



Groundwater Sample Results, Level 4 Laboratory Report, Electronic Data Deliverable, SDG BSI02

*Marine Corps Ballistics Base Barstow
Barstow, California*

November 2019

DoD Type I Data Package

Prepared for:

Gutierrez Canales Engineering

2655 Camino del Rio North

Suite 100

San Diego CA 92108

Project: Barstow Site Inspection

Soil and Water Samples

Collected on 10/30/18

SDG# BSI02

GROUP

2005307

SAMPLE NUMBERS

9881573-9881576, 9881579-9881586,

9881589-9881592, 9881594-9881596

A2LA (DoD) Cert. # 0001.01

PA Cert. # 36-00037

NY Cert. # 10670

NJ Cert. # PA011

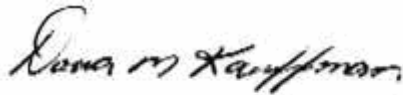
NC Cert. # 521

TX Cert. # T104704194-18-27

AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:



Date: 01/21/2019

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Lyssa Longenecker at (717) 556-7321.

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**Sample Reference List for SDG Number BSI02
with a Data Package Type of I-DOD**

43806 - Gutierrez Canales Engineering

Project: Barstow Site Inspection

Lab Sample Number	Client Sample ID	Collection Date	Date Received
9881573	OU1-CAOC21-S-05-01	10/30/2018 15:05	11/02/2018 10:10
9881574	OU1-CAOC21-S-05-03	10/30/2018 15:10	11/02/2018 10:10
9881575	OU1-CAOC21-S-05-05	10/30/2018 15:17	11/02/2018 10:10
9881576	OU1-CAOC21-S-05-08	10/30/2018 15:30	11/02/2018 10:10
9881579	OU1-CAOC21-W-05-01	10/30/2018 15:50	11/02/2018 10:10
9881580	OU1-CAOC21-W-05-02	10/30/2018 15:55	11/02/2018 10:10
9881581	OU1-CAOC21-S-04-01	10/30/2018 16:15	11/02/2018 10:10
9881582	OU1-CAOC21-S-04-03	10/30/2018 16:20	11/02/2018 10:10
9881583	OU1-CAOC21-S-04-05	10/30/2018 16:25	11/02/2018 10:10
9881584	OU1-CAOC21-S-04-05MS	10/30/2018 16:25	11/02/2018 10:10
9881585	OU1-CAOC21-S-04-05MSD	10/30/2018 16:25	11/02/2018 10:10
9881586	OU1-CAOC21-S-04-08	10/30/2018 16:35	11/02/2018 10:10
9881589	OU1-CAOC22-S-01-01	10/30/2018 17:20	11/02/2018 10:10
9881590	OU1-CAOC22-S-01-03	10/30/2018 17:25	11/02/2018 10:10
9881591	OU1-CAOC22-S-01-06	10/30/2018 17:30	11/02/2018 10:10
9881592	OU1-CAOC22-S-01-08	10/30/2018 17:35	11/02/2018 10:10
9881594	OU1-CAOC22-S-02-01	10/30/2018 18:10	11/02/2018 10:10
9881595	OU1-CAOC22-S-02-03	10/30/2018 18:15	11/02/2018 10:10
9881596	OU1-CAOC22-S-02-05	10/30/2018 18:20	11/02/2018 10:10

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com**14434 PFAS in Water by LC/MS/MS-DoD****14465 PFAS Water Prep - DoD**

A 250 ml sample of water is extracted using a solid phase extraction (SPE) cartridge followed by dispersive cleanup of the extract using graphitized carbon. The resulting extract is analyzed by LC/MS/MS in negative electrospray ionization (ESI) mode.

Reference: Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LCMSMS), EPA 537 Version 1.1, September 2009, Modified. Department of Defense Quality System Manual Version 5.1, Table B-15.

14478 PFAS in Soil by LC/MS/MS-DoD**14510 PFAS Solid Prep - DoD**

A 1 gram sample of soil/sediment is sonicated with an acetonitrile/methanol solution followed by dispersive cleanup of the extract using graphitized carbon. The resultant extract is analyzed by LC/MS/MS in negative electrospray ionization (ESI) mode.

Reference: Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LCMSMS), EPA 537 Version 1.1, September 2009, Modified. Department of Defense Quality System Manual Version 5.1, Table B-15.

00111 Moisture**00118 Moisture****00121 Moisture Duplicate**

A well-mixed sample is heated by reflected infrared in an aluminum pan and dried to a constant weight. The decrease in weight after drying is calculated as the moisture content.

Reference: SM 2540 G-1997 %Moisture Calculation for Dry Weight Determination

Analysis Reports / Field Chain of Custody



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Gutierrez Canales Engineering
2655 Camino del Rio North
Suite 100
San Diego CA 92108

Report Date: January 18, 2019 14:00

Project: Barstow Site Inspection

Account #: 43806
Group Number: 2005307
SDG: BSI02
State of Sample Origin: CA

Electronic Copy To Gutierrez Canales Engineering

Attn: Jesse MacNeill

Respectfully Submitted,



Lyssa M. Longenecker
Specialist

(717) 556-7321

To view our laboratory's current scopes of accreditation please go to <https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/>. Historical copies may be requested through your project manager.



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
OU1-CAOC21-S-05-01 Grab Soil	10/30/2018 15:05	9881573
OU1-CAOC21-S-05-03 Grab Soil	10/30/2018 15:10	9881574
OU1-CAOC21-S-05-05 Grab Soil	10/30/2018 15:17	9881575
OU1-CAOC21-S-05-08 Grab Soil	10/30/2018 15:30	9881576
OU1-CAOC21-S-05-10 Grab Soil	10/30/2018 15:40	9881577
OU1-CAOC21-S-05-12 Grab Soil	10/30/2018 15:45	9881578
OU1-CAOC21-W-05-01 Grab Water	10/30/2018 15:50	9881579
OU1-CAOC21-W-05-02 Grab Water	10/30/2018 15:55	9881580
OU1-CAOC21-S-04-01 Grab Soil	10/30/2018 16:15	9881581
OU1-CAOC21-S-04-03 Grab Soil	10/30/2018 16:20	9881582
OU1-CAOC21-S-04-05 Grab Soil	10/30/2018 16:25	9881583
OU1-CAOC21-S-04-05MS Grab Soil	10/30/2018 16:25	9881584
OU1-CAOC21-S-04-05MSD Grab Soil	10/30/2018 16:25	9881585
OU1-CAOC21-S-04-08 Grab Soil	10/30/2018 16:35	9881586
OU1-CAOC21-S-04-10 Grab Soil	10/30/2018 16:40	9881587
OU1-CAOC21-S-04-12 Grab Soil	10/30/2018 16:50	9881588
OU1-CAOC22-S-01-01 Grab Soil	10/30/2018 17:20	9881589
OU1-CAOC22-S-01-03 Grab Soil	10/30/2018 17:25	9881590
OU1-CAOC22-S-01-06 Grab Soil	10/30/2018 17:30	9881591
OU1-CAOC22-S-01-08 Grab Soil	10/30/2018 17:35	9881592
OU1-CAOC22-S-01-12 Grab Soil	10/30/2018 17:55	9881593
OU1-CAOC22-S-02-01 Grab Soil	10/30/2018 18:10	9881594
OU1-CAOC22-S-02-03 Grab Soil	10/30/2018 18:15	9881595
OU1-CAOC22-S-02-05 Grab Soil	10/30/2018 18:20	9881596
OU1-CAOC22-S-02-10 Grab Soil	10/30/2018 18:30	9881597
OU1-CAOC22-S-02-12 Grab Soil	10/30/2018 18:35	9881598

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Barstow Site Inspection
ELLE Group #: 2005307

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**EPA 537 mod QSM 5.1 table B-15, LC/MS/MS Miscellaneous**

Sample #s: 9881579, 9881583, 9881589

The following analytes were manually integrated due to incorrect integrations:
Perfluoro-octanesulfonate

Sample #s: 9881585

The following analytes were manually integrated due to incorrect integrations:
Perfluoro-octanesulfonate, NETFOSAA

Sample #s: 9881584

The following analytes were manually integrated due to incorrect integrations:
Perfluorooctanoic acid, Perfluoro-octanesulfonate, NMeFOSAA

Sample Description: OU1-CAOC21-S-05-01 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881573
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 15:05
SDG#: BSI02-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.48	1.9	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.48	1.9	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.19	0.58	0.77	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.29	0.66	0.97	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.19	0.66	0.77	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.19	0.66	0.77	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.19	0.62	0.77	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.19	0.66	0.77	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.19	0.66	0.77	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.19	0.63	0.77	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.19	0.66	0.77	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.19	0.66	0.77	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.19	0.66	0.77	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.19	0.66	0.77	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	4.3	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18314009	11/13/2018 02:23	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	2	18314009	11/11/2018 16:30	Danielle D McCully	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC21-S-05-03 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881574
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 15:10
SDG#: BSI02-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.54	2.2	3.2	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.54	2.2	3.2	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.22	0.65	0.86	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.32	0.73	1.1	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.22	0.73	0.86	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.22	0.73	0.86	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.22	0.69	0.86	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.22	0.73	0.86	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.22	0.73	0.86	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.22	0.70	0.86	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.22	0.73	0.86	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.22	0.73	0.86	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.22	0.73	0.86	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.22	0.73	0.86	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	7.4	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/08/2018 18:25	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/07/2018 09:10	Courtney J Fatta	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC21-S-05-05 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881575
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 15:17
SDG#: BSI02-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.51	2.0	3.1	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.51	2.0	3.1	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.20	0.61	0.81	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.31	0.69	1.0	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.20	0.69	0.81	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.20	0.69	0.81	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.20	0.65	0.81	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.20	0.69	0.81	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.20	0.69	0.81	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.20	0.66	0.81	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.20	0.69	0.81	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.20	0.69	0.81	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.20	0.69	0.81	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.20	0.69	0.81	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	5.6	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18314009	11/13/2018 02:32	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	2	18314009	11/11/2018 16:30	Danielle D McCully	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: OU1-CAOC21-S-05-08 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881576
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 15:30
SDG#: BSI02-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.50	2.0	3.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.50	2.0	3.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.20	0.60	0.81	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.30	0.68	1.0	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.20	0.68	0.81	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.20	0.68	0.81	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.20	0.64	0.81	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.20	0.68	0.81	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.20	0.68	0.81	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.20	0.65	0.81	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.20	0.68	0.81	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.20	0.68	0.81	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.20	0.68	0.81	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.20	0.68	0.81	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	1.7	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18314009	11/13/2018 16:11	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	2	18314009	11/11/2018 16:30	Danielle D McCully	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC21-S-05-10 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881577
ELLE Group #: 2005307

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 15:40
SDG#: BSI02-05

Sample Comments

CA ELAP Lab Certification No. 2792

Sample Description: OU1-CAOC21-S-05-12 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881578
ELLE Group #: 2005307

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 15:45
SDG#: BSI02-06

Sample Comments

CA ELAP Lab Certification No. 2792

Sample Description: OU1-CAOC21-W-05-01 Grab Water
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: WW 9881579
ELLE Group #: 2005307
Matrix: Water

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 15:50
SDG#: BSI02-07RB

CAT No.	Analysis Name	CAS Number	Result	Detection Limit*	Limit of Detection	Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15				ng/l	ng/l	ng/l	
14434	NEtFOSAA	2991-50-6	N.D.	0.91	2.2	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14434	NMeFOSAA	2355-31-9	N.D.	0.91	2.2	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.27	1.0	1.8	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.45	1.1	1.8	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.45	1.1	1.8	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.36	1.1	1.8	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.36	1.0	1.8	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.45	1.1	1.8	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.36	1.1	1.8	1
14434	Perfluoro-octanesulfonate	1763-23-1	1.2 J	0.45	1.1	1.8	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.45	1.1	1.8	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.55	1.1	1.8	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.55	1.1	1.8	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.45	1.1	1.8	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18314006	11/12/2018 23:13	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	2	18314006	11/11/2018 16:10	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC21-W-05-02 Grab Water
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: WW 9881580
ELLE Group #: 2005307
Matrix: Water

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 15:55
SDG#: BSI02-08RB

CAT No.	Analysis Name	CAS Number	Result	Detection Limit*	Limit of Detection	Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15				ng/l	ng/l	ng/l	
14434	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	N.D.	0.93	2.2	2.8	1
14434	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	N.D.	0.93	2.2	2.8	1
14434	Perfluorobutanesulfonate	375-73-5	N.D.	0.28	1.0	1.9	1
14434	Perfluorodecanoic acid	335-76-2	N.D.	0.46	1.1	1.9	1
14434	Perfluorododecanoic acid	307-55-1	N.D.	0.46	1.1	1.9	1
14434	Perfluoroheptanoic acid	375-85-9	N.D.	0.37	1.1	1.9	1
14434	Perfluorohexanesulfonate	355-46-4	N.D.	0.37	1.0	1.9	1
14434	Perfluorohexanoic acid	307-24-4	N.D.	0.46	1.1	1.9	1
14434	Perfluorononanoic acid	375-95-1	N.D.	0.37	1.1	1.9	1
14434	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.46	1.1	1.9	1
14434	Perfluorooctanoic acid	335-67-1	N.D.	0.46	1.1	1.9	1
14434	Perfluorotetradecanoic acid	376-06-7	N.D.	0.56	1.1	1.9	1
14434	Perfluorotridecanoic acid	72629-94-8	N.D.	0.56	1.1	1.9	1
14434	Perfluoroundecanoic acid	2058-94-8	N.D.	0.46	1.1	1.9	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14434	PFAS in Water by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18314006	11/12/2018 23:22	Marissa C Drexinger	1
14465	PFAS Water Prep - DoD	EPA 537 mod QSM 5.1 table B-15	2	18314006	11/11/2018 16:10	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC21-S-04-01 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881581
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 16:15
SDG#: BSI02-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.49	1.9	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.49	1.9	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.19	0.58	0.78	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.29	0.66	0.97	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.19	0.66	0.78	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.19	0.66	0.78	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.19	0.62	0.78	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.19	0.66	0.78	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.19	0.66	0.78	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.19	0.63	0.78	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.19	0.66	0.78	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.19	0.66	0.78	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.19	0.66	0.78	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.19	0.66	0.78	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	5.9	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/08/2018 18:52	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/07/2018 09:10	Courtney J Fatta	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: OU1-CAOC21-S-04-03 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881582
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 16:20
SDG#: BSI02-10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.49	2.0	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.49	2.0	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.20	0.59	0.78	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.29	0.67	0.98	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.20	0.67	0.78	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.20	0.67	0.78	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.20	0.63	0.78	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.20	0.67	0.78	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.20	0.67	0.78	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.20	0.64	0.78	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.20	0.67	0.78	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.20	0.67	0.78	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.20	0.67	0.78	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.20	0.67	0.78	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	2.9	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/08/2018 19:01	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/07/2018 09:10	Courtney J Fatta	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC21-S-04-05 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881583
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 16:25
SDG#: BSI02-11BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.50	2.0	3.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.50	2.0	3.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.20	0.60	0.80	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.30	0.68	1.0	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.20	0.68	0.80	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.20	0.68	0.80	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.20	0.64	0.80	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.20	0.68	0.80	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.20	0.68	0.80	1
14478	Perfluoro-octanesulfonate	1763-23-1	0.25 J	0.20	0.65	0.80	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.20	0.68	0.80	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.20	0.68	0.80	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.20	0.68	0.80	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.20	0.68	0.80	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	2.7	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/08/2018 19:10	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/07/2018 09:10	Courtney J Fatta	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC21-S-04-05MS Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881584
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 16:25
SDG#: BSI02-11MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	1.2 J	0.50	2.0	3.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	1.3 J	0.50	2.0	3.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	1.4	0.20	0.60	0.80	1
14478	Perfluorodecanoic acid	335-76-2	1.7	0.30	0.68	1.0	1
14478	Perfluorododecanoic acid	307-55-1	1.6	0.20	0.68	0.80	1
14478	Perfluoroheptanoic acid	375-85-9	1.7	0.20	0.68	0.80	1
14478	Perfluorohexanesulfonate	355-46-4	1.5	0.20	0.64	0.80	1
14478	Perfluorohexanoic acid	307-24-4	1.7	0.20	0.68	0.80	1
14478	Perfluorononanoic acid	375-95-1	1.7	0.20	0.68	0.80	1
14478	Perfluoro-octanesulfonate	1763-23-1	1.6	0.20	0.65	0.80	1
14478	Perfluorooctanoic acid	335-67-1	1.7	0.20	0.68	0.80	1
14478	Perfluorotetradecanoic acid	376-06-7	1.6	0.20	0.68	0.80	1
14478	Perfluorotridecanoic acid	72629-94-8	1.6	0.20	0.68	0.80	1
14478	Perfluoroundecanoic acid	2058-94-8	1.7	0.20	0.68	0.80	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00118	Moisture	n.a.	2.7	0.50	0.50	0.50	1

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/08/2018 19:19	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/07/2018 09:10	Courtney J Fatta	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: OU1-CAOC21-S-04-05MSD Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881585
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 16:25
SDG#: BSI02-11MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	1.3 J	0.49	2.0	3.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	1.4 J	0.49	2.0	3.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	1.4	0.20	0.59	0.79	1
14478	Perfluorodecanoic acid	335-76-2	1.6	0.30	0.67	0.99	1
14478	Perfluorododecanoic acid	307-55-1	1.5	0.20	0.67	0.79	1
14478	Perfluoroheptanoic acid	375-85-9	1.7	0.20	0.67	0.79	1
14478	Perfluorohexanesulfonate	355-46-4	1.4	0.20	0.63	0.79	1
14478	Perfluorohexanoic acid	307-24-4	1.6	0.20	0.67	0.79	1
14478	Perfluorononanoic acid	375-95-1	1.7	0.20	0.67	0.79	1
14478	Perfluoro-octanesulfonate	1763-23-1	1.8	0.20	0.64	0.79	1
14478	Perfluorooctanoic acid	335-67-1	1.7	0.20	0.67	0.79	1
14478	Perfluorotetradecanoic acid	376-06-7	1.6	0.20	0.67	0.79	1
14478	Perfluorotridecanoic acid	72629-94-8	1.5	0.20	0.67	0.79	1
14478	Perfluoroundecanoic acid	2058-94-8	1.4	0.20	0.67	0.79	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00118	Moisture	n.a.	2.7	0.50	0.50	0.50	1
00121	Moisture Duplicate	n.a.	2.8	0.50	0.50	0.50	1
	The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/08/2018 19:37	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/07/2018 09:10	Courtney J Fatta	1
00118	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1
00121	Moisture Duplicate	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC21-S-04-08 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881586
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 16:35
SDG#: BSI02-12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.47	1.9	2.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.47	1.9	2.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.19	0.56	0.75	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.28	0.64	0.94	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.19	0.64	0.75	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.19	0.64	0.75	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.19	0.60	0.75	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.19	0.64	0.75	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.19	0.64	0.75	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.19	0.61	0.75	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.19	0.64	0.75	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.19	0.64	0.75	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.19	0.64	0.75	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.19	0.64	0.75	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	1.0	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/08/2018 19:46	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/07/2018 09:10	Courtney J Fatta	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC21-S-04-10 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881587
ELLE Group #: 2005307

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/02/2018 10:10

Collection Date/Time: 10/30/2018 16:40

SDG#: BSI02-13

Sample Comments

CA ELAP Lab Certification No. 2792

Sample Description: OU1-CAOC21-S-04-12 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881588
ELLE Group #: 2005307

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 16:50
SDG#: BSI02-14

Sample Comments

CA ELAP Lab Certification No. 2792

Sample Description: OU1-CAOC22-S-01-01 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881589
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 17:20
SDG#: BSI02-15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.50	2.0	3.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.50	2.0	3.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.20	0.60	0.80	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.30	0.68	1.0	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.20	0.68	0.80	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.20	0.68	0.80	1
14478	Perfluorohexanesulfonate	355-46-4	0.26 J	0.20	0.64	0.80	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.20	0.68	0.80	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.20	0.68	0.80	1
14478	Perfluoro-octanesulfonate	1763-23-1	20	0.20	0.65	0.80	1
14478	Perfluorooctanoic acid	335-67-1	0.35 J	0.20	0.68	0.80	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.20	0.68	0.80	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.20	0.68	0.80	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.20	0.68	0.80	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	1.2	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18314009	11/13/2018 16:20	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	2	18314009	11/11/2018 16:30	Danielle D McCully	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: OU1-CAOC22-S-01-03 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881590
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 17:25
SDG#: BSI02-16

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.49	2.0	3.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.49	2.0	3.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.20	0.59	0.79	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.30	0.67	0.99	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.20	0.67	0.79	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.20	0.67	0.79	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.20	0.63	0.79	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.20	0.67	0.79	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.20	0.67	0.79	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.20	0.64	0.79	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.20	0.67	0.79	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.20	0.67	0.79	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.20	0.67	0.79	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.20	0.67	0.79	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	1.6	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/08/2018 20:04	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/07/2018 09:10	Courtney J Fatta	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC22-S-01-06 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881591
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 17:30
SDG#: BSI02-17

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.50	2.0	3.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.50	2.0	3.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.20	0.60	0.80	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.30	0.68	1.0	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.20	0.68	0.80	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.20	0.68	0.80	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.20	0.64	0.80	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.20	0.68	0.80	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.20	0.68	0.80	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.20	0.65	0.80	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.20	0.68	0.80	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.20	0.68	0.80	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.20	0.68	0.80	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.20	0.68	0.80	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	0.79	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/08/2018 20:13	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/07/2018 09:10	Courtney J Fatta	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: OU1-CAOC22-S-01-08 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881592
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 17:35
SDG#: BSI02-18

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.49	2.0	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.49	2.0	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.20	0.59	0.78	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.29	0.66	0.98	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.20	0.66	0.78	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.20	0.66	0.78	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.20	0.63	0.78	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.20	0.66	0.78	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.20	0.66	0.78	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.20	0.63	0.78	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.20	0.66	0.78	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.20	0.66	0.78	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.20	0.66	0.78	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.20	0.66	0.78	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	0.61	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/08/2018 20:22	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/07/2018 09:10	Courtney J Fatta	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC22-S-01-12 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881593
ELLE Group #: 2005307

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 17:55
SDG#: BSI02-19

Sample Comments

CA ELAP Lab Certification No. 2792

Sample Description: OU1-CAOC22-S-02-01 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881594
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 18:10
SDG#: BSI02-20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.51	2.0	3.1	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.51	2.0	3.1	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.20	0.61	0.82	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.31	0.69	1.0	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.20	0.69	0.82	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.20	0.69	0.82	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.20	0.65	0.82	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.20	0.69	0.82	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.20	0.69	0.82	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.20	0.66	0.82	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.20	0.69	0.82	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.20	0.69	0.82	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.20	0.69	0.82	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.20	0.69	0.82	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	9.4	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/08/2018 20:31	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/07/2018 09:10	Courtney J Fatta	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: OU1-CAOC22-S-02-03 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881595
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 18:15
SDG#: BSI02-21

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.49	2.0	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.49	2.0	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.20	0.59	0.79	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.29	0.67	0.98	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.20	0.67	0.79	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.20	0.67	0.79	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.20	0.63	0.79	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.20	0.67	0.79	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.20	0.67	0.79	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.20	0.64	0.79	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.20	0.67	0.79	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.20	0.67	0.79	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.20	0.67	0.79	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.20	0.67	0.79	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	1.2	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18314009	11/13/2018 16:29	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	2	18314009	11/11/2018 16:30	Danielle D McCully	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18311820006A	11/07/2018 14:55	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC22-S-02-05 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881596
ELLE Group #: 2005307
Matrix: Soil

Project Name: Barstow Site Inspection

Submission Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 18:20
SDG#: BSI02-22

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Detection Limit*	Dry Limit of Detection	Dry Limit of Quantitation	DF
LC/MS/MS Miscellaneous EPA 537 mod QSM 5.1 table B-15							
14478	NEtFOSAA	2991-50-6	N.D.	0.47	1.9	2.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14478	NMeFOSAA	2355-31-9	N.D.	0.47	1.9	2.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14478	Perfluorobutanesulfonate	375-73-5	N.D.	0.19	0.56	0.75	1
14478	Perfluorodecanoic acid	335-76-2	N.D.	0.28	0.63	0.93	1
14478	Perfluorododecanoic acid	307-55-1	N.D.	0.19	0.63	0.75	1
14478	Perfluoroheptanoic acid	375-85-9	N.D.	0.19	0.63	0.75	1
14478	Perfluorohexanesulfonate	355-46-4	N.D.	0.19	0.60	0.75	1
14478	Perfluorohexanoic acid	307-24-4	N.D.	0.19	0.63	0.75	1
14478	Perfluorononanoic acid	375-95-1	N.D.	0.19	0.63	0.75	1
14478	Perfluoro-octanesulfonate	1763-23-1	N.D.	0.19	0.61	0.75	1
14478	Perfluorooctanoic acid	335-67-1	N.D.	0.19	0.63	0.75	1
14478	Perfluorotetradecanoic acid	376-06-7	N.D.	0.19	0.63	0.75	1
14478	Perfluorotridecanoic acid	72629-94-8	N.D.	0.19	0.63	0.75	1
14478	Perfluoroundecanoic acid	2058-94-8	N.D.	0.19	0.63	0.75	1
Wet Chemistry SM 2540 G-1997 %Moisture Calc							
00111	Moisture	n.a.	0.81	0.50	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

CA ELAP Lab Certification No. 2792

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14478	PFAS in Soil by LC/MS/MS-DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/08/2018 20:49	Joshua P Trost	1
14510	PFAS Solid Prep - DoD	EPA 537 mod QSM 5.1 table B-15	1	18311003	11/07/2018 09:10	Courtney J Fatta	1
00111	Moisture	SM 2540 G-1997 %Moisture Calc	1	18316820002B	11/12/2018 13:52	Larry E Bevins	1

*=This limit was used in the evaluation of the final result

Sample Description: OU1-CAOC22-S-02-10 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881597
ELLE Group #: 2005307

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/02/2018 10:10
Collection Date/Time: 10/30/2018 18:30
SDG#: BSI02-23

Sample Comments

CA ELAP Lab Certification No. 2792

Sample Description: OU1-CAOC22-S-02-12 Grab Soil
MCLB Barstow

Gutierrez Canales Engineering
ELLE Sample #: SW 9881598
ELLE Group #: 2005307

Project Name: Barstow Site Inspection

Submittal Date/Time: 11/02/2018 10:10

Collection Date/Time: 10/30/2018 18:35

SDG#: BSI02-24

Sample Comments

CA ELAP Lab Certification No. 2792

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 01/18/2019 14:00

Group Number: 2005307

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	ng/g	ng/g	ng/g	ng/g
Batch number: 18311003	Sample number(s): 9881574,9881581-9881586,9881590-9881592,9881594,9881596			
NEtFOSAA	N.D.	0.50	2.0	3.0
NMeFOSAA	N.D.	0.50	2.0	3.0
Perfluorobutanesulfonate	N.D.	0.20	0.60	0.80
Perfluorodecanoic acid	N.D.	0.30	0.68	1.0
Perfluorododecanoic acid	N.D.	0.20	0.68	0.80
Perfluoroheptanoic acid	N.D.	0.20	0.68	0.80
Perfluorohexanesulfonate	N.D.	0.20	0.64	0.80
Perfluorohexanoic acid	N.D.	0.20	0.68	0.80
Perfluorononanoic acid	N.D.	0.20	0.68	0.80
Perfluoro-octanesulfonate	N.D.	0.20	0.65	0.80
Perfluorooctanoic acid	N.D.	0.20	0.68	0.80
Perfluorotetradecanoic acid	N.D.	0.20	0.68	0.80
Perfluorotridecanoic acid	N.D.	0.20	0.68	0.80
Perfluoroundecanoic acid	N.D.	0.20	0.68	0.80
Batch number: 18314009	Sample number(s): 9881573,9881575-9881576,9881589,9881595			
NEtFOSAA	N.D.	0.50	2.0	3.0
NMeFOSAA	N.D.	0.50	2.0	3.0
Perfluorobutanesulfonate	N.D.	0.20	0.60	0.80
Perfluorodecanoic acid	N.D.	0.30	0.68	1.0
Perfluorododecanoic acid	N.D.	0.20	0.68	0.80
Perfluoroheptanoic acid	N.D.	0.20	0.68	0.80
Perfluorohexanesulfonate	N.D.	0.20	0.64	0.80
Perfluorohexanoic acid	N.D.	0.20	0.68	0.80
Perfluorononanoic acid	N.D.	0.20	0.68	0.80
Perfluoro-octanesulfonate	N.D.	0.20	0.65	0.80
Perfluorooctanoic acid	N.D.	0.20	0.68	0.80
Perfluorotetradecanoic acid	N.D.	0.20	0.68	0.80
Perfluorotridecanoic acid	N.D.	0.20	0.68	0.80
Perfluoroundecanoic acid	N.D.	0.20	0.68	0.80
	ng/l	ng/l	ng/l	ng/l
Batch number: 18314006	Sample number(s): 9881579-9881580			
NEtFOSAA	N.D.	1.0	2.4	3.0
NMeFOSAA	N.D.	1.0	2.4	3.0
Perfluorobutanesulfonate	N.D.	0.30	1.1	2.0
Perfluorodecanoic acid	N.D.	0.50	1.2	2.0
Perfluorododecanoic acid	N.D.	0.50	1.2	2.0
Perfluoroheptanoic acid	N.D.	0.40	1.2	2.0

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 01/18/2019 14:00

Group Number: 2005307

Method Blank (continued)

Analysis Name	Result	DL**	LOD	LOQ
	ng/l	ng/l	ng/l	ng/l
Perfluorohexanesulfonate	N.D.	0.40	1.1	2.0
Perfluorohexanoic acid	N.D.	0.50	1.2	2.0
Perfluorononanoic acid	N.D.	0.40	1.2	2.0
Perfluoro-octanesulfonate	N.D.	0.50	1.2	2.0
Perfluorooctanoic acid	N.D.	0.50	1.2	2.0
Perfluorotetradecanoic acid	N.D.	0.60	1.2	2.0
Perfluorotridecanoic acid	N.D.	0.60	1.2	2.0
Perfluoroundecanoic acid	N.D.	0.50	1.2	2.0

LCS/LCSD

Analysis Name	LCS Spike Added ng/g	LCS Conc ng/g	LCSD Spike Added ng/g	LCSD Conc ng/g	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 18311003	Sample number(s): 9881574,9881581-9881586,9881590-9881592,9881594,9881596								
NEtFOSAA	1.36	1.05			77		70-130		
NMeFOSAA	1.36	1.57			115		70-130		
Perfluorobutanesulfonate	1.20	1.51			125		70-130		
Perfluorodecanoic acid	1.36	1.73			127		70-130		
Perfluorododecanoic acid	1.36	1.50			111		70-130		
Perfluoroheptanoic acid	1.36	1.48			109		70-130		
Perfluorohexanesulfonate	1.29	1.42			110		70-130		
Perfluorohexanoic acid	1.36	1.57			115		70-130		
Perfluorononanoic acid	1.36	1.73			127		70-130		
Perfluoro-octanesulfonate	1.30	1.68			129		70-130		
Perfluorooctanoic acid	1.36	1.64			121		70-130		
Perfluorotetradecanoic acid	1.36	1.65			121		70-130		
Perfluorotridecanoic acid	1.36	1.58			116		70-130		
Perfluoroundecanoic acid	1.36	1.48			109		70-130		
Batch number: 18314009	Sample number(s): 9881573,9881575-9881576,9881589,9881595								
NEtFOSAA	1.36	1.26	1.36	1.30	93	96	70-130	3	30
NMeFOSAA	1.36	1.07	1.36	1.29	79	95	70-130	19	30
Perfluorobutanesulfonate	1.20	1.14	1.20	1.12	95	93	70-130	2	30
Perfluorodecanoic acid	1.36	1.34	1.36	1.33	99	98	70-130	1	30
Perfluorododecanoic acid	1.36	1.25	1.36	1.30	92	96	70-130	4	30
Perfluoroheptanoic acid	1.36	1.41	1.36	1.36	104	100	70-130	3	30
Perfluorohexanesulfonate	1.29	1.23	1.29	1.16	96	90	70-130	6	30
Perfluorohexanoic acid	1.36	1.33	1.36	1.32	98	97	70-130	1	30
Perfluorononanoic acid	1.36	1.36	1.36	1.38	100	102	70-130	2	30
Perfluoro-octanesulfonate	1.30	1.15	1.30	1.20	89	92	70-130	4	30
Perfluorooctanoic acid	1.36	1.42	1.36	1.36	104	100	70-130	4	30

*- Outside of specification

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(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 01/18/2019 14:00

Group Number: 2005307

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ng/g	LCS Conc ng/g	LCSD Spike Added ng/g	LCSD Conc ng/g	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Perfluorotetradecanoic acid	1.36	1.37	1.36	1.37	101	101	70-130	0	30
Perfluorotridecanoic acid	1.36	1.35	1.36	1.34	99	98	70-130	1	30
Perfluoroundecanoic acid	1.36	1.34	1.36	1.19	98	87	70-130	12	30
	ng/l	ng/l	ng/l	ng/l					
Batch number: 18314006	Sample number(s): 9881579-9881580								
NEtFOSAA	5.44	5.06			93		60-131		
NMeFOSAA	5.44	4.75			87		67-124		
Perfluorobutanesulfonate	4.81	4.56			95		72-127		
Perfluorodecanoic acid	5.44	5.00			92		67-141		
Perfluorododecanoic acid	5.44	5.11			94		72-137		
Perfluoroheptanoic acid	5.44	5.69			105		75-139		
Perfluorohexanesulfonate	5.14	4.66			91		71-130		
Perfluorohexanoic acid	5.44	5.63			104		77-132		
Perfluorononanoic acid	5.44	5.30			97		73-144		
Perfluoro-octanesulfonate	5.20	4.63			89		67-134		
Perfluorooctanoic acid	5.44	5.49			101		76-136		
Perfluorotetradecanoic acid	5.44	5.19			95		70-142		
Perfluorotridecanoic acid	5.44	5.49			101		57-137		
Perfluoroundecanoic acid	5.44	5.38			99		83-132		
	%	%	%	%					
Batch number: 18311820006A	Sample number(s): 9881573-9881576,9881581-9881586,9881589-9881592,9881594-9881595								
Moisture	89.5	89.38			100		99-101		
Moisture	89.5	89.38			100		99-101		
Moisture Duplicate	89.5	89.38			100		99-101		
Batch number: 18316820002B	Sample number(s): 9881596								
Moisture	89.5	89.43			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ng/g	MS Spike Added ng/g	MS Conc ng/g	MSD Spike Added ng/g	MSD Conc ng/g	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 18311003	Sample number(s): 9881574,9881581-9881586,9881590-9881592,9881594,9881596 UNSPK: 9881583									
NEtFOSAA	N.D.	1.32	1.18	1.31	1.24	89	95	70-130	5	30
NMeFOSAA	N.D.	1.32	1.22	1.31	1.36	93	104	70-130	11	30
Perfluorobutanesulfonate	N.D.	1.17	1.39	1.16	1.36	119	118	70-130	2	30
Perfluorodecanoic acid	N.D.	1.32	1.63	1.31	1.58	123	121	70-130	3	30

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 01/18/2019 14:00

Group Number: 2005307

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ng/g	MS Spike Added ng/g	MS Conc ng/g	MSD Spike Added ng/g	MSD Conc ng/g	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Perfluorododecanoic acid	N.D.	1.32	1.56	1.31	1.49	118	114	70-130	4	30
Perfluoroheptanoic acid	N.D.	1.32	1.65	1.31	1.62	125	124	70-130	2	30
Perfluorohexanesulfonate	N.D.	1.25	1.43	1.24	1.38	114	112	70-130	3	30
Perfluorohexanoic acid	N.D.	1.32	1.68	1.31	1.51	127	115	70-130	10	30
Perfluorononanoic acid	N.D.	1.32	1.64	1.31	1.64	124	126	70-130	0	30
Perfluoro-octanesulfonate	0.245	1.26	1.59	1.25	1.76	107	121	70-130	10	30
Perfluorooctanoic acid	N.D.	1.32	1.66	1.31	1.65	126	126	70-130	1	30
Perfluorotetradecanoic acid	N.D.	1.32	1.60	1.31	1.58	122	121	70-130	1	30
Perfluorotridecanoic acid	N.D.	1.32	1.52	1.31	1.42	115	108	70-130	7	30
Perfluoroundecanoic acid	N.D.	1.32	1.62	1.31	1.36	123	104	70-130	18	30

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc %	DUP Conc %	DUP RPD	DUP RPD Max
Batch number: 18311820006A	Sample number(s): 9881573-9881576,9881581-9881586,9881589-9881592,9881594-9881595 BKG: 9881583			
Moisture	2.66	2.76	4	5
Moisture	2.66	2.76	4	5
Moisture Duplicate	2.66	2.76	4	5

Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Soil by LC/MS/MS-DoD
Batch number: 18311003

	13C3-PFBS		13C5-PFHxA		13C3-PFHxS		13C4-PFHpA		13C8-PFOA		13C8-PFOS	
	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)
9881574	68	1.2	78	0.80	78	1.2	72	1.2	83	1.2	77	1.8
9881581	68	0.55	66	0.37	68	0.55	69	0.55	71	0.55	69	0.83
9881582	68	0.57	68	0.38	70	0.57	66	0.57	73	0.57	70	0.86
9881583	70	0.58	74	0.39	77	0.58	69	0.58	79	0.58	71	0.87
9881584	70	0.58	74	0.39	76	0.58	73	0.58	78	0.58	73	0.87
9881585	74	0.58	85	0.38	81	0.58	78	0.58	83	0.58	78	0.87

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(2) The unspiked result was more than four times the spike added.

(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 01/18/2019 14:00

Group Number: 2005307

Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Soil by LC/MS/MS-DoD
Batch number: 18311003

	13C3-PFBS		13C5-PFHxA		13C3-PFHxS		13C4-PFHpA		13C8-PFOA		13C8-PFOS	
	%Rec	LOD	%Rec	LOD	%Rec	LOD	%Rec	LOD	%Rec	LOD	%Rec	LOD
	(ng/g)		(ng/g)		(ng/g)		(ng/g)		(ng/g)		(ng/g)	
9881586	74	0.56	78	0.37	80	0.56	80	0.56	85	0.56	80	0.83
9881590	65	0.58	71	0.39	75	0.58	68	0.58	74	0.58	71	0.87
9881591	68	0.59	74	0.40	72	0.59	69	0.59	74	0.59	70	0.89
9881592	63	0.58	68	0.39	71	0.58	65	0.58	72	0.58	65	0.87
9881594	61	0.56	66	0.37	66	0.56	65	0.56	72	0.56	62	0.83
9881596	58	0.56	64	0.37	65	0.56	60	0.56	67	0.56	63	0.83
Blank	60	1.2	65	0.80	65	1.2	61	1.2	65	1.2	72	1.8
LCS	61	1.2	67	0.80	65	1.2	65	1.2	70	1.2	61	1.8
MS	70	0.58	74	0.39	76	0.58	73	0.58	78	0.58	73	0.87
MSD	74	0.58	85	0.38	81	0.58	78	0.58	83	0.58	78	0.87

Limits:	50-150		50-150		50-150		50-150		50-150		50-150	
	13C9-PFNA		13C6-PFDA		d3-NMeFOSAA		13C7-PFUnDA		d5-NEtFOSAA		13C2-PFDoDA	
	%Rec	LOD	%Rec	LOD	%Rec	LOD	%Rec	LOD	%Rec	LOD	%Rec	LOD
	(ng/g)		(ng/g)		(ng/g)		(ng/g)		(ng/g)		(ng/g)	
9881574	75	0.80	76	1.2	53	1.8	79	1.2	55	1.8	63	1.2
9881581	74	0.37	70	0.55	66	0.83	78	0.55	69	0.83	69	0.55
9881582	71	0.38	72	0.57	72	0.86	71	0.57	69	0.86	68	0.57
9881583	75	0.39	76	0.58	78	0.87	76	0.58	71	0.87	74	0.58
9881584	76	0.39	76	0.58	80	0.87	75	0.58	66	0.87	74	0.58
9881585	80	0.38	84	0.58	88	0.87	86	0.58	80	0.87	83	0.58
9881586	80	0.37	78	0.56	81	0.83	80	0.56	71	0.83	78	0.56
9881590	69	0.39	71	0.58	50	0.87	74	0.58	53	0.87	73	0.58
9881591	69	0.40	71	0.59	59	0.89	74	0.59	60	0.89	68	0.59
9881592	64	0.39	69	0.58	62	0.87	68	0.58	58	0.87	66	0.58
9881594	67	0.37	71	0.56	72	0.83	68	0.56	70	0.83	70	0.56
9881596	62	0.37	63	0.56	55	0.83	69	0.56	58	0.83	64	0.56
Blank	69	0.80	63	1.2	62	1.8	69	1.2	63	1.8	62	1.2
LCS	65	0.80	67	1.2	66	1.8	75	1.2	59	1.8	63	1.2
MS	76	0.39	76	0.58	80	0.87	75	0.58	66	0.87	74	0.58
MSD	80	0.38	84	0.58	88	0.87	86	0.58	80	0.87	83	0.58

Limits:	50-150		50-150		50-150		50-150		50-150		50-150	
	13C2-PFTeDA											
	%Rec	LOD										
	(ng/g)											
9881574	71	1.2										
9881581	64	0.55										

*- Outside of specification

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(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 01/18/2019 14:00

Group Number: 2005307

Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Soil by LC/MS/MS-DoD

Batch number: 18311003

13C2-PFTeDA		
	%Rec	LOD (ng/g)
9881582	65	0.57
9881583	72	0.58
9881584	69	0.58
9881585	77	0.58
9881586	71	0.56
9881590	67	0.58
9881591	63	0.59
9881592	60	0.58
9881594	63	0.56
9881596	60	0.56
Blank	60	1.2
LCS	60	1.2
MS	69	0.58
MSD	77	0.58

Limits: 50-150

Analysis Name: PFAS in Water by LC/MS/MS-DoD

Batch number: 18314006

13C3-PFBS			13C5-PFHxA			13C3-PFHxS			13C4-PFHpA			13C8-PFOA			13C8-PFOS		
	%Rec	LOD (ng/l)		%Rec	LOD (ng/l)		%Rec	LOD (ng/l)		%Rec	LOD (ng/l)		%Rec	LOD (ng/l)		%Rec	LOD (ng/l)
9881579	72	9.1	80	1.8		78	9.1		83	1.8		84	1.8		93	9.1	
9881580	91	9.3	102	1.9		98	9.3		99	1.9		102	1.9		94	9.3	
Blank	82	10	90	2.0		81	10		90	2.0		90	2.0		84	10	
LCS	89	10	93	2.0		91	10		91	2.0		93	2.0		88	10	

Limits: 50-150

50-150

50-150

50-150

50-150

50-150

13C9-PFNA			13C6-PFDA			d3-NMeFOSAA			13C7-PFUnDA			d5-NEtFOSAA			13C2-PFDoDA		
	%Rec	LOD (ng/l)		%Rec	LOD (ng/l)		%Rec	LOD (ng/l)		%Rec	LOD (ng/l)		%Rec	LOD (ng/l)		%Rec	LOD (ng/l)
9881579	102	1.8	80	1.8		66	7.3		101	3.6		68	7.3		82	4.5	
9881580	102	1.9	91	1.9		98	7.4		92	3.7		79	7.4		83	4.6	
Blank	89	2.0	87	2.0		85	8.0		88	4.0		75	8.0		74	5.0	
LCS	97	2.0	89	2.0		86	8.0		86	4.0		80	8.0		81	5.0	

Limits: 50-150

50-150

50-150

50-150

50-150

50-150

*- Outside of specification

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(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 01/18/2019 14:00

Group Number: 2005307

Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Water by LC/MS/MS-DoD
Batch number: 18314006

13C2-PFTeDA		
	%Rec	LOD (ng/l)
9881579	87	4.5
9881580	78	4.6
Blank	71	5.0
LCS	77	5.0

Limits: 50-150

Analysis Name: PFAS in Soil by LC/MS/MS-DoD
Batch number: 18314009

	13C3-PFBS		13C5-PFHxA		13C3-PFHxS		13C4-PFHpA		13C8-PFOA		13C8-PFOS	
	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)
9881573	90	0.56	96	0.37	96	0.56	98	0.56	97	0.56	102	0.83
9881575	98	0.58	102	0.38	99	0.58	99	0.58	107	0.58	101	0.87
9881576	96	0.59	101	0.40	98	0.59	102	0.59	105	0.59	104	0.89
9881589	87	0.59	89	0.40	88	0.59	93	0.59	94	0.59	97	0.89
9881595	91	0.58	98	0.39	94	0.58	93	0.58	101	0.58	94	0.87
Blank	92	1.2	100	0.80	95	1.2	96	1.2	98	1.2	98	1.8
LCS	97	1.2	108	0.80	104	1.2	106	1.2	108	1.2	97	1.8
LCSD	100	1.2	103	0.80	96	1.2	99	1.2	106	1.2	101	1.8

Limits: 50-150 50-150 50-150 50-150 50-150 50-150

	13C9-PFNA		13C6-PFDA		d3-NMeFOSAA		13C7-PFUnDA		d5-NEtFOSAA		13C2-PFDODA	
	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)	%Rec	LOD (ng/g)
9881573	100	0.37	93	0.56	67	0.83	99	0.56	60	0.83	88	0.56
9881575	101	0.38	101	0.58	59	0.87	107	0.58	51	0.87	92	0.58
9881576	104	0.40	103	0.59	55	0.89	102	0.59	53	0.89	98	0.59
9881589	94	0.40	86	0.59	53	0.89	92	0.59	55	0.89	90	0.59
9881595	100	0.39	93	0.58	69	0.87	95	0.58	72	0.87	64	0.58
Blank	101	0.80	93	1.2	103	1.8	96	1.2	83	1.8	90	1.2
LCS	104	0.80	97	1.2	100	1.8	96	1.2	87	1.8	93	1.2
LCSD	106	0.80	96	1.2	99	1.8	100	1.2	89	1.8	99	1.2

Limits: 50-150 50-150 50-150 50-150 50-150 50-150

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

(3) The surrogate spike amount was less than the LOD.

Quality Control Summary

Client Name: Gutierrez Canales Engineering
Reported: 01/18/2019 14:00

Group Number: 2005307

Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: PFAS in Soil by LC/MS/MS-DoD

Batch number: 18314009

	13C2-PFTeDA	
	%Rec	LOD
		(ng/g)
9881573	85	0.56
9881575	94	0.58
9881576	95	0.59
9881589	83	0.59
9881595	89	0.58
Blank	89	1.2
LCS	90	1.2
LCSD	91	1.2
Limits:	50-150	

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

(3) The surrogate spike amount was less than the LOD.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. #

48806

Group #

2005307

Sample #

9881573-98

COC # 568808

Client Information				Matrix				Analysis Requested												For Lab Use Only	
Client: <u>CLE</u>		Acct. #:		☐ Tissue ☐ Ground ☐ Surface ☐ Potable ☐ NPDES ☐ Sediment ☐ Water ☐ Other: <u>PPAR EPA 537M</u>				Preservation and Filtration Codes												FSC: _____	
Project Name/ID: <u>146-CT19-006</u> <u>BARTON SITE INSPECTION</u>		PWSID #:																		SCR#: _____	
Project Manager: <u>ERIC REGER</u>		P.O. #:		Total # of Containers		Remarks															
Sampler: <u>J. SANTINI</u>		Quote #:																			
State where samples were collected: <u>CA</u>		For Compliance: Yes ☐ No ☒		Grab ☐ Composite ☐		Soil ☒ Sediment ☐		Water ☐ NPDES ☐		Other: <u>PPAR EPA 537M</u>		Total # of Containers		Remarks							
Sample Identification		Collected																			
		Date	Time																		
OUI-CA0021-S-05-01		10/30/18	1505	☒	☒																
OUI-CA0021-S-05-03		10/30/18	1510	☒	☒																
OUI-CA0021-S-05-05		10/30/18	1517	☒	☒																
OUI-CA0021-S-05-08		10/30/18	1530	☒	☒																
OUI-CA0021-S-05-10		10/30/18	1540	☒	☒																
OUI-CA0021-S-05-12		10/30/18	1545	☒	☒																
OUI-CA0021-W-05-01		10/30/18	1550	☒	☒																
OUI-CA0021-W-05-02		10/30/18	1555	☒	☒																
OUI-CA0021-S-04-01		10/30/18	1615	☒	☒																
OUI-CA0021-S-04-03		10/30/18	1620	☒	☒																

Turnaround Time (TAT) Requested (please circle)		Relinquished by		Date	Time	Received by		Date	Time
Standard		Rush		11/1/18		0740			
(Rush TAT is subject to laboratory approval and surcharge.)		Relinquished by		Date	Time	Received by		Date	Time
Requested TAT in business days: _____		Relinquished by		Date	Time	Received by		Date	Time
E-mail address: <u>JMACNEILL@NETAW.COM</u>		Relinquished by		Date	Time	Received by		Date	Time
Data Package Options (circle if required)		Relinquished by		Date	Time	Received by		Date	Time
Type I (EPA Level 3 Equivalent/non-CLP)		Type VI (Raw Data Only)							
Type III (Reduced non-CLP)		NJ DKQP TX TRRP-13							
NYSDEC Category A or B		MA MCP CT RCP							
EDD Required? <u>Yes</u> No		If yes, format: <u>NEDD, EDF</u>				Relinquished by Commercial Carrier:			
Site-Specific QC (MS/MSD/Dup)? <u>Yes</u> No		(If yes, indicate QC sample and submit triplicate sample volume.)				UPS FedEx Other			
Temperature upon receipt: <u>0.8-7.6C</u>									

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. #

43806

Group #

2005307

Sample #

9881573-98

COC # 568807

Client Information				Matrix				Analysis Requested												For Lab Use Only															
Client: <u>GCE</u>		Acct. #:		Project Name/ID: <u>146-C719-006</u> <u>BARTON SITE INSPECTION</u>		PWSID #:		Project Manager: <u>ERI RIVER</u>		P.O. #:		Sampler: <u>J. SANTINI</u>		Quote #:		Preservation and Filtration Codes												FSC: _____							
State where samples were collected: <u>CA</u>		For Compliance: Yes ☐ No ☒		Sample Identification		Collected		Grab		Composite		Soil ☐ Sediment ☐ Tissue ☐		Potable ☐ Ground ☐		Water ☐ NPDES ☐ Surface ☐		Other: _____		Total # of Containers														SCR#: _____	
				Date		Time																												Preservation Codes	
				001-CA0071-S-04-05		10/30/18 1635		☒		☐		☒		☐		☐		☐		6														H=HCl T=Thiosulfate	
				001-CA0071-S-04-08		10/30/18 1635		☒		☐		☒		☐		☐		☐		6														N=HNO ₃ B=NaOH	
				001-CA0071-S-04-10		10/30/18 1640		☒		☐		☒		☐		☐		☐		6														S=H ₂ SO ₄ P=H ₃ PO ₄	
				001-CA0071-S-04-12		10/30/18 1650		☒		☐		☒		☐		☐		☐		6														F=Field Filtered O=Other	
				001-CA0072-S-01-01		10/30/18 1720		☒		☐		☒		☐		☐		☐		2														Remarks	
				001-CA0072-S-01-03		10/30/18 1725		☒		☐		☒		☐		☐		☐		2															
				001-CA0072-S-01-06		10/30/18 1730		☒		☐		☒		☐		☐		☐		2														MS/MSD	
				001-CA0072-S-01-08		10/30/18 1735		☒		☐		☒		☐		☐		☐		2														1 CONTAINER	
				001-CA0072-S-01-10		10/30/18		☒		☐		☒		☐		☐		☐		2														HOLD/1 CONTAINER	
				001-CA0072-S-01-12		10/30/18 1755		☒		☐		☒		☐		☐		☐		2														HOLD/1 CONTAINER	
Turnaround Time (TAT) Requested (please circle)				Relinquished by				Date				Time				Received by				Date				Time											
Standard				Rush								11/1/18				0740																			
(Rush TAT is subject to laboratory approval and surcharge.)				Relinquished by				Date				Time				Received by				Date				Time											
Requested TAT in business days: _____				Relinquished by				Date				Time				Received by				Date				Time											
E-mail address: <u>JMAONEILL@NRJAW.COM</u>				Relinquished by				Date				Time				Received by				Date				Time											
Data Package Options (circle if required)				Relinquished by				Date				Time				Received by				Date				Time											
Type I (EPA Level 3 Equivalent/non-CLP)				Type VI (Raw Data Only)																															
Type III (Reduced non-CLP)				NJ DKQP TX TRRP-13																															
NYSDEC Category A or B				MA MCP CT RCP																															
EDD Required? Yes ☒ No ☐				Relinquished by Commercial Carrier:				Date				Time				Received by				Date				Time											
If yes, format: <u>NEDD, EDF</u>				UPS _____ FedEx _____ Other _____																															
Site-Specific QC (MS/MSD/Dup)? Yes ☒ No ☐				Temperature upon receipt <u>0.5-76°C</u>																															
(If yes, indicate QC sample and submit triplicate sample volume.)																																			

Acct. #

For Eurofins Lancaster Laboratories Environmental use only

Group #

Sample #

9881573-98

COC # 568600

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717.656.2300 FOR HELP COMPLETING FORM CHECK OUT <https://www.eurofinsus.com/coc>
The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client. 7044

Sample Administration
Receipt Documentation Log

Doc Log ID: 231984



Group Number(s): 2005307

Client: GCE

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Timestamp: 11/02/2018 10:10
 Number of Packages: 6 Number of Projects: 7
 State/Province of Origin: CA

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Melvin Sanchez (8943) at 20:43 on 11/02/2018

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?	Samples Collected Same Day as Receipt?
1	DT131	5.5	DT	Wet	Y	Bagged	N	N
2	DT131	0.5	DT	Wet	Y	Bagged	N	N
3	DT131	5.8	DT	Wet	Y	Bagged	N	N
4	DT131	7.6	DT	Wet	Y	Bagged	Y	N
5	DT131	1.5	DT	Wet	Y	Bagged	N	N
6	DT131	0.5	DT	Wet	Y	Bagged	N	N

Elevated Temperature Details

All Temperatures in °C

Cooler #	Thermometer ID	Top Left Temp	Top Right Temp	Bottom Left Temp	Bottom Right Temp	Center Temp	Factors Contributing to Elevated Temp	Comments
4	32170023	10.2	8.2	9.4	11.0	8.3	Temp bottle wasn't touching ice bag.	

Sample Administration Receipt Documentation Log

Doc Log ID: 231984



Group Number(s): 2005307

Client: GCE

Samples In Elevated-Temperature Coolers

<u>Cooler #</u>	<u>Sample ID</u>
4	OU1-Bldg 371-S-03-10
4	OU1-Bldg 371-S-04-6
4	OU1-Bldg 371-S-04-03
4	OU1-Bldg 371-S-04-01
4	OU1-Bldg 371-S-03-03
4	OU1-Bldg 371-S-04-10
4	OU1-Bldg 371-S-03-08
4	OU1-Bldg 371-S-04-08
4	OU1-Bldg 371-S-04-12
4	OU1-Bldg 371-S-03-01
4	OU1-Bldg 371-S-03-05
4	OU1-Bldg 371-S-03-12

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $>40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.

Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

PFAS by LC/MS/MS Data

Case Narrative/Conformance Summary

PFAS by LC/MS/MS

Case Narrative/Conformance Summary

CLIENT: Gutierrez Canales Engineering
SDG: BSI02

PFAS Group

Fraction: PFAS by LC/MS/MS

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
9881573	OU1-CAOC21-S-05-01		X	1	
9881574	OU1-CAOC21-S-05-03		X	1	
9881575	OU1-CAOC21-S-05-05		X	1	
9881576	OU1-CAOC21-S-05-08		X	1	
9881579	OU1-CAOC21-W-05-01	X		1	Material Rinse Blank
9881580	OU1-CAOC21-W-05-02	X		1	Material Rinse Blank
9881581	OU1-CAOC21-S-04-01		X	1	
9881582	OU1-CAOC21-S-04-03		X	1	
9881583	OU1-CAOC21-S-04-05		X	1	Unspiked
9881584	OU1-CAOC21-S-04-05MS		X	1	Matrix Spike
9881585	OU1-CAOC21-S-04-05MSD		X	1	Matrix Spike Duplicate
9881586	OU1-CAOC21-S-04-08		X	1	
9881589	OU1-CAOC22-S-01-01		X	1	
9881590	OU1-CAOC22-S-01-03		X	1	
9881591	OU1-CAOC22-S-01-06		X	1	
9881592	OU1-CAOC22-S-01-08		X	1	
9881594	OU1-CAOC22-S-02-01		X	1	
9881595	OU1-CAOC22-S-02-03		X	1	
9881596	OU1-CAOC22-S-02-05		X	1	

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.
See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

Case Narrative/Conformance Summary

CLIENT: Gutierrez Canales Engineering
SDG: BSI02

PFAS Group

Fraction: PFAS by LC/MS/MS

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

PFAS by LC/MS/MS

Quality Control Reference List PFAS Group

CLIENT: Gutierrez Canales Engineering
SDG: BSI02

Fraction: PFAS by LC/MS/MS

Analysis	Batch Number	Sample Number	Analysis Date
PFAS in Soil by LC/MS/MS-DoD	18311003	BLK311003B	11/08/2018 17:58
		LCS311003Q	11/08/2018 18:07
		9881574	11/08/2018 18:25
		9881581	11/08/2018 18:52
		9881582	11/08/2018 19:01
		9881583 UNSPK	11/08/2018 19:10
		9881584 MS	11/08/2018 19:19
		9881585 MSD	11/08/2018 19:37
		9881586	11/08/2018 19:46
		9881590	11/08/2018 20:04
		9881591	11/08/2018 20:13
		9881592	11/08/2018 20:22
		9881594	11/08/2018 20:31
		9881596	11/08/2018 20:49
PFAS in Soil by LC/MS/MS-DoD	18314009	BLK314009B	11/13/2018 01:47
		LCS314009Q	11/13/2018 01:56
		LCSDAY	11/13/2018 02:05
		9881573	11/13/2018 02:23
		9881575	11/13/2018 02:32
		9881576	11/13/2018 16:11
		9881589	11/13/2018 16:20
		9881595	11/13/2018 16:29
PFAS in Water by LC/MS/MS-DoD	18314006	BLK314006B	11/12/2018 22:37
		LCS314006Q	11/12/2018 22:46
		9881579	11/12/2018 23:13
		9881580	11/12/2018 23:22

Fraction: PFAS by LC/MS/MS

18311003 / BLK311003B						
Analyte	Analysis Date	Blank Results	Units	DL	LOD	LOQ
Perfluorooctanoic acid	11/08/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorononanoic acid	11/08/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorodecanoic acid	11/08/18	N.D.	ng/g	0.30	0.68	1.0
Perfluoroundecanoic acid	11/08/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorododecanoic acid	11/08/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorotridecanoic acid	11/08/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorotetradecanoic acid	11/08/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorohexanoic acid	11/08/18	N.D.	ng/g	0.20	0.68	0.80
Perfluoroheptanoic acid	11/08/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorobutanesulfonate	11/08/18	N.D.	ng/g	0.20	0.60	0.80
Perfluorohexanesulfonate	11/08/18	N.D.	ng/g	0.20	0.64	0.80
Perfluoro-octanesulfonate	11/08/18	N.D.	ng/g	0.20	0.65	0.80
NEtFOSAA	11/08/18	N.D.	ng/g	0.50	2.0	3.0
NMeFOSAA	11/08/18	N.D.	ng/g	0.50	2.0	3.0

18314009 / BLK314009B						
Analyte	Analysis Date	Blank Results	Units	DL	LOD	LOQ
Perfluorooctanoic acid	11/13/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorononanoic acid	11/13/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorodecanoic acid	11/13/18	N.D.	ng/g	0.30	0.68	1.0
Perfluoroundecanoic acid	11/13/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorododecanoic acid	11/13/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorotridecanoic acid	11/13/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorotetradecanoic acid	11/13/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorohexanoic acid	11/13/18	N.D.	ng/g	0.20	0.68	0.80
Perfluoroheptanoic acid	11/13/18	N.D.	ng/g	0.20	0.68	0.80
Perfluorobutanesulfonate	11/13/18	N.D.	ng/g	0.20	0.60	0.80
Perfluorohexanesulfonate	11/13/18	N.D.	ng/g	0.20	0.64	0.80
Perfluoro-octanesulfonate	11/13/18	N.D.	ng/g	0.20	0.65	0.80
NEtFOSAA	11/13/18	N.D.	ng/g	0.50	2.0	3.0
NMeFOSAA	11/13/18	N.D.	ng/g	0.50	2.0	3.0

Fraction: PFAS by LC/MS/MS

18314006 / BLK314006B Analyte	Analysis Date	Blank Results	Units	DL	LOD	LOQ
Perfluorooctanoic acid	11/12/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorononanoic acid	11/12/18	N.D.	ng/l	0.40	1.2	2.0
Perfluorodecanoic acid	11/12/18	N.D.	ng/l	0.50	1.2	2.0
Perfluoroundecanoic acid	11/12/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorododecanoic acid	11/12/18	N.D.	ng/l	0.50	1.2	2.0
Perfluorotridecanoic acid	11/12/18	N.D.	ng/l	0.60	1.2	2.0
Perfluorotetradecanoic acid	11/12/18	N.D.	ng/l	0.60	1.2	2.0
Perfluorohexanoic acid	11/12/18	N.D.	ng/l	0.50	1.2	2.0
Perfluoroheptanoic acid	11/12/18	N.D.	ng/l	0.40	1.2	2.0
Perfluorobutanesulfonate	11/12/18	N.D.	ng/l	0.30	1.1	2.0
Perfluorohexanesulfonate	11/12/18	N.D.	ng/l	0.40	1.1	2.0
Perfluoro-octanesulfonate	11/12/18	N.D.	ng/l	0.50	1.2	2.0
NEtFOSAA	11/12/18	N.D.	ng/l	1.0	2.4	3.0
NMeFOSAA	11/12/18	N.D.	ng/l	1.0	2.4	3.0

SDG No.: BSI02
Matrix: SOIL

18311003		13C2-PFDODA	13C2-PFTEDA	13C3-PFBS	13C3-PFHXS	13C4-PFHPA
	Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	DATE/TIME	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK311003	11/08/18 17:58	62	60	60	65	61
LCS311003	11/08/18 18:07	63	60	61	65	65
9881574	11/08/18 18:25	63	71	68	78	72
9881581	11/08/18 18:52	69	64	68	68	69
9881582	11/08/18 19:01	68	65	68	70	66
9881583	11/08/18 19:10	74	72	70	77	69
9881584MS	11/08/18 19:19	74	69	70	76	73
9881585MSD	11/08/18 19:37	83	77	74	81	78
9881586	11/08/18 19:46	78	71	74	80	80
9881590	11/08/18 20:04	73	67	65	75	68
9881591	11/08/18 20:13	68	63	68	72	69
9881592	11/08/18 20:22	66	60	63	71	65
9881594	11/08/18 20:31	70	63	61	66	65
9881596	11/08/18 20:49	64	60	58	65	60

* Outside QC Limits

SDG No.: BSI02
Matrix: SOIL

18311003		13C5-PFHXA	13C6-PFDA	13C7-PFUNDA	13C8-PFOA	13C8-PFOS
	Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	DATE/TIME	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK311003	11/08/18 17:58	65	63	69	65	72
LCS311003	11/08/18 18:07	67	67	75	70	61
9881574	11/08/18 18:25	78	76	79	83	77
9881581	11/08/18 18:52	66	70	78	71	69
9881582	11/08/18 19:01	68	72	71	73	70
9881583	11/08/18 19:10	74	76	76	79	71
9881584MS	11/08/18 19:19	74	76	75	78	73
9881585MSD	11/08/18 19:37	85	84	86	83	78
9881586	11/08/18 19:46	78	78	80	85	80
9881590	11/08/18 20:04	71	71	74	74	71
9881591	11/08/18 20:13	74	71	74	74	70
9881592	11/08/18 20:22	68	69	68	72	65
9881594	11/08/18 20:31	66	71	68	72	62
9881596	11/08/18 20:49	64	63	69	67	63

* Outside QC Limits

SDG No.: BSI02
Matrix: SOIL

18311003			13C9-PFNA	D3-NMEFOSAA	D5-NETFOSAA
		Limits	50-150	50-150	50-150
LAB SAMPLE ID	DATE/TIME		% Recovery	% Recovery	% Recovery
BLK311003	11/08/18 17:58		69	62	63
LCS311003	11/08/18 18:07		65	66	59
9881574	11/08/18 18:25		75	53	55
9881581	11/08/18 18:52		74	66	69
9881582	11/08/18 19:01		71	72	69
9881583	11/08/18 19:10		75	78	71
9881584MS	11/08/18 19:19		76	80	66
9881585MSD	11/08/18 19:37		80	88	80
9881586	11/08/18 19:46		80	81	71
9881590	11/08/18 20:04		69	50	53
9881591	11/08/18 20:13		69	59	60
9881592	11/08/18 20:22		64	62	58
9881594	11/08/18 20:31		67	72	70
9881596	11/08/18 20:49		62	55	58

* Outside QC Limits

SDG No.: BSI02
Matrix: WATER

18314006			13C2-PFDODA	13C2-PFTEDA	13C3-PFBS	13C3-PFHXS	13C4-PFHPA
		Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	DATE/TIME		% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK314006	11/12/18 22:37		74	71	82	81	90
LCS314006	11/12/18 22:46		81	77	89	91	91
9881579	11/12/18 23:13		82	87	72	78	83
9881580	11/12/18 23:22		83	78	91	98	99

* Outside QC Limits

SDG No.: BSI02
Matrix: WATER

18314006			13C5-PFHXA	13C6-PFDA	13C7-PFUNDA	13C8-PFOA	13C8-PFOS
		Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	DATE/TIME		% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK314006	11/12/18 22:37		90	87	88	90	84
LCS314006	11/12/18 22:46		93	89	86	93	88
9881579	11/12/18 23:13		80	80	101	84	93
9881580	11/12/18 23:22		102	91	92	102	94

* Outside QC Limits

SDG No.: BSI02
Matrix: WATER

18314006			13C9-PFNA	D3-NMEFOSAA	D5-NETFOSAA
		Limits	50-150	50-150	50-150
LAB SAMPLE ID	DATE/TIME		% Recovery	% Recovery	% Recovery
BLK314006	11/12/18 22:37		89	85	75
LCS314006	11/12/18 22:46		97	86	80
9881579	11/12/18 23:13		102	66	68
9881580	11/12/18 23:22		102	98	79

* Outside QC Limits

SDG No.: BSI02
Matrix: WATER

18314009		13C2-PFDODA	13C2-PFTEDA	13C3-PFBS	13C3-PFHXS	13C4-PFHPA
	Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	DATE/TIME	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK314009	11/13/18 01:47	90	89	92	95	96
LCS314009	11/13/18 01:56	93	90	97	104	106
LCSDA	11/13/18 02:05	99	91	100	96	99
9881573	11/13/18 02:23	88	85	90	96	98
9881575	11/13/18 02:32	92	94	98	99	99
9881576	11/13/18 16:11	98	95	96	98	102
9881589	11/13/18 16:20	90	83	87	88	93
9881595	11/13/18 16:29	64	89	91	94	93

* Outside QC Limits

SDG No.: BSI02
Matrix: WATER

18314009		13C5-PFHXA	13C6-PFDA	13C7-PFUNDA	13C8-PFOA	13C8-PFOS
	Limits	50-150	50-150	50-150	50-150	50-150
LAB SAMPLE ID	DATE/TIME	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery
BLK314009	11/13/18 01:47	100	93	96	98	98
LCS314009	11/13/18 01:56	108	97	96	108	97
LCSDA	11/13/18 02:05	103	96	100	106	101
9881573	11/13/18 02:23	96	93	99	97	102
9881575	11/13/18 02:32	102	101	107	107	101
9881576	11/13/18 16:11	101	103	102	105	104
9881589	11/13/18 16:20	89	86	92	94	97
9881595	11/13/18 16:29	98	93	95	101	94

* Outside QC Limits

SDG No.: BSI02
Matrix: WATER

18314009		13C9-PFNA	D3-NMEFOSAA	D5-NETFOSAA
	Limits	50-150	50-150	50-150
LAB SAMPLE ID	DATE/TIME	% Recovery	% Recovery	% Recovery
BLK314009	11/13/18 01:47	101	103	83
LCS314009	11/13/18 01:56	104	100	87
LCSDA	11/13/18 02:05	106	99	89
9881573	11/13/18 02:23	100	67	60
9881575	11/13/18 02:32	101	59	51
9881576	11/13/18 16:11	104	55	53
9881589	11/13/18 16:20	94	53	55
9881595	11/13/18 16:29	100	69	72

* Outside QC Limits

PFAS Group

Fraction: PFAS by LC/MS/MS

UNSPK: 9881583 MS: 9881584 MSD: 9881585 Analyte	Batch: 18311003 (Sample number(s): 9881574, 9881581-9881586, 9881590-9881592, 9881594, 9881596)								
	Spike Added ng/g MS/MSD	Unspiked Conc ng/g	MS Conc ng/g	MSD Conc ng/g	MS %Rec	MSD %Rec	%Rec Limits	%RPD	%RPD Limits
Perfluorooctanoic acid	1.32 / 1.31	N.D.	1.66	1.65	126	126	70-130	1	30
Perfluorononanoic acid	1.32 / 1.31	N.D.	1.64	1.64	124	126	70-130	0	30
Perfluorodecanoic acid	1.32 / 1.31	N.D.	1.63	1.58	123	121	70-130	3	30
Perfluoroundecanoic acid	1.32 / 1.31	N.D.	1.62	1.36	123	104	70-130	18	30
Perfluorododecanoic acid	1.32 / 1.31	N.D.	1.56	1.49	118	114	70-130	4	30
Perfluorotridecanoic acid	1.32 / 1.31	N.D.	1.52	1.42	115	108	70-130	7	30
Perfluorotetradecanoic acid	1.32 / 1.31	N.D.	1.60	1.58	122	121	70-130	1	30
Perfluorohexanoic acid	1.32 / 1.31	N.D.	1.68	1.51	127	115	70-130	10	30
Perfluoroheptanoic acid	1.32 / 1.31	N.D.	1.65	1.62	125	124	70-130	2	30
Perfluorobutanesulfonate	1.17 / 1.16	N.D.	1.39	1.36	119	118	70-130	2	30
Perfluorohexanesulfonate	1.25 / 1.24	N.D.	1.43	1.38	114	112	70-130	3	30
Perfluoro-octanesulfonate	1.26 / 1.25	0.245 J	1.59	1.76	107	121	70-130	10	30
NEtFOSAA	1.32 / 1.31	N.D.	1.18 J	1.24 J	89	95	70-130	5	30
NMeFOSAA	1.32 / 1.31	N.D.	1.22 J	1.36 J	93	104	70-130	11	30

Comments:

(2) The unspiked sample result is greater than four times the spike added.

* = Out of Specification

Results are being reported on an as received basis.

SDG: BSI02
Matrix: SOLID

PFAS Group

Fraction: PFAS by LC/MS/MS

LCS: LCS311003Q	Batch: 18311003 (Sample number(s): 9881574, 9881581-9881586, 9881590-9881592, 9881594, 9881596)							
	Analyte	Spike Added ng/g	LCS Conc ng/g	LCSD Conc ng/g	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD Limits
Perfluorooctanoic acid	1.36	1.64	NA	121	NA	70-130	NA	NA
Perfluorononanoic acid	1.36	1.73	NA	127	NA	70-130	NA	NA
Perfluorodecanoic acid	1.36	1.73	NA	127	NA	70-130	NA	NA
Perfluoroundecanoic acid	1.36	1.48	NA	109	NA	70-130	NA	NA
Perfluorododecanoic acid	1.36	1.50	NA	111	NA	70-130	NA	NA
Perfluorotridecanoic acid	1.36	1.58	NA	116	NA	70-130	NA	NA
Perfluorotetradecanoic acid	1.36	1.65	NA	121	NA	70-130	NA	NA
Perfluorohexanoic acid	1.36	1.57	NA	115	NA	70-130	NA	NA
Perfluoroheptanoic acid	1.36	1.48	NA	109	NA	70-130	NA	NA
Perfluorobutanesulfonate	1.20	1.51	NA	125	NA	70-130	NA	NA
Perfluorohexanesulfonate	1.29	1.42	NA	110	NA	70-130	NA	NA
Perfluoro-octanesulfonate	1.30	1.68	NA	129	NA	70-130	NA	NA
NEtFOSAA	1.36	1.05 J	NA	77	NA	70-130	NA	NA
NMeFOSAA	1.36	1.57 J	NA	115	NA	70-130	NA	NA

LCS: LCS314009Q LCSD: LCSDAY	Batch: 18314009 (Sample number(s): 9881573, 9881575-9881576, 9881589, 9881595)							
	Analyte	Spike Added ng/g	LCS Conc ng/g	LCSD Conc ng/g	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD Limits
Perfluorooctanoic acid	1.36	1.42	1.36	104	100	70-130	4	30
Perfluorononanoic acid	1.36	1.36	1.38	100	102	70-130	2	30
Perfluorodecanoic acid	1.36	1.34	1.33	99	98	70-130	1	30
Perfluoroundecanoic acid	1.36	1.34	1.19	98	87	70-130	12	30
Perfluorododecanoic acid	1.36	1.25	1.30	92	96	70-130	4	30
Perfluorotridecanoic acid	1.36	1.35	1.34	99	98	70-130	1	30
Perfluorotetradecanoic acid	1.36	1.37	1.37	101	101	70-130	0	30
Perfluorohexanoic acid	1.36	1.33	1.32	98	97	70-130	1	30
Perfluoroheptanoic acid	1.36	1.41	1.36	104	100	70-130	3	30
Perfluorobutanesulfonate	1.20	1.14	1.12	95	93	70-130	2	30
Perfluorohexanesulfonate	1.29	1.23	1.16	96	90	70-130	6	30
Perfluoro-octanesulfonate	1.30	1.15	1.20	89	92	70-130	4	30
NEtFOSAA	1.36	1.26 J	1.30 J	93	96	70-130	3	30
NMeFOSAA	1.36	1.07 J	1.29 J	79	95	70-130	19	30

SDG: BSI02
Matrix: LIQUID

PFAS Group

Fraction: PFAS by LC/MS/MS

LCS: LCS314006Q		Batch: 18314006 (Sample number(s): 9881579-9881580)						
Analyte	Spike Added ng/l	LCS Conc ng/l	LCSD Conc ng/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Perfluorooctanoic acid	5.44	5.49	NA	101	NA	76-136	NA	NA
Perfluorononanoic acid	5.44	5.30	NA	97	NA	73-144	NA	NA
Perfluorodecanoic acid	5.44	5.00	NA	92	NA	67-141	NA	NA
Perfluoroundecanoic acid	5.44	5.38	NA	99	NA	83-132	NA	NA
Perfluorododecanoic acid	5.44	5.11	NA	94	NA	72-137	NA	NA
Perfluorotridecanoic acid	5.44	5.49	NA	101	NA	57-137	NA	NA
Perfluorotetradecanoic acid	5.44	5.19	NA	95	NA	70-142	NA	NA
Perfluorohexanoic acid	5.44	5.63	NA	104	NA	77-132	NA	NA
Perfluoroheptanoic acid	5.44	5.69	NA	105	NA	75-139	NA	NA
Perfluorobutanesulfonate	4.81	4.56	NA	95	NA	72-127	NA	NA
Perfluorohexanesulfonate	5.14	4.66	NA	91	NA	71-130	NA	NA
Perfluoro-octanesulfonate	5.20	4.63	NA	89	NA	67-134	NA	NA
NEtFOSAA	5.44	5.06	NA	93	NA	60-131	NA	NA
NMeFOSAA	5.44	4.75	NA	87	NA	67-124	NA	NA

Fraction: PFAS by LC/MS/MS

14478: PFAS in Soil by LC/MS/MS- DoD Analyte Name	Default DL	Default LOD	Default LOQ	Units
Perfluorooctanoic acid	.2	.68	0.80	ng/g
Perfluorononanoic acid	.2	.68	0.80	ng/g
Perfluorodecanoic acid	.3	.68	1.0	ng/g
Perfluoroundecanoic acid	.2	.68	0.80	ng/g
Perfluorododecanoic acid	.2	.68	0.80	ng/g
Perfluorotridecanoic acid	.2	.68	0.80	ng/g
Perfluorotetradecanoic acid	.2	.68	0.80	ng/g
Perfluorohexanoic acid	.2	.68	0.80	ng/g
Perfluoroheptanoic acid	.2	.68	0.80	ng/g
Perfluorobutanesulfonate	.2	.6	0.80	ng/g
Perfluorohexanesulfonate	.2	.64	0.80	ng/g
Perfluoro-octanesulfonate	.2	.65	0.80	ng/g
NEtFOSAA	.5	2	3.0	ng/g
NMeFOSAA	.5	2	3.0	ng/g

14434: PFAS in Water by LC/MS/MS- DoD Analyte Name	Default DL	Default LOD	Default LOQ	Units
Perfluorooctanoic acid	.5	1.2	2.0	ng/l
Perfluorononanoic acid	.4	1.2	2.0	ng/l
Perfluorodecanoic acid	.5	1.2	2.0	ng/l
Perfluoroundecanoic acid	.5	1.2	2.0	ng/l
Perfluorododecanoic acid	.5	1.2	2.0	ng/l
Perfluorotridecanoic acid	.6	1.2	2.0	ng/l
Perfluorotetradecanoic acid	.6	1.2	2.0	ng/l
Perfluorohexanoic acid	.5	1.2	2.0	ng/l
Perfluoroheptanoic acid	.4	1.2	2.0	ng/l
Perfluorobutanesulfonate	.3	1.1	2.0	ng/l
Perfluorohexanesulfonate	.4	1.1	2.0	ng/l
Perfluoro-octanesulfonate	.5	1.2	2.0	ng/l
NEtFOSAA	1	2.4	3.0	ng/l
NMeFOSAA	1	2.4	3.0	ng/l

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
 CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
 CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

Perfluorobutanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.041	0.20	0.238	19.1	±30
CAL2	0.093	0.50	0.545	9.0	±30
CAL3	0.362	2.00	2.120	6.0	±30
CAL4	1.495	8.00	8.747	9.3	±30
CAL5	3.745	20.00	21.919	9.6	±30
CAL6	8.813	50.00	51.576	3.2	±30
CAL7	16.327	100.00	95.554	-4.4	±30

Perfluoropentanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.039	0.20	0.234	16.8	±30
CAL2	0.090	0.50	0.533	6.6	±30
CAL3	0.345	2.00	2.052	2.6	±30
CAL4	1.413	8.00	8.399	5.0	±30
CAL5	3.658	20.00	21.739	8.7	±30
CAL6	8.578	50.00	50.979	2.0	±30
CAL7	16.282	100.00	96.765	-3.2	±30

Perfluorobutanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.042	0.17	0.213	25.6	±30
CAL2	0.093	0.44	0.470	6.7	±30
CAL3	0.345	1.77	1.740	-1.7	±30
CAL4	1.491	7.08	7.518	6.2	±30
CAL5	3.619	17.69	18.246	3.1	±30
CAL6	9.131	44.22	46.035	4.1	±30
CAL7	16.978	88.45	85.599	-3.2	±30

4:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.071	0.19	0.191	2.3	±30
CAL2	0.183	0.47	0.492	5.3	±30
CAL3	0.731	1.87	1.964	5.2	±30
CAL4	2.975	7.47	7.999	7.1	±30
CAL5	7.477	18.68	20.102	7.6	±30
CAL6	17.311	46.70	46.538	-0.3	±30
CAL7	34.031	93.40	91.487	-2.0	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
 CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
 CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

Perfluorohexanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.055	0.20	0.235	17.4	±30
CAL2	0.123	0.50	0.529	5.8	±30
CAL3	0.498	2.00	2.137	6.9	±30
CAL4	2.041	8.00	8.751	9.4	±30
CAL5	5.013	20.00	21.499	7.5	±30
CAL6	11.088	50.00	47.549	-4.9	±30
CAL7	20.388	100.00	87.434	-12.6	±30

Perfluoropentanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.019	0.19	0.183	-3.7	±30
CAL2	0.047	0.47	0.465	-0.9	±30
CAL3	0.180	1.88	1.772	-5.7	±30
CAL4	0.803	7.50	7.922	5.6	±30
CAL5	1.911	18.76	18.849	0.5	±30
CAL6	4.746	46.90	46.806	-0.2	±30
CAL7	9.480	93.80	93.501	-0.3	±30

Perfluorohexanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.038	0.19	0.194	2.3	±30
CAL2	0.095	0.47	0.484	2.3	±30
CAL3	0.357	1.89	1.809	-4.3	±30
CAL4	1.514	7.56	7.676	1.5	±30
CAL5	3.791	18.91	19.215	1.6	±30
CAL6	9.344	47.28	47.360	0.2	±30
CAL7	18.567	94.55	94.113	-0.5	±30

Perfluoroheptanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.065	0.20	0.220	9.9	±30
CAL2	0.160	0.50	0.539	7.8	±30
CAL3	0.636	2.00	2.139	6.9	±30
CAL4	2.500	8.00	8.409	5.1	±30
CAL5	6.316	20.00	21.243	6.2	±30
CAL6	14.317	50.00	48.150	-3.7	±30
CAL7	25.595	100.00	86.081	-13.9	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3=
18NOV07DCAL-12.WIFF;
CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6=
18NOV07DCAL-15.WIFF;
CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

6:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.058	0.19	0.146	-23.1	±30
CAL2	0.229	0.47	0.570	20.3	±30
CAL3	0.830	1.90	2.071	9.3	±30
CAL4	3.200	7.58	7.982	5.2	±30
CAL5	8.507	18.96	21.223	11.9	±30
CAL6	18.600	47.40	46.401	-2.1	±30
CAL7	37.244	94.80	92.910	-2.0	±30

Perfluoroheptanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.19	0.207	8.9	±30
CAL2	0.091	0.48	0.476	0.0	±30
CAL3	0.359	1.90	1.877	-1.2	±30
CAL4	1.523	7.61	7.966	4.7	±30
CAL5	3.716	19.03	19.439	2.2	±30
CAL6	8.964	47.58	46.896	-1.4	±30
CAL7	18.173	95.15	95.074	-0.1	±30

Perfluorooctanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.039	0.20	0.218	9.1	±30
CAL2	0.097	0.50	0.547	9.5	±30
CAL3	0.378	2.00	2.131	6.5	±30
CAL4	1.592	8.00	8.963	12.0	±30
CAL5	3.824	20.00	21.532	7.7	±30
CAL6	9.132	50.00	51.417	2.8	±30
CAL7	17.031	100.00	95.892	-4.1	±30

Perfluoro-octanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.19	0.206	8.2	±30
CAL2	0.100	0.48	0.517	8.1	±30
CAL3	0.375	1.91	1.943	1.7	±30
CAL4	1.534	7.65	7.953	4.0	±30
CAL5	3.719	19.12	19.287	0.9	±30
CAL6	9.270	47.80	48.067	0.6	±30
CAL7	18.277	95.60	94.776	-0.9	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
 CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
 CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

Perfluorononanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.063	0.20	0.235	17.4	±30
CAL2	0.138	0.50	0.517	3.4	±30
CAL3	0.584	2.00	2.182	9.1	±30
CAL4	2.302	8.00	8.604	7.6	±30
CAL5	5.965	20.00	22.292	11.5	±30
CAL6	13.786	50.00	51.521	3.0	±30
CAL7	25.514	100.00	95.349	-4.7	±30

Perfluorononanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.022	0.19	0.174	-8.3	±30
CAL2	0.061	0.48	0.485	1.1	±30
CAL3	0.245	1.92	1.946	1.3	±30
CAL4	1.045	7.68	8.284	7.9	±30
CAL5	2.423	19.20	19.215	0.1	±30
CAL6	6.277	48.00	49.770	3.7	±30
CAL7	11.805	96.00	93.596	-2.5	±30

Perfluorodecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.039	0.20	0.216	7.8	±30
CAL2	0.095	0.50	0.520	4.0	±30
CAL3	0.383	2.00	2.107	5.3	±30
CAL4	1.568	8.00	8.626	7.8	±30
CAL5	4.015	20.00	22.091	10.5	±30
CAL6	9.247	50.00	50.875	1.7	±30
CAL7	17.498	100.00	96.265	-3.7	±30

8:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.104	0.19	0.235	22.5	±30
CAL2	0.251	0.48	0.567	18.3	±30
CAL3	0.845	1.92	1.904	-0.6	±30
CAL4	3.495	7.66	7.877	2.8	±30
CAL5	8.887	19.16	20.031	4.5	±30
CAL6	20.717	47.90	46.697	-2.5	±30
CAL7	38.137	95.80	85.963	-10.3	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
 CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
 CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

Perfluorooctanesulfonamide	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.036	0.20	0.194	-3.1	±30
CAL2	0.098	0.50	0.529	5.8	±30
CAL3	0.386	2.00	2.084	4.2	±30
CAL4	1.581	8.00	8.545	6.8	±30
CAL5	3.322	20.00	17.959	-10.2	±30
CAL6	9.665	50.00	52.247	4.5	±30
CAL7	18.341	100.00	99.141	-0.9	±30

NMeFOSAA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.035	0.20	0.178	-10.8	±30
CAL2	0.118	0.50	0.607	21.4	±30
CAL3	0.396	2.00	2.039	2.0	±30
CAL4	1.685	8.00	8.670	8.4	±30
CAL5	4.175	20.00	21.482	7.4	±30
CAL6	9.476	50.00	48.760	-2.5	±30
CAL7	19.233	100.00	98.963	-1.0	±30

Perfluorodecanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.021	0.19	0.201	5.6	±30
CAL2	0.055	0.48	0.525	8.9	±30
CAL3	0.199	1.93	1.898	-1.6	±30
CAL4	0.859	7.70	8.210	6.6	±30
CAL5	2.032	19.26	19.412	0.8	±30
CAL6	4.983	48.15	47.605	-1.1	±30
CAL7	10.066	96.30	96.161	-0.1	±30

Perfluoroundecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.079	0.20	0.227	13.7	±30
CAL2	0.187	0.50	0.535	7.0	±30
CAL3	0.757	2.00	2.170	8.5	±30
CAL4	2.909	8.00	8.341	4.3	±30
CAL5	7.397	20.00	21.214	6.1	±30
CAL6	17.761	50.00	50.936	1.9	±30
CAL7	33.921	100.00	97.277	-2.7	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
 CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
 CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

NetFOSAA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.043	0.20	0.183	-8.7	±30
CAL2	0.110	0.50	0.474	-5.3	±30
CAL3	0.441	2.00	1.896	-5.2	±30
CAL4	1.838	8.00	7.900	-1.3	±30
CAL5	5.175	20.00	22.240	11.2	±30
CAL6	11.319	50.00	48.645	-2.7	±30
CAL7	23.121	100.00	99.363	-0.6	±30

Perfluorododecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.041	0.20	0.224	11.9	±30
CAL2	0.101	0.50	0.545	9.0	±30
CAL3	0.377	2.00	2.046	2.3	±30
CAL4	1.466	8.00	7.946	-0.7	±30
CAL5	3.887	20.00	21.067	5.3	±30
CAL6	9.018	50.00	48.873	-2.3	±30
CAL7	15.613	100.00	84.613	-15.4	±30

10:2-fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.071	0.19	0.222	15.0	±30
CAL2	0.177	0.48	0.551	14.4	±30
CAL3	0.647	1.93	2.014	4.5	±30
CAL4	2.271	7.71	7.073	-8.3	±30
CAL5	6.446	19.28	20.071	4.1	±30
CAL6	15.876	48.20	49.437	2.6	±30
CAL7	30.453	96.40	94.827	-1.6	±30

NMePFOSAE	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.054	0.20	0.244	22.1	±30
CAL2	0.124	0.50	0.555	11.0	±30
CAL3	0.453	2.00	2.029	1.5	±30
CAL4	1.959	8.00	8.781	9.8	±30
CAL5	4.923	20.00	22.062	10.3	±30
CAL6	11.752	50.00	52.660	5.3	±30
CAL7	21.059	100.00	94.369	-5.6	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
 CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
 CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

NMePFOSA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.036	0.20	0.201	0.6	±30
CAL2	0.101	0.50	0.568	13.6	±30
CAL3	0.375	2.00	2.101	5.1	±30
CAL4	1.368	8.00	7.657	-4.3	±30
CAL5	3.939	20.00	22.050	10.2	±30
CAL6	9.140	50.00	51.162	2.3	±30
CAL7	17.323	100.00	96.961	-3.0	±30

Perfluorododecanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.010	0.19	0.189	-0.3	±30
CAL2	0.025	0.48	0.487	0.7	±30
CAL3	0.108	1.94	2.084	7.4	±30
CAL4	0.416	7.74	8.039	3.9	±30
CAL5	0.991	19.36	19.132	-1.2	±30
CAL6	2.465	48.40	47.576	-1.7	±30
CAL7	5.047	96.80	97.407	0.6	±30

NEtPFOSAE	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.074	0.20	0.237	18.5	±30
CAL2	0.181	0.50	0.579	15.9	±30
CAL3	0.650	2.00	2.083	4.2	±30
CAL4	2.703	8.00	8.666	8.3	±30
CAL5	6.965	20.00	22.328	11.6	±30
CAL6	16.033	50.00	51.396	2.8	±30
CAL7	29.763	100.00	95.411	-4.6	±30

NEtPFOSA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.043	0.20	0.191	-4.7	±30
CAL2	0.096	0.50	0.424	-15.3	±30
CAL3	0.393	2.00	1.732	-13.4	±30
CAL4	1.711	8.00	7.534	-5.8	±30
CAL5	4.679	20.00	20.605	3.0	±30
CAL6	11.449	50.00	50.423	0.8	±30
CAL7	22.658	100.00	99.791	-0.2	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Lab File Names: CAL1= 18NOV07DCAL-10.WIFF; CAL2= 18NOV07DCAL-11.WIFF; CAL3= 18NOV07DCAL-12.WIFF;
 CAL4= 18NOV07DCAL-13.WIFF; CAL5= 18NOV07DCAL-14.WIFF; CAL6= 18NOV07DCAL-15.WIFF;
 CAL7= 18NOV07DCAL-16.WIFF; CAL8= ;

Perfluorotridecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.20	0.250	25.1	±30
CAL2	0.082	0.50	0.519	3.9	±30
CAL3	0.337	2.00	2.128	6.4	±30
CAL4	1.306	8.00	8.235	2.9	±30
CAL5	3.375	20.00	21.280	6.4	±30
CAL6	7.657	50.00	48.287	-3.4	±30
CAL7	12.611	100.00	79.528	-20.5	±30

Perfluorotetradecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.20	0.232	16.2	±30
CAL2	0.082	0.50	0.482	-3.6	±30
CAL3	0.358	2.00	2.103	5.1	±30
CAL4	1.428	8.00	8.383	4.8	±30
CAL5	3.558	20.00	20.892	4.5	±30
CAL6	8.573	50.00	50.344	0.7	±30
CAL7	16.733	100.00	98.263	-1.7	±30

Perfluorohexadecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.019	0.20	0.236	17.9	±30
CAL2	0.042	0.50	0.524	4.8	±30
CAL3	0.167	2.00	2.078	3.9	±30
CAL4	0.673	8.00	8.351	4.4	±30
CAL5	1.699	20.00	21.085	5.4	±30
CAL6	3.954	50.00	49.083	-1.8	±30
CAL7	8.003	100.00	99.343	-0.7	±30

Perfluorooctadecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.015	0.20	0.220	10.2	±30
CAL2	0.036	0.50	0.511	2.2	±30
CAL3	0.142	2.00	2.041	2.0	±30
CAL4	0.570	8.00	8.162	2.0	±30
CAL5	1.481	20.00	21.218	6.1	±30
CAL6	3.399	50.00	48.698	-2.6	±30
CAL7	6.970	100.00	99.849	-0.2	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
 CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
 CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

Perfluorobutanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.042	0.20	0.235	17.3	±30
CAL2	0.104	0.60	0.577	-3.8	±30
CAL3	0.413	2.00	2.291	14.5	±30
CAL4	1.471	8.00	8.148	1.9	±30
CAL5	3.863	20.00	21.403	7.0	±30
CAL6	9.099	50.00	50.404	0.8	±30
CAL7	17.644	100.00	97.743	-2.3	±30

Perfluoropentanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.042	0.20	0.245	22.5	±30
CAL2	0.114	0.60	0.661	10.2	±30
CAL3	0.421	2.00	2.435	21.8	±30
CAL4	1.502	8.00	8.694	8.7	±30
CAL5	3.622	20.00	20.969	4.8	±30
CAL6	8.759	50.00	50.702	1.4	±30
CAL7	16.773	100.00	97.094	-2.9	±30

Perfluorobutanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.18	0.192	8.5	±30
CAL2	0.107	0.53	0.510	-4.0	±30
CAL3	0.404	1.77	1.921	8.5	±30
CAL4	1.452	7.08	6.906	-2.5	±30
CAL5	3.809	17.70	18.121	2.4	±30
CAL6	9.475	44.20	45.072	2.0	±30
CAL7	18.318	88.40	87.136	-1.4	±30

4:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.071	0.19	0.192	2.5	±30
CAL2	0.191	0.56	0.518	-7.5	±30
CAL3	0.720	1.87	1.954	4.5	±30
CAL4	2.675	7.47	7.263	-2.8	±30
CAL5	6.655	18.70	18.070	-3.4	±30
CAL6	17.824	46.70	48.392	3.6	±30
CAL7	34.069	93.40	92.499	-1.0	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
 CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
 CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

Perfluorohexanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.059	0.20	0.246	22.8	±30
CAL2	0.149	0.60	0.622	3.7	±30
CAL3	0.544	2.00	2.272	13.6	±30
CAL4	1.973	8.00	8.239	3.0	±30
CAL5	5.022	20.00	20.968	4.8	±30
CAL6	11.605	50.00	48.453	-3.1	±30
CAL7	21.693	100.00	90.577	-9.4	±30

Perfluoropentanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.022	0.19	0.209	11.4	±30
CAL2	0.048	0.56	0.470	-16.4	±30
CAL3	0.202	1.88	1.960	4.3	±30
CAL4	0.773	7.50	7.508	0.1	±30
CAL5	1.906	18.80	18.506	-1.6	±30
CAL6	4.880	46.90	47.375	1.0	±30
CAL7	9.641	93.80	93.602	-0.2	±30

Perfluoroheptanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.071	0.20	0.235	17.7	±30
CAL2	0.178	0.60	0.591	-1.5	±30
CAL3	0.706	2.00	2.342	17.1	±30
CAL4	2.590	8.00	8.586	7.3	±30
CAL5	6.218	20.00	20.612	3.1	±30
CAL6	14.612	50.00	48.434	-3.1	±30
CAL7	27.372	100.00	90.732	-9.3	±30

Perfluorohexanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.039	0.18	0.190	4.5	±30
CAL2	0.097	0.55	0.470	-14.1	±30
CAL3	0.396	1.82	1.920	5.5	±30
CAL4	1.518	7.30	7.361	0.8	±30
CAL5	3.681	18.20	17.849	-1.9	±30
CAL6	9.372	45.60	45.444	-0.3	±30
CAL7	18.895	91.20	91.615	0.5	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
 CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
 CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

6:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.076	0.19	0.183	-3.6	±30
CAL2	0.226	0.57	0.547	-3.8	±30
CAL3	0.886	1.90	2.143	12.8	±30
CAL4	3.371	7.58	8.157	7.6	±30
CAL5	8.392	19.00	20.308	6.9	±30
CAL6	18.720	47.40	45.301	-4.4	±30
CAL7	31.980	94.80	77.388	-18.4	±30

Perfluoroheptanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.19	0.213	12.0	±30
CAL2	0.093	0.57	0.491	-14.0	±30
CAL3	0.397	1.90	2.089	10.0	±30
CAL4	1.378	7.61	7.252	-4.7	±30
CAL5	3.704	19.00	19.496	2.6	±30
CAL6	9.168	47.60	48.262	1.4	±30
CAL7	17.908	95.20	94.267	-1.0	±30

Perfluorooctanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.045	0.20	0.243	21.4	±30
CAL2	0.113	0.60	0.603	0.4	±30
CAL3	0.424	2.00	2.262	13.1	±30
CAL4	1.537	8.00	8.207	2.6	±30
CAL5	4.087	20.00	21.830	9.2	±30
CAL6	9.558	50.00	51.047	2.1	±30
CAL7	18.088	100.00	96.608	-3.4	±30

Perfluoro-octanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.046	0.19	0.202	9.3	±30
CAL2	0.119	0.56	0.520	-6.4	±30
CAL3	0.430	1.85	1.881	1.7	±30
CAL4	1.679	7.40	7.341	-0.8	±30
CAL5	4.296	18.50	18.789	1.6	±30
CAL6	10.528	46.30	46.040	-0.6	±30
CAL7	21.179	92.60	92.617	0.0	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
 CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
 CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

Perfluorononanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.062	0.20	0.223	11.4	±30
CAL2	0.179	0.60	0.644	7.4	±30
CAL3	0.663	2.00	2.391	19.5	±30
CAL4	2.279	8.00	8.218	2.7	±30
CAL5	6.168	20.00	22.243	11.2	±30
CAL6	14.066	50.00	50.720	1.4	±30
CAL7	26.723	100.00	96.360	-3.6	±30

Perfluorononanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.024	0.19	0.169	-11.9	±30
CAL2	0.075	0.58	0.523	-9.2	±30
CAL3	0.271	1.92	1.893	-1.4	±30
CAL4	1.009	7.68	7.057	-8.1	±30
CAL5	2.715	19.20	18.997	-1.1	±30
CAL6	6.755	48.00	47.262	-1.5	±30
CAL7	13.960	96.00	97.666	1.7	±30

Perfluorodecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.045	0.20	0.238	18.9	±30
CAL2	0.106	0.60	0.562	-6.3	±30
CAL3	0.415	2.00	2.198	9.9	±30
CAL4	1.539	8.00	8.159	2.0	±30
CAL5	3.946	20.00	20.920	4.6	±30
CAL6	9.190	50.00	48.722	-2.6	±30
CAL7	16.908	100.00	89.640	-10.4	±30

8:2 fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.088	0.19	0.206	7.1	±30
CAL2	0.225	0.58	0.524	-8.8	±30
CAL3	0.899	1.92	2.096	9.2	±30
CAL4	2.969	7.66	6.923	-9.6	±30
CAL5	8.524	19.20	19.873	3.5	±30
CAL6	20.513	47.90	47.825	-0.2	±30
CAL7	35.402	95.80	82.540	-13.8	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
 CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
 CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

Perfluorooctanesulfonamide	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.045	0.20	0.217	8.7	±30
CAL2	0.112	0.60	0.545	-9.1	±30
CAL3	0.429	2.00	2.098	4.9	±30
CAL4	1.526	8.00	7.455	-6.8	±30
CAL5	4.189	20.00	20.460	2.3	±30
CAL6	10.242	50.00	50.024	0.0	±30
CAL7	18.353	100.00	89.642	-10.4	±30

NMeFOSAA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.027	0.20	0.150	-25.0	±30
CAL2	0.074	0.60	0.421	-29.9	±30
CAL3	0.351	2.00	1.983	-0.8	±30
CAL4	1.424	8.00	8.048	0.6	±30
CAL5	3.462	20.00	19.564	-2.2	±30
CAL6	8.928	50.00	50.461	0.9	±30
CAL7	17.725	100.00	100.173	0.2	±30

Perfluorodecanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.021	0.19	0.190	-1.3	±30
CAL2	0.060	0.58	0.543	-6.0	±30
CAL3	0.206	1.93	1.869	-3.2	±30
CAL4	0.838	7.70	7.592	-1.4	±30
CAL5	2.167	19.30	19.633	1.7	±30
CAL6	5.189	48.20	47.020	-2.4	±30
CAL7	10.744	96.30	97.353	1.1	±30

Perfluoroundecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.091	0.20	0.238	19.2	±30
CAL2	0.211	0.60	0.551	-8.1	±30
CAL3	0.810	2.00	2.119	5.9	±30
CAL4	3.310	8.00	8.654	8.2	±30
CAL5	7.672	20.00	20.055	0.3	±30
CAL6	18.813	50.00	49.183	-1.6	±30
CAL7	34.057	100.00	89.032	-11.0	±30

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Instrument ID: 27631

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
 CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
 CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

NetFOSAA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.028	0.20	0.149	-25.7	±30
CAL2	0.121	0.60	0.636	6.0	±30
CAL3	0.461	2.00	2.418	20.9	±30
CAL4	1.449	8.00	7.596	-5.1	±30
CAL5	3.724	20.00	19.520	-2.4	±30
CAL6	9.630	50.00	50.481	1.0	±30
CAL7	18.030	100.00	94.517	-5.5	±30

Perfluorododecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.041	0.20	0.207	3.4	±30
CAL2	0.112	0.60	0.571	-4.8	±30
CAL3	0.432	2.00	2.198	9.9	±30
CAL4	1.541	8.00	7.847	-1.9	±30
CAL5	4.136	20.00	21.062	5.3	±30
CAL6	9.606	50.00	48.914	-2.2	±30
CAL7	17.225	100.00	87.711	-12.3	±30

10:2-fluorotelomersulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.069	0.19	0.229	18.4	±30
CAL2	0.188	0.58	0.627	8.6	±30
CAL3	0.634	1.93	2.111	9.4	±30
CAL4	2.056	7.71	6.849	-11.2	±30
CAL5	6.339	19.30	21.113	9.4	±30
CAL6	15.209	48.20	50.658	5.1	±30
CAL7	27.838	96.40	92.724	-3.8	±30

NMePFOSAE	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.051	0.20	0.214	7.1	±30
CAL2	0.133	0.60	0.554	-7.6	±30
CAL3	0.533	2.00	2.216	10.8	±30
CAL4	1.886	8.00	7.850	-1.9	±30
CAL5	5.021	20.00	20.896	4.5	±30
CAL6	12.781	50.00	53.193	6.4	±30
CAL7	23.037	100.00	95.876	-4.1	±30

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Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
 CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
 CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

NMePFOSA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.030	0.20	0.150	-25.2	±30
CAL2	0.114	0.60	0.562	-6.3	±30
CAL3	0.390	2.00	1.923	-3.8	±30
CAL4	1.632	8.00	8.049	0.6	±30
CAL5	4.385	20.00	21.631	8.2	±30
CAL6	9.828	50.00	48.485	-3.0	±30
CAL7	17.679	100.00	87.214	-12.8	±30

Perfluorododecanesulfonate	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.012	0.19	0.218	12.3	±30
CAL2	0.033	0.58	0.580	-0.3	±30
CAL3	0.107	1.94	1.876	-3.3	±30
CAL4	0.440	7.74	7.707	-0.4	±30
CAL5	1.081	19.40	18.940	-2.4	±30
CAL6	2.811	48.40	49.234	1.7	±30
CAL7	5.510	96.80	96.500	-0.3	±30

NEtPFOSAE	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.075	0.20	0.240	20.2	±30
CAL2	0.178	0.60	0.573	-4.6	±30
CAL3	0.687	2.00	2.204	10.2	±30
CAL4	2.595	8.00	8.324	4.0	±30
CAL5	6.492	20.00	20.830	4.1	±30
CAL6	15.157	50.00	48.629	-2.7	±30
CAL7	27.283	100.00	87.532	-12.5	±30

NEtPFOSA	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.045	0.20	0.207	3.7	±30
CAL2	0.139	0.60	0.637	6.1	±30
CAL3	0.463	2.00	2.124	6.2	±30
CAL4	1.801	8.00	8.269	3.4	±30
CAL5	4.664	20.00	21.421	7.1	±30
CAL6	10.701	50.00	49.142	-1.7	±30
CAL7	21.557	100.00	98.999	-1.0	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

Lab File Names: CAL1= 18NOV12DCAL-42.WIFF; CAL2= 18NOV12DCAL-43.WIFF; CAL3= 18NOV12DCAL-44.WIFF;
 CAL4= 18NOV12DCAL-45.WIFF; CAL5= 18NOV12DCAL-46.WIFF; CAL6= 18NOV12DCAL-47.WIFF;
 CAL7= 18NOV12DCAL-48.WIFF; CAL8= ;

Perfluorotridecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.037	0.20	0.234	16.8	±30
CAL2	0.090	0.60	0.569	-5.1	±30
CAL3	0.335	2.00	2.117	5.8	±30
CAL4	1.293	8.00	8.159	2.0	±30
CAL5	3.309	20.00	20.884	4.4	±30
CAL6	7.738	50.00	48.838	-2.3	±30
CAL7	13.241	100.00	83.569	-16.4	±30

Perfluorotetradecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.040	0.20	0.223	11.6	±30
CAL2	0.102	0.60	0.572	-4.6	±30
CAL3	0.398	2.00	2.228	11.4	±30
CAL4	1.458	8.00	8.171	2.1	±30
CAL5	3.737	20.00	20.945	4.7	±30
CAL6	8.923	50.00	50.021	0.0	±30
CAL7	17.596	100.00	98.638	-1.4	±30

Perfluorohexadecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.019	0.20	0.231	15.7	±30
CAL2	0.048	0.60	0.575	-4.2	±30
CAL3	0.177	2.00	2.109	5.4	±30
CAL4	0.654	8.00	7.793	-2.6	±30
CAL5	1.653	20.00	19.691	-1.5	±30
CAL6	4.347	50.00	51.786	3.6	±30
CAL7	8.277	100.00	98.615	-1.4	±30

Perfluorooctadecanoic acid	Area Ratio	Specified Amount	Calculated Amount	% Difference	Limit
CAL1	0.015	0.20	0.204	2.1	±30
CAL2	0.038	0.60	0.528	-11.9	±30
CAL3	0.147	2.00	2.045	2.3	±30
CAL4	0.559	8.00	7.786	-2.7	±30
CAL5	1.434	20.00	19.971	-0.1	±30
CAL6	3.601	50.00	50.157	0.3	±30
CAL7	7.188	100.00	100.107	0.1	±30

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/07/2018 09:39 11/07/2018 10:33

Lab File Names: CAL1=18NOV07DCAL-10.WIFF; CAL2=18NOV07DCAL-11.WIFF; CAL3=18NOV07DCAL-12.WIFF;
CAL4=18NOV07DCAL-13.WIFF; CAL5=18NOV07DCAL-14.WIFF; CAL6=18NOV07DCAL-15.WIFF;
CAL7=18NOV07DCAL-16.WIFF;

Analyte	RF							RF %RSD
	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6	CAL7	
Perfluorobutanoic acid	1.018	0.931	0.905	0.934	0.936	0.881	0.816	6
Perfluoropentanoic acid	0.983	0.897	0.863	0.883	0.914	0.858	0.814	6
Perfluorobutanesulfonate	1.158	0.984	0.907	0.979	0.951	0.960	0.893	8
4:2 fluorotelomersulfonate	1.777	1.830	1.827	1.860	1.869	1.731	1.702	3
Perfluorohexanoic acid	1.369	1.233	1.246	1.275	1.253	1.109	---	6
Perfluoropentanesulfonate	0.454	0.467	0.444	0.498	0.474	0.471	0.470	3
Perfluorohexanesulfonate	0.955	0.955	0.893	0.948	0.948	0.935	0.929	2
Perfluoroheptanoic acid	1.634	1.603	1.590	1.563	1.579	1.432	---	4
6:2 fluorotelomersulfonate	1.464	2.292	2.080	2.004	2.131	1.864	1.866	13
Perfluoroheptanesulfonate	0.984	0.904	0.893	0.946	0.924	0.891	0.903	3
Perfluorooctanoic acid	0.969	0.972	0.946	0.995	0.956	0.913	0.852	5
Perfluoro-octanesulfonate	0.998	0.997	0.938	0.958	0.930	0.927	0.914	3
Perfluorononanoic acid	1.571	1.383	1.459	1.439	1.491	1.379	1.276	6
Perfluorononanesulfonate	0.553	0.609	0.611	0.650	0.603	0.625	0.588	5
Perfluorodecanoic acid	0.980	0.945	0.957	0.980	1.004	0.925	0.875	4
8:2 fluorotelomersulfonate	2.603	2.513	2.112	2.184	2.222	2.072	---	9
Perfluorooctanesulfonamide	0.896	0.979	0.964	0.988	0.831	0.967	0.917	6
NMeFOSAA	0.867	1.180	0.991	1.053	1.044	0.948	0.962	9
Perfluorodecanesulfonate	0.528	0.545	0.492	0.534	0.504	0.495	0.500	4
Perfluoroundecanoic acid	1.982	1.865	1.891	1.818	1.849	1.776	1.696	5
NEtFOSAA	1.063	1.102	1.103	1.149	1.294	1.132	1.156	6
Perfluorododecanoic acid	1.032	1.006	0.944	0.916	0.972	0.902	---	5
10:2-fluorotelomersulfonate	1.769	1.760	1.607	1.411	1.601	1.578	1.513	7
NMePFOSAE	1.362	1.238	1.132	1.225	1.231	1.175	1.053	7
NMePFOSA	0.899	1.015	0.938	0.855	0.985	0.914	0.866	6
Perfluorododecanesulfonate	0.247	0.249	0.266	0.257	0.245	0.243	0.249	3
NEtPFOSAE	1.848	1.807	1.624	1.689	1.741	1.603	1.488	7
NEtPFOSA	1.082	0.962	0.983	1.069	1.170	1.145	1.133	7
Perfluorotridecanoic acid	0.992	0.824	0.844	0.816	0.844	0.766	---	8
Perfluorotetradecanoic acid	0.989	0.821	0.895	0.892	0.889	0.857	0.837	6
Perfluorohexadecanoic acid	0.475	0.422	0.418	0.420	0.425	0.395	0.400	6
Perfluorooctadecanoic acid	0.385	0.357	0.356	0.356	0.370	0.340	0.348	4

--- Calibration point does not apply

* = % RSD > 20

SDG No.: BSI02

Instrument ID: 27631

Init. Calib. Date/Times: 11/12/2018 15:05 11/12/2018 16:00

Lab File Names: CAL1=18NOV12DCAL-42.WIFF; CAL2=18NOV12DCAL-43.WIFF; CAL3=18NOV12DCAL-44.WIFF;
CAL4=18NOV12DCAL-45.WIFF; CAL5=18NOV12DCAL-46.WIFF; CAL6=18NOV12DCAL-47.WIFF;
CAL7=18NOV12DCAL-48.WIFF;

Analyte	RF							RF %RSD
	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6	CAL7	
Perfluorobutanoic acid	1.059	0.868	1.034	0.919	0.966	0.910	0.882	7
Perfluoropentanoic acid	1.058	0.952	1.052	0.939	0.906	0.876	0.839	8
Perfluorobutanesulfonate	1.061	0.938	1.061	0.954	1.001	0.997	0.964	5
4:2 fluorotelomersulfonate	1.764	1.591	1.797	1.672	1.662	1.782	1.703	4
Perfluorohexanoic acid	1.470	1.241	1.361	1.233	1.255	1.160	---	8
Perfluoropentanesulfonate	0.534	0.400	0.499	0.479	0.471	0.484	0.478	8
Perfluoroheptanoic acid	1.776	1.486	1.766	1.619	1.555	1.461	---	8
Perfluorohexanesulfonate	1.019	0.838	1.029	0.984	0.957	0.972	0.980	6
6:2 fluorotelomersulfonate	1.892	1.888	2.214	2.112	2.098	1.876	---	7
Perfluoroheptanesulfonate	1.007	0.773	0.988	0.856	0.922	0.911	0.890	8
Perfluorooctanoic acid	1.136	0.940	1.059	0.960	1.022	0.956	0.904	7
Perfluoro-octanesulfonate	1.194	1.024	1.112	1.084	1.110	1.087	1.093	4
Perfluorononanoic acid	1.545	1.489	1.658	1.424	1.542	1.407	1.336	7
Perfluorononanesulfonate	0.602	0.621	0.674	0.628	0.676	0.673	0.695	5
Perfluorodecanoic acid	1.122	0.883	1.037	0.962	0.987	0.919	---	8
8:2 fluorotelomersulfonate	2.201	1.873	2.243	1.857	2.127	2.051	---	7
Perfluorooctanesulfonamide	1.113	0.931	1.074	0.954	1.047	1.024	---	6
NMeFOSAA	0.663	0.620	0.877	0.890	0.865	0.893	0.886	13
Perfluorodecanesulfonate	0.521	0.496	0.511	0.520	0.537	0.515	0.533	2
Perfluoroundecanoic acid	2.280	1.757	2.026	2.069	1.918	1.881	---	8
NEtFOSAA	0.709	1.011	1.153	0.906	0.931	0.963	---	14
Perfluorododecanoic acid	1.015	0.935	1.079	0.963	1.034	0.961	---	5
10:2-fluorotelomersulfonate	1.703	1.561	1.573	1.278	1.573	1.511	1.383	9
NMePFOSAE	1.287	1.110	1.331	1.179	1.255	1.278	1.152	6
NMePFOSA	0.758	0.950	0.975	1.020	1.096	0.983	---	11
Perfluorododecanesulfonate	0.306	0.272	0.264	0.272	0.266	0.278	0.272	5
NEtPFOSAE	1.873	1.487	1.717	1.622	1.623	1.516	---	8
NEtPFOSA	1.129	1.156	1.156	1.125	1.166	1.070	1.078	3
Perfluorotridecanoic acid	0.925	0.751	0.839	0.808	0.827	0.774	---	7
Perfluorotetradecanoic acid	0.996	0.851	0.994	0.911	0.934	0.892	0.880	6
Perfluorohexadecanoic acid	0.486	0.402	0.442	0.409	0.413	0.435	0.414	6
Perfluorooctadecanoic acid	0.367	0.316	0.367	0.349	0.358	0.360	0.359	5

--- Calibration point does not apply

* = % RSD > 20

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV07DCAL-20.WIFF

Date/Time Analyzed: 11/07/2018 11:09

Lab Sample ID: CCV1_CAL3

Init. Calib. Date/Times: 11/07/2018 09:39

11/07/2018 10:33

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.09	4.37	±30
Perfluoropentanoic acid	2.00	2.08	4.09	±30
Perfluorobutanesulfonate	1.77	1.83	3.13	±30
4:2 fluorotelomersulfonate	1.98	2.11	6.41	±30
Perfluorohexanoic acid	2.00	2.25	12.42	±30
Perfluoropentanesulfonate	1.88	1.94	3.35	±30
Perfluorohexanesulfonate	1.89	1.93	1.87	±30
Perfluoroheptanoic acid	2.00	2.19	9.28	±30
6:2 fluorotelomersulfonate	2.09	1.92	-8.35	±30
Perfluoroheptanesulfonate	1.90	1.87	-1.62	±30
Perfluorooctanoic acid	2.00	2.15	7.42	±30
Perfluoro-octanesulfonate	1.91	2.09	9.36	±30
Perfluorononanoic acid	2.00	2.06	3.07	±30
Perfluorononanesulfonate	1.92	1.98	2.88	±30
Perfluorodecanoic acid	2.00	2.08	3.96	±30
8:2 fluorotelomersulfonate	2.11	2.09	-0.82	±30
Perfluorooctanesulfonamide	2.00	2.07	3.64	±30
NMeFOSAA	2.00	1.63	-18.67	±30
Perfluorodecanesulfonate	1.93	1.96	1.77	±30
Perfluoroundecanoic acid	2.00	2.16	8.03	±30
NEtFOSAA	2.00	1.95	-2.25	±30
Perfluorododecanoic acid	2.00	2.04	1.95	±30
10:2-fluorotelomersulfonate	2.12	1.64	-22.85	±30
NMePFOSAE	2.00	2.16	7.79	±30
NMePFOSA	2.00	2.14	6.78	±30
Perfluorododecanesulfonate	1.94	2.09	7.77	±30
NEtPFOSAE	2.00	2.19	9.62	±30
NEtPFOSA	2.00	1.79	-10.51	±30
Perfluorotridecanoic acid	2.00	2.06	2.83	±30
Perfluorotetradecanoic acid	2.00	2.10	4.78	±30
Perfluorohexadecanoic acid	2.00	2.06	2.88	±30
Perfluorooctadecanoic acid	2.00	2.01	0.72	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV08D-05.WIFF

Date/Time Analyzed: 11/08/2018 12:24

Lab Sample ID: CCV1_ISC_CAL2

Init. Calib. Date/Times: 11/07/2018 09:39

11/07/2018 10:33

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.50	0.55	10.01	±30
Perfluoropentanoic acid	0.50	0.56	12.19	±30
Perfluorobutanesulfonate	0.44	0.44	0.21	±30
4:2 fluorotelomersulfonate	0.47	0.49	4.23	±30
Perfluorohexanoic acid	0.50	0.56	11.37	±30
Perfluoropentanesulfonate	0.47	0.50	6.68	±30
Perfluorohexanesulfonate	0.47	0.47	-0.75	±30
Perfluoroheptanoic acid	0.50	0.54	7.06	±30
6:2 fluorotelomersulfonate	0.47	0.55	16.56	±30
Perfluoroheptanesulfonate	0.48	0.48	1.26	±30
Perfluorooctanoic acid	0.50	0.52	3.35	±30
Perfluoro-octanesulfonate	0.48	0.51	6.67	±30
Perfluorononanoic acid	0.50	0.57	13.85	±30
Perfluorononanesulfonate	0.48	0.49	1.94	±30
Perfluorodecanoic acid	0.50	0.54	8.90	±30
8:2 fluorotelomersulfonate	0.48	0.49	1.38	±30
Perfluorooctanesulfonamide	0.50	0.53	6.66	±30
NMeFOSAA	0.50	0.56	11.14	±30
Perfluorodecanesulfonate	0.48	0.44	-8.46	±30
Perfluoroundecanoic acid	0.50	0.53	5.05	±30
NEtFOSAA	0.50	0.49	-2.83	±30
Perfluorododecanoic acid	0.50	0.57	13.47	±30
10:2-fluorotelomersulfonate	0.48	0.62	27.81	±30
NMePFOSAE	0.50	0.56	12.18	±30
NMePFOSA	0.50	0.60	20.48	±30
Perfluorododecanesulfonate	0.48	0.45	-6.81	±30
NEtPFOSAE	0.50	0.53	5.21	±30
NEtPFOSA	0.50	0.44	-11.15	±30
Perfluorotridecanoic acid	0.50	0.53	5.71	±30
Perfluorotetradecanoic acid	0.50	0.56	12.63	±30
Perfluorohexadecanoic acid	0.50	0.54	8.44	±30
Perfluorooctadecanoic acid	0.50	0.52	4.62	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV08D-40.WIFF

Date/Time Analyzed: 11/08/2018 17:40

Lab Sample ID: CCV4_ISC_CAL2

Init. Calib. Date/Times: 11/07/2018 09:39

11/07/2018 10:33

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.50	0.55	9.78	±30
Perfluoropentanoic acid	0.50	0.54	7.99	±30
Perfluorobutanesulfonate	0.44	0.45	1.54	±30
4:2 fluorotelomersulfonate	0.47	0.47	1.22	±30
Perfluorohexanoic acid	0.50	0.57	13.15	±30
Perfluoropentanesulfonate	0.47	0.41	-12.83	±30
Perfluorohexanesulfonate	0.47	0.46	-2.75	±30
Perfluoroheptanoic acid	0.50	0.53	5.58	±30
6:2 fluorotelomersulfonate	0.47	0.54	12.96	±30
Perfluoroheptanesulfonate	0.48	0.46	-3.13	±30
Perfluorooctanoic acid	0.50	0.59	18.75	±30
Perfluoro-octanesulfonate	0.48	0.48	0.00	±30
Perfluorononanoic acid	0.50	0.55	9.90	±30
Perfluorononanesulfonate	0.48	0.51	6.07	±30
Perfluorodecanoic acid	0.50	0.52	4.83	±30
8:2 fluorotelomersulfonate	0.48	0.47	-2.38	±30
Perfluorooctanesulfonamide	0.50	0.55	9.76	±30
NMeFOSAA	0.50	0.45	-10.34	±30
Perfluorodecanesulfonate	0.48	0.45	-6.32	±30
Perfluoroundecanoic acid	0.50	0.51	1.12	±30
NEtFOSAA	0.50	0.46	-7.39	±30
Perfluorododecanoic acid	0.50	0.53	5.07	±30
10:2-fluorotelomersulfonate	0.48	0.38	-20.93	±30
NMePFOSAE	0.50	0.56	11.78	±30
NMePFOSA	0.50	0.58	16.40	±30
Perfluorododecanesulfonate	0.48	0.44	-9.87	±30
NEtPFOSAE	0.50	0.58	15.20	±30
NEtPFOSA	0.50	0.46	-7.34	±30
Perfluorotridecanoic acid	0.50	0.50	0.83	±30
Perfluorotetradecanoic acid	0.50	0.54	8.16	±30
Perfluorohexadecanoic acid	0.50	0.52	3.56	±30
Perfluorooctadecanoic acid	0.50	0.52	4.53	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV08D-52.WIFF

Date/Time Analyzed: 11/08/2018 19:28

Lab Sample ID: CCV5_CAL3

Init. Calib. Date/Times: 11/07/2018 09:39

11/07/2018 10:33

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.13	6.34	±30
Perfluoropentanoic acid	2.00	2.09	4.74	±30
Perfluorobutanesulfonate	1.77	1.80	1.63	±30
4:2 fluorotelomersulfonate	1.87	1.63	-12.87	±30
Perfluorohexanoic acid	2.00	2.14	7.13	±30
Perfluoropentanesulfonate	1.88	1.79	-4.71	±30
Perfluorohexanesulfonate	1.89	1.91	0.87	±30
Perfluoroheptanoic acid	2.00	2.26	13.05	±30
6:2 fluorotelomersulfonate	1.90	1.92	1.46	±30
Perfluoroheptanesulfonate	1.90	1.87	-1.65	±30
Perfluorooctanoic acid	2.00	2.19	9.53	±30
Perfluoro-octanesulfonate	1.91	1.98	3.53	±30
Perfluorononanoic acid	2.00	2.05	2.74	±30
Perfluorononanesulfonate	1.92	1.80	-6.43	±30
Perfluorodecanoic acid	2.00	1.95	-2.75	±30
8:2 fluorotelomersulfonate	1.92	1.96	2.30	±30
Perfluorooctanesulfonamide	2.00	2.04	2.21	±30
NMeFOSAA	2.00	1.94	-2.95	±30
Perfluorodecanesulfonate	1.93	2.09	8.47	±30
Perfluoroundecanoic acid	2.00	2.21	10.33	±30
NEtFOSAA	2.00	1.70	-14.94	±30
Perfluorododecanoic acid	2.00	1.94	-3.01	±30
10:2-fluorotelomersulfonate	1.93	2.03	5.17	±30
NMePFOSAE	2.00	2.19	9.29	±30
NMePFOSA	2.00	2.16	7.87	±30
Perfluorododecanesulfonate	1.94	2.03	4.76	±30
NEtPFOSAE	2.00	2.03	1.28	±30
NEtPFOSA	2.00	1.68	-15.94	±30
Perfluorotridecanoic acid	2.00	1.96	-1.93	±30
Perfluorotetradecanoic acid	2.00	2.15	7.71	±30
Perfluorohexadecanoic acid	2.00	2.05	2.46	±30
Perfluorooctadecanoic acid	2.00	2.10	4.75	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV08D-62.WIFF

Date/Time Analyzed: 11/08/2018 20:58

Lab Sample ID: CCV6_CAL4

Init. Calib. Date/Times: 11/07/2018 09:39

11/07/2018 10:33

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	8.00	8.64	8.05	±30
Perfluoropentanoic acid	8.00	8.47	5.87	±30
Perfluorobutanesulfonate	7.08	7.66	8.18	±30
4:2 fluorotelomersulfonate	7.47	7.69	2.93	±30
Perfluorohexanoic acid	8.00	8.39	4.85	±30
Perfluoropentanesulfonate	7.50	7.66	2.17	±30
Perfluorohexanesulfonate	7.56	7.78	2.95	±30
Perfluoroheptanoic acid	8.00	8.45	5.66	±30
6:2 fluorotelomersulfonate	7.58	7.85	3.54	±30
Perfluoroheptanesulfonate	7.61	7.86	3.26	±30
Perfluorooctanoic acid	8.00	8.64	8.00	±30
Perfluoro-octanesulfonate	7.65	7.92	3.58	±30
Perfluorononanoic acid	8.00	8.76	9.54	±30
Perfluorononanesulfonate	7.68	7.71	0.41	±30
Perfluorodecanoic acid	8.00	8.39	4.82	±30
8:2 fluorotelomersulfonate	7.66	8.01	4.55	±30
Perfluorooctanesulfonamide	8.00	8.35	4.32	±30
NMeFOSAA	8.00	8.42	5.27	±30
Perfluorodecanesulfonate	7.70	7.76	0.82	±30
Perfluoroundecanoic acid	8.00	8.16	1.94	±30
NEtFOSAA	8.00	7.57	-5.37	±30
Perfluorododecanoic acid	8.00	8.62	7.76	±30
10:2-fluorotelomersulfonate	7.71	8.47	9.89	±30
NMePFOSAE	8.00	8.26	3.20	±30
NMePFOSA	8.00	8.67	8.39	±30
Perfluorododecanesulfonate	7.74	7.65	-1.12	±30
NEtPFOSAE	8.00	8.95	11.86	±30
NEtPFOSA	8.00	7.29	-8.82	±30
Perfluorotridecanoic acid	8.00	7.82	-2.26	±30
Perfluorotetradecanoic acid	8.00	8.57	7.08	±30
Perfluorohexadecanoic acid	8.00	8.57	7.18	±30
Perfluorooctadecanoic acid	8.00	8.48	5.98	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV12DCAL-52.WIFF

Date/Time Analyzed: 11/12/2018 16:36

Lab Sample ID: CCV1_CAL3

Init. Calib. Date/Times: 11/12/2018 15:05

11/12/2018 16:00

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.29	14.39	±30
Perfluoropentanoic acid	2.00	2.35	17.52	±30
Perfluorobutanesulfonate	1.77	1.85	4.70	±30
4:2 fluorotelomersulfonate	1.87	1.97	5.23	±30
Perfluorohexanoic acid	2.00	2.37	18.39	±30
Perfluoropentanesulfonate	1.88	1.99	5.89	±30
Perfluoroheptanoic acid	2.00	2.33	16.60	±30
Perfluorohexanesulfonate	1.82	1.97	8.45	±30
6:2 fluorotelomersulfonate	1.90	2.38	25.21	±30
Perfluoroheptanesulfonate	1.90	2.05	7.87	±30
Perfluorooctanoic acid	2.00	2.34	17.00	±30
Perfluoro-octanesulfonate	1.85	2.05	10.87	±30
Perfluorononanoic acid	2.00	2.25	12.52	±30
Perfluorononanesulfonate	1.92	2.04	6.21	±30
Perfluorodecanoic acid	2.00	2.21	10.29	±30
8:2 fluorotelomersulfonate	1.92	1.86	-3.14	±30
Perfluorooctanesulfonamide	2.00	1.66	-17.08	±30
NMeFOSAA	2.00	2.20	10.04	±30
Perfluorodecanesulfonate	1.93	2.17	12.52	±30
Perfluoroundecanoic acid	2.00	2.13	6.44	±30
NEtFOSAA	2.00	1.83	-8.35	±30
Perfluorododecanoic acid	2.00	2.34	17.18	±30
10:2-fluorotelomersulfonate	1.93	1.71	-11.18	±30
NMePFOSAE	2.00	2.39	19.28	±30
NMePFOSA	2.00	2.07	3.39	±30
Perfluorododecanesulfonate	1.94	2.27	16.87	±30
NEtPFOSAE	2.00	2.32	15.96	±30
NEtPFOSA	2.00	2.04	2.16	±30
Perfluorotridecanoic acid	2.00	2.35	17.54	±30
Perfluorotetradecanoic acid	2.00	2.36	18.05	±30
Perfluorohexadecanoic acid	2.00	2.15	7.32	±30
Perfluorooctadecanoic acid	2.00	2.13	6.56	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV12D-05.WIFF

Date/Time Analyzed: 11/12/2018 17:21

Lab Sample ID: CCV1_ISC_CAL2

Init. Calib. Date/Times: 11/12/2018 15:05

11/12/2018 16:00

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.60	0.57	-4.52	±30
Perfluoropentanoic acid	0.60	0.62	3.21	±30
Perfluorobutanesulfonate	0.53	0.45	-14.70	±30
4:2 fluorotelomersulfonate	0.56	0.63	12.84	±30
Perfluorohexanoic acid	0.60	0.59	-1.34	±30
Perfluoropentanesulfonate	0.56	0.51	-9.18	±30
Perfluoroheptanoic acid	0.60	0.61	1.56	±30
Perfluorohexanesulfonate	0.55	0.48	-11.70	±30
6:2 fluorotelomersulfonate	0.57	0.53	-6.29	±30
Perfluoroheptanesulfonate	0.57	0.57	-0.94	±30
Perfluorooctanoic acid	0.60	0.57	-4.44	±30
Perfluoro-octanesulfonate	0.56	0.47	-15.84	±30
Perfluorononanoic acid	0.60	0.57	-4.62	±30
Perfluorononanesulfonate	0.58	0.55	-5.13	±30
Perfluorodecanoic acid	0.60	0.53	-12.39	±30
8:2 fluorotelomersulfonate	0.58	0.55	-4.16	±30
Perfluorooctanesulfonamide	0.60	0.54	-9.38	±30
NMeFOSAA	0.60	0.58	-3.02	±30
Perfluorodecanesulfonate	0.58	0.56	-2.98	±30
Perfluoroundecanoic acid	0.60	0.52	-13.54	±30
NEtFOSAA	0.60	0.52	-12.53	±30
Perfluorododecanoic acid	0.60	0.53	-12.36	±30
10:2-fluorotelomersulfonate	0.58	0.50	-13.27	±30
NMePFOSAE	0.60	0.61	2.31	±30
NMePFOSA	0.60	0.48	-19.71	±30
Perfluorododecanesulfonate	0.58	0.51	-13.00	±30
NEtPFOSAE	0.60	0.57	-4.26	±30
NEtPFOSA	0.60	0.57	-4.87	±30
Perfluorotridecanoic acid	0.60	0.55	-8.33	±30
Perfluorotetradecanoic acid	0.60	0.55	-7.70	±30
Perfluorohexadecanoic acid	0.60	0.61	1.72	±30
Perfluorooctadecanoic acid	0.60	0.54	-9.17	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV12D-35.WIFF

Date/Time Analyzed: 11/12/2018 21:52

Lab Sample ID: CCV4_ISC_CAL2

Init. Calib. Date/Times: 11/12/2018 15:05

11/12/2018 16:00

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.60	0.59	-1.36	±30
Perfluoropentanoic acid	0.60	0.59	-1.39	±30
Perfluorobutanesulfonate	0.53	0.49	-7.40	±30
4:2 fluorotelomersulfonate	0.56	0.61	8.44	±30
Perfluorohexanoic acid	0.60	0.56	-6.71	±30
Perfluoropentanesulfonate	0.56	0.51	-9.20	±30
Perfluoroheptanoic acid	0.60	0.62	4.01	±30
Perfluorohexanesulfonate	0.55	0.48	-11.87	±30
6:2 fluorotelomersulfonate	0.57	0.53	-7.32	±30
Perfluoroheptanesulfonate	0.57	0.55	-3.47	±30
Perfluorooctanoic acid	0.60	0.55	-7.90	±30
Perfluoro-octanesulfonate	0.56	0.49	-11.16	±30
Perfluorononanoic acid	0.60	0.63	5.78	±30
Perfluorononanesulfonate	0.58	0.53	-8.67	±30
Perfluorodecanoic acid	0.60	0.57	-5.45	±30
8:2 fluorotelomersulfonate	0.58	0.51	-11.24	±30
Perfluorooctanesulfonamide	0.60	0.49	-18.07	±30
NMeFOSAA	0.60	0.57	-5.33	±30
Perfluorodecanesulfonate	0.58	0.48	-16.56	±30
Perfluoroundecanoic acid	0.60	0.57	-5.45	±30
NEtFOSAA	0.60	0.50	-15.84	±30
Perfluorododecanoic acid	0.60	0.53	-11.11	±30
10:2-fluorotelomersulfonate	0.58	0.62	7.76	±30
NMePFOSAE	0.60	0.59	-1.10	±30
NMePFOSA	0.60	0.54	-10.47	±30
Perfluorododecanesulfonate	0.58	0.44	-24.93	±30
NEtPFOSAE	0.60	0.53	-10.92	±30
NEtPFOSA	0.60	0.62	2.54	±30
Perfluorotridecanoic acid	0.60	0.57	-4.64	±30
Perfluorotetradecanoic acid	0.60	0.55	-7.53	±30
Perfluorohexadecanoic acid	0.60	0.58	-2.63	±30
Perfluorooctadecanoic acid	0.60	0.53	-11.67	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV12D-47.WIFF

Date/Time Analyzed: 11/12/2018 23:40

Lab Sample ID: CCV5_CAL3

Init. Calib. Date/Times: 11/12/2018 15:05

11/12/2018 16:00

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.28	13.78	±30
Perfluoropentanoic acid	2.00	2.42	21.14	±30
Perfluorobutanesulfonate	1.77	1.85	4.63	±30
4:2 fluorotelomersulfonate	1.87	2.24	19.63	±30
Perfluorohexanoic acid	2.00	2.22	10.98	±30
Perfluoropentanesulfonate	1.88	2.01	6.68	±30
Perfluoroheptanoic acid	2.00	2.35	17.43	±30
Perfluorohexanesulfonate	1.82	2.00	9.95	±30
6:2 fluorotelomersulfonate	1.90	2.13	12.14	±30
Perfluoroheptanesulfonate	1.90	2.03	6.81	±30
Perfluorooctanoic acid	2.00	2.15	7.70	±30
Perfluoro-octanesulfonate	1.85	1.97	6.67	±30
Perfluorononanoic acid	2.00	2.42	21.18	±30
Perfluorononanesulfonate	1.92	1.97	2.75	±30
Perfluorodecanoic acid	2.00	2.25	12.71	±30
8:2 fluorotelomersulfonate	1.92	2.39	24.48	±30
Perfluorooctanesulfonamide	2.00	2.06	2.85	±30
NMeFOSAA	2.00	2.40	19.83	±30
Perfluorodecanesulfonate	1.93	1.95	1.27	±30
Perfluoroundecanoic acid	2.00	2.26	13.06	±30
NEtFOSAA	2.00	1.84	-7.96	±30
Perfluorododecanoic acid	2.00	2.09	4.61	±30
10:2-fluorotelomersulfonate	1.93	2.38	23.57	±30
NMePFOSAE	2.00	2.19	9.64	±30
NMePFOSA	2.00	1.72	-13.99	±30
Perfluorododecanesulfonate	1.94	1.97	1.77	±30
NEtPFOSAE	2.00	2.29	14.48	±30
NEtPFOSA	2.00	1.81	-9.44	±30
Perfluorotridecanoic acid	2.00	2.23	11.35	±30
Perfluorotetradecanoic acid	2.00	2.28	14.15	±30
Perfluorohexadecanoic acid	2.00	2.27	13.71	±30
Perfluorooctadecanoic acid	2.00	2.21	10.28	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV12D-58.WIFF

Date/Time Analyzed: 11/13/2018 01:20

Lab Sample ID: CCV6_CAL4

Init. Calib. Date/Times: 11/12/2018 15:05

11/12/2018 16:00

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	8.00	8.06	0.73	±30
Perfluoropentanoic acid	8.00	8.59	7.38	±30
Perfluorobutanesulfonate	7.08	6.93	-2.07	±30
4:2 fluorotelomersulfonate	7.47	7.43	-0.51	±30
Perfluorohexanoic acid	8.00	8.10	1.27	±30
Perfluoropentanesulfonate	7.50	6.94	-7.41	±30
Perfluoroheptanoic acid	8.00	8.47	5.91	±30
Perfluorohexanesulfonate	7.30	7.39	1.22	±30
6:2 fluorotelomersulfonate	7.58	8.17	7.83	±30
Perfluoroheptanesulfonate	7.61	7.25	-4.78	±30
Perfluorooctanoic acid	8.00	8.60	7.46	±30
Perfluoro-octanesulfonate	7.40	7.40	-0.06	±30
Perfluorononanoic acid	8.00	8.49	6.08	±30
Perfluorononanesulfonate	7.68	7.43	-3.28	±30
Perfluorodecanoic acid	8.00	7.87	-1.65	±30
8:2 fluorotelomersulfonate	7.66	8.83	15.34	±30
Perfluorooctanesulfonamide	8.00	7.68	-4.00	±30
NMeFOSAA	8.00	8.33	4.15	±30
Perfluorodecanesulfonate	7.70	7.34	-4.62	±30
Perfluoroundecanoic acid	8.00	7.88	-1.54	±30
NEtFOSAA	8.00	7.20	-9.95	±30
Perfluorododecanoic acid	8.00	8.15	1.93	±30
10:2-fluorotelomersulfonate	7.71	8.80	14.20	±30
NMePFOSAE	8.00	8.67	8.42	±30
NMePFOSA	8.00	7.71	-3.62	±30
Perfluorododecanesulfonate	7.74	7.31	-5.52	±30
NEtPFOSAE	8.00	7.80	-2.50	±30
NEtPFOSA	8.00	8.41	5.12	±30
Perfluorotridecanoic acid	8.00	8.67	8.37	±30
Perfluorotetradecanoic acid	8.00	8.25	3.18	±30
Perfluorohexadecanoic acid	8.00	8.58	7.25	±30
Perfluorooctadecanoic acid	8.00	8.57	7.11	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV12D-70.WIFF

Date/Time Analyzed: 11/13/2018 03:08

Lab Sample ID: CCV7_ISC_CAL2

Init. Calib. Date/Times: 11/12/2018 15:05

11/12/2018 16:00

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.60	0.59	-2.40	±30
Perfluoropentanoic acid	0.60	0.57	-5.27	±30
Perfluorobutanesulfonate	0.53	0.48	-9.96	±30
4:2 fluorotelomersulfonate	0.56	0.53	-4.59	±30
Perfluorohexanoic acid	0.60	0.57	-4.88	±30
Perfluoropentanesulfonate	0.56	0.48	-15.15	±30
Perfluoroheptanoic acid	0.60	0.57	-4.53	±30
Perfluorohexanesulfonate	0.55	0.47	-13.45	±30
6:2 fluorotelomersulfonate	0.57	0.60	5.55	±30
Perfluoroheptanesulfonate	0.57	0.49	-13.86	±30
Perfluorooctanoic acid	0.60	0.57	-4.43	±30
Perfluoro-octanesulfonate	0.56	0.48	-12.61	±30
Perfluorononanoic acid	0.60	0.59	-0.85	±30
Perfluorononanesulfonate	0.58	0.45	-22.51	±30
Perfluorodecanoic acid	0.60	0.57	-5.76	±30
8:2 fluorotelomersulfonate	0.58	0.56	-2.24	±30
Perfluorooctanesulfonamide	0.60	0.55	-8.75	±30
NMeFOSAA	0.60	0.63	4.51	±30
Perfluorodecanesulfonate	0.58	0.51	-11.11	±30
Perfluoroundecanoic acid	0.60	0.56	-5.92	±30
NEtFOSAA	0.60	0.44	-26.19	±30
Perfluorododecanoic acid	0.60	0.53	-11.69	±30
10:2-fluorotelomersulfonate	0.58	0.57	-1.47	±30
NMePFOSAE	0.60	0.61	1.05	±30
NMePFOSA	0.60	0.54	-10.45	±30
Perfluorododecanesulfonate	0.58	0.53	-9.07	±30
NEtPFOSAE	0.60	0.56	-6.81	±30
NEtPFOSA	0.60	0.68	12.57	±30
Perfluorotridecanoic acid	0.60	0.59	-2.20	±30
Perfluorotetradecanoic acid	0.60	0.52	-12.87	±30
Perfluorohexadecanoic acid	0.60	0.57	-5.14	±30
Perfluorooctadecanoic acid	0.60	0.53	-11.84	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV13D-05.WIFF

Date/Time Analyzed: 11/13/2018 09:44

Lab Sample ID: CCV1_ISC_CAL2

Init. Calib. Date/Times: 11/12/2018 15:05

11/12/2018 16:00

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.60	0.58	-3.65	±30
Perfluoropentanoic acid	0.60	0.59	-1.76	±30
Perfluorobutanesulfonate	0.53	0.47	-11.94	±30
4:2 fluorotelomersulfonate	0.56	0.48	-14.95	±30
Perfluorohexanoic acid	0.60	0.57	-4.93	±30
Perfluoropentanesulfonate	0.56	0.51	-9.98	±30
Perfluoroheptanoic acid	0.60	0.57	-5.10	±30
Perfluorohexanesulfonate	0.55	0.52	-4.07	±30
6:2 fluorotelomersulfonate	0.57	0.61	7.89	±30
Perfluoroheptanesulfonate	0.57	0.51	-9.92	±30
Perfluorooctanoic acid	0.60	0.59	-1.97	±30
Perfluoro-octanesulfonate	0.56	0.53	-3.87	±30
Perfluorononanoic acid	0.60	0.55	-8.00	±30
Perfluorononanesulfonate	0.58	0.43	-24.60	±30
Perfluorodecanoic acid	0.60	0.57	-4.55	±30
8:2 fluorotelomersulfonate	0.58	0.46	-20.29	±30
Perfluorooctanesulfonamide	0.60	0.59	-1.95	±30
NMeFOSAA	0.60	0.54	-9.90	±30
Perfluorodecanesulfonate	0.58	0.47	-18.38	±30
Perfluoroundecanoic acid	0.60	0.55	-8.64	±30
NEtFOSAA	0.60	0.65	8.80	±30
Perfluorododecanoic acid	0.60	0.57	-4.64	±30
10:2-fluorotelomersulfonate	0.58	0.51	-11.94	±30
NMePFOSAE	0.60	0.61	1.33	±30
NMePFOSA	0.60	0.46	-23.31	±30
Perfluorododecanesulfonate	0.58	0.49	-15.84	±30
NEtPFOSAE	0.60	0.57	-5.79	±30
NEtPFOSA	0.60	0.60	-0.38	±30
Perfluorotridecanoic acid	0.60	0.59	-1.21	±30
Perfluorotetradecanoic acid	0.60	0.53	-12.31	±30
Perfluorohexadecanoic acid	0.60	0.54	-10.36	±30
Perfluorooctadecanoic acid	0.60	0.54	-10.25	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV13D-35.WIFF

Date/Time Analyzed: 11/13/2018 14:50

Lab Sample ID: CCV4_ISC_CAL2

Init. Calib. Date/Times: 11/12/2018 15:05

11/12/2018 16:00

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	0.60	0.58	-2.78	±30
Perfluoropentanoic acid	0.60	0.60	-0.55	±30
Perfluorobutanesulfonate	0.53	0.50	-5.86	±30
4:2 fluorotelomersulfonate	0.56	0.55	-1.36	±30
Perfluorohexanoic acid	0.60	0.59	-2.24	±30
Perfluoropentanesulfonate	0.56	0.50	-11.86	±30
Perfluoroheptanoic acid	0.60	0.63	4.90	±30
Perfluorohexanesulfonate	0.55	0.50	-8.43	±30
6:2 fluorotelomersulfonate	0.57	0.63	11.50	±30
Perfluoroheptanesulfonate	0.57	0.54	-5.04	±30
Perfluorooctanoic acid	0.60	0.57	-5.40	±30
Perfluoro-octanesulfonate	0.56	0.53	-5.17	±30
Perfluorononanoic acid	0.60	0.52	-13.00	±30
Perfluorononanesulfonate	0.58	0.53	-7.14	±30
Perfluorodecanoic acid	0.60	0.55	-7.51	±30
8:2 fluorotelomersulfonate	0.58	0.45	-21.91	±30
Perfluorooctanesulfonamide	0.60	0.48	-19.67	±30
NMeFOSAA	0.60	0.51	-15.71	±30
Perfluorodecanesulfonate	0.58	0.49	-15.04	±30
Perfluoroundecanoic acid	0.60	0.62	2.99	±30
NEtFOSAA	0.60	0.54	-9.95	±30
Perfluorododecanoic acid	0.60	0.59	-2.03	±30
10:2-fluorotelomersulfonate	0.58	0.47	-18.90	±30
NMePFOSAE	0.60	0.57	-5.58	±30
NMePFOSA	0.60	0.61	2.43	±30
Perfluorododecanesulfonate	0.58	0.47	-18.39	±30
NEtPFOSAE	0.60	0.56	-6.12	±30
NEtPFOSA	0.60	0.55	-7.51	±30
Perfluorotridecanoic acid	0.60	0.55	-8.36	±30
Perfluorotetradecanoic acid	0.60	0.55	-7.73	±30
Perfluorohexadecanoic acid	0.60	0.58	-3.34	±30
Perfluorooctadecanoic acid	0.60	0.57	-4.60	±30

SDG No.: BSI02

Instrument ID: 27631

Lab File ID: 18NOV13D-47.WIFF

Date/Time Analyzed: 11/13/2018 16:38

Lab Sample ID: CCV5_CAL3

Init. Calib. Date/Times: 11/12/2018 15:05

11/12/2018 16:00

Analytes	Specified Amount	Calculated Amount	% Difference	Limit
Perfluorobutanoic acid	2.00	2.27	13.37	±30
Perfluoropentanoic acid	2.00	2.30	15.04	±30
Perfluorobutanesulfonate	1.77	1.95	10.11	±30
4:2 fluorotelomersulfonate	1.87	2.34	25.22	±30
Perfluorohexanoic acid	2.00	2.24	11.91	±30
Perfluoropentanesulfonate	1.88	1.98	5.35	±30
Perfluoroheptanoic acid	2.00	2.33	16.39	±30
Perfluorohexanesulfonate	1.82	1.99	9.21	±30
6:2 fluorotelomersulfonate	1.90	2.00	5.45	±30
Perfluoroheptanesulfonate	1.90	2.01	5.97	±30
Perfluorooctanoic acid	2.00	2.34	16.77	±30
Perfluoro-octanesulfonate	1.85	2.11	14.20	±30
Perfluorononanoic acid	2.00	2.42	21.09	±30
Perfluorononanesulfonate	1.92	2.20	14.80	±30
Perfluorodecanoic acid	2.00	2.21	10.55	±30
8:2 fluorotelomersulfonate	1.92	2.34	21.63	±30
Perfluorooctanesulfonamide	2.00	2.14	6.93	±30
NMeFOSAA	2.00	2.12	6.07	±30
Perfluorodecanesulfonate	1.93	2.02	4.46	±30
Perfluoroundecanoic acid	2.00	2.16	7.97	±30
NEtFOSAA	2.00	1.83	-8.36	±30
Perfluorododecanoic acid	2.00	2.28	14.05	±30
10:2-fluorotelomersulfonate	1.93	2.11	9.09	±30
NMePFOSAE	2.00	2.32	15.79	±30
NMePFOSA	2.00	2.03	1.57	±30
Perfluorododecanesulfonate	1.94	1.96	1.08	±30
NEtPFOSAE	2.00	2.19	9.57	±30
NEtPFOSA	2.00	2.05	2.58	±30
Perfluorotridecanoic acid	2.00	2.20	10.05	±30
Perfluorotetradecanoic acid	2.00	2.21	10.42	±30
Perfluorohexadecanoic acid	2.00	2.16	8.24	±30
Perfluorooctadecanoic acid	2.00	2.08	4.18	±30

SDG No.: BSI02

Matrix: SOIL

Batch: 18311003		13C2-PFDA	13C2-PFOA	13C3-PFBA	13C4-PFOS
File Name:18NOV08D-05.WIFF		Area	Area	Area	Area
CAL3 Area/ CCV Area		315408	491983	728840	255568
LOWER LIMIT		157704	245992	364420	127784
UPPER LIMIT		473112	737975	1093260	383352
LAB SAMPLE ID	DATE ANALYZED				
BLK311003	11/08/18 17:58	370426	599450	818018	298112
LCS311003	11/08/18 18:07	357223	596078	829042	315243
9881574	11/08/18 18:25	355240	566604	830329	315062
9881581	11/08/18 18:52	356489	599150	825847	313845
9881582	11/08/18 19:01	357812	575895	826030	311552
9881583	11/08/18 19:10	342685	557006	813627	312933
9881584MS	11/08/18 19:19	350854	565339	812863	311202
9881585MSD	11/08/18 19:37	338418	557672	817940	303679
9881586	11/08/18 19:46	361545	568448	839774	319662
9881590	11/08/18 20:04	347032	574967	828181	326142
9881591	11/08/18 20:13	355555	569203	813969	312911
9881592	11/08/18 20:22	348721	574712	819171	323805
9881594	11/08/18 20:31	345334	581281	828166	325631
9881596	11/08/18 20:49	354225	590094	860775	328293

AREA: Upper limit: 150% of the internal standard area.
Lower Limit: 50% of the internal standard area.

* Outside QC Limits

SDG No.: BSI02
Matrix: WATER

Batch: 18314006		13C2-PFDA	13C2-PFOA	13C3-PFBA	13C4-PFOS
File Name:18NOV12DCAL-44.WIFF		Area	Area	Area	Area
CAL3 Area/ CCV Area		278744	450220	659926	249206
LOWER LIMIT		139372	225110	329963	124603
UPPER LIMIT		418116	675330	989889	373809
LAB SAMPLE ID	DATE ANALYZED				
BLK314006	11/12/18 22:37	301446	492840	698915	264794
LCS314006	11/12/18 22:46	298114	483546	706876	262275
9881579	11/12/18 23:13	353334	554286	857687	267105
9881580	11/12/18 23:22	320159	491738	719796	270277

AREA: Upper limit: 150% of the internal standard area.
Lower Limit: 50% of the internal standard area.

* Outside QC Limits

SDG No.: BSI02
Matrix: WATER

Batch: 18314009		13C2-PFDA	13C2-PFOA	13C3-PFBA	13C4-PFOS
File Name:18NOV12DCAL-44.WIFF		Area	Area	Area	Area
CAL3 Area/ CCV Area		278744	450220	659926	249206
LOWER LIMIT		139372	225110	329963	124603
UPPER LIMIT		418116	675330	989889	373809
LAB SAMPLE ID	DATE ANALYZED				
BLK314009	11/13/18 01:47	315320	496771	699270	262662
LCS314009	11/13/18 01:56	322354	471810	690128	270962
LCSDA	11/13/18 02:05	322064	503976	701271	264539
9881573	11/13/18 02:23	315566	488407	692151	261185
9881575	11/13/18 02:32	308513	483972	681344	261988
9881576	11/13/18 16:11	296739	498725	706079	258823
9881589	11/13/18 16:20	310870	494747	700164	262061
9881595	11/13/18 16:29	303465	484954	702615	260926

AREA: Upper limit: 150% of the internal standard area.
Lower Limit: 50% of the internal standard area.

* Outside QC Limits

Sample Data

PFAS by LC/MS/MS

ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 3:55:38 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881573			Data File:		18NOV12D-65.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18314009 OU1-CAOC21-S-05-01 Grab Soil			Acquis Date:		2018-11-13T02:23:27
Sample Type:	Unknown			Instrument:		LM27631
Vial Position:	91			Acquis Method:		18AUG13_3uL.dam
Injection Vol:	3.00			Result Table:		18314009
QMethod File:	18AUG20QM			ICAL Name:		18NOV12DCAL
Batch Number:	18314009			Operator:		JPT12262
Sample Wt.:	1.08000			Dilution Factor:		1.00
Sample Vol.:	1.000			Prep Factor:		2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV12DCAL-44

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	692150.5	659926.2	5	50	
13C2-PFOA	5.0	488407.1	450219.7	8	50	
13C4-PFOS	4.8	261185.4	249205.8	5	50	
13C2-PFDA	5.0	315565.6	278743.9	13	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	410372.1	13C3-PFBA	692150.5	0.593	8.611	7.751	90	50-150	
E13C5-PFHxA	649952.0	13C2-PFOA	488407.1	1.331	9.259	8.902	96	50-150	
E13C3-PFHxS	321563.5	13C2-PFOA	488407.1	0.658	8.759	8.366	96	50-150	
E13C4-PFHpA	532744.1	13C2-PFOA	488407.1	1.091	9.259	9.100	98	50-150	
E13C8-PFOA	862955.1	13C2-PFOA	488407.1	1.767	9.259	9.015	97	50-150	
E13C8-PFOS	287147.7	13C4-PFOS	261185.4	1.099	8.852	9.021	102	50-150	
E13C9-PFNA	467668.5	13C4-PFOS	261185.4	1.791	9.259	9.245	100	50-150	
E13C6-PFDA	630045.1	13C2-PFDA	315565.6	1.997	9.259	8.628	93	50-150	
Ed3-NMeFOSAA	58637.0	13C2-PFDA	315565.6	0.186	9.259	6.211	67	50-150	
E13C7-PFUnDA	268498.6	13C2-PFDA	315565.6	0.851	9.259	9.148	99	50-150	
Ed5-NEtFOSAA	45106.2	13C2-PFDA	315565.6	0.143	9.259	5.600	60	50-150	
E13C2-PFDoDA	534171.4	13C2-PFDA	315565.6	1.693	9.259	8.139	88	50-150	
E13C2-PFTeDA	380007.0	13C2-PFDA	315565.6	1.204	9.259	7.829	85	50-150	

ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 3:55:38 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881573

Instrument Name: LM27631

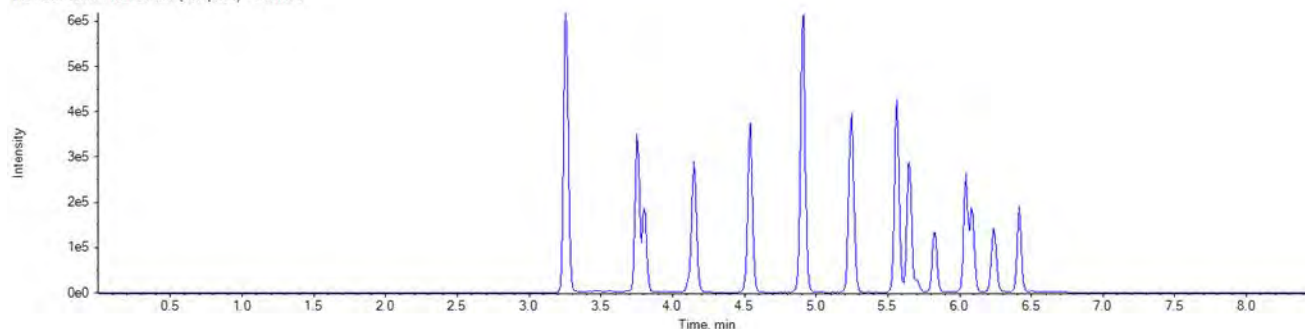
File Name: 18NOV12D-65.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.08000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	410372.1	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	649952.0	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	532744.1	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	321563.5	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	862955.1	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	287147.7	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	467668.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	630045.1	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	58637.0	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	268498.6	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	45106.2	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	534171.4	N/A	
PFTDA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	534171.4	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	380007.0	N/A	

Total Ion Chromatogram

TIC from 18NOV12D-65.wiff (sample 1) - 9881573



APPROVED

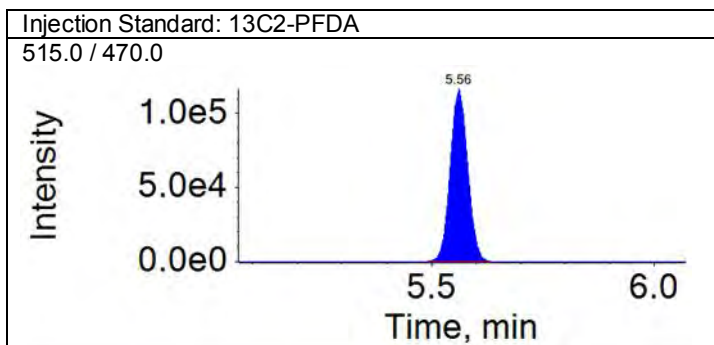
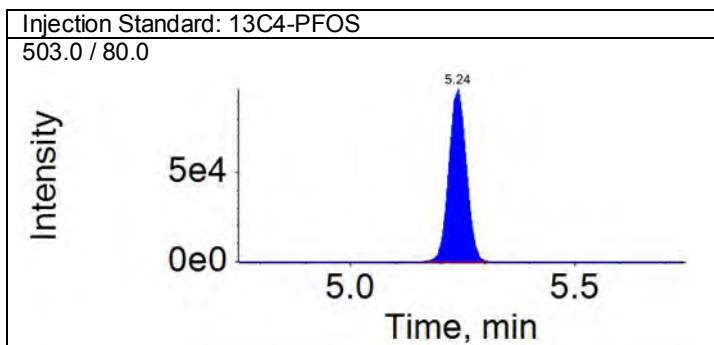
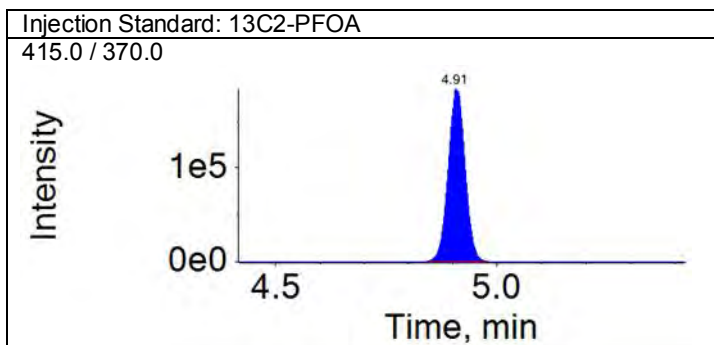
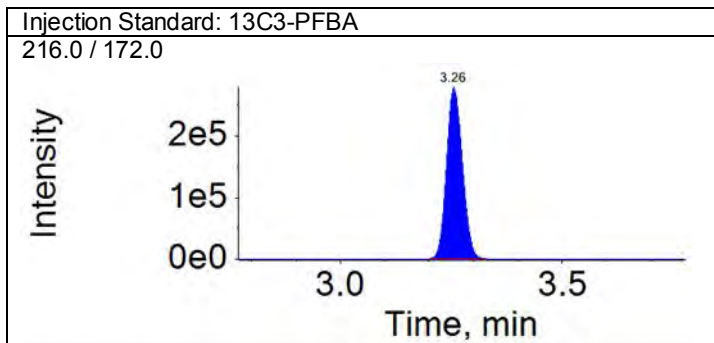
By JPT at 4:11 pm, 11/13/18

REVIEWED

By umar at 5:37 pm, 11/13/18

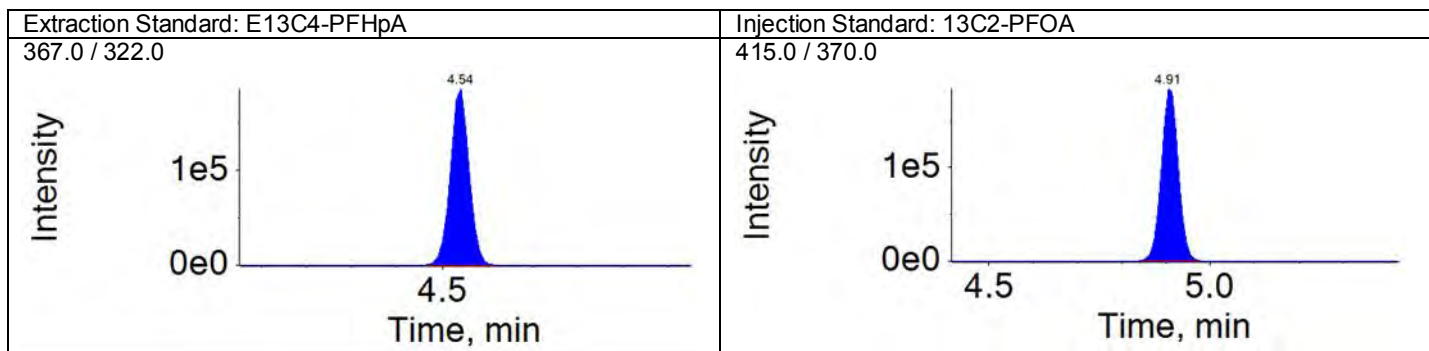
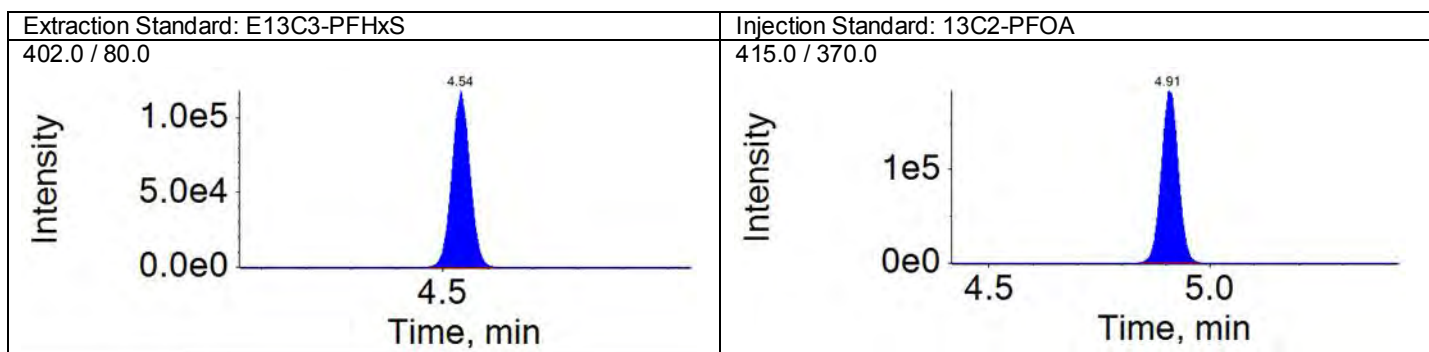
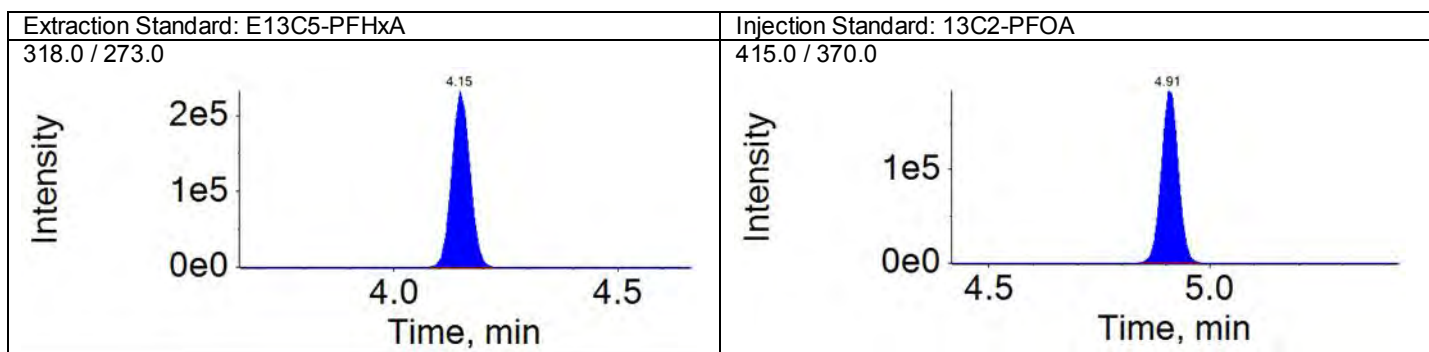
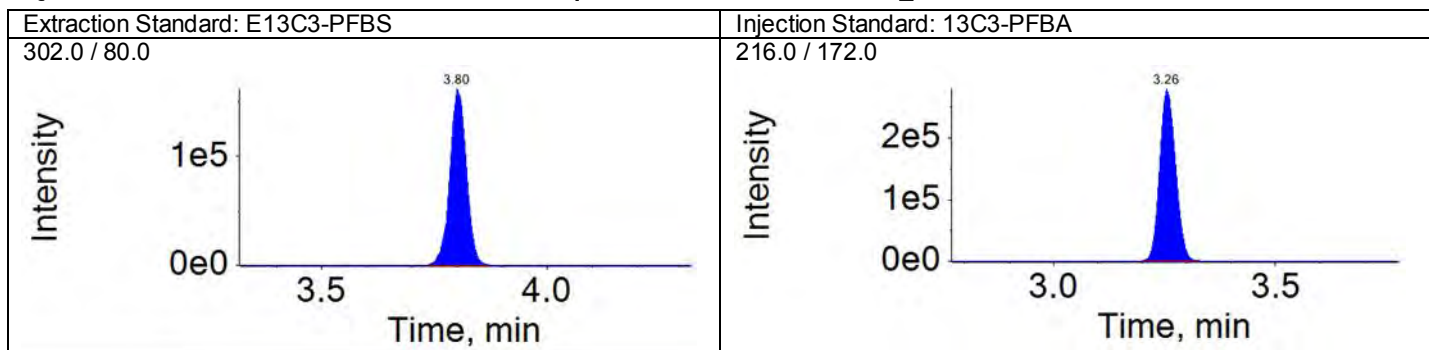
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 3:55:38 PM
Acquisition Method: 18AUG13_3uL.dam



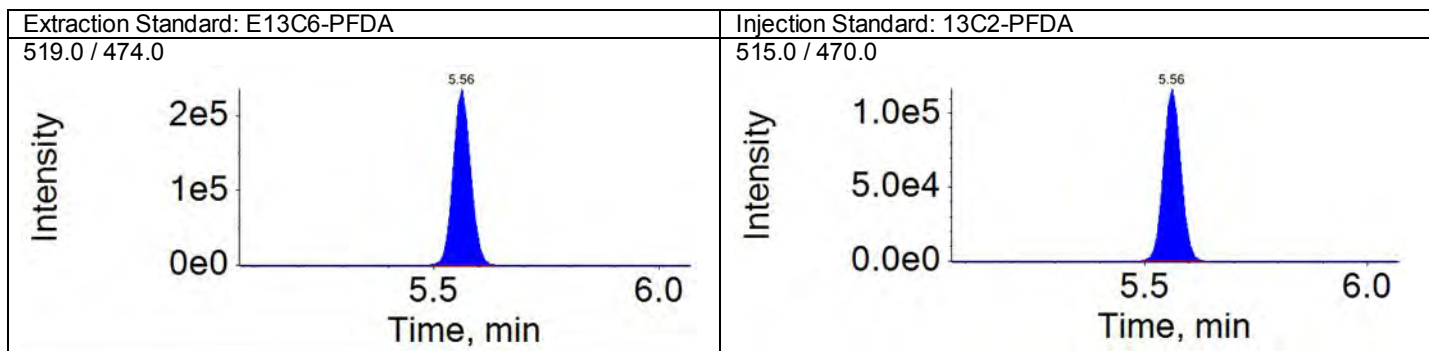
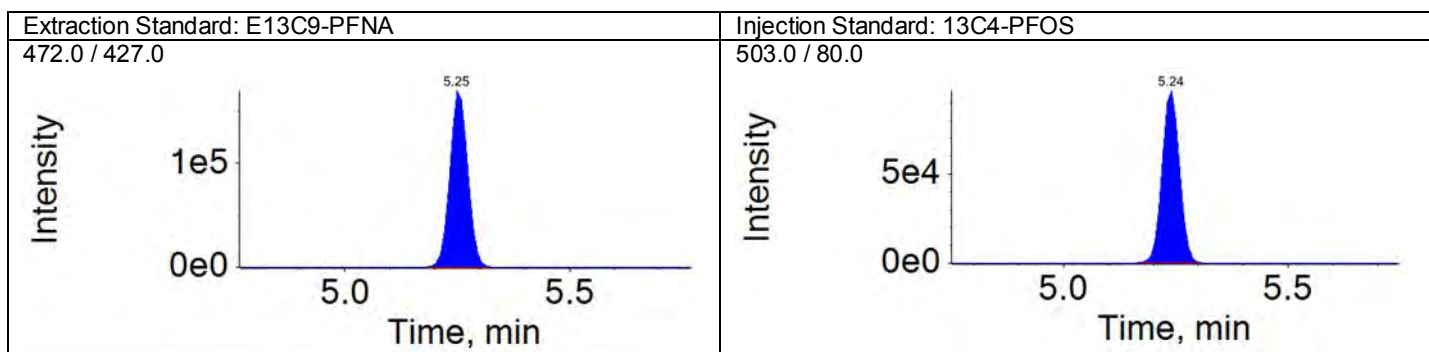
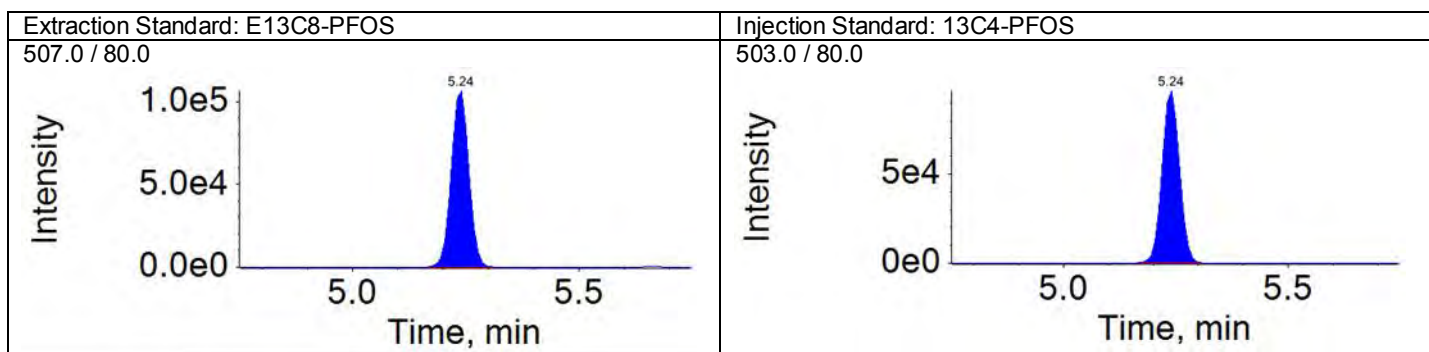
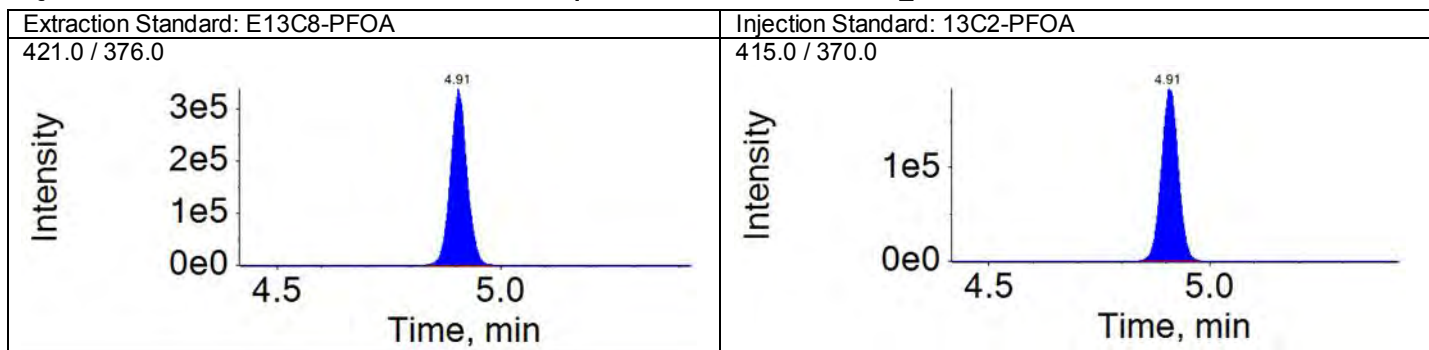
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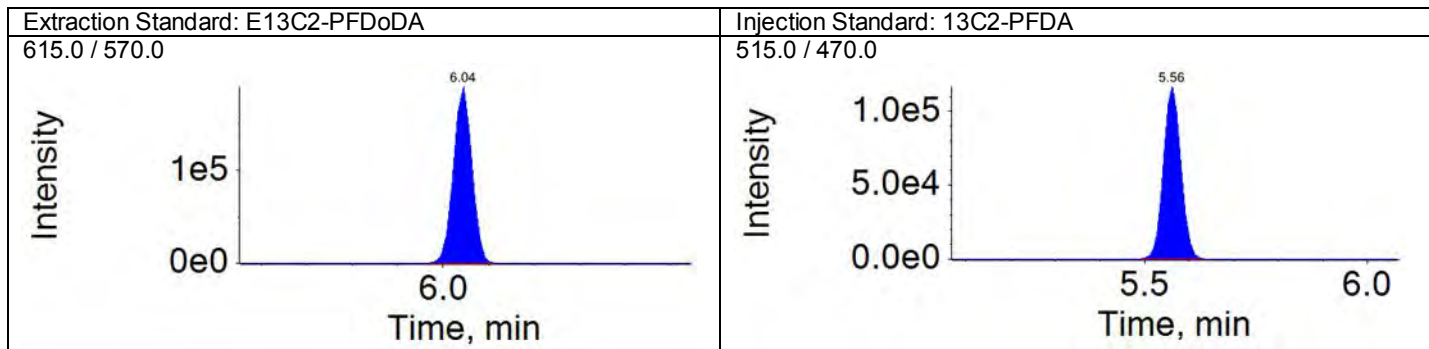
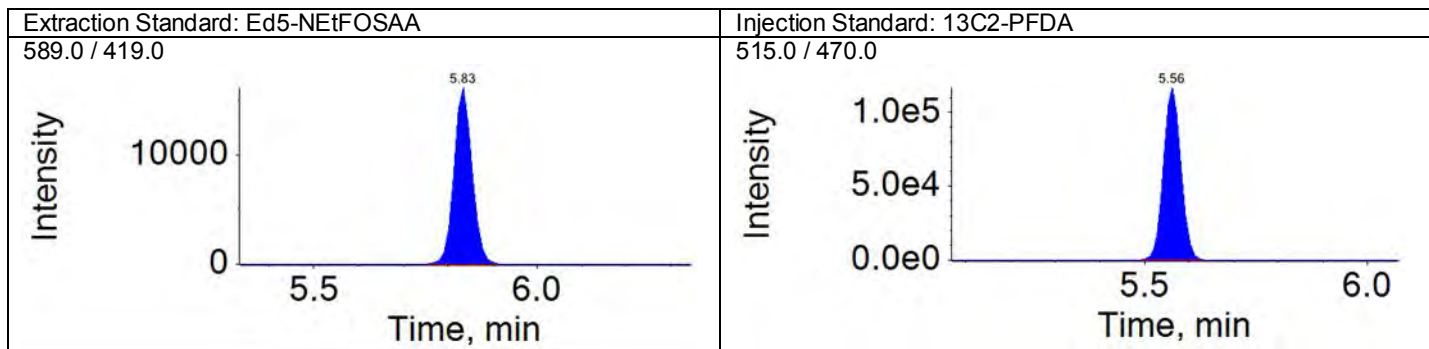
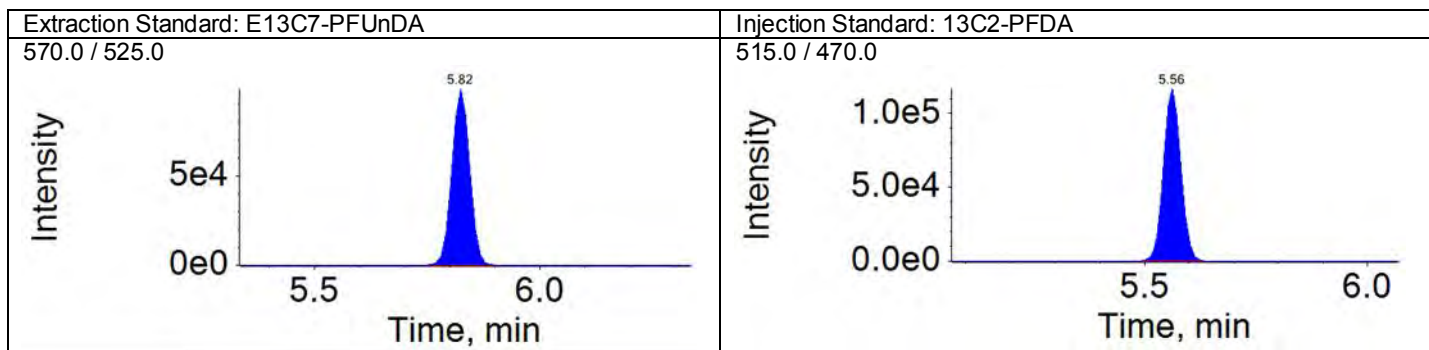
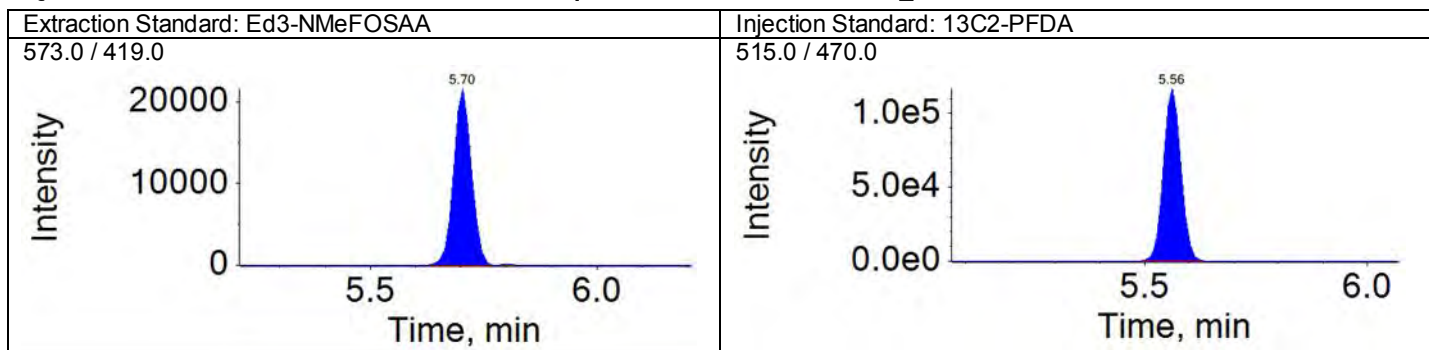
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 3:55:38 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

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APPROVED

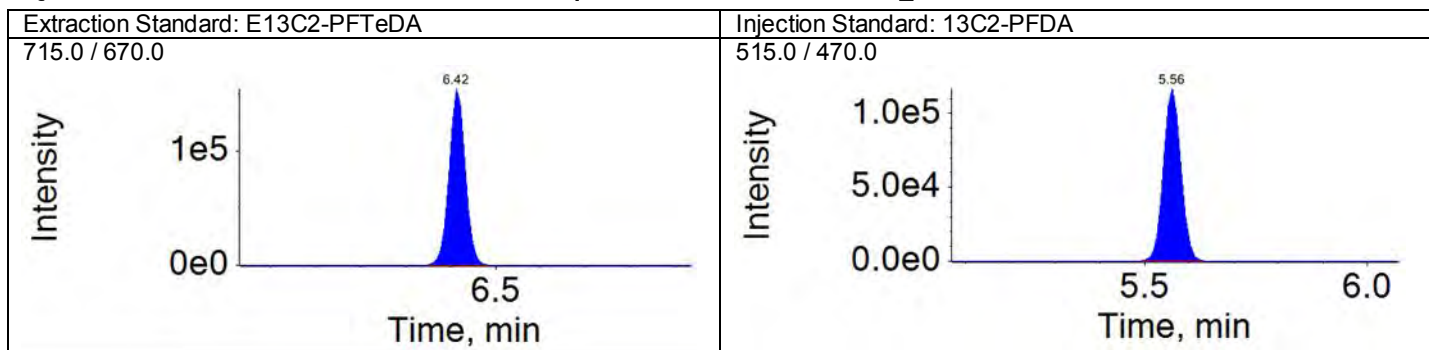
By JPT at 4:11 pm, 11/13/18

REVIEWED

By umar at 5:37 pm, 11/13/18

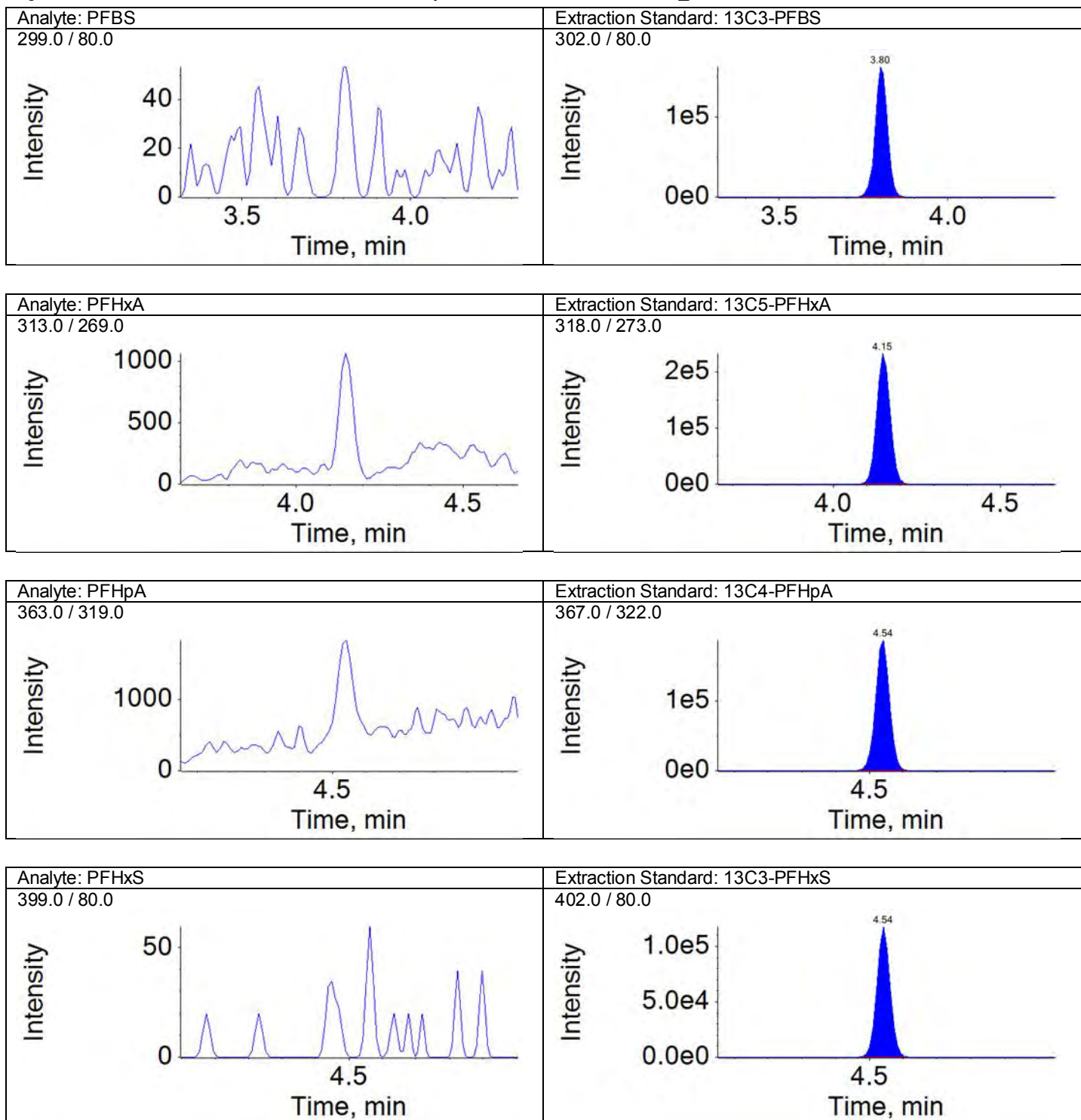
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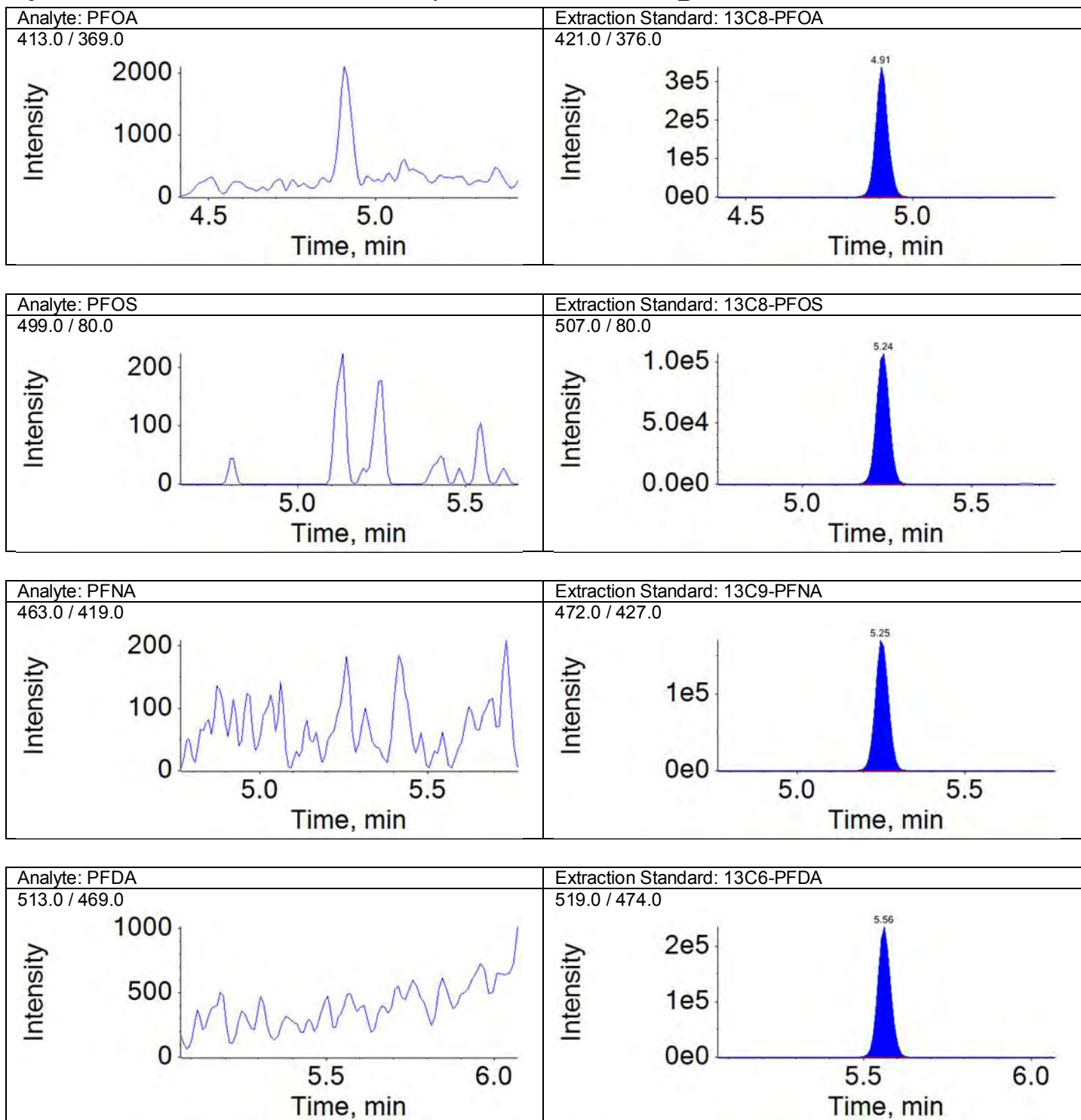
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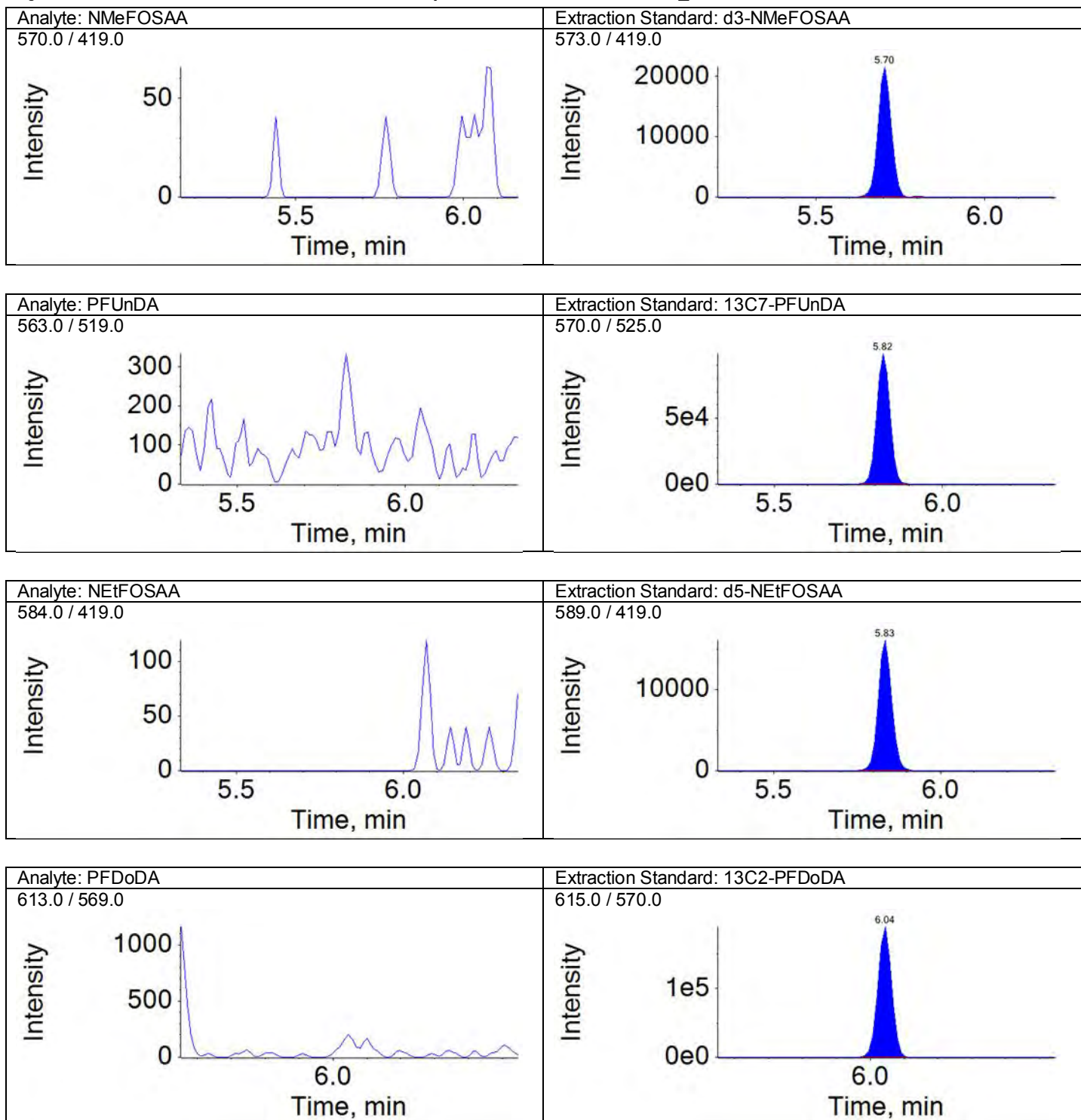
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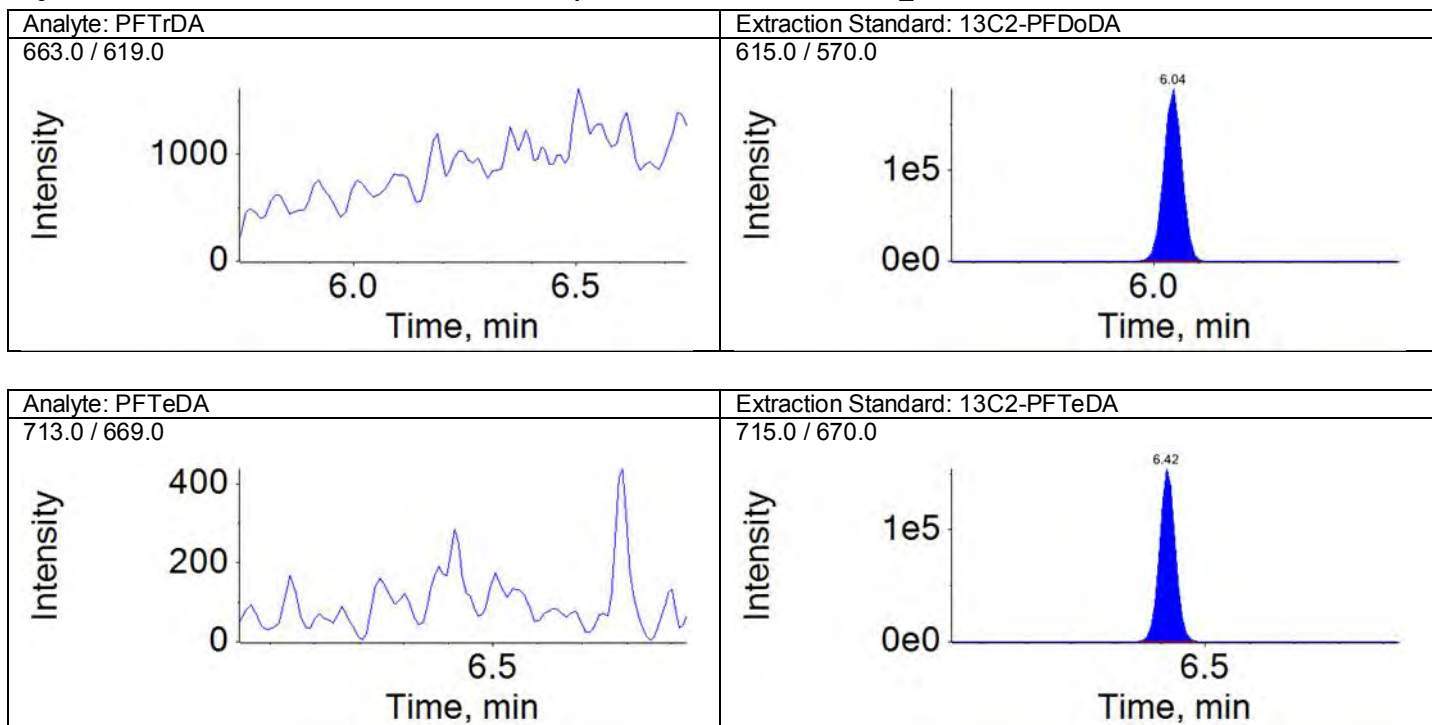
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 3:55:38 PM
Acquisition Method: 18AUG13_3uL.dam



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QMethod Name: 18AUG20QM

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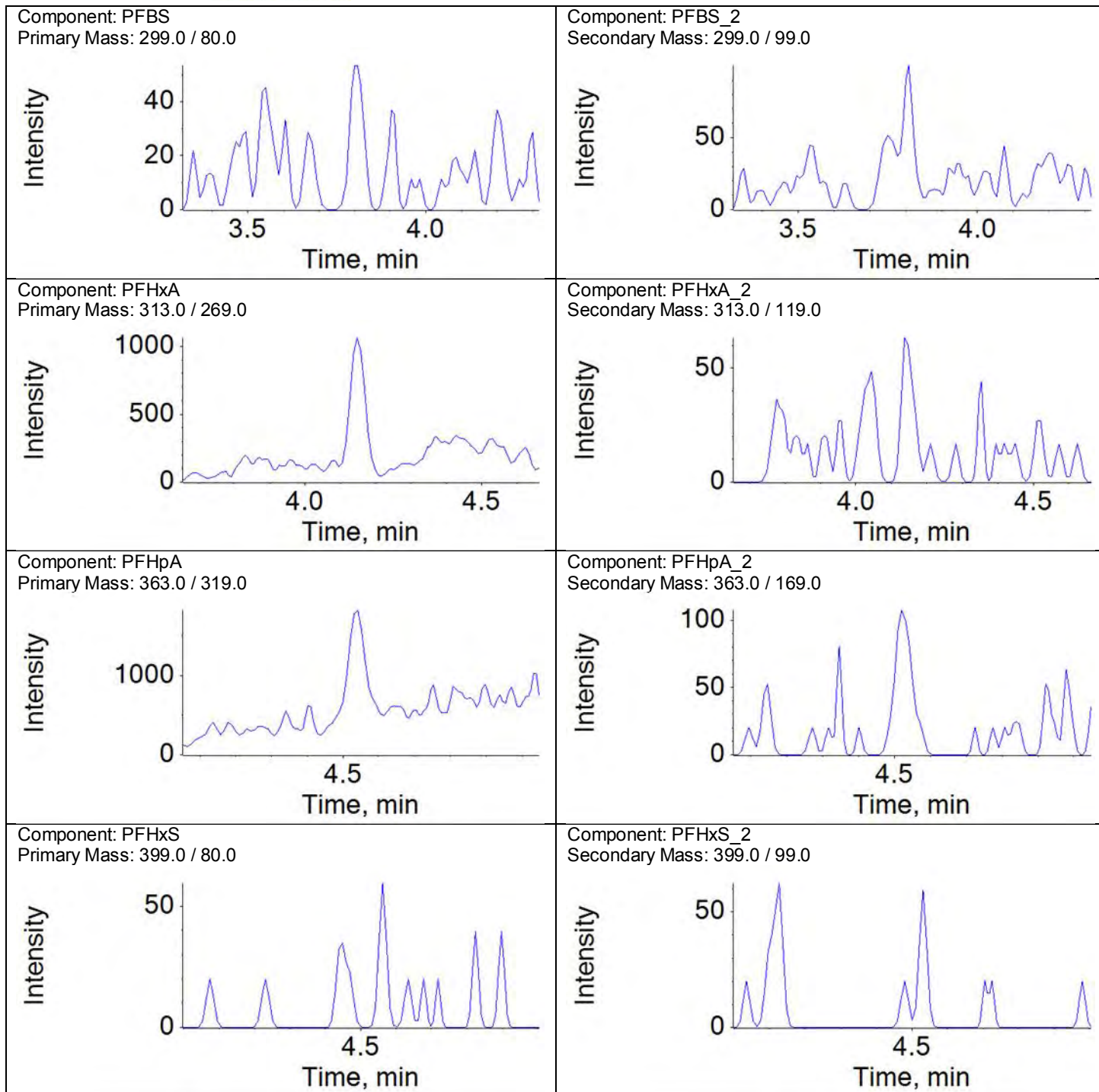
Ion Ratio Report

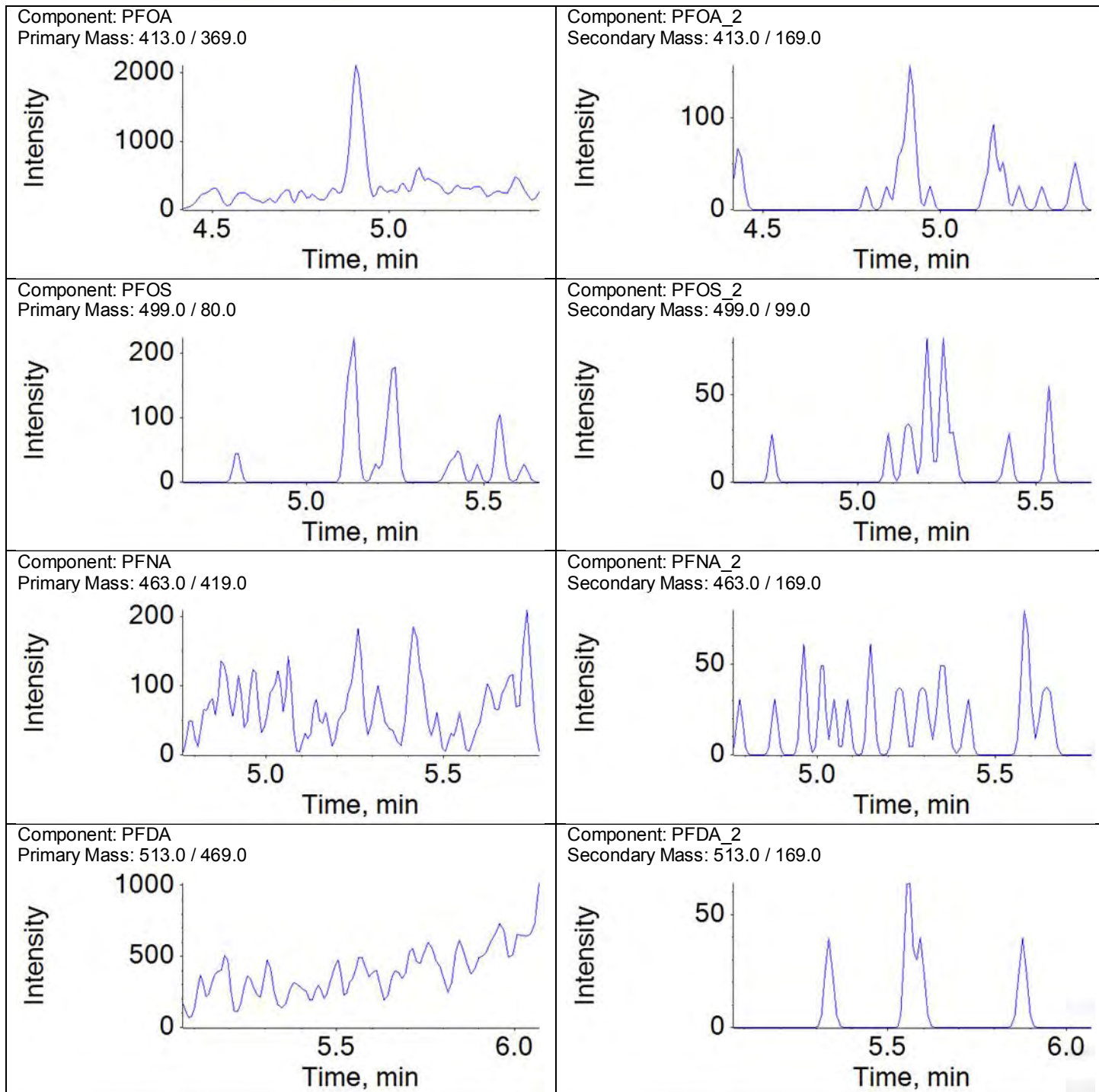
Sample Name: 9881573

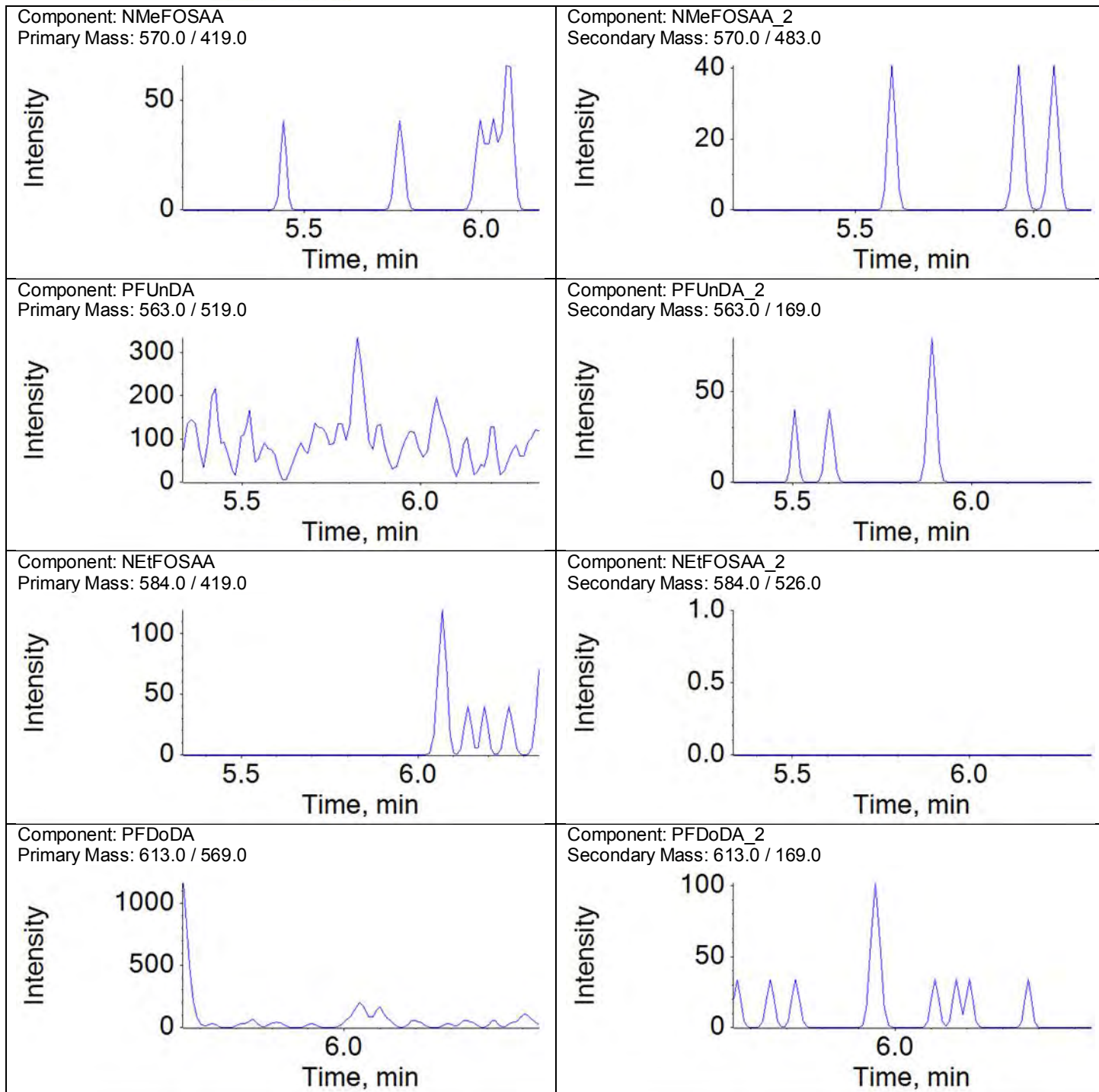
Instrument Name: LM27631

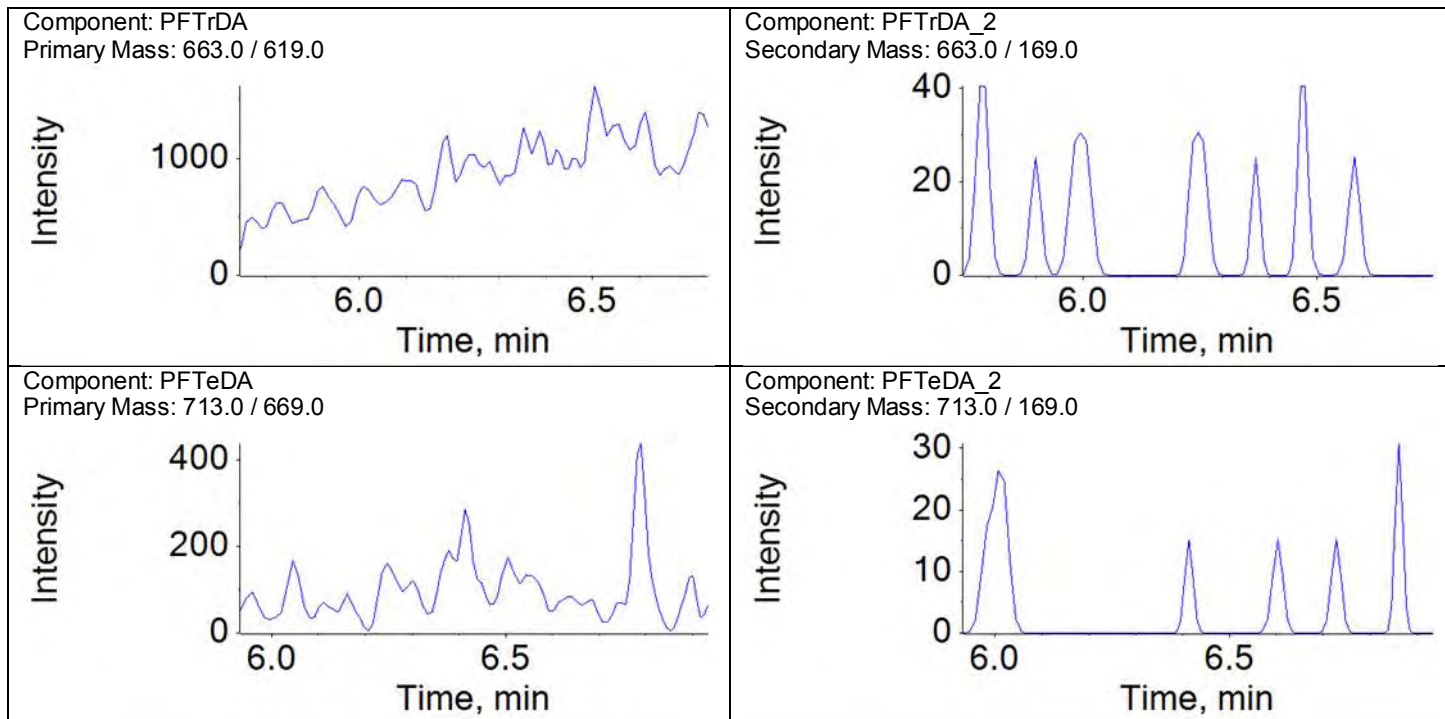
File Name: 18NOV12D-65.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	









APPROVED

By JPT at 4:11 pm, 11/13/18

REVIEWED

By umar at 5:37 pm, 11/13/18

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881574		Data File:	18NOV08D-45.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18311003 OU1-CAOC21-S-05-03 Grab Soil		Acquis Date:	2018-11-08T18:25:28
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	69		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18311003
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	18311003		Operator:	JPT12262
Sample Wt.:	1.00000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV08D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	830328.9	728839.7	14	50	
13C2-PFOA	5.0	566603.6	491983.1	15	50	
13C4-PFOS	4.8	315062.2	255568.1	23	50	
13C2-PFDA	5.0	355240.3	315407.5	13	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	358065.7	13C3-PFBA	830328.9	0.431	9.300	6.330	68	50-150	
E13C5-PFHxA	604428.8	13C2-PFOA	566603.6	1.067	10.000	7.848	78	50-150	
E13C3-PFHxS	291458.4	13C2-PFOA	566603.6	0.514	9.460	7.386	78	50-150	
E13C4-PFHpA	445514.9	13C2-PFOA	566603.6	0.786	10.000	7.154	72	50-150	
E13C8-PFOA	848174.8	13C2-PFOA	566603.6	1.497	10.000	8.349	83	50-150	
E13C8-PFOS	261591.5	13C4-PFOS	315062.2	0.830	9.560	7.343	77	50-150	
E13C9-PFNA	433949.1	13C4-PFOS	315062.2	1.377	10.000	7.525	75	50-150	
E13C6-PFDA	534238.0	13C2-PFDA	355240.3	1.504	10.000	7.564	76	50-150	
Ed3-NMeFOSAA	50621.0	13C2-PFDA	355240.3	0.142	10.000	5.300	53	50-150	
E13C7-PFUnDA	242436.5	13C2-PFDA	355240.3	0.682	10.000	7.874	79	50-150	
Ed5-NEtFOSAA	42315.9	13C2-PFDA	355240.3	0.119	10.000	5.513	55	50-150	
E13C2-PFDoDA	418006.9	13C2-PFDA	355240.3	1.177	10.000	6.344	63	50-150	
E13C2-PFTeDA	348733.2	13C2-PFDA	355240.3	0.982	10.000	7.068	71	50-150	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881574

Instrument Name: LM27631

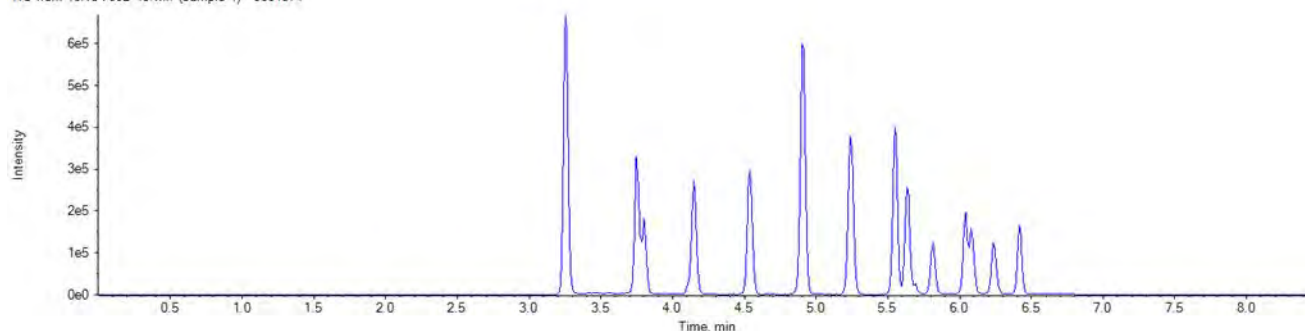
File Name: 18NOV08D-45.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	358065.7	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	604428.8	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	291458.4	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	445514.9	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	848174.8	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.23	261591.5	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	433949.1	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	534238.0	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	50621.0	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	242436.5	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	42315.9	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	418006.9	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	418006.9	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	348733.2	N/A	

Total Ion Chromatogram

TIC from 18NOV08D-45.wiff (sample 1) - 9881574



APPROVED

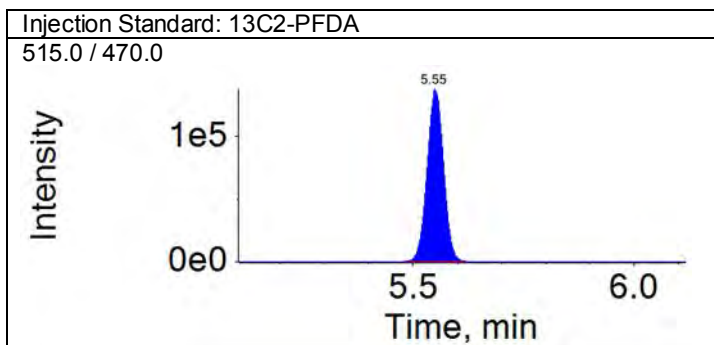
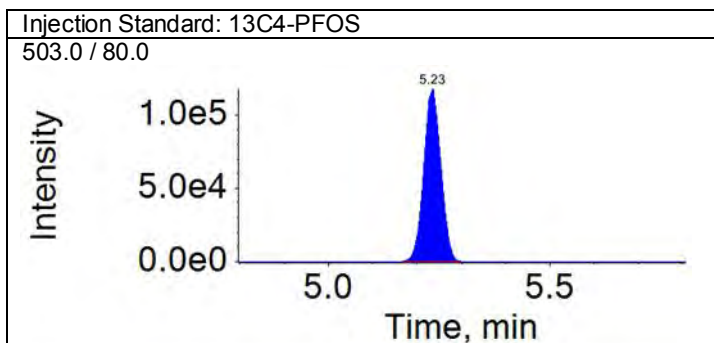
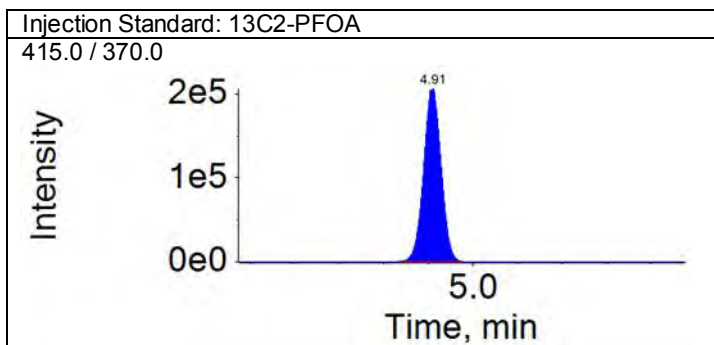
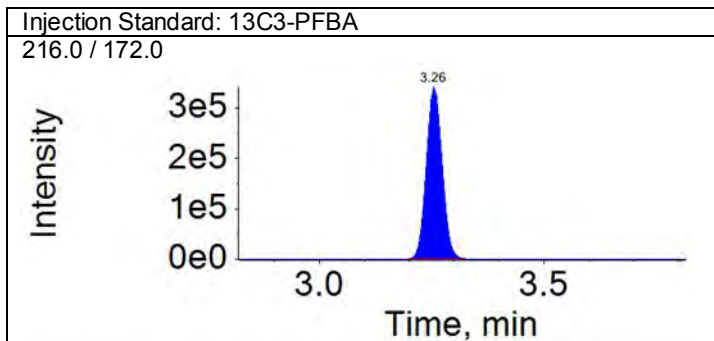
By JPT at 1:25 pm, 11/9/18

REVIEWED

By HMK at 9:19 am, 11/13/18

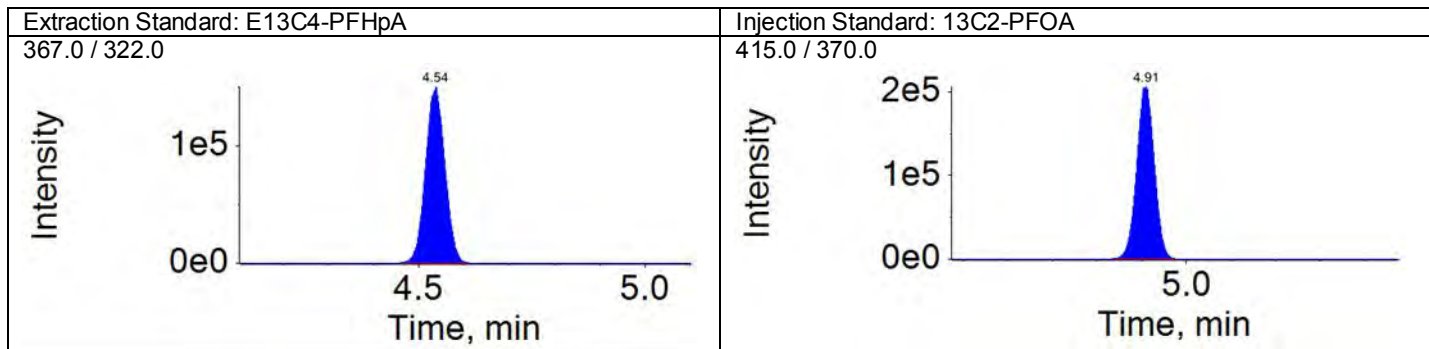
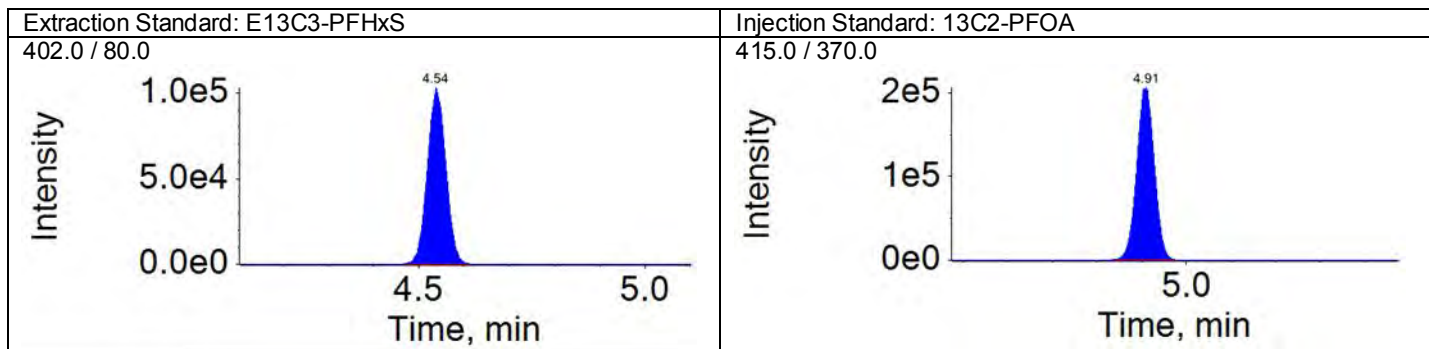
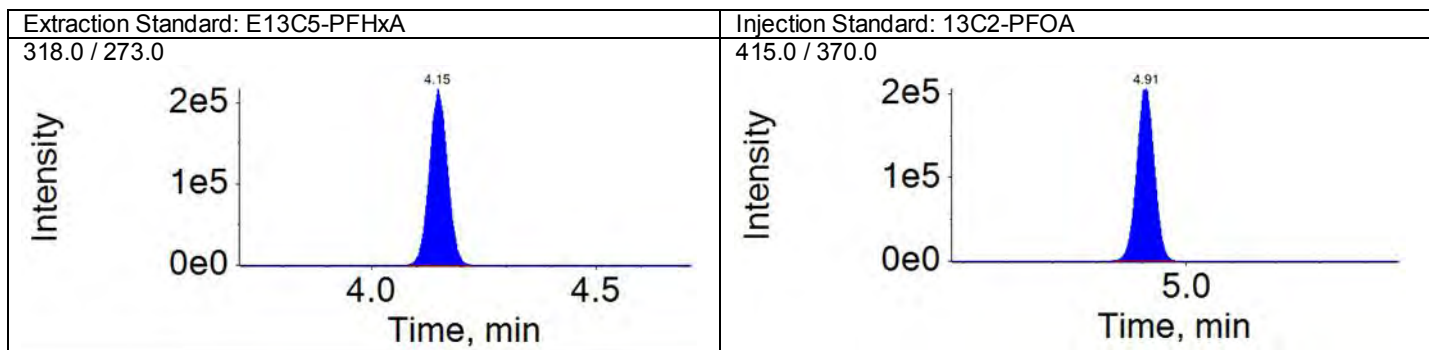
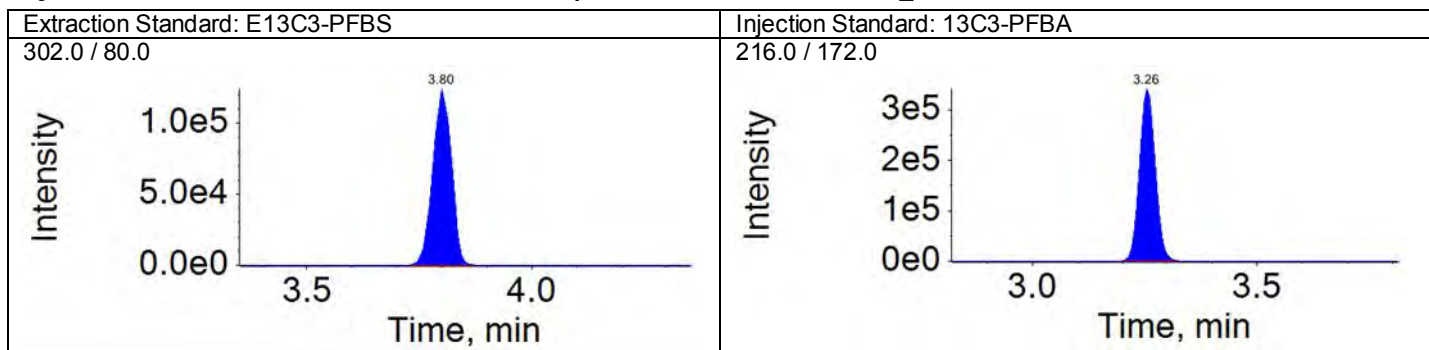
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



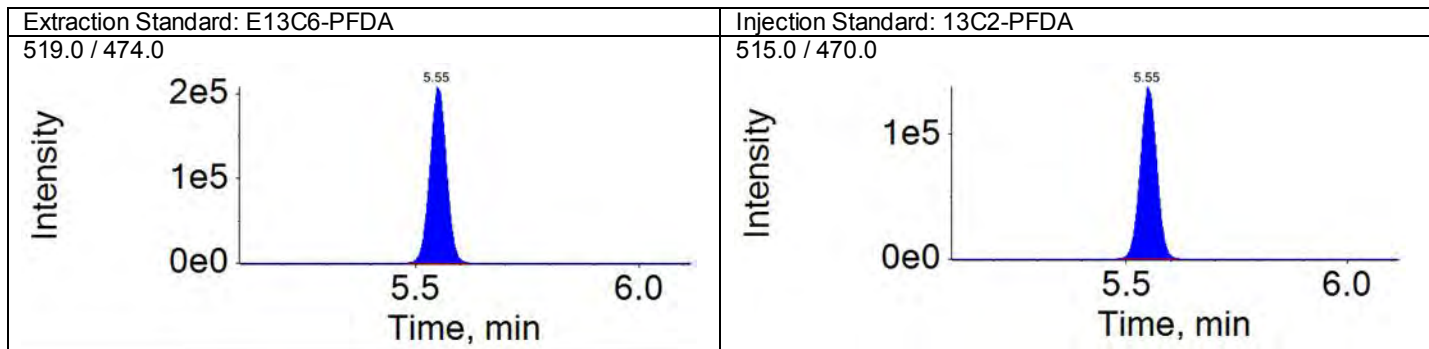
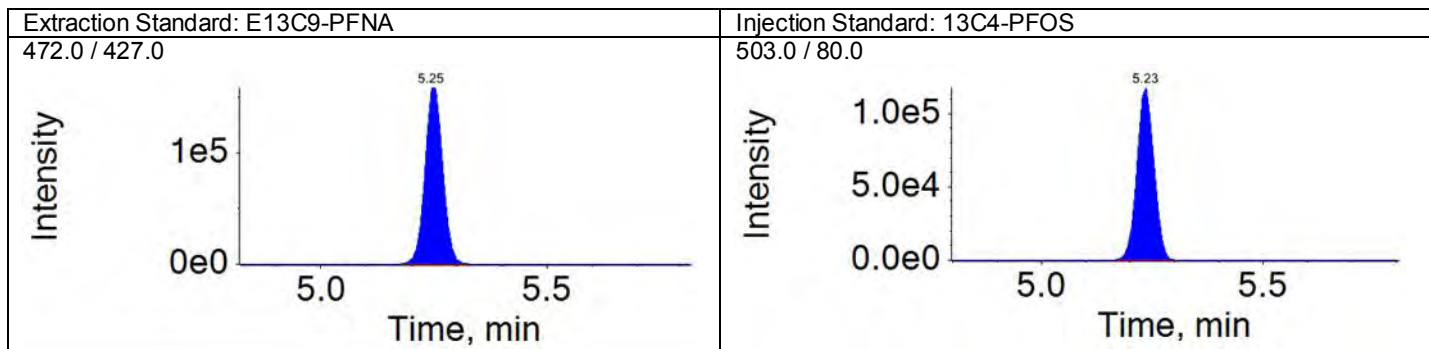
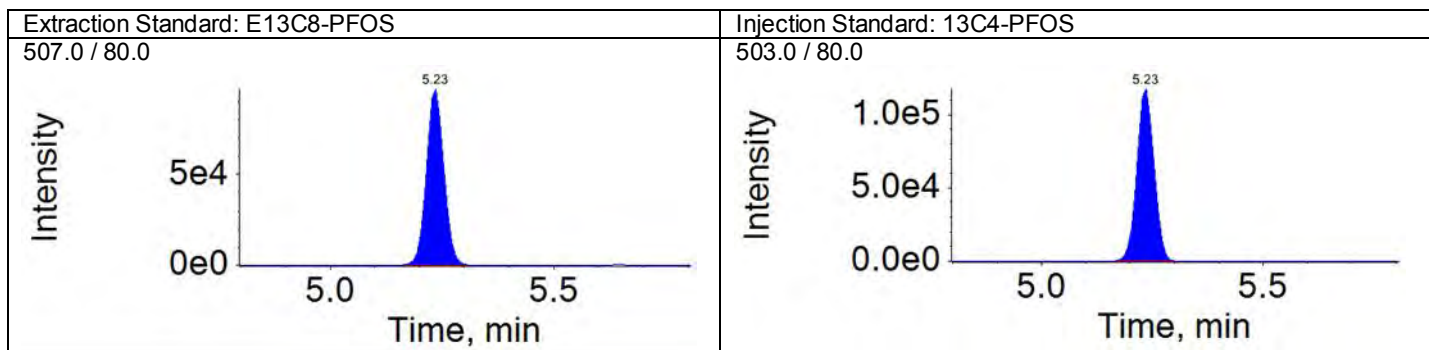
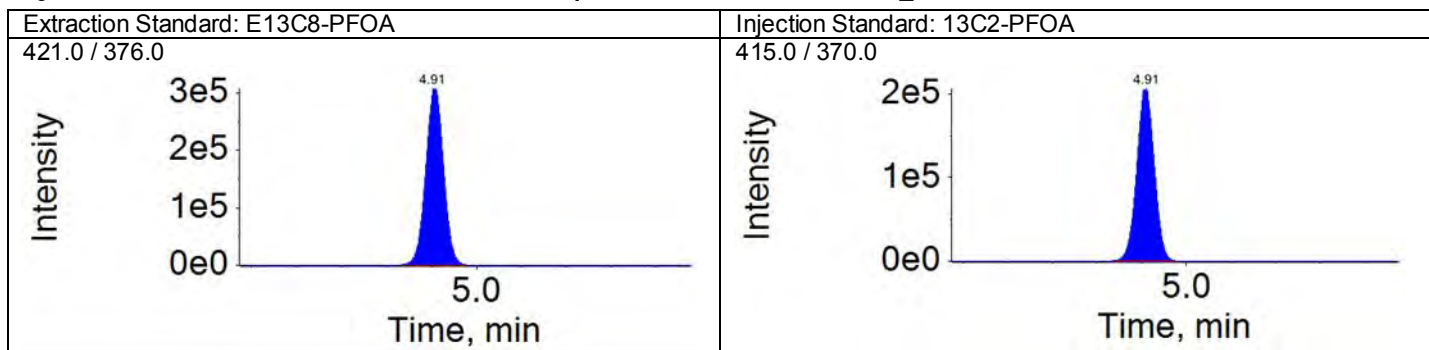
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QMethod Name: MQ4-18AUG13

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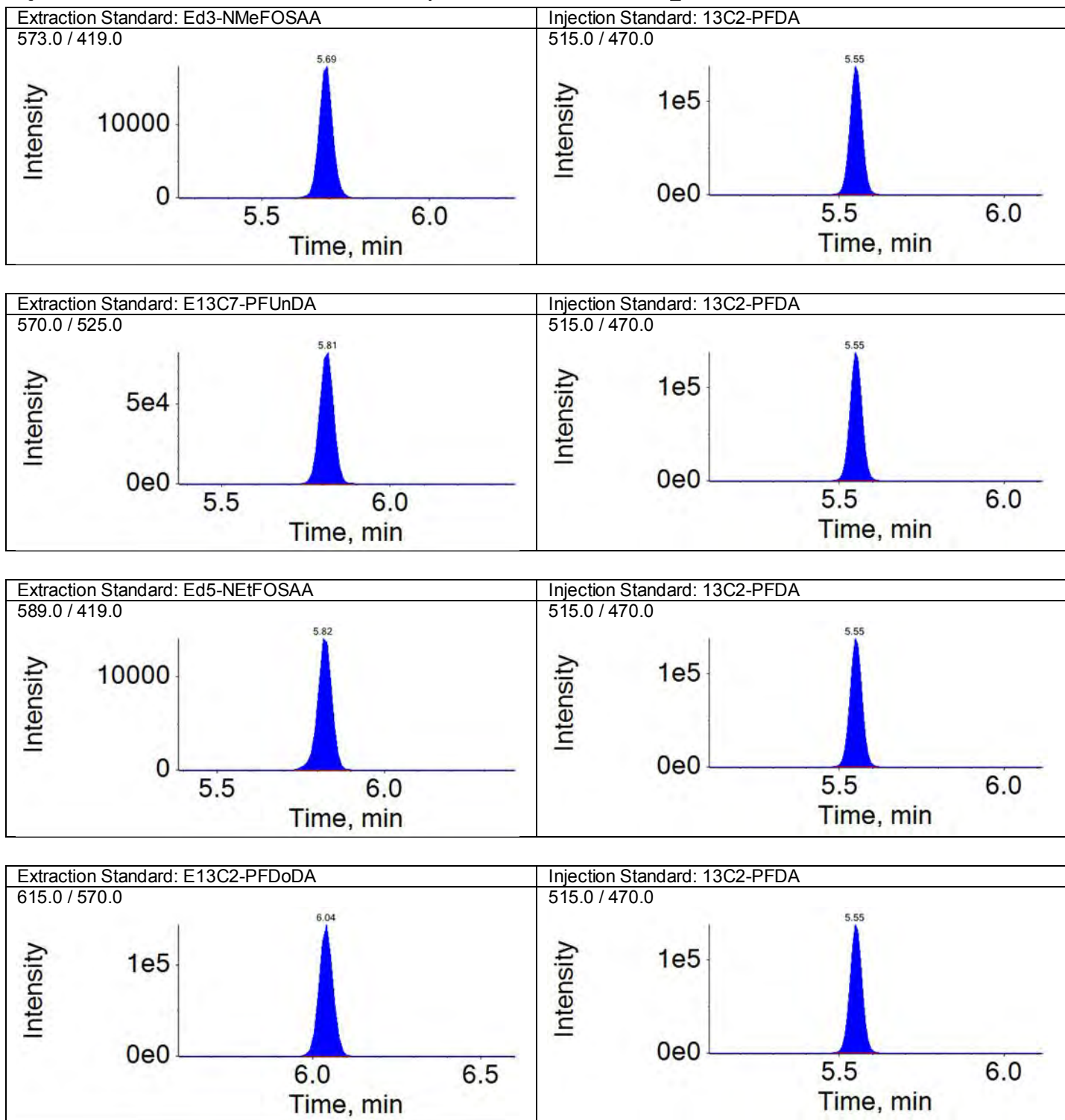
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QMethod Name: MQ4-18AUG13

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Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
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APPROVED

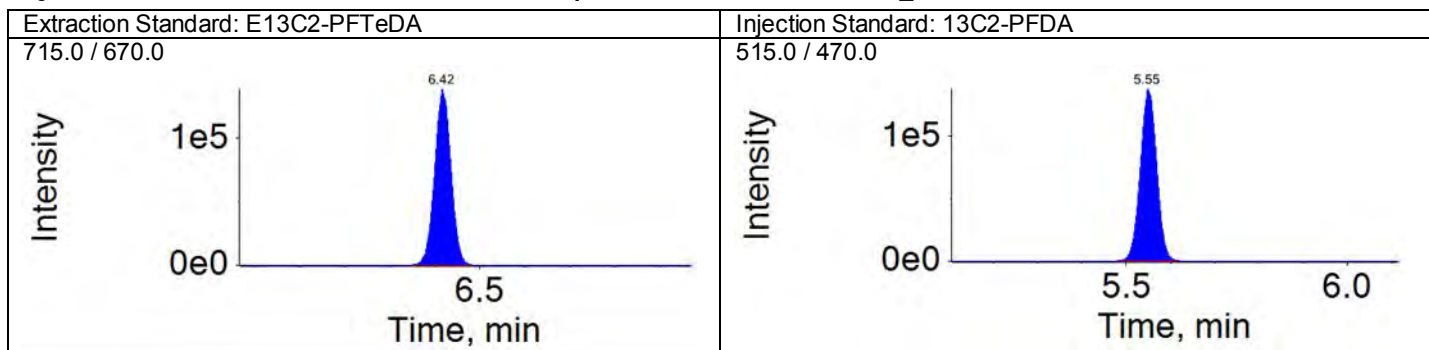
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REVIEWED

By HMK at 9:19 am, 11/13/18

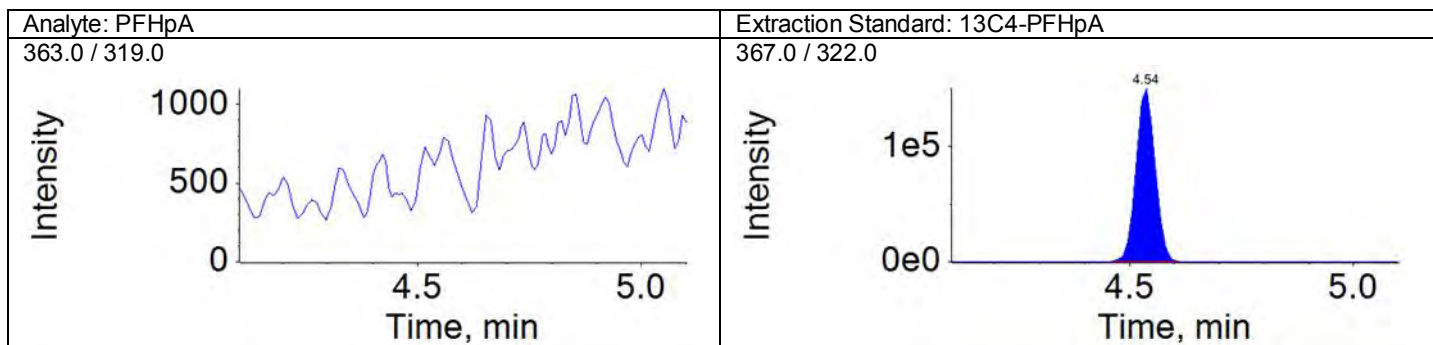
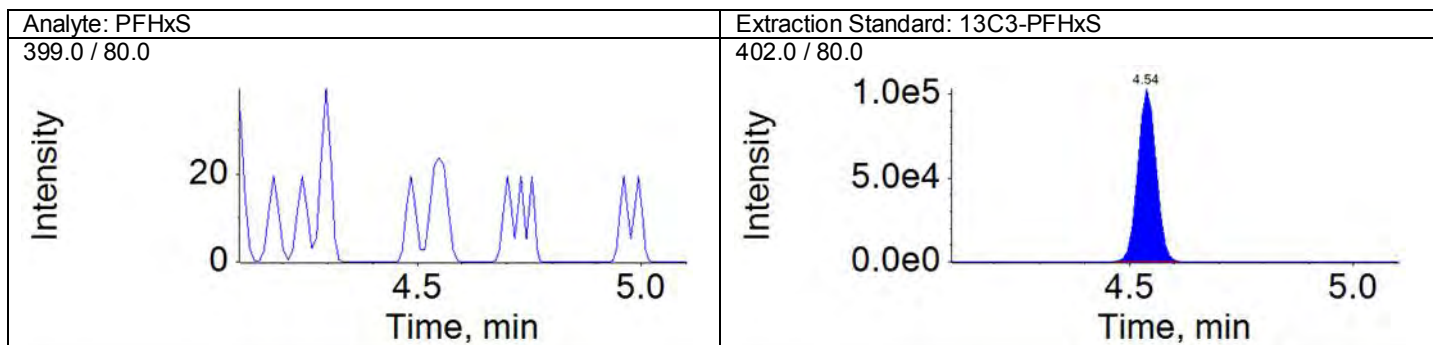
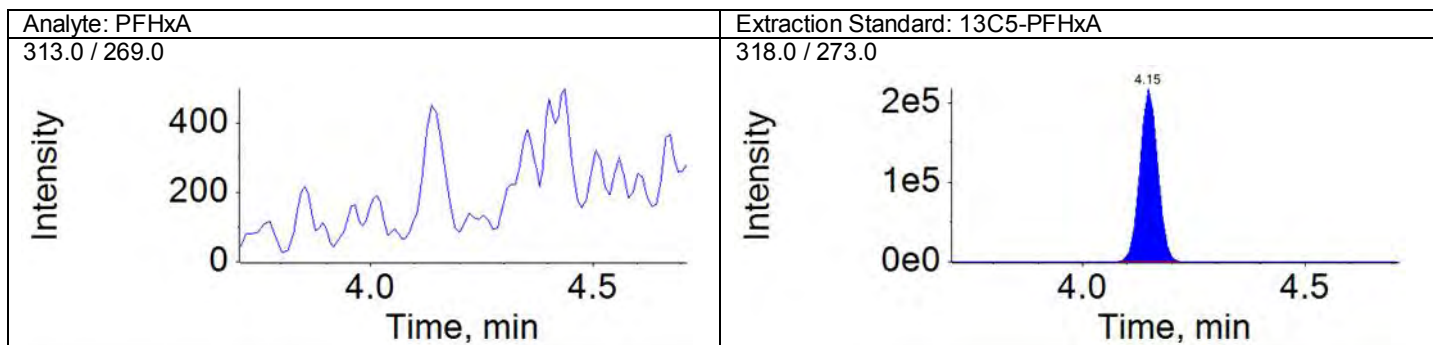
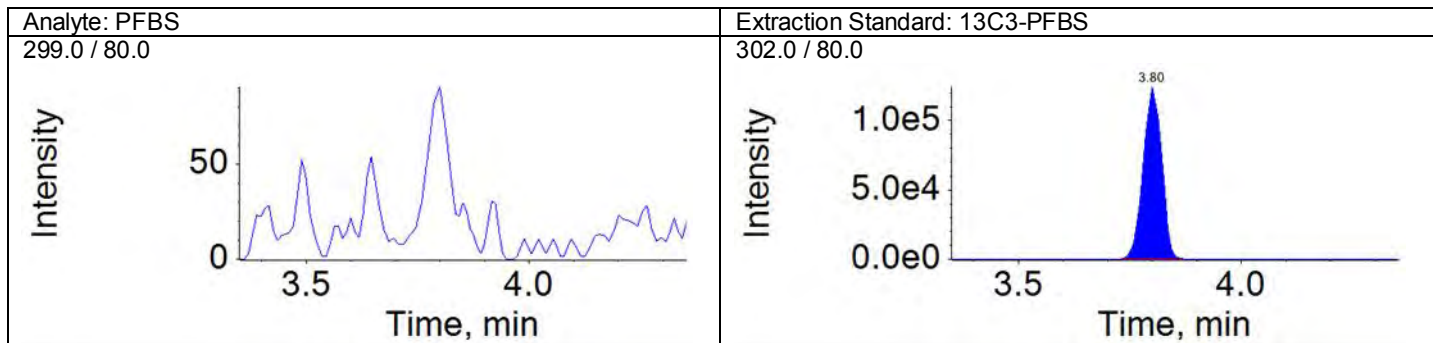
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QMethod Name: MQ4-18AUG13

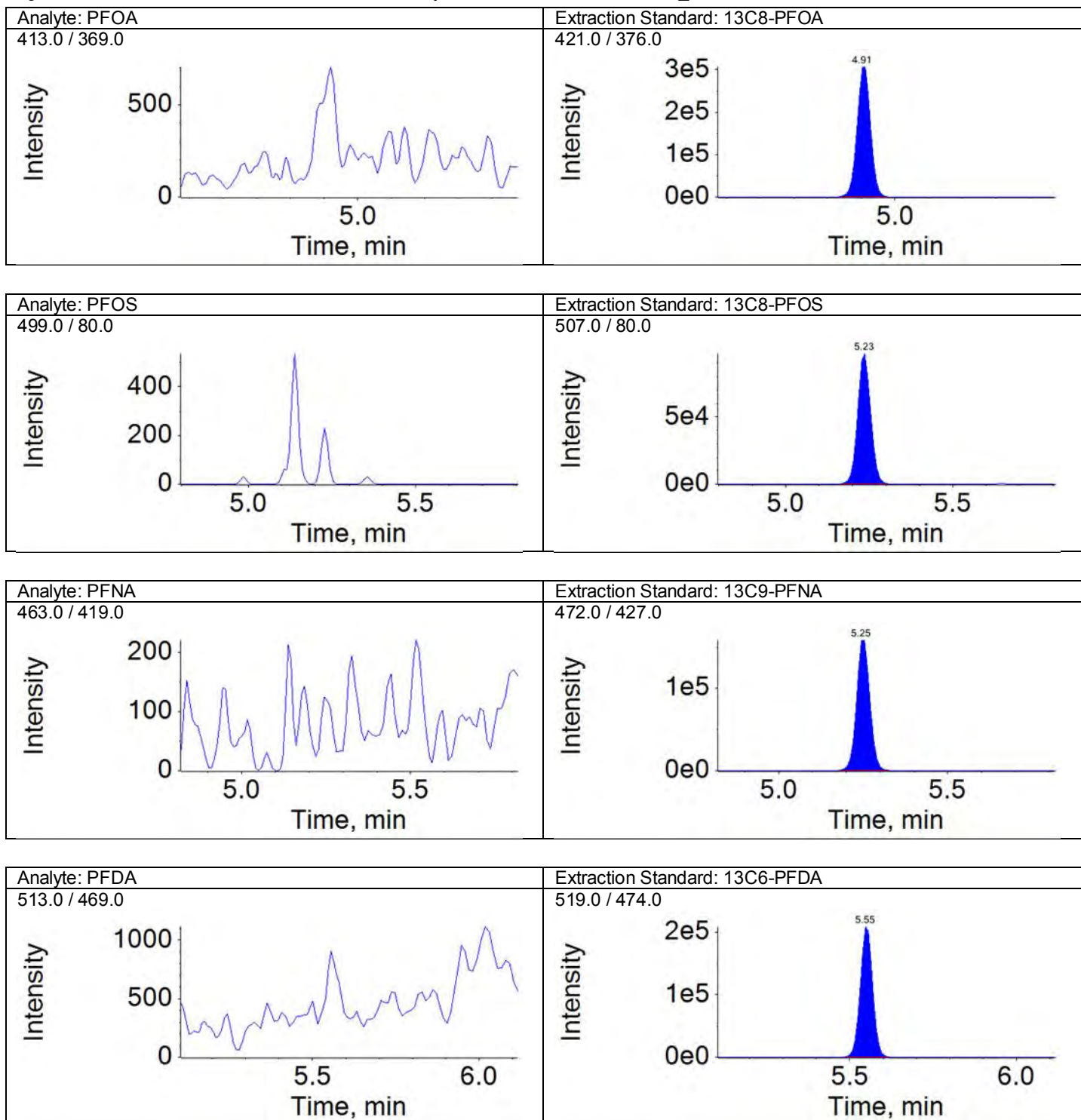
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Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

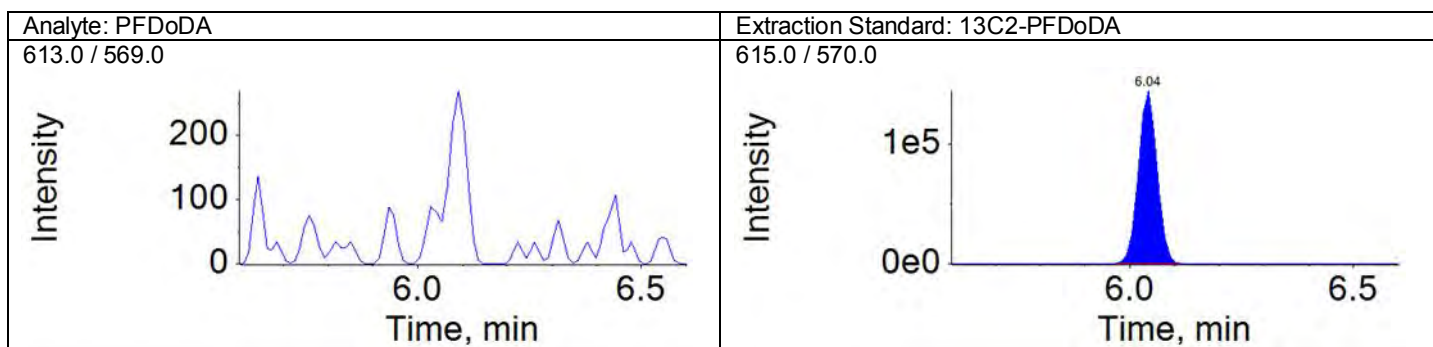
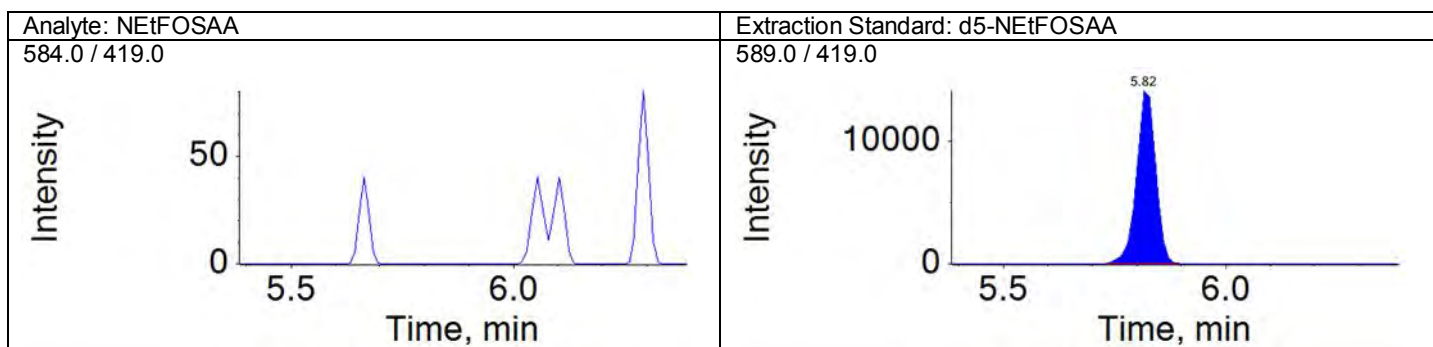
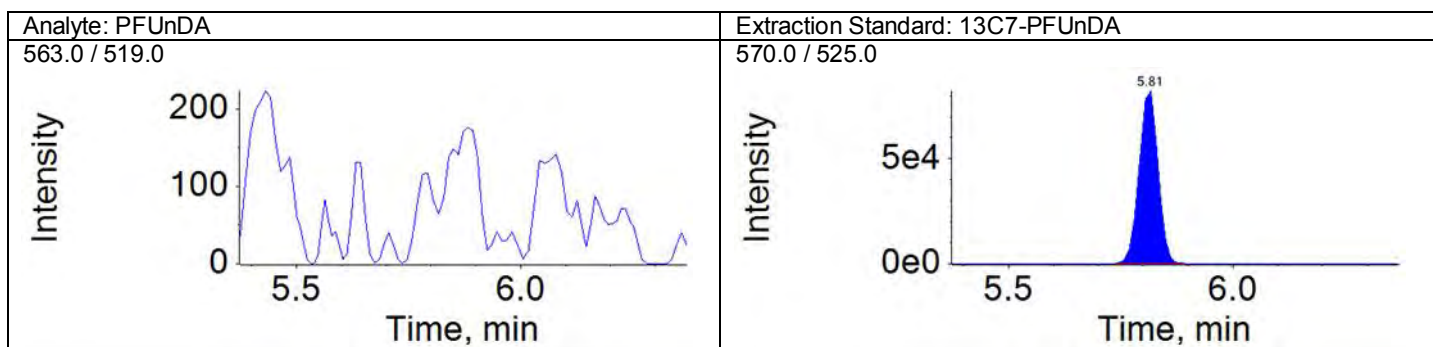
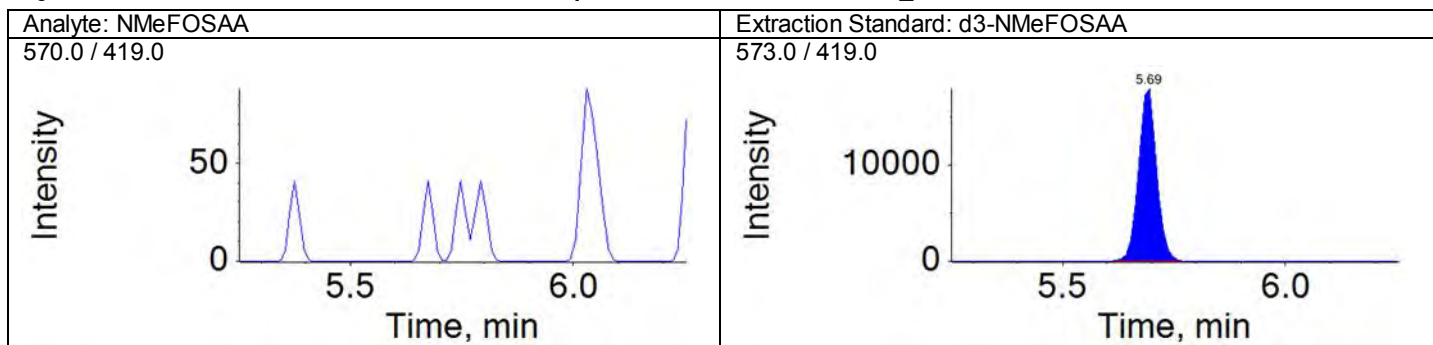
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Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18311003 11/9/2018 1:08:25 PM
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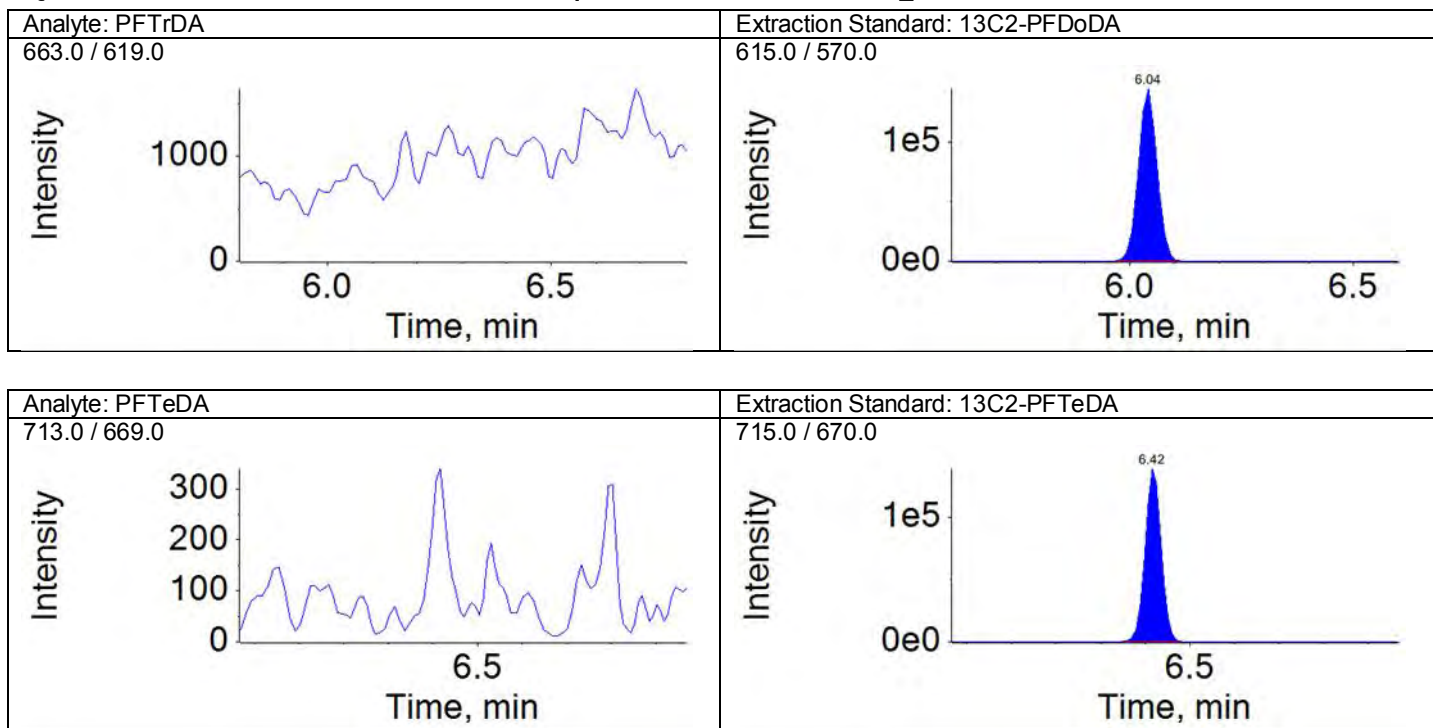
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



Ion Ratio Report

Sample Name: 9881574

Instrument Name: LM27631

File Name: 18NOV08D-45.wiff

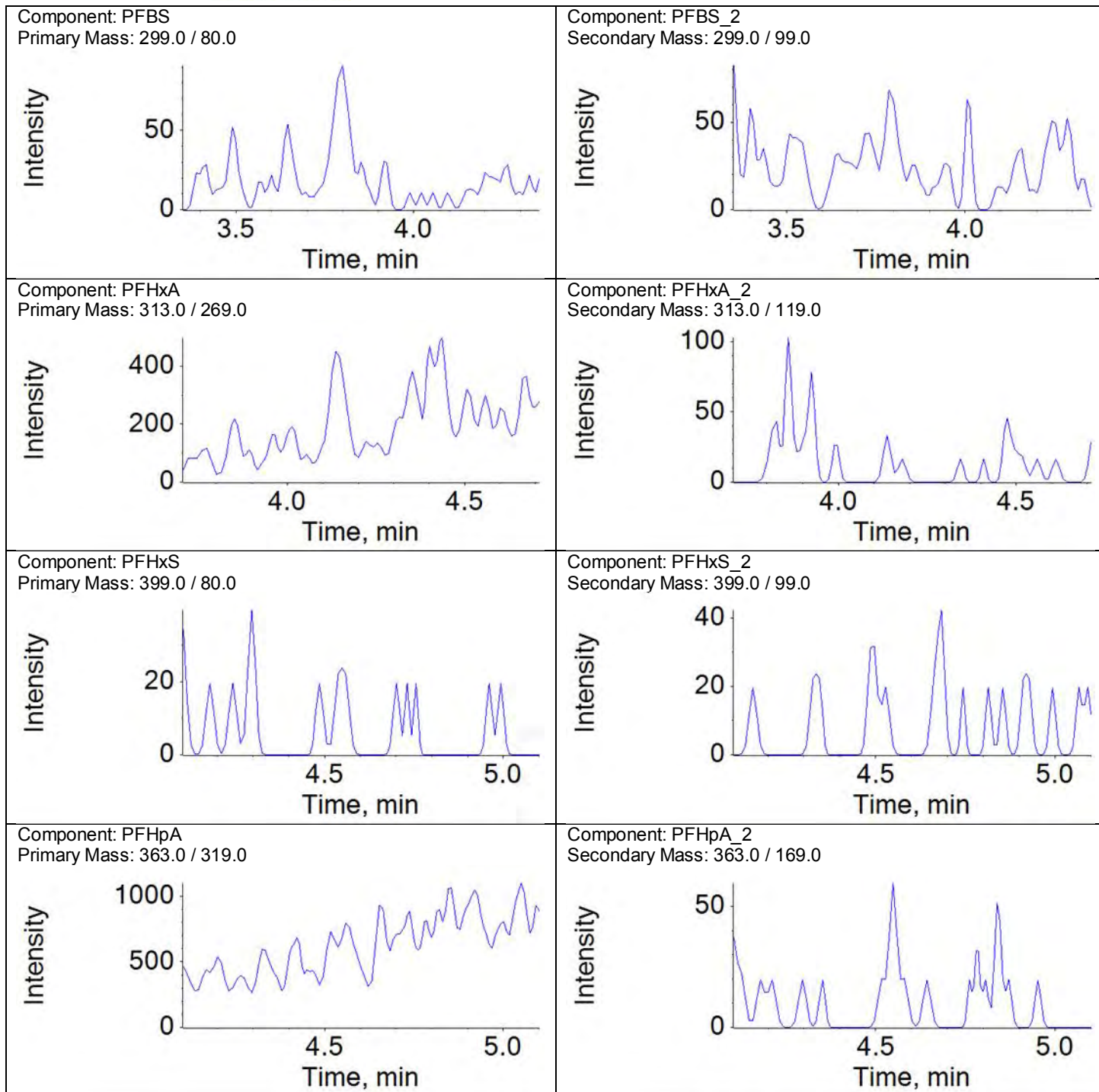
Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

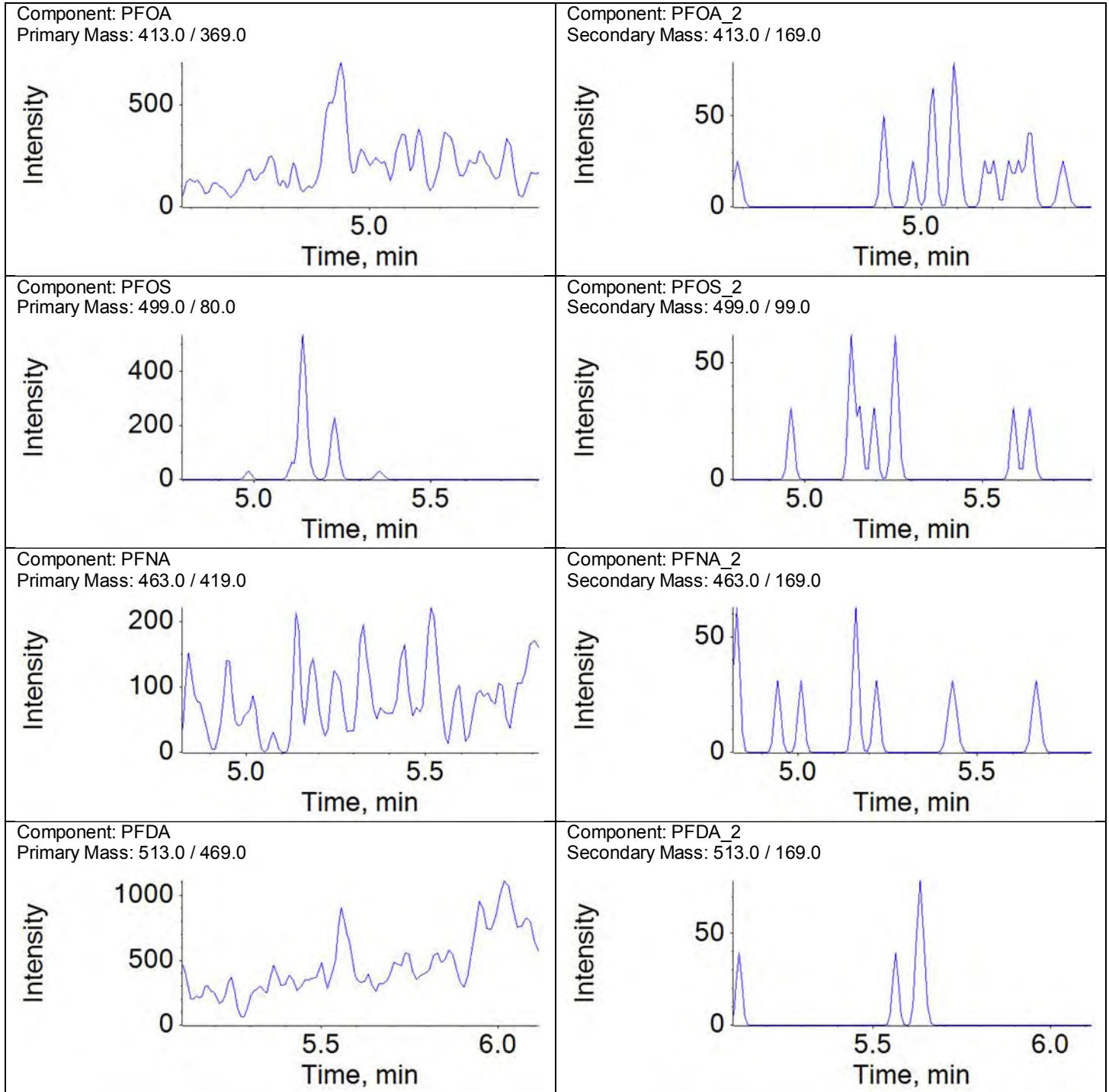
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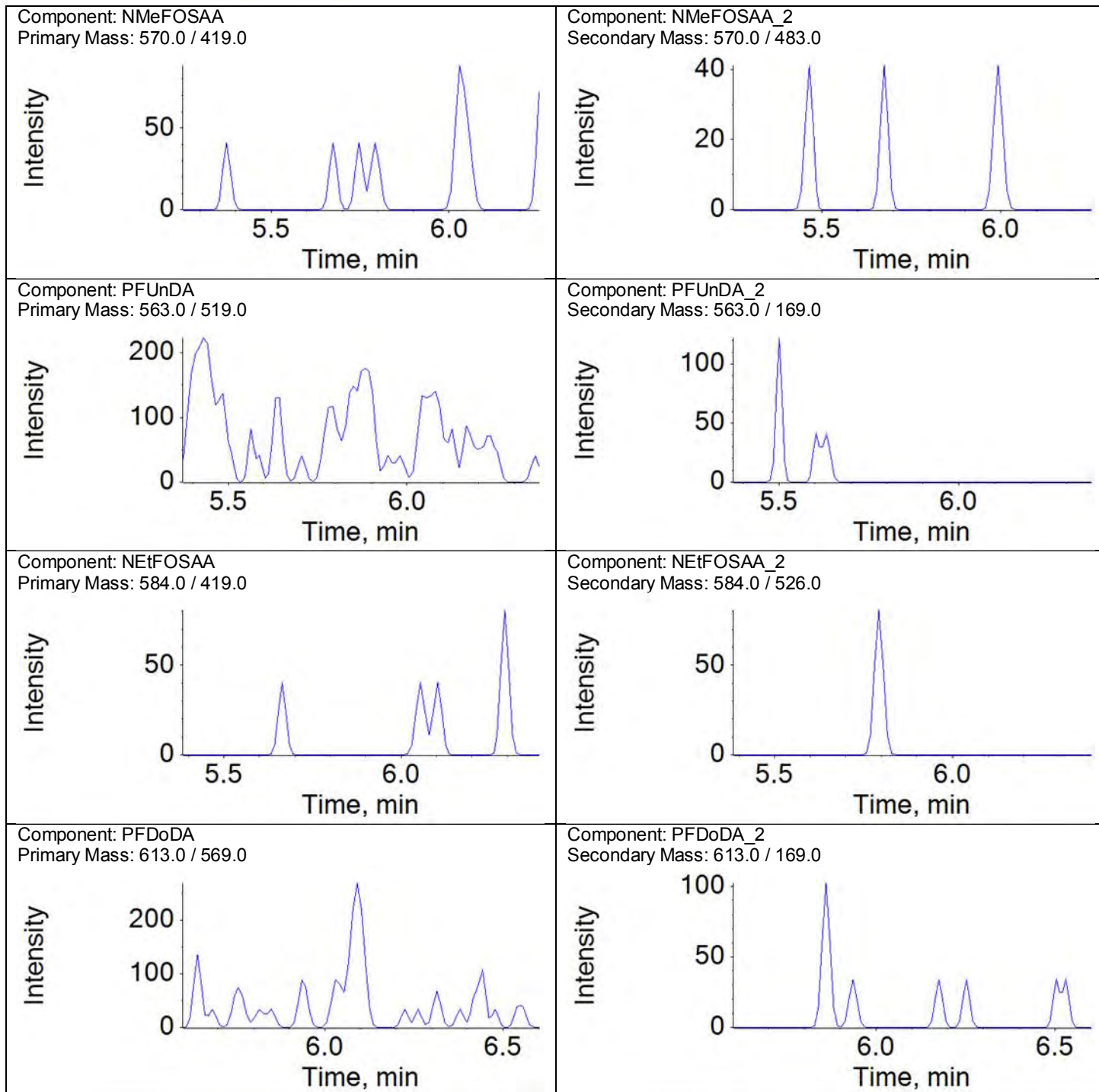
By JPT at 1:25 pm, 11/9/18

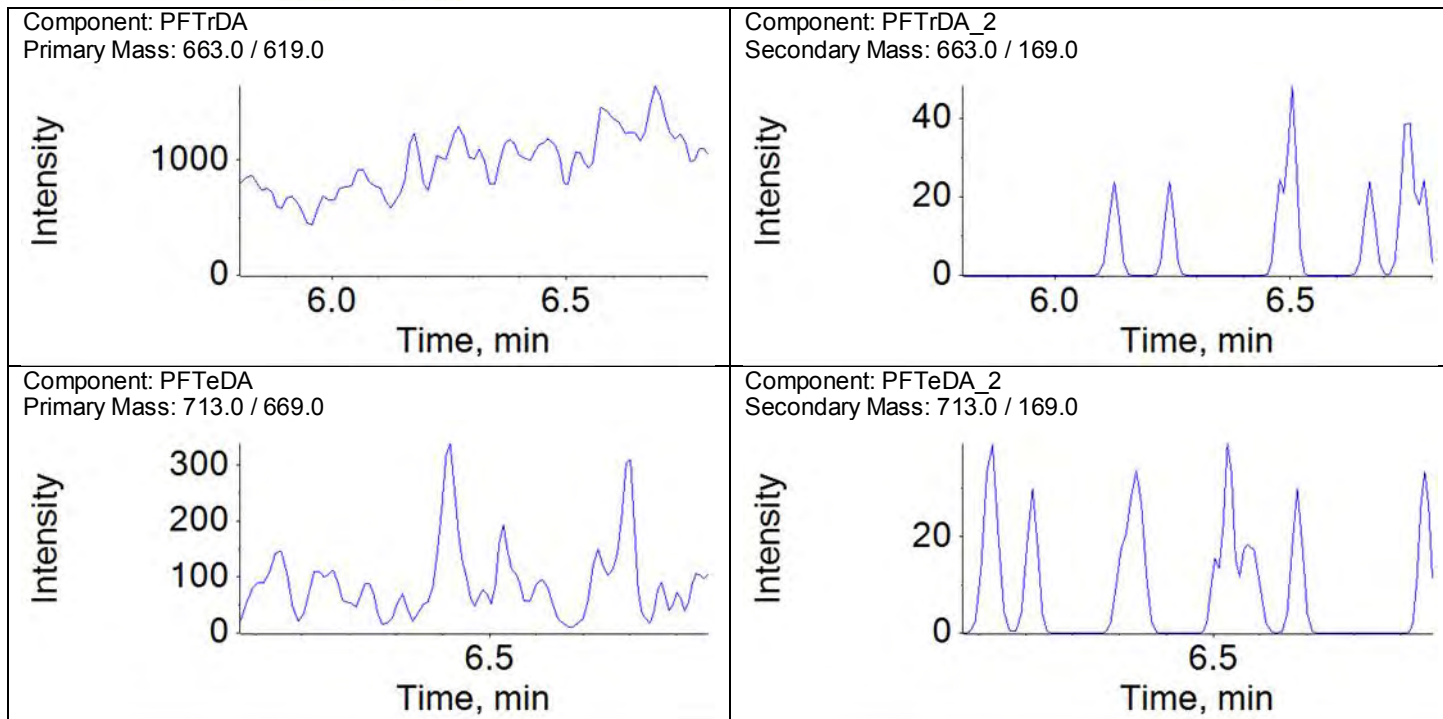
REVIEWED

By HMK at 9:20 am, 11/13/18









ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QMResult Table: 18314009 11/13/2018 3:55:38 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881575		Data File:	18NOV12D-66.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18314009 OU1-CAOC21-S-05-05 Grab Soil		Acquis Date:	2018-11-13T02:32:27
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	92		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18314009
QMethod File:	18AUG20QM		ICAL Name:	18NOV12DCAL
Batch Number:	18314009		Operator:	JPT12262
Sample Wt.:	1.04000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV12DCAL-44

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	681343.9	659926.2	3	50	
13C2-PFOA	5.0	483971.5	450219.7	7	50	
13C4-PFOS	4.8	261988.5	249205.8	5	50	
13C2-PFDA	5.0	308513.1	278743.9	11	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	439402.3	13C3-PFBA	681343.9	0.645	8.942	8.755	98	50-150	
E13C5-PFHxA	681721.0	13C2-PFOA	483971.5	1.409	9.615	9.785	102	50-150	
E13C3-PFHxS	330574.5	13C2-PFOA	483971.5	0.683	9.096	9.013	99	50-150	
E13C4-PFHpA	530333.2	13C2-PFOA	483971.5	1.096	9.615	9.494	99	50-150	
E13C8-PFOA	941384.8	13C2-PFOA	483971.5	1.945	9.615	10.306	107	50-150	
E13C8-PFOS	285195.9	13C4-PFOS	261988.5	1.089	9.192	9.276	101	50-150	
E13C9-PFNA	473922.5	13C4-PFOS	261988.5	1.809	9.615	9.699	101	50-150	
E13C6-PFDA	666686.2	13C2-PFDA	308513.1	2.161	9.615	9.698	101	50-150	
Ed3-NMeFOSAA	50256.7	13C2-PFDA	308513.1	0.163	9.615	5.655	59	50-150	
E13C7-PFUnDA	285241.0	13C2-PFDA	308513.1	0.925	9.615	10.323	107	50-150	
Ed5-NEtFOSAA	37132.8	13C2-PFDA	308513.1	0.120	9.615	4.897	51	50-150	
E13C2-PFDoDA	547651.5	13C2-PFDA	308513.1	1.775	9.615	8.863	92	50-150	
E13C2-PFTeDA	410841.4	13C2-PFDA	308513.1	1.332	9.615	8.991	94	50-150	

ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 3:55:38 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881575

Instrument Name: LM27631

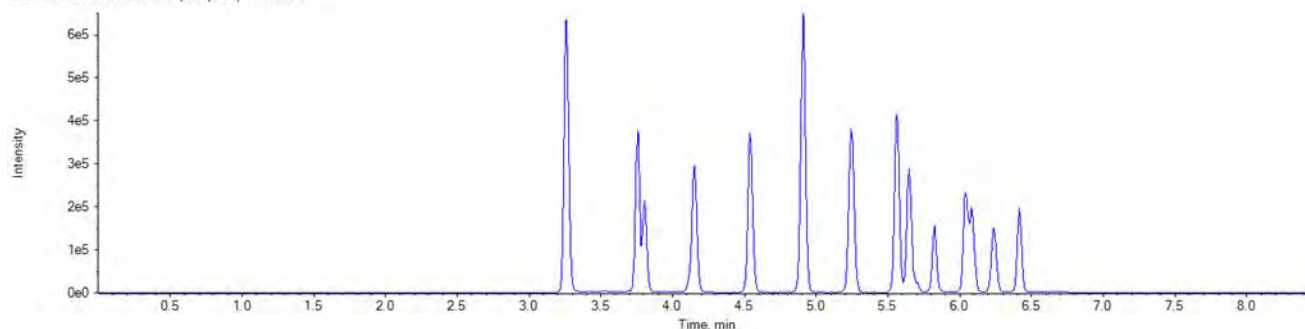
File Name: 18NOV12D-66.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.04000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	439402.3	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	681721.0	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	530333.2	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	330574.5	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	941384.8	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	285195.9	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	473922.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	666686.2	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	50256.7	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	285241.0	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	37132.8	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	547651.5	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.04	547651.5	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	410841.4	N/A	

Total Ion Chromatogram

TIC from 18NOV12D-66.wiff (sample 1) - 9881575



APPROVED

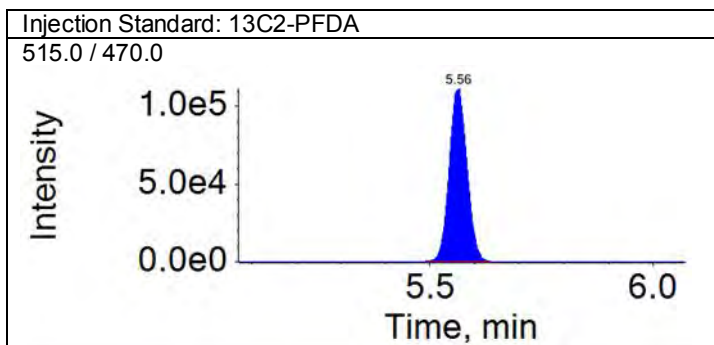
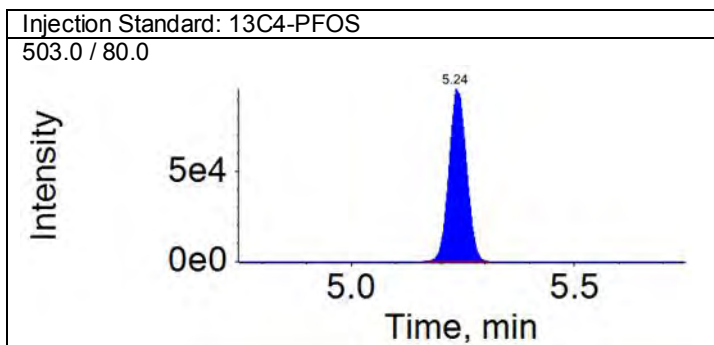
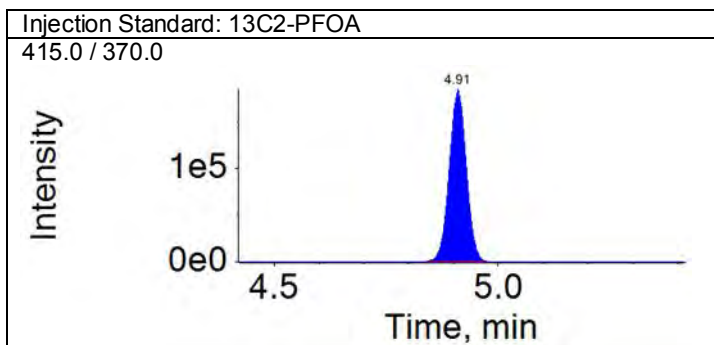
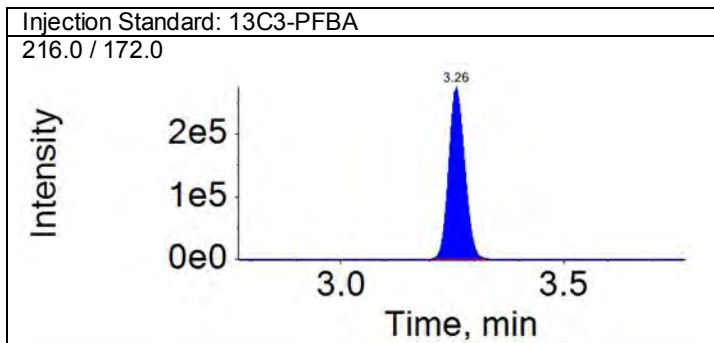
By JPT at 4:11 pm, 11/13/18

REVIEWED

By umar at 5:37 pm, 11/13/18

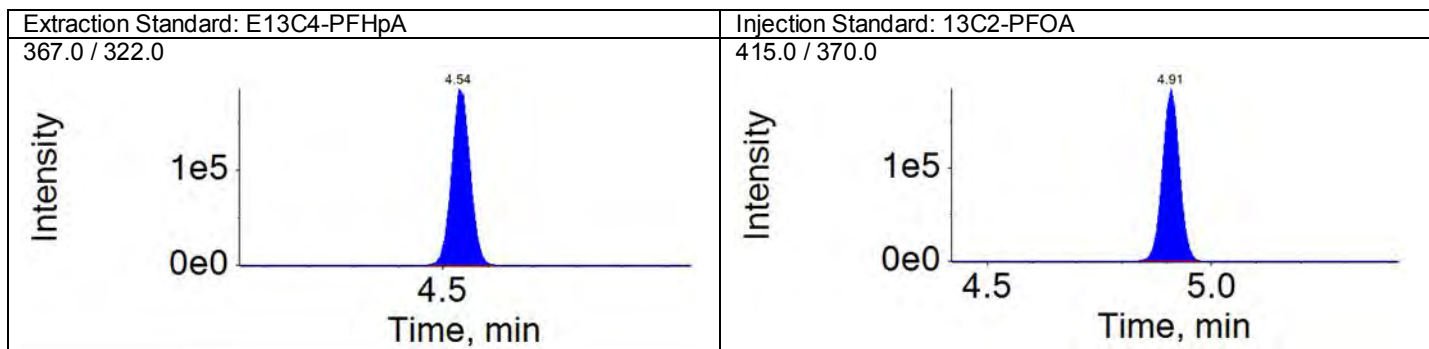
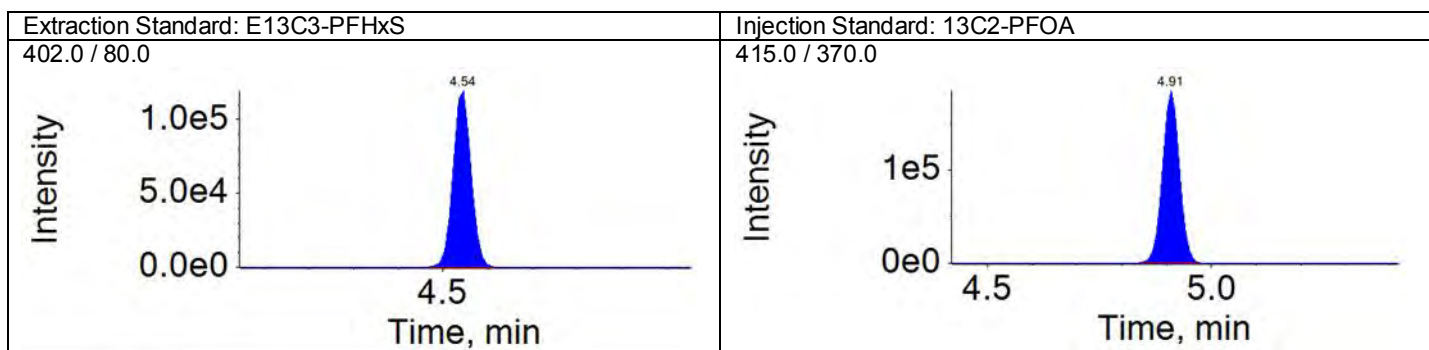
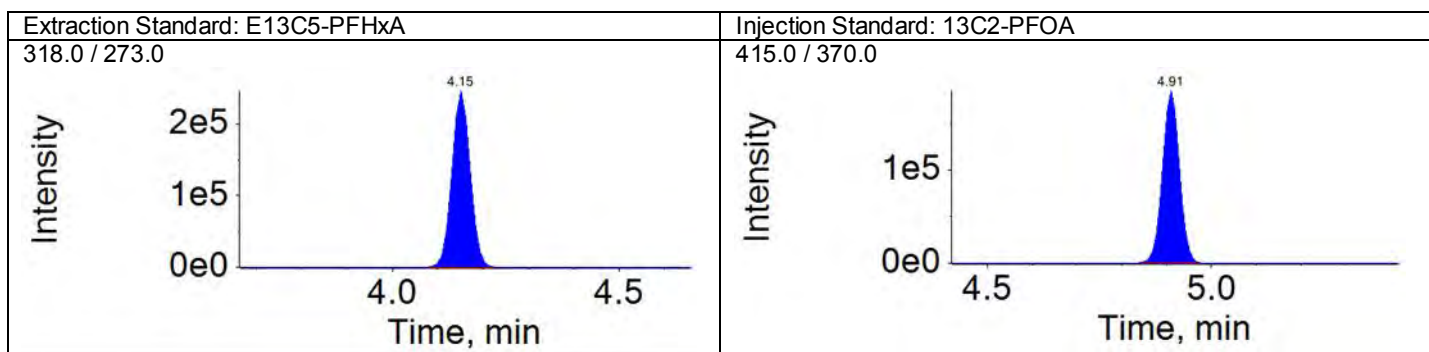
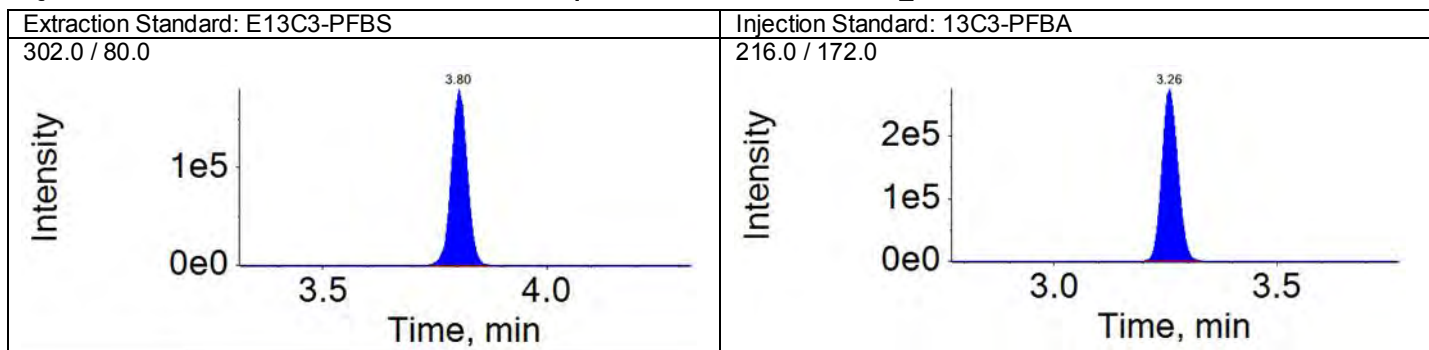
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 3:55:38 PM
Acquisition Method: 18AUG13_3uL.dam



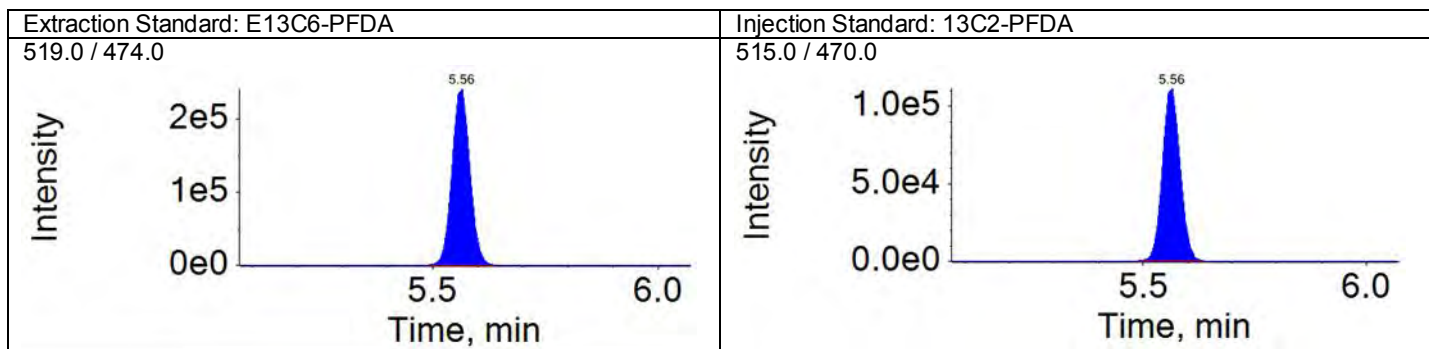
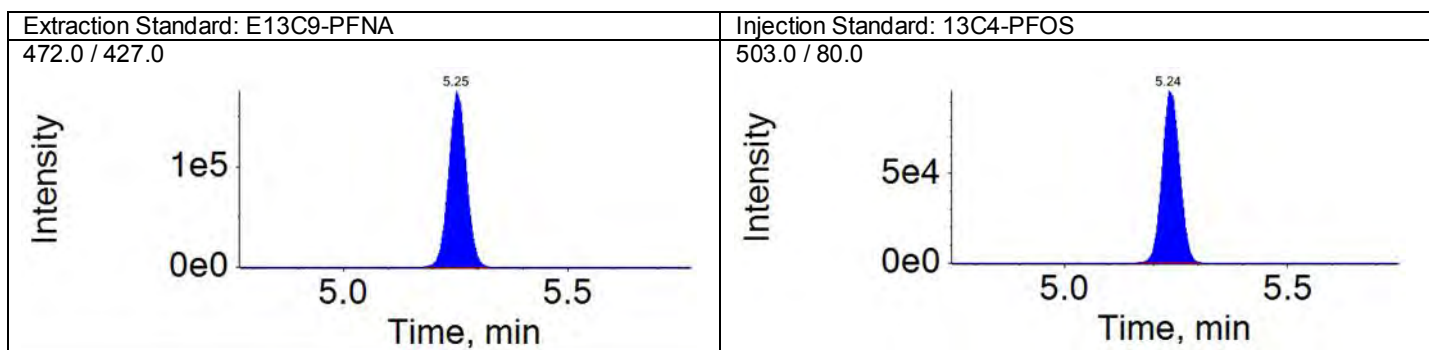
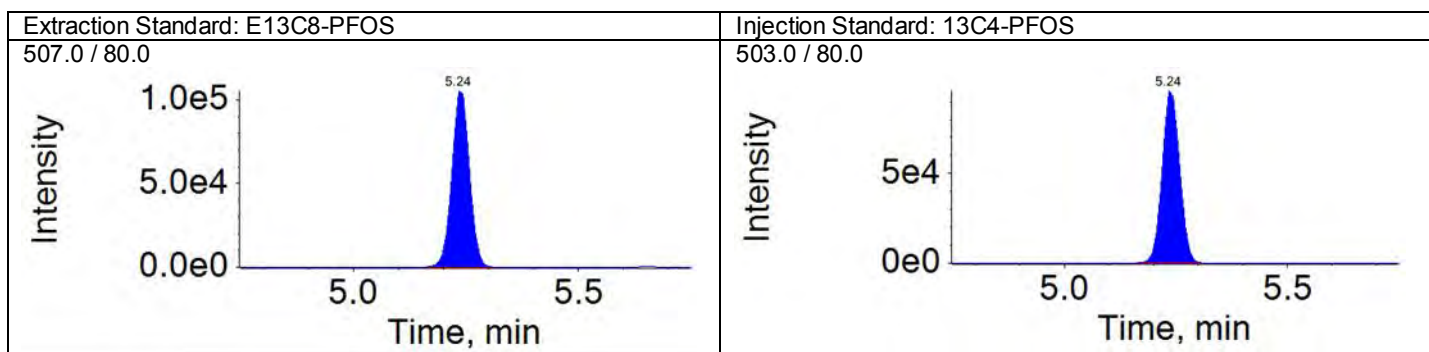
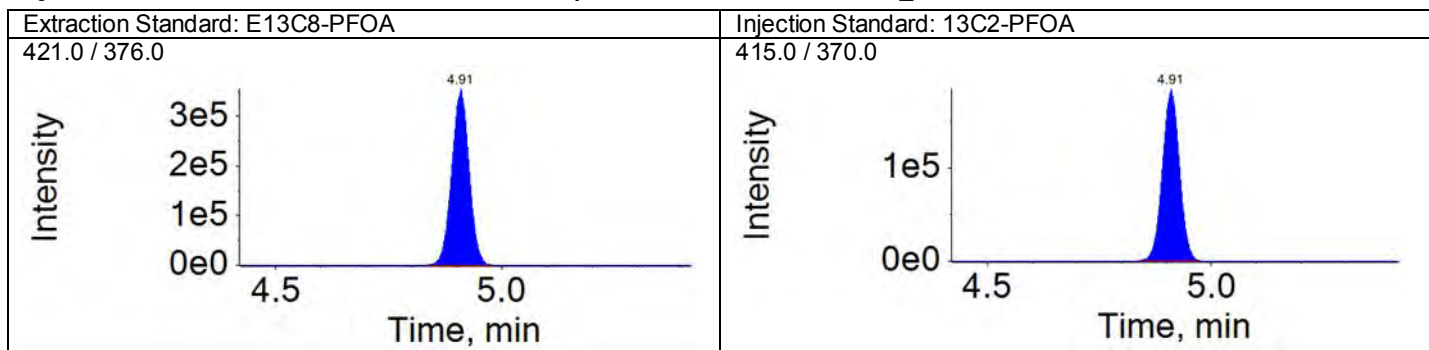
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QMethod Name: 18AUG20QM

