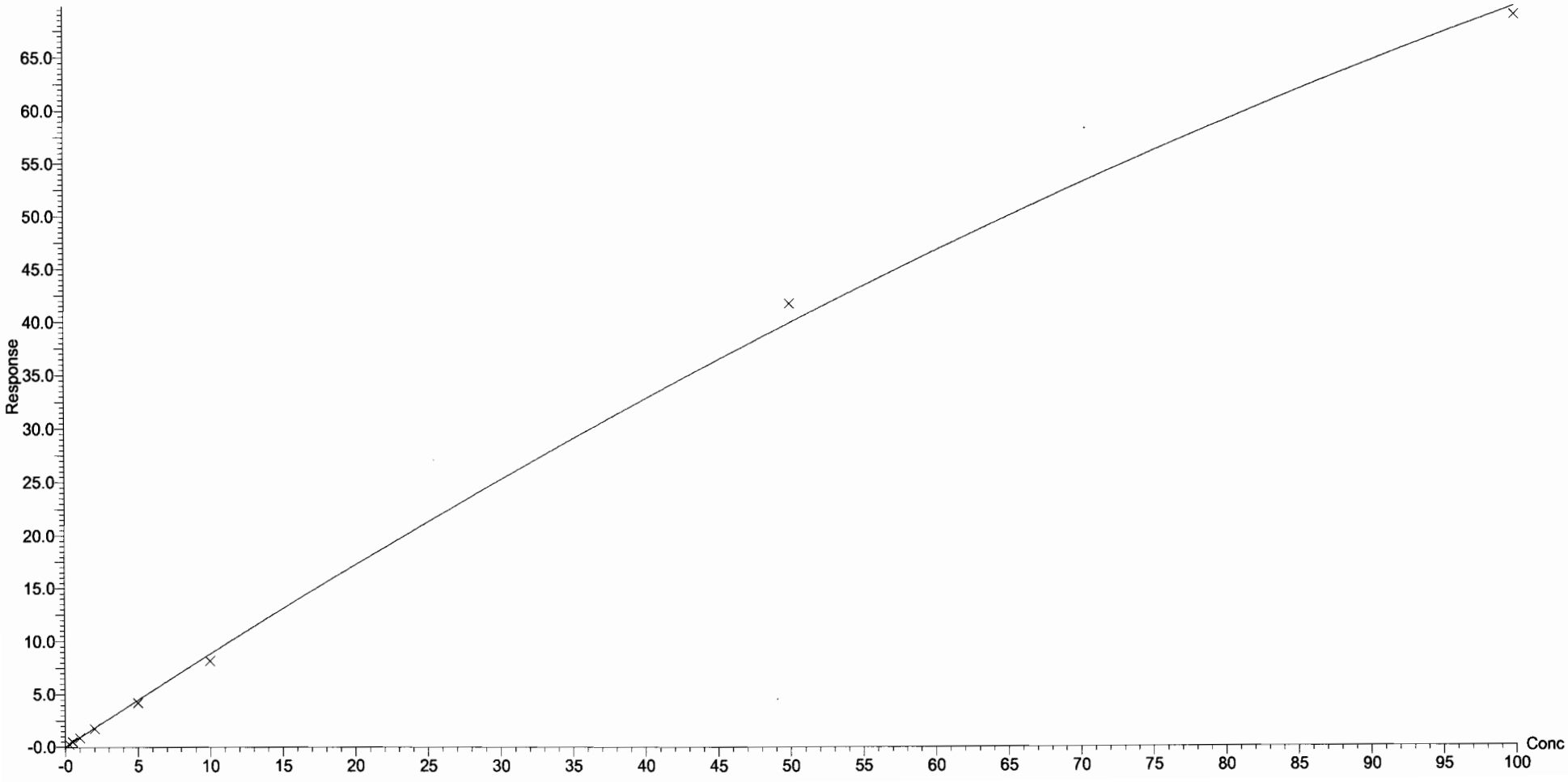
Compound name: L-N-EtFOSAA
Correlation coefficient: r = 0.999919, r^2 = 0.999838
Calibration curve: 1.21714 * x + 0.0255867
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:28 Pacific Daylight Time

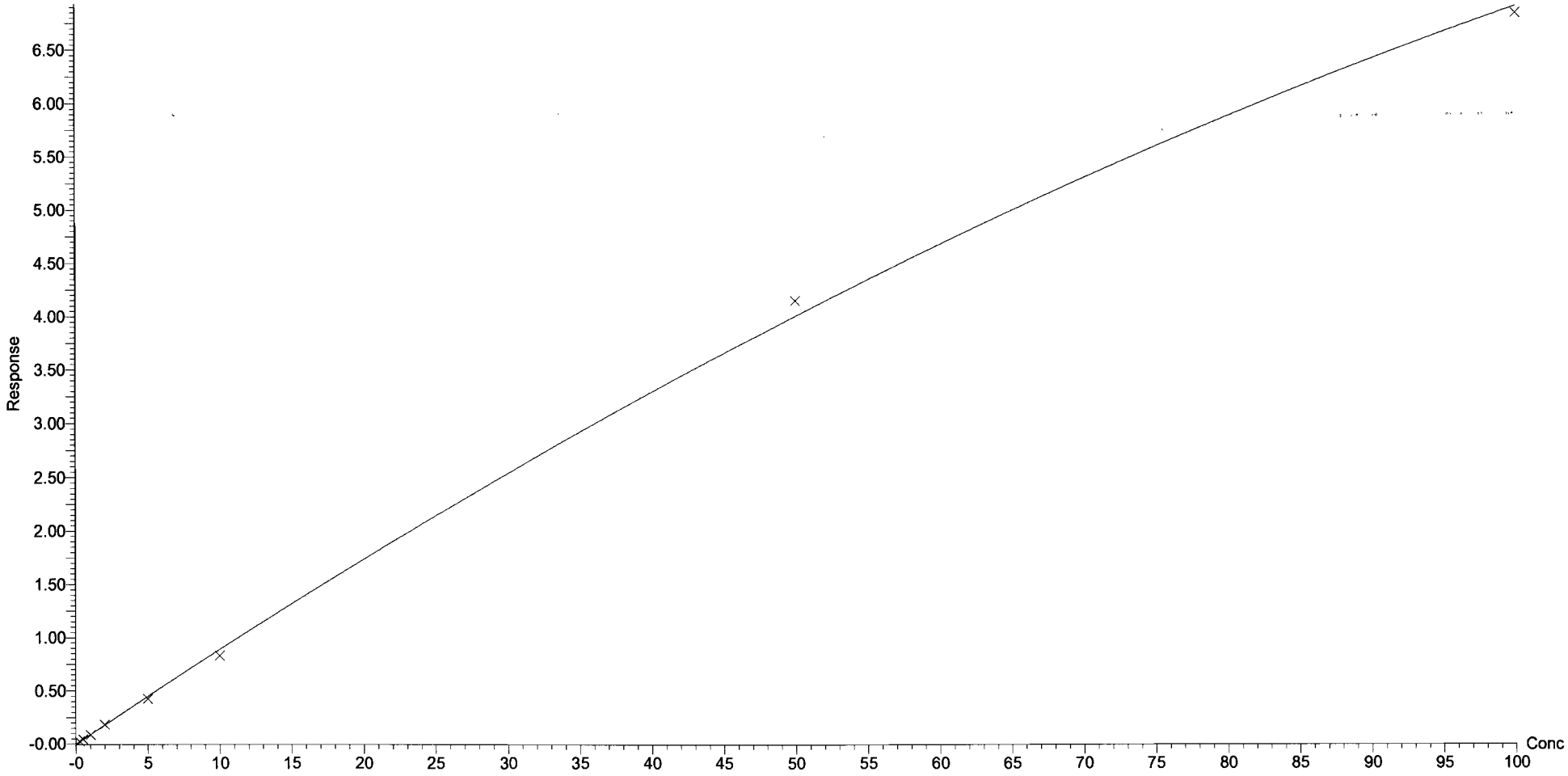
Compound name: L-PFUnA
Coefficient of Determination: R^2 = 0.998430
Calibration curve: -0.0020331 * x^2 + 0.901478 * x + 0.00751751
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:28 Pacific Daylight Time

Compound name: L-PFDS
Coefficient of Determination: R^2 = 0.998893
Calibration curve: -0.00022062 * x^2 + 0.0913899 * x + -0.00210506
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



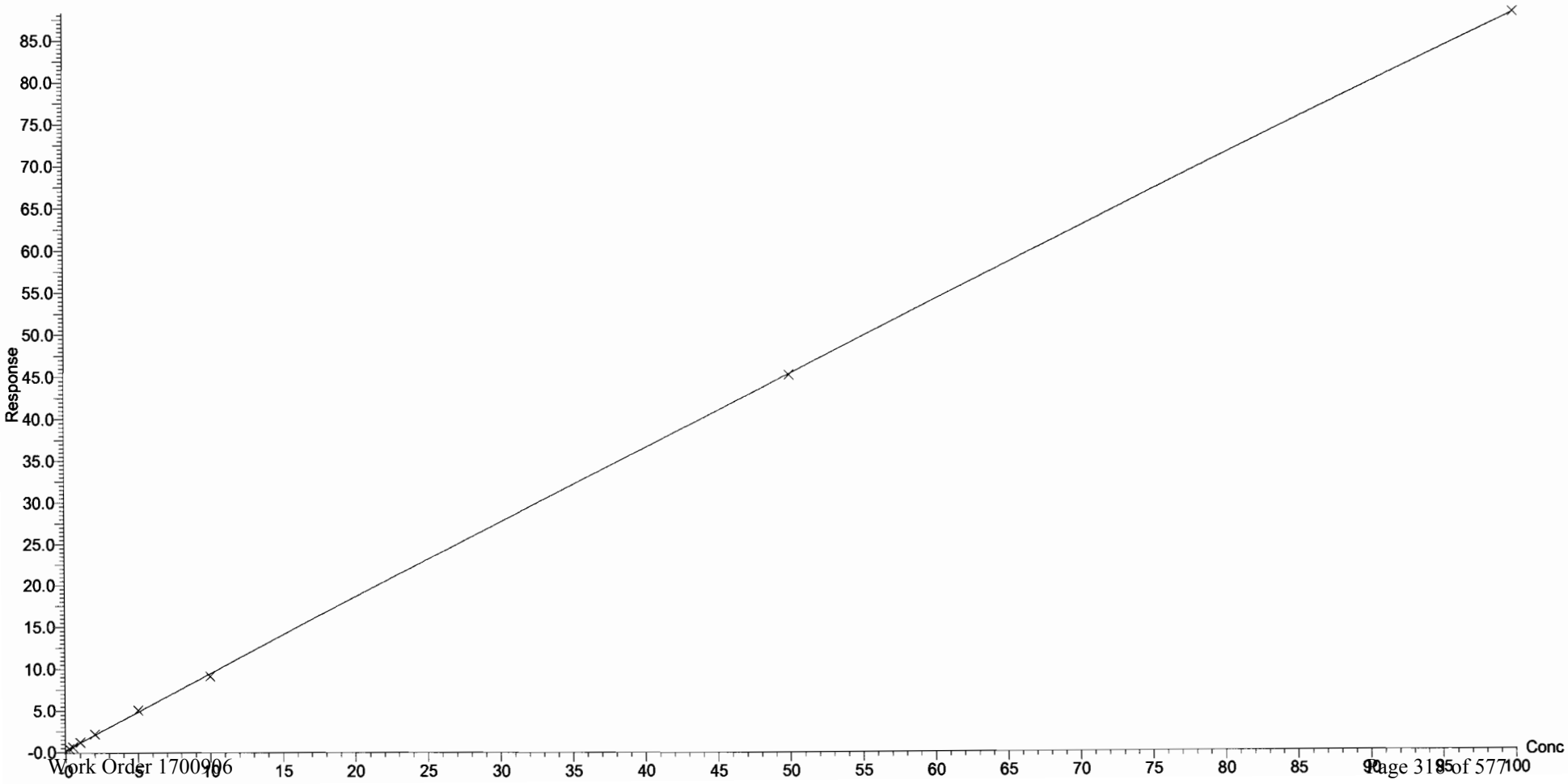
Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:49 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Compound name: L-PFDoA
Coefficient of Determination: R^2 = 0.999677
Calibration curve: -0.000480882 * x^2 + 0.928226 * x + 0.197542
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

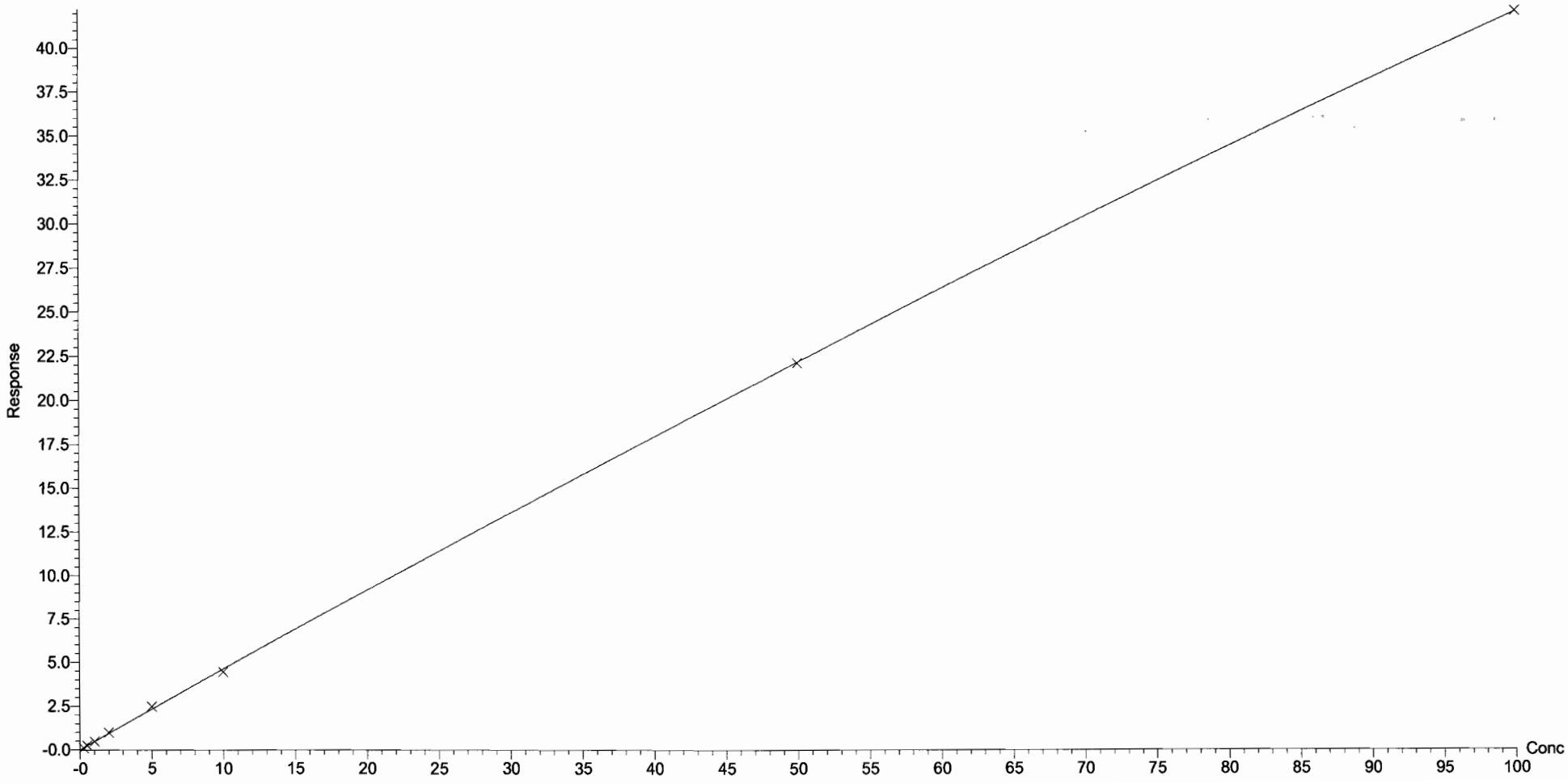


Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:49 Pacific Daylight Time

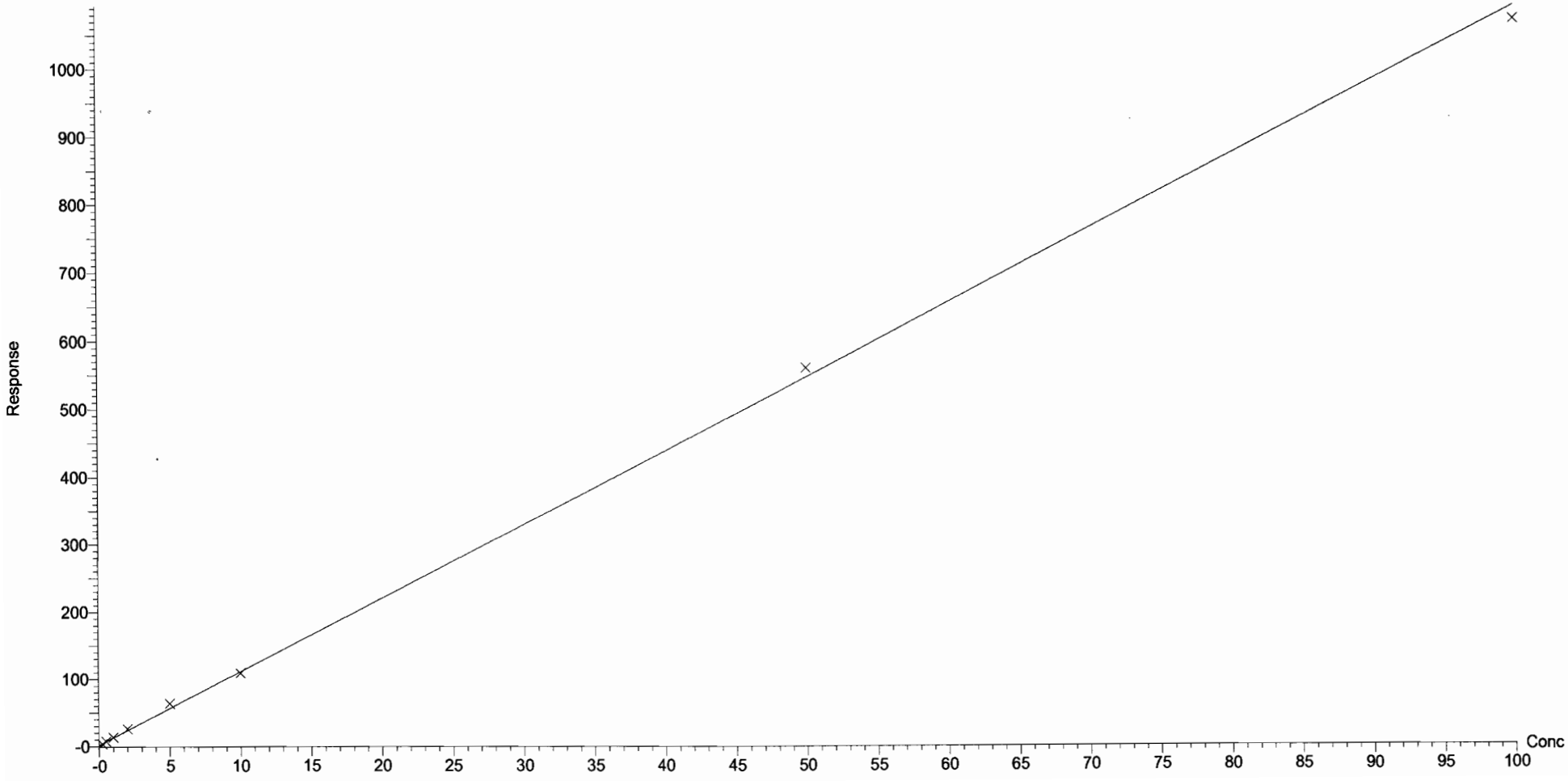
Compound name: L-N-MeFOSA
Coefficient of Determination: R^2 = 0.999627
Calibration curve: -0.00044986 * x^2 + 0.466744 * x + 0.00081322
Response type: Internal Std (Ref 72), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:49 Pacific Daylight Time

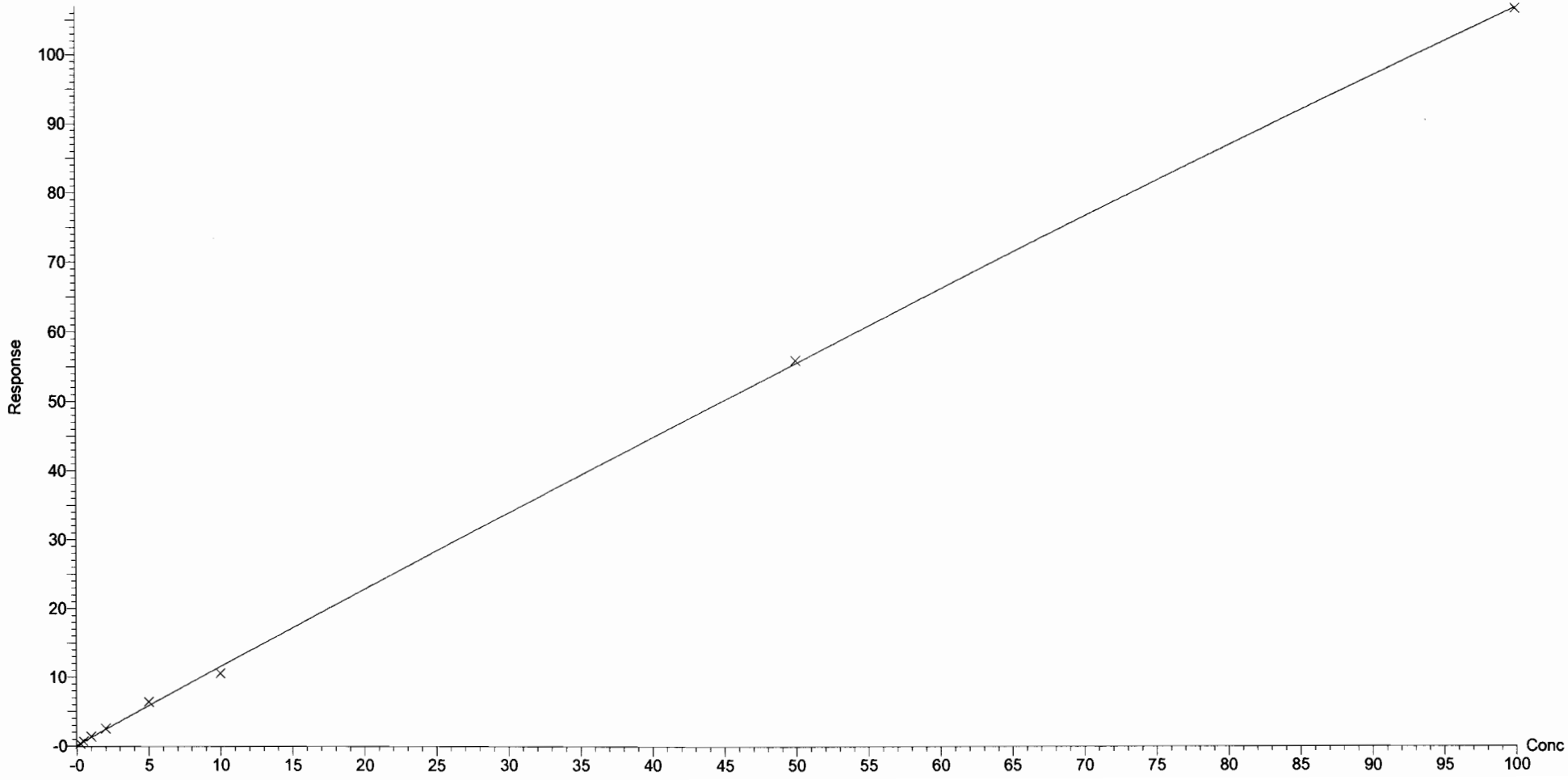
Compound name: L-PFTrDA
Correlation coefficient: r = 0.999380, r^2 = 0.998761
Calibration curve: 10.9107 * x + 1.81788
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:49 Pacific Daylight Time

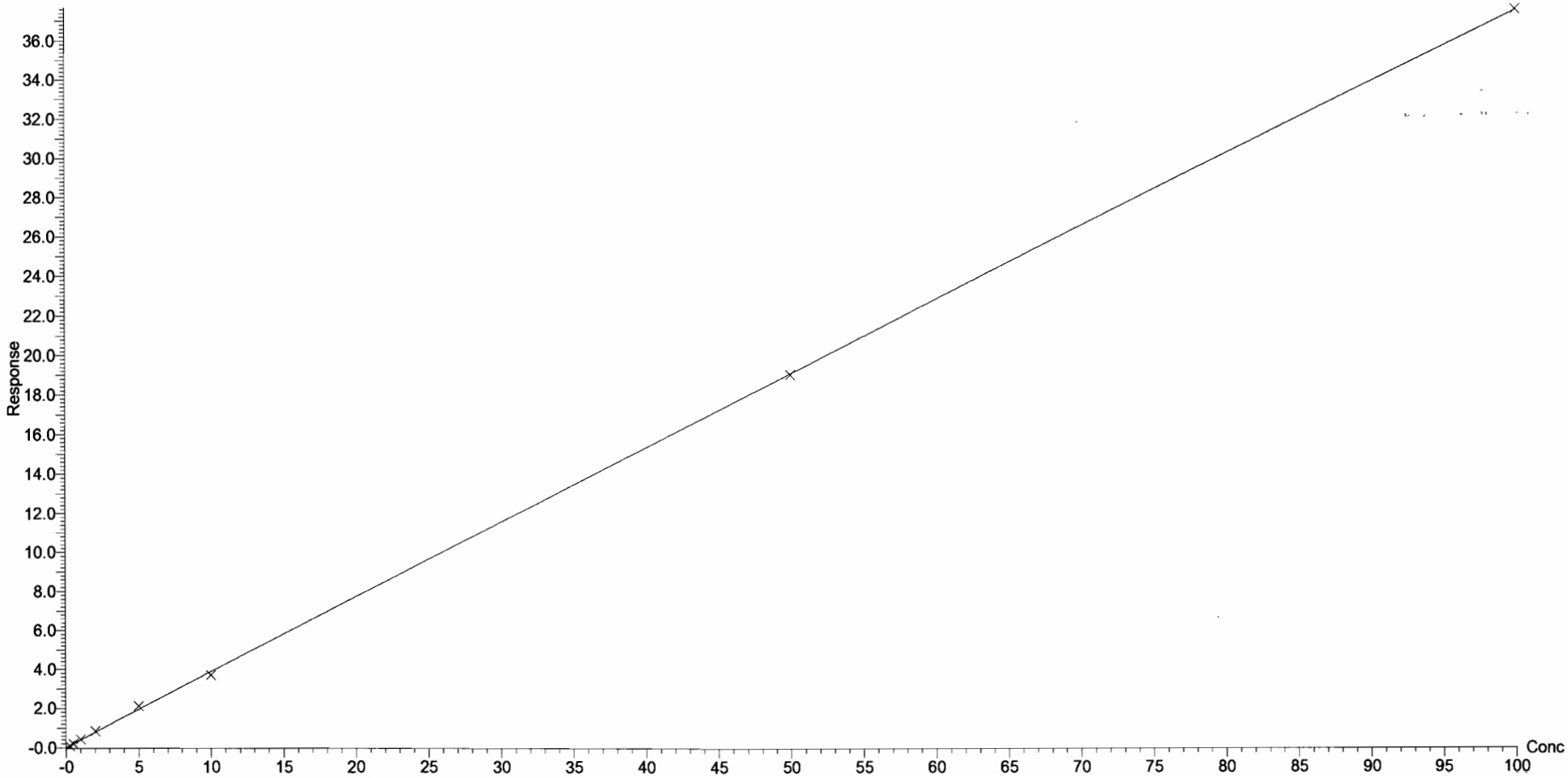
Compound name: L-PFTeDA
Coefficient of Determination: R^2 = 0.999027
Calibration curve: -0.000821655 * x^2 + 1.15082 * x + 0.0988466
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:49 Pacific Daylight Time

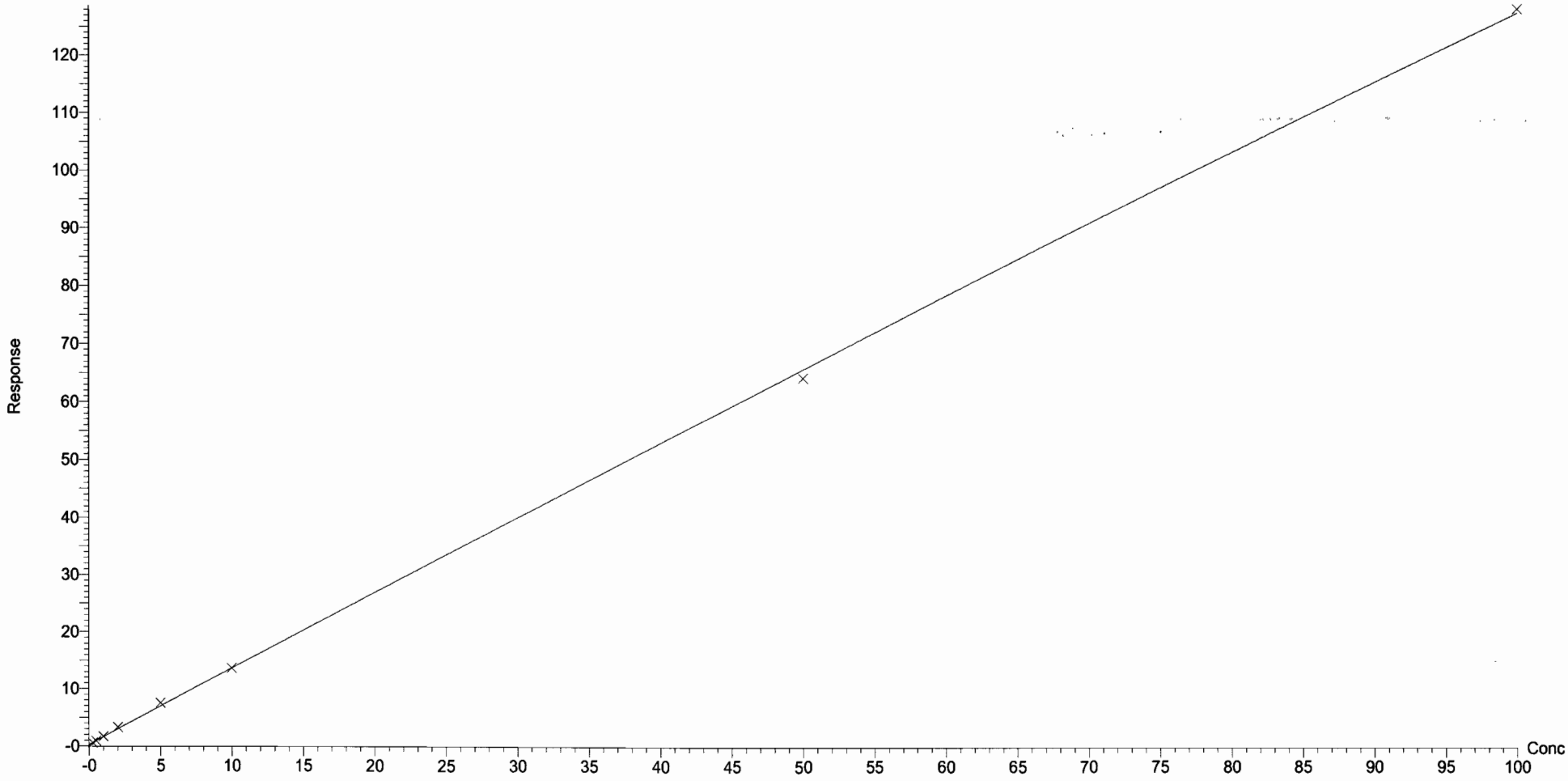
Compound name: L-N-EtFOSA
Coefficient of Determination: R^2 = 0.999522
Calibration curve: -0.000124307 * x^2 + 0.388553 * x + 0.0202947
Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:49 Pacific Daylight Time

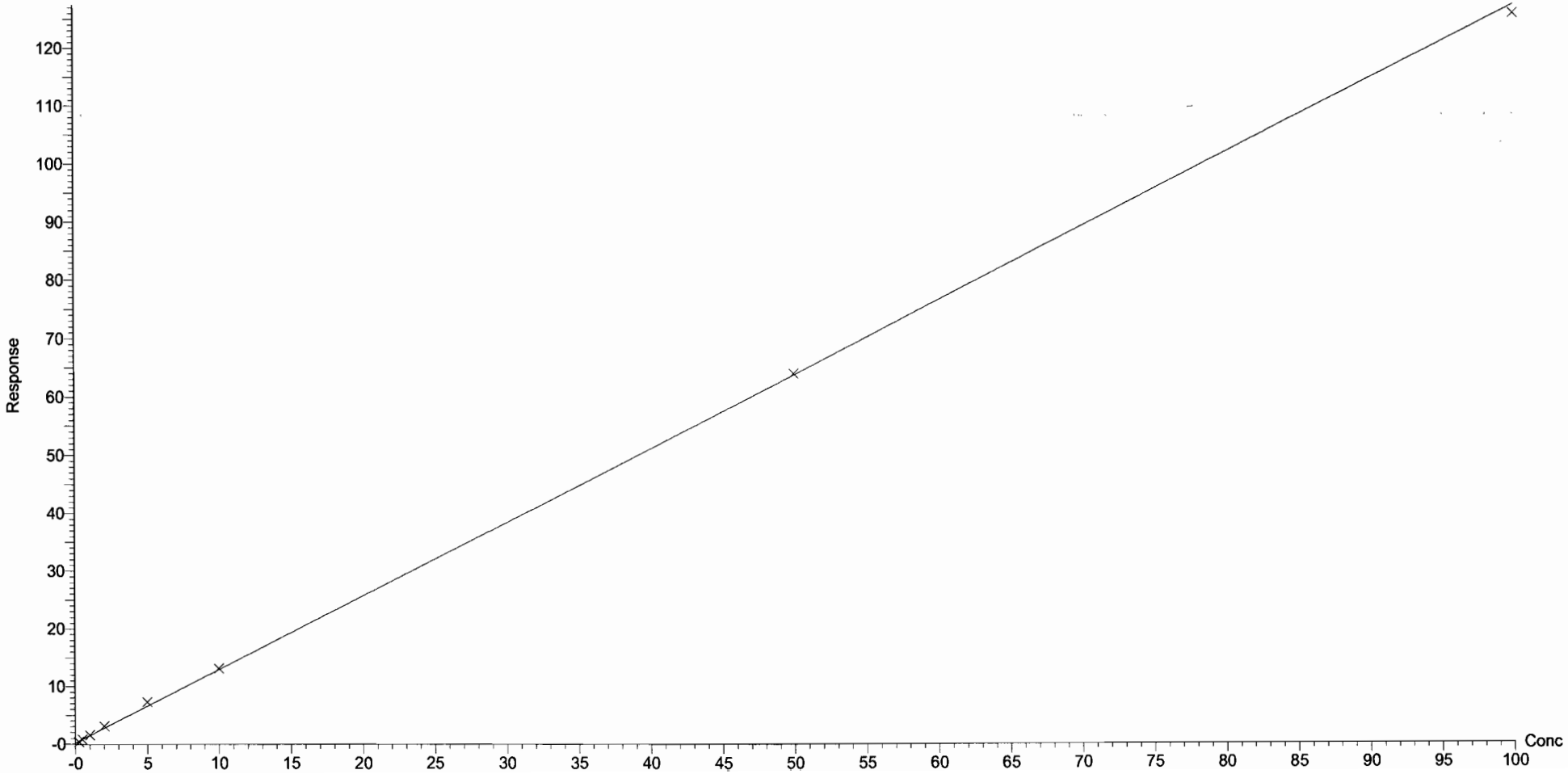
Compound name: L-PFHxDA
Coefficient of Determination: R^2 = 0.999355
Calibration curve: -0.000723556 * x^2 + 1.34849 * x + 0.265371
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:49 Pacific Daylight Time

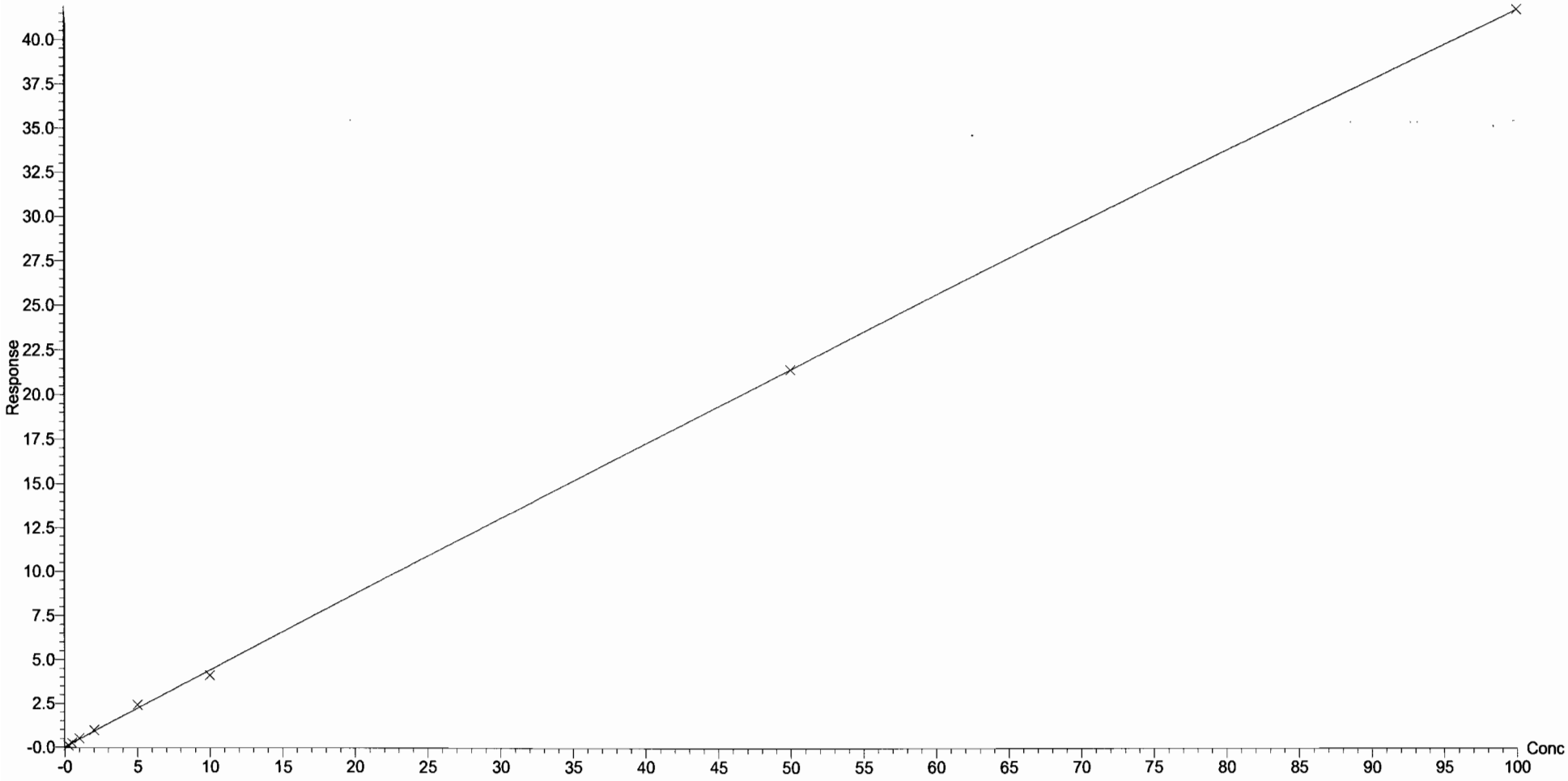
Compound name: L-PFODA
Correlation coefficient: r = 0.999510, r^2 = 0.999020
Calibration curve: 1.27272 * x + 0.164132
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:49 Pacific Daylight Time

Compound name: L-N-MeFOSE
Coefficient of Determination: R^2 = 0.999231
Calibration curve: -0.0002267 * x^2 + 0.440935 * x + 0.0253969
Response type: Internal Std (Ref 76), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



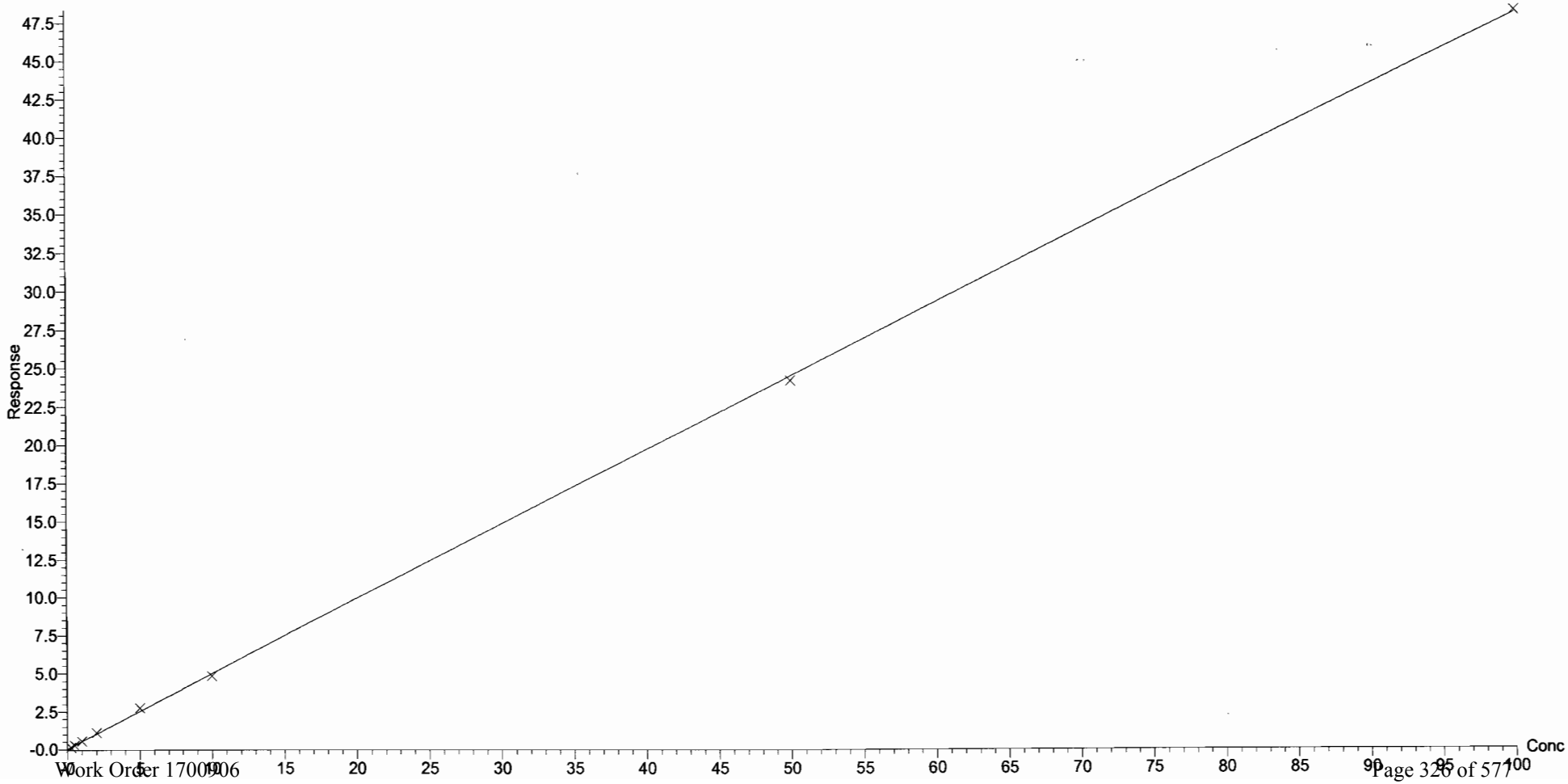
Vista Analytical Laboratory Q1

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:14:54 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Compound name: L-N-EtFOSE
Coefficient of Determination: R^2 = 0.999487
Calibration curve: -0.000178806 * x^2 + 0.499525 * x + 0.0314909
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Vista Analytical Laboratory

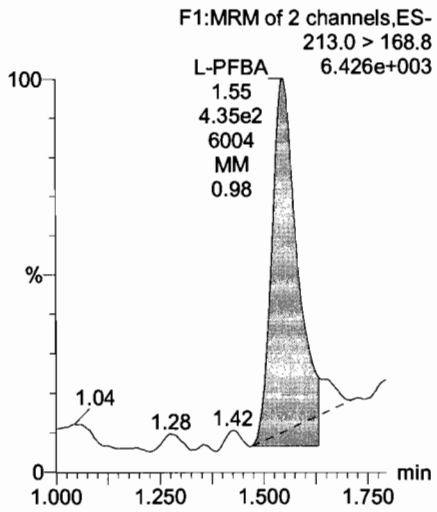
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Printed: Tuesday, July 25, 2017 10:11:42 Pacific Daylight Time

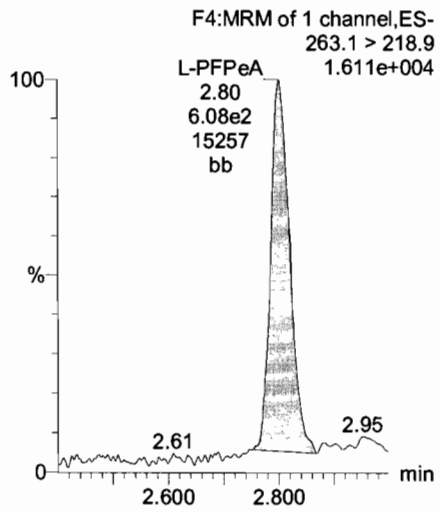
Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Name: 170724M1_3, Date: 24-Jul-2017, Time: 13:51:04, ID: ST170724M1-1 PFC CS-2 17G2422, Description: PFC CS-2 17G2422

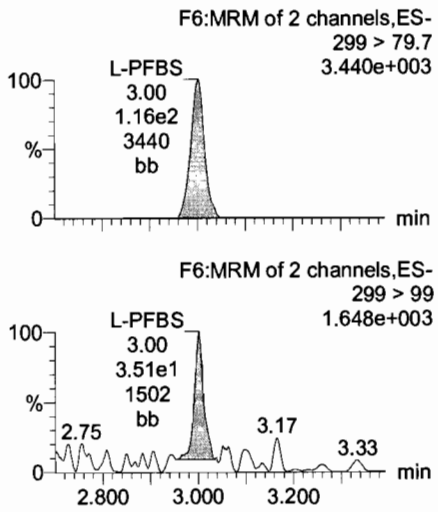
L-PFBA



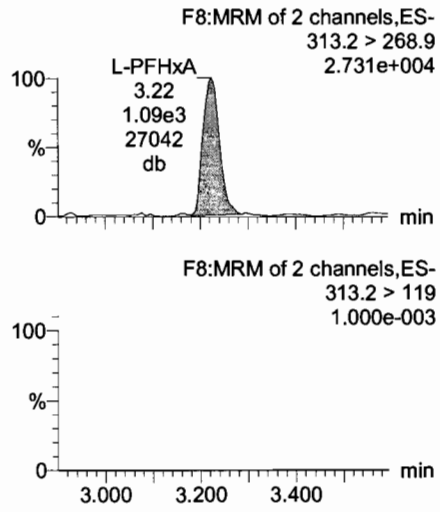
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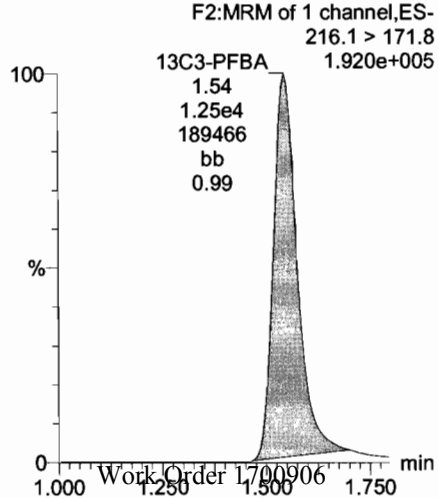
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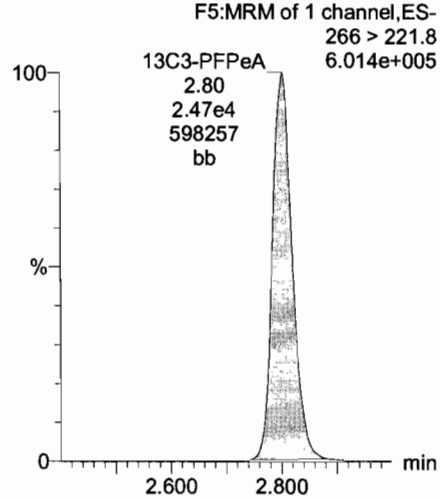
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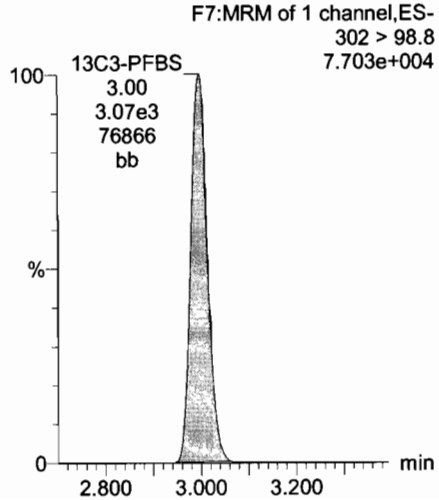
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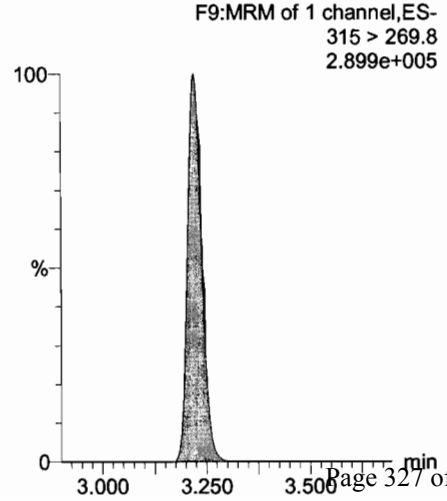
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13C3-PFBS



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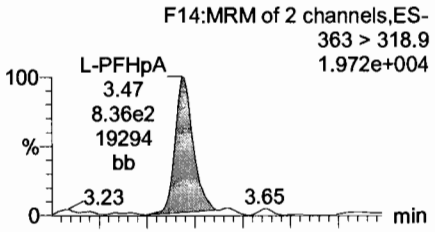


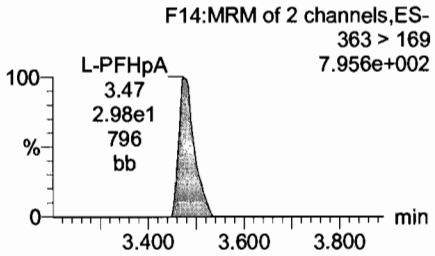
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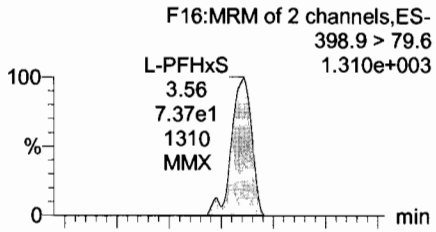
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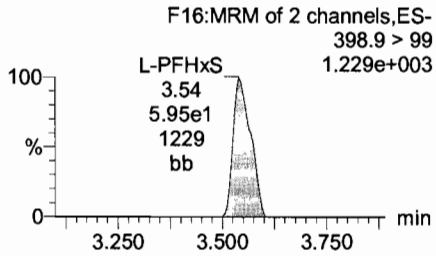
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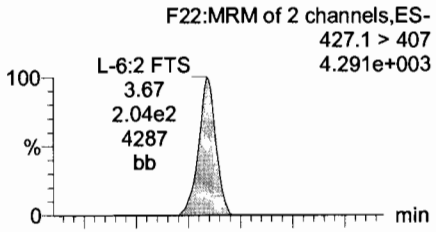


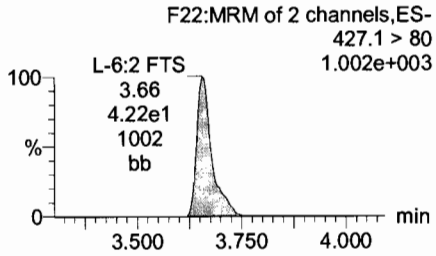
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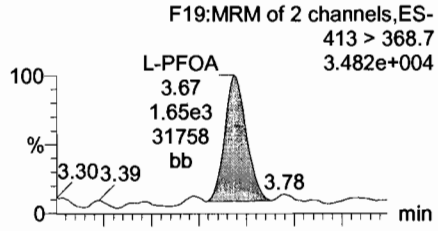


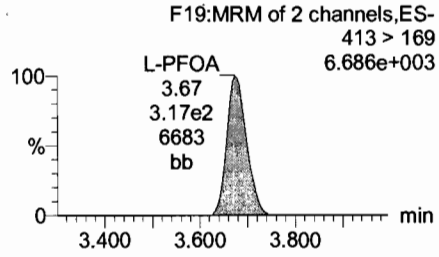
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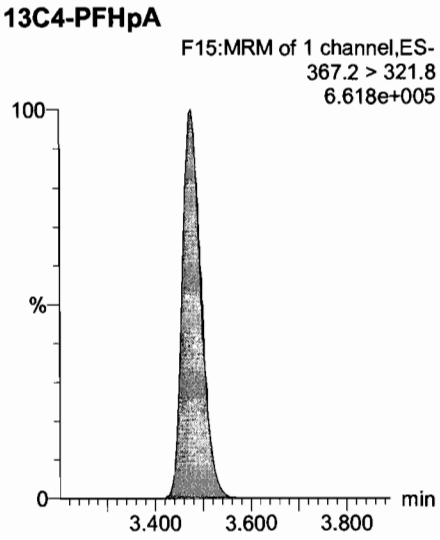


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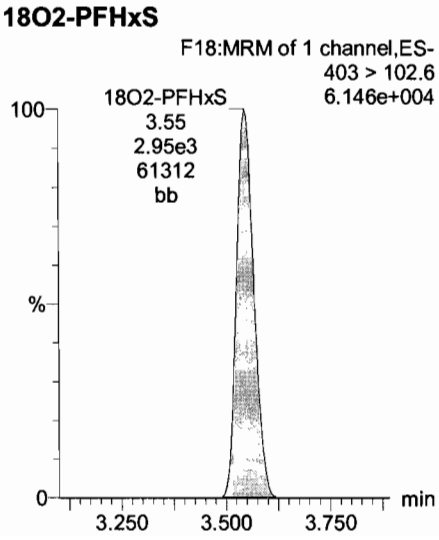




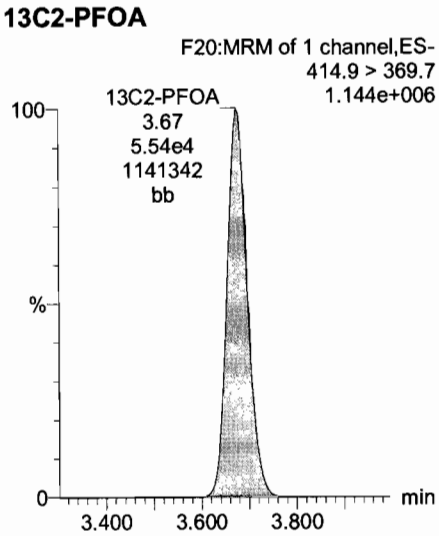
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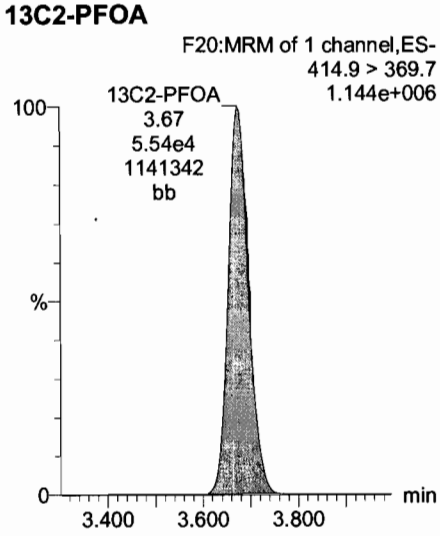
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13C2-PFOA



13C2-PFOA

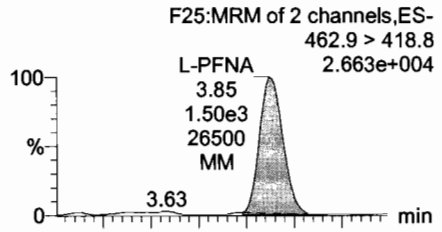


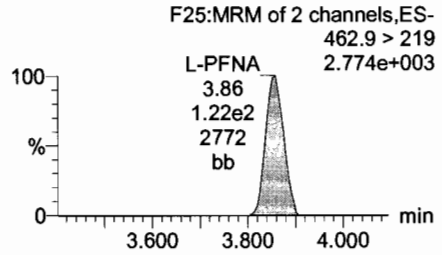
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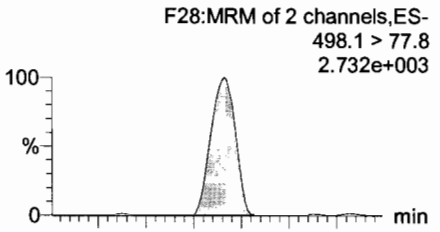
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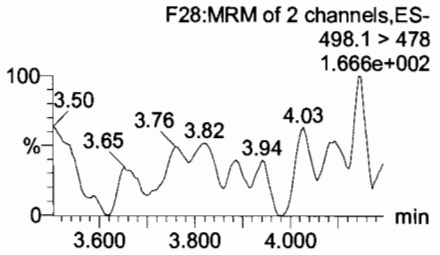
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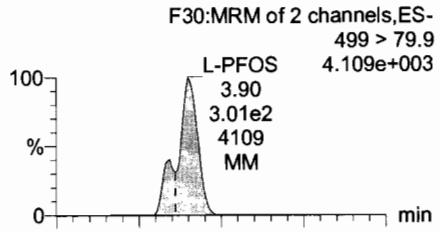


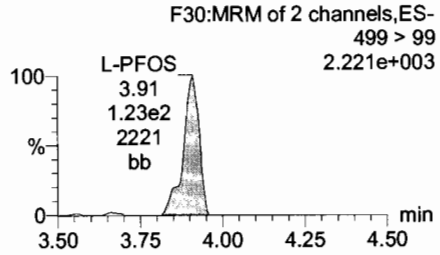
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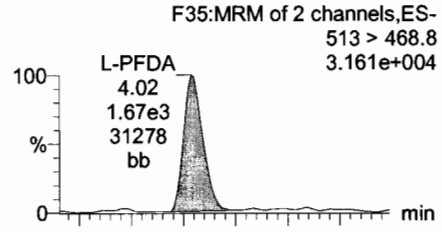


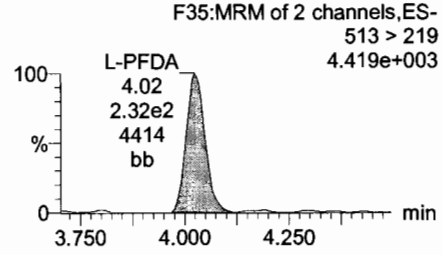
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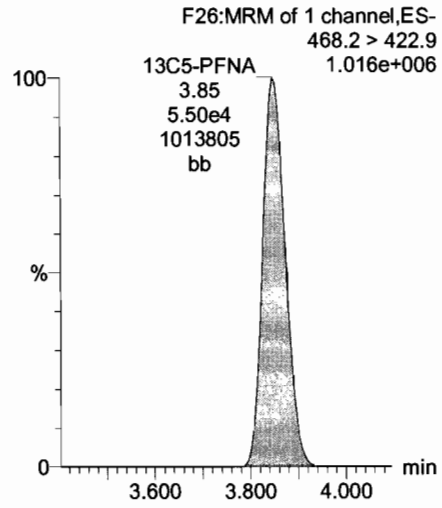


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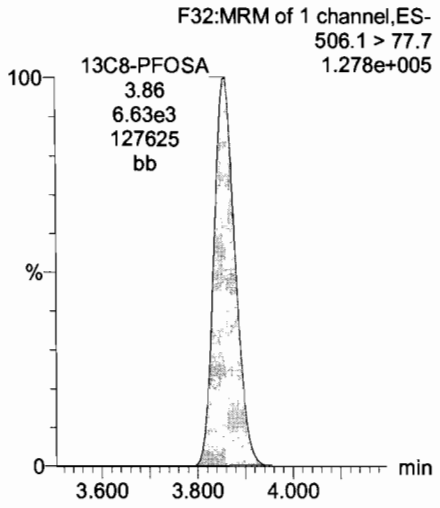




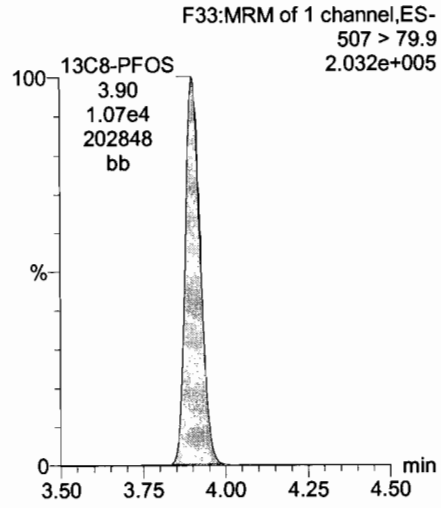
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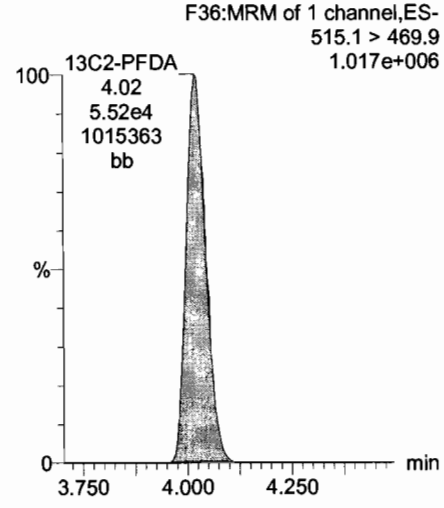
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13C8-PFOS



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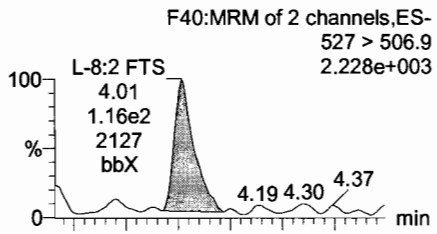


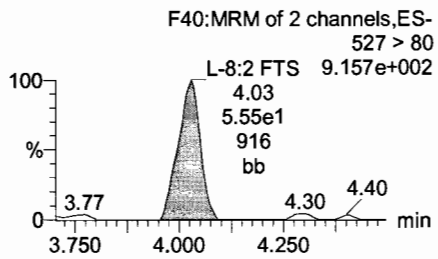
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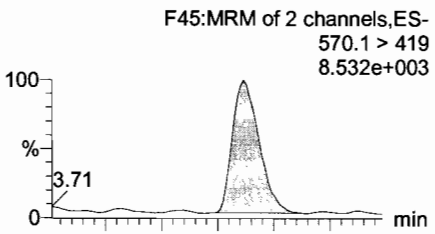
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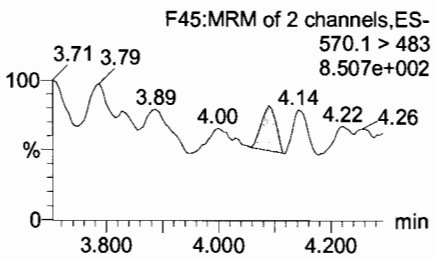
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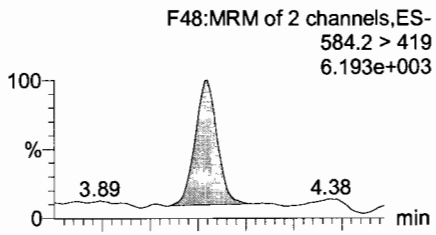


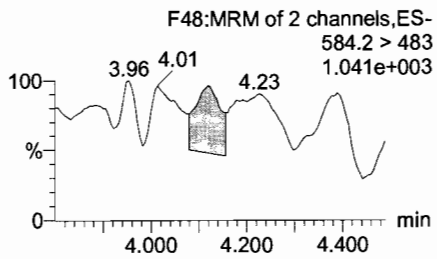
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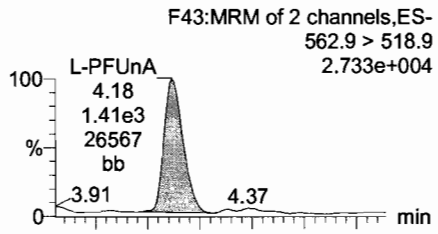


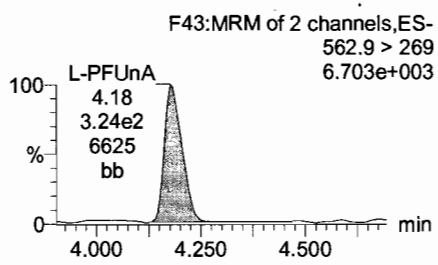
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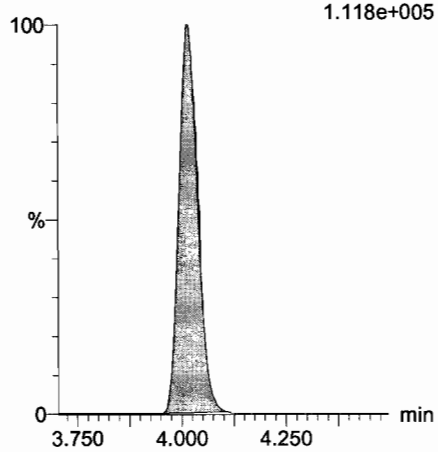


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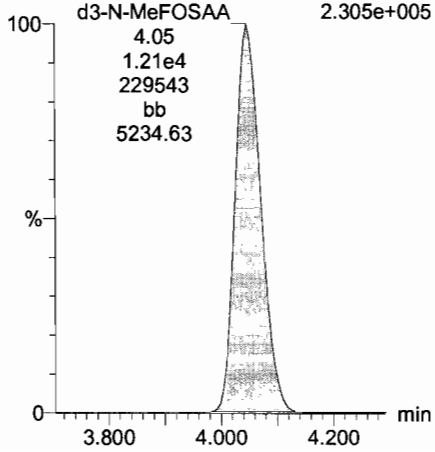




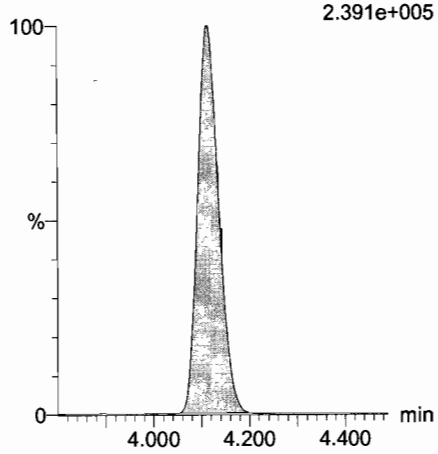
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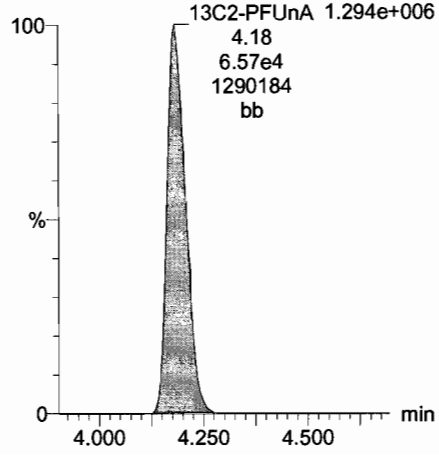
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d5-N-EtFOSAA



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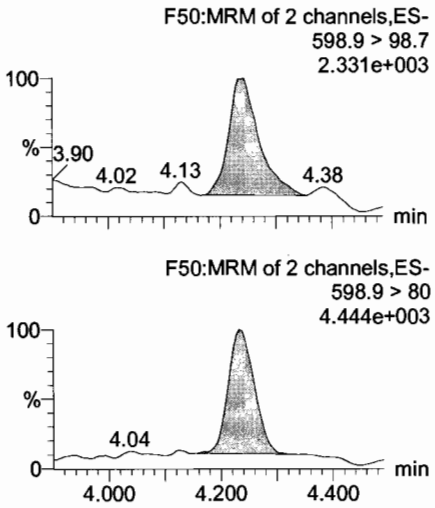


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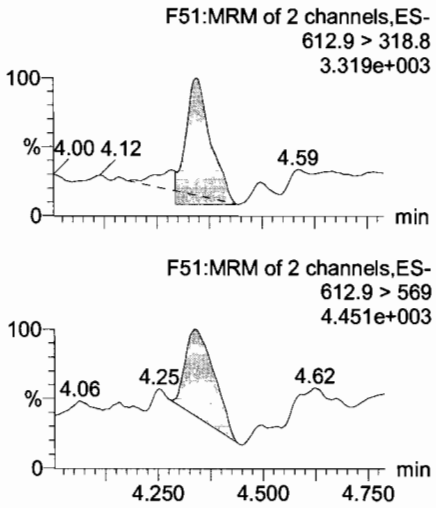
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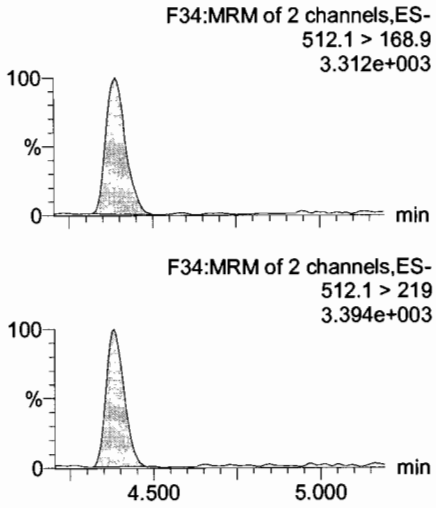
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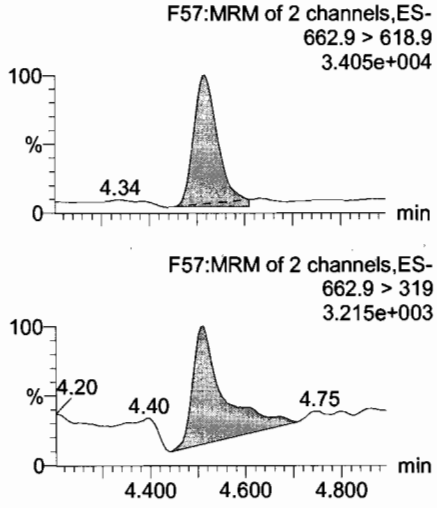
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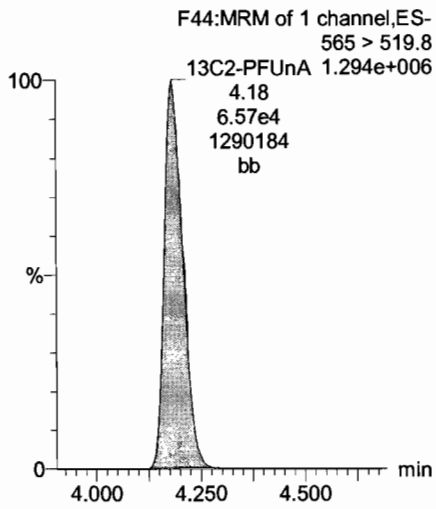
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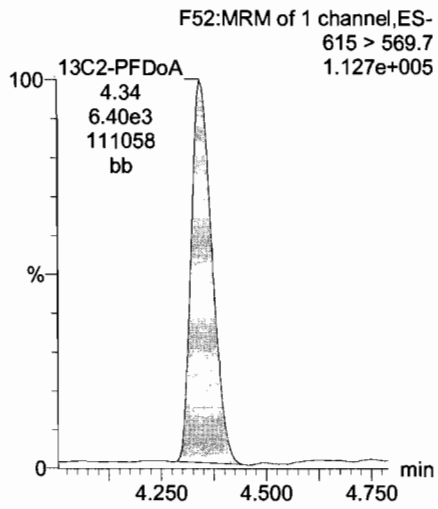
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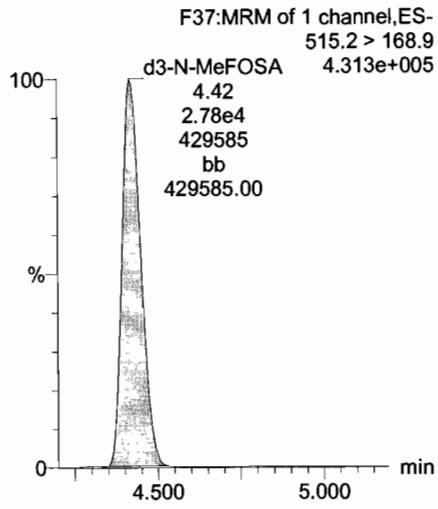
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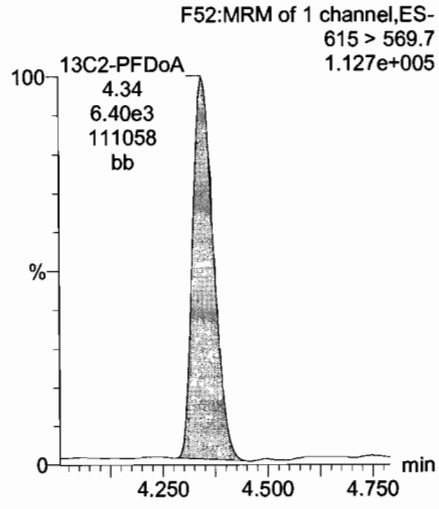
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d3-N-MeFOSA



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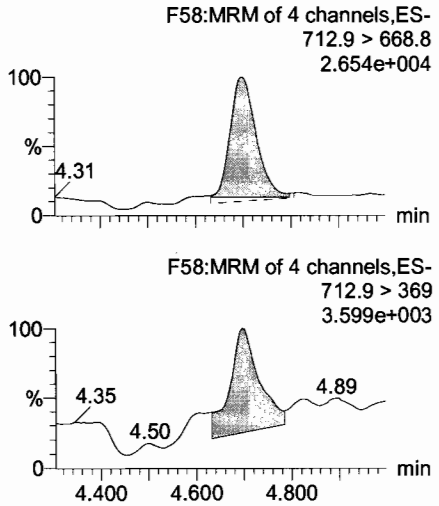


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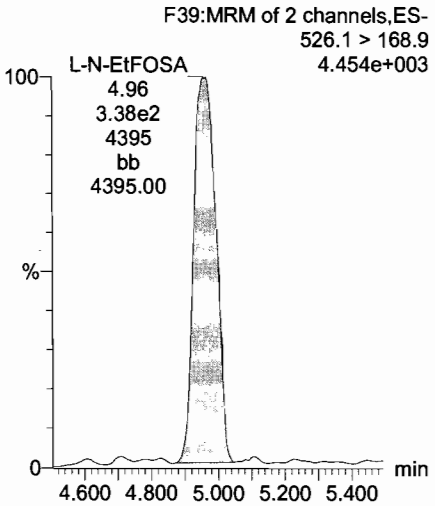
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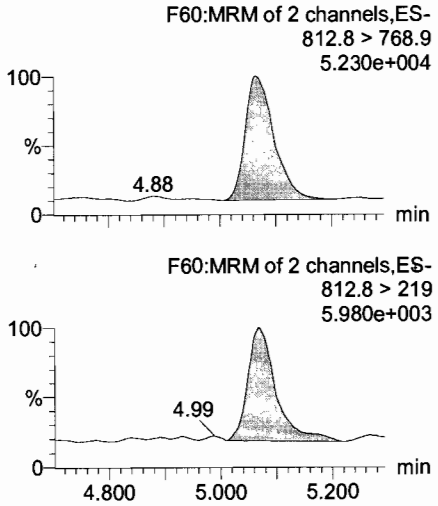
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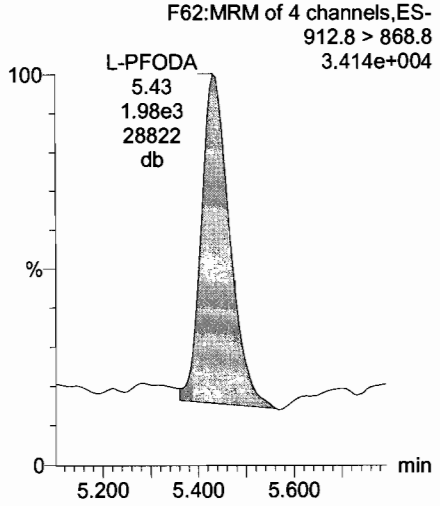
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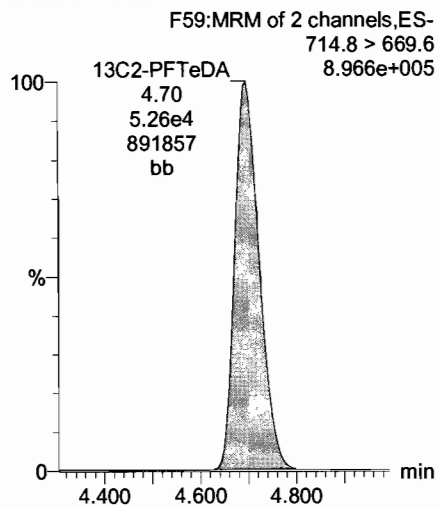
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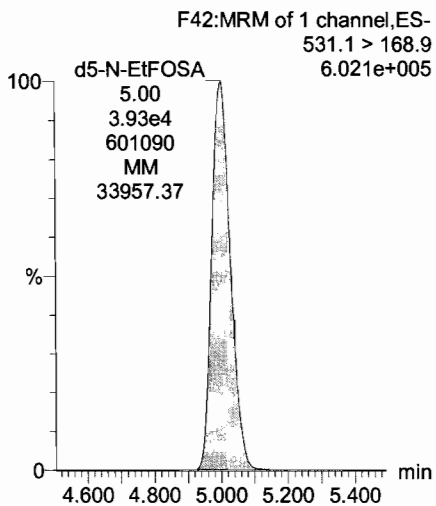
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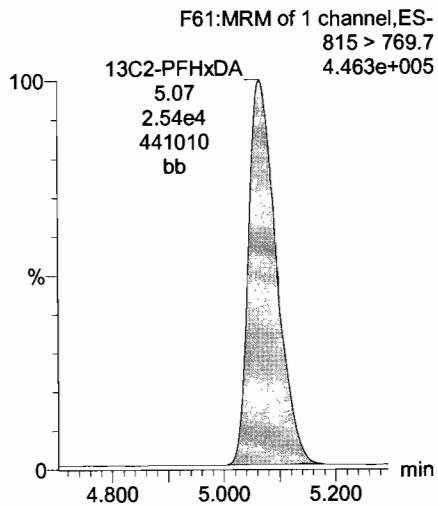
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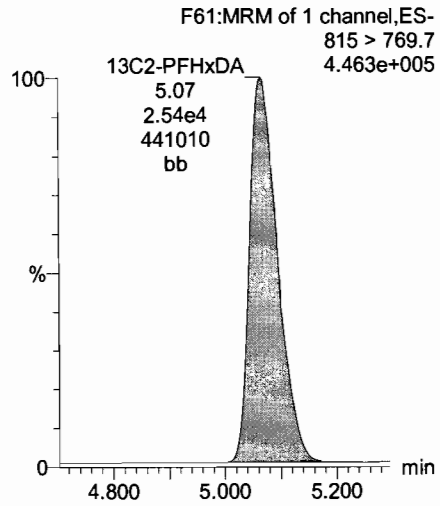
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13C2-PFHxDA



13C2-PFHxDA

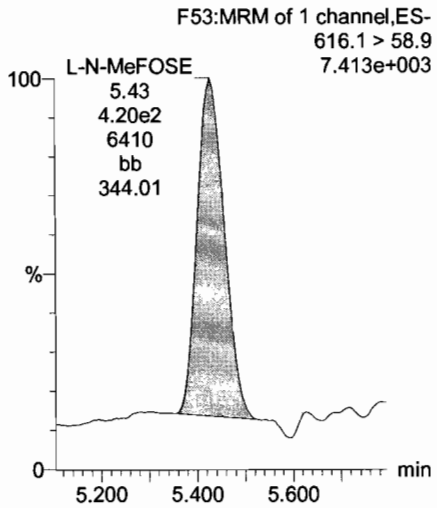


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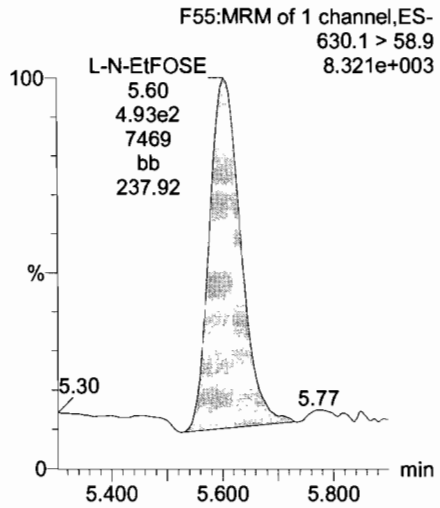
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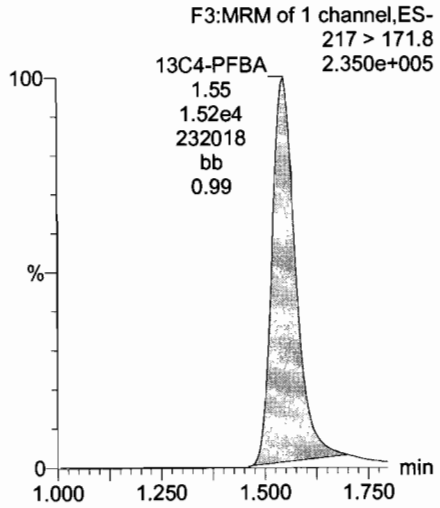
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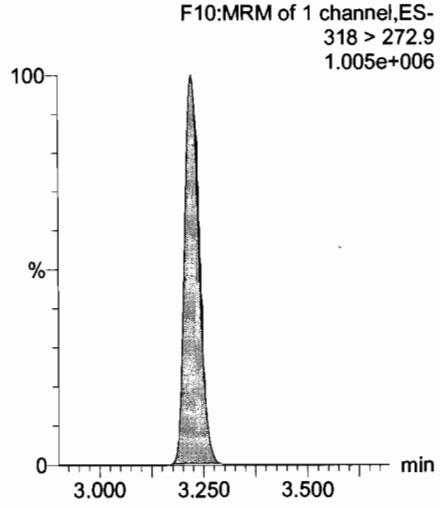
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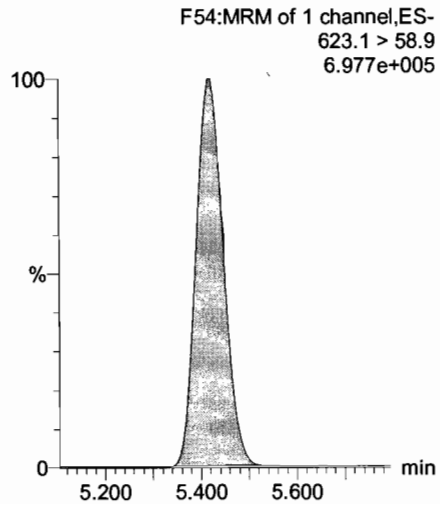
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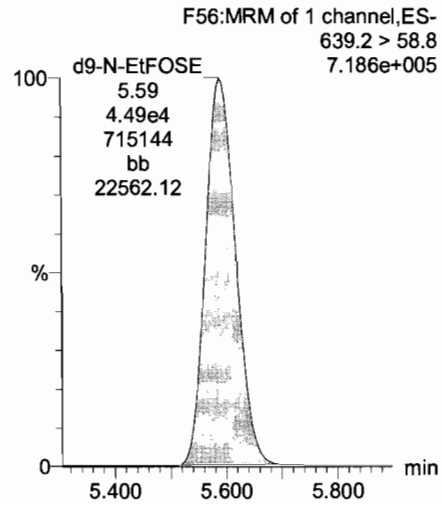
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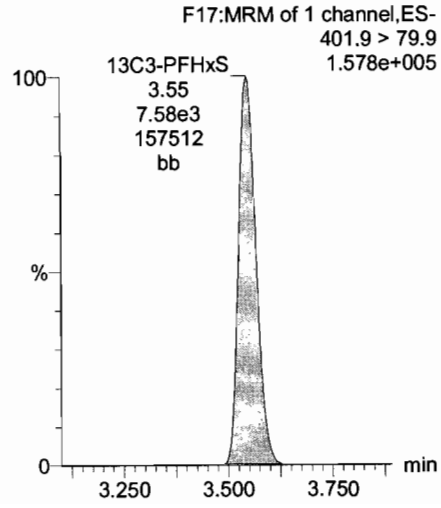
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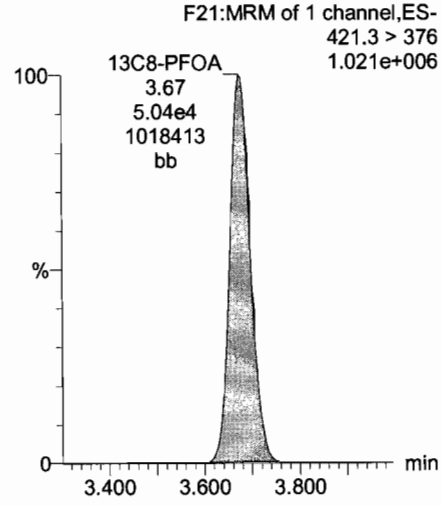
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13C3-PFHxS



13C8-PFOA

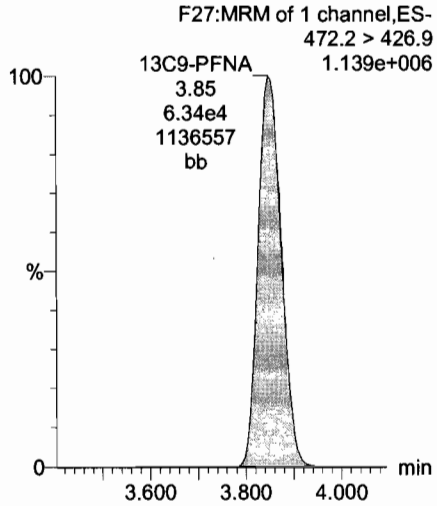


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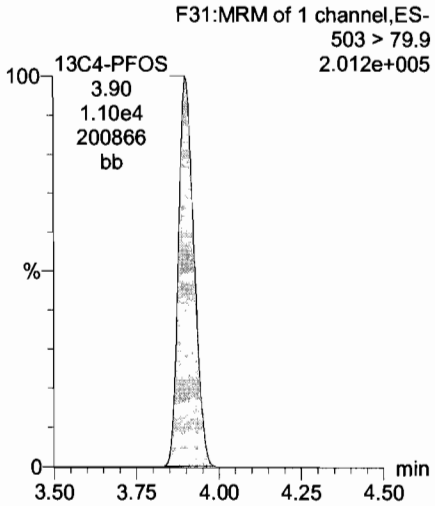
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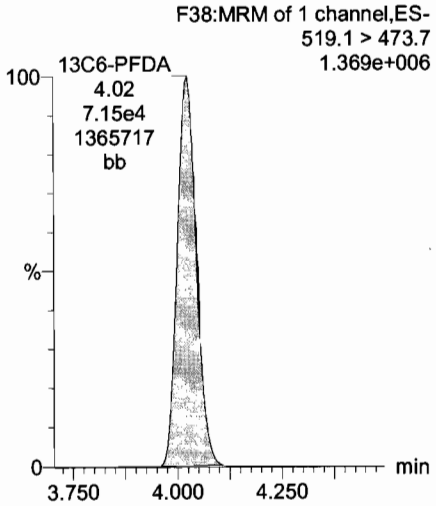
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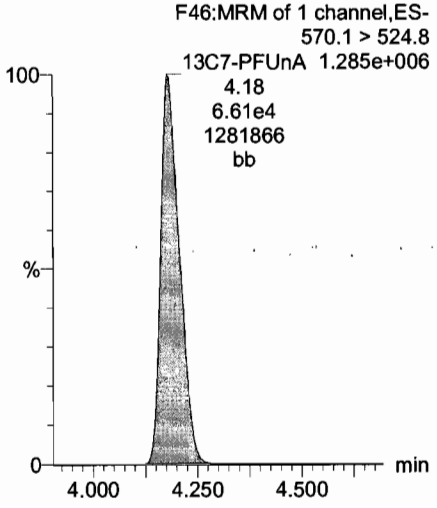
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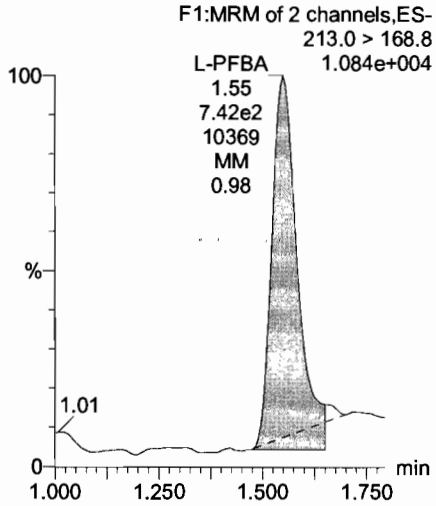


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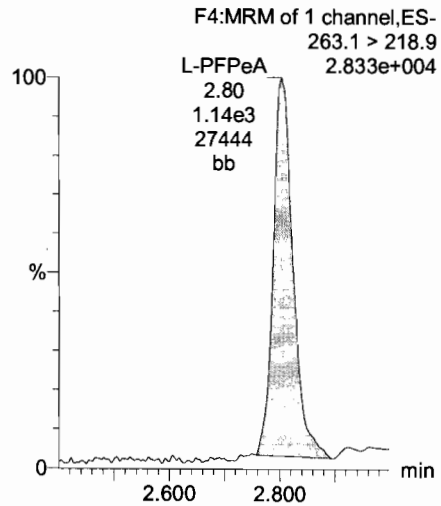
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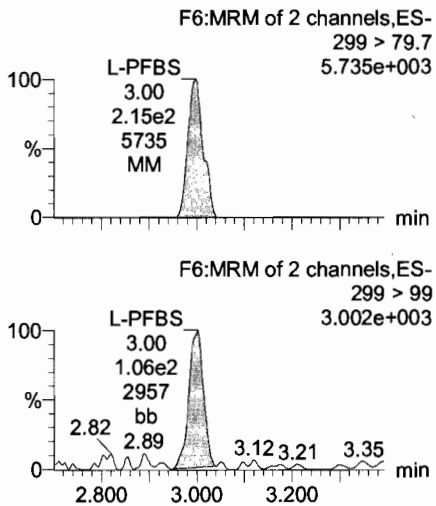
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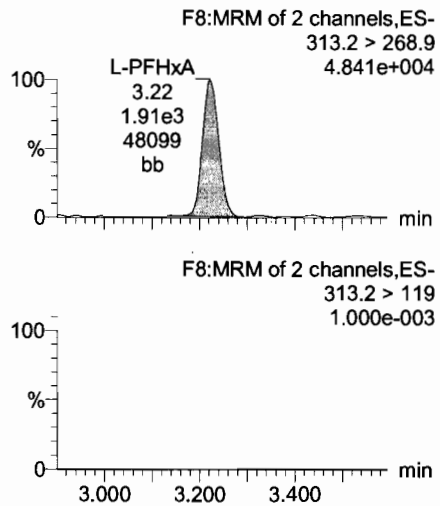
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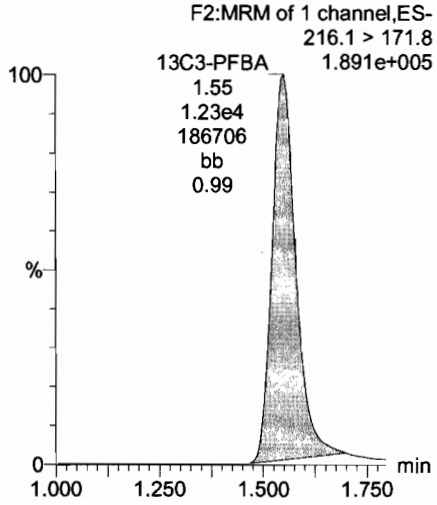
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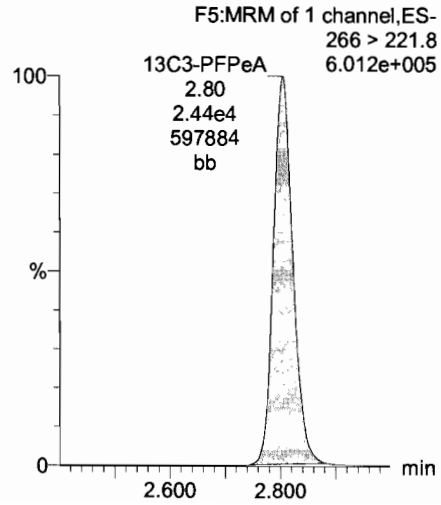
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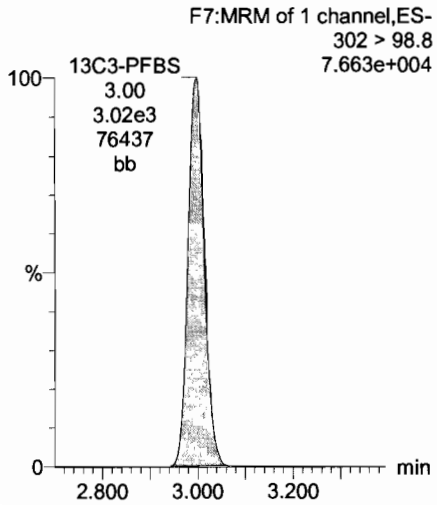
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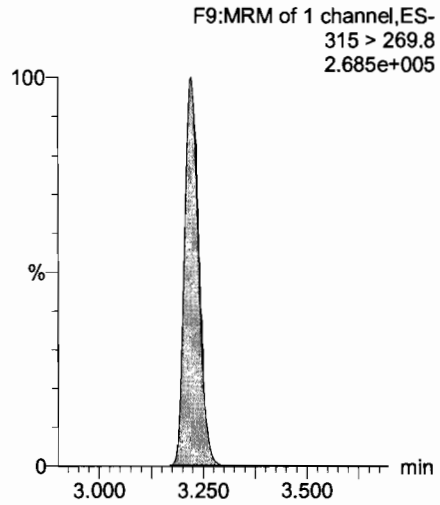
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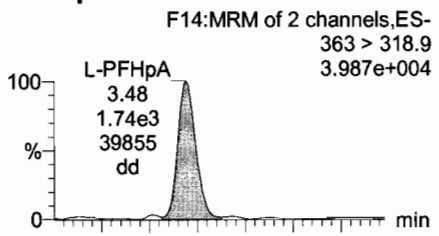


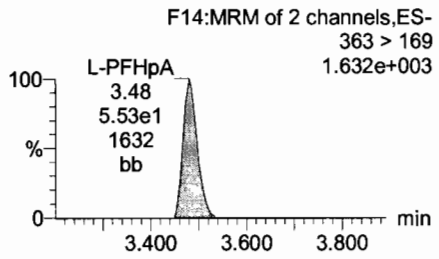
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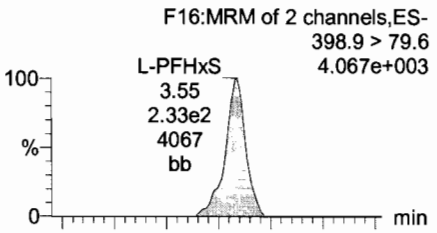
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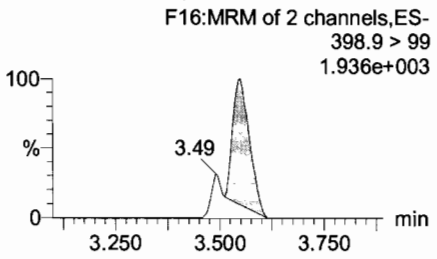
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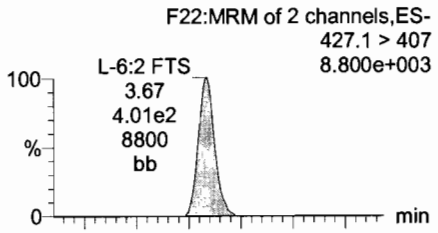


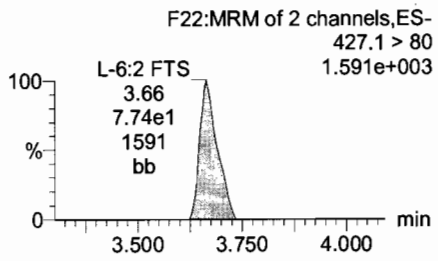
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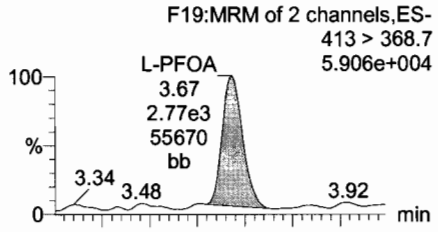


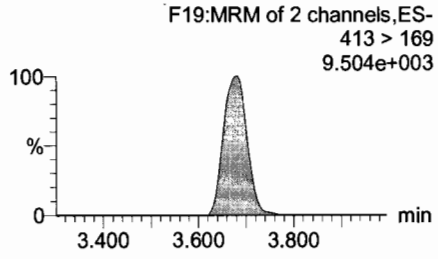
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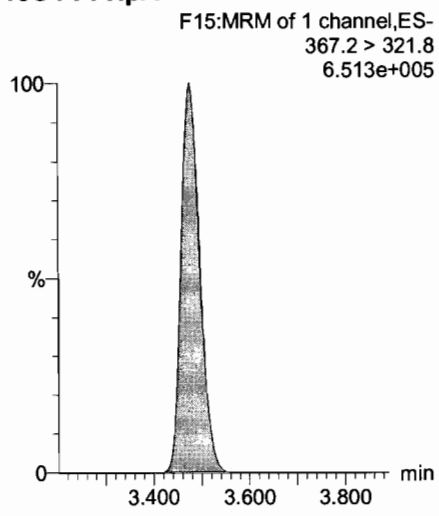


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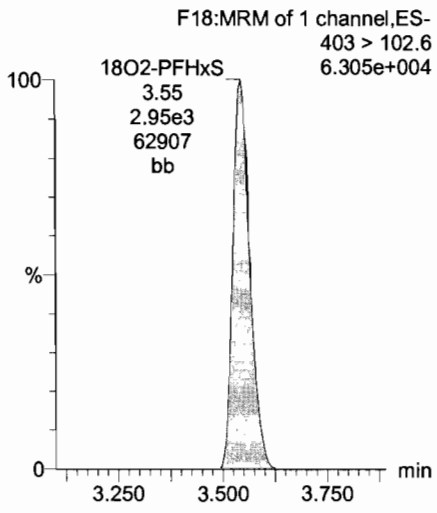




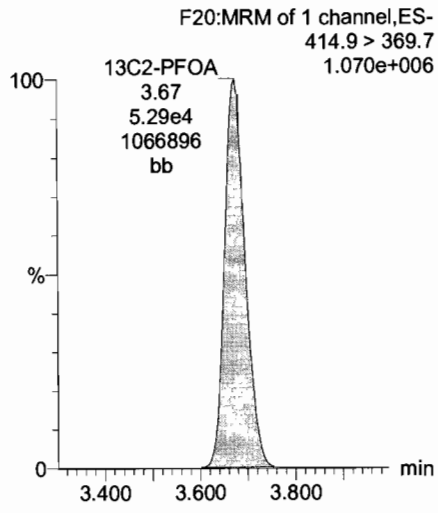
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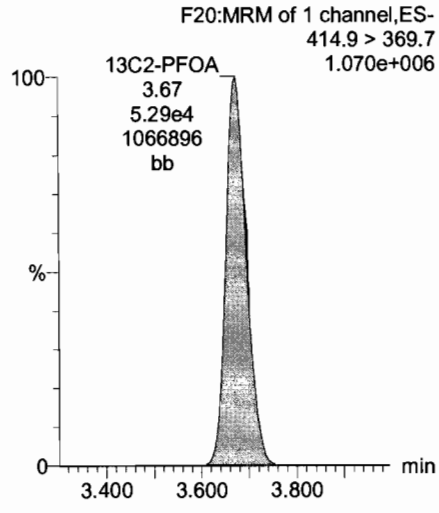
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13C2-PFOA



13C2-PFOA

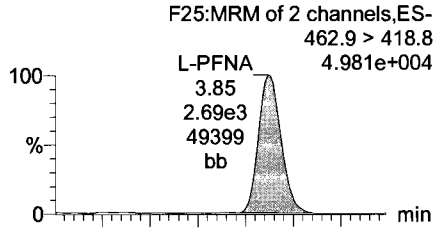


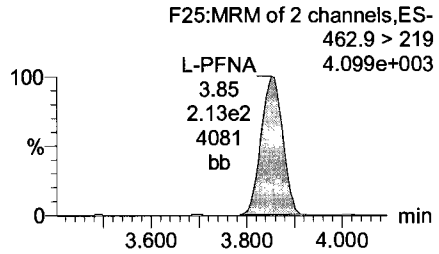
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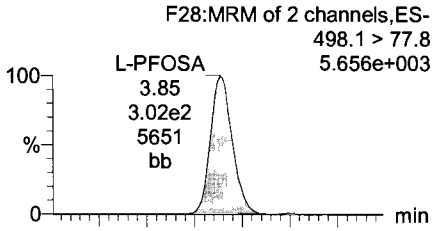
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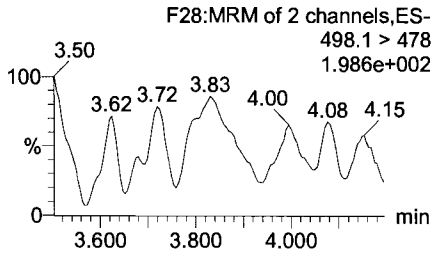
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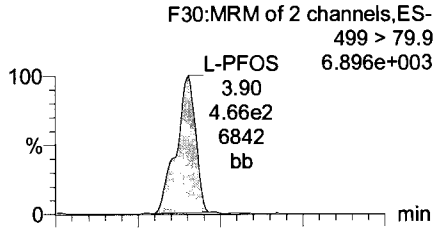


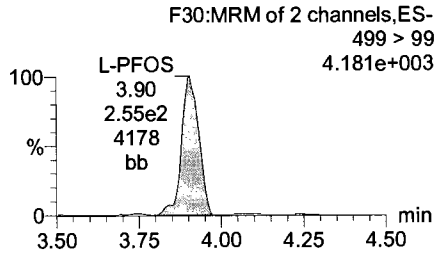
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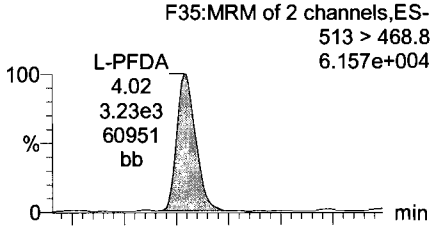


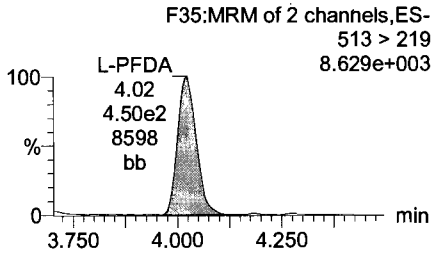
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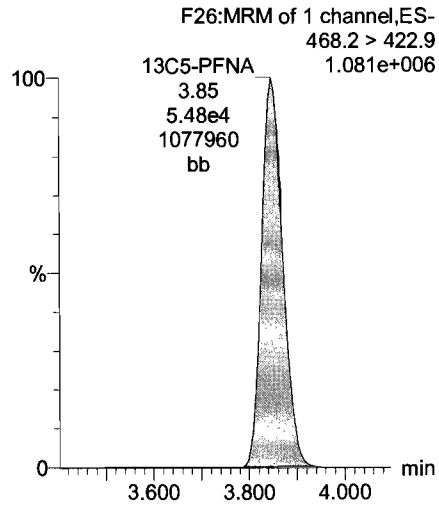


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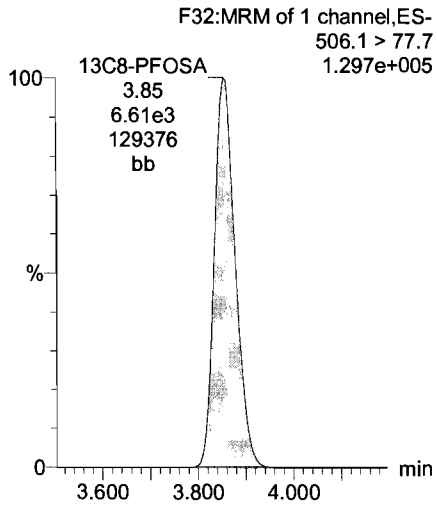




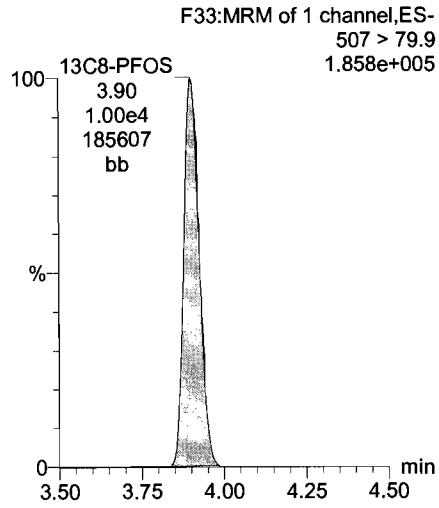
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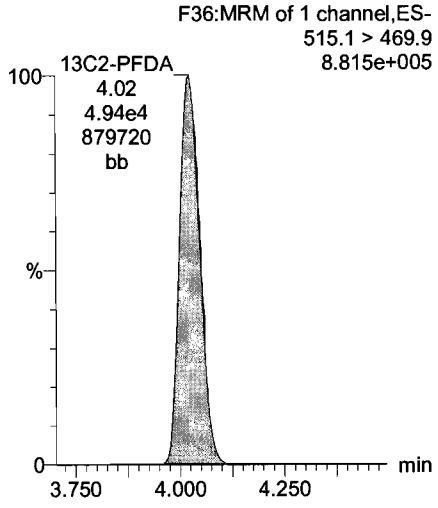
13C8-PFOSA



13C8-PFOS



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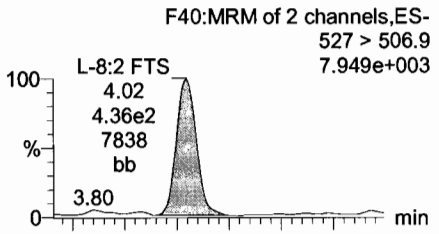


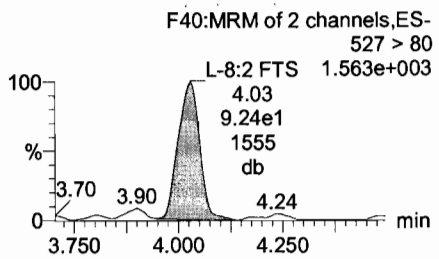
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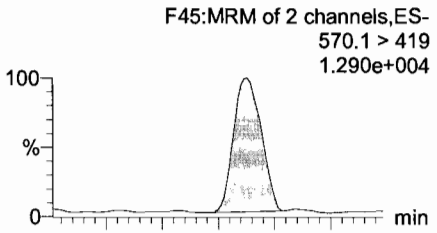
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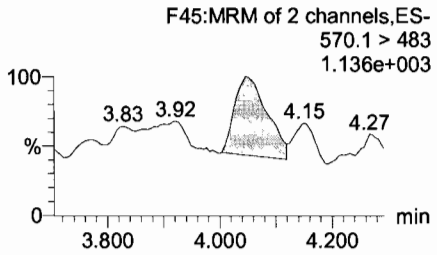
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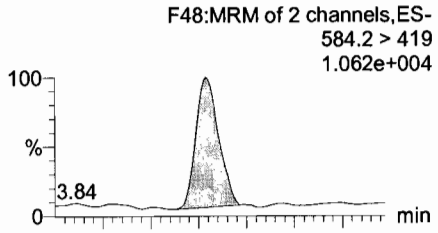


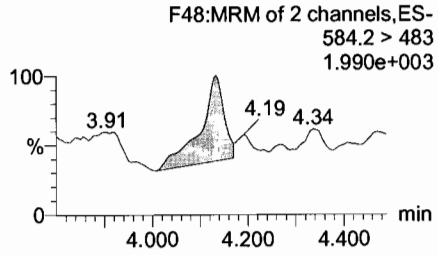
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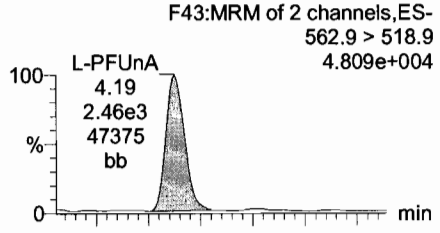


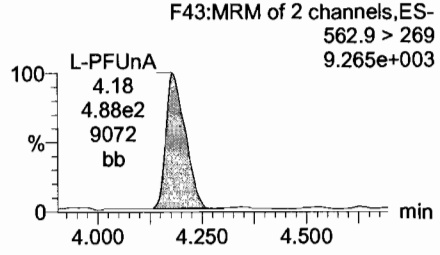
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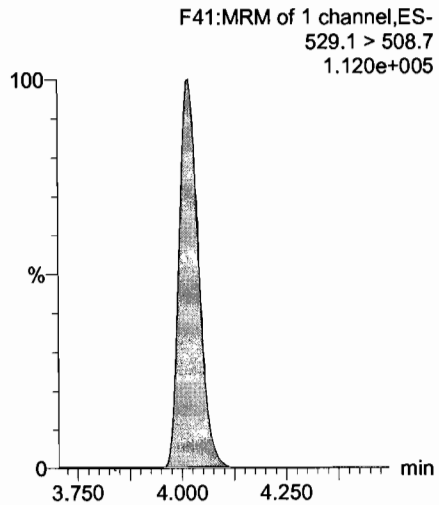


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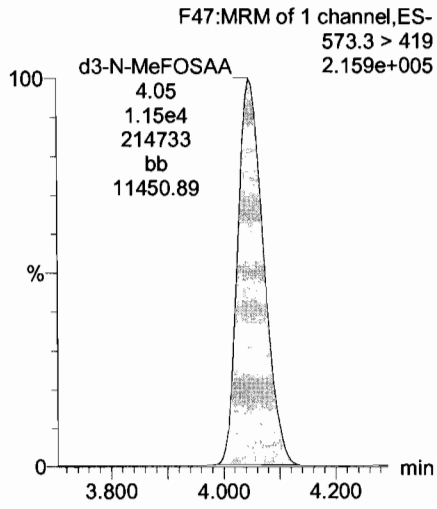




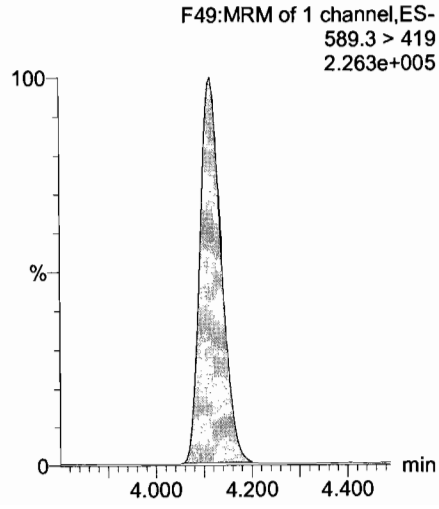
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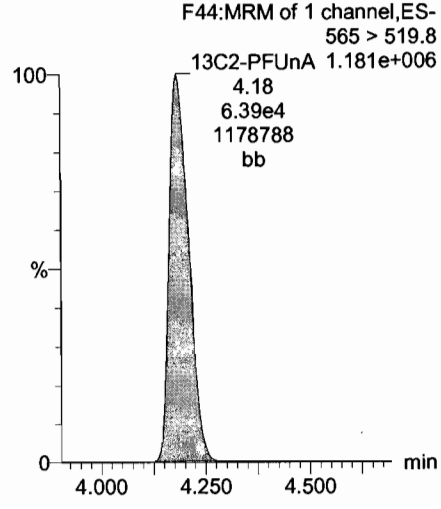
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d5-N-EtFOSAA



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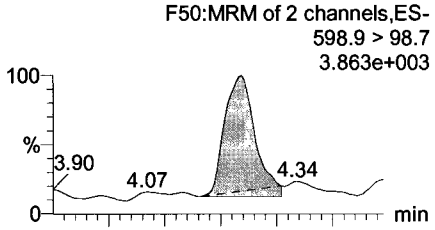


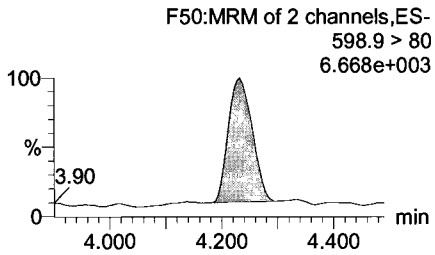
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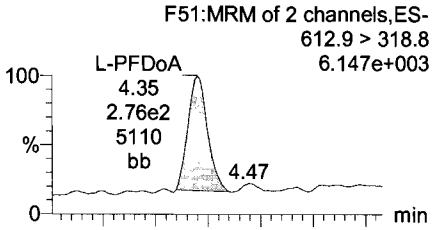
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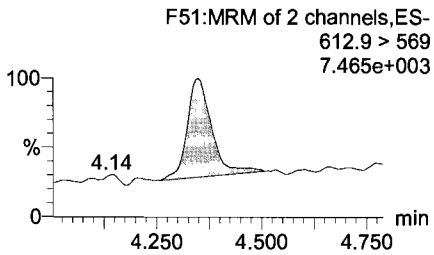
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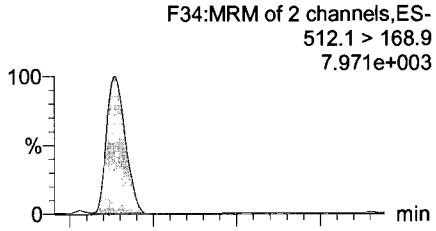


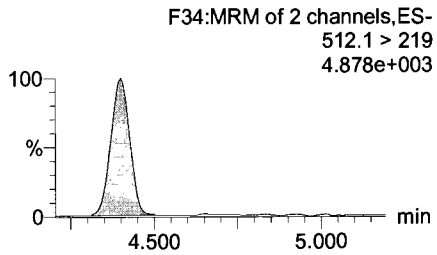
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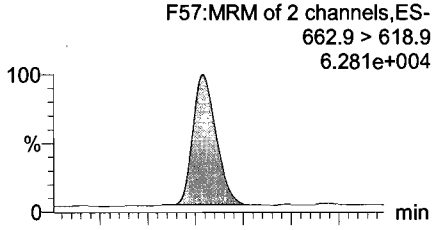


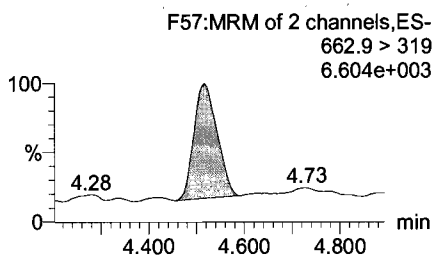
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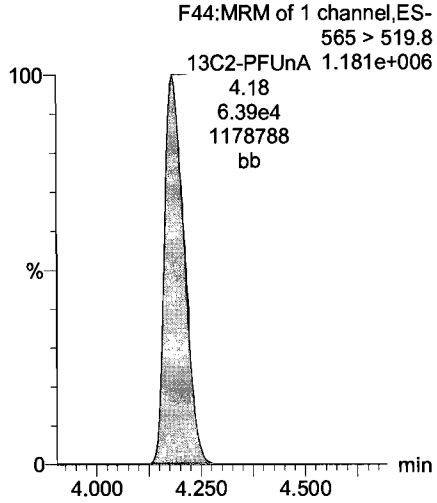


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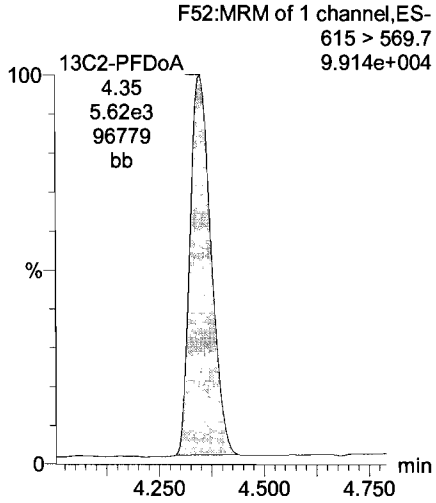




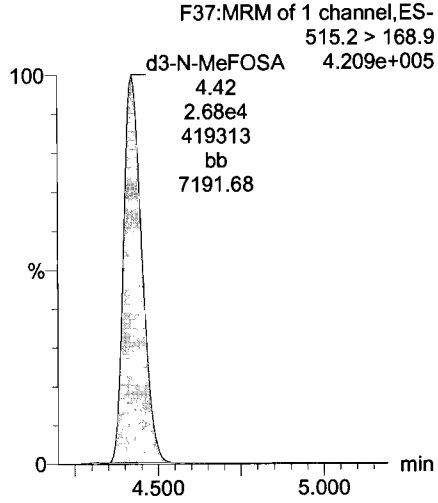
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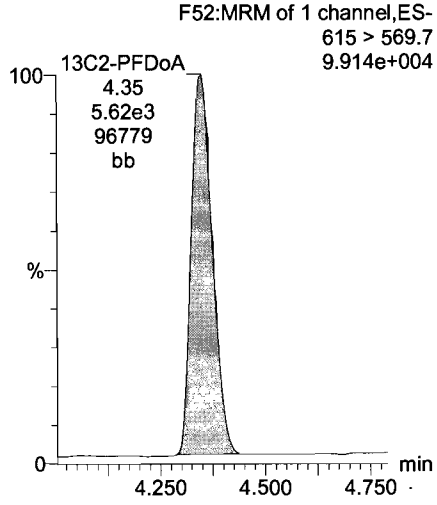
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d3-N-MeFOSA



13C2-PFDoA

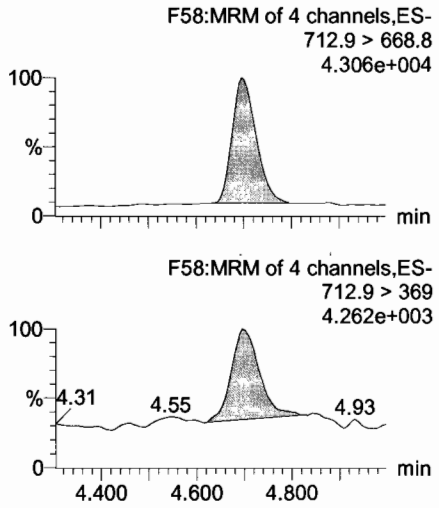


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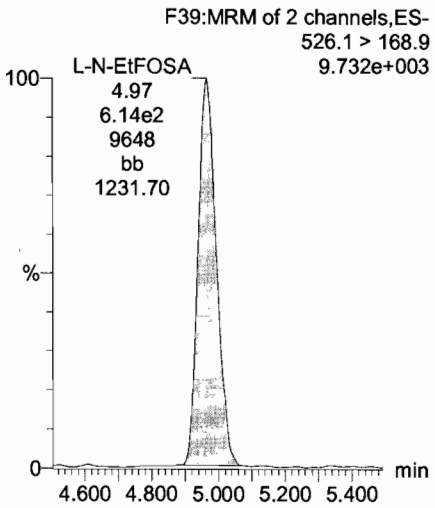
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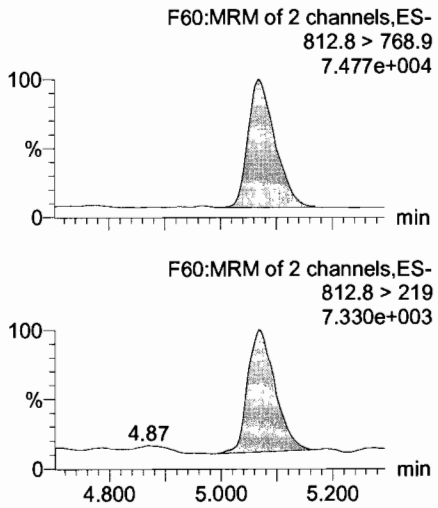
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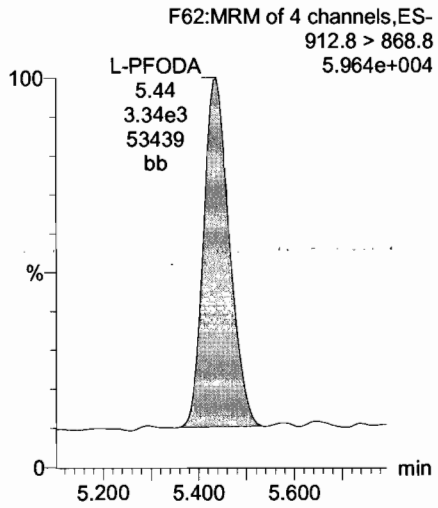
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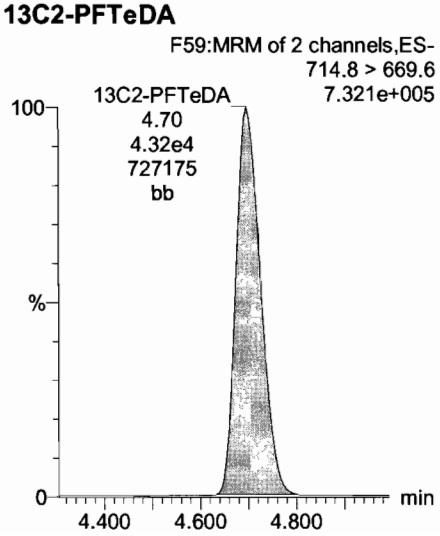
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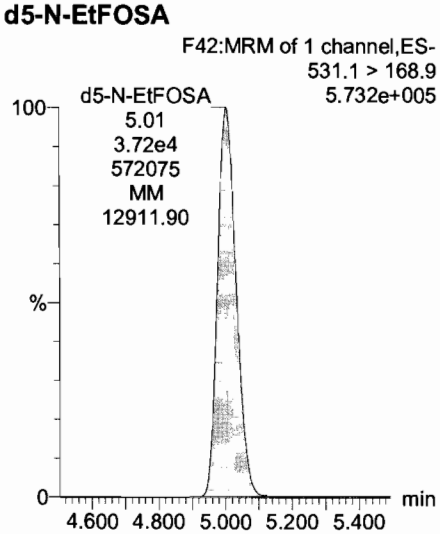
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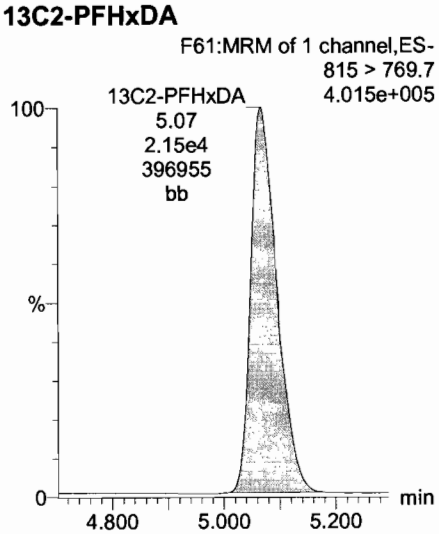
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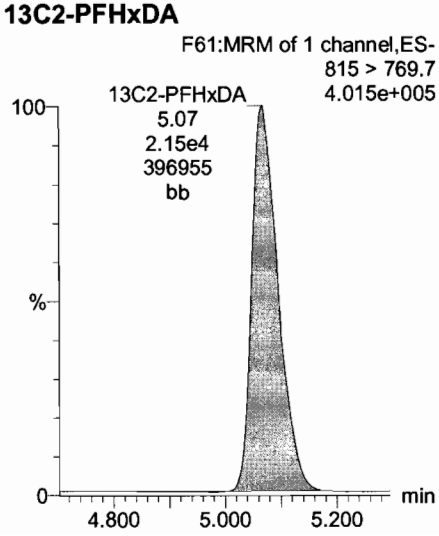
d5-N-EtFOSA



13C2-PFHxDA



13C2-PFHxDA

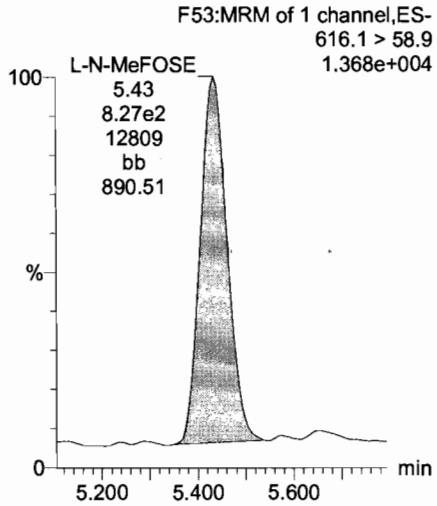


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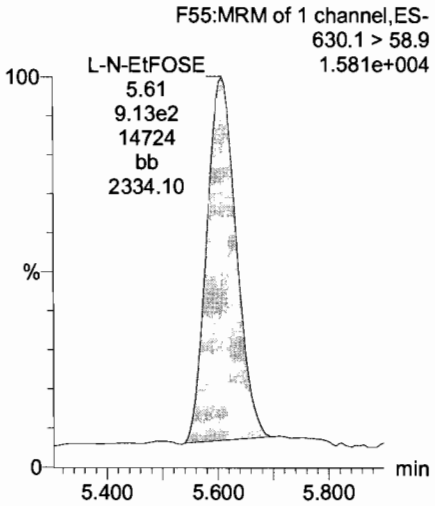
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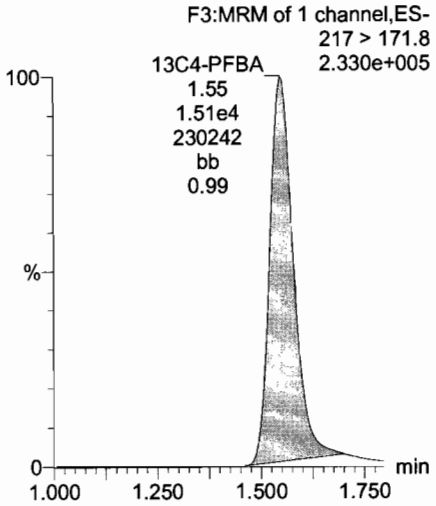
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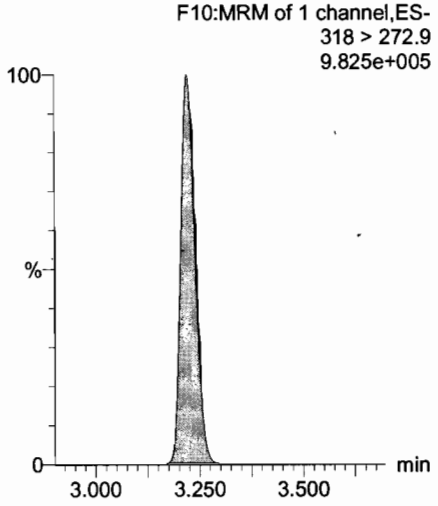
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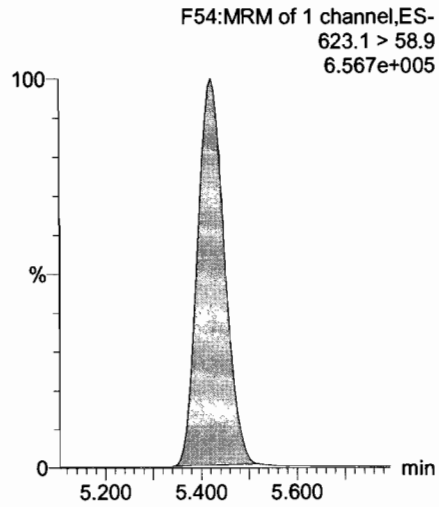
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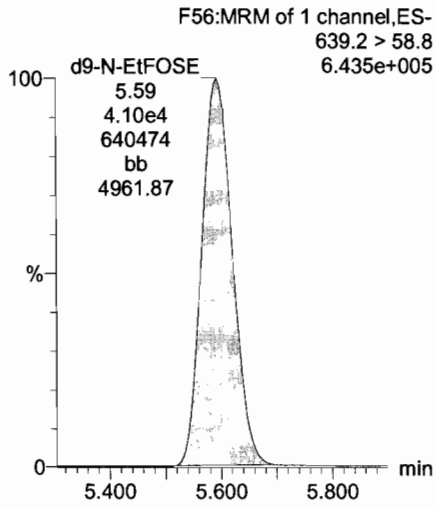
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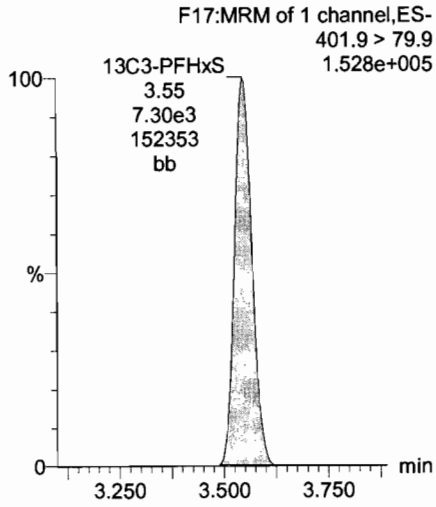
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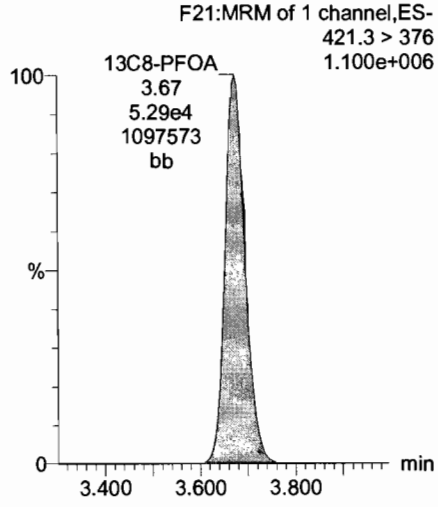
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13C3-PFHxS



13C8-PFOA

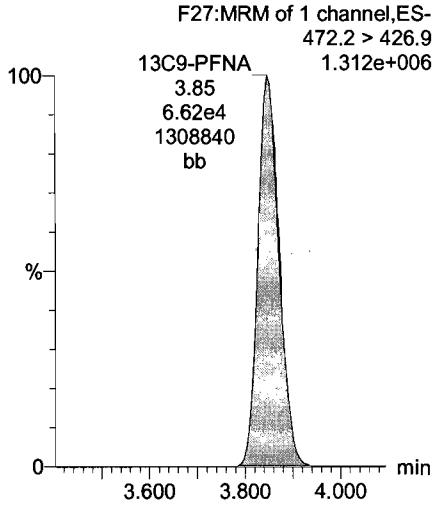


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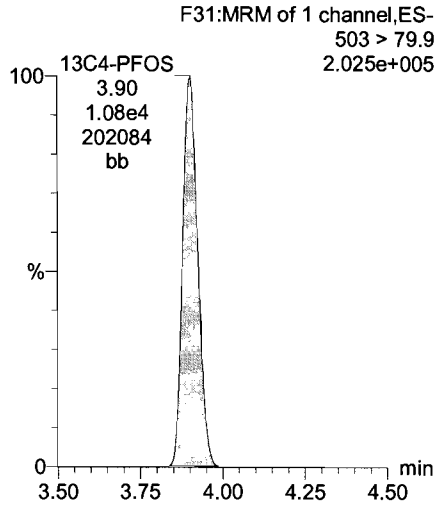
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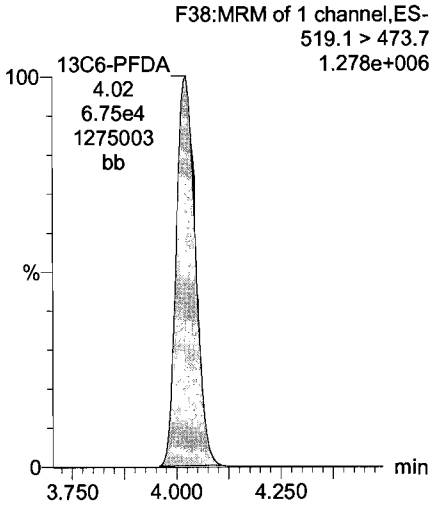
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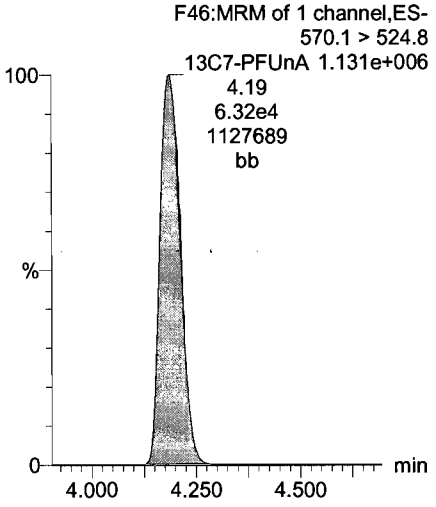
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13C6-PFDA



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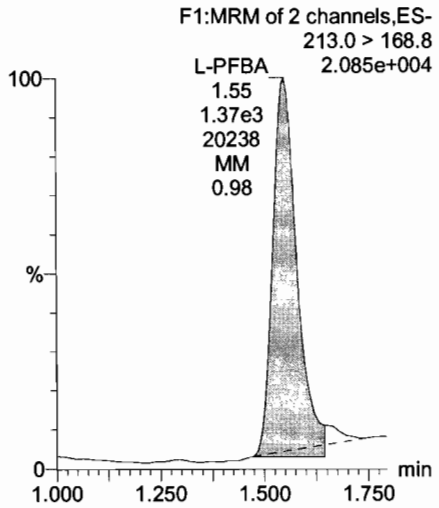


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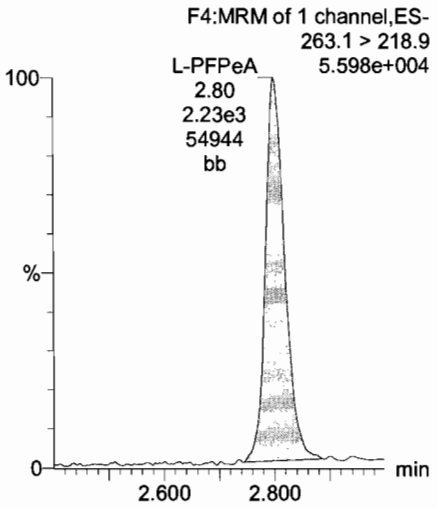
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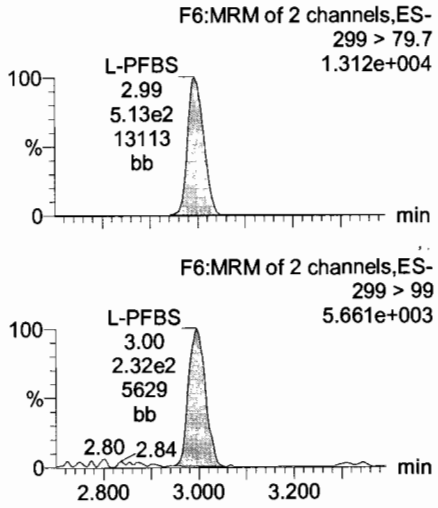
L-PFBA



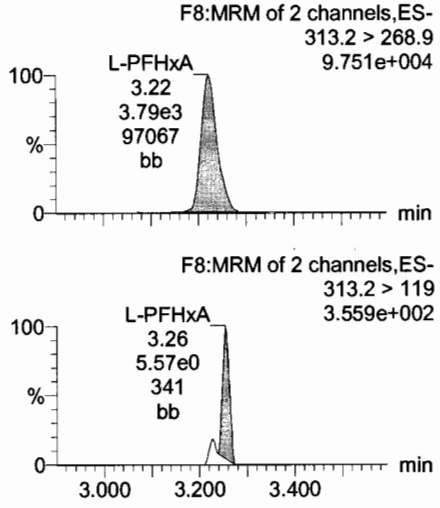
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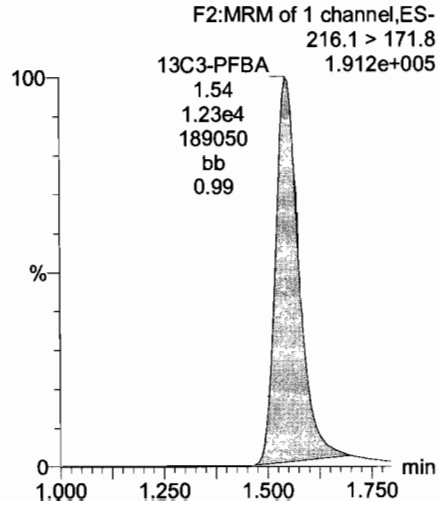
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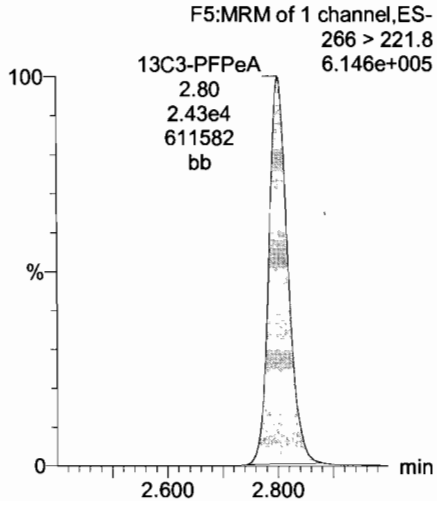
L-PFHxA



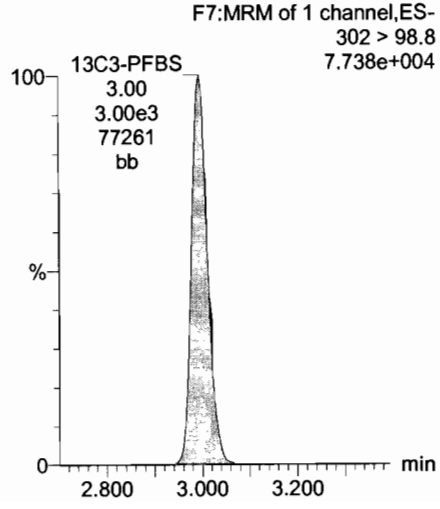
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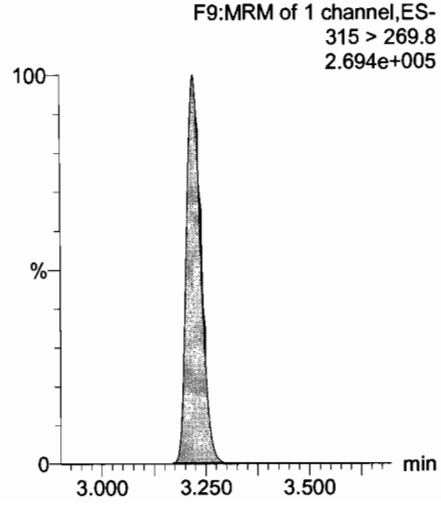
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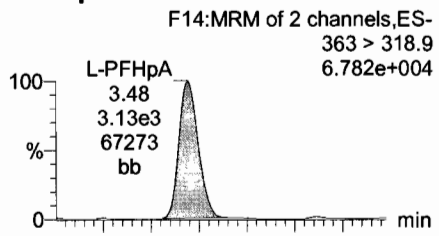


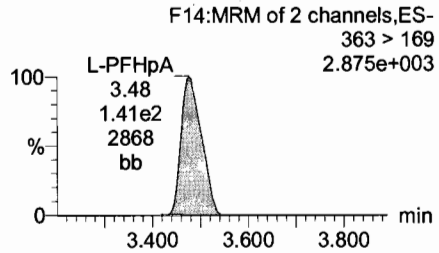
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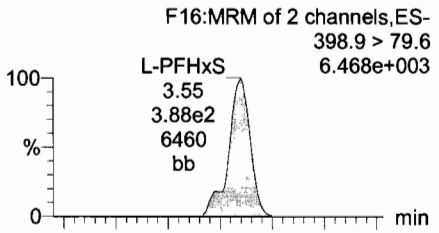
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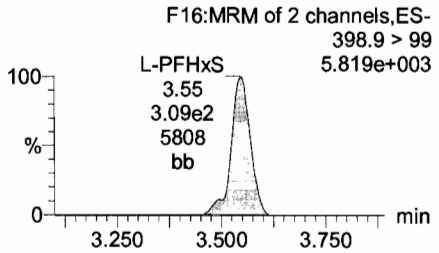
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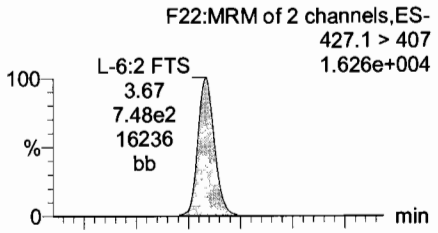


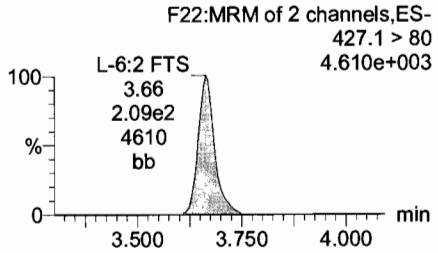
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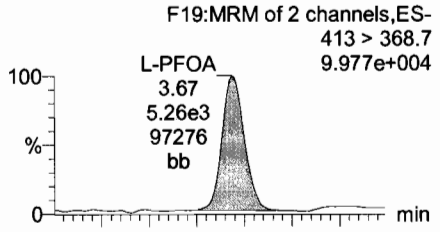


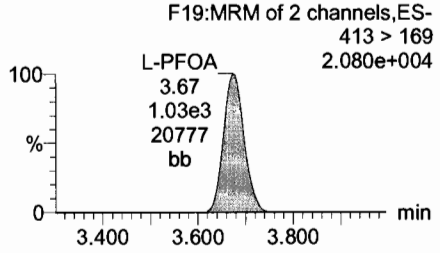
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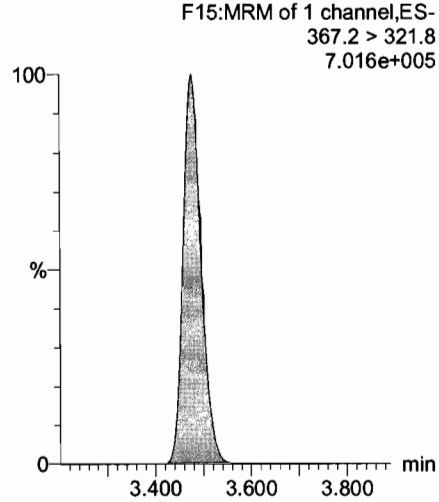