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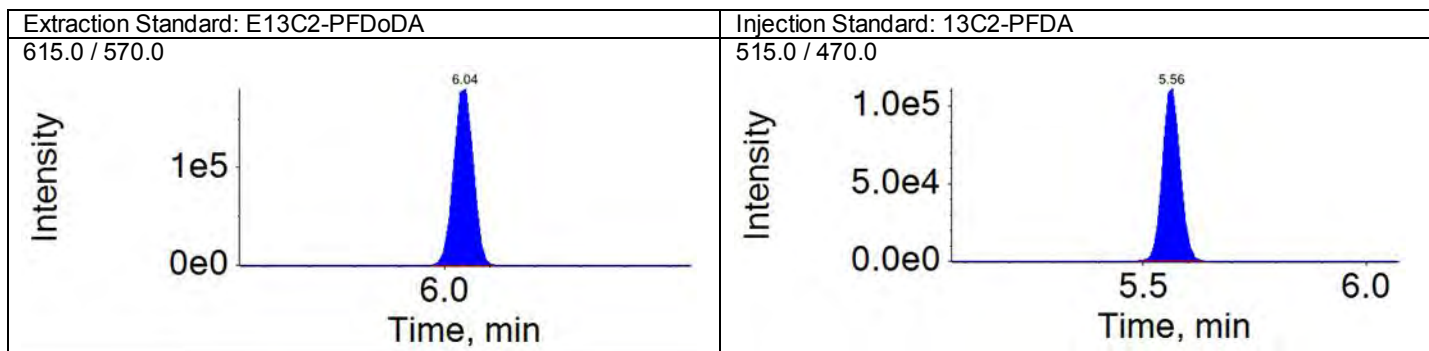
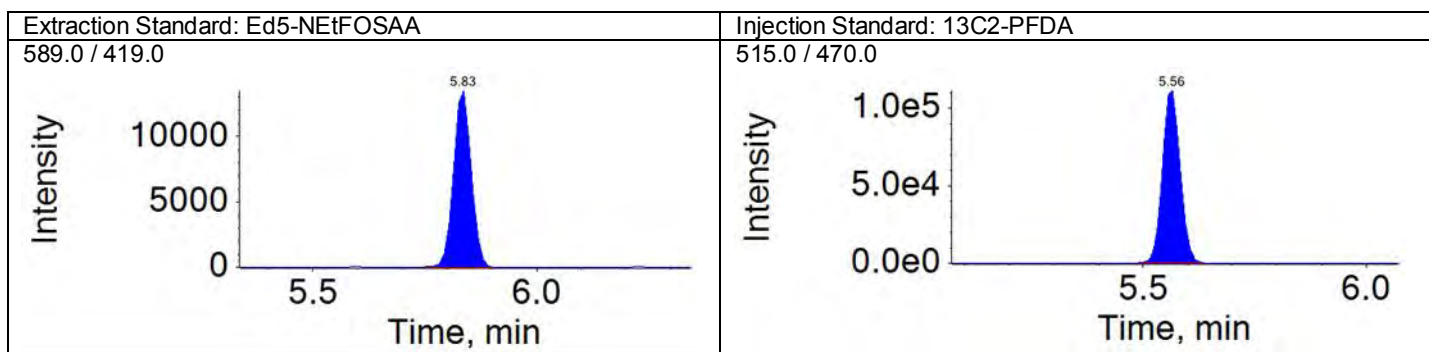
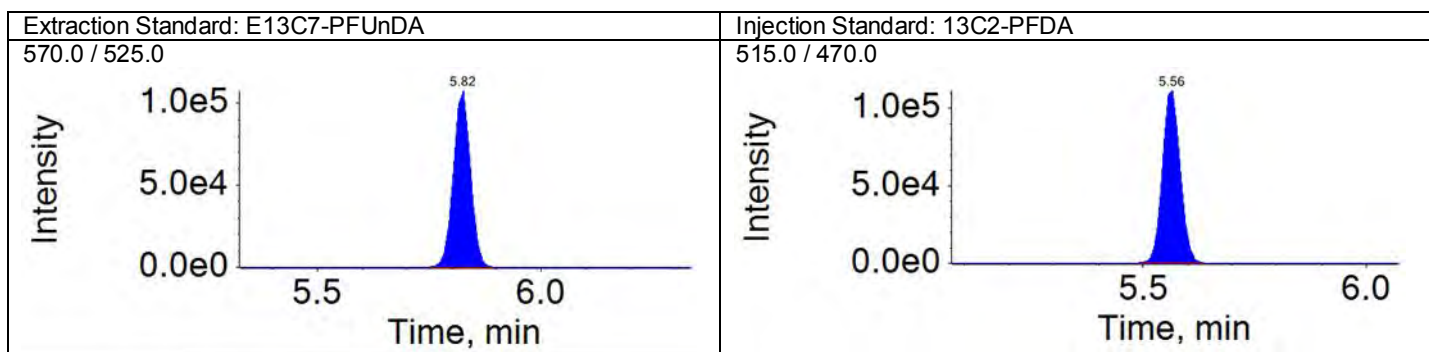
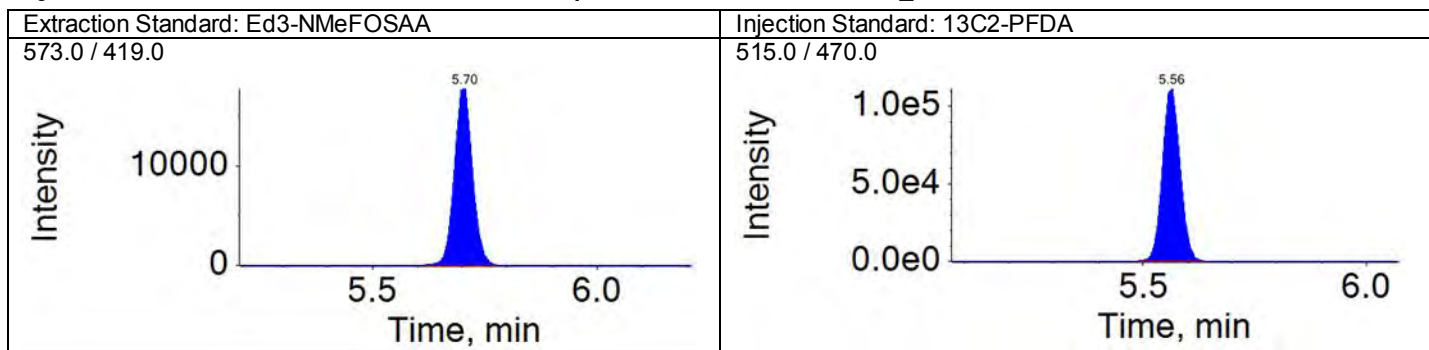
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 3:55:38 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 3:55:38 PM
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APPROVED

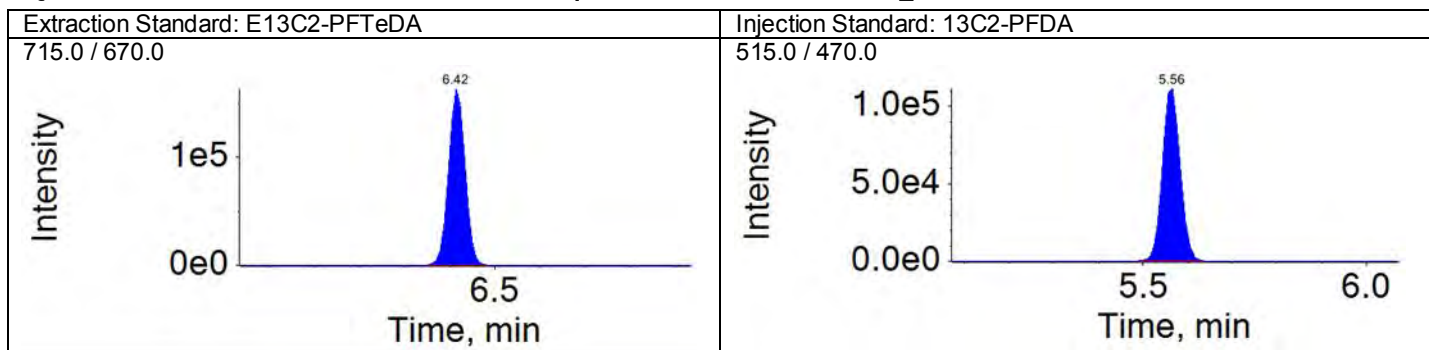
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REVIEWED

By umar at 5:37 pm, 11/13/18

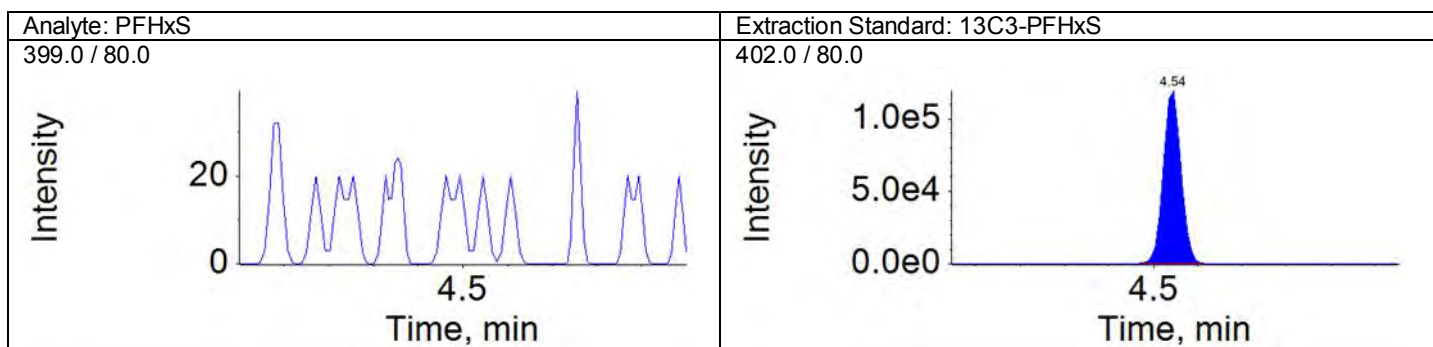
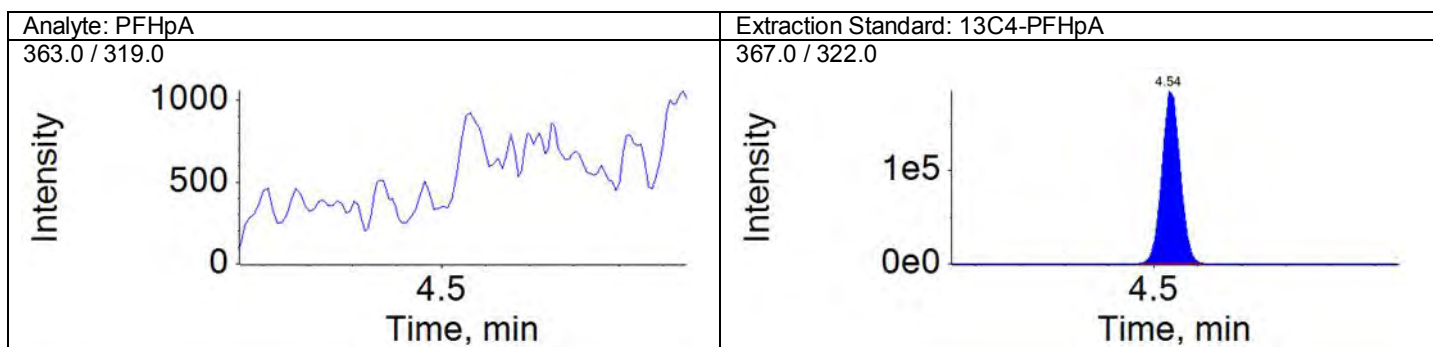
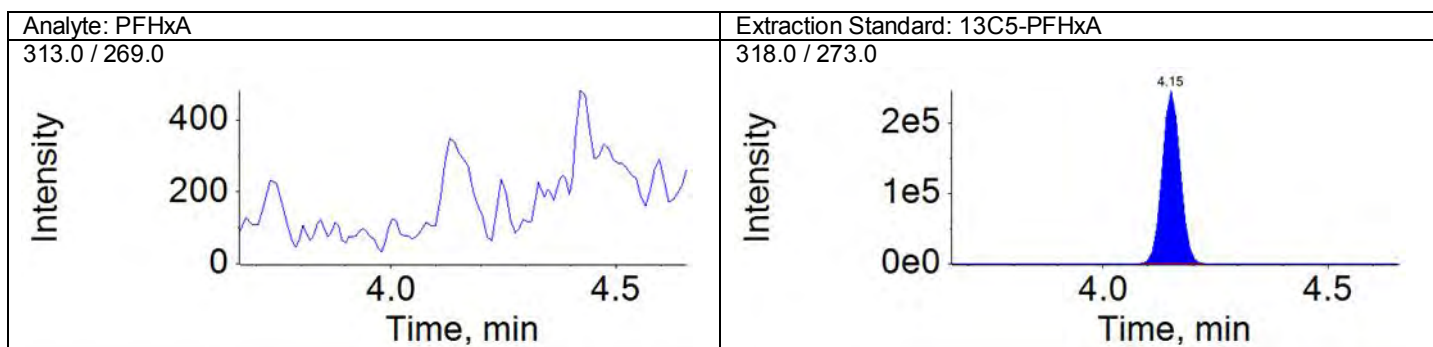
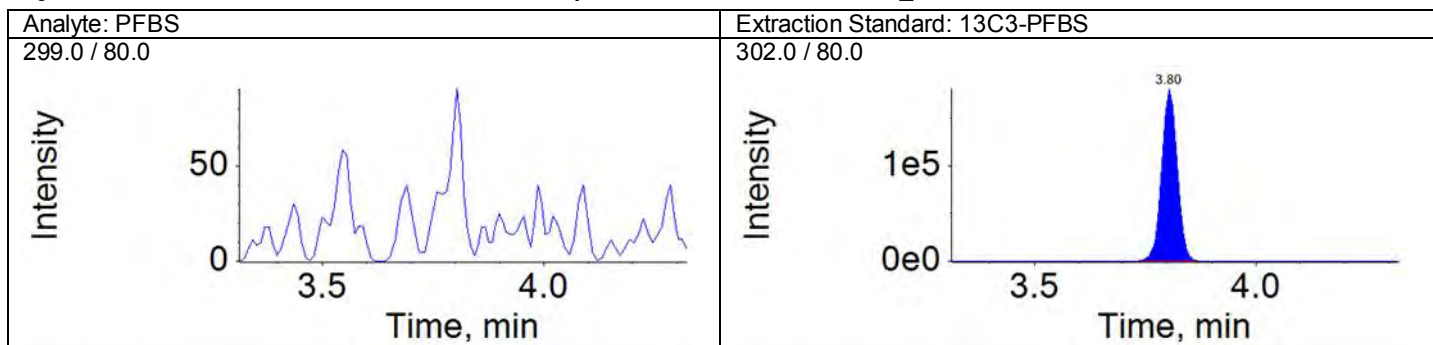
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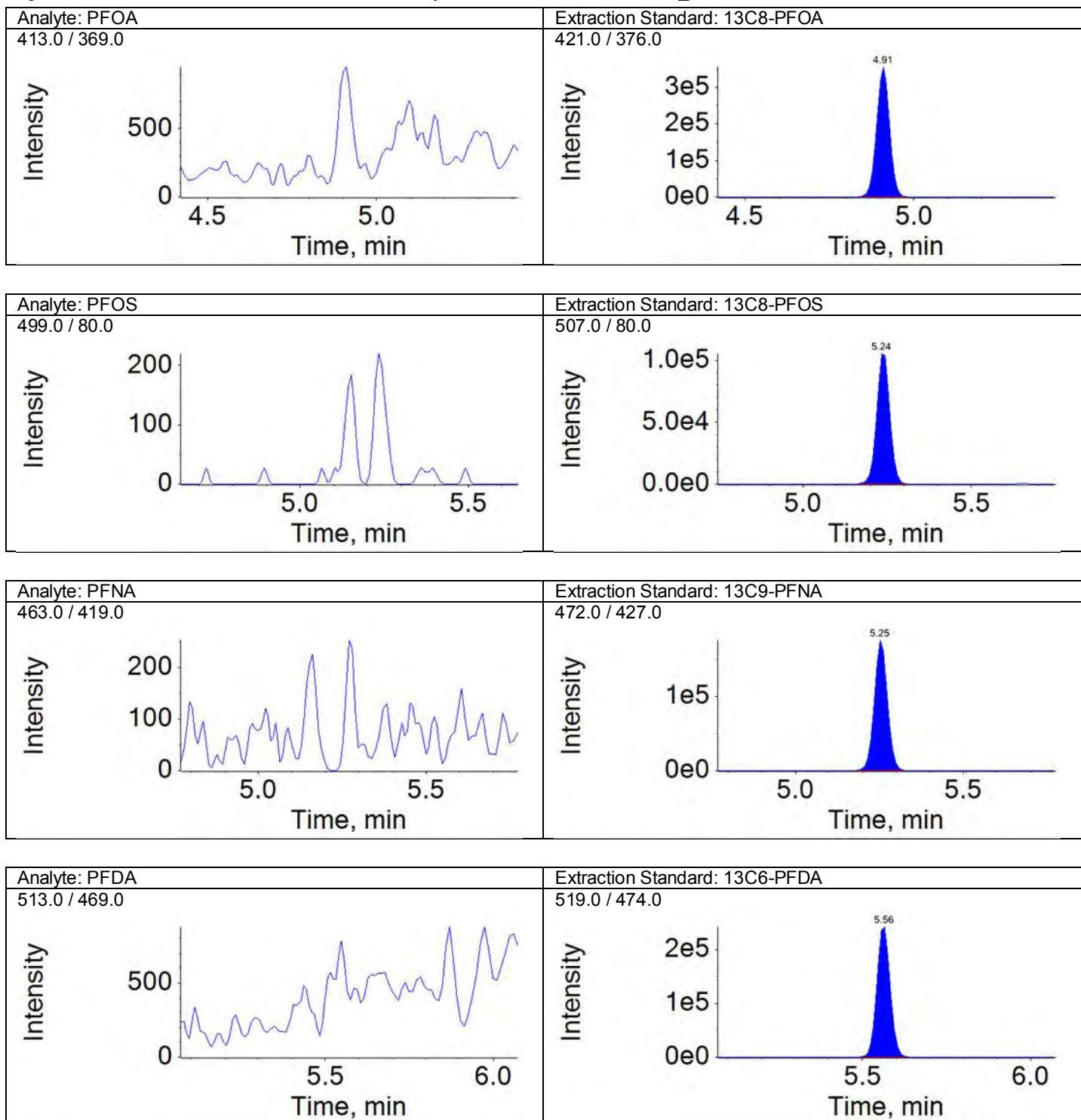
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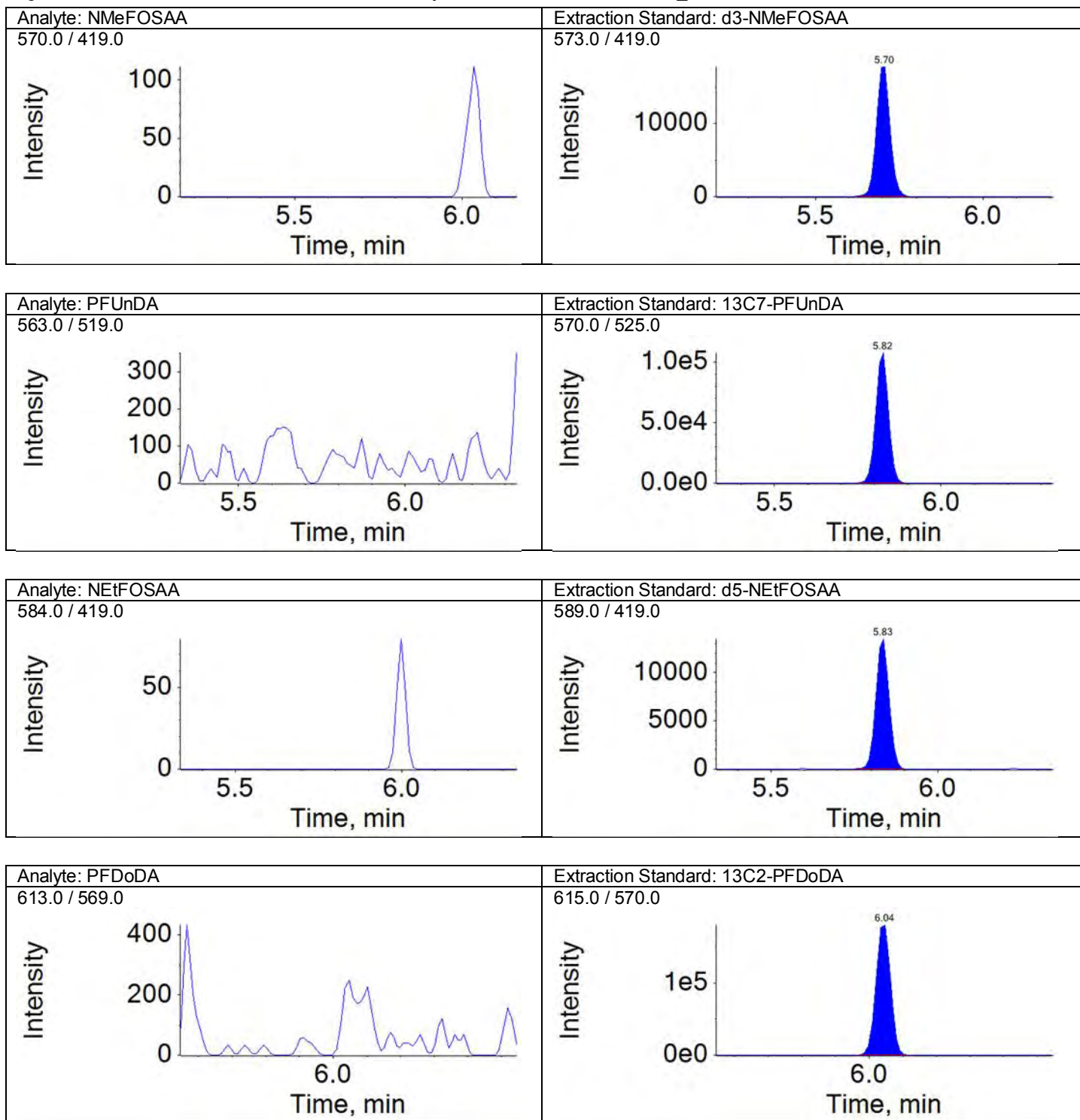
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 3:55:38 PM
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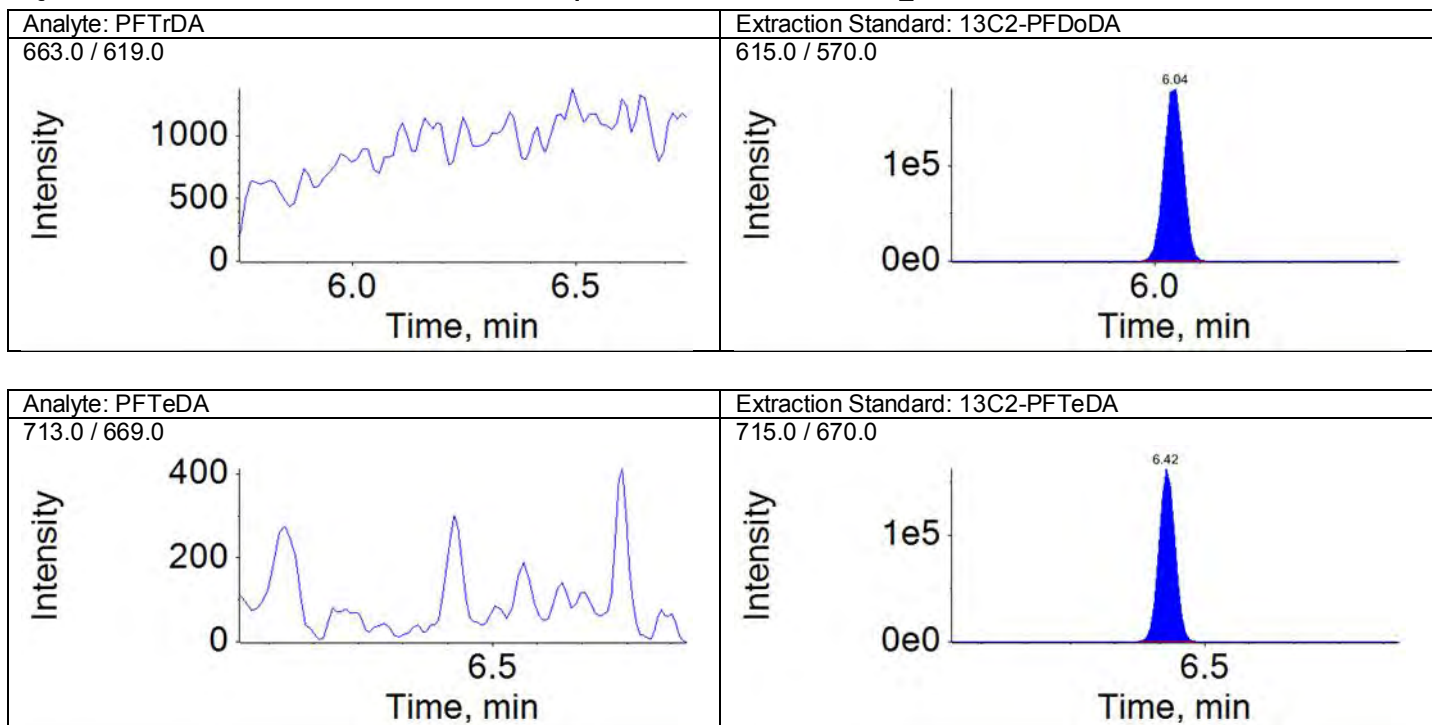
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 3:55:38 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 3:55:38 PM
Acquisition Method: 18AUG13_3uL.dam



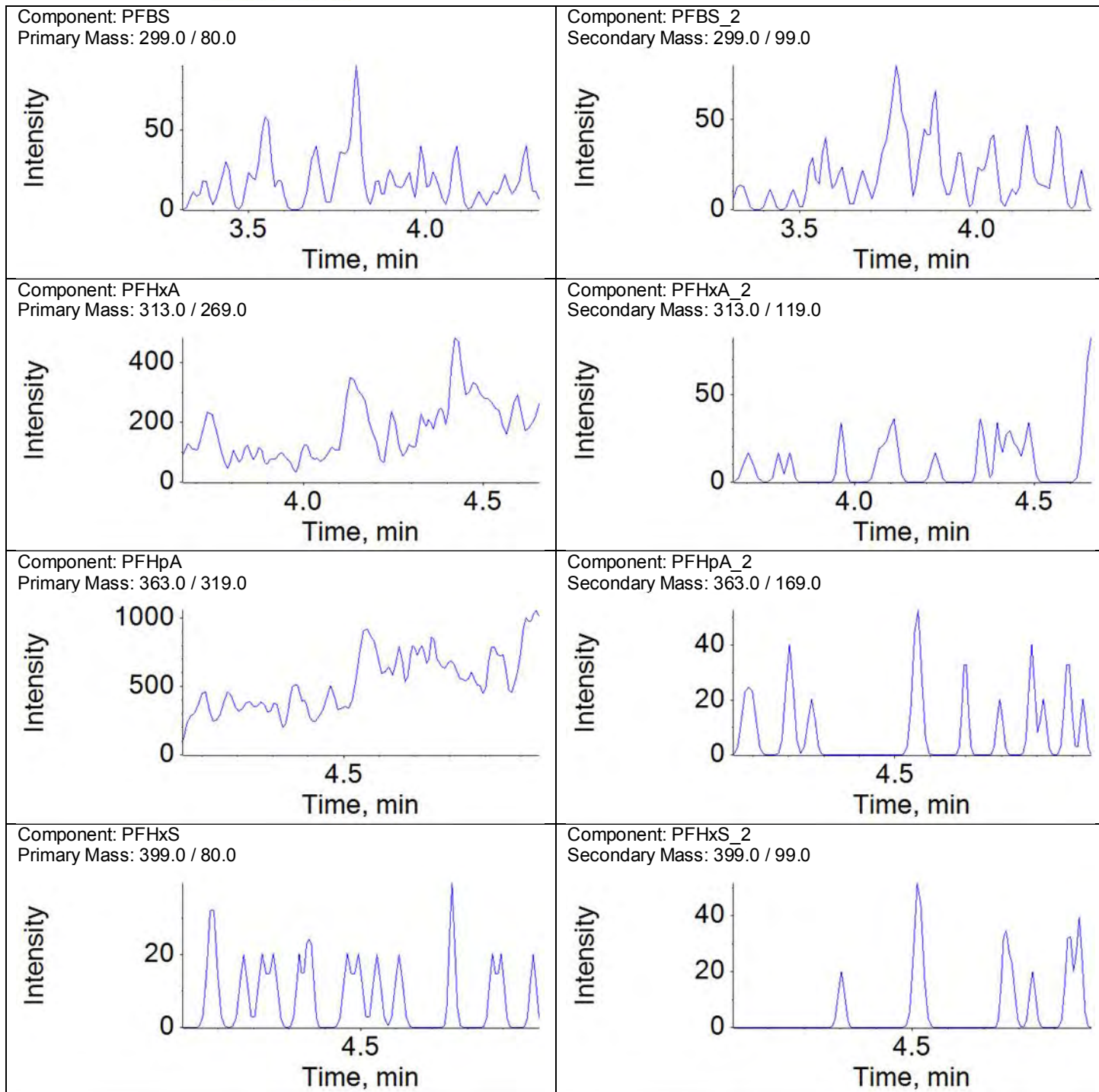
Ion Ratio Report

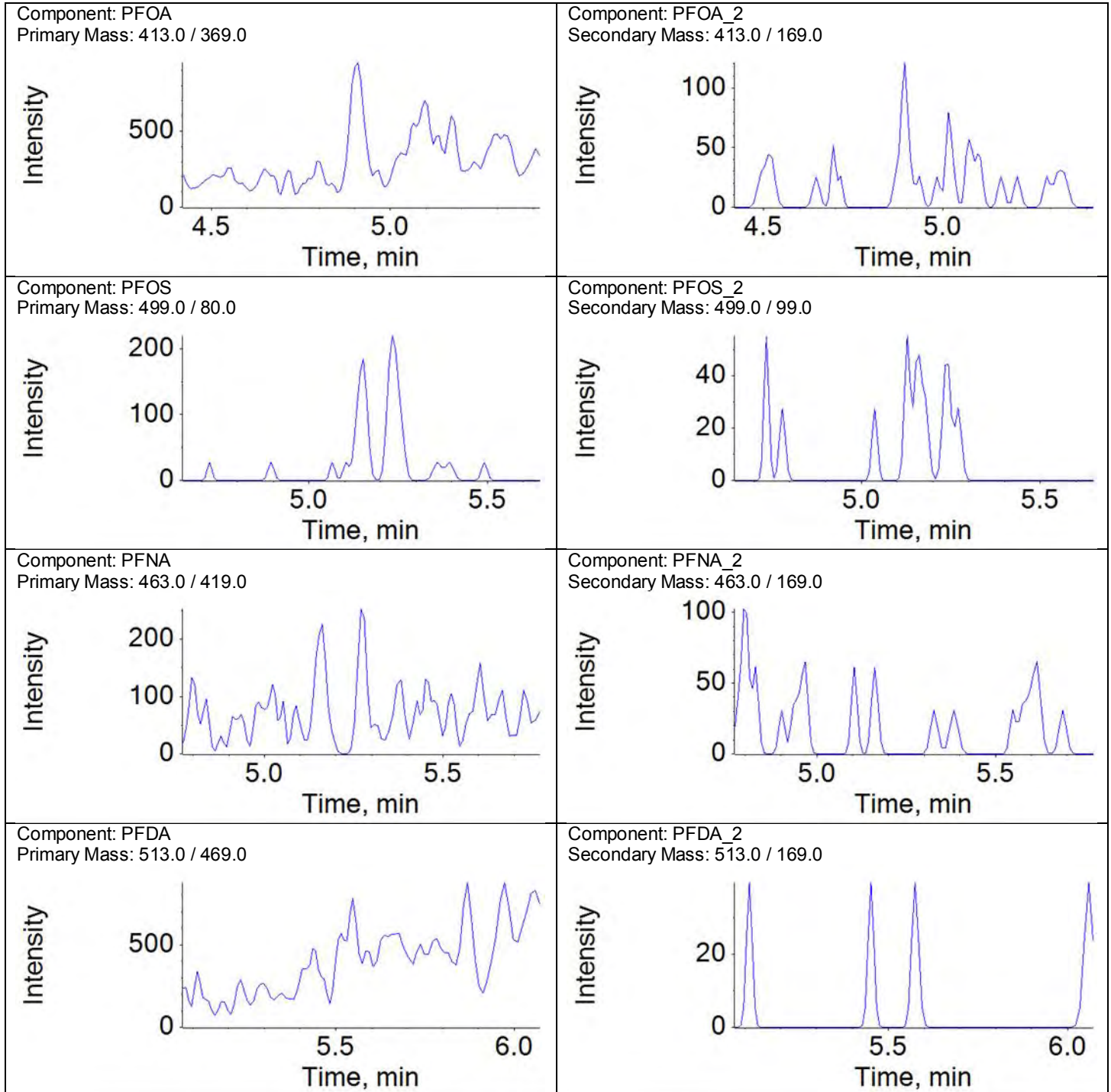
Sample Name: 9881575

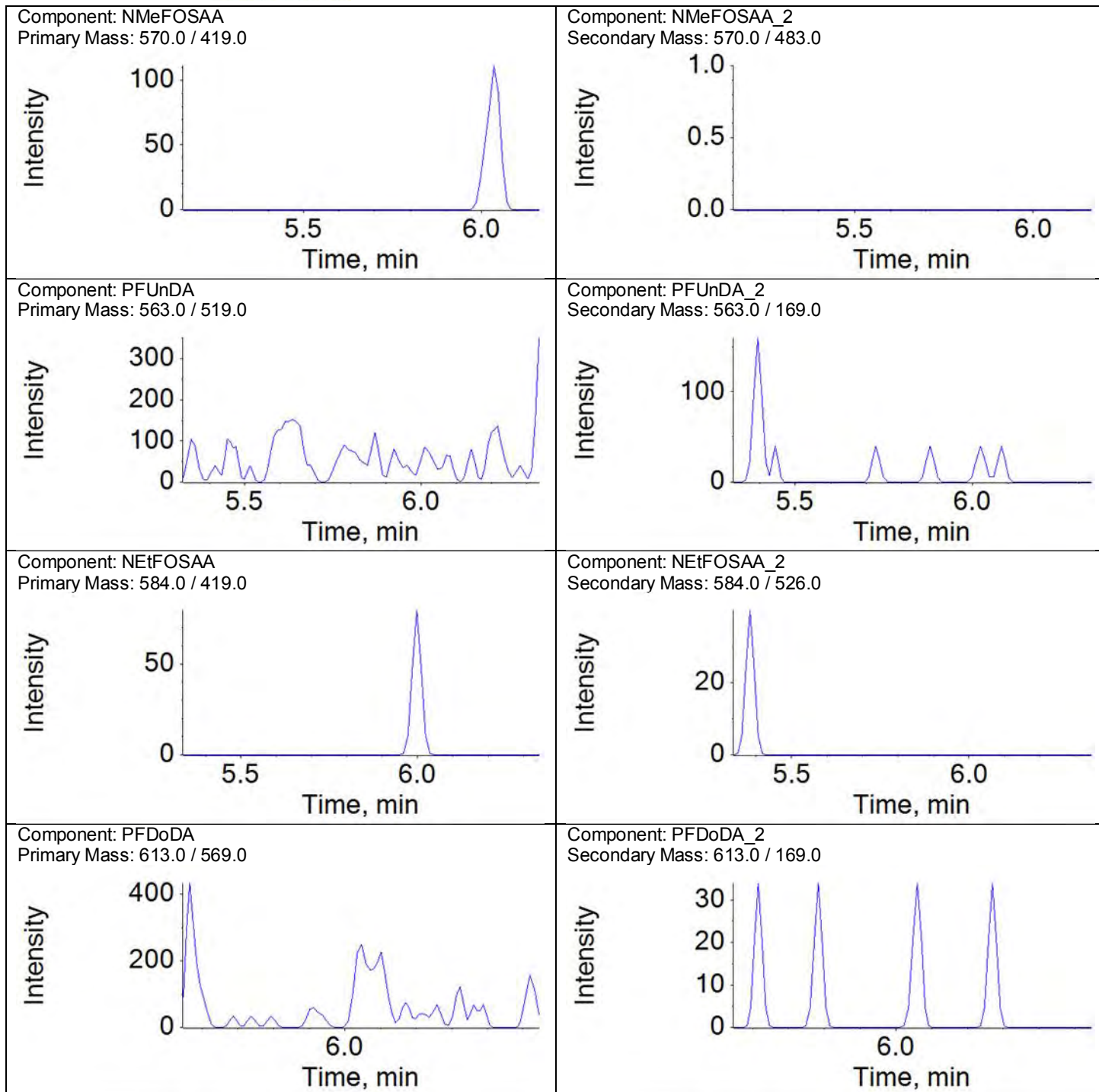
Instrument Name: LM27631

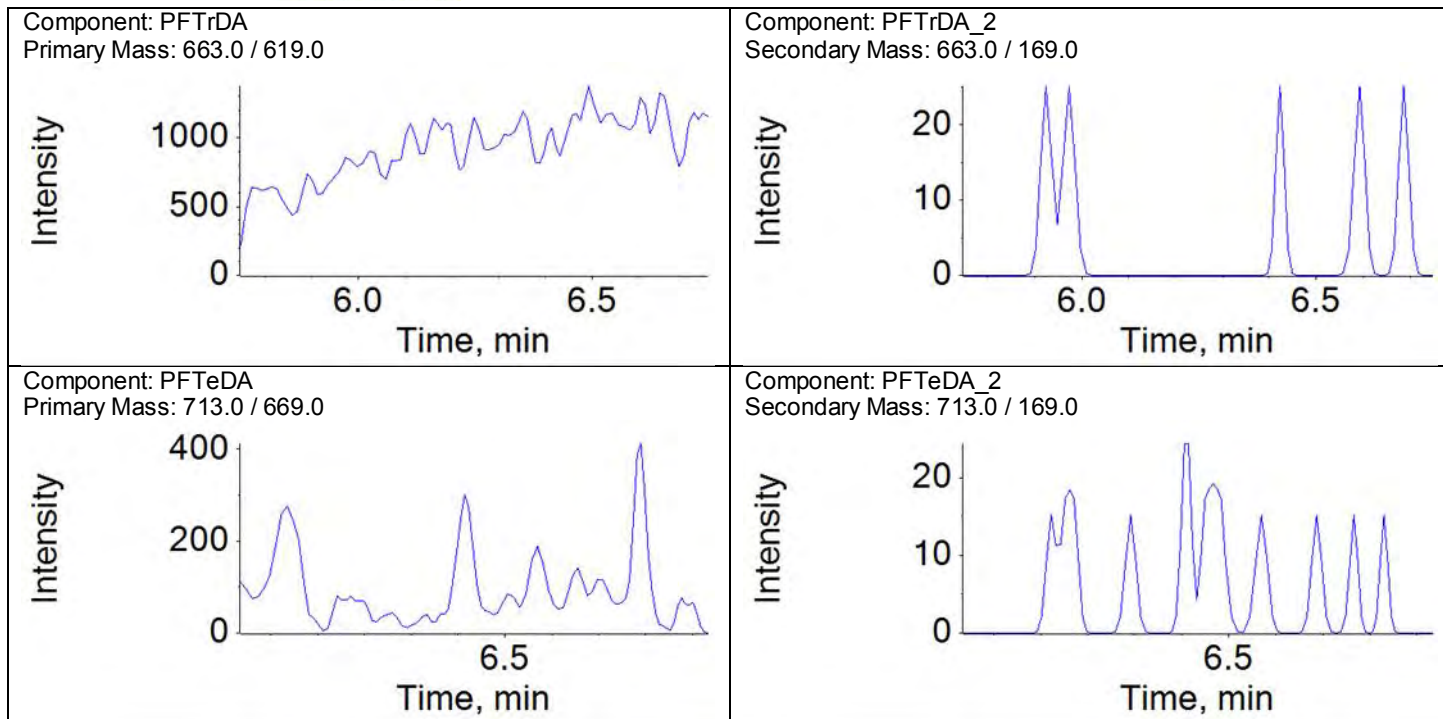
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Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	









ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 4:42:15 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881576		Data File:	18NOV13D-44.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18314009 OU1-CAOC21-S-05-08 Grab Soil		Acquis Date:	2018-11-13T16:11:23
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	98		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18314009
QMethod File:	18AUG20QM		ICAL Name:	18NOV12DCAL
Batch Number:	18314009		Operator:	JPT12262
Sample Wt.:	1.01000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV12DCAL-44

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	706079.1	659926.2	7	50	
13C2-PFOA	5.0	498724.8	450219.7	11	50	
13C4-PFOS	4.8	258823.0	249205.8	4	50	
13C2-PFDA	5.0	296739.0	278743.9	6	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	444286.6	13C3-PFBA	706079.1	0.629	9.208	8.796	96	50-150	
E13C5-PFHxA	699096.7	13C2-PFOA	498724.8	1.402	9.901	10.027	101	50-150	
E13C3-PFHxS	338117.6	13C2-PFOA	498724.8	0.678	9.366	9.212	98	50-150	
E13C4-PFHpA	563177.5	13C2-PFOA	498724.8	1.129	9.901	10.074	102	50-150	
E13C8-PFOA	953621.3	13C2-PFOA	498724.8	1.912	9.901	10.432	105	50-150	
E13C8-PFOS	290223.5	13C4-PFOS	258823.0	1.121	9.465	9.838	104	50-150	
E13C9-PFNA	483013.6	13C4-PFOS	258823.0	1.866	9.901	10.303	104	50-150	
E13C6-PFDA	655175.2	13C2-PFDA	296739.0	2.208	9.901	10.203	103	50-150	
Ed3-NMeFOSAA	44850.6	13C2-PFDA	296739.0	0.151	9.901	5.402	55	50-150	
E13C7-PFUnDA	259972.4	13C2-PFDA	296739.0	0.876	9.901	10.072	102	50-150	
Ed5-NEtFOSAA	36996.6	13C2-PFDA	296739.0	0.125	9.901	5.223	53	50-150	
E13C2-PFDoDA	560565.4	13C2-PFDA	296739.0	1.889	9.901	9.712	98	50-150	
E13C2-PFTeDA	400742.1	13C2-PFDA	296739.0	1.350	9.901	9.388	95	50-150	

ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QMResult Table: 18314009 11/13/2018 4:42:15 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881576

Instrument Name: LM27631

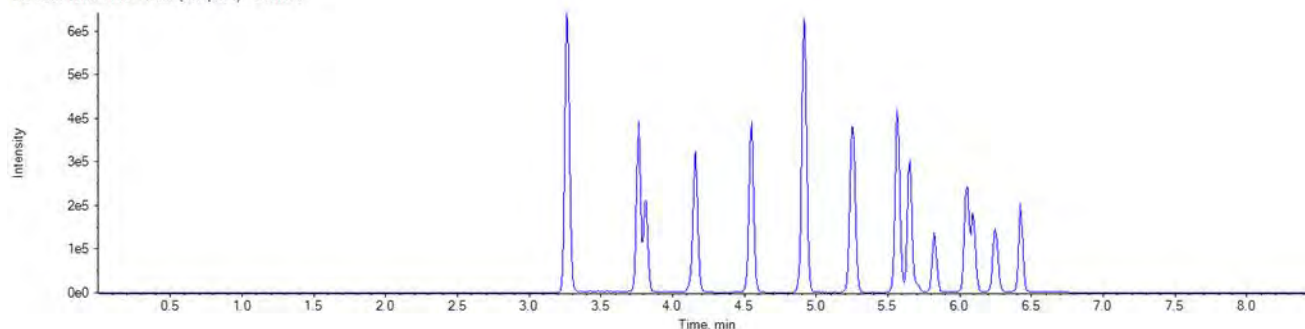
File Name: 18NOV13D-44.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.01000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	444286.6	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	699096.7	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	563177.5	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	338117.6	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.92	953621.3	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	290223.5	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	483013.6	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.57	655175.2	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.71	44850.6	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	259972.4	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	36996.6	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.05	560565.4	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.05	560565.4	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	400742.1	N/A	

Total Ion Chromatogram

TIC from 18NOV13D-44.wiff (sample 1) - 9881576



APPROVED

By JPT at 4:48 pm, 11/13/18

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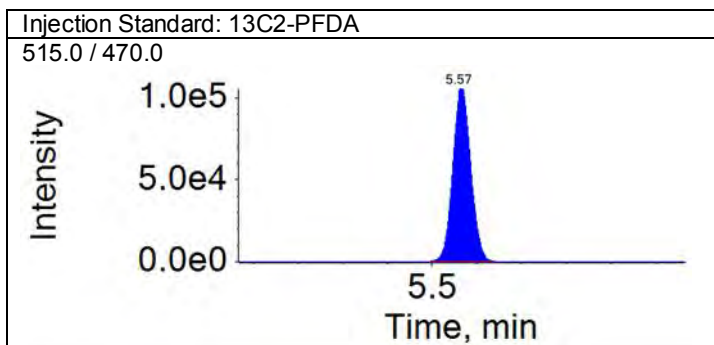
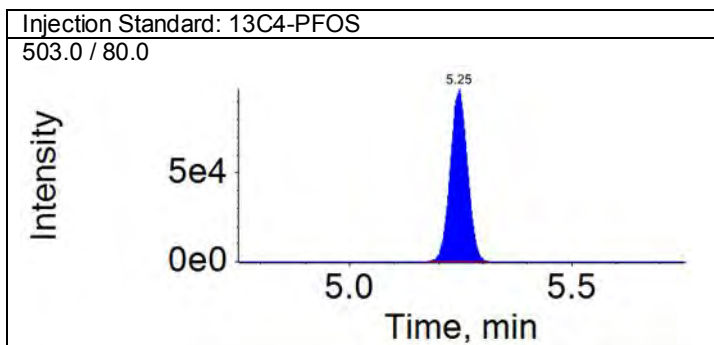
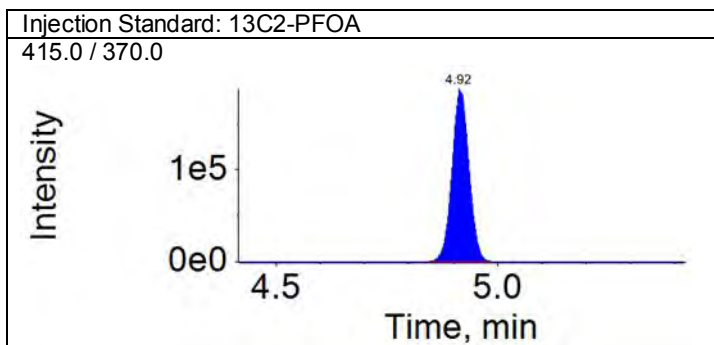
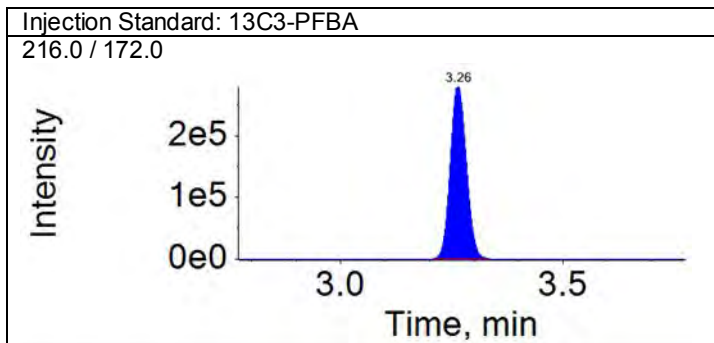
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By umar at 5:43 pm, 11/13/18

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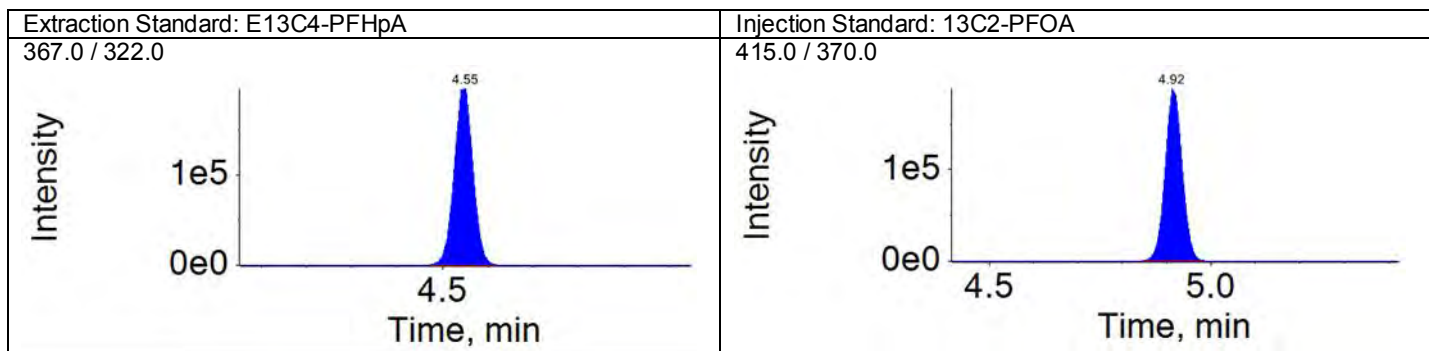
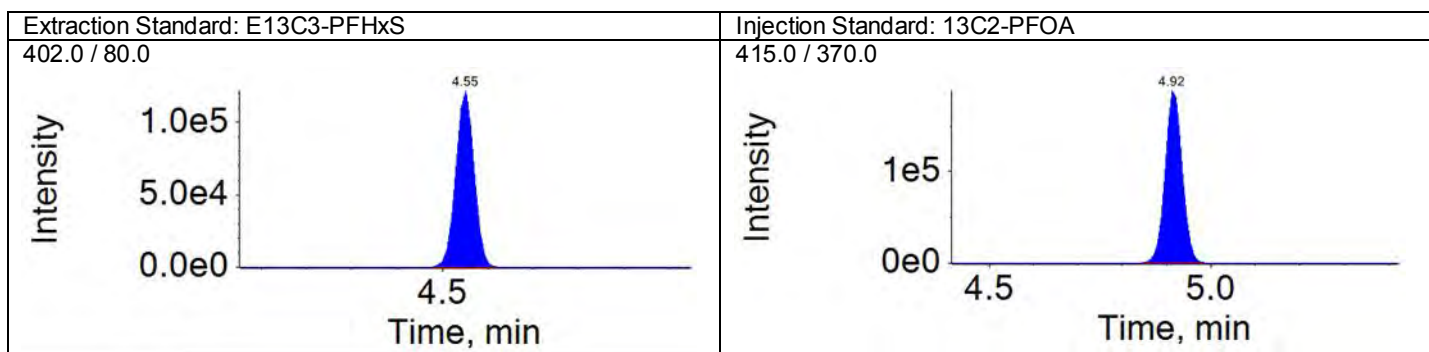
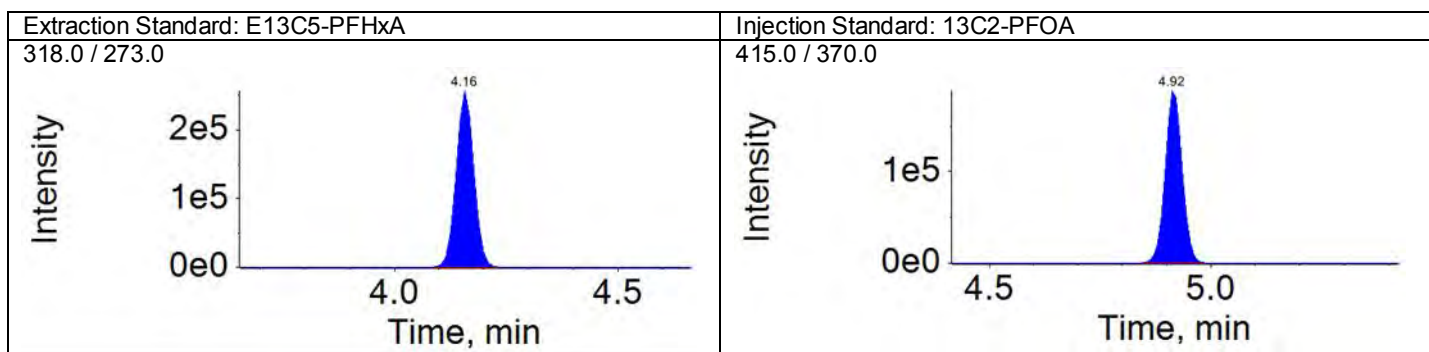
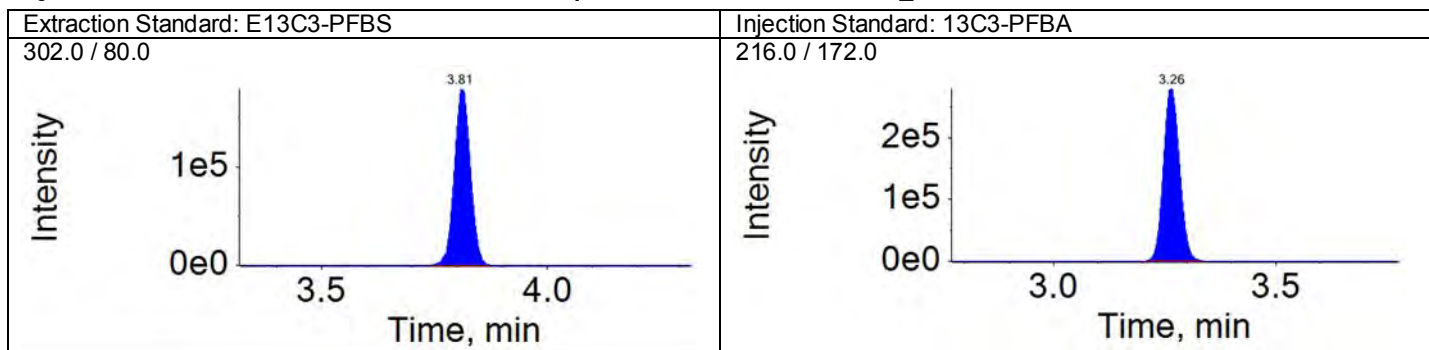
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QMethod Name: 18AUG20QM

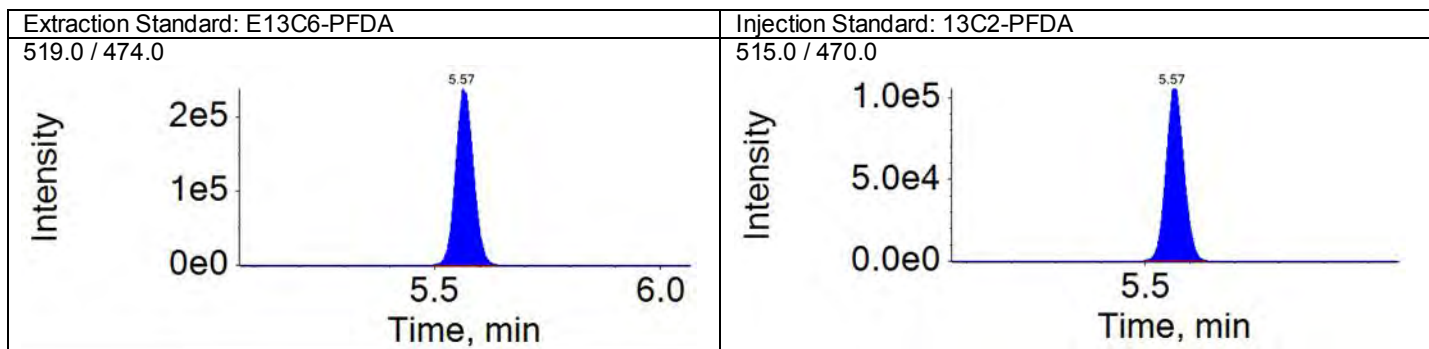
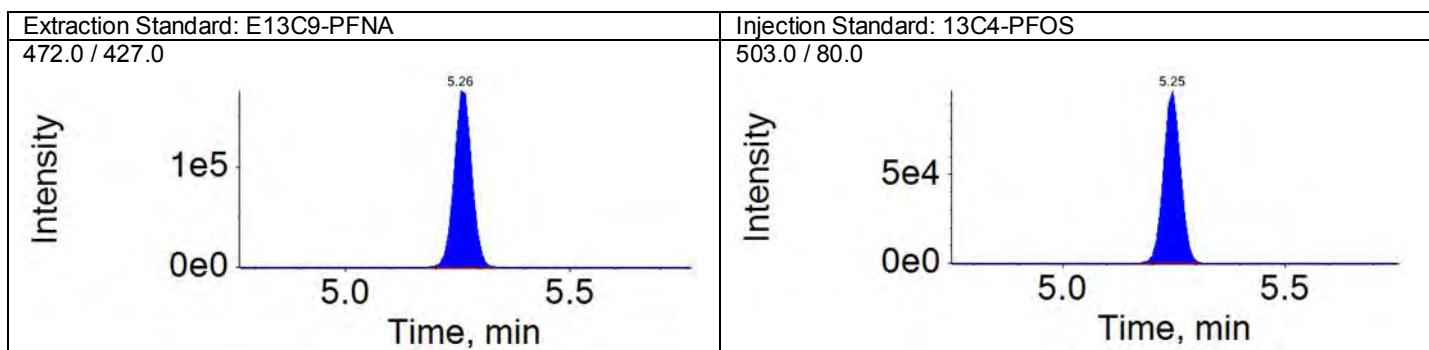
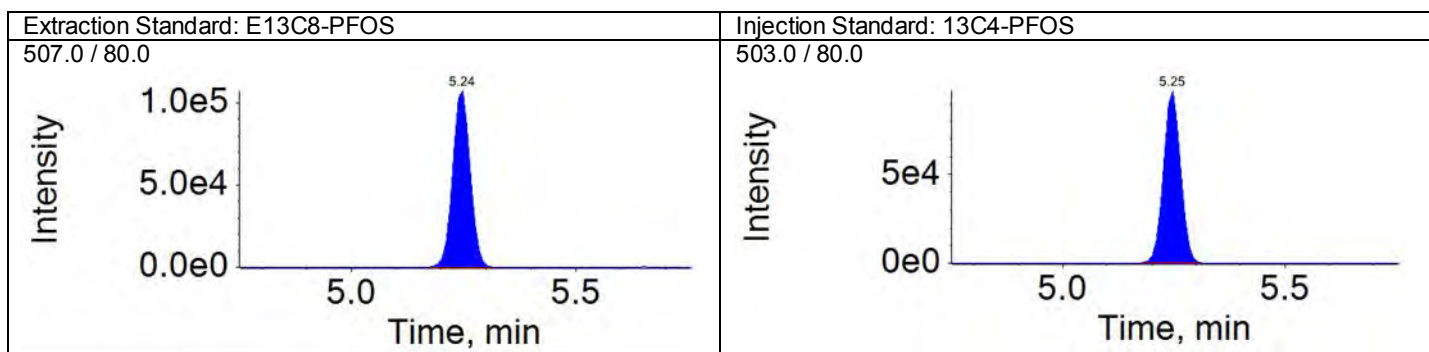
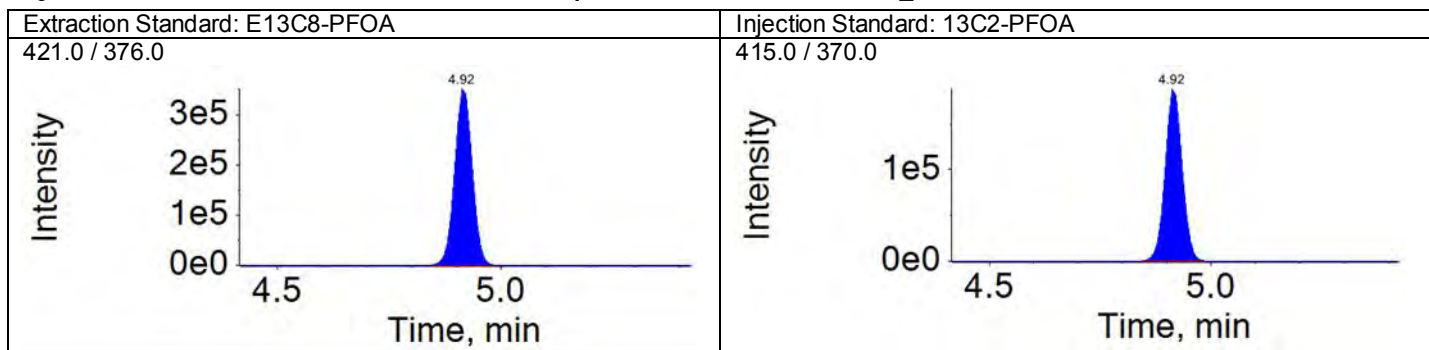
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ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

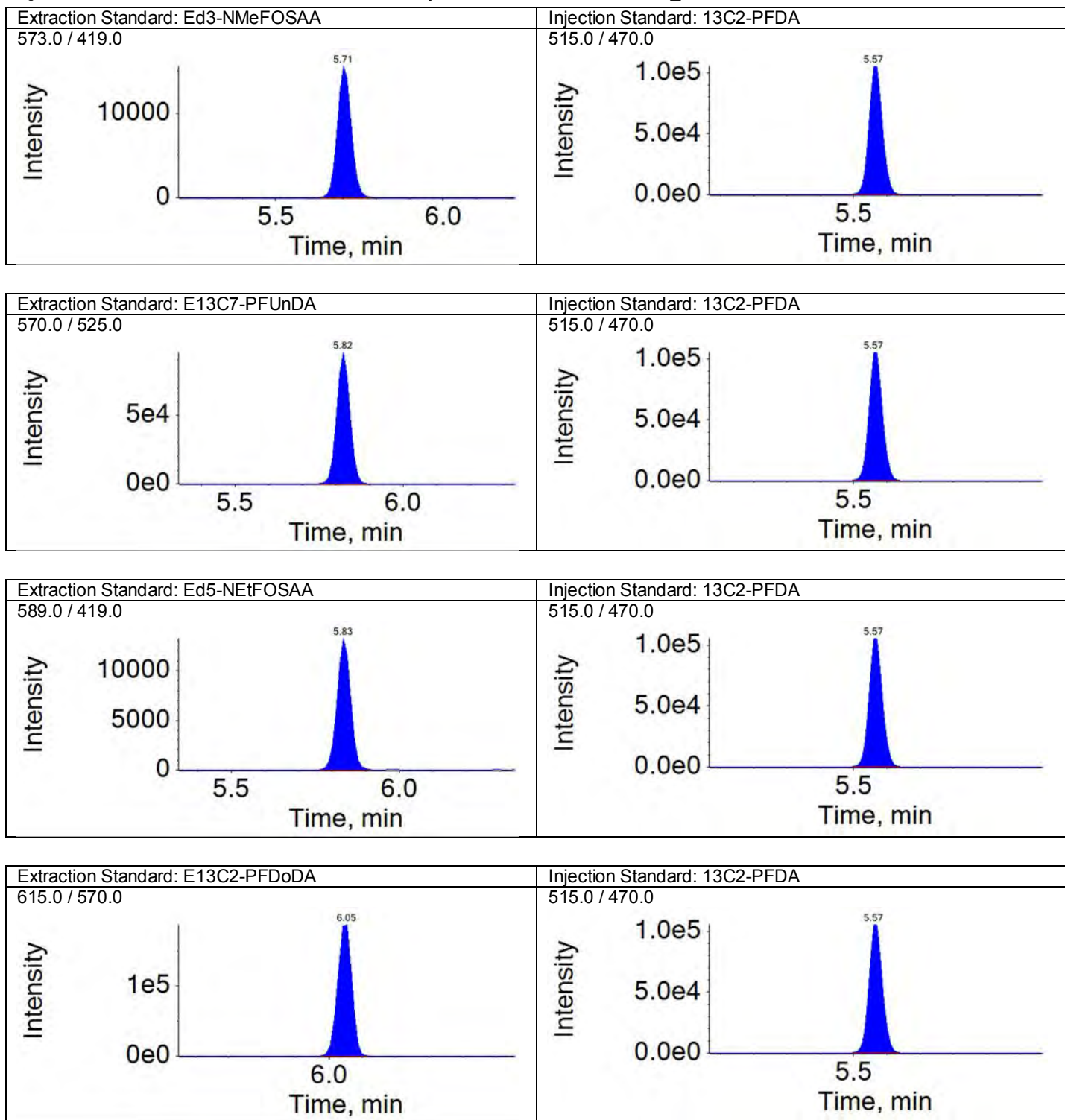
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ICAL Name: 18NOV12DCAL
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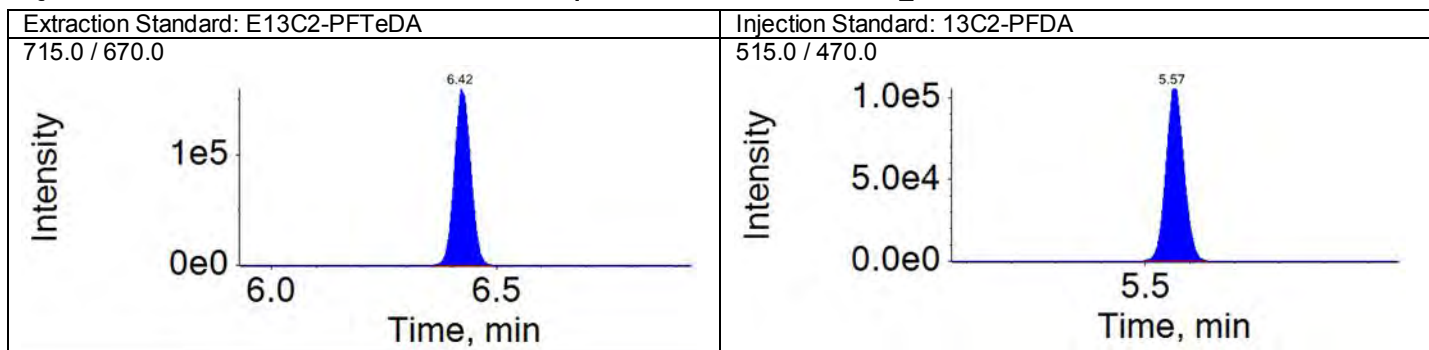
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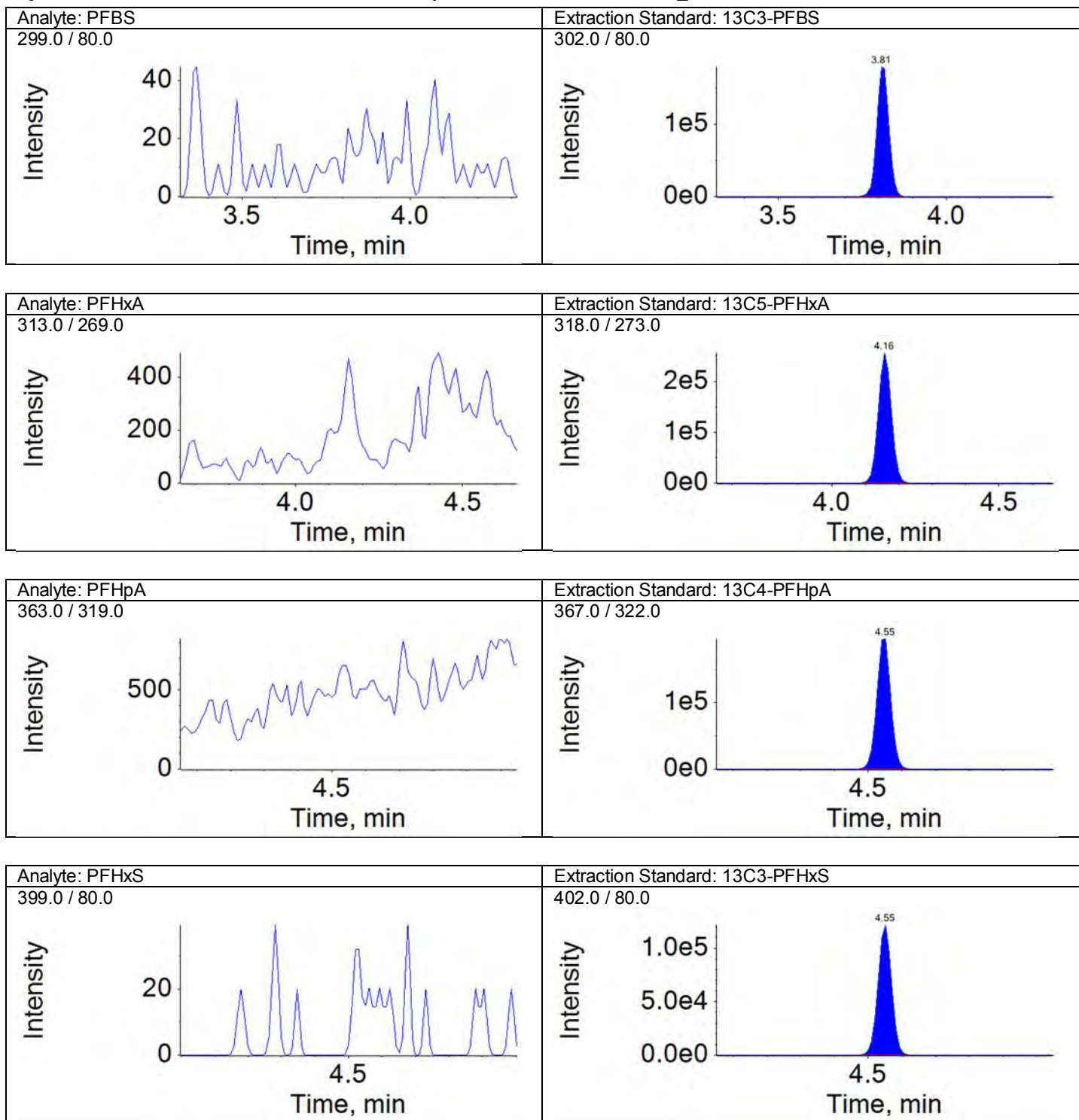
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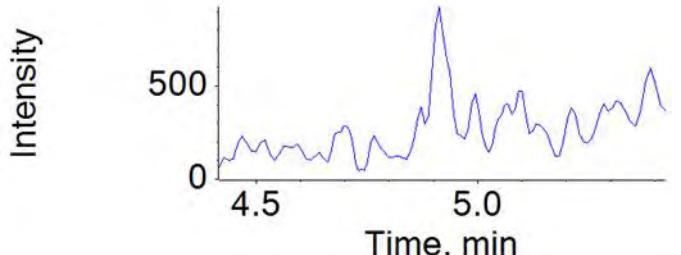
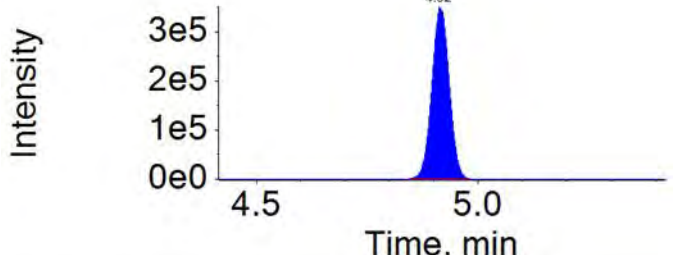
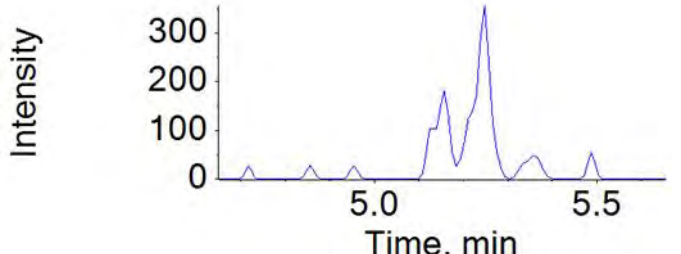
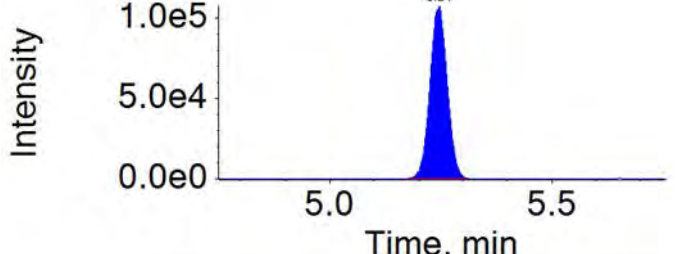
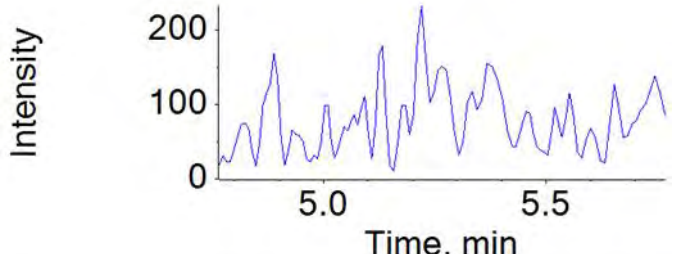
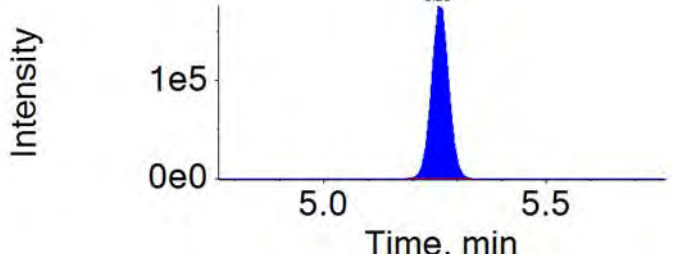
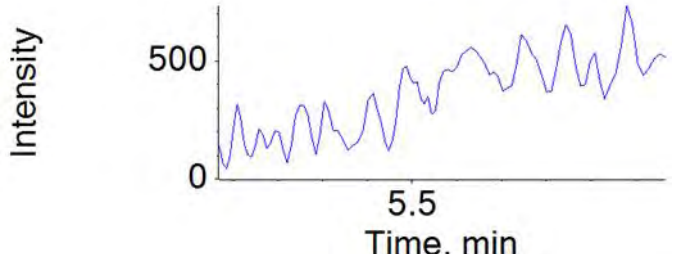
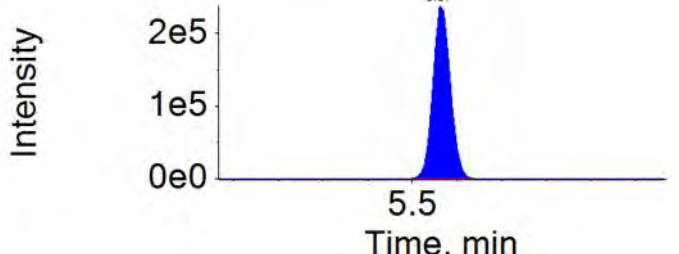
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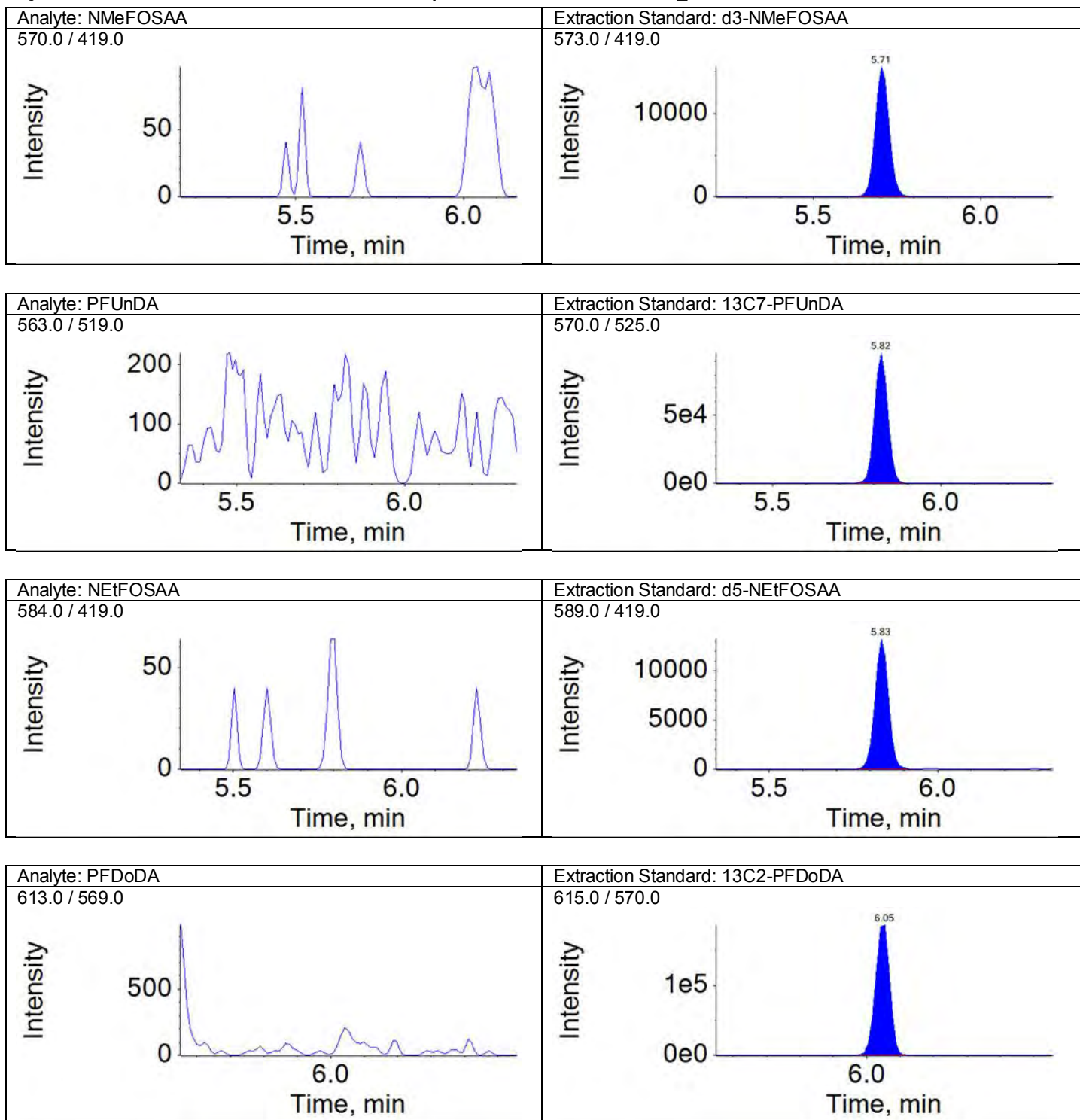
ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 4:42:15 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte: PFOA 413.0 / 369.0 	Extraction Standard: 13C8-PFOA 421.0 / 376.0 
Analyte: PFOS 499.0 / 80.0 	Extraction Standard: 13C8-PFOS 507.0 / 80.0 
Analyte: PFNA 463.0 / 419.0 	Extraction Standard: 13C9-PFNA 472.0 / 427.0 
Analyte: PFDA 513.0 / 469.0 	Extraction Standard: 13C6-PFDA 519.0 / 474.0 

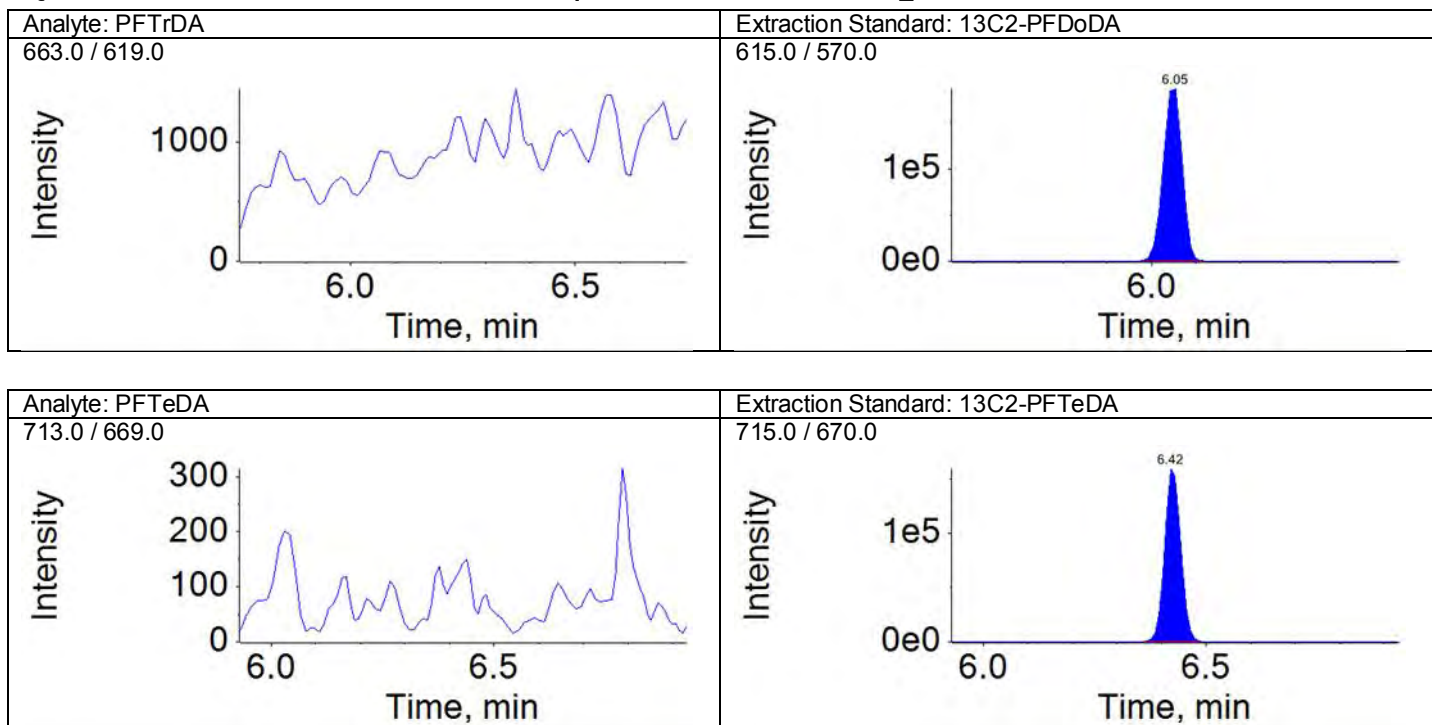
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 4:42:15 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

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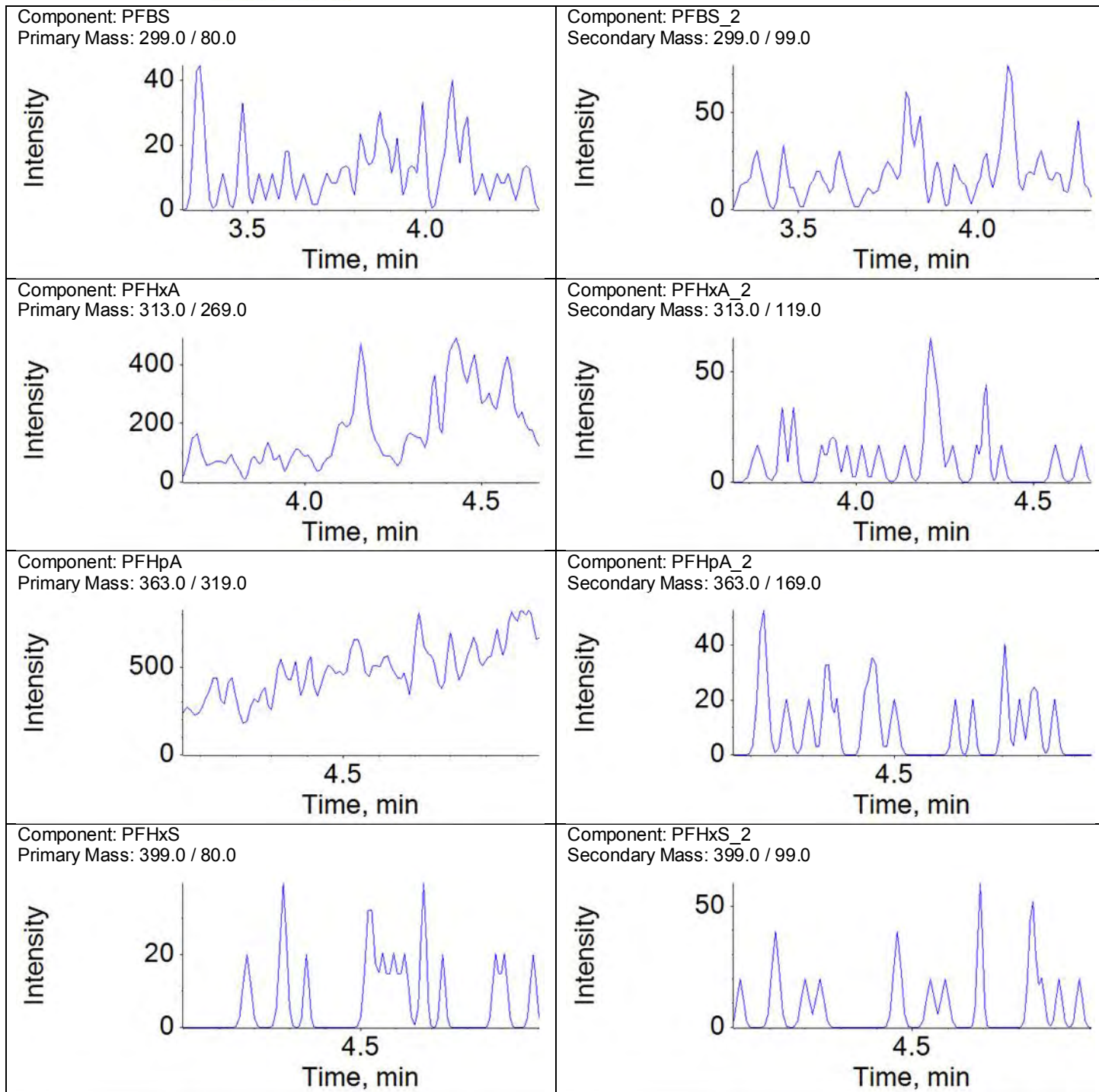
Ion Ratio Report

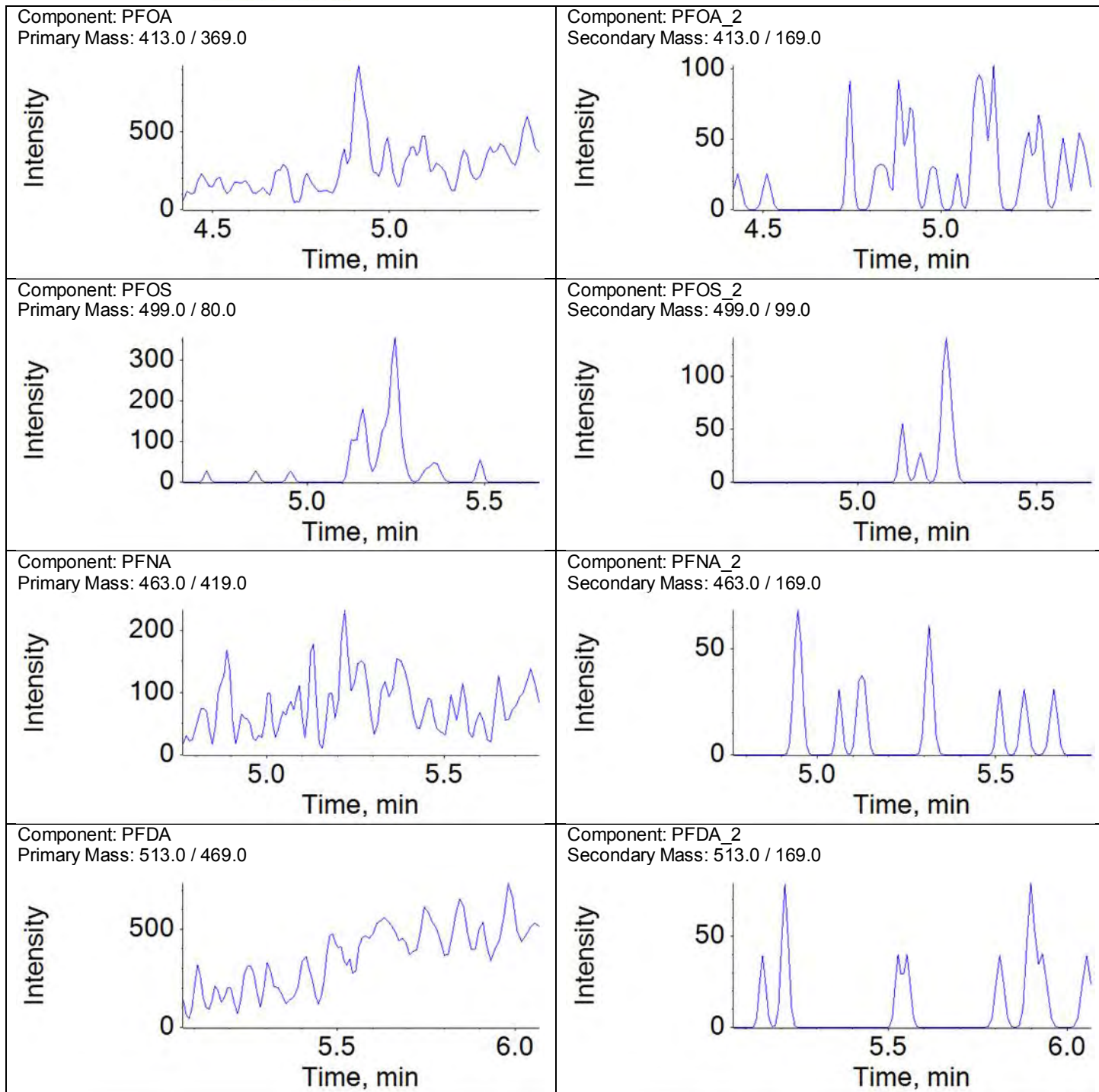
Sample Name: 9881576

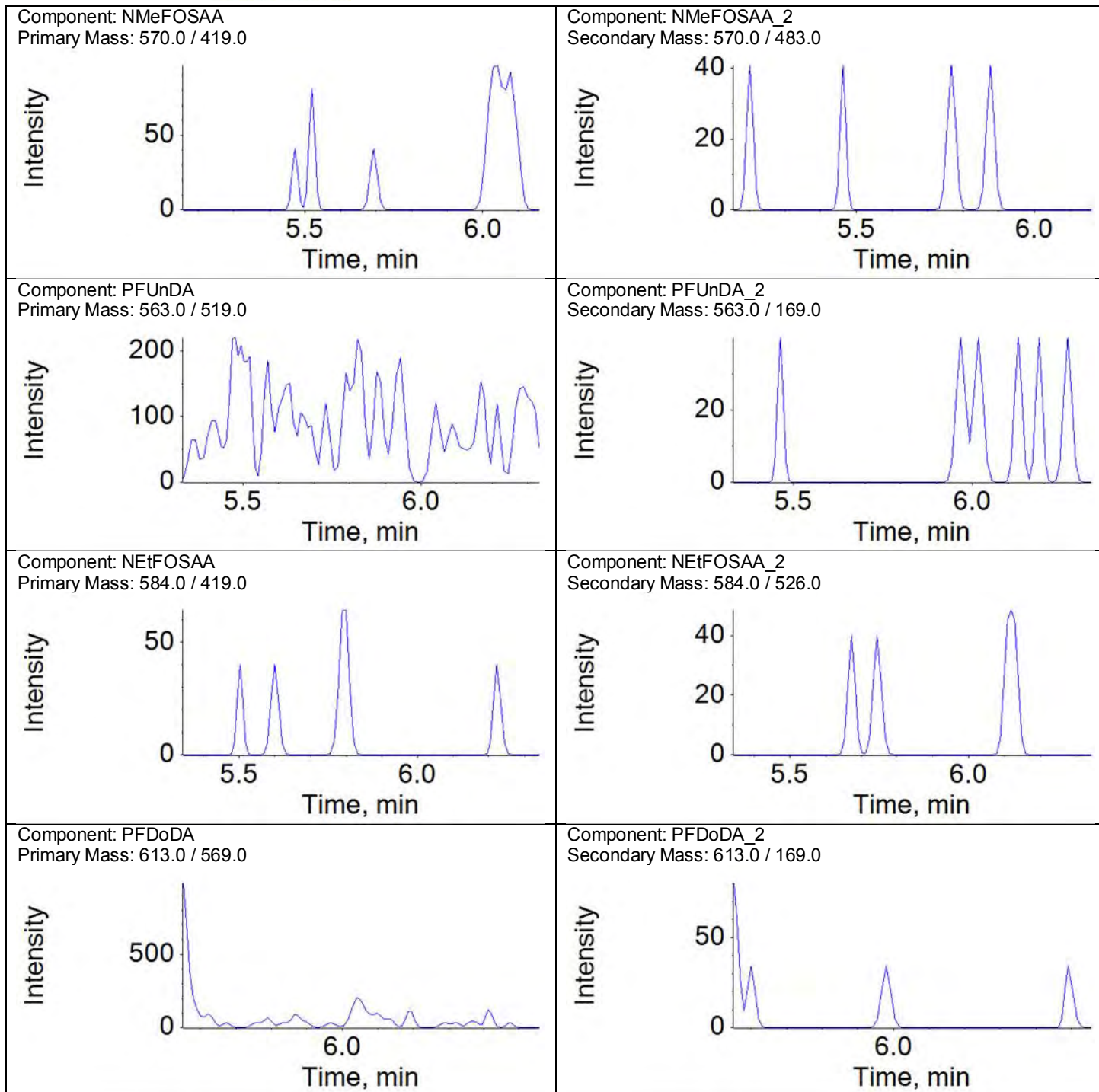
Instrument Name: LM27631

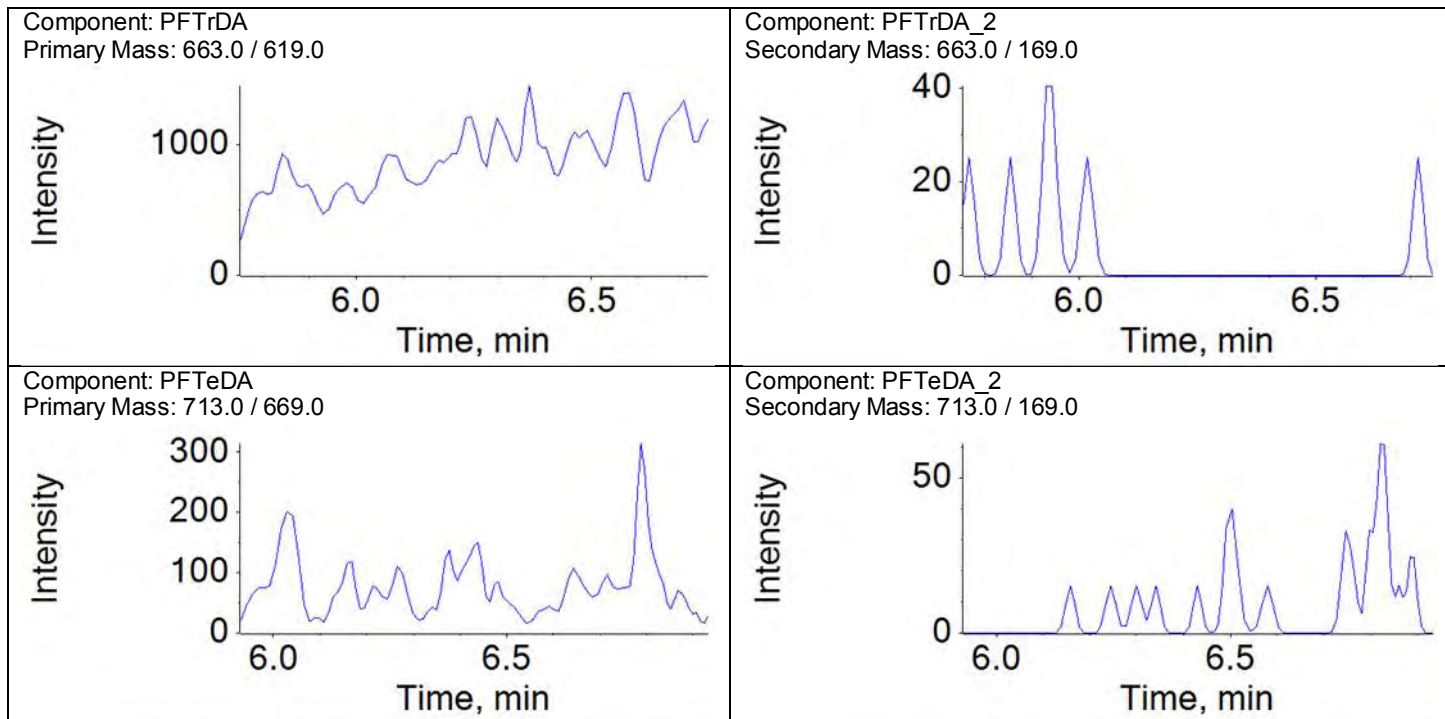
File Name: 18NOV13D-44.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	









APPROVED

By JPT at 4:48 pm, 11/13/18

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REVIEWED

By umar at 5:43 pm, 11/13/18

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ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QMResult Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881579			Data File:		18NOV12D-44.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18314006 OU1-CAOC21-W-05-01 Grab Water			Acquis Date:		2018-11-12T23:13:42
Sample Type:	Unknown			Instrument:		LM27631
Vial Position:	73			Acquis Method:		18AUG13_3uL.dam
Injection Vol:	3.00			Result Table:		18314006
QMethod File:	18AUG20QM			ICAL Name:		18NOV12DCAL
Batch Number:	18314006			Operator:		MCD7824
Sample Wt.:	0.27495			Dilution Factor:		1.00
Sample Vol.:	1.000			Prep Factor:		1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV12DCAL-44

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	857686.9	659926.2	30	50	
13C2-PFOA	5.0	554285.5	450219.7	23	50	
13C4-PFOS	4.8	267105.0	249205.8	7	50	
13C2-PFDA	5.0	353333.9	278743.9	27	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	409179.6	13C3-PFBA	857686.9	0.477	16.912	12.249	72	50-150	
E13C5-PFHxA	613408.1	13C2-PFOA	554285.5	1.107	18.185	14.540	80	50-150	
E13C3-PFHxS	299164.1	13C2-PFOA	554285.5	0.540	17.203	13.470	78	50-150	
E13C4-PFHpA	509479.8	13C2-PFOA	554285.5	0.919	18.185	15.061	83	50-150	
E13C8-PFOA	840567.0	13C2-PFOA	554285.5	1.516	18.185	15.196	84	50-150	
E13C8-PFOS	268732.1	13C4-PFOS	267105.0	1.006	17.385	16.213	93	50-150	
E13C9-PFNA	489414.5	13C4-PFOS	267105.0	1.832	18.185	18.580	102	50-150	
E13C6-PFDA	602711.5	13C2-PFDA	353333.9	1.706	18.185	14.478	80	50-150	
Ed3-NMeFOSAA	64586.5	13C2-PFDA	353333.9	0.183	18.185	12.000	66	50-150	
E13C7-PFUnDA	308021.3	13C2-PFDA	353333.9	0.872	18.185	18.408	101	50-150	
Ed5-NEtFOSAA	57054.0	13C2-PFDA	353333.9	0.161	18.185	12.425	68	50-150	
E13C2-PFDoDA	557471.3	13C2-PFDA	353333.9	1.578	18.185	14.899	82	50-150	
E13C2-PFTeDA	439902.9	13C2-PFDA	353333.9	1.245	18.185	15.897	87	50-150	

ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881579

Instrument Name: LM27631

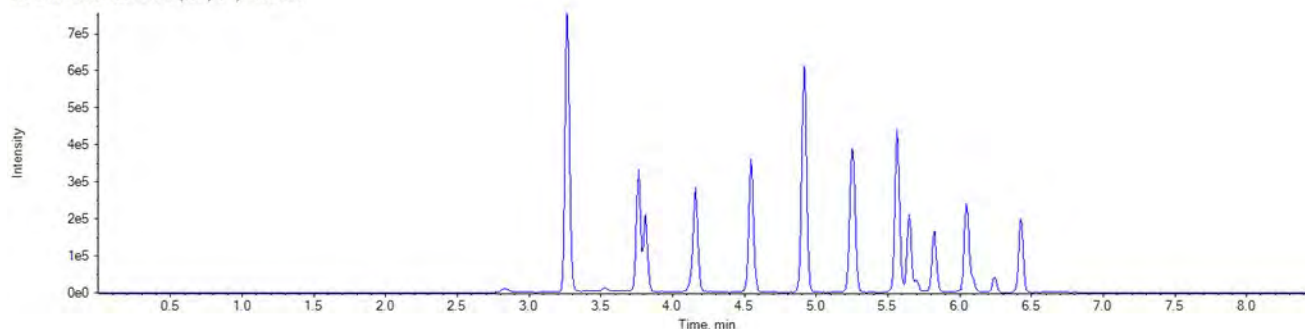
File Name: 18NOV12D-44.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.27495	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	409179.6	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	613408.1	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	509479.8	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	299164.1	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.92	840567.0	N/A	
PFOS	5.24	1.000	20719.3		M	13C8-PFOS	5.25	268732.1	0.077	1.226
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	489414.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	602711.5	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	64586.5	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	308021.3	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	57054.0	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.05	557471.3	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.05	557471.3	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	439902.9	N/A	

Total Ion Chromatogram

TIC from 18NOV12D-44.wiff (sample 1) - 9881579



APPROVED

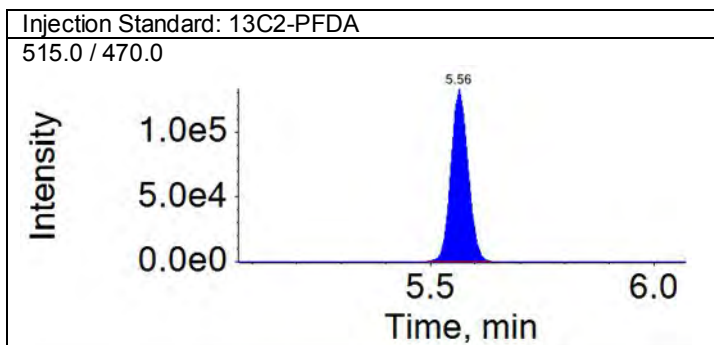
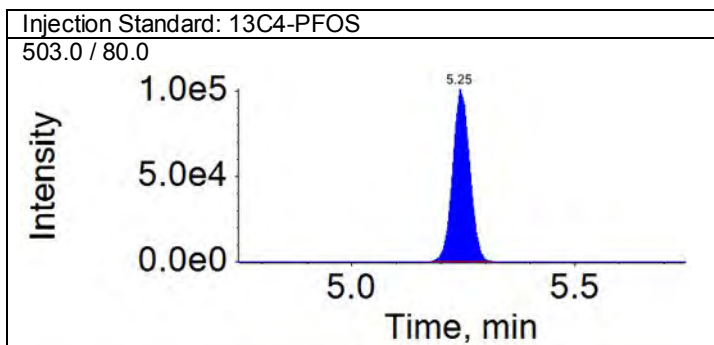
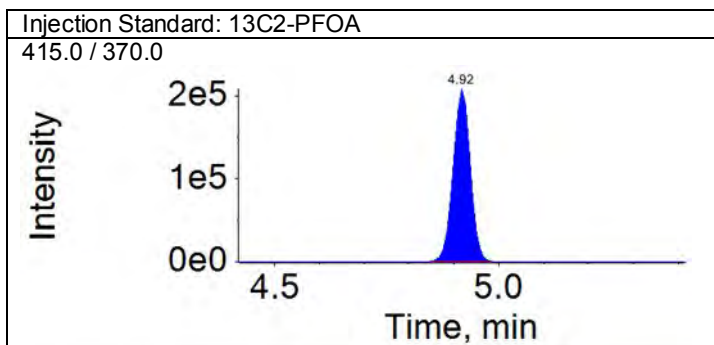
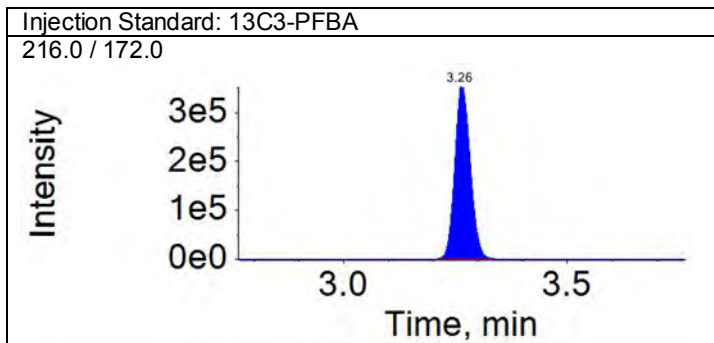
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REVIEWED

By umar at 2:22 pm, 11/15/18

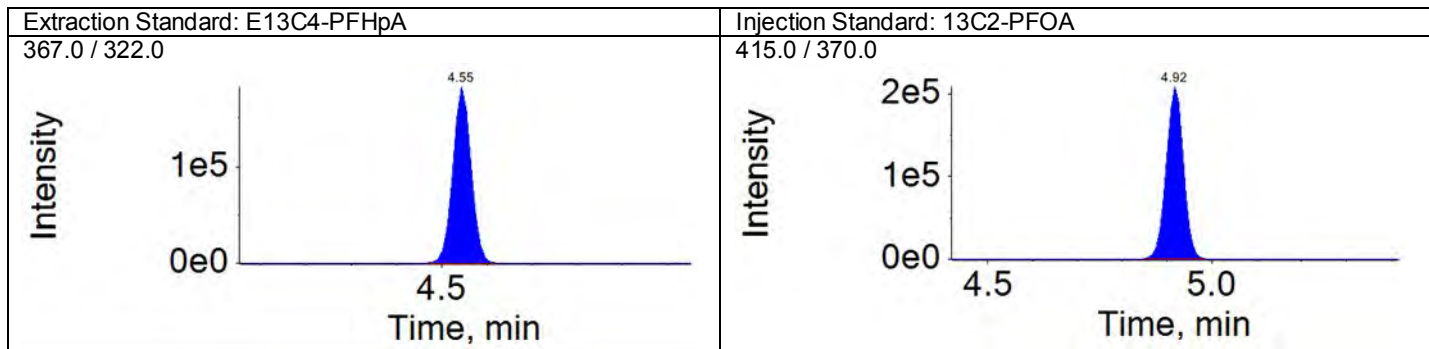
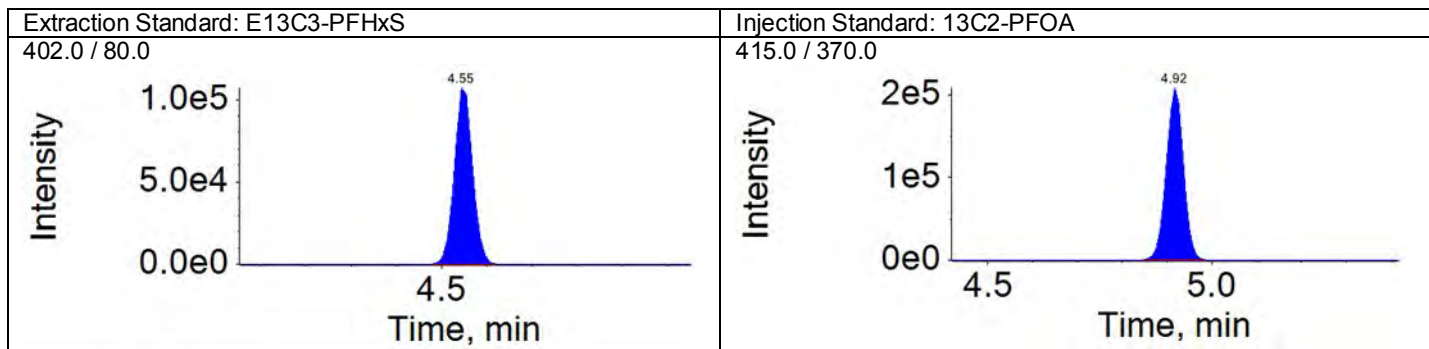
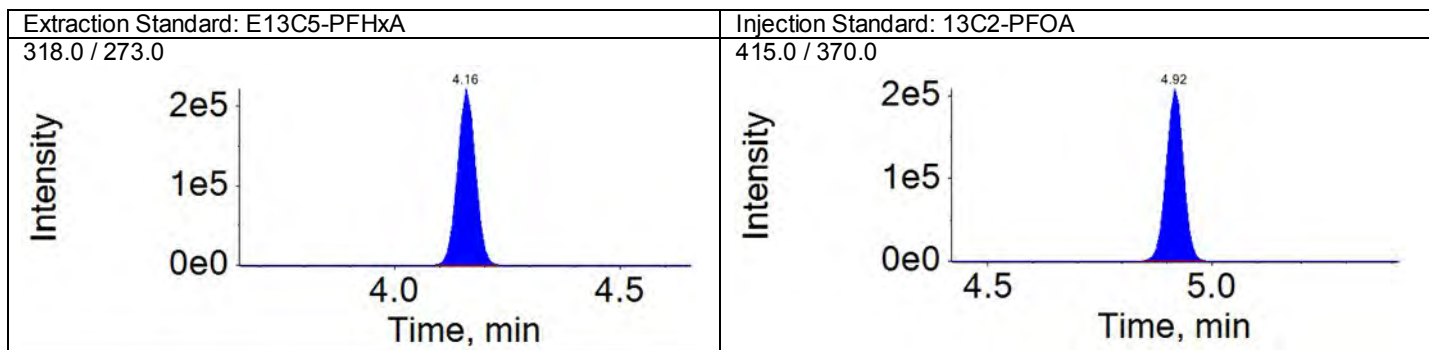
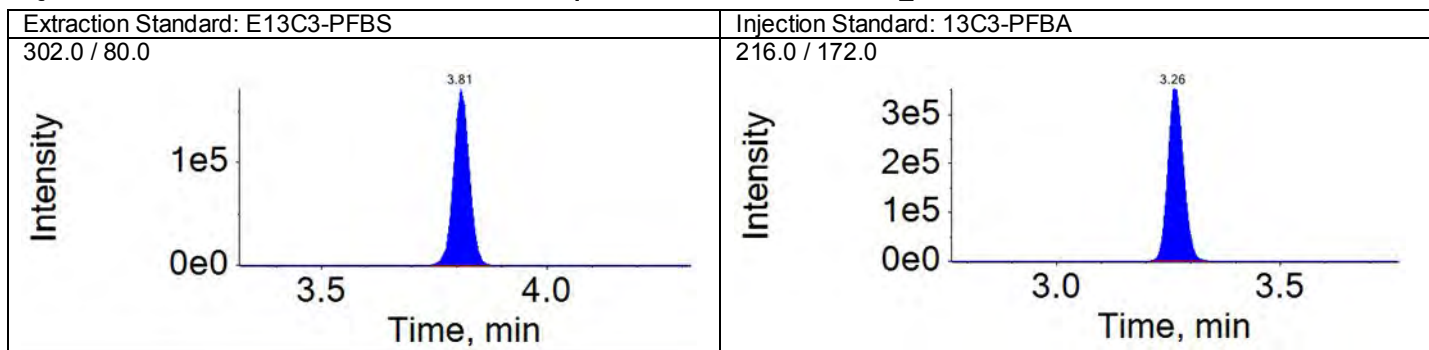
ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam



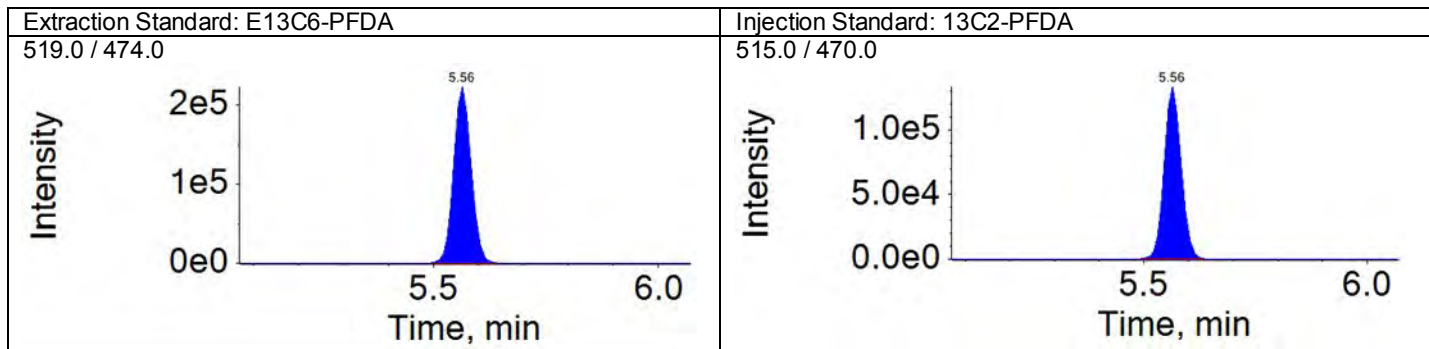
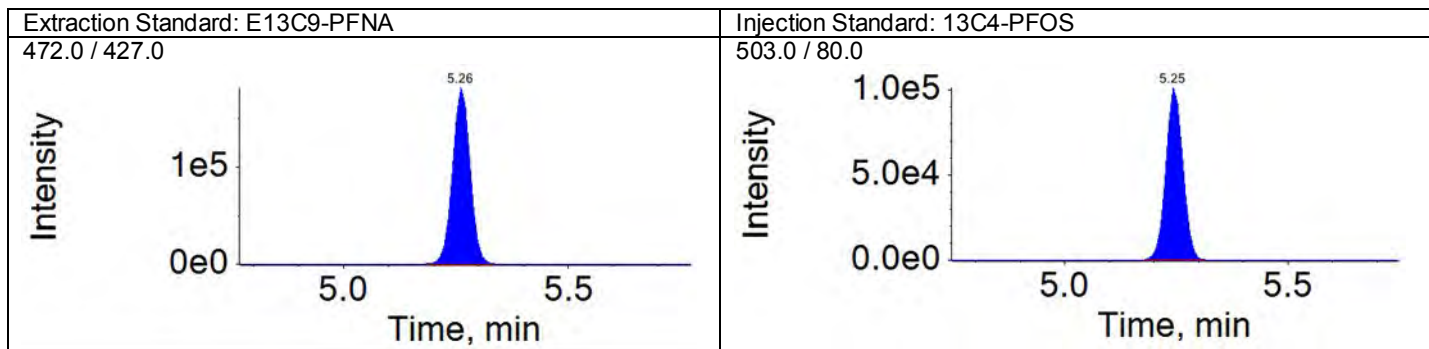
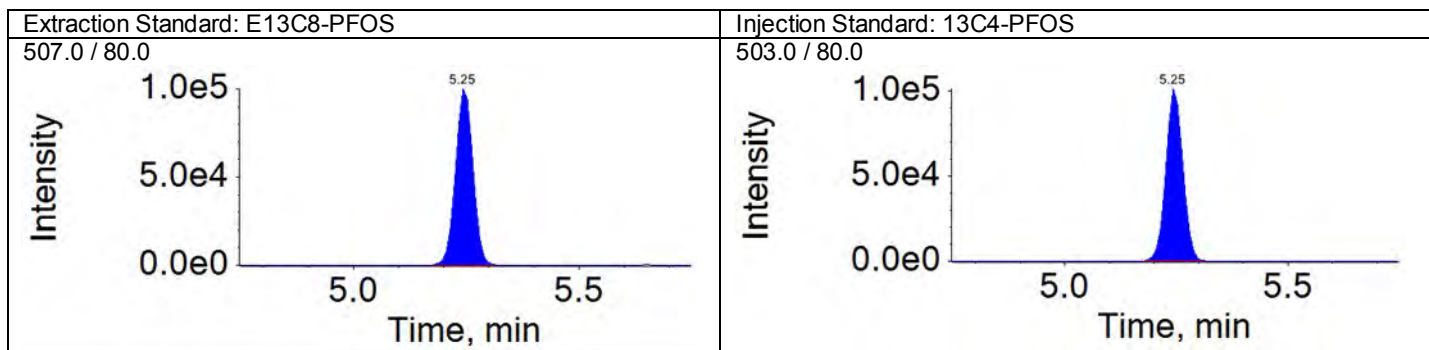
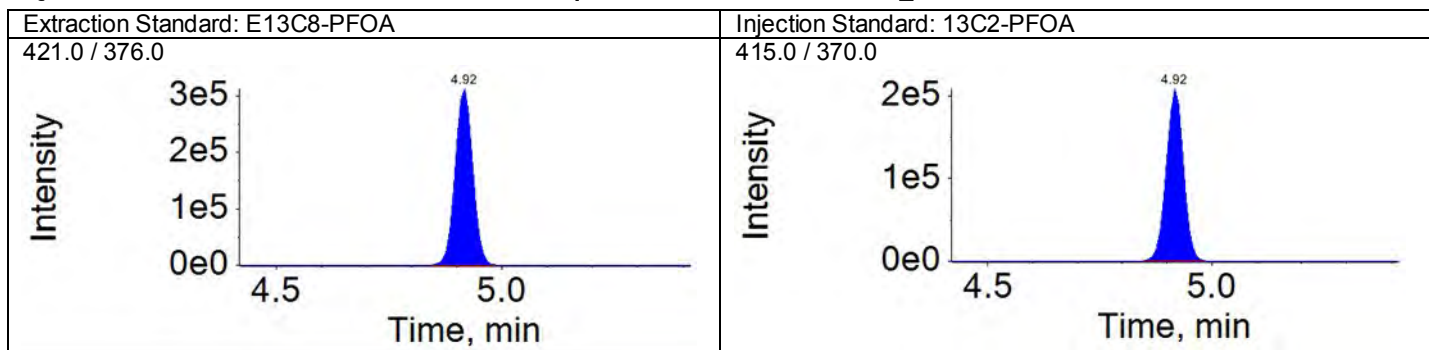
ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam



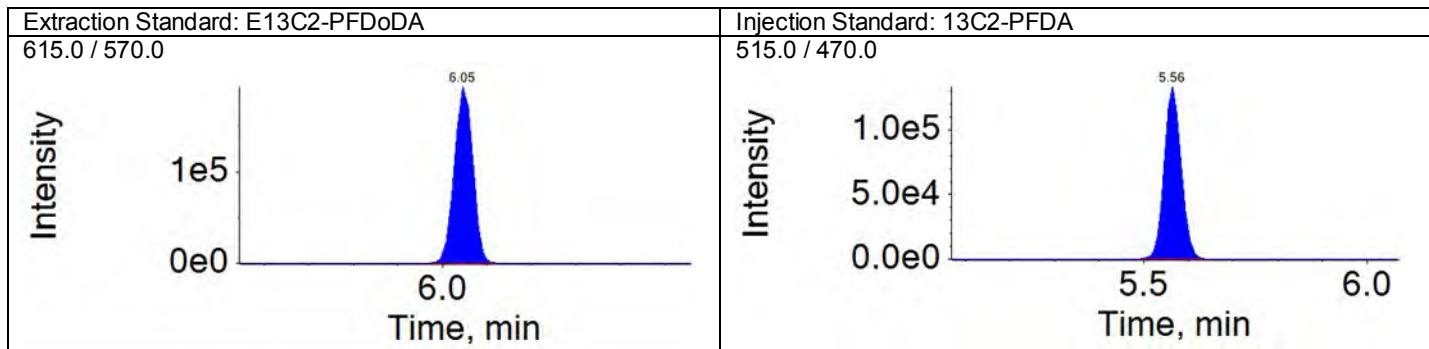
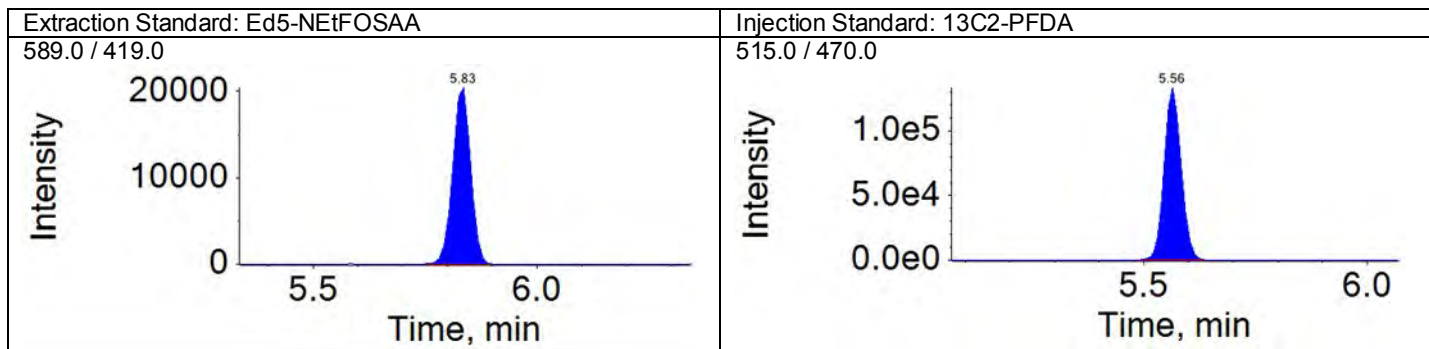
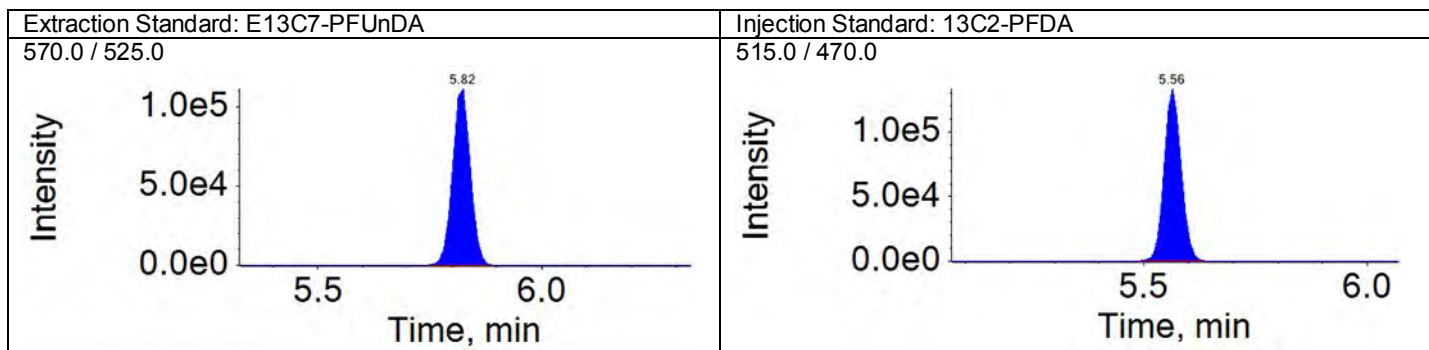
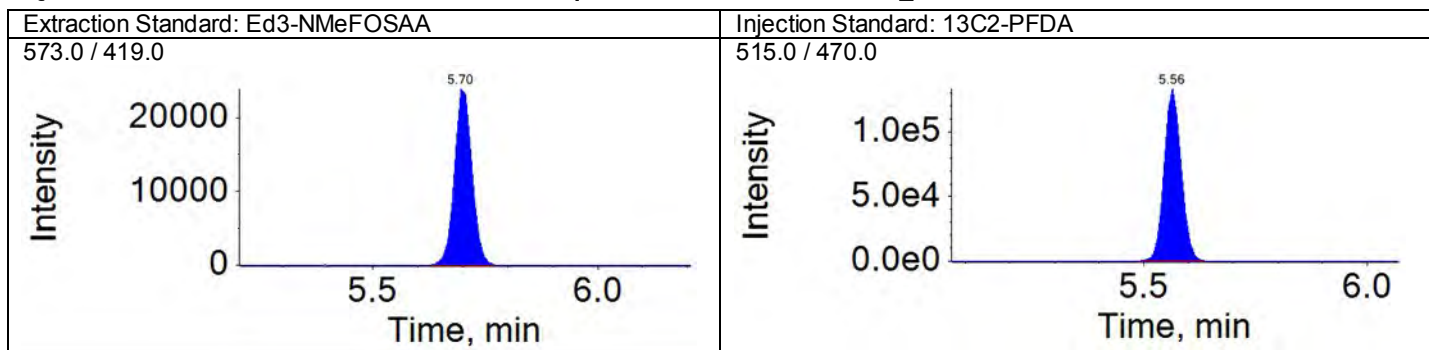
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QMethod Name: 18AUG20QM

Result Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam



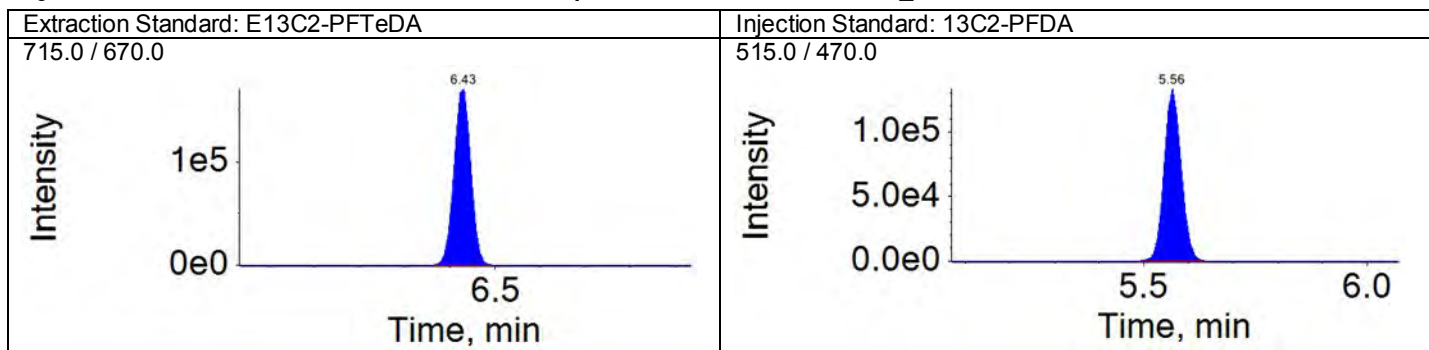
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QMethod Name: 18AUG20QM

Result Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam



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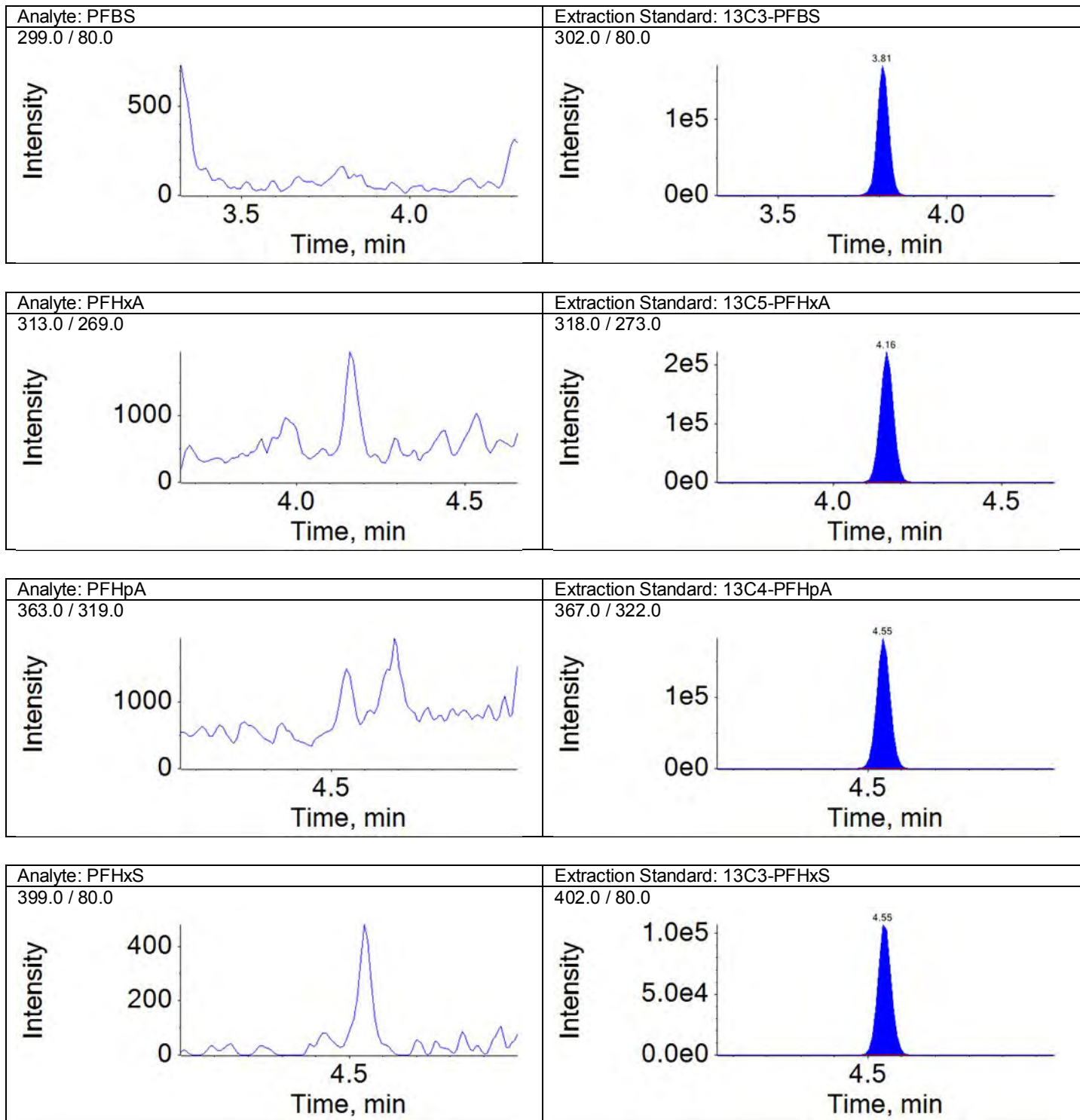
By MCD at 8:21 pm, 11/13/18

REVIEWED

By umar at 2:22 pm, 11/15/18

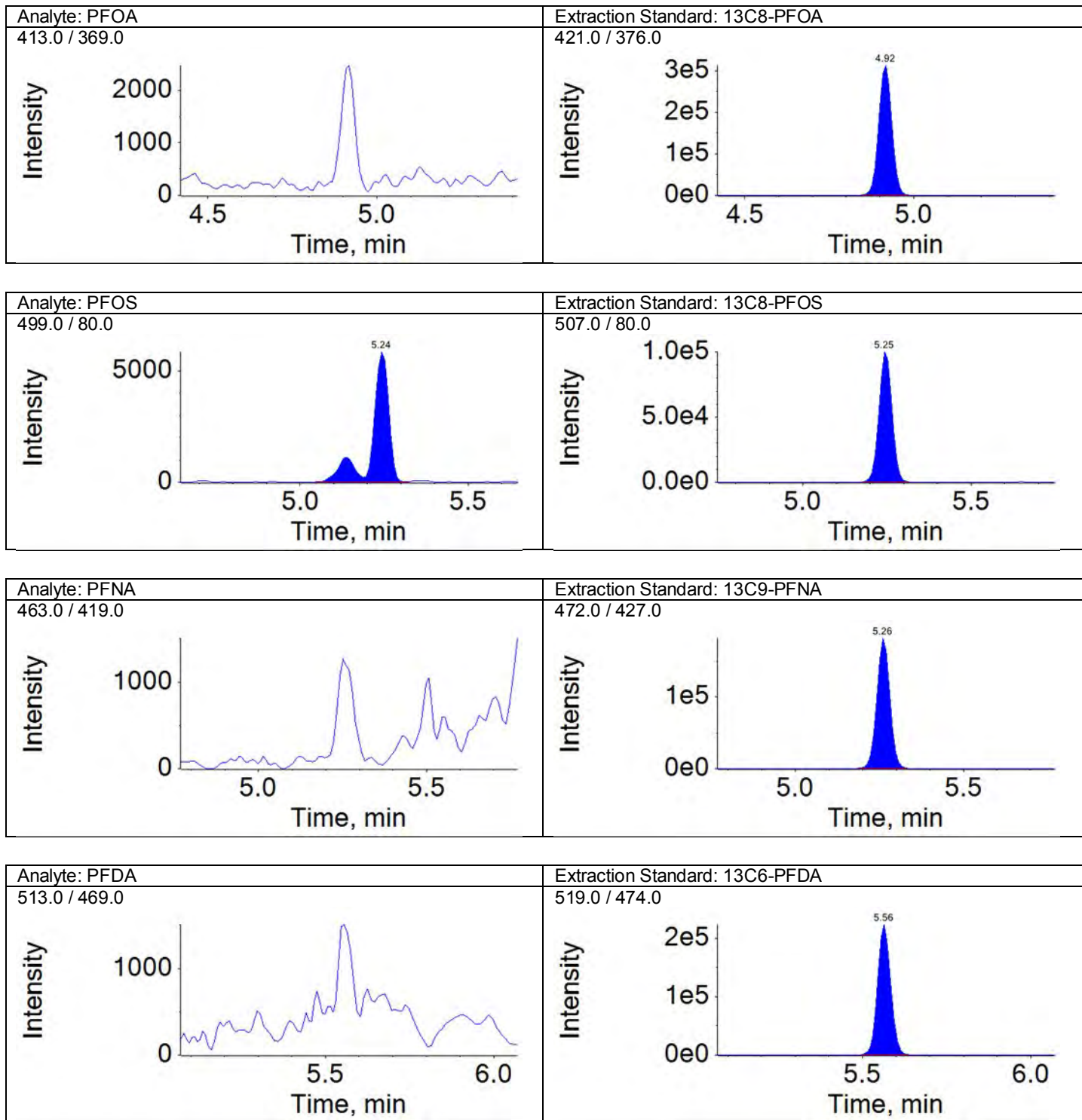
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QMethod Name: 18AUG20QM

Result Table: 18314006 11/13/2018 8:06:19 PM
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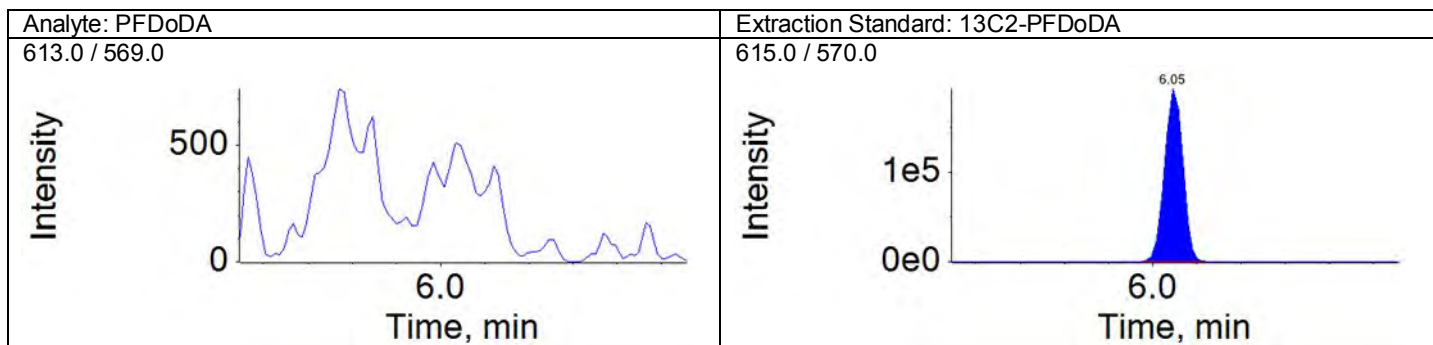
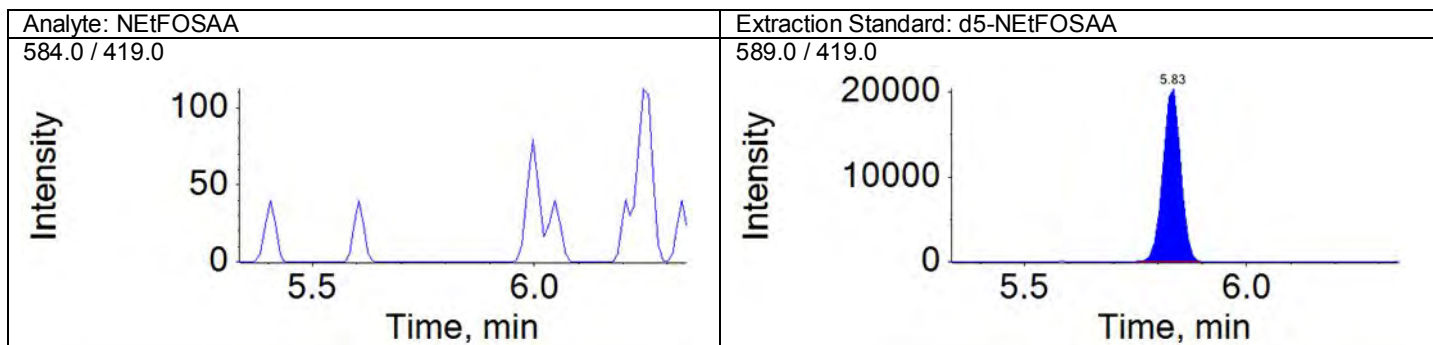
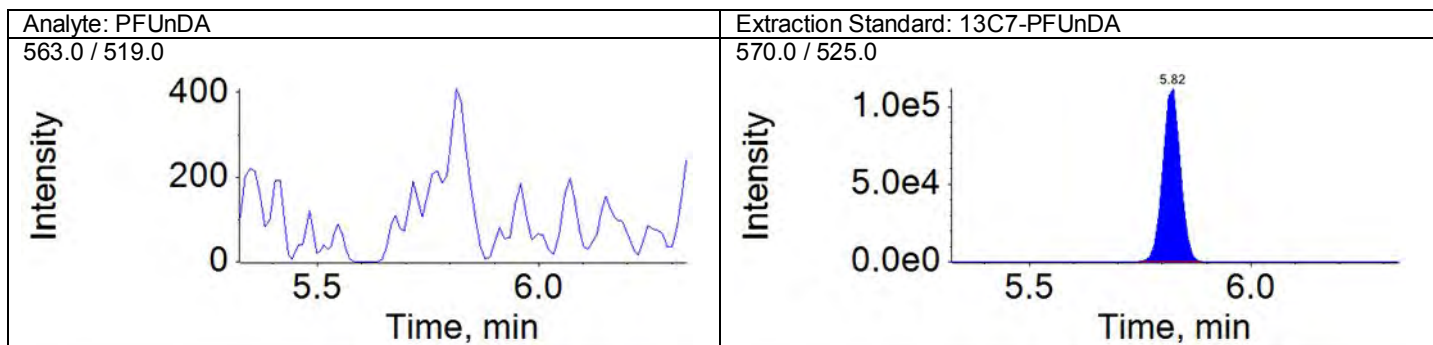
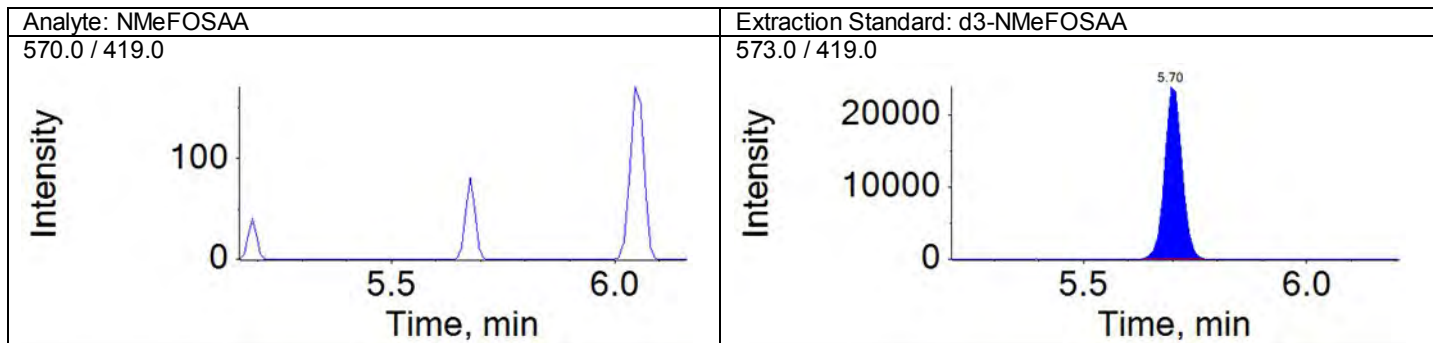
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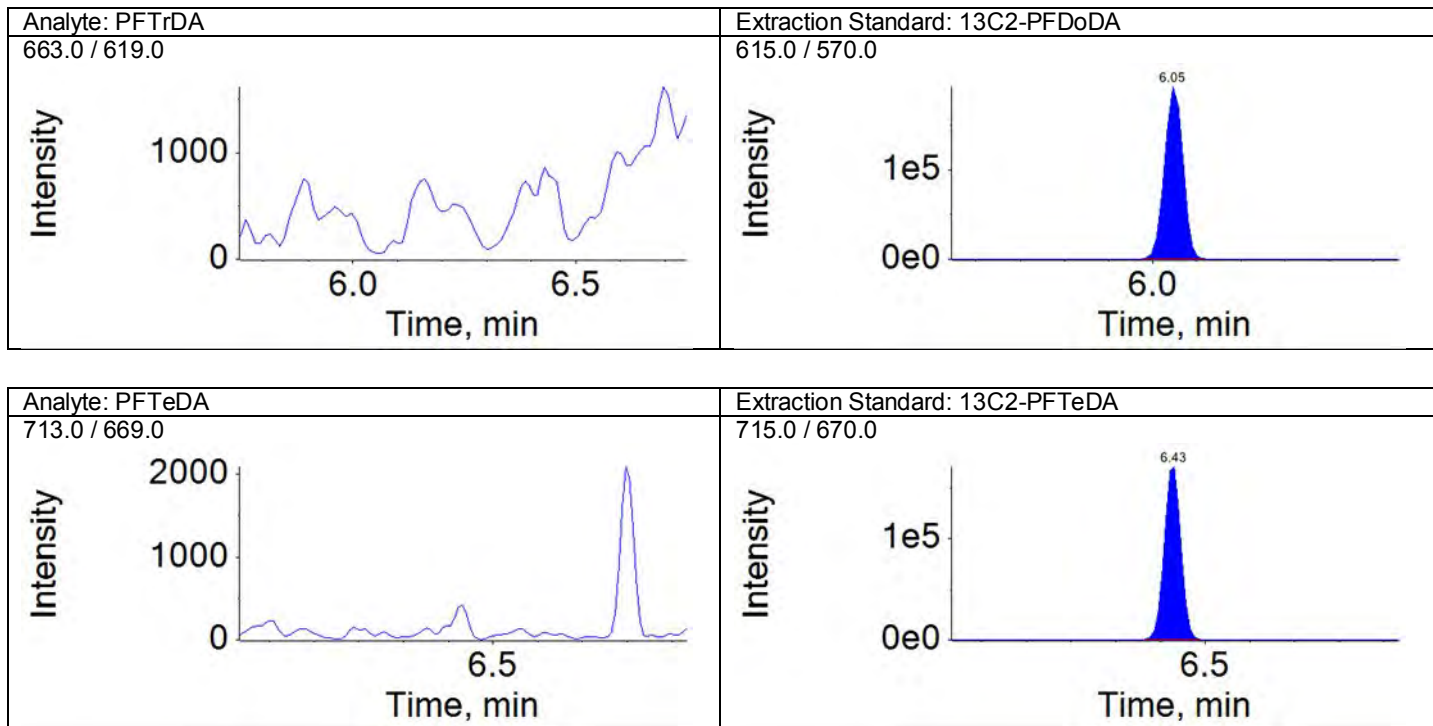
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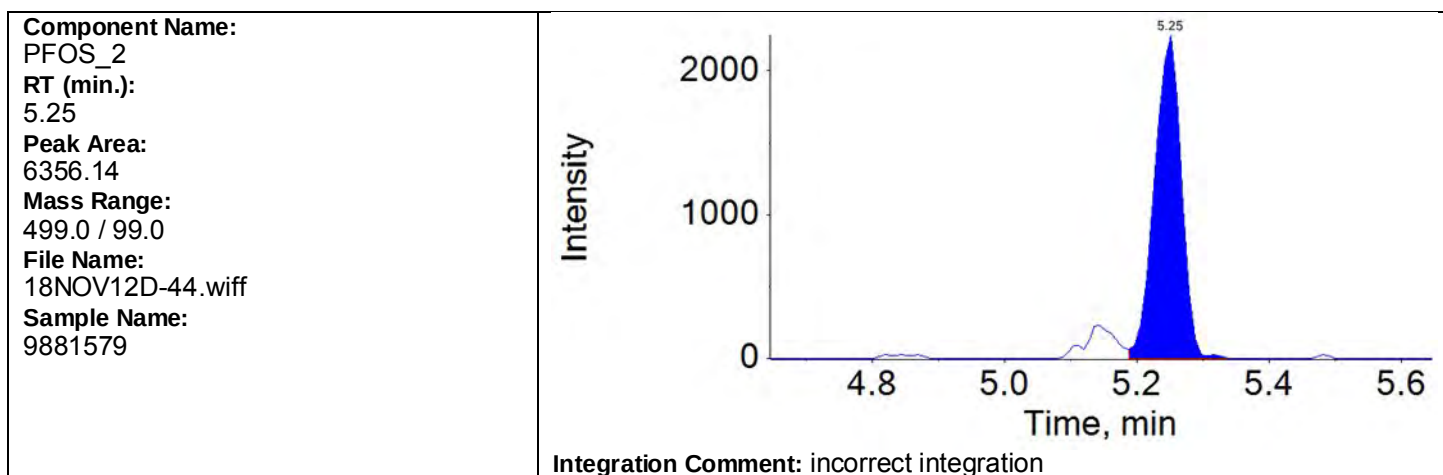
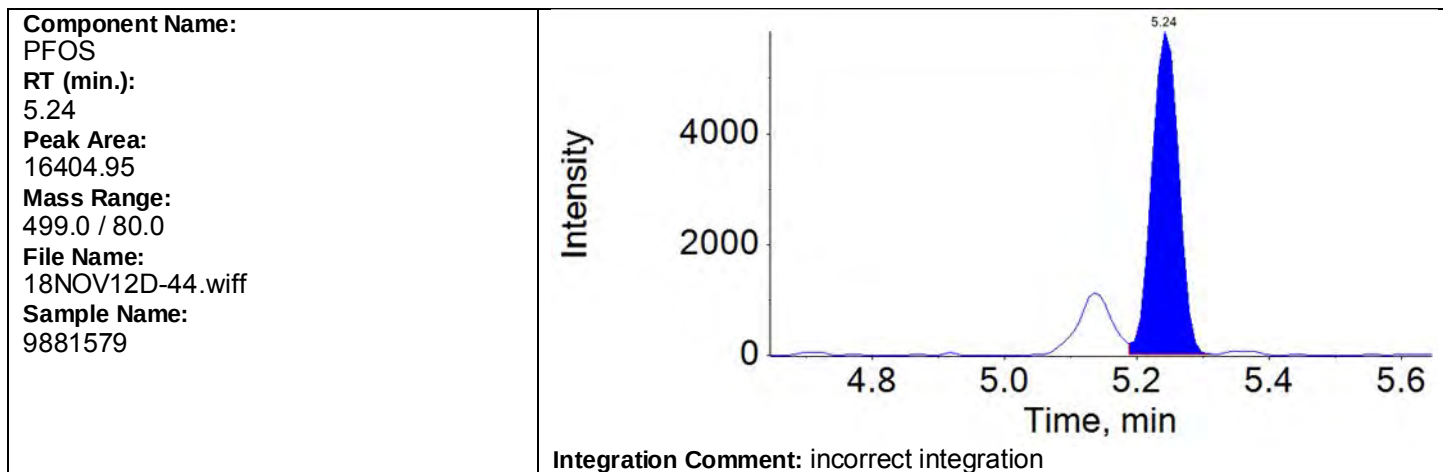
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Result Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam



Results Table Name: 18314006
Results Table Date: 11/13/2018 8:06:19 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM



Results Table Name: 18314006
Results Table Date: 11/13/2018 8:06:19 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED

By MCD at 8:21 pm, 11/13/18

REVIEWED

By umar at 2:22 pm, 11/15/18

Ion Ratio Report

Sample Name: 9881579

Instrument Name: LM27631

File Name: 18NOV12D-44.wiff

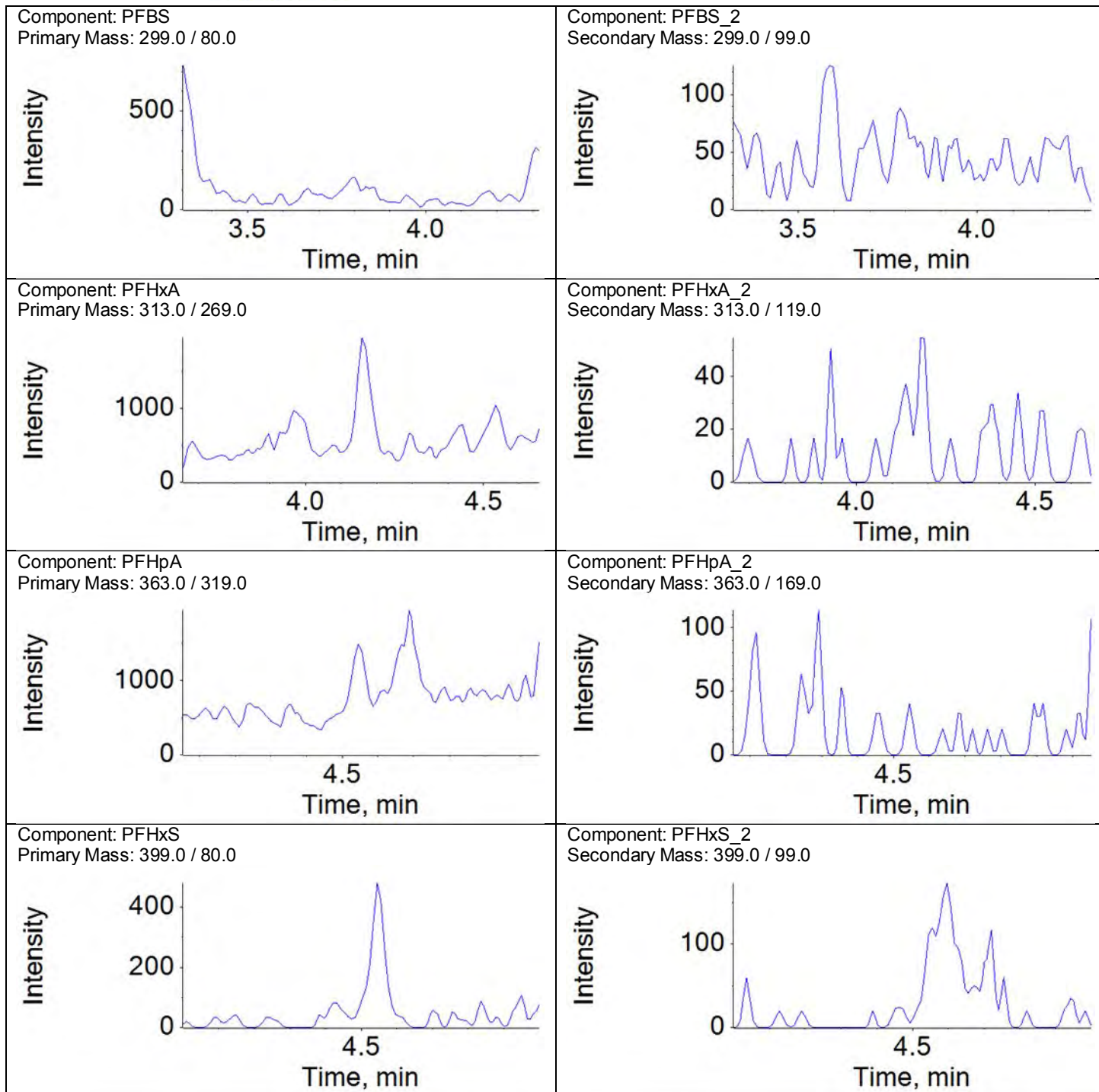
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PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	5.24	1.00	20719.32	M	N/A	0.3409			
PFOS_2	5.25	1.00	7062.27	M	N/A	0.3409	32	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

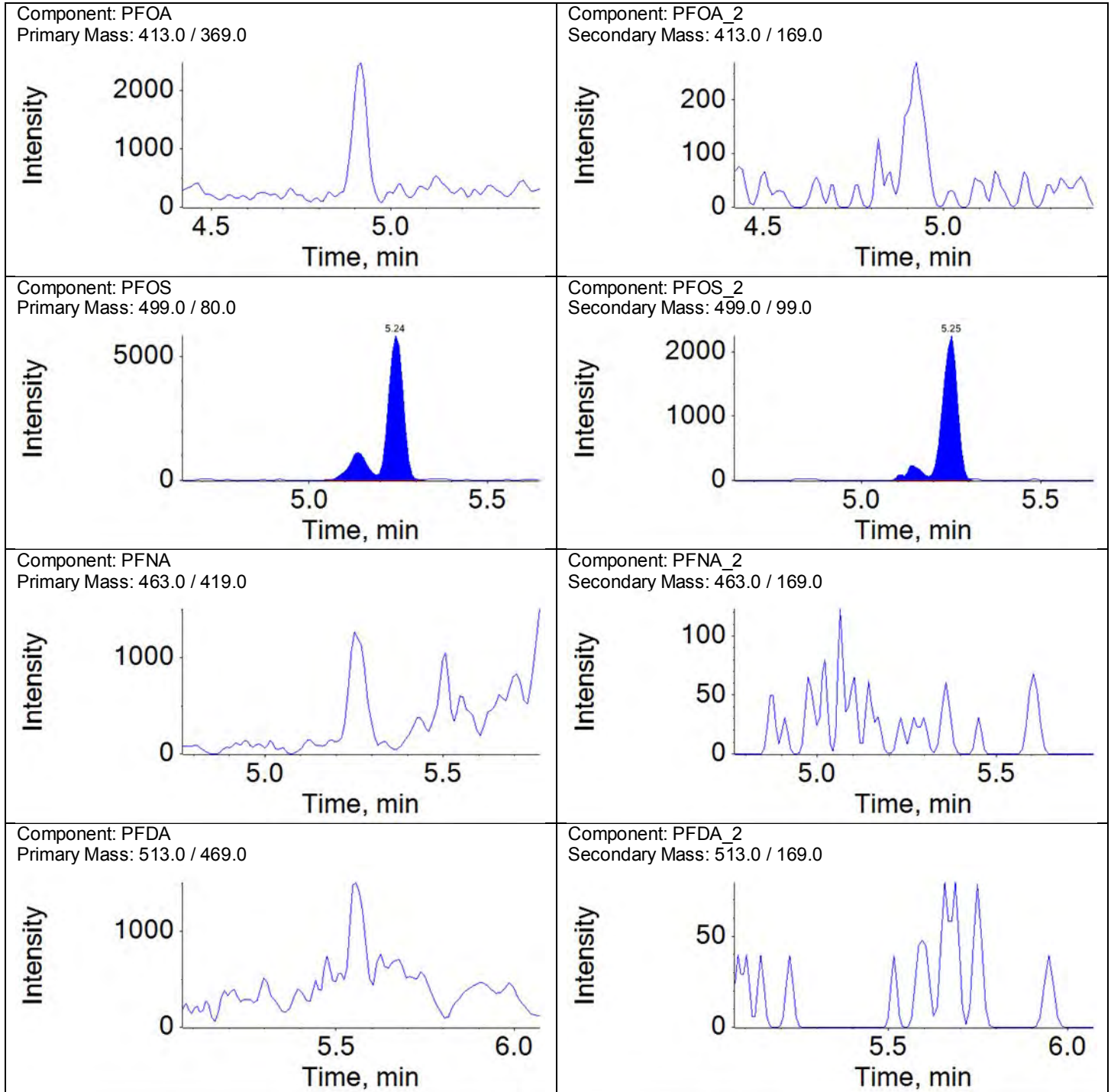
APPROVED

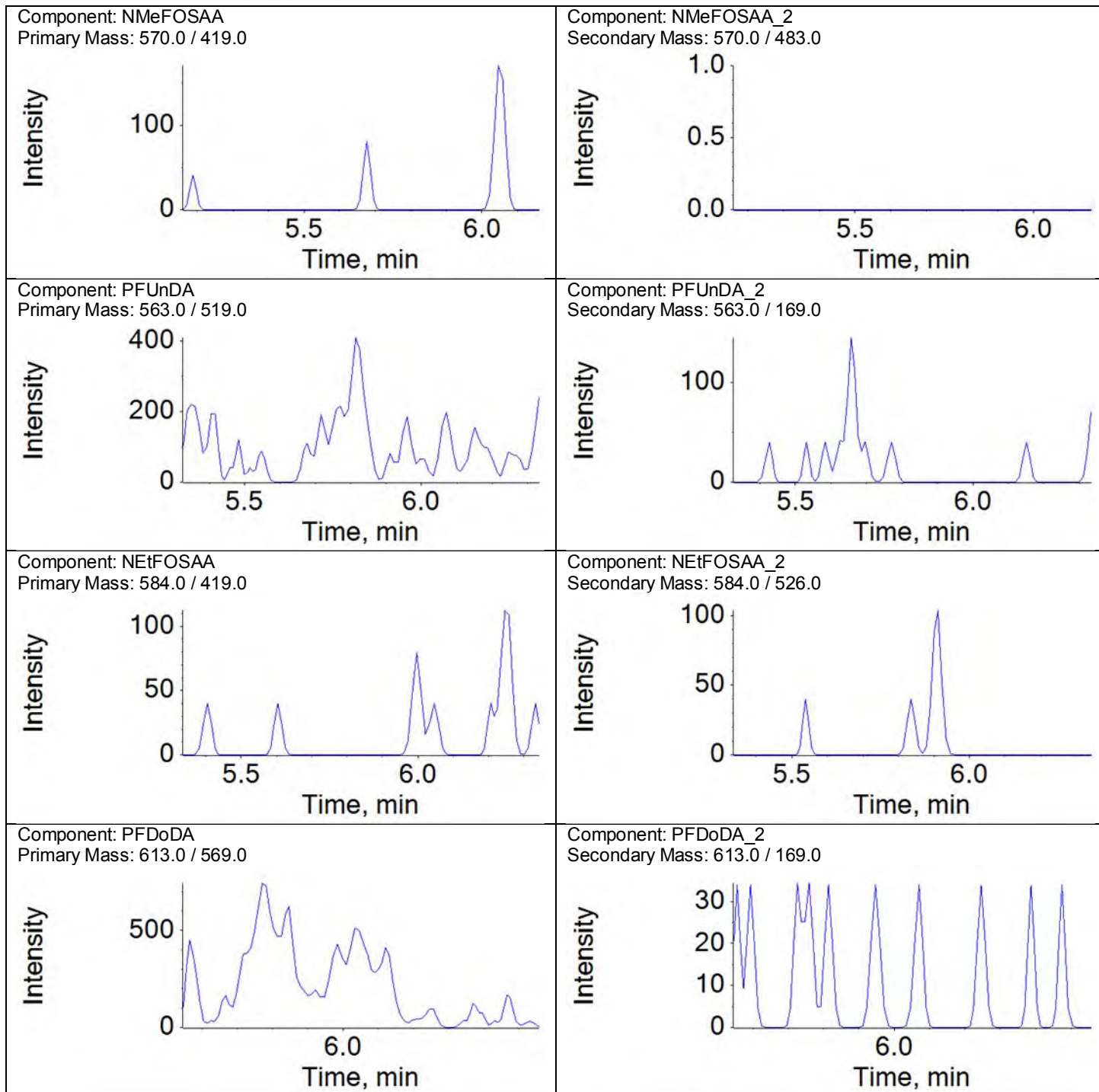
By MCD at 8:21 pm, 11/13/18

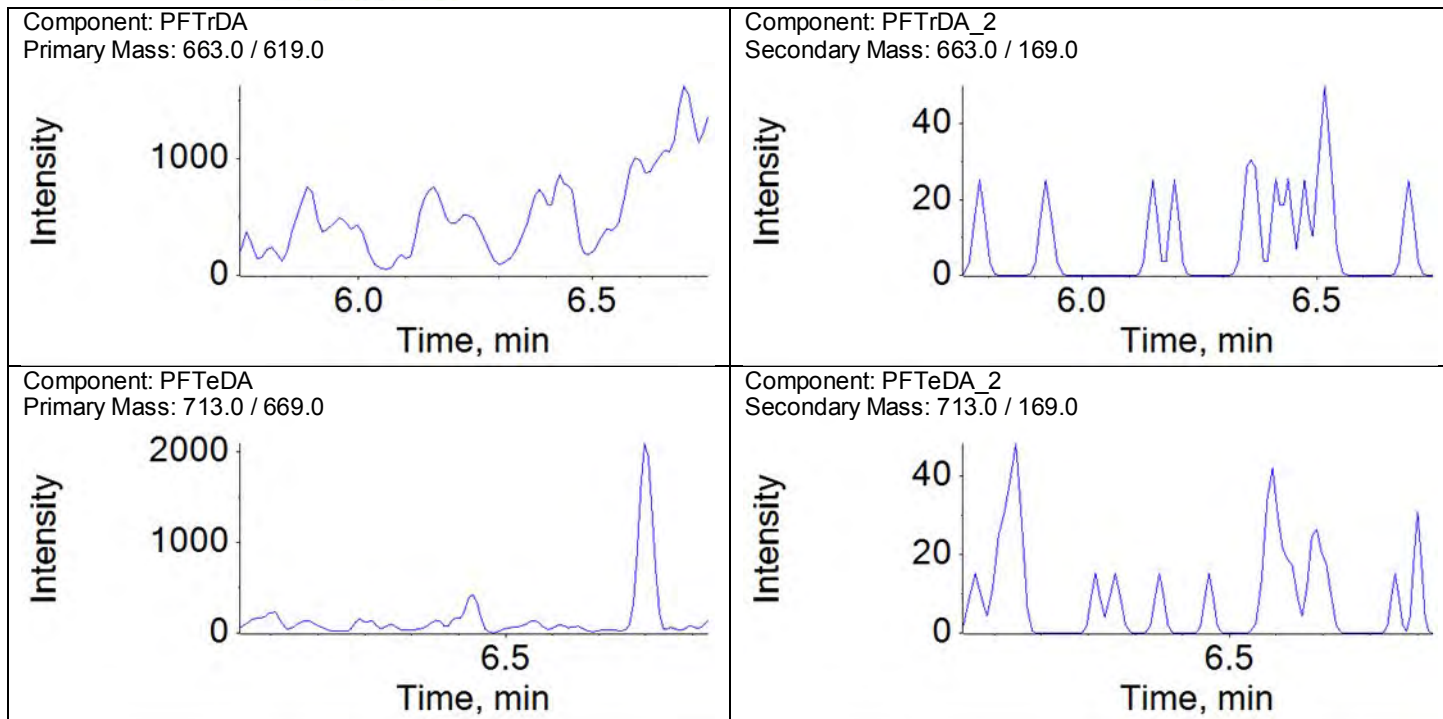
REVIEWED

By umar at 2:22 pm, 11/15/18









ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881580		Data File:	18NOV12D-45.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18314006 OU1-CAOC21-W-05-02 Grab Water		Acquis Date:	2018-11-12T23:22:45
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	74		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18314006
QMethod File:	18AUG20QM		ICAL Name:	18NOV12DCAL
Batch Number:	18314006		Operator:	MCD7824
Sample Wt.:	0.26955		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV12DCAL-44

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	719795.6	659926.2	9	50	
13C2-PFOA	5.0	491738.1	450219.7	9	50	
13C4-PFOS	4.8	270276.6	249205.8	8	50	
13C2-PFDA	5.0	320159.0	278743.9	15	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	432633.1	13C3-PFBA	719795.6	0.601	17.251	15.741	91	50-150	
E13C5-PFHxA	695651.6	13C2-PFOA	491738.1	1.415	18.549	18.959	102	50-150	
E13C3-PFHxS	333686.5	13C2-PFOA	491738.1	0.679	17.548	17.275	98	50-150	
E13C4-PFHpA	540303.9	13C2-PFOA	491738.1	1.099	18.549	18.364	99	50-150	
E13C8-PFOA	907861.7	13C2-PFOA	491738.1	1.846	18.549	18.871	102	50-150	
E13C8-PFOS	274144.3	13C4-PFOS	270276.6	1.014	17.733	16.673	94	50-150	
E13C9-PFNA	496127.6	13C4-PFOS	270276.6	1.836	18.549	18.987	102	50-150	
E13C6-PFDA	623696.5	13C2-PFDA	320159.0	1.948	18.549	16.865	91	50-150	
Ed3-NMeFOSAA	86496.2	13C2-PFDA	320159.0	0.270	18.549	18.092	98	50-150	
E13C7-PFUnDA	254056.3	13C2-PFDA	320159.0	0.794	18.549	17.092	92	50-150	
Ed5-NEtFOSAA	59648.0	13C2-PFDA	320159.0	0.186	18.549	14.623	79	50-150	
E13C2-PFDoDA	513125.7	13C2-PFDA	320159.0	1.603	18.549	15.438	83	50-150	
E13C2-PFTeDA	355694.2	13C2-PFDA	320159.0	1.111	18.549	14.470	78	50-150	

ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881580

Instrument Name: LM27631

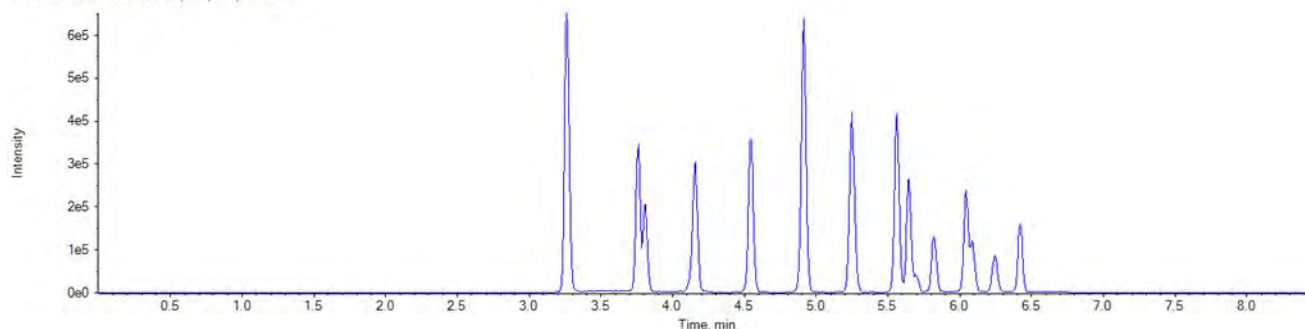
File Name: 18NOV12D-45.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
0.26955	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/L)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	432633.1	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	695651.6	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	540303.9	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	333686.5	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	907861.7	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	274144.3	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	496127.6	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	623696.5	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	86496.2	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	254056.3	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	59648.0	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	513125.7	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	513125.7	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	355694.2	N/A	

Total Ion Chromatogram

TIC from 18NOV12D-45.wiff (sample 1) - 9881580

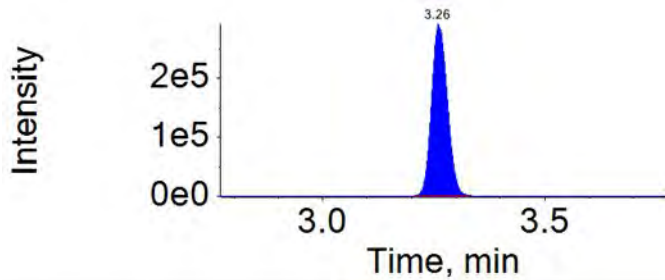


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QMethod Name: 18AUG20QM

Result Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam

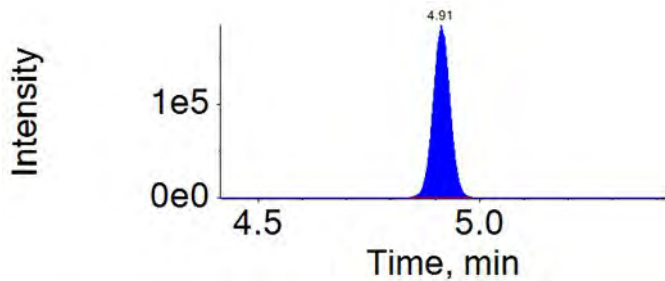
Injection Standard: 13C3-PFBA

216.0 / 172.0



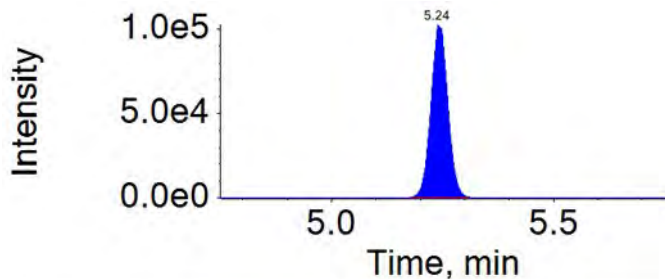
Injection Standard: 13C2-PFOA

415.0 / 370.0



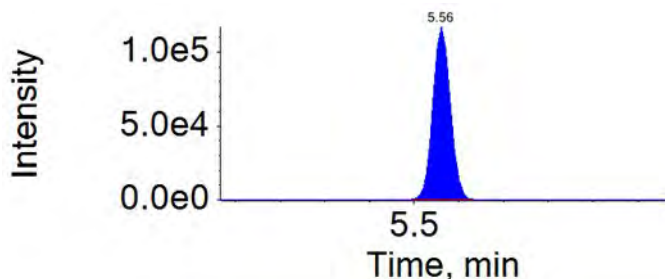
Injection Standard: 13C4-PFOS

503.0 / 80.0



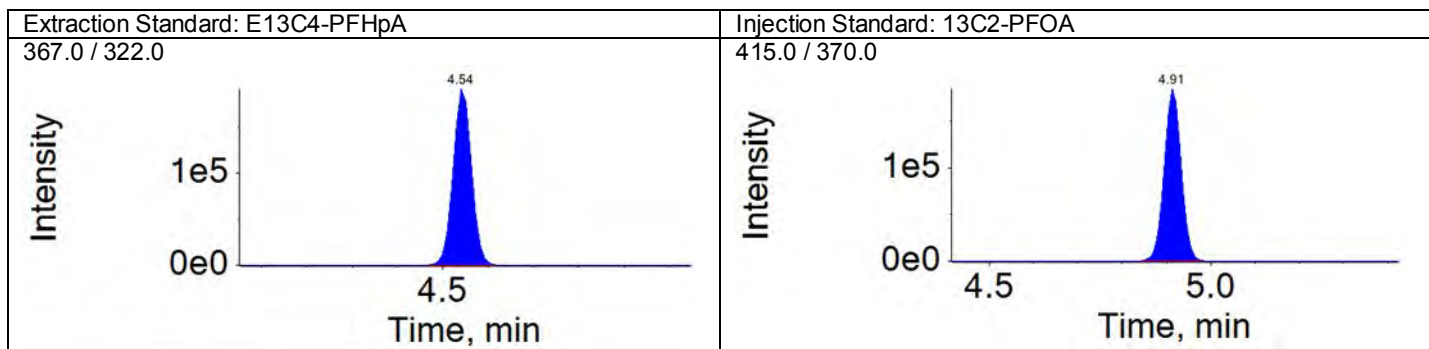
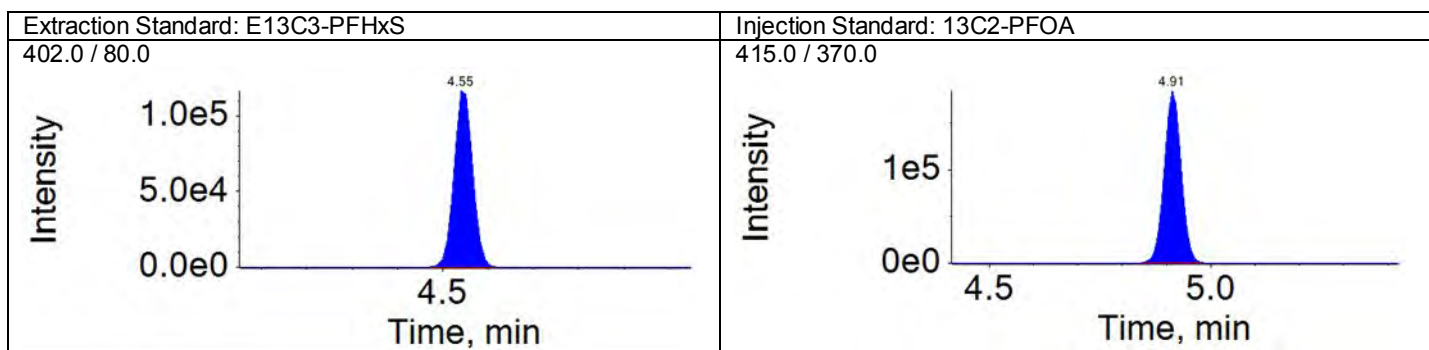
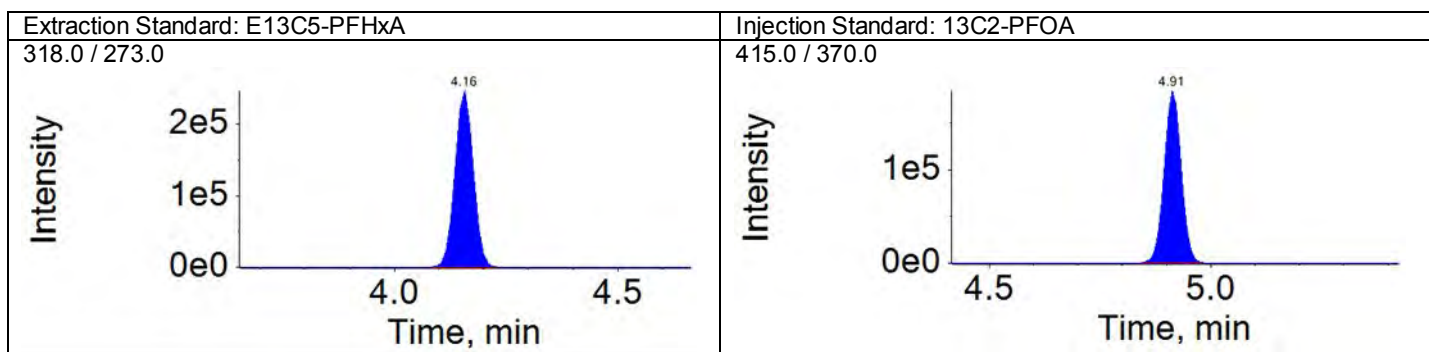
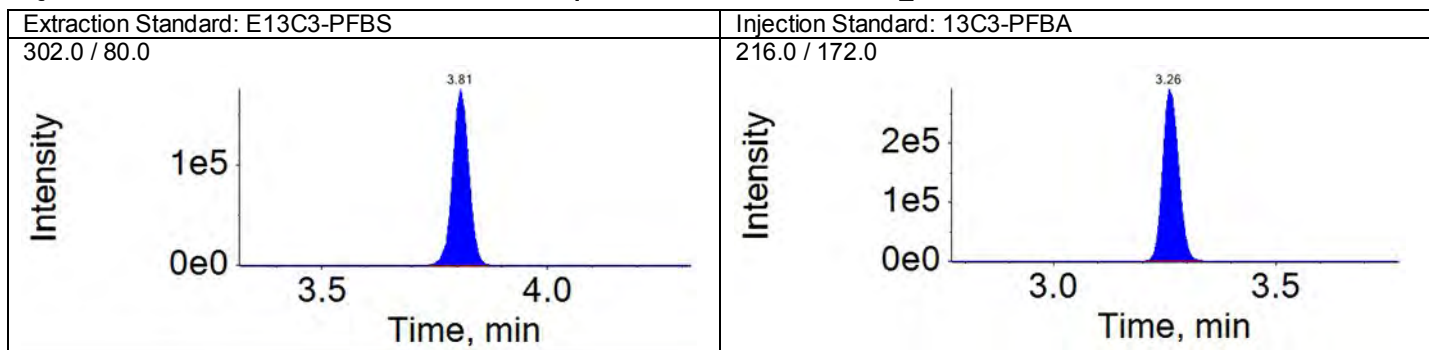
Injection Standard: 13C2-PFDA

515.0 / 470.0



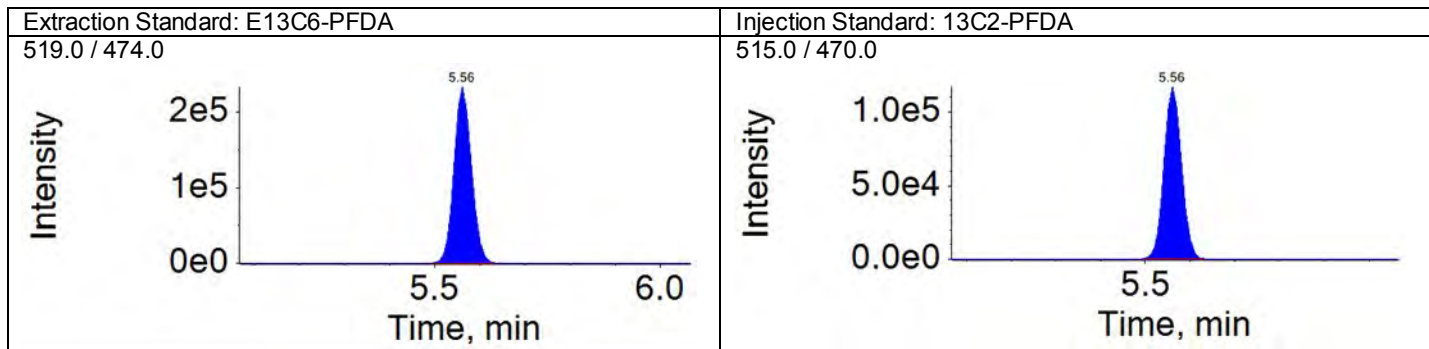
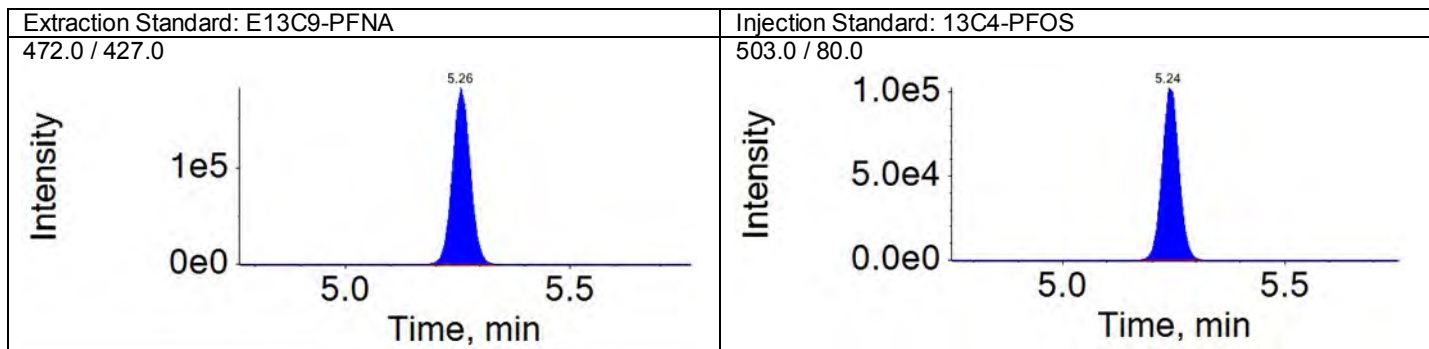
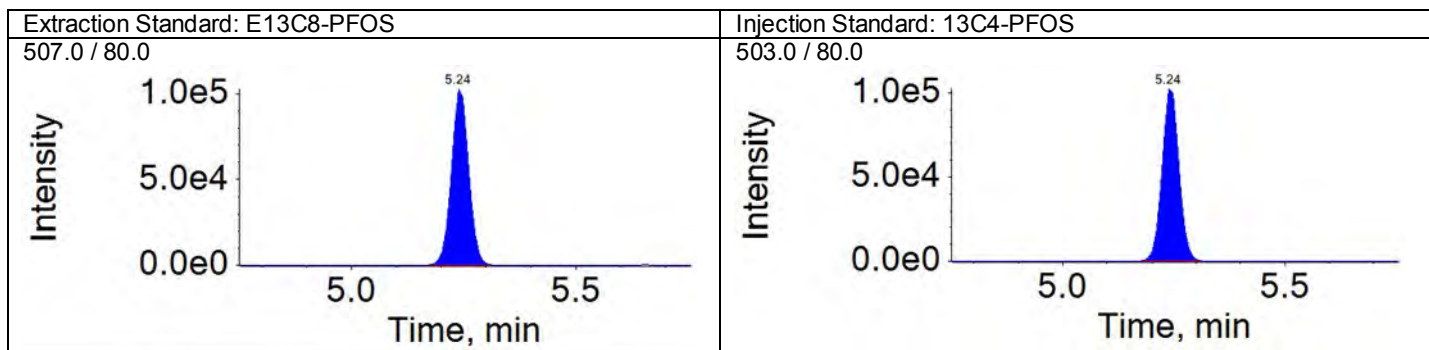
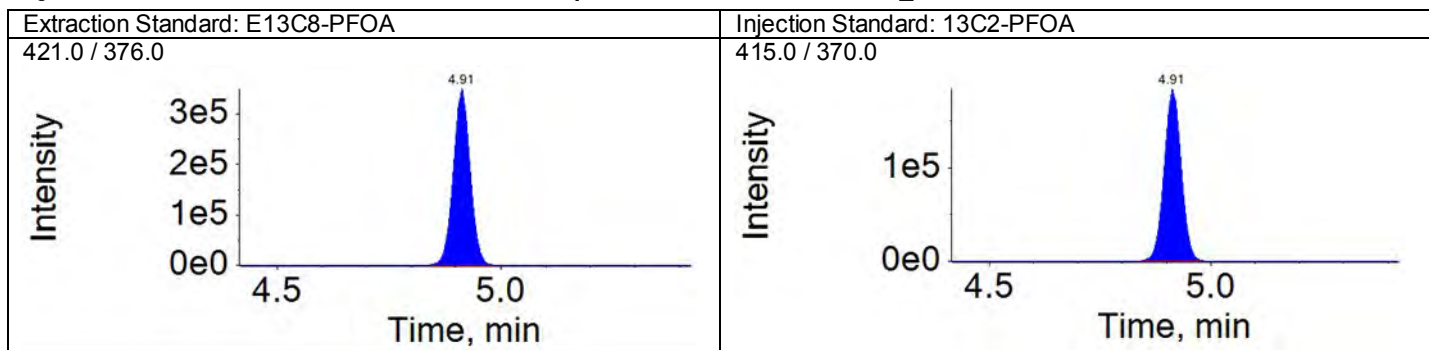
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QMethod Name: 18AUG20QM

Result Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam



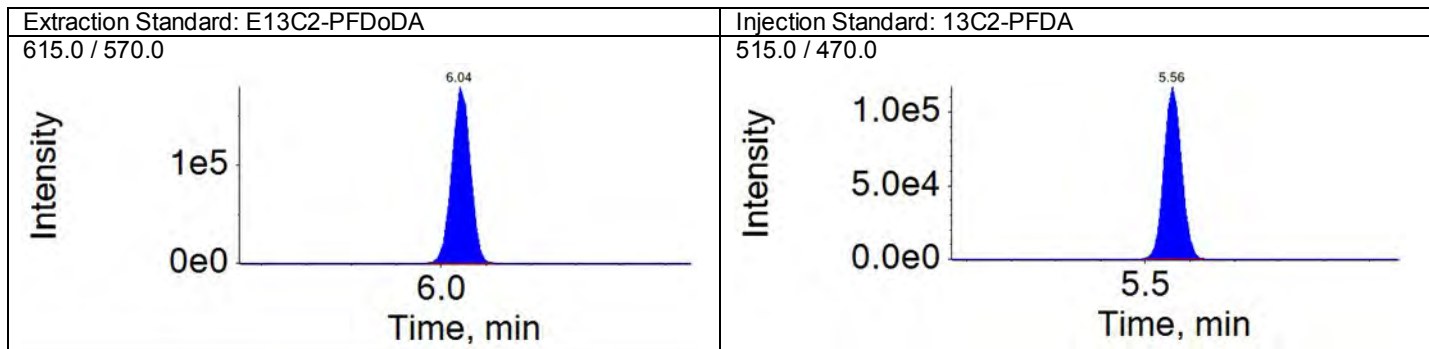
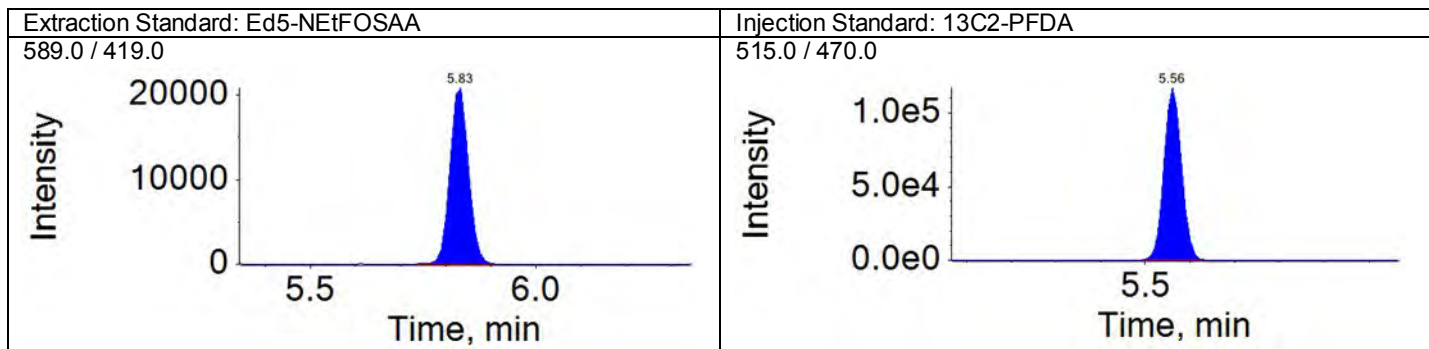
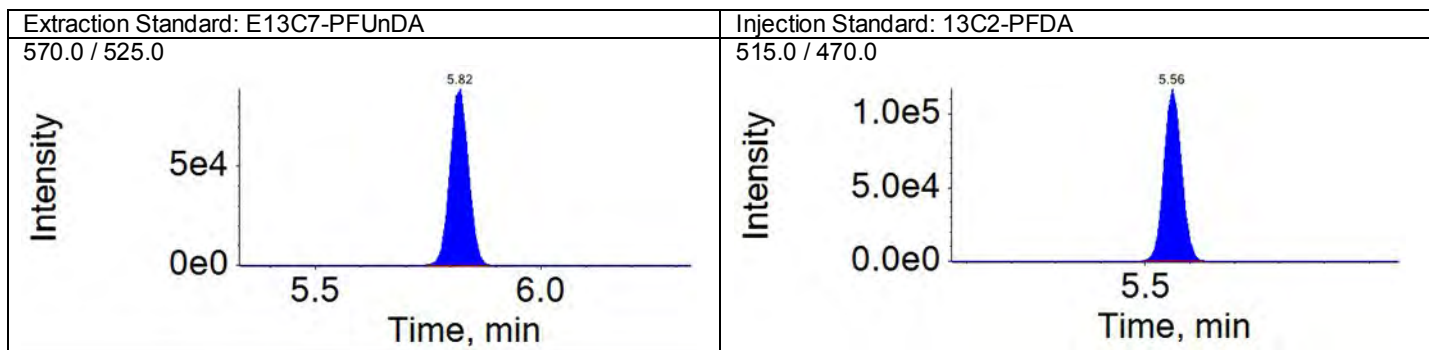
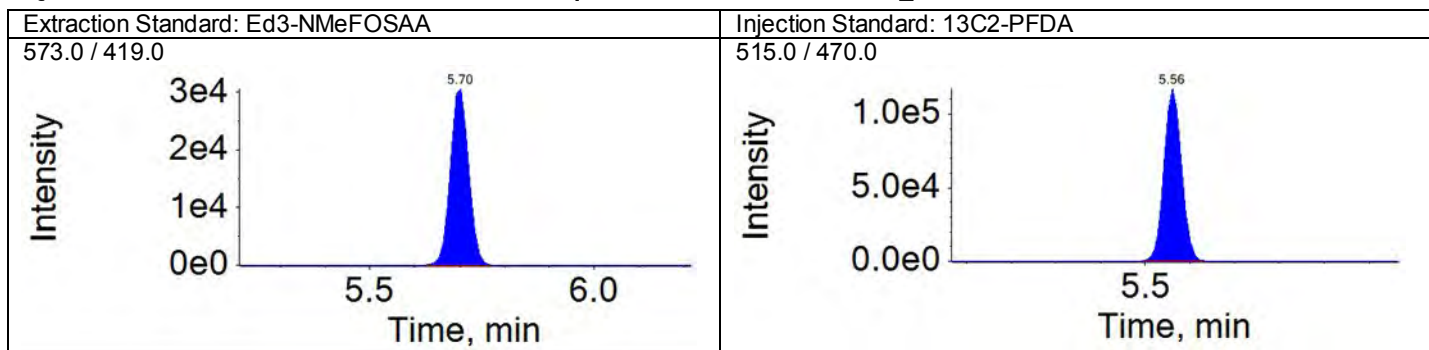
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QMethod Name: 18AUG20QM

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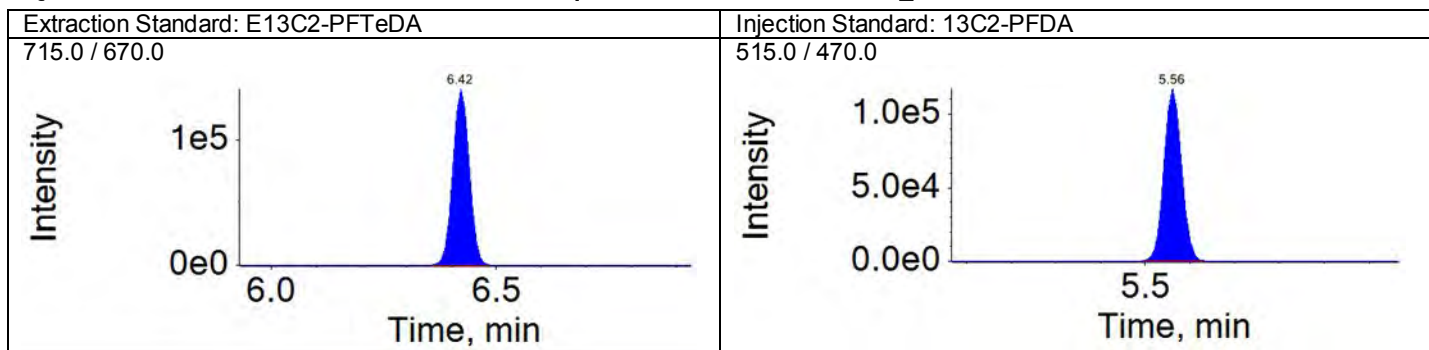
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Result Table: 18314006 11/13/2018 8:06:19 PM
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ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

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Acquisition Method: 18AUG13_3uL.dam



APPROVED

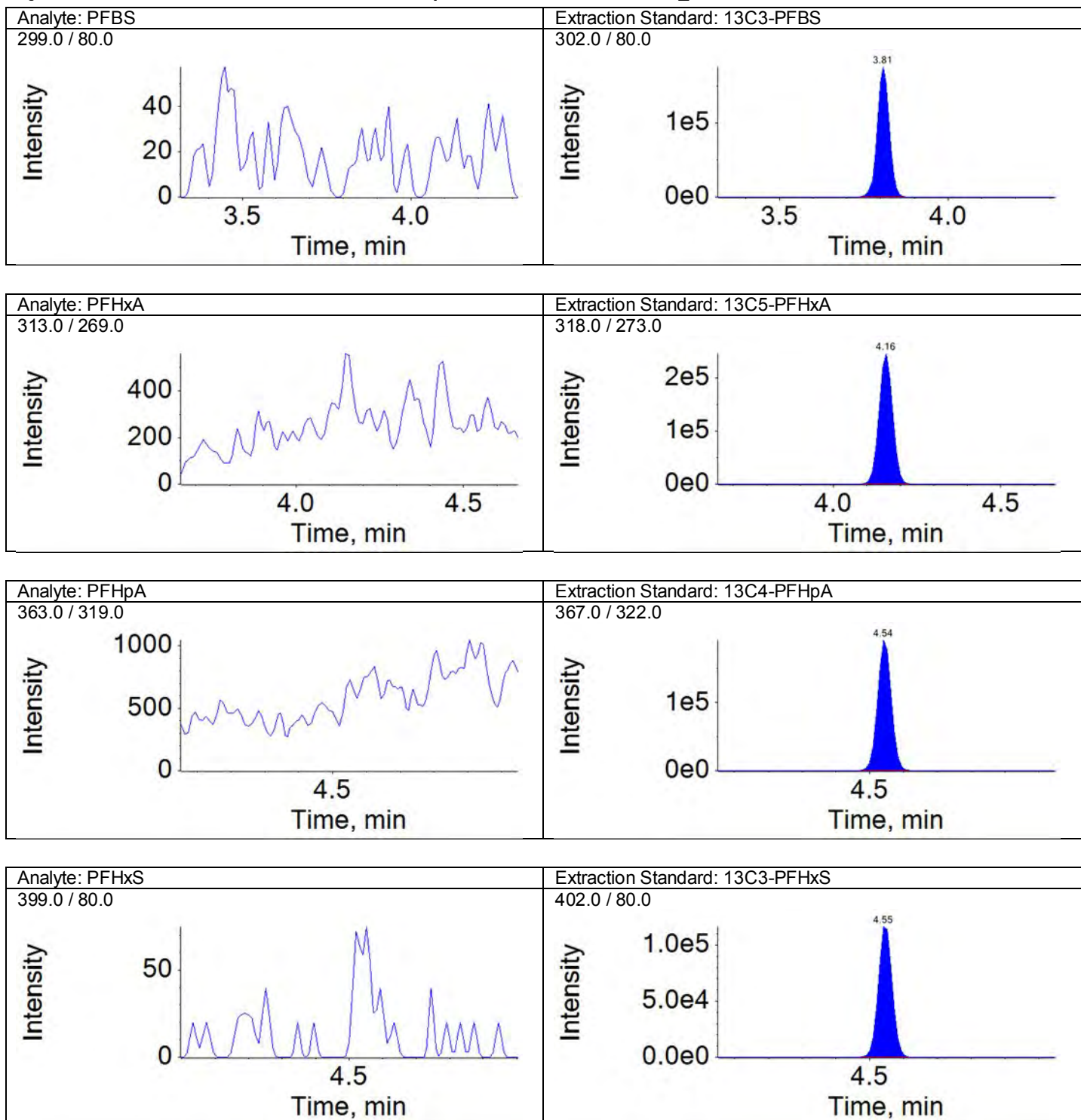
By MCD at 8:21 pm, 11/13/18

REVIEWED

By umar at 2:22 pm, 11/15/18

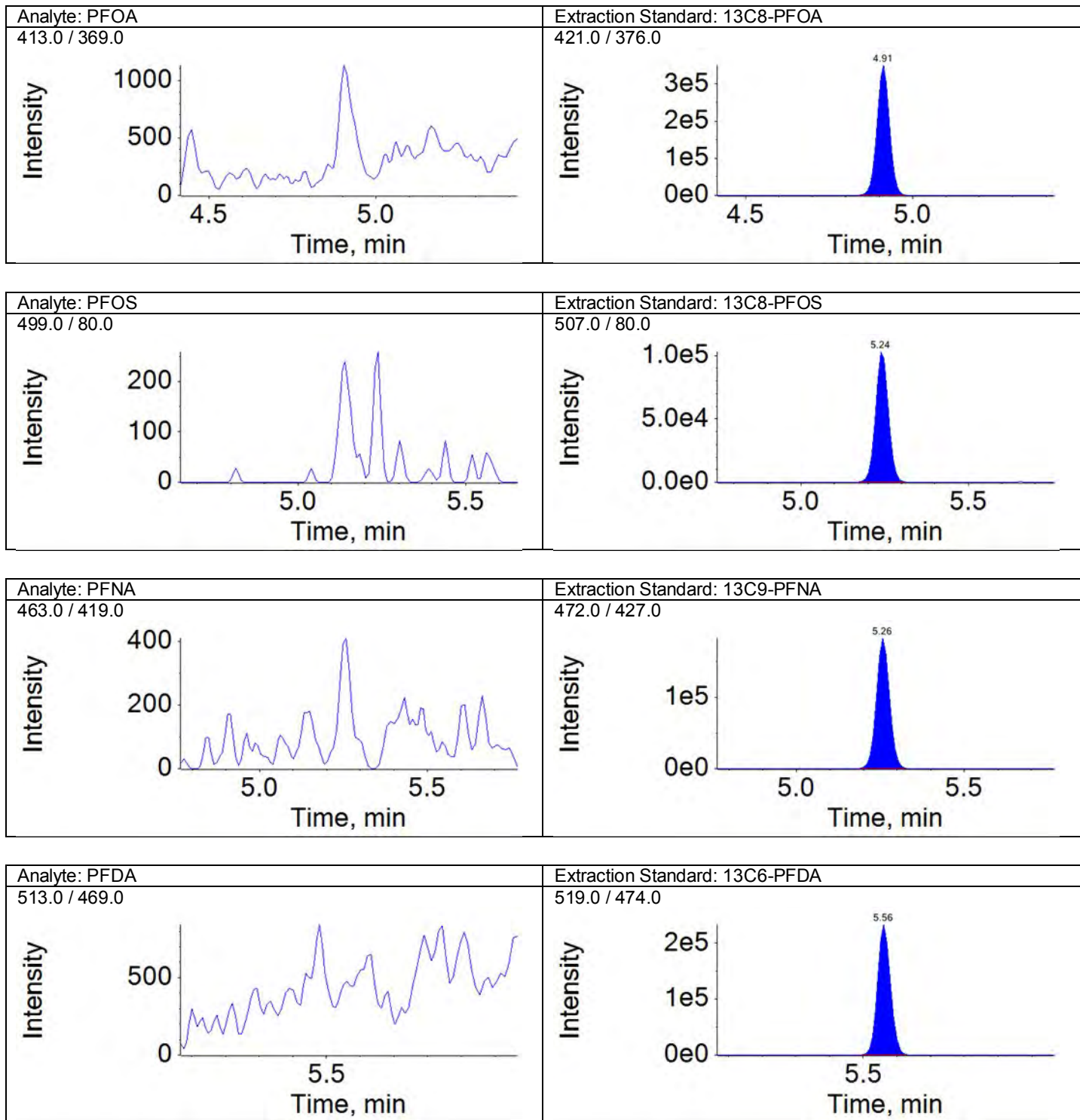
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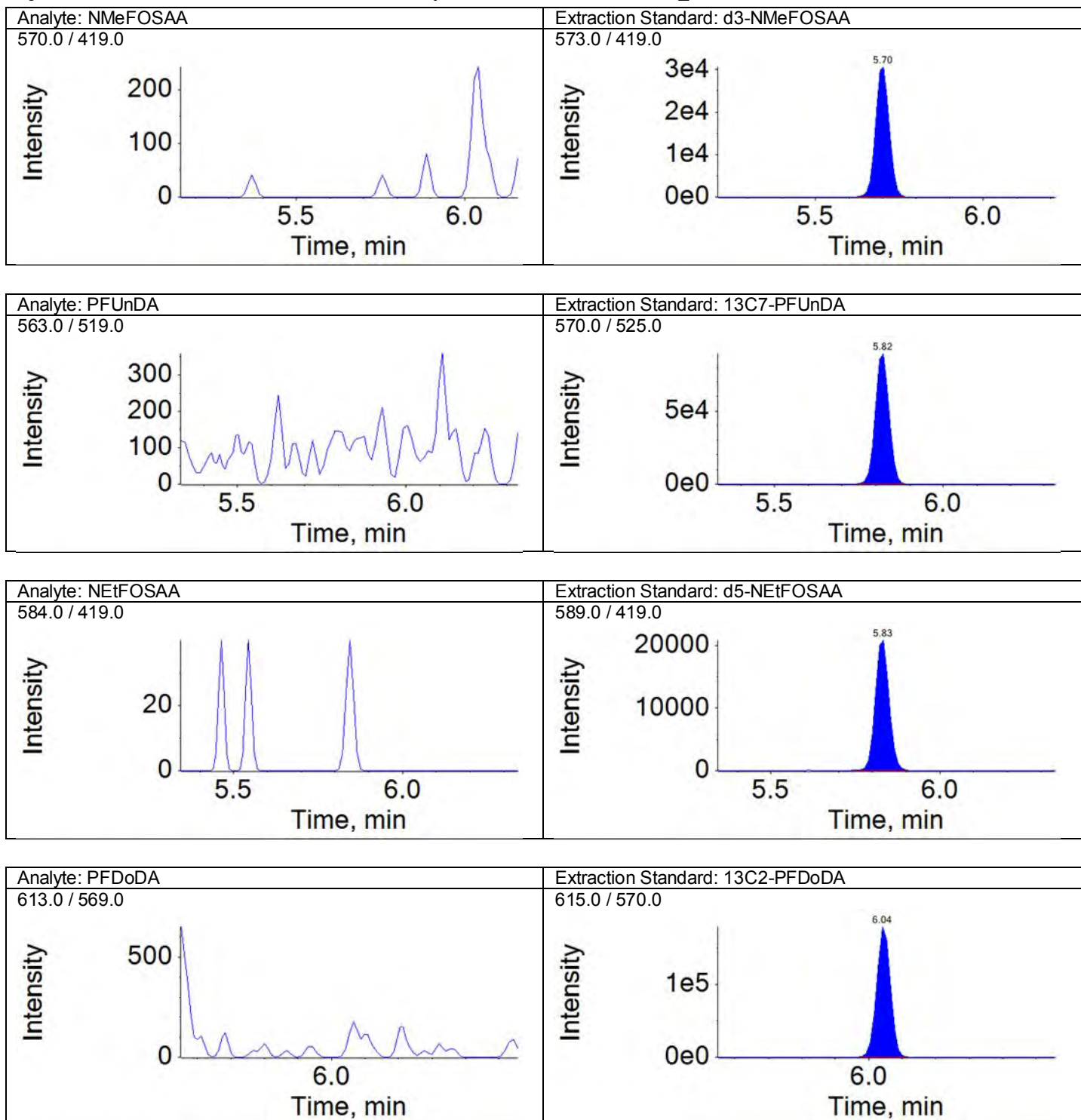
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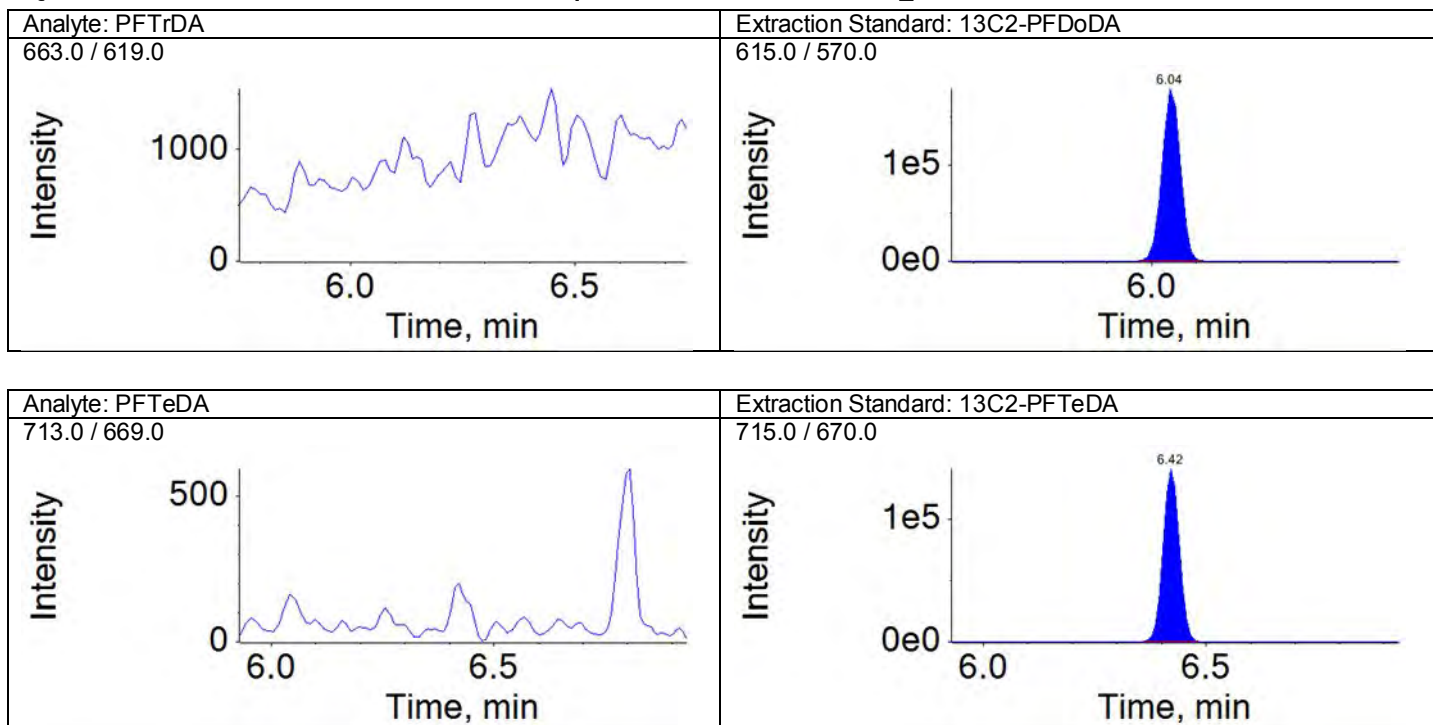
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ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314006 11/13/2018 8:06:19 PM
Acquisition Method: 18AUG13_3uL.dam



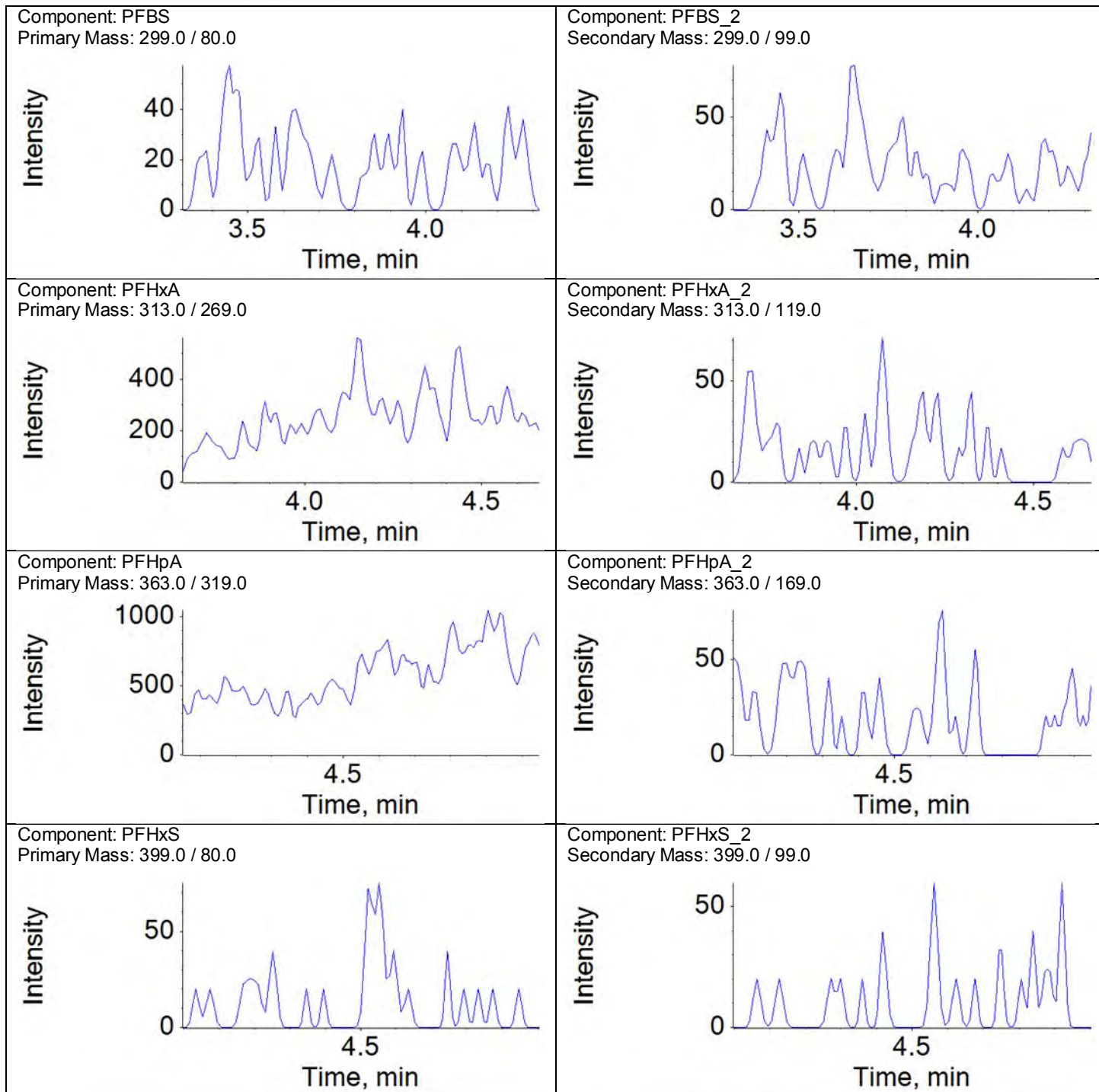
Ion Ratio Report

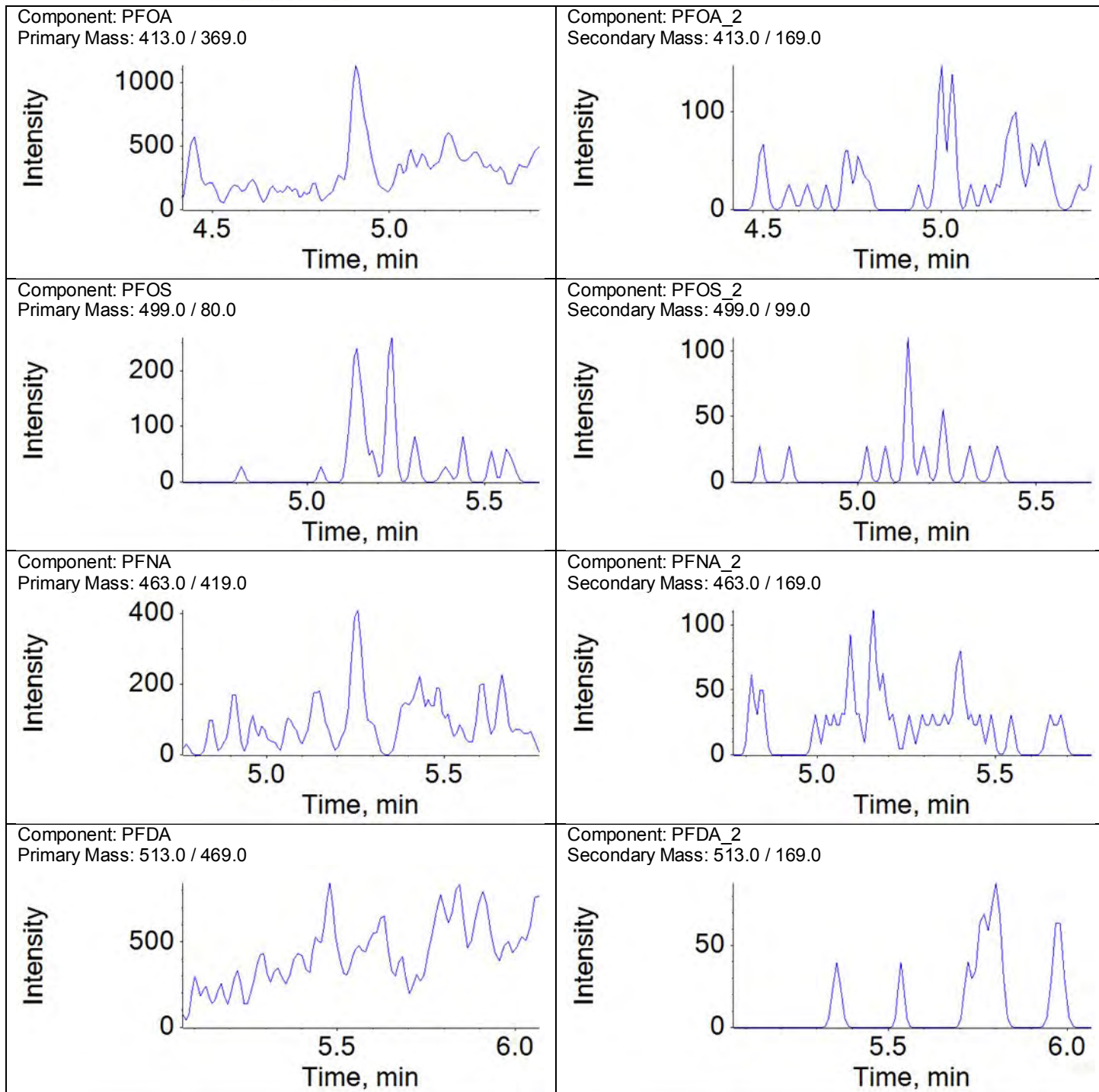
Sample Name: 9881580

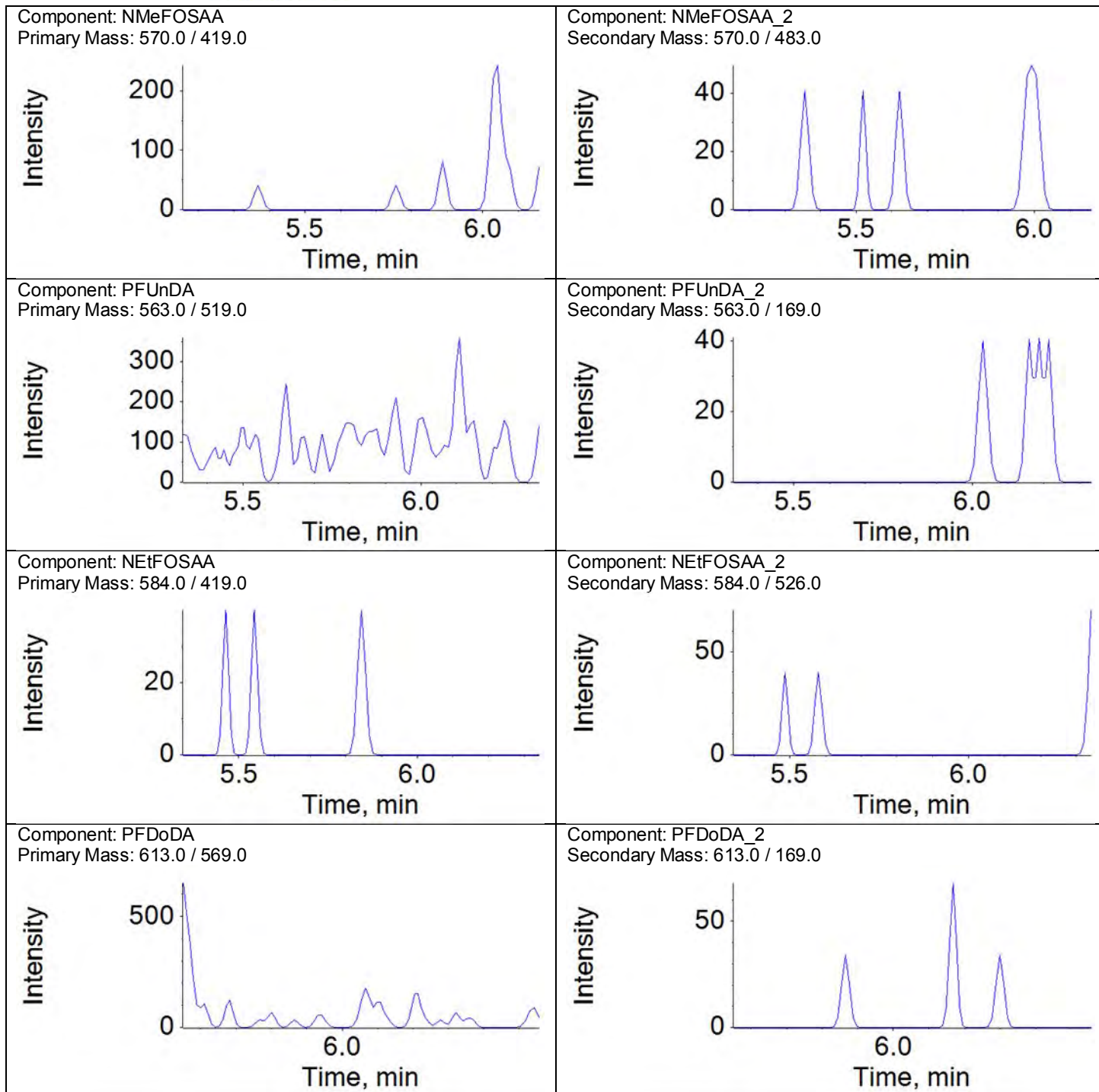
Instrument Name: LM27631

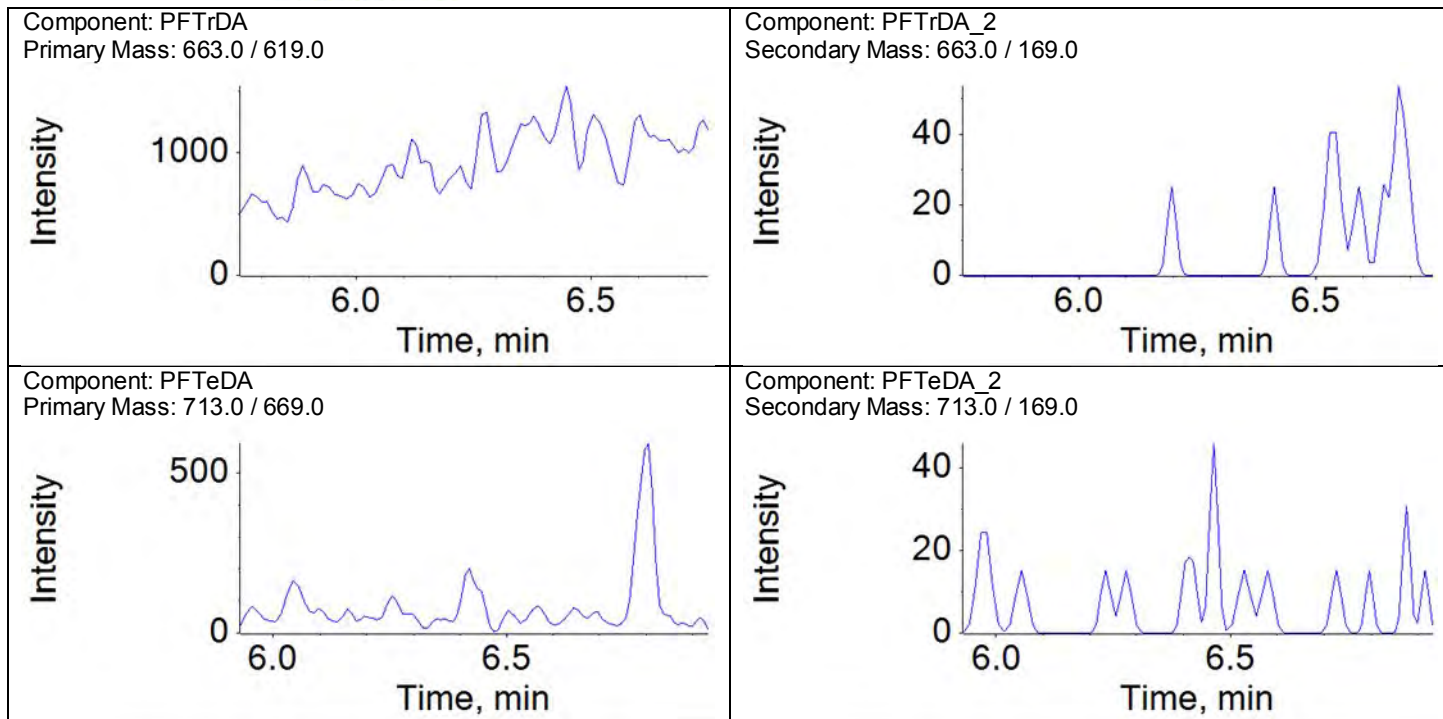
File Name: 18NOV12D-45.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	









ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881581		Data File:	18NOV08D-48.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18311003 OU1-CAOC21-S-04-01 Grab Soil		Acquis Date:	2018-11-08T18:52:32
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	72		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18311003
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	18311003		Operator:	JPT12262
Sample Wt.:	1.09000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV08D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	825847.4	728839.7	13	50	
13C2-PFOA	5.0	599149.6	491983.1	22	50	
13C4-PFOS	4.8	313845.0	255568.1	23	50	
13C2-PFDA	5.0	356489.2	315407.5	13	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	356194.5	13C3-PFBA	825847.4	0.431	8.532	5.808	68	50-150	
E13C5-PFHxA	537080.0	13C2-PFOA	599149.6	0.896	9.174	6.050	66	50-150	
E13C3-PFHxS	267094.8	13C2-PFOA	599149.6	0.446	8.679	5.872	68	50-150	
E13C4-PFHpA	453801.8	13C2-PFOA	599149.6	0.757	9.174	6.322	69	50-150	
E13C8-PFOA	759688.3	13C2-PFOA	599149.6	1.268	9.174	6.488	71	50-150	
E13C8-PFOS	232877.3	13C4-PFOS	313845.0	0.742	8.771	6.020	69	50-150	
E13C9-PFNA	425420.9	13C4-PFOS	313845.0	1.356	9.174	6.794	74	50-150	
E13C6-PFDA	494568.2	13C2-PFDA	356489.2	1.387	9.174	6.402	70	50-150	
Ed3-NMeFOSAA	63395.7	13C2-PFDA	356489.2	0.178	9.174	6.068	66	50-150	
E13C7-PFUnDA	240216.8	13C2-PFDA	356489.2	0.674	9.174	7.133	78	50-150	
Ed5-NEtFOSAA	53265.7	13C2-PFDA	356489.2	0.149	9.174	6.345	69	50-150	
E13C2-PFDoDA	457203.2	13C2-PFDA	356489.2	1.283	9.174	6.344	69	50-150	
E13C2-PFTeDA	316001.8	13C2-PFDA	356489.2	0.886	9.174	5.855	64	50-150	

APPROVED

By JPT at 1:25 pm, 11/9/18

REVIEWED

By HMK at 9:20 am, 11/13/18

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881581

Instrument Name: LM27631

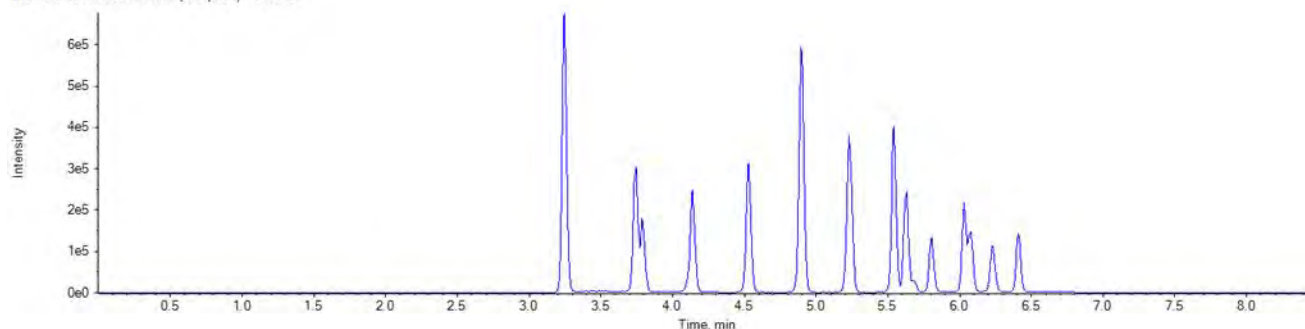
File Name: 18NOV08D-48.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.09000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.79	356194.5	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.14	537080.0	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.53	267094.8	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.53	453801.8	N/A	
PFOA	4.90	1.000	10974.8		A	13C8-PFOA	4.90	759688.3	0.014	0.149
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.22	232877.3	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.24	425420.9	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.54	494568.2	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.68	63395.7	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.80	240216.8	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.81	53265.7	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.03	457203.2	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.03	457203.2	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	316001.8	N/A	

Total Ion Chromatogram

TIC from 18NOV08D-48.wiff (sample 1) - 9881581



APPROVED

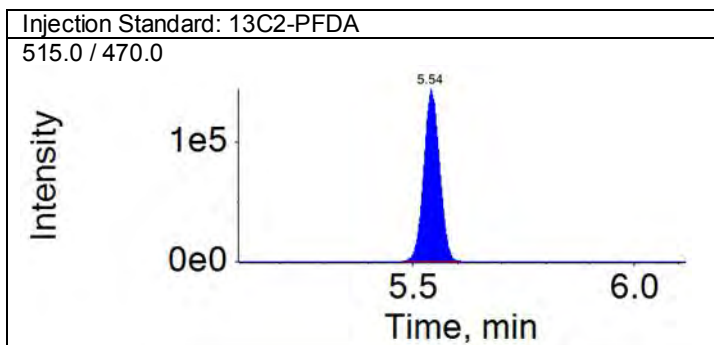
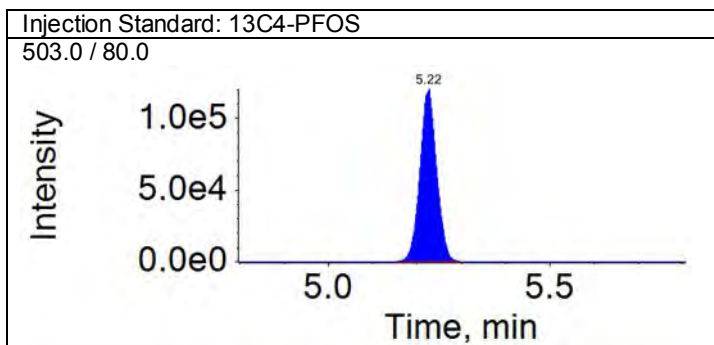
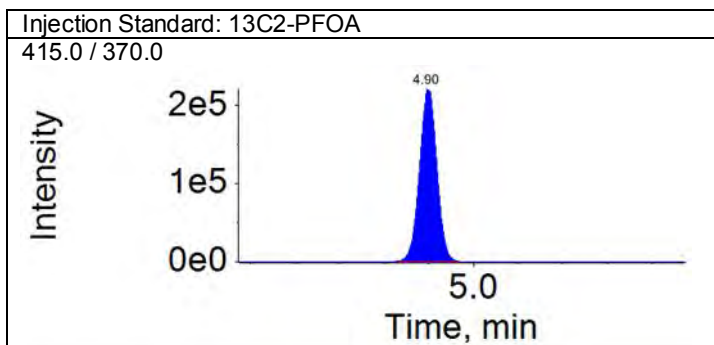
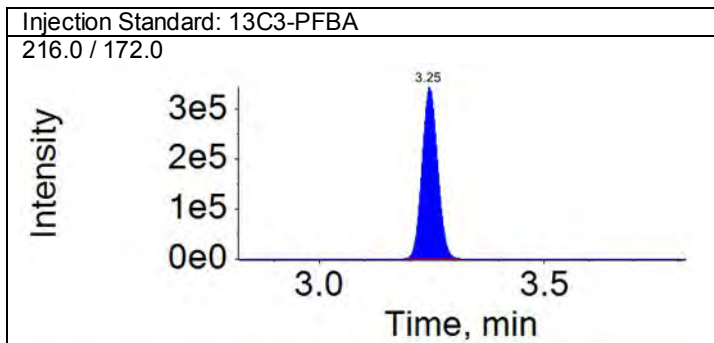
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REVIEWED

By HMK at 9:20 am, 11/13/18

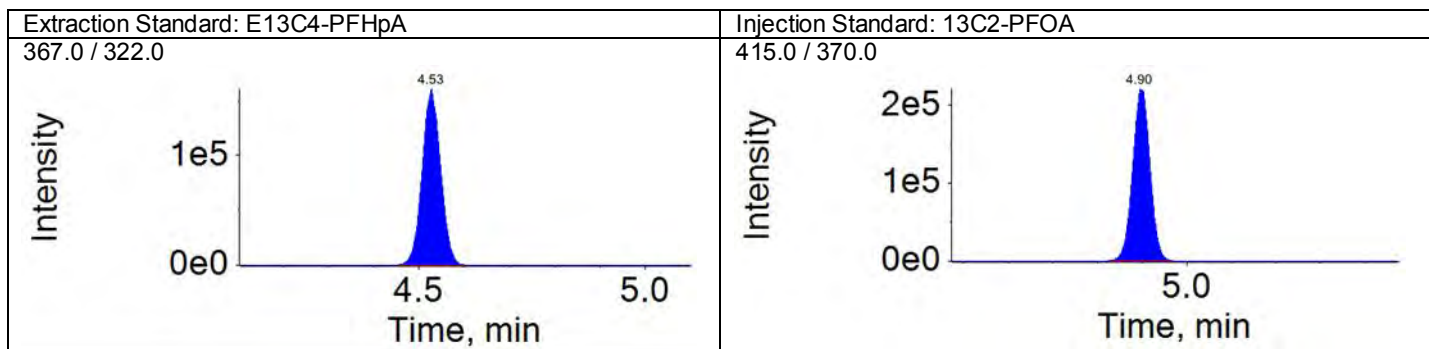
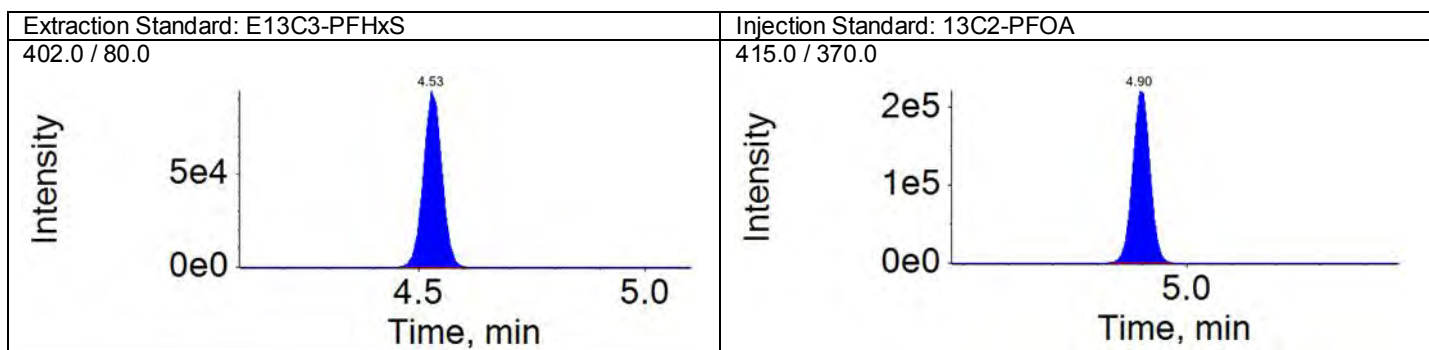
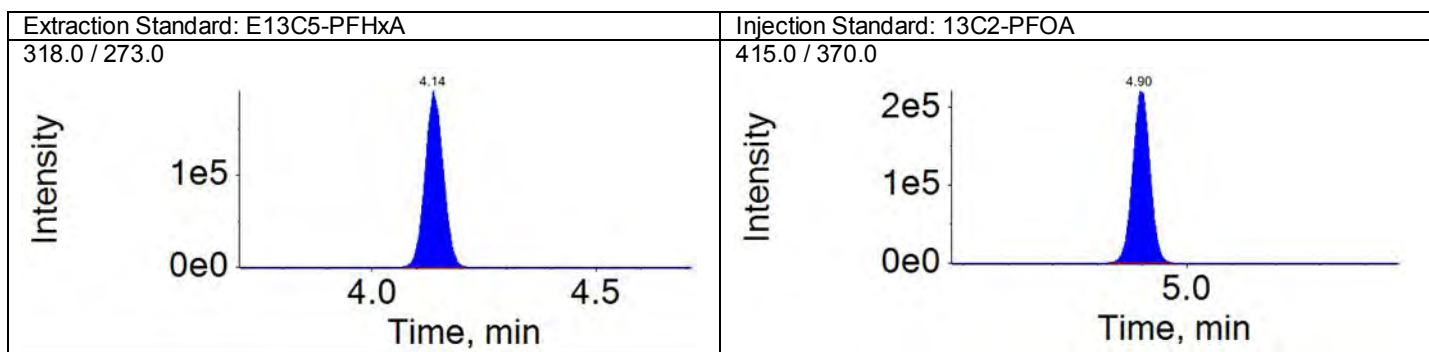
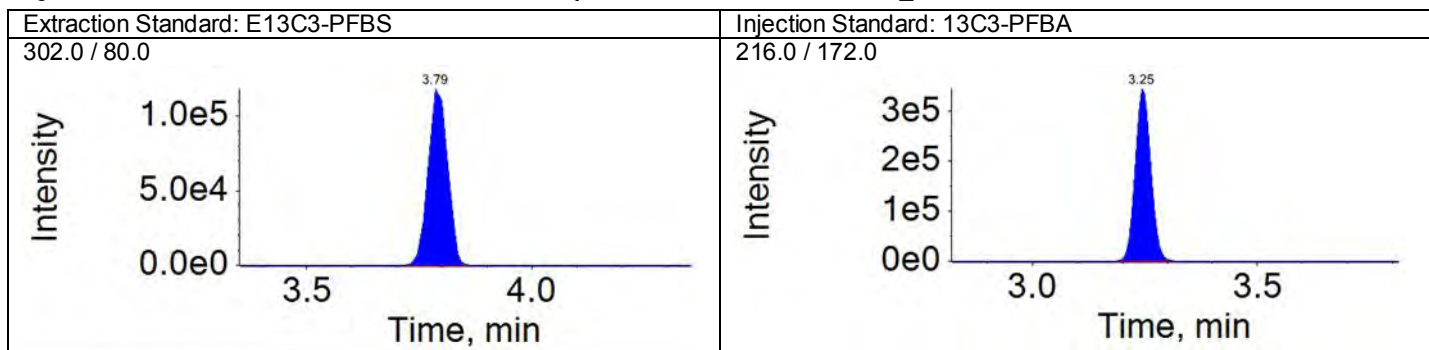
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



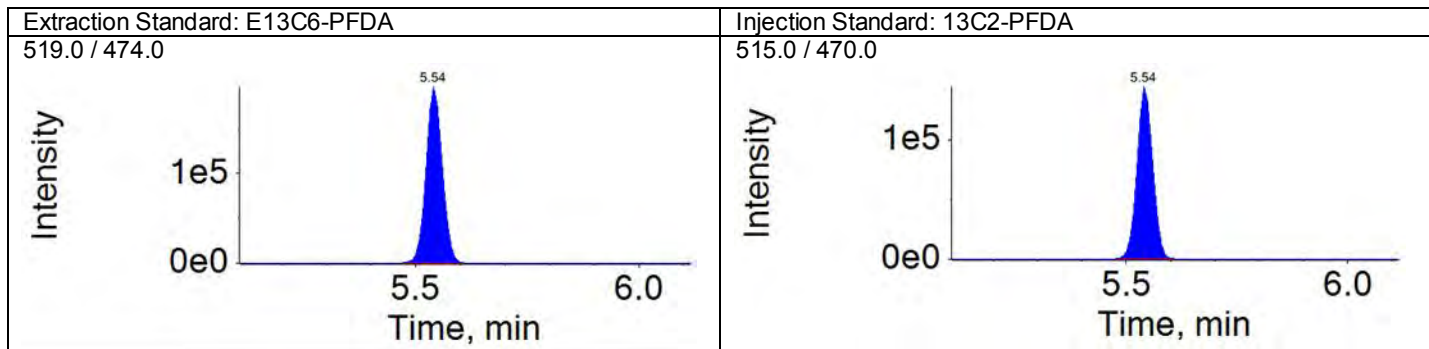
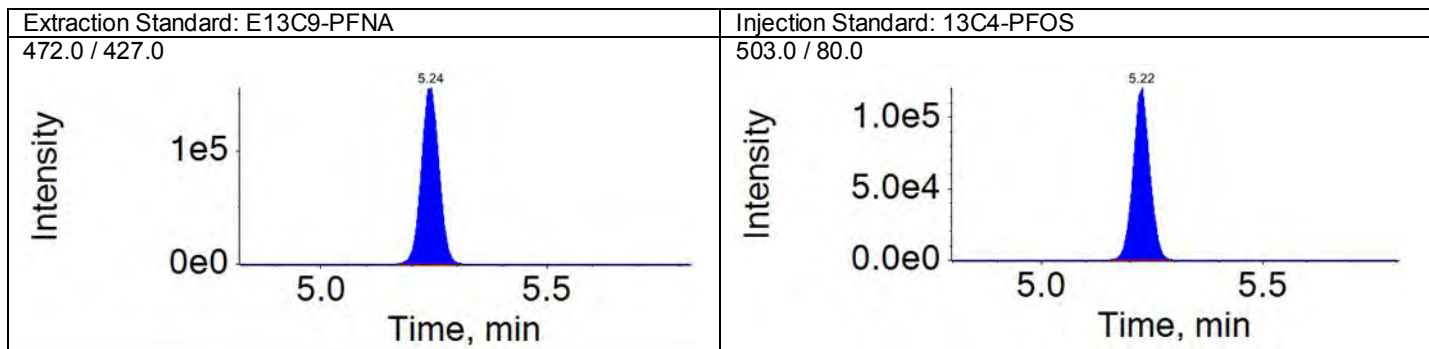
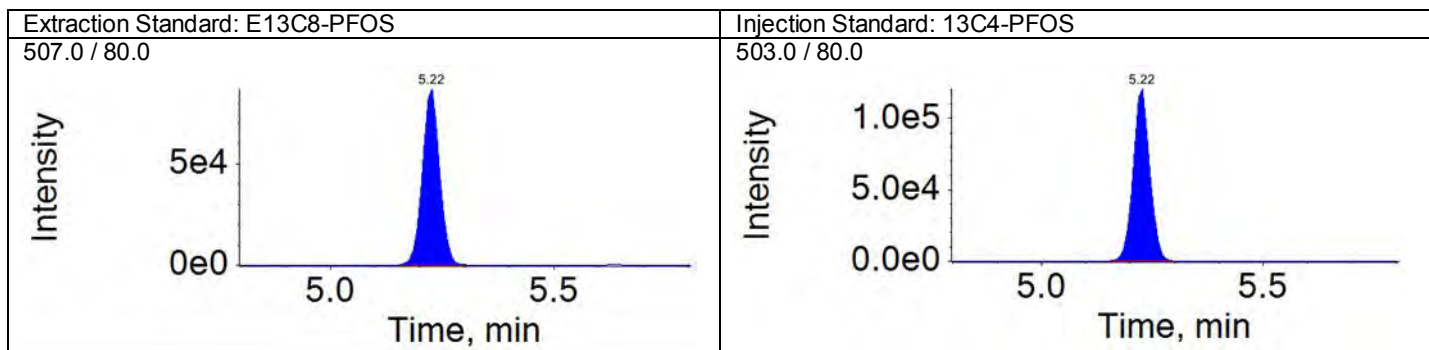
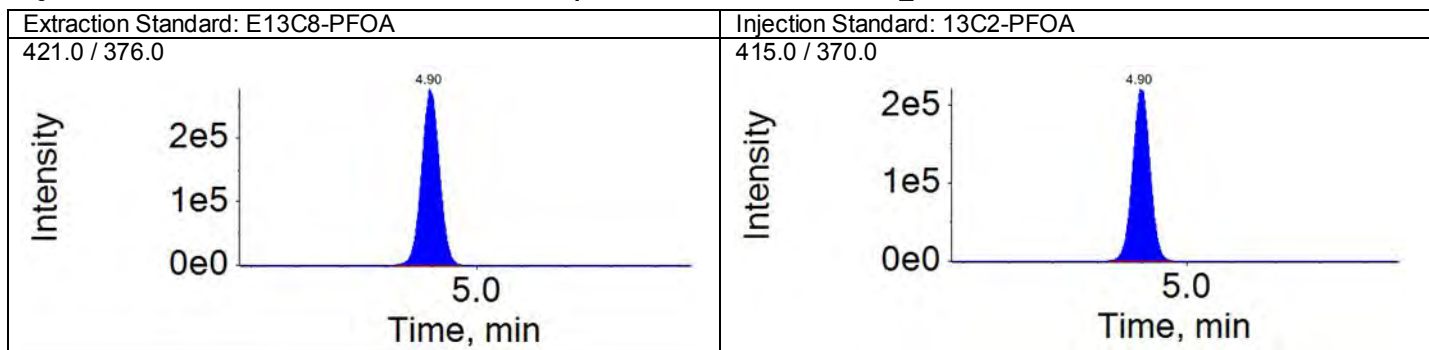
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QMethod Name: MQ4-18AUG13

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Acquisition Method: 18AUG13_3uL.dam



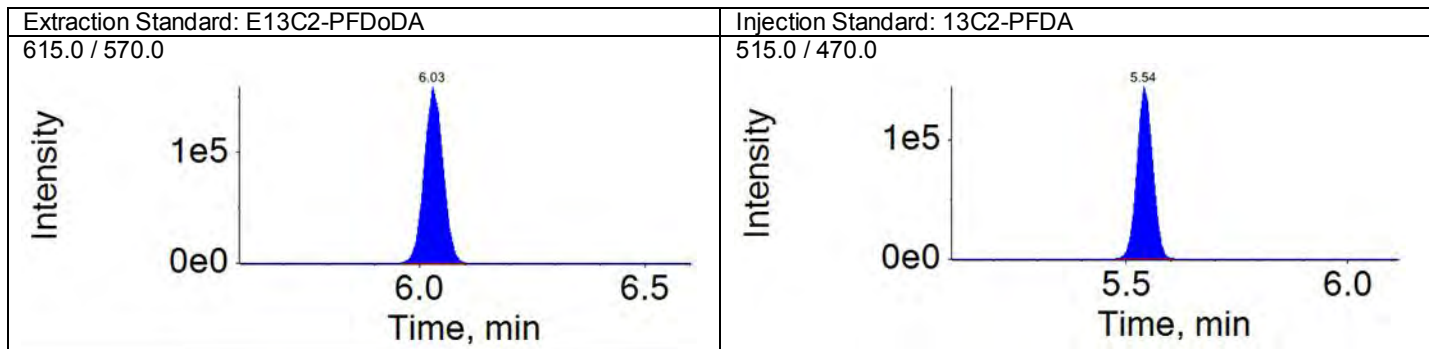
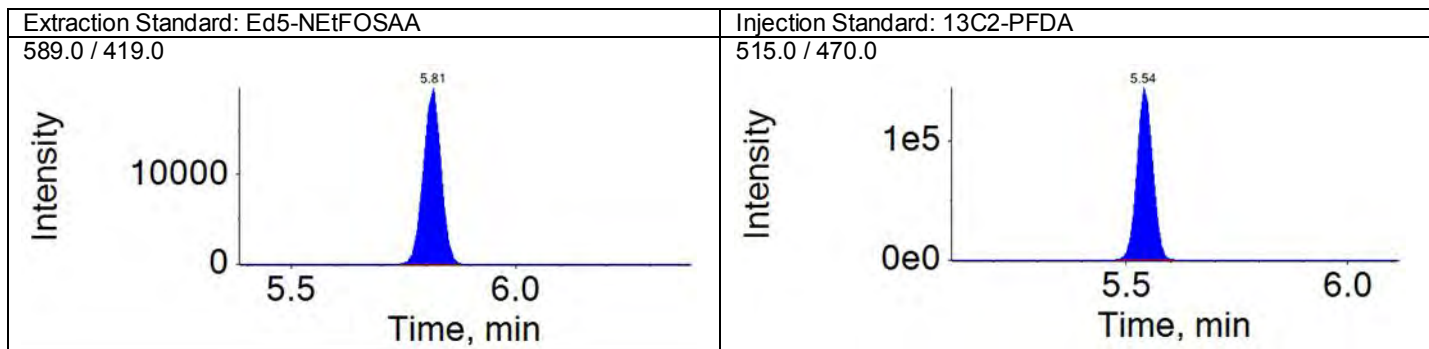
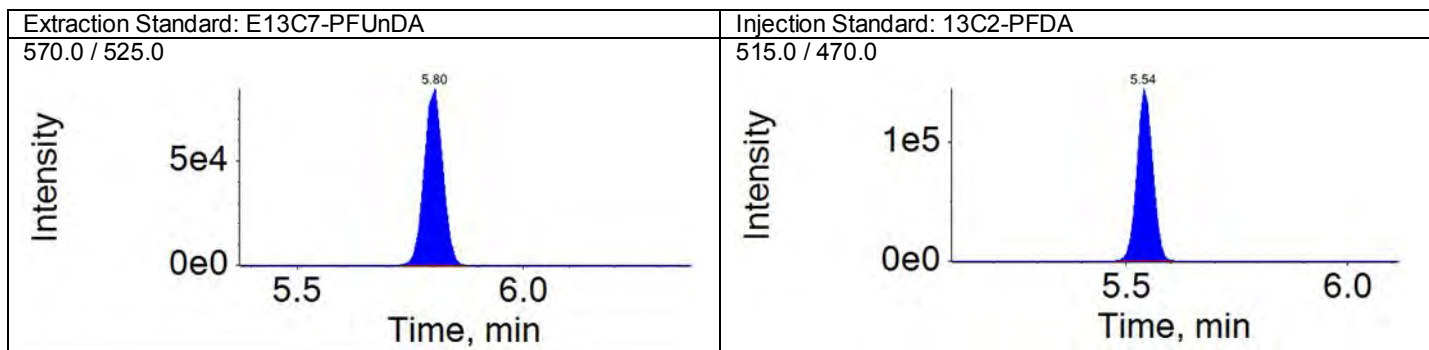
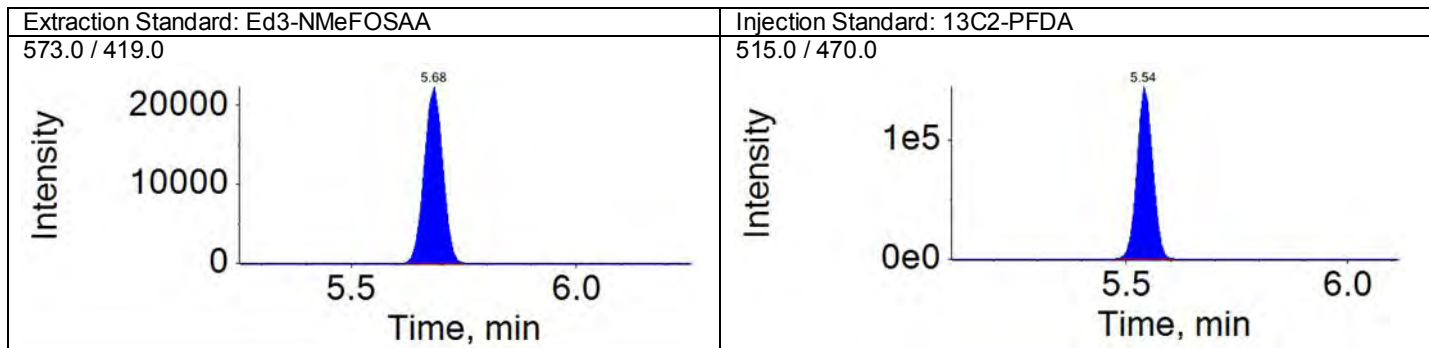
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Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
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Result Table: 18311003 11/9/2018 1:08:25 PM
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APPROVED

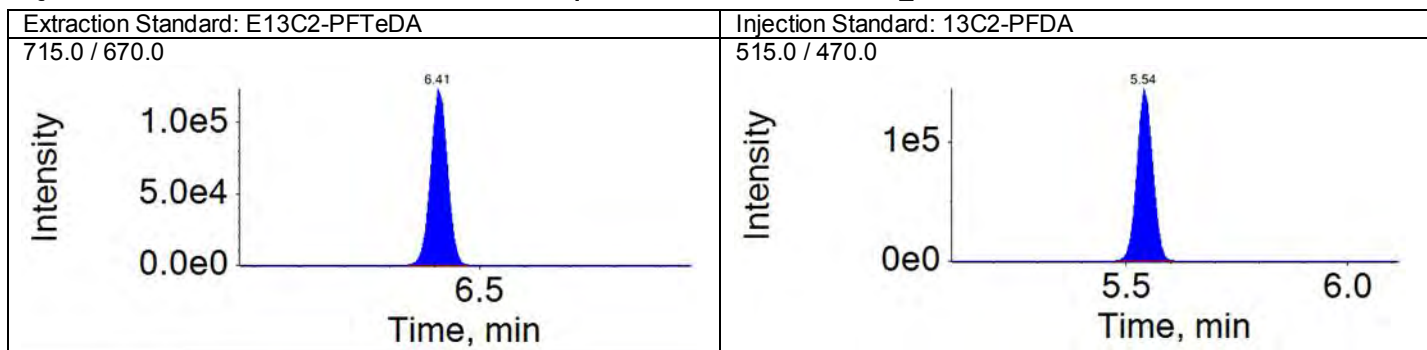
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REVIEWED

By HMK at 9:20 am, 11/13/18

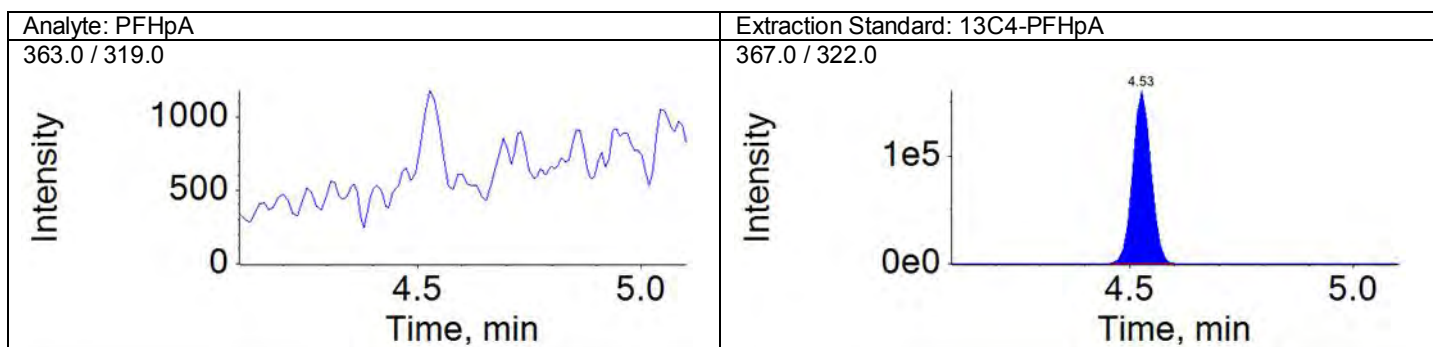
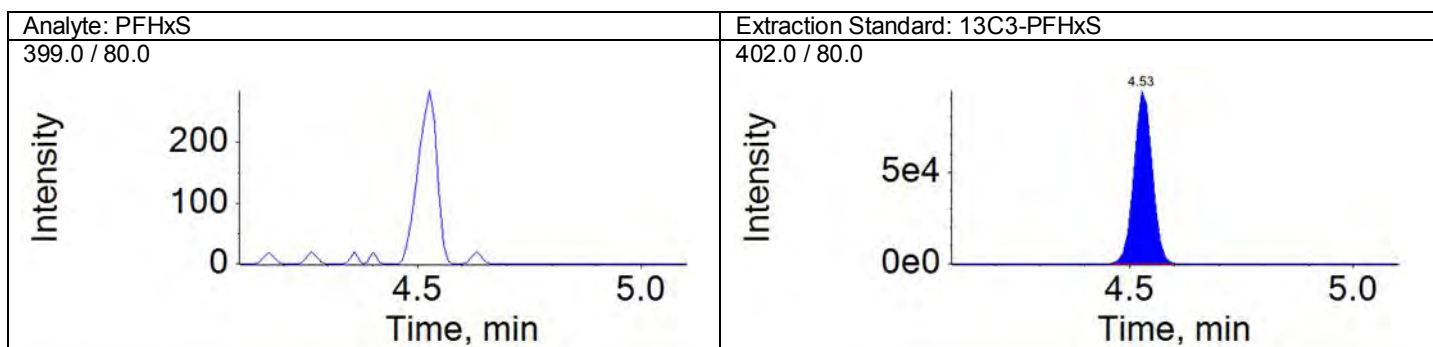
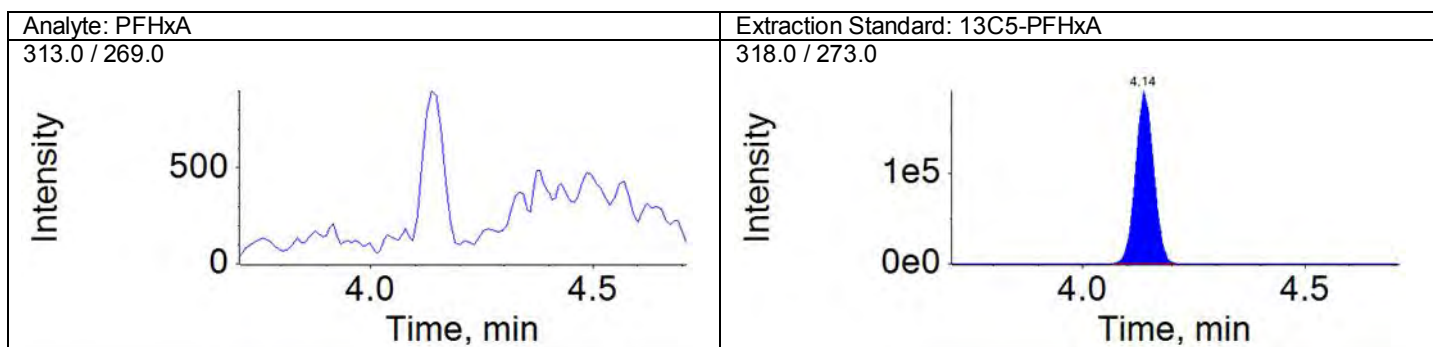
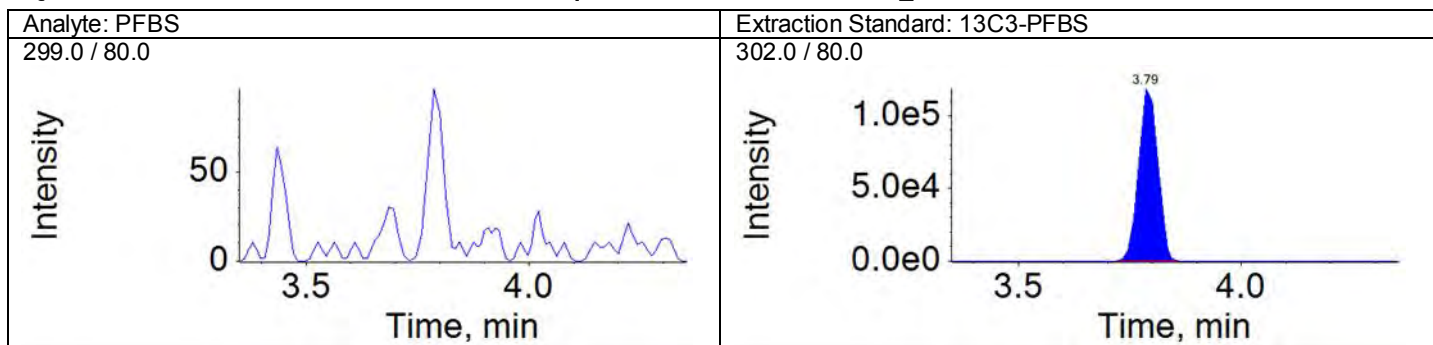
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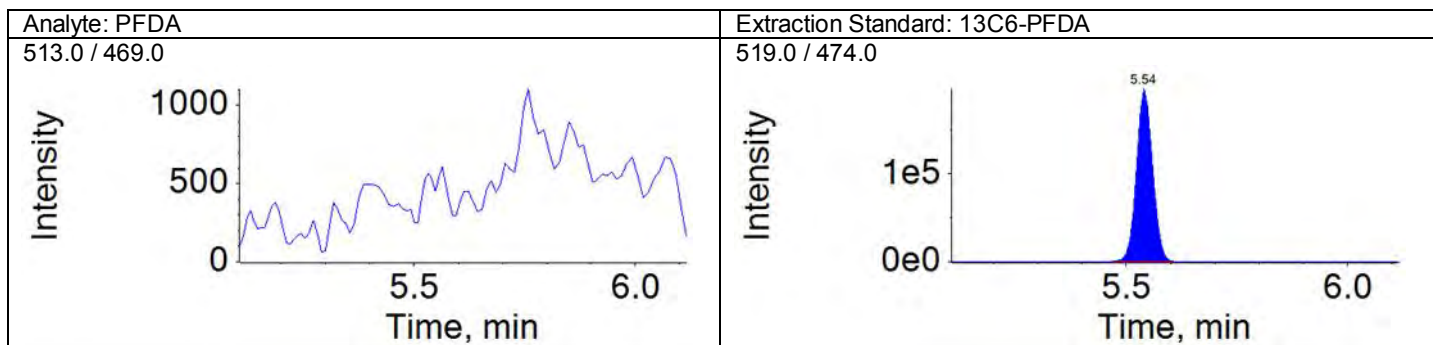
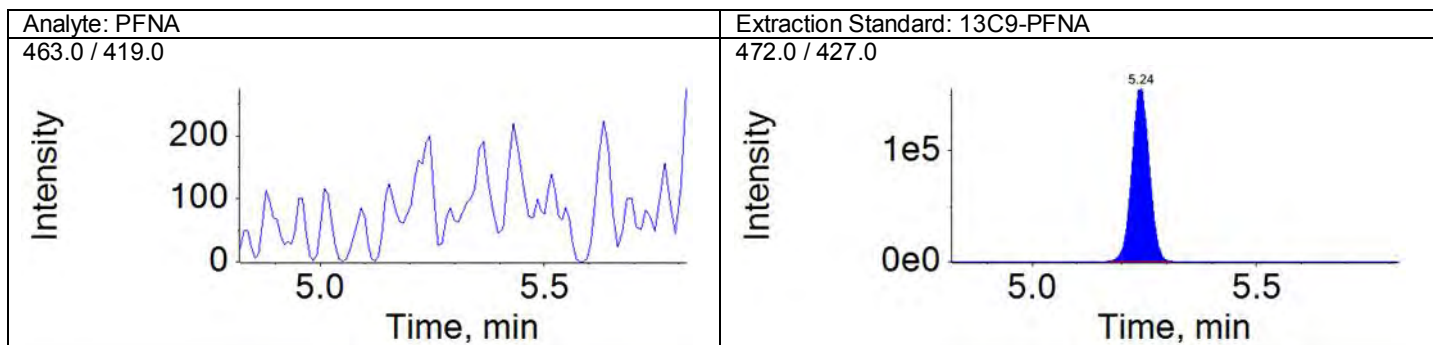
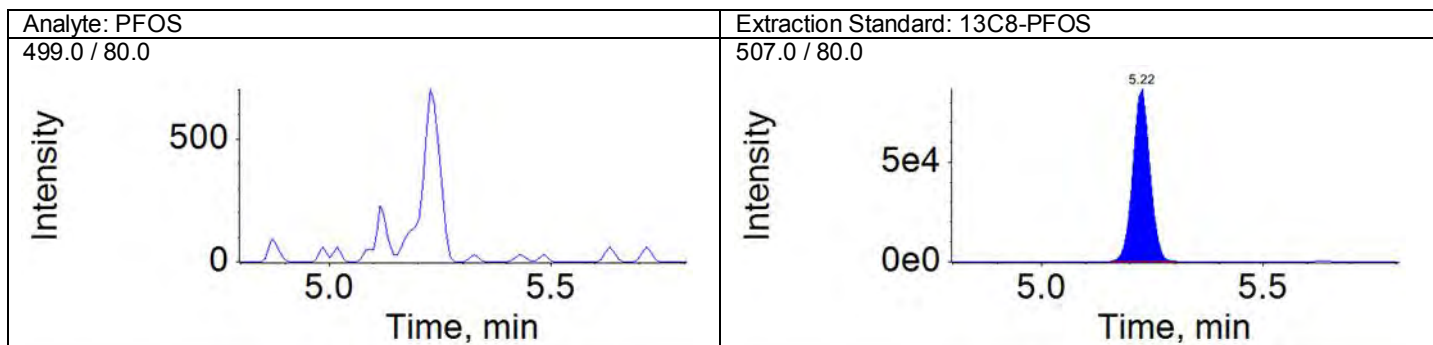
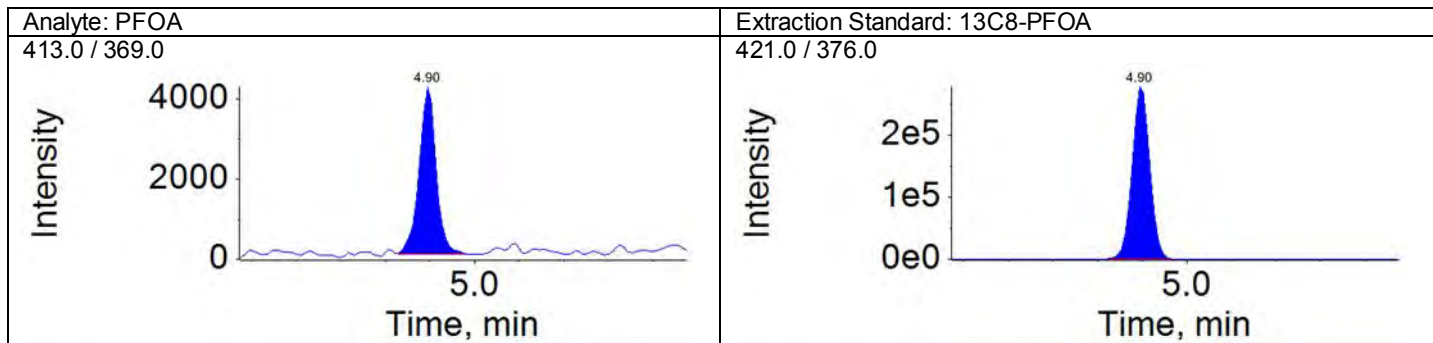
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



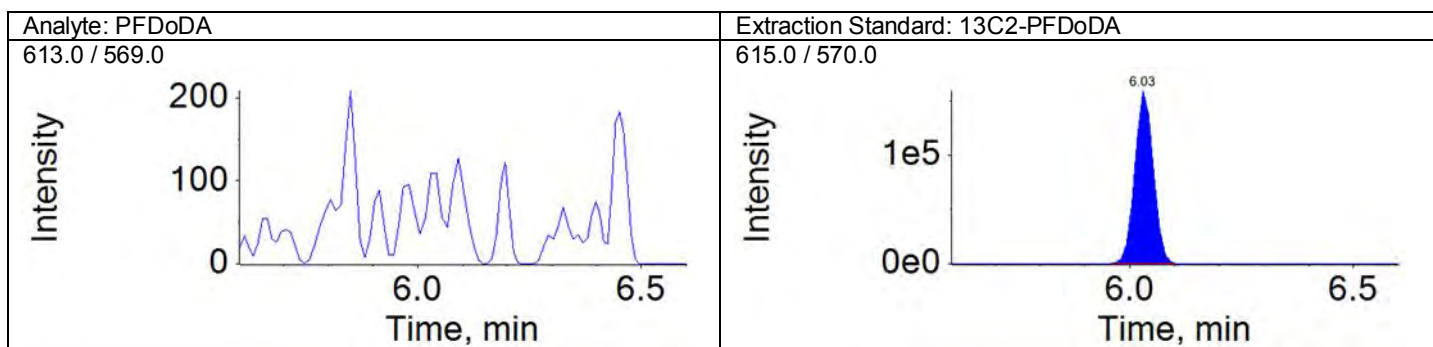
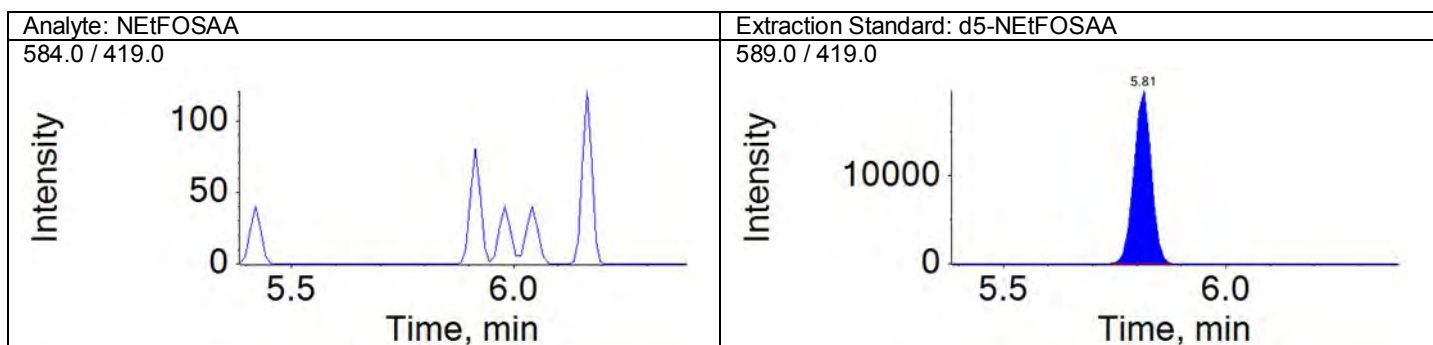
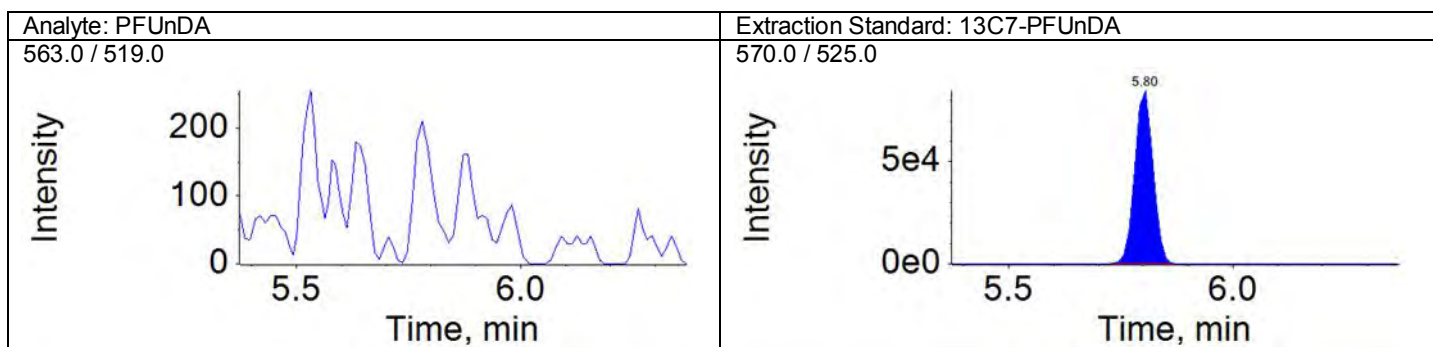
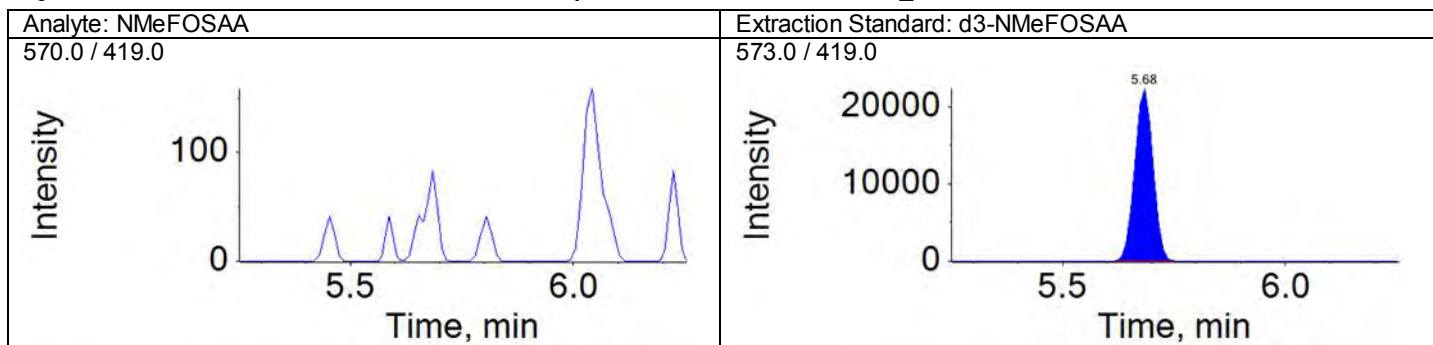
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Acquisition Method: 18AUG13_3uL.dam



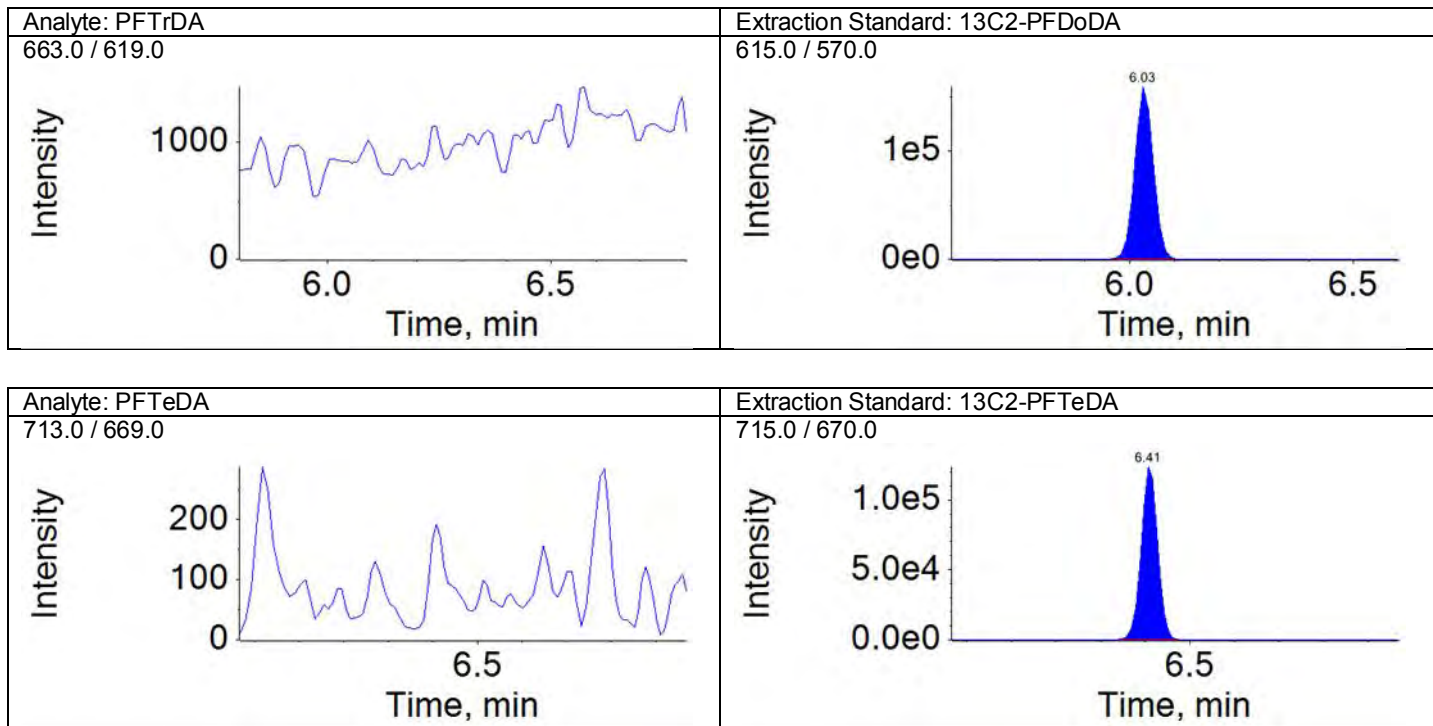
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



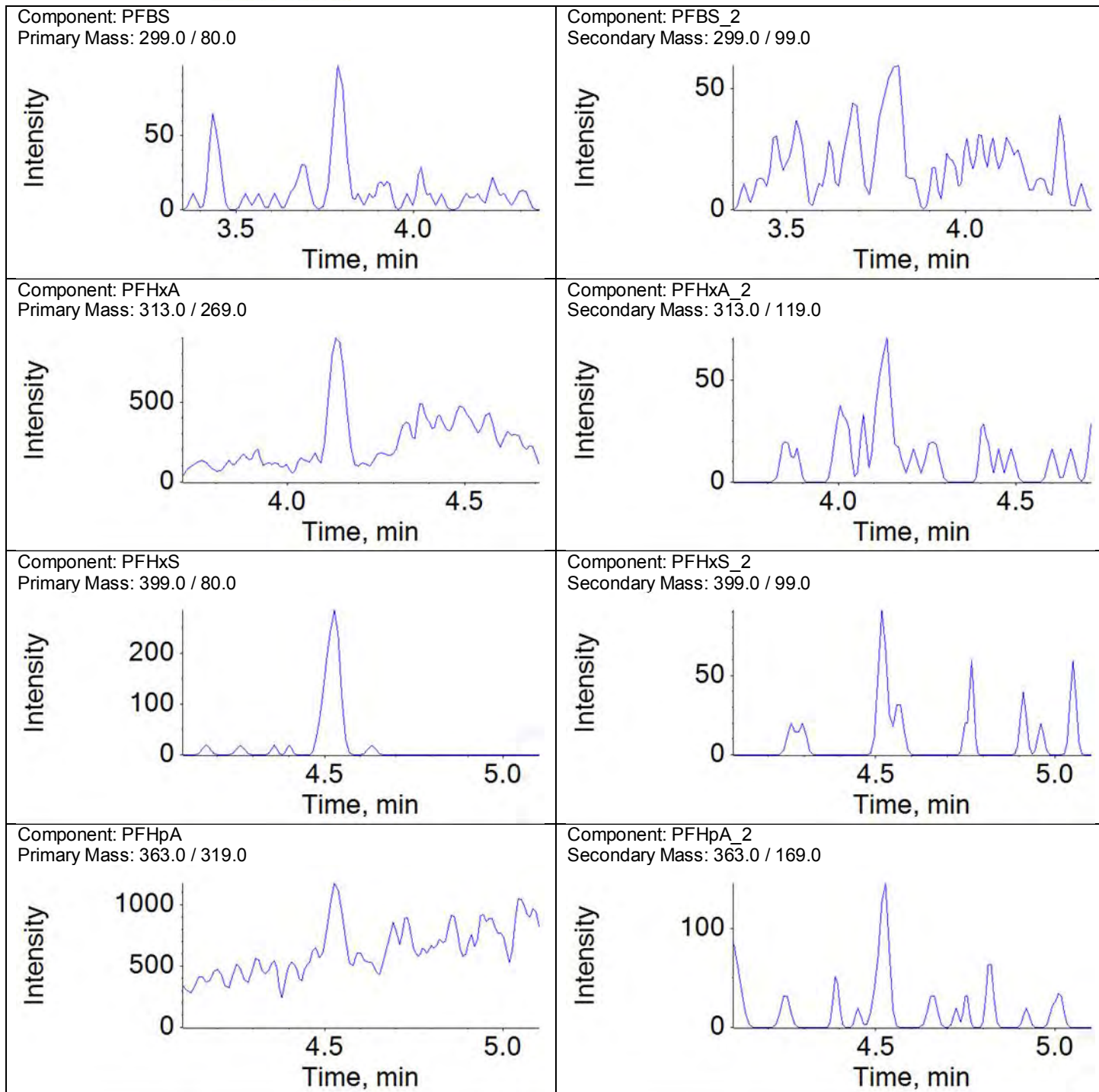
Ion Ratio Report

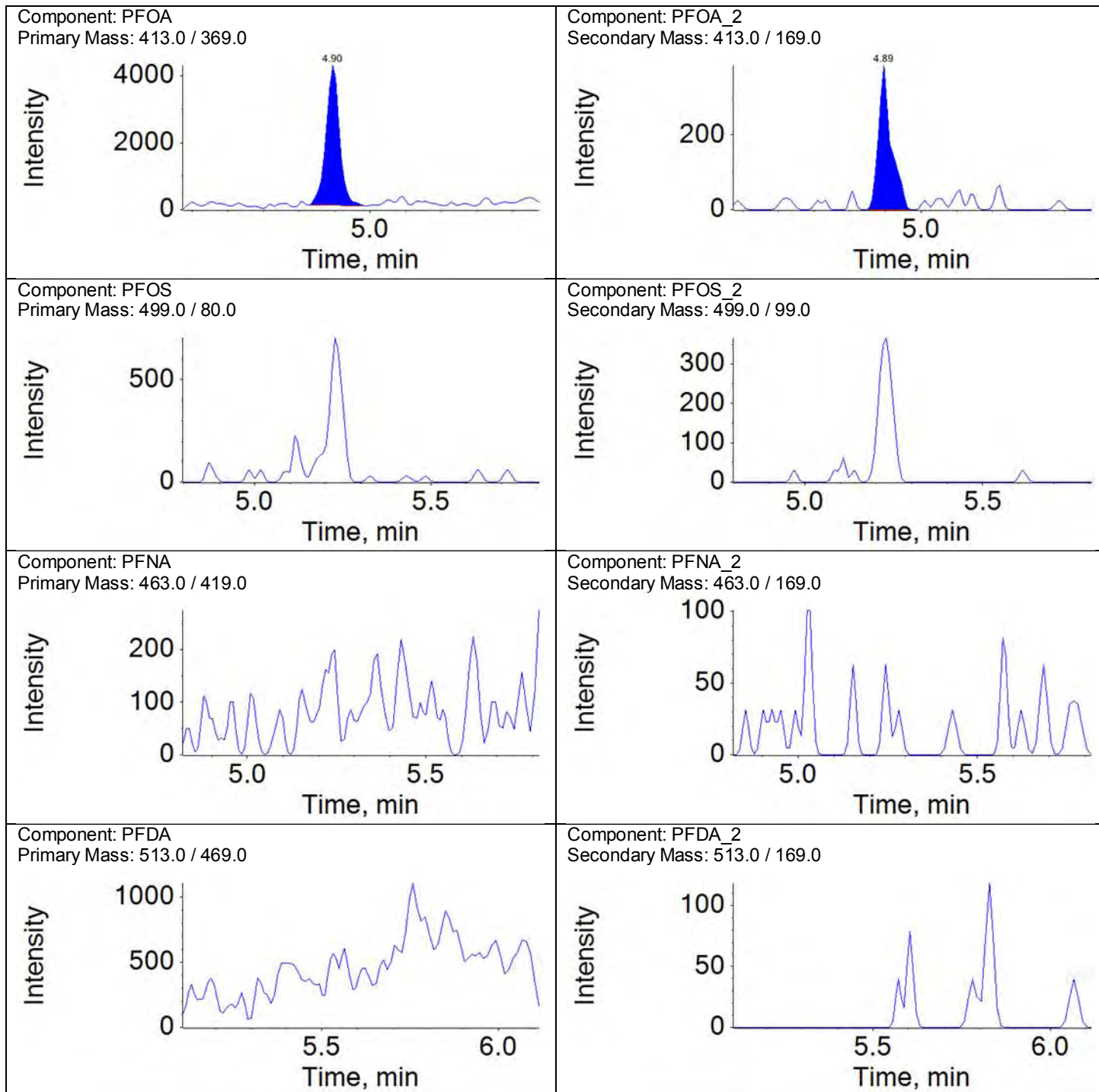
Sample Name: 9881581

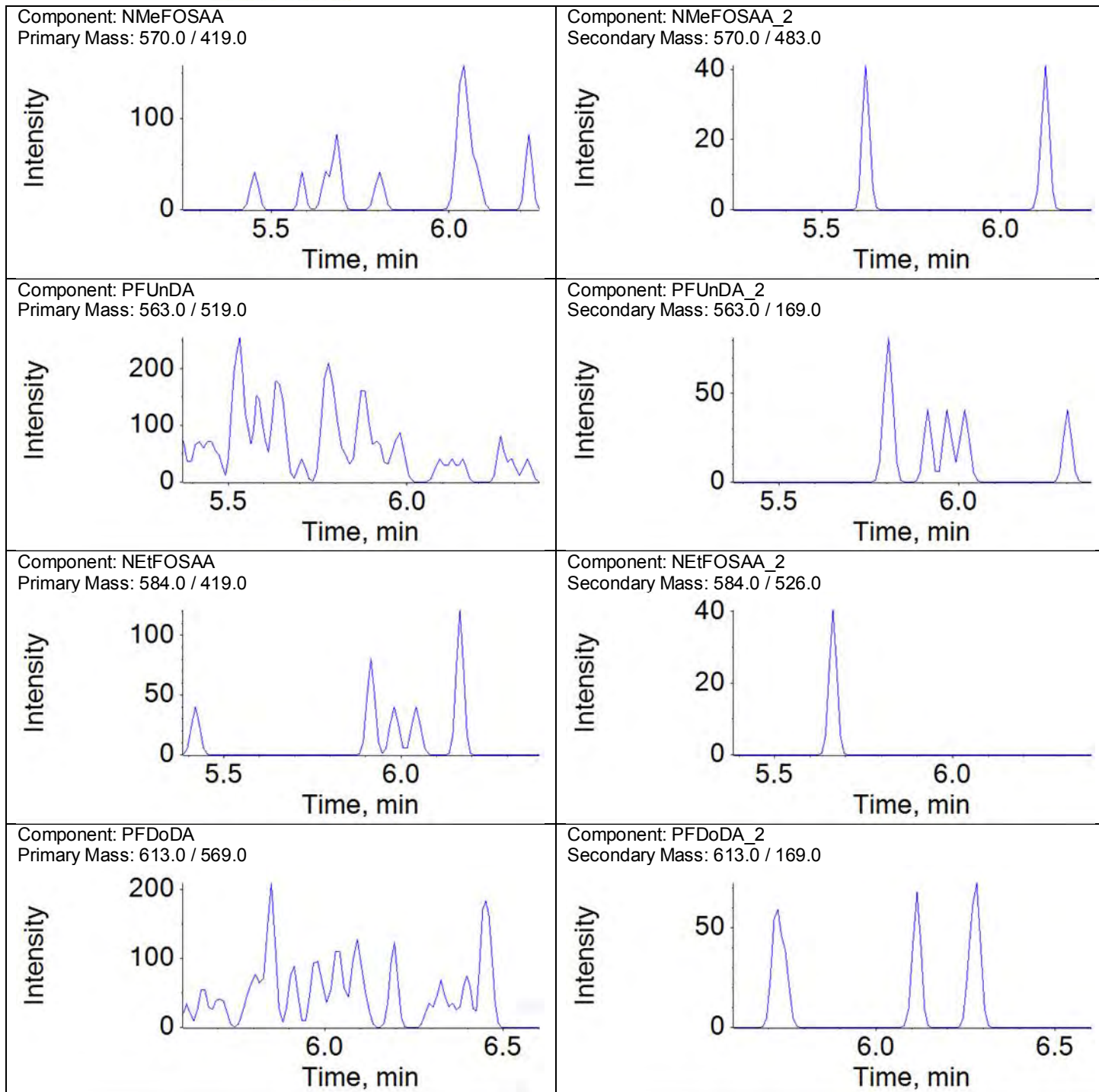
Instrument Name: LM27631

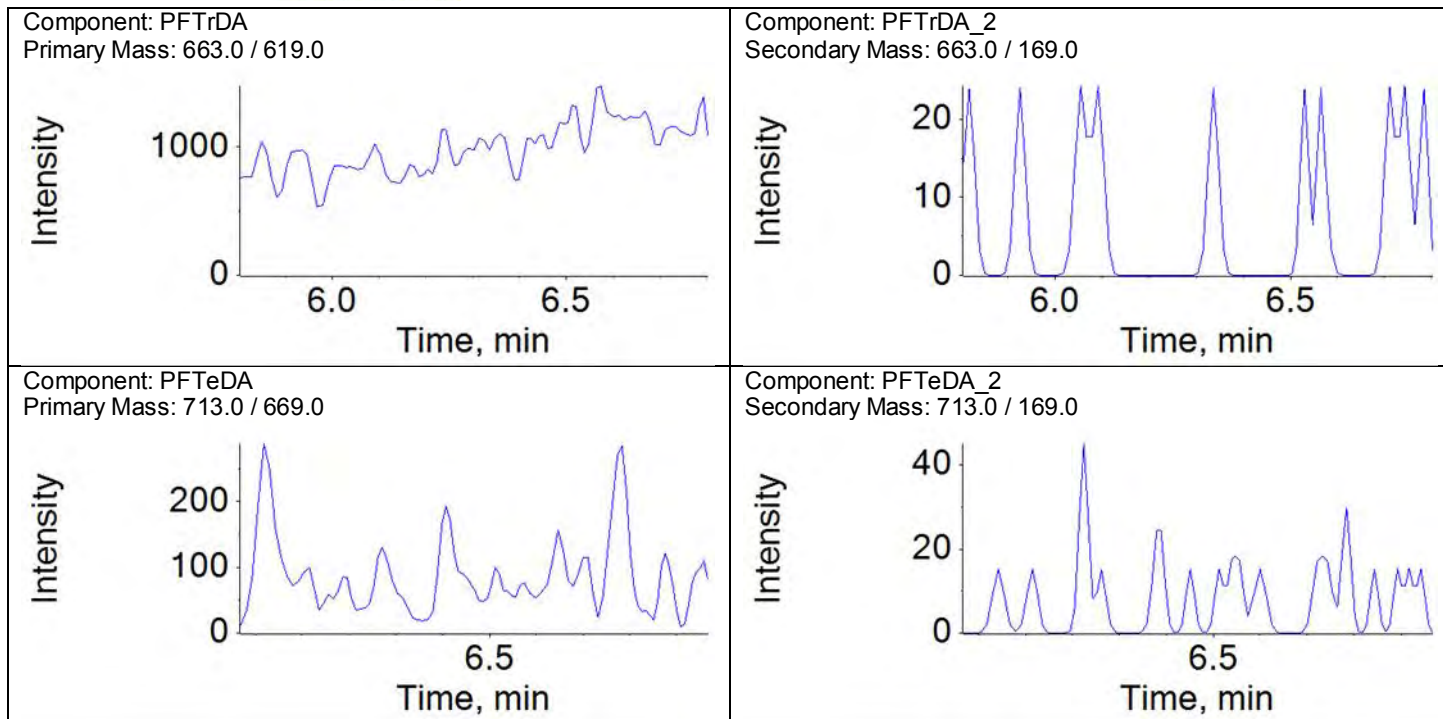
File Name: 18NOV08D-48.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	4.90	1.00	10974.8	A	N/A	1.0000			
PFOA_2	4.89	1.00	957.4	A	N/A	0.0872	37	50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	









ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881582		Data File:	18NOV08D-49.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18311003 OU1-CAOC21-S-04-03 Grab Soil		Acquis Date:	2018-11-08T19:01:34
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	73		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18311003
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	18311003		Operator:	JPT12262
Sample Wt.:	1.05000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV08D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	826030.1	728839.7	13	50	
13C2-PFOA	5.0	575894.6	491983.1	17	50	
13C4-PFOS	4.8	311551.8	255568.1	22	50	
13C2-PFDA	5.0	357811.6	315407.5	13	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	354185.2	13C3-PFBA	826030.1	0.429	8.857	5.994	68	50-150	
E13C5-PFHxA	533598.2	13C2-PFOA	575894.6	0.927	9.524	6.492	68	50-150	
E13C3-PFHxS	266999.7	13C2-PFOA	575894.6	0.464	9.010	6.340	70	50-150	
E13C4-PFHpA	419459.6	13C2-PFOA	575894.6	0.728	9.524	6.311	66	50-150	
E13C8-PFOA	750806.1	13C2-PFOA	575894.6	1.304	9.524	6.925	73	50-150	
E13C8-PFOS	235307.1	13C4-PFOS	311551.8	0.755	9.105	6.361	70	50-150	
E13C9-PFNA	406200.7	13C4-PFOS	311551.8	1.304	9.524	6.784	71	50-150	
E13C6-PFDA	511072.7	13C2-PFDA	357811.6	1.428	9.524	6.842	72	50-150	
Ed3-NMeFOSAA	68823.6	13C2-PFDA	357811.6	0.192	9.524	6.813	72	50-150	
E13C7-PFUnDA	219860.6	13C2-PFDA	357811.6	0.614	9.524	6.752	71	50-150	
Ed5-NEtFOSAA	53443.2	13C2-PFDA	357811.6	0.149	9.524	6.584	69	50-150	
E13C2-PFDoDA	453377.1	13C2-PFDA	357811.6	1.267	9.524	6.506	68	50-150	
E13C2-PFTeDA	324991.6	13C2-PFDA	357811.6	0.908	9.524	6.228	65	50-150	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881582

Instrument Name: LM27631

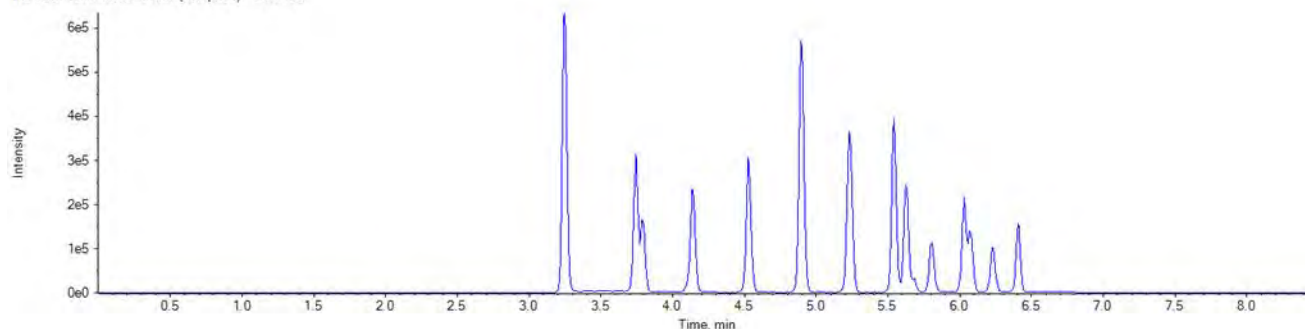
File Name: 18NOV08D-49.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.05000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.79	354185.2	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.14	533598.2	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.53	266999.7	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.53	419459.6	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.90	750806.1	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.23	235307.1	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.24	406200.7	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.54	511072.7	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.68	68823.6	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.80	219860.6	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.81	53443.2	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.03	453377.1	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.03	453377.1	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	324991.6	N/A	

Total Ion Chromatogram

TIC from 18NOV08D-49.wiff (sample 1) - 9881582



APPROVED

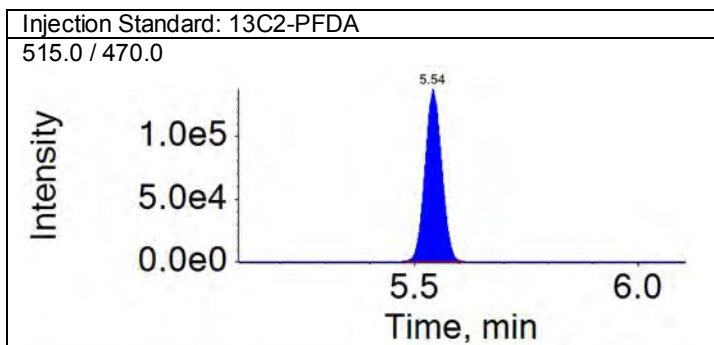
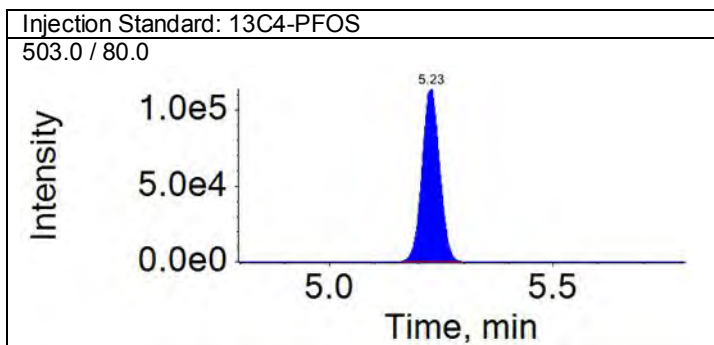
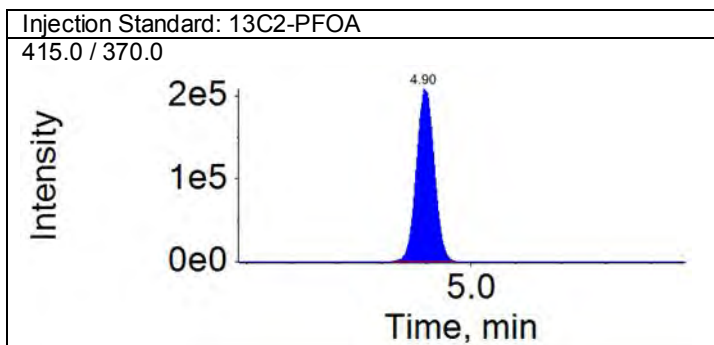
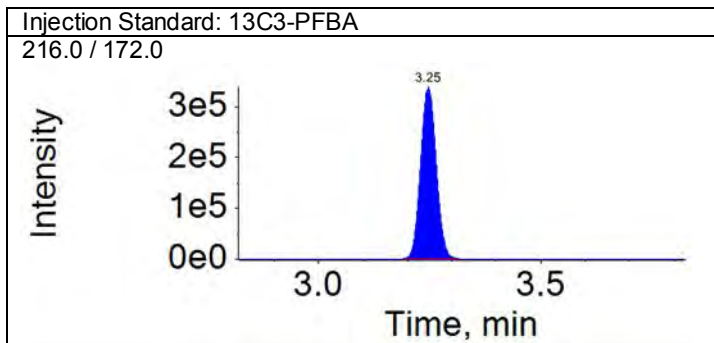
By JPT at 1:25 pm, 11/9/18

REVIEWED

By HMK at 9:20 am, 11/13/18

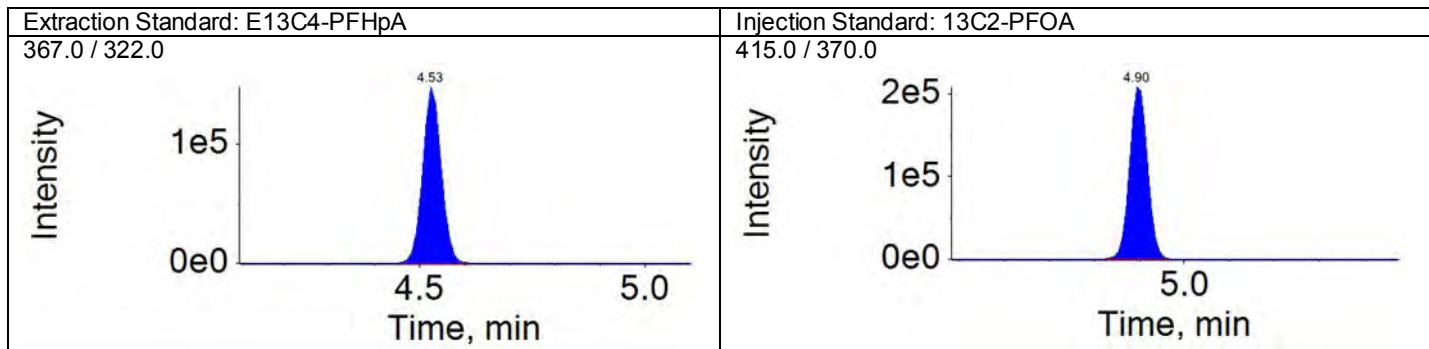
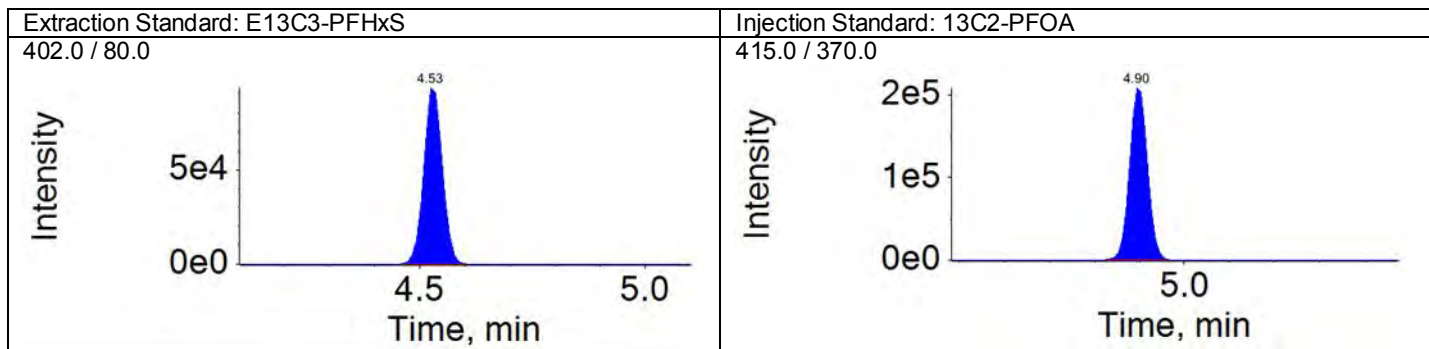
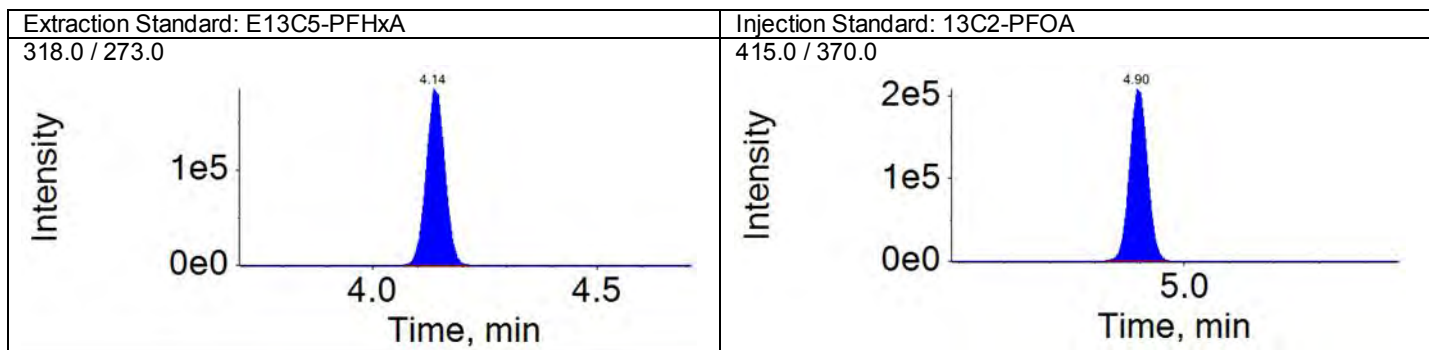
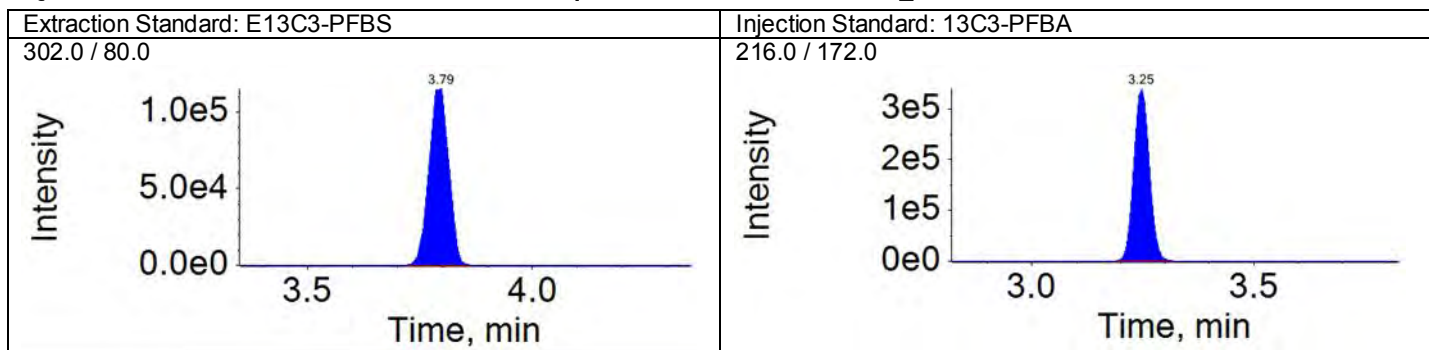
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



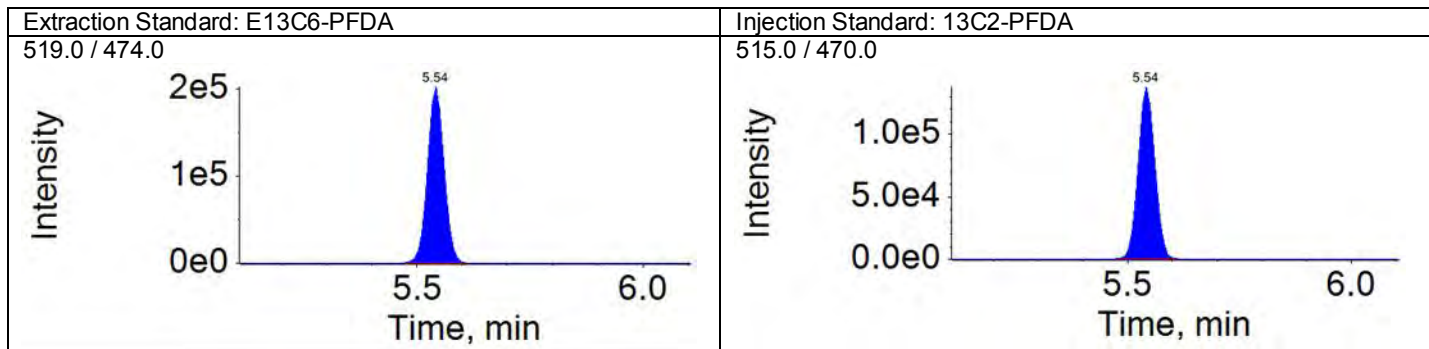
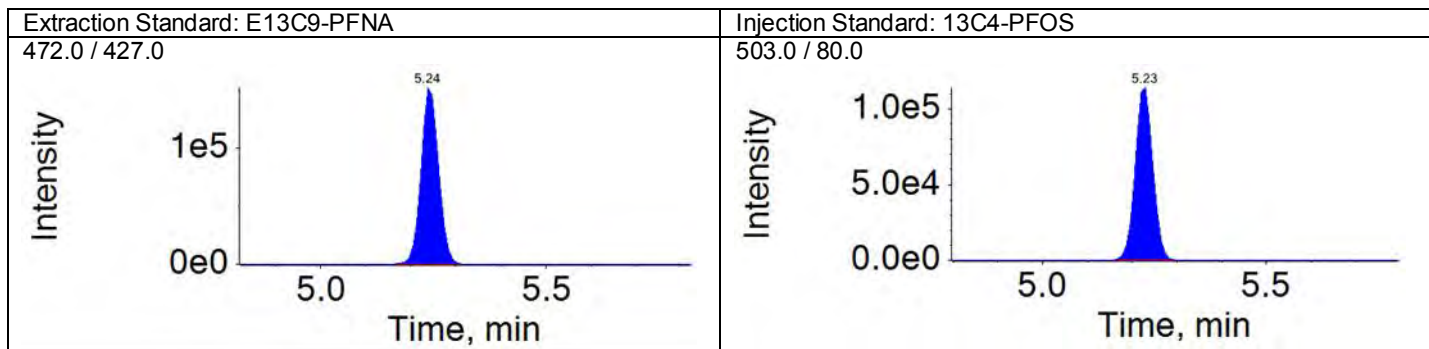
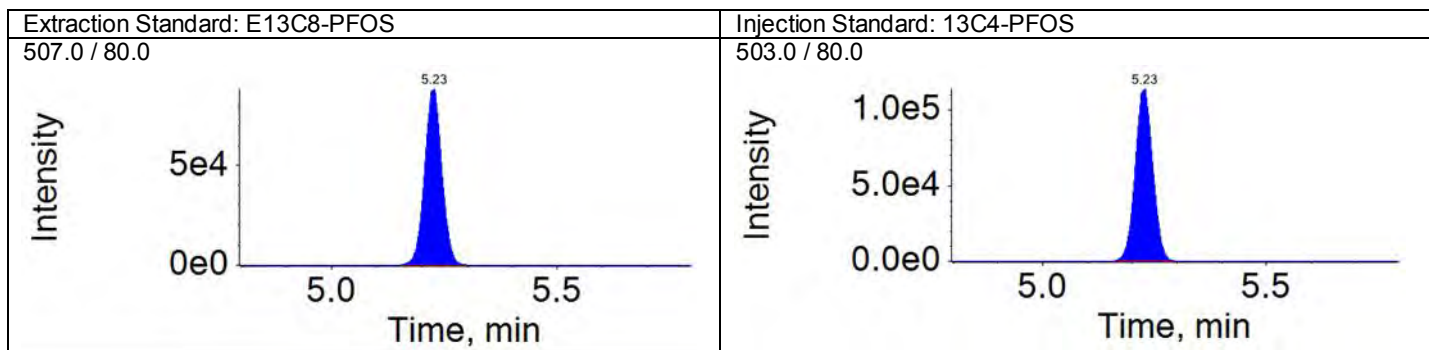
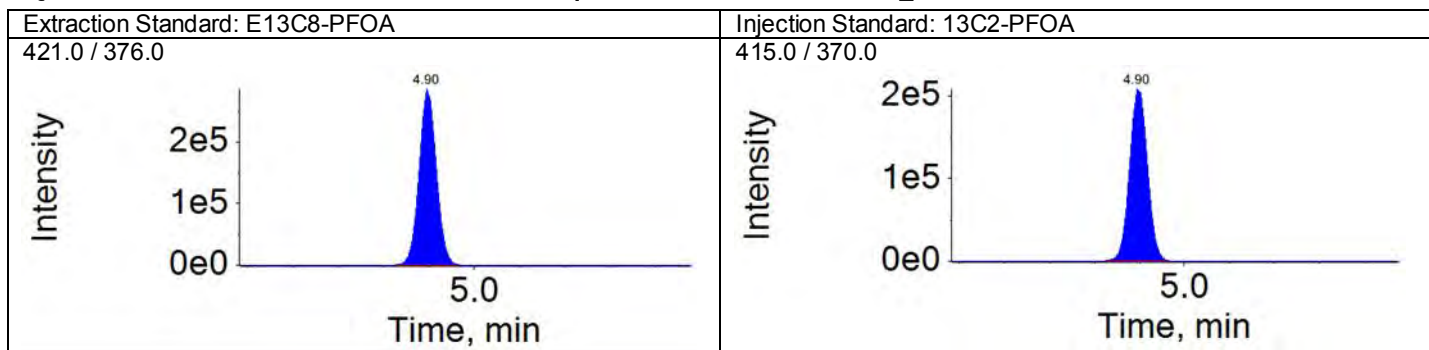
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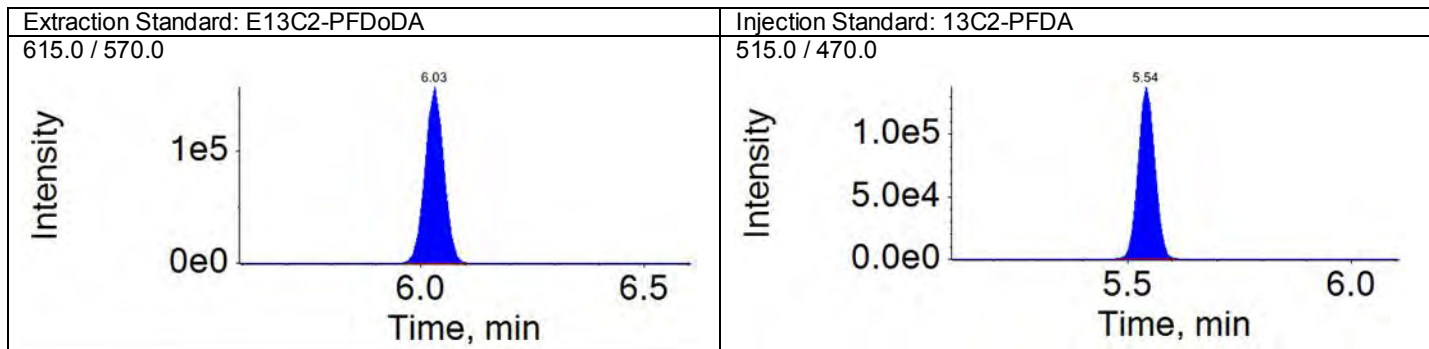
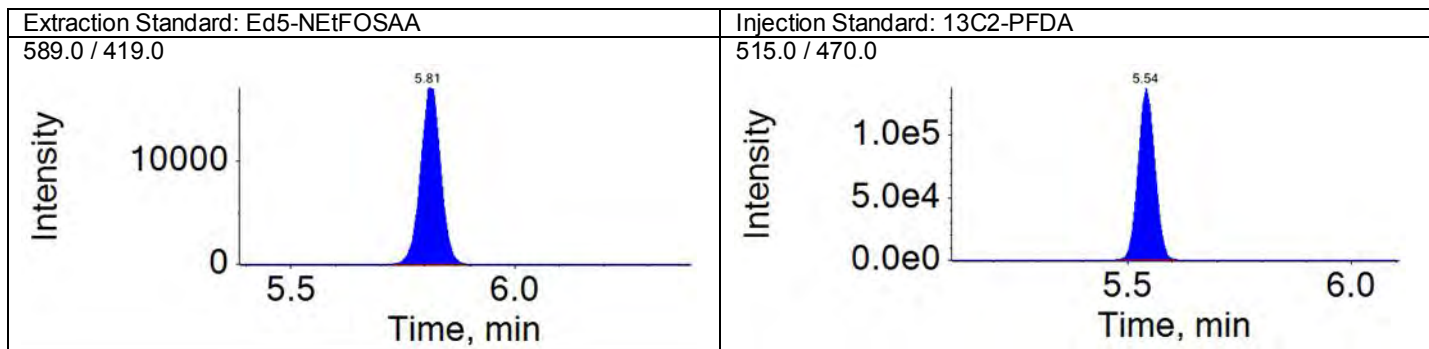
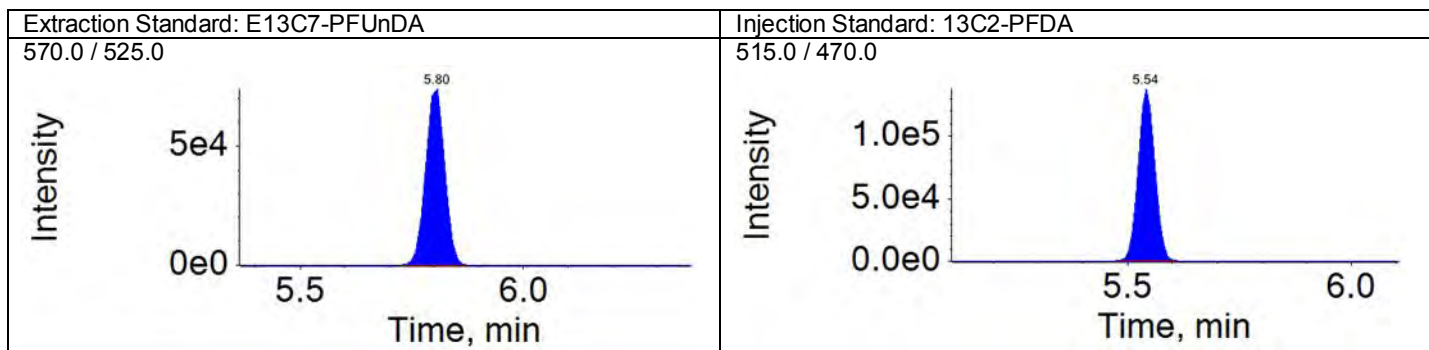
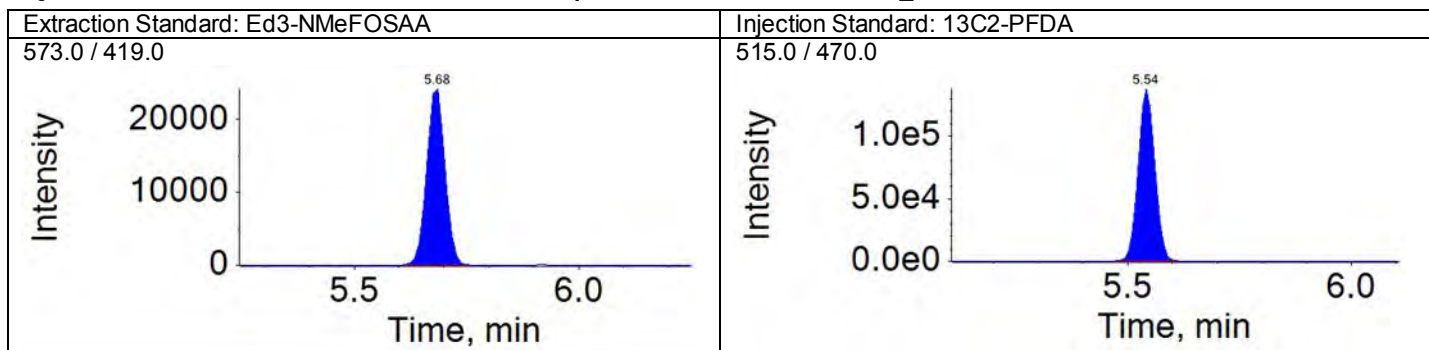
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QMethod Name: MQ4-18AUG13

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Acquisition Method: 18AUG13_3uL.dam



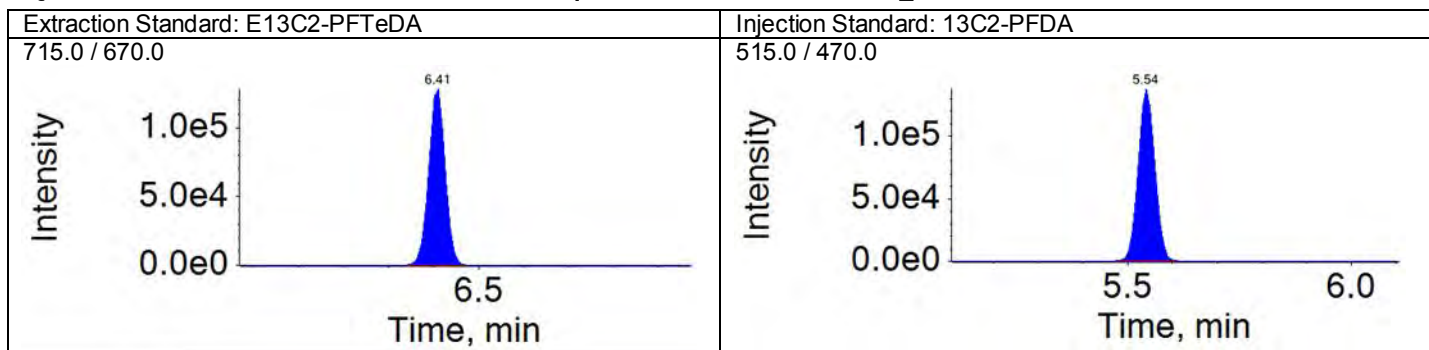
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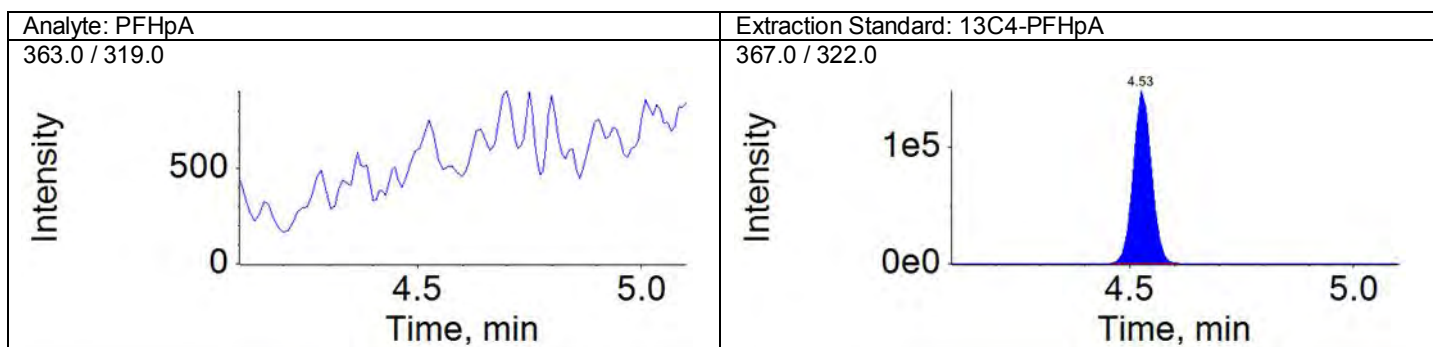
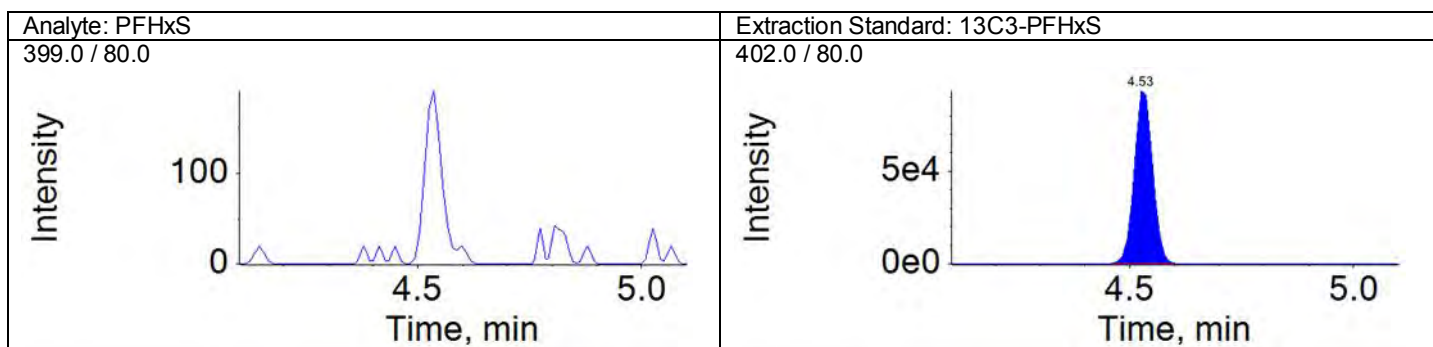
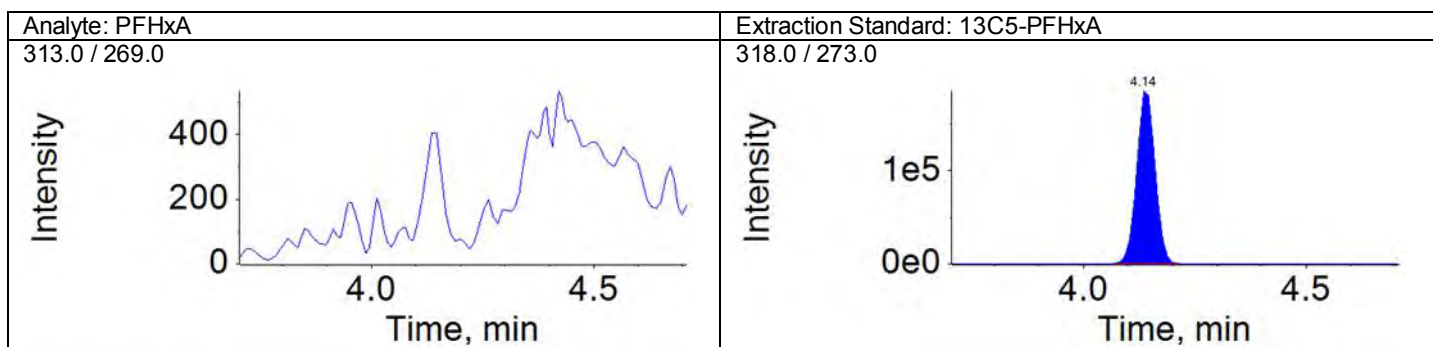
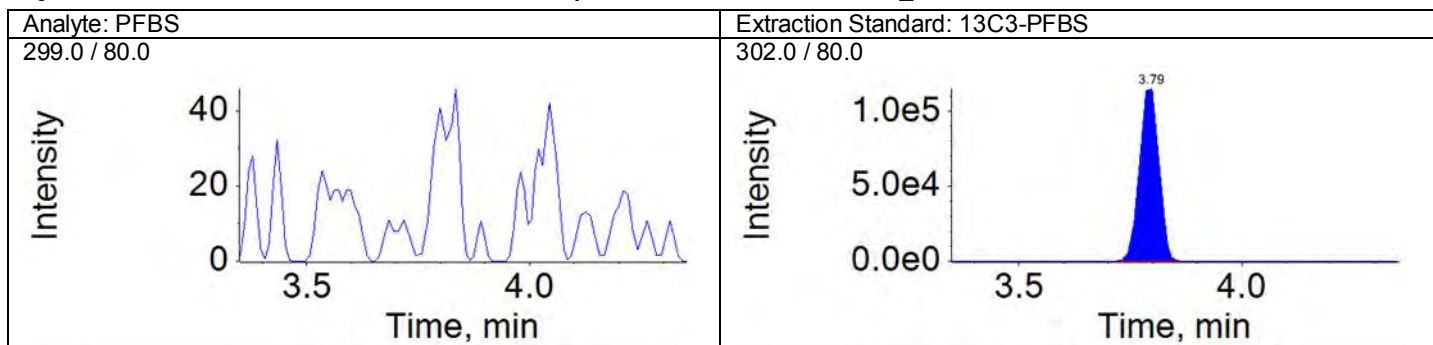
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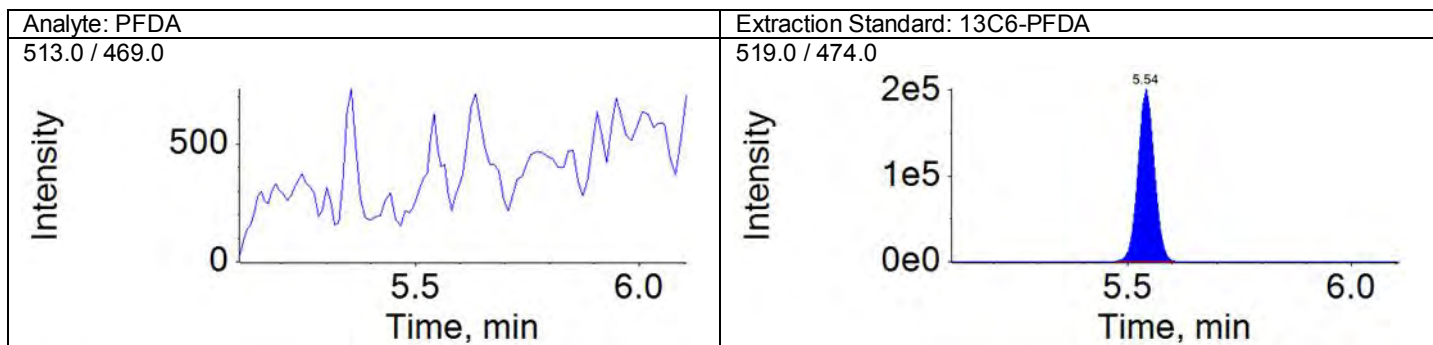
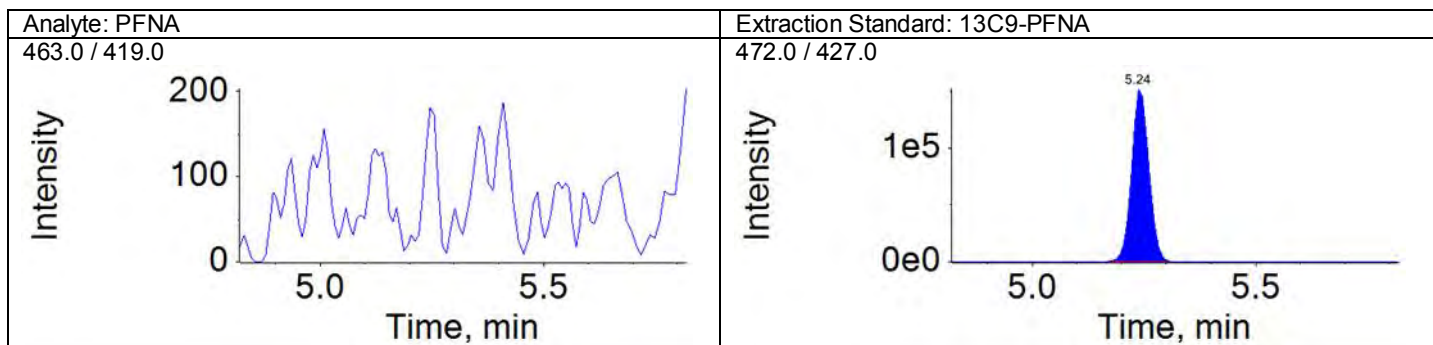
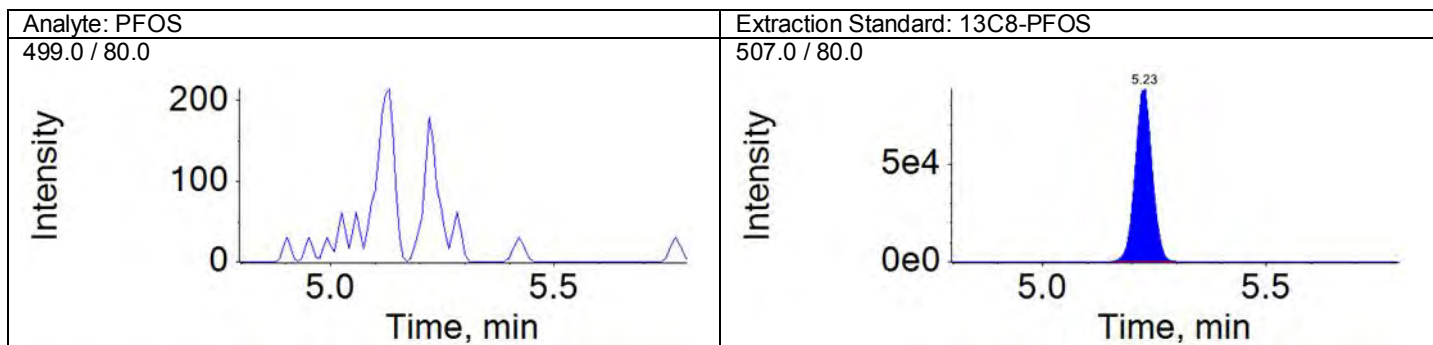
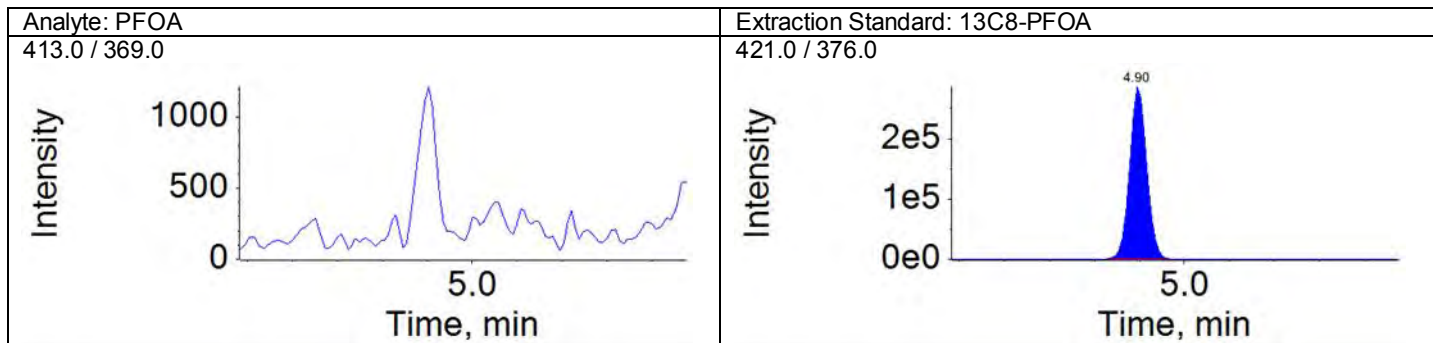
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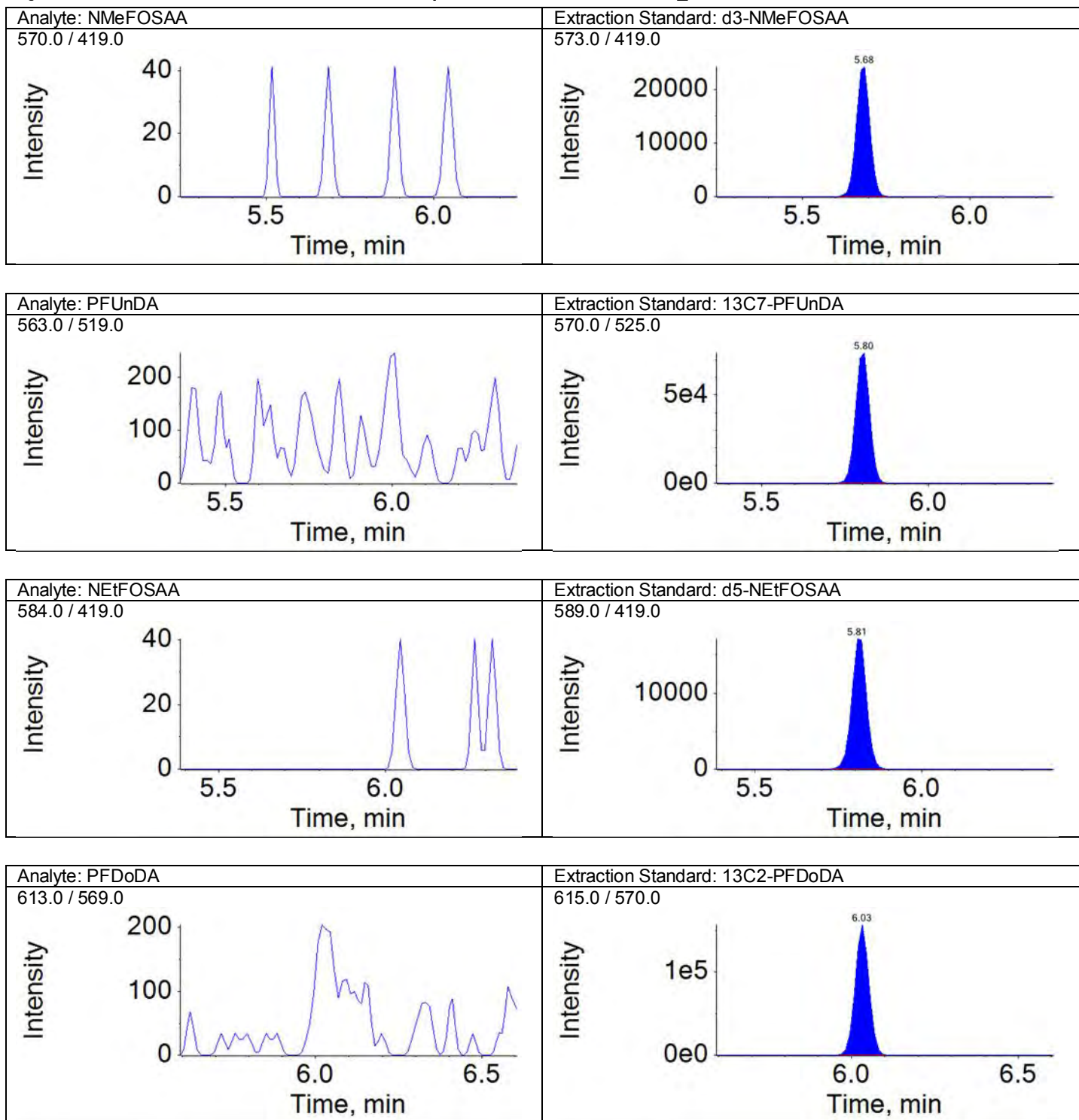
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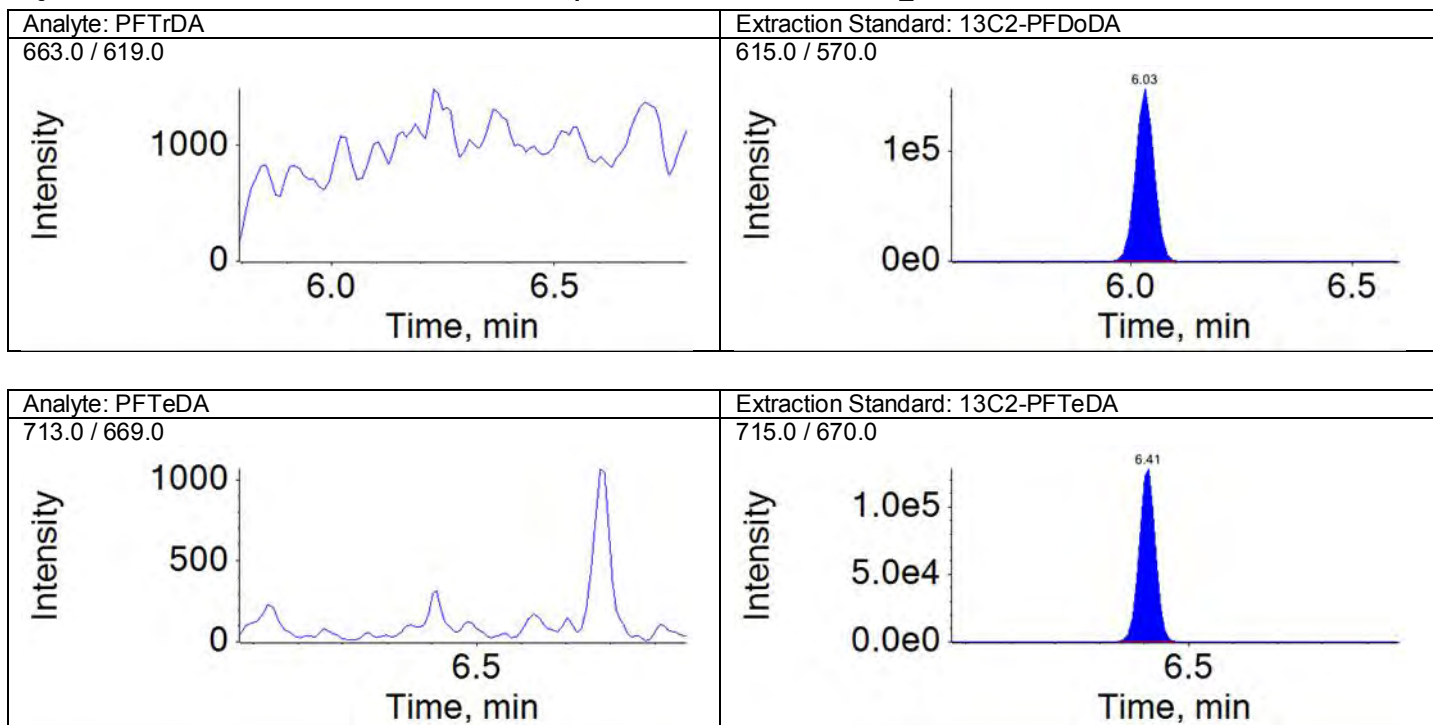
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



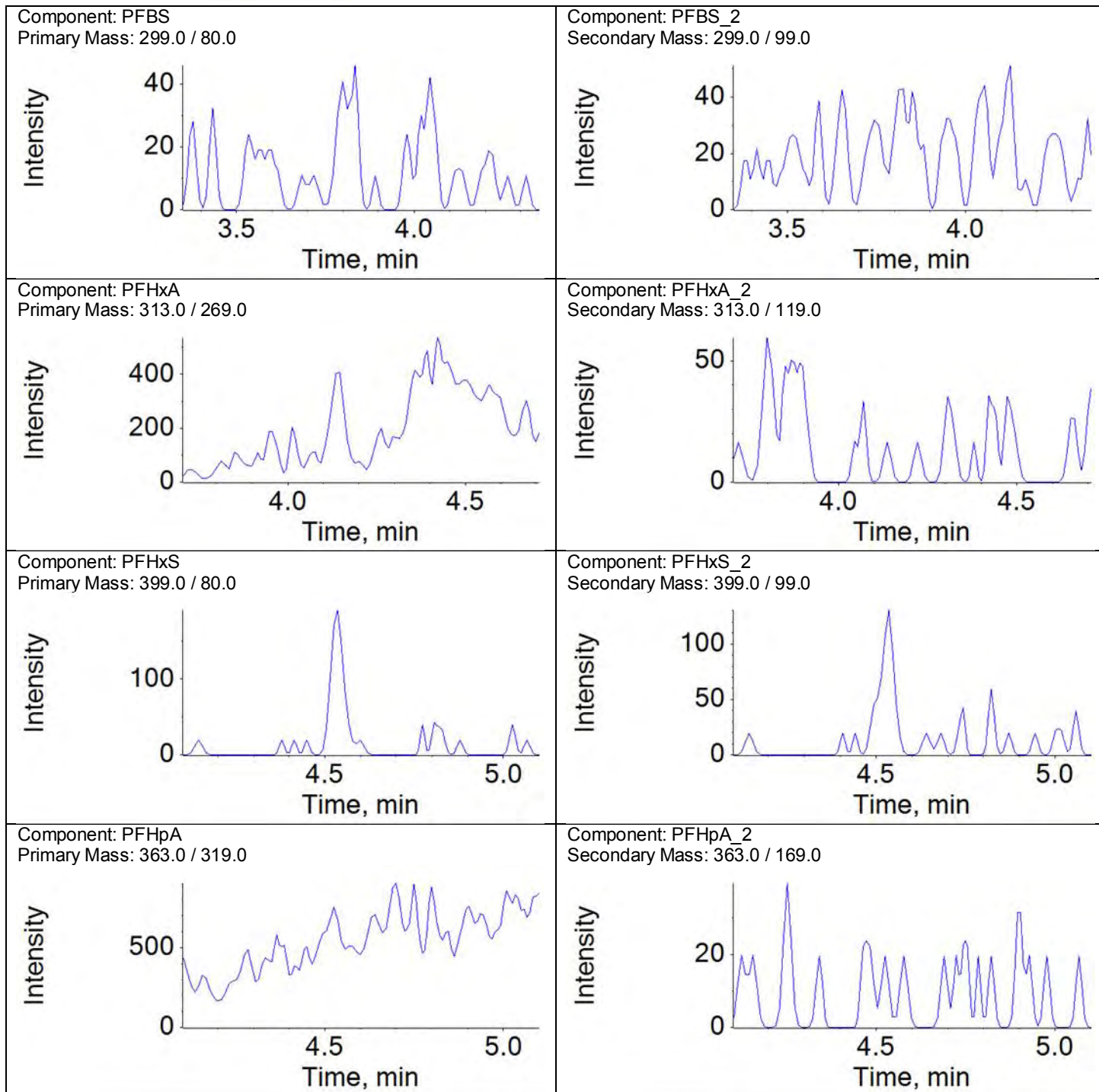
Ion Ratio Report

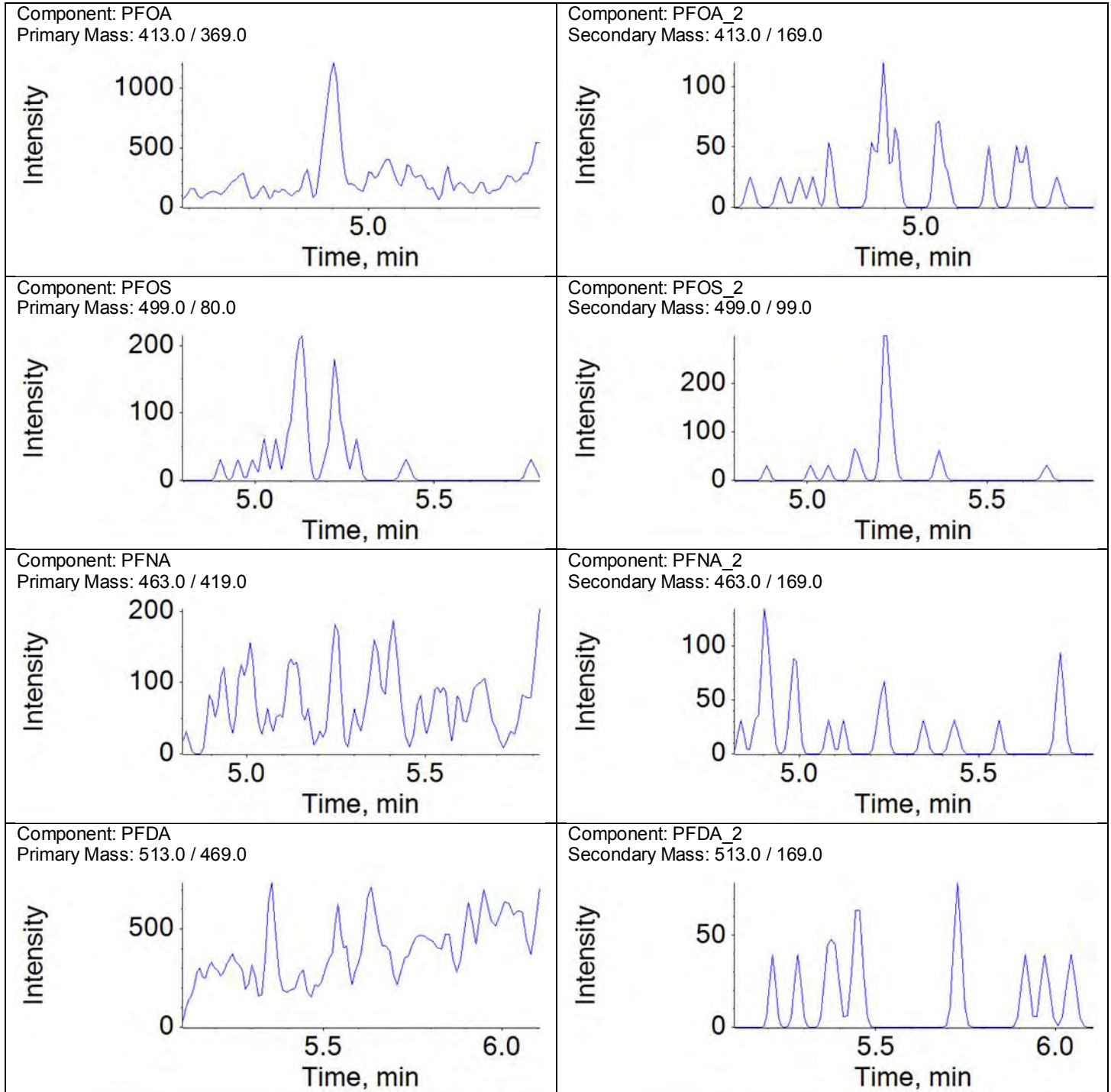
Sample Name: 9881582

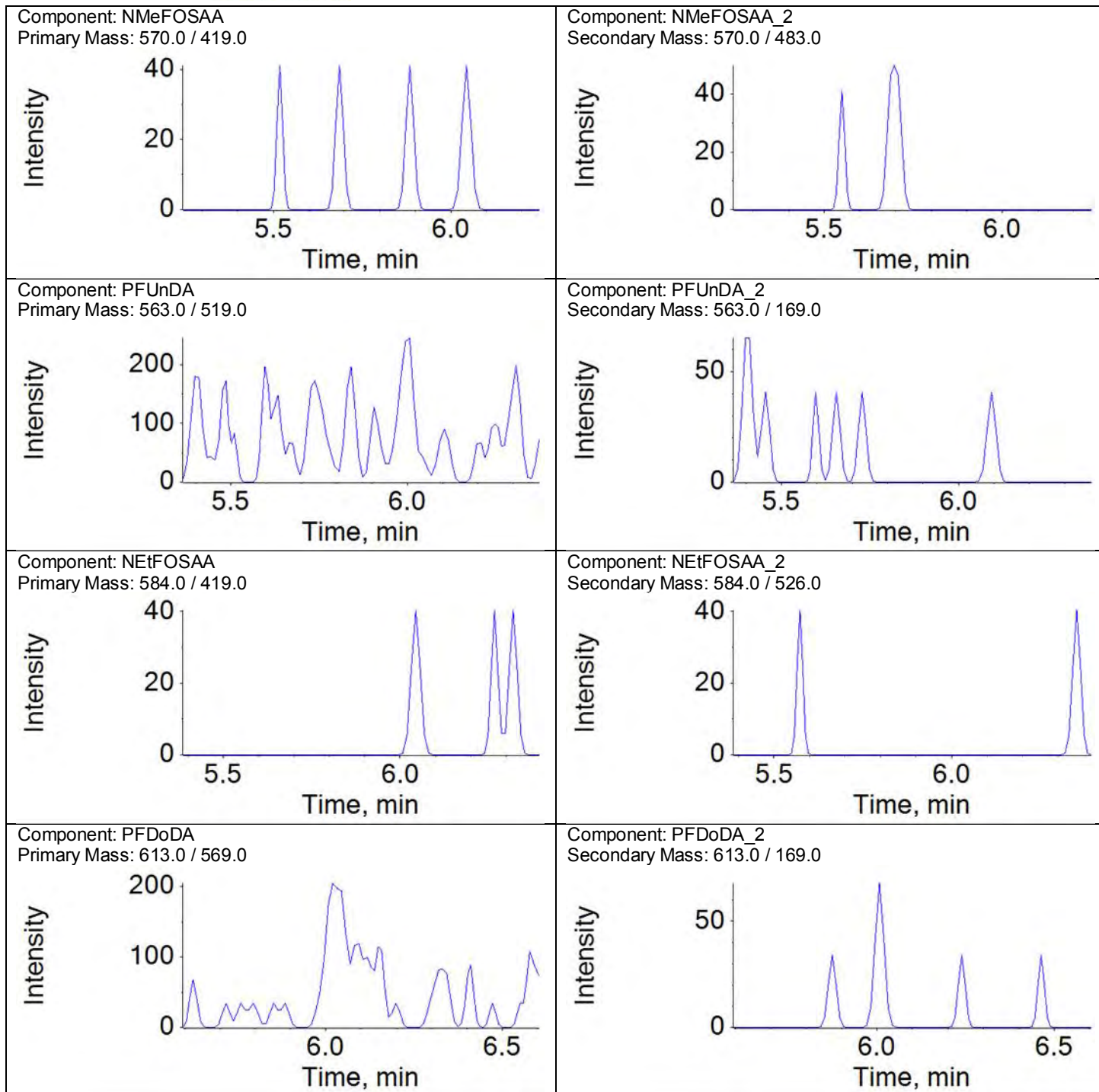
Instrument Name: LM27631

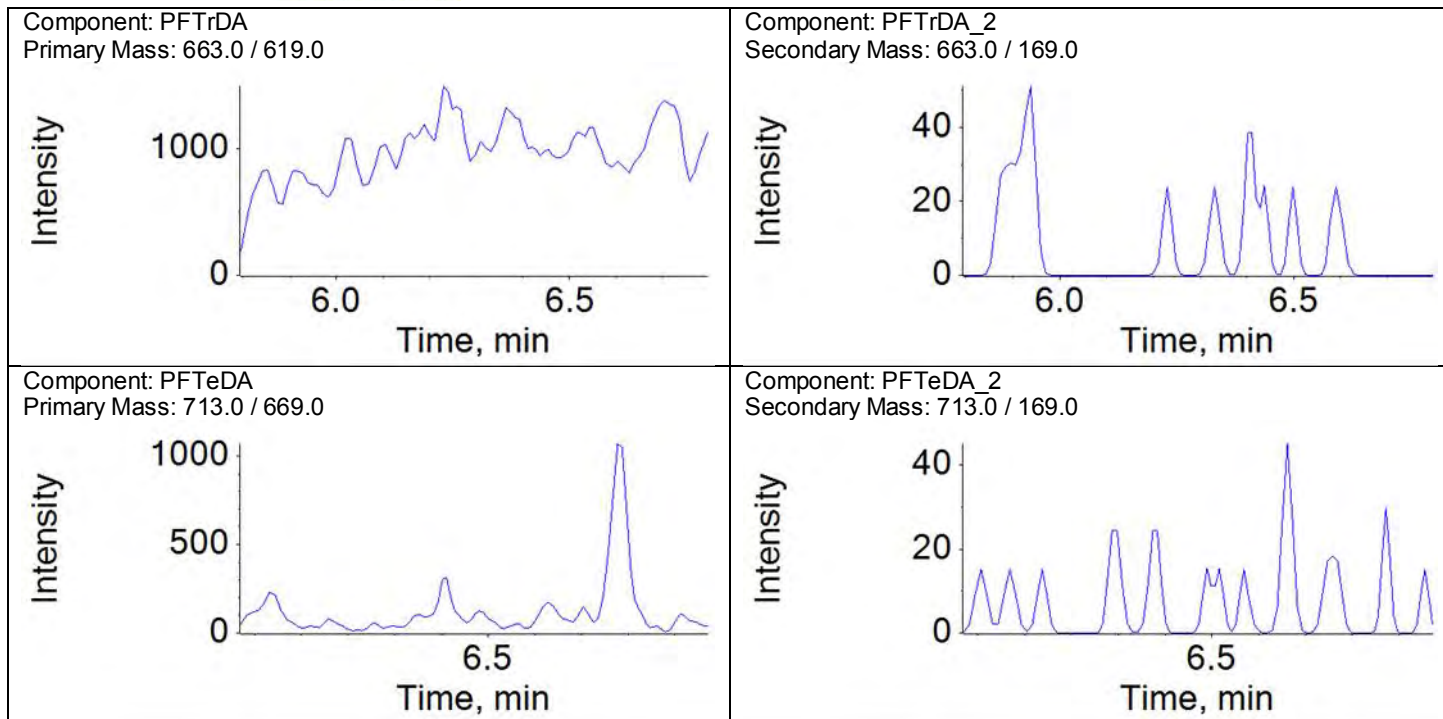
File Name: 18NOV08D-49.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	









ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881583BKG		Data File:	18NOV08D-50.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18311003 OU1-CAOC21-S-04-05 Grab Soil		Acquis Date:	2018-11-08T19:10:34
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	74		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18311003
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	18311003		Operator:	JPT12262
Sample Wt.:	1.03000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV08D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	813627.2	728839.7	12	50	
13C2-PFOA	5.0	557006.0	491983.1	13	50	
13C4-PFOS	4.8	312932.9	255568.1	22	50	
13C2-PFDA	5.0	342684.9	315407.5	9	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	363067.5	13C3-PFBA	813627.2	0.446	9.029	6.359	70	50-150	
E13C5-PFHxA	561374.0	13C2-PFOA	557006.0	1.008	9.709	7.199	74	50-150	
E13C3-PFHxS	280918.9	13C2-PFOA	557006.0	0.504	9.184	7.030	77	50-150	
E13C4-PFHpA	420761.6	13C2-PFOA	557006.0	0.755	9.709	6.673	69	50-150	
E13C8-PFOA	790766.2	13C2-PFOA	557006.0	1.420	9.709	7.687	79	50-150	
E13C8-PFOS	238576.0	13C4-PFOS	312932.9	0.762	9.282	6.546	71	50-150	
E13C9-PFNA	426808.6	13C4-PFOS	312932.9	1.364	9.709	7.234	75	50-150	
E13C6-PFDA	520695.5	13C2-PFDA	342684.9	1.519	9.709	7.420	76	50-150	
Ed3-NMeFOSAA	71698.7	13C2-PFDA	342684.9	0.209	9.709	7.555	78	50-150	
E13C7-PFUnDA	225337.1	13C2-PFDA	342684.9	0.658	9.709	7.366	76	50-150	
Ed5-NEtFOSAA	52858.4	13C2-PFDA	342684.9	0.154	9.709	6.931	71	50-150	
E13C2-PFDoDA	470712.4	13C2-PFDA	342684.9	1.374	9.709	7.190	74	50-150	
E13C2-PFTeDA	345061.9	13C2-PFDA	342684.9	1.007	9.709	7.039	72	50-150	

APPROVED

By JPT at 1:25 pm, 11/9/18

REVIEWED

By HMK at 9:20 am, 11/13/18

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881583BKG

Instrument Name: LM27631

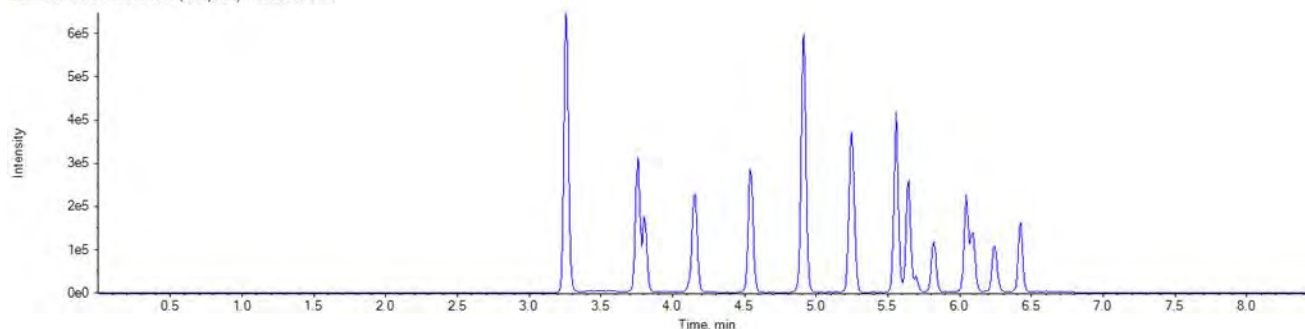
File Name: 18NOV08D-50.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.03000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	363067.5	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	561374.0	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	280918.9	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	420761.6	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	790766.2	N/A	
PFOS	5.24	1.000	5816.0		M	13C8-PFOS	5.24	238576.0	0.024	0.245
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	426808.6	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	520695.5	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	71698.8	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	225337.1	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	52858.4	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	470712.4	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	470712.4	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	345061.9	N/A	

Total Ion Chromatogram

TIC from 18NOV08D-50.wiff (sample 1) - 9881583BKG



APPROVED

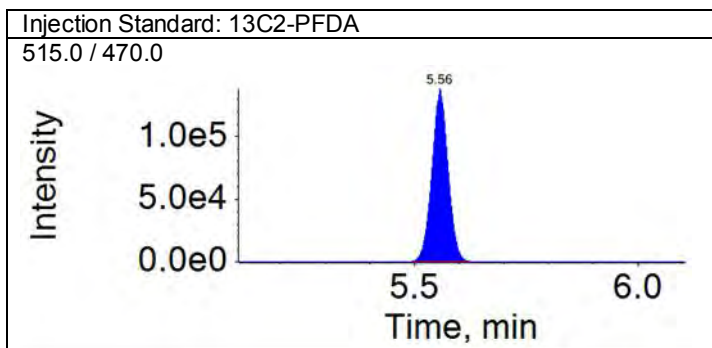
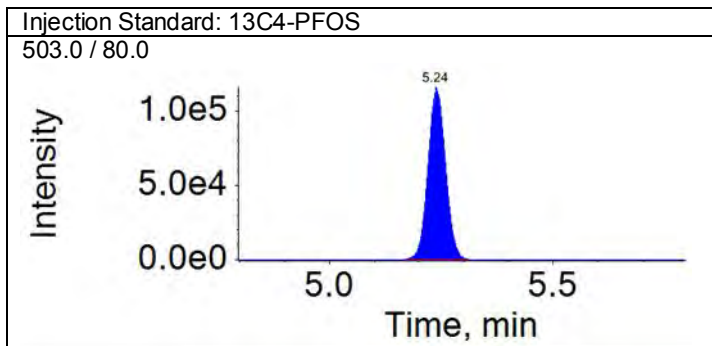
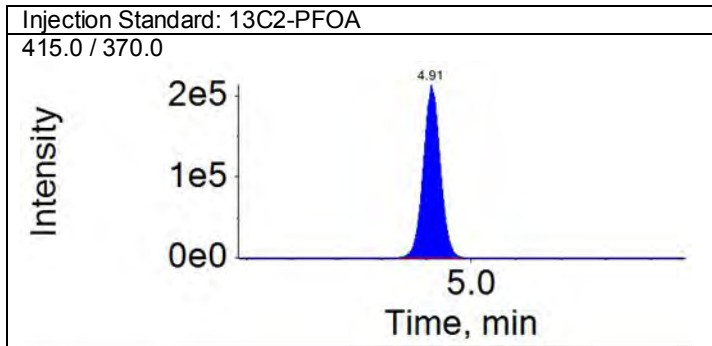
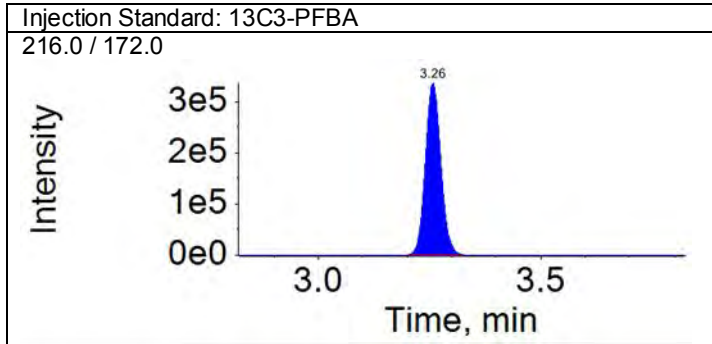
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REVIEWED

By HMK at 9:20 am, 11/13/18

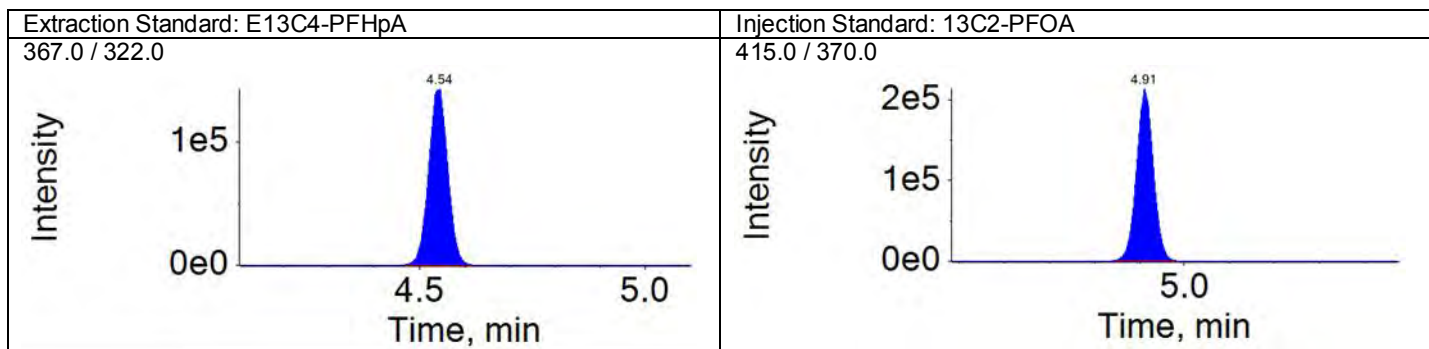
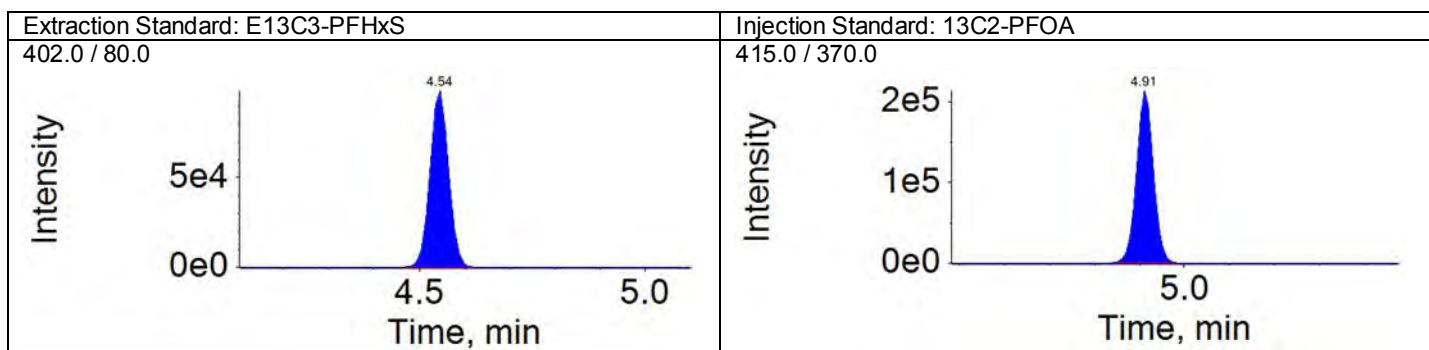
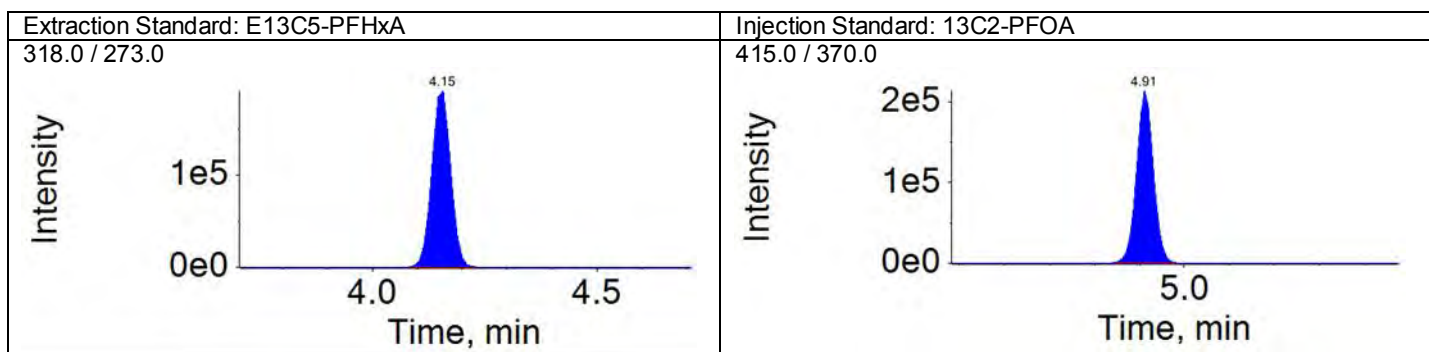
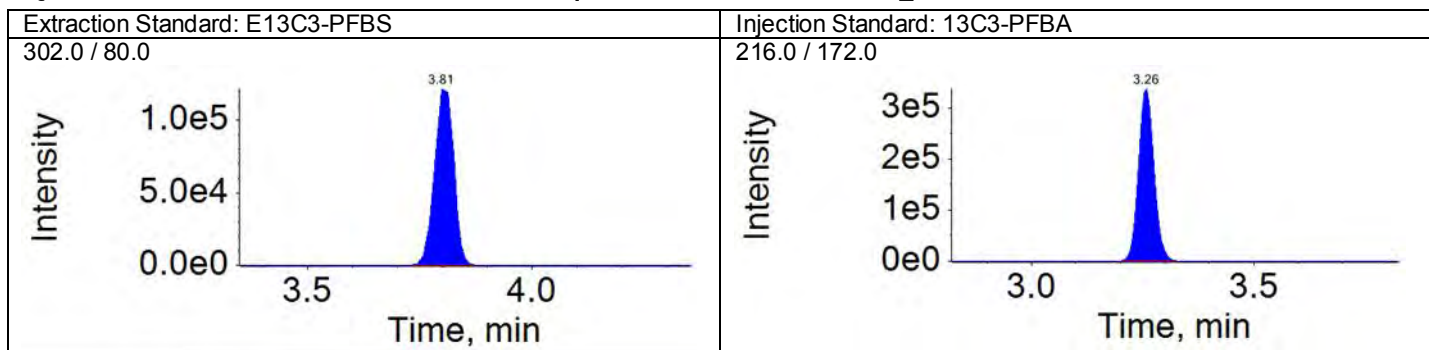
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



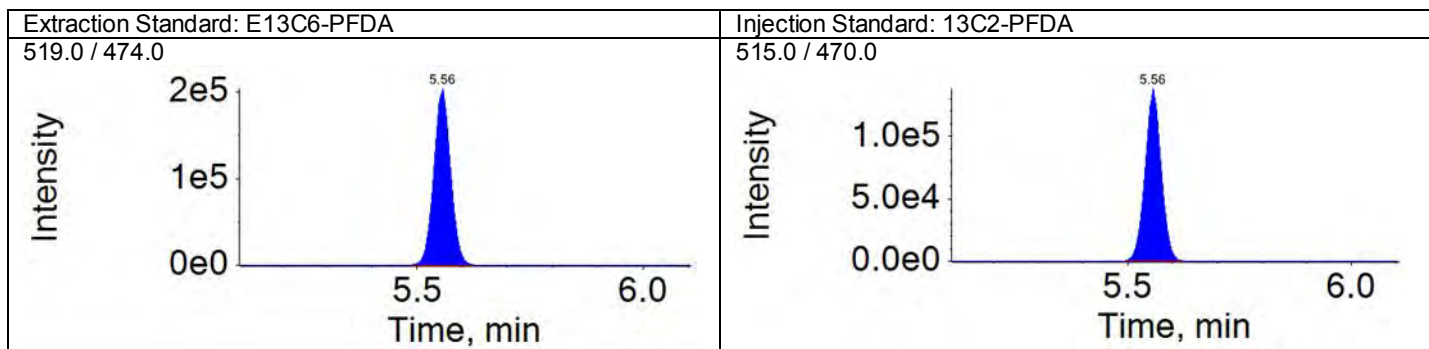
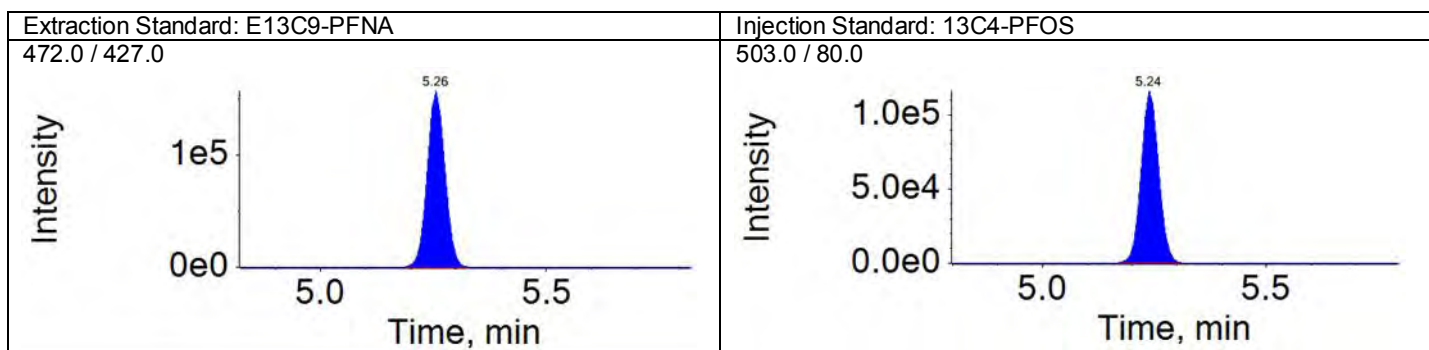
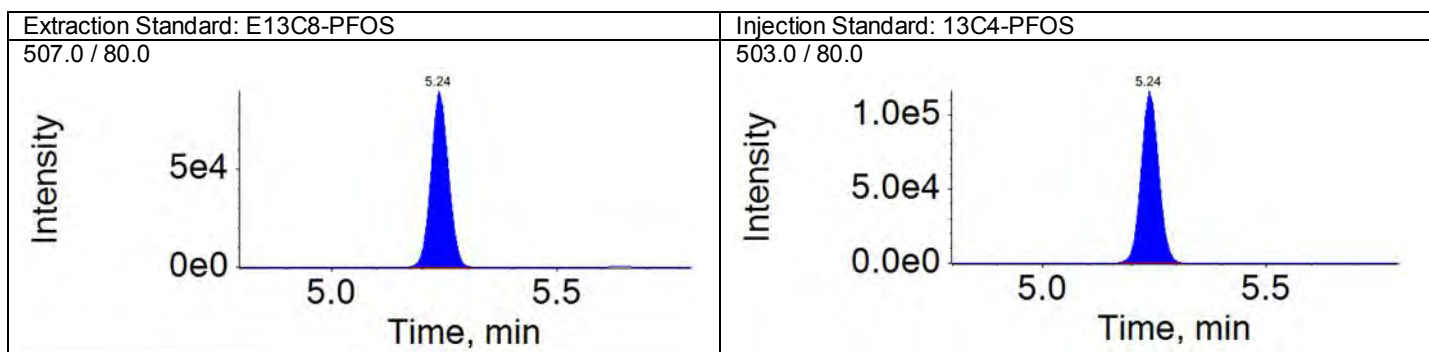
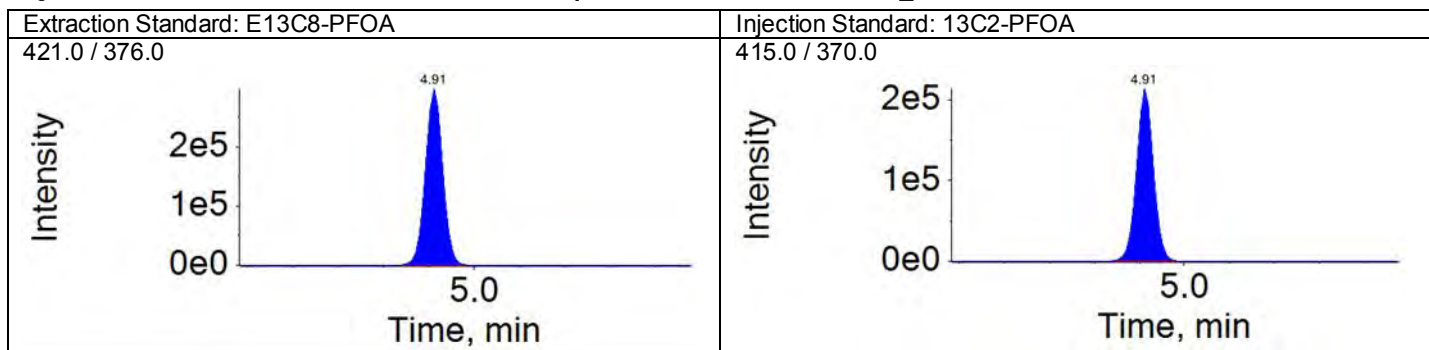
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



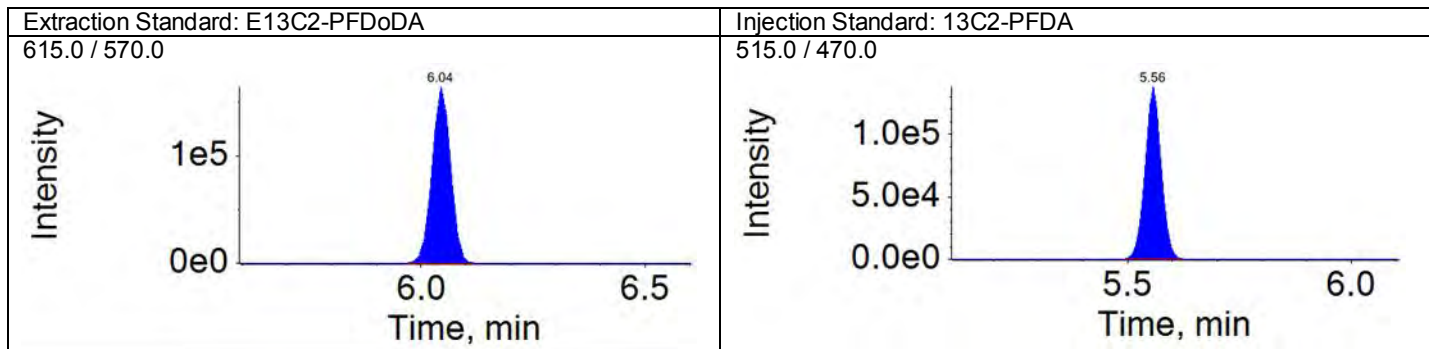
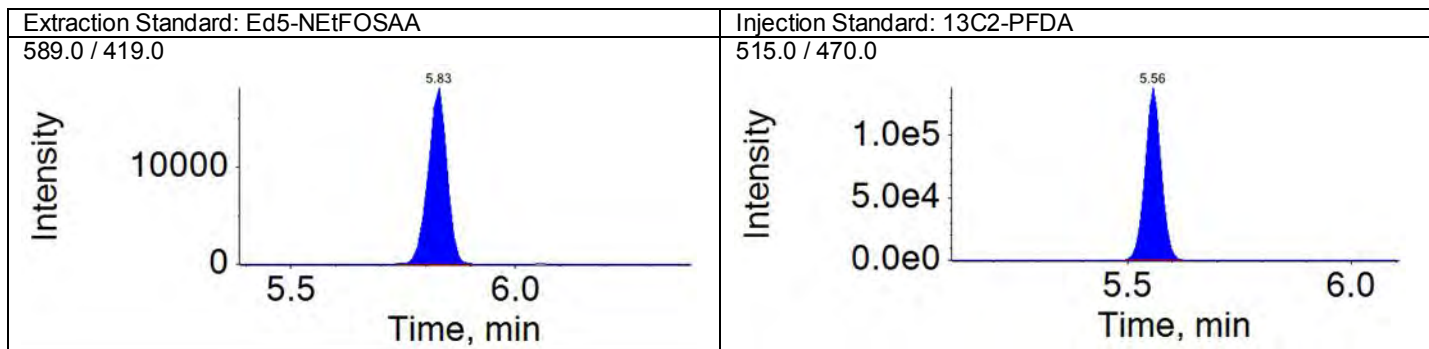
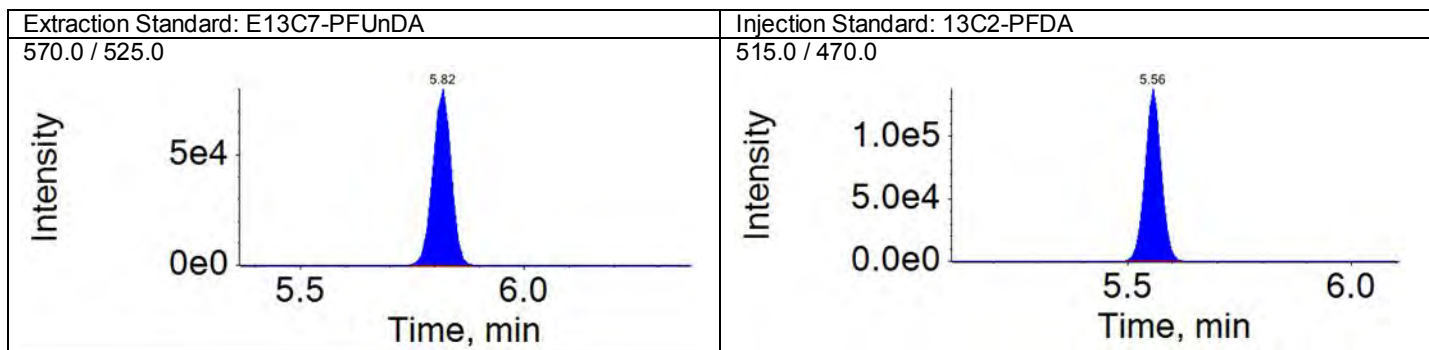
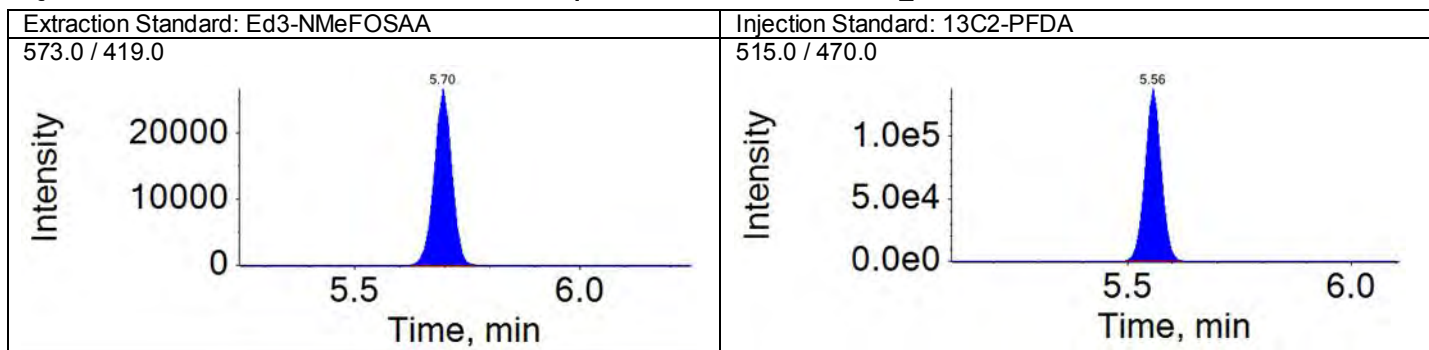
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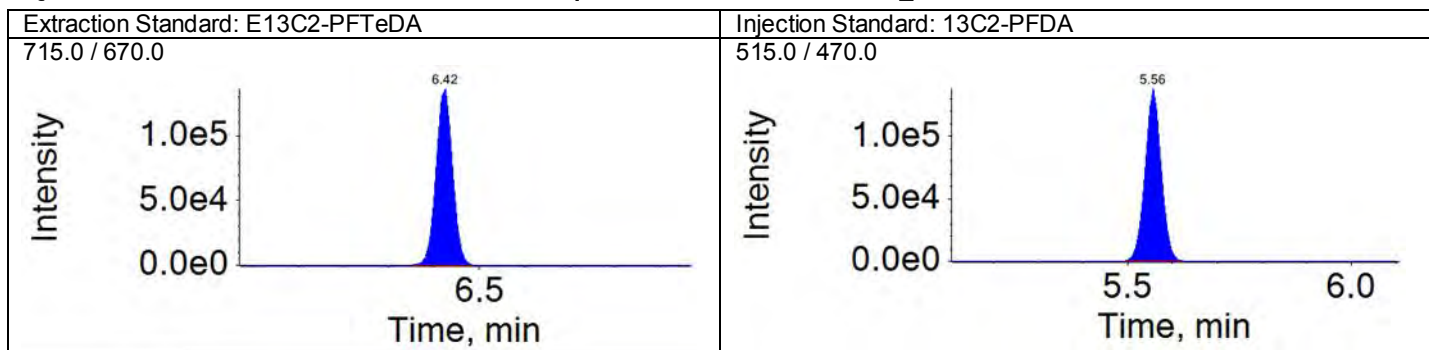
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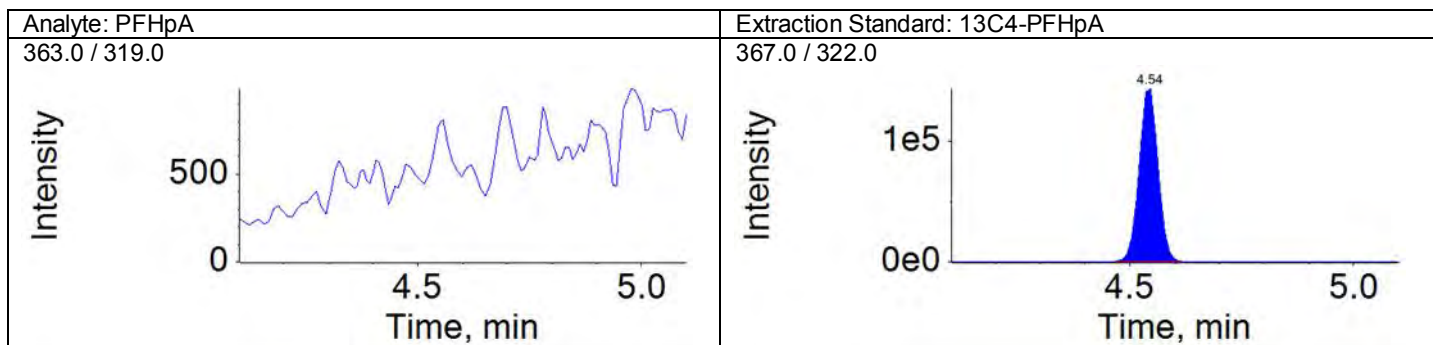
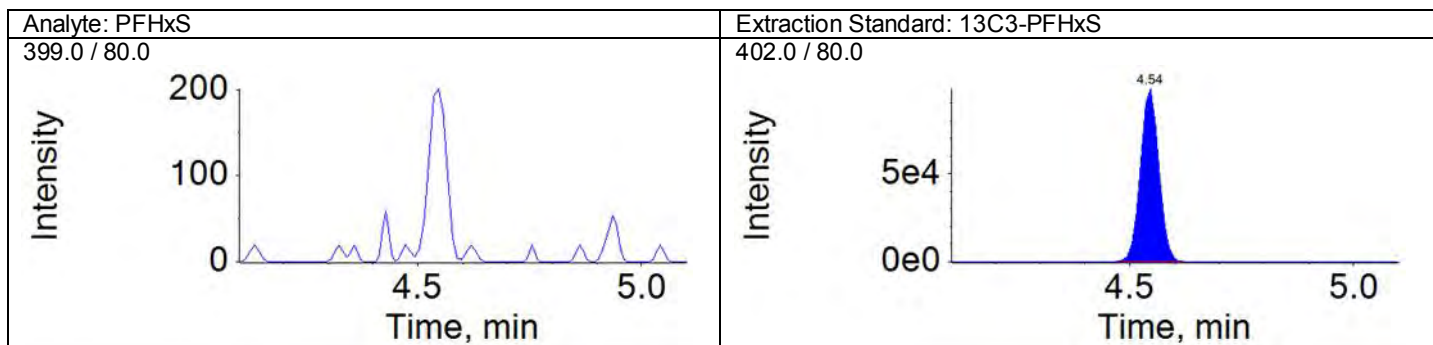
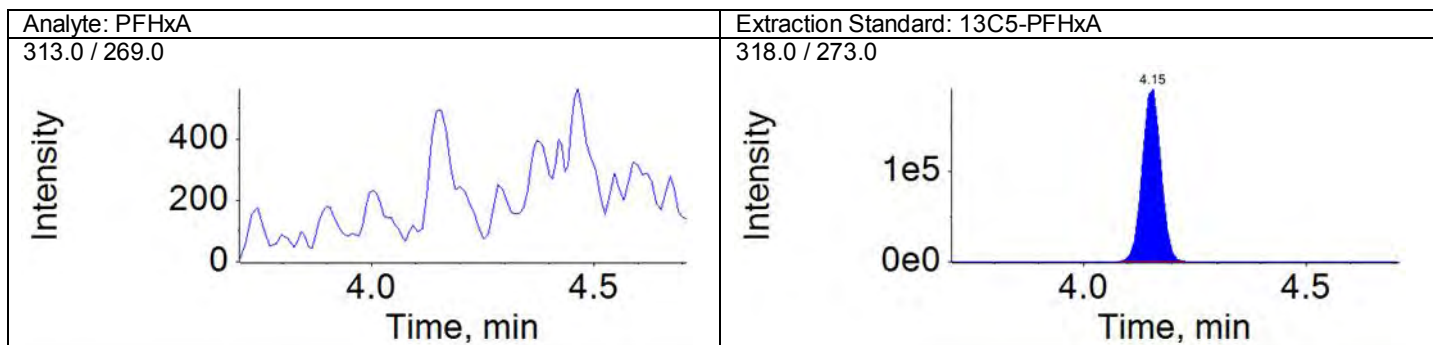
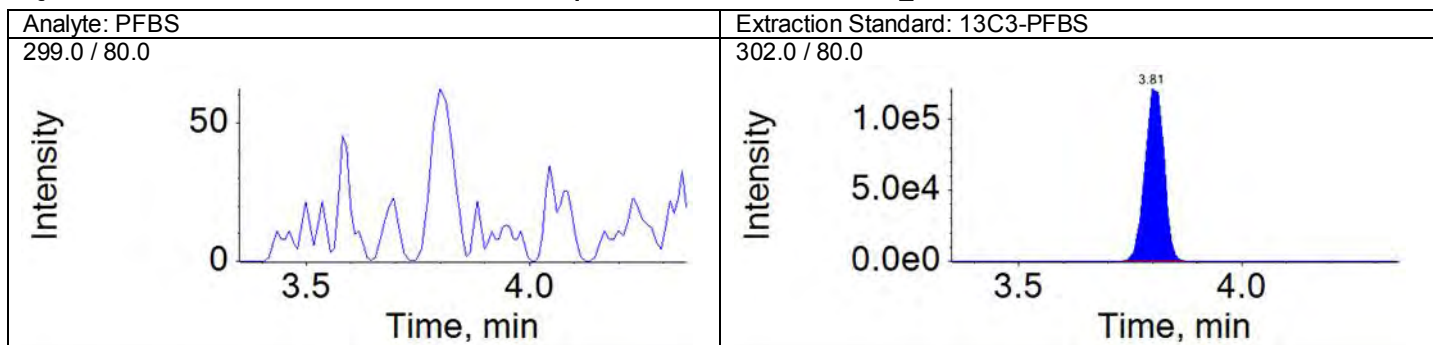
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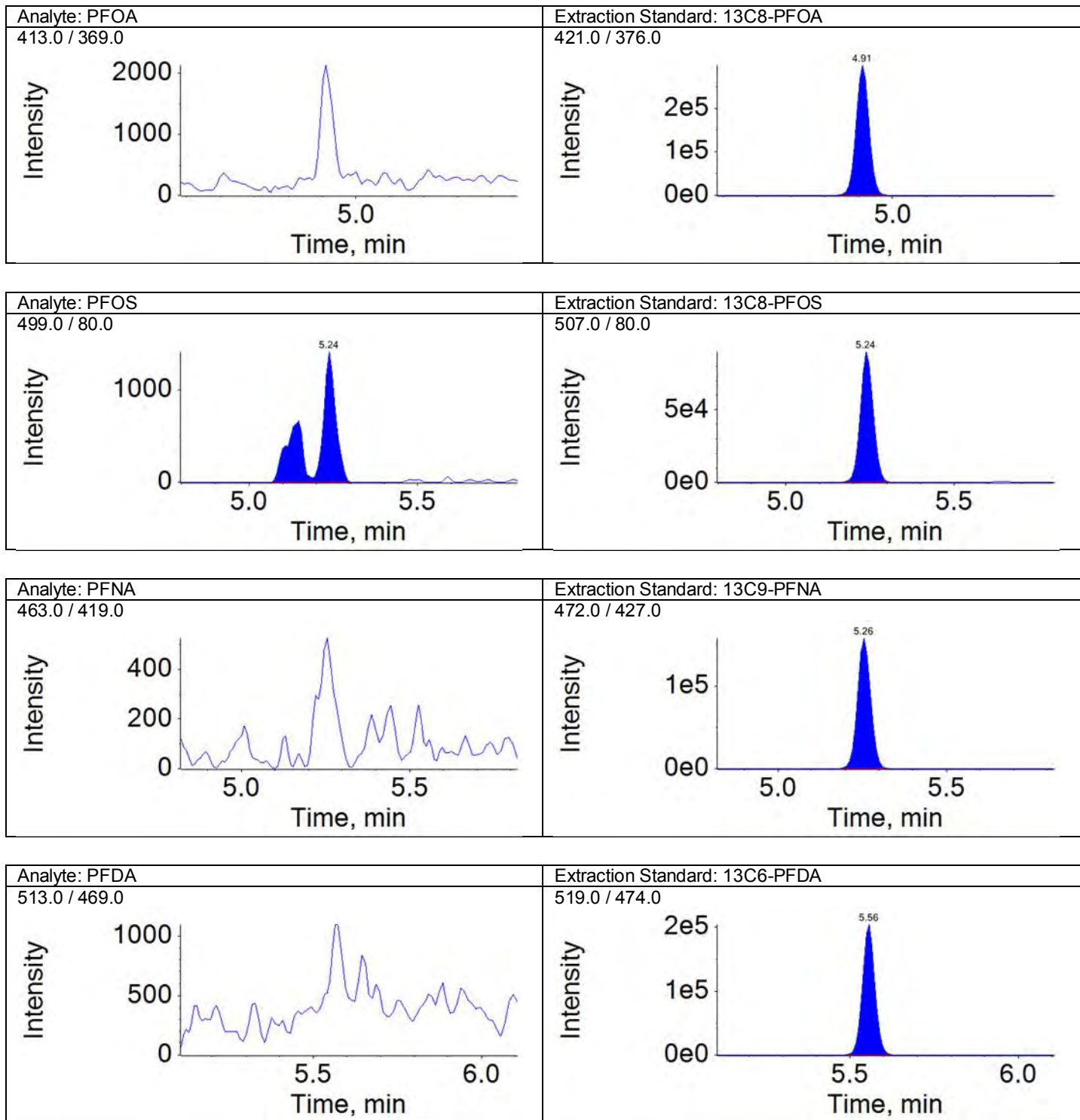
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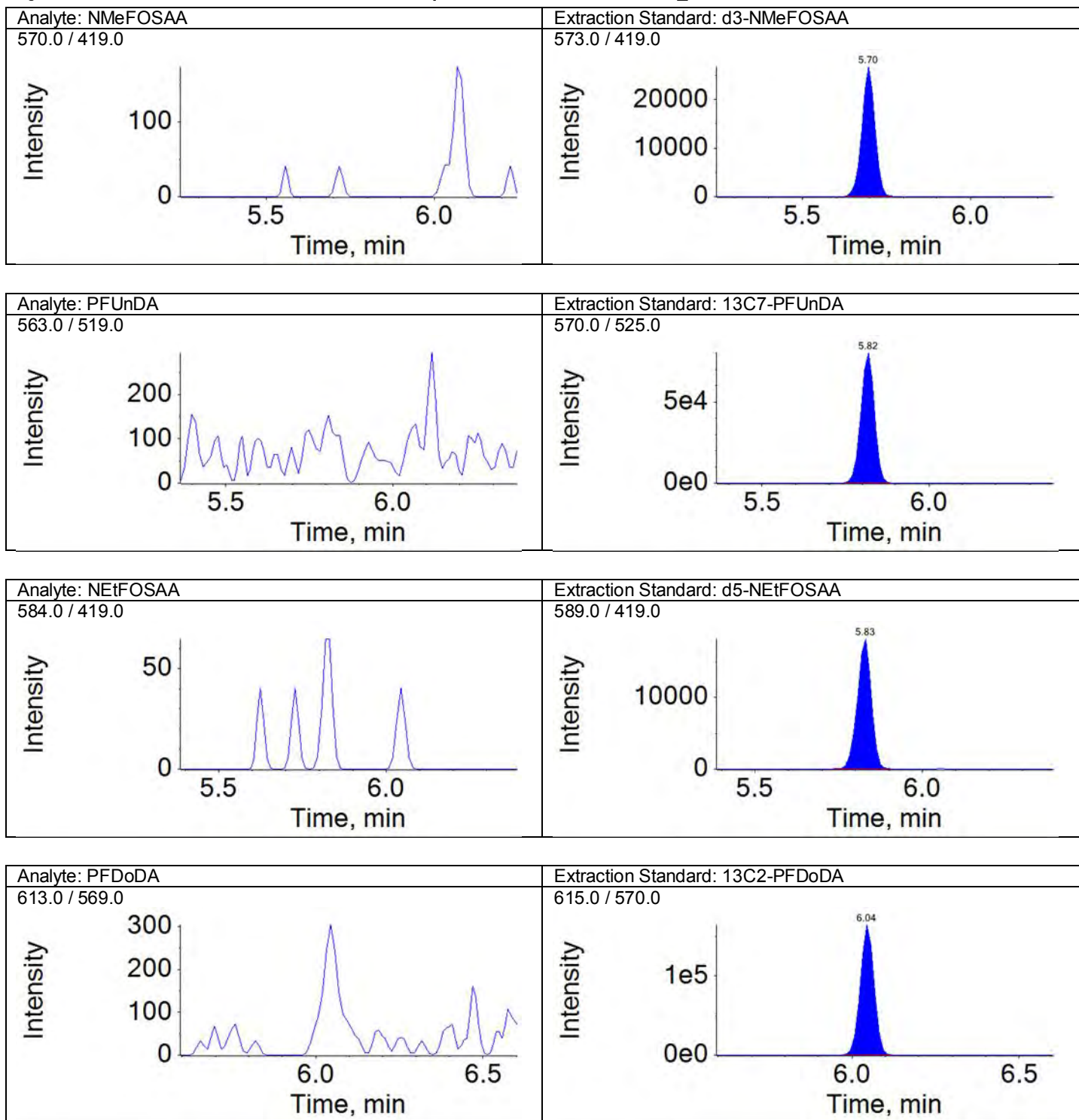
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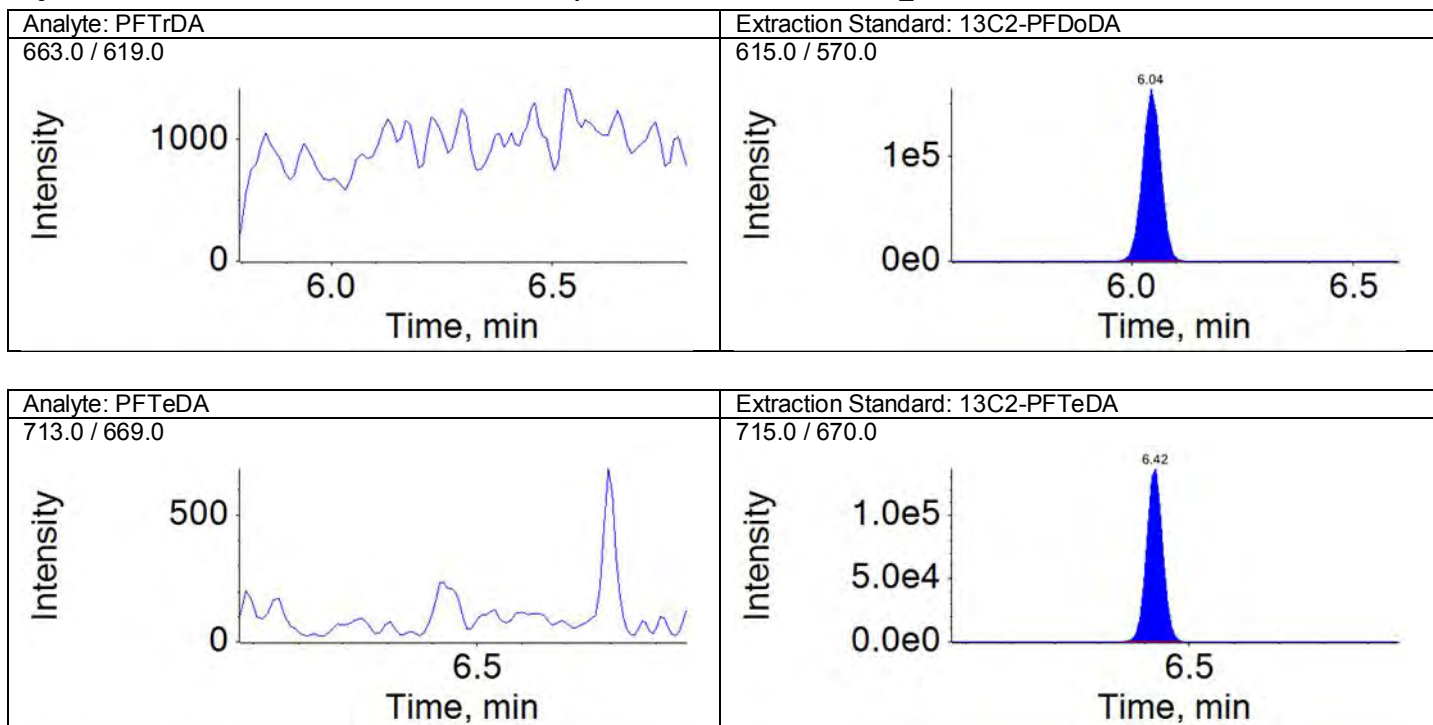
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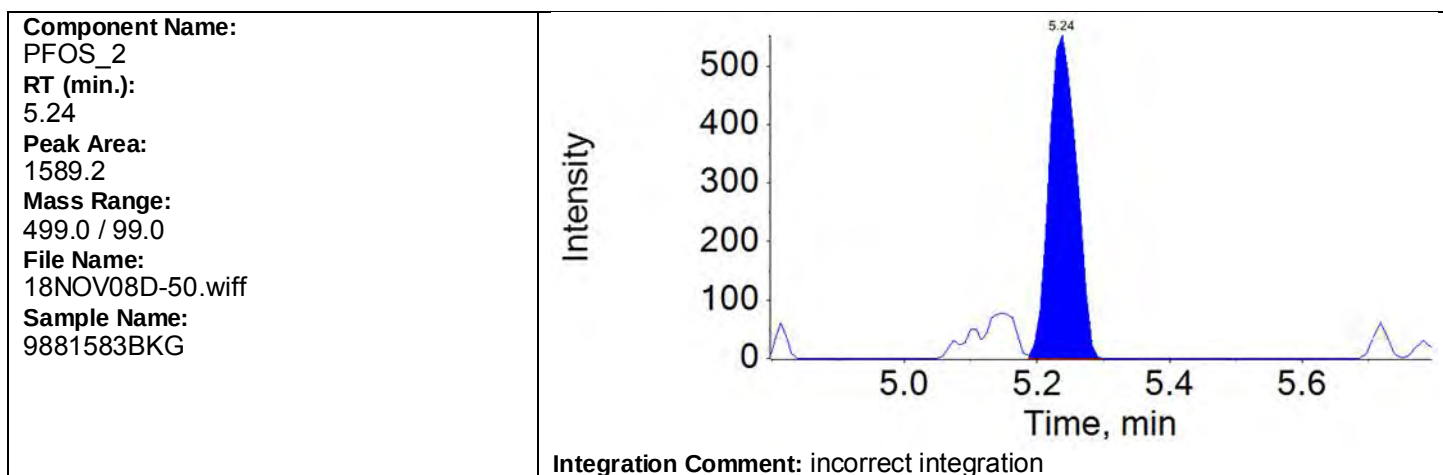
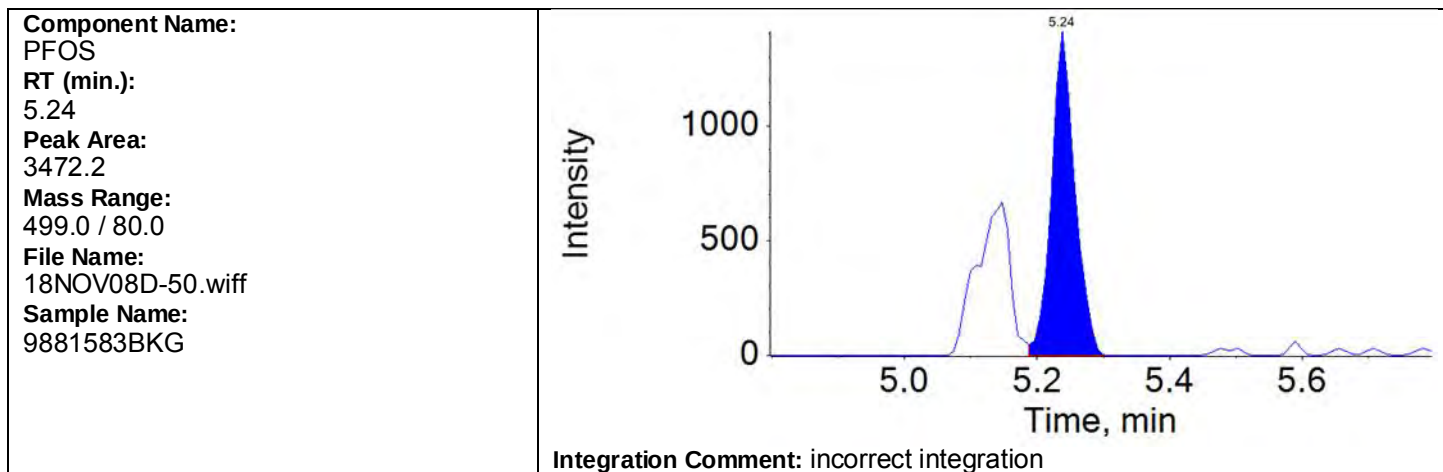
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



Results Table Name: 18311003
Results Table Date: 11/9/2018 1:08:25 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13



Results Table Name: 18311003
Results Table Date: 11/9/2018 1:08:25 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

APPROVED
By JPT at 1:25 pm, 11/9/18

REVIEWED
By HMK at 9:20 am, 11/13/18

Ion Ratio Report

Sample Name: 9881583BKG

Instrument Name: LM27631

File Name: 18NOV08D-50.wiff

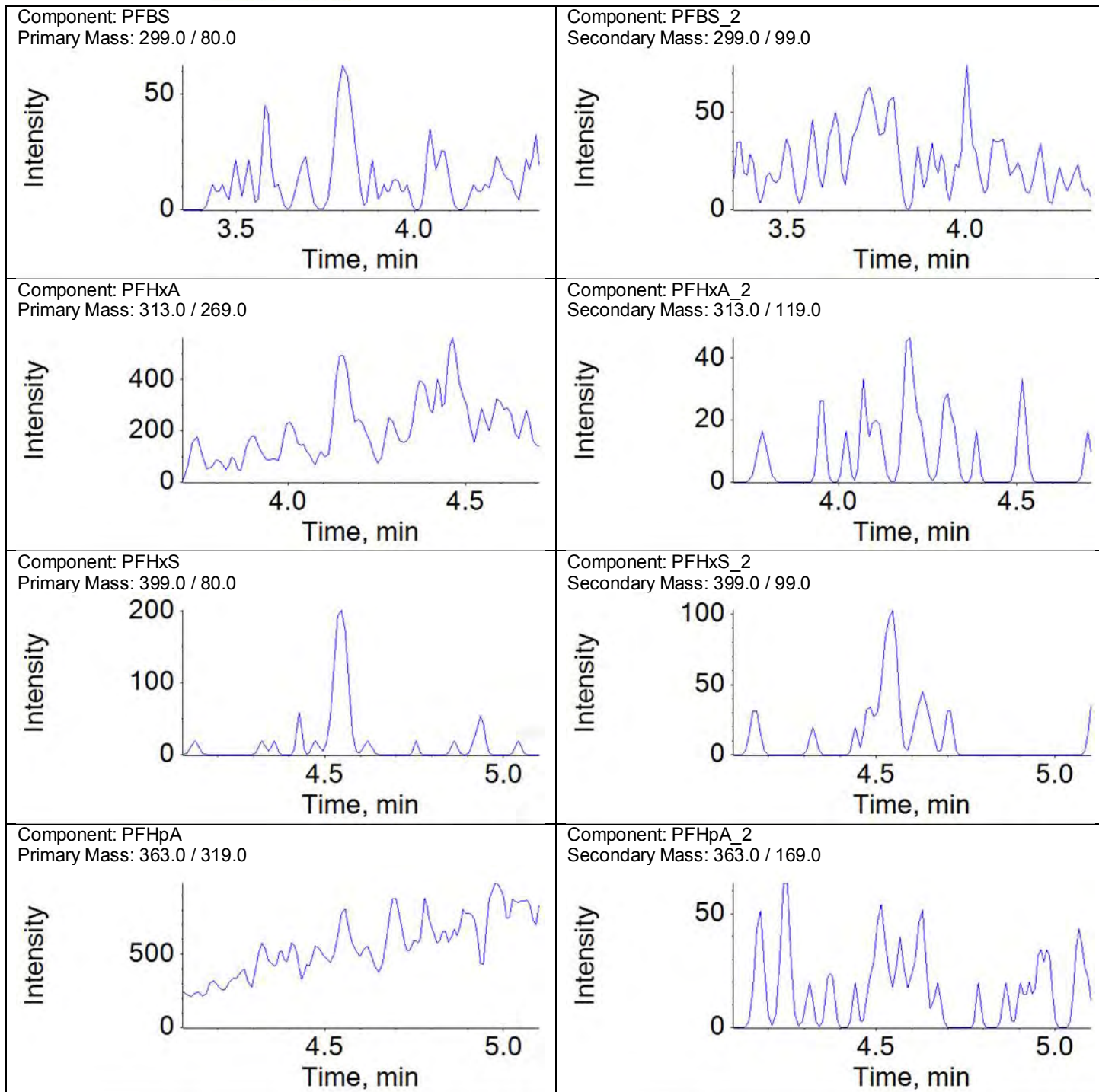
Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	5.24	1.00	5816.0	M	N/A	1.0000			
PFOS_2	5.24	1.00	1924.0	M	N/A	0.3308	-5	50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

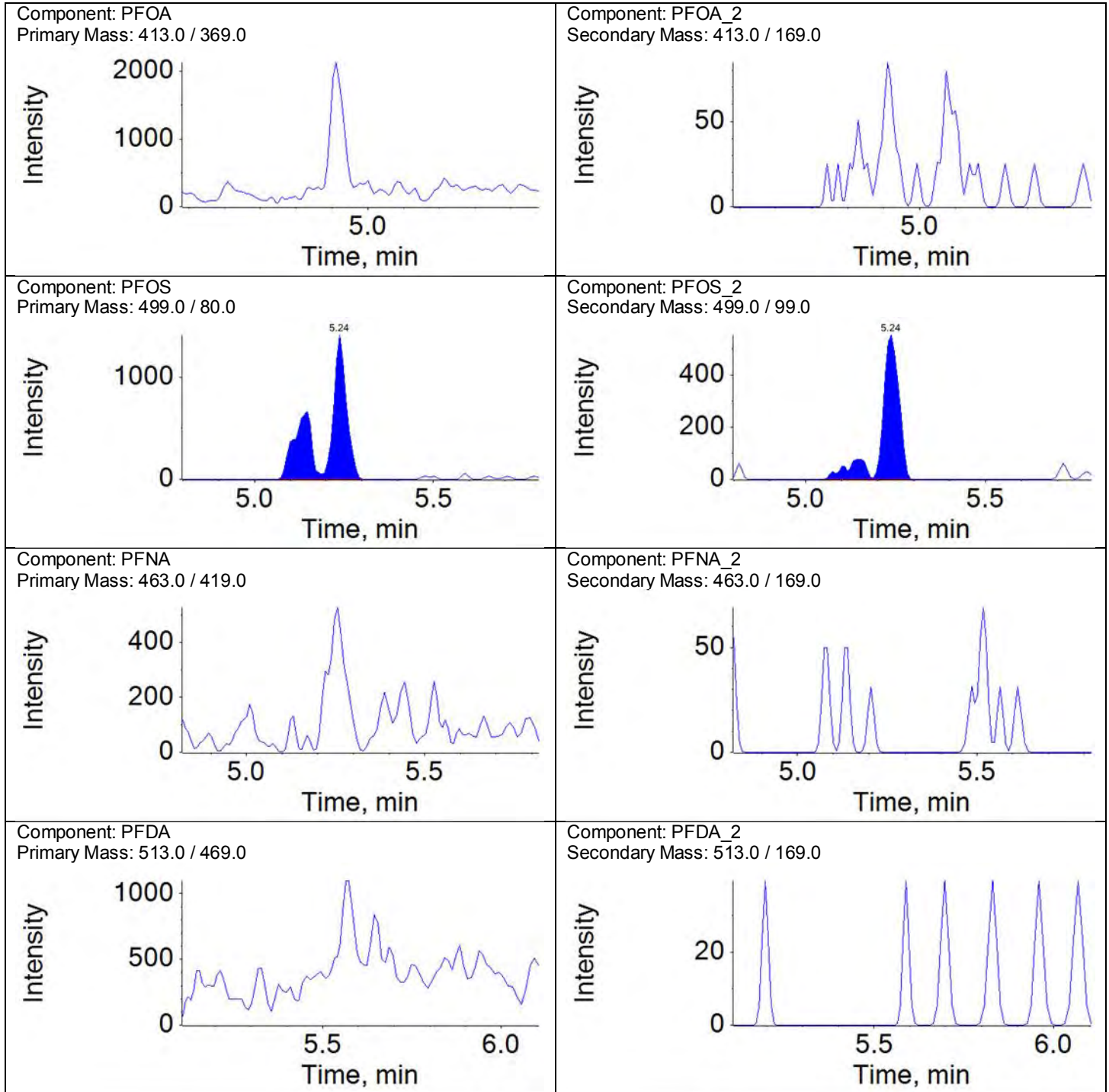
APPROVED

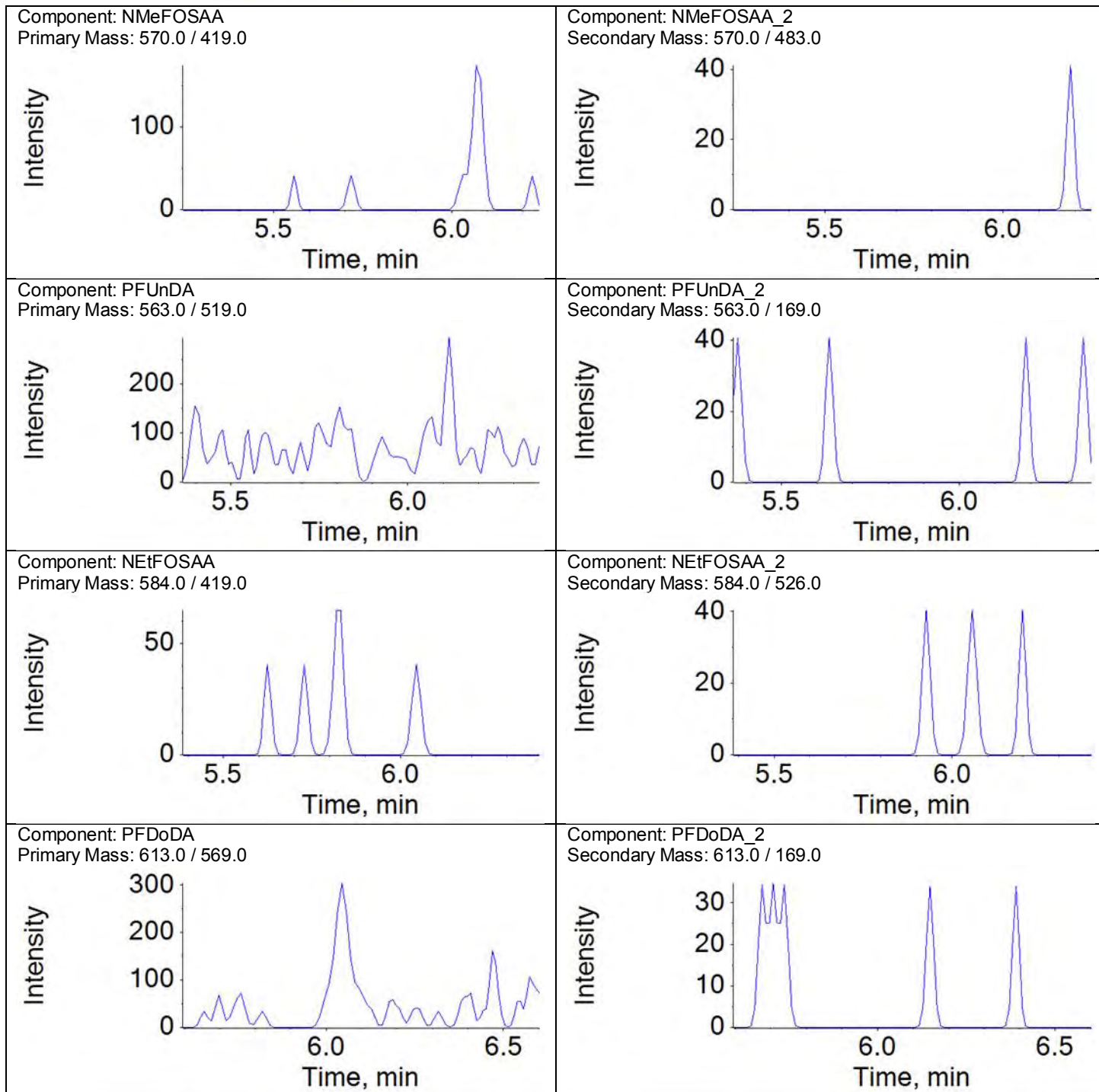
By JPT at 1:25 pm, 11/9/18

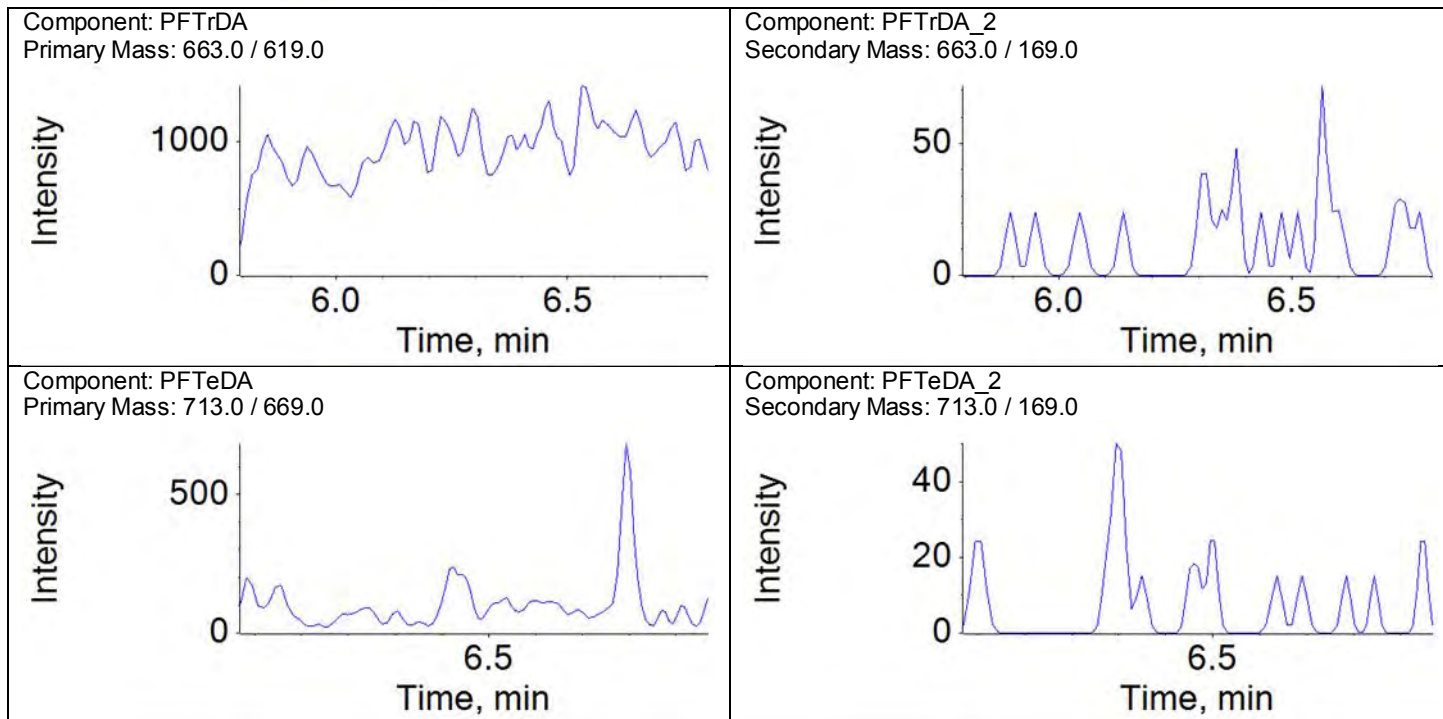
REVIEWED

By HMK at 9:20 am, 11/13/18









ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881586		Data File:	18NOV08D-54.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18311003 OU1-CAOC21-S-04-08 Grab Soil		Acquis Date:	2018-11-08T19:46:40
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	77		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18311003
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	18311003		Operator:	JPT12262
Sample Wt.:	1.08000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV08D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	839773.6	728839.7	15	50	
13C2-PFOA	5.0	568447.8	491983.1	16	50	
13C4-PFOS	4.8	319661.5	255568.1	25	50	
13C2-PFDA	5.0	361545.0	315407.5	15	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	394390.5	13C3-PFBA	839773.6	0.470	8.611	6.383	74	50-150	
E13C5-PFHxA	602637.9	13C2-PFOA	568447.8	1.060	9.259	7.222	78	50-150	
E13C3-PFHxS	300641.3	13C2-PFOA	568447.8	0.529	8.759	7.031	80	50-150	
E13C4-PFHpA	497775.3	13C2-PFOA	568447.8	0.876	9.259	7.377	80	50-150	
E13C8-PFOA	866158.0	13C2-PFOA	568447.8	1.524	9.259	7.869	85	50-150	
E13C8-PFOS	276010.4	13C4-PFOS	319661.5	0.863	8.852	7.070	80	50-150	
E13C9-PFNA	470983.6	13C4-PFOS	319661.5	1.473	9.259	7.453	80	50-150	
E13C6-PFDA	563966.3	13C2-PFDA	361545.0	1.560	9.259	7.264	78	50-150	
Ed3-NMeFOSAA	78813.5	13C2-PFDA	361545.0	0.218	9.259	7.507	81	50-150	
E13C7-PFUnDA	250878.4	13C2-PFDA	361545.0	0.694	9.259	7.413	80	50-150	
Ed5-NEtFOSAA	55758.0	13C2-PFDA	361545.0	0.154	9.259	6.609	71	50-150	
E13C2-PFDoDA	520659.0	13C2-PFDA	361545.0	1.440	9.259	7.189	78	50-150	
E13C2-PFTeDA	356235.0	13C2-PFDA	361545.0	0.985	9.259	6.569	71	50-150	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881586

Instrument Name: LM27631

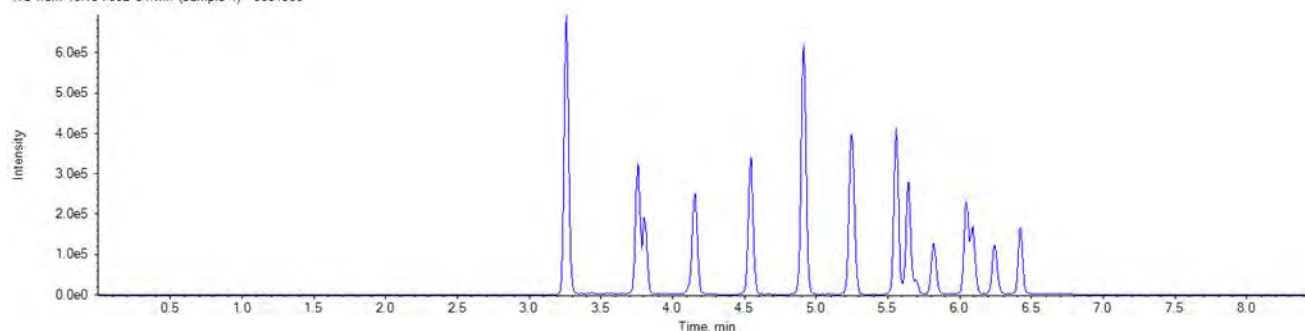
File Name: 18NOV08D-54.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.08000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	394390.5	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	602637.9	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	300641.3	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	497775.3	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	866158.0	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	276010.4	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	470983.6	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	563966.3	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	78813.5	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	250878.4	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	55758.0	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.05	520659.0	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.05	520659.0	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	356235.0	N/A	

Total Ion Chromatogram

TIC from 18NOV08D-54.wiff (sample 1) - 9881586



APPROVED

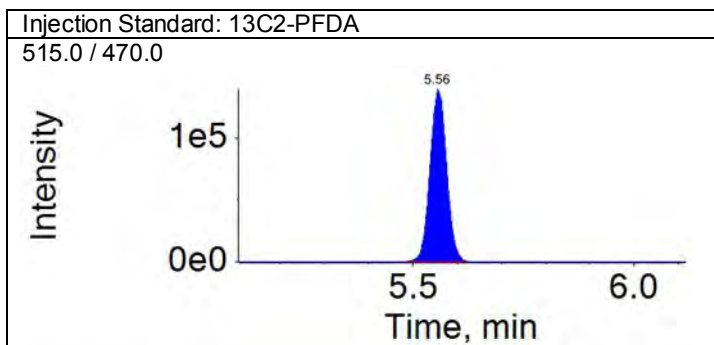
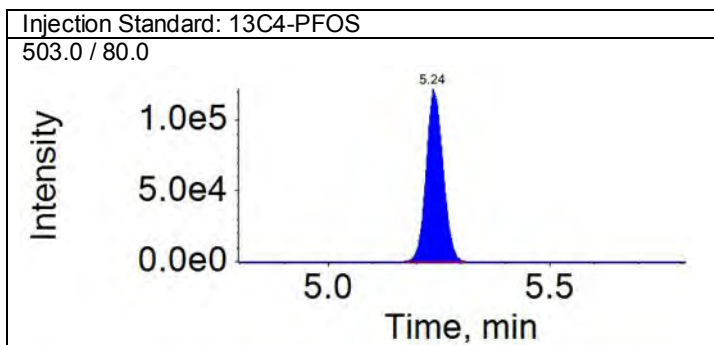
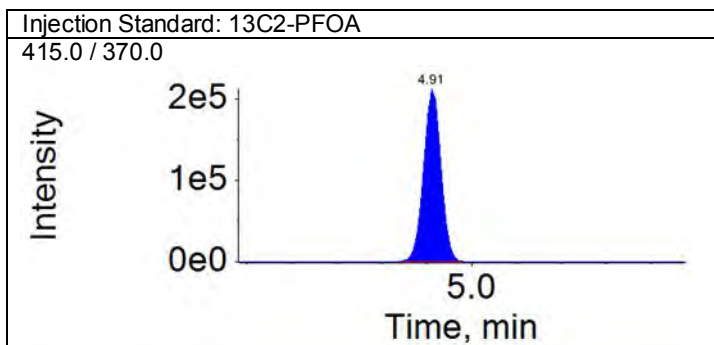
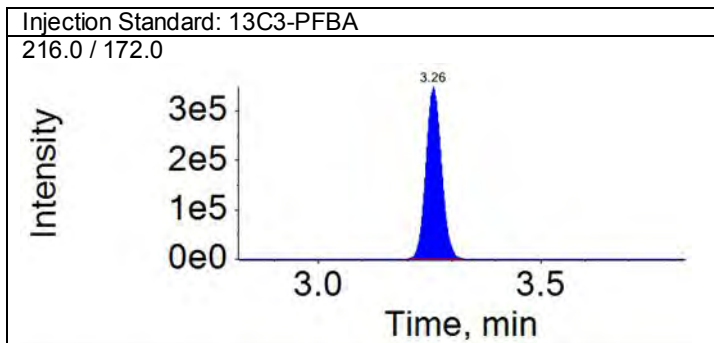
By JPT at 1:25 pm, 11/9/18

REVIEWED

By HMK at 9:20 am, 11/13/18

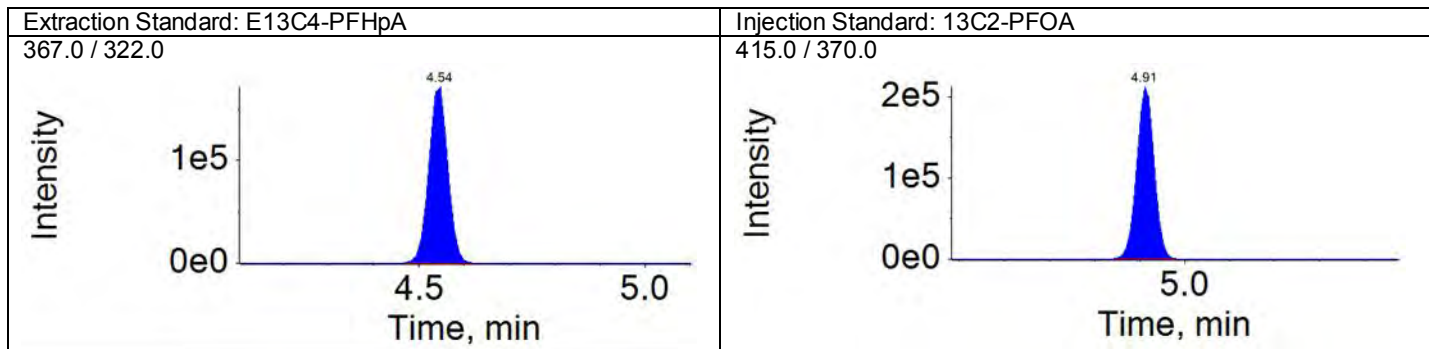
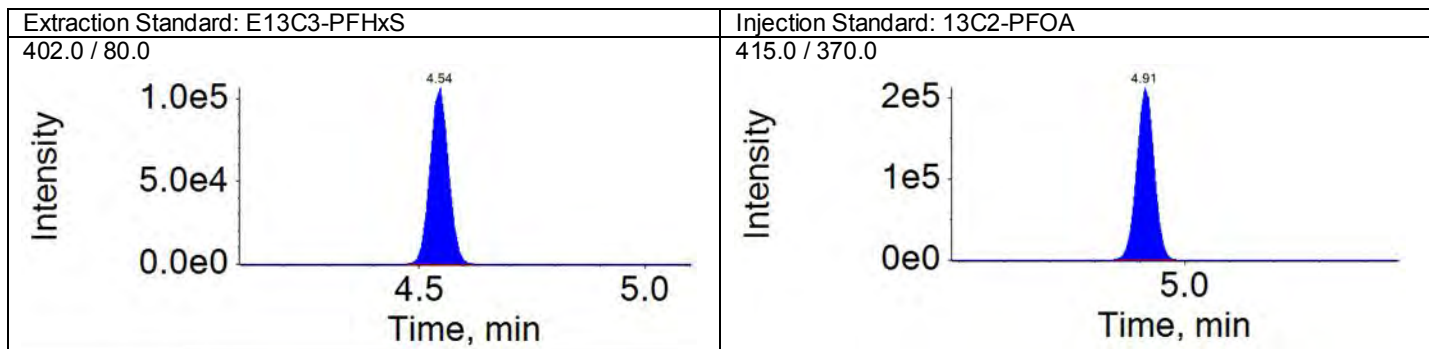
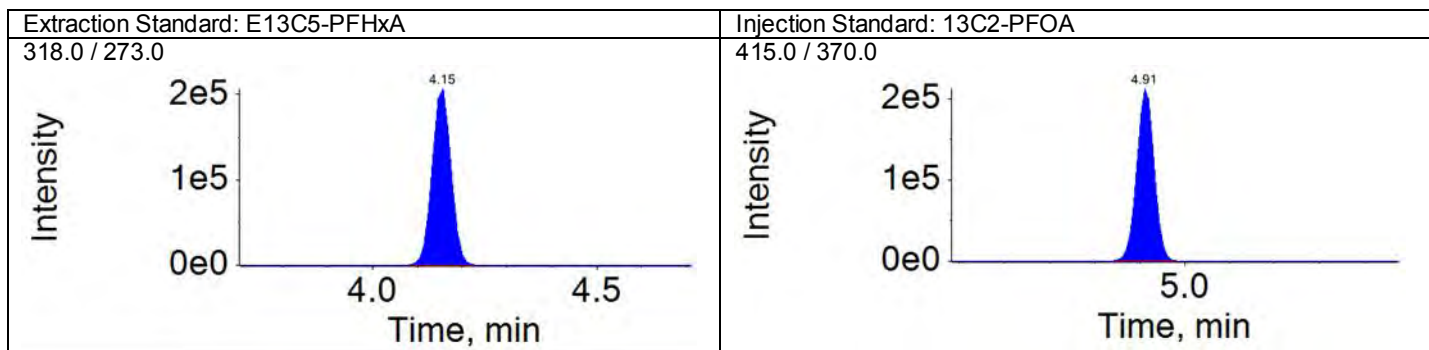
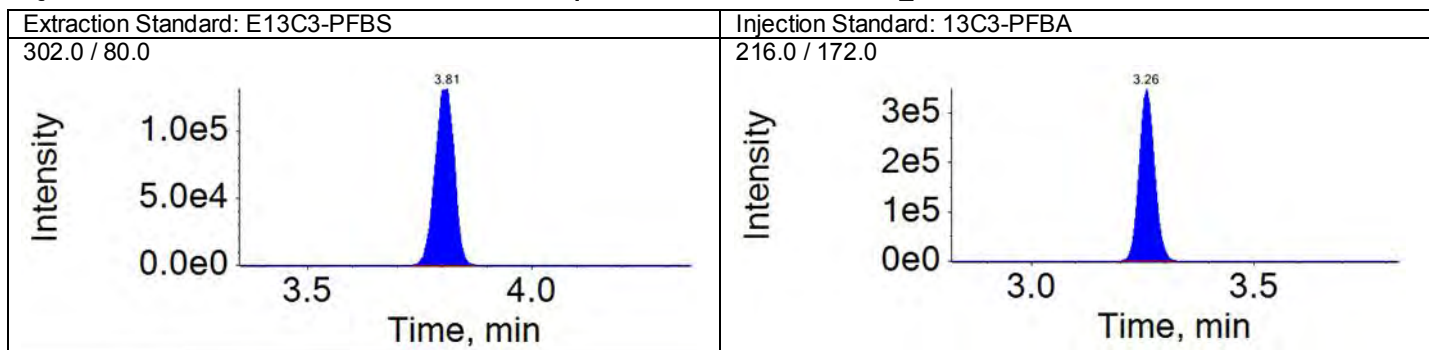
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



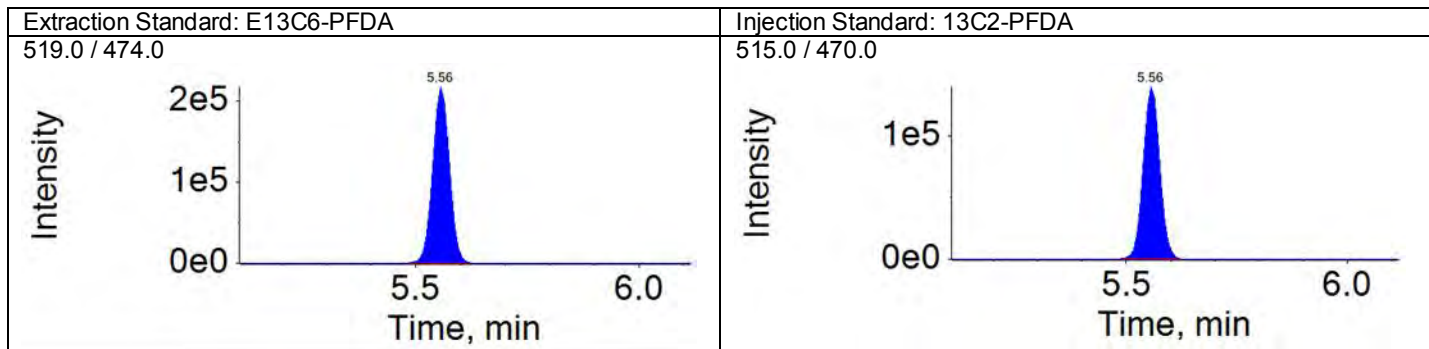
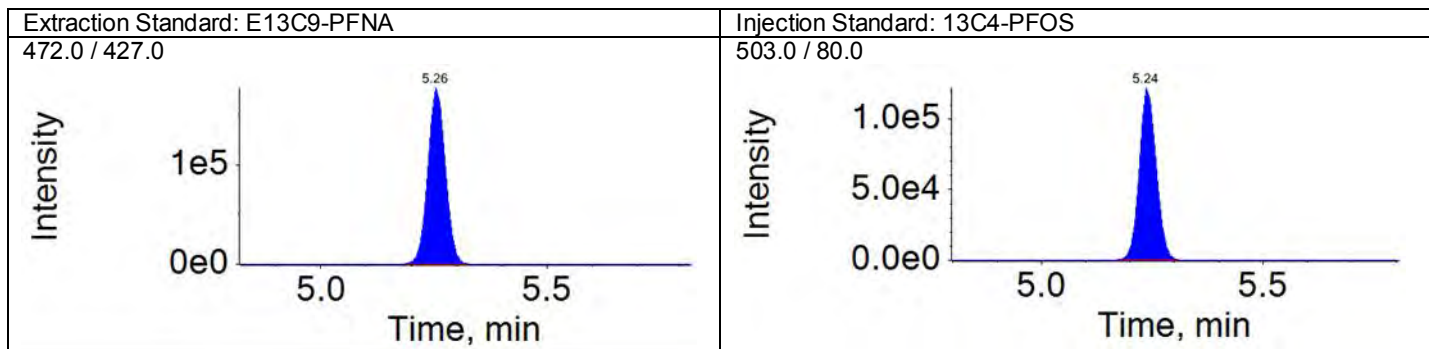
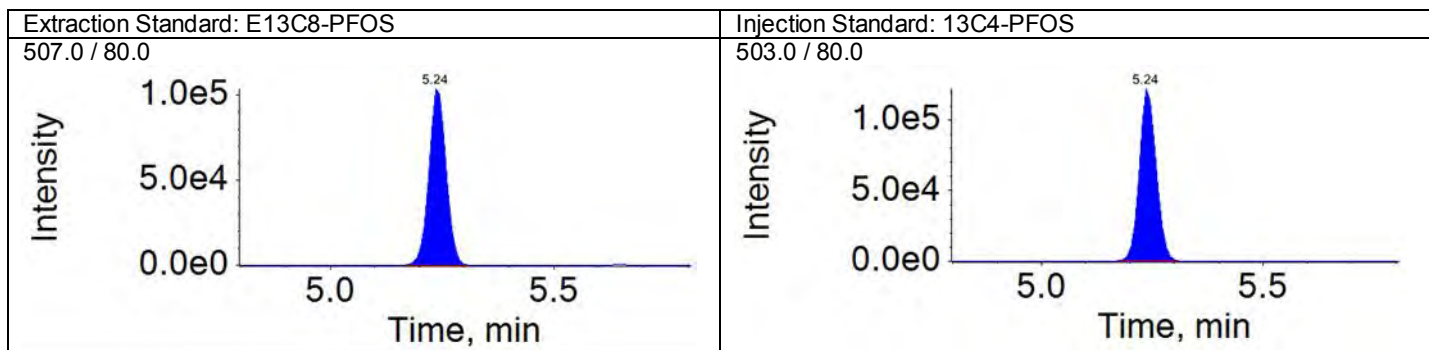
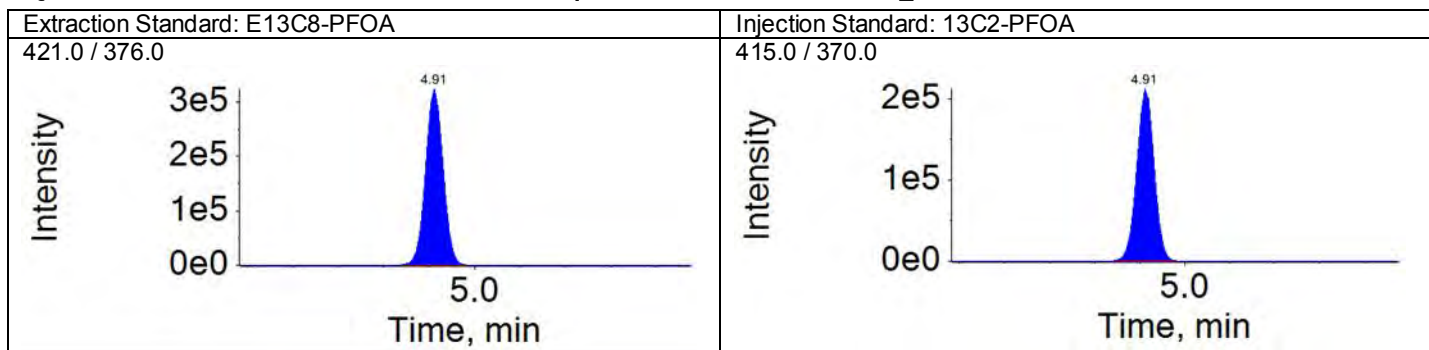
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QMethod Name: MQ4-18AUG13

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Acquisition Method: 18AUG13_3uL.dam



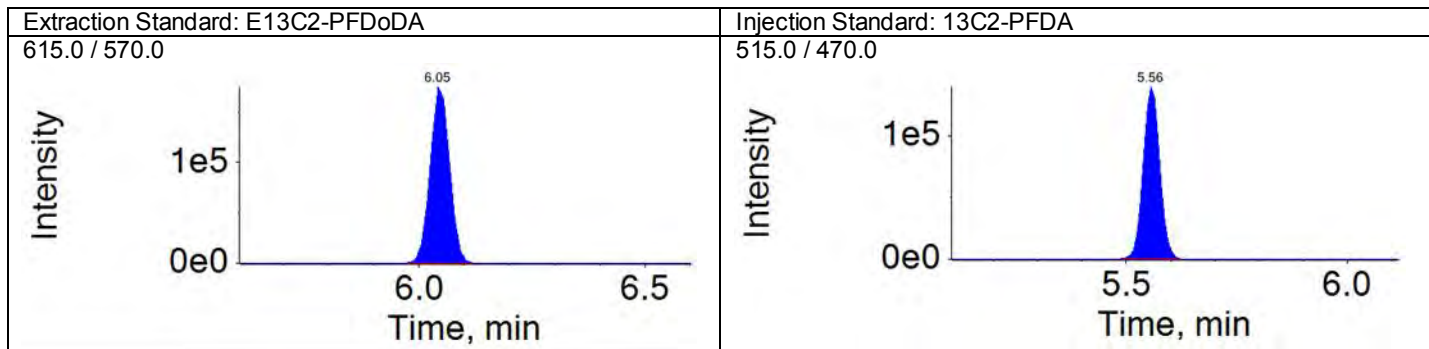
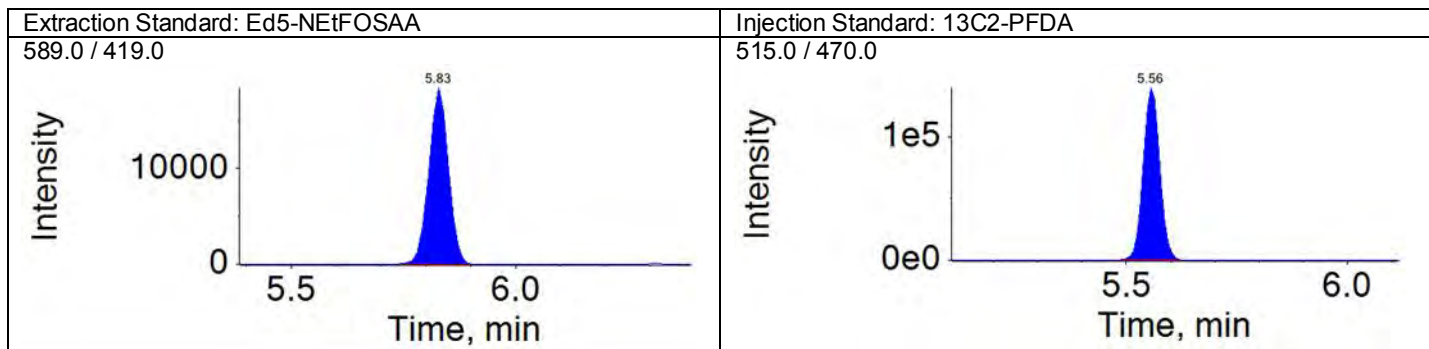
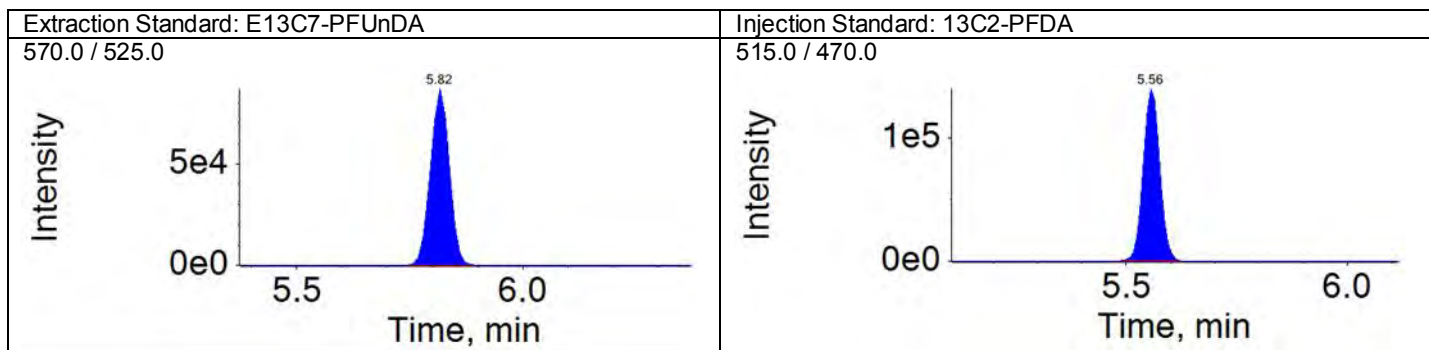
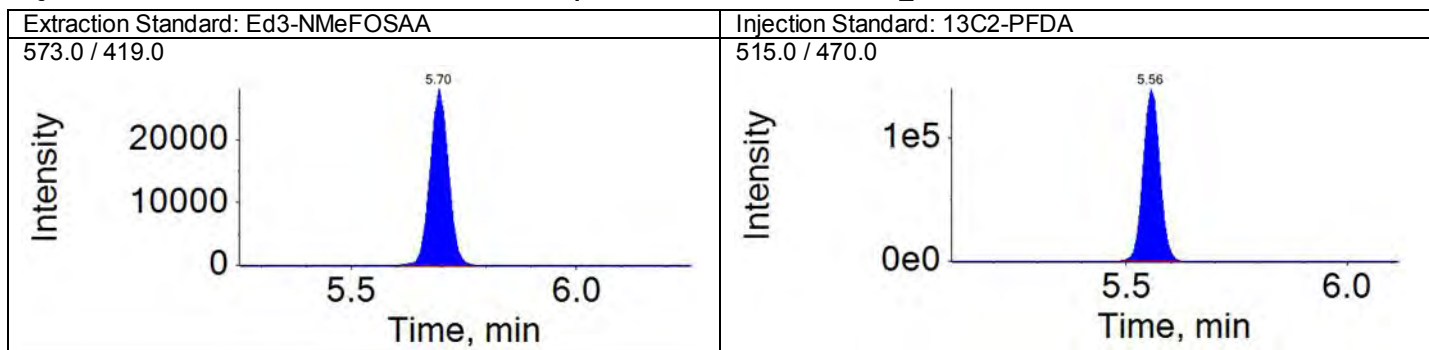
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ICAL Name: 18NOV07DCAL
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Result Table: 18311003 11/9/2018 1:08:25 PM
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APPROVED

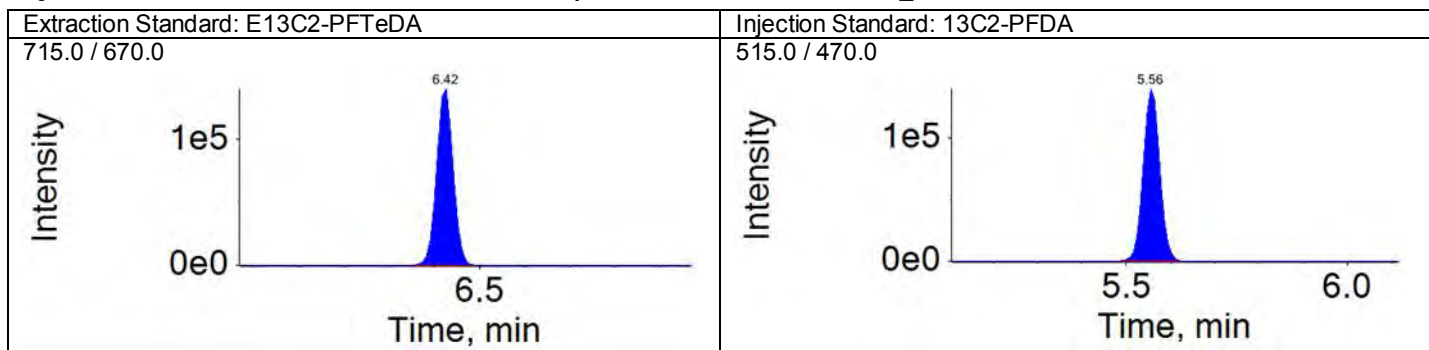
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REVIEWED

By HMK at 9:20 am, 11/13/18

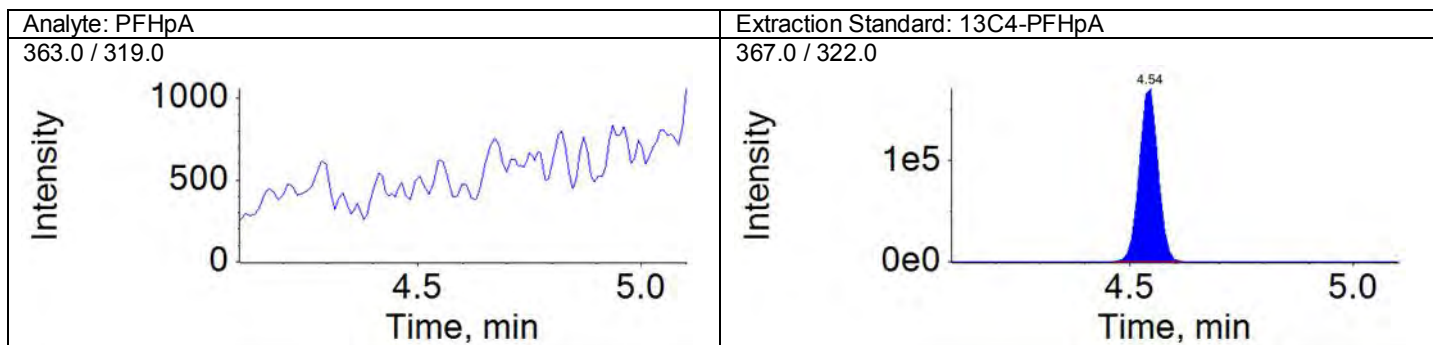
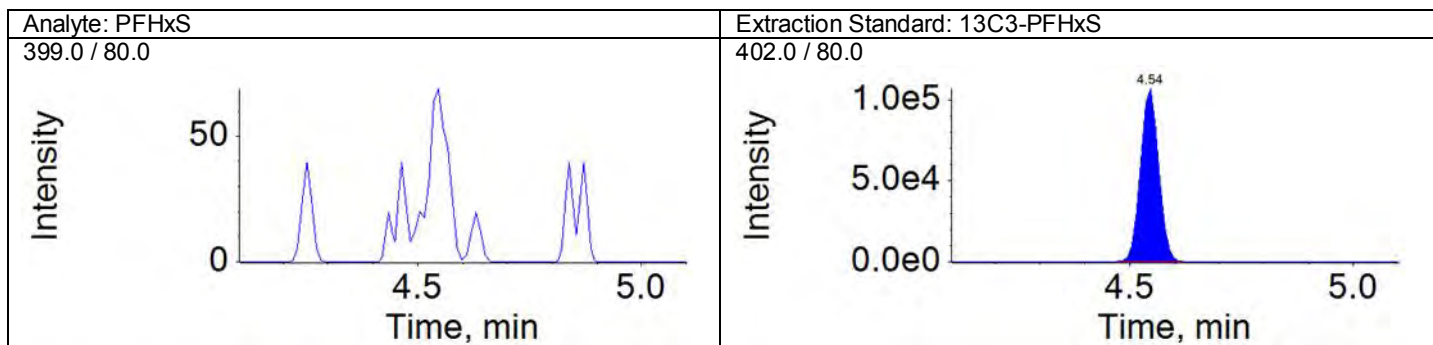
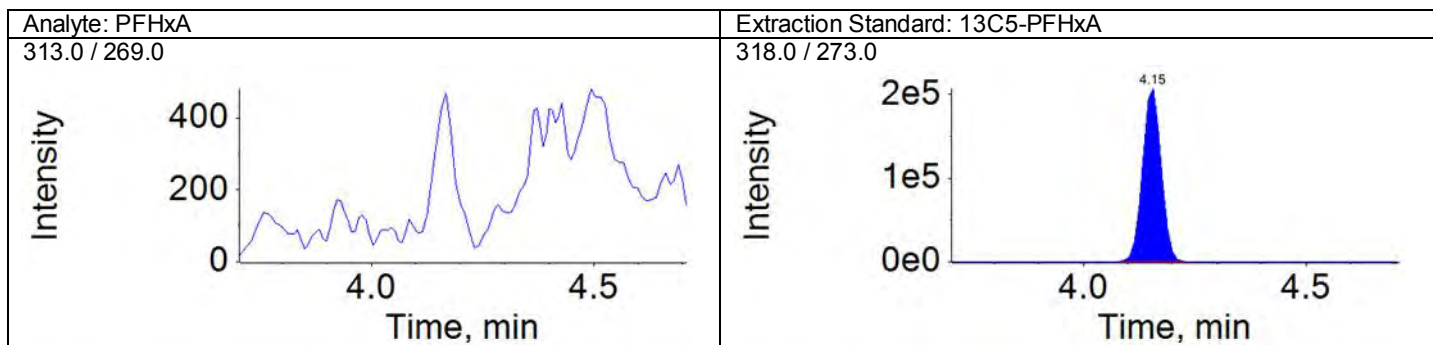
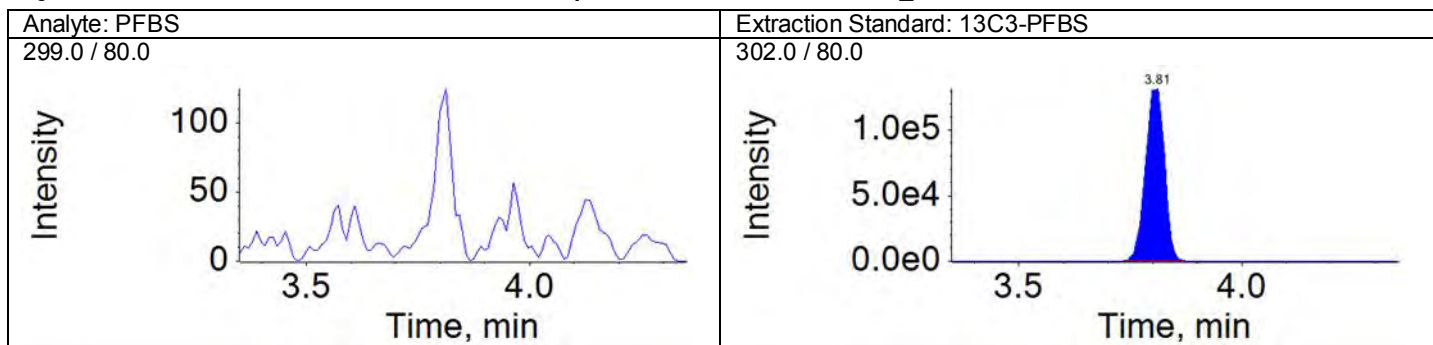
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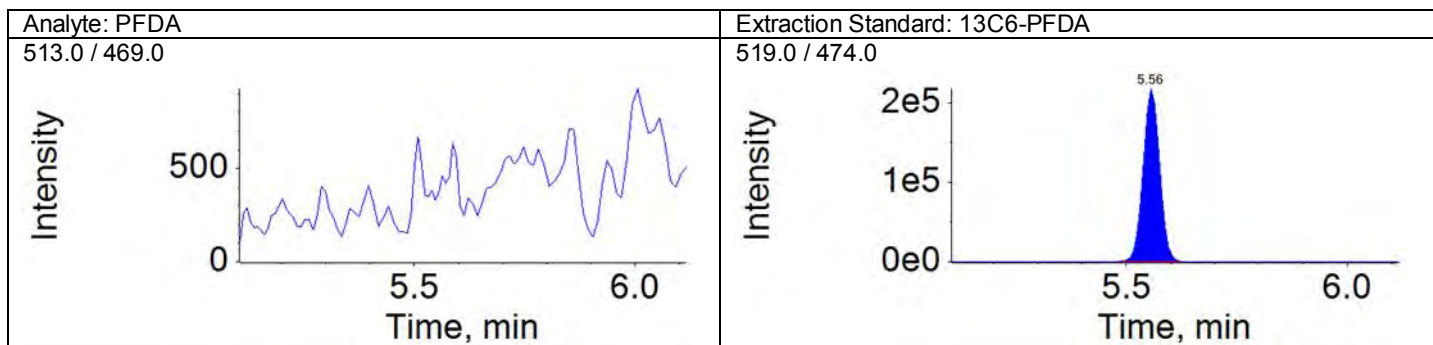
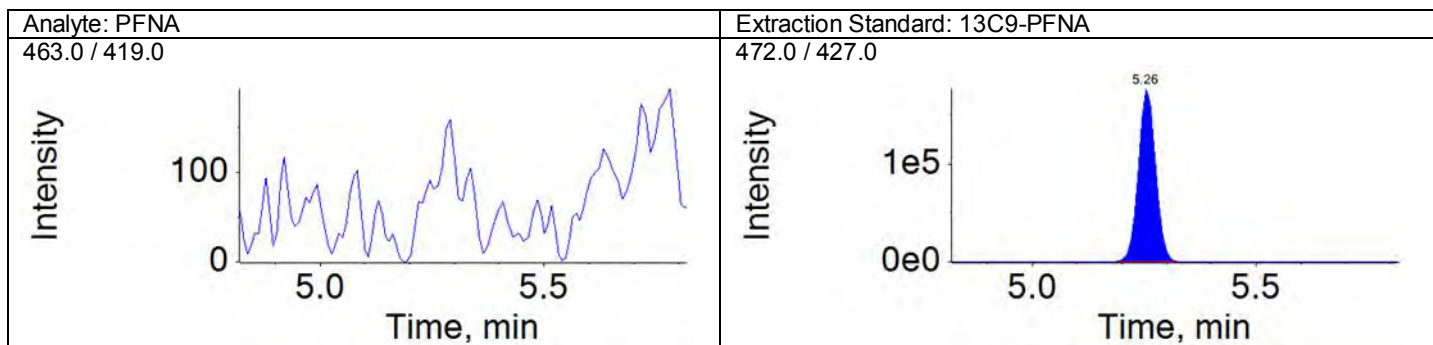
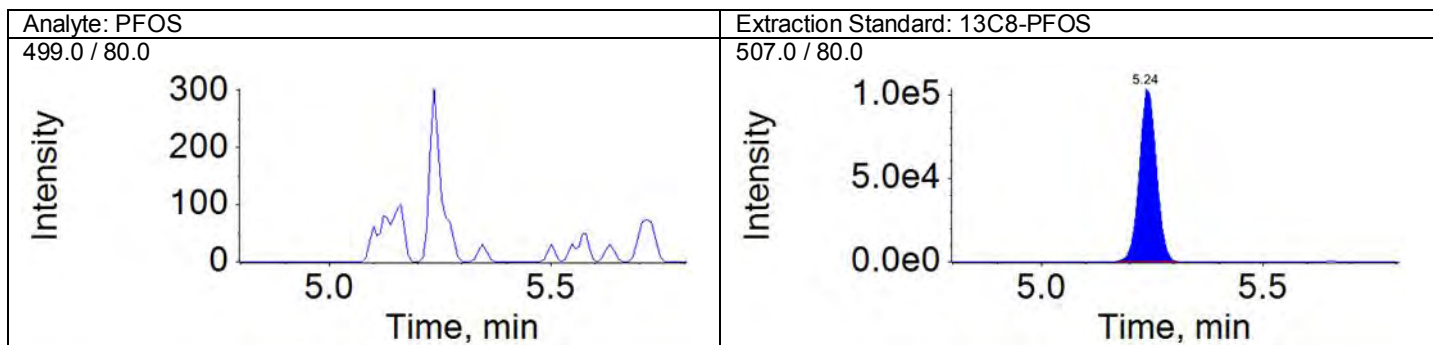
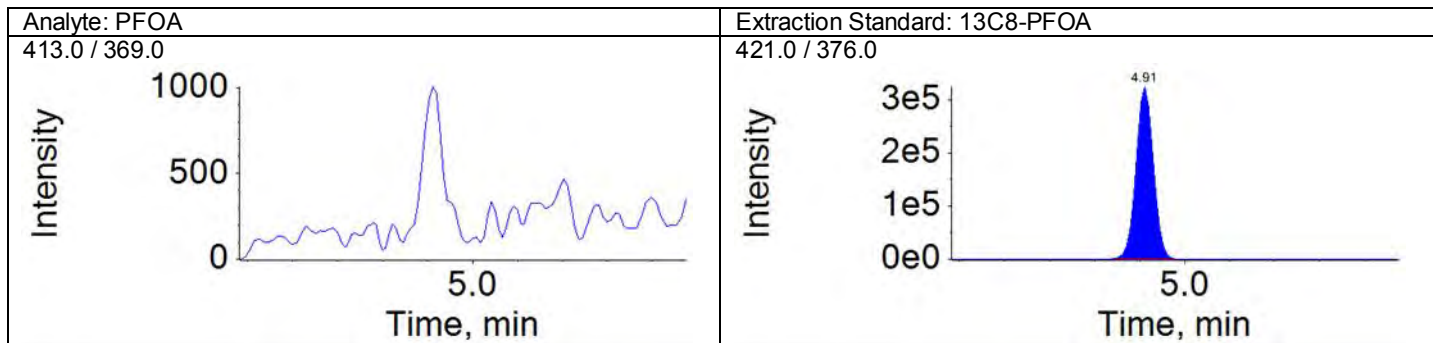
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QMethod Name: MQ4-18AUG13

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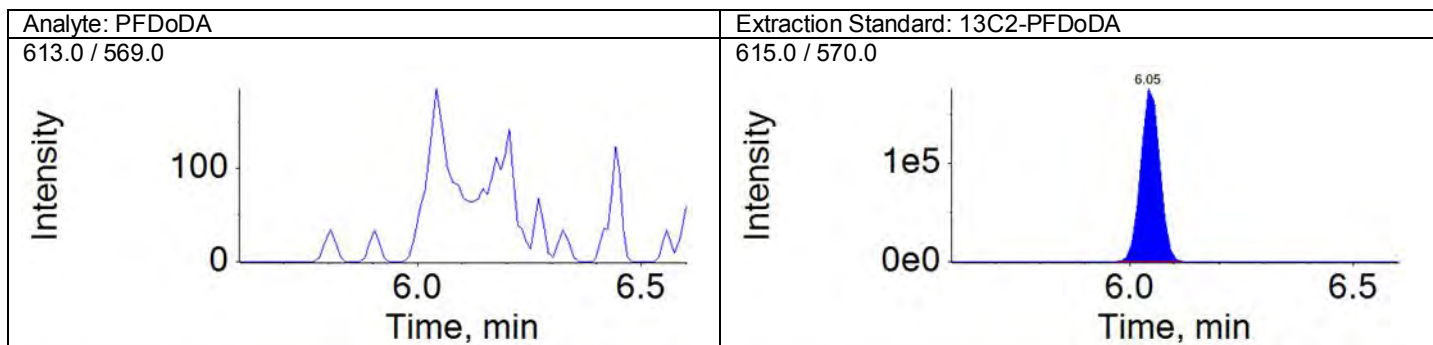
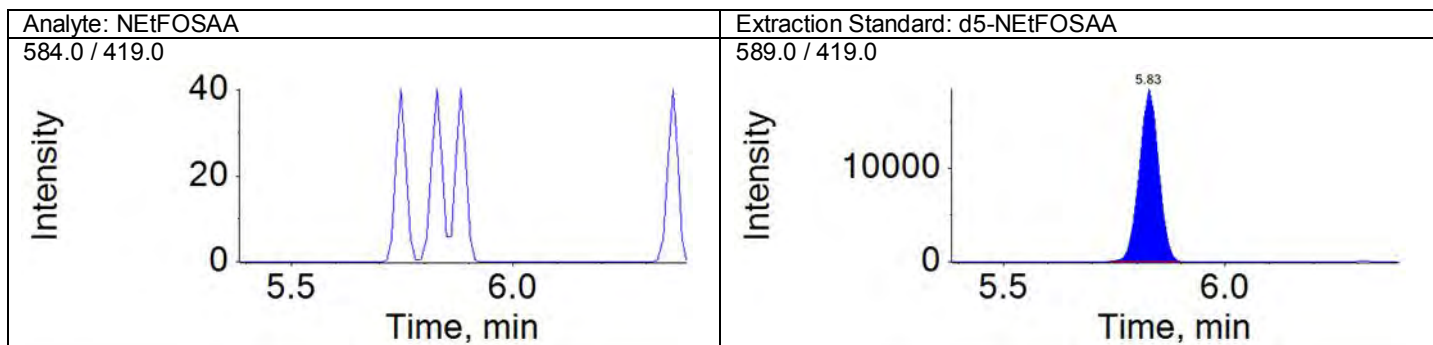
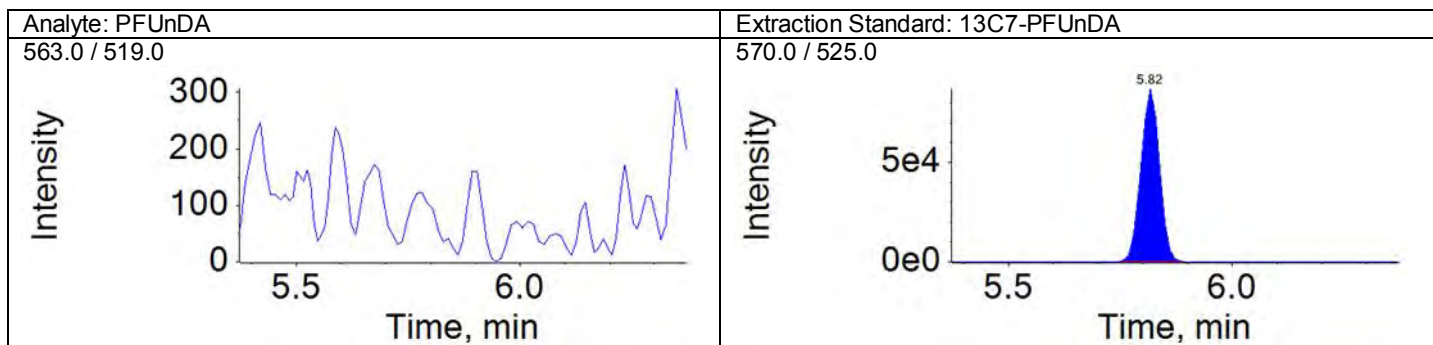
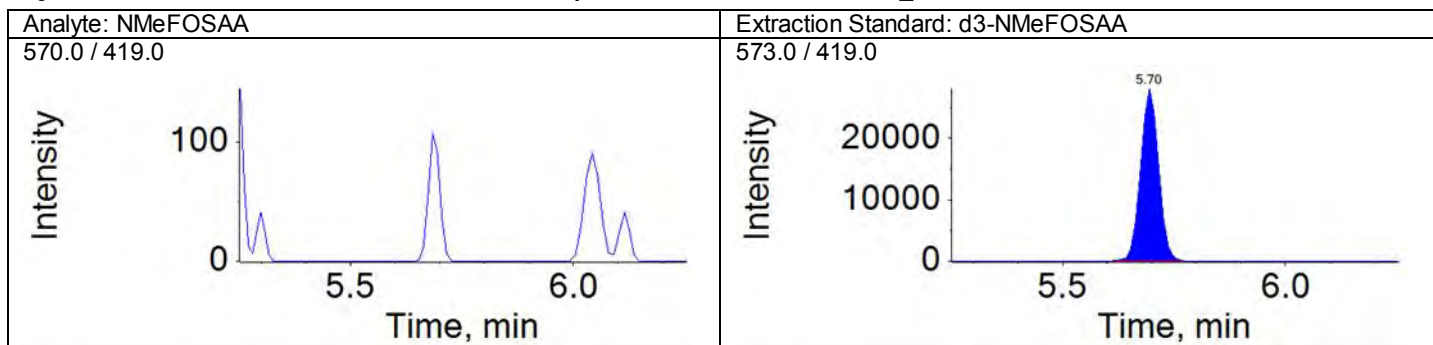
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



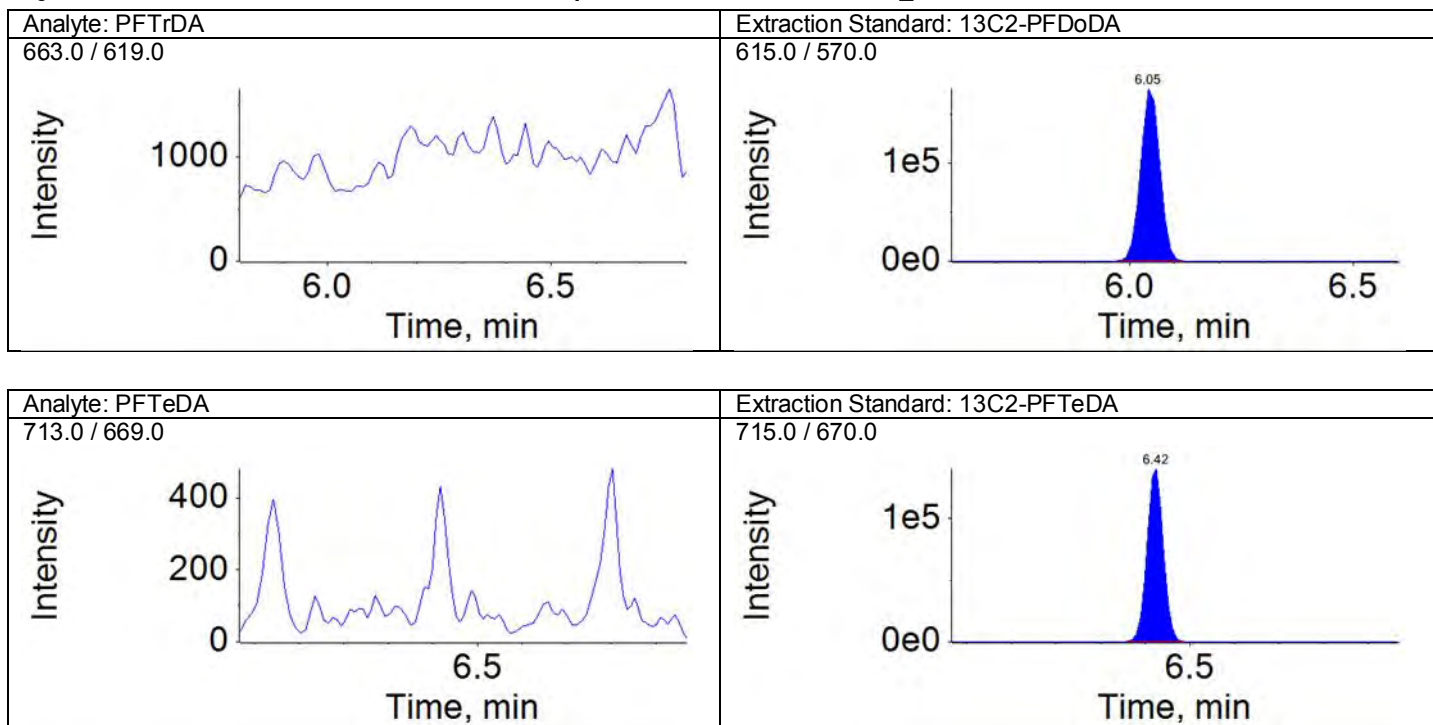
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



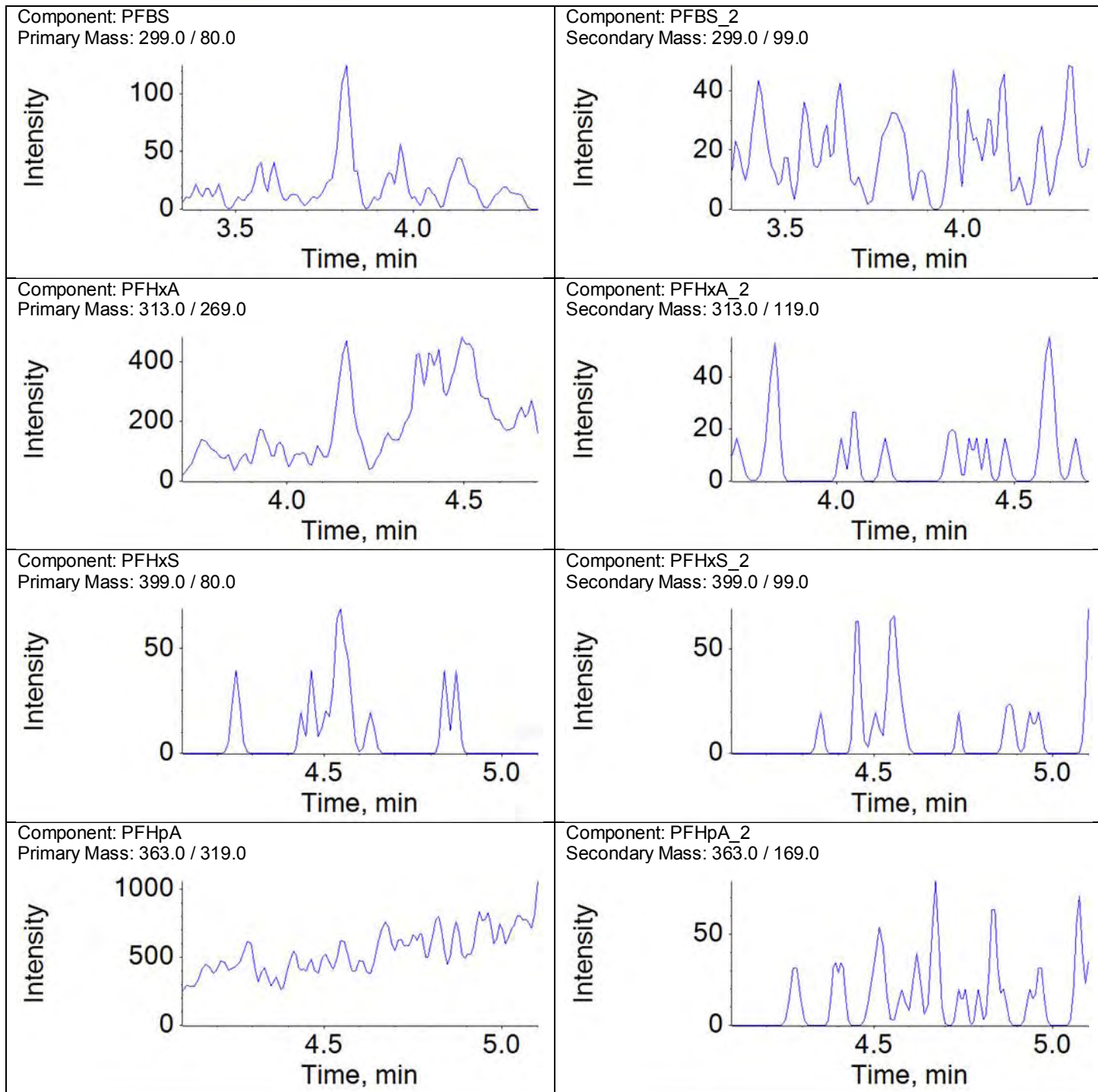
Ion Ratio Report

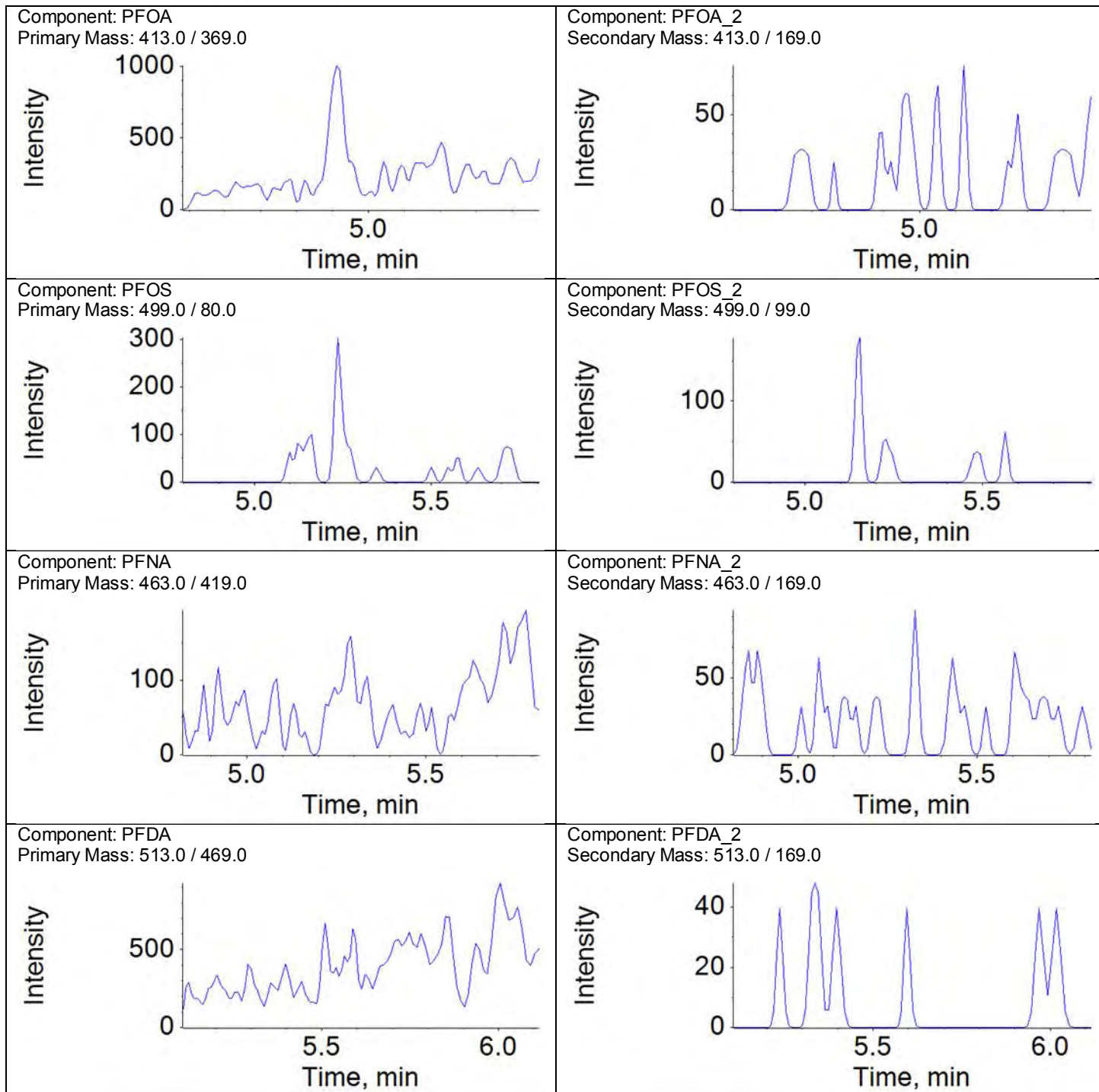
Sample Name: 9881586

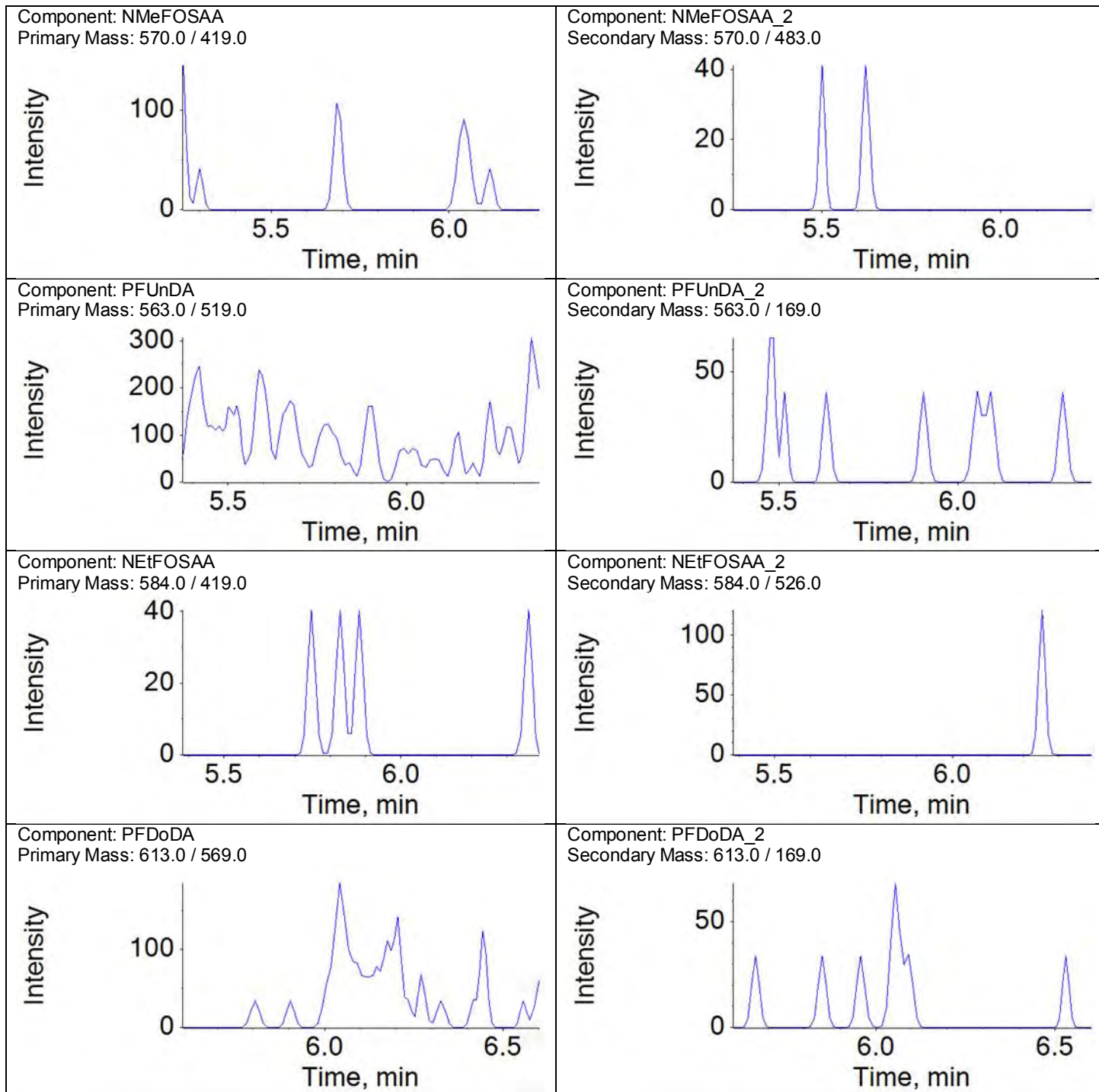
Instrument Name: LM27631

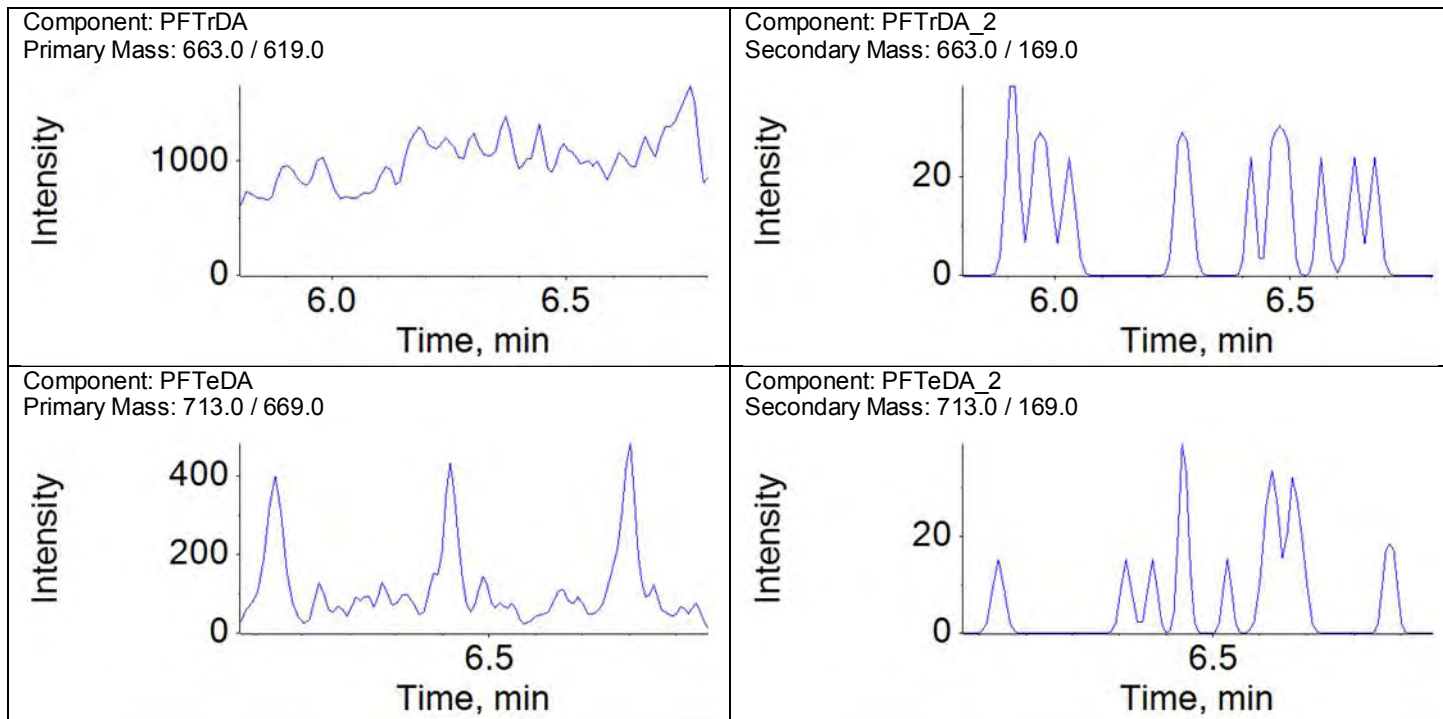
File Name: 18NOV08D-54.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	









ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 4:42:15 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881589		Data File:	18NOV13D-45.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18314009 OU1-CAOC22-S-01-01 Grab Soil		Acquis Date:	2018-11-13T16:20:26
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	99		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18314009
QMethod File:	18AUG20QM		ICAL Name:	18NOV12DCAL
Batch Number:	18314009		Operator:	JPT12262
Sample Wt.:	1.01000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV12DCAL-44

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	700163.6	659926.2	6	50	
13C2-PFOA	5.0	494747.3	450219.7	10	50	
13C4-PFOS	4.8	262060.9	249205.8	5	50	
13C2-PFDA	5.0	310870.4	278743.9	12	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	400728.4	13C3-PFBA	700163.6	0.572	9.208	8.000	87	50-150	
E13C5-PFHxA	609740.6	13C2-PFOA	494747.3	1.232	9.901	8.816	89	50-150	
E13C3-PFHxS	298942.4	13C2-PFOA	494747.3	0.604	9.366	8.210	88	50-150	
E13C4-PFHpA	509144.6	13C2-PFOA	494747.3	1.029	9.901	9.181	93	50-150	
E13C8-PFOA	844525.4	13C2-PFOA	494747.3	1.707	9.901	9.313	94	50-150	
E13C8-PFOS	273853.8	13C4-PFOS	262060.9	1.045	9.465	9.169	97	50-150	
E13C9-PFNA	443184.4	13C4-PFOS	262060.9	1.691	9.901	9.337	94	50-150	
E13C6-PFDA	574740.5	13C2-PFDA	310870.4	1.849	9.901	8.543	86	50-150	
Ed3-NMeFOSAA	45825.6	13C2-PFDA	310870.4	0.147	9.901	5.269	53	50-150	
E13C7-PFUnDA	246442.1	13C2-PFDA	310870.4	0.793	9.901	9.114	92	50-150	
Ed5-NEtFOSAA	40745.5	13C2-PFDA	310870.4	0.131	9.901	5.491	55	50-150	
E13C2-PFDoDA	539763.1	13C2-PFDA	310870.4	1.736	9.901	8.927	90	50-150	
E13C2-PFTeDA	367982.4	13C2-PFDA	310870.4	1.184	9.901	8.229	83	50-150	

ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QMResult Table: 18314009 11/13/2018 4:42:15 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881589

Instrument Name: LM27631

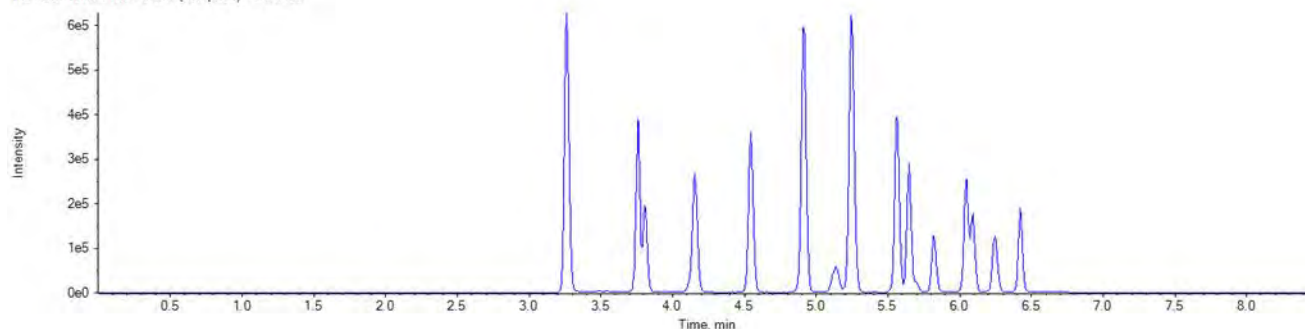
File Name: 18NOV13D-45.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.01000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	400728.4	N/A	
PFHxA	4.16	1.000	12233.7		A	13C5-PFHxA	4.16	609740.6	0.020	0.166
PFHpA	4.55	1.000	11555.3		A	13C4-PFHpA	4.54	509144.6	0.023	0.149
PFHxS	4.55	1.000	7969.6		A	13C3-PFHxS	4.55	298942.4	0.027	0.256
PFOA	4.91	1.000	27693.4		A	13C8-PFOA	4.91	844525.4	0.033	0.347
PFOS	5.24	1.000	612762.4		M	13C8-PFOS	5.24	273853.8	2.238	19.376
PFNA	5.26	1.000	11940.1		A	13C9-PFNA	5.26	443184.4	0.027	0.192
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	574740.5	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	45825.6	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	246442.1	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	40745.5	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.05	539763.1	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.05	539763.1	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	367982.4	N/A	

Total Ion Chromatogram

TIC from 18NOV13D-45.wiff (sample 1) - 9881589



APPROVED

By JPT at 4:48 pm, 11/13/18

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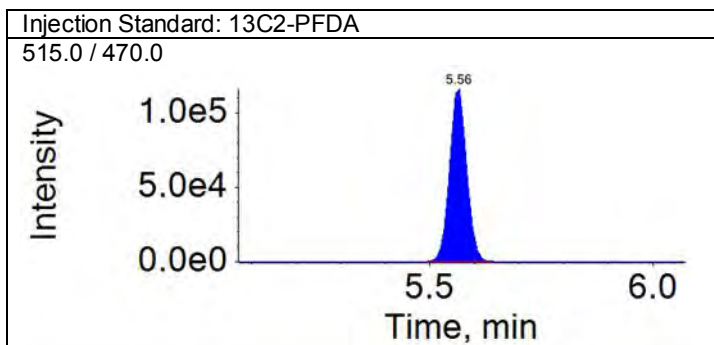
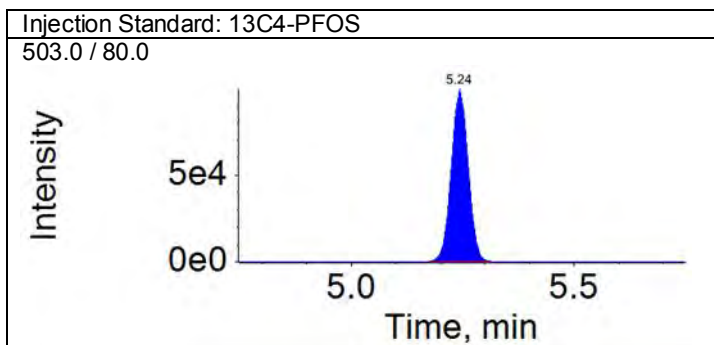
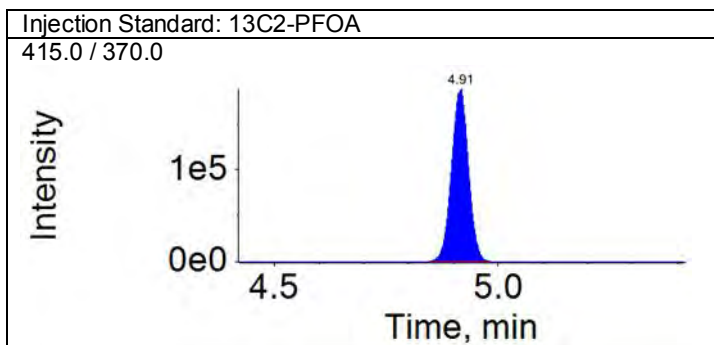
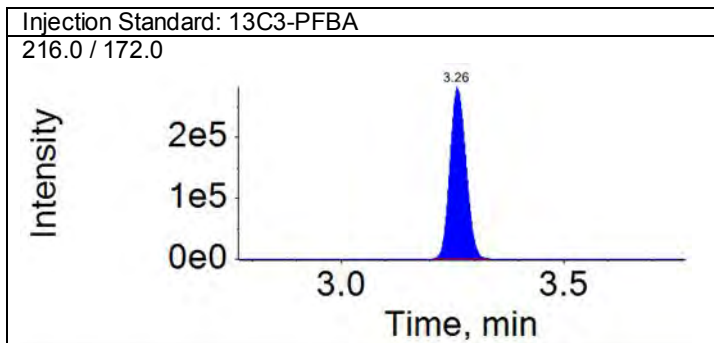
REVIEWED

By umar at 5:43 pm, 11/13/18

Page 2 of 11

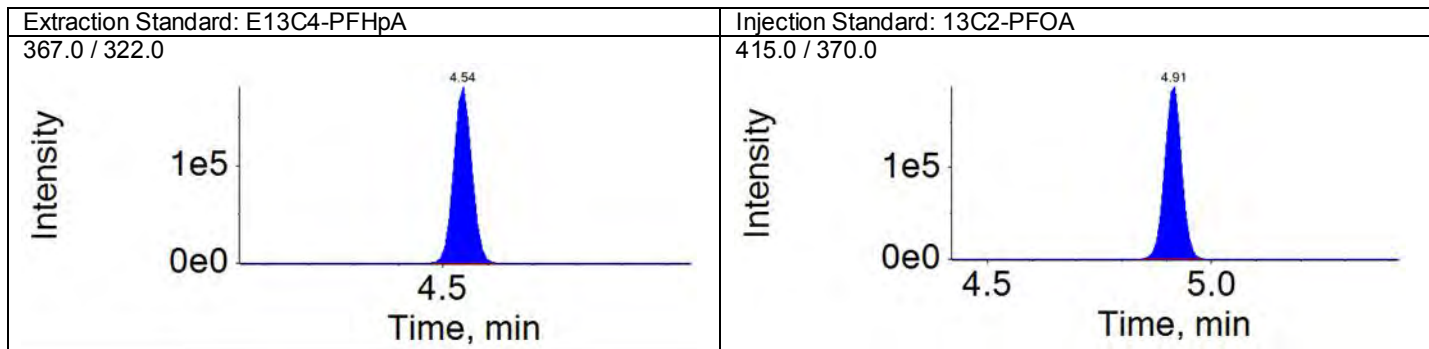
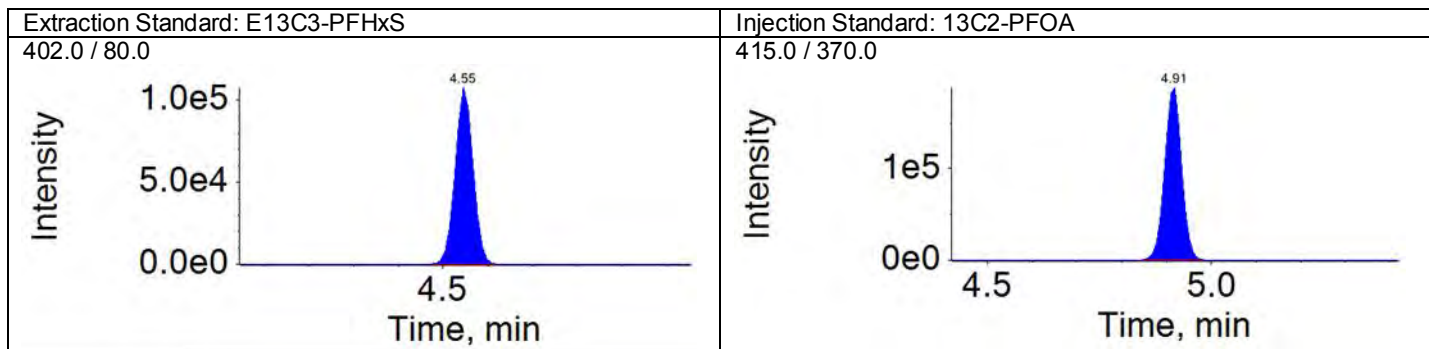
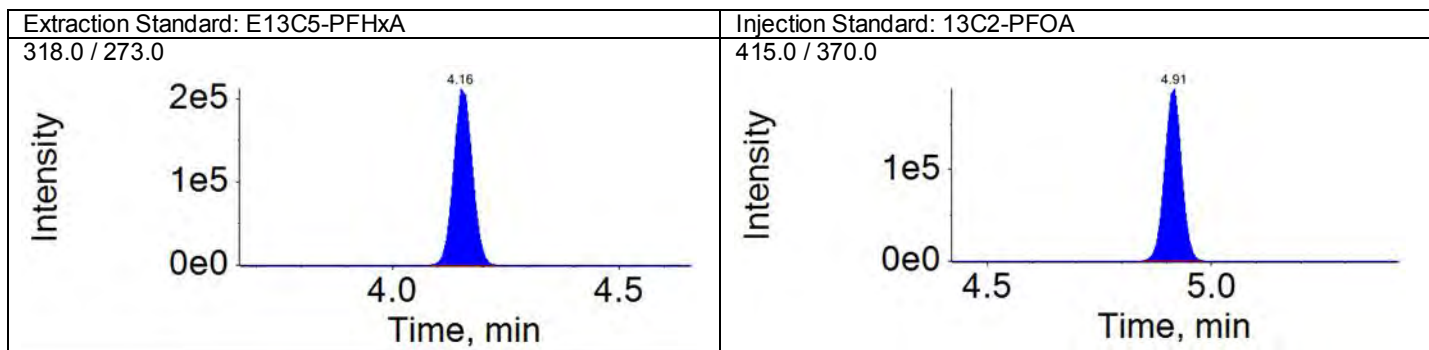
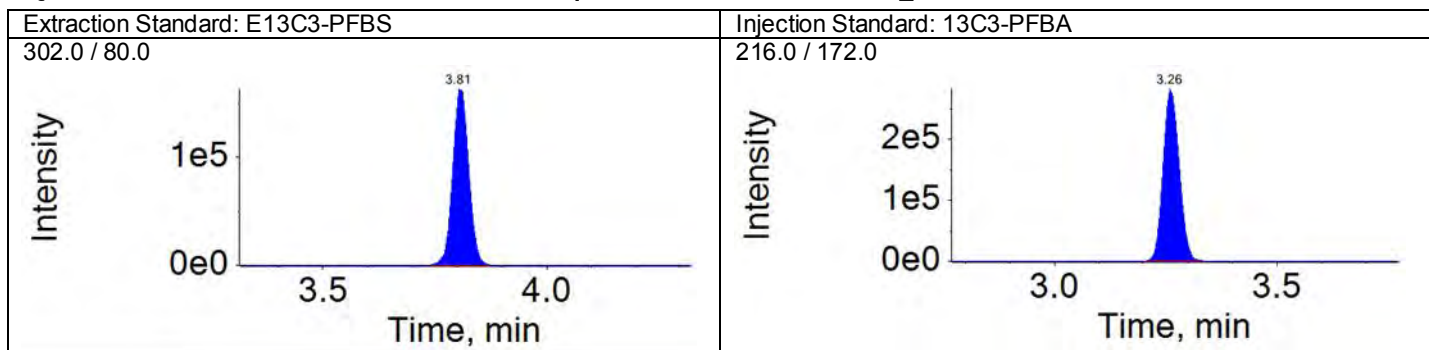
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 4:42:15 PM
Acquisition Method: 18AUG13_3uL.dam



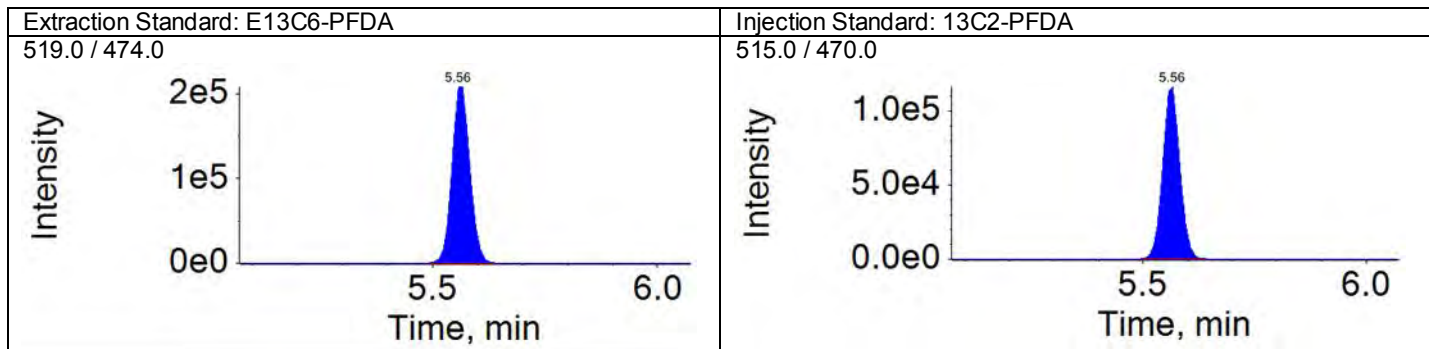
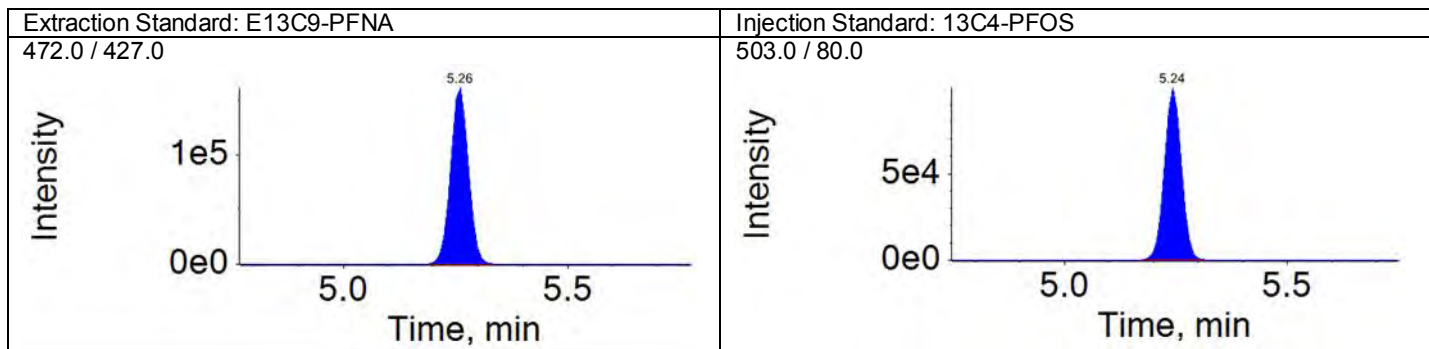
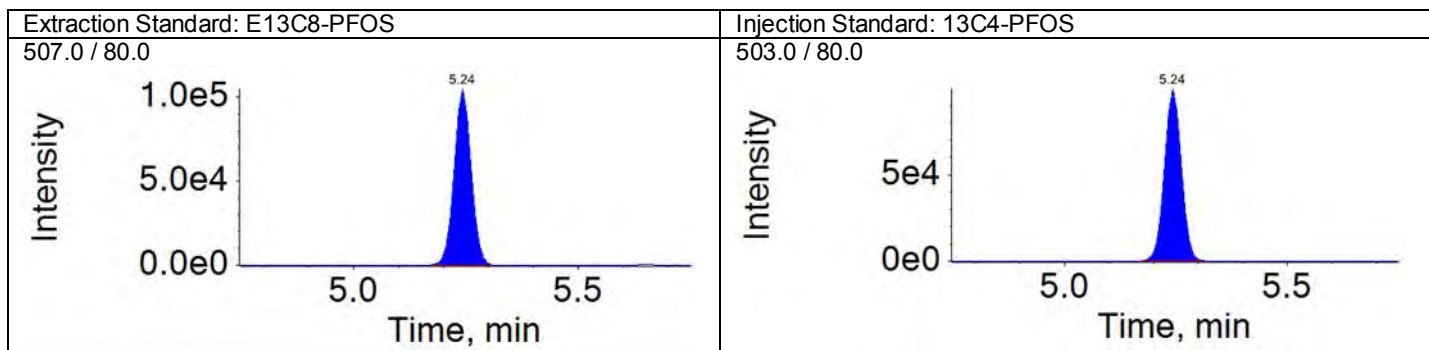
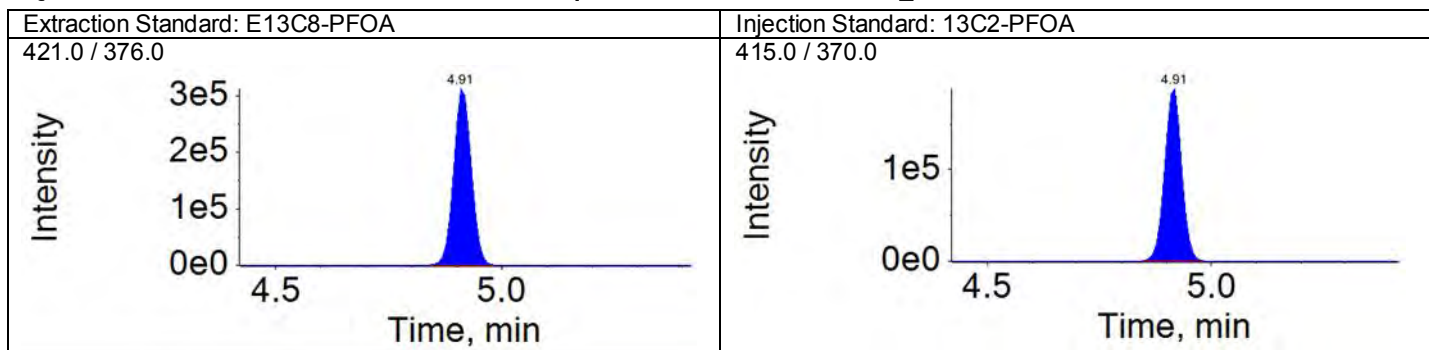
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 4:42:15 PM
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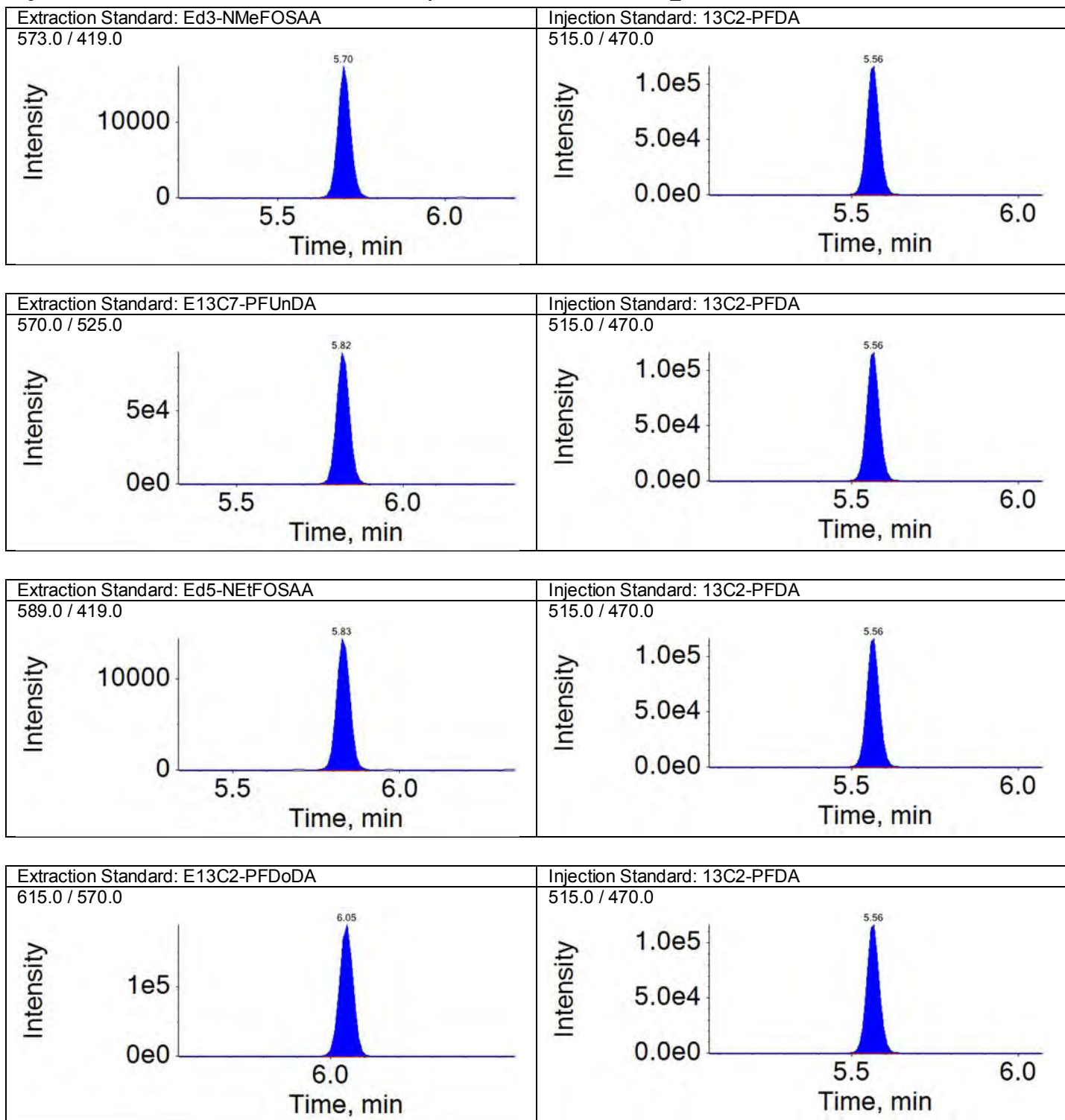
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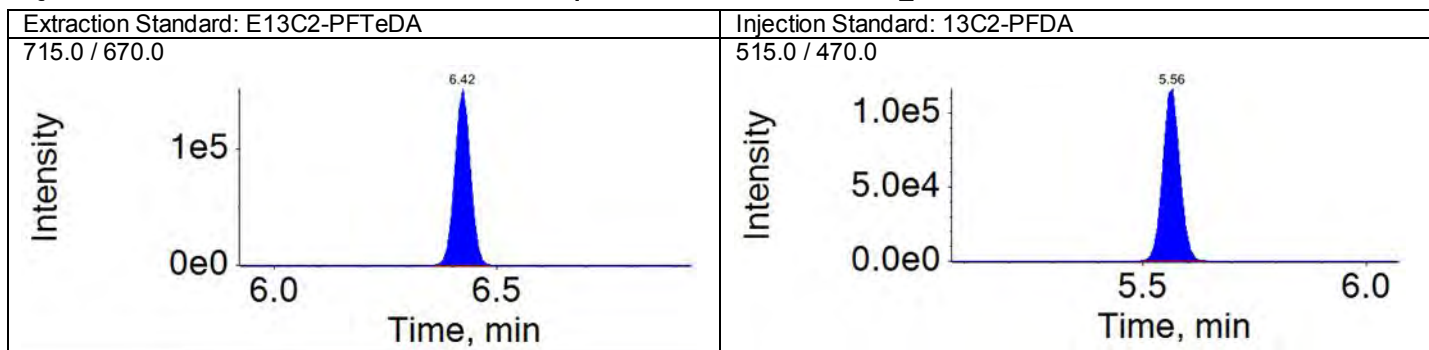
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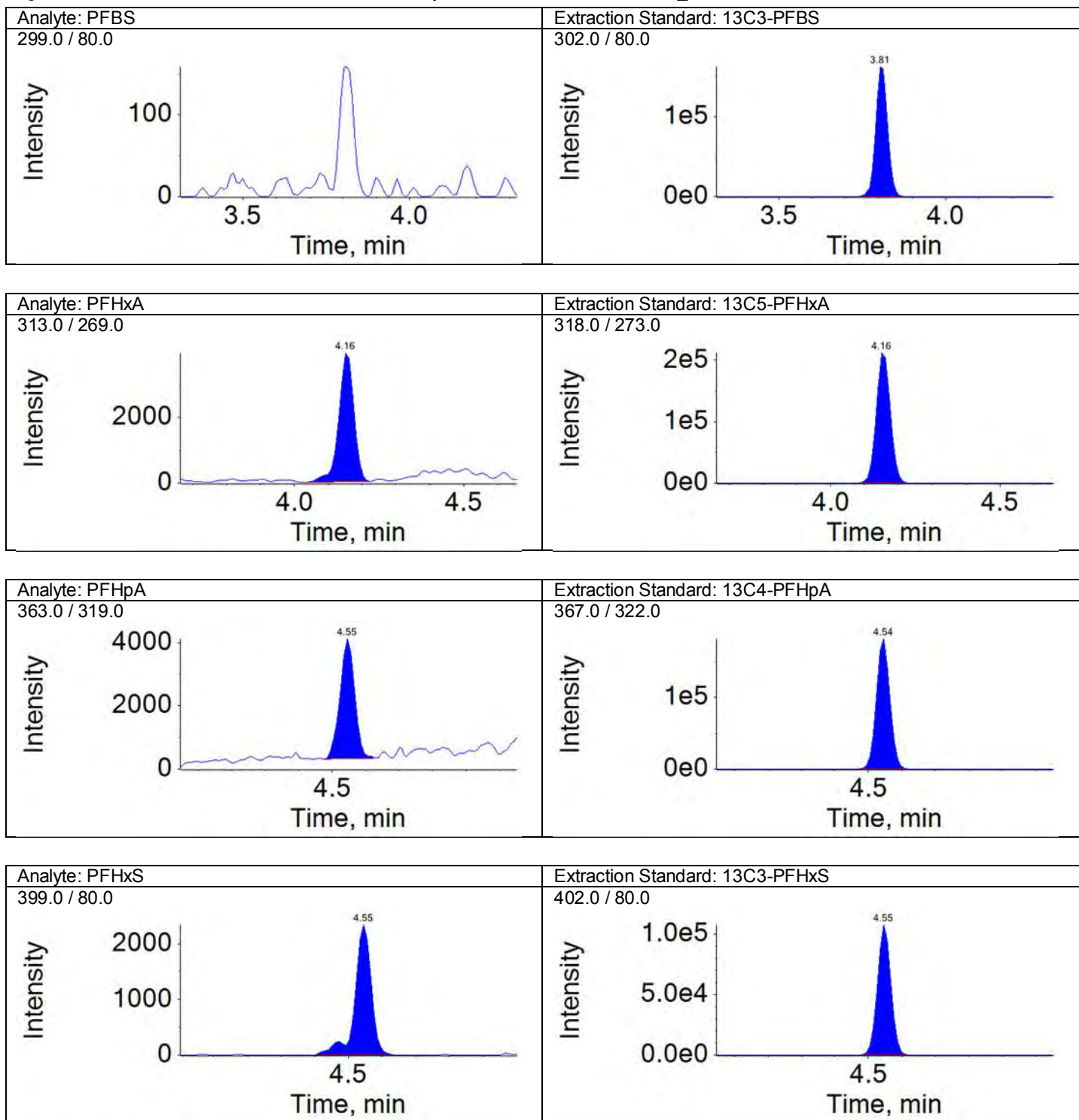
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 4:42:15 PM
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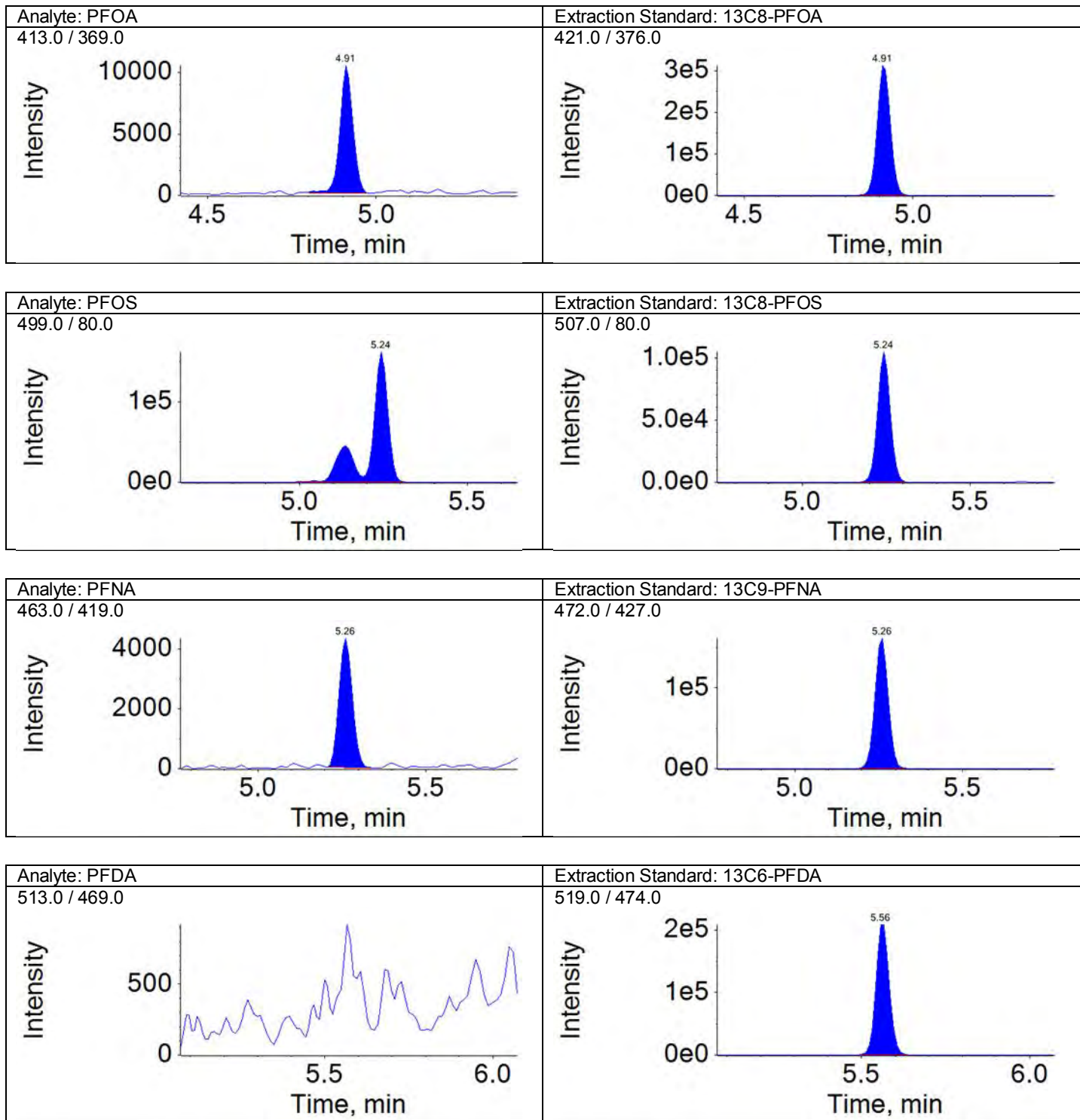
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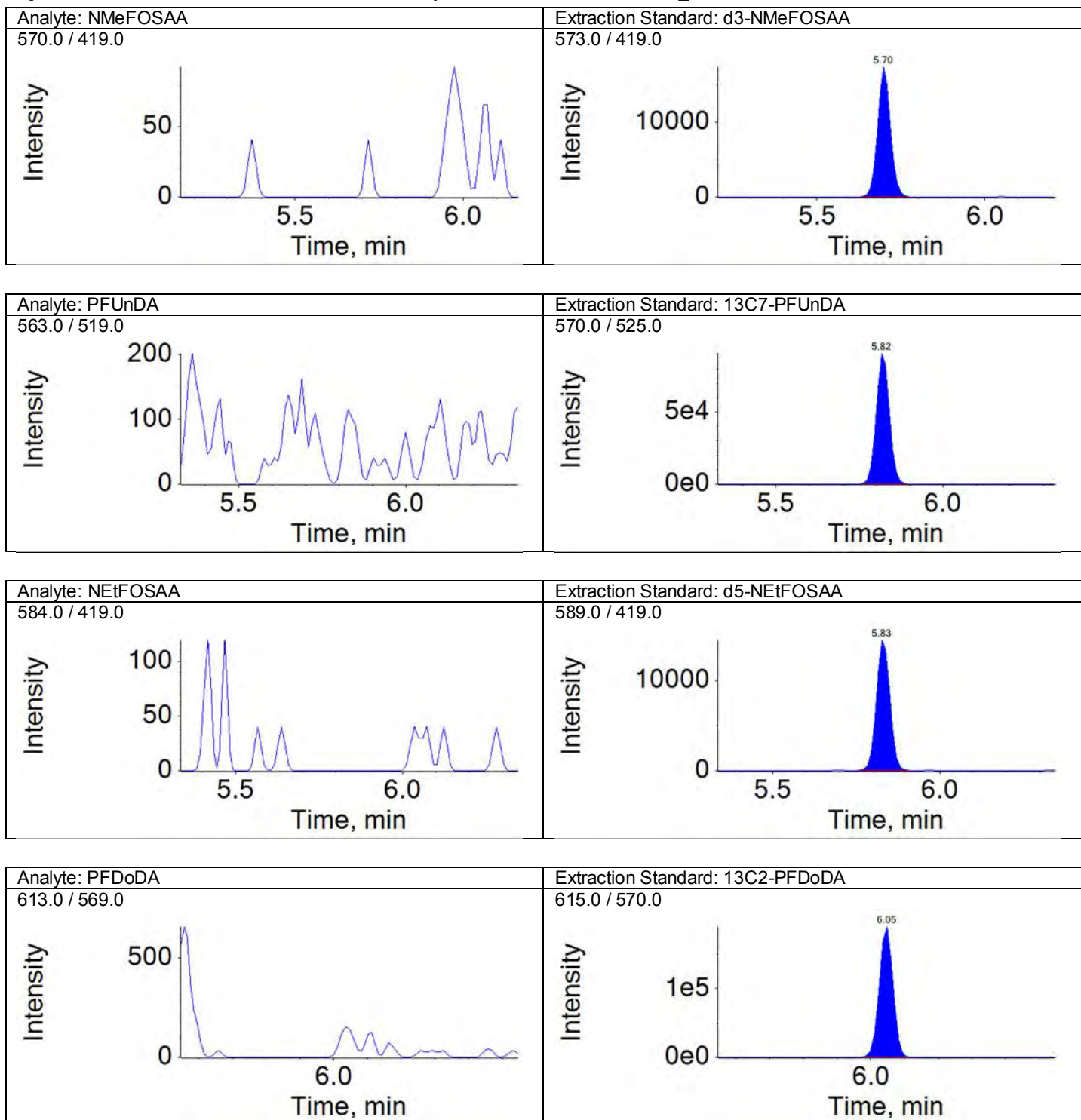
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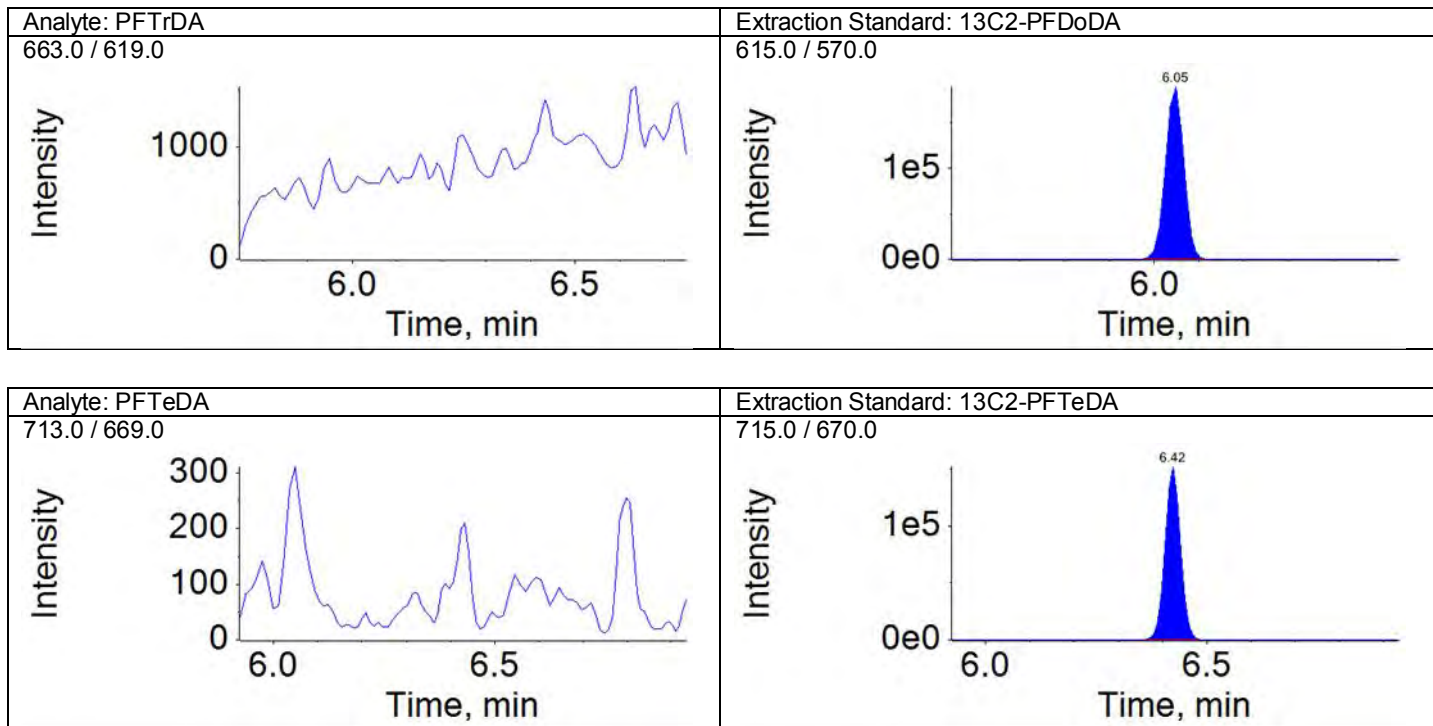
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QMethod Name: 18AUG20QM

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QMethod Name: 18AUG20QM

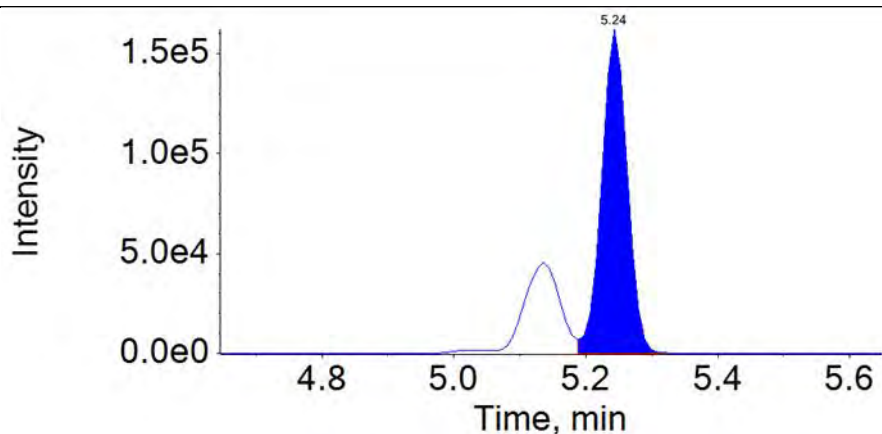
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Results Table Name: 18314009
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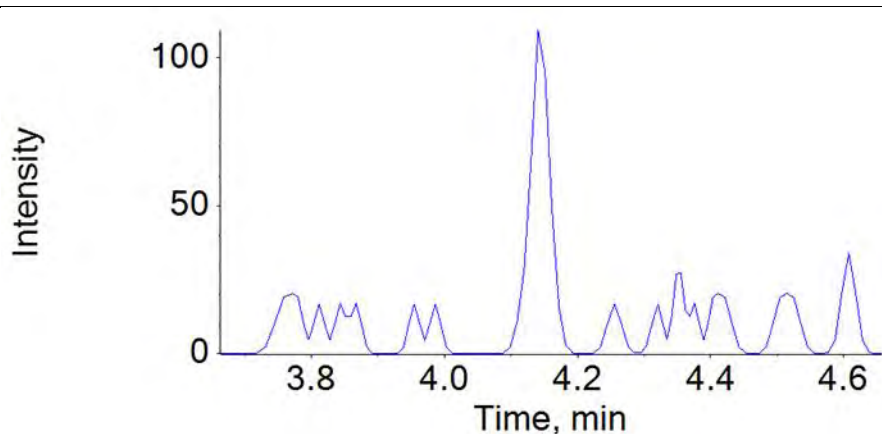
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QMethod File: 18AUG20QM

Component Name:
PFOS
RT (min.):
5.24
Peak Area:
437198.8
Mass Range:
499.0 / 80.0
File Name:
18NOV13D-45.wiff
Sample Name:
9881589



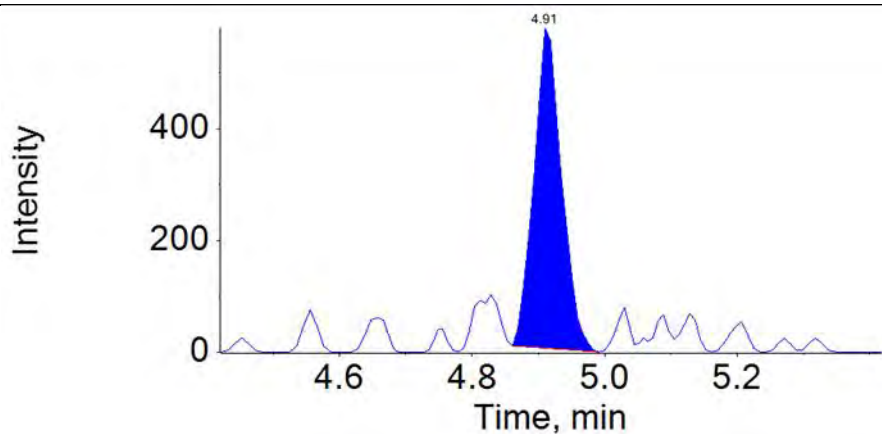
Integration Comment: incorrect integration

Component Name:
PFHxA_2
RT (min.):
N/A
Peak Area:
N/A
Mass Range:
313.0 / 119.0
File Name:
18NOV13D-45.wiff
Sample Name:
9881589



Integration Comment: incorrect integration

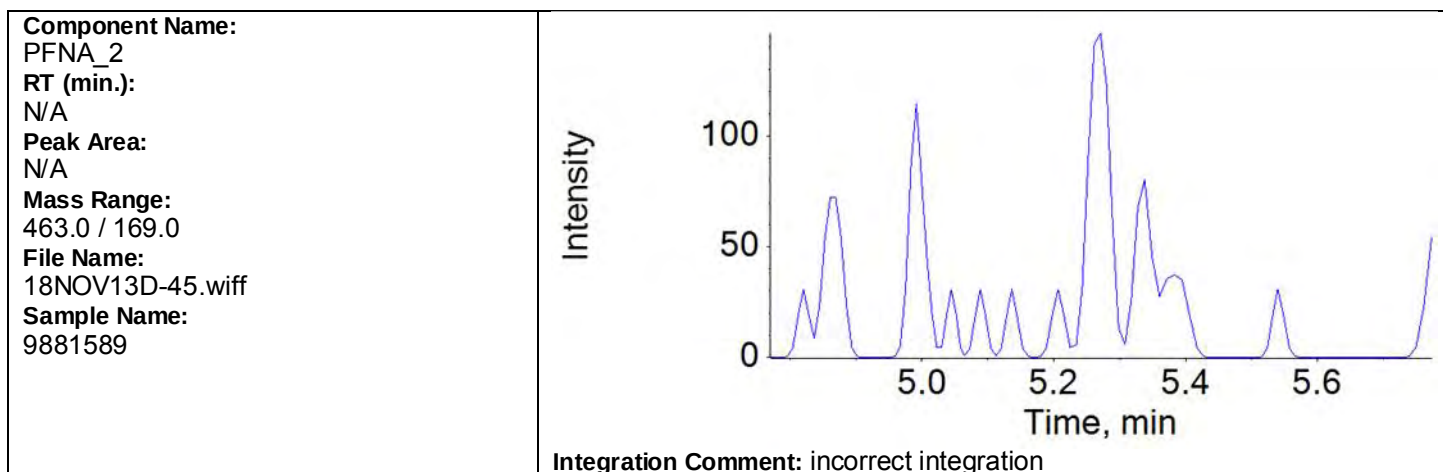
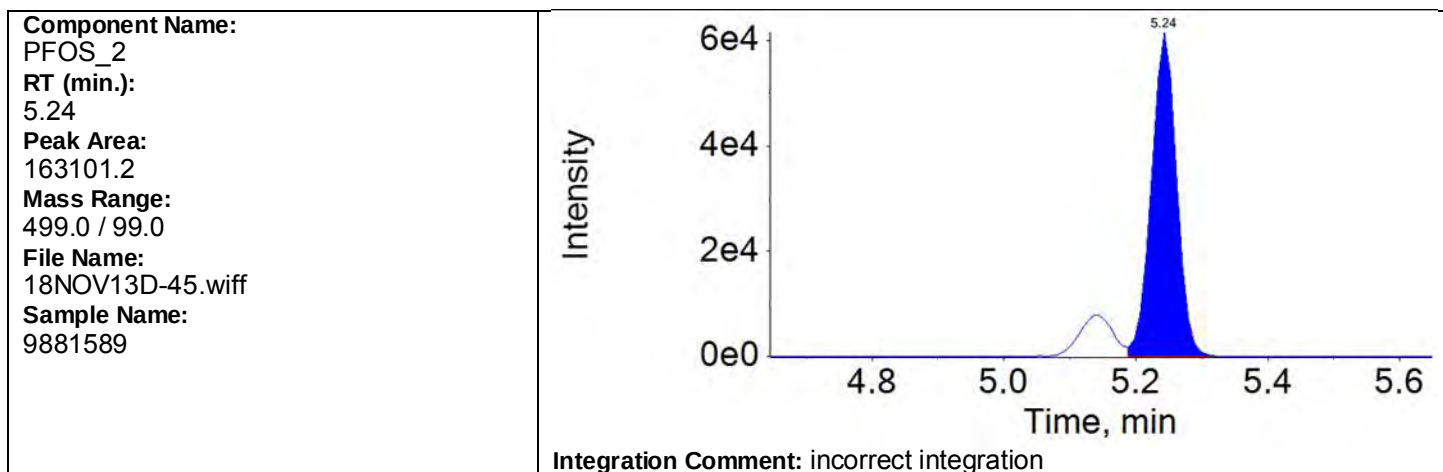
Component Name:
PFOA_2
RT (min.):
4.91
Peak Area:
1668.8
Mass Range:
413.0 / 169.0
File Name:
18NOV13D-45.wiff
Sample Name:
9881589



Integration Comment: incorrect integration

Results Table Name: 18314009
Results Table Date: 11/13/2018 4:42:15 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM



Results Table Name: 18314009
Results Table Date: 11/13/2018 4:42:15 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: 18AUG20QM

APPROVED
By JPT at 4:48 pm, 11/13/18

REVIEWED
By umar at 5:43 pm, 11/13/18

Ion Ratio Report

Sample Name: 9881589

Instrument Name: LM27631

File Name: 18NOV13D-45.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	4.16	1.00	12233.7	A	N/A	1.0000			
PFHxA_2	4.14	1.00	237.5	M	N/A	0.0194	65	50	OOS
PFHpA	4.55	1.00	11555.3	A	N/A	1.0000			
PFHpA_2	4.55	1.00	797.0	A	N/A	0.0690	22	50	
PFHxS	4.55	1.00	7969.6	A	N/A	1.0000			
PFHxS_2	4.54	1.00	2785.5	A	N/A	0.3495	15	50	
PFOA	4.91	1.00	27693.4	A	N/A	1.0000			
PFOA_2	4.91	1.00	1976.7	M	N/A	0.0714	26	50	
PFOS	5.24	1.00	612762.4	M	N/A	1.0000			
PFOS_2	5.24	1.00	191283.8	M	N/A	0.3122	21	50	
PFNA	5.26	1.00	11940.1	A	N/A	1.0000			
PFNA_2	5.27	1.00	339.0	M	N/A	0.0284	24	50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
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APPROVED

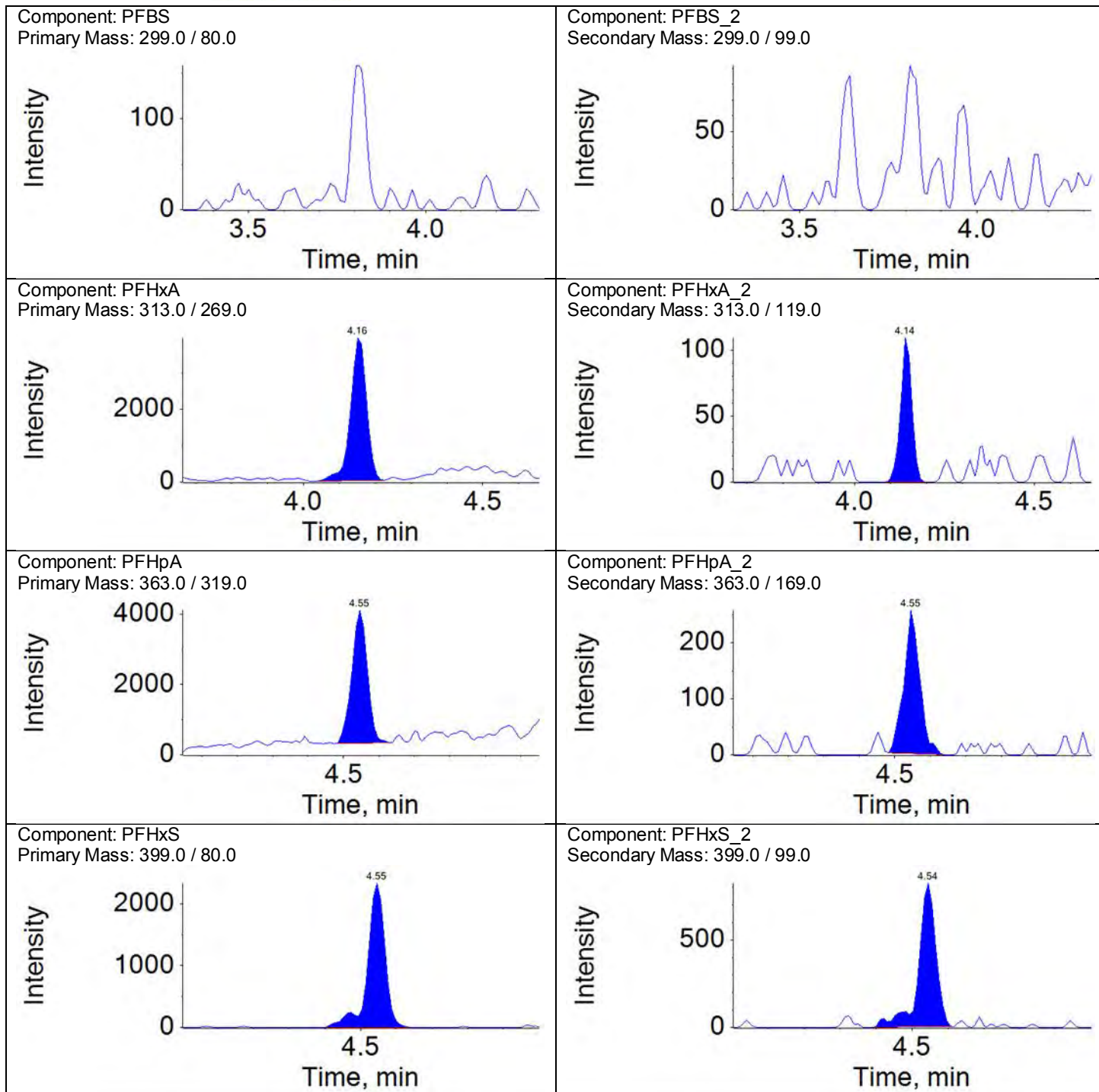
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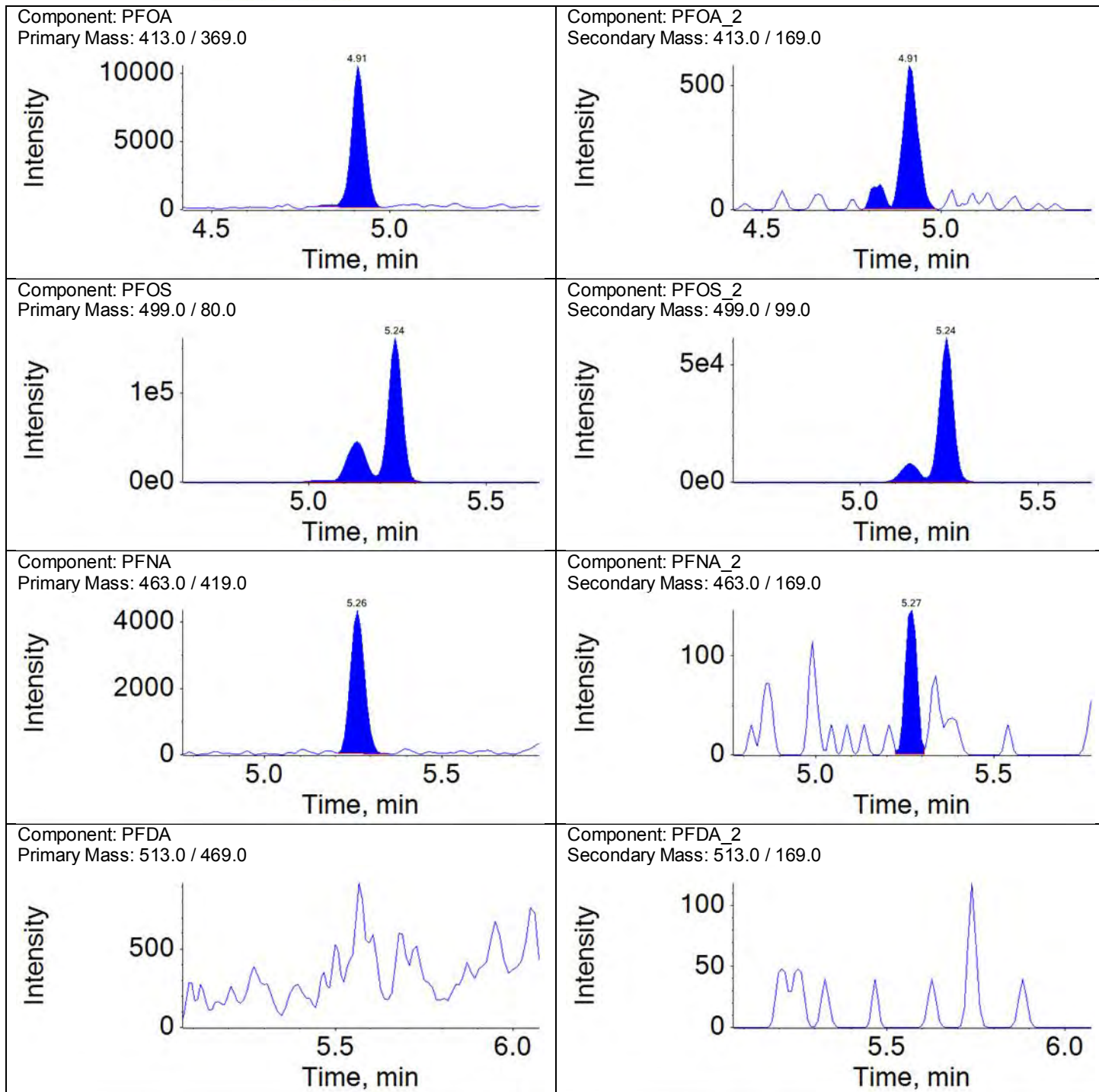
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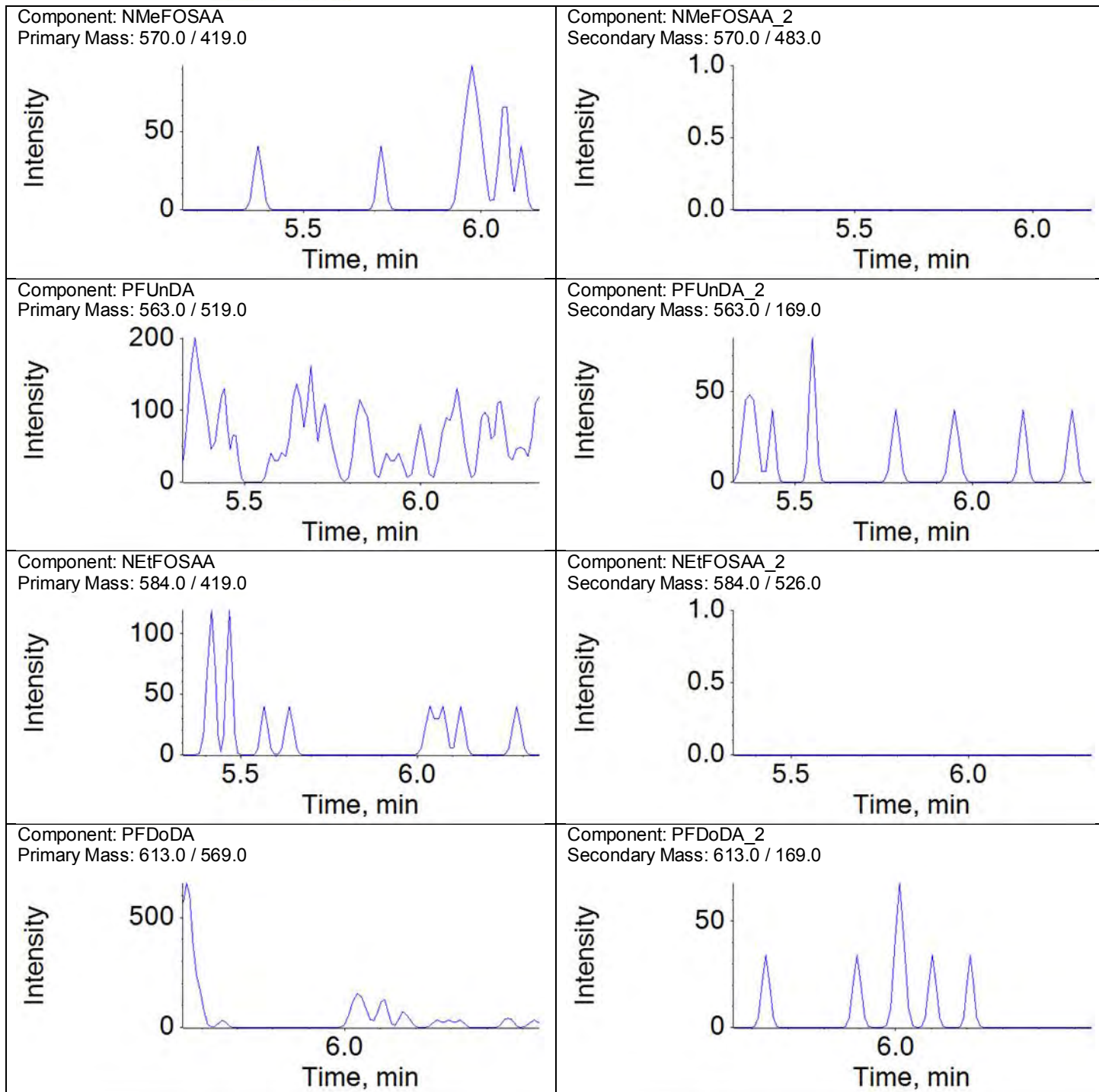
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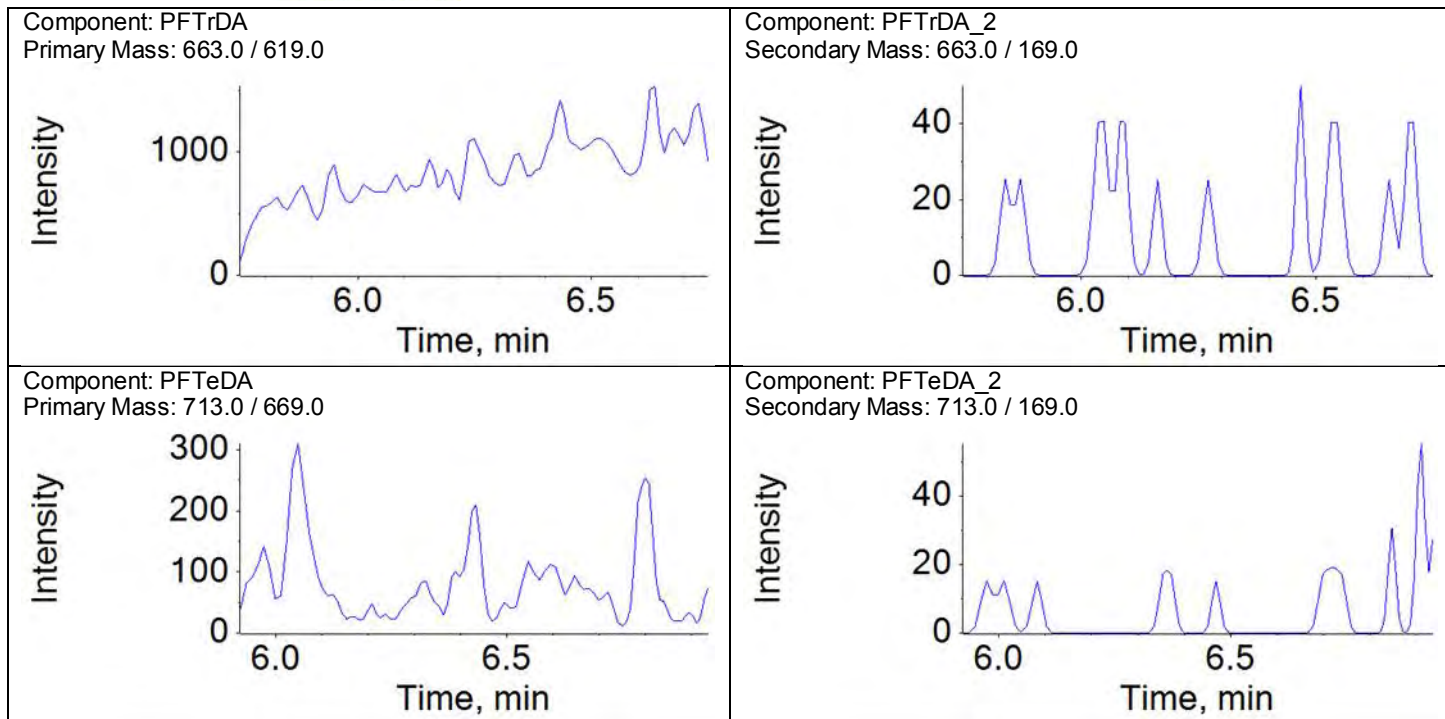
By umar at 5:43 pm, 11/13/18

Page 1 of 5









ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881590		Data File:	18NOV08D-56.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18311003 OU1-CAOC22-S-01-03 Grab Soil		Acquis Date:	2018-11-08T20:04:46
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	79		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18311003
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	18311003		Operator:	JPT12262
Sample Wt.:	1.03000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV08D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	828181.2	728839.7	14	50	
13C2-PFOA	5.0	574967.0	491983.1	17	50	
13C4-PFOS	4.8	326141.9	255568.1	28	50	
13C2-PFDA	5.0	347032.0	315407.5	10	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	339133.9	13C3-PFBA	828181.2	0.409	9.029	5.836	65	50-150	
E13C5-PFHxA	551626.2	13C2-PFOA	574967.0	0.959	9.709	6.853	71	50-150	
E13C3-PFHxS	283421.9	13C2-PFOA	574967.0	0.493	9.184	6.871	75	50-150	
E13C4-PFHpA	430237.9	13C2-PFOA	574967.0	0.748	9.709	6.610	68	50-150	
E13C8-PFOA	760271.2	13C2-PFOA	574967.0	1.322	9.709	7.160	74	50-150	
E13C8-PFOS	250509.0	13C4-PFOS	326141.9	0.768	9.282	6.595	71	50-150	
E13C9-PFNA	414756.1	13C4-PFOS	326141.9	1.272	9.709	6.745	69	50-150	
E13C6-PFDA	488827.2	13C2-PFDA	347032.0	1.409	9.709	6.878	71	50-150	
Ed3-NMeFOSAA	46655.5	13C2-PFDA	347032.0	0.134	9.709	4.854	50	50-150	
E13C7-PFUnDA	221905.4	13C2-PFDA	347032.0	0.639	9.709	7.163	74	50-150	
Ed5-NEtFOSAA	39837.1	13C2-PFDA	347032.0	0.115	9.709	5.158	53	50-150	
E13C2-PFDoDA	466930.2	13C2-PFDA	347032.0	1.345	9.709	7.043	73	50-150	
E13C2-PFTeDA	322012.1	13C2-PFDA	347032.0	0.928	9.709	6.486	67	50-150	

APPROVED

By JPT at 1:25 pm, 11/9/18

REVIEWED

By HMK at 9:20 am, 11/13/18

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881590

Instrument Name: LM27631

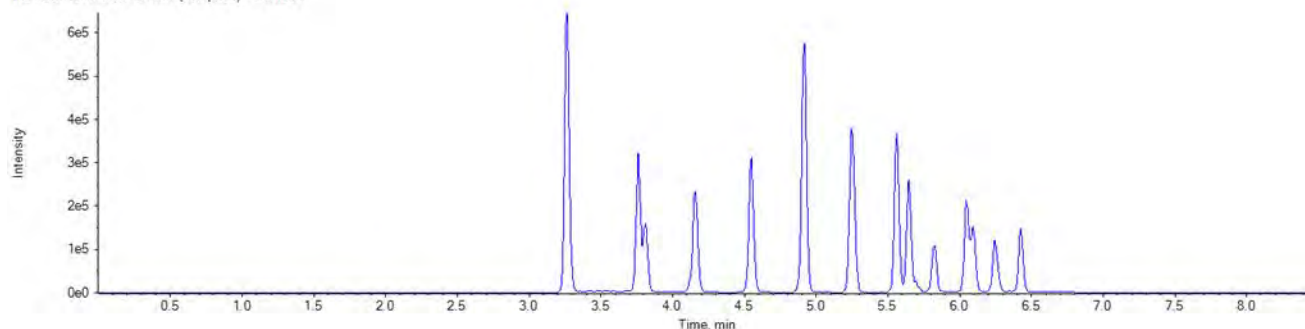
File Name: 18NOV08D-56.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.03000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	339133.9	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	551626.2	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	283421.9	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	430237.9	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.92	760271.2	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	250509.0	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	414756.1	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	488827.2	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	46655.5	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	221905.4	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	39837.1	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.05	466930.2	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.05	466930.2	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	322012.1	N/A	

Total Ion Chromatogram

TIC from 18NOV08D-56.wiff (sample 1) - 9881590



APPROVED

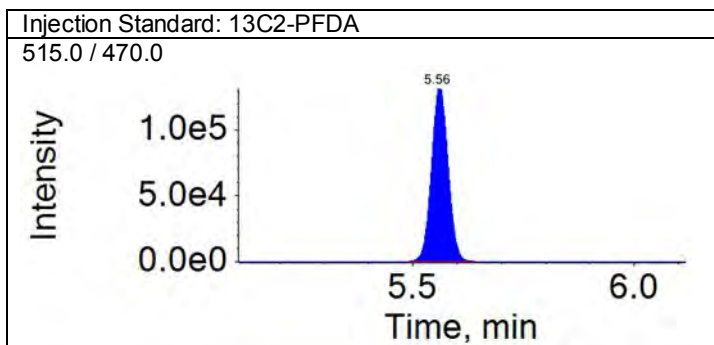
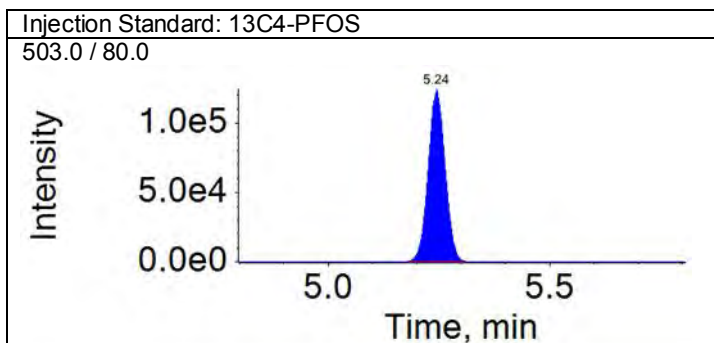
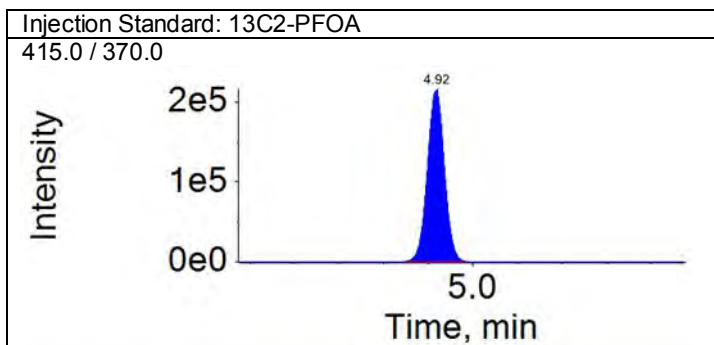
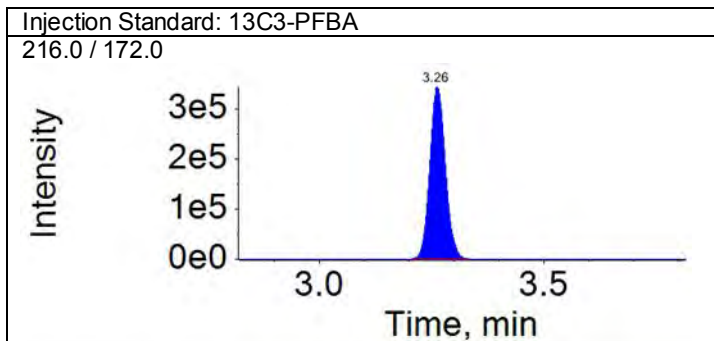
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REVIEWED

By HMK at 9:20 am, 11/13/18

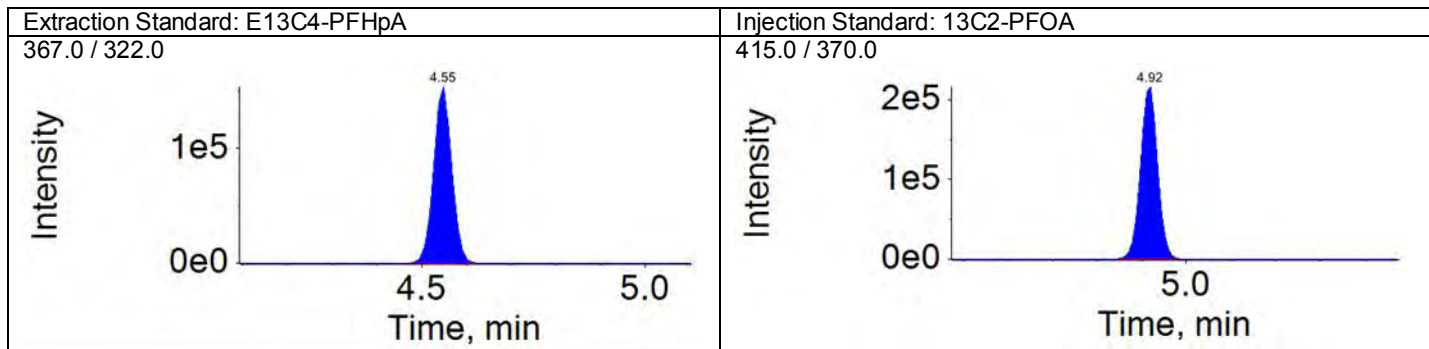
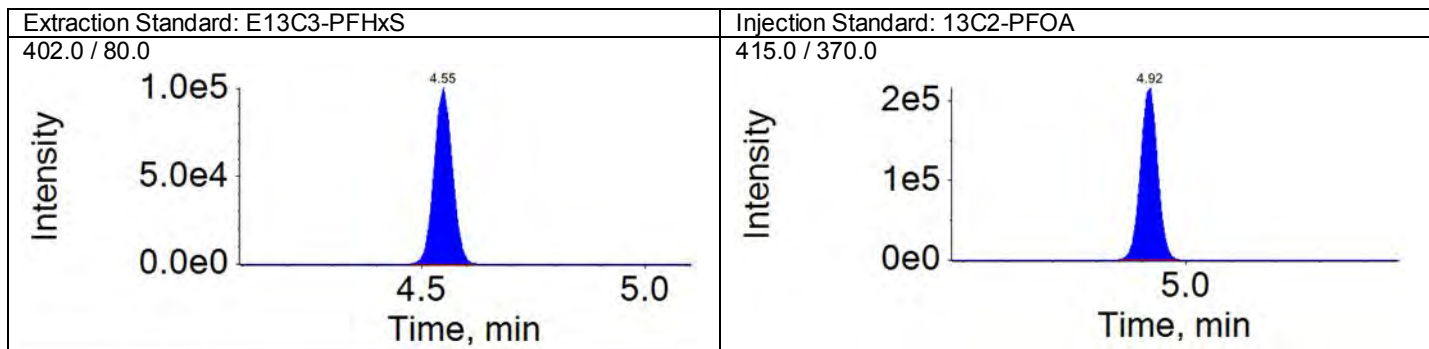
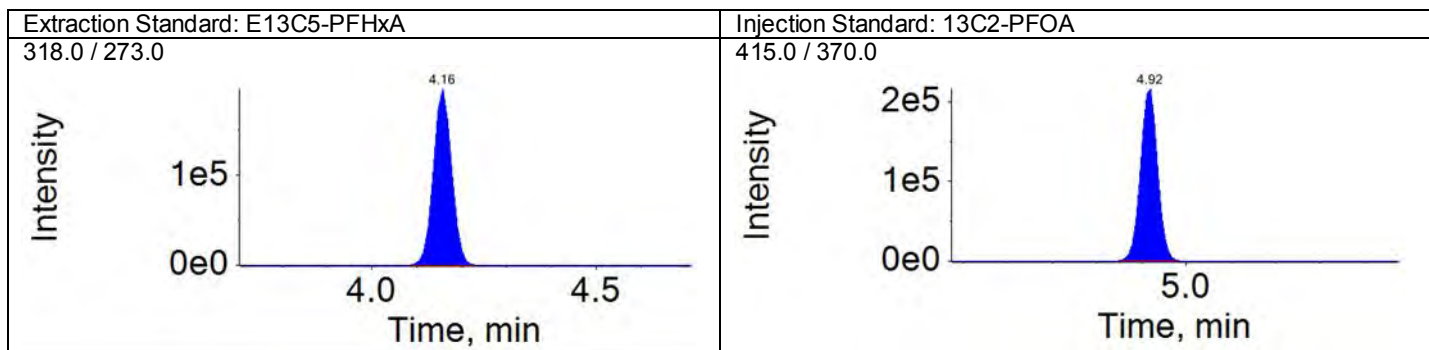
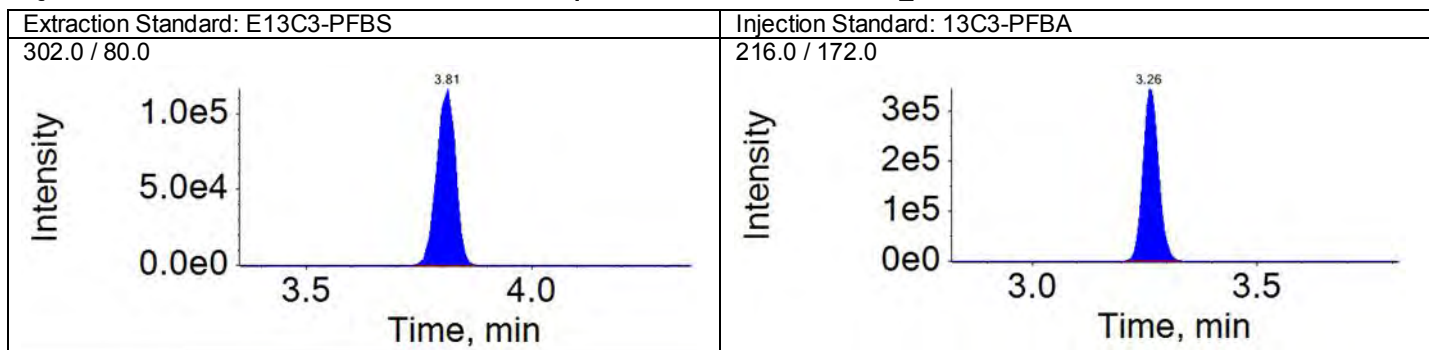
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



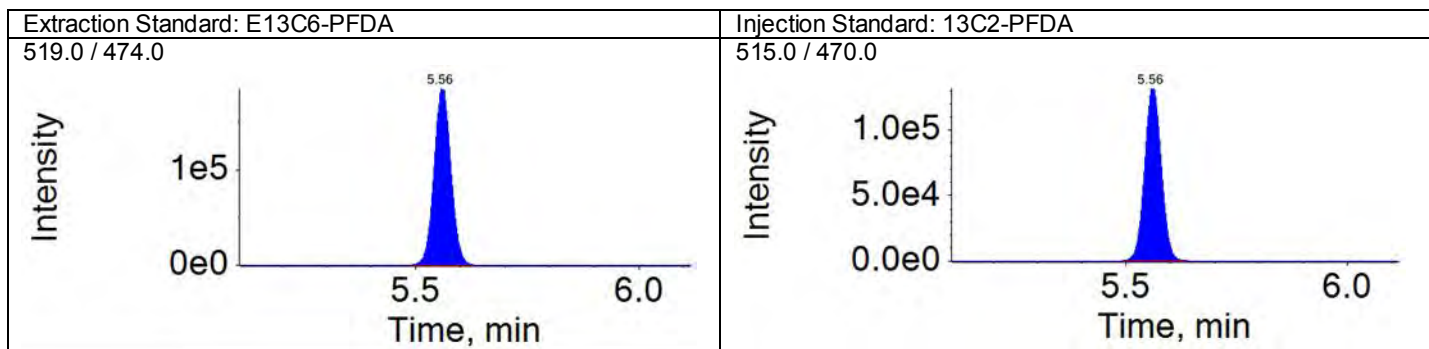
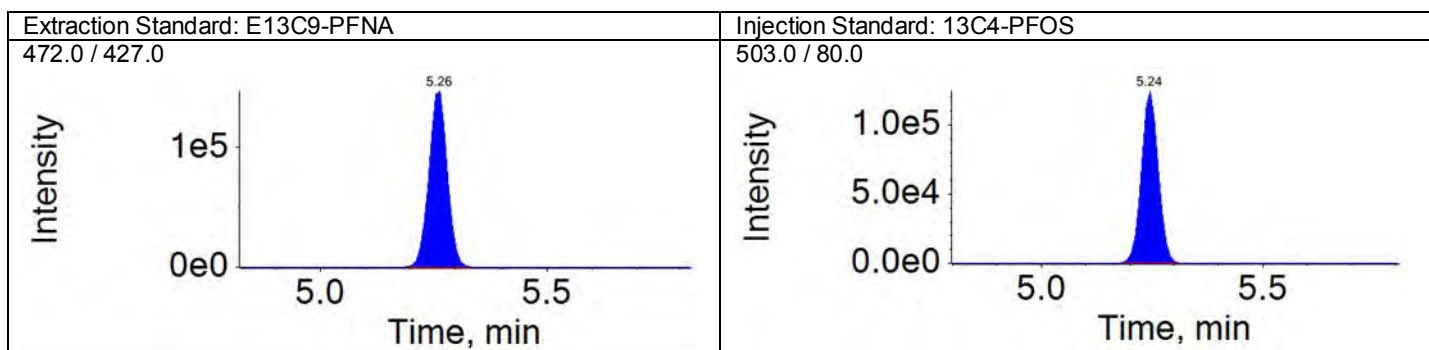
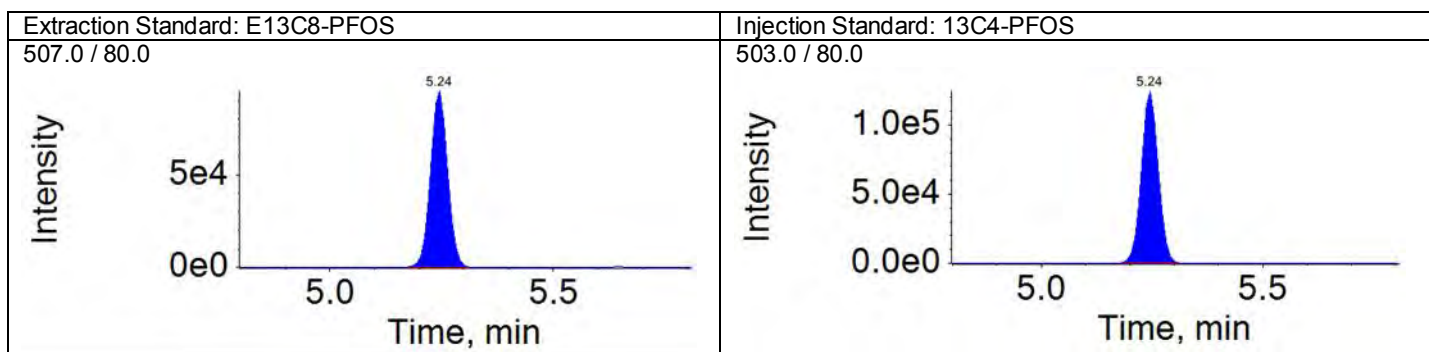
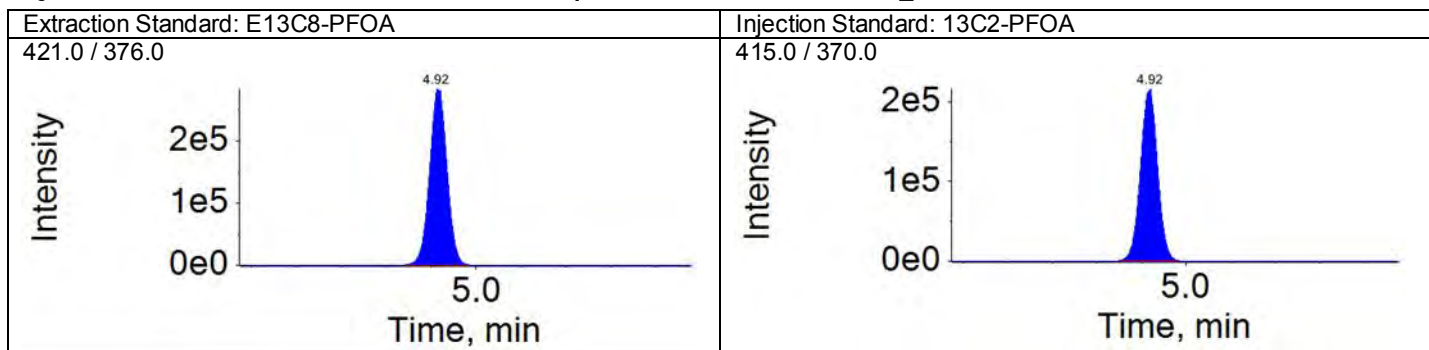
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QMethod Name: MQ4-18AUG13

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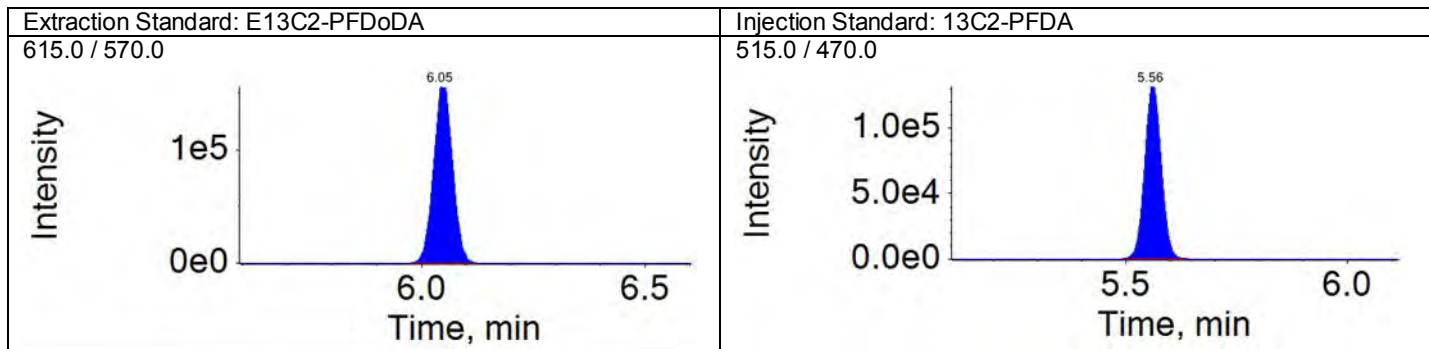
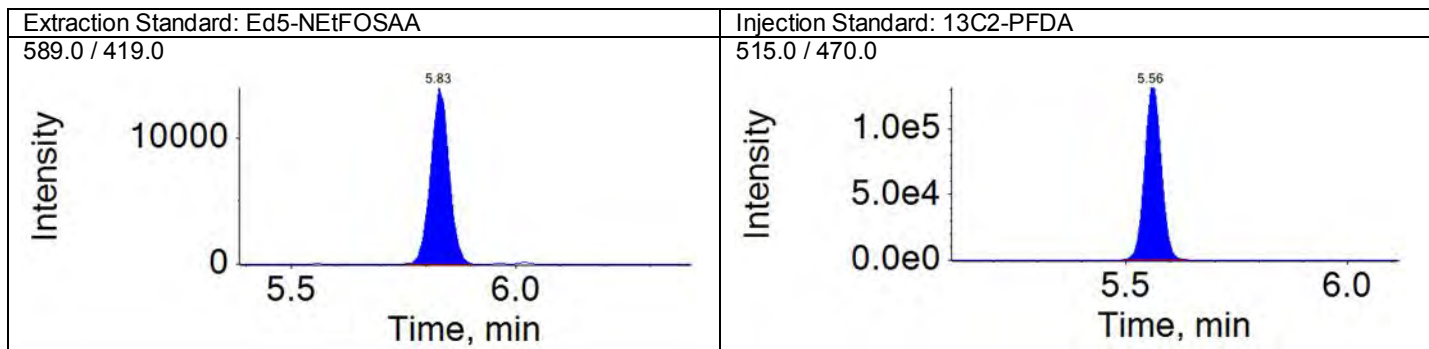
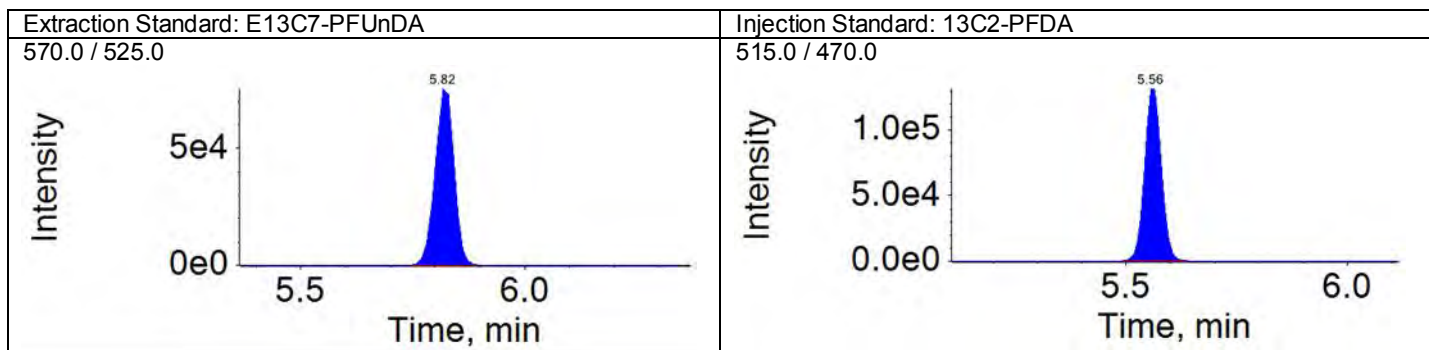
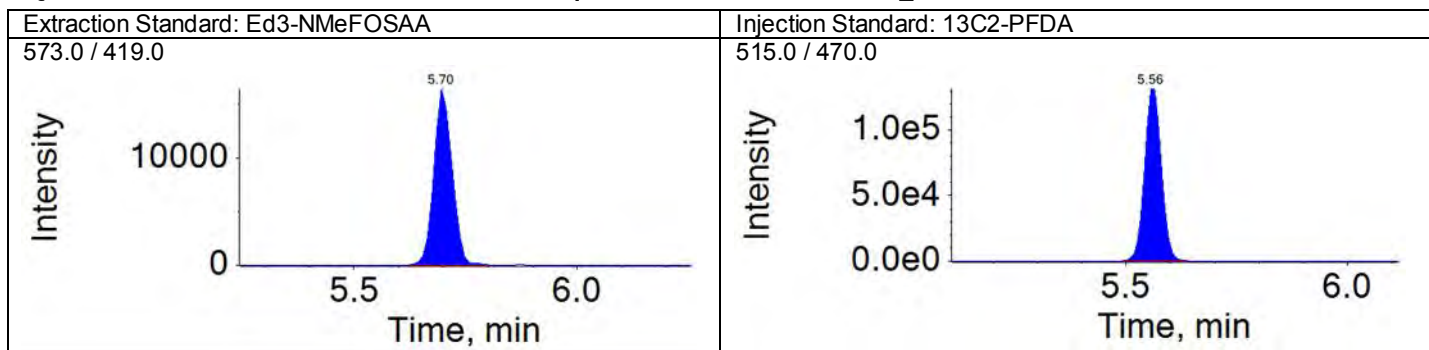
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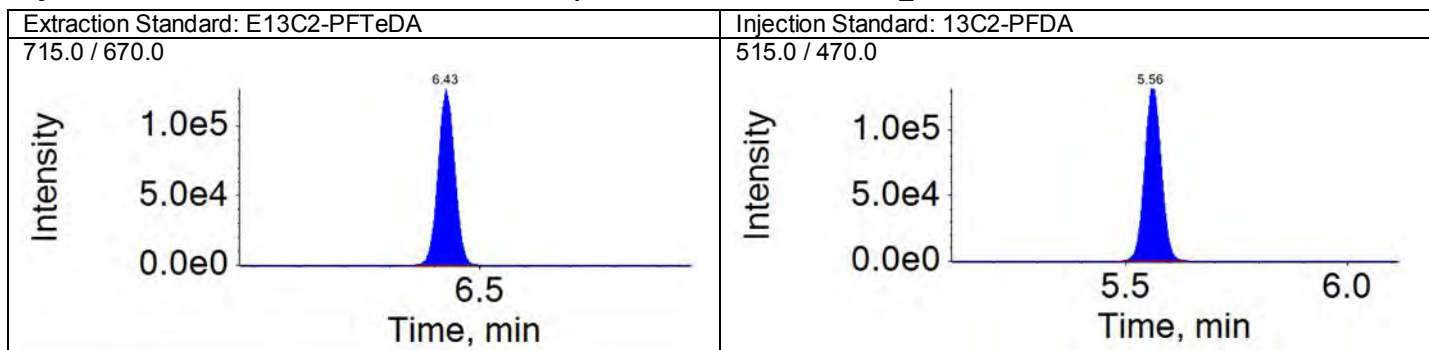
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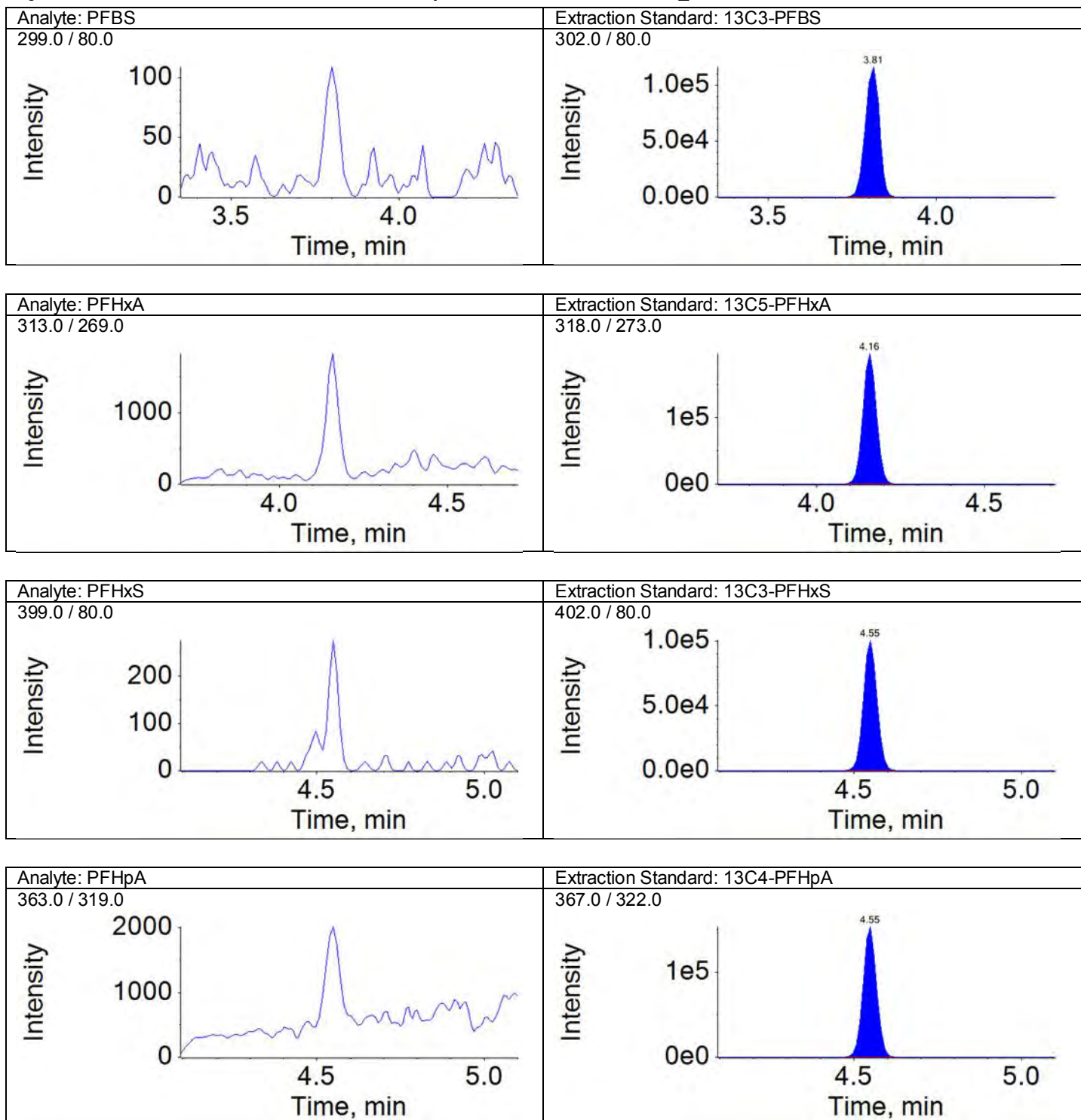
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ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