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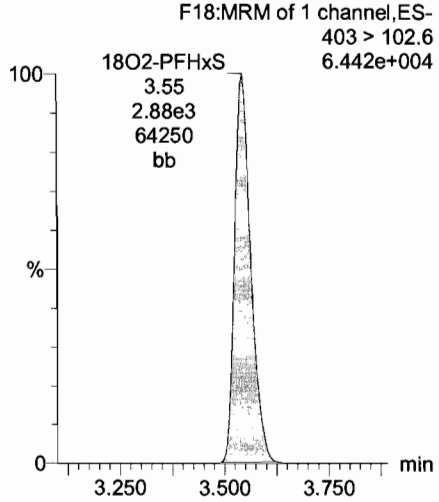




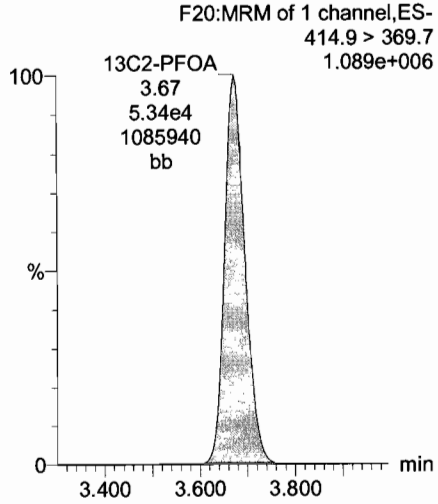
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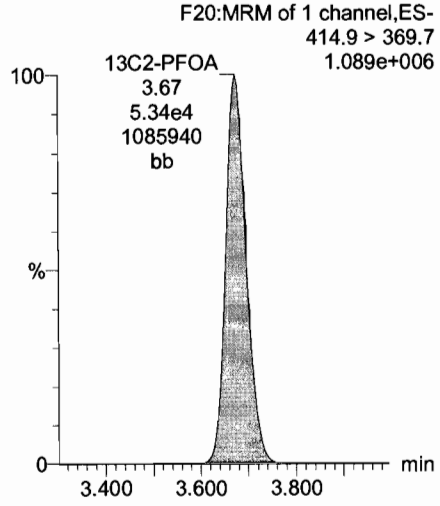
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13C2-PFOA



13C2-PFOA

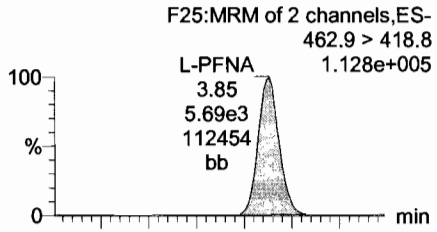


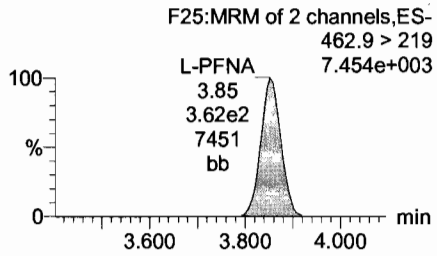
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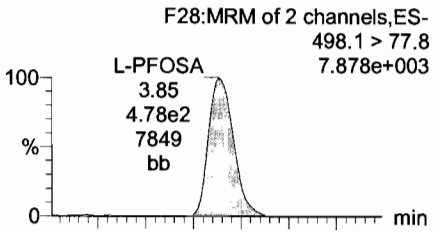
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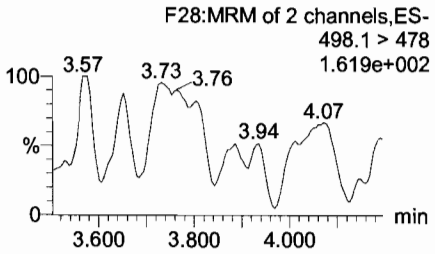
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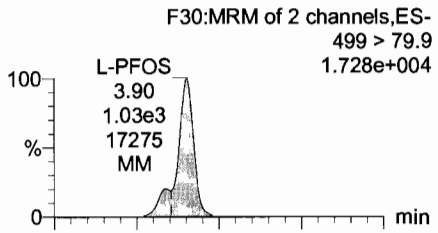


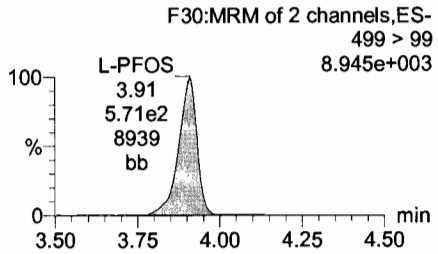
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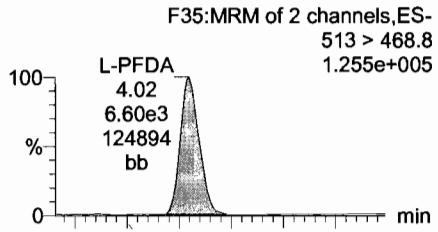


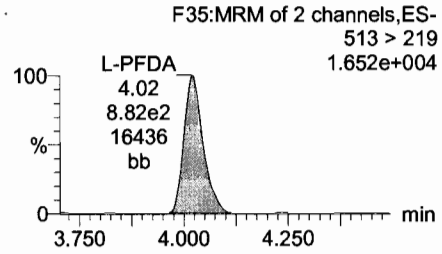
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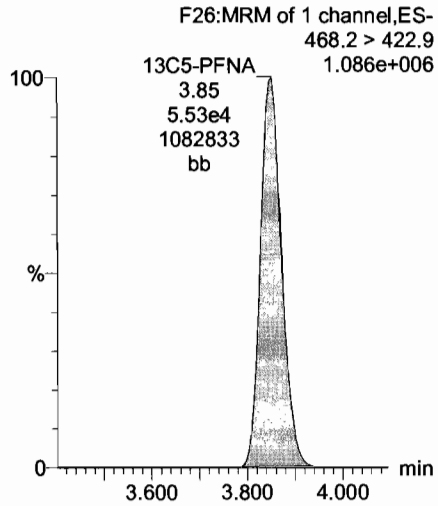


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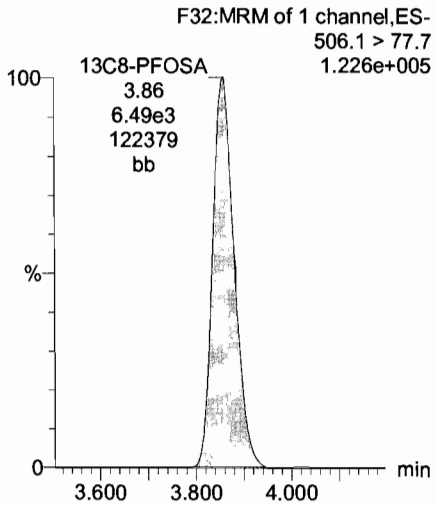




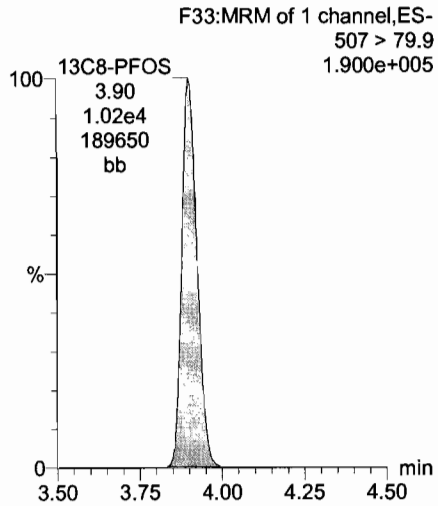
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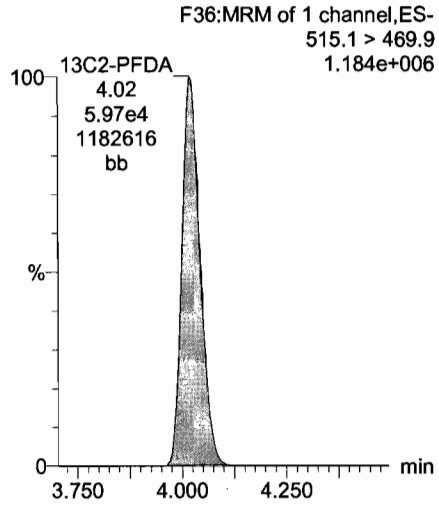
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13C8-PFOS



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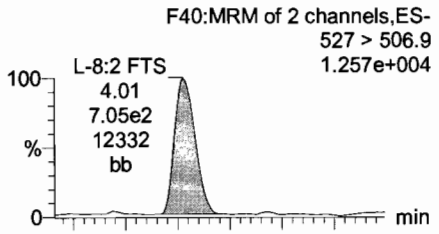


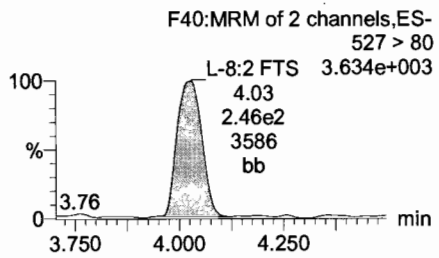
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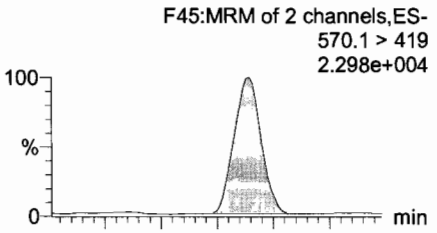
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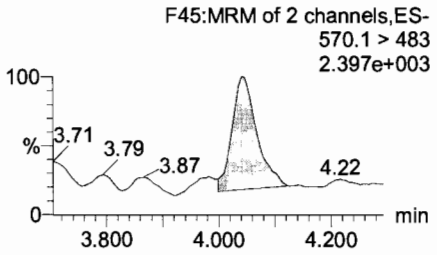
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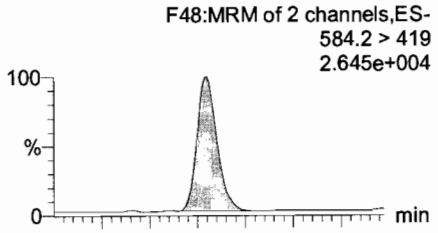


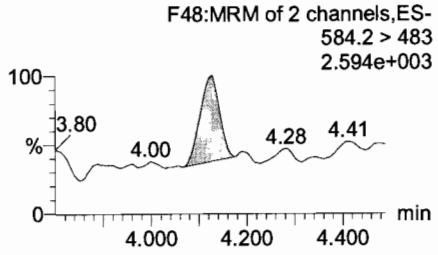
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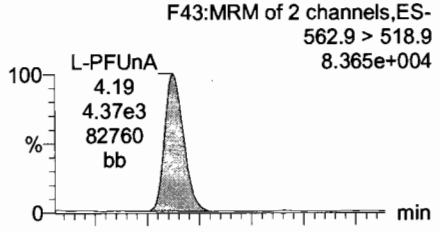


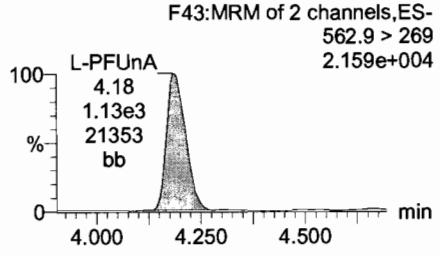
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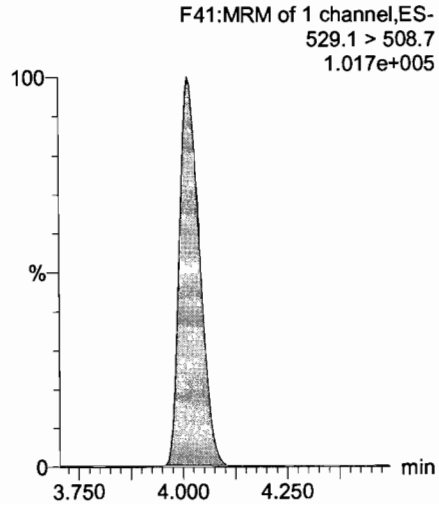


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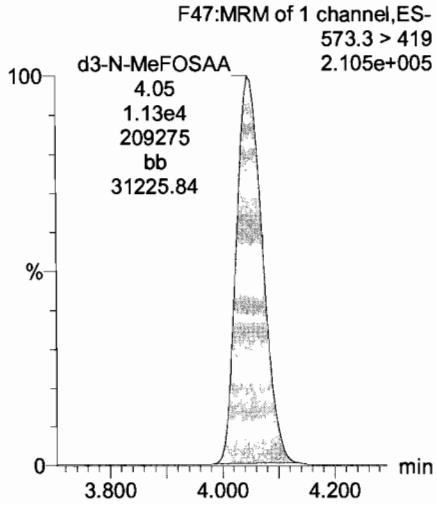




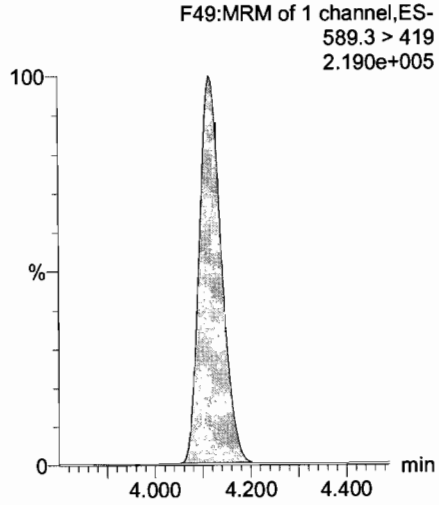
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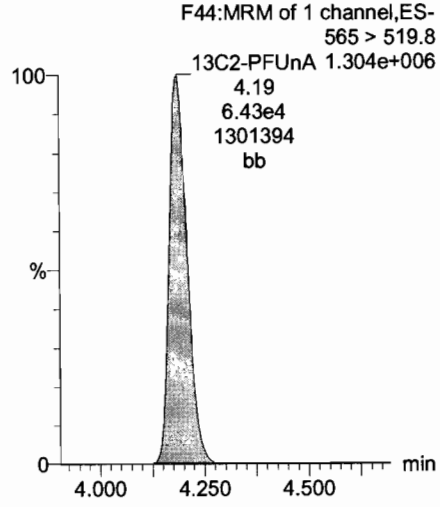
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d5-N-EtFOSAA



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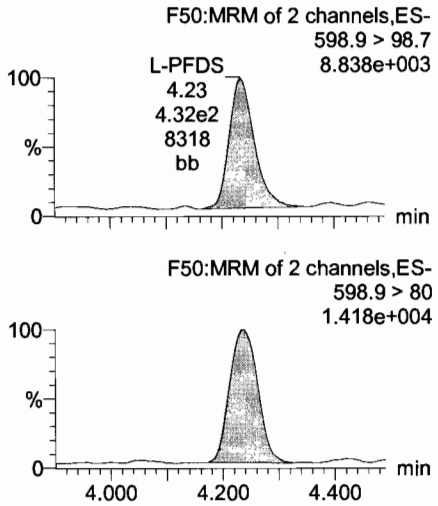


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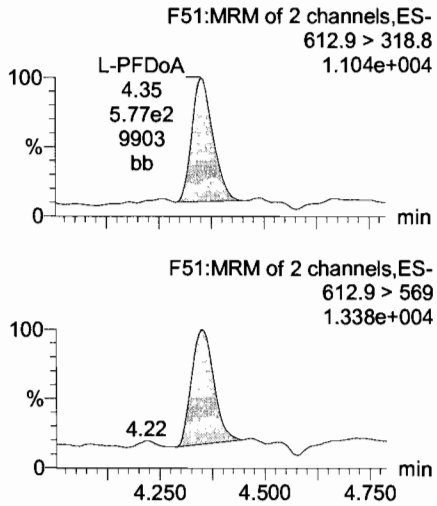
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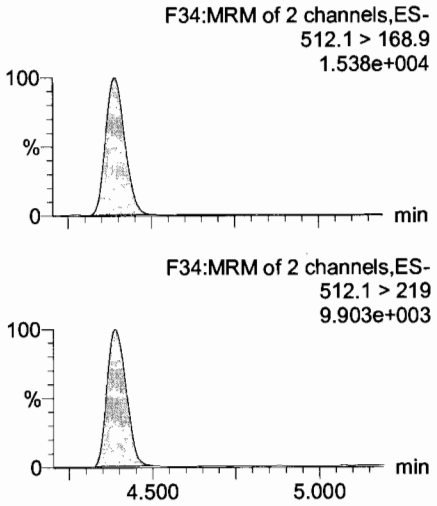
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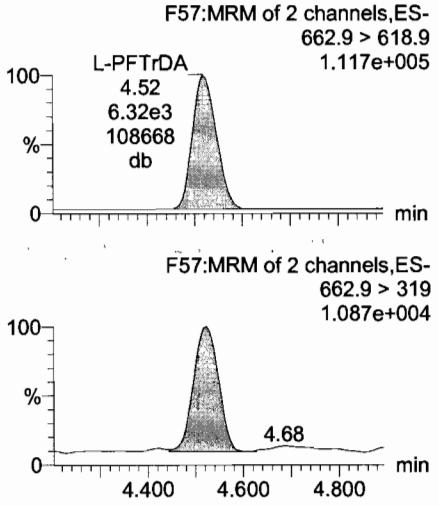
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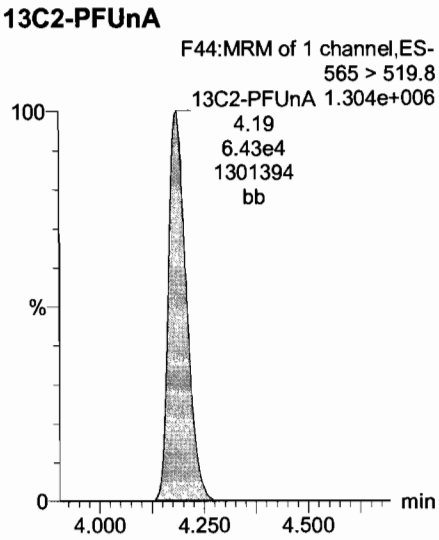
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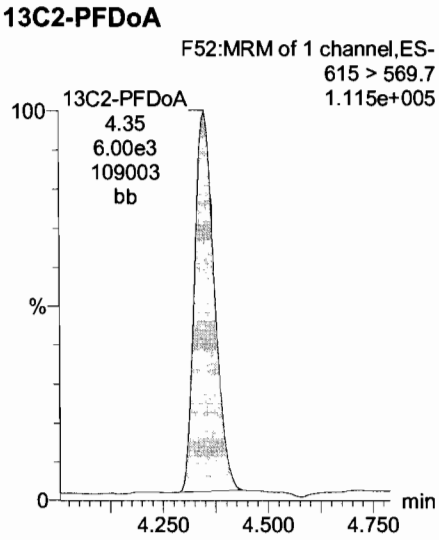
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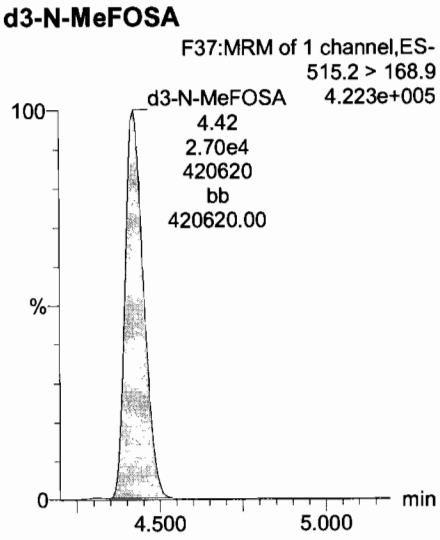
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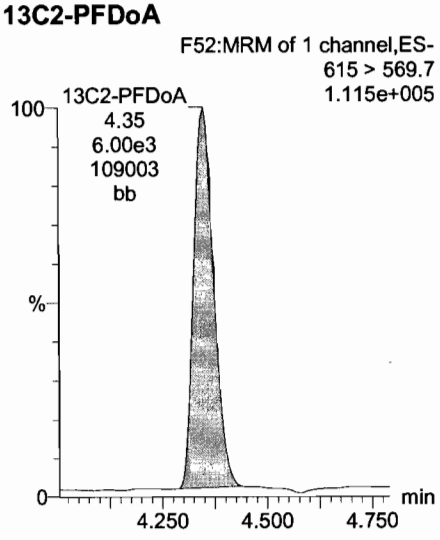
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d3-N-MeFOSA



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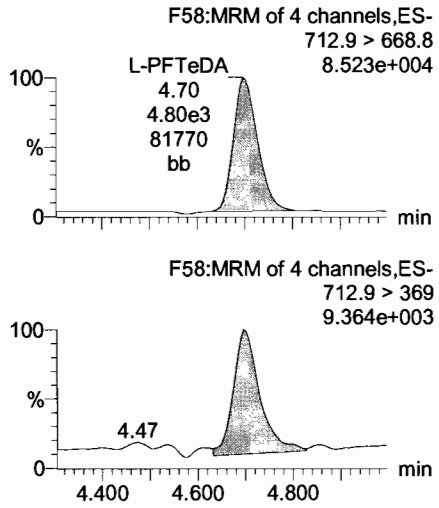


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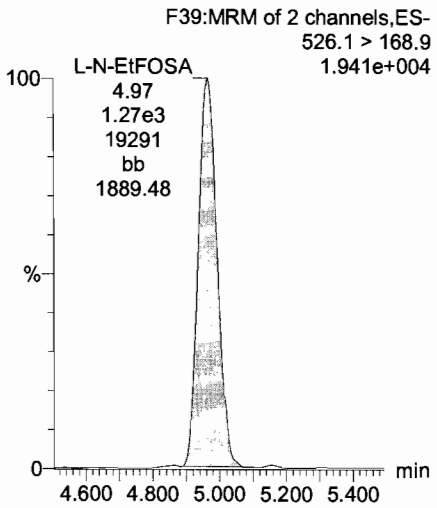
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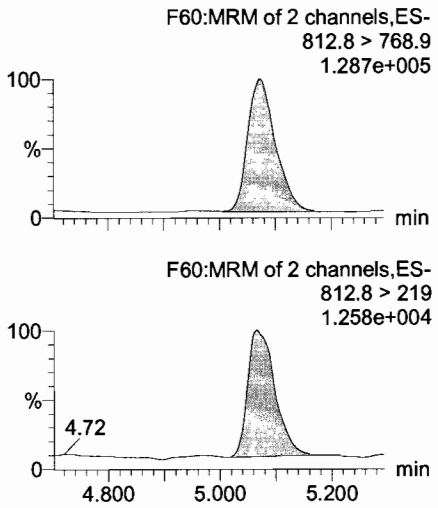
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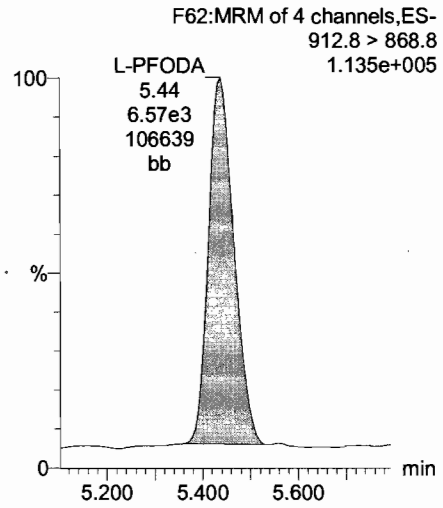
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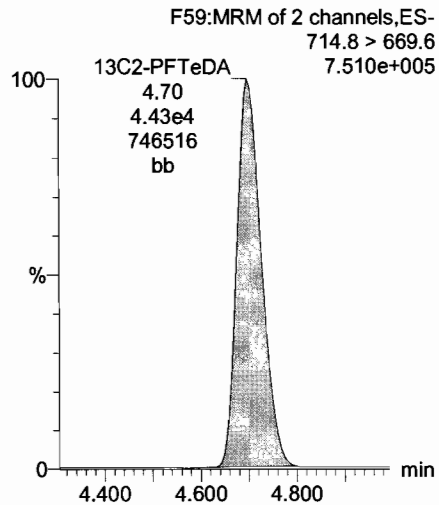
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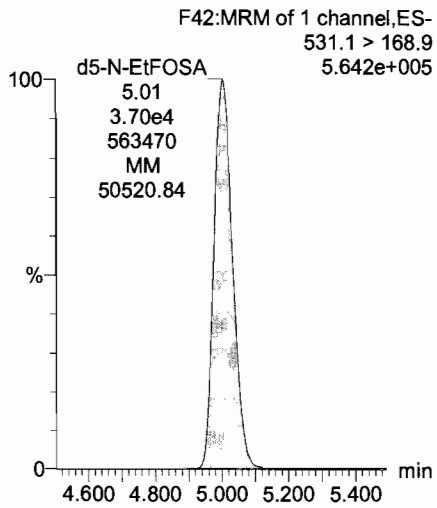
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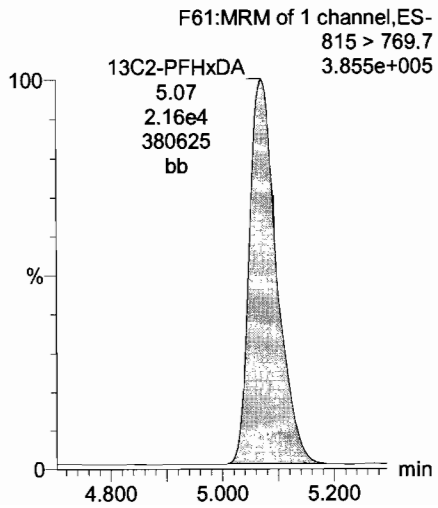
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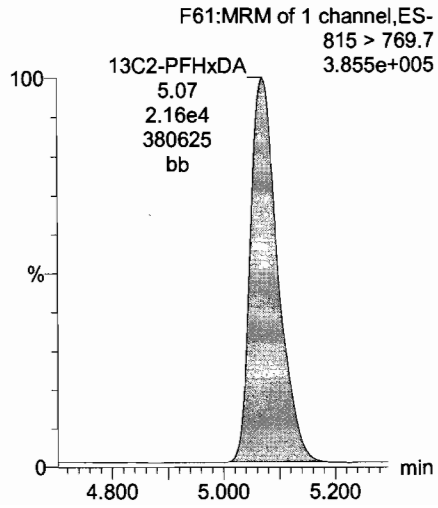
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13C2-PFHxDA



13C2-PFHxDA

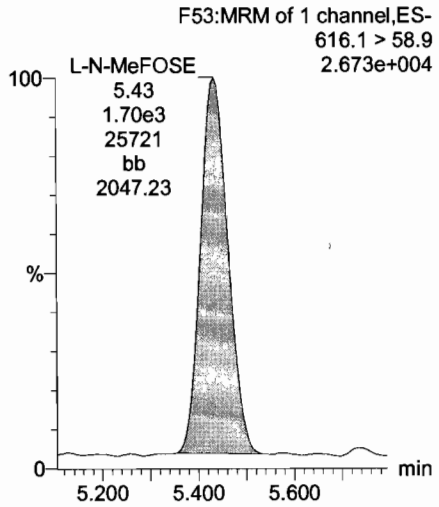


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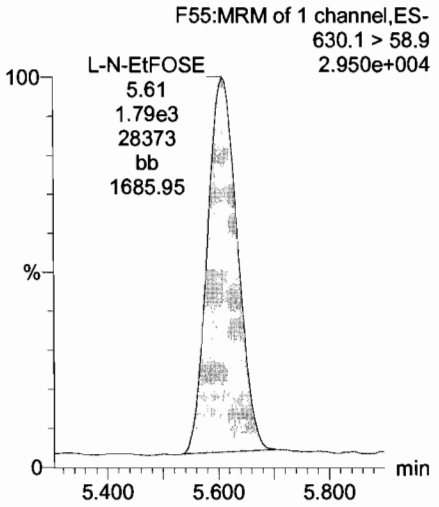
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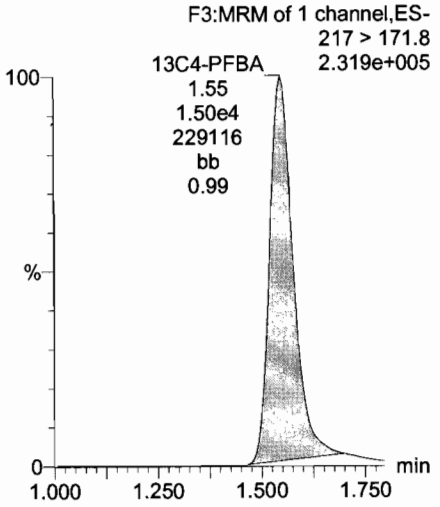
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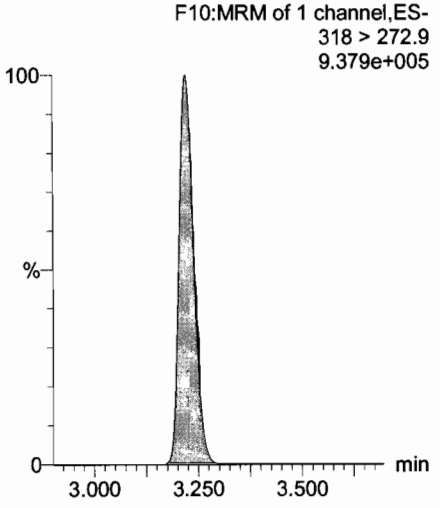
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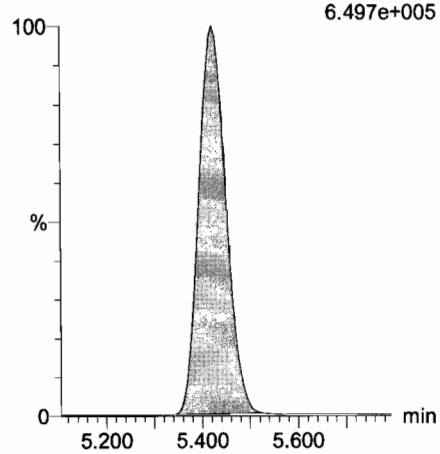
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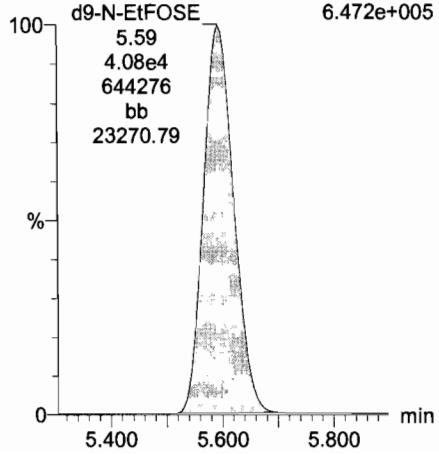
13C5-PFHxA



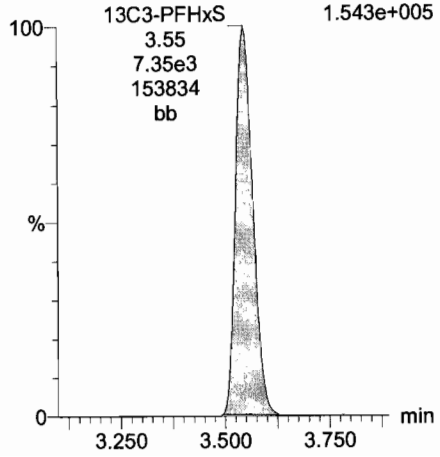
d7-N-MeFOSE



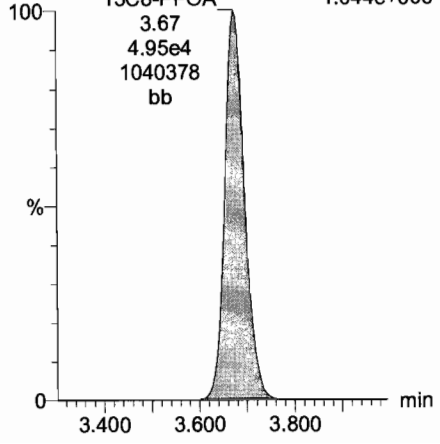
d9-N-EtFOSE



13C3-PFHxS



13C8-PFOA

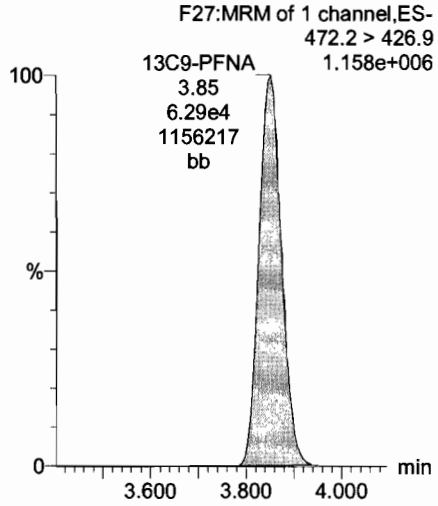


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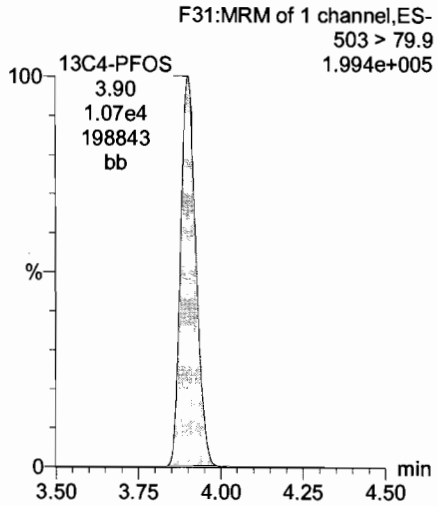
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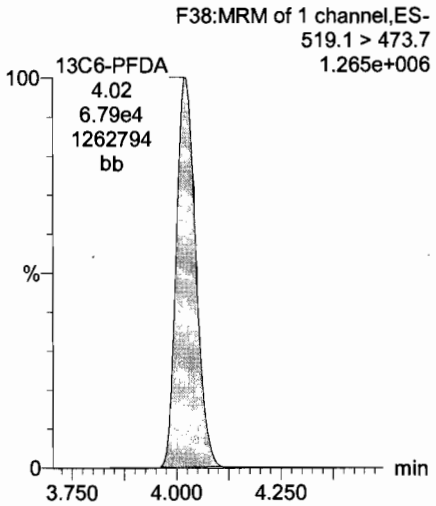
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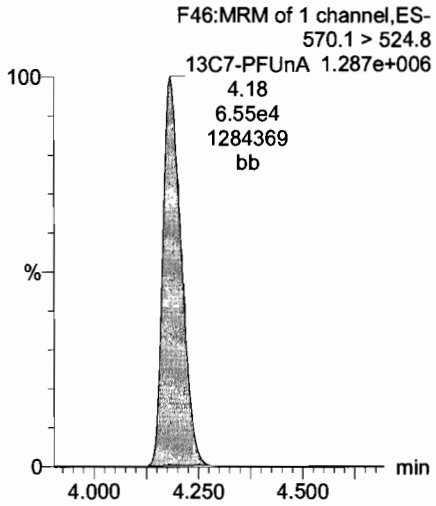
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13C6-PFDA



13C7-PFUnA

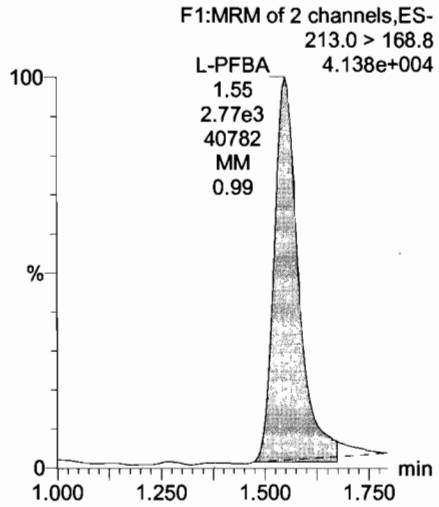


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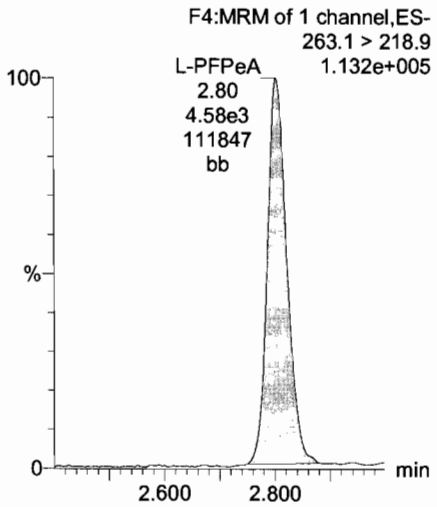
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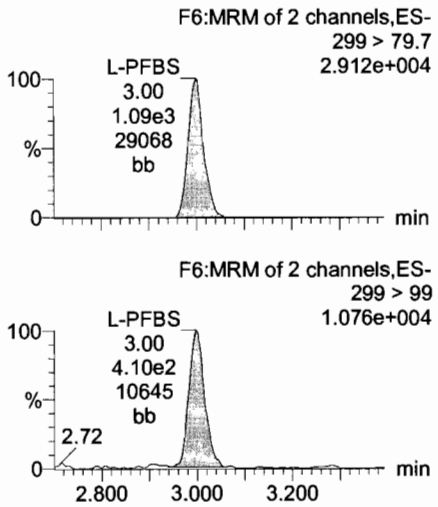
L-PFBA



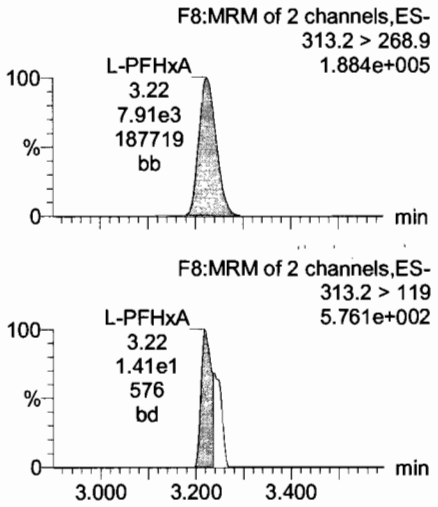
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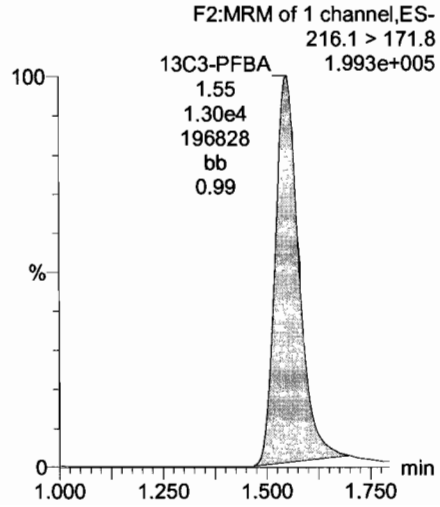
L-PFBS



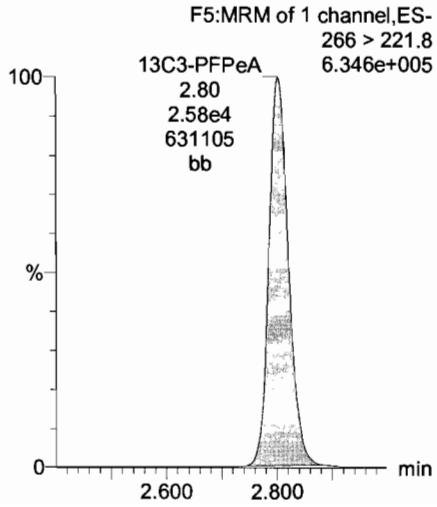
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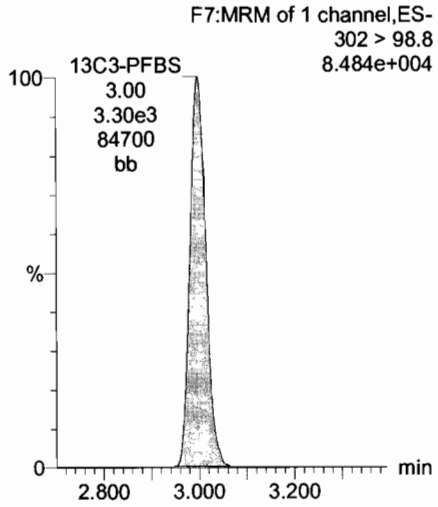
13C3-PFBA



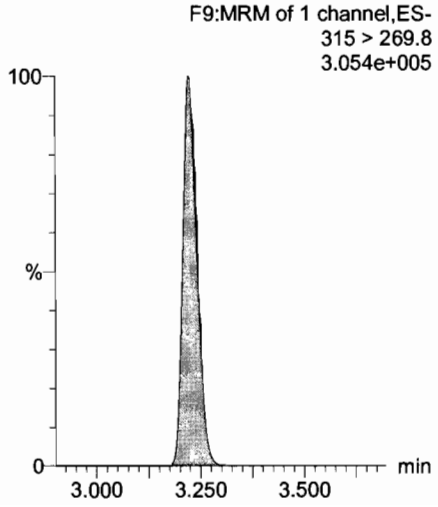
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13C3-PFBS



13C2-PFHxA

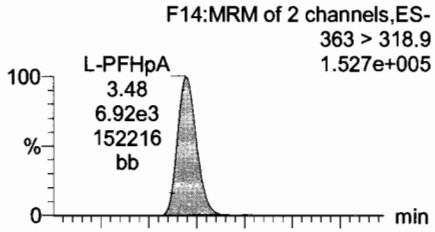


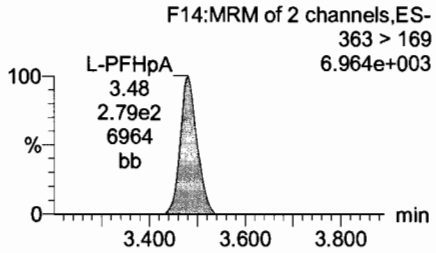
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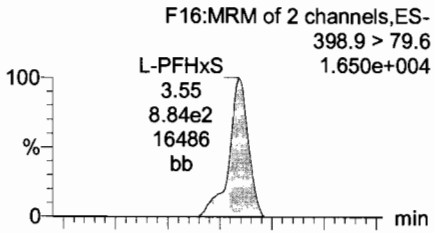
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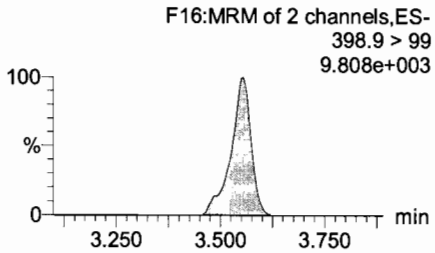
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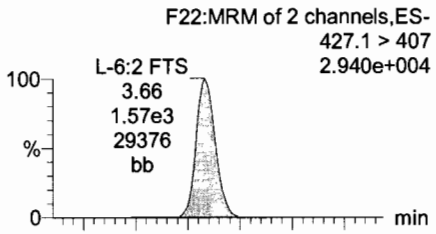


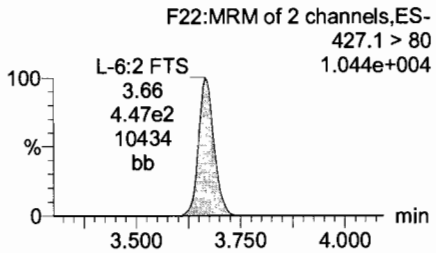
L-PFHxS



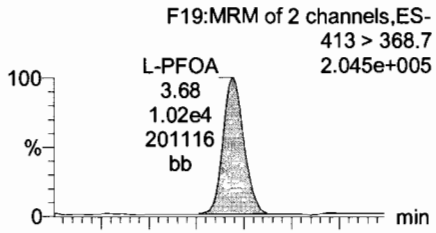


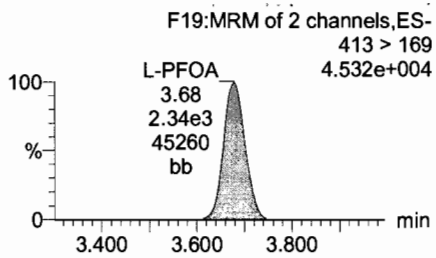
L-6:2 FTS



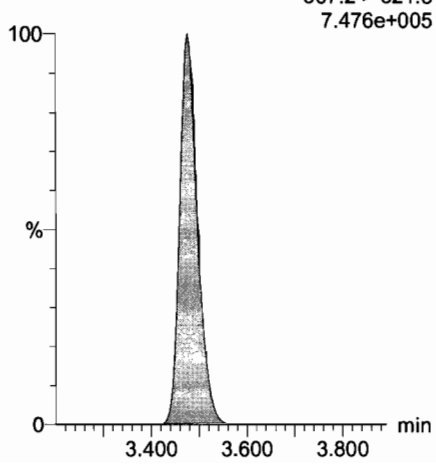


L-PFOA

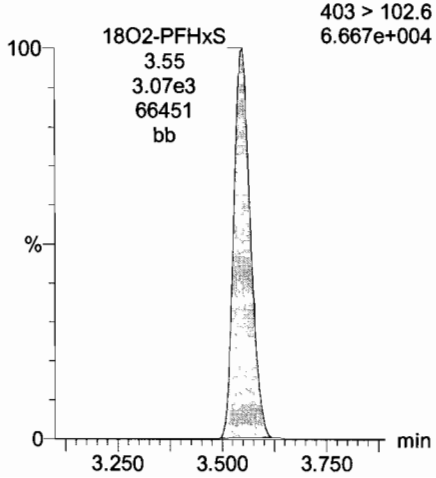




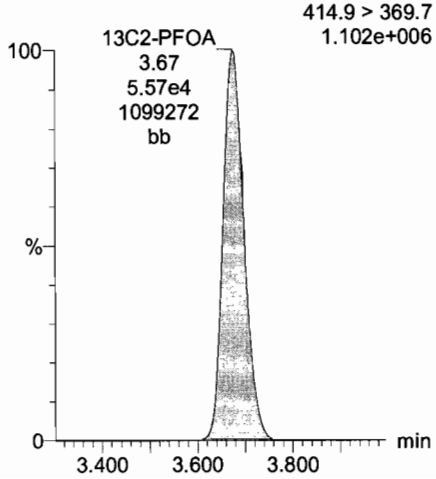
13C4-PFHpA



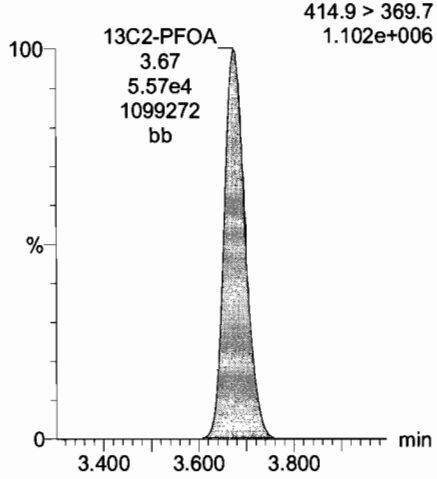
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13C2-PFOA



13C2-PFOA

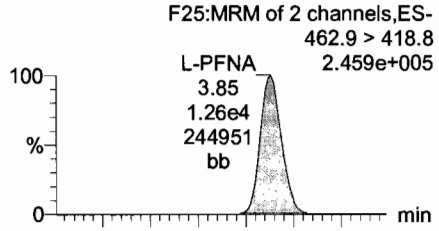


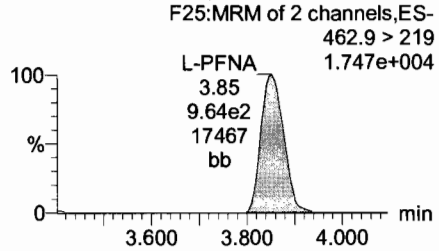
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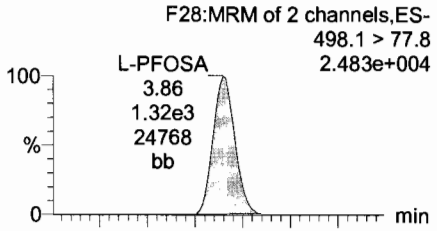
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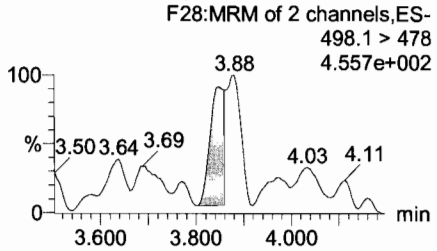
L-PFNA



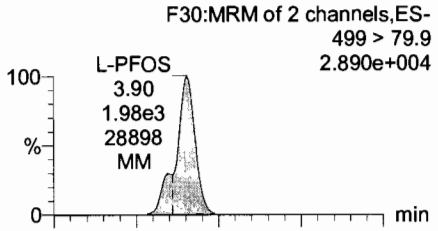


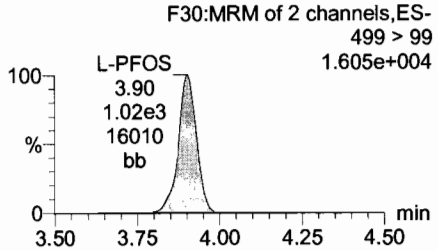
L-PFOSA



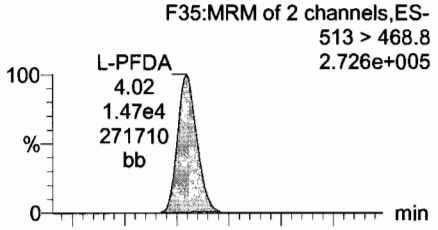


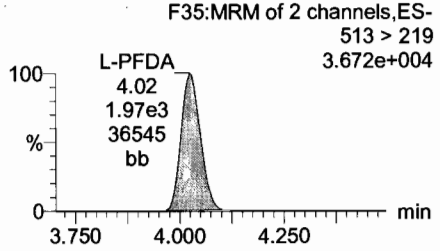
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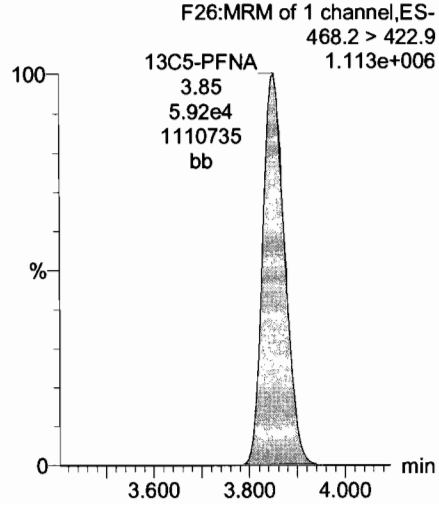


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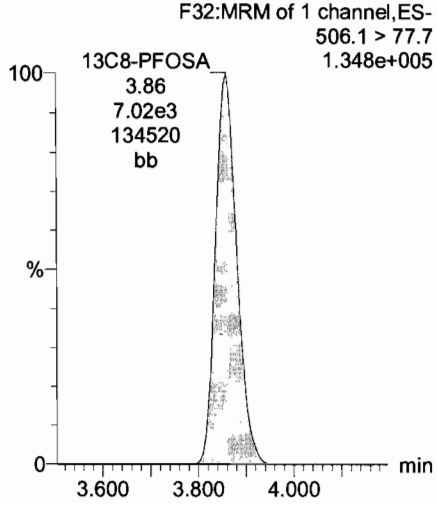




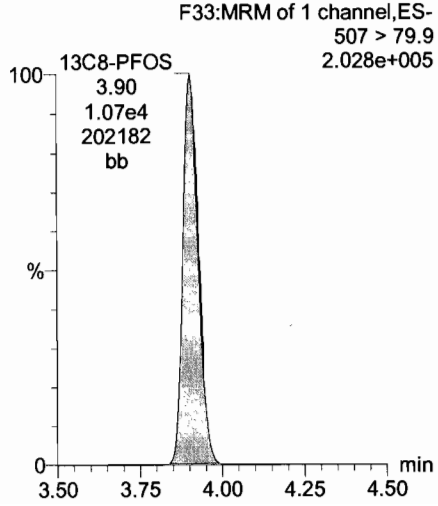
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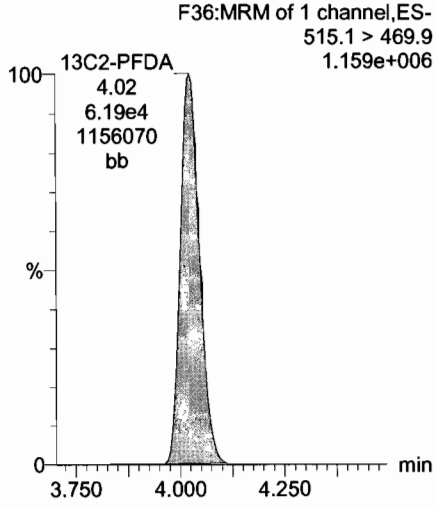
13C8-PFOSA



13C8-PFOS



13C2-PFDA

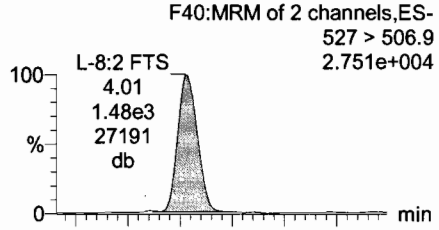


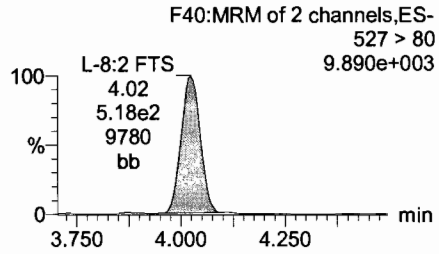
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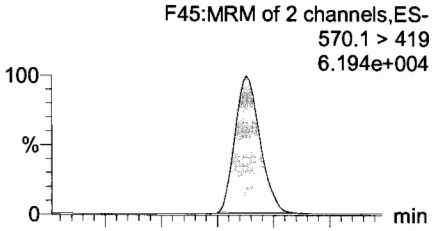
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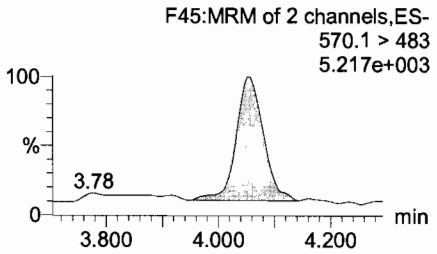
L-8:2 FTS



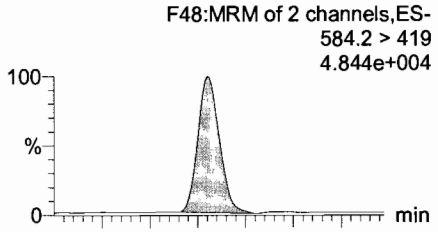


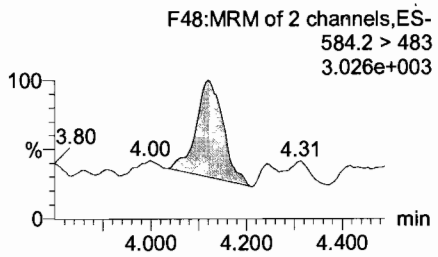
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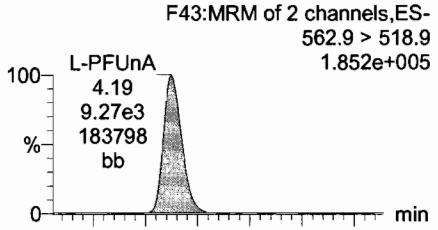


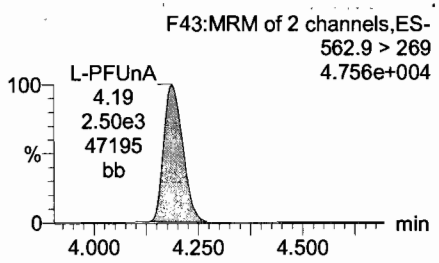
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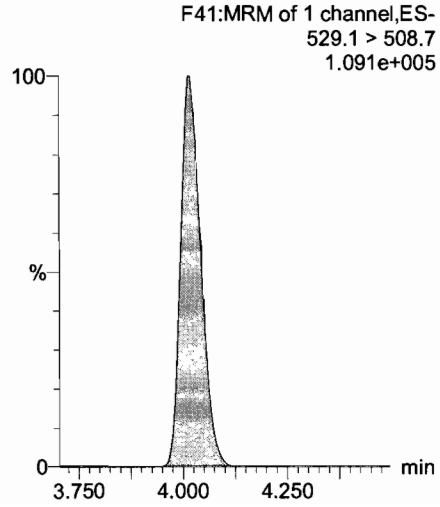


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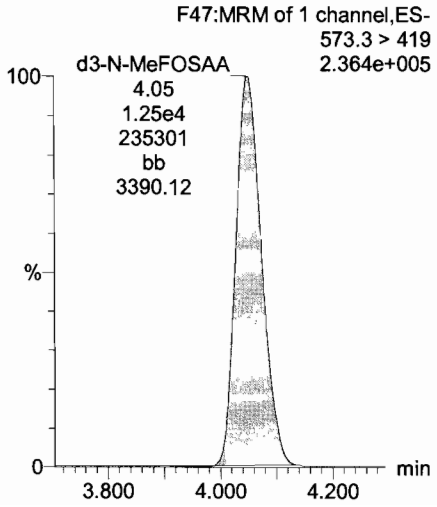




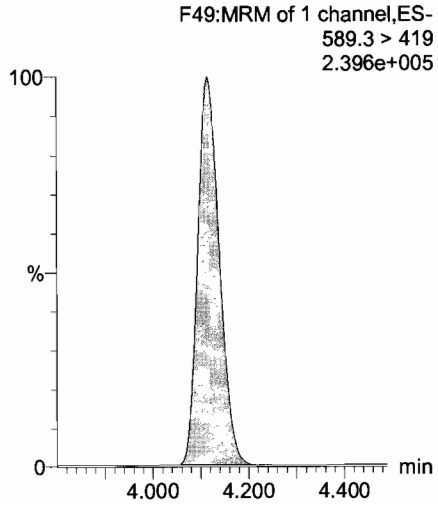
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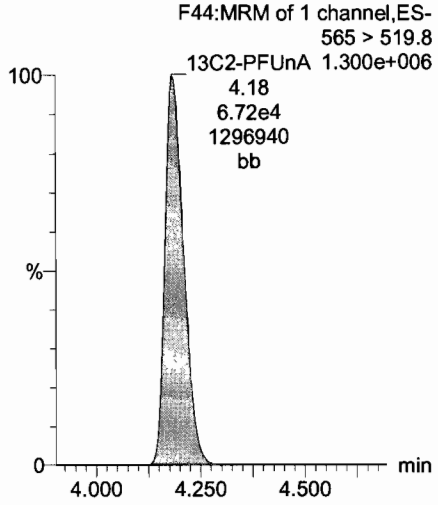
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d5-N-EtFOSAA



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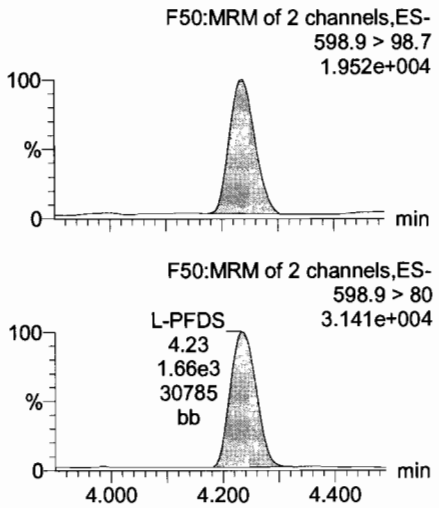


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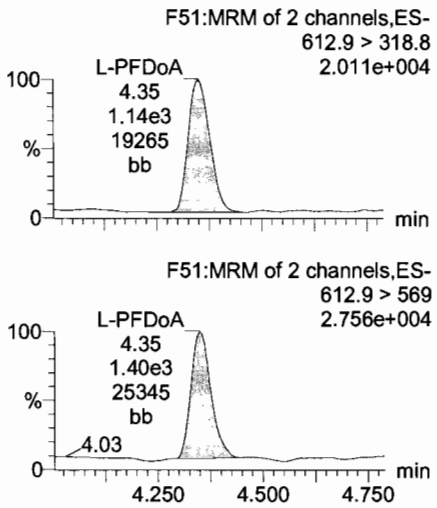
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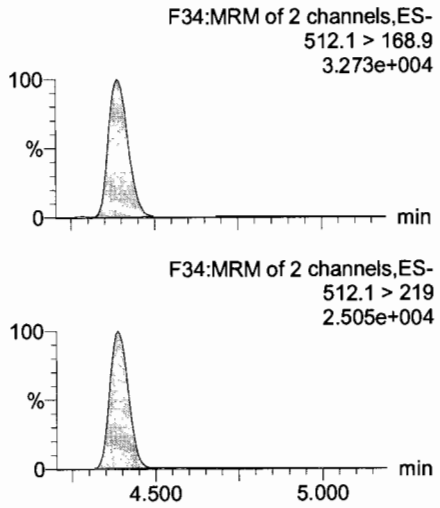
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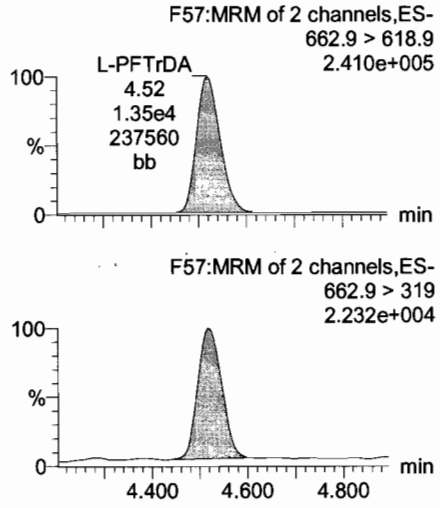
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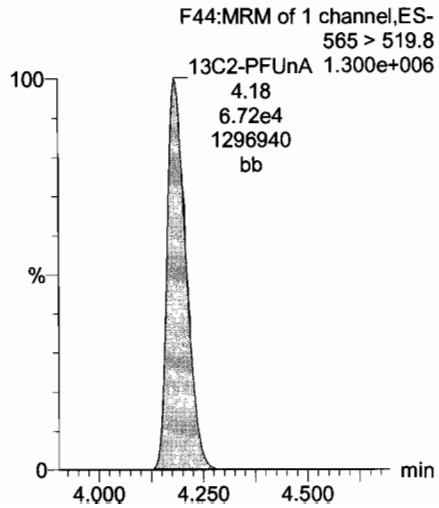
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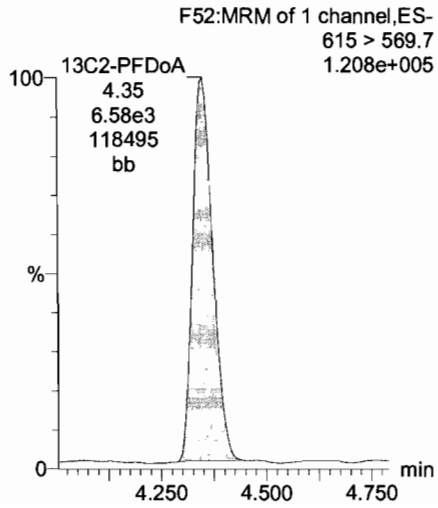
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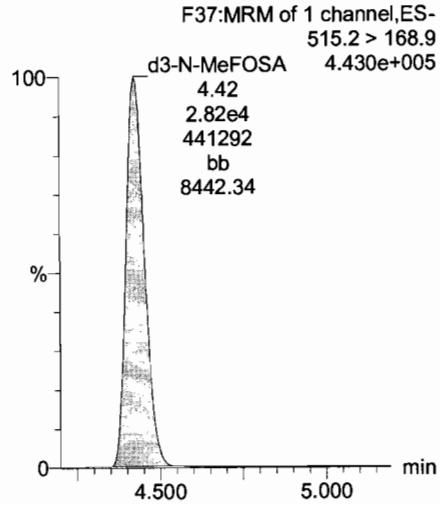
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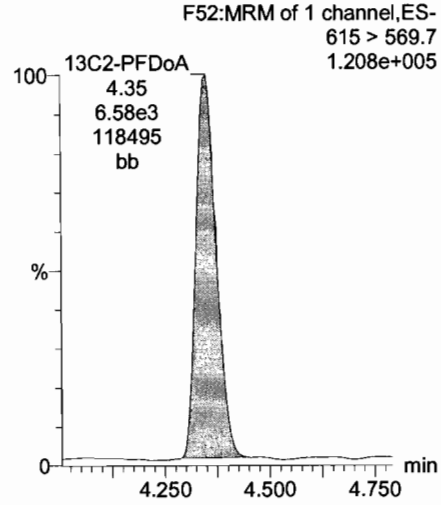
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d3-N-MeFOSA



13C2-PFDoA

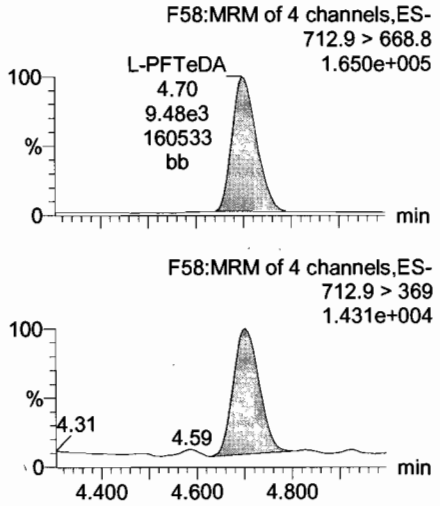


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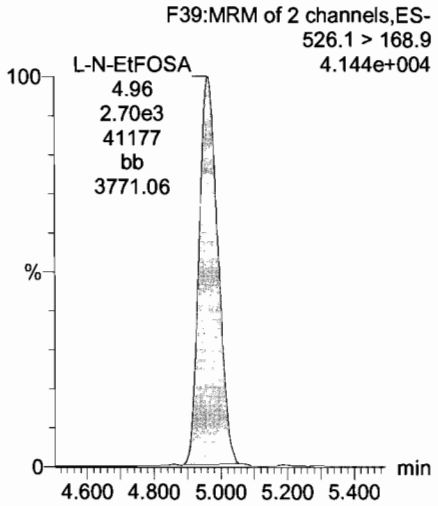
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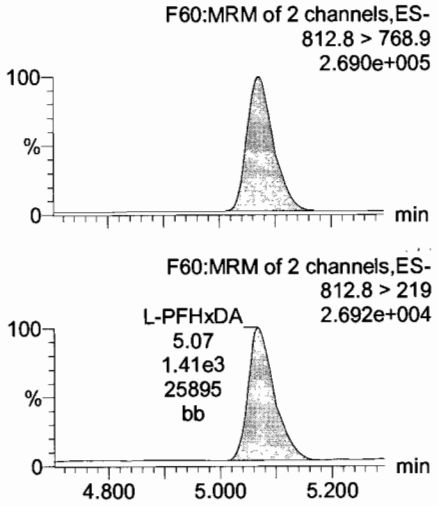
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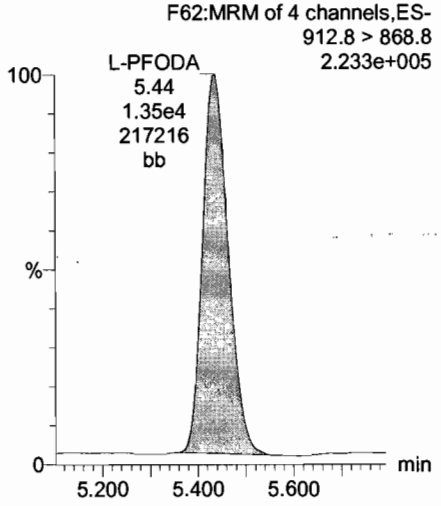
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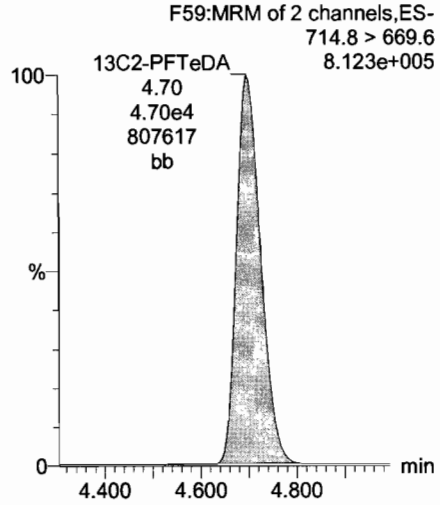
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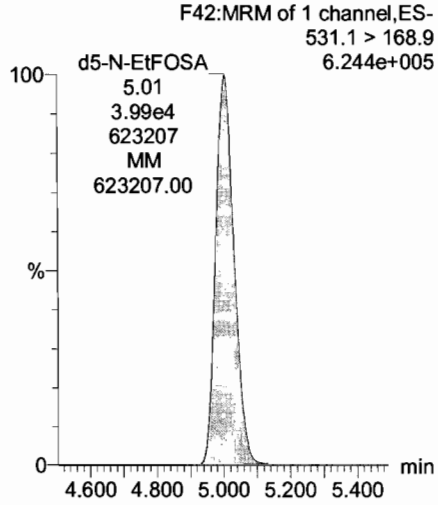
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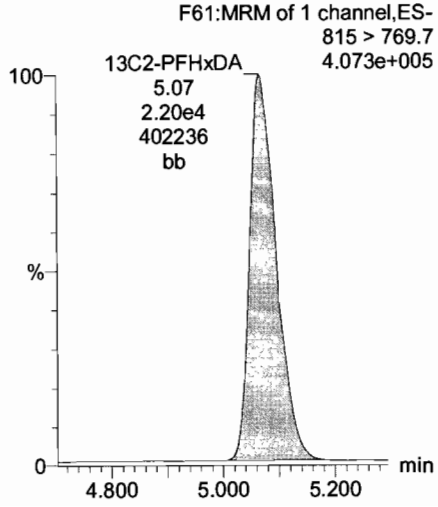
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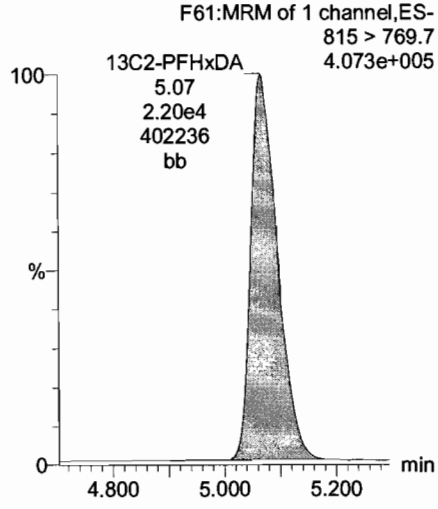
d5-N-EtFOSA



13C2-PFHxDA



13C2-PFHxDA

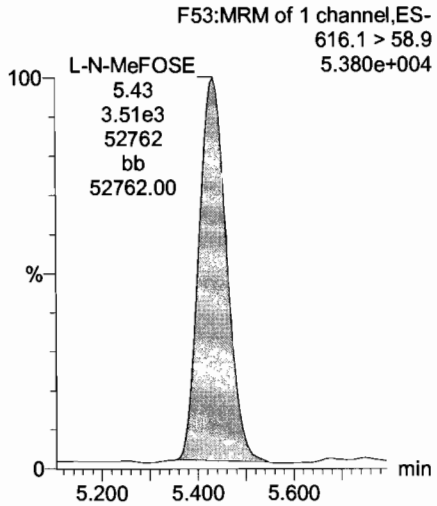


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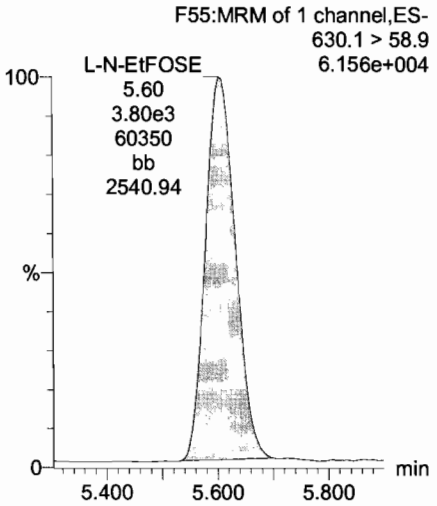
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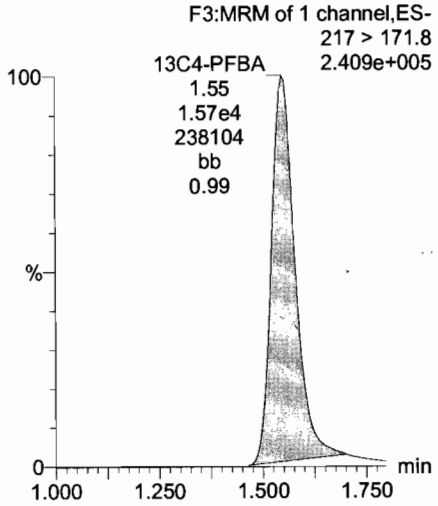
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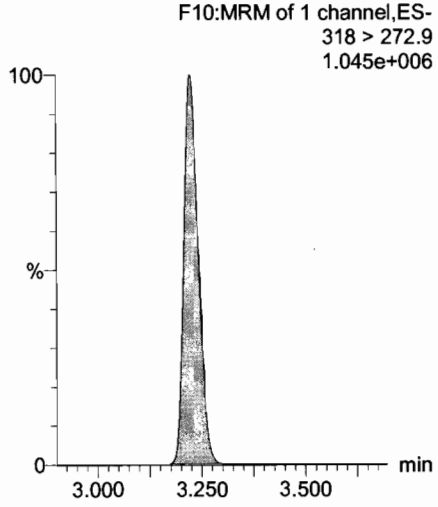
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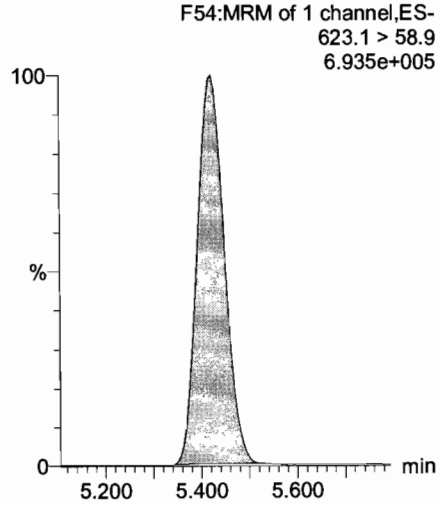
13C4-PFBA



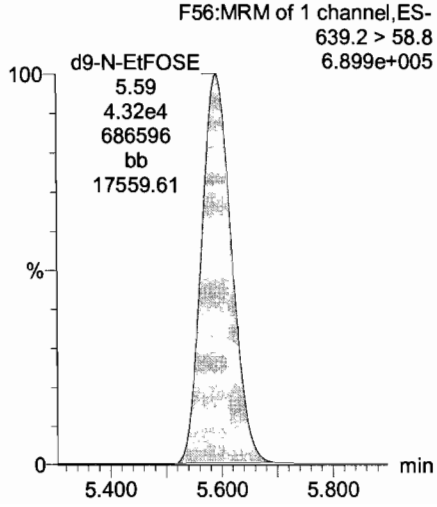
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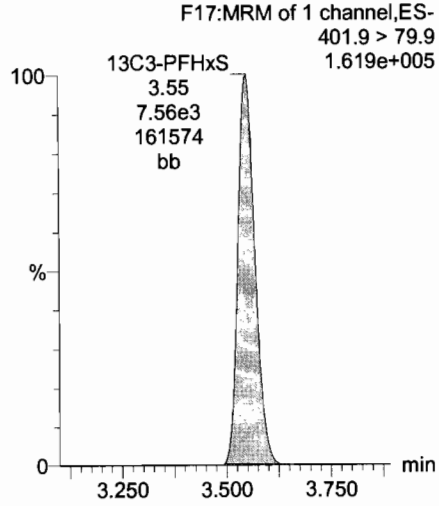
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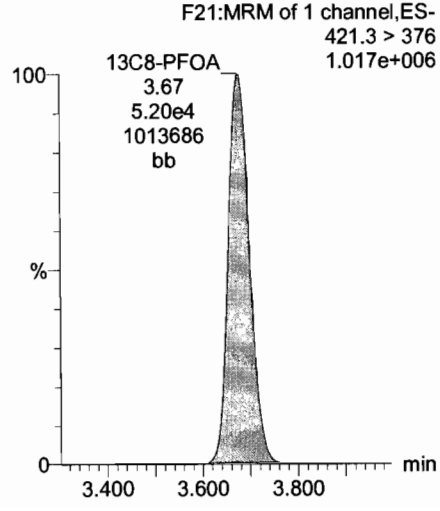
d9-N-EtFOSE



13C3-PFHxS



13C8-PFOA

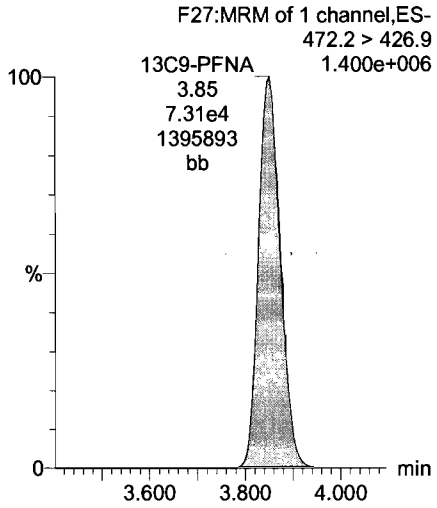


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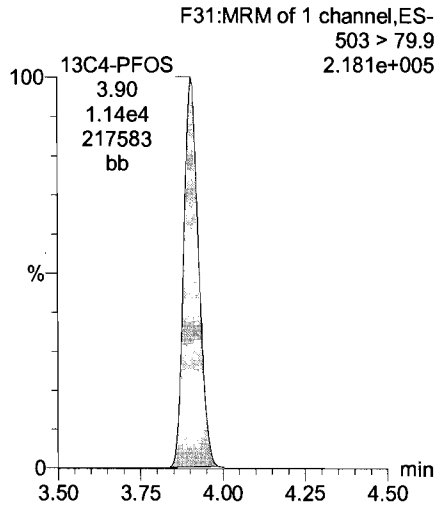
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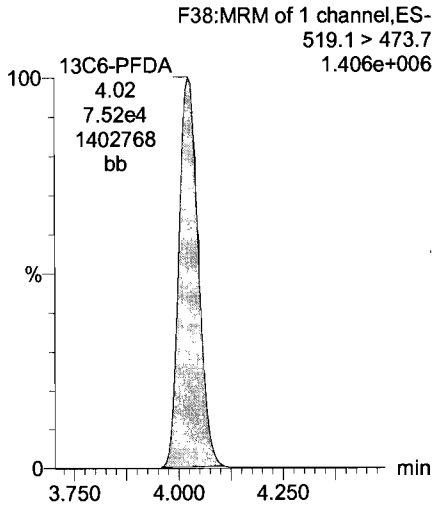
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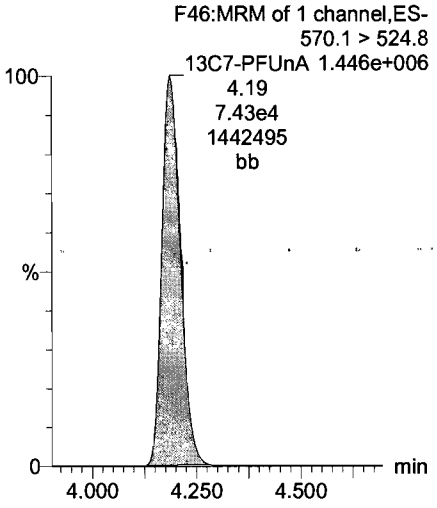
13C4-PFOS



13C6-PFDA



13C7-PFUnA

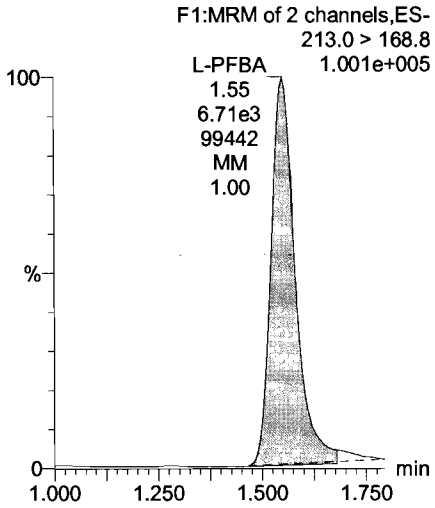


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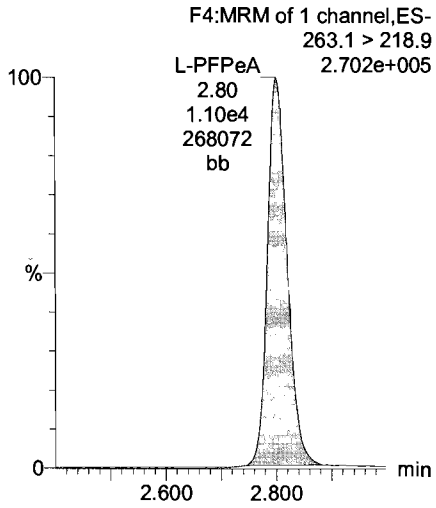
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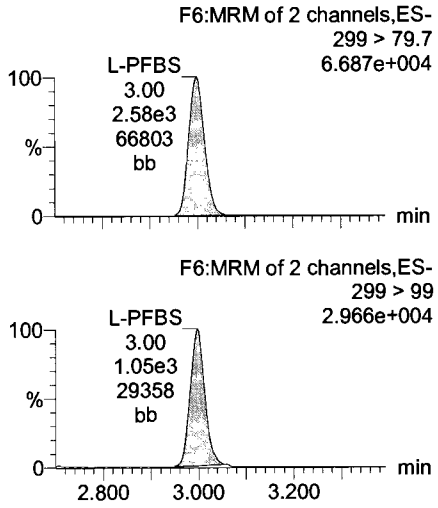
L-PFBA



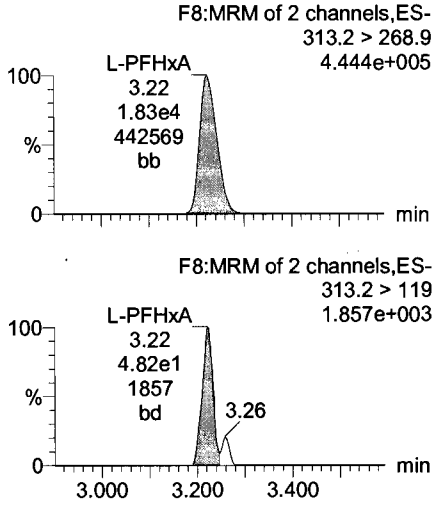
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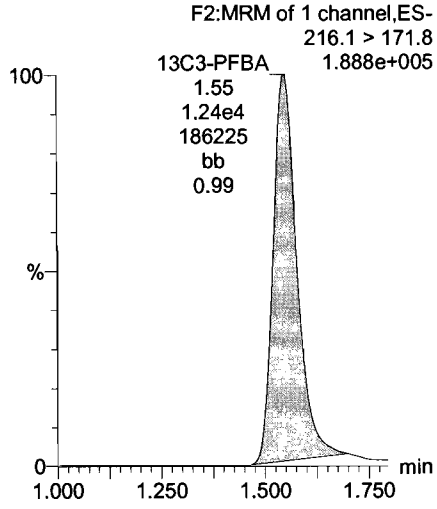
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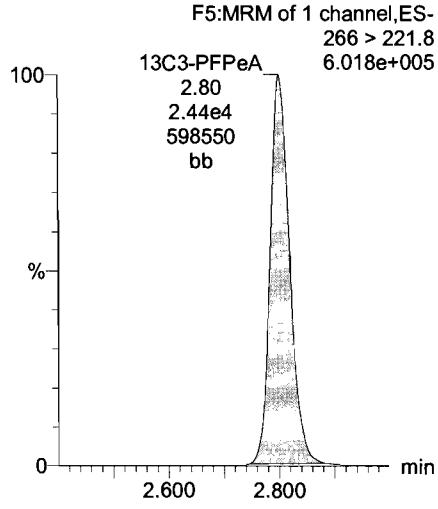
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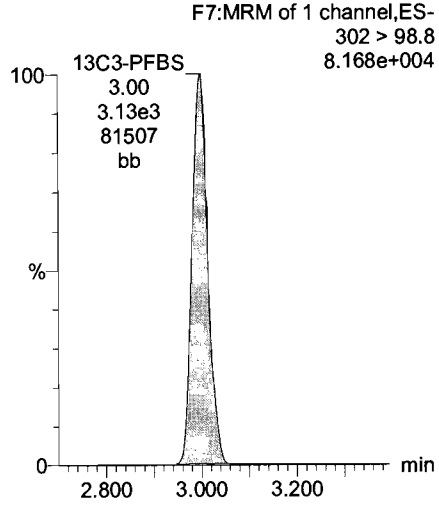
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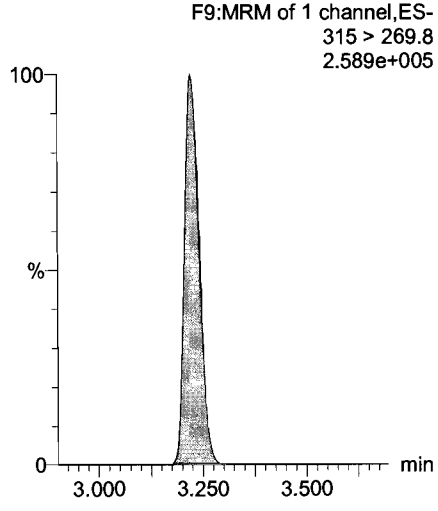
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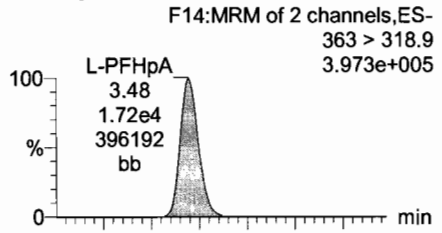


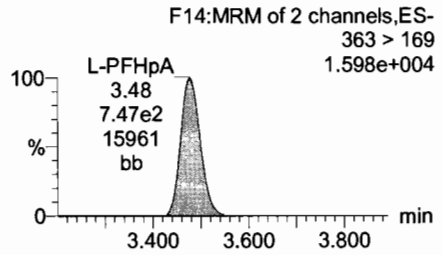
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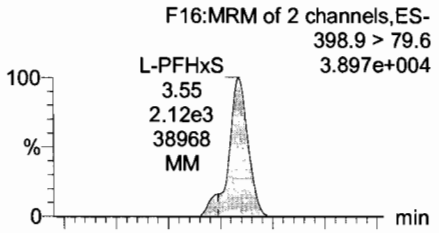
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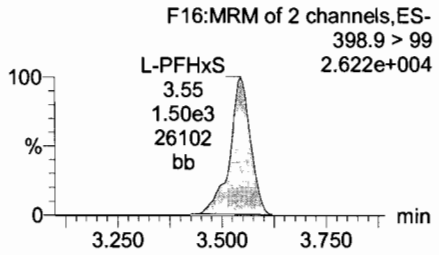
L-PFHpA



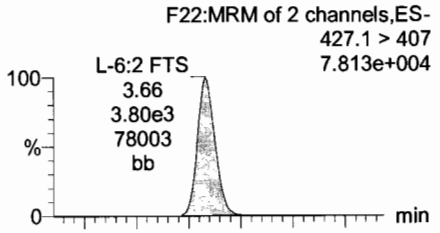


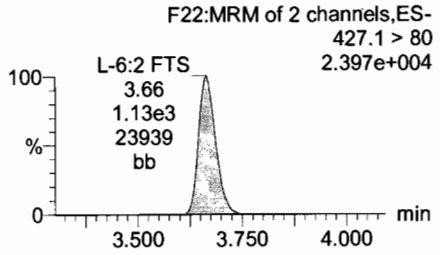
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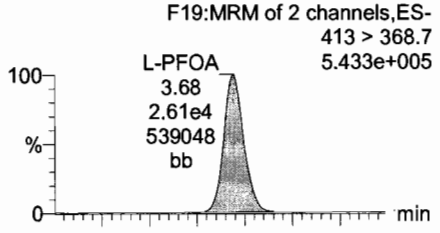


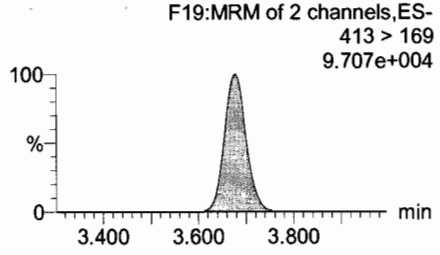
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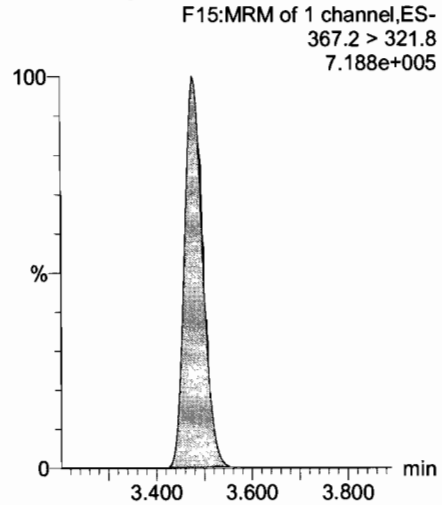


L-PFOA

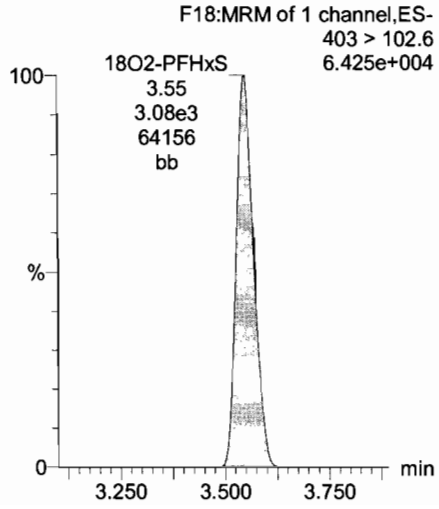




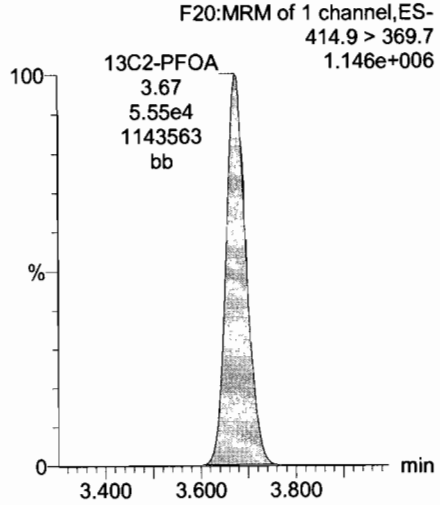
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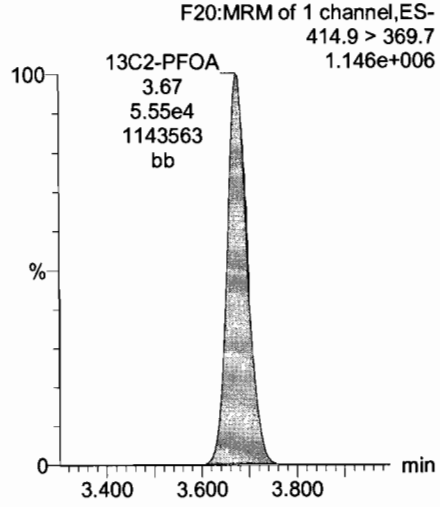
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13C2-PFOA



13C2-PFOA

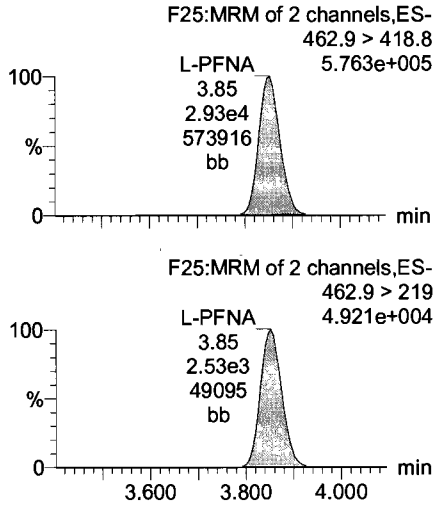


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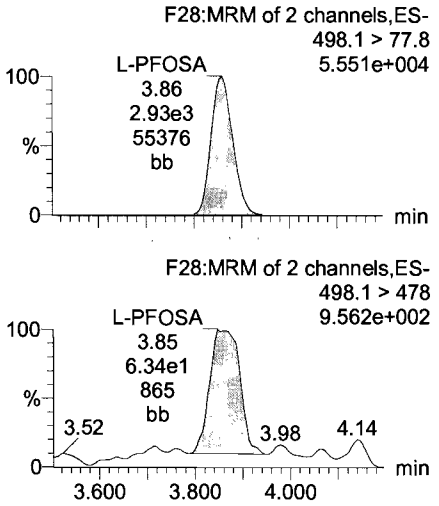
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Name: 170724M1_7, Date: 24-Jul-2017, Time: 14:34:02, ID: ST170724M1-5 PFC CS2 17G2425, Description: PFC CS2 17G2425

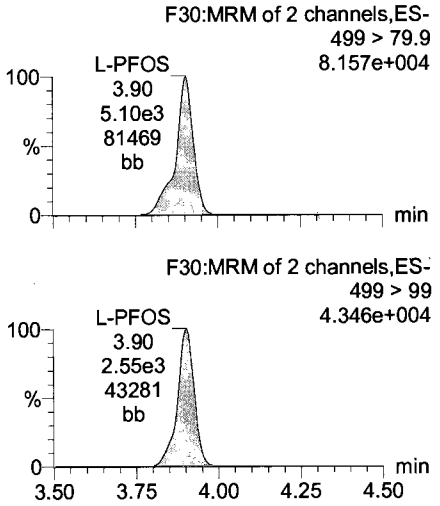
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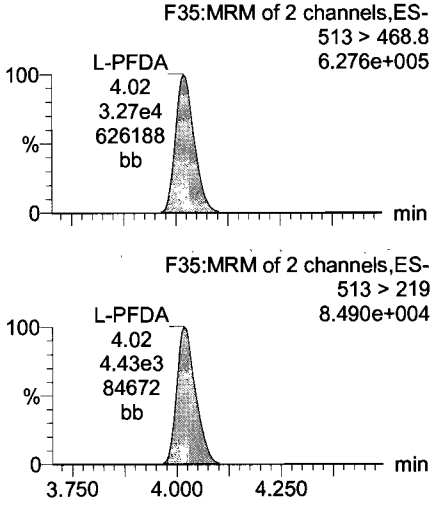
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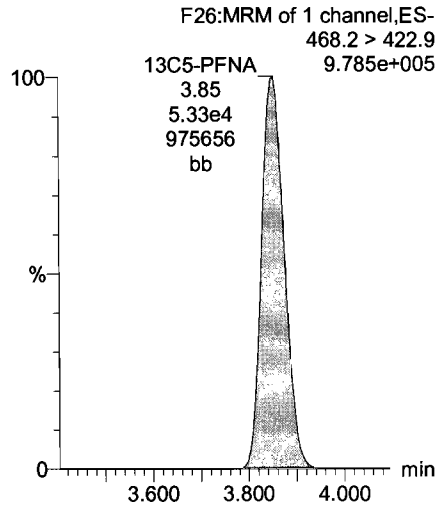
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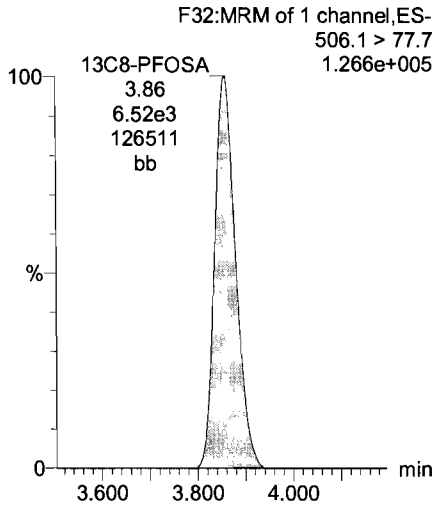
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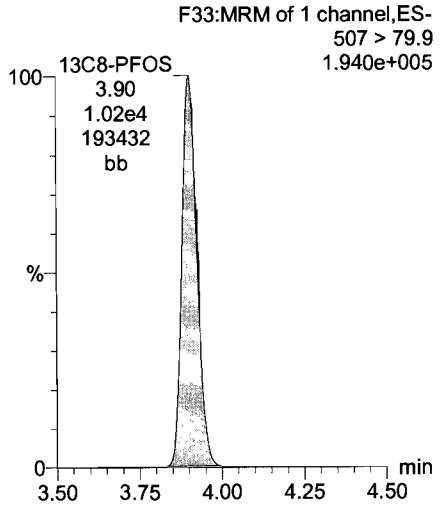
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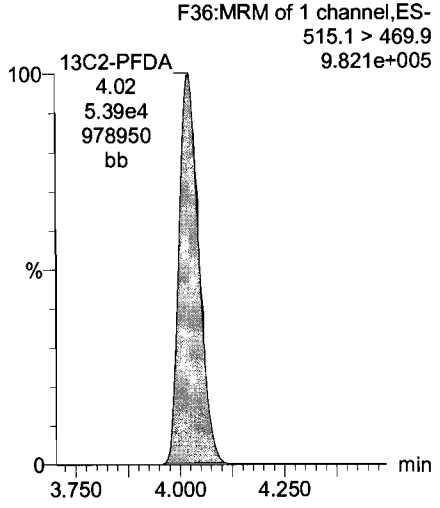
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13C8-PFOS



13C2-PFDA

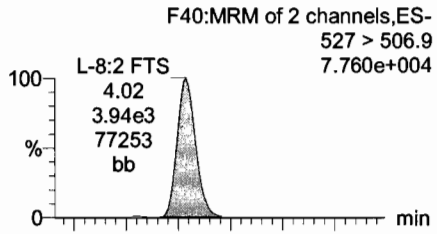


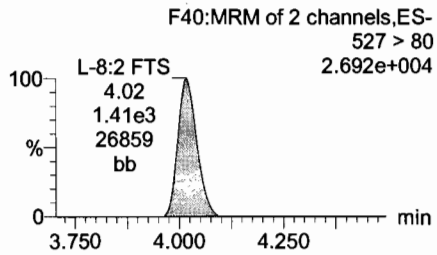
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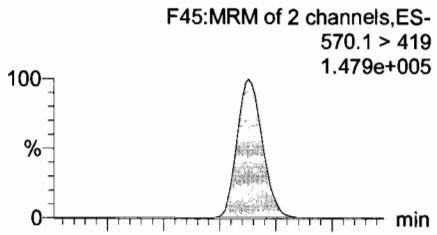
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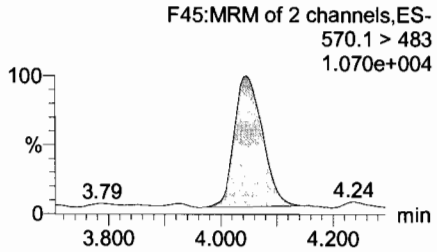
L-8:2 FTS



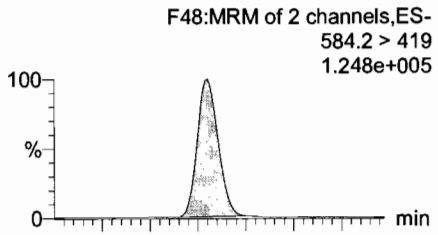


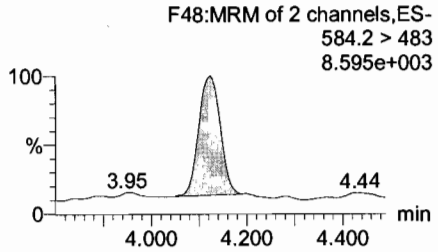
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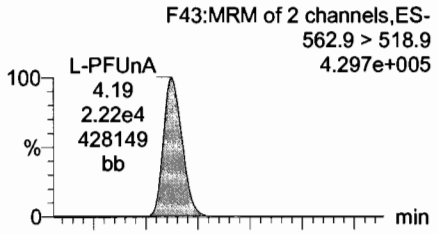


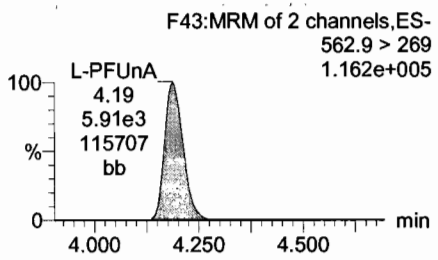
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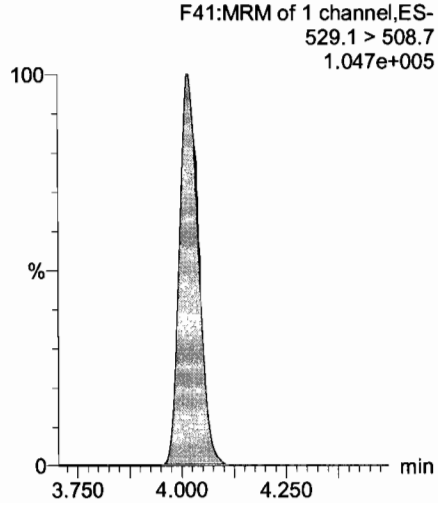


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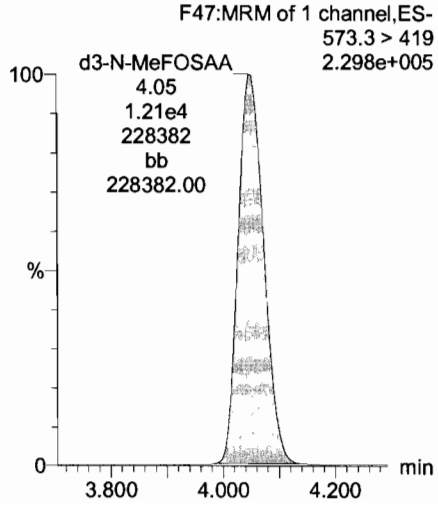




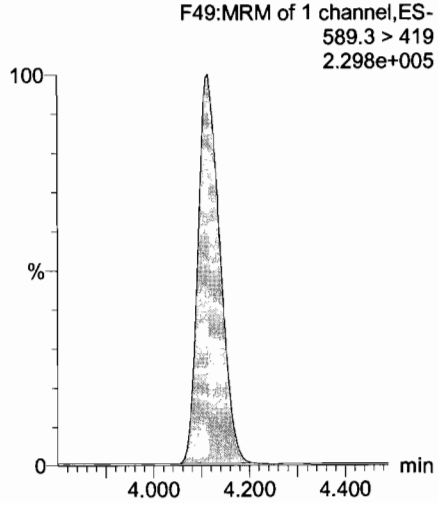
13C2-8:2 FTS



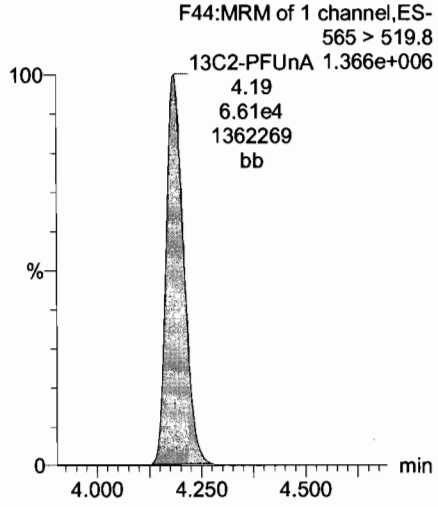
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d5-N-EtFOSAA



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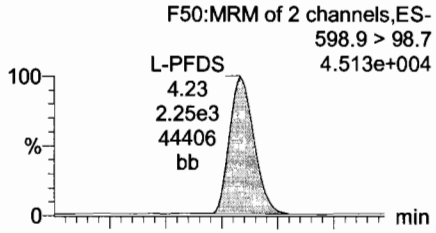


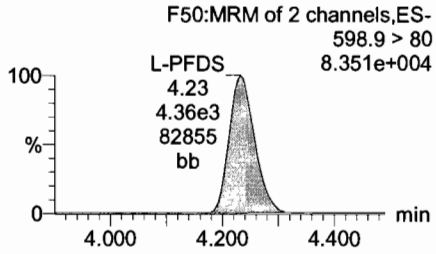
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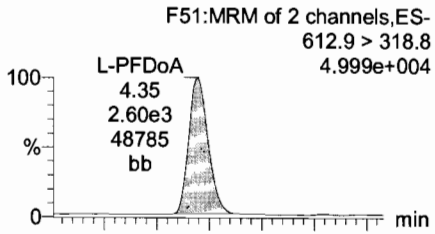
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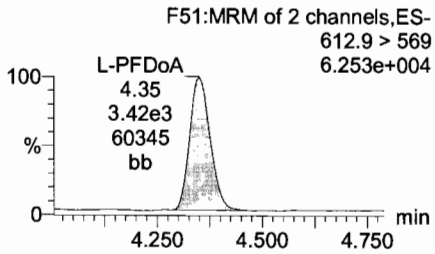
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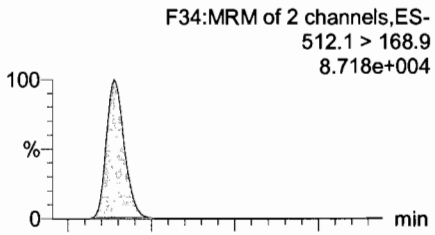


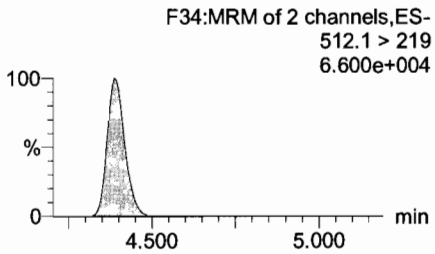
L-PFDoA



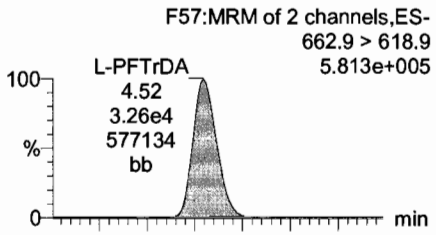


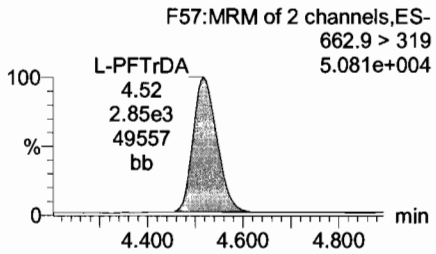
L-N-MeFOSA



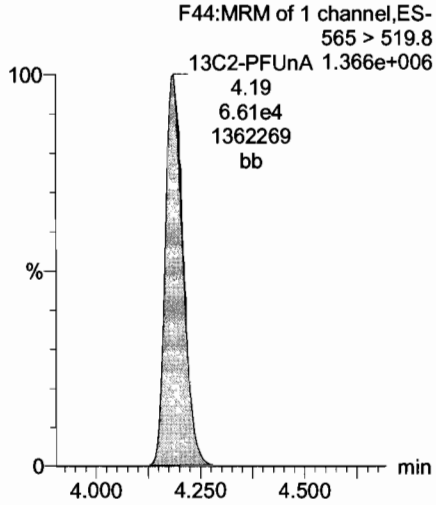


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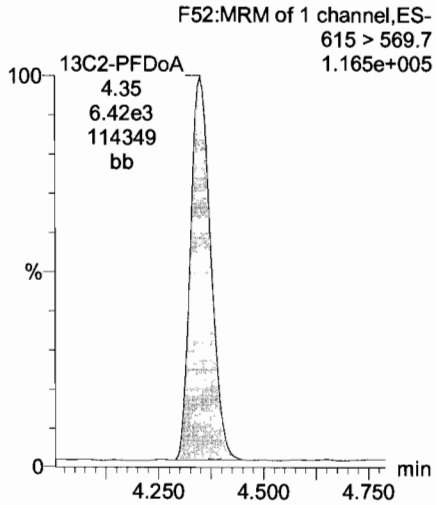




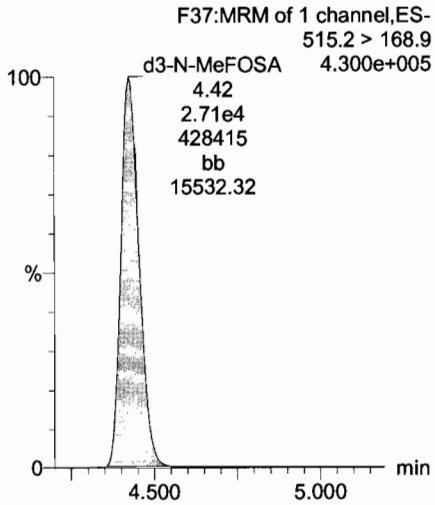
13C2-PFUnA



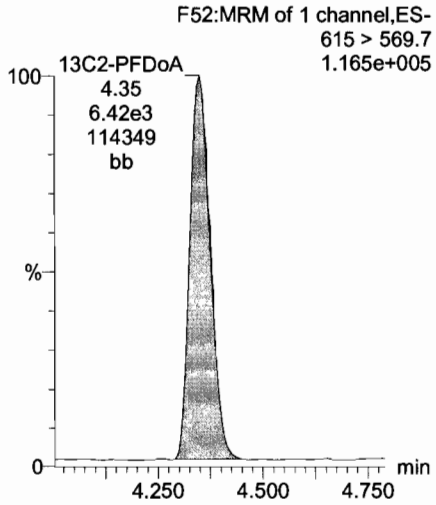
13C2-PFDoA



d3-N-MeFOSA



13C2-PFDoA

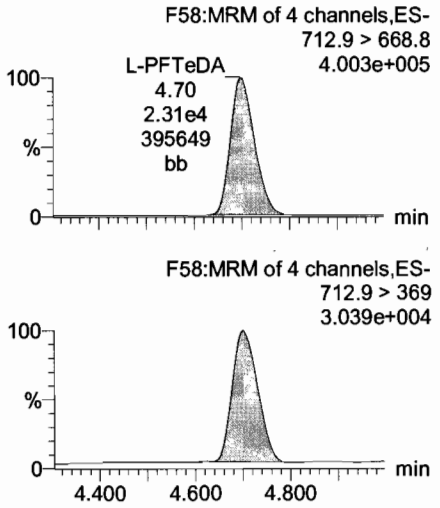


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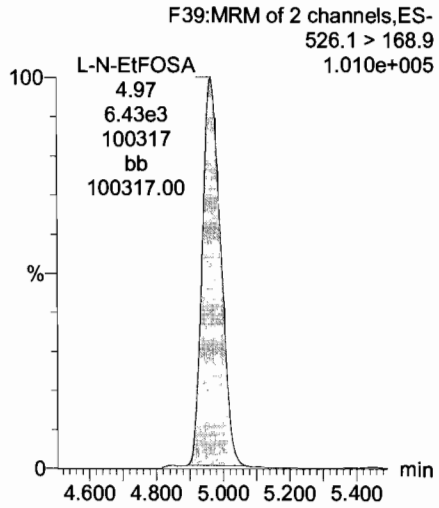
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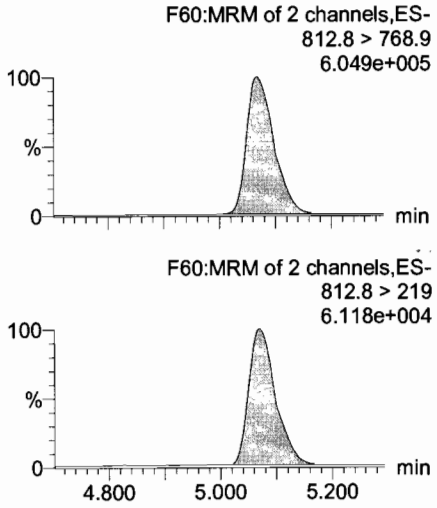
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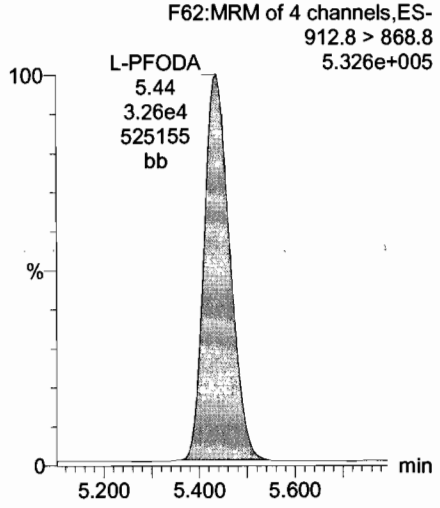
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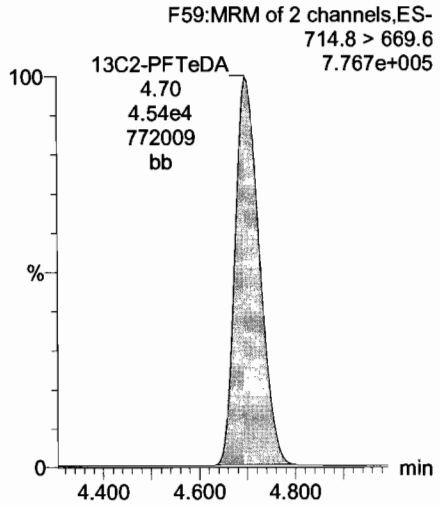
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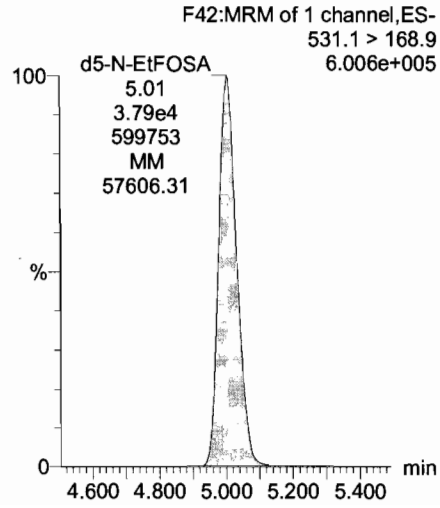
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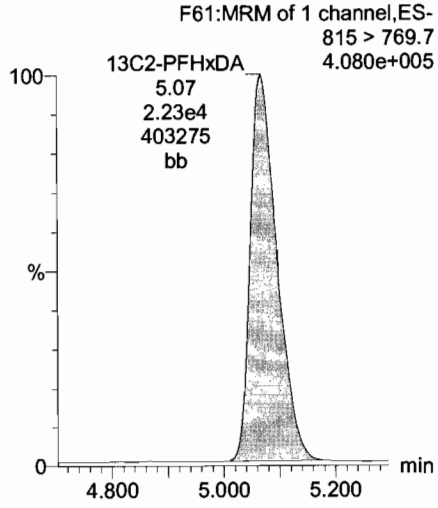
13C2-PFTeDA



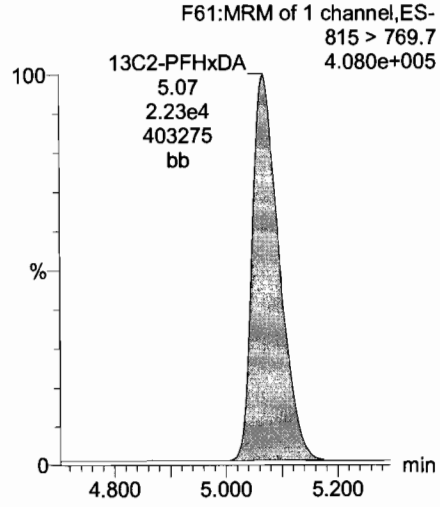
d5-N-EtFOSA



13C2-PFHxDA



13C2-PFHxDA

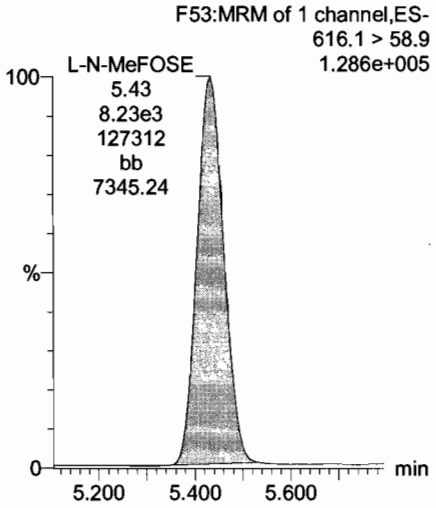


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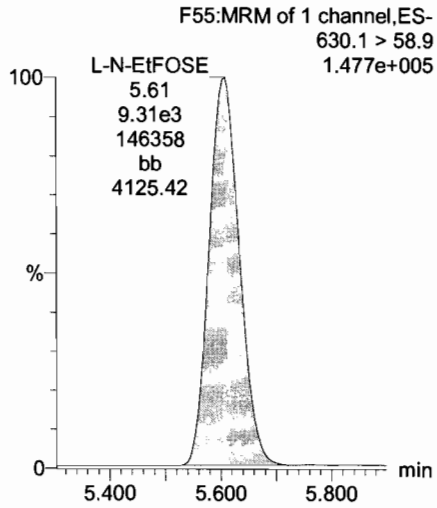
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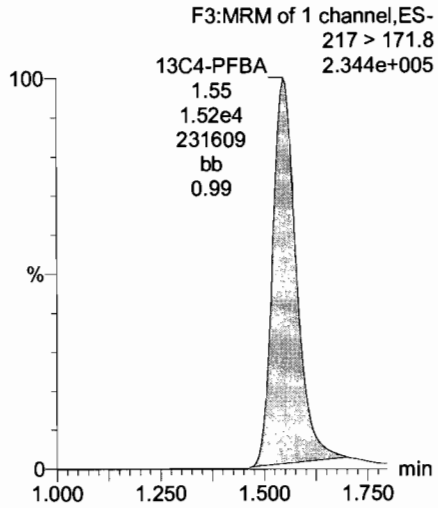
L-N-MeFOSE



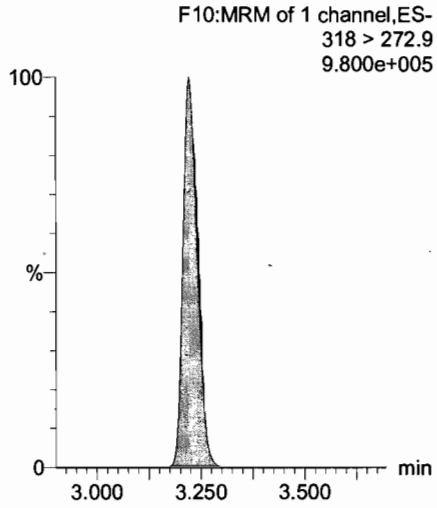
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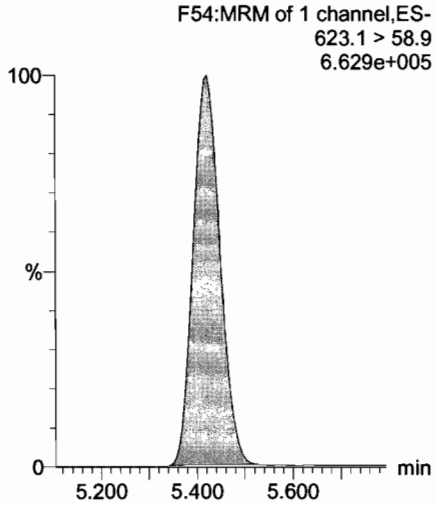
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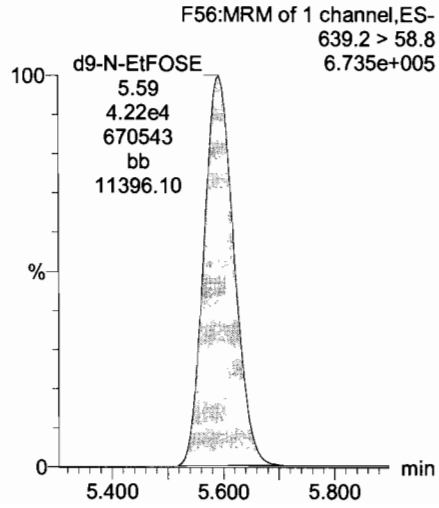
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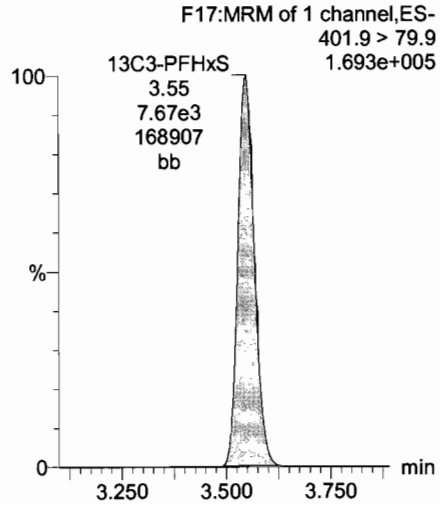
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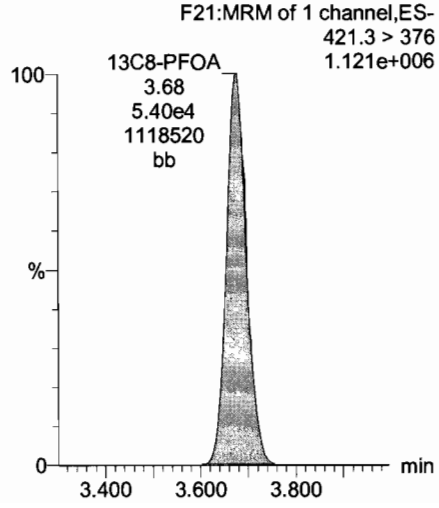
d9-N-EtFOSE



13C3-PFHxS



13C8-PFOA

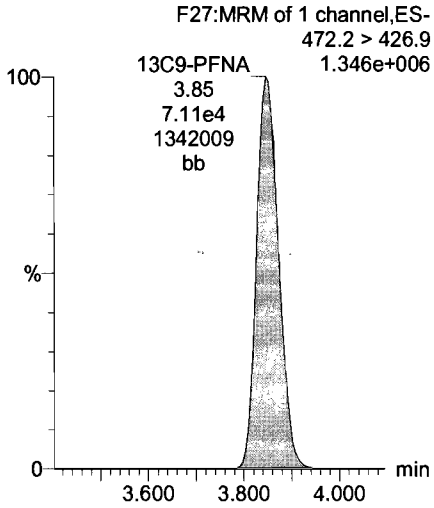


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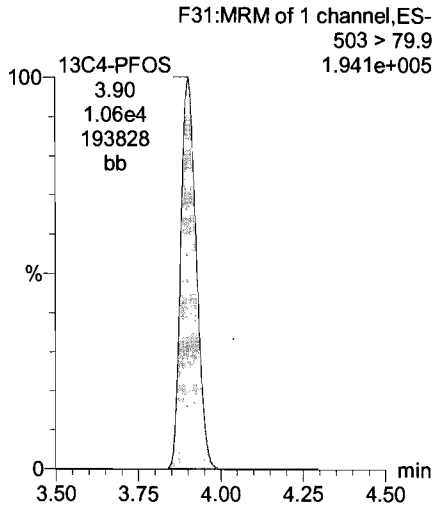
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Name: 170724M1_7, Date: 24-Jul-2017, Time: 14:34:02, ID: ST170724M1-5 PFC CS2 17G2425, Description: PFC CS2 17G2425

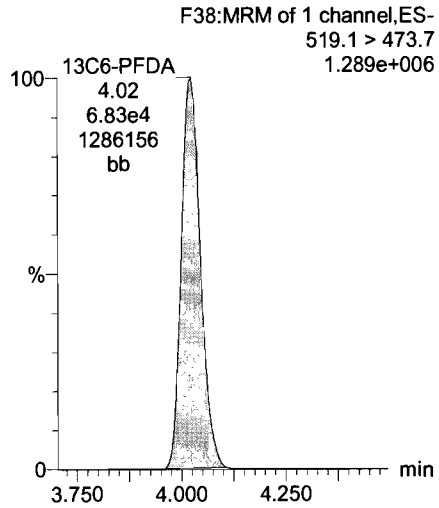
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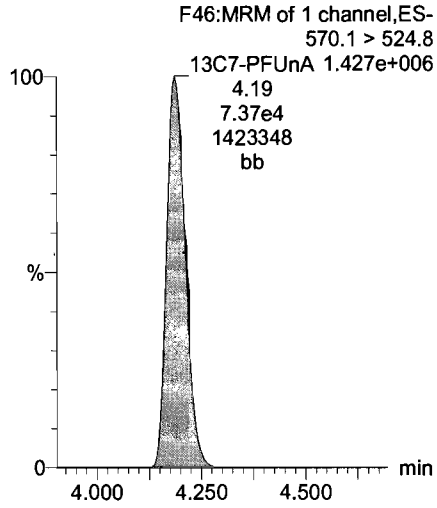
13C4-PFOS



13C6-PFDA



13C7-PFUnA

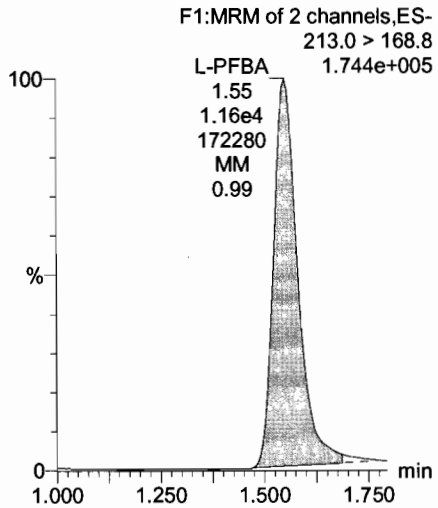


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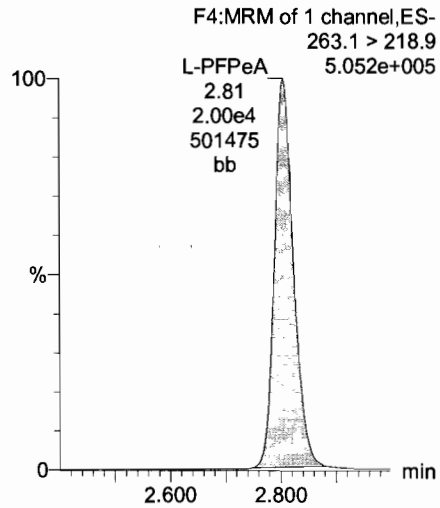
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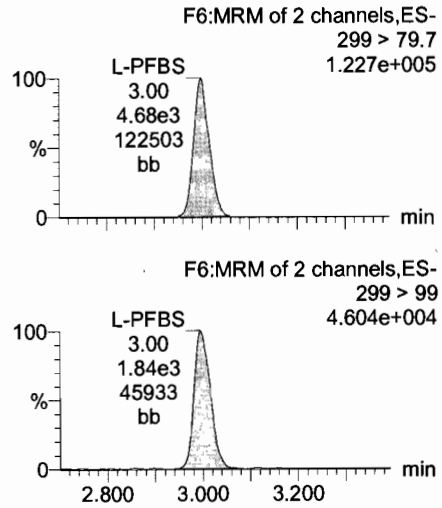
L-PFBA



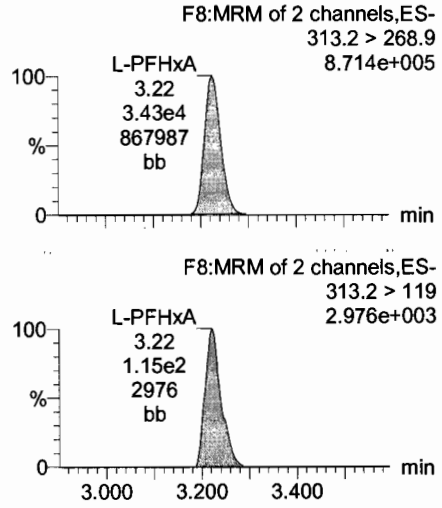
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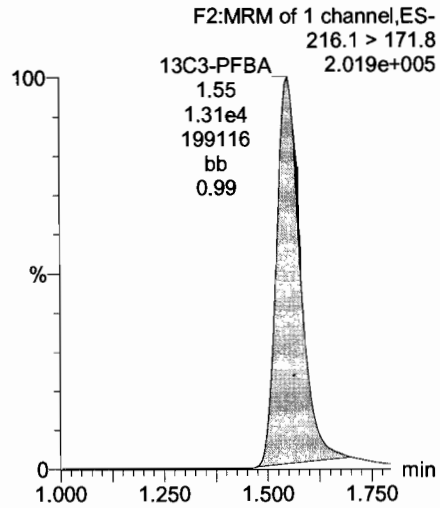
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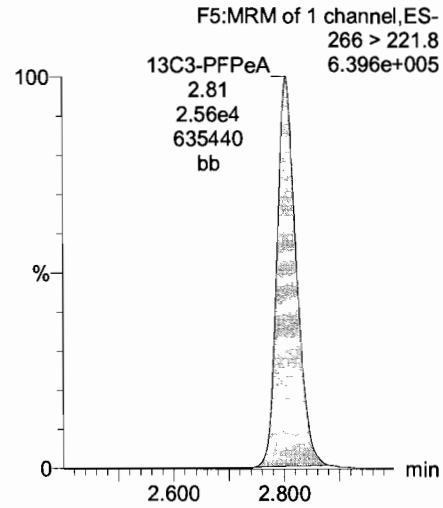
L-PFHxA



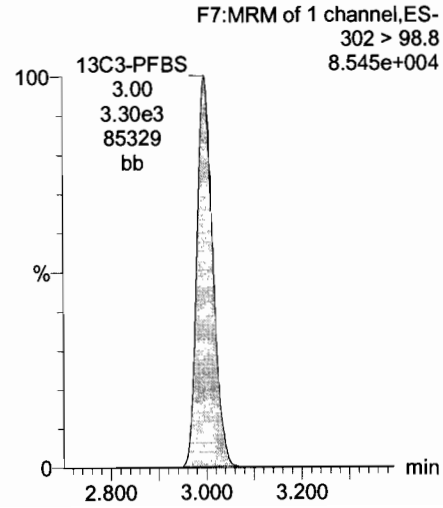
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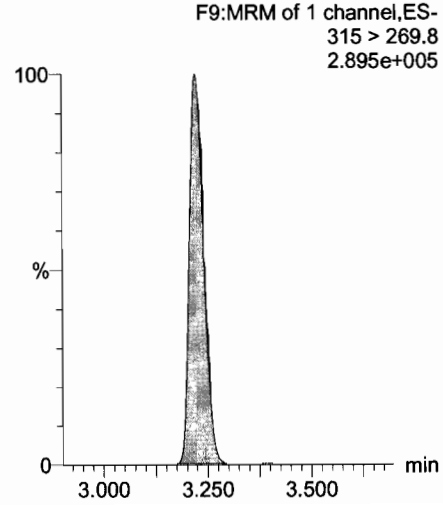
13C3-PFPeA



13C3-PFBS



13C2-PFHxA

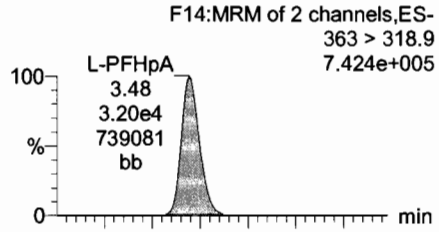


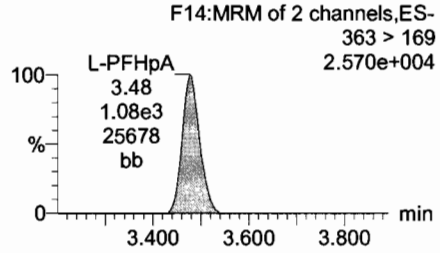
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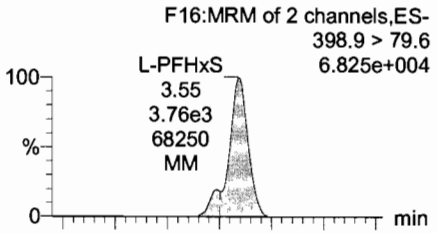
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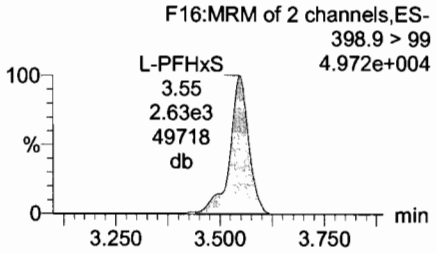
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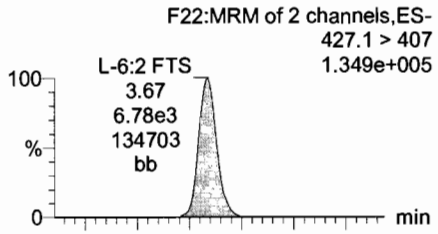


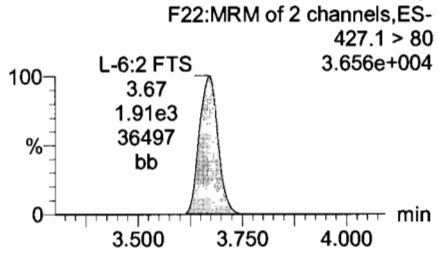
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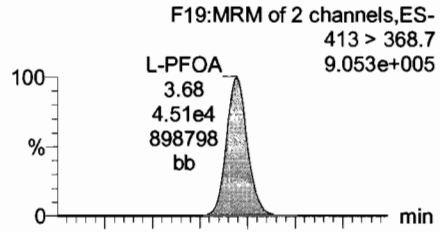


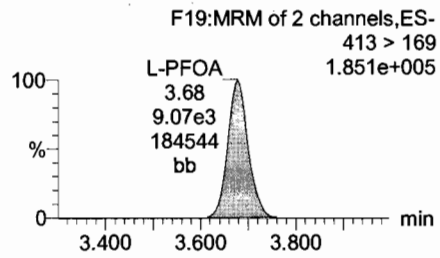
L-6:2 FTS



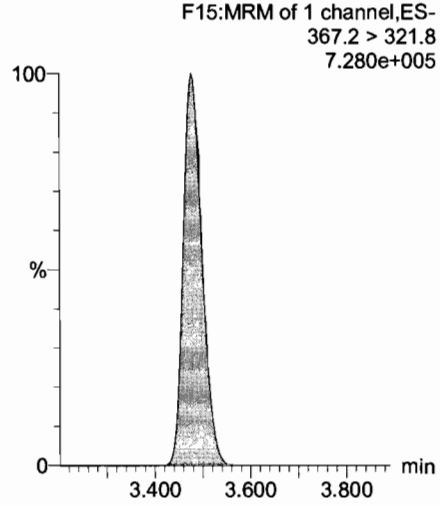


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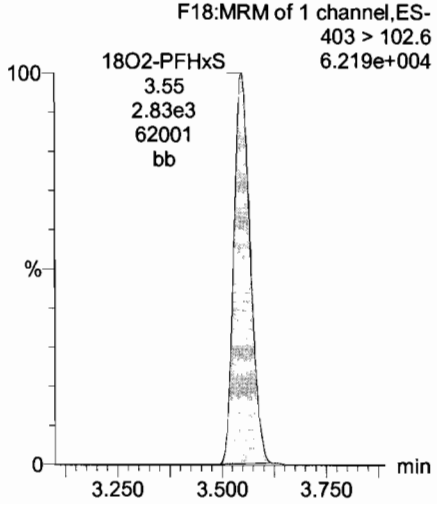




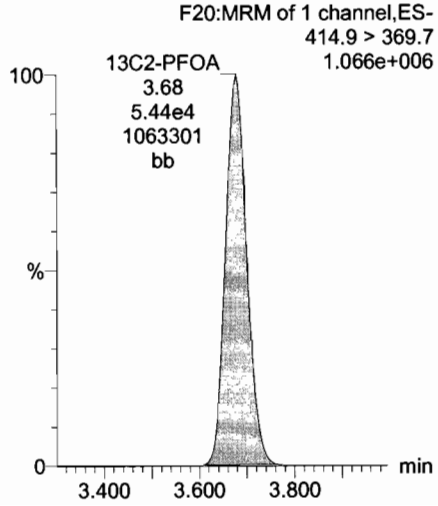
13C4-PFHpA



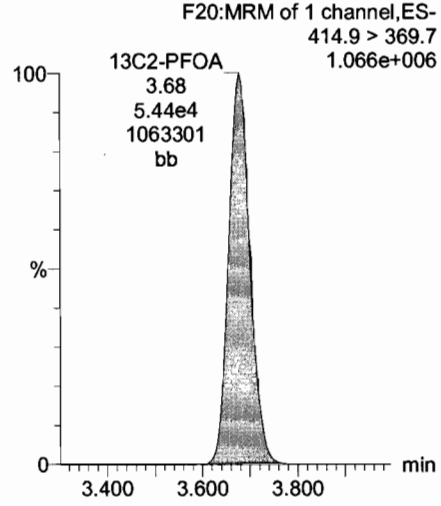
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13C2-PFOA



13C2-PFOA

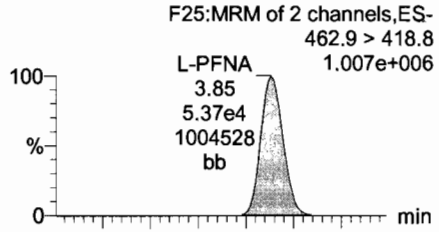


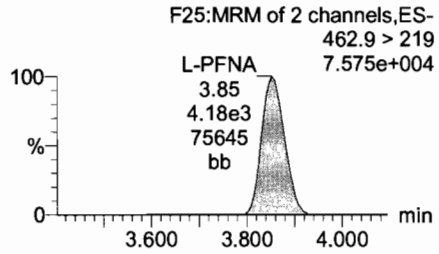
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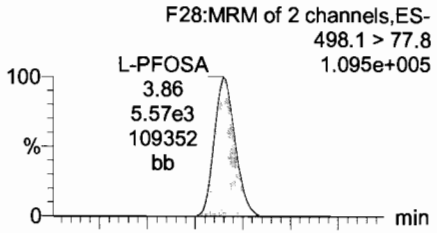
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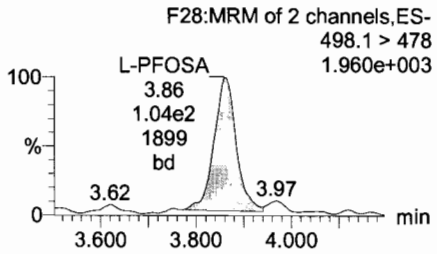
L-PFNA



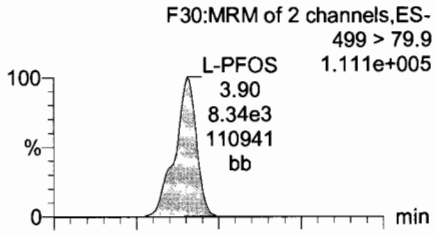


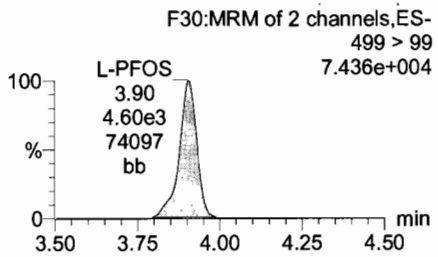
L-PFOSA



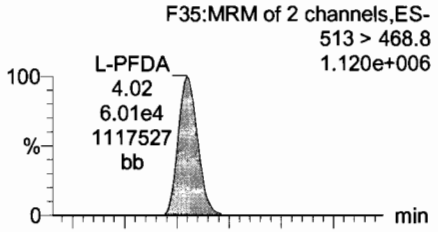


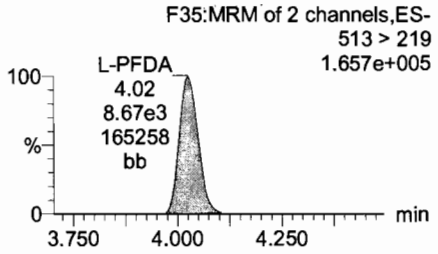
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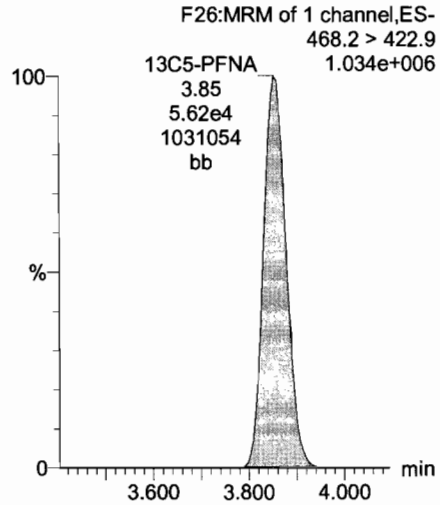


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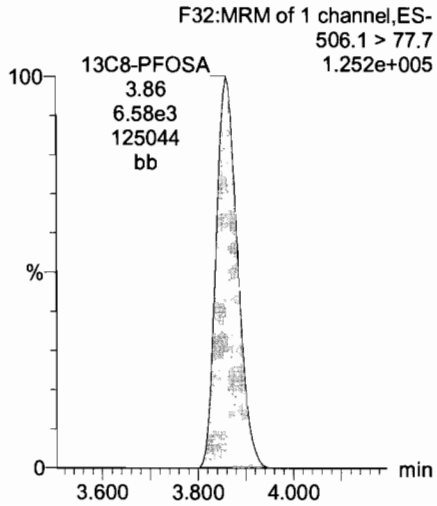




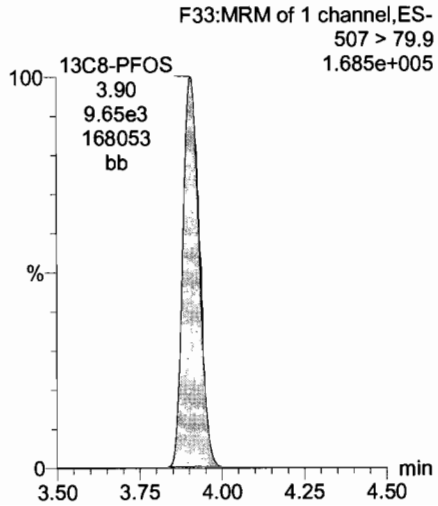
13C5-PFNA



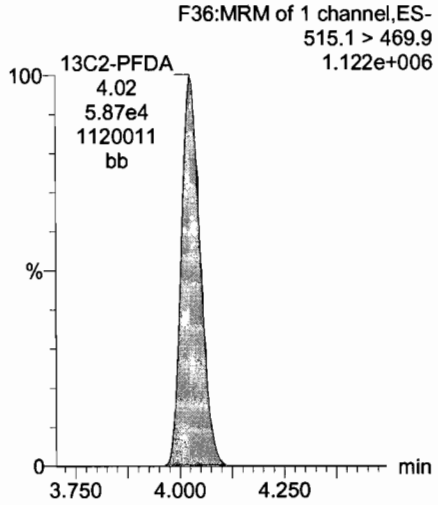
13C8-PFOSA



13C8-PFOS



13C2-PFDA

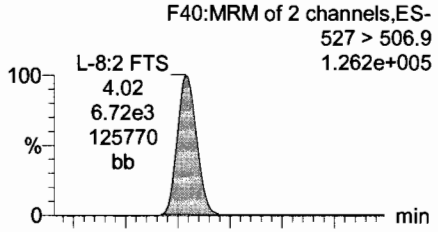


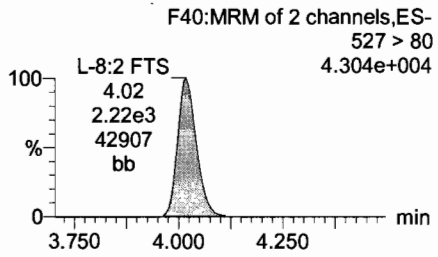
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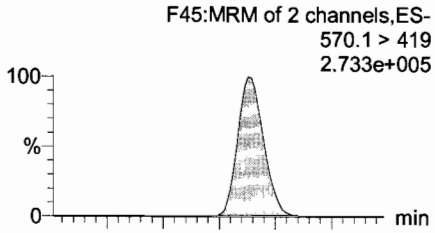
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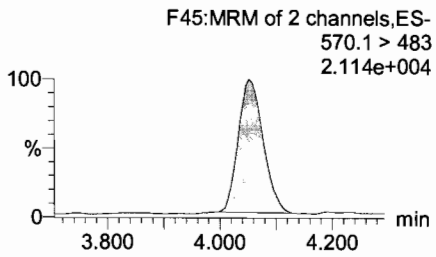
L-8:2 FTS



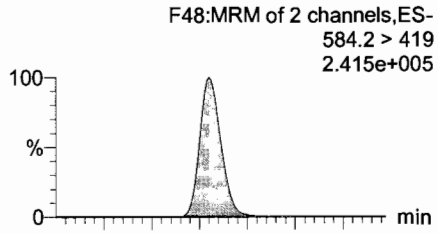


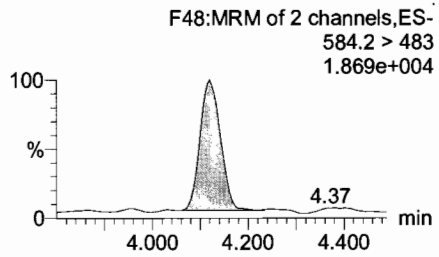
L-N-MeFOSAA



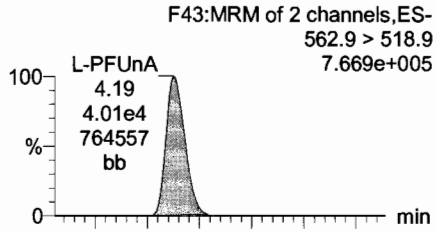


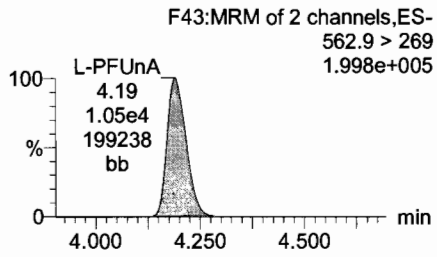
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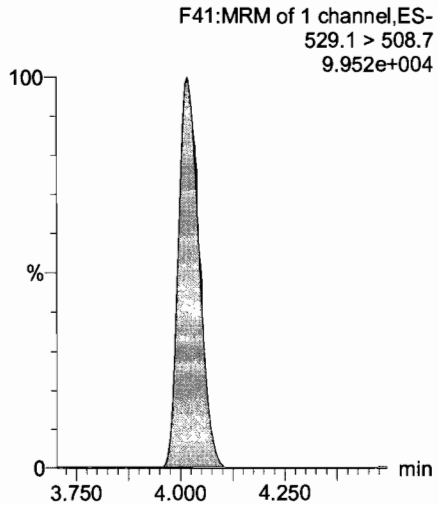


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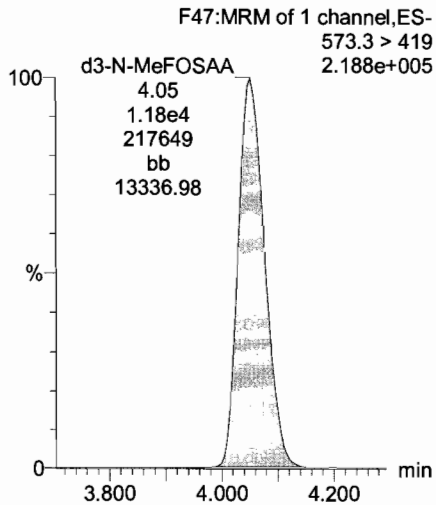




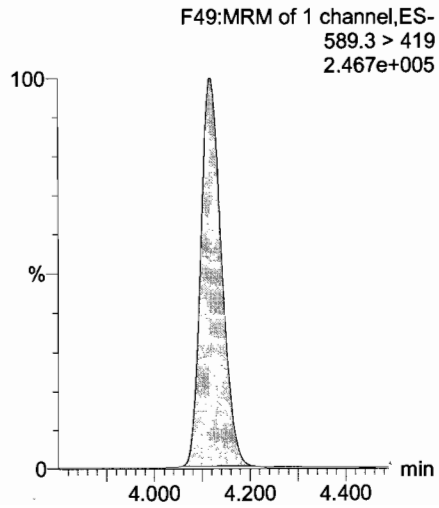
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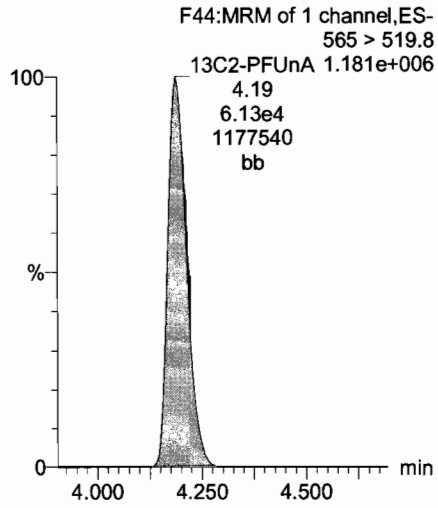
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d5-N-EtFOSAA



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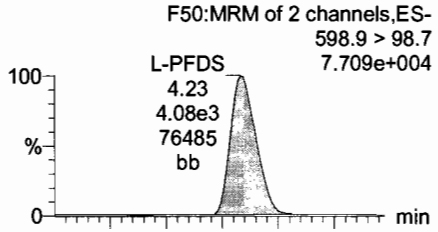


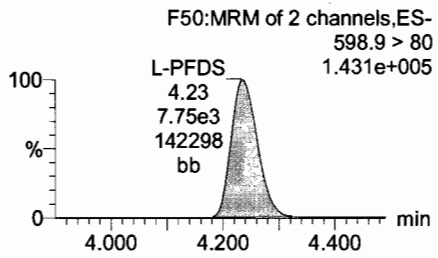
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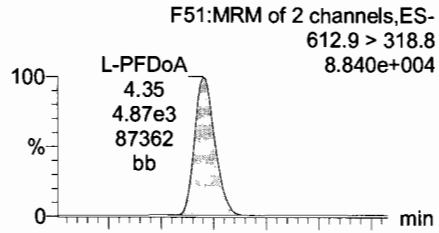
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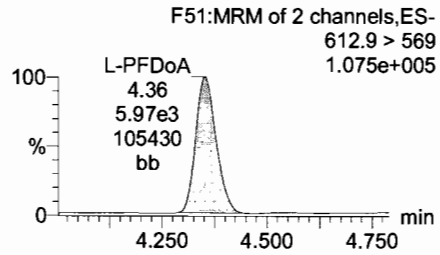
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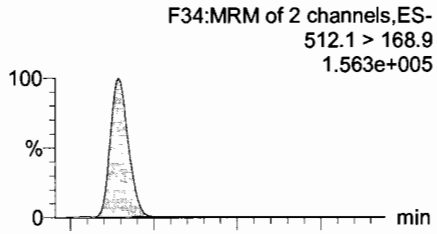


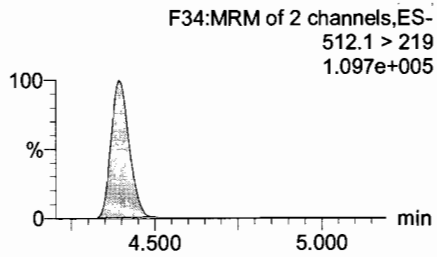
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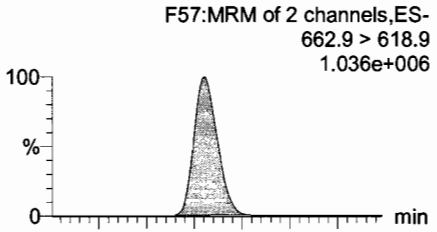


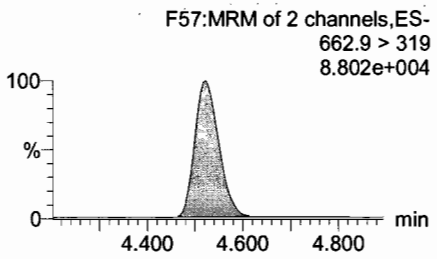
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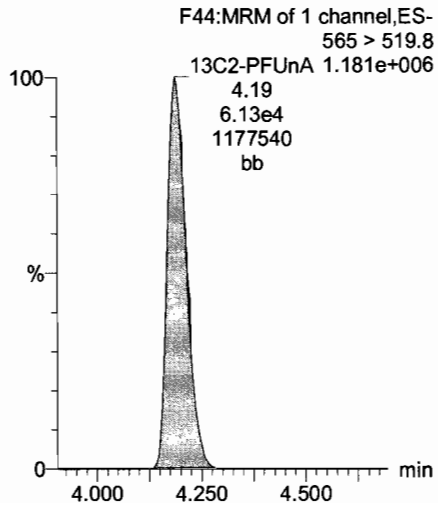


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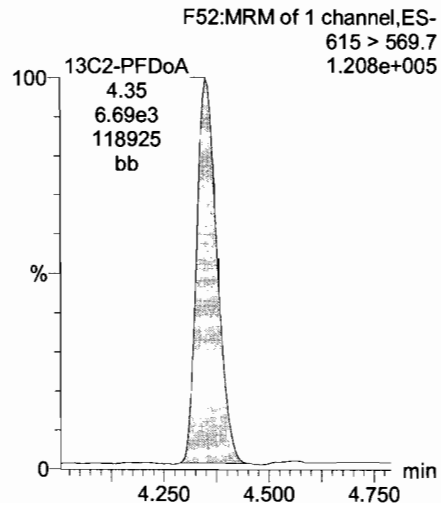




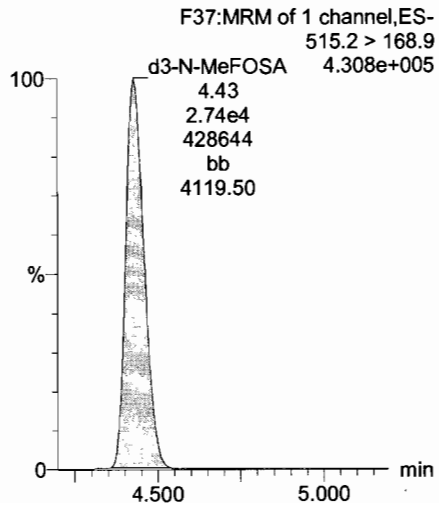
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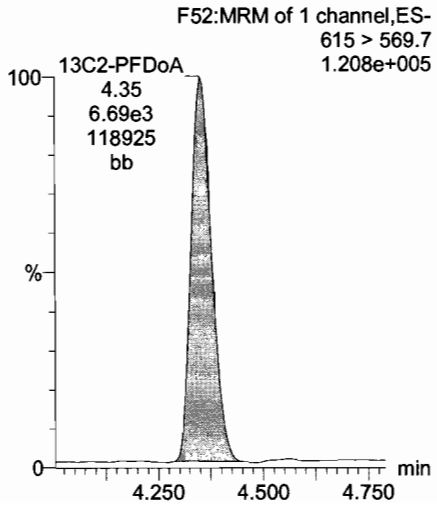
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d3-N-MeFOSA



13C2-PFDoA

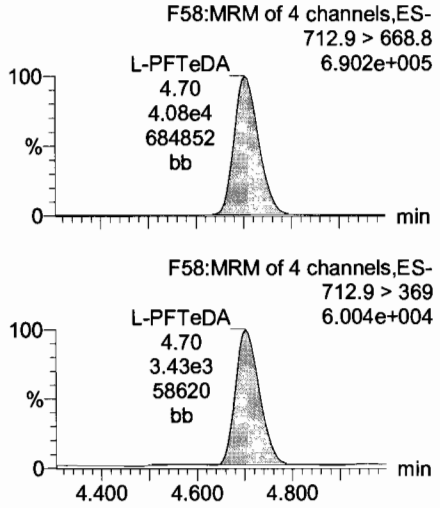


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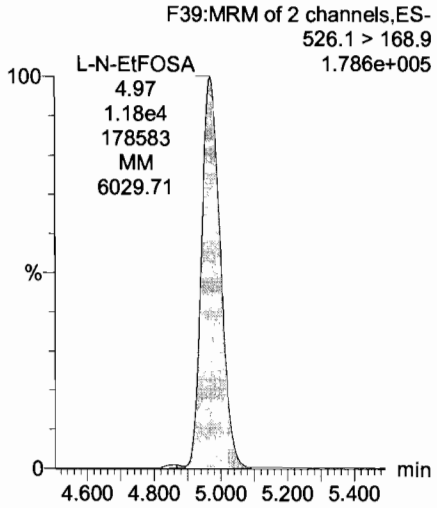
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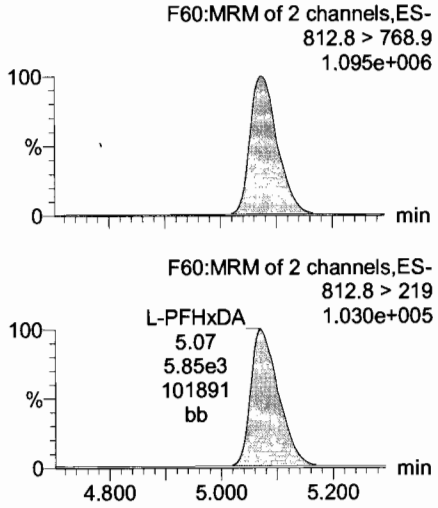
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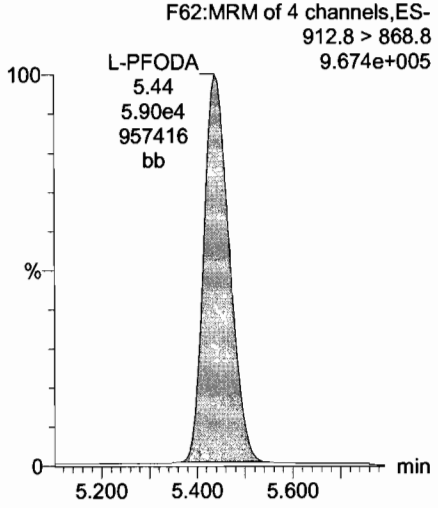
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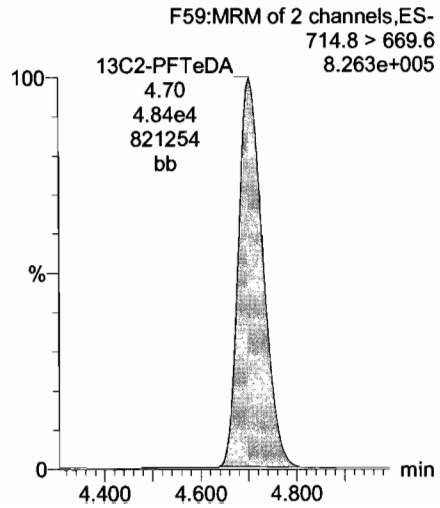
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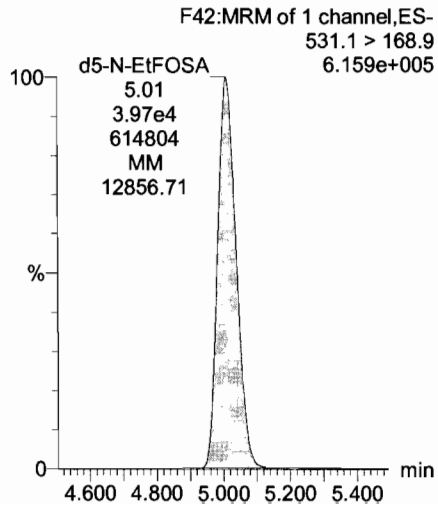
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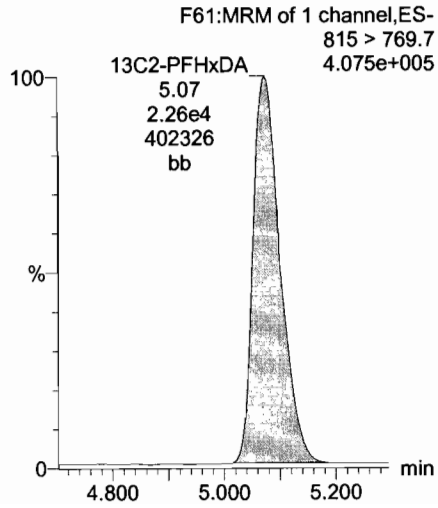
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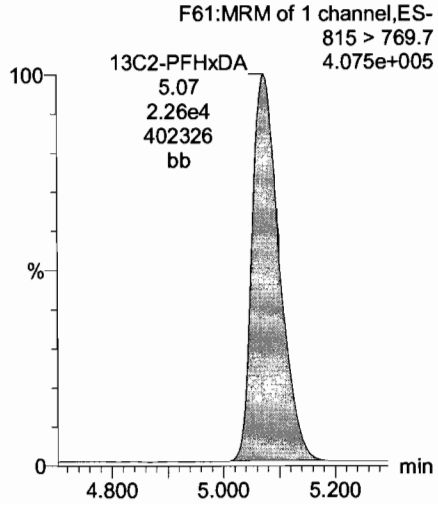
d5-N-EtFOSA



13C2-PFHxDA



13C2-PFHxDA

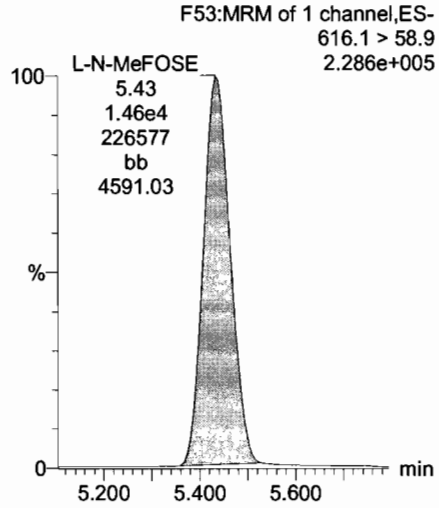


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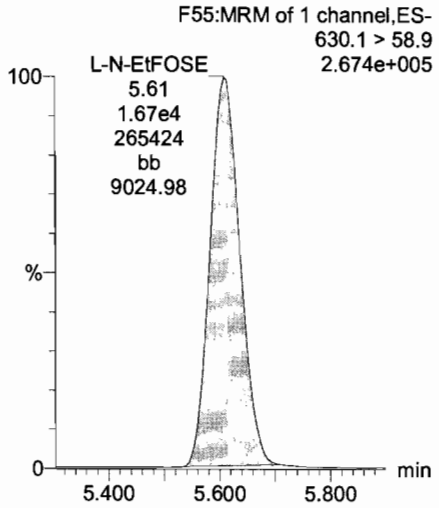
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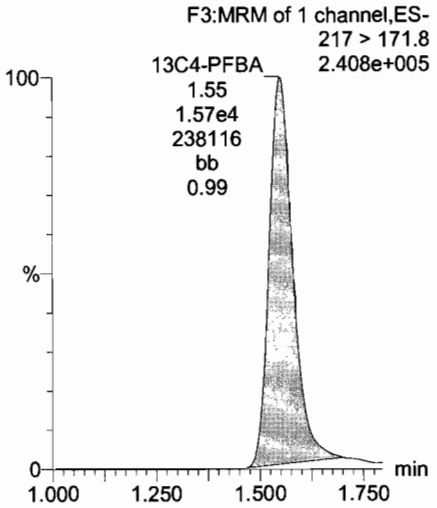
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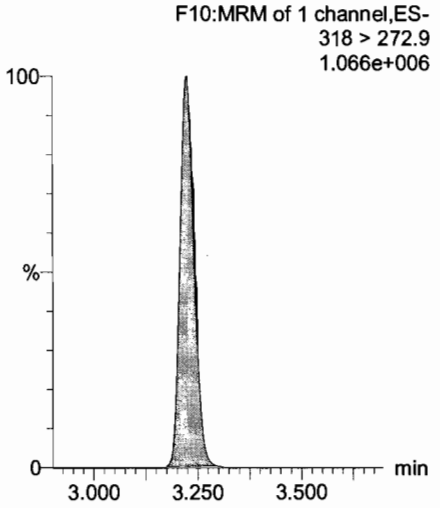
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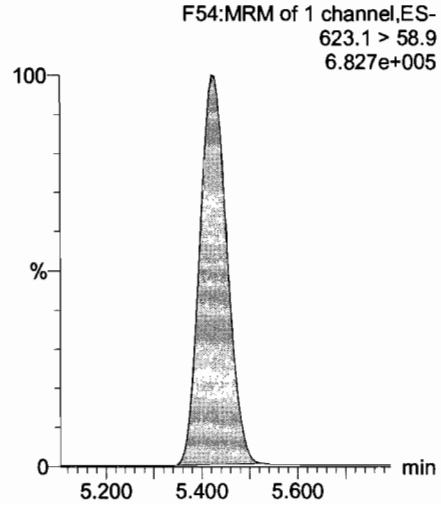
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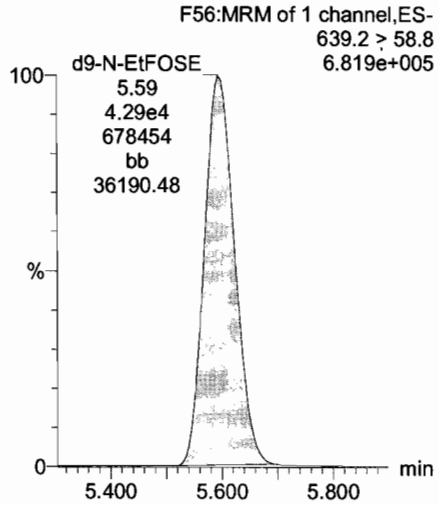
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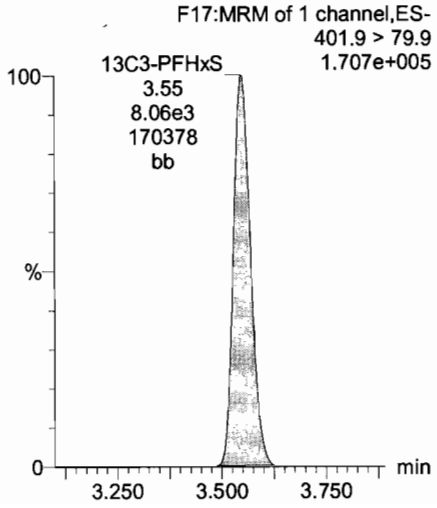
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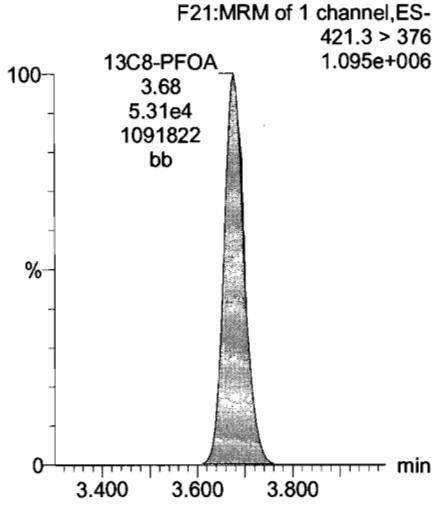
d9-N-EtFOSE



13C3-PFHxS



13C8-PFOA

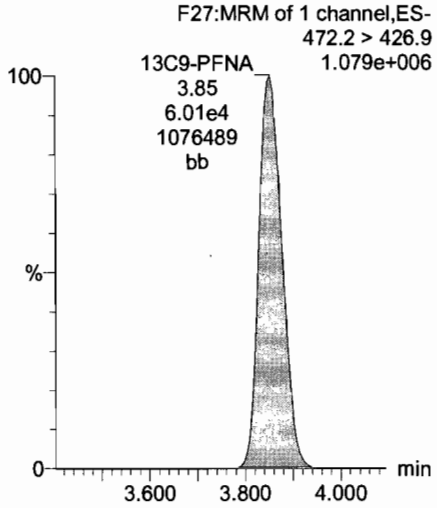


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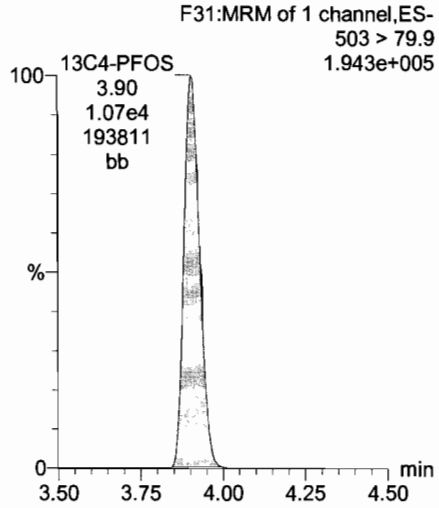
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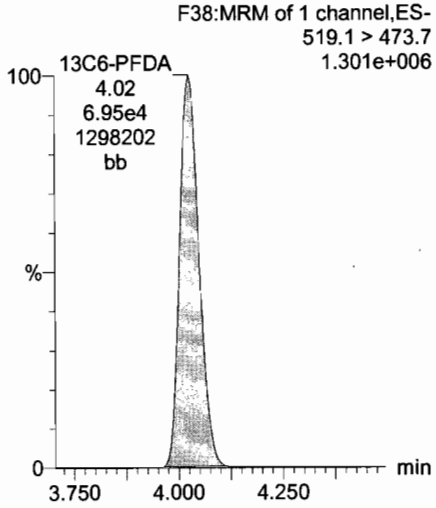
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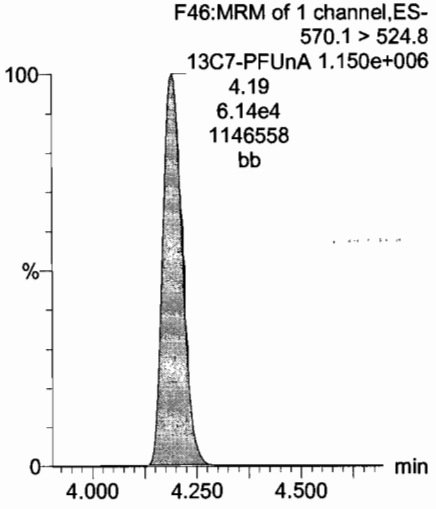
13C4-PFOS



13C6-PFDA



13C7-PFUnA

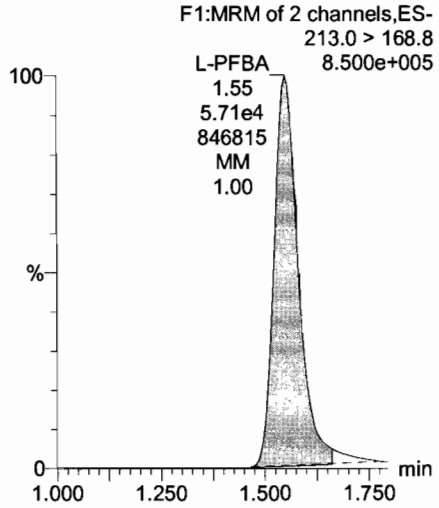


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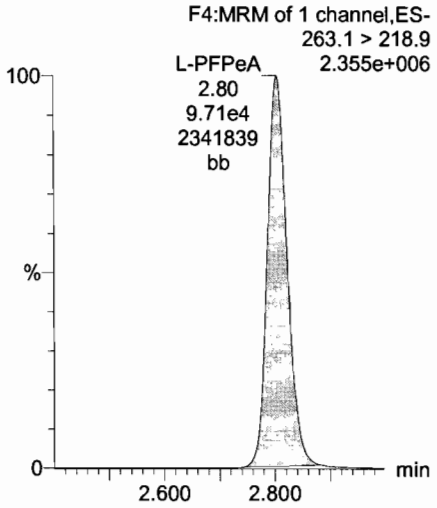
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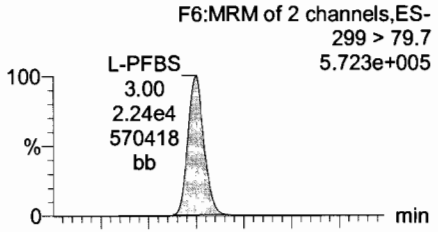
L-PFBA

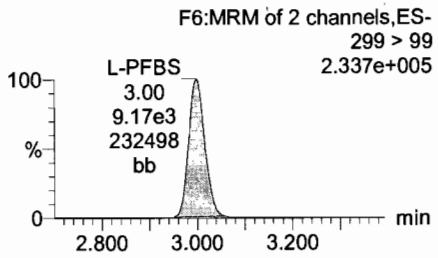


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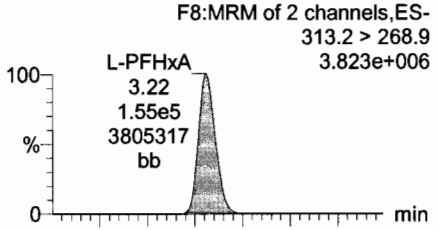


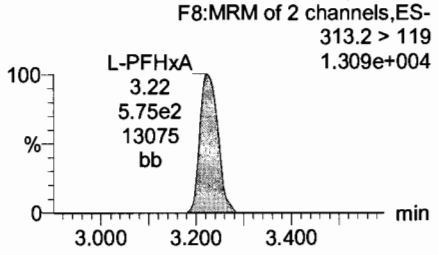
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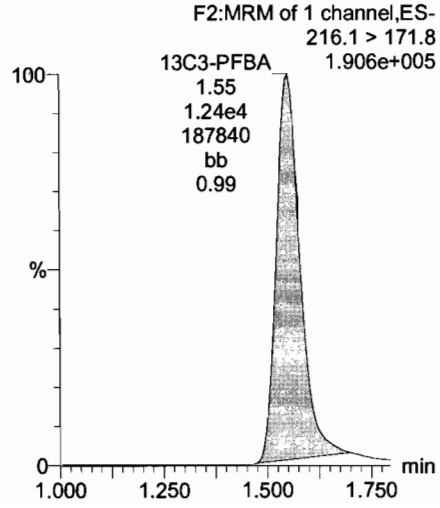


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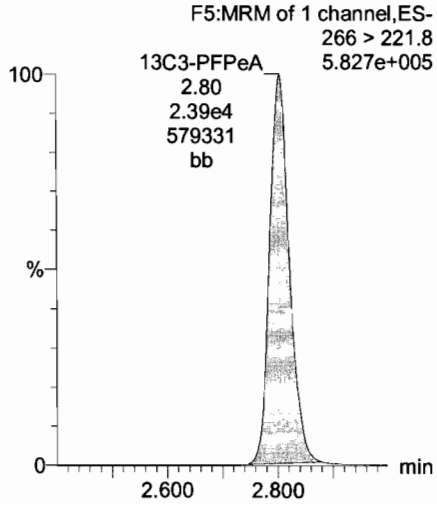




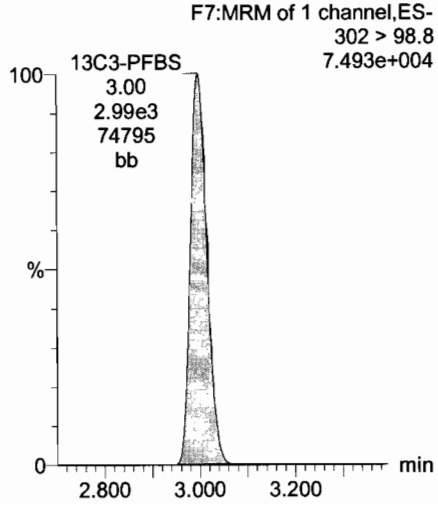
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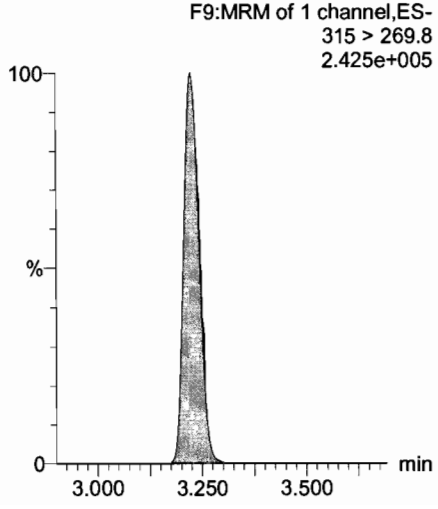
13C3-PFPeA



13C3-PFBS



13C2-PFHxA

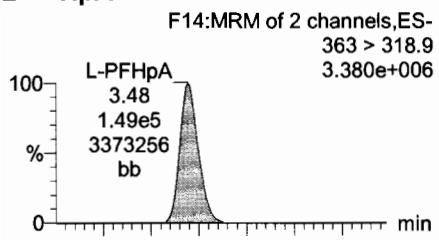


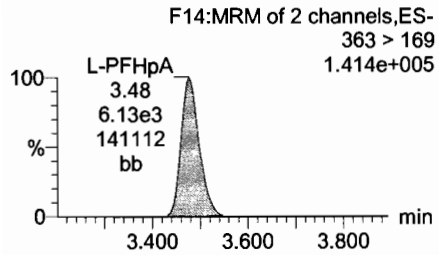
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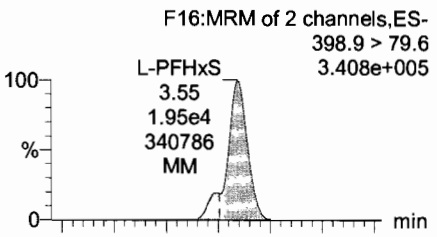
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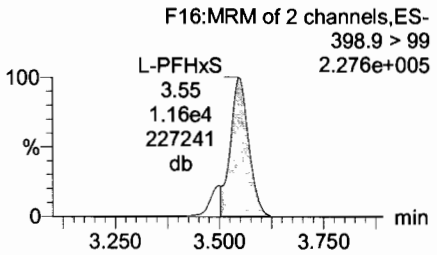
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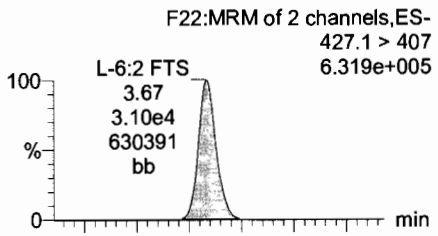


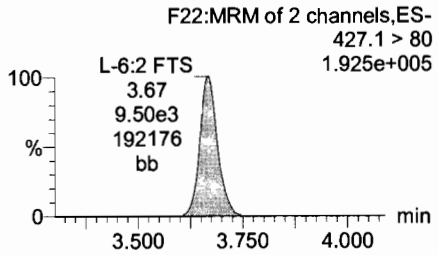
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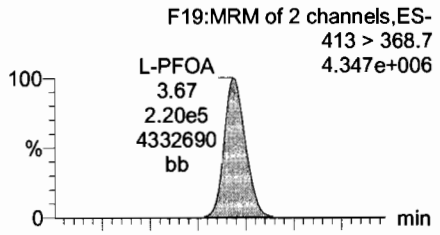


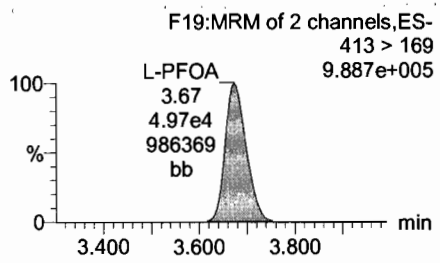
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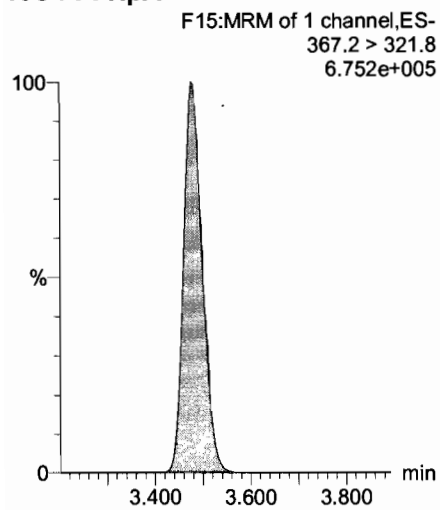


L-PFOA

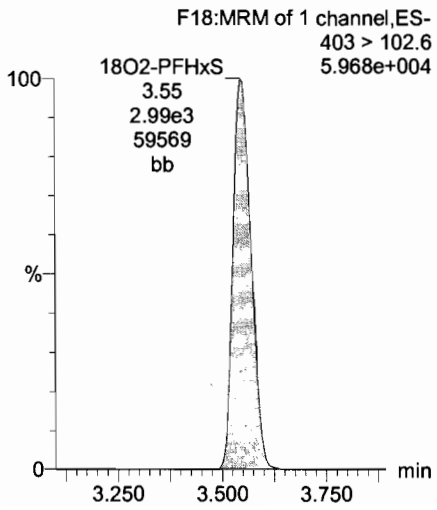




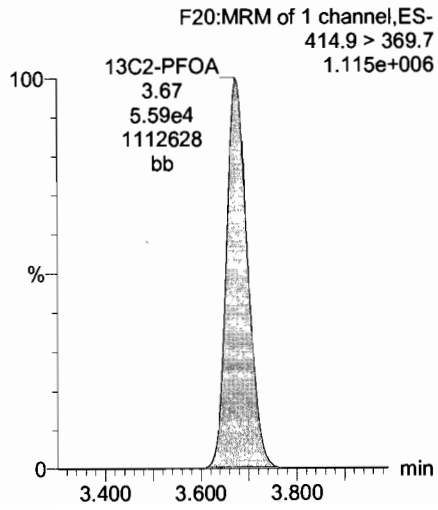
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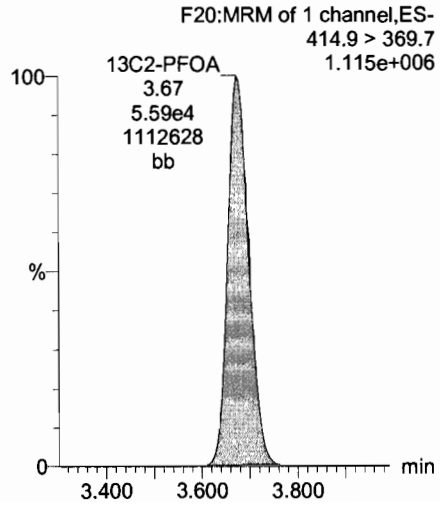
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13C2-PFOA



13C2-PFOA

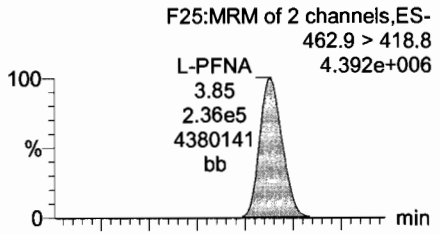


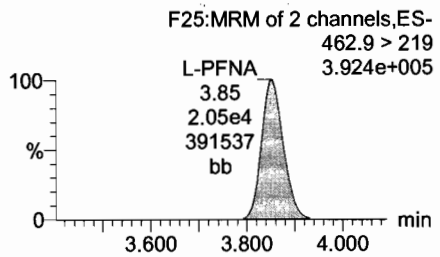
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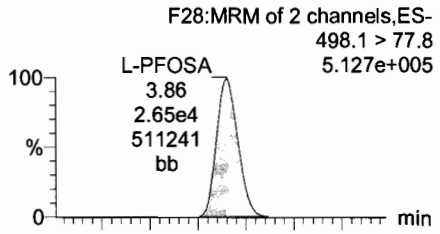
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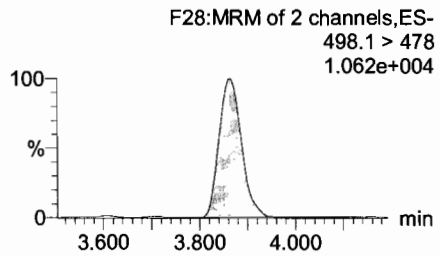
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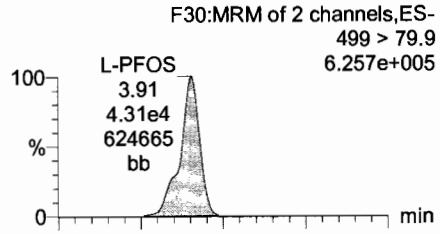


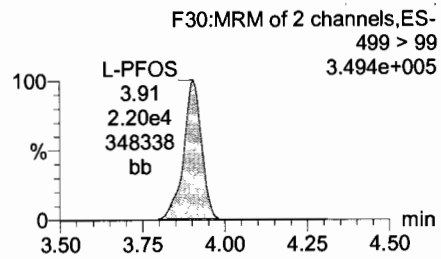
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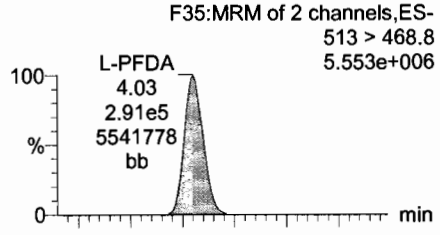


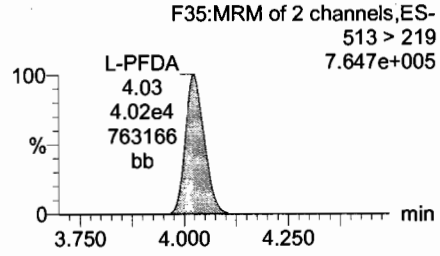
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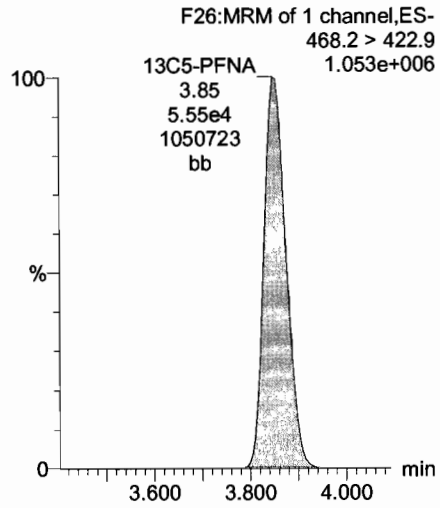


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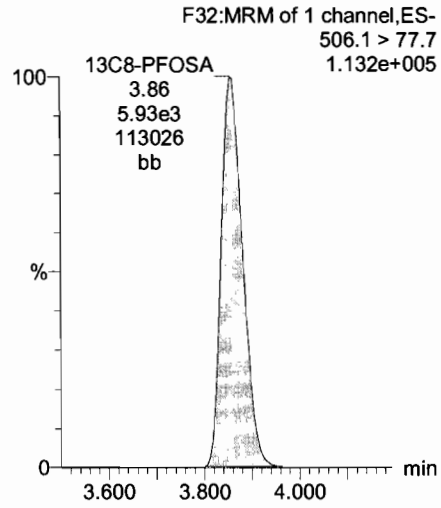




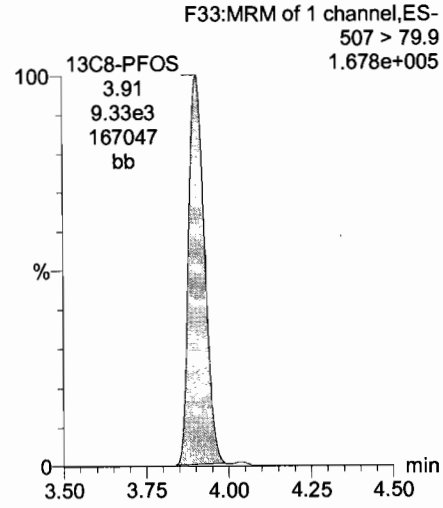
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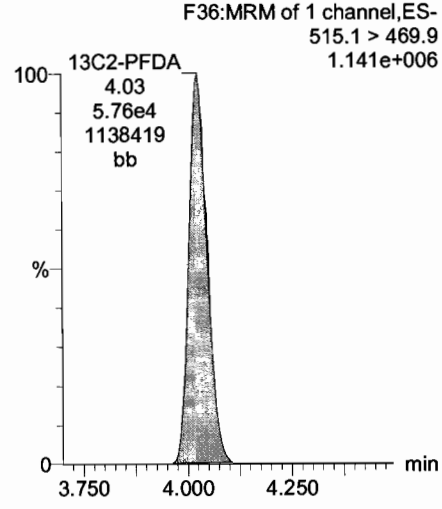
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13C8-PFOS



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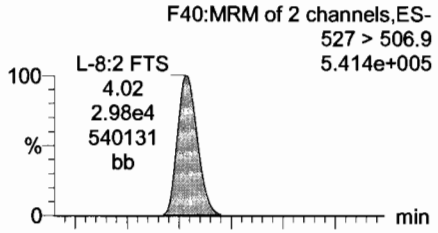


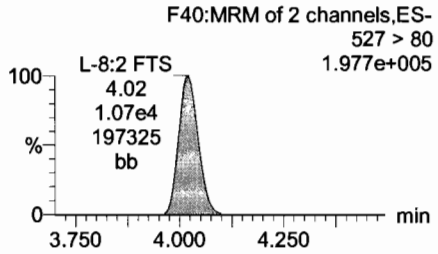
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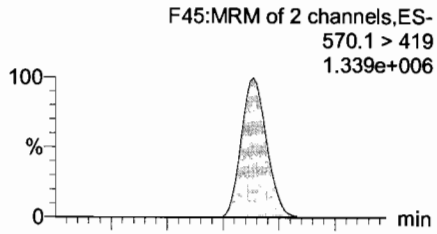
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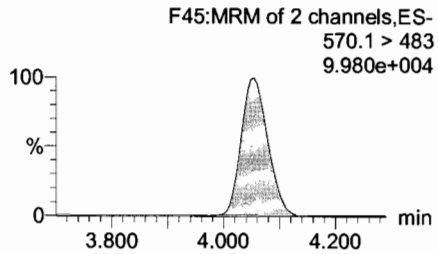
L-8:2 FTS



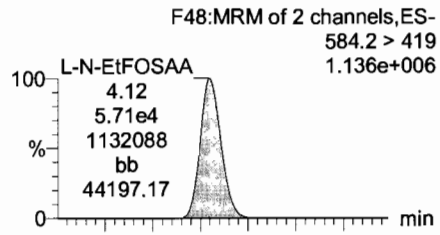


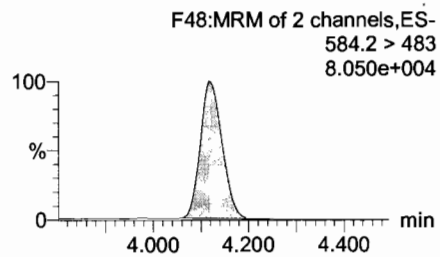
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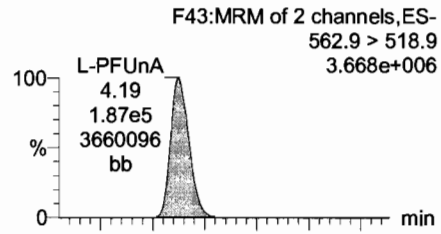


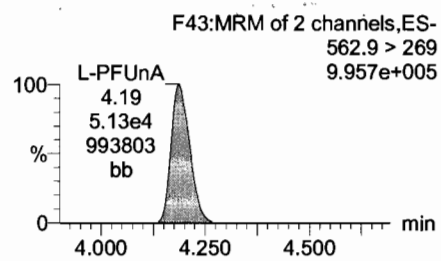
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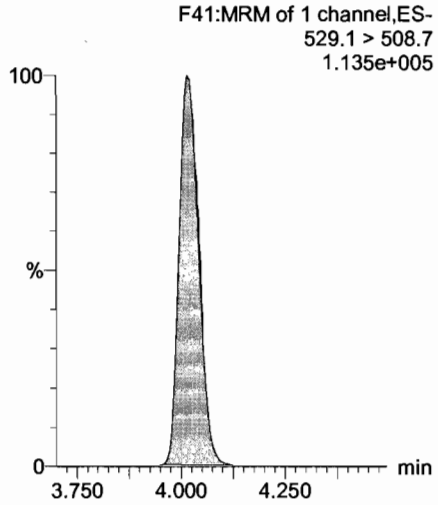


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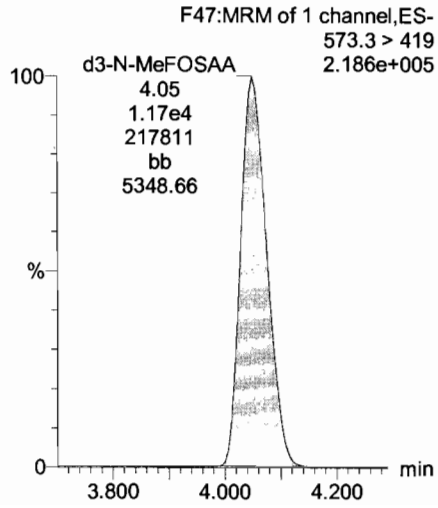




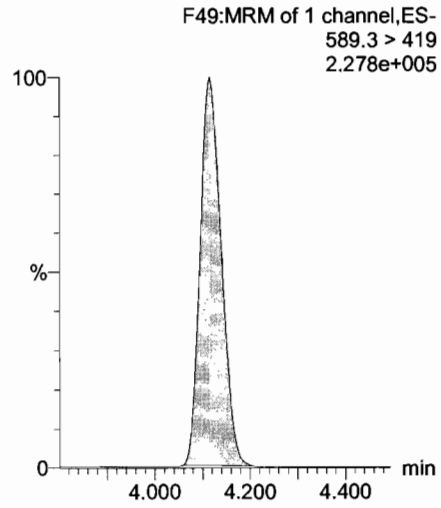
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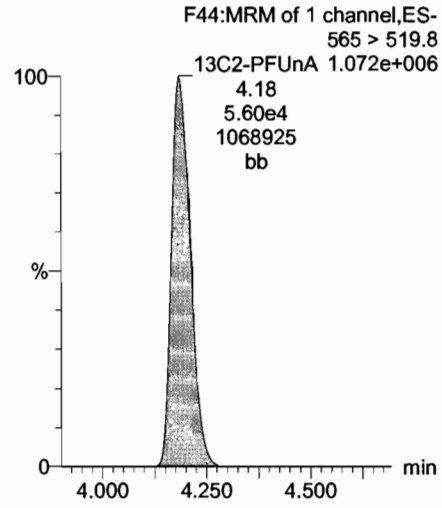
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d5-N-EtFOSAA



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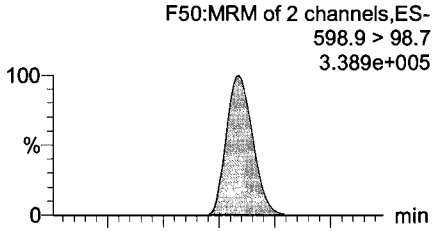


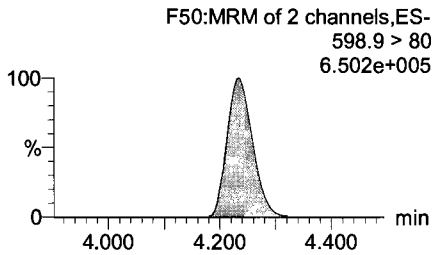
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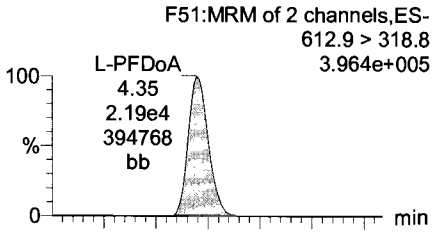
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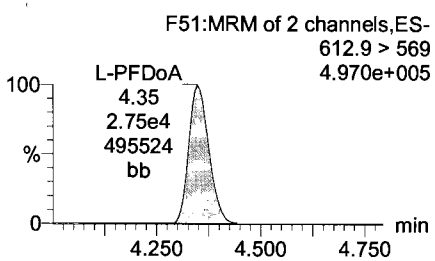
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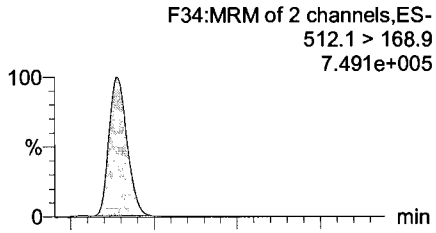


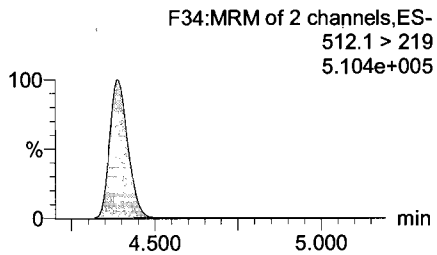
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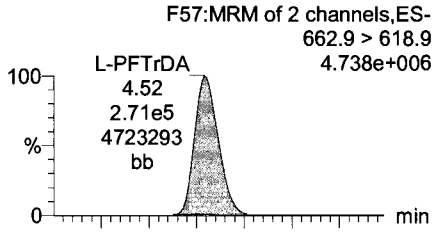


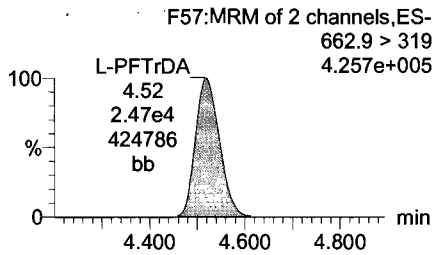
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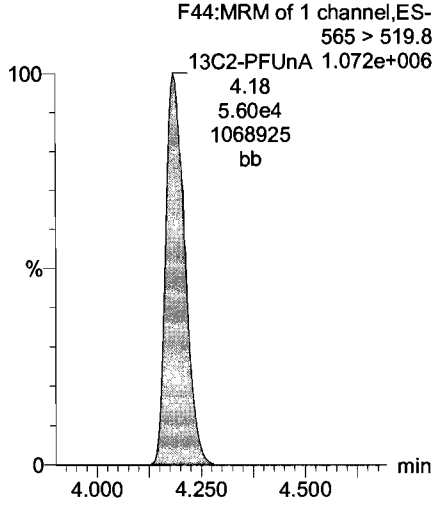


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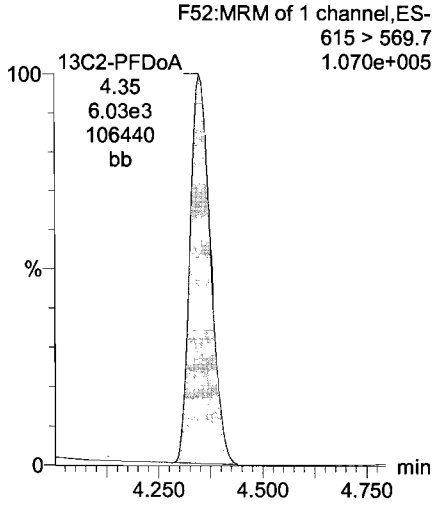




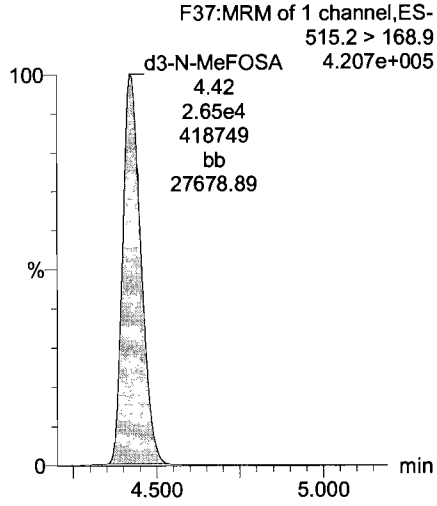
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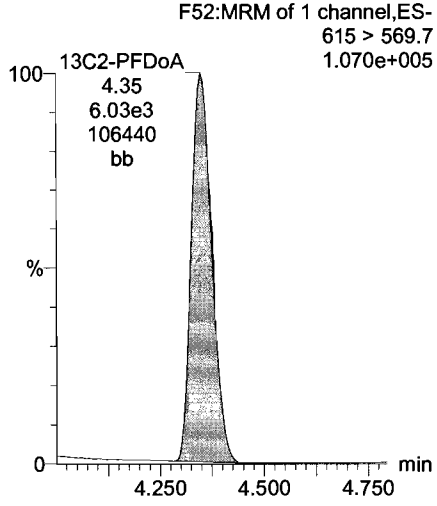
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d3-N-MeFOSA



13C2-PFDoA

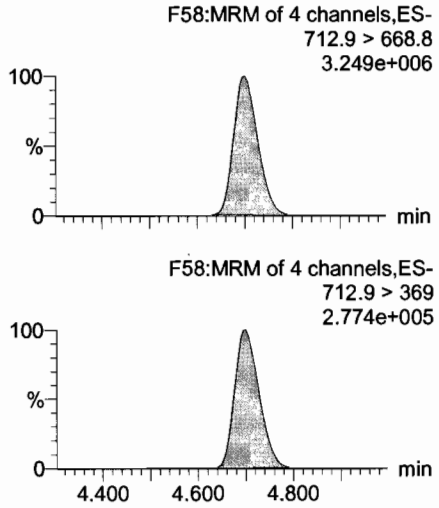


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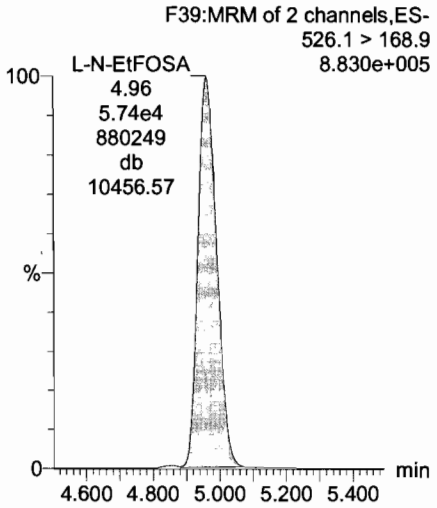
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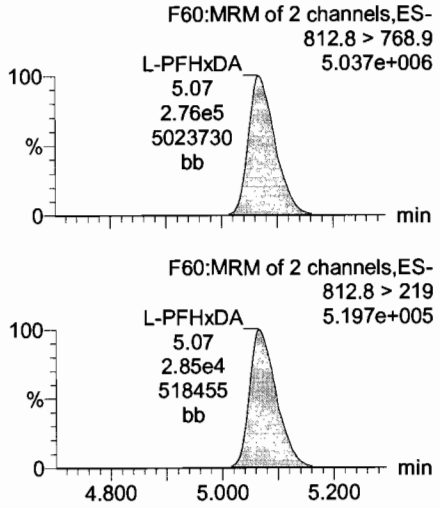
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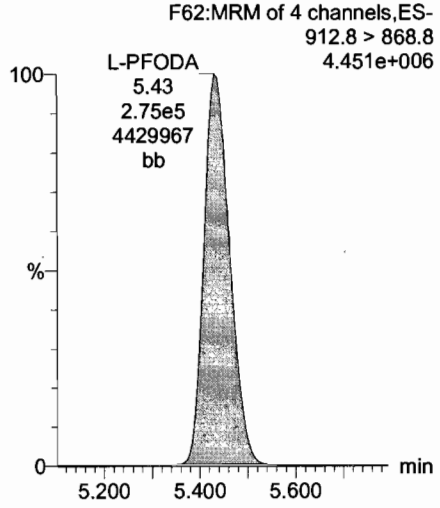
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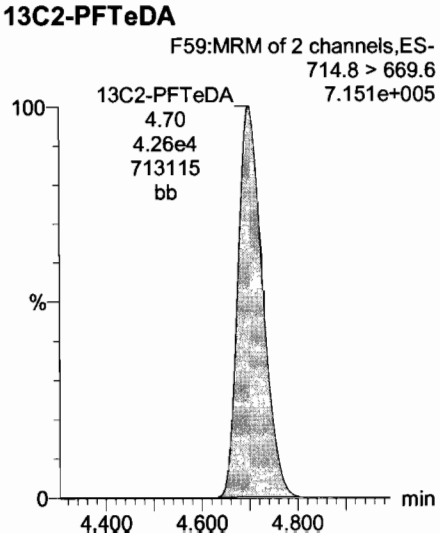
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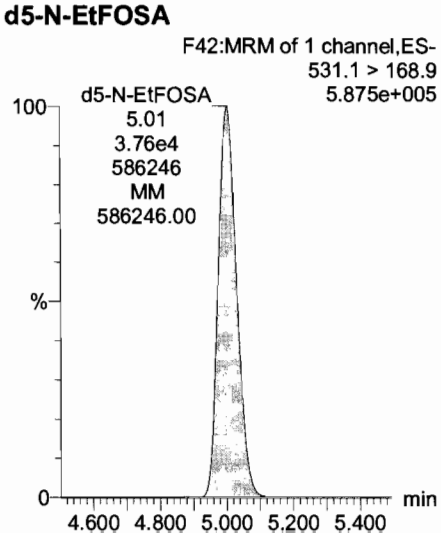
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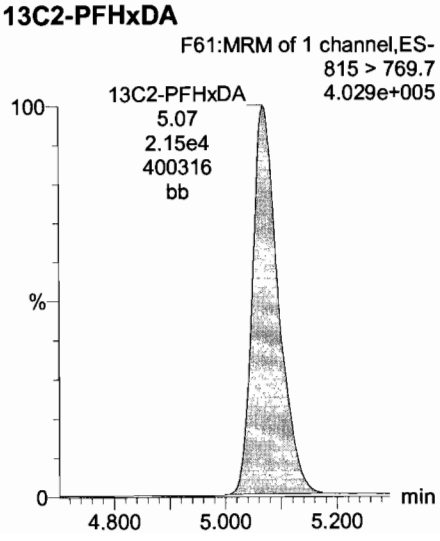
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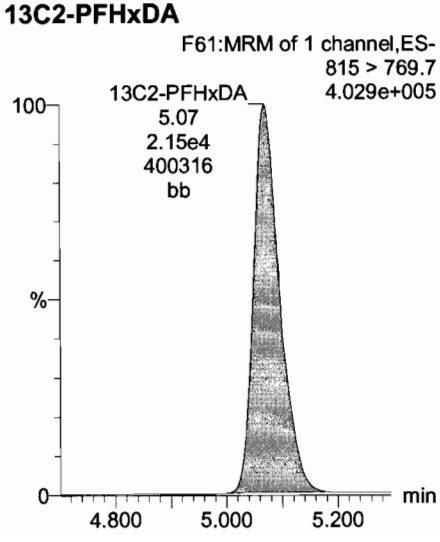
d5-N-EtFOSA



13C2-PFHxDA



13C2-PFHxDA

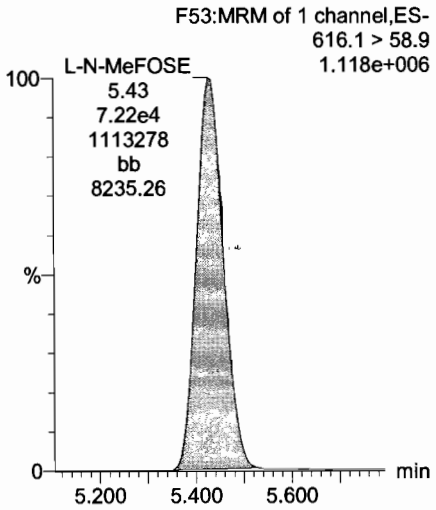


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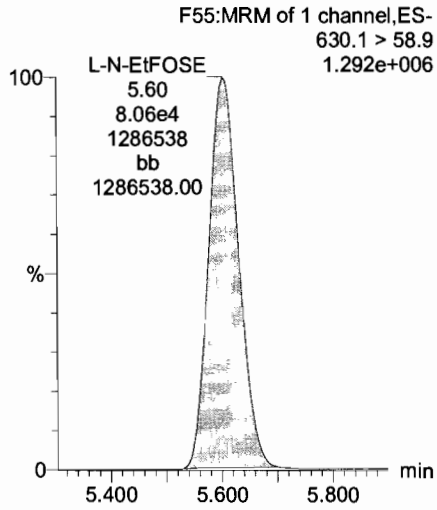
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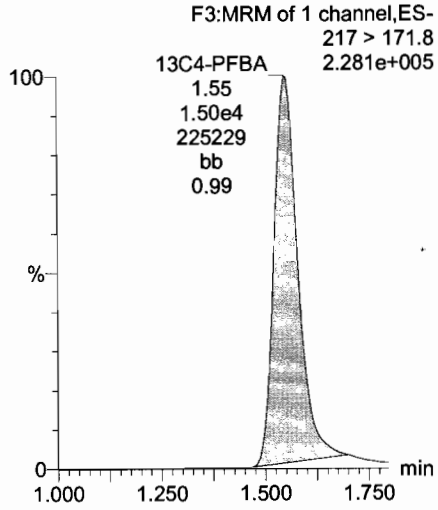
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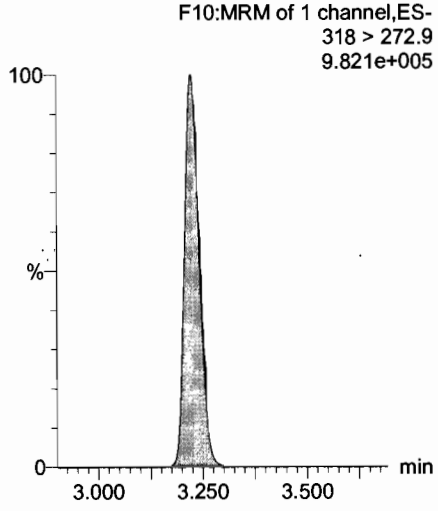
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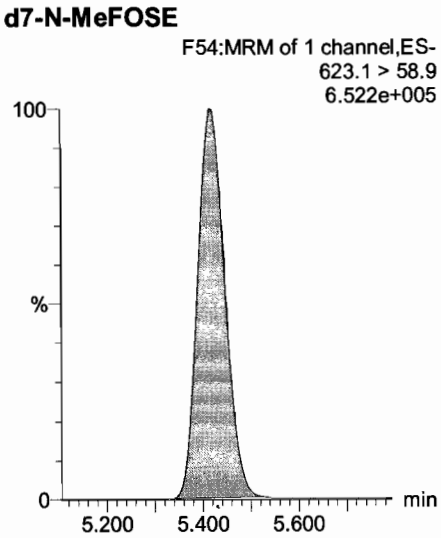
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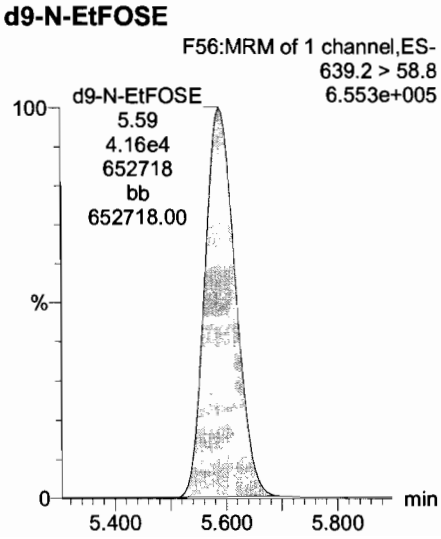
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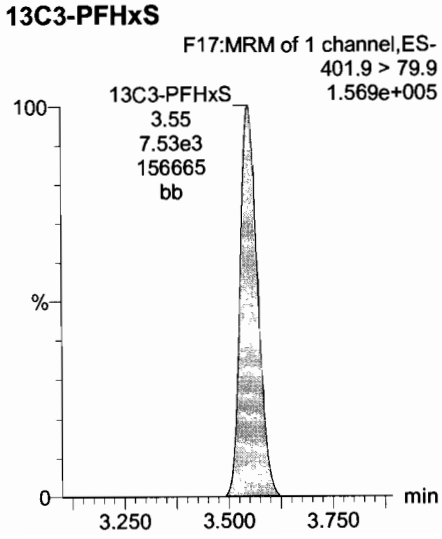
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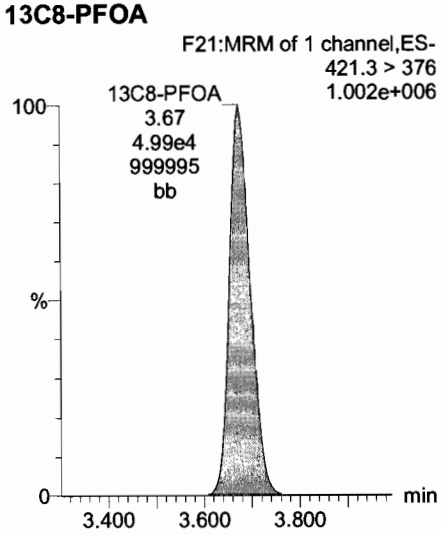
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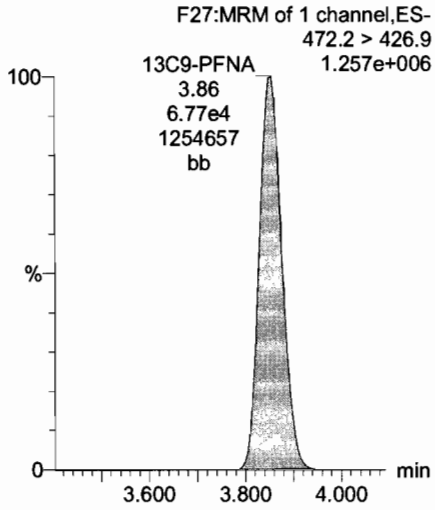


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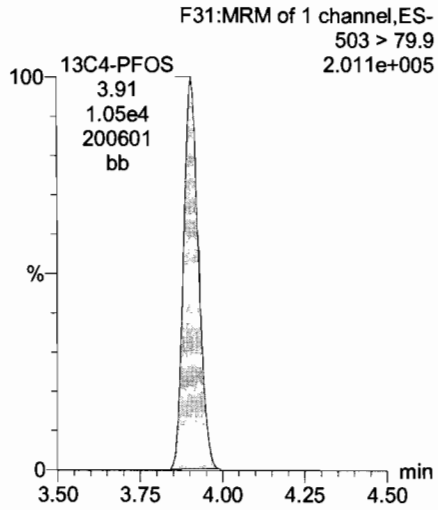
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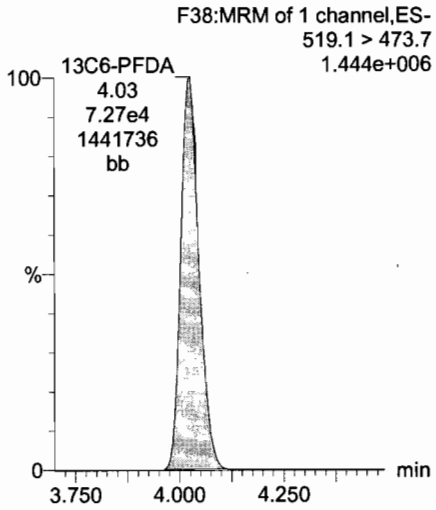
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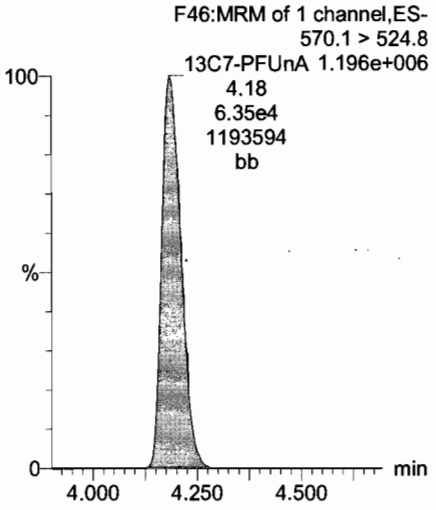
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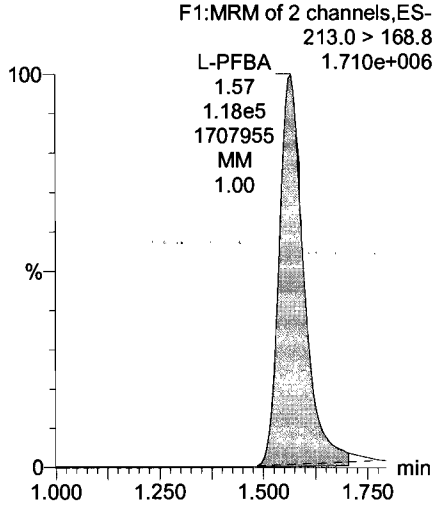


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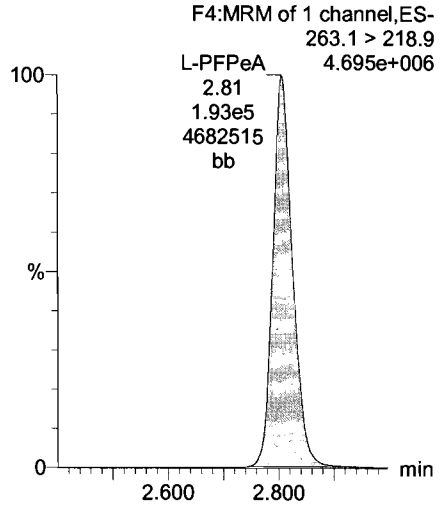
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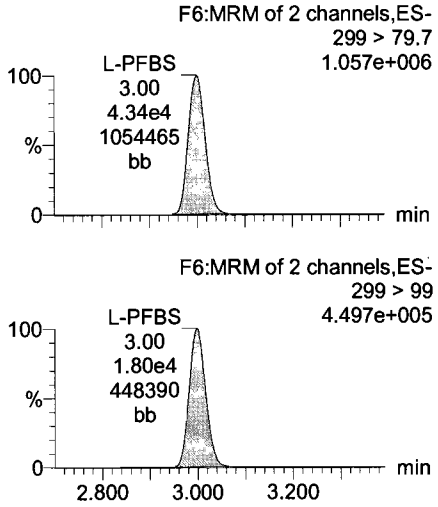
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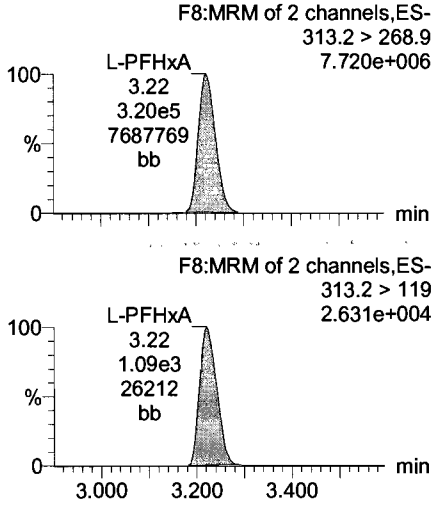
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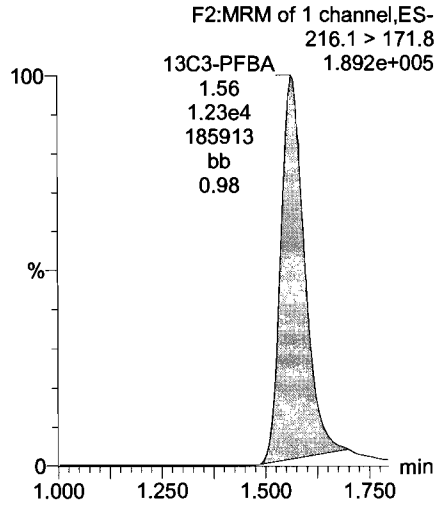
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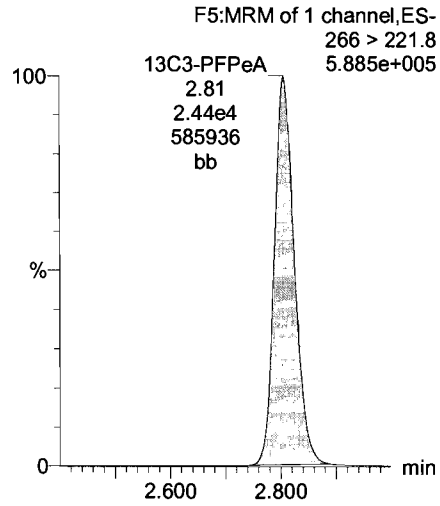
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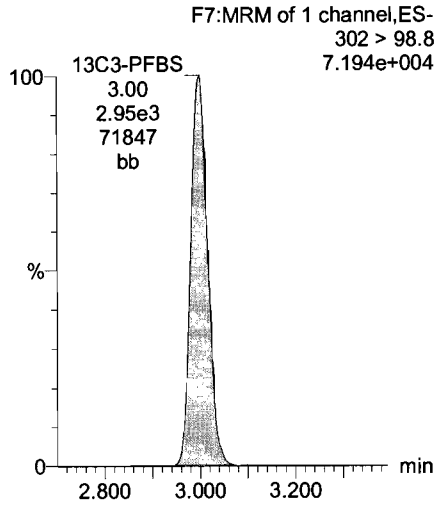
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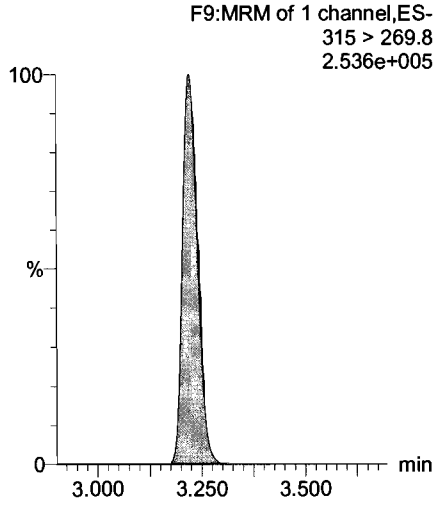
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13C3-PFBS



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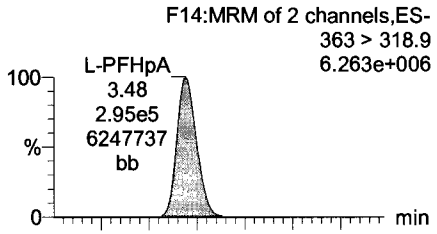


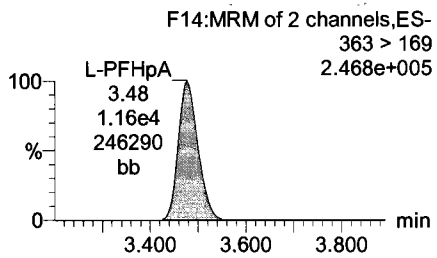
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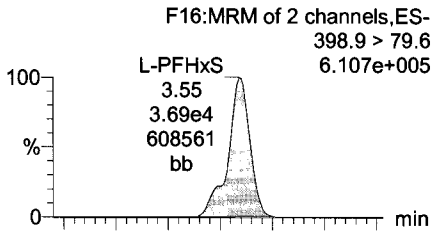
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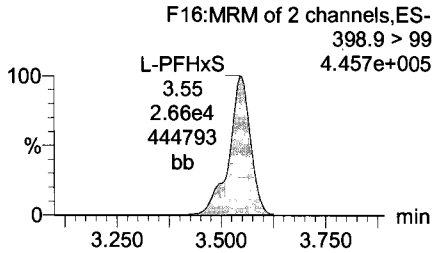
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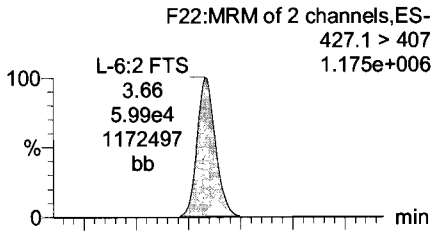


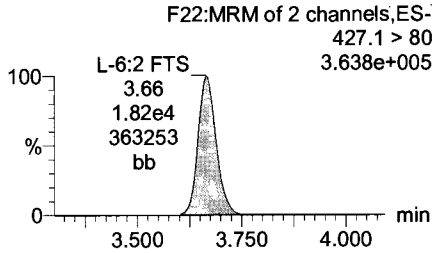
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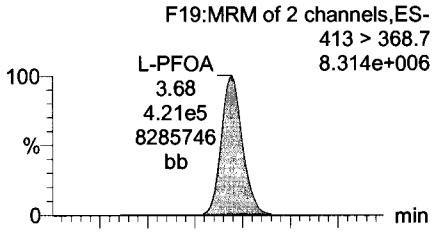


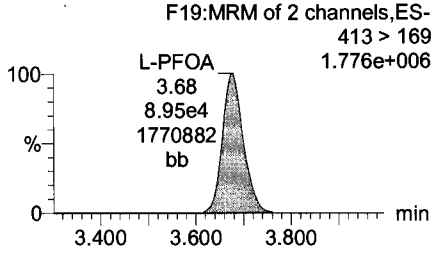
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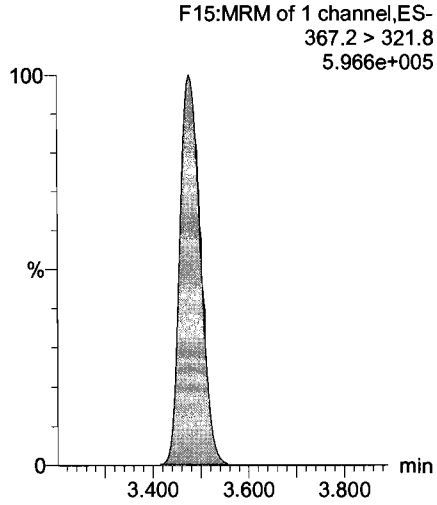


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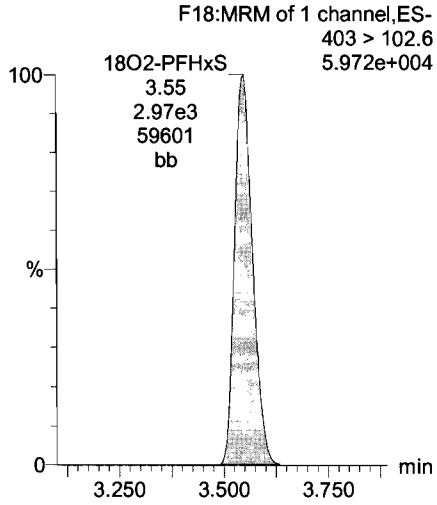




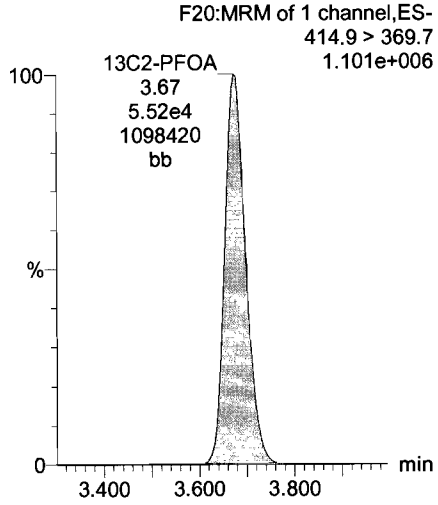
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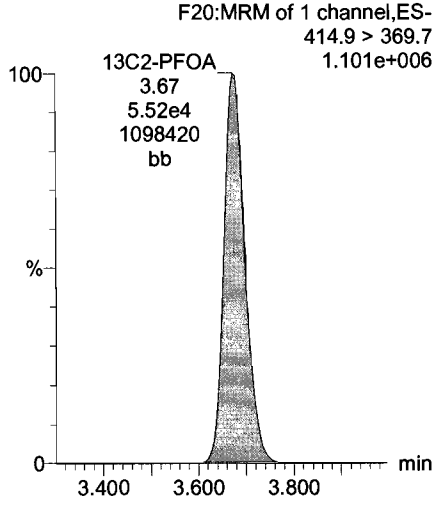
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13C2-PFOA



13C2-PFOA

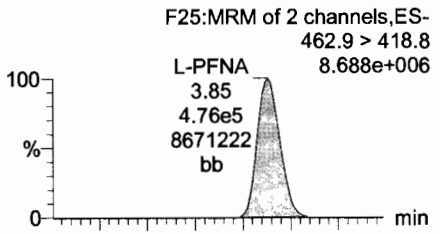


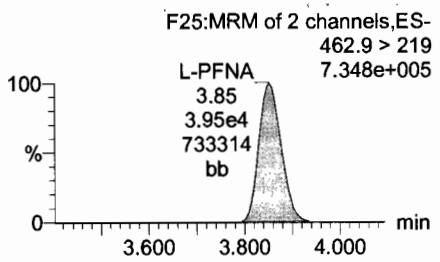
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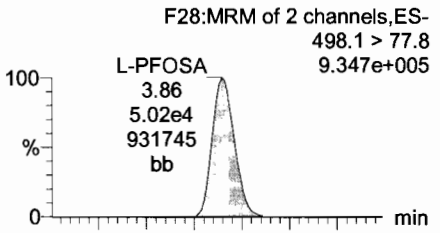
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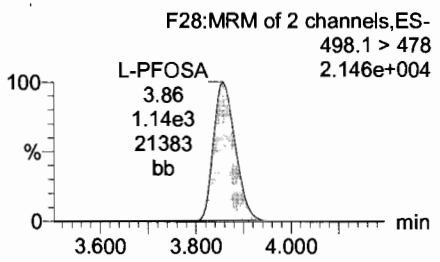
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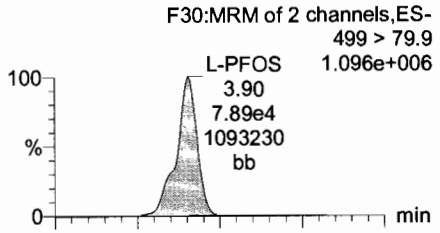


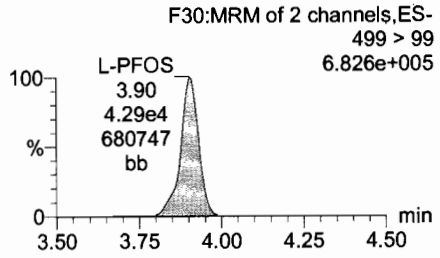
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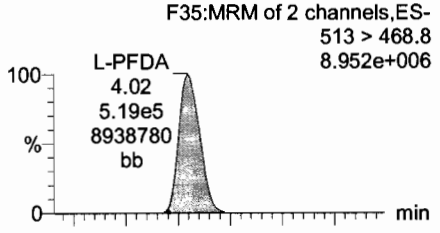


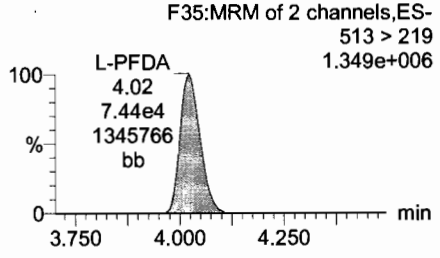
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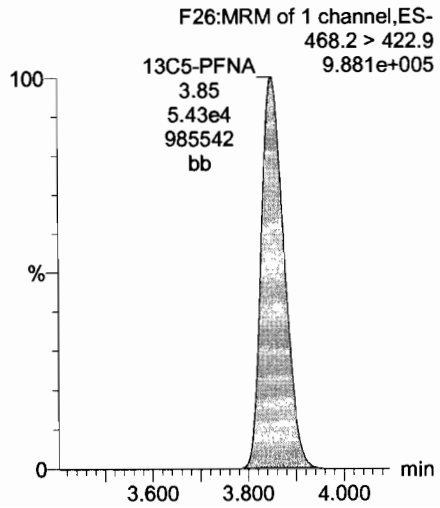


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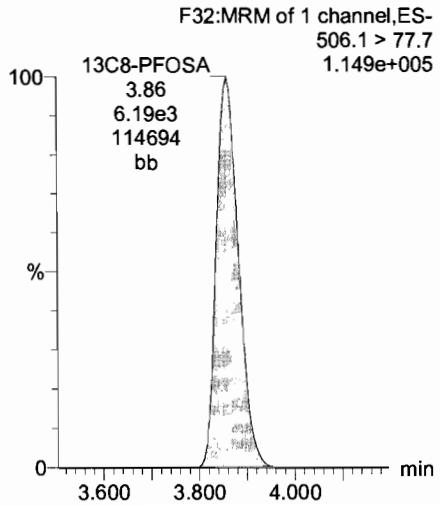




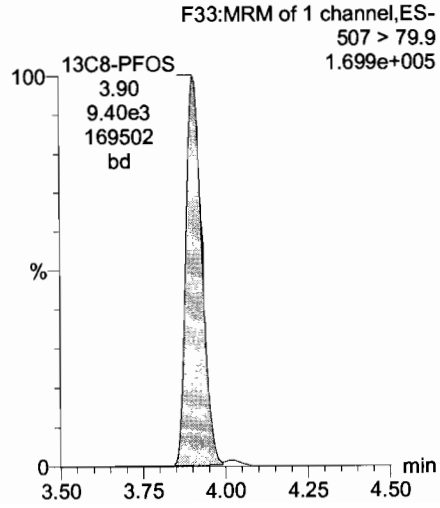
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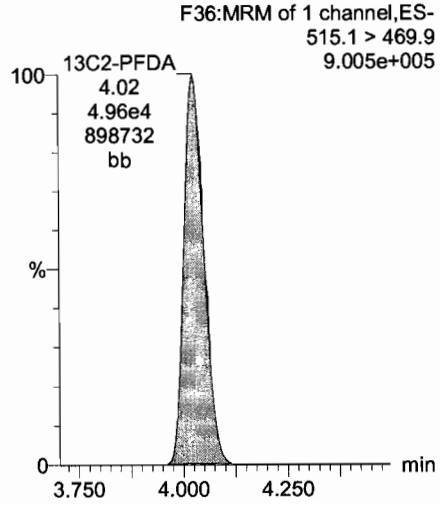
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13C8-PFOS



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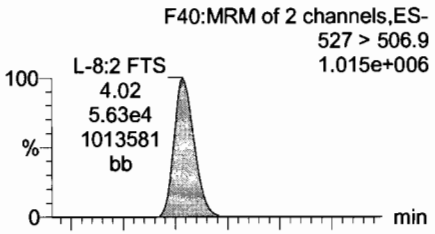


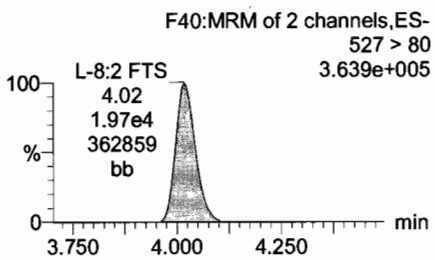
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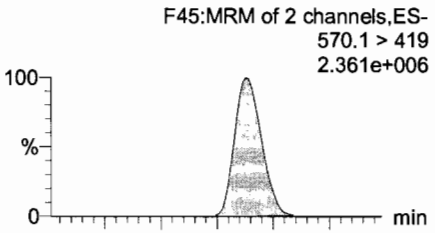
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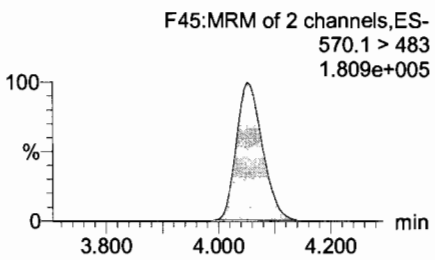
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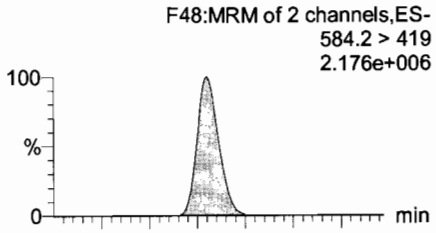


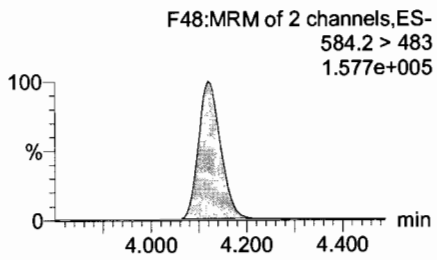
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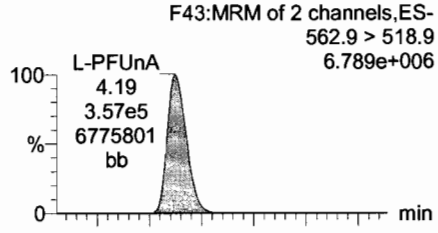


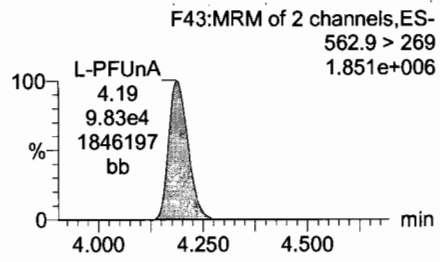
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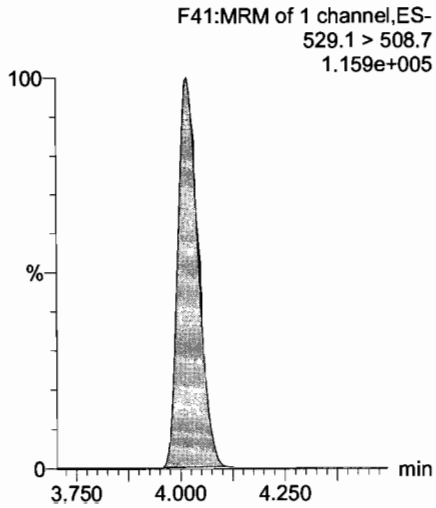


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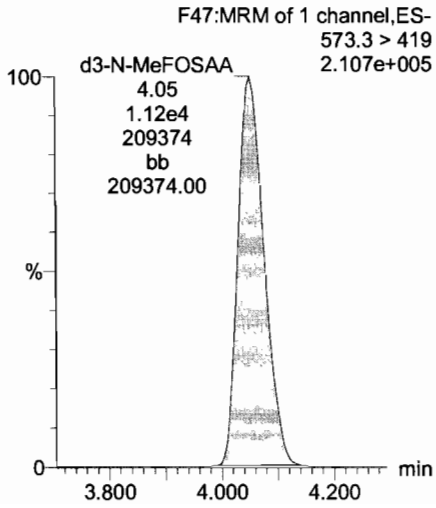




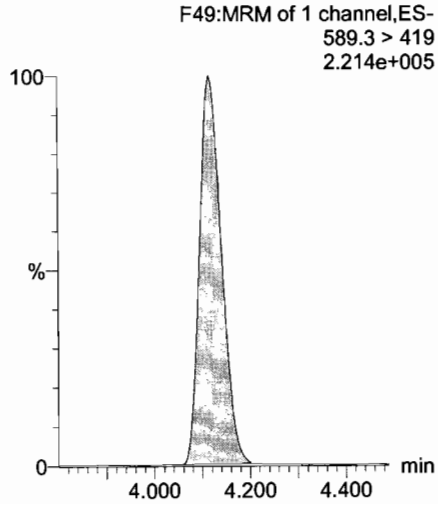
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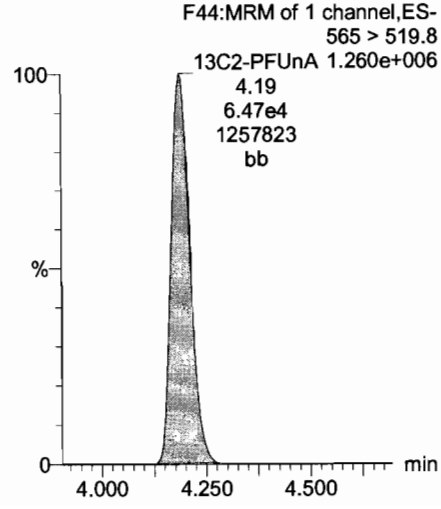
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d5-N-EtFOSAA



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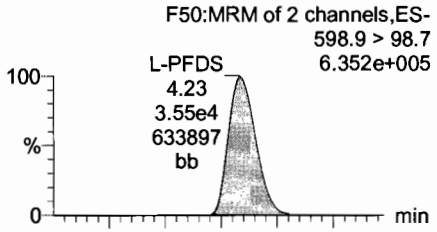


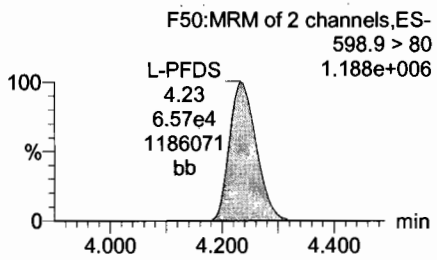
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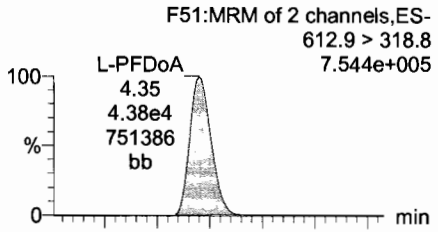
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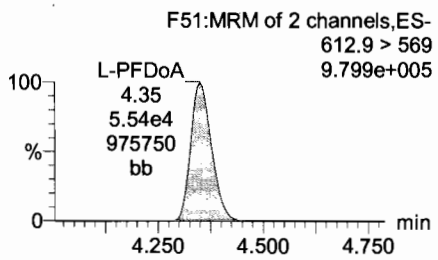
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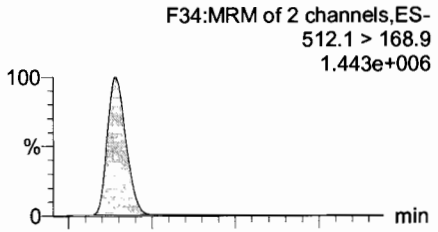


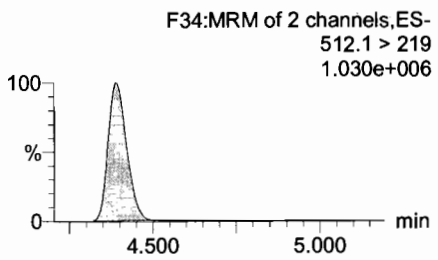
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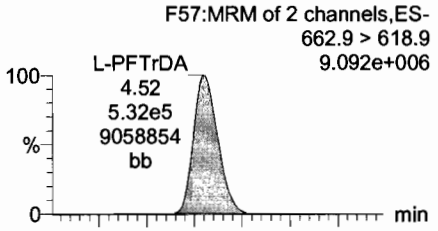


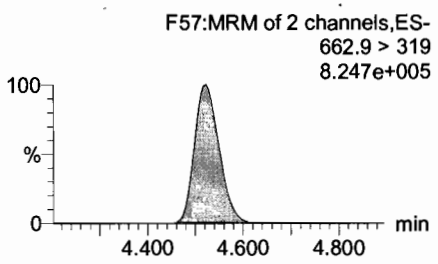
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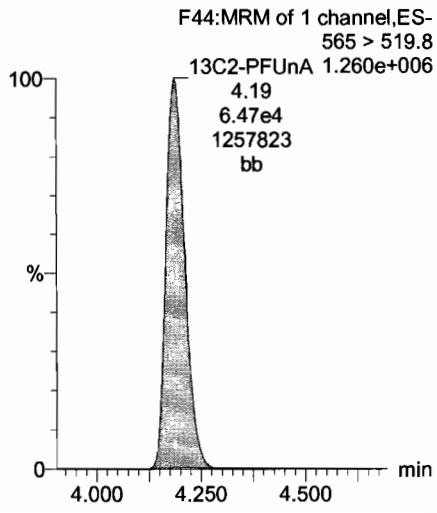


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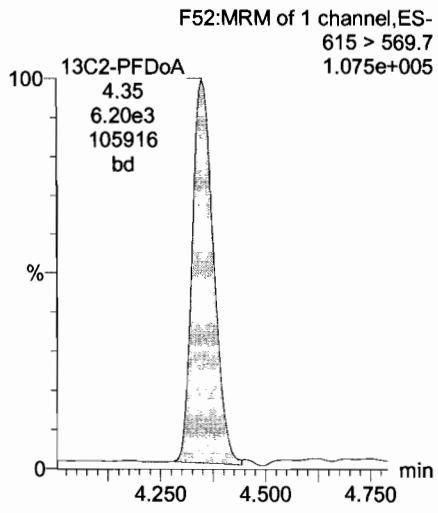




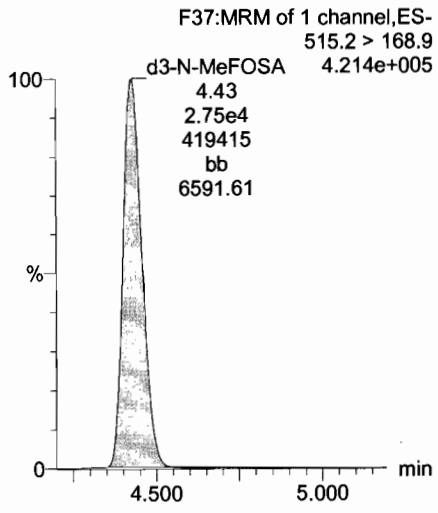
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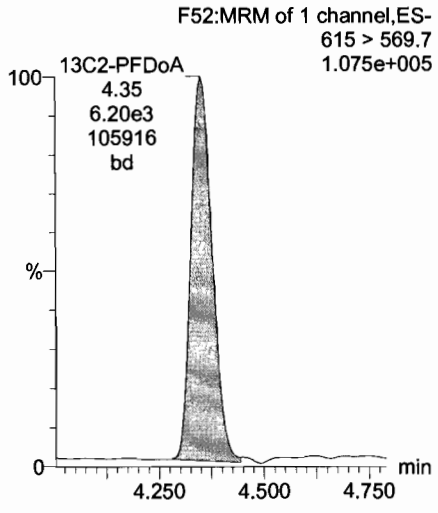
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d3-N-MeFOSA



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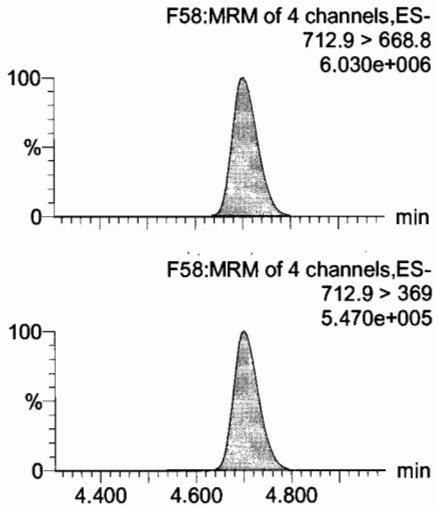


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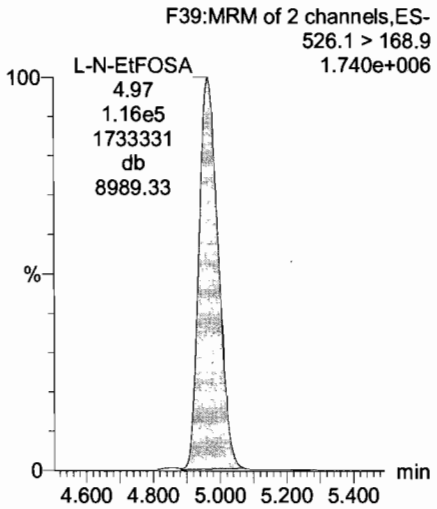
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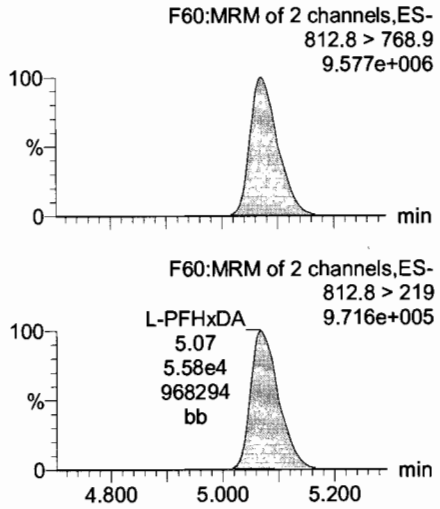
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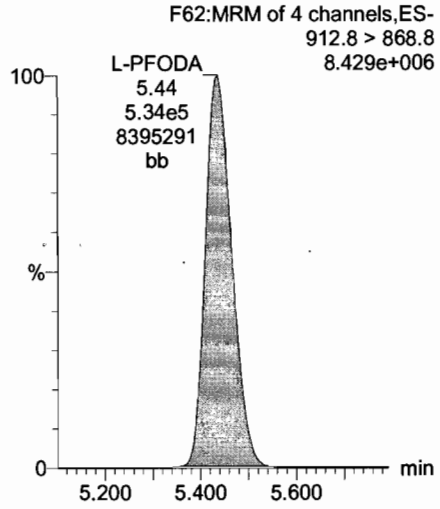
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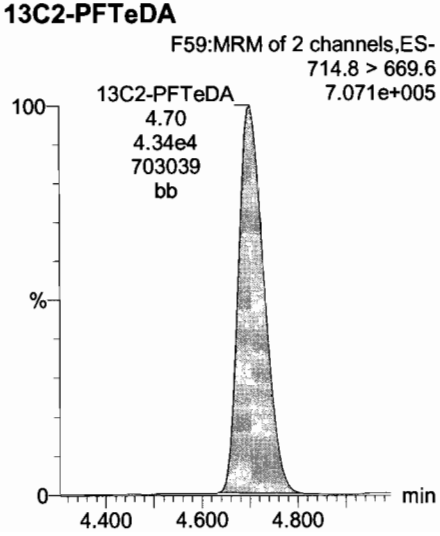
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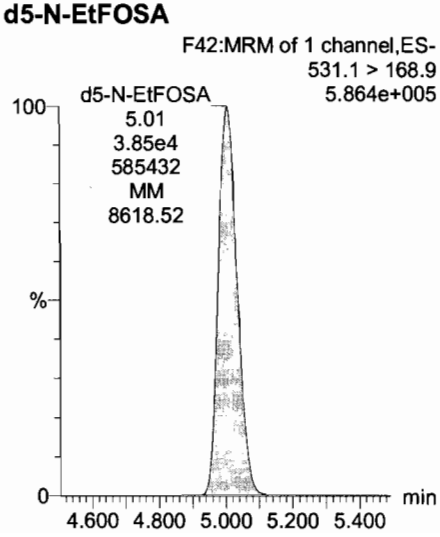
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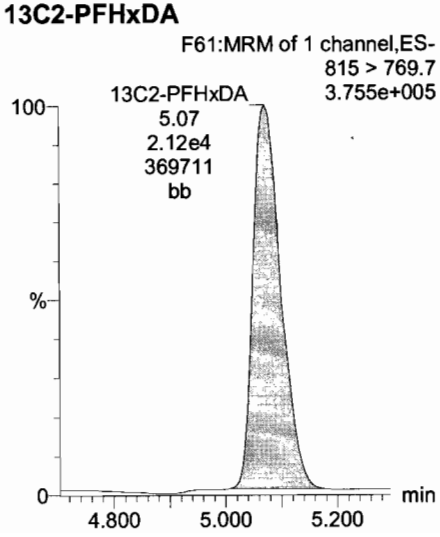
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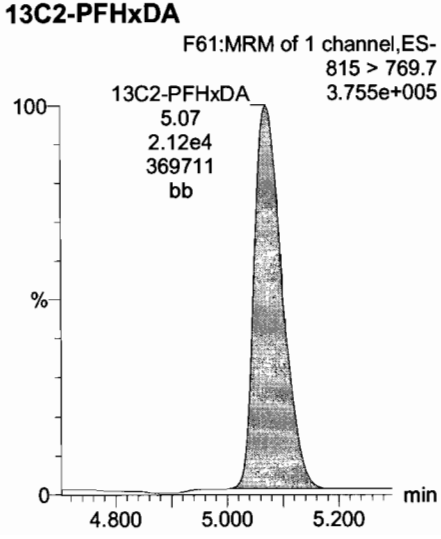
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13C2-PFHxDA



13C2-PFHxDA

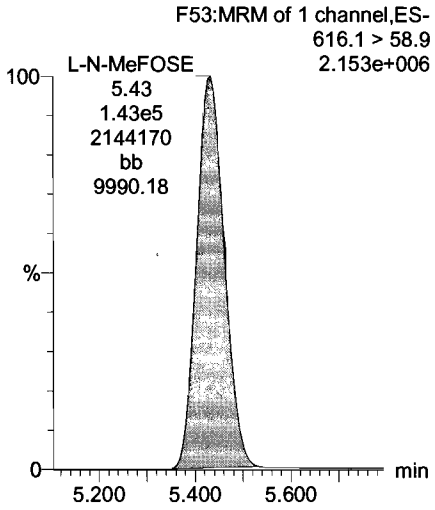


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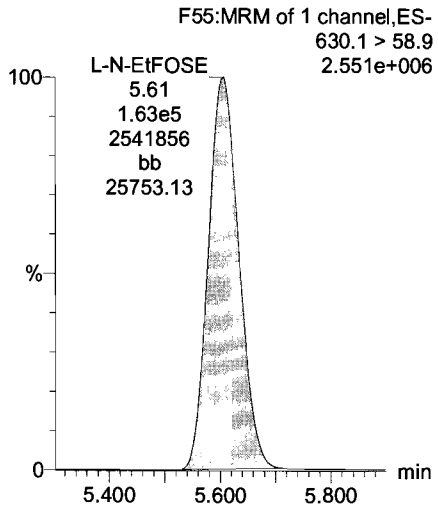
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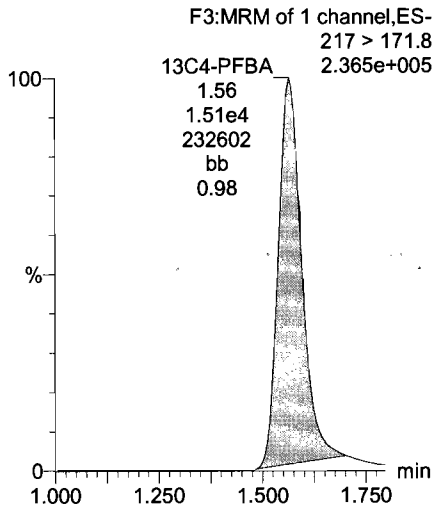
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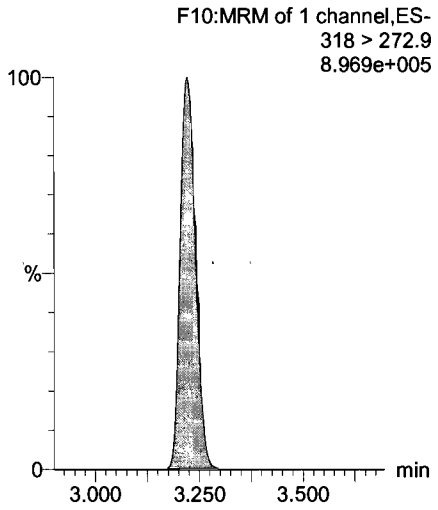
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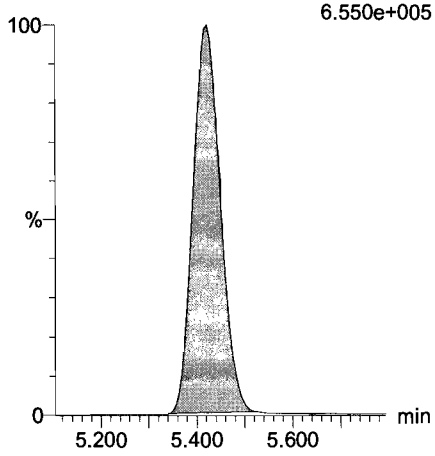
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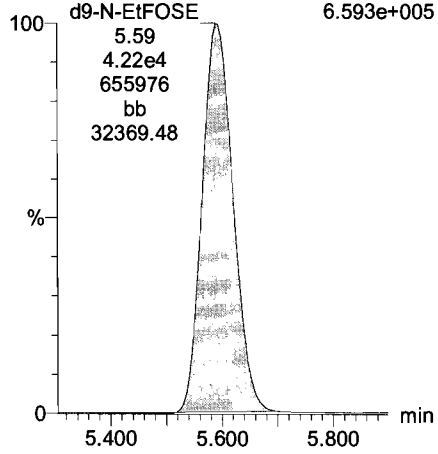
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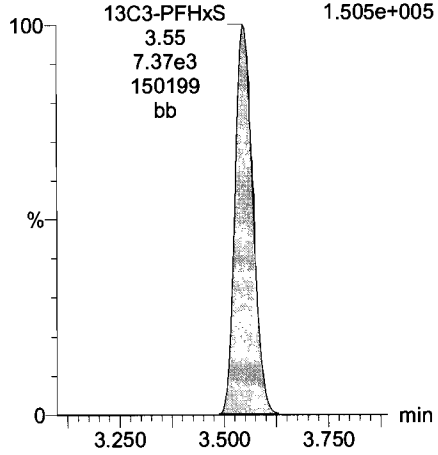
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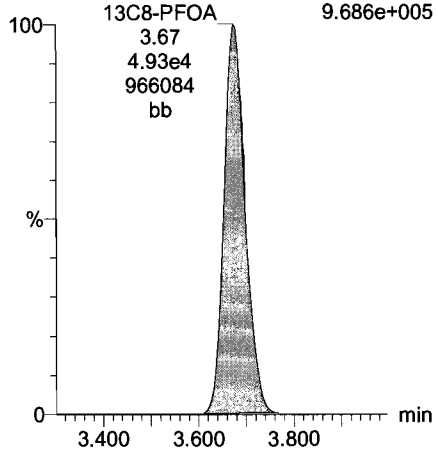
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13C3-PFHxS



13C8-PFOA



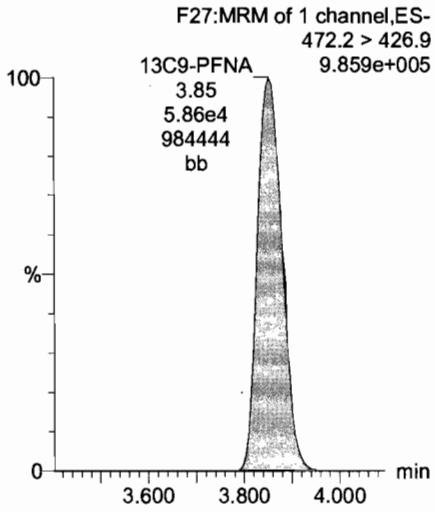
Vista Analytical Laboratory

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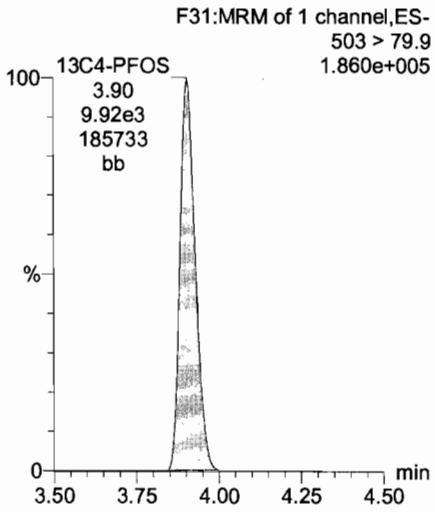
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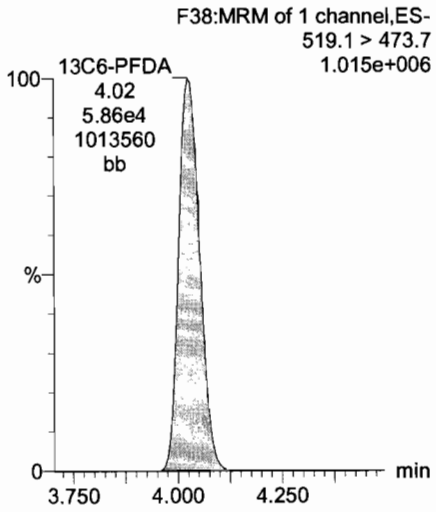
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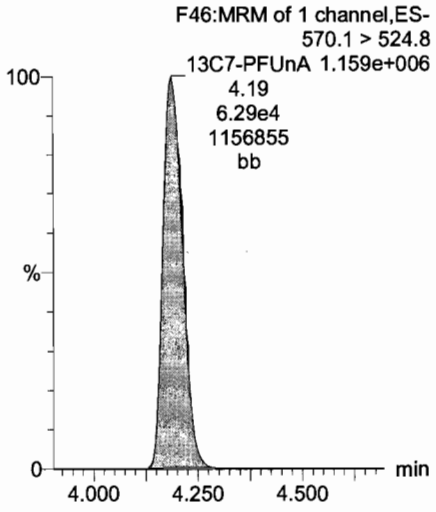
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13C6-PFDA



13C7-PFUnA



Quantify Sample Report **MassLynx MassLynx V4.1 SCN945 SCN960**
Vista Analytical Laboratory

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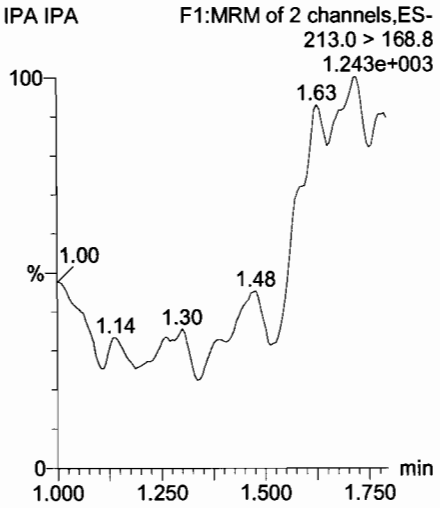
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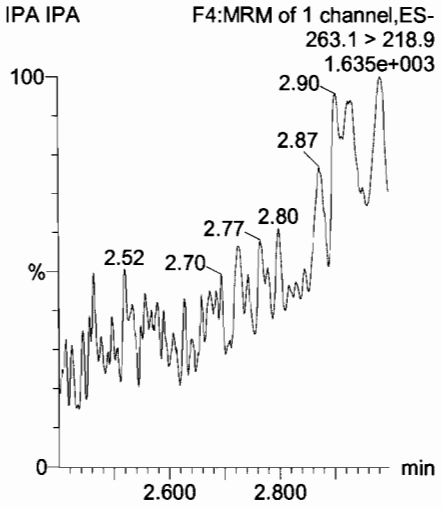
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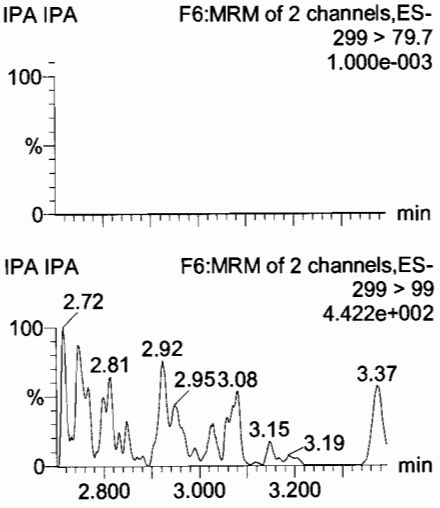
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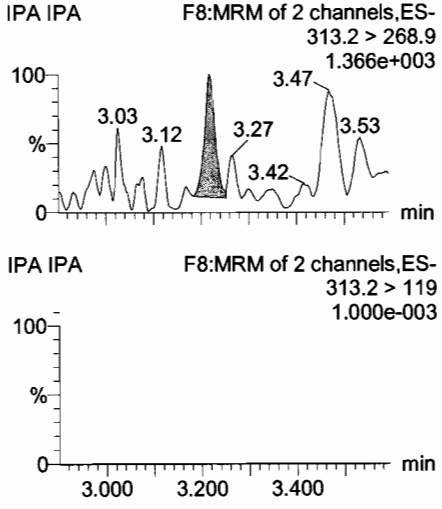
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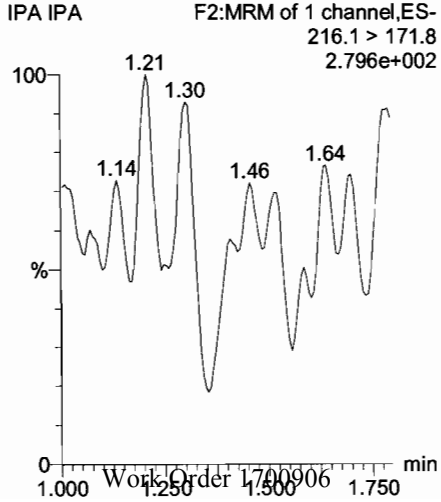
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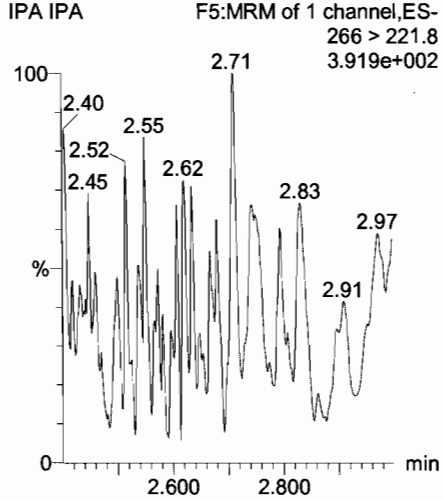
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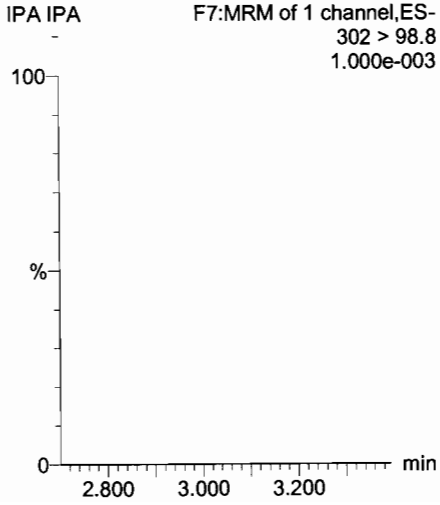
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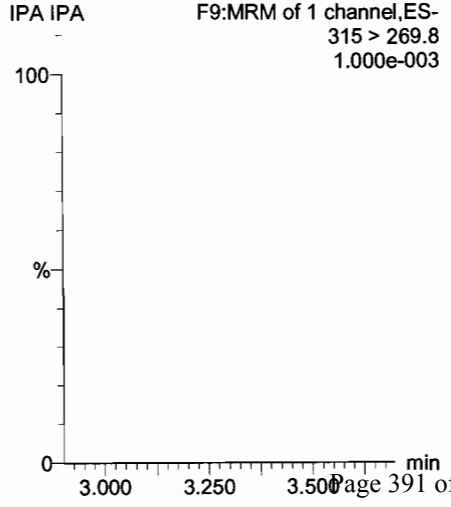
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13C3-PFBS



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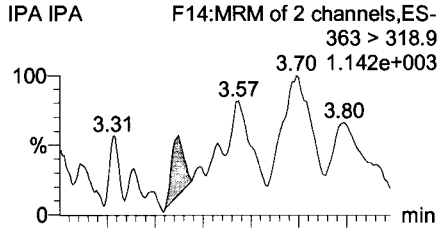


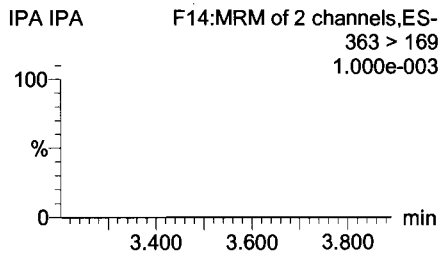
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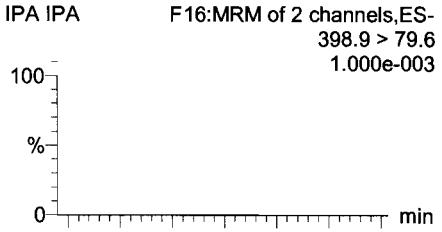
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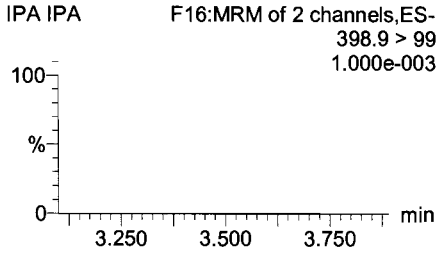
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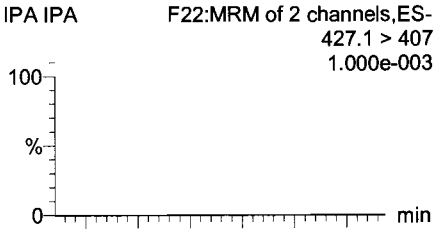


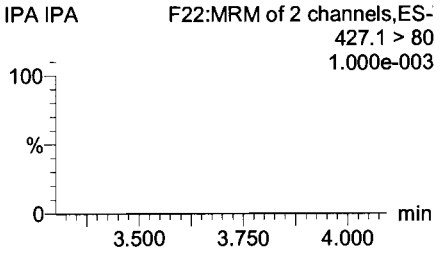
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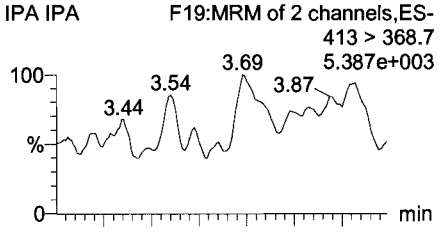


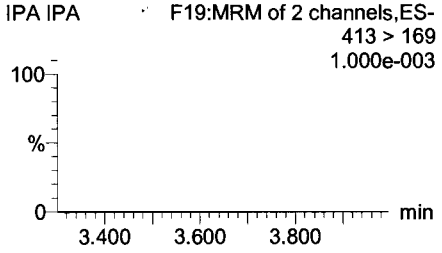
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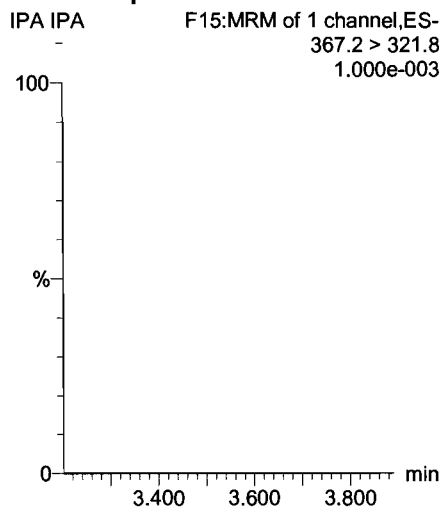


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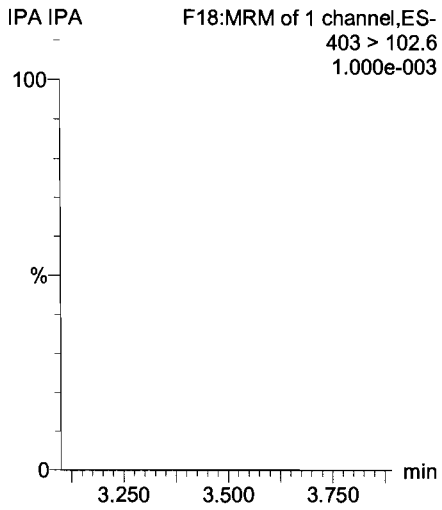




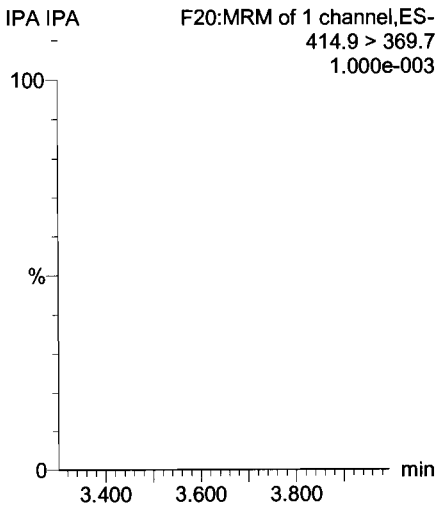
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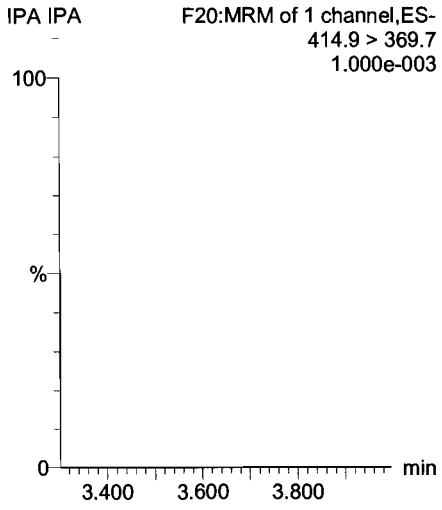
18O2-PFHxS



13C2-PFOA



13C2-PFOA

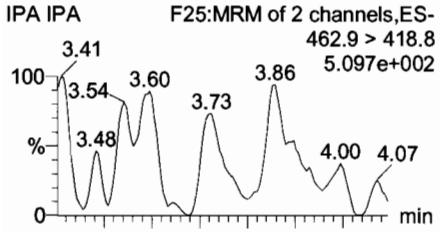


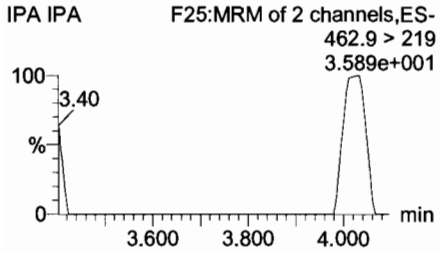
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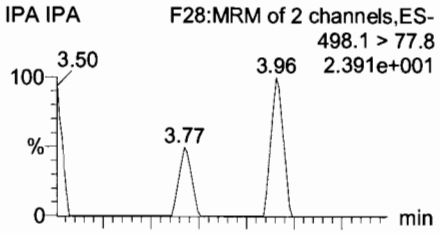
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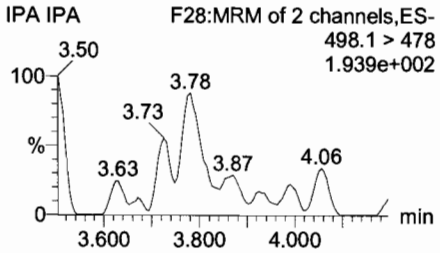
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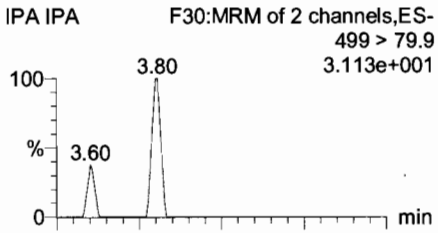


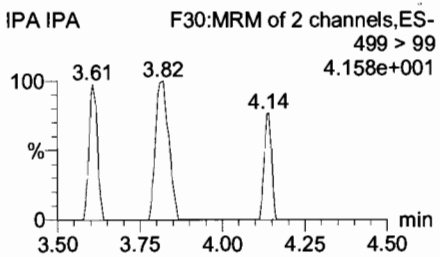
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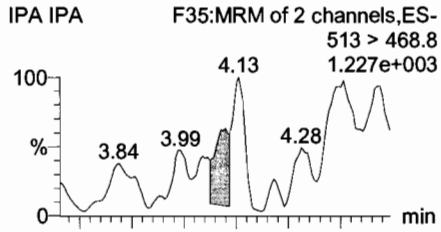


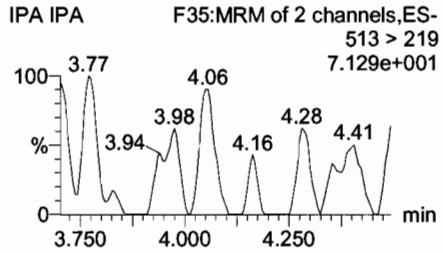
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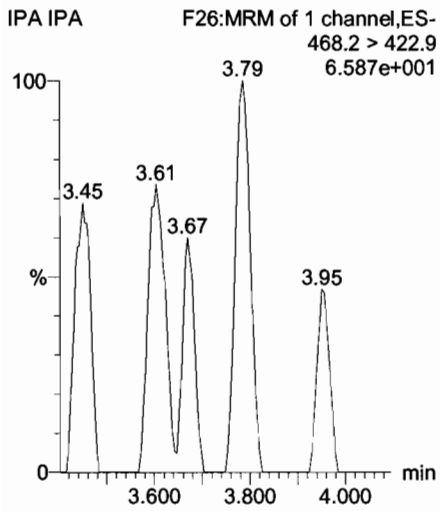


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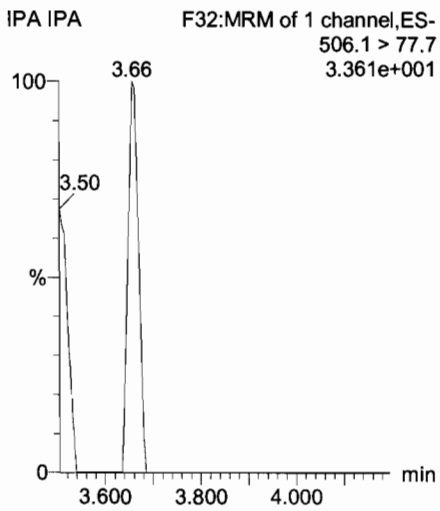




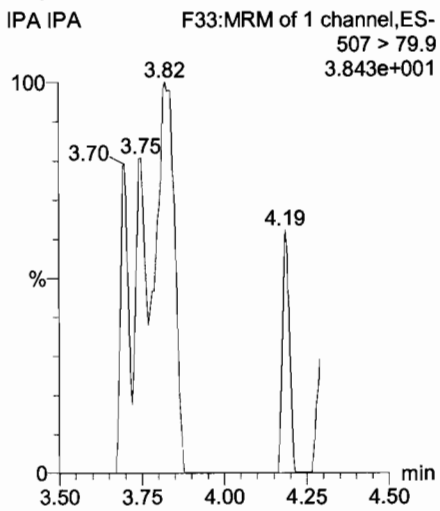
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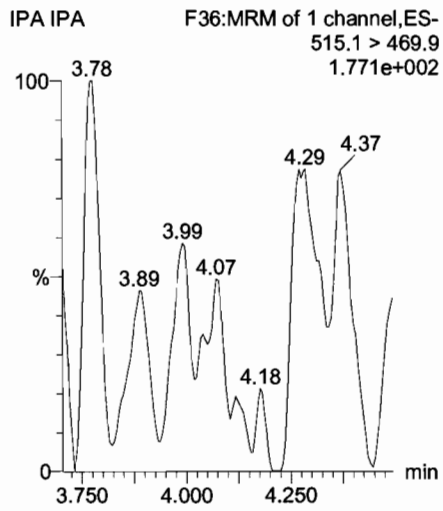
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13C8-PFOS



13C2-PFDA

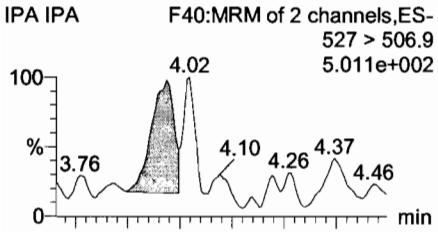


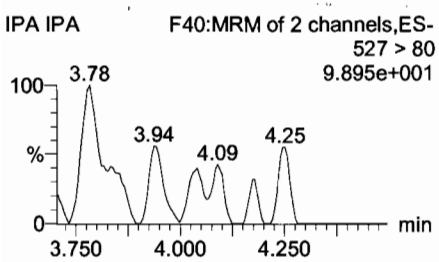
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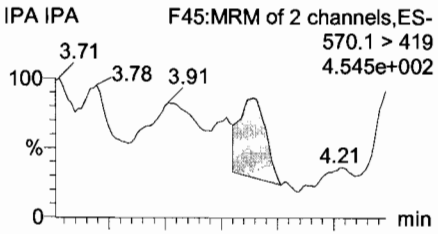
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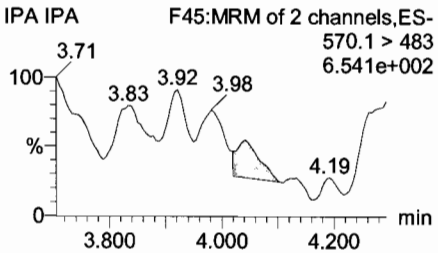
L-8:2 FTS



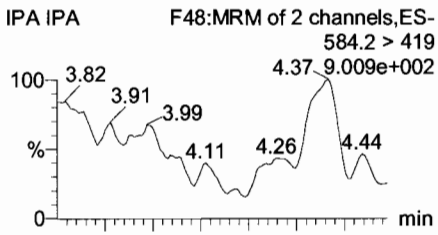


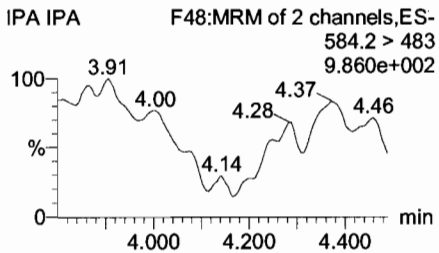
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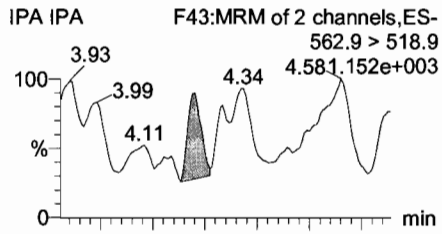


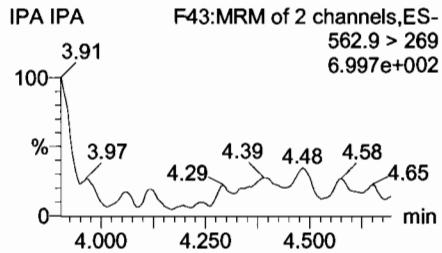
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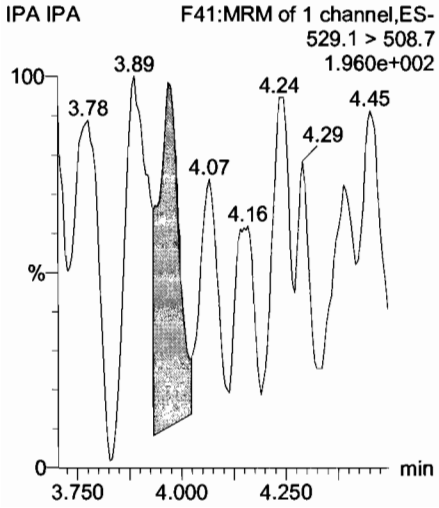


L-PFUnA

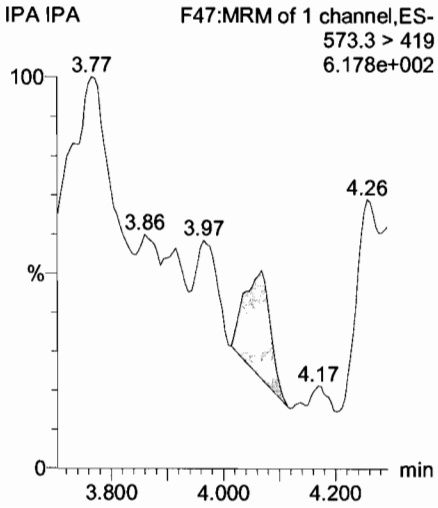




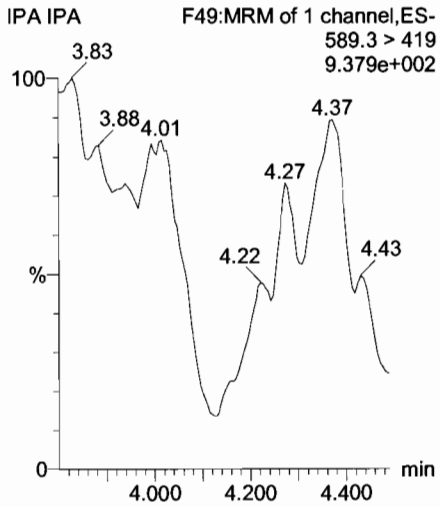
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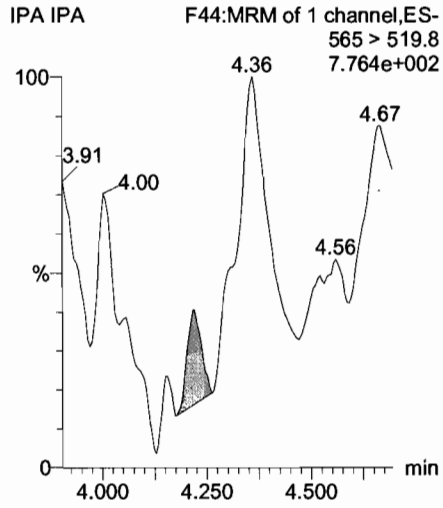
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d5-N-EtFOSAA



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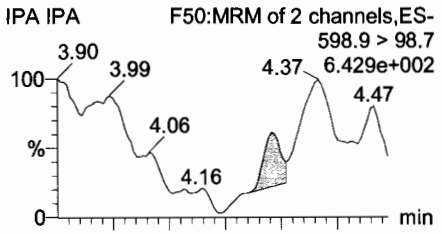


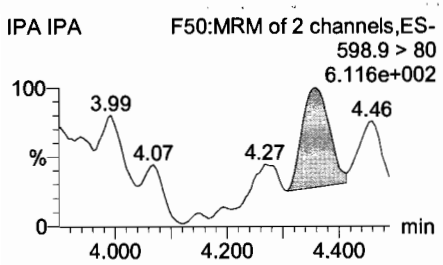
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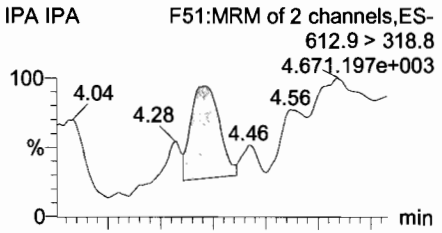
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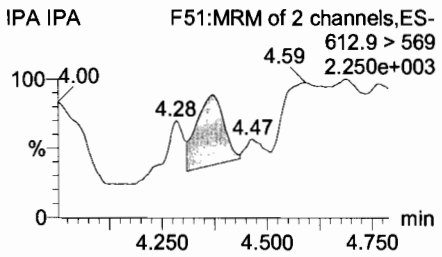
L-PFDS



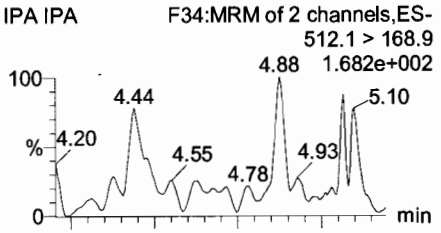


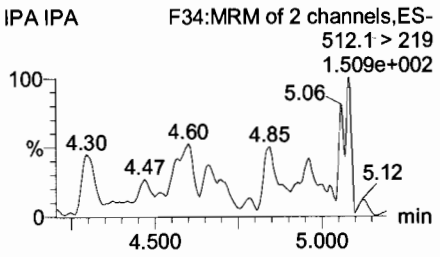
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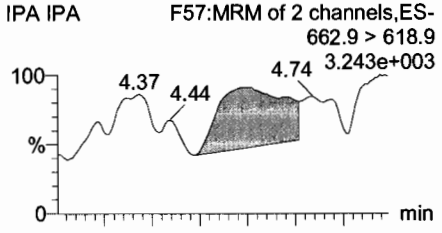