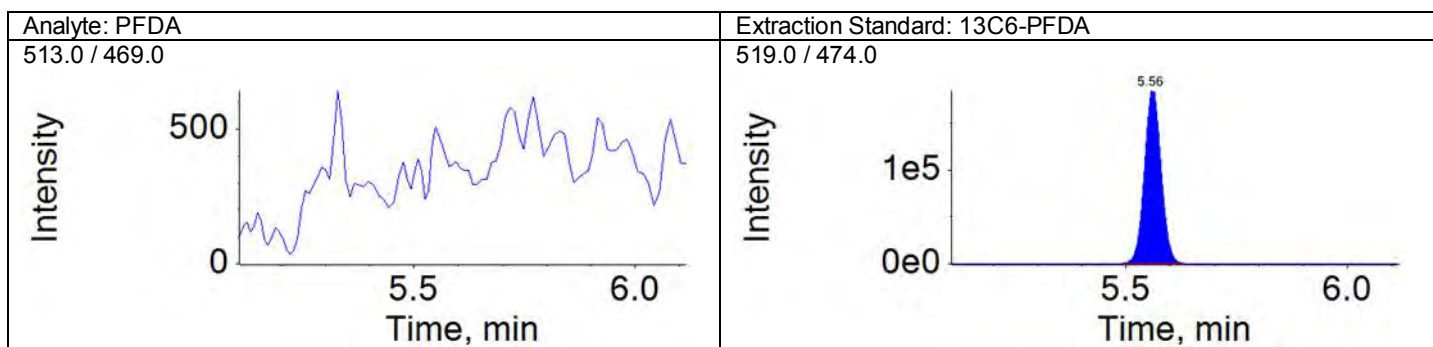
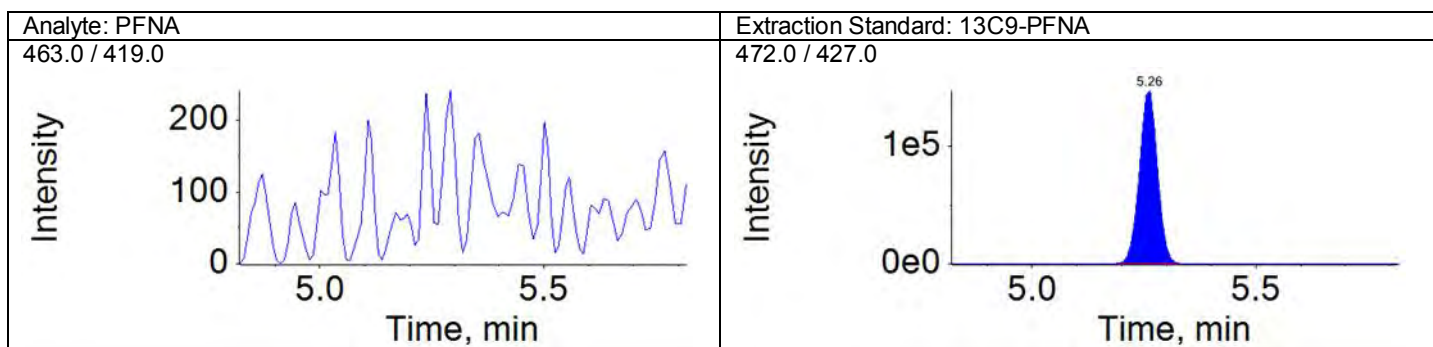
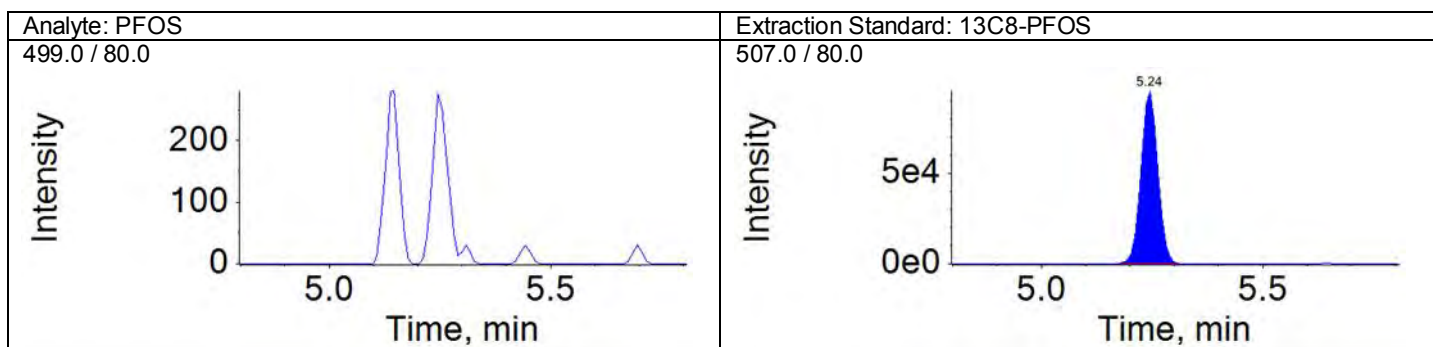
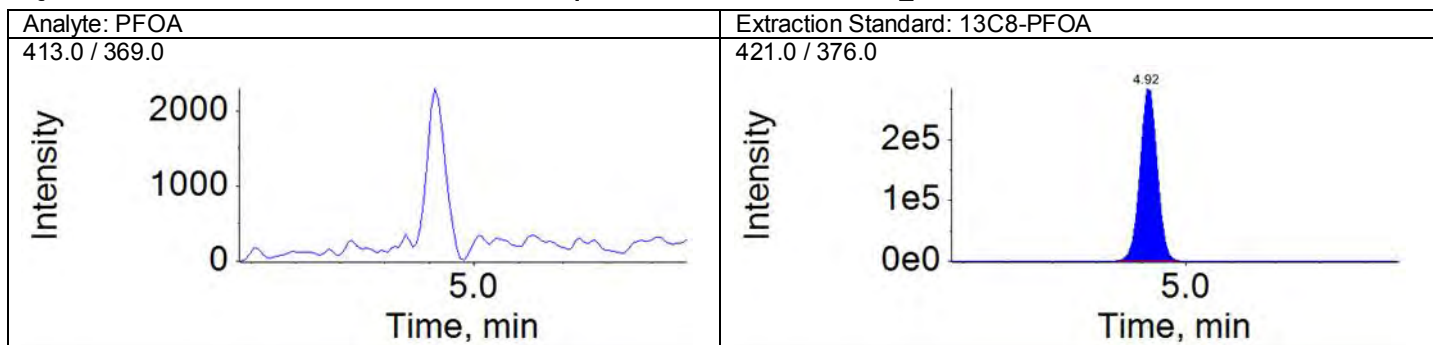
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Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
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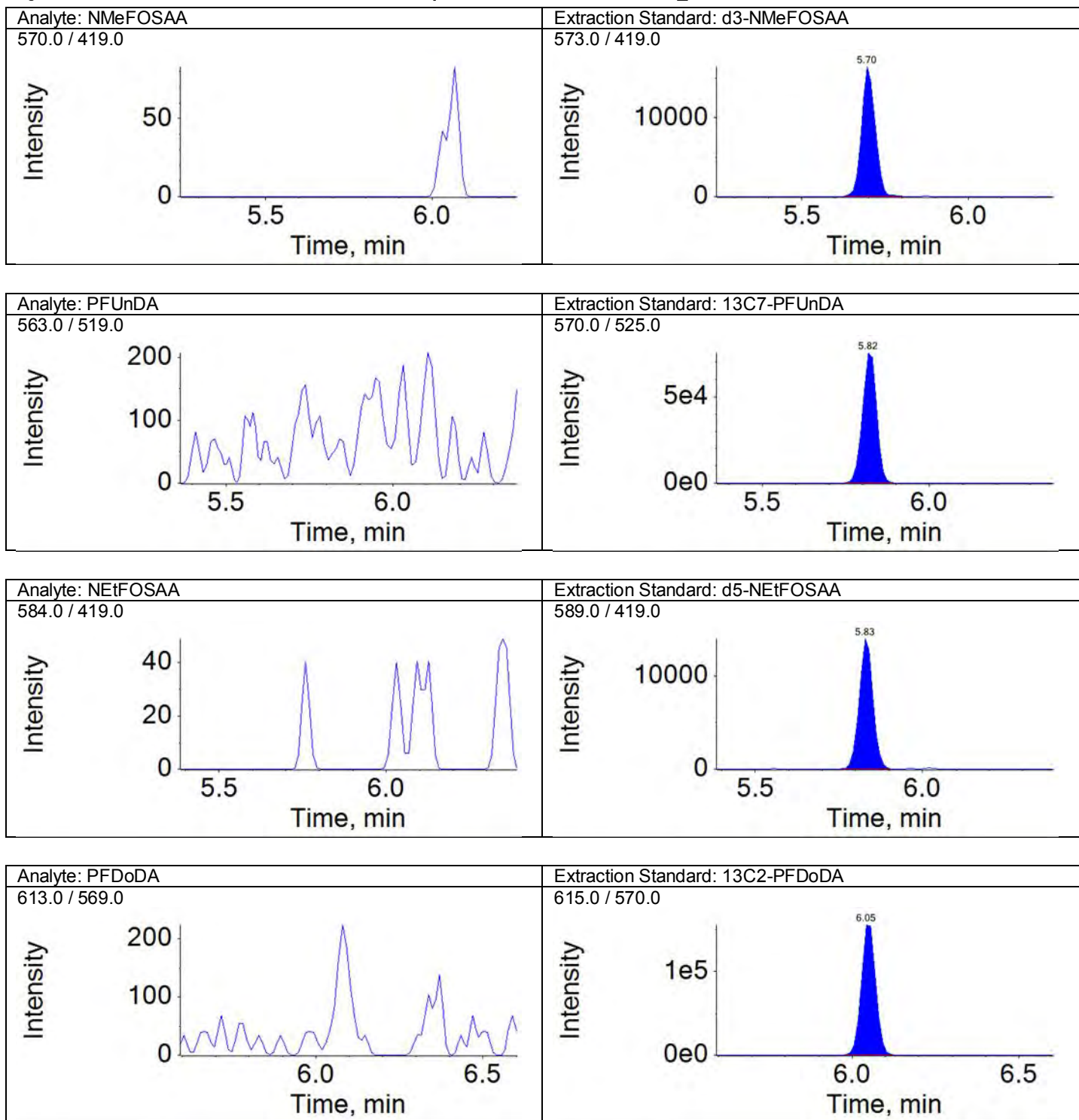
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Acquisition Method: 18AUG13_3uL.dam



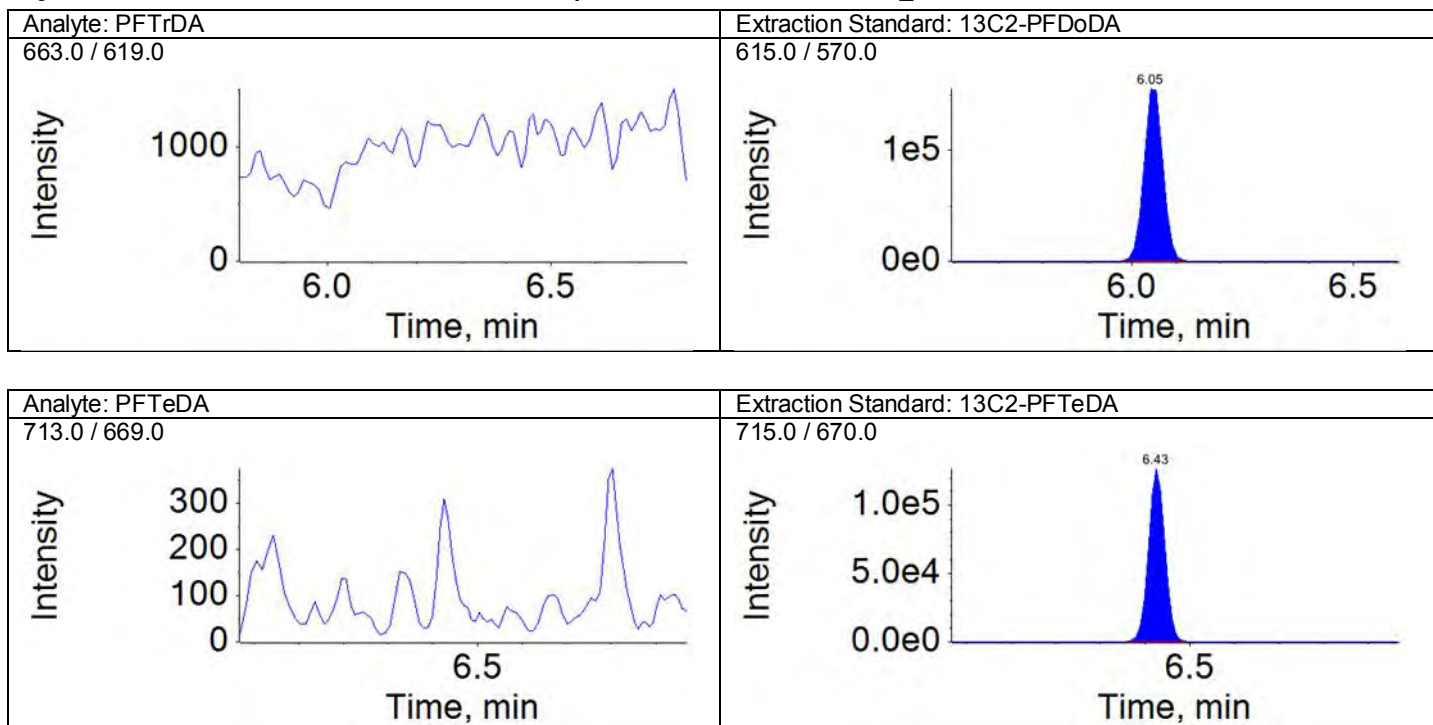
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



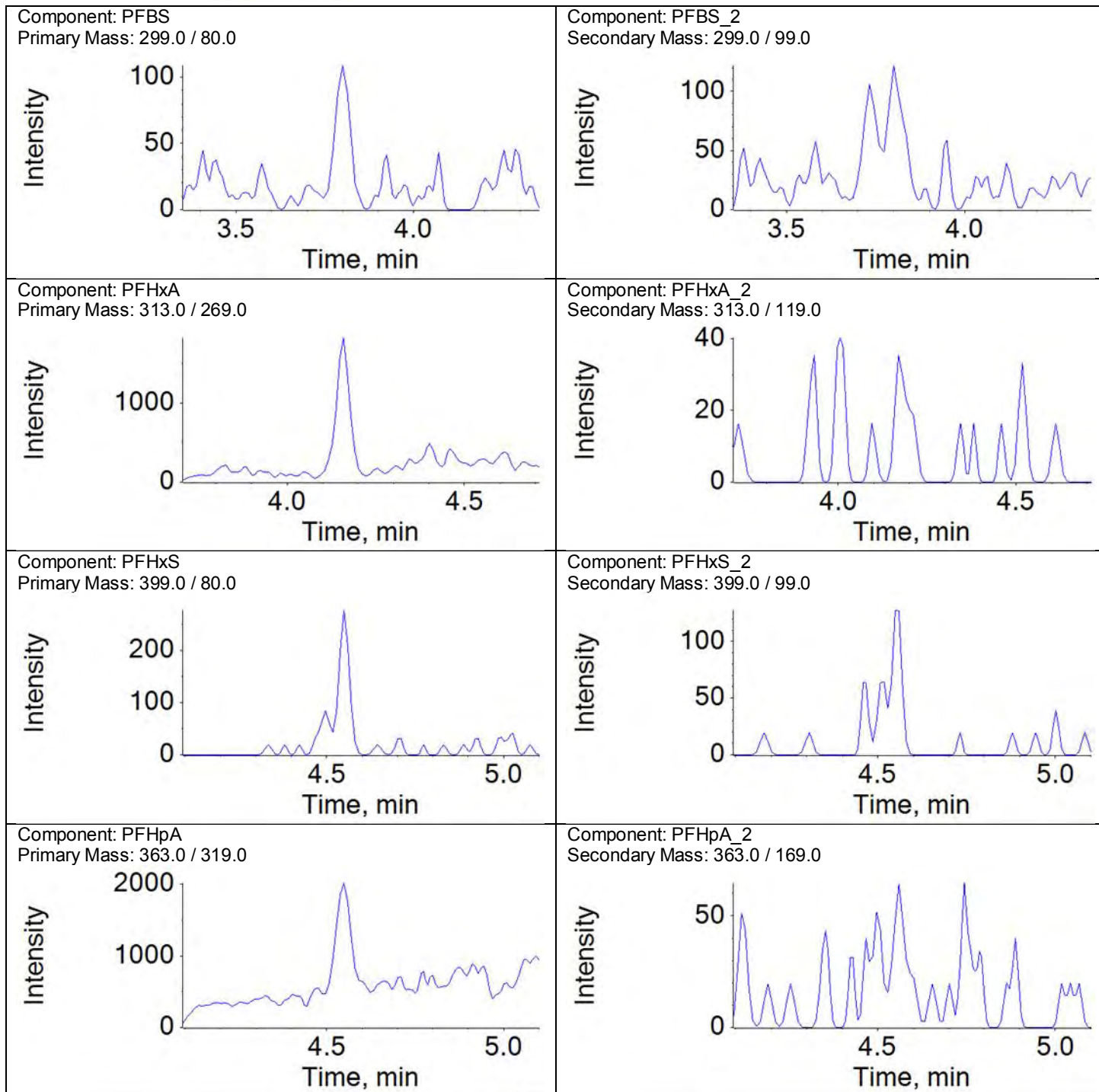
Ion Ratio Report

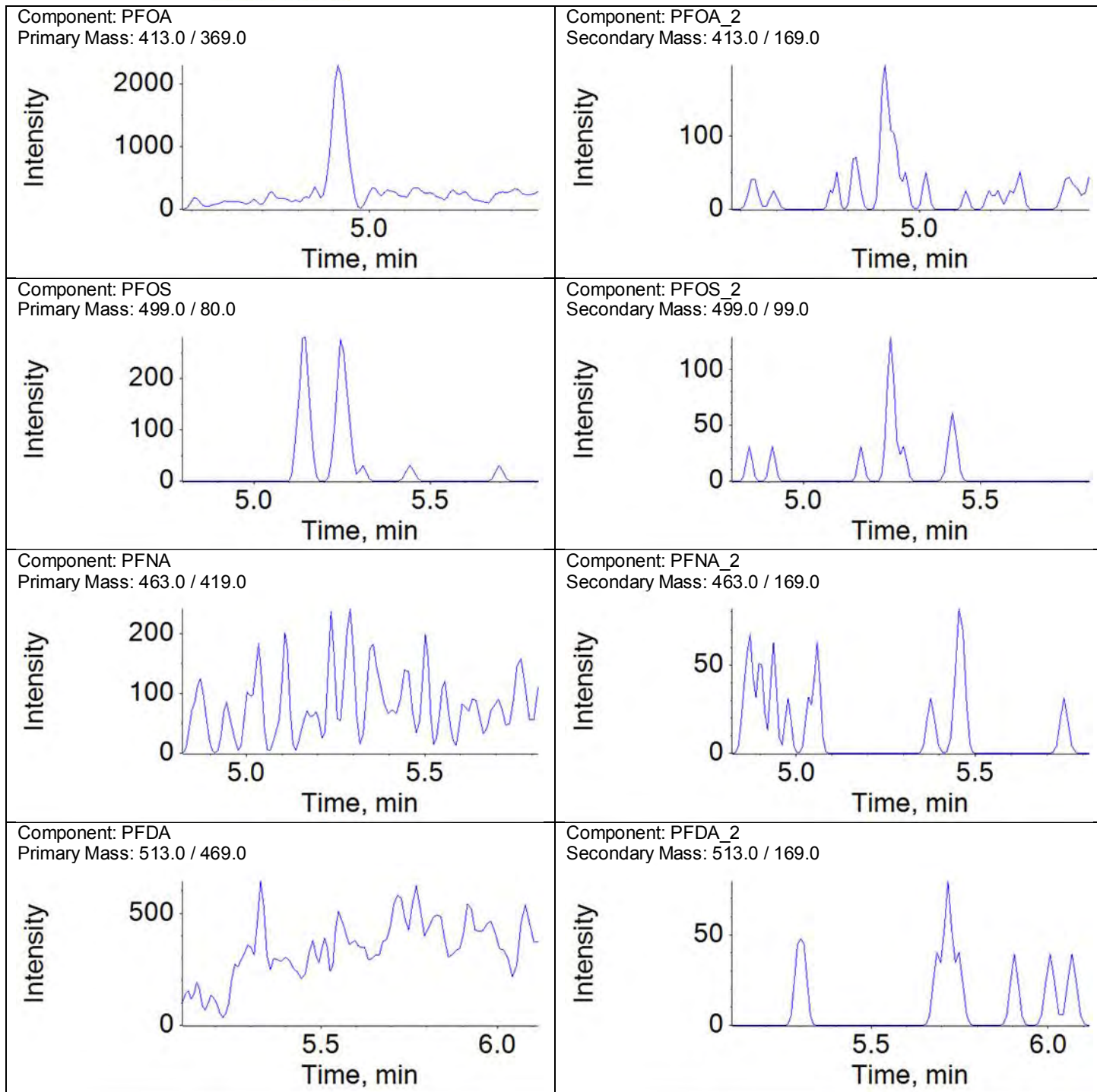
Sample Name: 9881590

Instrument Name: LM27631

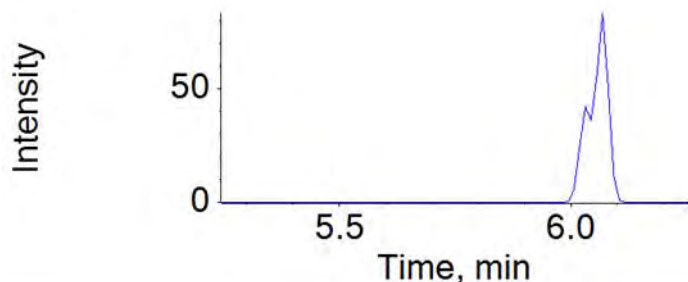
File Name: 18NOV08D-56.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	

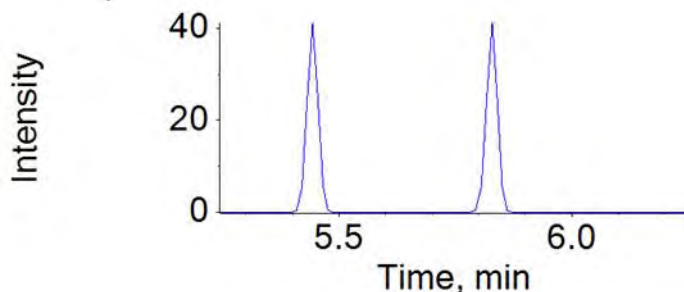




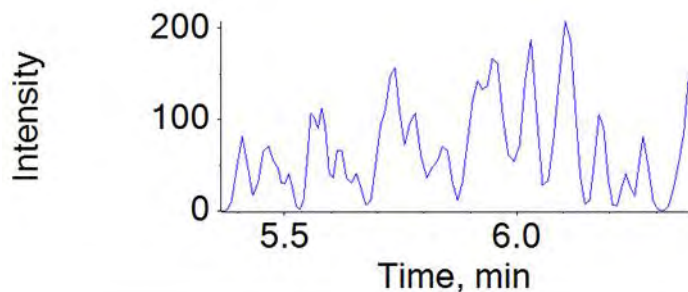
Component: NMeFOSAA
Primary Mass: 570.0 / 419.0



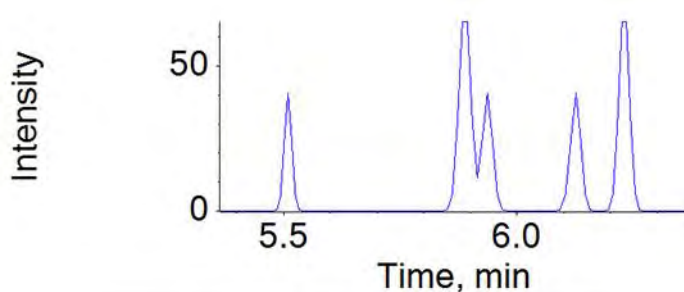
Component: NMeFOSAA_2
Secondary Mass: 570.0 / 483.0



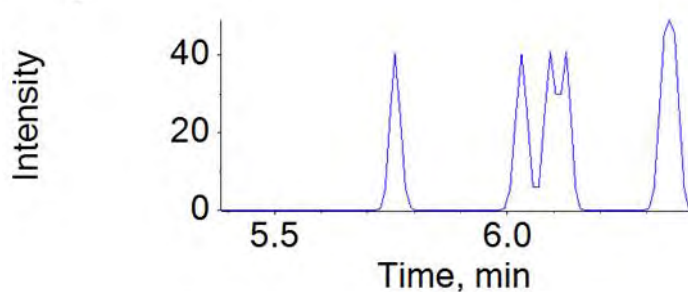
Component: PFUnDA
Primary Mass: 563.0 / 519.0



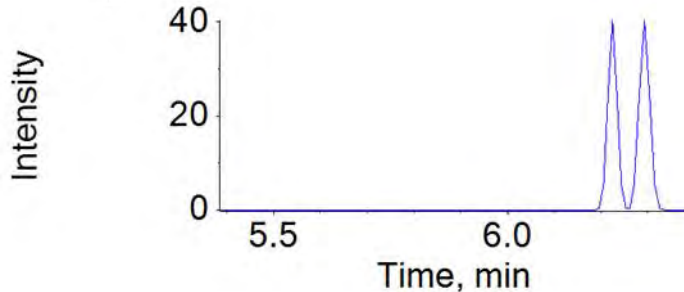
Component: PFUnDA_2
Secondary Mass: 563.0 / 169.0



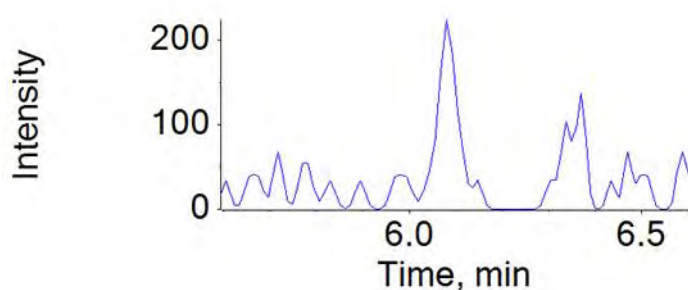
Component: NEtFOSAA
Primary Mass: 584.0 / 419.0



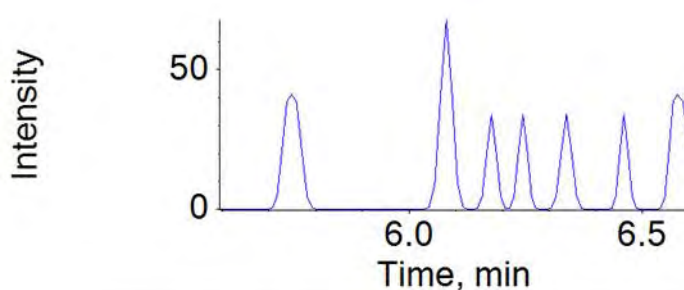
Component: NEtFOSAA_2
Secondary Mass: 584.0 / 526.0

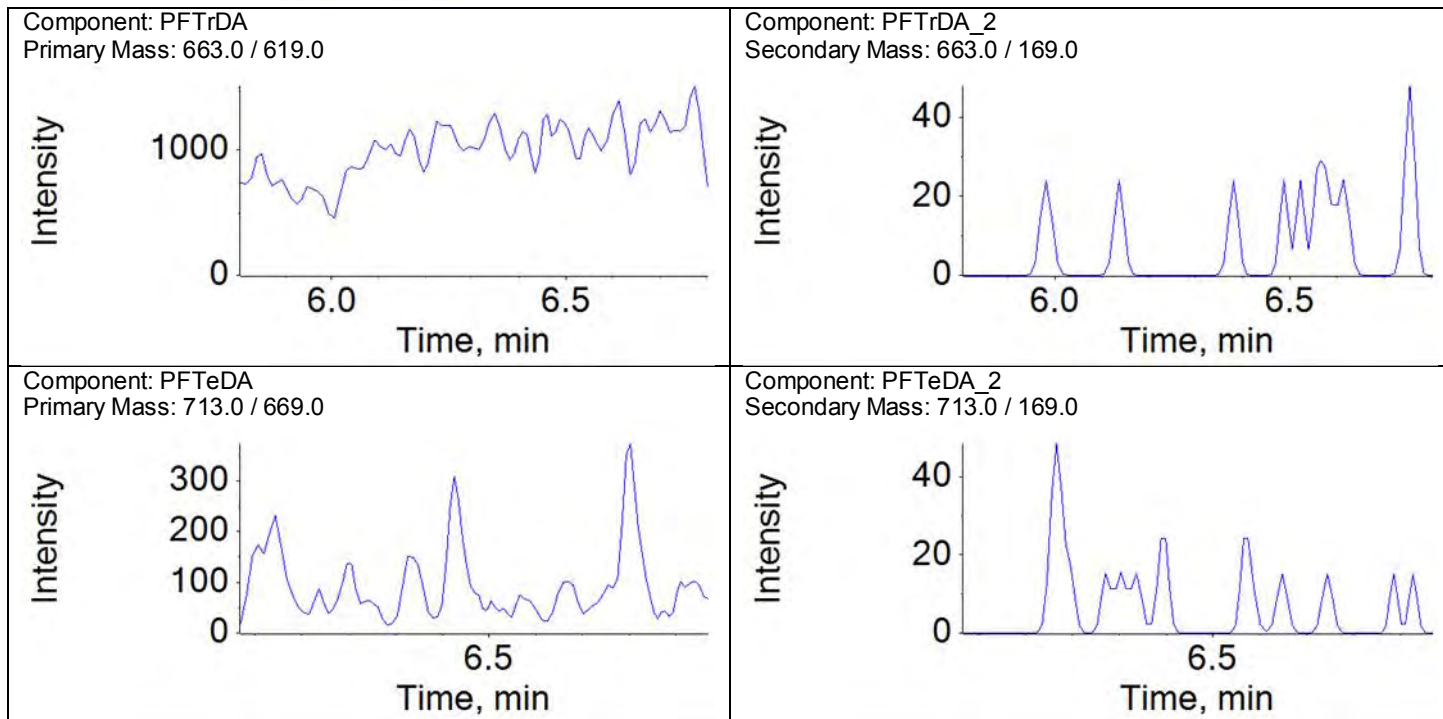


Component: PFDoDA
Primary Mass: 613.0 / 569.0



Component: PFDoDA_2
Secondary Mass: 613.0 / 169.0





ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881591		Data File:	18NOV08D-57.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18311003 OU1-CAOC22-S-01-06 Grab Soil		Acquis Date:	2018-11-08T20:13:46
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	80		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18311003
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	18311003		Operator:	JPT12262
Sample Wt.:	1.01000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV08D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	813968.6	728839.7	12	50	
13C2-PFOA	5.0	569203.1	491983.1	16	50	
13C4-PFOS	4.8	312910.6	255568.1	22	50	
13C2-PFDA	5.0	355554.9	315407.5	13	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	351050.5	13C3-PFBA	813968.6	0.431	9.208	6.268	68	50-150	
E13C5-PFHxA	569404.9	13C2-PFOA	569203.1	1.000	9.901	7.287	74	50-150	
E13C3-PFHxS	269967.0	13C2-PFOA	569203.1	0.474	9.366	6.742	72	50-150	
E13C4-PFHpA	434486.8	13C2-PFOA	569203.1	0.763	9.901	6.876	69	50-150	
E13C8-PFOA	750593.2	13C2-PFOA	569203.1	1.319	9.901	7.282	74	50-150	
E13C8-PFOS	236020.6	13C4-PFOS	312910.6	0.754	9.465	6.605	70	50-150	
E13C9-PFNA	395194.1	13C4-PFOS	312910.6	1.263	9.901	6.831	69	50-150	
E13C6-PFDA	504455.1	13C2-PFDA	355554.9	1.419	9.901	7.065	71	50-150	
Ed3-NMeFOSAA	56074.5	13C2-PFDA	355554.9	0.158	9.901	5.807	59	50-150	
E13C7-PFUnDA	226673.8	13C2-PFDA	355554.9	0.638	9.901	7.283	74	50-150	
Ed5-NEtFOSAA	46020.4	13C2-PFDA	355554.9	0.129	9.901	5.931	60	50-150	
E13C2-PFDoDA	446249.1	13C2-PFDA	355554.9	1.255	9.901	6.700	68	50-150	
E13C2-PFTeDA	310523.3	13C2-PFDA	355554.9	0.873	9.901	6.226	63	50-150	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881591

Instrument Name: LM27631

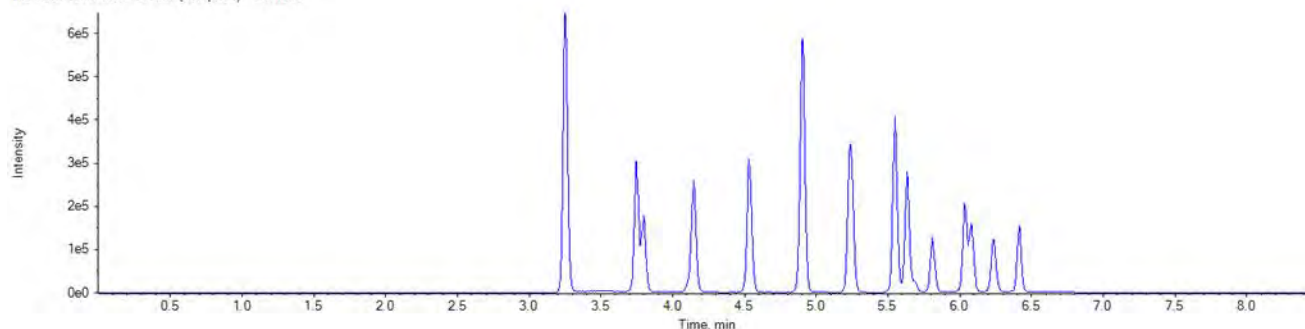
File Name: 18NOV08D-57.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.01000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	351050.5	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	569404.9	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	269967.0	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.53	434486.8	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.90	750593.2	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.23	236020.6	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	395194.1	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	504455.1	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	56074.5	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	226673.8	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	46020.4	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	446249.1	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	446249.1	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.41	310523.3	N/A	

Total Ion Chromatogram

TIC from 18NOV08D-57.wiff (sample 1) - 9881591



APPROVED

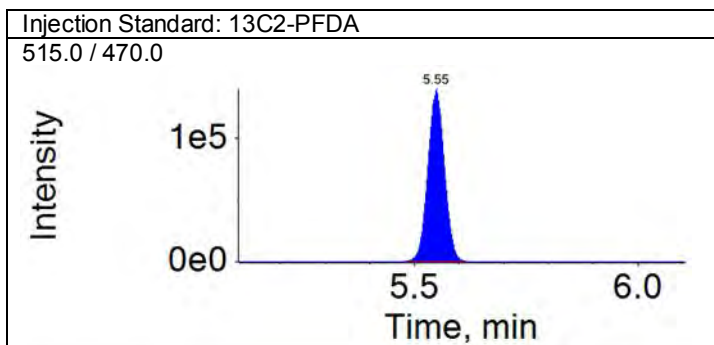
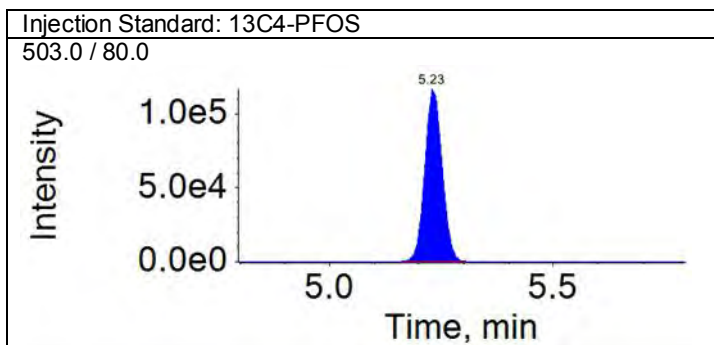
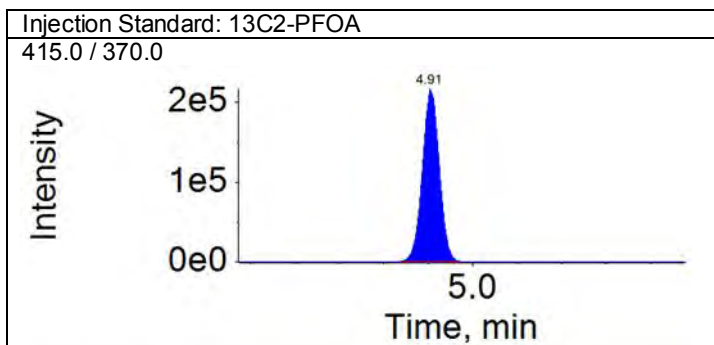
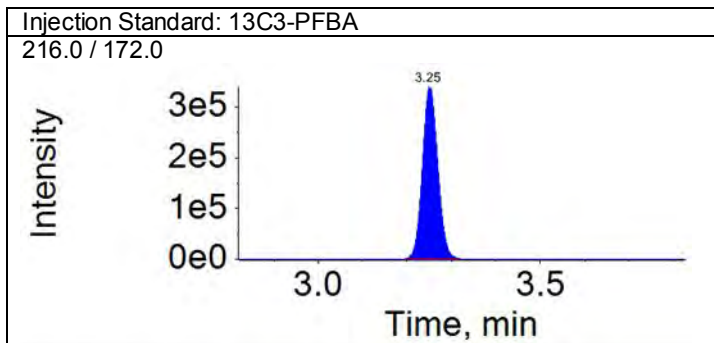
By JPT at 1:25 pm, 11/9/18

REVIEWED

By HMK at 9:20 am, 11/13/18

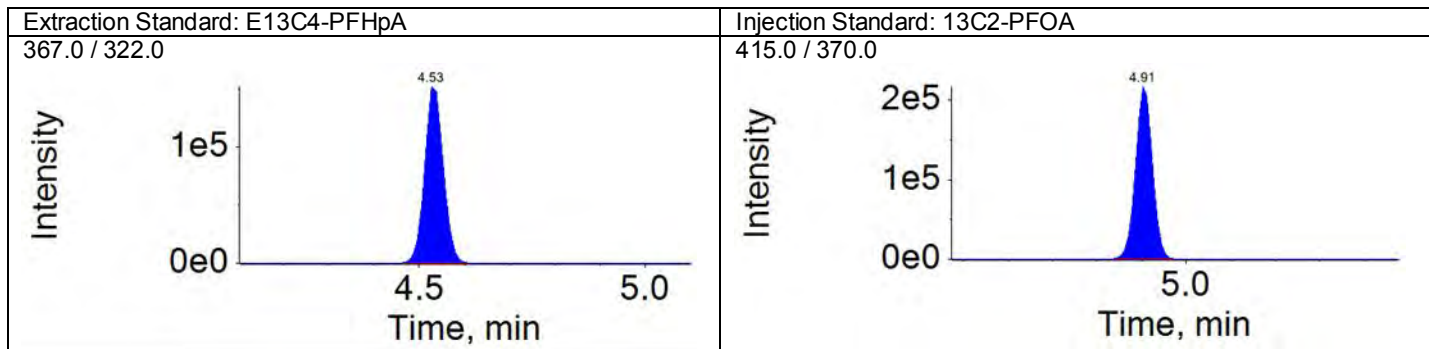
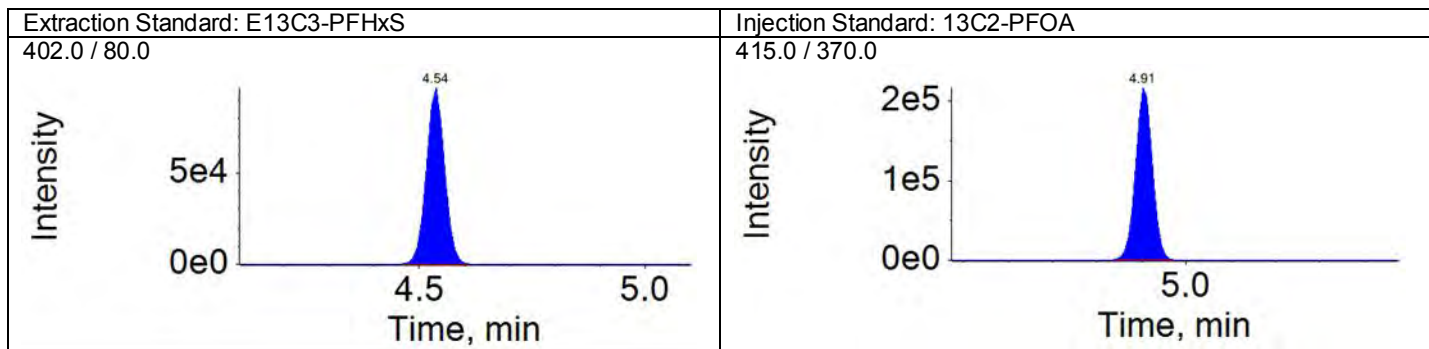
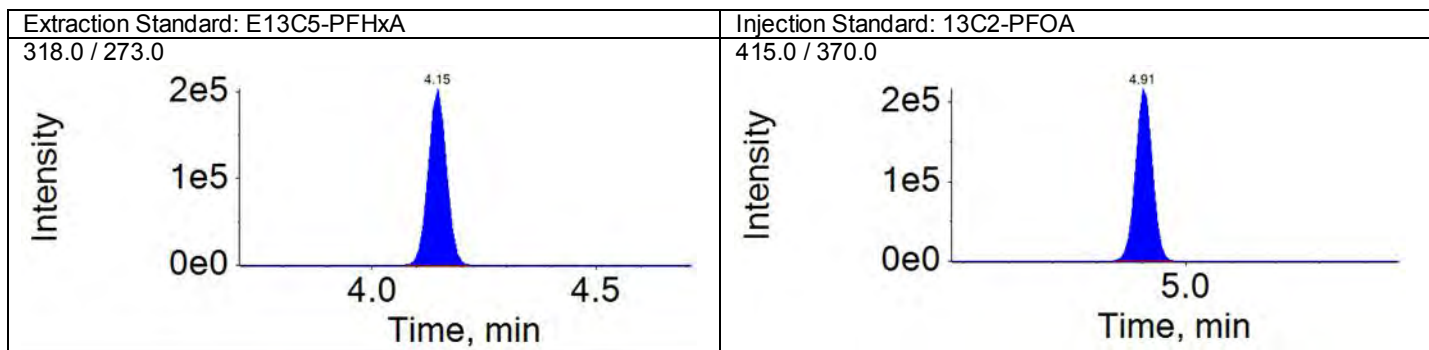
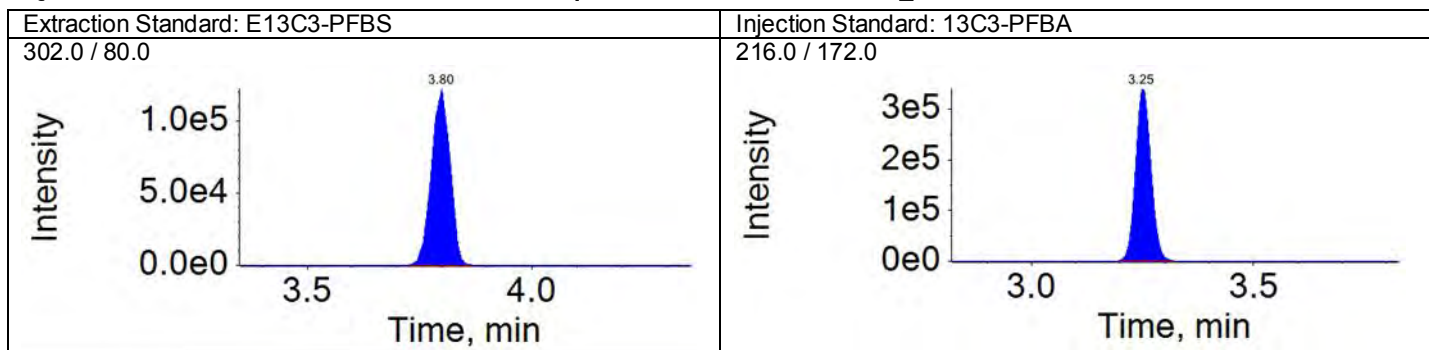
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



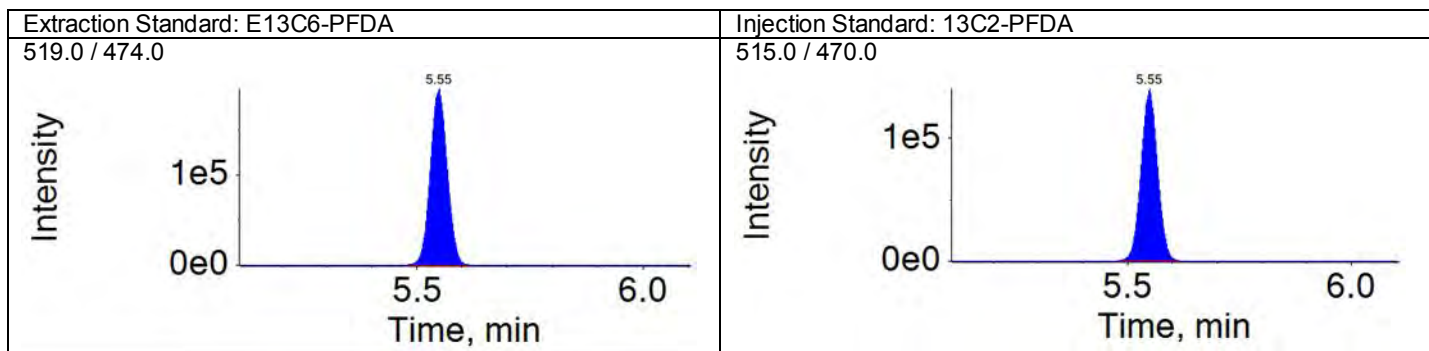
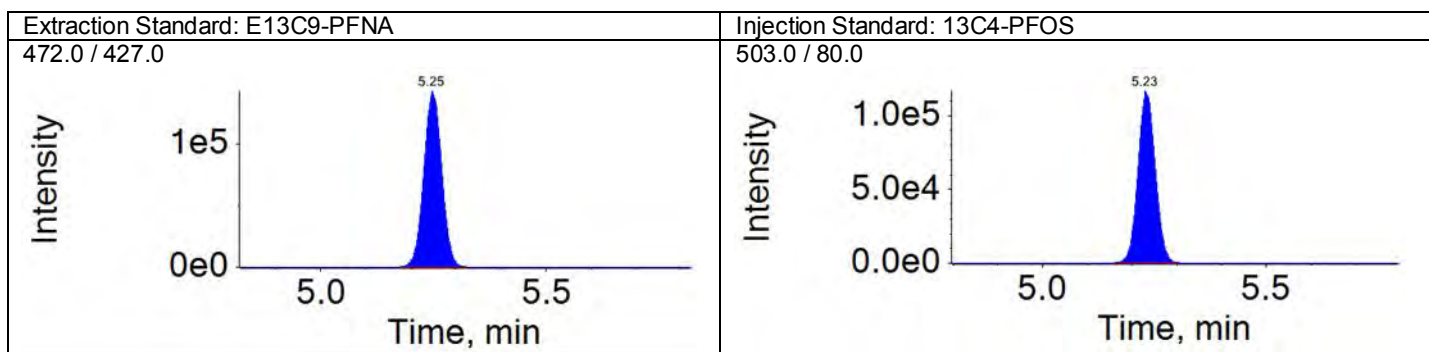
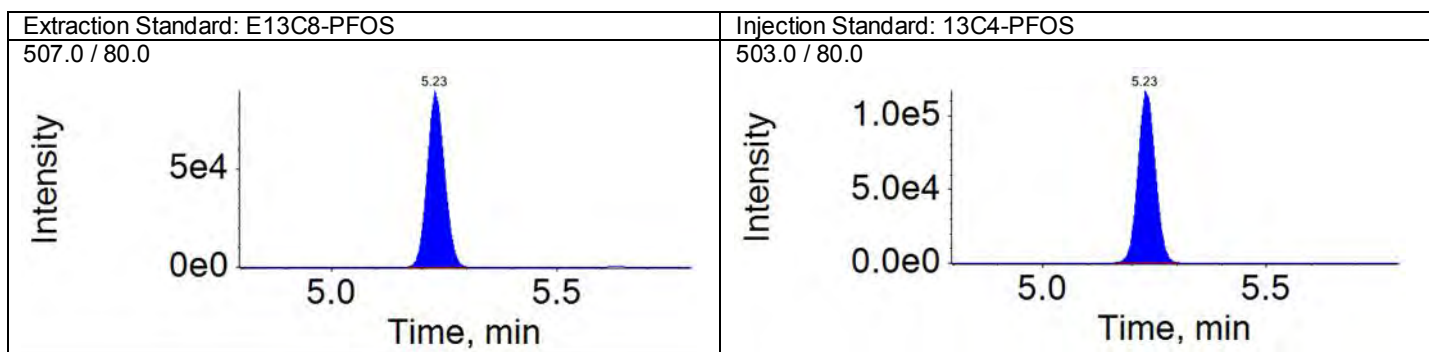
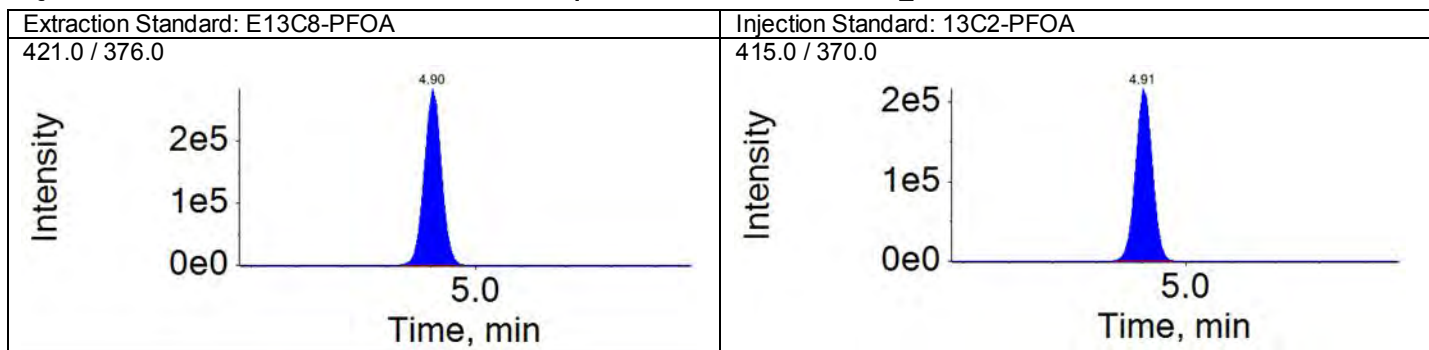
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QMethod Name: MQ4-18AUG13

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ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

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Acquisition Method: 18AUG13_3uL.dam



APPROVED

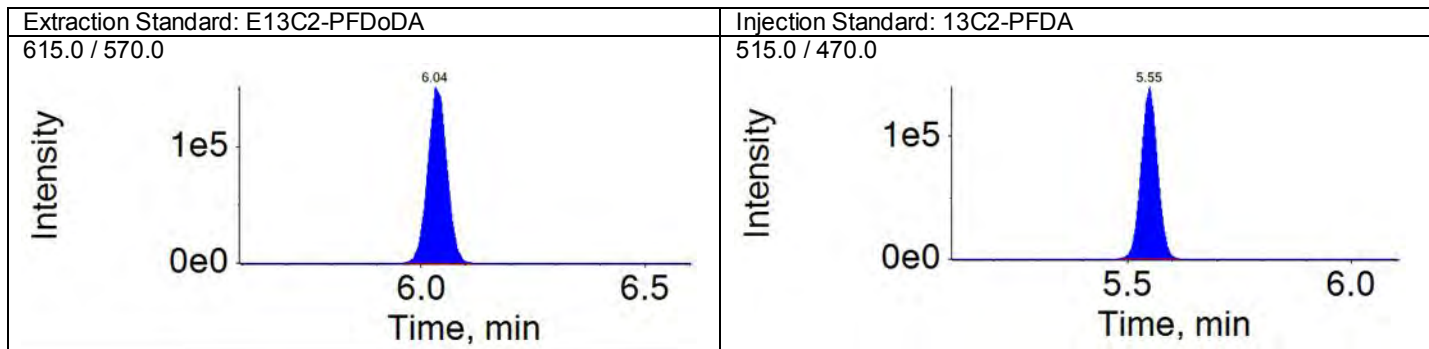
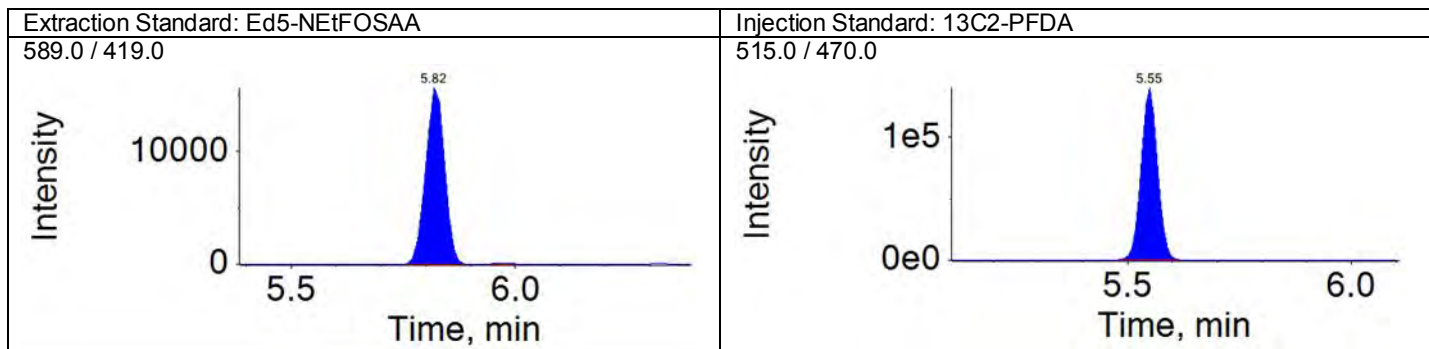
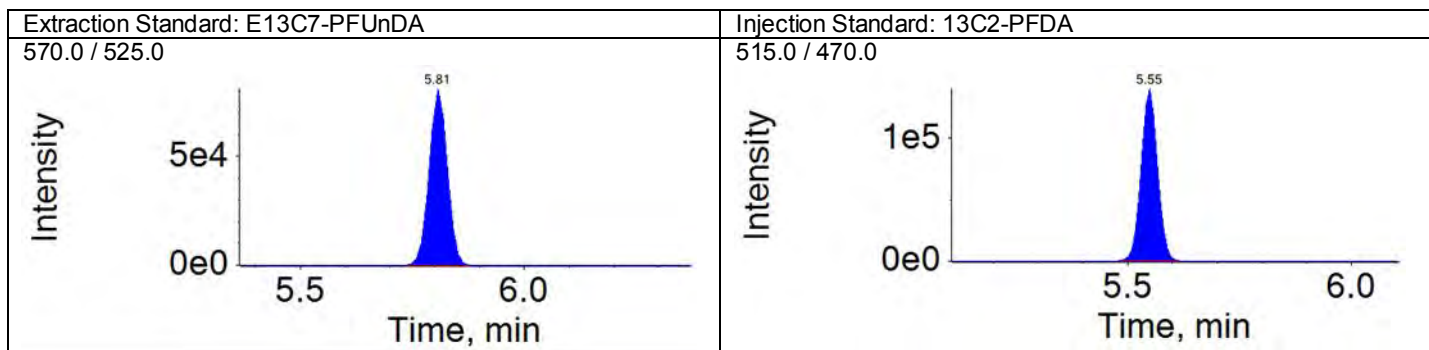
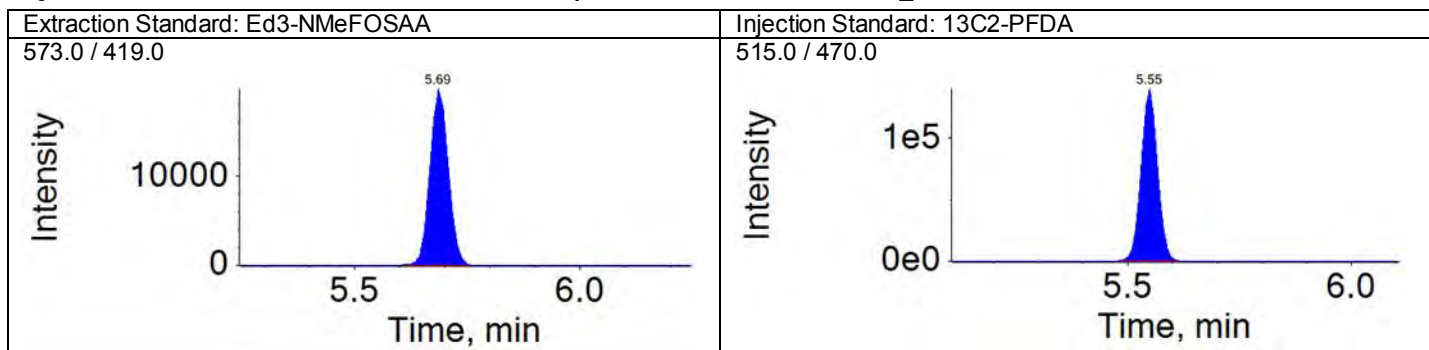
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REVIEWED

By HMK at 9:20 am, 11/13/18

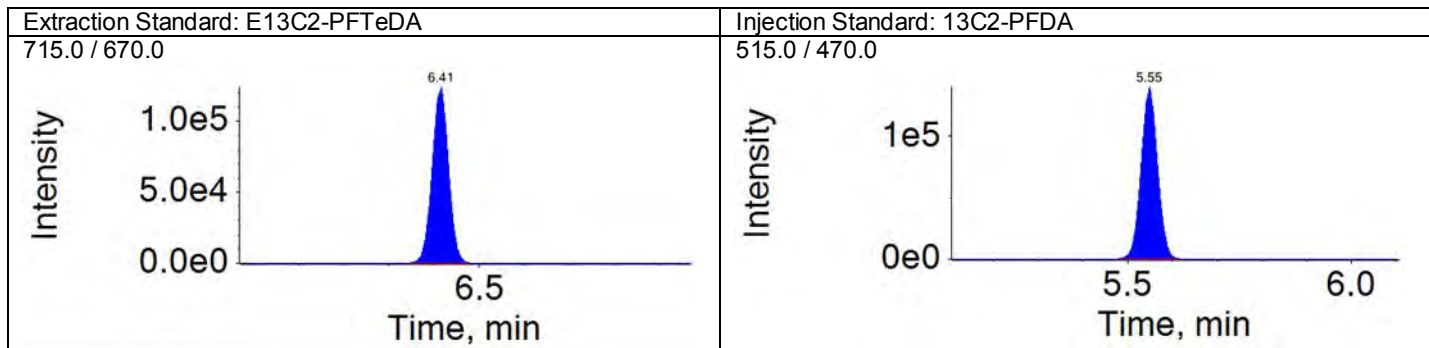
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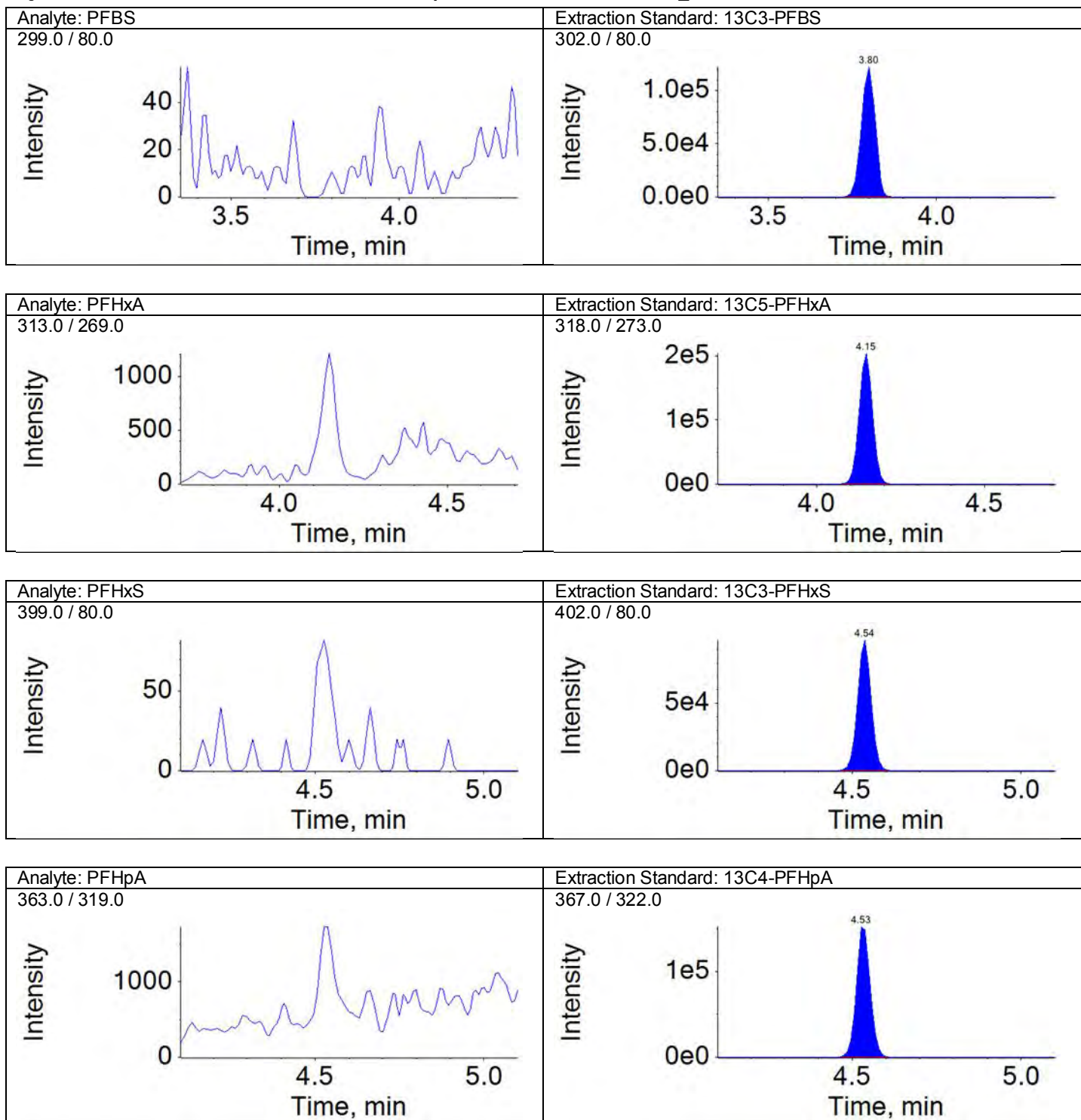
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QMethod Name: MQ4-18AUG13

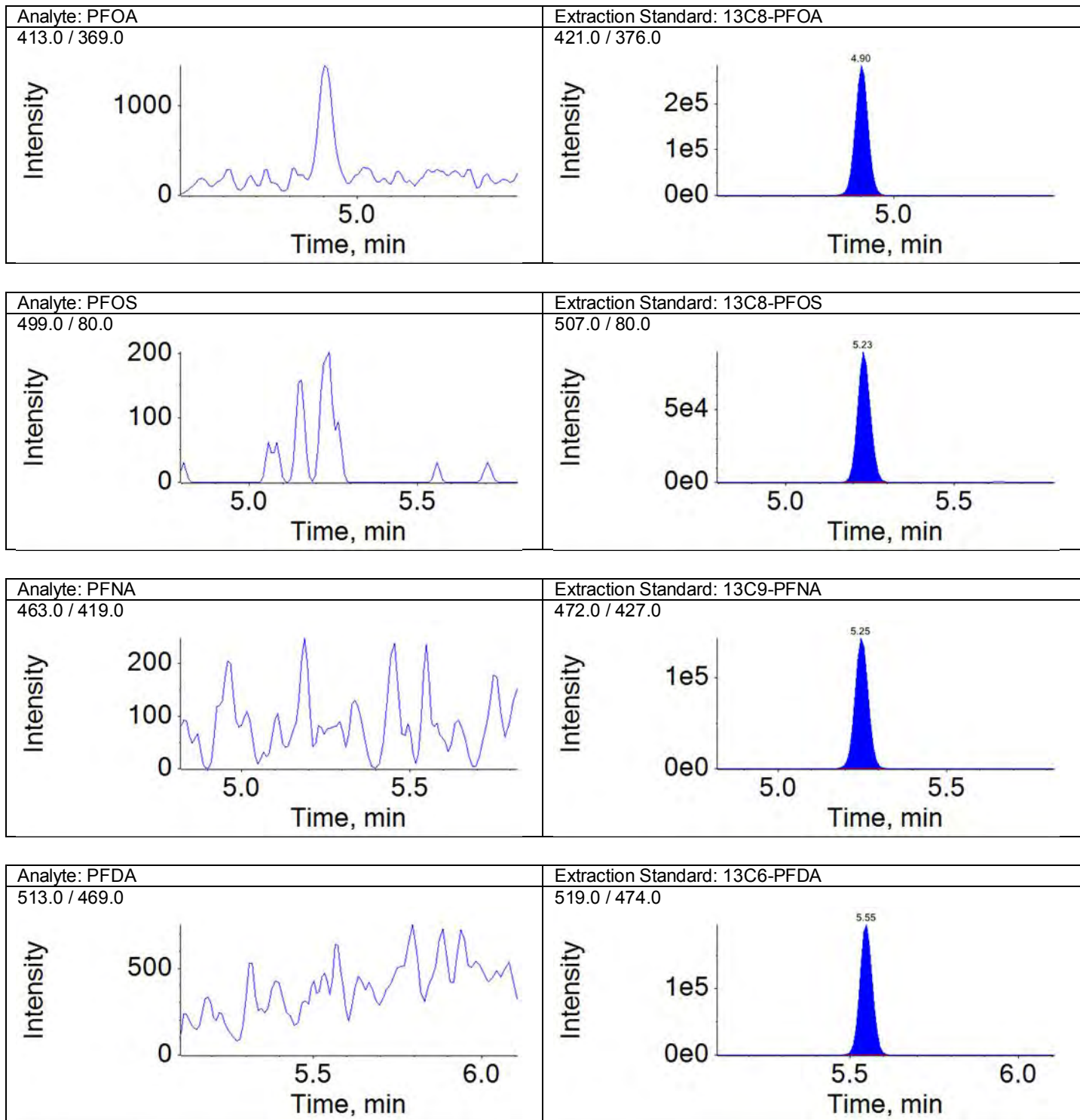
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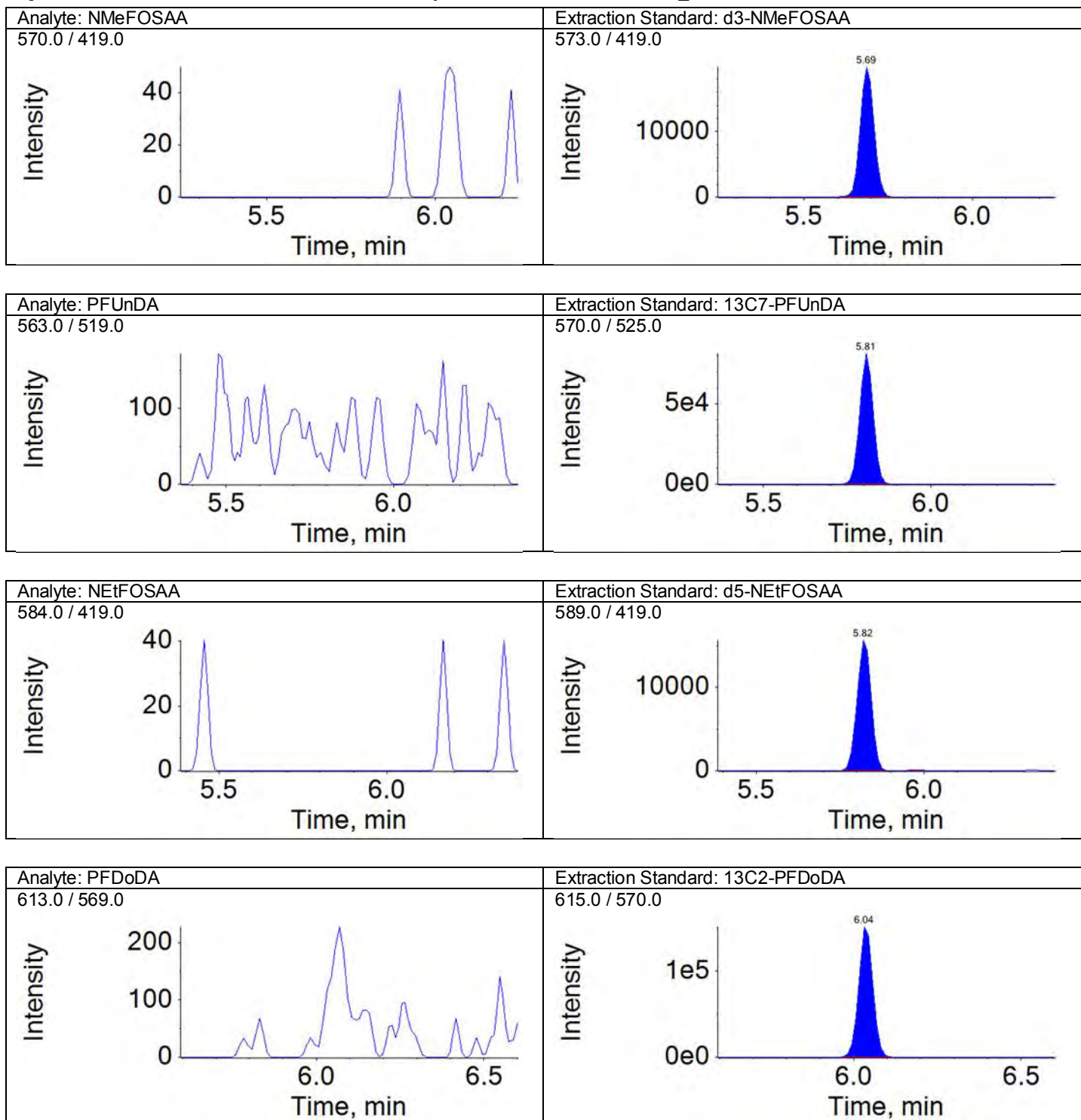
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Acquisition Method: 18AUG13_3uL.dam



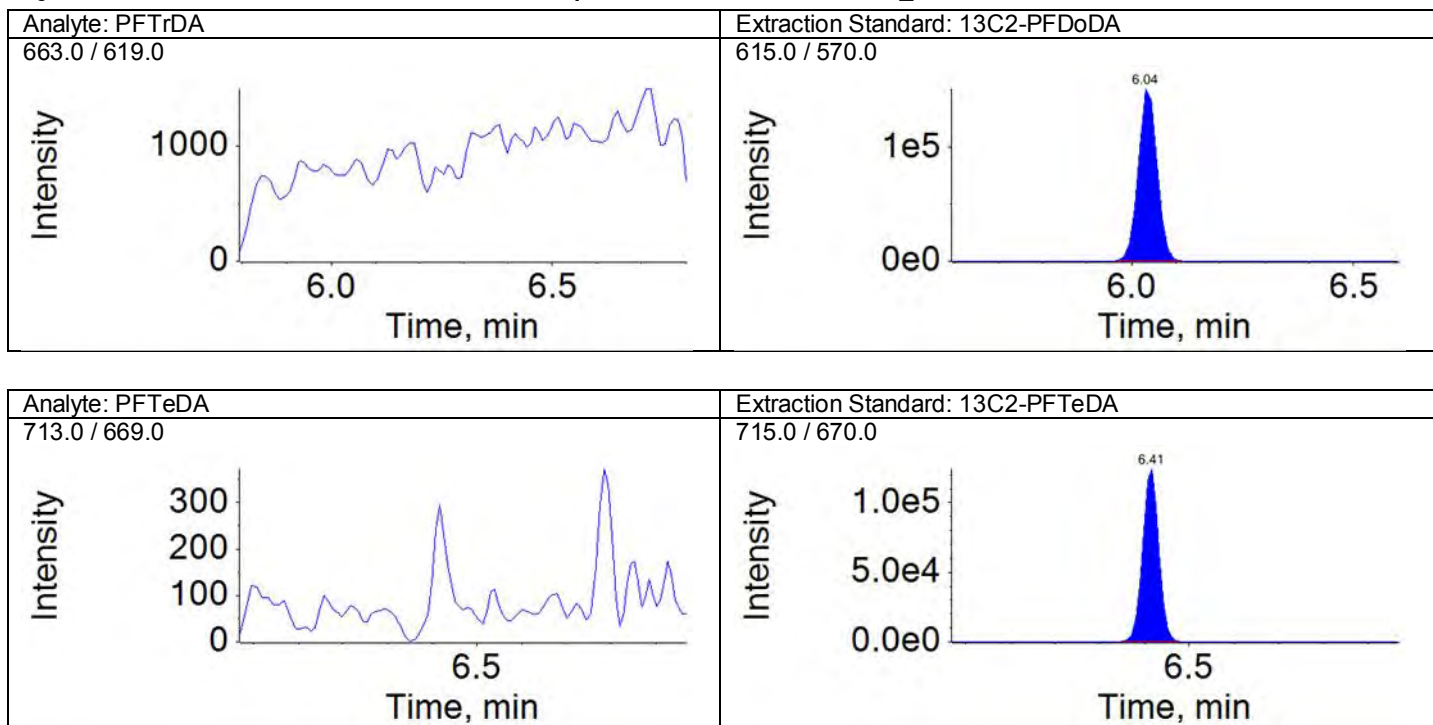
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



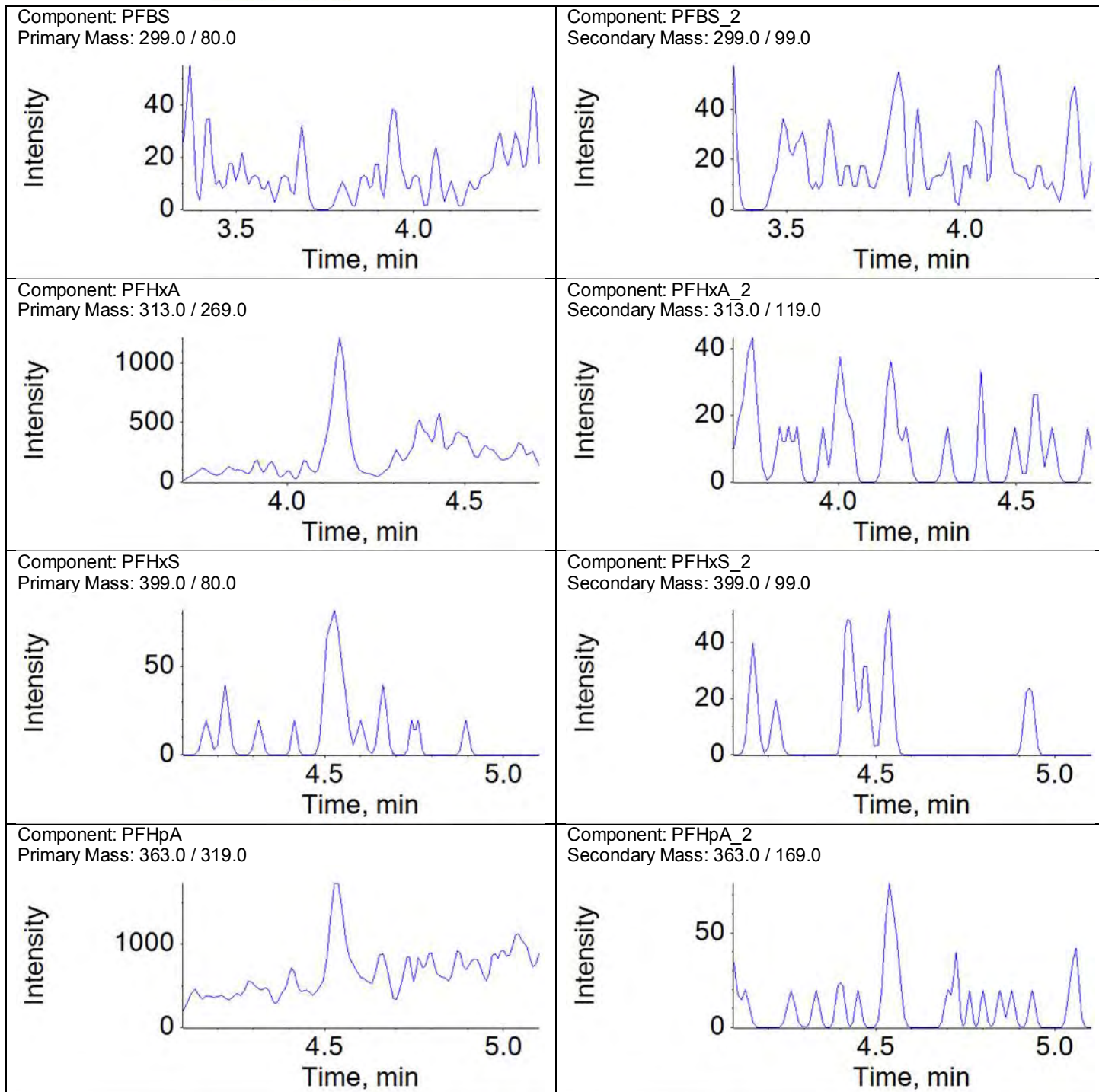
Ion Ratio Report

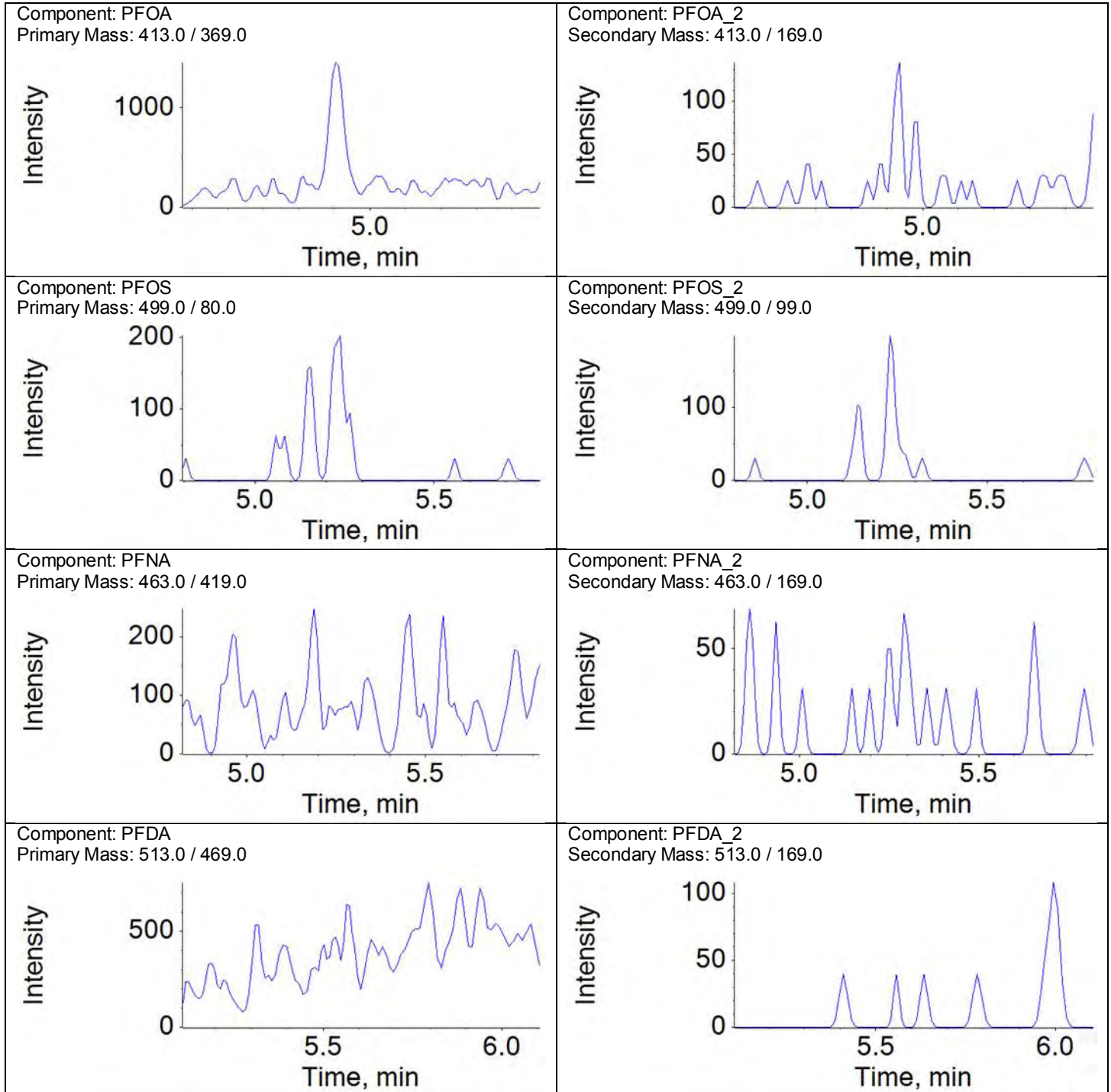
Sample Name: 9881591

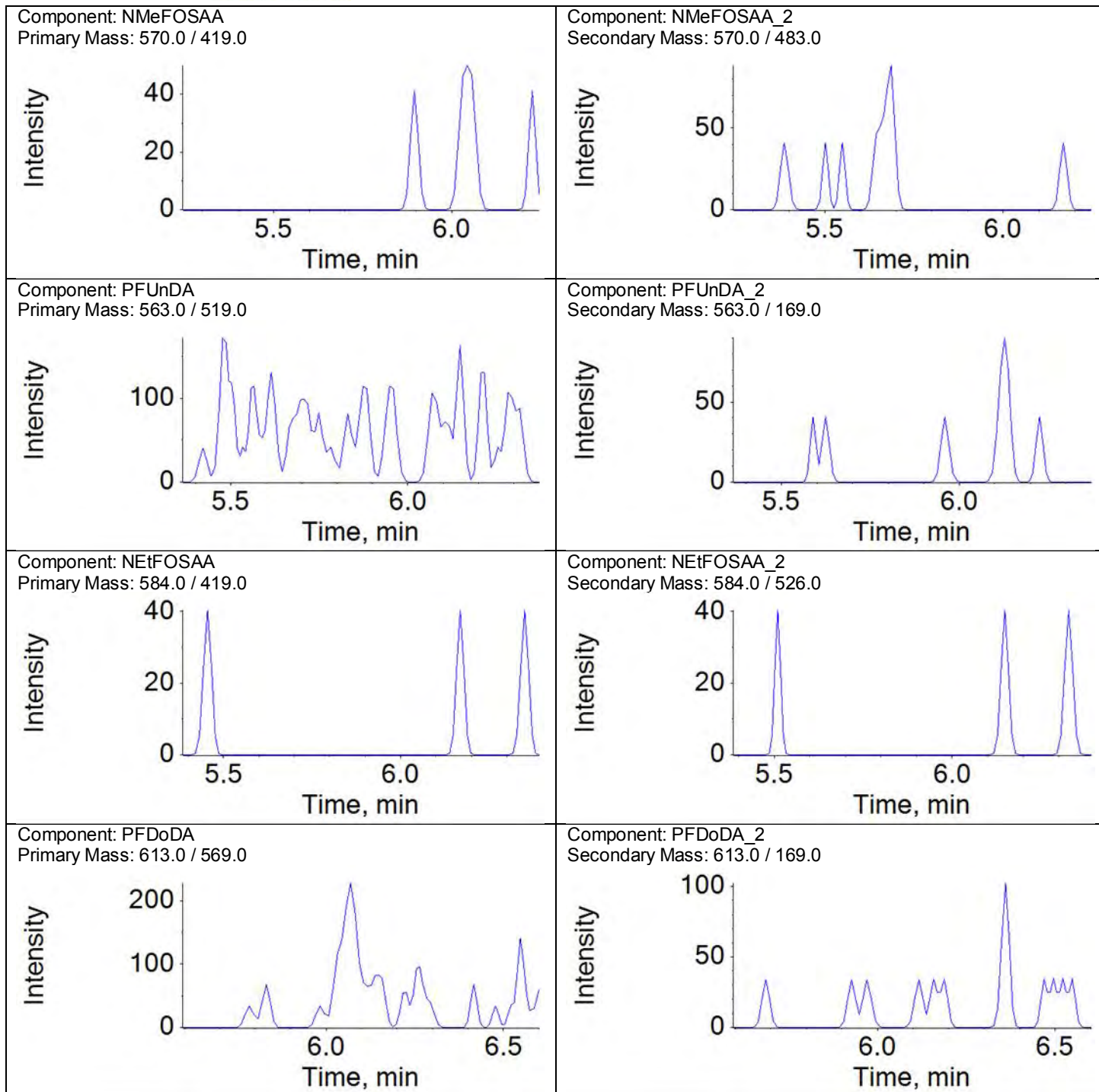
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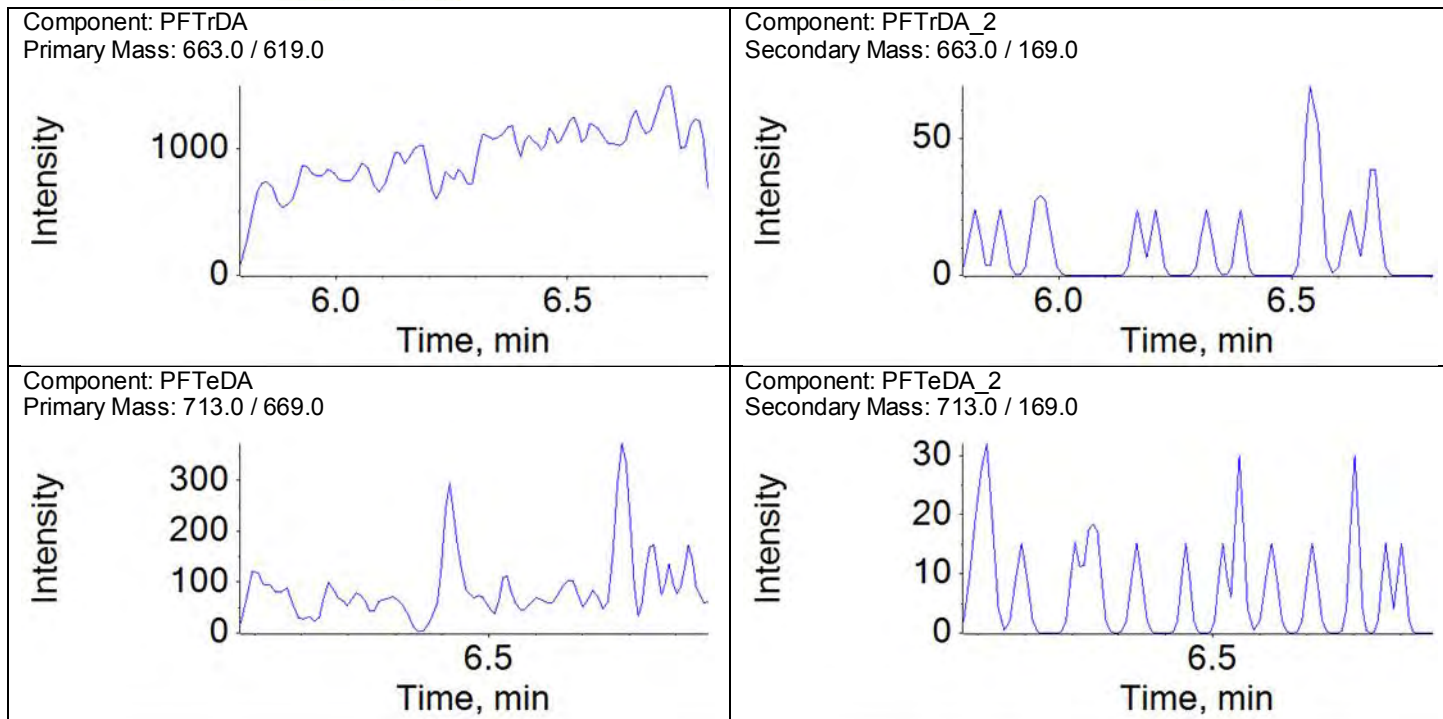
File Name: 18NOV08D-57.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	









ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881592		Data File:	18NOV08D-58.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18311003 OU1-CAOC22-S-01-08 Grab Soil		Acquis Date:	2018-11-08T20:22:46
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	81		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18311003
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	18311003		Operator:	JPT12262
Sample Wt.:	1.03000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV08D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	819170.6	728839.7	12	50	
13C2-PFOA	5.0	574712.1	491983.1	17	50	
13C4-PFOS	4.8	323805.3	255568.1	27	50	
13C2-PFDA	5.0	348721.5	315407.5	11	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	325334.8	13C3-PFBA	819170.6	0.397	9.029	5.660	63	50-150	
E13C5-PFHxA	530110.7	13C2-PFOA	574712.1	0.922	9.709	6.588	68	50-150	
E13C3-PFHxS	268597.0	13C2-PFOA	574712.1	0.467	9.184	6.515	71	50-150	
E13C4-PFHpA	411031.3	13C2-PFOA	574712.1	0.715	9.709	6.318	65	50-150	
E13C8-PFOA	744539.3	13C2-PFOA	574712.1	1.295	9.709	7.015	72	50-150	
E13C8-PFOS	228681.8	13C4-PFOS	323805.3	0.706	9.282	6.064	65	50-150	
E13C9-PFNA	377529.5	13C4-PFOS	323805.3	1.166	9.709	6.184	64	50-150	
E13C6-PFDA	481310.0	13C2-PFDA	348721.5	1.380	9.709	6.740	69	50-150	
Ed3-NMeFOSAA	58399.8	13C2-PFDA	348721.5	0.167	9.709	6.047	62	50-150	
E13C7-PFUnDA	205009.4	13C2-PFDA	348721.5	0.588	9.709	6.585	68	50-150	
Ed5-NEtFOSAA	43454.5	13C2-PFDA	348721.5	0.125	9.709	5.600	58	50-150	
E13C2-PFDoDA	426727.9	13C2-PFDA	348721.5	1.224	9.709	6.406	66	50-150	
E13C2-PFTeDA	288745.7	13C2-PFDA	348721.5	0.828	9.709	5.788	60	50-150	

APPROVED

By JPT at 1:25 pm, 11/9/18

REVIEWED

By HMK at 9:20 am, 11/13/18

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881592

Instrument Name: LM27631

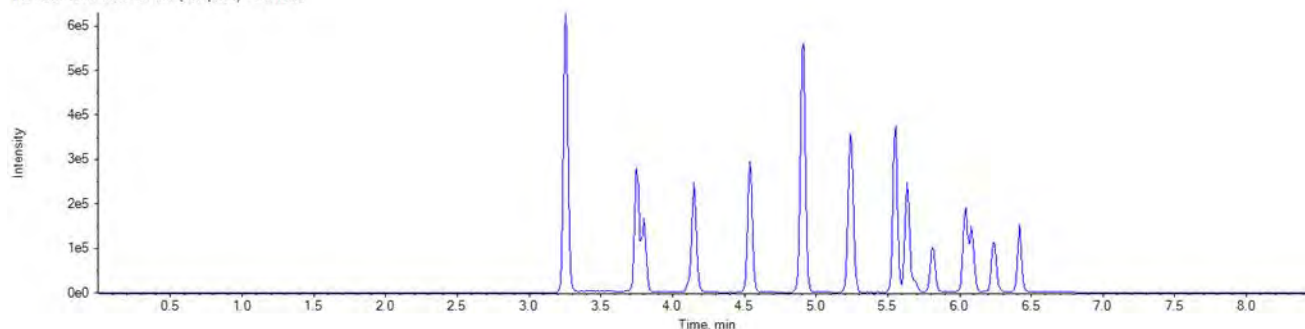
File Name: 18NOV08D-58.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.03000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	325334.8	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	530110.7	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	268597.0	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	411031.3	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	744539.3	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.23	228681.8	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	377529.5	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	481310.0	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	58399.8	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.81	205009.4	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	43454.5	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	426727.9	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	426727.9	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	288745.7	N/A	

Total Ion Chromatogram

TIC from 18NOV08D-58.wiff (sample 1) - 9881592



APPROVED

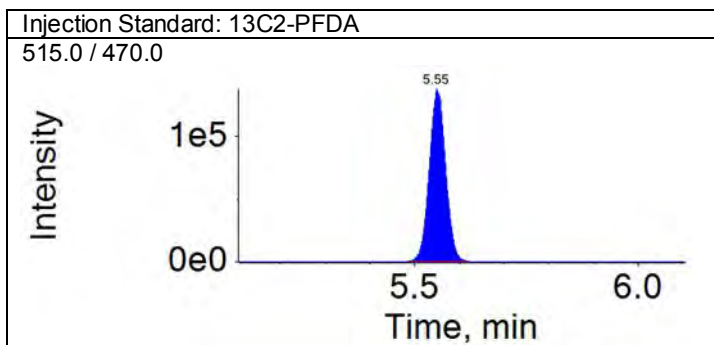
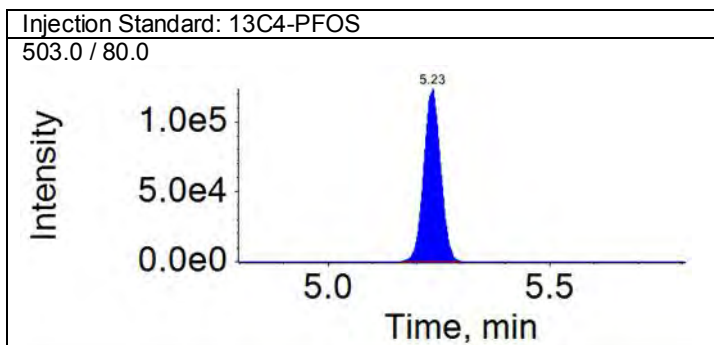
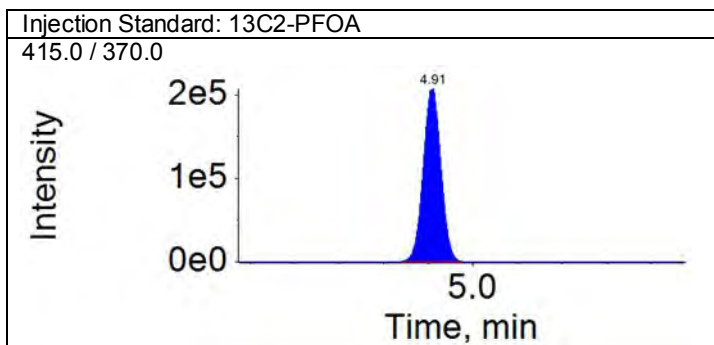
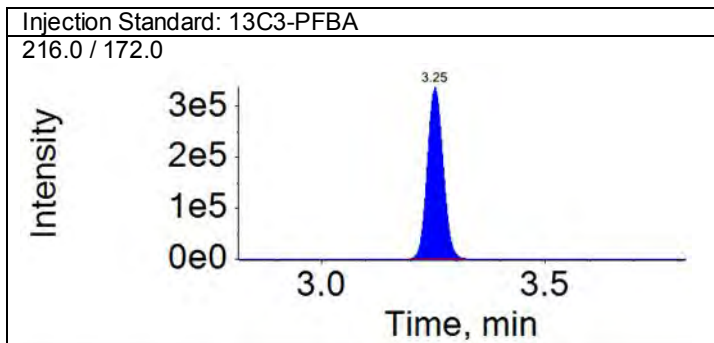
By JPT at 1:25 pm, 11/9/18

REVIEWED

By HMK at 9:20 am, 11/13/18

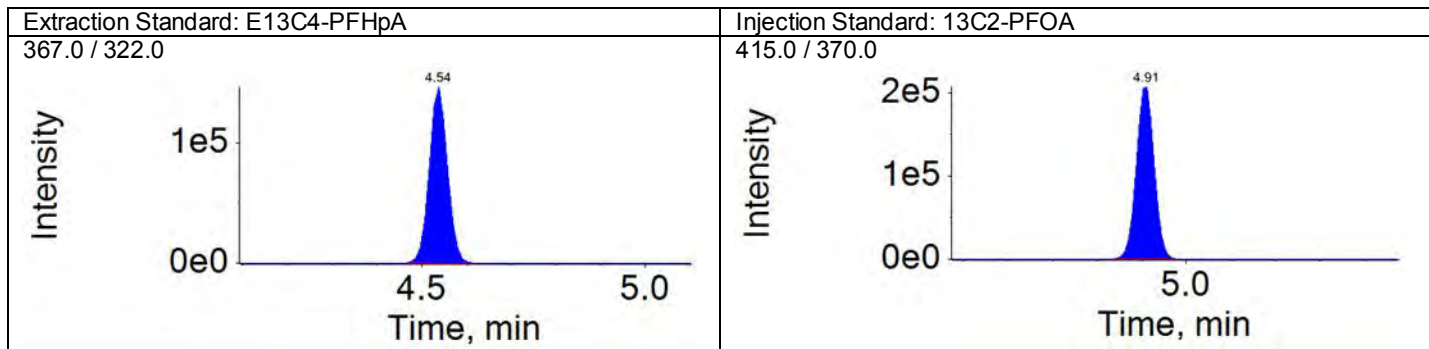
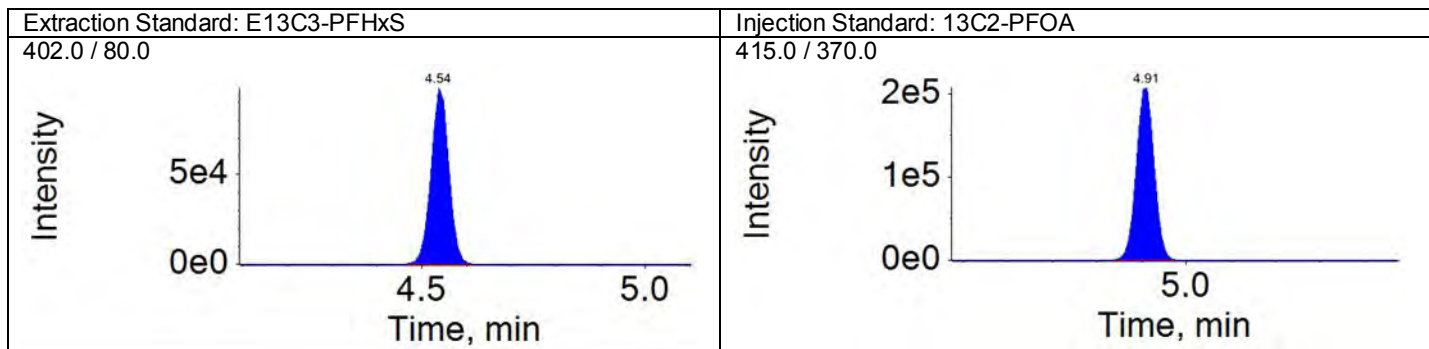
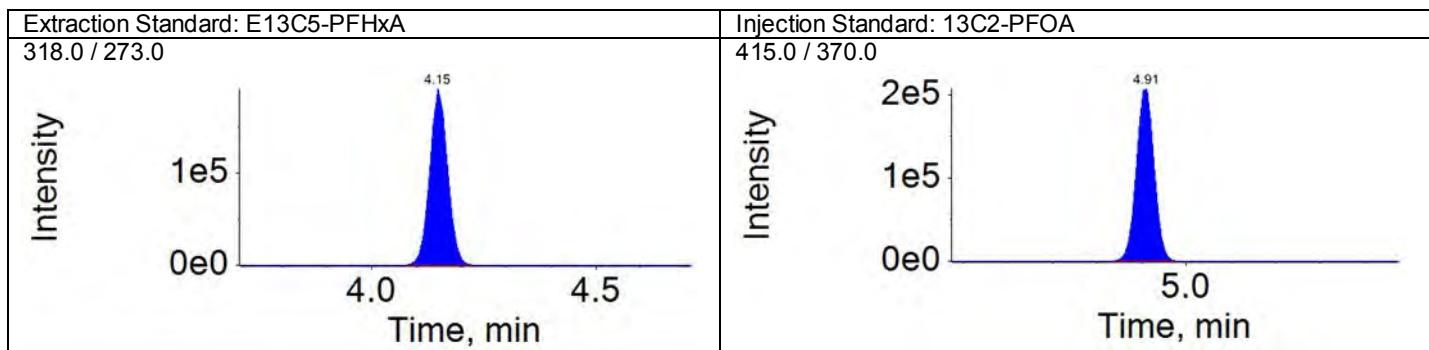
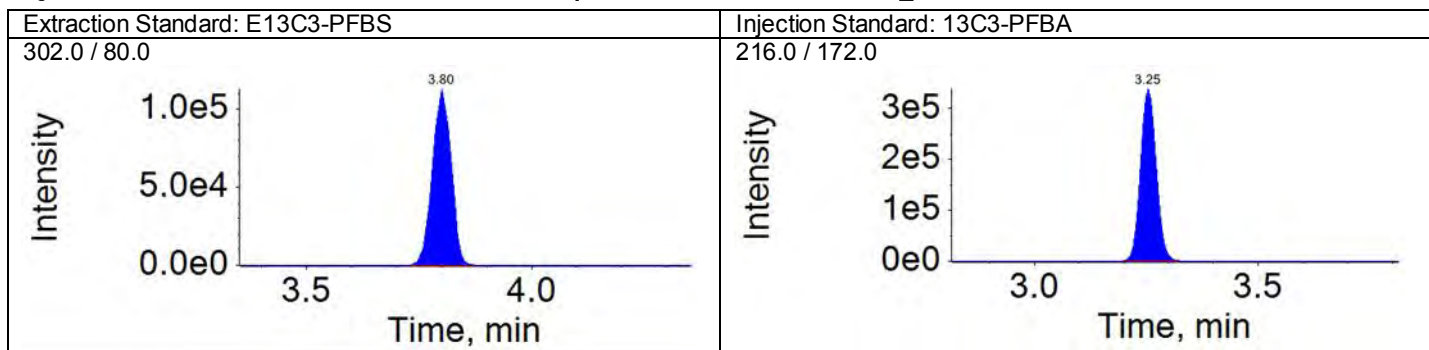
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



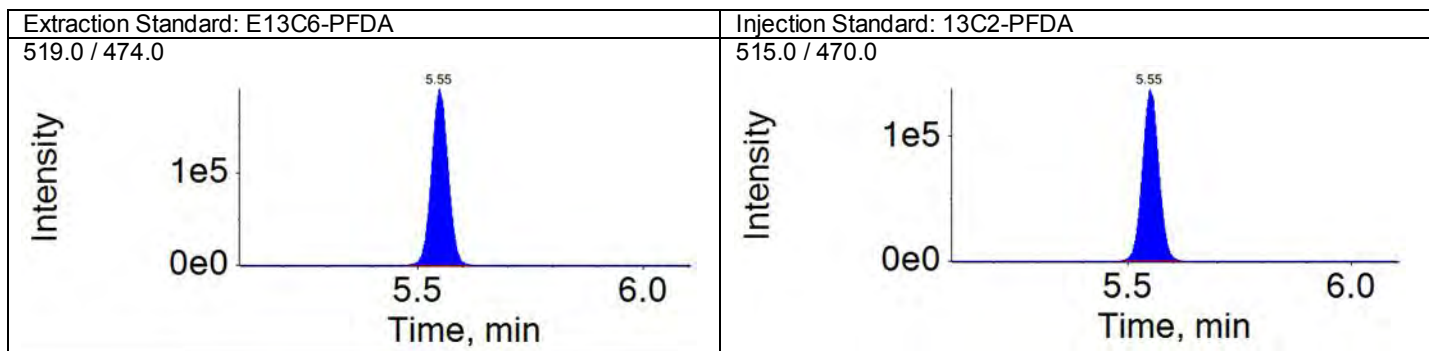
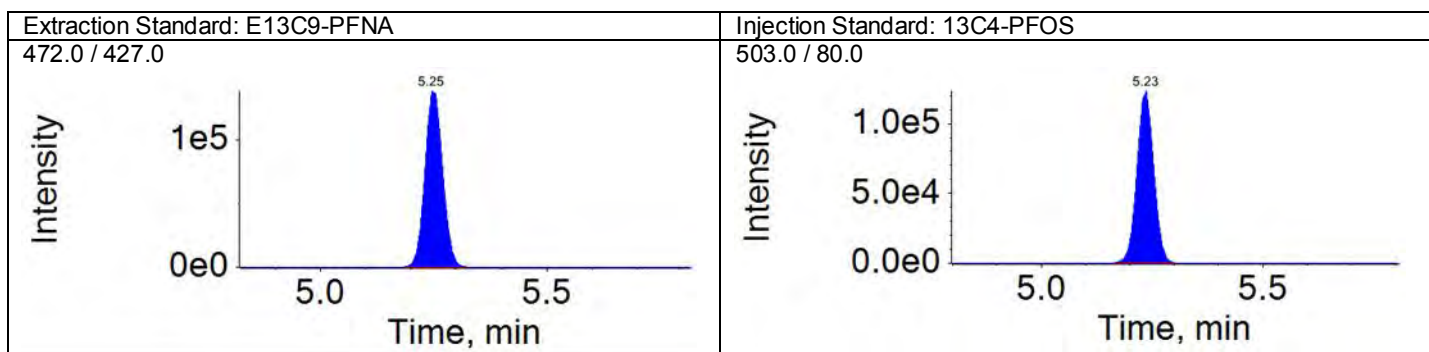
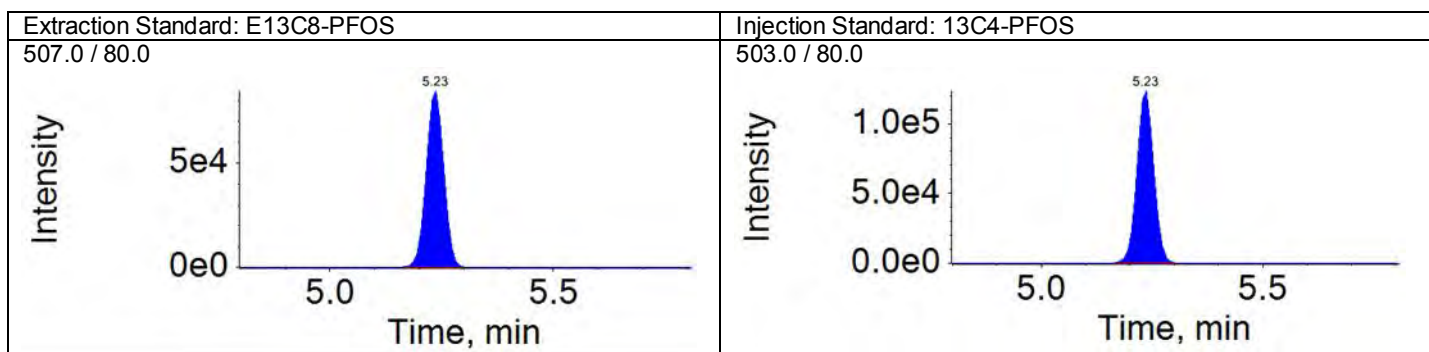
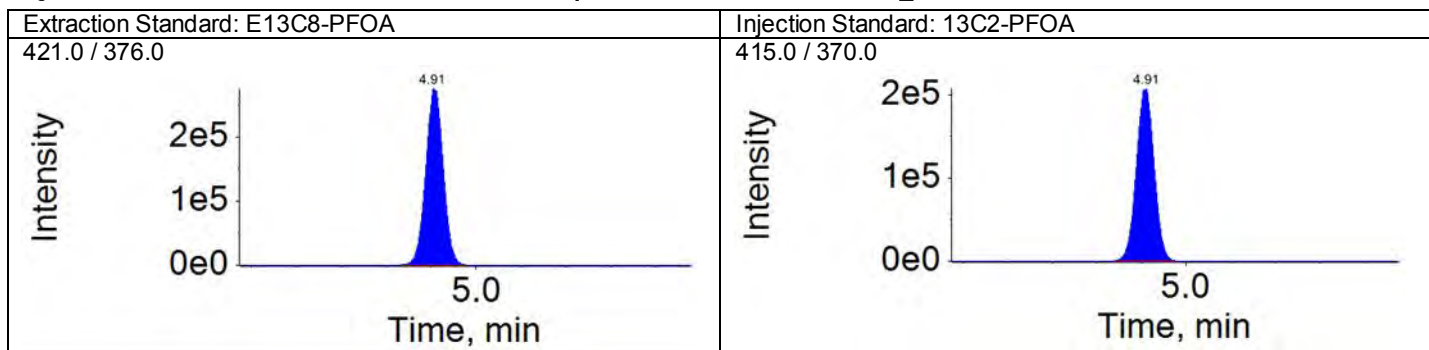
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



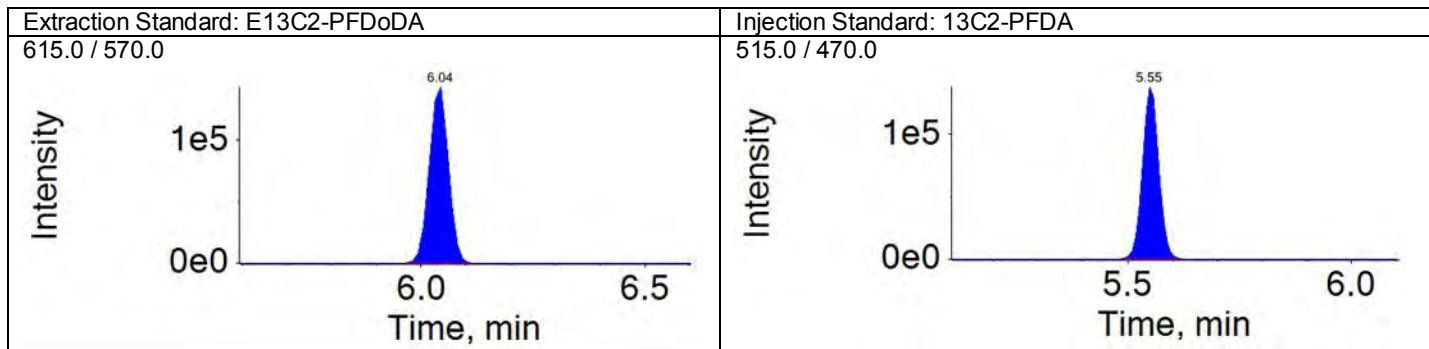
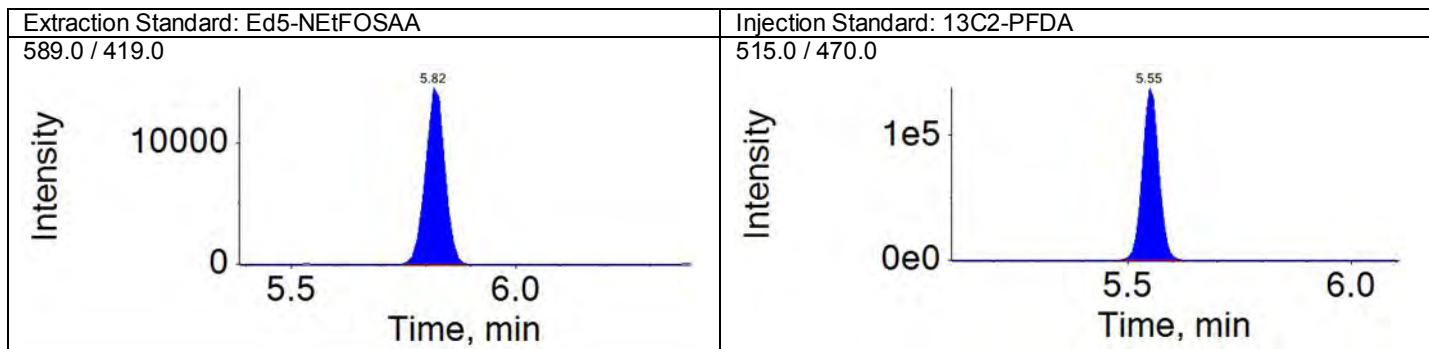
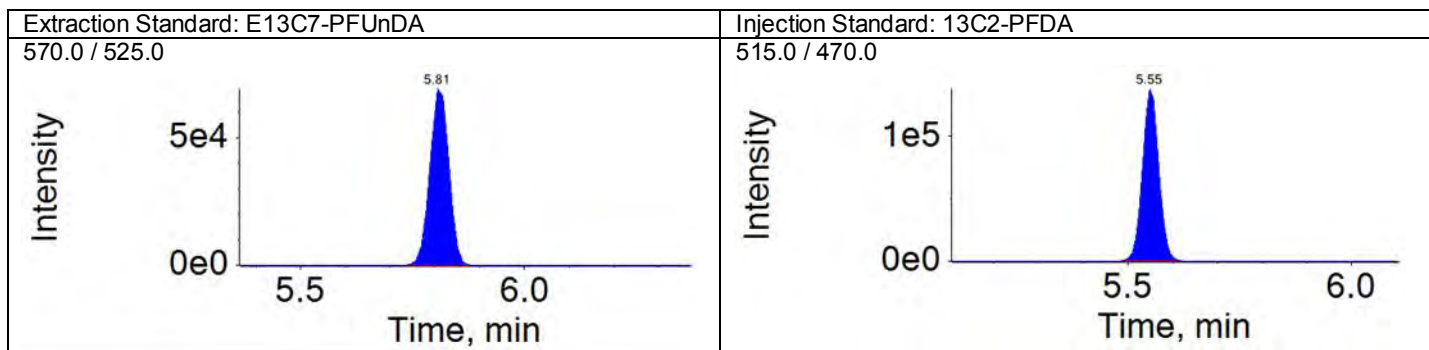
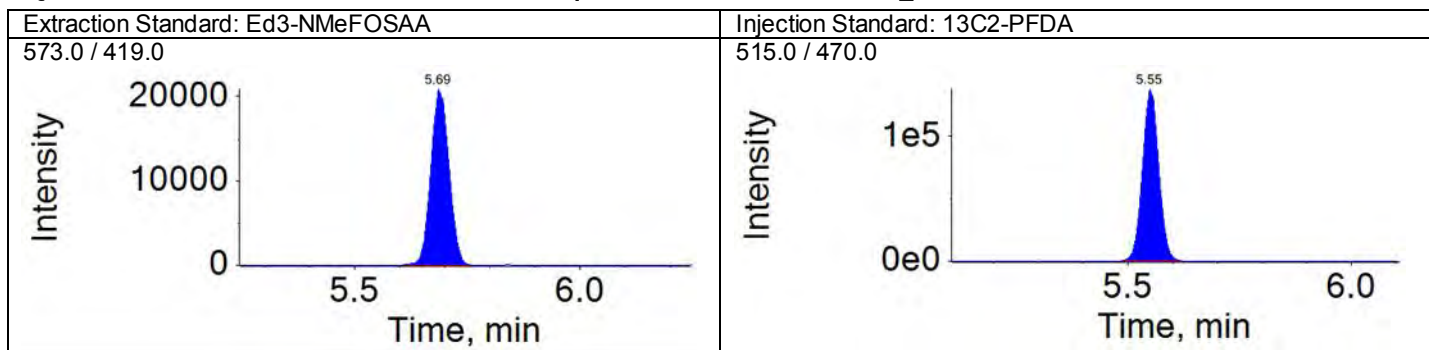
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Result Table: 18311003 11/9/2018 1:08:25 PM
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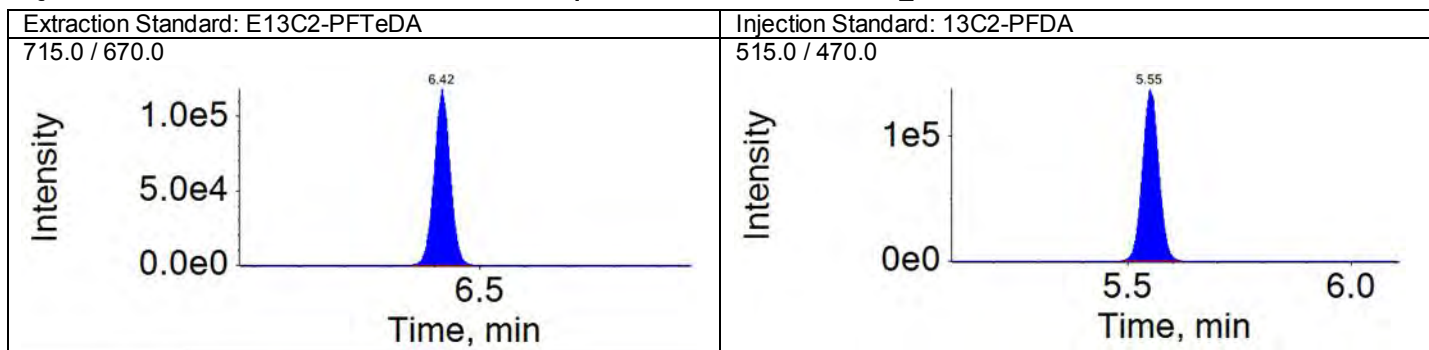
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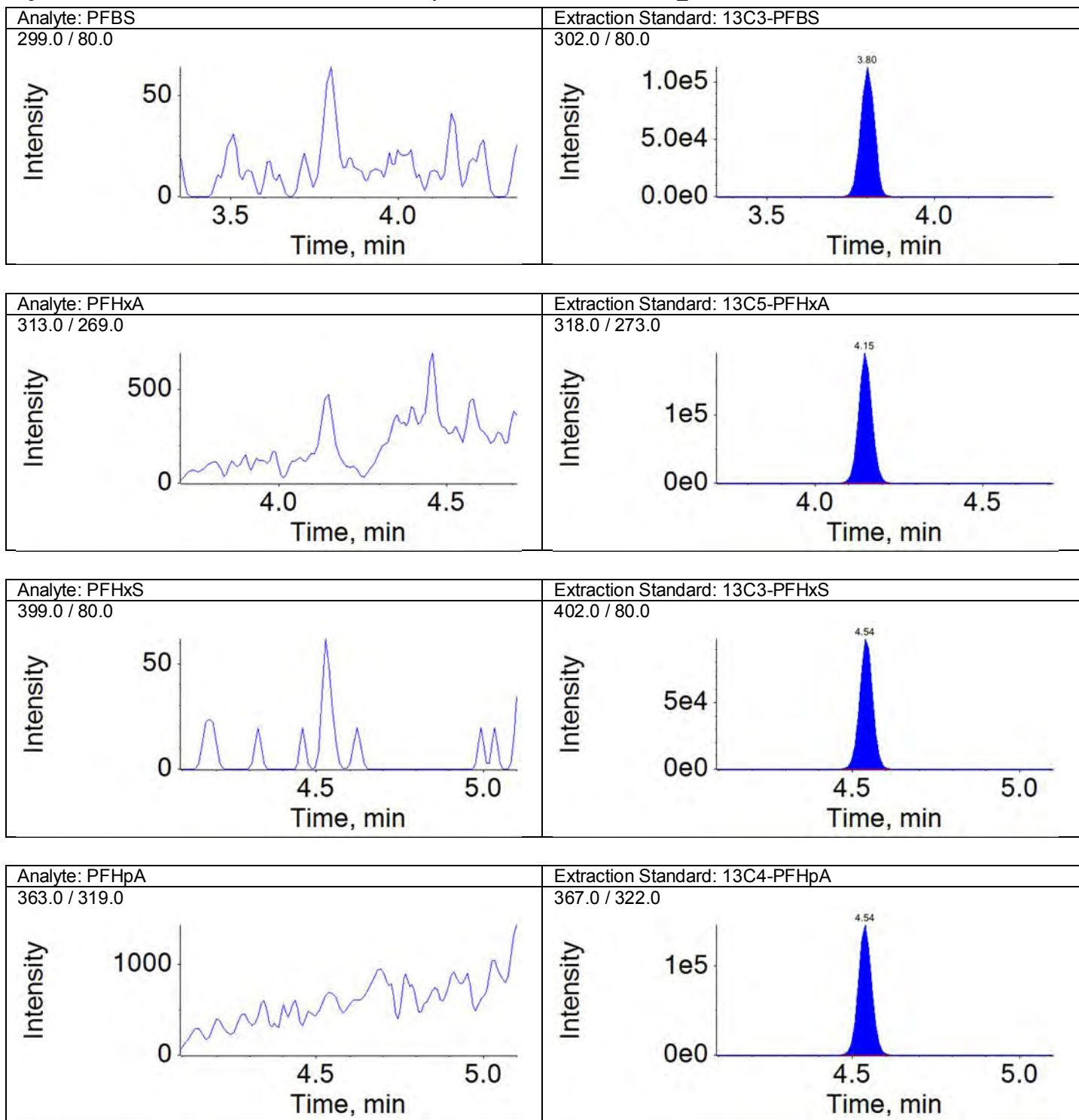
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ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

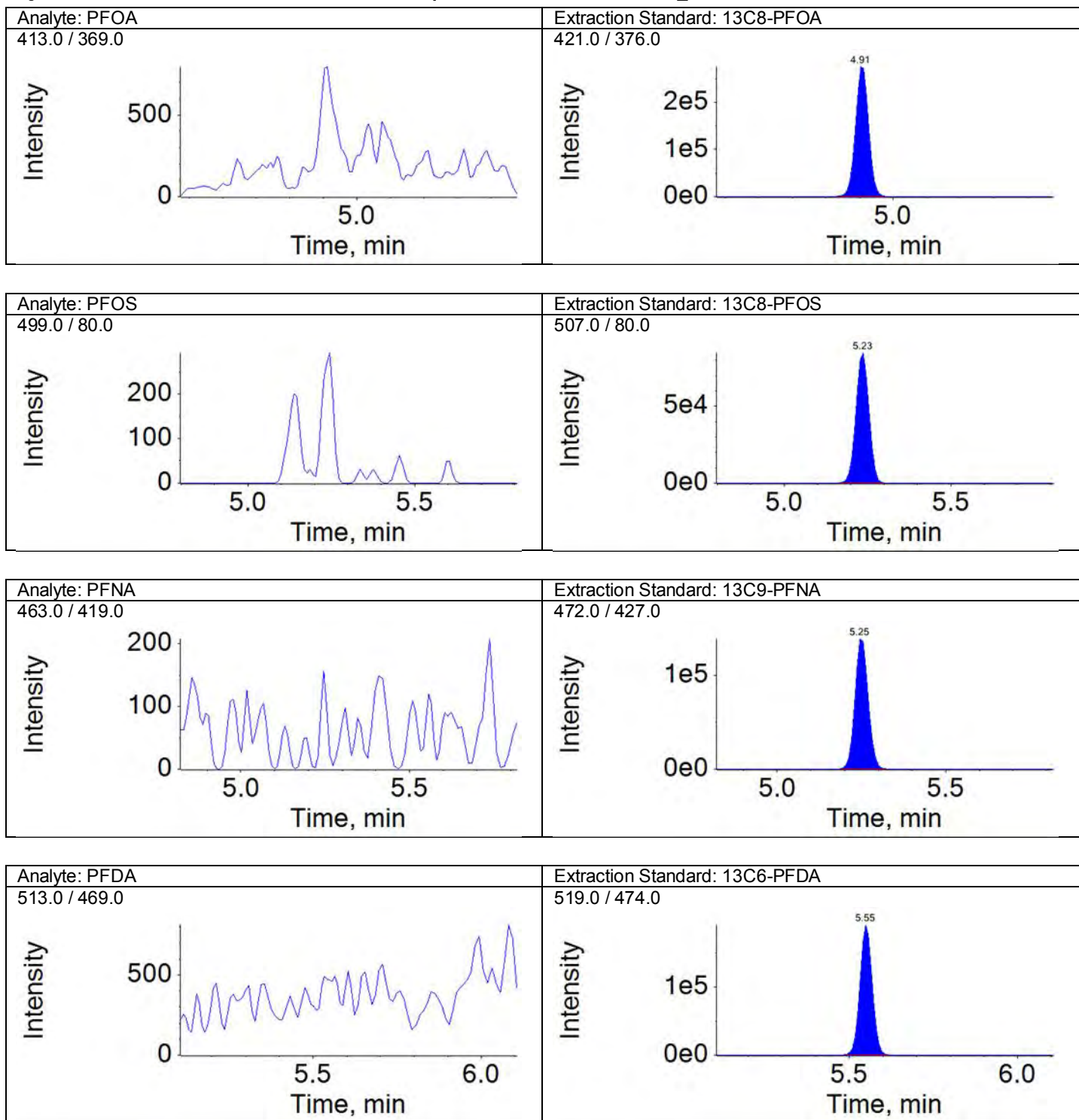
Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

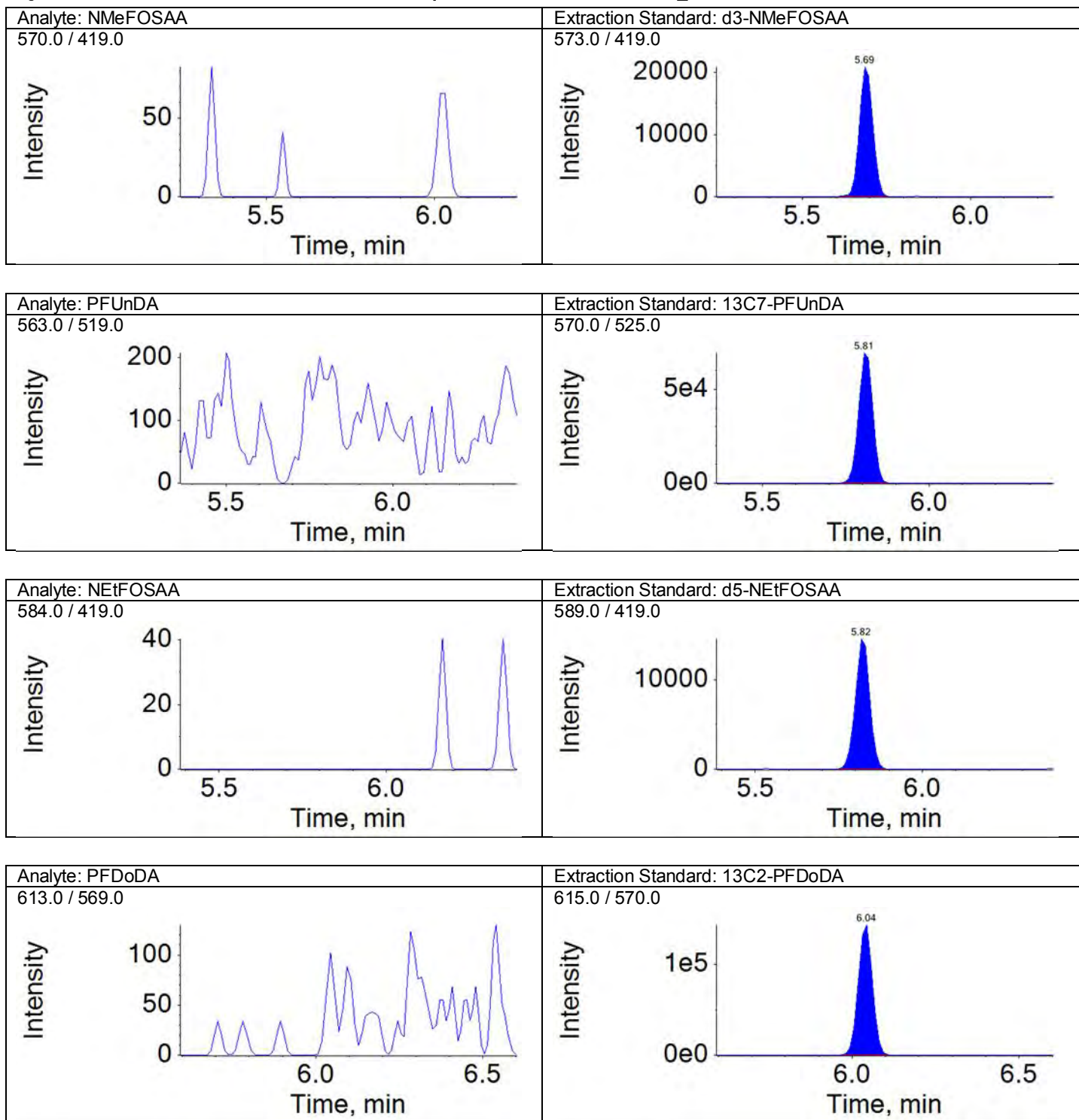
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



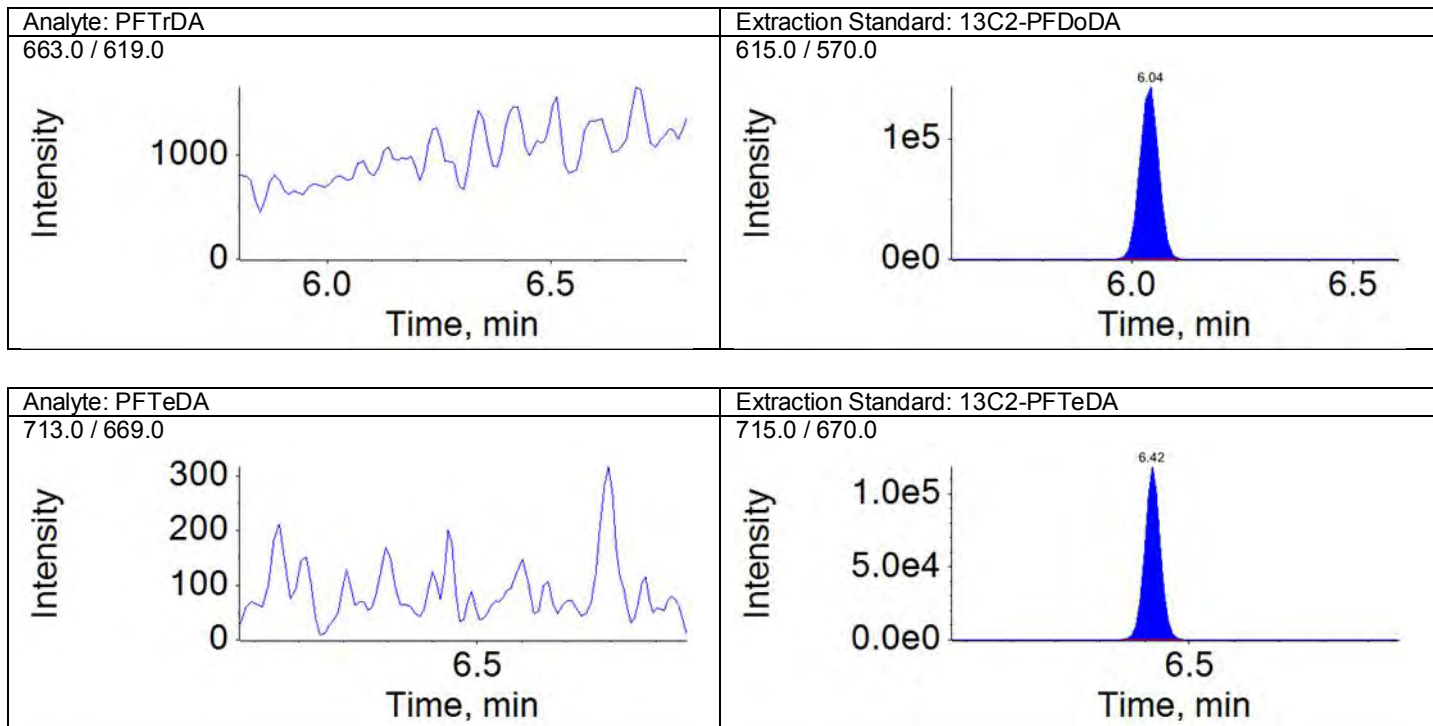
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



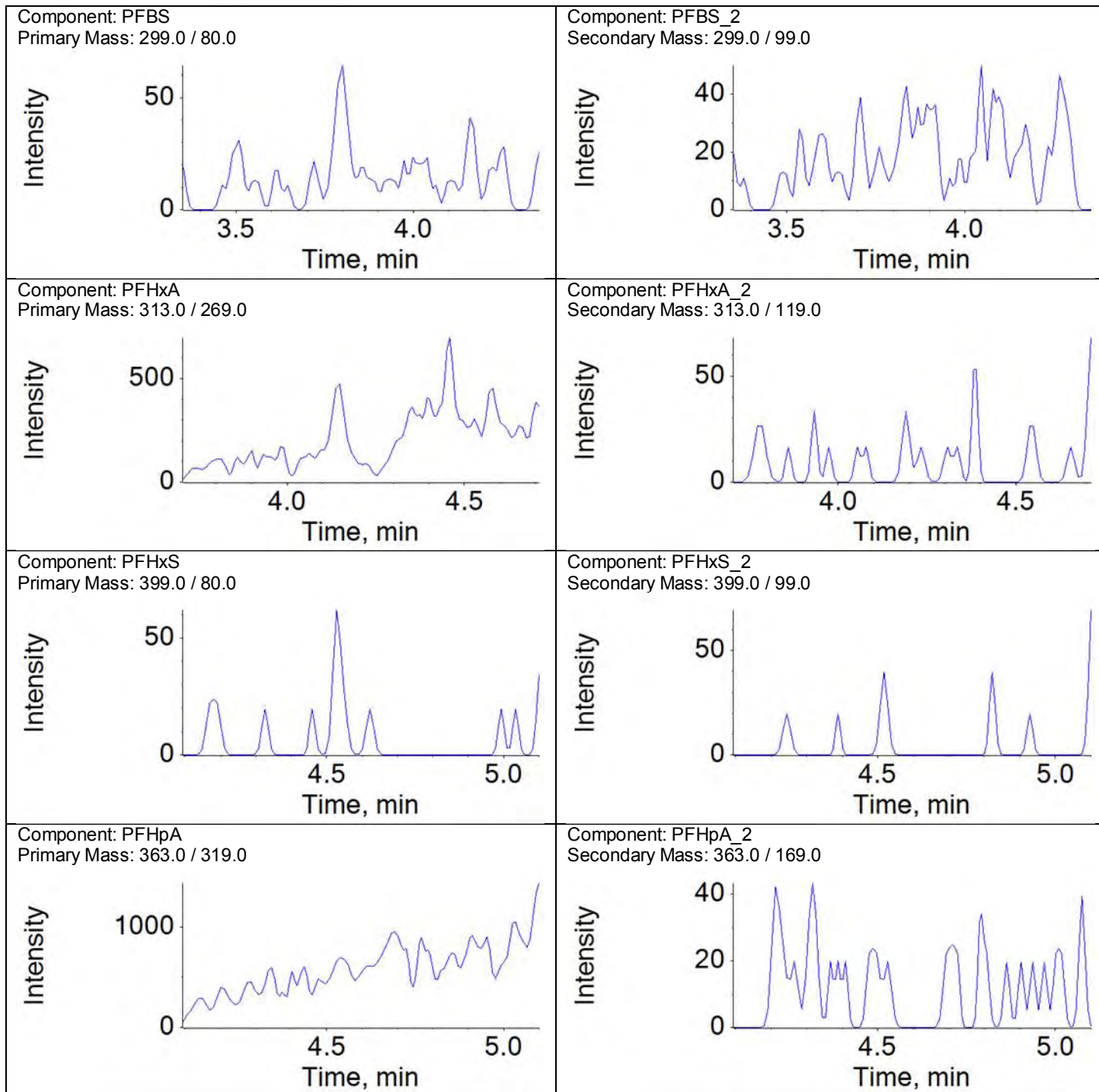
Ion Ratio Report

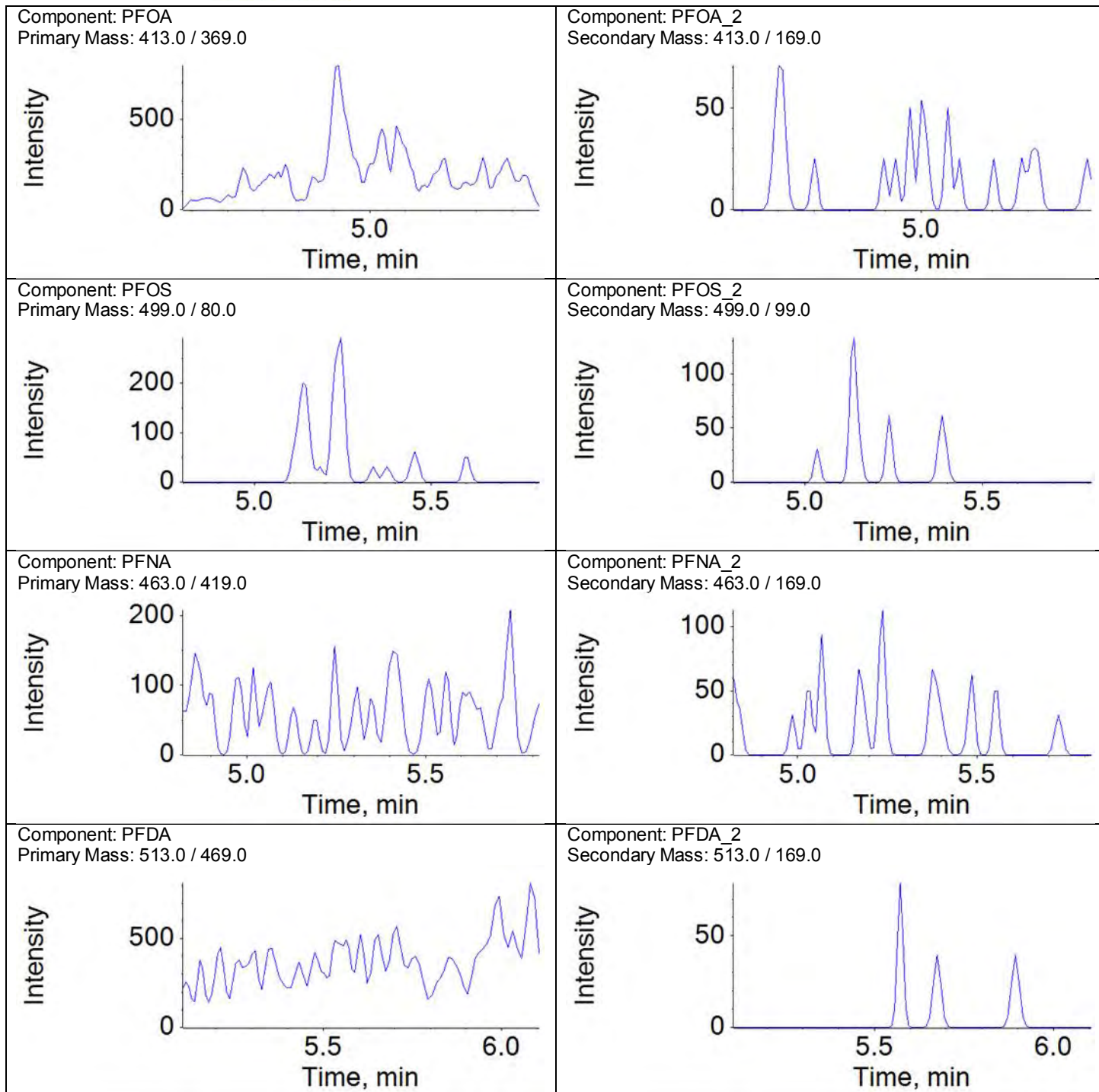
Sample Name: 9881592

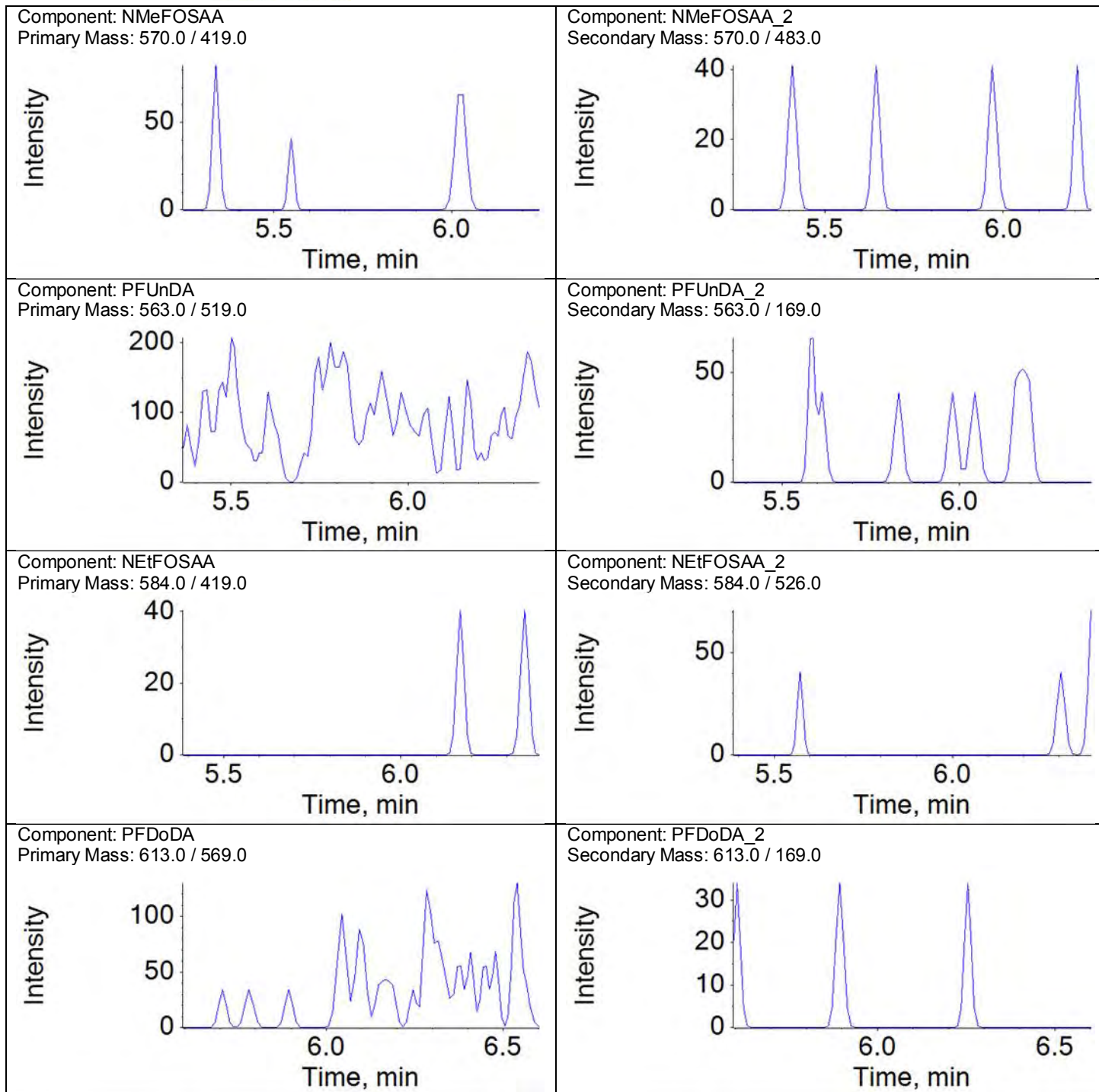
Instrument Name: LM27631

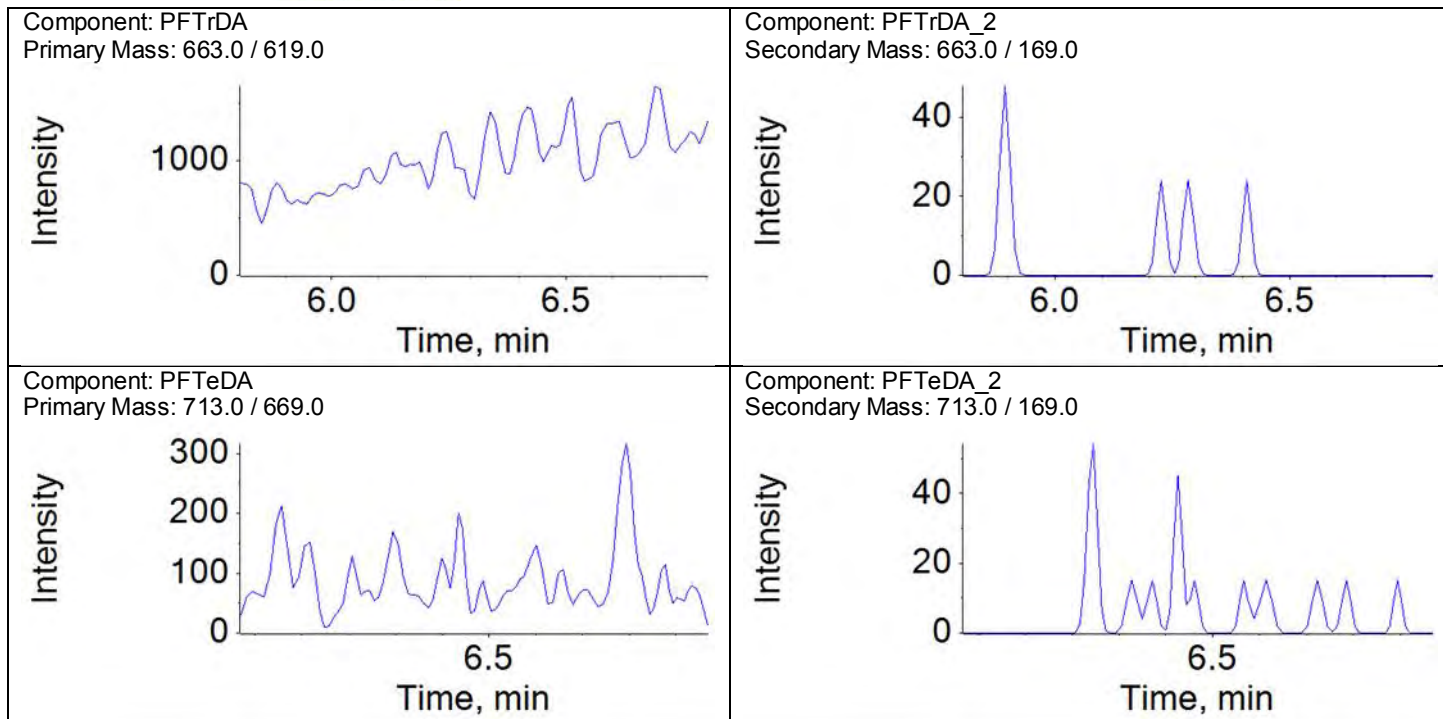
File Name: 18NOV08D-58.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	









ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881594		Data File:	18NOV08D-59.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18311003 OU1-CAOC22-S-02-01 Grab Soil		Acquis Date:	2018-11-08T20:31:46
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	82		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18311003
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	18311003		Operator:	JPT12262
Sample Wt.:	1.08000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV08D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	828166.3	728839.7	14	50	
13C2-PFOA	5.0	581280.7	491983.1	18	50	
13C4-PFOS	4.8	325630.9	255568.1	27	50	
13C2-PFDA	5.0	345334.1	315407.5	9	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	317777.6	13C3-PFBA	828166.3	0.384	8.611	5.215	61	50-150	
E13C5-PFHxA	517534.2	13C2-PFOA	581280.7	0.890	9.259	6.065	66	50-150	
E13C3-PFHxS	254146.8	13C2-PFOA	581280.7	0.437	8.759	5.812	66	50-150	
E13C4-PFHpA	416964.7	13C2-PFOA	581280.7	0.717	9.259	6.043	65	50-150	
E13C8-PFOA	752198.9	13C2-PFOA	581280.7	1.294	9.259	6.683	72	50-150	
E13C8-PFOS	217770.5	13C4-PFOS	325630.9	0.669	8.852	5.476	62	50-150	
E13C9-PFNA	396749.6	13C4-PFOS	325630.9	1.218	9.259	6.163	67	50-150	
E13C6-PFDA	490266.8	13C2-PFDA	345334.1	1.420	9.259	6.612	71	50-150	
Ed3-NMeFOSAA	67085.9	13C2-PFDA	345334.1	0.194	9.259	6.690	72	50-150	
E13C7-PFUnDA	202856.4	13C2-PFDA	345334.1	0.587	9.259	6.275	68	50-150	
Ed5-NEtFOSAA	51941.9	13C2-PFDA	345334.1	0.150	9.259	6.446	70	50-150	
E13C2-PFDoDA	449496.2	13C2-PFDA	345334.1	1.302	9.259	6.498	70	50-150	
E13C2-PFTeDA	303481.4	13C2-PFDA	345334.1	0.879	9.259	5.859	63	50-150	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881594

Instrument Name: LM27631

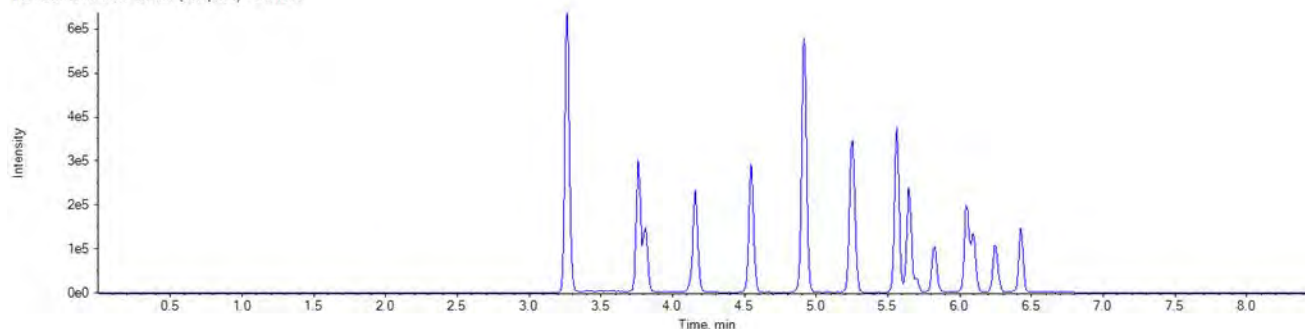
File Name: 18NOV08D-59.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.08000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	317777.6	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.16	517534.2	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.55	254146.8	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.55	416964.7	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.92	752198.9	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	217770.5	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	396749.6	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	490266.8	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	67085.9	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	202856.4	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	51941.9	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.05	449496.2	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.05	449496.2	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.43	303481.4	N/A	

Total Ion Chromatogram

TIC from 18NOV08D-59.wiff (sample 1) - 9881594



APPROVED

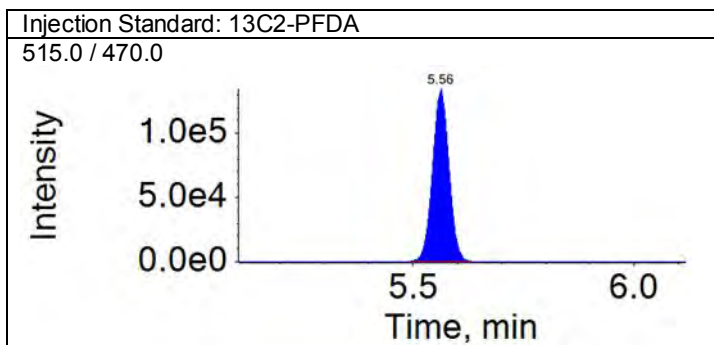
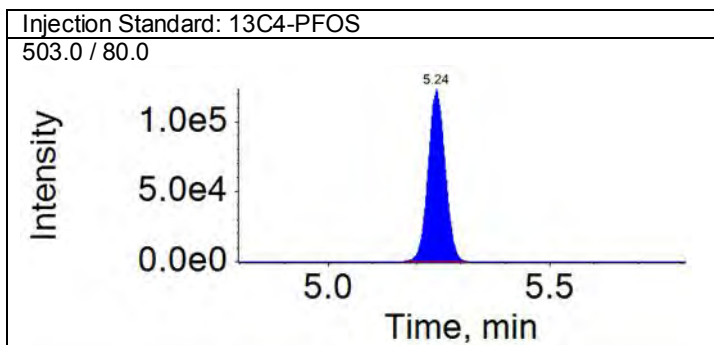
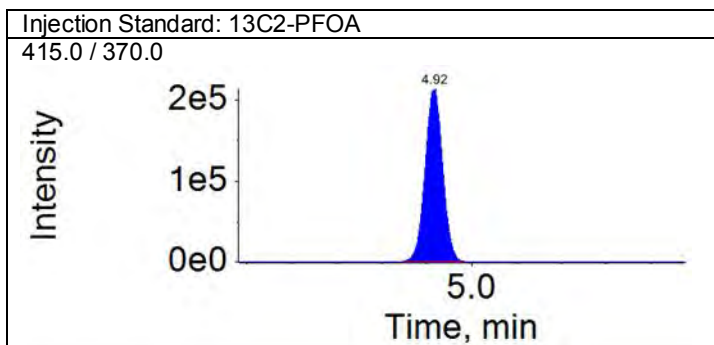
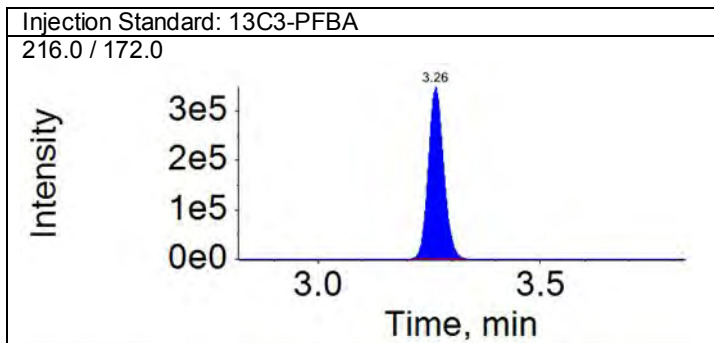
By JPT at 1:25 pm, 11/9/18

REVIEWED

By HMK at 9:20 am, 11/13/18

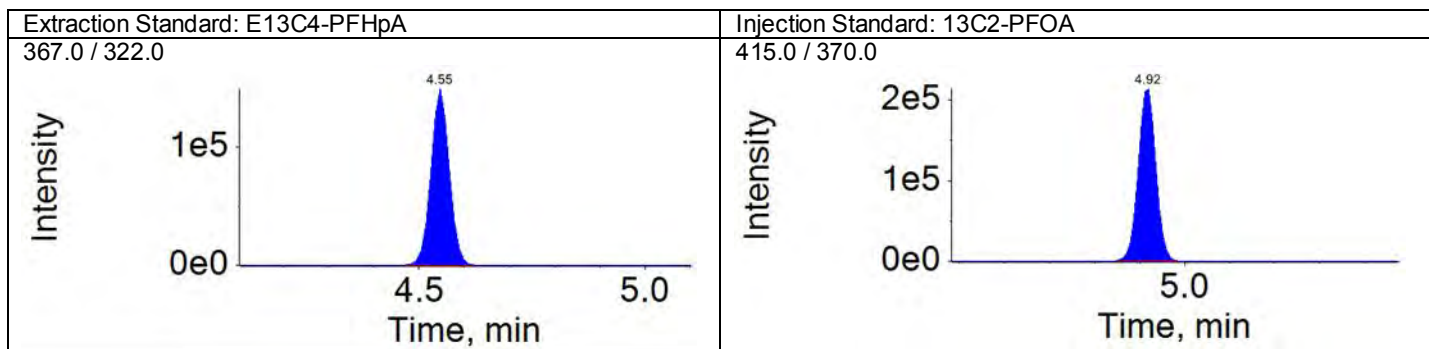
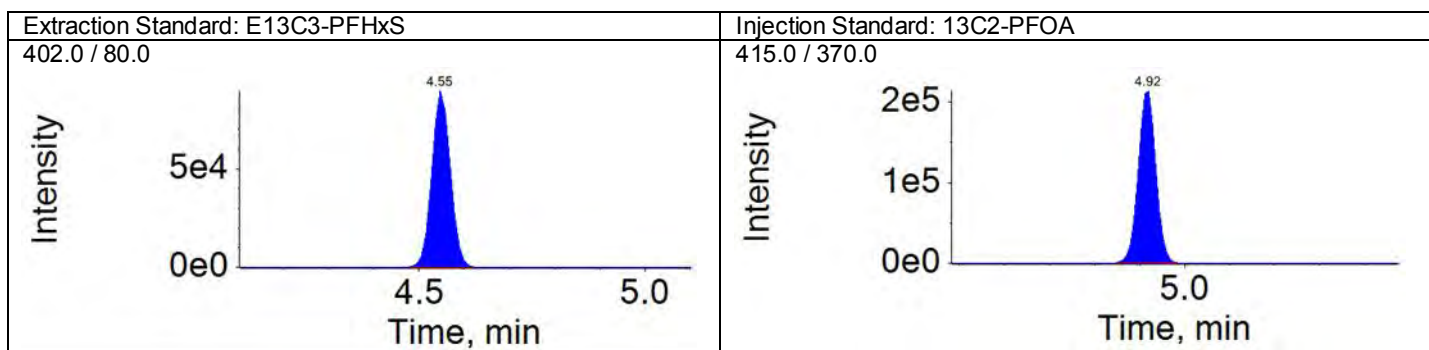
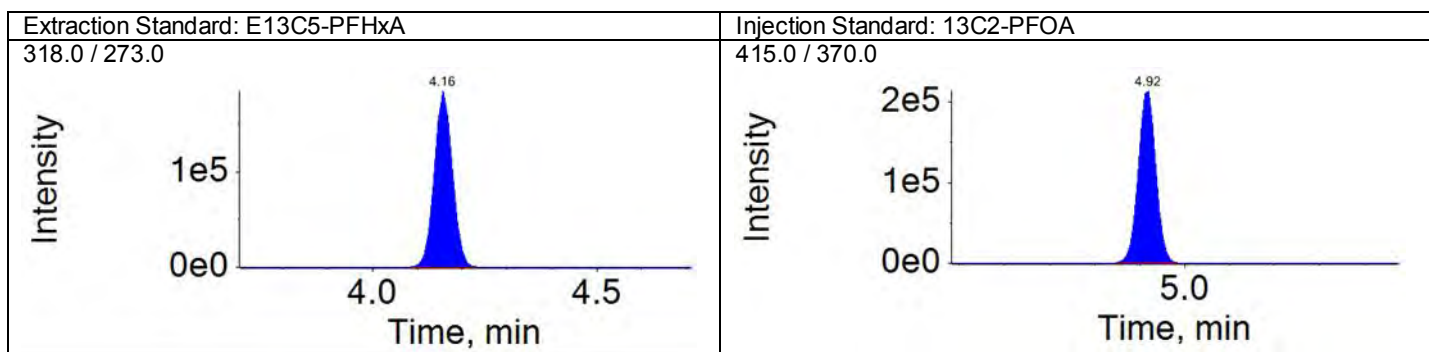
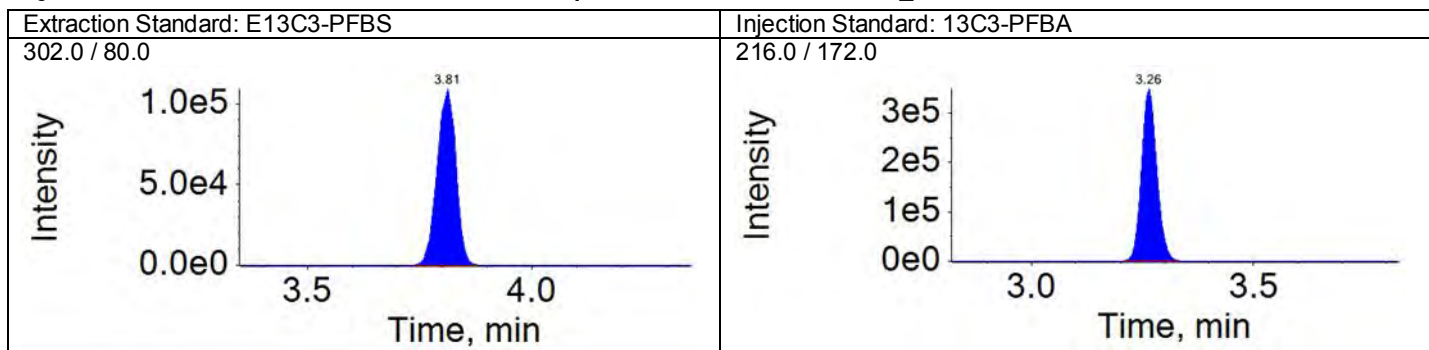
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



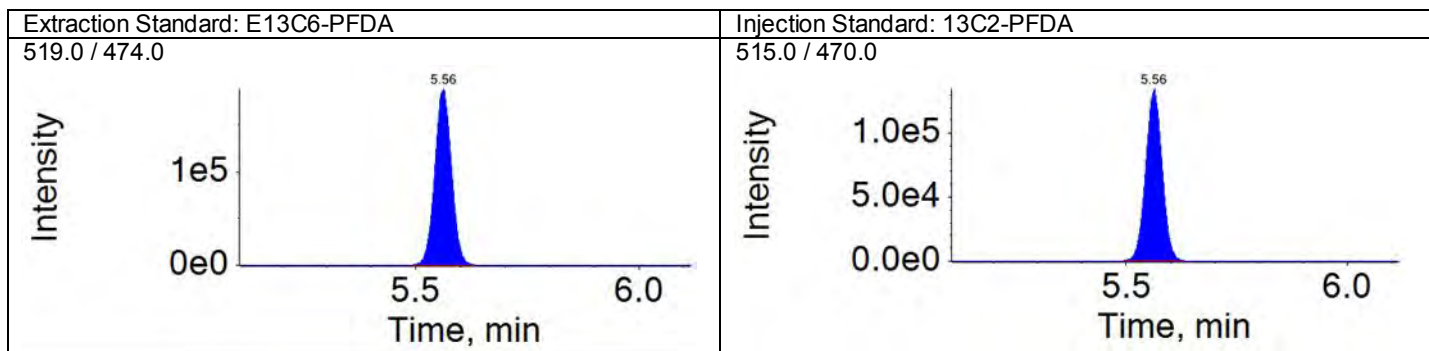
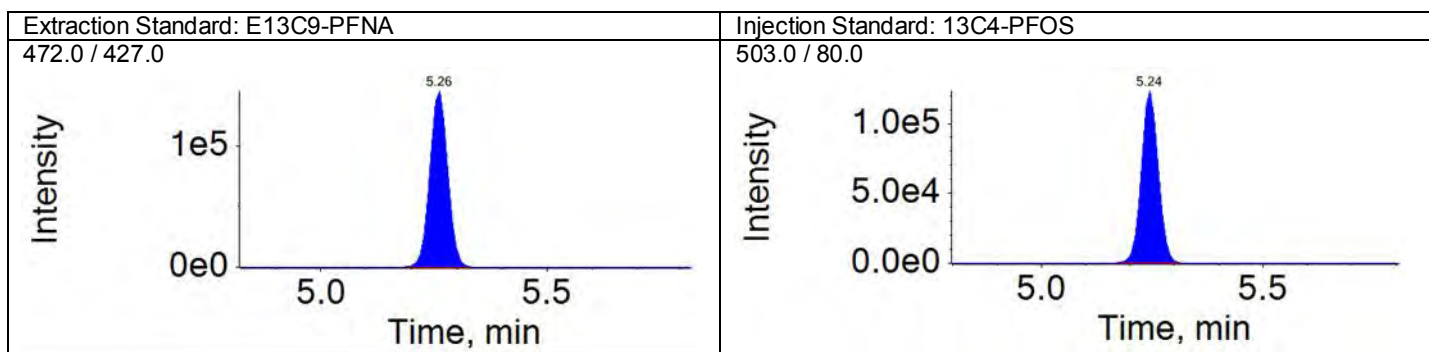
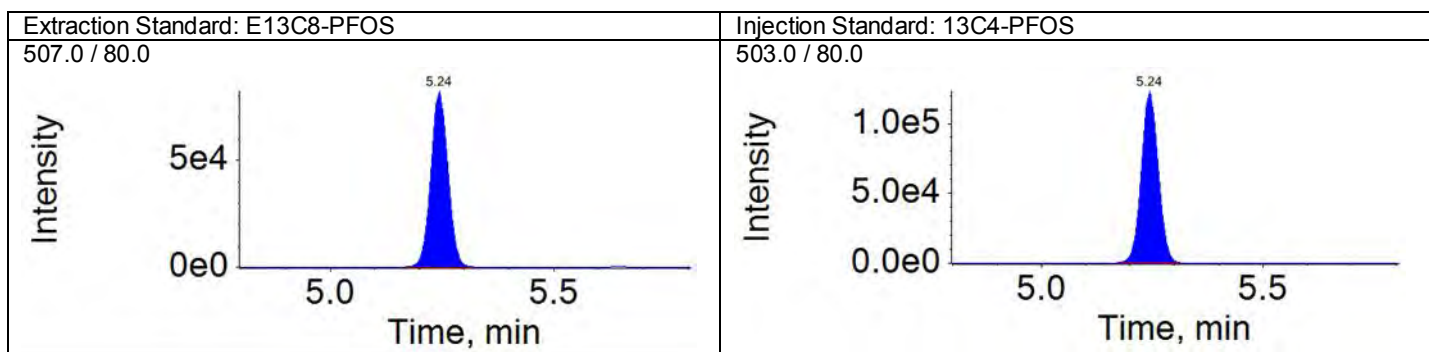
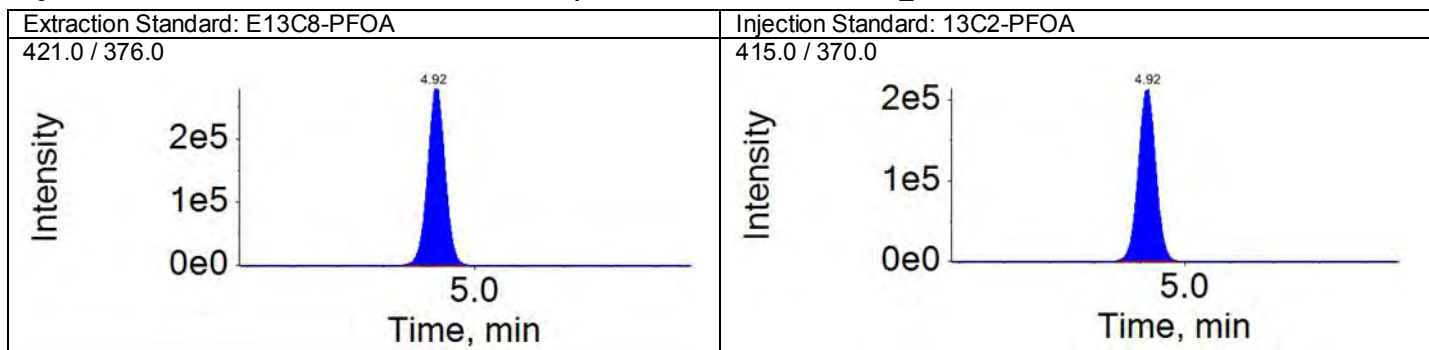
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
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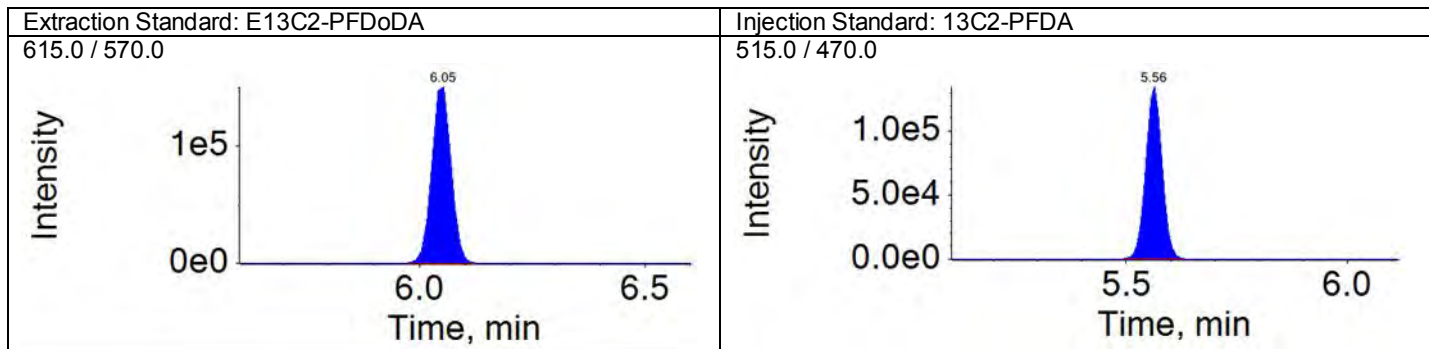
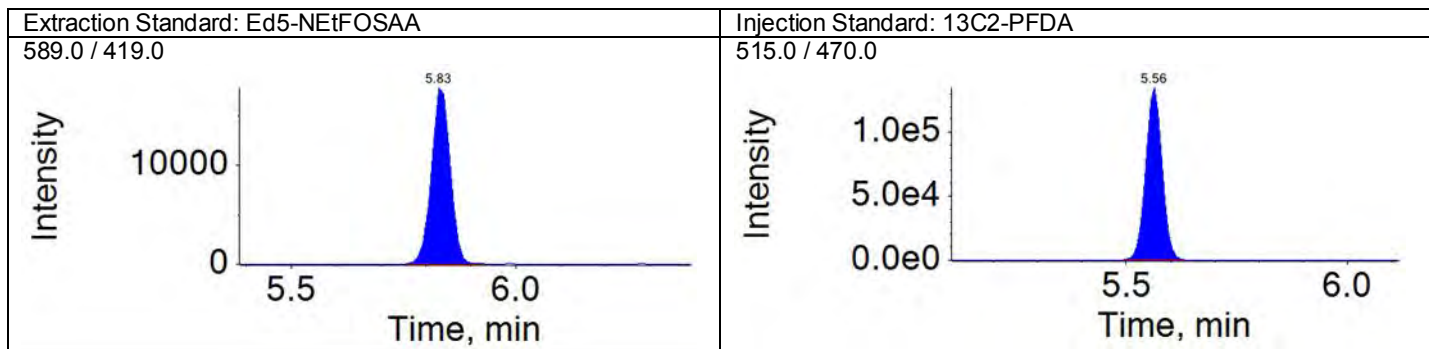
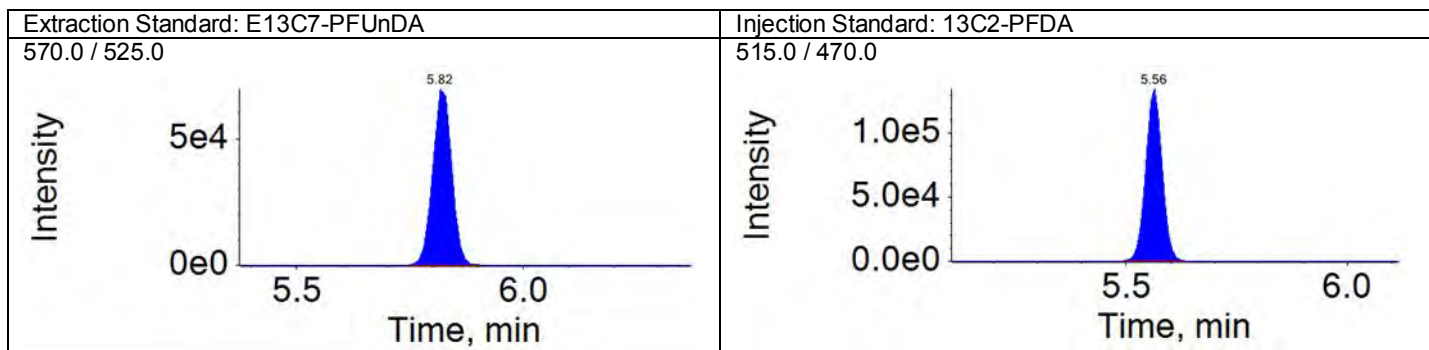
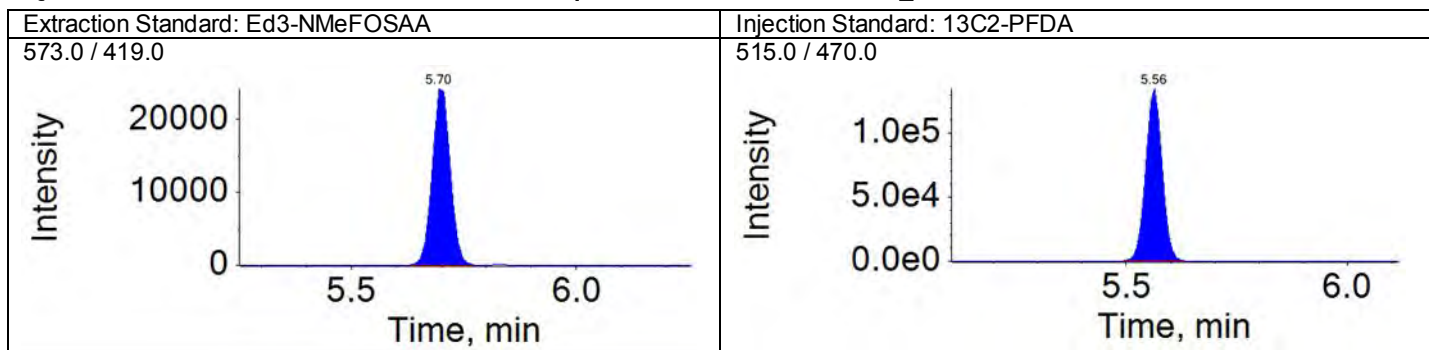
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



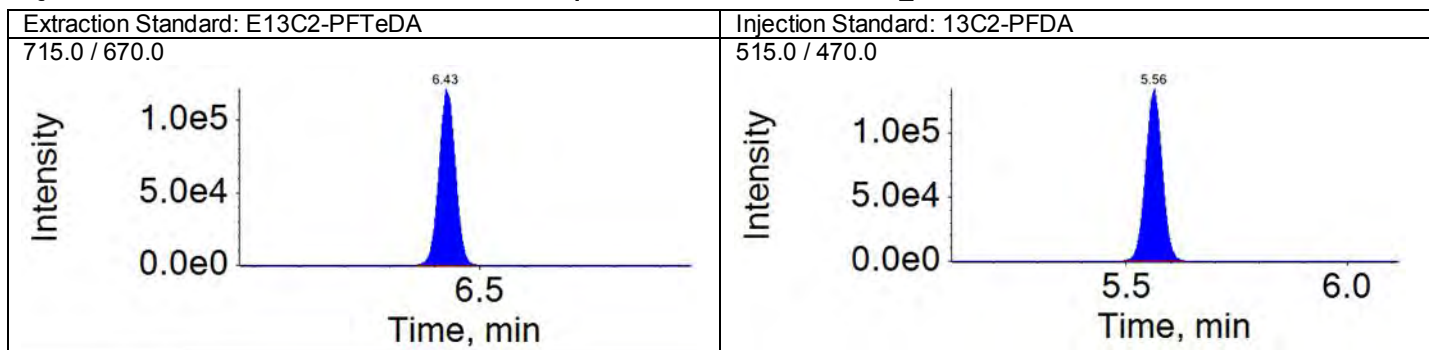
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Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



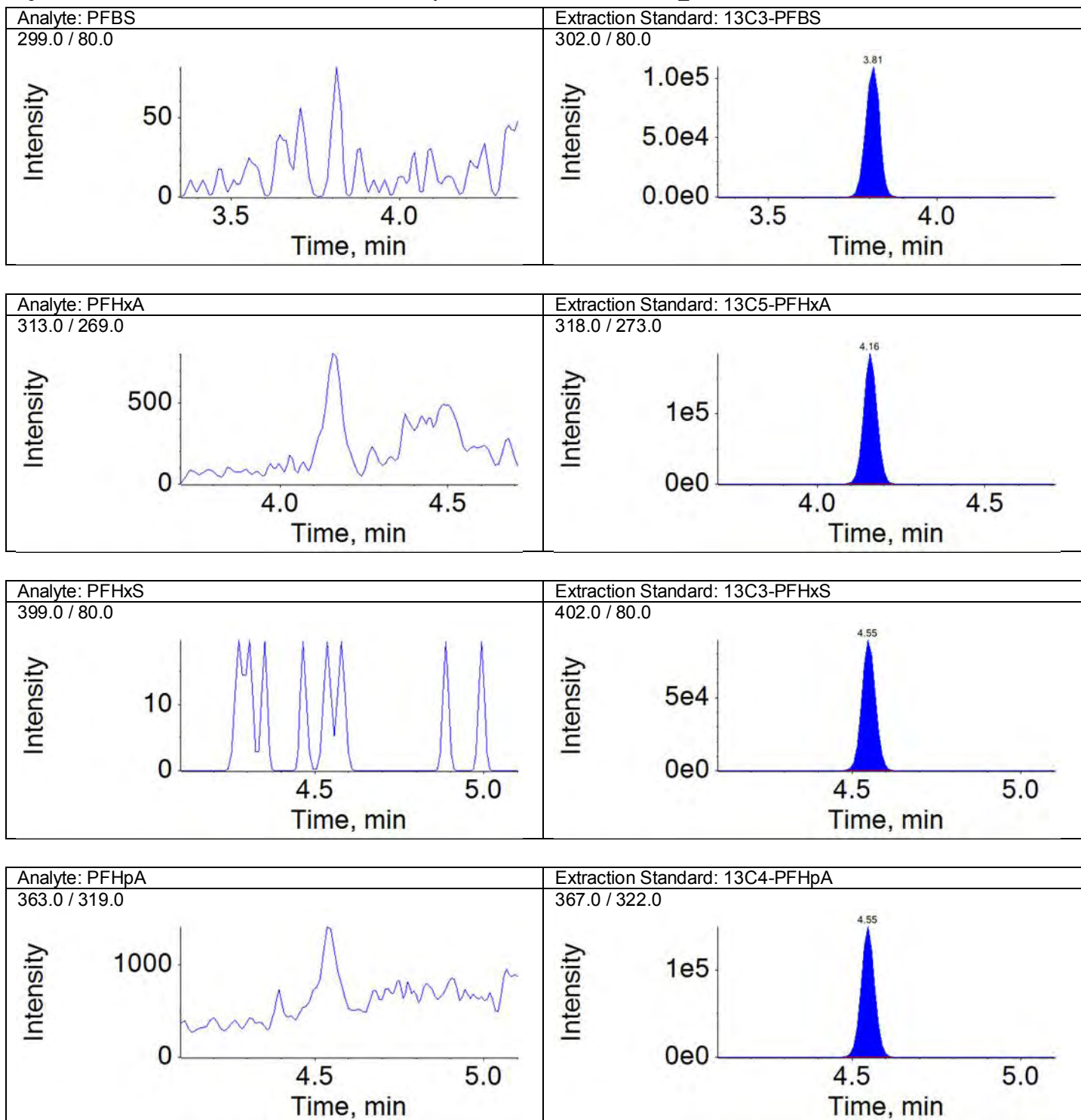
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



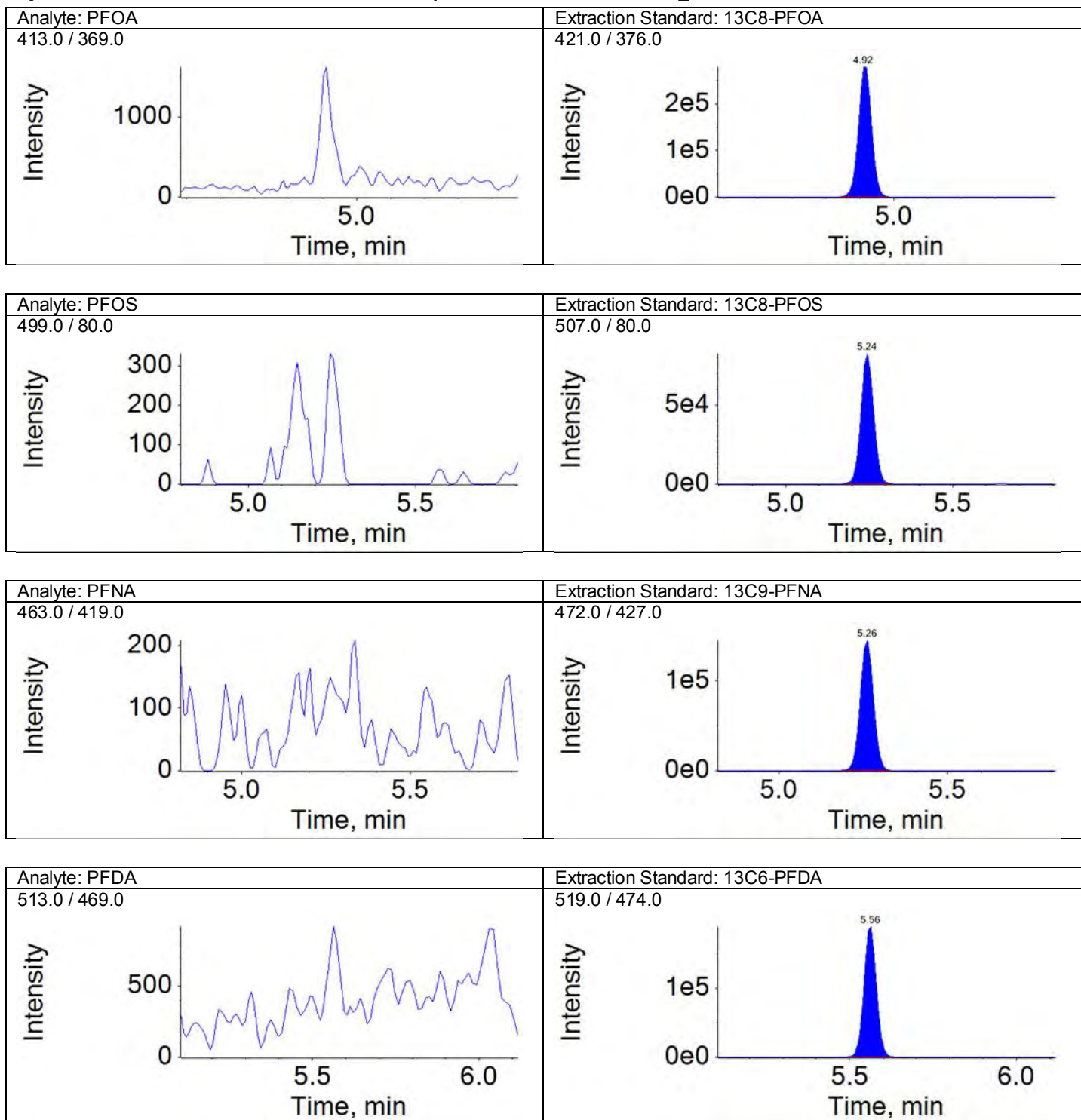
APPROVED
By JPT at 1:25 pm, 11/9/18

REVIEWED
By HMK at 9:20 am, 11/13/18

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

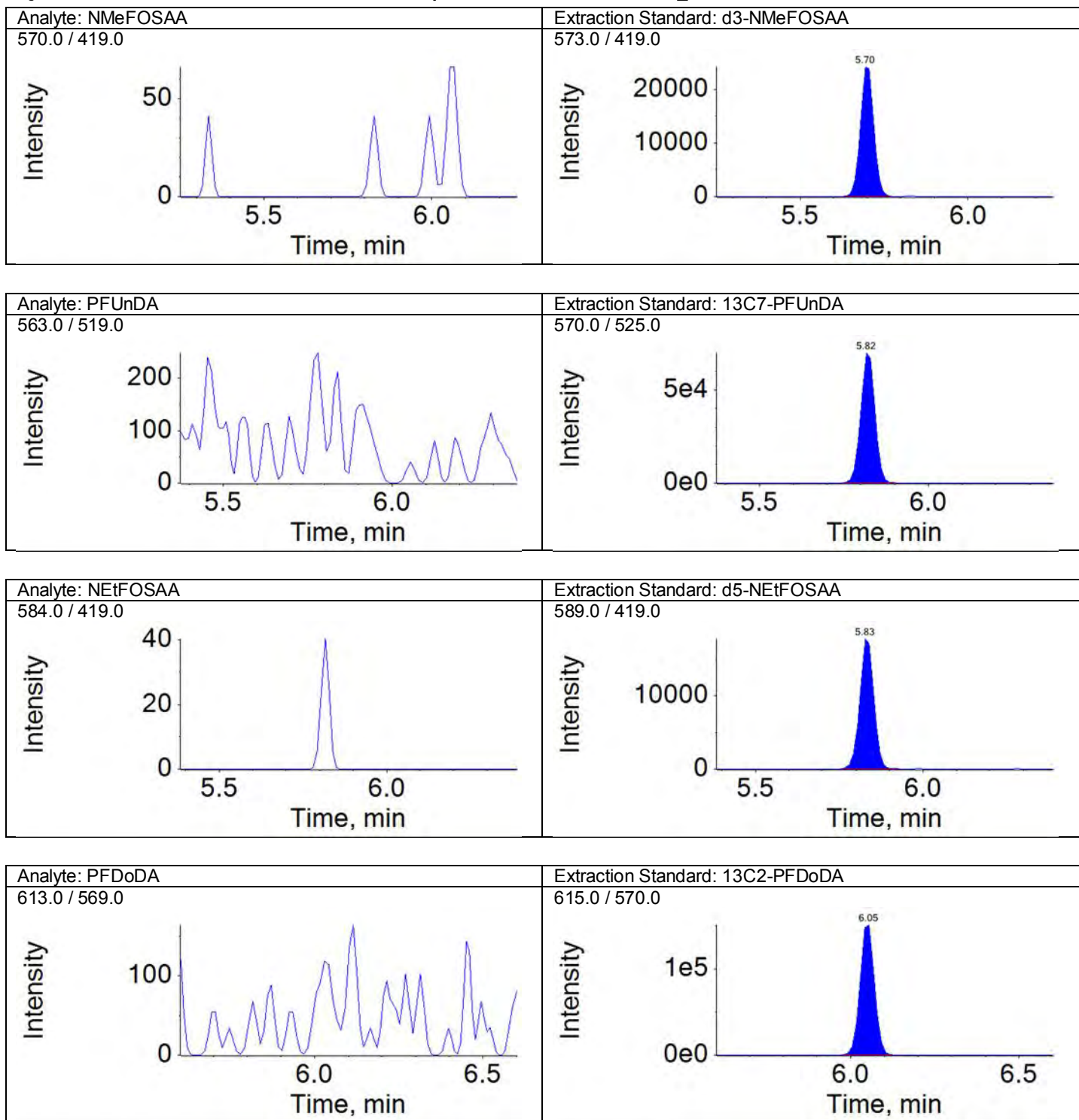
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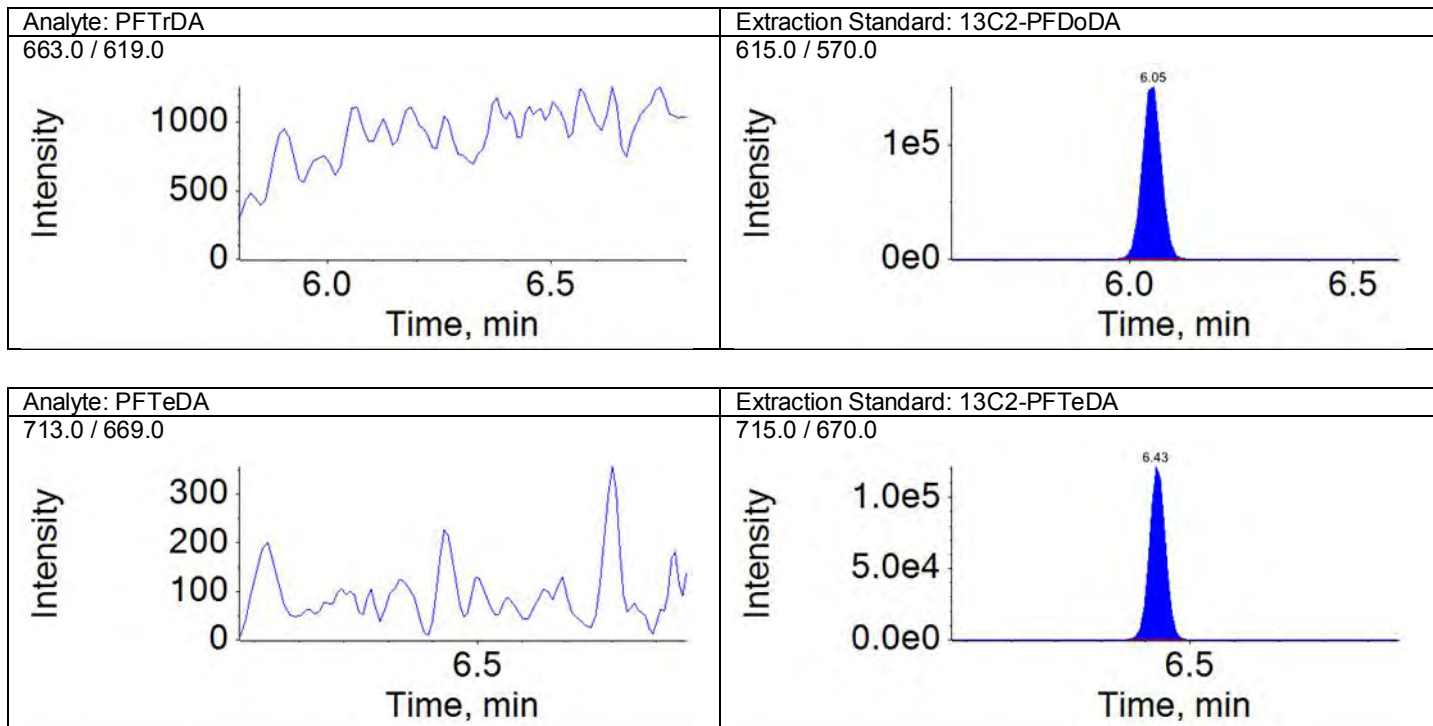
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Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



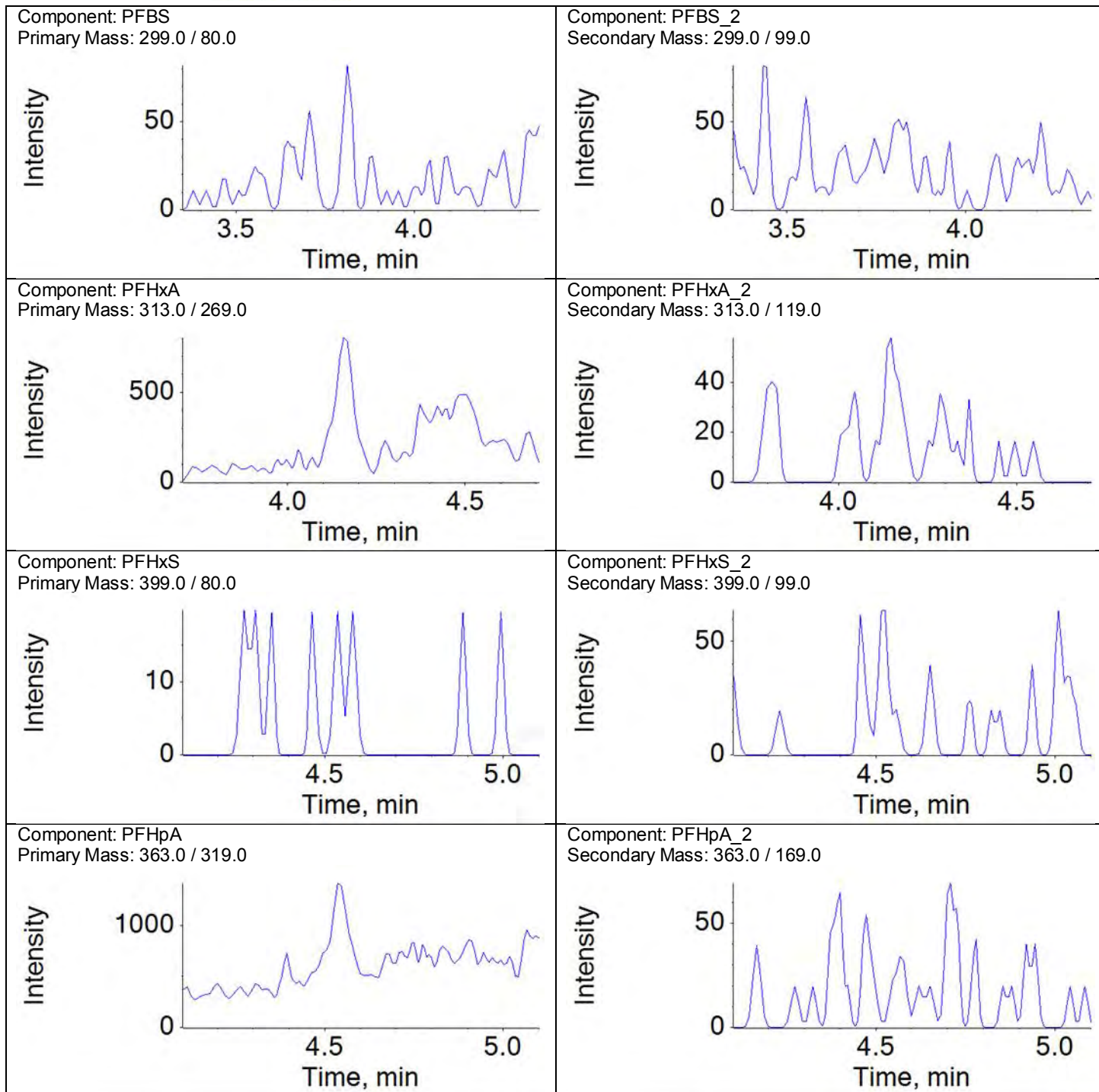
Ion Ratio Report

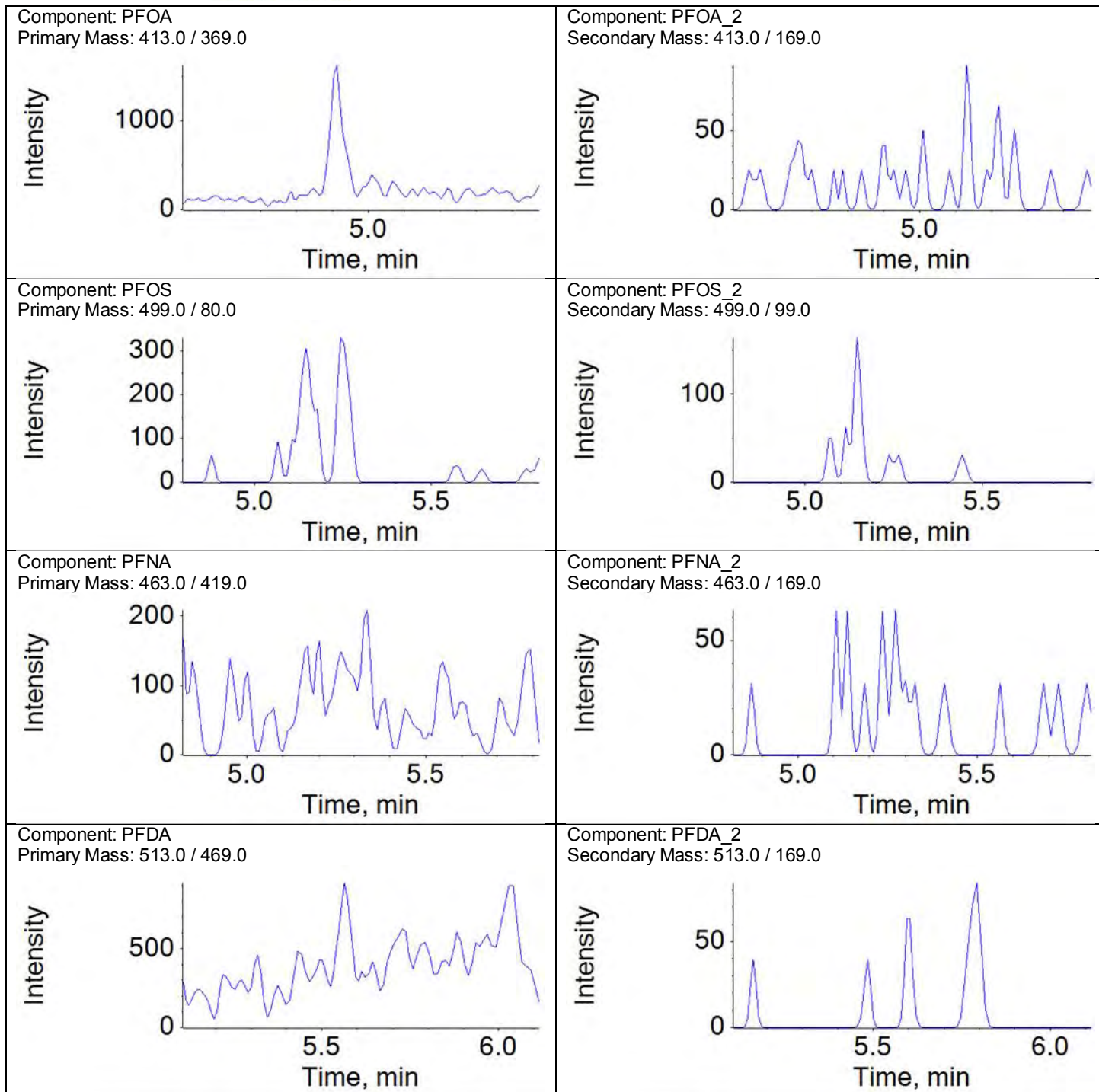
Sample Name: 9881594

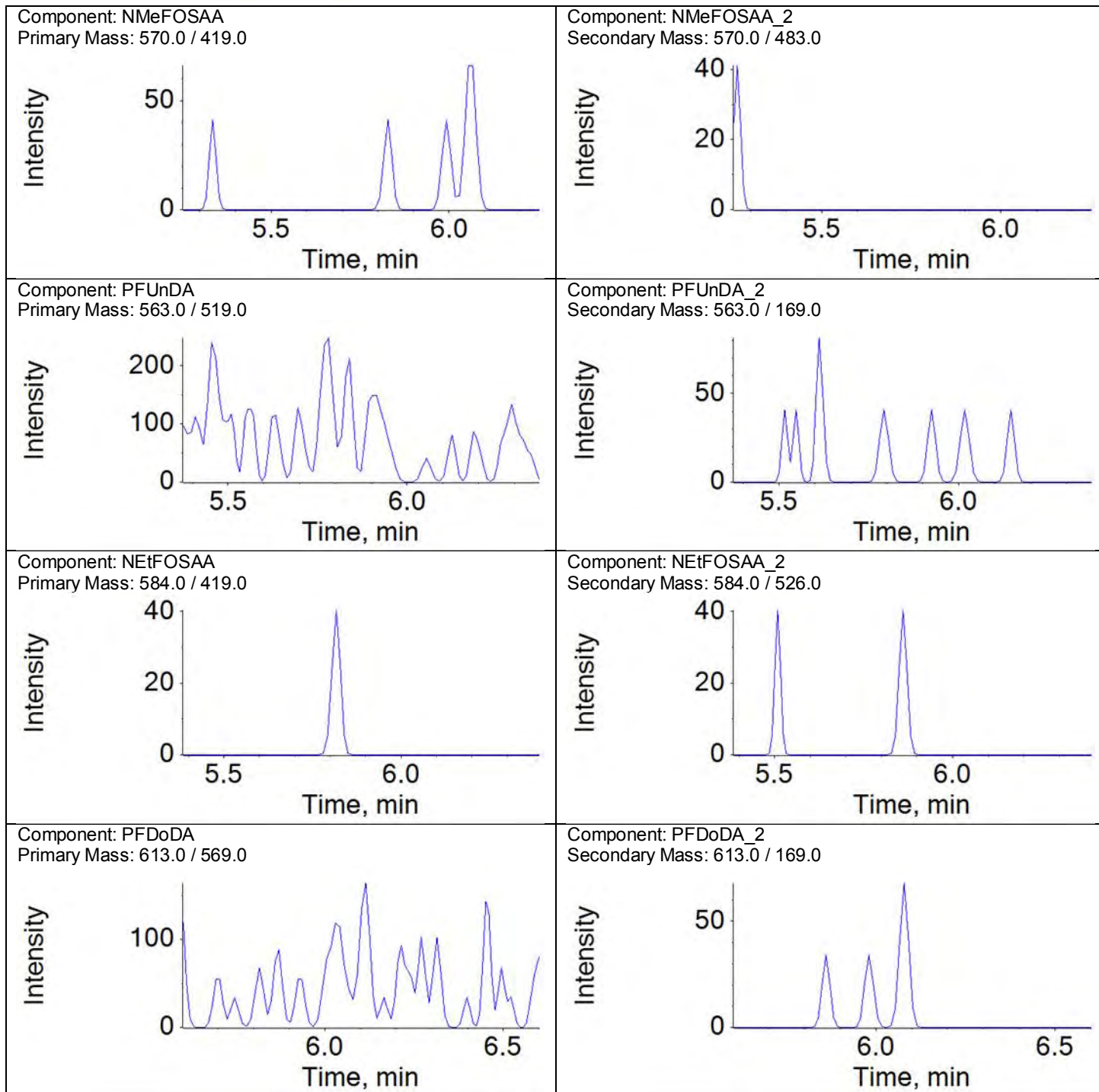
Instrument Name: LM27631

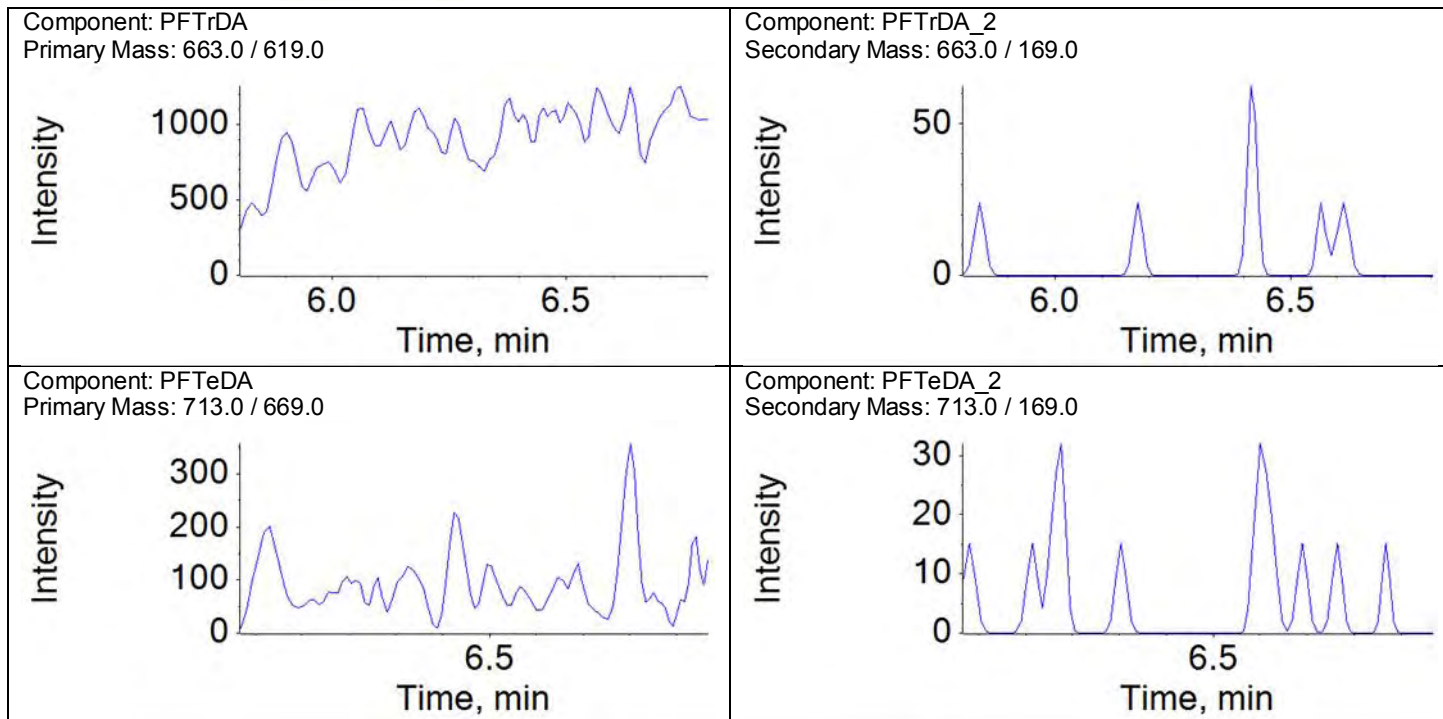
File Name: 18NOV08D-59.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	









ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 4:42:15 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881595		Data File:	18NOV13D-46.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18314009 OU1-CAOC22-S-02-03 Grab Soil		Acquis Date:	2018-11-13T16:29:26
Sample Type:	Unknown		Instrument:	LM27631
Vial Position:	100		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18314009
QMethod File:	18AUG20QM		ICAL Name:	18NOV12DCAL
Batch Number:	18314009		Operator:	JPT12262
Sample Wt.:	1.03000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV12DCAL-44

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	702615.2	659926.2	6	50	
13C2-PFOA	5.0	484954.2	450219.7	8	50	
13C4-PFOS	4.8	260926.0	249205.8	5	50	
13C2-PFDA	5.0	303465.4	278743.9	9	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	419203.9	13C3-PFBA	702615.2	0.597	9.029	8.178	91	50-150	
E13C5-PFHxA	658304.3	13C2-PFOA	484954.2	1.357	9.709	9.522	98	50-150	
E13C3-PFHxS	312631.8	13C2-PFOA	484954.2	0.645	9.184	8.589	94	50-150	
E13C4-PFHpA	502401.0	13C2-PFOA	484954.2	1.036	9.709	9.063	93	50-150	
E13C8-PFOA	892308.1	13C2-PFOA	484954.2	1.840	9.709	9.844	101	50-150	
E13C8-PFOS	265499.6	13C4-PFOS	260926.0	1.018	9.282	8.754	94	50-150	
E13C9-PFNA	470043.4	13C4-PFOS	260926.0	1.801	9.709	9.753	100	50-150	
E13C6-PFDA	602153.9	13C2-PFDA	303465.4	1.984	9.709	8.991	93	50-150	
Ed3-NMeFOSAA	58176.2	13C2-PFDA	303465.4	0.192	9.709	6.719	69	50-150	
E13C7-PFUnDA	248807.3	13C2-PFDA	303465.4	0.820	9.709	9.243	95	50-150	
Ed5-NEtFOSAA	51497.2	13C2-PFDA	303465.4	0.170	9.709	6.971	72	50-150	
E13C2-PFDoDA	371943.8	13C2-PFDA	303465.4	1.226	9.709	6.179	64	50-150	
E13C2-PFTeDA	382899.5	13C2-PFDA	303465.4	1.262	9.709	8.601	89	50-150	

ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 4:42:15 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881595

Instrument Name: LM27631

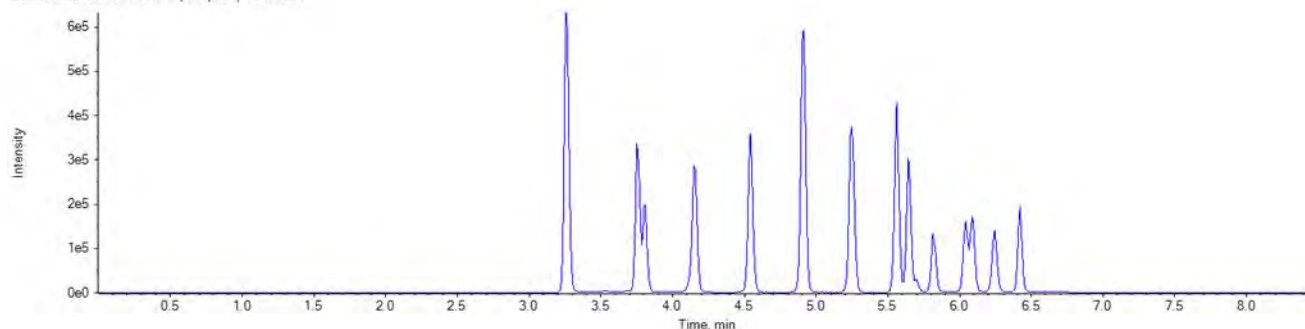
File Name: 18NOV13D-46.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.03000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.81	419203.9	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	658304.3	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	502401.0	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	312631.8	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	892308.1	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	265499.6	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.26	470043.4	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.56	602153.9	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.70	58176.2	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	248807.3	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.83	51497.2	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	371943.8	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	371943.8	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	382899.5	N/A	

Total Ion Chromatogram

TIC from 18NOV13D-46.wiff (sample 1) - 9881595



APPROVED

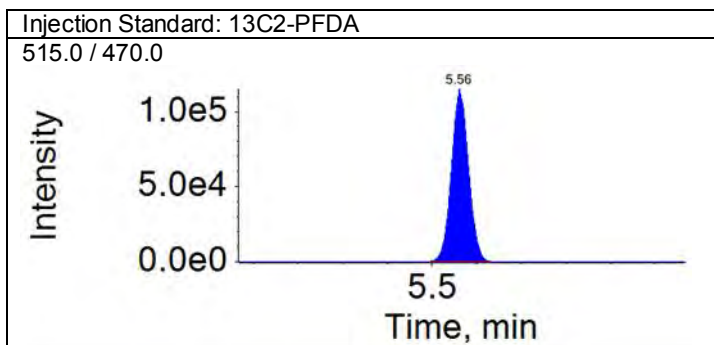
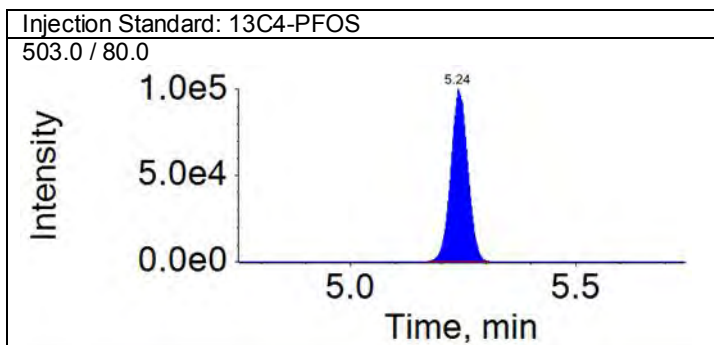
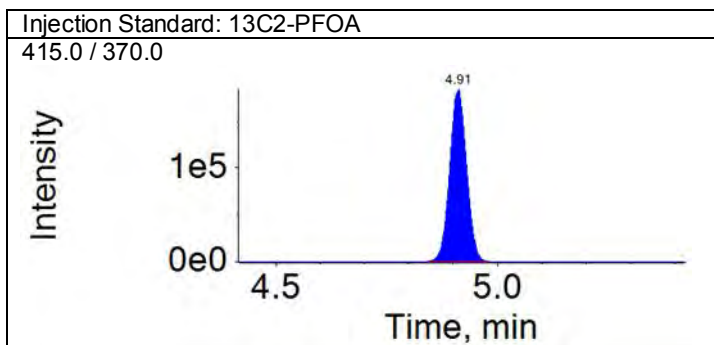
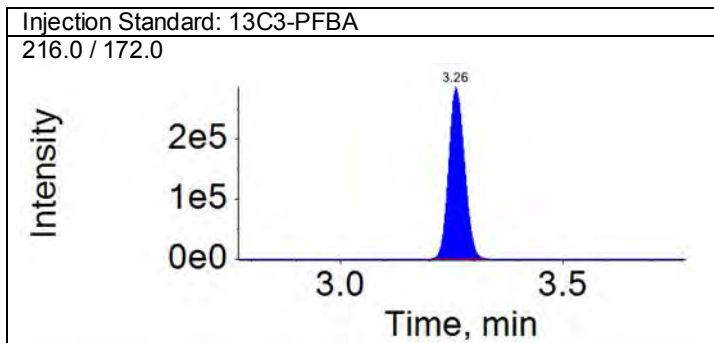
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REVIEWED

By umar at 5:44 pm, 11/13/18

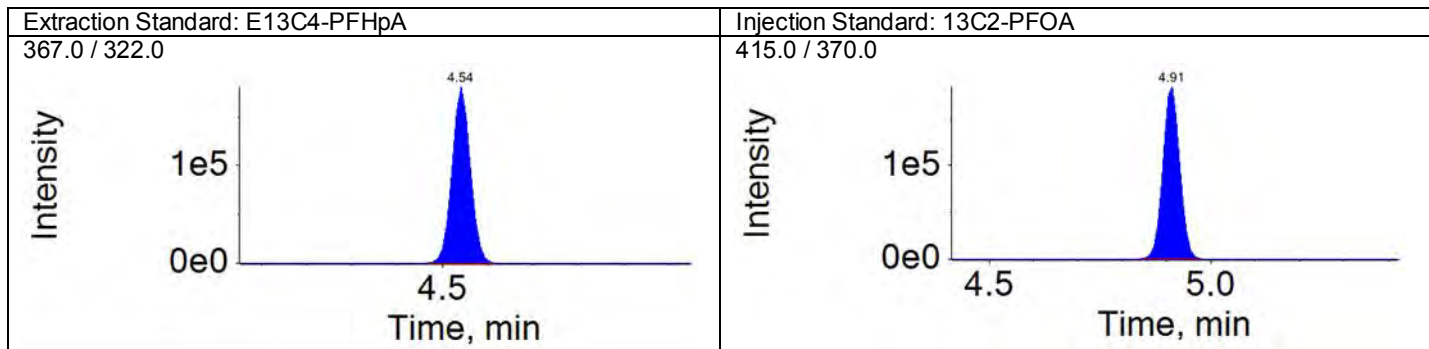
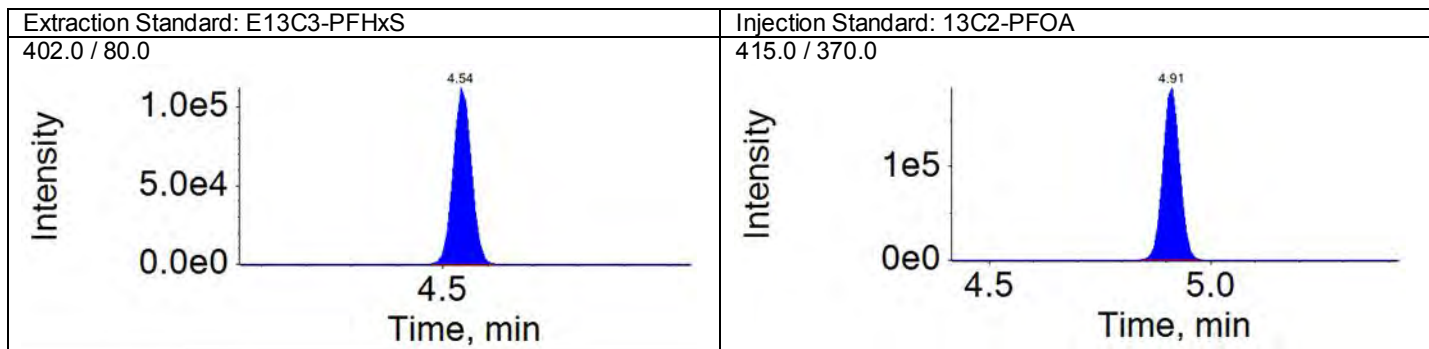
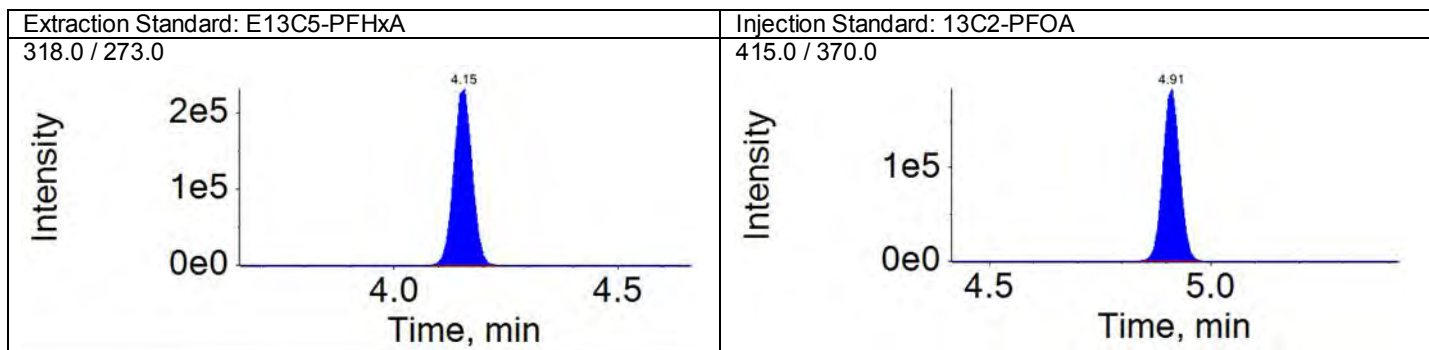
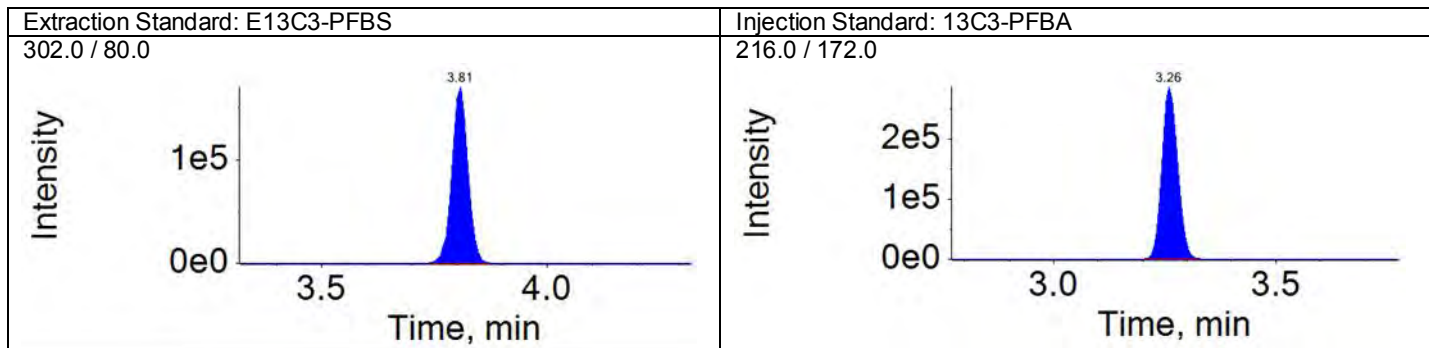
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 4:42:15 PM
Acquisition Method: 18AUG13_3uL.dam



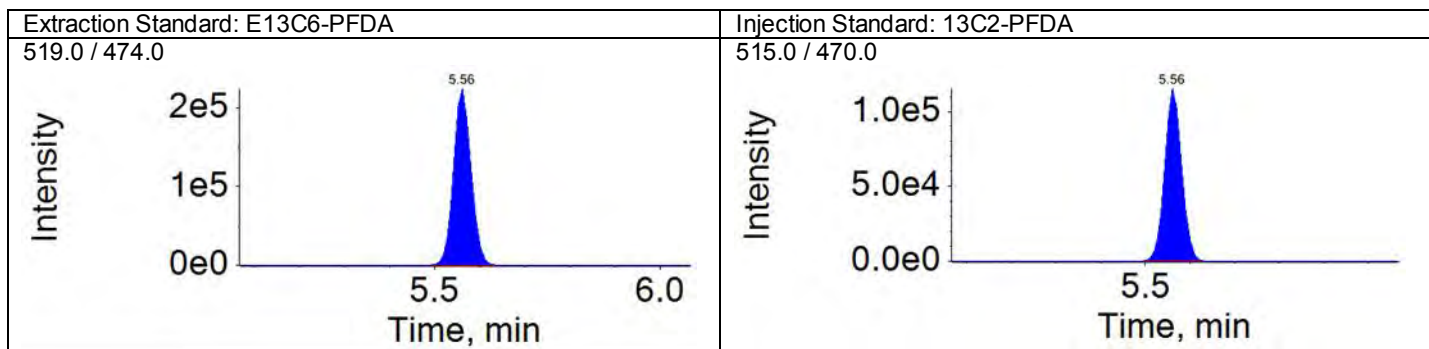
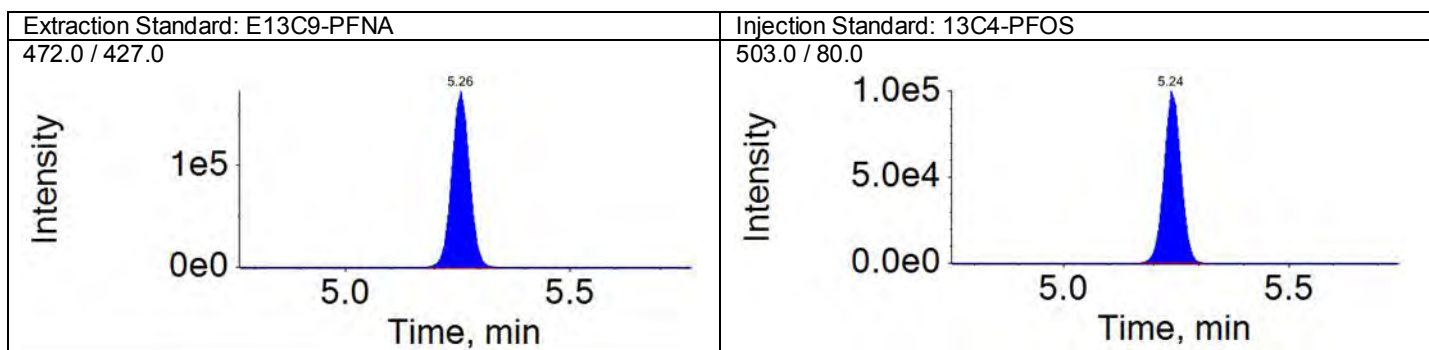
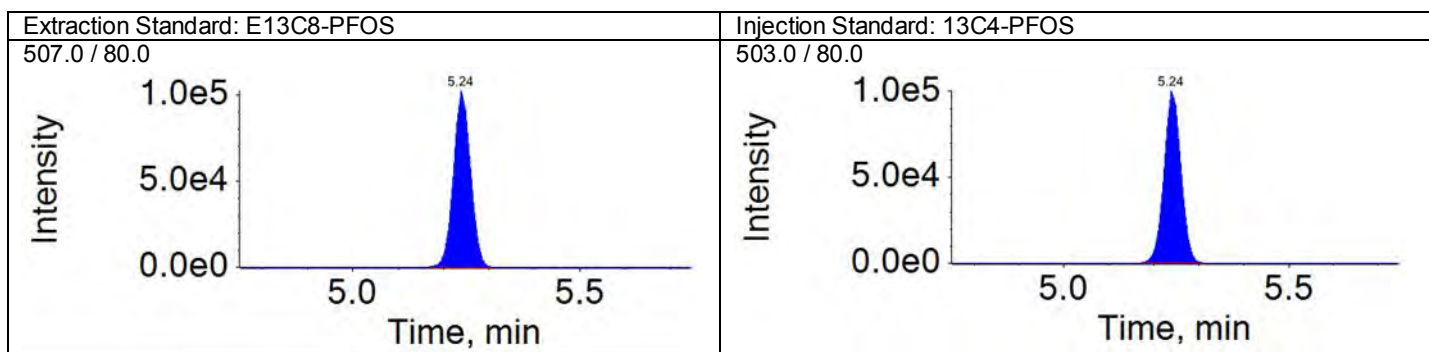
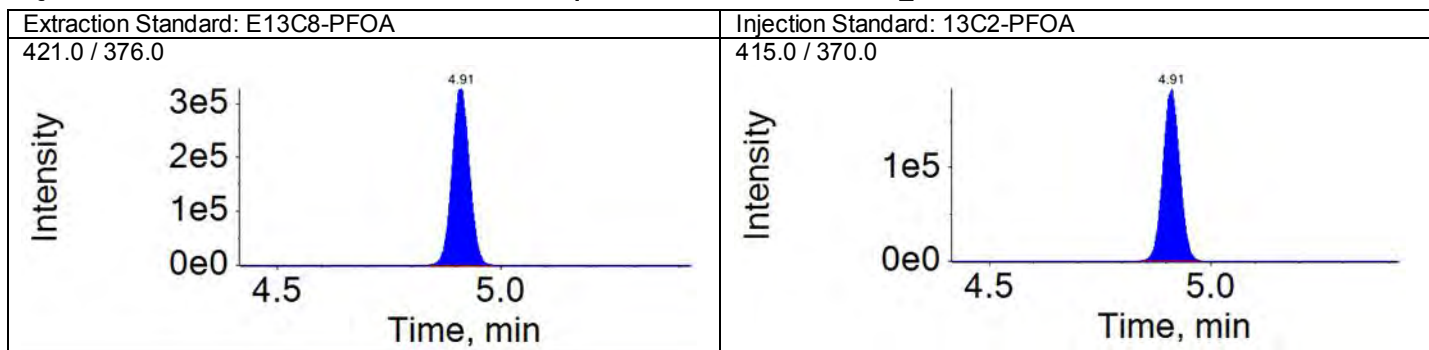
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QMethod Name: 18AUG20QM

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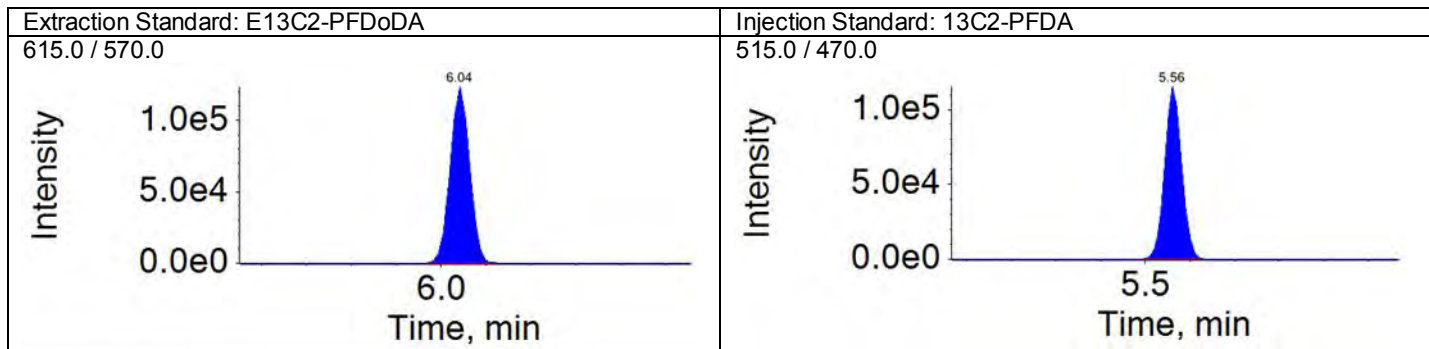
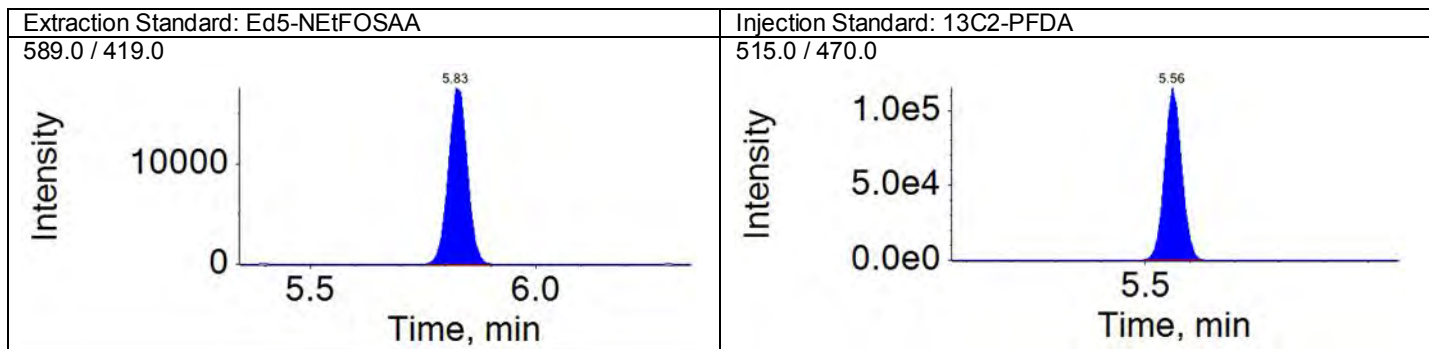
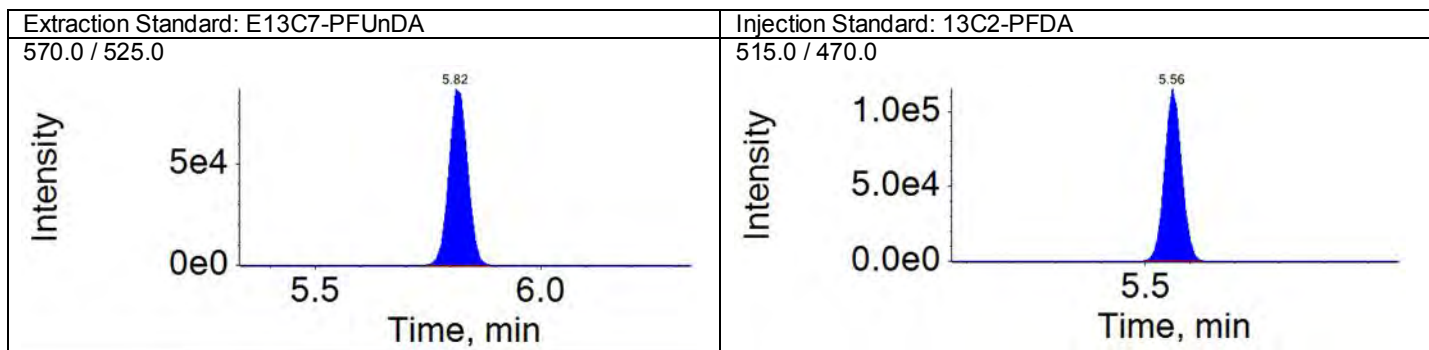
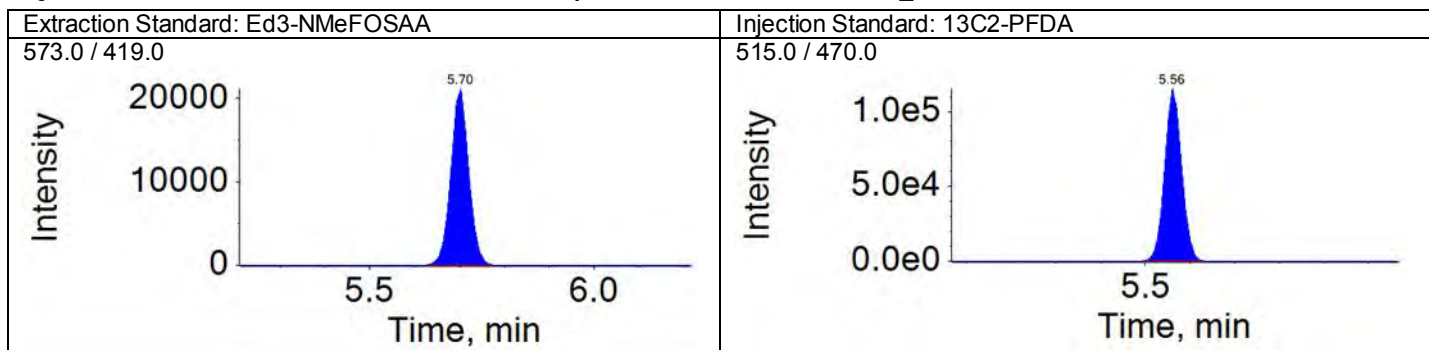
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QMethod Name: 18AUG20QM

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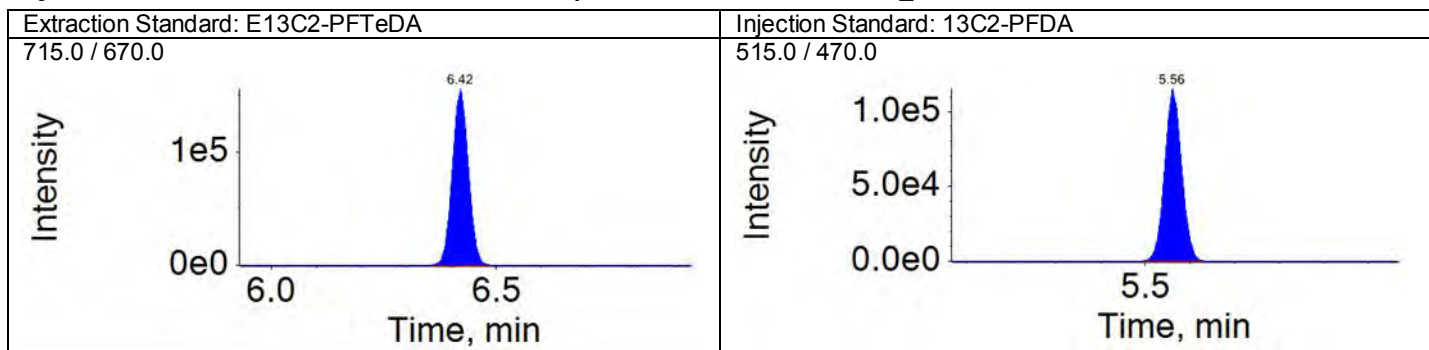
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Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

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APPROVED

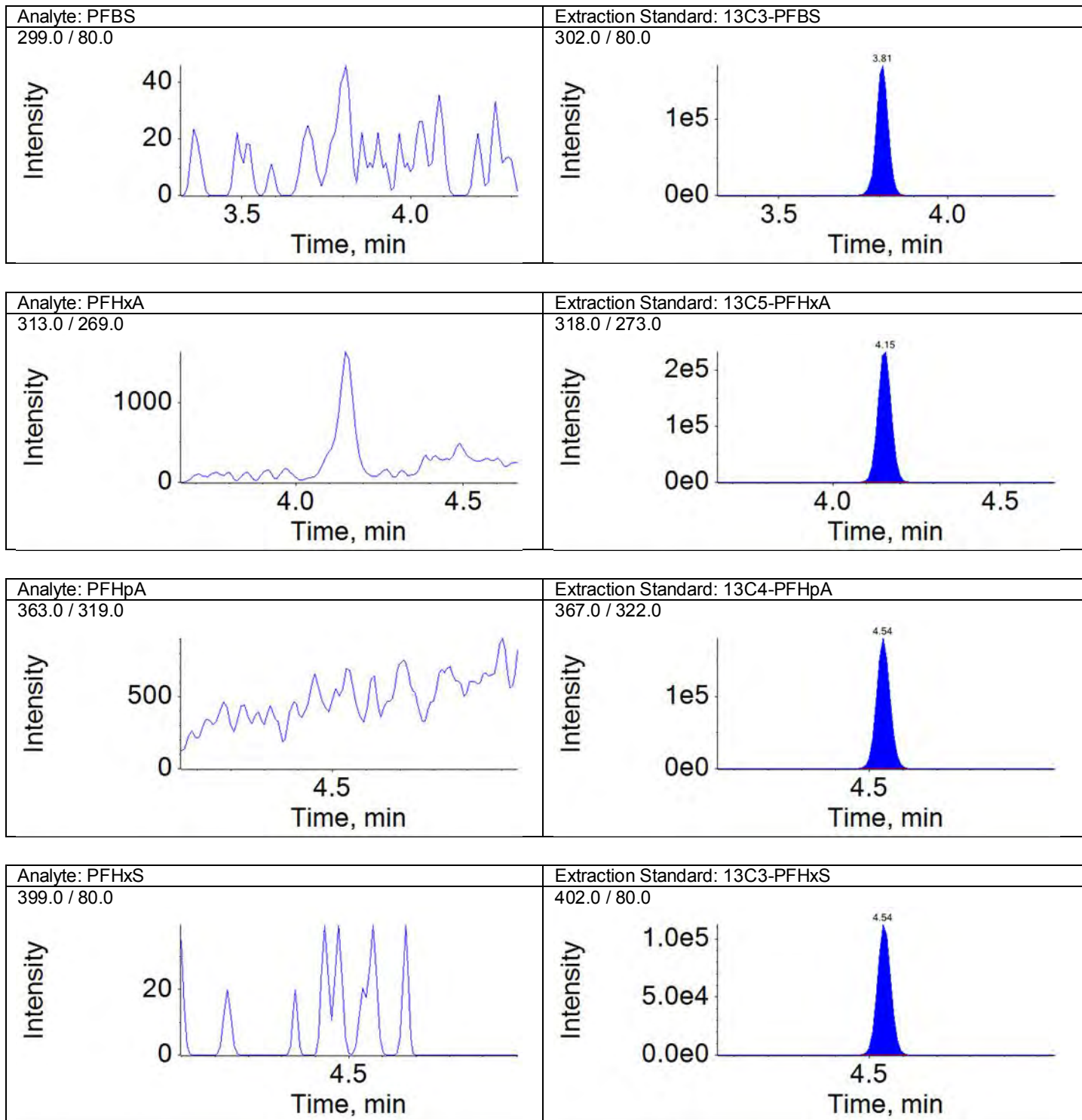
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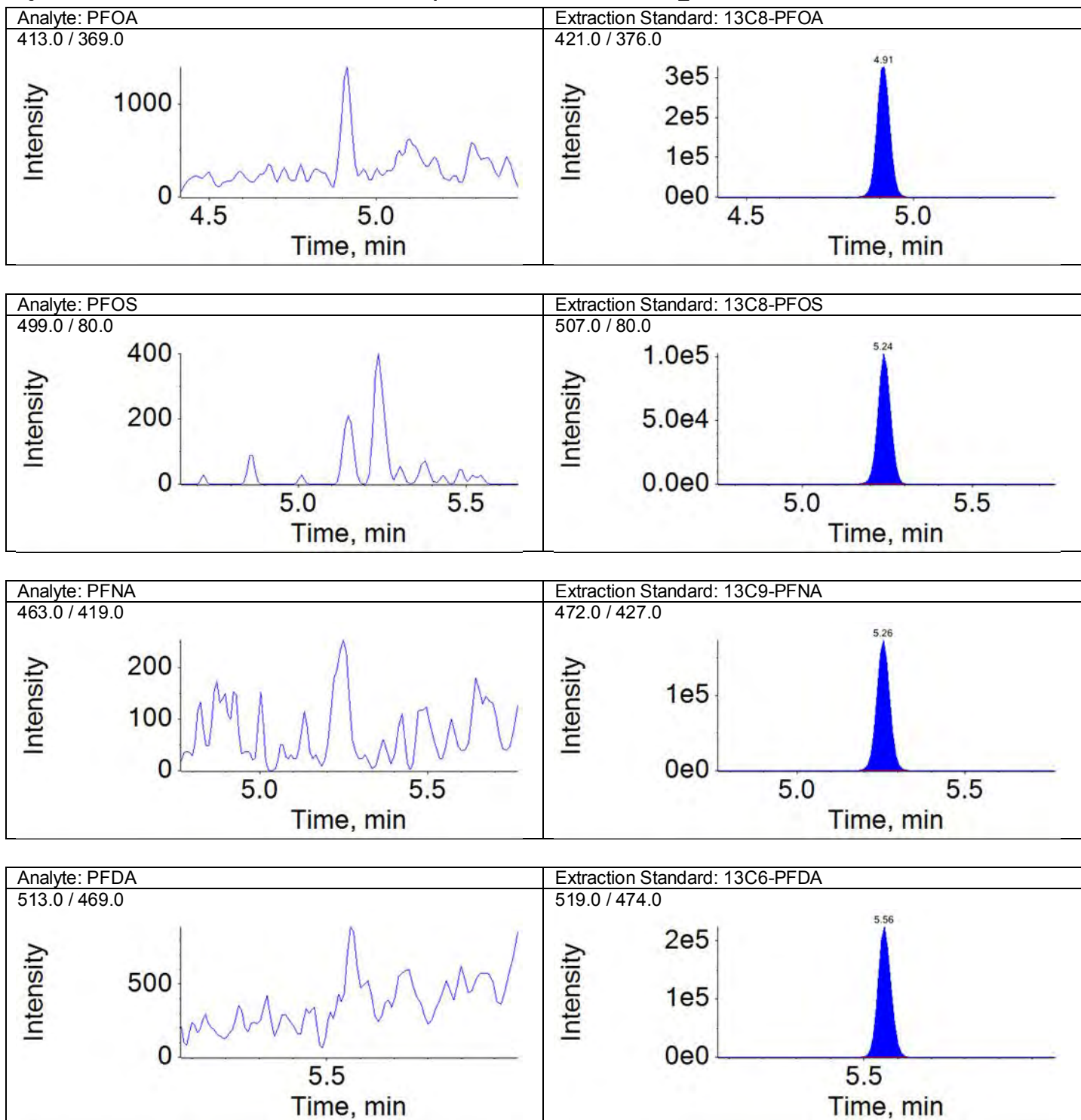
REVIEWED

By umar at 5:44 pm, 11/13/18

ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

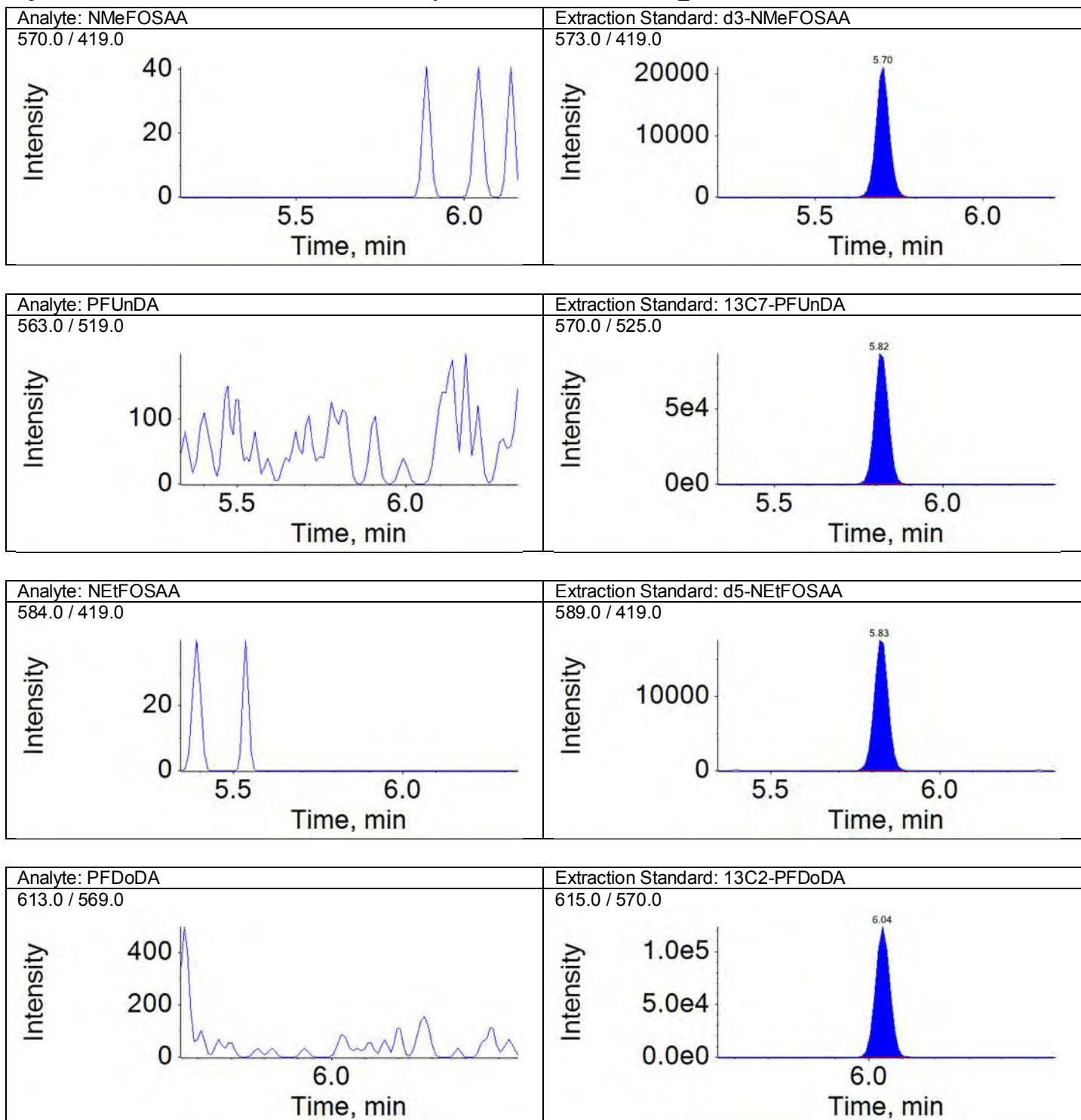
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Acquisition Method: 18AUG13_3uL.dam



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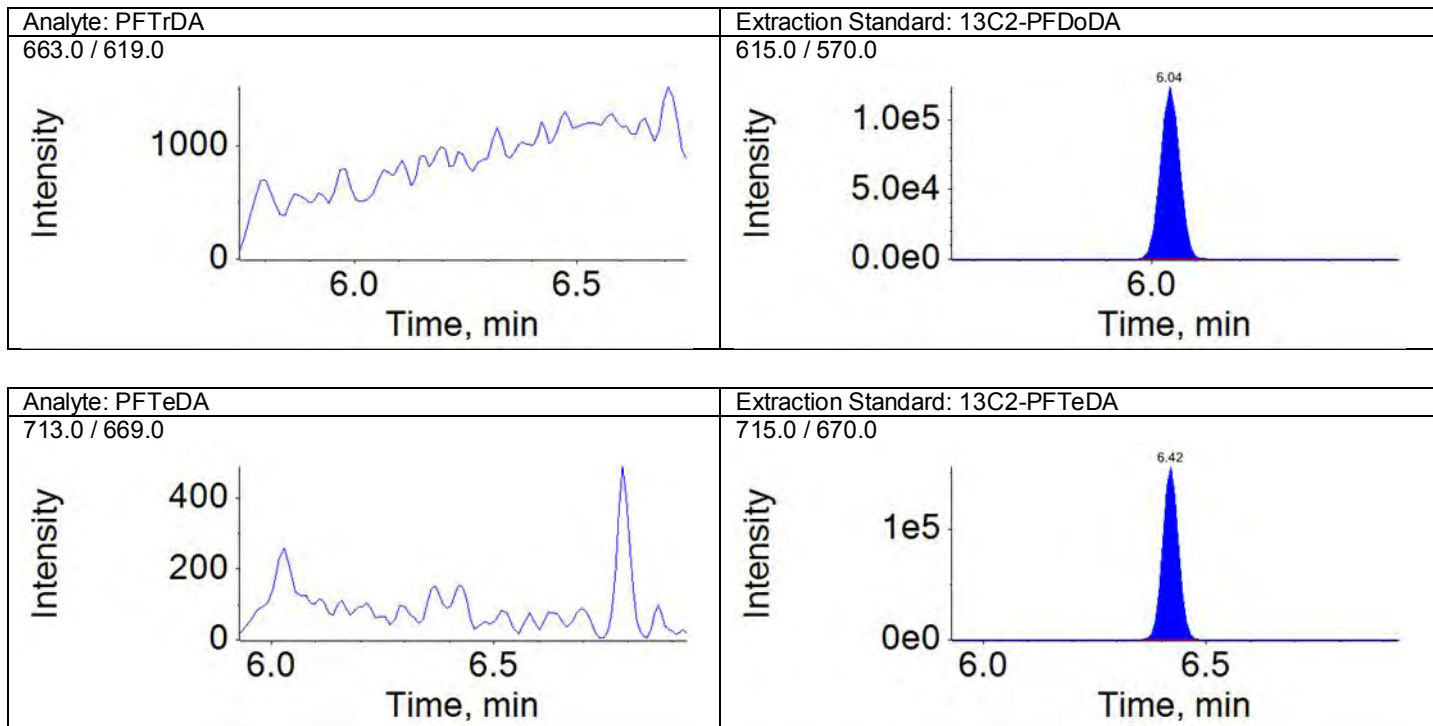
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QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 4:42:15 PM
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ICAL Name: 18NOV12DCAL
QMethod Name: 18AUG20QM

Result Table: 18314009 11/13/2018 4:42:15 PM
Acquisition Method: 18AUG13_3uL.dam



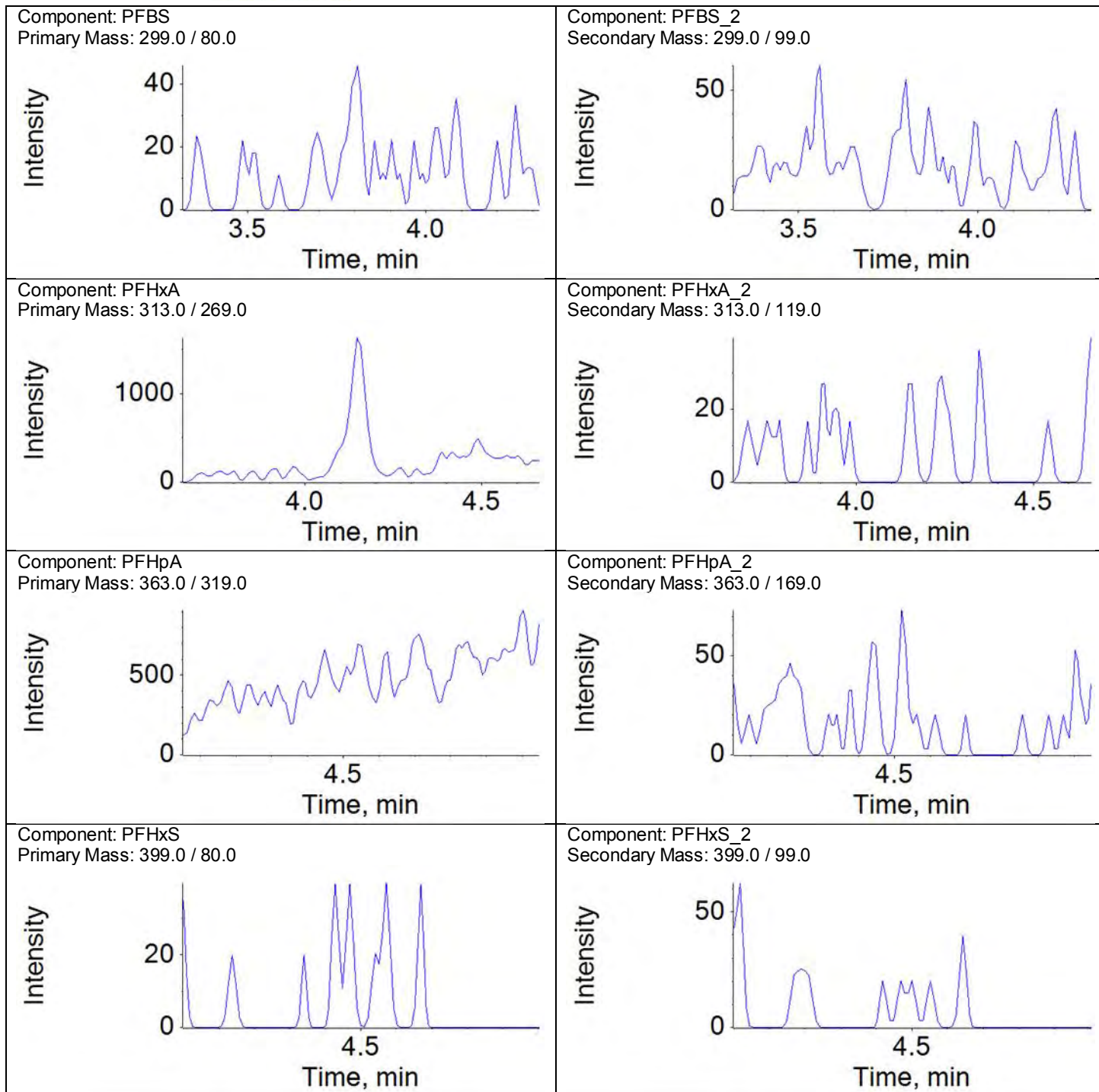
Ion Ratio Report

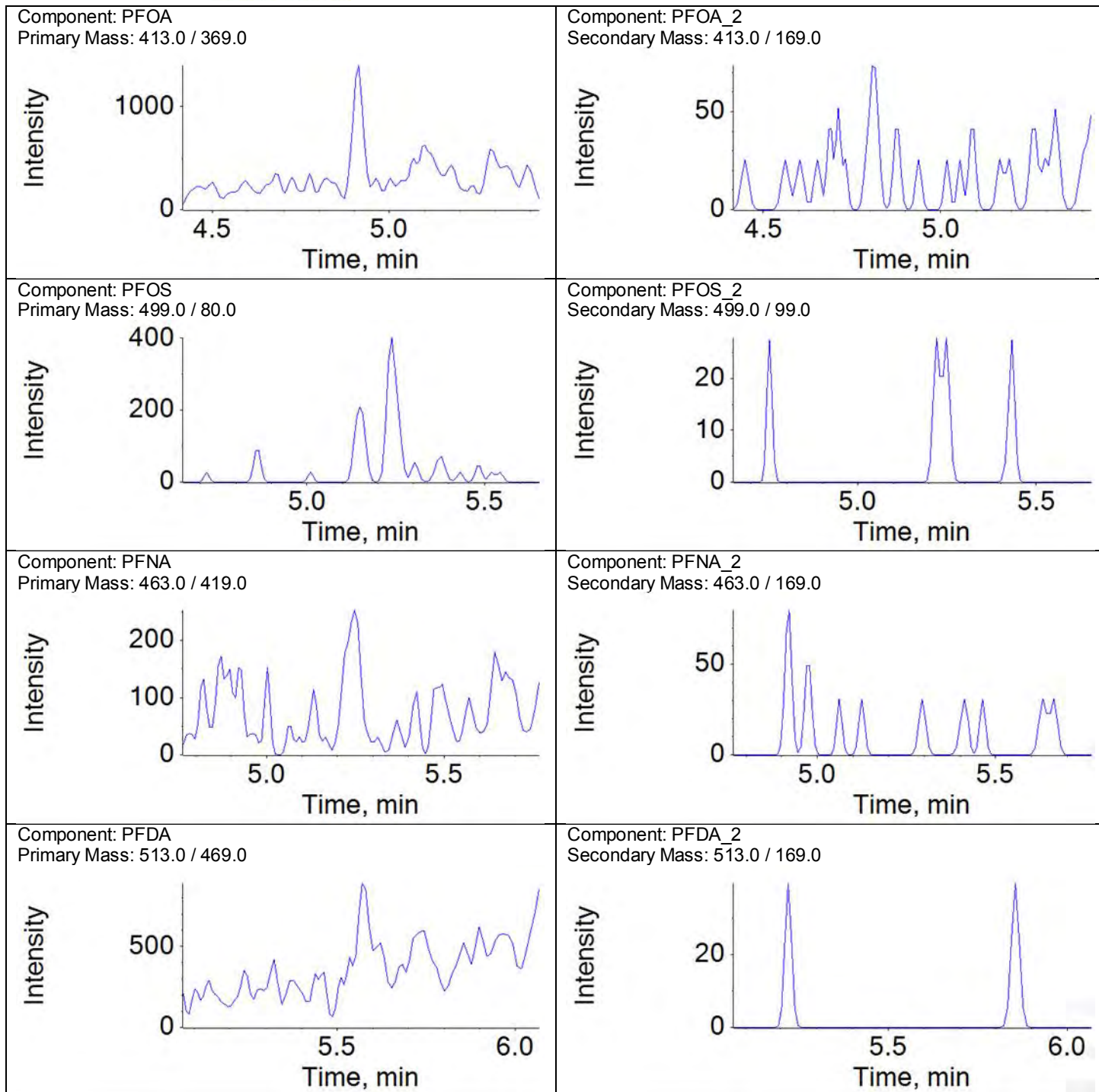
Sample Name: 9881595

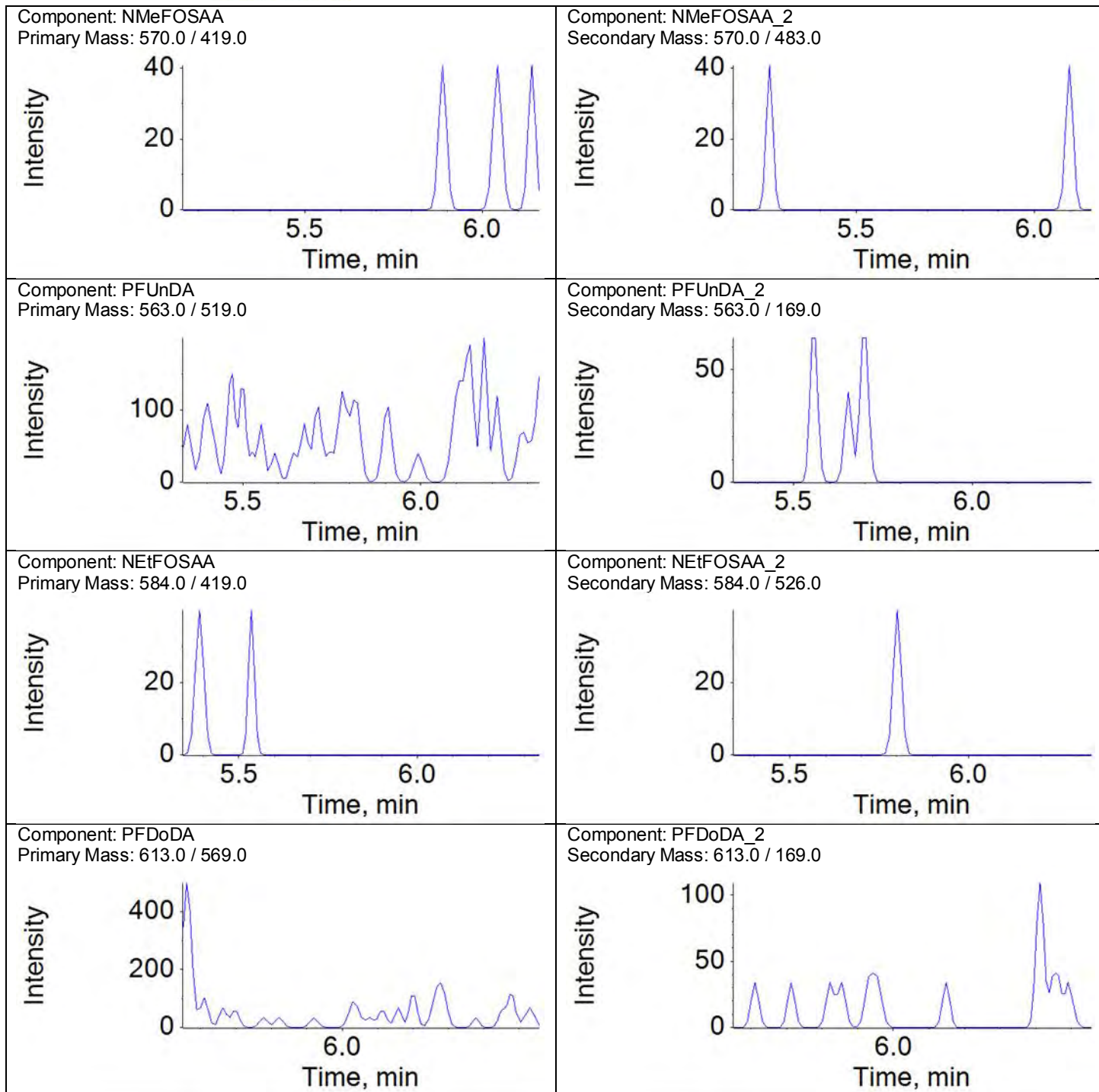
Instrument Name: LM27631

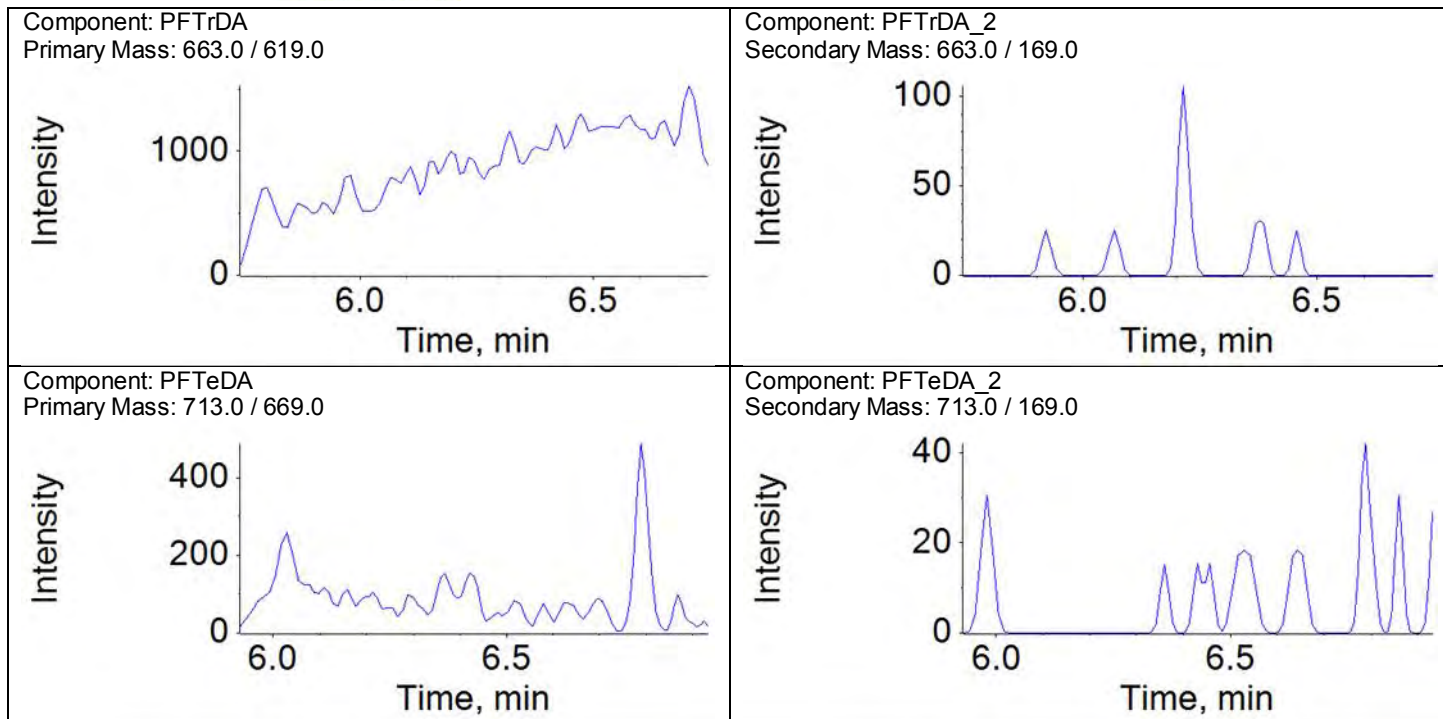
File Name: 18NOV13D-46.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	









ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	9881596			Data File:		18NOV08D-61.wiff
Sample ID:	EPA 537 mod QSM 5.1 table B-15 18311003 OU1-CAOC22-S-02-05 Grab Soil			Acquis Date:		2018-11-08T20:49:46
Sample Type:	Unknown			Instrument:		LM27631
Vial Position:	84			Acquis Method:		18AUG13_3uL.dam
Injection Vol:	3.00			Result Table:		18311003
QMethod File:	MQ4-18AUG13			ICAL Name:		18NOV07DCAL
Batch Number:	18311003			Operator:		JPT12262
Sample Wt.:	1.08000			Dilution Factor:		1.00
Sample Vol.:	1.000			Prep Factor:		2.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV08D-05

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	860774.6	728839.7	18	50	
13C2-PFOA	5.0	590093.5	491983.1	20	50	
13C4-PFOS	4.8	328293.2	255568.1	28	50	
13C2-PFDA	5.0	354225.0	315407.5	12	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C3-PFBS	316413.9	13C3-PFBA	860774.6	0.368	8.611	4.996	58	50-150	
E13C5-PFHxA	509446.9	13C2-PFOA	590093.5	0.863	9.259	5.881	64	50-150	
E13C3-PFHxS	250906.5	13C2-PFOA	590093.5	0.425	8.759	5.653	65	50-150	
E13C4-PFHpA	390963.6	13C2-PFOA	590093.5	0.663	9.259	5.581	60	50-150	
E13C8-PFOA	706768.2	13C2-PFOA	590093.5	1.198	9.259	6.185	67	50-150	
E13C8-PFOS	224512.8	13C4-PFOS	328293.2	0.684	8.852	5.600	63	50-150	
E13C9-PFNA	373730.9	13C4-PFOS	328293.2	1.138	9.259	5.759	62	50-150	
E13C6-PFDA	446034.3	13C2-PFDA	354225.0	1.259	9.259	5.864	63	50-150	
Ed3-NMeFOSAA	52292.8	13C2-PFDA	354225.0	0.148	9.259	5.084	55	50-150	
E13C7-PFUnDA	213202.2	13C2-PFDA	354225.0	0.602	9.259	6.430	69	50-150	
Ed5-NEtFOSAA	44619.0	13C2-PFDA	354225.0	0.126	9.259	5.398	58	50-150	
E13C2-PFDoDA	423726.9	13C2-PFDA	354225.0	1.196	9.259	5.972	64	50-150	
E13C2-PFTeDA	294571.1	13C2-PFDA	354225.0	0.832	9.259	5.544	60	50-150	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: 9881596

Instrument Name: LM27631

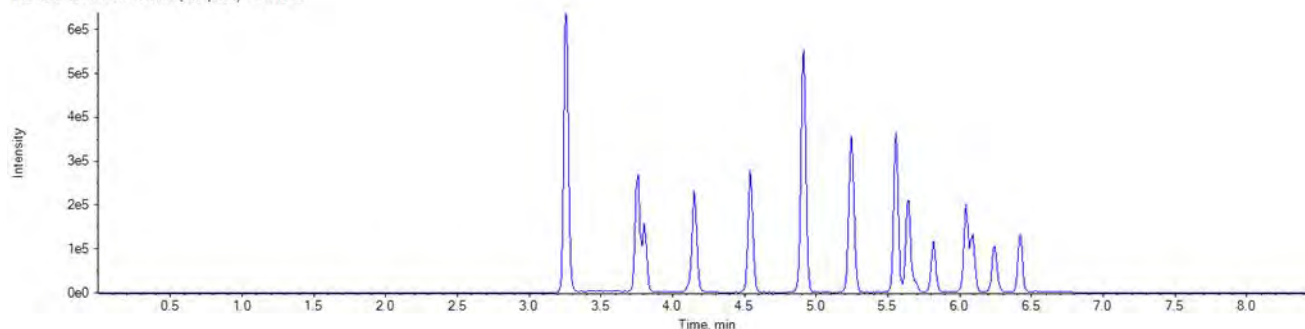
File Name: 18NOV08D-61.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.08000	1.000	1.00	2.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBS	N/A	N/A	N/A		A	13C3-PFBS	3.80	316413.9	N/A	
PFHxA	N/A	N/A	N/A		A	13C5-PFHxA	4.15	509446.9	N/A	
PFHxS	N/A	N/A	N/A		A	13C3-PFHxS	4.54	250906.5	N/A	
PFHpA	N/A	N/A	N/A		A	13C4-PFHpA	4.54	390963.6	N/A	
PFOA	N/A	N/A	N/A		A	13C8-PFOA	4.91	706768.2	N/A	
PFOS	N/A	N/A	N/A		A	13C8-PFOS	5.24	224512.8	N/A	
PFNA	N/A	N/A	N/A		A	13C9-PFNA	5.25	373730.9	N/A	
PFDA	N/A	N/A	N/A		A	13C6-PFDA	5.55	446034.3	N/A	
NMeFOSAA	N/A	N/A	N/A		A	d3-NMeFOSAA	5.69	52292.8	N/A	
PFUnDA	N/A	N/A	N/A		A	13C7-PFUnDA	5.82	213202.2	N/A	
NEtFOSAA	N/A	N/A	N/A		A	d5-NEtFOSAA	5.82	44619.0	N/A	
PFDODA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	423726.9	N/A	
PFTTrDA	N/A	N/A	N/A		A	13C2-PFDODA	6.04	423726.9	N/A	
PFTeDA	N/A	N/A	N/A		A	13C2-PFTeDA	6.42	294571.1	N/A	

Total Ion Chromatogram

TIC from 18NOV08D-61.wiff (sample 1) - 9881596



APPROVED

By JPT at 1:25 pm, 11/9/18

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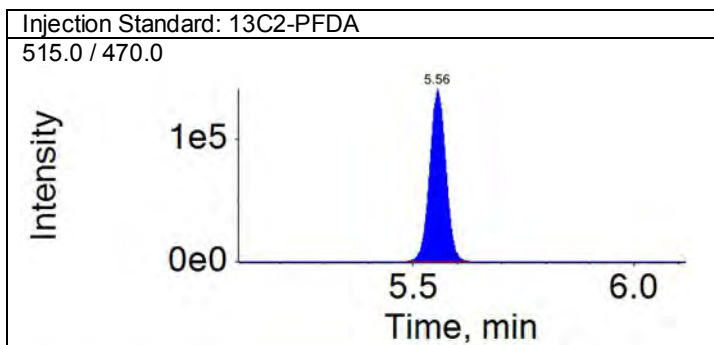
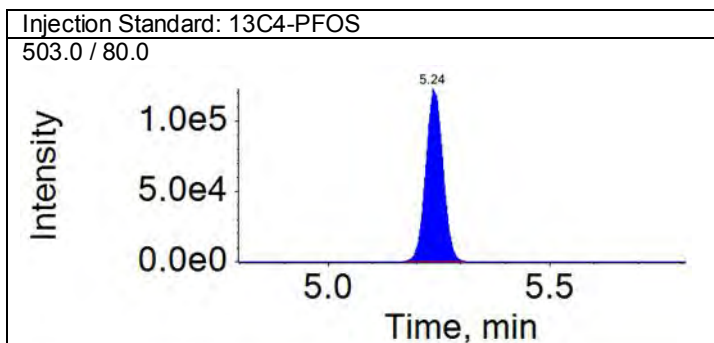
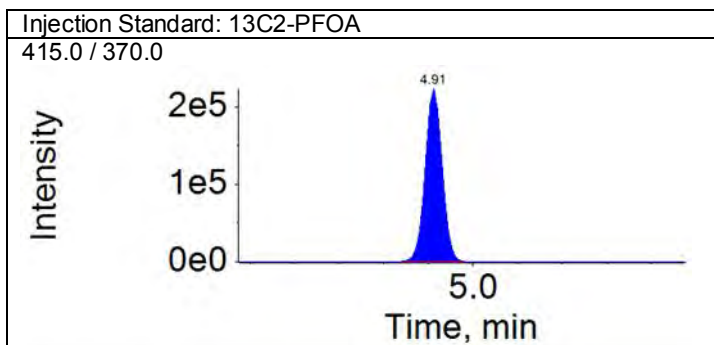
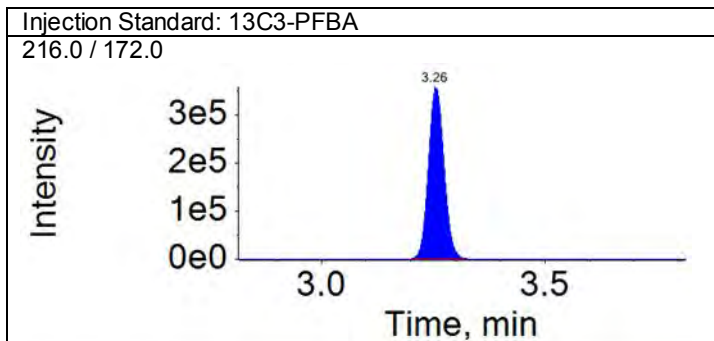
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By HMK at 9:20 am, 11/13/18

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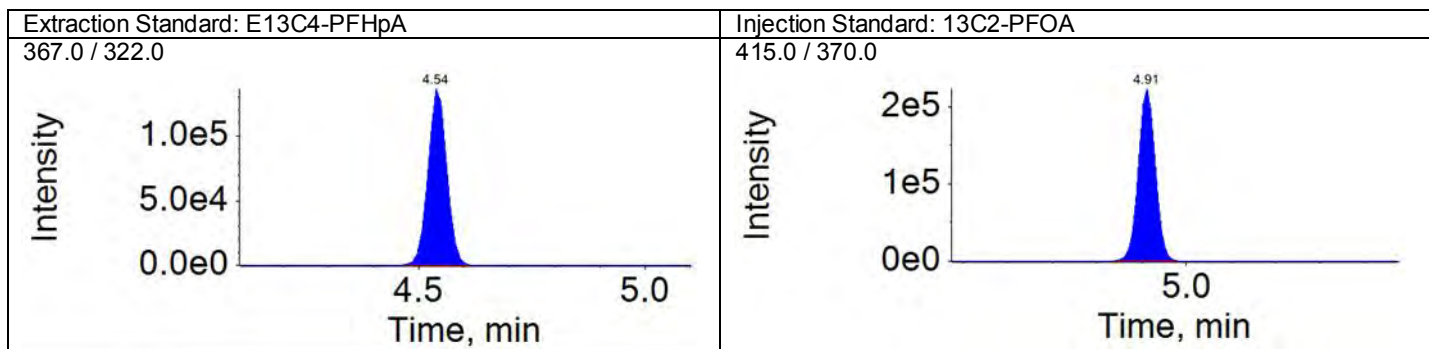
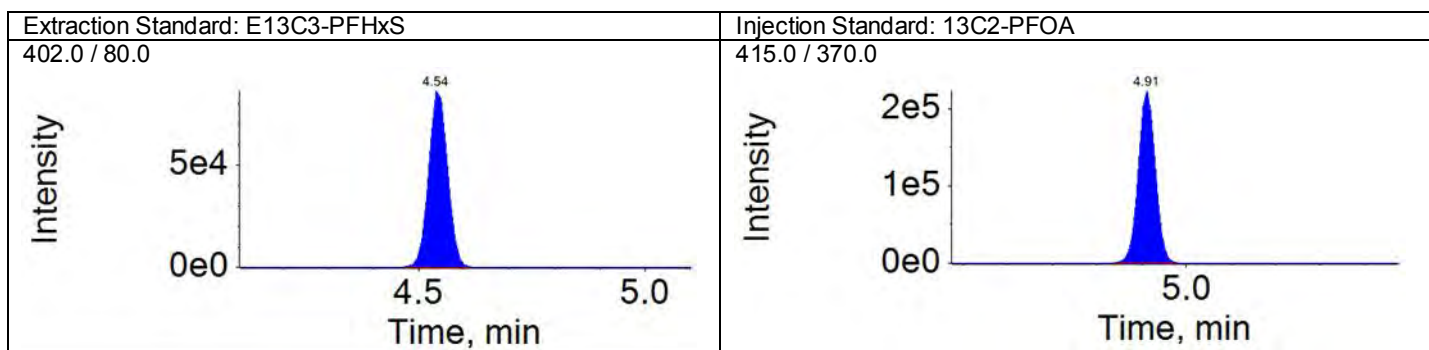
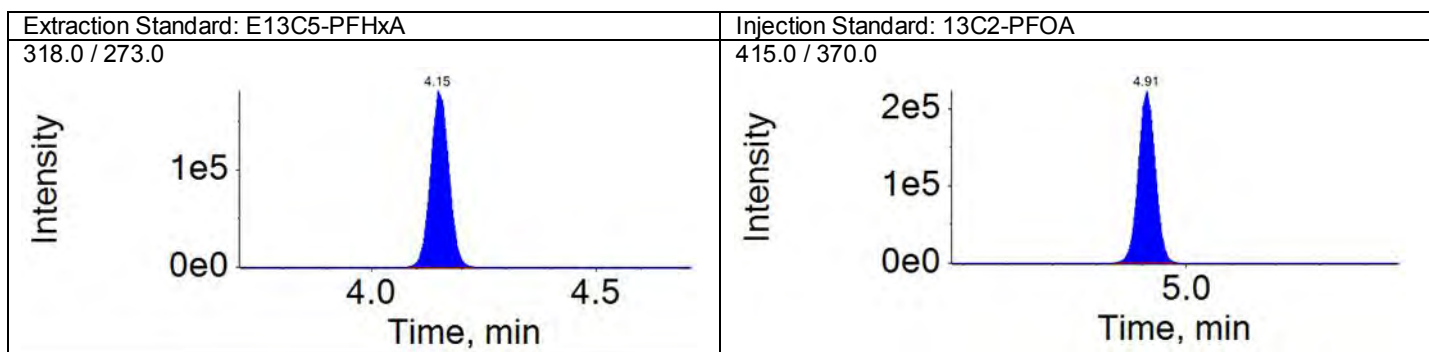
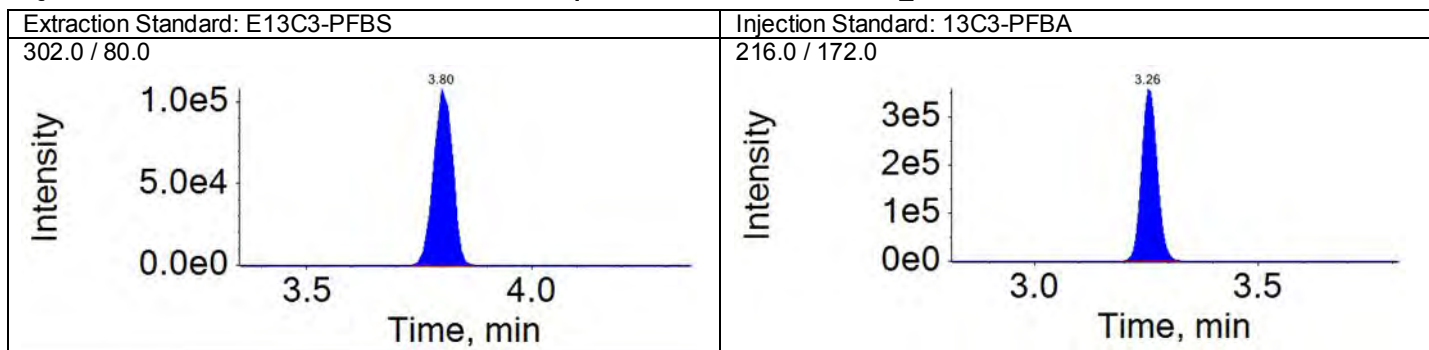
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



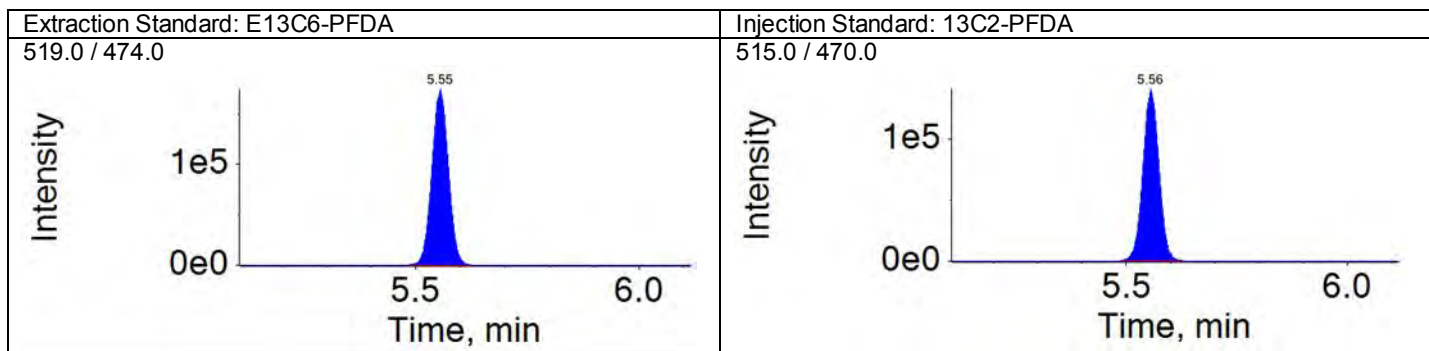
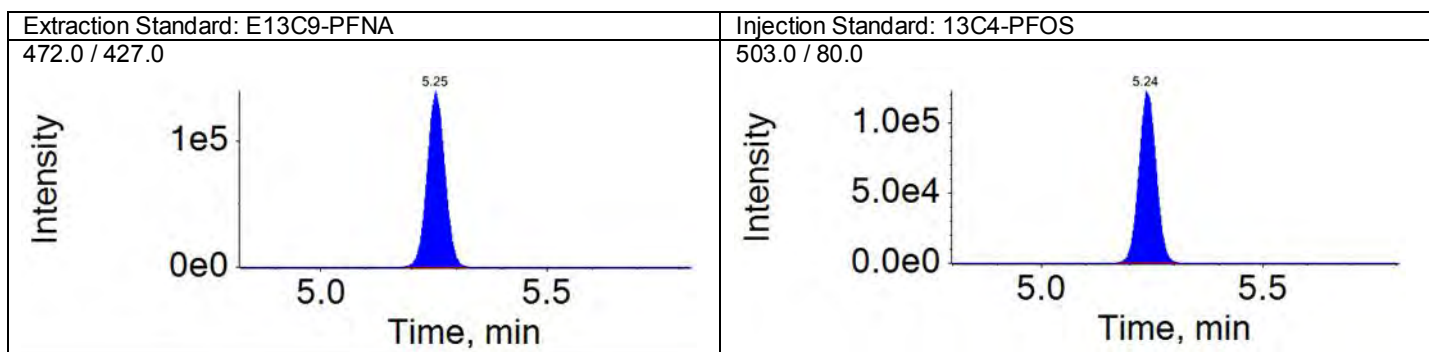
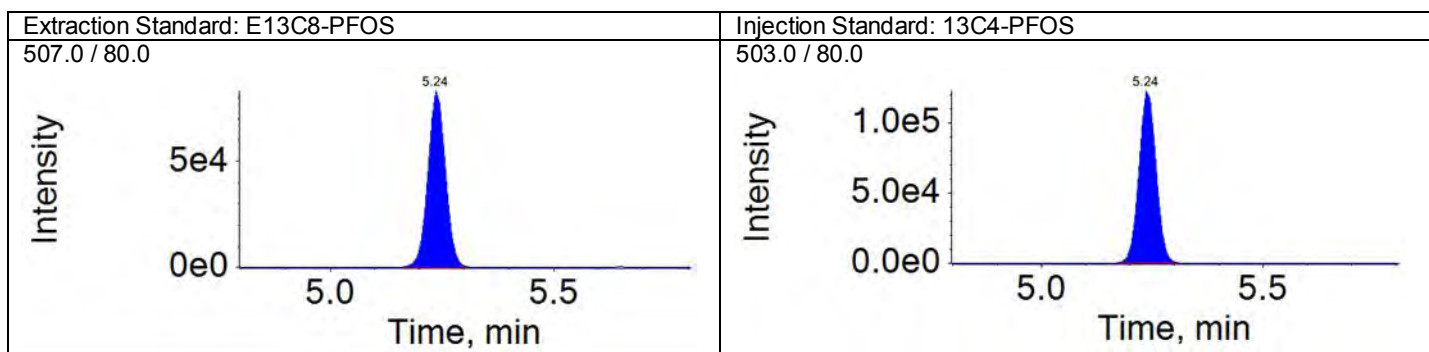
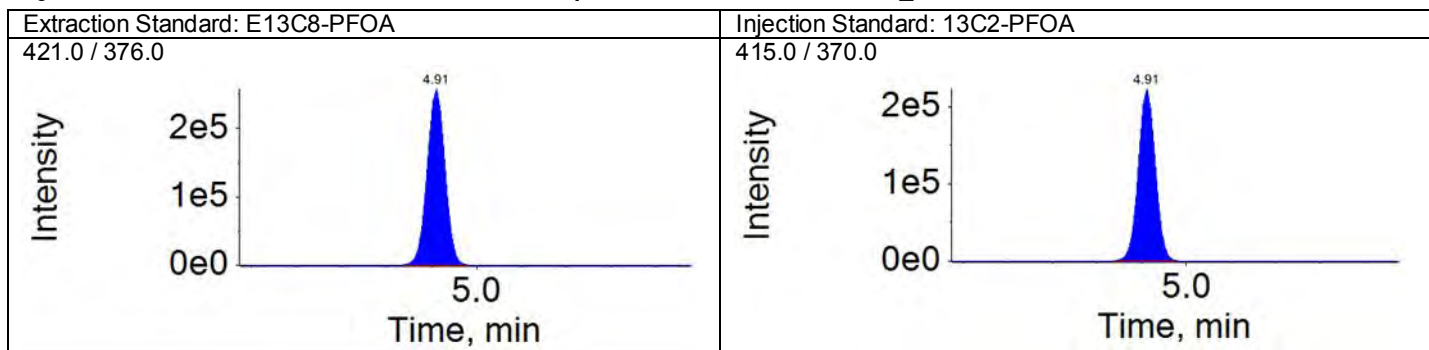
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