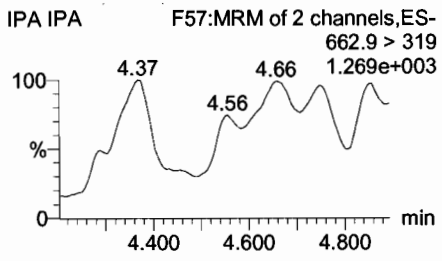
L-N-MeFOSA



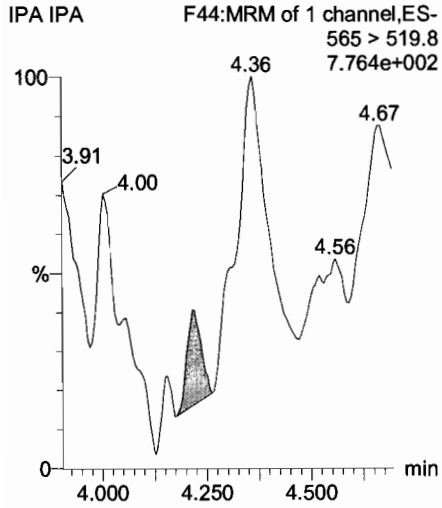


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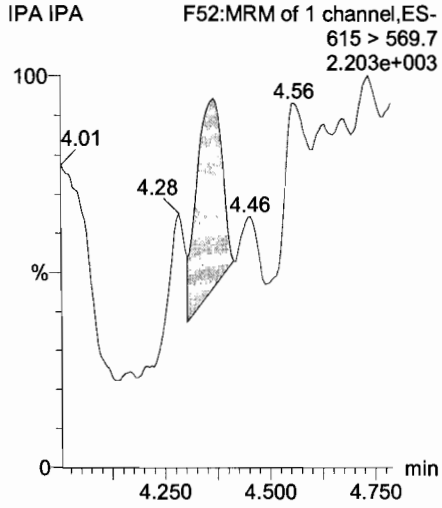




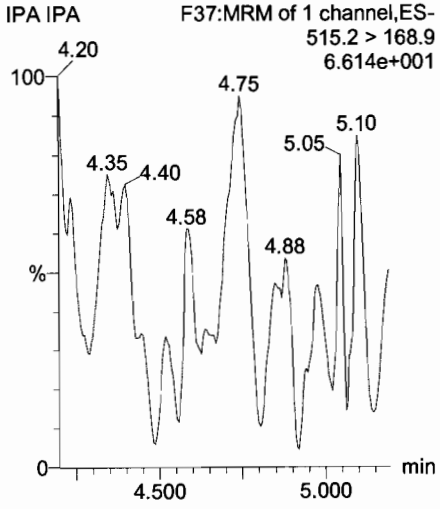
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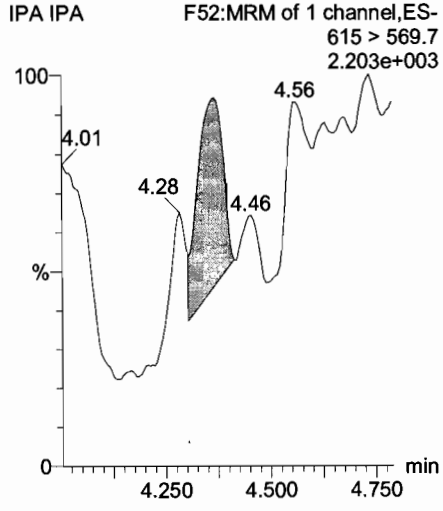
13C2-PFDoA



d3-N-MeFOSA



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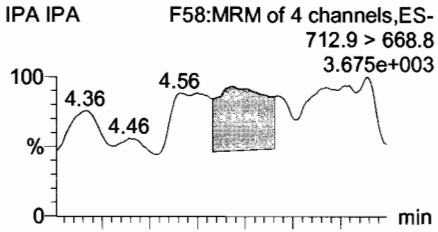


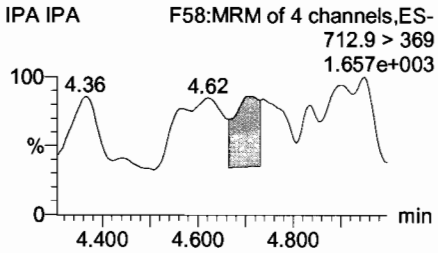
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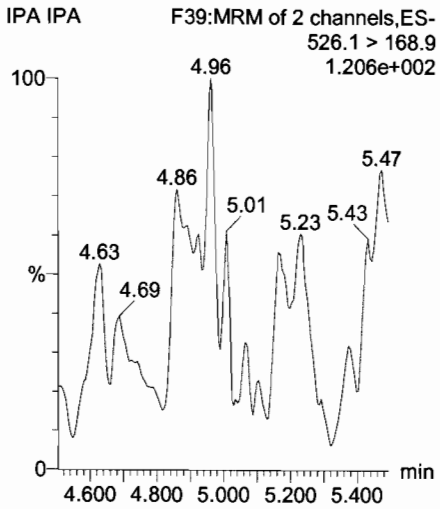
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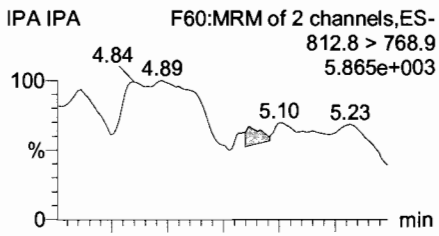


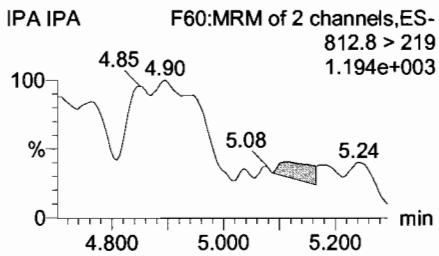


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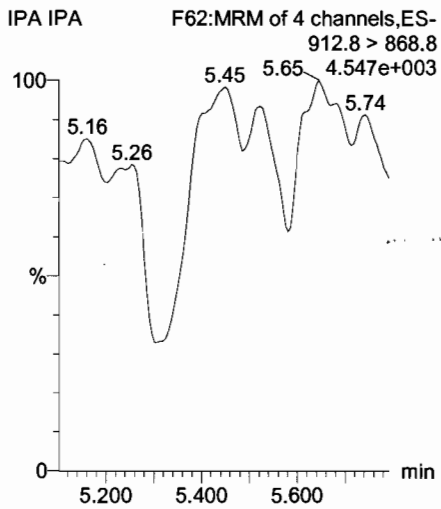


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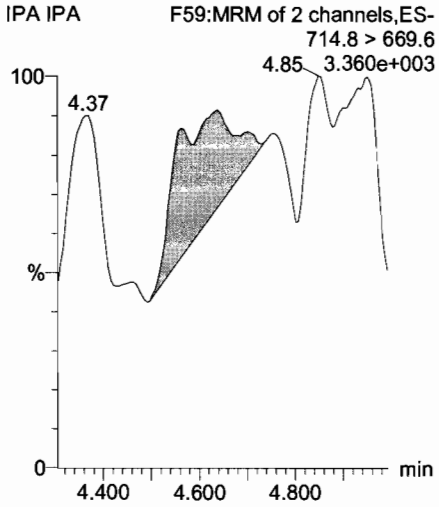




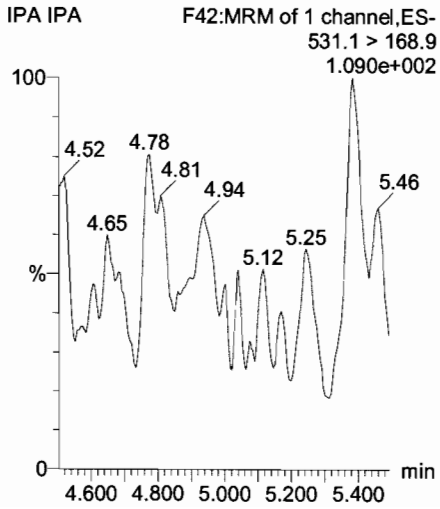
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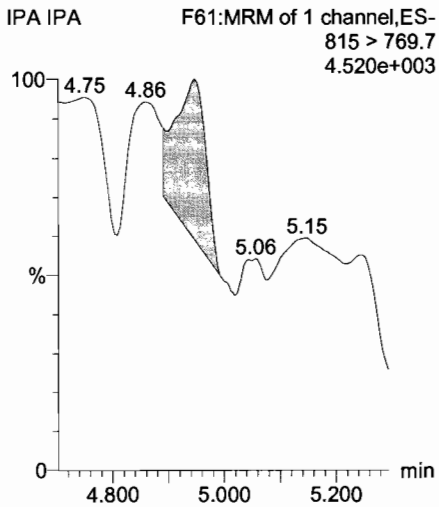
13C2-PFTeDA



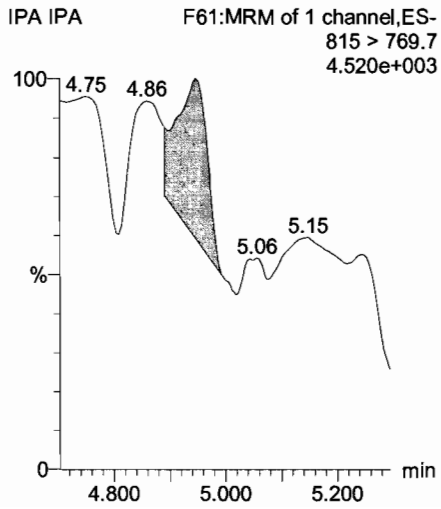
d5-N-EtFOSA



13C2-PFHxDA



13C2-PFHxDA



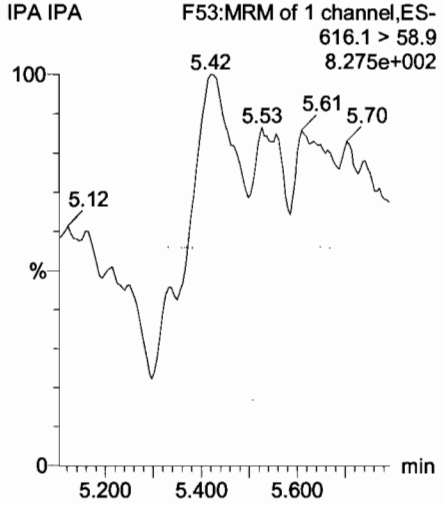
Vista Analytical Laboratory

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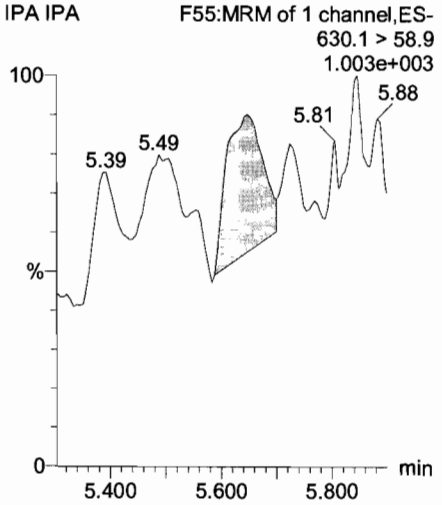
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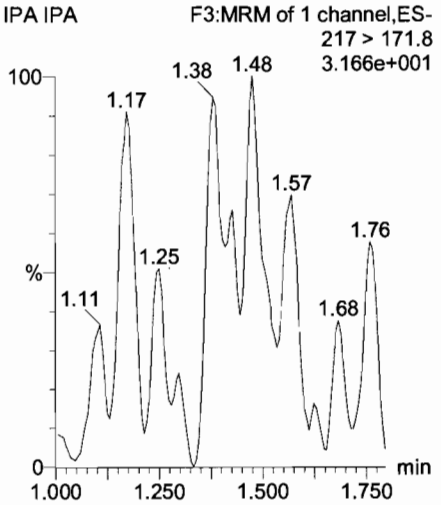
L-N-MeFOSE



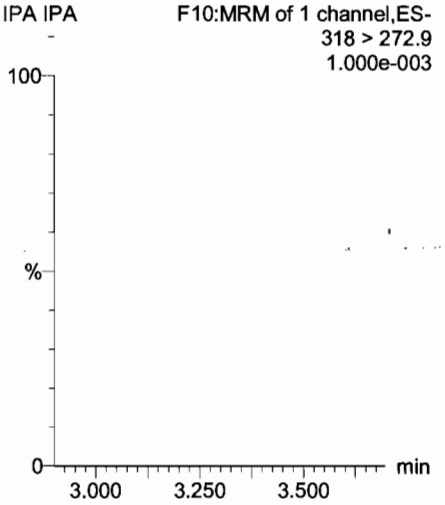
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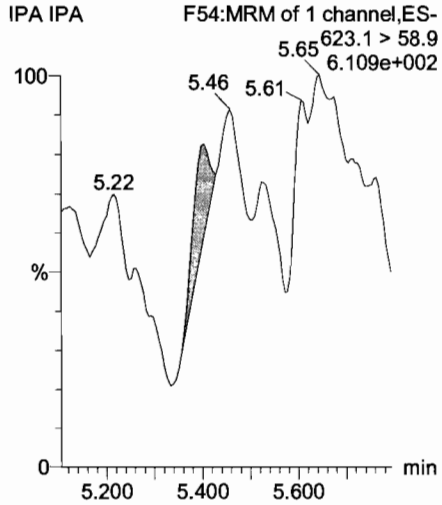
13C4-PFBA



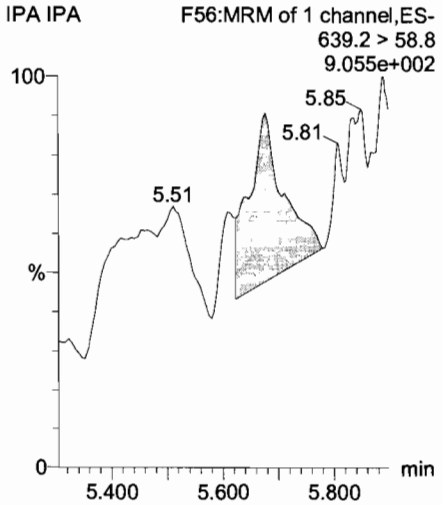
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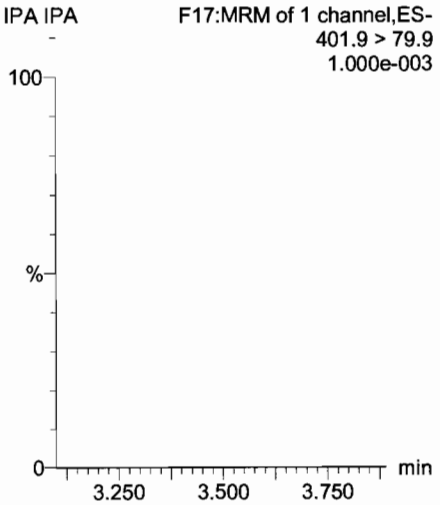
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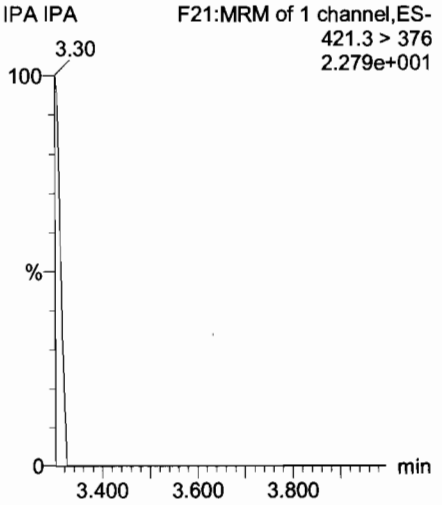
d9-N-EtFOSE



13C3-PFHxS



13C8-PFOA

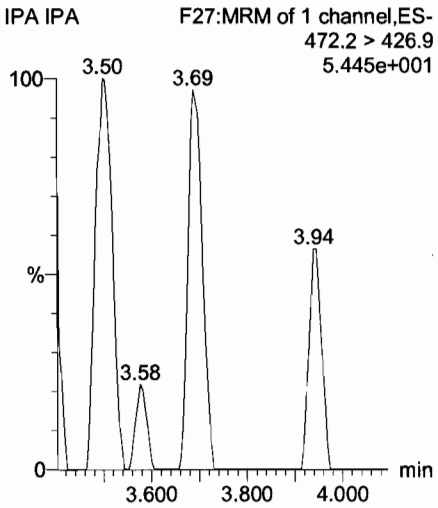


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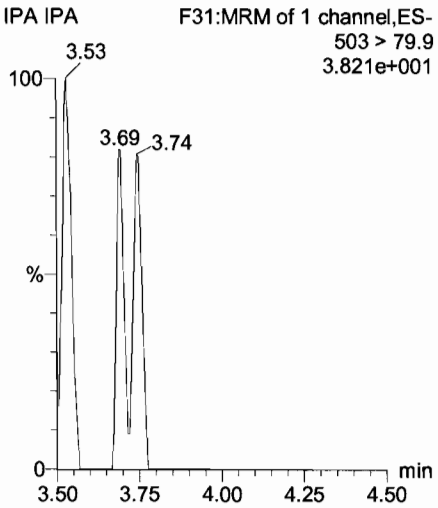
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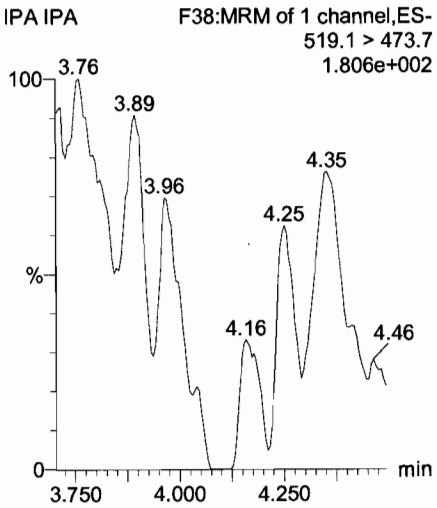
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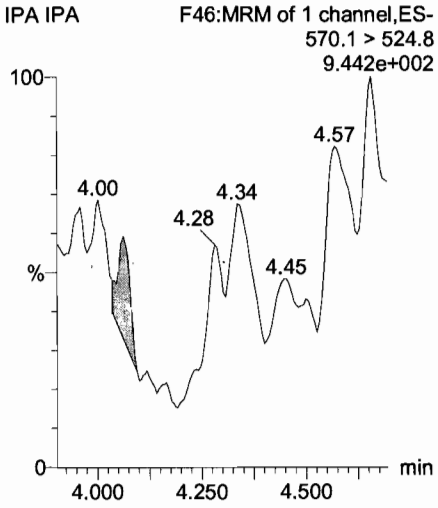
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12_LBT.qld

Last Altered: Tuesday, July 25, 2017 10:29:00 Pacific Daylight Time
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AC 7/25/17

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	1	L-PFBA	213.0 > 168.8	11986.333	12199.159		1.000	1.56	10.24	102.43
2	3	L-PFPeA	263.1 > 218.9	19853.004	23879.502		1.000	2.81	10.29	102.92
3	5	L-PFBS	299 > 79.7	4150.350	2957.477		1.000	3.00	9.43	94.30
4	7	L-PFHxA	313.2 > 268.9	31616.176	10121.942		1.000	3.23	10.24	102.41
5	9	L-PFHpA	363 > 318.9	29691.209	29688.498		1.000	3.48	9.91	99.09
6	11	L-PFHxS	398.9 > 79.6	3521.195	2850.923		1.000	3.55	9.59	95.89
7	13	L-6:2 FTS	427.1 > 407	6778.936	7715.412		1.000	3.67	10.41	104.10
8	15	L-PFOA	413 > 368.7	48252.109	57527.922		1.000	3.68	10.59	105.94
9	17	L-PFHpS	448.9 > 98.8	3857.262	57527.922		1.000	3.74	9.28	92.79
10	19	L-PFNA	462.9 > 418.8	52020.793	55397.191		1.000	3.85	10.56	105.59

70-130

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12_LBT.qld

Last Altered: Tuesday, July 25, 2017 10:29:00 Pacific Daylight Time
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Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
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Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	21	L-PFOSA	498.1 > 77.8	5708.063	6500.262		1.000	3.86	10.41	104.14
2	23	L-PFOS	499 > 79.9	8177.322	10272.242		1.000	3.90	8.38	83.83
3	25	L-PFDA	513 > 468.8	54158.824	56205.117		1.000	4.02	9.19	91.86
4	27	L-8:2 FTS	527 > 506.9	6486.744	5254.963		1.000	4.02	10.58	105.78
5	29	L-N-MeFOSAA	570.1>419	14470.231	11971.411		1.000	4.06	10.22	102.17
6	31	L-N-EtFOSAA	584.2>419	12443.312	12068.997		1.000	4.12	10.57	105.67
7	33	L-PFUnA	562.9 > 518.9	37650.797	59926.145		1.000	4.19	8.88	88.81
8	35	L-PFDS	598.9 > 98.7	3869.410	59926.145		1.000	4.24	9.05	90.52

70-130

Quantify Sample Summary Report **MassLynx MassLynx V4.1 SCN945 SCN960**
Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12_LBT.qld

Last Altered: Tuesday, July 25, 2017 10:29:00 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:30:36 Pacific Daylight Time

(A) Not included in SS.
AC 7/25/17

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec	
1	37	L-PFDoA	612.9 > 318.8	4450.692	5849.101		1.000	4.35	10.09	100.87	70-130
2	39	L-N-MeFOSA	512.1>168.9		26376.414		1.000			(A)	
3	41	L-PFTrDA	662.9 > 618.9	52553.016	5849.101		1.000	4.52	10.13	101.27	70-130
4	43	L-PFTeDA	712.9 > 668.8	38350.820	40951.586		1.000	4.70	10.16	101.60	↓
5	45	L-N-EtFOSA	526.1>168.9	12.455	37573.375		1.000	4.97		(A)	
6	47	L-PFHxDA	812.8 > 768.9	608.407	19865.295		1.000	5.07			
7	49	L-PFODA	912.8 > 868.8	230.613	19865.295		1.000	5.44			
8	51	L-N-MeFOSE	616.1>58.9	26.252	40883.168		1.000	5.45			

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12_LBT.qld

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(A) Not included in SS. AC 7/25/17

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	53	L-N-EtFOSE	630.1>58.9		40456.262		1.000			(A)
2	55	13C3-PFBA	216.1 > 171.8	12199.159	15107.568	0.821	1.000	1.55	12.30	98.41
3	56	13C3-PFPeA	266 > 221.8	23879.502	15107.568	1.617	1.000	2.81	12.22	97.72
4	57	13C3-PFBS	302 > 98.8	2957.477	15107.568	0.203	1.000	3.00	12.07	96.53
5	58	13C2-PFHxA	315 > 269.8	10121.942	38341.938	0.276	1.000	3.23	4.78	95.51
6	59	13C4-PFHpA	367.2 > 321.8	29688.498	38341.938	0.306	1.000	3.48	12.67	101.37
7	60	18O2-PFHxS	403 > 102.6	2850.923	7151.517	0.393	1.000	3.55	12.68	101.47
8	61	13C2-6:2 FTS	429.1 > 408.9	7715.412	57527.922	0.147	1.000	3.67	11.37	90.94
9	62	13C2-PFOA	414.9 > 369.7	57527.922	55193.199	1.067	1.000	3.68	12.20	97.64
10	63	13C5-PFNA	468.2 > 422.9	55397.191	58314.438	0.852	1.000	3.85	13.94	111.48
11	64	13C8-PFOSA	506.1 > 77.7	6500.262	73602.336	0.098	1.000	3.86	11.24	89.90
12	65	13C8-PFOS	507 > 79.9	10272.242	10242.656	0.937	1.000	3.91	13.38	107.00
13	66	13C2-PFDA	515.1 > 469.9	56205.117	70397.750	0.810	1.000	4.02	12.32	98.59
14	67	13C2-8:2 FTS	529.1 > 508.7	5254.963	56205.117	0.106	1.000	4.02	11.04	88.29
15	68	d3-N-MeFOSAA	573.3>419	11971.411	73602.336	0.178	1.000	4.05	11.42	91.35
16	69	d5-N-EtFOSAA	589.3>419	12068.997	73602.336	0.181	1.000	4.12	11.30	90.39
17	70	13C2-PFUnA	565 > 519.8	59926.145	73602.336	0.962	1.000	4.19	10.58	84.63
18	71	13C2-PFDoA	615 > 569.7	5849.101	73602.336	0.094	1.000	4.35	10.52	84.16
19	72	d3-N-MeFOSA	515.2>168.9	26376.414	73602.336	0.413	1.000	4.43	10.85	86.78
20	73	13C2-PFTeDA	714.8 > 669.6	40951.586	73602.336	0.694	1.000	4.70	10.02	80.14
21	74	d5-N-EtFOSA	531.1>168.9	37573.375	73602.336	0.581	1.000	5.01	10.98	87.81
22	75	13C2-PFHxDA	815 > 769.7	19865.295	73602.336	0.843	1.000	5.07	4.00	80.04
23	76	d7-N-MeFOSE	623.1>58.9	40883.168	73602.336	0.656	1.000	5.42	10.59	84.73
24	77	d9-N-EtFOSE	639.2>58.8	40456.262	73602.336	0.641	1.000	5.59	10.72	85.74
25	78	13C4-PFBA	217 > 171.8	15107.568	15107.568	1.000	1.000	1.55	12.50	100.00
26	79	13C5-PFHxA	318 > 272.9	38341.938	38341.938	1.000	1.000	3.22	5.00	100.00
27	80	13C3-PFHxS	401.9 > 79.9	7151.517	7151.517	1.000	1.000	3.55	12.50	100.00
28	81	13C8-PFOA	421.3 > 376	55193.199	55193.199	1.000	1.000	3.68	12.50	100.00
29	82	13C9-PFNA	472.2 > 426.9	58314.438	58314.438	1.000	1.000	3.85	12.50	100.00
30	83	13C4-PFOS	503 > 79.9	10242.656	10242.656	1.000	1.000	3.91	12.50	100.00
31	84	13C6-PFDA	519.1 > 473.7	70397.750	70397.750	1.000	1.000	4.02	12.50	100.00

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12_LBT.qld

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	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
32	85	13C7-PFUnA	570.1 > 524.8	73602.336	73602.336	1.000	1.000	4.19	12.50	100.00

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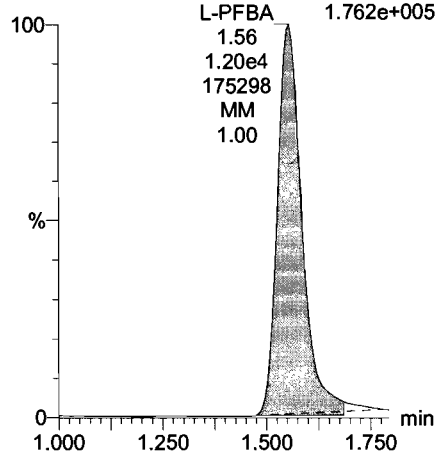
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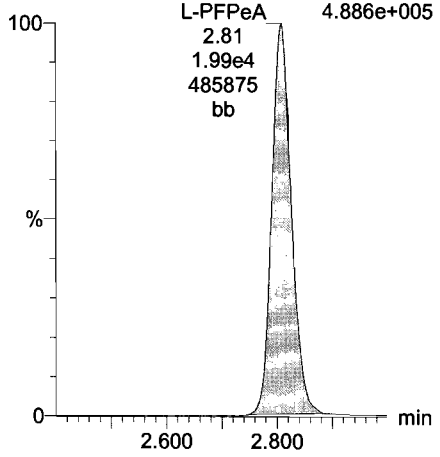
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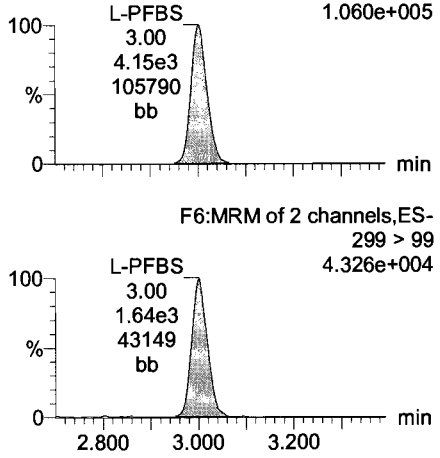
L-PFBA



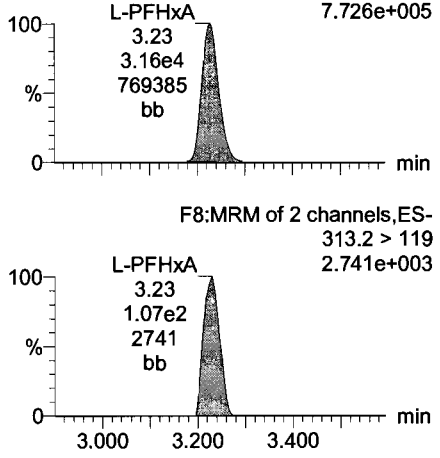
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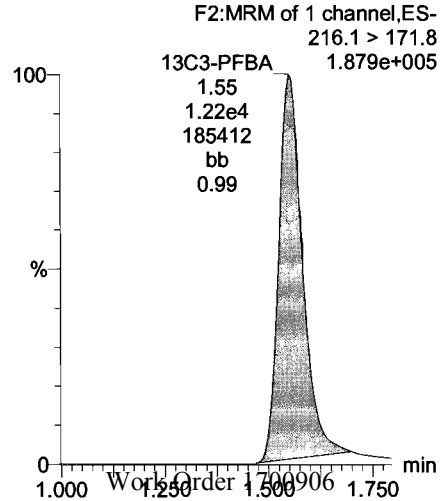
L-PFBS



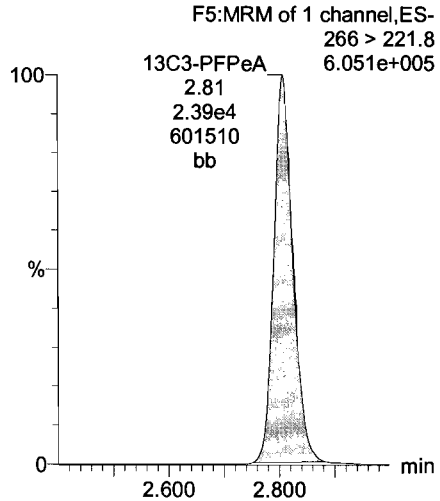
L-PFHxA



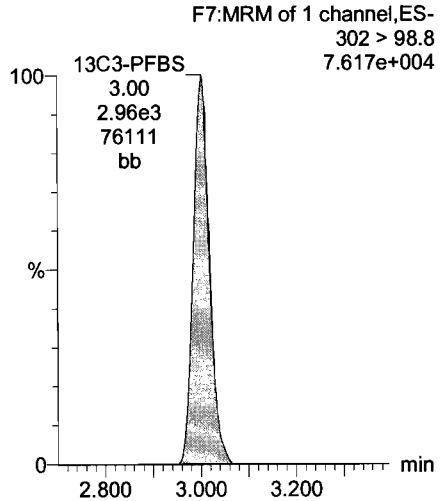
13C3-PFBA



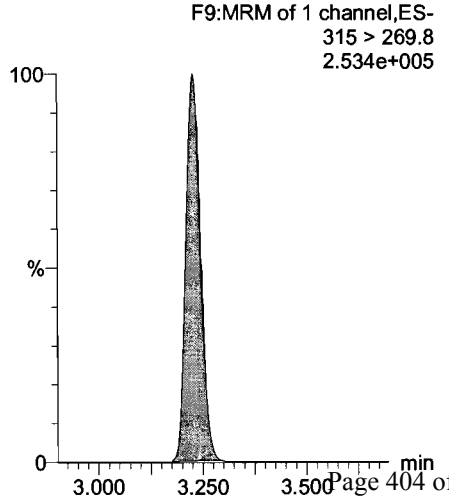
13C3-PFPeA



13C3-PFBS



13C2-PFHxA

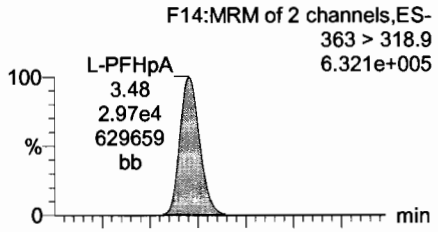


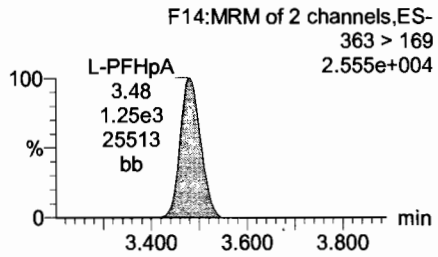
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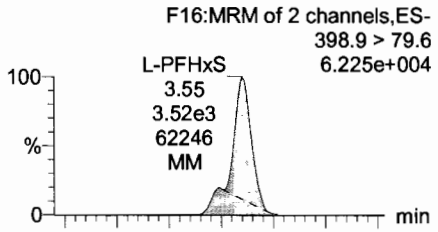
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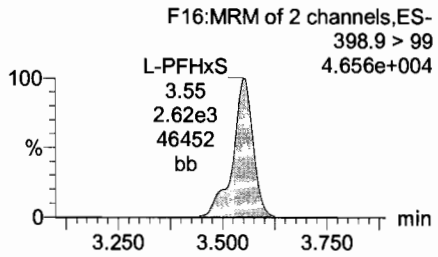
L-PFHpA



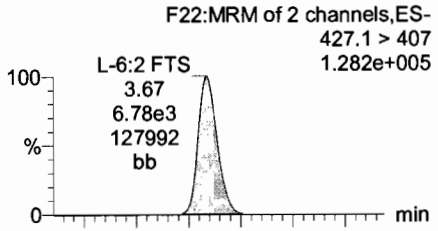


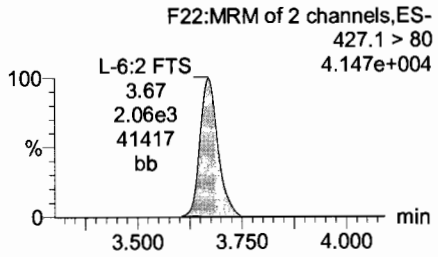
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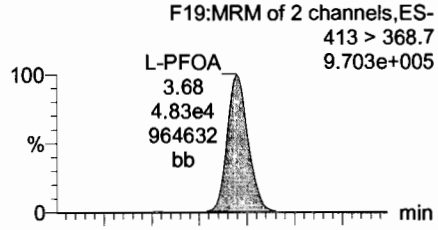


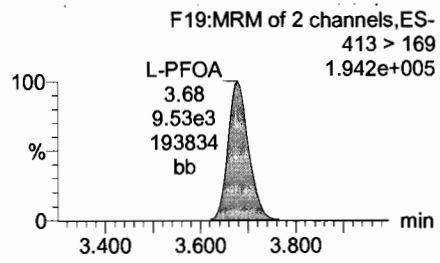
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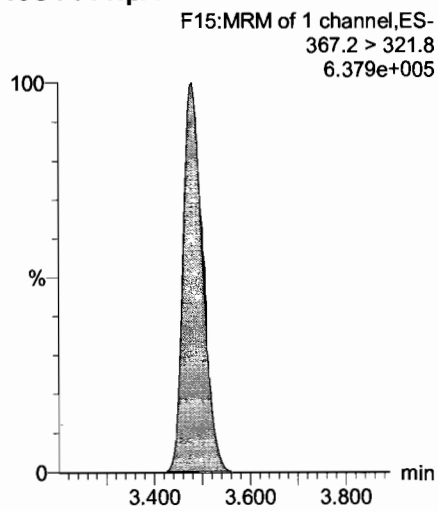


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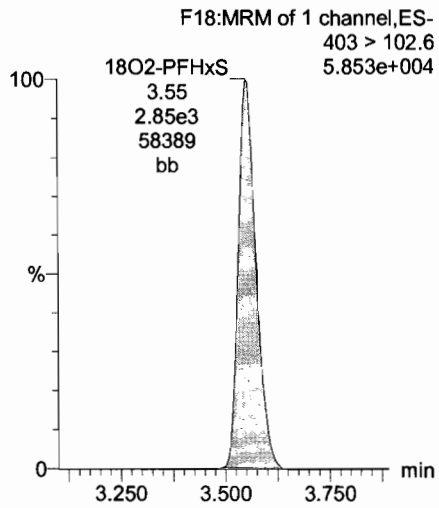




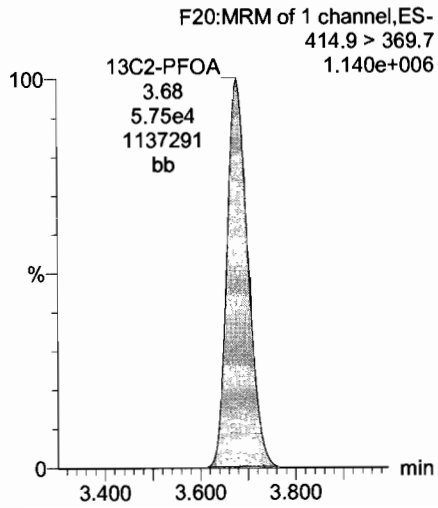
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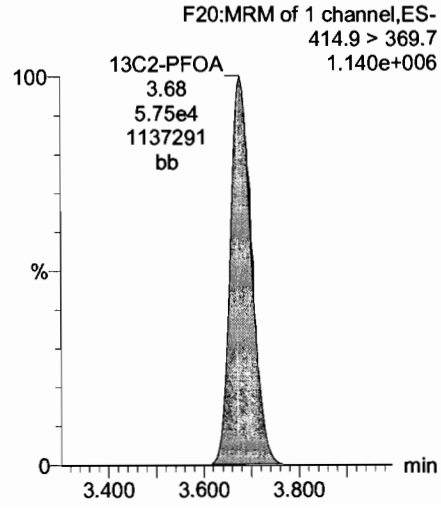
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13C2-PFOA



13C2-PFOA

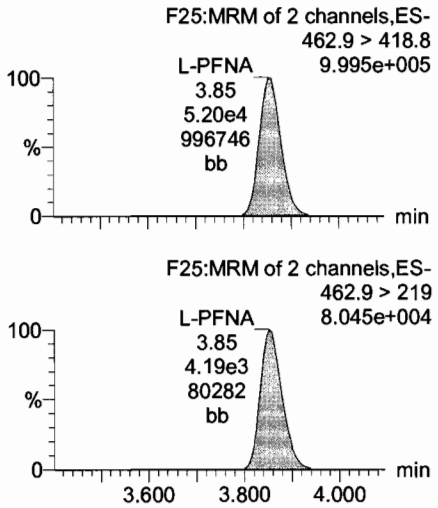


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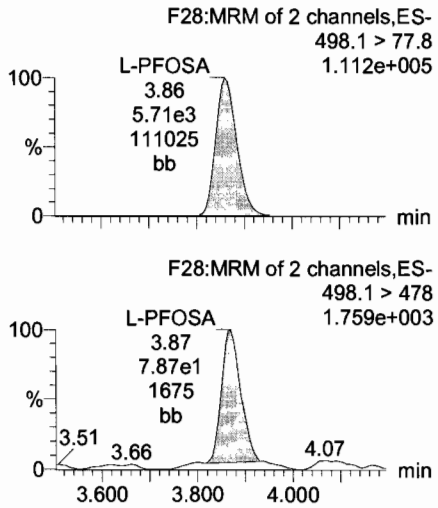
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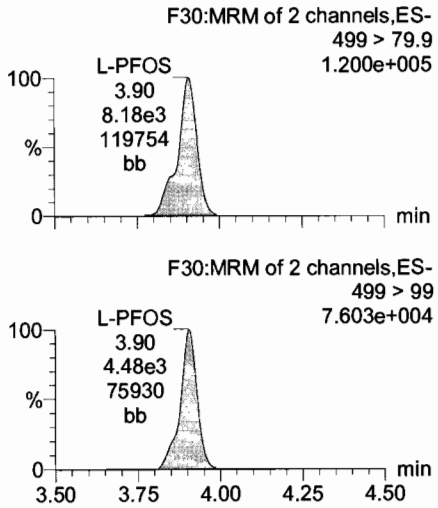
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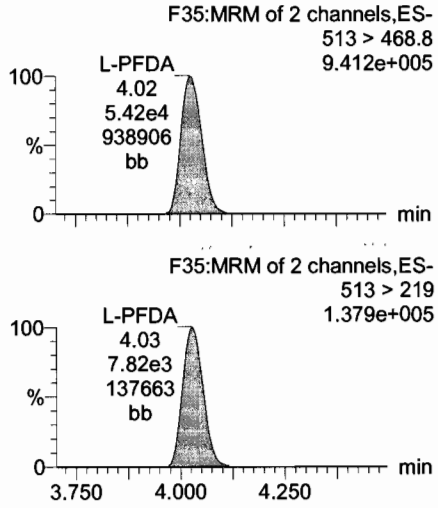
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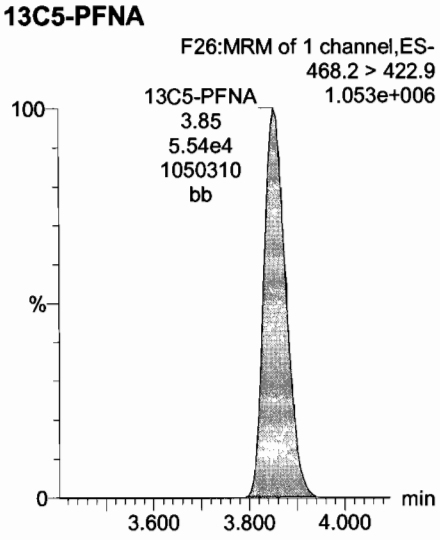
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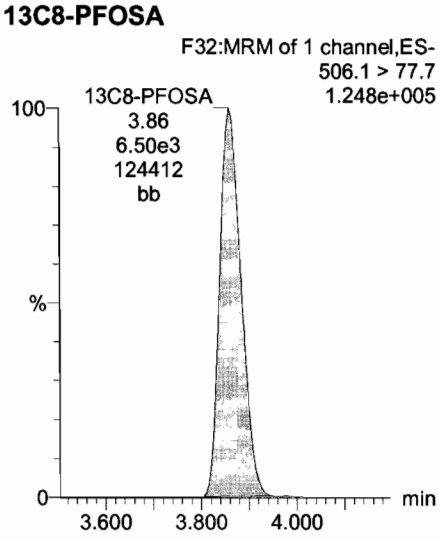
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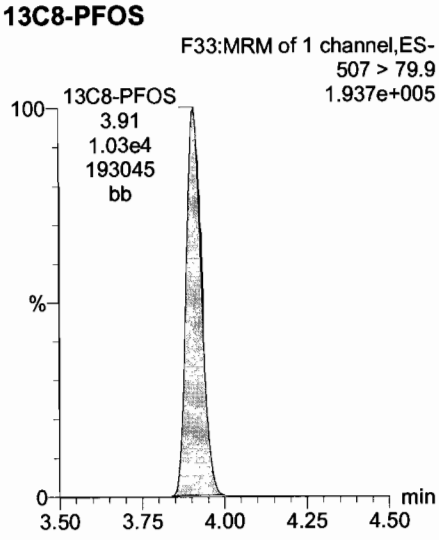
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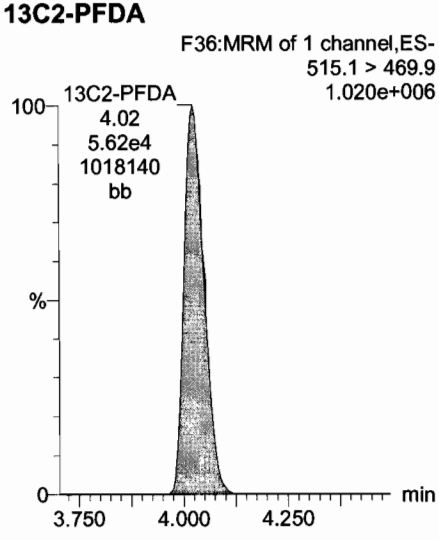
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13C8-PFOS



13C2-PFDA



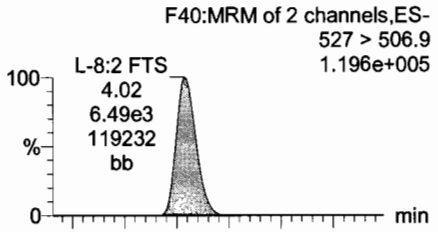
Vista Analytical Laboratory

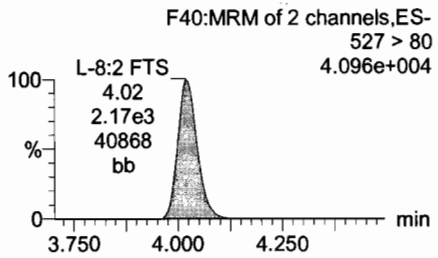
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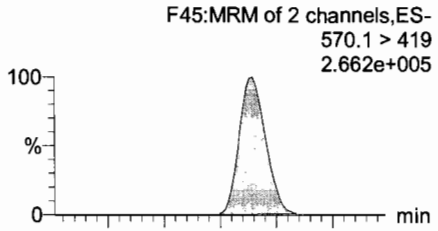
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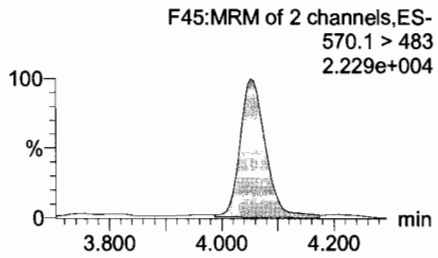
L-8:2 FTS



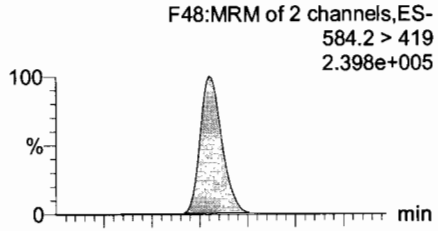


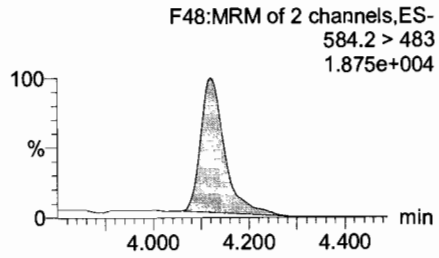
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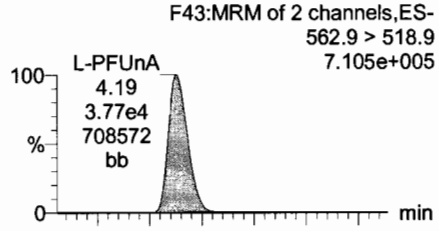


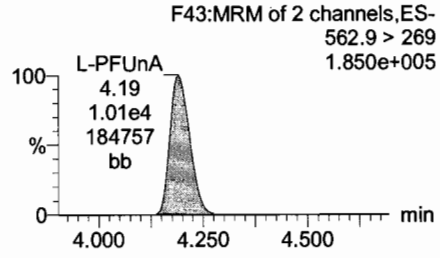
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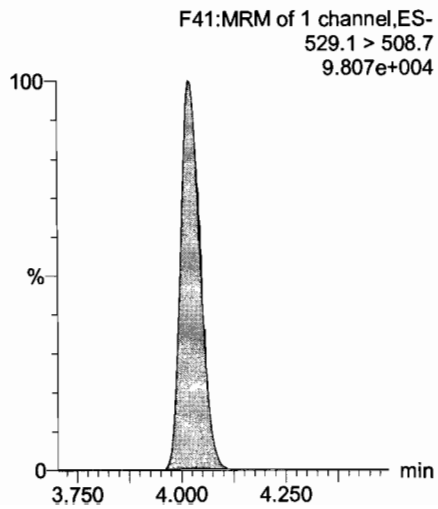


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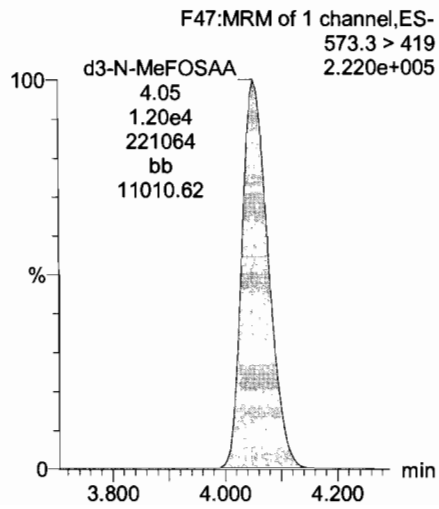




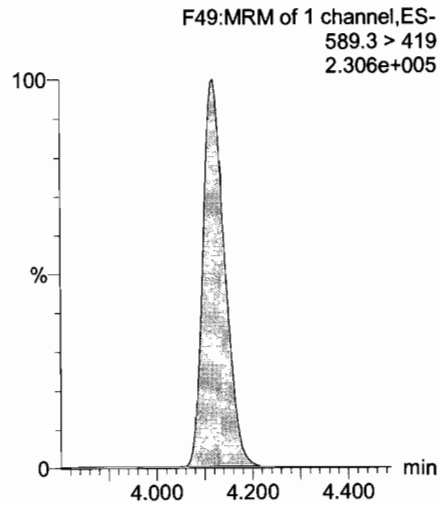
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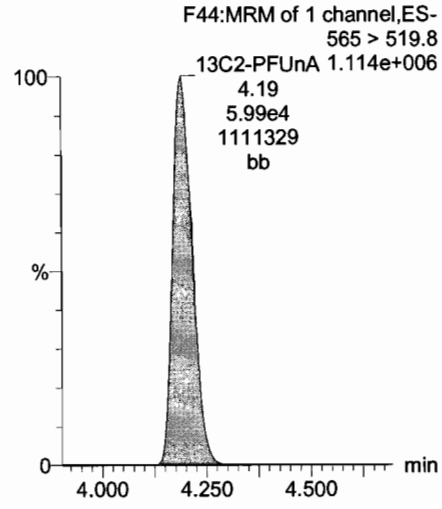
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d5-N-EtFOSAA



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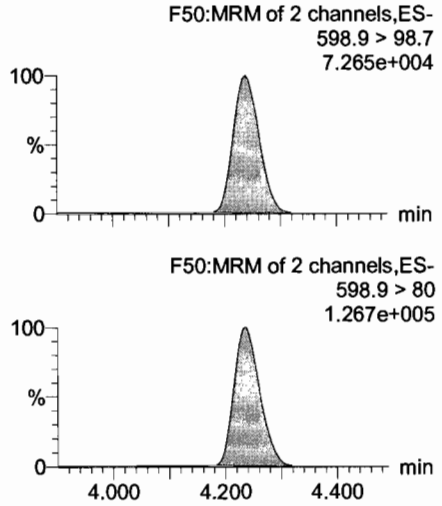
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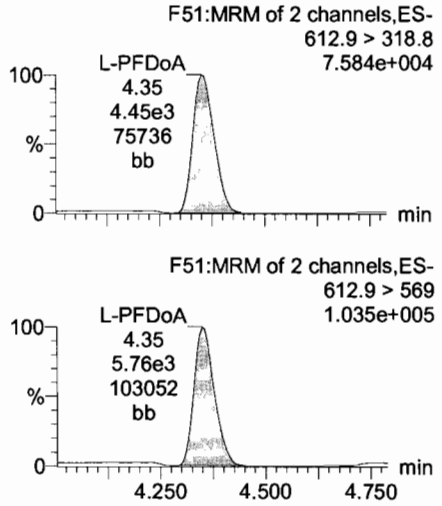
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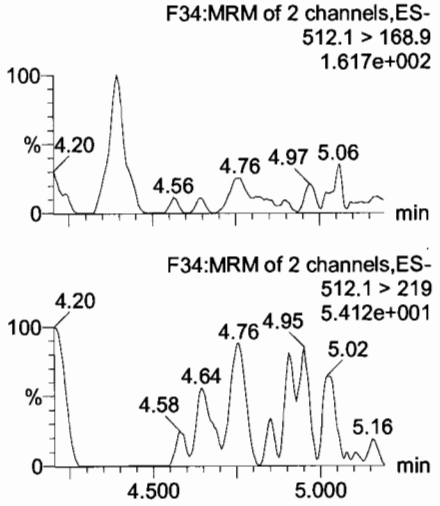
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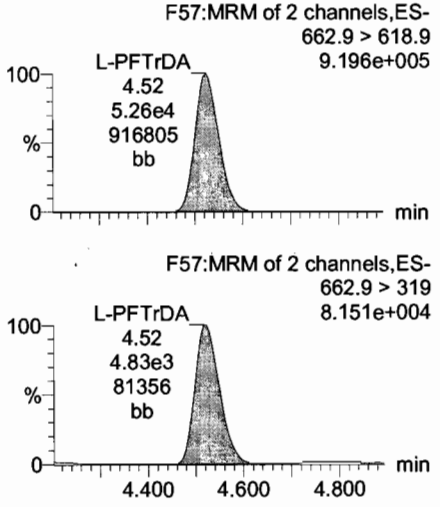
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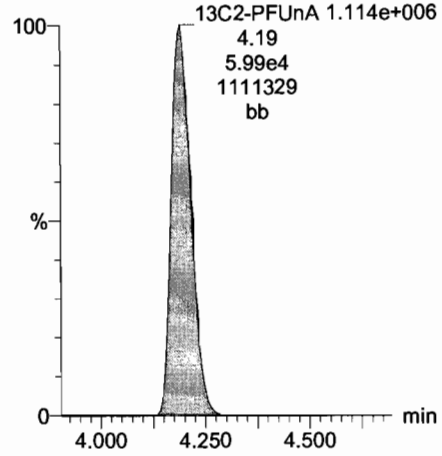
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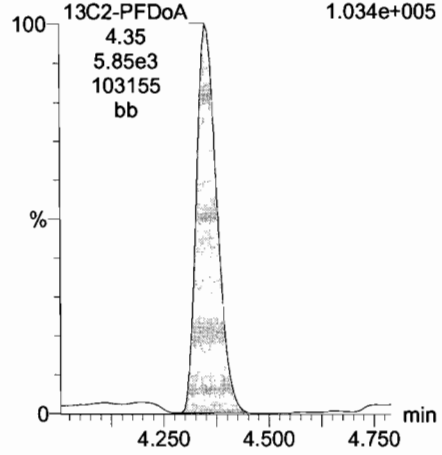
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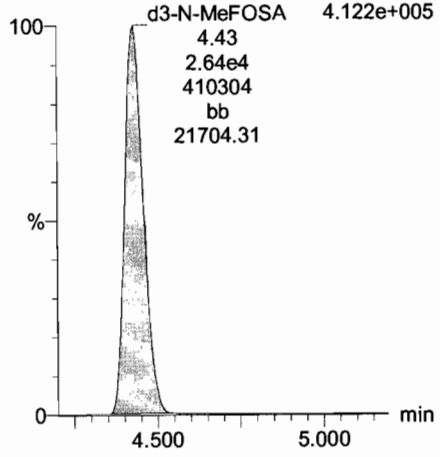
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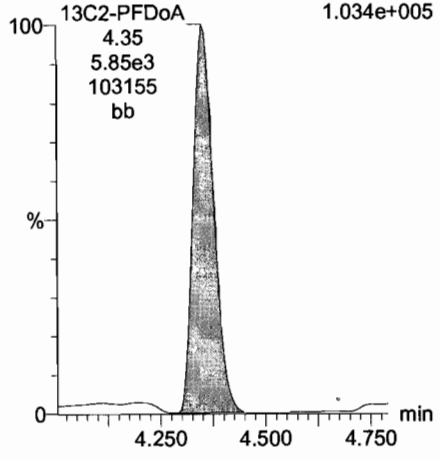
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d3-N-MeFOSA



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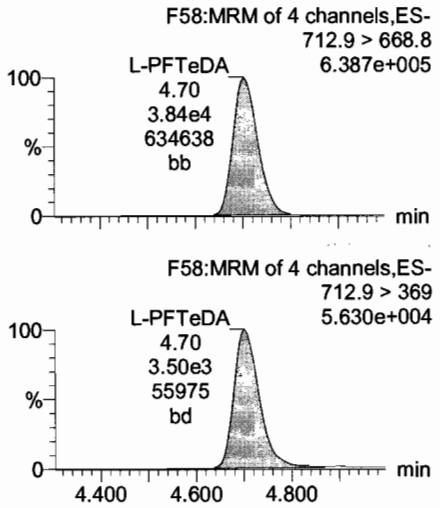


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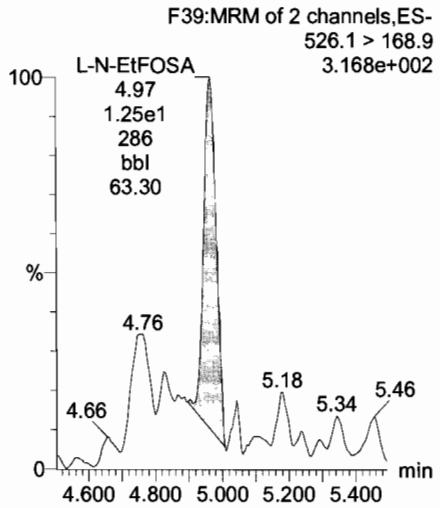
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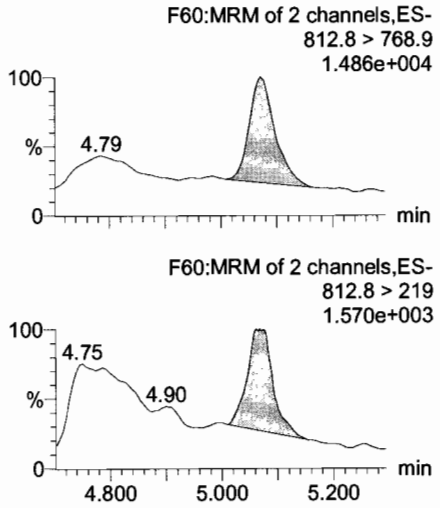
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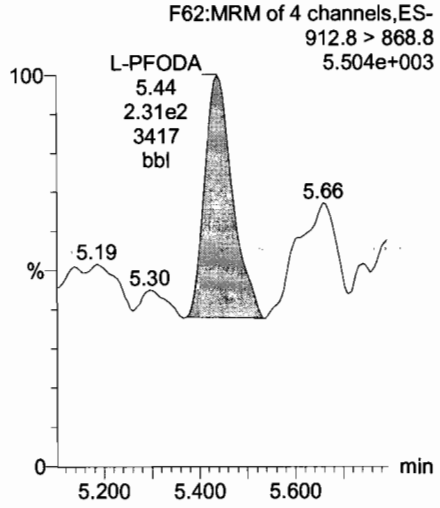
L-N-EtFOSA



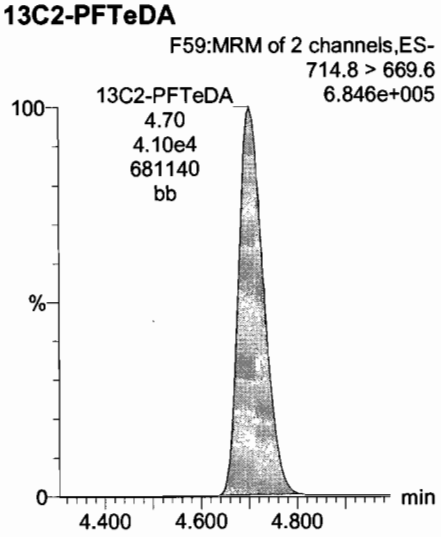
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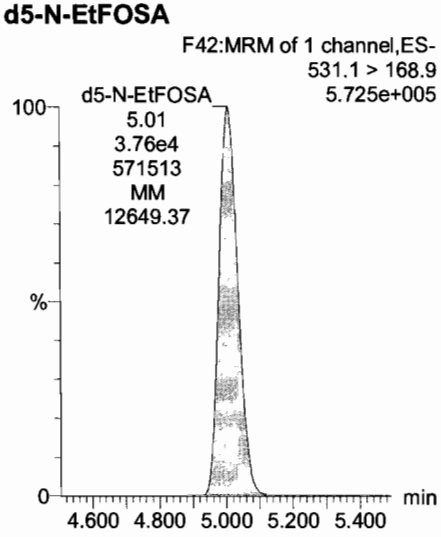
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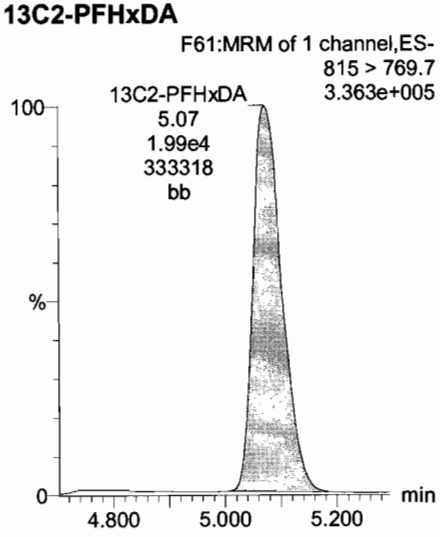
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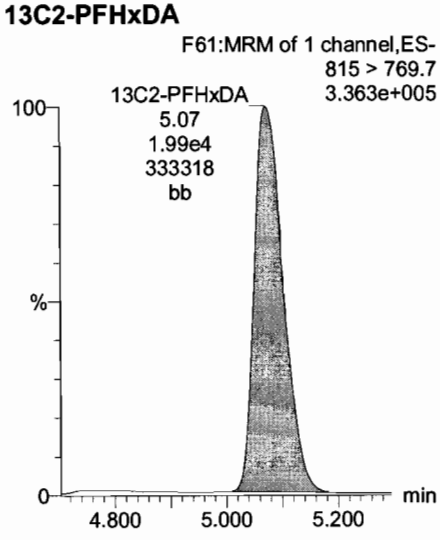
d5-N-EtFOSA



13C2-PFHxDA



13C2-PFHxDA

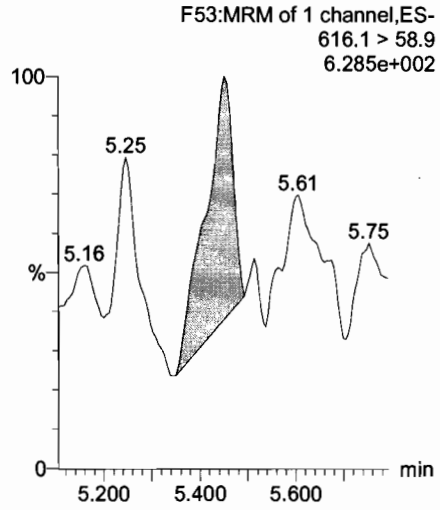


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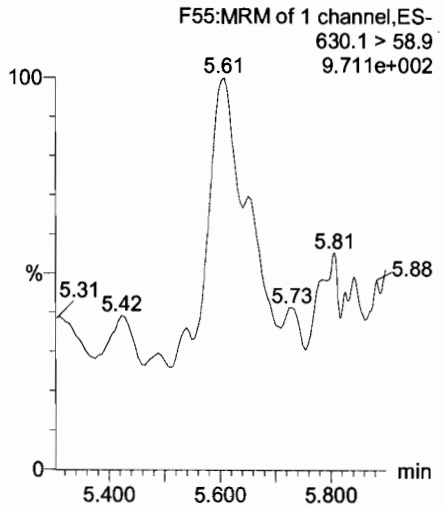
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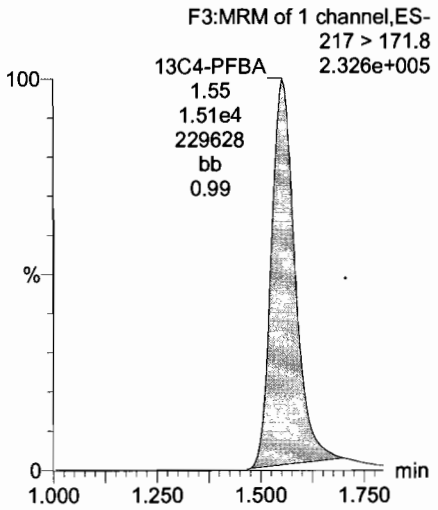
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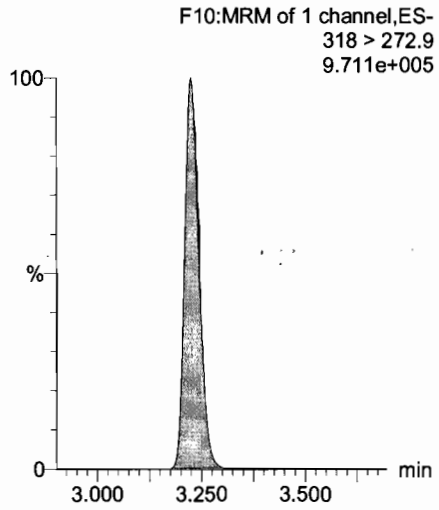
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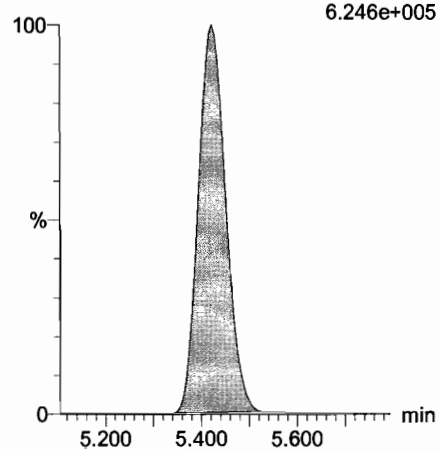
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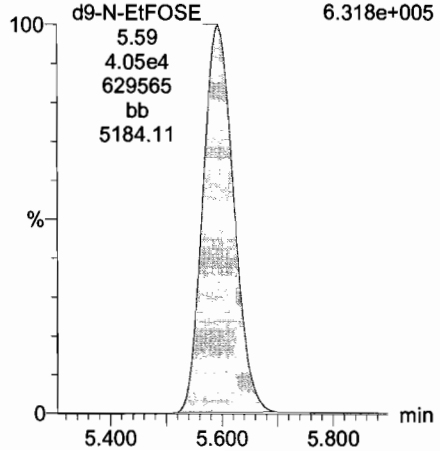
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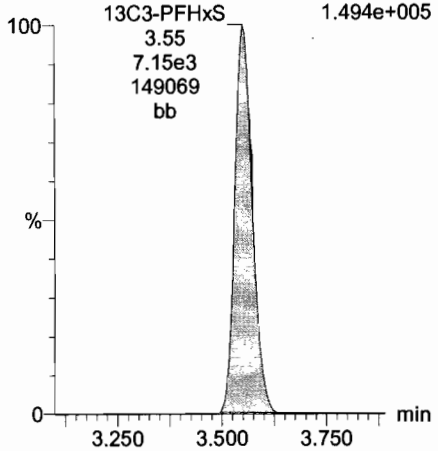
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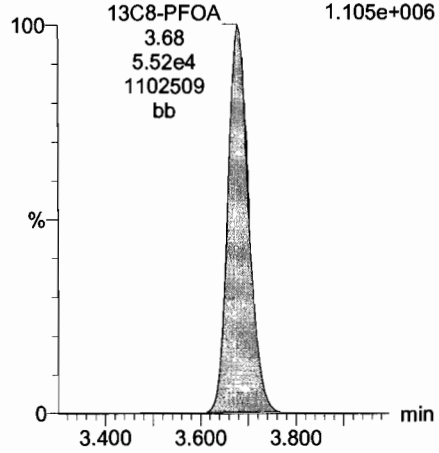
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13C3-PFHxS



13C8-PFOA



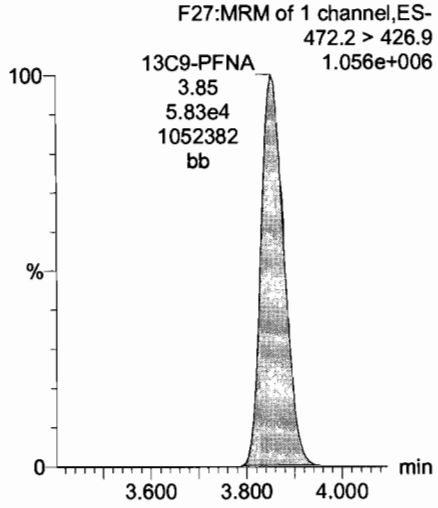
Vista Analytical Laboratory

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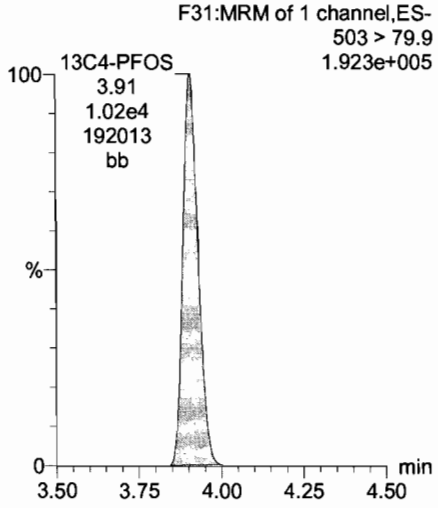
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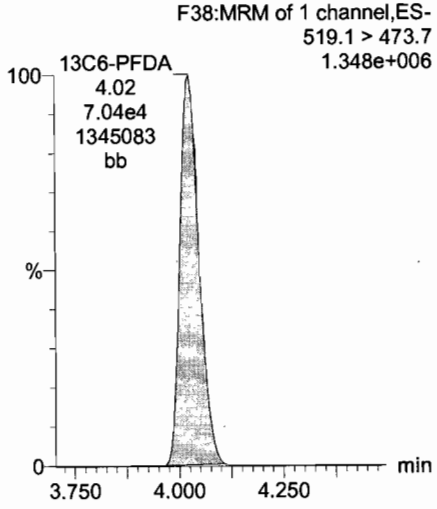
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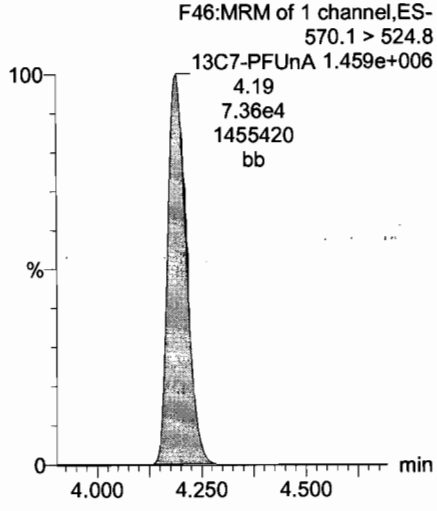
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Analytical Standard Record

Vista Analytical Laboratory

17G1307

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1432	13C2-PFHxDA	14-Sep-16	** Vendor **	07-Jan-21	14-Sep-16 14:19 by TLD	0.2
16I1433	13C2-PFHxA	14-Sep-16	** Vendor **	08-Apr-21	14-Sep-16 14:22 by TLD	0.2
17B2809	d3-N-Me-FOSAA	28-Feb-17	** Vendor **	28-Feb-18	28-Feb-17 13:24 by EMS	0.5
17B2811	d5-N-EtFOSAA	28-Feb-17	** Vendor **	22-Nov-21	28-Feb-17 13:33 by EMS	0.5
17E1718	18O2-PFHxS	17-May-17	** Vendor **	17-Feb-22	17-May-17 12:46 by INJ	0.529
17E2412	13C8-PFOS	24-May-17	** Vendor **	30-Sep-21	24-May-17 11:19 by INJ	0.539
17E2413	13C3-PFBS	24-May-17	** Vendor **	02-Aug-21	24-May-17 11:20 by INJ	0.538
17E2414	13C3-PFBA	24-May-17	** Vendor **	27-May-21	24-May-17 11:20 by INJ	0.5
17E2415	13C2-8:2 FTS	24-May-17	** Vendor **	22-Aug-21	24-May-17 11:21 by INJ	0.522
17E2416	13C2-6:2 FTS	24-May-17	** Vendor **	17-Feb-22	24-May-17 11:21 by INJ	0.526
17E2417	13C5-PFNA	24-May-17	** Vendor **	30-Sep-21	24-May-17 11:22 by INJ	0.5
17E2418	13C2-PFTeDA	24-May-17	** Vendor **	01-Mar-22	24-May-17 11:22 by INJ	0.5
17E2419	13C2-PFUdA	24-May-17	** Vendor **	22-Nov-21	24-May-17 11:23 by INJ	0.5
17E2420	13C4-PFHpA	24-May-17	** Vendor **	27-May-21	24-May-17 11:23 by INJ	0.5
17E2421	13C2-PFDoA	24-May-17	** Vendor **	08-Apr-21	24-May-17 11:24 by INJ	0.5
17G1303	13C3-PFPeA	13-Jul-17	** Vendor **	20-Apr-22	13-Jul-17 09:18 by INJ	0.5
17G1304	13C2-PFOA	13-Jul-17	** Vendor **	12-Feb-21	13-Jul-17 09:25 by INJ	0.5
17G1305	13C8-FOSA-I	13-Jul-17	** Vendor **	20-Apr-22	13-Jul-17 09:33 by INJ	0.5
17G1306	13C2-PFDA	13-Jul-17	** Vendor **	30-Sep-21	13-Jul-17 09:36 by INJ	0.5

Description:	PFC - IS	Expires:	28-Feb-18
Standard Type:	Reagent	Prepared:	13-Jul-17
Solvent:	MEOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	13-Jul-17 09:58 by INJ

Analyte	CAS Number	Concentration	Units
13C3-PFBS		1.25	ug/mL
13C2-8:2 FTS		1.25	ug/mL
13C2-PFDA		1.25	ug/mL
13C2-PFDoA		1.25	ug/mL
13C2-PFHxA		0.5	ug/mL
13C2-PFHxDA		0.5	ug/mL
13C2-PFOA		1.25	ug/mL
13C2-PFTeDA		1.25	ug/mL
13C2-6:2 FTS		1.25	ug/mL
13C3-PFBA		1.25	ug/mL
d5-EtFOSAA		1.25	ug/mL
13C3-PFPeA		1.25	ug/mL
13C4-PFHpA		1.25	ug/mL
13C5-PFNA		1.25	ug/mL
13C8-PFOS		1.25	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17G1307

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
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17E2418	13C2-PFTeDA	24-May-17	** Vendor **	01-Mar-22	24-May-17 11:22 by INJ	0.5
17E2419	13C2-PFUdA	24-May-17	** Vendor **	22-Nov-21	24-May-17 11:23 by INJ	0.5
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Description:	PFC - IS	Expires:	28-Feb-18
Standard Type:	Reagent	Prepared:	13-Jul-17
Solvent:	MEOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	13-Jul-17 09:58 by INJ

Analyte	CAS Number	Concentration	Units
13C8-PFOSA		1.25	ug/mL
18O2-PFHxS		1.25	ug/mL
d3-MeFOSAA		1.25	ug/mL
13C2-PFUnA		1.25	ug/mL

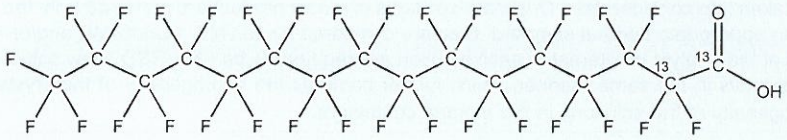
16I1432

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

$^{13}C_2$-PFHxDA

PRODUCT CODE:	M2PFHxDA	**LOT NUMBER:**	M2PFHxDA1112
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]hexadecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{14}HF_{31}O_2$	**MOLECULAR WEIGHT:**	816.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2$-$^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	01/07/2016		
EXPIRY DATE: (mm/dd/yyyy)	01/07/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.3% of native perfluoro-n-hexadecanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ B.G. Chittim **Date:** 01/11/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

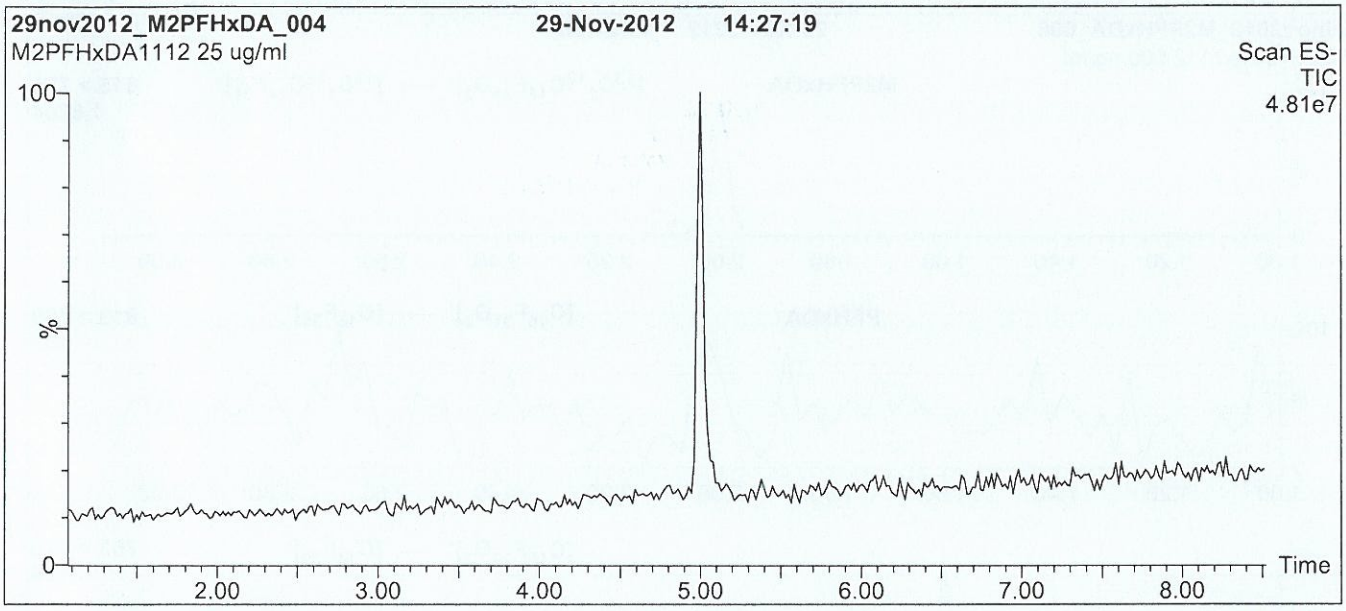
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

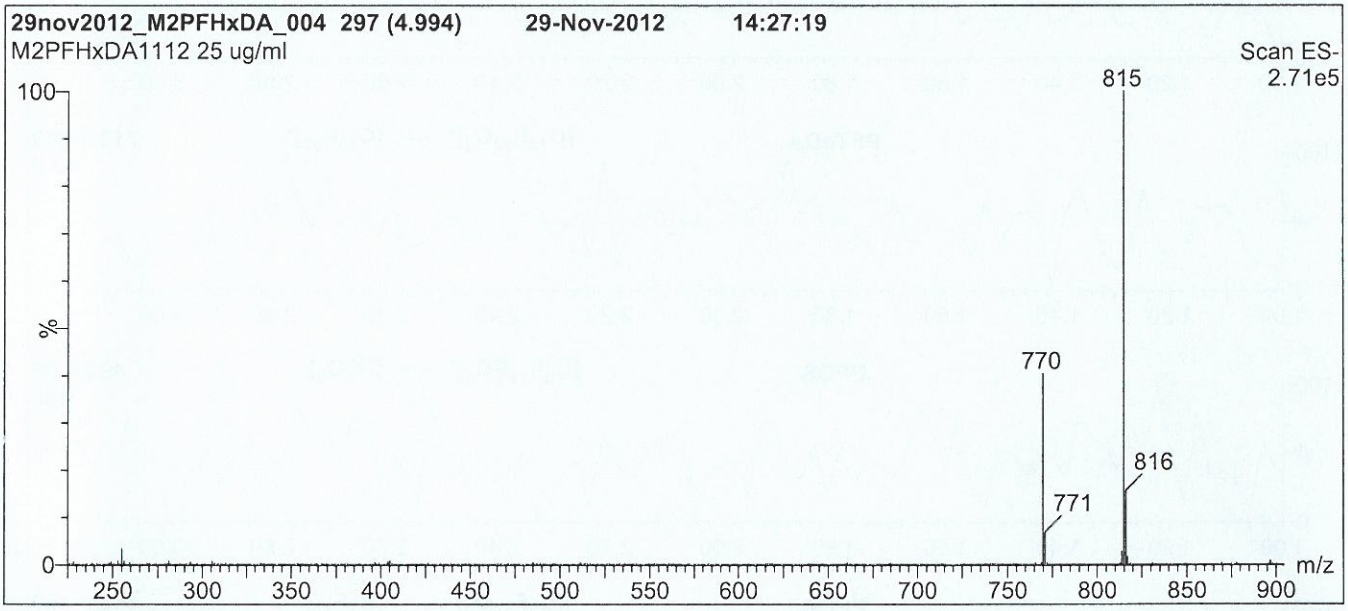
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **M2PFHxDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 100% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

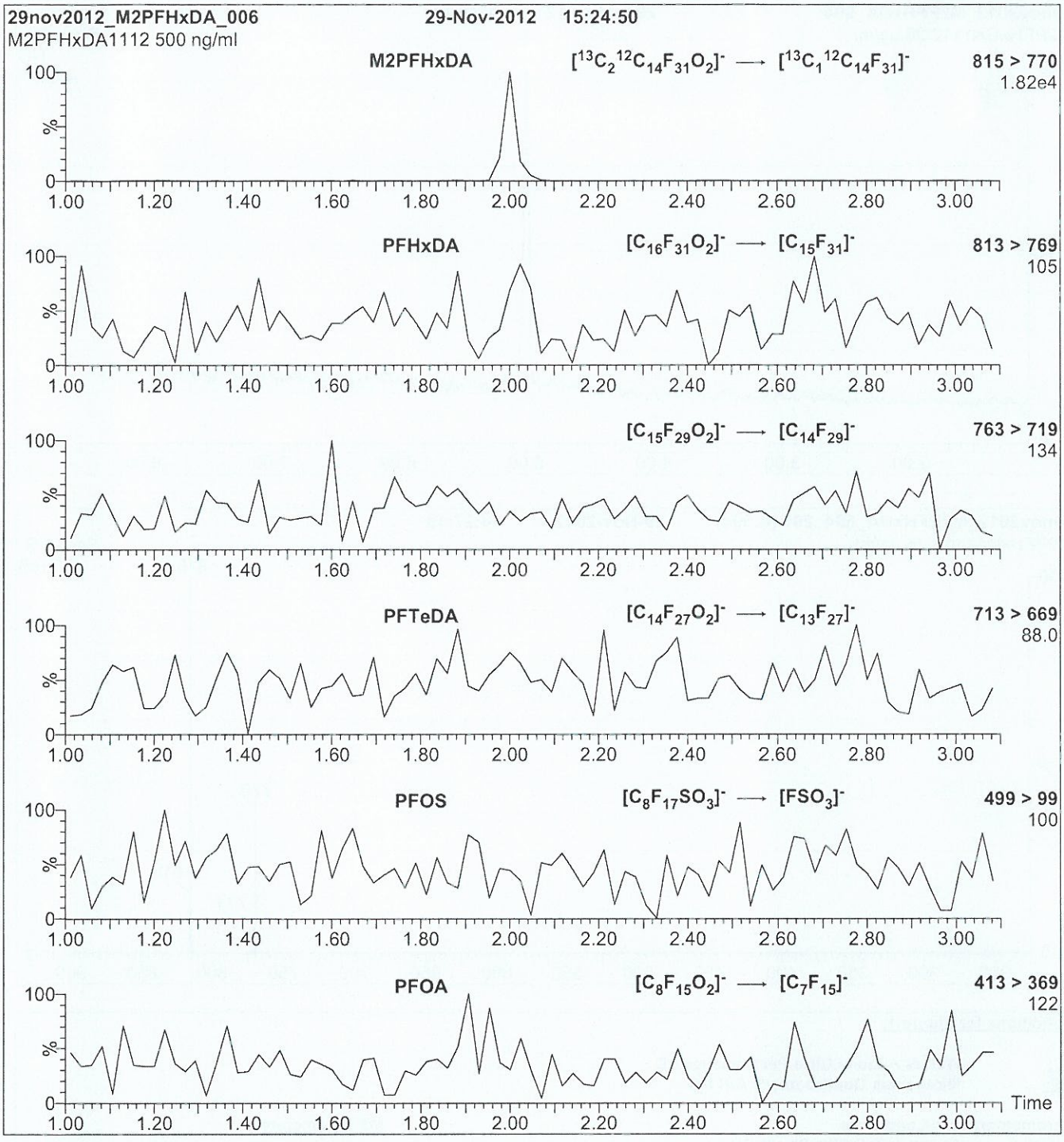
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 1200 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 25.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: **M2PFHxDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M2PFHxDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 15

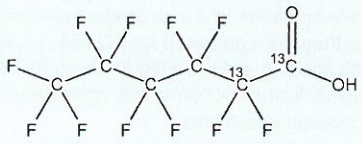
16I1433

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

13C2-PFHxA

PRODUCT CODE:	MPFHxA	**LOT NUMBER:**	MPFHxA0416
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]hexanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_4HF_{11}O_2$	**MOLECULAR WEIGHT:**	316.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2-$^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	04/08/2016		
EXPIRY DATE: (mm/dd/yyyy)	04/08/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of perfluoro-n-hexanoic acid and ~ 0.3% of perfluoro-n-octanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ B.G. Chittim **Date:** 04/29/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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SYNTHESIS / CHARACTERIZATION:

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Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

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where x is expressed as a relative standard uncertainty of the individual parameter.

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TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

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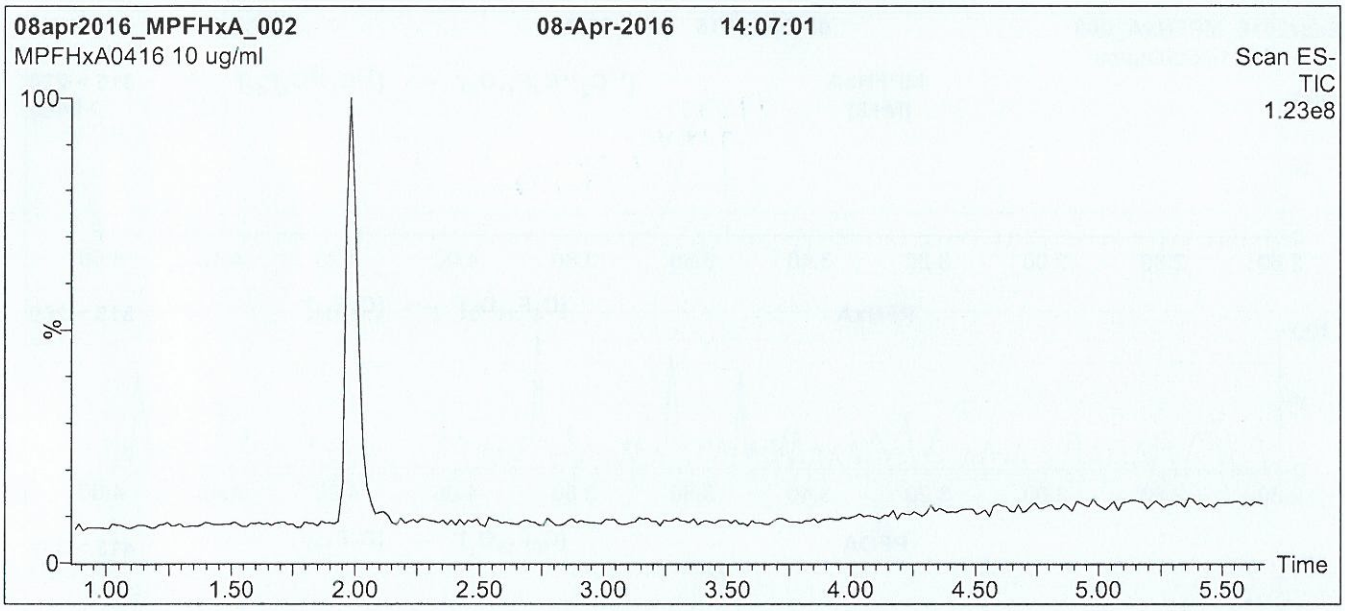
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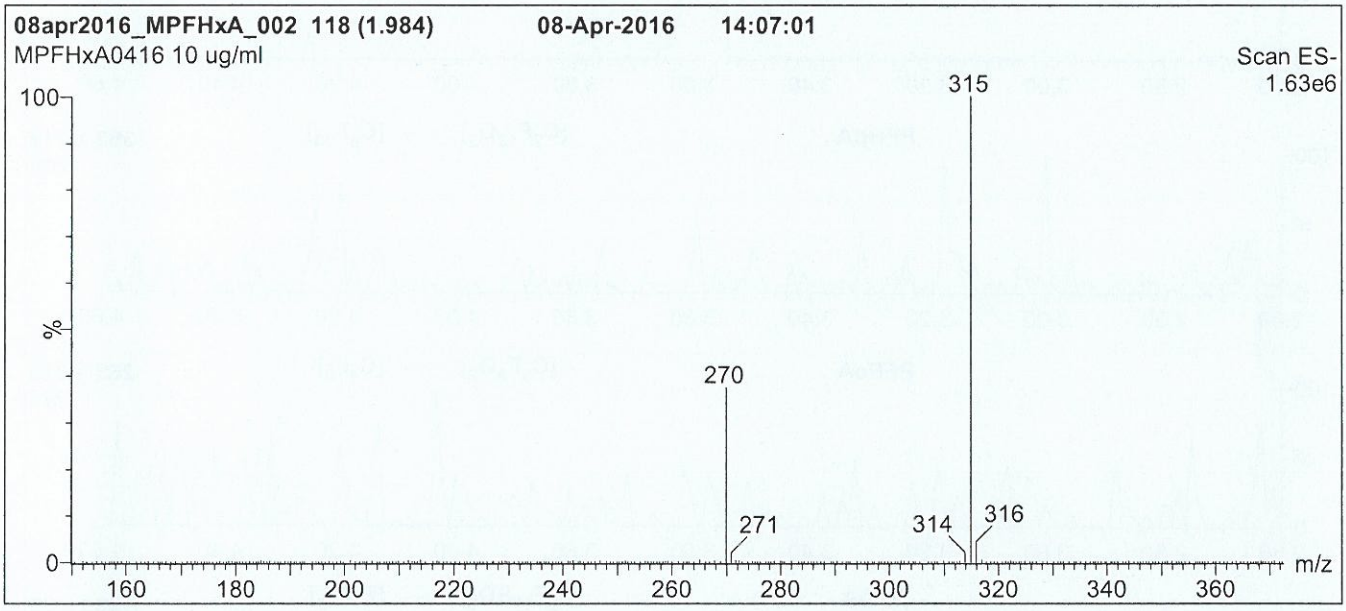
CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17025 ISO 17034 REFERENCE MATERIAL PRODUCER

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Figure 1: **MPFHxA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min before returning to initial conditions over 0.5 min.
Time: 10 min

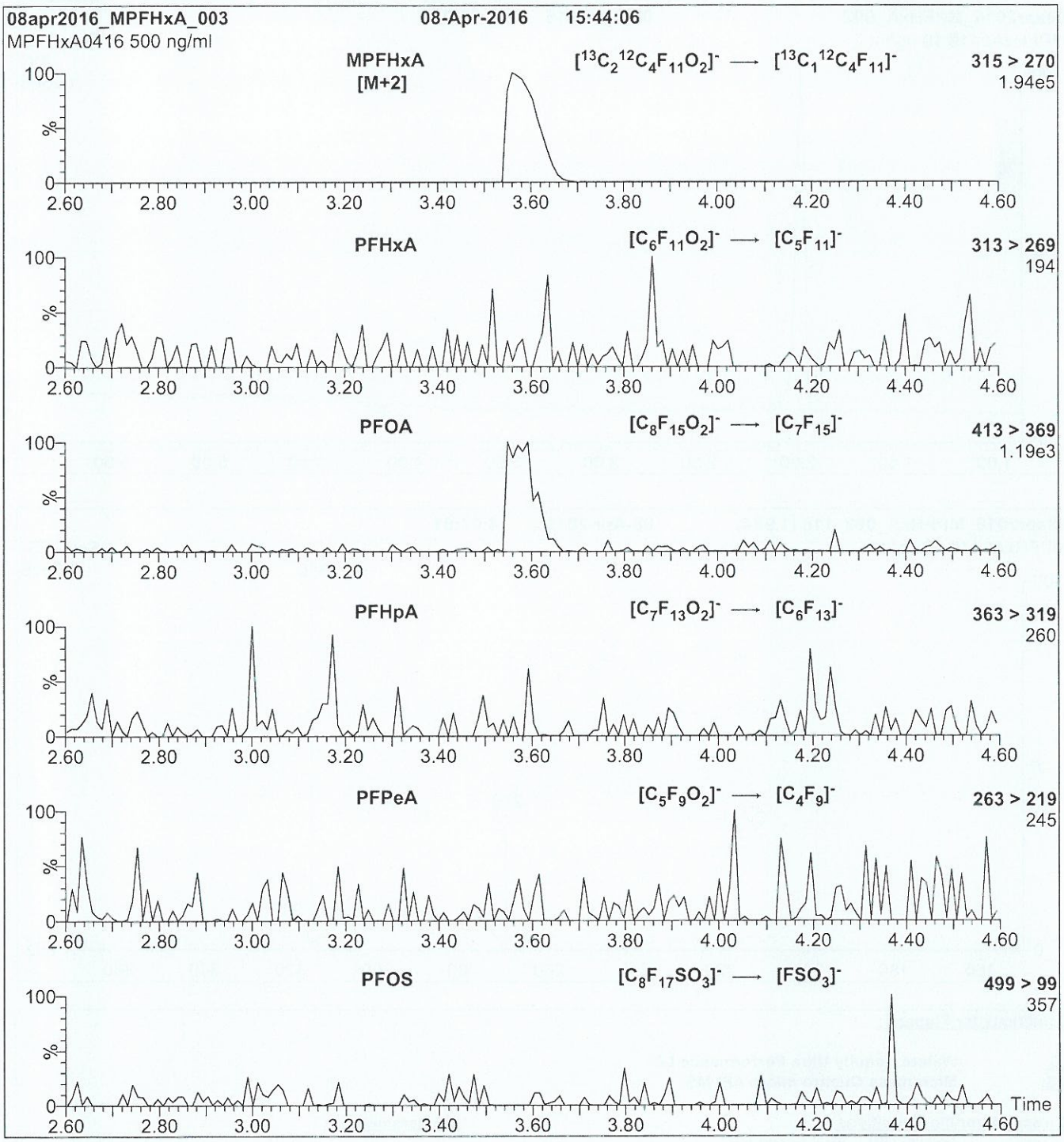
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **MPFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFHxA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 10

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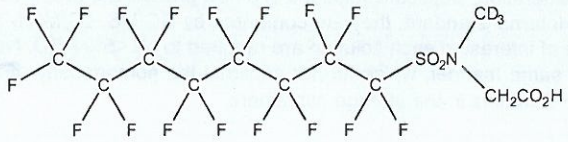
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d3-N-MeFOSAA **LOT NUMBER:** d3NMeFOSAA1116

COMPOUND: N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_{11}D_3H_3F_{17}NO_4S$	**MOLECULAR WEIGHT:**	574.23
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥98% $^2H_3$
LAST TESTED: (mm/dd/yyyy)	11/22/2016		
EXPIRY DATE: (mm/dd/yyyy)	11/22/2021		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

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Certified By: B.G. Chittim **Date:** 12/07/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

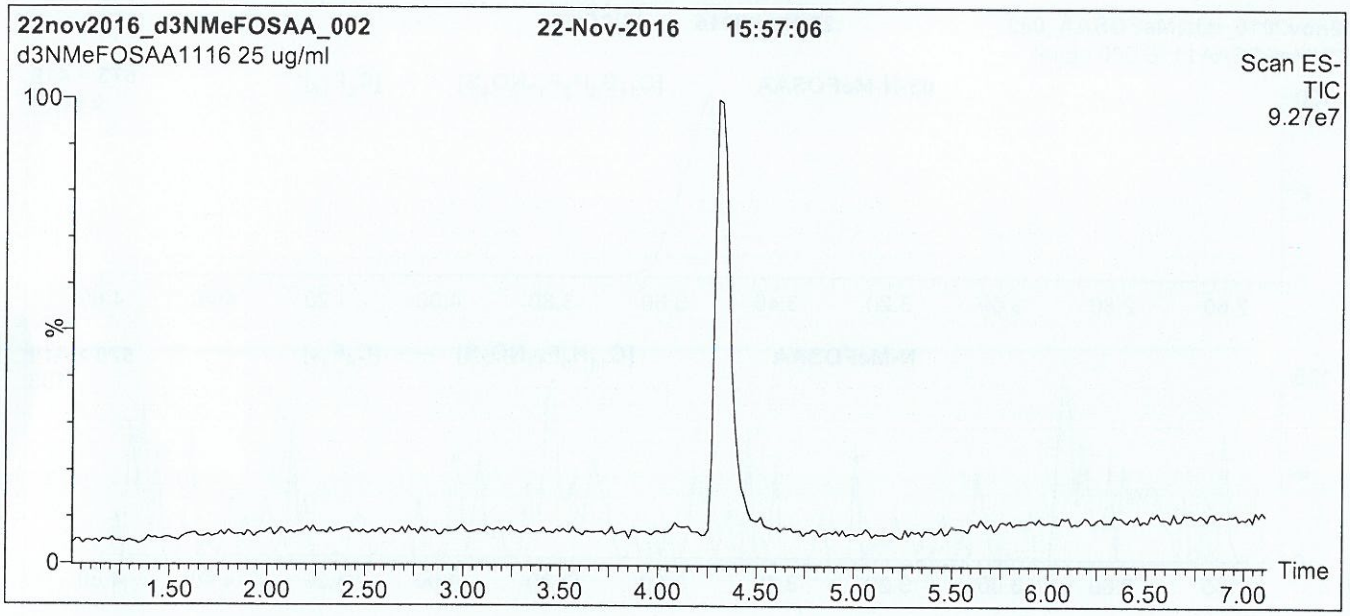
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

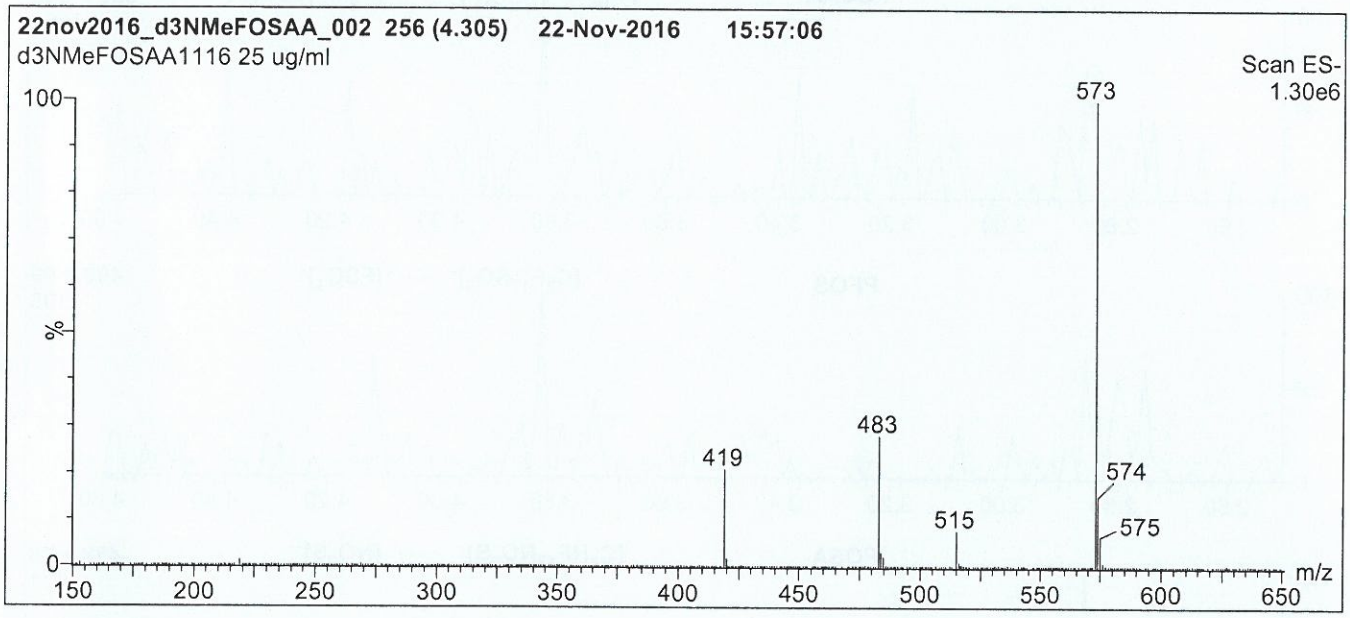
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **d3-N-MeFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

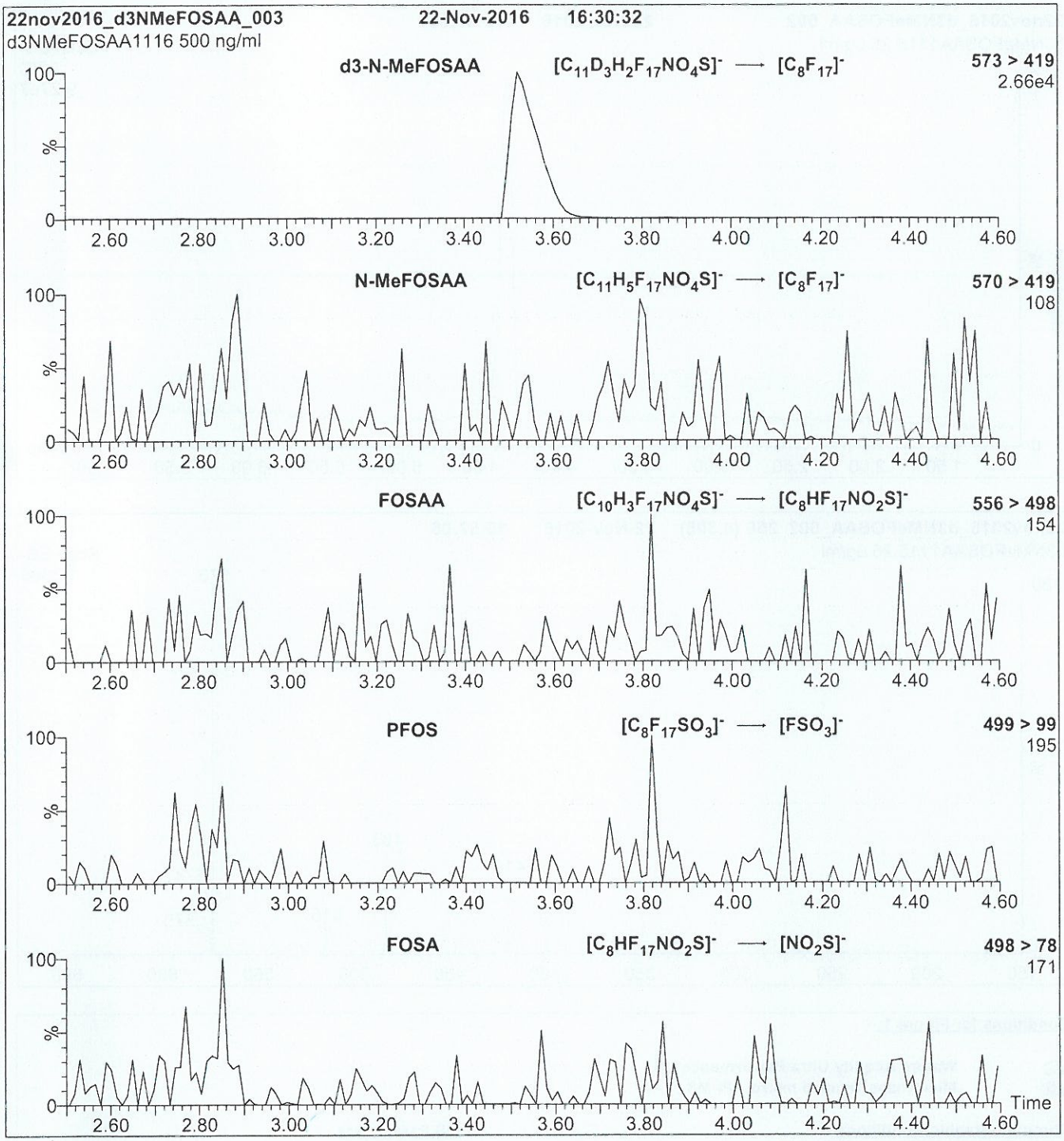
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **d3-N-MeFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml d3-N-MeFOSAA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 20

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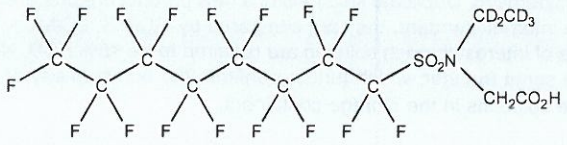
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d5-N-EtFOSAA **LOT NUMBER:** d5NEtFOSAA1116

COMPOUND: N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_{12}D_5H_3F_{17}NO_4S$	**MOLECULAR WEIGHT:**	590.26
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥98% $^2H_5$
LAST TESTED: (mm/dd/yyyy)	11/22/2016		
EXPIRY DATE: (mm/dd/yyyy)	11/22/2021		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/01/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

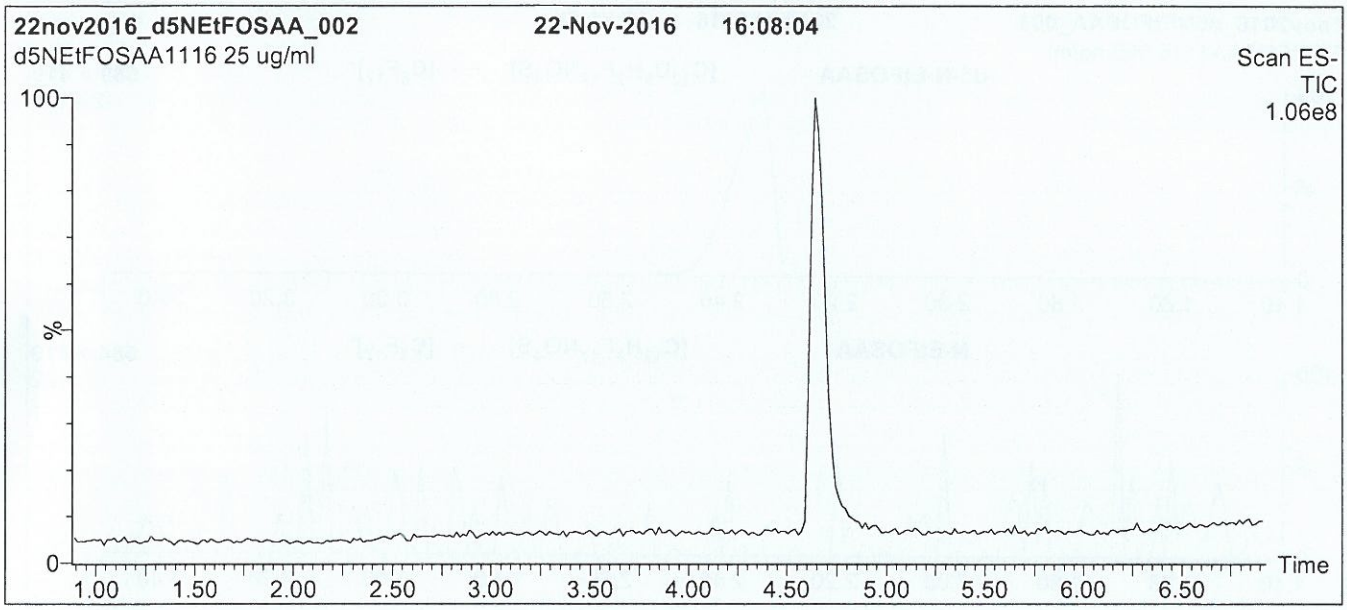
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

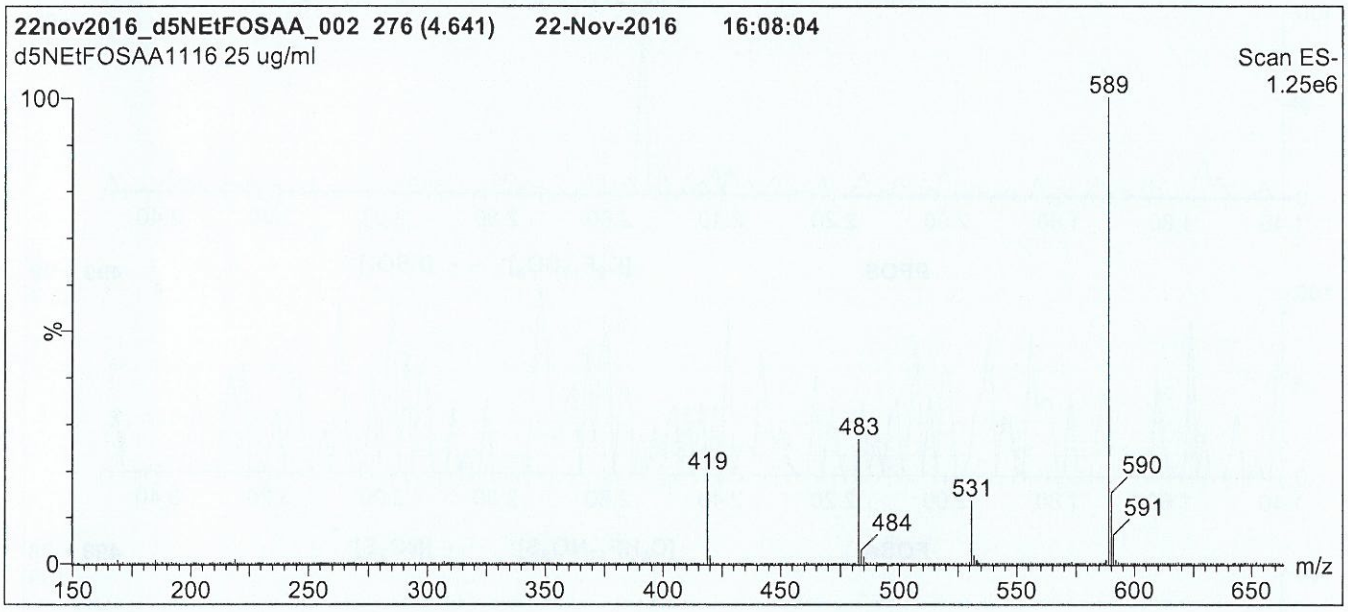
CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17025 & ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **d5-N-EtFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

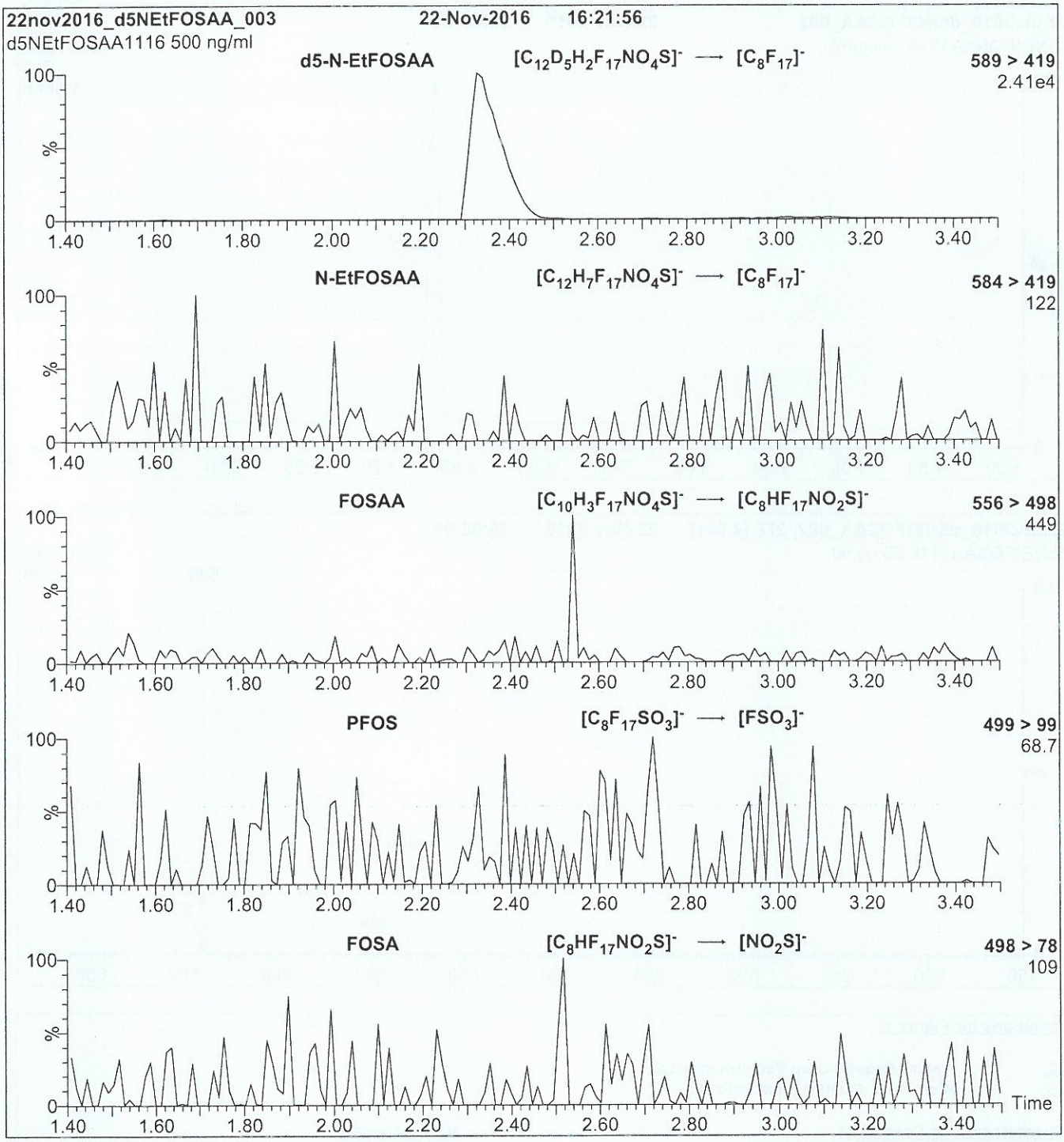
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **d5-N-EtFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml d5-N-EtFOSAA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

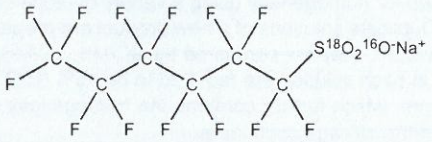
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 20

17E1718

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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	MPFHxS	**LOT NUMBER:**	MPFHxS0217
COMPOUND:	Sodium perfluoro-1-hexane[$^{18}O_2$]sulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$C_6F_{13}S^{18}O_2{}^{16}ONa$	**MOLECULAR WEIGHT:**	426.10
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.3 ± 2.4 µg/ml (MPFHxS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	>94% ($^{18}O_2$)
LAST TESTED: (mm/dd/yyyy)	02/17/2017		
EXPIRY DATE: (mm/dd/yyyy)	02/17/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The response factor for MPFHxS ($C_6F_{13}S^{18}O_2{}^{16}O^-$) has been observed to be up to 10% lower than for PFHxS ($C_6F_{13}S^{16}O_3^-$) when both compounds are injected together. This difference may vary between instruments.
- Contains ~ 1.0% of sodium perfluoro-1-octane[$^{18}O_2$]sulfonate ($^{18}O_2$-PFOS).
- Due to the isotopic purity of the starting material ($^{18}O_2$ >94%), MPFHxS contains ~ 0.3% of PFHxS. This value agrees with the theoretical percent relative abundance that is expected based on the stated isotopic purity.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/02/2017
B.G. Chittim (mm/dd/yyyy)

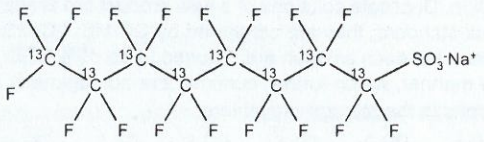
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17E2412

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M8PFOS	**LOT NUMBER:**	M8PFOS0916
COMPOUND:	Sodium perfluoro-1-[$^{13}C_8$]octanesulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_8F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	530.05
CONCENTRATION:	48.5 ± 2.4 µg/ml (Na salt) 46.4 ± 2.3 µg/ml (M8PFOS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>97%	**ISOTOPIC PURITY:**	>99% ^{13}C ($^{13}C_8$)
LAST TESTED: (mm/dd/yyyy)	09/30/2016		
EXPIRY DATE: (mm/dd/yyyy)	09/30/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.6% of sodium perfluoro-1-[$^{13}C_7$]heptanesulfonate ($^{13}C_7$-PFHpS), ~ 1.0% of chlorohexadecafluoro-1-[$^{13}C_8$]octanesulfonate, and ~ 1.5% of sodium perfluoro-1-[$^{13}C_4$]octanesulfonate (MPFOS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 10/11/2016 (mm/dd/yyyy)

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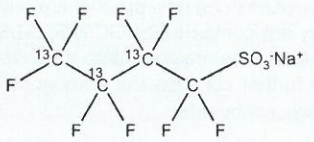
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3PFBS **LOT NUMBER:** M3PFBS0815

COMPOUND: Sodium perfluoro-1-[2,3,4-$^{13}C_3$]butanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}CF_9SO_3Na$	**MOLECULAR WEIGHT:**	325.06
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 46.5 ± 2.3 µg/ml (M3PFBS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($2,3,4\text{-}^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	08/02/2016		
EXPIRY DATE: (mm/dd/yyyy)	08/02/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 08/05/2016 (mm/dd/yyyy)

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17E24-14

WELLINGTON LABORATORIES

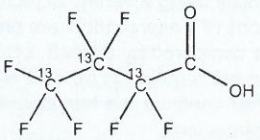
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3PFBA
COMPOUND: Perfluoro-n-[2,3,4-$^{13}C_3$]butanoic acid

LOT NUMBER: M3PFBA0516

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}CHF_7O_2$	**MOLECULAR WEIGHT:**	217.02
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($2,3,4$-$^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	05/27/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/27/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-[$^{13}C_3$]propanoic acid and also contains ~ 1.0% of perfluoro-n-[$1,2,3,4$-$^{13}C_4$]butanoic acid due to the naturally occurring isotopic abundance of ^{13}C in the unlabelled carbon atom.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 07/08/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

17E2415

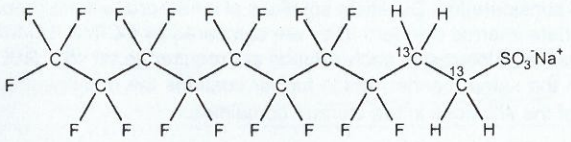
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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M2-8:2FTS **LOT NUMBER:** M282FTS0816

COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]decane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8H_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	552.15
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.9 ± 2.4 µg/ml (M2-8:2FTS anion)		
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	08/22/2016		
EXPIRY DATE: (mm/dd/yyyy)	08/22/2021		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 8:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 8:2FTS and M2-8:2FTS will produce signals in the m/z 529 to m/z 509 channel during SRM analysis. We recommend using the m/z 529 to m/z 81 transition to monitor for M2-8:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

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Certified By: B.G. Chittim **Date:** 09/02/2016 (mm/dd/yyyy)

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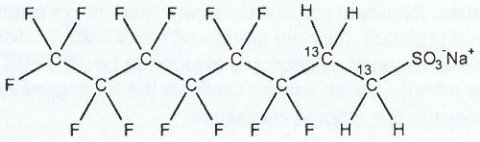
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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M2-6:2FTS **LOT NUMBER:** M262FTS0217

COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]octane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_6H_4F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	452.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.5 ± 2.4 µg/ml (M2-6:2FTS anion)		
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	02/17/2017		
EXPIRY DATE: (mm/dd/yyyy)	02/17/2022		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 6:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 6:2FTS and M2-6:2FTS will produce signals in the m/z 429 to m/z 409 channel during SRM analysis. We recommend using the m/z 429 to m/z 81 transition to monitor for M2-6:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

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Certified By: B.G. Chittim **Date:** 02/24/2017 (mm/dd/yyyy)

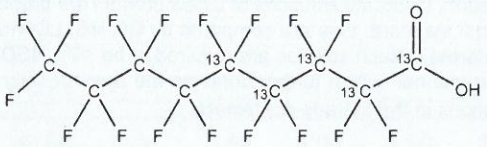
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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	MPFNA	**LOT NUMBER:**	MPFNA0916
COMPOUND:	Perfluoro-n-[1,2,3,4,5-$^{13}C_5$]nonanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_5{}^{12}C_4HF_{17}O_2$	**MOLECULAR WEIGHT:**	469.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,5-$^{13}C_5$)
LAST TESTED: (mm/dd/yyyy)	09/30/2016		
EXPIRY DATE: (mm/dd/yyyy)	09/30/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/11/2016 (mm/dd/yyyy)
B.G. Chittim

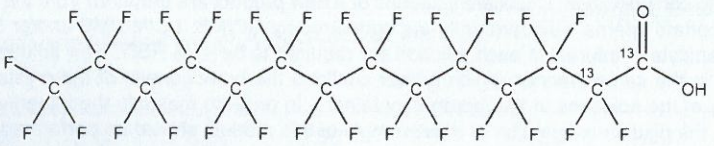
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17E2418

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M2PFTeDA	**LOT NUMBER:**	M2PFTeDA0217
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]tetradecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{12}HF_{27}O_2$	**MOLECULAR WEIGHT:**	716.10
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	03/01/2017		
EXPIRY DATE: (mm/dd/yyyy)	03/01/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By: _____ **Date:** 03/07/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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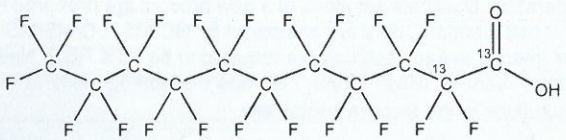
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFUdA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]undecanoic acid

LOT NUMBER: MPFUdA1116

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: $^{13}C_2{}^{12}C_9HF_{21}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 566.08
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 11/22/2016
EXPIRY DATE: (mm/dd/yyyy) 11/22/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

ISOTOPIC PURITY: ≥99% ^{13}C ($1,2\text{-}^{13}C_2$)

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Presence of 1-$^{13}C_1$-PFUdA (~1%; see Figure 2), 2-$^{13}C_1$-PFUdA (~1%), and PFUdA (~0.2%; see Figure 2) are due to the isotopic purity of the ^{13}C-precursor.

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Certified By: B.G. Chittim **Date:** 12/07/2016 (mm/dd/yyyy)

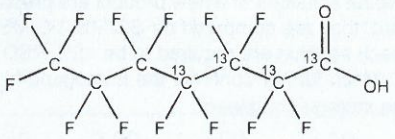
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17E2420

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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M4PFHpA	**LOT NUMBER:**	M4PFHpA0516
COMPOUND:	Perfluoro-n-[1,2,3,4-$^{13}C_4$]heptanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_3HF_{13}O_2$	**MOLECULAR WEIGHT:**	368.03
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	05/27/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/27/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By: _____ B.G. Chittim **Date:** 07/05/2016 (mm/dd/yyyy)

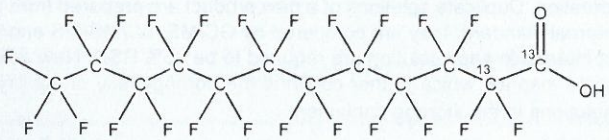
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17E2421

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	MPFDoA	**LOT NUMBER:**	MPFDoA0416
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]dodecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{10}HF_{23}O_2$	**MOLECULAR WEIGHT:**	616.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	04/08/2016		
EXPIRY DATE: (mm/dd/yyyy)	04/08/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By: B.G. Chittim **Date:** 04/15/2016 (mm/dd/yyyy)

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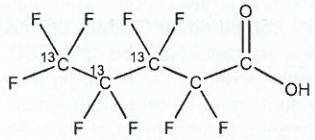
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CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M3PFPeA
LOT NUMBER: M3PFPeA0417
COMPOUND: Perfluoro-n-[3,4,5-$^{13}C_3$]pentanoic acid

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}C_2HF_9O_2$	**MOLECULAR WEIGHT:**	267.02
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C
LAST TESTED: (mm/dd/yyyy)	04/20/2017		(3,4,5-$^{13}C_3$)
EXPIRY DATE: (mm/dd/yyyy)	04/20/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.95% of perfluoro-n-[$^{13}C_3$]butanoic acid and 0.05% of perfluoro-1-pentanoic acid.

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Certified By: _____ **Date:** 04/24/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

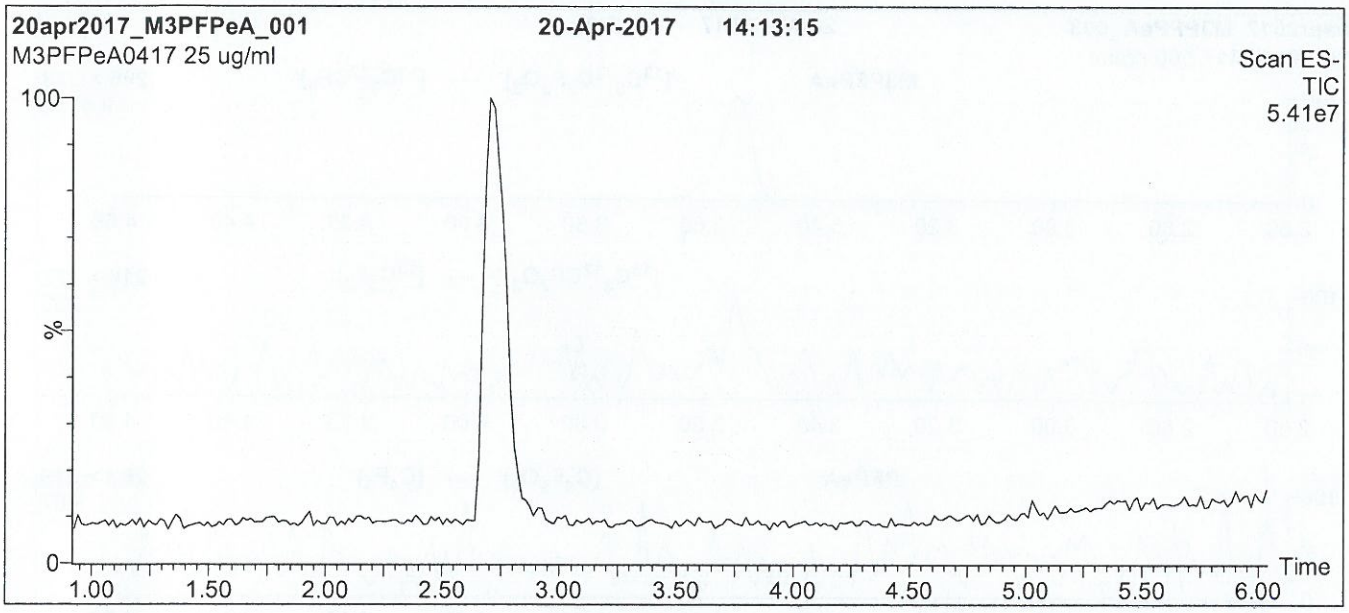
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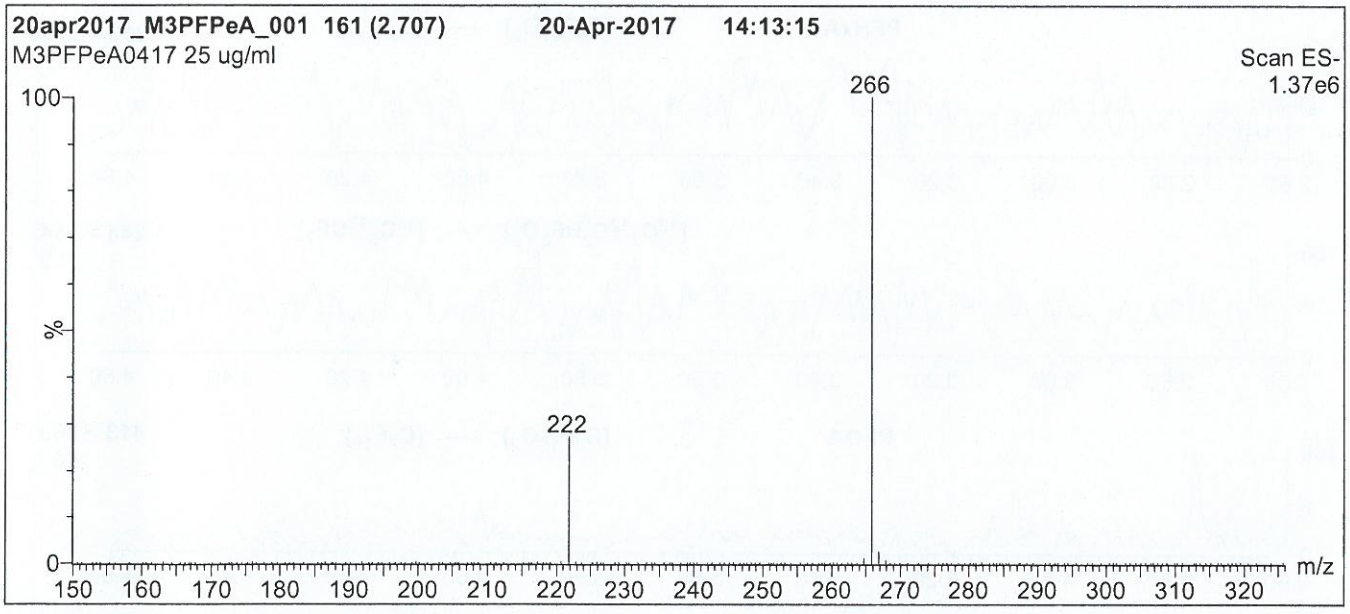
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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17G1303

Figure 1: **M3PFPeA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
2 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

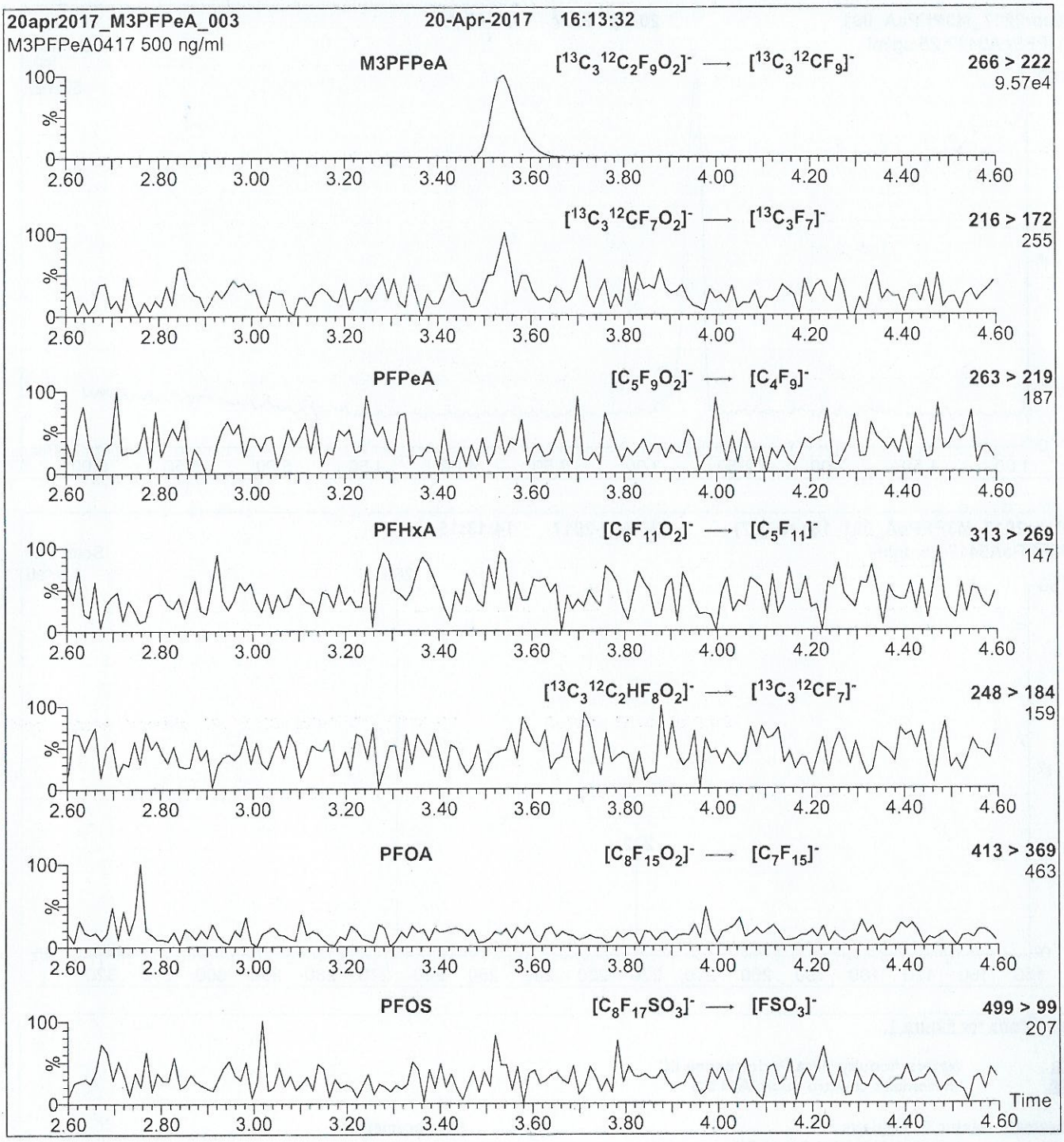
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

17G1303

Figure 2: **M3PFPeA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M3PFPeA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 9

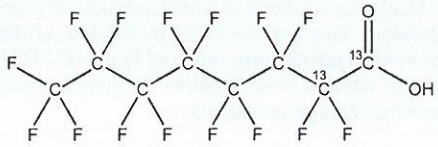
17G1304

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2PFOA
LOT NUMBER: M2PFOA0216
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]octanoic acid

STRUCTURE:



CAS #: Not available

MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_6HF_{15}O_2$	**MOLECULAR WEIGHT:**	416.05
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	02/12/2016		
EXPIRY DATE: (mm/dd/yyyy)	02/12/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 02/24/2016 (mm/dd/yyyy)

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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

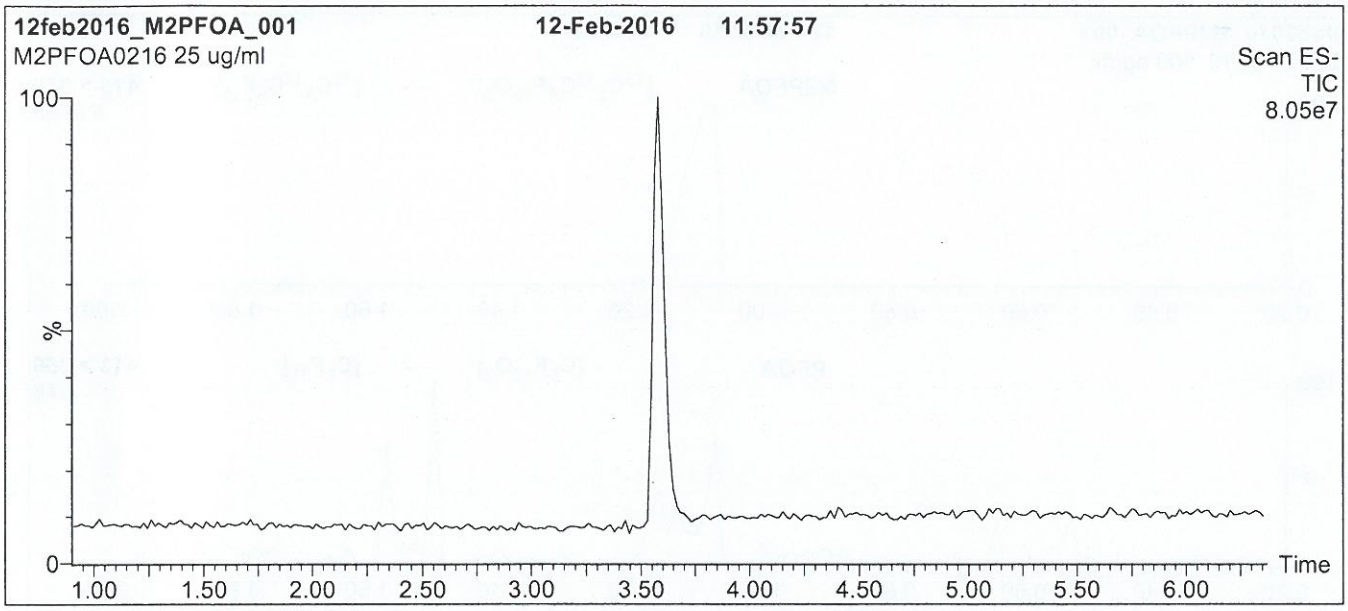
CALA Testing Accreditation No. A 1226

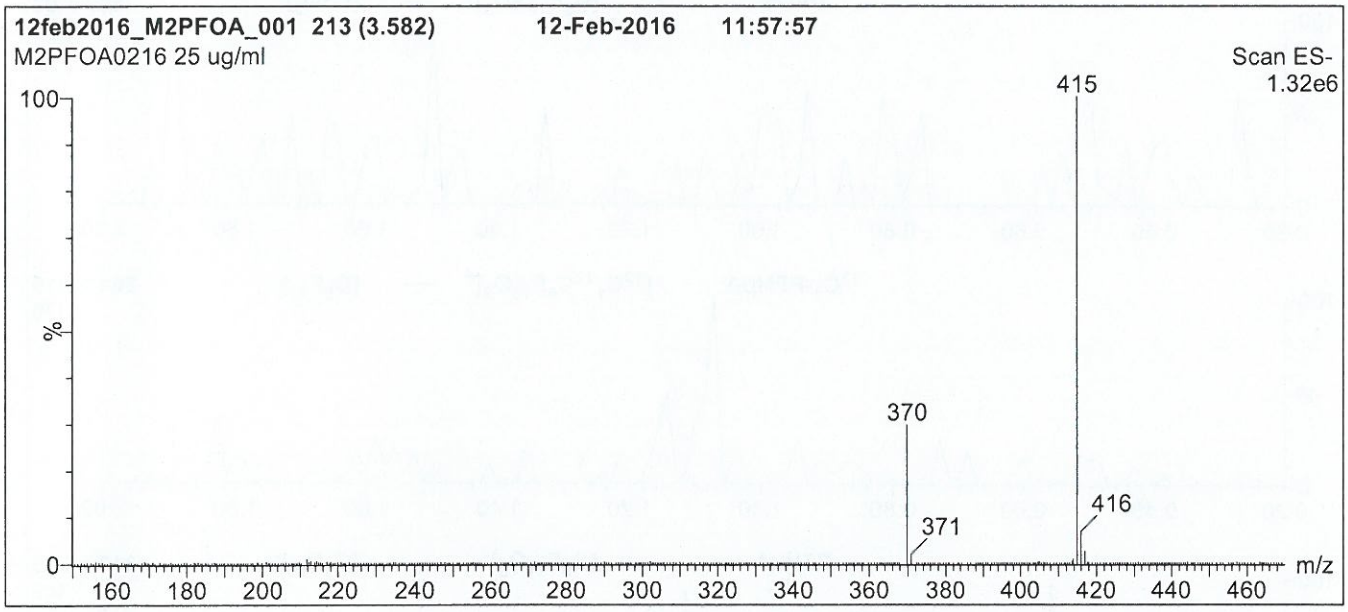
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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17G1304

Figure 1: **M2PFOA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

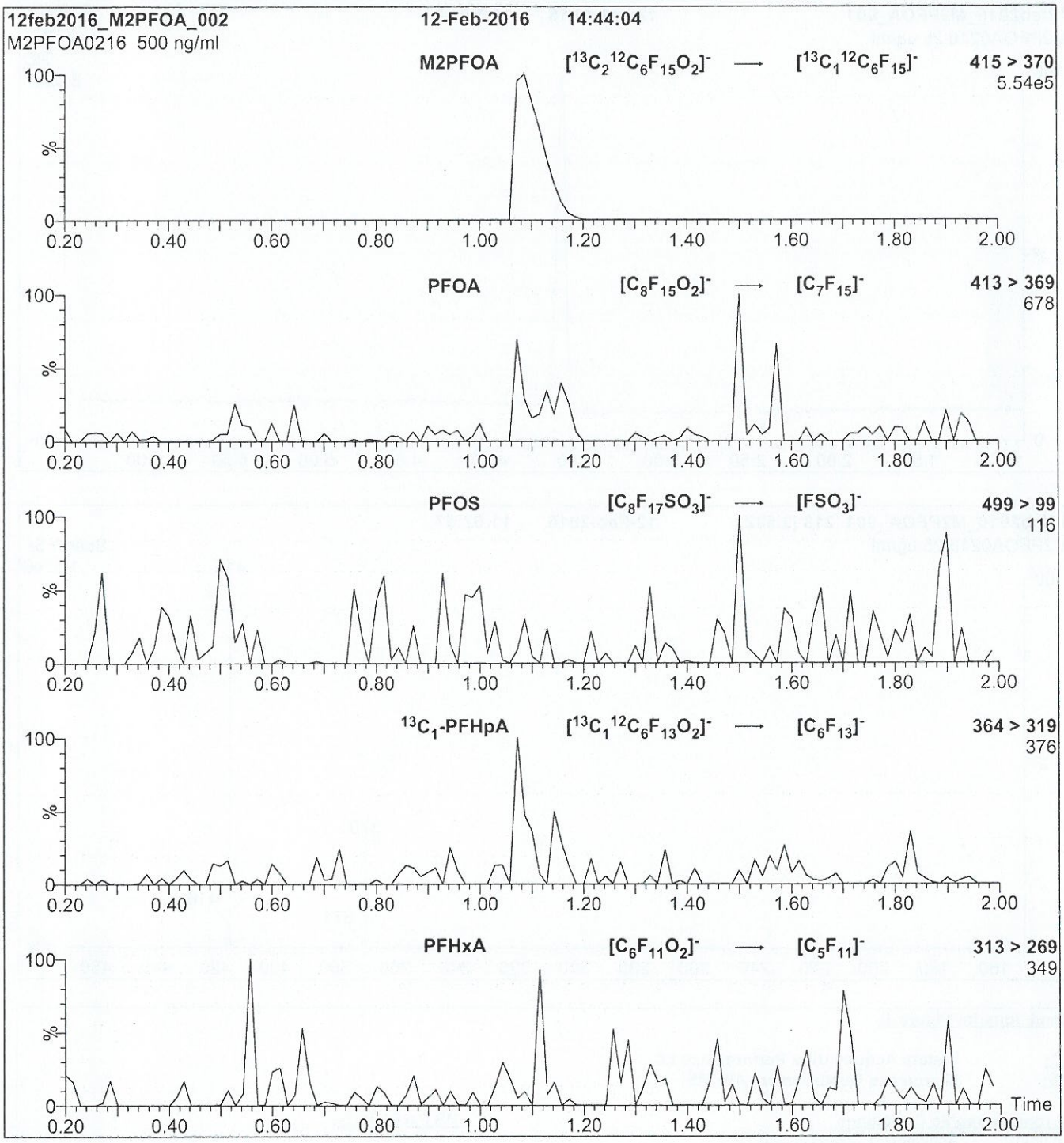
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

17G1304

Figure 2: **M2PFOA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M2PFOA)

Mobile phase: Isocratic 80% MeOH / 20% H_2O

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 10

17G1305

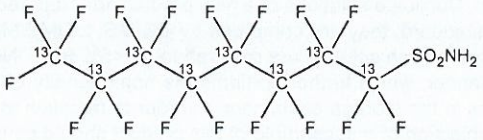
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M8FOSA-I
LOT NUMBER: M8FOSA0417I
COMPOUND: Perfluoro-1-[$^{13}C_8$]octanesulfonamide

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_8H_2F_{17}NO_2S$	**MOLECULAR WEIGHT:**	507.09
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Isopropanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_8$)
LAST TESTED: (mm/dd/yyyy)	04/20/2017		
EXPIRY DATE: (mm/dd/yyyy)	04/20/2022		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 1.1% of perfluoro-1-[$^{13}C_4$]octanesulfonamide and ~ 0.01% of perfluoro-1-[$^{13}C_7$]heptanesulfonamide.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/04/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

17G1305

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

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TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

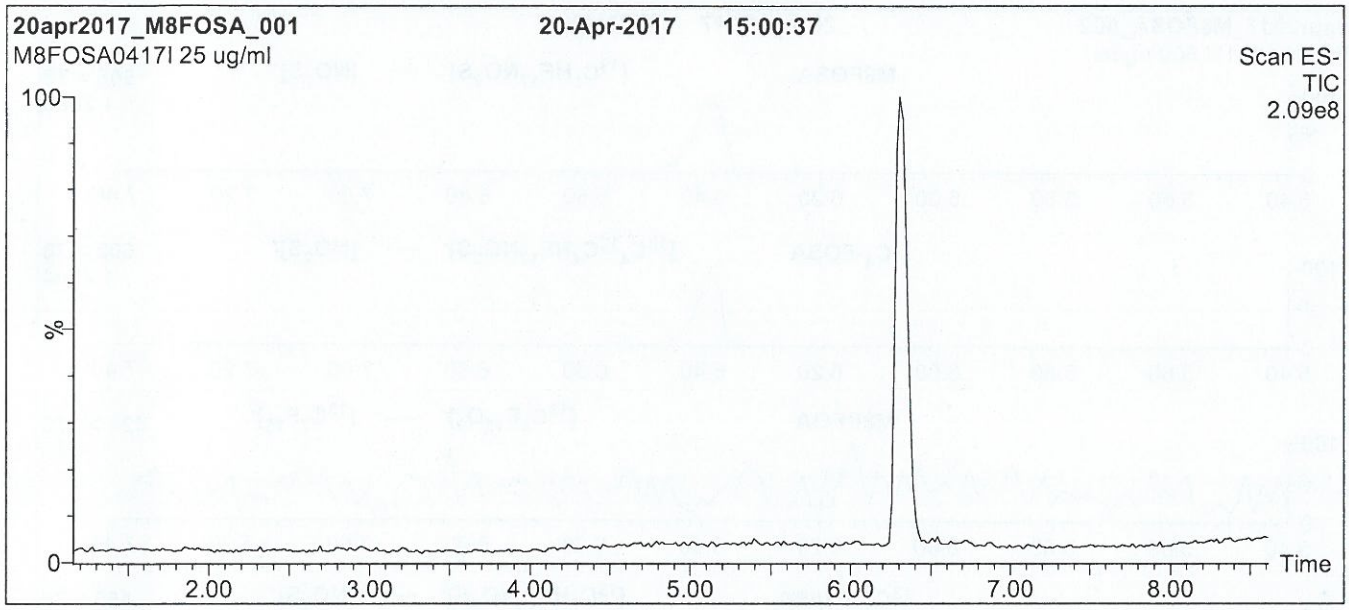
CALA Testing Accreditation No. A 1226

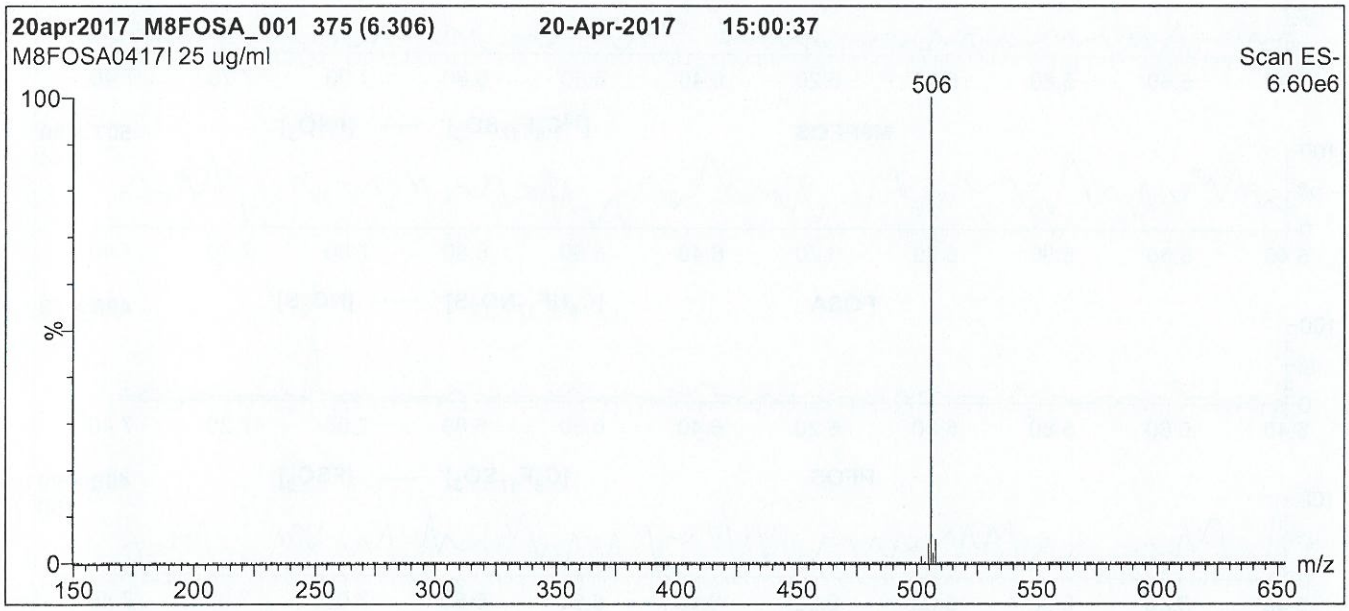
ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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#2 17G1305

Figure 1: **M8FOSA-I; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 85% organic over 7.5 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

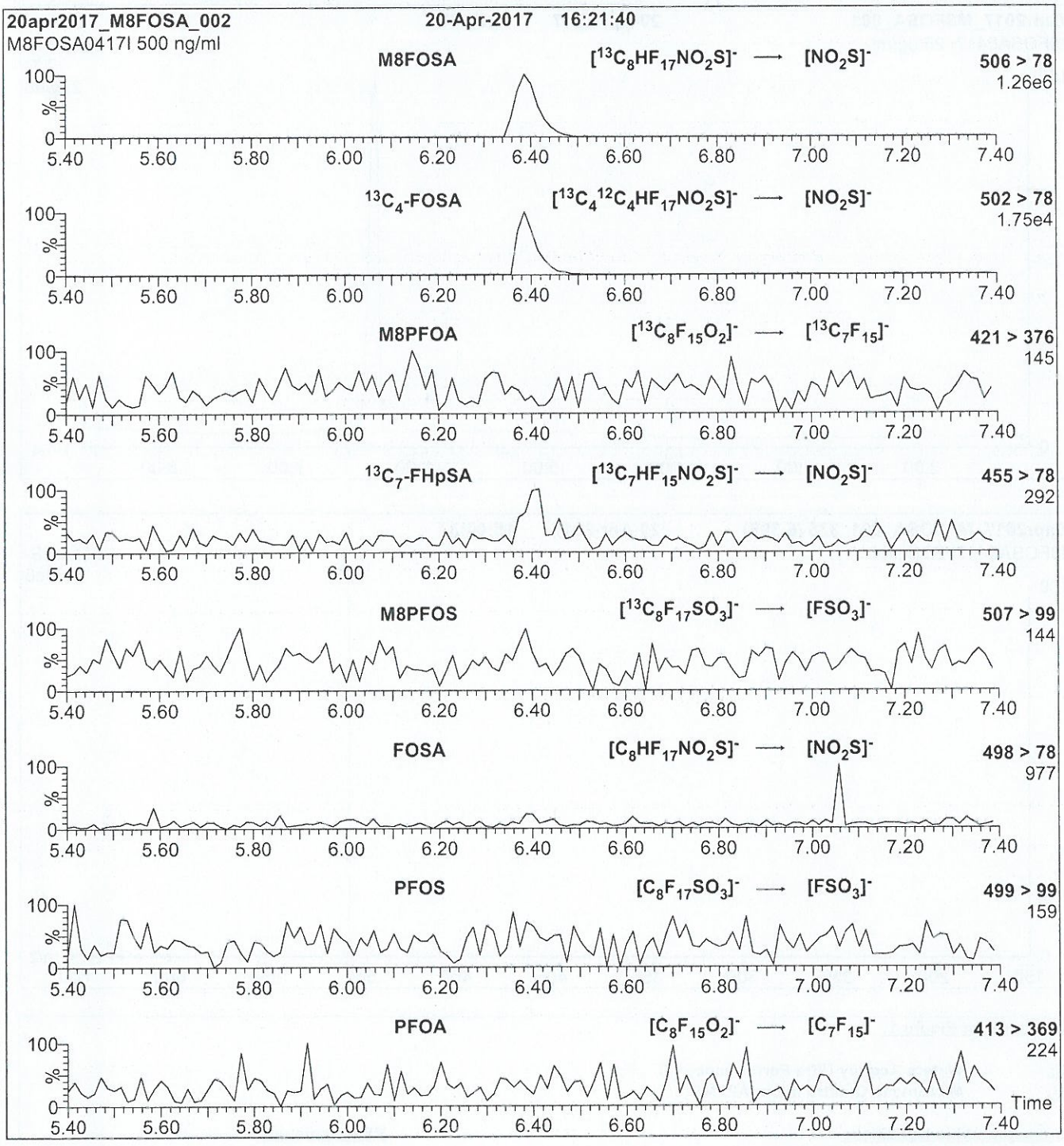
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 40.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

17G1305

Figure 2: **M8FOSA-I; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M8FOSA-I)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.17e-3
Collision Energy (eV) = 30

17G1306

WELLINGTON LABORATORIES

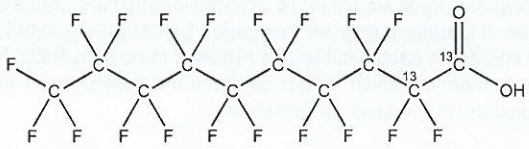
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFDA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]decanoic acid

LOT NUMBER: MPFDA0916

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8HF_{19}O_2$	**MOLECULAR WEIGHT:**	516.07
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	09/30/2016		
EXPIRY DATE: (mm/dd/yyyy)	09/30/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of $^{13}C_1$-PFNA.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 10/07/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

17G1306

INTENDED USE:

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HAZARDS:

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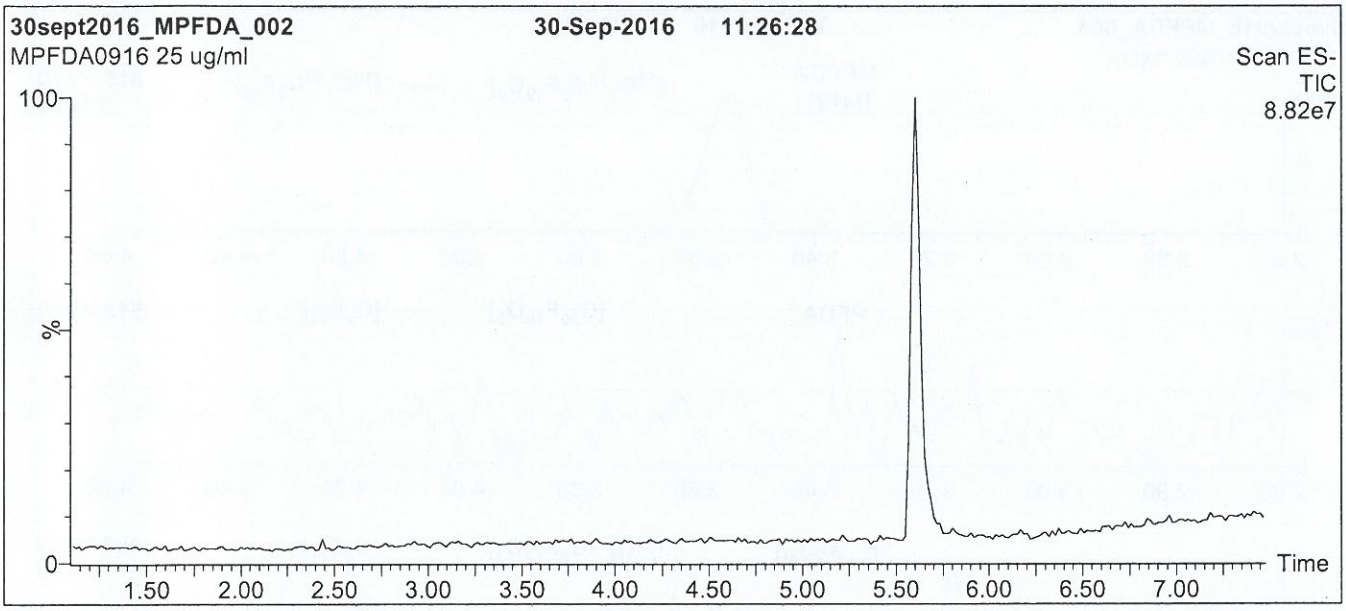
CALA Testing Accreditation No. A1226

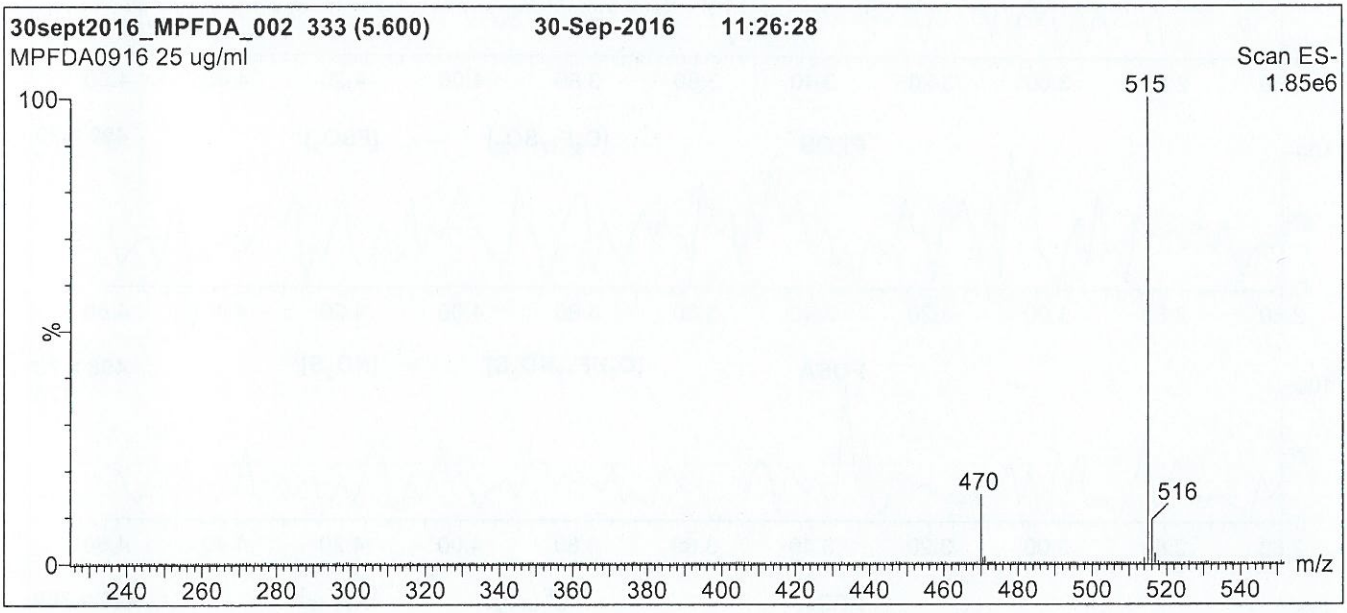
ANAB ACCREDITED ISO 17025 ISO 17034 REFERENCE MATERIAL PRODUCER

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17G1306

Figure 1: **MPFDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

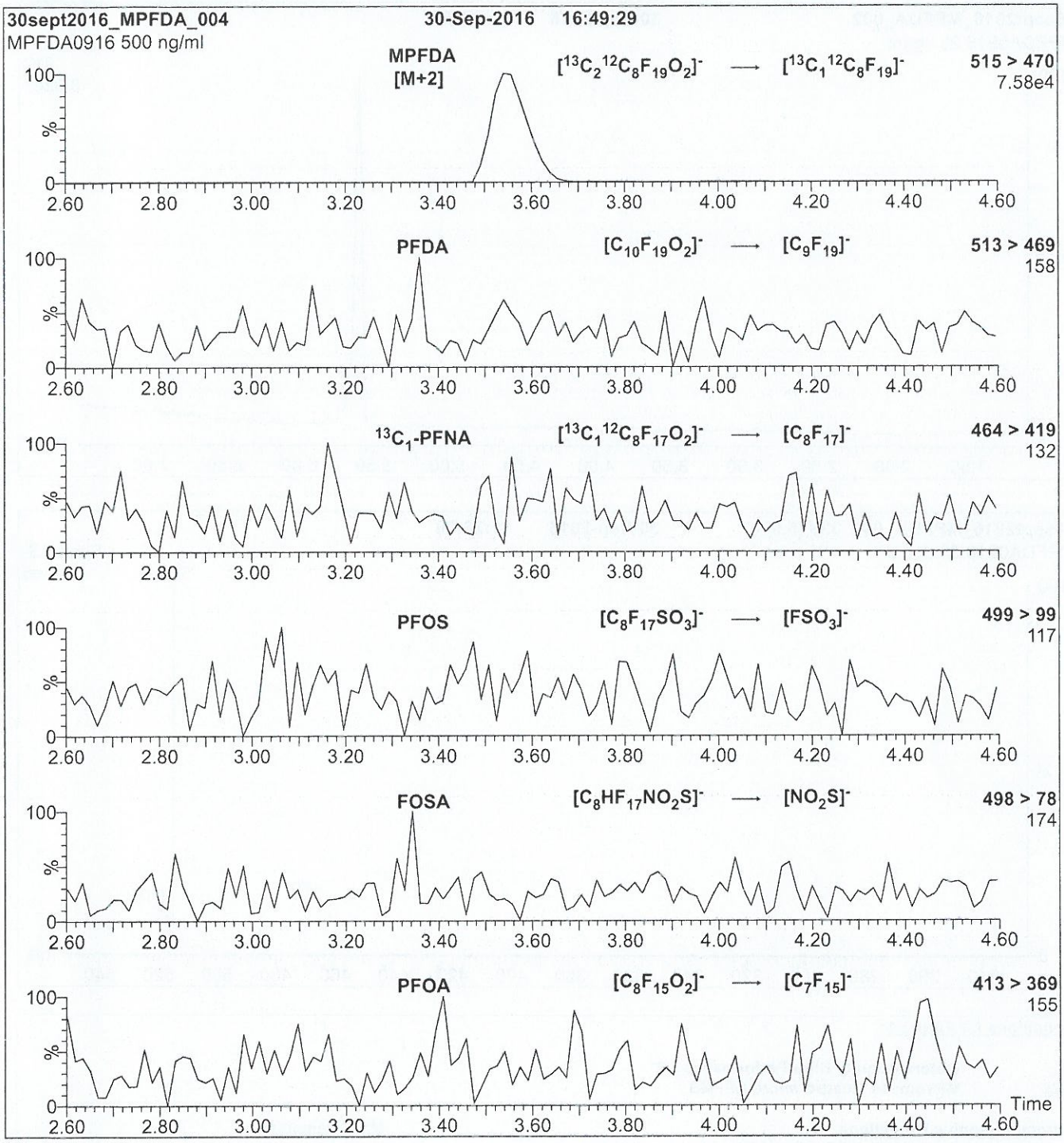
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

17G1306

Figure 2: **MPFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml MPFDA)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 13

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
L-PFDS		1	ug/mL
6:2 FTS	27619-97-2	1	ug/mL
L-PFTeDA		1	ug/mL
L-PFPeA		1	ug/mL
L-PFOSA		1	ug/mL
L-PFOS		0.788	ug/mL
L-PFODA		1	ug/mL
L-PFOA		1	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
L-PFNA		1	ug/mL
L-PFHxS		0.812	ug/mL
L-PFHxDA		1	ug/mL
L-PFHxA		1	ug/mL
L-PFUnA		1	ug/mL
L-PFHpA		1	ug/mL
MeFOSA	31506-32-8	5	ug/mL
L-PFDoA		1	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
L-PFDA		1	ug/mL
L-PFBS		1	ug/mL
L-PFBA		1	ug/mL
L-8:2FTS		1	ug/mL
L-6:2 FTS		1	ug/mL
EtFOSE	1691-99-2	5	ug/mL
EtFOSAA	2991-50-6	1	ug/mL
EtFOSA	4151-50-2	5	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
Br-PFHxS	3871-99-6	0.189	ug/mL
8:2 FTS	70887-84-2	1	ug/mL
L-PFHpS		1	ug/mL
PFHxS	355-46-4	1	ug/mL
Total PFHxS		1	ug/mL
Total PFHpS		1	ug/mL
Total PFDS		1	ug/mL
Total 6:2 FTS		1	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
PFUnA	2058-94-8	1	ug/mL
PFTrDA	72629-94-8	1	ug/mL
PFTeDA	376-06-7	1	ug/mL
PFPeA	2706-90-3	1	ug/mL
PFOSA	754-91-6	1	ug/mL
PFOS	1763-23-1	1	ug/mL
PFODA	16517-11-6	1	ug/mL
L-PFTrDA		1	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
PFNA	375-95-1	1	ug/mL
Total PFUnA		1	ug/mL
PFHxDA	67905-19-5	1	ug/mL
PFHxA	307-24-4	1	ug/mL
PFHpS	375-92-8	1	ug/mL
PFHpA	375-85-9	1	ug/mL
PFDS	335-77-3	1	ug/mL
PFDoA	307-55-1	1	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

17D2705

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1414	PFDA	14-Sep-16	** Vendor **	31-May-21	15-Dec-16 08:38 by AEW	0.4
16I1415	PFHxA	14-Sep-16	** Vendor **	22-Dec-20	15-Dec-16 08:41 by AEW	0.4
16I1416	MeFOSAA	14-Sep-16	** Vendor **	20-Jan-21	04-Oct-16 08:25 by EMS	0.4
16I1417	EtFOSAA	14-Sep-16	** Vendor **	20-Jan-21	14-Sep-16 14:10 by TLD	0.4
16I1418	PFTeDA	14-Sep-16	** Vendor **	09-Dec-20	15-Dec-16 08:46 by AEW	0.4
16I3001	PFTrDA	30-Sep-16	** Vendor **	12-Feb-21	23-Jan-17 17:44 by AEW	0.4
16J0422	PFDoA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:22 by AEW	0.4
16J0423	FOSA-I	04-Oct-16	** Vendor **	02-Sep-17	23-Jan-17 17:49 by AEW	0.4
16J0424	PFNA	04-Oct-16	** Vendor **	23-Oct-20	23-Jan-17 17:40 by AEW	0.4
16J0425	PFPeA	04-Oct-16	** Vendor **	31-May-21	23-Jan-17 17:38 by AEW	0.4
16J0426	PFBA	04-Oct-16	** Vendor **	27-May-21	23-Jan-17 17:18 by AEW	0.4
16L0512	PFODA	05-Dec-16	** Vendor **	29-Apr-21	23-Jan-17 17:35 by AEW	0.4
17C1026	PFOA	10-Mar-17	Jamie C. Stockman	02-Feb-21	10-Mar-17 15:25 by JCS	0.4
17D2612	N-MeFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:56 by INJ	2
17D2613	N-EtFOSA-M	26-Apr-17	** Vendor **	24-May-21	27-Apr-17 10:54 by INJ	2
17D2614	N-EtFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:54 by INJ	2
17D2616	PFUdA	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:32 by AEW	0.4
17D2617	PFHxDA	26-Apr-17	** Vendor **	25-May-21	12-Jun-17 16:08 by AEW	0.4
17D2618	PFHpA	26-Apr-17	** Vendor **	02-Dec-21	09-Jun-17 14:56 by AEW	0.4
17D2621	N-MeFOSE-M	26-Apr-17	** Vendor **	10-Nov-20	27-Apr-17 10:47 by INJ	2
17D2706	L-PFBS anion DIL	27-Apr-17	Emilie Schneider	27-Apr-18	27-Apr-17 13:48 by EMS	0.8
17D2709	8:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:28 by INJ	0.8
17D2715	6:2 FTS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:01 by AEW	0.8
17D2716	L-PFDS anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 09:34 by AEW	0.8
17D2717	Br-PFOSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	27-Apr-17 14:46 by INJ	0.8
17D2718	Br-PFHxSK anion DIL	27-Apr-17	Isaac N. Johnson	27-Apr-18	12-Jun-17 08:51 by AEW	0.8
17D2813	L-PFHpS anion DIL	28-Apr-17	Isaac N. Johnson	28-Apr-18	12-Jun-17 09:07 by AEW	0.8

Description:	PFC NS Stock	Expires:	27-Apr-18
Standard Type:	Analyte Spike	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 16:08 by AEW

PFOS and PFHxS branched components

Analyte	CAS Number	Concentration	Units
PFDA	335-76-2	1	ug/mL
PFBS	375-73-5	1	ug/mL
PFBA	375-22-4	1	ug/mL
MeFOSE	24448-09-7	5	ug/mL
MeFOSAA	2355-31-9	1	ug/mL
PFOA	335-67-1	1	ug/mL

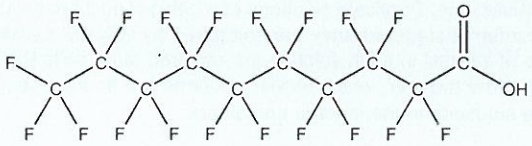
16I1414

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFDA ✓
COMPOUND: Perfluoro-n-decanoic acid
LOT NUMBER: PFDA0516 ✓

STRUCTURE:
CAS #: 335-76-2



MOLECULAR FORMULA: $C_{10}HF_{19}O_2$
MOLECULAR WEIGHT: 514.08
CONCENTRATION: 50 ± 2.5 µg/ml ✓
SOLVENT(S): Methanol ✓
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/31/2016
EXPIRY DATE: (mm/dd/yyyy) 05/31/2021 ✓
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of Perfluoro-n-nonanoic acid (PFNA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 06/13/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

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UNCERTAINTY:

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The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

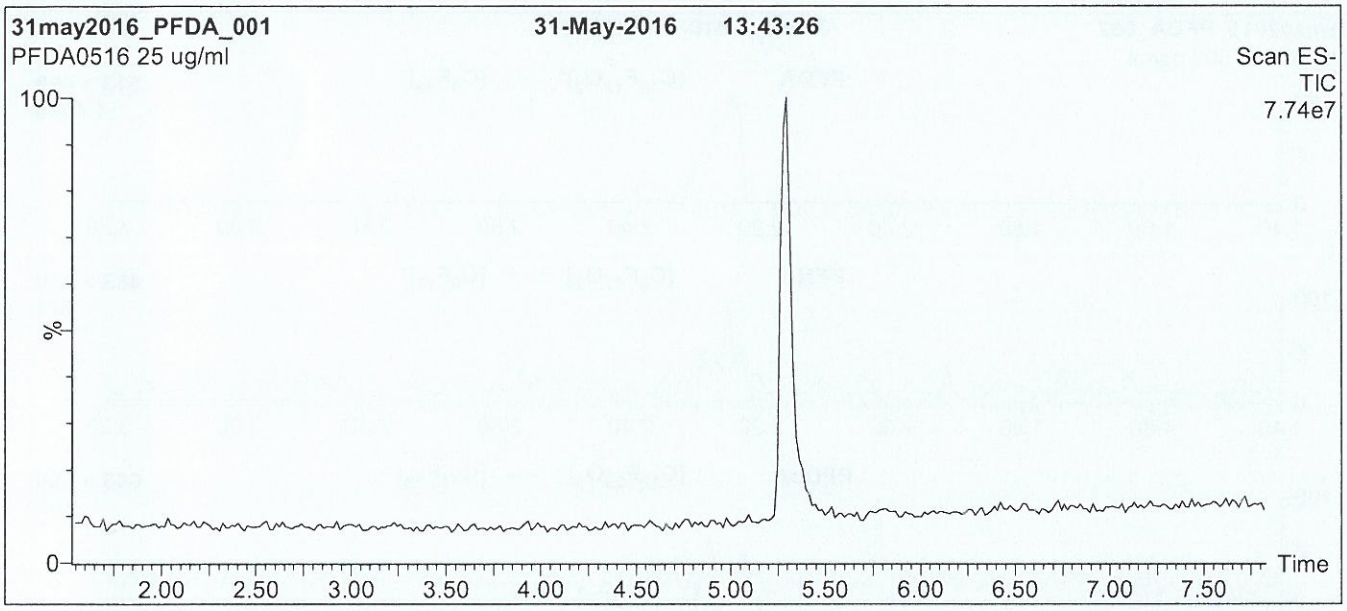
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

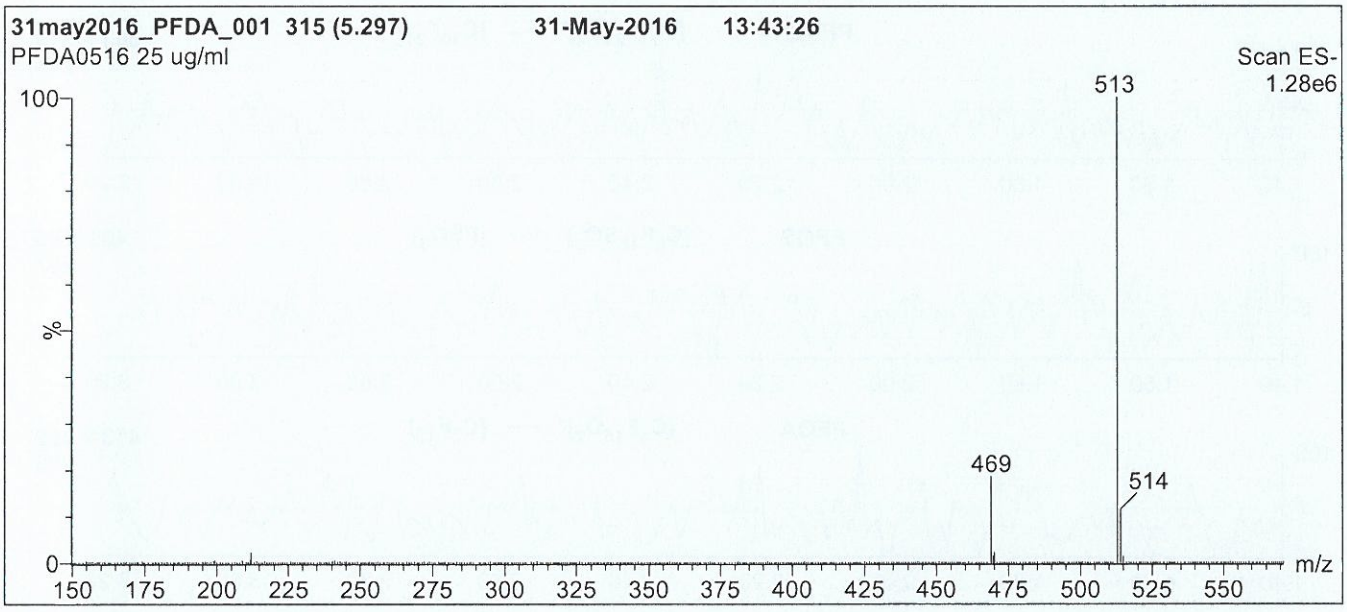
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17025 AR 1523 REFERENCE MATERIAL PRODUCER

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Figure 1: PFDA; LC/MS Data (TIC and Mass Spectrum)





Conditions for Figure 1:

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

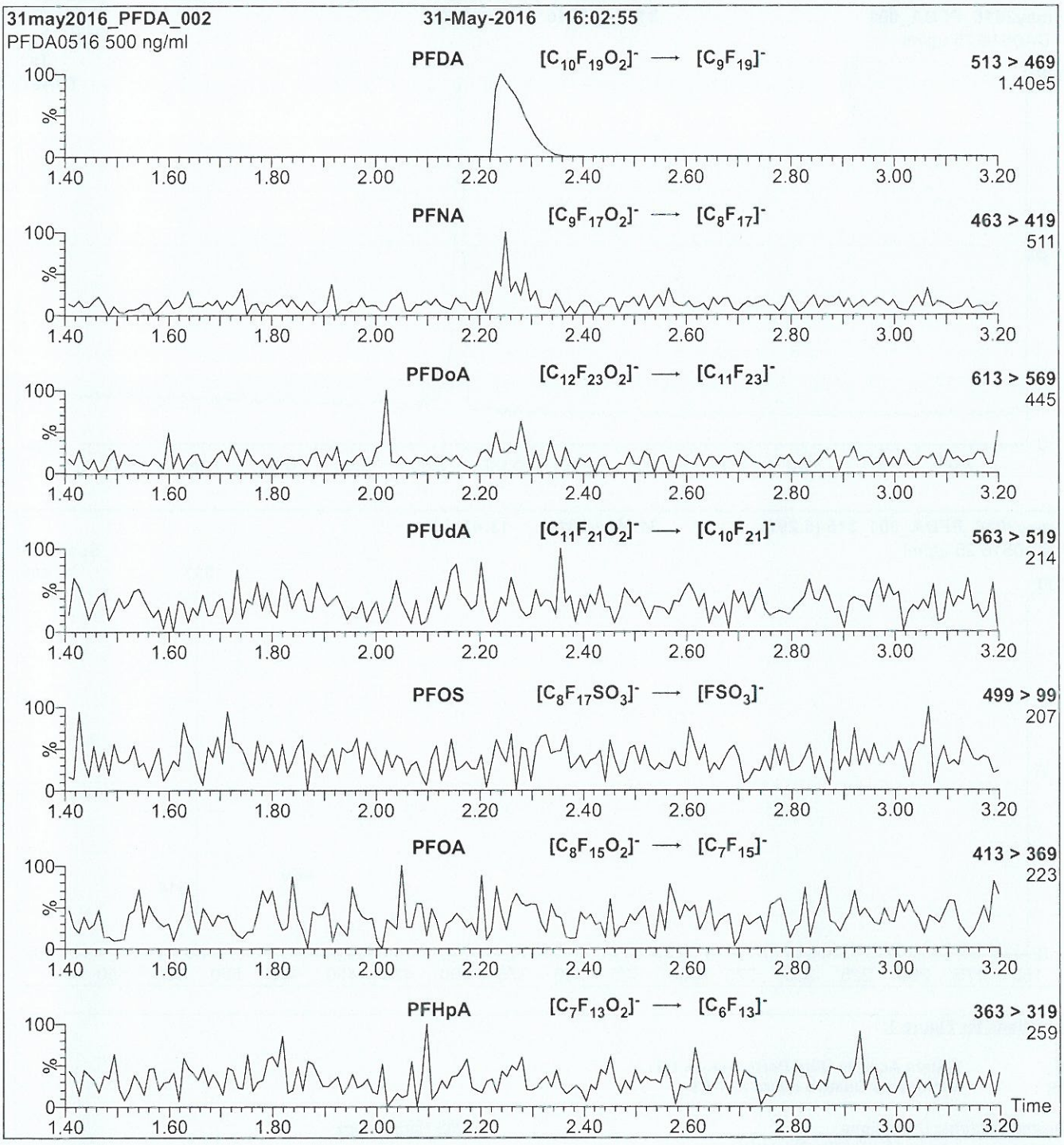
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml PFDA)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 13

16I1415

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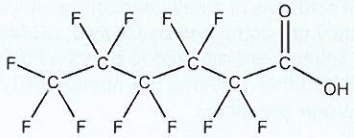
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFHxA ✓
COMPOUND: Perfluoro-n-hexanoic acid

LOT NUMBER: PFHxA1215 ✓

STRUCTURE:

CAS #: 307-24-4



MOLECULAR FORMULA: $C_6HF_{11}O_2$
MOLECULAR WEIGHT: 314.05
CONCENTRATION: 50 ± 2.5 µg/ml ✓
SOLVENT(S): Methanol ✓ Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 12/22/2015
EXPIRY DATE: (mm/dd/yyyy) 12/22/2020 ✓
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of Perfluoro-n-pentanoic acid (PFPeA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/23/2015 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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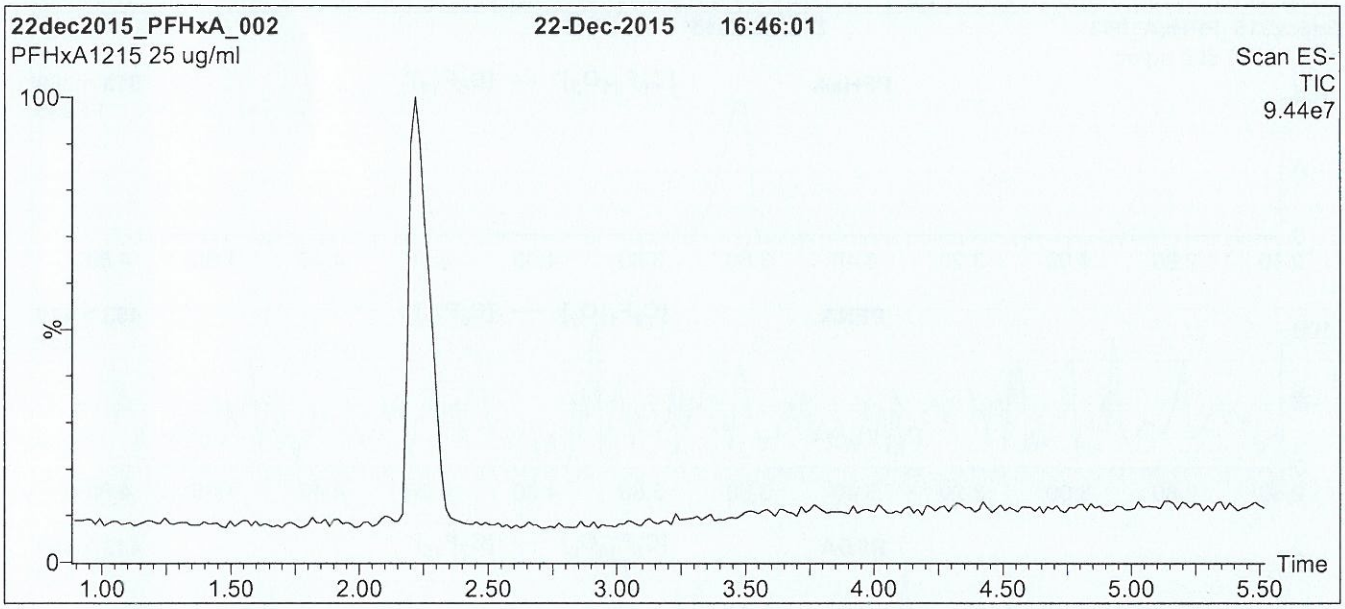
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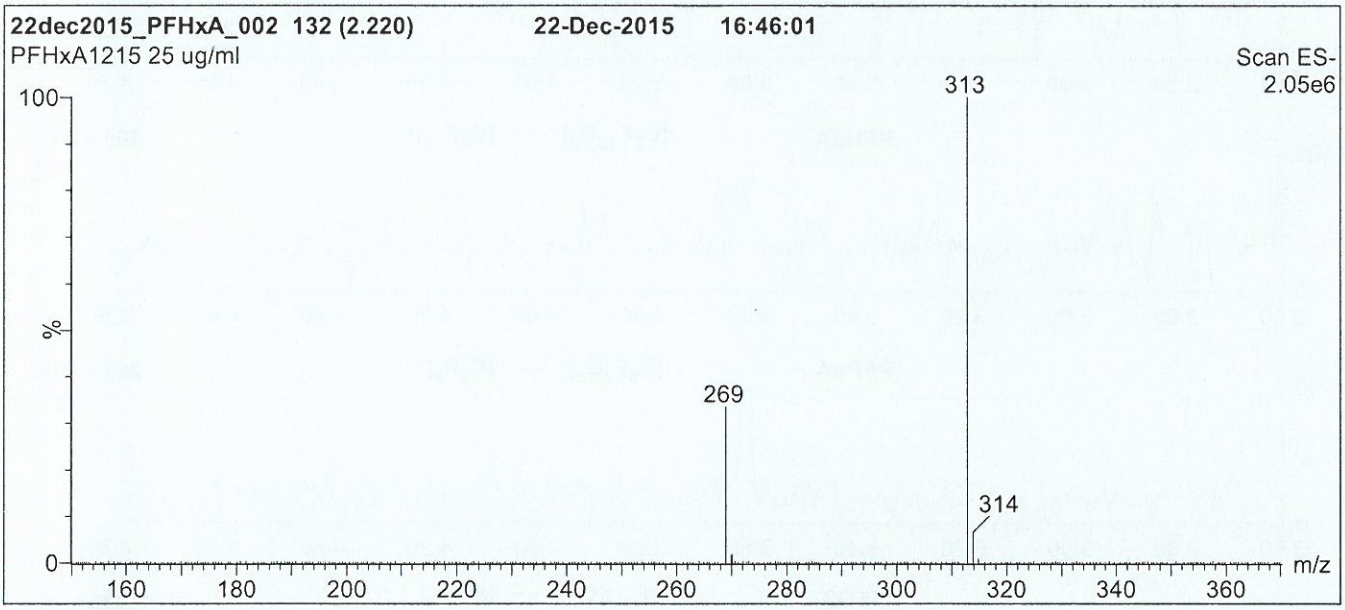
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

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Figure 1: **PFHxA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min before returning to initial conditions in 0.5 min.
Time: 10 min

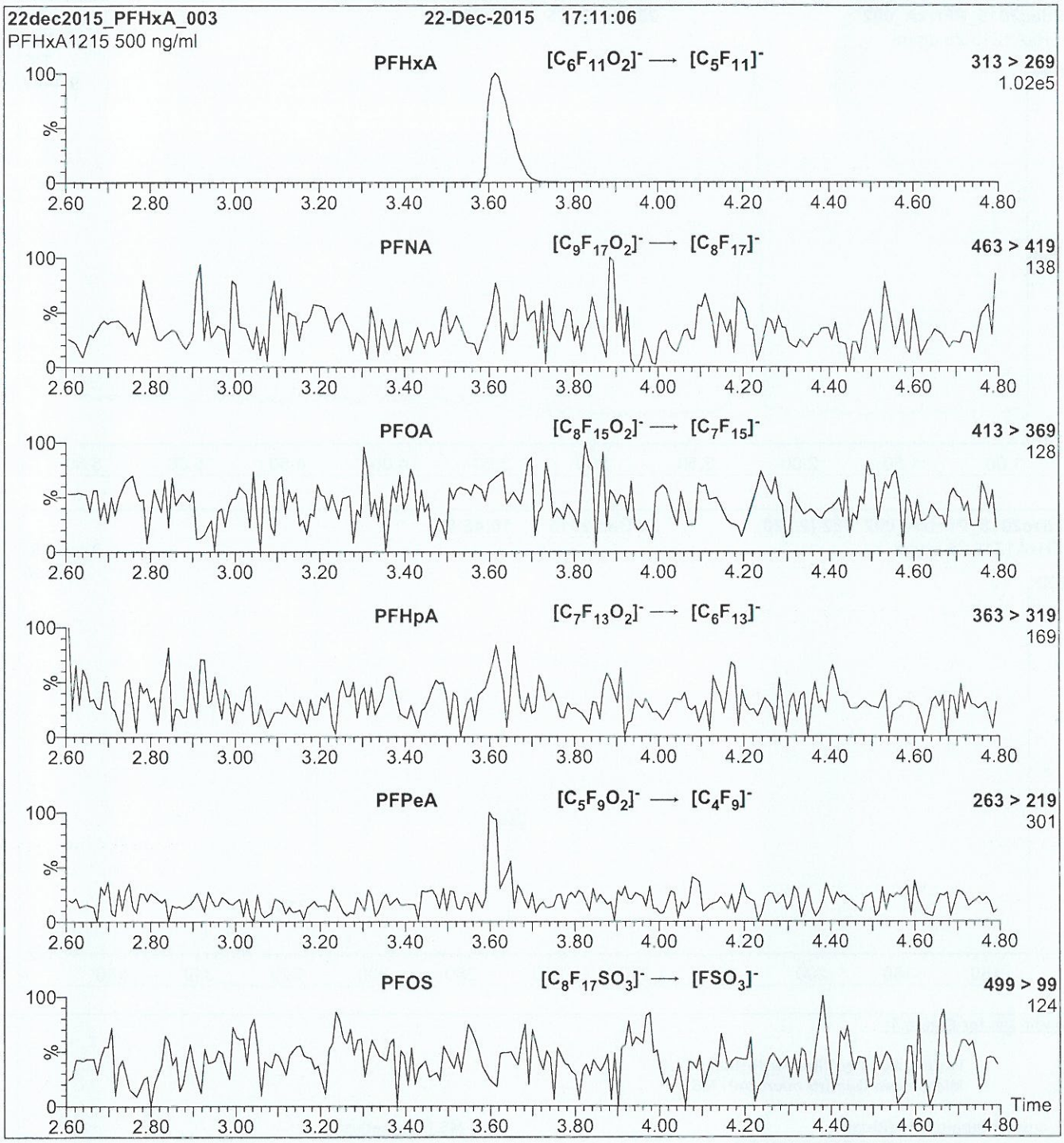
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFHxA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 10

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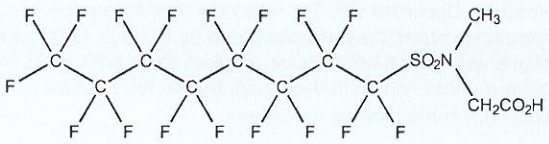
CERTIFICATE OF ANALYSIS DOCUMENTATION

MeFOSAA

PRODUCT CODE: N-MeFOSAA **LOT NUMBER:** NMeFOSAA0116

COMPOUND: N-methylperfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** 2355-31-9



MOLECULAR FORMULA: $C_{11}H_6F_{17}NO_4S$ **MOLECULAR WEIGHT:** 571.21

CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol, Water (<1%)

CHEMICAL PURITY: >98%

LAST TESTED: (mm/dd/yyyy) 01/20/2016

EXPIRY DATE: (mm/dd/yyyy) 01/20/2021

RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 01/21/2016 (mm/dd/yyyy)

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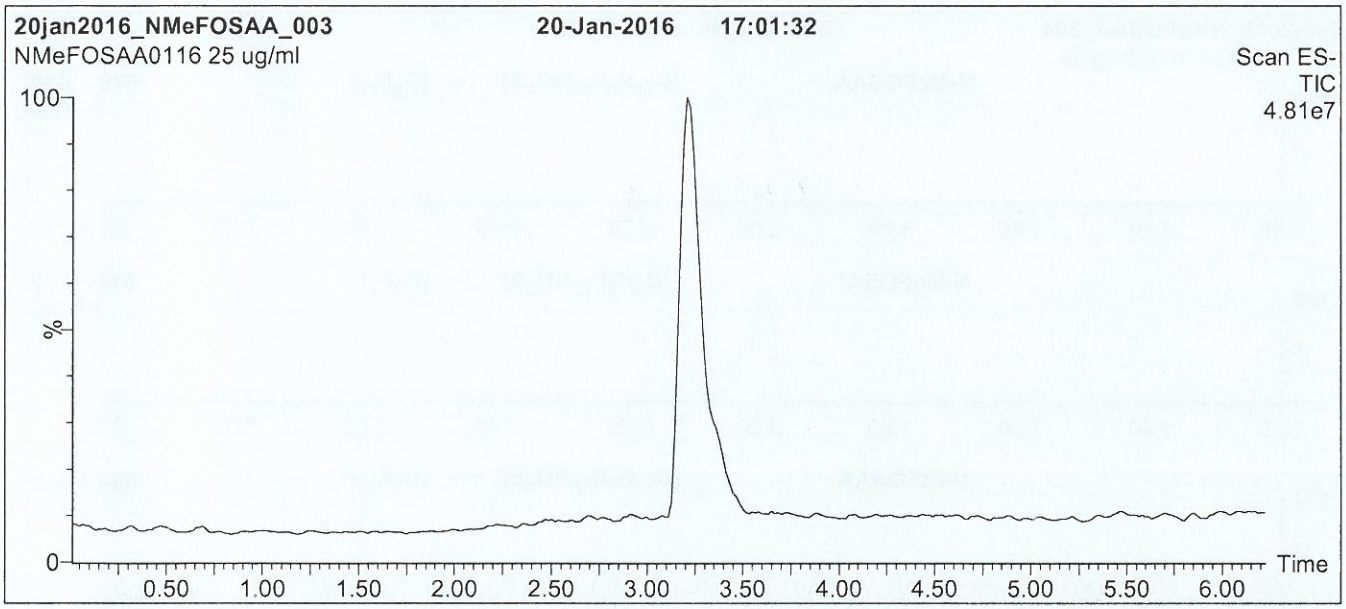
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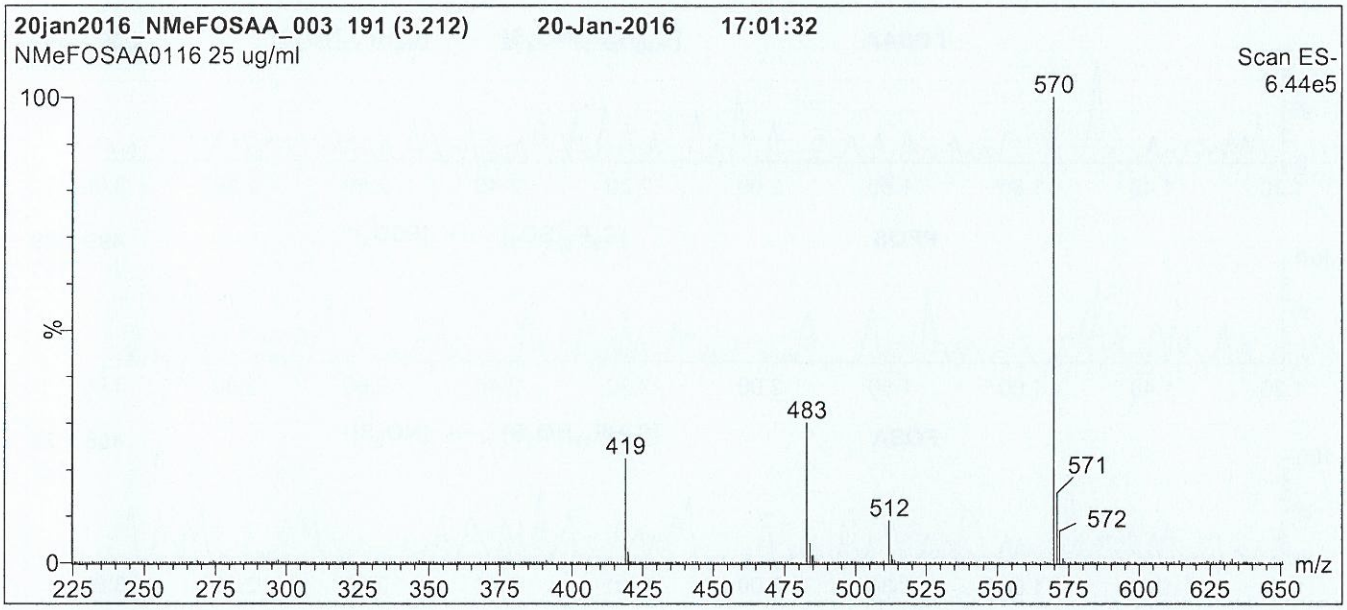
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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Figure 1: **N-MeFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

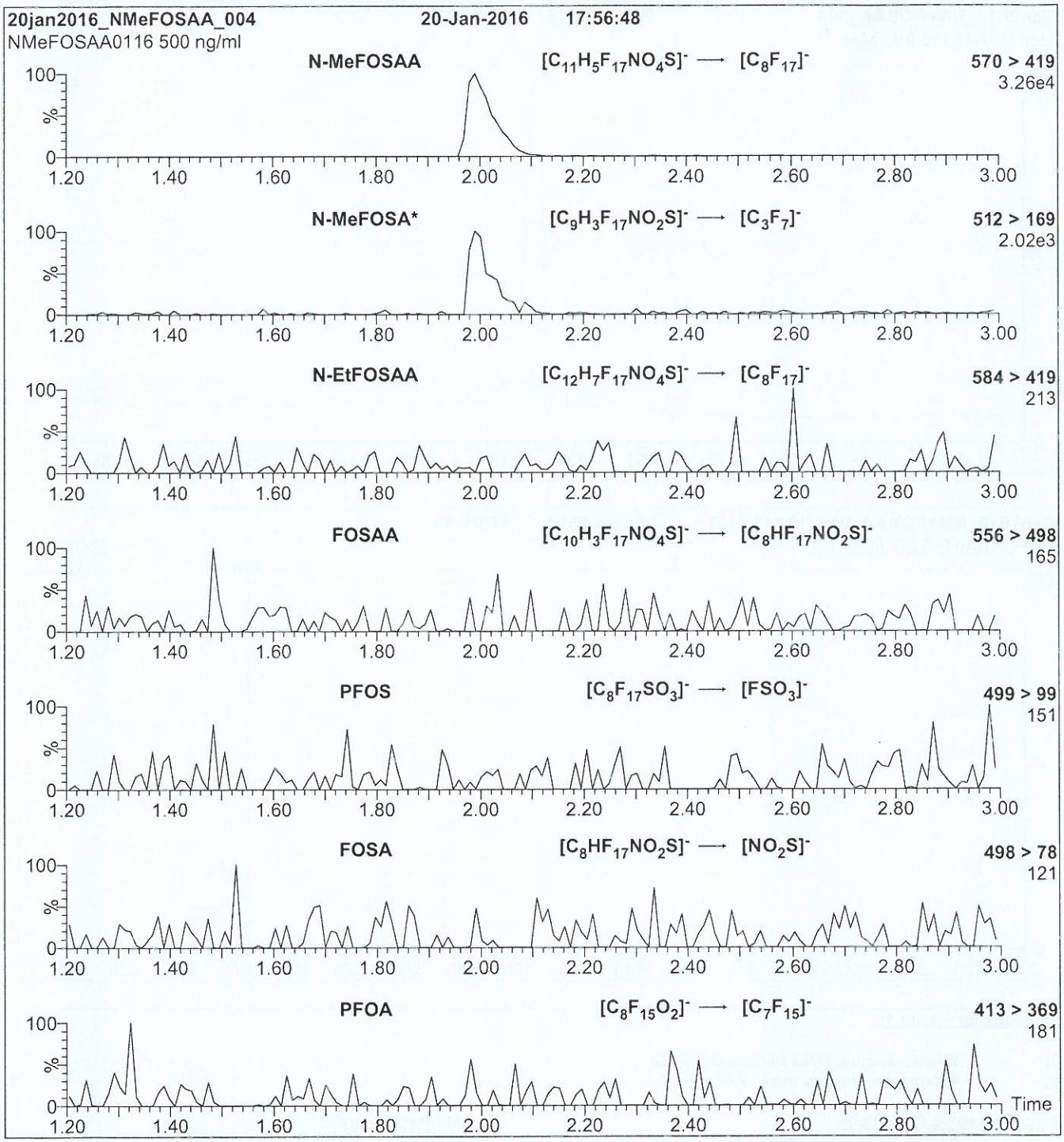
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **N-MeFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



*Note: N-MeFOSA is formed by in-source fragmentation.

Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml N-MeFOSAA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.66e-3
Collision Energy (eV) = 25

16I1417

WELLINGTON LABORATORIES

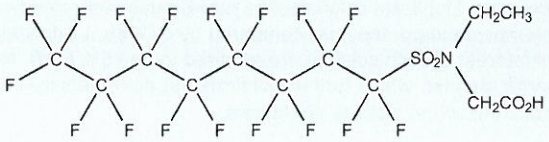
CERTIFICATE OF ANALYSIS DOCUMENTATION

EtFOSAA

PRODUCT CODE: N-EtFOSAA **LOT NUMBER:** NEtFOSAA0116

COMPOUND: N-ethylperfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** 2991-50-6



MOLECULAR FORMULA: $C_{12}H_8F_{17}NO_4S$ **MOLECULAR WEIGHT:** 585.23

CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol, Water (<1%)

CHEMICAL PURITY: >98%

LAST TESTED: (mm/dd/yyyy) 01/20/2016

EXPIRY DATE: (mm/dd/yyyy) 01/20/2021

RECOMMENDED STORAGE: Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 01/21/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

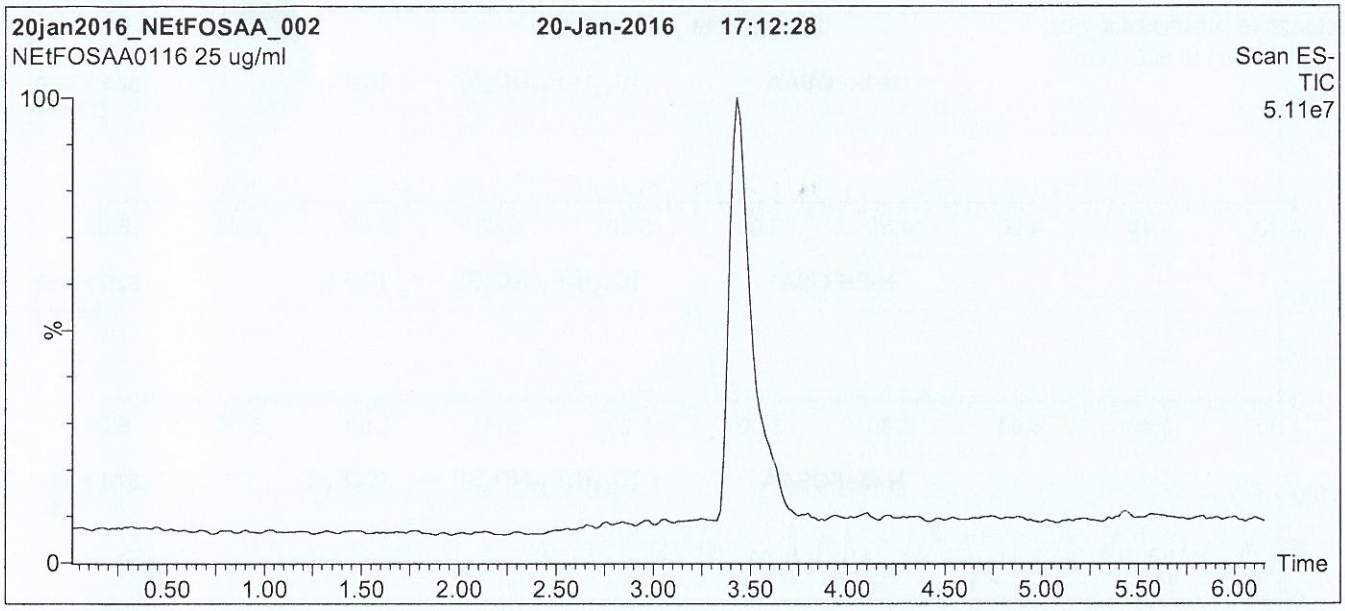
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

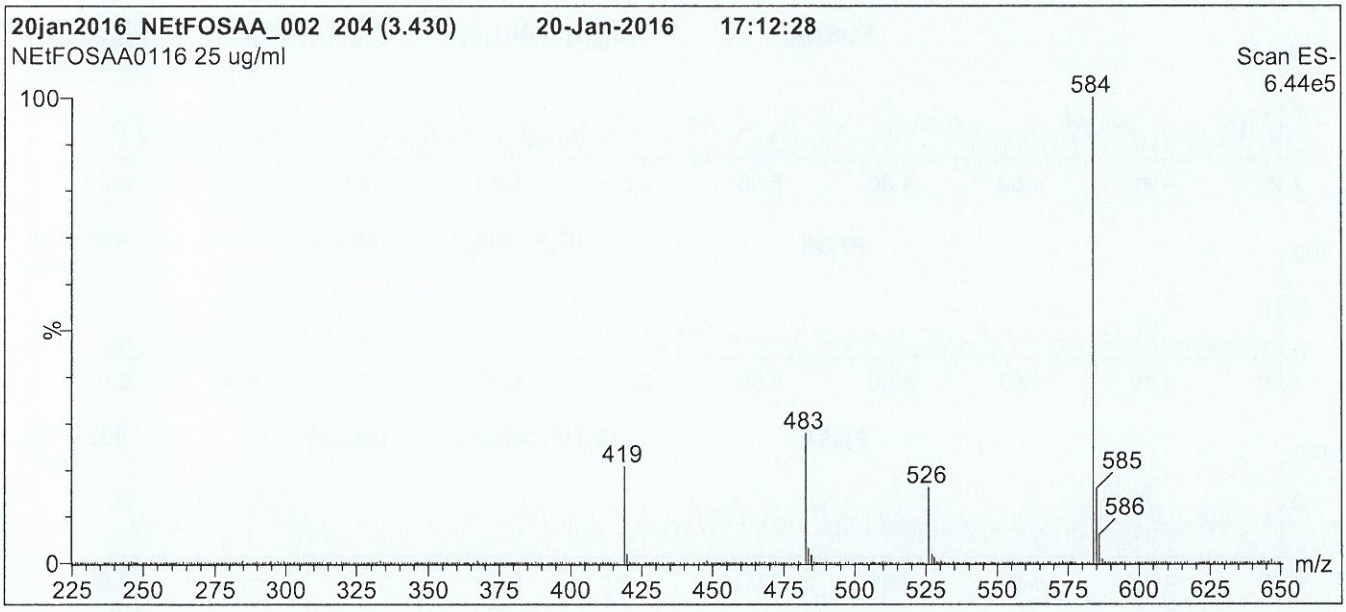
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

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Figure 1: **N-EtFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

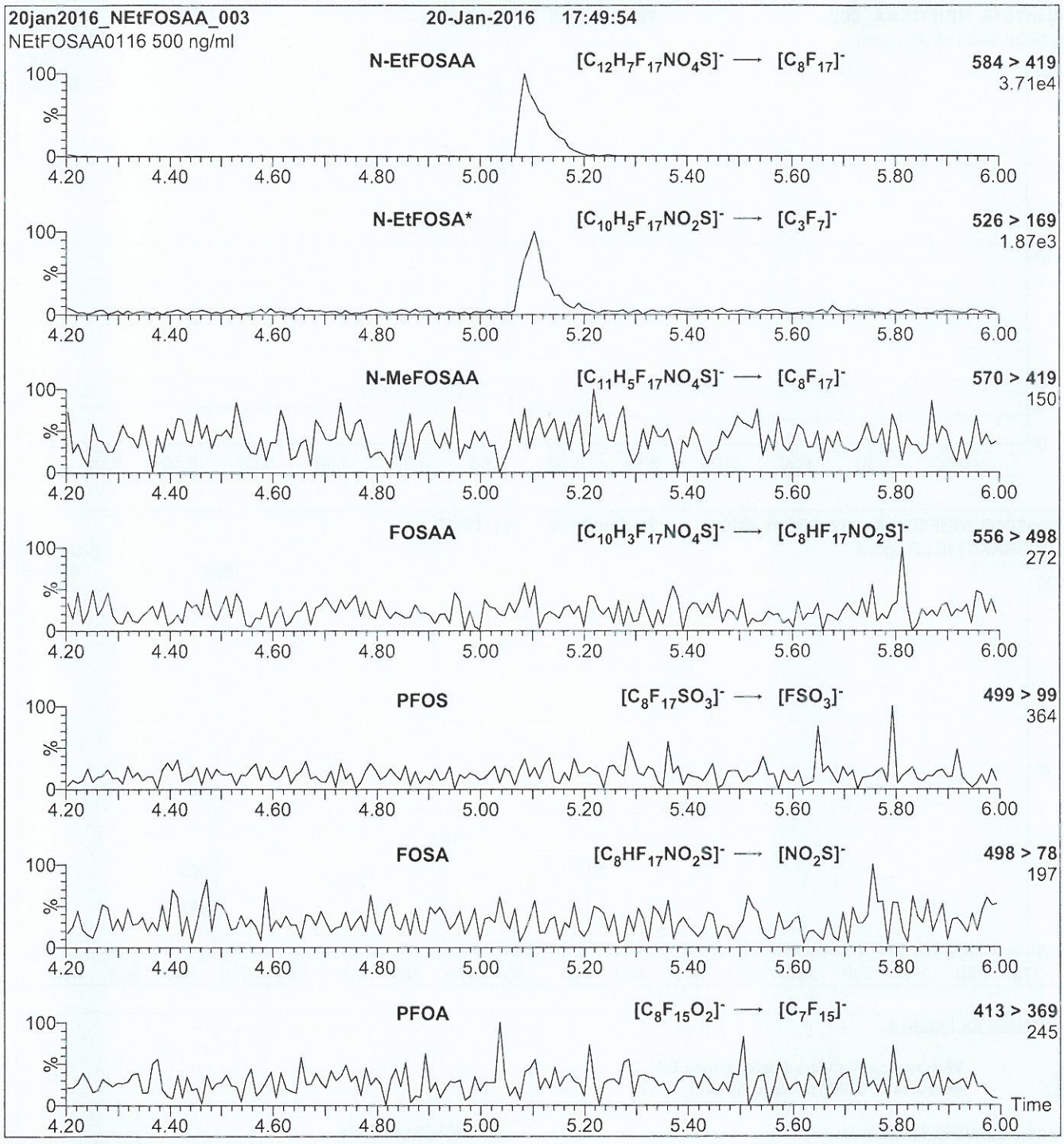
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 35.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **N-EtFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



Note: N-EtFOSA is formed by fragmentation of N-EtFOSAA.

Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml N-EtFOSAA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.66e-3
Collision Energy (eV) = 25

16I1418

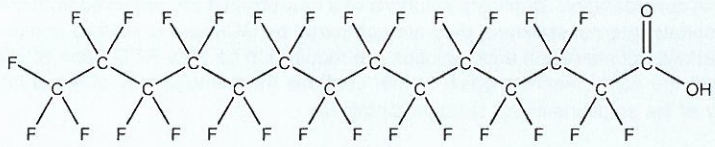
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFTeDA

PRODUCT CODE: PFTeDA
LOT NUMBER: PFTeDA1215
COMPOUND: Perfluoro-n-tetradecanoic acid

STRUCTURE:
CAS #: 376-06-7



MOLECULAR FORMULA: $C_{14}HF_{27}O_2$
MOLECULAR WEIGHT: 714.11
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol, Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 12/09/2015
EXPIRY DATE: (mm/dd/yyyy) 12/09/2020
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of PFDoA ($C_{12}HF_{23}O_2$) and ~ 0.2% of PFPeDA ($C_{15}HF_{29}O_2$).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/09/2015 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

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SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

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UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

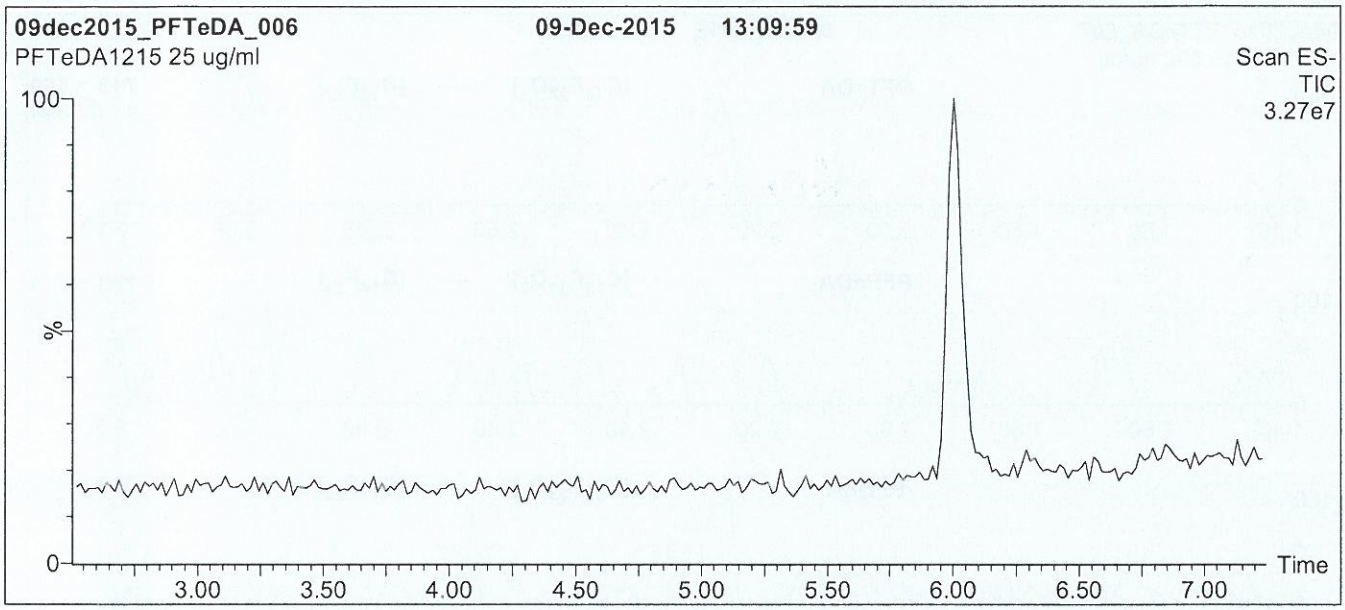
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

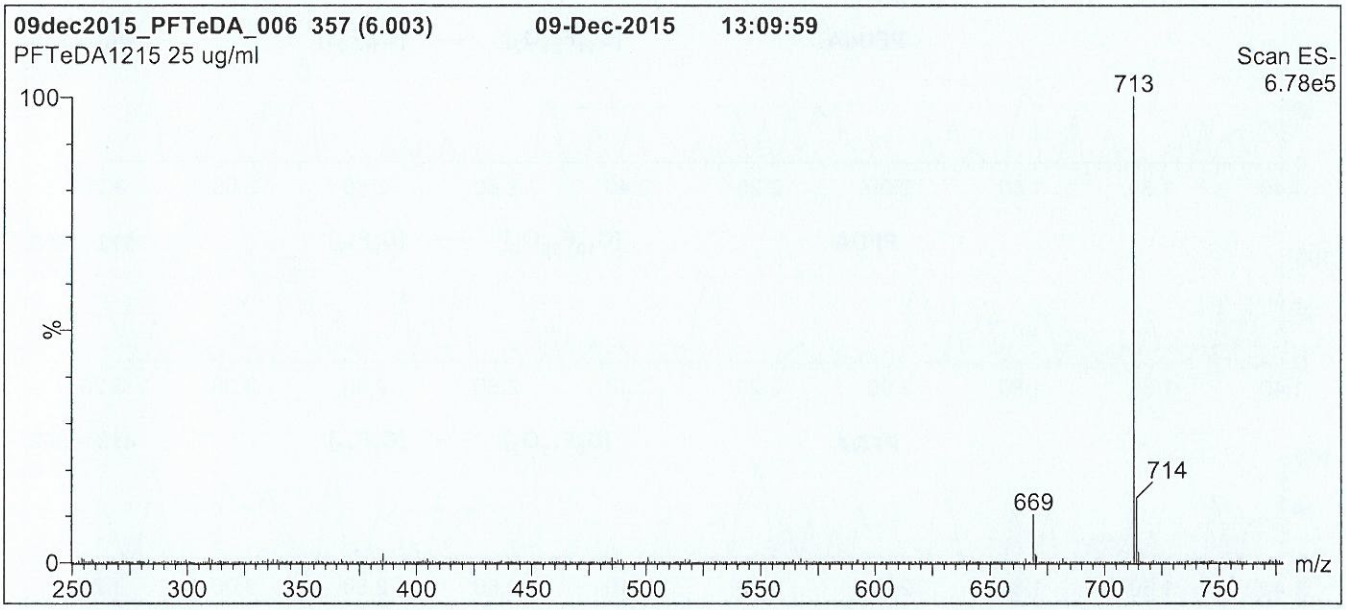
CALA Testing Accreditation No. A1226

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Figure 1: PFTeDA; LC/MS Data (TIC and Mass Spectrum)





Conditions for Figure 1:

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 65% (80:20 MeOH:ACN) / 35% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

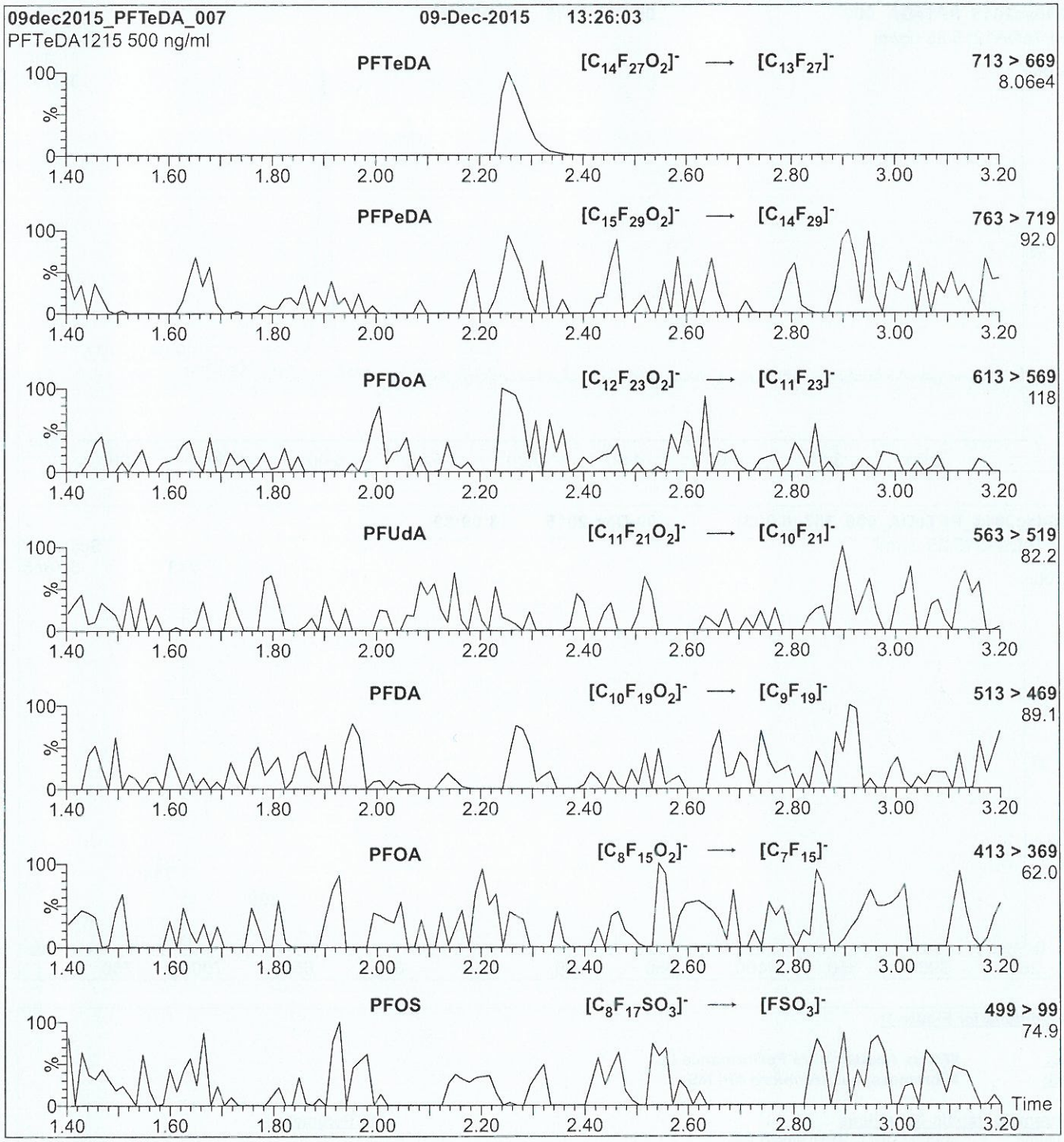
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 1250 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFTeDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFTeDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

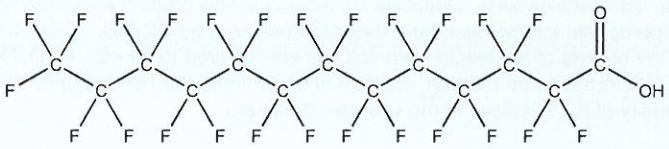
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 14

16I3001

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	PFTrDA	**LOT NUMBER:**	PFTrDA0216
COMPOUND:	Perfluoro-n-tridecanoic acid		
STRUCTURE:		**CAS #:**	72629-94-8



MOLECULAR FORMULA:	$C_{13}HF_{25}O_2$	**MOLECULAR WEIGHT:**	664.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	02/12/2016		
EXPIRY DATE: (mm/dd/yyyy)	02/12/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.1% of PFUdA ($C_{11}HF_{21}O_2$), ~ 0.4% of PFDoA ($C_{12}HF_{23}O_2$), and ~ 0.1% of PFTeDA ($C_{14}HF_{27}O_2$).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 02/16/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

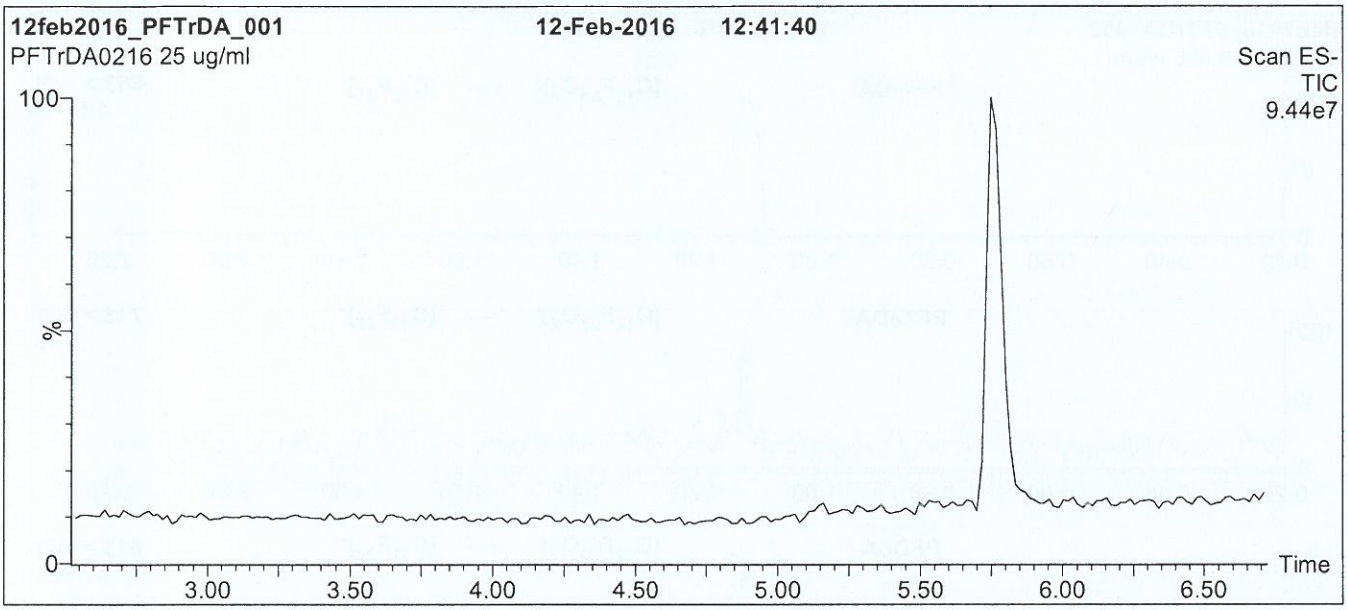
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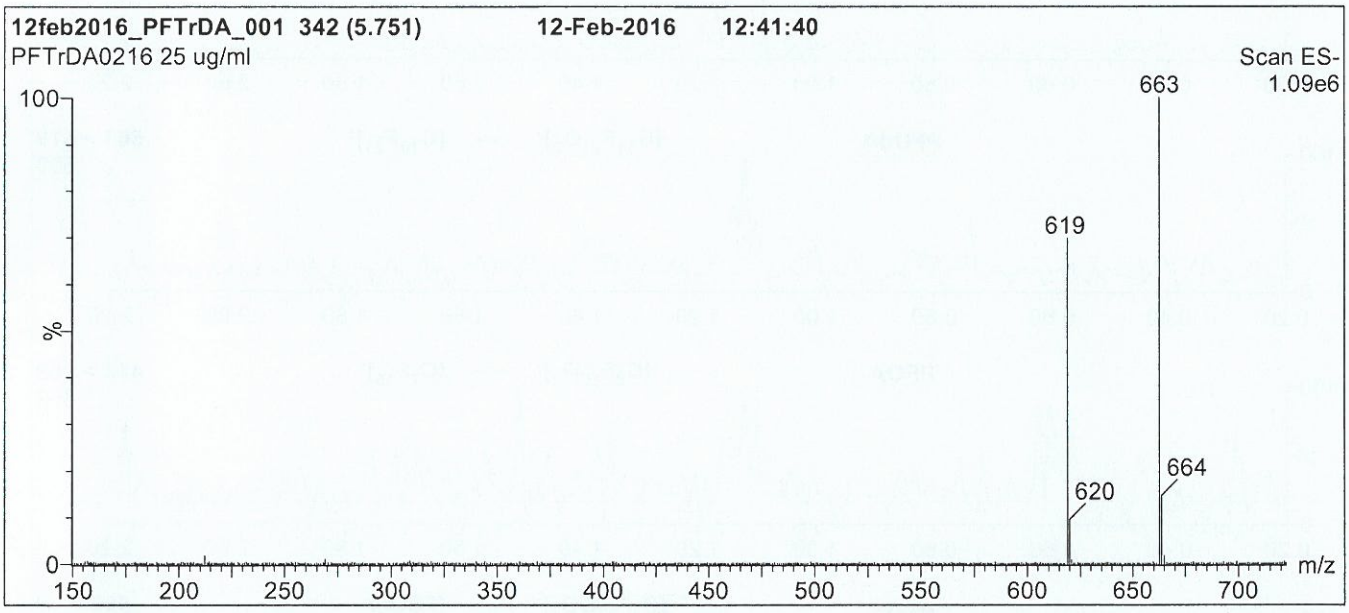
CALA Testing Accreditation No. A 1226

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Figure 1: **PFTrDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

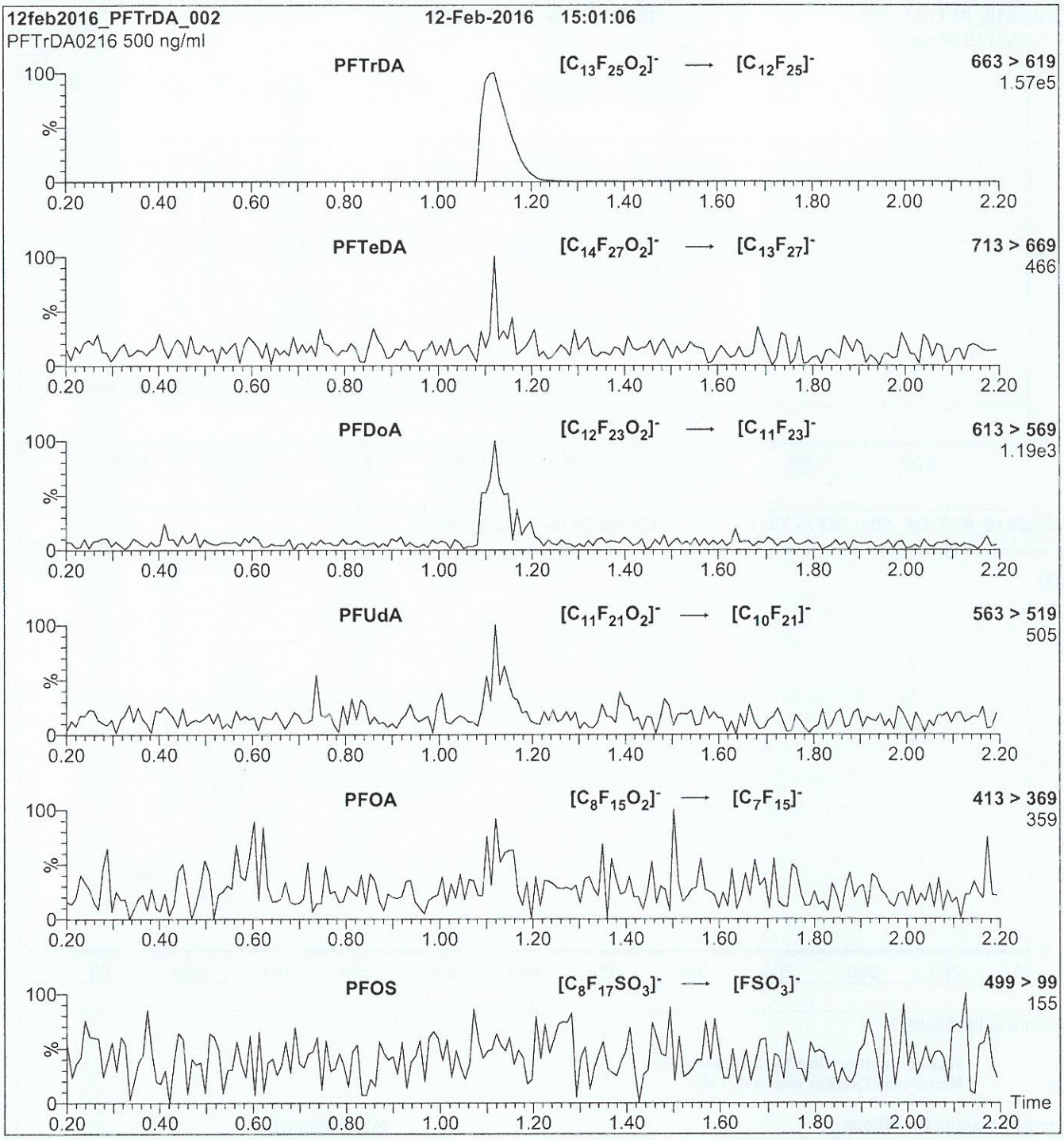
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 22.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 650

Figure 2: **PFTrDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFTrDA)

Mobile phase: Isocratic 80% MeOH / 20% H_2O

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 15

16J0422

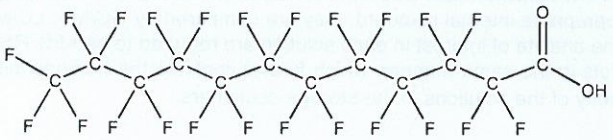
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFDoA
LOT NUMBER: PFDoA0516
COMPOUND: Perfluoro-n-dodecanoic acid

STRUCTURE:

CAS #: 307-55-1



MOLECULAR FORMULA: $C_{12}HF_{23}O_2$
MOLECULAR WEIGHT: 614.10
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/31/2016
EXPIRY DATE: (mm/dd/yyyy) 05/31/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 06/02/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

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The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

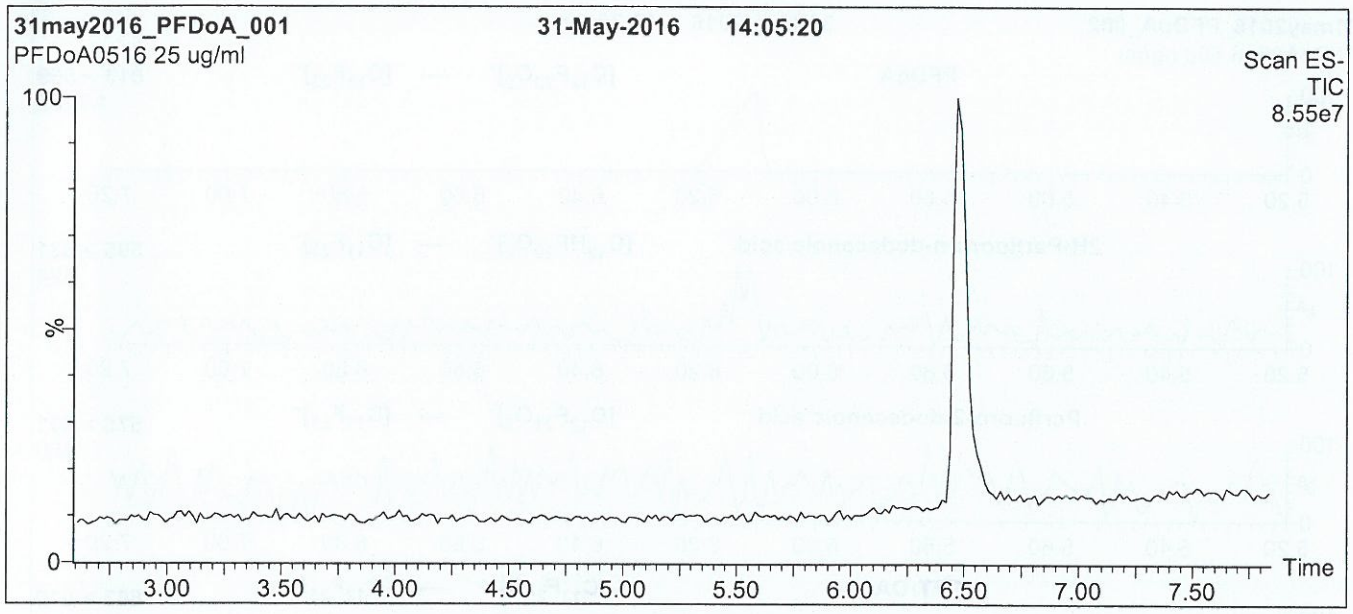
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

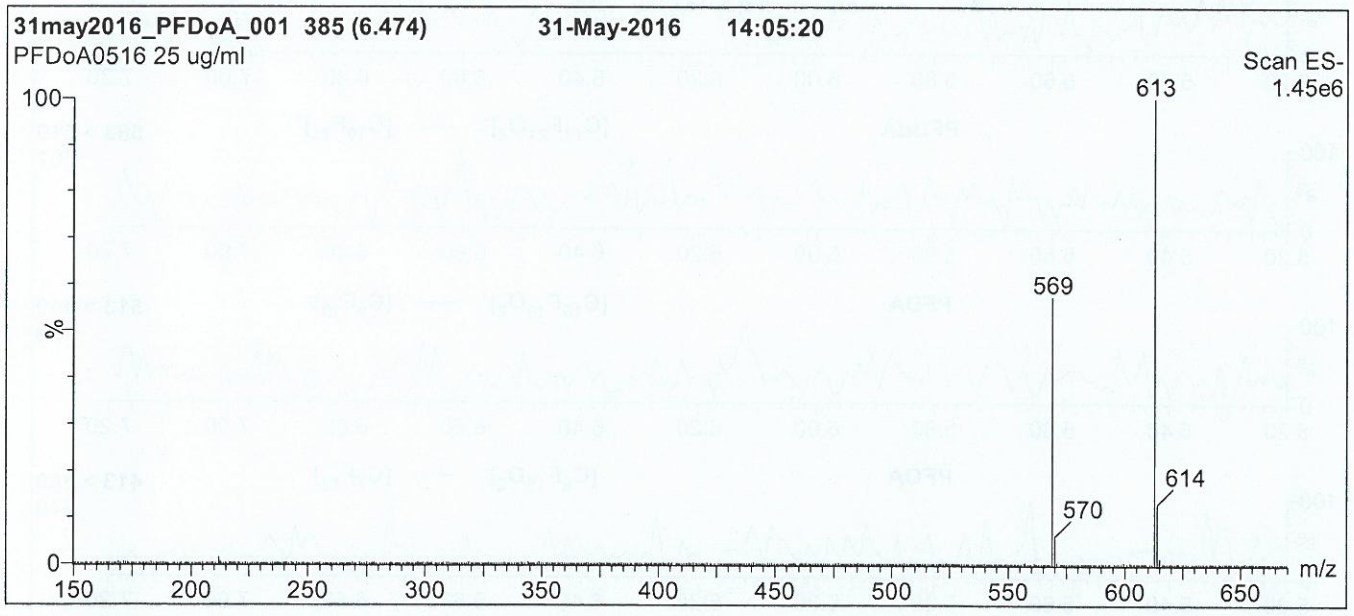
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **PFDoA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for
1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

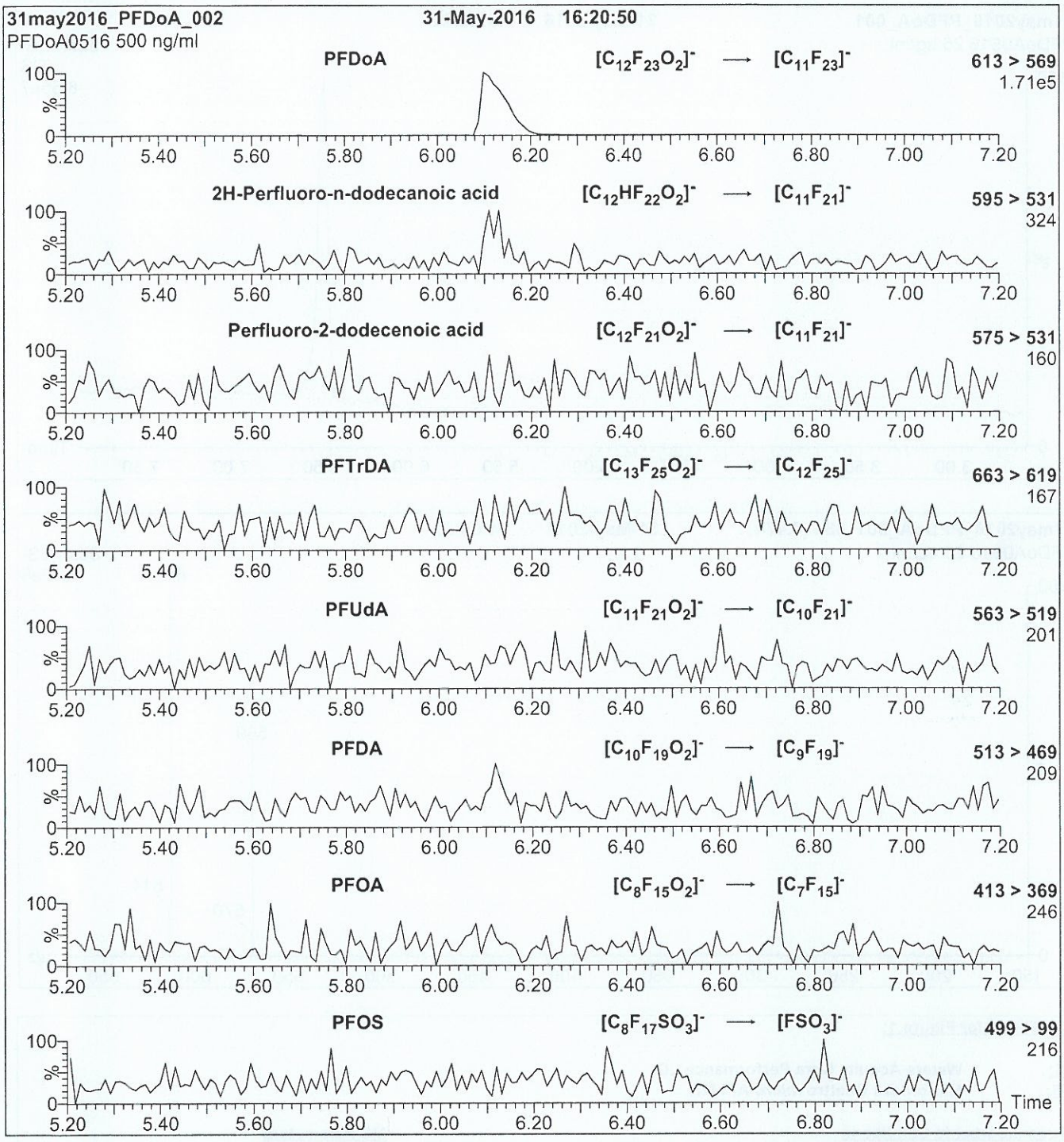
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 20.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFDoA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml PFDoA)	**MS Parameters**	
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)	Collision Gas (mbar) = 3.39e-3 Collision Energy (eV) = 13	
Flow:	300 µl/min		

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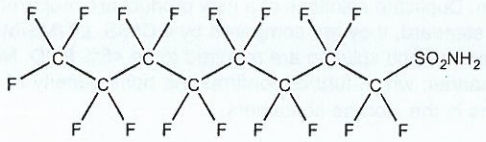
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FOSA-I
COMPOUND: Perfluoro-1-octanesulfonamide

LOT NUMBER: FOSA0815I

STRUCTURE:

CAS #: 754-91-6



MOLECULAR FORMULA:	$C_8H_2F_{17}NO_2S$	**MOLECULAR WEIGHT:**	499.14
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Isopropanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	09/02/2015		
EXPIRY DATE: (mm/dd/yyyy)	09/02/2017		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 09/11/2015 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

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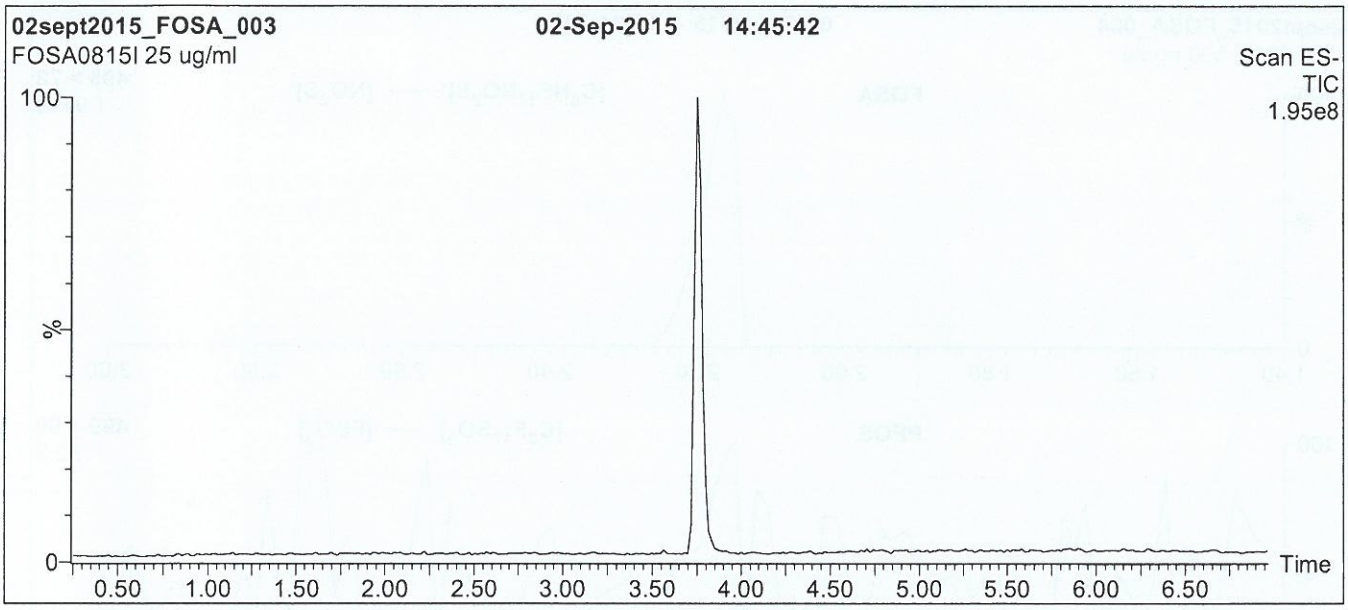
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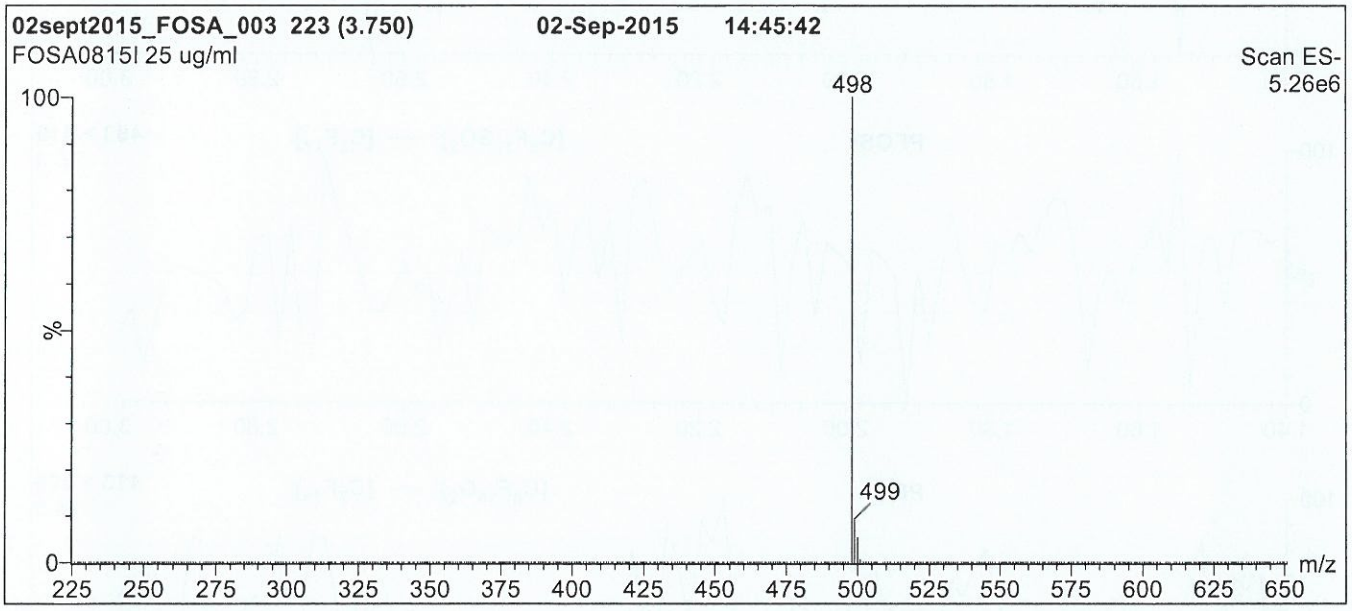
CALA Testing Accreditation No. A1226

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Figure 1: **FOSA-I; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

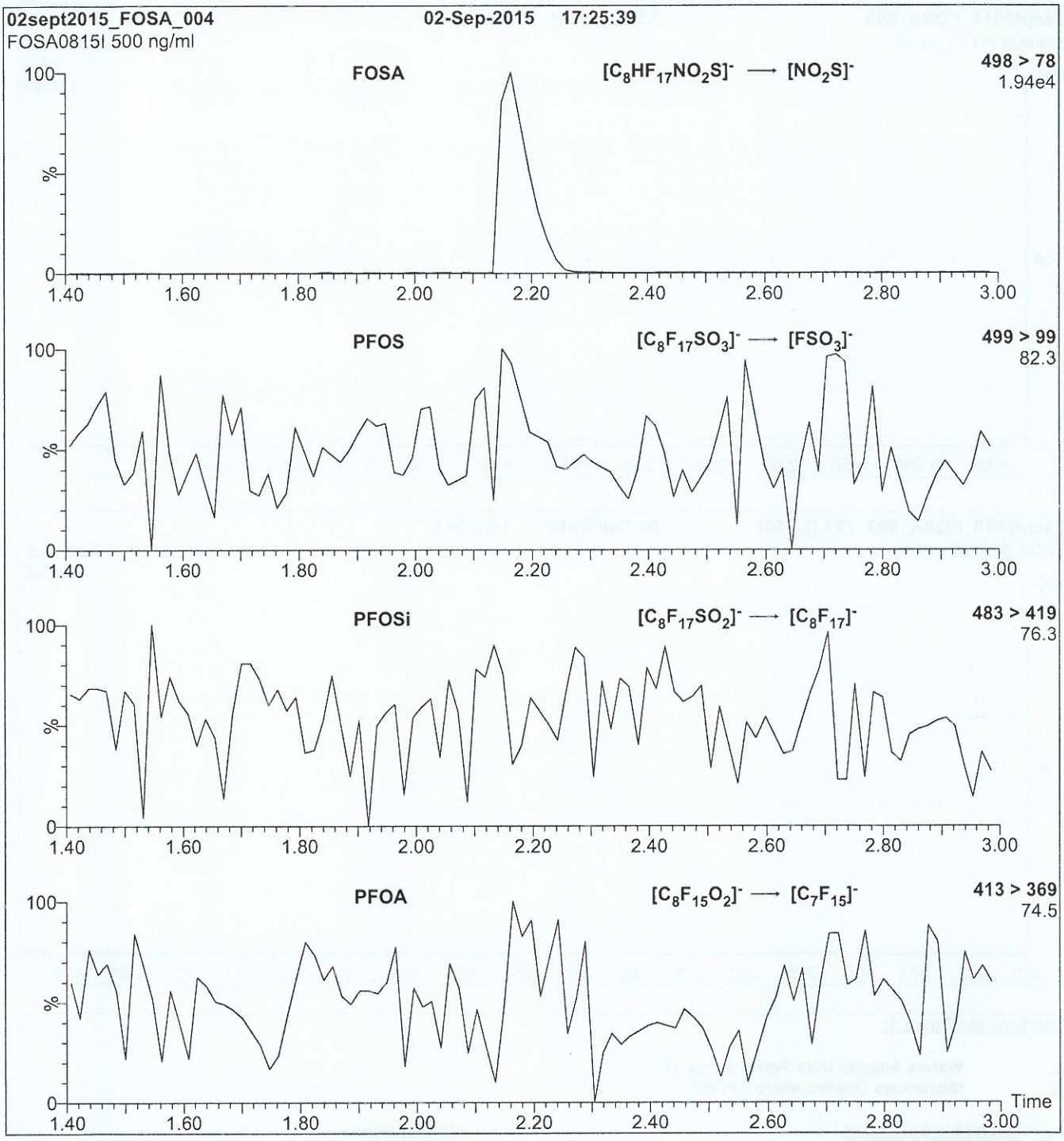
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 40.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **FOSA-I; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml FOSA-I)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

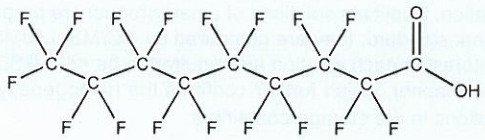
Collision Gas (mbar) = 3.54e-3
Collision Energy (eV) = 30

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFNA	**LOT NUMBER:**	PFNA1015
COMPOUND:	Perfluoro-n-nonanoic acid		
STRUCTURE:		**CAS #:**	375-95-1



MOLECULAR FORMULA:	$C_9HF_{17}O_2$	**MOLECULAR WEIGHT:**	464.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	10/23/2015		
EXPIRY DATE: (mm/dd/yyyy)	10/23/2020		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.1% of perfluoro-n-octanoic acid (PFOA) and < 0.1% of perfluoro-n-heptanoic acid (PFHpA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 10/30/2015 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

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LIMITED WARRANTY:

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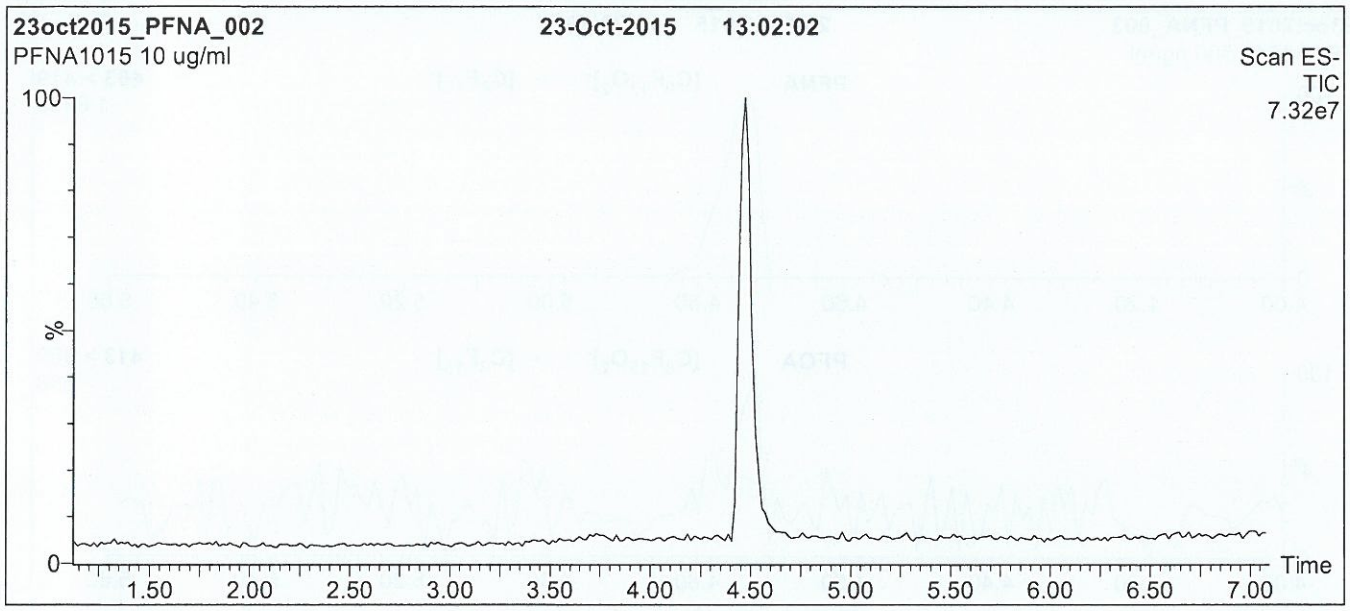
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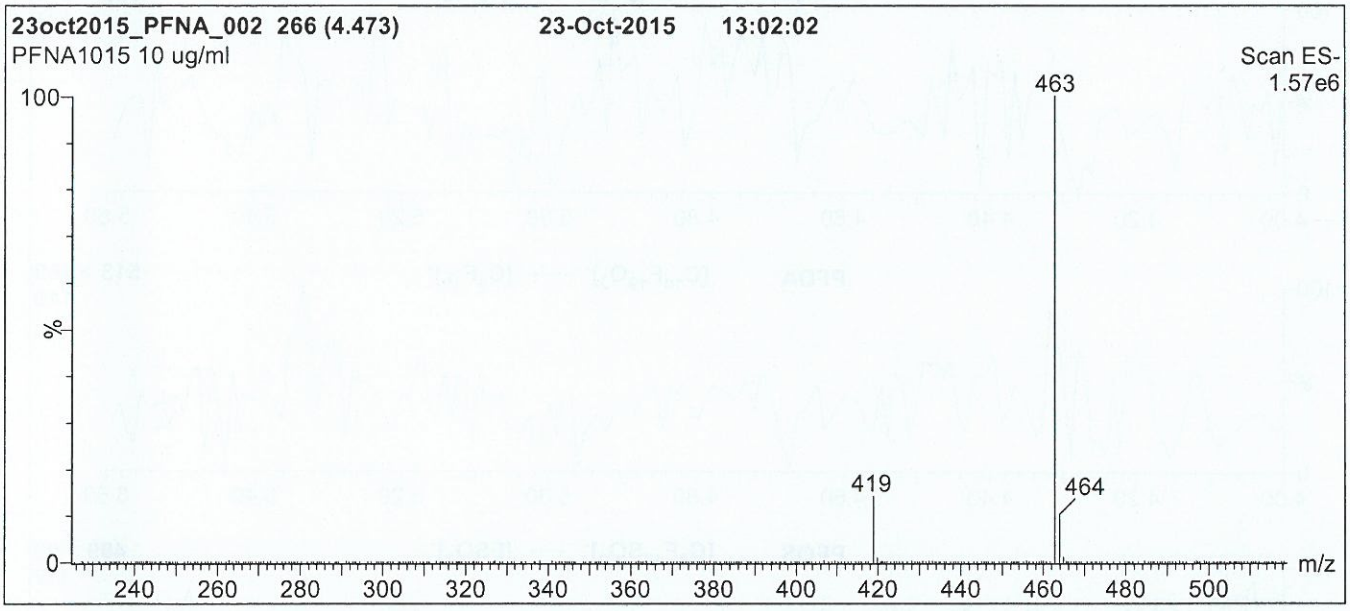
CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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Figure 1: **PFNA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

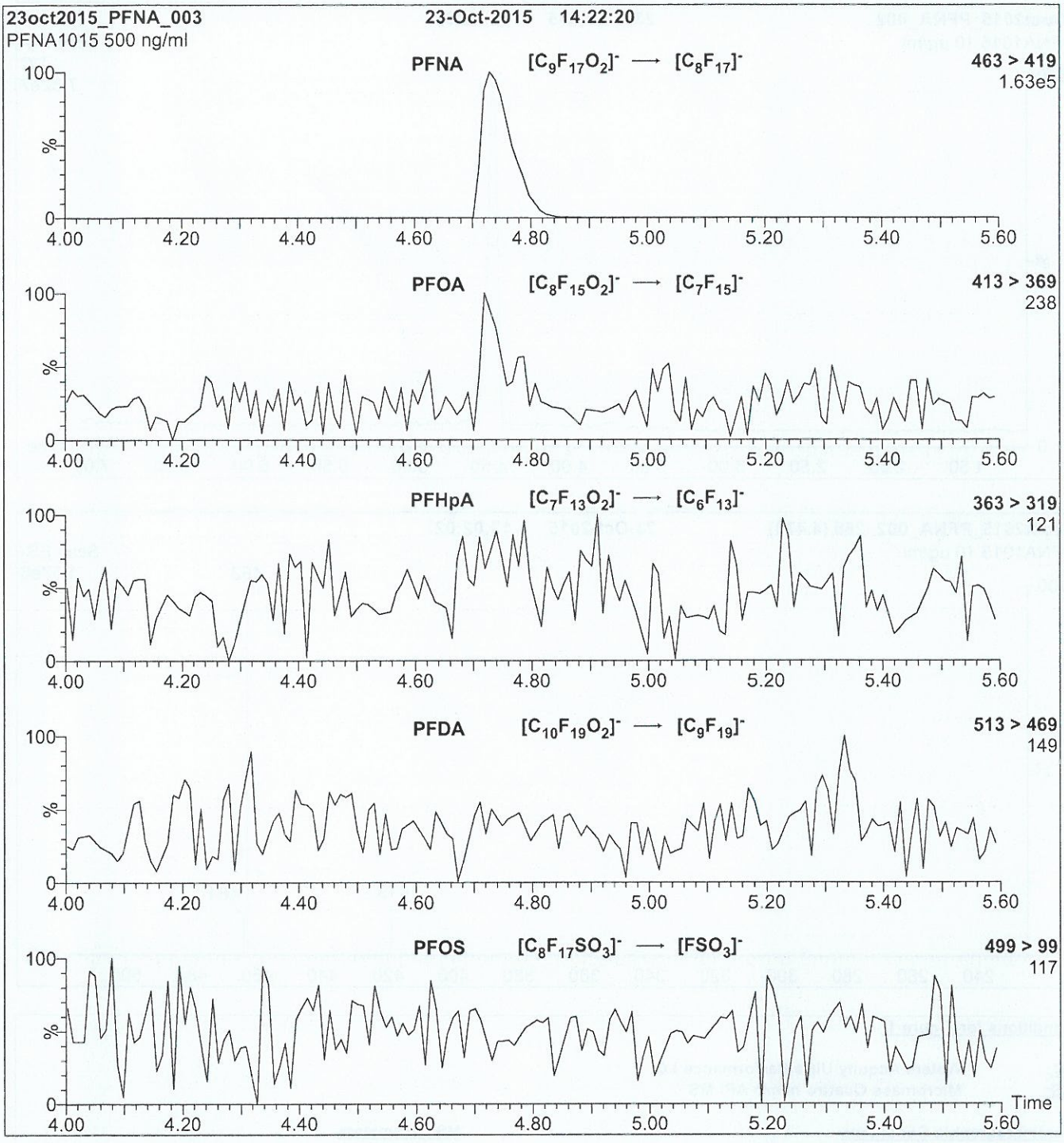
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFNA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFNA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.28e-3
Collision Energy (eV) = 11

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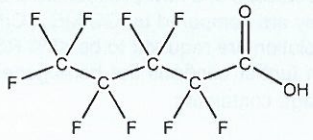
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFPeA
COMPOUND: Perfluoro-n-pentanoic acid
LOT NUMBER: PFPeA0516

STRUCTURE:

CAS #: 2706-90-3



MOLECULAR FORMULA: $C_5HF_9O_2$
MOLECULAR WEIGHT: 264.05
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/31/2016
EXPIRY DATE: (mm/dd/yyyy) 05/31/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

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Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.3% of Perfluoro-n-heptanoic acid (PFHpA) and ~ 0.2% of $C_5H_2F_8O_2$ (hydrido - derivative) as measured by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 06/02/2016 (mm/dd/yyyy)

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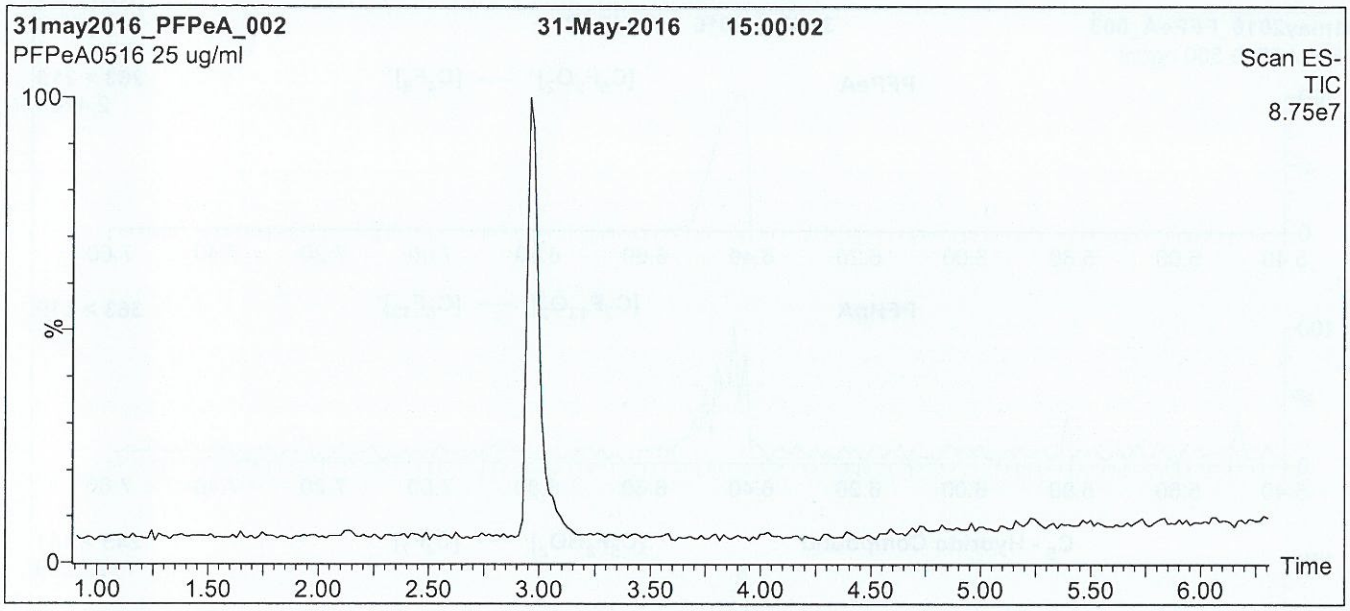
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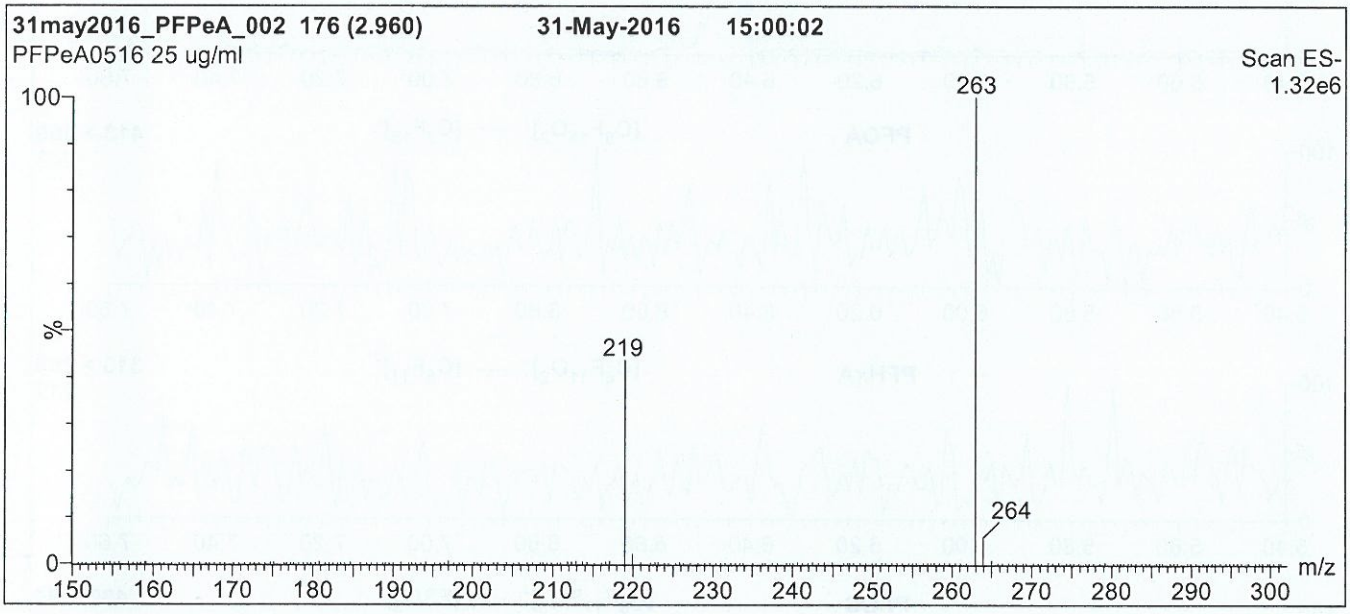
CALA Testing Accreditation No. A 1226

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Figure 1: **PFPeA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

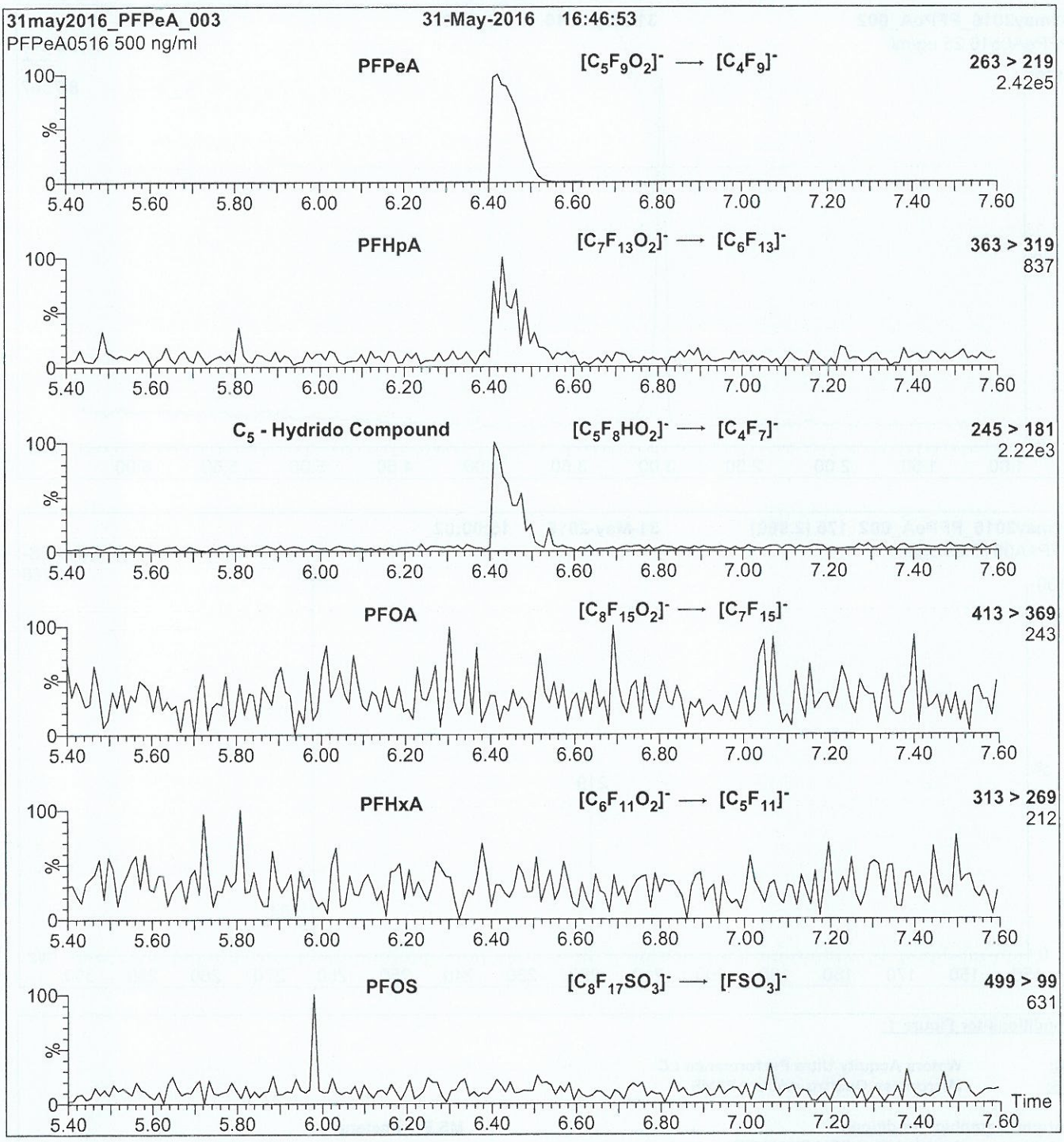
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFPeA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFPeA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.20e-3
Collision Energy (eV) = 9

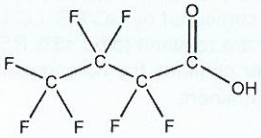
16J0426

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFBA
COMPOUND: Perfluoro-n-butanoic acid
LOT NUMBER: PFBA0516

STRUCTURE:



CAS #: 375-22-4

MOLECULAR FORMULA: $C_4HF_7O_2$
MOLECULAR WEIGHT: 214.04
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/27/2016
EXPIRY DATE: (mm/dd/yyyy) 05/27/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 05/31/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

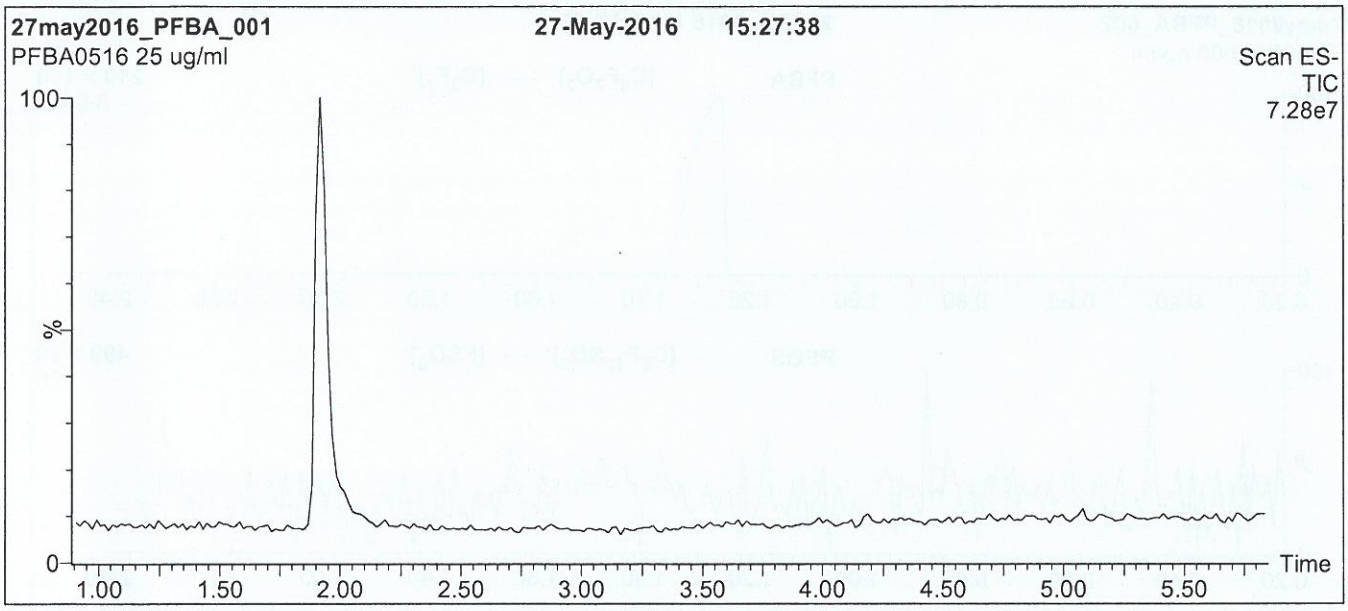
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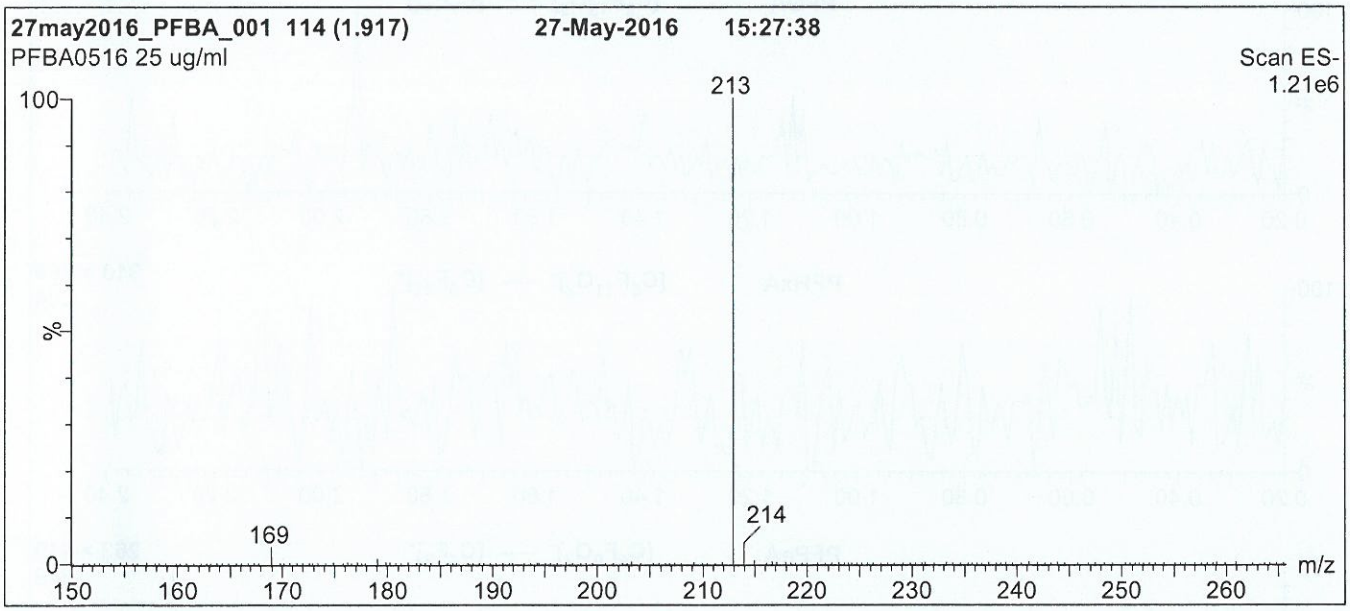
CALA Testing Accreditation No. A1226

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Figure 1: **PFBA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

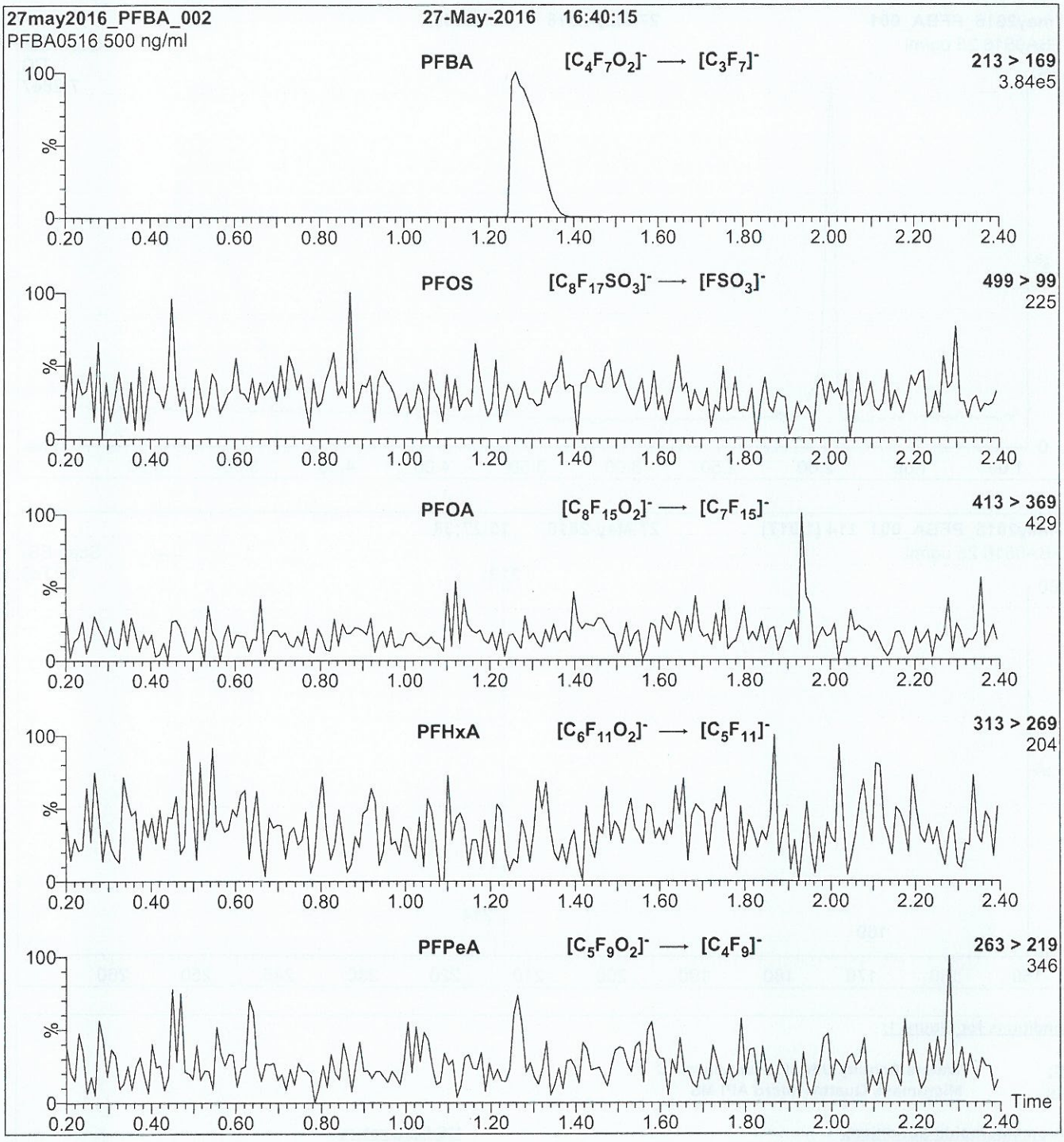
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 10.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFBA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml PFBA)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.62e-3
Collision Energy (eV) = 10

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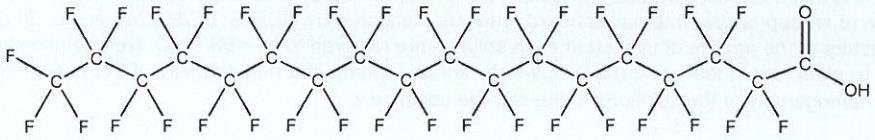
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFODA
COMPOUND: Perfluoro-n-octadecanoic acid

LOT NUMBER: PFODA0416

STRUCTURE:

CAS #: 16517-11-6



MOLECULAR FORMULA: $C_{18}HF_{35}O_2$
MOLECULAR WEIGHT: 914.14
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 04/29/2016
EXPIRY DATE: (mm/dd/yyyy) 04/29/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By: B.G. Chittim **Date:** 05/20/2016 (mm/dd/yyyy)

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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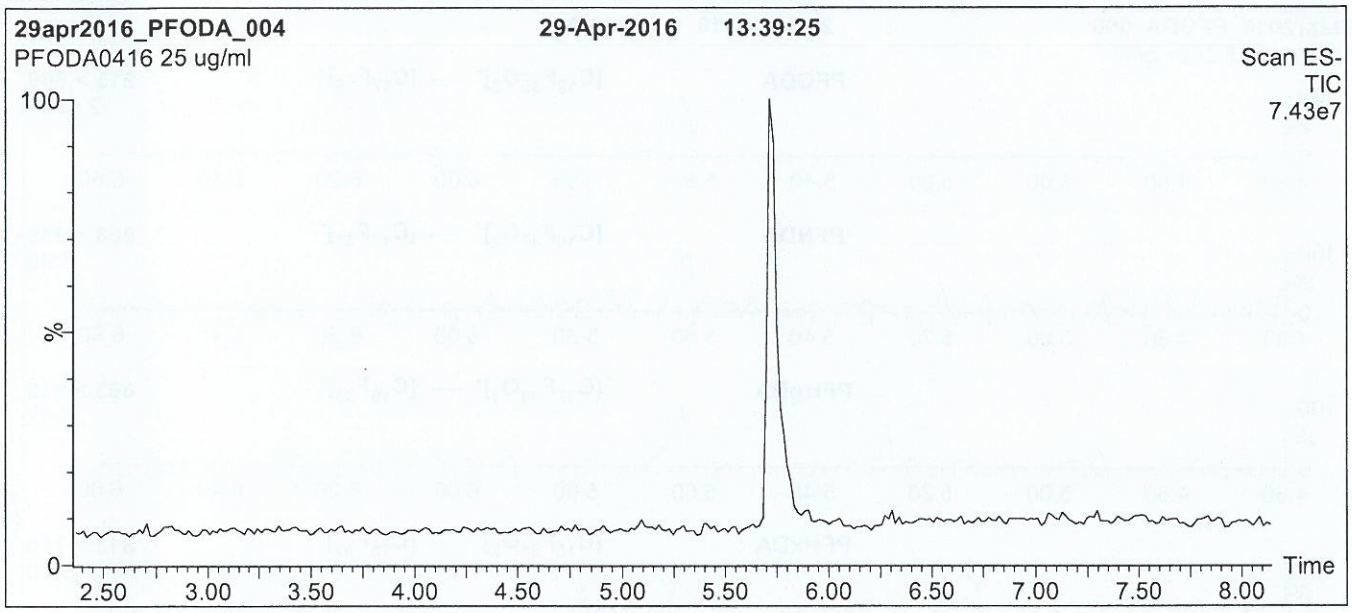
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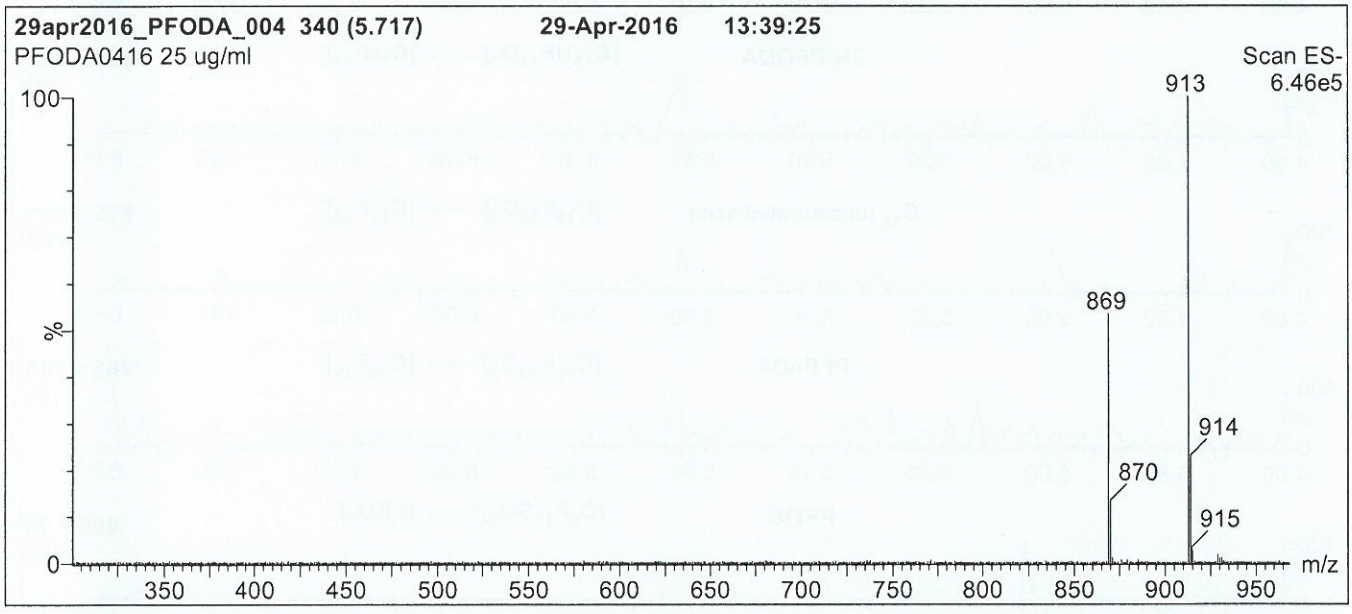
CALA Testing Accreditation No. A 1226

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Figure 1: **PFODA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 70% (80:20 MeOH:ACN) / 30% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 95% organic over 6 min and hold for 2.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

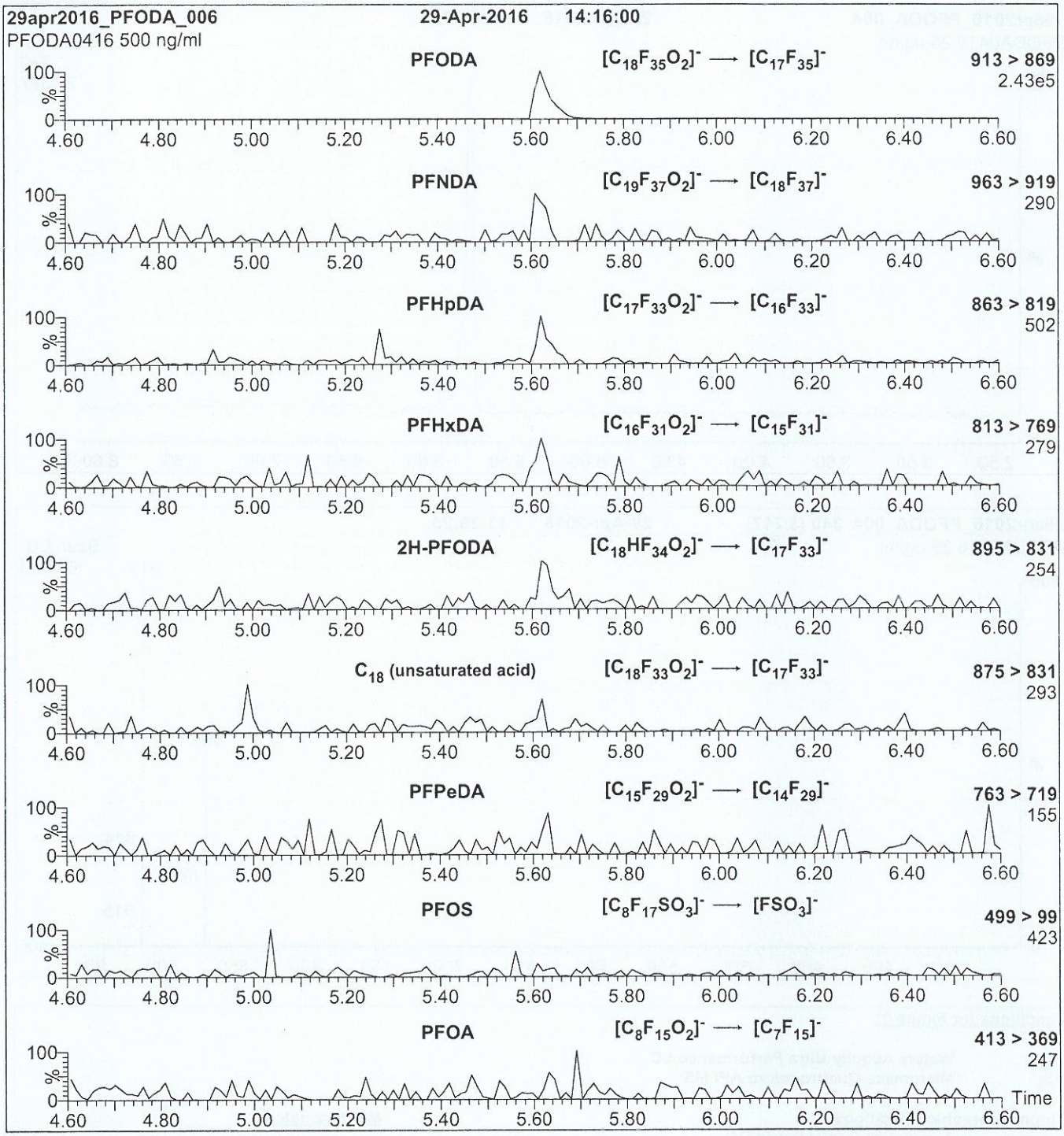
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 1000 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 25.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **PFODA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml PFODA)