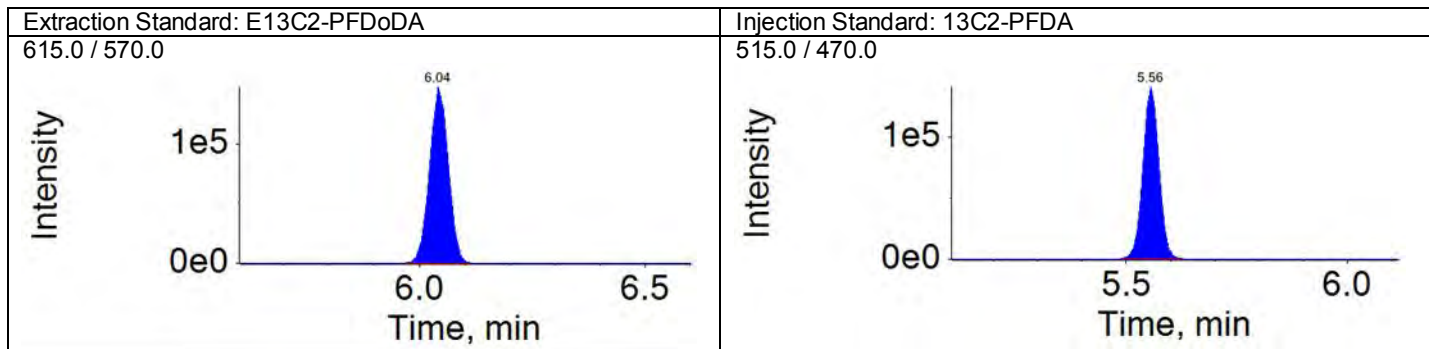
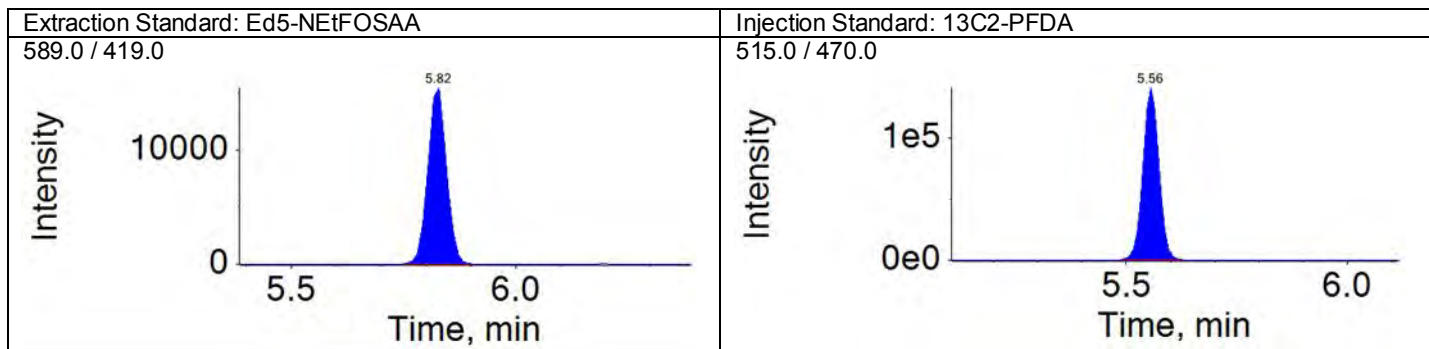
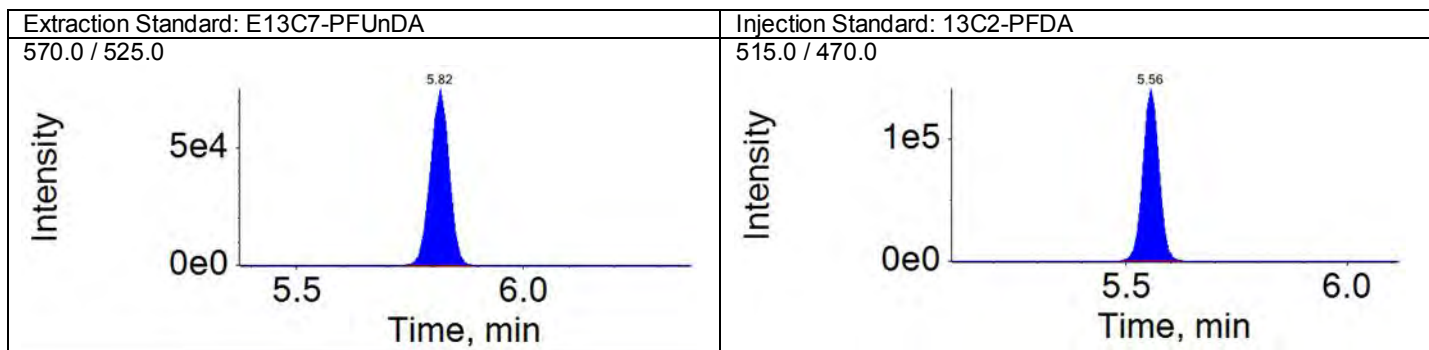
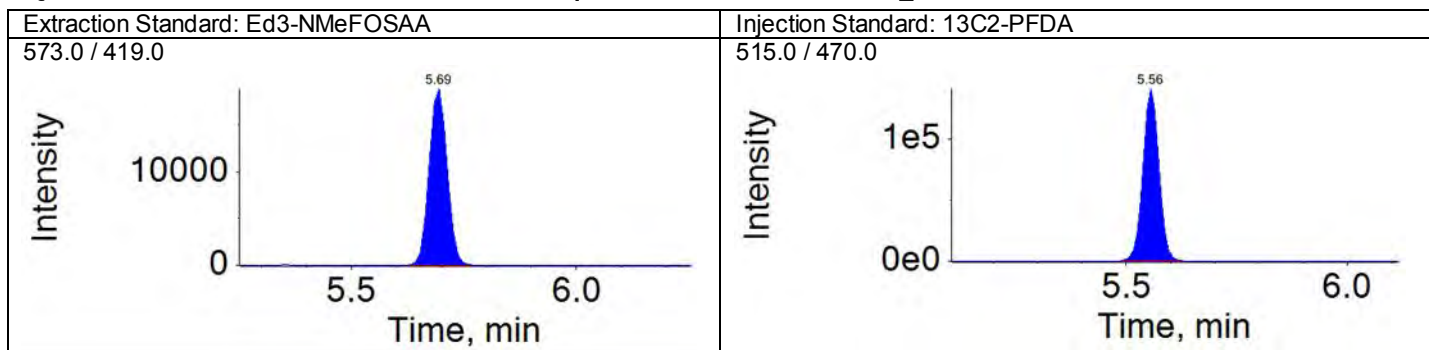
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Result Table: 18311003 11/9/2018 1:08:25 PM
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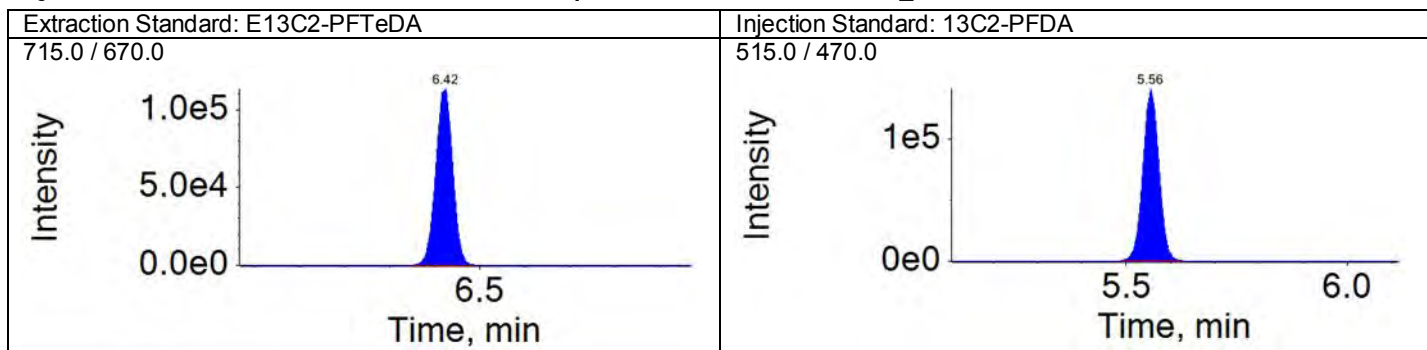
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Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



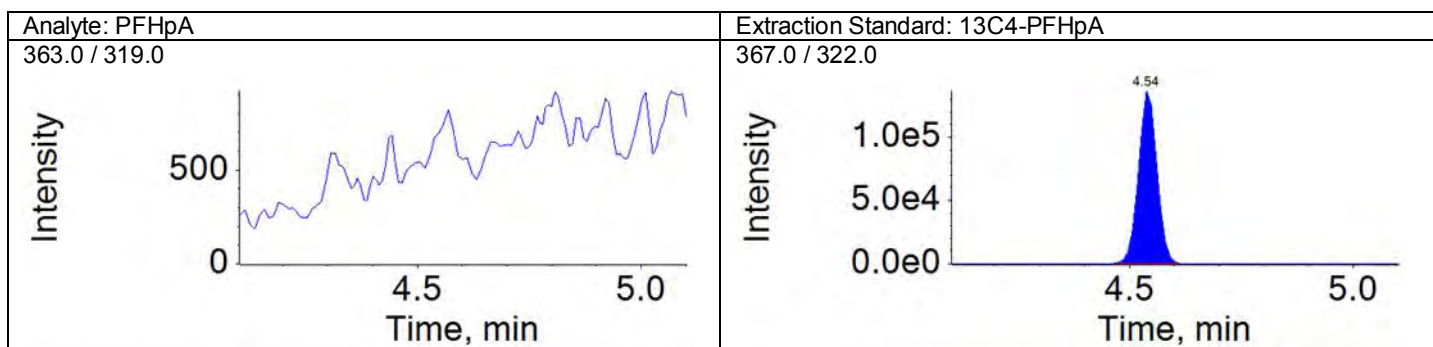
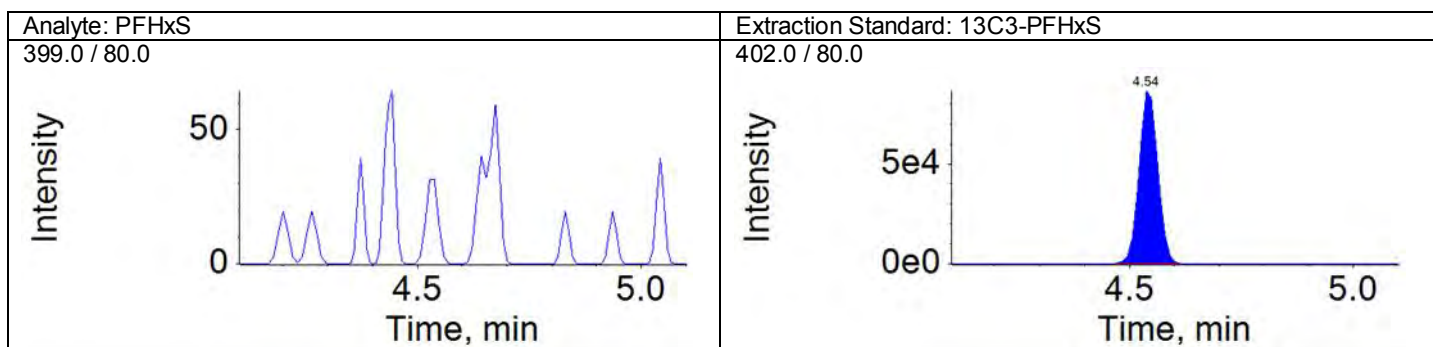
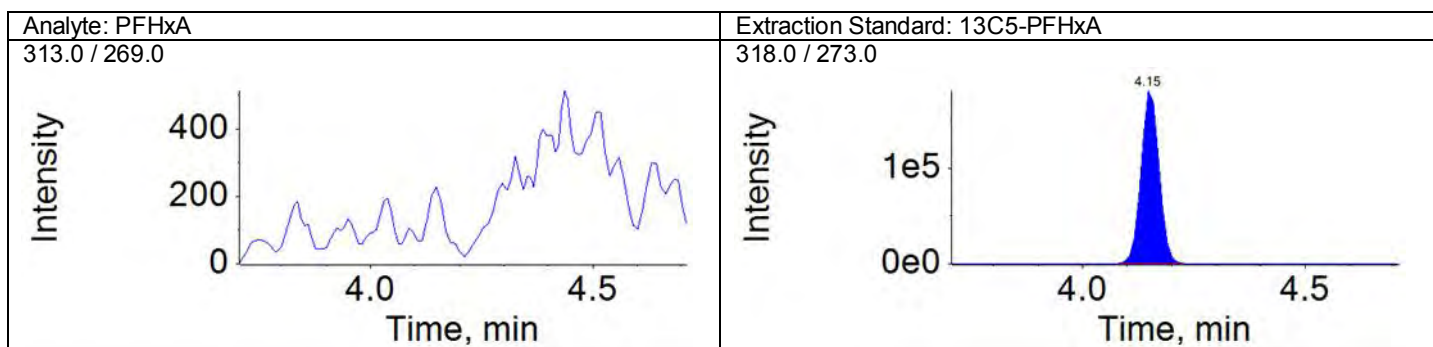
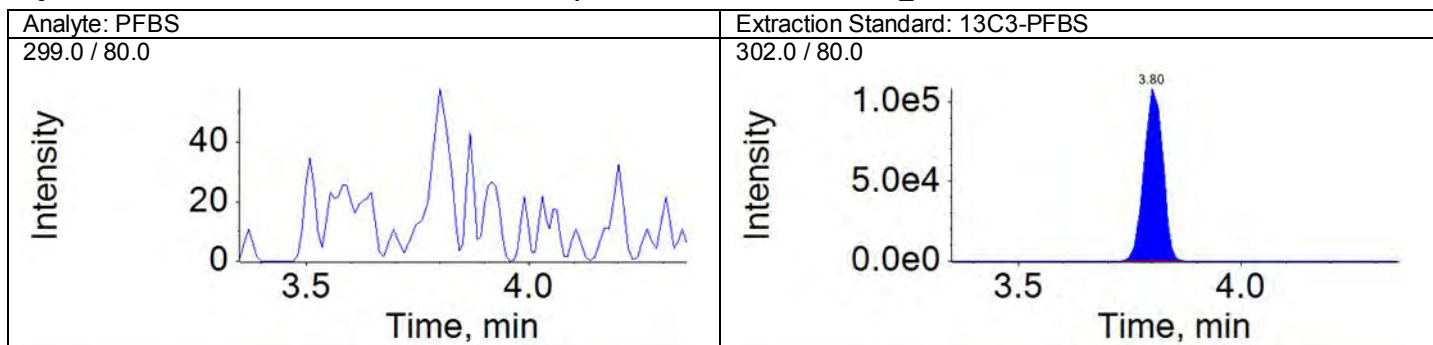
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Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



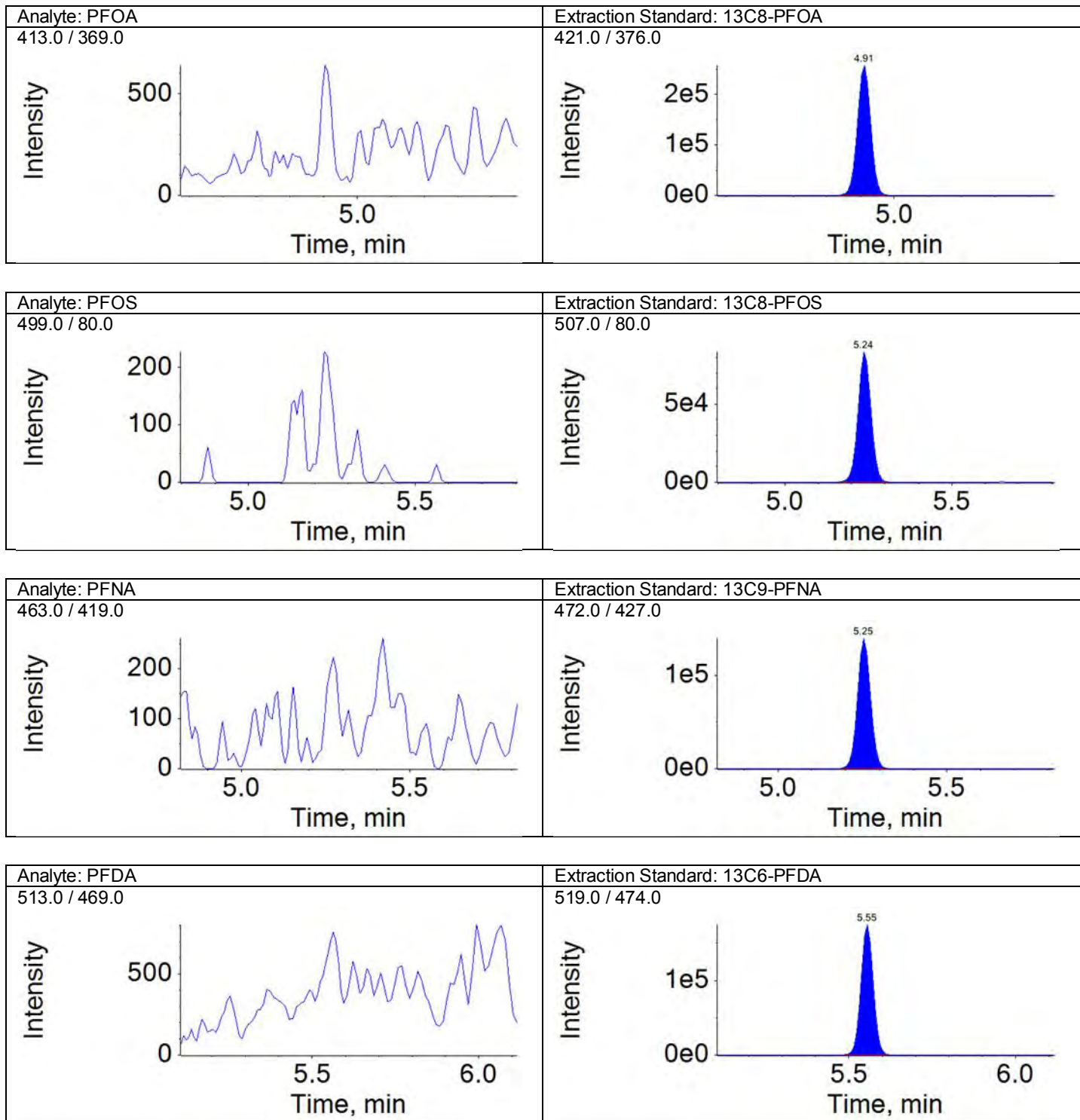
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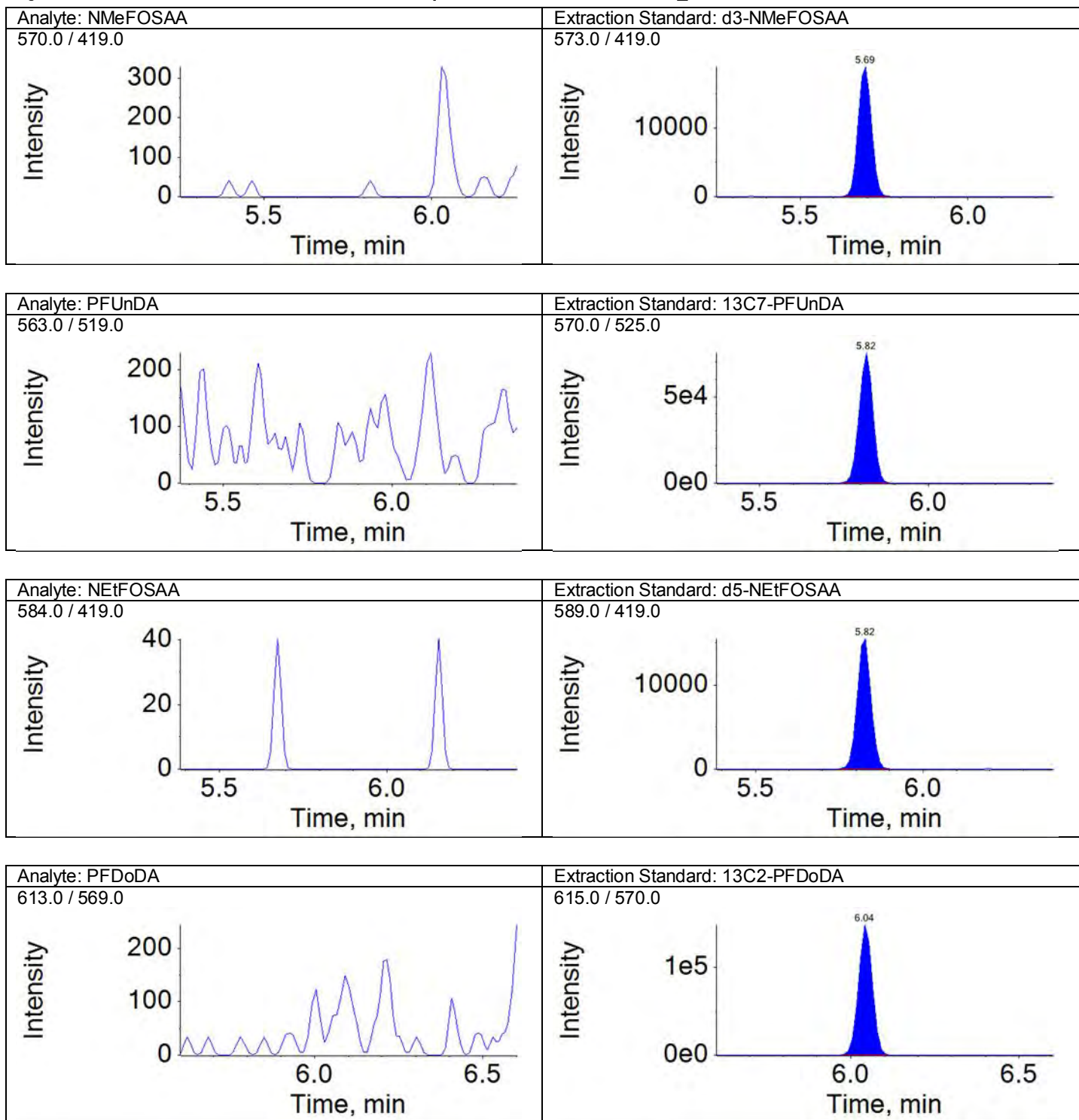
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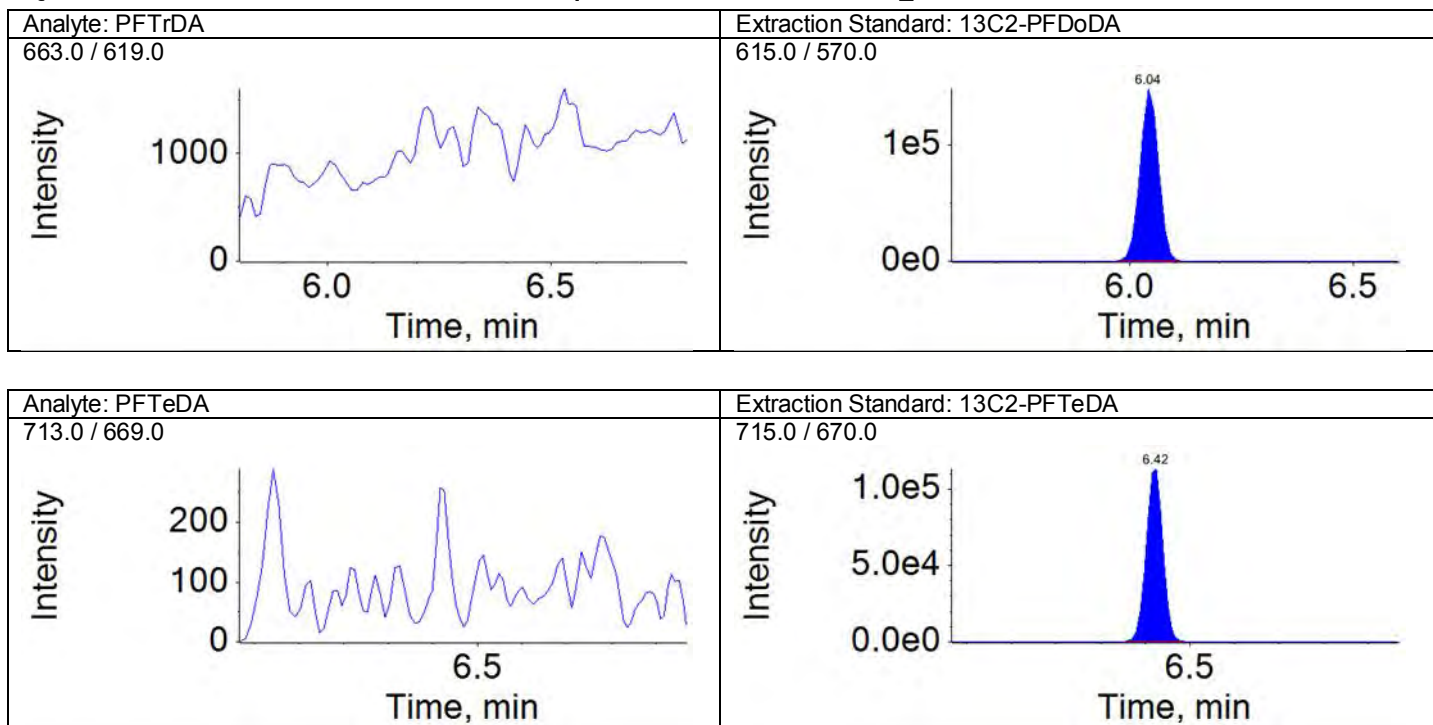
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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



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QMethod Name: MQ4-18AUG13

Result Table: 18311003 11/9/2018 1:08:25 PM
Acquisition Method: 18AUG13_3uL.dam



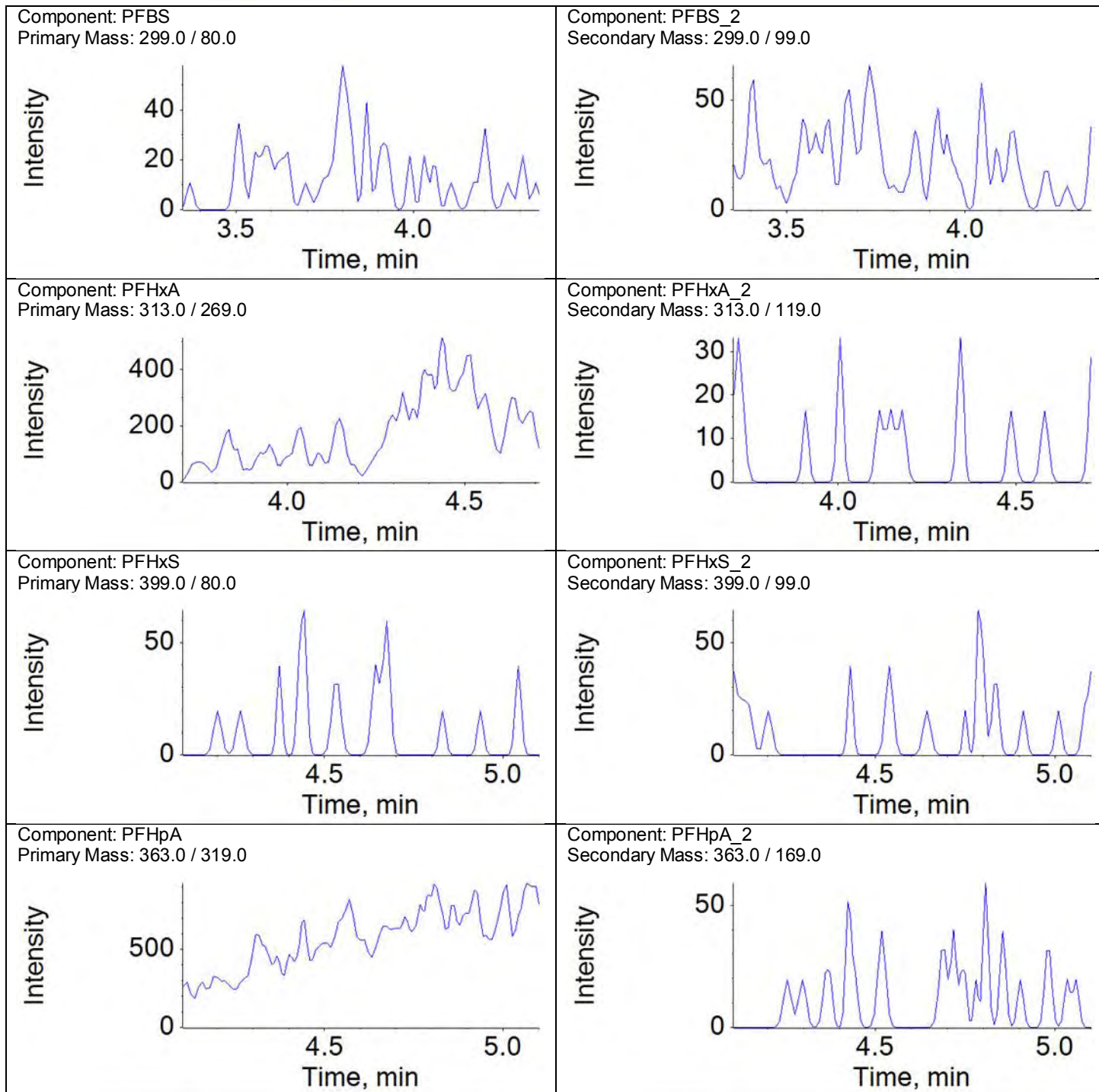
Ion Ratio Report

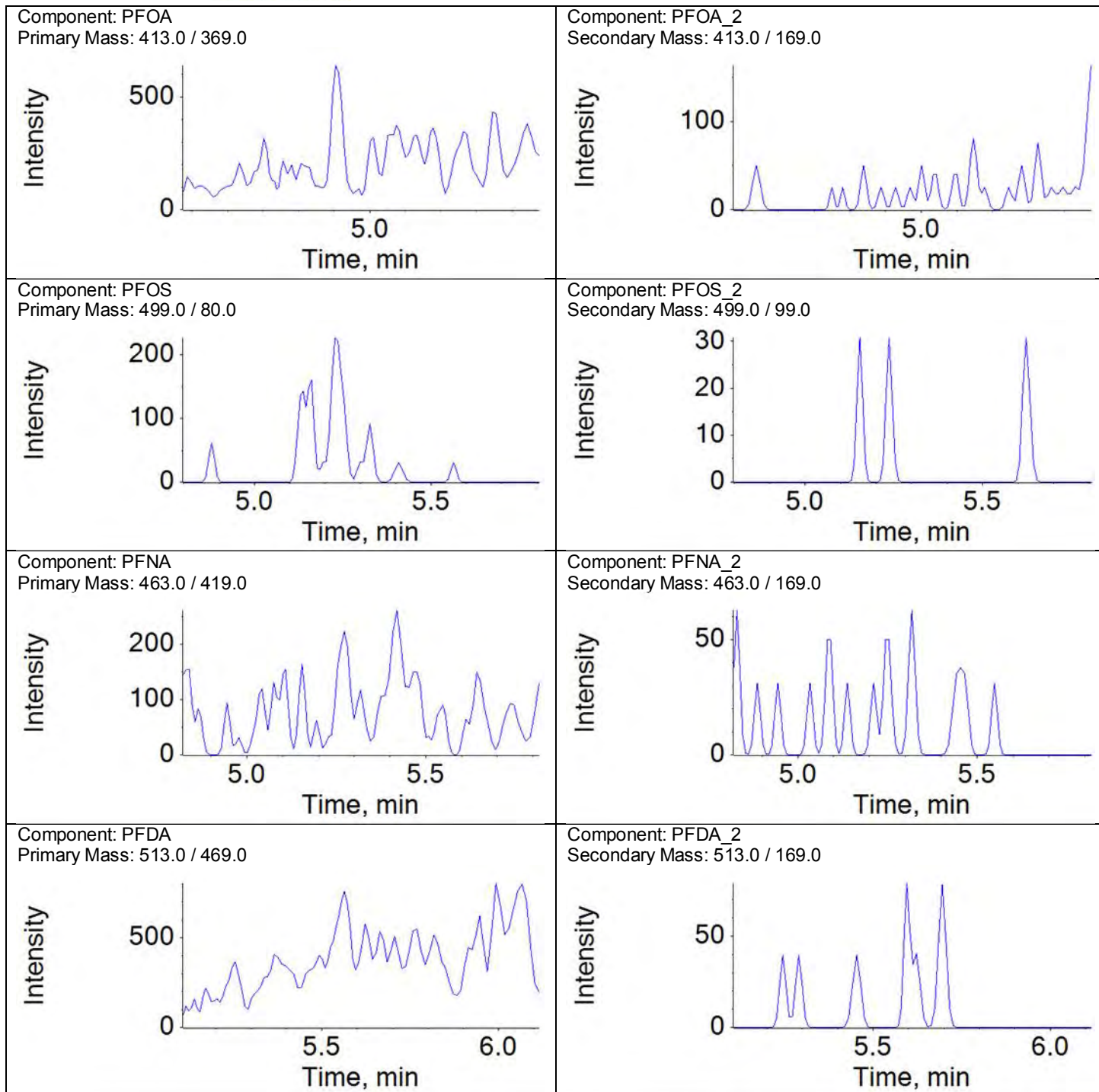
Sample Name: 9881596

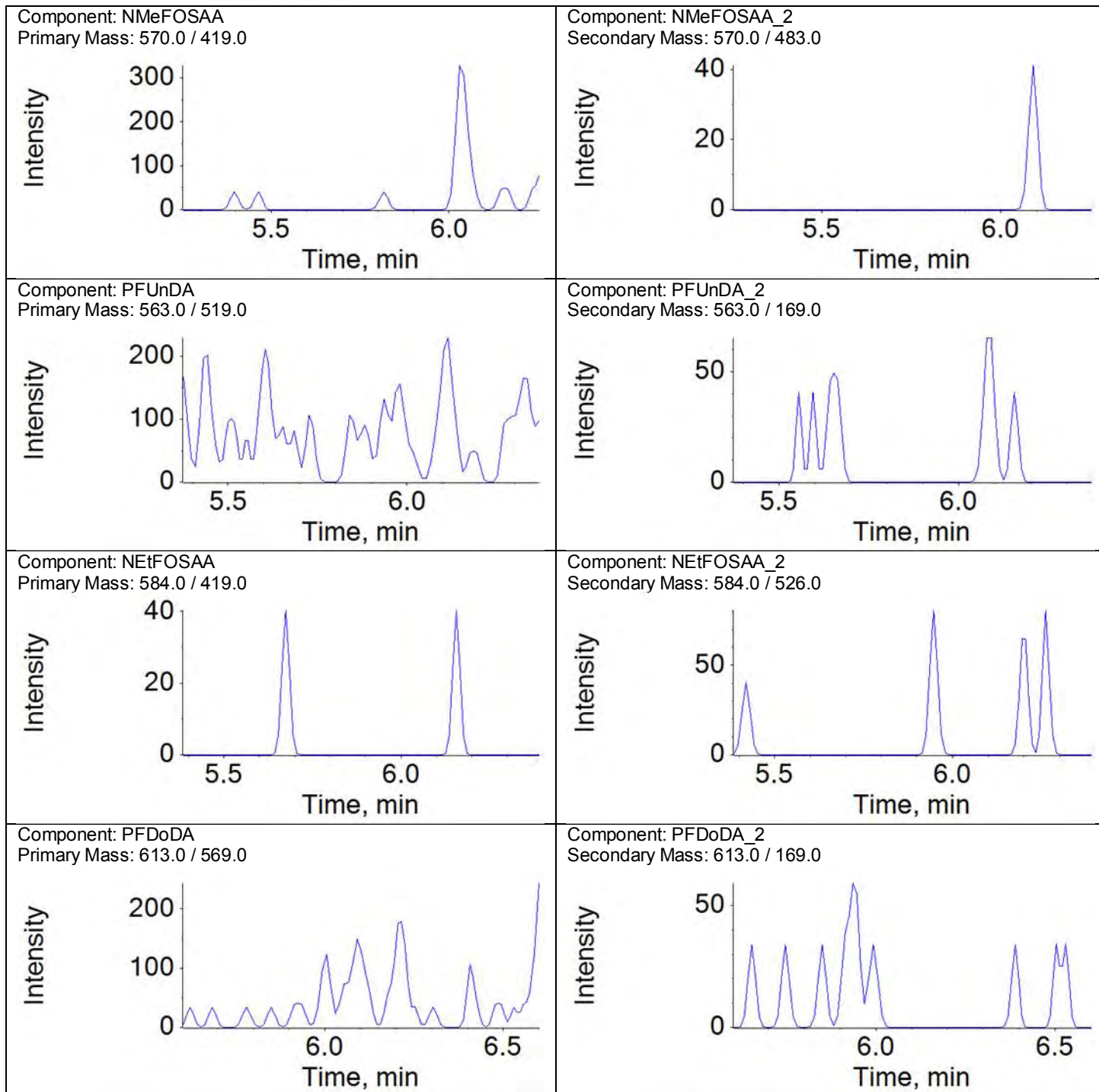
Instrument Name: LM27631

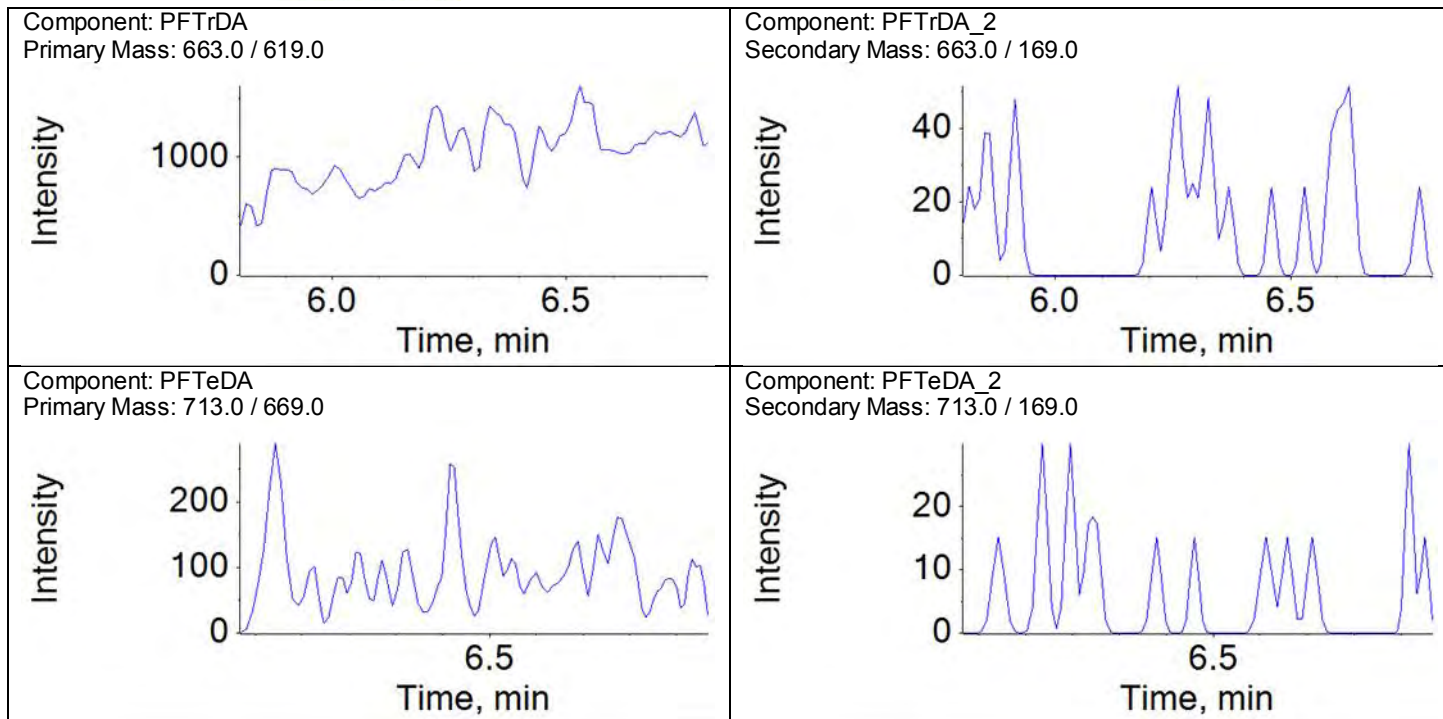
File Name: 18NOV08D-61.wiff

Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	N/A	N/A	N/A	A	N/A	N/A			
PFBS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxA	N/A	N/A	N/A	A	N/A	N/A			
PFHxA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHxS	N/A	N/A	N/A	A	N/A	N/A			
PFHxS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFHpA	N/A	N/A	N/A	A	N/A	N/A			
PFHpA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOA	N/A	N/A	N/A	A	N/A	N/A			
PFOA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFOS	N/A	N/A	N/A	A	N/A	N/A			
PFOS_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFNA	N/A	N/A	N/A	A	N/A	N/A			
PFNA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDA	N/A	N/A	N/A	A	N/A	N/A			
PFDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NMeFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NMeFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFUnDA	N/A	N/A	N/A	A	N/A	N/A			
PFUnDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
NEtFOSAA	N/A	N/A	N/A	A	N/A	N/A			
NEtFOSAA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFDoDA	N/A	N/A	N/A	A	N/A	N/A			
PFDoDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTTrDA	N/A	N/A	N/A	A	N/A	N/A			
PFTTrDA_2	N/A	N/A	N/A	A	N/A	N/A		50	
PFTeDA	N/A	N/A	N/A	A	N/A	N/A			
PFTeDA_2	N/A	N/A	N/A	A	N/A	N/A		50	









Standards Data

PFAS by LC/MS/MS

Instrument Name: LM27631

Data File Name	Sample ID	Batch No	Analysis Date/Time
18NOV07DCAL-09.wiff	MDL	N/A	11/7/2018 9:30:56 AM
18NOV07DCAL-10.wiff	CAL1	N/A	11/7/2018 9:39:56 AM
18NOV07DCAL-11.wiff	CAL2	N/A	11/7/2018 9:48:56 AM
18NOV07DCAL-12.wiff	CAL3	N/A	11/7/2018 9:57:56 AM
18NOV07DCAL-13.wiff	CAL4	N/A	11/7/2018 10:06:59 AM
18NOV07DCAL-14.wiff	CAL5	N/A	11/7/2018 10:15:59 AM
18NOV07DCAL-15.wiff	CAL6	N/A	11/7/2018 10:24:59 AM
18NOV07DCAL-16.wiff	CAL7	N/A	11/7/2018 10:33:59 AM
18NOV07DCAL-17.wiff	Instrument Blank	N/A	11/7/2018 10:42:59 AM
18NOV07DCAL-18.wiff	ICV	N/A	11/7/2018 10:51:59 AM
18NOV07DCAL-19.wiff	L+B CAL3	N/A	11/7/2018 11:00:59 AM
18NOV07DCAL-20.wiff	CCV1_CAL3	N/A	11/7/2018 11:09:59 AM
18NOV08D-01.wiff	solvent	N/A	11/8/2018 11:48:33 AM
18NOV08D-02.wiff	solvent	N/A	11/8/2018 11:57:34 AM
18NOV08D-03.wiff	solvent	N/A	11/8/2018 12:06:37 PM
18NOV08D-04.wiff	solvent	N/A	11/8/2018 12:15:40 PM
18NOV08D-05.wiff	CCV1_ISC_CAL2	N/A	11/8/2018 12:24:40 PM
18NOV08D-06.wiff	INBLK	N/A	11/8/2018 12:33:40 PM
18NOV08D-07.wiff	9881945	18309005	11/8/2018 12:42:43 PM
18NOV08D-08.wiff	9881946	18309005	11/8/2018 12:51:43 PM
18NOV08D-09.wiff	9881949	18309005	11/8/2018 1:00:46 PM
18NOV08D-10.wiff	9881950	18309005	11/8/2018 1:09:46 PM
18NOV08D-11.wiff	9881951	18309005	11/8/2018 1:18:46 PM
18NOV08D-12.wiff	9881952	18309005	11/8/2018 1:27:49 PM
18NOV08D-13.wiff	9881955	18309005	11/8/2018 1:36:52 PM
18NOV08D-14.wiff	9881956	18309005	11/8/2018 1:45:52 PM
18NOV08D-15.wiff	9881957	18309005	11/8/2018 1:54:52 PM
18NOV08D-16.wiff	9881958	18309005	11/8/2018 2:03:52 PM
18NOV08D-17.wiff	CCV2_CAL3	N/A	11/8/2018 2:12:52 PM
18NOV08D-18.wiff	9881931	18309011	11/8/2018 2:21:52 PM
18NOV08D-19.wiff	9881936	18309011	11/8/2018 2:30:55 PM
18NOV08D-20.wiff	9881937	18309011	11/8/2018 2:39:58 PM
18NOV08D-21.wiff	solvent	N/A	11/8/2018 2:48:58 PM
18NOV08D-22.wiff	BLK310003	18310003	11/8/2018 2:58:01 PM
18NOV08D-23.wiff	LCS310003	18310003	11/8/2018 3:07:01 PM
18NOV08D-24.wiff	9881926	18310003	11/8/2018 3:16:01 PM
18NOV08D-25.wiff	9881927	18310003	11/8/2018 3:25:01 PM
18NOV08D-26.wiff	9881928BKG	18310003	11/8/2018 3:34:01 PM
18NOV08D-27.wiff	9881929MS	18310003	11/8/2018 3:43:04 PM
18NOV08D-28.wiff	9881930MSD	18310003	11/8/2018 3:52:04 PM
18NOV08D-29.wiff	CCV3_CAL4	N/A	11/8/2018 4:01:07 PM
18NOV08D-30.wiff	9881963	18310003	11/8/2018 4:10:10 PM
18NOV08D-31.wiff	9881964	18310003	11/8/2018 4:19:13 PM
18NOV08D-32.wiff	9881967	18310003	11/8/2018 4:28:13 PM
18NOV08D-33.wiff	9881968	18310003	11/8/2018 4:37:16 PM
18NOV08D-34.wiff	9881969	18310003	11/8/2018 4:46:19 PM
18NOV08D-35.wiff	9881970	18310003	11/8/2018 4:55:19 PM
18NOV08D-36.wiff	9881973	18310003	11/8/2018 5:04:22 PM
18NOV08D-37.wiff	9881974	18310003	11/8/2018 5:13:22 PM
18NOV08D-38.wiff	9881975	18310003	11/8/2018 5:22:23 PM
18NOV08D-39.wiff	9881976	18310003	11/8/2018 5:31:22 PM
18NOV08D-40.wiff	CCV4_ISC_CAL2	N/A	11/8/2018 5:40:25 PM
18NOV08D-41.wiff	solvent	N/A	11/8/2018 5:49:25 PM
18NOV08D-42.wiff	BLK311003	18311003	11/8/2018 5:58:28 PM
18NOV08D-43.wiff	LCS311003	18311003	11/8/2018 6:07:28 PM
18NOV08D-44.wiff	9881573	18311003	11/8/2018 6:16:28 PM
18NOV08D-45.wiff	9881574	18311003	11/8/2018 6:25:28 PM

Instrument Name: LM27631

18NOV08D-46.wiff	9881575	18311003	11/8/2018 6:34:31 PM
18NOV08D-47.wiff	9881576	18311003	11/8/2018 6:43:31 PM
18NOV08D-48.wiff	9881581	18311003	11/8/2018 6:52:32 PM
18NOV08D-49.wiff	9881582	18311003	11/8/2018 7:01:34 PM
18NOV08D-50.wiff	9881583BKG	18311003	11/8/2018 7:10:34 PM
18NOV08D-51.wiff	9881584MS	18311003	11/8/2018 7:19:34 PM
18NOV08D-52.wiff	CCV5_CAL3	N/A	11/8/2018 7:28:37 PM
18NOV08D-53.wiff	9881585MSD	18311003	11/8/2018 7:37:37 PM
18NOV08D-54.wiff	9881586	18311003	11/8/2018 7:46:40 PM
18NOV08D-55.wiff	9881589	18311003	11/8/2018 7:55:43 PM
18NOV08D-56.wiff	9881590	18311003	11/8/2018 8:04:46 PM
18NOV08D-57.wiff	9881591	18311003	11/8/2018 8:13:46 PM
18NOV08D-58.wiff	9881592	18311003	11/8/2018 8:22:46 PM
18NOV08D-59.wiff	9881594	18311003	11/8/2018 8:31:46 PM
18NOV08D-60.wiff	9881595	18311003	11/8/2018 8:40:46 PM
18NOV08D-61.wiff	9881596	18311003	11/8/2018 8:49:46 PM
18NOV08D-62.wiff	CCV6_CAL4	N/A	11/8/2018 8:58:46 PM
18NOV08D-63.wiff	9885111	18311003	11/8/2018 9:07:46 PM
18NOV08D-64.wiff	9885112	18311003	11/8/2018 9:16:46 PM
18NOV08D-65.wiff	9885113	18311003	11/8/2018 9:25:49 PM
18NOV08D-66.wiff	solvent	N/A	11/8/2018 9:34:50 PM
18NOV08D-67.wiff	9878747DL	18308002	11/8/2018 9:43:53 PM
18NOV08D-68.wiff	solvent	N/A	11/8/2018 9:52:55 PM
18NOV08D-69.wiff	BLK310012	18310012	11/8/2018 10:01:55 PM
18NOV08D-70.wiff	LCS310012	18310012	11/8/2018 10:10:58 PM
18NOV08D-71.wiff	9881902	18310012	11/8/2018 10:20:02 PM
18NOV08D-72.wiff	9881903	18310012	11/8/2018 10:29:05 PM
18NOV08D-73.wiff	9881904	18310012	11/8/2018 10:38:07 PM
18NOV08D-74.wiff	9881907BKG	18310012	11/8/2018 10:47:07 PM
18NOV08D-75.wiff	CCV7_ISC_CAL2	N/A	11/8/2018 10:56:07 PM
18NOV08D-76.wiff	Instrument Blank	N/A	11/8/2018 11:05:11 PM
18NOV08D-77.wiff	9881908MS	18310012	11/8/2018 11:14:11 PM
18NOV08D-78.wiff	9881909MSD	18310012	11/8/2018 11:23:13 PM
18NOV08D-79.wiff	9881910	18310012	11/8/2018 11:32:16 PM
18NOV08D-80.wiff	9881911	18310012	11/8/2018 11:41:16 PM
18NOV08D-81.wiff	9881912	18310012	11/8/2018 11:50:20 PM
18NOV08D-82.wiff	9881915	18310012	11/8/2018 11:59:23 PM
18NOV08D-83.wiff	9881916	18310012	11/9/2018 12:08:25 AM
18NOV08D-84.wiff	9881917	18310012	11/9/2018 12:17:25 AM
18NOV08D-85.wiff	9881918	18310012	11/9/2018 12:26:28 AM
18NOV08D-86.wiff	CCV8_CAL3	N/A	11/9/2018 12:35:31 AM
18NOV08D-87.wiff	solvent	N/A	11/9/2018 12:44:31 AM
18NOV08D-88.wiff	BLK311004	18311004	11/9/2018 12:53:31 AM
18NOV08D-89.wiff	LCS311004	18311004	11/9/2018 1:02:32 AM
18NOV08D-90.wiff	9881536	18311004	11/9/2018 1:11:34 AM
18NOV08D-91.wiff	9881537BKG	18311004	11/9/2018 1:20:35 AM
18NOV08D-92.wiff	9881538MS	18311004	11/9/2018 1:29:35 AM
18NOV08D-93.wiff	9881539MSD	18311004	11/9/2018 1:38:35 AM
18NOV08D-94.wiff	9881540	18311004	11/9/2018 1:47:35 AM
18NOV08D-95.wiff	9881541	18311004	11/9/2018 1:56:35 AM
18NOV08D-96.wiff	9881544	18311004	11/9/2018 2:05:35 AM
18NOV08D-97.wiff	9881545	18311004	11/9/2018 2:14:38 AM
18NOV08D-98.wiff	CCV9_CAL4	N/A	11/9/2018 2:23:41 AM
18NOV08D-99.wiff	9883380	18311004	11/9/2018 2:32:44 AM
18NOV08D-100.wiff	9883381	18311004	11/9/2018 2:41:47 AM
18NOV08D-101.wiff	9883386	18311004	11/9/2018 2:50:50 AM
18NOV08D-102.wiff	9883387	18311004	11/9/2018 2:59:50 AM
18NOV08D-103.wiff	9883388	18311004	11/9/2018 3:08:53 AM

Instrument Name: LM27631

18NOV08D-104.wiff	9883389	18311004	11/9/2018 3:17:53 AM
18NOV08D-105.wiff	9883392	18311004	11/9/2018 3:26:56 AM
18NOV08D-106.wiff	9883393	18311004	11/9/2018 3:35:56 AM
18NOV08D-107.wiff	9883394	18311004	11/9/2018 3:44:56 AM
18NOV08D-108.wiff	9883395	18311004	11/9/2018 3:53:59 AM
18NOV08D-109.wiff	CCV10_ISC_CAL2	N/A	11/9/2018 4:02:59 AM
18NOV08D-110.wiff	9885114	18311004	11/9/2018 4:11:59 AM
18NOV08D-111.wiff	9885117	18311004	11/9/2018 4:20:59 AM
18NOV08D-112.wiff	CCV11_CAL3	N/A	11/9/2018 4:29:59 AM

20 mM Ammonium Acetate in H₂O: 782411021833A
20 mM Ammonium Acetate in 0.5% H₂O\Methanol: 782411021833B

Instrument Name: LM27631

Data File Name	Sample ID	Batch No	Analysis Date/Time
18NOV12DCAL-41.wiff	MDL	N/A	11/12/2018 2:56:51 PM
18NOV12DCAL-42.wiff	CAL1	N/A	11/12/2018 3:05:54 PM
18NOV12DCAL-43.wiff	CAL2	N/A	11/12/2018 3:15:03 PM
18NOV12DCAL-44.wiff	CAL3	N/A	11/12/2018 3:24:03 PM
18NOV12DCAL-45.wiff	CAL4	N/A	11/12/2018 3:33:03 PM
18NOV12DCAL-46.wiff	CAL5	N/A	11/12/2018 3:42:06 PM
18NOV12DCAL-47.wiff	CAL6	N/A	11/12/2018 3:51:06 PM
18NOV12DCAL-48.wiff	CAL7	N/A	11/12/2018 4:00:06 PM
18NOV12DCAL-49.wiff	solvent	N/A	11/12/2018 4:09:09 PM
18NOV12DCAL-50.wiff	ICV	N/A	11/12/2018 4:18:11 PM
18NOV12DCAL-51.wiff	L+B CAL3	N/A	11/12/2018 4:27:15 PM
18NOV12DCAL-52.wiff	CCV1_CAL3	N/A	11/12/2018 4:36:17 PM
18NOV12D-01.wiff	solvent	N/A	11/12/2018 4:45:21 PM
18NOV12D-02.wiff	solvent	N/A	11/12/2018 4:54:24 PM
18NOV12D-03.wiff	solvent	N/A	11/12/2018 5:03:30 PM
18NOV12D-04.wiff	solvent	N/A	11/12/2018 5:12:33 PM
18NOV12D-05.wiff	CCV1_ISC_CAL2	N/A	11/12/2018 5:21:36 PM
18NOV12D-06.wiff	Instrument Blank	N/A	11/12/2018 5:30:36 PM
18NOV12D-07.wiff	BLK312009	18312009	11/12/2018 5:39:36 PM
18NOV12D-08.wiff	LCS312009	18312009	11/12/2018 5:48:39 PM
18NOV12D-09.wiff	9888754BKG	18312009	11/12/2018 5:57:42 PM
18NOV12D-10.wiff	9888799	18312009	11/12/2018 6:06:45 PM
18NOV12D-11.wiff	9888800	18312009	11/12/2018 6:15:48 PM
18NOV12D-12.wiff	9888801	18312009	11/12/2018 6:24:51 PM
18NOV12D-13.wiff	9888755MS	18312009	11/12/2018 6:33:51 PM
18NOV12D-14.wiff	9888756MSD	18312009	11/12/2018 6:42:51 PM
18NOV12D-15.wiff	CCV2_CAL3	N/A	11/12/2018 6:51:51 PM
18NOV12D-16.wiff	BLK313005	18313005	11/12/2018 7:00:51 PM
18NOV12D-17.wiff	LCS313005	18313005	11/12/2018 7:09:51 PM
18NOV12D-18.wiff	9881926	18313005	11/12/2018 7:18:51 PM
18NOV12D-19.wiff	9881927	18313005	11/12/2018 7:27:54 PM
18NOV12D-20.wiff	9881928BKG	18313005	11/12/2018 7:36:54 PM
18NOV12D-21.wiff	9881940	18313005	11/12/2018 7:45:57 PM
18NOV12D-22.wiff	9881963	18313005	11/12/2018 7:54:57 PM
18NOV12D-23.wiff	9881964	18313005	11/12/2018 8:04:00 PM
18NOV12D-24.wiff	CCV3_CAL4	N/A	11/12/2018 8:13:03 PM
18NOV12D-25.wiff	9881967	18313005	11/12/2018 8:22:06 PM
18NOV12D-26.wiff	9881968	18313005	11/12/2018 8:31:09 PM
18NOV12D-27.wiff	9881969	18313005	11/12/2018 8:40:12 PM
18NOV12D-28.wiff	9881970	18313005	11/12/2018 8:49:15 PM
18NOV12D-29.wiff	9881973	18313005	11/12/2018 8:58:18 PM
18NOV12D-30.wiff	9881974	18313005	11/12/2018 9:07:21 PM
18NOV12D-31.wiff	9881975	18313005	11/12/2018 9:16:24 PM
18NOV12D-32.wiff	9881976	18313005	11/12/2018 9:25:24 PM
18NOV12D-33.wiff	9881929MS	18313005	11/12/2018 9:34:27 PM
18NOV12D-34.wiff	9881930MSD	18313005	11/12/2018 9:43:27 PM
18NOV12D-35.wiff	CCV4_ISC_CAL2	N/A	11/12/2018 9:52:30 PM
18NOV12D-36.wiff	9881926DL	18313005	11/12/2018 10:01:33 PM
18NOV12D-37.wiff	9881927DL	18313005	11/12/2018 10:10:36 PM
18NOV12D-38.wiff	9881928BKGDL	18313005	11/12/2018 10:19:36 PM
18NOV12D-39.wiff	solvent	N/A	11/12/2018 10:28:39 PM
18NOV12D-40.wiff	BLK314006	18314006	11/12/2018 10:37:42 PM
18NOV12D-41.wiff	LCS314006	18314006	11/12/2018 10:46:42 PM
18NOV12D-42.wiff	9881534	18314006	11/12/2018 10:55:42 PM
18NOV12D-43.wiff	9881535	18314006	11/12/2018 11:04:42 PM
18NOV12D-44.wiff	9881579	18314006	11/12/2018 11:13:42 PM
18NOV12D-45.wiff	9881580	18314006	11/12/2018 11:22:45 PM

Instrument Name: LM27631

18NOV12D-46.wiff	9881925	18314006	11/12/2018 11:31:48 PM
18NOV12D-47.wiff	CCV5_CAL3	N/A	11/12/2018 11:40:51 PM
18NOV12D-48.wiff	9881942	18314006	11/12/2018 11:49:51 PM
18NOV12D-49.wiff	9881979	18314006	11/12/2018 11:58:54 PM
18NOV12D-50.wiff	9881980	18314006	11/13/2018 12:07:57 AM
18NOV12D-51.wiff	9893164	18314006	11/13/2018 12:16:57 AM
18NOV12D-52.wiff	9893165	18314006	11/13/2018 12:25:57 AM
18NOV12D-53.wiff	9893166	18314006	11/13/2018 12:35:00 AM
18NOV12D-54.wiff	9893167	18314006	11/13/2018 12:44:03 AM
18NOV12D-55.wiff	9893169BKG	18314006	11/13/2018 12:53:06 AM
18NOV12D-56.wiff	9893176	18314006	11/13/2018 1:02:06 AM
18NOV12D-57.wiff	9893170MS	18314006	11/13/2018 1:11:07 AM
18NOV12D-58.wiff	CCV6_CAL4	N/A	11/13/2018 1:20:06 AM
18NOV12D-59.wiff	9893171MSD	18314006	11/13/2018 1:29:06 AM
18NOV12D-60.wiff	solvent	N/A	11/13/2018 1:38:09 AM
18NOV12D-61.wiff	BLK314009	18314009	11/13/2018 1:47:15 AM
18NOV12D-62.wiff	LCS314009	18314009	11/13/2018 1:56:15 AM
18NOV12D-63.wiff	LCSDA	18314009	11/13/2018 2:05:18 AM
18NOV12D-64.wiff	9881540BKG	18314009	11/13/2018 2:14:21 AM
18NOV12D-65.wiff	9881573	18314009	11/13/2018 2:23:27 AM
18NOV12D-66.wiff	9881575	18314009	11/13/2018 2:32:27 AM
18NOV12D-67.wiff	9881576	18314009	11/13/2018 2:41:30 AM
18NOV12D-68.wiff	9881589	18314009	11/13/2018 2:50:33 AM
18NOV12D-69.wiff	9881595	18314009	11/13/2018 2:59:33 AM
18NOV12D-70.wiff	CCV7_ISC_CAL2	N/A	11/13/2018 3:08:33 AM
18NOV12D-71.wiff	Instrument Blank	N/A	11/13/2018 3:17:33 AM
18NOV12D-72.wiff	9883388	18314009	11/13/2018 3:26:33 AM
18NOV12D-73.wiff	9883389	18314009	11/13/2018 3:35:33 AM
18NOV12D-74.wiff	9883393	18314009	11/13/2018 3:44:36 AM
18NOV12D-75.wiff	9883394	18314009	11/13/2018 3:53:39 AM
18NOV12D-76.wiff	9885112	18314009	11/13/2018 4:02:39 AM
18NOV12D-77.wiff	9885113	18314009	11/13/2018 4:11:42 AM
18NOV12D-78.wiff	9885131	18314009	11/13/2018 4:20:42 AM
18NOV12D-79.wiff	9885137	18314009	11/13/2018 4:29:42 AM
18NOV12D-80.wiff	9885138	18314009	11/13/2018 4:38:45 AM
18NOV12D-81.wiff	9881540MS	18314009	11/13/2018 4:47:45 AM
18NOV12D-82.wiff	CCV8_CAL3	N/A	11/13/2018 4:56:45 AM
18NOV12D-83.wiff	BLK313002	18313002	11/13/2018 5:05:49 AM
18NOV12D-84.wiff	LCS313002	18313002	11/13/2018 5:14:51 AM
18NOV12D-85.wiff	9889418	18313002	11/13/2018 5:23:54 AM
18NOV12D-86.wiff	9889419	18313002	11/13/2018 5:32:56 AM
18NOV12D-87.wiff	9889420	18313002	11/13/2018 5:41:59 AM
18NOV12D-88.wiff	9889421	18313002	11/13/2018 5:51:02 AM
18NOV12D-89.wiff	9889422	18313002	11/13/2018 6:00:08 AM
18NOV12D-90.wiff	9889423BKG	18313002	11/13/2018 6:09:11 AM
18NOV12D-91.wiff	9889426	18313002	11/13/2018 6:18:14 AM
18NOV12D-92.wiff	9889427	18313002	11/13/2018 6:27:17 AM
18NOV12D-93.wiff	CCV9_CAL4	N/A	11/13/2018 6:36:17 AM
18NOV12D-94.wiff	9889424MS	18313002	11/13/2018 6:45:17 AM
18NOV12D-95.wiff	9889425MSD	18313002	11/13/2018 6:54:17 AM
18NOV12D-96.wiff	CCV10_ISC_CAL2	N/A	11/13/2018 7:03:17 AM
18NOV12D-97.wiff	BLK309009	18309009	11/13/2018 7:12:17 AM
18NOV12D-98.wiff	IDOC1	18309009	11/13/2018 7:21:20 AM
18NOV12D-99.wiff	IDOC2	18309009	11/13/2018 7:30:23 AM
18NOV12D-100.wiff	IDOC3	18309009	11/13/2018 7:39:23 AM
18NOV12D-101.wiff	IDOC4	18309009	11/13/2018 7:48:26 AM
18NOV12D-102.wiff	solvent	N/A	11/13/2018 7:57:26 AM
18NOV12D-103.wiff	BLK306011	18306011	11/13/2018 8:06:26 AM

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18NOV12D-104.wiff	18306011 MDL2	18306011	11/13/2018 8:15:29 AM
18NOV12D-105.wiff	BLK306012	18306012	11/13/2018 8:24:32 AM
18NOV12D-106.wiff	18306012 MDL2	18306012	11/13/2018 8:33:35 AM
18NOV12D-107.wiff	CCV11_CAL3	N/A	11/13/2018 8:42:38 AM

20 mM Ammonium Acetate in H₂O: 782411091833A
20 mM Ammonium Acetate in 0.5% H₂O\Methanol: 782411091833B

Instrument Name: LM27631

Data File Name	Sample ID	Batch No	Analysis Date/Time
18NOV12DCAL-41.wiff	MDL	N/A	11/12/2018 2:56:51 PM
18NOV12DCAL-42.wiff	CAL1	N/A	11/12/2018 3:05:54 PM
18NOV12DCAL-43.wiff	CAL2	N/A	11/12/2018 3:15:03 PM
18NOV12DCAL-44.wiff	CAL3	N/A	11/12/2018 3:24:03 PM
18NOV12DCAL-45.wiff	CAL4	N/A	11/12/2018 3:33:03 PM
18NOV12DCAL-46.wiff	CAL5	N/A	11/12/2018 3:42:06 PM
18NOV12DCAL-47.wiff	CAL6	N/A	11/12/2018 3:51:06 PM
18NOV12DCAL-48.wiff	CAL7	N/A	11/12/2018 4:00:06 PM
18NOV12DCAL-49.wiff	solvent	N/A	11/12/2018 4:09:09 PM
18NOV12DCAL-50.wiff	ICV	N/A	11/12/2018 4:18:11 PM
18NOV12DCAL-51.wiff	L+B CAL3	N/A	11/12/2018 4:27:15 PM
18NOV12DCAL-52.wiff	CCV1_CAL3	N/A	11/12/2018 4:36:17 PM
18NOV13D-01.wiff	solvent	N/A	11/13/2018 9:07:50 AM
18NOV13D-02.wiff	solvent	N/A	11/13/2018 9:16:53 AM
18NOV13D-03.wiff	solvent	N/A	11/13/2018 9:25:56 AM
18NOV13D-04.wiff	solvent	N/A	11/13/2018 9:34:59 AM
18NOV13D-05.wiff	CCV1_ISC_CAL2	N/A	11/13/2018 9:44:02 AM
18NOV13D-06.wiff	INBLK	N/A	11/13/2018 9:53:05 AM
18NOV13D-07.wiff	BLK316012	18316012	11/13/2018 10:02:05 AM
18NOV13D-08.wiff	LCS316012	18316012	11/13/2018 10:11:09 AM
18NOV13D-09.wiff	9881902	18316012	11/13/2018 10:20:11 AM
18NOV13D-10.wiff	9881903	18316012	11/13/2018 10:29:14 AM
18NOV13D-11.wiff	9881904	18316012	11/13/2018 10:38:14 AM
18NOV13D-12.wiff	9881907BKG	18316012	11/13/2018 10:47:14 AM
18NOV13D-13.wiff	9881908MS	18316012	11/13/2018 10:56:14 AM
18NOV13D-14.wiff	9881909MSD	18316012	11/13/2018 11:05:17 AM
18NOV13D-15.wiff	9881910	18316012	11/13/2018 11:14:20 AM
18NOV13D-16.wiff	9881911	18316012	11/13/2018 11:23:20 AM
18NOV13D-17.wiff	CCV2_CAL3	N/A	11/13/2018 11:32:20 AM
18NOV13D-18.wiff	9881912	18316012	11/13/2018 11:41:23 AM
18NOV13D-19.wiff	9881915	18316012	11/13/2018 11:50:23 AM
18NOV13D-20.wiff	9881916	18316012	11/13/2018 11:59:26 AM
18NOV13D-21.wiff	9881917	18316012	11/13/2018 12:08:26 PM
18NOV13D-22.wiff	9881918	18316012	11/13/2018 12:17:29 PM
18NOV13D-23.wiff	CCV3_CAL4	N/A	11/13/2018 12:26:35 PM
18NOV13D-24.wiff	solvent	N/A	11/13/2018 1:10:48 PM
18NOV13D-25.wiff	BLK316028	18316028	11/13/2018 1:19:50 PM
18NOV13D-26.wiff	LCS316028	18316028	11/13/2018 1:28:53 PM
18NOV13D-27.wiff	9885141	18316028	11/13/2018 1:37:56 PM
18NOV13D-28.wiff	9885142BKG	18316028	11/13/2018 1:46:59 PM
18NOV13D-29.wiff	9885143MS	18316028	11/13/2018 1:55:59 PM
18NOV13D-30.wiff	9885144MSD	18316028	11/13/2018 2:05:02 PM
18NOV13D-31.wiff	9885145	18316028	11/13/2018 2:14:02 PM
18NOV13D-32.wiff	9885147	18316028	11/13/2018 2:23:02 PM
18NOV13D-33.wiff	9885148	18316028	11/13/2018 2:32:05 PM
18NOV13D-34.wiff	9885149	18316028	11/13/2018 2:41:05 PM
18NOV13D-35.wiff	CCV4_ISC_CAL2	N/A	11/13/2018 2:50:05 PM
18NOV13D-36.wiff	9885150	18316028	11/13/2018 2:59:05 PM
18NOV13D-37.wiff	9885152	18316028	11/13/2018 3:08:08 PM
18NOV13D-38.wiff	9885153	18316028	11/13/2018 3:17:11 PM
18NOV13D-39.wiff	9885154	18316028	11/13/2018 3:26:14 PM
18NOV13D-40.wiff	9885155	18316028	11/13/2018 3:35:17 PM
18NOV13D-41.wiff	9885156	18316028	11/13/2018 3:44:17 PM
18NOV13D-42.wiff	9885157	18316028	11/13/2018 3:53:20 PM
18NOV13D-43.wiff	solvent	N/A	11/13/2018 4:02:23 PM
18NOV13D-44.wiff	9881576	18314009	11/13/2018 4:11:23 PM
18NOV13D-45.wiff	9881589	18314009	11/13/2018 4:20:26 PM

Instrument Name: LM27631

18NOV13D-46.wiff	9881595	18314009	11/13/2018 4:29:26 PM
18NOV13D-47.wiff	CCV5_CAL3	N/A	11/13/2018 4:38:29 PM
18NOV13D-48.wiff	solvent	N/A	11/13/2018 4:47:29 PM
18NOV13D-49.wiff	BLK316011	18316011	11/13/2018 4:56:29 PM
18NOV13D-50.wiff	LCS316011	18316011	11/13/2018 5:05:29 PM
18NOV13D-51.wiff	9885080	18316011	11/13/2018 5:14:29 PM
18NOV13D-52.wiff	9885081	18316011	11/13/2018 5:23:29 PM
18NOV13D-53.wiff	9885082	18316011	11/13/2018 5:32:29 PM
18NOV13D-54.wiff	9885085	18316011	11/13/2018 5:41:29 PM
18NOV13D-55.wiff	9885086BKG	18316011	11/13/2018 5:50:29 PM
18NOV13D-56.wiff	9885087MS	18316011	11/13/2018 5:59:32 PM
18NOV13D-57.wiff	9885088MSD	18316011	11/13/2018 6:08:35 PM
18NOV13D-58.wiff	9885089	18316011	11/13/2018 6:17:35 PM
18NOV13D-59.wiff	CCV6_CAL4	N/A	11/13/2018 6:26:35 PM
18NOV13D-60.wiff	9885090	18316011	11/13/2018 6:35:38 PM
18NOV13D-61.wiff	9885092	18316011	11/13/2018 6:44:38 PM
18NOV13D-62.wiff	9885093	18316011	11/13/2018 6:53:41 PM
18NOV13D-63.wiff	9885094	18316011	11/13/2018 7:02:41 PM
18NOV13D-64.wiff	9885095	18316011	11/13/2018 7:11:44 PM
18NOV13D-65.wiff	9885098	18316011	11/13/2018 7:20:47 PM
18NOV13D-66.wiff	9885099	18316011	11/13/2018 7:29:50 PM
18NOV13D-67.wiff	9885100	18316011	11/13/2018 7:38:50 PM
18NOV13D-68.wiff	9885101	18316011	11/13/2018 7:47:50 PM
18NOV13D-69.wiff	9885104	18316011	11/13/2018 7:56:50 PM
18NOV13D-70.wiff	CCV7_ISC_CAL2	N/A	11/13/2018 8:05:50 PM
18NOV13D-71.wiff	9885105	18316011	11/13/2018 8:14:50 PM
18NOV13D-72.wiff	9885106	18316011	11/13/2018 8:23:50 PM
18NOV13D-73.wiff	9885118	18316011	11/13/2018 8:32:50 PM
18NOV13D-74.wiff	9885119	18316011	11/13/2018 8:41:50 PM
18NOV13D-75.wiff	CCV8_CAL3	N/A	11/13/2018 8:50:50 PM
18NOV13D-76.wiff	Instrument Blank	N/A	11/13/2018 8:59:50 PM
18NOV13D-77.wiff	BLK316024	18316024	11/13/2018 9:08:52 PM
18NOV13D-78.wiff	LCS316024	18316024	11/13/2018 9:17:53 PM
18NOV13D-79.wiff	9885056	18316024	11/13/2018 9:26:53 PM
18NOV13D-80.wiff	9885057	18316024	11/13/2018 9:35:55 PM
18NOV13D-81.wiff	9885058	18316024	11/13/2018 9:44:58 PM
18NOV13D-82.wiff	9885059	18316024	11/13/2018 9:53:58 PM
18NOV13D-83.wiff	9885062BKG	18316024	11/13/2018 10:02:58 PM
18NOV13D-84.wiff	9885063MS	18316024	11/13/2018 10:11:59 PM
18NOV13D-85.wiff	9885064MSD	18316024	11/13/2018 10:20:58 PM
18NOV13D-86.wiff	9885065	18316024	11/13/2018 10:29:58 PM
18NOV13D-87.wiff	CCV9_CAL4	N/A	11/13/2018 10:38:59 PM
18NOV13D-88.wiff	9885075	18316024	11/13/2018 10:47:59 PM
18NOV13D-89.wiff	solvent	N/A	11/13/2018 10:56:58 PM
18NOV13D-90.wiff	BLK316029	18316029	11/13/2018 11:06:02 PM
18NOV13D-91.wiff	LCS316029	18316029	11/13/2018 11:15:01 PM
18NOV13D-92.wiff	9885078	18316029	11/13/2018 11:24:02 PM
18NOV13D-93.wiff	9885160	18316029	11/13/2018 11:33:01 PM
18NOV13D-94.wiff	9885161BKG	18316029	11/13/2018 11:42:03 PM
18NOV13D-95.wiff	9885162MS	18316029	11/13/2018 11:51:04 PM
18NOV13D-96.wiff	9885163MSD	18316029	11/14/2018 12:00:09 AM
18NOV13D-97.wiff	9885164	18316029	11/14/2018 12:09:10 AM
18NOV13D-98.wiff	9885165	18316029	11/14/2018 12:18:11 AM
18NOV13D-99.wiff	CCV10_ISC_CAL2	N/A	11/14/2018 12:27:10 AM
18NOV13D-100.wiff	INBLK	N/A	11/14/2018 12:36:10 AM

20 mM Ammonium Acetate in H₂O: 782411091833A
20 mM Ammonium Acetate in 0.5% H₂O|Methanol: 782411091833B

DOD Initial Calibration Verification

Instrument ID: LM27631 ICAL Name: 18NOV07DCAL QMethod Name: MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM Acquisition Method: 18AUG13_3uL.dam

Sample File Name	Acquisition Date	Sample ID	Sample Name
18NOV07DCAL-10.wiff	11/7/2018 9:39:56 AM	CALMOD11833G	CAL1
18NOV07DCAL-11.wiff	11/7/2018 9:48:56 AM	CALMOD21833F	CAL2
18NOV07DCAL-12.wiff	11/7/2018 9:57:56 AM	CALMOD31833F	CAL3
18NOV07DCAL-13.wiff	11/7/2018 10:06:59 AM	CALMOD41833F	CAL4
18NOV07DCAL-14.wiff	11/7/2018 10:15:59 AM	CALMOD51833F	CAL5
18NOV07DCAL-15.wiff	11/7/2018 10:24:59 AM	CALMOD61833E	CAL6
18NOV07DCAL-16.wiff	11/7/2018 10:33:59 AM	CALMOD71833E	CAL7

CAL3 Injection Standard Areas

Sample Name	Injection Std Name	Injection Std Area
CAL3	13C3-PFBA	730410.6
CAL3	13C2-PFOA	524423.6
CAL3	13C4-PFOS	274061.7
CAL3	13C2-PFDA	311442.1

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

Response Factor Table

Analyte Name	CAL 1	CAL 2	CAL 3	CAL 4	CAL 5	CAL 6	CAL 7	%RSD	Limit	OOS	r ²	OOS
PFBA	1.018	0.931	0.905	0.934	0.936	0.881	0.816	6	20		0.997	
PFPeA	0.983	0.897	0.863	0.883	0.914	0.858	0.814	6	20		0.998	
PFBS	1.158	0.984	0.907	0.979	0.951	0.960	0.893	8	20		0.999	
4:2-FTS	1.777	1.830	1.827	1.860	1.869	1.731	1.702	3	20		0.999	
PFHxA	1.369	1.233	1.246	1.275	1.253	1.109	N/A	6	20		0.996	
PFPeS	0.454	0.467	0.444	0.498	0.474	0.471	0.470	3	20		1.000	
PFHxS	0.955	0.955	0.893	0.948	0.948	0.935	0.929	2	20		1.000	
PFHpA	1.634	1.603	1.590	1.563	1.579	1.432	N/A	4	20		0.998	
6:2-FTS	1.464	2.292	2.080	2.004	2.131	1.864	1.866	13	20		0.998	
PFHpS	0.984	0.904	0.893	0.946	0.924	0.891	0.903	3	20		1.000	
PFOA	0.969	0.972	0.946	0.995	0.956	0.913	0.852	5	20		0.998	
PFOS	0.998	0.997	0.938	0.958	0.930	0.927	0.914	3	20		1.000	
PFNA	1.571	1.383	1.459	1.439	1.491	1.379	1.276	6	20		0.997	
PFNS	0.553	0.609	0.611	0.650	0.603	0.625	0.588	5	20		0.999	
PFDA	0.980	0.945	0.957	0.980	1.004	0.925	0.875	4	20		0.998	
8:2-FTS	2.603	2.513	2.112	2.184	2.222	2.072	N/A	9	20		0.999	
PFOSA	0.896	0.979	0.964	0.988	0.831	0.967	0.917	6	20		0.998	
NMeFOSAA	0.867	1.180	0.991	1.053	1.044	0.948	0.962	9	20		0.999	
PFDS	0.528	0.545	0.492	0.534	0.504	0.495	0.500	4	20		1.000	
PFUnDA	1.982	1.865	1.891	1.818	1.849	1.776	1.696	5	20		0.999	
NEtFOSAA	1.063	1.102	1.103	1.149	1.294	1.132	1.156	6	20		0.998	
PFDODA	1.032	1.006	0.944	0.916	0.972	0.902	N/A	5	20		0.999	
10:2-FTS	1.769	1.760	1.607	1.411	1.601	1.578	1.513	7	20		0.999	
NMePFOSAE	1.362	1.238	1.132	1.225	1.231	1.175	1.053	7	20		0.996	
NMePFOSA	0.899	1.015	0.938	0.855	0.985	0.914	0.866	6	20		0.998	
PFDoS	0.247	0.249	0.266	0.257	0.245	0.243	0.249	3	20		1.000	
NEtPFOSAE	1.848	1.807	1.624	1.689	1.741	1.603	1.488	7	20		0.997	
NEtPFOSA	1.082	0.962	0.983	1.069	1.170	1.145	1.133	7	20		1.000	
PFTTrDA	0.992	0.824	0.844	0.816	0.844	0.766	N/A	8	20		0.998	
PFTeDA	0.989	0.821	0.895	0.892	0.889	0.857	0.837	6	20		0.999	
PFHxDA	0.475	0.422	0.418	0.420	0.425	0.395	0.400	6	20		0.999	
PFODA	0.385	0.357	0.356	0.356	0.370	0.340	0.348	4	20		0.999	

DOD Initial Calibration Verification

Instrument ID: LM27631

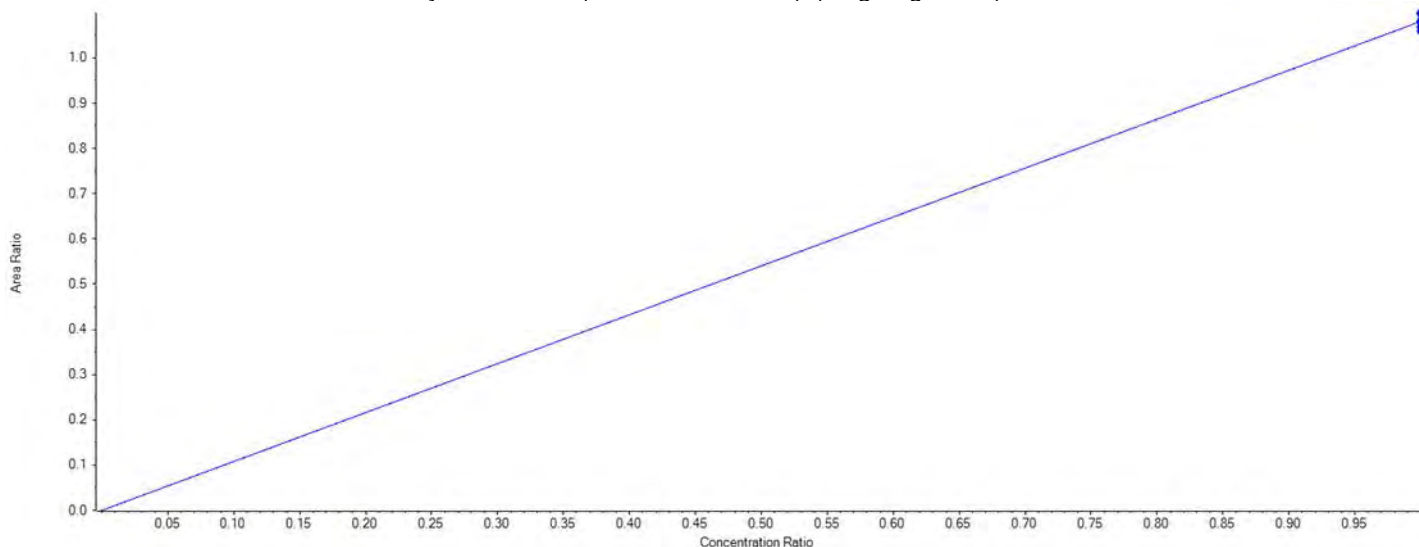
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C4-PFBA

 $y = 1.08045x$ (std. dev. = 0.01457) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C4-PFBA Area	13C3-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	794718.9	750779.984	True	5.00	1.059	3.27	1.000	5.000	4.899	-2	30	
CAL2	782732.8	723209.911	True	5.00	1.082	3.27	1.000	5.000	5.009	0	30	
CAL3	787180.2	730410.641	True	5.00	1.078	3.27	1.000	5.000	4.987	0	30	
CAL4	771359.1	721806.781	True	5.00	1.069	3.27	1.000	5.000	4.945	-1	30	
CAL5	728925.1	664213.611	True	5.00	1.097	3.27	1.000	5.000	5.079	2	30	
CAL6	647849.6	600246.701	True	5.00	1.079	3.26	1.000	5.000	4.995	0	30	
CAL7	609686.1	554647.432	True	5.00	1.099	3.26	1.000	5.000	5.087	2	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

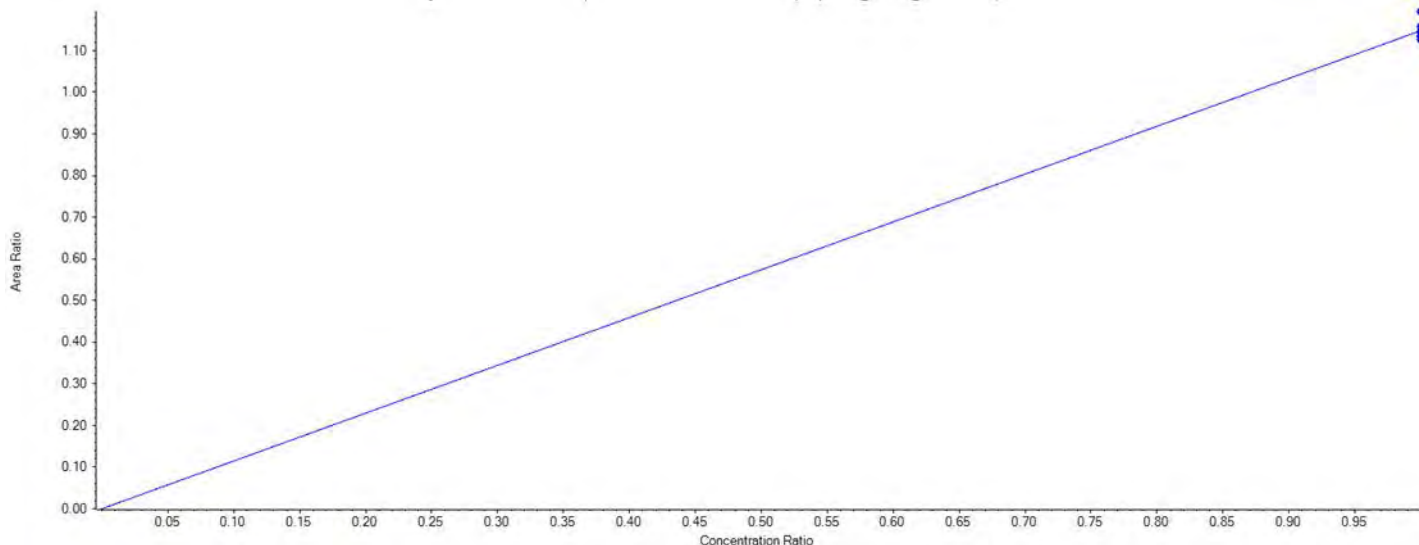
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C5-PFPeA

 $y = 1.14776 x$ (std. dev. = 0.02271) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C5-PFPeA Area	13C3-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	844850.2	750779.984	True	5.00	1.125	3.77	1.150	5.000	4.902	-2	30	
CAL2	863262.8	723209.911	True	5.00	1.194	3.77	1.150	5.000	5.200	4	30	
CAL3	829978.5	730410.641	True	5.00	1.136	3.77	1.150	5.000	4.950	-1	30	
CAL4	824842.8	721806.781	True	5.00	1.143	3.77	1.150	5.000	4.978	0	30	
CAL5	768958.1	664213.611	True	5.00	1.158	3.77	1.150	5.000	5.043	1	30	
CAL6	687796.7	600246.701	True	5.00	1.146	3.76	1.150	5.000	4.992	0	30	
CAL7	628265.5	554647.432	True	5.00	1.133	3.76	1.150	5.000	4.935	-1	30	

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By JPT at 2:53 pm, 11/7/18

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By umar at 5:23 pm, 11/9/18

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DOD Initial Calibration Verification

Instrument ID: LM27631

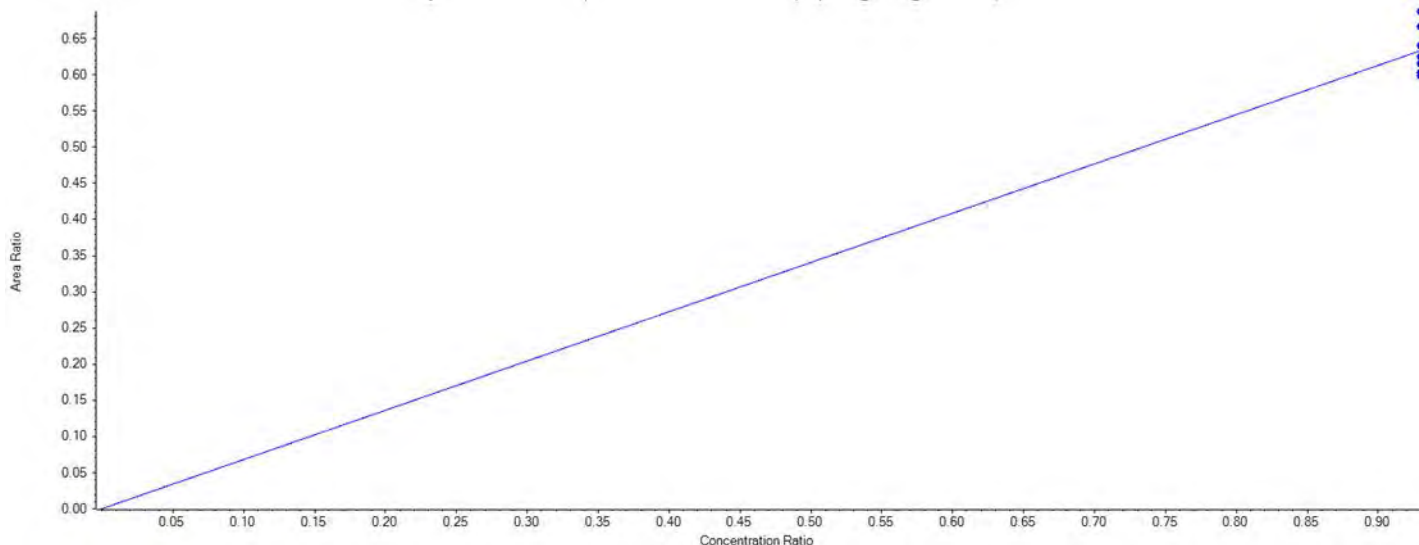
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C3-PFBS

 $y = 0.68128 x$ (std. dev. = 0.03575) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C3-PFBS Area	13C3-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	449266.3	750779.984	True	5.00	0.598	3.82	1.170	4.650	4.392	-6	30	
CAL2	444721.3	723209.911	True	5.00	0.615	3.82	1.170	4.650	4.513	-3	30	
CAL3	456815.2	730410.641	True	5.00	0.625	3.82	1.170	4.650	4.590	-1	30	
CAL4	434938.9	721806.781	True	5.00	0.603	3.81	1.170	4.650	4.422	-5	30	
CAL5	442479.7	664213.611	True	5.00	0.666	3.82	1.170	4.650	4.889	5	30	
CAL6	384220.8	600246.701	True	5.00	0.640	3.81	1.170	4.650	4.698	1	30	
CAL7	381345.5	554647.432	True	5.00	0.688	3.81	1.170	4.650	5.046	9	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

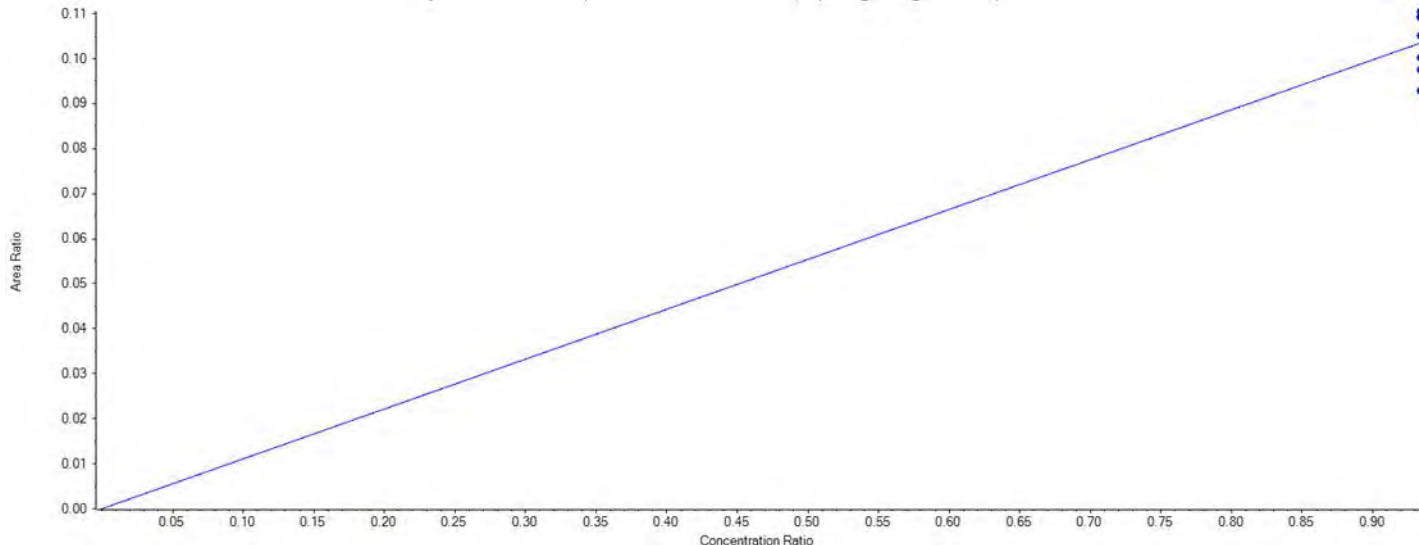
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C2-4:2-FTS

 $y = 0.11081 x$ (std. dev. = 0.00728) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C2-4:2-FTS Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	58330.9	534171.859	True	5.00	0.109	4.13	0.840	4.670	4.927	6	30	
CAL2	54234.1	516360.932	True	5.00	0.105	4.13	0.840	4.670	4.739	1	30	
CAL3	48706.0	524423.602	True	5.00	0.093	4.13	0.840	4.670	4.191	-10	30	
CAL4	51520.6	528557.819	True	5.00	0.097	4.13	0.840	4.670	4.398	-6	30	
CAL5	48869.9	488019.600	True	5.00	0.100	4.13	0.840	4.670	4.519	-3	30	
CAL6	50041.3	457854.860	True	5.00	0.109	4.12	0.840	4.670	4.932	6	30	
CAL7	46334.2	419465.882	True	5.00	0.110	4.13	0.840	4.670	4.984	7	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

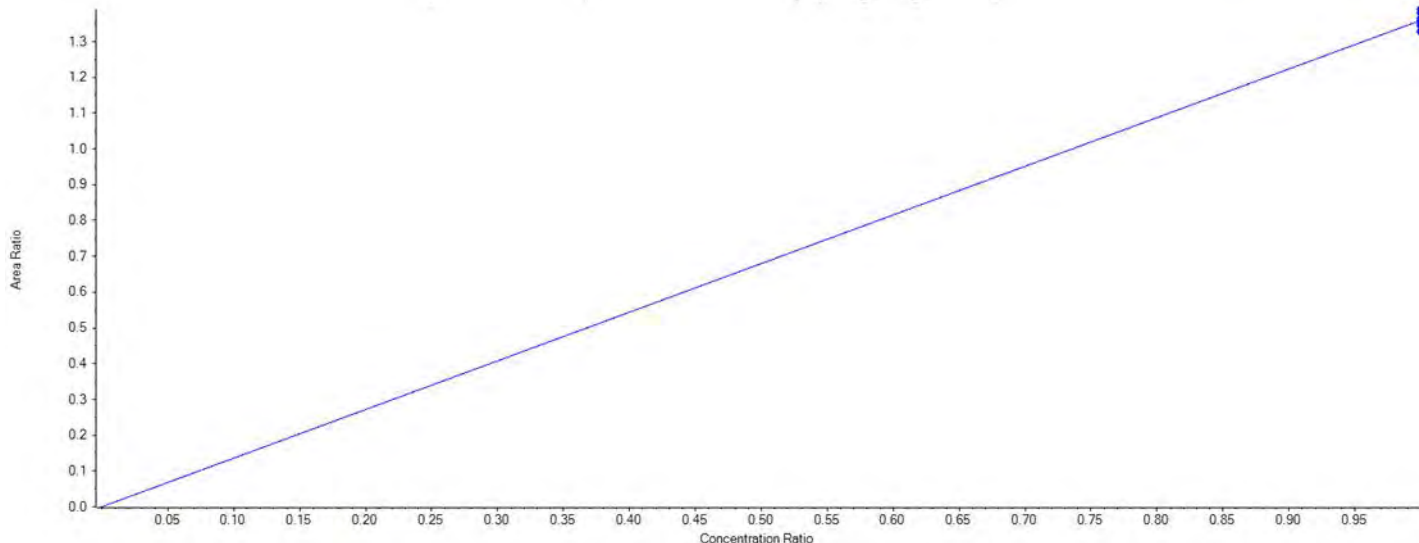
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C5-PFHxA

 $y = 1.35927 x$ (std. dev. = 0.02135) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C5-PFHxA Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	725432.0	534171.859	True	5.00	1.358	4.17	0.850	5.000	4.996	0	30	
CAL2	717434.9	516360.932	True	5.00	1.389	4.17	0.850	5.000	5.111	2	30	
CAL3	705369.0	524423.602	True	5.00	1.345	4.17	0.850	5.000	4.948	-1	30	
CAL4	713446.3	528557.819	True	5.00	1.350	4.16	0.850	5.000	4.965	-1	30	
CAL5	674375.4	488019.600	True	5.00	1.382	4.17	0.850	5.000	5.083	2	30	
CAL6	607820.1	457854.860	True	5.00	1.328	4.16	0.850	5.000	4.883	-2	30	
CAL7	571807.5	419465.882	True	5.00	1.363	4.16	0.850	5.000	5.014	0	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

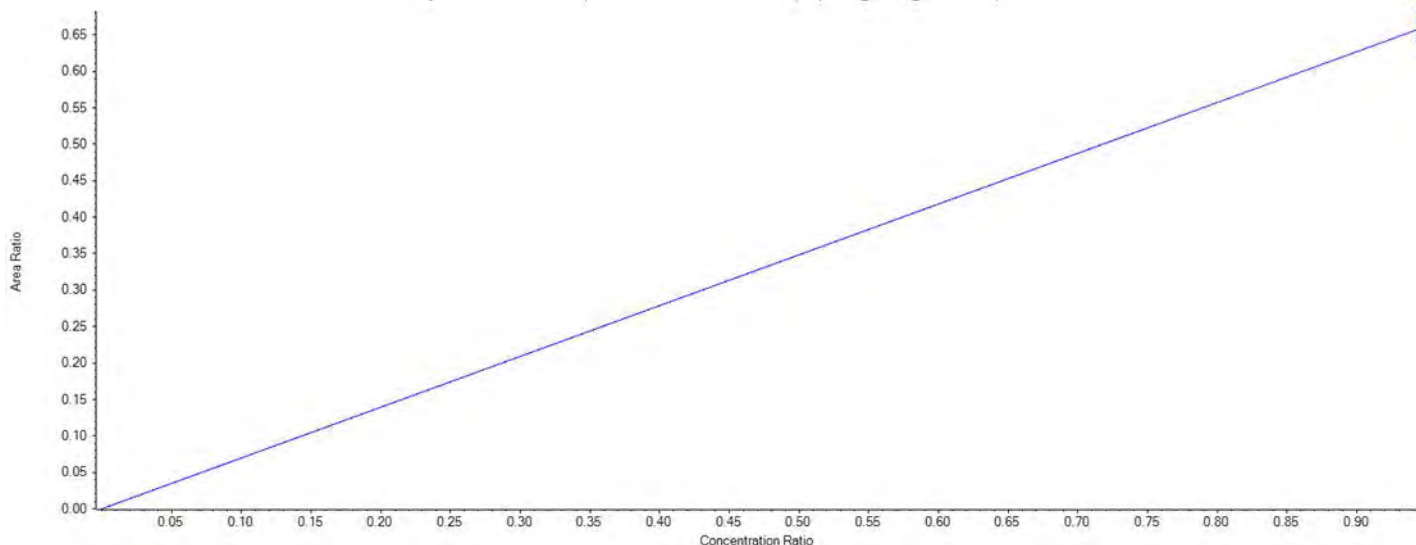
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C3-PFHxS

 $y = 0.69649x$ (std. dev. = 0.01583) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C3-PFHxS Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	358771.3	534171.859	True	5.00	0.672	4.56	0.930	4.730	4.822	2	30	
CAL2	335732.1	516360.932	True	5.00	0.650	4.56	0.920	4.730	4.668	-1	30	
CAL3	343139.5	524423.602	True	5.00	0.654	4.56	0.930	4.730	4.697	-1	30	
CAL4	339090.5	528557.819	True	5.00	0.642	4.55	0.930	4.730	4.606	-3	30	
CAL5	332808.5	488019.600	True	5.00	0.682	4.55	0.920	4.730	4.896	4	30	
CAL6	295466.2	457854.860	True	5.00	0.645	4.55	0.920	4.730	4.633	-2	30	
CAL7	279859.6	419465.882	True	5.00	0.667	4.55	0.930	4.730	4.790	1	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

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By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

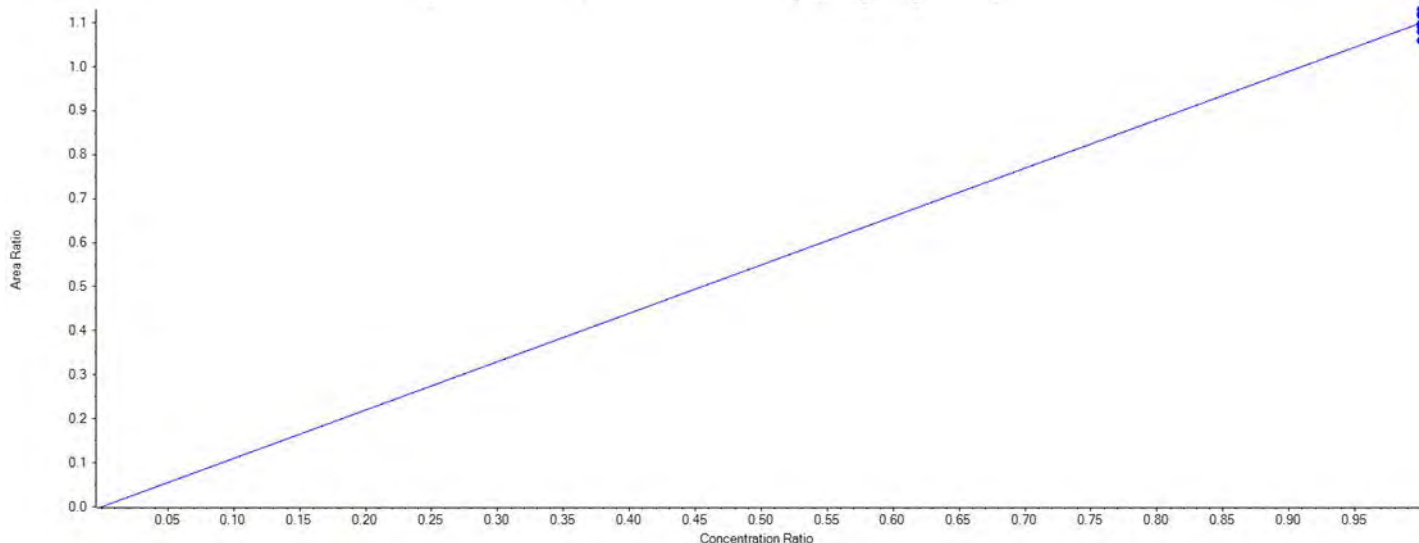
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C4-PFHpA

 $y = 1.09911 x$ (std. dev. = 0.02508) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C4-PFHpA Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	586580.3	534171.859	True	5.00	1.098	4.56	0.930	5.000	4.995	0	30	
CAL2	583342.8	516360.932	True	5.00	1.130	4.55	0.920	5.000	5.139	3	30	
CAL3	566495.6	524423.602	True	5.00	1.080	4.56	0.930	5.000	4.914	-2	30	
CAL4	592497.9	528557.819	True	5.00	1.121	4.55	0.920	5.000	5.099	2	30	
CAL5	544681.1	488019.600	True	5.00	1.116	4.55	0.920	5.000	5.077	2	30	
CAL6	484763.2	457854.860	True	5.00	1.059	4.55	0.920	5.000	4.816	-4	30	
CAL7	457160.4	419465.882	True	5.00	1.090	4.55	0.920	5.000	4.958	-1	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

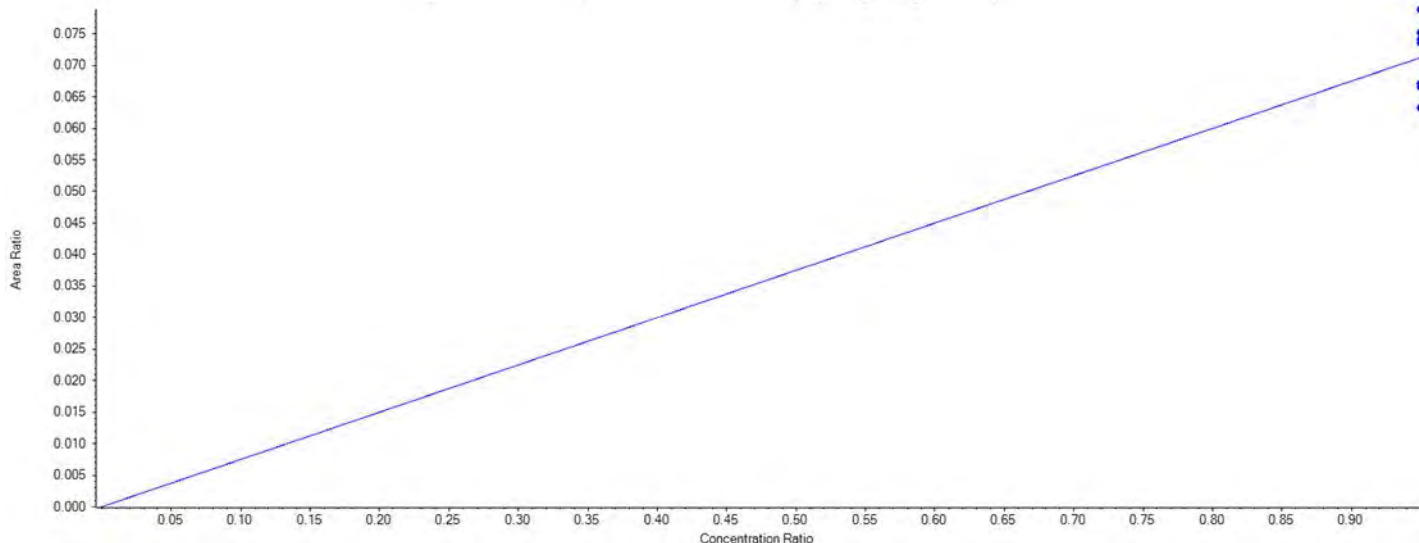
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C2-6:2-FTS

 $y = 0.07498 x$ (std. dev. = 0.00592) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C2-6:2-FTS Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	42112.8	534171.859	True	5.00	0.079	4.91	1.000	4.750	5.257	11	30	
CAL2	38849.6	516360.932	True	5.00	0.075	4.91	1.000	4.750	5.017	6	30	
CAL3	38605.5	524423.602	True	5.00	0.074	4.91	1.000	4.750	4.909	3	30	
CAL4	39121.7	528557.819	True	5.00	0.074	4.91	1.000	4.750	4.936	4	30	
CAL5	32735.6	488019.600	True	5.00	0.067	4.91	1.000	4.750	4.473	-6	30	
CAL6	30466.8	457854.860	True	5.00	0.067	4.90	1.000	4.750	4.437	-7	30	
CAL7	26549.1	419465.882	True	5.00	0.063	4.91	1.000	4.750	4.221	-11	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

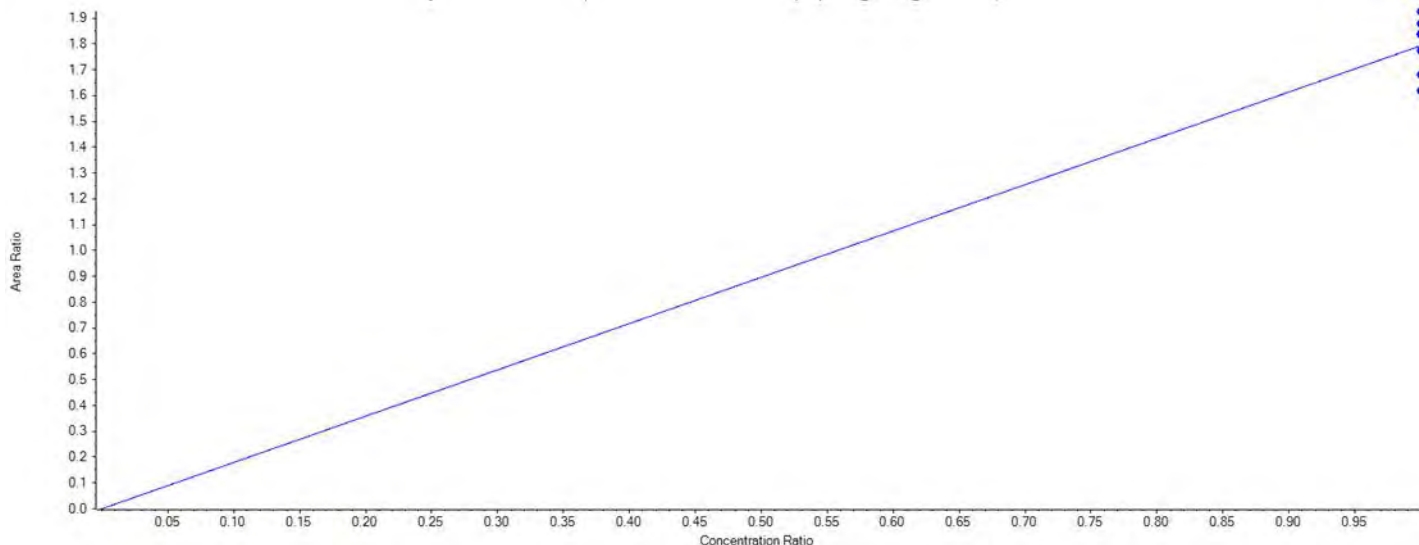
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C8-PFOA

 $y = 1.79299x$ (std. dev. = 0.10993) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C8-PFOA Area	13C2-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	1028414.9	534171.859	True	5.00	1.925	4.93	1.000	5.000	5.369	7	30	
CAL2	970523.2	516360.932	True	5.00	1.880	4.92	1.000	5.000	5.241	5	30	
CAL3	964414.6	524423.602	True	5.00	1.839	4.93	1.000	5.000	5.128	3	30	
CAL4	937287.5	528557.819	True	5.00	1.773	4.92	1.000	5.000	4.945	-1	30	
CAL5	895692.2	488019.600	True	5.00	1.835	4.92	1.000	5.000	5.118	2	30	
CAL6	769164.4	457854.860	True	5.00	1.680	4.92	1.000	5.000	4.685	-6	30	
CAL7	678914.6	419465.882	True	5.00	1.619	4.92	1.000	5.000	4.513	-10	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

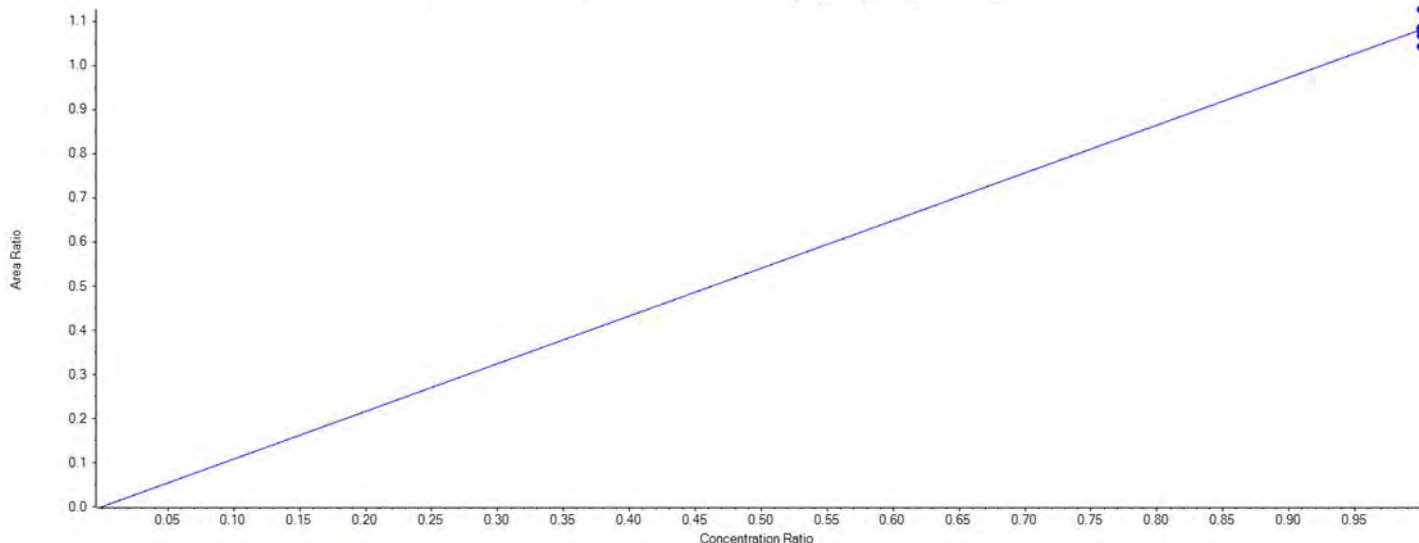
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C8-PFOS

 $y = 1.08099 x$ (std. dev. = 0.02540) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C8-PFOS Area	13C4-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	307224.3	272674.740	True	4.78	1.127	5.25	1.000	4.780	4.982	4	30	
CAL2	286174.8	263756.990	True	4.78	1.085	5.25	1.000	4.780	4.798	0	30	
CAL3	297259.7	274061.672	True	4.78	1.085	5.25	1.000	4.780	4.796	0	30	
CAL4	291941.6	270733.913	True	4.78	1.078	5.25	1.000	4.780	4.768	0	30	
CAL5	297995.6	275029.173	True	4.78	1.084	5.25	1.000	4.780	4.791	0	30	
CAL6	268369.0	251499.907	True	4.78	1.067	5.24	1.000	4.780	4.718	-1	30	
CAL7	264295.9	253720.801	True	4.78	1.042	5.24	1.000	4.780	4.606	-4	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

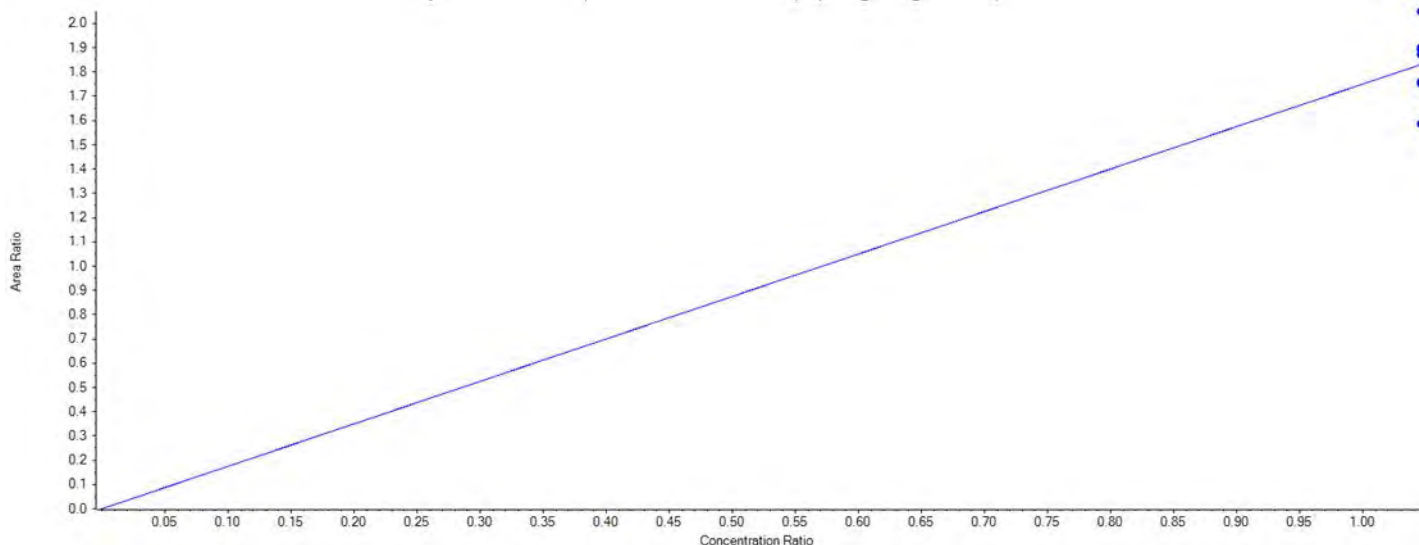
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C9-PFNA

 $y = 1.74992 x$ (std. dev. = 0.13964) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C9-PFNA Area	13C4-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	518118.7	272674.740	True	4.78	1.900	5.27	1.000	5.000	5.190	4	30	
CAL2	540435.4	263756.990	True	4.78	2.049	5.27	1.000	5.000	5.597	12	30	
CAL3	513116.0	274061.672	True	4.78	1.872	5.27	1.000	5.000	5.114	2	30	
CAL4	512147.4	270733.913	True	4.78	1.892	5.26	1.000	5.000	5.167	3	30	
CAL5	484419.3	275029.173	True	4.78	1.761	5.27	1.000	5.000	4.811	-4	30	
CAL6	440319.0	251499.907	True	4.78	1.751	5.26	1.000	5.000	4.782	-4	30	
CAL7	402916.7	253720.801	True	4.78	1.588	5.26	1.000	5.000	4.338	-13	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

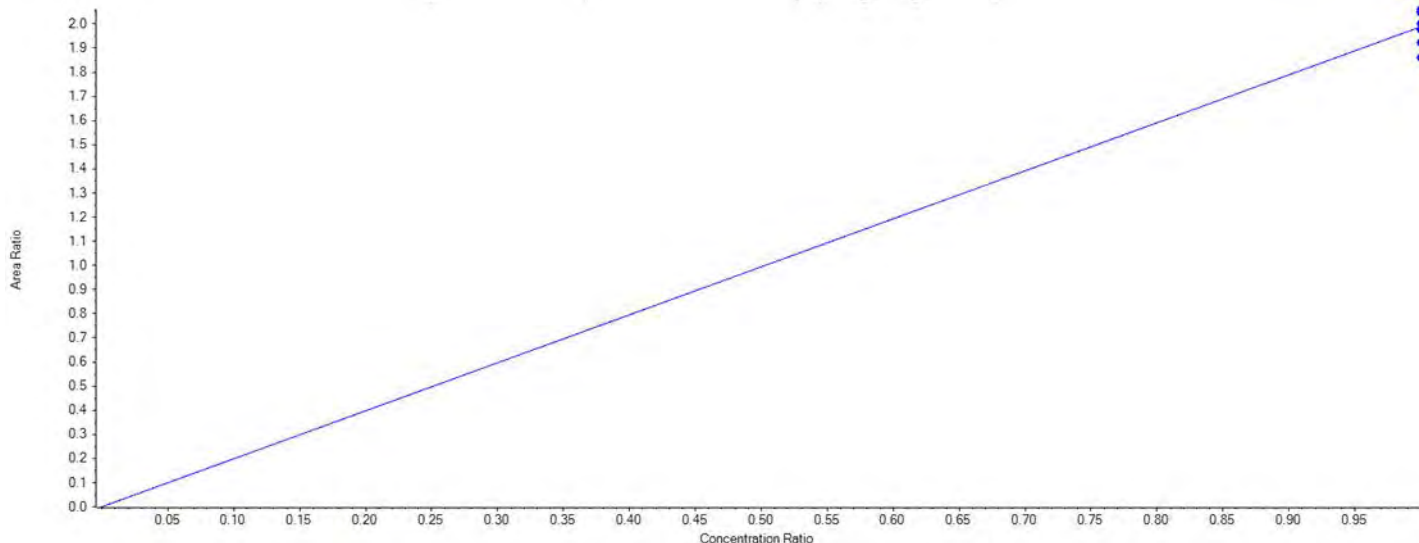
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C6-PFDA

 $y = 1.98822 x$ (std. dev. = 0.07436) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C6-PFDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	651348.0	338833.714	True	5.00	1.922	5.57	1.000	5.000	4.834	-3	30	
CAL2	661423.8	334958.441	True	5.00	1.975	5.57	1.000	5.000	4.966	-1	30	
CAL3	639022.8	311442.089	True	5.00	2.052	5.57	1.000	5.000	5.160	3	30	
CAL4	656868.3	320985.487	True	5.00	2.046	5.56	1.000	5.000	5.146	3	30	
CAL5	598009.7	298912.145	True	5.00	2.001	5.57	1.000	5.000	5.031	1	30	
CAL6	536626.2	260528.967	True	5.00	2.060	5.56	1.000	5.000	5.180	4	30	
CAL7	480927.9	258292.235	True	5.00	1.862	5.56	1.000	5.000	4.682	-6	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

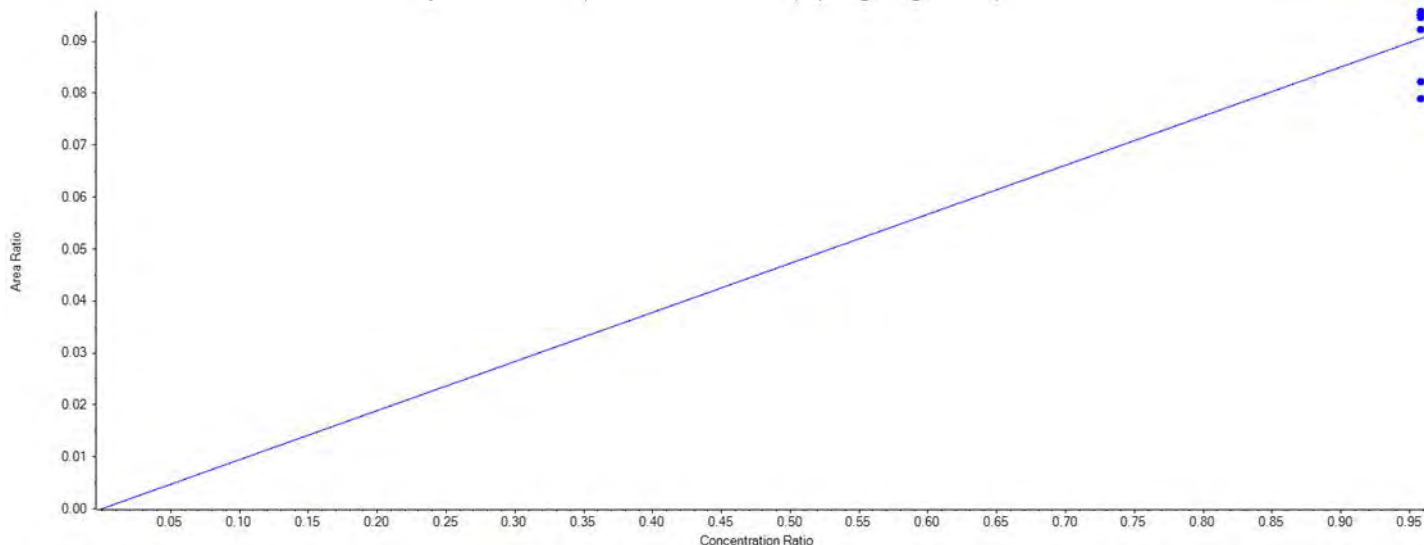
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C2-8:2-FTS

 $y = 0.09449x$ (std. dev. = 0.00729) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C2-8:2-FTS Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	26730.2	338833.714	True	5.00	0.079	5.57	1.000	4.790	4.174	-13	30	
CAL2	27523.0	334958.441	True	5.00	0.082	5.57	1.000	4.790	4.348	-9	30	
CAL3	29468.3	311442.089	True	5.00	0.095	5.57	1.000	4.790	5.007	5	30	
CAL4	30500.3	320985.487	True	5.00	0.095	5.57	1.000	4.790	5.028	5	30	
CAL5	27554.0	298912.145	True	5.00	0.092	5.57	1.000	4.790	4.878	2	30	
CAL6	24938.2	260528.967	True	5.00	0.096	5.56	1.000	4.790	5.065	6	30	
CAL7	24555.7	258292.235	True	5.00	0.095	5.57	1.000	4.790	5.031	5	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

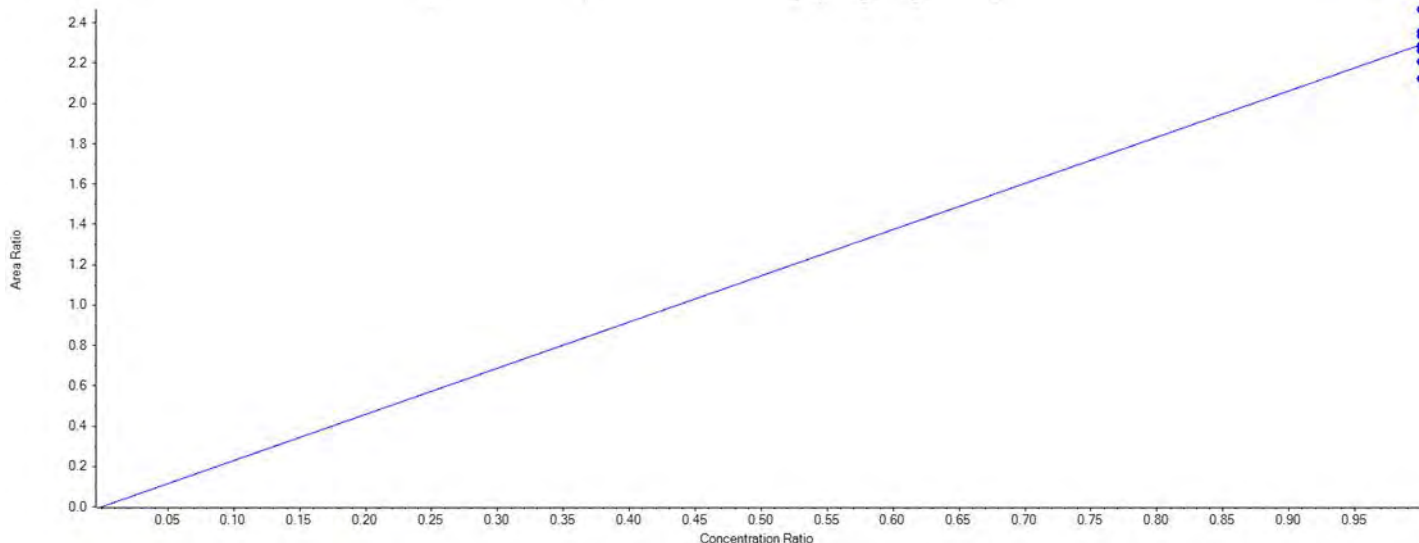
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C8-PFOSA

 $y = 2.29132 x$ (std. dev. = 0.11051) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C8-PFOSA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	774962.8	338833.714	True	5.00	2.287	5.64	1.010	5.000	4.991	0	30	
CAL2	711032.2	334958.441	True	5.00	2.123	5.64	1.010	5.000	4.632	-7	30	
CAL3	704745.5	311442.089	True	5.00	2.263	5.64	1.010	5.000	4.938	-1	30	
CAL4	708330.5	320985.487	True	5.00	2.207	5.64	1.010	5.000	4.815	-4	30	
CAL5	737038.5	298912.145	True	5.00	2.466	5.64	1.010	5.000	5.381	8	30	
CAL6	614406.4	260528.967	True	5.00	2.358	5.64	1.010	5.000	5.146	3	30	
CAL7	603296.1	258292.235	True	5.00	2.336	5.64	1.010	5.000	5.097	2	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

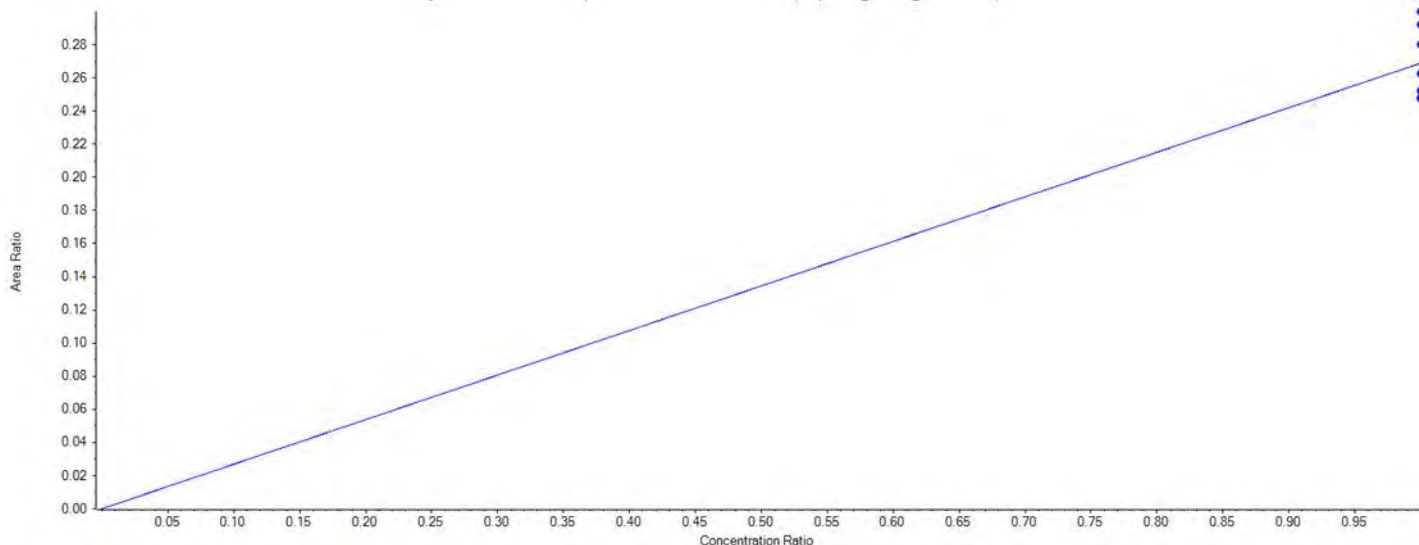
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

Ed3-NMeFOSAA

 $y = 0.26888 x$ (std. dev. = 0.02181) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	Ed3-NMeFOSAA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	94967.0	338833.714	True	5.00	0.280	5.71	1.030	5.000	5.212	4	30	
CAL2	83112.2	334958.441	True	5.00	0.248	5.71	1.020	5.000	4.614	-8	30	
CAL3	81763.3	311442.089	True	5.00	0.263	5.71	1.030	5.000	4.882	-2	30	
CAL4	80900.1	320985.487	True	5.00	0.252	5.70	1.030	5.000	4.687	-6	30	
CAL5	73896.1	298912.145	True	5.00	0.247	5.71	1.020	5.000	4.597	-8	30	
CAL6	78158.0	260528.967	True	5.00	0.300	5.70	1.020	5.000	5.579	12	30	
CAL7	75408.7	258292.235	True	5.00	0.292	5.70	1.020	5.000	5.429	9	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

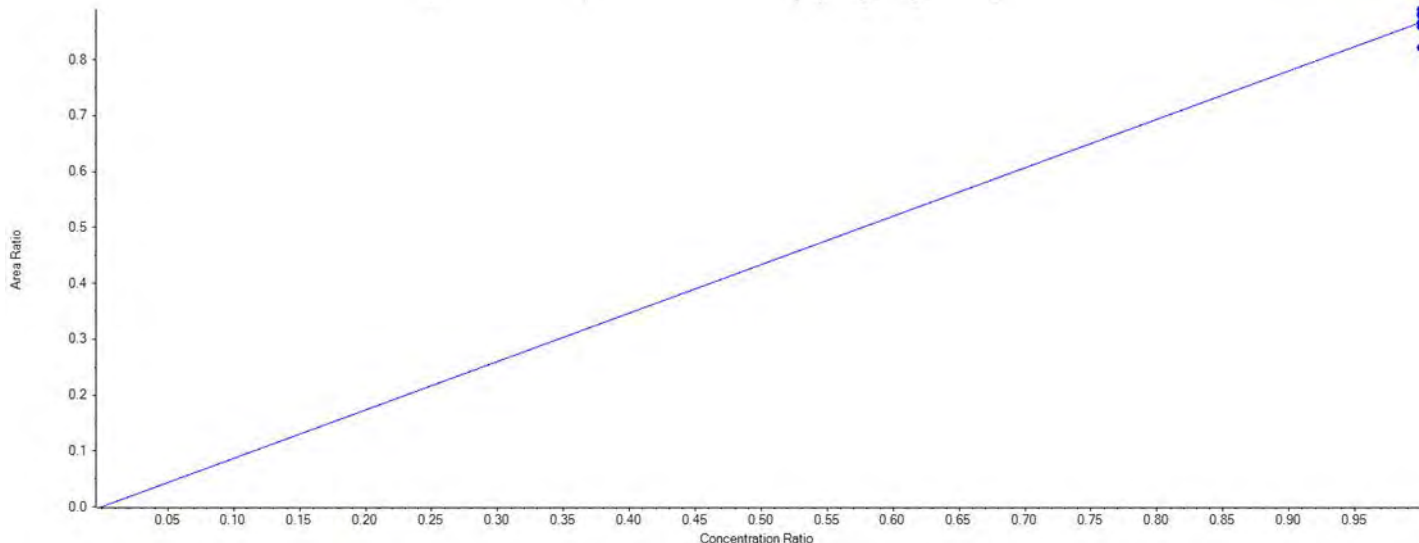
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C7-PFUnDA

 $y = 0.86673 x$ (std. dev. = 0.02232) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C7-PFUnDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	293658.7	338833.714	True	5.00	0.867	5.83	1.050	5.000	5.000	0	30	
CAL2	289985.1	334958.441	True	5.00	0.866	5.83	1.050	5.000	4.994	0	30	
CAL3	277115.5	311442.089	True	5.00	0.890	5.83	1.050	5.000	5.133	3	30	
CAL4	275977.2	320985.487	True	5.00	0.860	5.83	1.050	5.000	4.960	-1	30	
CAL5	263924.7	298912.145	True	5.00	0.883	5.83	1.050	5.000	5.094	2	30	
CAL6	229237.1	260528.967	True	5.00	0.880	5.82	1.050	5.000	5.076	2	30	
CAL7	212399.8	258292.235	True	5.00	0.822	5.82	1.050	5.000	4.744	-5	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

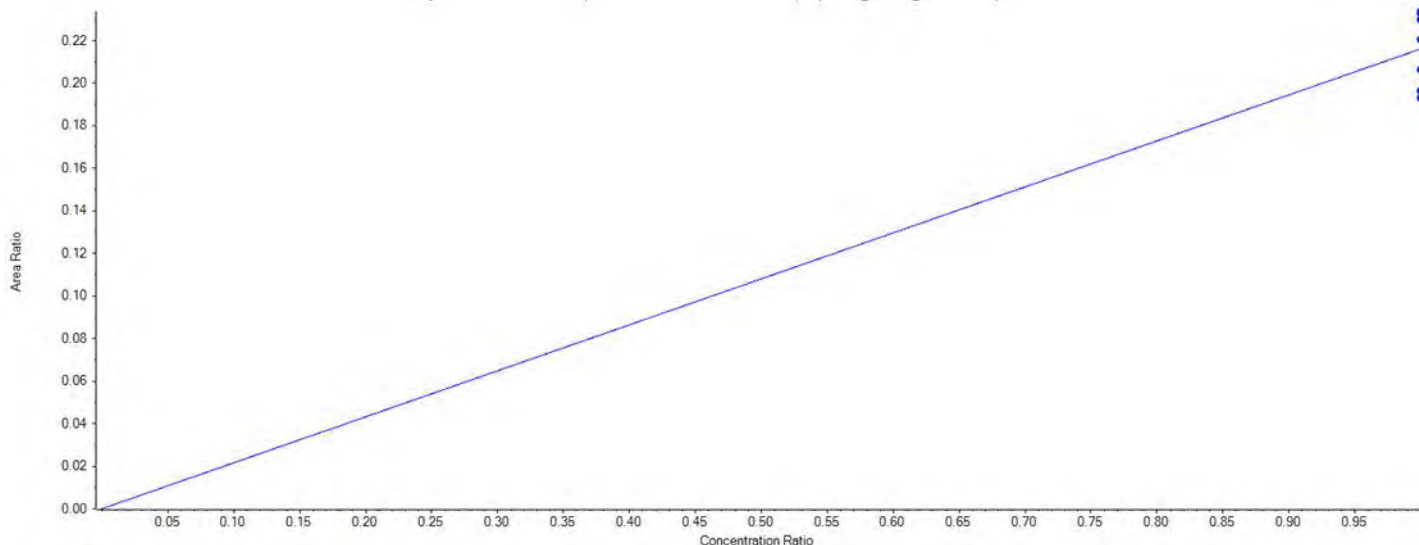
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

Ed5-NEtFOSAA

 $y = 0.21606 x$ (std. dev. = 0.01730) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	Ed5-NEtFOSAA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	77938.3	338833.714	True	5.00	0.230	5.84	1.050	5.000	5.323	6	30	
CAL2	65815.9	334958.441	True	5.00	0.196	5.84	1.050	5.000	4.547	-9	30	
CAL3	72755.7	311442.089	True	5.00	0.234	5.84	1.050	5.000	5.406	8	30	
CAL4	66162.4	320985.487	True	5.00	0.206	5.84	1.050	5.000	4.770	-5	30	
CAL5	57745.7	298912.145	True	5.00	0.193	5.84	1.050	5.000	4.471	-11	30	
CAL6	60556.6	260528.967	True	5.00	0.232	5.83	1.050	5.000	5.379	8	30	
CAL7	56963.1	258292.235	True	5.00	0.221	5.84	1.050	5.000	5.104	2	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

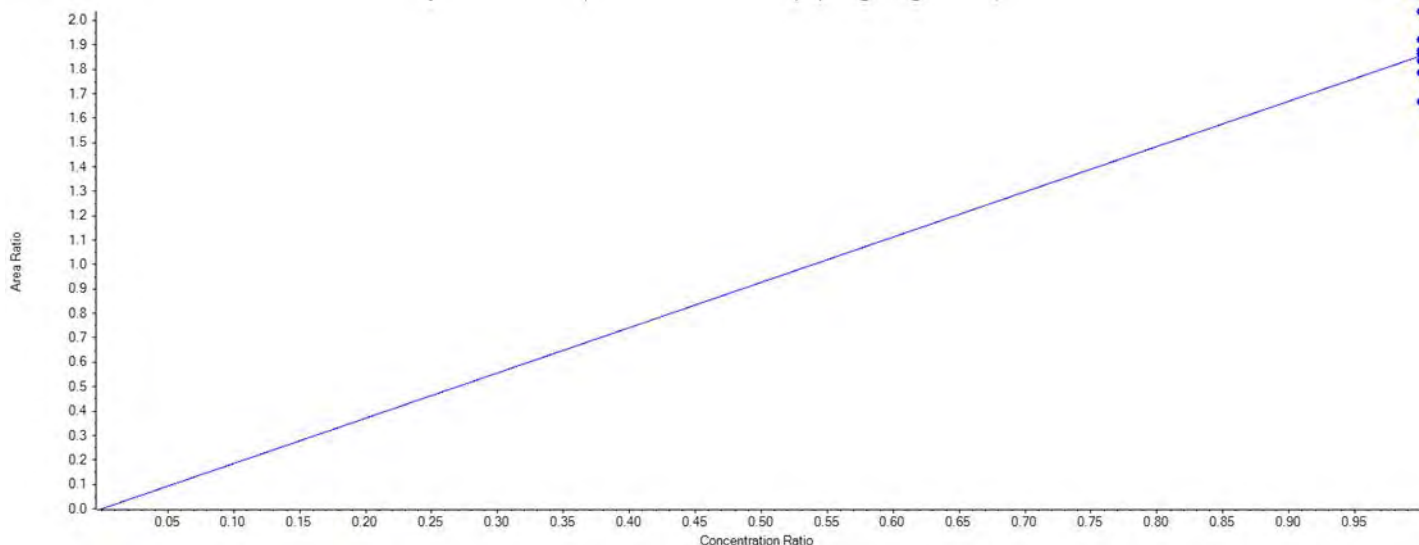
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C2-PFDoDA

 $y = 1.85471 x$ (std. dev. = 0.11432) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C2-PFDoDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	564794.9	338833.714	True	5.00	1.667	6.06	1.090	5.000	4.494	-10	30	
CAL2	597616.3	334958.441	True	5.00	1.784	6.06	1.090	5.000	4.810	-4	30	
CAL3	584631.5	311442.089	True	5.00	1.877	6.06	1.090	5.000	5.061	1	30	
CAL4	598287.4	320985.487	True	5.00	1.864	6.05	1.090	5.000	5.025	0	30	
CAL5	548536.0	298912.145	True	5.00	1.835	6.06	1.090	5.000	4.947	-1	30	
CAL6	500065.3	260528.967	True	5.00	1.919	6.05	1.090	5.000	5.174	3	30	
CAL7	525971.8	258292.235	True	5.00	2.036	6.05	1.090	5.000	5.490	10	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

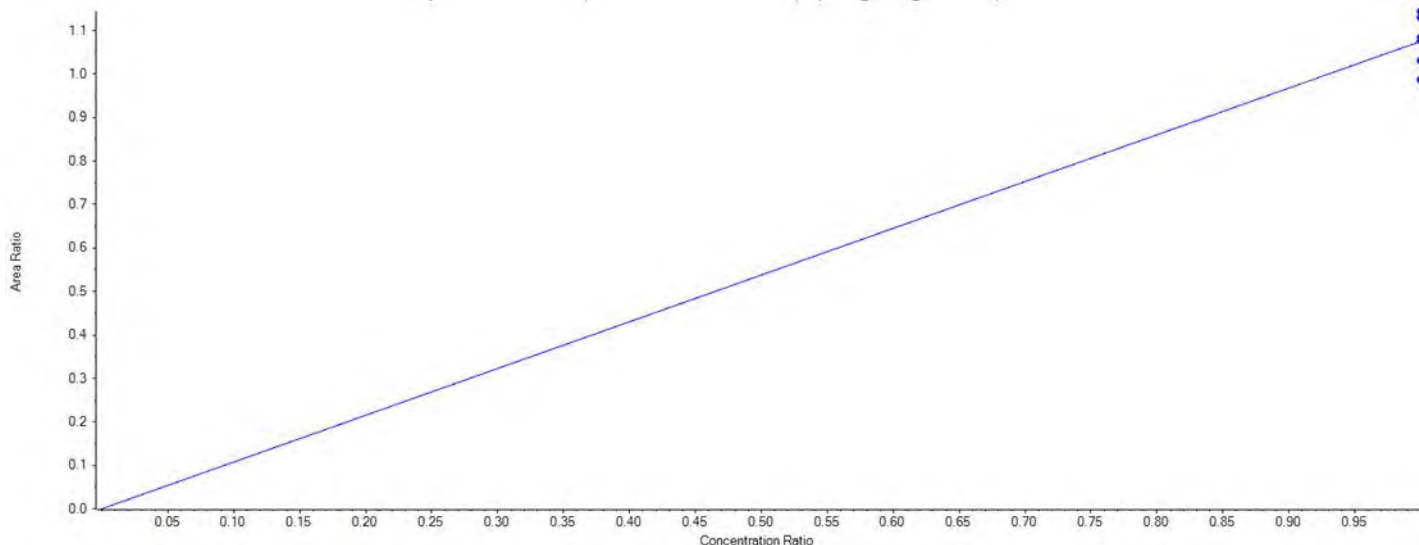
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

Ed7-NMePFOSAE

 $y = 1.07520 x$ (std. dev. = 0.05435) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	Ed7-NMePFOSA E Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	366847.7	338833.714	True	5.00	1.083	6.09	1.090	5.000	5.035	1	30	
CAL2	330298.6	334958.441	True	5.00	0.986	6.09	1.090	5.000	4.586	-8	30	
CAL3	335206.8	311442.089	True	5.00	1.076	6.09	1.090	5.000	5.005	0	30	
CAL4	330968.7	320985.487	True	5.00	1.031	6.08	1.090	5.000	4.795	-4	30	
CAL5	321549.5	298912.145	True	5.00	1.076	6.09	1.090	5.000	5.002	0	30	
CAL6	294617.6	260528.967	True	5.00	1.131	6.08	1.090	5.000	5.259	5	30	
CAL7	295395.3	258292.235	True	5.00	1.144	6.08	1.090	5.000	5.318	6	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

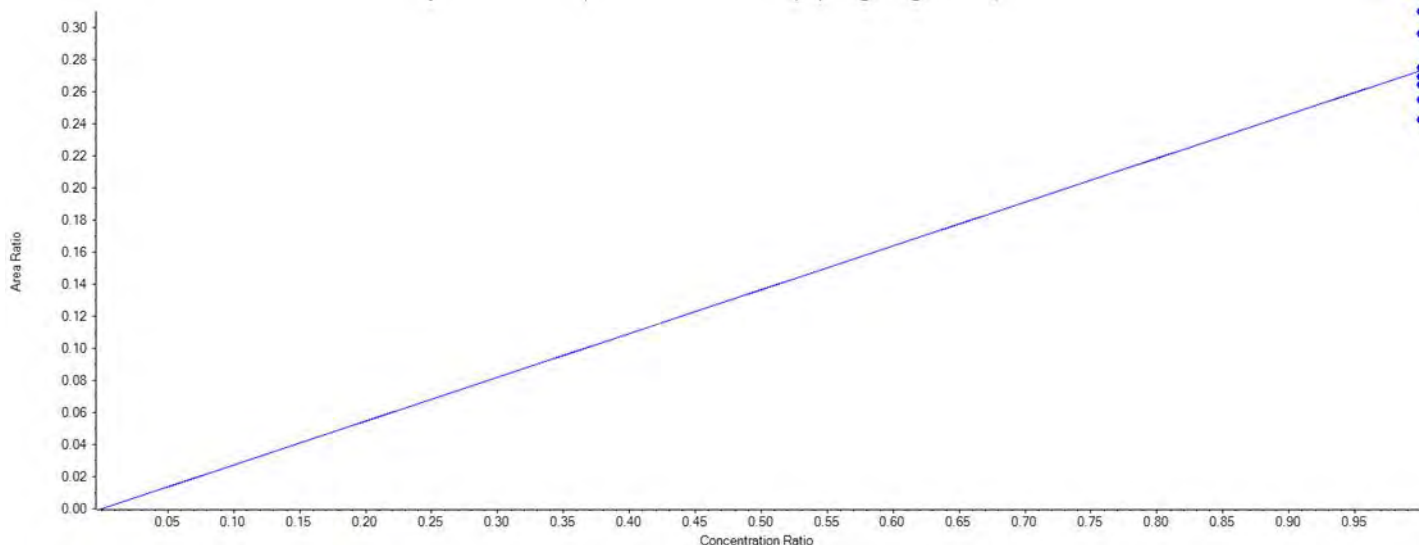
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

Ed3-NMePFOSA

 $y = 0.27311 x$ (std. dev. = 0.02323) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	Ed3-NMePFOSA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	89511.9	338833.714	True	5.00	0.264	6.10	1.100	5.000	4.836	-3	30	
CAL2	81301.2	334958.441	True	5.00	0.243	6.10	1.100	5.000	4.444	-11	30	
CAL3	79381.7	311442.089	True	5.00	0.255	6.10	1.100	5.000	4.666	-7	30	
CAL4	86399.4	320985.487	True	5.00	0.269	6.10	1.100	5.000	4.928	-1	30	
CAL5	82137.6	298912.145	True	5.00	0.275	6.10	1.100	5.000	5.031	1	30	
CAL6	77146.9	260528.967	True	5.00	0.296	6.09	1.100	5.000	5.421	8	30	
CAL7	80053.2	258292.235	True	5.00	0.310	6.10	1.100	5.000	5.674	13	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

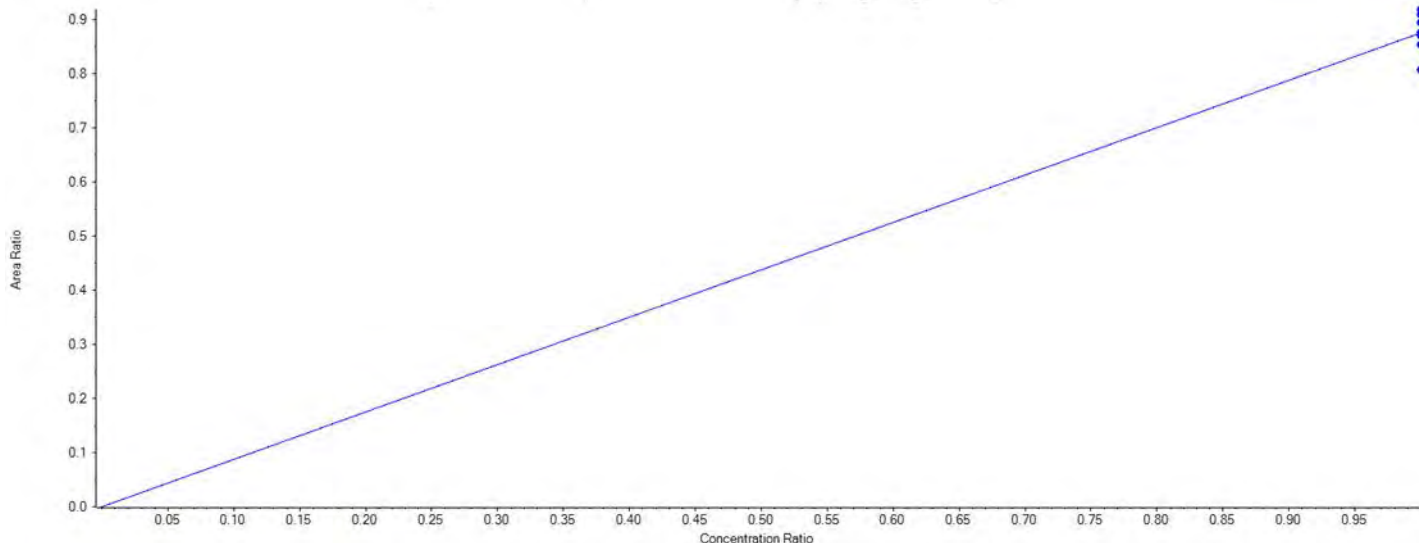
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

Ed9-NEtPFOSAE

 $y = 0.87553 x$ (std. dev. = 0.03759) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	Ed9-NEtPFOSAE Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	296629.3	338833.714	True	5.00	0.875	6.24	1.120	5.000	5.000	0	30	
CAL2	270607.6	334958.441	True	5.00	0.808	6.24	1.120	5.000	4.614	-8	30	
CAL3	278375.1	311442.089	True	5.00	0.894	6.24	1.120	5.000	5.104	2	30	
CAL4	273909.1	320985.487	True	5.00	0.853	6.24	1.120	5.000	4.873	-3	30	
CAL5	259950.9	298912.145	True	5.00	0.870	6.24	1.120	5.000	4.966	-1	30	
CAL6	239317.0	260528.967	True	5.00	0.919	6.23	1.120	5.000	5.246	5	30	
CAL7	235038.0	258292.235	True	5.00	0.910	6.24	1.120	5.000	5.197	4	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

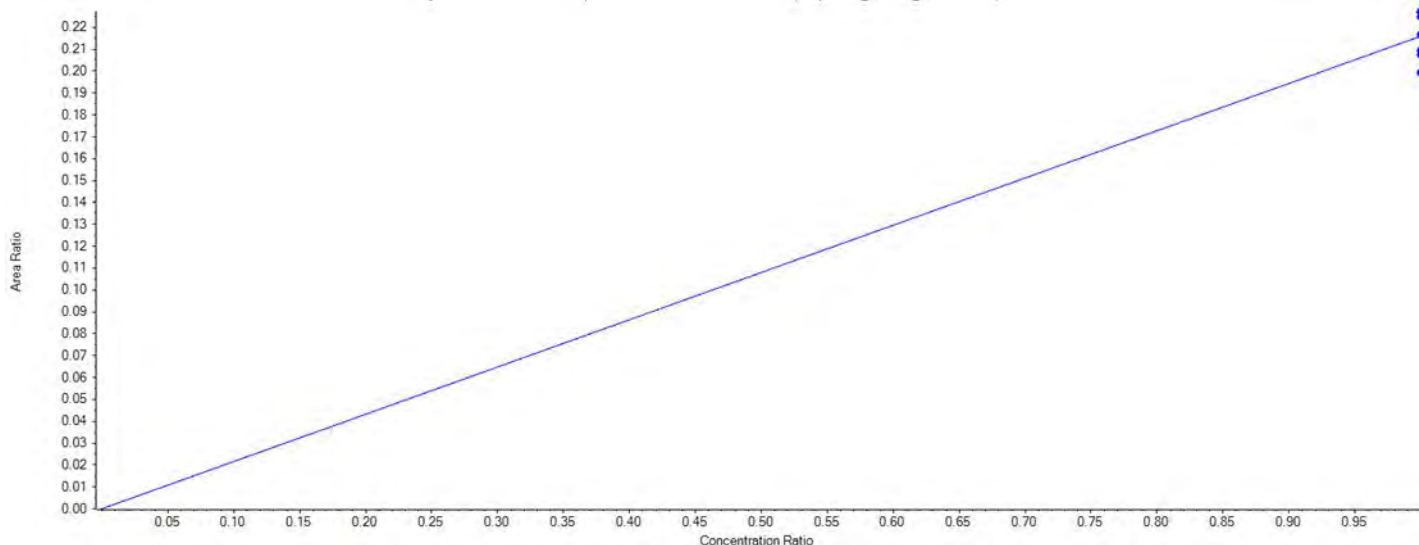
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

Ed5-NEtPFOSA

 $y = 0.21594 x$ (std. dev. = 0.01096) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	Ed5-NEtPFOSA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	70926.7	338833.714	True	5.00	0.209	6.26	1.120	5.000	4.847	-3	30	
CAL2	66745.4	334958.441	True	5.00	0.199	6.26	1.120	5.000	4.614	-8	30	
CAL3	67444.3	311442.089	True	5.00	0.217	6.26	1.120	5.000	5.014	0	30	
CAL4	72258.7	320985.487	True	5.00	0.225	6.26	1.120	5.000	5.212	4	30	
CAL5	62005.6	298912.145	True	5.00	0.207	6.26	1.120	5.000	4.803	-4	30	
CAL6	59054.4	260528.967	True	5.00	0.227	6.25	1.120	5.000	5.248	5	30	
CAL7	58686.1	258292.235	True	5.00	0.227	6.26	1.120	5.000	5.261	5	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

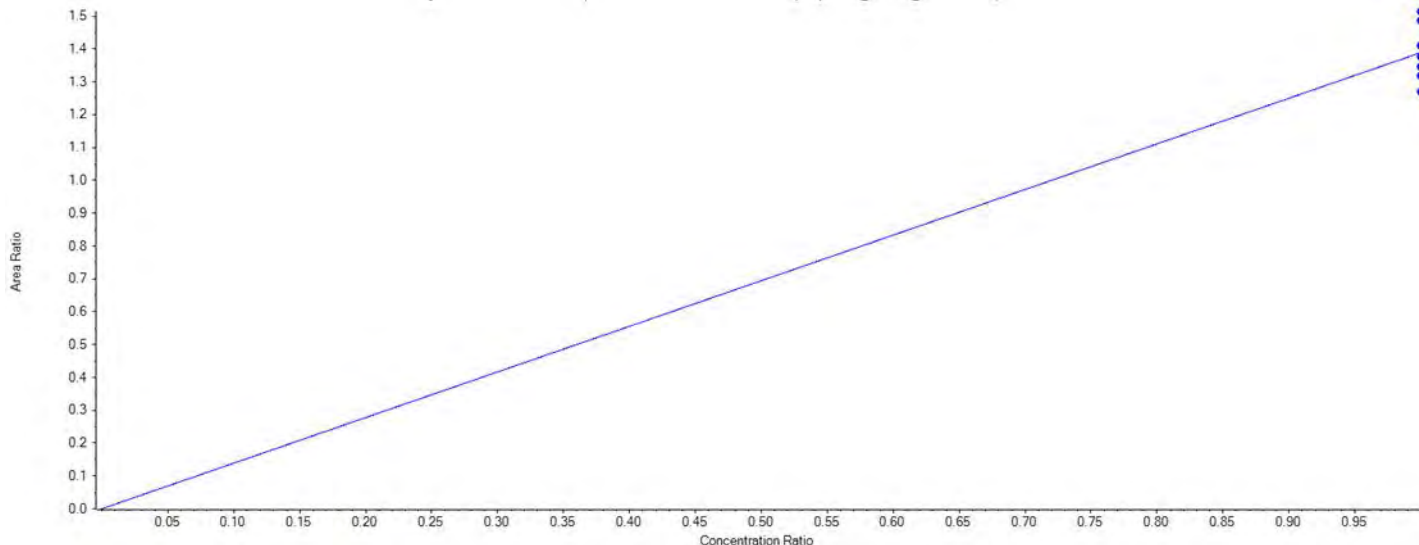
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

E13C2-PFTeDA

 $y = 1.38890 x$ (std. dev. = 0.08847) (weighting: None)

Extraction Standard Calibration Verification

Sample Name	E13C2-PFTeDA Area	13C2-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	430341.3	338833.714	True	5.00	1.270	6.43	1.160	5.000	4.572	-9	30	
CAL2	441206.9	334958.441	True	5.00	1.317	6.43	1.160	5.000	4.742	-5	30	
CAL3	419341.7	311442.089	True	5.00	1.346	6.43	1.160	5.000	4.847	-3	30	
CAL4	441858.1	320985.487	True	5.00	1.377	6.43	1.160	5.000	4.956	-1	30	
CAL5	421798.8	298912.145	True	5.00	1.411	6.43	1.160	5.000	5.080	2	30	
CAL6	394433.9	260528.967	True	5.00	1.514	6.43	1.160	5.000	5.450	9	30	
CAL7	384058.1	258292.235	True	5.00	1.487	6.43	1.160	5.000	5.353	7	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

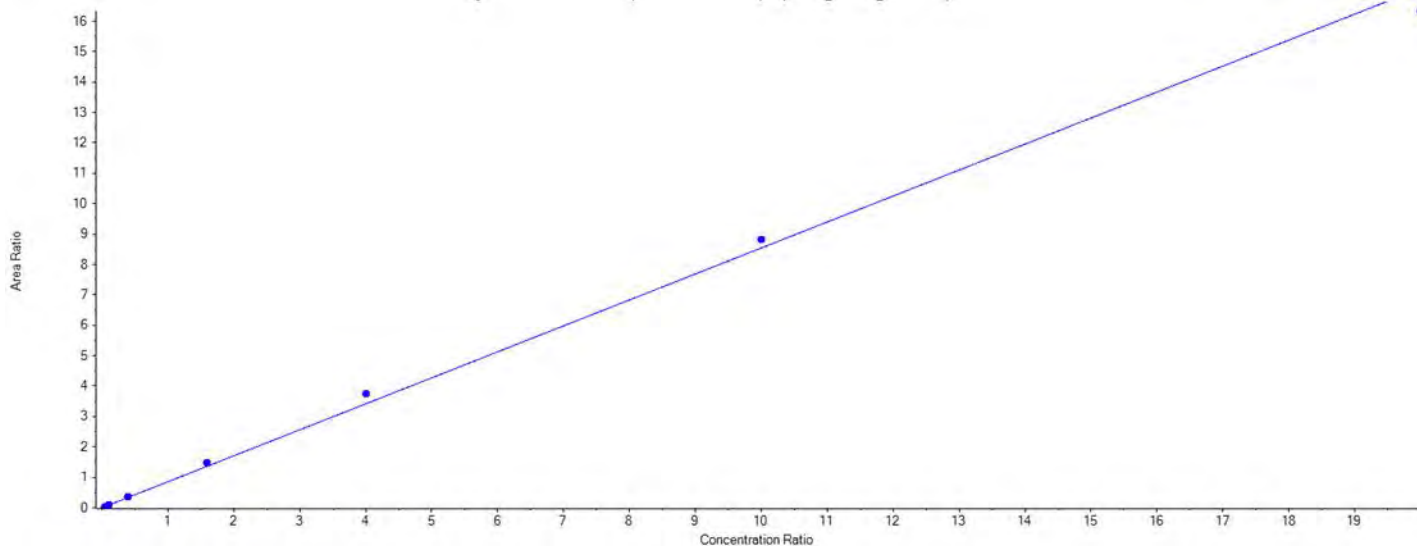
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFBA

 $y = 0.85434 x$ ($r = 0.99861$) (weighting: $1/x$)

Component Calibration Verification

Sample Name	PFBA Area	S/N	13C4-PFBA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	32354.4	146.4	794718.852	True	5.00	0.041	3.27	1.000	0.200	0.238	19	30	
CAL2	72868.6	212.8	782732.821	True	5.00	0.093	3.27	1.000	0.500	0.545	9	30	
CAL3	285113.3	434.5	787180.244	True	5.00	0.362	3.27	1.000	2.000	2.120	6	30	
CAL4	1152870.9	735.9	771359.129	True	5.00	1.495	3.27	1.000	8.000	8.747	9	30	
CAL5	2730076.0	1045.3	728925.112	True	5.00	3.745	3.27	1.000	20.000	21.919	10	30	
CAL6	5709364.6	1410.1	647849.559	True	5.00	8.813	3.26	1.000	50.000	51.576	3	30	
CAL7	9954520.3	1648.1	609686.139	True	5.00	16.327	3.26	1.000	100.000	95.554	-4	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

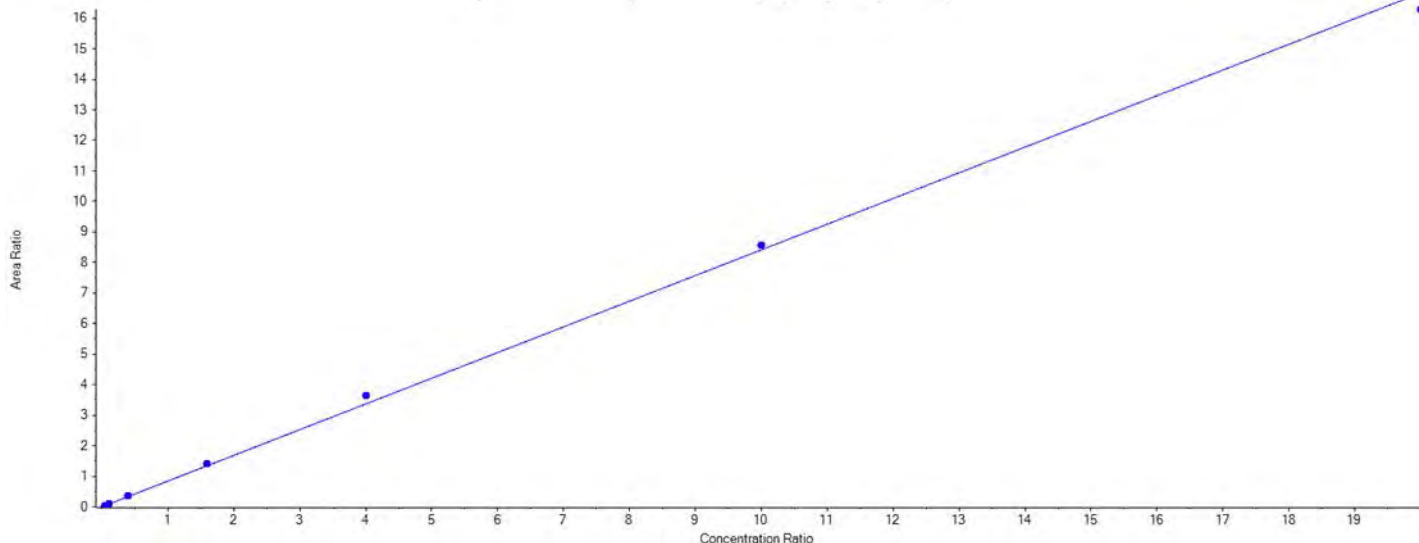
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFPeA

$$y = 0.84134 x \text{ (r = 0.99918) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	PFPeA Area	S/N	13C5-PFPeA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	33205.5	67.0	844850.159	True	5.00	0.039	3.77	1.000	0.200	0.234	17	30	
CAL2	77403.9	97.9	863262.811	True	5.00	0.090	3.77	1.000	0.500	0.533	7	30	
CAL3	286630.7	271.7	829978.484	True	5.00	0.345	3.77	1.000	2.000	2.052	3	30	
CAL4	1165758.7	263.0	824842.795	True	5.00	1.413	3.76	1.000	8.000	8.399	5	30	
CAL5	2812772.2	497.5	768958.133	True	5.00	3.658	3.77	1.000	20.000	21.739	9	30	
CAL6	5899932.2	954.6	687796.699	True	5.00	8.578	3.76	1.000	50.000	50.979	2	30	
CAL7	10229627.8	783.9	628265.483	True	5.00	16.282	3.76	1.000	100.000	96.765	-3	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

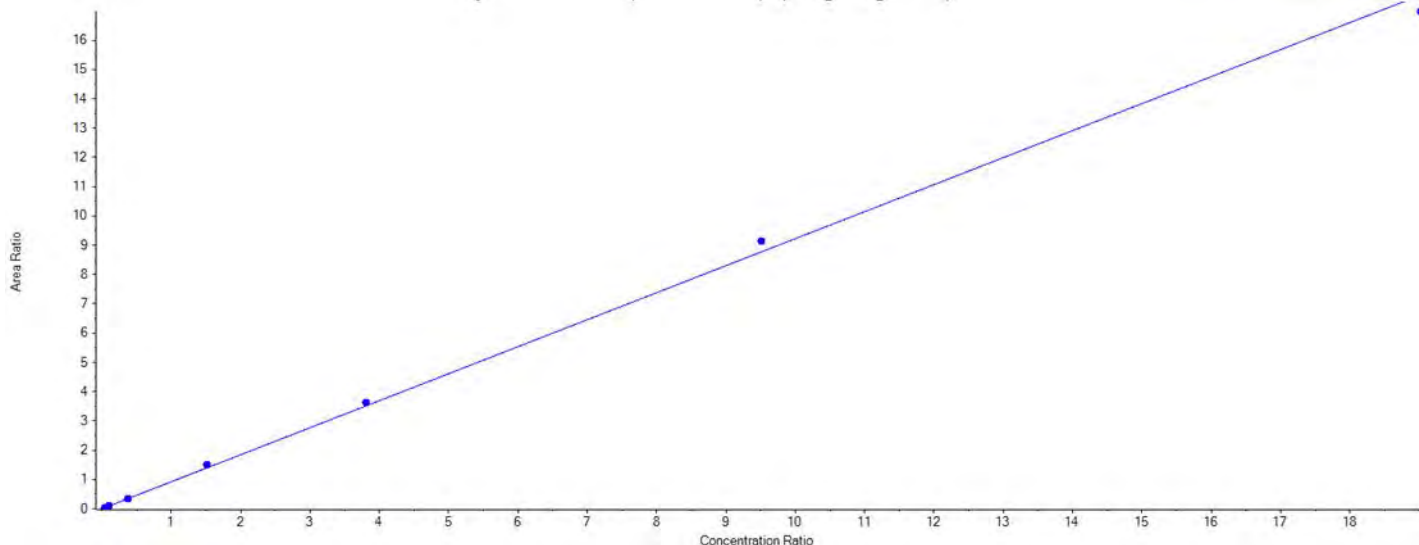
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFBS

$$y = 0.92230 x \text{ (} r = 0.99933 \text{) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	PFBS Area	S/N	13C3-PFBS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	19024.1	393.3	449266.276	True	4.65	0.042	3.82	1.000	0.170	0.213	26	30	
CAL2	41415.1	562.8	444721.279	True	4.65	0.093	3.82	1.000	0.440	0.470	7	30	
CAL3	157656.3	933.8	456815.174	True	4.65	0.345	3.82	1.000	1.770	1.740	-2	30	
CAL4	648524.4	1539.0	434938.872	True	4.65	1.491	3.81	1.000	7.080	7.518	6	30	
CAL5	1601296.4	1306.5	442479.717	True	4.65	3.619	3.82	1.000	17.690	18.246	3	30	
CAL6	3508201.1	1595.6	384220.795	True	4.65	9.131	3.81	1.000	44.220	46.035	4	30	
CAL7	6474525.0	1528.4	381345.498	True	4.65	16.978	3.81	1.000	88.450	85.599	-3	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

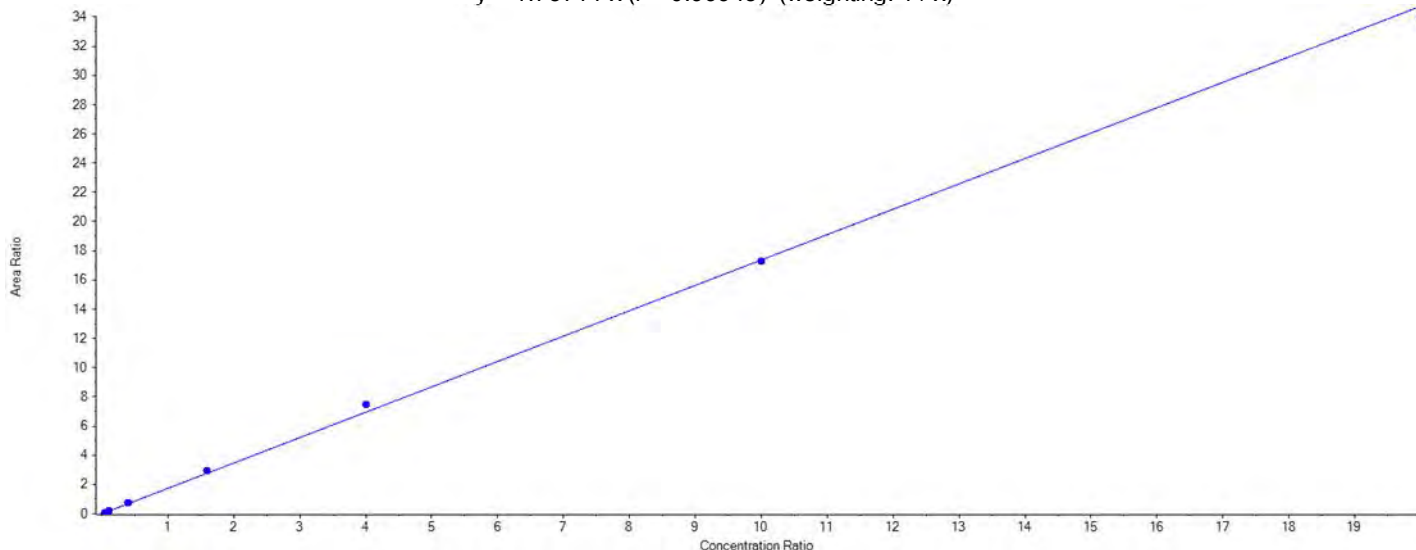
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

4:2-FTS

 $y = 1.73711 x$ ($r = 0.99943$) (weighting: $1/x$)

Component Calibration Verification

Sample Name	4:2-FTS Area	S/N	13C2-4:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	4145.4	132.5	58330.929	True	4.67	0.071	4.13	1.000	0.187	0.191	2	30	
CAL2	9924.9	268.5	54234.136	True	4.67	0.183	4.13	1.000	0.467	0.492	5	30	
CAL3	35586.2	540.9	48706.042	True	4.67	0.731	4.14	1.000	1.868	1.964	5	30	
CAL4	153295.4	973.4	51520.627	True	4.67	2.975	4.13	1.000	7.472	7.999	7	30	
CAL5	365423.8	1181.5	48869.851	True	4.67	7.477	4.13	1.000	18.680	20.102	8	30	
CAL6	866263.6	1274.7	50041.324	True	4.67	17.311	4.12	1.000	46.700	46.538	0	30	
CAL7	1576786.3	1225.2	46334.175	True	4.67	34.031	4.13	1.000	93.400	91.487	-2	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

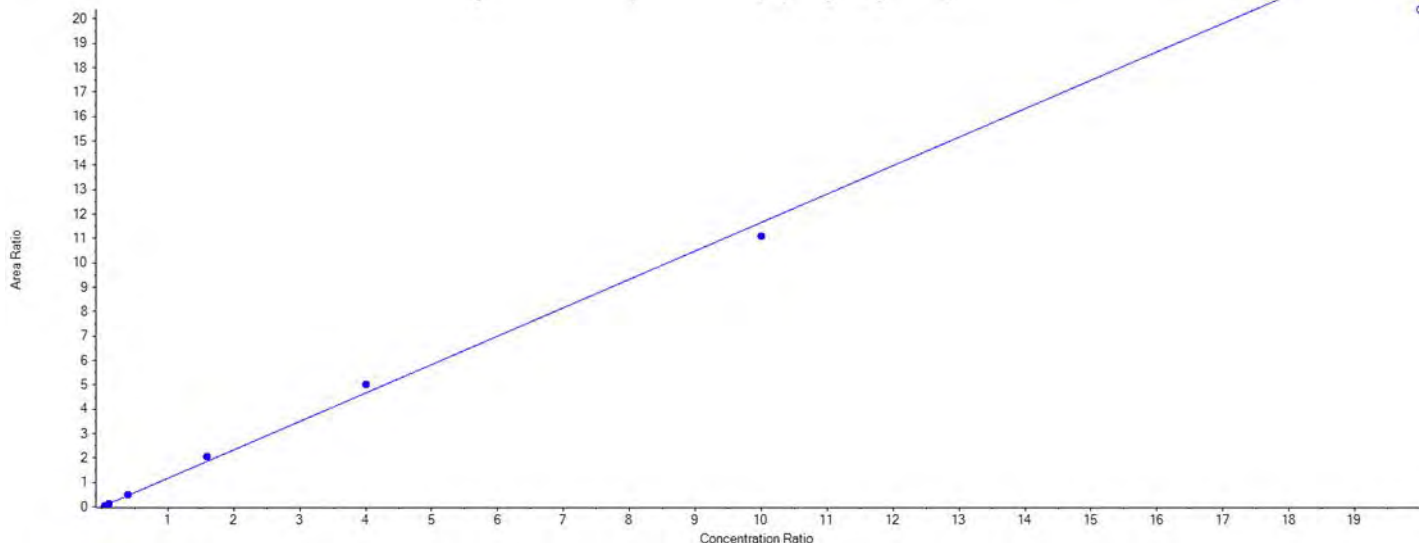
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFHxA

$$y = 1.16591 x \text{ (} r = 0.99804 \text{) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	PFHxA Area	S/N	13C5-PFHxA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	39732.2	173.4	725432.031	True	5.00	0.055	4.17	1.000	0.200	0.235	17	30	
CAL2	88469.9	273.6	717434.931	True	5.00	0.123	4.17	1.000	0.500	0.529	6	30	
CAL3	351503.9	491.3	705369.014	True	5.00	0.498	4.17	1.000	2.000	2.137	7	30	
CAL4	1455862.5	897.7	713446.262	True	5.00	2.041	4.16	1.000	8.000	8.751	9	30	
CAL5	3380716.3	1094.5	674375.429	True	5.00	5.013	4.16	1.000	20.000	21.499	7	30	
CAL6	6739327.9	1094.4	607820.088	True	5.00	11.088	4.16	1.000	50.000	47.549	-5	30	
CAL7	11658104.6	1005.0	571807.508	False	5.00	20.388	4.16	1.000	100.000	87.434	-13	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

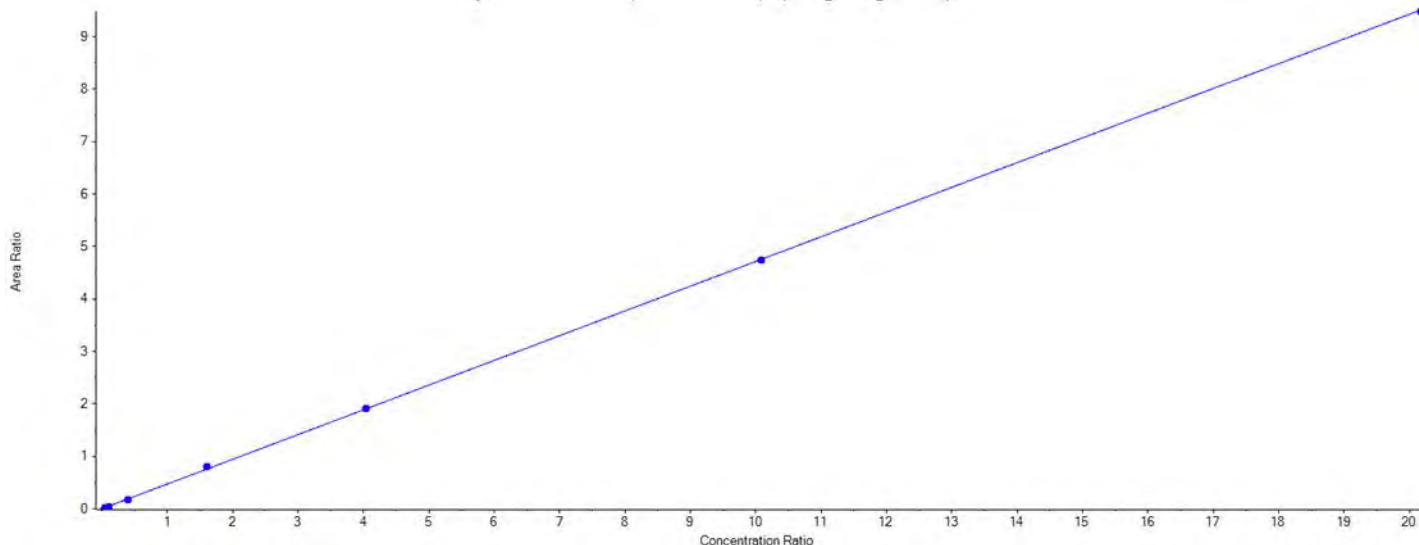
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFPeS

$$y = 0.47146 x \text{ (r = 0.99990) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	PFPeS Area	S/N	¹³ C3-PFBS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	8335.4	274.6	449266.276	True	4.65	0.019	4.18	1.100	0.190	0.183	-4	30	
CAL2	20956.8	449.7	444721.279	True	4.65	0.047	4.19	1.100	0.469	0.465	-1	30	
CAL3	82090.1	729.5	456815.174	True	4.65	0.180	4.19	1.100	1.880	1.772	-6	30	
CAL4	349358.3	1303.9	434938.872	True	4.65	0.803	4.18	1.100	7.500	7.922	6	30	
CAL5	845636.3	1195.3	442479.717	True	4.65	1.911	4.18	1.100	18.760	18.849	0	30	
CAL6	1823355.9	1852.0	384220.795	True	4.65	4.746	4.18	1.100	46.900	46.806	0	30	
CAL7	3615170.2	1352.9	381345.498	True	4.65	9.480	4.18	1.100	93.800	93.501	0	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

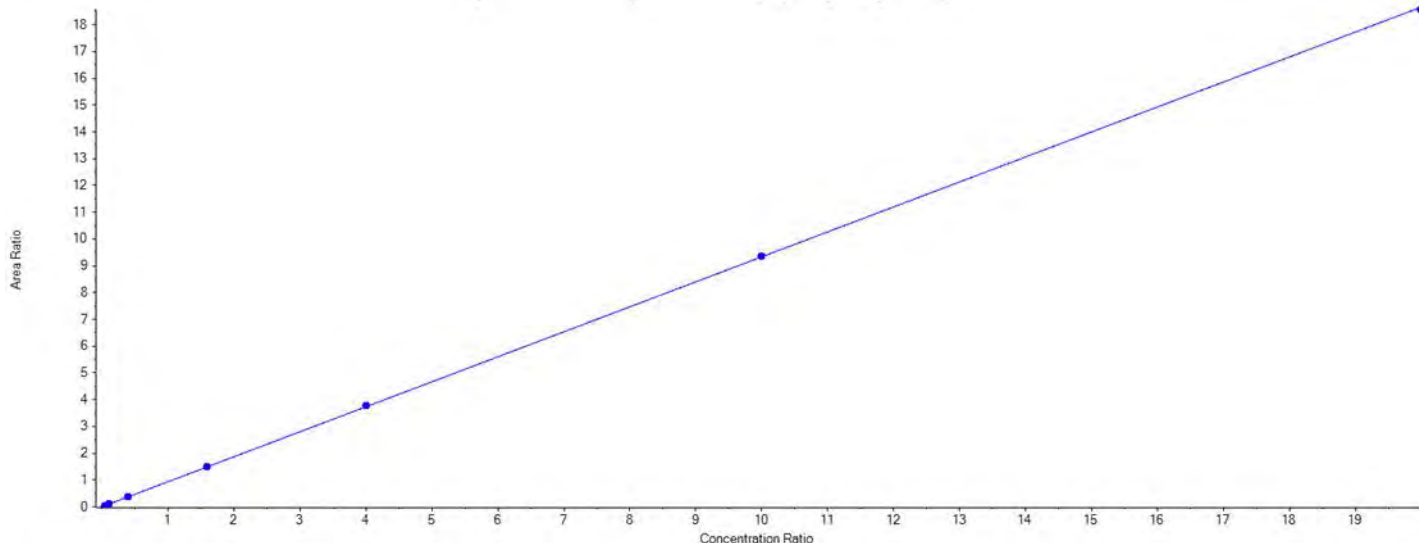
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFHxS

$$y = 0.93317 x \text{ (r = 0.99996) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	PFHxS Area	S/N	13C3-PFHxS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	13762.6	1166.5	358771.251	True	4.73	0.038	4.56	1.000	0.190	0.194	2	30	
CAL2	32061.0	6549.5	335732.100	True	4.73	0.095	4.56	1.000	0.473	0.484	2	30	
CAL3	122477.7	1994.1	343139.549	True	4.73	0.357	4.56	1.000	1.890	1.809	-4	30	
CAL4	513536.6	3164.6	339090.468	True	4.73	1.514	4.55	1.000	7.560	7.676	2	30	
CAL5	1261633.0	4348.9	332808.457	True	4.73	3.791	4.55	1.000	18.910	19.215	2	30	
CAL6	2760712.8	3934.3	295466.243	True	4.73	9.344	4.55	1.000	47.280	47.360	0	30	
CAL7	5196245.3	3688.8	279859.575	True	4.73	18.567	4.55	1.000	94.550	94.113	0	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

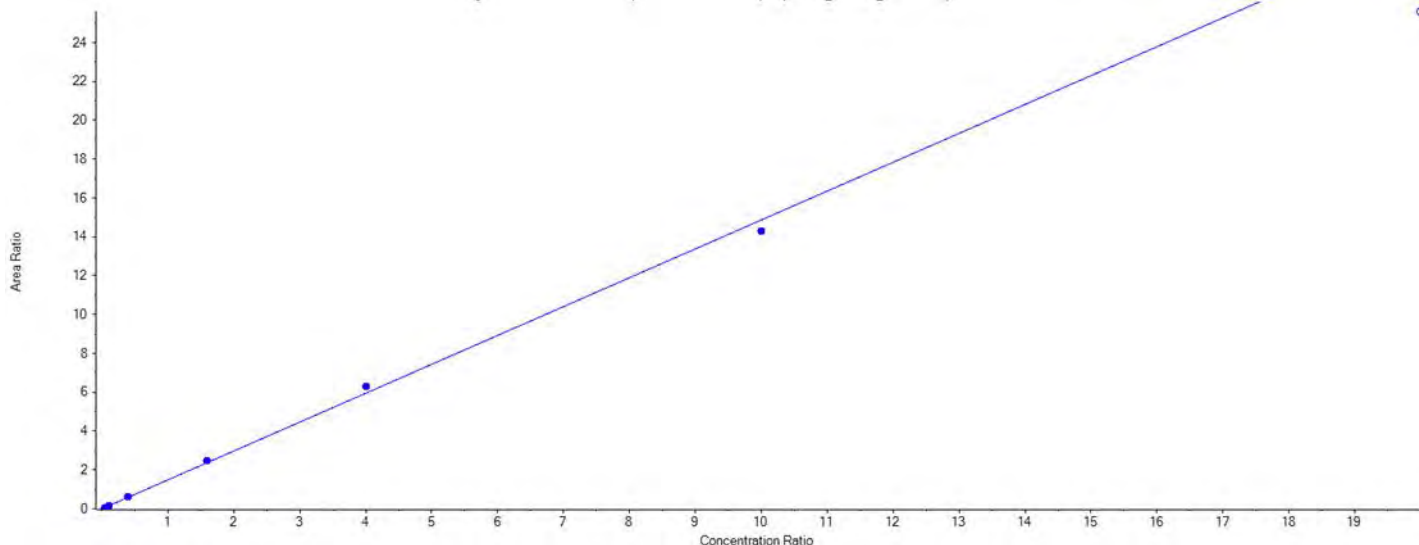
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFHpA

 $y = 1.48669 x$ ($r = 0.99890$) (weighting: $1 / x$)

Component Calibration Verification

Sample Name	PFHpA Area	S/N	¹³ C4-PFHpA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	38331.9	115.7	586580.259	True	5.00	0.065	4.55	1.000	0.200	0.220	10	30	
CAL2	93502.9	220.2	583342.783	True	5.00	0.160	4.56	1.000	0.500	0.539	8	30	
CAL3	360280.4	493.2	566495.562	True	5.00	0.636	4.56	1.000	2.000	2.139	7	30	
CAL4	1481489.5	591.4	592497.863	True	5.00	2.500	4.55	1.000	8.000	8.409	5	30	
CAL5	3440372.8	967.5	544681.071	True	5.00	6.316	4.55	1.000	20.000	21.243	6	30	
CAL6	6940304.7	1231.7	484763.199	True	5.00	14.317	4.55	1.000	50.000	48.150	-4	30	
CAL7	11701142.2	1512.0	457160.435	False	5.00	25.595	4.55	1.000	100.000	86.081	-14	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

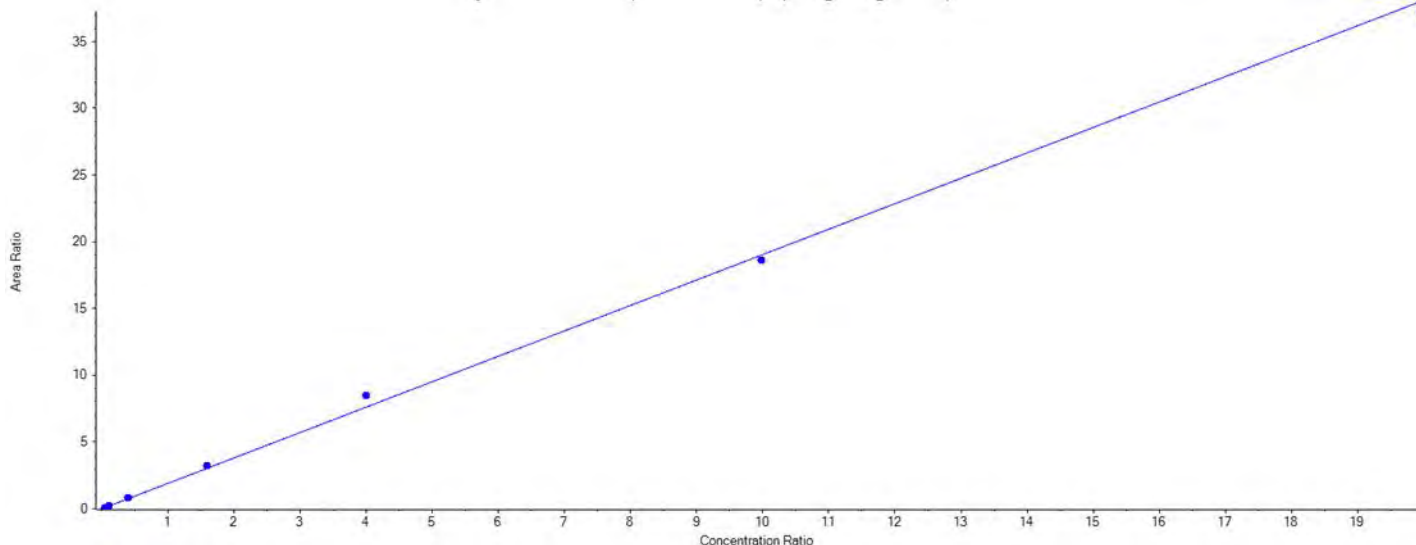
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

6:2-FTS

 $y = 1.90407 x$ ($r = 0.99882$) (weighting: $1 / x$)

Component Calibration Verification

Sample Name	6:2-FTS Area	S/N	13C2-6:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	2460.6	100.5	42112.811	True	4.75	0.058	4.91	1.000	0.190	0.146	-23	30	
CAL2	8883.8	317.6	38849.605	True	4.75	0.229	4.91	1.000	0.474	0.570	20	30	
CAL3	32056.4	598.2	38605.475	True	4.75	0.830	4.92	1.000	1.896	2.071	9	30	
CAL4	125170.2	897.1	39121.731	True	4.75	3.200	4.91	1.000	7.584	7.982	5	30	
CAL5	278493.0	1000.7	32735.591	True	4.75	8.507	4.91	1.000	18.960	21.223	12	30	
CAL6	566692.8	797.2	30466.848	True	4.75	18.600	4.90	1.000	47.400	46.401	-2	30	
CAL7	988785.9	901.9	26549.079	True	4.75	37.244	4.90	1.000	94.800	92.910	-2	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

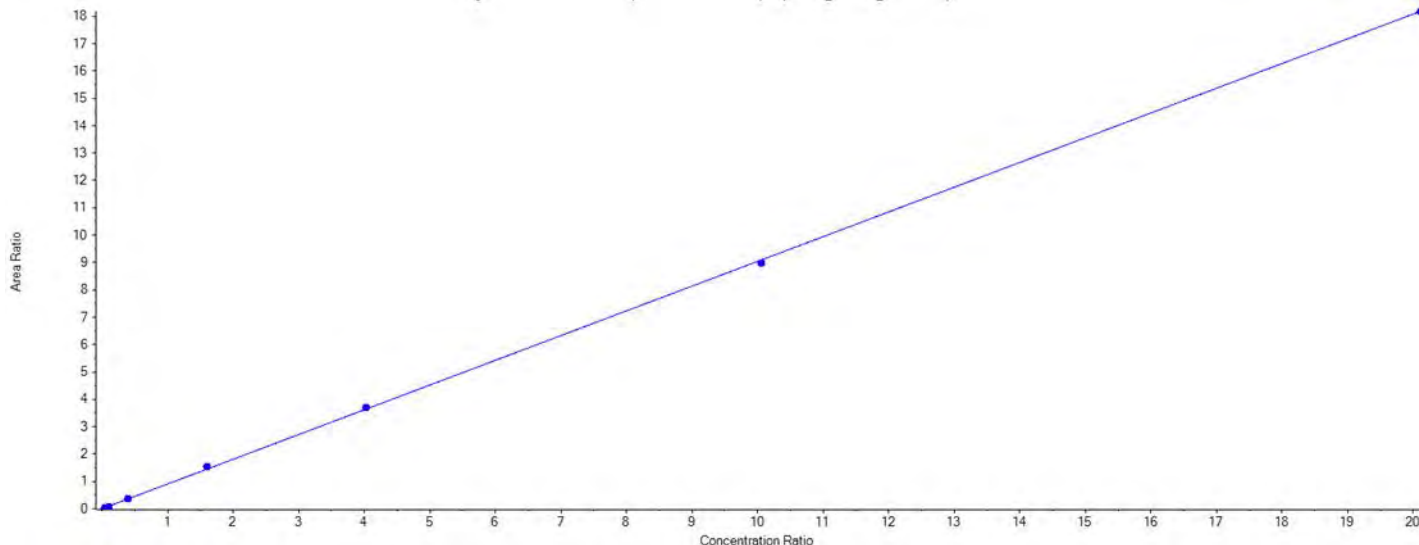
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFHpS

$$y = 0.90410 x \text{ (} r = 0.99989 \text{) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	PFHpS Area	S/N	13C3-PFHxS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	14183.4	333.2	358771.251	True	4.73	0.040	4.91	1.080	0.190	0.207	9	30	
CAL2	30553.2	575.9	335732.100	True	4.73	0.091	4.92	1.080	0.476	0.476	0	30	
CAL3	123126.9	881.8	343139.549	True	4.73	0.359	4.92	1.080	1.900	1.877	-1	30	
CAL4	516333.1	1178.7	339090.468	True	4.73	1.523	4.91	1.080	7.610	7.966	5	30	
CAL5	1236603.7	1092.5	332808.457	True	4.73	3.716	4.92	1.080	19.030	19.439	2	30	
CAL6	2648512.9	1087.8	295466.243	True	4.73	8.964	4.91	1.080	47.580	46.896	-1	30	
CAL7	5085803.6	1089.6	279859.575	True	4.73	18.173	4.91	1.080	95.150	95.074	0	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

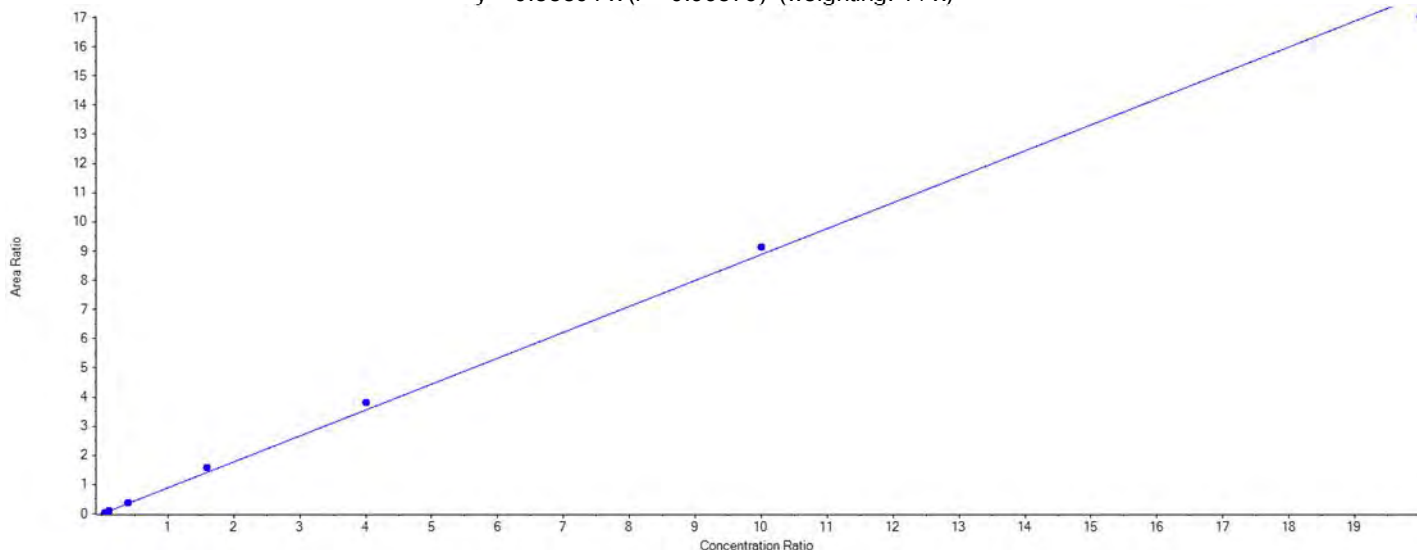
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFOA

 $y = 0.88801 x$ ($r = 0.99876$) (weighting: $1 / x$)

Component Calibration Verification

Sample Name	PFOA Area	S/N	¹³ C8-PFOA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	39843.5	233.7	1028414.921	True	5.00	0.039	4.93	1.000	0.200	0.218	9	30	
CAL2	94348.1	430.7	970523.191	True	5.00	0.097	4.93	1.000	0.500	0.547	9	30	
CAL3	364943.1	791.6	964414.633	True	5.00	0.378	4.93	1.000	2.000	2.131	7	30	
CAL4	1491946.3	1207.0	937287.469	True	5.00	1.592	4.92	1.000	8.000	8.963	12	30	
CAL5	3425279.8	1901.2	895692.173	True	5.00	3.824	4.92	1.000	20.000	21.532	8	30	
CAL6	7023921.1	2522.0	769164.416	True	5.00	9.132	4.92	1.000	50.000	51.417	3	30	
CAL7	11562348.7	2334.2	678914.551	True	5.00	17.031	4.92	1.000	100.000	95.892	-4	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

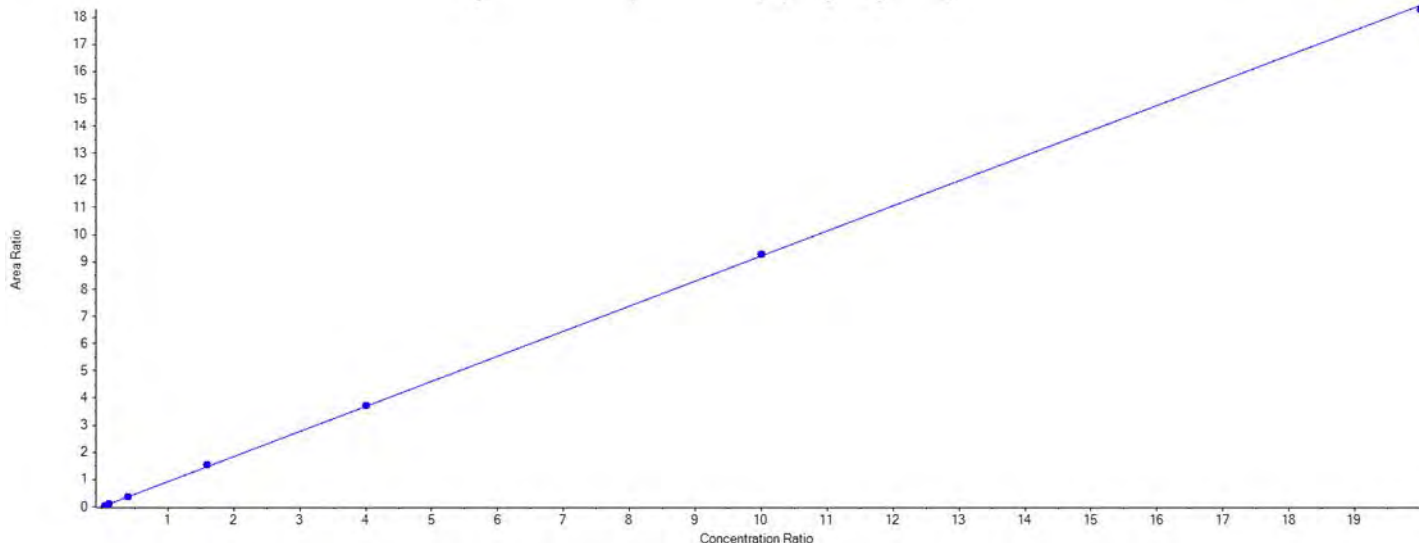
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFOS

$$y = 0.92182 x \text{ (} r = 0.99994 \text{) (weighting: } 1 / x \text{)}$$



Component Calibration Verification

Sample Name	PFOS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	12181.7	1599.7	307224.329	True	4.78	0.040	5.25	1.000	0.190	0.206	8	30	
CAL2	28529.2	1301.4	286174.783	True	4.78	0.100	5.25	1.000	0.478	0.517	8	30	
CAL3	111397.7	2913.4	297259.750	True	4.78	0.375	5.25	1.000	1.910	1.943	2	30	
CAL4	447769.0	1957.6	291941.558	True	4.78	1.534	5.25	1.000	7.650	7.953	4	30	
CAL5	1108359.9	3249.6	297995.609	True	4.78	3.719	5.25	1.000	19.120	19.287	1	30	
CAL6	2487687.4	4656.8	268368.993	True	4.78	9.270	5.24	1.000	47.800	48.067	1	30	
CAL7	4830627.6	3150.6	264295.900	True	4.78	18.277	5.25	1.000	95.600	94.776	-1	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

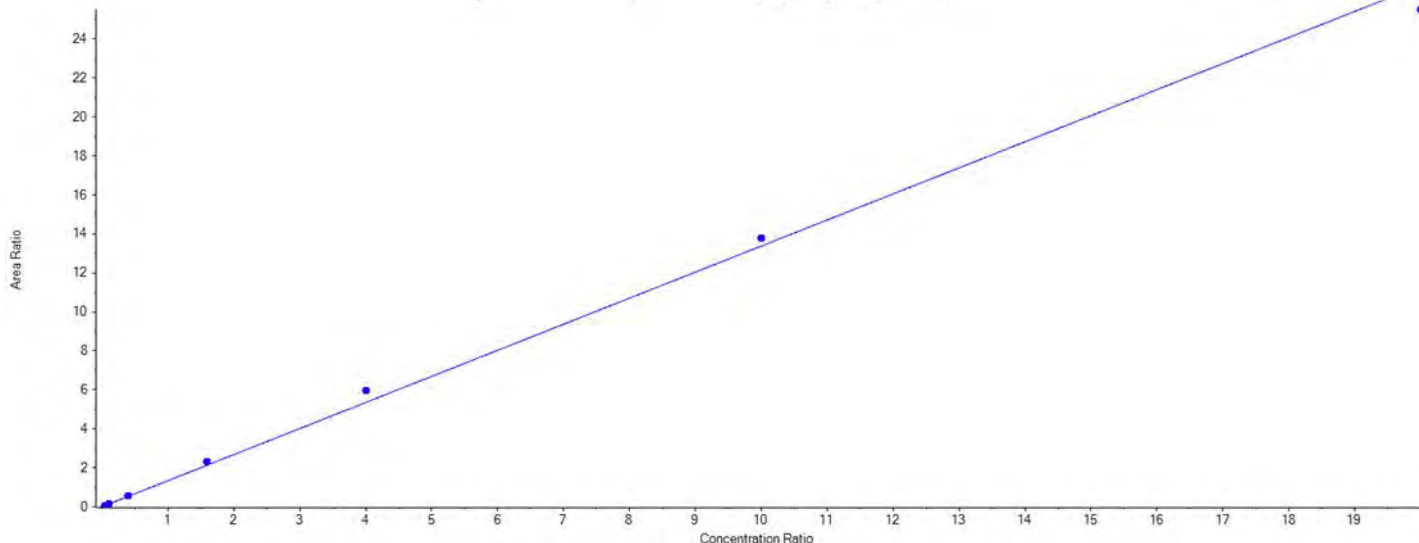
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFNA

$$y = 1.33790 x \text{ (} r = 0.99838 \text{) (weighting: } 1 / x \text{)}$$



Component Calibration Verification

Sample Name	PFNA Area	S/N	13C9-PFNA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	32563.3	212.6	518118.657	True	5.00	0.063	5.27	1.000	0.200	0.235	17	30	
CAL2	74743.9	385.8	540435.380	True	5.00	0.138	5.27	1.000	0.500	0.517	3	30	
CAL3	299530.4	891.6	513115.984	True	5.00	0.584	5.27	1.000	2.000	2.182	9	30	
CAL4	1179151.8	1096.7	512147.381	True	5.00	2.302	5.27	1.000	8.000	8.604	8	30	
CAL5	2889454.7	1462.7	484419.266	True	5.00	5.965	5.27	1.000	20.000	22.292	11	30	
CAL6	6070259.1	1061.5	440319.007	True	5.00	13.786	5.26	1.000	50.000	51.521	3	30	
CAL7	10279837.9	1111.6	402916.669	True	5.00	25.514	5.27	1.000	100.000	95.349	-5	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

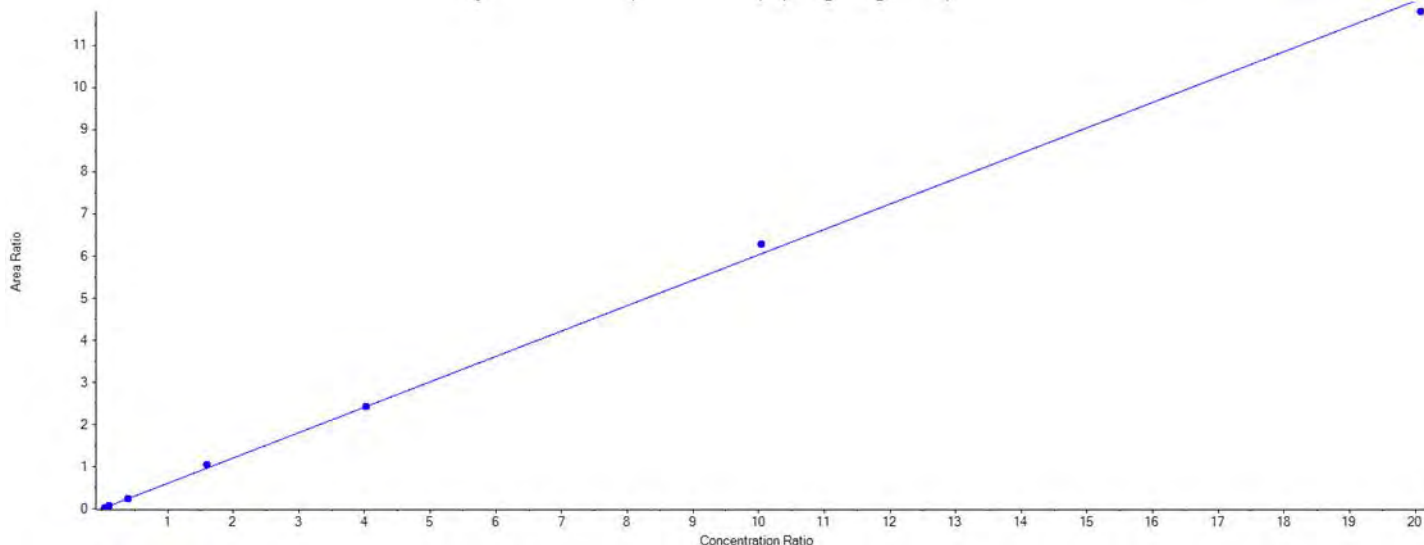
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFNS

$$y = 0.60287x \text{ (} r = 0.99948 \text{) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	PFNS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	6748.5	139.2	307224.329	True	4.78	0.022	5.55	1.060	0.190	0.174	-8	30	
CAL2	17507.8	298.5	286174.783	True	4.78	0.061	5.55	1.060	0.480	0.485	1	30	
CAL3	72940.0	700.2	297259.750	True	4.78	0.245	5.55	1.060	1.920	1.946	1	30	
CAL4	305013.7	830.3	291941.558	True	4.78	1.045	5.54	1.060	7.680	8.284	8	30	
CAL5	722178.3	1119.3	297995.609	True	4.78	2.423	5.54	1.060	19.200	19.215	0	30	
CAL6	1684601.2	897.8	268368.993	True	4.78	6.277	5.54	1.060	48.000	49.770	4	30	
CAL7	3119908.2	856.2	264295.900	True	4.78	11.805	5.54	1.060	96.000	93.596	-3	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

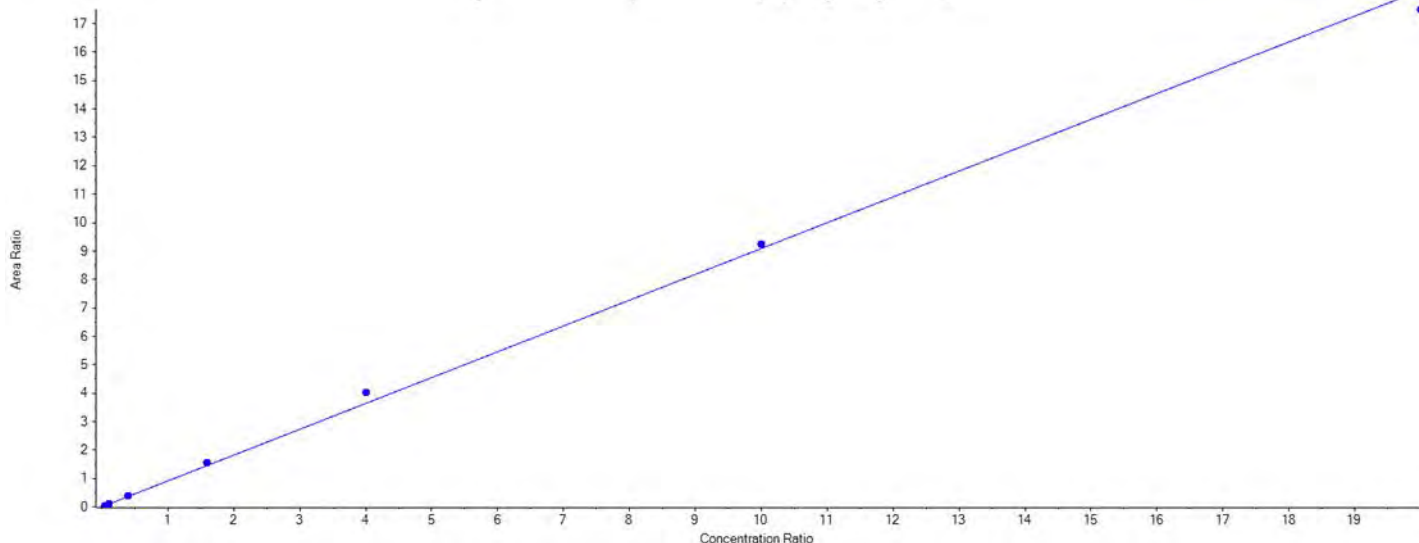
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFDA

 $y = 0.90882x$ ($r = 0.99881$) (weighting: $1/x$)

Component Calibration Verification

Sample Name	PFDA Area	S/N	13C6-PFDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	25530.0	80.6	651347.959	True	5.00	0.039	5.57	1.000	0.200	0.216	8	30	
CAL2	62530.6	137.6	661423.810	True	5.00	0.095	5.57	1.000	0.500	0.520	4	30	
CAL3	244693.9	357.4	639022.779	True	5.00	0.383	5.57	1.000	2.000	2.107	5	30	
CAL4	1029893.8	556.8	656868.302	True	5.00	1.568	5.56	1.000	8.000	8.626	8	30	
CAL5	2401274.2	683.6	598009.725	True	5.00	4.015	5.57	1.000	20.000	22.091	10	30	
CAL6	4962332.7	791.5	536626.204	True	5.00	9.247	5.56	1.000	50.000	50.875	2	30	
CAL7	8415098.4	928.9	480927.883	True	5.00	17.498	5.56	1.000	100.000	96.265	-4	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

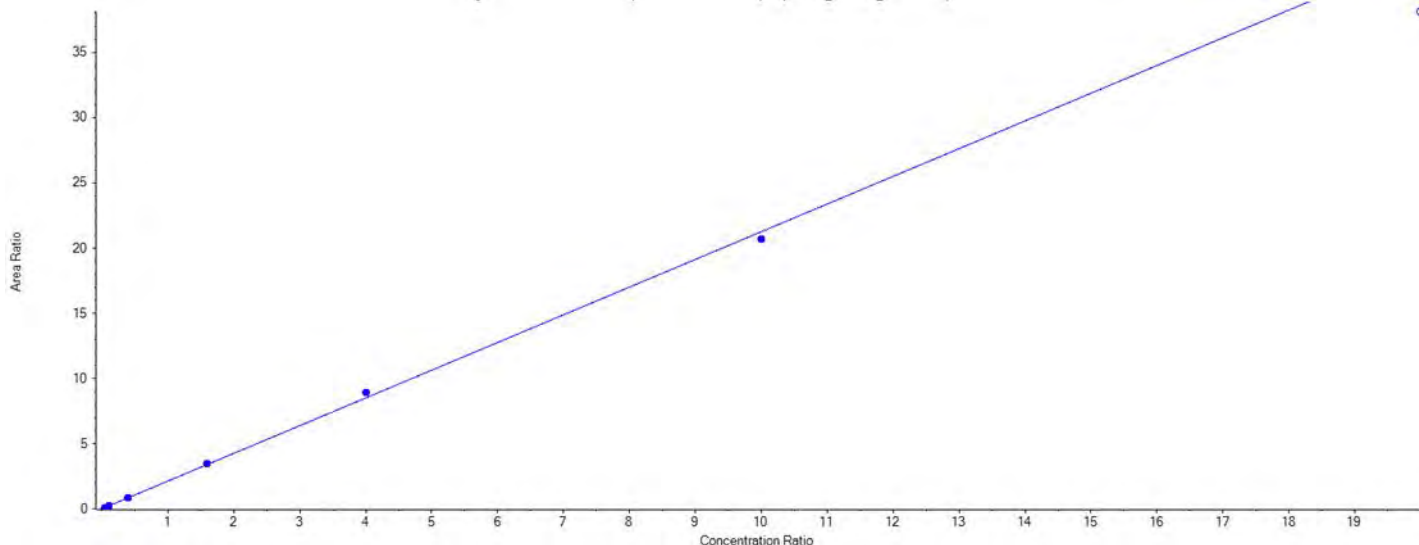
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

8:2-FTS

 $y = 2.12507 x$ ($r = 0.99948$) (weighting: $1 / x$)

Component Calibration Verification

Sample Name	8:2-FTS Area	S/N	13C2-8:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	2783.3	121.0	26730.160	True	4.79	0.104	5.58	1.000	0.192	0.235	22	30	
CAL2	6917.6	207.6	27523.013	True	4.79	0.251	5.57	1.000	0.479	0.567	18	30	
CAL3	24892.6	1018.5	29468.270	True	4.79	0.845	5.57	1.000	1.916	1.904	-1	30	
CAL4	106591.3	873.6	30500.264	True	4.79	3.495	5.57	1.000	7.664	7.877	3	30	
CAL5	244867.6	996.2	27553.973	True	4.79	8.887	5.57	1.000	19.160	20.031	5	30	
CAL6	516640.5	1051.6	24938.159	True	4.79	20.717	5.56	1.000	47.900	46.697	-3	30	
CAL7	936483.2	582.0	24555.696	False	4.79	38.137	5.57	1.000	95.800	85.963	-10	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

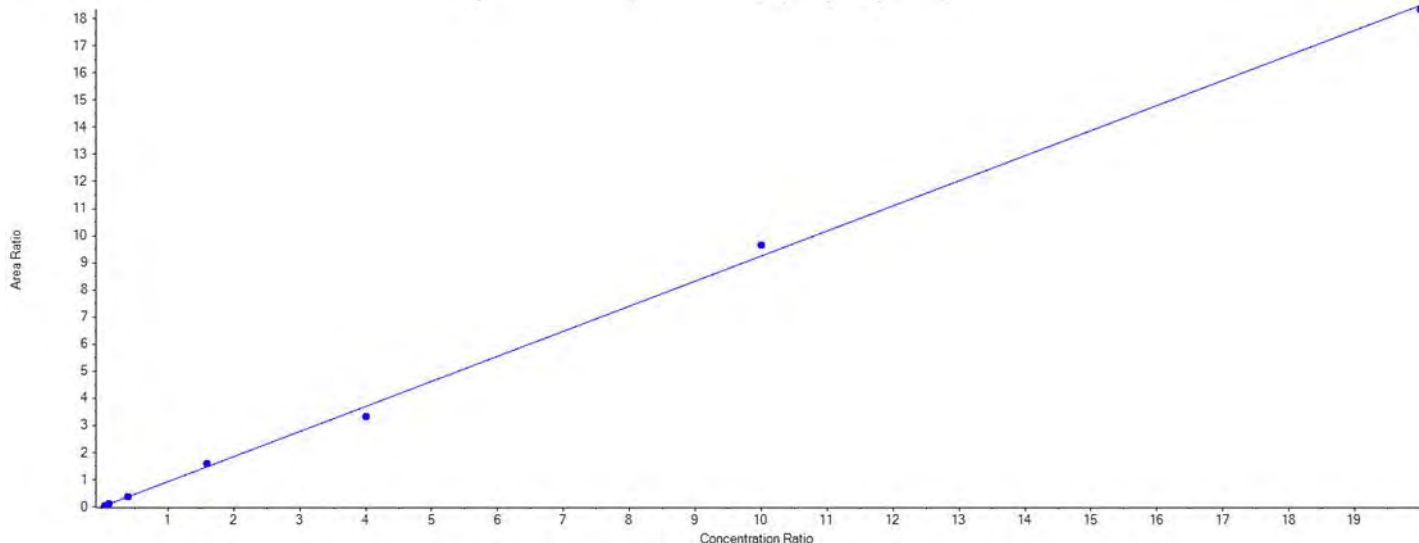
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFOSA

$$y = 0.92498x \text{ (} r = 0.99897 \text{) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	PFOSA Area	S/N	13C8-PFOSA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	27779.6	365.6	774962.773	True	5.00	0.036	5.64	1.000	0.200	0.194	-3	30	
CAL2	69586.0	485.9	711032.158	True	5.00	0.098	5.64	1.000	0.500	0.529	6	30	
CAL3	271753.2	606.8	704745.507	True	5.00	0.386	5.64	1.000	2.000	2.084	4	30	
CAL4	1119770.1	706.4	708330.461	True	5.00	1.581	5.64	1.000	8.000	8.545	7	30	
CAL5	2448684.3	761.3	737038.484	True	5.00	3.322	5.64	1.000	20.000	17.959	-10	30	
CAL6	5938541.7	607.4	614406.373	True	5.00	9.665	5.64	1.000	50.000	52.247	4	30	
CAL7	11064835.5	659.2	603296.116	True	5.00	18.341	5.64	1.000	100.000	99.141	-1	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

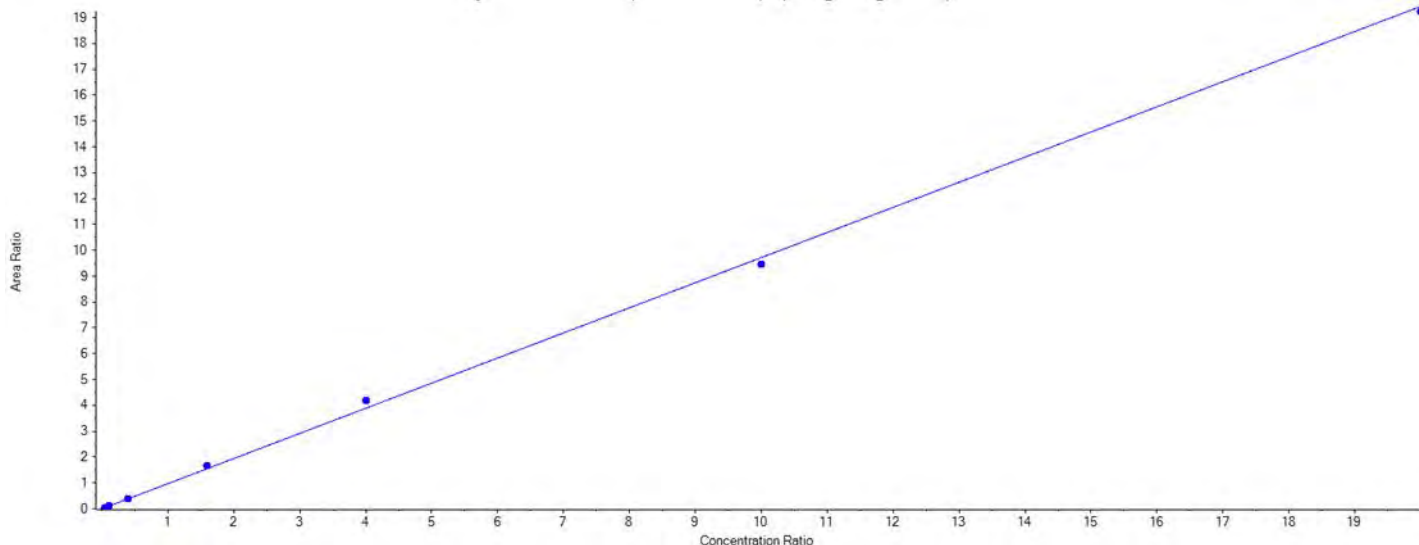
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

NMeFOSAA

$$y = 0.97172x \text{ (} r = 0.99935 \text{) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	NMeFOSAA Area	S/N	d3-NMeFOSAA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3293.8	523.5	94966.986	True	5.00	0.035	5.71	1.000	0.200	0.178	-11	30	
CAL2	9807.4	1757.7	83112.192	True	5.00	0.118	5.71	1.000	0.500	0.607	21	30	
CAL3	32400.4	714.3	81763.338	True	5.00	0.396	5.71	1.000	2.000	2.039	2	30	
CAL4	136316.9	1055.9	80900.105	True	5.00	1.685	5.71	1.000	8.000	8.670	8	30	
CAL5	308507.7	1864.0	73896.081	True	5.00	4.175	5.71	1.000	20.000	21.482	7	30	
CAL6	740651.6	2592.1	78157.968	True	5.00	9.476	5.70	1.000	50.000	48.760	-2	30	
CAL7	1450331.2	3029.7	75408.724	True	5.00	19.233	5.70	1.000	100.000	98.963	-1	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

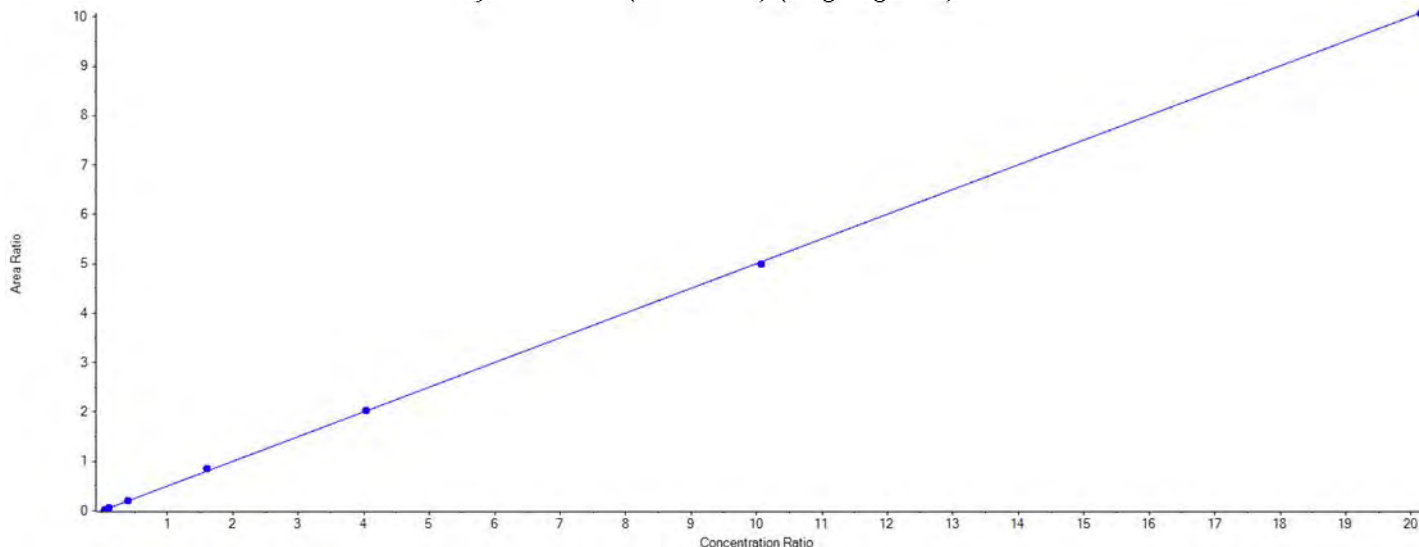
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFDS

$$y = 0.50039x \text{ (} r = 0.99988 \text{) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	PFDS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	6453.6	144.3	307224.329	True	4.78	0.021	5.80	1.100	0.190	0.201	6	30	
CAL2	15726.3	346.3	286174.783	True	4.78	0.055	5.80	1.110	0.482	0.525	9	30	
CAL3	59073.9	499.2	297259.750	True	4.78	0.199	5.80	1.100	1.930	1.898	-2	30	
CAL4	250911.0	762.1	291941.558	True	4.78	0.859	5.80	1.110	7.700	8.210	7	30	
CAL5	605559.3	1144.8	297995.609	True	4.78	2.032	5.80	1.110	19.260	19.412	1	30	
CAL6	1337416.6	1228.3	268368.993	True	4.78	4.983	5.79	1.110	48.150	47.605	-1	30	
CAL7	2660525.2	1099.2	264295.900	True	4.78	10.066	5.80	1.110	96.300	96.161	0	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

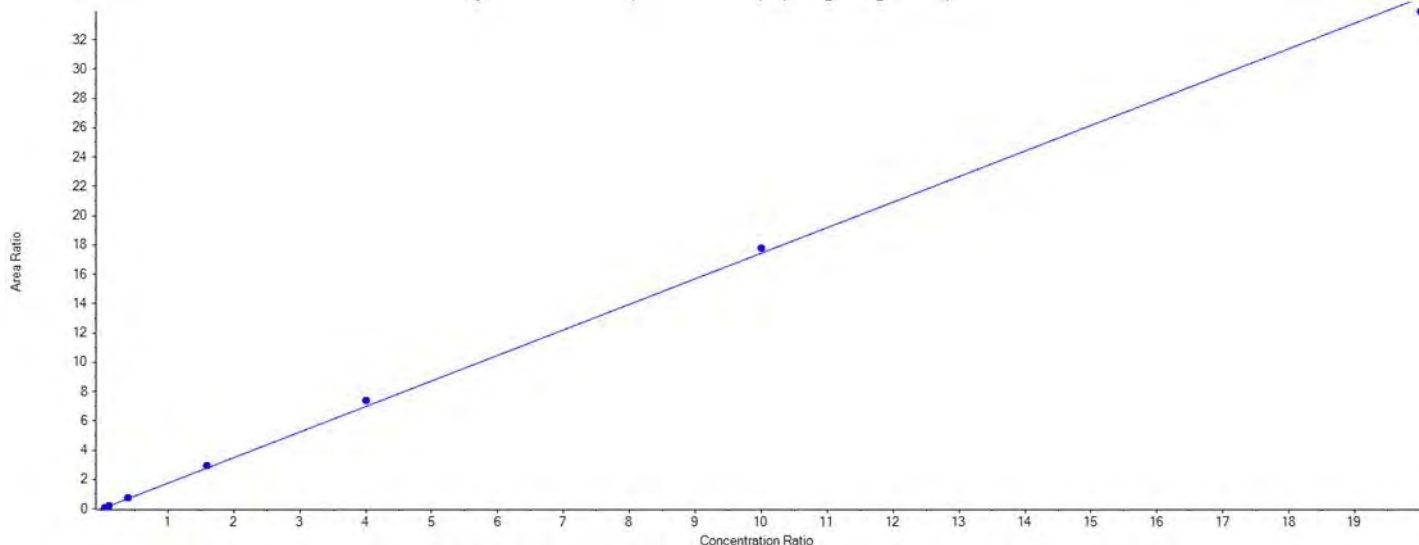
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFUnDA

$$y = 1.74352 x \text{ (r = 0.99948) (weighting: 1 / x)}$$



Component Calibration Verification

Sample Name	PFUnDA Area	S/N	13C7-PFUnDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	23275.5	123.3	293658.674	True	5.00	0.079	5.83	1.000	0.200	0.227	14	30	
CAL2	54085.5	306.2	289985.074	True	5.00	0.187	5.83	1.000	0.500	0.535	7	30	
CAL3	209644.8	492.6	277115.542	True	5.00	0.757	5.83	1.000	2.000	2.170	8	30	
CAL4	802732.3	974.7	275977.201	True	5.00	2.909	5.83	1.000	8.000	8.341	4	30	
CAL5	1952356.4	1160.8	263924.687	True	5.00	7.397	5.83	1.000	20.000	21.214	6	30	
CAL6	4071590.3	1109.0	229237.069	True	5.00	17.761	5.82	1.000	50.000	50.936	2	30	
CAL7	7204782.9	1154.1	212399.757	True	5.00	33.921	5.82	1.000	100.000	97.277	-3	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

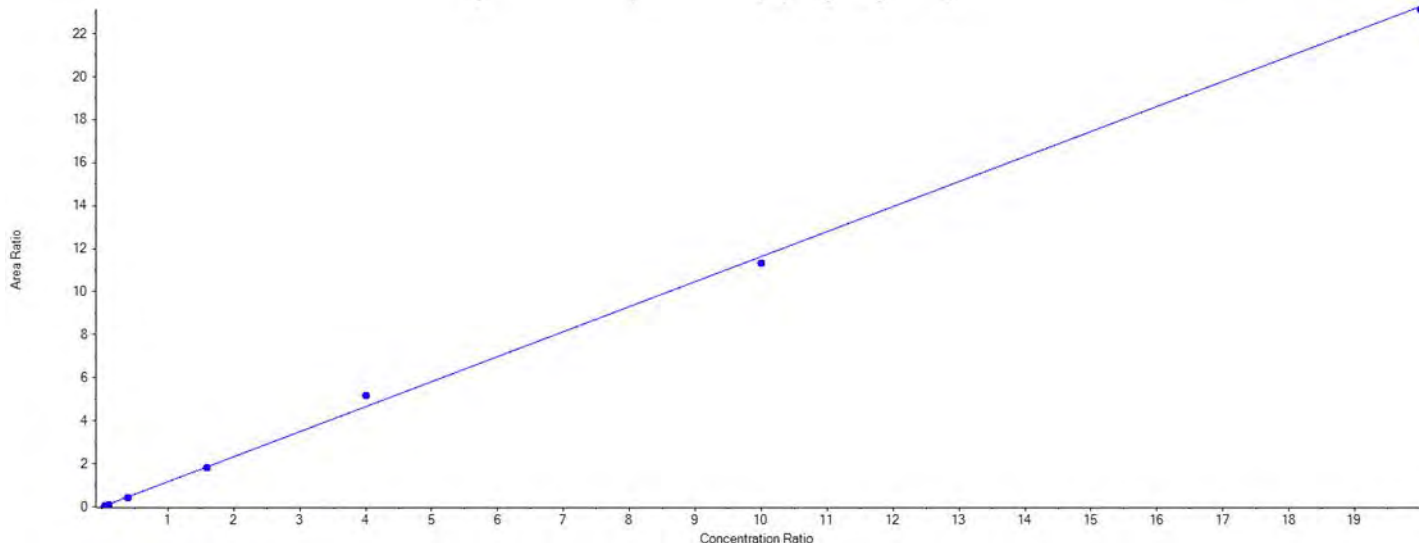
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

NEtFOSAA

$$y = 1.16344 x \text{ (r = 0.99914) (weighting: 1 / x)}$$



Component Calibration Verification

Sample Name	NEtFOSAA Area	S/N	d5-NEtFOSAA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3313.0	102.1	77938.309	True	5.00	0.043	5.84	1.000	0.200	0.183	-9	30	
CAL2	7253.7	357.6	65815.920	True	5.00	0.110	5.84	1.000	0.500	0.474	-5	30	
CAL3	32100.8	3488.9	72755.747	True	5.00	0.441	5.85	1.000	2.000	1.896	-5	30	
CAL4	121615.1	1770.9	66162.445	True	5.00	1.838	5.84	1.000	8.000	7.900	-1	30	
CAL5	298834.2	3536.0	57745.714	True	5.00	5.175	5.85	1.000	20.000	22.240	11	30	
CAL6	685447.7	2450.9	60556.615	True	5.00	11.319	5.84	1.000	50.000	48.645	-3	30	
CAL7	1317020.6	2554.3	56963.053	True	5.00	23.121	5.84	1.000	100.000	99.363	-1	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

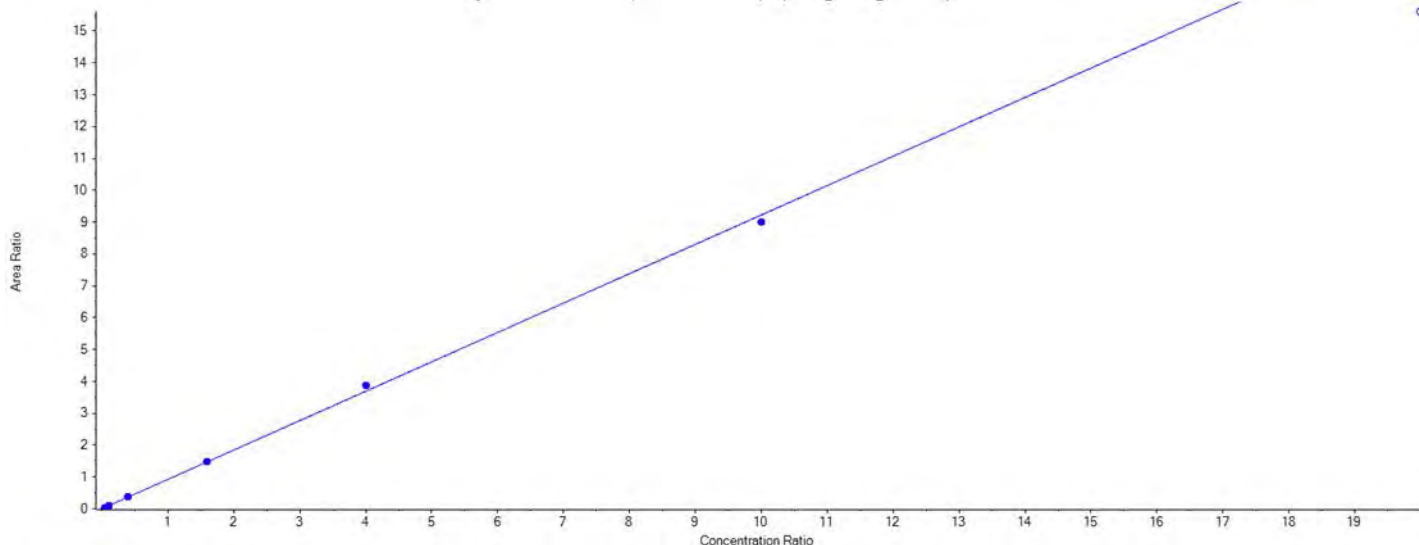
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFDODA

 $y = 0.92260 x$ ($r = 0.99946$) (weighting: $1/x$)

Component Calibration Verification

Sample Name	PFDODA Area	S/N	¹³ C2-PFDODA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	23314.2	211.1	564794.852	True	5.00	0.041	6.06	1.000	0.200	0.224	12	30	
CAL2	60098.0	579.3	597616.302	True	5.00	0.101	6.06	1.000	0.500	0.545	9	30	
CAL3	220663.6	750.3	584631.538	True	5.00	0.377	6.06	1.000	2.000	2.046	2	30	
CAL4	877242.2	1049.4	598287.433	True	5.00	1.466	6.05	1.000	8.000	7.946	-1	30	
CAL5	2132260.7	1239.0	548536.046	True	5.00	3.887	6.06	1.000	20.000	21.067	5	30	
CAL6	4509578.7	1127.0	500065.276	True	5.00	9.018	6.05	1.000	50.000	48.873	-2	30	
CAL7	8211828.8	1159.6	525971.755	False	5.00	15.613	6.05	1.000	100.000	84.613	-15	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

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By umar at 5:23 pm, 11/9/18

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DOD Initial Calibration Verification

Instrument ID: LM27631

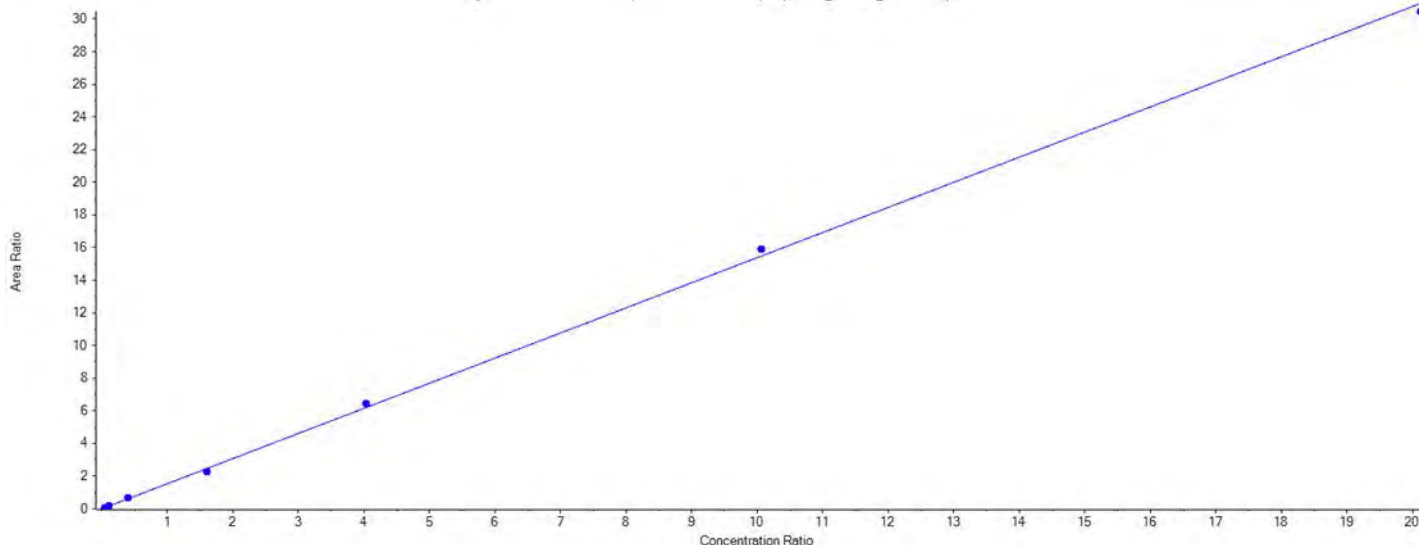
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

10:2-FTS

 $y = 1.53829x$ ($r = 0.99956$) (weighting: $1/x$)

Component Calibration Verification

Sample Name	10:2-FTS Area	S/N	13C2-8:2-FTS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	1903.7	172.7	26730.160	True	4.79	0.071	6.07	1.090	0.193	0.222	15	30	
CAL2	4874.3	125.8	27523.013	True	4.79	0.177	6.07	1.090	0.482	0.551	14	30	
CAL3	19060.5	262.9	29468.270	True	4.79	0.647	6.07	1.090	1.928	2.014	4	30	
CAL4	69275.8	544.3	30500.264	True	4.79	2.271	6.07	1.090	7.712	7.073	-8	30	
CAL5	177607.5	693.3	27553.973	True	4.79	6.446	6.07	1.090	19.280	20.071	4	30	
CAL6	395929.8	1104.6	24938.159	True	4.79	15.876	6.07	1.090	48.200	49.437	3	30	
CAL7	747804.5	1151.9	24555.696	True	4.79	30.453	6.07	1.090	96.400	94.827	-2	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

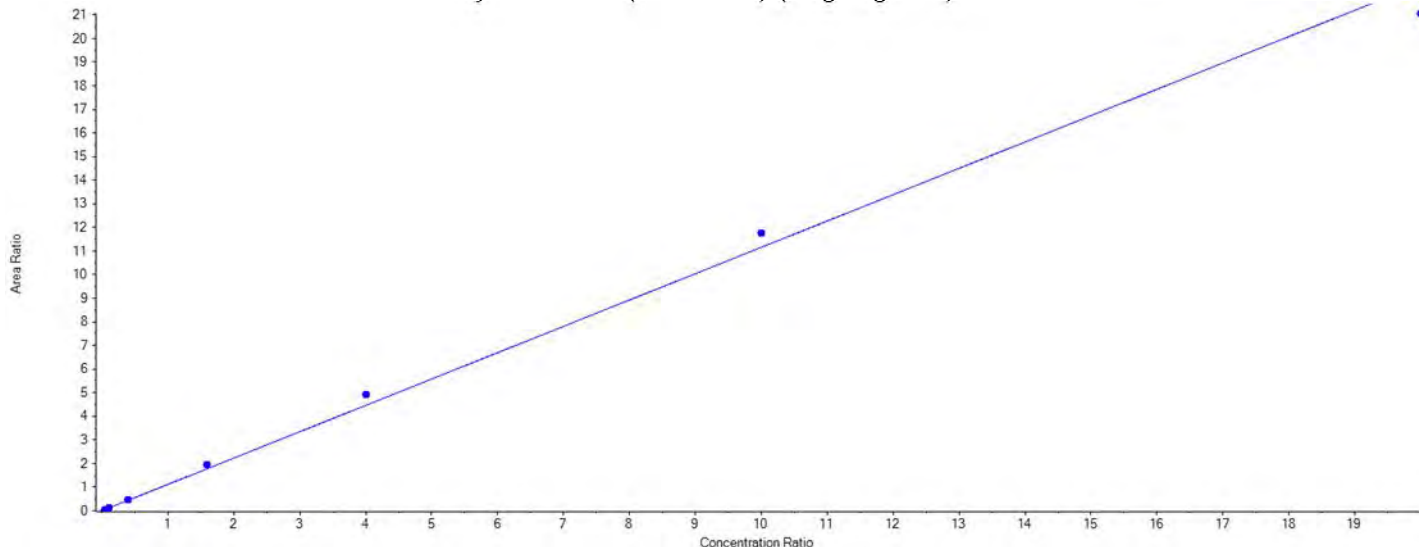
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

NMePFOSAE

$$y = 1.11579 x \text{ (} r = 0.99792 \text{) (weighting: } 1 / x \text{)}$$



Component Calibration Verification

Sample Name	NMePFOSAE Area	S/N	d7-NMePFOSAE Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	19989.4	87.7	366847.670	True	5.00	0.054	6.10	1.000	0.200	0.244	22	30	
CAL2	40902.1	140.8	330298.603	True	5.00	0.124	6.10	1.000	0.500	0.555	11	30	
CAL3	151795.0	297.4	335206.816	True	5.00	0.453	6.10	1.000	2.000	2.029	1	30	
CAL4	648523.4	496.3	330968.748	True	5.00	1.959	6.09	1.000	8.000	8.781	10	30	
CAL5	1583085.5	689.6	321549.477	True	5.00	4.923	6.10	1.000	20.000	22.062	10	30	
CAL6	3462215.2	801.3	294617.585	True	5.00	11.752	6.09	1.000	50.000	52.660	5	30	
CAL7	6220772.1	824.6	295395.339	True	5.00	21.059	6.09	1.000	100.000	94.369	-6	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

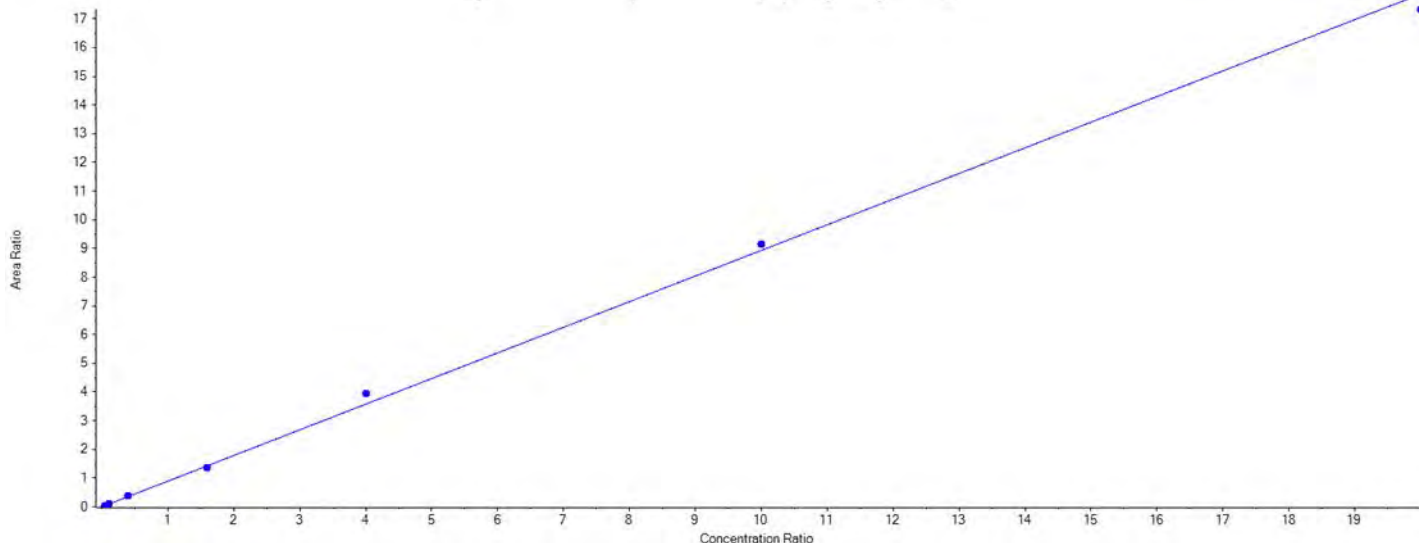
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

NMePFOSA

 $y = 0.89328 x$ ($r = 0.99899$) (weighting: $1 / x$)

Component Calibration Verification

Sample Name	NMePFOSA Area	S/N	d3-NMePFOSA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3218.9	123.4	89511.926	True	5.00	0.036	6.10	1.000	0.200	0.201	1	30	
CAL2	8251.9	123.5	81301.239	True	5.00	0.101	6.10	1.000	0.500	0.568	14	30	
CAL3	29797.4	354.6	79381.682	True	5.00	0.375	6.10	1.000	2.000	2.101	5	30	
CAL4	118194.2	528.2	86399.425	True	5.00	1.368	6.10	1.000	8.000	7.657	-4	30	
CAL5	323567.0	708.0	82137.635	True	5.00	3.939	6.10	1.000	20.000	22.050	10	30	
CAL6	705149.2	546.6	77146.949	True	5.00	9.140	6.10	1.000	50.000	51.162	2	30	
CAL7	1386738.5	563.9	80053.250	True	5.00	17.323	6.10	1.000	100.000	96.961	-3	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

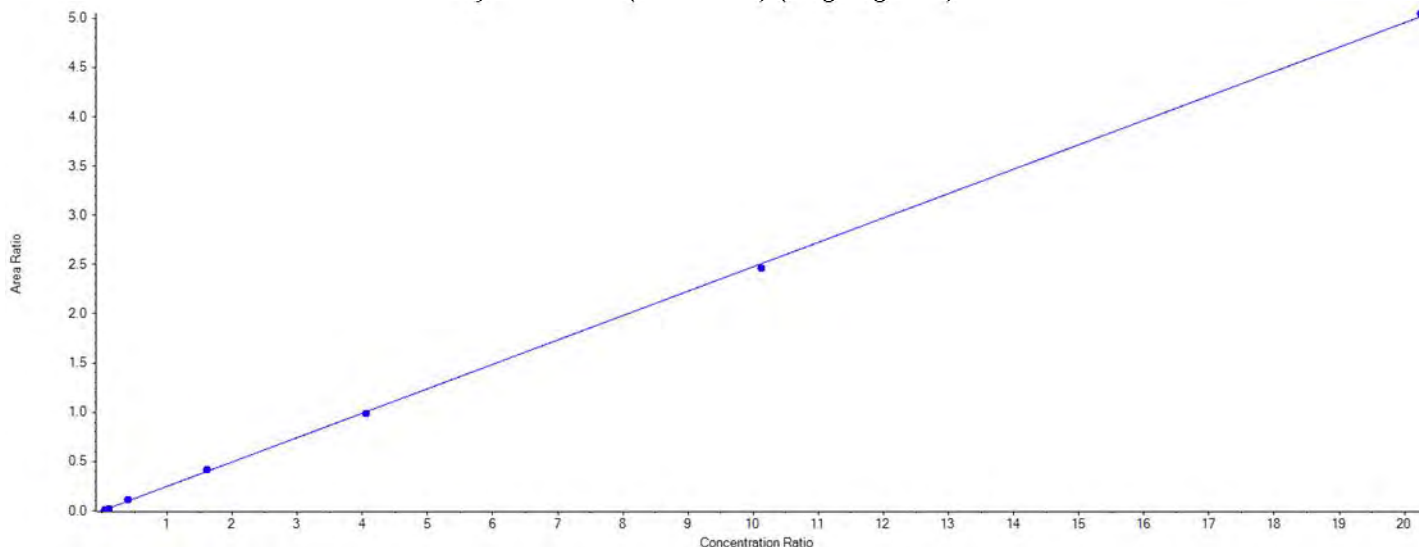
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFDoS

$$y = 0.24766 x \text{ (} r = 0.99988 \text{) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	PFDoS Area	S/N	13C8-PFOS Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3016.1	142.5	307224.329	True	4.78	0.010	6.22	1.190	0.190	0.189	0	30	
CAL2	7227.2	251.5	286174.783	True	4.78	0.025	6.23	1.190	0.484	0.487	1	30	
CAL3	32096.3	376.5	297259.750	True	4.78	0.108	6.22	1.190	1.940	2.084	7	30	
CAL4	121590.1	703.3	291941.558	True	4.78	0.416	6.22	1.190	7.740	8.039	4	30	
CAL5	295383.8	738.2	297995.609	True	4.78	0.991	6.22	1.190	19.360	19.132	-1	30	
CAL6	661528.1	1015.3	268368.993	True	4.78	2.465	6.22	1.190	48.400	47.576	-2	30	
CAL7	1333847.1	1122.7	264295.900	True	4.78	5.047	6.22	1.190	96.800	97.407	1	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

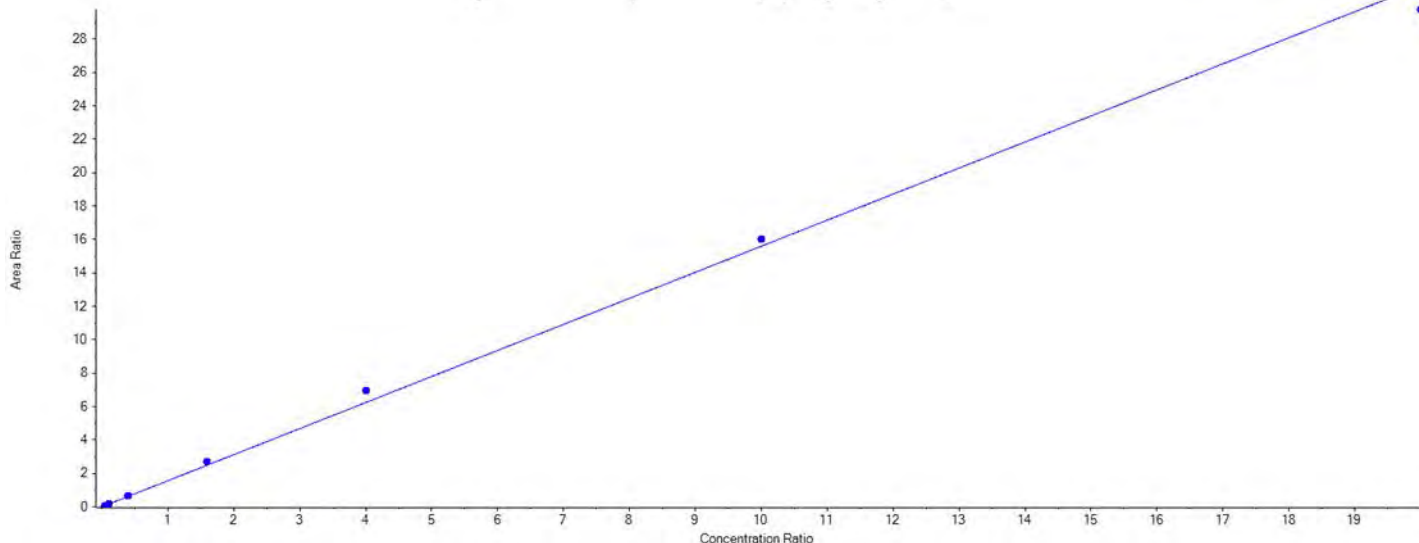
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

NEtPFOSAE

$$y = 1.55971 x \text{ (r = 0.99840) (weighting: 1 / x)}$$



Component Calibration Verification

Sample Name	NEtPFOSAE Area	S/N	d9-NEtPFOSAE Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	21922.0	86.9	296629.265	True	5.00	0.074	6.25	1.000	0.200	0.237	18	30	
CAL2	48905.8	147.7	270607.582	True	5.00	0.181	6.25	1.000	0.500	0.579	16	30	
CAL3	180884.6	310.2	278375.126	True	5.00	0.650	6.25	1.000	2.000	2.083	4	30	
CAL4	740427.4	562.5	273909.084	True	5.00	2.703	6.25	1.000	8.000	8.666	8	30	
CAL5	1810587.6	560.5	259950.874	True	5.00	6.965	6.25	1.000	20.000	22.328	12	30	
CAL6	3836850.8	823.2	239316.963	True	5.00	16.033	6.25	1.000	50.000	51.396	3	30	
CAL7	6995371.5	738.3	235038.050	True	5.00	29.763	6.25	1.000	100.000	95.411	-5	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

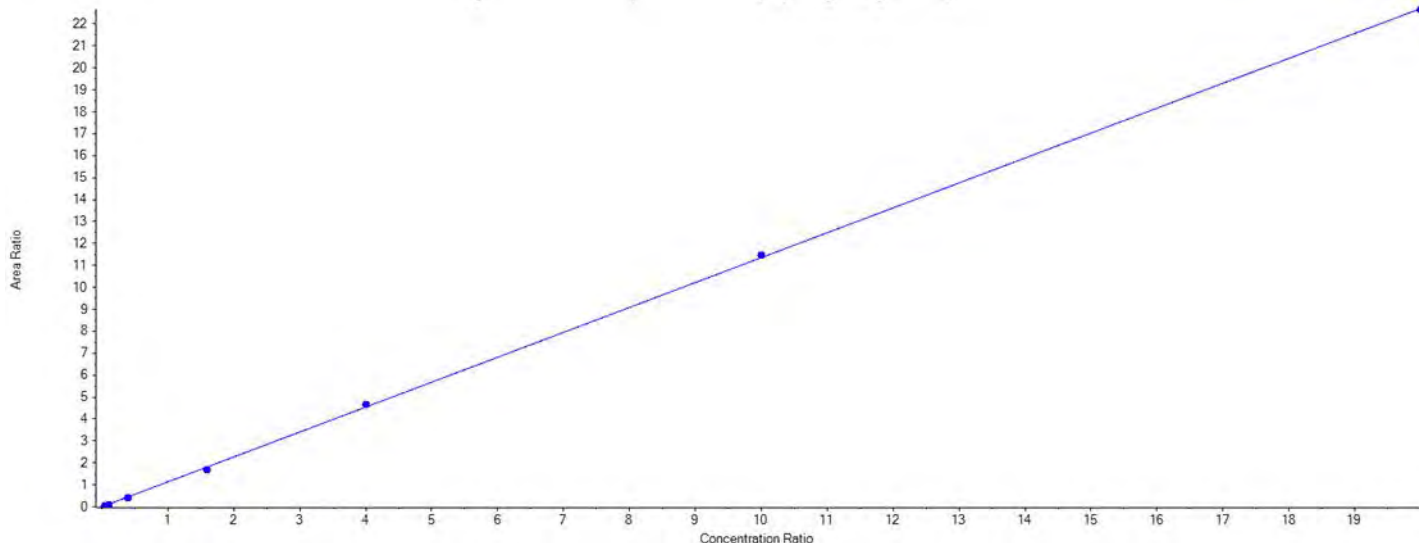
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

NEtPFOSA

$$y = 1.13527 x \text{ (r = 0.99977) (weighting: 1 / x)}$$



Component Calibration Verification

Sample Name	NEtPFOSA Area	S/N	d5-NEtPFOSA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	3068.5	69.6	70926.726	True	5.00	0.043	6.26	1.000	0.200	0.191	-5	30	
CAL2	6419.4	198.8	66745.434	True	5.00	0.096	6.26	1.000	0.500	0.424	-15	30	
CAL3	26524.6	267.9	67444.318	True	5.00	0.393	6.27	1.000	2.000	1.732	-13	30	
CAL4	123609.2	637.6	72258.683	True	5.00	1.711	6.26	1.000	8.000	7.534	-6	30	
CAL5	290096.1	630.6	62005.585	True	5.00	4.679	6.27	1.000	20.000	20.605	3	30	
CAL6	676107.2	667.5	59054.389	True	5.00	11.449	6.26	1.000	50.000	50.423	1	30	
CAL7	1329706.9	655.7	58686.052	True	5.00	22.658	6.26	1.000	100.000	99.791	0	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

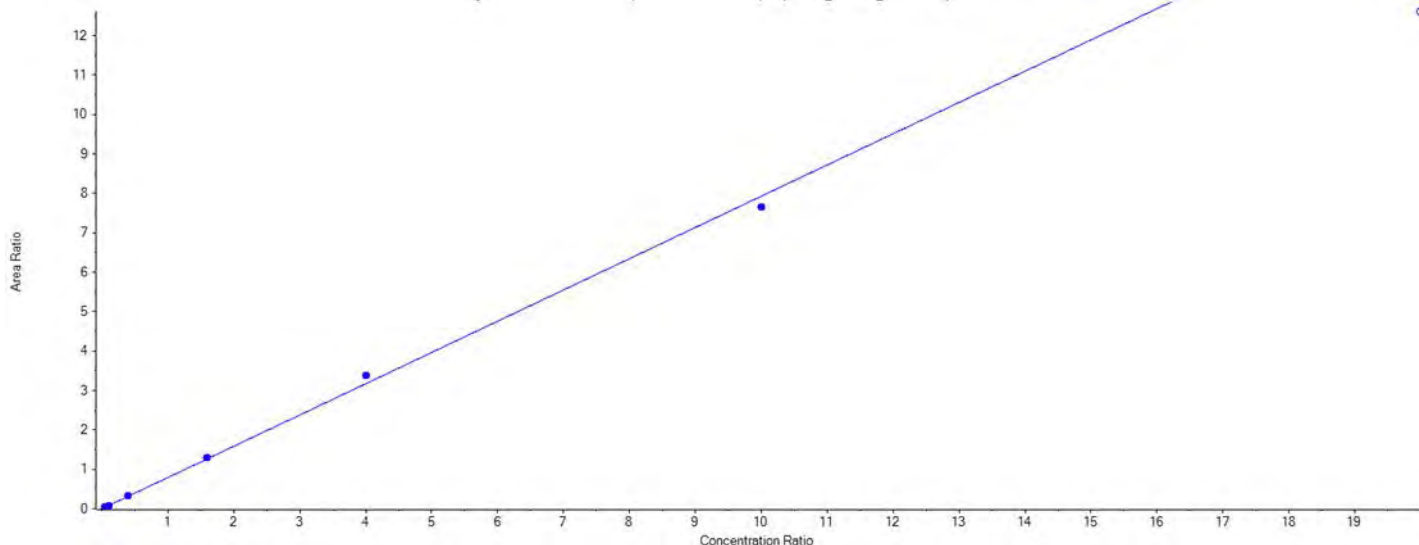
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFTrDA

$$y = 0.79287 x \text{ (} r = 0.99904 \text{) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	PFTrDA Area	S/N	¹³ C2-PFDoDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	22403.2	67.6	564794.852	True	5.00	0.040	6.25	1.030	0.200	0.250	25	30	
CAL2	49218.5	108.1	597616.302	True	5.00	0.082	6.25	1.030	0.500	0.519	4	30	
CAL3	197290.7	195.6	584631.538	True	5.00	0.337	6.25	1.030	2.000	2.128	6	30	
CAL4	781283.7	366.6	598287.433	True	5.00	1.306	6.25	1.030	8.000	8.235	3	30	
CAL5	1851055.0	610.7	548536.046	True	5.00	3.375	6.25	1.030	20.000	21.280	6	30	
CAL6	3829048.4	757.6	500065.276	True	5.00	7.657	6.25	1.030	50.000	48.287	-3	30	
CAL7	6633128.3	811.0	525971.755	False	5.00	12.611	6.25	1.030	100.000	79.528	-20	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

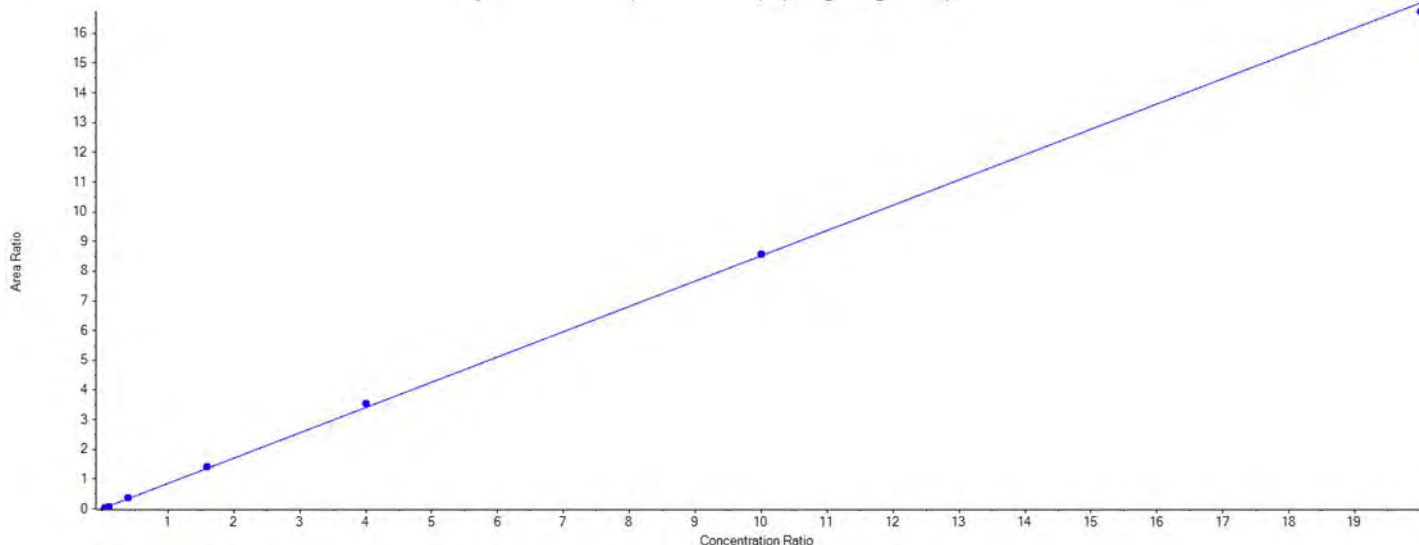
ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFTeDA

 $y = 0.85145 x$ ($r = 0.99973$) (weighting: $1/x$)

Component Calibration Verification

Sample Name	PFTeDA Area	S/N	¹³ C2-PFTeDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	17031.0	49.1	430341.267	True	5.00	0.040	6.43	1.000	0.200	0.232	16	30	
CAL2	36223.2	102.6	441206.866	True	5.00	0.082	6.43	1.000	0.500	0.482	-4	30	
CAL3	150162.8	175.3	419341.711	True	5.00	0.358	6.43	1.000	2.000	2.103	5	30	
CAL4	630801.4	309.8	441858.057	True	5.00	1.428	6.43	1.000	8.000	8.383	5	30	
CAL5	1500655.1	416.1	421798.801	True	5.00	3.558	6.43	1.000	20.000	20.892	4	30	
CAL6	3381511.1	591.7	394433.888	True	5.00	8.573	6.42	1.000	50.000	50.344	1	30	
CAL7	6426587.4	783.6	384058.101	True	5.00	16.733	6.43	1.000	100.000	98.263	-2	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

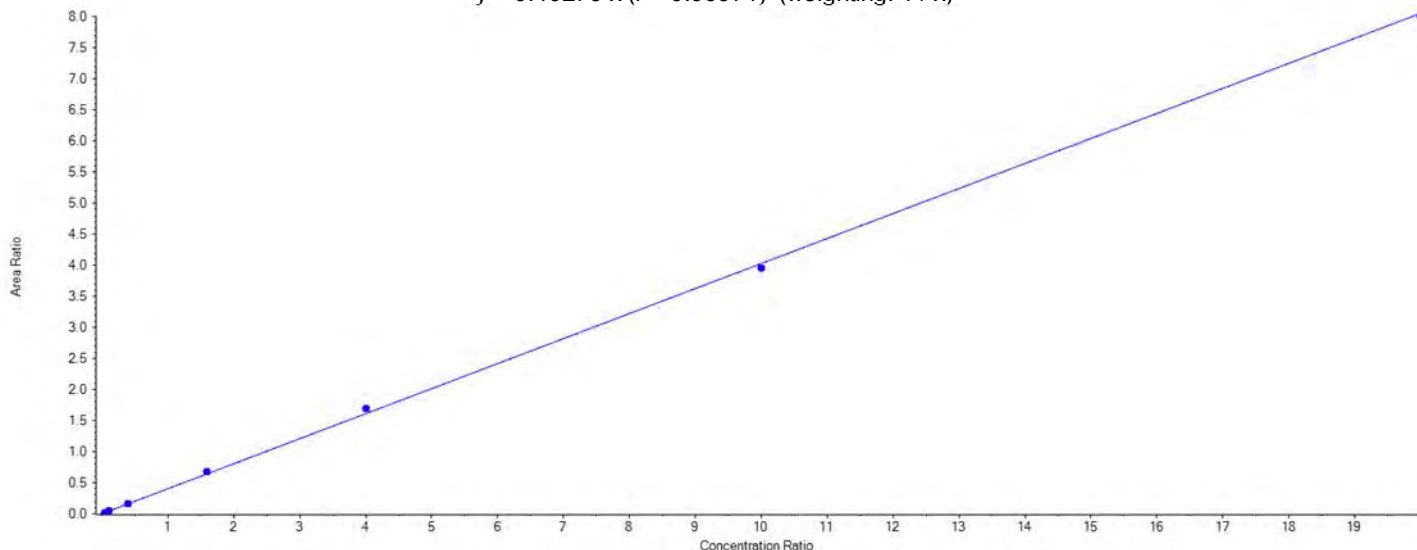
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFHxDA

$$y = 0.40279 x \text{ (r = 0.99974) (weighting: } 1/x \text{)}$$



Component Calibration Verification

Sample Name	PFHxDA Area	S/N	¹³ C ₂ -PFTeDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	8175.1	231.4	430341.267	True	5.00	0.019	6.74	1.050	0.200	0.236	18	30	
CAL2	18619.3	372.3	441206.866	True	5.00	0.042	6.74	1.050	0.500	0.524	5	30	
CAL3	70193.5	676.5	419341.711	True	5.00	0.167	6.74	1.050	2.000	2.078	4	30	
CAL4	297242.6	1318.1	441858.057	True	5.00	0.673	6.73	1.050	8.000	8.351	4	30	
CAL5	716467.3	1493.6	421798.801	True	5.00	1.699	6.73	1.050	20.000	21.085	5	30	
CAL6	1559604.6	1330.2	394433.888	True	5.00	3.954	6.73	1.050	50.000	49.083	-2	30	
CAL7	3073572.7	1322.0	384058.101	True	5.00	8.003	6.73	1.050	100.000	99.343	-1	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

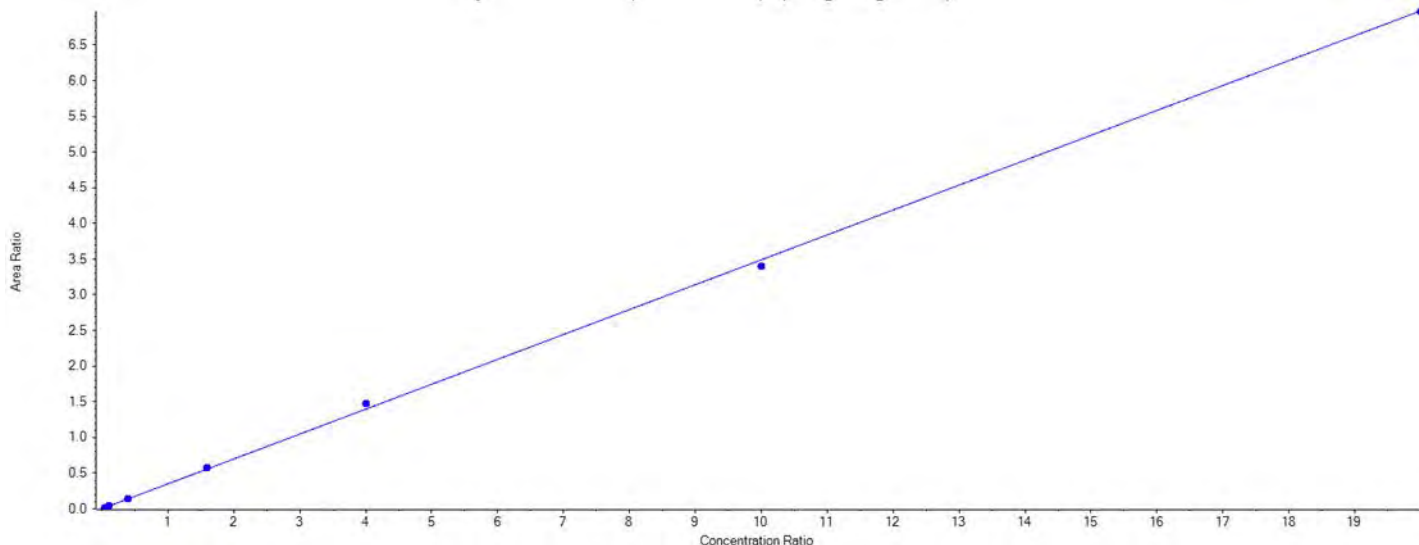
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFODA

$$y = 0.34900 x \text{ (r = 0.99969) (weighting: 1 / x)}$$



Component Calibration Verification

Sample Name	PFODA Area	S/N	¹³ C ₂ -PFTeDA Area	Used	ES Conc	Area Ratio	RT (min)	RRT	Spec Amount	Calc Amount	%Diff	%D Limit	%D OOS
CAL1	6622.6	295.7	430341.267	True	5.00	0.015	7.00	1.090	0.200	0.220	10	30	
CAL2	15742.1	618.0	441206.866	True	5.00	0.036	7.00	1.090	0.500	0.511	2	30	
CAL3	59736.9	980.9	419341.711	True	5.00	0.142	7.00	1.090	2.000	2.041	2	30	
CAL4	251726.5	1475.1	441858.057	True	5.00	0.570	7.00	1.090	8.000	8.162	2	30	
CAL5	624697.0	1672.6	421798.801	True	5.00	1.481	7.00	1.090	20.000	21.218	6	30	
CAL6	1340733.9	1995.4	394433.888	True	5.00	3.399	6.99	1.090	50.000	48.698	-3	30	
CAL7	2676698.5	2398.9	384058.101	True	5.00	6.970	6.99	1.090	100.000	99.849	0	30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

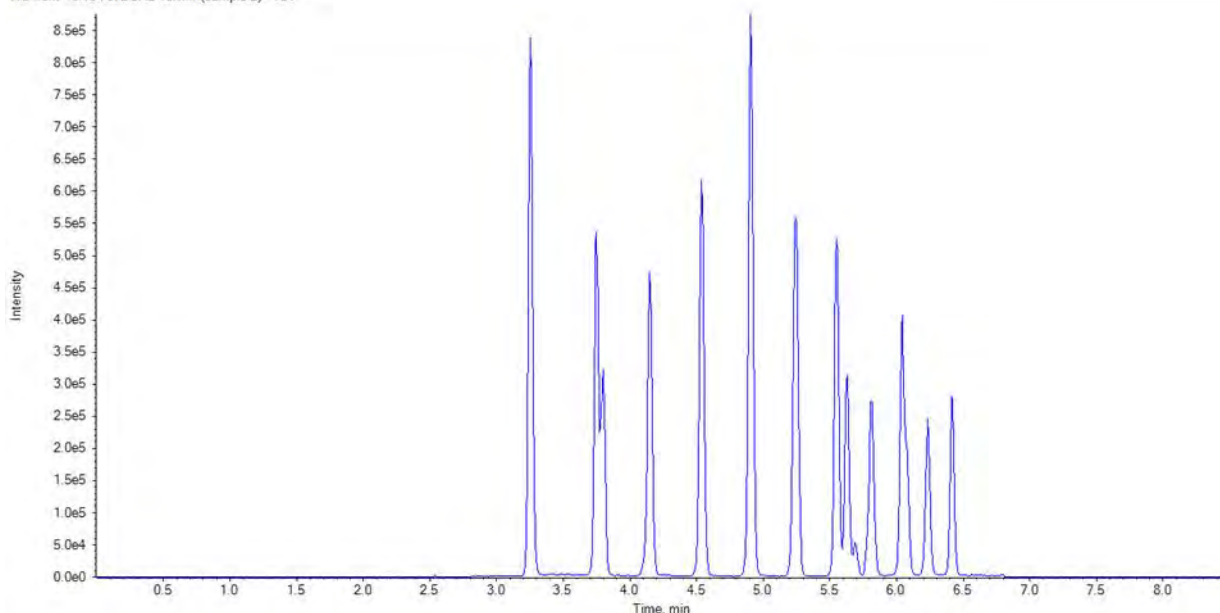
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

Sample Name	Sample ID:	Sample File:	Acquisition Date:
ICV	ICVMODX1833G	18NOV07DCAL-18.wiff	11/7/2018 10:51:59 AM

TIC from 18NOV07DCAL-18.wiff (sample 2) - ICV



Injection Standard Name	Inj Std Conc	Injection Std Peak Area	CAL3 Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.000	748799.9	730410.6	2.5	50	
13C2-PFOA	5.000	501855.0	524423.6	-4.3	50	
13C4-PFOS	4.780	265586.7	274061.7	-3.1	50	
13C2-PFDA	5.000	309656.0	311442.1	-0.6	50	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

DOD Initial Calibration Verification

Instrument ID: LM27631 ICAL Name: 18NOV07DCAL QMethod Name: MQ4-18AUG13
Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM Acquisition Method: 18AUG13_3uL.dam

APPROVED
By JPT at 2:53 pm, 11/7/18

BSI02 Page 453 of 1870

REVIEWED
By umar at 5:23 pm, 11/9/18

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DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

Sample Name	Sample ID:	Sample File:	Acquisition Date:
ICV	ICVMODX1833G	18NOV07DCAL-18.wiff	11/7/2018 10:51:59 AM

Analyte Name	Analyte Area	Ext Std Name	Ext Std Area	Ext Std Con	Area Ratio	RT (min)	RRT	Spec Amt	Calc Amt	% Diff	% Diff Lim	% Diff OOS
PFBA	307777.1	13C4-PFBA	809267.460	5.00	0.380	3.25	1.00	2.000	2.226	11	30	
PFPeA	325574.9	13C5-PFPeA	881218.236	5.00	0.369	3.75	1.00	2.000	2.196	10	30	
PFBS	159719.5	13C3-PFBS	459507.471	4.65	0.348	3.80	1.00	1.770	1.752	-1	30	
4:2-FTS	N/A	13C2-4:2-FTS	53451.954	4.67	N/A	N/A	N/A	0.000	N/A		30	
PFHxA	397434.6	13C5-PFHxA	721013.613	5.00	0.551	4.15	1.00	2.000	2.364	18	30	
PFPeS	N/A	13C3-PFBS	459507.471	4.65	N/A	N/A	N/A	0.000	N/A		30	
PFHxS	126635.3	13C3-PFHxS	351165.975	4.73	0.361	4.54	1.00	1.890	1.828	-3	30	
PFHpA	390197.1	13C4-PFHpA	564695.352	5.00	0.691	4.54	1.00	2.000	2.324	16	30	
6:2-FTS	N/A	13C2-6:2-FTS	37550.072	4.75	N/A	N/A	N/A	0.000	N/A		30	
PFHpS	126812.1	13C3-PFHxS	351165.975	4.73	0.361	4.90	1.08	1.900	1.889	-1	30	
PFOA	387215.1	13C8-PFOA	985027.092	5.00	0.393	4.91	1.00	2.000	2.213	11	30	
PFOS	114911.8	13C8-PFOS	289450.121	4.78	0.397	5.23	1.00	1.910	2.059	8	30	
PFNA	329644.4	13C9-PFNA	531663.026	5.00	0.620	5.25	1.00	2.000	2.317	16	30	
PFNS	N/A	13C8-PFOS	289450.121	4.78	N/A	N/A	N/A	0.000	N/A		30	
PFDA	262760.0	13C6-PFDA	669137.111	5.00	0.393	5.55	1.00	2.000	2.160	8	30	
8:2-FTS	N/A	13C2-8:2-FTS	27983.400	4.79	N/A	N/A	N/A	0.000	N/A		30	
PFOSA	N/A	13C8-PFOSA	741232.186	5.00	N/A	N/A	N/A	0.000	N/A		30	
NMeFOSAA	33916.6	d3-NMeFOSAA	76665.384	5.00	0.442	5.69	1.00	2.000	2.276	14	30	
PFDS	65962.5	13C8-PFOS	289450.121	4.78	0.228	5.79	1.11	1.930	2.177	13	30	
PFUnDA	225137.5	13C7-PFUnDA	292761.511	5.00	0.769	5.81	1.00	2.000	2.205	10	30	
NEtFOSAA	29687.2	d5-NEtFOSAA	78938.706	5.00	0.376	5.83	1.00	2.000	1.616	-19	30	
PFDODA	232949.2	13C2-PFDODA	580675.056	5.00	0.401	6.04	1.00	2.000	2.174	9	30	
10:2-FTS	N/A	13C2-8:2-FTS	27983.400	4.79	N/A	N/A	N/A	0.000	N/A		30	
NMePFOSAE	N/A	d7-NMePFOSAE	334001.430	5.00	N/A	N/A	N/A	0.000	N/A		30	
NMePFOSA	N/A	d3-NMePFOSA	79719.053	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFDoS	N/A	13C8-PFOS	289450.121	4.78	N/A	N/A	N/A	0.000	N/A		30	
NEtPFOSAE	N/A	d9-NEtPFOSAE	293829.693	5.00	N/A	N/A	N/A	0.000	N/A		30	
NEtPFOSA	N/A	d5-NEtPFOSA	65412.861	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFTDA	206908.4	13C2-PFDODA	580675.056	5.00	0.356	6.24	1.03	2.000	2.247	12	30	

DOD Initial Calibration Verification

Instrument ID: LM27631

ICAL Name: 18NOV07DCAL

QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam

PFTeDA	157975.3	13C2-PFTeDA	427601.64 3	5.00	0.369	6.42	1.00	2.000	2.169	8	30	
PFHxDA	N/A	13C2-PFTeDA	427601.64 3	5.00	N/A	N/A	N/A	0.000	N/A		30	
PFODA	N/A	13C2-PFTeDA	427601.64 3	5.00	N/A	N/A	N/A	0.000	N/A		30	

APPROVED

By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CAL1		Data File:	18NOV07DCAL-10.wiff
Sample ID:	CALMOD11833G		Acquis Date:	2018-11-07T09:39:56
Sample Type:	Standard		Instrument:	LM27631
Vial Position:	3		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18NOV07DCAL
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	N/A		Operator:	JPT12262
Sample Wt.:	1.00000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	750780.0	730410.6	3	50	
13C2-PFOA	5.0	534171.9	524423.6	2	50	
13C4-PFOS	4.8	272674.7	274061.7	-1	50	
13C2-PFDA	5.0	338833.7	311442.1	9	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	794718.9	13C3-PFBA	750780.0	1.059	5.000	4.899	98	70-130	
E13C5-PFPeA	844850.2	13C3-PFBA	750780.0	1.125	5.000	4.902	98	70-130	
E13C3-PFBS	449266.3	13C3-PFBA	750780.0	0.598	4.650	4.392	94	70-130	
E13C2-4:2-FTS	58330.9	13C2-PFOA	534171.9	0.109	4.670	4.927	106	70-130	
E13C5-PFHxA	725432.0	13C2-PFOA	534171.9	1.358	5.000	4.996	100	70-130	
E13C3-PFHxS	358771.3	13C2-PFOA	534171.9	0.672	4.730	4.822	102	70-130	
E13C4-PFHpA	586580.3	13C2-PFOA	534171.9	1.098	5.000	4.995	100	70-130	
E13C2-6:2-FTS	42112.8	13C2-PFOA	534171.9	0.079	4.750	5.257	111	70-130	
E13C8-PFOA	1028414.9	13C2-PFOA	534171.9	1.925	5.000	5.369	107	70-130	
E13C8-PFOS	307224.3	13C4-PFOS	272674.7	1.127	4.780	4.982	104	70-130	
E13C9-PFNA	518118.7	13C4-PFOS	272674.7	1.900	5.000	5.190	104	70-130	
E13C6-PFDA	651348.0	13C2-PFDA	338833.7	1.922	5.000	4.834	97	70-130	
E13C2-8:2-FTS	26730.2	13C2-PFDA	338833.7	0.079	4.790	4.174	87	70-130	
E13C8-PFOSA	774962.8	13C2-PFDA	338833.7	2.287	5.000	4.991	100	70-130	
Ed3-NMeFOSAA	94967.0	13C2-PFDA	338833.7	0.280	5.000	5.212	104	70-130	
E13C7-PFUnDA	293658.7	13C2-PFDA	338833.7	0.867	5.000	5.000	100	70-130	
Ed5-NEtFOSAA	77938.3	13C2-PFDA	338833.7	0.230	5.000	5.323	106	70-130	
E13C2-PFDoDA	564794.9	13C2-PFDA	338833.7	1.667	5.000	4.494	90	70-130	
Ed7-NMePFOSAE	366847.7	13C2-PFDA	338833.7	1.083	5.000	5.035	101	70-130	
Ed3-NMePFOSA	89511.9	13C2-PFDA	338833.7	0.264	5.000	4.836	97	70-130	
Ed9-NEtPFOSAE	296629.3	13C2-PFDA	338833.7	0.875	5.000	5.000	100	70-130	
Ed5-NEtPFOSA	70926.7	13C2-PFDA	338833.7	0.209	5.000	4.847	97	70-130	
E13C2-PFTeDA	430341.3	13C2-PFDA	338833.7	1.270	5.000	4.572	91	70-130	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: CAL1

Instrument Name: LM27631

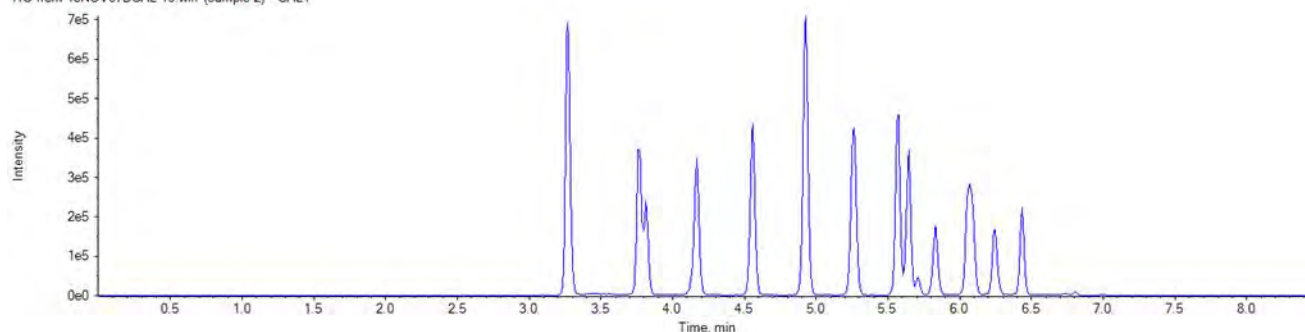
File Name: 18NOV07DCAL-10.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	32354.4		A	13C4-PFBA	3.27	794718.9	0.041	0.238
PFPeA	3.77	1.000	33205.5		A	13C5-PFPeA	3.77	844850.2	0.039	0.234
PFBS	3.82	1.000	19024.1		A	13C3-PFBS	3.82	449266.3	0.042	0.213
4:2-FTS	4.13	1.000	4145.4		M	13C2-4:2-FTS	4.13	58330.9	0.071	0.191
PFHxA	4.17	1.000	39732.2		A	13C5-PFHxA	4.17	725432.0	0.055	0.235
PFPeS	4.18	1.100	8335.4		A	13C3-PFBS	3.82	449266.3	0.019	0.183
PFHxS	4.56	1.000	13762.6		M	13C3-PFHxS	4.56	358771.3	0.038	0.194
PFHpA	4.55	1.000	38331.9		M	13C4-PFHpA	4.56	586580.3	0.065	0.220
6:2-FTS	4.91	1.000	2460.6		A	13C2-6:2-FTS	4.91	42112.8	0.058	0.146
PFHpS	4.91	1.080	14183.4		M	13C3-PFHxS	4.56	358771.3	0.040	0.207
PFOA	4.93	1.000	39843.5		A	13C8-PFOA	4.93	1028414.9	0.039	0.218
PFOS	5.25	1.000	12181.7		A	13C8-PFOS	5.25	307224.3	0.040	0.206
PFNA	5.27	1.000	32563.3		M	13C9-PFNA	5.27	518118.7	0.063	0.235
PFNS	5.55	1.060	6748.5		A	13C8-PFOS	5.25	307224.3	0.022	0.174
PFDA	5.57	1.000	25530.0		A	13C6-PFDA	5.57	651348.0	0.039	0.216
8:2-FTS	5.58	1.000	2783.3		M	13C2-8:2-FTS	5.57	26730.2	0.104	0.235
PFOSA	5.64	1.000	27779.6		A	13C8-PFOSA	5.64	774962.8	0.036	0.194
NMeFOSAA	5.71	1.000	3293.8		M	d3-NMeFOSAA	5.71	94967.0	0.035	0.178
PFDS	5.80	1.100	6453.6		A	13C8-PFOS	5.25	307224.3	0.021	0.201
PfUnDA	5.83	1.000	23275.5		M	13C7-PfUnDA	5.83	293658.7	0.079	0.227
NEtFOSAA	5.84	1.000	3313.0		A	d5-NEtFOSAA	5.84	77938.3	0.043	0.183
PFDODA	6.06	1.000	23314.2		M	13C2-PFDODA	6.06	564794.9	0.041	0.224
10:2-FTS	6.07	1.090	1903.7		A	13C2-8:2-FTS	5.57	26730.2	0.071	0.222
NMePFOSAE	6.10	1.000	19989.4		A	d7-NMePFOSAE	6.09	366847.7	0.054	0.244
NMePFOSA	6.10	1.000	3218.9		M	d3-NMePFOSA	6.10	89511.9	0.036	0.201
PFDOS	6.22	1.190	3016.1		M	13C8-PFOS	5.25	307224.3	0.010	0.189
NEtPFOSAE	6.25	1.000	21922.0		A	d9-NEtPFOSAE	6.24	296629.3	0.074	0.237
NEtPFOSA	6.26	1.000	3068.5		M	d5-NEtPFOSA	6.26	70926.7	0.043	0.191
PFTDA	6.25	1.030	22403.2		A	13C2-PFDODA	6.06	564794.9	0.040	0.250
PFTeDA	6.43	1.000	17031.0		A	13C2-PFTeDA	6.43	430341.3	0.040	0.232
PFHxDA	6.74	1.050	8175.1		A	13C2-PFTeDA	6.43	430341.3	0.019	0.236
PFOA	7.00	1.090	6622.6		A	13C2-PFTeDA	6.43	430341.3	0.015	0.220

Total Ion Chromatogram

TIC from 18NOV07DCAL-10.wiff (sample 2) - CAL1



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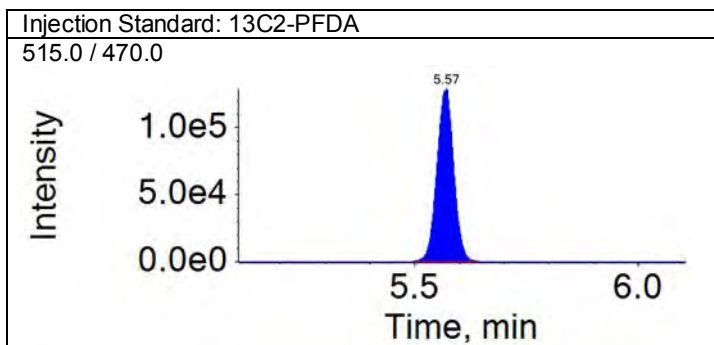
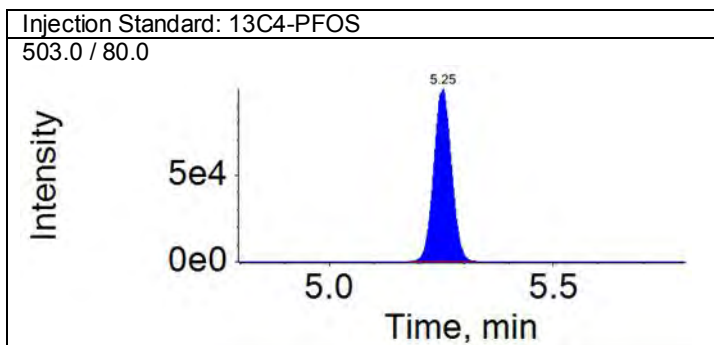
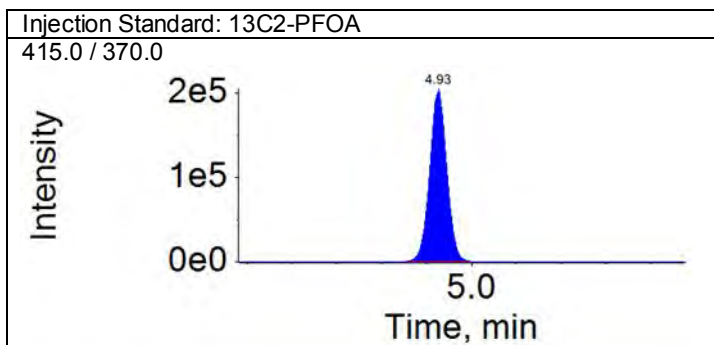
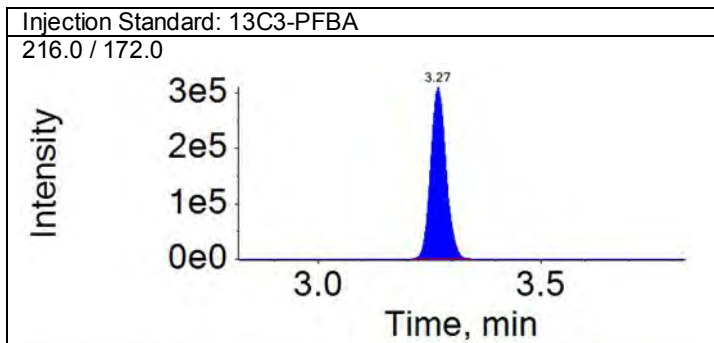
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By umar at 5:23 pm, 11/9/18