Mobile phase: Isocratic 90% (80:20 MeOH:ACN) / 10% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 15

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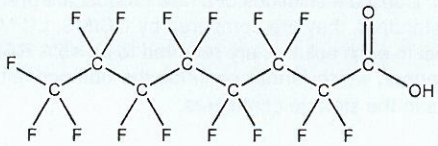
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFOA
COMPOUND: Perfluoro-n-octanoic acid

LOT NUMBER: PFOA0716

STRUCTURE:

CAS #: 335-67-1



MOLECULAR FORMULA: $C_8HF_{15}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 414.07
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 08/02/2016
EXPIRY DATE: (mm/dd/yyyy) 08/02/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

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Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
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Certified By: B.G. Chittim **Date:** 08/05/2016 (mm/dd/yyyy)

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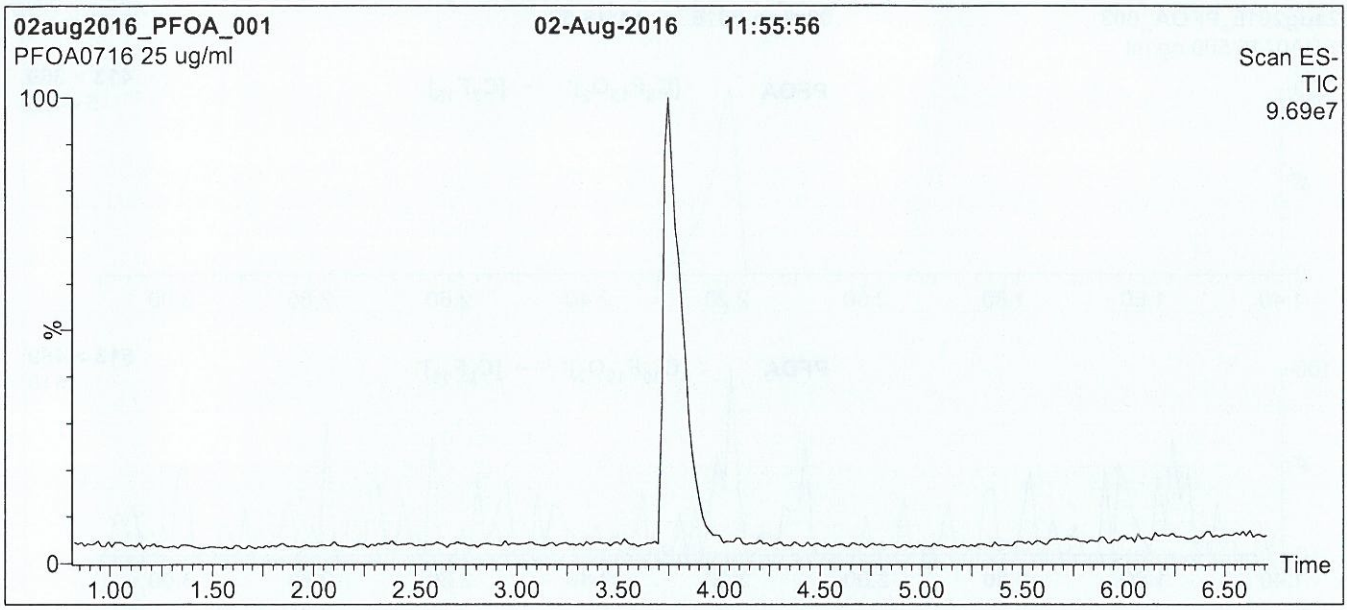
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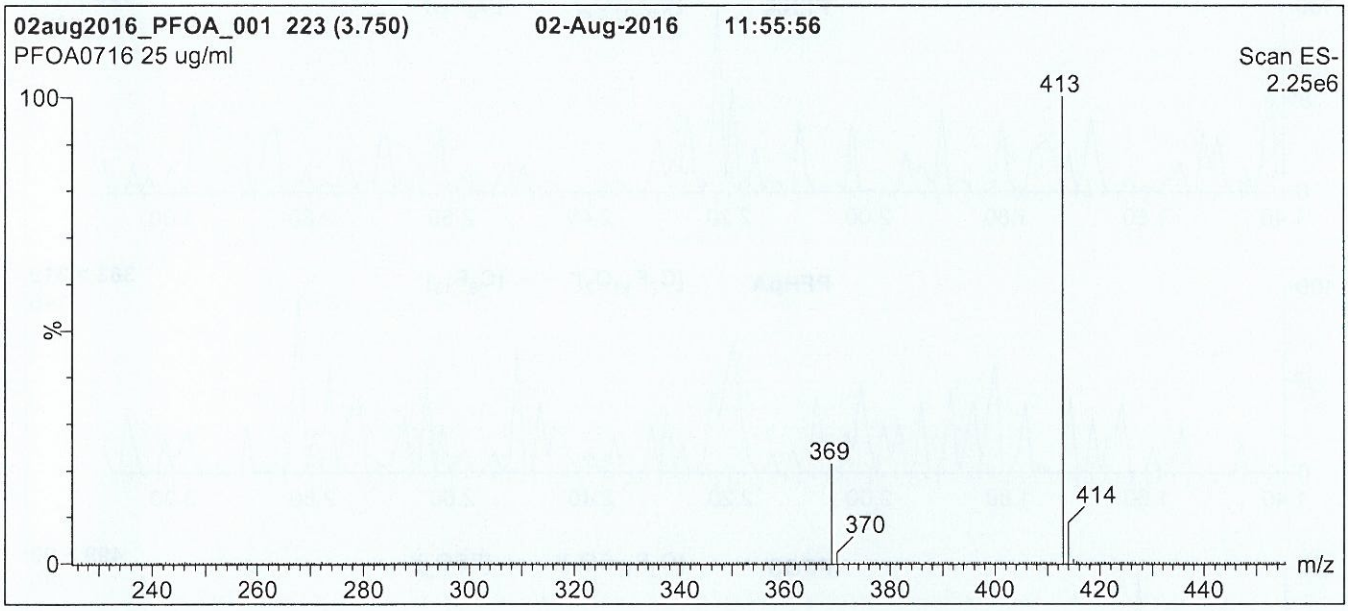
CALA Testing Accreditation No. A 1226

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Figure 1: **PFOA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

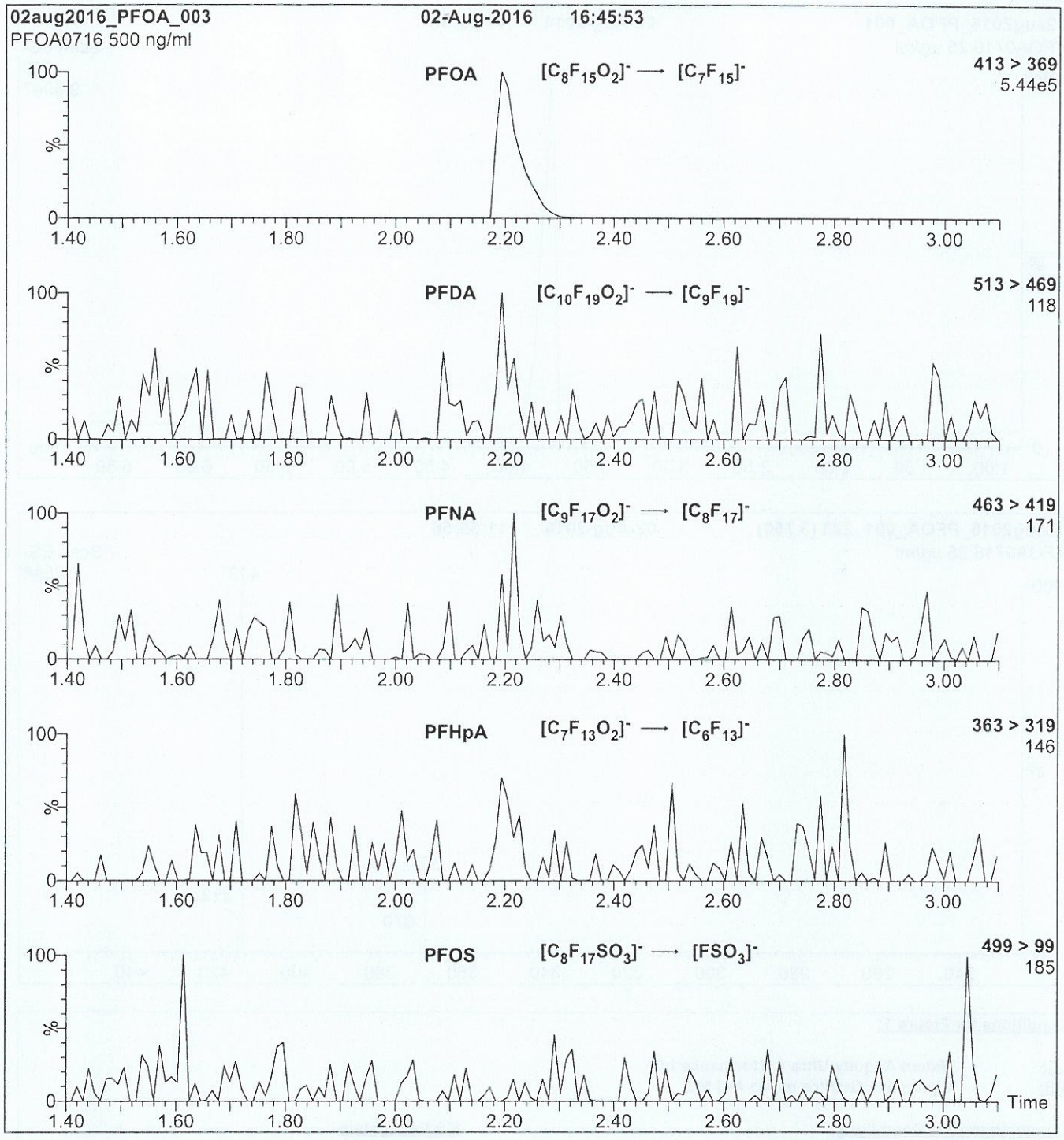
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: PFOA; LC/MS/MS Data (Selected MRM Transitions)



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml PFOA)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 10

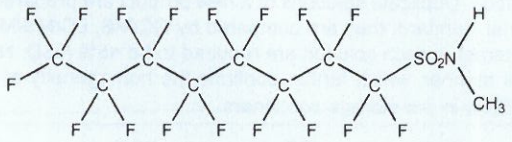
1702612

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-MeFOSA-M
LOT NUMBER: NMeFOSA0516M
COMPOUND: N-methylperfluoro-1-octanesulfonamide

STRUCTURE:



CAS #: 31506-32-8

MOLECULAR FORMULA:	$C_9H_4F_{17}NO_2S$	**MOLECULAR WEIGHT:**	513.17
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/24/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/24/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 05/26/2016 (mm/dd/yyyy)

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1702613

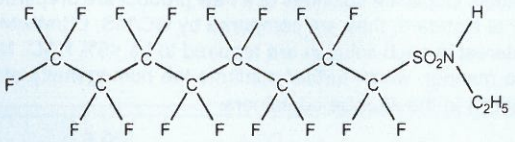
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-EtFOSA-M
LOT NUMBER: NEtFOSA0516M
COMPOUND: N-ethylperfluoro-1-octanesulfonamide

STRUCTURE:

CAS #: 4151-50-2



MOLECULAR FORMULA:	$C_{10}H_6F_{17}NO_2S$	**MOLECULAR WEIGHT:**	527.20
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/24/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/24/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 05/27/2016 (mm/dd/yyyy)

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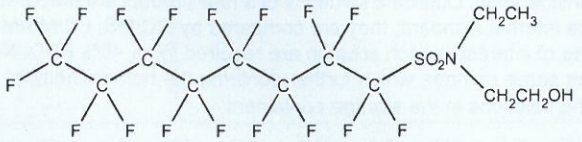
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-EtFOSE-M **LOT NUMBER:** NEtFOSE1115M

COMPOUND: 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol

STRUCTURE: **CAS #:** 1691-99-2



MOLECULAR FORMULA:	$C_{12}H_{10}F_{17}NO_3S$	**MOLECULAR WEIGHT:**	571.25
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	11/10/2015 (HRGC/LRMS) 11/09/2015 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	11/10/2020		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (TIC and Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 11/11/2015 (mm/dd/yyyy)

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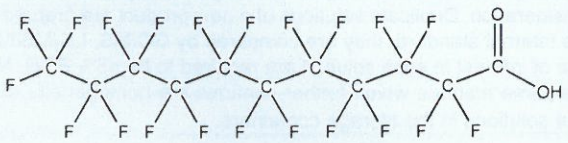
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFUdA
COMPOUND: Perfluoro-n-undecanoic acid

LOT NUMBER: PFUdA1016

STRUCTURE:

CAS #: 2058-94-8



MOLECULAR FORMULA: $C_{11}HF_{21}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 564.09
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 10/18/2016
EXPIRY DATE: (mm/dd/yyyy) 10/18/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By: B.G. Chittim **Date:** 10/19/2016 (mm/dd/yyyy)

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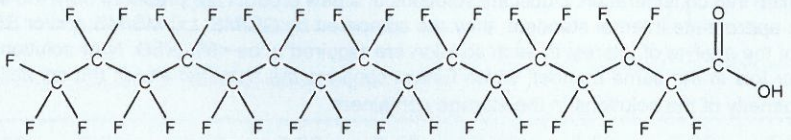
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFHxDA
LOT NUMBER: PFHxDA0516
COMPOUND: Perfluoro-n-hexadecanoic acid

STRUCTURE:

CAS #: 67905-19-5



MOLECULAR FORMULA: $C_{16}HF_{31}O_2$
MOLECULAR WEIGHT: 814.13
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/25/2016
EXPIRY DATE: (mm/dd/yyyy) 05/25/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.4% of PFODA.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 05/27/2016 (mm/dd/yyyy)

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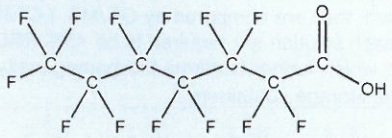
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFHpA
COMPOUND: Perfluoro-n-heptanoic acid

LOT NUMBER: PFHpA1216

STRUCTURE:

CAS #: 375-85-9



MOLECULAR FORMULA: $C_7HF_{13}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 364.06
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 12/02/2016
EXPIRY DATE: (mm/dd/yyyy) 12/02/2021
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/12/2016 (mm/dd/yyyy)

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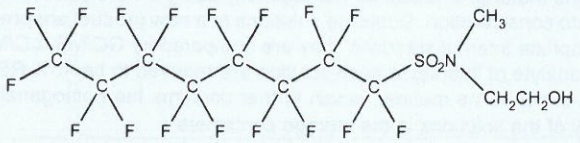
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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-MeFOSE-M **LOT NUMBER:** NMeFOSE1115M

COMPOUND: 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol

STRUCTURE: **CAS #:** 24448-09-7



MOLECULAR FORMULA:	$C_{11}H_8F_{17}NO_3S$	**MOLECULAR WEIGHT:**	557.22
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	11/10/2015 (HRGC/LRMS) 11/09/2015 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	11/10/2020		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (TIC and Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 11/16/2015 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17D2706

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17C1027	PFBS anion	10-Mar-17	Jamie C. Stockman	02-Dec-21	10-Mar-17 15:27 by JCS	0.75

Description:	L-PFBS anion DIL	Expires:	27-Apr-18
Standard Type:	Other	Prepared:	27-Apr-17
Solvent:	Methanol	Prepared By:	Emilie Schneider
Final Volume (mls):	1.326	Department:	LCMS
Vials:	1	Last Edit:	27-Apr-17 13:48 by EMS

Analyte	CAS Number	Concentration	Units
PFBS	375-73-5	25	ug/mL
L-PFBS		25	ug/mL

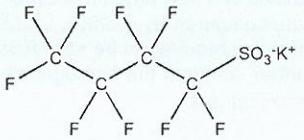
17C1027

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFBS
LOT NUMBER: LPFBS1116
COMPOUND: Potassium perfluoro-1-butanesulfonate

STRUCTURE:



CAS #: 29420-49-3

MOLECULAR FORMULA:	$C_4F_9SO_3K$	**MOLECULAR WEIGHT:**	338.19
CONCENTRATION:	50.0 ± 2.5 µg/ml (K salt) 44.2 ± 2.2 µg/ml (PFBS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	12/02/2016		
EXPIRY DATE: (mm/dd/yyyy)	12/02/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/05/2016 (mm/dd/yyyy)

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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

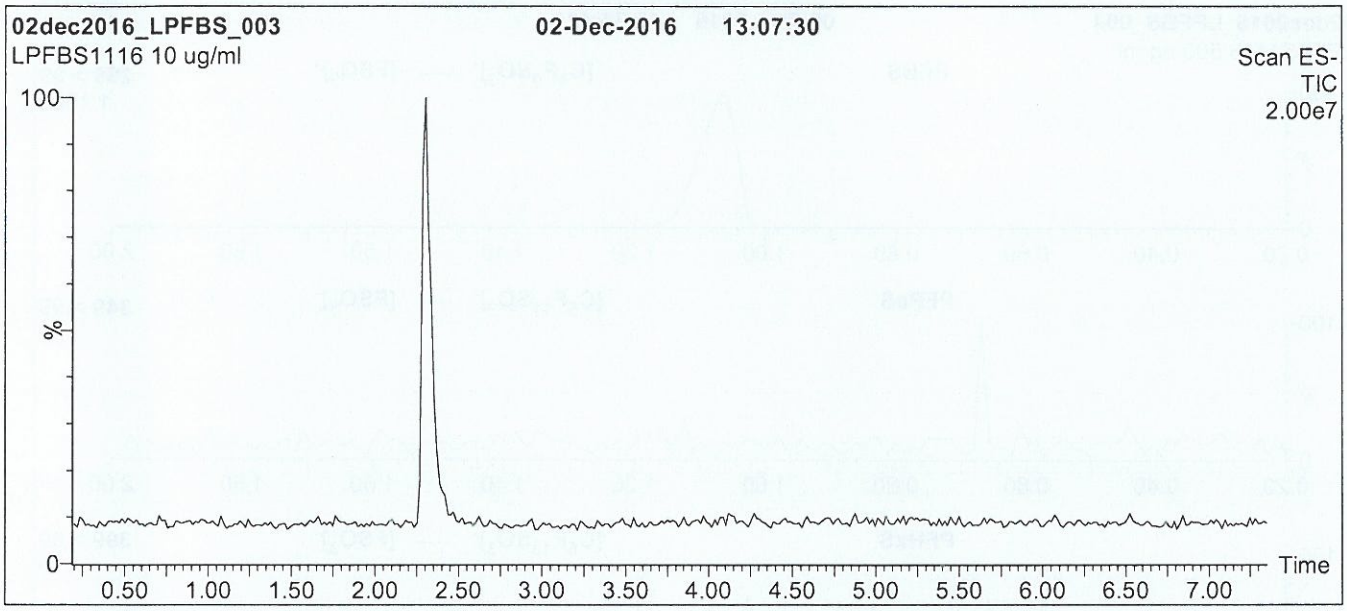
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

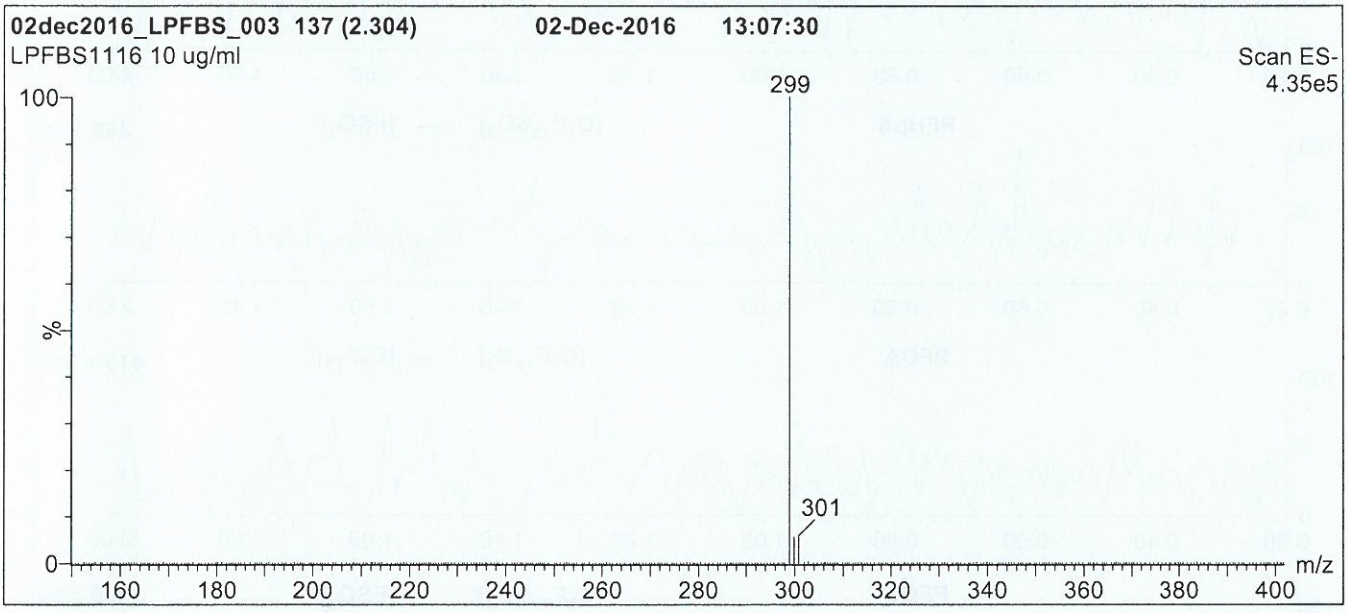
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **L-PFBS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

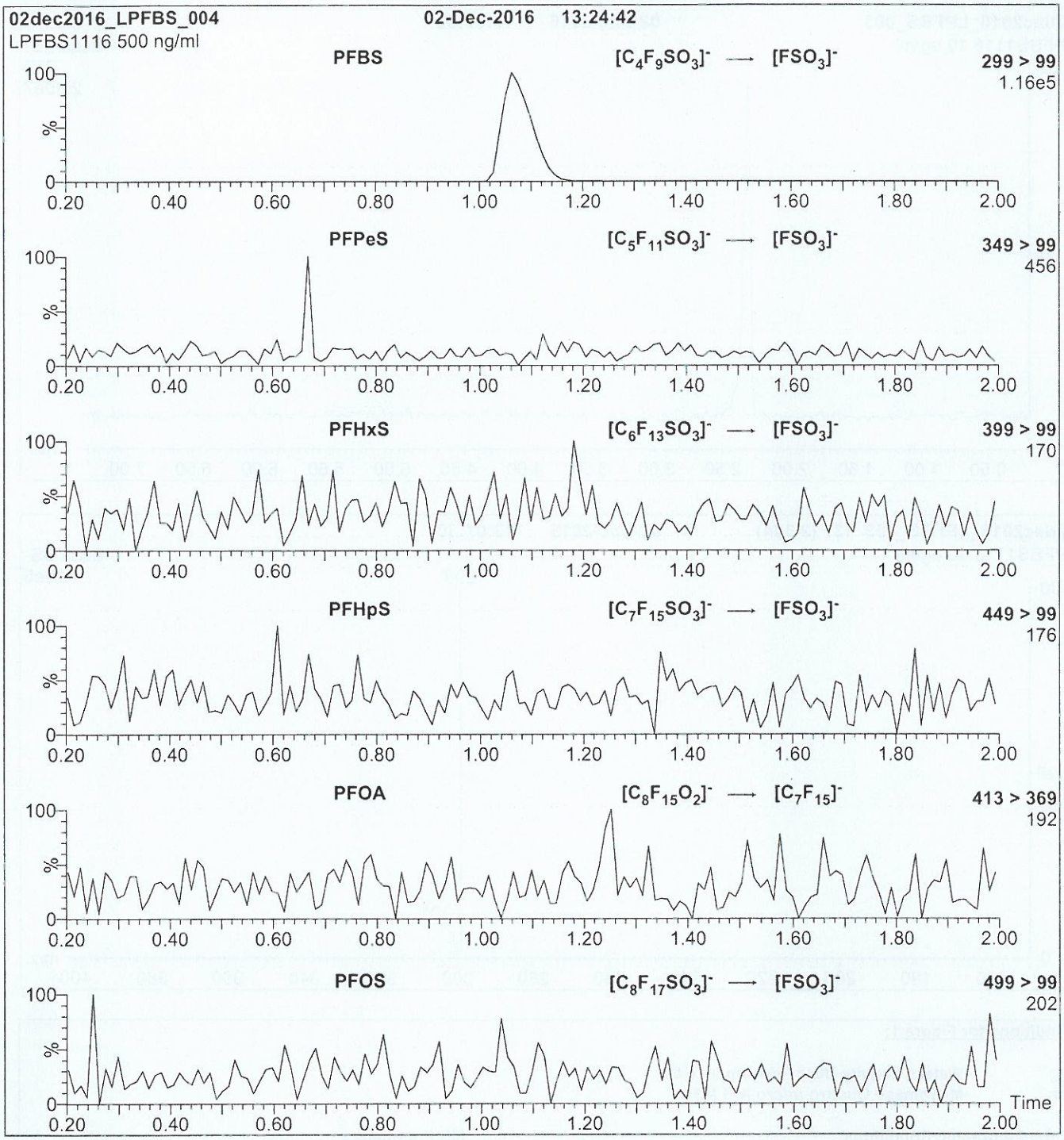
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 40.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **L-PFBS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml L-PFBS)
Mobile phase:	Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.28e-3
Collision Energy (eV) = 25

Analytical Standard Record

Vista Analytical Laboratory

17D2709

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16I1427	8:2 FTS anion	14-Sep-16	** Vendor **	22-Aug-21	15-Dec-16 08:53 by AEW	0.5

Description:	8:2 FTS anion DIL	Expires:	27-Apr-18
Standard Type:	Other	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.958	Department:	LCMS
Vials:	1	Last Edit:	27-Apr-17 14:28 by INJ

Analyte	CAS Number	Concentration	Units
L-8:2FTS		25	ug/mL
8:2 FTS	70887-84-2	25	ug/mL

16I1427

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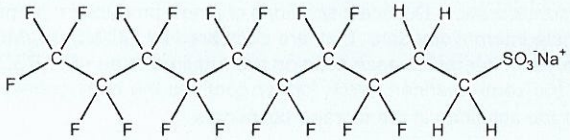
CERTIFICATE OF ANALYSIS
DOCUMENTATION

8:2FTS

PRODUCT CODE: 8:2FTS **LOT NUMBER:** 82FTS0816

COMPOUND: Sodium 1H,1H,2H,2H-perfluorodecane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_{10}H_4F_{17}SO_3Na$		**MOLECULAR WEIGHT:**	550.16
CONCENTRATION:	50.0 ± 2.5 µg/ml	(Na salt)	**SOLVENT(S):**	Methanol
	47.9 ± 2.4 µg/ml	(8:2FTS anion)		
CHEMICAL PURITY:	>98%			
LAST TESTED: (mm/dd/yyyy)	08/22/2016			
EXPIRY DATE: (mm/dd/yyyy)	08/22/2021			
RECOMMENDED STORAGE:	Refrigerate ampoule			

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 08/25/2016 (mm/dd/yyyy)

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

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All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

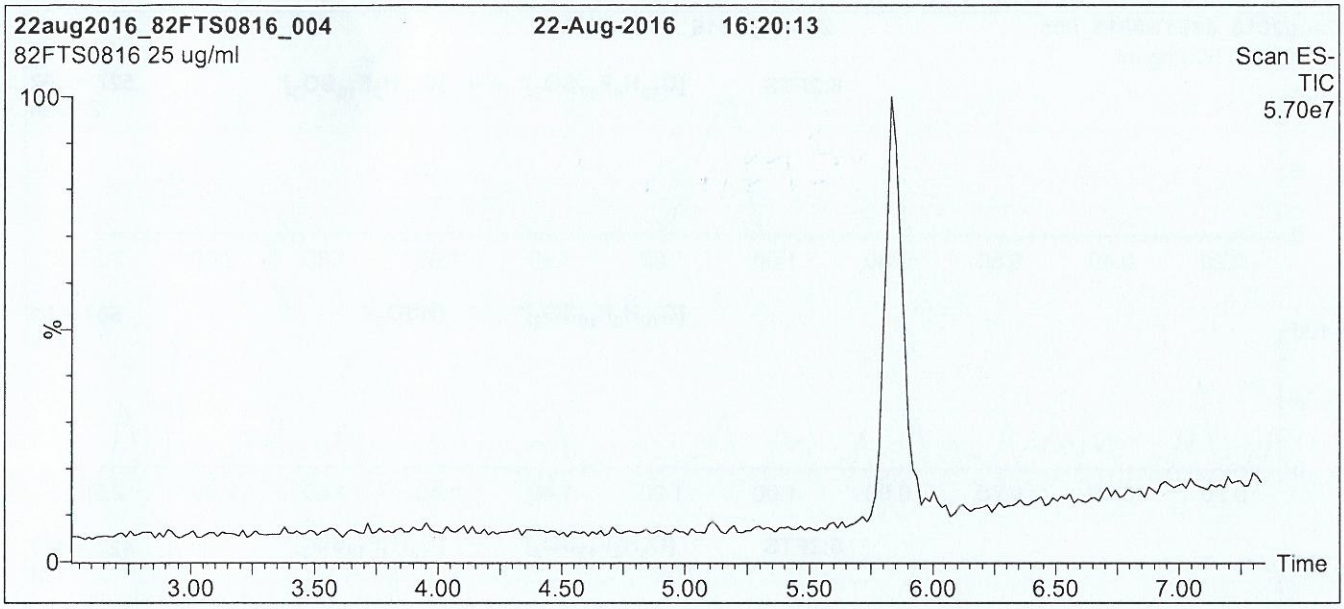
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

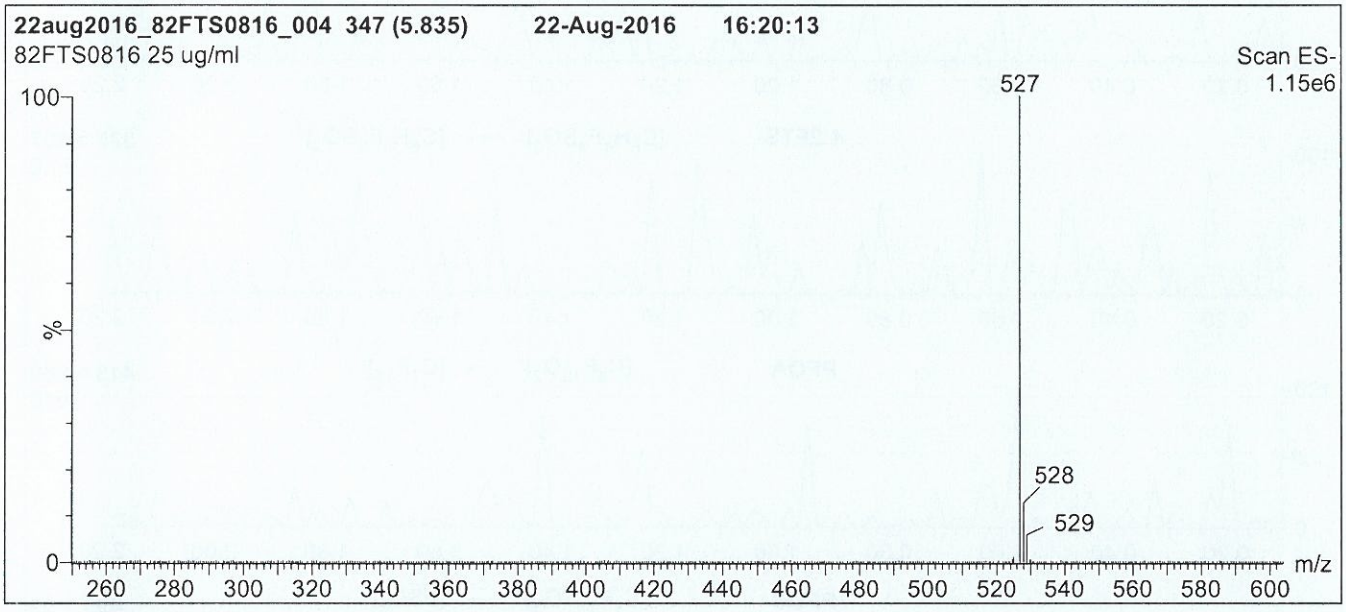
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **8:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Agilent Zorbax Bonus-RP
1.8 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH/ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

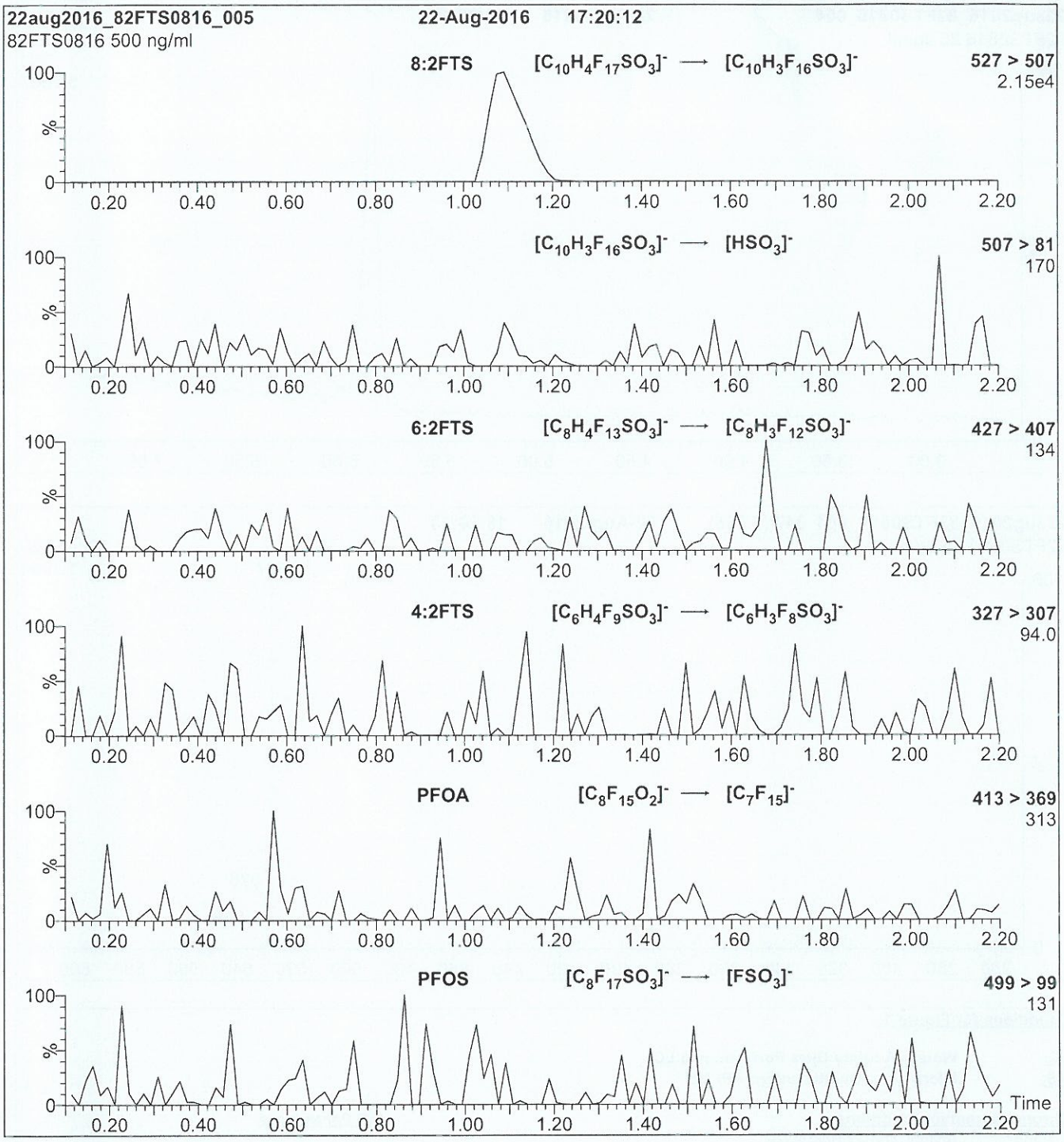
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250- 850 amu)

Source:Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 30.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **8:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml 8:2FTS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 30

Analytical Standard Record

Vista Analytical Laboratory

17D2715

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17D2622	6:2FTS	26-Apr-17	** Vendor **	25-Jun-21	12-Jun-17 09:01 by AEW	0.5

Description:	6:2 FTS anion DIL	Expires:	27-Apr-18
Standard Type:	Other	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.948	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 09:01 by AEW

Analyte	CAS Number	Concentration	Units
Total 6:2 FTS		25	ug/mL
L-6:2 FTS		25	ug/mL
6:2 FTS	27619-97-2	25	ug/mL

1702622

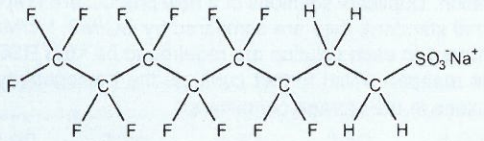
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 6:2FTS **LOT NUMBER:** 62FTS0616

COMPOUND: Sodium 1H,1H,2H,2H-perfluorooctane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_8H_4F_{13}SO_3Na$		**MOLECULAR WEIGHT:**	450.15
CONCENTRATION:	50.0 ± 2.5 µg/ml	(Na salt)	**SOLVENT(S):**	Methanol
	47.4 ± 2.4 µg/ml	(6:2FTS anion)		
CHEMICAL PURITY:	>98%			
LAST TESTED: (mm/dd/yyyy)	06/25/2016			
EXPIRY DATE: (mm/dd/yyyy)	06/25/2021			
RECOMMENDED STORAGE:	Refrigerate ampoule			

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: B.G. Chittim **Date:** 06/29/2016 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17D2716

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17D2620	L-PFDS	26-Apr-17	** Vendor **	17-Feb-22	12-Jun-17 09:34 by AEW	0.5

Description:	L-PFDS anion DIL	Expires:	27-Apr-18
Standard Type:	Other	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.964	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 09:34 by AEW

Analyte	CAS Number	Concentration	Units
Total PFDS		25	ug/mL
PFDS	335-77-3	25	ug/mL
L-PFDS		25	ug/mL

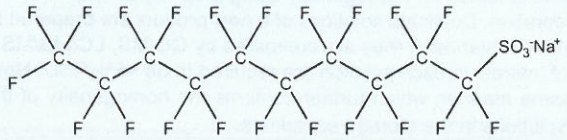
17D2620

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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFDS
LOT NUMBER: LPFDS0217
COMPOUND: Sodium perfluoro-1-decanesulfonate

STRUCTURE:



CAS #: 2806-15-7

MOLECULAR FORMULA:	$C_{10}F_{21}SO_3Na$	**MOLECULAR WEIGHT:**	622.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 48.2 ± 2.4 µg/ml (PFDS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	02/17/2017		
EXPIRY DATE: (mm/dd/yyyy)	02/17/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.9% of sodium perfluoro-1-dodecanesulfonate (L-PFDoS).

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Certified By: B.G. Chittim **Date:** 02/22/2017 (mm/dd/yyyy)

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Analytical Standard Record

Vista Analytical Laboratory

17D2717

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
16J0431	br-PFOSK	04-Oct-16	** Vendor **	14-Oct-20	03-Feb-17 13:33 by AEW	0.5

Description:	Br-PFOSK anion DIL	Expires:	27-Apr-18
Standard Type:	Other	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.928	Department:	LCMS
Vials:	1	Last Edit:	27-Apr-17 14:46 by INJ

Analyte	CAS Number	Concentration	Units
PFOS	1763-23-1	25	ug/mL
L-PFOS		19.7	ug/mL

16J0431

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFOSK

Potassium Perfluorooctanesulfonate Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-PFOSK
LOT NUMBER:	brPFOSK1015
CONCENTRATION:	50 ± 2.5 µg/ml (total potassium salt)
	46.4 ± 2.3 µg/ml (total PFOS anion)
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	10/13/2015
LAST TESTED: (mm/dd/yyyy)	10/14/2015
EXPIRY DATE: (mm/dd/yyyy)	10/14/2020
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorooctanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- A 5-point calibration curve was generated using linear PFOS (potassium salt) and mass-labelled PFOS as an internal standard to enable quantitation of br-PFOSK using isotopic dilution.
- CAS#: 2795-39-3 (for linear isomer; potassium salt).

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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

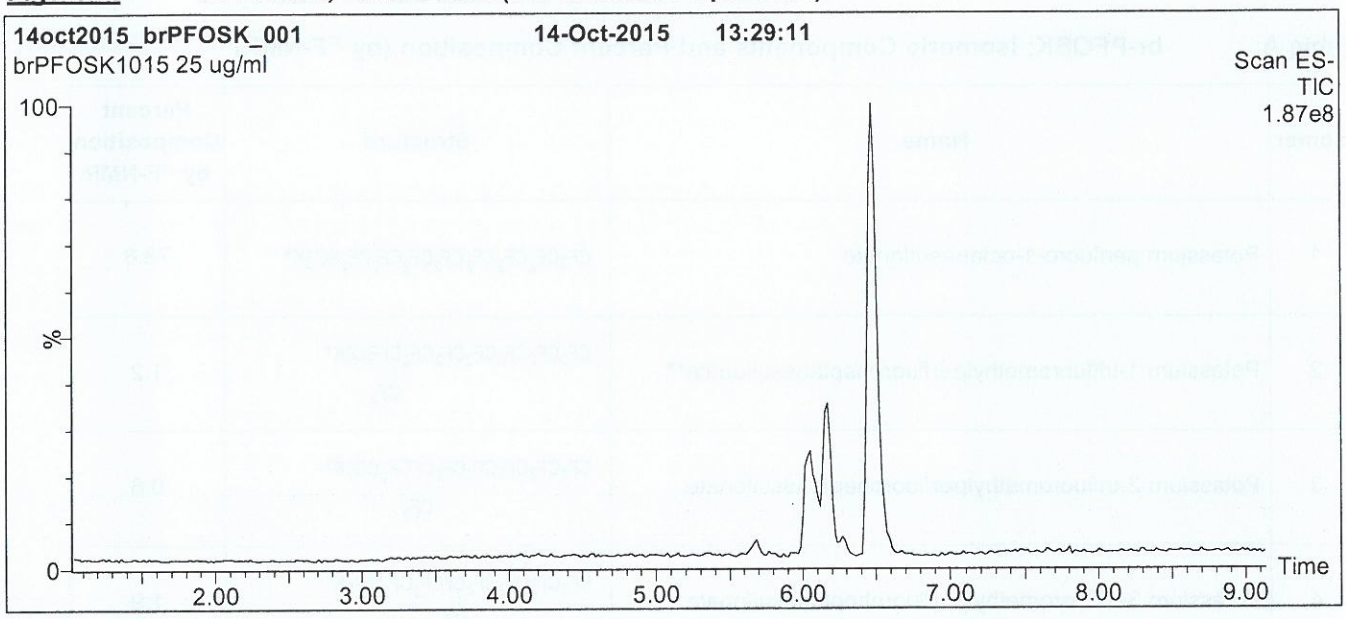
Table A: **br-PFOSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

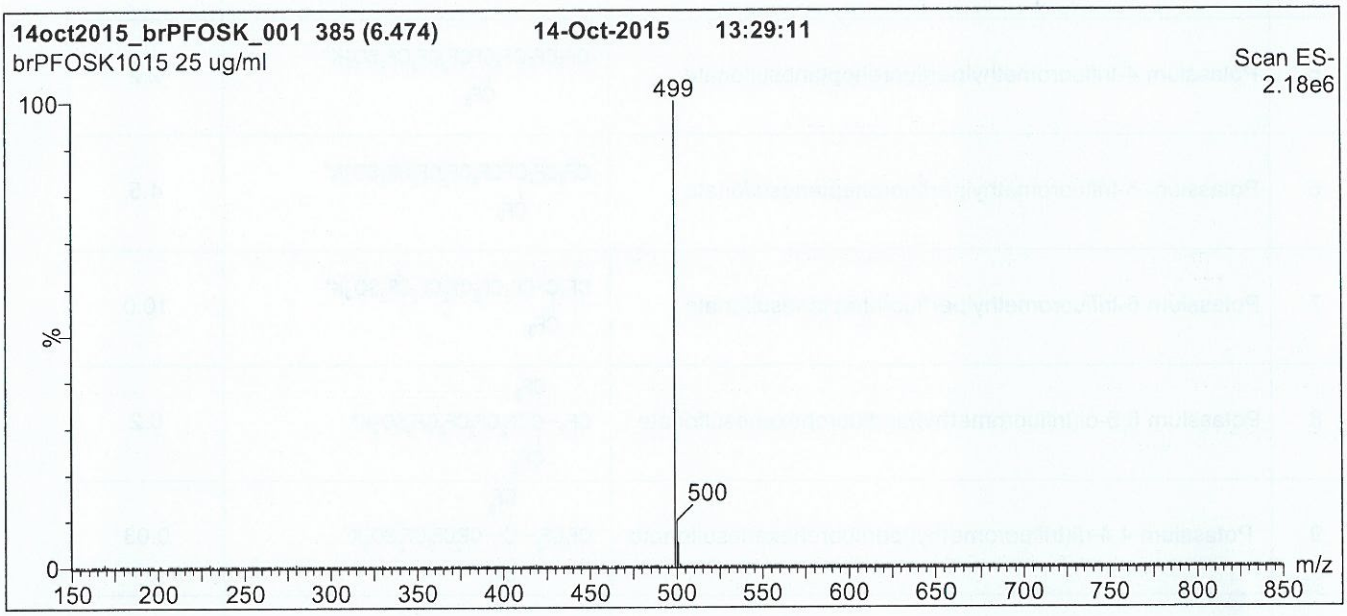
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-octanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	$CF_3CF_2CF_2CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	1.2
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	0.6
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	1.9
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	2.2
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	4.5
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	10.0
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3C(CF_3)_2CF_2CF_2CF_2CF_2SO_3^-K^+$	0.2
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF_2C(CF_3)_2CF_2CF_2CF_2SO_3^-K^+$	0.03
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	0.4
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	0.07

* Percent of total perfluorooctanesulfonate isomers only. Isomers are labelled in Figure 2.
** Systematic Name: Potassium perfluorooctane-2-sulfonate.

Certified By: _____ **Date:** 10/15/2015
B.G. Chittim (mm/dd/yyyy)

Figure 1: **br-PFOSK; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% (80:20 MeOH:ACN) / 55% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 12 min and hold for 2 min.
Return to initial conditions over 0.5 min.
Time: 16 min

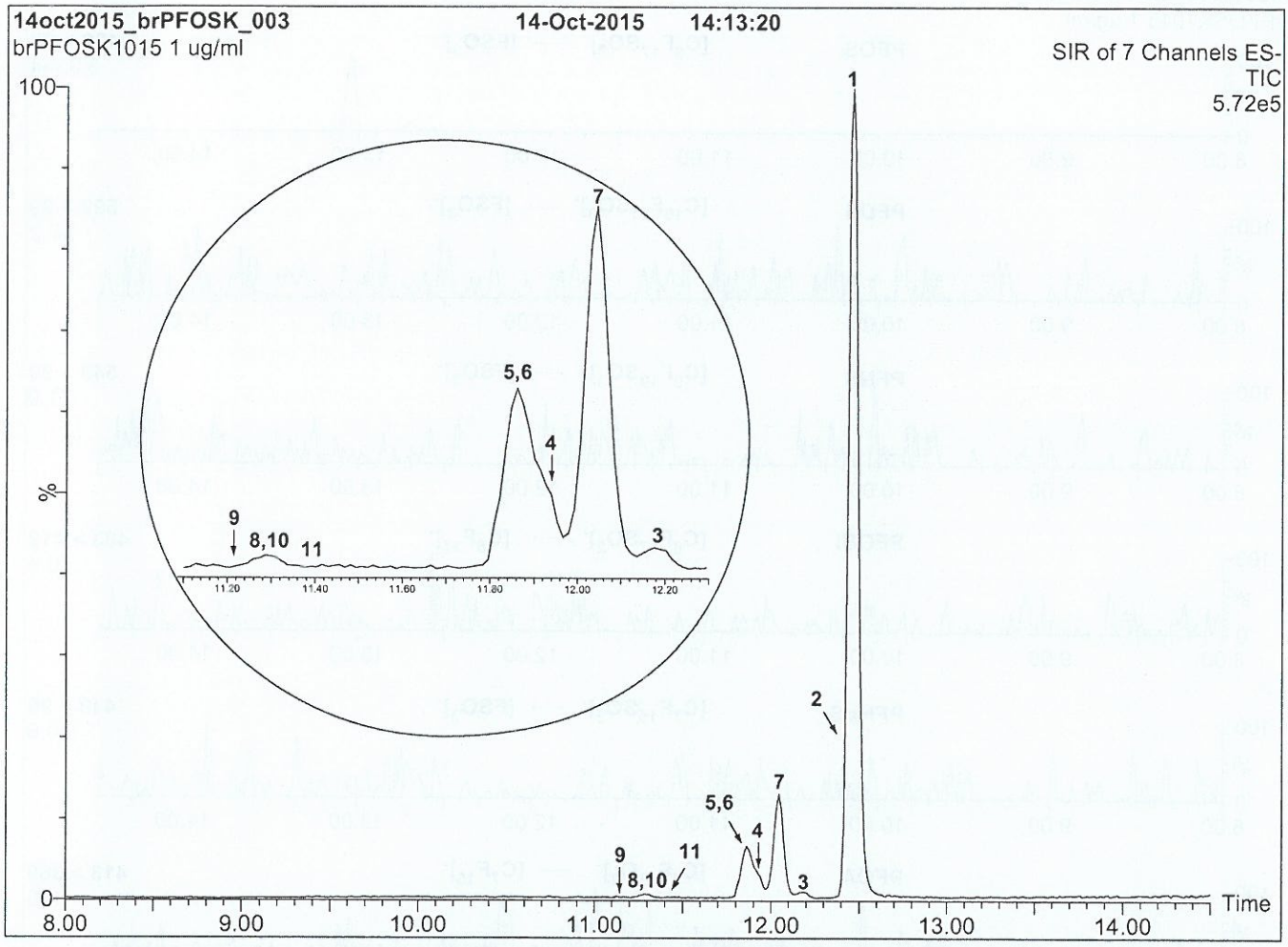
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 60.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **br-PFOSK; LC/MS Data (SIR)**



Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18} (1.7 µm, 2.1 x 100 mm)

Injection: 1.0 µg/ml of br-PFOSK

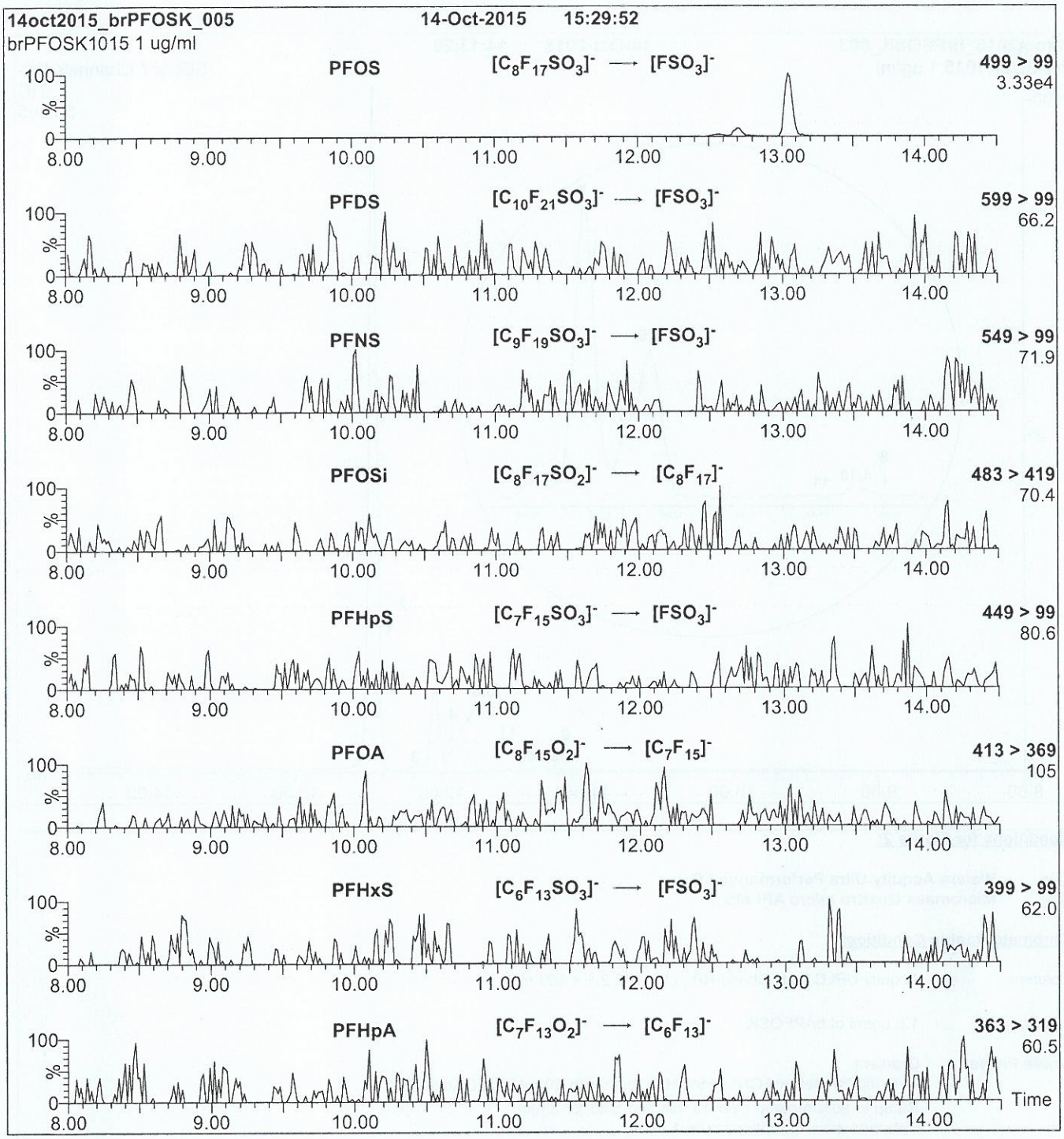
Mobile Phase: Gradient
45% (80:20 MeOH:ACN) / 55% H_2O (both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 15 min and hold for 3 min.
Return to initial conditions over 1 min.
Time: 20 min

Flow: 300 µl/min

MS Conditions:

SIR (ES^-)
Source = 110 °C
Desolvation = 325 °C
Cone Voltage = 60V

Figure 3: **br-PFOSK; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column

Mobile phase: Same as Figure 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.06e-3
Collision Energy (eV) = 11-50 (variable)

Analytical Standard Record

Vista Analytical Laboratory

17D2718

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17D2615	br-PFHxSK	26-Apr-17	** Vendor **	04-Jan-22	12-Jun-17 08:51 by AEW	0.5

Description:	Br-PFHxSK anion DIL	Expires:	27-Apr-18
Standard Type:	Other	Prepared:	27-Apr-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.91	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 08:51 by AEW

Analyte	CAS Number	Concentration	Units
Total PFHxS		25	ug/mL
PFHxS	355-46-4	25	ug/mL
L-PFHxS		20.3	ug/mL
Br-PFHxS	3871-99-6	4.72	ug/mL

17D2615

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-PFHxSK

Potassium Perfluorohexanesulfonate Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-PFHxSK
LOT NUMBER:	brPFHxSK0117
CONCENTRATION:	50.0 ± 2.5 µg/ml (total potassium salt)
	45.5 ± 2.3 µg/ml (total PFHxS anion)
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	01/03/2017
LAST TESTED: (mm/dd/yyyy)	01/04/2017
EXPIRY DATE: (mm/dd/yyyy)	01/04/2022
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorohexanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.5% of perfluoro-1-pentanesulfonate and ~ 0.2% of perfluoro-1-octanesulfonate.
- CAS#: 3871-99-6 (for linear isomer; potassium salt).

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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

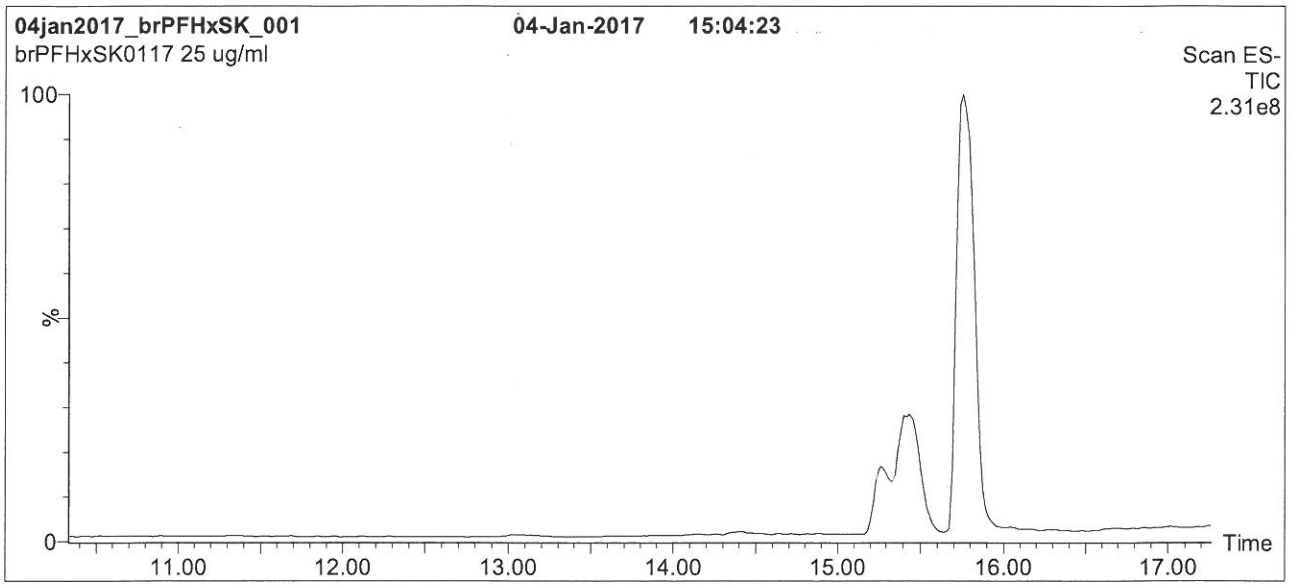
Table A: **br-PFHxSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

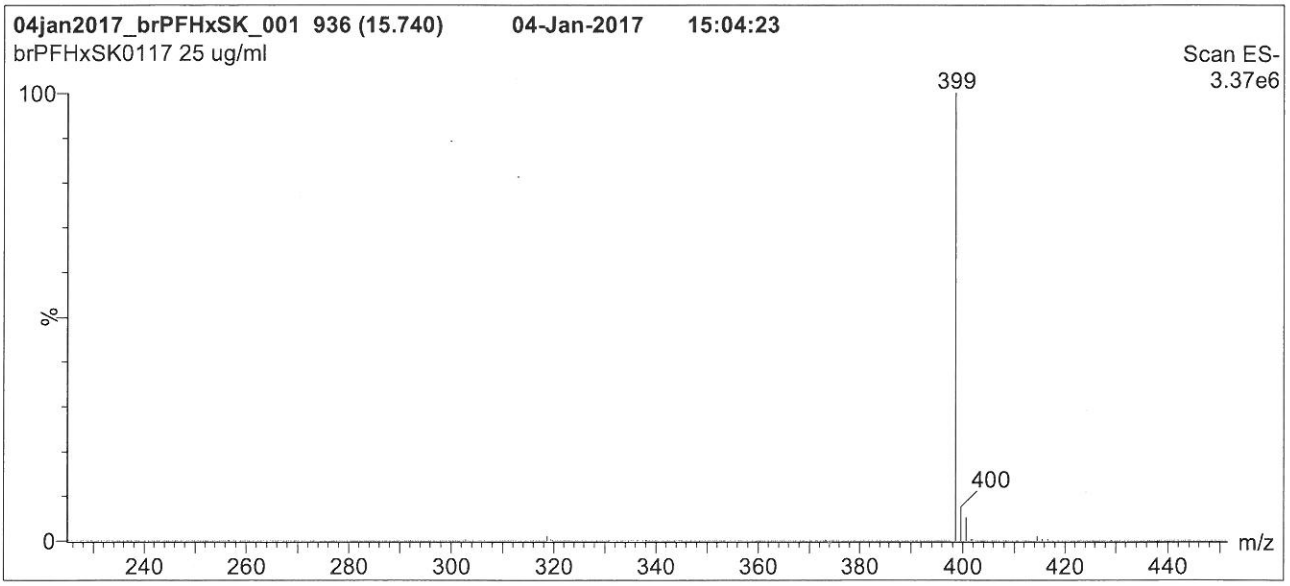
Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-hexanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$CF_3CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	2.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	1.4
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	5.0
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	8.9
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	$CF_3C(CF_3)CF_2CF_2SO_3^-K^+$	0.2
7	Other Unidentified Isomers		0.5

* Percent of total perfluorohexanesulfonate isomers only.
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

Certified By: B.G. Chittim **Date:** 01/20/2017 (mm/dd/yyyy)

Figure 1: **br-PFHxSK; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 20% (80:20 MeOH:ACN) / 80% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 50% organic over 14 min. Ramp to 90% organic over 3 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 20 min

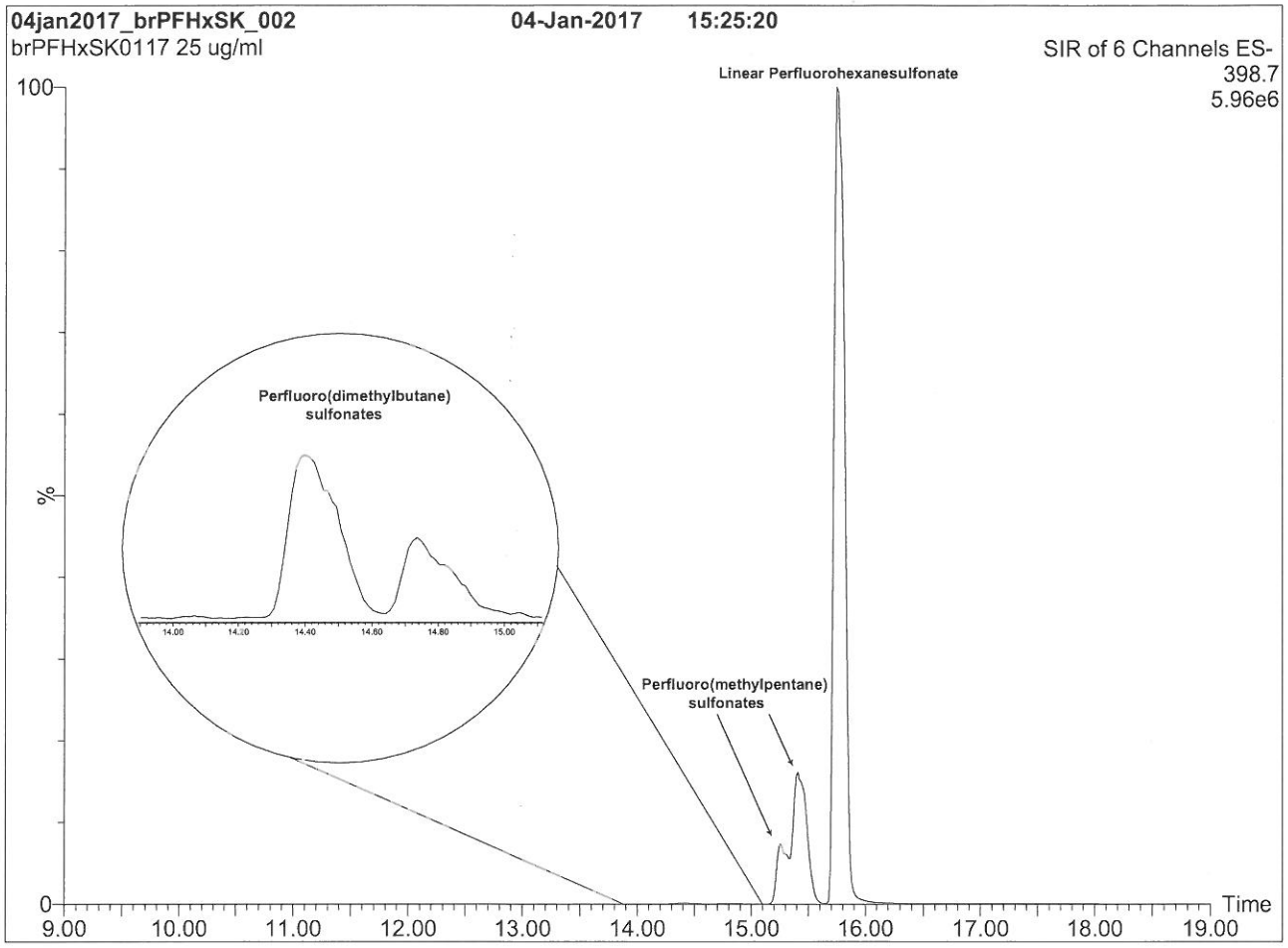
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 50.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: **br-PFHxSK; LC/MS Data (SIR)**



Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 20% (80:20 MeOH:ACN) / 80% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 50% organic over 14 min. Ramp to 90% organic over 3 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 20 min

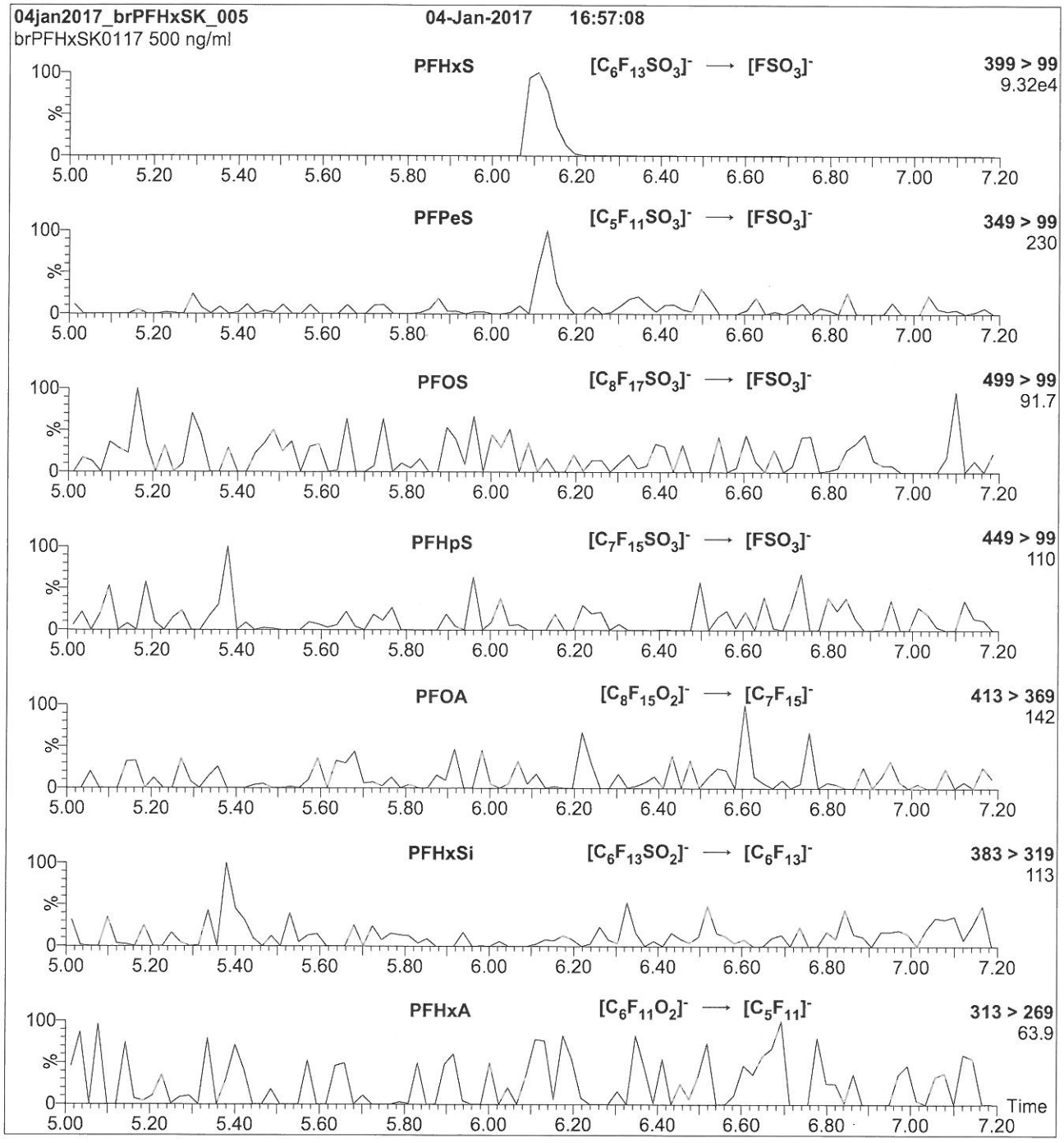
Flow: 300 µl/min

MS Parameters

Experiment: SIR (6 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = variable (15-62)
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 3: **br-PFHxSK; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: Direct loop injection
10 µl (500 ng/ml br-PFHxSK)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 30

Analytical Standard Record

Vista Analytical Laboratory

17D2813

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17D2619	L-PFHpS	26-Apr-17	** Vendor **	18-Oct-21	12-Jun-17 09:07 by AEW	0.5

Description:	L-PFHpS anion DIL	Expires:	28-Apr-18
Standard Type:	Other	Prepared:	28-Apr-17
Solvent:	Methanol/	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.952	Department:	LCMS
Vials:	1	Last Edit:	12-Jun-17 09:07 by AEW

Analyte	CAS Number	Concentration	Units
Total PFHpS		25	ug/mL
PFHpS	375-92-8	25	ug/mL
L-PFHpS		25	ug/mL

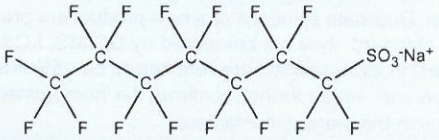
1702619

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFHpS
LOT NUMBER: LPFHpS1016
COMPOUND: Sodium perfluoro-1-heptanesulfonate

STRUCTURE:



CAS #: Not available

MOLECULAR FORMULA:	$C_7F_{15}SO_3Na$	**MOLECULAR WEIGHT:**	472.10
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.6 ± 2.4 µg/ml (PFHpS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	10/18/2016		
EXPIRY DATE: (mm/dd/yyyy)	10/18/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.2% of L-PFHxS ($C_6F_{13}SO_3Na$) and ~ 0.1% of L-PFOS ($C_8F_{17}SO_3Na$).

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Certified By: B.G. Chittim **Date:** 10/20/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Analytical Standard Record

Vista Analytical Laboratory

17F3038

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17D0605	13C6-PFDA	06-Apr-17	Jamie C. Stockman	06-May-21	06-Apr-17 09:43 by JCS	0.375
17E1717	13C2-FOUEA	17-May-17	** Vendor **	02-Aug-18	17-May-17 12:46 by INJ	0.375
17E2411	13C5-PFHxA	24-May-17	** Vendor **	27-Aug-19	24-May-17 11:19 by INJ	0.375
17F3031	13C4-PFOS dil.	30-Jun-17	Isaac N. Johnson	30-Jun-18	30-Jun-17 13:31 by INJ	0.468
17F3032	13C3-PFHxS DIL.	30-Jun-17	Isaac N. Johnson	30-Jun-18	30-Jun-17 13:35 by INJ	0.416
17F3034	13C8-PFOA dil.	30-Jun-17	Isaac N. Johnson	30-Jun-18	30-Jun-17 13:40 by INJ	0.468
17F3035	13C9-PFNA	30-Jun-17	** Vendor **	27-Aug-19	03-Jul-17 13:07 by INJ	0.375
17F3036	13C4-PFBA	30-Jun-17	** Vendor **	12-Apr-22	03-Jul-17 13:08 by INJ	0.375
17F3037	13C7-PFUdA	30-Jun-17	** Vendor **	22-Jan-21	03-Jul-17 13:09 by INJ	0.375

Description:	PFC-RS	Expires:	19-May-18
Standard Type:	Reagent	Prepared:	30-Jun-17
Solvent:	MEOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	15	Department:	LCMS
Vials:	1	Last Edit:	03-Jul-17 13:09 by INJ

Analyte	CAS Number	Concentration	Units
13C9-PFNA		1.25	ug/mL
13C8-PFOA		1.25	ug/mL
13C7-PFUnA		1.25	ug/mL
13C6-PFDA		1.25	ug/mL
13C5-PFHxA		1.25	ug/mL
13C4-PFOS		1.25	ug/mL
13C4-PFBA		1.25	ug/mL
13C3-PFHxS		1.25	ug/mL
13C2-FOUEA		1.25	ug/mL

~~1700606~~

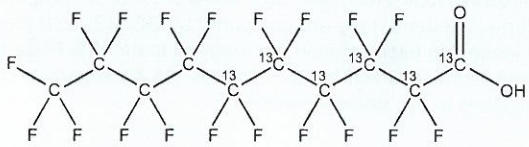
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

1700606 1700605

PRODUCT CODE: M6PFDA
LOT NUMBER: M6PFDA0516
COMPOUND: Perfluoro-n-[1,2,3,4,5,6-$^{13}C_6$]decanoic acid

STRUCTURE:
CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_6{}^{12}C_4HF_{19}O_2$	**MOLECULAR WEIGHT:**	520.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,5,6-$^{13}C_6$)
LAST TESTED: (mm/dd/yyyy)	05/31/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/31/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 06/13/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

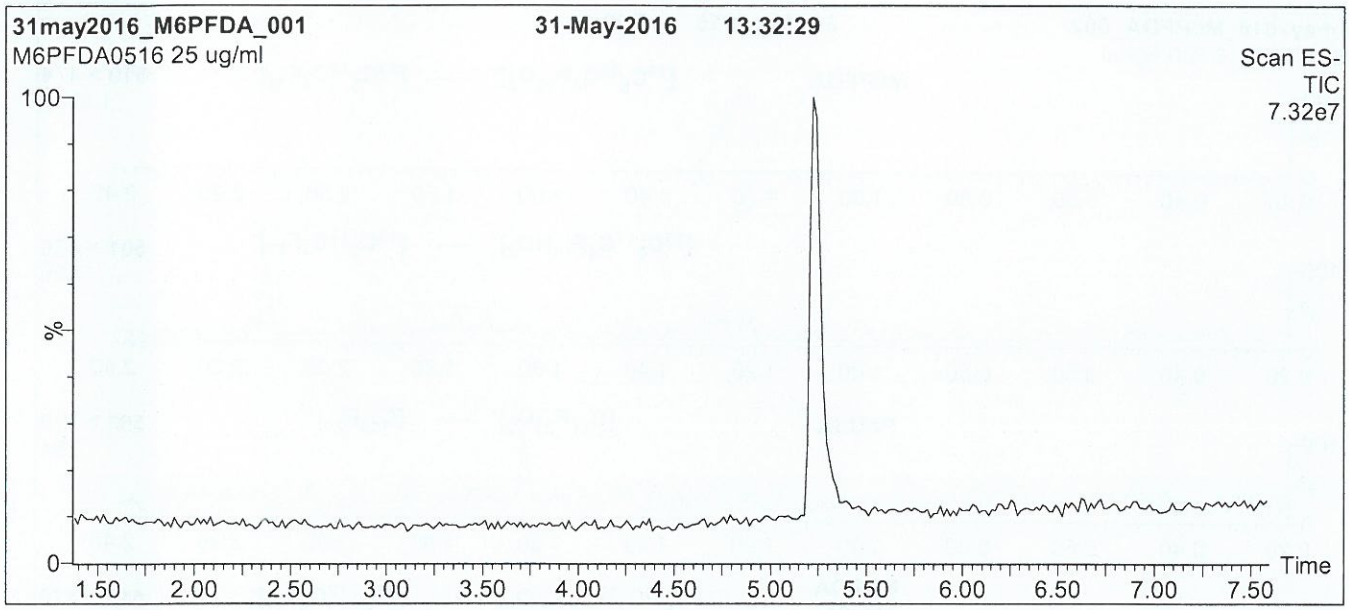
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

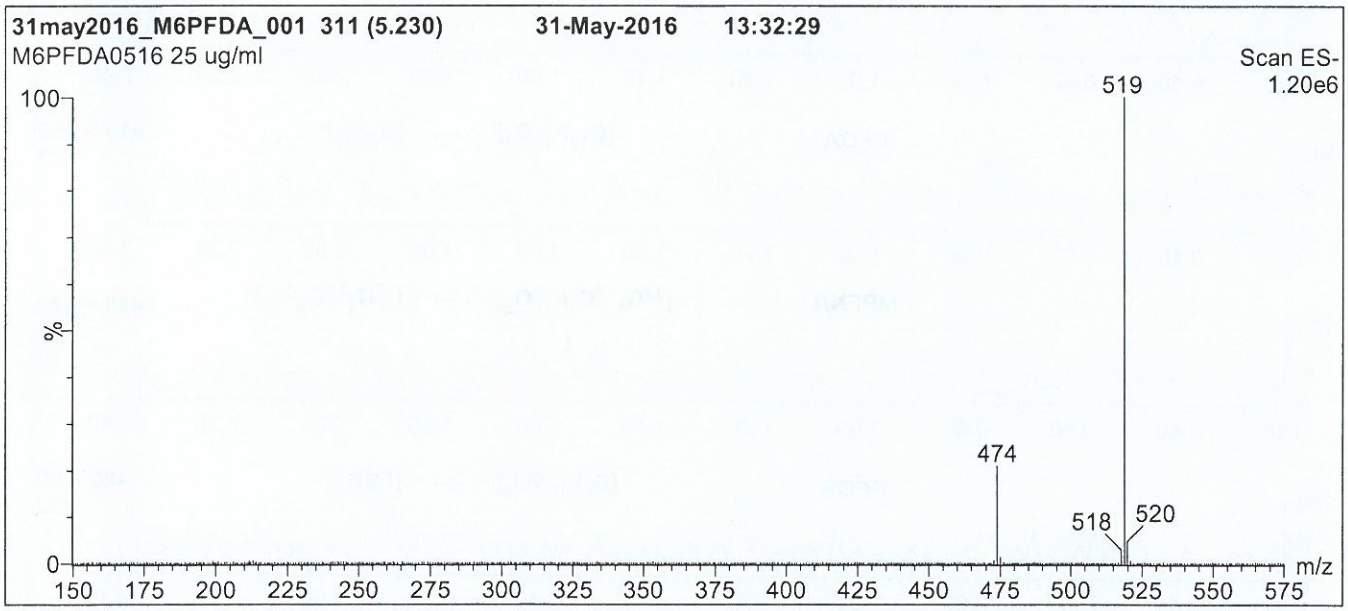
CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **M6PFDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7.5 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

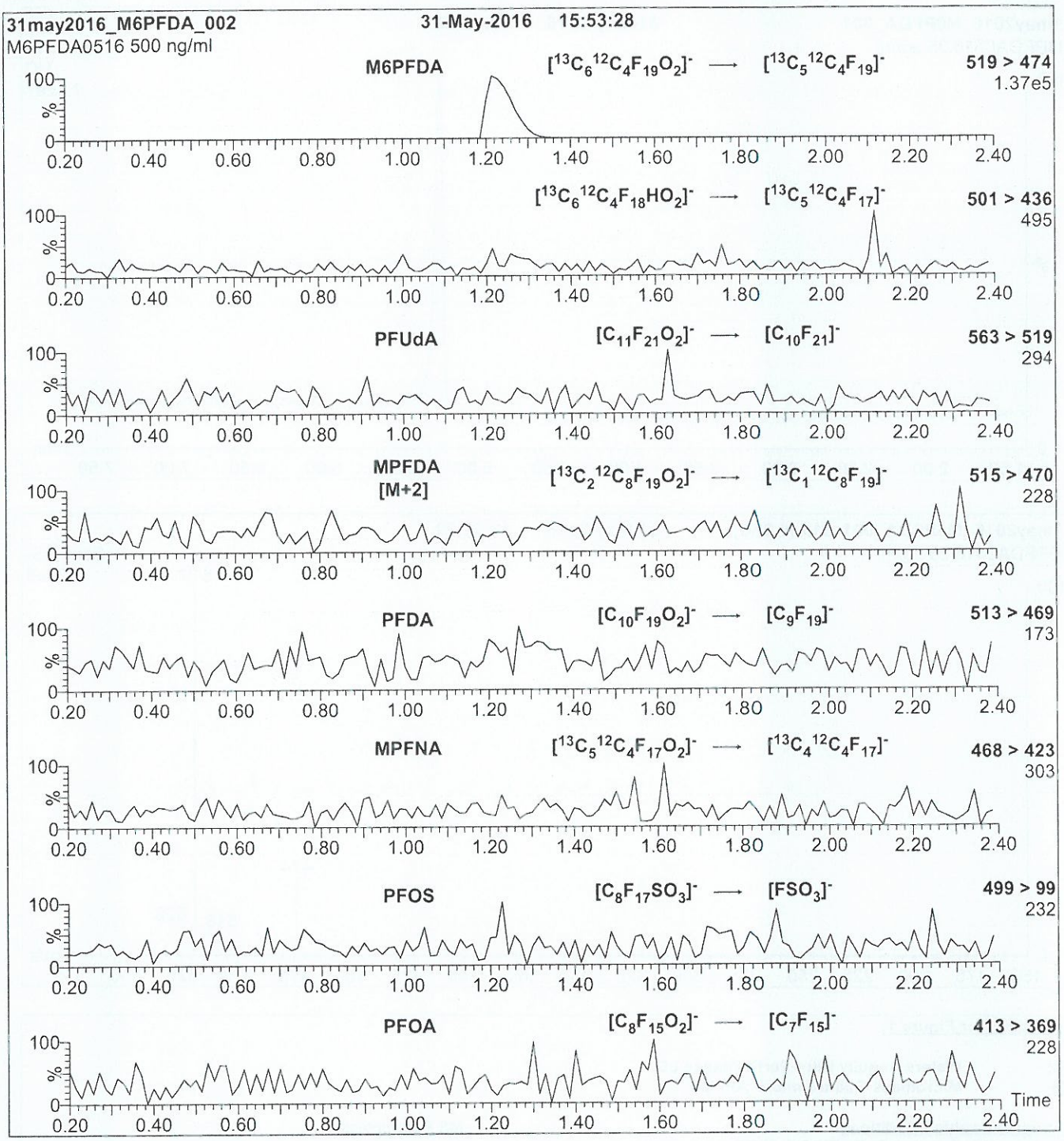
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **M6PFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M6PFDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

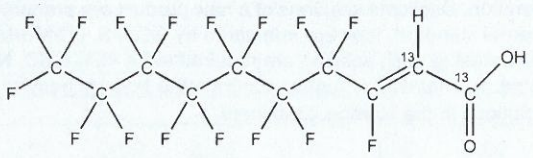
Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 13

17E1717

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MFOUEA
LOT NUMBER: MFOUEA0716
COMPOUND: 2H-Perfluoro-[1,2-$^{13}C_2$]-2-decenoic acid
STRUCTURE:
CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8H_2F_{16}O_2$	**MOLECULAR WEIGHT:**	460.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Anhydrous Isopropanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	08/02/2016		
EXPIRY DATE: (mm/dd/yyyy)	08/02/2018		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Dilution of this standard in methanol may lead to the formation of 2H-3-methoxy-perfluoro-[1,2-$^{13}C_2$]-2-decenoic acid. This reaction can be catalyzed by the presence of acid or base. All dilutions should be routinely checked for degradation.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 08/19/2016 (mm/dd/yyyy)

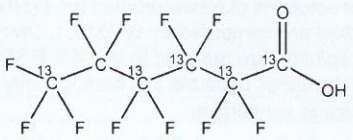
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17E2411

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M5PFHxA	**LOT NUMBER:**	M5PFHxA0814
COMPOUND:	Perfluoro-n-[1,2,3,4,6-$^{13}C_5$]hexanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_5{}^{12}C_1HF_{11}O_2$	**MOLECULAR WEIGHT:**	319.02
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,6-$^{13}C_5$)
LAST TESTED: (mm/dd/yyyy)	08/27/2014		
EXPIRY DATE: (mm/dd/yyyy)	08/27/2019		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 03/31/2015 (mm/dd/yyyy)

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Analytical Standard Record

Vista Analytical Laboratory

17F3031

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E1719	13C4-PFOS	17-May-17	** Vendor **	12-Dec-21	17-May-17 12:47 by INJ	0.6

Description:	13C4-PFOS dil.	Expires:	30-Jun-18
Standard Type:	Other	Prepared:	30-Jun-17
Solvent:	Methanol	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.717	Department:	LCMS
Vials:	1	Last Edit:	30-Jun-17 13:31 by INJ

Analyte	CAS Number	Concentration	Units
13C4-PFOS		40	ug/mL

17E1719

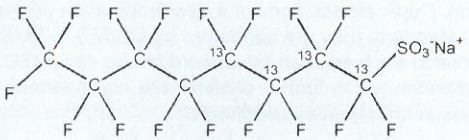
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFOS **LOT NUMBER:** MPFOS1216

COMPOUND: Sodium perfluoro-1-[1,2,3,4-$^{13}C_4$]octanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	526.08
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.8 ± 2.4 µg/ml (MPFOS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4$-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	12/12/2016		
EXPIRY DATE: (mm/dd/yyyy)	12/12/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.8% Sodium perfluoro-1-[1,2,3-$^{13}C_3$]heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/14/2016 (mm/dd/yyyy)

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Analytical Standard Record

Vista Analytical Laboratory

17F3032

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E2410	13C3-PFHxS	24-May-17	** Vendor **	31-May-21	24-May-17 11:18 by INJ	0.45

Description:	13C3-PFHxS DIL.	Expires:	30-Jun-18
Standard Type:	Reagent	Prepared:	30-Jun-17
Solvent:	MeOH	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.473	Department:	LCMS
Vials:	1	Last Edit:	30-Jun-17 13:35 by INJ

Analyte	CAS Number	Concentration	Units
13C3-PFHxS		45	ug/mL

17E2410

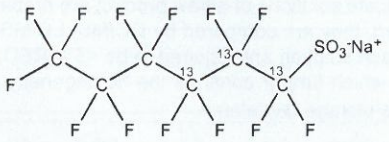
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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M3PFHxS **LOT NUMBER:** M3PFHxS0516

COMPOUND: Sodium perfluoro-1-[1,2,3-$^{13}C_3$]hexanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}C_3F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	425.07
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.3 ± 2.4 µg/ml (M3PFHxS anion)		
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3\text{-}^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	05/31/2016		
EXPIRY DATE: (mm/dd/yyyy)	05/31/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 07/05/2016 (mm/dd/yyyy)

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Analytical Standard Record

Vista Analytical Laboratory

17F3034

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
17E2406	13C8-PFOA	24-May-17	** Vendor **	12-Feb-21	24-May-17 11:16 by INJ	0.5

Description:	13C8-PFOA dil.	Expires:	30-Jun-18
Standard Type:	Other	Prepared:	30-Jun-17
Solvent:	Methanol	Prepared By:	Isaac N. Johnson
Final Volume (mls):	0.612	Department:	LCMS
Vials:	1	Last Edit:	30-Jun-17 13:40 by INJ

Analyte	CAS Number	Concentration	Units
13C8-PFOA		40	ug/mL

17E2406

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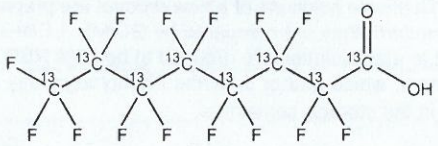
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M8PFOA
COMPOUND: Perfluoro-n-[$^{13}C_8$]octanoic acid

LOT NUMBER: M8PFOA0216

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_8HF_{15}O_2$	**MOLECULAR WEIGHT:**	422.01
CONCENTRATION:	49 ± 2.45 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	97.9% (M8PFOA) 2.1% (MPFOA [M+4])	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_8$)
LAST TESTED: (mm/dd/yyyy)	02/12/2016		
EXPIRY DATE: (mm/dd/yyyy)	02/12/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of native perfluoro-n-octanoic acid (PFOA) and ~ 2.1% of [M+4] perfluoro-n-octanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 02/24/2016 (mm/dd/yyyy)

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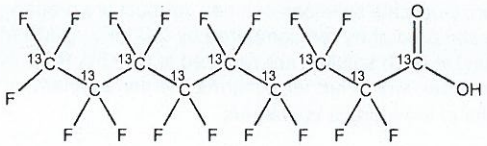
17F3035

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: M9PFNA
COMPOUND: Perfluoro-n-[$^{13}C_9$]nonanoic acid
LOT NUMBER: M9PFNA0814

STRUCTURE:
CAS #: Not available



MOLECULAR FORMULA: $^{13}C_9HF_{17}O_2$
MOLECULAR WEIGHT: 473.01
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)
CHEMICAL PURITY: >98%
ISOTOPIC PURITY: ≥99% ^{13}C ($^{13}C_9$)
LAST TESTED: (mm/dd/yyyy) 08/27/2014
EXPIRY DATE: (mm/dd/yyyy) 08/27/2019
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.9% of $^{13}C_5{}^{12}C_4HF_{17}O_2$ (MPFNA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 04/01/2015 (mm/dd/yyyy)

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17F3035

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

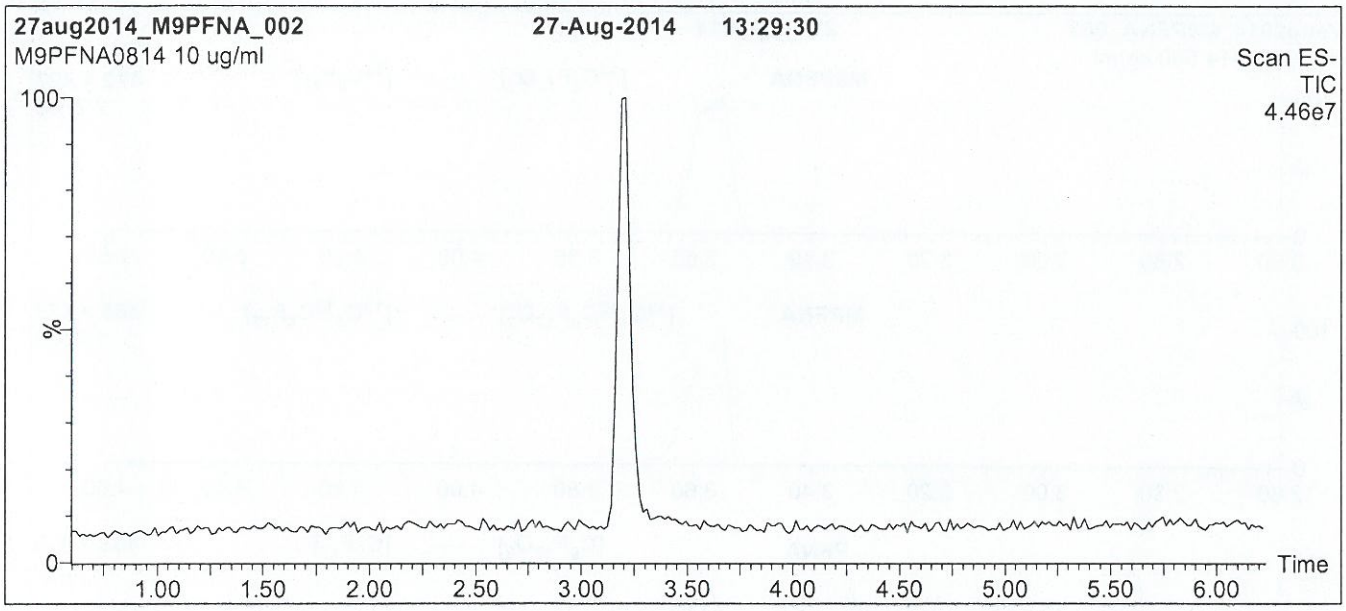
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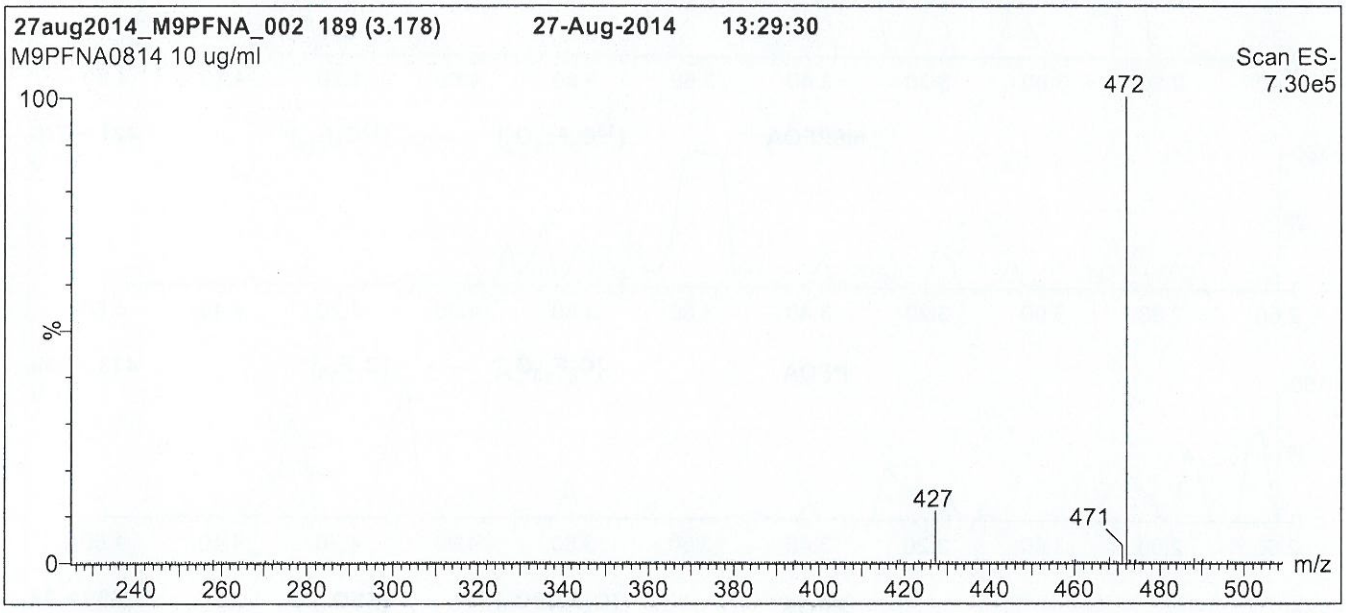
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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17F3035

Figure 1: **M9PFNA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

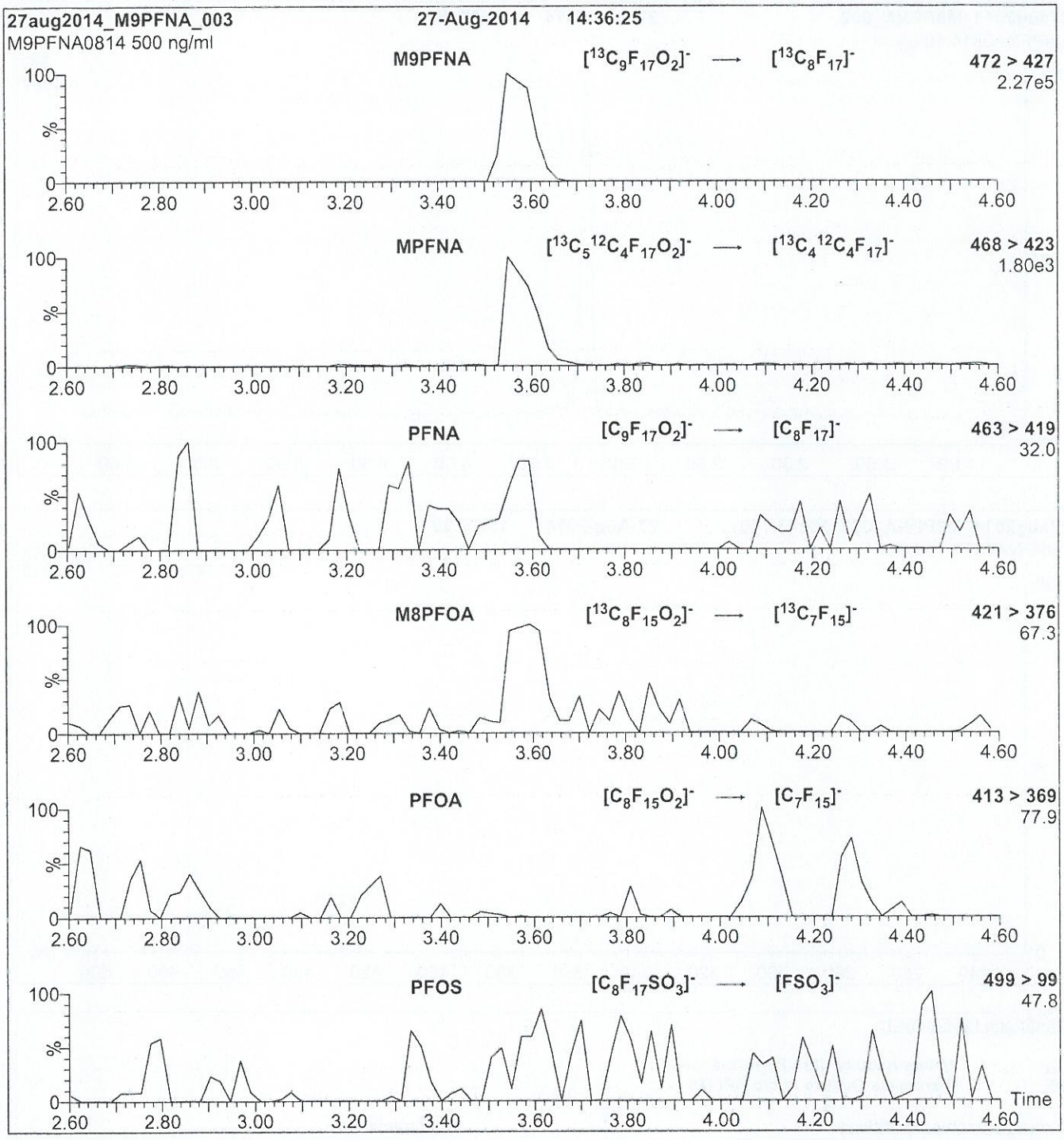
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

17F3035

Figure 2: **M9PFNA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M9PFNA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

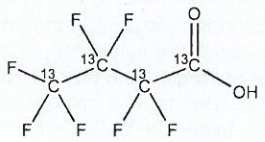
Collision Gas (mbar) = 3.74e-3
Collision Energy (eV) = 11

17F3036

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	MPFBA	**LOT NUMBER:**	MPFBA0417
COMPOUND:	Perfluoro-n-[1,2,3,4-$^{13}C_4$]butanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_4HF_7O_2$	**MOLECULAR WEIGHT:**	218.01
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	04/12/2017		
EXPIRY DATE: (mm/dd/yyyy)	04/12/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/20/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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~~17F3037~~ SNJ 7/3/17
17F3036

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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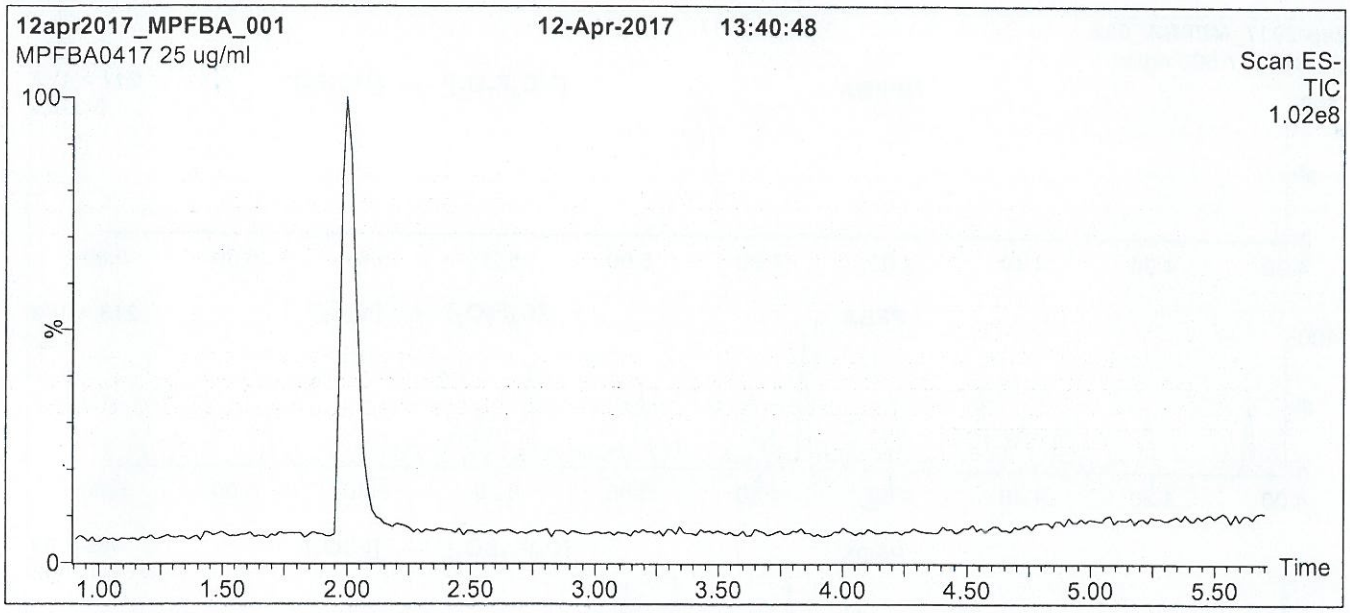
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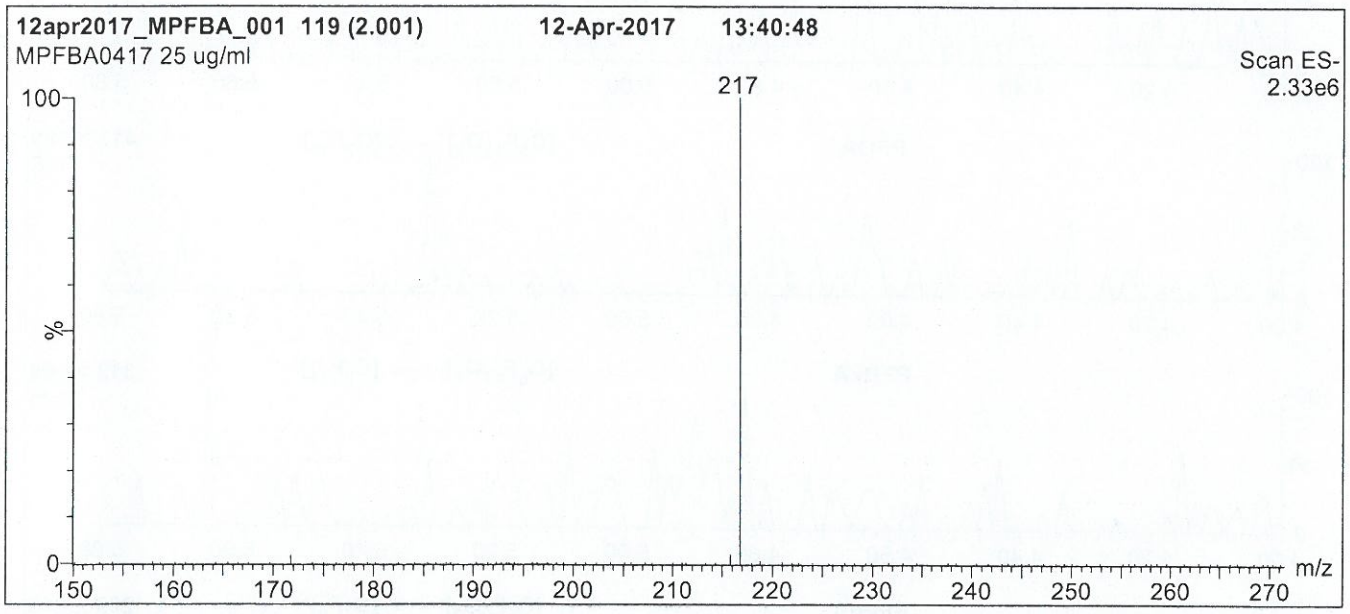
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17F3036

Figure 1: **MPFBA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

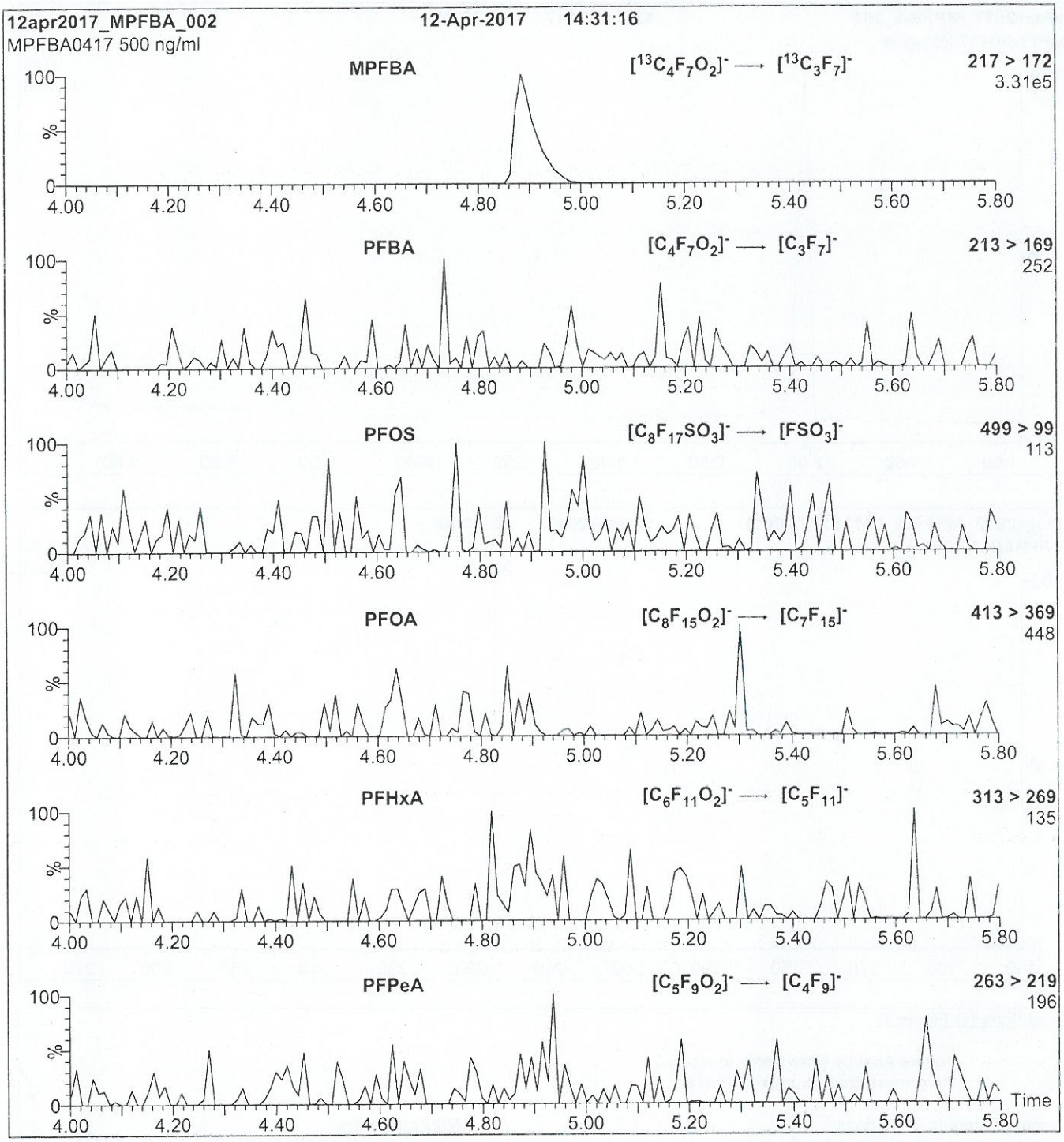
MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 10.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

17F3036

Figure 2: **MPFBA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFBA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

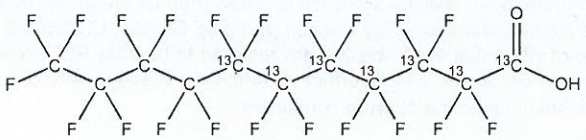
Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 10

17F3037

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M7PFUdA	**LOT NUMBER:**	M7PFUdA0116
COMPOUND:	Perfluoro-n-[1,2,3,4,5,6,7-$^{13}C_7$]undecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_7{}^{12}C_4HF_{21}O_2$	**MOLECULAR WEIGHT:**	571.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C
LAST TESTED: (mm/dd/yyyy)	01/22/2016		(1,2,3,4,5,6,7-$^{13}C_7$)
EXPIRY DATE: (mm/dd/yyyy)	01/22/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 01/26/2016 (mm/dd/yyyy)
B.G. Chittim

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At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

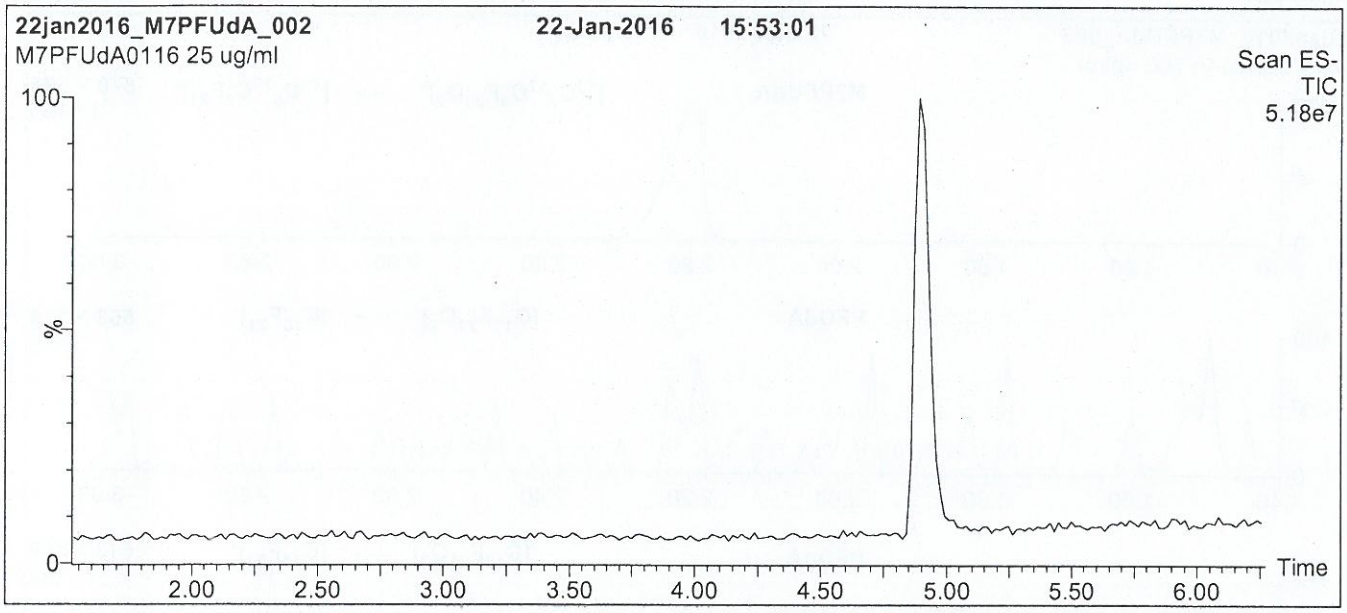
CALA Testing Accreditation No. A 1226

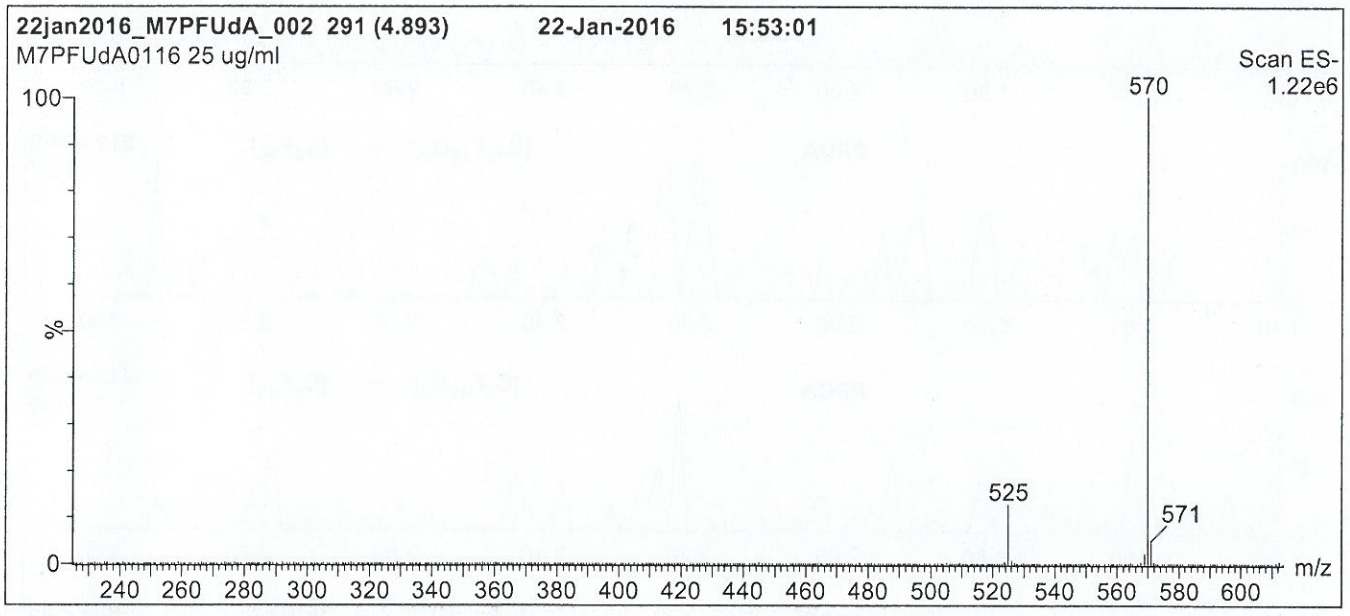
ANAB ACCREDITED AR-1523 REFERENCE MATERIAL PRODUCER

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17F3037

Figure 1: **M7PFUdA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

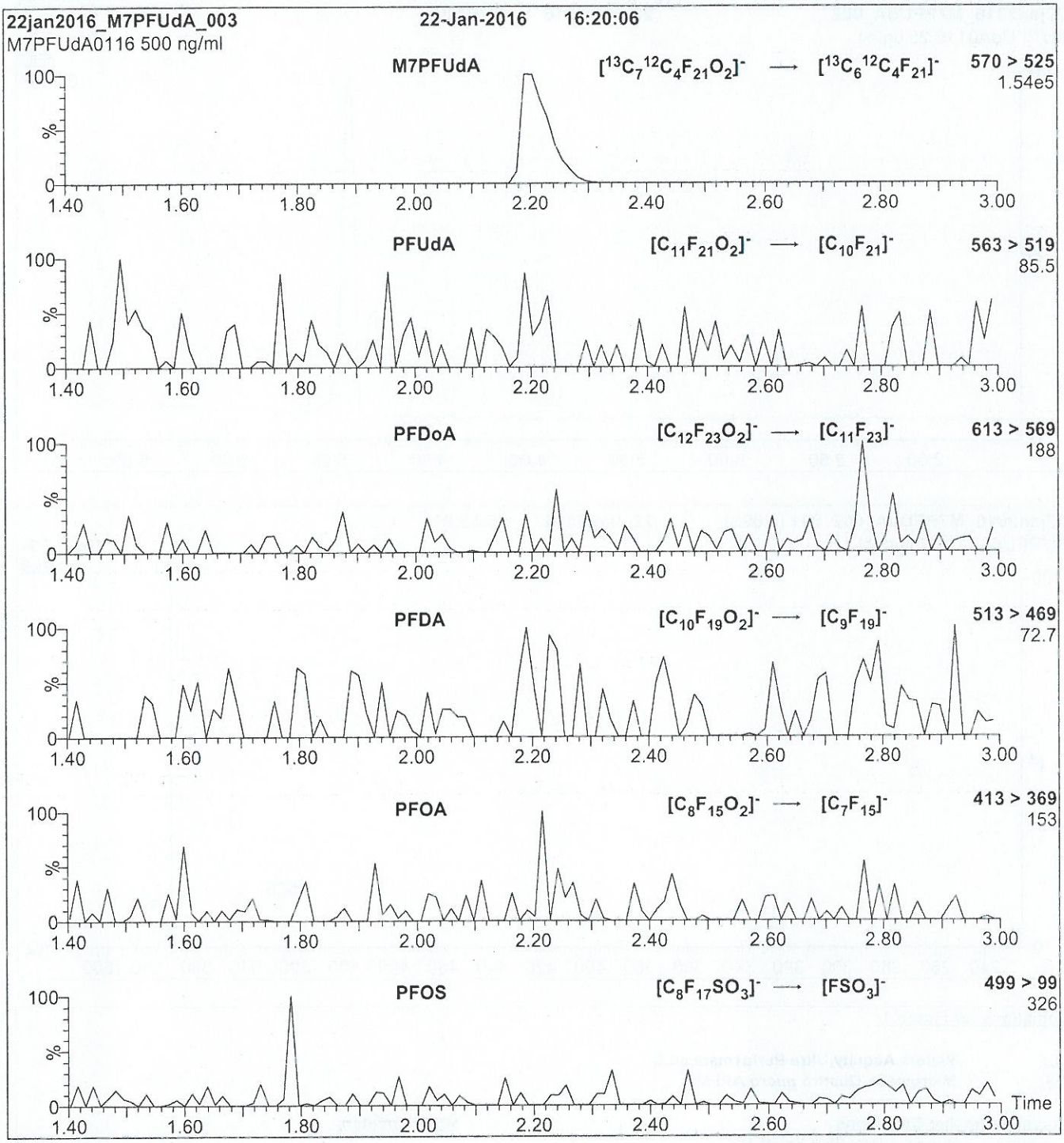
MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 65
Desolvation Gas Flow (l/hr) = 750

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Figure 2: **M7PFUdA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M7PFUdA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.50e-3
Collision Energy (eV) = 11

"MW-50BR-20170717","Modified EPA Method 537","Initial","1700906-01","Vista","375-73-5","PFBS","42.9","ng/L","","1.85","LOD","","TRG","","","8.26","LOQ","YES","-99","","0.121","0.001","5.17",""
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"MW-06BR-20170717","Modified EPA Method 537","Initial","1700906-02","Vista","13C2-PFDoA","13C2-
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"MW-06BR-20170717","Modified EPA Method 537","Initial","1700906-02","Vista","13C2-PFTeDA","13C2-
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"RB-04-20170717","Modified EPA Method 537","Initial","1700906-03","Vista","375-73-
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4","PFHxA","5.21","ng/L","U","2.27","LOD","","TRG","","","8.32","LOQ","YES","-99","","0.120","0.001","5.21",""
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9","PFHpA","5.21","ng/L","U","0.615","LOD","","TRG","","","8.32","LOQ","YES","-99","","0.120","0.001","5.21",""
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4","PFHxS","5.21","ng/L","U","0.985","LOD","","TRG","","","8.32","LOQ","YES","-99","","0.120","0.001","5.21",""
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2","PFDA","5.21","ng/L","U","1.55","LOD","","TRG","","","8.32","LOQ","YES","-99","","0.120","0.001","5.21",""
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"RB-04-20170717","Modified EPA Method 537","Initial","1700906-03","Vista","2991-50-
6","EtFOSAA","5.21","ng/L","U","1.42","LOD","","TRG","","","8.32","LOQ","YES","-99","","0.120","0.001","5.21",
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8","PFTrDA","5.21","ng/L","U","0.514","LOD","","TRG","","","8.32","LOQ","YES","-99","","0.120","0.001","5.21","
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7","PFTeDA","5.21","ng/L","U","0.785","LOD","","TRG","","","8.32","LOQ","YES","-99","","0.120","0.001","5.21",
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5","PFBS","45.6","ng/L","","1.85","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","307-24-
4","PFHxA","136","ng/L","","2.25","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","375-85-
9","PFHpA","31.3","ng/L","","0.609","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","355-46-
4","PFHxS","285","ng/L","","0.976","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","335-67-
1","PFOA","26.8","ng/L","","0.671","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","1763-23-
1","PFOS","812","ng/L","","0.832","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","375-95-
1","PFNA","1.59","ng/L","J","0.835","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","335-76-
2","PFDA","5.17","ng/L","U","1.54","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","2355-31-
9","MeFOSAA","5.17","ng/L","U","1.70","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17"
,""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","2058-94-
8","PFUnA","5.17","ng/L","U","1.08","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","2991-50-
6","EtFOSAA","5.17","ng/L","U","1.41","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17",
""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","307-55-
1","PFDoA","5.17","ng/L","U","0.816","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","72629-94-
8","PFTrDA","5.17","ng/L","U","0.509","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17","
"
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","376-06-
7","PFTeDA","5.17","ng/L","U","0.778","LOD","","TRG","","","8.25","LOQ","YES","-99","","0.121","0.001","5.17",
""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","13C3-PFBS","13C3-
PFBS","161","%R","H","-99","NA","","IS","161","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","13C2-PFHxA","13C2-
PFHxA","118","%R","","-99","NA","","IS","118","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","13C4-PFHpA","13C4-
PFHpA","97.3","%R","","-99","NA","","IS","97.3","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","18O2-PFHxS","18O2-
PFHxS","111","%R","","-99","NA","","IS","111","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","13C2-PFOA","13C2-

PFOA","107","%R","","-99","NA","","IS","107","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","13C8-PFOS","13C8-PFOS","112","%R","","-99","NA","","IS","112","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","13C5-PFNA","13C5-PFNA","92.0","%R","","-99","NA","","IS","92.0","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","13C2-PFDA","13C2-PFDA","99.2","%R","","-99","NA","","IS","99.2","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","d3-MeFOSAA","d3-MeFOSAA","97.6","%R","","-99","NA","","IS","97.6","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","13C2-PFUnA","13C2-PFUnA","96.6","%R","","-99","NA","","IS","96.6","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","d5-EtFOSAA","d5-EtFOSAA","99.4","%R","","-99","NA","","IS","99.4","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","13C2-PFDoA","13C2-PFDoA","90.5","%R","","-99","NA","","IS","90.5","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-12BR-20170718","Modified EPA Method 537","Initial","1700906-04","Vista","13C2-PFTeDA","13C2-PFTeDA","94.2","%R","","-99","NA","","IS","94.2","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","375-73-5","PFBS","298","ng/L","","1.85","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-02BR-20170718","Modified EPA Method 537","Dilution","1700906-05","Vista","307-24-4","PFHxA","852","ng/L","D","11.3","LOD","","TRG","","","41.4","LOQ","YES","-99","","0.121","0.001","25.8",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","375-85-9","PFHpA","446","ng/L","","0.611","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-02BR-20170718","Modified EPA Method 537","Dilution","1700906-05","Vista","355-46-4","PFHxS","1500","ng/L","D","4.90","LOD","","TRG","","","41.4","LOQ","YES","-99","","0.121","0.001","25.8",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","335-67-1","PFOA","341","ng/L","","0.674","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-02BR-20170718","Modified EPA Method 537","Dilution","1700906-05","Vista","1763-23-1","PFOS","1160","ng/L","D","4.17","LOD","","TRG","","","41.4","LOQ","YES","-99","","0.121","0.001","25.8",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","375-95-1","PFNA","114","ng/L","","0.838","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","335-76-2","PFDA","3.29","ng/L","J","1.54","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","2355-31-9","MeFOSAA","5.17","ng/L","U","1.71","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17","",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","2058-94-8","PFUnA","5.17","ng/L","U","1.09","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","2991-50-6","EtFOSAA","5.17","ng/L","U","1.42","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","307-55-1","PFDoA","5.17","ng/L","U","0.819","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","72629-94-8","PFTrDA","5.17","ng/L","U","0.511","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","376-06-7","PFTeDA","5.17","ng/L","U","0.781","LOD","","TRG","","","8.28","LOQ","YES","-99","","0.121","0.001","5.17",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","13C3-PFBS","13C3-PFBS","142","%R","","-99","NA","","IS","142","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Dilution","1700906-05","Vista","13C2-PFHxA","13C2-PFHxA","109","%R","D","-99","NA","","IS","109","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","13C4-PFHpA","13C4-

PFHpA","99.6","%R","","-99","NA","","IS","99.6","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Dilution","1700906-05","Vista","18O2-PFHxS","18O2-PFHxS","113","%R","D","-99","NA","","IS","113","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","13C2-PFOA","13C2-PFOA","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Dilution","1700906-05","Vista","13C8-PFOS","13C8-PFOS","105","%R","D","-99","NA","","IS","105","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","13C5-PFNA","13C5-PFNA","100","%R","","-99","NA","","IS","100","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","13C2-PFDA","13C2-PFDA","94.5","%R","","-99","NA","","IS","94.5","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","d3-MeFOSAA","d3-MeFOSAA","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","13C2-PFUnA","13C2-PFUnA","89.5","%R","","-99","NA","","IS","89.5","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","d5-EtFOSAA","d5-EtFOSAA","97.7","%R","","-99","NA","","IS","97.7","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","13C2-PFDoA","13C2-PFDoA","97.6","%R","","-99","NA","","IS","97.6","","-99","NA","YES","100","","0.121","0.001","-99",""
"MW-02BR-20170718","Modified EPA Method 537","Initial","1700906-05","Vista","13C2-PFTeDA","13C2-PFTeDA","92.6","%R","","-99","NA","","IS","92.6","","-99","NA","YES","100","","0.121","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","375-73-5","PFBS","5.12","ng/L","U","1.84","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","307-24-4","PFHxA","5.12","ng/L","U","2.24","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","375-85-9","PFHpA","5.12","ng/L","U","0.608","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","355-46-4","PFHxS","5.12","ng/L","U","0.974","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","335-67-1","PFOA","5.12","ng/L","U","0.670","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","1763-23-1","PFOS","5.12","ng/L","U","0.830","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","375-95-1","PFNA","5.12","ng/L","U","0.833","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","335-76-2","PFDA","5.12","ng/L","U","1.53","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","2355-31-9","MeFOSAA","5.12","ng/L","U","1.70","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","2058-94-8","PFUnA","5.12","ng/L","U","1.08","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","2991-50-6","EtFOSAA","5.12","ng/L","U","1.41","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","307-55-1","PFDoA","5.12","ng/L","U","0.815","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","72629-94-8","PFTrDA","5.12","ng/L","U","0.508","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","376-06-7","PFTeDA","5.12","ng/L","U","0.777","LOD","","TRG","","","8.23","LOQ","YES","-99","","0.122","0.001","5.12",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","13C3-PFBS","13C3-

PFBS","150","%R","","-99","NA","","IS","150","","-99","NA","YES","100","","0.122","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","13C2-PFHxA","13C2-
PFHxA","106","%R","","-99","NA","","IS","106","","-99","NA","YES","100","","0.122","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","13C4-PFHpA","13C4-
PFHpA","96.7","%R","","-99","NA","","IS","96.7","","-99","NA","YES","100","","0.122","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","18O2-PFHxS","18O2-
PFHxS","122","%R","","-99","NA","","IS","122","","-99","NA","YES","100","","0.122","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","13C2-PFOA","13C2-
PFOA","93.7","%R","","-99","NA","","IS","93.7","","-99","NA","YES","100","","0.122","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","13C8-PFOS","13C8-
PFOS","120","%R","","-99","NA","","IS","120","","-99","NA","YES","100","","0.122","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","13C5-PFNA","13C5-
PFNA","98.4","%R","","-99","NA","","IS","98.4","","-99","NA","YES","100","","0.122","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","13C2-PFDA","13C2-
PFDA","103","%R","","-99","NA","","IS","103","","-99","NA","YES","100","","0.122","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","d3-MeFOSAA","d3-
MeFOSAA","82.3","%R","","-99","NA","","IS","82.3","","-99","NA","YES","100","","0.122","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","13C2-PFUnA","13C2-
PFUnA","79.3","%R","","-99","NA","","IS","79.3","","-99","NA","YES","100","","0.122","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","d5-EtFOSAA","d5-
EtFOSAA","80.7","%R","","-99","NA","","IS","80.7","","-99","NA","YES","100","","0.122","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","13C2-PFDoA","13C2-
PFDoA","76.2","%R","","-99","NA","","IS","76.2","","-99","NA","YES","100","","0.122","0.001","-99",""
"RB-05-20170718","Modified EPA Method 537","Initial","1700906-06","Vista","13C2-PFTeDA","13C2-
PFTeDA","71.0","%R","","-99","NA","","IS","71.0","","-99","NA","YES","100","","0.122","0.001","-99",""
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","375-73-
5","PFBS","2.50","ng/L","U","0.895","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50",""
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","307-24-
4","PFHxA","2.50","ng/L","U","1.09","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50",""
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","375-85-
9","PFHpA","2.50","ng/L","U","0.296","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50",""
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","355-46-
4","PFHxS","2.50","ng/L","U","0.474","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50",""
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","335-67-
1","PFOA","2.50","ng/L","U","0.326","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50",""
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","1763-23-
1","PFOS","2.50","ng/L","U","0.404","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50",""
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","375-95-
1","PFNA","2.50","ng/L","U","0.405","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50",""
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","335-76-
2","PFDA","2.50","ng/L","U","0.745","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50",""
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","2355-31-
9","MeFOSAA","2.50","ng/L","U","0.825","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50
",""
,
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","2058-94-
8","PFUnA","2.50","ng/L","U","0.525","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50",""
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","2991-50-
6","EtFOSAA","2.50","ng/L","U","0.685","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50"
,""
,
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","307-55-
1","PFDoA","2.50","ng/L","U","0.396","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50",""
"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","72629-94-
8","PFTrDA","2.50","ng/L","U","0.247","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50","
"

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","376-06-7","PFTeDA","2.50","ng/L","U","0.378","LOD","","TRG","","","4.00","LOQ","YES","-99","","0.250","0.001","2.50",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","13C3-PFBS","13C3-PFBS","129","%R","","-99","NA","","IS","129","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","13C2-PFHxA","13C2-PFHxA","109","%R","","-99","NA","","IS","109","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","13C4-PFHpA","13C4-PFHpA","82.6","%R","","-99","NA","","IS","82.6","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","18O2-PFHxS","18O2-PFHxS","120","%R","","-99","NA","","IS","120","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","13C2-PFOA","13C2-PFOA","104","%R","","-99","NA","","IS","104","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","13C8-PFOS","13C8-PFOS","108","%R","","-99","NA","","IS","108","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","13C5-PFNA","13C5-PFNA","95.7","%R","","-99","NA","","IS","95.7","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","13C2-PFDA","13C2-PFDA","95.3","%R","","-99","NA","","IS","95.3","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","d3-MeFOSAA","d3-MeFOSAA","92.7","%R","","-99","NA","","IS","92.7","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","13C2-PFUnA","13C2-PFUnA","91.0","%R","","-99","NA","","IS","91.0","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","d5-EtFOSAA","d5-EtFOSAA","92.9","%R","","-99","NA","","IS","92.9","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","13C2-PFDoA","13C2-PFDoA","92.0","%R","","-99","NA","","IS","92.0","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BLK1","Modified EPA Method 537","Initial","B7G0105-BLK1","Vista","13C2-PFTeDA","13C2-PFTeDA","78.6","%R","","-99","NA","","IS","78.6","","-99","NA","YES","100","","0.250","0.001","-99",""

"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","375-73-5","PFBS","37.2","ng/L","","0.895","LOD","","TRG","93.0","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50",""

"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","307-24-4","PFHxA","36.8","ng/L","","1.09","LOD","","TRG","92.1","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50",""

"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","375-85-9","PFHpA","38.6","ng/L","","0.296","LOD","","TRG","96.4","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50","",""

"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","355-46-4","PFHxS","34.7","ng/L","","0.474","LOD","","TRG","86.9","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50","",""

"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","335-67-1","PFOA","38.1","ng/L","","0.326","LOD","","TRG","95.3","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50",""

"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","1763-23-1","PFOS","31.0","ng/L","","0.404","LOD","","TRG","77.5","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50",""

"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","375-95-1","PFNA","39.1","ng/L","","0.405","LOD","","TRG","97.9","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50",""

"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","335-76-2","PFDA","37.3","ng/L","","0.745","LOD","","TRG","93.4","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50",""

"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","2355-31-

9","MeFOSAA","39.8","ng/L","","0.825","LOD","","TRG","99.5","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","2058-94-8","PFUnA","36.9","ng/L","","0.525","LOD","","TRG","92.2","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50","",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","2991-50-6","EtFOSAA","36.9","ng/L","","0.685","LOD","","TRG","92.2","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","307-55-1","PFDoA","37.2","ng/L","","0.396","LOD","","TRG","93.0","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50","",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","72629-94-8","PFTrDA","39.1","ng/L","","0.247","LOD","","TRG","97.8","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","376-06-7","PFTeDA","38.9","ng/L","","0.378","LOD","","TRG","97.1","","4.00","LOQ","YES","40.0","","0.250","0.001","2.50",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","13C3-PFBS","13C3-PFBS","165","%R","H","-99","NA","","IS","165","","-99","NA","YES","100","","0.250","0.001","-99",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","13C2-PFHxA","13C2-PFHxA","114","%R","","-99","NA","","IS","114","","-99","NA","YES","100","","0.250","0.001","-99",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","13C4-PFHpA","13C4-PFHpA","95.2","%R","","-99","NA","","IS","95.2","","-99","NA","YES","100","","0.250","0.001","-99",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","18O2-PFHxS","18O2-PFHxS","121","%R","","-99","NA","","IS","121","","-99","NA","YES","100","","0.250","0.001","-99",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","13C2-PFOA","13C2-PFOA","113","%R","","-99","NA","","IS","113","","-99","NA","YES","100","","0.250","0.001","-99",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","13C8-PFOS","13C8-PFOS","128","%R","","-99","NA","","IS","128","","-99","NA","YES","100","","0.250","0.001","-99",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","13C5-PFNA","13C5-PFNA","116","%R","","-99","NA","","IS","116","","-99","NA","YES","100","","0.250","0.001","-99",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","13C2-PFDA","13C2-PFDA","95.9","%R","","-99","NA","","IS","95.9","","-99","NA","YES","100","","0.250","0.001","-99",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","d3-MeFOSAA","d3-MeFOSAA","94.4","%R","","-99","NA","","IS","94.4","","-99","NA","YES","100","","0.250","0.001","-99",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","13C2-PFUnA","13C2-PFUnA","87.9","%R","","-99","NA","","IS","87.9","","-99","NA","YES","100","","0.250","0.001","-99",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","d5-EtFOSAA","d5-EtFOSAA","97.5","%R","","-99","NA","","IS","97.5","","-99","NA","YES","100","","0.250","0.001","-99",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","13C2-PFDoA","13C2-PFDoA","92.5","%R","","-99","NA","","IS","92.5","","-99","NA","YES","100","","0.250","0.001","-99",""
"B7G0105-BS1","Modified EPA Method 537","Initial","B7G0105-BS1","Vista","13C2-PFTeDA","13C2-PFTeDA","83.6","%R","","-99","NA","","IS","83.6","","-99","NA","YES","100","","0.250","0.001","-99",""
"NAWC Trenton","NAWC Trenton","MW-50BR-20170717","07/17/2017 13:55","AQ","1700906-01","NM","","4.00","Modified EPA Method 537","METHOD","Initial","07/24/2017 07:38","07/24/2017 23:53","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7G0105","B7G0105","NA","S7G0059","1700906","07/19/2017 09:15","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MW-06BR-20170717","07/17/2017 16:10","AQ","1700906-02","NM","","4.00","Modified EPA Method 537","METHOD","Initial","07/24/2017 07:38","07/25/2017 00:03","Vista","COA","WET","NA","1","NA","NA","01/01/1900 00:00","100","B7G0105","B7G0105","NA","S7G0059","1700906","07/19/2017 09:15","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","RB-04-20170717","07/17/2017 18:00","AQ","1700906-03","NM","","4.00","Modified EPA Method 537","METHOD","Initial","07/24/2017 07:38","07/25/2017 00:14","Vista","COA","WET","NA","1","NA","NA","01/01/1900

00:00","100","B7G0105","B7G0105","NA","S7G0059","1700906","07/19/2017 09:15","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MW-12BR-20170718","07/18/2017 13:00","AQ","1700906-
04","NM","","4.00","Modified EPA Method 537","METHOD","Initial","07/24/2017 07:38","07/25/2017
00:25","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0105","B7G0105","NA","S7G0059","1700906","07/19/2017 09:15","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MW-02BR-20170718","07/18/2017 15:15","AQ","1700906-
05","NM","","4.00","Modified EPA Method 537","METHOD","Initial","07/24/2017 07:38","07/25/2017
00:36","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0105","B7G0105","NA","S7G0059","1700906","07/19/2017 09:15","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","MW-02BR-20170718","07/18/2017 15:15","AQ","1700906-
05","NM","","4.00","Modified EPA Method 537","METHOD","Dilution","07/24/2017 07:38","07/26/2017
00:06","Vista","COA","WET","NA","5","NA","NA","01/01/1900
00:00","100","B7G0105","B7G0105","NA","S7G0059","1700906","07/19/2017 09:15","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","RB-05-20170718","07/18/2017 18:00","AQ","1700906-
06","NM","","4.00","Modified EPA Method 537","METHOD","Initial","07/24/2017 07:38","07/25/2017
00:47","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0105","B7G0105","NA","S7G0059","1700906","07/19/2017 09:15","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","B7G0105-BLK1","01/01/1900 00:00","AQ","B7G0105-
BLK1","MB","","-99","Modified EPA Method 537","METHOD","Initial","07/24/2017 07:38","07/24/2017
23:42","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0105","B7G0105","NA","S7G0059","1700906","01/01/1900 00:00","01/01/1900 00:00",""
"NAWC Trenton","NAWC Trenton","B7G0105-BS1","01/01/1900 00:00","AQ","B7G0105-
BS1","LCS","","-99","Modified EPA Method 537","METHOD","Initial","07/24/2017 07:38","07/24/2017
23:21","Vista","COA","WET","NA","1","NA","NA","01/01/1900
00:00","100","B7G0105","B7G0105","NA","S7G0059","1700906","01/01/1900 00:00","01/01/1900 00:00",""

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **MARY MANG** **DATE:** **SEPTEMBER 15, 2017**

FROM: **MEGAN RITCHIE** **COPIES:** **DV FILE/**

SUBJECT: **ORGANIC DATA VALIDATION – POLYFLUOROAKLYL SUBSTANCES (PFAS)**
CTO WE08 - FORMER NAWC TRENTON
SDG 1700906

SAMPLES: 6 / Groundwater / PFAS

MW-02BR-20170718	MW-12BR-20170718	RB-04-20170717
MW-06BR-20170717	MW-50BR-20170717	RB-05-20170718

Overview

The sample set for NAWC Trenton, SDG 1700906 consists of four (4) groundwater environmental samples and two (2) field quality control rinsate blanks (designated RB-). No field duplicate pairs were included in this SDG. The samples were analyzed for polyfluoroalkyl substances (PFAS).

The samples were collected by Tetra Tech on July 17 and 18, 2017 and analyzed by Vista Analytical. The analysis was conducted in accordance with modified EPA Method 537 Rev. 1.1 analytical and reporting protocols.

The data contained in this SDG were validated with regard to the following parameters:

* Data Completeness
* Holding Times/Sample Preservation
* GC/MS Instrument Tuning and System Performance
* Initial and Continuing Calibration Verification Results
* Laboratory Method/Preparation Blank Analyses
* Surrogate Recoveries
* Ongoing Precision and Recovery (OPR) Results
* Matrix Spike/Matrix Spike Duplicate Results
* Laboratory Duplicate Sample Results
  Internal Standard Results
* Field Duplicate Precision
* Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Issues affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

PFAS

The recovery of internal standard 13C3-PFBS exceeded the QC limit of 150% for sample MW-12BR-20170718. The positive PFBS result for sample MW-12BR-20170718 was qualified as biased high (J+).

Detected results reported below the Limit of Quantitation (LOQ) but above the Detection Limit (DL) were qualified as estimated (J).

Notes

The recovery of internal standard 13C3-PFBS exceeded the QC limit of 150% for the OPR. No action was taken because the OPR recovery of PFBS was within the QC recovery limits.

Sample MW-02BR-20170718 was reanalyzed at a 5X dilution for PFHxA, PFHxS, and PFOS because the concentrations of these analytes exceeded the concentration range of the instrument in the original analysis.

Samples MW-50BR-20170717, MW-06BR-20170717, MW-12BR-20170718, and MW-02BR-20170718 were centrifuged to remove particulates prior to extraction.

All analyses were conducted within the hold times specified by the site specific Sampling and Analysis Plan (SAP) and the analytical method.

Non-detected results were reported to the Limit of Detection (LOD).

Executive Summary

Laboratory Performance: Internal standard recoveries for exceeded QC limits in two samples.

Other Factors Affecting Data Quality: Positive results below the LOQ were qualified as estimated.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Superfund Organic Methods Data Review" (January 2017). The text of this report has been formulated to address only those areas affecting data quality.

Megan Ritchie

Tetra Tech, Inc.
Megan Ritchie
Chemist/Data Validator

Joseph A. Samchuck

Tetra Tech, Inc.
Joseph A. Samchuck
Data Validation Manager

Attachments:
Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Appendix A

Qualified Analytical Results

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted method detection limit for sample and method.
J	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's r < 0.995
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient r < 0.995
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate
Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

PROJ_NO: 08005-WE08	NSAMPLE	MW-02BR-20170718			MW-06BR-20170717			MW-12BR-20170718			MW-50BR-20170717		
SDG: 1700906	LAB_ID	1700906-05			1700906-02			1700906-04			1700906-01		
FRACTION: PFAS	SAMP_DATE	7/18/2017			7/17/2017			7/18/2017			7/17/2017		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.17	U		5.17	U		5.17	U		5.17	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.17	U		5.17	U		5.17	U		5.17	U	
PENTADECAFLUOROOCTANOIC ACID		341			5.17	U		26.8			15.5		
PERFLUOROBUTANESULFONIC ACID		298			5.17	U		45.6	J+	N	42.9		
PERFLUORODECANOIC ACID		3.29	J	P	5.17	U		5.17	U		5.17	U	
PERFLUORODODECANOIC ACID		5.17	U		5.17	U		5.17	U		5.17	U	
PERFLUOROHEPTANOIC ACID		446			5.17	U		31.3			25.6		
PERFLUOROHEXANESULFONIC ACID		1500			5.17	U		285			195		
PERFLUOROHEXANOIC ACID		852			5.17	U		136			78.8		
PERFLUORONONANOIC ACID		114			5.17	U		1.59	J	P	1	J	P
PERFLUOROOCTANE SULFONIC ACID		1160			5.17	U		812			96.6		
PERFLUOROTETRADECANOIC ACID		5.17	U		5.17	U		5.17	U		5.17	U	
PERFLUOROTRIDECANOIC ACID		5.17	U		5.17	U		5.17	U		5.17	U	
PERFLUOROUNDECANOIC ACID		5.17	U		5.17	U		5.17	U		5.17	U	

PROJ_NO: 08005-WE08	NSAMPLE	RB-04-20170717			RB-05-20170718		
SDG: 1700906	LAB_ID	1700906-03			1700906-06		
FRACTION: PFAS	SAMP_DATE	7/17/2017			7/18/2017		
MEDIA: WATER	QC_TYPE	RB			RB		
	UNITS	NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.21	U		5.12	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		5.21	U		5.12	U	
PENTADECAFLUOROOCTANOIC ACID		5.21	U		5.12	U	
PERFLUOROBUTANESULFONIC ACID		5.21	U		5.12	U	
PERFLUORODECANOIC ACID		5.21	U		5.12	U	
PERFLUORODODECANOIC ACID		5.21	U		5.12	U	
PERFLUOROHEPTANOIC ACID		5.21	U		5.12	U	
PERFLUOROHEXANESULFONIC ACID		5.21	U		5.12	U	
PERFLUOROHEXANOIC ACID		5.21	U		5.12	U	
PERFLUORONONANOIC ACID		5.21	U		5.12	U	
PERFLUOROOCTANE SULFONIC ACID		5.21	U		5.12	U	
PERFLUOROTETRADECANOIC ACID		5.21	U		5.12	U	
PERFLUOROTRIDECANOIC ACID		5.21	U		5.12	U	
PERFLUOROUNDECANOIC ACID		5.21	U		5.12	U	

Appendix B

Results as Reported by the Laboratory

Sample ID: MW-50BR-20170717

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 17-Jul-2017 13:55
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700906-01 Date Received: 19-Jul-2017 9:15
QC Batch: B7G0105 Date Extracted: 24-Jul-2017 7:38
Date Analyzed: 24-Jul-17 23:53 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	42.9	1.85	5.17	8.26	
PFHxA	78.8	2.25	5.17	8.26	
PFHpA	25.6	0.610	5.17	8.26	
PFHxS	195	0.978	5.17	8.26	
PFOA	15.5	0.672	5.17	8.26	
PFOS	96.6	0.833	5.17	8.26	
PFNA	1.00	0.836	5.17	8.26	J
PFDA	ND	1.54	5.17	8.26	
MeFOSAA	ND	1.70	5.17	8.26	
PFUnA	ND	1.08	5.17	8.26	
EtFOSAA	ND	1.41	5.17	8.26	
PFDoA	ND	0.818	5.17	8.26	
PFTrDA	ND	0.510	5.17	8.26	
PFTeDA	ND	0.780	5.17	8.26	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	140	50 - 150	
IS	13C2-PFHxA	110	50 - 150	
IS	13C4-PFHpA	94.8	50 - 150	
IS	18O2-PFHxS	106	50 - 150	
IS	13C2-PFOA	107	50 - 150	
IS	13C8-PFOS	97.8	50 - 150	
IS	13C5-PFNA	101	50 - 150	
IS	13C2-PFDA	102	50 - 150	
IS	d3-MeFOSAA	102	50 - 150	
IS	13C2-PFUnA	95.3	50 - 150	
IS	d5-EtFOSAA	109	50 - 150	
IS	13C2-PFDoA	86.3	50 - 150	
IS	13C2-PFTeDA	75.1	50 - 150	

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: MW-06BR-20170717

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 17-Jul-2017 16:10
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700906-02 Date Received: 19-Jul-2017 9:15
QC Batch: B7G0105 Date Extracted: 24-Jul-2017 7:38
Date Analyzed: 25-Jul-17 00:03 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.85	5.17	8.28	
PFHxA	ND	2.26	5.17	8.28	
PFHpA	ND	0.611	5.17	8.28	
PFHxS	ND	0.980	5.17	8.28	
PFOA	ND	0.673	5.17	8.28	
PFOS	ND	0.835	5.17	8.28	
PFNA	ND	0.838	5.17	8.28	
PFDA	ND	1.54	5.17	8.28	
MeFOSAA	ND	1.71	5.17	8.28	
PFUnA	ND	1.09	5.17	8.28	
EtFOSAA	ND	1.42	5.17	8.28	
PFDoA	ND	0.819	5.17	8.28	
PFTrDA	ND	0.511	5.17	8.28	
PFTeDA	ND	0.781	5.17	8.28	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	147	50 - 150	
IS	13C2-PFHxA	112	50 - 150	
IS	13C4-PFHpA	98.4	50 - 150	
IS	18O2-PFHxS	122	50 - 150	
IS	13C2-PFOA	111	50 - 150	
IS	13C8-PFOS	126	50 - 150	
IS	13C5-PFNA	103	50 - 150	
IS	13C2-PFDA	111	50 - 150	
IS	d3-MeFOSAA	116	50 - 150	
IS	13C2-PFUnA	94.3	50 - 150	
IS	d5-EtFOSAA	107	50 - 150	
IS	13C2-PFDoA	93.1	50 - 150	
IS	13C2-PFTeDA	69.3	50 - 150	

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: RB-04-20170717

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 17-Jul-2017 18:00
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.120 L

Laboratory Data

Lab Sample: 1700906-03 Date Received: 19-Jul-2017 9:15
QC Batch: B7G0105 Date Extracted: 24-Jul-2017 7:38
Date Analyzed: 25-Jul-17 00:14 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.86	5.21	8.32	
PFHxA	ND	2.27	5.21	8.32	
PFHpA	ND	0.615	5.21	8.32	
PFHxS	ND	0.985	5.21	8.32	
PFOA	ND	0.677	5.21	8.32	
PFOS	ND	0.839	5.21	8.32	
PFNA	ND	0.842	5.21	8.32	
PFDA	ND	1.55	5.21	8.32	
MeFOSAA	ND	1.72	5.21	8.32	
PFUnA	ND	1.09	5.21	8.32	
EtFOSAA	ND	1.42	5.21	8.32	
PFDoA	ND	0.824	5.21	8.32	
PFTrDA	ND	0.514	5.21	8.32	
PFTeDA	ND	0.785	5.21	8.32	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	150	50 - 150	
IS	13C2-PFHxA	105	50 - 150	
IS	13C4-PFHpA	94.6	50 - 150	
IS	18O2-PFHxS	110	50 - 150	
IS	13C2-PFOA	96.7	50 - 150	
IS	13C8-PFOS	106	50 - 150	
IS	13C5-PFNA	95.2	50 - 150	
IS	13C2-PFDA	102	50 - 150	
IS	d3-MeFOSAA	92.3	50 - 150	
IS	13C2-PFUnA	85.6	50 - 150	
IS	d5-EtFOSAA	84.5	50 - 150	
IS	13C2-PFDoA	89.2	50 - 150	
IS	13C2-PFTeDA	83.1	50 - 150	

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: MW-12BR-20170718

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 18-Jul-2017 13:00
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700906-04
QC Batch: B7G0105
Date Analyzed: 25-Jul-17 00:25 Column: BEH C18
Date Received: 19-Jul-2017 9:15
Date Extracted: 24-Jul-2017 7:38

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	45.6	1.85	5.17	8.25	
PFHxA	136	2.25	5.17	8.25	
PFHpA	31.3	0.609	5.17	8.25	
PFHxS	285	0.976	5.17	8.25	
PFOA	26.8	0.671	5.17	8.25	
PFOS	812	0.832	5.17	8.25	
PFNA	1.59	0.835	5.17	8.25	J
PFDA	ND	1.54	5.17	8.25	
MeFOSAA	ND	1.70	5.17	8.25	
PFUnA	ND	1.08	5.17	8.25	
EtFOSAA	ND	1.41	5.17	8.25	
PFDoA	ND	0.816	5.17	8.25	
PFTrDA	ND	0.509	5.17	8.25	
PFTeDA	ND	0.778	5.17	8.25	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	161	50 - 150	H
IS	13C2-PFHxA	118	50 - 150	
IS	13C4-PFHpA	97.3	50 - 150	
IS	18O2-PFHxS	111	50 - 150	
IS	13C2-PFOA	107	50 - 150	
IS	13C8-PFOS	112	50 - 150	
IS	13C5-PFNA	92.0	50 - 150	
IS	13C2-PFDA	99.2	50 - 150	
IS	d3-MeFOSAA	97.6	50 - 150	
IS	13C2-PFUnA	96.6	50 - 150	
IS	d5-EtFOSAA	99.4	50 - 150	
IS	13C2-PFDoA	90.5	50 - 150	
IS	13C2-PFTeDA	94.2	50 - 150	

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: MW-02BR-20170718

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 18-Jul-2017 15:15
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.121 L

Laboratory Data

Lab Sample: 1700906-05 Date Received: 19-Jul-2017 9:15
QC Batch: B7G0105 Date Extracted: 24-Jul-2017 7:38
Date Analyzed: 25-Jul-17 00:36 Column: BEH C18
26-Jul-17 00:06 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	298	1.85	5.17	8.28	
PFHxA	852	11.3	25.8	41.4	D
PFHpA	446	0.611	5.17	8.28	
PFHxS	1500	4.90	25.8	41.4	D
PFOA	341	0.674	5.17	8.28	
PFOS	1160	4.17	25.8	41.4	D
PFNA	114	0.838	5.17	8.28	
PFDA	3.29	1.54	5.17	8.28	J
MeFOSAA	ND	1.71	5.17	8.28	
PFUnA	ND	1.09	5.17	8.28	
EtFOSAA	ND	1.42	5.17	8.28	
PFDoA	ND	0.819	5.17	8.28	
PFTrDA	ND	0.511	5.17	8.28	
PFTeDA	ND	0.781	5.17	8.28	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	142	50 - 150	
IS	13C2-PFHxA	109	50 - 150	D
IS	13C4-PFHpA	99.6	50 - 150	
IS	18O2-PFHxS	113	50 - 150	D
IS	13C2-PFOA	108	50 - 150	
IS	13C8-PFOS	105	50 - 150	D
IS	13C5-PFNA	100	50 - 150	
IS	13C2-PFDA	94.5	50 - 150	
IS	d3-MeFOSAA	108	50 - 150	
IS	13C2-PFUnA	89.5	50 - 150	
IS	d5-EtFOSAA	97.7	50 - 150	
IS	13C2-PFDoA	97.6	50 - 150	
IS	13C2-PFTeDA	92.6	50 - 150	

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: RB-05-20170718

Modified EPA Method 537

Client Data

Name: Tetra Tech
Project: NAWC Trenton
Date Collected: 18-Jul-2017 18:00
Location:

Sample Data

Matrix: Aqueous
Sample Size: 0.122 L

Laboratory Data

Lab Sample: 1700906-06 Date Received: 19-Jul-2017 9:15
QC Batch: B7G0105 Date Extracted: 24-Jul-2017 7:38
Date Analyzed: 25-Jul-17 00:47 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	1.84	5.12	8.23	
PFHxA	ND	2.24	5.12	8.23	
PFHpA	ND	0.608	5.12	8.23	
PFHxS	ND	0.974	5.12	8.23	
PFOA	ND	0.670	5.12	8.23	
PFOS	ND	0.830	5.12	8.23	
PFNA	ND	0.833	5.12	8.23	
PFDA	ND	1.53	5.12	8.23	
MeFOSAA	ND	1.70	5.12	8.23	
PFUnA	ND	1.08	5.12	8.23	
EtFOSAA	ND	1.41	5.12	8.23	
PFDoA	ND	0.815	5.12	8.23	
PFTrDA	ND	0.508	5.12	8.23	
PFTeDA	ND	0.777	5.12	8.23	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	150	50 - 150	
IS	13C2-PFHxA	106	50 - 150	
IS	13C4-PFHpA	96.7	50 - 150	
IS	18O2-PFHxS	122	50 - 150	
IS	13C2-PFOA	93.7	50 - 150	
IS	13C8-PFOS	120	50 - 150	
IS	13C5-PFNA	98.4	50 - 150	
IS	13C2-PFDA	103	50 - 150	
IS	d3-MeFOSAA	82.3	50 - 150	
IS	13C2-PFUnA	79.3	50 - 150	
IS	d5-EtFOSAA	80.7	50 - 150	
IS	13C2-PFDoA	76.2	50 - 150	
IS	13C2-PFTeDA	71.0	50 - 150	

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.

Appendix C

Support Documentation

Submit by Email*

Vista

CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY
Laboratory Project ID: 1700906 Temp 4.0 °C
Storage ID: WR-2 Storage Secured: Yes ☑ No ☐

TAT: (Check One)
Standard ◉ 21 days
Rush (surcharge may apply)
◯ 14 days ◯ 7 days Specify:

Project I.D.: NAWC Trenton P.O. #: 1132341-WR3 Sampler: Chuck Myer (Name)

Invoice to: Name	Company	Address	City	State	Zip	Ph#	Fax #
Tetra Tech	Foster Plaza VII	661 Anderson Drive	Pittsburgh	PA	15220	412-921-7090	412-921-4040

Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
Chuck Myer	7/18/2017	18:00	Marissa Sparks	7/19/17	0932
Relinquished by: (Printed Name and Signature)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

See "Sample Log-in Checklist" for additional sample information

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.: 6612 1992 7209

ATTN: Sample Custodian

Add Analysis(es) Requested

Sample ID	Date	Time	Location/Sample Description	Container(s) Quantity	Type	Matrix	EPA1613 2378-TCDD	EPA1613 2378-TCDD/TCDF	EPA1613 PCDD/PCDF	EPA8290 2378-TCDD	EPA8290 2378-TCDD/TCDF	EPA8290 PCDD/PCDF	EPA8280 2378-TCDD	EPA8280 2378-TCDD/TCDF	EPA8280 PCDD/PCDF	EPA1668 TOTALS	EPA1668 COPLANAR PCBs	EPA1668 209 CONGENERS	EPA1614 PBDE	CARB429 PAH	CARB429 WHO-29	UCMR3 EPA Method 537 PFAS 14
MW-50BR-20170717	7/17/17	13:55	Trenton	2	PJ	AQ															x	
MW-06BR-20170717	7/17/17	16:10	Trenton	2	PJ	AQ															x	
RB-04-20170717	7/17/17	18:00	Trenton	2	PJ	AQ															x	
MW-12BR-20170718	7/18/17	13:00	Trenton	2	PJ	AQ															x	
MW-02BR-20170718	7/18/17	15:15	Trenton	2	PJ	AQ															x	
RB-05-20170718	7/18/17	18:00	Trenton	2	PJ	AQ															x	

Special Instructions/Comments:
FedEx 6612 1992 7209

SEND DOCUMENTATION AND RESULTS TO:
Name: Mary Mang
Company: Tetra Tech
Address: 234 Mall Blvd Suite 260
City: King of Prussia State: PA Zip: 19406
Phone: 610-382-1174 Fax: 610-491-9645
Email: mary.mang@tetratech.com

Container Types: A = 1 Liter Amber, G = Glass Jar
P = PUF, T = MM5 Train, O = Other PJ

***Bottle Preservative Type:** ☐ T = Thiosulfate,
☐ O = Other

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

SDG Number WE08
Vista Work Order No. 1700906
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

Samples "MW-50BR-20170717", "MW-06BR-20170717", "MW-12BR-20170718", and "MW-02BR-20170718" contained particulate and were centrifuged prior to extraction.

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 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
1700906-04	MW-12BR-20170718	Modified EPA Method 537	13C3-PFBS	H	161
B7G0105-BS1	B7G0105-BS1	Modified EPA Method 537	13C3-PFBS	H	165

H = Recovery was outside laboratory acceptance criteria.

FORMER NAWC TRENTON
1700906

SAMPLE IDENTIFICATION	MW-02BR-20170718
COMPOUND	PFOS
COMPOUND AREA	10800
INTERNAL STANDARD AMOUNT (ng/ml)	109
DILUTION FACTOR	1
INTERNAL STANDARD AREA	944
AVERAGE RRF	0.936
SAMPLE VOLUME (ml)	120.82
VOLUME EXTRACT (ml)	1
VOLUME INJECTED (µl)	0.1
ml to L	1000
CONCENTRATION =	1103 ng/L

10800 x 109ng/ml x 0.1 uL x 1000ml x 1/(944 x 1 x12.082ml x 1L)

Sample ID: Method Blank

Modified EPA Method 537

Matrix: Aqueous
Sample Size: 0.250 L

QC Batch: B7G0105
Date Extracted: 24-Jul-2017 7:38

Lab Sample: B7G0105-BLK1
Date Analyzed: 24-Jul-17 23:42 Column: BEH C18

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	0.895	2.50	4.00	
PFHxA	ND	1.09	2.50	4.00	
PFHpA	ND	0.296	2.50	4.00	
PFHxS	ND	0.474	2.50	4.00	
PFOA	ND	0.326	2.50	4.00	
PFOS	ND	0.404	2.50	4.00	
PFNA	ND	0.405	2.50	4.00	
PFDA	ND	0.745	2.50	4.00	
MeFOSAA	ND	0.825	2.50	4.00	
PFUnA	ND	0.525	2.50	4.00	
EtFOSAA	ND	0.685	2.50	4.00	
PFDoA	ND	0.396	2.50	4.00	
PFTrDA	ND	0.247	2.50	4.00	
PFTeDA	ND	0.378	2.50	4.00	

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C3-PFBS	129	50 - 150	
IS	13C2-PFHxA	109	50 - 150	
IS	13C4-PFHpA	82.6	50 - 150	
IS	18O2-PFHxS	120	50 - 150	
IS	13C2-PFOA	104	50 - 150	
IS	13C8-PFOS	108	50 - 150	
IS	13C5-PFNA	95.7	50 - 150	
IS	13C2-PFDA	95.3	50 - 150	
IS	d3-MeFOSAA	92.7	50 - 150	
IS	13C2-PFUnA	91.0	50 - 150	
IS	d5-EtFOSAA	92.9	50 - 150	
IS	13C2-PFDoA	92.0	50 - 150	
IS	13C2-PFTeDA	78.6	50 - 150	

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:	B7G0105	Lab Sample:	B7G0105-BS1
Sample Size:	0.250 L	Date Extracted:	24-Jul-2017 7:38	Date Analyzed:	24-Jul-17 23:21 Column: BEH C18

Analyte	Amt Found (ng/L)	Spike Amt	%R	Limits
PFBS	37.2	40.0	93.0	70 - 130
PFHxA	36.8	40.0	92.1	70 - 130
PFHpA	38.6	40.0	96.4	70 - 130
PFHxS	34.7	40.0	86.9	70 - 130
PFOA	38.1	40.0	95.3	70 - 130
PFOS	31.0	40.0	77.5	70 - 130
PFNA	39.1	40.0	97.9	70 - 130
PFDA	37.3	40.0	93.4	70 - 130
MeFOSAA	39.8	40.0	99.5	70 - 130
PFUnA	36.9	40.0	92.2	70 - 130
EtFOSAA	36.9	40.0	92.2	70 - 130
PFDoA	37.2	40.0	93.0	70 - 130
PFTrDA	39.1	40.0	97.8	60 - 130
PFTeDA	38.9	40.0	97.1	70 - 130

	Labeled Standard	%R	LCL-UCL
IS	13C3-PFBS	165	50 - 150
IS	13C2-PFHxA	114	50 - 150
IS	13C4-PFHpA	95.2	50 - 150
IS	18O2-PFHxS	121	50 - 150
IS	13C2-PFOA	113	50 - 150
IS	13C8-PFOS	128	50 - 150
IS	13C5-PFNA	116	50 - 150
IS	13C2-PFDA	95.9	50 - 150
IS	d3-MeFOSAA	94.4	50 - 150
IS	13C2-PFUnA	87.9	50 - 150
IS	d5-EtFOSAA	97.5	50 - 150
IS	13C2-PFDoA	92.5	50 - 150
IS	13C2-PFTeDA	83.6	50 - 150

LCL-UCL - Lower control limit - upper control limit

Process Sheet

Workorder: 1700906

Prep Expiration: 2017-Aug-01
Client: Tetra Tech

Workorder Due: 09-Aug-17 00:00

TAT: 21

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

Prep Batch: B760105

Prep Data Entered: HB 7/25/17
Date and Initials

Version: 537 (14 Analyte)

Initial Sequence: _____

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1700906-01	☑	MW-50BR-20170717	19-Jul-17 09:15	WR-2 A-4	
1700906-02	☑	MW-06BR-20170717	19-Jul-17 09:15	WR-2 A-4	
1700906-03	☑	RB-04-20170717	19-Jul-17 09:15	WR-2 A-4	
1700906-04	☑	MW-12BR-20170718	19-Jul-17 09:15	WR-2 A-4	
1700906-05	☑	MW-02BR-20170718	19-Jul-17 09:15	WR-2 A-4	
1700906-06	☑	RB-05-20170718	19-Jul-17 09:15	WR-2 A-4	

WO Comments: **Attach balance check doc.**

Vista PM: Martha Maier

Vial Box ID: So fish treated

Sample Reconciled By: BP 7/24/17

Page 1 of 1

Vista Analytical Laboratory

HRMS - 8

BALANCE CALIBRATION CHECK

Weights # 22370 and 7718

Date	☑ for Weight # verification	Weight 1 1 g (0.9900 – 1.0100)	Weight 2 100 g (99.00 – 101.00)	Weight 3 2000 g (1980 – 2020)	Initials	Acceptable? (Y/N)
7/19/17	✓	1.00	100.00	2000.00	KBF	Y
7/20/17	✓	1.01	100.01	2000.04	BSS	Y
7/21/17	✓	0.99	100.00	2000.00	EL	Y
7.24.17	✓	1.00	100.01	2000.01	BP	Y
7/24/17	✓	1.00	100.01	2000.00	EL	Y
7/25/17	✓	1.00	99.99	2000.02	HB	Y

Comments:

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS

Method: 537M PFAS DOD (LOO as mRL)

B7G0105

Chemist: BP

Prep Date/Time: 24-Jul-17 07:38

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 C7G0087	RS CHEM/WIT DATE
☐	B7G0105-BLK1	5	2	0	3	NA	NA	(0.250)	BP KBF 7/24/17	BP KBF 7/24/17	BP KBF 7/24/17
☐	B7G0105-BS1	5	2	0	3	↓	↓	↓	↓	↓	↓
☐	B7G0105-MS1 1700907-03	6	2	0	3	145.15	27.03	0.11812			
☐	B7G0105-MSD1 1700907-03	6	2	0	3	148.62	26.97	0.12165			
☐	1700906-01 (A)	5	2	0	2	147.83	26.76	0.12107			
☐	1700906-02 (A)	5	2	0	2	147.52	26.69	0.12083			
☐	1700906-03	5	2	0	2	146.92	26.74	0.12018			
☐	1700906-04 (A)	5	2	0	2	147.98	26.71	0.12127			
☐	1700906-05 (A)	5	2	0	2	147.56	26.76	0.12082			
☐	1700906-06	5	2	0	2	148.22	26.71	0.12151			
☐	1700907-01	5	2	0	2	146.82	27.02	0.11980			
☐	1700907-02	5	2	0	2	146.82	26.97	0.11985			
☐	1700907-03	6	2	0	3	147.40	27.00	0.12040			
☐	1700907-04 (A) (B)	6	2	0	3	147.63	27.10	0.12053			
☐	1700907-05	6	2	0	3	149.96	27.02	0.12294			
☐	1700907-06 (A) (B)	6	2	0	3	143.20	26.93	0.11627	↓	↓	↓

IS Name	NS Name	RS Name (V2)
17G1307, 10uL (L6)	17D2705, 10uL (W)	17F3038, 10mL

SPE Chem: Strata-X-AW 33um 200mg/6mL

Ele SOLV: MeOH / 0.5% NH_4OH in MeOH

Final Volume(s): 1 mL

Check Out: Chemist/Date: BP 7.24.17

Check In: Chemist/Date: NA

Balance ID: HRMS-8

pH Adjusted: Chemist/Date: HB 7/24/17

Comments: Assume 1 g = 1 mL (A) samples were centrifuged to remove particulate. HB 7/24/17 (B) samples still discolored after centrifuge. HB 7/24/17

PREPARATION BENCH SHEET

Matrix: Aqueous

Method: 537M PFAS

Method: 537M PFAS DOD (LOO as mRL)

B7G0105

Chemist: BP

Prep Date/Time: 24-Jul-17 07:38

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	C760087 SPE	RS CHEM/WIT DATE
☐	1700907-07	5	2	0	2	147.64	26.95	0.12069	BP KBF 7/24/17	BP KBF 7/24/17	BP KBF 7/24/17
☐	1700907-08	5	2	0	2	146.66	27.05	0.11961			
☐	1700907-09 (A)(B)	6	2	0	3	142.91	26.97	0.11594			
☐	1700907-10 (A)(B)(C)	6	2	0	3	140.91	27.06	0.11385			
☐	1700919-01	5	2	0	3	265.61	25.42	0.24019			
☐	1700919-02	5	2	0	3	271.98	25.49	0.24649			
☐	1700919-03	5	2	0	3	267.55	25.66	0.24189			

(A) samples were centrifuged to remove particulate. HB 7/24/17 (B) samples still discolored after centrifuge HB 7/24/17

(C) Glassware malfunction, sample lost during elution BP 7.24.17

IS Name	NS Name	RS Name (V2)	SPE Chem: Strata X-Aw 33u 200mg/6mL	Check Out: Chemist/Date: BP 7.24.17
176 1307, 10mL (V6)	1702705, 10mL (V1)	17F 3038, 10mL	Ele SOLV: 0.5% NH4OH in MeOH/MeOH	Check In: Chemist/Date: NA
			Final Volume(s): 1mL	Balance ID: HRMS-8
				pH Adjusted: Chemist/Date: HB 7/24/17

Comments: Assume 1 g = 1 mL

Batch: B7G0105

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1700906-01	0.12107 ✓	NA	NA	1000	24-Jul-17 07:38	BAP			Aqueous	537M PFAS DOD (LOQ as
1700906-02	0.12083 ✓			1000	24-Jul-17 07:38	BAP			Aqueous	537M PFAS DOD (LOQ as
1700906-03	0.12018 ✓			1000	24-Jul-17 07:38	BAP			Aqueous	537M PFAS DOD (LOQ as
1700906-04	0.12127 ✓			1000	24-Jul-17 07:38	BAP			Aqueous	537M PFAS DOD (LOQ as
1700906-05	0.12082 ✓			1000	24-Jul-17 07:38	BAP			Aqueous	537M PFAS DOD (LOQ as
1700906-06	0.12151 ✓			1000	24-Jul-17 07:38	BAP			Aqueous	537M PFAS DOD (LOQ as
1700907-01	0.1198 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-02	0.11985 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-03	0.1204 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-03	0.1204 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS
1700907-04	0.12053 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-05	0.12294 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-06	0.11627 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-07	0.12069 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-08	0.11961 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-09	0.11594 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700907-10	0.11385 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS DOD (LOQ as
1700919-01	0.24019 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS
1700919-02	0.24649 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS
1700919-03	0.24189 ✓			1000	24-Jul-17 07:38	BAP			Water	537M PFAS
B7G0105-BLK1	0.25 ✓			1000	24-Jul-17 07:38	BAP				QC
B7G0105-BS1	0.25 ✓			1000	24-Jul-17 07:38	BAP	17D2705 ✓	10 ✓		QC
B7G0105-MS1	0.11812 ✓			1000	24-Jul-17 07:38	BAP	17D2705 ✓	10 ✓		QC
B7G0105-MSD1	0.12165 ✓			1000	24-Jul-17 07:38	BAP	17D2705 ✓	10 ✓		QC

HB 7/25/17

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-54.qld

Last Altered: Tuesday, July 25, 2017 10:45:03 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:46:06 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

AC 7/25/17

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	1	L-PFBA	213.0 > 168.8	13717.317	14841.831		1.000	1.56	9.63	96.26
2	2	Br-PFBA	213.0 > 168.8		14841.831		1.000			
3	3	L-PFPeA	263.1 > 218.9	23137.586	29721.047		1.000	2.81	9.63	96.31
4	4	Br-PFPeA	263.1 > 218.9		29721.047		1.000			
5	5	L-PFBS	299 > 79.7	5388.239	3666.354		1.000	3.00	9.88	98.77
6	6	Br-PFBS	299 > 79.7		3666.354		1.000			
7	7	L-PFHxA	313.2 > 268.9	38028.445	12560.093		1.000	3.23	9.92	99.24
8	8	Br-PFHxA	313.2 > 268.9	29.740	12560.093		1.000	3.15		
9	9	L-PFHpA	363 > 318.9	35389.406	35390.621		1.000	3.49	9.91	99.08
10	10	Br-PFHpA	363 > 318.9	73.087	35390.621		1.000	3.36		
11	11	L-PFHxS	398.9 > 79.6	4523.582	3743.138		1.000	3.56	9.38	93.79
12	12	Br-PFHxS	398.9 > 79.6		3743.138		1.000			
13	13	L-6:2 FTS	427.1 > 407	7485.944	9068.308		1.000	3.67	9.75	97.53
14	14	Br-6:2 FTS	427.1 > 407		9068.308		1.000			
15	15	L-PFOA	413 > 368.7	51977.324	63225.359		1.000	3.68	10.38	103.79
16	16	Br-PFOA	413 > 368.7	38.392	63225.359		1.000	3.56		
17	17	L-PFHpS	448.9 > 98.8	4945.654	63225.359		1.000	3.74	10.85	108.53
18	18	Br-PFHpS	448.9 > 98.8		63225.359		1.000			
19	19	L-PFNA	462.9 > 418.8	58359.652	65988.719		1.000	3.86	9.94	99.37
20	20	Br-PFNA	462.9 > 418.8		65988.719		1.000			
21	21	L-PFOSA	498.1 > 77.8	6377.556	7101.229		1.000	3.87	10.65	106.52
22	22	Br-PFOSA	498.1 > 77.8		7101.229		1.000			
23	23	L-PFOS	499 > 79.9	10311.557	12179.149		1.000	3.91	8.92	89.22
24	24	Br-PFOS	499 > 79.9		12179.149		1.000			
25	25	L-PFDA	513 > 468.8	57795.934	63113.398		1.000	4.03	8.72	87.25
26	26	Br-PFDA	513 > 468.8		63113.398		1.000			
27	27	L-8:2 FTS	527 > 506.9	6590.332	5991.518		1.000	4.03	9.38	93.77
28	28	Br-8:2 FTS	527 > 506.9		5991.518		1.000			
29	29	L-N-MeFOSAA	570.1>419	16503.994	13933.809		1.000	4.06	10.01	100.11
30	30	Br-N-MeFOSAA	570.1>419		13933.809		1.000			
31	31	L-N-EtFOSAA	584.2>419	12592.925	14393.751		1.000	4.13	8.96	89.64

70-130

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-54.qld

Last Altered: Tuesday, July 25, 2017 10:45:03 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:46:06 Pacific Daylight Time

Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
32	32	Br-N-EtFOSAA	584.2>419		14393.751		1.000			
33	33	L-PFUnA	562.9 > 518.9	43380.402	66093.086		1.000	4.20	9.29	92.87
34	34	Br-PFUnA	562.9 > 518.9		66093.086		1.000			
35	35	L-PFDS	598.9 > 98.7	4549.397	66093.086		1.000	4.24	9.66	96.63
36	36	Br-PFDS	598.9 > 98.7		66093.086		1.000			
37	37	L-PFDoA	612.9 > 318.8	5090.924	7241.331		1.000	4.36	9.30	92.99
38	38	Br-PFDoA	612.9 > 318.8		7241.331		1.000			
39	39	L-N-MeFOSA	512.1>168.9	10713.910	30558.729		1.000	4.41	9.47	94.74
40	40	Br-N-MeFOSA			30558.729					
41	41	L-PFTrDA	662.9 > 618.9	62943.777	7241.331		1.000	4.53	9.79	97.92
42	42	Br-PFTrDA	662.9 > 618.9		49154.664		1.000			
43	43	L-PFTeDA	712.9 > 668.8	43981.219	49154.664		1.000	4.71	9.70	97.00
44	44	Br-PFTeDA	712.9 > 668.8		49154.664		1.000			
45	45	L-N-EtFOSA	526.1>168.9	12841.630	41816.922		1.000	4.98	9.86	98.58
46	46	Br-N-EtFOSA	526.1>168.9	20.190	41816.922		1.000	4.88		
47	47	L-PFHxDA	812.8 > 768.9	65001.813	24112.928		1.000	5.08	9.85	98.51
48	48	Br-PFHxDA	812.8 > 768.9		24112.928		1.000			
49	49	L-PFODA	912.8 > 868.8	61969.875	24112.928		1.000	5.45	9.97	99.68
50	50	Br-PFODA	912.8 > 868.8		24112.928		1.000			
51	51	L-N-MeFOSE	616.1>58.9	15692.072	46741.930		1.000	5.44	9.51	95.06
52	52	Br-N-MeFOSE	616.1>58.9		46741.930		1.000			
53	53	L-N-EtFOSE	630.1>58.9	17749.732	46536.496		1.000	5.61	9.51	95.14
54	54	Br-N-EtFOSE	630.1>58.9		46536.496		1.000			
55	55	13C3-PFBA	216.1 > 171.8	14841.831	17771.932	0.821	1.000	1.56	12.72	101.77
56	56	13C3-PFPeA	266 > 221.8	29721.047	17771.932	1.617	1.000	2.81	12.92	103.40
57	57	13C3-PFBS	302 > 98.8	3666.354	17771.932	0.203	1.000	3.00	12.72	101.73
58	58	13C2-PFHxA	315 > 269.8	12560.093	44936.813	0.276	1.000	3.23	5.06	101.13
59	59	13C4-PFHpA	367.2 > 321.8	35390.621	44936.813	0.306	1.000	3.49	12.89	103.11
60	60	18O2-PFHxS	403 > 102.6	3743.138	8924.657	0.393	1.000	3.56	13.35	106.76
61	61	13C2-6:2 FTS	429.1 > 408.9	9068.308	63225.359	0.147	1.000	3.67	12.16	97.25
62	62	13C2-PFOA	414.9 > 369.7	63225.359	60232.691	1.067	1.000	3.68	12.29	98.33
63	63	13C5-PFNA	468.2 > 422.9	65988.719	77770.828	0.852	1.000	3.86	12.45	99.57
64	64	13C8-PFOSA	506.1 > 77.7	7101.229	75659.602	0.098	1.000	3.87	11.94	95.54
65	65	13C8-PFOS	507 > 79.9	12179.149	12400.646	0.937	1.000	3.91	13.10	104.79

70-130

50-150

Dataset: U:\Q4.PRO\results\170724M1\170724M1-54.qld

Last Altered: Tuesday, July 25, 2017 10:45:03 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:46:06 Pacific Daylight Time

Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
66	66	13C2-PFDA	515.1 > 469.9	63113.398	76913.242	0.810	1.000	4.03	12.67	101.33
67	67	13C2-8:2 FTS	529.1 > 508.7	5991.518	63113.398	0.106	1.000	4.03	11.21	89.64
68	68	d3-N-MeFOSAA	573.3>419	13933.809	75659.602	0.178	1.000	4.06	12.93	103.43
69	69	d5-N-EtFOSAA	589.3>419	14393.751	75659.602	0.181	1.000	4.12	13.11	104.87
70	70	13C2-PFUnA	565 > 519.8	66093.086	75659.602	0.962	1.000	4.20	11.35	90.80
71	71	13C2-PFDoA	615 > 569.7	7241.331	75659.602	0.094	1.000	4.36	12.67	101.36
72	72	d3-N-MeFOSA	515.2>168.9	30558.729	75659.602	0.413	1.000	4.44	12.23	97.81
73	73	13C2-PFTeDA	714.8 > 669.6	49154.664	75659.602	0.694	1.000	4.71	11.70	93.57
74	74	d5-N-EtFOSA	531.1>168.9	41816.922	75659.602	0.581	1.000	5.02	11.88	95.07
75	75	13C2-PFHxDA	815 > 769.7	24112.928	75659.602	0.843	1.000	5.08	4.73	94.51
76	76	d7-N-MeFOSE	623.1>58.9	46741.930	75659.602	0.656	1.000	5.43	11.78	94.24
77	77	d9-N-EtFOSE	639.2>58.8	46536.496	75659.602	0.641	1.000	5.60	11.99	95.95
78	78	13C4-PFBA	217 > 171.8	17771.932	17771.932	1.000	1.000	1.56	12.50	100.00
79	79	13C5-PFHxA	318 > 272.9	44936.813	44936.813	1.000	1.000	3.23	5.00	100.00
80	80	13C3-PFHxS	401.9 > 79.9	8924.657	8924.657	1.000	1.000	3.56	12.50	100.00
81	81	13C8-PFOA	421.3 > 376	60232.691	60232.691	1.000	1.000	3.68	12.50	100.00
82	82	13C9-PFNA	472.2 > 426.9	77770.828	77770.828	1.000	1.000	3.86	12.50	100.00
83	83	13C4-PFOS	503 > 79.9	12400.646	12400.646	1.000	1.000	3.91	12.50	100.00
84	84	13C6-PFDA	519.1 > 473.7	76913.242	76913.242	1.000	1.000	4.03	12.50	100.00
85	85	13C7-PFUnA	570.1 > 524.8	75659.602	75659.602	1.000	1.000	4.20	12.50	100.00

50-150

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, July 25, 2017 10:51:31 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:51:42 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Compound name: L-PFBA

	Name	ID	Acq.Date	Acq.Time
1	170724M1_2	IPA	24-Jul-17	13:40:23
2	170724M1_3	ST170724M1-1 PFC CS-2 17G2422	24-Jul-17	13:51:04
3	170724M1_4	ST170724M1-2 PFC CS-1 17G2119	24-Jul-17	14:01:50
4	170724M1_5	ST170724M1-3 PFC CS0 17G2423	24-Jul-17	14:12:36
5	170724M1_6	ST170724M1-4 PFC CS1 17G2424	24-Jul-17	14:23:23
6	170724M1_7	ST170724M1-5 PFC CS2 17G2425	24-Jul-17	14:34:02
7	170724M1_8	ST170724M1-6 PFC CS3 17G2118	24-Jul-17	14:44:48
8	170724M1_9	ST170724M1-7 PFC CS4 17G2426	24-Jul-17	14:55:34
9	170724M1_10	ST170724M1-8 PFC CS5 17G2427	24-Jul-17	15:06:35
10	170724M1_11	IPA	24-Jul-17	15:17:30
11	170724M1_12	SS170724M4-1 PFC SSS 17G2421	24-Jul-17	15:28:15
12	170724M1_13	IPA	24-Jul-17	15:39:01
13	170724M1_14	B7G0099-BS1 OPR 0.125	24-Jul-17	15:49:42
14	170724M1_15	B7G0100-BS1 OPR 1	24-Jul-17	16:00:26
15	170724M1_16	B7G0102-BS1 OPR 0.125	24-Jul-17	16:11:04
16	170724M1_17	IPA	24-Jul-17	16:21:42
17	170724M1_18	B7G0099-BLK1 Method Blank 0.125	24-Jul-17	16:32:21
18	170724M1_19	B7G0100-BLK1 Method Blank 1	24-Jul-17	16:42:59
19	170724M1_20	B7G0102-BLK1 Method Blank 0.125	24-Jul-17	16:53:38
20	170724M1_21	1700732-01RE2 SW-46 0.11925	24-Jul-17	17:04:16
21	170724M1_22	1700732-02RE1 SW-52 0.1184	24-Jul-17	17:14:54
22	170724M1_23	1700732-03RE1 MW PFC 05 0.12347	24-Jul-17	17:25:33
23	170724M1_24	1700732-04RE1 MW PFC 03 0.11929	24-Jul-17	17:36:18
24	170724M1_25	1700891-01 STEM L1 0.125	24-Jul-17	17:46:58
25	170724M1_26	1700891-02 STEM L2 0.125	24-Jul-17	17:57:36
26	170724M1_27	1700891-03 STEM L3 0.125	24-Jul-17	18:08:48
27	170724M1_28	1700891-04 STEM L4 0.125	24-Jul-17	18:19:41
28	170724M1_29	1700891-05 DECON-1M 0.125	24-Jul-17	18:30:28
29	170724M1_30	1700894-01 POND 2 at PD 0.125	24-Jul-17	18:41:06
30	170724M1_31	IPA	24-Jul-17	18:51:45
31	170724M1_32	ST170724M1-9 PFC CS3 17G2118	24-Jul-17	19:02:23

Vista Analytical Laboratory

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33	170724M1_34	1700894-02 POND 1 at PD 0.125	24-Jul-17	19:23:40
34	170724M1_35	1700894-03 POND 1 -STAFF 0.125	24-Jul-17	19:34:18
35	170724M1_36	1700894-04 SEED-POND 1 0.125	24-Jul-17	19:44:56
36	170724M1_37	1700732-05RE1 SD-46 3.2	24-Jul-17	19:55:35
37	170724M1_38	1700732-06RE1 SD-52 1.17	24-Jul-17	20:06:31
38	170724M1_39	1700732-07RE1 SB-19-01 1.25	24-Jul-17	20:17:32
39	170724M1_40	1700732-08RE1 SB 25-01 1.15	24-Jul-17	20:28:11
40	170724M1_41	1700732-09RE1 SB 27-01 1.17	24-Jul-17	20:39:33
41	170724M1_42	1700732-10RE1 SB-19-4.5-5.5 1.22	24-Jul-17	20:50:13
42	170724M1_43	1700732-11RE1 SB-25-0506 1.28	24-Jul-17	21:00:51
43	170724M1_44	IPA	24-Jul-17	21:11:30
44	170724M1_45	ST170724M1-10 PFC CS3 17G2118	24-Jul-17	21:22:08
45	170724M1_46	IPA	24-Jul-17	21:32:54
46	170724M1_47	1700732-12RE1 SB-25-0607 1.23	24-Jul-17	21:43:41
47	170724M1_48	1700732-13RE1 SB-27-0708 1.26	24-Jul-17	21:54:19
48	170724M1_49	1700732-14RE1 SB-27-1213 1.31	24-Jul-17	22:04:58
49	170724M1_50	1700834-01RE1 82191.05 1.17	24-Jul-17	22:15:59
50	170724M1_51	1700834-02RE1 82191.07 1.32	24-Jul-17	22:27:35
51	170724M1_52	1700891-06 VEL FOAM 0.125	24-Jul-17	22:38:44
52	170724M1_53	IPA	24-Jul-17	22:49:22
53	170724M1_54	ST170724M1-11 PFC CS3 17G2118	24-Jul-17	23:00:00
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Vista Analytical Laboratory

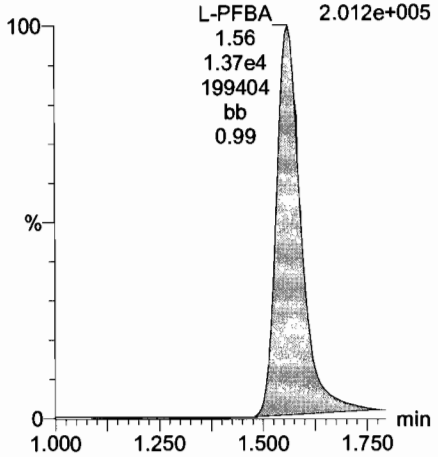
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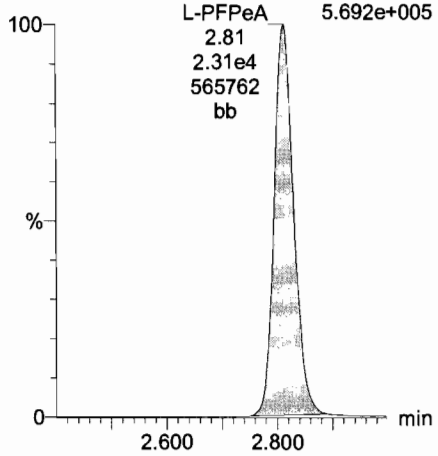
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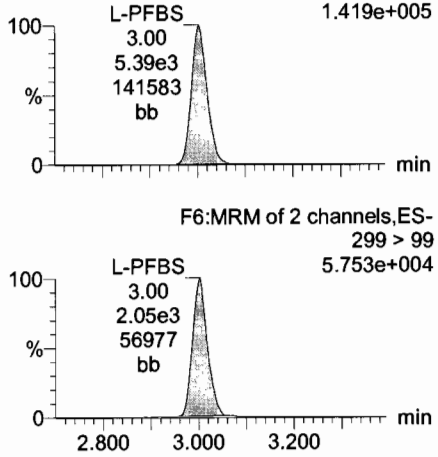
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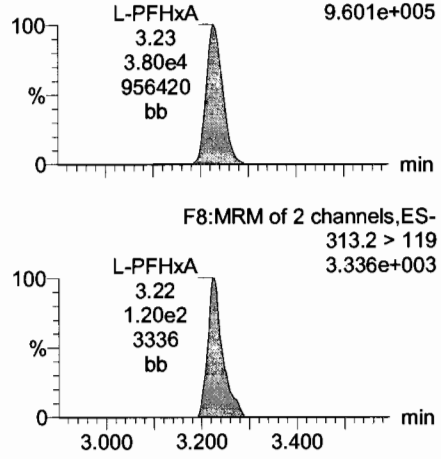
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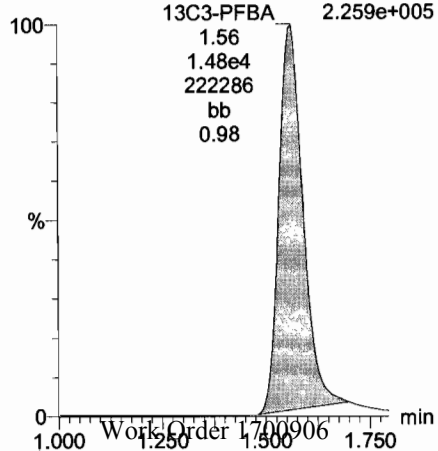
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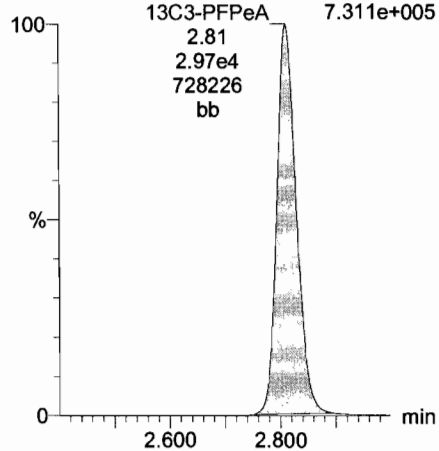
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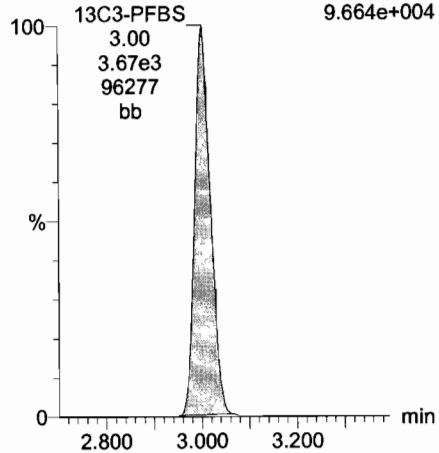
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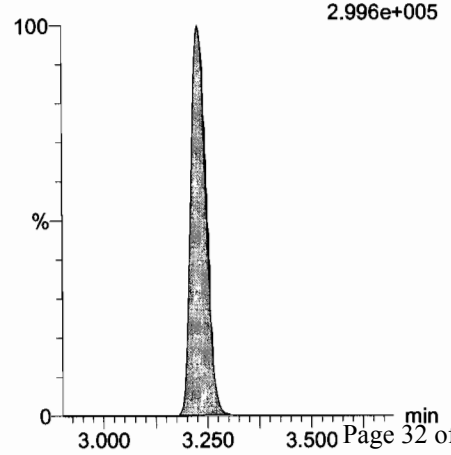
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13C3-PFBS



13C2-PFHxA

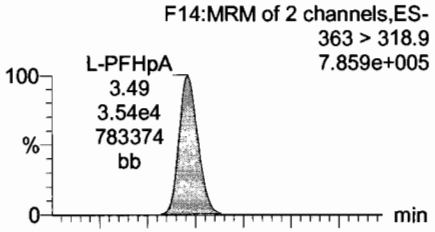


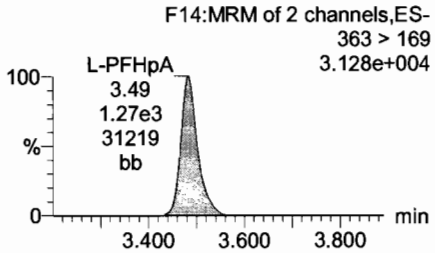
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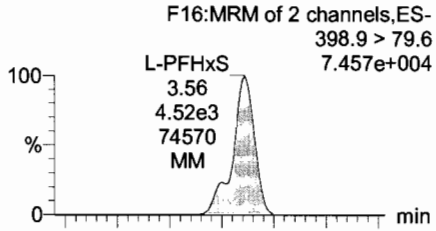
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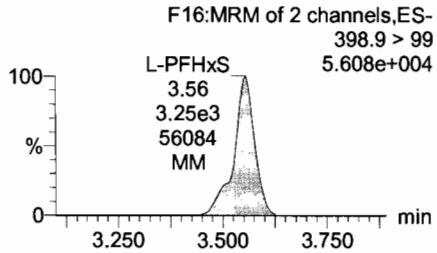
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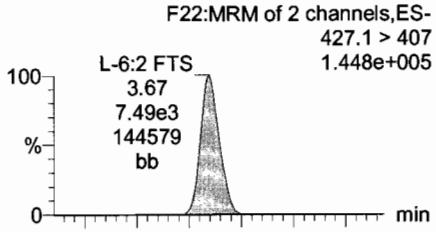


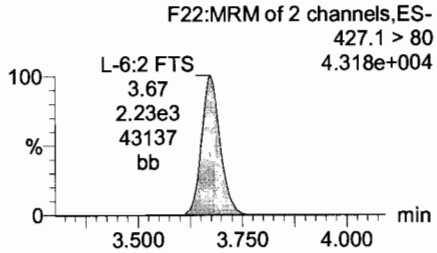
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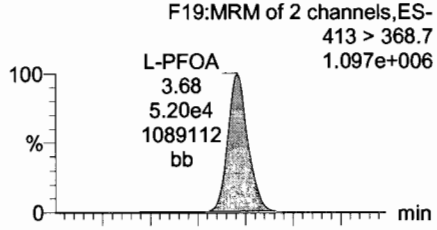


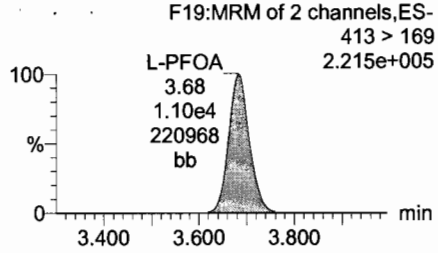
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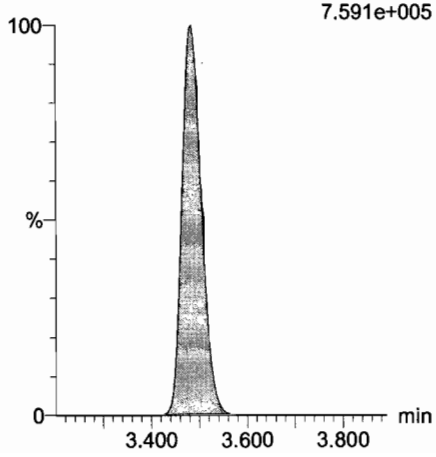


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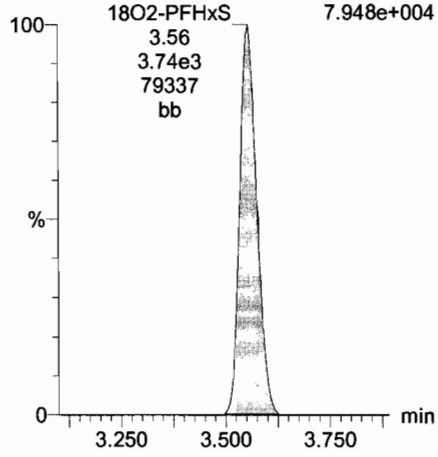




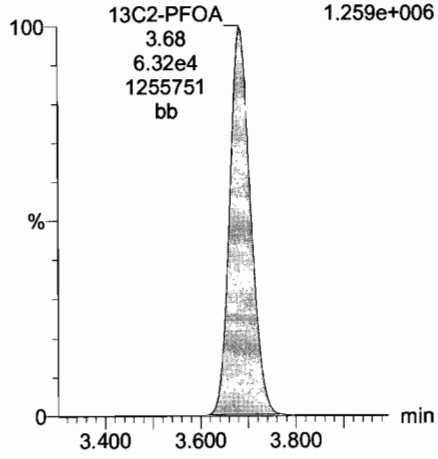
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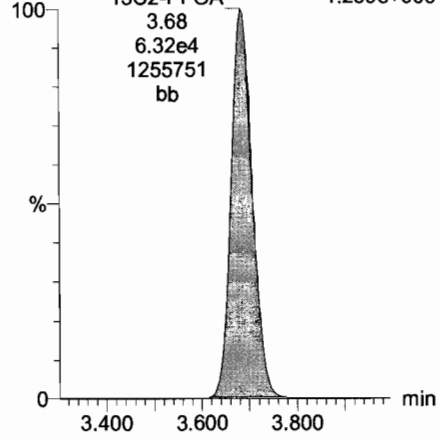
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13C2-PFOA



13C2-PFOA

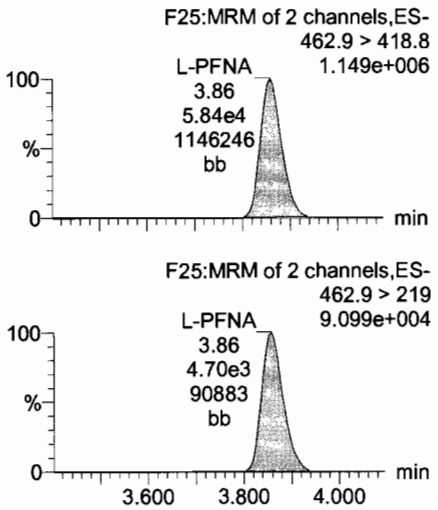


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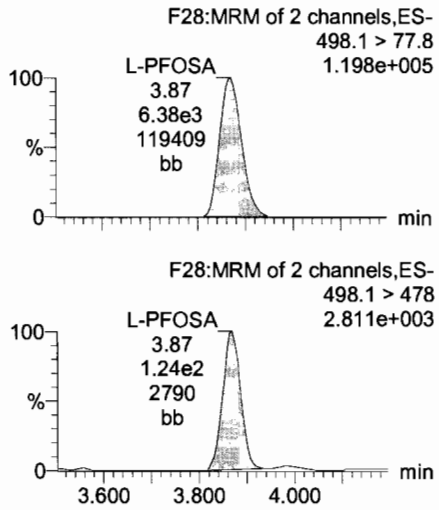
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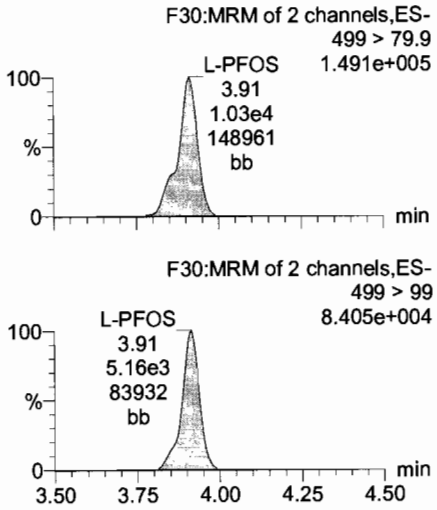
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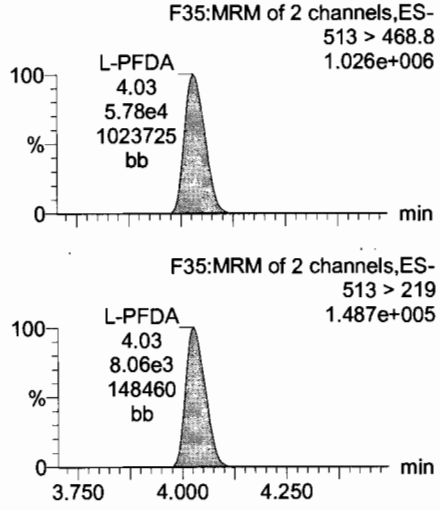
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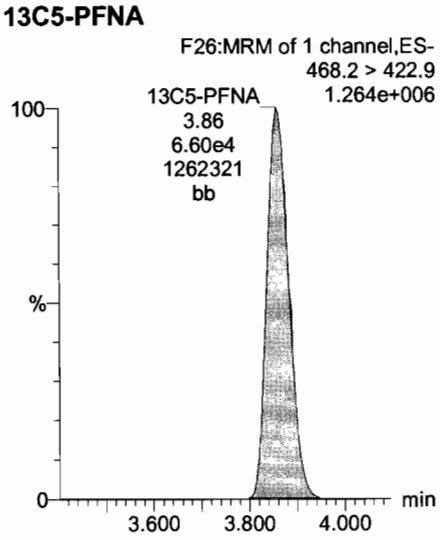
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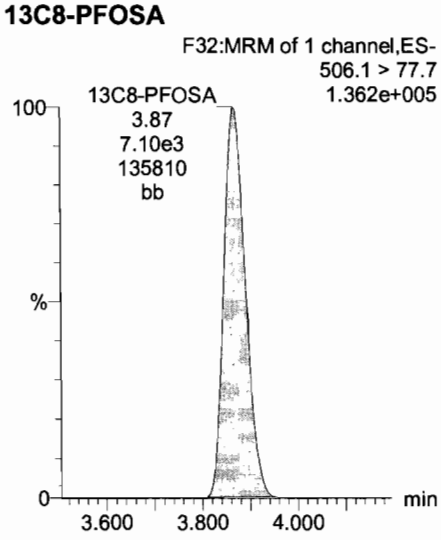
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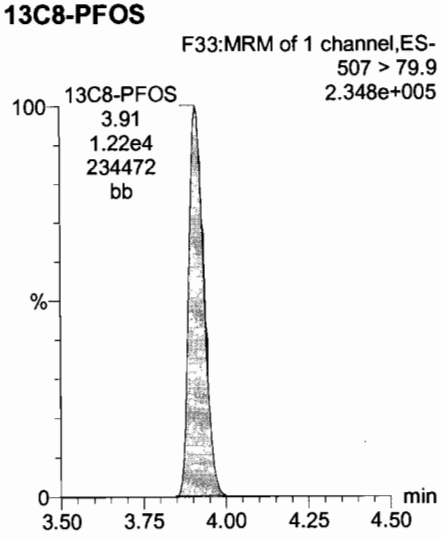
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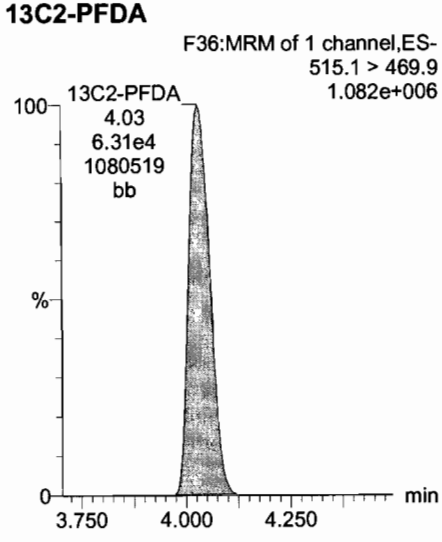
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13C8-PFOS



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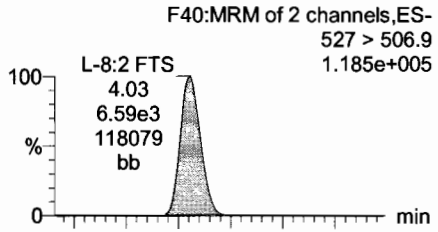


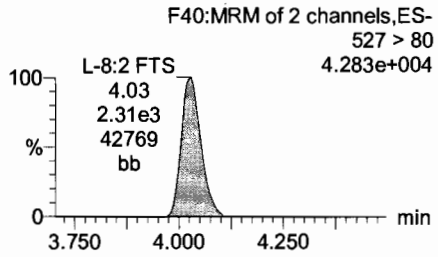
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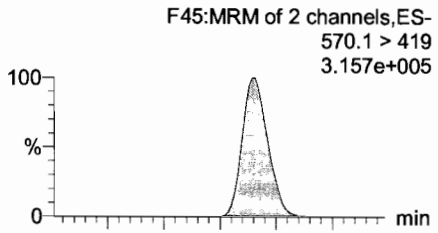
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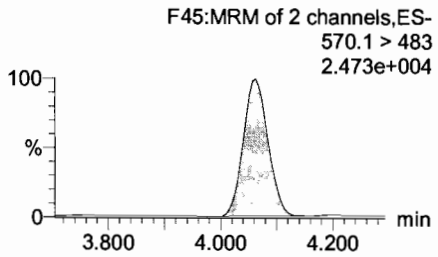
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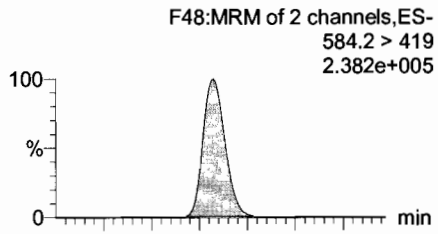


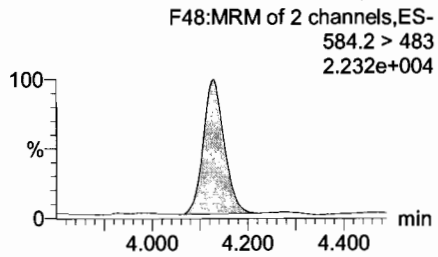
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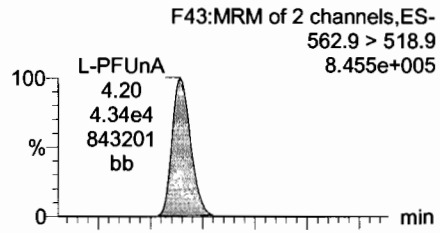


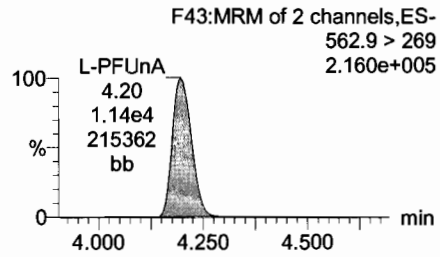
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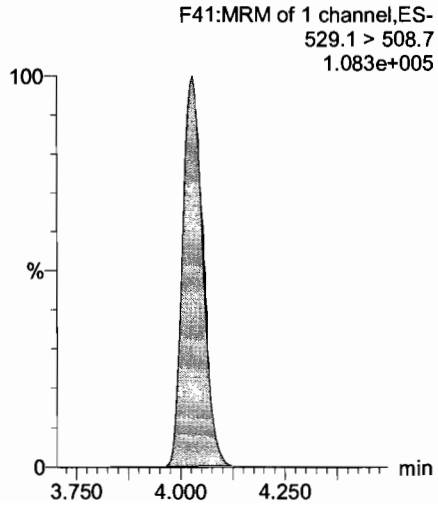


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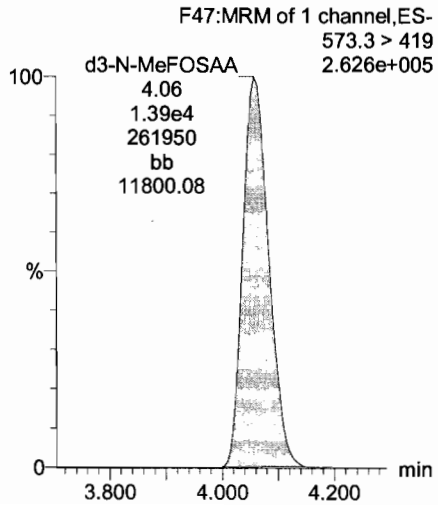




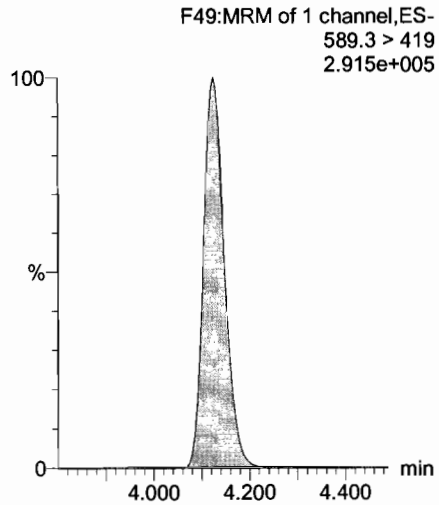
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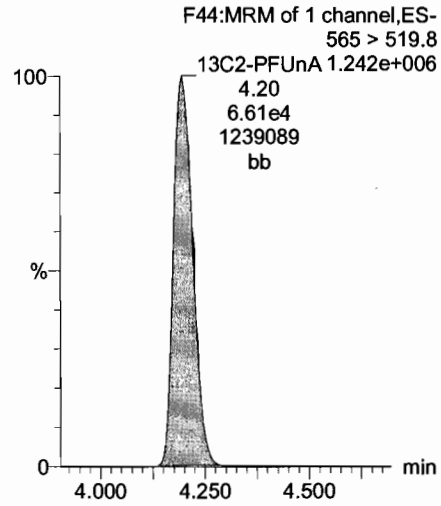
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d5-N-EtFOSAA



13C2-PFUnA

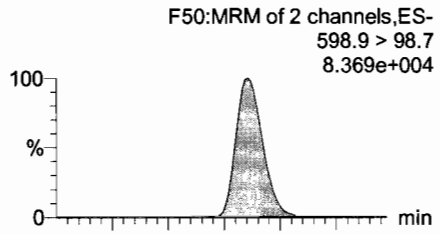


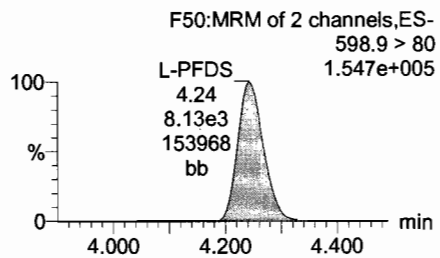
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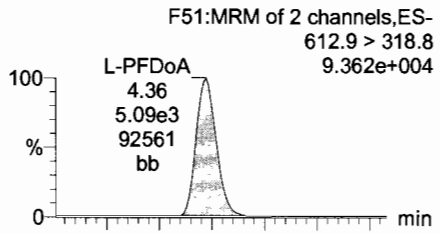
Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

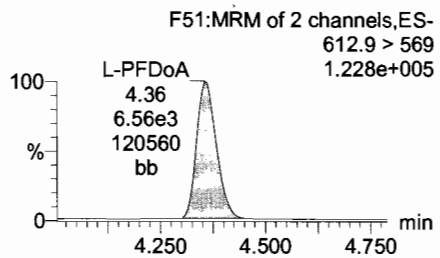
L-PFDS



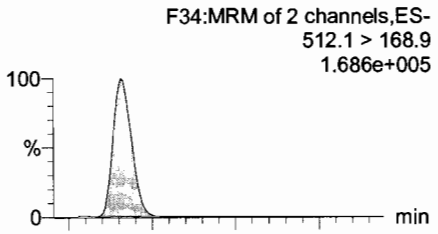


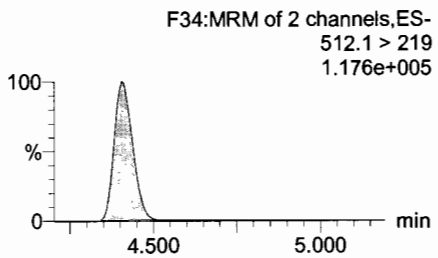
L-PFDoA



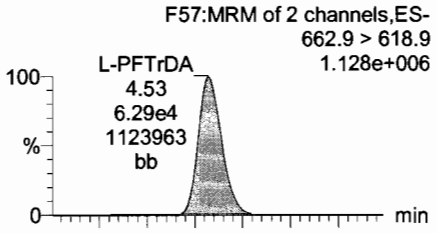


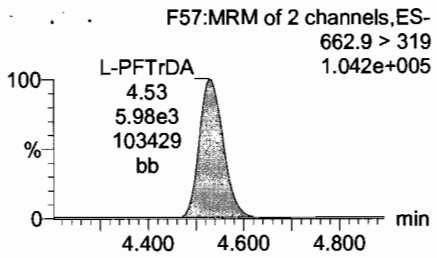
L-N-MeFOSA



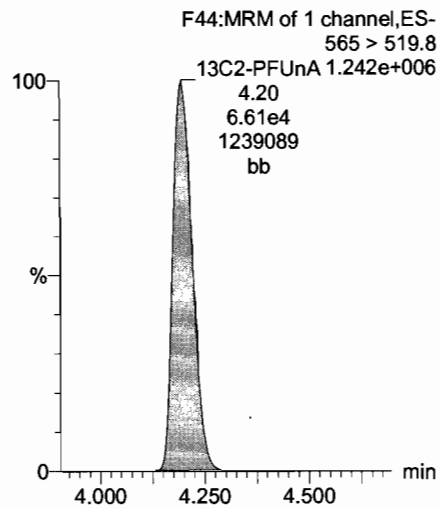


L-PFTrDA

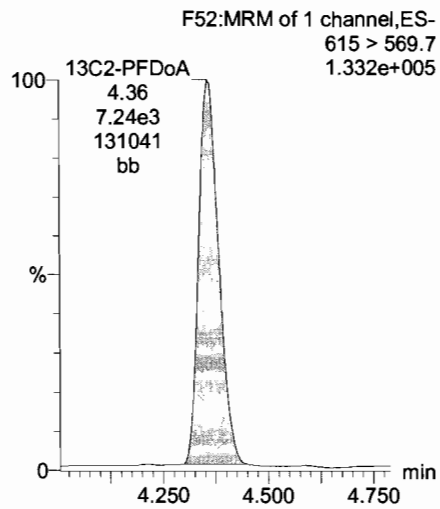




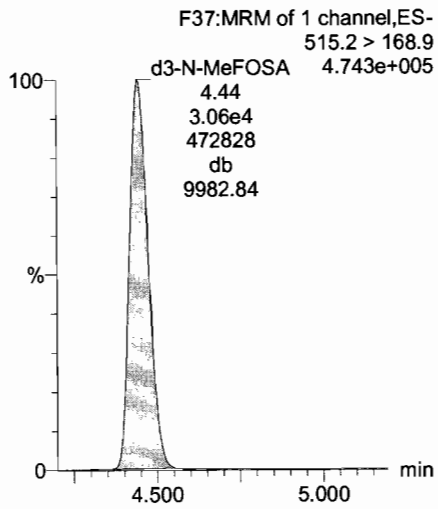
13C2-PFUnA



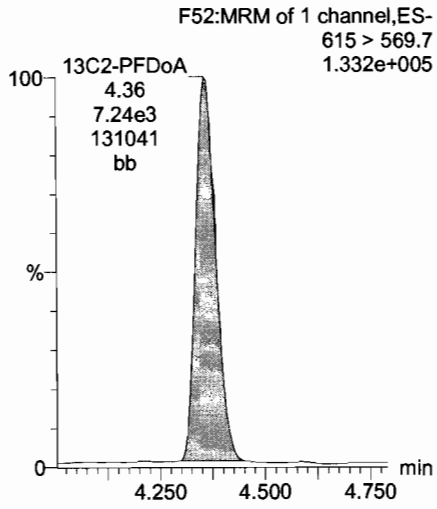
13C2-PFDoA



d3-N-MeFOSA



13C2-PFDoA

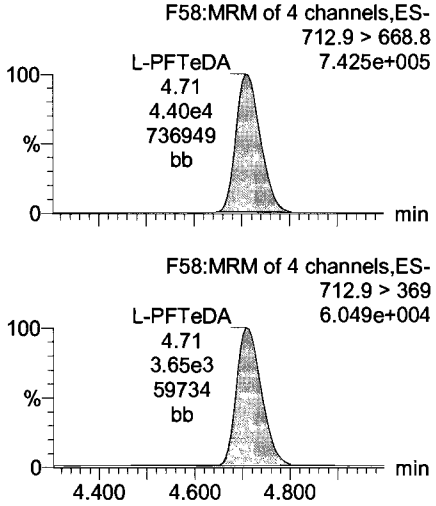


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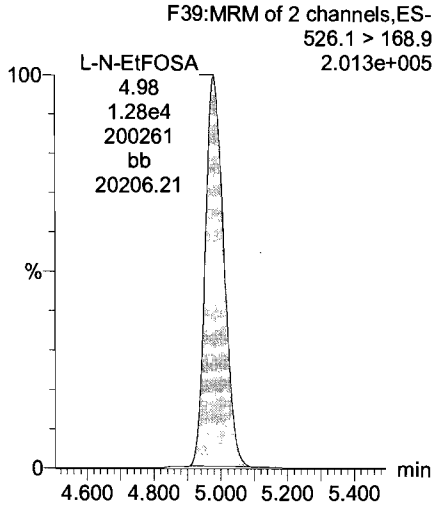
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Printed: Tuesday, July 25, 2017 10:46:20 Pacific Daylight Time

Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

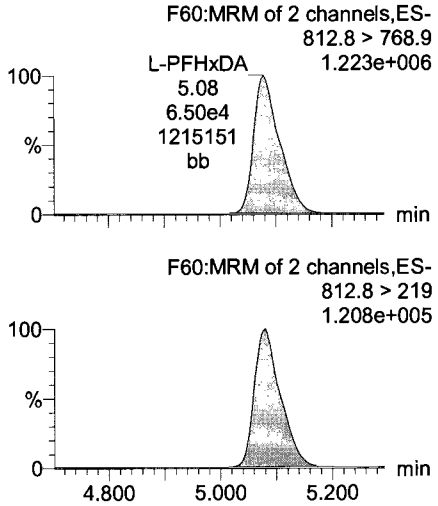
L-PFTeDA



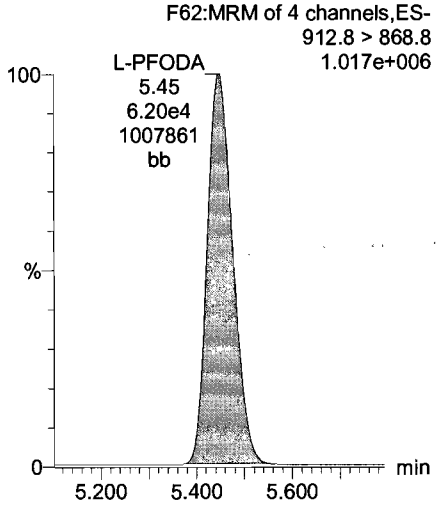
L-N-EtFOSA



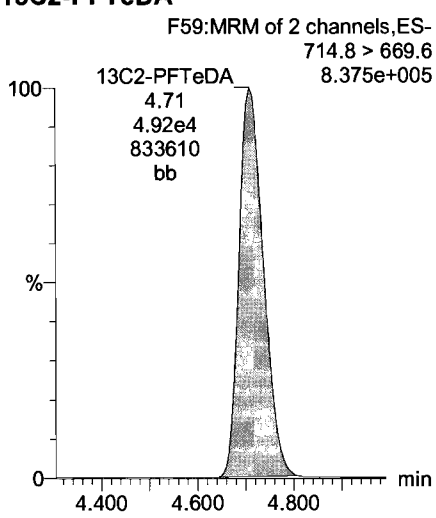
L-PFHxDA



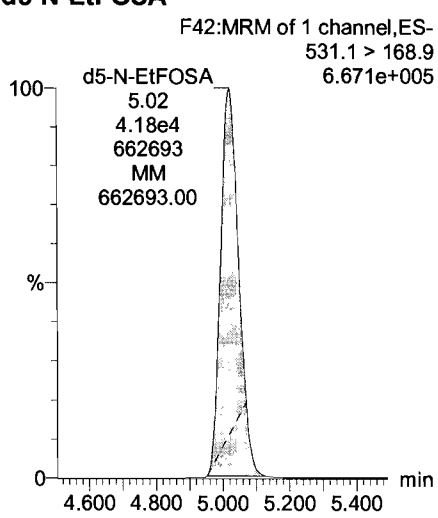
L-PFODA



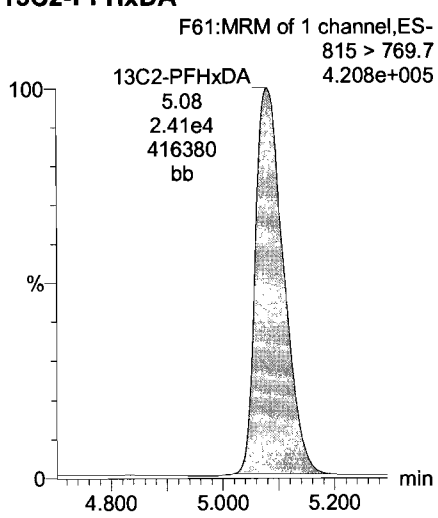
13C2-PFTeDA



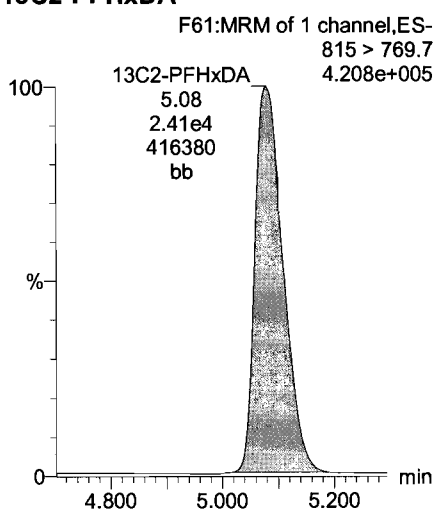
d5-N-EtFOSA



13C2-PFHxDA



13C2-PFHxDA



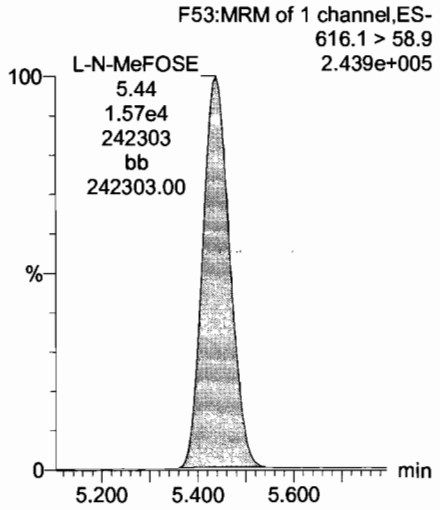
Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-54.qld

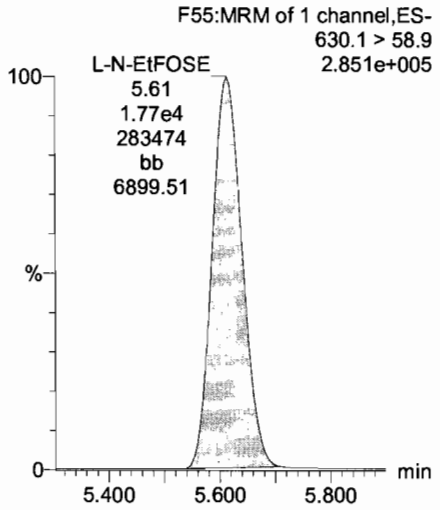
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Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

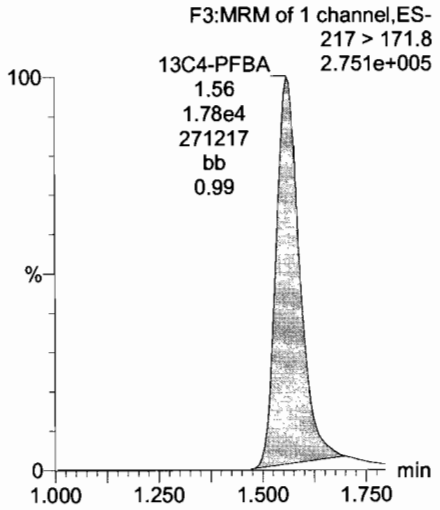
L-N-MeFOSE



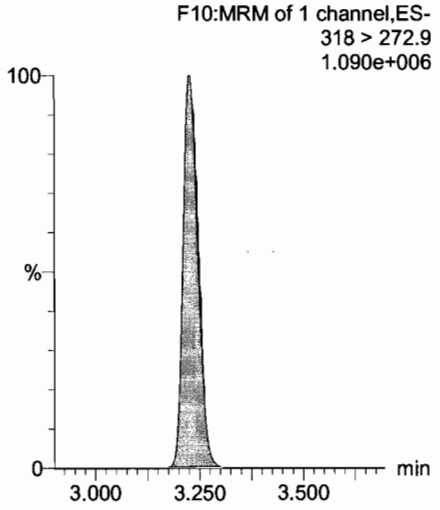
L-N-EtFOSE



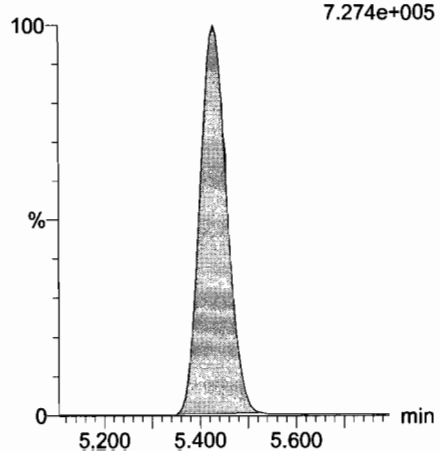
13C4-PFBA



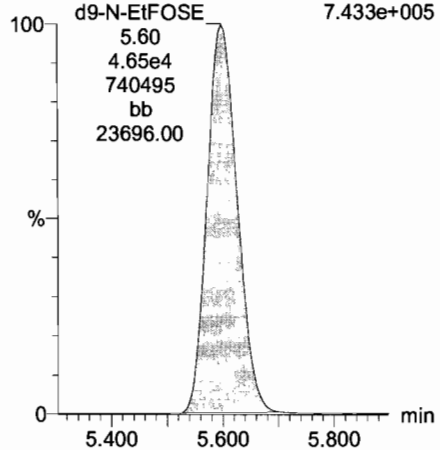
13C5-PFHxA



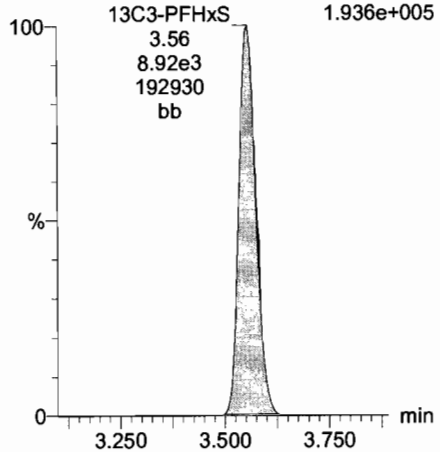
d7-N-MeFOSE



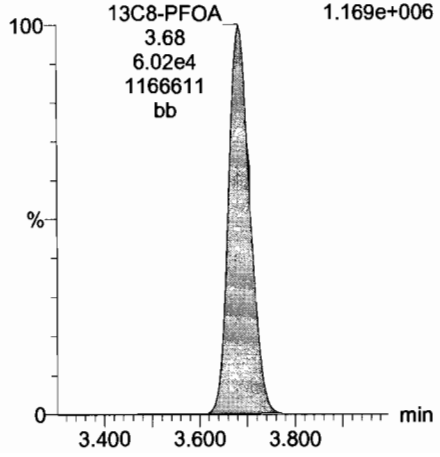
d9-N-EtFOSE



13C3-PFHxS



13C8-PFOA

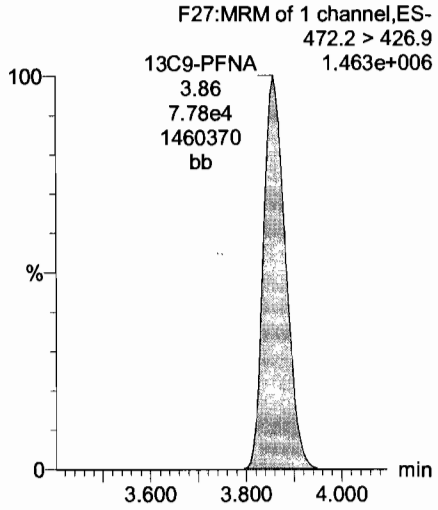


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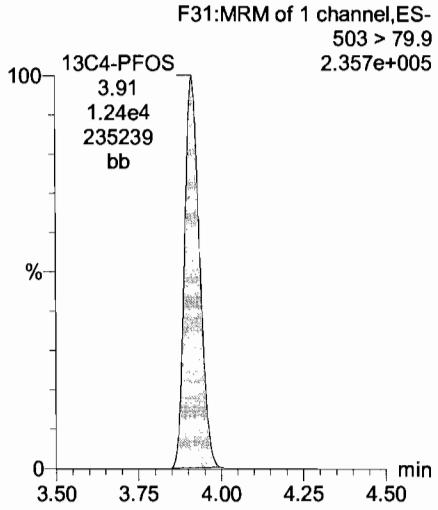
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Printed: Tuesday, July 25, 2017 10:46:20 Pacific Daylight Time

Name: 170724M1_54, Date: 24-Jul-2017, Time: 23:00:00, ID: ST170724M1-11 PFC CS3 17G2118, Description: PFC CS3 17G2118

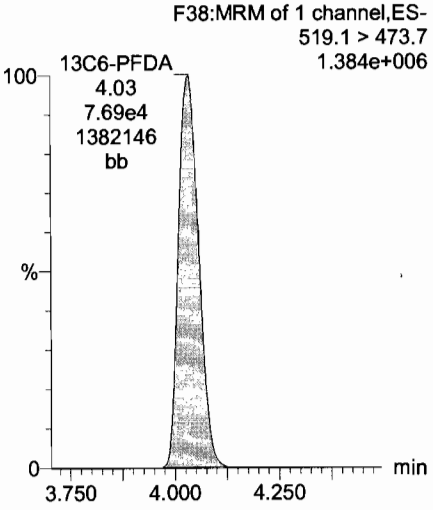
13C9-PFNA



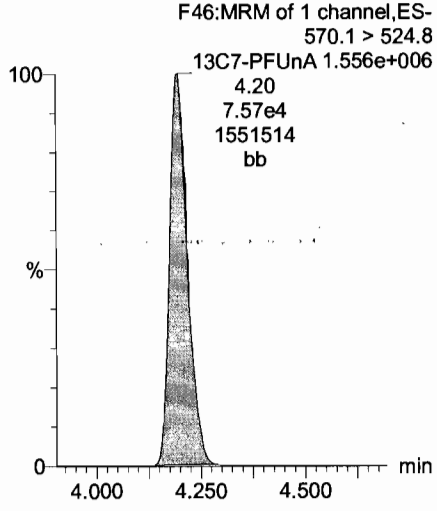
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Dataset: U:\Q4.PRO\results\170724M1\170724M1-72.qld

Last Altered: Tuesday, July 25, 2017 14:19:54 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 14:20:46 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

AC 7/25/17

Name: 170724M1_72, Date: 25-Jul-2017, Time: 02:12:47, ID: ST170724M1-12 PFC CS3 17G2118, Description: PFC CS3 17G2118

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.34e4	1.52e4		1.54	1.56	11.0	9.65	96.5
2	2	PFPeA	263.1 > 218.9	2.43e4	3.14e4		2.77	2.81	9.68	9.65	96.5
3	3	PFBS	299 > 79.7	5.79e3	4.14e3		2.96	3.00	17.5	9.40	94.0
4	4	PFHxA	313.2 > 268.9	3.86e4	1.37e4		3.19	3.22	14.0	9.19	91.9
5	5	PFHpA	363 > 318.9	4.04e4	4.17e4		3.45	3.48	12.1	9.60	96.0
6	6	PFHxS	398.9 > 79.6	4.85e3	4.13e3		3.56	3.55	14.7	8.67	86.7
7	7	6:2 FTS	427.1 > 407	8.32e3	9.88e3		3.64	3.67	10.5	9.96	99.6
8	8	PFOA	413 > 368.7	5.16e4	6.77e4		3.65	3.68	9.54	9.62	96.2
9	9	PFHpS	448.9 > 98.8	5.25e3	6.77e4		3.71	3.74	0.970	10.8	107.6
10	10	PFNA	462.9 > 418.8	5.83e4	6.70e4		3.83	3.86	10.9	9.77	97.7
11	11	PFOSA	498.1 > 77.8	6.36e3	7.87e3		3.84	3.86	10.1	9.58	95.8
12	12	PFOS	499 > 79.9	1.04e4	1.27e4		3.89	3.91	10.2	8.60	86.0
13	13	PFDA	513 > 468.8	5.85e4	6.79e4		4.01	4.03	10.8	8.20	82.0
14	14	8:2 FTS	527 > 506.9	6.80e3	6.46e3		4.00	4.02	13.2	8.93	89.3
15	15	N-MeFOSAA	570.1 > 419	1.72e4	1.48e4		4.03	4.06	188	9.47	94.7
16	16	N-EtFOSAA	584.2 > 419	1.37e4	1.52e4		4.10	4.13	147	9.11	91.1
17	17	PFUnA	562.9 > 518.9	4.38e4	7.08e4		4.17	4.19	7.74	8.75	87.5
18	18	PFDS	598.9 > 98.7	4.82e3	7.08e4		4.22	4.24	0.851	9.56	95.6
19	19	PFDoA	612.9 > 318.8	5.24e3	6.94e3		4.34	4.36	9.44	10.0	100.1
20	20	N-MeFOSA	512.1 > 168.9	1.10e4	3.17e4		4.29	4.41	51.8	49.7	99.4
21	21	PFTrDA	662.9 > 618.9	6.58e4	6.94e3		4.50	4.53	119	10.7	106.8
22	22	PFTeDA	712.9 > 668.8	4.33e4	4.53e4		4.68	4.71	11.9	10.4	103.8
23	23	N-EtFOSA	526.1 > 168.9	1.33e4	4.39e4		4.87	4.98	45.3	49.8	99.5
24	24	PFHxDA	812.8 > 768.9	6.24e4	2.27e4		5.06	5.08	13.7	10.0	100.4
25	25	PFODA	912.8 > 868.8	5.70e4	2.27e4		5.43	5.44	12.5	9.75	97.5
26	26	N-MeFOSE	616.1 > 58.9	1.63e4	4.79e4		5.42	5.43	51.1	49.8	99.7
27	27	N-EtFOSE	630.1 > 58.9	1.82e4	4.80e4		5.59	5.61	56.8	48.2	96.5
28	28	13C3-PFBA	216.1 > 171.8	1.52e4	1.83e4	0.820	1.54	1.56	10.4	12.6	101.0
29	29	13C3-PFPeA	266 > 221.8	3.14e4	4.81e4	0.248	2.77	2.80	3.27	13.2	105.3
30	30	13C3-PFBS	302 > 98.8	4.14e3	4.81e4	0.031	2.96	3.00	0.431	13.9	110.8
31	31	13C2-PFHxA	315 > 269.8	1.37e4	4.81e4	0.276	3.19	3.22	1.43	5.17	103.5

70-130

50-150

Dataset: U:\Q4.PRO\results\170724M1\170724M1-72.qld

Last Altered: Tuesday, July 25, 2017 14:19:54 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 14:20:46 Pacific Daylight Time

Name: 170724M1_72, Date: 25-Jul-2017, Time: 02:12:47, ID: ST170724M1-12 PFC CS3 17G2118, Description: PFC CS3 17G2118

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFHpA	367.2 > 321.8	4.17e4	4.81e4	0.306	3.45	3.48	4.34	14.2	113.6
33	33	18O2-PFHxS	403 > 102.6	4.13e3	9.59e3	0.393	3.56	3.56	5.38	13.7	109.7
34	34	13C2-6:2 FTS	429.1 > 408.9	9.88e3	7.04e4	0.158	3.64	3.67	1.75	11.1	88.9
35	35	13C2-PFOA	414.9 > 369.7	6.77e4	7.04e4	1.067	3.65	3.68	12.0	11.3	90.0
36	36	13C5-PFNA	468.2 > 422.9	6.70e4	7.81e4	0.852	3.83	3.86	10.7	12.6	100.7
37	37	13C8-PFOSA	506.1 > 77.7	7.87e3	7.21e4	0.098	3.84	3.87	1.36	13.9	111.1
38	38	13C8-PFOS	507 > 79.9	1.27e4	1.33e4	0.936	3.89	3.91	12.0	12.8	102.6
39	39	13C2-PFDA	515.1 > 469.9	6.79e4	6.62e4	0.810	4.01	4.03	12.8	15.8	126.5
40	40	13C2-8:2 FTS	529.1 > 508.7	6.46e3	6.62e4	0.086	4.00	4.02	1.22	14.2	114.0
41	41	d3-N-MeFOSAA	573.3 > 419	1.48e4	7.21e4	0.014	4.03	4.06	2.57	188	115.5
42	42	d5-N-EtFOSAA	589.3 > 419	1.52e4	7.21e4	0.014	4.12	4.12	2.63	188	115.9
43	43	13C2-PFUnA	565 > 519.8	7.08e4	7.21e4	0.962	4.17	4.19	12.3	12.8	102.0
44	44	13C2-PFDoA	615 > 569.7	6.94e3	7.21e4	0.094	4.34	4.36	1.20	12.7	101.9
45	45	d3-N-MeFOSA	515.2 > 168.9	3.17e4	7.21e4	0.034	4.29	4.45	5.50	160	106.6
46	46	13C2-PFTeDA	714.8 > 669.6	4.53e4	7.21e4	0.694	4.68	4.71	7.86	11.3	90.6
47	47	d5-N-ETFOSA	531.1 > 168.9	4.39e4	7.21e4	0.049	5.01	5.02	7.61	156	104.2
48	48	13C2-PFHxDA	815 > 769.7	2.27e4	7.21e4	0.843	5.06	5.08	3.94	4.68	93.5
49	49	d7-N-MeFOSE	623.1 > 58.9	4.79e4	7.21e4	0.055	5.42	5.42	8.30	152	101.3
50	50	d9-N-EtFOSE	639.2 > 58.8	4.80e4	7.21e4	0.053	5.59	5.59	8.32	156	103.8
51	51	13C4-PFBA	217 > 171.8	1.83e4	1.83e4	1.000	1.54	1.56	12.5	12.5	100.0
52	52	13C5-PFHxA	318 > 272.9	4.81e4	4.81e4	1.000	3.19	3.23	5.00	5.00	100.0
53	53	13C3-PFHxS	401.9 > 79.9	9.59e3	9.59e3	1.000	3.56	3.56	12.5	12.5	100.0
54	54	13C8-PFOA	421.3 > 376	7.04e4	7.04e4	1.000	3.65	3.68	12.5	12.5	100.0
55	55	13C9-PFNA	472.2 > 426.9	7.81e4	7.81e4	1.000	3.83	3.86	12.5	12.5	100.0
56	56	13C4-PFOS	503 > 79.9	1.33e4	1.33e4	1.000	3.89	3.91	12.5	12.5	100.0
57	57	13C6-PFDA	519.1 > 473.7	6.62e4	6.62e4	1.000	4.01	4.03	12.5	12.5	100.0
58	58	13C7-PFUnA	570.1 > 524.8	7.21e4	7.21e4	1.000	4.17	4.19	12.5	12.5	100.0

50-150

Vista Analytical Laboratory

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Compound name: PFBA

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1	170724M1_71	IPA	25-Jul-17	02:02:09
2	170724M1_72	ST170724M1-12 PFC CS3 17G2118	25-Jul-17	02:12:47
3	170724M1_73	IPA	25-Jul-17	02:23:26
4	170724M1_74	1700907-05 AT028-MW17-03-071717-1355 0....	25-Jul-17	02:34:04
5	170724M1_75	1700907-06 AT028-MW17-07-071717-1520 0....	25-Jul-17	02:44:43
6	170724M1_76	1700907-07 AT028-FB-01-071817-0800 0.125	25-Jul-17	02:55:21
7	170724M1_77	1700907-08 AT028-MW17-05-071817-0835 0....	25-Jul-17	03:05:59
8	170724M1_78	1700907-09 AT028-MW17-01-071817-0950 0....	25-Jul-17	03:16:38
9	170724M1_79	1700907-10 AT028-DUP-01-071717-1200 0.125	25-Jul-17	03:27:24
10	170724M1_80	1700919-01 MW-322-071917 0.125	25-Jul-17	03:38:11
11	170724M1_81	1700919-02 MW-88-071917 0.125	25-Jul-17	03:48:49
12	170724M1_82	1700919-03 MW-44-071917 0.125	25-Jul-17	03:59:36
13	170724M1_83	IPA	25-Jul-17	04:10:14
14	170724M1_84	ST170724M1-13 PFC CS3 17G2118	25-Jul-17	04:20:52
15	170724M1_85	IPA	25-Jul-17	04:31:31

LC Calibration Standards Review Checklist Q4

		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	N/A
Calibration ID: ST170724M1-12	L (M) H	N/A	☑	☑	☑	☑	☑	☐
Calibration ID: ↓ -13	L (M) H	☐	☑	☑	☑	☑	☑	☑
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
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Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 6/21/17

Run Log Present: ☑

# of Samples per Sequence Checked: ☑

Reviewed By: [illegible] 7/25/17
Initials/Date

Comments:
Full List

Vista Analytical Laboratory

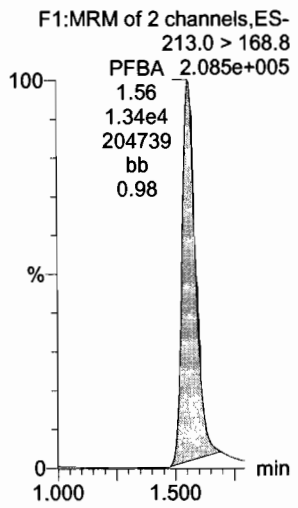
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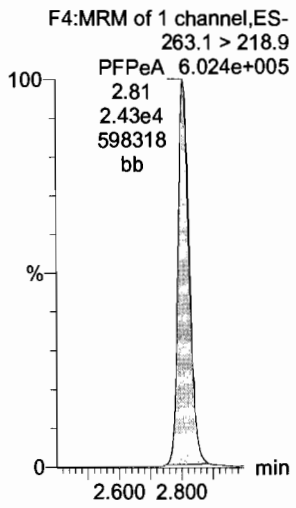
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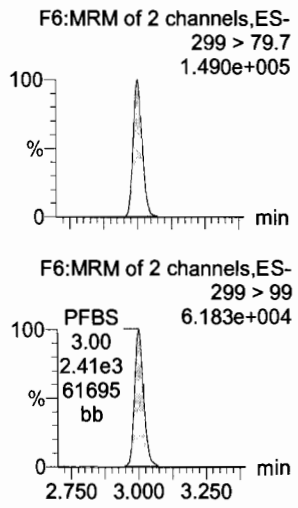
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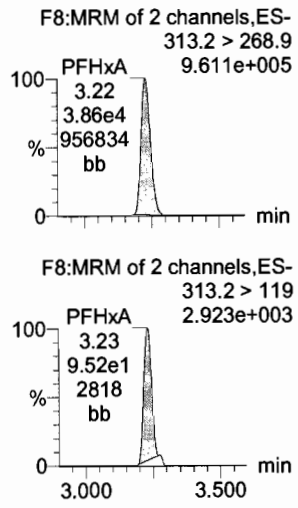
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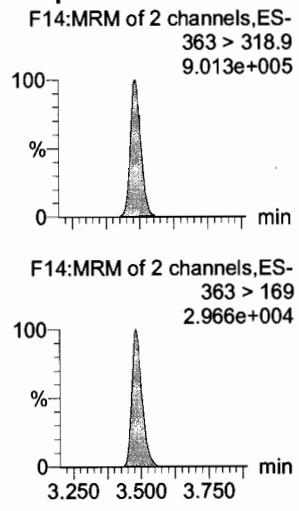
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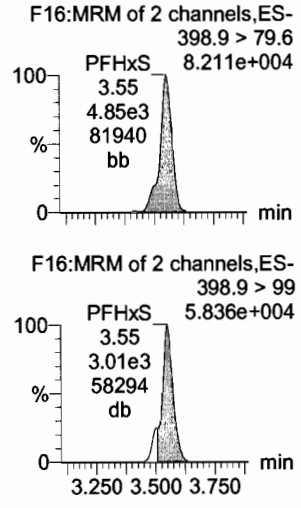
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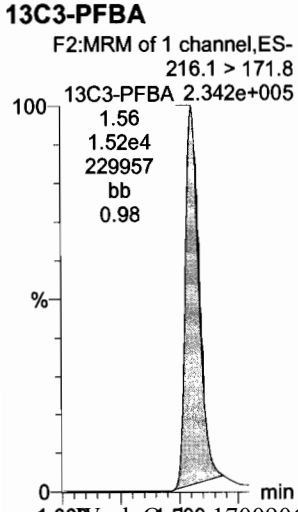
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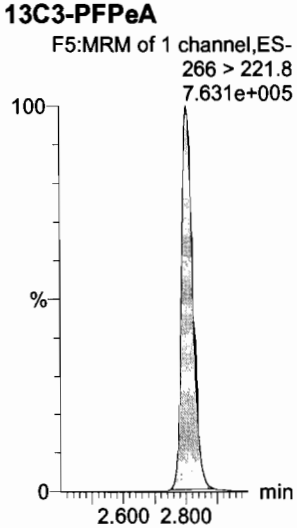
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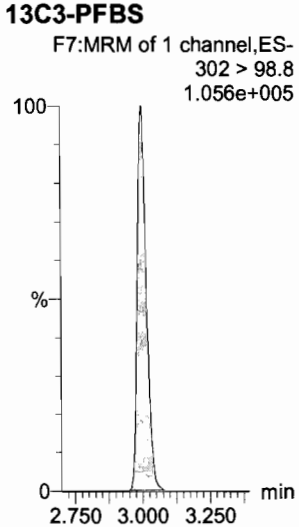
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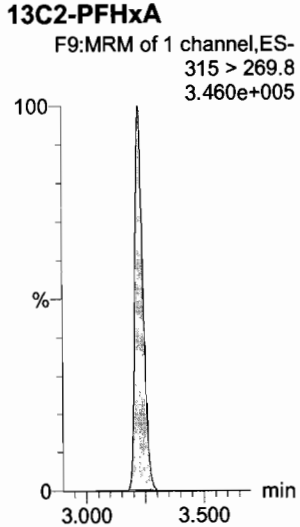
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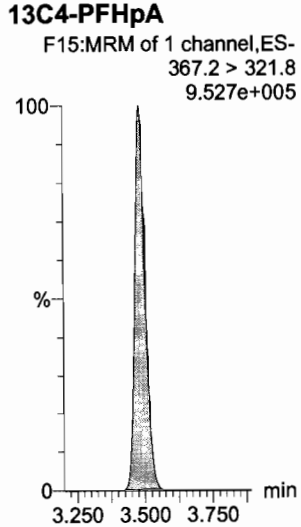
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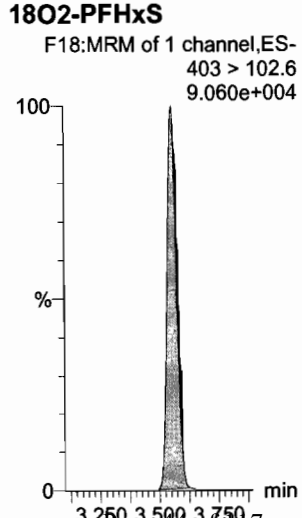
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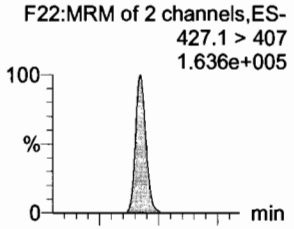


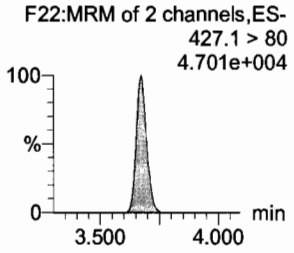
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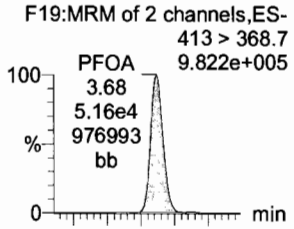
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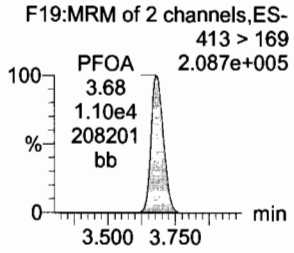
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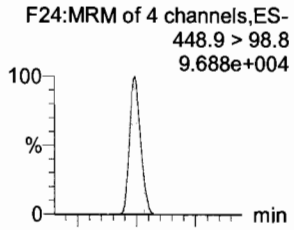


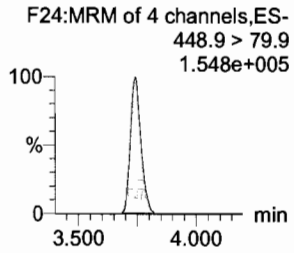
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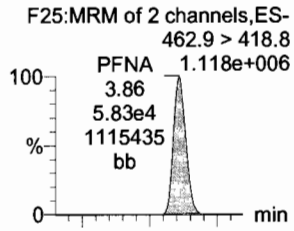


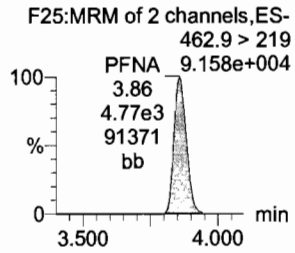
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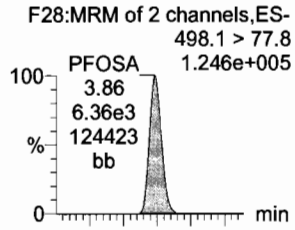


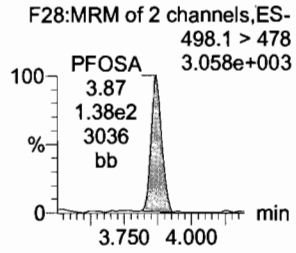
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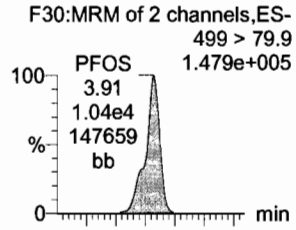


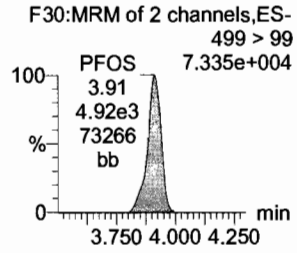
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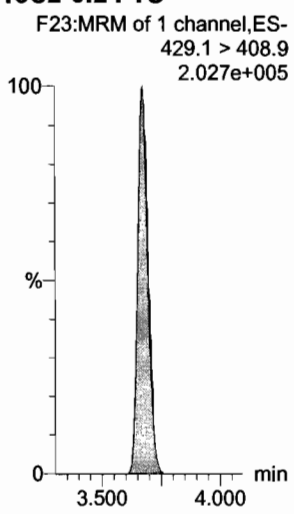


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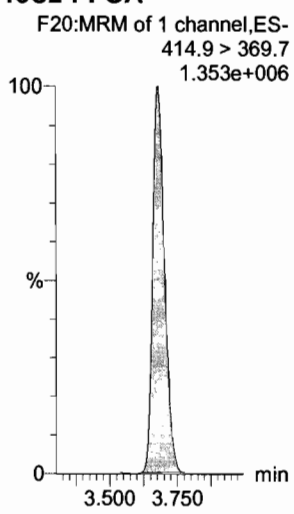




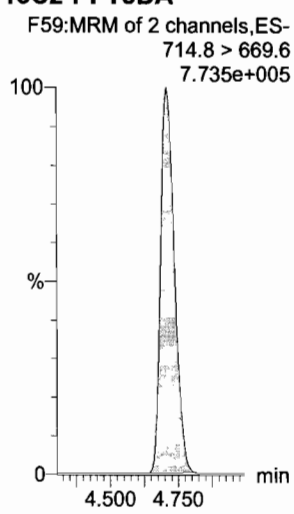
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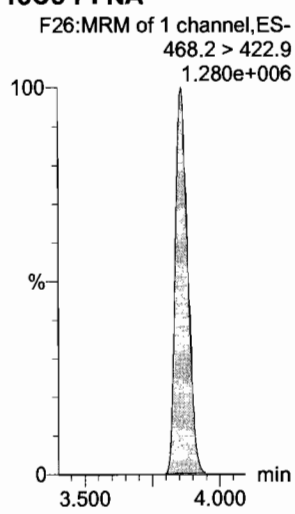
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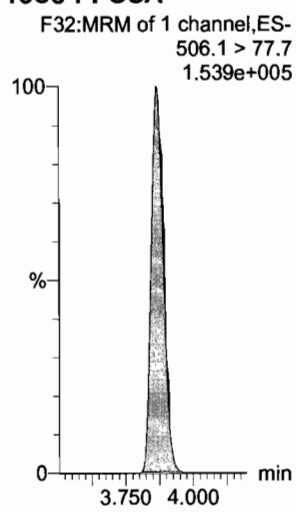
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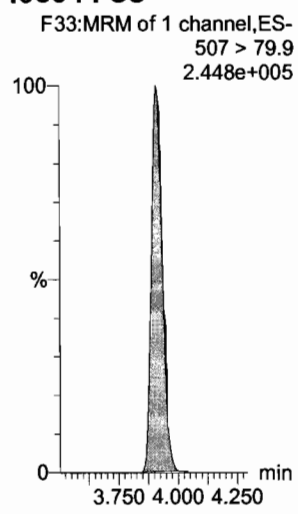
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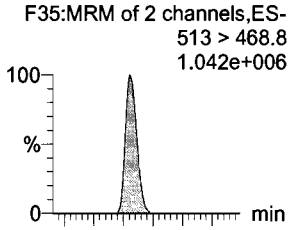


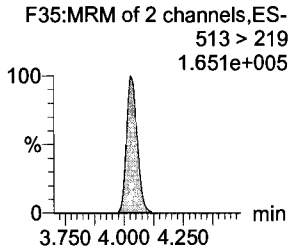
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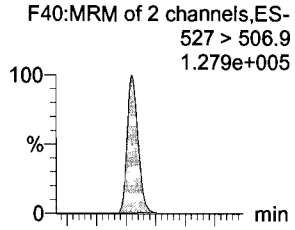
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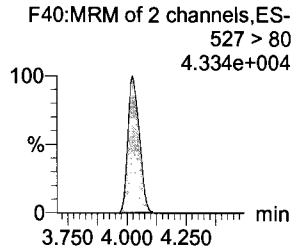
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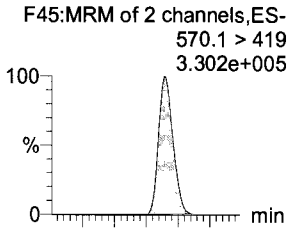


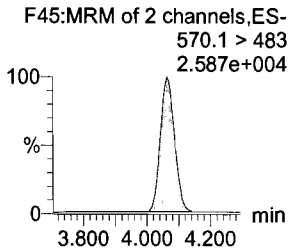
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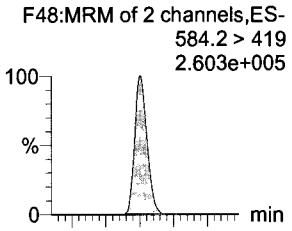


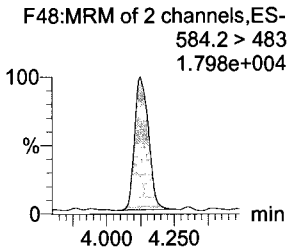
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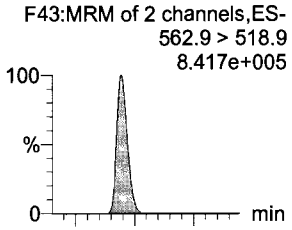


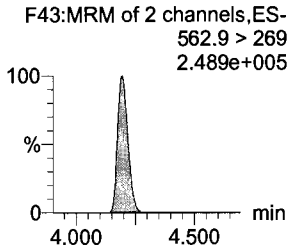
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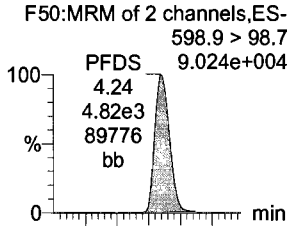


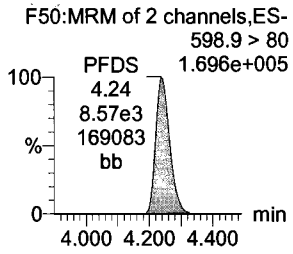
PFUnA



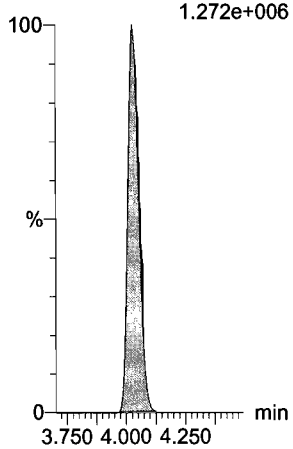


PFDS

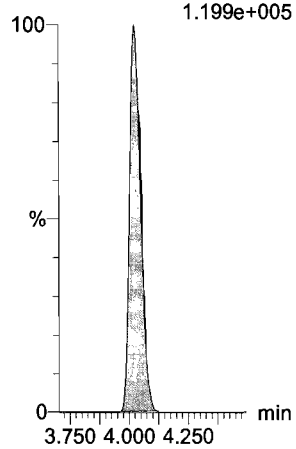




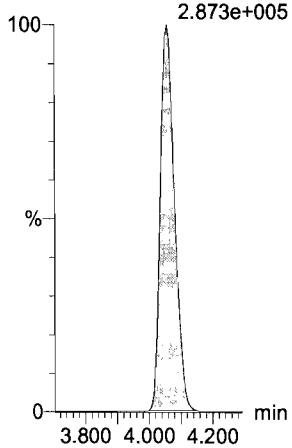
13C2-PFDA



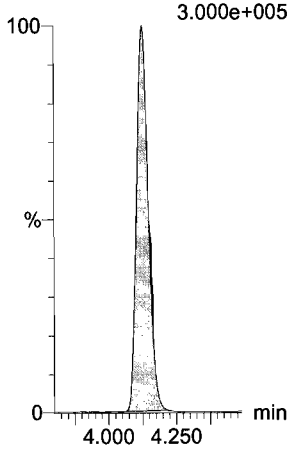
13C2-8:2 FTS



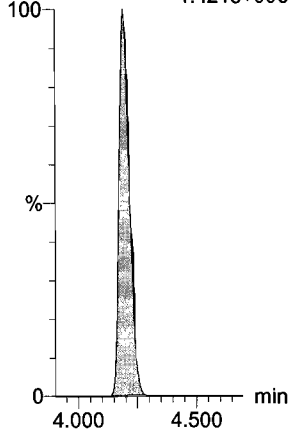
d3-N-MeFOSAA



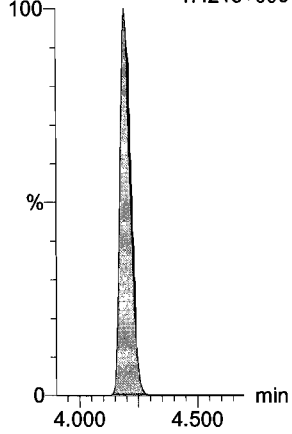
d5-N-EtFOSAA



13C2-PFUnA



13C2-PFUnA

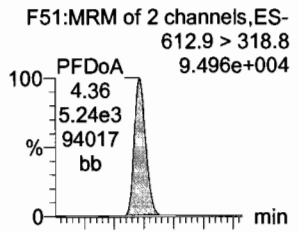


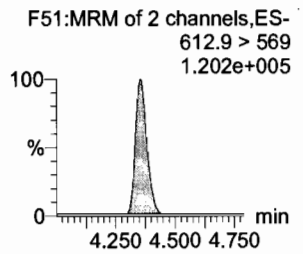
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Printed: Tuesday, July 25, 2017 14:20:46 Pacific Daylight Time

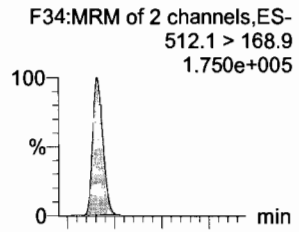
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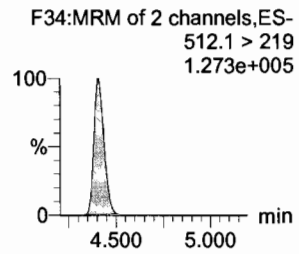
PFDoA



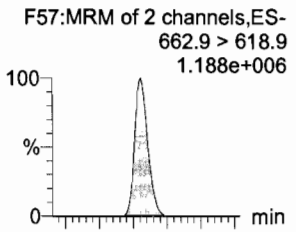


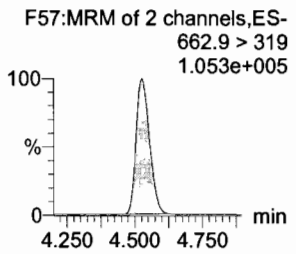
N-MeFOSA



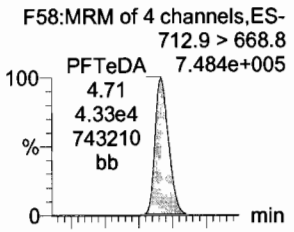


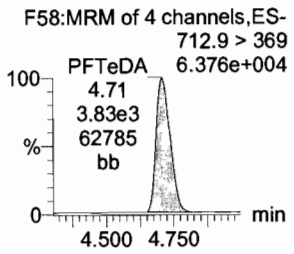
PFTrDA



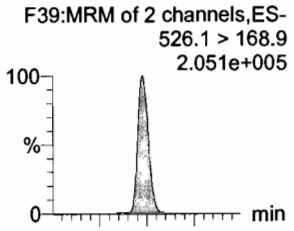


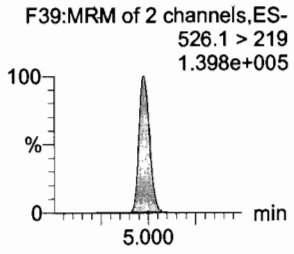
PFTeDA



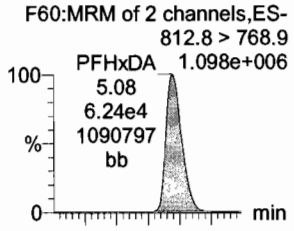


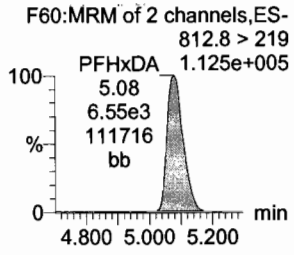
N-EtFOSA



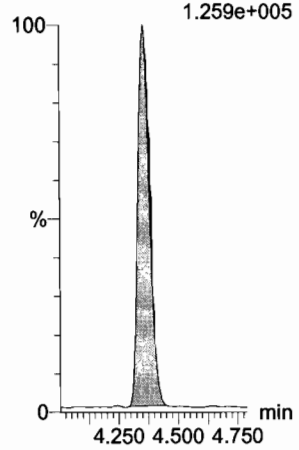


PFHxDA

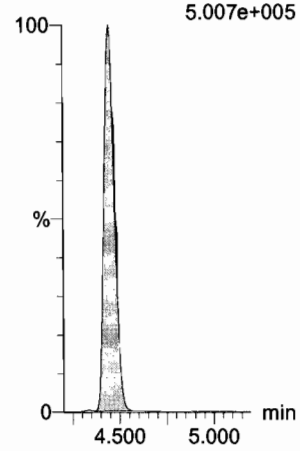




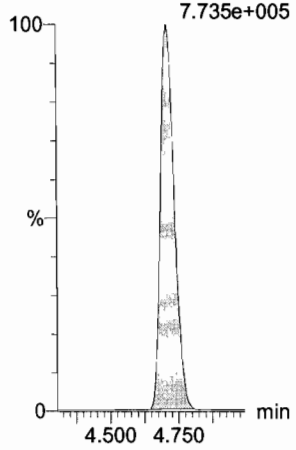
13C2-PFDoA



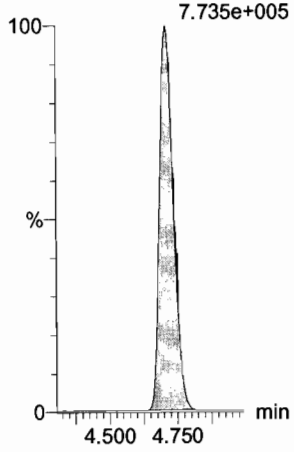
d3-N-MeFOSA



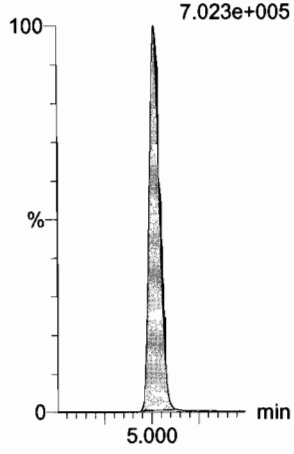
13C2-PFTeDA



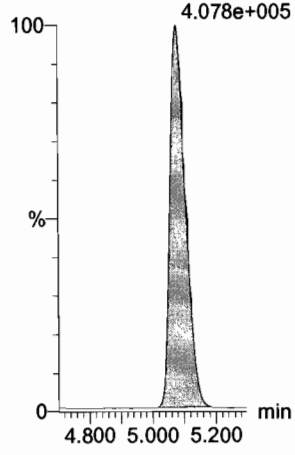
13C2-PFTeDA



d5-N-ETFOSA



13C2-PFHxDA

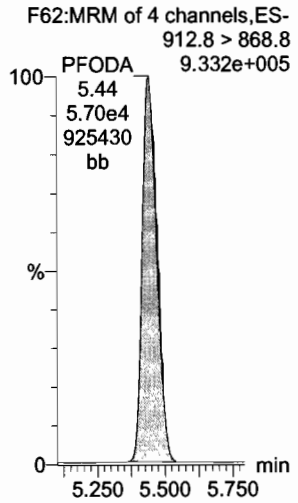


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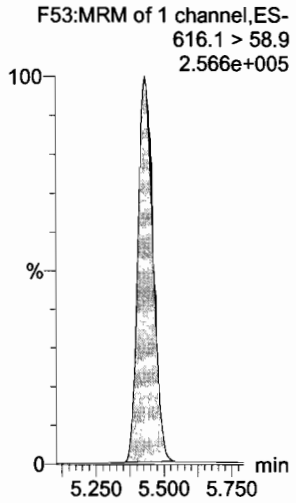
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Name: 170724M1_72, Date: 25-Jul-2017, Time: 02:12:47, ID: ST170724M1-12 PFC CS3 17G2118, Description: PFC CS3 17G2118

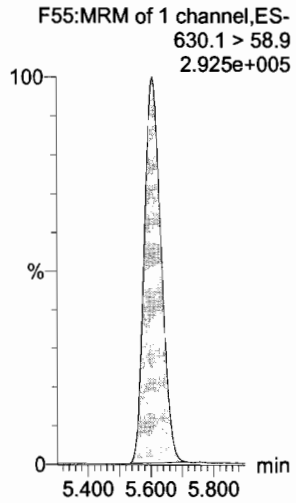
PFODA



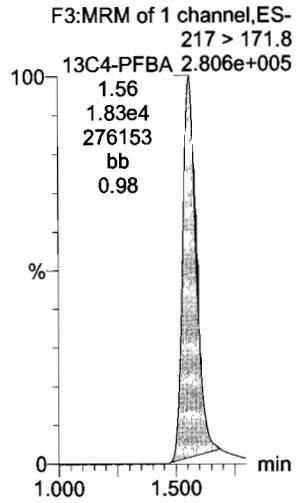
N-MeFOSE



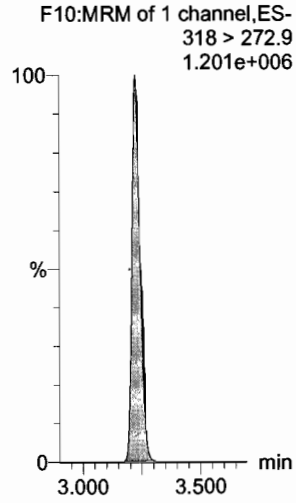
N-EtFOSE



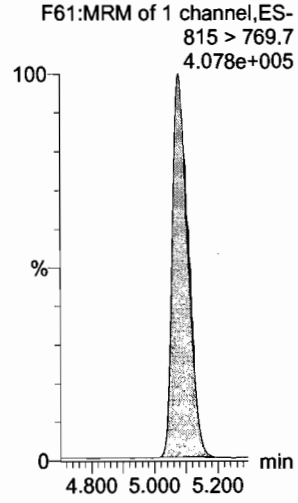
13C4-PFBA



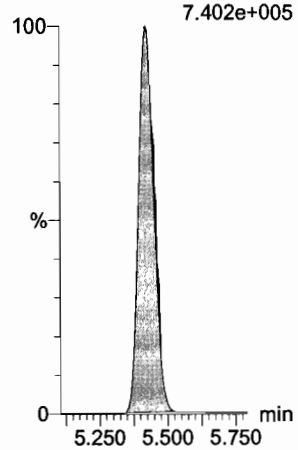
13C5-PFHxA



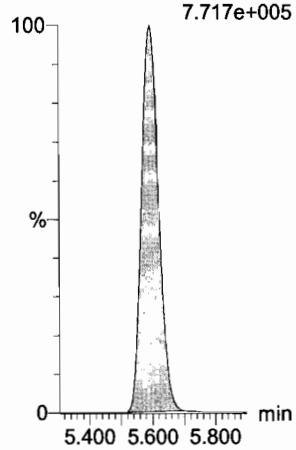
13C2-PFHxDA



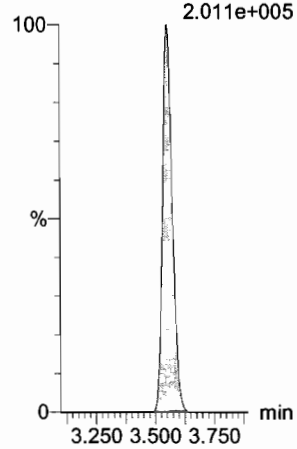
d7-N-MeFOSE



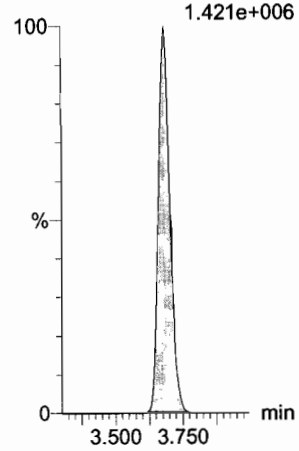
d9-N-EtFOSE



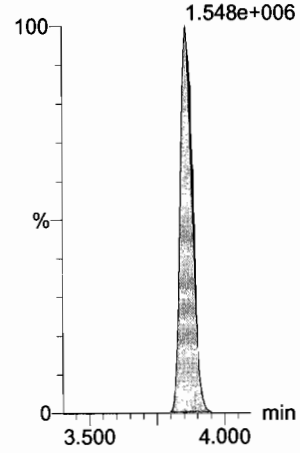
13C3-PFHxS



13C8-PFOA



13C9-PFNA

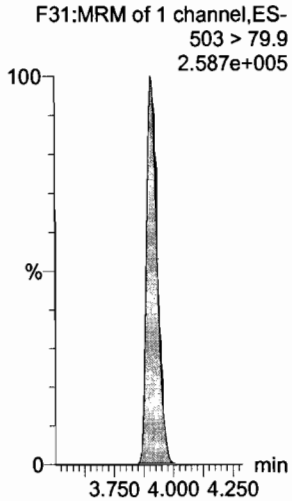


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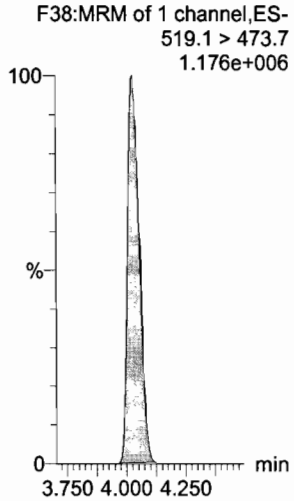
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Name: 170724M1_72, Date: 25-Jul-2017, Time: 02:12:47, ID: ST170724M1-12 PFC CS3 17G2118, Description: PFC CS3 17G2118

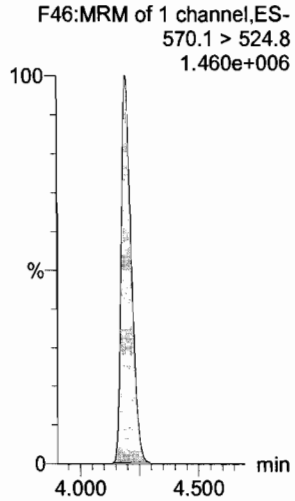
13C4-PFOS



13C6-PFDA



13C7-PFUnA



Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170725M1\170725M1-51.qld

Last Altered: Wednesday, July 26, 2017 09:59:30 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:00:02 Pacific Daylight Time

AC 7/26/17

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.49e4	1.71e4		1.54	1.58	10.9	9.52	95.2
2	2	PFPeA	263.1 > 218.9	2.65e4	3.47e4		2.77	2.82	9.57	9.54	95.4
3	3	PFBS	299 > 79.7	6.14e3	4.30e3		2.96	3.01	17.8	9.59	95.9
4	4	PFHxA	313.2 > 268.9	4.45e4	1.57e4		3.19	3.23	14.2	9.32	93.2
5	5	PFHpA	363 > 318.9	4.13e4	4.43e4		3.45	3.49	11.6	9.23	92.3
6	6	PFHxS	398.9 > 79.6	5.59e3	4.02e3		3.56	3.56	17.4	10.3	102.8
7	7	6:2 FTS	427.1 > 407	8.69e3	1.04e4		3.64	3.68	10.4	9.87	98.7
8	8	PFOA	413 > 368.7	6.44e4	7.91e4		3.65	3.69	10.2	10.3	102.9
9	9	PFHpS	448.9 > 98.8	5.87e3	7.91e4		3.71	3.75	0.927	10.3	102.9
10	10	PFNA	462.9 > 418.8	6.72e4	7.16e4		3.83	3.86	11.7	10.6	105.6
11	11	PFOSA	498.1 > 77.8	6.08e3	7.73e3		3.84	3.88	9.84	9.33	93.3
12	12	PFOS	499 > 79.9	1.14e4	1.38e4		3.89	3.91	10.3	8.69	86.9
13	13	PFDA	513 > 468.8	6.75e4	6.64e4		4.01	4.04	12.7	9.69	96.9
14	14	8:2 FTS	527 > 506.9	8.09e3	7.23e3		4.00	4.03	14.0	9.50	95.0
15	15	N-MeFOSAA	570.1 > 419	1.90e4	1.54e4		4.03	4.06	200	10.1	100.9
16	16	N-EtFOSAA	584.2 > 419	1.50e4	1.62e4		4.10	4.13	151	9.35	93.5
17	17	PFUnA	562.9 > 518.9	5.27e4	7.67e4		4.17	4.20	8.58	9.73	97.3
18	18	PFDS	598.9 > 98.7	5.12e3	7.67e4		4.22	4.24	0.835	9.38	93.8
19	19	PFDoA	612.9 > 318.8	5.82e3	8.31e3		4.34	4.36	8.76	9.27	92.7
20	20	N-MeFOSA	512.1 > 168.9	1.09e4	3.26e4		4.29	4.45	50.3	48.2	96.5
21	21	PFTrDA	662.9 > 618.9	7.61e4	8.31e3		4.50	4.53	114	10.3	103.1
22	22	PFTeDA	712.9 > 668.8	5.14e4	5.71e4		4.68	4.71	11.3	9.76	97.6
23	23	N-EtFOSA	526.1 > 168.9	1.37e4	4.48e4		4.87	5.01	45.8	50.3	100.5
24	24	PFHxDA	812.8 > 768.9	7.15e4	2.70e4		5.06	5.08	13.2	9.68	96.8
25	25	PFODA	912.8 > 868.8	6.82e4	2.70e4		5.43	5.44	12.6	9.83	98.3
26	26	N-MeFOSE	616.1 > 58.9	1.61e4	4.83e4		5.42	5.44	49.9	48.7	97.3
27	27	N-EtFOSE	630.1 > 58.9	1.83e4	4.86e4		5.59	5.61	56.5	48.0	96.1
28	28	13C3-PFBA	216.1 > 171.8	1.71e4	2.01e4	0.820	1.54	1.58	10.6	13.0	103.8
29	29	13C3-PFPeA	266 > 221.8	3.47e4	5.52e4	0.248	2.77	2.82	3.14	12.6	101.1
30	30	13C3-PFBS	302 > 98.8	4.30e3	5.52e4	0.031	2.96	3.01	0.389	12.5	100.1
31	31	13C2-PFHxA	315 > 269.8	1.57e4	5.52e4	0.276	3.19	3.23	1.42	5.13	102.6

70-130

50-150

Dataset: U:\Q4.PRO\results\170725M1\170725M1-51.qld

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Printed: Wednesday, July 26, 2017 10:00:02 Pacific Daylight Time

Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFHpA	367.2 > 321.8	4.43e4	5.52e4	0.306	3.45	3.49	4.01	13.1	105.0
33	33	18O2-PFHxS	403 > 102.6	4.02e3	1.03e4	0.393	3.56	3.56	4.89	12.5	99.7
34	34	13C2-6:2 FTS	429.1 > 408.9	1.04e4	7.52e4	0.158	3.64	3.68	1.73	11.0	87.8
35	35	13C2-PFOA	414.9 > 369.7	7.91e4	7.52e4	1.067	3.65	3.69	13.1	12.3	98.5
36	36	13C5-PFNA	468.2 > 422.9	7.16e4	8.12e4	0.852	3.83	3.86	11.0	12.9	103.4
37	37	13C8-PFOSA	506.1 > 77.7	7.73e3	7.68e4	0.098	3.84	3.87	1.26	12.8	102.4
38	38	13C8-PFOS	507 > 79.9	1.38e4	1.44e4	0.936	3.89	3.91	12.0	12.8	102.7
39	39	13C2-PFDA	515.1 > 469.9	6.64e4	8.67e4	0.810	4.01	4.04	9.58	11.8	94.6
40	40	13C2-8:2 FTS	529.1 > 508.7	7.23e3	8.67e4	0.086	4.00	4.03	1.04	12.2	97.5
41	41	d3-N-MeFOSAA	573.3 > 419	1.54e4	7.68e4	0.014	4.03	4.06	2.51	183	112.6
42	42	d5-N-EtFOSAA	589.3 > 419	1.62e4	7.68e4	0.014	4.12	4.13	2.63	189	116.1
43	43	13C2-PFUnA	565 > 519.8	7.67e4	7.68e4	0.962	4.17	4.20	12.5	13.0	103.8
44	44	13C2-PFDoA	615 > 569.7	8.31e3	7.68e4	0.094	4.34	4.36	1.35	14.3	114.6
45	45	d3-N-MeFOSA	515.2 > 168.9	3.26e4	7.68e4	0.034	4.29	4.48	5.30	154	102.6
46	46	13C2-PFTeDA	714.8 > 669.6	5.71e4	7.68e4	0.694	4.68	4.71	9.29	13.4	107.0
47	47	d5-N-ETFOSA	531.1 > 168.9	4.48e4	7.68e4	0.049	5.01	5.05	7.29	150	99.8
48	48	13C2-PFHxDA	815 > 769.7	2.70e4	7.68e4	0.843	5.06	5.08	4.39	5.21	104.2
49	49	d7-N-MeFOSE	623.1 > 58.9	4.83e4	7.68e4	0.055	5.42	5.43	7.85	144	95.8
50	50	d9-N-EtFOSE	639.2 > 58.8	4.86e4	7.68e4	0.053	5.59	5.60	7.91	148	98.7
51	51	13C4-PFBA	217 > 171.8	2.01e4	2.01e4	1.000	1.54	1.58	12.5	12.5	100.0
52	52	13C5-PFHxA	318 > 272.9	5.52e4	5.52e4	1.000	3.19	3.23	5.00	5.00	100.0
53	53	13C3-PFHxS	401.9 > 79.9	1.03e4	1.03e4	1.000	3.56	3.56	12.5	12.5	100.0
54	54	13C8-PFOA	421.3 > 376	7.52e4	7.52e4	1.000	3.65	3.69	12.5	12.5	100.0
55	55	13C9-PFNA	472.2 > 426.9	8.12e4	8.12e4	1.000	3.83	3.87	12.5	12.5	100.0
56	56	13C4-PFOS	503 > 79.9	1.44e4	1.44e4	1.000	3.89	3.91	12.5	12.5	100.0
57	57	13C6-PFDA	519.1 > 473.7	8.67e4	8.67e4	1.000	4.01	4.03	12.5	12.5	100.0
58	58	13C7-PFUnA	570.1 > 524.8	7.68e4	7.68e4	1.000	4.17	4.20	12.5	12.5	100.0

50-150

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Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Compound name: PFBA

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1	170725M1_1	IPA	25-Jul-17	14:15:31
2	170725M1_2	ST170725M1-1 PFC CS-1 17G2502	25-Jul-17	14:26:15
3	170725M1_3	B7G0107-BS1 OPR 0.125	25-Jul-17	14:36:53
4	170725M1_4	IPA	25-Jul-17	14:47:39
5	170725M1_5	B7G0107-BLK1 Method Blank 0.125	25-Jul-17	14:58:18
6	170725M1_6	1700851-01RE1 SB 01_20170710 0.12032	25-Jul-17	15:08:56
7	170725M1_7	1700851-02RE1 EB 01_20170710 0.11963	25-Jul-17	15:19:35
8	170725M1_8	1700851-03RE1 18-GW-18MCAS03-5-20170...	25-Jul-17	15:30:13
9	170725M1_9	1700851-04RE1 18-GW-18MCAS03-2-20170...	25-Jul-17	15:40:51
10	170725M1_10	1700851-05RE1 18-GW-18MCAS02-5-20170...	25-Jul-17	15:51:30
11	170725M1_11	1700851-06RE1 18-GW-18MCAS07-3-20170...	25-Jul-17	16:02:08
12	170725M1_12	1700851-07RE1 24-GW-24MW08B-20170710...	25-Jul-17	16:12:47
13	170725M1_13	1700851-08RE1 DUP03-20170710 0.12071	25-Jul-17	16:23:25
14	170725M1_14	1700851-09RE1 24-GW-24EX11-20170710 0....	25-Jul-17	16:34:03
15	170725M1_15	1700851-10RE1 SGV-GW-SGV Transfer Stati...	25-Jul-17	16:44:46
16	170725M1_16	B7G0107-MS2 Matrix Spike 0.11945	25-Jul-17	16:55:33
17	170725M1_17	B7G0107-MSD2 Matrix Spike Dup 0.12098	25-Jul-17	17:06:33
18	170725M1_18	IPA	25-Jul-17	17:17:45
19	170725M1_19	ST170725M1-2 PFC CS3 17G2503	25-Jul-17	17:28:43
20	170725M1_20	IPA	25-Jul-17	17:39:41
21	170725M1_21	1700852-01RE1 EB 02_20170711 0.12122	25-Jul-17	17:50:30
22	170725M1_22	1700852-02RE1 DUP01-20170711 0.11996	25-Jul-17	18:01:17
23	170725M1_23	1700852-03RE1 1-GW-01-MW204-20170711 ...	25-Jul-17	18:12:03
24	170725M1_24	B7G0107-MS1 Matrix Spike 0.12078	25-Jul-17	18:22:49
25	170725M1_25	B7G0107-MSD1 Matrix Spike Dup 0.11599	25-Jul-17	18:33:36
26	170725M1_26	1700852-04RE1 1-GW-01-MW206-20170711 ...	25-Jul-17	18:44:23
27	170725M1_27	1700852-05RE1 2-GW-02DGMW59-2017071...	25-Jul-17	18:55:10
28	170725M1_28	1700852-06RE1 2-GW-02NEW16-20170711 ...	25-Jul-17	19:05:57
29	170725M1_29	1700852-07RE1 5-GW-05-DGMW68A-20170...	25-Jul-17	19:16:44
30	170725M1_30	1700852-08RE1 1-GW-01-PZ20-20170711 0....	25-Jul-17	19:27:29
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Compound name: PFBA

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34	170725M1_34	IPA	25-Jul-17	20:11:07
35	170725M1_35	B7G0108-BS1 OPR 0.125	25-Jul-17	20:21:46
36	170725M1_36	IPA	25-Jul-17	20:32:24
37	170725M1_37	B7G0108-BLK1 Method Blank 0.125	25-Jul-17	20:43:03
38	170725M1_38	1700856-01RE1 INFLUENT-20170710 0.121	25-Jul-17	20:53:41
39	170725M1_39	1700856-02RE1 DUP05-20170710 0.11647	25-Jul-17	21:04:19
40	170725M1_40	1700856-03RE1 MID-POINT-20170710 0.11731	25-Jul-17	21:14:58
41	170725M1_41	1700856-04RE1 EFFLUENT-20170710 0.12084	25-Jul-17	21:25:36
42	170725M1_42	B7G0108-MS1 Matrix Spike 0.12162	25-Jul-17	21:36:14
43	170725M1_43	B7G0108-MSD1 Matrix Spike Dup 0.11849	25-Jul-17	21:47:01
44	170725M1_44	1700856-05RE1 MW-37S-20170711 0.11696	25-Jul-17	21:57:39
45	170725M1_45	1700856-06RE1 ERB-01-20170711 0.12043	25-Jul-17	22:08:34
46	170725M1_46	1700856-07RE1 11-MW-1-20170710 0.11482	25-Jul-17	22:19:33
47	170725M1_47	1700856-08RE1 LF-MW-54BR-20170710 0.11...	25-Jul-17	22:30:16
48	170725M1_48	1700856-09RE1 MW-48BR-20170711 0.12084	25-Jul-17	22:40:54
49	170725M1_49	1700856-10RE1 MW-34S-20170711 0.11812	25-Jul-17	22:51:33
50	170725M1_50	IPA	25-Jul-17	23:02:11
51	170725M1_51	ST170725M1-4 PFC CS3 17G2503	25-Jul-17	23:12:50
52	170725M1_52	IPA	25-Jul-17	23:23:36
53	170725M1_53	1700856-11RE1 MW-31BR-20170711 0.11774	25-Jul-17	23:34:14
54	170725M1_54	1700856-12RE1 MW-31S-20170711 0.11732	25-Jul-17	23:45:01
55	170725M1_55	1700732-04RE1@5X MW PFC 03 0.11929	25-Jul-17	23:55:47
56	170725M1_56	1700906-05@5X MW-02BR-20170718 0.125	26-Jul-17	00:06:56
57	170725M1_57	1700907-04@5X AT028-MW17-06-071717-13...	26-Jul-17	00:18:17
58	170725M1_58	1700907-09@5X AT028-MW17-01-071817-09...	26-Jul-17	00:29:47
59	170725M1_59	IPA	26-Jul-17	00:40:33
60	170725M1_60	ST170725M1-5 PFC CS3 17G2503	26-Jul-17	00:51:21
61	170725M1_61	IPA	26-Jul-17	01:02:08
62	170725M1_62	1700845-01@5X MW-29S-20170707 0.12034	26-Jul-17	01:12:49
63	170725M1_63	1700845-02@5X DUP04-20170707 0.12279	26-Jul-17	01:23:33
64	170725M1_64	1700845-03@20X MW-27S-20170707 0.11824	26-Jul-17	01:34:11
65	170725M1_65	B7G0033-MS1@20X Matrix Spike 0.12283	26-Jul-17	01:44:49

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Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Compound name: PFBA