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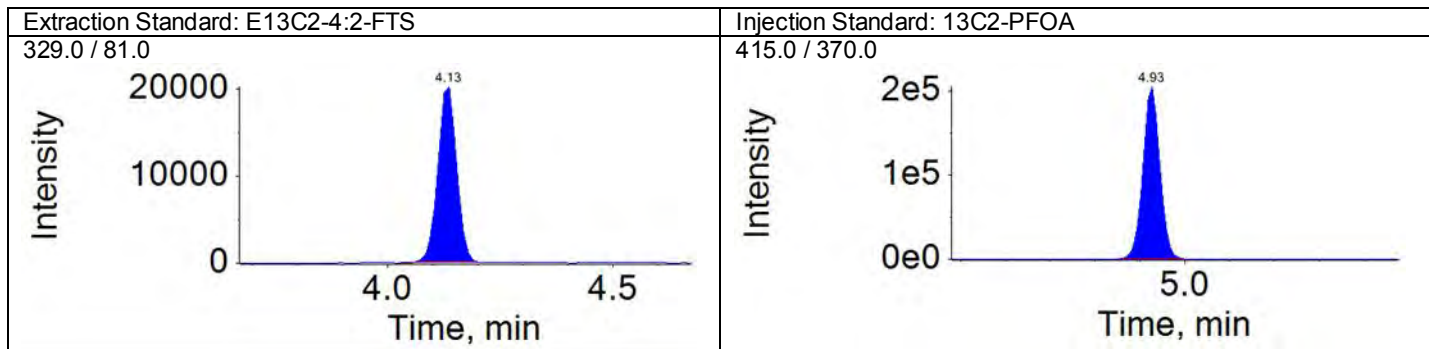
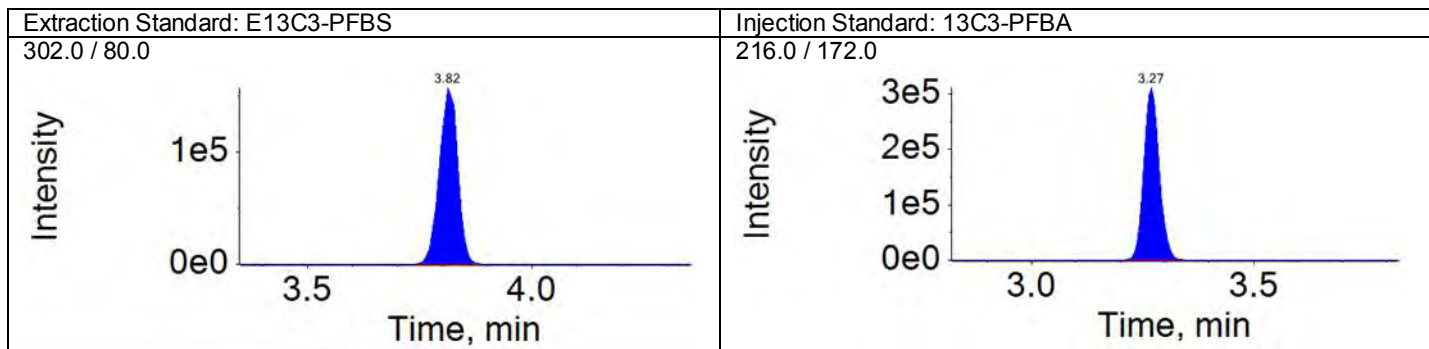
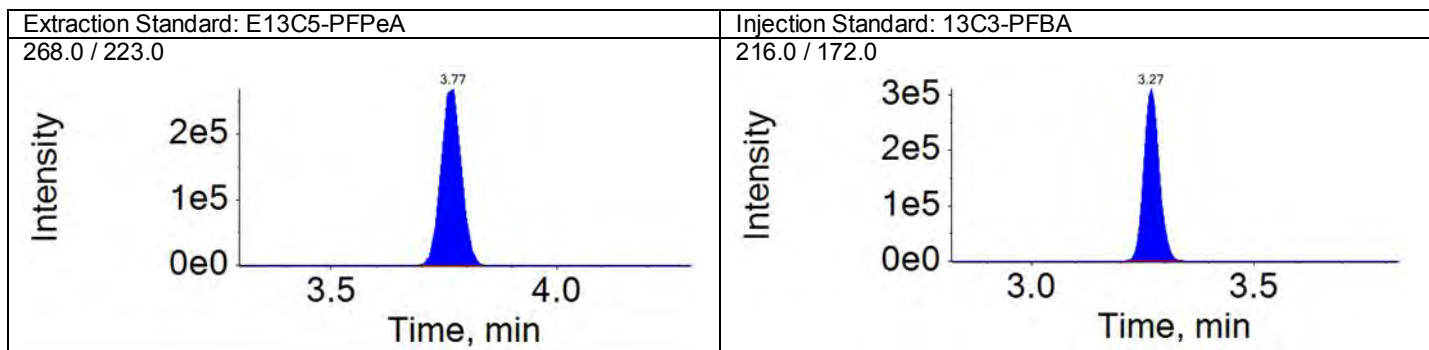
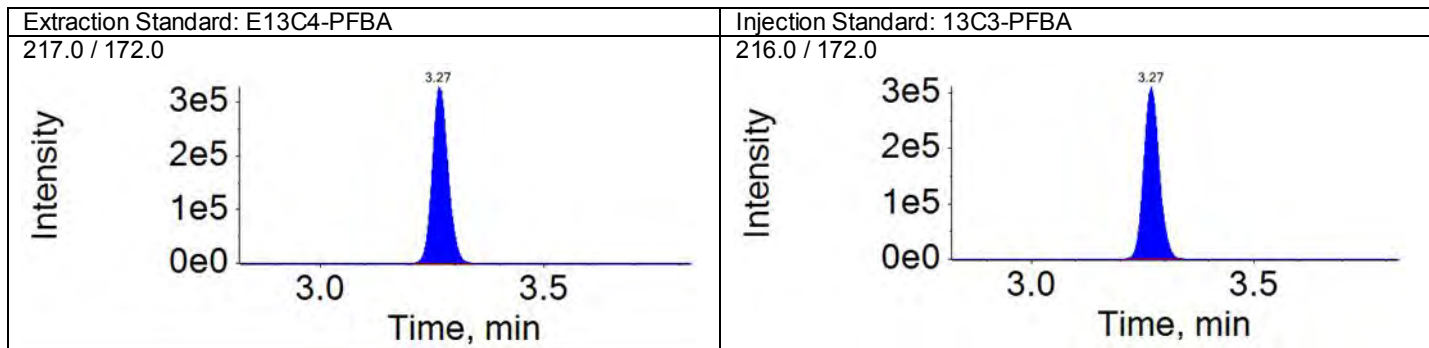
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Acquisition Method: 18AUG13_3uL.dam



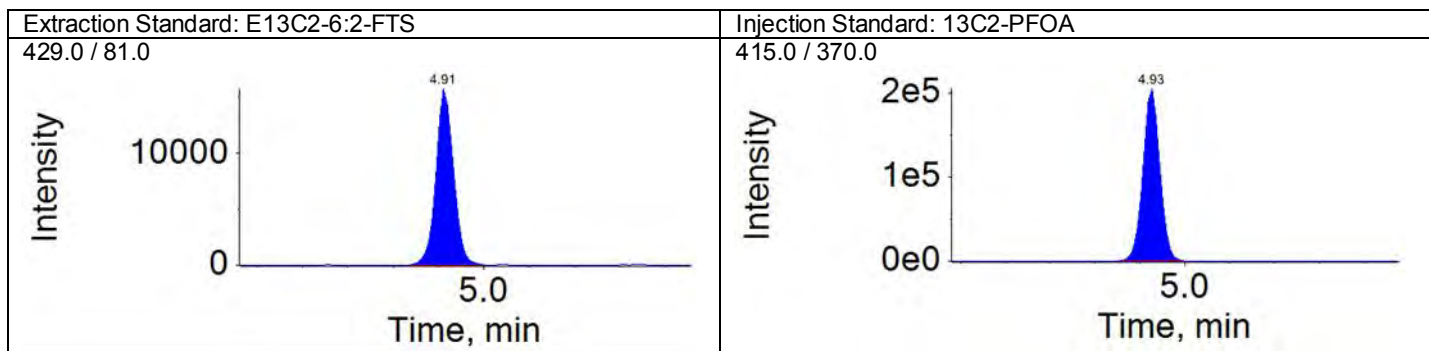
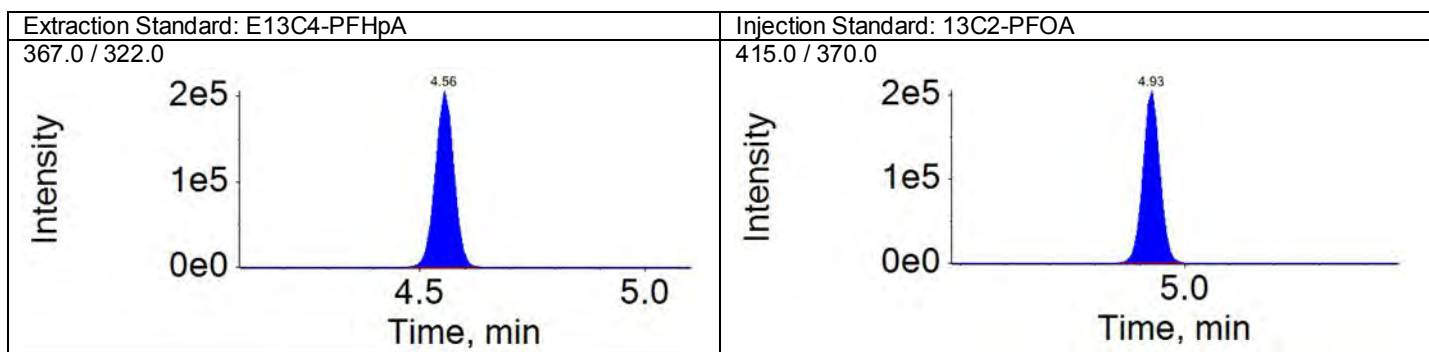
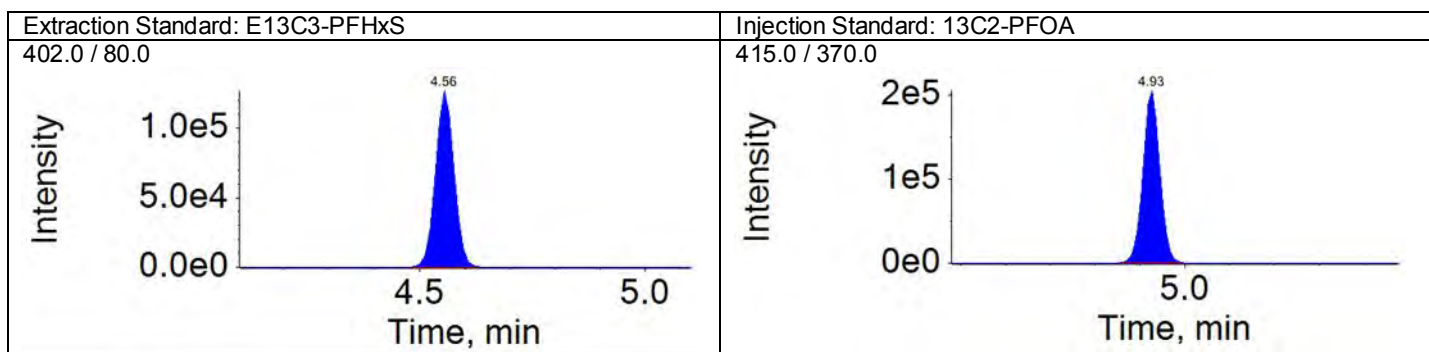
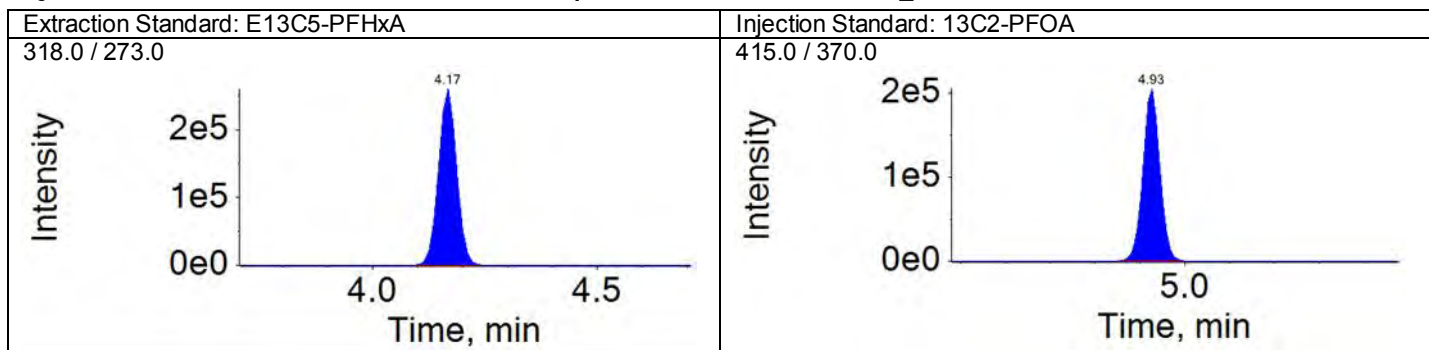
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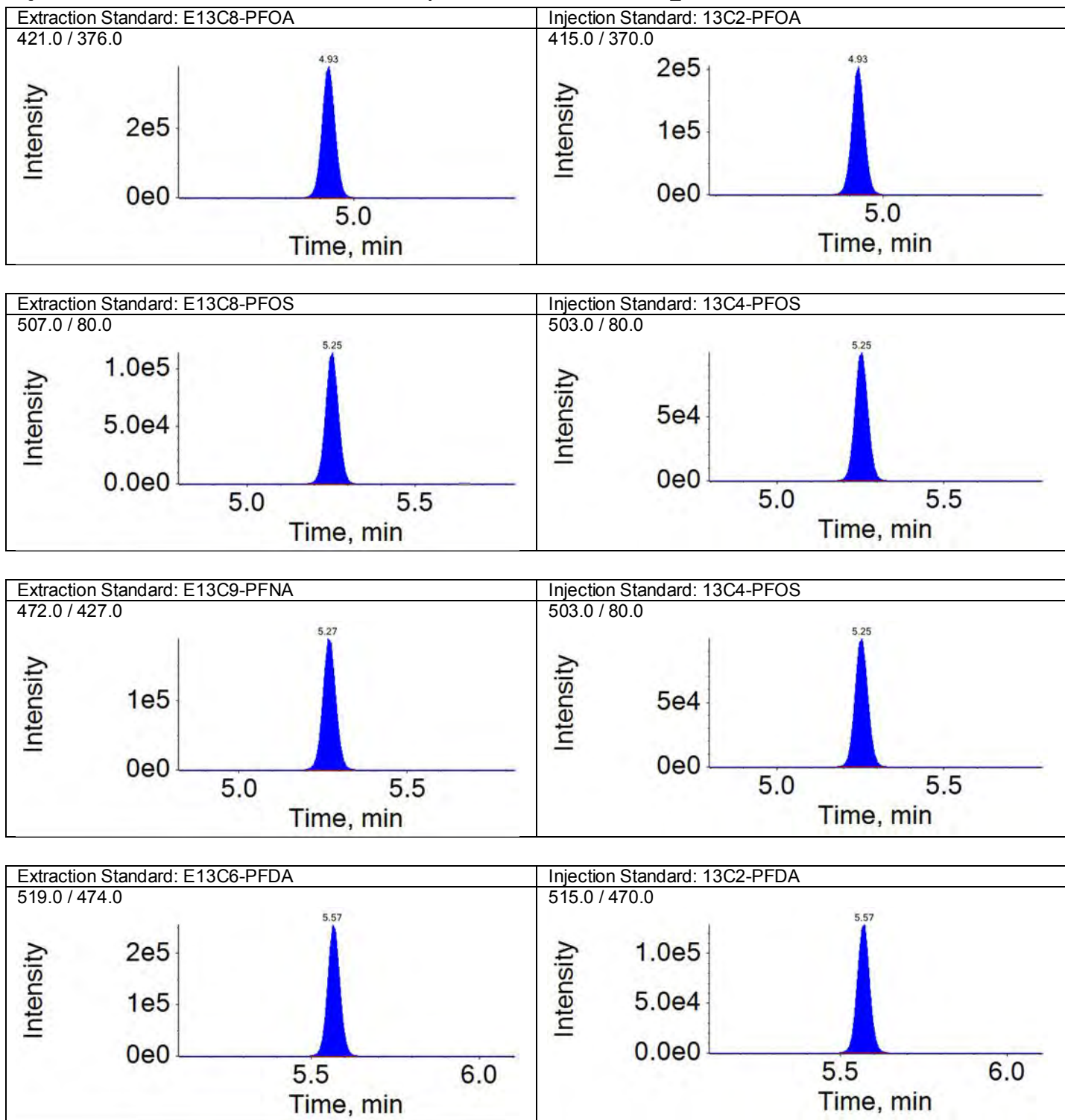
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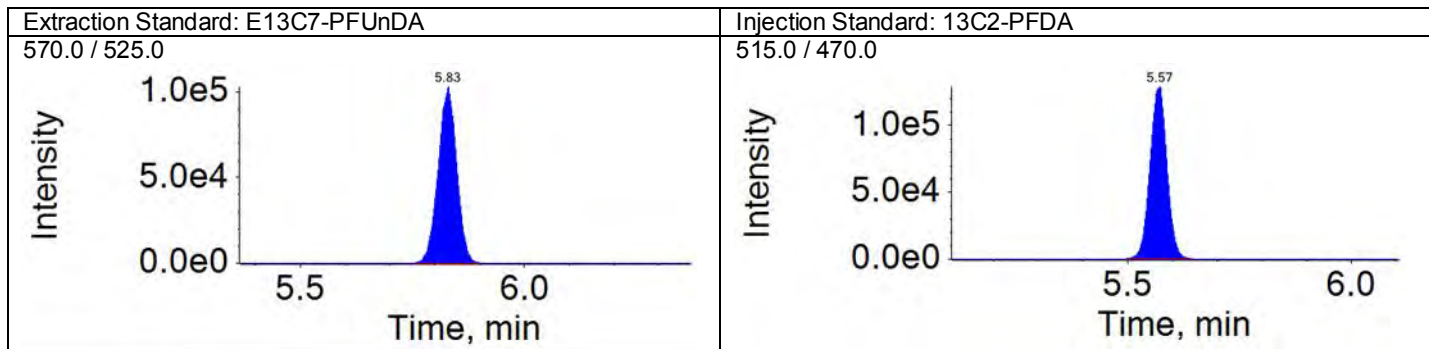
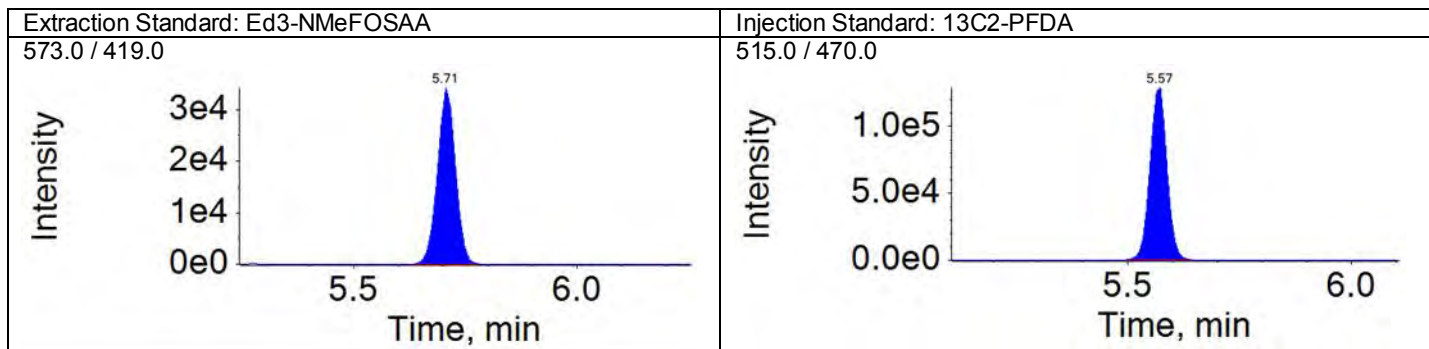
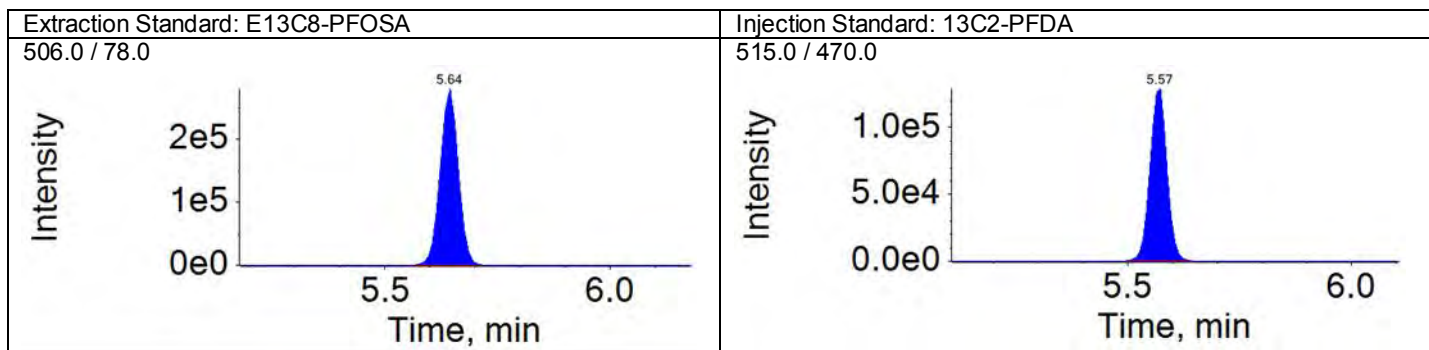
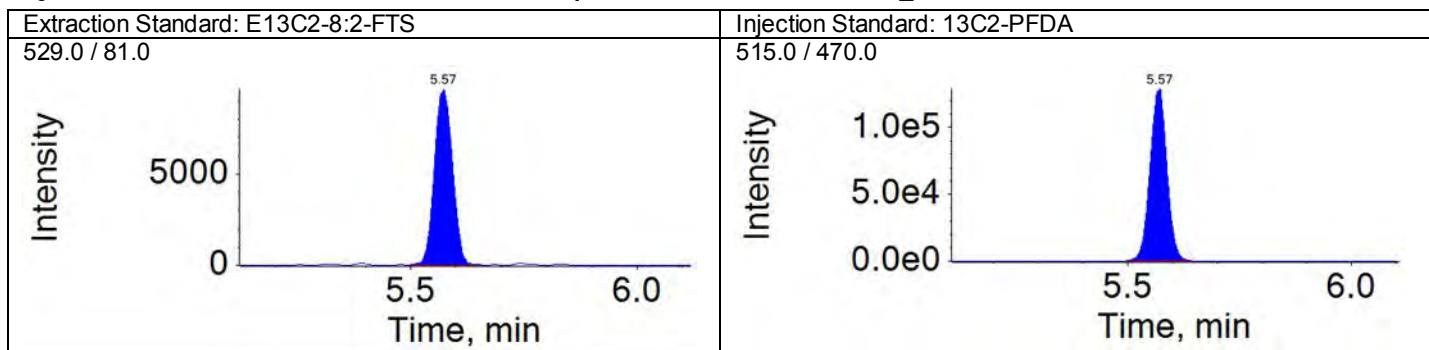
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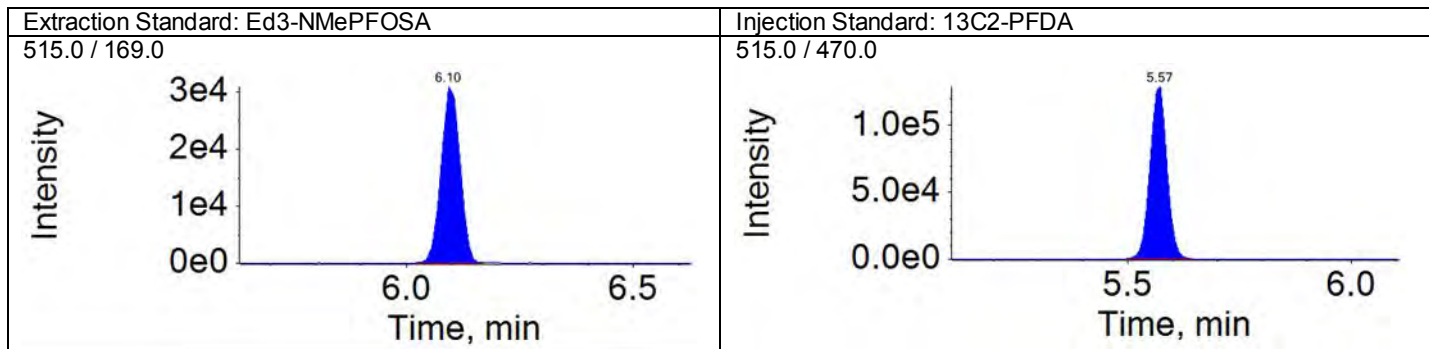
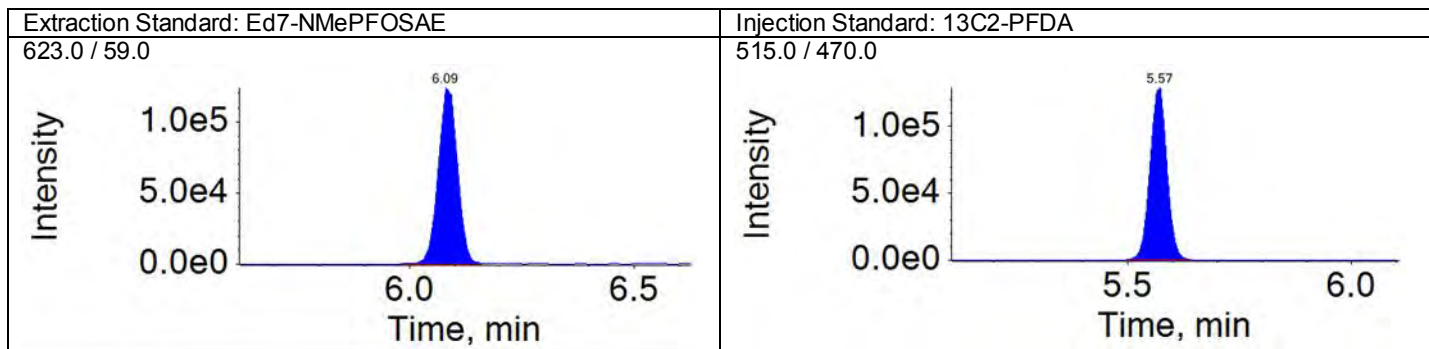
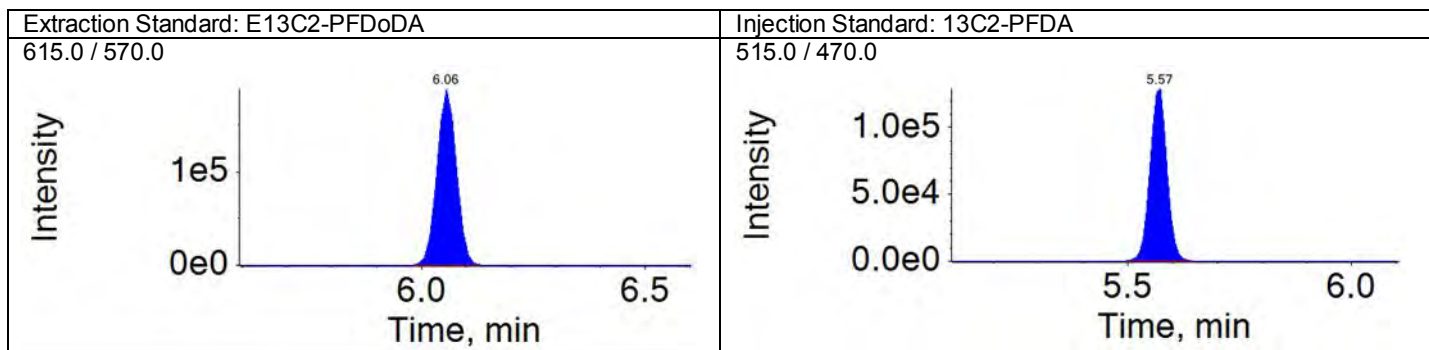
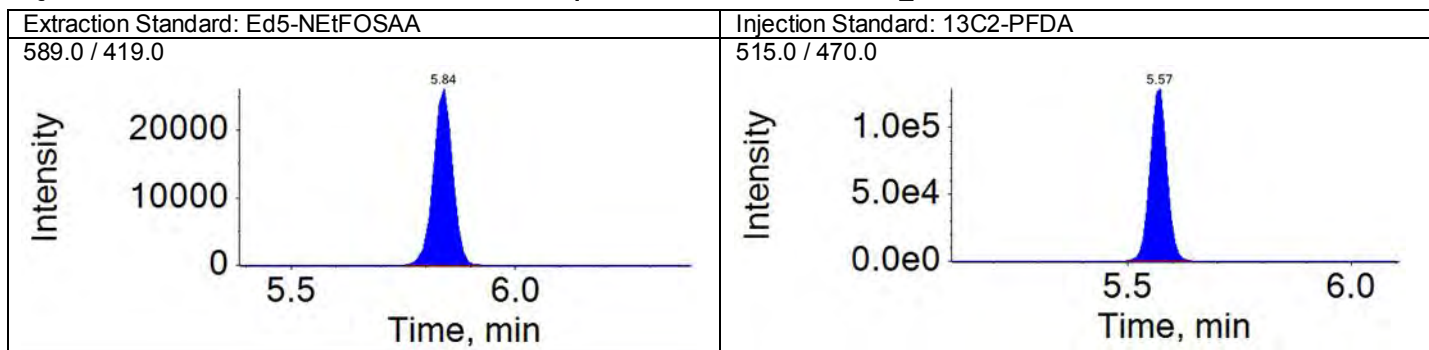
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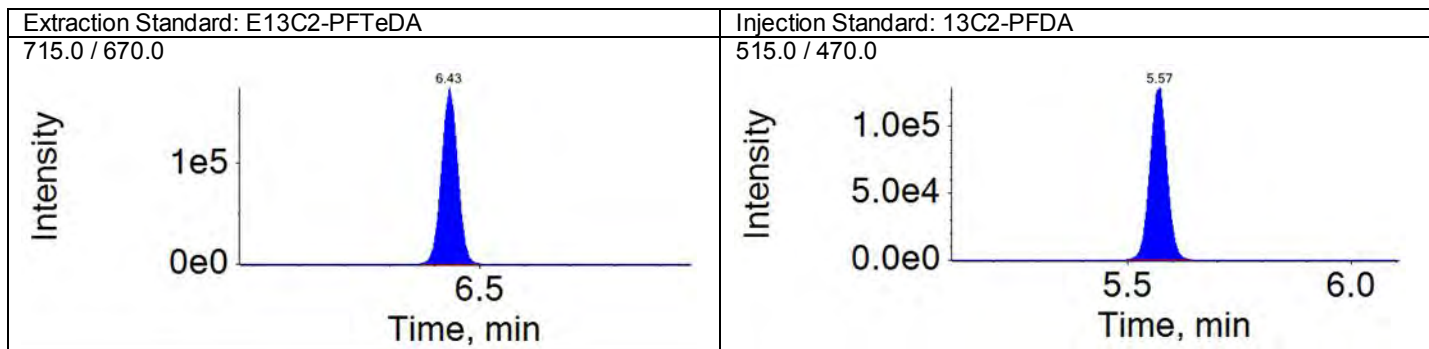
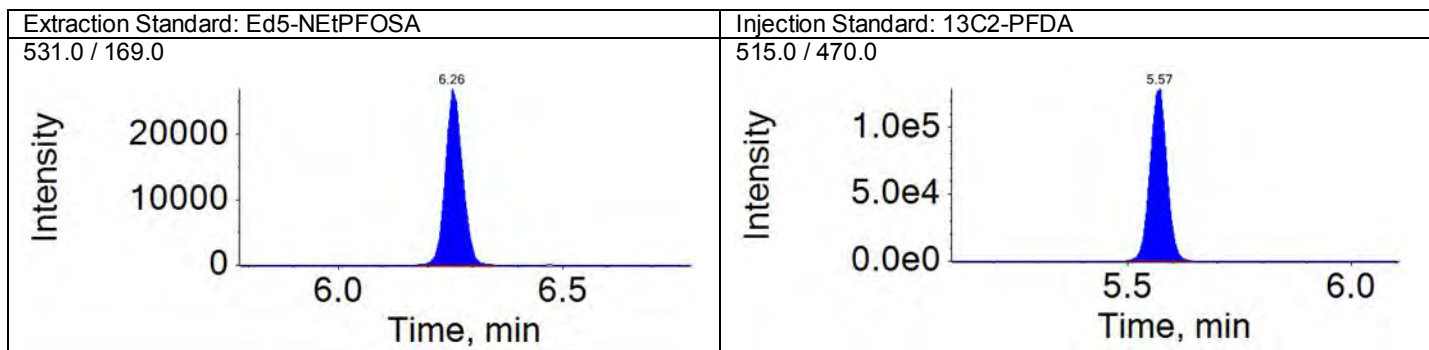
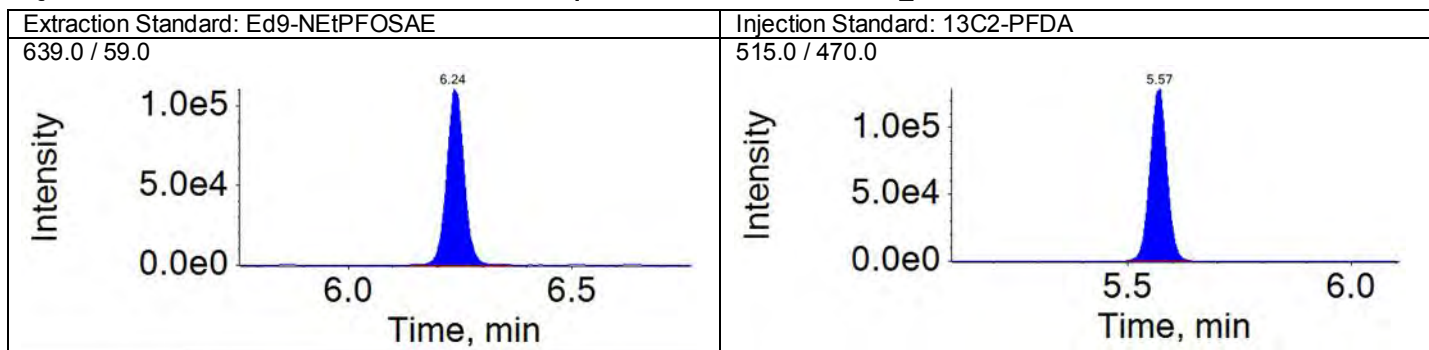
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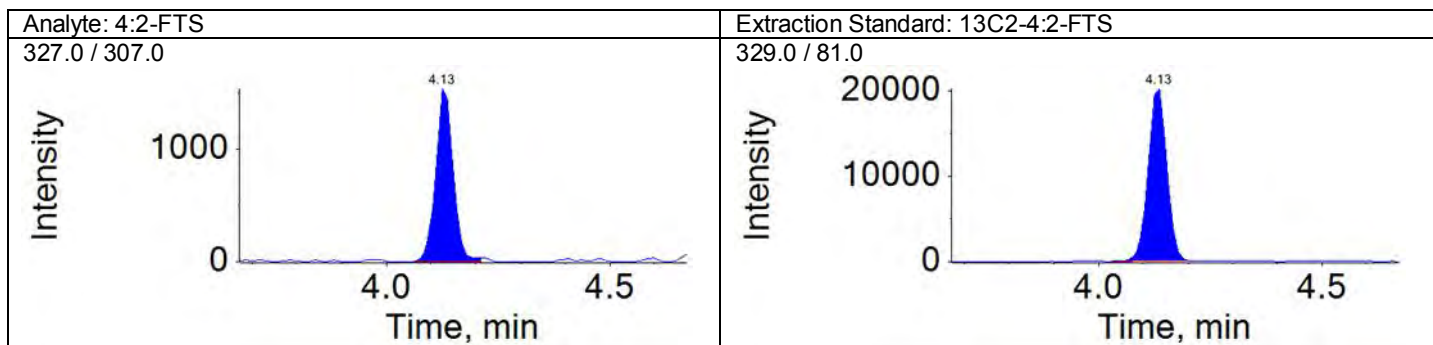
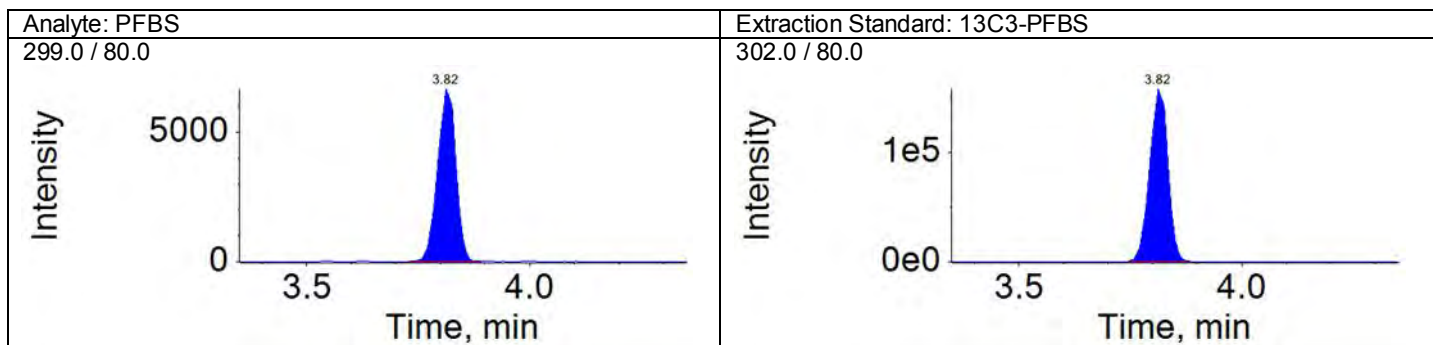
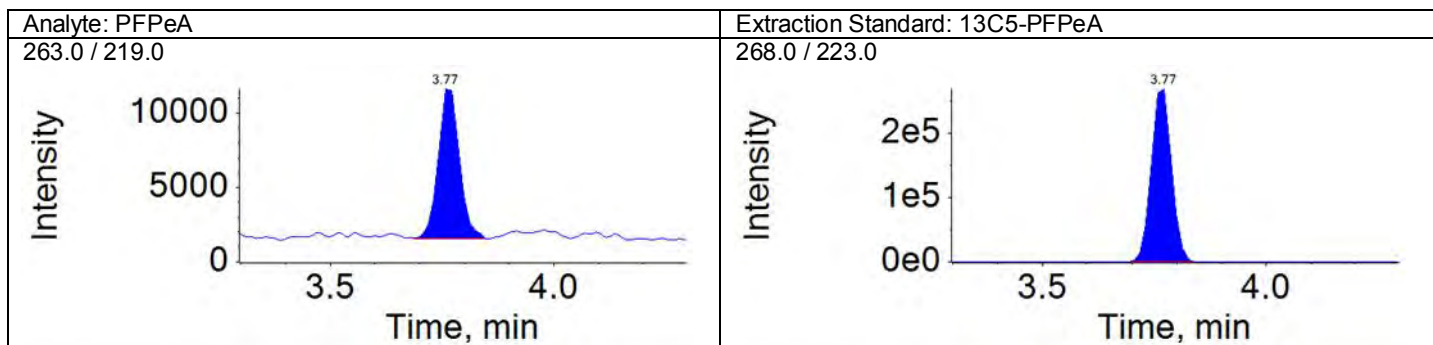
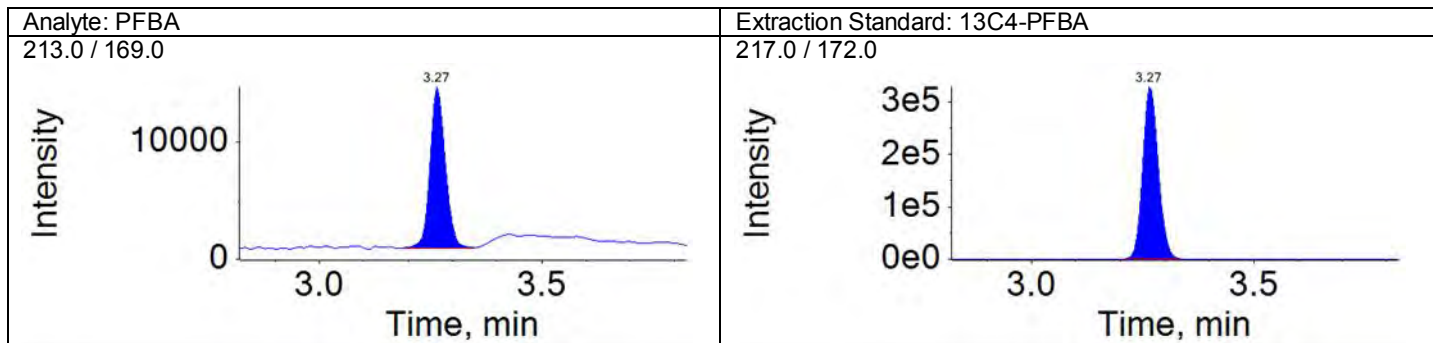
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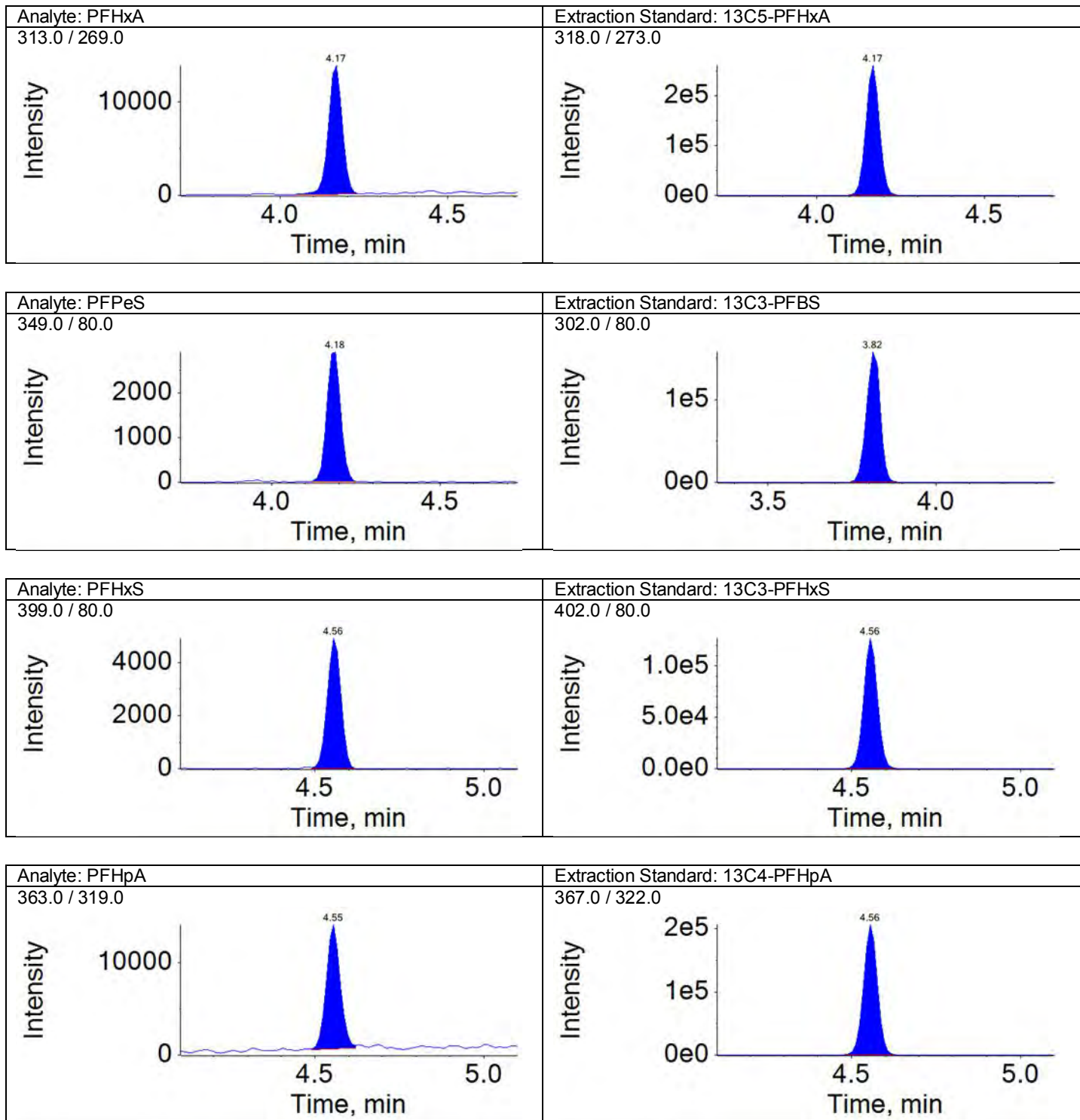
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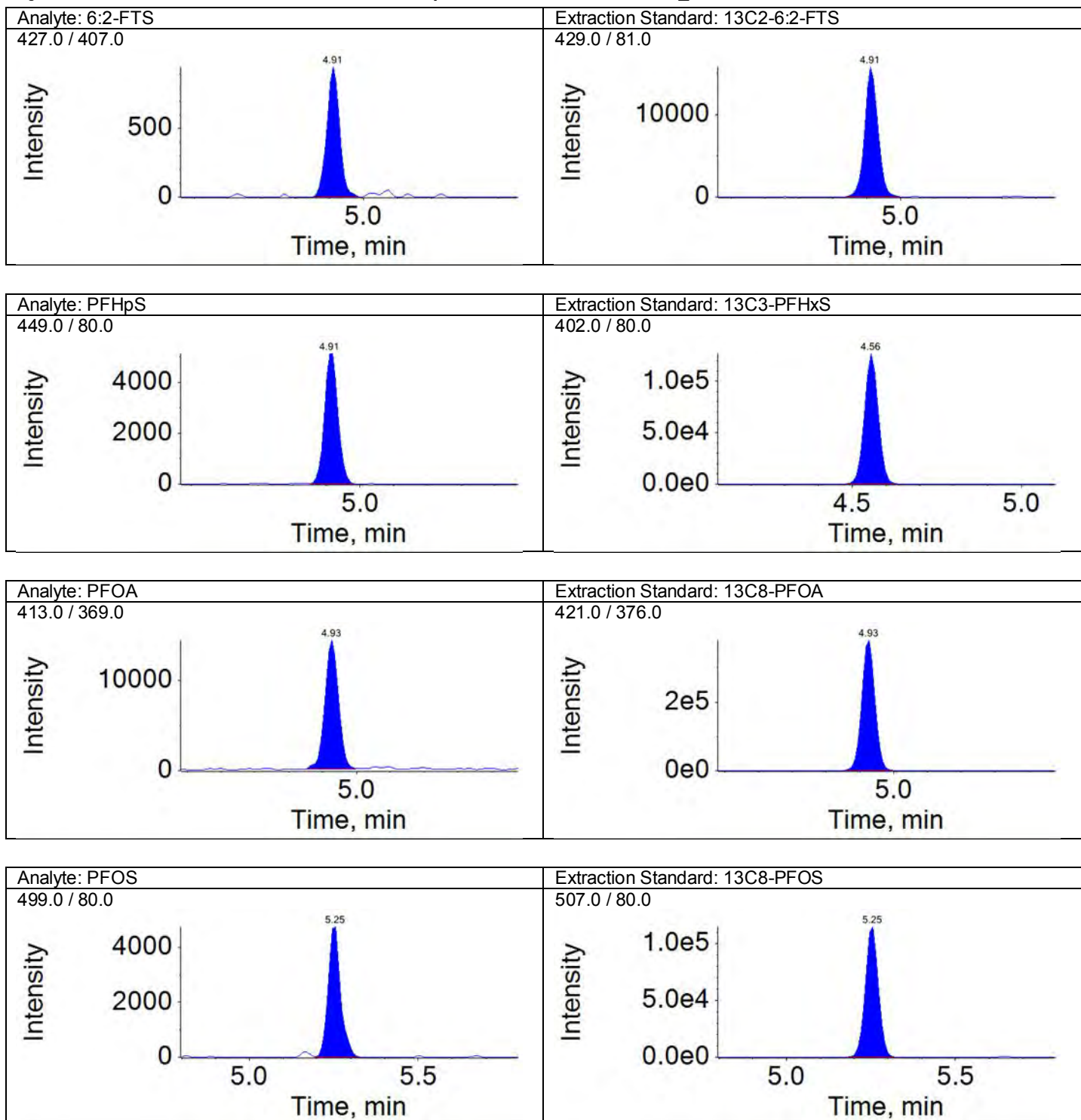
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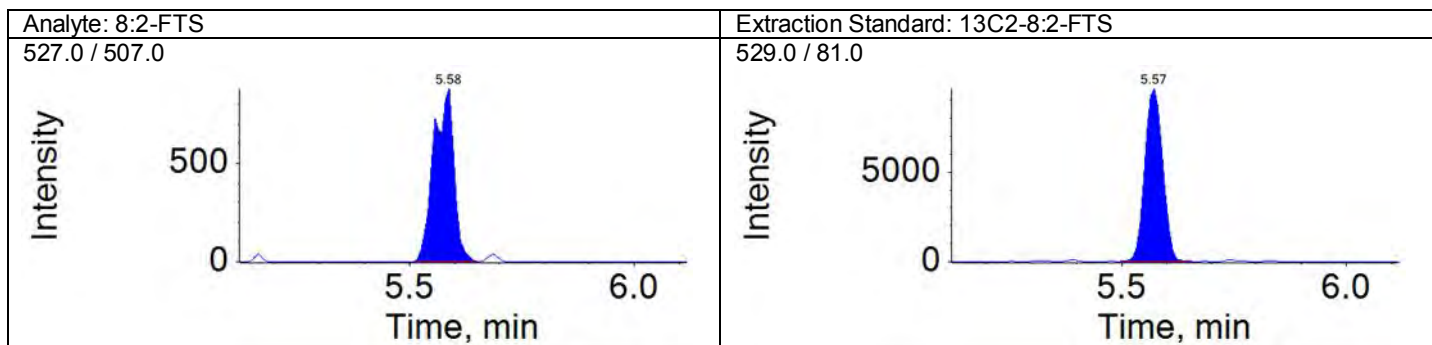
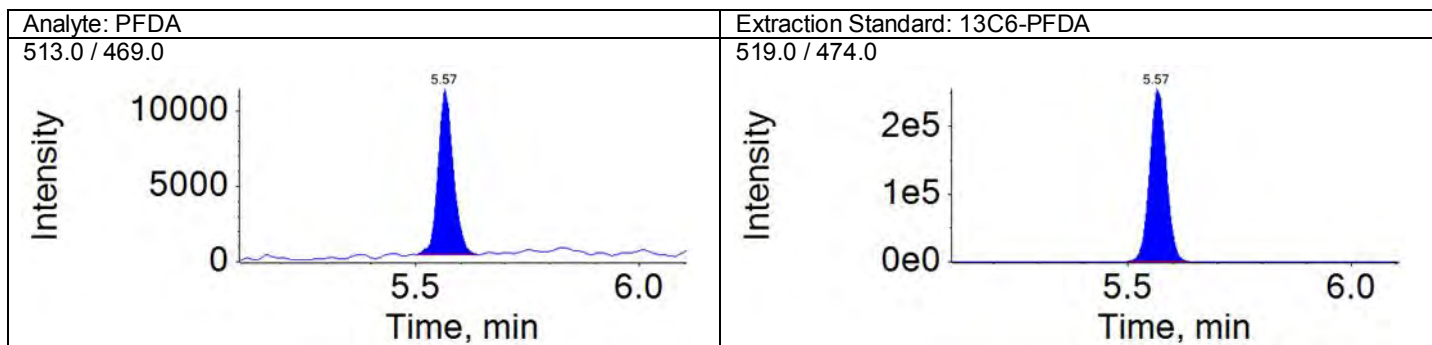
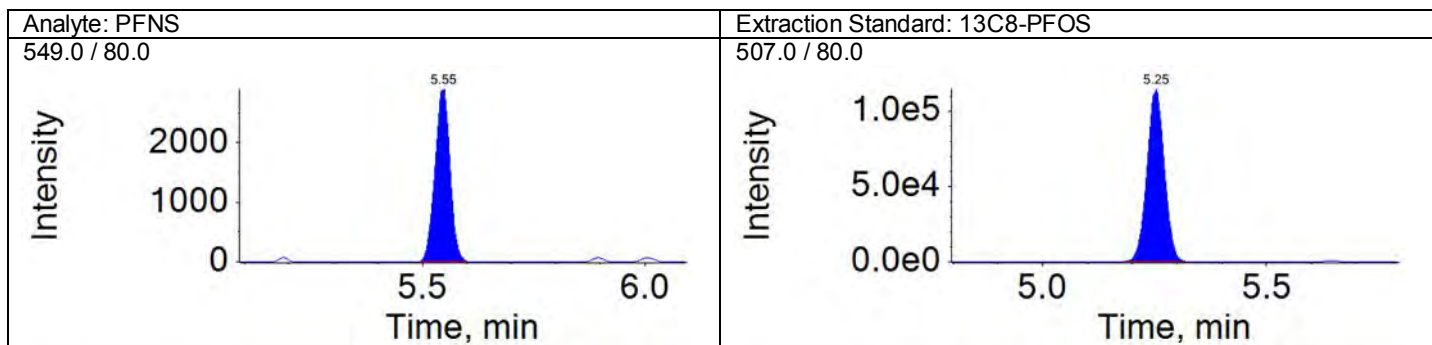
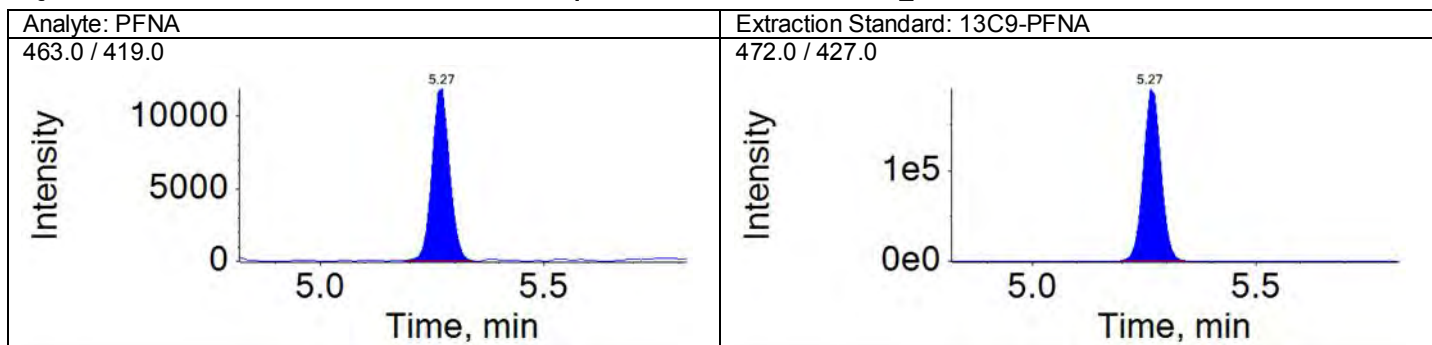
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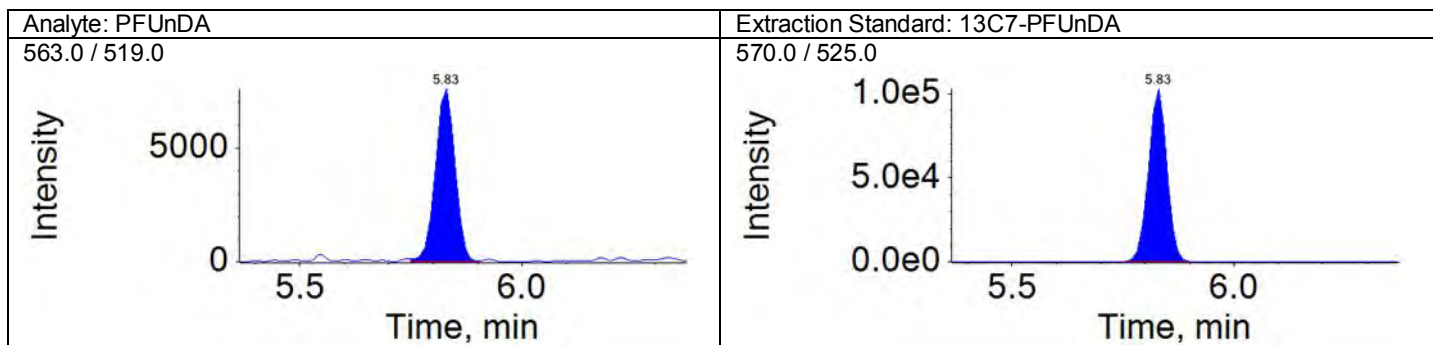
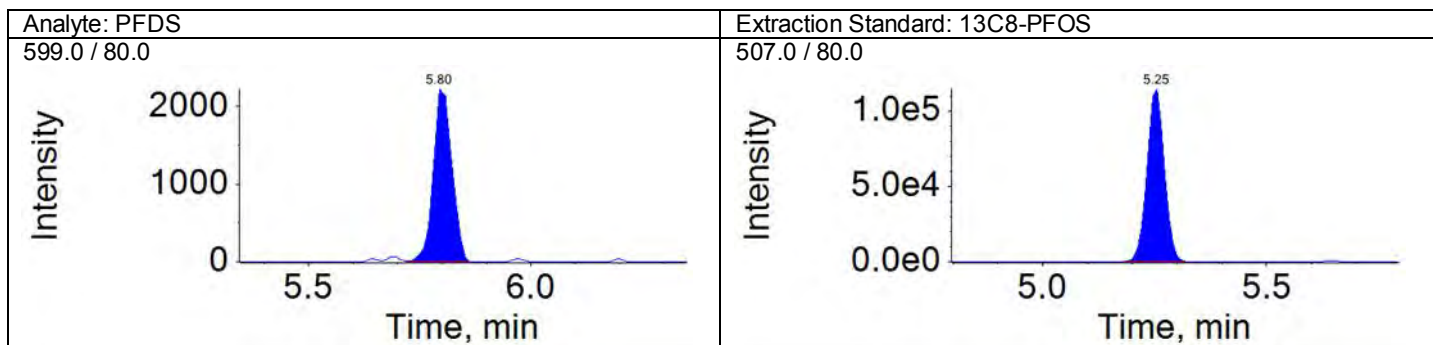
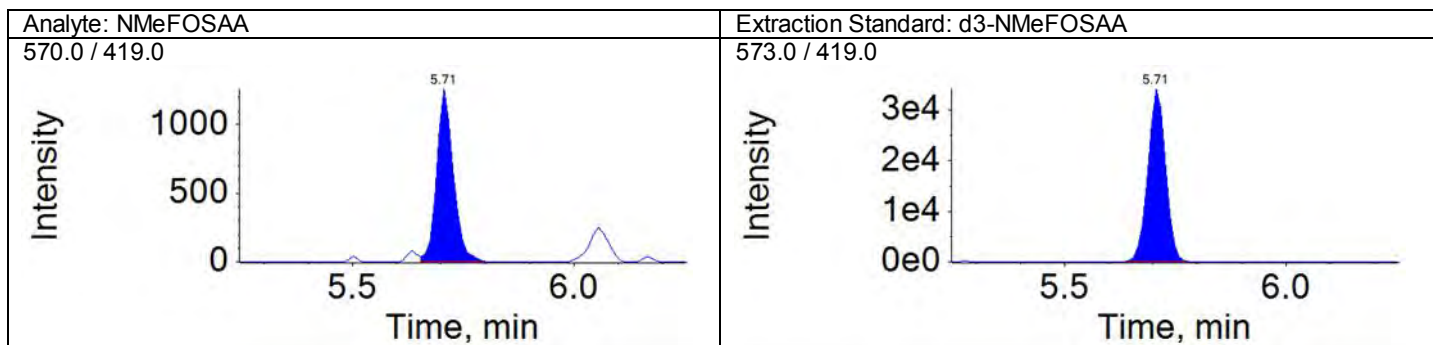
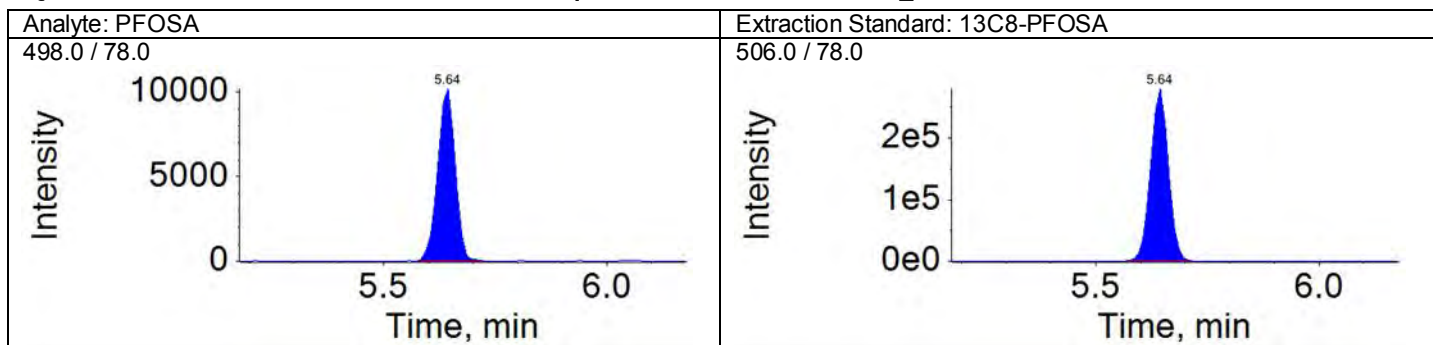
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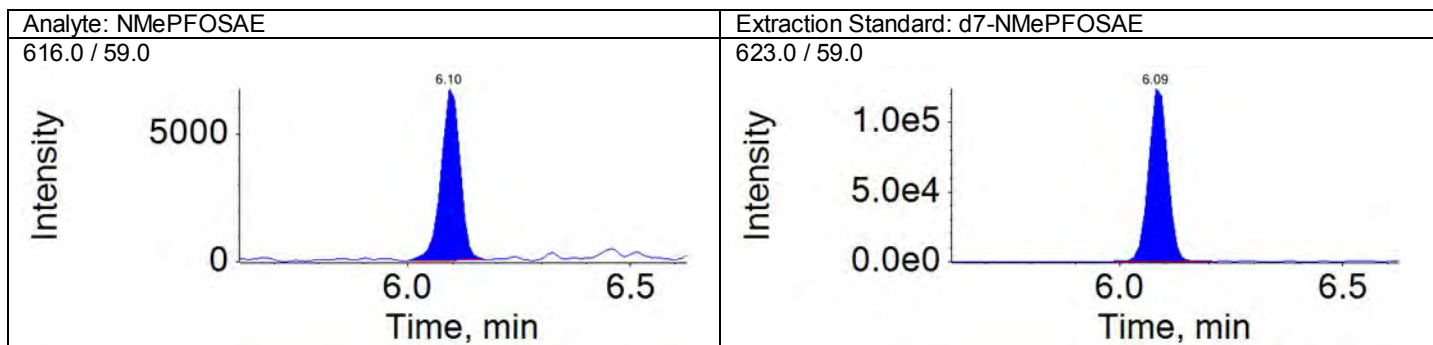
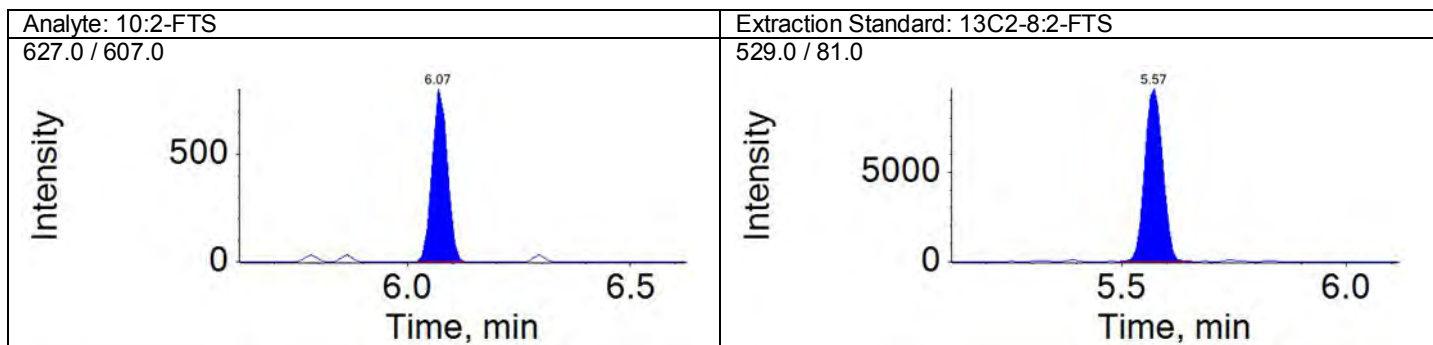
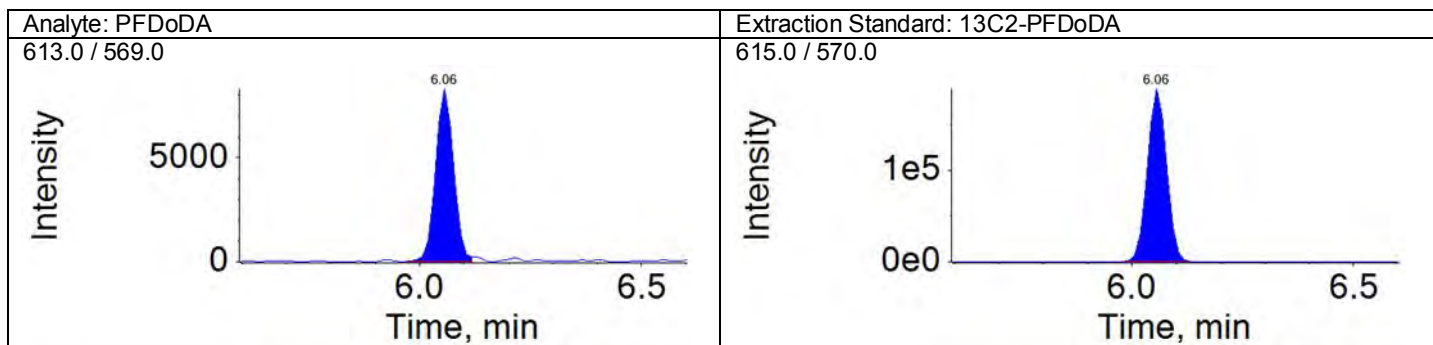
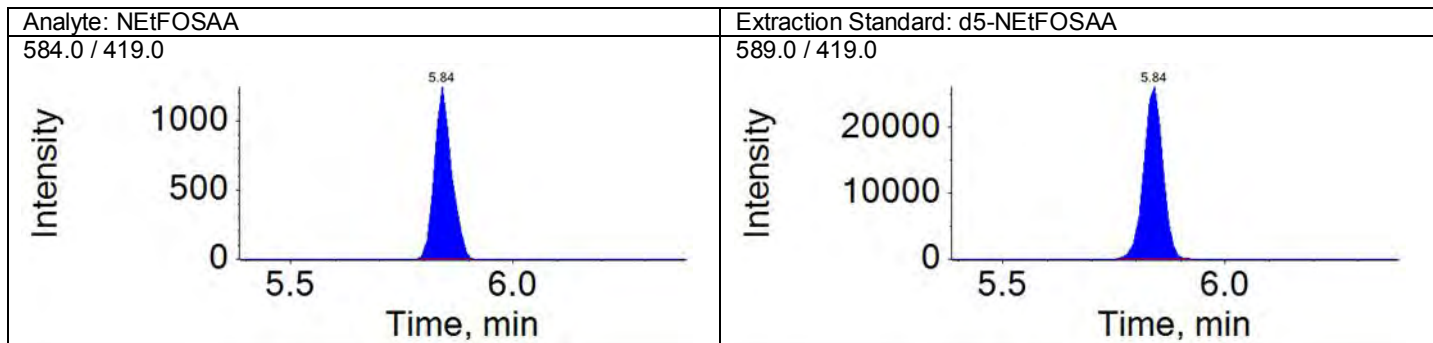
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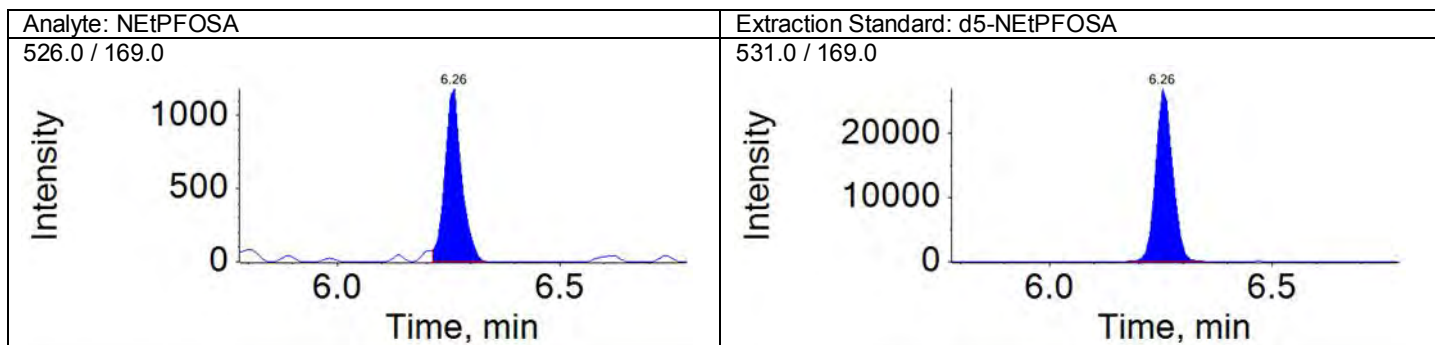
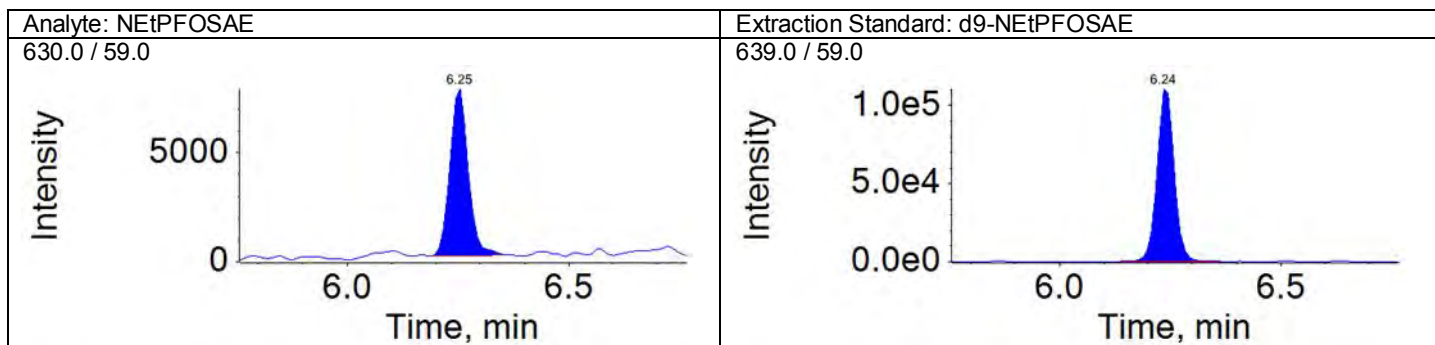
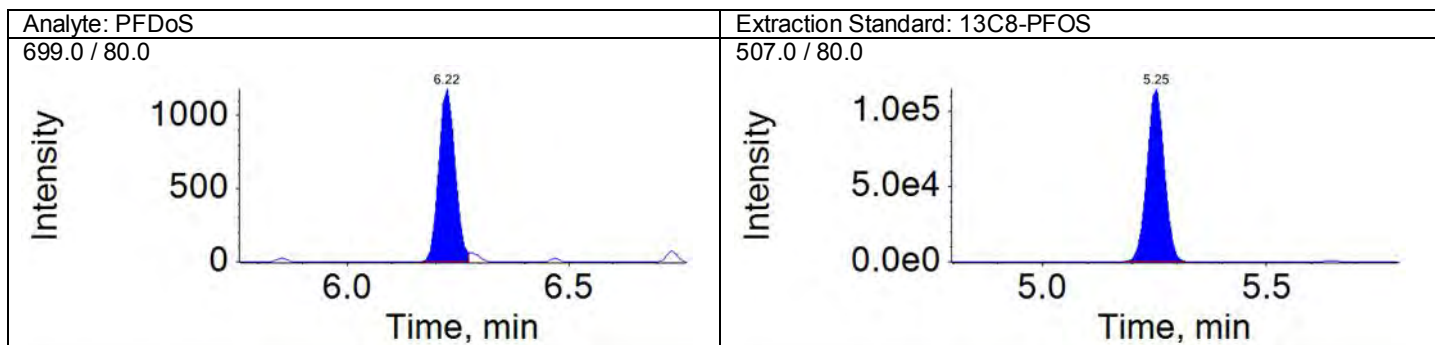
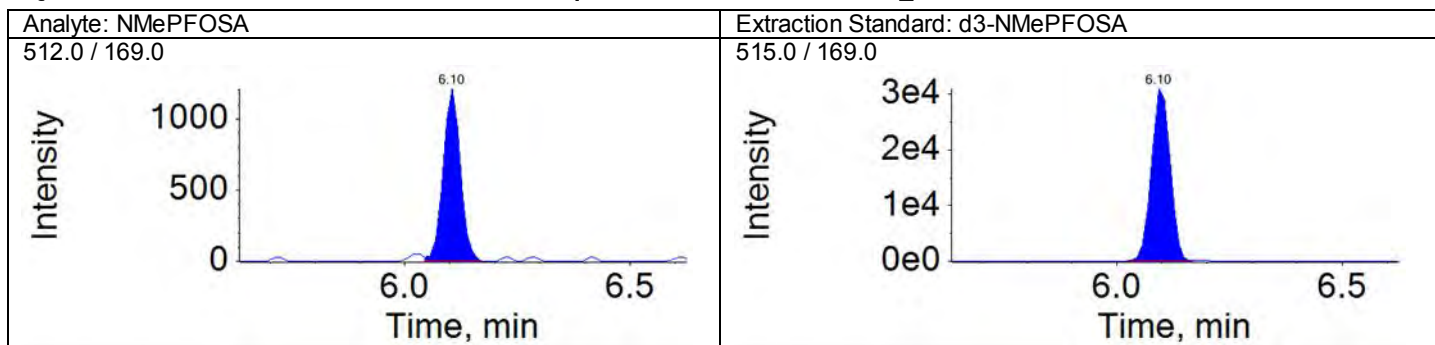
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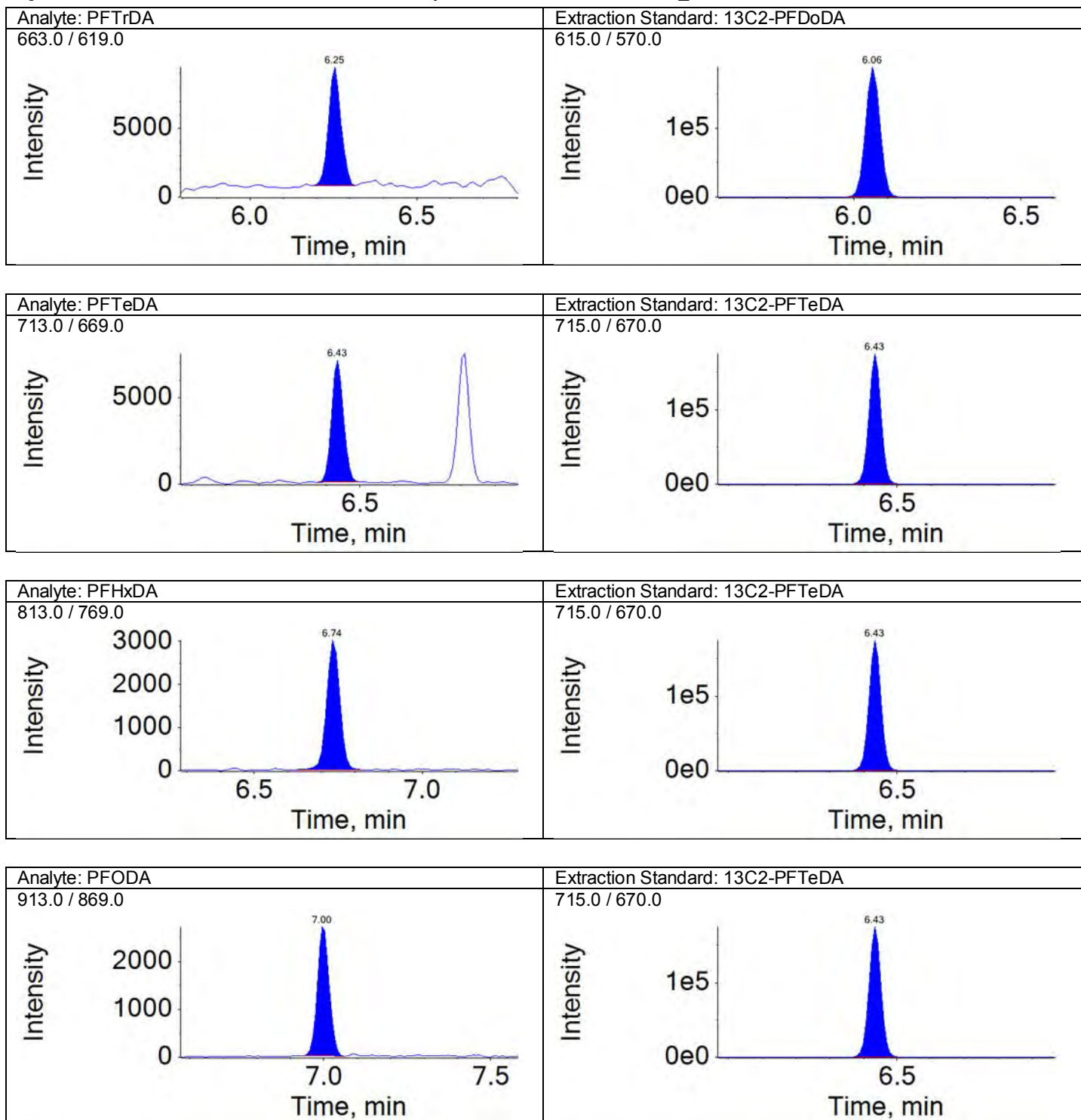
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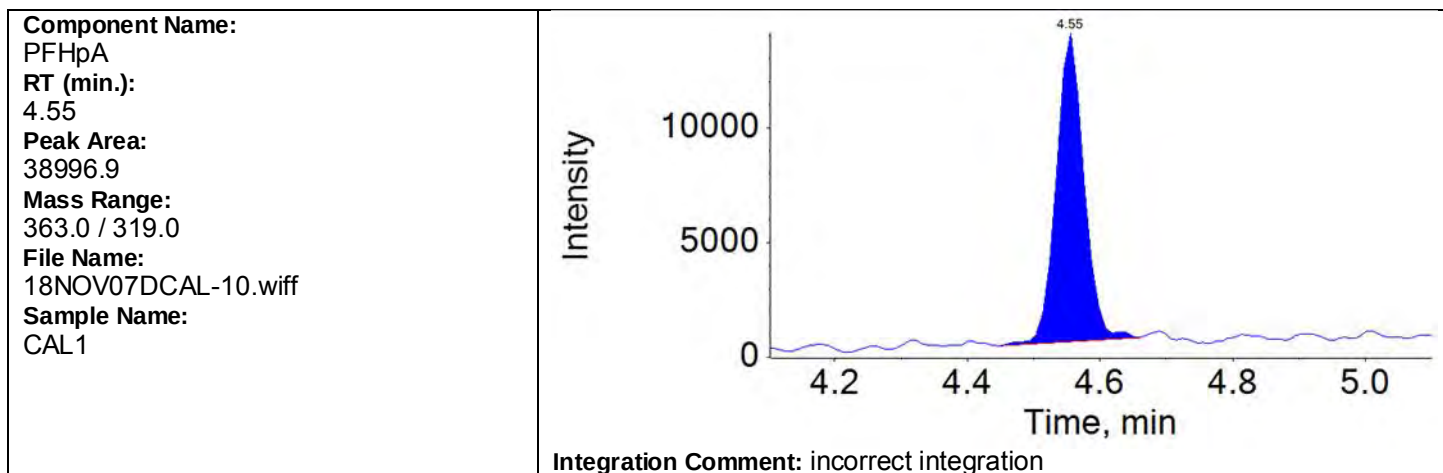
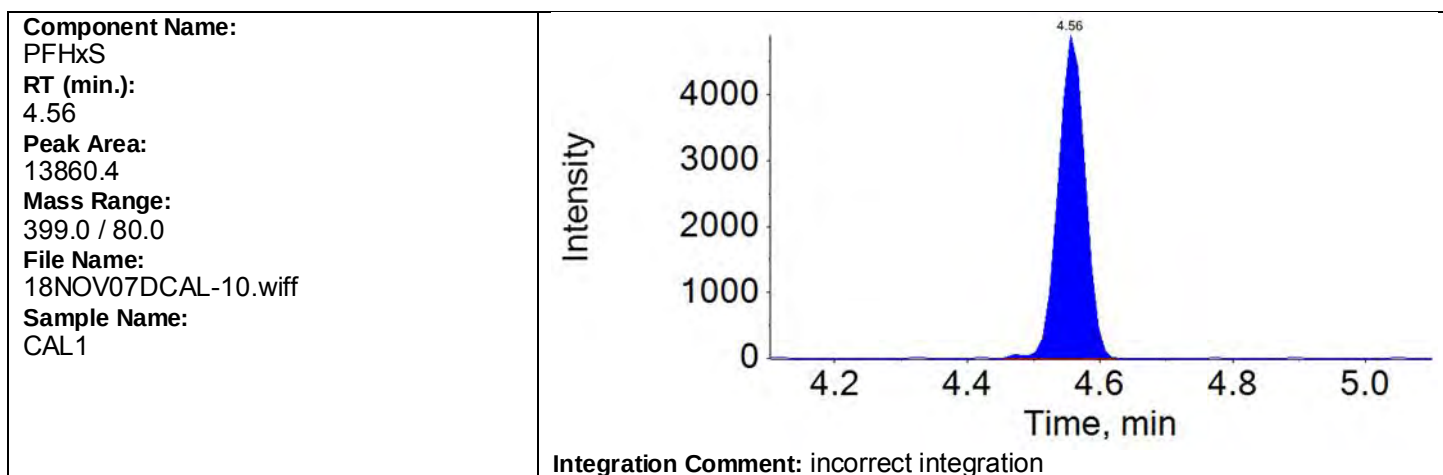
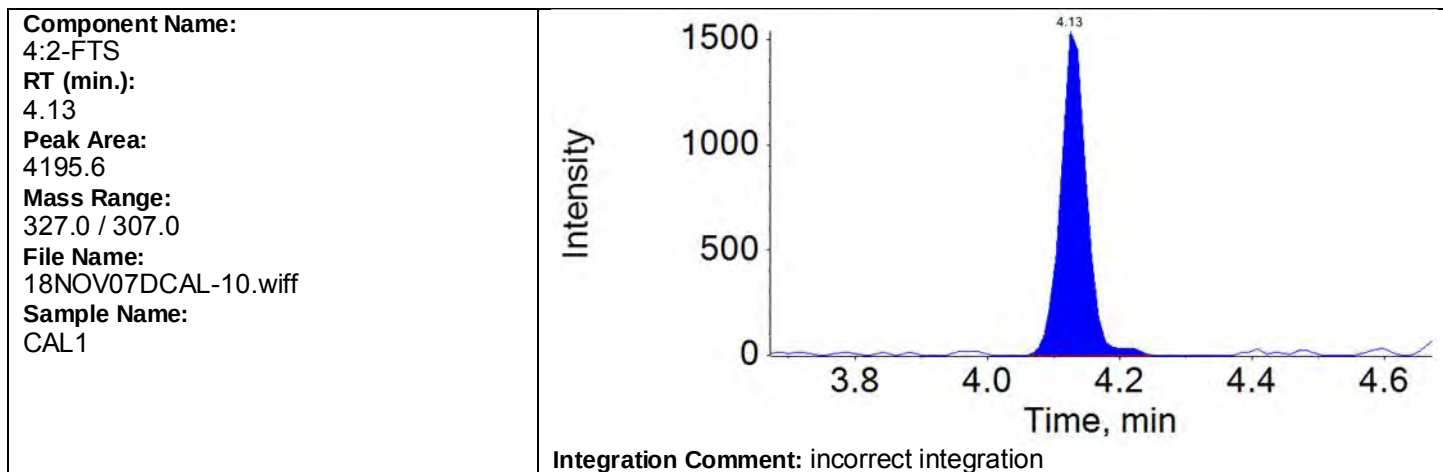
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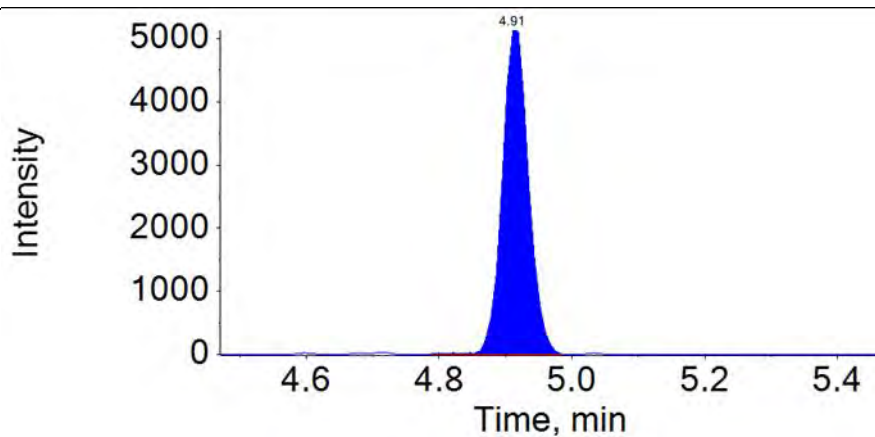
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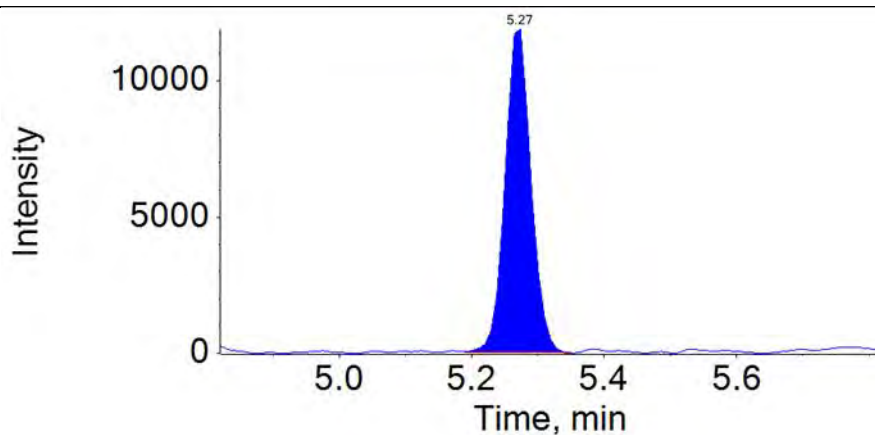
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RT (min.):
4.91
Peak Area:
14266.0
Mass Range:
449.0 / 80.0
File Name:
18NOV07DCAL-10.wiff
Sample Name:
CAL1



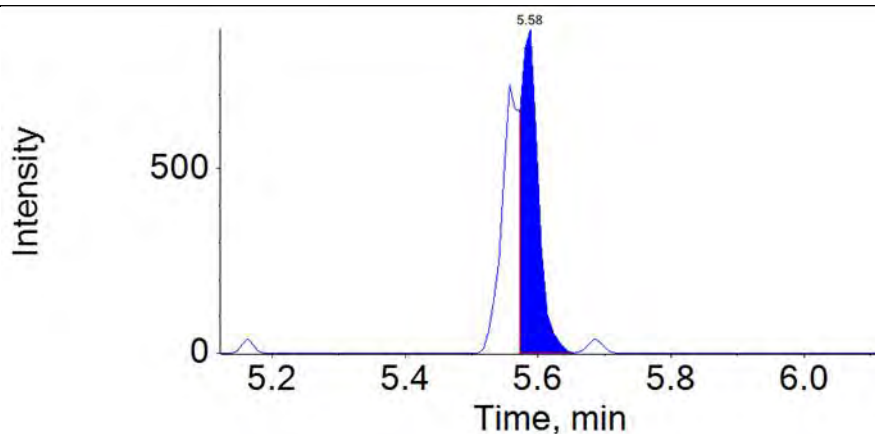
Integration Comment: incorrect integration

Component Name:
PFNA
RT (min.):
5.27
Peak Area:
32355.6
Mass Range:
463.0 / 419.0
File Name:
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Sample Name:
CAL1



Integration Comment: incorrect integration

Component Name:
8:2-FTS
RT (min.):
5.58
Peak Area:
1513.1
Mass Range:
527.0 / 507.0
File Name:
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Sample Name:
CAL1

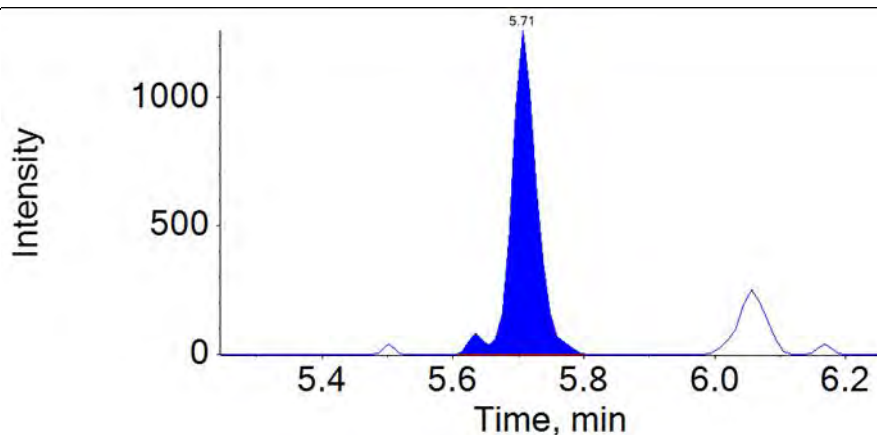


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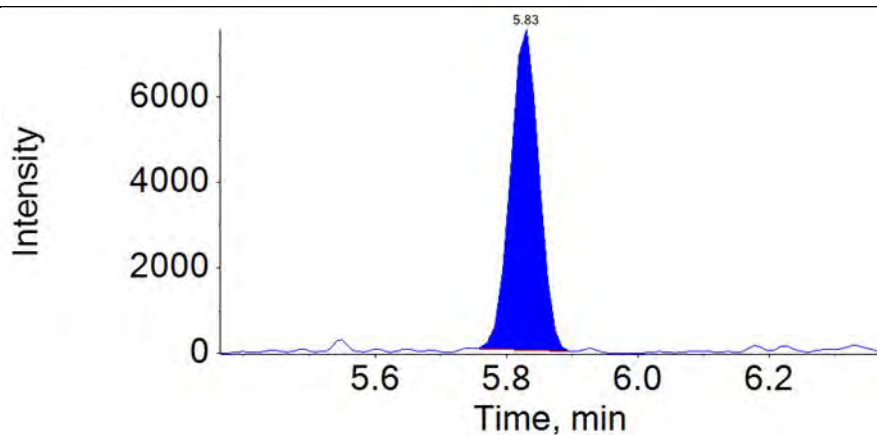
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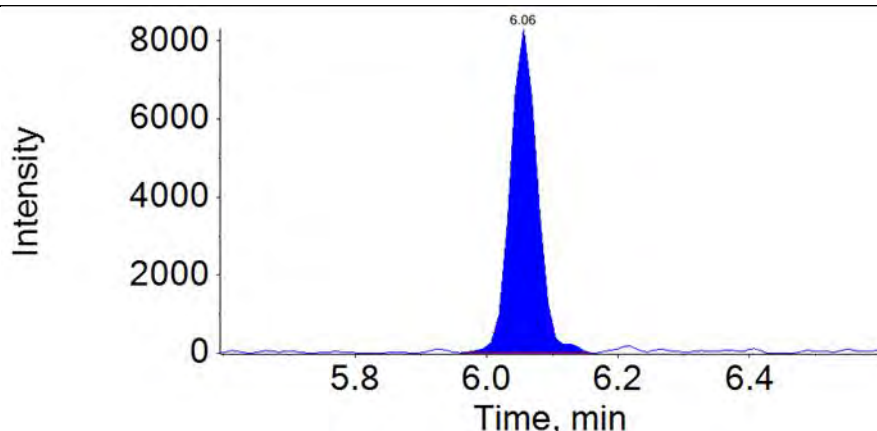
Component Name:
NMeFOSAA
RT (min.):
5.71
Peak Area:
3425.3
Mass Range:
570.0 / 419.0
File Name:
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Sample Name:
CAL1



Component Name:
PFUnDA
RT (min.):
5.83
Peak Area:
22631.3
Mass Range:
563.0 / 519.0
File Name:
18NOV07DCAL-10.wiff
Sample Name:
CAL1



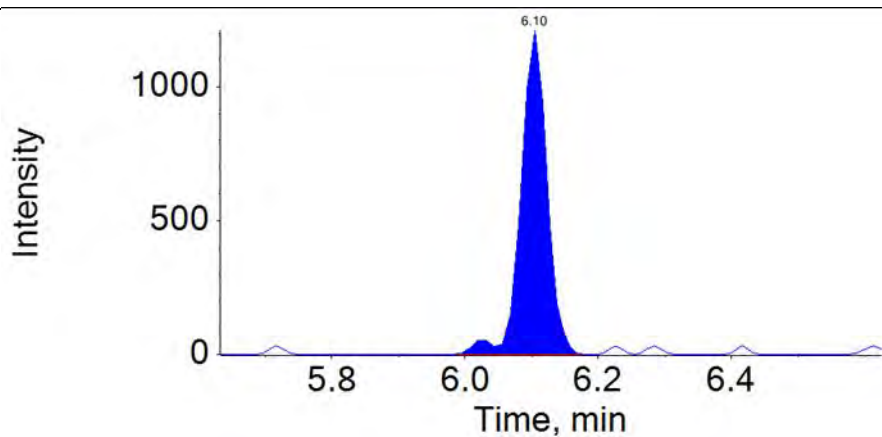
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PFDoDA
RT (min.):
6.06
Peak Area:
23623.5
Mass Range:
613.0 / 569.0
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Sample Name:
CAL1



Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

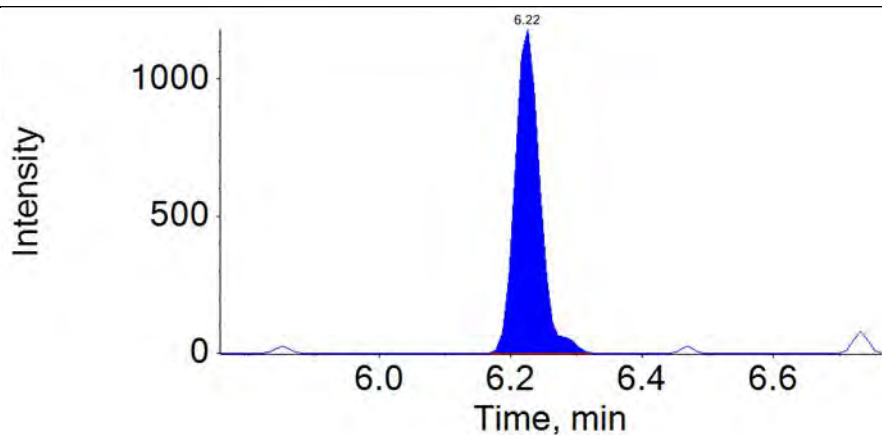
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QMethod File: MQ4-18AUG13

Component Name:
NMePFOSA
RT (min.):
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Peak Area:
3327.7
Mass Range:
512.0 / 169.0
File Name:
18NOV07DCAL-10.wiff
Sample Name:
CAL1



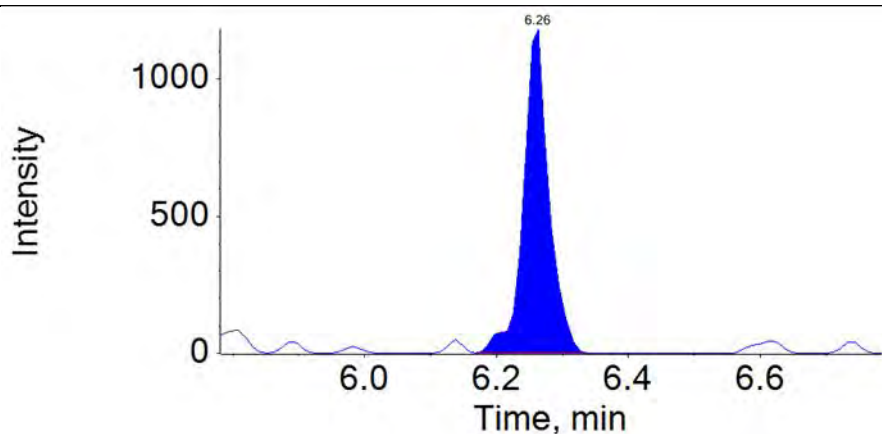
Integration Comment: incorrect integration

Component Name:
PFDoS
RT (min.):
6.22
Peak Area:
3114.4
Mass Range:
699.0 / 80.0
File Name:
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Sample Name:
CAL1



Integration Comment: incorrect integration

Component Name:
NEtPFOSA
RT (min.):
6.26
Peak Area:
3185.1
Mass Range:
526.0 / 169.0
File Name:
18NOV07DCAL-10.wiff
Sample Name:
CAL1



Integration Comment: incorrect integration

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

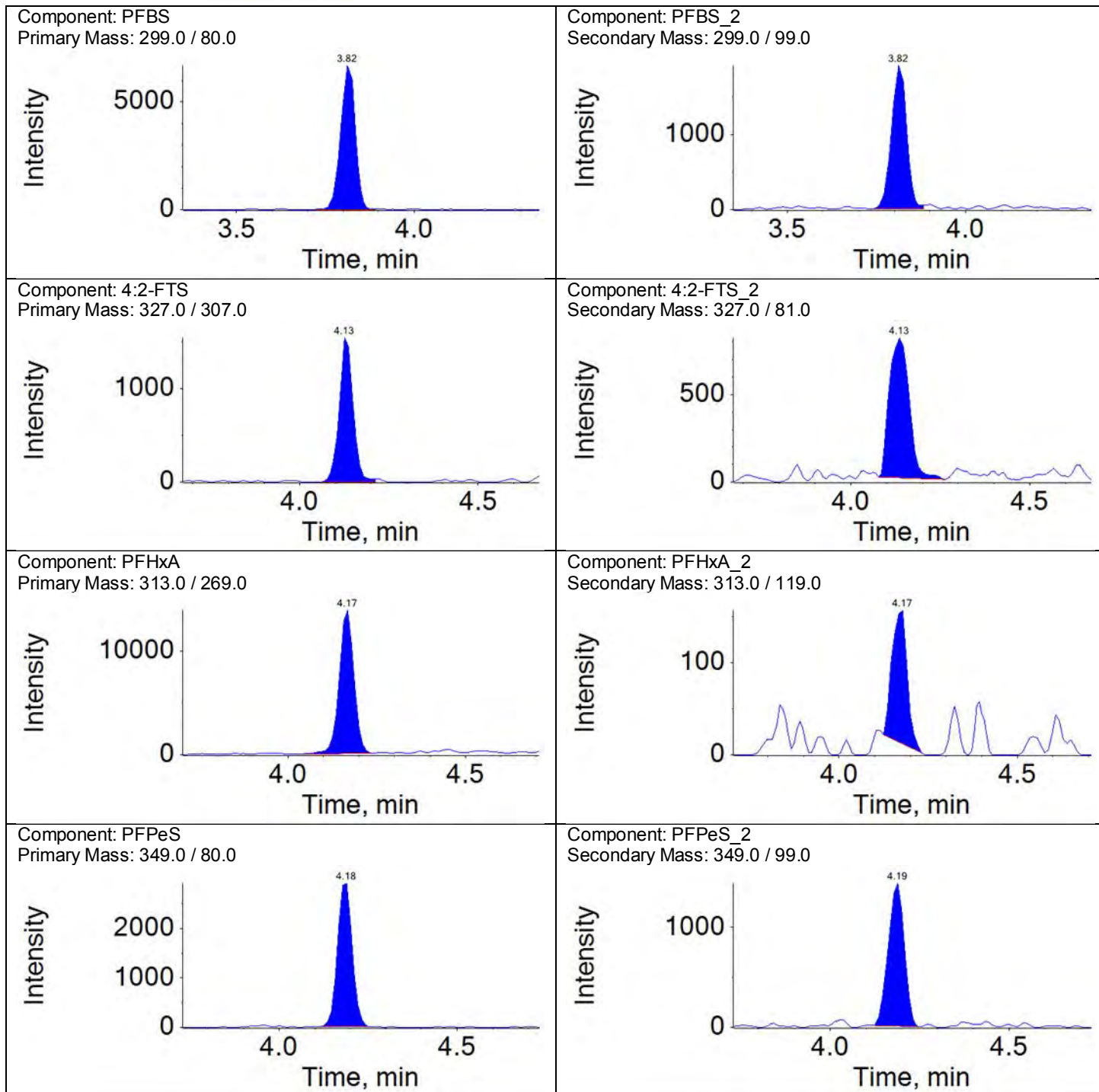
Ion Ratio Report

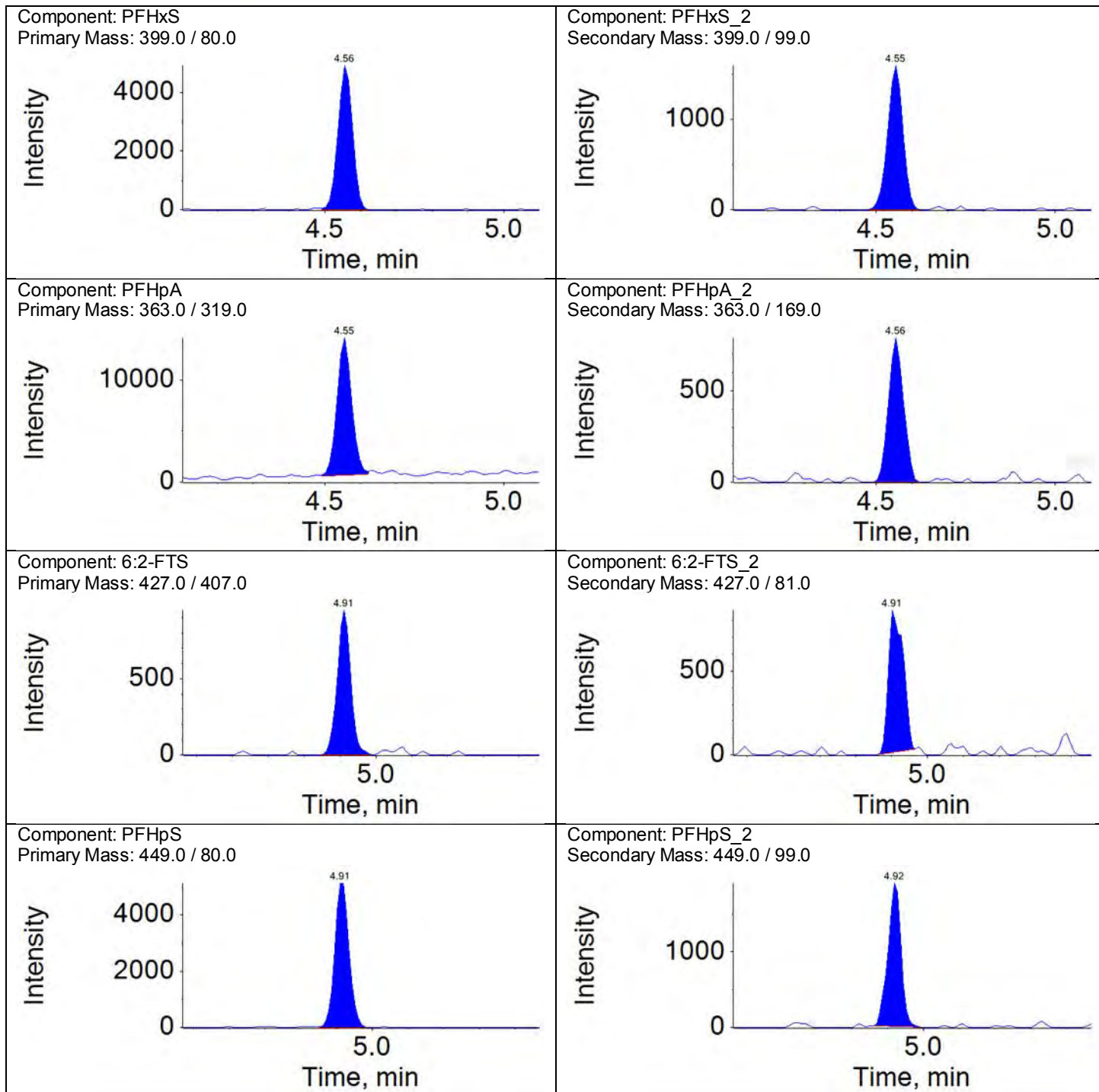
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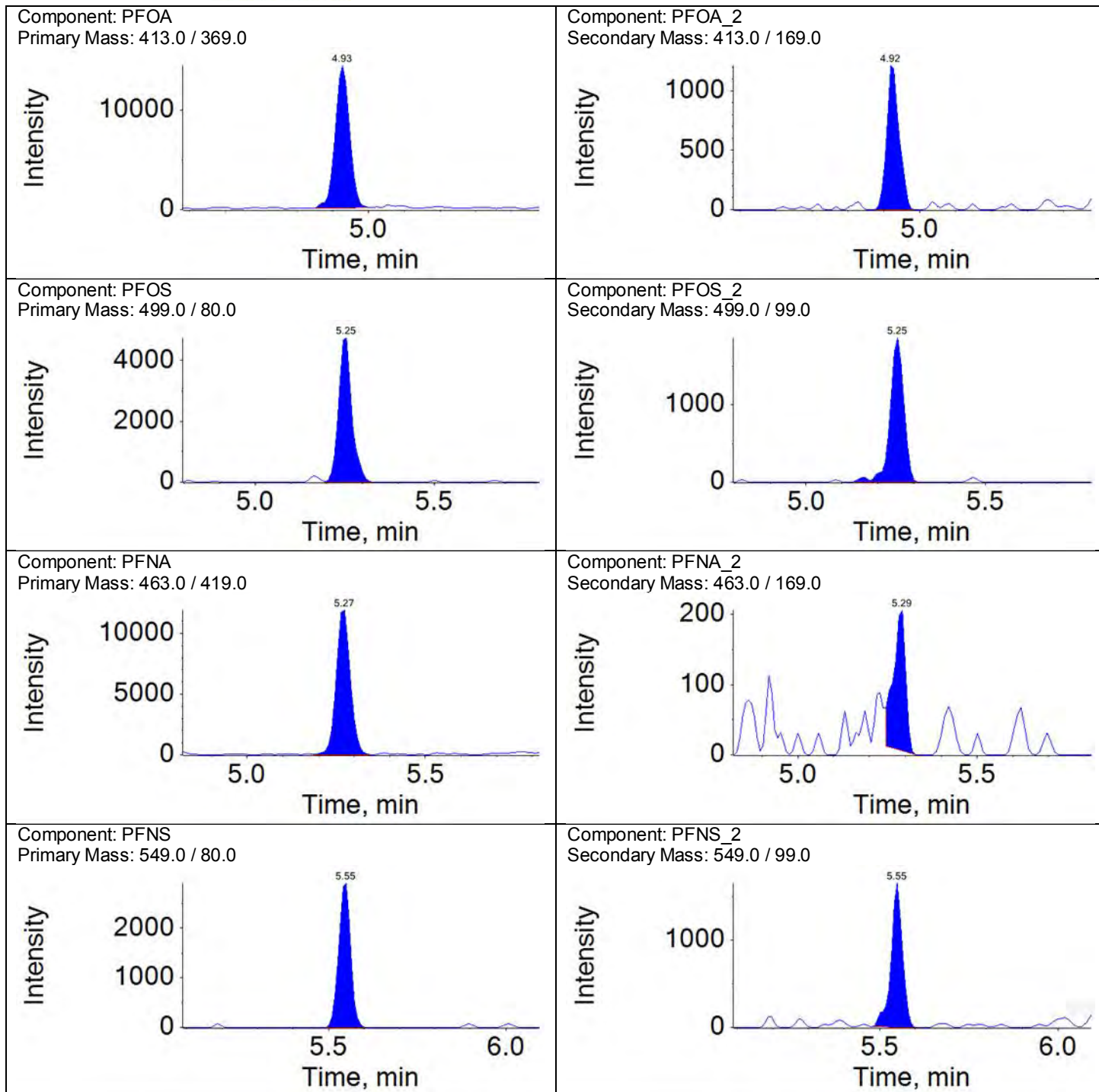
Instrument Name: LM27631

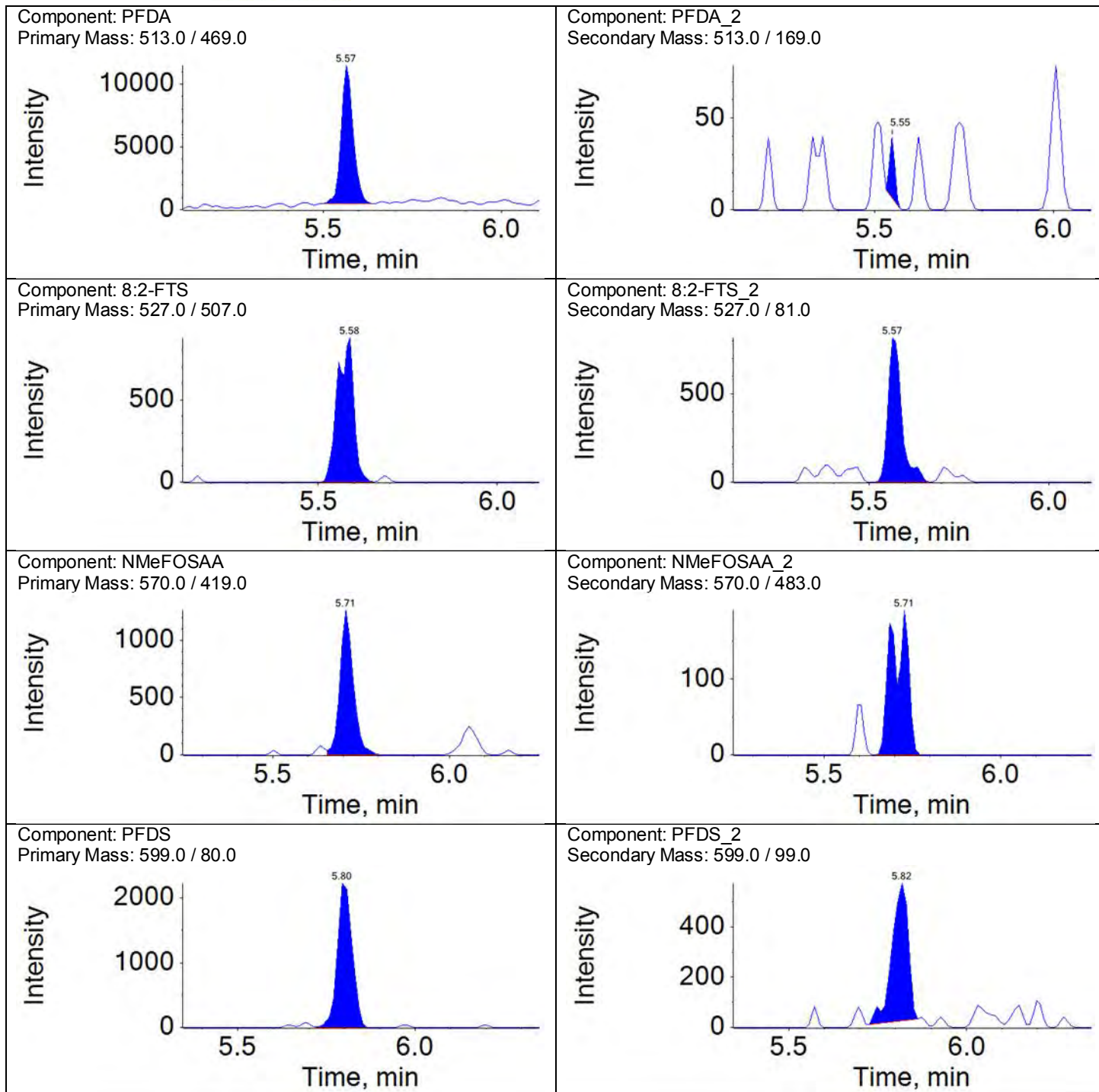
File Name: 18NOV07DCAL-10.wiff

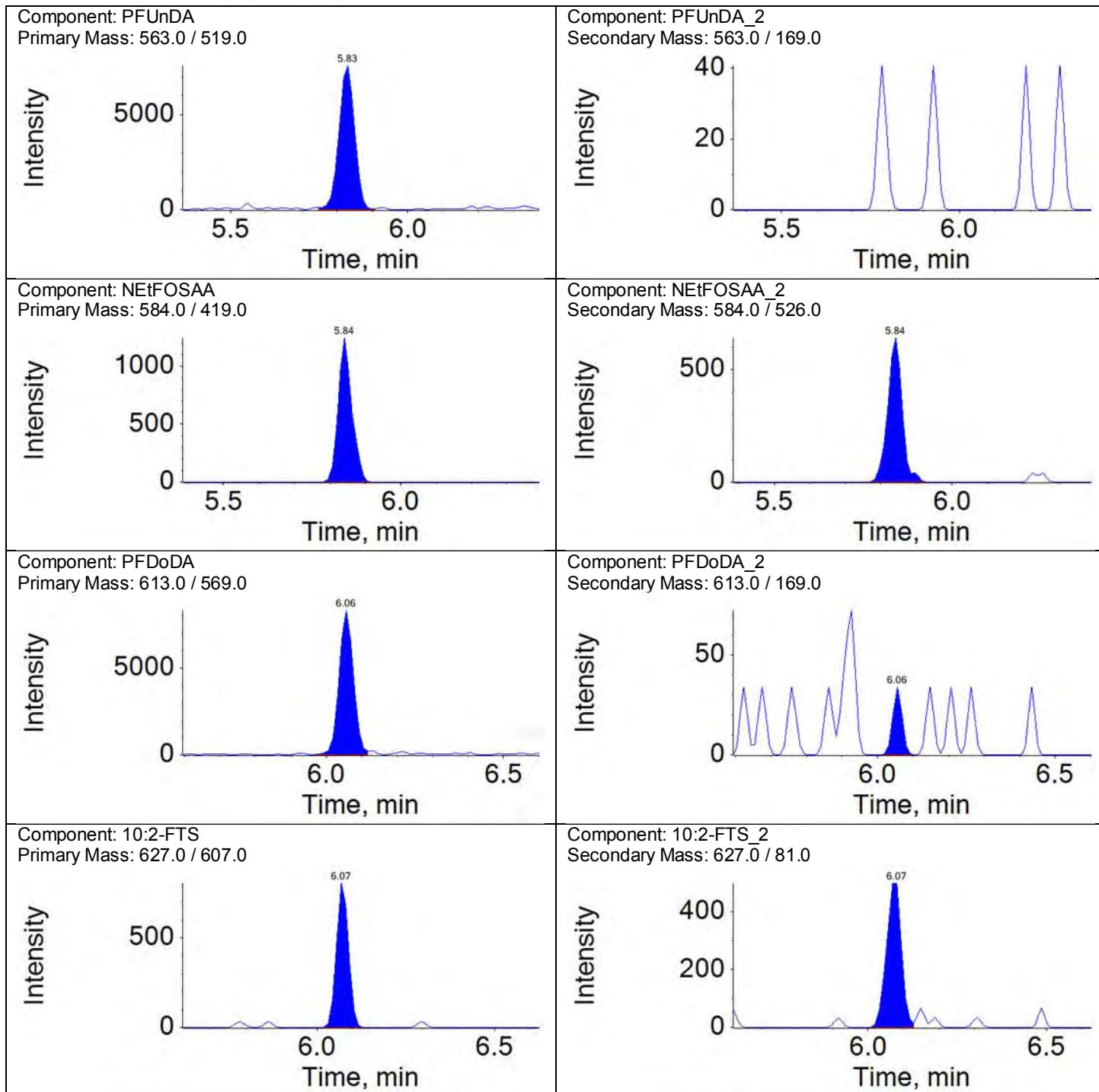
Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	19024.1	A	1.0000	1.0000			
PFBS_2	3.82	1.00	5667.0	A	0.3576	0.2979	-17	50	
4:2-FTS	4.13	1.00	4145.4	M	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	3113.1	A	0.6359	0.7510	18	50	
PFHxA	4.17	1.00	39732.2	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	426.0	A	0.0115	0.0107	-7	50	
PFPeS	4.18	1.10	8335.4	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	4437.8	A	0.5384	0.5324	-1	50	
PFHxS	4.56	1.00	13762.6	M	1.0000	1.0000			
PFHxS_2	4.55	1.00	4694.9	A	0.3569	0.3411	-4	50	
PFHpA	4.55	1.00	38331.9	M	1.0000	1.0000			
PFHpA_2	4.56	1.00	2299.9	A	0.0577	0.0600	4	50	
6:2-FTS	4.91	1.00	2460.6	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	2419.1	A	0.6752	0.9832	46	50	
PFHpS	4.91	1.08	14183.4	M	1.0000	1.0000			
PFHpS_2	4.92	1.08	4803.7	A	0.3950	0.3387	-14	50	
PFOA	4.93	1.00	39843.5	A	1.0000	1.0000			
PFOA_2	4.92	1.00	2905.3	A	0.0635	0.0729	15	50	
PFOS	5.25	1.00	12181.7	A	1.0000	1.0000			
PFOS_2	5.25	1.00	4968.4	A	0.3494	0.4079	17	50	
PFNA	5.27	1.00	32563.3	M	1.0000	1.0000			
PFNA_2	5.29	1.00	475.0	A	0.0207	0.0146	-29	50	
PFNS	5.55	1.06	6748.5	A	1.0000	1.0000			
PFNS_2	5.55	1.06	3646.4	A	0.4890	0.5403	10	50	
PFDA	5.57	1.00	25530.0	A	1.0000	1.0000			
PFDA_2	5.55	1.00	33.4	A	0.0057	0.0013	-77	50	OOS
8:2-FTS	5.58	1.00	2783.3	M	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	2168.5	A	0.6169	0.7791	26	50	
NMeFOSAA	5.71	1.00	3293.8	M	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	644.8	A	0.2206	0.1958	-11	50	
PFDS	5.80	1.10	6453.6	A	1.0000	1.0000			
PFDS_2	5.82	1.11	1756.6	A	0.4648	0.2722	-41	50	
PFUnDA	5.83	1.00	23275.5	M	1.0000	1.0000			
PFUnDA_2	N/A	N/A	N/A	A	0.0031	N/A		50	
NEtFOSAA	5.84	1.00	3313.0	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	1807.4	A	0.6082	0.5455	-10	50	
PFDODA	6.06	1.00	23314.2	M	1.0000	1.0000			
PFDODA_2	6.06	1.00	62.7	A	0.0109	0.0027	-75	50	OOS
10:2-FTS	6.07	1.09	1903.7	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	1472.7	A	0.7082	0.7736	9	50	
PFTTrDA	6.25	1.03	22403.2	A	1.0000	1.0000			
PFTTrDA_2	6.26	1.03	178.7	A	0.0096	0.0080	-17	50	
PFTeDA	6.43	1.00	17031.0	A	1.0000	1.0000			
PFTeDA_2	6.48	1.01	40.0	A	0.0055	0.0023	-58	50	OOS
PFHxDA	6.74	1.05	8175.1	A	1.0000	1.0000			
PFHxDA_2	6.74	1.05	437.4	A	0.0596	0.0535	-10	50	
PFODA	7.00	1.09	6622.6	A	1.0000	1.0000			
PFODA_2	6.99	1.09	171.3	A	0.0257	0.0259	1	50	

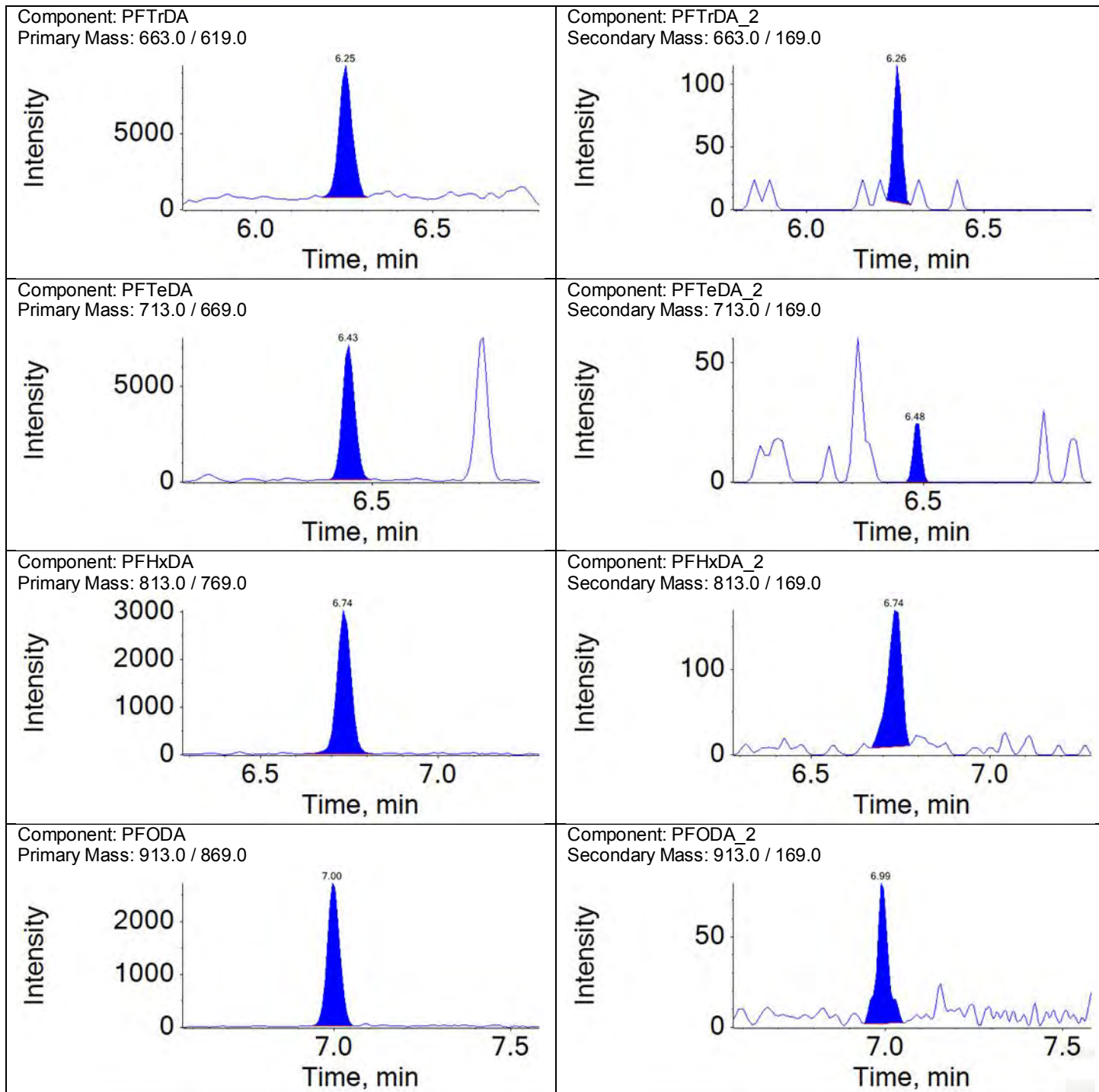












ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CAL2	Data File:	18NOV07DCAL-11.wiff
Sample ID:	CALMOD21833F	Acquis Date:	2018-11-07T09:48:56
Sample Type:	Standard	Instrument:	LM27631
Vial Position:	4	Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00	Result Table:	18NOV07DCAL
QMethod File:	MQ4-18AUG13	ICAL Name:	18NOV07DCAL
Batch Number:	N/A	Operator:	JPT12262
Sample Wt.:	1.00000	Dilution Factor:	1.00
Sample Vol.:	1.000	Prep Factor:	1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	723209.9	730410.6	-1	50	
13C2-PFOA	5.0	516360.9	524423.6	-2	50	
13C4-PFOS	4.8	263757.0	274061.7	-4	50	
13C2-PFDA	5.0	334958.4	311442.1	8	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	782732.8	13C3-PFBA	723209.9	1.082	5.000	5.009	100	70-130	
E13C5-PFPeA	863262.8	13C3-PFBA	723209.9	1.194	5.000	5.200	104	70-130	
E13C3-PFBS	444721.3	13C3-PFBA	723209.9	0.615	4.650	4.513	97	70-130	
E13C2-4:2-FTS	54234.1	13C2-PFOA	516360.9	0.105	4.670	4.739	101	70-130	
E13C5-PFHxA	717434.9	13C2-PFOA	516360.9	1.389	5.000	5.111	102	70-130	
E13C3-PFHxS	335732.1	13C2-PFOA	516360.9	0.650	4.730	4.668	99	70-130	
E13C4-PFHpA	583342.8	13C2-PFOA	516360.9	1.130	5.000	5.139	103	70-130	
E13C2-6:2-FTS	38849.6	13C2-PFOA	516360.9	0.075	4.750	5.017	106	70-130	
E13C8-PFOA	970523.2	13C2-PFOA	516360.9	1.880	5.000	5.241	105	70-130	
E13C8-PFOS	286174.8	13C4-PFOS	263757.0	1.085	4.780	4.798	100	70-130	
E13C9-PFNA	540435.4	13C4-PFOS	263757.0	2.049	5.000	5.597	112	70-130	
E13C6-PFDA	661423.8	13C2-PFDA	334958.4	1.975	5.000	4.966	99	70-130	
E13C2-8:2-FTS	27523.0	13C2-PFDA	334958.4	0.082	4.790	4.348	91	70-130	
E13C8-PFOSA	711032.2	13C2-PFDA	334958.4	2.123	5.000	4.632	93	70-130	
Ed3-NMeFOSAA	83112.2	13C2-PFDA	334958.4	0.248	5.000	4.614	92	70-130	
E13C7-PFUnDA	289985.1	13C2-PFDA	334958.4	0.866	5.000	4.994	100	70-130	
Ed5-NEtFOSAA	65815.9	13C2-PFDA	334958.4	0.196	5.000	4.547	91	70-130	
E13C2-PFDoDA	597616.3	13C2-PFDA	334958.4	1.784	5.000	4.810	96	70-130	
Ed7-NMePFOSAE	330298.6	13C2-PFDA	334958.4	0.986	5.000	4.586	92	70-130	
Ed3-NMePFOSA	81301.2	13C2-PFDA	334958.4	0.243	5.000	4.444	89	70-130	
Ed9-NEtPFOSAE	270607.6	13C2-PFDA	334958.4	0.808	5.000	4.614	92	70-130	
Ed5-NEtPFOSA	66745.4	13C2-PFDA	334958.4	0.199	5.000	4.614	92	70-130	
E13C2-PFTeDA	441206.9	13C2-PFDA	334958.4	1.317	5.000	4.742	95	70-130	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: CAL2

Instrument Name: LM27631

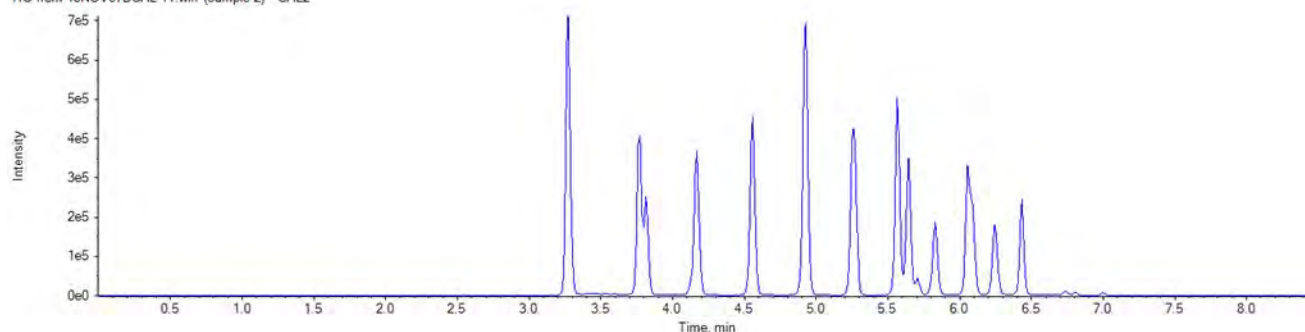
File Name: 18NOV07DCAL-11.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	72868.6		A	13C4-PFBA	3.27	782732.8	0.093	0.545
PFPeA	3.77	1.000	77403.9		A	13C5-PFPeA	3.77	863262.8	0.090	0.533
PFBS	3.82	1.000	41415.1		A	13C3-PFBS	3.82	444721.3	0.093	0.470
4:2-FTS	4.13	1.000	9924.9		M	13C2-4:2-FTS	4.13	54234.1	0.183	0.492
PFHxA	4.17	1.000	88469.9		A	13C5-PFHxA	4.17	717434.9	0.123	0.529
PFPeS	4.19	1.100	20956.8		A	13C3-PFBS	3.82	444721.3	0.047	0.465
PFHxS	4.56	1.000	32061.0		M	13C3-PFHxS	4.56	335732.1	0.095	0.484
PFHpA	4.56	1.000	93502.9		A	13C4-PFHpA	4.55	583342.8	0.160	0.539
6:2-FTS	4.91	1.000	8883.8		A	13C2-6:2-FTS	4.91	38849.6	0.229	0.570
PFHpS	4.92	1.080	30553.2		A	13C3-PFHxS	4.56	335732.1	0.091	0.476
PFOA	4.93	1.000	94348.1		A	13C8-PFOA	4.92	970523.2	0.097	0.547
PFOS	5.25	1.000	28529.2		M	13C8-PFOS	5.25	286174.8	0.100	0.517
PFNA	5.27	1.000	74743.9		A	13C9-PFNA	5.27	540435.4	0.138	0.517
PFNS	5.55	1.060	17507.8		A	13C8-PFOS	5.25	286174.8	0.061	0.485
PFDA	5.57	1.000	62530.6		A	13C6-PFDA	5.57	661423.8	0.095	0.520
8:2-FTS	5.57	1.000	6917.6		A	13C2-8:2-FTS	5.57	27523.0	0.251	0.567
PFOSA	5.64	1.000	69586.0		A	13C8-PFOSA	5.64	711032.2	0.098	0.529
NMeFOSAA	5.71	1.000	9807.4		A	d3-NMeFOSAA	5.71	83112.2	0.118	0.607
PFDS	5.80	1.110	15726.3		A	13C8-PFOS	5.25	286174.8	0.055	0.525
PfUnDA	5.83	1.000	54085.5		A	13C7-PfUnDA	5.83	289985.1	0.187	0.535
NEtFOSAA	5.84	1.000	7253.7		A	d5-NEtFOSAA	5.84	65815.9	0.110	0.474
PFDODA	6.06	1.000	60098.0		A	13C2-PFDODA	6.06	597616.3	0.101	0.545
10:2-FTS	6.07	1.090	4874.3		A	13C2-8:2-FTS	5.57	27523.0	0.177	0.551
NMePFOSAE	6.10	1.000	40902.1		A	d7-NMePFOSAE	6.09	330298.6	0.124	0.555
NMePFOSA	6.10	1.000	8251.9		A	d3-NMePFOSA	6.10	81301.2	0.101	0.568
PFDoS	6.23	1.190	7227.2		A	13C8-PFOS	5.25	286174.8	0.025	0.487
NEtPFOSAE	6.25	1.000	48905.8		A	d9-NEtPFOSAE	6.24	270607.6	0.181	0.579
NEtPFOSA	6.26	1.000	6419.4		A	d5-NEtPFOSA	6.26	66745.4	0.096	0.424
PFTrDA	6.25	1.030	49218.5		A	13C2-PFDODA	6.06	597616.3	0.082	0.519
PFTeDA	6.43	1.000	36223.2		A	13C2-PFTeDA	6.43	441206.9	0.082	0.482
PFHxDA	6.74	1.050	18619.3		A	13C2-PFTeDA	6.43	441206.9	0.042	0.524
PFOA	7.00	1.090	15742.1		A	13C2-PFTeDA	6.43	441206.9	0.036	0.511

Total Ion Chromatogram

TIC from 18NOV07DCAL-11.wiff (sample 2) - CAL2



APPROVED

By JPT at 2:53 pm, 11/7/18

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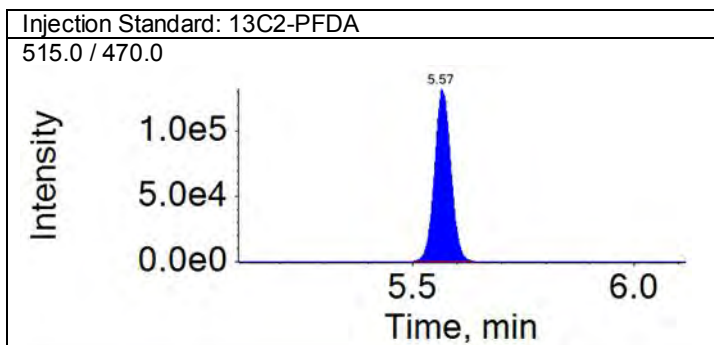
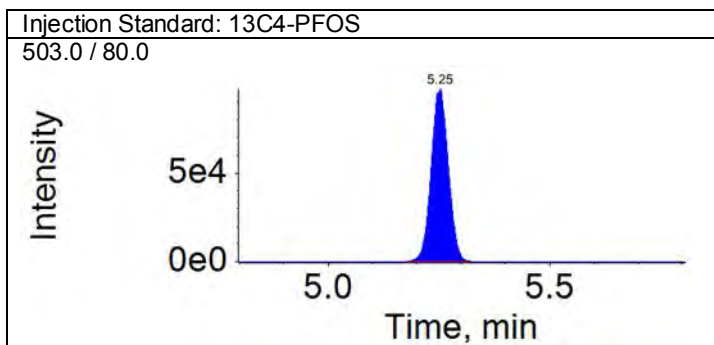
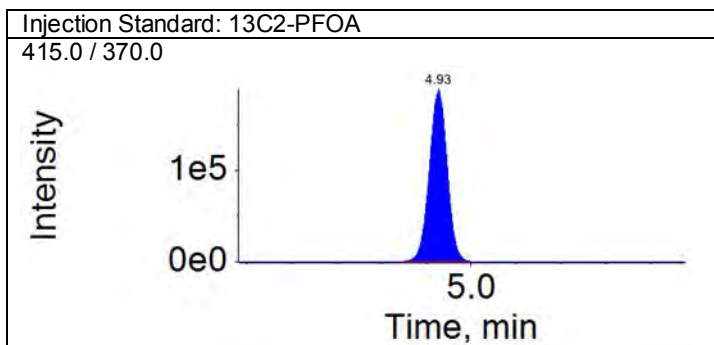
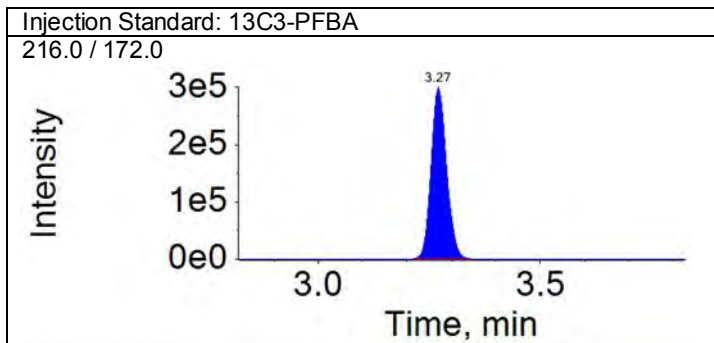
REVIEWED

By umar at 5:23 pm, 11/9/18

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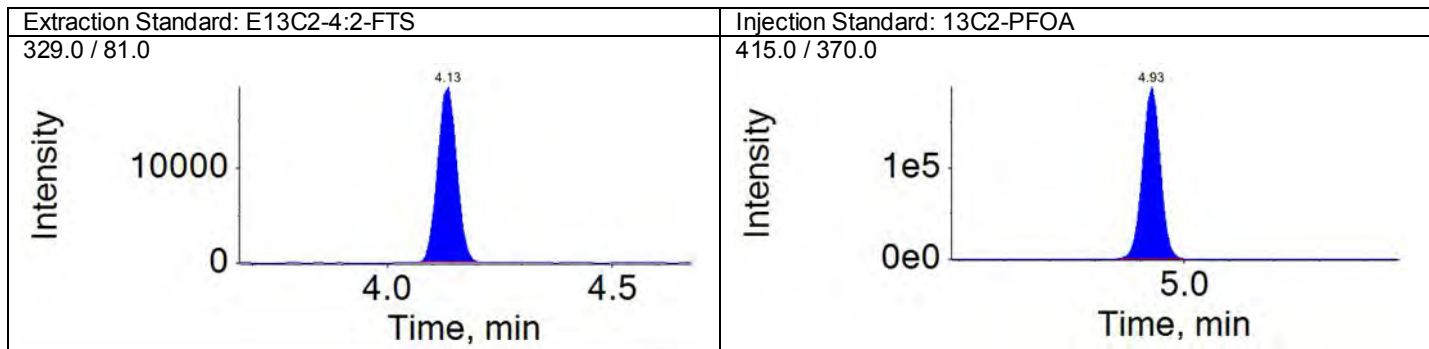
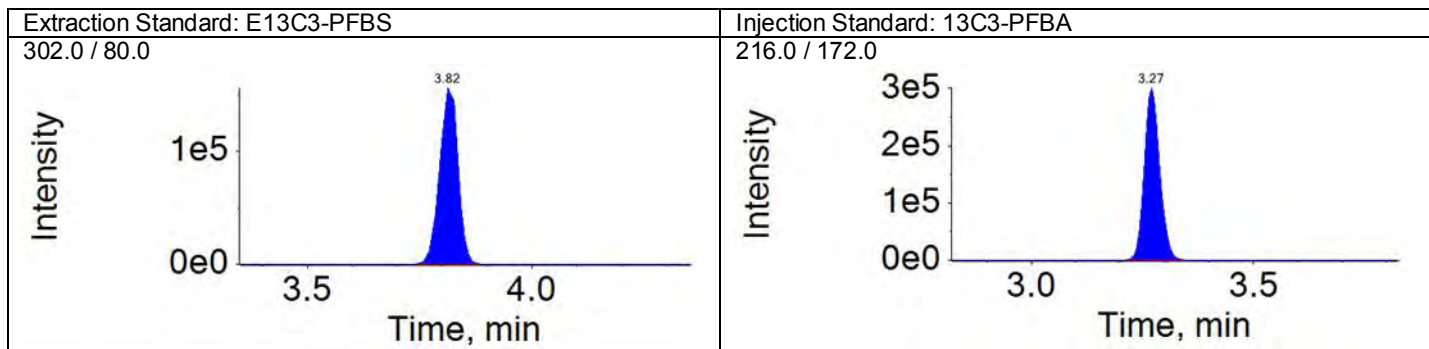
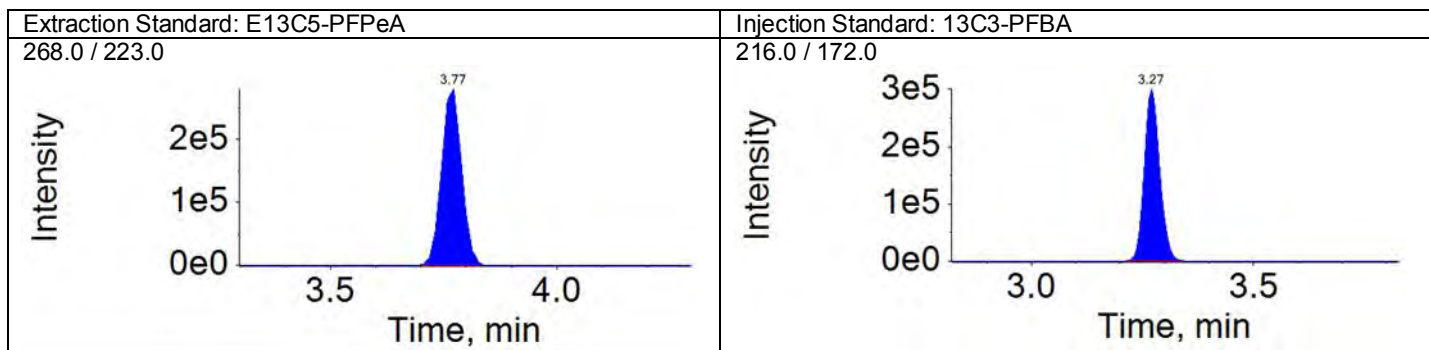
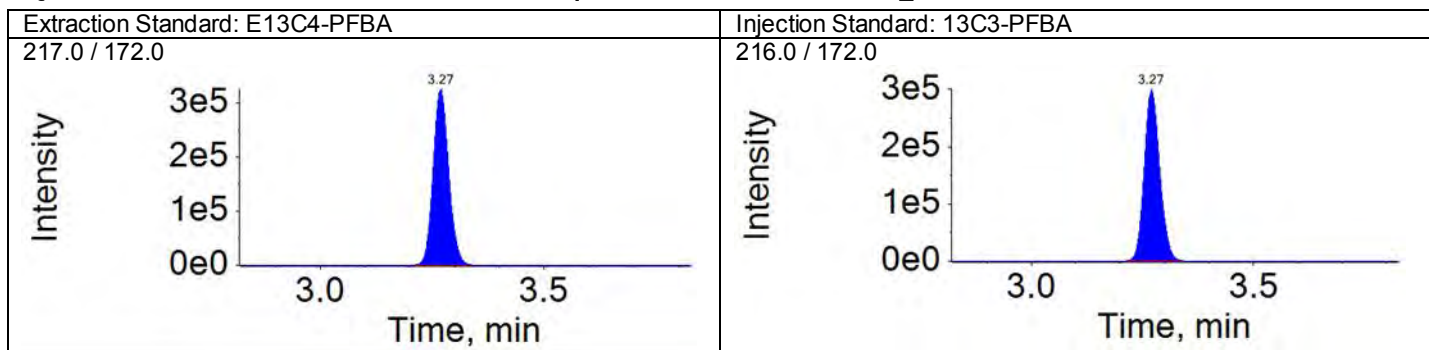
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



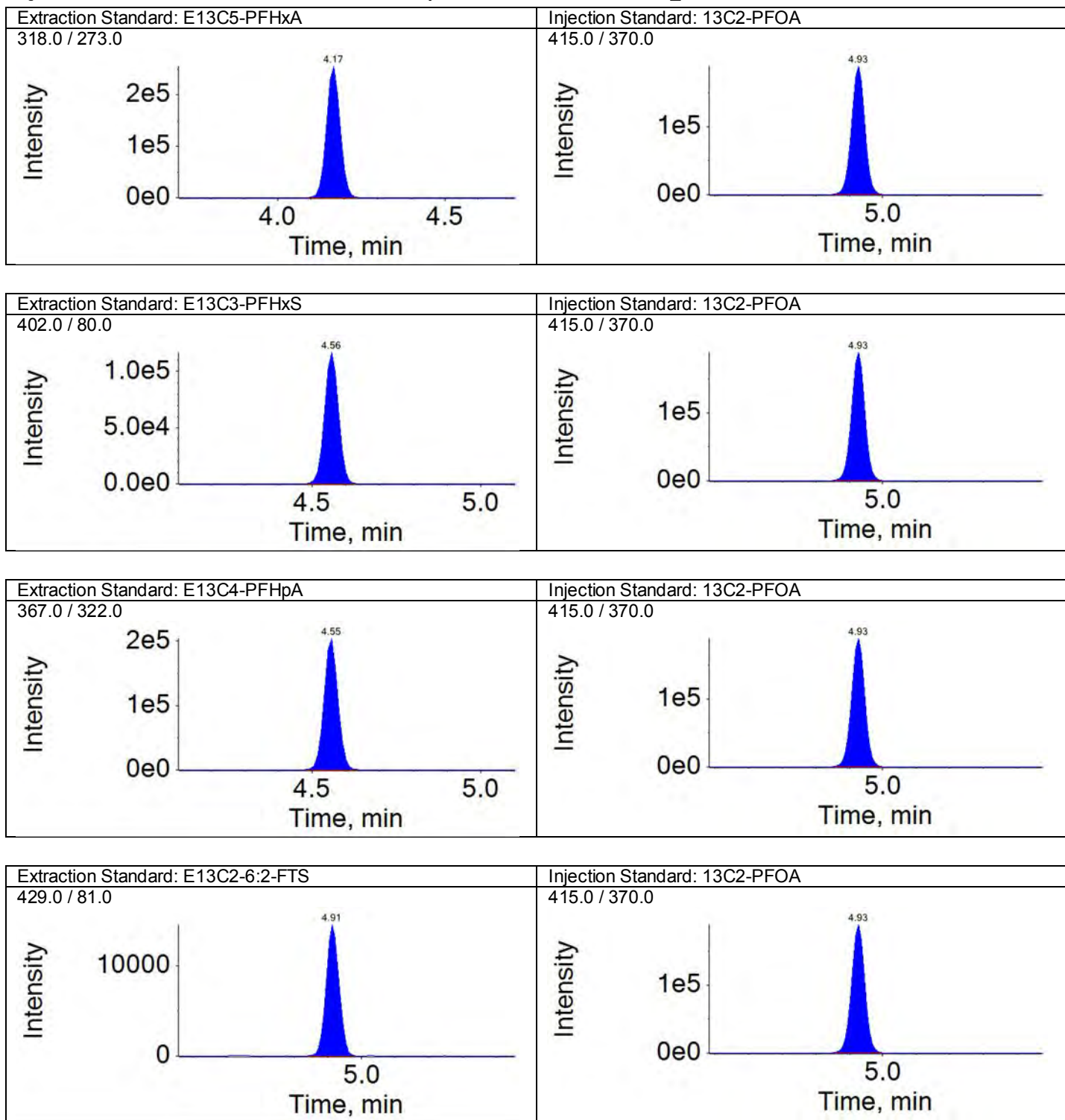
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



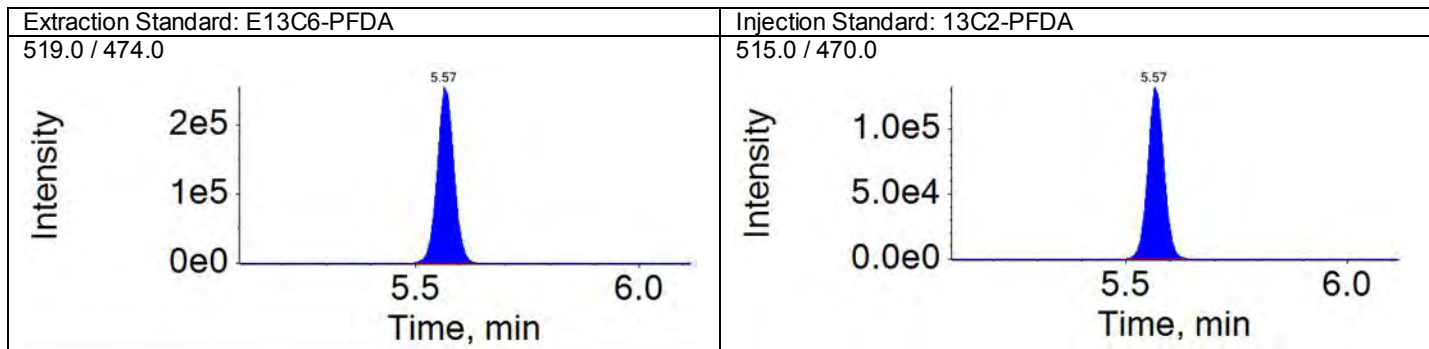
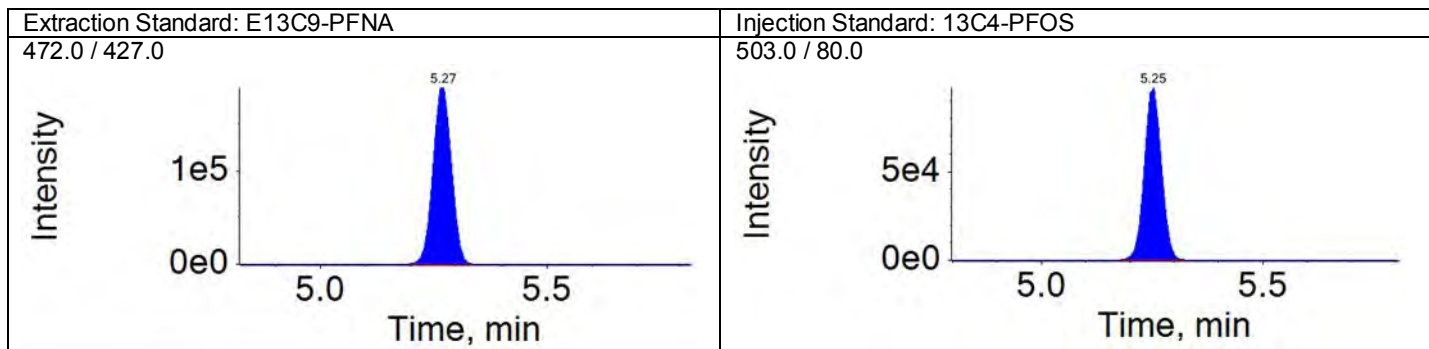
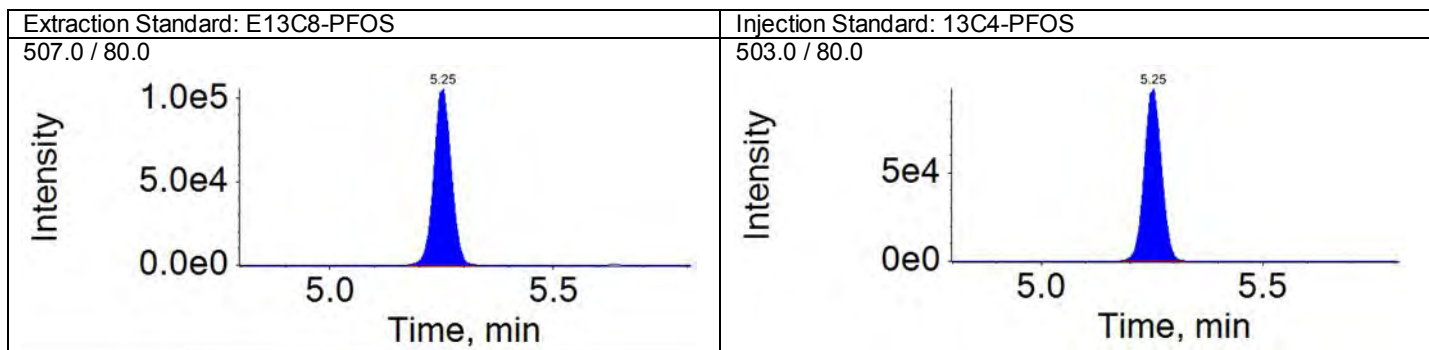
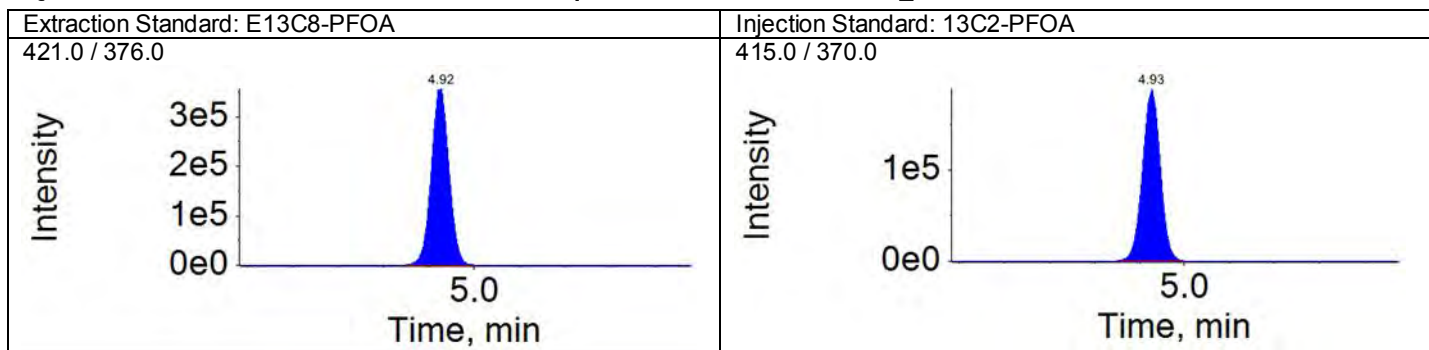
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



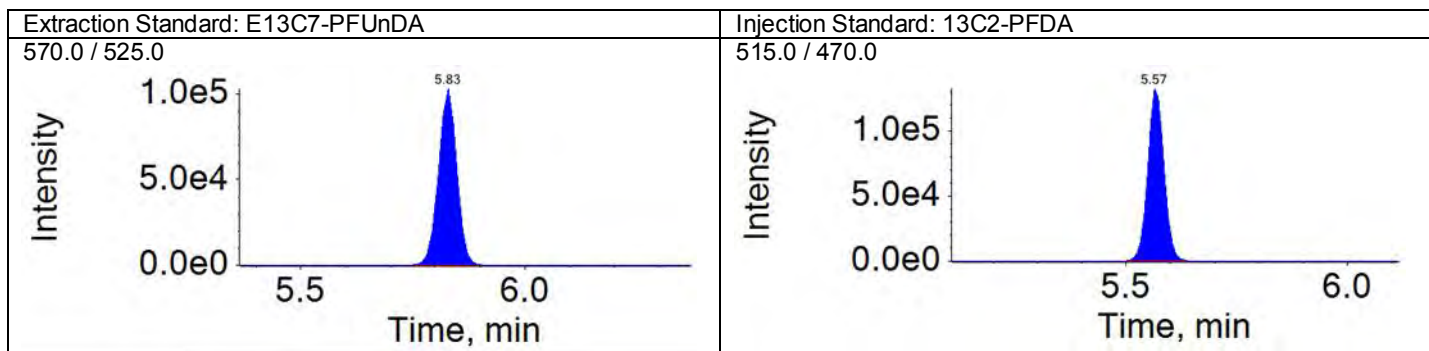
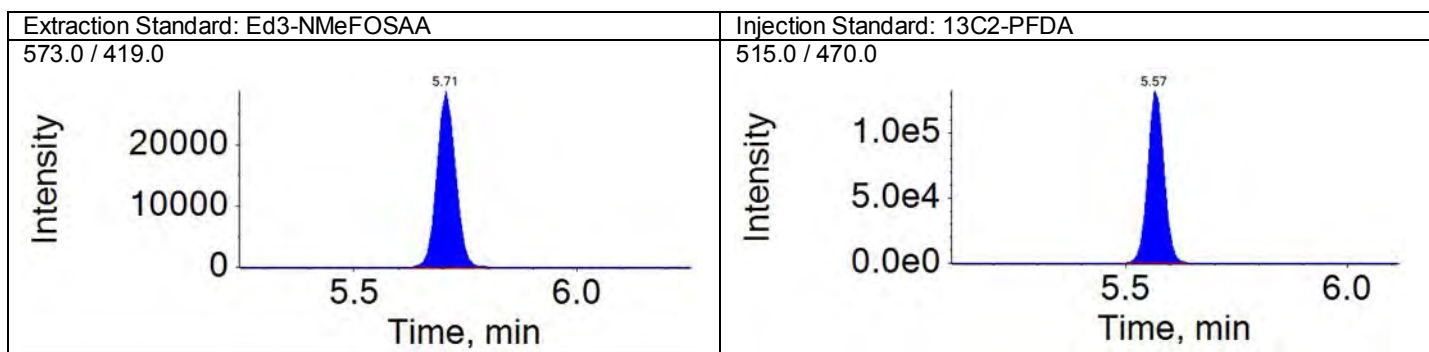
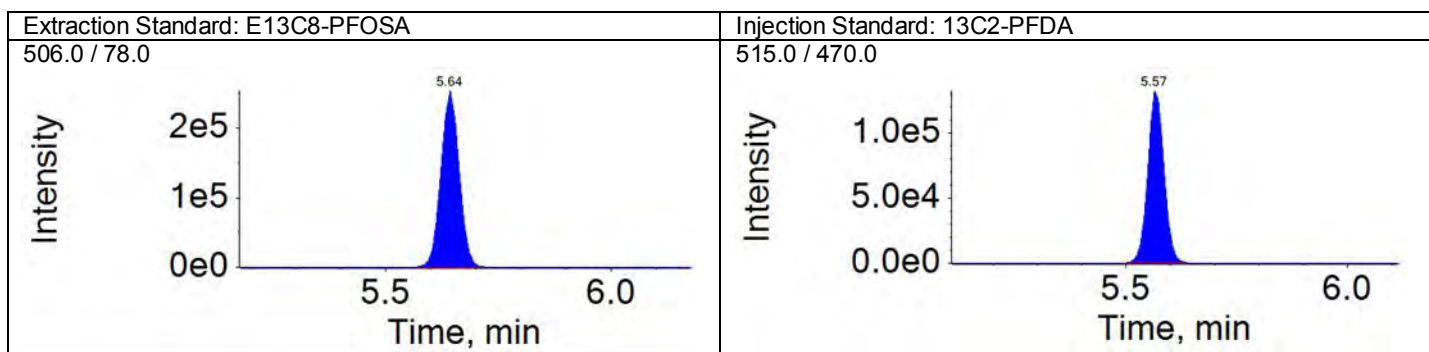
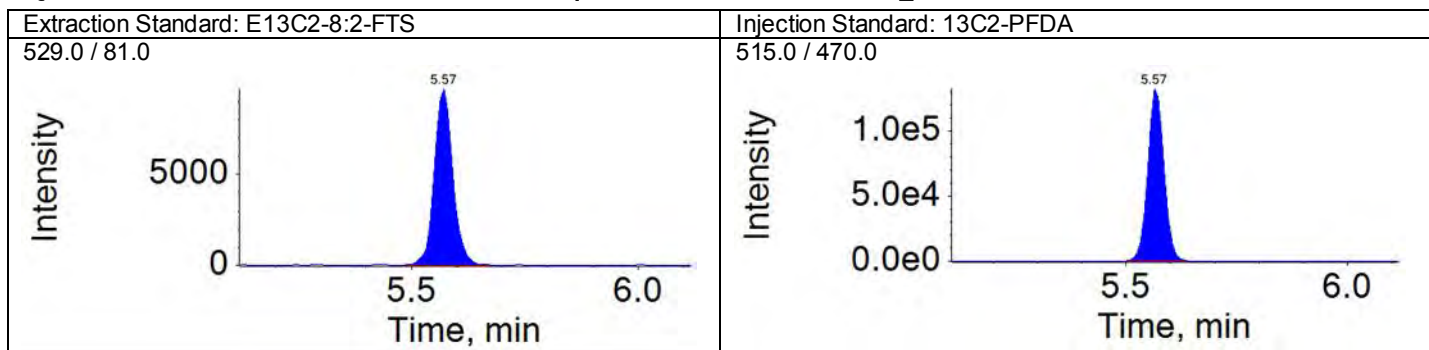
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
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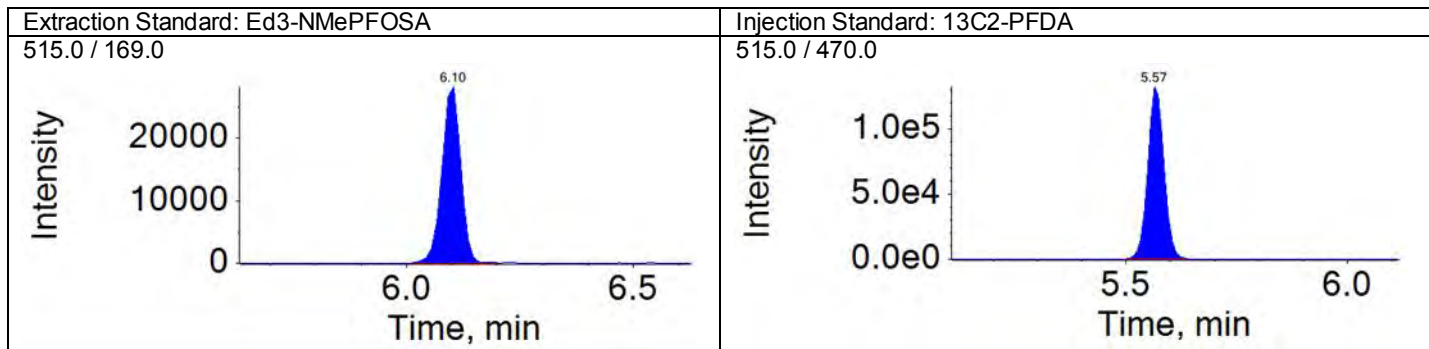
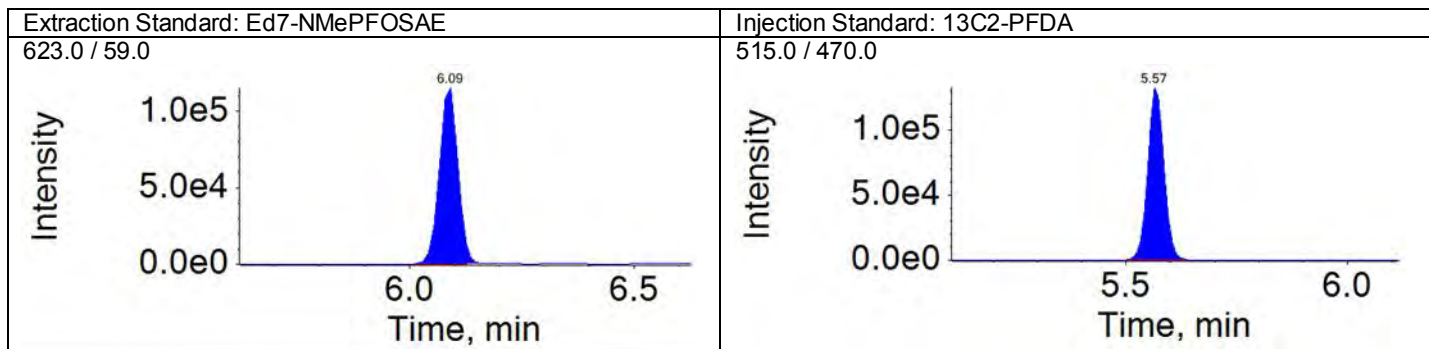
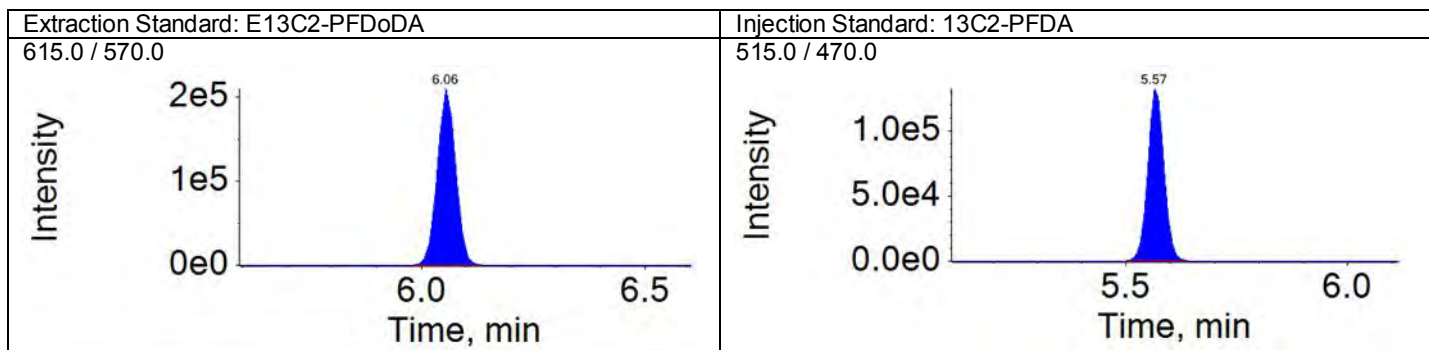
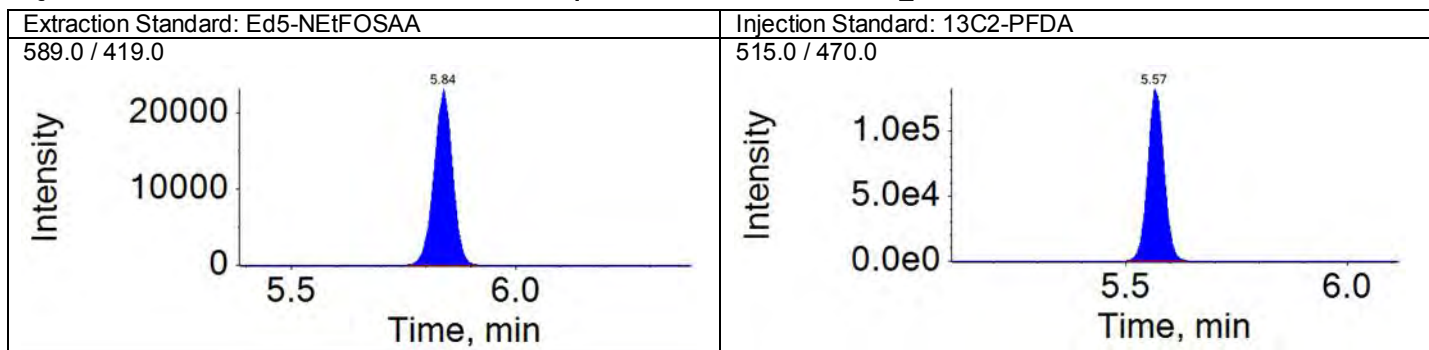
ICAL Name: 18NOV07DCAL
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Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



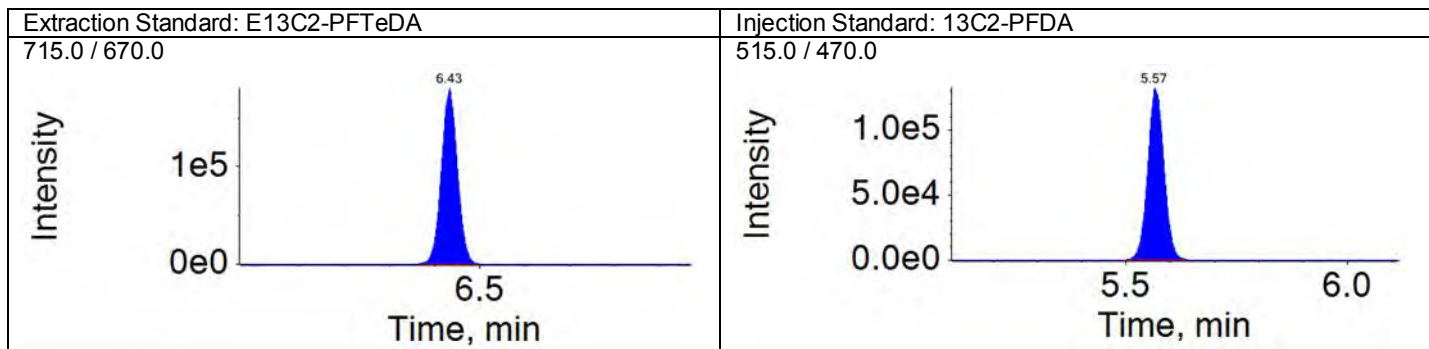
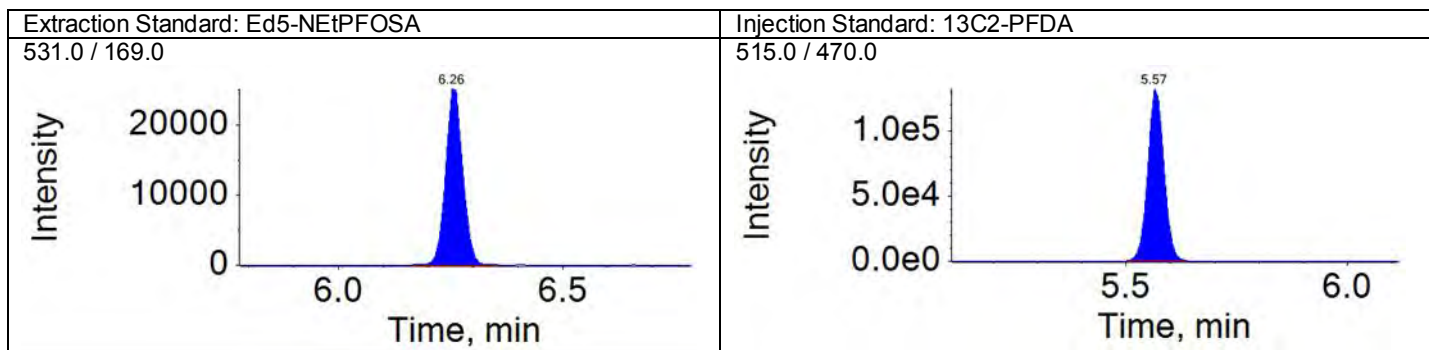
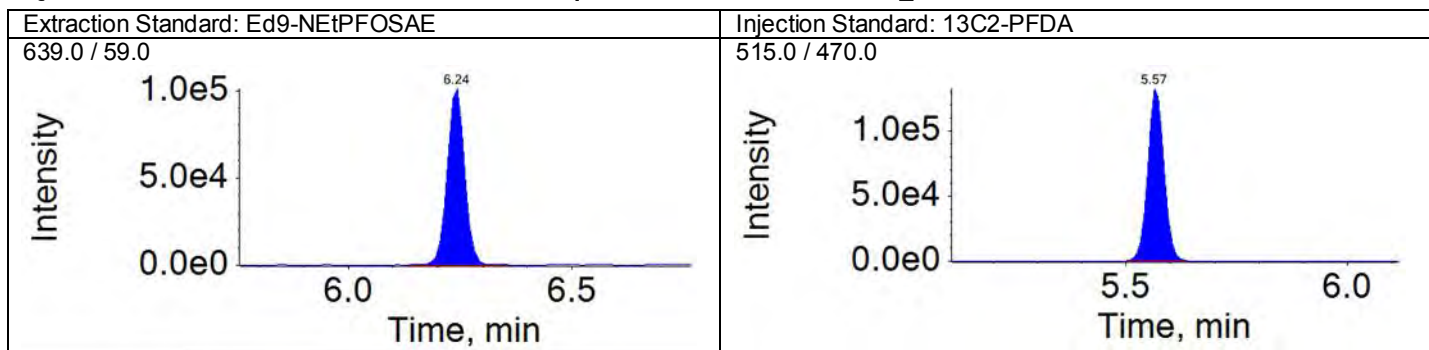
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



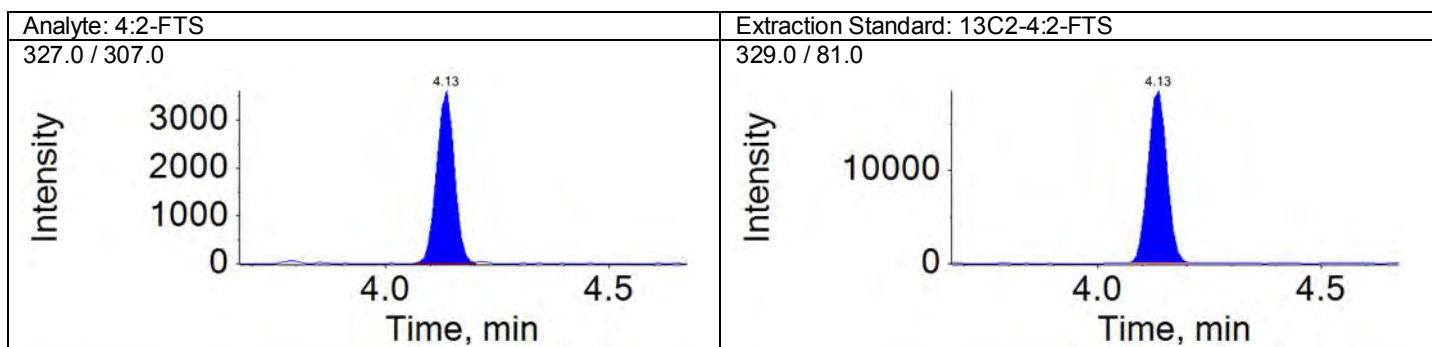
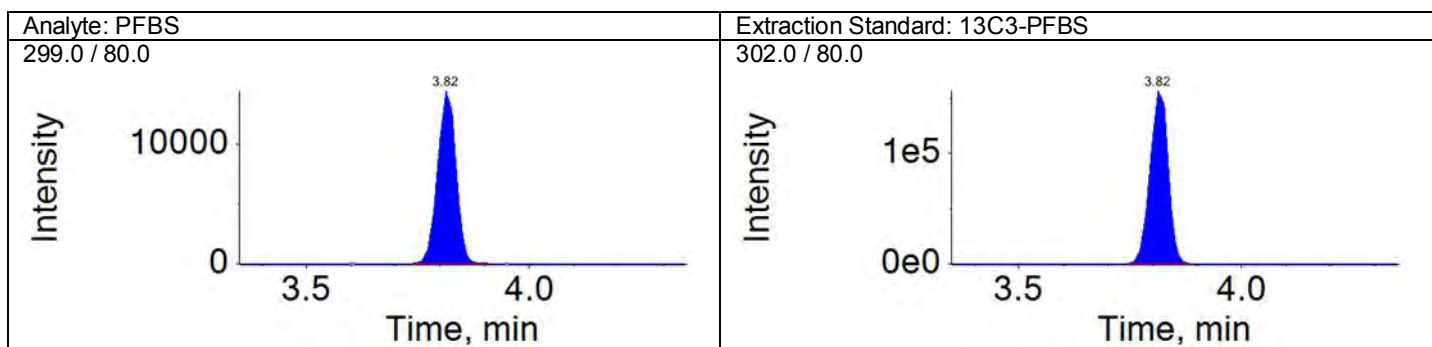
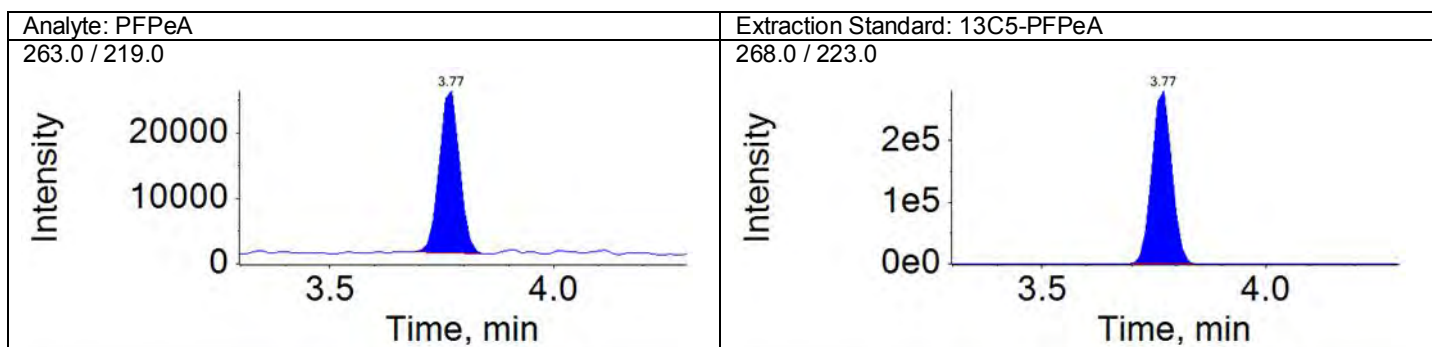
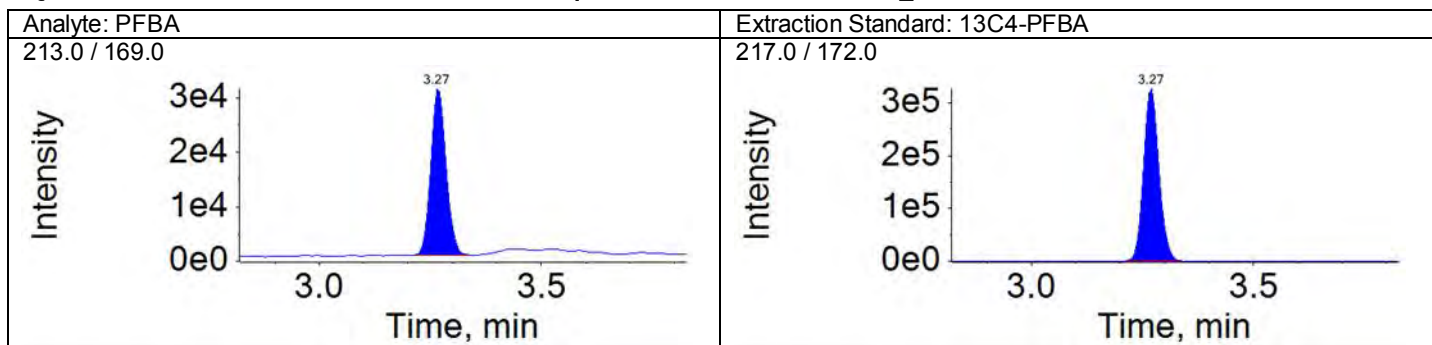
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

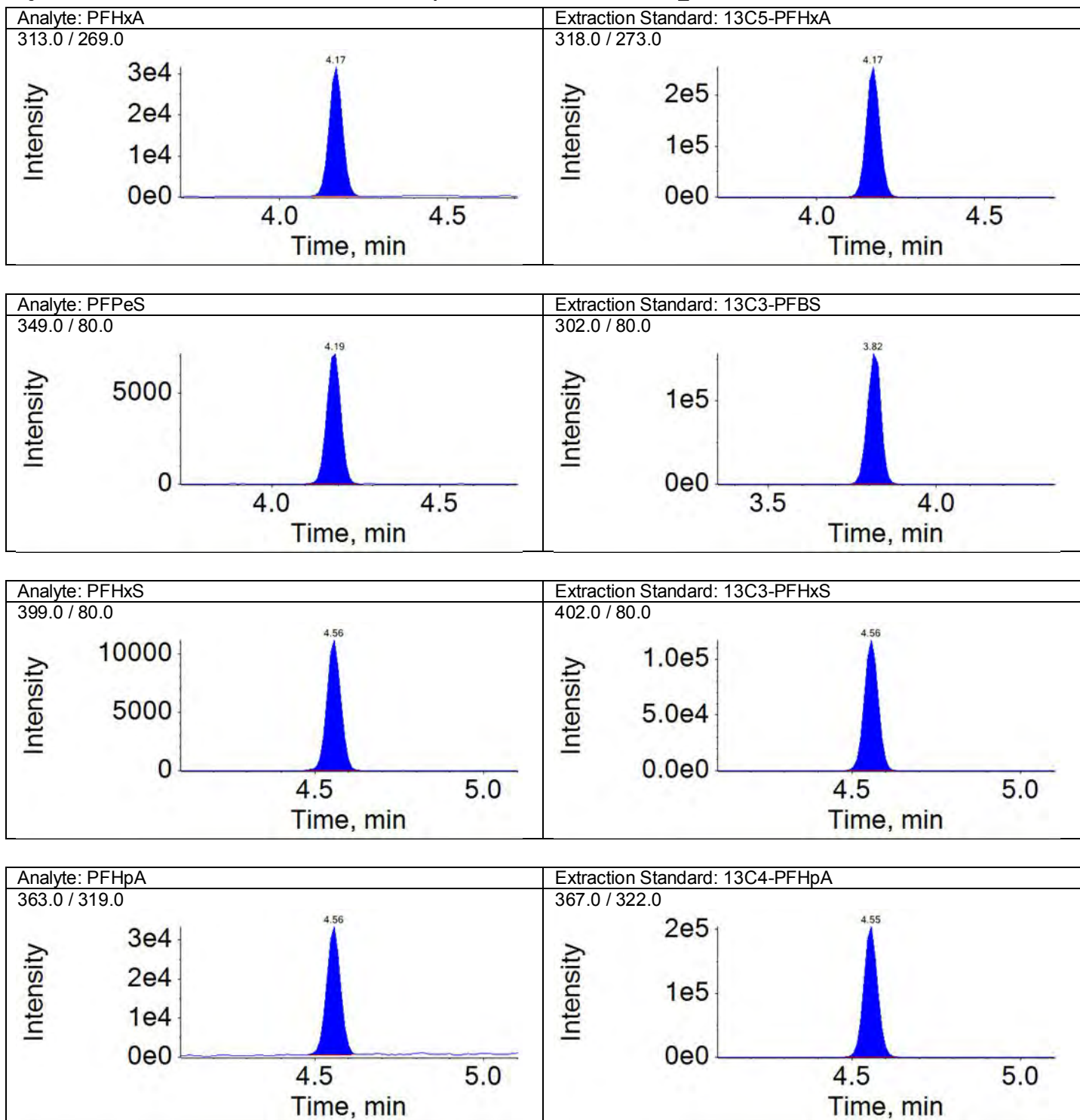
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Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

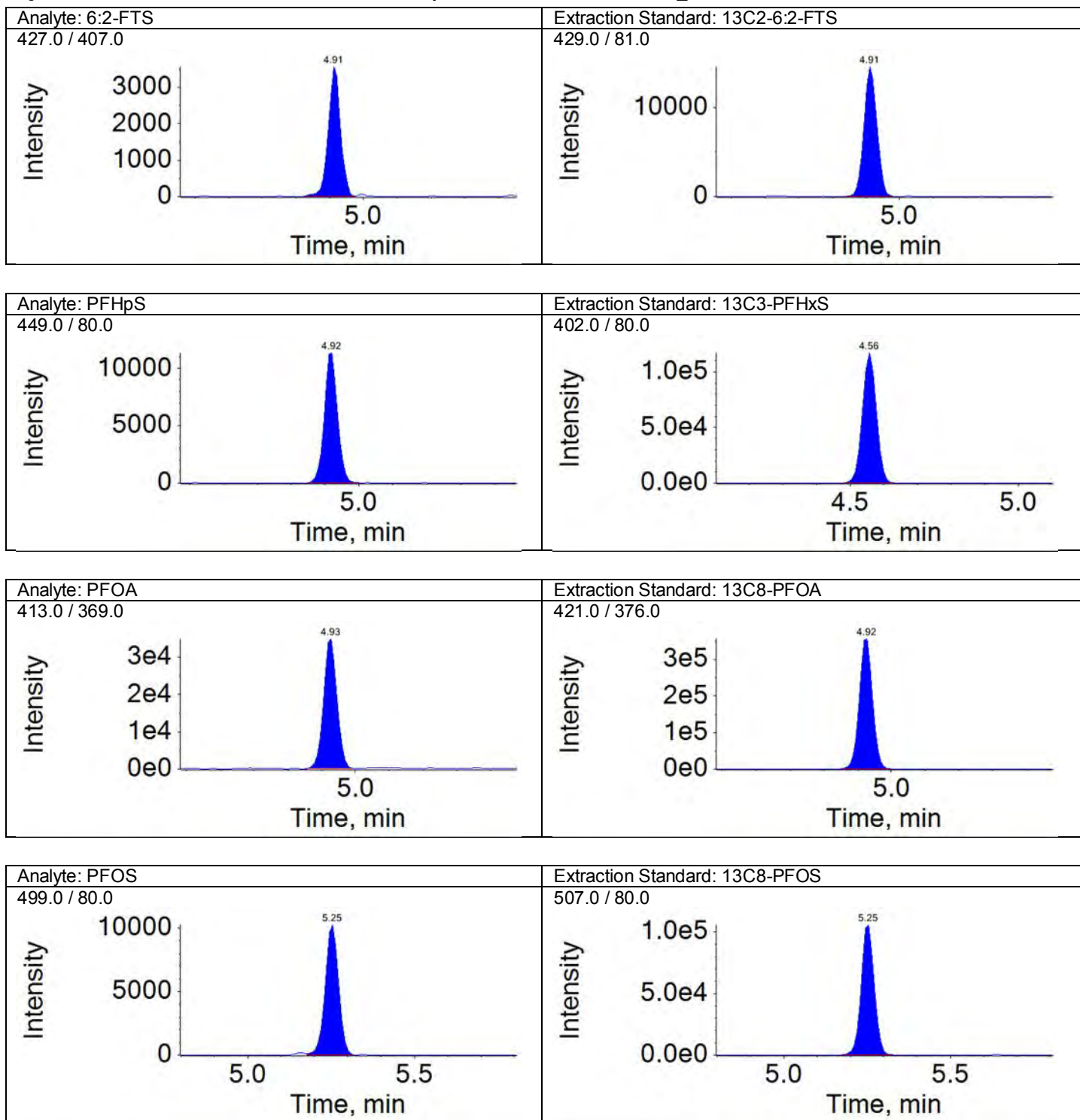
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ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
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APPROVED

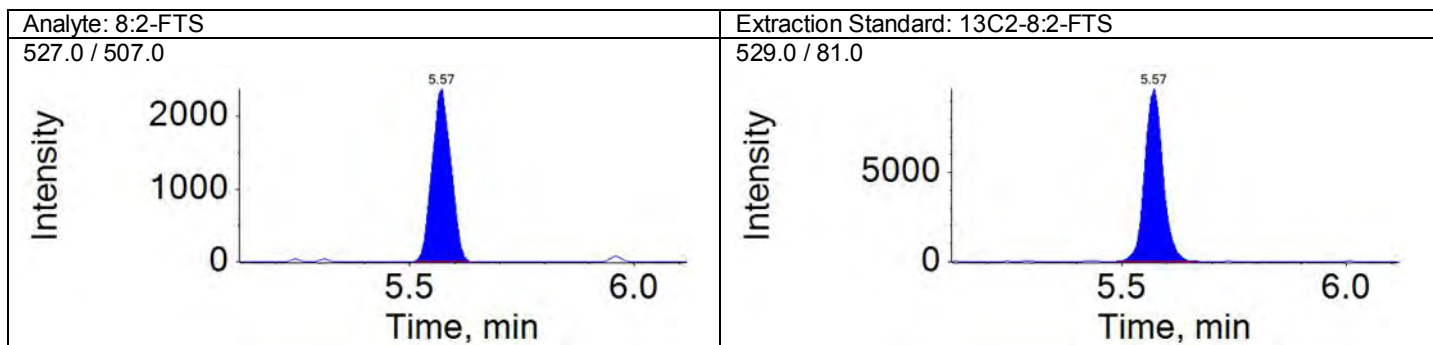
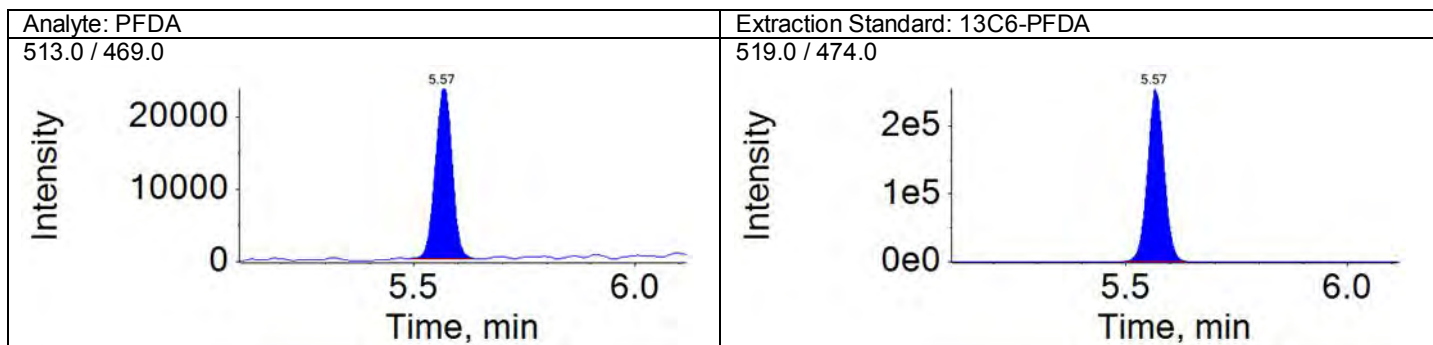
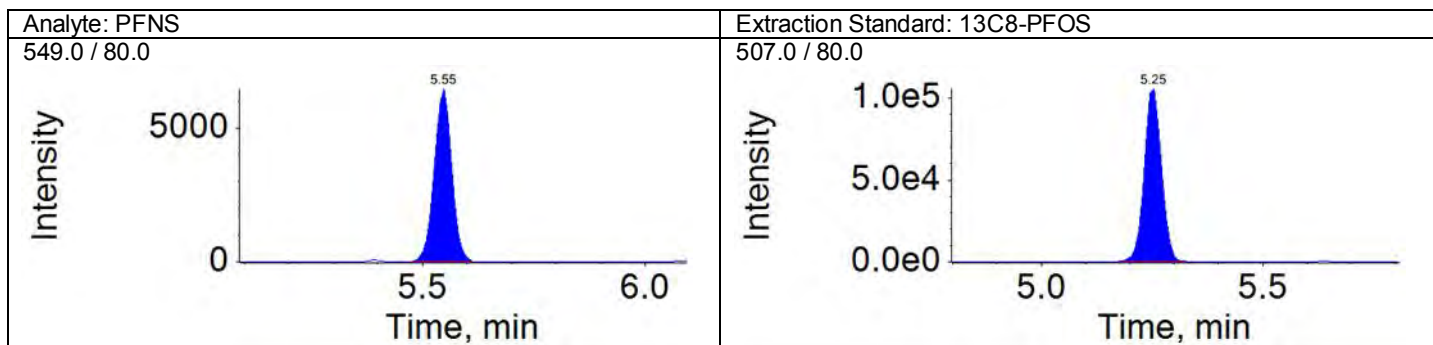
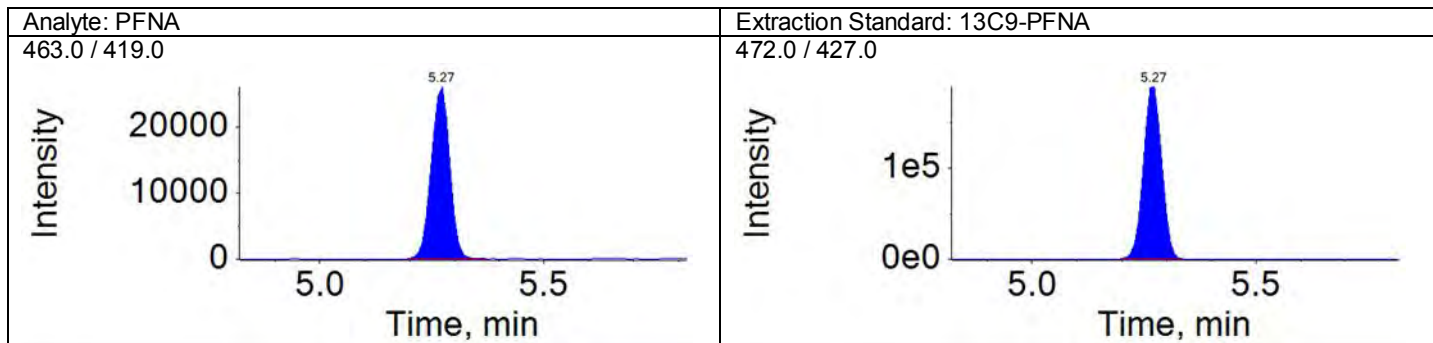
By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

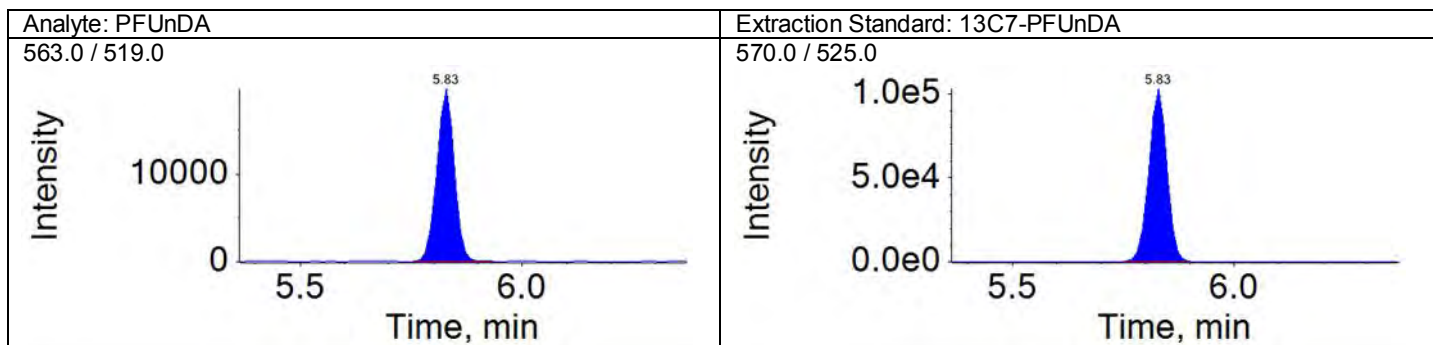
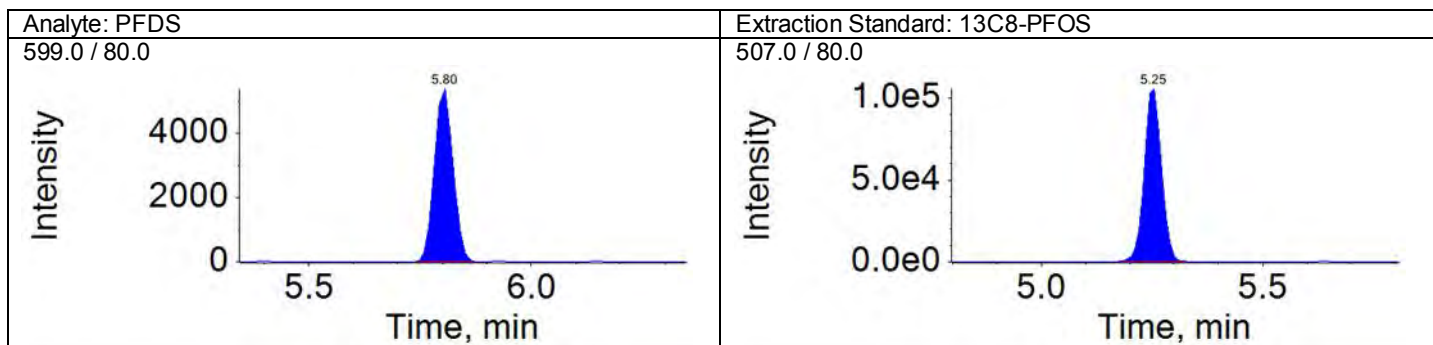
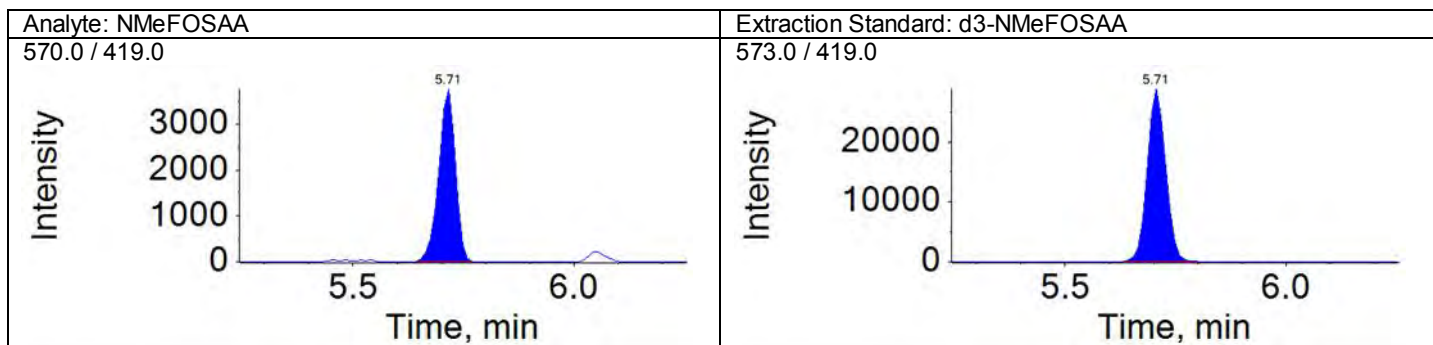
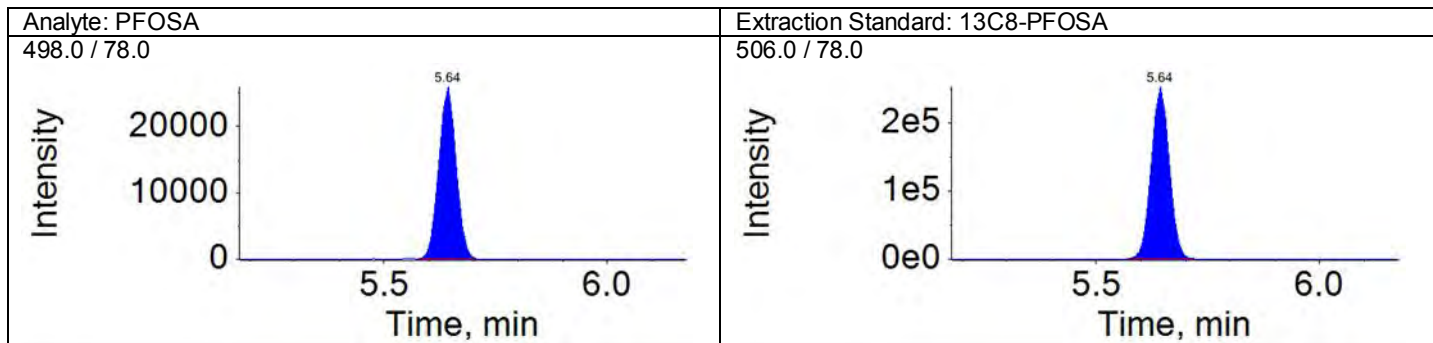
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



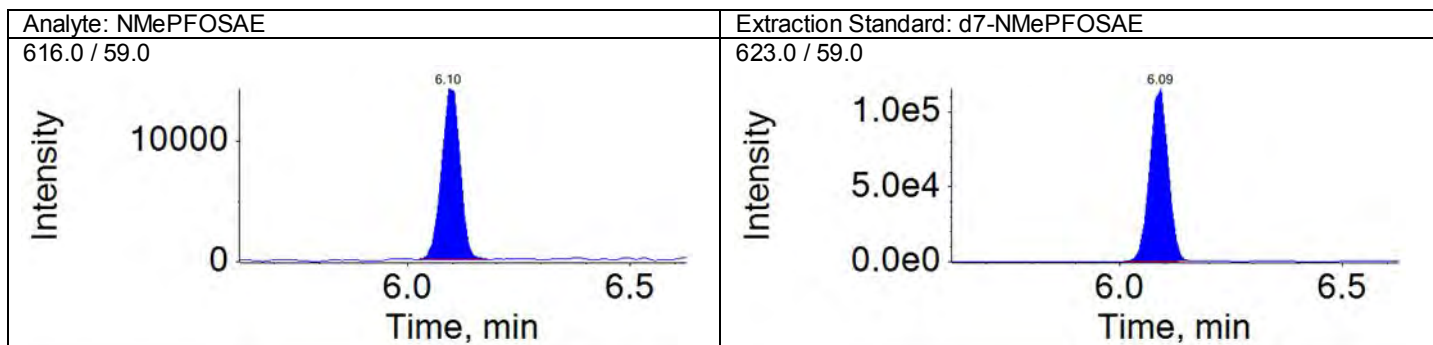
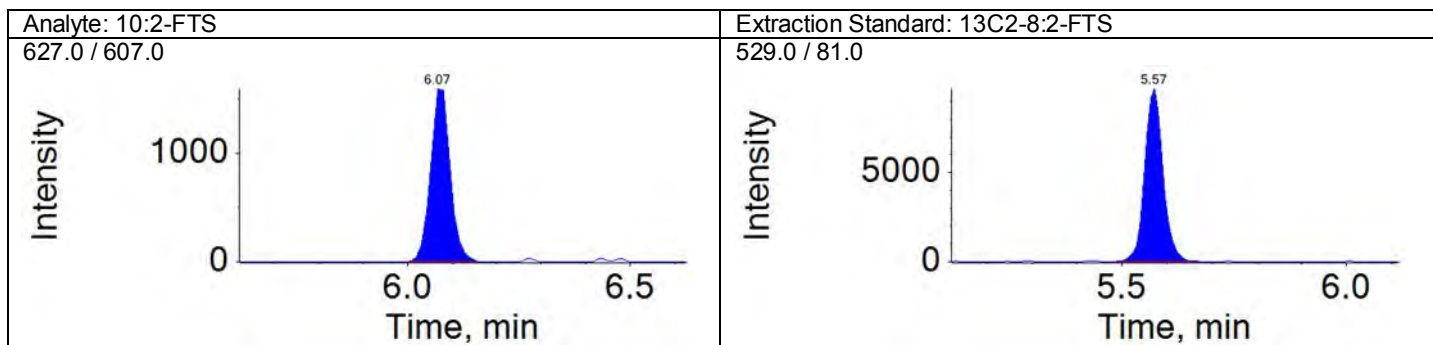
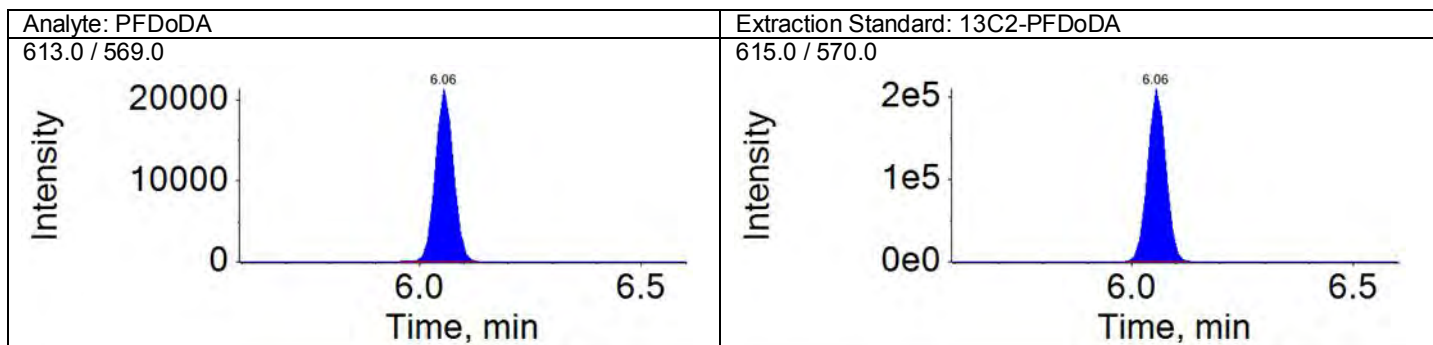
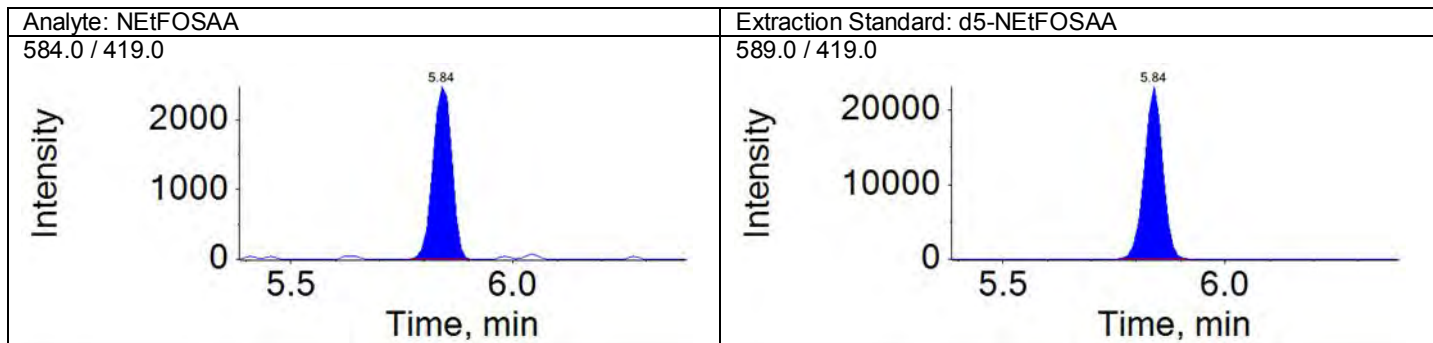
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QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



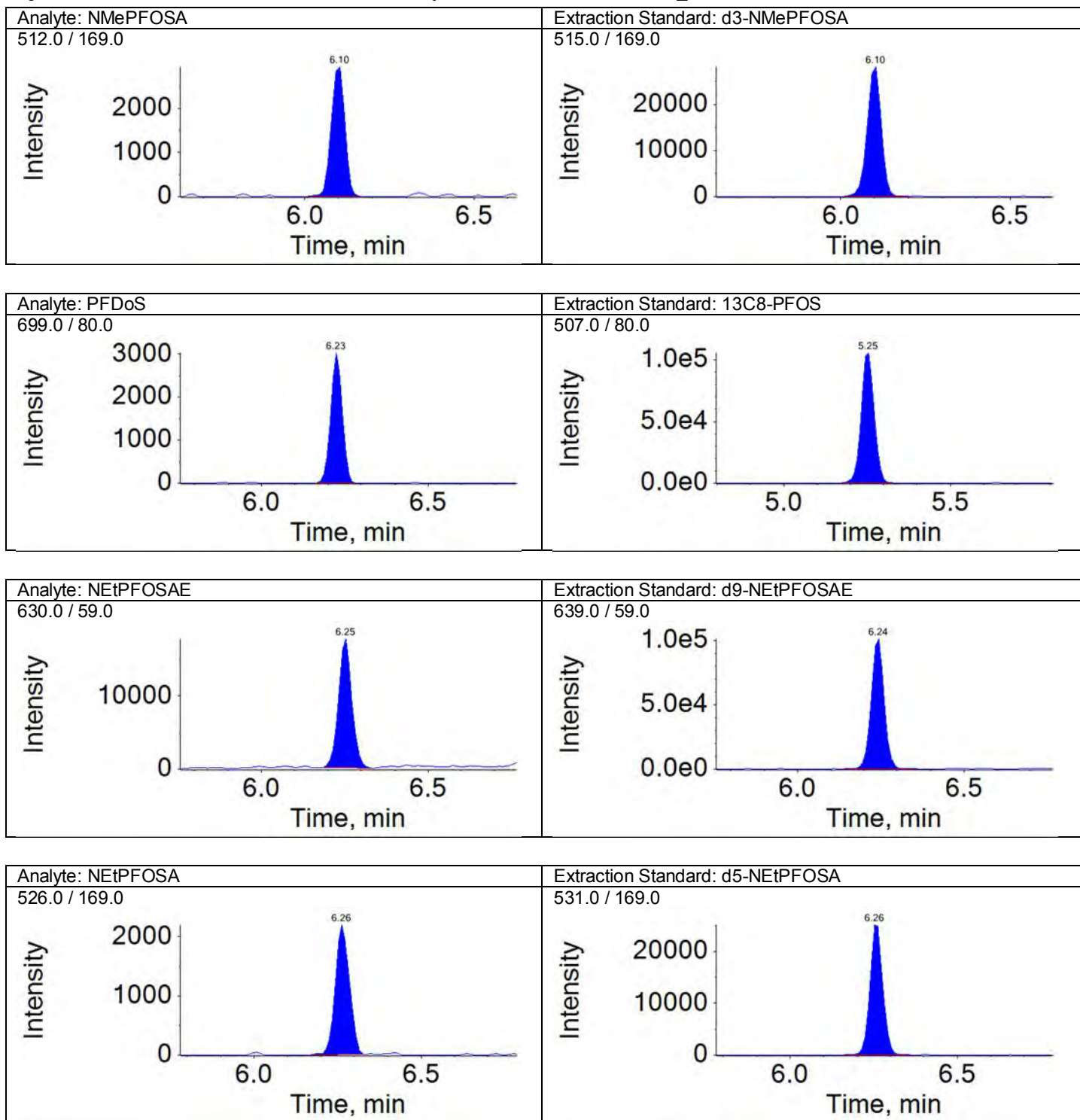
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



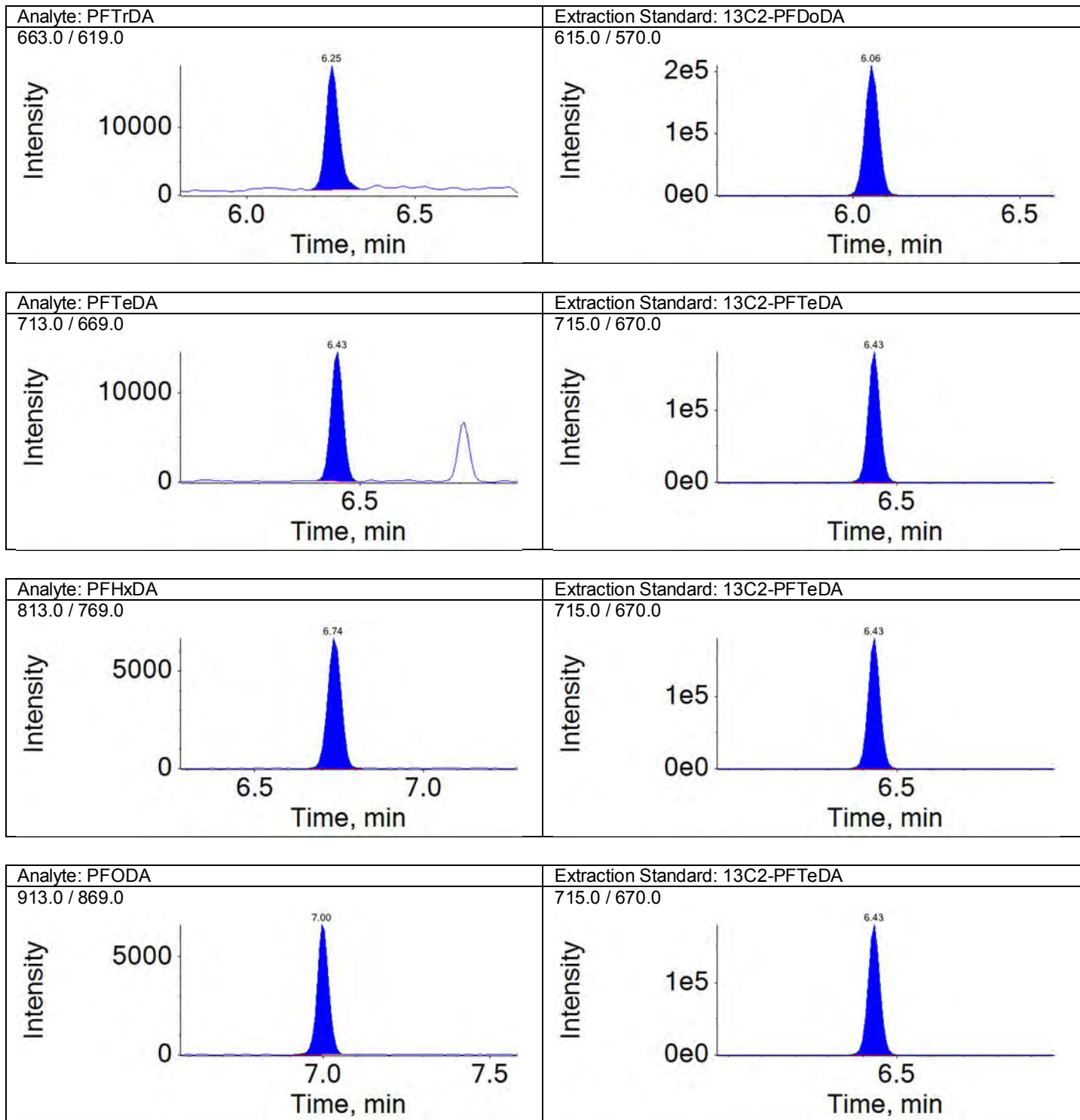
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QMethod Name: MQ4-18AUG13

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Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

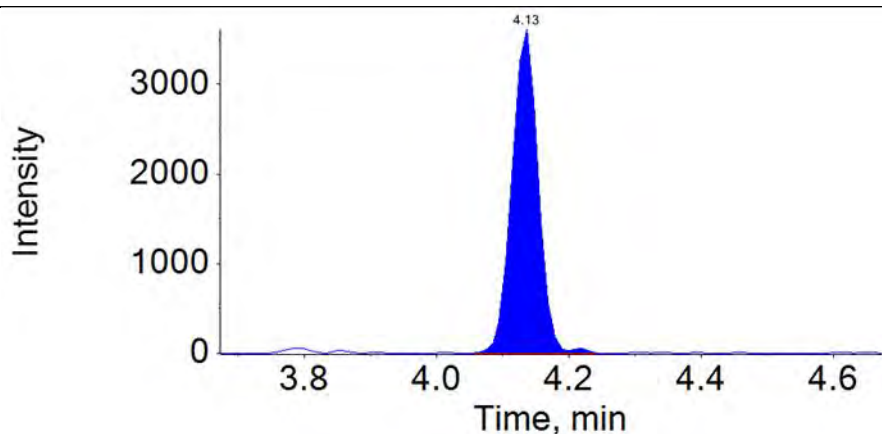
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Acquisition Method: 18AUG13_3uL.dam



Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

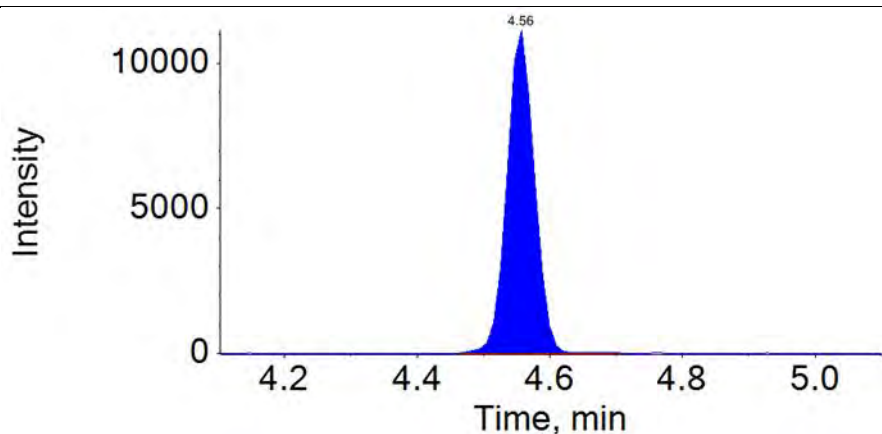
Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

Component Name:
4:2-FTS
RT (min.):
4.13
Peak Area:
10015.5
Mass Range:
327.0 / 307.0
File Name:
18NOV07DCAL-11.wiff
Sample Name:
CAL2



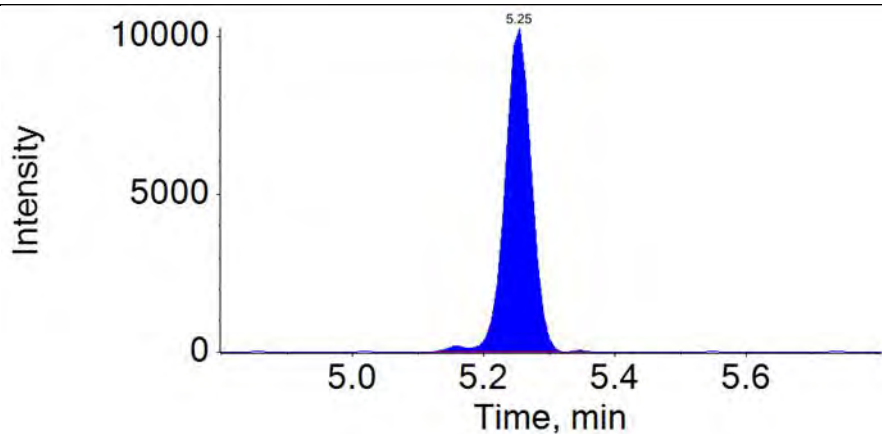
Integration Comment: incorrect integration

Component Name:
PFHxS
RT (min.):
4.56
Peak Area:
32165.6
Mass Range:
399.0 / 80.0
File Name:
18NOV07DCAL-11.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Component Name:
PFOS
RT (min.):
5.25
Peak Area:
29015.4
Mass Range:
499.0 / 80.0
File Name:
18NOV07DCAL-11.wiff
Sample Name:
CAL2



Integration Comment: incorrect integration

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

APPROVED
By JPT at 2:53 pm, 11/7/18

REVIEWED
By umar at 5:23 pm, 11/9/18

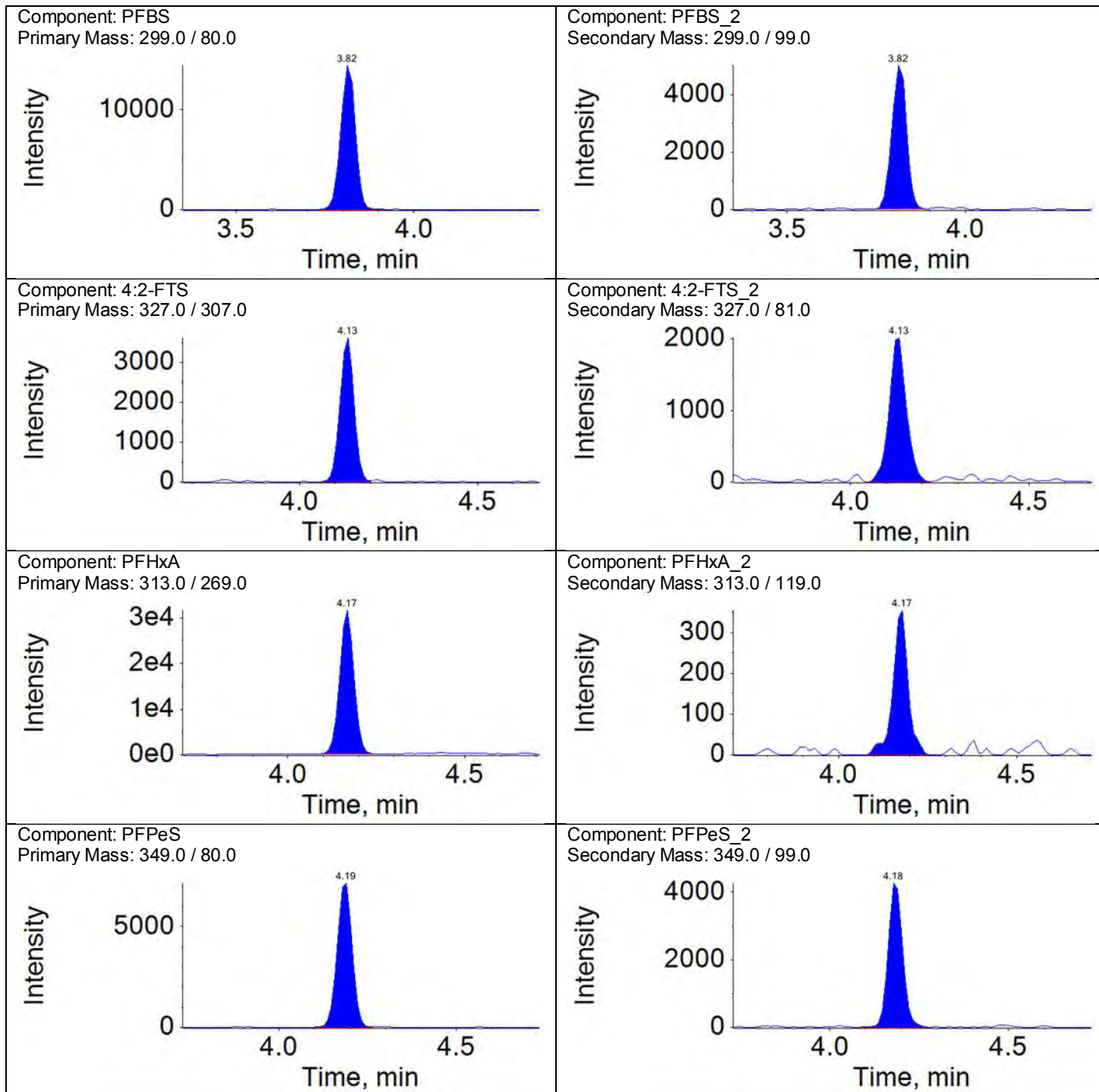
Ion Ratio Report

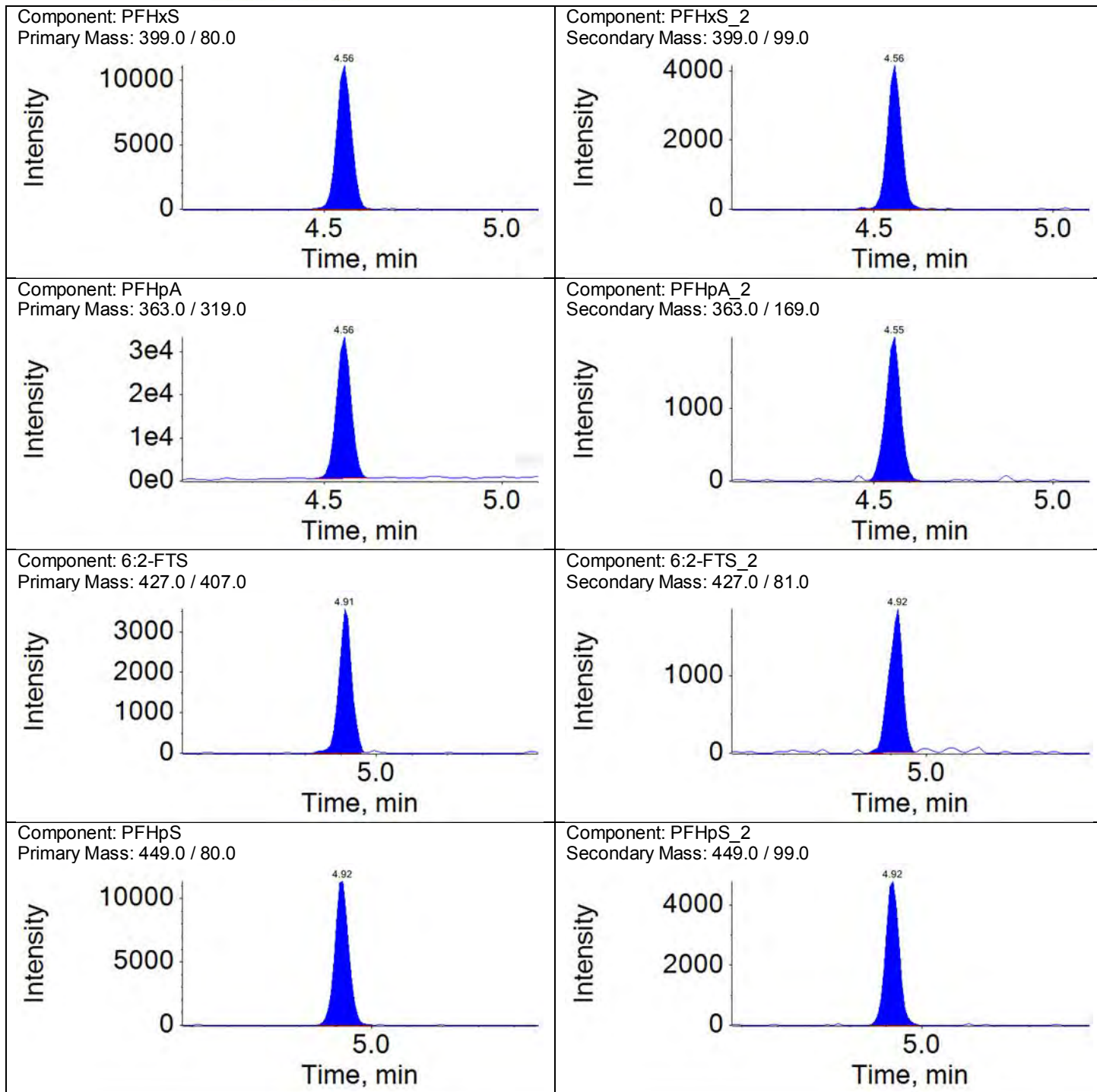
Sample Name: CAL2

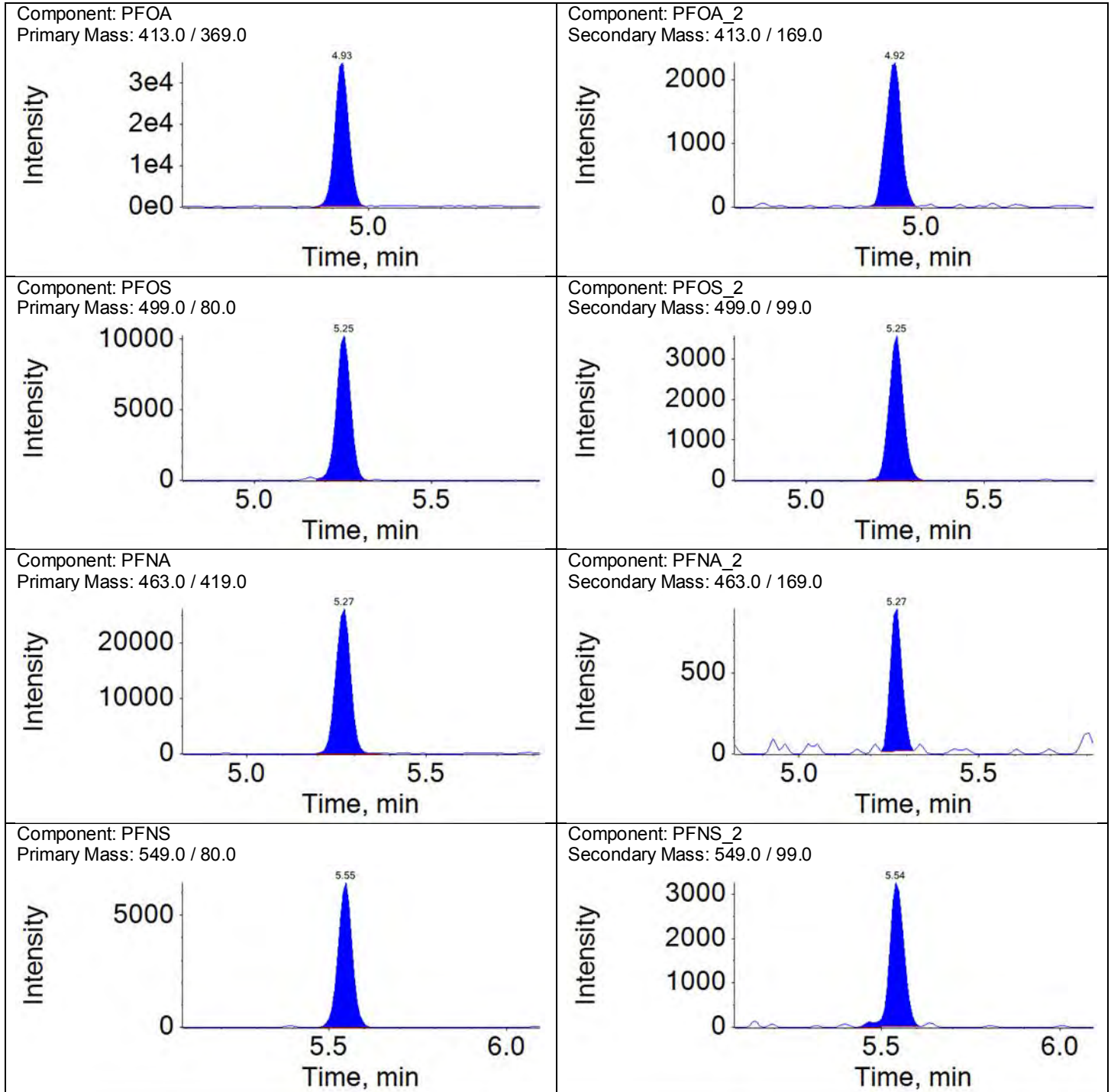
Instrument Name: LM27631

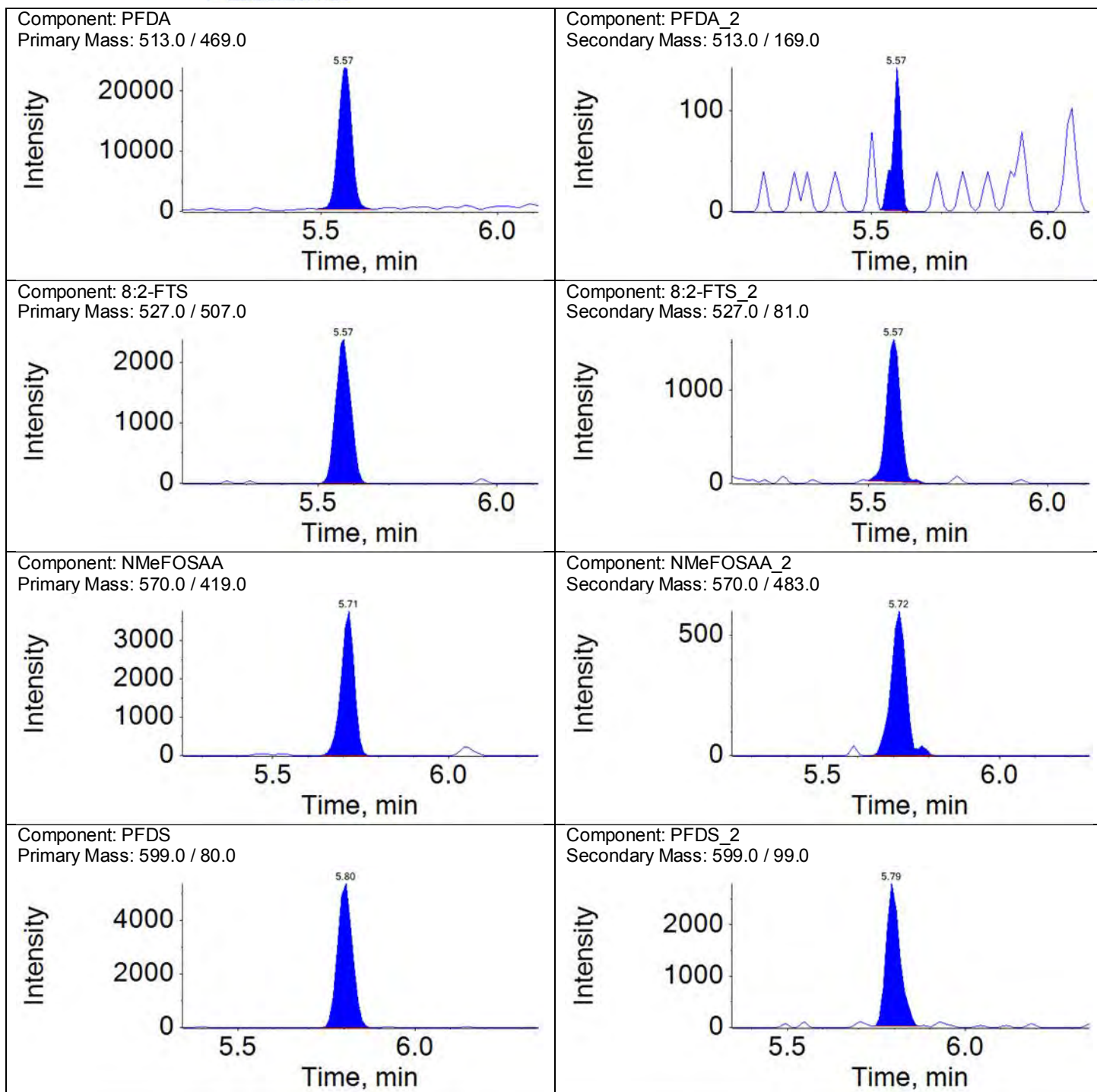
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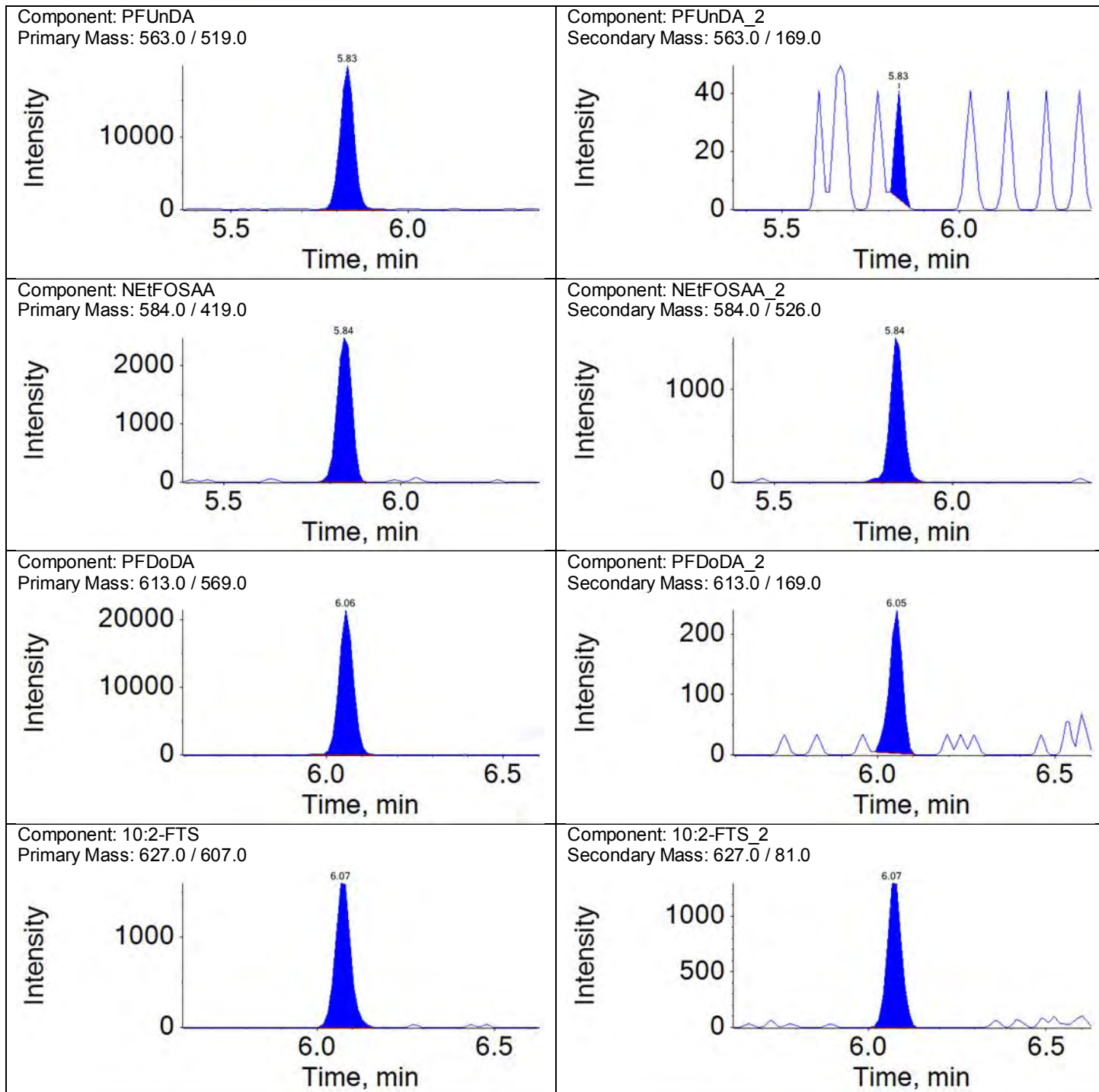
Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	41415.1	A	1.0000	1.0000			
PFBS_2	3.82	1.00	14355.0	A	0.3576	0.3466	-3	50	
4:2-FTS	4.13	1.00	9924.9	M	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	6720.6	A	0.6359	0.6771	6	50	
PFHxA	4.17	1.00	88469.9	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	1053.3	A	0.0115	0.0119	4	50	
PFPeS	4.19	1.10	20956.8	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	12018.2	A	0.5384	0.5735	7	50	
PFHxS	4.56	1.00	32061.0	M	1.0000	1.0000			
PFHxS_2	4.56	1.00	11356.8	A	0.3569	0.3542	-1	50	
PFHpA	4.56	1.00	93502.9	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	5694.0	A	0.0577	0.0609	6	50	
6:2-FTS	4.91	1.00	8883.8	A	1.0000	1.0000			
6:2-FTS_2	4.92	1.00	4933.5	A	0.6752	0.5553	-18	50	
PFHpS	4.92	1.08	30553.2	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	12511.0	A	0.3950	0.4095	4	50	
PFOA	4.93	1.00	94348.1	A	1.0000	1.0000			
PFOA_2	4.92	1.00	6706.8	A	0.0635	0.0711	12	50	
PFOS	5.25	1.00	28529.2	M	1.0000	1.0000			
PFOS_2	5.25	1.00	9986.4	A	0.3494	0.3500	0	50	
PFNA	5.27	1.00	74743.9	A	1.0000	1.0000			
PFNA_2	5.27	1.00	2006.2	A	0.0207	0.0268	30	50	
PFNS	5.55	1.06	17507.8	A	1.0000	1.0000			
PFNS_2	5.54	1.06	9005.6	A	0.4890	0.5144	5	50	
PFDA	5.57	1.00	62530.6	A	1.0000	1.0000			
PFDA_2	5.57	1.00	229.8	A	0.0057	0.0037	-35	50	
8:2-FTS	5.57	1.00	6917.6	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	4092.7	A	0.6169	0.5916	-4	50	
NMeFOSAA	5.71	1.00	9807.4	A	1.0000	1.0000			
NMeFOSAA_2	5.72	1.00	1815.6	A	0.2206	0.1851	-16	50	
PFDS	5.80	1.11	15726.3	A	1.0000	1.0000			
PFDS_2	5.79	1.10	7422.2	A	0.4648	0.4720	2	50	
PFUnDA	5.83	1.00	54085.5	A	1.0000	1.0000			
PFUnDA_2	5.83	1.00	55.5	A	0.0031	0.0010	-67	50	OOS
NEtFOSAA	5.84	1.00	7253.7	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	4097.5	A	0.6082	0.5649	-7	50	
PFDODA	6.06	1.00	60098.0	A	1.0000	1.0000			
PFDODA_2	6.05	1.00	610.7	A	0.0109	0.0102	-7	50	
10:2-FTS	6.07	1.09	4874.3	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	3667.0	A	0.7082	0.7523	6	50	
PFTTrDA	6.25	1.03	49218.5	A	1.0000	1.0000			
PFTTrDA_2	6.26	1.03	479.8	A	0.0096	0.0097	1	50	
PFTeDA	6.43	1.00	36223.2	A	1.0000	1.0000			
PFTeDA_2	6.44	1.00	219.8	A	0.0055	0.0061	10	50	
PFHxDA	6.74	1.05	18619.3	A	1.0000	1.0000			
PFHxDA_2	6.74	1.05	1073.0	A	0.0596	0.0576	-3	50	
PFODA	7.00	1.09	15742.1	A	1.0000	1.0000			
PFODA_2	7.00	1.09	416.9	A	0.0257	0.0265	3	50	

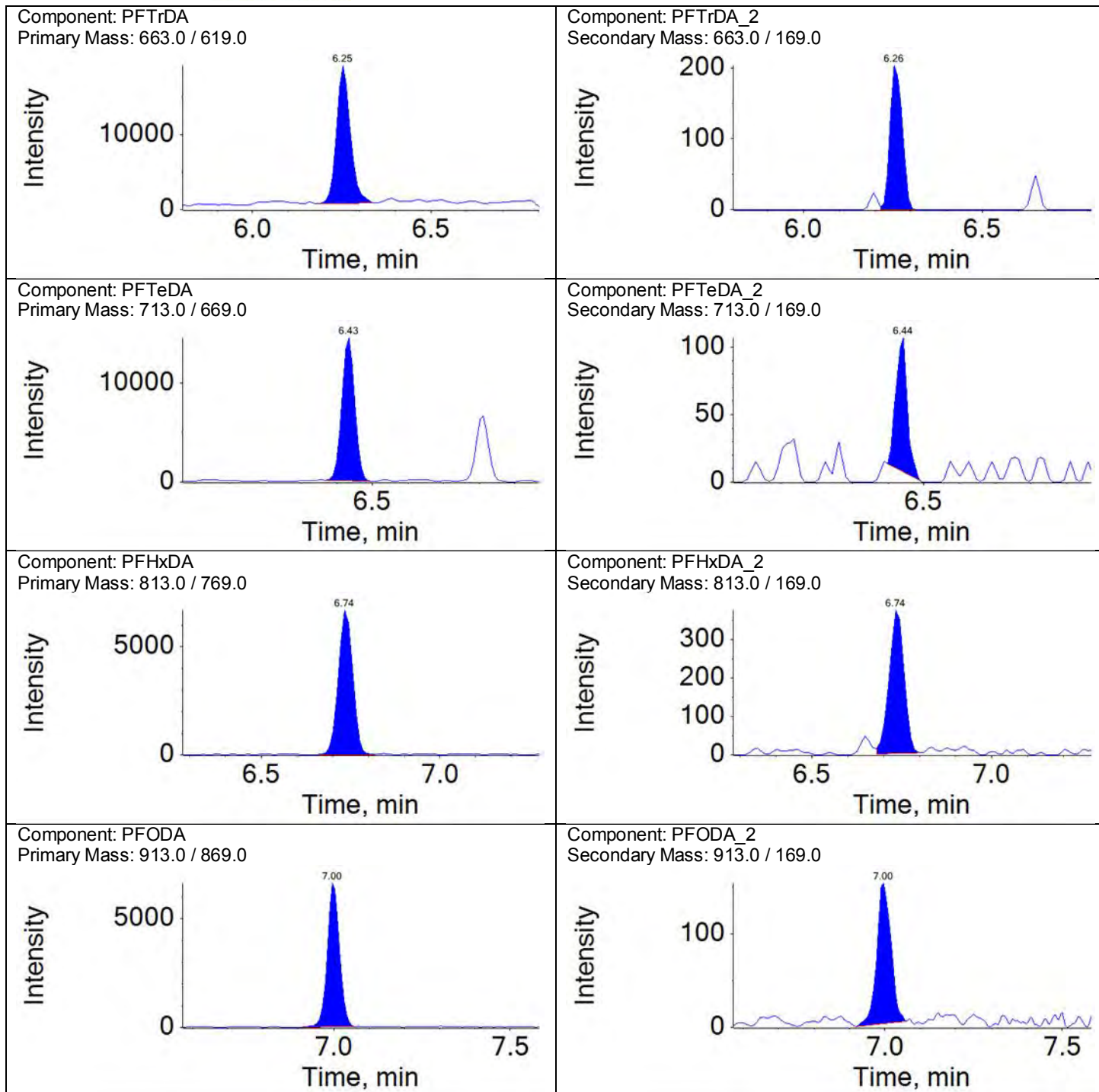












ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CAL3		Data File:	18NOV07DCAL-12.wiff
Sample ID:	CALMOD31833F		Acquis Date:	2018-11-07T09:57:56
Sample Type:	Standard		Instrument:	LM27631
Vial Position:	5		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18NOV07DCAL
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	N/A		Operator:	JPT12262
Sample Wt.:	1.00000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	730410.6	730410.6	0	50	
13C2-PFOA	5.0	524423.6	524423.6	0	50	
13C4-PFOS	4.8	274061.7	274061.7	0	50	
13C2-PFDA	5.0	311442.1	311442.1	0	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	787180.2	13C3-PFBA	730410.6	1.078	5.000	4.987	100	70-130	
E13C5-PFPeA	829978.5	13C3-PFBA	730410.6	1.136	5.000	4.950	99	70-130	
E13C3-PFBS	456815.2	13C3-PFBA	730410.6	0.625	4.650	4.590	99	70-130	
E13C2-4:2-FTS	48706.0	13C2-PFOA	524423.6	0.093	4.670	4.191	90	70-130	
E13C5-PFHxA	705369.0	13C2-PFOA	524423.6	1.345	5.000	4.948	99	70-130	
E13C3-PFHxS	343139.5	13C2-PFOA	524423.6	0.654	4.730	4.697	99	70-130	
E13C4-PFHpA	566495.6	13C2-PFOA	524423.6	1.080	5.000	4.914	98	70-130	
E13C2-6:2-FTS	38605.5	13C2-PFOA	524423.6	0.074	4.750	4.909	103	70-130	
E13C8-PFOA	964414.6	13C2-PFOA	524423.6	1.839	5.000	5.128	103	70-130	
E13C8-PFOS	297259.7	13C4-PFOS	274061.7	1.085	4.780	4.796	100	70-130	
E13C9-PFNA	513116.0	13C4-PFOS	274061.7	1.872	5.000	5.114	102	70-130	
E13C6-PFDA	639022.8	13C2-PFDA	311442.1	2.052	5.000	5.160	103	70-130	
E13C2-8:2-FTS	29468.3	13C2-PFDA	311442.1	0.095	4.790	5.007	105	70-130	
E13C8-PFOSA	704745.5	13C2-PFDA	311442.1	2.263	5.000	4.938	99	70-130	
Ed3-NMeFOSAA	81763.3	13C2-PFDA	311442.1	0.263	5.000	4.882	98	70-130	
E13C7-PFUnDA	277115.5	13C2-PFDA	311442.1	0.890	5.000	5.133	103	70-130	
Ed5-NEtFOSAA	72755.7	13C2-PFDA	311442.1	0.234	5.000	5.406	108	70-130	
E13C2-PFDoDA	584631.5	13C2-PFDA	311442.1	1.877	5.000	5.061	101	70-130	
Ed7-NMePFOSAE	335206.8	13C2-PFDA	311442.1	1.076	5.000	5.005	100	70-130	
Ed3-NMePFOSA	79381.7	13C2-PFDA	311442.1	0.255	5.000	4.666	93	70-130	
Ed9-NEtPFOSAE	278375.1	13C2-PFDA	311442.1	0.894	5.000	5.104	102	70-130	
Ed5-NEtPFOSA	67444.3	13C2-PFDA	311442.1	0.217	5.000	5.014	100	70-130	
E13C2-PFTeDA	419341.7	13C2-PFDA	311442.1	1.346	5.000	4.847	97	70-130	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: CAL3

Instrument Name: LM27631

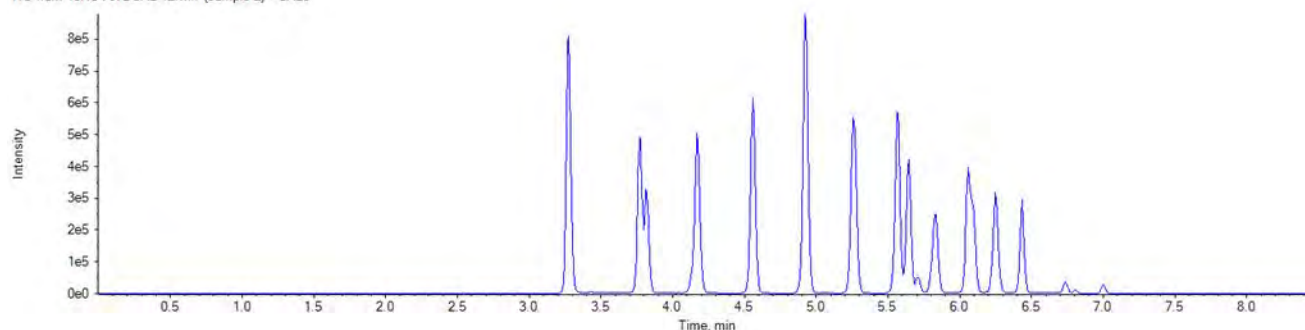
File Name: 18NOV07DCAL-12.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	285113.3		A	13C4-PFBA	3.27	787180.2	0.362	2.120
PFPeA	3.77	1.000	286630.7		A	13C5-PFPeA	3.77	829978.5	0.345	2.052
PFBS	3.82	1.000	157656.3		A	13C3-PFBS	3.82	456815.2	0.345	1.740
4:2-FTS	4.14	1.000	35586.2		A	13C2-4:2-FTS	4.13	48706.0	0.731	1.964
PFHxA	4.17	1.000	351503.9		A	13C5-PFHxA	4.17	705369.0	0.498	2.137
PFPeS	4.19	1.100	82090.1		A	13C3-PFBS	3.82	456815.2	0.180	1.772
PFHxS	4.56	1.000	122477.7		A	13C3-PFHxS	4.56	343139.5	0.357	1.809
PFHpA	4.56	1.000	360280.4		A	13C4-PFHpA	4.56	566495.6	0.636	2.139
6:2-FTS	4.92	1.000	32056.4		A	13C2-6:2-FTS	4.91	38605.5	0.830	2.071
PFHpS	4.92	1.080	123126.9		A	13C3-PFHxS	4.56	343139.5	0.359	1.877
PFOA	4.93	1.000	364943.1		A	13C8-PFOA	4.93	964414.6	0.378	2.131
PFOS	5.25	1.000	111397.7		A	13C8-PFOS	5.25	297259.8	0.375	1.943
PFNA	5.27	1.000	299530.4		A	13C9-PFNA	5.27	513116.0	0.584	2.182
PFNS	5.55	1.060	72940.0		A	13C8-PFOS	5.25	297259.8	0.245	1.946
PFDA	5.57	1.000	244693.9		A	13C6-PFDA	5.57	639022.8	0.383	2.107
8:2-FTS	5.57	1.000	24892.6		A	13C2-8:2-FTS	5.57	29468.3	0.845	1.904
PFOSA	5.64	1.000	271753.2		A	13C8-PFOSA	5.64	704745.5	0.386	2.084
NMeFOSAA	5.71	1.000	32400.4		A	d3-NMeFOSAA	5.71	81763.3	0.396	2.039
PFDS	5.80	1.100	59073.9		A	13C8-PFOS	5.25	297259.8	0.199	1.898
PFUnDA	5.83	1.000	209644.8		A	13C7-PFUnDA	5.83	277115.5	0.757	2.170
NEtFOSAA	5.85	1.000	32100.8		A	d5-NEtFOSAA	5.84	72755.7	0.441	1.896
PFDODA	6.06	1.000	220663.6		A	13C2-PFDODA	6.06	584631.5	0.377	2.046
10:2-FTS	6.07	1.090	19060.5		A	13C2-8:2-FTS	5.57	29468.3	0.647	2.014
NMePFOSAE	6.10	1.000	151795.0		A	d7-NMePFOSAE	6.09	335206.8	0.453	2.029
NMePFOSA	6.10	1.000	29797.4		A	d3-NMePFOSA	6.10	79381.7	0.375	2.101
PFDoS	6.22	1.190	32096.3		A	13C8-PFOS	5.25	297259.8	0.108	2.084
NEtPFOSAE	6.25	1.000	180884.6		A	d9-NEtPFOSAE	6.24	278375.1	0.650	2.083
NEtPFOSA	6.27	1.000	26524.6		A	d5-NEtPFOSA	6.26	67444.3	0.393	1.732
PFTTrDA	6.25	1.030	197290.7		A	13C2-PFDODA	6.06	584631.5	0.337	2.128
PFTeDA	6.43	1.000	150162.8		A	13C2-PFTeDA	6.43	419341.7	0.358	2.103
PFHxDA	6.74	1.050	70193.5		A	13C2-PFTeDA	6.43	419341.7	0.167	2.078
PFOA	7.00	1.090	59736.9		A	13C2-PFTeDA	6.43	419341.7	0.142	2.041

Total Ion Chromatogram

TIC from 18NOV07DCAL-12.wiff (sample 2) - CAL3



APPROVED

By JPT at 2:53 pm, 11/7/18

BSI02 Page 512 of 1870

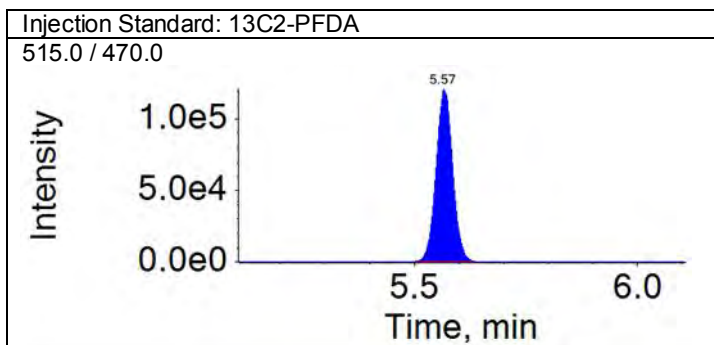
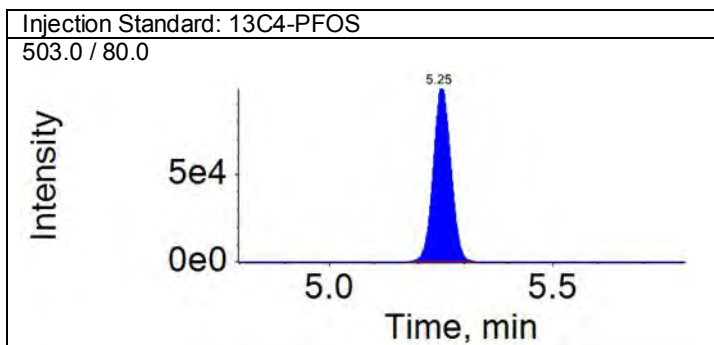
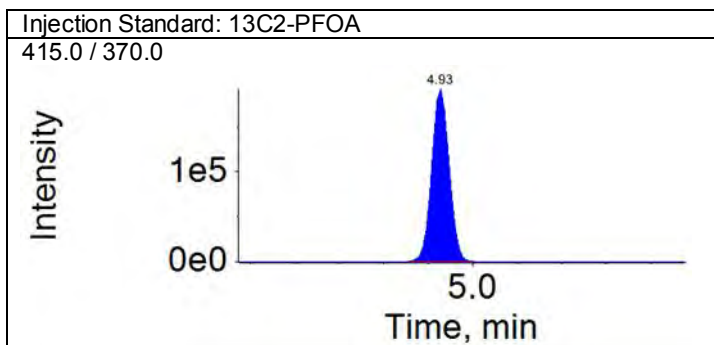
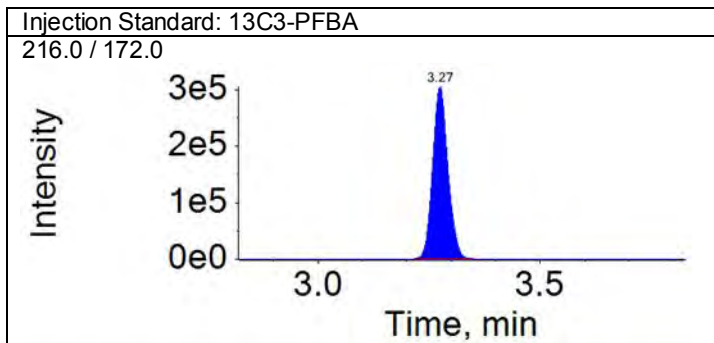
REVIEWED

By umar at 5:23 pm, 11/9/18

Page 2 of 17

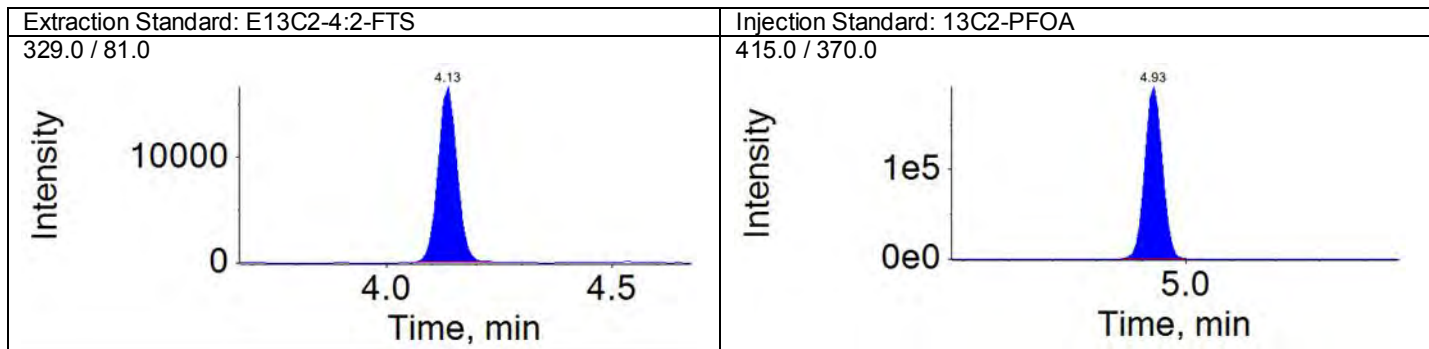
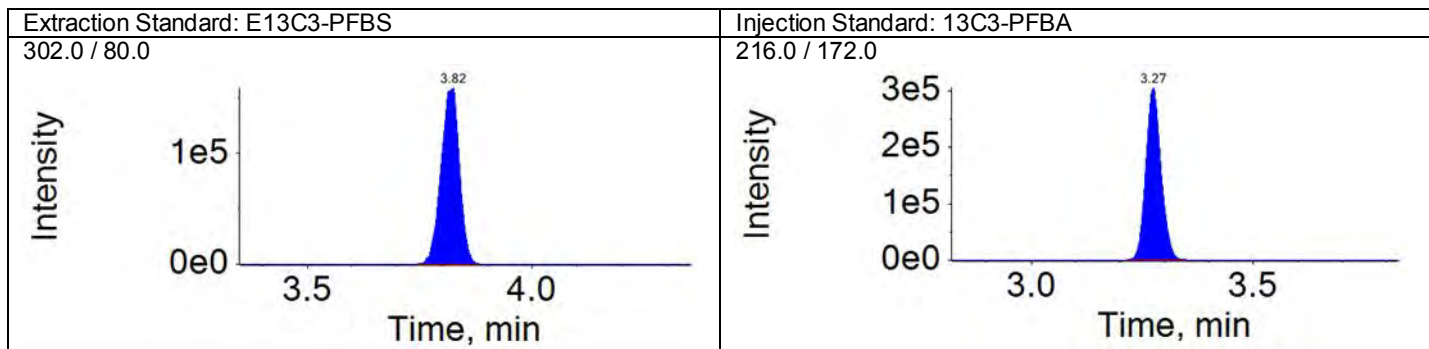
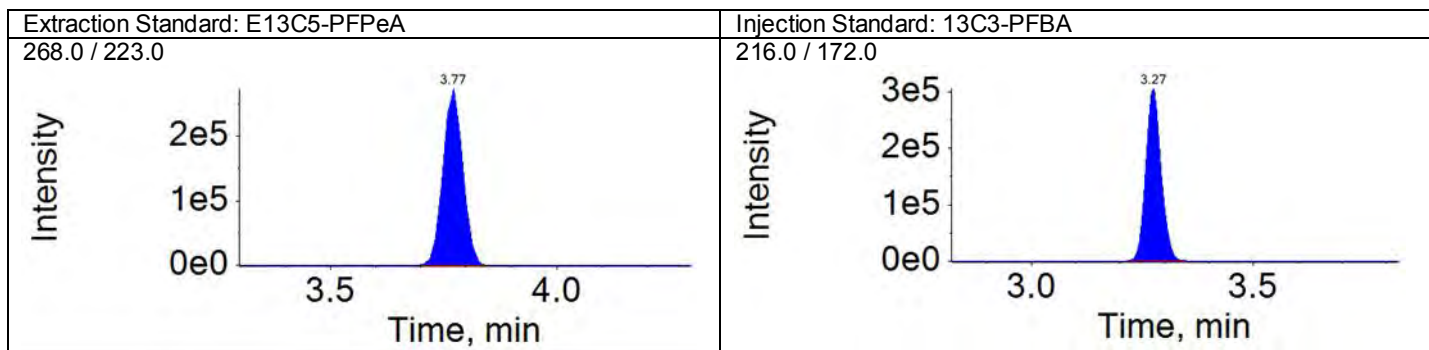
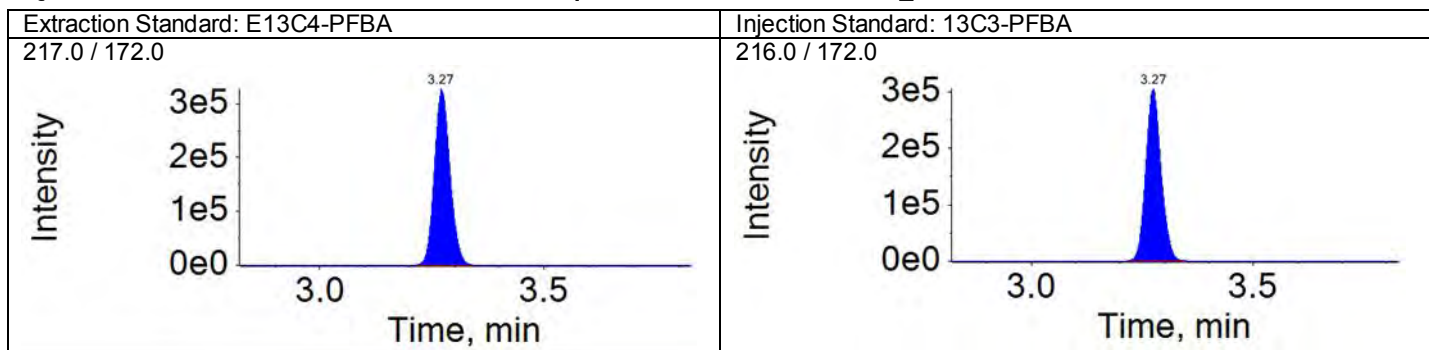
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QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



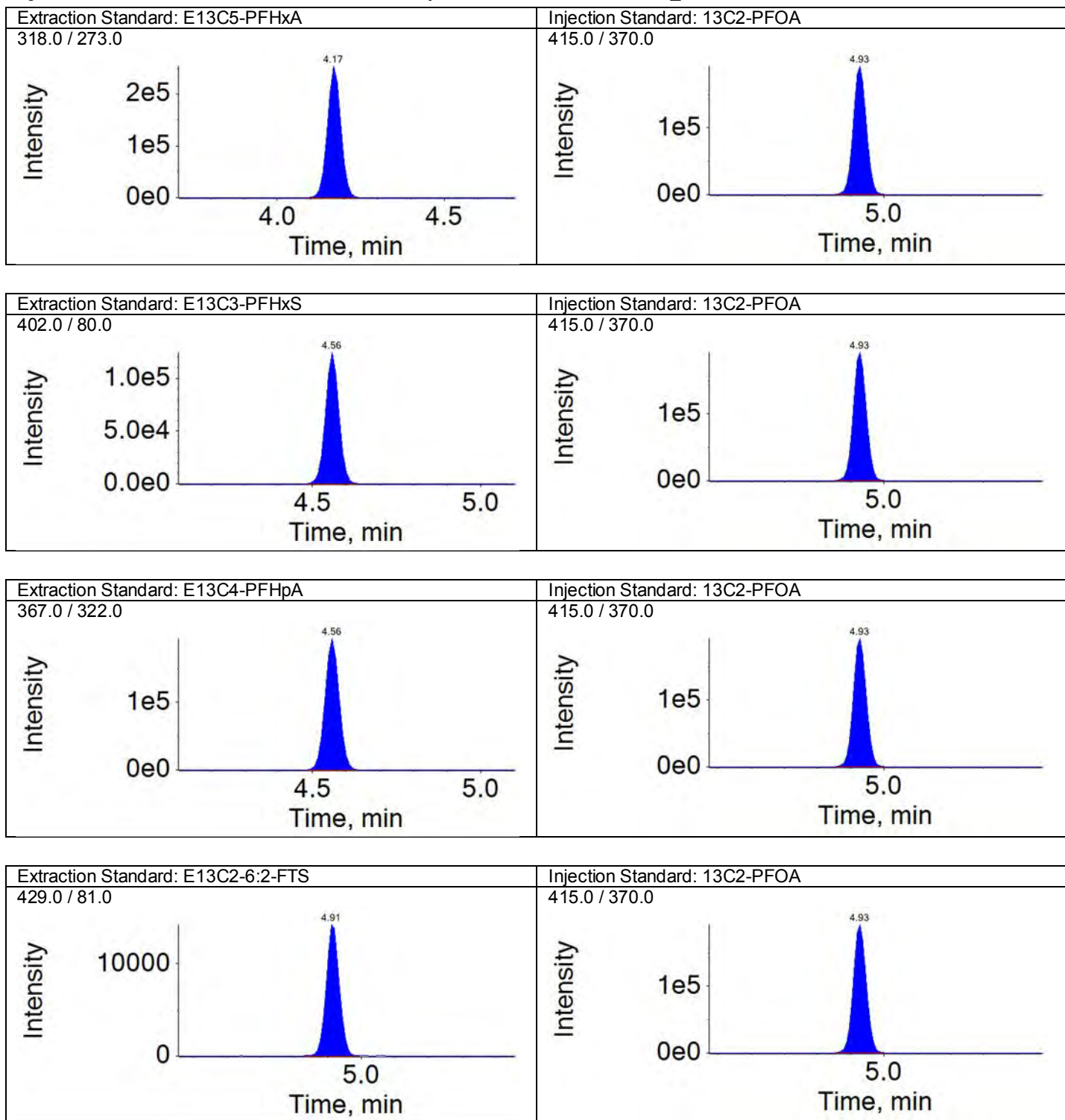
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QMethod Name: MQ4-18AUG13

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Acquisition Method: 18AUG13_3uL.dam



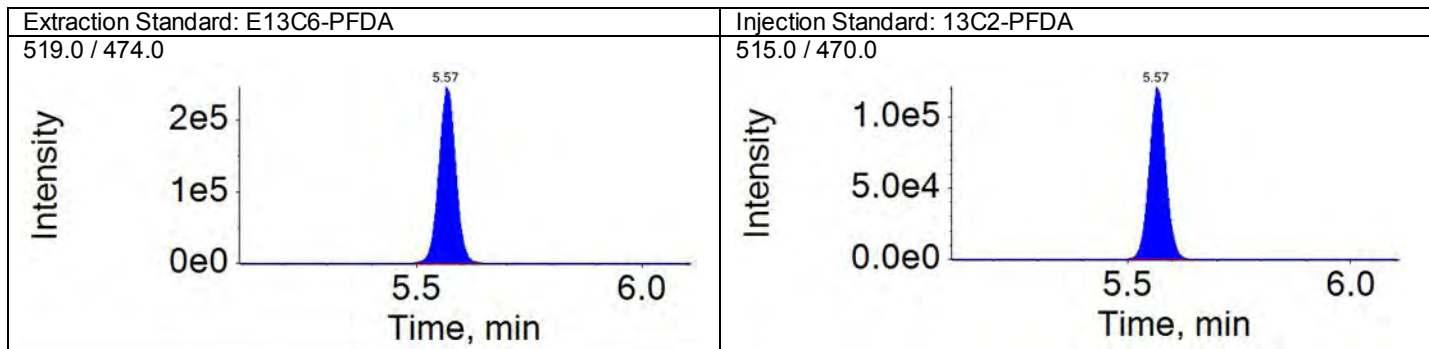
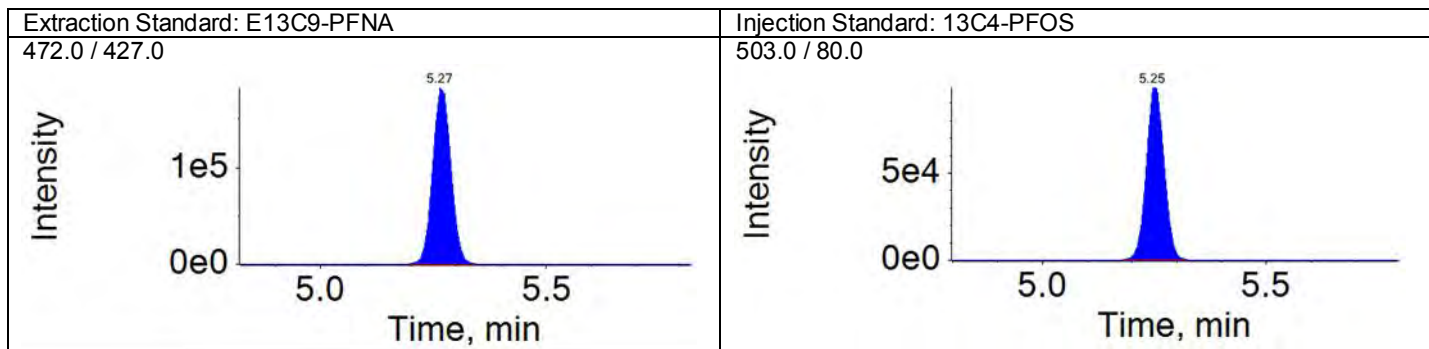
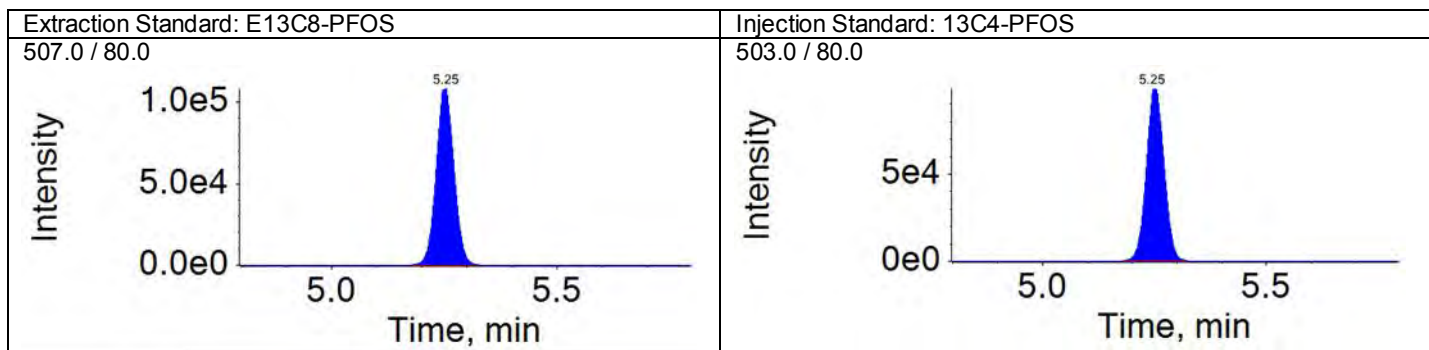
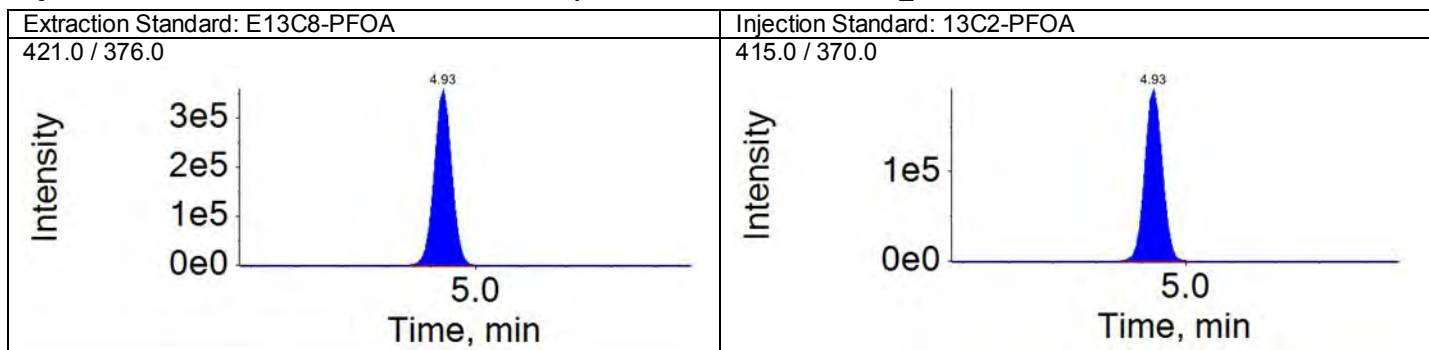
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Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



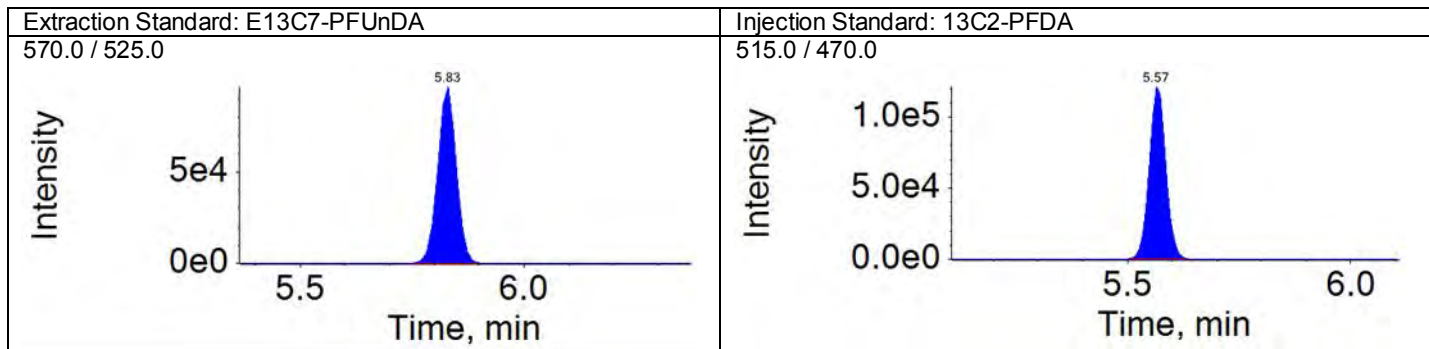
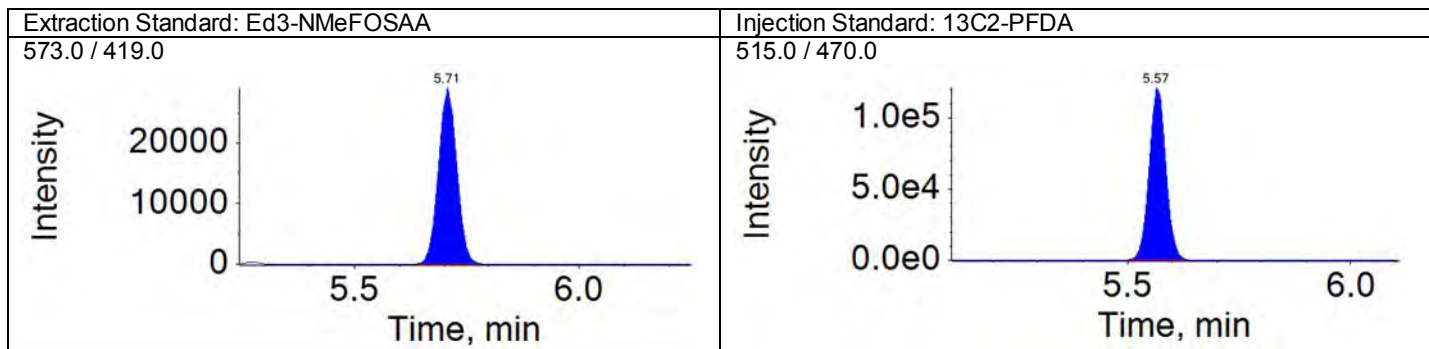
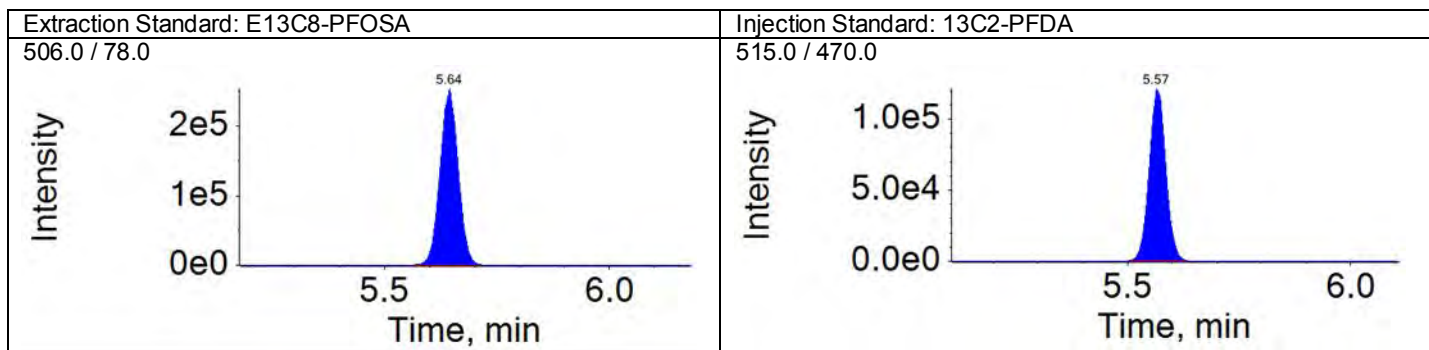
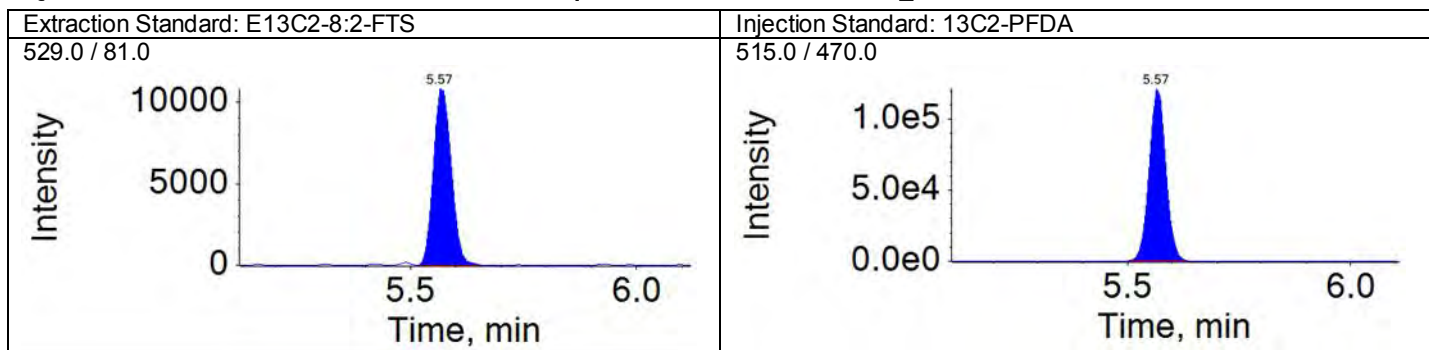
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QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

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APPROVED

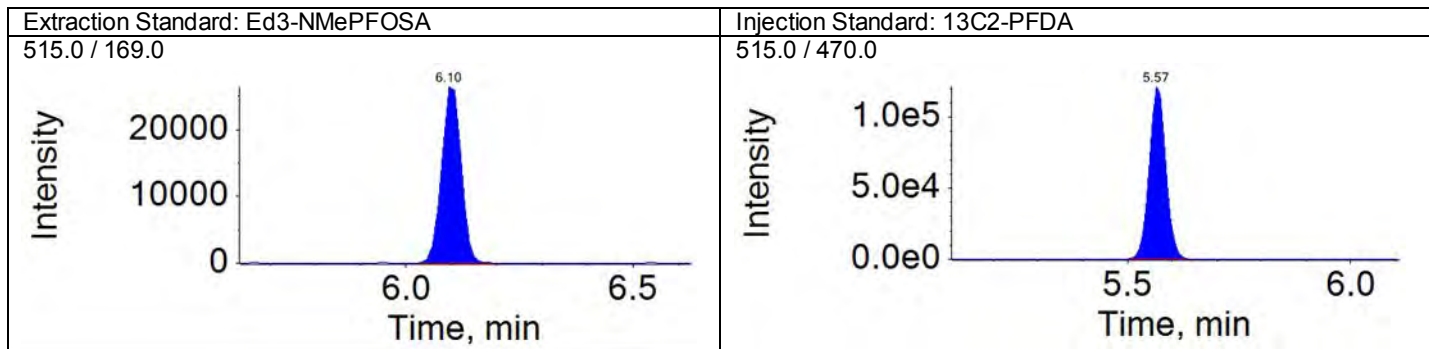
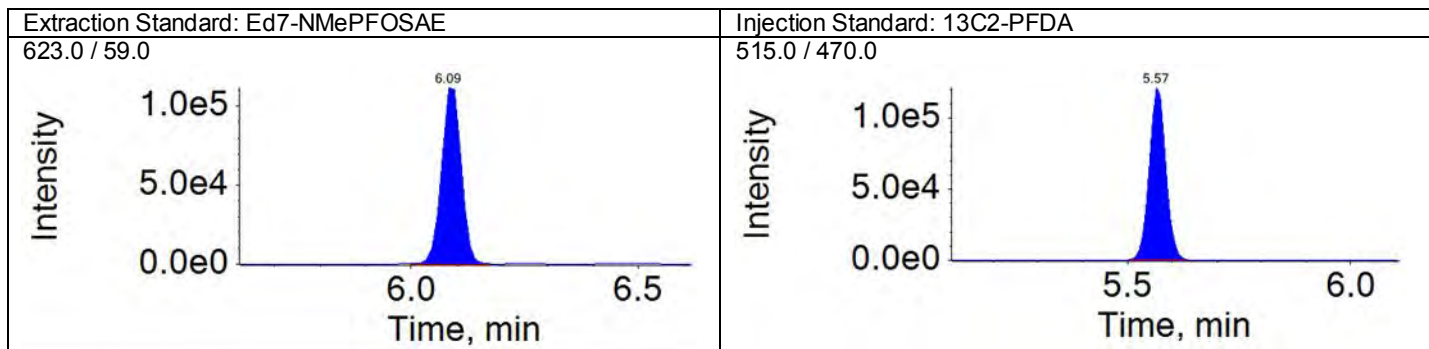
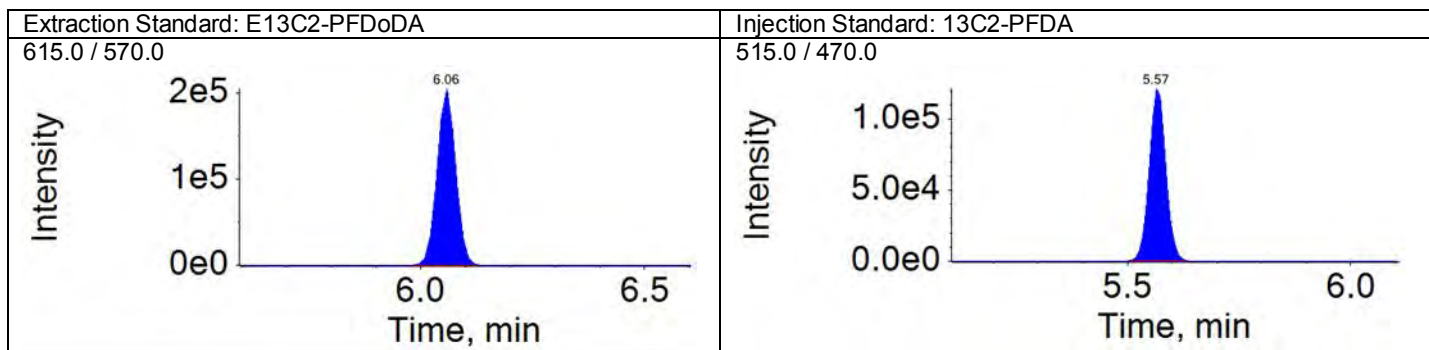
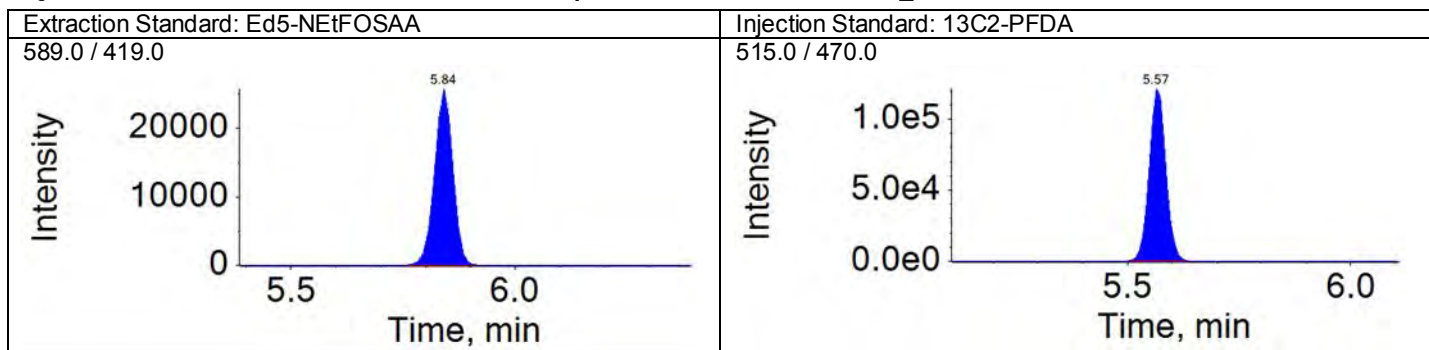
By JPT at 2:53 pm, 11/7/18

REVIEWED

By umar at 5:23 pm, 11/9/18

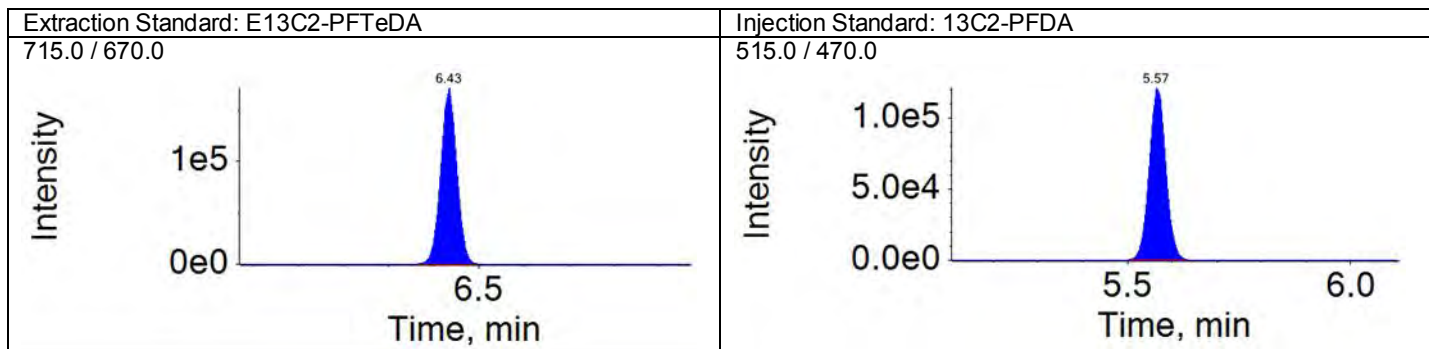
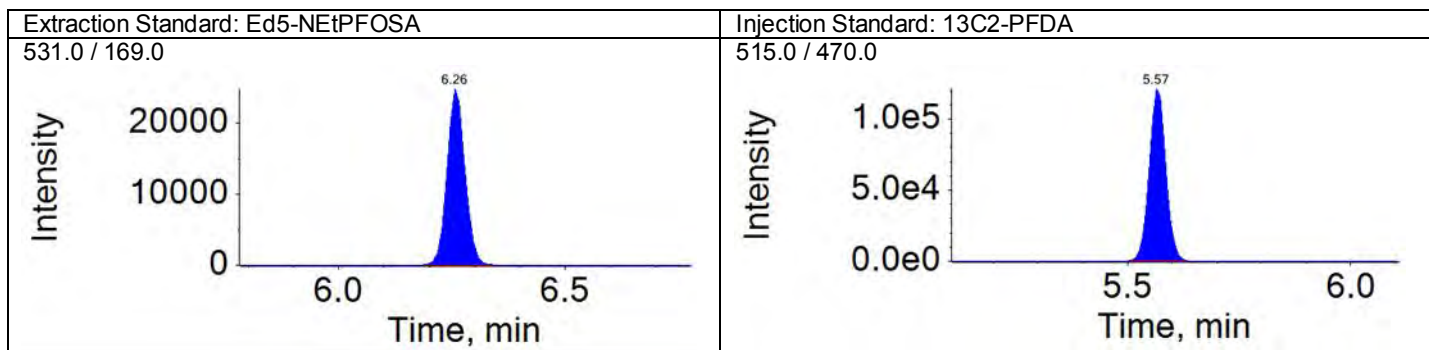
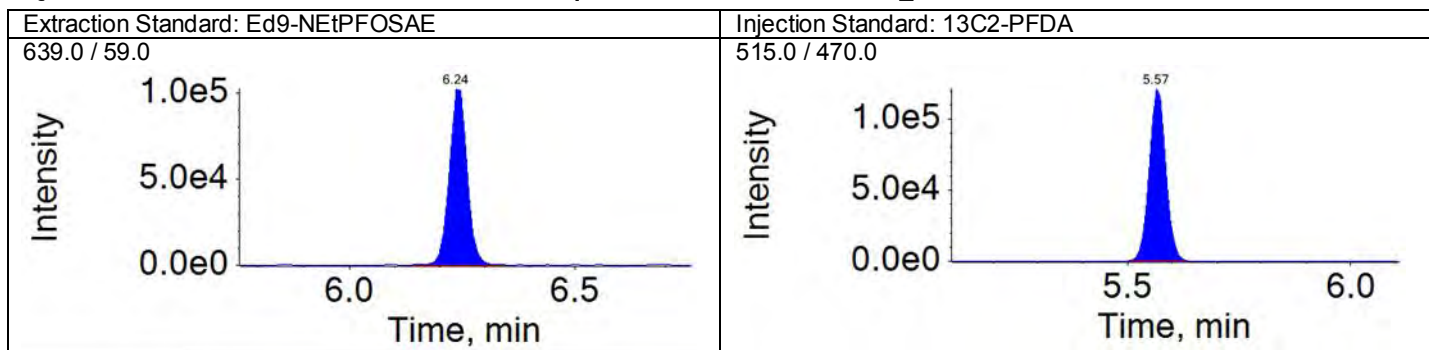
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Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



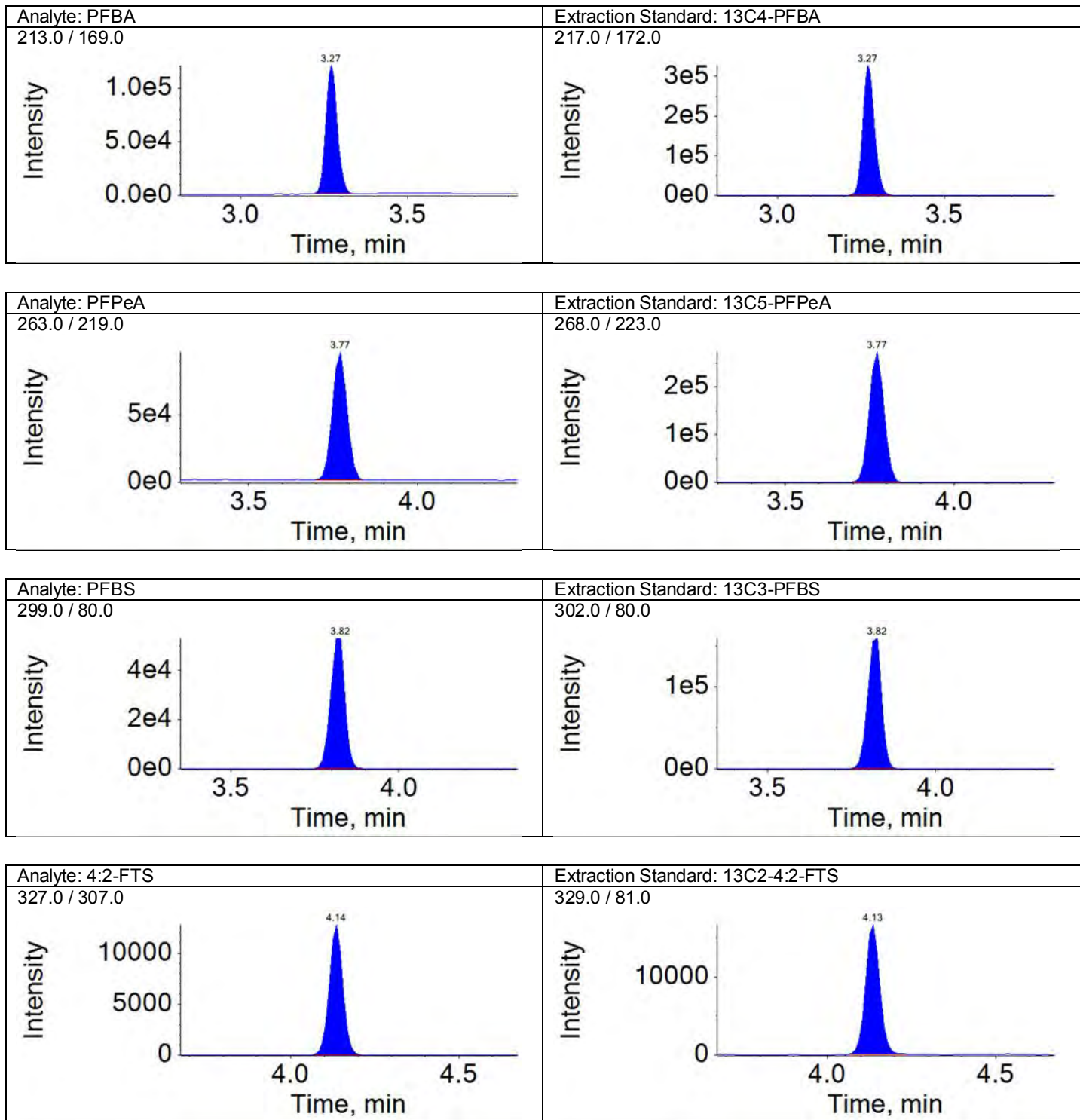
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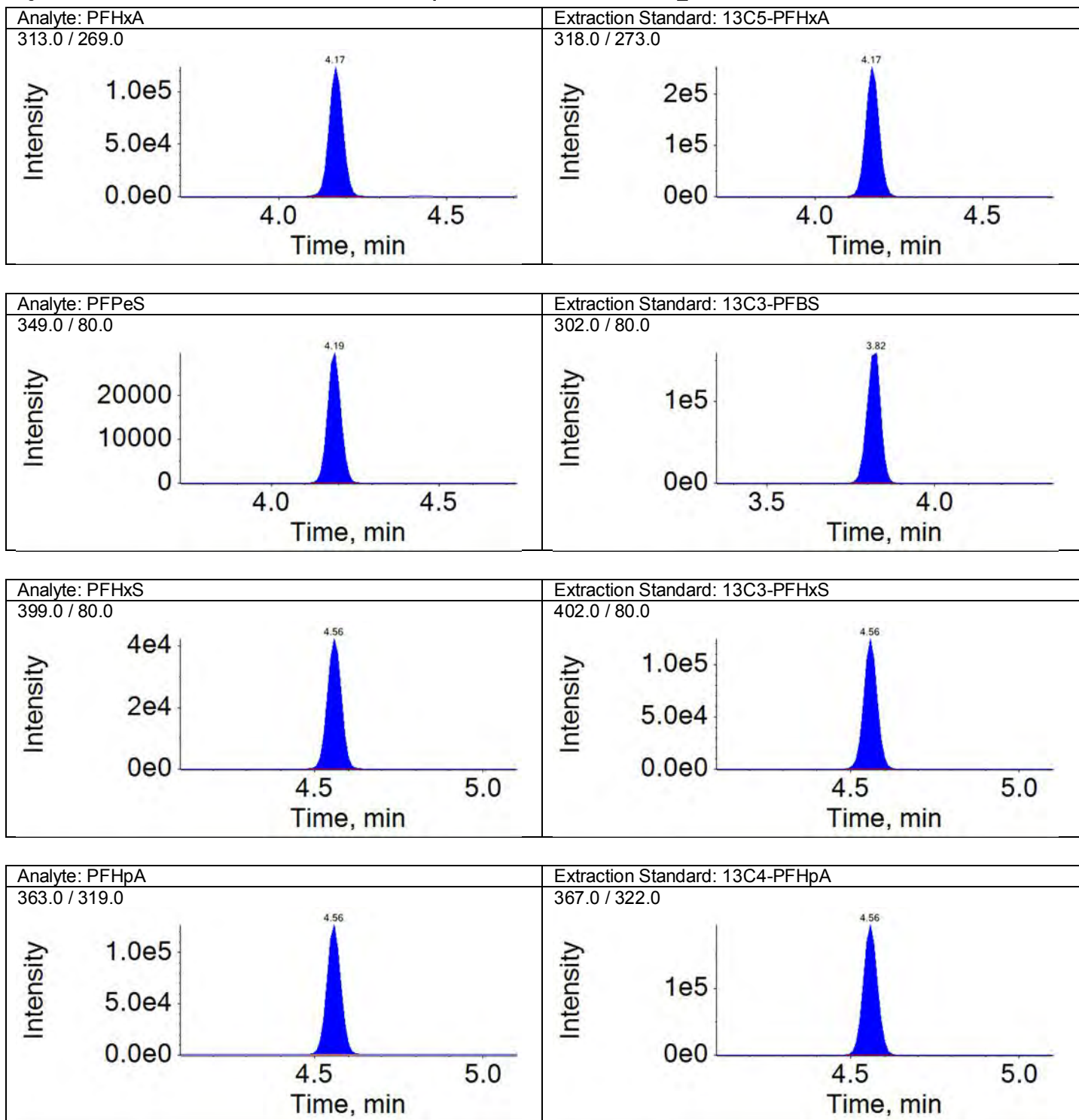
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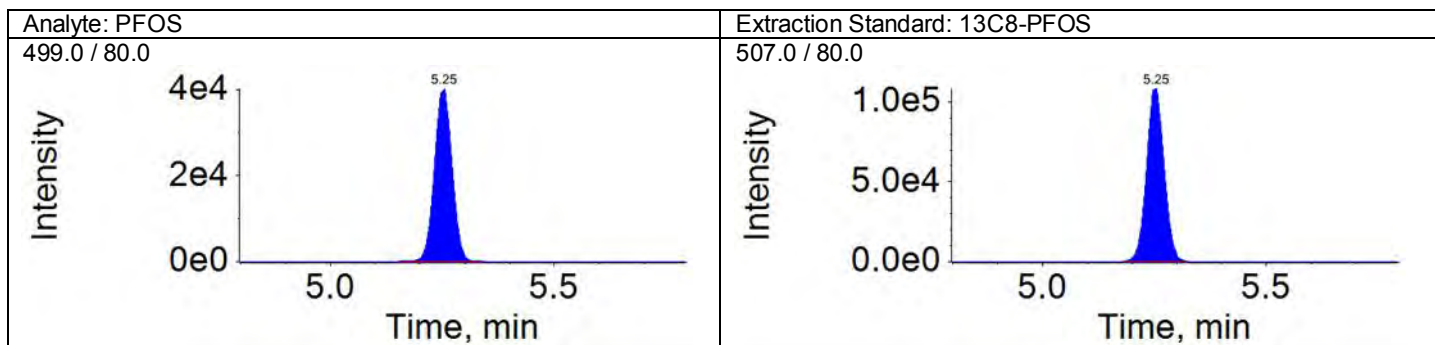
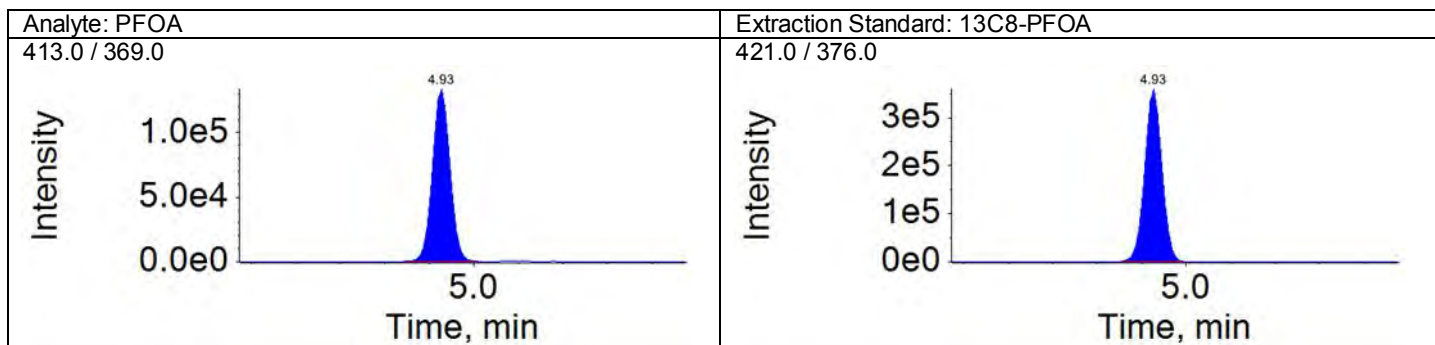
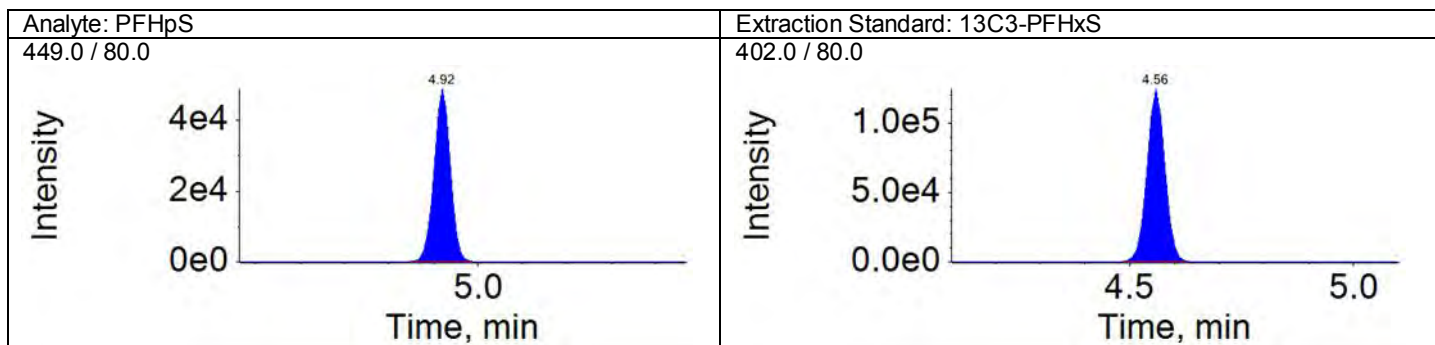
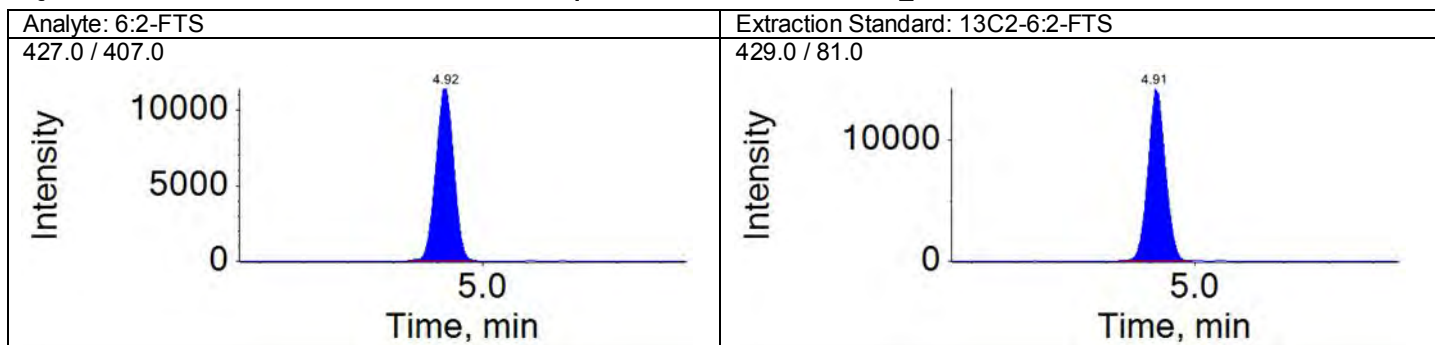
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Acquisition Method: 18AUG13_3uL.dam



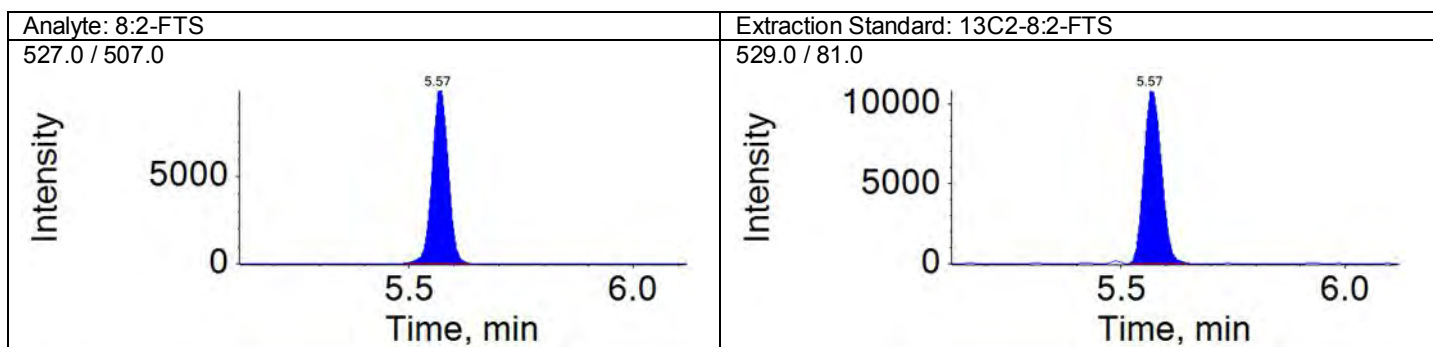
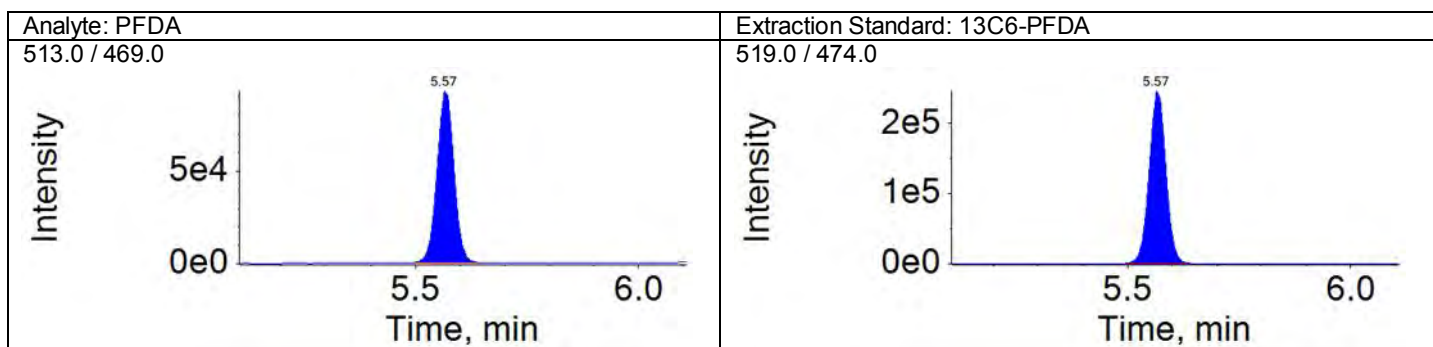
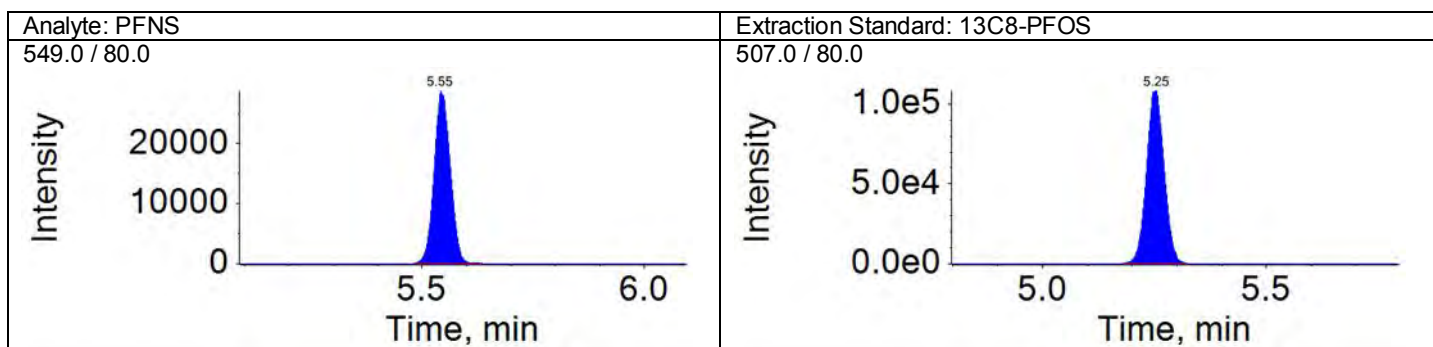
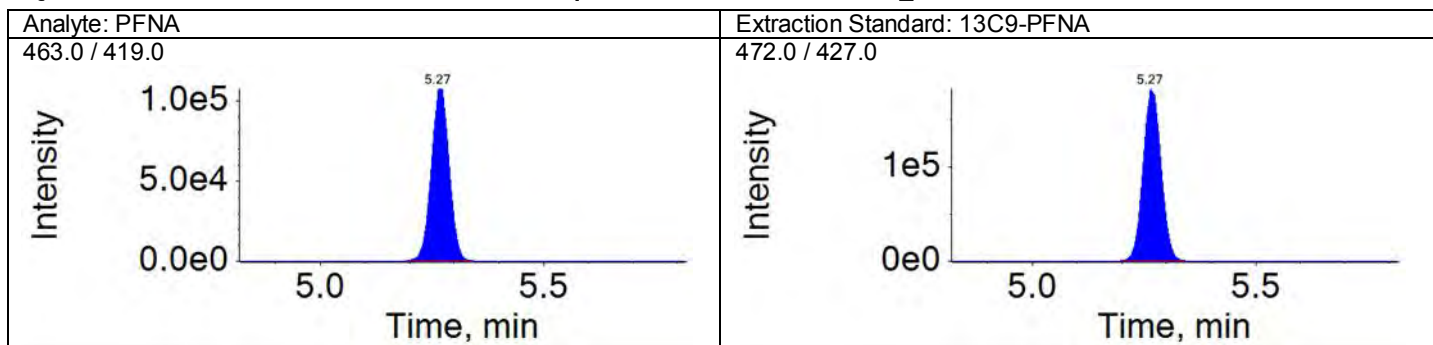
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Acquisition Method: 18AUG13_3uL.dam



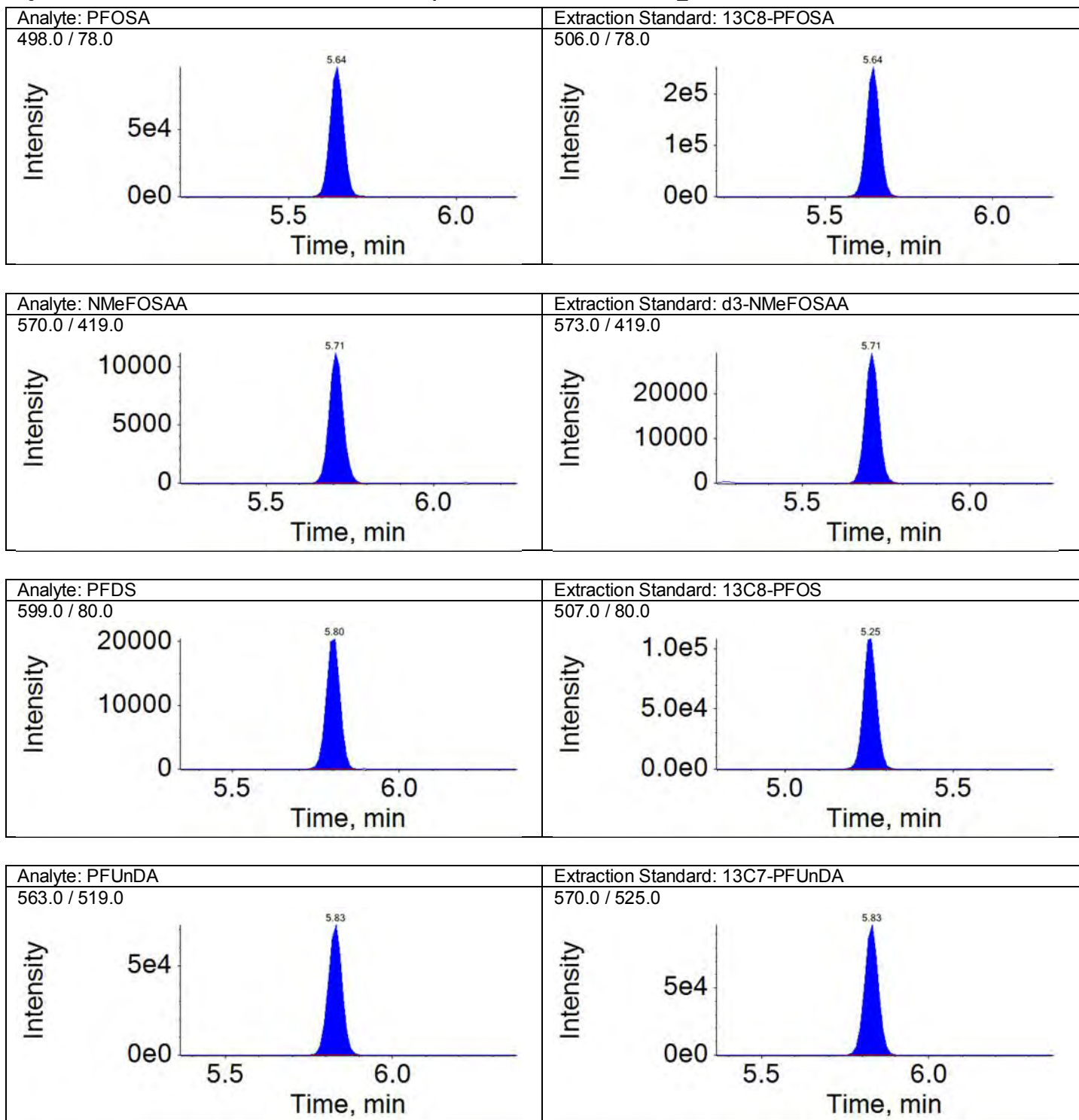
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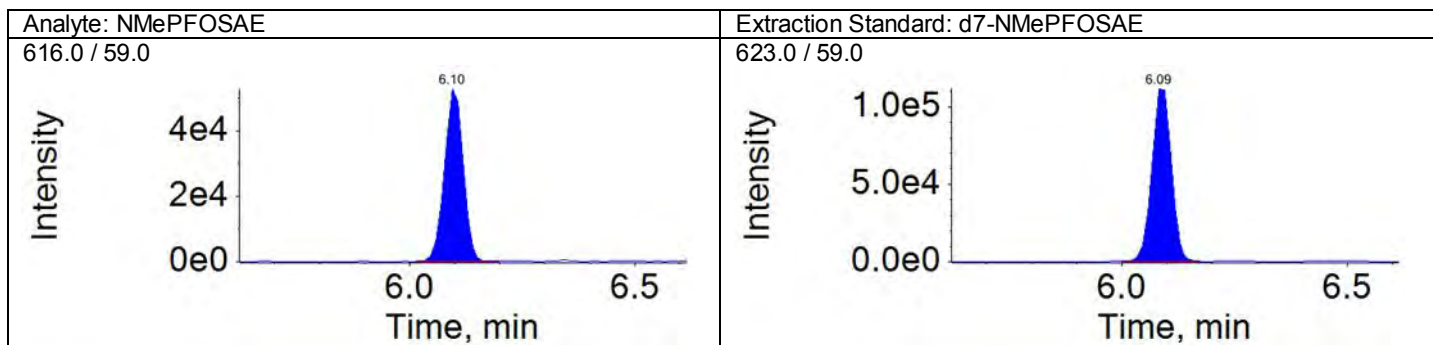
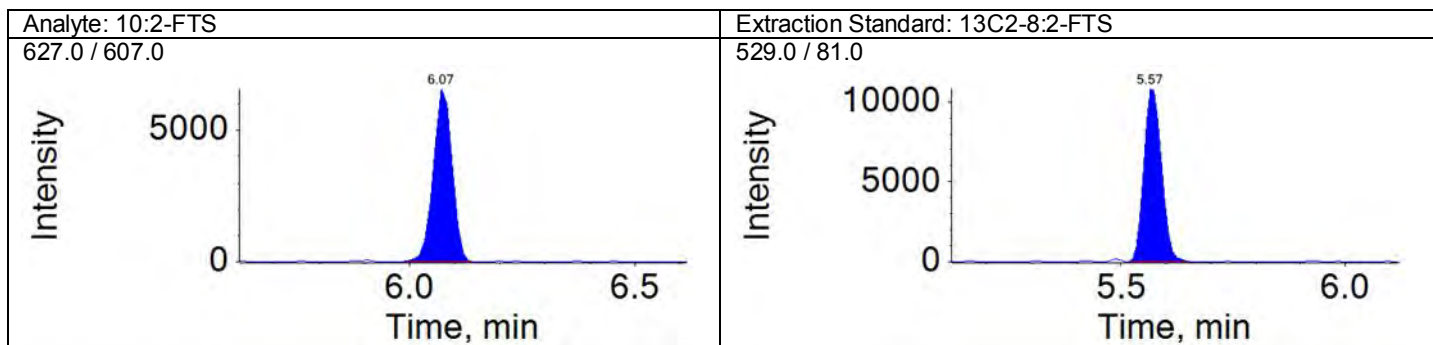
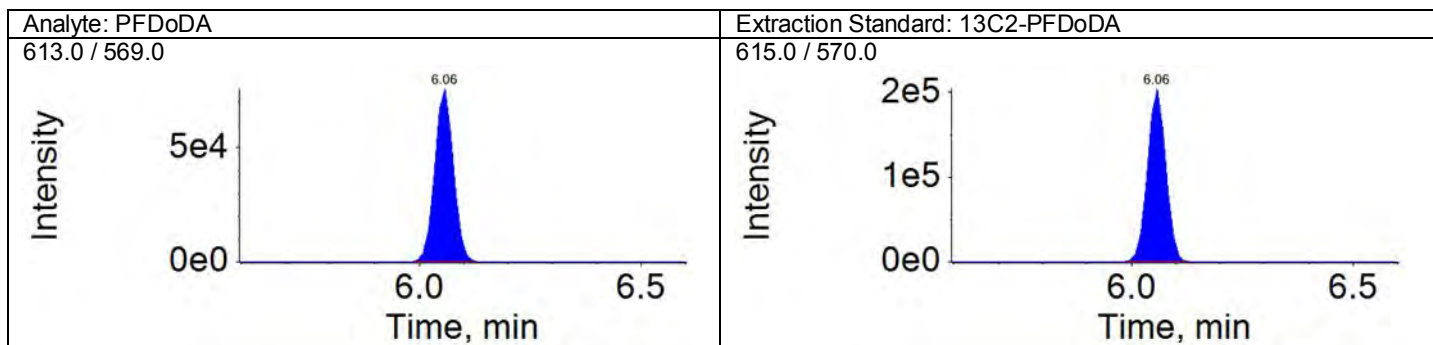
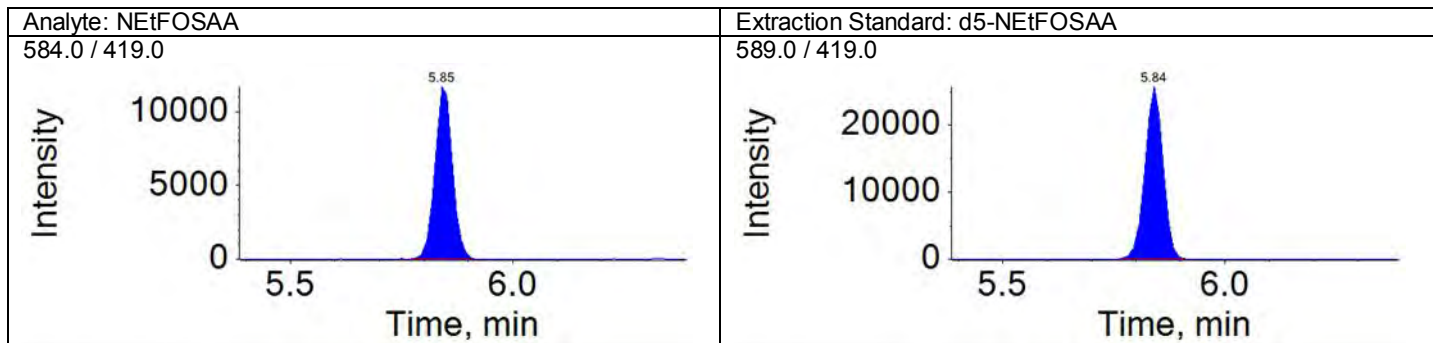
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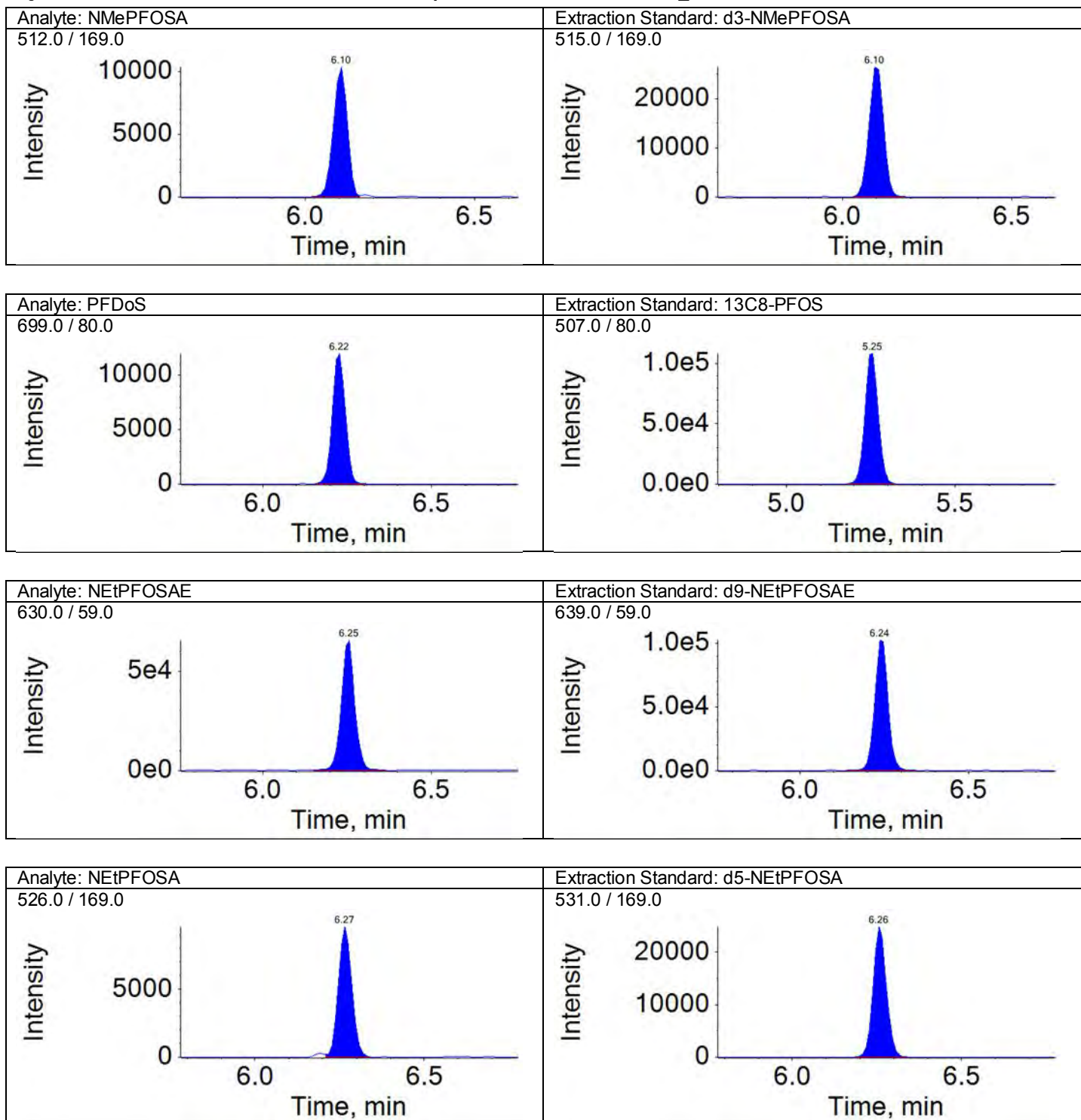
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Acquisition Method: 18AUG13_3uL.dam



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QMethod Name: MQ4-18AUG13

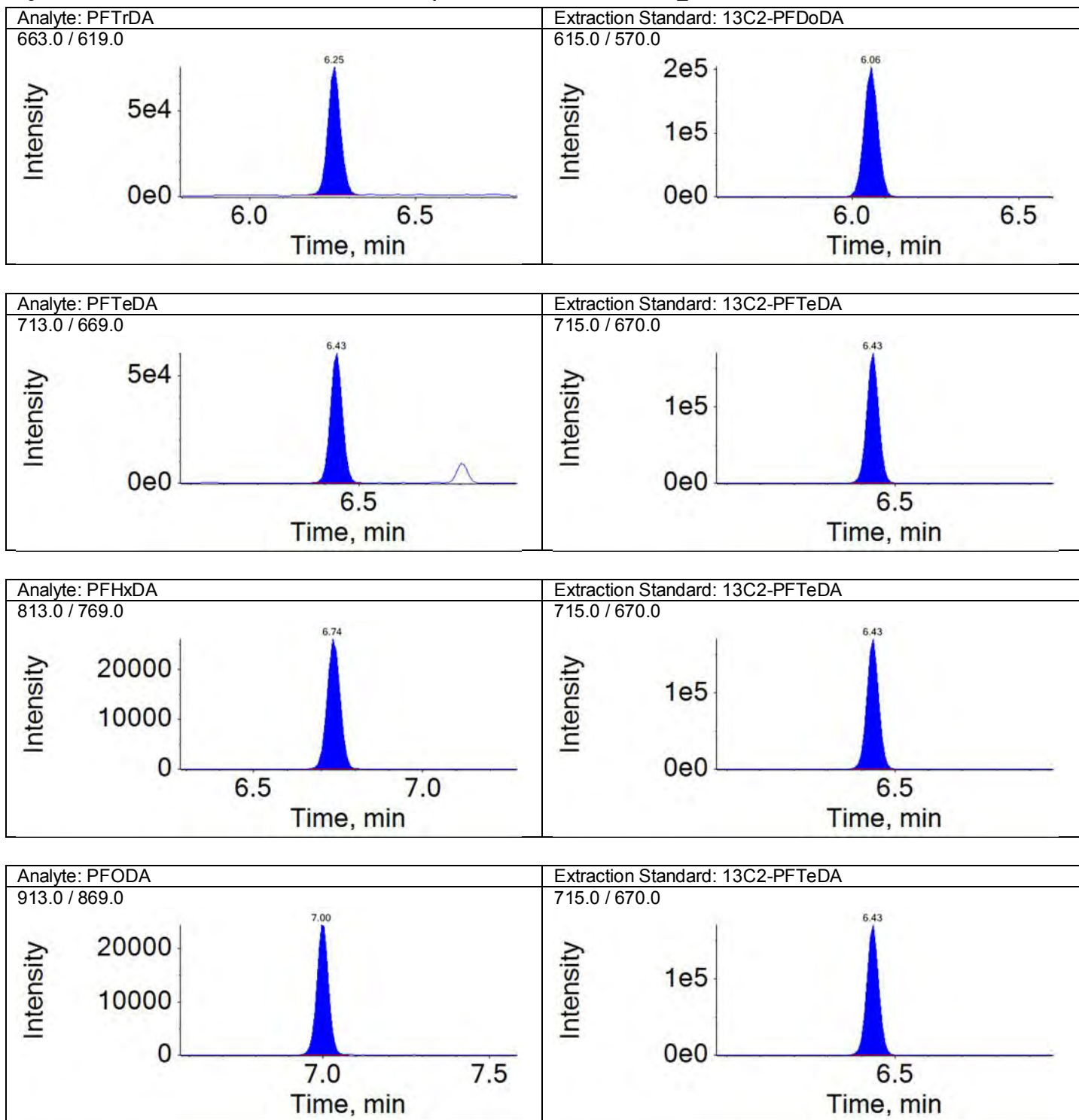
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Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



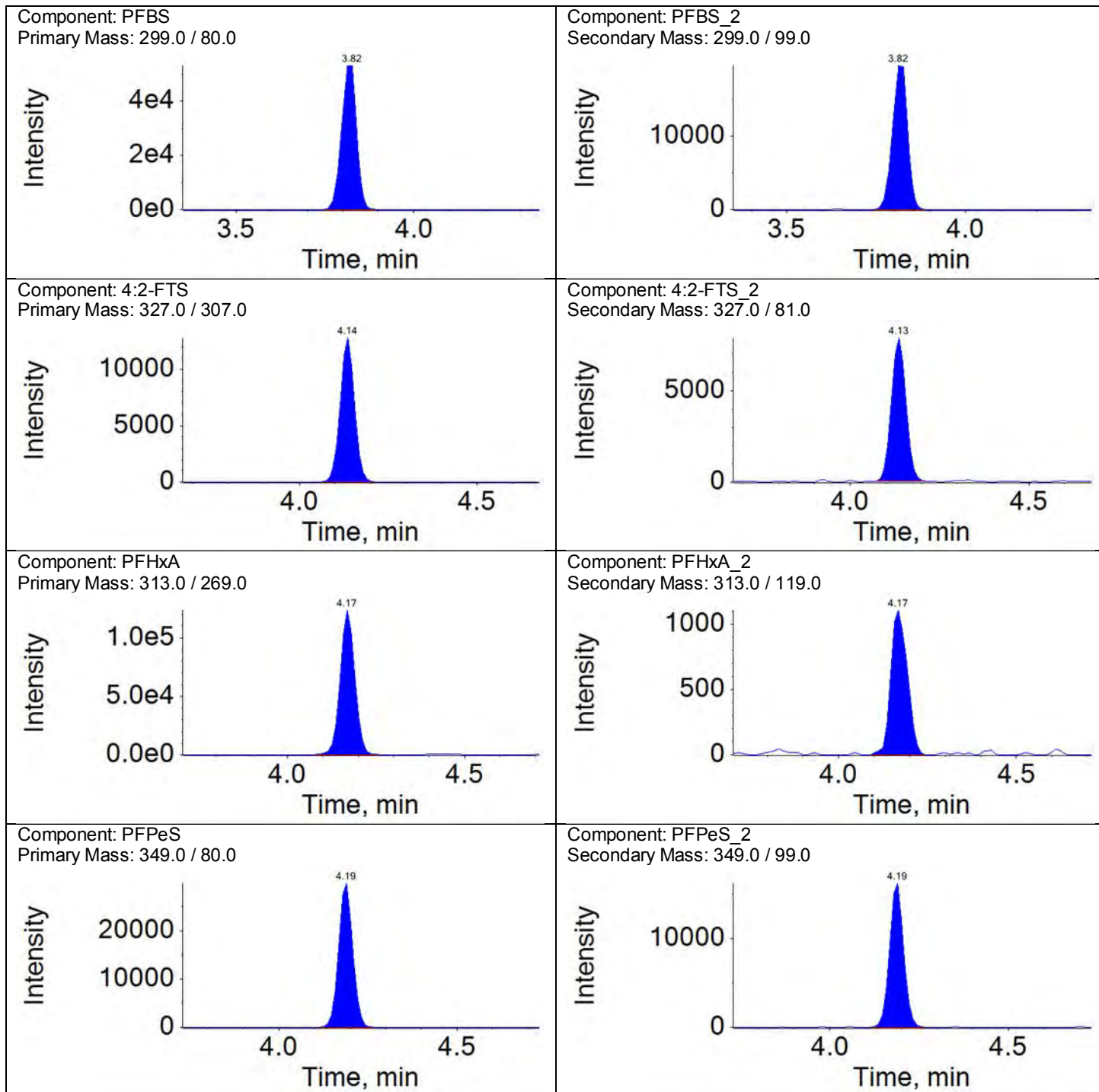
Ion Ratio Report

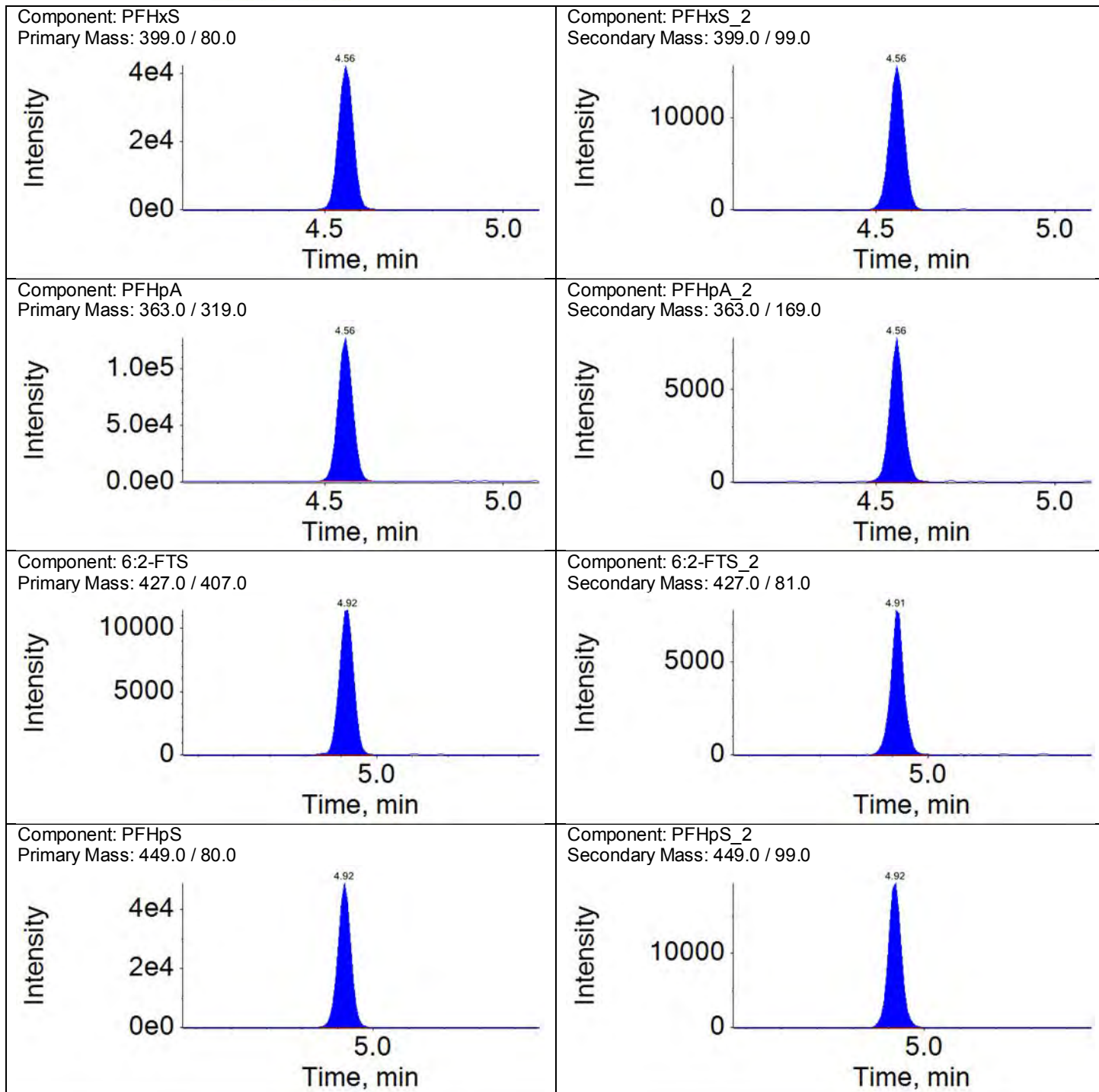
Sample Name: CAL3

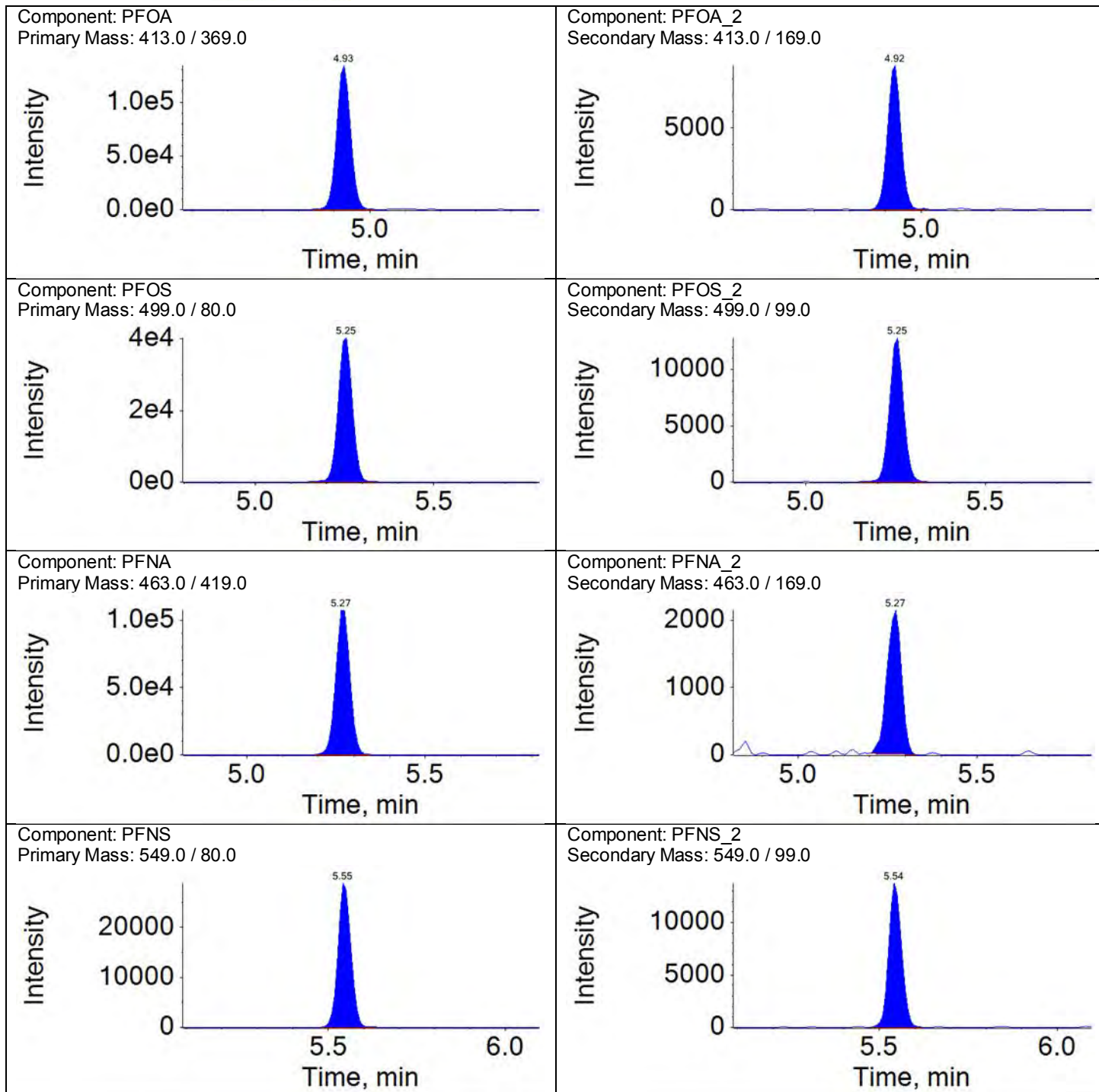
Instrument Name: LM27631

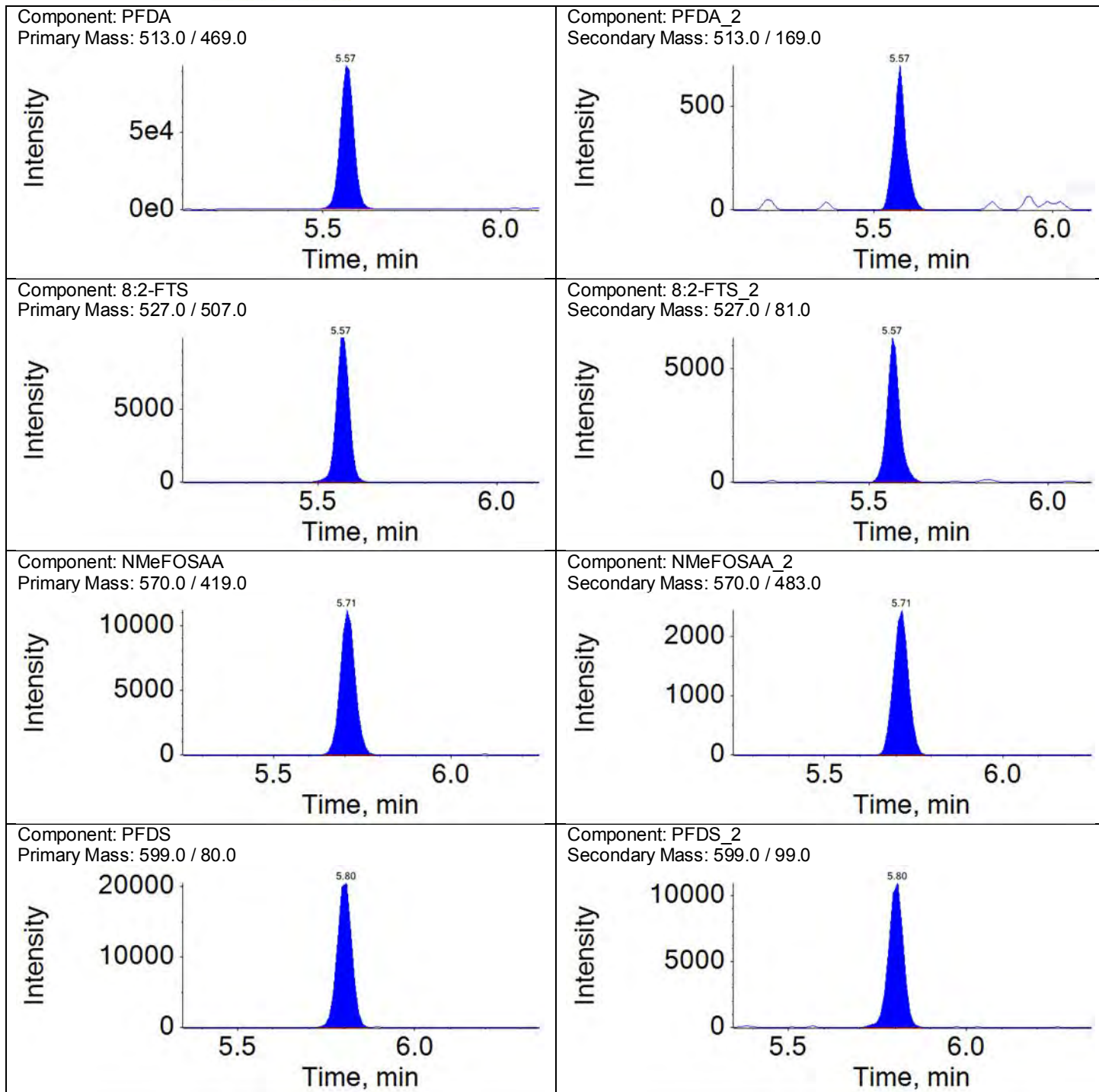
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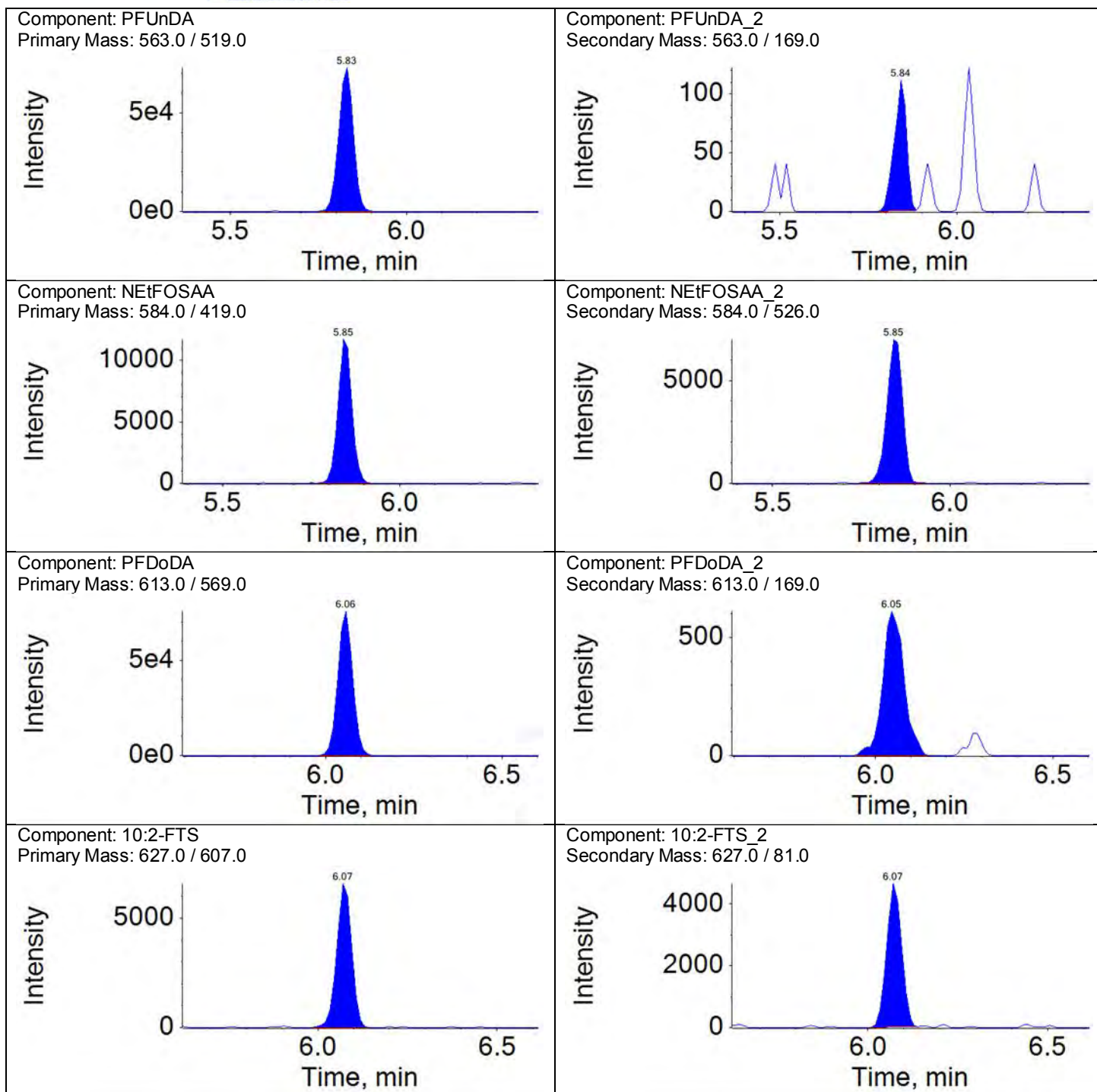
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PFBS	3.82	1.00	157656.3	A	1.0000	1.0000			
PFBS_2	3.82	1.00	57942.5	A	0.3576	0.3675	3	50	
4:2-FTS	4.14	1.00	35586.2	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	22248.8	A	0.6359	0.6252	-2	50	
PFHxA	4.17	1.00	351503.9	A	1.0000	1.0000			
PFHxA_2	4.17	1.00	3580.7	A	0.0115	0.0102	-11	50	
PFPeS	4.19	1.10	82090.1	A	1.0000	1.0000			
PFPeS_2	4.19	1.10	44176.0	A	0.5384	0.5381	0	50	
PFHxS	4.56	1.00	122477.7	A	1.0000	1.0000			
PFHxS_2	4.56	1.00	45270.2	A	0.3569	0.3696	4	50	
PFHpA	4.56	1.00	360280.4	A	1.0000	1.0000			
PFHpA_2	4.56	1.00	20898.8	A	0.0577	0.0580	1	50	
6:2-FTS	4.92	1.00	32056.4	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	19790.8	A	0.6752	0.6174	-9	50	
PFHpS	4.92	1.08	123126.9	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	49357.0	A	0.3950	0.4009	1	50	
PFOA	4.93	1.00	364943.1	A	1.0000	1.0000			
PFOA_2	4.92	1.00	23223.3	A	0.0635	0.0636	0	50	
PFOS	5.25	1.00	111397.7	A	1.0000	1.0000			
PFOS_2	5.25	1.00	35008.5	A	0.3494	0.3143	-10	50	
PFNA	5.27	1.00	299530.4	A	1.0000	1.0000			
PFNA_2	5.27	1.00	6077.4	A	0.0207	0.0203	-2	50	
PFNS	5.55	1.06	72940.0	A	1.0000	1.0000			
PFNS_2	5.54	1.06	34560.8	A	0.4890	0.4738	-3	50	
PFDA	5.57	1.00	244693.9	A	1.0000	1.0000			
PFDA_2	5.57	1.00	1604.2	A	0.0057	0.0066	16	50	
8:2-FTS	5.57	1.00	24892.6	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	15231.3	A	0.6169	0.6119	-1	50	
NMeFOSAA	5.71	1.00	32400.4	A	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	7101.6	A	0.2206	0.2192	-1	50	
PFDS	5.80	1.10	59073.9	A	1.0000	1.0000			
PFDS_2	5.80	1.11	31660.9	A	0.4648	0.5360	15	50	
PFUnDA	5.83	1.00	209644.8	A	1.0000	1.0000			
PFUnDA_2	5.84	1.00	267.4	A	0.0031	0.0013	-59	50	OOS
NEtFOSAA	5.85	1.00	32100.8	A	1.0000	1.0000			
NEtFOSAA_2	5.85	1.00	21563.1	A	0.6082	0.6717	10	50	
PFDODA	6.06	1.00	220663.6	A	1.0000	1.0000			
PFDODA_2	6.05	1.00	2566.4	A	0.0109	0.0116	6	50	
10:2-FTS	6.07	1.09	19060.5	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	13428.2	A	0.7082	0.7045	-1	50	
PFTTrDA	6.25	1.03	197290.7	A	1.0000	1.0000			
PFTTrDA_2	6.26	1.03	2128.7	A	0.0096	0.0108	12	50	
PFTeDA	6.43	1.00	150162.8	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	849.9	A	0.0055	0.0057	2	50	
PFHxDA	6.74	1.05	70193.5	A	1.0000	1.0000			
PFHxDA_2	6.74	1.05	4327.4	A	0.0596	0.0616	3	50	
PFODA	7.00	1.09	59736.9	A	1.0000	1.0000			
PFODA_2	7.00	1.09	1504.6	A	0.0257	0.0252	-2	50	

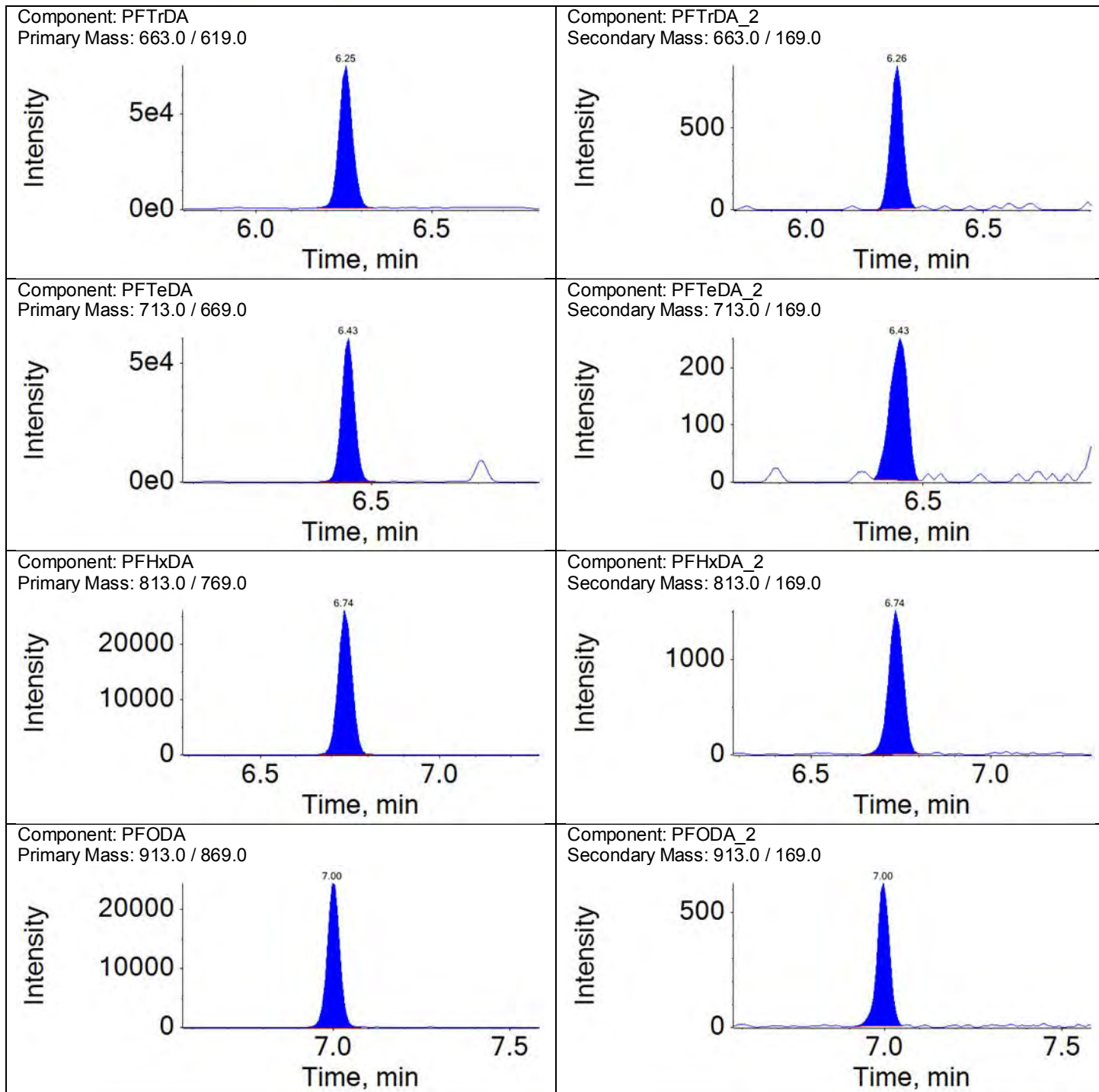












ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CAL4	Data File:	18NOV07DCAL-13.wiff
Sample ID:	CALMOD41833F	Acquis Date:	2018-11-07T10:06:59
Sample Type:	Standard	Instrument:	LM27631
Vial Position:	6	Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00	Result Table:	18NOV07DCAL
QMethod File:	MQ4-18AUG13	ICAL Name:	18NOV07DCAL
Batch Number:	N/A	Operator:	JPT12262
Sample Wt.:	1.00000	Dilution Factor:	1.00
Sample Vol.:	1.000	Prep Factor:	1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	721806.8	730410.6	-1	50	
13C2-PFOA	5.0	528557.8	524423.6	1	50	
13C4-PFOS	4.8	270733.9	274061.7	-1	50	
13C2-PFDA	5.0	320985.5	311442.1	3	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	771359.1	13C3-PFBA	721806.8	1.069	5.000	4.945	99	70-130	
E13C5-PFPeA	824842.8	13C3-PFBA	721806.8	1.143	5.000	4.978	100	70-130	
E13C3-PFBS	434938.9	13C3-PFBA	721806.8	0.603	4.650	4.422	95	70-130	
E13C2-4:2-FTS	51520.6	13C2-PFOA	528557.8	0.097	4.670	4.398	94	70-130	
E13C5-PFHxA	713446.3	13C2-PFOA	528557.8	1.350	5.000	4.965	99	70-130	
E13C3-PFHxS	339090.5	13C2-PFOA	528557.8	0.642	4.730	4.606	97	70-130	
E13C4-PFHpA	592497.9	13C2-PFOA	528557.8	1.121	5.000	5.099	102	70-130	
E13C2-6:2-FTS	39121.7	13C2-PFOA	528557.8	0.074	4.750	4.936	104	70-130	
E13C8-PFOA	937287.5	13C2-PFOA	528557.8	1.773	5.000	4.945	99	70-130	
E13C8-PFOS	291941.6	13C4-PFOS	270733.9	1.078	4.780	4.768	100	70-130	
E13C9-PFNA	512147.4	13C4-PFOS	270733.9	1.892	5.000	5.167	103	70-130	
E13C6-PFDA	656868.3	13C2-PFDA	320985.5	2.046	5.000	5.146	103	70-130	
E13C2-8:2-FTS	30500.3	13C2-PFDA	320985.5	0.095	4.790	5.028	105	70-130	
E13C8-PFOSA	708330.5	13C2-PFDA	320985.5	2.207	5.000	4.815	96	70-130	
Ed3-NMeFOSAA	80900.1	13C2-PFDA	320985.5	0.252	5.000	4.687	94	70-130	
E13C7-PFUnDA	275977.2	13C2-PFDA	320985.5	0.860	5.000	4.960	99	70-130	
Ed5-NEtFOSAA	66162.4	13C2-PFDA	320985.5	0.206	5.000	4.770	95	70-130	
E13C2-PFDoDA	598287.4	13C2-PFDA	320985.5	1.864	5.000	5.025	100	70-130	
Ed7-NMePFOSAE	330968.7	13C2-PFDA	320985.5	1.031	5.000	4.795	96	70-130	
Ed3-NMePFOSA	86399.4	13C2-PFDA	320985.5	0.269	5.000	4.928	99	70-130	
Ed9-NEtPFOSAE	273909.1	13C2-PFDA	320985.5	0.853	5.000	4.873	97	70-130	
Ed5-NEtPFOSA	72258.7	13C2-PFDA	320985.5	0.225	5.000	5.212	104	70-130	
E13C2-PFTeDA	441858.1	13C2-PFDA	320985.5	1.377	5.000	4.956	99	70-130	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: CAL4

Instrument Name: LM27631

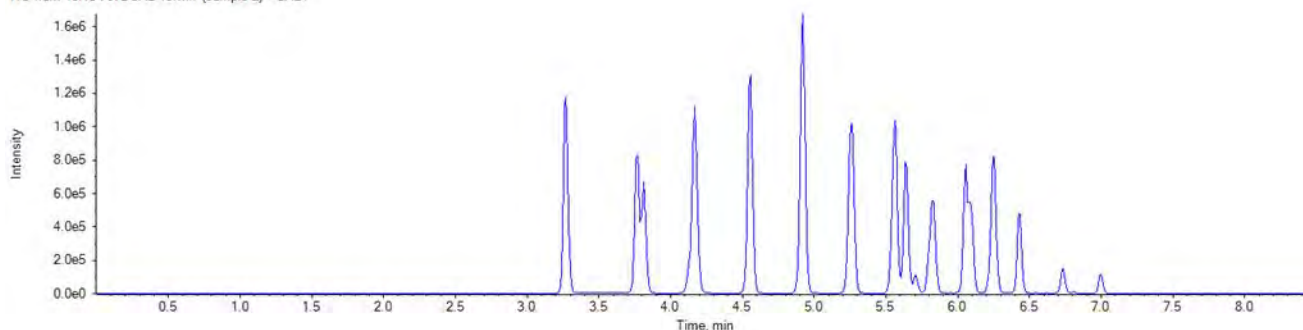
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Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	1152870.9		A	13C4-PFBA	3.27	771359.1	1.495	8.747
PFPeA	3.76	1.000	1165758.7		A	13C5-PFPeA	3.77	824842.8	1.413	8.399
PFBS	3.81	1.000	648524.4		A	13C3-PFBS	3.81	434938.9	1.491	7.518
4:2-FTS	4.13	1.000	153295.4		A	13C2-4:2-FTS	4.13	51520.6	2.975	7.999
PFHxA	4.16	1.000	1455862.5		A	13C5-PFHxA	4.16	713446.3	2.041	8.751
PFPeS	4.18	1.100	349358.3		A	13C3-PFBS	3.81	434938.9	0.803	7.922
PFHxS	4.55	1.000	513536.6		A	13C3-PFHxS	4.55	339090.5	1.514	7.676
PFHpA	4.55	1.000	1481489.5		A	13C4-PFHpA	4.55	592497.9	2.500	8.409
6:2-FTS	4.91	1.000	125170.2		A	13C2-6:2-FTS	4.91	39121.7	3.200	7.982
PFHpS	4.91	1.080	516333.1		A	13C3-PFHxS	4.55	339090.5	1.523	7.966
PFOA	4.92	1.000	1491946.3		A	13C8-PFOA	4.92	937287.5	1.592	8.963
PFOS	5.25	1.000	447769.0		A	13C8-PFOS	5.25	291941.6	1.534	7.953
PFNA	5.27	1.000	1179151.8		A	13C9-PFNA	5.26	512147.4	2.302	8.604
PFNS	5.54	1.060	305013.7		A	13C8-PFOS	5.25	291941.6	1.045	8.284
PFDA	5.56	1.000	1029893.8		A	13C6-PFDA	5.56	656868.3	1.568	8.626
8:2-FTS	5.57	1.000	106591.3		A	13C2-8:2-FTS	5.57	30500.3	3.495	7.877
PFOSA	5.64	1.000	1119770.1		A	13C8-PFOSA	5.64	708330.5	1.581	8.545
NMeFOSAA	5.71	1.000	136316.9		A	d3-NMeFOSAA	5.70	80900.1	1.685	8.670
PFDS	5.80	1.110	250911.0		A	13C8-PFOS	5.25	291941.6	0.859	8.210
PfUnDA	5.83	1.000	802732.3		A	13C7-PfUnDA	5.83	275977.2	2.909	8.341
NEtFOSAA	5.84	1.000	121615.1		A	d5-NEtFOSAA	5.84	66162.4	1.838	7.900
PFDODA	6.05	1.000	877242.2		A	13C2-PFDODA	6.05	598287.4	1.466	7.946
10:2-FTS	6.07	1.090	69275.8		A	13C2-8:2-FTS	5.57	30500.3	2.271	7.073
NMePFOSAE	6.09	1.000	648523.4		A	d7-NMePFOSAE	6.08	330968.7	1.959	8.781
NMePFOSA	6.10	1.000	118194.2		A	d3-NMePFOSA	6.10	86399.4	1.368	7.657
PFDOS	6.22	1.190	121590.1		A	13C8-PFOS	5.25	291941.6	0.416	8.039
NEtPFOSAE	6.25	1.000	740427.4		A	d9-NEtPFOSAE	6.24	273909.1	2.703	8.666
NEtPFOSA	6.26	1.000	123609.2		A	d5-NEtPFOSA	6.26	72258.7	1.711	7.534
PFTDA	6.25	1.030	781283.7		A	13C2-PFDODA	6.05	598287.4	1.306	8.235
PFTeDA	6.43	1.000	630801.4		A	13C2-PFTeDA	6.43	441858.1	1.428	8.383
PFHxDA	6.73	1.050	297242.6		A	13C2-PFTeDA	6.43	441858.1	0.673	8.351
PFOA	7.00	1.090	251726.5		A	13C2-PFTeDA	6.43	441858.1	0.570	8.162

Total Ion Chromatogram

TIC from 18NOV07DCAL-13.wiff (sample 2) - CAL4



APPROVED

By JPT at 2:53 pm, 11/7/18

BSI02 Page 536 of 1870

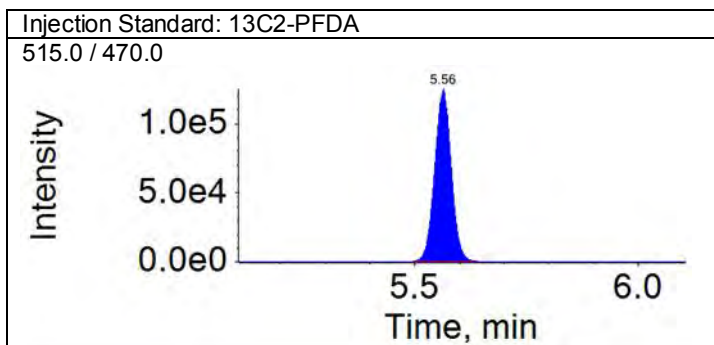
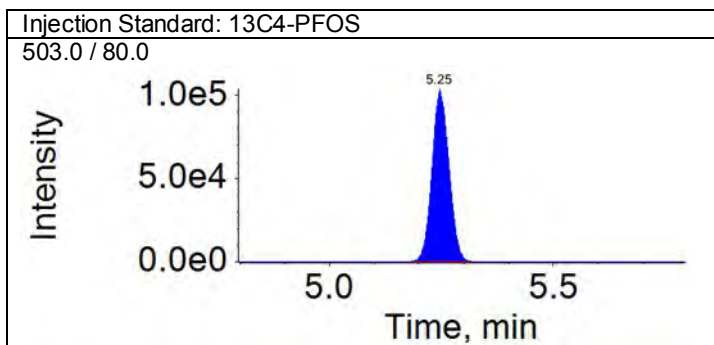
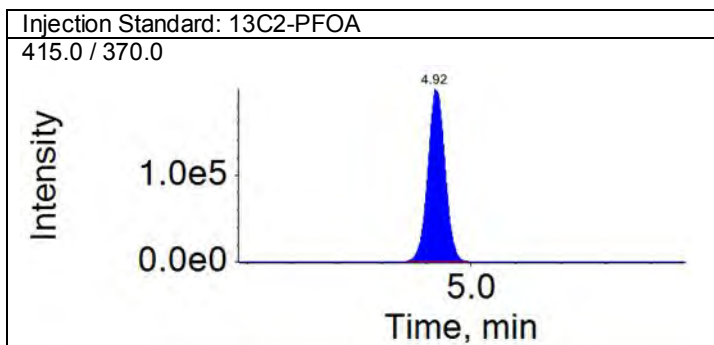
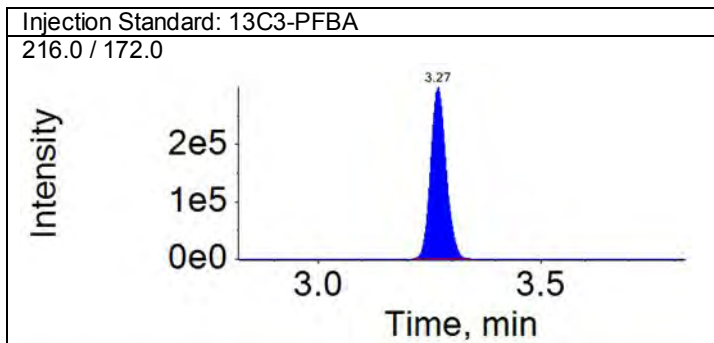
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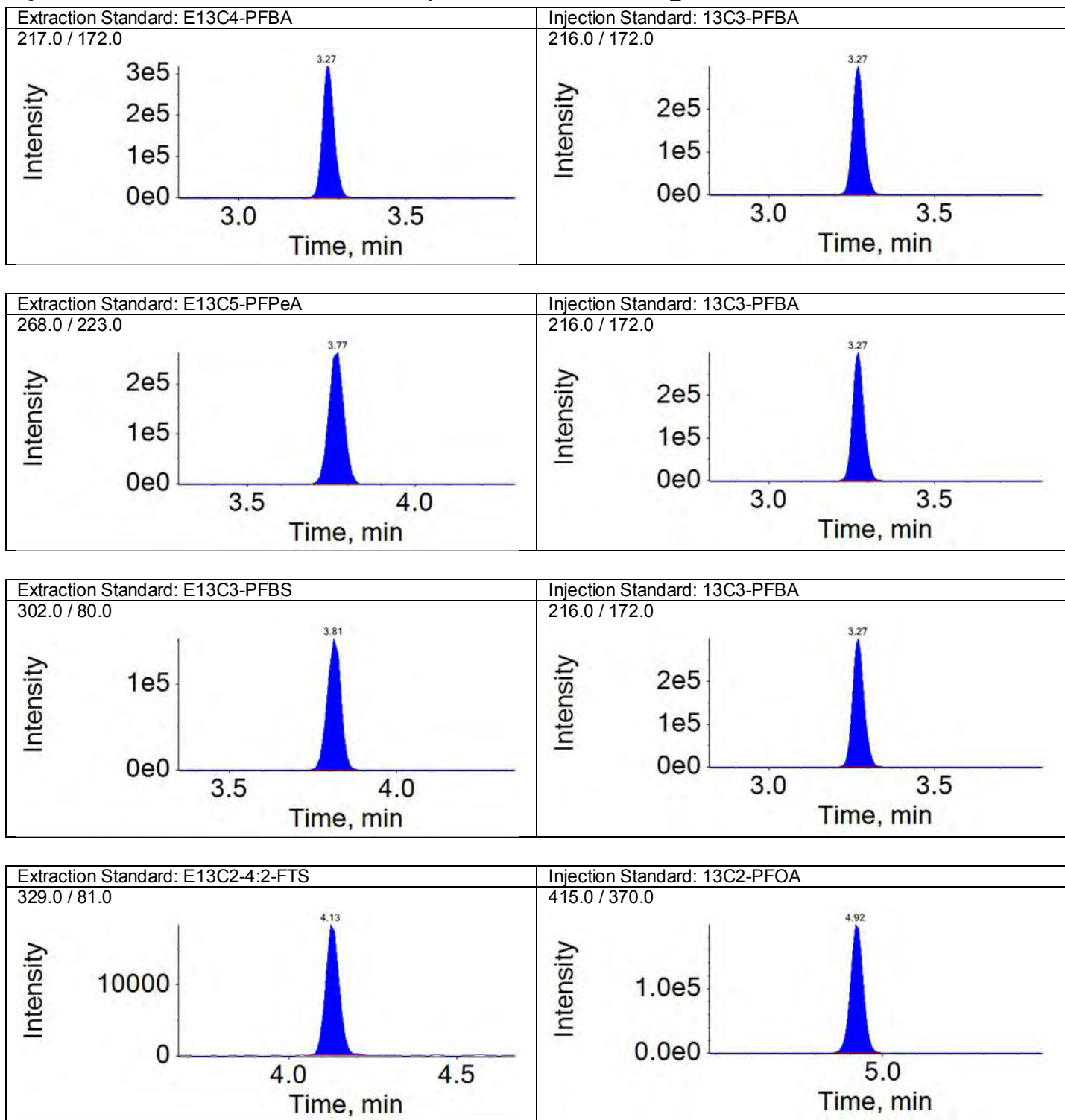
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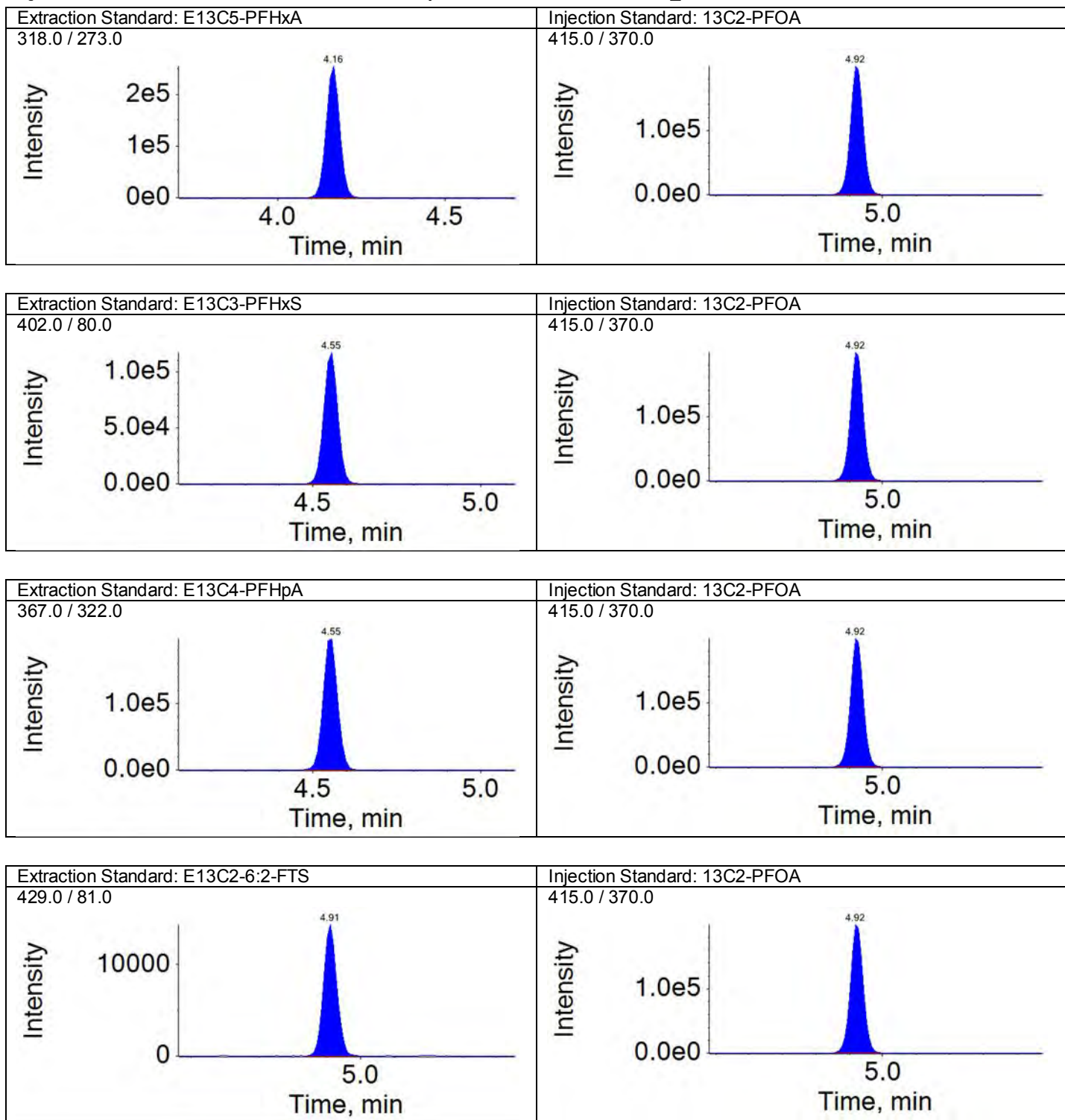
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ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

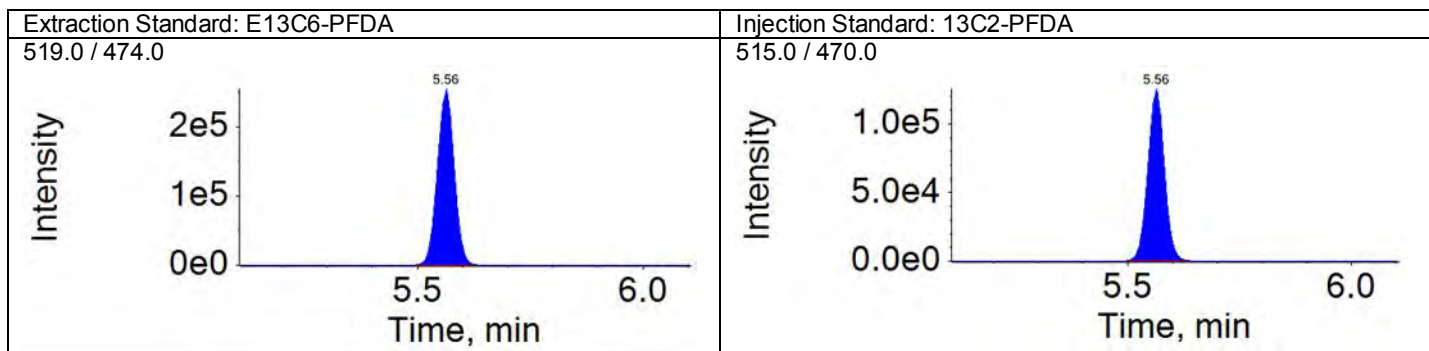
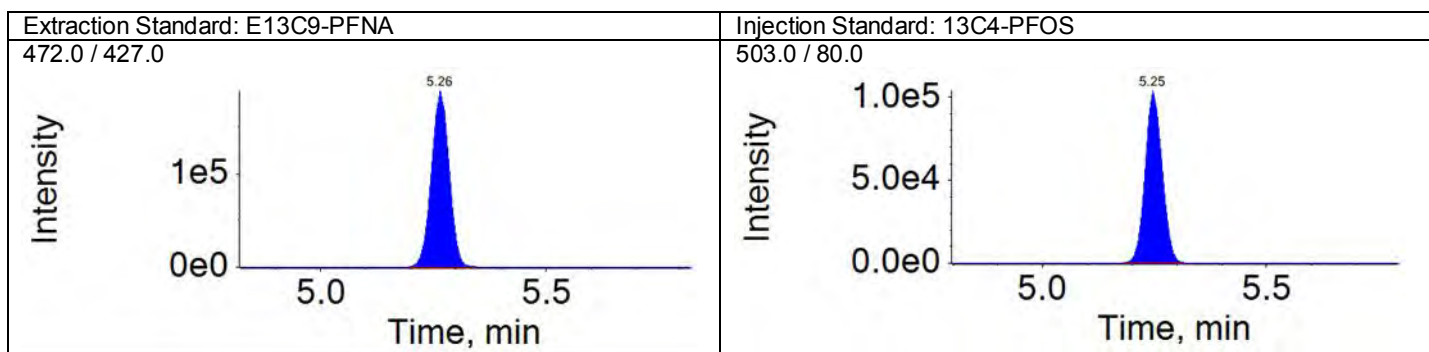
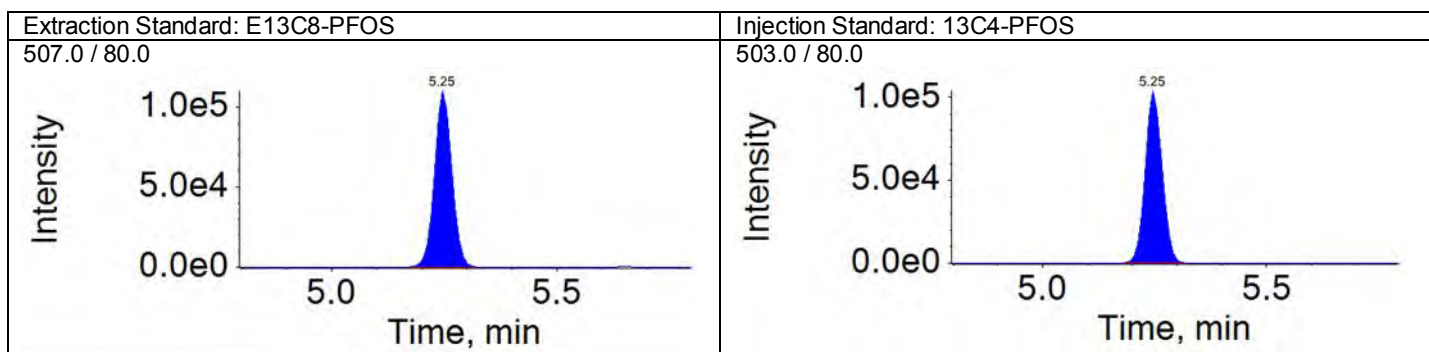
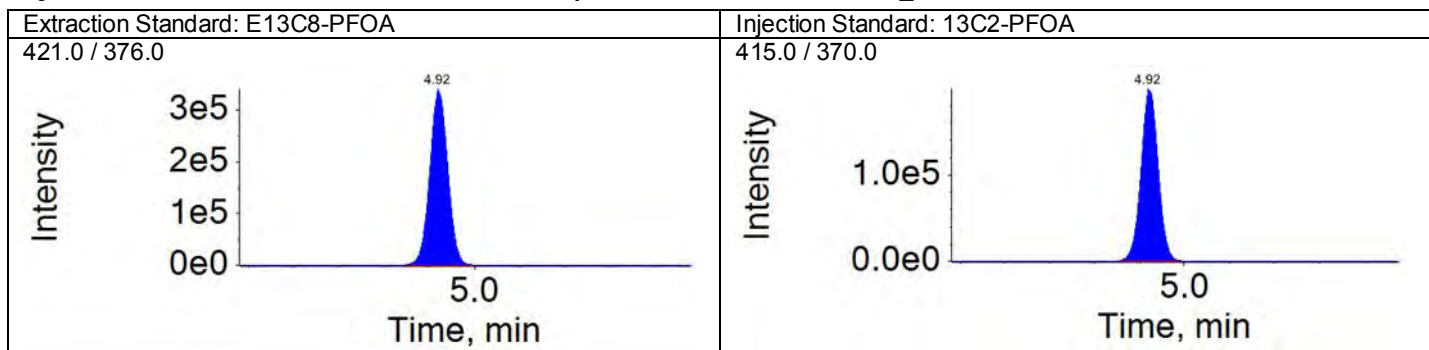


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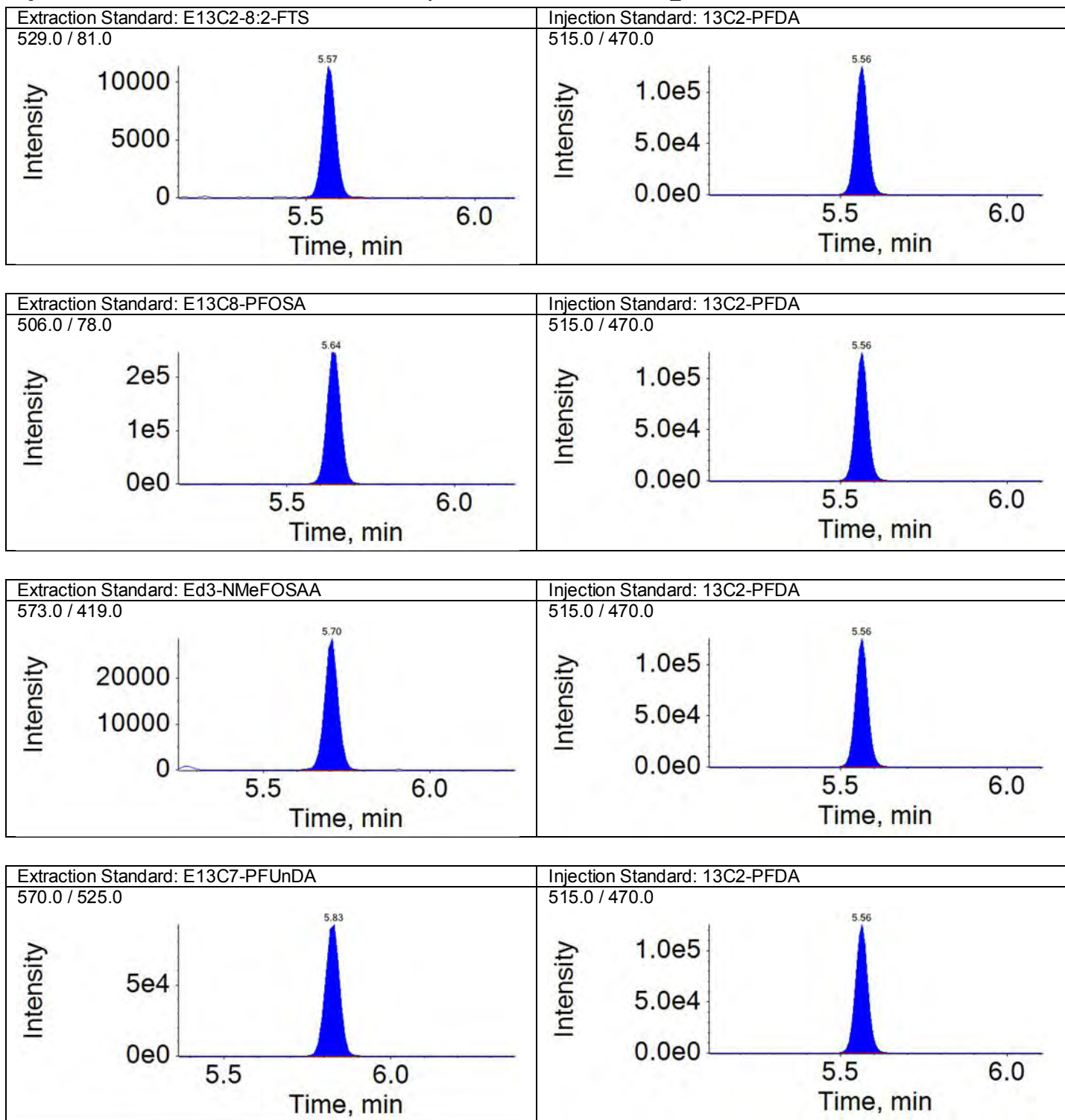
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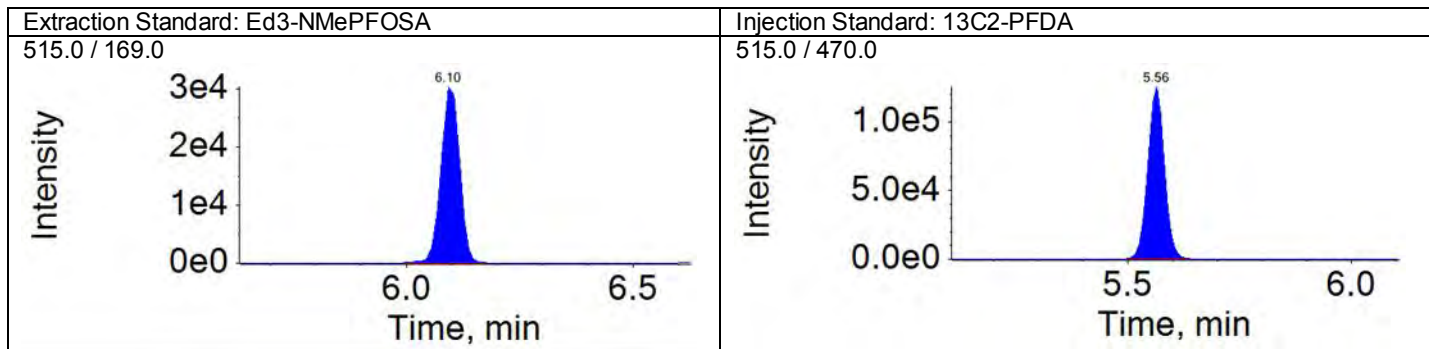
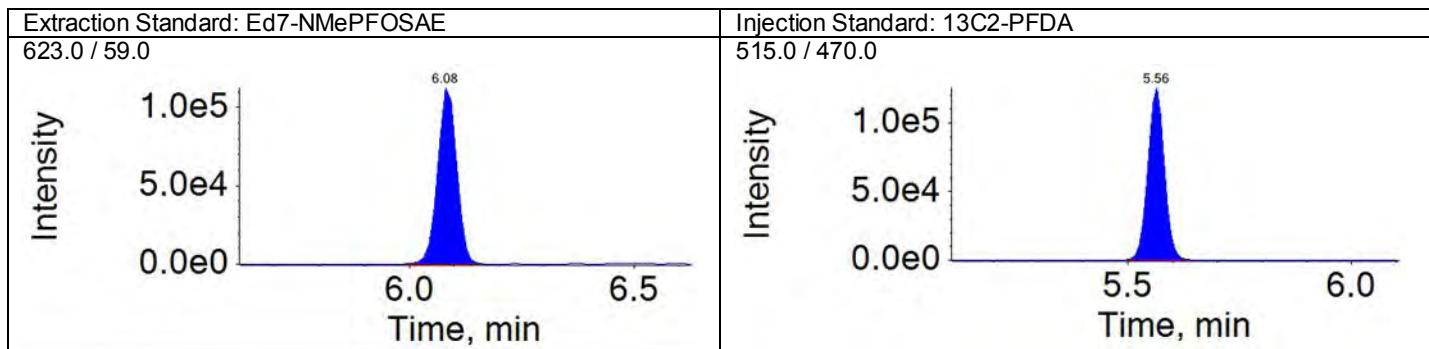
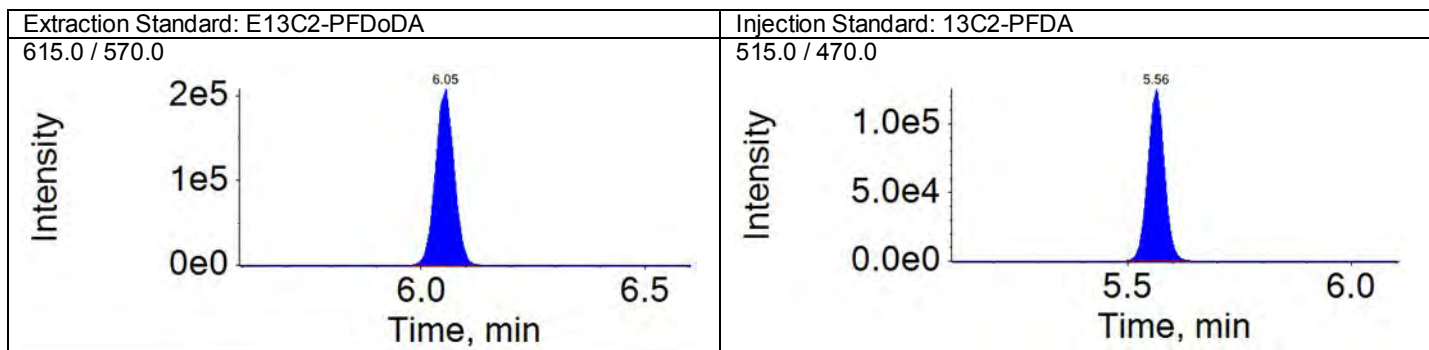
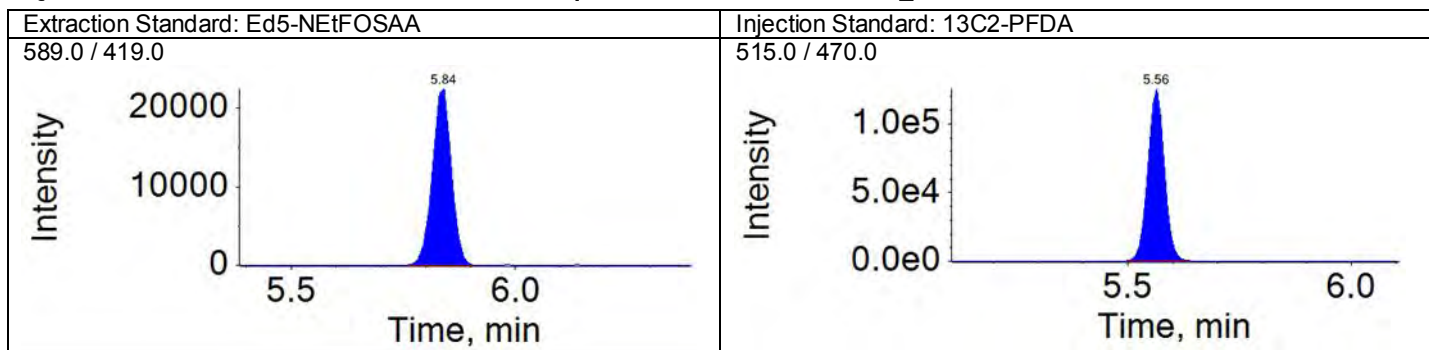
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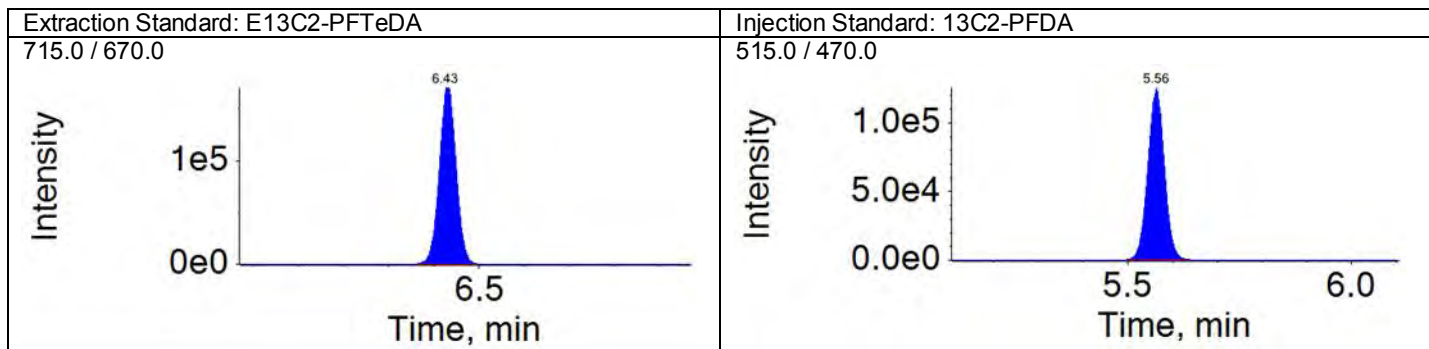
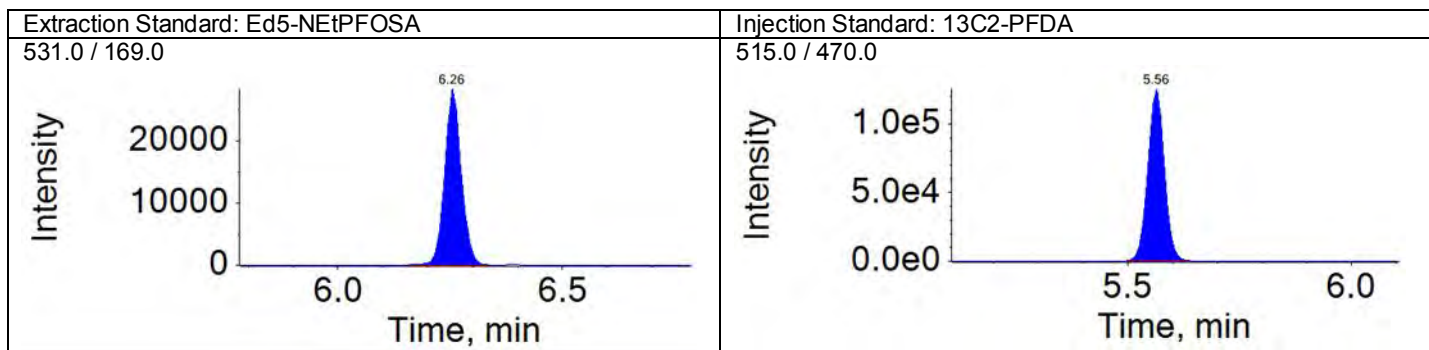
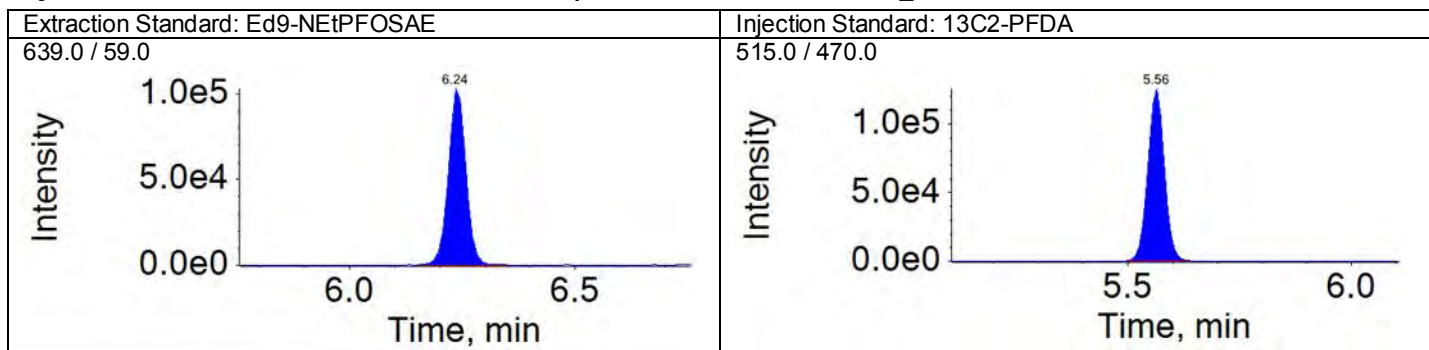
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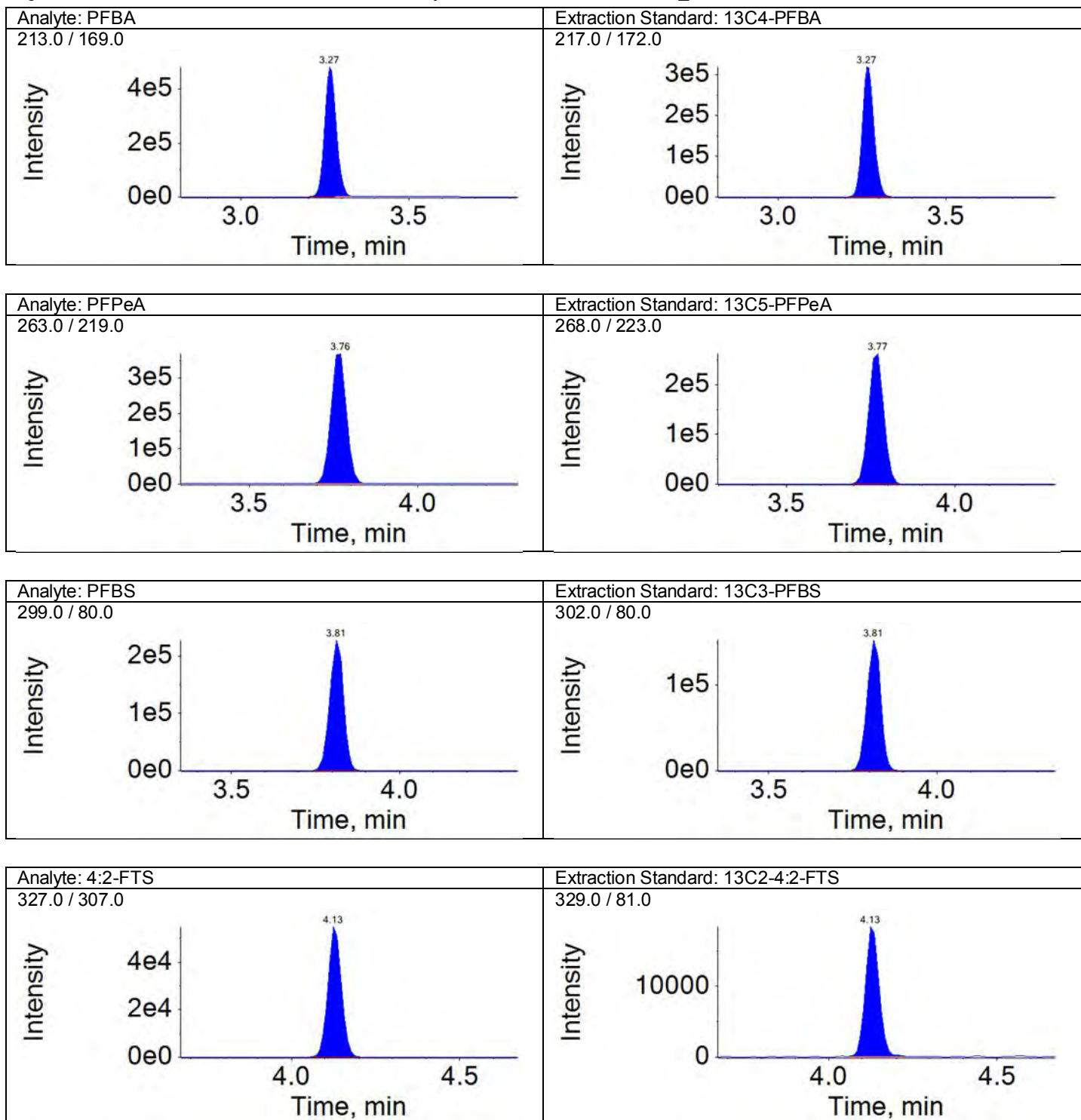
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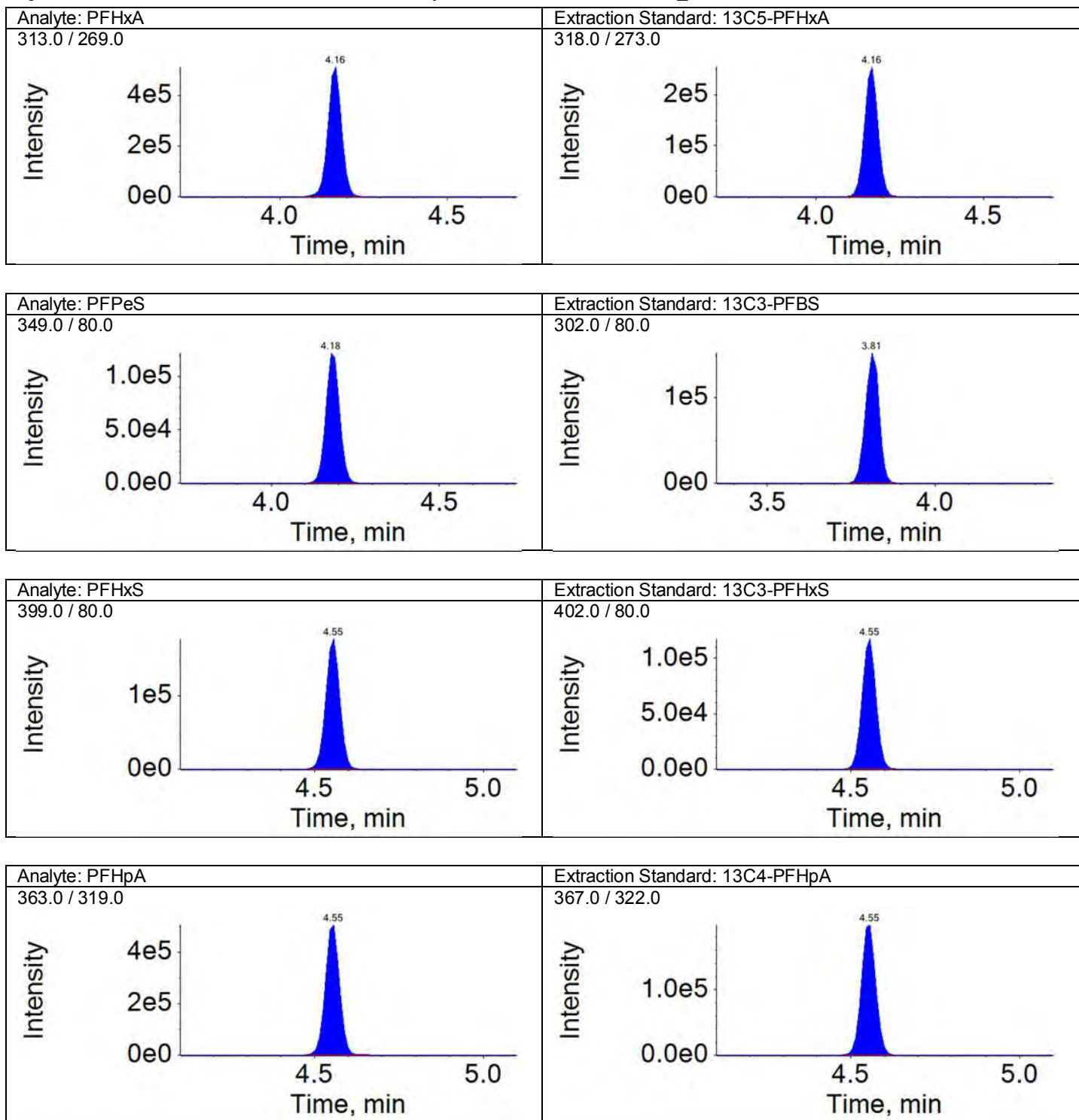
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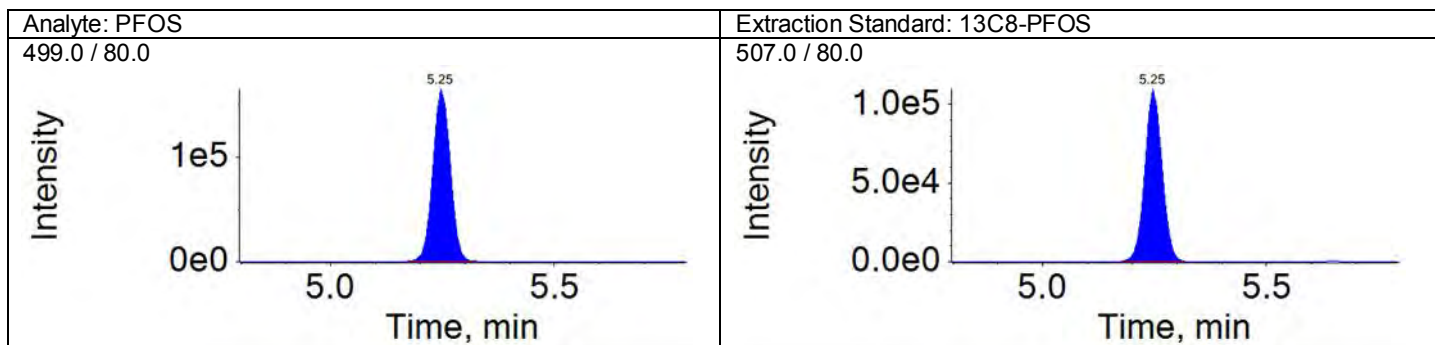
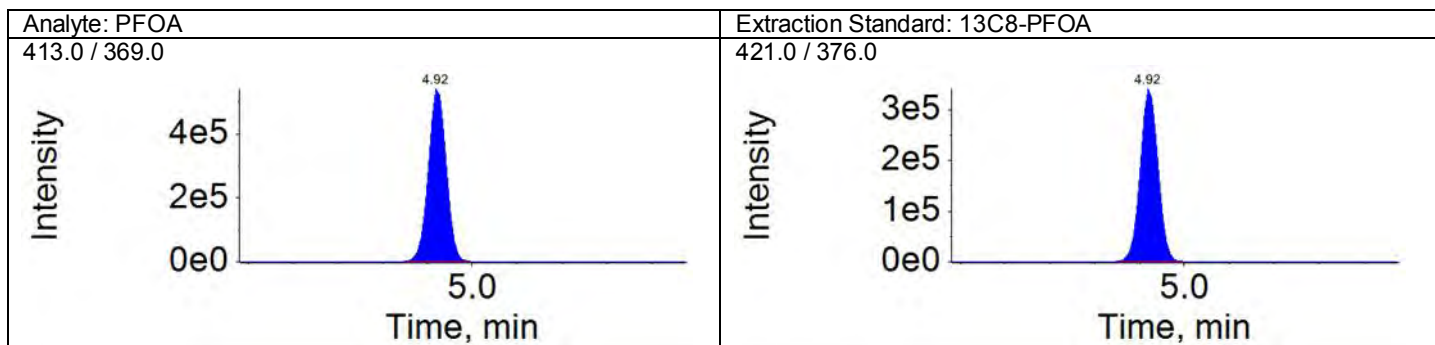
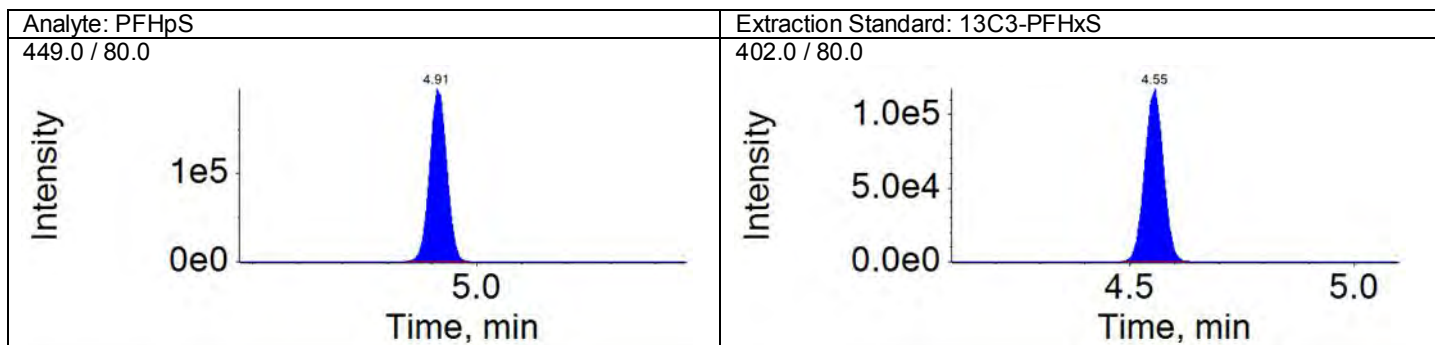
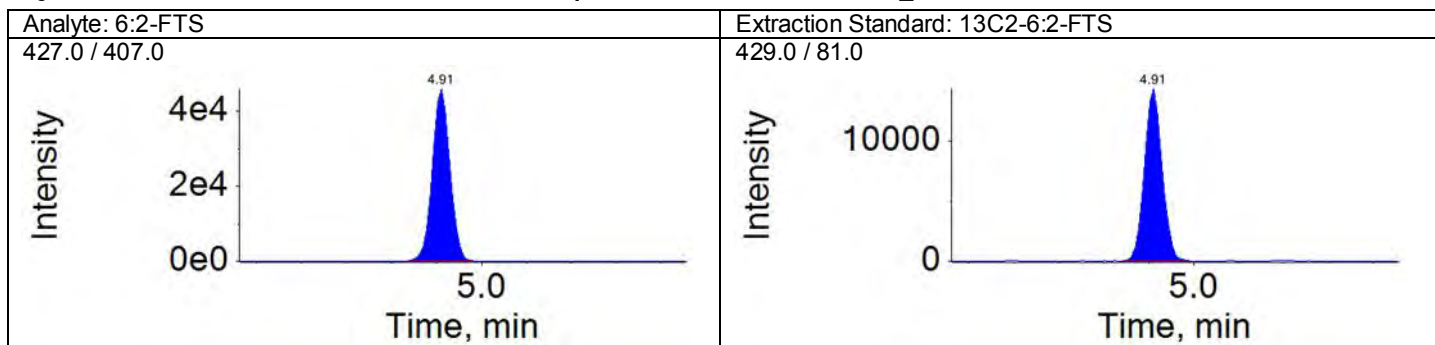
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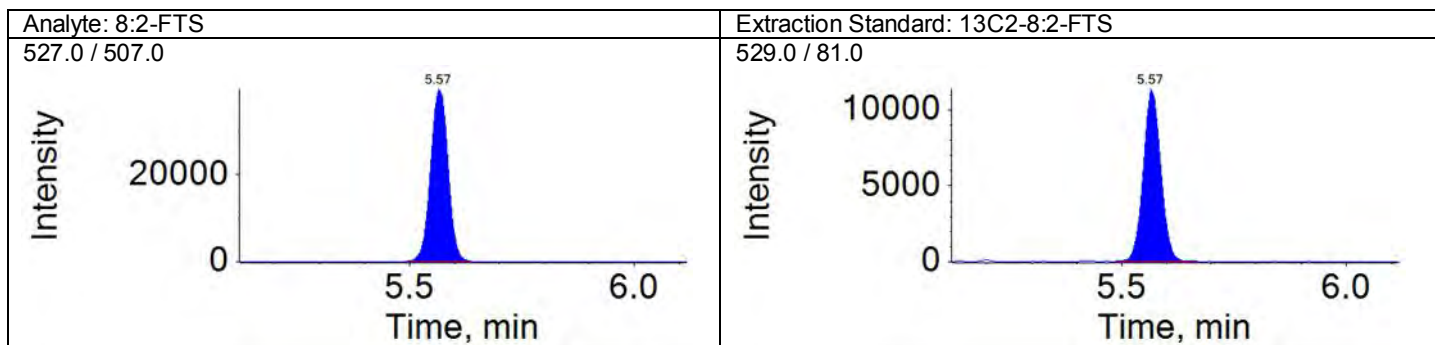
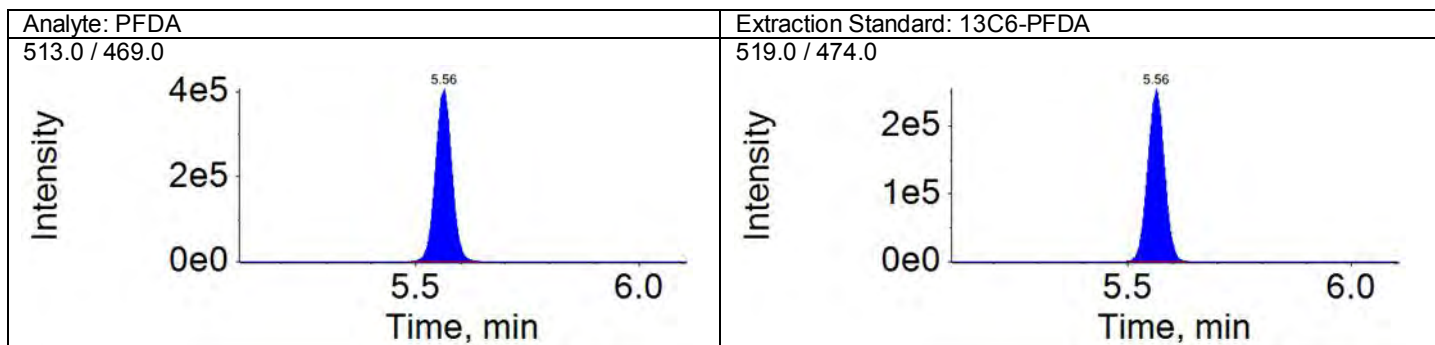
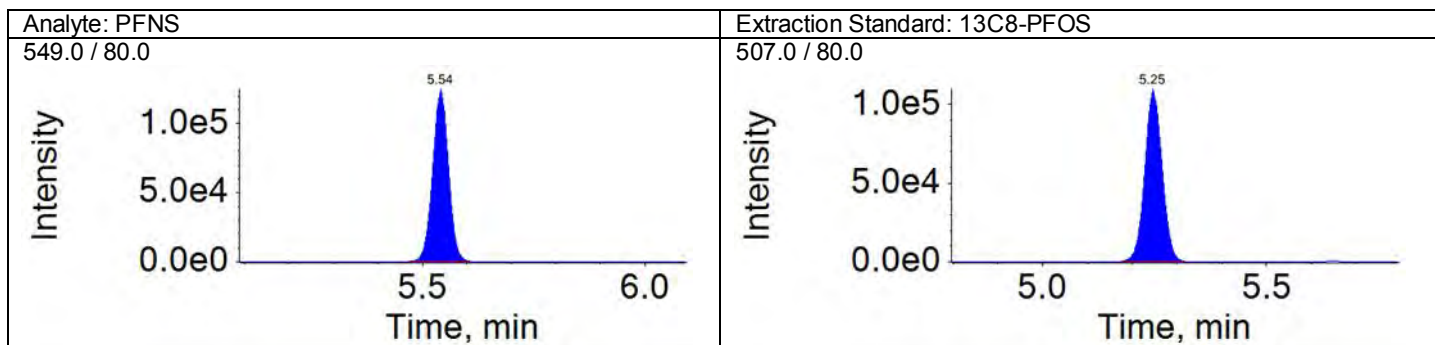
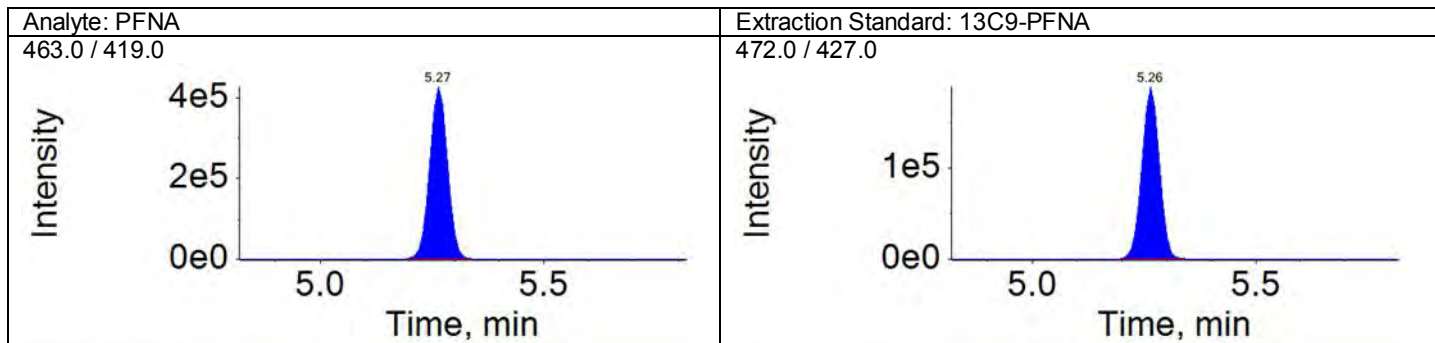
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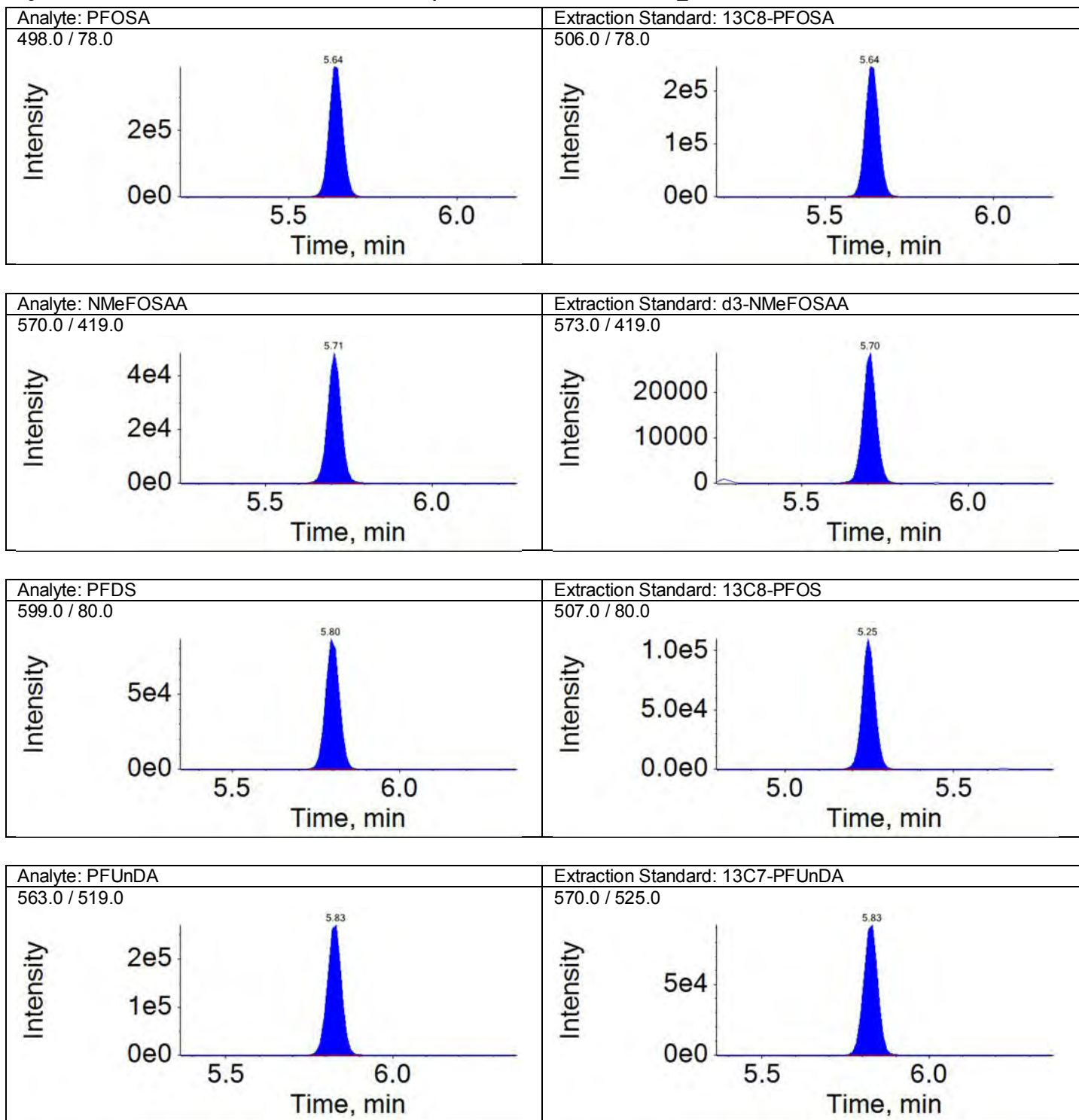
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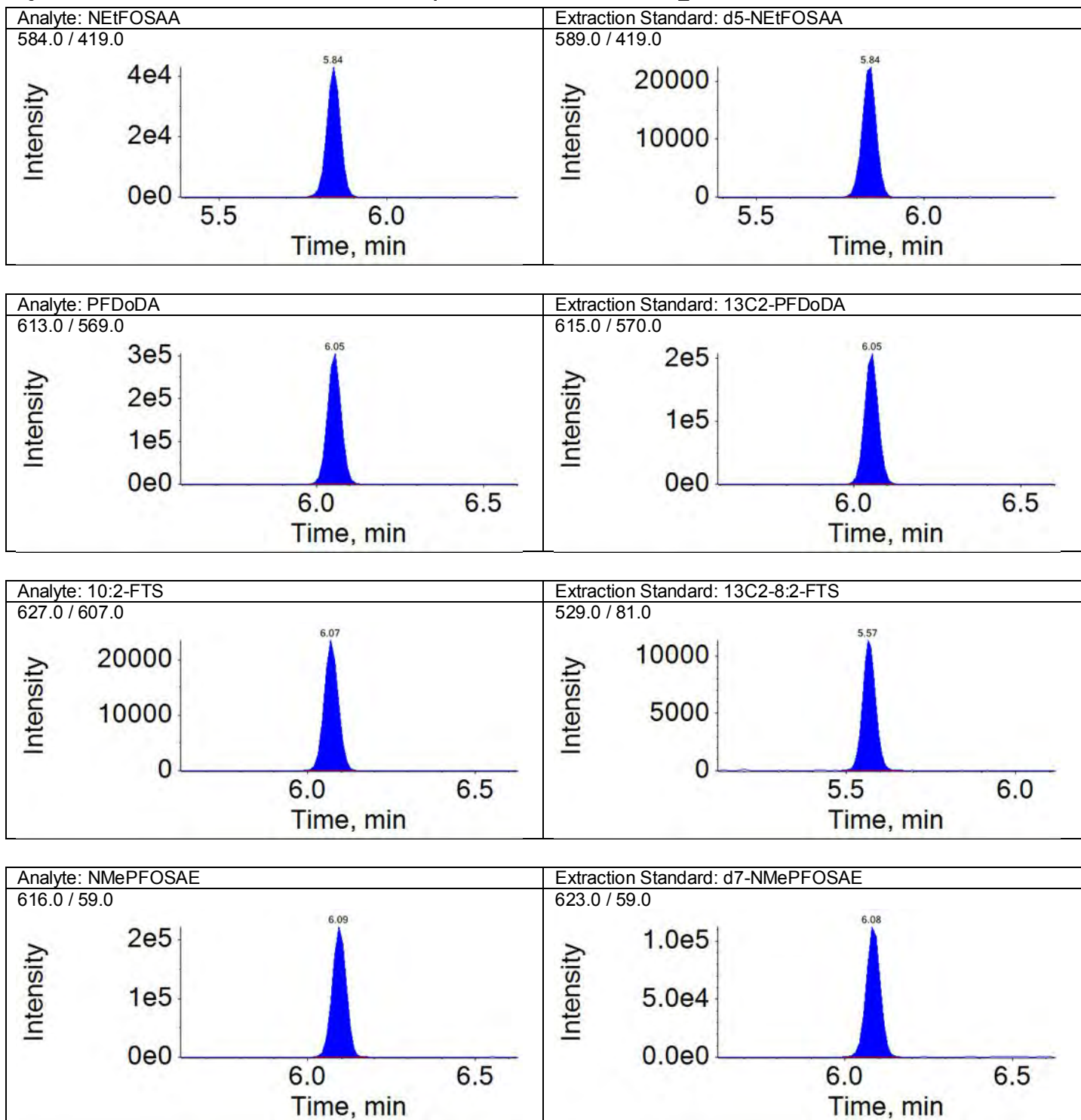
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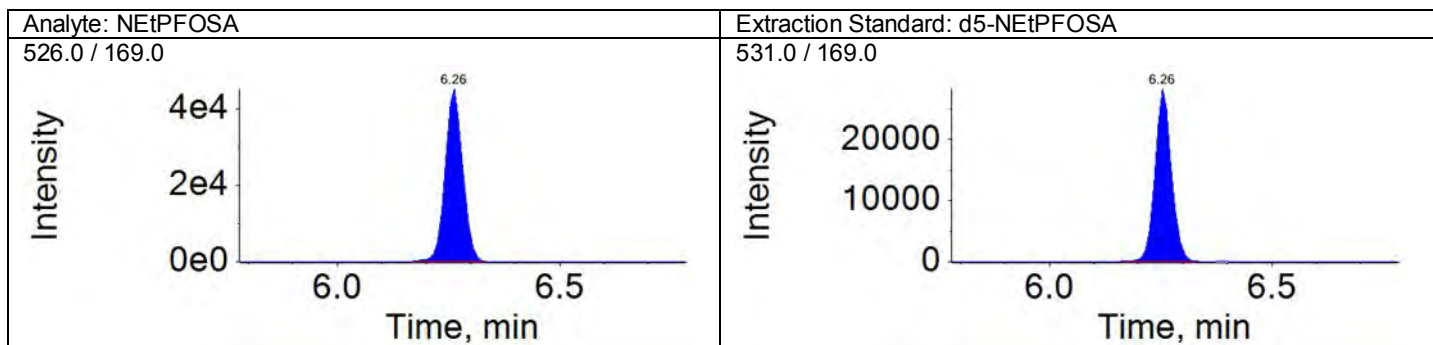
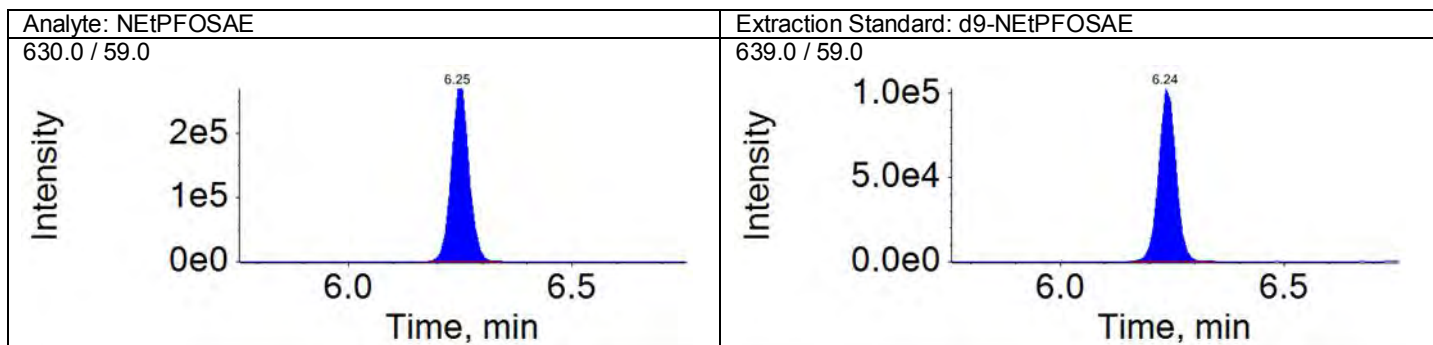
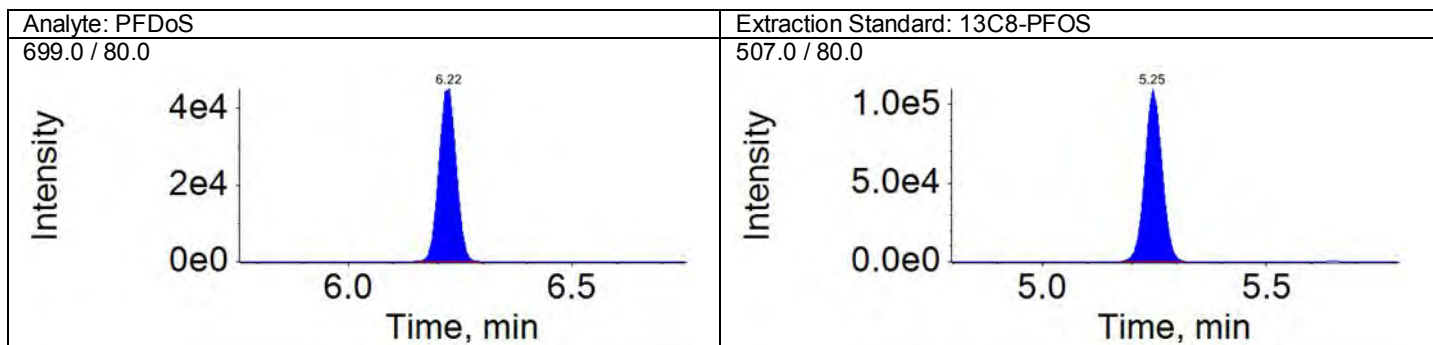
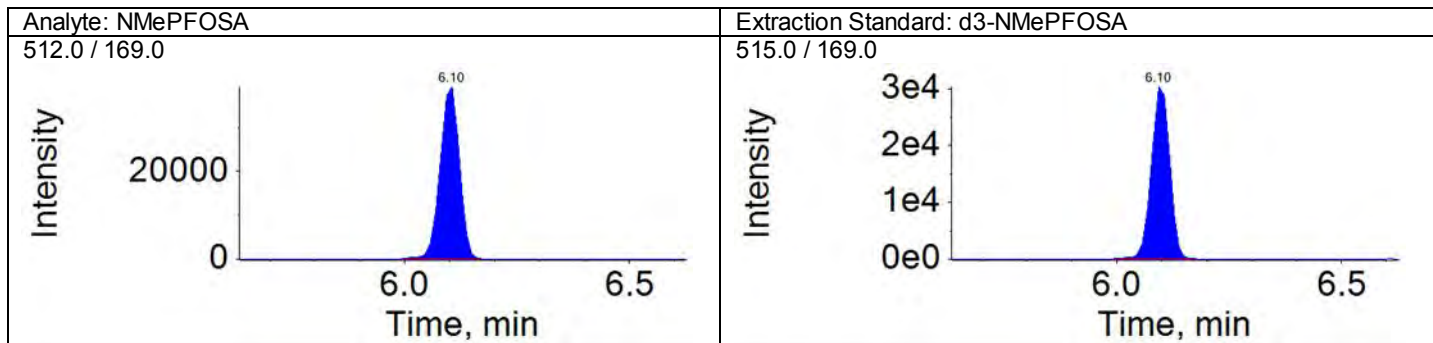
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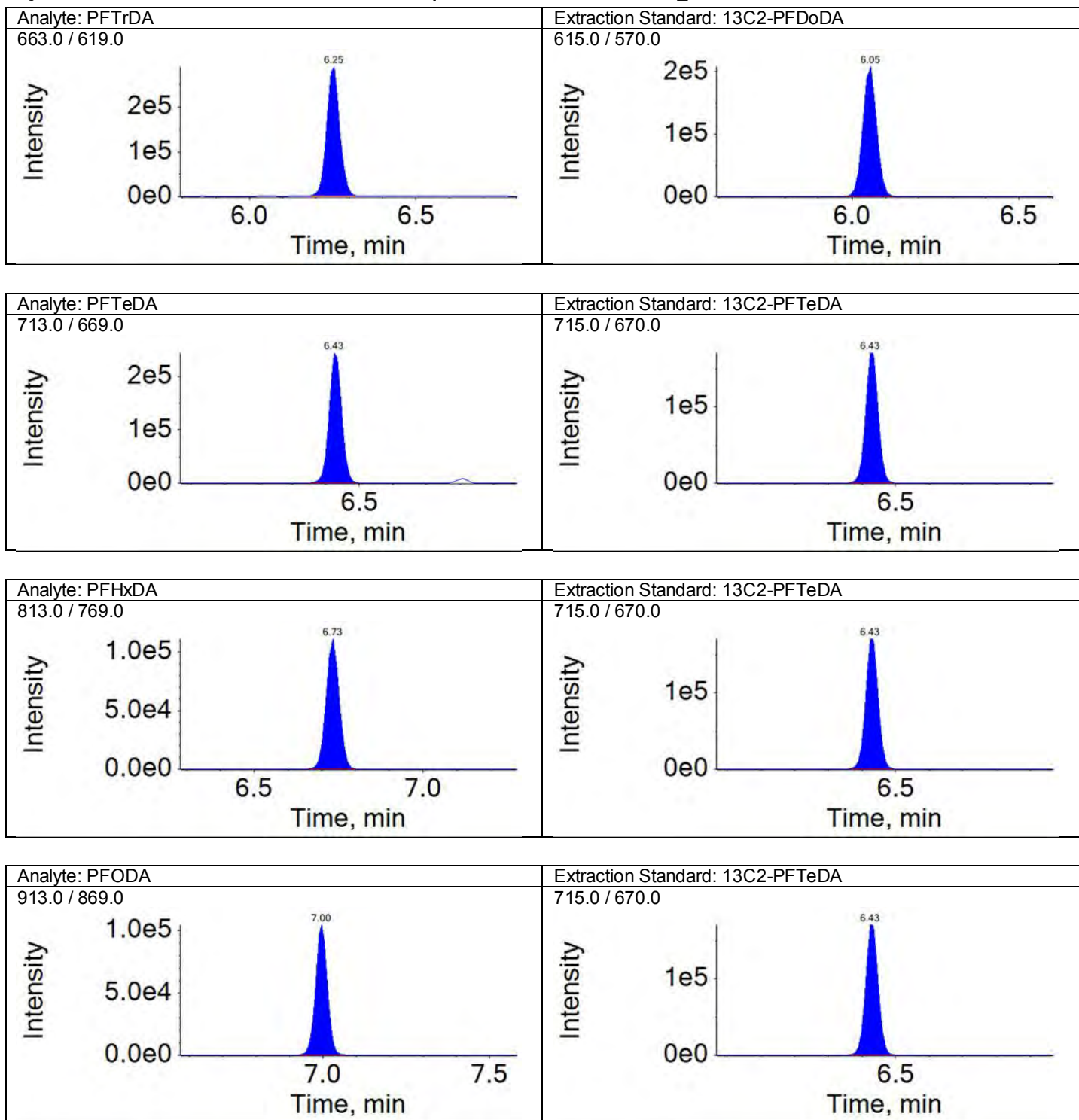
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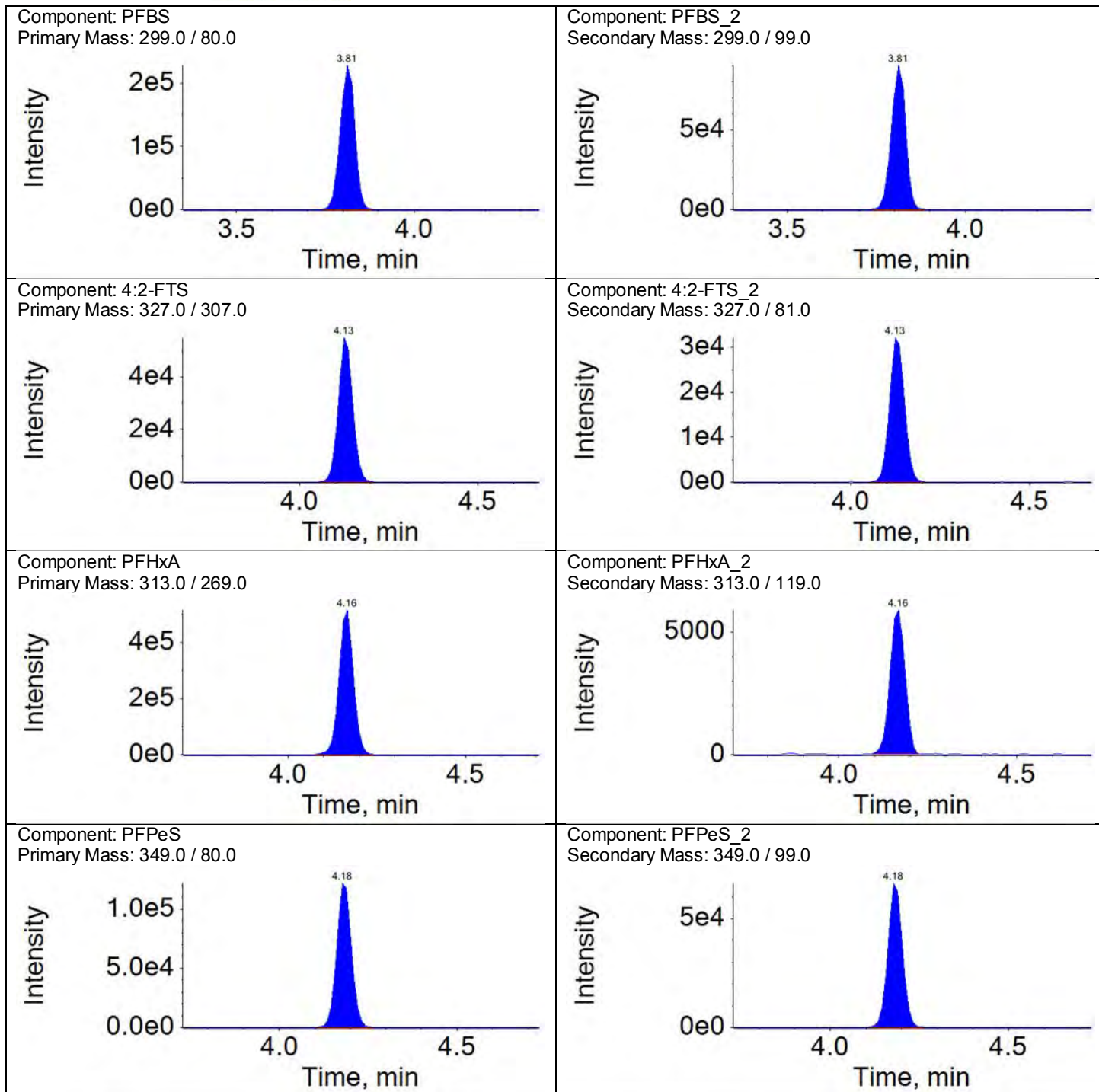
Ion Ratio Report

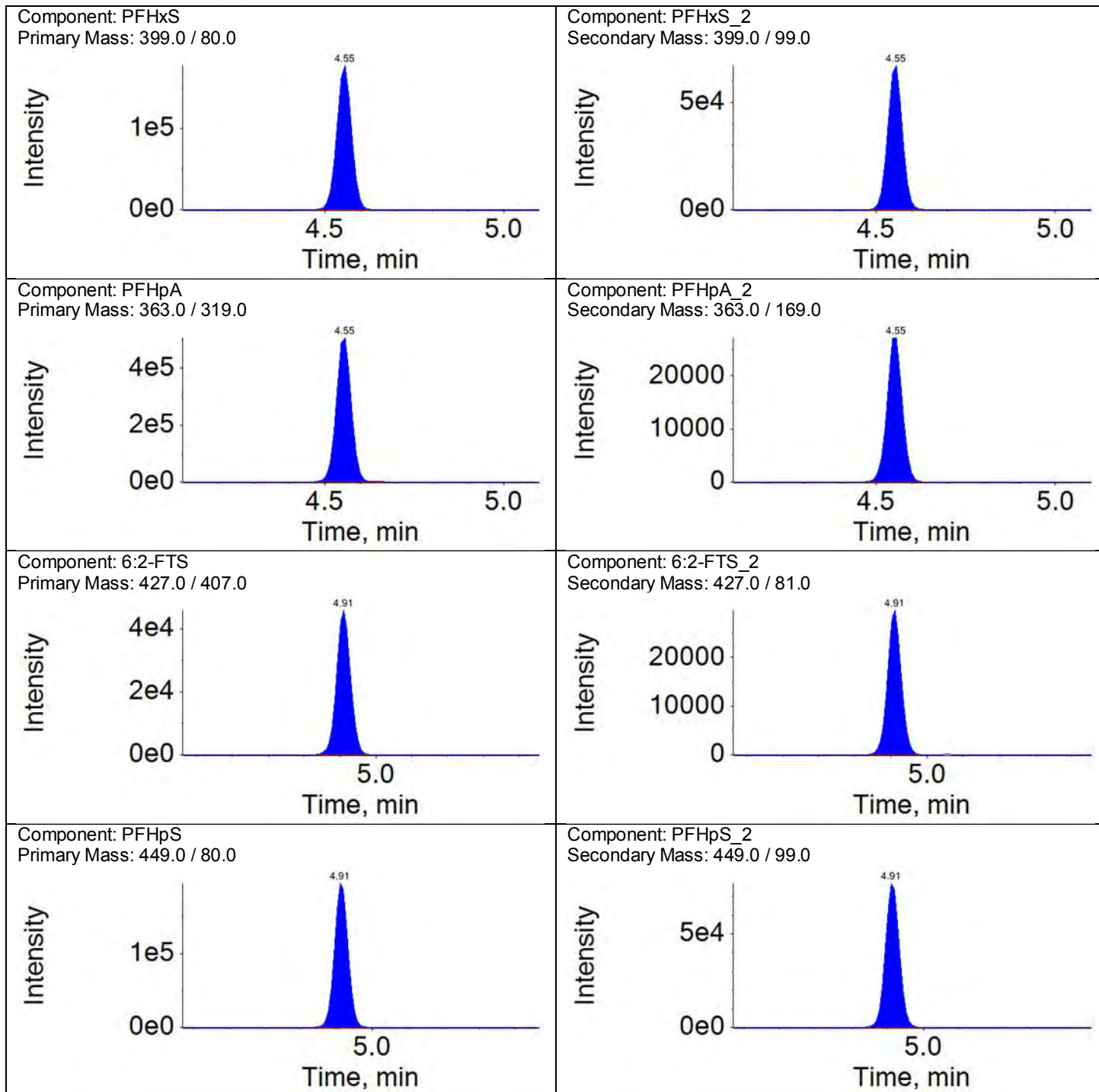
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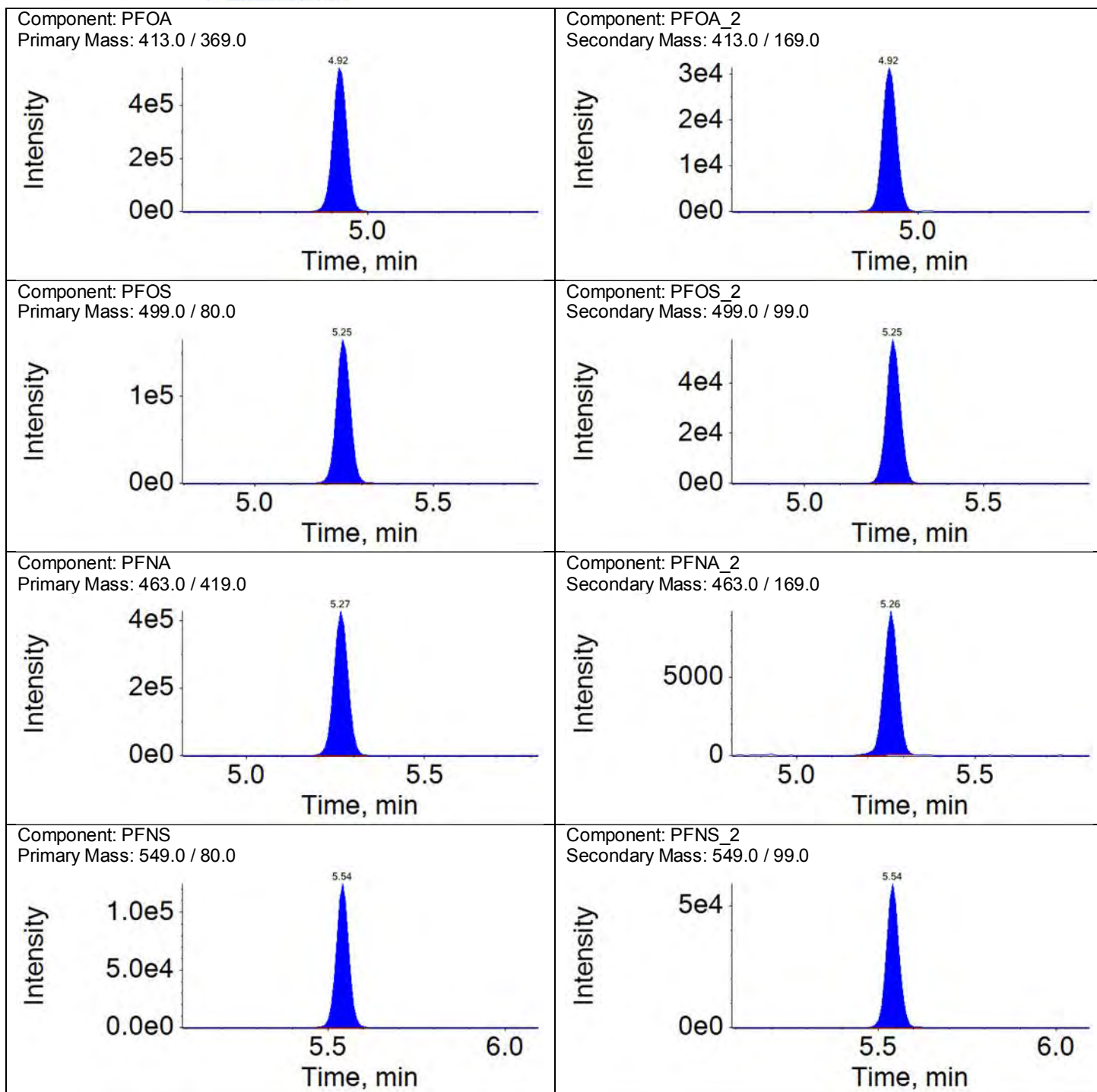
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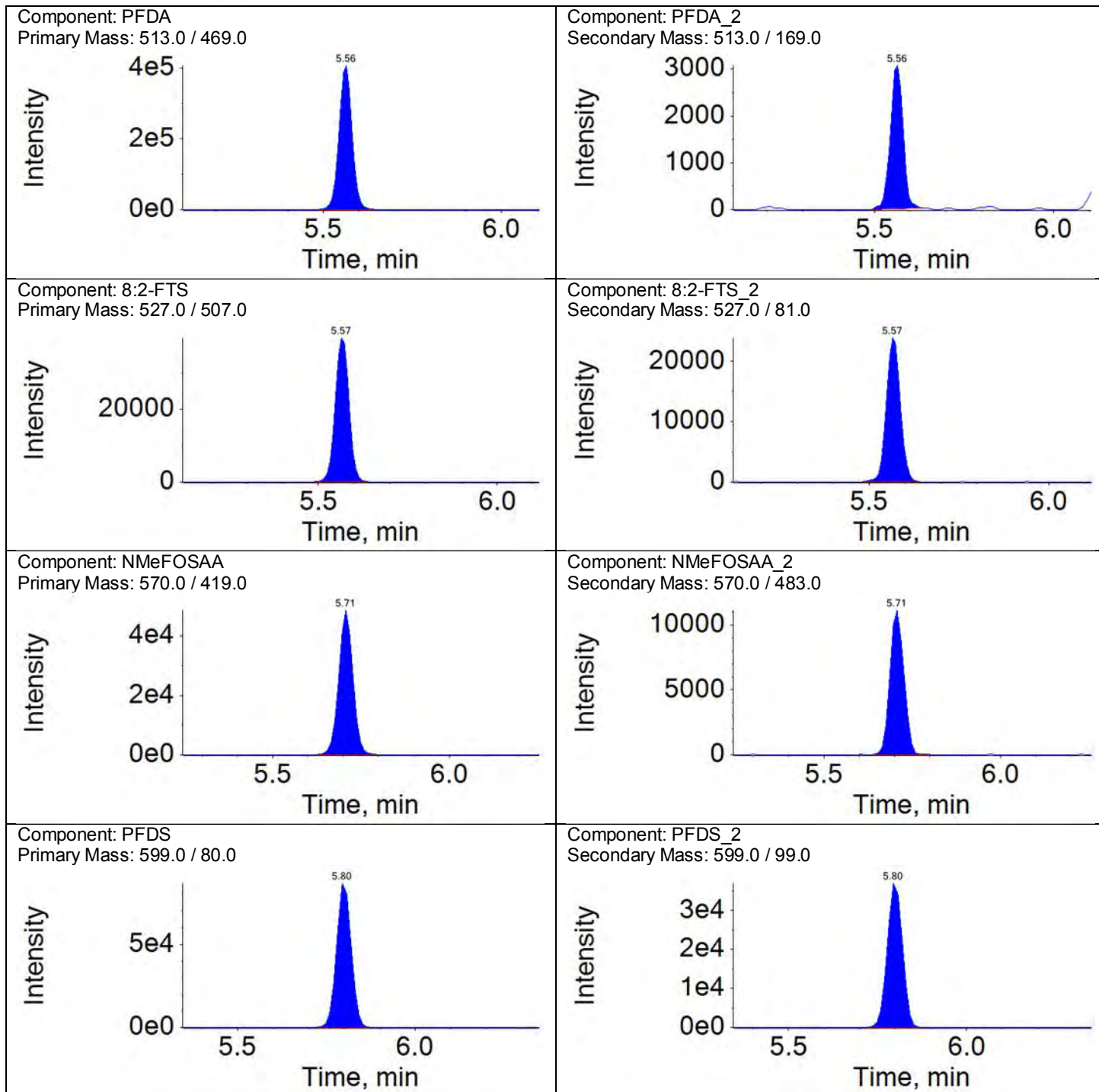
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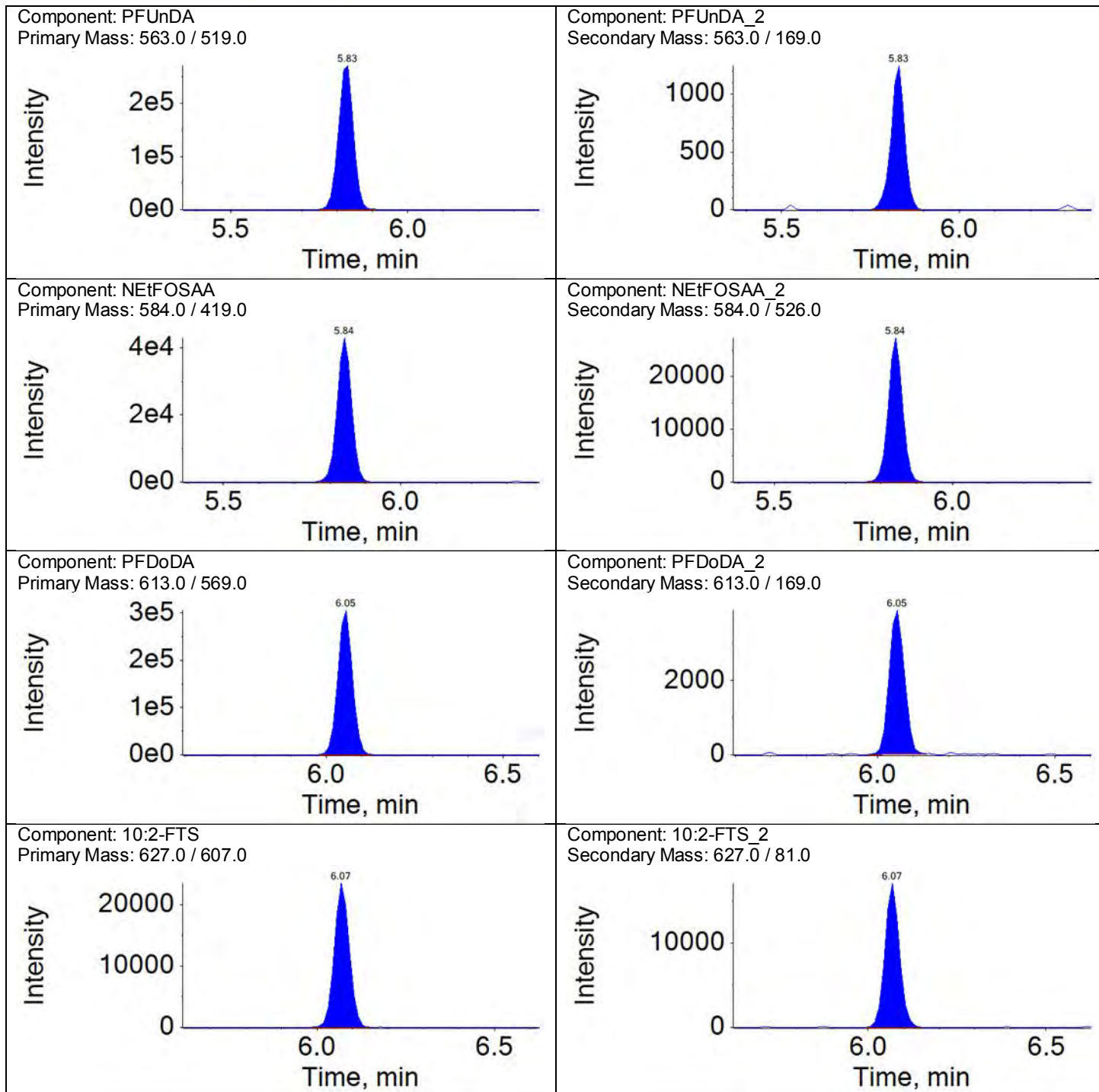
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PFBS_2	3.81	1.00	251751.9	A	0.3576	0.3882	9	50	
4:2-FTS	4.13	1.00	153295.4	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	92676.3	A	0.6359	0.6046	-5	50	
PFHxA	4.16	1.00	1455862.5	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	17238.3	A	0.0115	0.0118	3	50	
PFPeS	4.18	1.10	349358.3	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	186638.0	A	0.5384	0.5342	-1	50	
PFHxS	4.55	1.00	513536.6	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	191630.2	A	0.3569	0.3732	5	50	
PFHpA	4.55	1.00	1481489.5	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	81361.9	A	0.0577	0.0549	-5	50	
6:2-FTS	4.91	1.00	125170.2	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	79402.5	A	0.6752	0.6344	-6	50	
PFHpS	4.91	1.08	516333.1	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	209566.6	A	0.3950	0.4059	3	50	
PFOA	4.92	1.00	1491946.3	A	1.0000	1.0000			
PFOA_2	4.92	1.00	87116.1	A	0.0635	0.0584	-8	50	
PFOS	5.25	1.00	447769.0	A	1.0000	1.0000			
PFOS_2	5.25	1.00	153925.0	A	0.3494	0.3438	-2	50	
PFNA	5.27	1.00	1179151.8	A	1.0000	1.0000			
PFNA_2	5.26	1.00	25252.4	A	0.0207	0.0214	4	50	
PFNS	5.54	1.06	305013.7	A	1.0000	1.0000			
PFNS_2	5.54	1.06	144136.3	A	0.4890	0.4726	-3	50	
PFDA	5.56	1.00	1029893.8	A	1.0000	1.0000			
PFDA_2	5.56	1.00	7604.6	A	0.0057	0.0074	31	50	
8:2-FTS	5.57	1.00	106591.3	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	64856.7	A	0.6169	0.6085	-1	50	
NMeFOSAA	5.71	1.00	136316.9	A	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	30839.5	A	0.2206	0.2262	3	50	
PFDS	5.80	1.11	250911.0	A	1.0000	1.0000			
PFDS_2	5.80	1.11	110579.9	A	0.4648	0.4407	-5	50	
PFUnDA	5.83	1.00	802732.3	A	1.0000	1.0000			
PFUnDA_2	5.83	1.00	3336.4	A	0.0031	0.0042	32	50	
NEtFOSAA	5.84	1.00	121615.1	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	75878.8	A	0.6082	0.6239	3	50	
PFDODA	6.05	1.00	877242.2	A	1.0000	1.0000			
PFDODA_2	6.05	1.00	11649.3	A	0.0109	0.0133	21	50	
10:2-FTS	6.07	1.09	69275.8	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	48328.6	A	0.7082	0.6976	-2	50	
PFTTrDA	6.25	1.03	781283.7	A	1.0000	1.0000			
PFTTrDA_2	6.25	1.03	8100.4	A	0.0096	0.0104	8	50	
PFTeDA	6.43	1.00	630801.4	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	3863.1	A	0.0055	0.0061	11	50	
PFHxDA	6.73	1.05	297242.6	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	17318.1	A	0.0596	0.0583	-2	50	
PFODA	7.00	1.09	251726.5	A	1.0000	1.0000			
PFODA_2	6.99	1.09	6453.4	A	0.0257	0.0256	0	50	

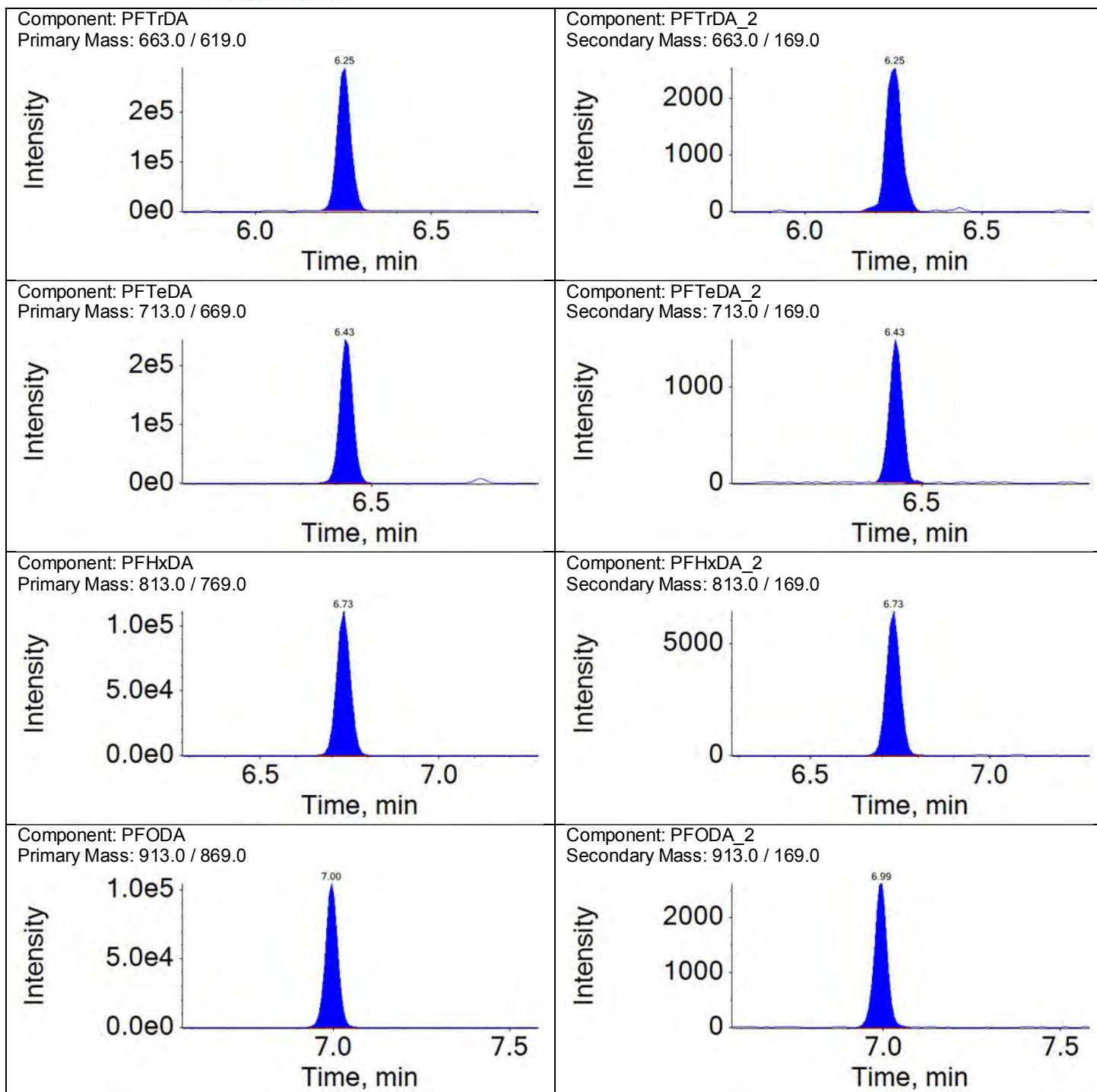












ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CAL5		Data File:	18NOV07DCAL-14.wiff
Sample ID:	CALMOD51833F		Acquis Date:	2018-11-07T10:15:59
Sample Type:	Standard		Instrument:	LM27631
Vial Position:	7		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18NOV07DCAL
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	N/A		Operator:	JPT12262
Sample Wt.:	1.00000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	664213.6	730410.6	-9	50	
13C2-PFOA	5.0	488019.6	524423.6	-7	50	
13C4-PFOS	4.8	275029.2	274061.7	0	50	
13C2-PFDA	5.0	298912.1	311442.1	-4	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	728925.1	13C3-PFBA	664213.6	1.097	5.000	5.079	102	70-130	
E13C5-PFPeA	768958.1	13C3-PFBA	664213.6	1.158	5.000	5.043	101	70-130	
E13C3-PFBS	442479.7	13C3-PFBA	664213.6	0.666	4.650	4.889	105	70-130	
E13C2-4:2-FTS	48869.9	13C2-PFOA	488019.6	0.100	4.670	4.519	97	70-130	
E13C5-PFHxA	674375.4	13C2-PFOA	488019.6	1.382	5.000	5.083	102	70-130	
E13C3-PFHxS	332808.5	13C2-PFOA	488019.6	0.682	4.730	4.896	104	70-130	
E13C4-PFHpA	544681.1	13C2-PFOA	488019.6	1.116	5.000	5.077	102	70-130	
E13C2-6:2-FTS	32735.6	13C2-PFOA	488019.6	0.067	4.750	4.473	94	70-130	
E13C8-PFOA	895692.2	13C2-PFOA	488019.6	1.835	5.000	5.118	102	70-130	
E13C8-PFOS	297995.6	13C4-PFOS	275029.2	1.084	4.780	4.791	100	70-130	
E13C9-PFNA	484419.3	13C4-PFOS	275029.2	1.761	5.000	4.811	96	70-130	
E13C6-PFDA	598009.7	13C2-PFDA	298912.1	2.001	5.000	5.031	101	70-130	
E13C2-8:2-FTS	27554.0	13C2-PFDA	298912.1	0.092	4.790	4.878	102	70-130	
E13C8-PFOSA	737038.5	13C2-PFDA	298912.1	2.466	5.000	5.381	108	70-130	
Ed3-NMeFOSAA	73896.1	13C2-PFDA	298912.1	0.247	5.000	4.597	92	70-130	
E13C7-PFUnDA	263924.7	13C2-PFDA	298912.1	0.883	5.000	5.094	102	70-130	
Ed5-NEtFOSAA	57745.7	13C2-PFDA	298912.1	0.193	5.000	4.471	89	70-130	
E13C2-PFDoDA	548536.0	13C2-PFDA	298912.1	1.835	5.000	4.947	99	70-130	
Ed7-NMePFOSAE	321549.5	13C2-PFDA	298912.1	1.076	5.000	5.002	100	70-130	
Ed3-NMePFOSA	82137.6	13C2-PFDA	298912.1	0.275	5.000	5.031	101	70-130	
Ed9-NEtPFOSAE	259950.9	13C2-PFDA	298912.1	0.870	5.000	4.966	99	70-130	
Ed5-NEtPFOSA	62005.6	13C2-PFDA	298912.1	0.207	5.000	4.803	96	70-130	
E13C2-PFTeDA	421798.8	13C2-PFDA	298912.1	1.411	5.000	5.080	102	70-130	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: CAL5

Instrument Name: LM27631

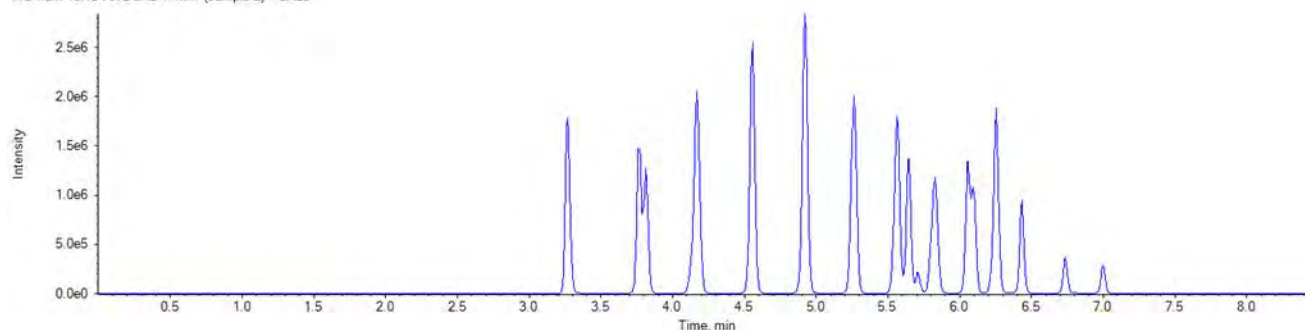
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Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	2730076.0		A	13C4-PFBA	3.27	728925.1	3.745	21.919
PFPeA	3.77	1.000	2812772.2		A	13C5-PFPeA	3.77	768958.1	3.658	21.739
PFBS	3.82	1.000	1601296.4		A	13C3-PFBS	3.82	442479.7	3.619	18.246
4:2-FTS	4.13	1.000	365423.8		A	13C2-4:2-FTS	4.13	48869.9	7.477	20.102
PFHxA	4.16	1.000	3380716.3		A	13C5-PFHxA	4.17	674375.4	5.013	21.499
PFPeS	4.18	1.100	845636.3		A	13C3-PFBS	3.82	442479.7	1.911	18.849
PFHxS	4.55	1.000	1261633.0		A	13C3-PFHxS	4.55	332808.5	3.791	19.215
PFHpA	4.55	1.000	3440372.8		A	13C4-PFHpA	4.55	544681.1	6.316	21.243
6:2-FTS	4.91	1.000	278493.0		A	13C2-6:2-FTS	4.91	32735.6	8.507	21.223
PFHpS	4.92	1.080	1236603.7		A	13C3-PFHxS	4.55	332808.5	3.716	19.439
PFOA	4.92	1.000	3425279.8		A	13C8-PFOA	4.92	895692.2	3.824	21.532
PFOS	5.25	1.000	1108359.9		A	13C8-PFOS	5.25	297995.6	3.719	19.287
PFNA	5.27	1.000	2889454.7		A	13C9-PFNA	5.27	484419.3	5.965	22.292
PFNS	5.54	1.060	722178.3		A	13C8-PFOS	5.25	297995.6	2.423	19.215
PFDA	5.57	1.000	2401274.2		A	13C6-PFDA	5.57	598009.7	4.015	22.091
8:2-FTS	5.57	1.000	244867.6		A	13C2-8:2-FTS	5.57	27554.0	8.887	20.031
PFOSA	5.64	1.000	2448684.3		A	13C8-PFOSA	5.64	737038.5	3.322	17.959
NMeFOSAA	5.71	1.000	308507.7		A	d3-NMeFOSAA	5.71	73896.1	4.175	21.482
PFDS	5.80	1.110	605559.3		A	13C8-PFOS	5.25	297995.6	2.032	19.412
PFOA	5.83	1.000	1952356.4		A	13C7-PFOA	5.83	263924.7	7.397	21.214
NEtFOSAA	5.85	1.000	298834.2		A	d5-NEtFOSAA	5.84	57745.7	5.175	22.240
PFDODA	6.06	1.000	2132260.7		A	13C2-PFDODA	6.06	548536.0	3.887	21.067
10:2-FTS	6.07	1.090	177607.5		A	13C2-8:2-FTS	5.57	27554.0	6.446	20.071
NMePFOSAE	6.10	1.000	1583085.5		A	d7-NMePFOSAE	6.09	321549.5	4.923	22.062
NMePFOSA	6.10	1.000	323567.0		A	d3-NMePFOSA	6.10	82137.6	3.939	22.050
PFDOS	6.22	1.190	295383.8		A	13C8-PFOS	5.25	297995.6	0.991	19.132
NEtPFOSAE	6.25	1.000	1810587.6		A	d9-NEtPFOSAE	6.24	259950.9	6.965	22.328
NEtPFOSA	6.27	1.000	290096.1		A	d5-NEtPFOSA	6.26	62005.6	4.679	20.605
PFTDA	6.25	1.030	1851055.0		A	13C2-PFDODA	6.06	548536.0	3.375	21.280
PFTeDA	6.43	1.000	1500655.1		A	13C2-PFTeDA	6.43	421798.8	3.558	20.892
PFHxDA	6.73	1.050	716467.3		A	13C2-PFTeDA	6.43	421798.8	1.699	21.085
PFOA	7.00	1.090	624697.0		A	13C2-PFTeDA	6.43	421798.8	1.481	21.218

Total Ion Chromatogram

TIC from 18NOV07DCAL-14.wiff (sample 2) - CAL5



APPROVED

By JPT at 2:53 pm, 11/7/18

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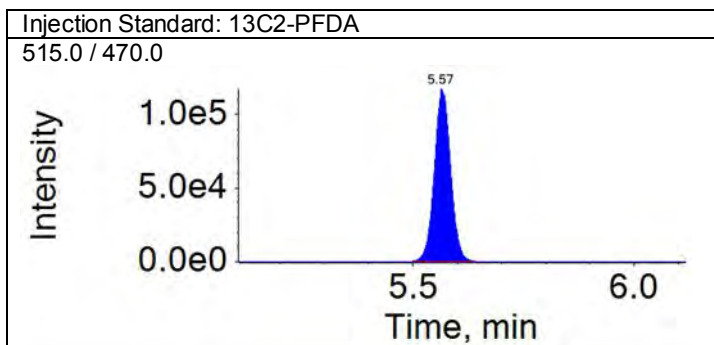
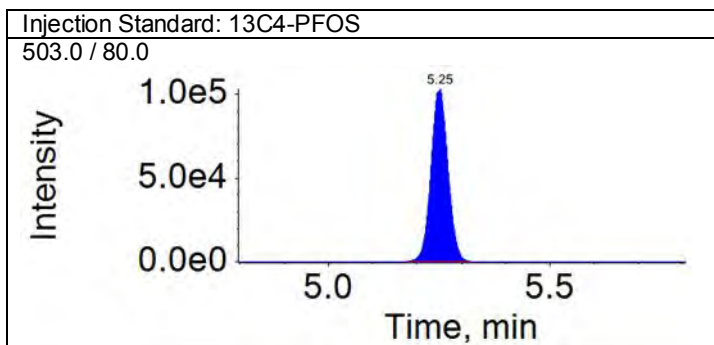
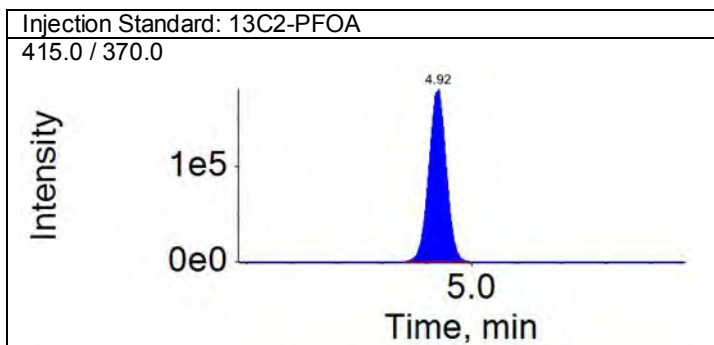
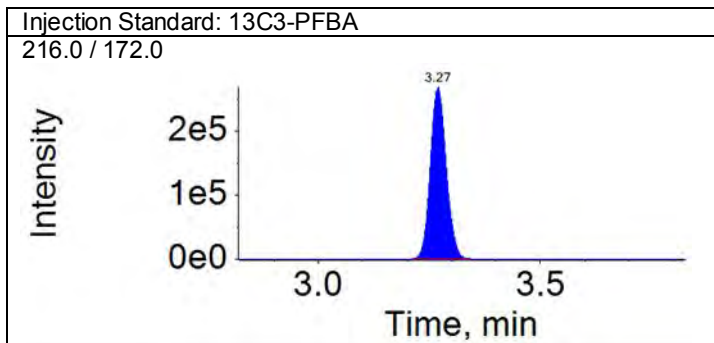
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By umar at 5:23 pm, 11/9/18

Page 2 of 17

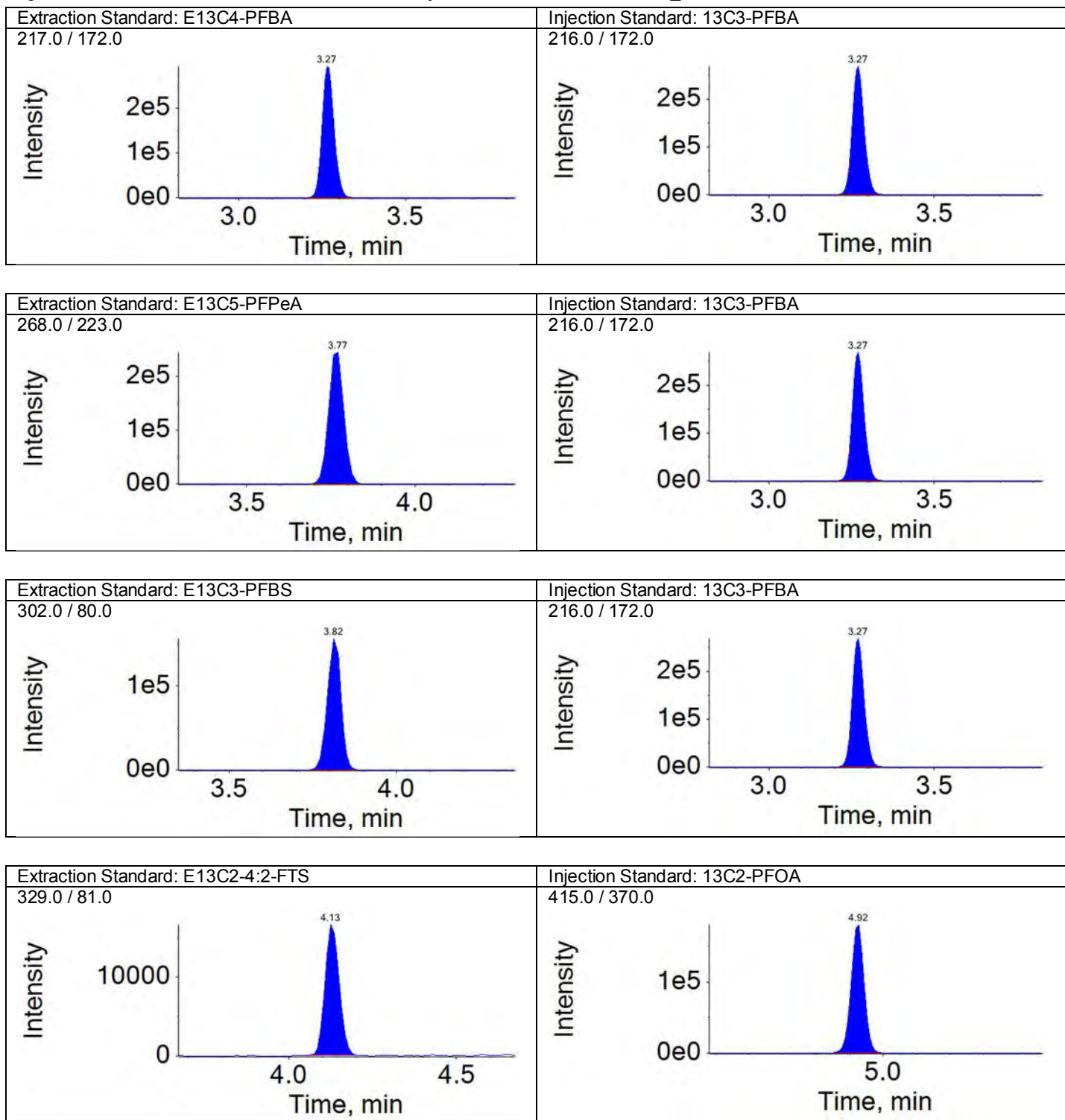
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Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



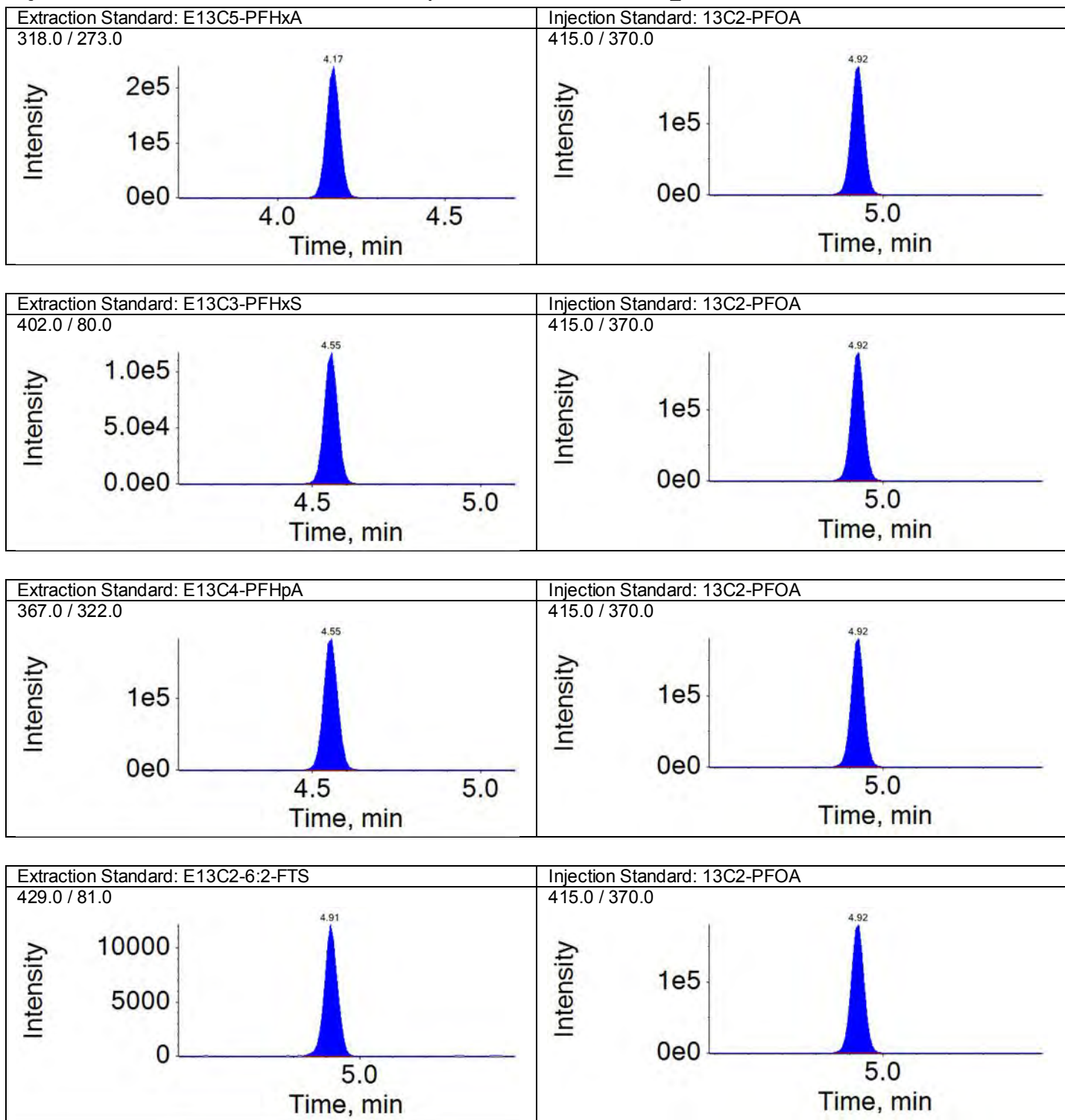
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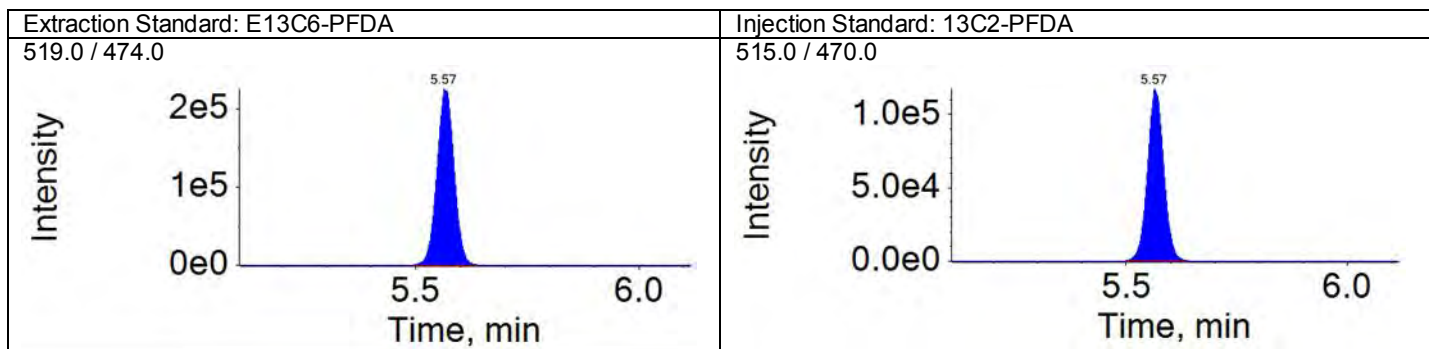
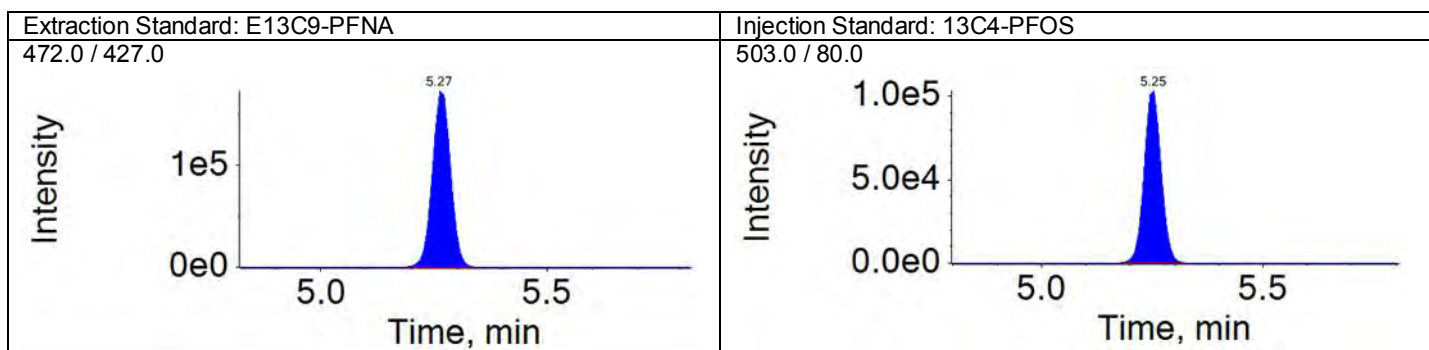
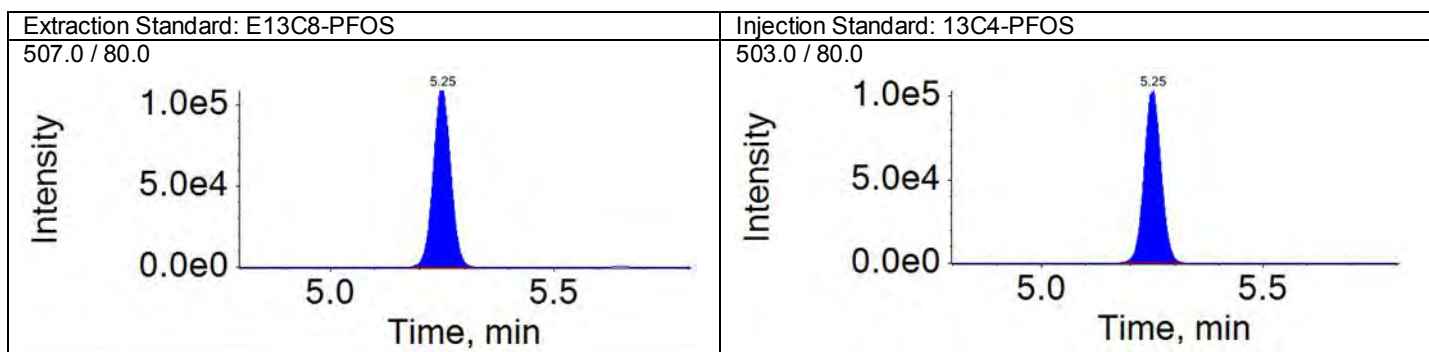
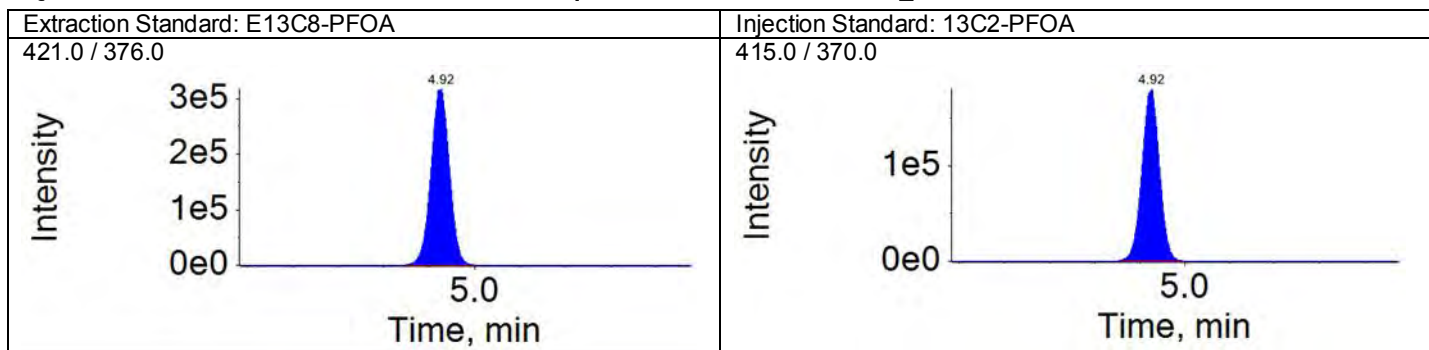
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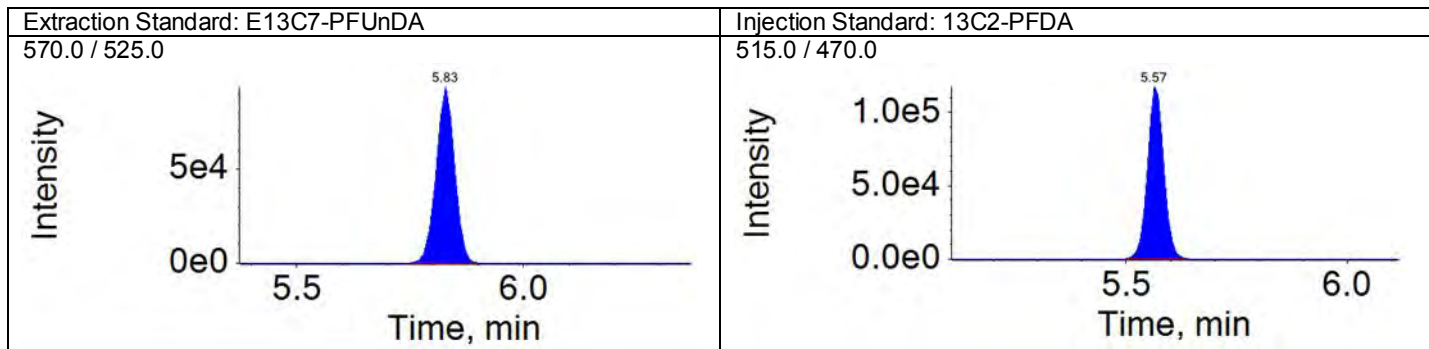
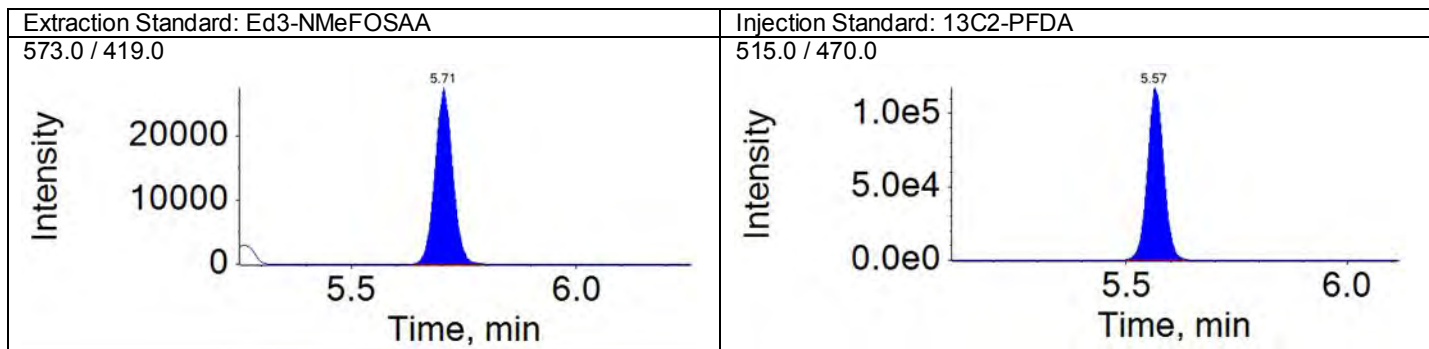
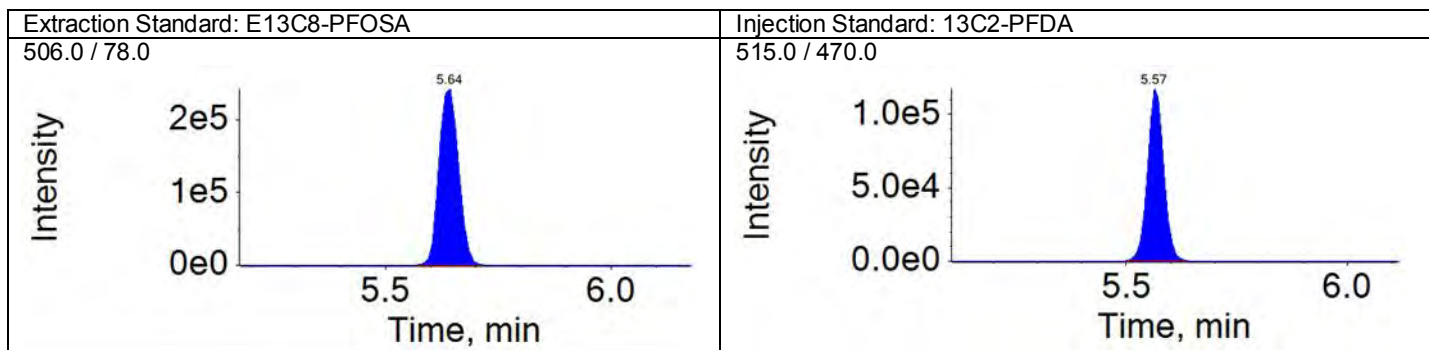
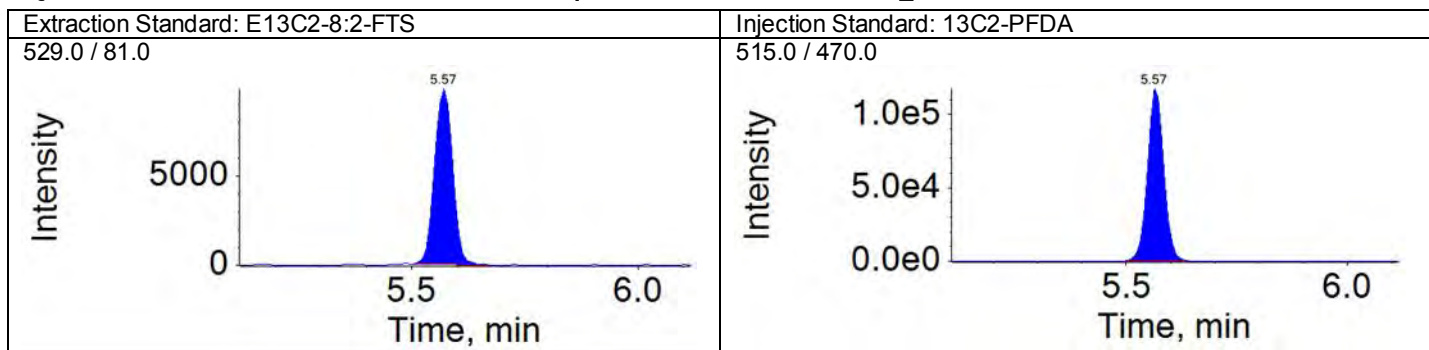
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ICAL Name: 18NOV07DCAL
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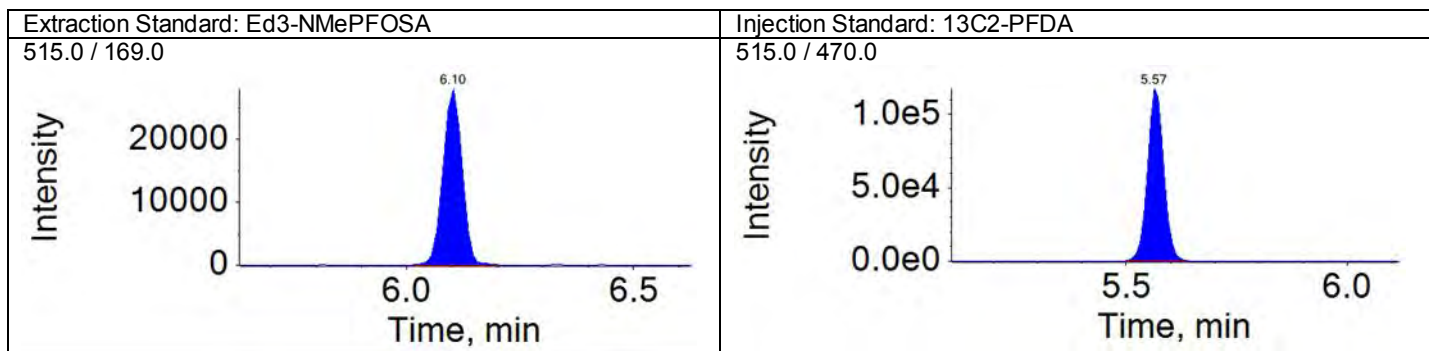
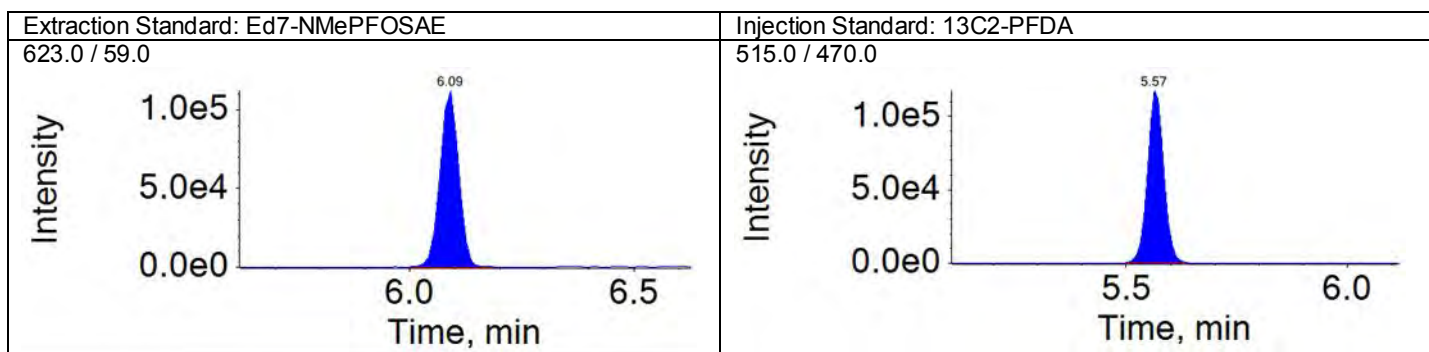
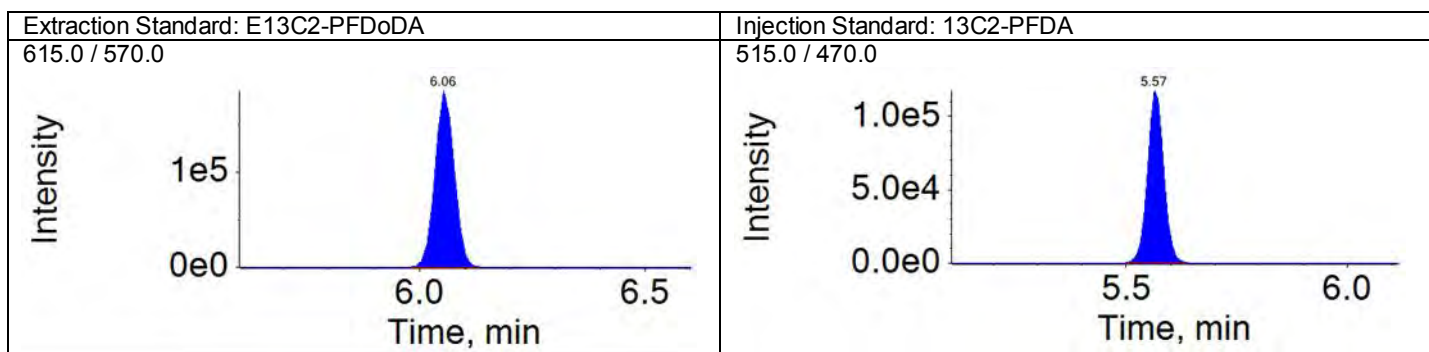
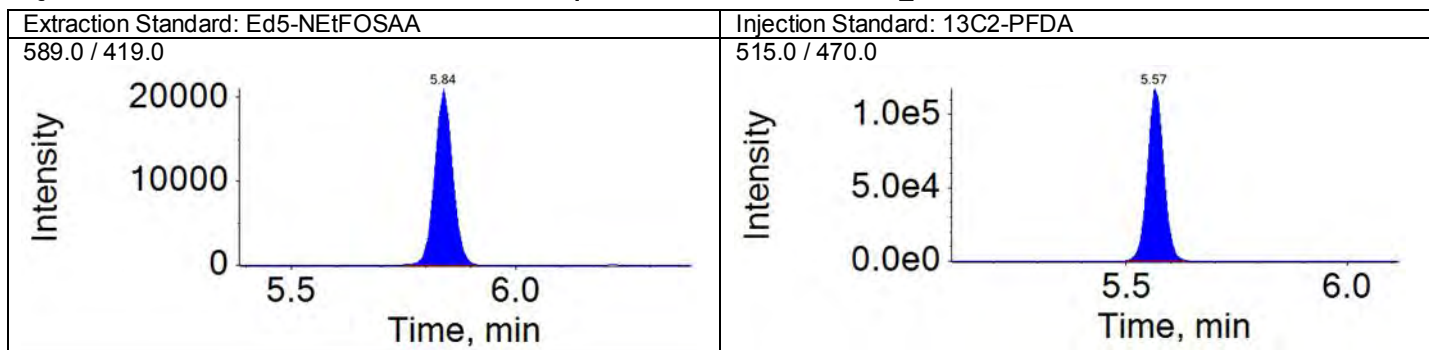
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By umar at 5:23 pm, 11/9/18

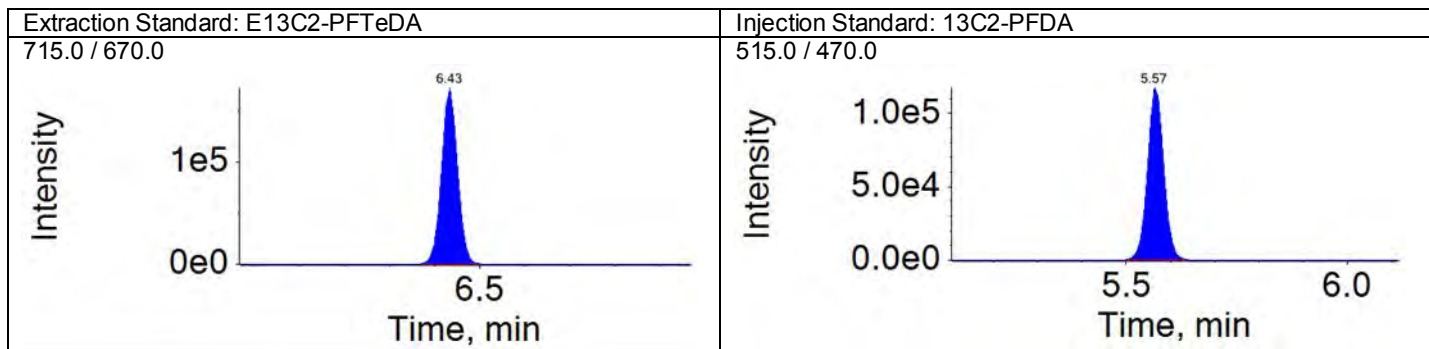
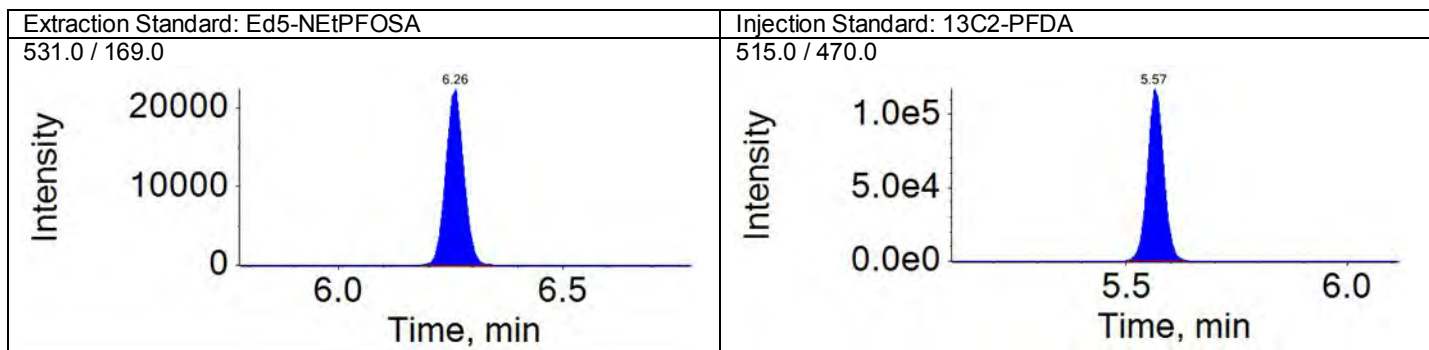
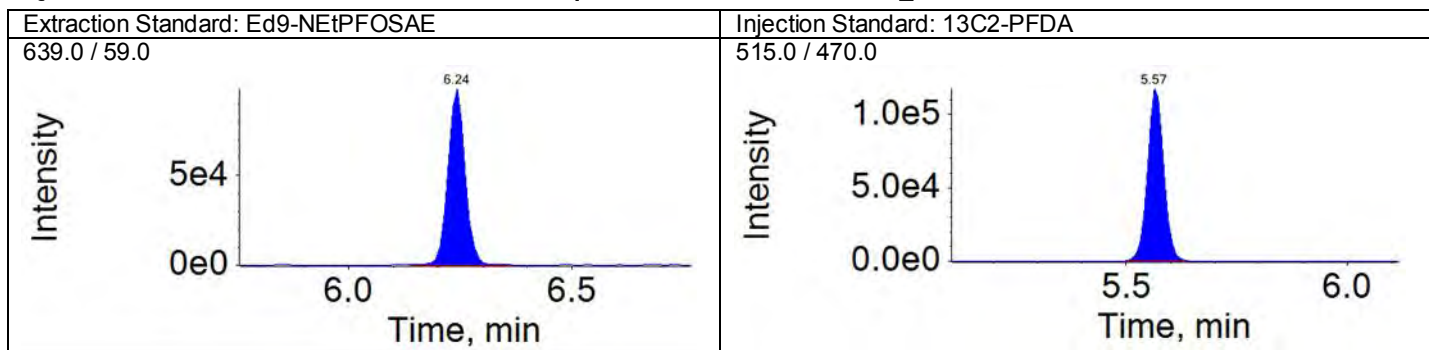
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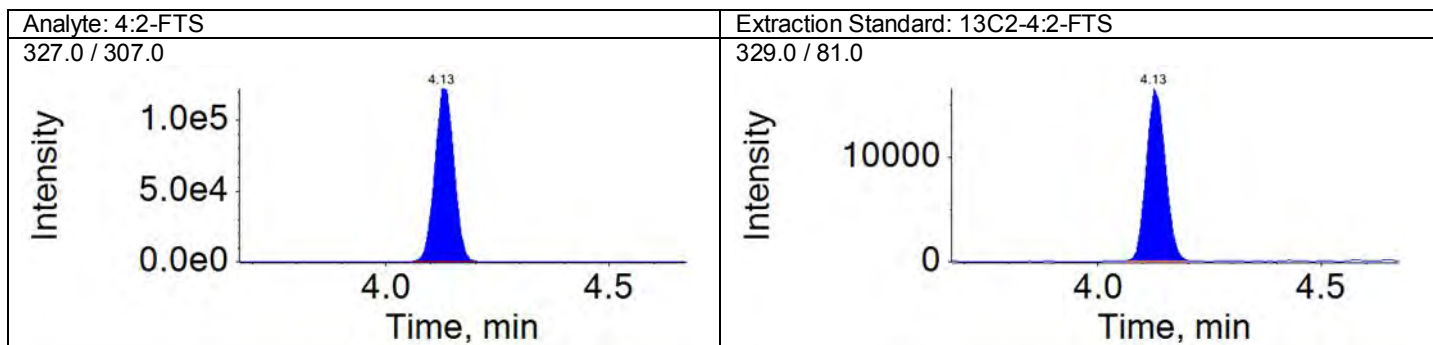
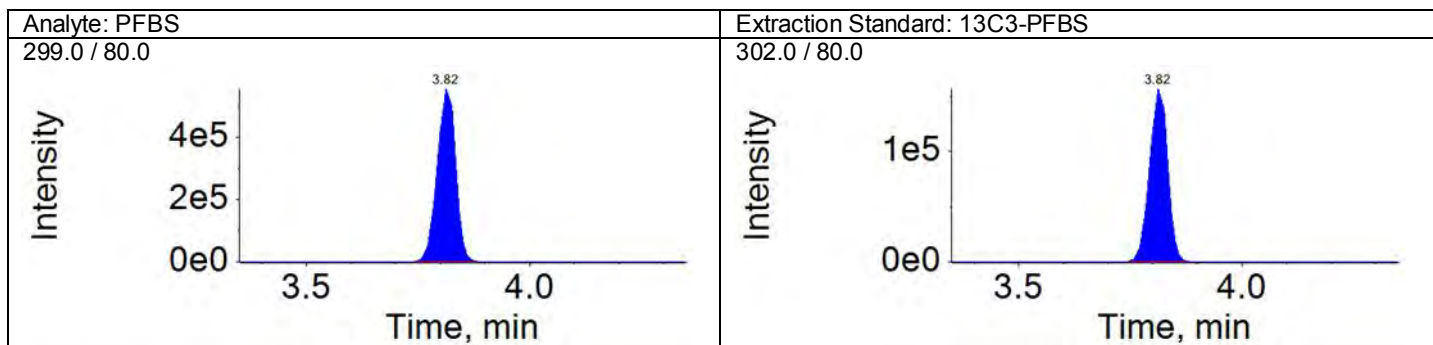
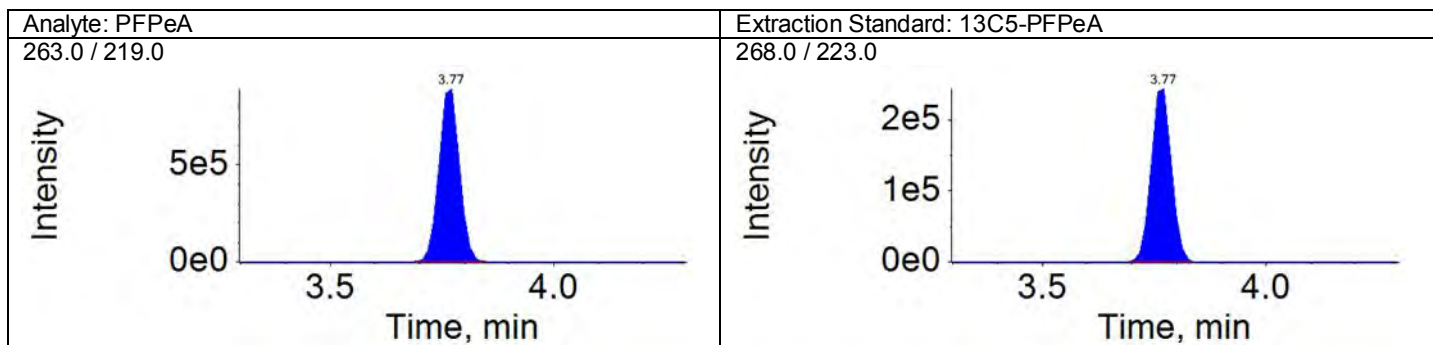
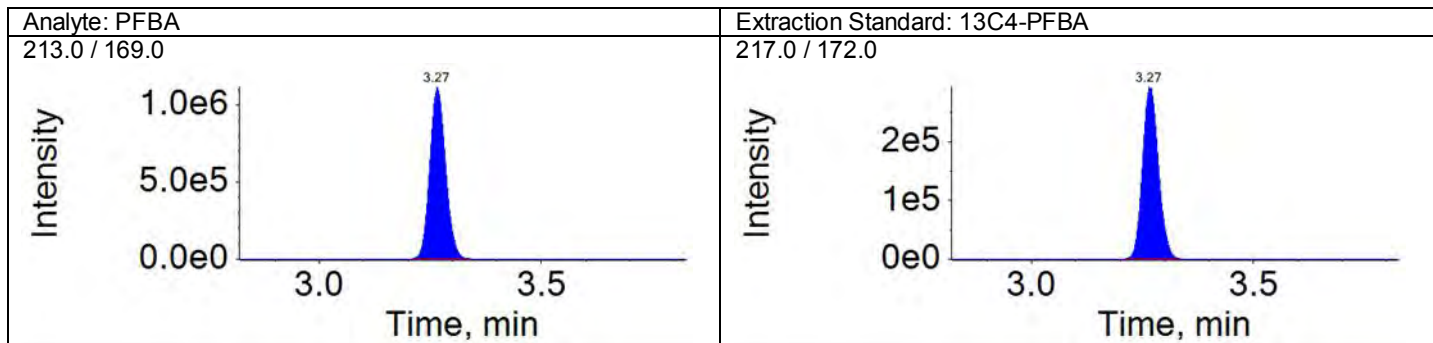
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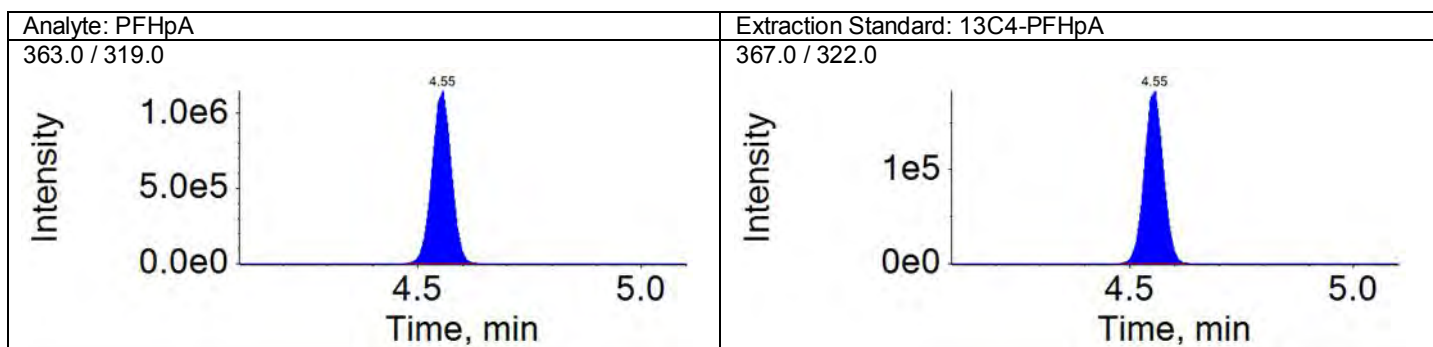
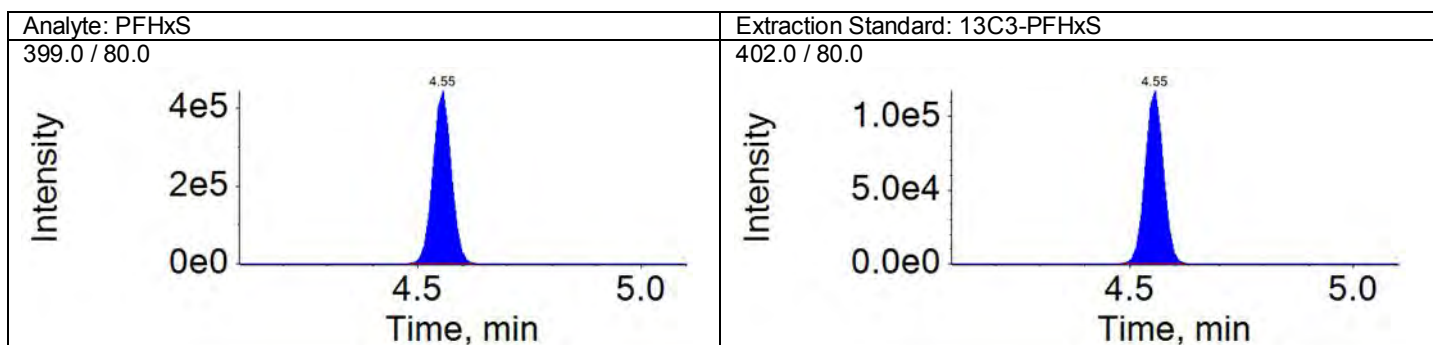
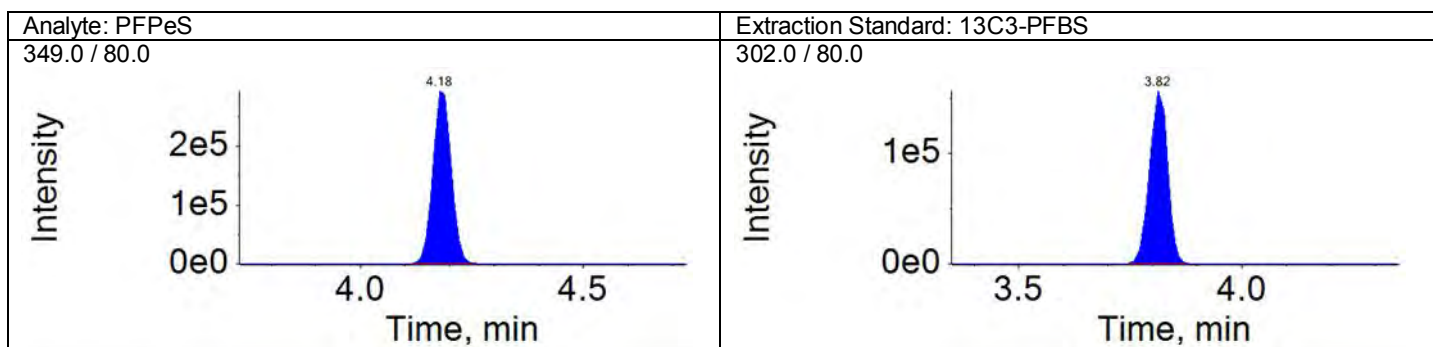
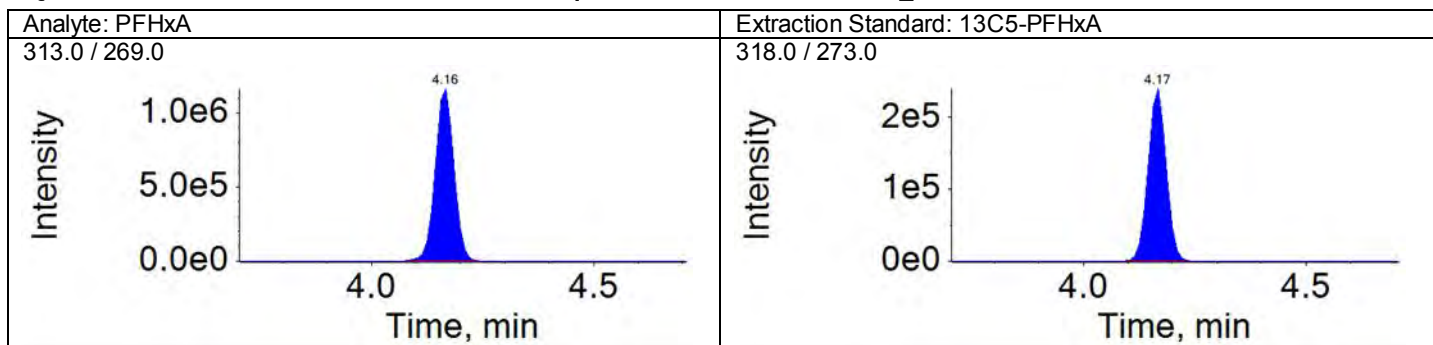
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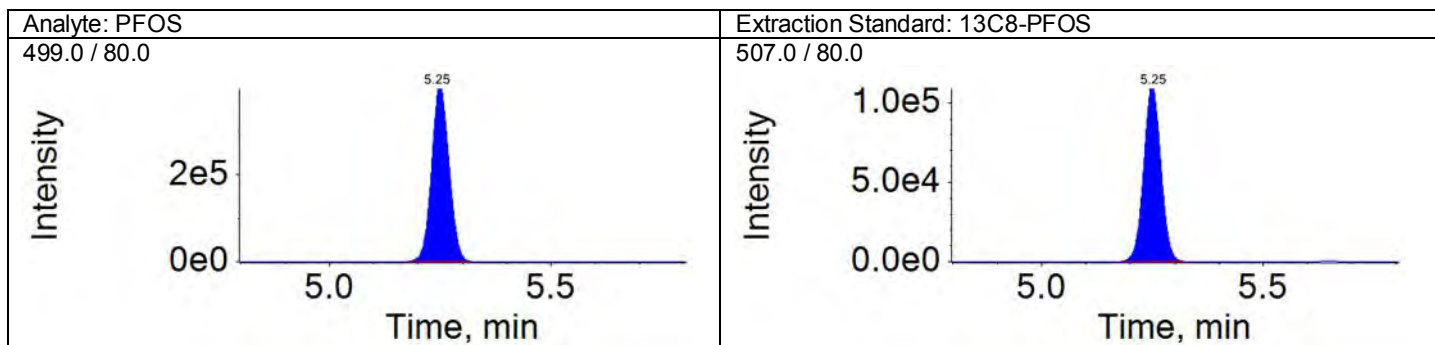
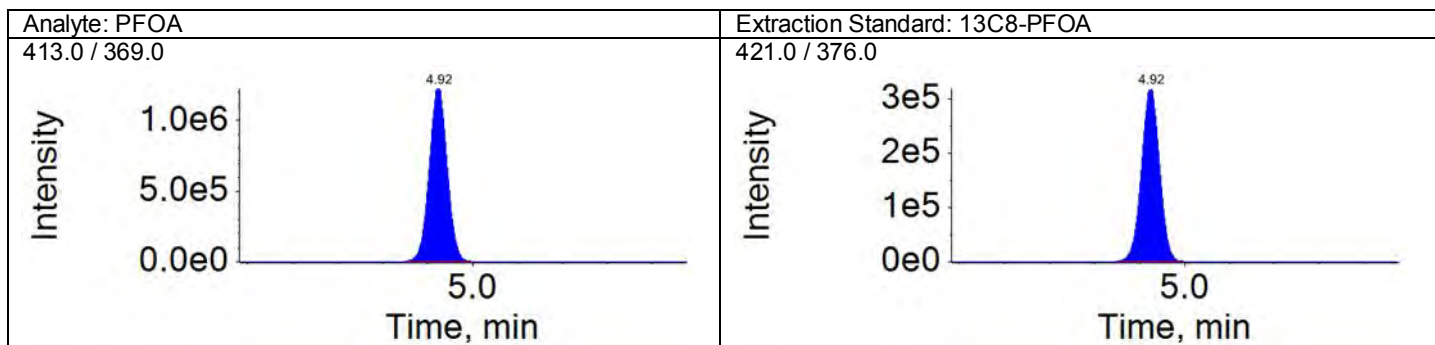
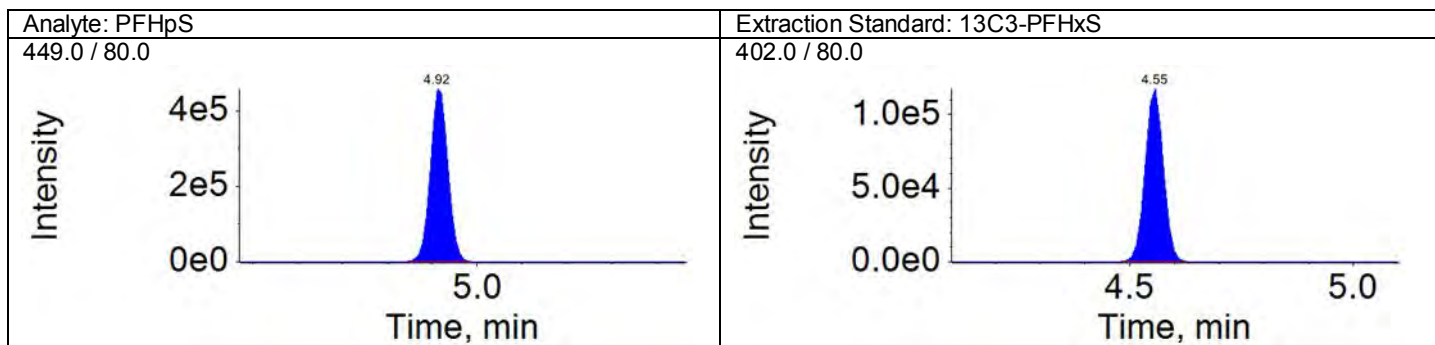
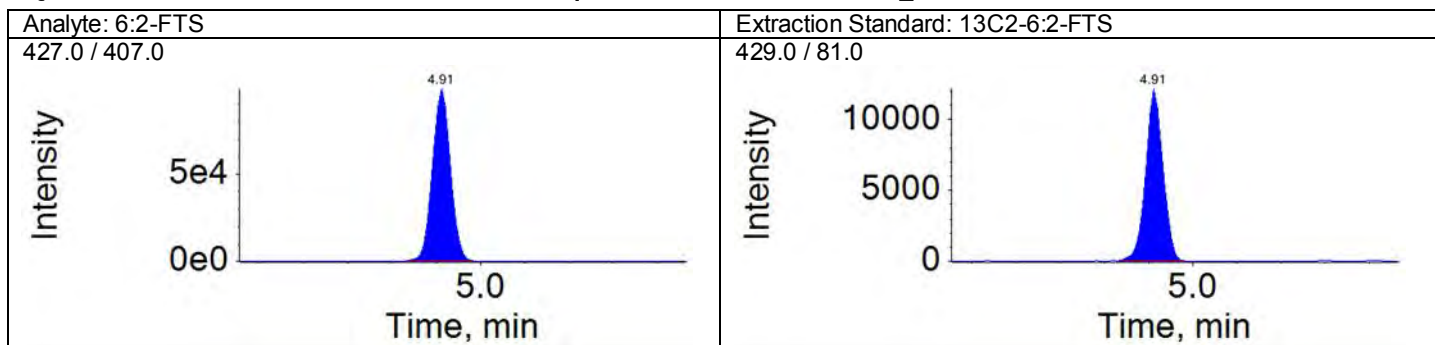
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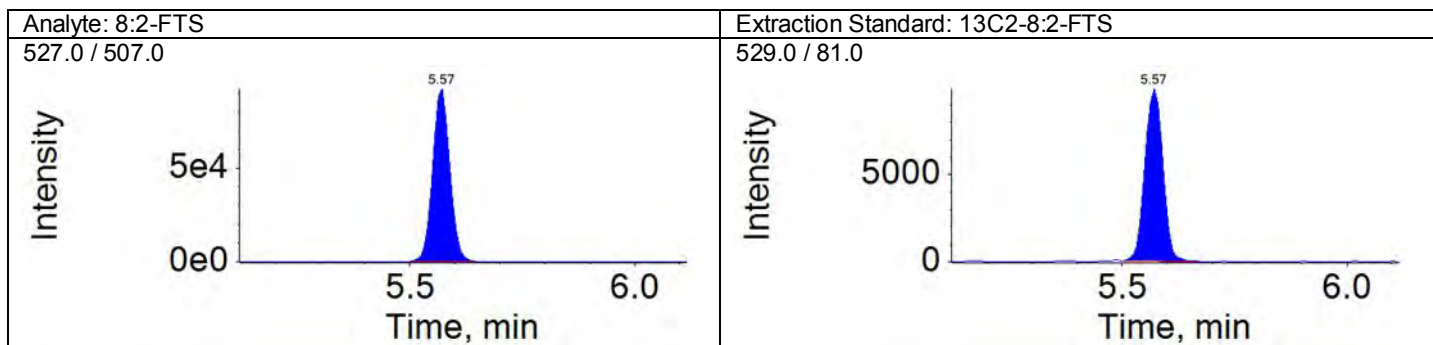
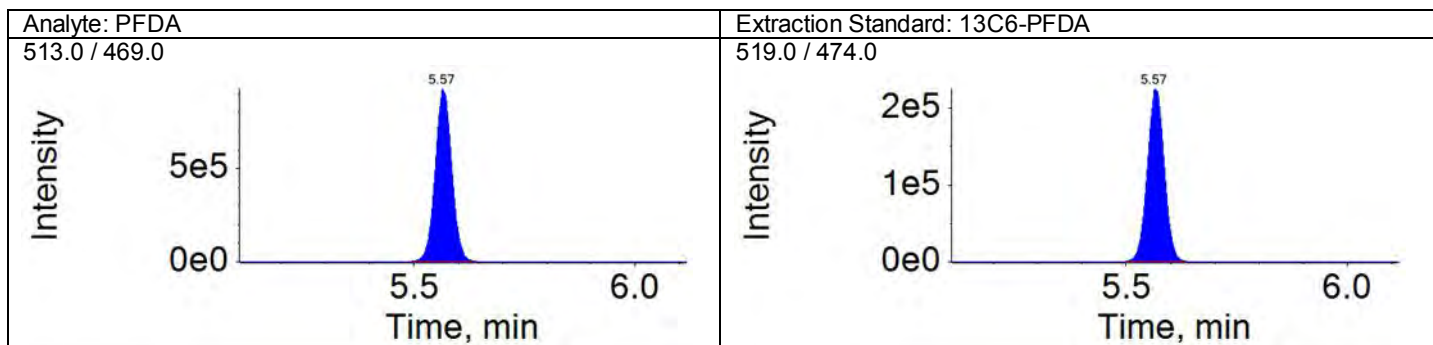
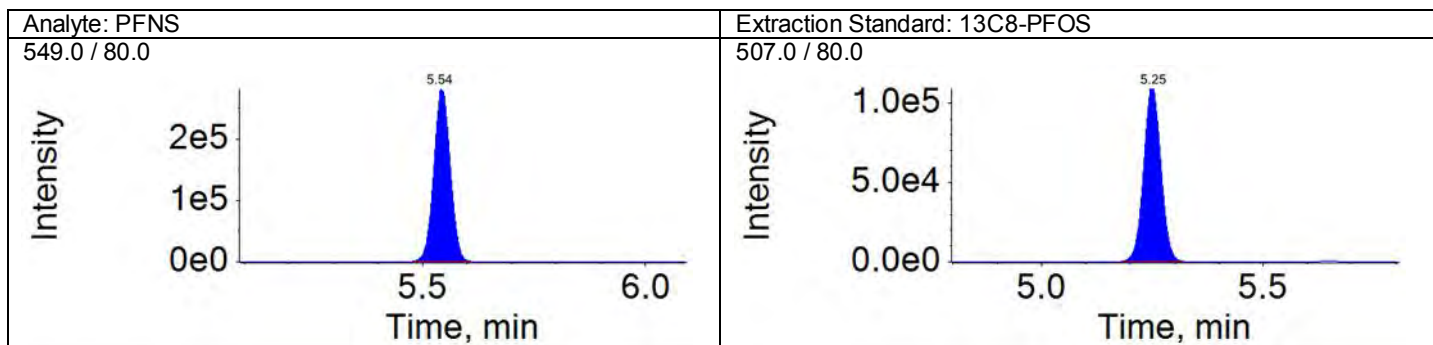
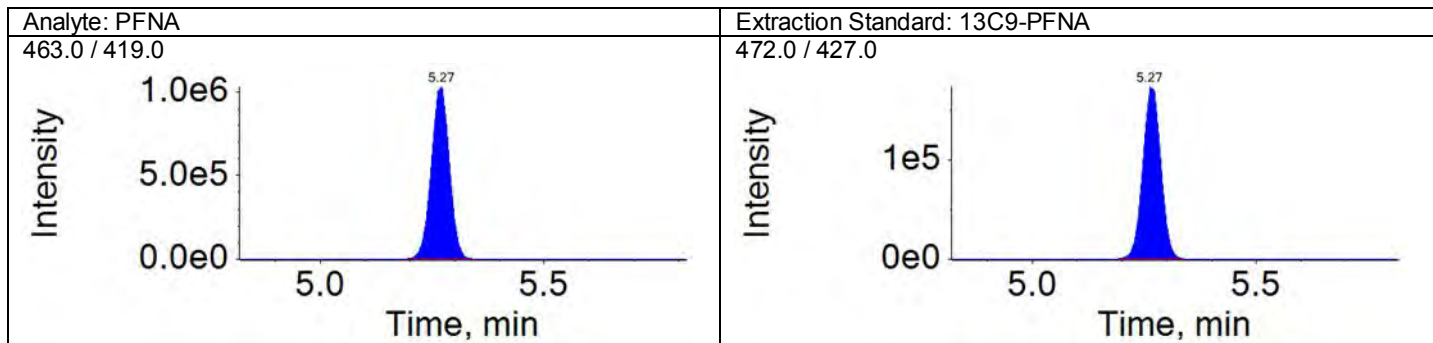
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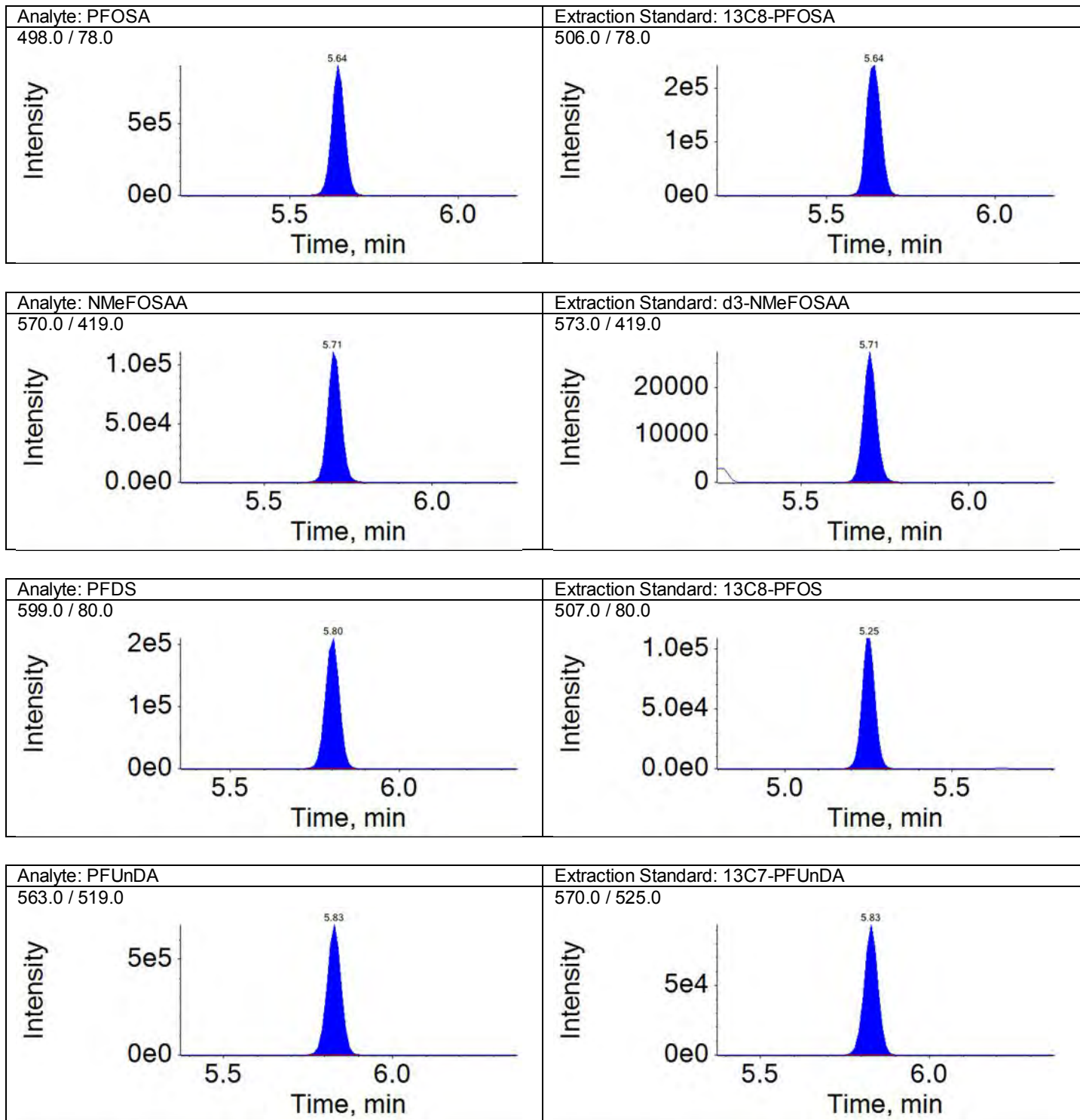
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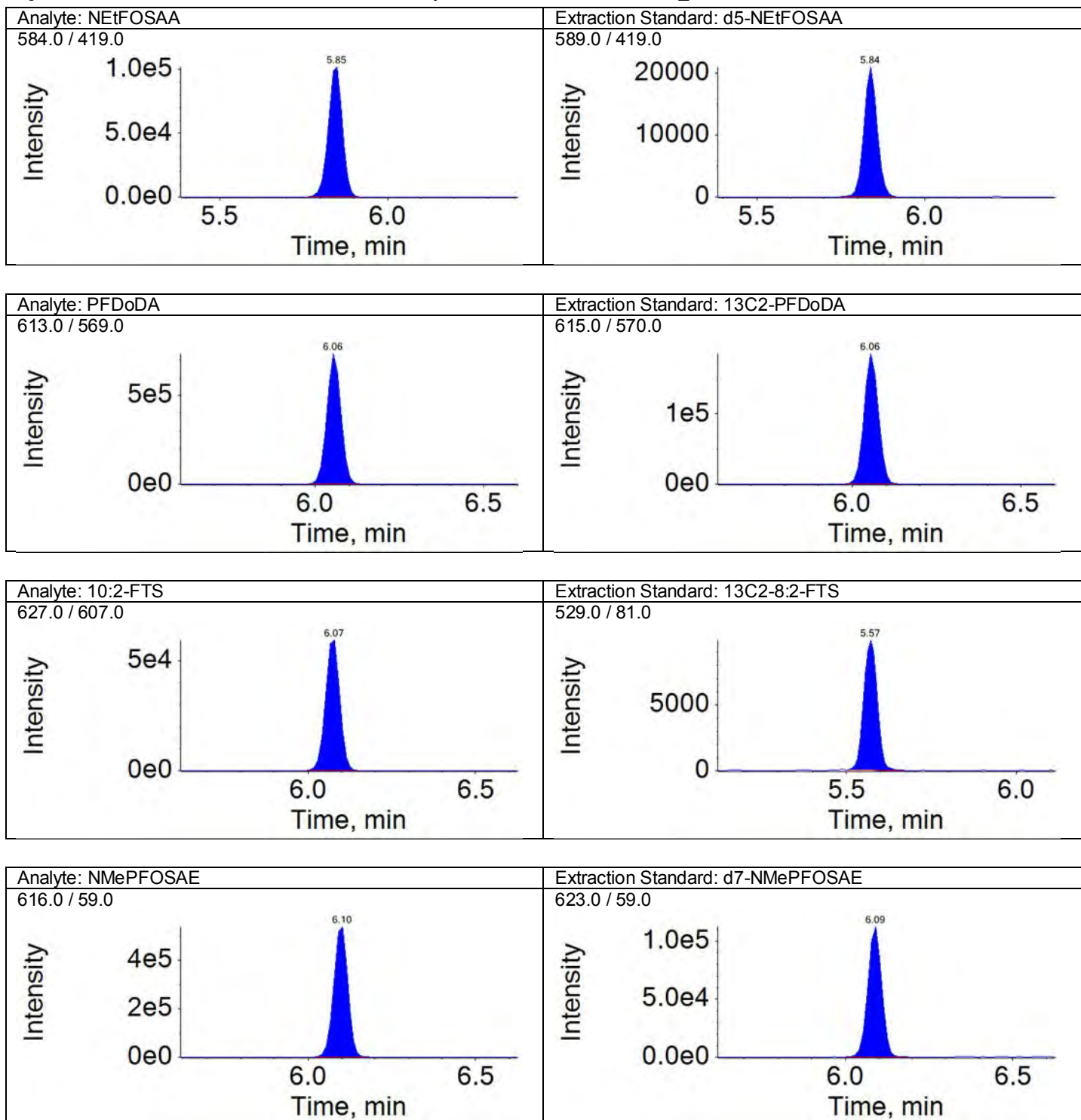
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ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



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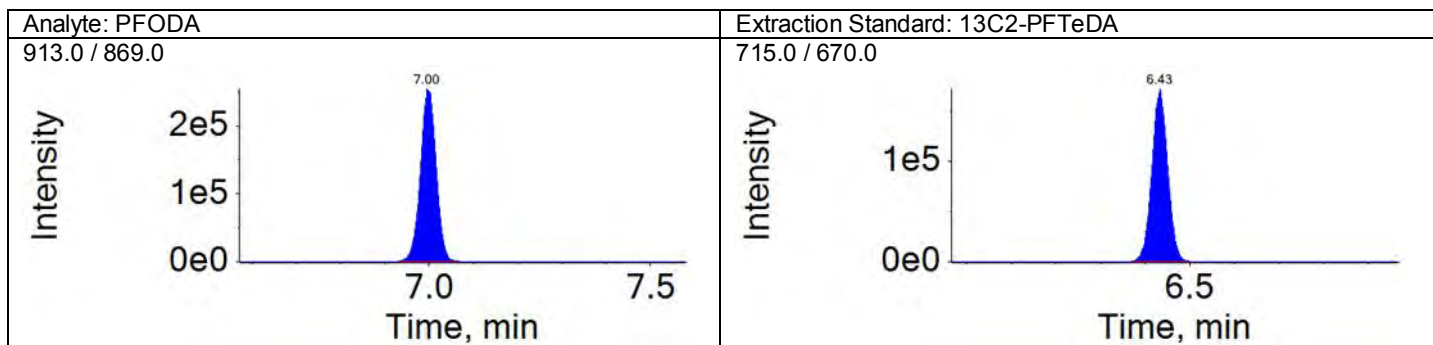
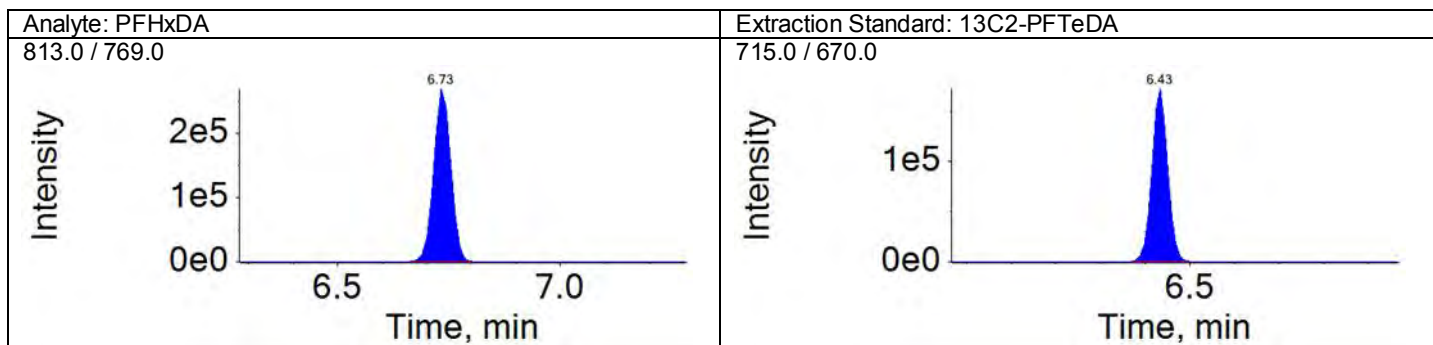
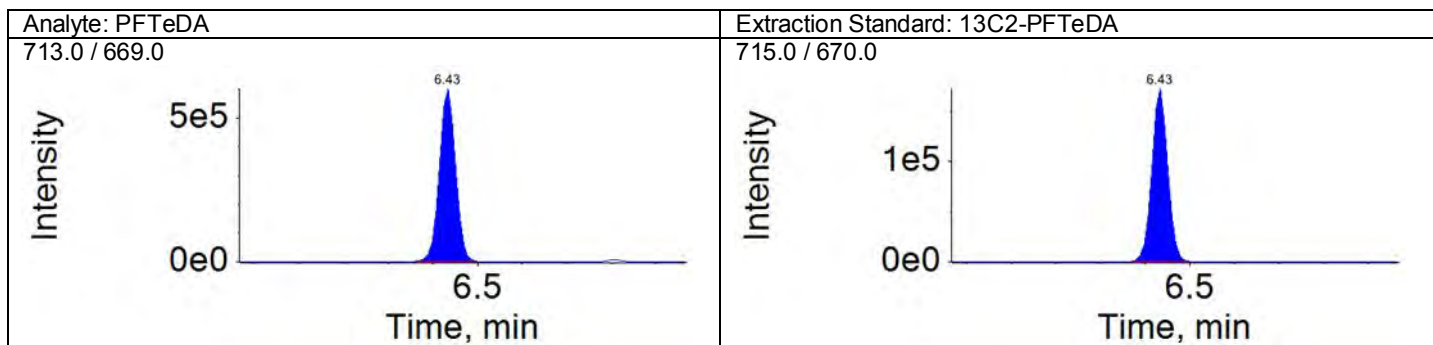
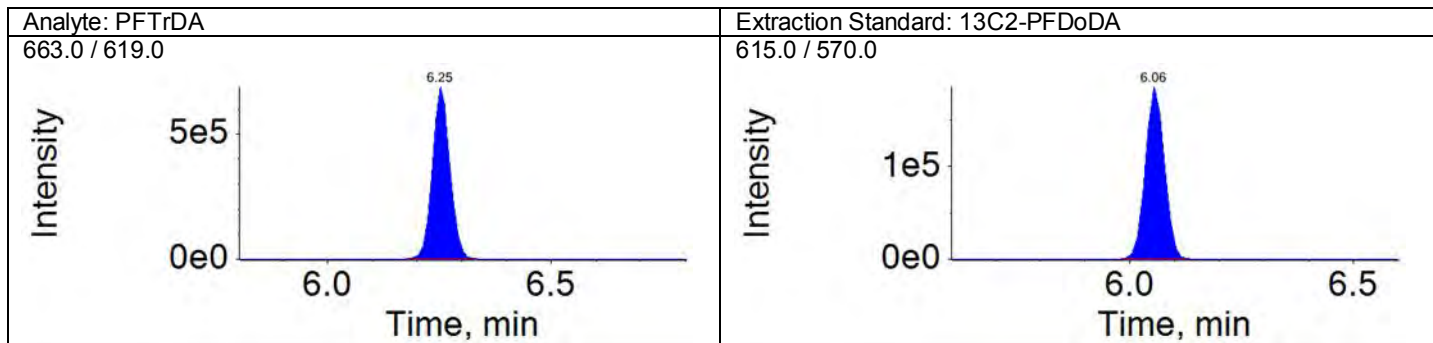
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte: NMePFOSA 512.0 / 169.0	Extraction Standard: d3-NMePFOSA 515.0 / 169.0
Analyte: PFDoS 699.0 / 80.0	Extraction Standard: 13C8-PFOS 507.0 / 80.0
Analyte: NEtPFOSAE 630.0 / 59.0	Extraction Standard: d9-NEtPFOSAE 639.0 / 59.0
Analyte: NEtPFOSA 526.0 / 169.0	Extraction Standard: d5-NEtPFOSA 531.0 / 169.0

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



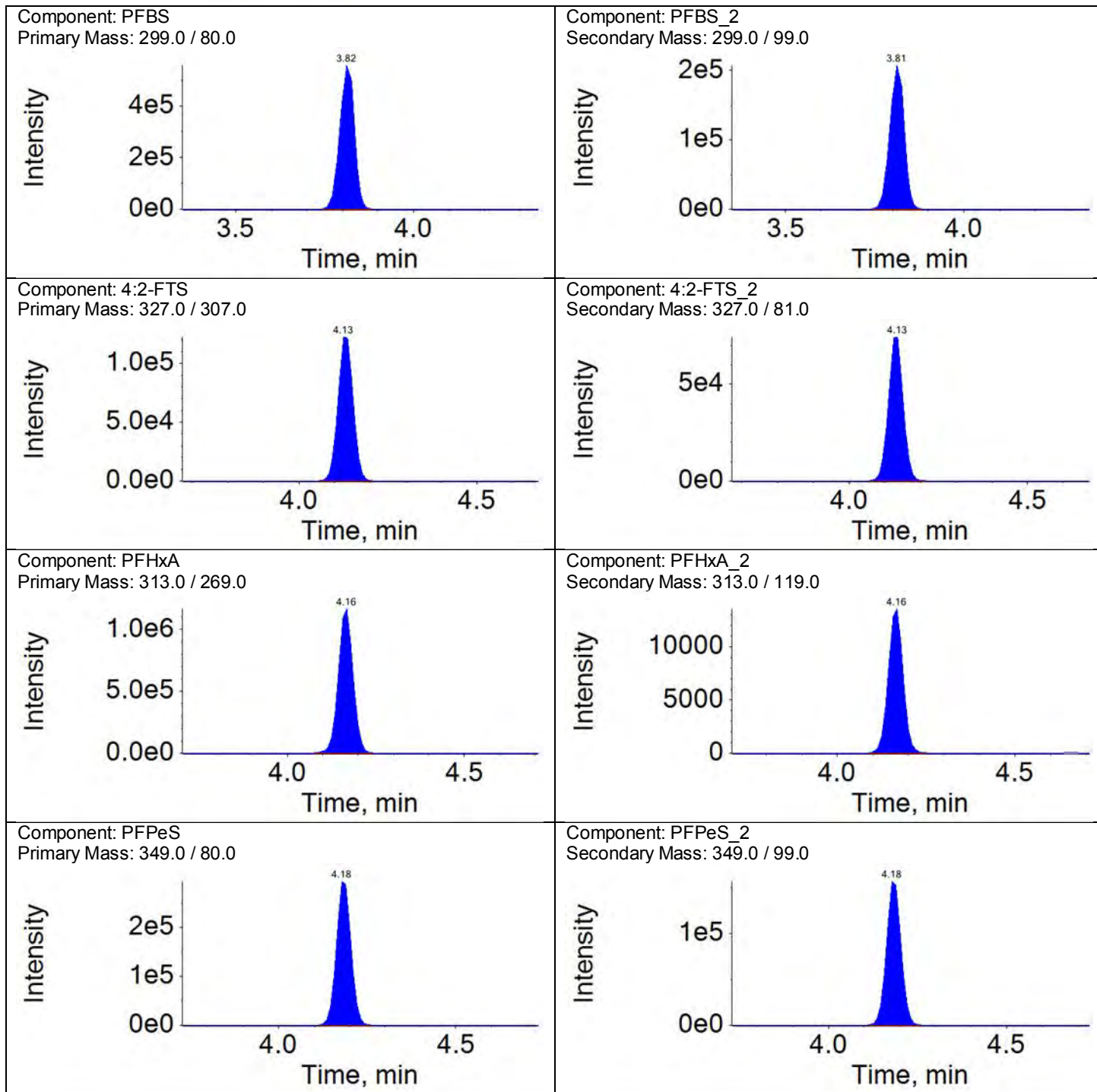
Ion Ratio Report

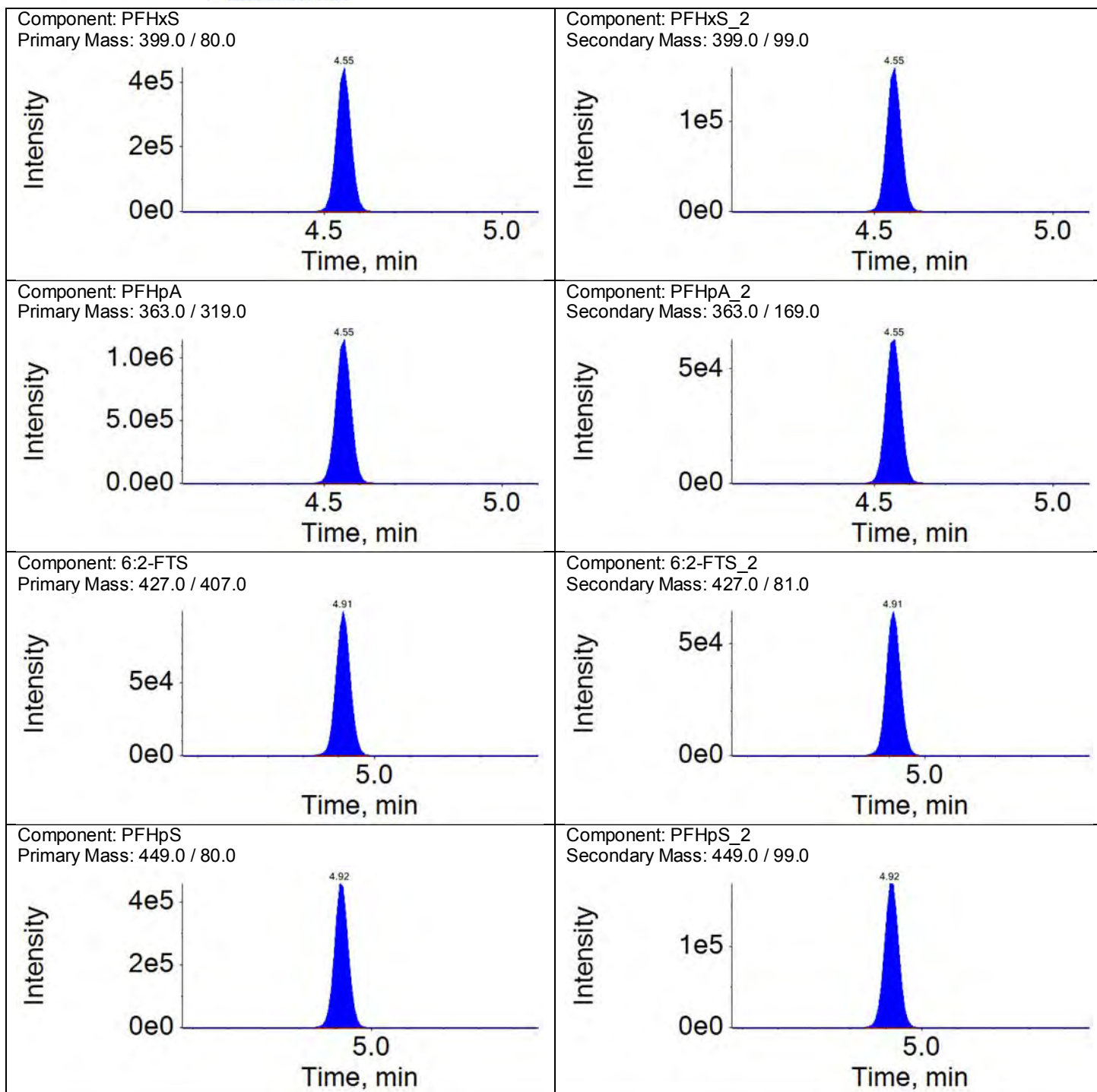
Sample Name: CAL5

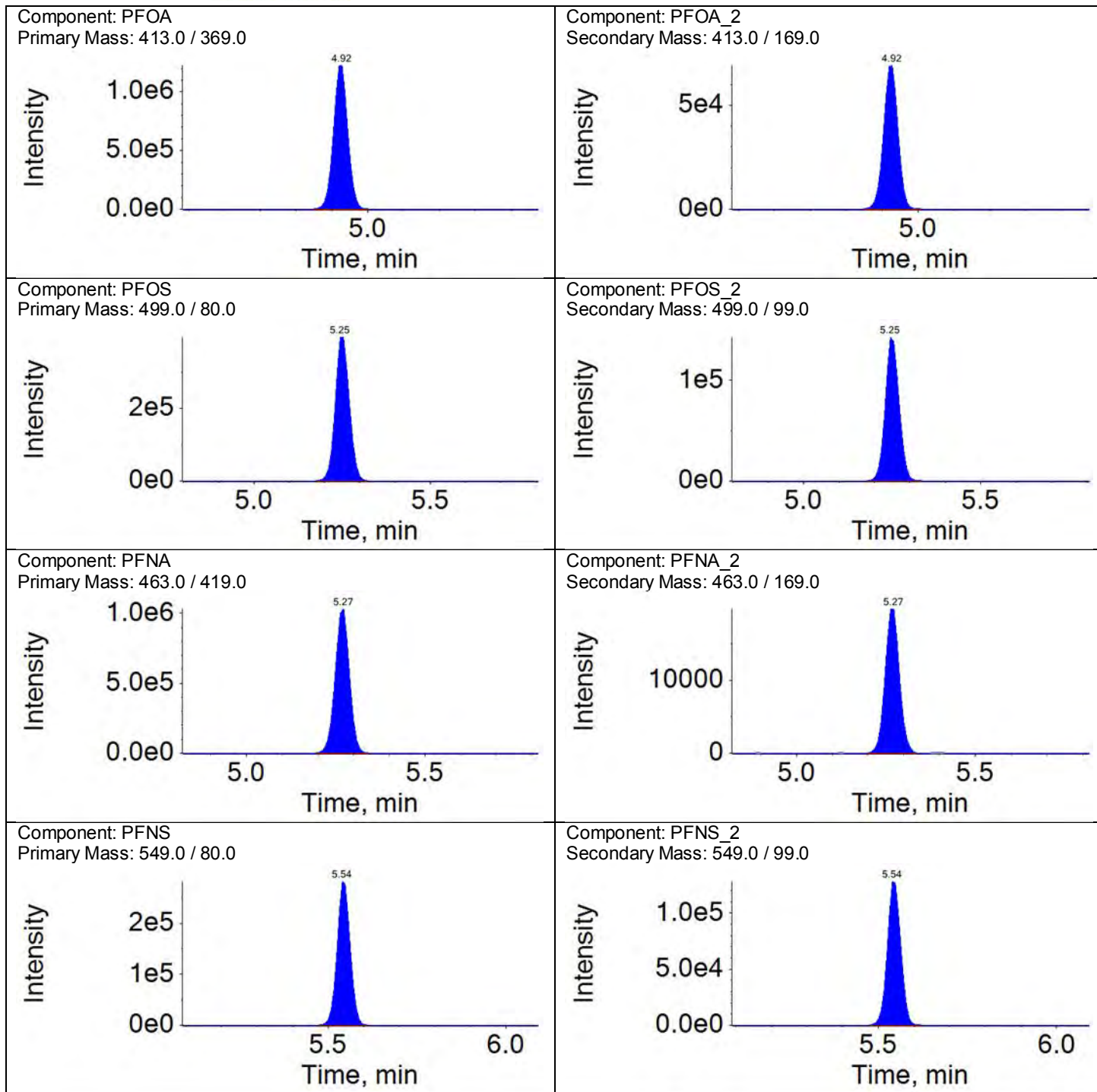
Instrument Name: LM27631

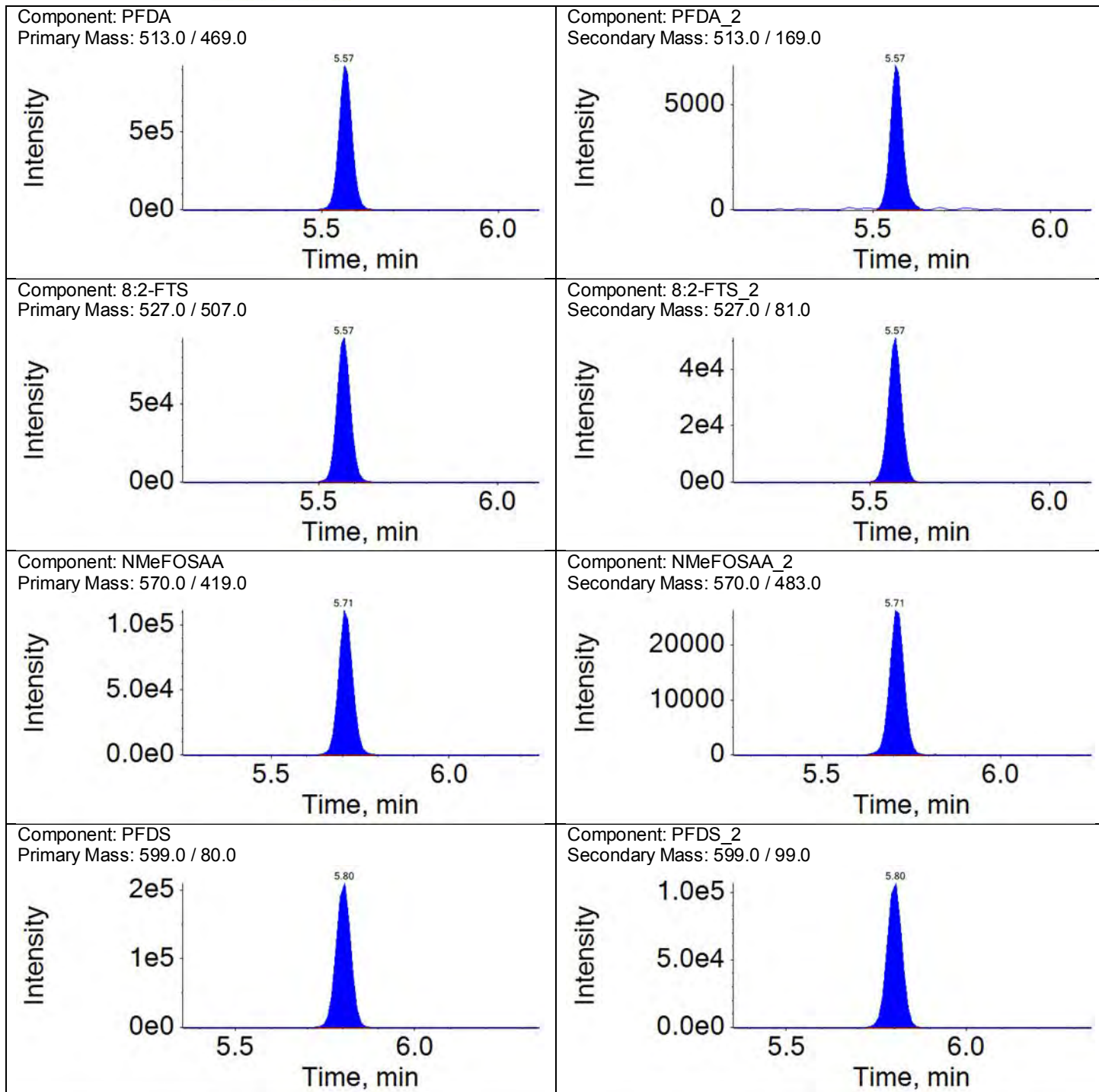
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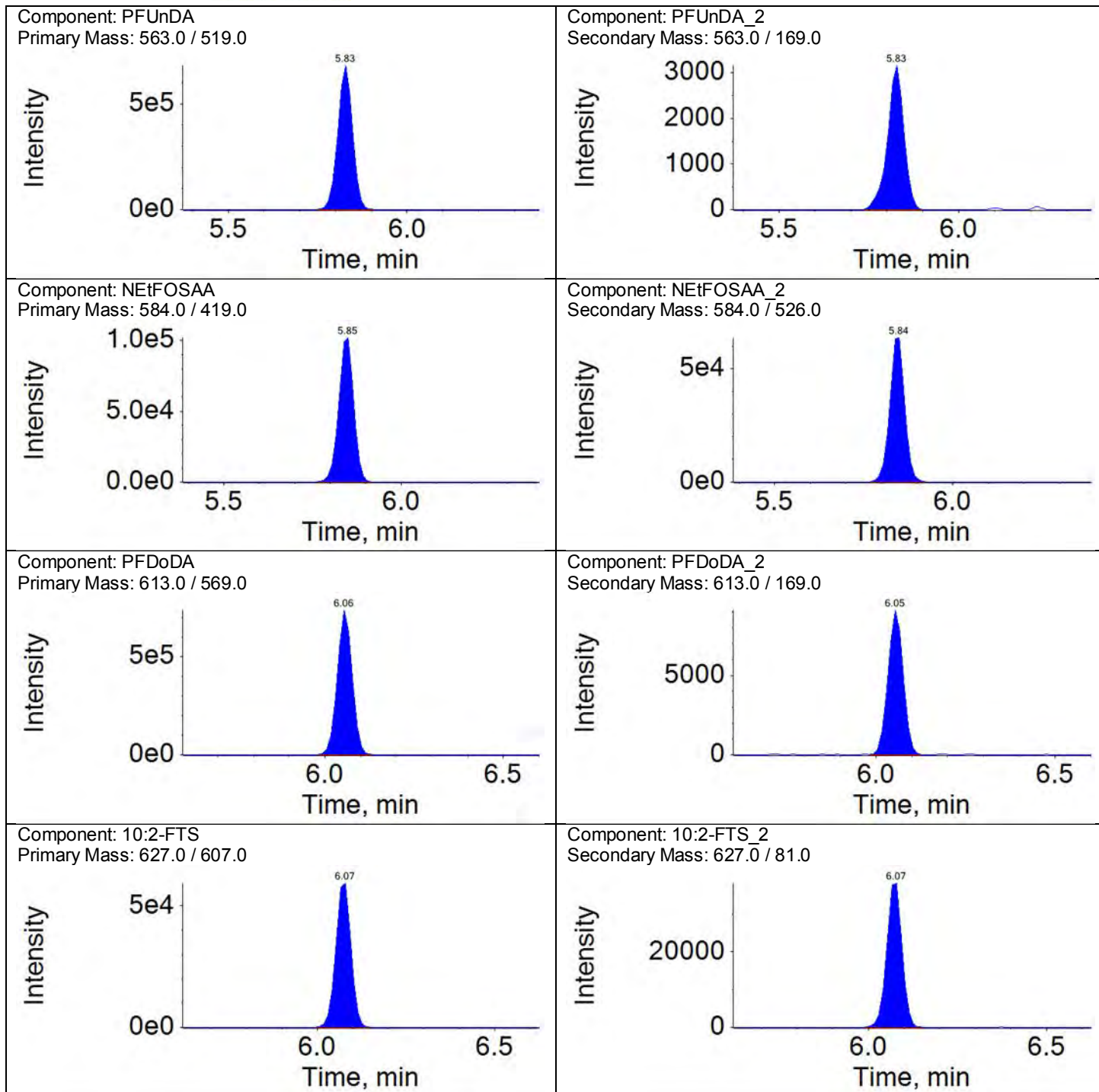
Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.82	1.00	1601296.4	A	1.0000	1.0000			
PFBS_2	3.81	1.00	589199.3	A	0.3576	0.3680	3	50	
4:2-FTS	4.13	1.00	365423.8	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	215025.0	A	0.6359	0.5884	-7	50	
PFHxA	4.16	1.00	3380716.3	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	39429.8	A	0.0115	0.0117	2	50	
PFPeS	4.18	1.10	845636.3	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	449010.4	A	0.5384	0.5310	-1	50	
PFHxS	4.55	1.00	1261633.0	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	452452.3	A	0.3569	0.3586	0	50	
PFHpA	4.55	1.00	3440372.8	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	189560.1	A	0.0577	0.0551	-4	50	
6:2-FTS	4.91	1.00	278493.0	A	1.0000	1.0000			
6:2-FTS_2	4.91	1.00	181363.3	A	0.6752	0.6512	-4	50	
PFHpS	4.92	1.08	1236603.7	A	1.0000	1.0000			
PFHpS_2	4.92	1.08	499368.1	A	0.3950	0.4038	2	50	
PFOA	4.92	1.00	3425279.8	A	1.0000	1.0000			
PFOA_2	4.92	1.00	194621.3	A	0.0635	0.0568	-10	50	
PFOS	5.25	1.00	1108359.9	A	1.0000	1.0000			
PFOS_2	5.25	1.00	389460.8	A	0.3494	0.3514	1	50	
PFNA	5.27	1.00	2889454.7	A	1.0000	1.0000			
PFNA_2	5.27	1.00	55493.0	A	0.0207	0.0192	-7	50	
PFNS	5.54	1.06	722178.3	A	1.0000	1.0000			
PFNS_2	5.54	1.06	336998.4	A	0.4890	0.4666	-5	50	
PFDA	5.57	1.00	2401274.2	A	1.0000	1.0000			
PFDA_2	5.57	1.00	16983.6	A	0.0057	0.0071	25	50	
8:2-FTS	5.57	1.00	244867.6	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	133528.0	A	0.6169	0.5453	-12	50	
NMeFOSAA	5.71	1.00	308507.7	A	1.0000	1.0000			
NMeFOSAA_2	5.71	1.00	75576.5	A	0.2206	0.2450	11	50	
PFDS	5.80	1.11	605559.3	A	1.0000	1.0000			
PFDS_2	5.80	1.11	310462.1	A	0.4648	0.5127	10	50	
PFUnDA	5.83	1.00	1952356.4	A	1.0000	1.0000			
PFUnDA_2	5.83	1.00	9988.0	A	0.0031	0.0051	62	50	OOS
NEtFOSAA	5.85	1.00	298834.2	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	185748.9	A	0.6082	0.6216	2	50	
PFDODA	6.06	1.00	2132260.7	A	1.0000	1.0000			
PFDODA_2	6.05	1.00	26780.3	A	0.0109	0.0126	15	50	
10:2-FTS	6.07	1.09	177607.5	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	115093.0	A	0.7082	0.6480	-9	50	
PFTTrDA	6.25	1.03	1851055.0	A	1.0000	1.0000			
PFTTrDA_2	6.25	1.03	17056.8	A	0.0096	0.0092	-4	50	
PFTeDA	6.43	1.00	1500655.1	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	8887.6	A	0.0055	0.0059	7	50	
PFHxDA	6.73	1.05	716467.3	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	43825.8	A	0.0596	0.0612	3	50	
PFODA	7.00	1.09	624697.0	A	1.0000	1.0000			
PFODA_2	7.00	1.09	15544.4	A	0.0257	0.0249	-3	50	

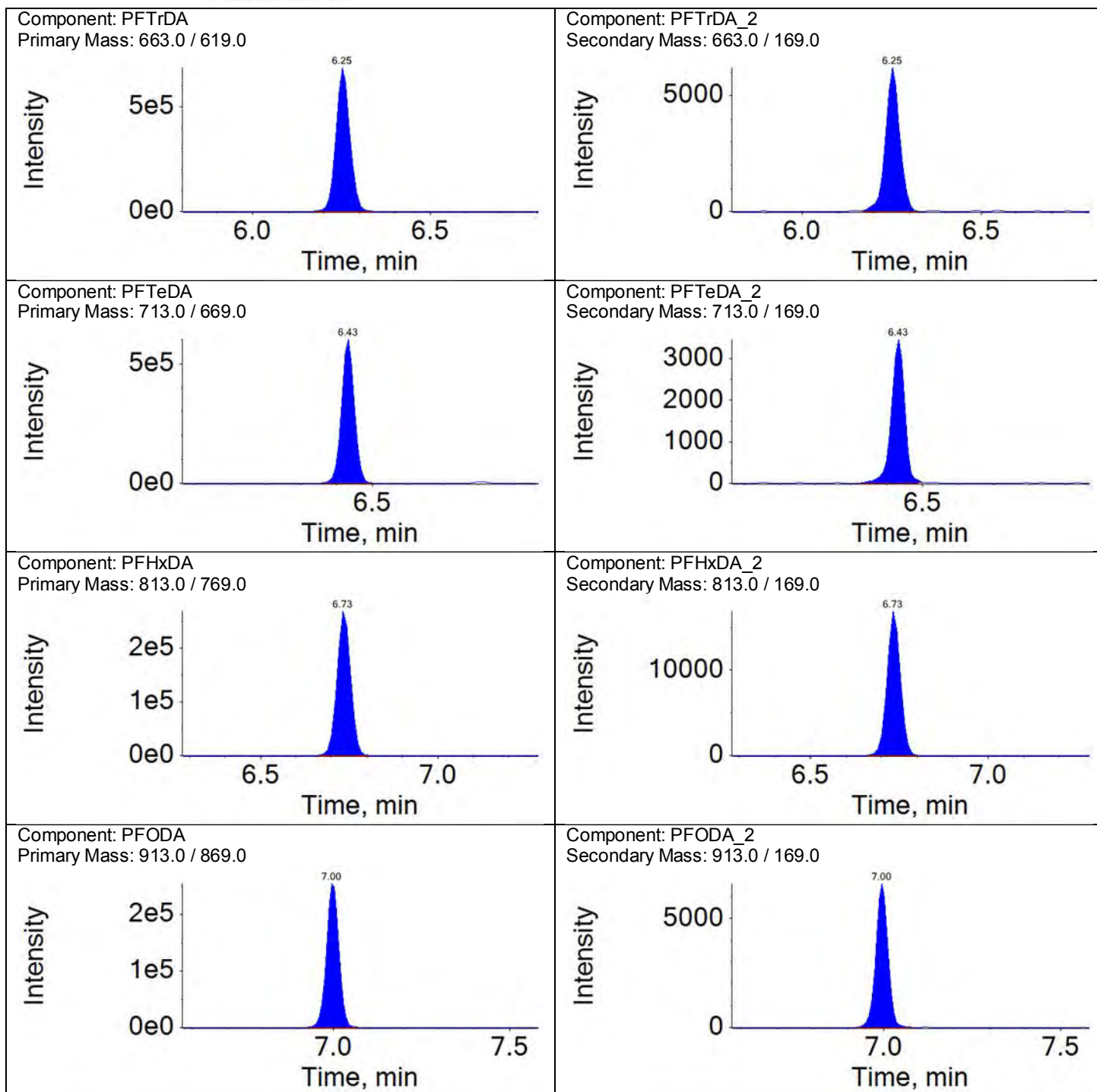












ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CAL6		Data File:	18NOV07DCAL-15.wiff
Sample ID:	CALMOD61833E		Acquis Date:	2018-11-07T10:24:59
Sample Type:	Standard		Instrument:	LM27631
Vial Position:	8		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18NOV07DCAL
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	N/A		Operator:	JPT12262
Sample Wt.:	1.00000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	600246.7	730410.6	-18	50	
13C2-PFOA	5.0	457854.9	524423.6	-13	50	
13C4-PFOS	4.8	251499.9	274061.7	-8	50	
13C2-PFDA	5.0	260529.0	311442.1	-16	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	647849.6	13C3-PFBA	600246.7	1.079	5.000	4.995	100	70-130	
E13C5-PFPeA	687796.7	13C3-PFBA	600246.7	1.146	5.000	4.992	100	70-130	
E13C3-PFBS	384220.8	13C3-PFBA	600246.7	0.640	4.650	4.698	101	70-130	
E13C2-4:2-FTS	50041.3	13C2-PFOA	457854.9	0.109	4.670	4.932	106	70-130	
E13C5-PFHxA	607820.1	13C2-PFOA	457854.9	1.328	5.000	4.883	98	70-130	
E13C3-PFHxS	295466.2	13C2-PFOA	457854.9	0.645	4.730	4.633	98	70-130	
E13C4-PFHpA	484763.2	13C2-PFOA	457854.9	1.059	5.000	4.816	96	70-130	
E13C2-6:2-FTS	30466.8	13C2-PFOA	457854.9	0.067	4.750	4.437	93	70-130	
E13C8-PFOA	769164.4	13C2-PFOA	457854.9	1.680	5.000	4.685	94	70-130	
E13C8-PFOS	268369.0	13C4-PFOS	251499.9	1.067	4.780	4.718	99	70-130	
E13C9-PFNA	440319.0	13C4-PFOS	251499.9	1.751	5.000	4.782	96	70-130	
E13C6-PFDA	536626.2	13C2-PFDA	260529.0	2.060	5.000	5.180	104	70-130	
E13C2-8:2-FTS	24938.2	13C2-PFDA	260529.0	0.096	4.790	5.065	106	70-130	
E13C8-PFOSA	614406.4	13C2-PFDA	260529.0	2.358	5.000	5.146	103	70-130	
Ed3-NMeFOSAA	78158.0	13C2-PFDA	260529.0	0.300	5.000	5.579	112	70-130	
E13C7-PFUnDA	229237.1	13C2-PFDA	260529.0	0.880	5.000	5.076	102	70-130	
Ed5-NEtFOSAA	60556.6	13C2-PFDA	260529.0	0.232	5.000	5.379	108	70-130	
E13C2-PFDoDA	500065.3	13C2-PFDA	260529.0	1.919	5.000	5.174	103	70-130	
Ed7-NMePFOSAE	294617.6	13C2-PFDA	260529.0	1.131	5.000	5.259	105	70-130	
Ed3-NMePFOSA	77146.9	13C2-PFDA	260529.0	0.296	5.000	5.421	108	70-130	
Ed9-NEtPFOSAE	239317.0	13C2-PFDA	260529.0	0.919	5.000	5.246	105	70-130	
Ed5-NEtPFOSA	59054.4	13C2-PFDA	260529.0	0.227	5.000	5.248	105	70-130	
E13C2-PFTeDA	394433.9	13C2-PFDA	260529.0	1.514	5.000	5.450	109	70-130	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: CAL6