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67	170725M1_67	1700845-04@5X MW-30S-20170707 0.11933	26-Jul-17	02:06:06
68	170725M1_68	1700894-02@5X POND 1 at PD 0.125	26-Jul-17	02:16:53
69	170725M1_69	1700894-03@5X POND 1 -STAFF 0.125	26-Jul-17	02:27:50
70	170725M1_70	1700894-04@10X SEED-POND 1 0.125	26-Jul-17	02:38:34
71	170725M1_71	1700732-05RE1 SD-46 3.2	26-Jul-17	02:49:12
72	170725M1_72	IPA	26-Jul-17	02:59:50
73	170725M1_73	ST170725M1-6 PFC CS3 17G2503	26-Jul-17	03:10:29
74	170725M1_74	IPA	26-Jul-17	03:21:15

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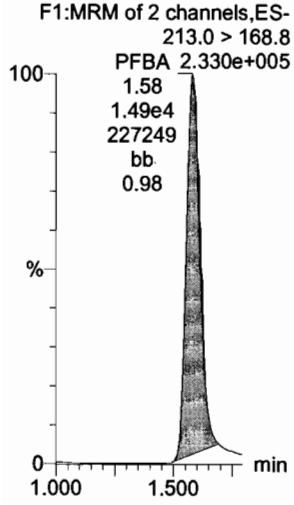
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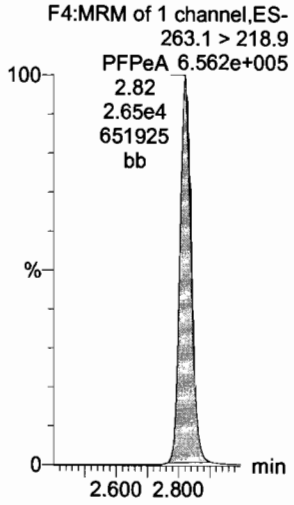
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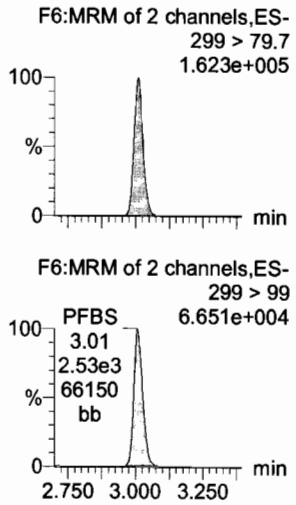
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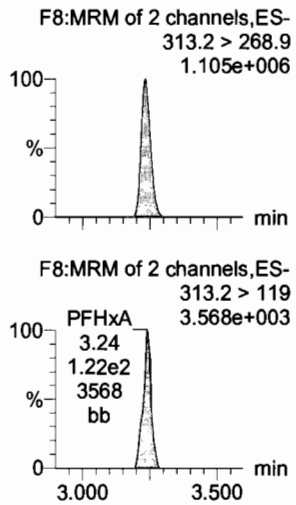
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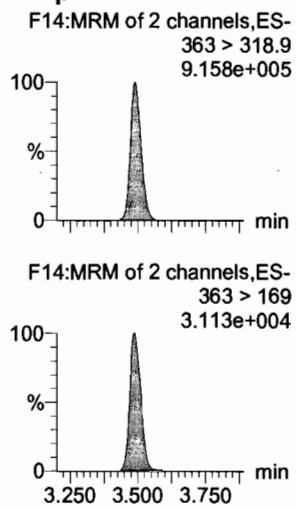
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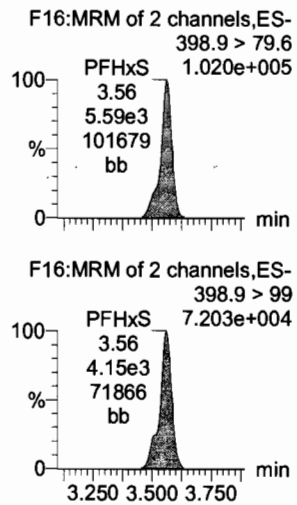
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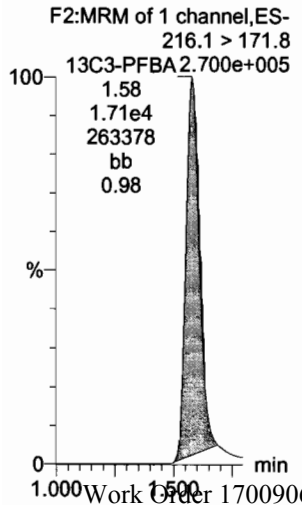
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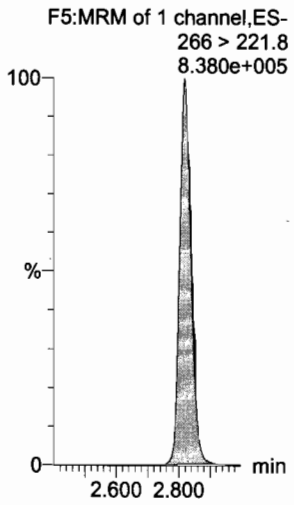
PFHxS



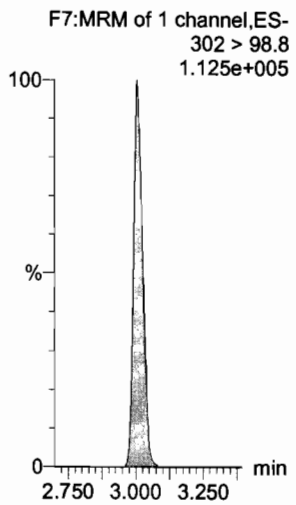
13C3-PFBA



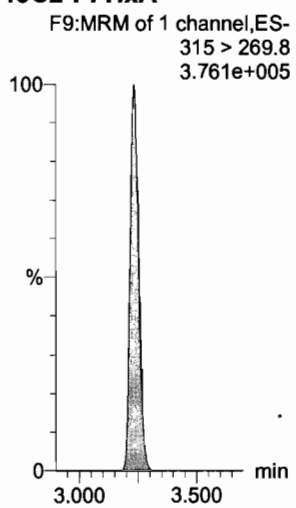
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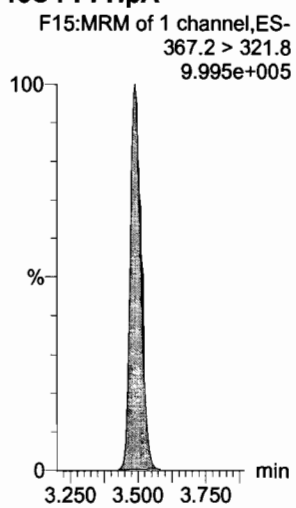
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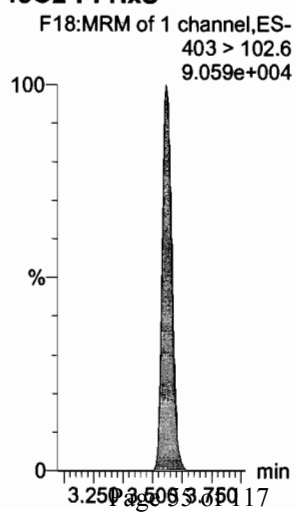
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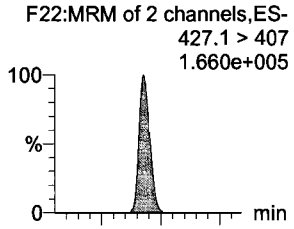


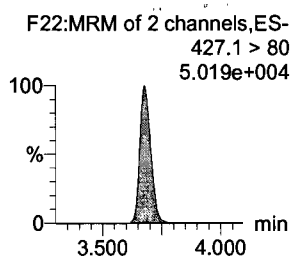
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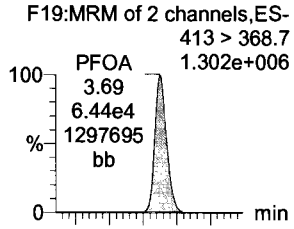
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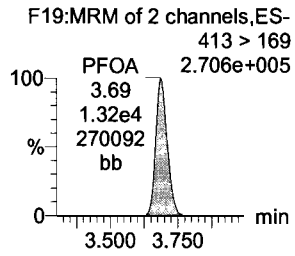
6:2 FTS



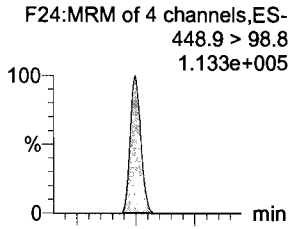


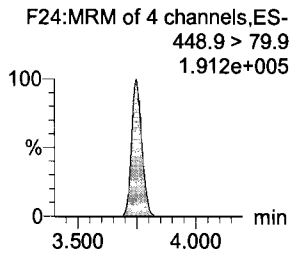
PFOA



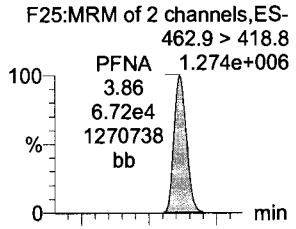


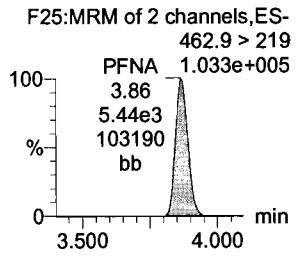
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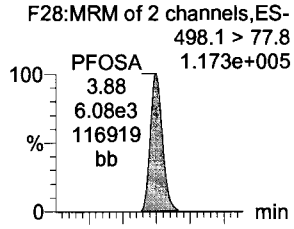


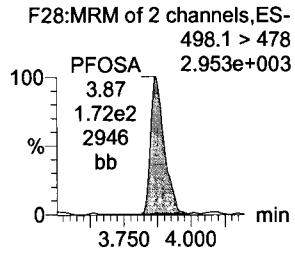
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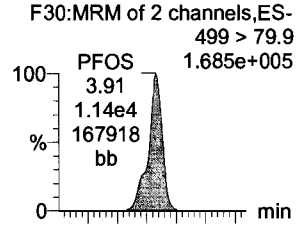


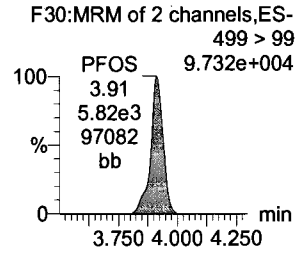
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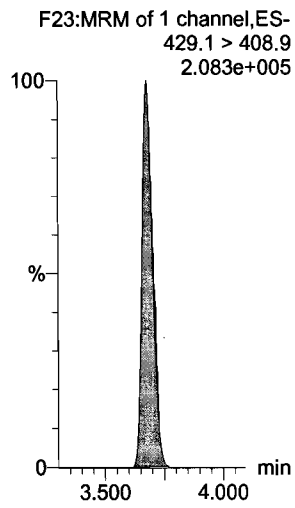


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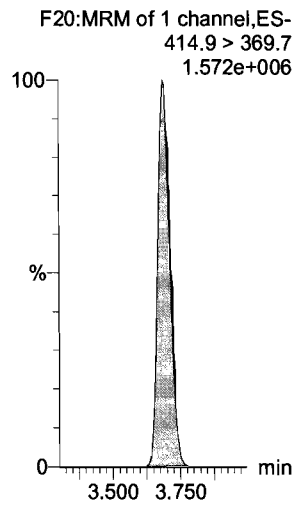




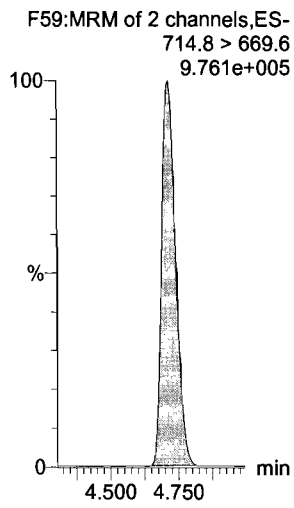
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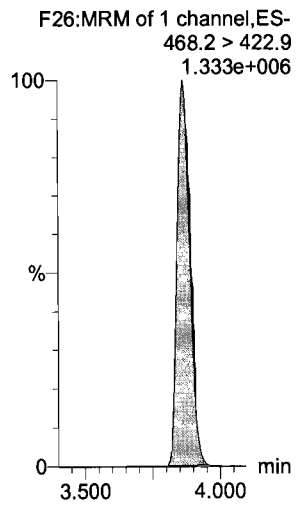
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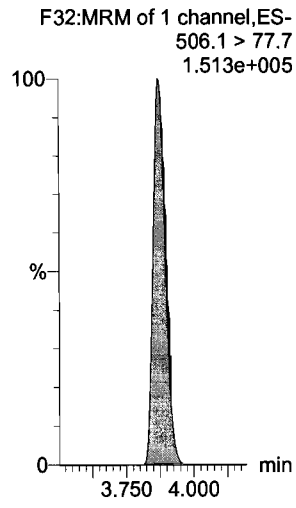
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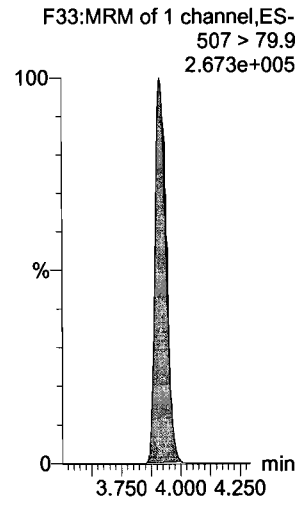
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13C8-PFOSA



13C8-PFOS



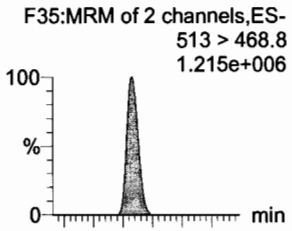
Vista Analytical Laboratory

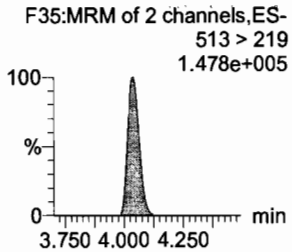
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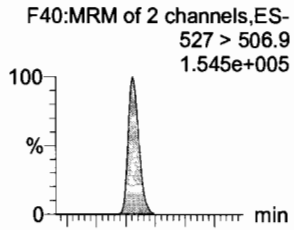
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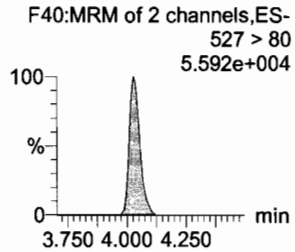
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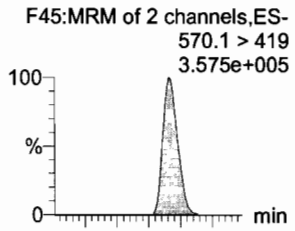


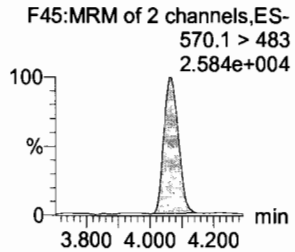
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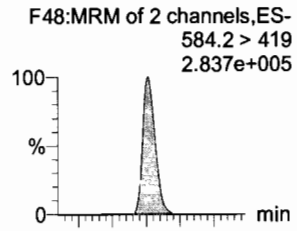


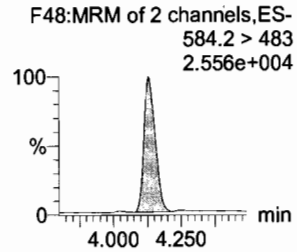
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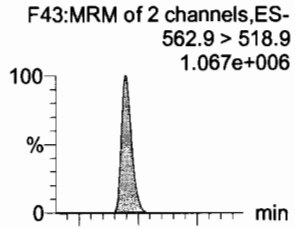


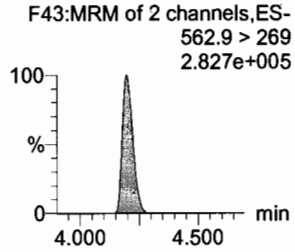
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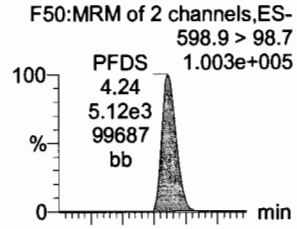


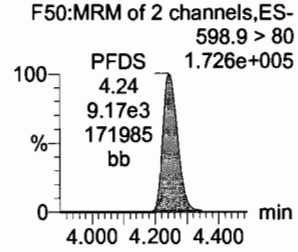
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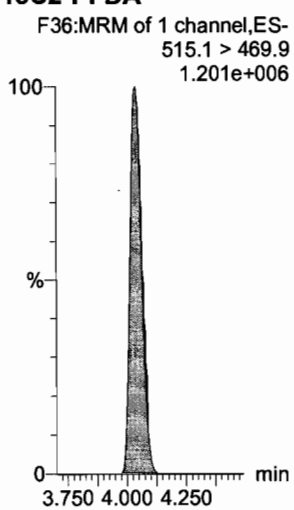


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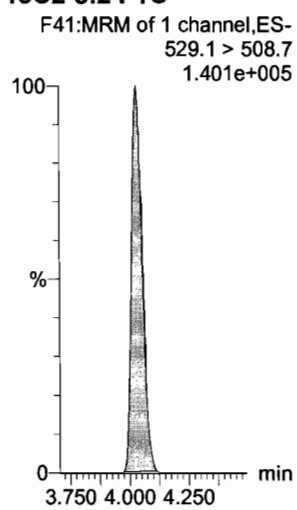




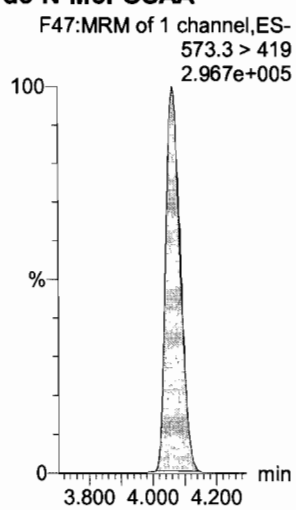
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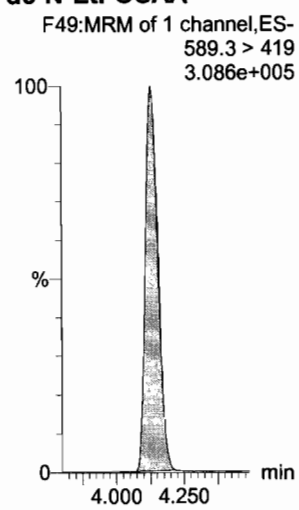
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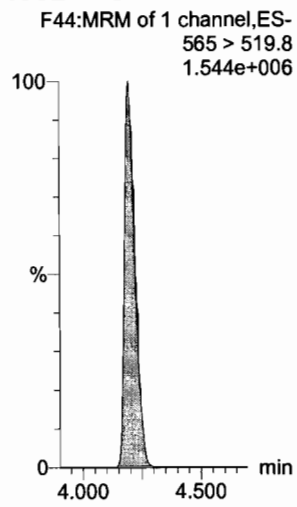
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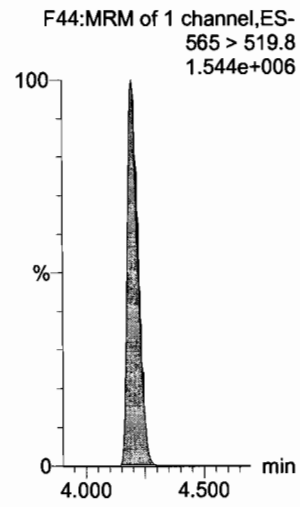
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13C2-PFUnA



13C2-PFUnA

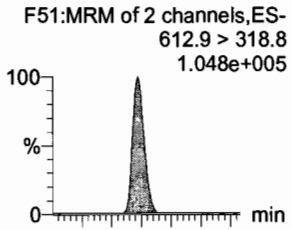


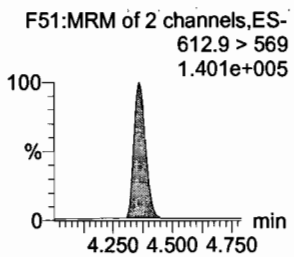
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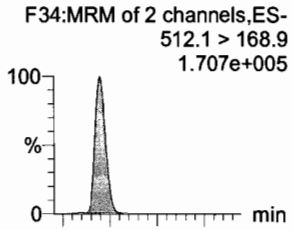
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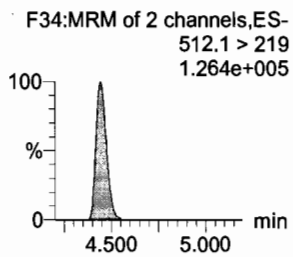
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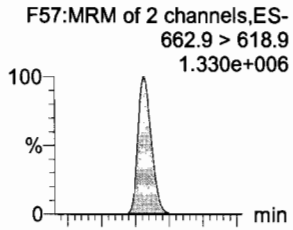


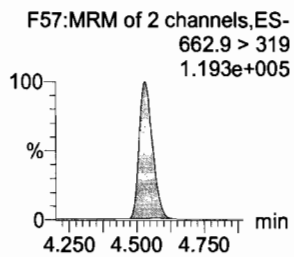
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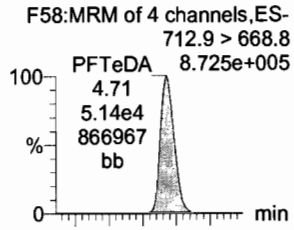


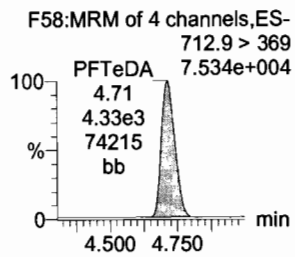
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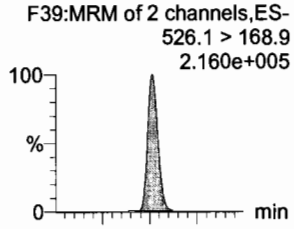


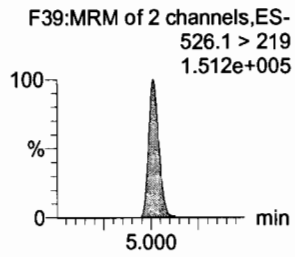
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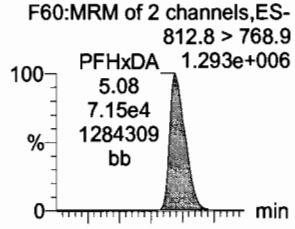


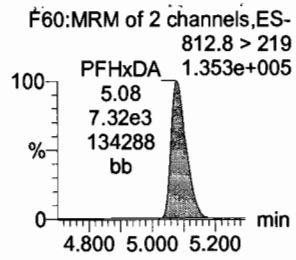
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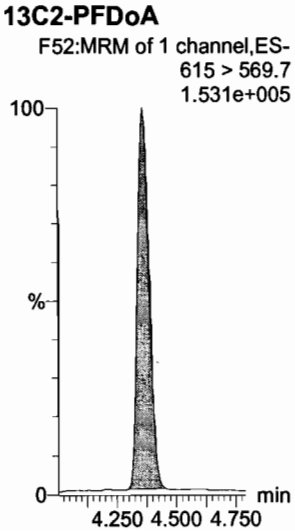


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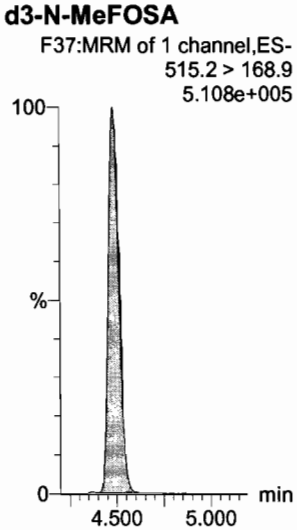




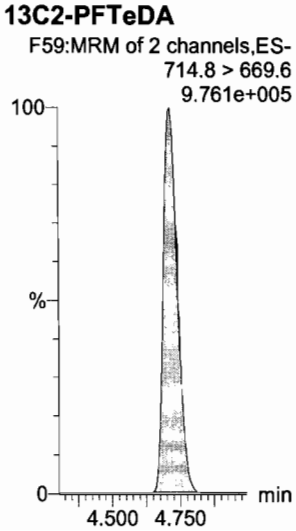
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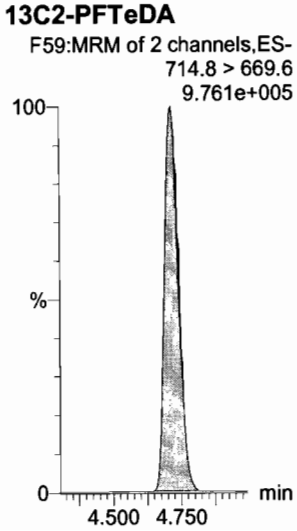
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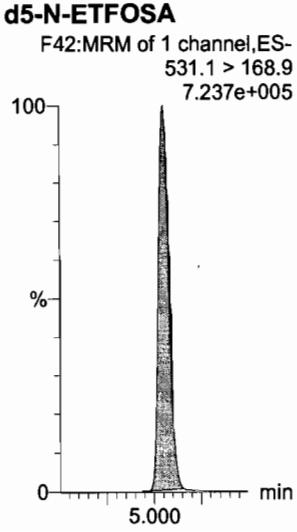
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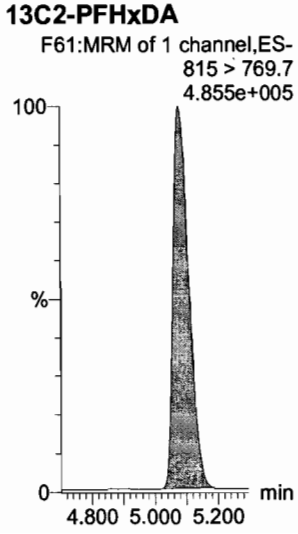
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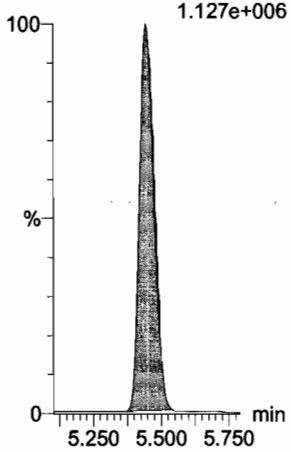


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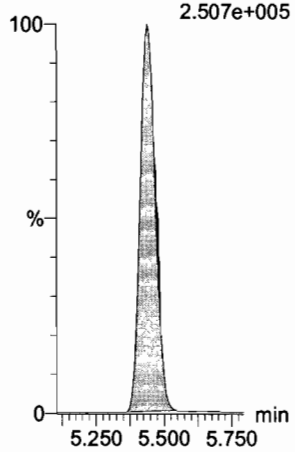
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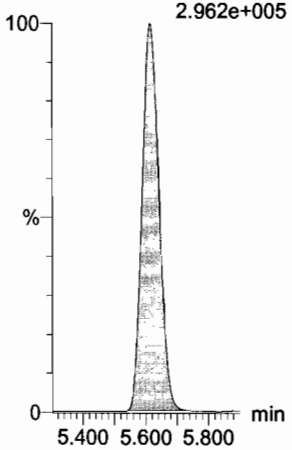
PFODA
F62:MRM of 4 channels,ES-
912.8 > 868.8
1.127e+006



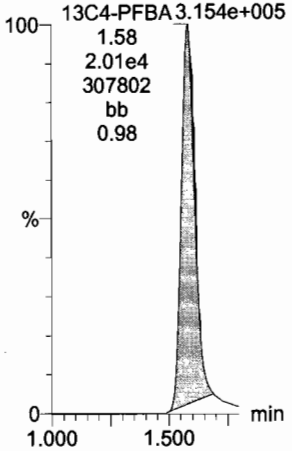
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F53:MRM of 1 channel,ES-
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2.507e+005



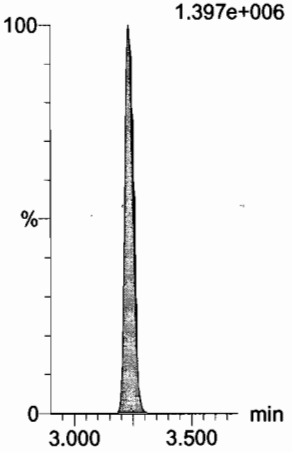
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F55:MRM of 1 channel,ES-
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2.962e+005



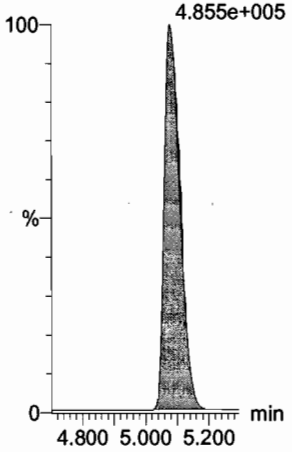
13C4-PFBA
F3:MRM of 1 channel,ES-
217 > 171.8
3.154e+005
13C4-PFBA
1.58
2.01e4
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bb
0.98



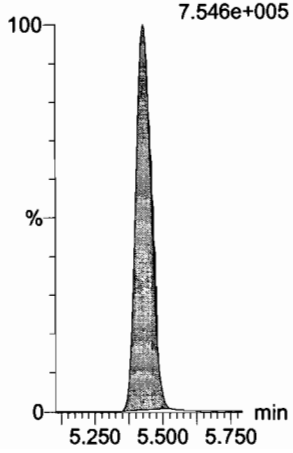
13C5-PFHxA
F10:MRM of 1 channel,ES-
318 > 272.9
1.397e+006



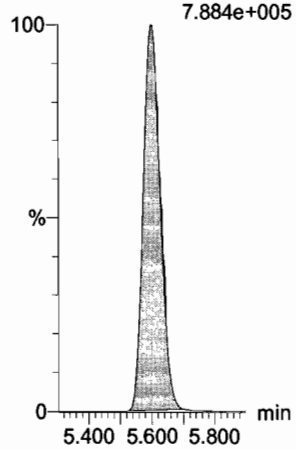
13C2-PFHxDA
F61:MRM of 1 channel,ES-
815 > 769.7
4.855e+005



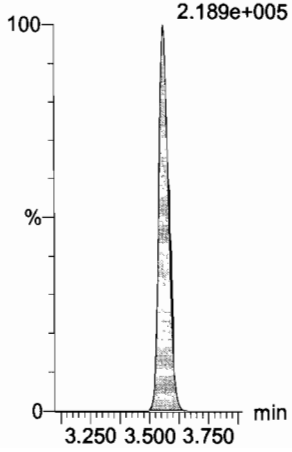
d7-N-MeFOSE
F54:MRM of 1 channel,ES-
623.1 > 58.9
7.546e+005



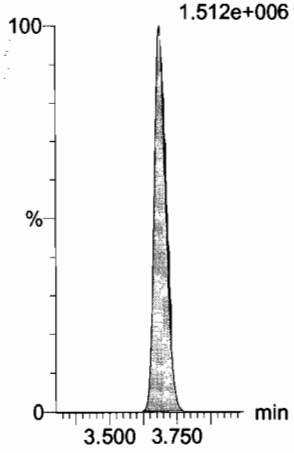
d9-N-EtFOSE
F56:MRM of 1 channel,ES-
639.2 > 58.8
7.884e+005



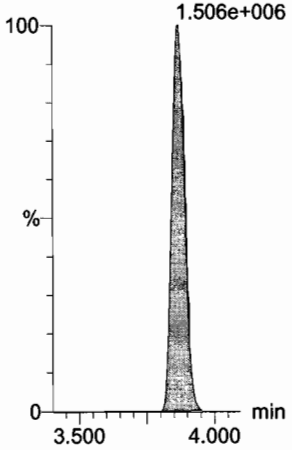
13C3-PFHxS
F17:MRM of 1 channel,ES-
401.9 > 79.9
2.189e+005



13C8-PFOA
F21:MRM of 1 channel,ES-
421.3 > 376
1.512e+006



13C9-PFNA
F27:MRM of 1 channel,ES-
472.2 > 426.9
1.506e+006

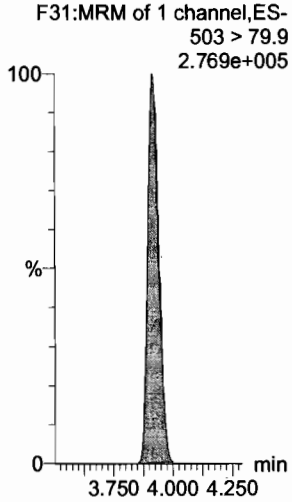


Dataset: U:\Q4.PRO\results\170725M1\170725M1-51.qld

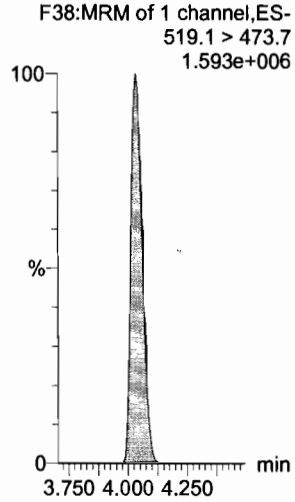
Last Altered: Wednesday, July 26, 2017 09:59:30 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:00:02 Pacific Daylight Time

Name: 170725M1_51, Date: 25-Jul-2017, Time: 23:12:50, ID: ST170725M1-4 PFC CS3 17G2503, Description: PFC CS3 17G2503

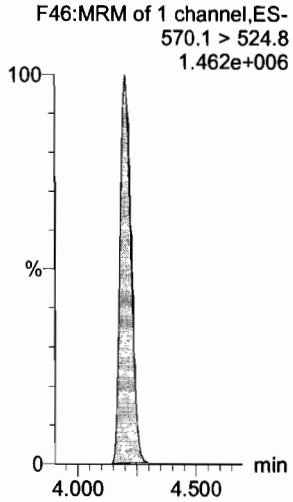
13C4-PFOS



13C6-PFDA



13C7-PFUnA



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Dataset: U:\Q4.PRO\results\170725M1\170725M1-60.qld

Last Altered: Wednesday, July 26, 2017 10:00:49 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

AC 7/26/17

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	1.50e4	1.73e4		1.54	1.59	10.8	9.45	94.5
2	2	PFPeA	263.1 > 218.9	2.79e4	3.61e4		2.77	2.82	9.66	9.63	96.3
3	3	PFBS	299 > 79.7	6.39e3	4.38e3		2.96	3.01	18.2	9.79	97.9
4	4	PFHxA	313.2 > 268.9	4.47e4	1.60e4		3.19	3.23	14.0	9.17	91.7
5	5	PFHpA	363 > 318.9	4.33e4	4.49e4		3.45	3.49	12.0	9.55	95.5
6	6	PFHxS	398.9 > 79.6	5.99e3	4.53e3		3.56	3.56	16.5	9.76	97.6
7	7	6:2 FTS	427.1 > 407	9.91e3	1.07e4		3.64	3.67	11.6	11.0	109.8
8	8	PFOA	413 > 368.7	6.56e4	7.43e4		3.65	3.68	11.0	11.2	111.5
9	9	PFHpS	448.9 > 98.8	6.44e3	7.43e4		3.71	3.75	1.08	12.0	120.4
10	10	PFNA	462.9 > 418.8	6.59e4	7.47e4		3.83	3.86	11.0	9.91	99.1
11	11	PFOSA	498.1 > 77.8	6.45e3	7.86e3		3.84	3.87	10.3	9.72	97.2
12	12	PFOS	499 > 79.9	1.22e4	1.42e4		3.89	3.91	10.7	9.06	90.6
13	13	PFDA	513 > 468.8	7.36e4	7.73e4		4.01	4.03	11.9	9.08	90.8
14	14	8:2 FTS	527 > 506.9	8.88e3	7.56e3		4.00	4.03	14.7	10.0	100.0
15	15	N-MeFOSAA	570.1 > 419	1.98e4	1.69e4		4.03	4.06	191	9.62	96.2
16	16	N-EtFOSAA	584.2 > 419	1.52e4	1.67e4		4.10	4.13	147	9.13	91.3
17	17	PFUnA	562.9 > 518.9	5.38e4	8.83e4		4.17	4.20	7.61	8.60	86.0
18	18	PFDS	598.9 > 98.7	5.33e3	8.83e4		4.22	4.24	0.755	8.46	84.6
19	19	PFDoA	612.9 > 318.8	5.59e3	8.53e3		4.34	4.36	8.19	8.66	86.6
20	20	N-MeFOSA	512.1 > 168.9	1.16e4	3.34e4		4.29	4.45	52.0	49.9	99.7
21	21	PFTrDA	662.9 > 618.9	7.42e4	8.53e3		4.50	4.53	109	9.78	97.8
22	22	PFTeDA	712.9 > 668.8	5.17e4	5.93e4		4.68	4.71	10.9	9.45	94.5
23	23	N-EtFOSA	526.1 > 168.9	1.39e4	4.52e4		4.87	5.02	46.0	50.5	101.0
24	24	PFHxDA	812.8 > 768.9	7.46e4	2.86e4		5.06	5.08	13.0	9.53	95.3
25	25	PFODA	912.8 > 868.8	6.84e4	2.86e4		5.43	5.44	12.0	9.30	93.0
26	26	N-MeFOSE	616.1 > 58.9	1.65e4	4.88e4		5.42	5.44	50.6	49.4	98.7
27	27	N-EtFOSE	630.1 > 58.9	1.87e4	4.91e4		5.59	5.62	57.2	48.6	97.2
28	28	13C3-PFBA	216.1 > 171.8	1.73e4	2.04e4	0.820	1.54	1.59	10.6	12.9	103.2
29	29	13C3-PFPeA	266 > 221.8	3.61e4	5.68e4	0.248	2.77	2.82	3.17	12.8	102.3
30	30	13C3-PFBS	302 > 98.8	4.38e3	5.68e4	0.031	2.96	3.01	0.386	12.4	99.2
31	31	13C2-PFHxA	315 > 269.8	1.60e4	5.68e4	0.276	3.19	3.23	1.41	5.09	101.7

70-130

50-150

Dataset: U:\Q4.PRO\results\170725M1\170725M1-60.qld

Last Altered: Wednesday, July 26, 2017 10:00:49 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:01:15 Pacific Daylight Time

Name: 170725M1_60, Date: 26-Jul-2017, Time: 00:51:21, ID: ST170725M1-5 PFC CS3 17G2503, Description: PFC CS3 17G2503

	#	Name	Trace	Area	IS Area	RRF	Pred.RT	RT	y Axis Resp.	Conc.	%Rec
32	32	13C4-PFHpA	367.2 > 321.8	4.49e4	5.68e4	0.306	3.45	3.49	3.96	12.9	103.6
33	33	18O2-PFHxS	403 > 102.6	4.53e3	1.12e4	0.393	3.56	3.56	5.04	12.8	102.6
34	34	13C2-6:2 FTS	429.1 > 408.9	1.07e4	7.14e4	0.158	3.64	3.68	1.88	11.9	95.1
35	35	13C2-PFOA	414.9 > 369.7	7.43e4	7.14e4	1.067	3.65	3.69	13.0	12.2	97.5
36	36	13C5-PFNA	468.2 > 422.9	7.47e4	8.57e4	0.852	3.83	3.86	10.9	12.8	102.3
37	37	13C8-PFOSA	506.1 > 77.7	7.86e3	8.09e4	0.098	3.84	3.87	1.21	12.4	98.8
38	38	13C8-PFOS	507 > 79.9	1.42e4	1.49e4	0.936	3.89	3.91	11.9	12.8	102.1
39	39	13C2-PFDA	515.1 > 469.9	7.73e4	8.93e4	0.810	4.01	4.03	10.8	13.4	106.9
40	40	13C2-8:2 FTS	529.1 > 508.7	7.56e3	8.93e4	0.086	4.00	4.03	1.06	12.4	98.9
41	41	d3-N-MeFOSAA	573.3 > 419	1.69e4	8.09e4	0.014	4.03	4.06	2.60	190	116.9
42	42	d5-N-EtFOSAA	589.3 > 419	1.67e4	8.09e4	0.014	4.12	4.13	2.58	185	114.0
43	43	13C2-PFUnA	565 > 519.8	8.83e4	8.09e4	0.962	4.17	4.20	13.6	14.2	113.4
44	44	13C2-PFDoA	615 > 569.7	8.53e3	8.09e4	0.094	4.34	4.36	1.32	14.0	111.7
45	45	d3-N-MeFOSA	515.2 > 168.9	3.34e4	8.09e4	0.034	4.29	4.49	5.16	150	100.1
46	46	13C2-PFTeDA	714.8 > 669.6	5.93e4	8.09e4	0.694	4.68	4.71	9.15	13.2	105.4
47	47	d5-N-ETFOSA	531.1 > 168.9	4.52e4	8.09e4	0.049	5.01	5.05	6.99	144	95.7
48	48	13C2-PFHxDA	815 > 769.7	2.86e4	8.09e4	0.843	5.06	5.08	4.42	5.24	104.8
49	49	d7-N-MeFOSE	623.1 > 58.9	4.88e4	8.09e4	0.055	5.42	5.43	7.54	138	92.0
50	50	d9-N-EtFOSE	639.2 > 58.8	4.91e4	8.09e4	0.053	5.59	5.60	7.58	142	94.5
51	51	13C4-PFBA	217 > 171.8	2.04e4	2.04e4	1.000	1.54	1.59	12.5	12.5	100.0
52	52	13C5-PFHxA	318 > 272.9	5.68e4	5.68e4	1.000	3.19	3.23	5.00	5.00	100.0
53	53	13C3-PFHxS	401.9 > 79.9	1.12e4	1.12e4	1.000	3.56	3.56	12.5	12.5	100.0
54	54	13C8-PFOA	421.3 > 376	7.14e4	7.14e4	1.000	3.65	3.69	12.5	12.5	100.0
55	55	13C9-PFNA	472.2 > 426.9	8.57e4	8.57e4	1.000	3.83	3.86	12.5	12.5	100.0
56	56	13C4-PFOS	503 > 79.9	1.49e4	1.49e4	1.000	3.89	3.92	12.5	12.5	100.0
57	57	13C6-PFDA	519.1 > 473.7	8.93e4	8.93e4	1.000	4.01	4.03	12.5	12.5	100.0
58	58	13C7-PFUnA	570.1 > 524.8	8.09e4	8.09e4	1.000	4.17	4.20	12.5	12.5	100.0

50-150

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Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 25 Jul 2017 12:44:55
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170725M1_1	IPA	25-Jul-17	14:15:31
2	170725M1_2	ST170725M1-1 PFC CS-1 17G2502	25-Jul-17	14:26:15
3	170725M1_3	B7G0107-BS1 OPR 0.125	25-Jul-17	14:36:53
4	170725M1_4	IPA	25-Jul-17	14:47:39
5	170725M1_5	B7G0107-BLK1 Method Blank 0.125	25-Jul-17	14:58:18
6	170725M1_6	1700851-01RE1 SB 01_20170710 0.12032	25-Jul-17	15:08:56
7	170725M1_7	1700851-02RE1 EB 01_20170710 0.11963	25-Jul-17	15:19:35
8	170725M1_8	1700851-03RE1 18-GW-18MCAS03-5-20170...	25-Jul-17	15:30:13
9	170725M1_9	1700851-04RE1 18-GW-18MCAS03-2-20170...	25-Jul-17	15:40:51
10	170725M1_10	1700851-05RE1 18-GW-18MCAS02-5-20170...	25-Jul-17	15:51:30
11	170725M1_11	1700851-06RE1 18-GW-18MCAS07-3-20170...	25-Jul-17	16:02:08
12	170725M1_12	1700851-07RE1 24-GW-24MW08B-20170710...	25-Jul-17	16:12:47
13	170725M1_13	1700851-08RE1 DUP03-20170710 0.12071	25-Jul-17	16:23:25
14	170725M1_14	1700851-09RE1 24-GW-24EX11-20170710 0....	25-Jul-17	16:34:03
15	170725M1_15	1700851-10RE1 SGV-GW-SGV Transfer Stati...	25-Jul-17	16:44:46
16	170725M1_16	B7G0107-MS2 Matrix Spike 0.11945	25-Jul-17	16:55:33
17	170725M1_17	B7G0107-MSD2 Matrix Spike Dup 0.12098	25-Jul-17	17:06:33
18	170725M1_18	IPA	25-Jul-17	17:17:45
19	170725M1_19	ST170725M1-2 PFC CS3 17G2503	25-Jul-17	17:28:43
20	170725M1_20	IPA	25-Jul-17	17:39:41
21	170725M1_21	1700852-01RE1 EB 02_20170711 0.12122	25-Jul-17	17:50:30
22	170725M1_22	1700852-02RE1 DUP01-20170711 0.11996	25-Jul-17	18:01:17
23	170725M1_23	1700852-03RE1 1-GW-01-MW204-20170711 ...	25-Jul-17	18:12:03
24	170725M1_24	B7G0107-MS1 Matrix Spike 0.12078	25-Jul-17	18:22:49
25	170725M1_25	B7G0107-MSD1 Matrix Spike Dup 0.11599	25-Jul-17	18:33:36
26	170725M1_26	1700852-04RE1 1-GW-01-MW206-20170711 ...	25-Jul-17	18:44:23
27	170725M1_27	1700852-05RE1 2-GW-02DGMW59-2017071...	25-Jul-17	18:55:10
28	170725M1_28	1700852-06RE1 2-GW-02NEW16-20170711 ...	25-Jul-17	19:05:57
29	170725M1_29	1700852-07RE1 5-GW-05-DGMW68A-20170...	25-Jul-17	19:16:44
30	170725M1_30	1700852-08RE1 1-GW-01-PZ20-20170711 0....	25-Jul-17	19:27:29
31	170725M1_31	1700852-09RE1 1-GW-02-MW209-20170711 ...	25-Jul-17	19:38:30

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Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
32	170725M1_32	IPA	25-Jul-17	19:49:44
33	170725M1_33	ST170725M1-3 PFC CS3 17G2503	25-Jul-17	20:00:29
34	170725M1_34	IPA	25-Jul-17	20:11:07
35	170725M1_35	B7G0108-BS1 OPR 0.125	25-Jul-17	20:21:46
36	170725M1_36	IPA	25-Jul-17	20:32:24
37	170725M1_37	B7G0108-BLK1 Method Blank 0.125	25-Jul-17	20:43:03
38	170725M1_38	1700856-01RE1 INFLUENT-20170710 0.121	25-Jul-17	20:53:41
39	170725M1_39	1700856-02RE1 DUP05-20170710 0.11647	25-Jul-17	21:04:19
40	170725M1_40	1700856-03RE1 MID-POINT-20170710 0.11731	25-Jul-17	21:14:58
41	170725M1_41	1700856-04RE1 EFFLUENT-20170710 0.12084	25-Jul-17	21:25:36
42	170725M1_42	B7G0108-MS1 Matrix Spike 0.12162	25-Jul-17	21:36:14
43	170725M1_43	B7G0108-MSD1 Matrix Spike Dup 0.11849	25-Jul-17	21:47:01
44	170725M1_44	1700856-05RE1 MW-37S-20170711 0.11696	25-Jul-17	21:57:39
45	170725M1_45	1700856-06RE1 ERB-01-20170711 0.12043	25-Jul-17	22:08:34
46	170725M1_46	1700856-07RE1 11-MW-1-20170710 0.11482	25-Jul-17	22:19:33
47	170725M1_47	1700856-08RE1 LF-MW-54BR-20170710 0.11...	25-Jul-17	22:30:16
48	170725M1_48	1700856-09RE1 MW-48BR-20170711 0.12084	25-Jul-17	22:40:54
49	170725M1_49	1700856-10RE1 MW-34S-20170711 0.11812	25-Jul-17	22:51:33
50	170725M1_50	IPA	25-Jul-17	23:02:11
51	170725M1_51	ST170725M1-4 PFC CS3 17G2503	25-Jul-17	23:12:50
52	170725M1_52	IPA	25-Jul-17	23:23:36
53	170725M1_53	1700856-11RE1 MW-31BR-20170711 0.11774	25-Jul-17	23:34:14
54	170725M1_54	1700856-12RE1 MW-31S-20170711 0.11732	25-Jul-17	23:45:01
55	170725M1_55	1700732-04RE1@5X MW PFC 03 0.11929	25-Jul-17	23:55:47
56	170725M1_56	1700906-05@5X MW-02BR-20170718 0.125	26-Jul-17	00:06:56
57	170725M1_57	1700907-04@5X AT028-MW17-06-071717-13...	26-Jul-17	00:18:17
58	170725M1_58	1700907-09@5X AT028-MW17-01-071817-09...	26-Jul-17	00:29:47
59	170725M1_59	IPA	26-Jul-17	00:40:33
60	170725M1_60	ST170725M1-5 PFC CS3 17G2503	26-Jul-17	00:51:21
61	170725M1_61	IPA	26-Jul-17	01:02:08
62	170725M1_62	1700845-01@5X MW-29S-20170707 0.12034	26-Jul-17	01:12:49
63	170725M1_63	1700845-02@5X DUP04-20170707 0.12279	26-Jul-17	01:23:33
64	170725M1_64	1700845-03@20X MW-27S-20170707 0.11824	26-Jul-17	01:34:11
65	170725M1_65	B7G0033-MS1@20X Matrix Spike 0.12283	26-Jul-17	01:44:49

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Dataset: Untitled

Last Altered: Wednesday, July 26, 2017 10:28:43 Pacific Daylight Time
Printed: Wednesday, July 26, 2017 10:29:07 Pacific Daylight Time

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
66	170725M1_66	B7G0033-MSD1@20X Matrix Spike Dup 0.124	26-Jul-17	01:55:28
67	170725M1_67	1700845-04@5X MW-30S-20170707 0.11933	26-Jul-17	02:06:06
68	170725M1_68	1700894-02@5X POND 1 at PD 0.125	26-Jul-17	02:16:53
69	170725M1_69	1700894-03@5X POND 1 -STAFF 0.125	26-Jul-17	02:27:50
70	170725M1_70	1700894-04@10X SEED-POND 1 0.125	26-Jul-17	02:38:34
71	170725M1_71	1700732-05RE1 SD-46 3.2	26-Jul-17	02:49:12
72	170725M1_72	IPA	26-Jul-17	02:59:50
73	170725M1_73	ST170725M1-6 PFC CS3 17G2503	26-Jul-17	03:10:29
74	170725M1_74	IPA	26-Jul-17	03:21:15

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:22:13
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

AC 7/24/17

7/24/17

Compound name: PFBA
Correlation coefficient: r = 0.999644, r^2 = 0.999287
Calibration curve: 1.1275 * x + 0.163356
Response type: Internal Std (Ref 28), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	1.55	407.719	12354.435	0.413	0.2	-11.6	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	1.55	682.657	12177.060	0.701	0.5	-4.7	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	1.55	1308.852	12151.235	1.346	1.0	4.9	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	1.55	2608.698	12859.778	2.536	2.1	5.2	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	1.55	6350.984	12263.796	6.473	5.6	11.9	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	1.55	11274.906	12983.228	10.855	9.5	-5.2	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	1.55	55148.398	12298.162	56.053	49.6	-0.9	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	1.57	109673.492	12111.065	113.196	100.2	0.2	NO	0.999	NO	bb

Compound name: PFPeA
Correlation coefficient: r = 0.999528, r^2 = 0.999056
Calibration curve: 0.99208 * x + 0.104629
Response type: Internal Std (Ref 29), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	2.80	607.592	24708.574	0.307	0.2	-18.3	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	2.80	1138.424	24374.584	0.584	0.5	-3.4	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	2.80	2230.288	24321.555	1.146	1.0	5.0	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	2.80	4575.088	25826.396	2.214	2.1	6.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	2.80	11044.060	24387.125	5.661	5.6	12.0	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	2.81	20066.025	25621.486	9.790	9.8	-2.4	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	2.80	97100.672	23859.781	50.870	51.2	2.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	2.81	190500.000	24378.607	97.678	98.4	-1.6	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFBS
Correlation coefficient: r = 0.999611, r^2 = 0.999223
Calibration curve: 1.85223 * x + 0.0752948
Response type: Internal Std (Ref 30), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.00	116.281	3068.403	0.474	0.2	-14.0	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	3.00	214.965	3020.354	0.890	0.4	-12.1	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	2.99	512.501	3001.774	2.134	1.1	11.2	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	3.00	1085.602	3295.993	4.117	2.2	9.1	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.00	2583.207	3132.764	10.307	5.5	10.5	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.00	4677.829	3302.426	17.706	9.5	-4.8	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.00	22355.119	2994.649	93.313	50.3	0.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.00	43420.234	2946.134	184.225	99.4	-0.6	NO	0.999	NO	bb

Compound name: PFHxA
Correlation coefficient: r = 0.999648, r^2 = 0.999296
Calibration curve: 1.50967 * x + 0.157344
Response type: Internal Std (Ref 31), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.22	1079.404	11341.955	0.476	0.2	-15.6	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	3.22	1906.946	10636.292	0.896	0.5	-2.1	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.22	3807.136	10865.864	1.752	1.1	5.6	NO	0.999	NO	db
4	4	170724M1_6	Standard	2.000	3.22	7912.540	12006.801	3.295	2.1	3.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.22	18325.188	10585.094	8.656	5.6	12.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.22	34348.887	11649.966	14.742	9.7	-3.4	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.22	154915.125	10379.170	74.628	49.3	-1.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.22	320392.531	10569.161	151.570	100.3	0.3	NO	0.999	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFHpA
Correlation coefficient: r = 0.999811, r^2 = 0.999621
Calibration curve: 1.25322 * x + 0.0796155
Response type: Internal Std (Ref 32), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.47	835.892	29540.787	0.354	0.2	-12.5	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	3.48	1686.437	28831.211	0.731	0.5	4.0	NO	1.000	NO	db
3	3	170724M1_5	Standard	1.000	3.48	3129.354	30065.992	1.301	1.0	-2.5	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	3.48	6923.302	31499.152	2.747	2.1	6.4	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	3.48	17221.189	31478.633	6.838	5.4	7.9	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	3.48	32050.246	32505.703	12.325	9.8	-2.3	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	3.48	148752.578	30043.684	61.890	49.3	-1.4	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	3.48	294885.219	29270.332	125.932	100.4	0.4	NO	1.000	NO	bb

Compound name: PFHxS
Coefficient of Determination: R^2 = 0.999711
Calibration curve: -0.00151846 * x^2 + 1.70838 * x + -0.0114403
Response type: Internal Std (Ref 33), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.56	73.733	2957.523	0.312	0.2	-24.3	NO	1.000	NO	MM
2	2	170724M1_4	Standard	0.500	3.55	233.030	2945.944	0.989	0.6	17.2	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	3.55	387.605	2882.763	1.681	1.0	-0.9	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	3.55	883.679	3069.216	3.599	2.1	5.9	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	3.55	2121.650	3078.477	8.615	5.1	1.4	NO	1.000	NO	MM
6	6	170724M1_8	Standard	10.000	3.55	3757.863	2827.577	16.613	9.8	-1.8	NO	1.000	NO	MM
7	7	170724M1_9	Standard	50.000	3.55	19494.768	2990.466	81.487	49.9	-0.2	NO	1.000	NO	MM
8	8	170724M1_10	Standard	100.000	3.55	36940.883	2965.238	155.725	100.1	0.1	NO	1.000	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.997533
Calibration curve: -0.00313053 * x^2 + 1.07473 * x + 0.134469
Response type: Internal Std (Ref 34), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.67	204.440	7589.777	0.337	0.2	-24.7	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.67	400.907	7687.979	0.652	0.5	-3.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.67	747.740	7427.477	1.258	1.0	4.9	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.66	1573.173	7868.375	2.499	2.2	10.7	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.66	3802.596	7544.070	6.301	5.8	16.7	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.67	6777.476	8079.142	10.486	9.9	-0.8	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.67	31001.344	8775.410	44.159	47.5	-4.9	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.66	59887.281	9696.150	77.205	102.0	2.0	NO	0.998	NO	bb

Compound name: PFOA
Correlation coefficient: r = 0.999233, r^2 = 0.998466
Calibration curve: 0.970801 * x + 0.199778
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.67	1654.212	55437.824	0.373	0.2	-28.6	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.67	2766.273	52853.566	0.654	0.5	-6.4	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.67	5264.665	53444.164	1.231	1.1	6.3	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.68	10233.177	55652.324	2.298	2.2	8.1	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.68	26080.451	55510.707	5.873	5.8	16.9	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.68	45105.969	54392.293	10.366	10.5	4.7	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.67	220048.344	55876.563	49.226	50.5	1.0	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.68	421252.813	55196.383	95.399	98.1	-1.9	NO	0.998	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFHpS
Correlation coefficient: r = 0.999150, r^2 = 0.998301
Calibration curve: 0.0887442 * x + 0.014645
Response type: Internal Std (Ref 35), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.74	113.671	55437.824	0.026	0.1	-50.5	NO	0.998	NO	bbX
2	2	170724M1_4	Standard	0.500	3.74	222.089	52853.566	0.053	0.4	-14.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.73	522.454	53444.164	0.122	1.2	21.2	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.74	936.558	55652.324	0.210	2.2	10.3	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.73	2346.630	55510.707	0.528	5.8	15.8	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.74	4004.412	54392.293	0.920	10.2	2.0	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.74	19773.092	55876.563	4.423	49.7	-0.6	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.74	38852.836	55196.383	8.799	99.0	-1.0	NO	0.998	NO	bb

Compound name: PFNA
Correlation coefficient: r = 0.998659, r^2 = 0.997320
Calibration curve: 1.09835 * x + 0.147218
Response type: Internal Std (Ref 36), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.85	1506.464	55001.828	0.342	0.2	-28.9	NO	0.997	NO	MM
2	2	170724M1_4	Standard	0.500	3.85	2694.965	54762.438	0.615	0.4	-14.8	NO	0.997	NO	bb
3	3	170724M1_5	Standard	1.000	3.85	5691.902	55321.512	1.286	1.0	3.7	NO	0.997	NO	bb
4	4	170724M1_6	Standard	2.000	3.85	12559.827	59225.996	2.651	2.3	14.0	NO	0.997	NO	bb
5	5	170724M1_7	Standard	5.000	3.85	29286.219	53341.520	6.863	6.1	22.3	NO	0.997	NO	bb
6	6	170724M1_8	Standard	10.000	3.85	53683.984	56161.168	11.949	10.7	7.4	NO	0.997	NO	bb
7	7	170724M1_9	Standard	50.000	3.85	236461.688	55495.742	53.261	48.4	-3.3	NO	0.997	NO	bb
8	8	170724M1_10	Standard	100.000	3.85	475993.000	54308.789	109.557	99.6	-0.4	NO	0.997	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFOSA
Correlation coefficient: r = 0.998808, r^2 = 0.997616
Calibration curve: 1.0493 * x + 0.0489398
Response type: Internal Std (Ref 37), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.86	163.860	6633.945	0.309	0.2	-1.0	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.85	301.866	6613.513	0.571	0.5	-0.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.85	477.914	6491.109	0.920	0.8	-17.0	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.86	1315.264	7021.902	2.341	2.2	9.2	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.86	2927.381	6519.732	5.613	5.3	6.0	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.86	5570.263	6576.866	10.587	10.0	0.4	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.86	26459.754	5926.425	55.809	53.1	6.3	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.86	50171.699	6190.267	101.312	96.5	-3.5	NO	0.998	NO	bb

Compound name: PFOS
Coefficient of Determination: R^2 = 0.999148
Calibration curve: -0.00122032 * x^2 + 1.19038 * x + 0.0183073
Response type: Internal Std (Ref 38), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.90	300.610	10711.932	0.351	0.3	11.8	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	3.90	466.042	10010.674	0.582	0.5	-5.3	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.90	1032.724	10207.536	1.265	1.0	4.8	NO	0.999	NO	MM
4	4	170724M1_6	Standard	2.000	3.90	1981.837	10715.066	2.312	1.9	-3.5	NO	0.999	NO	MM
5	5	170724M1_7	Standard	5.000	3.90	5099.578	10217.659	6.239	5.3	5.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.90	8336.075	9647.514	10.801	9.1	-8.6	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.91	43091.355	9325.974	57.757	51.2	2.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.90	78910.156	9278.883	106.303	99.4	-0.6	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFDA
Correlation coefficient: r = 0.999397, r^2 = 0.998795
Calibration curve: 1.29731 * x + 0.128184
Response type: Internal Std (Ref 39), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.02	1671.759	55156.438	0.379	0.2	-22.7	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	4.02	3226.587	49449.902	0.816	0.5	6.0	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.02	6606.647	59736.465	1.382	1.0	-3.3	NO	0.999	NO	db
4	4	170724M1_6	Standard	2.000	4.02	14672.154	61862.684	2.965	2.2	9.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.02	32741.914	53915.461	7.591	5.8	15.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.02	60142.156	58734.430	12.800	9.8	-2.3	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.03	291430.906	57610.250	63.233	48.6	-2.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.02	519240.375	49628.984	130.781	100.7	0.7	NO	0.999	NO	bb

Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.996738
Calibration curve: -0.00420182 * x^2 + 1.49722 * x + 0.133523
Response type: Internal Std (Ref 40), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.01	116.059	5712.626	0.254	0.1	-67.8	NO	0.997	NO	bbX
2	2	170724M1_4	Standard	0.500	4.02	436.336	5926.817	0.920	0.5	5.2	NO	0.997	NO	bb
3	3	170724M1_5	Standard	1.000	4.01	704.575	5605.082	1.571	1.0	-3.7	NO	0.997	NO	bb
4	4	170724M1_6	Standard	2.000	4.01	1467.688	6033.180	3.041	2.0	-2.4	NO	0.997	NO	bb
5	5	170724M1_7	Standard	5.000	4.02	3942.699	5463.454	9.021	6.0	20.8	NO	0.997	NO	bb
6	6	170724M1_8	Standard	10.000	4.02	6715.274	5614.961	14.950	10.2	1.9	NO	0.997	NO	bb
7	7	170724M1_9	Standard	50.000	4.02	29821.402	6078.795	61.323	47.1	-5.8	NO	0.997	NO	bb
8	8	170724M1_10	Standard	100.000	4.02	56335.957	6441.568	109.321	102.3	2.3	NO	0.997	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: N-MeFOSAA
Coefficient of Determination: R^2 = 0.999848
Calibration curve: -0.0104077 * x^2 + 19.9194 * x + 0.547687
Response type: Internal Std (Ref 41), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.05	448.925	12099.400	6.029	0.3	10.1	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	4.05	716.809	11504.973	10.124	0.5	-3.8	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	4.06	1261.768	11265.637	18.200	0.9	-11.3	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.05	3173.830	12505.027	41.243	2.0	2.3	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.05	7648.363	12072.939	102.946	5.2	3.1	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.05	14431.390	11803.941	198.671	10.0	-0.0	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	4.05	69860.063	11737.307	967.195	49.8	-0.3	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	4.05	130379.672	11210.404	1889.914	100.1	0.1	NO	1.000	NO	bb

Compound name: N-EtFOSAA
Coefficient of Determination: R^2 = 0.999908
Calibration curve: -0.00439744 * x^2 + 16.1657 * x + 0.0580373
Response type: Internal Std (Ref 42), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.12	300.173	12172.007	4.007	0.2	-2.3	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	4.12	550.297	11615.228	7.699	0.5	-5.5	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	4.12	1245.830	11653.344	17.372	1.1	7.1	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.12	2483.220	12504.510	32.270	2.0	-0.3	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.12	6280.812	12228.059	83.466	5.2	3.3	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.12	12176.978	12339.168	160.364	9.9	-0.6	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	4.12	57061.832	11695.135	792.855	49.7	-0.6	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	4.12	112917.555	11651.338	1574.849	100.1	0.1	NO	1.000	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFUnA
Coefficient of Determination: R^2 = 0.998430
Calibration curve: -0.0020331 * x^2 + 0.901478 * x + 0.00751751
Response type: Internal Std (Ref 43), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.18	1408.556	65735.461	0.268	0.3	15.6	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	4.19	2456.148	63870.914	0.481	0.5	5.1	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	4.19	4367.807	64348.984	0.848	0.9	-6.5	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	4.19	9271.418	67160.539	1.726	1.9	-4.3	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	4.19	22206.646	66089.180	4.200	4.7	-6.0	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	4.19	40104.945	61335.543	8.173	9.3	-7.5	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	4.19	187190.781	55960.629	41.813	52.6	5.2	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	4.19	357250.000	64722.215	68.997	98.3	-1.7	NO	0.998	NO	bb

Compound name: PFDS
Coefficient of Determination: R^2 = 0.998889
Calibration curve: -0.000220781 * x^2 + 0.0914068 * x + -0.00228704
Response type: Internal Std (Ref 43), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.24	125.500	65735.461	0.024	0.3	14.5	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	4.24	213.650	63870.914	0.042	0.5	-3.4	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	4.23	432.153	64348.984	0.084	0.9	-5.4	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.24	998.163	67160.539	0.186	2.1	3.4	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.23	2251.549	66089.180	0.426	4.7	-5.2	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.23	4080.028	61335.543	0.831	9.3	-6.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.24	18621.564	55960.629	4.160	52.1	4.2	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.23	35549.465	64722.215	6.866	98.6	-1.4	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999700
Calibration curve: -0.000446703 * x^2 + 0.926687 * x + 0.203454
Response type: Internal Std (Ref 44), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.34	212.884	6396.985	0.416	0.2	-8.3	NO	1.000	NO	MM
2	2	170724M1_4	Standard	0.500	4.35	285.030	5632.353	0.633	0.5	-7.4	NO	1.000	NO	MM
3	3	170724M1_5	Standard	1.000	4.35	576.941	5998.723	1.202	1.1	7.8	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.35	1144.260	6584.378	2.172	2.1	6.3	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.35	2601.126	6419.244	5.065	5.3	5.2	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.35	4871.013	6690.135	9.101	9.6	-3.5	NO	1.000	NO	bb
7	7	170724M1_9	Standard	50.000	4.35	21850.346	6031.607	45.283	49.8	-0.3	NO	1.000	NO	bb
8	8	170724M1_10	Standard	100.000	4.35	43781.789	6184.443	88.492	100.1	0.1	NO	1.000	NO	bb

Compound name: N-MeFOSA
Correlation coefficient: r = 0.999273, r^2 = 0.998546
Calibration curve: 1.0376 * x + 0.213391
Response type: Internal Std (Ref 45), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	1.250	4.39	228.733	27834.387	1.233	1.0	-21.4	NO	0.999	NO	MM
2	2	170724M1_4	Standard	2.500	4.39	521.665	26795.877	2.920	2.6	4.3	NO	0.999	NO	db
3	3	170724M1_5	Standard	5.000	4.39	1023.477	27001.328	5.686	5.3	5.5	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	4.39	2219.793	28178.129	11.817	11.2	11.8	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	4.39	5367.556	27075.477	29.737	28.5	13.8	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	4.39	9739.016	27395.363	53.325	51.2	2.4	NO	0.999	NO	db
7	7	170724M1_9	Standard	250.000	4.39	46919.371	26470.068	265.882	256.0	2.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	500.000	4.39	92806.148	27480.182	506.580	488.0	-2.4	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFTrDA
Correlation coefficient: r = 0.999414, r^2 = 0.998828
Calibration curve: 10.9255 * x + 1.79
Response type: Internal Std (Ref 44), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.52	1936.804	6396.985	3.785	0.2	-27.0	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	4.52	3347.446	5632.353	7.429	0.5	3.2	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.52	6246.435	5998.723	13.016	1.0	2.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.52	13537.021	6584.378	25.699	2.2	9.4	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.52	32633.807	6419.244	63.547	5.7	13.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.52	58224.531	6690.135	108.788	9.8	-2.1	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.52	270796.875	6031.607	561.204	51.2	2.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.52	531631.563	6184.443	1074.534	98.2	-1.8	NO	0.999	NO	bb

Compound name: PFTeDA
Coefficient of Determination: R^2 = 0.999057
Calibration curve: -0.000800394 * x^2 + 1.14875 * x + 0.111533
Response type: Internal Std (Ref 46), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.70	1552.113	52611.504	0.369	0.2	-10.4	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	4.70	2285.720	43220.855	0.661	0.5	-4.3	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.70	4798.681	44254.344	1.355	1.1	8.4	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.70	9477.179	47041.410	2.518	2.1	4.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.70	23144.785	45392.488	6.374	5.5	9.4	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.70	40819.449	48426.250	10.536	9.1	-8.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.70	191033.828	42647.246	55.992	50.4	0.8	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.70	370959.375	43405.691	106.829	99.8	-0.2	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: N-EtFOSA
Correlation coefficient: r = 0.999689, r^2 = 0.999377
Calibration curve: 0.904115 * x + 0.326191
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	1.250	4.96	337.684	39437.277	1.284	1.1	-15.2	NO	0.999	NO	bb
2	2	170724M1_4	Standard	2.500	4.97	613.630	37412.609	2.460	2.4	-5.6	NO	0.999	NO	bb
3	3	170724M1_5	Standard	5.000	4.97	1267.991	37050.801	5.133	5.3	6.3	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	4.96	2697.465	40104.539	10.089	10.8	8.0	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	4.97	6431.737	38083.547	25.333	27.7	10.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	4.97	11627.879	39916.621	43.696	48.0	-4.1	NO	0.999	NO	db
7	7	170724M1_9	Standard	250.000	4.96	57443.004	37926.309	227.189	250.9	0.4	NO	0.999	NO	db
8	8	170724M1_10	Standard	500.000	4.97	116042.914	38657.641	450.272	497.7	-0.5	NO	0.999	NO	db

Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999358
Calibration curve: -0.000715061 * x^2 + 1.34773 * x + 0.264398
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.07	2816.818	25428.396	0.554	0.2	-14.1	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	5.07	3878.399	21542.566	0.900	0.5	-5.6	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.07	7068.157	21611.141	1.635	1.0	1.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.07	14417.972	22044.896	3.270	2.2	11.6	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.07	33676.410	22327.822	7.541	5.4	8.3	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.07	61493.496	22552.494	13.633	10.0	-0.3	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.07	276231.906	21452.613	64.382	48.8	-2.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.07	545977.438	21228.160	128.597	100.6	0.6	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: PFODA
Correlation coefficient: r = 0.999378, r^2 = 0.998756
Calibration curve: 1.27561 * x + 0.10098
Response type: Internal Std (Ref 48), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.43	1893.557	25428.396	0.372	0.2	-14.9	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	5.44	3335.536	21542.566	0.774	0.5	5.5	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.44	6573.281	21611.141	1.521	1.1	11.3	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.44	13511.143	22044.896	3.064	2.3	16.2	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.44	32601.881	22327.822	7.301	5.6	12.9	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.44	59011.938	22552.494	13.083	10.2	1.8	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.43	274924.375	21452.613	64.077	50.2	0.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.44	534414.688	21228.160	125.874	98.6	-1.4	NO	0.999	NO	bb

Compound name: N-MeFOSE
Correlation coefficient: r = 0.999476, r^2 = 0.998953
Calibration curve: 1.01603 * x + 0.461771
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	1.250	5.43	419.747	45355.609	1.388	0.9	-27.1	NO	0.999	NO	bb
2	2	170724M1_4	Standard	2.500	5.43	827.391	42298.965	2.934	2.4	-2.7	NO	0.999	NO	bb
3	3	170724M1_5	Standard	5.000	5.43	1698.216	42181.715	6.039	5.5	9.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	5.43	3509.137	44882.496	11.728	11.1	10.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	5.43	8229.911	42480.406	29.060	28.1	12.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	5.43	14647.859	44502.430	49.372	48.1	-3.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	250.000	5.43	72247.016	42011.336	257.955	253.4	1.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	500.000	5.43	142986.313	42682.813	502.496	494.1	-1.2	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV.qld

Last Altered: Monday, July 24, 2017 15:32:30 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:40:40 Pacific Daylight Time

Compound name: N-EtFOSE
Correlation coefficient: r = 0.999680, r^2 = 0.999361
Calibration curve: 1.16673 * x + 0.501898
Response type: Internal Std (Ref 50), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	1.250	5.60	493.408	44922.563	1.648	1.0	-21.4	NO	0.999	NO	bb
2	2	170724M1_4	Standard	2.500	5.61	917.078	40989.961	3.356	2.4	-2.2	NO	0.999	NO	bb
3	3	170724M1_5	Standard	5.000	5.61	1793.908	40752.352	6.603	5.2	4.6	NO	0.999	NO	bb
4	4	170724M1_6	Standard	10.000	5.60	3804.083	43177.285	13.216	10.9	9.0	NO	0.999	NO	bb
5	5	170724M1_7	Standard	25.000	5.61	9310.704	42231.566	33.070	27.9	11.7	NO	0.999	NO	bb
6	6	170724M1_8	Standard	50.000	5.61	16671.494	42902.656	58.288	49.5	-0.9	NO	0.999	NO	bb
7	7	170724M1_9	Standard	250.000	5.60	80911.422	41552.719	292.080	249.9	-0.0	NO	0.999	NO	bb
8	8	170724M1_10	Standard	500.000	5.61	163300.031	42219.305	580.185	496.8	-0.6	NO	0.999	NO	bb

Compound name: 13C3-PFBA
Response Factor: 0.820483
RRF SD: 0.00867593, Relative SD: 1.05742
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	1.54	12354.435	15090.568	10.234	12.5	-0.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	1.55	12177.060	14962.116	10.173	12.4	-0.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	1.54	12151.235	14894.126	10.198	12.4	-0.6	NO		NO	bb
4	4	170724M1_6	Standard	12.500	1.55	12859.778	15482.658	10.382	12.7	1.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	1.55	12263.796	15091.931	10.158	12.4	-1.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	1.55	12983.228	15599.055	10.404	12.7	1.4	NO		NO	bb
7	7	170724M1_9	Standard	12.500	1.55	12298.162	14839.394	10.359	12.6	1.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	1.56	12111.065	14929.445	10.140	12.4	-1.1	NO		NO	bb

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Dataset: Untitled

Last Altered: Monday, July 24, 2017 15:48:17 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:50:08 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:34:12
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Compound name: PFBA

	Name	ID	Acq.Date	Acq.Time
1	170724M1_2	IPA	24-Jul-17	13:40:23
2	170724M1_3	ST170724M1-1 PFC CS-2 17G2422	24-Jul-17	13:51:04
3	170724M1_4	ST170724M1-2 PFC CS-1 17G2119	24-Jul-17	14:01:50
4	170724M1_5	ST170724M1-3 PFC CS0 17G2423	24-Jul-17	14:12:36
5	170724M1_6	ST170724M1-4 PFC CS1 17G2424	24-Jul-17	14:23:23
6	170724M1_7	ST170724M1-5 PFC CS2 17G2425	24-Jul-17	14:34:02
7	170724M1_8	ST170724M1-6 PFC CS3 17G2118	24-Jul-17	14:44:48
8	170724M1_9	ST170724M1-7 PFC CS4 17G2426	24-Jul-17	14:55:34
9	170724M1_10	ST170724M1-8 PFC CS5 17G2427	24-Jul-17	15:06:35
10	170724M1_11	IPA	24-Jul-17	15:17:30
11	170724M1_12	SS170724M4-1 PFC SSS 17G2421	24-Jul-17	15:28:15

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-12.qld

Last Altered: Monday, July 24, 2017 15:46:59 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:47:51 Pacific Daylight Time

Ⓐ Not in SS.

Method: U:\Q4.PRO\MethDB\PFAS_FULL_7-20-17.mdb 24 Jul 2017 15:34:12
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL.cdb 24 Jul 2017 15:32:30

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

AC 7/24/17

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	1	PFBA	213.0 > 168.8	11377.467	12073.278		1.000	1.56	10.30	103.03
2	2	PFPeA	263.1 > 218.9	19853.004	23925.629		1.000	2.81	10.35	103.50
3	3	PFBS	299 > 79.7	4150.350	2957.477		1.000	3.00	9.43	94.30
4	4	PFHxA	313.2 > 268.9	31616.176	10121.942		1.000	3.23	10.24	102.41
5	5	PFHpA	363 > 318.9	29691.209	29688.498		1.000	3.48	9.91	99.12
6	6	PFHxS	398.9 > 79.6	3522.001	2850.923		1.000	3.55	9.12	91.20
7	7	6:2 FTS	427.1 > 407	6778.936	7715.412		1.000	3.67	10.41	104.10
8	8	PFOA	413 > 368.7	48252.109	57527.922		1.000	3.68	10.59	105.94
9	9	PFHpS	448.9 > 98.8	3857.262	57527.922		1.000	3.74	9.28	92.79
10	10	PFNA	462.9 > 418.8	52020.793	55397.191		1.000	3.85	10.55	105.53
11	11	PFOSA	498.1 > 77.8	5708.063	6500.262		1.000	3.86	10.41	104.14
12	12	PFOS	499 > 79.9	8177.322	10272.242		1.000	3.90	8.42	84.17
13	13	PFDA	513 > 468.8	54158.824	56205.117		1.000	4.02	9.19	91.86
14	14	8:2 FTS	527 > 506.9	6486.744	5254.963		1.000	4.02	10.53	105.28
15	15	N-MeFOSAA	570.1 > 419	14470.231	11971.411		1.000	4.06	9.88	98.84
16	16	N-EtFOSAA	584.2 > 419	12443.312	12068.997		1.000	4.12	10.39	103.90
17	17	PFUnA	562.9 > 518.9	37650.797	59926.145		1.000	4.19	8.88	88.81
18	18	PFDS	598.9 > 98.7	3869.410	59926.145		1.000	4.24	9.05	90.53
19	19	PFDoA	612.9 > 318.8	4450.692	5849.101		1.000	4.35	10.09	100.94
20	20	N-MeFOSA	512.1 > 168.9	9.012	26376.414		1.000	4.39		Ⓐ
21	21	PFTrDA	662.9 > 618.9	52553.016	5849.101		1.000	4.52	10.12	101.16
22	22	PFTeDA	712.9 > 668.8	38350.820	40951.586		1.000	4.70	10.17	101.65
23	23	N-EtFOSA	526.1 > 168.9	12.231	6321.303		1.000	4.97		Ⓐ
24	24	PFHxDA	812.8 > 768.9	616.143	19848.846		1.000	5.07		
25	25	PFODA	912.8 > 868.8	230.613	19848.846		1.000	5.44		
26	26	N-MeFOSE	616.1 > 58.9	26.252	40883.168		1.000	5.45		
27	27	N-EtFOSE	630.1 > 58.9		40456.262		1.000			
28	28	13C3-PFBA	216.1 > 171.8	12073.278	14974.247	0.820	1.000	1.55	12.28	98.27
29	29	13C3-PFPeA	266 > 221.8	23925.629	38341.938	0.248	1.000	2.81	12.57	100.58
30	30	13C3-PFBS	302 > 98.8	2957.477	38341.938	0.031	1.000	3.00	12.40	99.20
31	31	13C2-PFHxA	315 > 269.8	10121.942	38341.938	0.276	1.000	3.23	4.78	95.51

70-130

70-130

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12.qld

Last Altered: Monday, July 24, 2017 15:46:59 Pacific Daylight Time
Printed: Monday, July 24, 2017 15:47:51 Pacific Daylight Time

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
32	32	13C4-PFHpA	367.2 > 321.8	29688.498	38341.938	0.306	1.000	3.48	12.67	101.34
33	33	18O2-PFHxS	403 > 102.6	2850.923	7151.517	0.393	1.000	3.55	12.69	101.51
34	34	13C2-6:2 FTS	429.1 > 408.9	7715.412	55193.199	0.158	1.000	3.67	11.08	88.65
35	35	13C2-PFOA	414.9 > 369.7	57527.922	55193.199	1.067	1.000	3.68	12.20	97.64
36	36	13C5-PFNA	468.2 > 422.9	55397.191	58314.438	0.852	1.000	3.85	13.94	111.48
37	37	13C8-PFOSA	506.1 > 77.7	6500.262	73602.336	0.098	1.000	3.86	11.24	89.90
38	38	13C8-PFOS	507 > 79.9	10272.242	10242.656	0.936	1.000	3.91	13.40	107.18
39	39	13C2-PFDA	515.1 > 469.9	56205.117	70397.750	0.810	1.000	4.02	12.32	98.59
40	40	13C2-8:2 FTS	529.1 > 508.7	5254.963	70397.750	0.086	1.000	4.02	10.90	87.23
41	41	d3-N-MeFOSAA	573.3 > 419	11971.411	73602.336	0.014	1.000	4.05	148.44	91.35
42	42	d5-N-EtFOSAA	589.3 > 419	12068.997	73602.336	0.014	1.000	4.12	146.98	90.45
43	43	13C2-PFUnA	565 > 519.8	59926.145	73602.336	0.962	1.000	4.19	10.58	84.63
44	44	13C2-PFDoA	615 > 569.7	5849.101	73602.336	0.094	1.000	4.35	10.52	84.16
45	45	d3-N-MeFOSA	515.2 > 168.9	26376.414	73602.336	0.034	1.000	4.43	130.17	86.78
46	46	13C2-PFTeDA	714.8 > 669.6	40951.586	73602.336	0.694	1.000	4.70	10.02	80.14
47	47	d5-N-ETFOSA	531.1 > 168.9	6321.303	73602.336	0.049	1.000	5.01	22.06	14.70
48	48	13C2-PFHxDA	815 > 769.7	19848.846	73602.336	0.843	1.000	5.07	4.00	79.97
49	49	d7-N-MeFOSE	623.1 > 58.9	40883.168	73602.336	0.055	1.000	5.42	127.09	84.73
50	50	d9-N-EtFOSE	639.2 > 58.8	40456.262	73602.336	0.053	1.000	5.59	128.61	85.74
51	51	13C4-PFBA	217 > 171.8	14974.247	14974.247	1.000	1.000	1.55	12.50	100.00
52	52	13C5-PFHxA	318 > 272.9	38341.938	38341.938	1.000	1.000	3.22	5.00	100.00
53	53	13C3-PFHxS	401.9 > 79.9	7151.517	7151.517	1.000	1.000	3.55	12.50	100.00
54	54	13C8-PFOA	421.3 > 376	55193.199	55193.199	1.000	1.000	3.68	12.50	100.00
55	55	13C9-PFNA	472.2 > 426.9	58314.438	58314.438	1.000	1.000	3.85	12.50	100.00
56	56	13C4-PFOS	503 > 79.9	10242.656	10242.656	1.000	1.000	3.91	12.50	100.00
57	57	13C6-PFDA	519.1 > 473.7	70397.750	70397.750	1.000	1.000	4.02	12.50	100.00
58	58	13C7-PFUnA	570.1 > 524.8	73602.336	73602.336	1.000	1.000	4.19	12.50	100.00

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:29 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

AC 7/25/17
YM 7/25/17

Compound name: L-PFBA
Correlation coefficient: r = 0.999344, r^2 = 0.998689
Calibration curve: 1.18236 * x + 0.171127
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	1.55	435.228	12468.349	0.436	0.2	-10.3	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	1.55	741.837	12306.770	0.753	0.5	-1.5	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	1.55	1369.787	12270.478	1.395	1.0	3.5	NO	0.999	NO	MM
4	4	170724M1_6	Standard	2.000	1.55	2773.183	12997.952	2.667	2.1	5.5	NO	0.999	NO	MM
5	5	170724M1_7	Standard	5.000	1.55	6713.202	12360.005	6.789	5.6	11.9	NO	0.999	NO	MM
6	6	170724M1_8	Standard	10.000	1.55	11594.599	13099.017	11.064	9.2	-7.9	NO	0.999	NO	MM
7	7	170724M1_9	Standard	50.000	1.55	57068.805	12396.041	57.547	48.5	-2.9	NO	0.999	NO	MM
8	8	170724M1_10	Standard	100.000	1.57	118055.859	12273.032	120.239	101.5	1.5	NO	0.999	NO	MM

Compound name: L-PFPeA
Correlation coefficient: r = 0.999647, r^2 = 0.999293
Calibration curve: 1.00022 * x + 0.0979501
Response type: Internal Std (Ref 56), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	2.80	607.592	24685.725	0.308	0.2	-16.1	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	2.80	1138.424	24374.584	0.584	0.5	-2.8	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	2.80	2230.288	24321.555	1.146	1.0	4.8	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	2.80	4575.088	25826.396	2.214	2.1	5.8	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	2.80	11044.060	24387.125	5.661	5.6	11.2	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	2.81	20030.895	25621.486	9.773	9.7	-3.3	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	2.80	97100.672	23859.781	50.870	50.8	1.5	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	2.81	193106.156	24378.607	99.014	98.9	-1.1	NO	0.999	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
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Compound name: L-PFBS
Correlation coefficient: r = 0.999611, r^2 = 0.999223
Calibration curve: 1.85223 * x + 0.0753175
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.00	116.281	3068.403	0.474	0.2	-14.0	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	3.00	214.986	3020.354	0.890	0.4	-12.1	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	2.99	512.501	3001.774	2.134	1.1	11.2	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	3.00	1085.602	3295.993	4.117	2.2	9.1	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.00	2583.207	3132.764	10.307	5.5	10.5	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.00	4677.829	3302.426	17.706	9.5	-4.8	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.00	22355.119	2994.649	93.313	50.3	0.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.00	43420.234	2946.134	184.225	99.4	-0.6	NO	0.999	NO	bb

Compound name: L-PFHxA
Correlation coefficient: r = 0.999652, r^2 = 0.999303
Calibration curve: 1.50961 * x + 0.157846
Response type: Internal Std (Ref 58), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.22	1086.304	11341.955	0.479	0.2	-14.9	NO	0.999	NO	db
2	2	170724M1_4	Standard	0.500	3.22	1906.946	10636.292	0.896	0.5	-2.1	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.22	3788.241	10865.864	1.743	1.1	5.0	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	3.22	7912.540	12006.801	3.295	2.1	3.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	3.22	18325.188	10585.094	8.656	5.6	12.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.22	34348.887	11649.966	14.742	9.7	-3.4	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.22	154915.125	10379.170	74.628	49.3	-1.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.22	320392.531	10569.161	151.570	100.3	0.3	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:29 Pacific Daylight Time

Compound name: L-PFHpA
Correlation coefficient: r = 0.999802, r^2 = 0.999604
Calibration curve: 1.25293 * x + 0.085568
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	0.250	3.47	835.892	29540.787	0.354	0.2	-14.4	NO	1.000	NO	bb
2	2 170724M1_4	Standard	0.500	3.48	1737.110	28831.211	0.753	0.5	6.6	NO	1.000	NO	dd
3	3 170724M1_5	Standard	1.000	3.48	3129.354	29995.297	1.304	1.0	-2.7	NO	1.000	NO	bb
4	4 170724M1_6	Standard	2.000	3.48	6923.302	31499.152	2.747	2.1	6.2	NO	1.000	NO	bb
5	5 170724M1_7	Standard	5.000	3.48	17221.189	31478.633	6.838	5.4	7.8	NO	1.000	NO	bb
6	6 170724M1_8	Standard	10.000	3.48	31977.643	32505.703	12.297	9.7	-2.5	NO	1.000	NO	bb
7	7 170724M1_9	Standard	50.000	3.48	148752.578	30043.684	61.890	49.3	-1.3	NO	1.000	NO	bb
8	8 170724M1_10	Standard	100.000	3.48	294885.219	29270.332	125.932	100.4	0.4	NO	1.000	NO	bb

Compound name: L-PFHxS
Correlation coefficient: r = 0.999641, r^2 = 0.999282
Calibration curve: 1.58457 * x + 0.244547
Response type: Internal Std (Ref 60), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	0.250	3.56	73.733	2948.661	0.313	0.0	-82.8	NO	0.999	NO	MMX
2	2 170724M1_4	Standard	0.500	3.55	233.030	2945.944	0.989	0.5	-6.1	NO	0.999	NO	bb
3	3 170724M1_5	Standard	1.000	3.55	387.605	2882.763	1.681	0.9	-9.4	NO	0.999	NO	bb
4	4 170724M1_6	Standard	2.000	3.55	883.679	3069.216	3.599	2.1	5.8	NO	0.999	NO	bb
5	5 170724M1_7	Standard	5.000	3.55	2121.650	3078.477	8.615	5.3	5.6	NO	0.999	NO	MM
6	6 170724M1_8	Standard	10.000	3.55	3756.667	2827.577	16.607	10.3	3.3	NO	0.999	NO	MM
7	7 170724M1_9	Standard	50.000	3.55	19497.047	2990.466	81.497	51.3	2.6	NO	0.999	NO	MM
8	8 170724M1_10	Standard	100.000	3.55	36940.883	2965.238	155.725	98.1	-1.9	NO	0.999	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:29 Pacific Daylight Time

Compound name: L-6:2 FTS
Coefficient of Determination: R^2 = 0.997533
Calibration curve: -0.00313053 * x^2 + 1.07473 * x + 0.134469
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.67	204.440	7589.777	0.337	0.2	-24.7	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.67	400.907	7687.979	0.652	0.5	-3.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.67	747.740	7427.477	1.258	1.0	4.9	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.66	1573.173	7868.375	2.499	2.2	10.7	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.66	3802.596	7544.070	6.301	5.8	16.7	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.67	6777.476	8079.142	10.486	9.9	-0.8	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.67	31001.344	8775.410	44.159	47.5	-4.9	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.66	59887.281	9696.150	77.205	102.0	2.0	NO	0.998	NO	bb

Compound name: L-PFOA
Correlation coefficient: r = 0.999233, r^2 = 0.998466
Calibration curve: 0.970801 * x + 0.199778
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.67	1654.212	55437.824	0.373	0.2	-28.6	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.67	2766.273	52853.566	0.654	0.5	-6.4	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.67	5264.665	53444.164	1.231	1.1	6.3	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.68	10233.177	55652.324	2.298	2.2	8.1	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.68	26080.451	55510.707	5.873	5.8	16.9	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.68	45105.969	54392.293	10.366	10.5	4.7	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.67	220048.344	55876.563	49.226	50.5	1.0	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.68	421252.813	55196.383	95.399	98.1	-1.9	NO	0.998	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:29 Pacific Daylight Time

Compound name: L-PFHpS
Correlation coefficient: r = 0.999150, r^2 = 0.998301
Calibration curve: 0.0887442 * x + 0.014645
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.74	113.671	55437.824	0.026	0.1	-50.5	NO	0.998	NO	bbX
2	2	170724M1_4	Standard	0.500	3.74	222.089	52853.566	0.053	0.4	-14.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.73	522.454	53444.164	0.122	1.2	21.2	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.74	936.558	55652.324	0.210	2.2	10.3	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.73	2346.630	55510.707	0.528	5.8	15.8	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.74	4004.412	54392.293	0.920	10.2	2.0	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.74	19773.092	55876.563	4.423	49.7	-0.6	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.74	38852.836	55196.383	8.799	99.0	-1.0	NO	0.998	NO	bb

Compound name: L-PFNA
Correlation coefficient: r = 0.998636, r^2 = 0.997274
Calibration curve: 1.0977 * x + 0.147355
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.85	1504.301	55001.828	0.342	0.2	-29.1	NO	0.997	NO	MM
2	2	170724M1_4	Standard	0.500	3.85	2694.965	54762.438	0.615	0.4	-14.8	NO	0.997	NO	bb
3	3	170724M1_5	Standard	1.000	3.85	5691.902	55321.512	1.286	1.0	3.7	NO	0.997	NO	bb
4	4	170724M1_6	Standard	2.000	3.85	12559.827	59225.996	2.651	2.3	14.0	NO	0.997	NO	bb
5	5	170724M1_7	Standard	5.000	3.85	29286.219	53341.520	6.863	6.1	22.4	NO	0.997	NO	bb
6	6	170724M1_8	Standard	10.000	3.85	53683.984	56161.168	11.949	10.8	7.5	NO	0.997	NO	bb
7	7	170724M1_9	Standard	50.000	3.85	235981.688	55495.742	53.153	48.3	-3.4	NO	0.997	NO	bb
8	8	170724M1_10	Standard	100.000	3.85	475993.000	54308.789	109.557	99.7	-0.3	NO	0.997	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:44 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Compound name: L-PFOSA
Correlation coefficient: r = 0.998808, r^2 = 0.997616
Calibration curve: 1.0493 * x + 0.0489398
Response type: Internal Std (Ref 64), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.86	163.860	6633.945	0.309	0.2	-1.0	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	3.85	301.866	6613.513	0.571	0.5	-0.6	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	3.85	477.914	6491.109	0.920	0.8	-17.0	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	3.86	1315.264	7021.902	2.341	2.2	9.2	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	3.86	2927.381	6519.732	5.613	5.3	6.0	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	3.86	5570.263	6576.866	10.587	10.0	0.4	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	3.86	26459.754	5926.425	55.809	53.1	6.3	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	3.86	50171.699	6190.267	101.312	96.5	-3.5	NO	0.998	NO	bb

Compound name: L-PFOS
Coefficient of Determination: R^2 = 0.999053
Calibration curve: -0.00141568 * x^2 + 1.19711 * x + 0.0153867
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	3.90	300.610	10711.932	0.351	0.3	12.1	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	3.90	466.042	10010.674	0.582	0.5	-5.3	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	3.90	1032.631	10207.536	1.265	1.0	4.5	NO	0.999	NO	MM
4	4	170724M1_6	Standard	2.000	3.90	1981.837	10715.066	2.312	1.9	-3.9	NO	0.999	NO	MM
5	5	170724M1_7	Standard	5.000	3.90	5099.578	10217.659	6.239	5.2	4.6	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	3.90	8336.075	9647.514	10.801	9.1	-8.9	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	3.91	43091.355	9325.974	57.757	51.4	2.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	3.90	78910.156	9398.647	104.949	99.3	-0.7	NO	0.999	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:44 Pacific Daylight Time

Compound name: L-PFDA
Correlation coefficient: r = 0.999397, r^2 = 0.998794
Calibration curve: 1.29731 * x + 0.12788
Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.02	1671.759	55156.438	0.379	0.2	-22.6	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	4.02	3226.587	49449.902	0.816	0.5	6.0	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.02	6595.304	59736.465	1.380	1.0	-3.5	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.02	14672.154	61862.684	2.965	2.2	9.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.02	32741.914	53915.461	7.591	5.8	15.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.02	60142.156	58734.430	12.800	9.8	-2.3	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.03	291430.906	57610.250	63.233	48.6	-2.7	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.02	519240.375	49628.984	130.781	100.7	0.7	NO	0.999	NO	bb

Compound name: L-8:2 FTS
Coefficient of Determination: R^2 = 0.996879
Calibration curve: -0.00401712 * x^2 + 1.47948 * x + 0.229305
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.01	116.059	5712.626	0.254	0.0	-93.3	NO	0.997	NO	bbX
2	2	170724M1_4	Standard	0.500	4.02	436.336	5926.817	0.920	0.5	-6.5	NO	0.997	NO	bb
3	3	170724M1_5	Standard	1.000	4.01	704.575	5605.082	1.571	0.9	-9.1	NO	0.997	NO	bb
4	4	170724M1_6	Standard	2.000	4.01	1476.953	6044.566	3.054	1.9	-4.0	NO	0.997	NO	db
5	5	170724M1_7	Standard	5.000	4.02	3942.699	5463.454	9.021	6.0	20.8	NO	0.997	NO	bb
6	6	170724M1_8	Standard	10.000	4.02	6715.274	5614.961	14.950	10.2	2.3	NO	0.997	NO	bb
7	7	170724M1_9	Standard	50.000	4.02	29821.402	6078.795	61.323	47.4	-5.2	NO	0.997	NO	bb
8	8	170724M1_10	Standard	100.000	4.02	56335.957	6441.568	109.321	102.0	2.0	NO	0.997	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:44 Pacific Daylight Time

Compound name: L-N-MeFOSAA
Correlation coefficient: r = 0.999780, r^2 = 0.999560
Calibration curve: 1.47015 * x + 0.088336
Response type: Internal Std (Ref 68), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	0.250	4.05	448.925	12099.400	0.464	0.3	2.2	NO	1.000	NO	bb
2	2 170724M1_4	Standard	0.500	4.05	716.809	11504.973	0.779	0.5	-6.1	NO	1.000	NO	bb
3	3 170724M1_5	Standard	1.000	4.06	1261.768	11265.637	1.400	0.9	-10.8	NO	1.000	NO	bb
4	4 170724M1_6	Standard	2.000	4.05	3173.830	12505.027	3.173	2.1	4.9	NO	1.000	NO	bb
5	5 170724M1_7	Standard	5.000	4.05	7648.363	12072.939	7.919	5.3	6.5	NO	1.000	NO	bb
6	6 170724M1_8	Standard	10.000	4.05	14431.390	11803.941	15.282	10.3	3.4	NO	1.000	NO	bb
7	7 170724M1_9	Standard	50.000	4.05	69860.063	11737.307	74.400	50.5	1.1	NO	1.000	NO	bb
8	8 170724M1_10	Standard	100.000	4.05	130379.672	11210.404	145.378	98.8	-1.2	NO	1.000	NO	bb

Compound name: L-N-EtFOSAA
Correlation coefficient: r = 0.999919, r^2 = 0.999838
Calibration curve: 1.21714 * x + 0.0255867
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	0.250	4.12	300.173	12172.007	0.308	0.2	-7.1	NO	1.000	NO	bb
2	2 170724M1_4	Standard	0.500	4.12	550.297	11615.228	0.592	0.5	-6.9	NO	1.000	NO	bb
3	3 170724M1_5	Standard	1.000	4.12	1245.830	11681.440	1.333	1.1	7.4	NO	1.000	NO	bb
4	4 170724M1_6	Standard	2.000	4.12	2483.220	12536.644	2.476	2.0	0.7	NO	1.000	NO	bb
5	5 170724M1_7	Standard	5.000	4.12	6280.812	12228.059	6.420	5.3	5.1	NO	1.000	NO	bb
6	6 170724M1_8	Standard	10.000	4.12	12176.978	12339.168	12.336	10.1	1.1	NO	1.000	NO	bb
7	7 170724M1_9	Standard	50.000	4.12	57061.832	11695.135	60.989	50.1	0.2	NO	1.000	NO	bb
8	8 170724M1_10	Standard	100.000	4.12	112917.555	11651.338	121.142	99.5	-0.5	NO	1.000	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:17:44 Pacific Daylight Time

Compound name: L-PFUnA
Coefficient of Determination: R^2 = 0.998430
Calibration curve: -0.0020331 * x^2 + 0.901478 * x + 0.00751751
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.18	1408.556	65735.461	0.268	0.3	15.6	NO	0.998	NO	bb
2	2	170724M1_4	Standard	0.500	4.19	2456.148	63870.914	0.481	0.5	5.1	NO	0.998	NO	bb
3	3	170724M1_5	Standard	1.000	4.19	4367.807	64348.984	0.848	0.9	-6.5	NO	0.998	NO	bb
4	4	170724M1_6	Standard	2.000	4.19	9271.418	67160.539	1.726	1.9	-4.3	NO	0.998	NO	bb
5	5	170724M1_7	Standard	5.000	4.19	22206.646	66089.180	4.200	4.7	-6.0	NO	0.998	NO	bb
6	6	170724M1_8	Standard	10.000	4.19	40104.945	61335.543	8.173	9.3	-7.5	NO	0.998	NO	bb
7	7	170724M1_9	Standard	50.000	4.19	187190.781	55960.629	41.813	52.6	5.2	NO	0.998	NO	bb
8	8	170724M1_10	Standard	100.000	4.19	357250.000	64722.215	68.997	98.3	-1.7	NO	0.998	NO	bb

Compound name: L-PFDS
Coefficient of Determination: R^2 = 0.998893
Calibration curve: -0.00022062 * x^2 + 0.0913899 * x + -0.00210506
Response type: Internal Std (Ref 70), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.24	125.500	65735.461	0.024	0.3	13.7	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	4.24	217.016	63870.914	0.042	0.5	-2.3	NO	0.999	NO	MM
3	3	170724M1_5	Standard	1.000	4.23	432.153	64348.984	0.084	0.9	-5.6	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.24	998.163	67160.539	0.186	2.1	3.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.23	2251.549	66089.180	0.426	4.7	-5.3	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.23	4080.028	61335.543	0.831	9.3	-6.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.24	18621.564	55960.629	4.160	52.1	4.2	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.23	35549.465	64722.215	6.866	98.6	-1.4	NO	0.999	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:35 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Compound name: L-PFDoA
Coefficient of Determination: R^2 = 0.999677
Calibration curve: -0.000480882 * x^2 + 0.928226 * x + 0.197542
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	0.250	4.34	212.884	6396.985	0.416	0.2	-5.9	NO	1.000	NO	MM
2	2 170724M1_4	Standard	0.500	4.35	275.894	5619.458	0.614	0.4	-10.3	NO	1.000	NO	bb
3	3 170724M1_5	Standard	1.000	4.35	576.941	5998.723	1.202	1.1	8.3	NO	1.000	NO	bb
4	4 170724M1_6	Standard	2.000	4.35	1144.260	6584.378	2.172	2.1	6.5	NO	1.000	NO	bb
5	5 170724M1_7	Standard	5.000	4.35	2601.126	6419.244	5.065	5.3	5.2	NO	1.000	NO	bb
6	6 170724M1_8	Standard	10.000	4.35	4871.013	6690.135	9.101	9.6	-3.6	NO	1.000	NO	bb
7	7 170724M1_9	Standard	50.000	4.35	21850.346	6031.607	45.283	49.9	-0.3	NO	1.000	NO	bb
8	8 170724M1_10	Standard	100.000	4.35	43781.789	6198.479	88.291	100.1	0.1	NO	1.000	NO	bb

Compound name: L-N-MeFOSA
Coefficient of Determination: R^2 = 0.999627
Calibration curve: -0.00044986 * x^2 + 0.466744 * x + 0.00081322
Response type: Internal Std (Ref 72), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	0.250	4.39	226.279	27834.387	0.102	0.2	-13.6	NO	1.000	NO	bb
2	2 170724M1_4	Standard	0.500	4.39	521.665	26795.877	0.243	0.5	4.0	NO	1.000	NO	db
3	3 170724M1_5	Standard	1.000	4.39	1023.477	27001.328	0.474	1.0	1.4	NO	1.000	NO	bb
4	4 170724M1_6	Standard	2.000	4.39	2223.965	28178.129	0.987	2.1	5.8	NO	1.000	NO	db
5	5 170724M1_7	Standard	5.000	4.39	5367.556	27075.477	2.478	5.3	6.7	NO	1.000	NO	bb
6	6 170724M1_8	Standard	10.000	4.39	9714.126	27395.363	4.432	9.6	-4.2	NO	1.000	NO	db
7	7 170724M1_9	Standard	50.000	4.39	46919.371	26470.068	22.157	49.9	-0.3	NO	1.000	NO	bb
8	8 170724M1_10	Standard	100.000	4.39	92806.148	27480.182	42.215	100.1	0.1	NO	1.000	NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
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Compound name: L-PFTrDA
Correlation coefficient: r = 0.999380, r^2 = 0.998761
Calibration curve: 10.9107 * x + 1.81788
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.52	1928.310	6396.985	3.768	0.2	-28.5	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	4.52	3347.446	5619.458	7.446	0.5	3.2	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.52	6321.527	5998.723	13.173	1.0	4.1	NO	0.999	NO	db
4	4	170724M1_6	Standard	2.000	4.52	13537.021	6584.378	25.699	2.2	9.4	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.52	32633.807	6419.244	63.547	5.7	13.2	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.52	58224.531	6690.135	108.788	9.8	-2.0	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.52	270796.875	6031.607	561.204	51.3	2.5	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.52	531631.563	6198.479	1072.101	98.1	-1.9	NO	0.999	NO	bb

Compound name: L-PFTeDA
Coefficient of Determination: R^2 = 0.999027
Calibration curve: -0.000821655 * x^2 + 1.15082 * x + 0.0988466
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.70	1461.198	52611.504	0.347	0.2	-13.7	NO	0.999	NO	MM
2	2	170724M1_4	Standard	0.500	4.70	2285.720	43220.855	0.661	0.5	-2.3	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	4.70	4798.681	44254.344	1.355	1.1	9.3	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	4.70	9477.179	47041.410	2.518	2.1	5.3	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	4.70	23144.785	45392.488	6.374	5.5	9.5	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	4.70	40819.449	48426.250	10.536	9.1	-8.7	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	4.70	191033.828	42647.246	55.992	50.4	0.8	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	4.70	370959.375	43405.691	106.829	99.9	-0.1	NO	0.999	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:35 Pacific Daylight Time

Compound name: L-N-EtFOSA
Coefficient of Determination: R^2 = 0.999522
Calibration curve: -0.000124307 * x^2 + 0.388553 * x + 0.0202947
Response type: Internal Std (Ref 74), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	4.96	337.684	39336.785	0.107	0.2	-10.4	NO	1.000	NO	bb
2	2	170724M1_4	Standard	0.500	4.97	613.630	37178.340	0.206	0.5	-4.2	NO	1.000	NO	bb
3	3	170724M1_5	Standard	1.000	4.97	1267.991	36953.465	0.429	1.1	5.2	NO	1.000	NO	bb
4	4	170724M1_6	Standard	2.000	4.96	2697.465	39886.242	0.845	2.1	6.2	NO	1.000	NO	bb
5	5	170724M1_7	Standard	5.000	4.97	6431.737	37896.902	2.121	5.4	8.3	NO	1.000	NO	bb
6	6	170724M1_8	Standard	10.000	4.97	11778.675	39747.004	3.704	9.5	-4.9	NO	1.000	NO	MM
7	7	170724M1_9	Standard	50.000	4.96	57443.004	37648.063	19.072	49.8	-0.3	NO	1.000	NO	db
8	8	170724M1_10	Standard	100.000	4.97	116042.914	38501.617	37.675	100.1	0.1	NO	1.000	NO	db

Compound name: L-PFHxDA
Coefficient of Determination: R^2 = 0.999355
Calibration curve: -0.000723556 * x^2 + 1.34849 * x + 0.265371
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.07	2816.818	25428.396	0.554	0.2	-14.4	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	5.07	3873.513	21542.566	0.899	0.5	-6.0	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.07	7123.665	21611.141	1.648	1.0	2.6	NO	0.999	NO	db
4	4	170724M1_6	Standard	2.000	5.07	14417.972	22044.896	3.270	2.2	11.5	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.07	33676.410	22327.822	7.541	5.4	8.2	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.07	61569.332	22552.494	13.650	10.0	-0.2	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.07	276231.906	21452.613	64.382	48.8	-2.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.07	545977.438	21228.160	128.597	100.6	0.6	NO	0.999	NO	bb

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Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:35 Pacific Daylight Time

Compound name: L-PFODA
Correlation coefficient: r = 0.999510, r^2 = 0.999020
Calibration curve: 1.27272 * x + 0.164132
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.43	1979.263	25428.396	0.389	0.2	-29.3	NO	0.999	NO	db
2	2	170724M1_4	Standard	0.500	5.44	3335.536	21542.566	0.774	0.5	-4.1	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.44	6573.281	21611.141	1.521	1.1	6.6	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.44	13511.143	22044.896	3.064	2.3	13.9	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.44	32601.881	22327.822	7.301	5.6	12.1	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.44	59011.938	22552.494	13.083	10.2	1.5	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.43	274924.375	21452.613	64.077	50.2	0.4	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.44	534414.688	21228.160	125.874	98.8	-1.2	NO	0.999	NO	bb

Compound name: L-N-MeFOSE
Coefficient of Determination: R^2 = 0.999231
Calibration curve: -0.0002267 * x^2 + 0.440935 * x + 0.0253969
Response type: Internal Std (Ref 76), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.43	419.747	45355.609	0.116	0.2	-18.1	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	5.43	827.391	42298.965	0.245	0.5	-0.6	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.43	1698.216	42181.715	0.503	1.1	8.4	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.43	3509.137	44882.496	0.977	2.2	8.1	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.43	8229.911	42480.406	2.422	5.4	9.0	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.43	14647.859	44502.430	4.114	9.3	-6.8	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.43	72247.016	42011.336	21.496	50.0	-0.0	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.43	142986.313	42682.813	41.875	100.1	0.1	NO	0.999	NO	bb

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Compound name: L-N-EtFOSE
Coefficient of Determination: R^2 = 0.999487
Calibration curve: -0.000178806 * x^2 + 0.499525 * x + 0.0314909
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	0.250	5.60	493.408	44922.563	0.137	0.2	-15.3	NO	0.999	NO	bb
2	2	170724M1_4	Standard	0.500	5.61	913.176	40989.961	0.278	0.5	-1.1	NO	0.999	NO	bb
3	3	170724M1_5	Standard	1.000	5.61	1793.908	40752.352	0.550	1.0	3.9	NO	0.999	NO	bb
4	4	170724M1_6	Standard	2.000	5.60	3804.083	43177.285	1.101	2.1	7.2	NO	0.999	NO	bb
5	5	170724M1_7	Standard	5.000	5.61	9310.704	42231.566	2.756	5.5	9.3	NO	0.999	NO	bb
6	6	170724M1_8	Standard	10.000	5.61	16671.494	42902.656	4.857	9.7	-3.1	NO	0.999	NO	bb
7	7	170724M1_9	Standard	50.000	5.60	80642.430	41552.719	24.259	49.4	-1.3	NO	0.999	NO	bb
8	8	170724M1_10	Standard	100.000	5.61	163300.031	42219.305	48.349	100.3	0.3	NO	0.999	NO	bb

Compound name: 13C3-PFBA
Response Factor: 0.820565
RRF SD: 0.00859343, Relative SD: 1.04726
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	1.54	12468.349	15228.836	10.234	12.5	-0.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	1.55	12306.770	15122.477	10.173	12.4	-0.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	1.54	12270.478	15004.507	10.222	12.5	-0.3	NO		NO	bb
4	4	170724M1_6	Standard	12.500	1.55	12997.952	15657.887	10.377	12.6	1.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	1.55	12360.005	15236.371	10.140	12.4	-1.1	NO		NO	bb
6	6	170724M1_8	Standard	12.500	1.55	13099.017	15723.977	10.413	12.7	1.5	NO		NO	bb
7	7	170724M1_9	Standard	12.500	1.55	12396.041	14974.953	10.347	12.6	0.9	NO		NO	bb
8	8	170724M1_10	Standard	12.500	1.56	12273.032	15114.404	10.150	12.4	-1.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C3-PFPeA
Response Factor: 1.61743
RRF SD: 0.0173613, Relative SD: 1.07339
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	2.80	24685.725	15228.836	20.262	12.5	0.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	2.80	24374.584	15122.477	20.148	12.5	-0.3	NO		NO	bb
3	3	170724M1_5	Standard	12.500	2.80	24321.555	15004.507	20.262	12.5	0.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	2.80	25826.396	15657.887	20.618	12.7	2.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	2.80	24387.125	15236.371	20.007	12.4	-1.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	2.81	25621.486	15723.977	20.368	12.6	0.7	NO		NO	bb
7	7	170724M1_9	Standard	12.500	2.80	23859.781	14974.953	19.916	12.3	-1.5	NO		NO	bb
8	8	170724M1_10	Standard	12.500	2.81	24378.607	15114.404	20.162	12.5	-0.3	NO		NO	bb

Compound name: 13C3-PFBS
Response Factor: 0.202788
RRF SD: 0.00545259, Relative SD: 2.68881
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.00	3068.403	15228.836	2.519	12.4	-0.6	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.00	3020.354	15122.477	2.497	12.3	-1.5	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.00	3001.774	15004.507	2.501	12.3	-1.3	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.00	3295.993	15657.887	2.631	13.0	3.8	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.00	3132.764	15236.371	2.570	12.7	1.4	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.00	3302.426	15723.977	2.625	12.9	3.6	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.00	2994.649	14974.953	2.500	12.3	-1.4	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.00	2946.134	15114.404	2.437	12.0	-3.9	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C2-PFHxA
Response Factor: 0.27639
RRF SD: 0.00850433, Relative SD: 3.07693
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	5.000	3.22	11341.955	40367.738	1.405	5.1	1.7	NO		NO	bb
2	2	170724M1_4	Standard	5.000	3.22	10636.292	38823.406	1.370	5.0	-0.9	NO		NO	bb
3	3	170724M1_5	Standard	5.000	3.22	10865.864	37967.629	1.431	5.2	3.5	NO		NO	bb
4	4	170724M1_6	Standard	5.000	3.22	12006.801	42133.270	1.425	5.2	3.1	NO		NO	bb
5	5	170724M1_7	Standard	5.000	3.22	10585.094	39088.754	1.354	4.9	-2.0	NO		NO	bb
6	6	170724M1_8	Standard	5.000	3.22	11649.966	41725.730	1.396	5.1	1.0	NO		NO	bb
7	7	170724M1_9	Standard	5.000	3.22	10379.170	39920.477	1.300	4.7	-5.9	NO		NO	bb
8	8	170724M1_10	Standard	5.000	3.22	10569.161	38428.922	1.375	5.0	-0.5	NO		NO	bb

Compound name: 13C4-PFHpA
Response Factor: 0.305533
RRF SD: 0.0101511, Relative SD: 3.32243
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.48	29540.787	40367.738	3.659	12.0	-4.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.48	28831.211	38823.406	3.713	12.2	-2.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.48	29995.297	37967.629	3.950	12.9	3.4	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.48	31499.152	42133.270	3.738	12.2	-2.1	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.48	31478.633	39088.754	4.027	13.2	5.4	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.48	32505.703	41725.730	3.895	12.7	2.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.48	30043.684	39920.477	3.763	12.3	-1.5	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.48	29270.332	38428.922	3.808	12.5	-0.3	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 18O2-PFHxS
Response Factor: 0.392856
RRF SD: 0.017909, Relative SD: 4.55867
Response type: Internal Std (Ref 80), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.55	2948.661	7582.089	4.861	12.4	-1.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.55	2945.944	7302.217	5.043	12.8	2.7	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.55	2882.763	7346.485	4.905	12.5	-0.1	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.55	3069.216	7556.806	5.077	12.9	3.4	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.55	3078.477	7669.834	5.017	12.8	2.2	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.55	2827.577	8056.833	4.387	11.2	-10.7	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.55	2990.466	7531.759	4.963	12.6	1.1	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.55	2965.238	7365.456	5.032	12.8	2.5	NO		NO	bb

Compound name: 13C2-6:2 FTS
Response Factor: 0.147485
RRF SD: 0.0133447, Relative SD: 9.04815
Response type: Internal Std (Ref 62), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.66	7589.777	55437.824	1.711	11.6	-7.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.66	7687.979	52853.566	1.818	12.3	-1.4	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.66	7427.477	53444.164	1.737	11.8	-5.8	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.67	7868.375	55652.324	1.767	12.0	-4.1	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.66	7544.070	55510.707	1.699	11.5	-7.9	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.67	8079.142	54392.293	1.857	12.6	0.7	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.67	8775.410	55876.563	1.963	13.3	6.5	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.67	9696.150	55196.383	2.196	14.9	19.1	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C2-PFOA
Response Factor: 1.0675
RRF SD: 0.0457168, Relative SD: 4.28261
Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.67	55437.824	50417.762	13.745	12.9	3.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.67	52853.566	52862.527	12.498	11.7	-6.3	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.67	53444.164	49459.691	13.507	12.7	1.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.67	55652.324	51986.957	13.381	12.5	0.3	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.67	55510.707	54009.070	12.848	12.0	-3.7	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.68	54392.293	53144.688	12.793	12.0	-4.1	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.67	55876.563	49946.758	13.984	13.1	4.8	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.67	55196.383	49303.969	13.994	13.1	4.9	NO		NO	bb

Compound name: 13C5-PFNA
Response Factor: 0.852128
RRF SD: 0.0623325, Relative SD: 7.31492
Response type: Internal Std (Ref 82), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.85	55001.828	63362.148	10.851	12.7	1.9	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.85	54762.438	66233.305	10.335	12.1	-3.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.85	55321.512	62897.914	10.994	12.9	3.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.85	59225.996	73098.813	10.128	11.9	-4.9	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.85	53341.520	71059.133	9.383	11.0	-11.9	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.85	56161.168	60050.086	11.690	13.7	9.8	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.85	55495.742	67689.273	10.248	12.0	-3.8	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.85	54308.789	58608.688	11.583	13.6	8.7	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C8-PFOSA
Response Factor: 0.0982354
RRF SD: 0.00607611, Relative SD: 6.18526
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.86	6633.945	66110.742	1.254	12.8	2.1	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.85	6613.513	63178.059	1.309	13.3	6.6	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.86	6491.109	65533.590	1.238	12.6	0.8	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.86	7021.902	74336.992	1.181	12.0	-3.8	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.86	6519.732	73722.414	1.105	11.3	-10.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.86	6576.866	61426.844	1.338	13.6	9.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.86	5926.425	63456.004	1.167	11.9	-4.9	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.86	6190.267	62878.969	1.231	12.5	0.2	NO		NO	bb

Compound name: 13C8-PFOS
Response Factor: 0.937247
RRF SD: 0.0310241, Relative SD: 3.31013
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.90	10711.932	10984.350	12.190	13.0	4.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.90	10010.674	10756.134	11.634	12.4	-0.7	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.90	10207.536	10707.182	11.917	12.7	1.7	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.90	10715.066	11395.518	11.754	12.5	0.3	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.90	10217.659	10582.909	12.069	12.9	3.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.90	9647.514	10701.979	11.268	12.0	-3.8	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.91	9325.974	10546.740	11.053	11.8	-5.7	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.90	9398.647	9922.027	11.841	12.6	1.1	NO		NO	bd

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C2-PFDA
Response Factor: 0.809787
RRF SD: 0.0475325, Relative SD: 5.86975
Response type: Internal Std (Ref 84), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.02	55156.438	71538.672	9.638	11.9	-4.8	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.02	49449.902	67518.039	9.155	11.3	-9.6	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.02	59736.465	67946.188	10.990	13.6	8.6	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.02	61862.684	75237.898	10.278	12.7	1.5	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.02	53915.461	68309.617	9.866	12.2	-2.5	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.02	58734.430	69500.219	10.564	13.0	4.4	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.03	57610.250	72719.445	9.903	12.2	-2.2	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.02	49628.984	58601.402	10.586	13.1	4.6	NO		NO	bb

Compound name: 13C2-8:2 FTS
Response Factor: 0.105901
RRF SD: 0.0125981, Relative SD: 11.8961
Response type: Internal Std (Ref 66), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.01	5712.626	55156.438	1.295	12.2	-2.2	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.02	5926.817	49449.902	1.498	14.1	13.2	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.01	5605.082	59736.465	1.173	11.1	-11.4	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.01	6044.566	61862.684	1.221	11.5	-7.7	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.02	5463.454	53915.461	1.267	12.0	-4.3	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.02	5614.961	58734.430	1.195	11.3	-9.7	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.02	6078.795	57610.250	1.319	12.5	-0.4	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.02	6441.568	49628.984	1.622	15.3	22.6	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: d3-N-MeFOSAA
Response Factor: 0.178053
RRF SD: 0.00946183, Relative SD: 5.31404
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.05	12099.400	66110.742	2.288	12.8	2.8	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.05	11504.973	63178.059	2.276	12.8	2.3	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.05	11265.637	65533.590	2.149	12.1	-3.5	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.05	12505.027	74336.992	2.103	11.8	-5.5	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.05	12072.939	73722.414	2.047	11.5	-8.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.05	11803.941	61426.844	2.402	13.5	7.9	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.05	11737.307	63456.004	2.312	13.0	3.9	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.05	11210.404	62878.969	2.229	12.5	0.1	NO		NO	bb

Compound name: d5-N-EtFOSAA
Response Factor: 0.181401
RRF SD: 0.0108902, Relative SD: 6.0034
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.12	12172.007	66110.742	2.301	12.7	1.5	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.12	11615.228	63178.059	2.298	12.7	1.3	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.12	11681.440	65533.590	2.228	12.3	-1.7	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.12	12536.644	74336.992	2.108	11.6	-7.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.12	12228.059	73722.414	2.073	11.4	-8.6	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.12	12339.168	61426.844	2.511	13.8	10.7	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.12	11695.135	63456.004	2.304	12.7	1.6	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.12	11651.338	62878.969	2.316	12.8	2.1	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C2-PFUnA
Response Factor: 0.962105
RRF SD: 0.058365, Relative SD: 6.06639
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.18	65735.461	66110.742	12.429	12.9	3.3	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.18	63870.914	63178.059	12.637	13.1	5.1	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.19	64348.984	65533.590	12.274	12.8	2.1	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.18	67160.539	74336.992	11.293	11.7	-6.1	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.19	66089.180	73722.414	11.206	11.6	-6.8	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.19	61335.543	61426.844	12.481	13.0	3.8	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.18	55960.629	63456.004	11.024	11.5	-8.3	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.19	64722.215	62878.969	12.866	13.4	7.0	NO		NO	bb

Compound name: 13C2-PFDoA
Response Factor: 0.0944293
RRF SD: 0.00716752, Relative SD: 7.59035
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.34	6396.985	66110.742	1.210	12.8	2.5	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.35	5619.458	63178.059	1.112	11.8	-5.8	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.35	5998.723	65533.590	1.144	12.1	-3.1	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.35	6584.378	74336.992	1.107	11.7	-6.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.35	6419.244	73722.414	1.088	11.5	-7.8	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.35	6690.135	61426.844	1.361	14.4	15.3	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.35	6031.607	63456.004	1.188	12.6	0.7	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.35	6198.479	62878.969	1.232	13.0	4.4	NO		NO	bd

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: d3-N-MeFOSA
Response Factor: 0.412958
RRF SD: 0.0270339, Relative SD: 6.54642
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.42	27834.387	66110.742	5.263	12.7	2.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.42	26795.877	63178.059	5.302	12.8	2.7	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.42	27001.328	65533.590	5.150	12.5	-0.2	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.42	28178.129	74336.992	4.738	11.5	-8.2	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.42	27075.477	73722.414	4.591	11.1	-11.1	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.43	27395.363	61426.844	5.575	13.5	8.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.42	26470.068	63456.004	5.214	12.6	1.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.43	27480.182	62878.969	5.463	13.2	5.8	NO		NO	bb

Compound name: 13C2-PFTeDA
Response Factor: 0.694311
RRF SD: 0.0655535, Relative SD: 9.44152
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.70	52611.504	66110.742	9.948	14.3	14.6	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.70	43220.855	63178.059	8.551	12.3	-1.5	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.70	44254.344	65533.590	8.441	12.2	-2.7	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.70	47041.410	74336.992	7.910	11.4	-8.9	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.70	45392.488	73722.414	7.697	11.1	-11.3	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.70	48426.250	61426.844	9.854	14.2	13.5	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.70	42647.246	63456.004	8.401	12.1	-3.2	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.70	43405.691	62878.969	8.629	12.4	-0.6	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: d5-N-EtFOSA
Response Factor: 0.581331
RRF SD: 0.0422535, Relative SD: 7.26841
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	5.00	39336.785	66110.742	7.438	12.8	2.4	NO		NO	MM
2	2	170724M1_4	Standard	12.500	5.01	37178.340	63178.059	7.356	12.7	1.2	NO		NO	MM
3	3	170724M1_5	Standard	12.500	5.01	36953.465	65533.590	7.049	12.1	-3.0	NO		NO	MM
4	4	170724M1_6	Standard	12.500	5.01	39886.242	74336.992	6.707	11.5	-7.7	NO		NO	MM
5	5	170724M1_7	Standard	12.500	5.01	37896.902	73722.414	6.426	11.1	-11.6	NO		NO	MM
6	6	170724M1_8	Standard	12.500	5.01	39747.004	61426.844	8.088	13.9	11.3	NO		NO	MM
7	7	170724M1_9	Standard	12.500	5.01	37648.063	63456.004	7.416	12.8	2.1	NO		NO	MM
8	8	170724M1_10	Standard	12.500	5.01	38501.617	62878.969	7.654	13.2	5.3	NO		NO	MM

Compound name: 13C2-PFHxDA
Response Factor: 0.843007
RRF SD: 0.0734853, Relative SD: 8.71705
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	5.000	5.07	25428.396	66110.742	4.808	5.7	14.1	NO		NO	bb
2	2	170724M1_4	Standard	5.000	5.07	21542.566	63178.059	4.262	5.1	1.1	NO		NO	bb
3	3	170724M1_5	Standard	5.000	5.07	21611.141	65533.590	4.122	4.9	-2.2	NO		NO	bb
4	4	170724M1_6	Standard	5.000	5.07	22044.896	74336.992	3.707	4.4	-12.1	NO		NO	bb
5	5	170724M1_7	Standard	5.000	5.07	22327.822	73722.414	3.786	4.5	-10.2	NO		NO	bb
6	6	170724M1_8	Standard	5.000	5.07	22552.494	61426.844	4.589	5.4	8.9	NO		NO	bb
7	7	170724M1_9	Standard	5.000	5.07	21452.613	63456.004	4.226	5.0	0.3	NO		NO	bb
8	8	170724M1_10	Standard	5.000	5.07	21228.160	62878.969	4.220	5.0	0.1	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: d7-N-MeFOSE
Response Factor: 0.655572
RRF SD: 0.0471708, Relative SD: 7.19536
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	5.42	45355.609	66110.742	8.576	13.1	4.6	NO		NO	bb
2	2	170724M1_4	Standard	12.500	5.42	42298.965	63178.059	8.369	12.8	2.1	NO		NO	bb
3	3	170724M1_5	Standard	12.500	5.42	42181.715	65533.590	8.046	12.3	-1.8	NO		NO	bb
4	4	170724M1_6	Standard	12.500	5.42	44882.496	74336.992	7.547	11.5	-7.9	NO		NO	bb
5	5	170724M1_7	Standard	12.500	5.42	42480.406	73722.414	7.203	11.0	-12.1	NO		NO	bb
6	6	170724M1_8	Standard	12.500	5.42	44502.430	61426.844	9.056	13.8	10.5	NO		NO	bb
7	7	170724M1_9	Standard	12.500	5.42	42011.336	63456.004	8.276	12.6	1.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	5.42	42682.813	62878.969	8.485	12.9	3.5	NO		NO	bb

Compound name: d9-N-EtFOSE
Response Factor: 0.641067
RRF SD: 0.0456565, Relative SD: 7.12196
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	5.59	44922.563	66110.742	8.494	13.2	6.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	5.59	40989.961	63178.059	8.110	12.7	1.2	NO		NO	bb
3	3	170724M1_5	Standard	12.500	5.59	40752.352	65533.590	7.773	12.1	-3.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	5.59	43177.285	74336.992	7.260	11.3	-9.4	NO		NO	bb
5	5	170724M1_7	Standard	12.500	5.59	42231.566	73722.414	7.161	11.2	-10.6	NO		NO	bb
6	6	170724M1_8	Standard	12.500	5.59	42902.656	61426.844	8.730	13.6	8.9	NO		NO	bb
7	7	170724M1_9	Standard	12.500	5.59	41552.719	63456.004	8.185	12.8	2.1	NO		NO	bb
8	8	170724M1_10	Standard	12.500	5.59	42219.305	62878.969	8.393	13.1	4.7	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 1.11022e-016, Relative SD: 1.11022e-014
Response type: Internal Std (Ref 78), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	1.55	15228.836	15228.836	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	1.55	15122.477	15122.477	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	1.55	15004.507	15004.507	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	1.55	15657.887	15657.887	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	1.55	15236.371	15236.371	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	1.55	15723.977	15723.977	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	1.55	14974.953	14974.953	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	1.56	15114.404	15114.404	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	5.000	3.22	40367.738	40367.738	5.000	5.0	0.0	NO		NO	bb
2	2	170724M1_4	Standard	5.000	3.22	38823.406	38823.406	5.000	5.0	0.0	NO		NO	bb
3	3	170724M1_5	Standard	5.000	3.22	37967.629	37967.629	5.000	5.0	0.0	NO		NO	bb
4	4	170724M1_6	Standard	5.000	3.22	42133.270	42133.270	5.000	5.0	0.0	NO		NO	bb
5	5	170724M1_7	Standard	5.000	3.22	39088.754	39088.754	5.000	5.0	0.0	NO		NO	bb
6	6	170724M1_8	Standard	5.000	3.22	41725.730	41725.730	5.000	5.0	0.0	NO		NO	bb
7	7	170724M1_9	Standard	5.000	3.23	39920.477	39920.477	5.000	5.0	0.0	NO		NO	bb
8	8	170724M1_10	Standard	5.000	3.22	38428.922	38428.922	5.000	5.0	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C3-PFHxS
Response Factor: 1
RRF SD: 8.3925e-017, Relative SD: 8.3925e-015
Response type: Internal Std (Ref 80), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.55	7582.089	7582.089	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.55	7302.217	7302.217	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.55	7346.485	7346.485	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.55	7556.806	7556.806	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.55	7669.834	7669.834	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.55	8056.833	8056.833	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.55	7531.759	7531.759	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.55	7365.456	7365.456	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 9.3831e-017, Relative SD: 9.3831e-015
Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	3.67	50417.762	50417.762	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	3.67	52862.527	52862.527	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	3.67	49459.691	49459.691	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	3.67	51986.957	51986.957	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	3.68	54009.070	54009.070	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	3.68	53144.688	53144.688	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	3.67	49946.758	49946.758	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	3.67	49303.969	49303.969	12.500	12.5	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 9.3831e-017, Relative SD: 9.3831e-015
Response type: Internal Std (Ref 82), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc.	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	12.500	3.85	63362.148	63362.148	12.500	12.5	0.0	NO		NO	bb
2	2 170724M1_4	Standard	12.500	3.85	66233.305	66233.305	12.500	12.5	0.0	NO		NO	bb
3	3 170724M1_5	Standard	12.500	3.85	62897.914	62897.914	12.500	12.5	0.0	NO		NO	bb
4	4 170724M1_6	Standard	12.500	3.85	73098.813	73098.813	12.500	12.5	0.0	NO		NO	bb
5	5 170724M1_7	Standard	12.500	3.85	71059.133	71059.133	12.500	12.5	0.0	NO		NO	bb
6	6 170724M1_8	Standard	12.500	3.85	60050.086	60050.086	12.500	12.5	0.0	NO		NO	bb
7	7 170724M1_9	Standard	12.500	3.86	67689.273	67689.273	12.500	12.5	0.0	NO		NO	bb
8	8 170724M1_10	Standard	12.500	3.85	58608.688	58608.688	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc.	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 170724M1_3	Standard	12.500	3.90	10984.350	10984.350	12.500	12.5	0.0	NO		NO	bb
2	2 170724M1_4	Standard	12.500	3.90	10756.134	10756.134	12.500	12.5	0.0	NO		NO	bb
3	3 170724M1_5	Standard	12.500	3.90	10707.182	10707.182	12.500	12.5	0.0	NO		NO	bb
4	4 170724M1_6	Standard	12.500	3.90	11395.518	11395.518	12.500	12.5	0.0	NO		NO	bb
5	5 170724M1_7	Standard	12.500	3.90	10582.909	10582.909	12.500	12.5	0.0	NO		NO	bb
6	6 170724M1_8	Standard	12.500	3.90	10701.979	10701.979	12.500	12.5	0.0	NO		NO	bb
7	7 170724M1_9	Standard	12.500	3.91	10546.740	10546.740	12.500	12.5	0.0	NO		NO	bb
8	8 170724M1_10	Standard	12.500	3.90	9922.027	9922.027	12.500	12.5	0.0	NO		NO	bb

Dataset: U:\Q4.PRO\results\170724M1\170724M1-CRV_LBT.qld

Last Altered: Tuesday, July 25, 2017 09:59:38 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:19:52 Pacific Daylight Time

Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 1.25887e-016, Relative SD: 1.25887e-014
Response type: Internal Std (Ref 84), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.02	71538.672	71538.672	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.02	67518.039	67518.039	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.02	67946.188	67946.188	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.02	75237.898	75237.898	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.02	68309.617	68309.617	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.02	69500.219	69500.219	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.03	72719.445	72719.445	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.02	58601.402	58601.402	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C7-PFUnA
Response Factor: 1
RRF SD: 1.45362e-016, Relative SD: 1.45362e-014
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	170724M1_3	Standard	12.500	4.18	66110.742	66110.742	12.500	12.5	0.0	NO		NO	bb
2	2	170724M1_4	Standard	12.500	4.19	63178.059	63178.059	12.500	12.5	0.0	NO		NO	bb
3	3	170724M1_5	Standard	12.500	4.18	65533.590	65533.590	12.500	12.5	0.0	NO		NO	bb
4	4	170724M1_6	Standard	12.500	4.19	74336.992	74336.992	12.500	12.5	0.0	NO		NO	bb
5	5	170724M1_7	Standard	12.500	4.19	73722.414	73722.414	12.500	12.5	0.0	NO		NO	bb
6	6	170724M1_8	Standard	12.500	4.19	61426.844	61426.844	12.500	12.5	0.0	NO		NO	bb
7	7	170724M1_9	Standard	12.500	4.18	63456.004	63456.004	12.500	12.5	0.0	NO		NO	bb
8	8	170724M1_10	Standard	12.500	4.19	62878.969	62878.969	12.500	12.5	0.0	NO		NO	bb

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Dataset: Untitled

Last Altered: Tuesday, July 25, 2017 10:21:43 Pacific Daylight Time
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Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Compound name: L-PFBA

	Name	ID	Acq.Date	Acq.Time
1	170724M1_2	IPA	24-Jul-17	13:40:23
2	170724M1_3	ST170724M1-1 PFC CS-2 17G2422	24-Jul-17	13:51:04
3	170724M1_4	ST170724M1-2 PFC CS-1 17G2119	24-Jul-17	14:01:50
4	170724M1_5	ST170724M1-3 PFC CS0 17G2423	24-Jul-17	14:12:36
5	170724M1_6	ST170724M1-4 PFC CS1 17G2424	24-Jul-17	14:23:23
6	170724M1_7	ST170724M1-5 PFC CS2 17G2425	24-Jul-17	14:34:02
7	170724M1_8	ST170724M1-6 PFC CS3 17G2118	24-Jul-17	14:44:48
8	170724M1_9	ST170724M1-7 PFC CS4 17G2426	24-Jul-17	14:55:34
9	170724M1_10	ST170724M1-8 PFC CS5 17G2427	24-Jul-17	15:06:35
10	170724M1_11	IPA	24-Jul-17	15:17:30
11	170724M1_12	SS170724M4-1 PFC SSS 17G2421	24-Jul-17	15:28:15
12	170724M1_13	IPA	24-Jul-17	15:39:01

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-12_LBT.qld

Last Altered: Tuesday, July 25, 2017 10:29:00 Pacific Daylight Time
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AC 7/25/17

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	1	L-PFBA	213.0 > 168.8	11986.333	12199.159		1.000	1.56	10.24	102.43
2	3	L-PFPeA	263.1 > 218.9	19853.004	23879.502		1.000	2.81	10.29	102.92
3	5	L-PFBS	299 > 79.7	4150.350	2957.477		1.000	3.00	9.43	94.30
4	7	L-PFHxA	313.2 > 268.9	31616.176	10121.942		1.000	3.23	10.24	102.41
5	9	L-PFHpA	363 > 318.9	29691.209	29688.498		1.000	3.48	9.91	99.09
6	11	L-PFHxS	398.9 > 79.6	3521.195	2850.923		1.000	3.55	9.59	95.89
7	13	L-6:2 FTS	427.1 > 407	6778.936	7715.412		1.000	3.67	10.41	104.10
8	15	L-PFOA	413 > 368.7	48252.109	57527.922		1.000	3.68	10.59	105.94
9	17	L-PFHpS	448.9 > 98.8	3857.262	57527.922		1.000	3.74	9.28	92.79
10	19	L-PFNA	462.9 > 418.8	52020.793	55397.191		1.000	3.85	10.56	105.59

70-130

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Dataset: U:\Q4.PRO\results\170724M1\170724M1-12_LBT.qld

Last Altered: Tuesday, July 25, 2017 10:29:00 Pacific Daylight Time
Printed: Tuesday, July 25, 2017 10:30:17 Pacific Daylight Time

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	21	L-PFOSA	498.1 > 77.8	5708.063	6500.262		1.000	3.86	10.41	104.14
2	23	L-PFOS	499 > 79.9	8177.322	10272.242		1.000	3.90	8.38	83.83
3	25	L-PFDA	513 > 468.8	54158.824	56205.117		1.000	4.02	9.19	91.86
4	27	L-8:2 FTS	527 > 506.9	6486.744	5254.963		1.000	4.02	10.58	105.78
5	29	L-N-MeFOSAA	570.1>419	14470.231	11971.411		1.000	4.06	10.22	102.17
6	31	L-N-EtFOSAA	584.2>419	12443.312	12068.997		1.000	4.12	10.57	105.67
7	33	L-PFUnA	562.9 > 518.9	37650.797	59926.145		1.000	4.19	8.88	88.81
8	35	L-PFDS	598.9 > 98.7	3869.410	59926.145		1.000	4.24	9.05	90.52

70-130

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12_LBT.qld

Last Altered: Tuesday, July 25, 2017 10:29:00 Pacific Daylight Time
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(A) Not included in SS.
AC 7/25/17

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec	
1	37	L-PFDoA	612.9 > 318.8	4450.692	5849.101		1.000	4.35	10.09	100.87	70-130
2	39	L-N-MeFOSA	512.1>168.9		26376.414		1.000			(A)	
3	41	L-PFTrDA	662.9 > 618.9	52553.016	5849.101		1.000	4.52	10.13	101.27	70-130
4	43	L-PFTeDA	712.9 > 668.8	38350.820	40951.586		1.000	4.70	10.16	101.60	↓
5	45	L-N-EtFOSA	526.1>168.9	12.455	37573.375		1.000	4.97		(A)	
6	47	L-PFHxDA	812.8 > 768.9	608.407	19865.295		1.000	5.07			
7	49	L-PFODA	912.8 > 868.8	230.613	19865.295		1.000	5.44			
8	51	L-N-MeFOSE	616.1>58.9	26.252	40883.168		1.000	5.45			

Vista Analytical Laboratory

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12_LBT.qld

Last Altered: Tuesday, July 25, 2017 10:29:00 Pacific Daylight Time
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(A) Not included in SS. AC 7/25/17

Method: U:\Q4.PRO\MethDB\PFAS_Full_7-24-17_LBT.mdb 25 Jul 2017 09:46:41
Calibration: U:\Q4.PRO\CurveDB\C18_VAL-PFAS_Q4_7-24-17-FULL_LBT.cdb 25 Jul 2017 09:59:38

Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
1	53	L-N-EtFOSE	630.1>58.9		40456.262		1.000			(A)
2	55	13C3-PFBA	216.1 > 171.8	12199.159	15107.568	0.821	1.000	1.55	12.30	98.41
3	56	13C3-PFPeA	266 > 221.8	23879.502	15107.568	1.617	1.000	2.81	12.22	97.72
4	57	13C3-PFBS	302 > 98.8	2957.477	15107.568	0.203	1.000	3.00	12.07	96.53
5	58	13C2-PFHxA	315 > 269.8	10121.942	38341.938	0.276	1.000	3.23	4.78	95.51
6	59	13C4-PFHpA	367.2 > 321.8	29688.498	38341.938	0.306	1.000	3.48	12.67	101.37
7	60	18O2-PFHxS	403 > 102.6	2850.923	7151.517	0.393	1.000	3.55	12.68	101.47
8	61	13C2-6:2 FTS	429.1 > 408.9	7715.412	57527.922	0.147	1.000	3.67	11.37	90.94
9	62	13C2-PFOA	414.9 > 369.7	57527.922	55193.199	1.067	1.000	3.68	12.20	97.64
10	63	13C5-PFNA	468.2 > 422.9	55397.191	58314.438	0.852	1.000	3.85	13.94	111.48
11	64	13C8-PFOSA	506.1 > 77.7	6500.262	73602.336	0.098	1.000	3.86	11.24	89.90
12	65	13C8-PFOS	507 > 79.9	10272.242	10242.656	0.937	1.000	3.91	13.38	107.00
13	66	13C2-PFDA	515.1 > 469.9	56205.117	70397.750	0.810	1.000	4.02	12.32	98.59
14	67	13C2-8:2 FTS	529.1 > 508.7	5254.963	56205.117	0.106	1.000	4.02	11.04	88.29
15	68	d3-N-MeFOSAA	573.3>419	11971.411	73602.336	0.178	1.000	4.05	11.42	91.35
16	69	d5-N-EtFOSAA	589.3>419	12068.997	73602.336	0.181	1.000	4.12	11.30	90.39
17	70	13C2-PFUnA	565 > 519.8	59926.145	73602.336	0.962	1.000	4.19	10.58	84.63
18	71	13C2-PFDoA	615 > 569.7	5849.101	73602.336	0.094	1.000	4.35	10.52	84.16
19	72	d3-N-MeFOSA	515.2>168.9	26376.414	73602.336	0.413	1.000	4.43	10.85	86.78
20	73	13C2-PFTeDA	714.8 > 669.6	40951.586	73602.336	0.694	1.000	4.70	10.02	80.14
21	74	d5-N-EtFOSA	531.1>168.9	37573.375	73602.336	0.581	1.000	5.01	10.98	87.81
22	75	13C2-PFHxDA	815 > 769.7	19865.295	73602.336	0.843	1.000	5.07	4.00	80.04
23	76	d7-N-MeFOSE	623.1>58.9	40883.168	73602.336	0.656	1.000	5.42	10.59	84.73
24	77	d9-N-EtFOSE	639.2>58.8	40456.262	73602.336	0.641	1.000	5.59	10.72	85.74
25	78	13C4-PFBA	217 > 171.8	15107.568	15107.568	1.000	1.000	1.55	12.50	100.00
26	79	13C5-PFHxA	318 > 272.9	38341.938	38341.938	1.000	1.000	3.22	5.00	100.00
27	80	13C3-PFHxS	401.9 > 79.9	7151.517	7151.517	1.000	1.000	3.55	12.50	100.00
28	81	13C8-PFOA	421.3 > 376	55193.199	55193.199	1.000	1.000	3.68	12.50	100.00
29	82	13C9-PFNA	472.2 > 426.9	58314.438	58314.438	1.000	1.000	3.85	12.50	100.00
30	83	13C4-PFOS	503 > 79.9	10242.656	10242.656	1.000	1.000	3.91	12.50	100.00
31	84	13C6-PFDA	519.1 > 473.7	70397.750	70397.750	1.000	1.000	4.02	12.50	100.00

Dataset: U:\Q4.PRO\results\170724M1\170724M1-12_LBT.qld

Last Altered: Tuesday, July 25, 2017 10:29:00 Pacific Daylight Time
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Name: 170724M1_12, Date: 24-Jul-2017, Time: 15:28:15, ID: SS170724M4-1 PFC SSS 17G2421, Description: PFC SSS 17G2421

	#	Name	Trace	Area	IS Resp	RRF	Wt./Vol	RT	Conc.	%Rec
32	85	13C7-PFUnA	570.1 > 524.8	73602.336	73602.336	1.000	1.000	4.19	12.50	100.00

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	NORM_SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	CONTRACT_ID	DO_CTO_NUMBER	CONTR_NAME	SAMPLE_NAME	SAMPLE_MATRIX_DESC	SAMPLE_TYPE_DESC	COLLECT_DATE	ANALYTICAL_METHOD	ANALYTICAL_METHOD_GRP_DESC
MID_ATLANTIC	TRENTON_NAWC	1700906	EBS PHASE2	EBS PHASE2	50BR	Monitoring well	406167.76	523430.4	N6247016D9008	WE08	TETRA TECH, INC.	MW-50BR-20170717	Ground water	Normal (Regular)	17-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700906							N6247016D9008	WE08	TETRA TECH, INC.	RB-04-20170717	Water for QC samples	Equipment blank	17-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700906	EBS PHASE2	EBS PHASE2	02BR	Monitoring well	405927.69	523469.79	N6247016D9008	WE08	TETRA TECH, INC.	MW-02BR-20170718	Ground water	Normal (Regular)	18-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700906							N6247016D9008	WE08	TETRA TECH, INC.	RB-05-20170718	Water for QC samples	Equipment blank	18-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700906	EBS PHASE2	EBS PHASE2	12BR	Monitoring well	405890.9	523700.65	N6247016D9008	WE08	TETRA TECH, INC.	MW-12BR-20170718	Ground water	Normal (Regular)	18-Jul-17	537	Perfluoroalkyl Compounds
MID_ATLANTIC	TRENTON_NAWC	1700906	EBS PHASE2	EBS PHASE2	06BR	Monitoring well	405463.44	522554.88	N6247016D9008	WE08	TETRA TECH, INC.	MW-06BR-20170717	Ground water	Normal (Regular)	17-Jul-17	537	Perfluoroalkyl Compounds