Instrument Name: LM27631

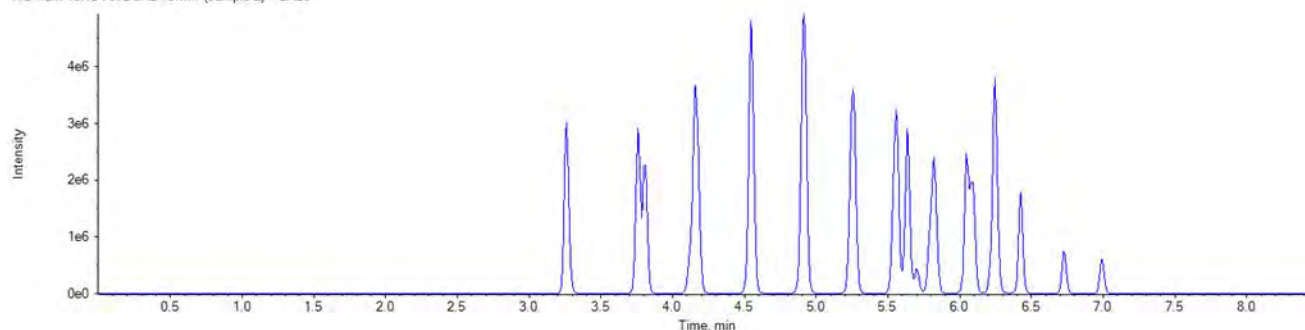
File Name: 18NOV07DCAL-15.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	5709364.6		A	13C4-PFBA	3.26	647849.6	8.813	51.576
PFPeA	3.76	1.000	5899932.2		A	13C5-PFPeA	3.76	687796.7	8.578	50.979
PFBS	3.81	1.000	3508201.1		A	13C3-PFBS	3.81	384220.8	9.131	46.035
4:2-FTS	4.12	1.000	866263.6		A	13C2-4:2-FTS	4.12	50041.3	17.311	46.538
PFHxA	4.16	1.000	6739327.9		A	13C5-PFHxA	4.16	607820.1	11.088	47.549
PFPeS	4.18	1.100	1823355.9		A	13C3-PFBS	3.81	384220.8	4.746	46.806
PFHxS	4.55	1.000	2760712.8		A	13C3-PFHxS	4.55	295466.2	9.344	47.360
PFHpA	4.55	1.000	6940304.7		A	13C4-PFHpA	4.55	484763.2	14.317	48.150
6:2-FTS	4.90	1.000	566692.8		A	13C2-6:2-FTS	4.90	30466.8	18.600	46.401
PFHpS	4.91	1.080	2648512.9		A	13C3-PFHxS	4.55	295466.2	8.964	46.896
PFOA	4.92	1.000	7023921.1		A	13C8-PFOA	4.92	769164.4	9.132	51.417
PFOS	5.24	1.000	2487687.4		A	13C8-PFOS	5.24	268369.0	9.270	48.067
PFNA	5.26	1.000	6070259.1		A	13C9-PFNA	5.26	440319.0	13.786	51.521
PFNS	5.54	1.060	1684601.2		A	13C8-PFOS	5.24	268369.0	6.277	49.770
PFDA	5.56	1.000	4962332.7		A	13C6-PFDA	5.56	536626.2	9.247	50.875
8:2-FTS	5.56	1.000	516640.5		A	13C2-8:2-FTS	5.56	24938.2	20.717	46.697
PFOSA	5.64	1.000	5938541.7		A	13C8-PFOSA	5.64	614406.4	9.665	52.247
NMeFOSAA	5.70	1.000	740651.6		A	d3-NMeFOSAA	5.70	78158.0	9.476	48.760
PFDS	5.79	1.110	1337416.6		A	13C8-PFOS	5.24	268369.0	4.983	47.605
PfUnDA	5.82	1.000	4071590.3		A	13C7-PfUnDA	5.82	229237.1	17.761	50.936
NEtFOSAA	5.84	1.000	685447.7		A	d5-NEtFOSAA	5.83	60556.6	11.319	48.645
PFDODA	6.05	1.000	4509578.7		A	13C2-PFDODA	6.05	500065.3	9.018	48.873
10:2-FTS	6.07	1.090	395929.8		A	13C2-8:2-FTS	5.56	24938.2	15.876	49.437
NMePFOSAE	6.09	1.000	3462215.2		A	d7-NMePFOSAE	6.08	294617.6	11.752	52.660
NMePFOSA	6.10	1.000	705149.2		A	d3-NMePFOSA	6.09	77146.9	9.140	51.162
PFDoS	6.22	1.190	661528.1		A	13C8-PFOS	5.24	268369.0	2.465	47.576
NEtPFOSAE	6.25	1.000	3836850.8		A	d9-NEtPFOSAE	6.23	239317.0	16.033	51.396
NEtPFOSA	6.26	1.000	676107.2		A	d5-NEtPFOSA	6.25	59054.4	11.449	50.423
PFTDA	6.25	1.030	3829048.4		A	13C2-PFDODA	6.05	500065.3	7.657	48.287
PFTeDA	6.42	1.000	3381511.1		A	13C2-PFTeDA	6.43	394433.9	8.573	50.344
PFHxDA	6.73	1.050	1559604.6		A	13C2-PFTeDA	6.43	394433.9	3.954	49.083
PFOA	6.99	1.090	1340733.9		A	13C2-PFTeDA	6.43	394433.9	3.399	48.698

Total Ion Chromatogram

TIC from 18NOV07DCAL-15.wiff (sample 2) - CAL6



APPROVED

By JPT at 2:53 pm, 11/7/18

BSI02 Page 584 of 1870

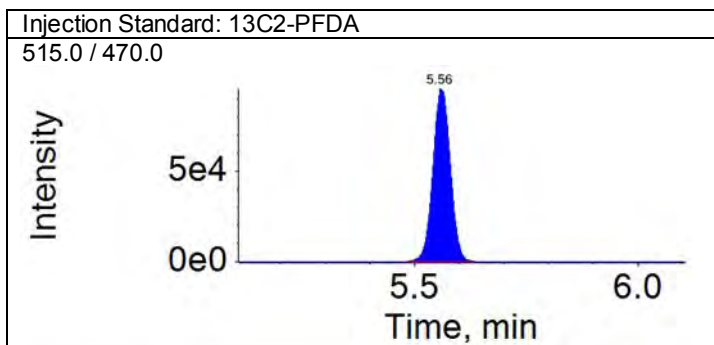
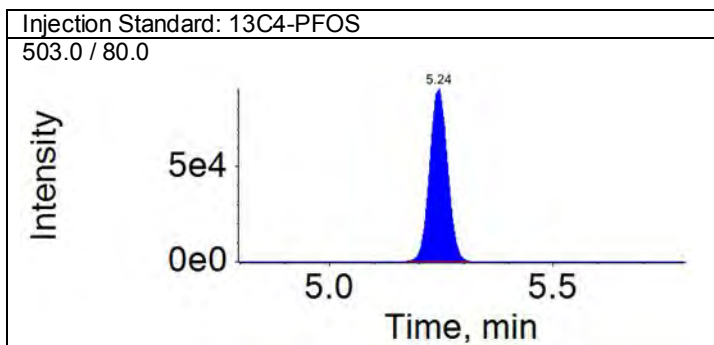
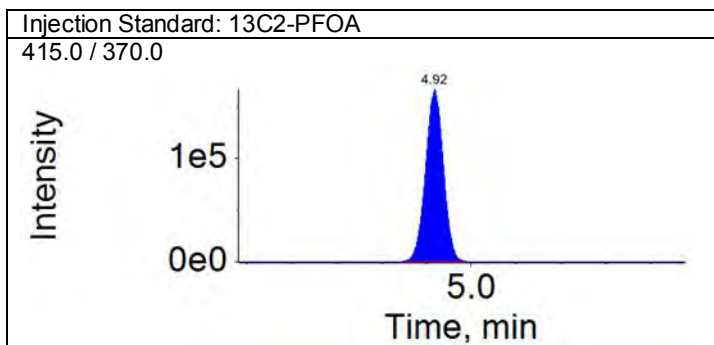
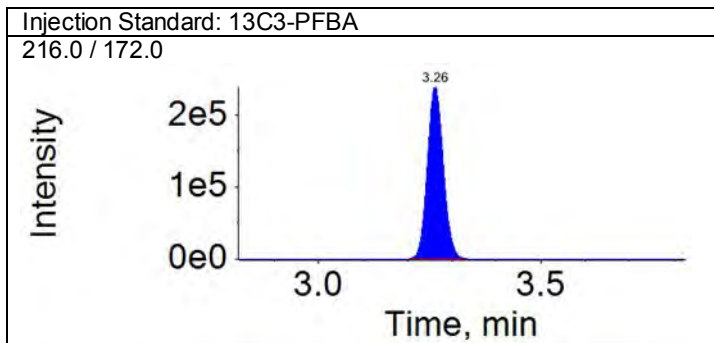
REVIEWED

By umar at 5:23 pm, 11/9/18

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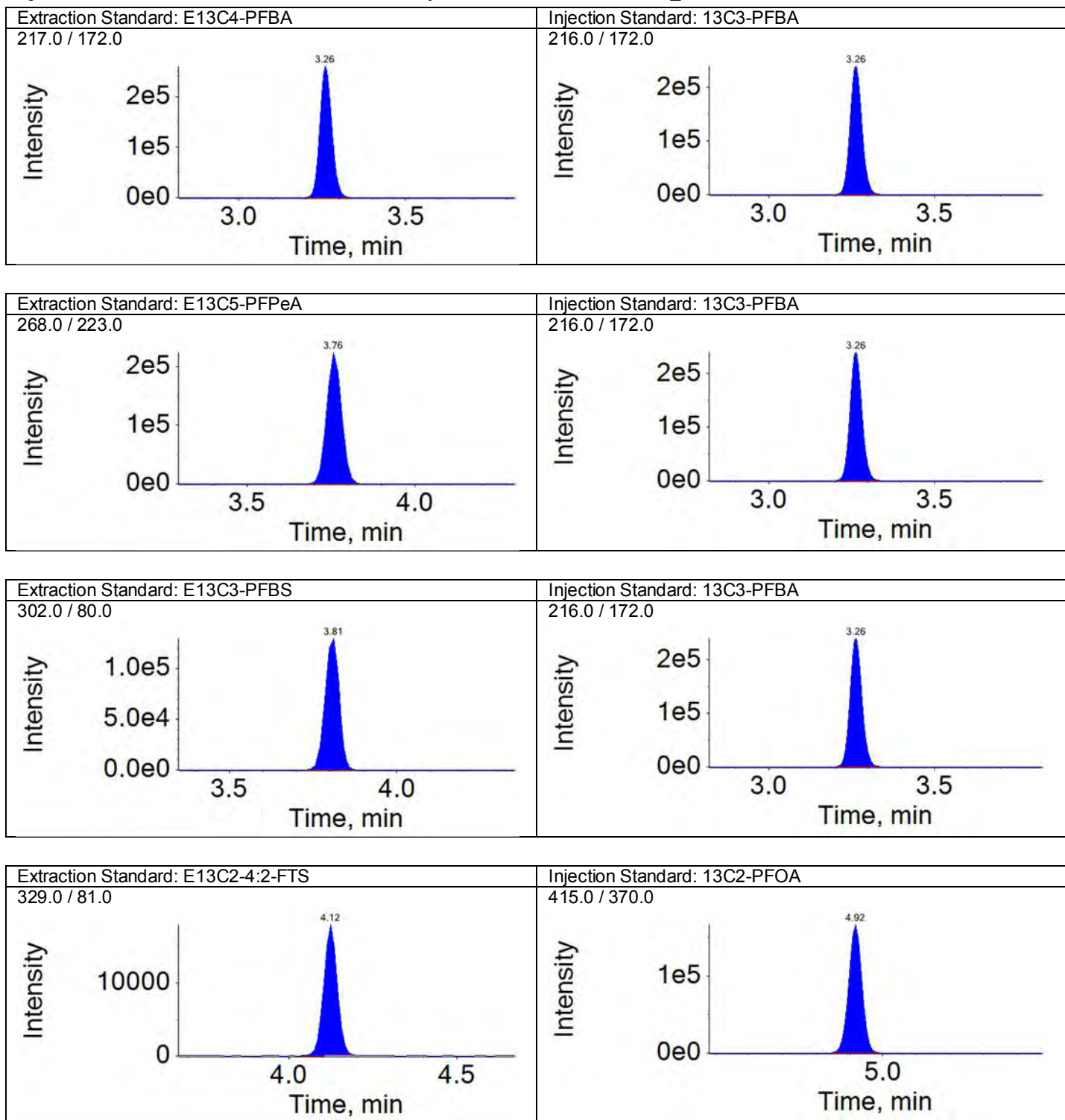
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



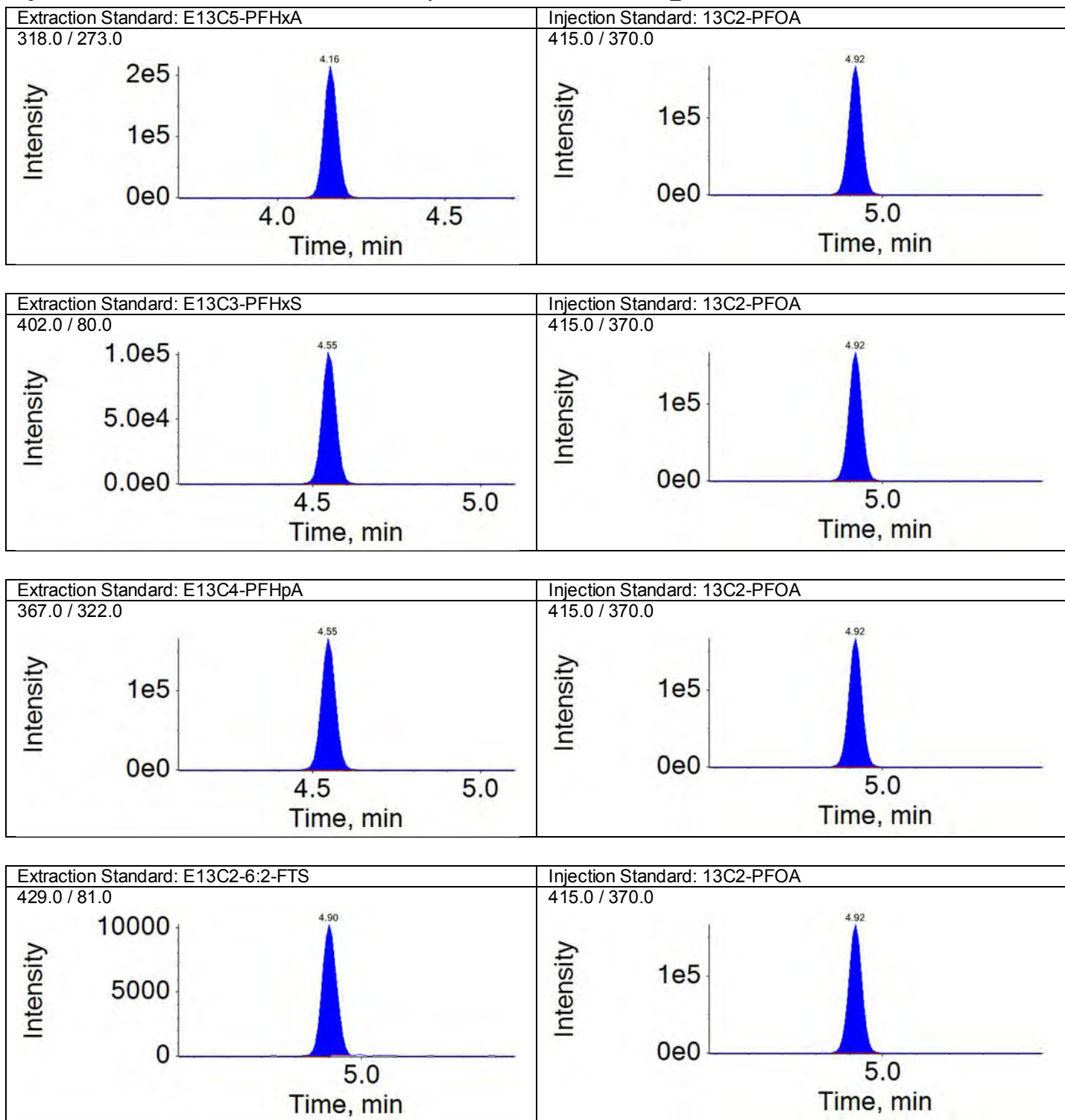
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QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



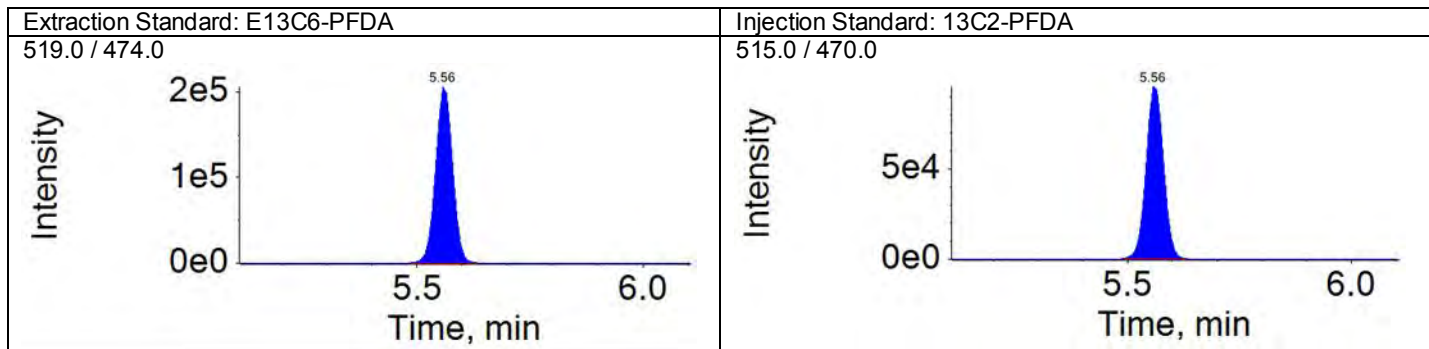
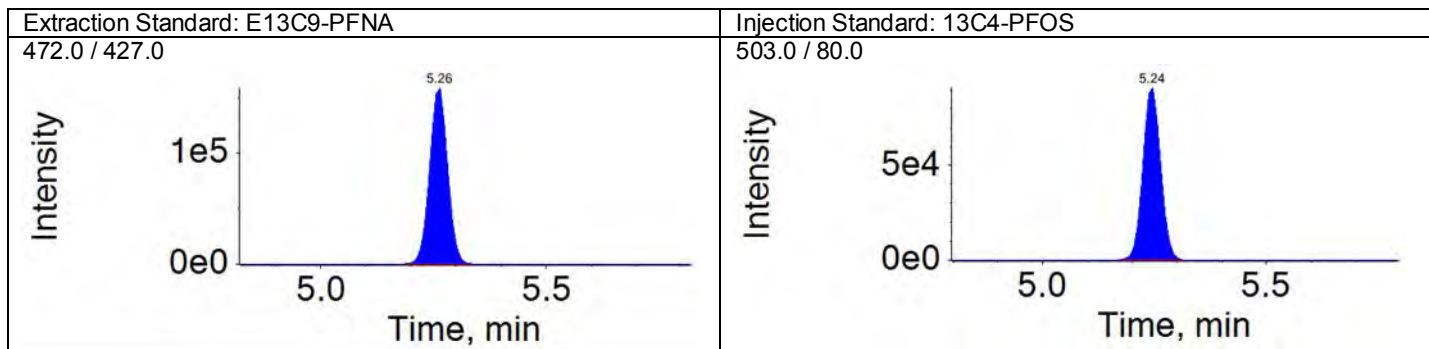
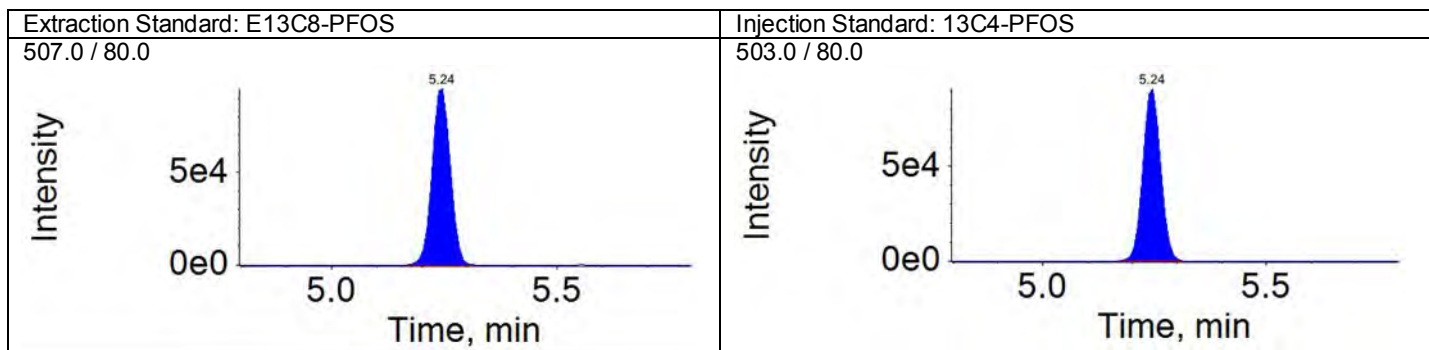
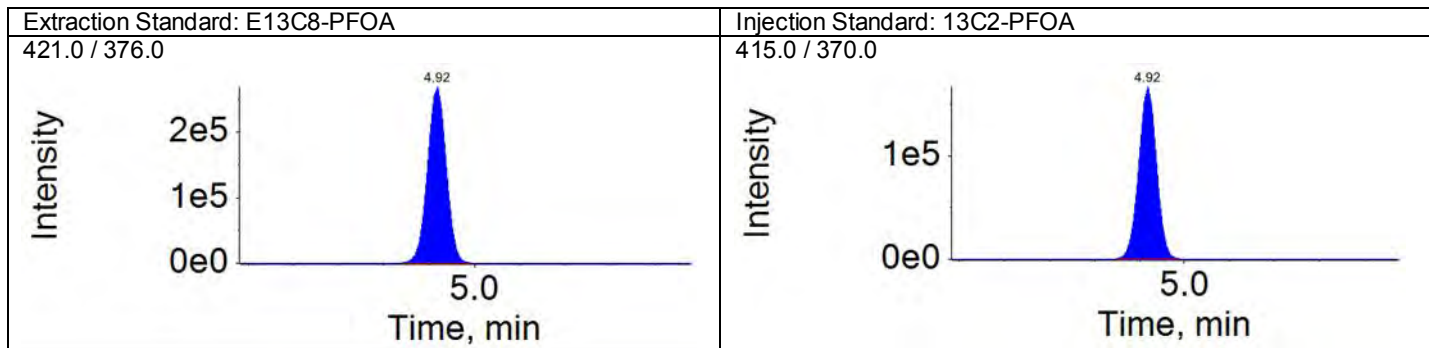
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



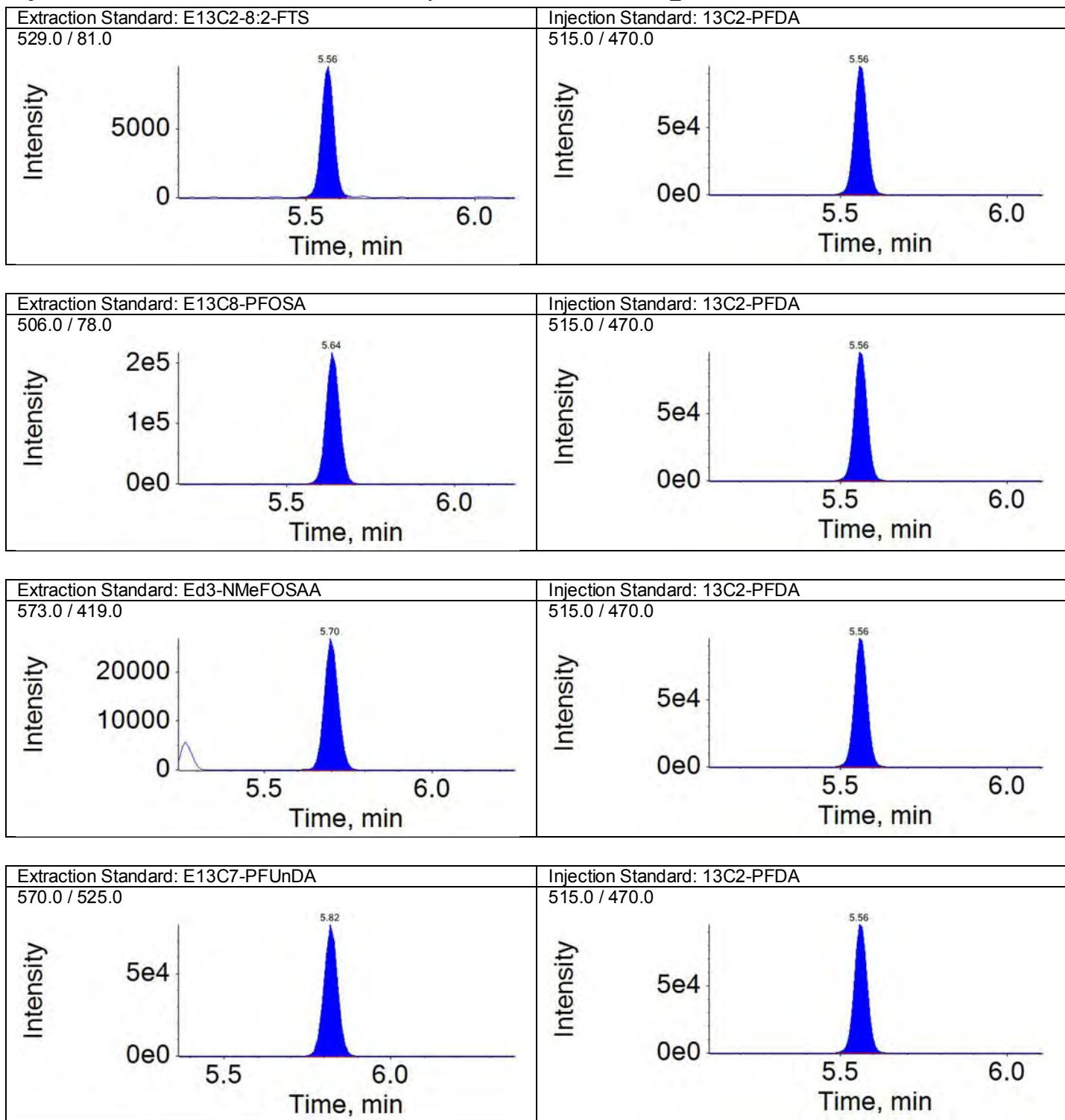
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



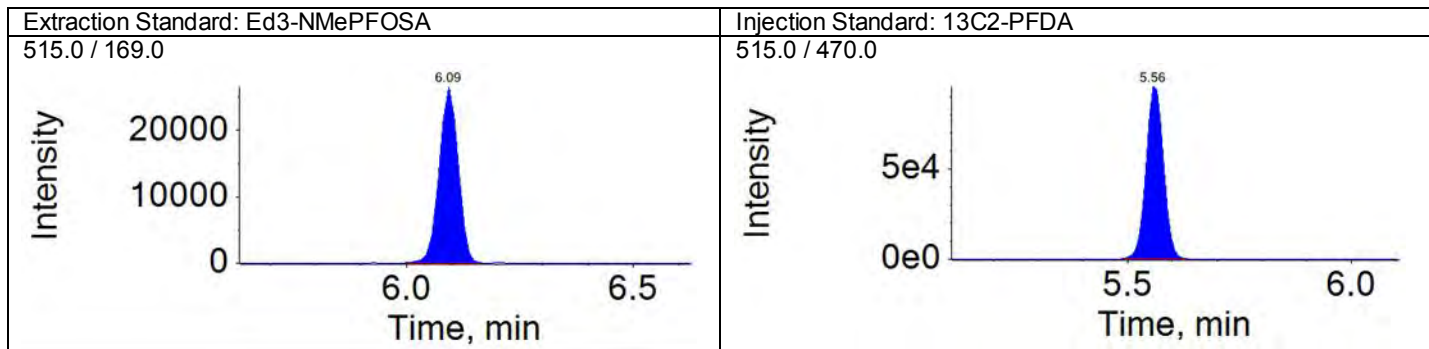
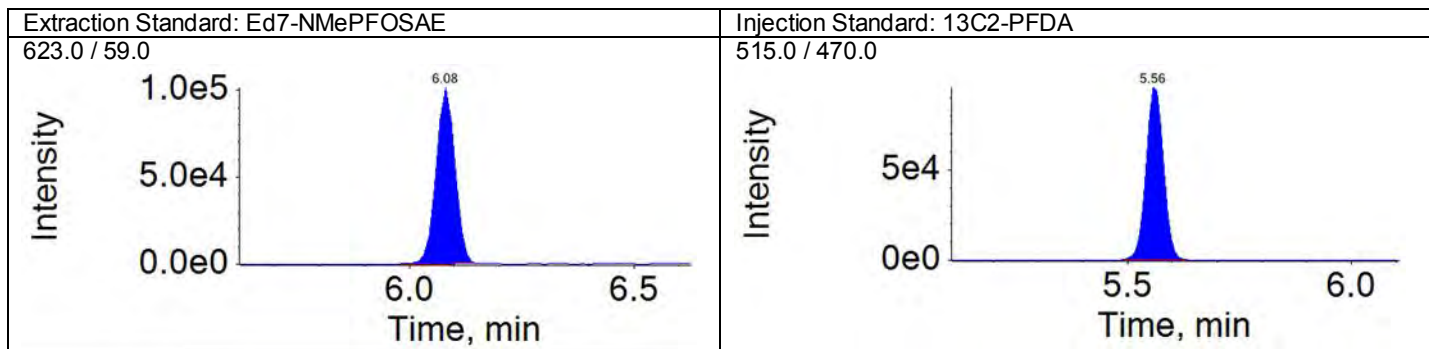
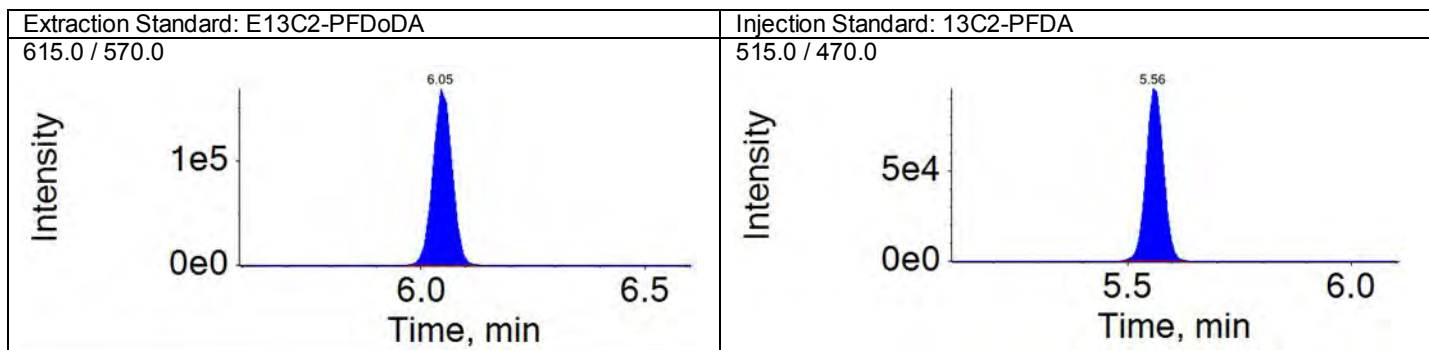
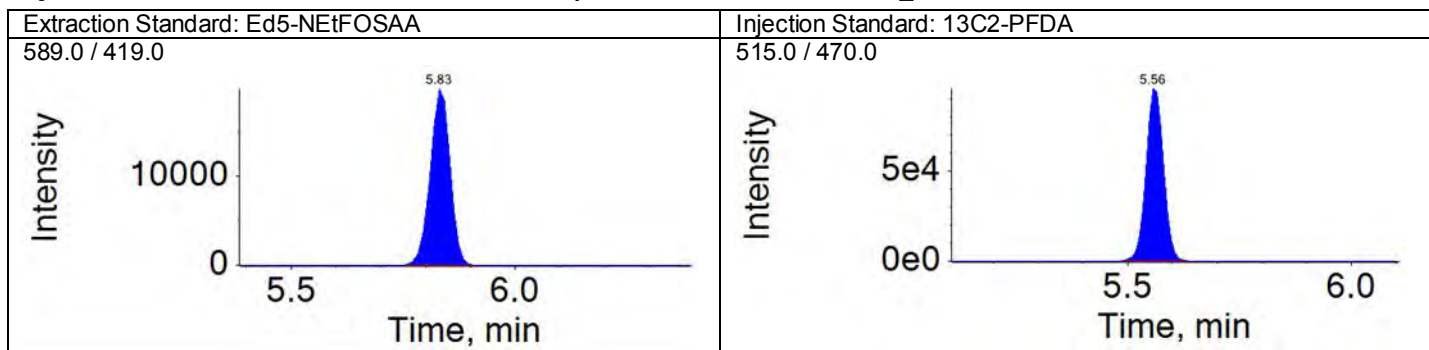
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QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



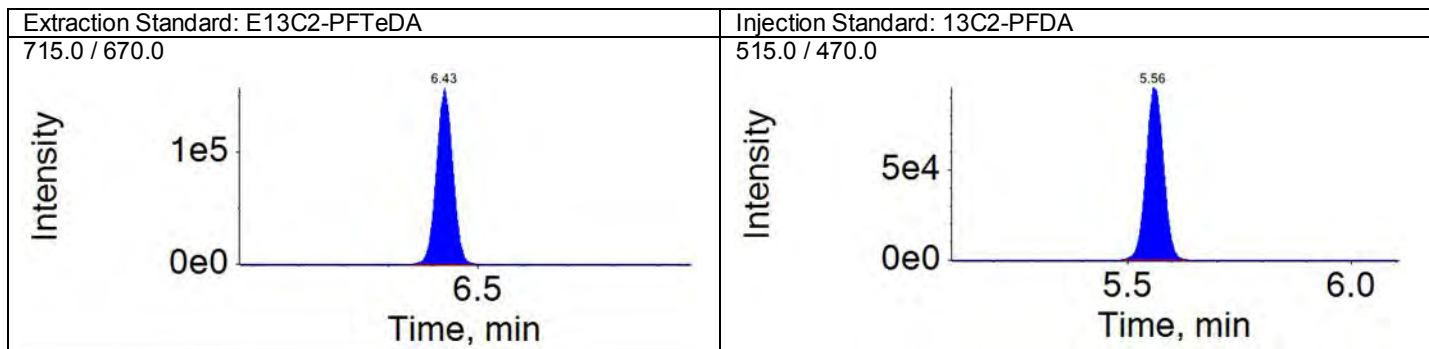
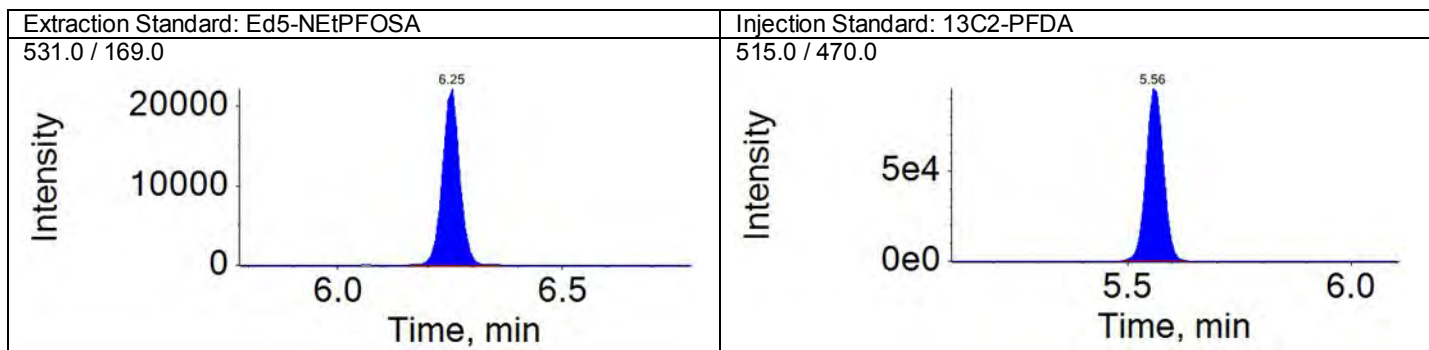
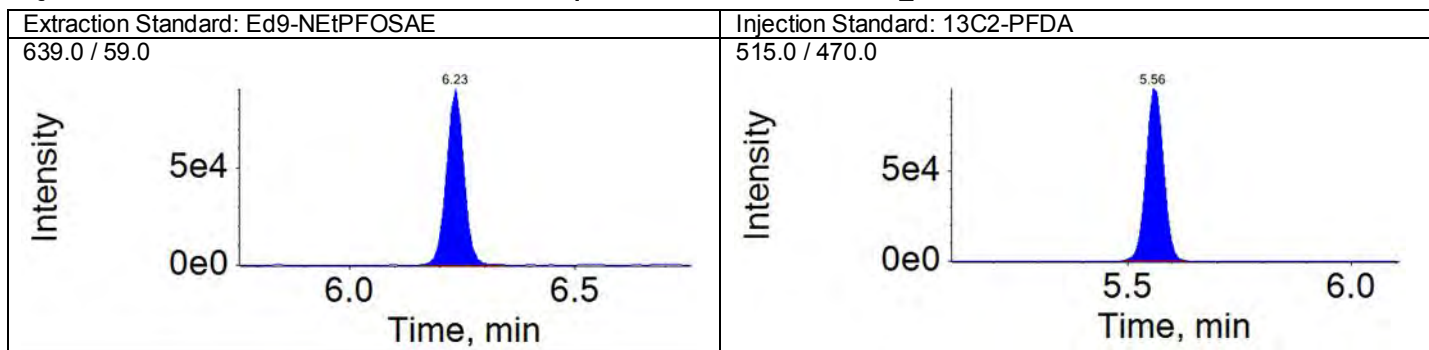
ICAL Name: 18NOV07DCAL
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Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



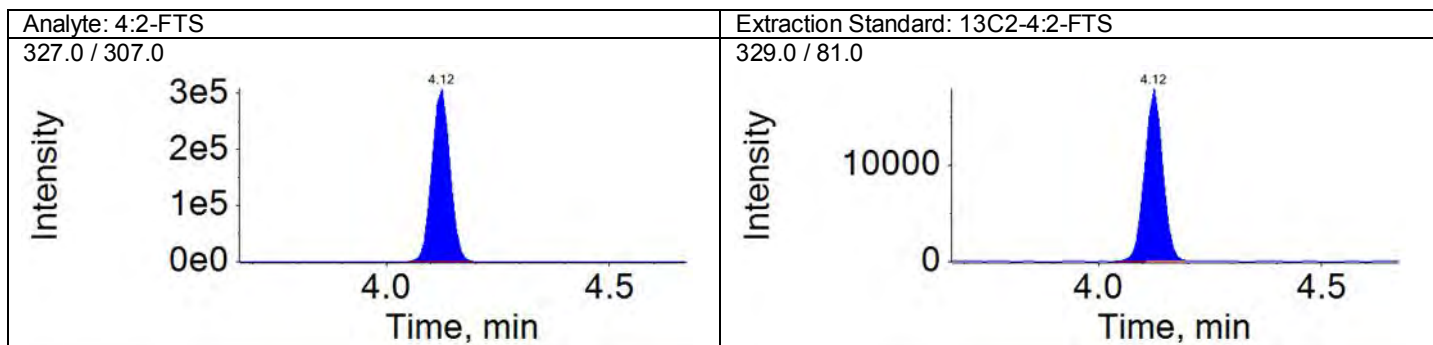
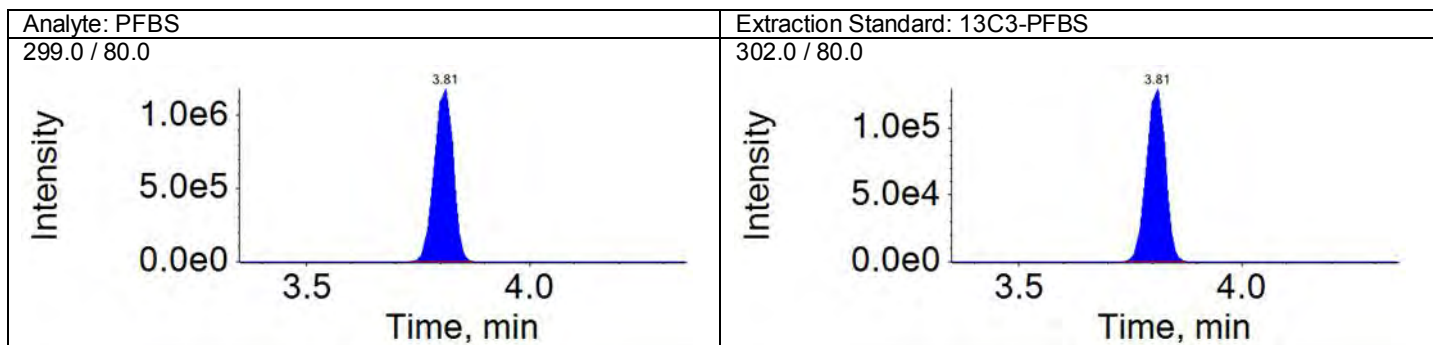
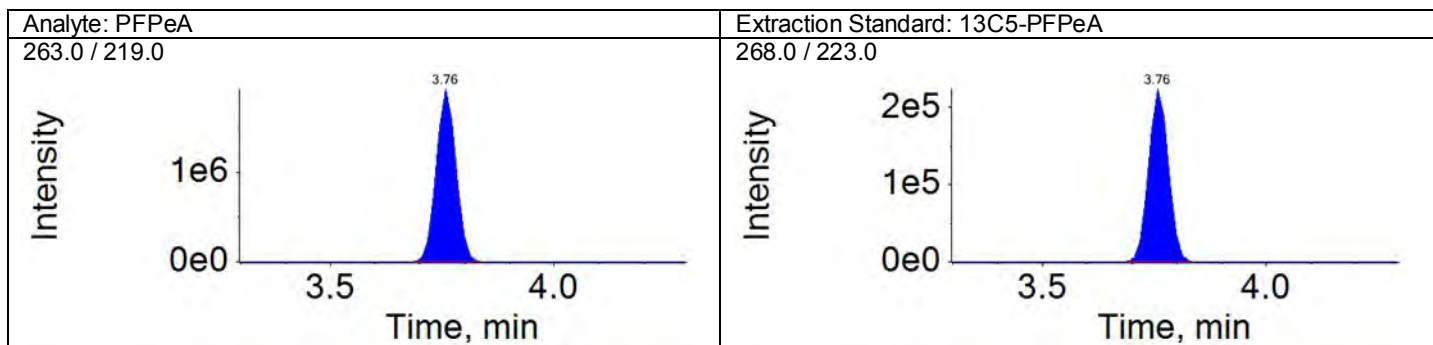
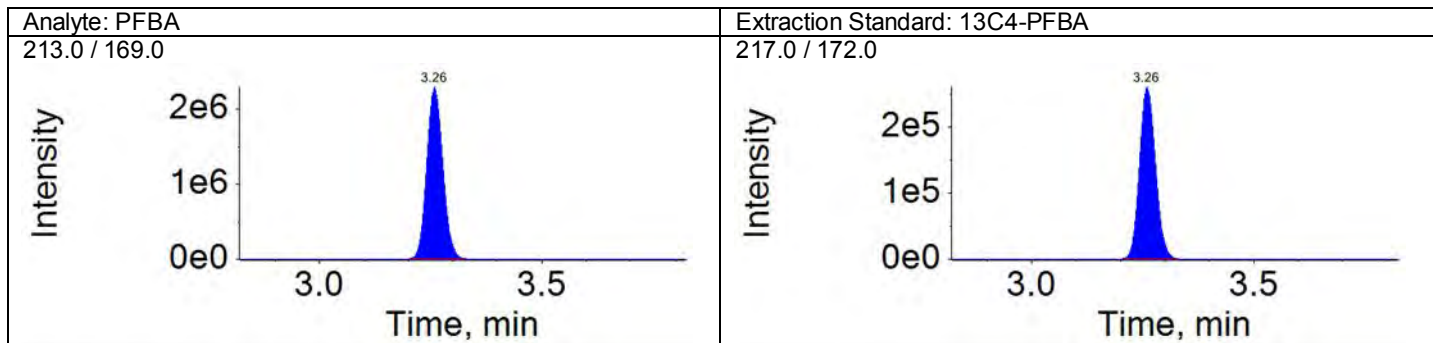
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



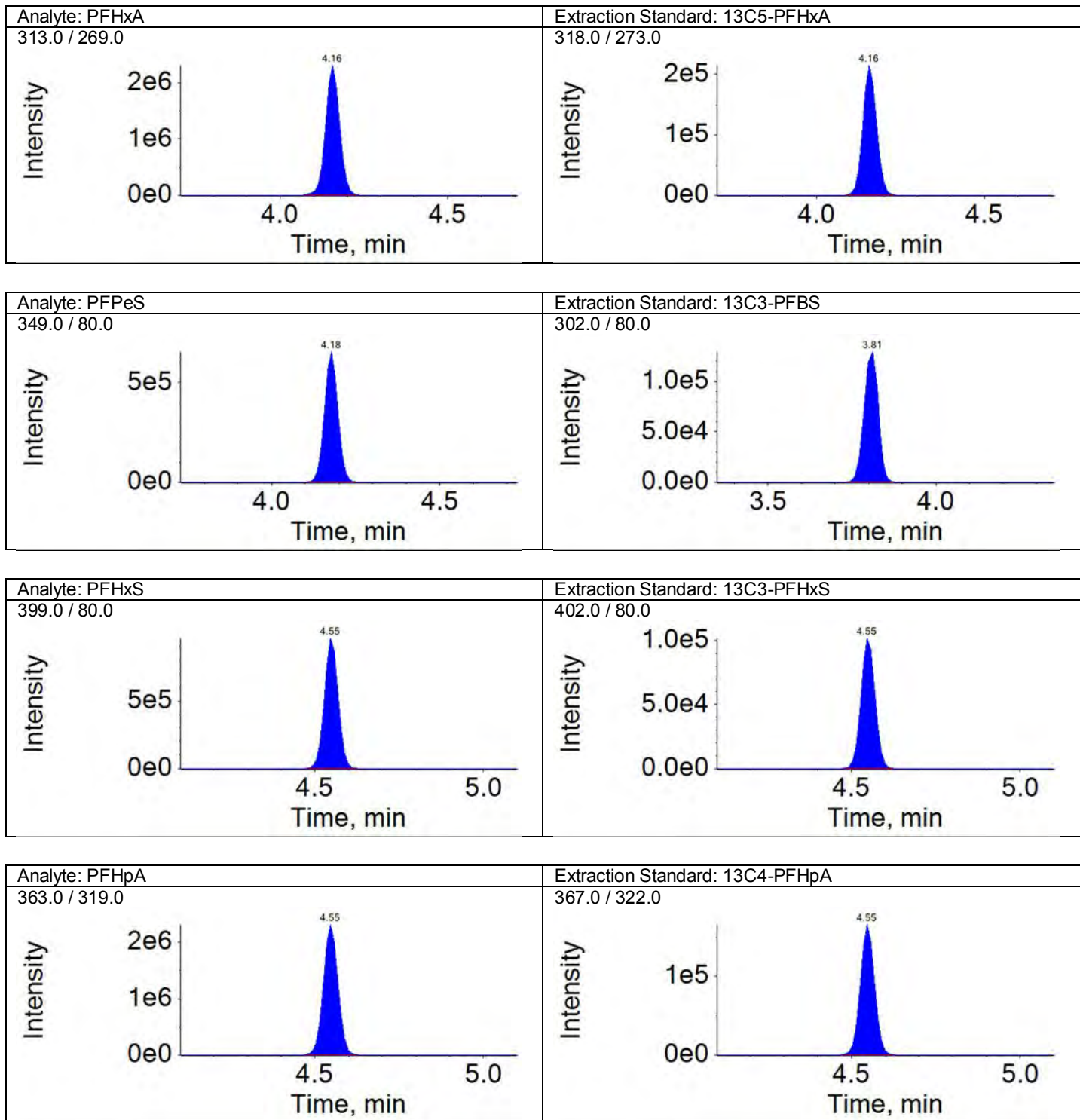
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QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



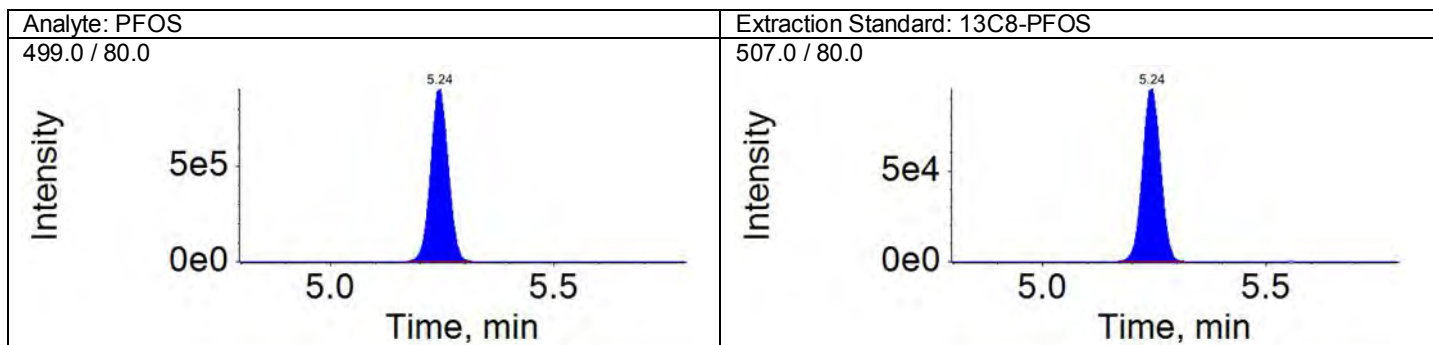
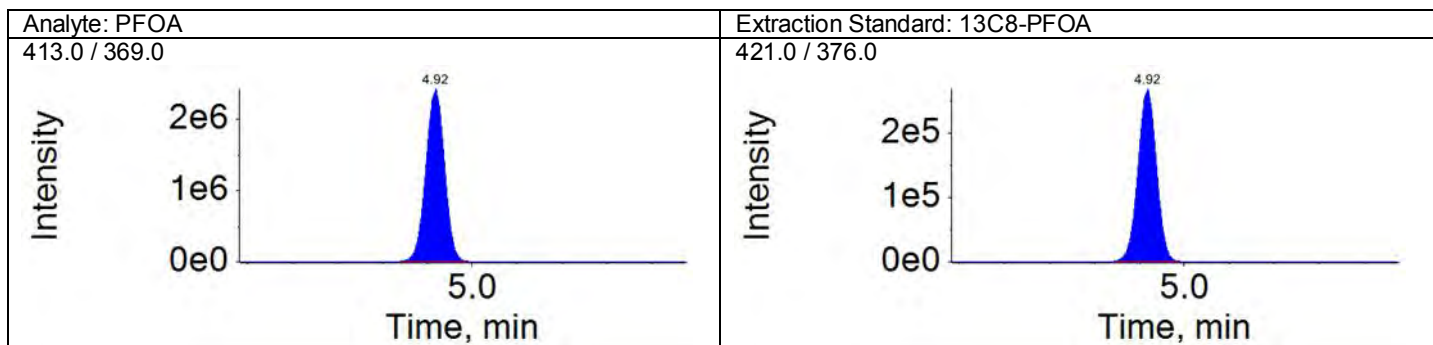
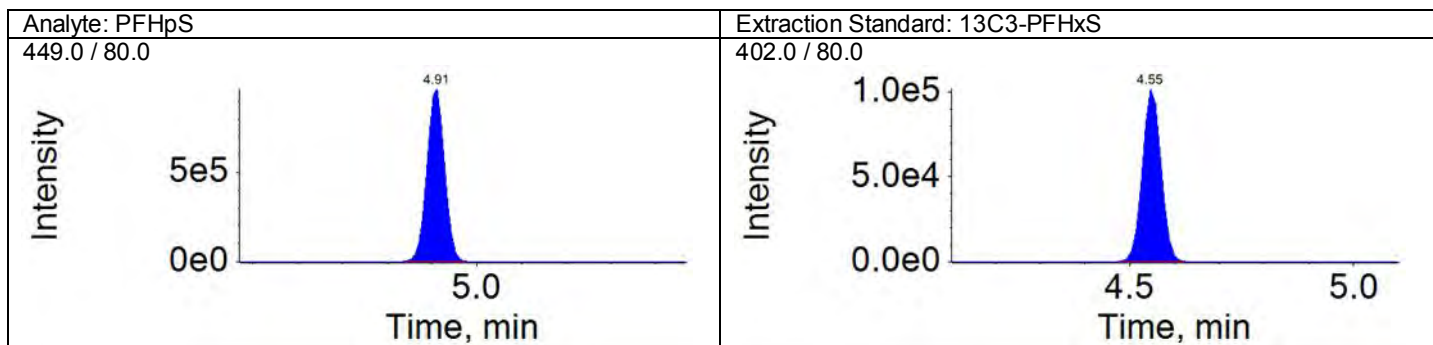
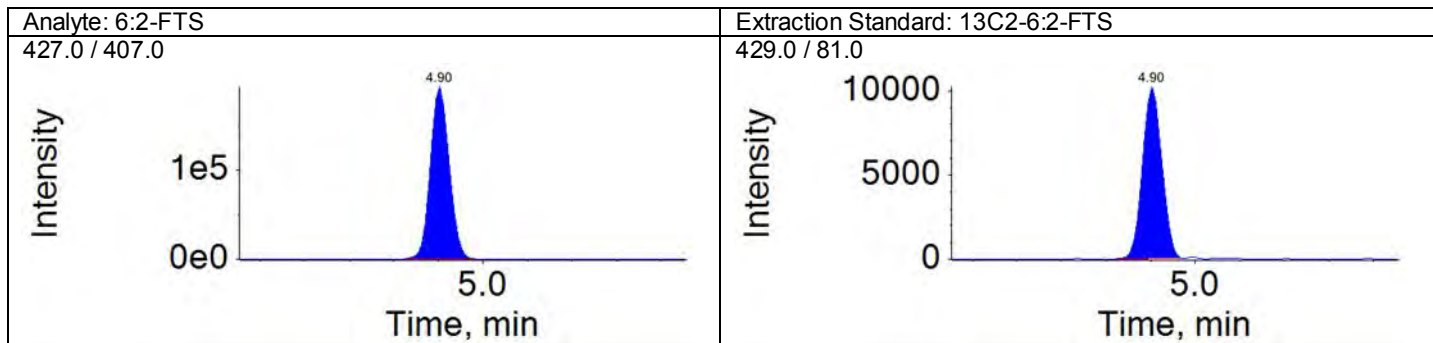
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QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



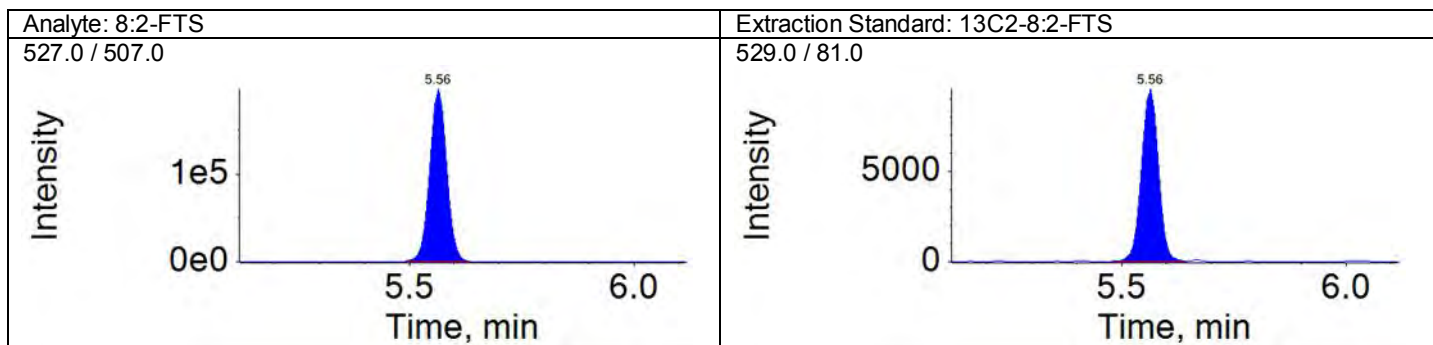
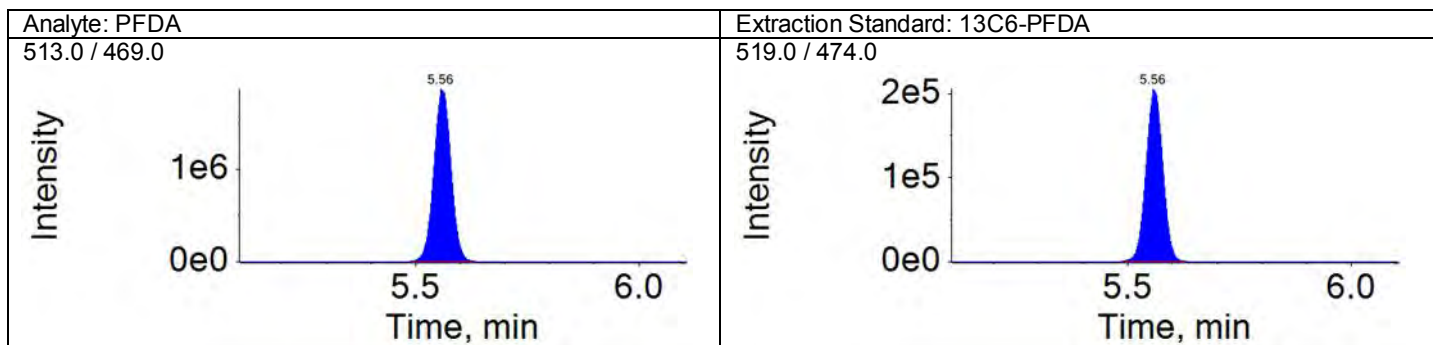
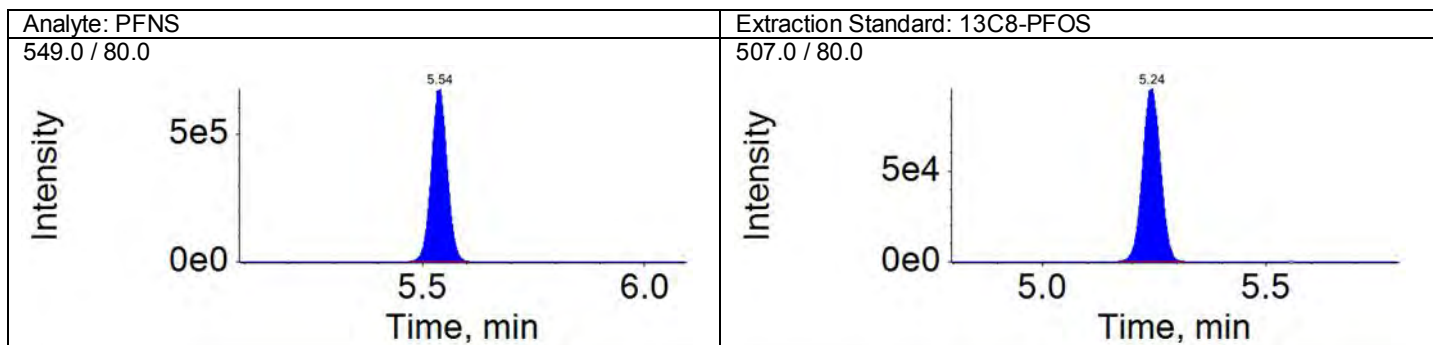
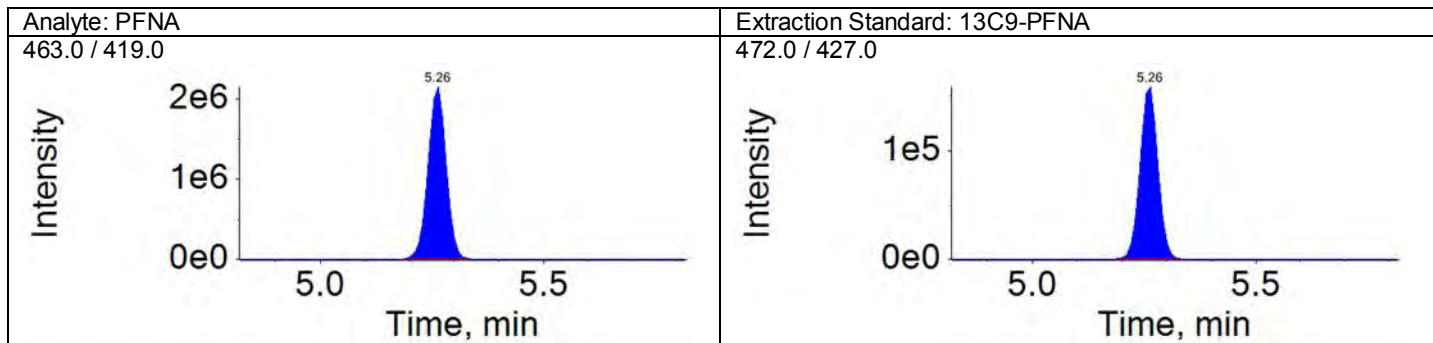
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QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



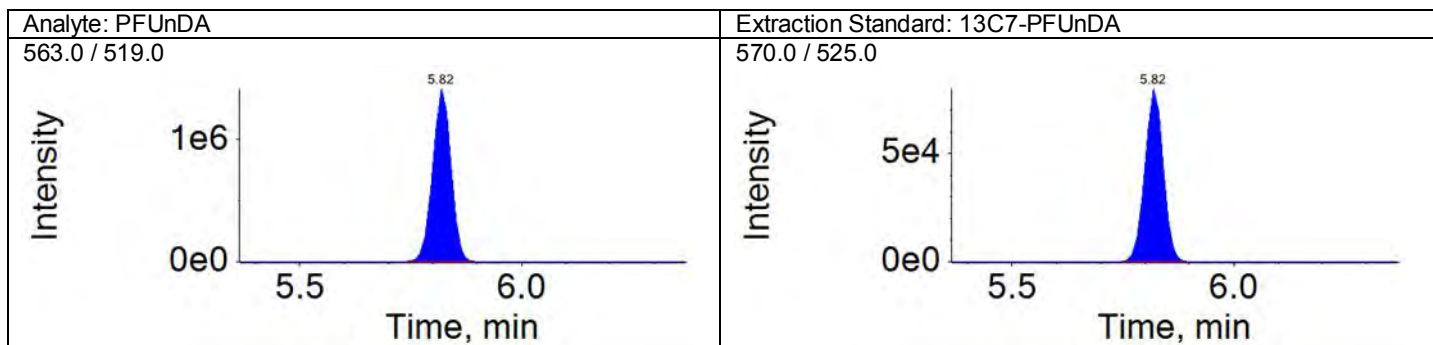
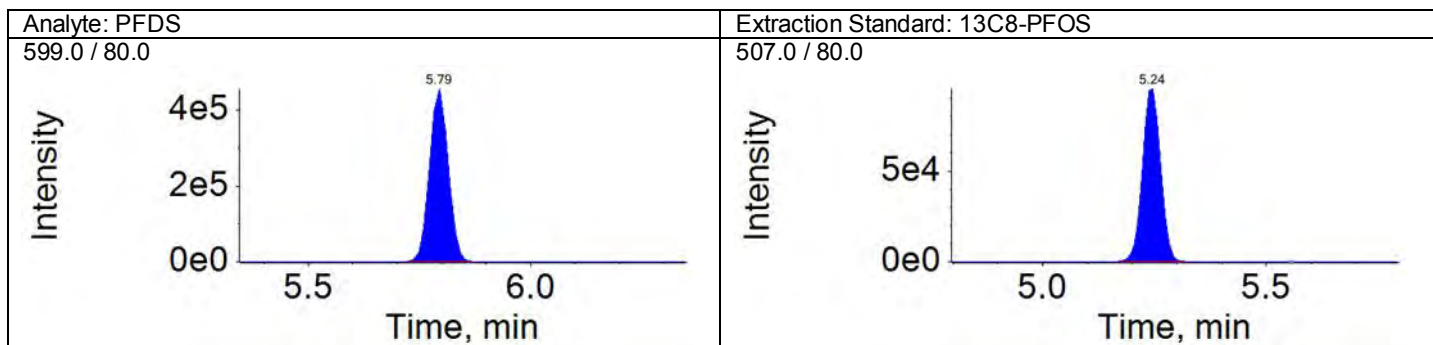
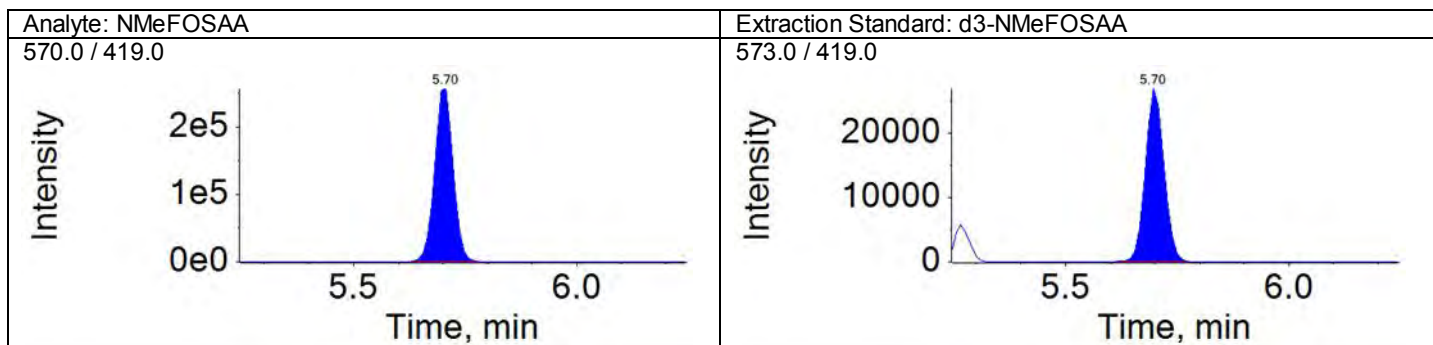
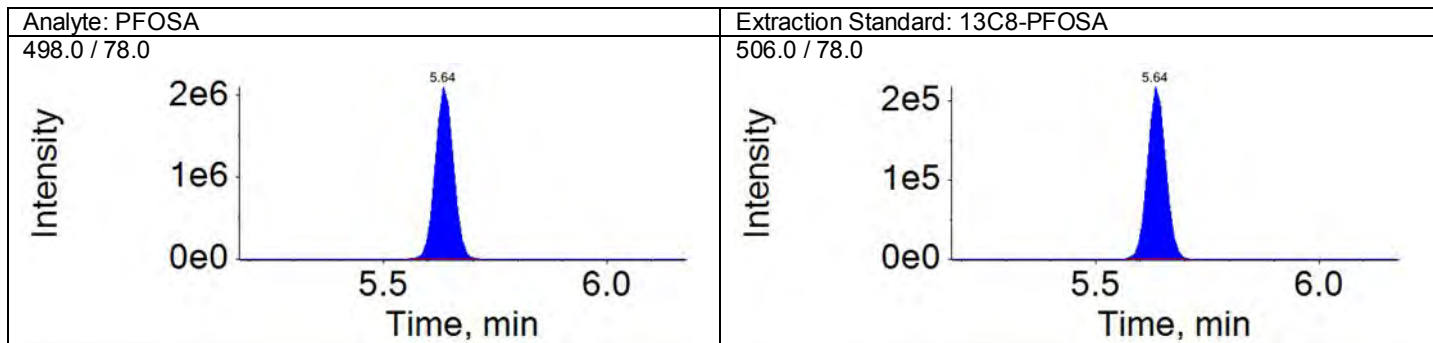
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



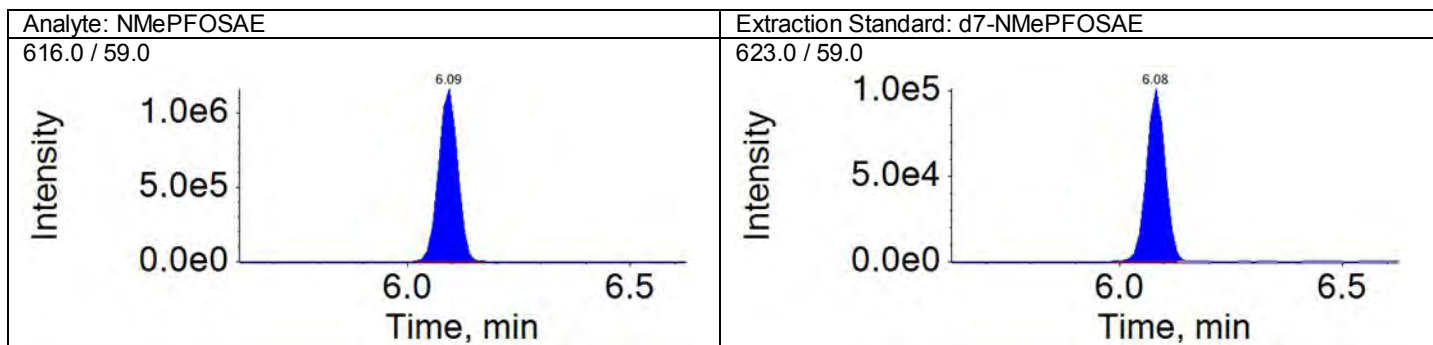
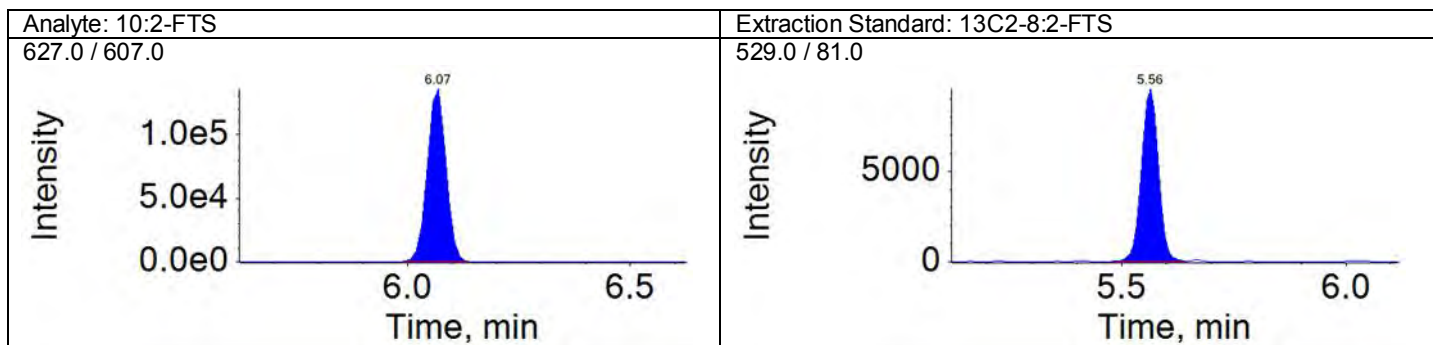
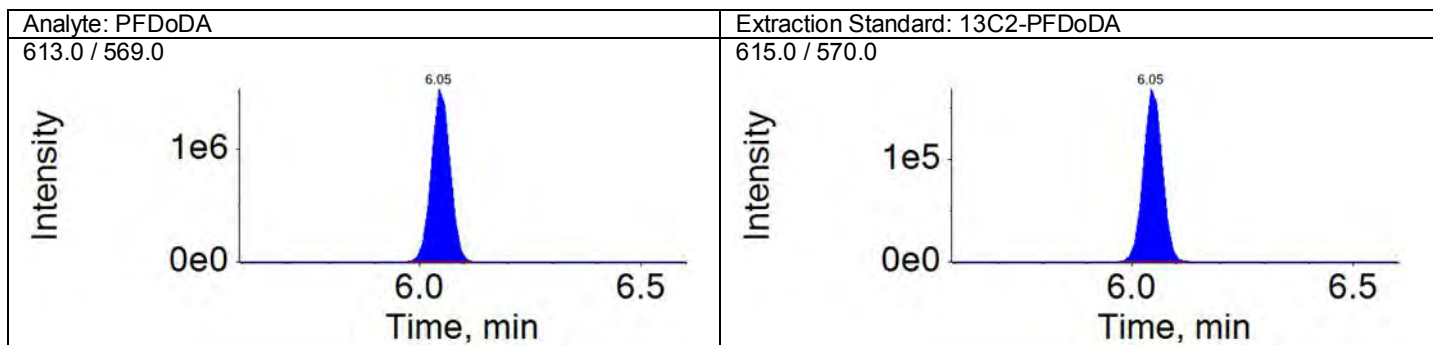
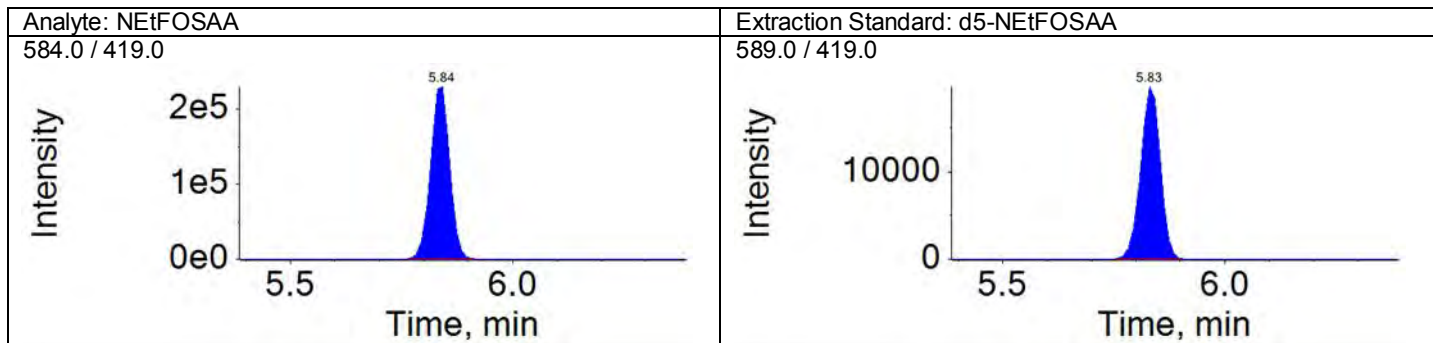
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QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



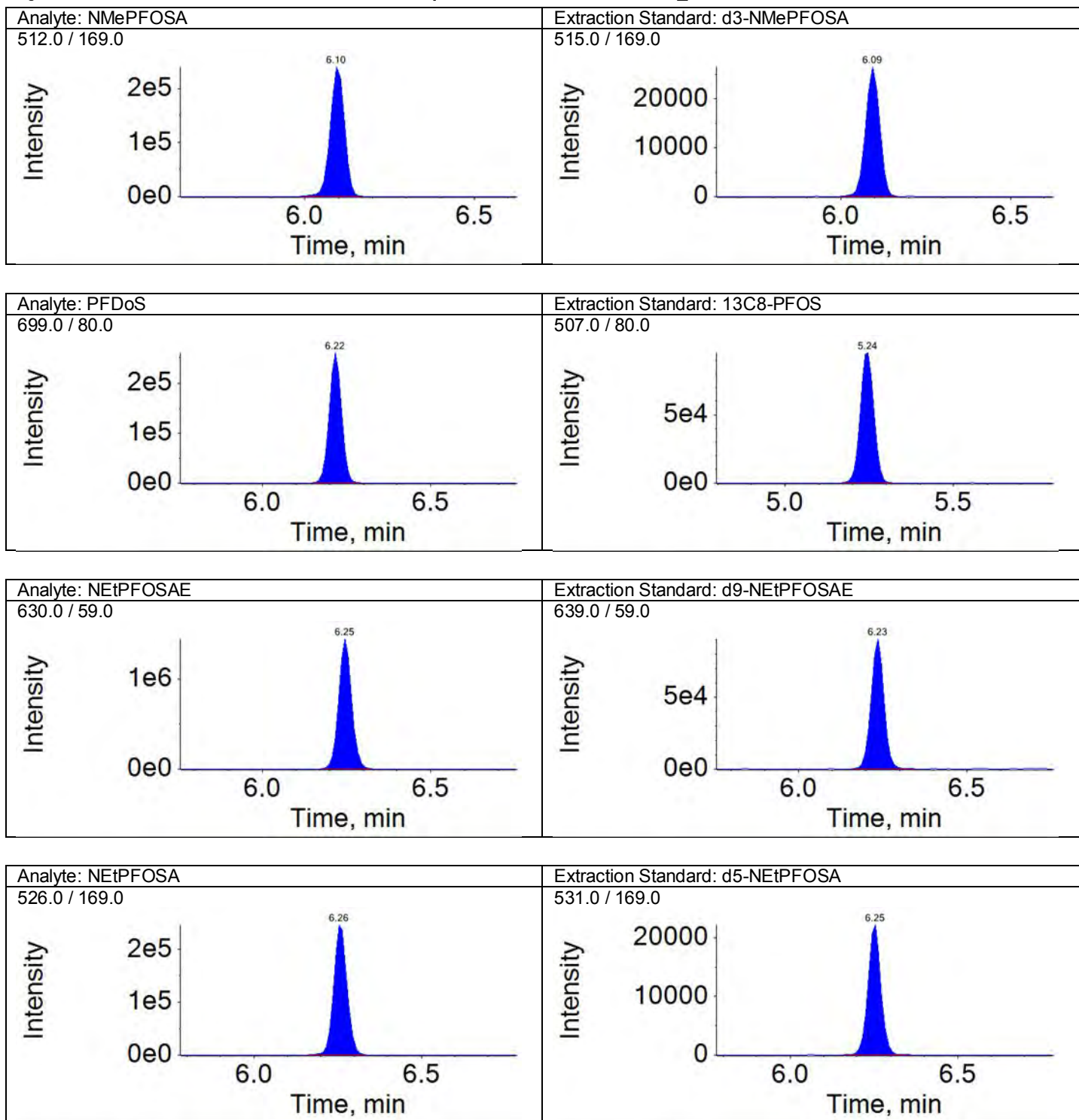
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



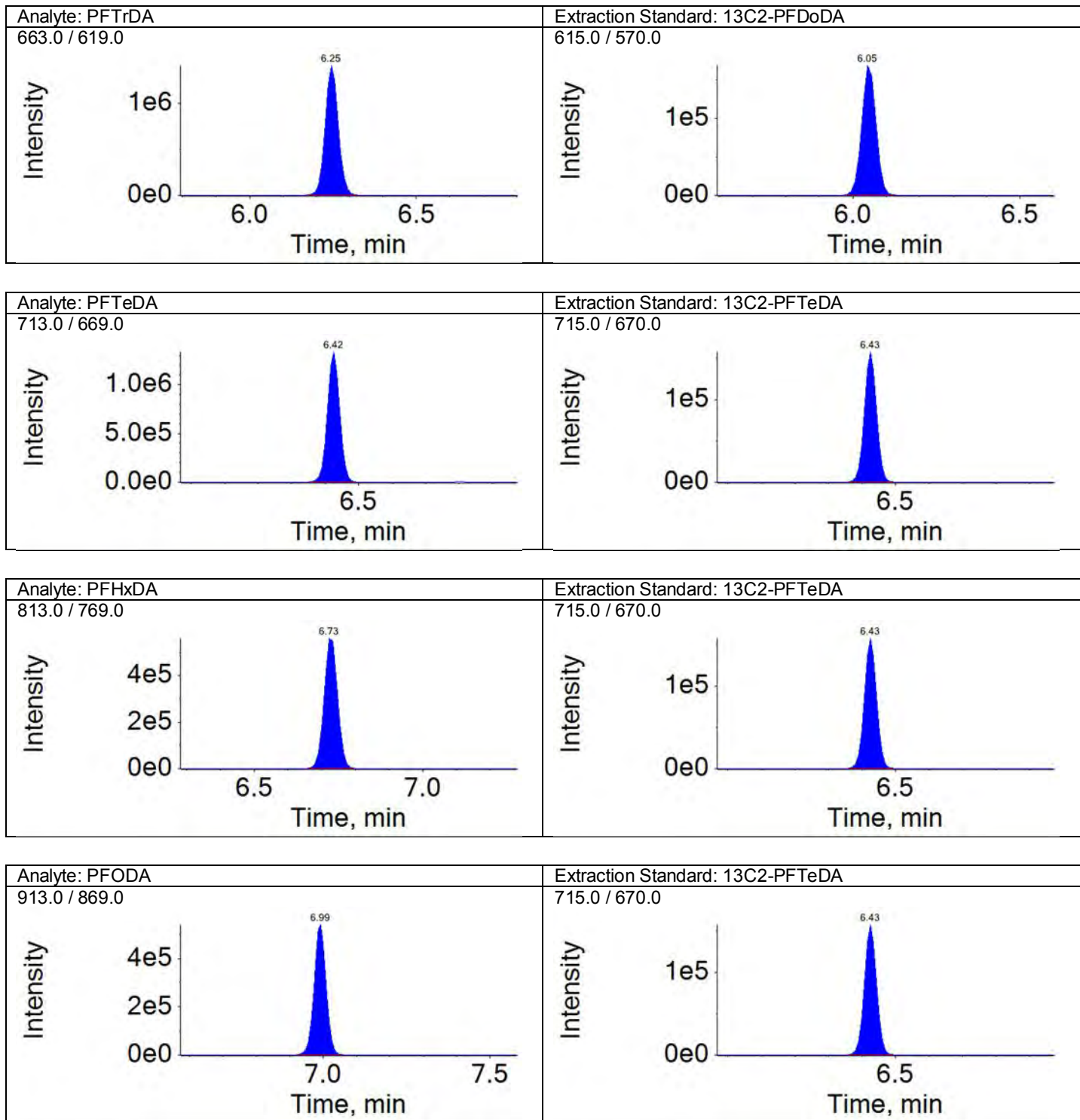
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



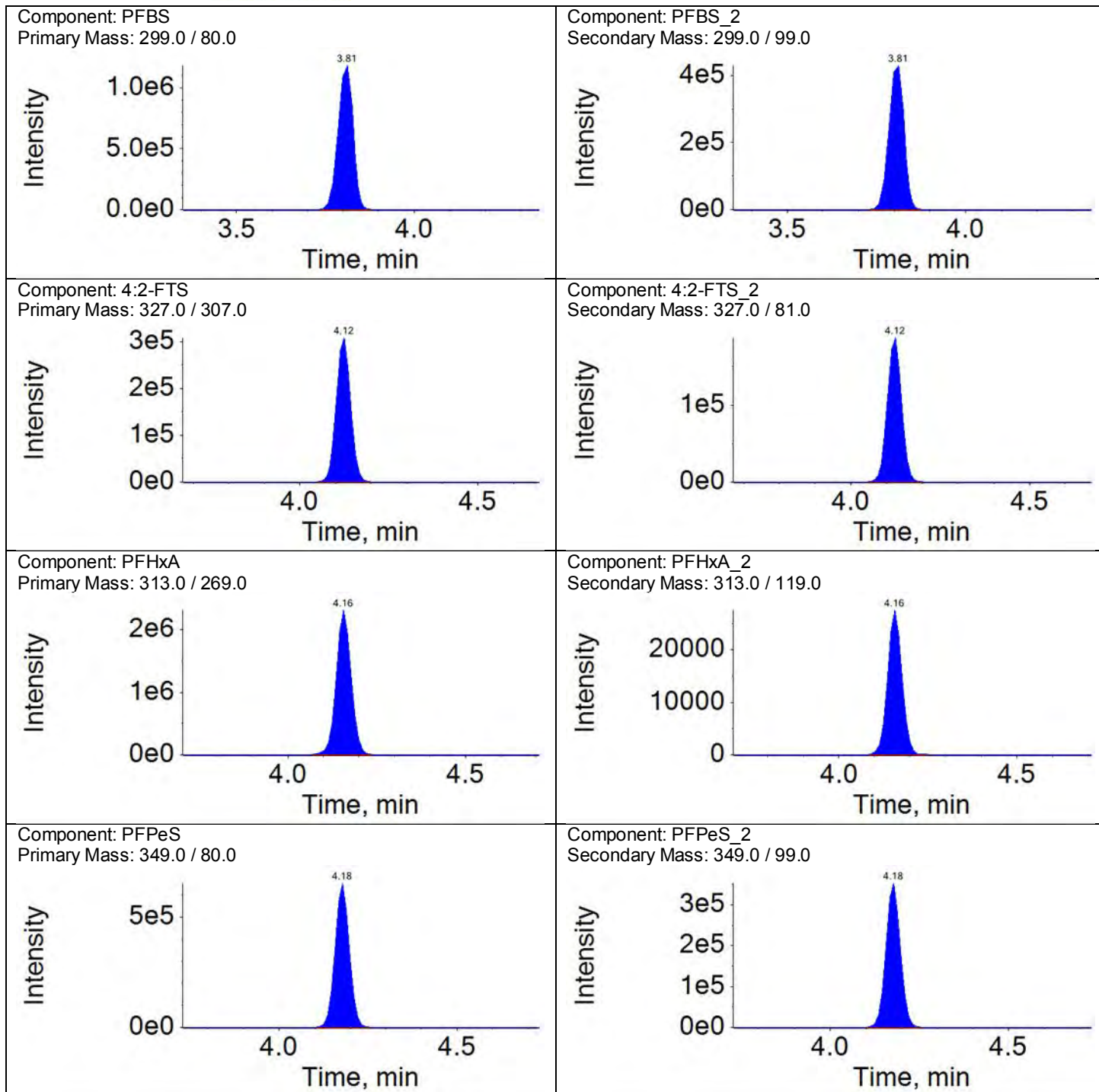
Ion Ratio Report

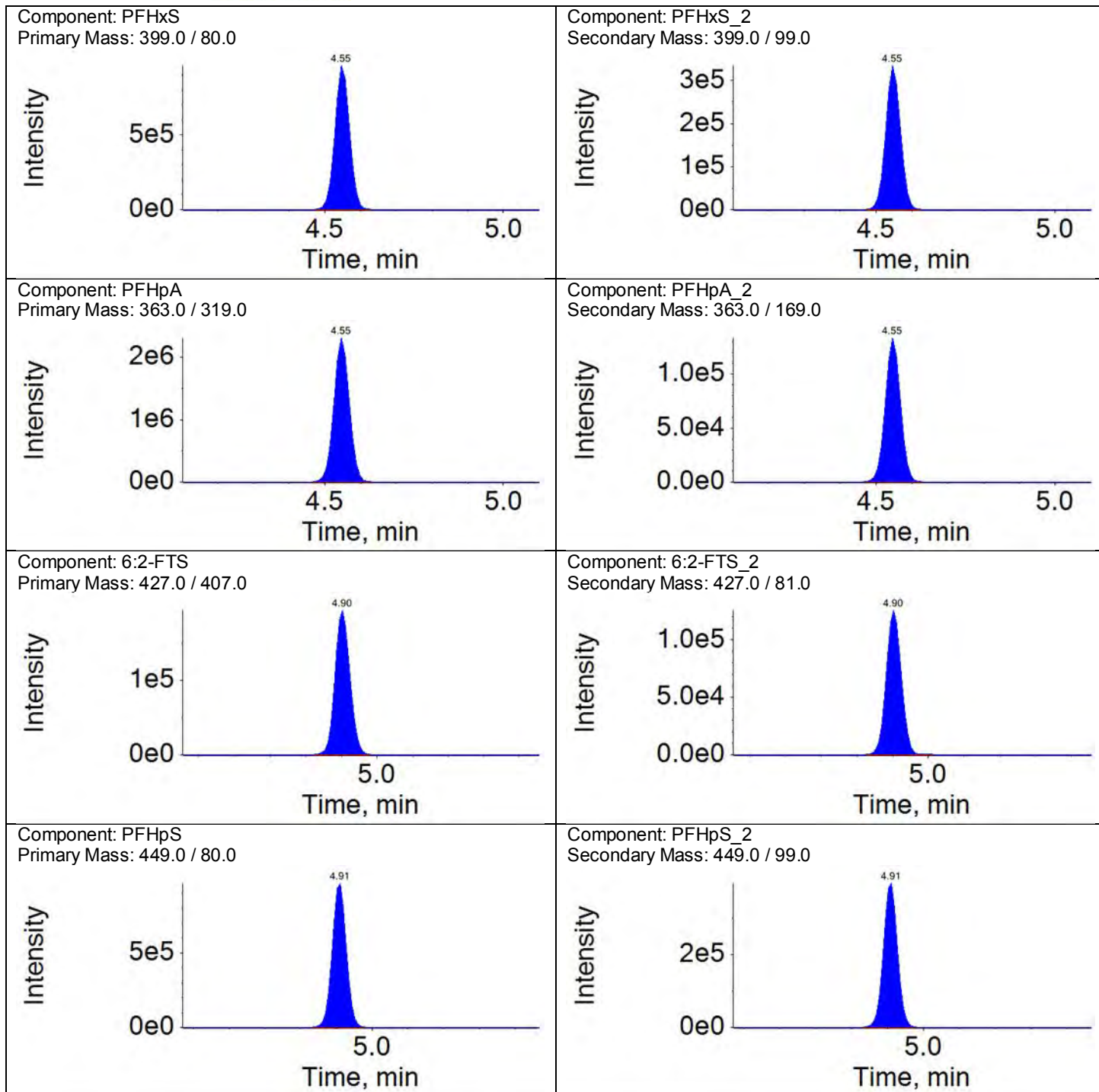
Sample Name: CAL6

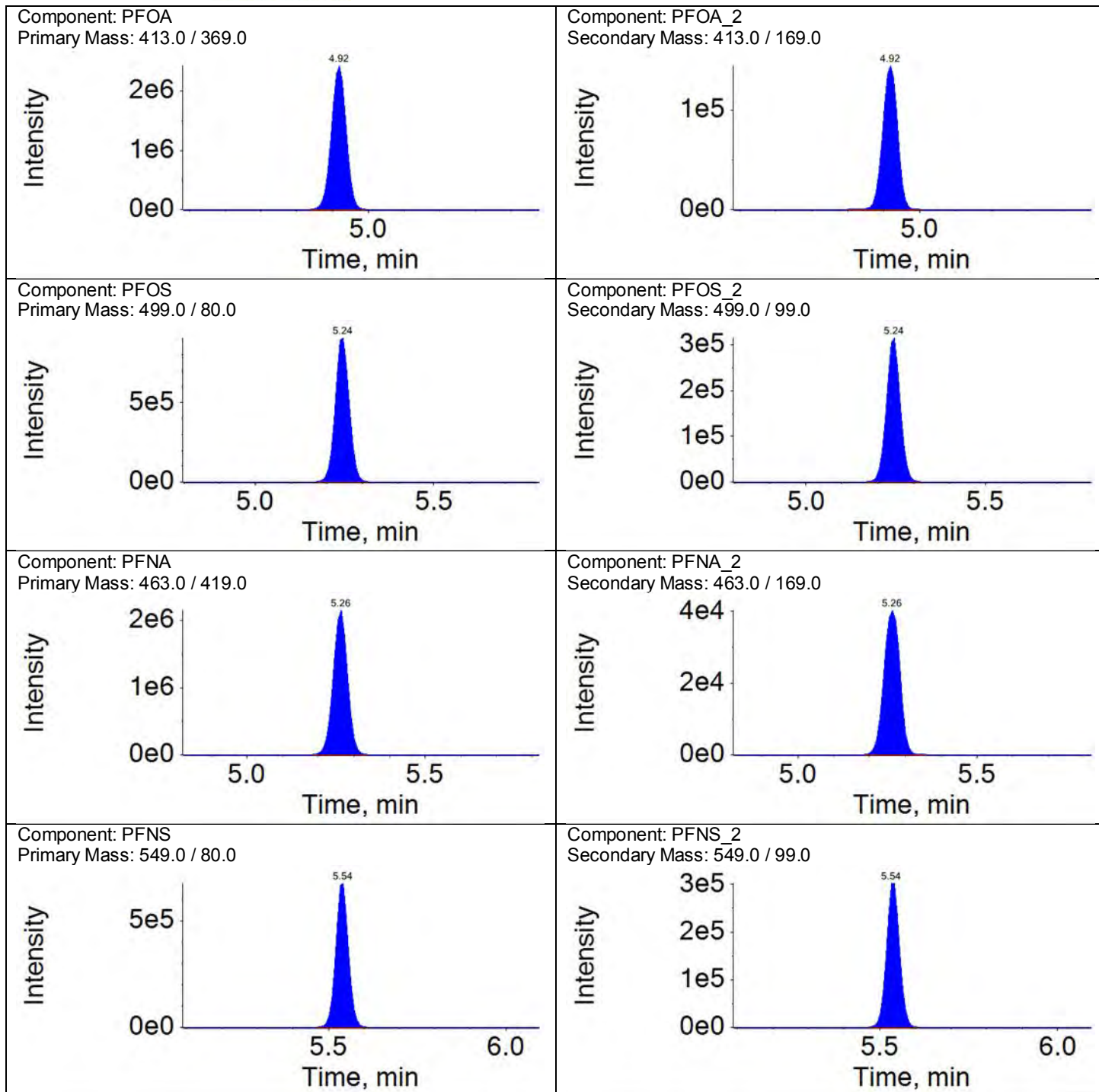
Instrument Name: LM27631

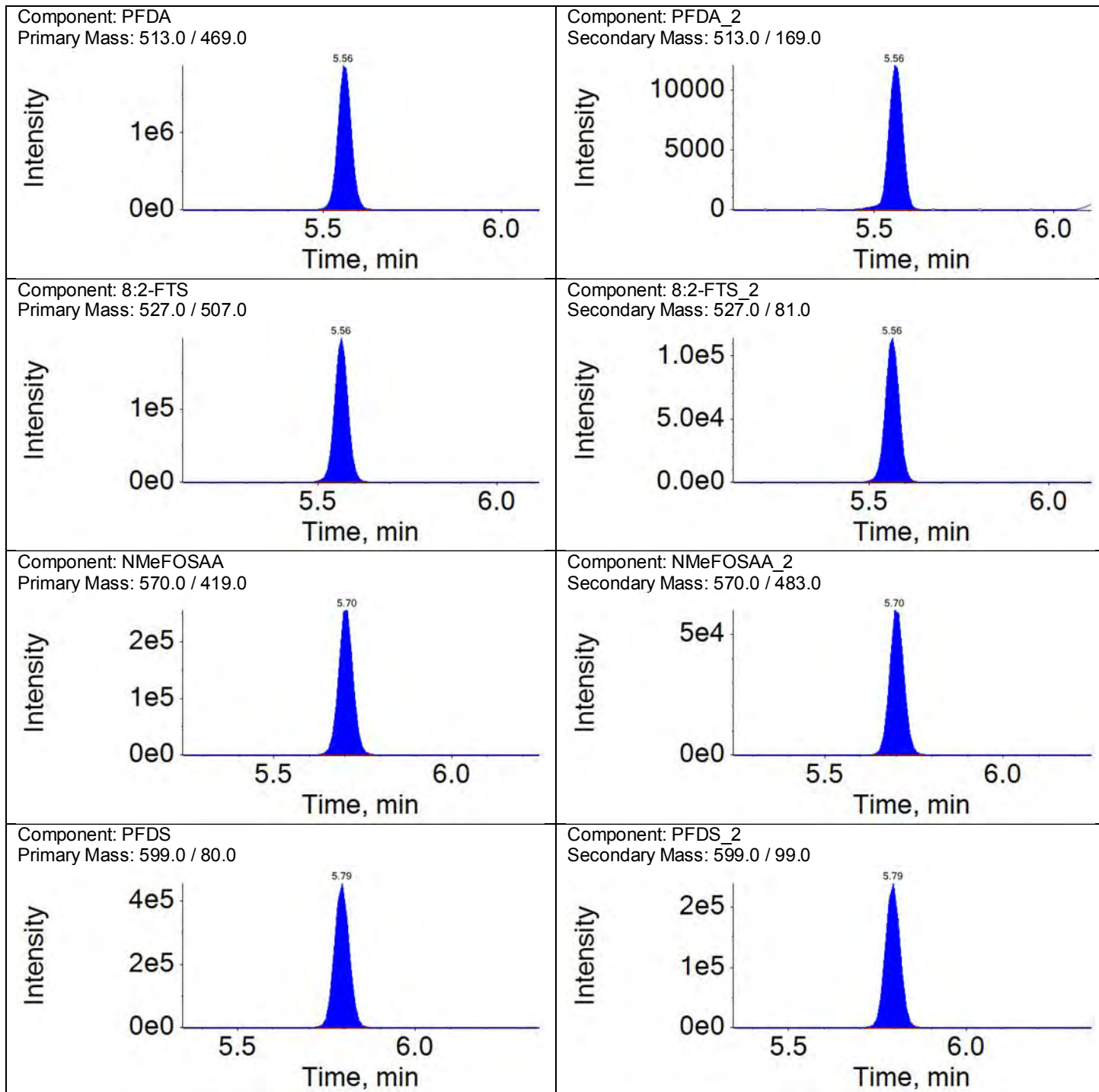
File Name: 18NOV07DCAL-15.wiff

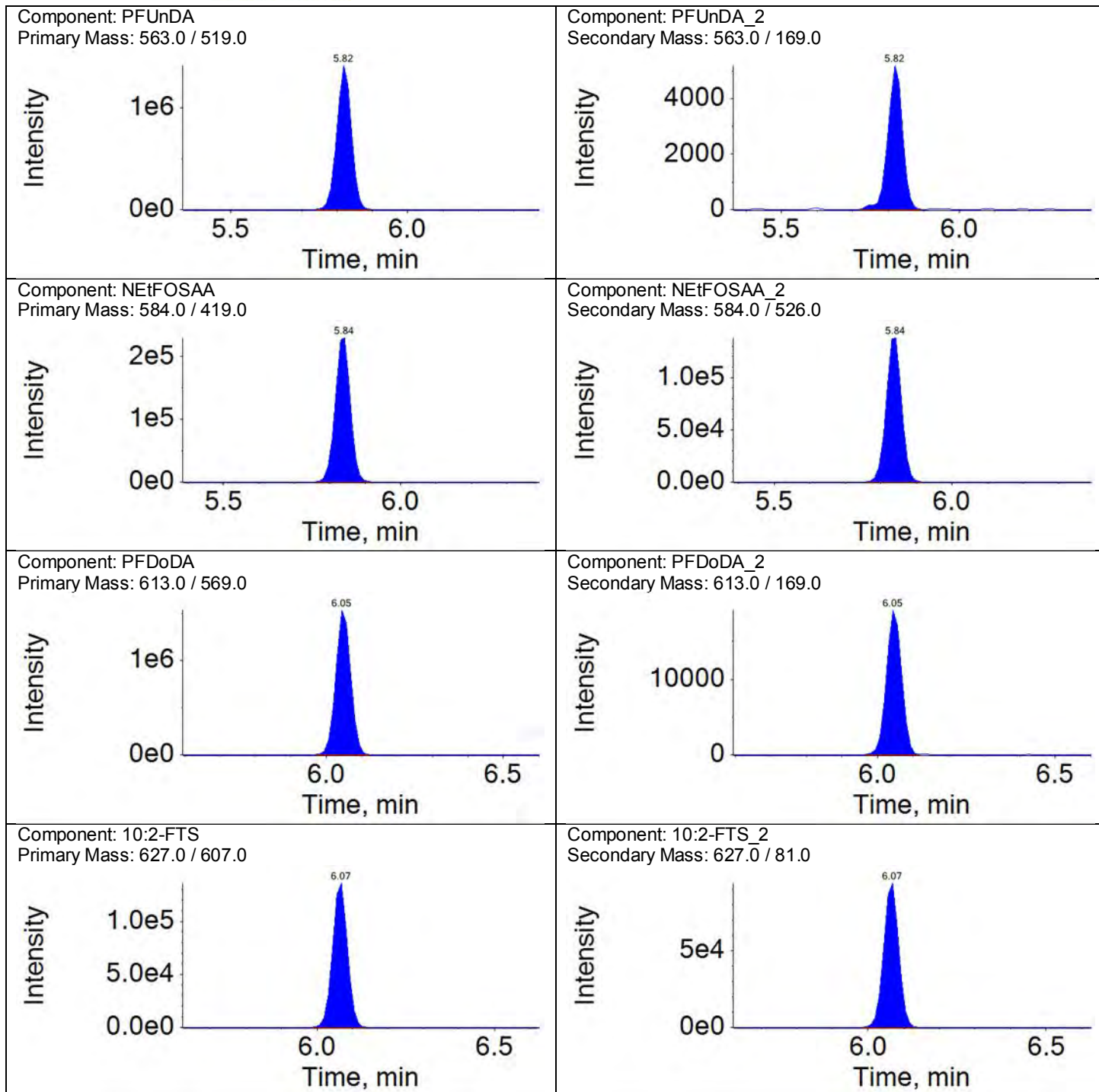
Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	3508201.1	A	1.0000	1.0000			
PFBS_2	3.81	1.00	1286846.1	A	0.3576	0.3668	3	50	
4:2-FTS	4.12	1.00	866263.6	A	1.0000	1.0000			
4:2-FTS_2	4.12	1.00	524123.7	A	0.6359	0.6050	-5	50	
PFHxA	4.16	1.00	6739327.9	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	77061.9	A	0.0115	0.0114	0	50	
PFPeS	4.18	1.10	1823355.9	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	993764.2	A	0.5384	0.5450	1	50	
PFHxS	4.55	1.00	2760712.8	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	964116.9	A	0.3569	0.3492	-2	50	
PFHpA	4.55	1.00	6940304.7	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	395462.8	A	0.0577	0.0570	-1	50	
6:2-FTS	4.90	1.00	566692.8	A	1.0000	1.0000			
6:2-FTS_2	4.90	1.00	369783.6	A	0.6752	0.6525	-3	50	
PFHpS	4.91	1.08	2648512.9	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	1077513.1	A	0.3950	0.4068	3	50	
PFOA	4.92	1.00	7023921.1	A	1.0000	1.0000			
PFOA_2	4.92	1.00	420903.3	A	0.0635	0.0599	-6	50	
PFOS	5.24	1.00	2487687.4	A	1.0000	1.0000			
PFOS_2	5.24	1.00	854704.9	A	0.3494	0.3436	-2	50	
PFNA	5.26	1.00	6070259.1	A	1.0000	1.0000			
PFNA_2	5.26	1.00	127695.8	A	0.0207	0.0210	2	50	
PFNS	5.54	1.06	1684601.2	A	1.0000	1.0000			
PFNS_2	5.54	1.06	776478.1	A	0.4890	0.4609	-6	50	
PFDA	5.56	1.00	4962332.7	A	1.0000	1.0000			
PFDA_2	5.56	1.00	33135.1	A	0.0057	0.0067	18	50	
8:2-FTS	5.56	1.00	516640.5	A	1.0000	1.0000			
8:2-FTS_2	5.56	1.00	308500.7	A	0.6169	0.5971	-3	50	
NMeFOSAA	5.70	1.00	740651.6	A	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	170978.8	A	0.2206	0.2308	5	50	
PFDS	5.79	1.11	1337416.6	A	1.0000	1.0000			
PFDS_2	5.79	1.10	697007.4	A	0.4648	0.5212	12	50	
PFUnDA	5.82	1.00	4071590.3	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	14961.6	A	0.0031	0.0037	17	50	
NEtFOSAA	5.84	1.00	685447.7	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	416391.3	A	0.6082	0.6075	0	50	
PFDODA	6.05	1.00	4509578.7	A	1.0000	1.0000			
PFDODA_2	6.05	1.00	57065.9	A	0.0109	0.0127	16	50	
10:2-FTS	6.07	1.09	395929.8	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	276017.2	A	0.7082	0.6971	-2	50	
PFTTrDA	6.25	1.03	3829048.4	A	1.0000	1.0000			
PFTTrDA_2	6.25	1.03	35358.1	A	0.0096	0.0092	-4	50	
PFTeDA	6.42	1.00	3381511.1	A	1.0000	1.0000			
PFTeDA_2	6.42	1.00	21143.9	A	0.0055	0.0063	13	50	
PFHxDA	6.73	1.05	1559604.6	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	97226.7	A	0.0596	0.0623	5	50	
PFODA	6.99	1.09	1340733.9	A	1.0000	1.0000			
PFODA_2	6.99	1.09	34220.3	A	0.0257	0.0255	-1	50	

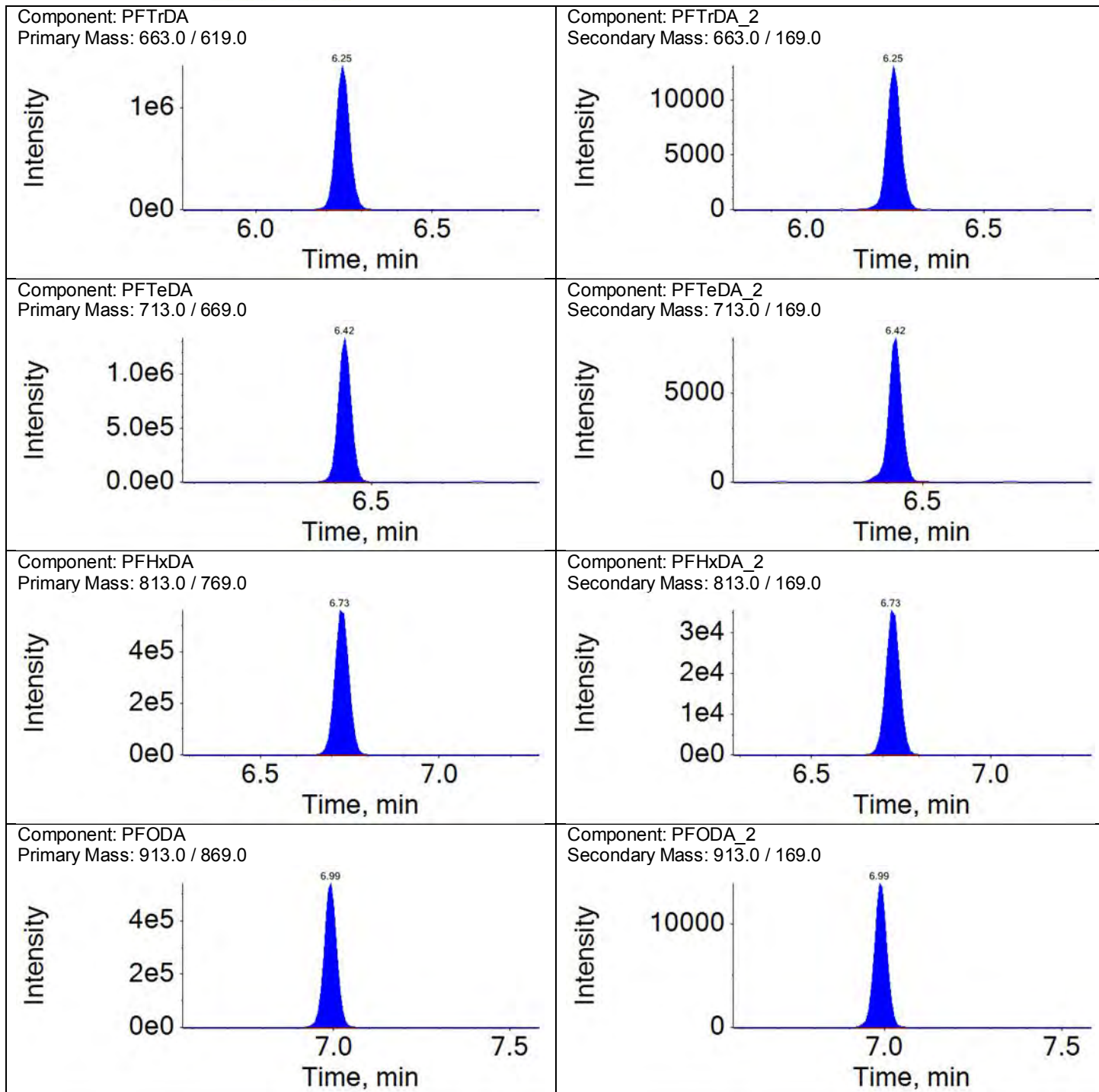












ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	CAL7		Data File:	18NOV07DCAL-16.wiff
Sample ID:	CALMOD71833E		Acquis Date:	2018-11-07T10:33:59
Sample Type:	Standard		Instrument:	LM27631
Vial Position:	9		Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00		Result Table:	18NOV07DCAL
QMethod File:	MQ4-18AUG13		ICAL Name:	18NOV07DCAL
Batch Number:	N/A		Operator:	JPT12262
Sample Wt.:	1.00000		Dilution Factor:	1.00
Sample Vol.:	1.000		Prep Factor:	1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Reference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	554647.4	730410.6	-24	50	
13C2-PFOA	5.0	419465.9	524423.6	-20	50	
13C4-PFOS	4.8	253720.8	274061.7	-7	50	
13C2-PFDA	5.0	258292.2	311442.1	-17	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	609686.1	13C3-PFBA	554647.4	1.099	5.000	5.087	102	70-130	
E13C5-PFPeA	628265.5	13C3-PFBA	554647.4	1.133	5.000	4.935	99	70-130	
E13C3-PFBS	381345.5	13C3-PFBA	554647.4	0.688	4.650	5.046	109	70-130	
E13C2-4:2-FTS	46334.2	13C2-PFOA	419465.9	0.110	4.670	4.984	107	70-130	
E13C5-PFHxA	571807.5	13C2-PFOA	419465.9	1.363	5.000	5.014	100	70-130	
E13C3-PFHxS	279859.6	13C2-PFOA	419465.9	0.667	4.730	4.790	101	70-130	
E13C4-PFHpA	457160.4	13C2-PFOA	419465.9	1.090	5.000	4.958	99	70-130	
E13C2-6:2-FTS	26549.1	13C2-PFOA	419465.9	0.063	4.750	4.221	89	70-130	
E13C8-PFOA	678914.6	13C2-PFOA	419465.9	1.619	5.000	4.513	90	70-130	
E13C8-PFOS	264295.9	13C4-PFOS	253720.8	1.042	4.780	4.606	96	70-130	
E13C9-PFNA	402916.7	13C4-PFOS	253720.8	1.588	5.000	4.338	87	70-130	
E13C6-PFDA	480927.9	13C2-PFDA	258292.2	1.862	5.000	4.682	94	70-130	
E13C2-8:2-FTS	24555.7	13C2-PFDA	258292.2	0.095	4.790	5.031	105	70-130	
E13C8-PFOSA	603296.1	13C2-PFDA	258292.2	2.336	5.000	5.097	102	70-130	
Ed3-NMeFOSAA	75408.7	13C2-PFDA	258292.2	0.292	5.000	5.429	109	70-130	
E13C7-PFUnDA	212399.8	13C2-PFDA	258292.2	0.822	5.000	4.744	95	70-130	
Ed5-NEtFOSAA	56963.1	13C2-PFDA	258292.2	0.221	5.000	5.104	102	70-130	
E13C2-PFDoDA	525971.8	13C2-PFDA	258292.2	2.036	5.000	5.490	110	70-130	
Ed7-NMePFOSAE	295395.3	13C2-PFDA	258292.2	1.144	5.000	5.318	106	70-130	
Ed3-NMePFOSA	80053.2	13C2-PFDA	258292.2	0.310	5.000	5.674	113	70-130	
Ed9-NEtPFOSAE	235038.0	13C2-PFDA	258292.2	0.910	5.000	5.197	104	70-130	
Ed5-NEtPFOSA	58686.1	13C2-PFDA	258292.2	0.227	5.000	5.261	105	70-130	
E13C2-PFTeDA	384058.1	13C2-PFDA	258292.2	1.487	5.000	5.353	107	70-130	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

Sample Name: CAL7

Instrument Name: LM27631

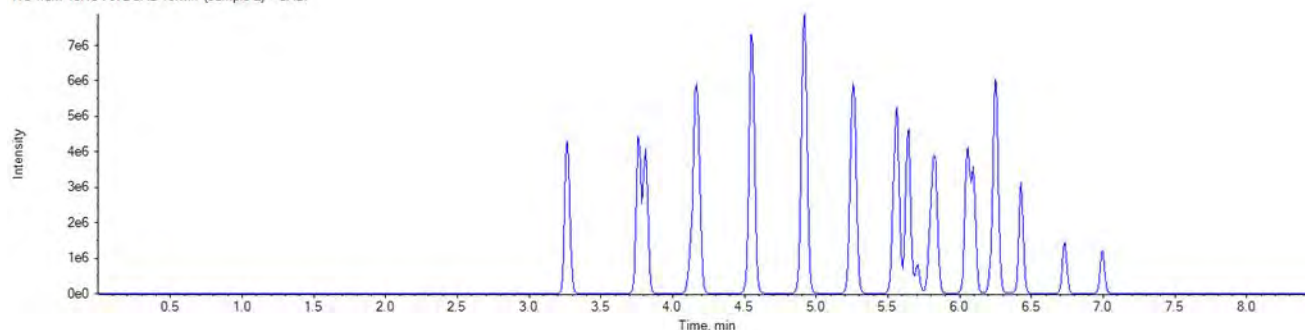
File Name: 18NOV07DCAL-16.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.26	1.000	9954520.3		A	13C4-PFBA	3.26	609686.1	16.327	95.554
PFPeA	3.76	1.000	10229627.8		A	13C5-PFPeA	3.76	628265.5	16.282	96.765
PFBS	3.81	1.000	6474525.0		A	13C3-PFBS	3.81	381345.5	16.978	85.599
4:2-FTS	4.13	1.000	1576786.3		A	13C2-4:2-FTS	4.13	46334.2	34.031	91.487
PFHxA	4.16	1.000	11658104.6		A	13C5-PFHxA	4.16	571807.5	20.388	87.434
PFPeS	4.18	1.100	3615170.2		A	13C3-PFBS	3.81	381345.5	9.480	93.501
PFHxS	4.55	1.000	5196245.3		A	13C3-PFHxS	4.55	279859.6	18.567	94.113
PFHpA	4.55	1.000	11701142.2		A	13C4-PFHpA	4.55	457160.4	25.595	86.081
6:2-FTS	4.90	1.000	988785.9		A	13C2-6:2-FTS	4.91	26549.1	37.244	92.910
PFHpS	4.91	1.080	5085803.6		A	13C3-PFHxS	4.55	279859.6	18.173	95.074
PFOA	4.92	1.000	11562348.7		A	13C8-PFOA	4.92	678914.6	17.031	95.892
PFOS	5.25	1.000	4830627.6		A	13C8-PFOS	5.24	264295.9	18.277	94.776
PFNA	5.27	1.000	10279837.9		A	13C9-PFNA	5.26	402916.7	25.514	95.349
PFNS	5.54	1.060	3119908.2		A	13C8-PFOS	5.24	264295.9	11.805	93.596
PFDA	5.56	1.000	8415098.4		A	13C6-PFDA	5.56	480927.9	17.498	96.265
8:2-FTS	5.57	1.000	936483.2		A	13C2-8:2-FTS	5.57	24555.7	38.137	85.963
PFOSA	5.64	1.000	11064835.5		A	13C8-PFOSA	5.64	603296.1	18.341	99.141
NMeFOSAA	5.70	1.000	1450331.2		A	d3-NMeFOSAA	5.70	75408.7	19.233	98.963
PFDS	5.80	1.110	2660525.2		A	13C8-PFOS	5.24	264295.9	10.066	96.161
PfUnDA	5.82	1.000	7204782.9		A	13C7-PfUnDA	5.82	212399.8	33.921	97.277
NEtFOSAA	5.84	1.000	1317020.6		A	d5-NEtFOSAA	5.84	56963.1	23.121	99.363
PFDODA	6.05	1.000	8211828.8		A	13C2-PFDODA	6.05	525971.8	15.613	84.613
10:2-FTS	6.07	1.090	747804.5		A	13C2-8:2-FTS	5.57	24555.7	30.453	94.827
NMePFOSAE	6.09	1.000	6220772.1		A	d7-NMePFOSAE	6.08	295395.3	21.059	94.369
NMePFOSA	6.10	1.000	1386738.5		A	d3-NMePFOSA	6.10	80053.3	17.323	96.961
PFDoS	6.22	1.190	1333847.1		A	13C8-PFOS	5.24	264295.9	5.047	97.407
NEtPFOSAE	6.25	1.000	6995371.5		A	d9-NEtPFOSAE	6.24	235038.1	29.763	95.411
NEtPFOSA	6.26	1.000	1329706.9		A	d5-NEtPFOSA	6.26	58686.1	22.658	99.791
PFTDA	6.25	1.030	6633128.3		A	13C2-PFDODA	6.05	525971.8	12.611	79.528
PFTeDA	6.43	1.000	6426587.4		A	13C2-PFTeDA	6.43	384058.1	16.733	98.263
PFHxDA	6.73	1.050	3073572.7		A	13C2-PFTeDA	6.43	384058.1	8.003	99.343
PFOA	6.99	1.090	2676698.5		A	13C2-PFTeDA	6.43	384058.1	6.970	99.849

Total Ion Chromatogram

TIC from 18NOV07DCAL-16.wiff (sample 2) - CAL7



APPROVED

By JPT at 2:53 pm, 11/7/18

BSI02 Page 608 of 1870

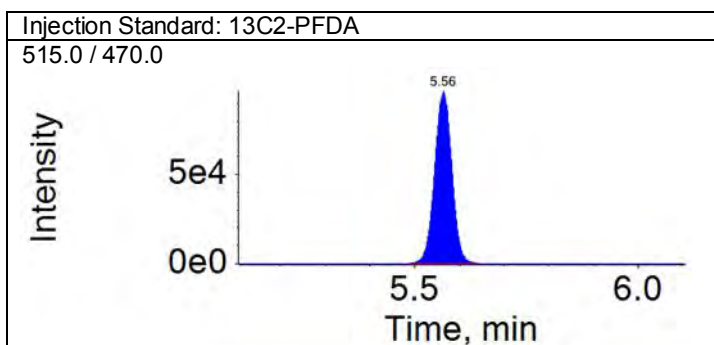
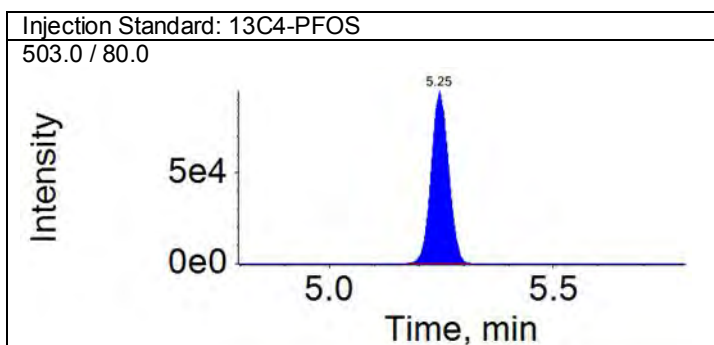
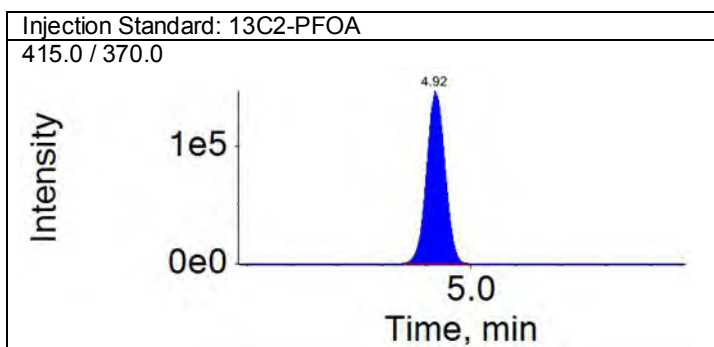
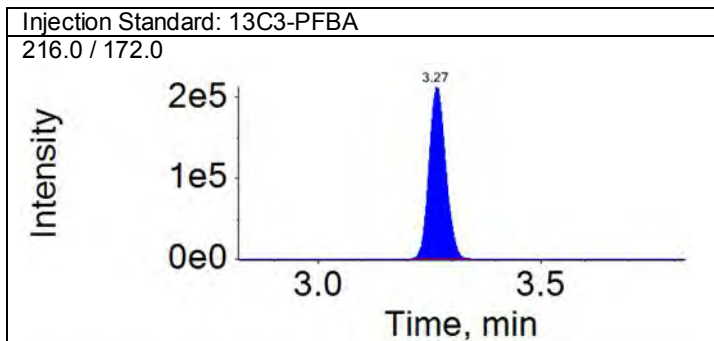
REVIEWED

By umar at 5:23 pm, 11/9/18

Page 2 of 17

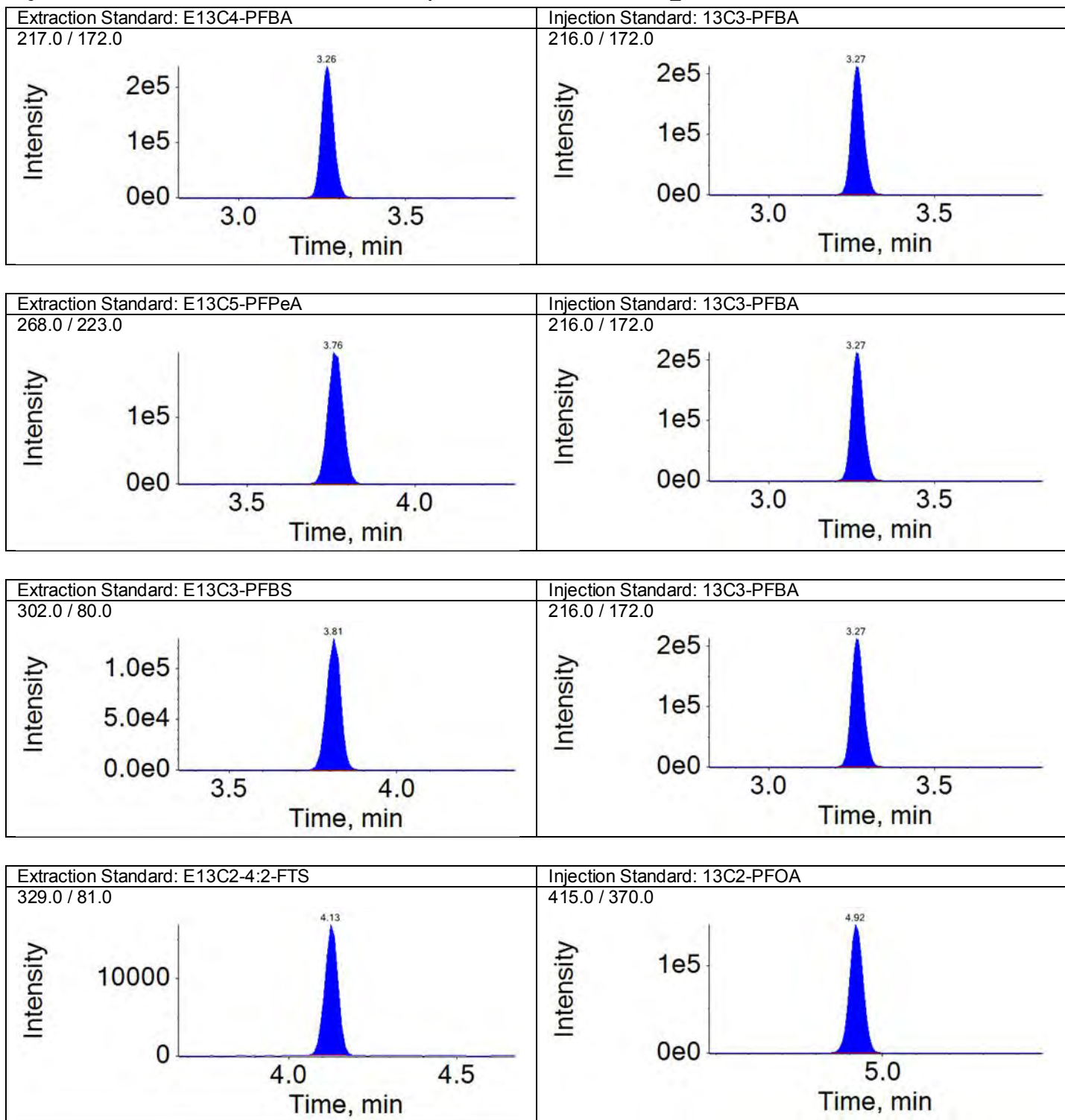
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



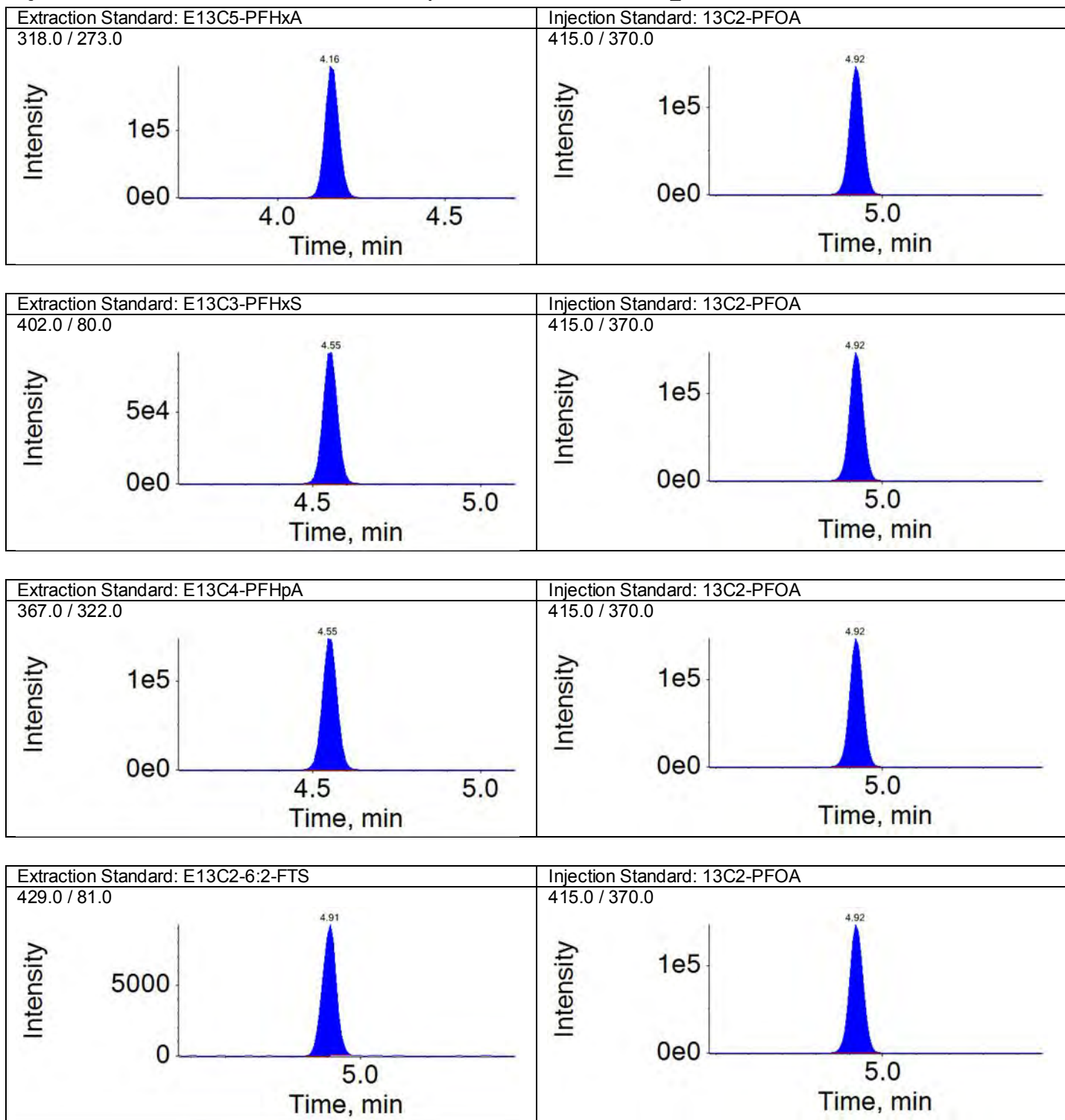
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QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



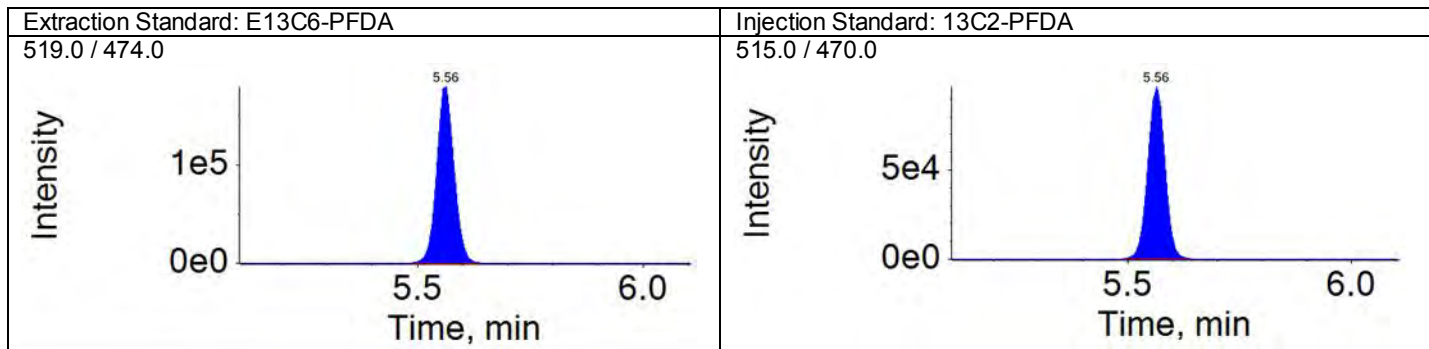
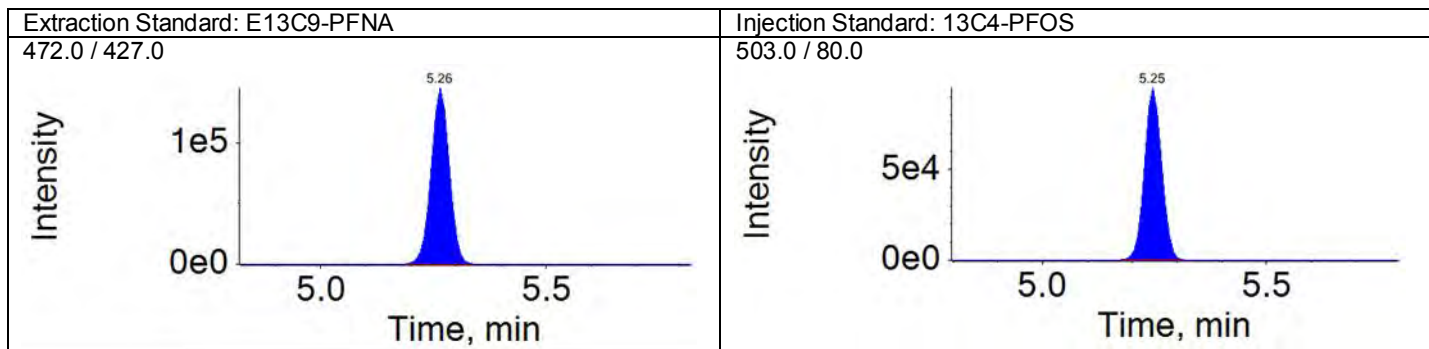
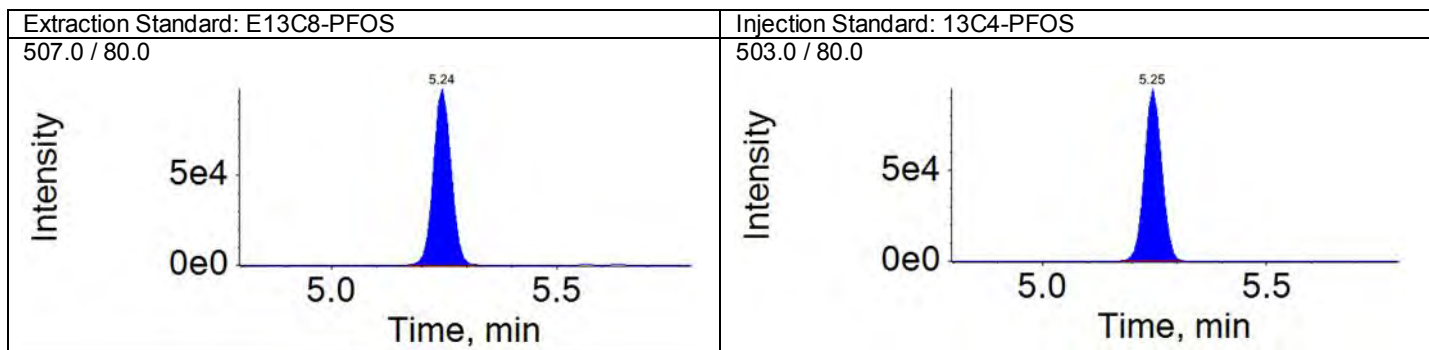
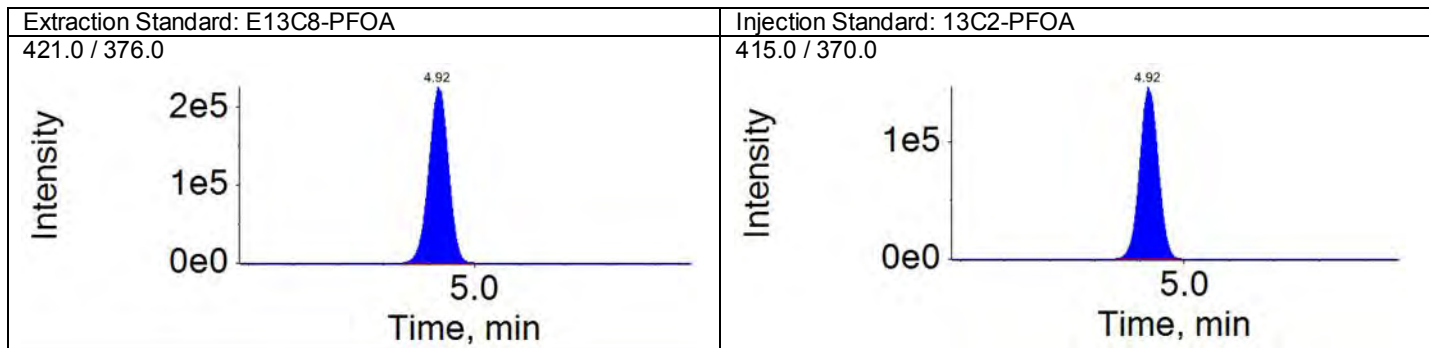
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QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



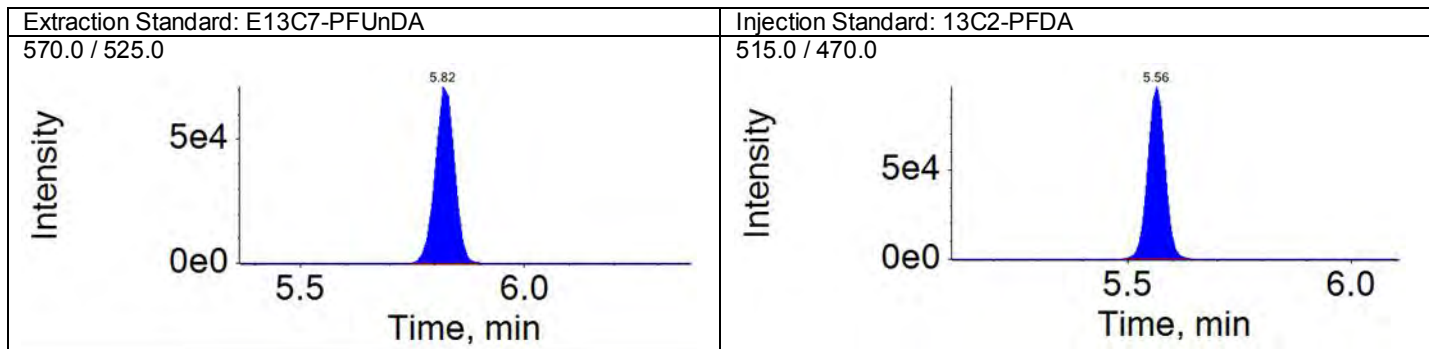
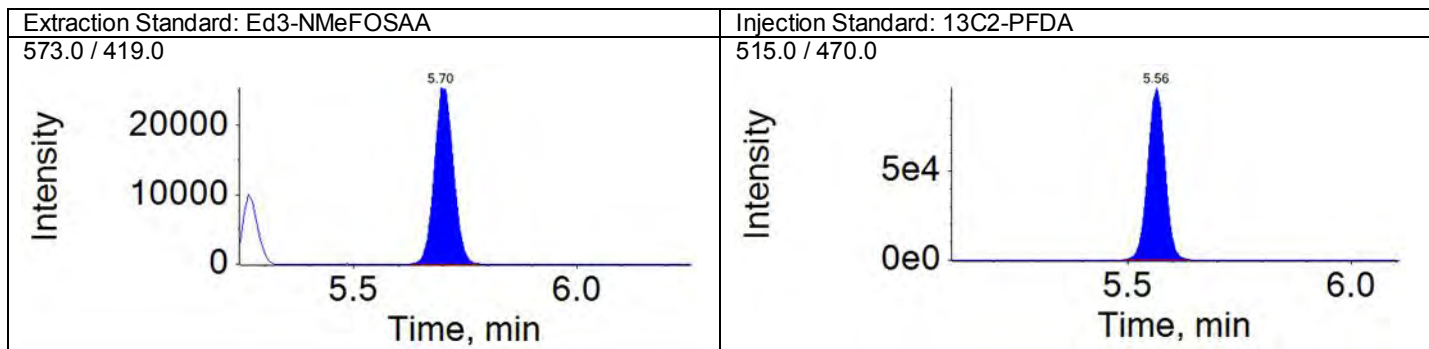
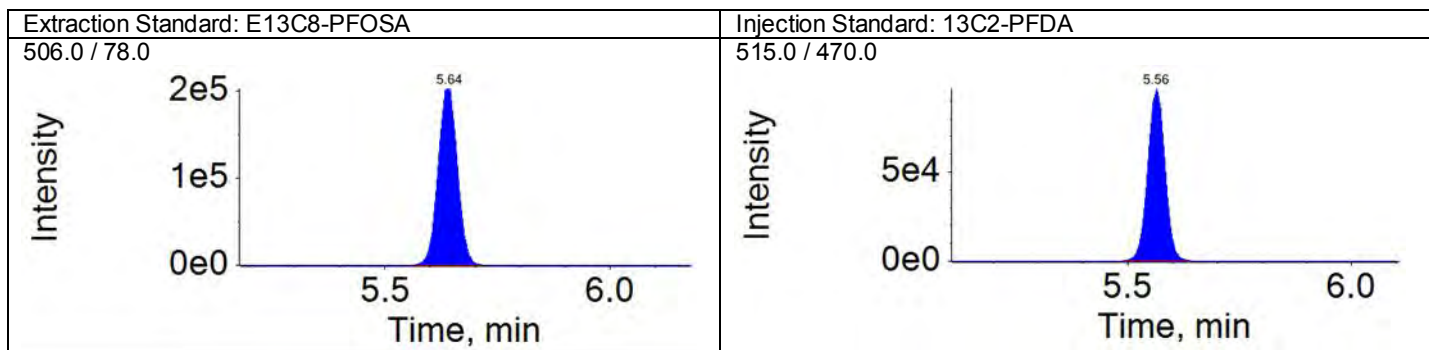
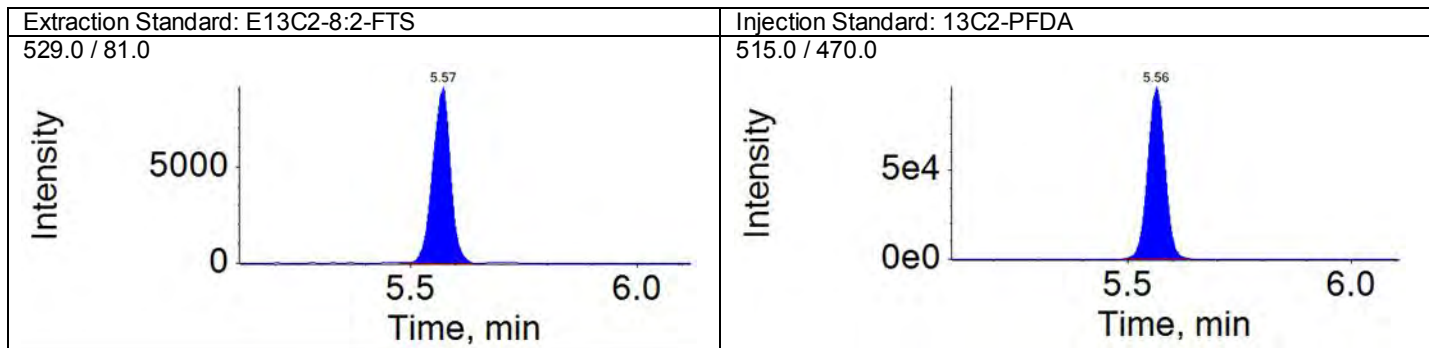
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Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



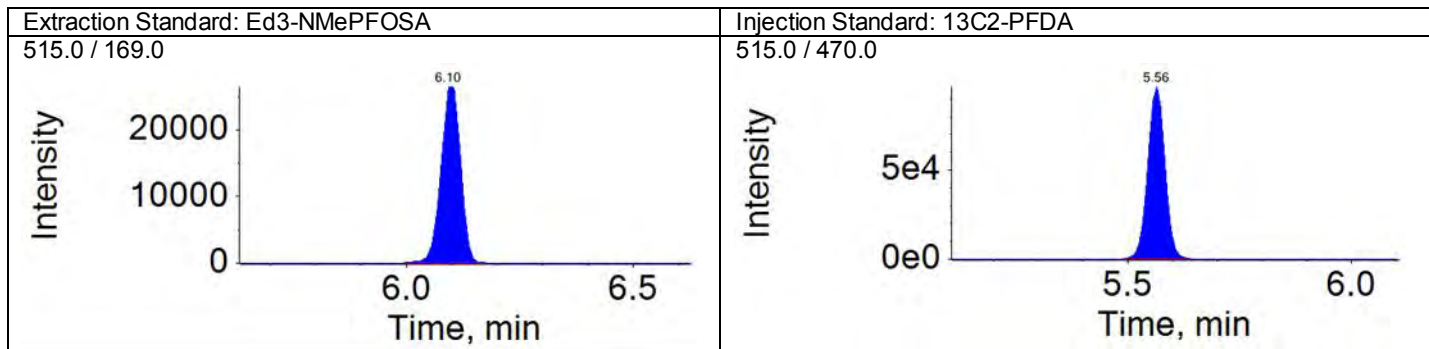
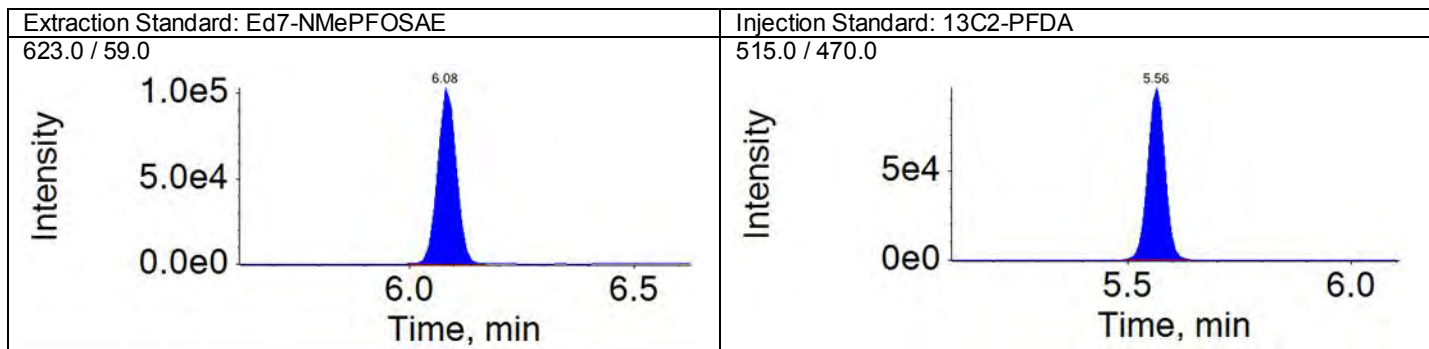
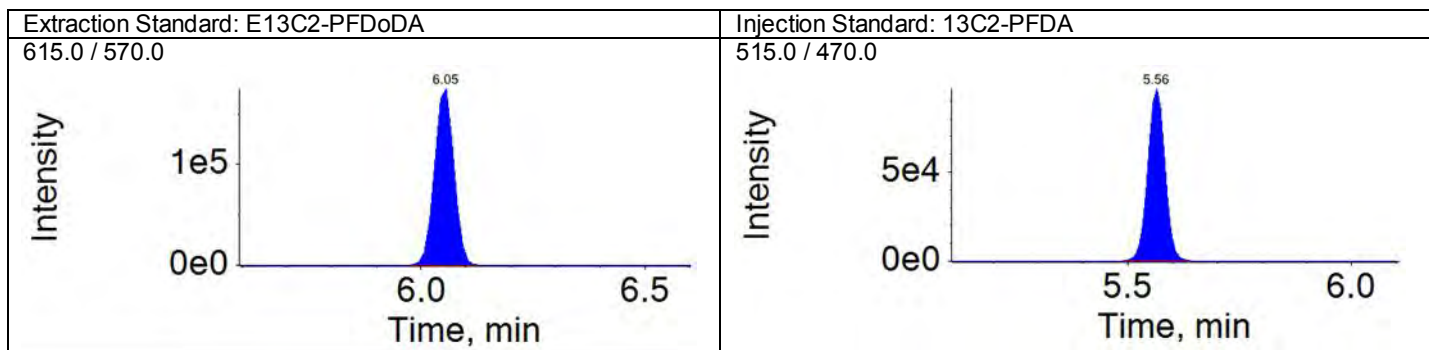
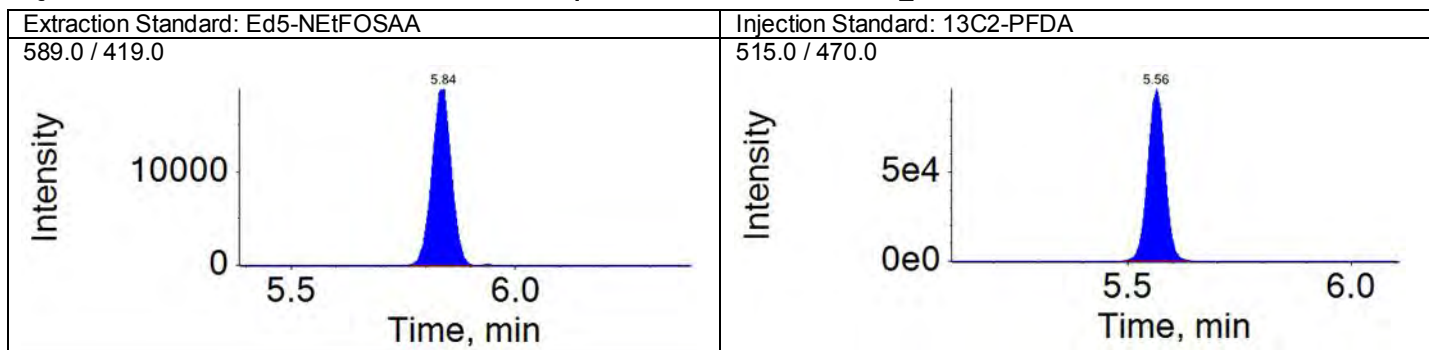
ICAL Name: 18NOV07DCAL
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Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



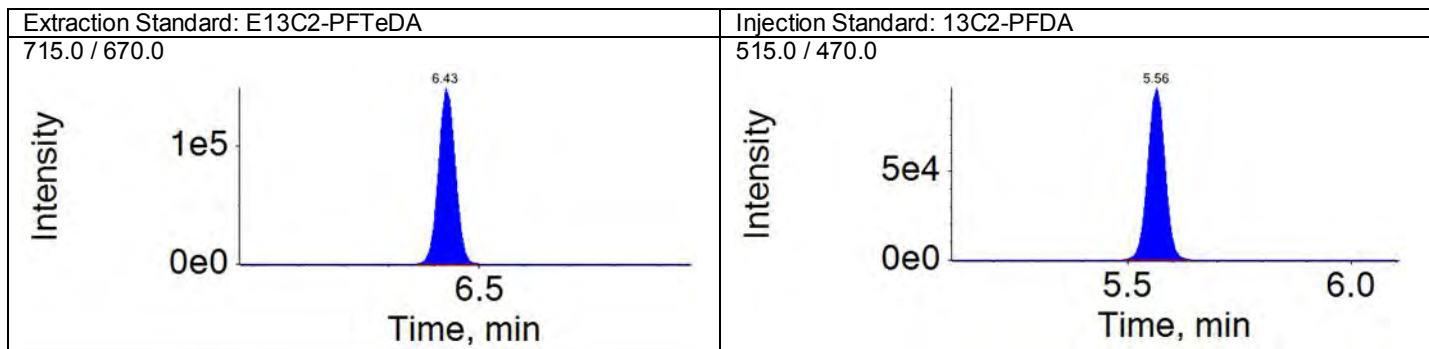
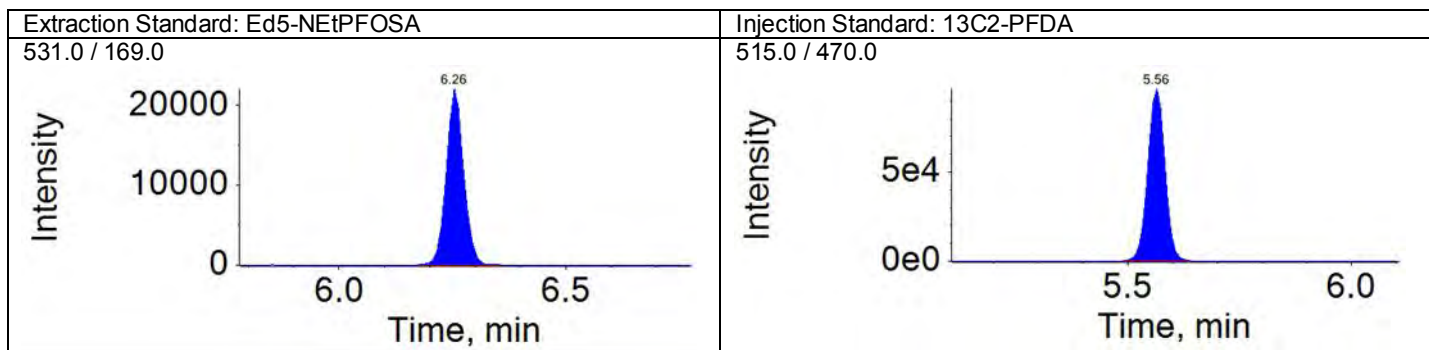
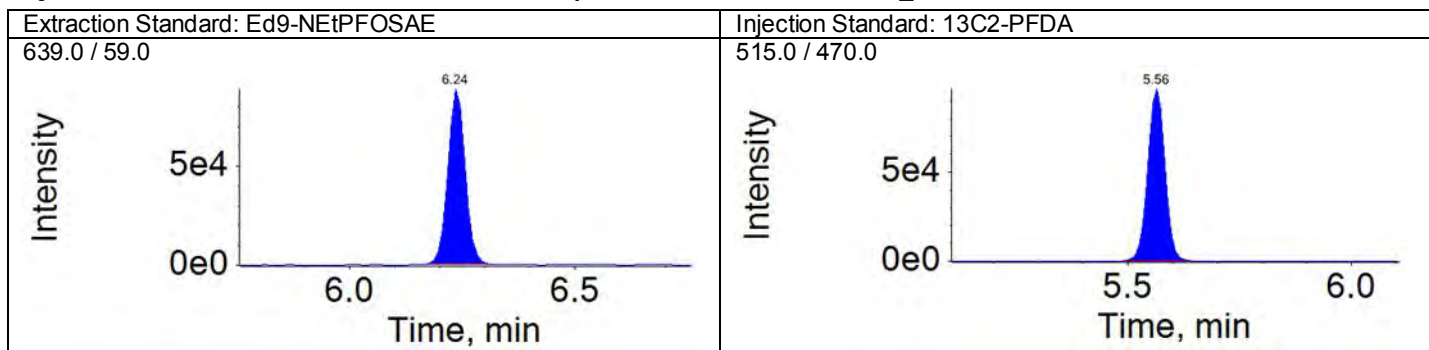
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QMethod Name: MQ4-18AUG13

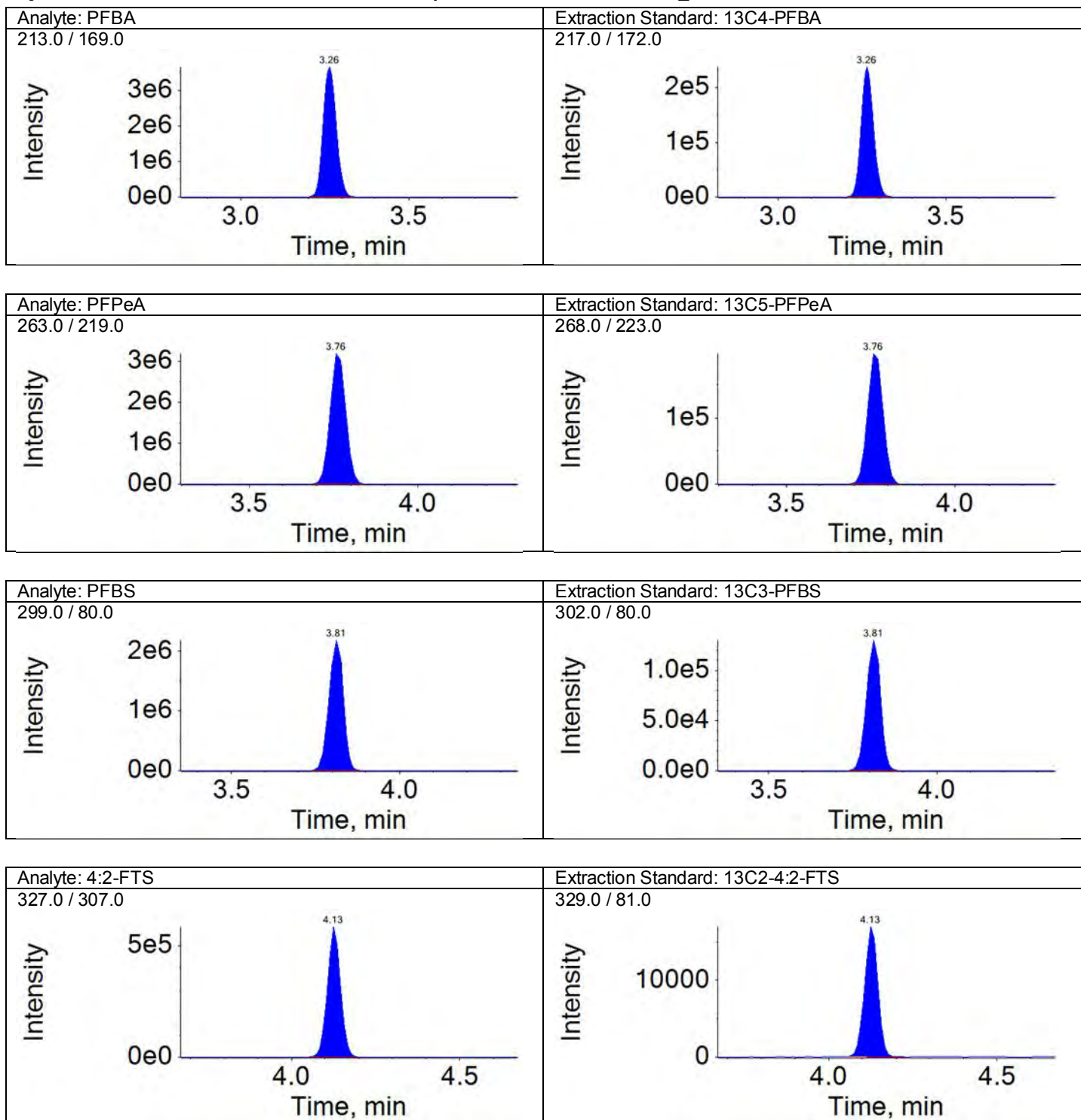
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QMethod Name: MQ4-18AUG13

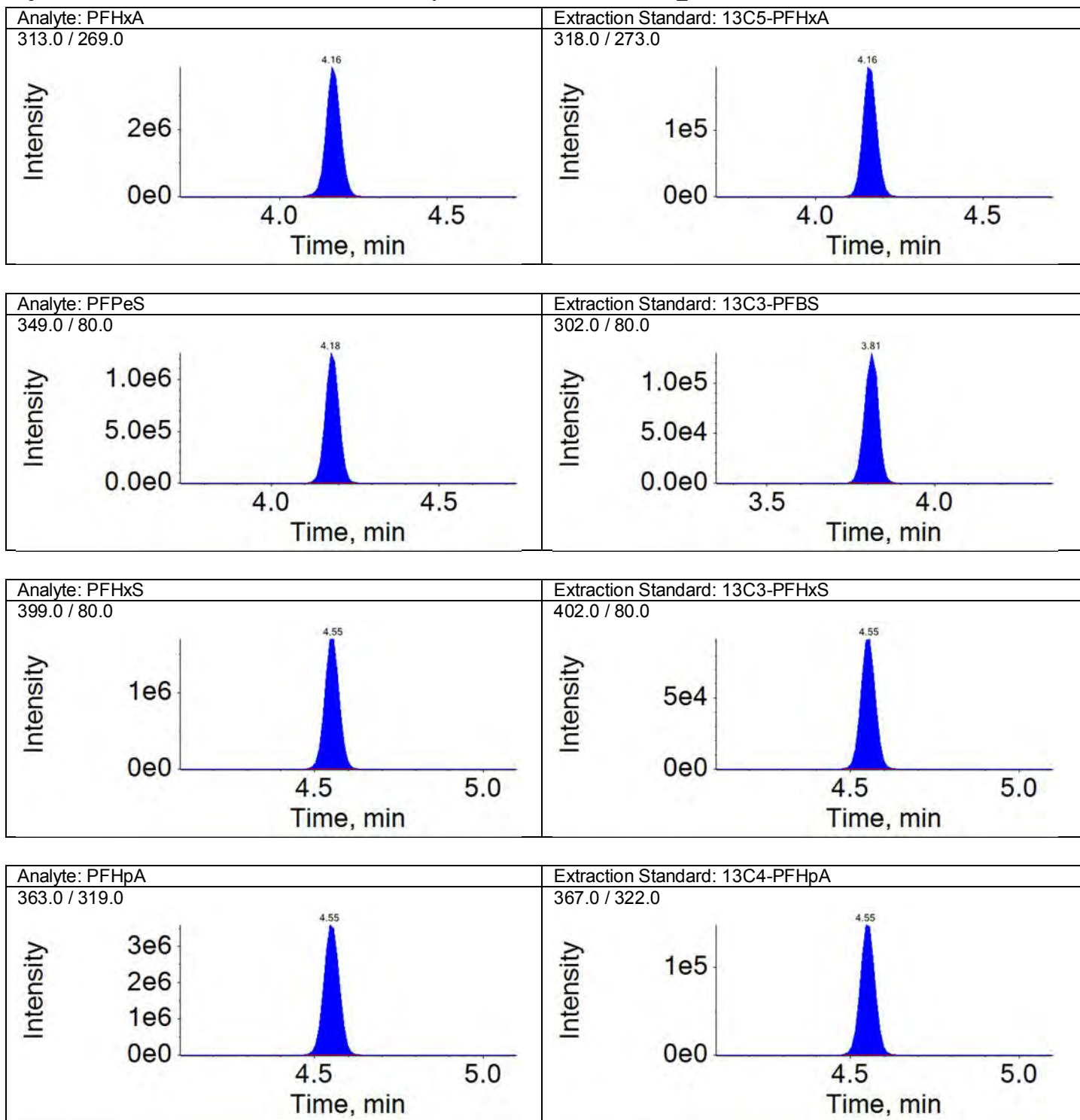
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Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

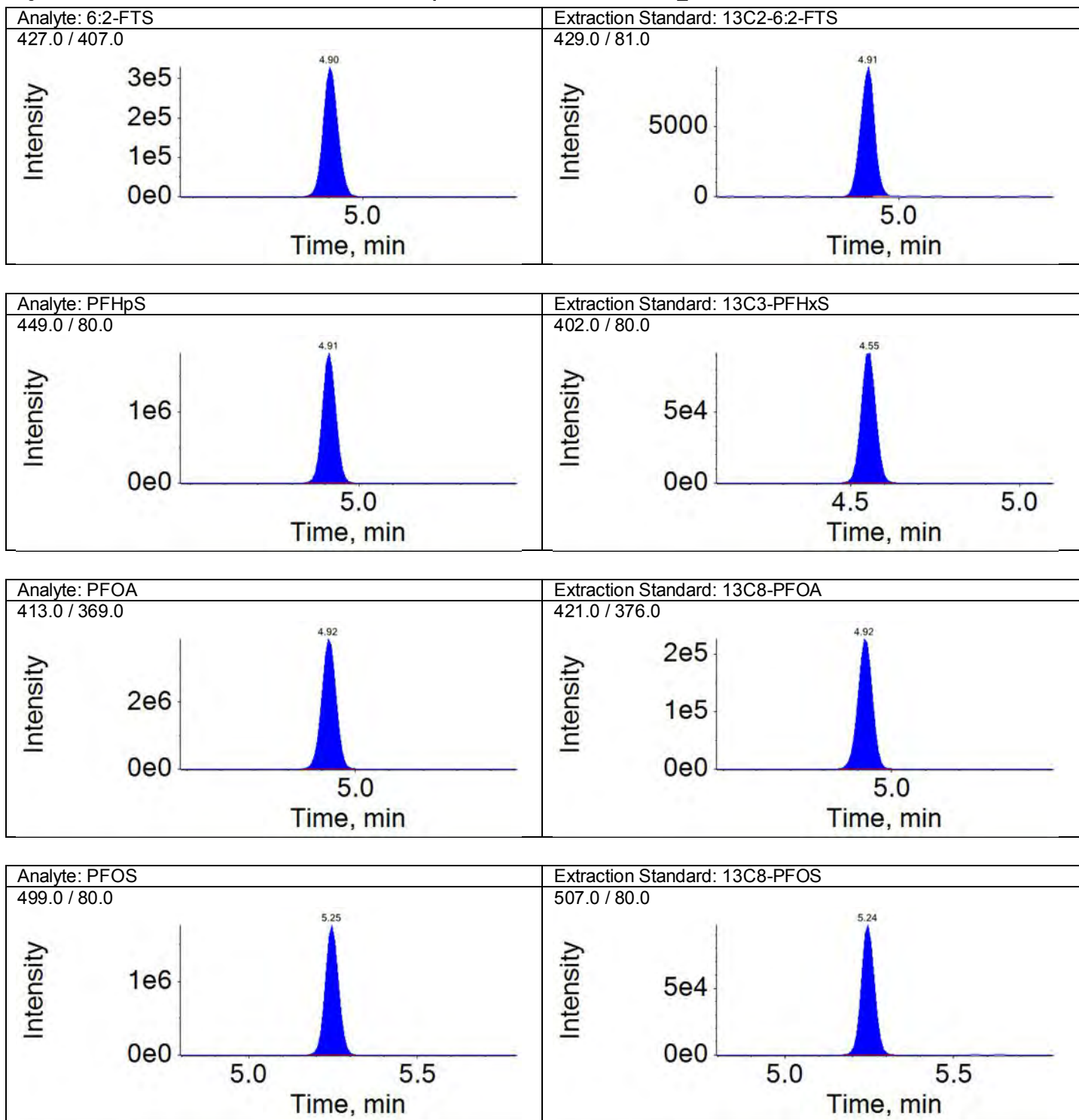
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Acquisition Method: 18AUG13_3uL.dam



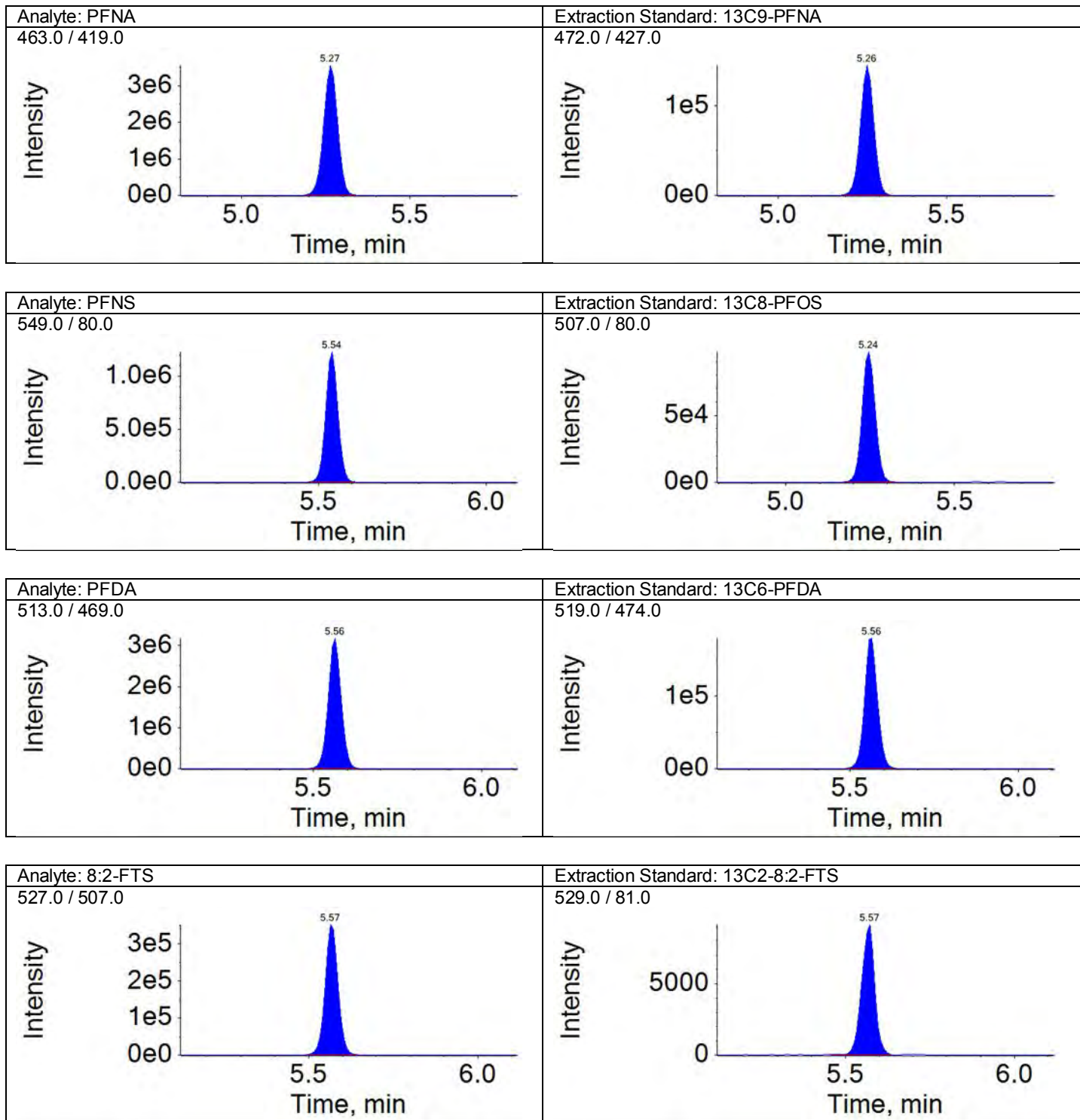
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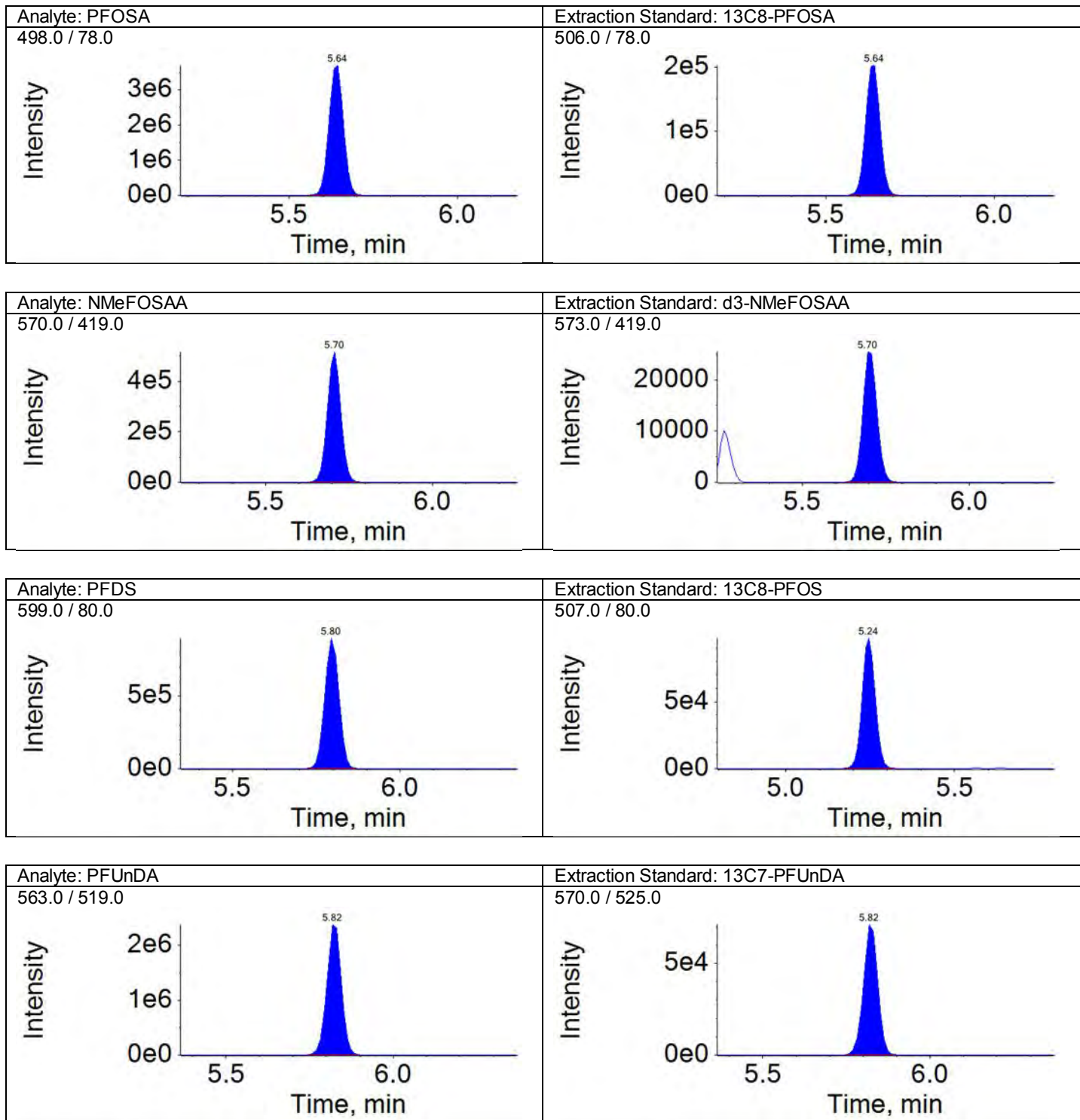
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Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



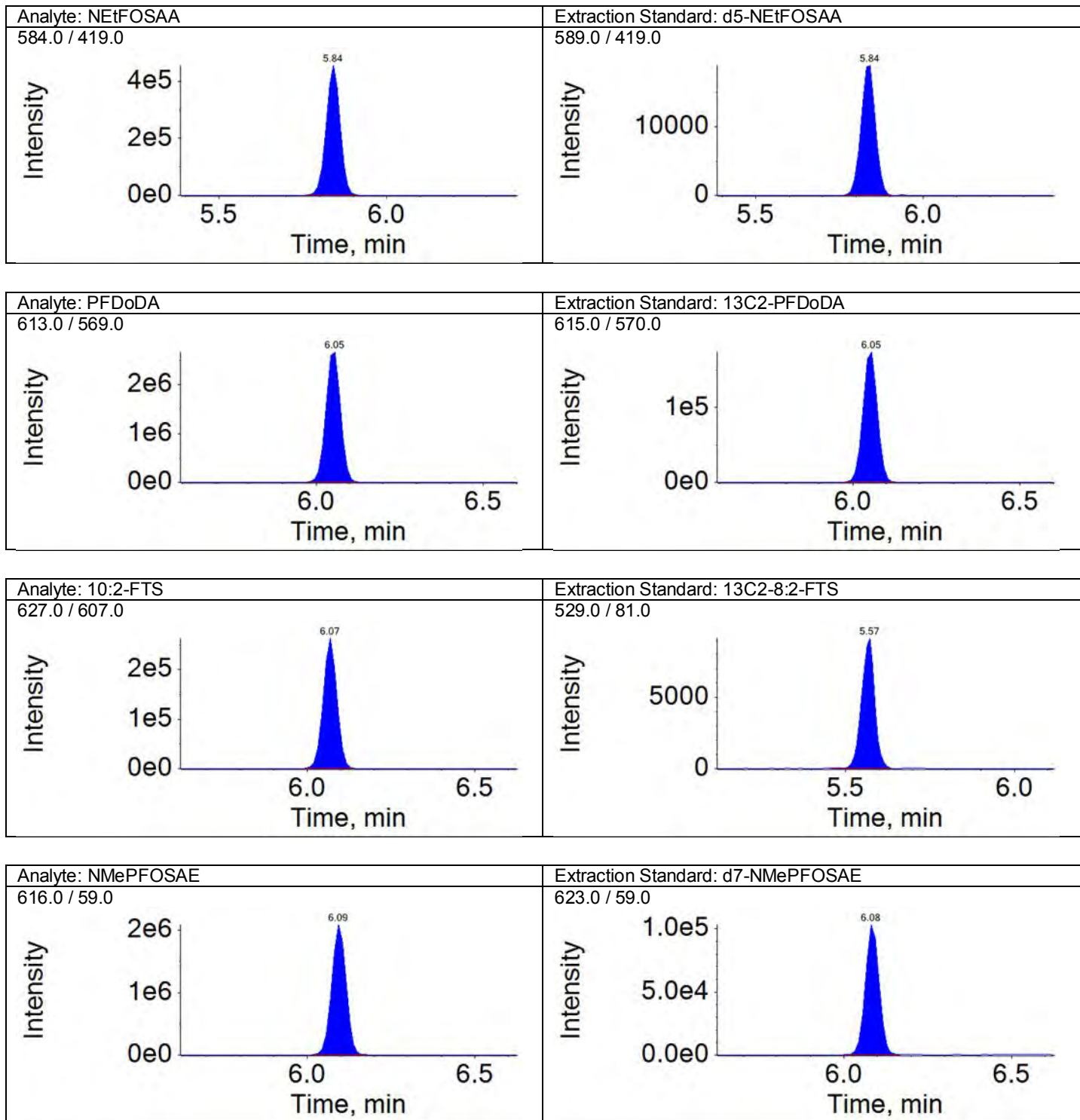
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QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



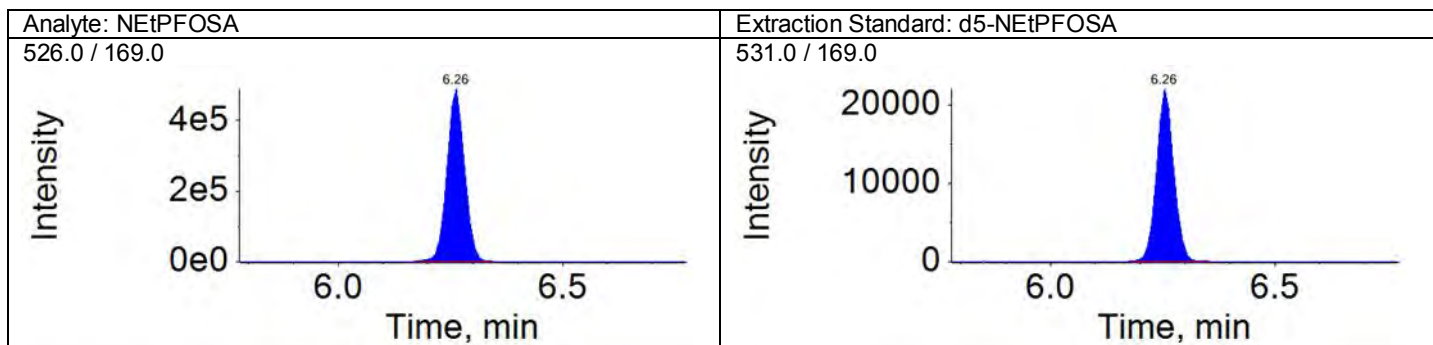
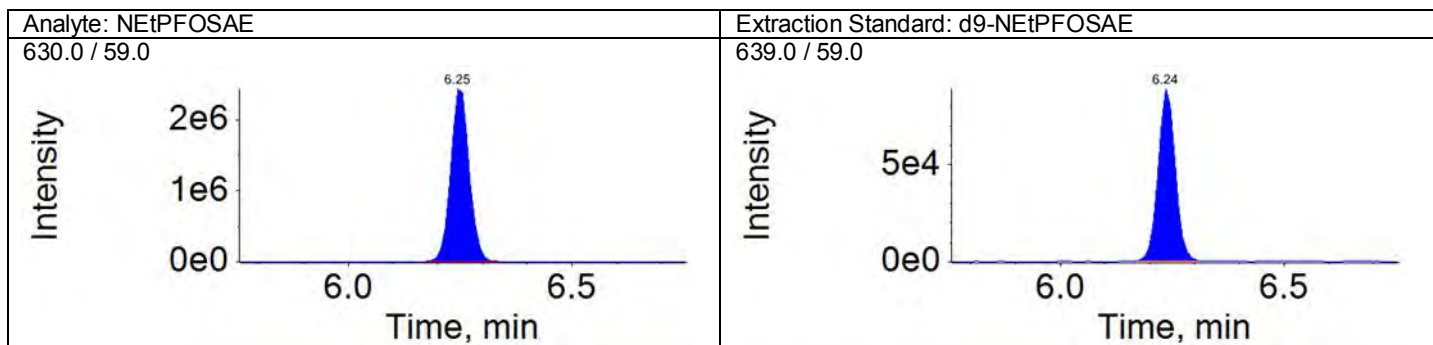
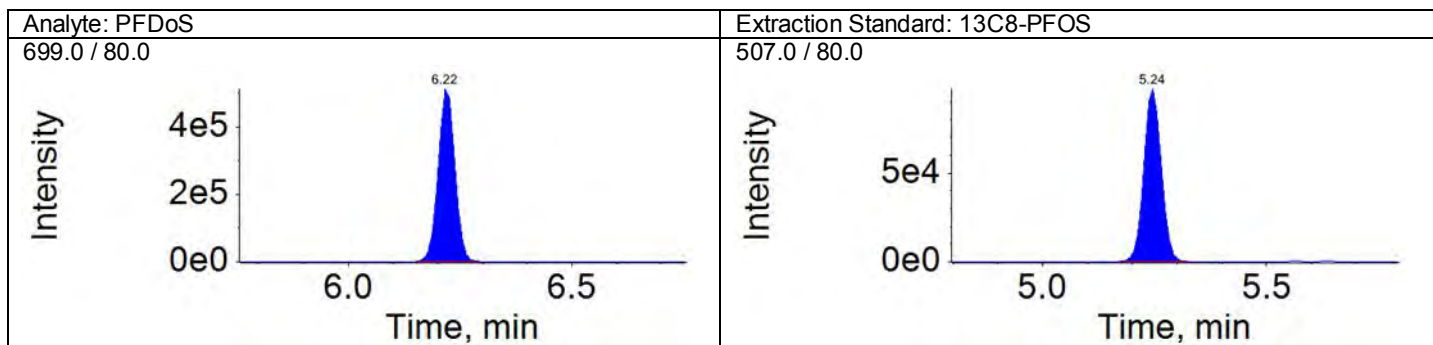
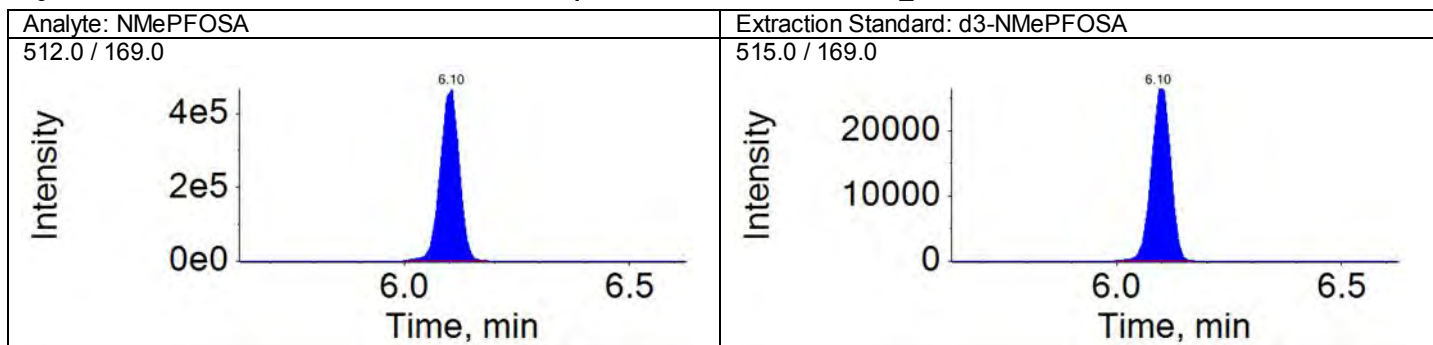
ICAL Name: 18NOV07DCAL
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Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



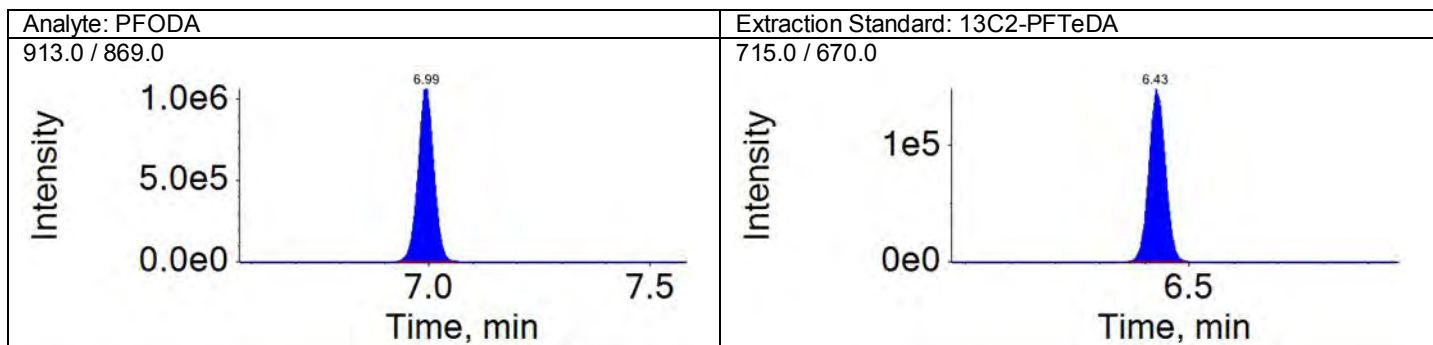
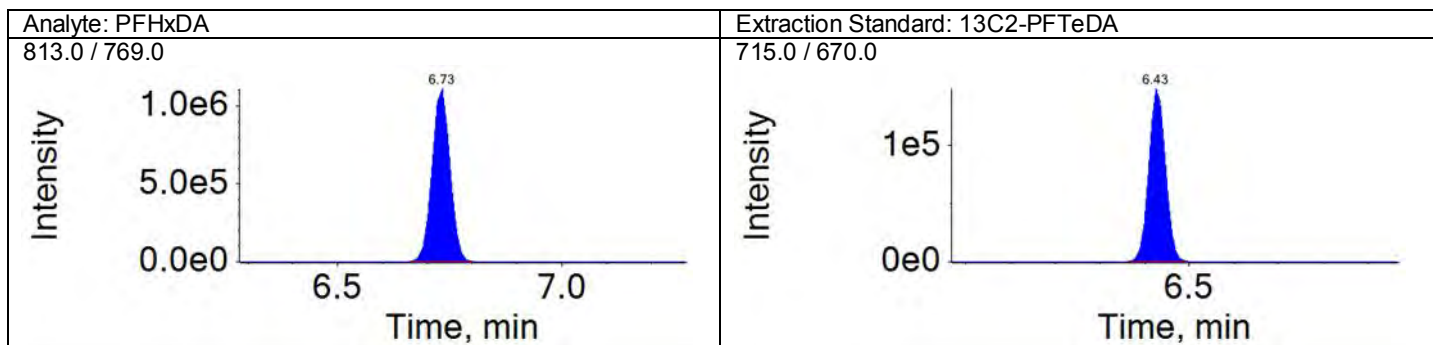
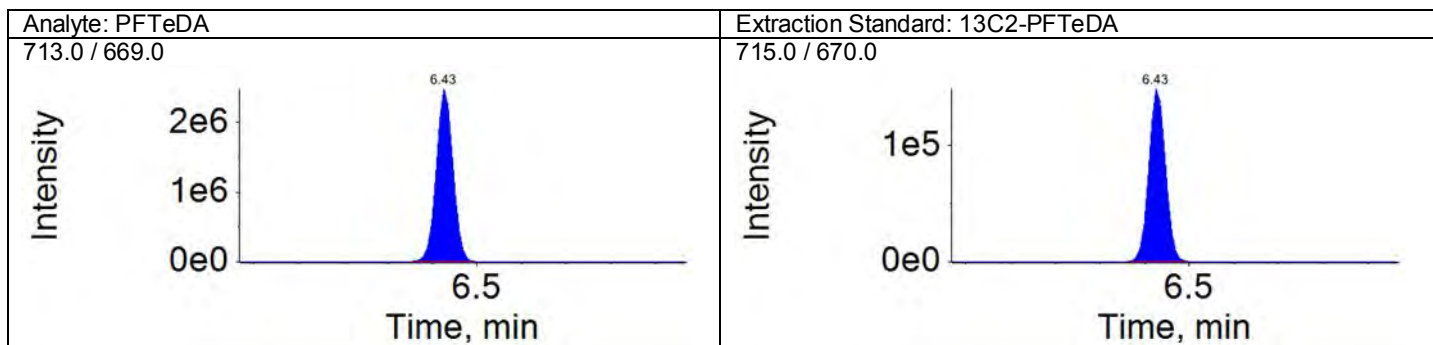
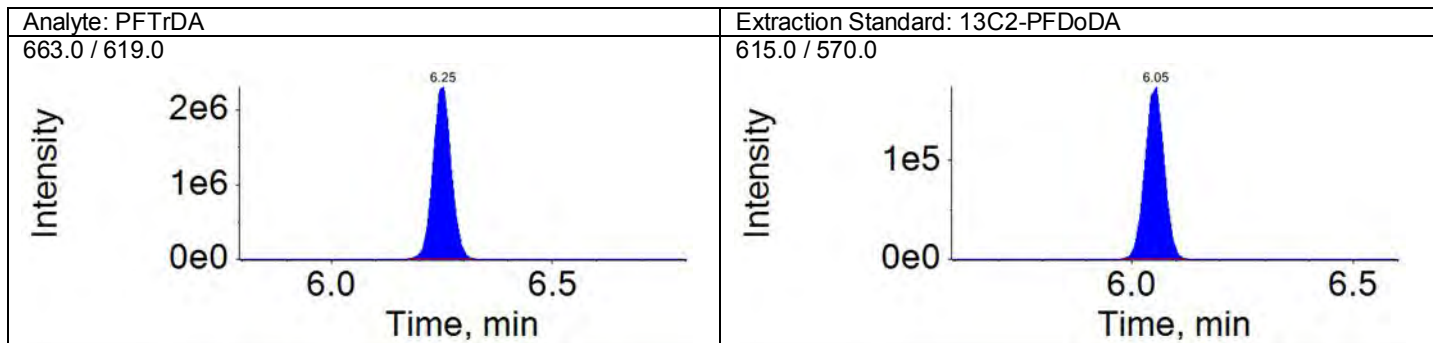
ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam



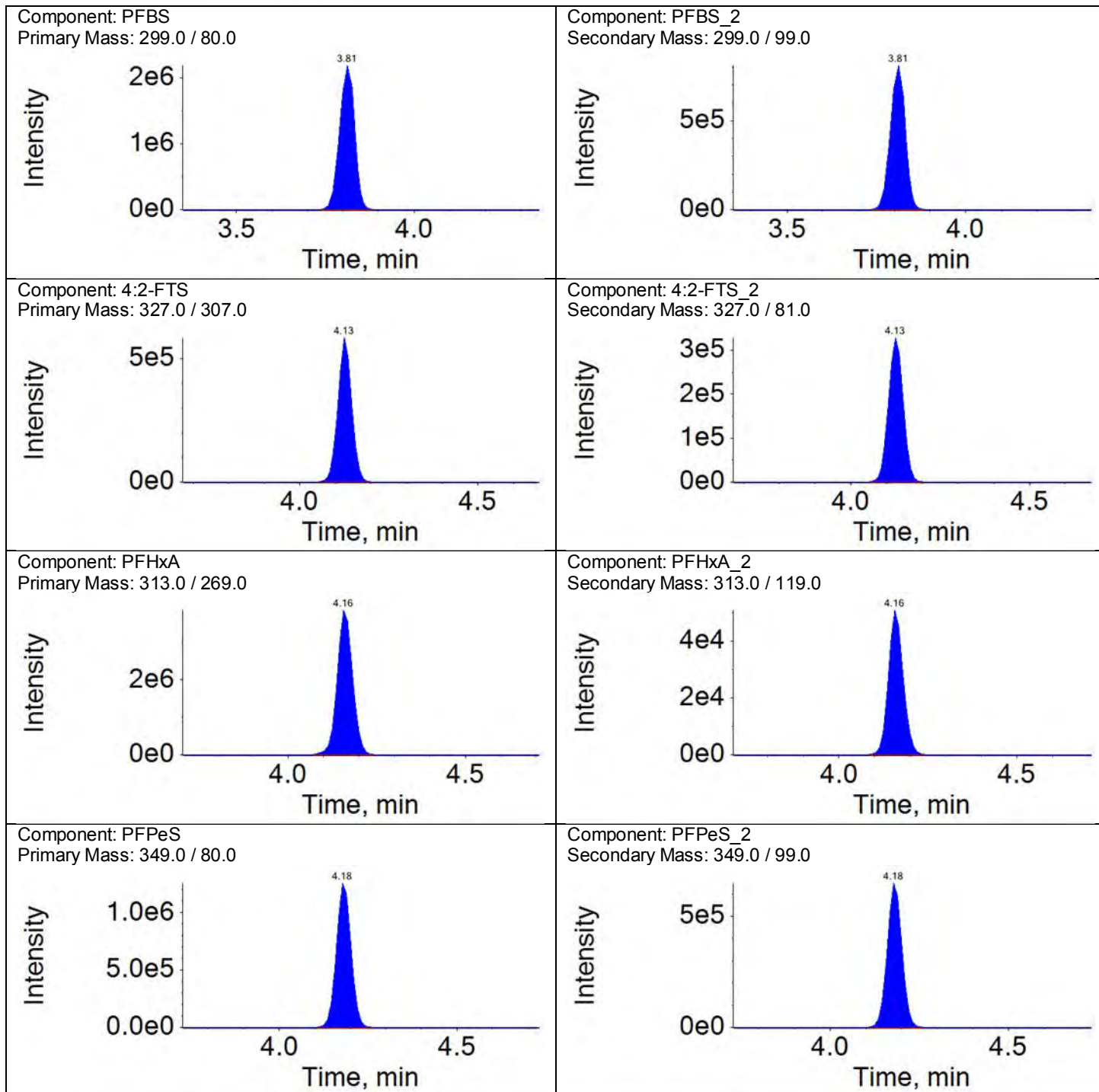
Ion Ratio Report

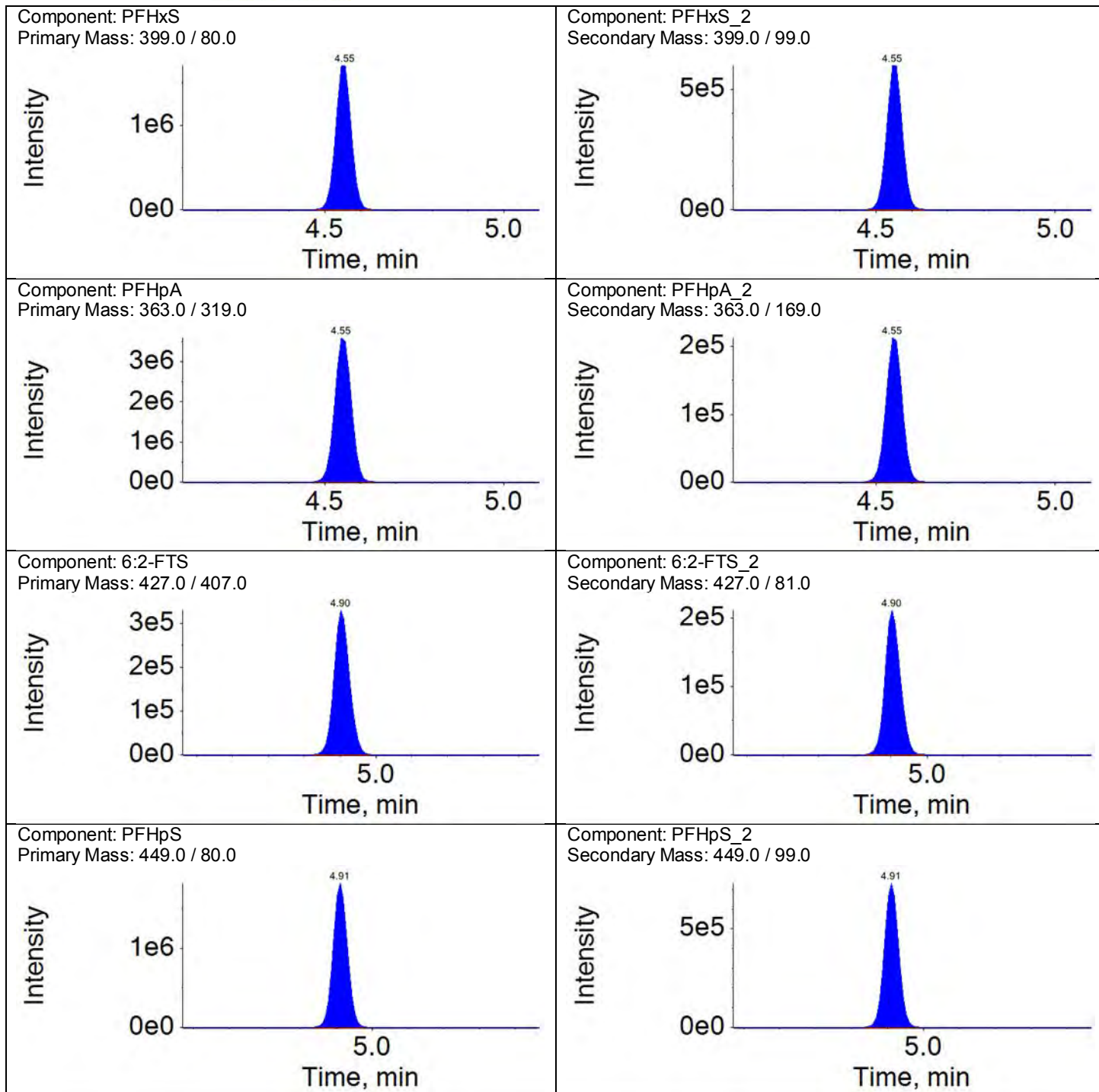
Sample Name: CAL7

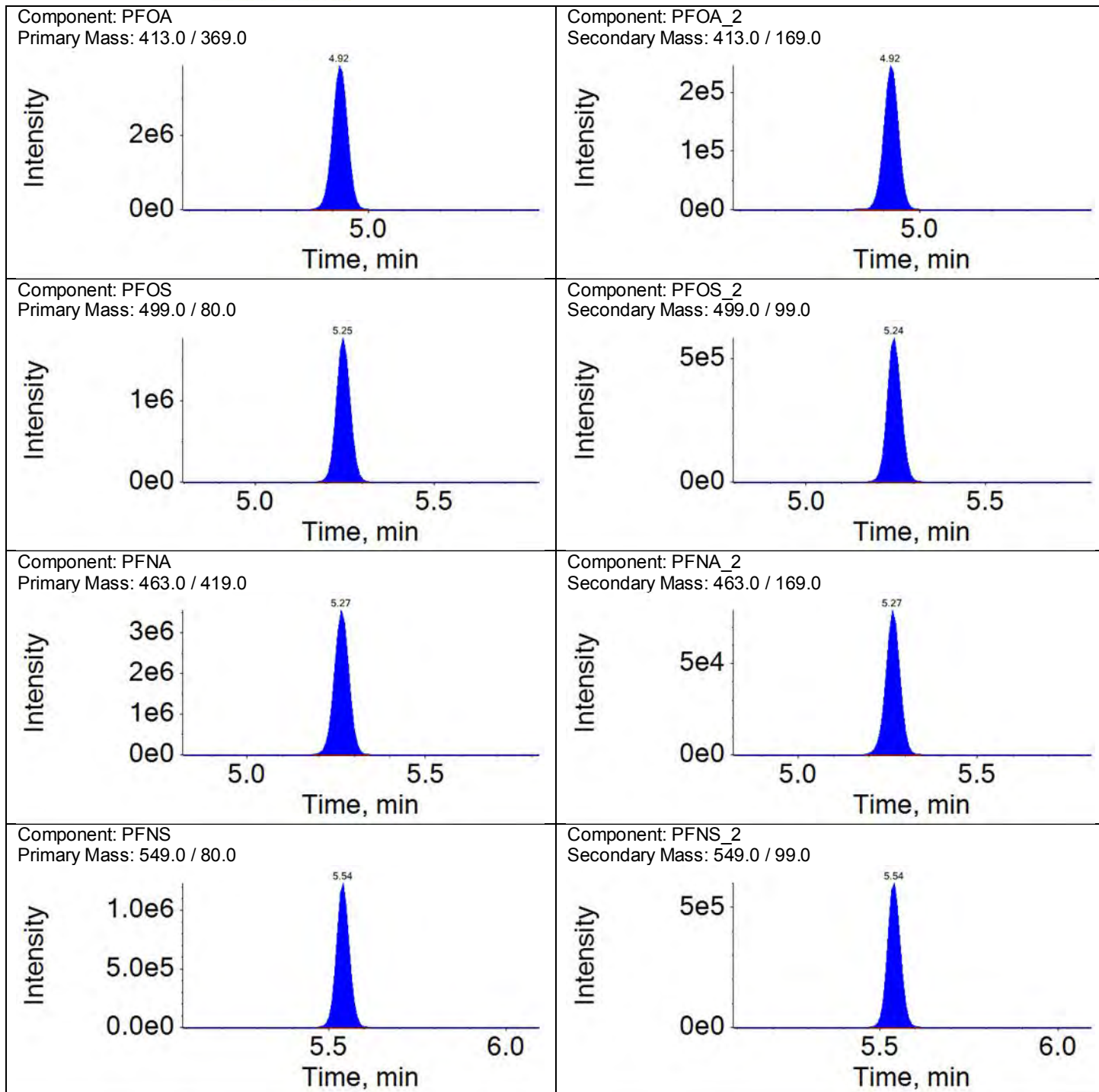
Instrument Name: LM27631

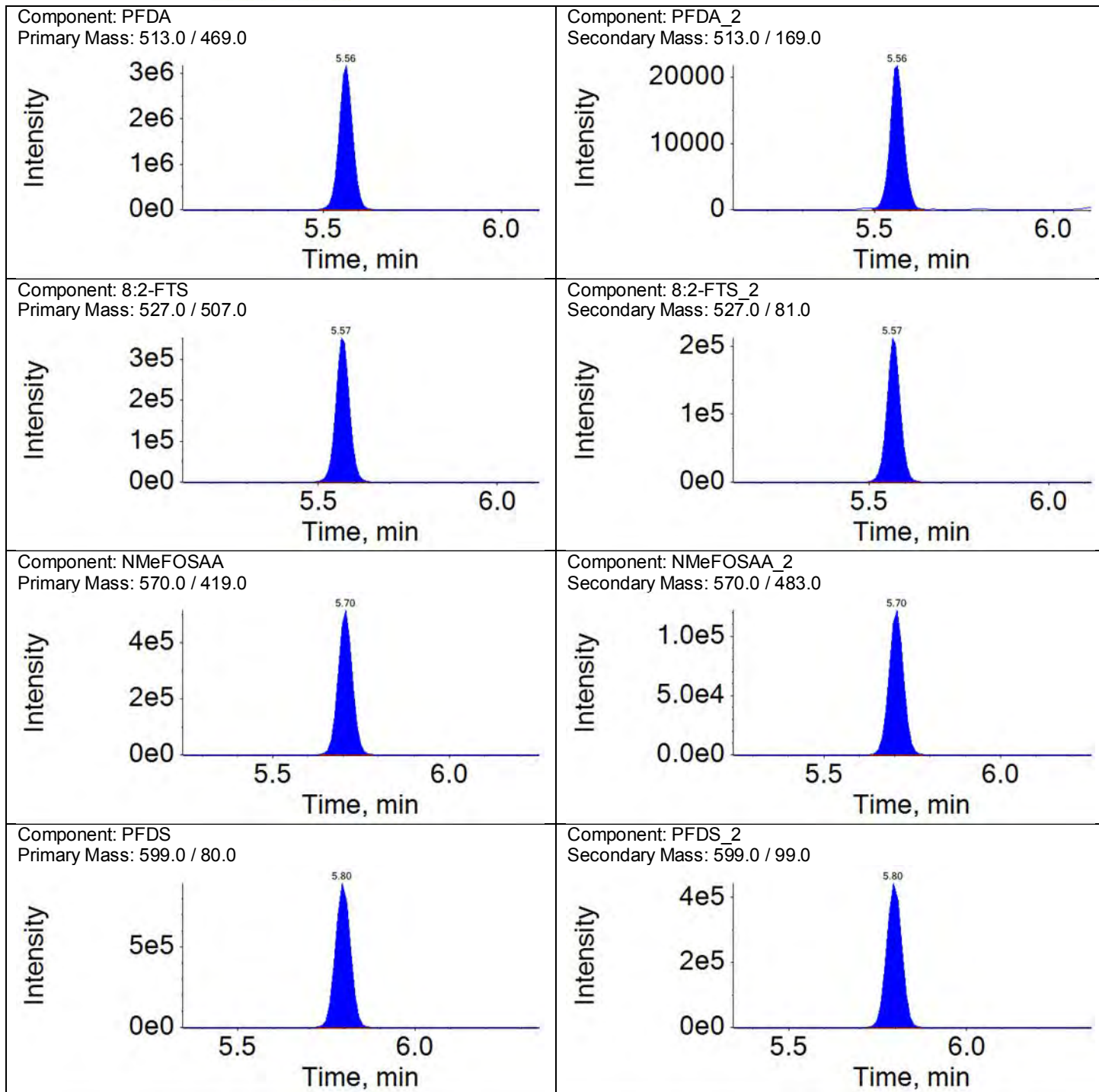
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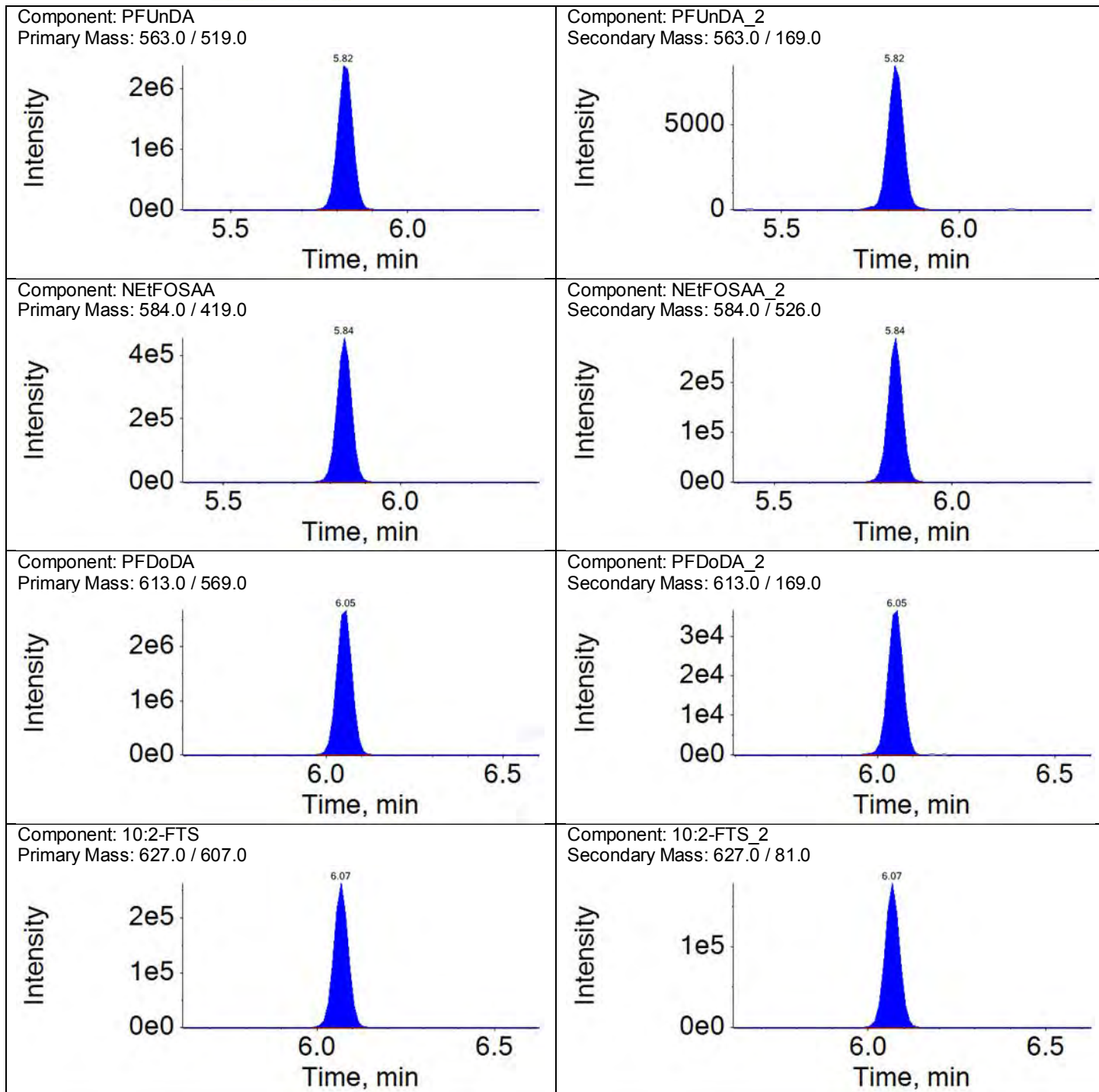
Component Name	RT	RRT	Analyte Area Response	Int Typ	Expected Ion Ratio	Ion Ratio	Ion Ratio % Diff	Ion Ratio Limit	Ion Ratio OOS
PFBS	3.81	1.00	6474525.0	A	1.0000	1.0000			
PFBS_2	3.81	1.00	2381935.1	A	0.3576	0.3679	3	50	
4:2-FTS	4.13	1.00	1576786.3	A	1.0000	1.0000			
4:2-FTS_2	4.13	1.00	946320.6	A	0.6359	0.6002	-6	50	
PFHxA	4.16	1.00	11658104.6	A	1.0000	1.0000			
PFHxA_2	4.16	1.00	146733.2	A	0.0115	0.0126	10	50	
PFPeS	4.18	1.10	3615170.2	A	1.0000	1.0000			
PFPeS_2	4.18	1.10	1859405.8	A	0.5384	0.5143	-4	50	
PFHxS	4.55	1.00	5196245.3	A	1.0000	1.0000			
PFHxS_2	4.55	1.00	1830260.3	A	0.3569	0.3522	-1	50	
PFHpA	4.55	1.00	11701142.2	A	1.0000	1.0000			
PFHpA_2	4.55	1.00	676550.1	A	0.0577	0.0578	0	50	
6:2-FTS	4.90	1.00	988785.9	A	1.0000	1.0000			
6:2-FTS_2	4.90	1.00	625214.8	A	0.6752	0.6323	-6	50	
PFHpS	4.91	1.08	5085803.6	A	1.0000	1.0000			
PFHpS_2	4.91	1.08	2031737.5	A	0.3950	0.3995	1	50	
PFOA	4.92	1.00	11562348.7	A	1.0000	1.0000			
PFOA_2	4.92	1.00	711843.9	A	0.0635	0.0616	-3	50	
PFOS	5.25	1.00	4830627.6	A	1.0000	1.0000			
PFOS_2	5.24	1.00	1617879.0	A	0.3494	0.3349	-4	50	
PFNA	5.27	1.00	10279837.9	A	1.0000	1.0000			
PFNA_2	5.27	1.00	219746.5	A	0.0207	0.0214	3	50	
PFNS	5.54	1.06	3119908.2	A	1.0000	1.0000			
PFNS_2	5.54	1.06	1542771.9	A	0.4890	0.4945	1	50	
PFDA	5.56	1.00	8415098.4	A	1.0000	1.0000			
PFDA_2	5.56	1.00	58233.7	A	0.0057	0.0069	22	50	
8:2-FTS	5.57	1.00	936483.2	A	1.0000	1.0000			
8:2-FTS_2	5.57	1.00	547919.5	A	0.6169	0.5851	-5	50	
NMeFOSAA	5.70	1.00	1450331.2	A	1.0000	1.0000			
NMeFOSAA_2	5.70	1.00	350791.8	A	0.2206	0.2419	10	50	
PFDS	5.80	1.11	2660525.2	A	1.0000	1.0000			
PFDS_2	5.80	1.11	1326713.6	A	0.4648	0.4987	7	50	
PFUnDA	5.82	1.00	7204782.9	A	1.0000	1.0000			
PFUnDA_2	5.82	1.00	26281.4	A	0.0031	0.0036	16	50	
NEtFOSAA	5.84	1.00	1317020.6	A	1.0000	1.0000			
NEtFOSAA_2	5.84	1.00	819492.6	A	0.6082	0.6222	2	50	
PFDODA	6.05	1.00	8211828.8	A	1.0000	1.0000			
PFDODA_2	6.05	1.00	111190.9	A	0.0109	0.0135	24	50	
10:2-FTS	6.07	1.09	747804.5	A	1.0000	1.0000			
10:2-FTS_2	6.07	1.09	511885.1	A	0.7082	0.6845	-3	50	
PFTTrDA	6.25	1.03	6633128.3	A	1.0000	1.0000			
PFTTrDA_2	6.25	1.03	66200.2	A	0.0096	0.0100	4	50	
PFTeDA	6.43	1.00	6426587.4	A	1.0000	1.0000			
PFTeDA_2	6.43	1.00	41133.5	A	0.0055	0.0064	16	50	
PFHxDA	6.73	1.05	3073572.7	A	1.0000	1.0000			
PFHxDA_2	6.73	1.05	192350.4	A	0.0596	0.0626	5	50	
PFODA	6.99	1.09	2676698.5	A	1.0000	1.0000			
PFODA_2	6.99	1.09	70338.4	A	0.0257	0.0263	2	50	

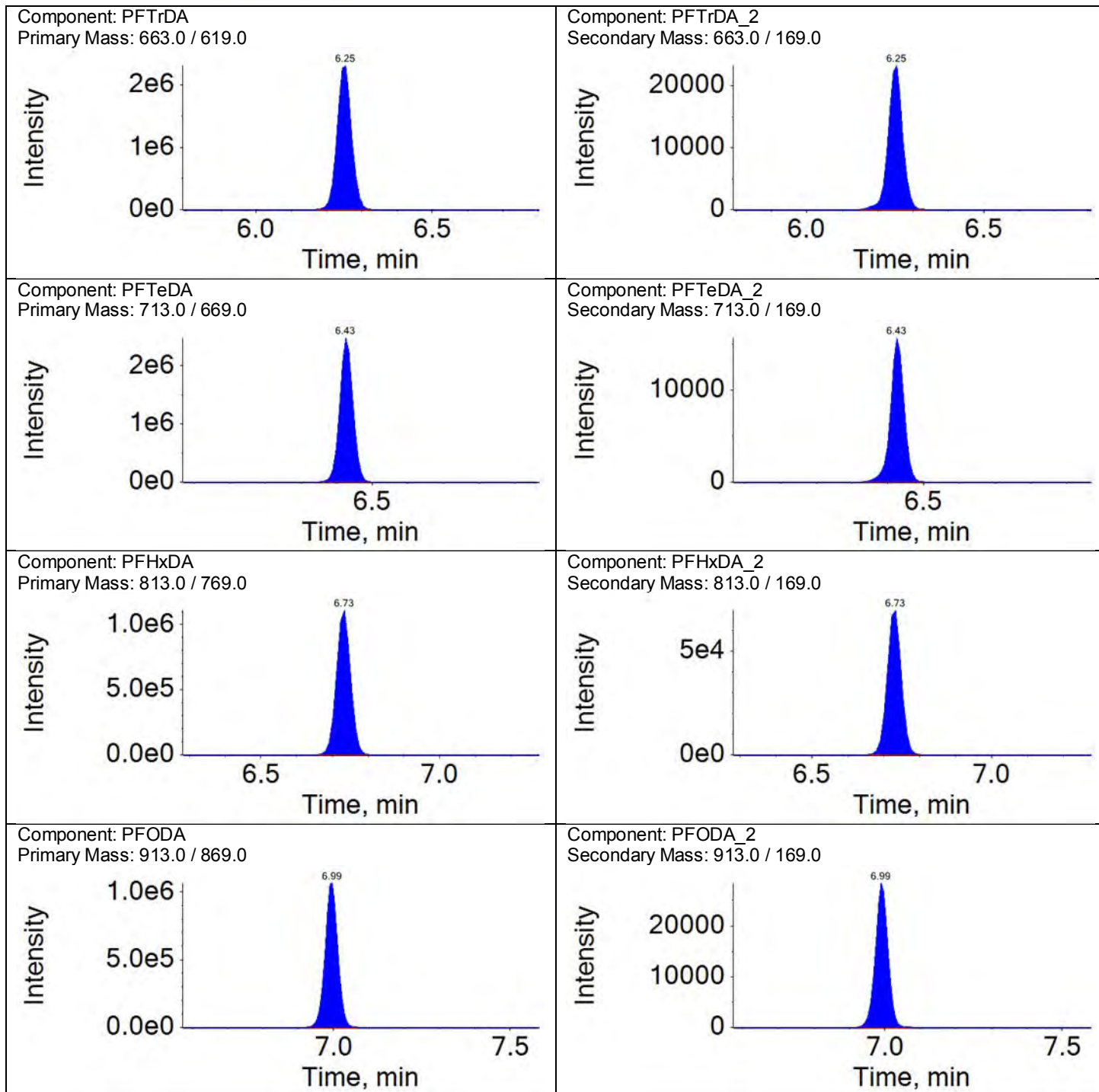












ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13

Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Sample Name:	MDL	Data File:	18NOV07DCAL-09.wiff
Sample ID:	MDLMDX1833E	Acquis Date:	2018-11-07T09:30:56
Sample Type:	Unknown	Instrument:	LM27631
Vial Position:	2	Acquis Method:	18AUG13_3uL.dam
Injection Vol:	3.00	Result Table:	18NOV07DCAL
QMethod File:	MQ4-18AUG13	ICAL Name:	18NOV07DCAL
Batch Number:	N/A	Operator:	JPT12262
Sample Wt.:	1.00000	Dilution Factor:	1.00
Sample Vol.:	1.000	Prep Factor:	1.000

Injection Standard Peak Table

Injection Standard Area Reference File: 18NOV07DCAL-12

Injection Standard Name	Inj Std Conc	Injection Std Peak Area	Rreference Injection Standard Area	Injection Std %Diff	Injection Std %Diff Limit	Injection Std %Diff OOS
13C3-PFBA	5.0	727406.8	730410.6	0	50	
13C2-PFOA	5.0	526479.1	524423.6	0	50	
13C4-PFOS	4.8	275181.3	274061.7	0	50	
13C2-PFDA	5.0	315732.1	311442.1	1	50	

Extraction Standard Peak Table

Extraction Standard Name	Ext Std Area	Inj Std Name	Inj Std Area	Area Ratio	Ext Std Conc	Ext Std Result	Ext Std %REC	Ext Std %REC Limit	Ext Std OOS
E13C4-PFBA	807312.5	13C3-PFBA	727406.8	1.110	5.000	5.136	103	70-130	
E13C5-PFPeA	823702.7	13C3-PFBA	727406.8	1.132	5.000	4.933	99	70-130	
E13C3-PFBS	442660.1	13C3-PFBA	727406.8	0.609	4.650	4.466	96	70-130	
E13C2-4:2-FTS	52398.7	13C2-PFOA	526479.1	0.100	4.670	4.491	96	70-130	
E13C5-PFHxA	716268.2	13C2-PFOA	526479.1	1.360	5.000	5.004	100	70-130	
E13C3-PFHxS	335727.6	13C2-PFOA	526479.1	0.638	4.730	4.578	97	70-130	
E13C4-PFHpA	575860.3	13C2-PFOA	526479.1	1.094	5.000	4.976	100	70-130	
E13C2-6:2-FTS	41140.3	13C2-PFOA	526479.1	0.078	4.750	5.211	110	70-130	
E13C8-PFOA	972540.0	13C2-PFOA	526479.1	1.847	5.000	5.151	103	70-130	
E13C8-PFOS	290003.4	13C4-PFOS	275181.3	1.054	4.780	4.660	97	70-130	
E13C9-PFNA	494088.2	13C4-PFOS	275181.3	1.796	5.000	4.905	98	70-130	
E13C6-PFDA	660922.5	13C2-PFDA	315732.1	2.093	5.000	5.264	105	70-130	
E13C2-8:2-FTS	30155.0	13C2-PFDA	315732.1	0.096	4.790	5.054	106	70-130	
E13C8-PFOSA	682695.0	13C2-PFDA	315732.1	2.162	5.000	4.718	94	70-130	
Ed3-NMeFOSAA	79243.0	13C2-PFDA	315732.1	0.251	5.000	4.667	93	70-130	
E13C7-PFUnDA	280781.9	13C2-PFDA	315732.1	0.889	5.000	5.130	103	70-130	
Ed5-NEtFOSAA	64527.2	13C2-PFDA	315732.1	0.204	5.000	4.730	95	70-130	
E13C2-PFDoDA	600395.5	13C2-PFDA	315732.1	1.902	5.000	5.126	103	70-130	
Ed7-NMePFOSAE	326457.3	13C2-PFDA	315732.1	1.034	5.000	4.808	96	70-130	
Ed3-NMePFOSA	82534.2	13C2-PFDA	315732.1	0.261	5.000	4.786	96	70-130	
Ed9-NEtPFOSAE	271491.0	13C2-PFDA	315732.1	0.860	5.000	4.911	98	70-130	
Ed5-NEtPFOSA	69328.7	13C2-PFDA	315732.1	0.220	5.000	5.084	102	70-130	
E13C2-PFTeDA	418605.6	13C2-PFDA	315732.1	1.326	5.000	4.773	95	70-130	

ICAL Name: 18NOV07DCAL
QMethod Name: MQ4-18AUG13Result Table: 18NOV07DCAL 11/7/2018 2:18:30 PM
Acquisition Method: 18AUG13_3uL.dam

Analyte Quantitation Peak Table

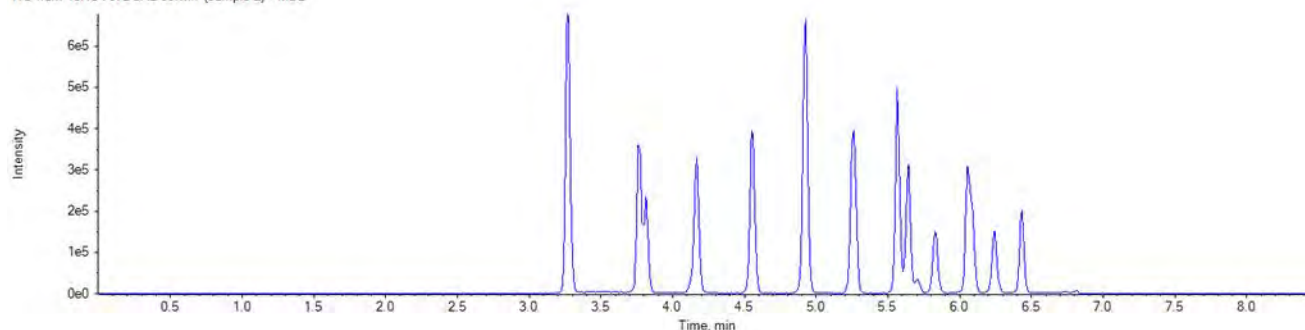
Sample Name: MDL Instrument Name: LM27631 File Name: 18NOV07DCAL-09.wiff

Sample Wt	Sample Vol	Dilution Factor	PrepFactor
1.00000	1.000	1.00	1.000

Analyte Name	RT	RRT	Analyte Area Response	E	Int Typ	ES Name	ES RT	ES Area Response	Area Ratio	Sample Result (ng/g)
PFBA	3.27	1.000	15305.2		A	13C4-PFBA	3.27	807312.5	0.019	0.111
PFPeA	3.76	1.000	17527.3		A	13C5-PFPeA	3.77	823702.7	0.021	0.126
PFBS	3.81	1.000	8179.1		A	13C3-PFBS	3.82	442660.1	0.018	0.093
4:2-FTS	4.14	1.000	2516.6		A	13C2-4:2-FTS	4.13	52398.7	0.048	0.129
PFHxA	4.16	1.000	19041.3		A	13C5-PFHxA	4.17	716268.2	0.027	0.114
PFPeS	4.18	1.100	4553.9		A	13C3-PFBS	3.82	442660.1	0.010	0.101
PFHxS	4.55	1.000	5720.4		A	13C3-PFHxS	4.55	335727.6	0.017	0.086
PFHpA	4.55	1.000	20611.7		A	13C4-PFHpA	4.55	575860.3	0.036	0.120
6:2-FTS	4.92	1.000	1337.7		A	13C2-6:2-FTS	4.91	41140.3	0.033	0.081
PFHpS	4.92	1.080	5811.8		A	13C3-PFHxS	4.55	335727.6	0.017	0.091
PFOA	4.92	1.000	21714.7		A	13C8-PFOA	4.92	972540.0	0.022	0.126
PFOS	5.25	1.000	7067.6		A	13C8-PFOS	5.25	290003.4	0.024	0.126
PFNA	5.27	1.000	14036.5		M	13C9-PFNA	5.27	494088.2	0.028	0.106
PFNS	5.54	1.060	4370.5		A	13C8-PFOS	5.25	290003.4	0.015	0.119
PFDA	5.57	1.000	13448.9		A	13C6-PFDA	5.57	660922.5	0.020	0.112
8:2-FTS	5.57	1.000	1277.3		A	13C2-8:2-FTS	5.57	30155.0	0.042	0.095
PFOSA	5.64	1.000	12732.2		A	13C8-PFOSA	5.64	682695.0	0.019	0.101
NMeFOSAA	5.71	1.000	1352.6		M	d3-NMeFOSAA	5.71	79243.0	0.017	0.088
PFDS	5.80	1.110	2949.3		A	13C8-PFOS	5.25	290003.4	0.010	0.097
PfUnDA	5.83	1.000	13003.8		A	13C7-PfUnDA	5.83	280781.9	0.046	0.133
NEtFOSAA	5.84	1.000	1823.4		A	d5-NEtFOSAA	5.84	64527.2	0.028	0.121
PFDODA	6.05	1.000	12755.8		A	13C2-PFDODA	6.05	600395.5	0.021	0.115
10:2-FTS	6.07	1.090	1033.2		A	13C2-8:2-FTS	5.57	30155.0	0.034	0.107
NMePFOSAE	6.10	1.000	8309.5		A	d7-NMePFOSAE	6.08	326457.3	0.025	0.114
NMePFOSA	6.10	1.000	1429.6		M	d3-NMePFOSA	6.10	82534.2	0.017	0.097
PFDoS	6.22	1.190	1360.5		A	13C8-PFOS	5.25	290003.4	0.005	0.091
NEtPFOSAE	6.25	1.000	9821.0		A	d9-NEtPFOSAE	6.24	271491.0	0.036	0.116
NEtPFOSA	6.26	1.000	1542.4		A	d5-NEtPFOSA	6.26	69328.7	0.022	0.098
PFTrDA	6.26	1.030	10576.8		M	13C2-PFDODA	6.05	600395.5	0.018	0.111
PFTeDA	6.43	1.000	7741.6		A	13C2-PFTeDA	6.43	418605.6	0.018	0.109
PFHxDA	6.73	1.050	5030.0		A	13C2-PFTeDA	6.43	418605.6	0.012	0.149
PFOA	7.00	1.090	3044.8		A	13C2-PFTeDA	6.43	418605.6	0.007	0.104

Total Ion Chromatogram

TIC from 18NOV07DCAL-09.wiff (sample 2) - MDL



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By JPT at 2:54 pm, 11/7/18

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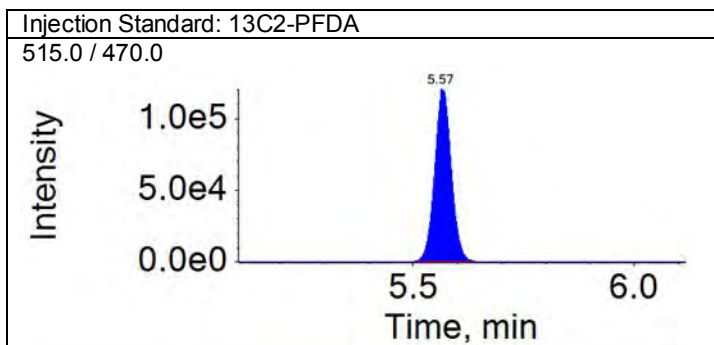
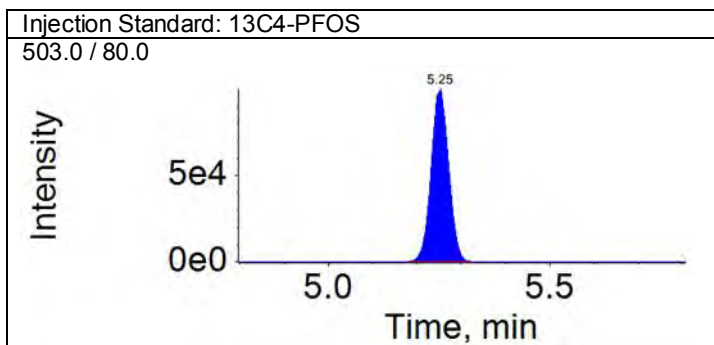
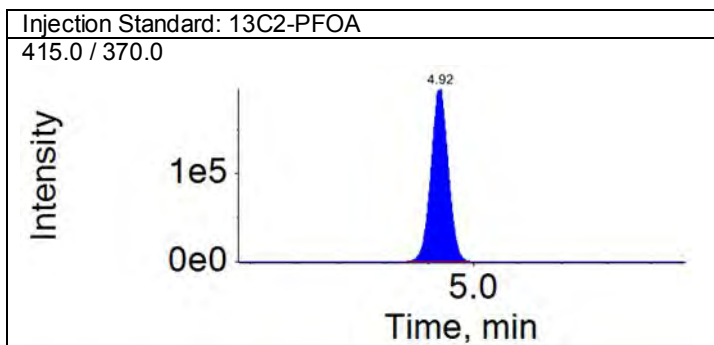
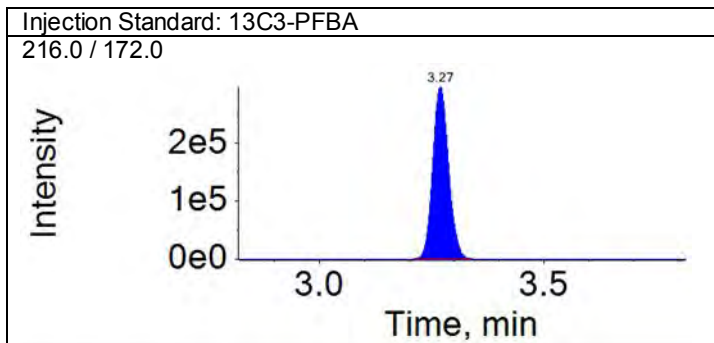
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By umar at 5:24 pm, 11/9/18

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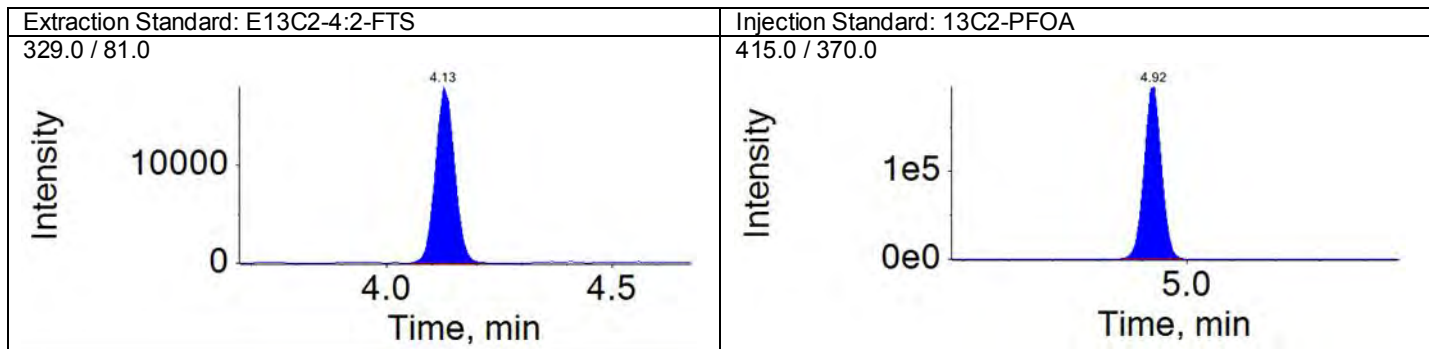
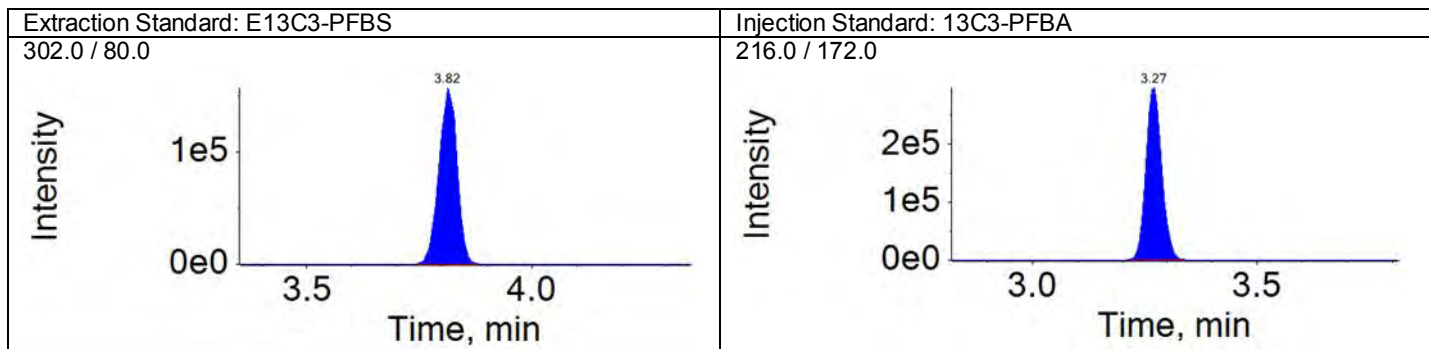
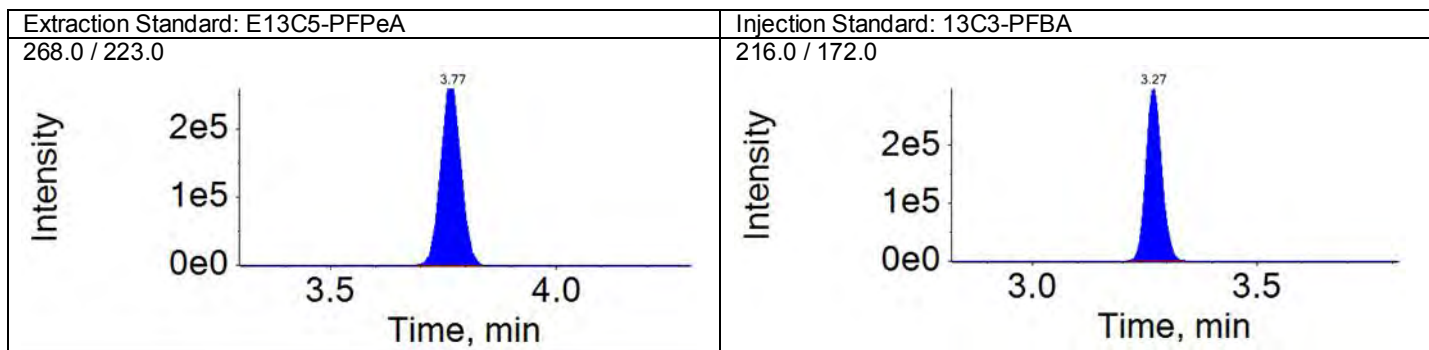
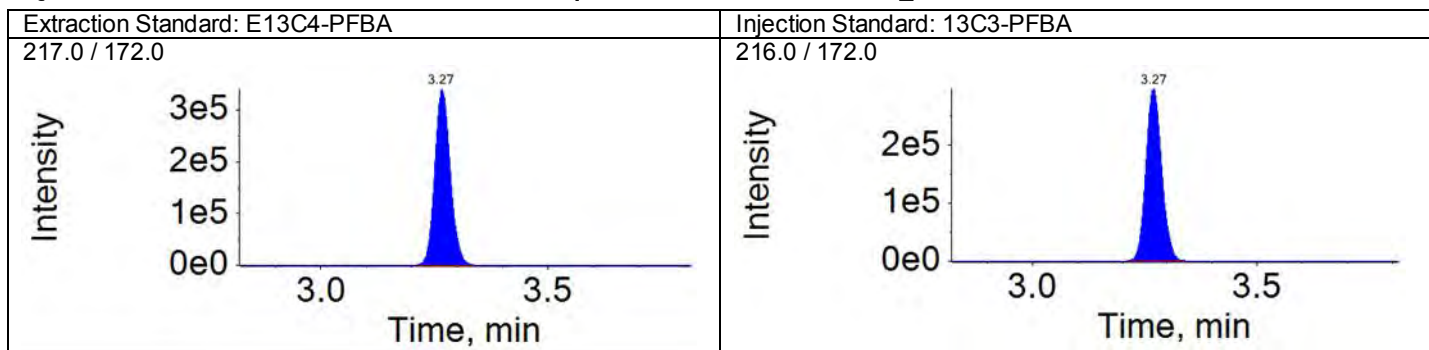
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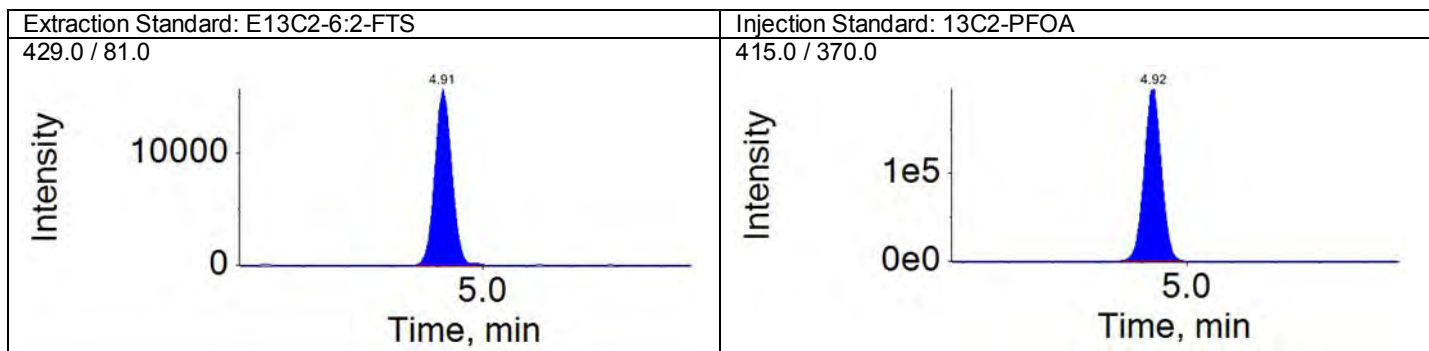
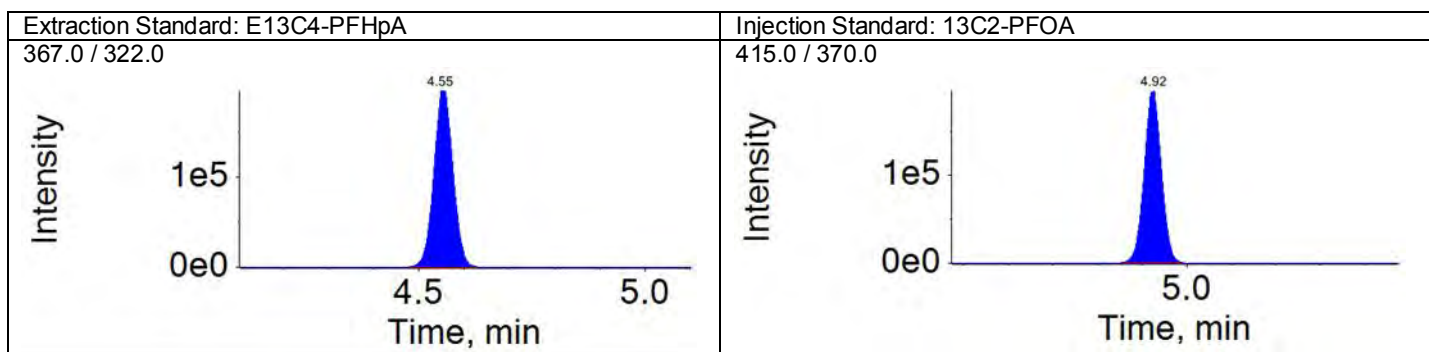
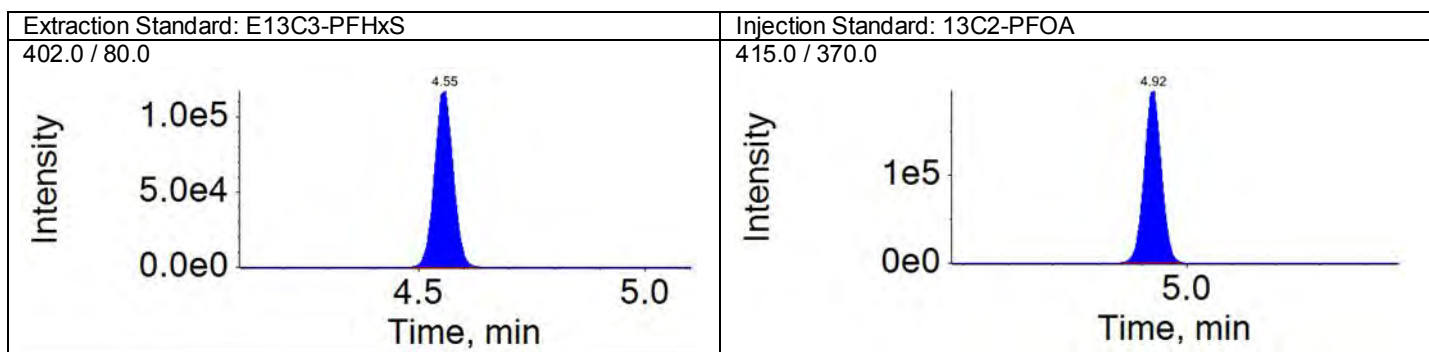
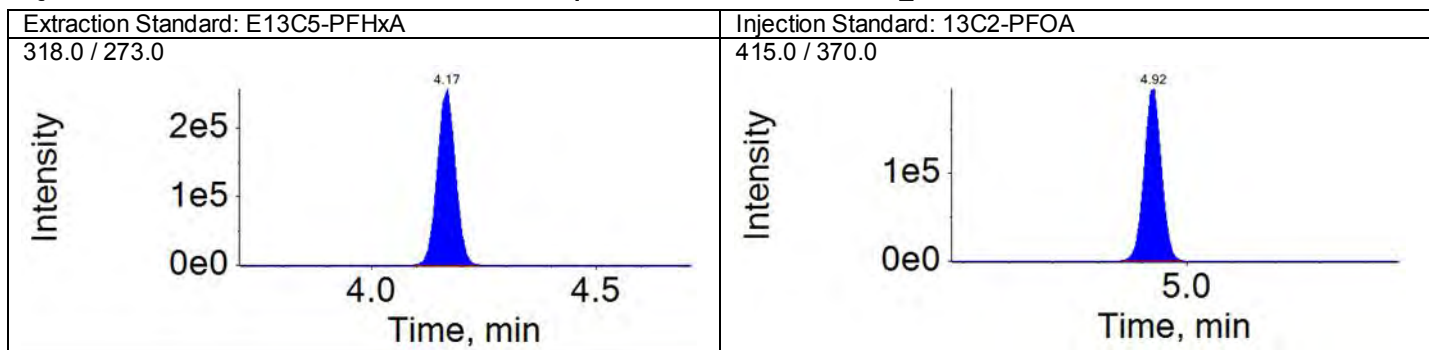
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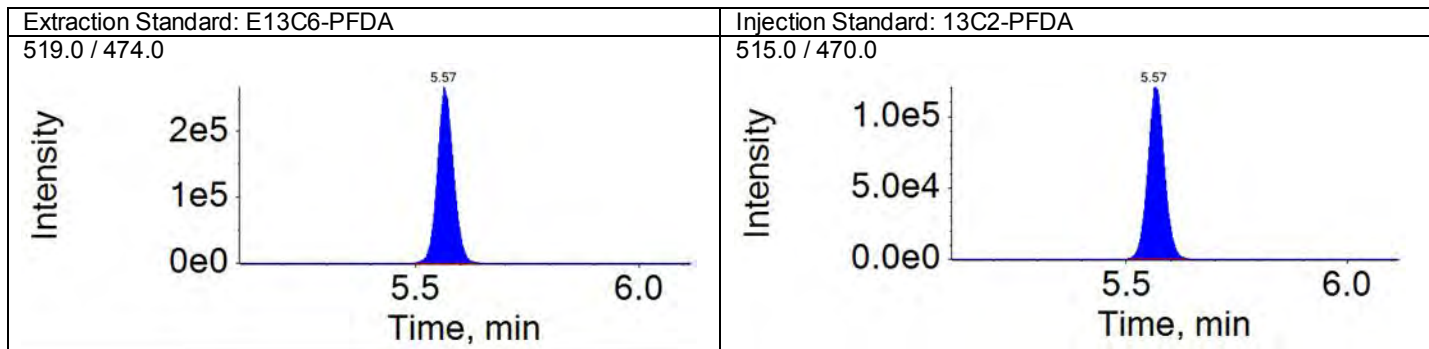
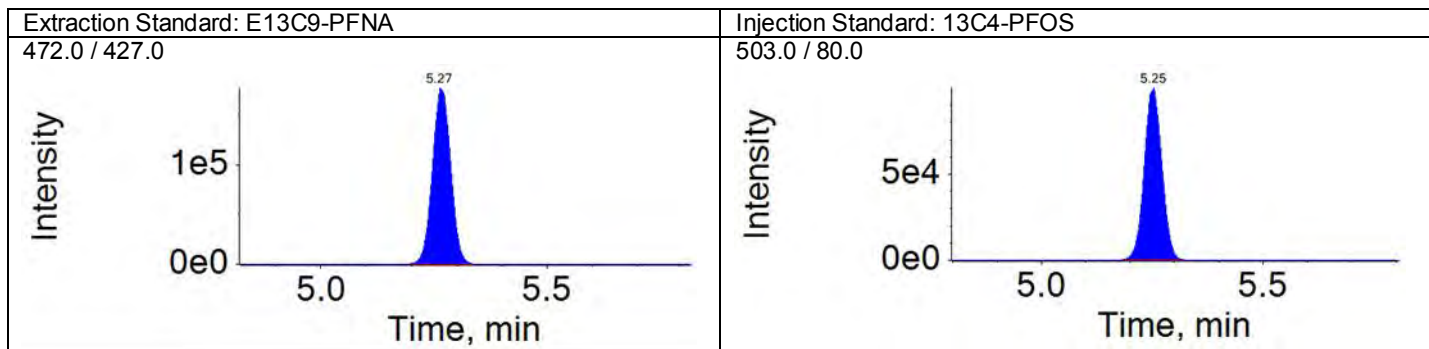
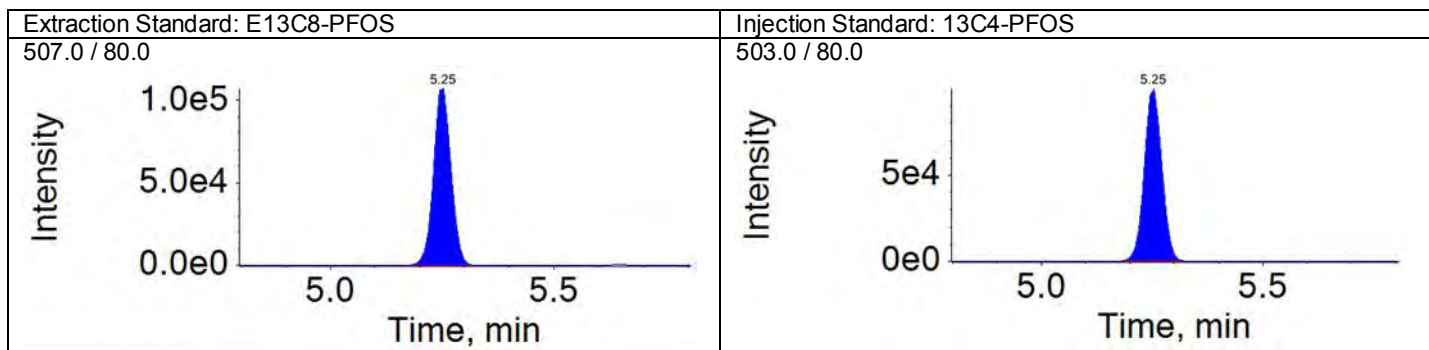
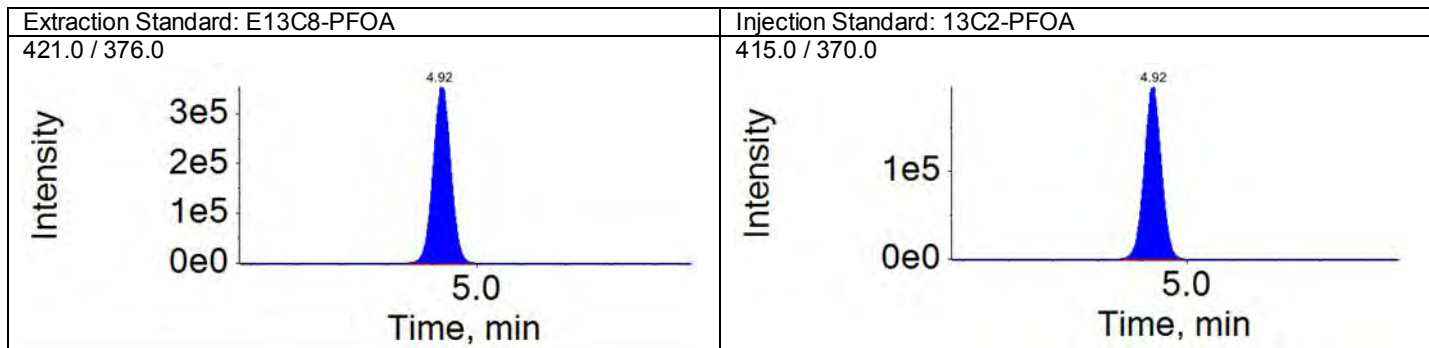
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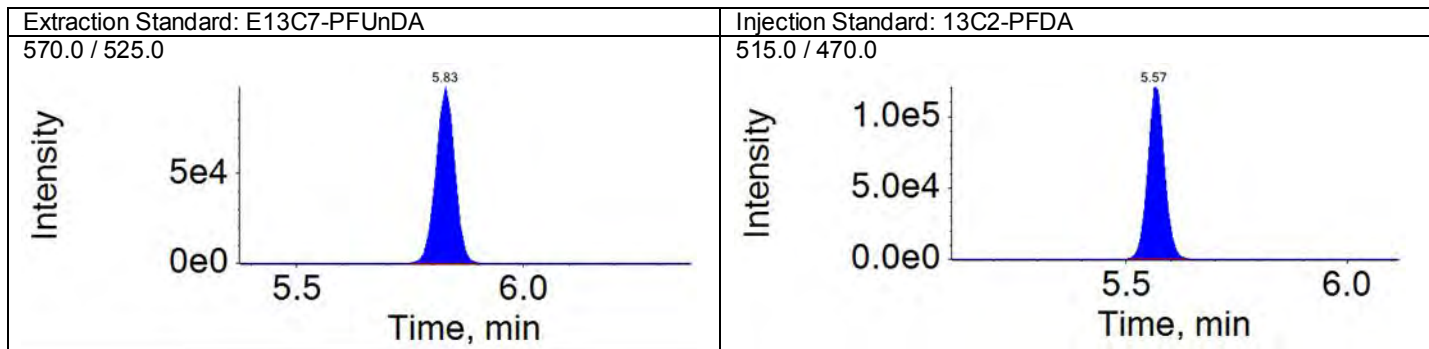
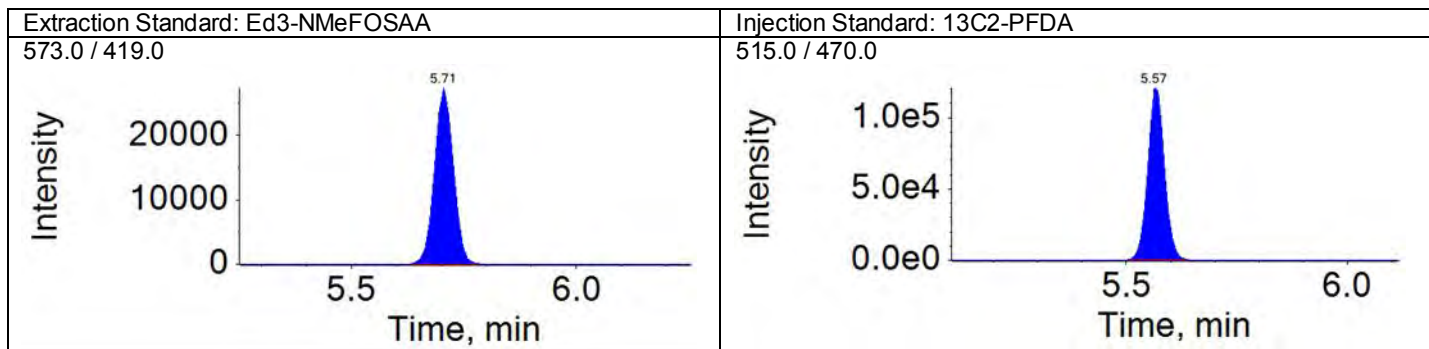
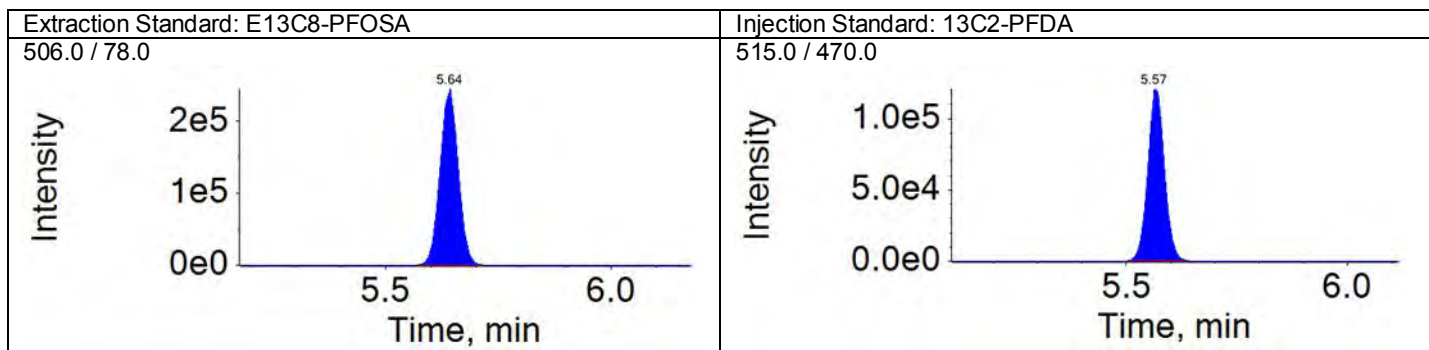
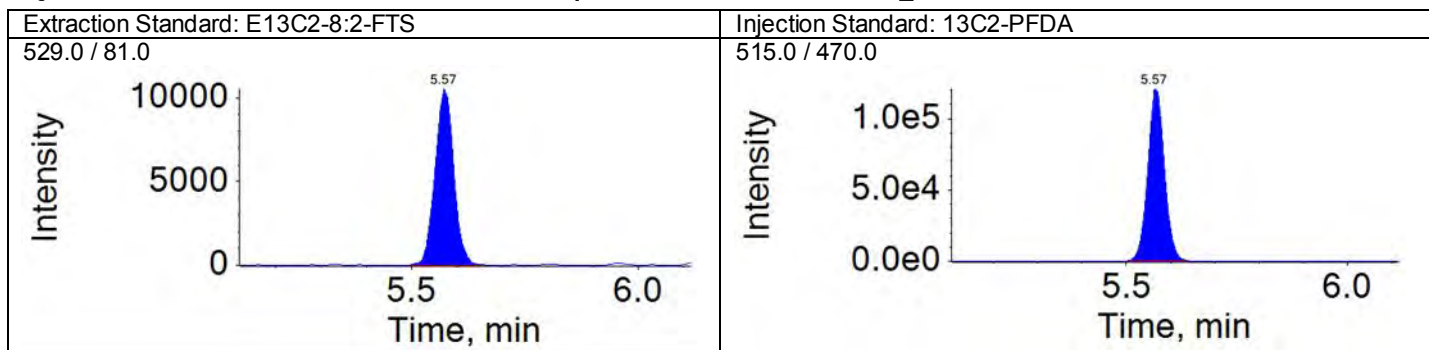
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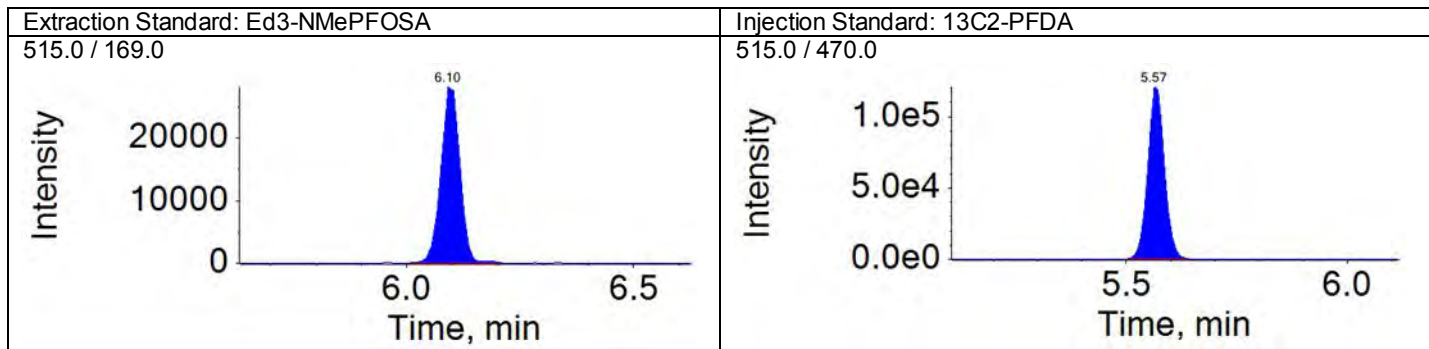
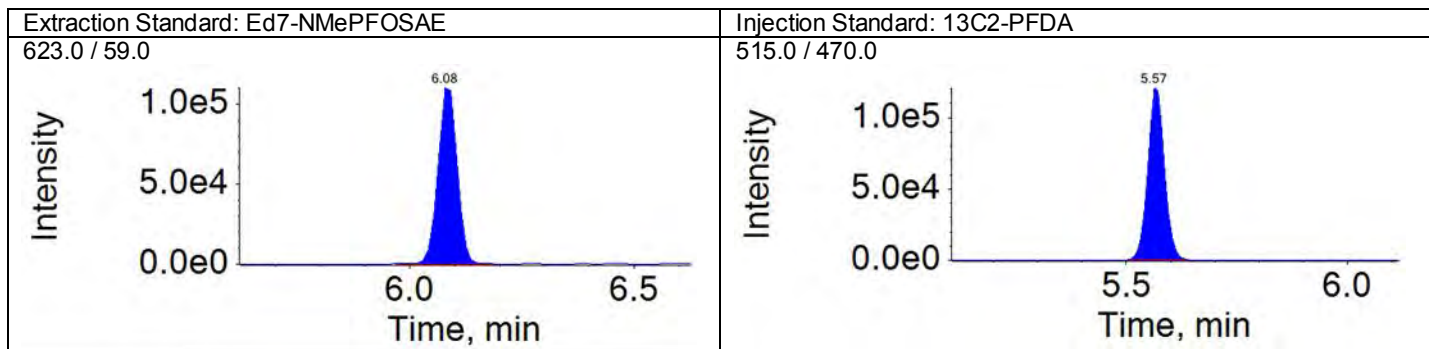
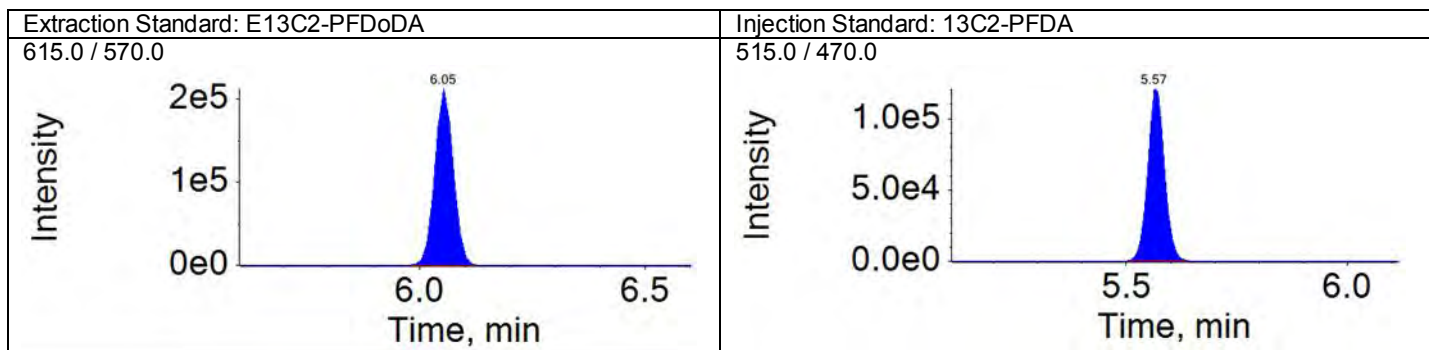
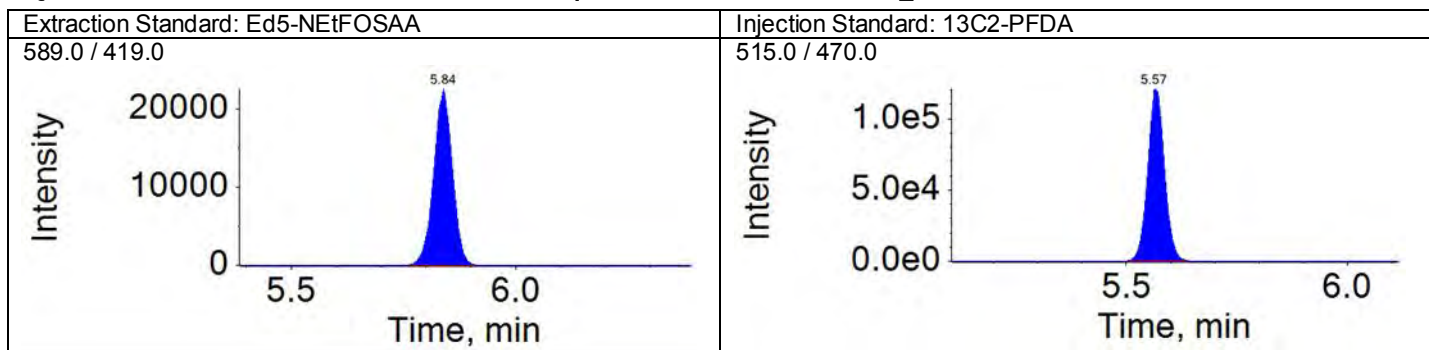
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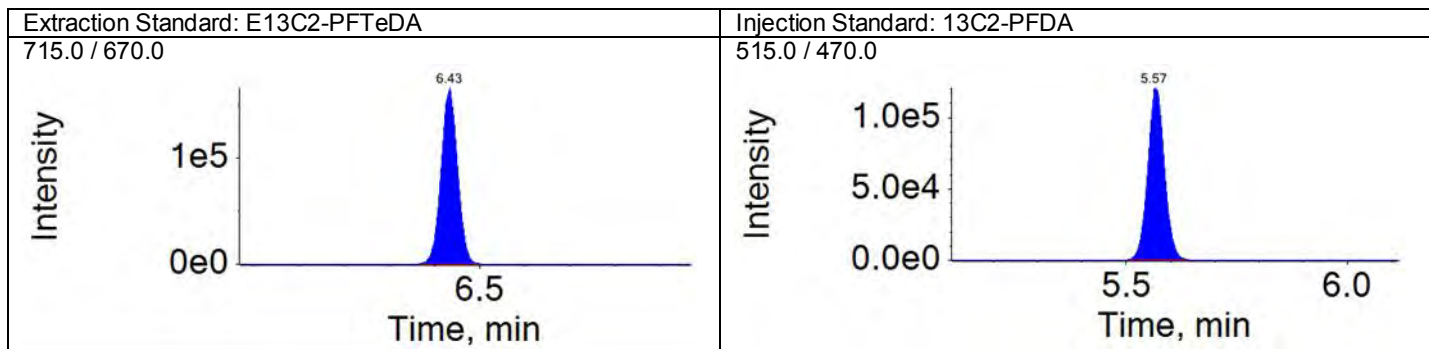
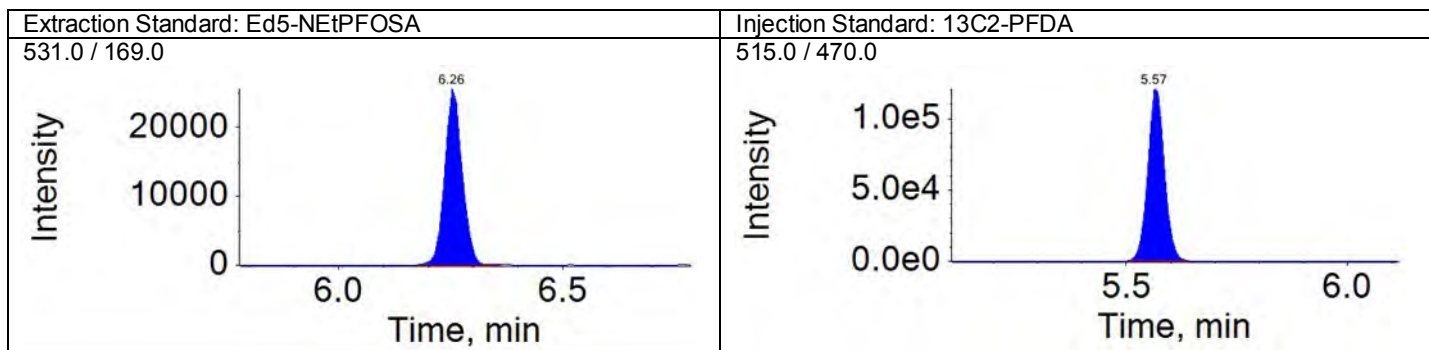
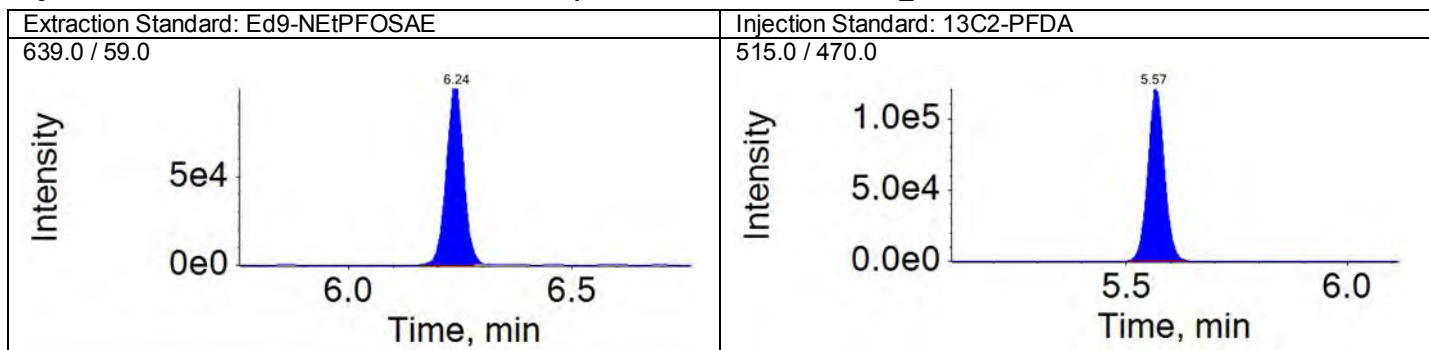
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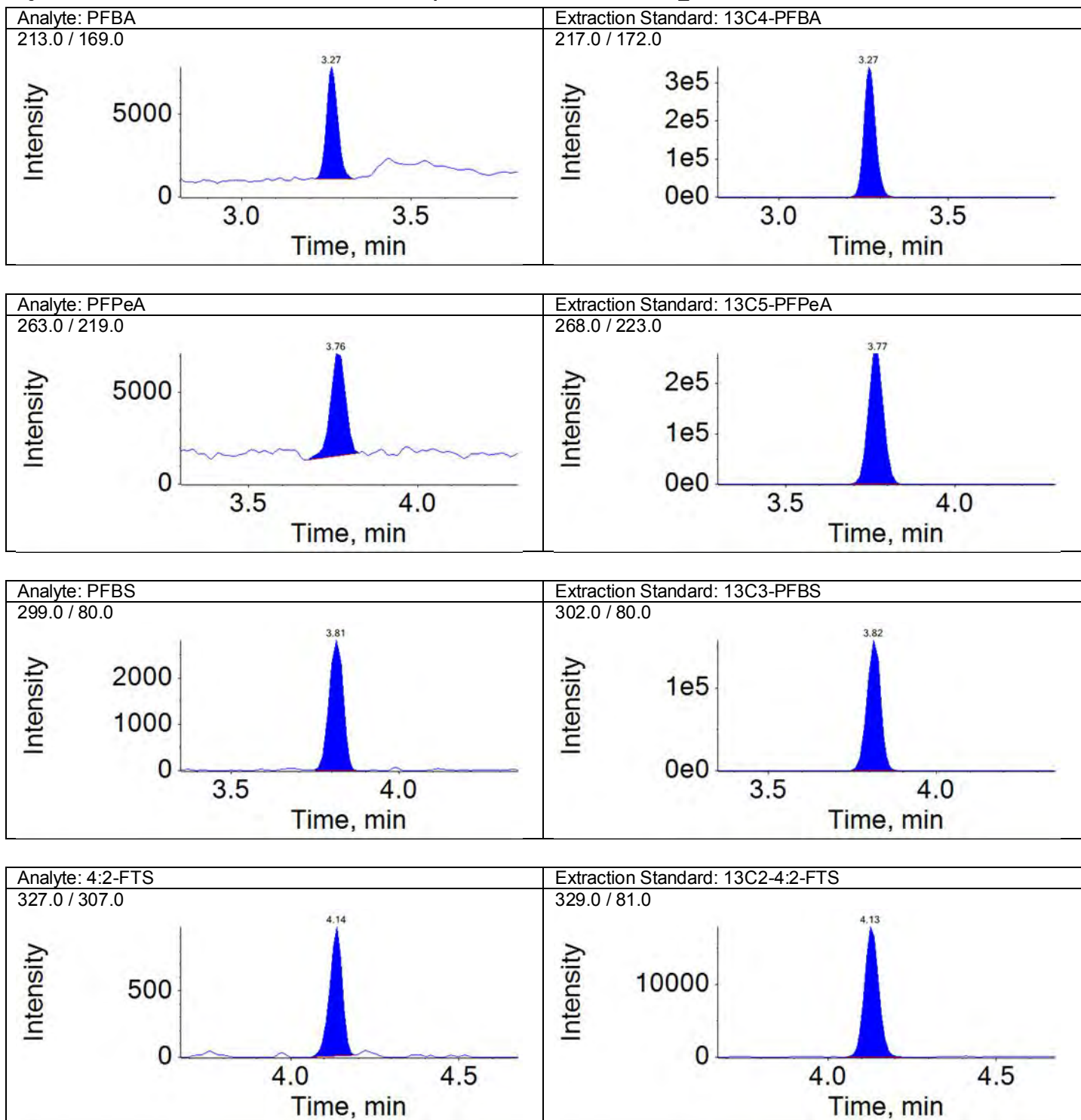
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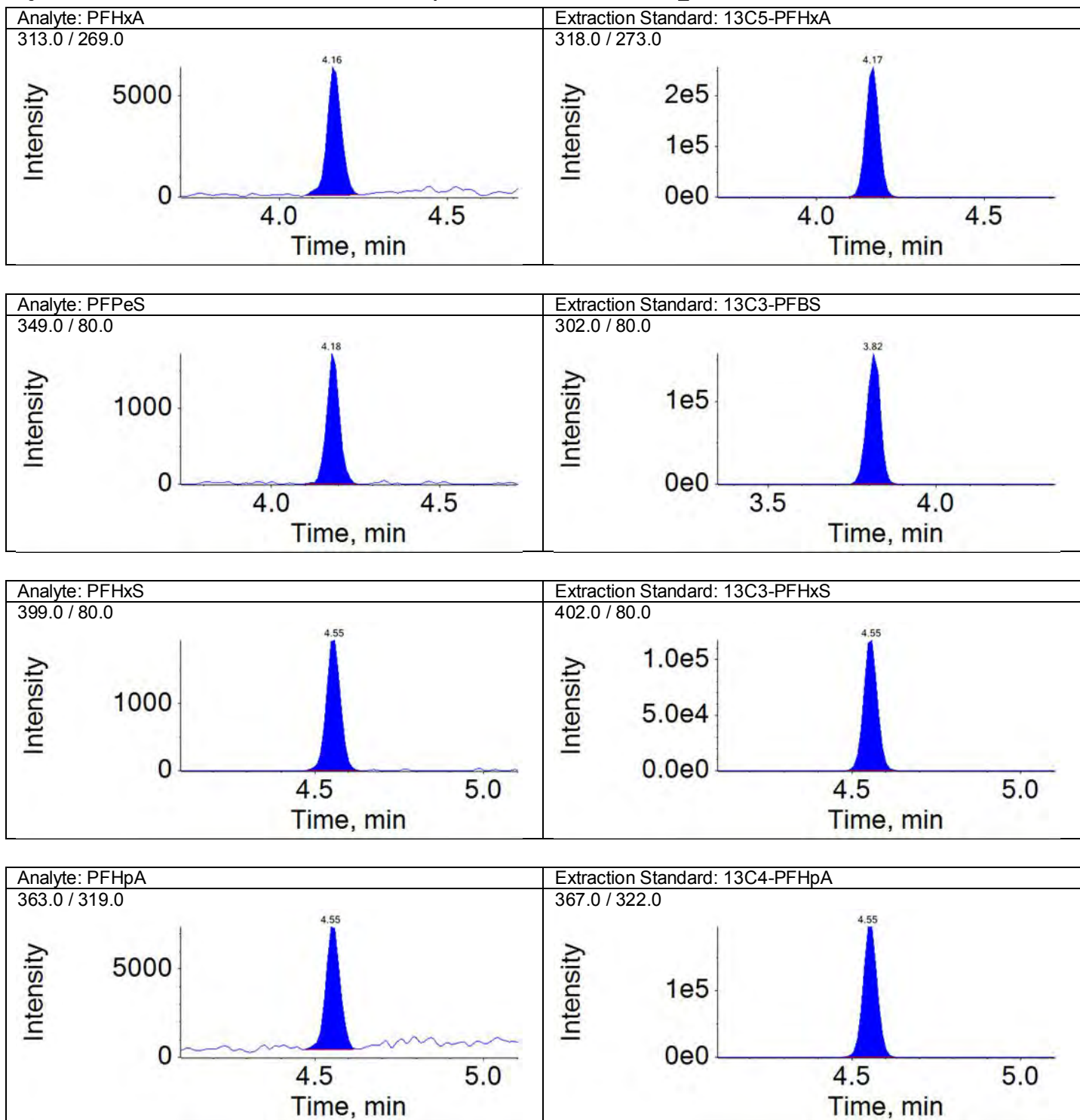
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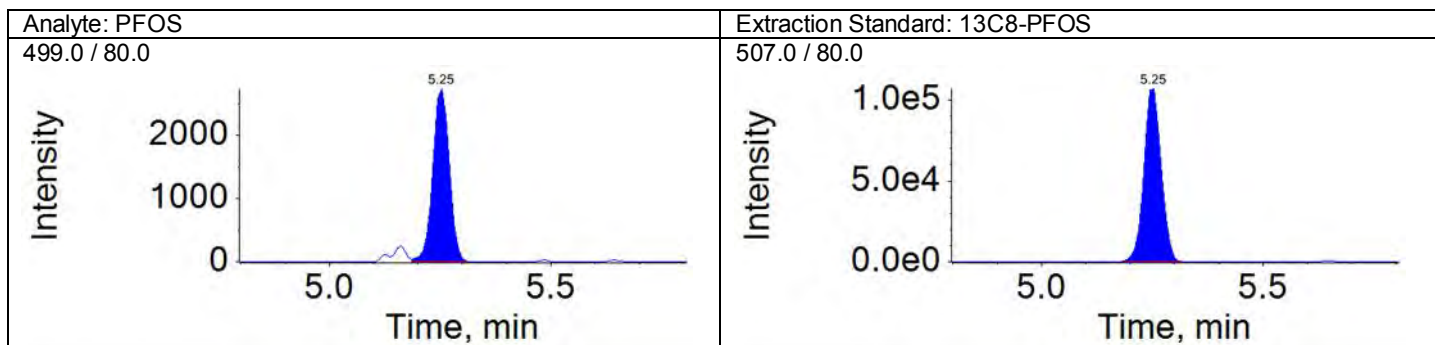
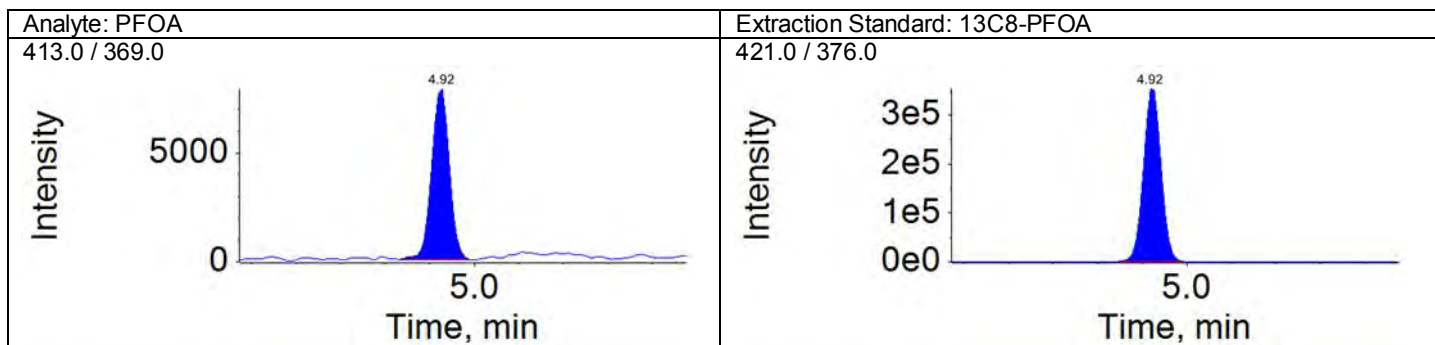
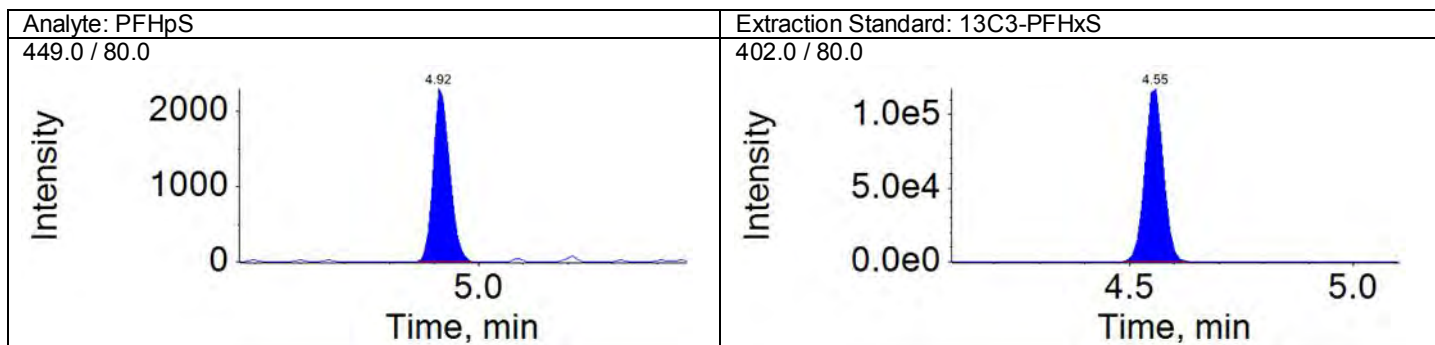
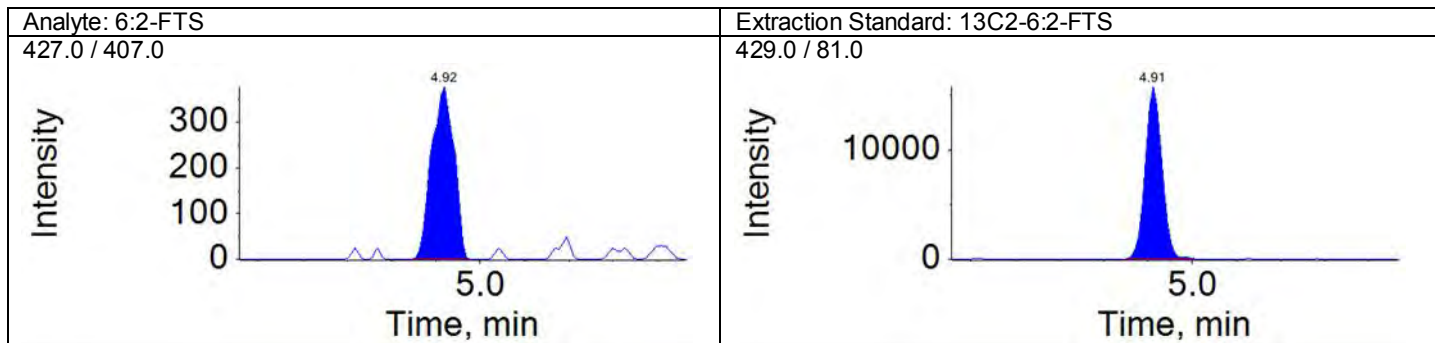
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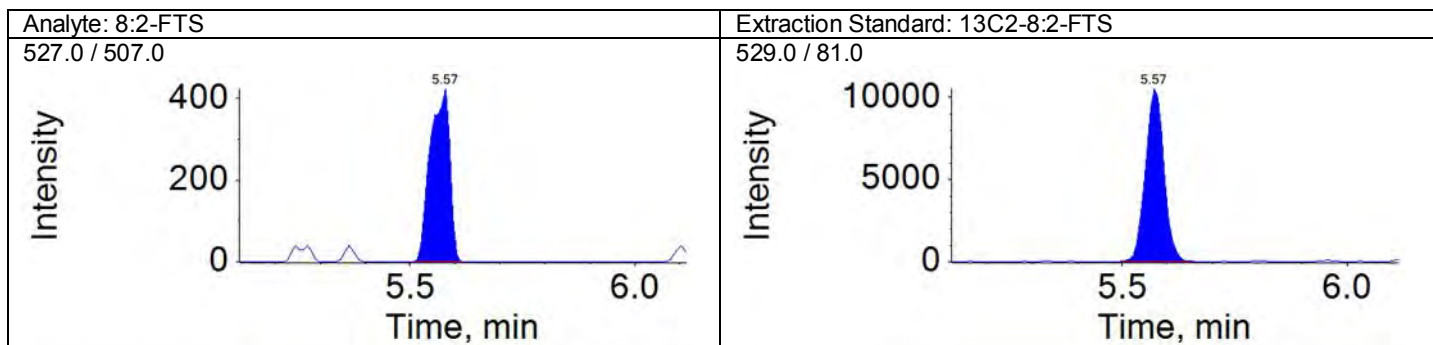
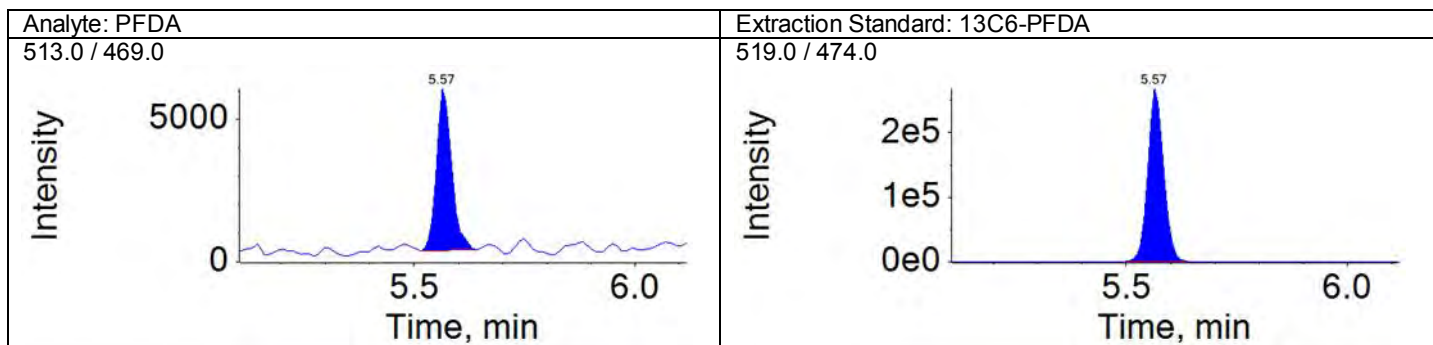
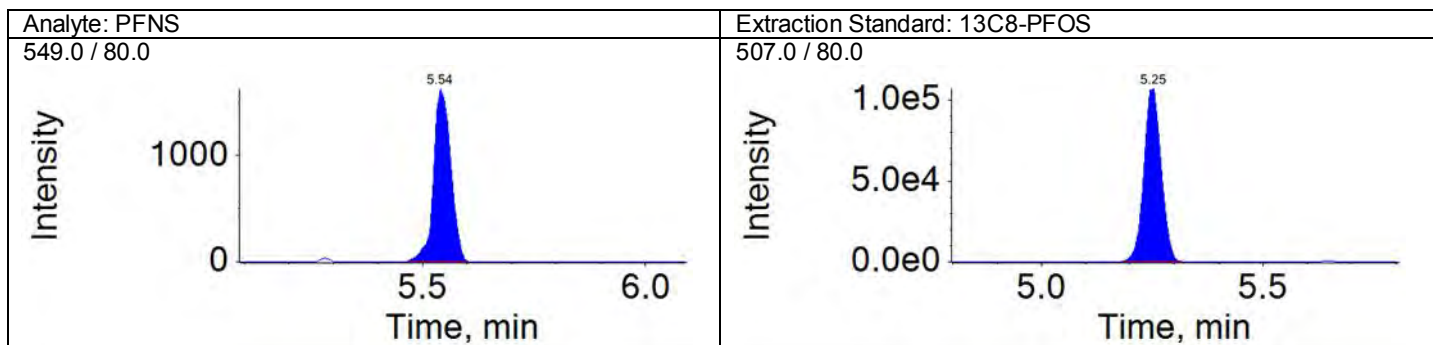
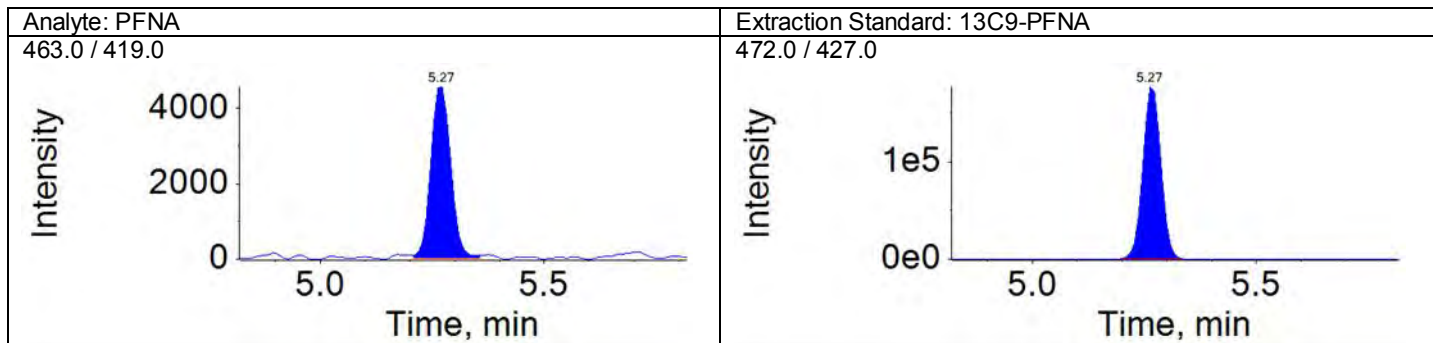
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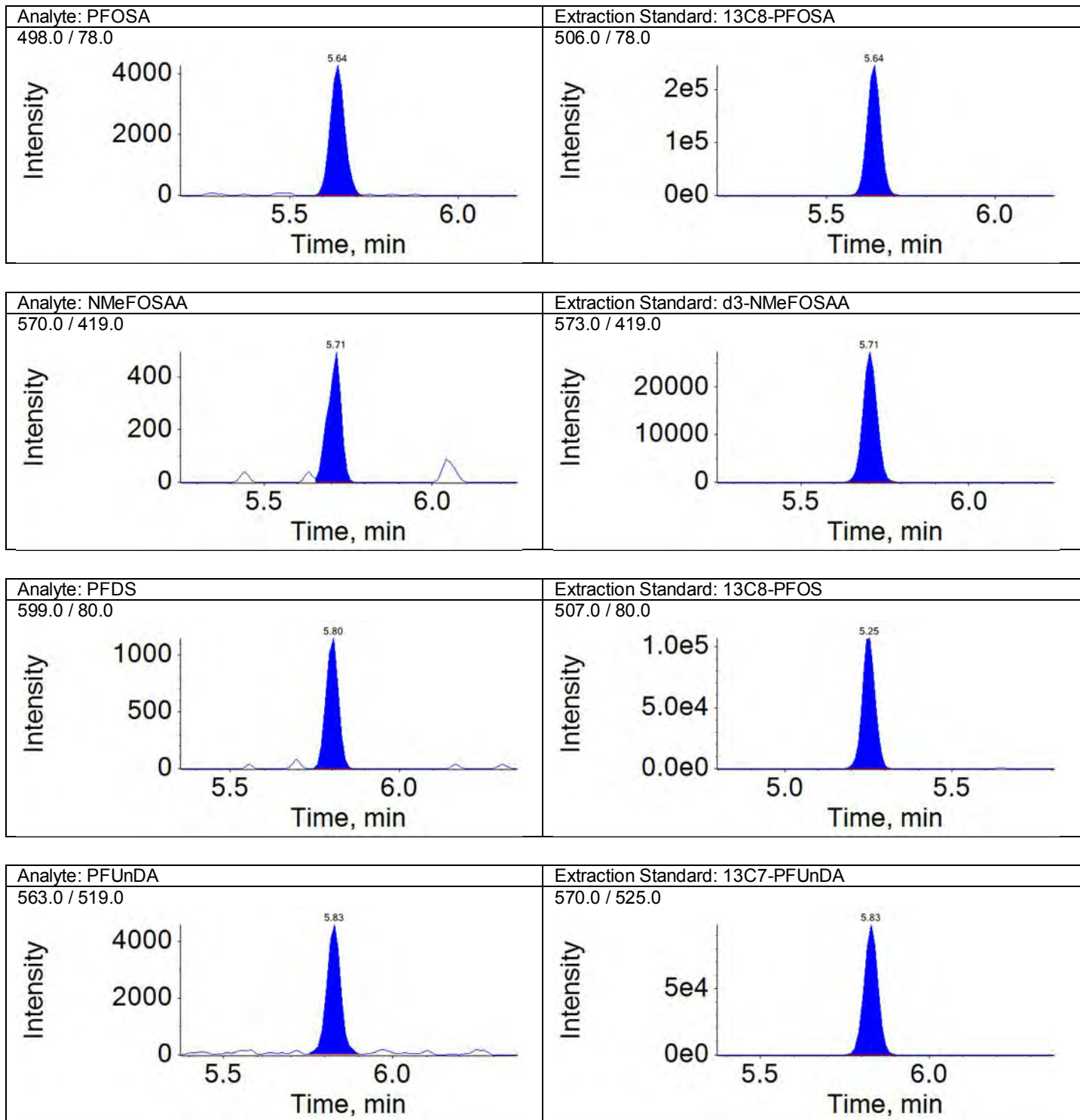
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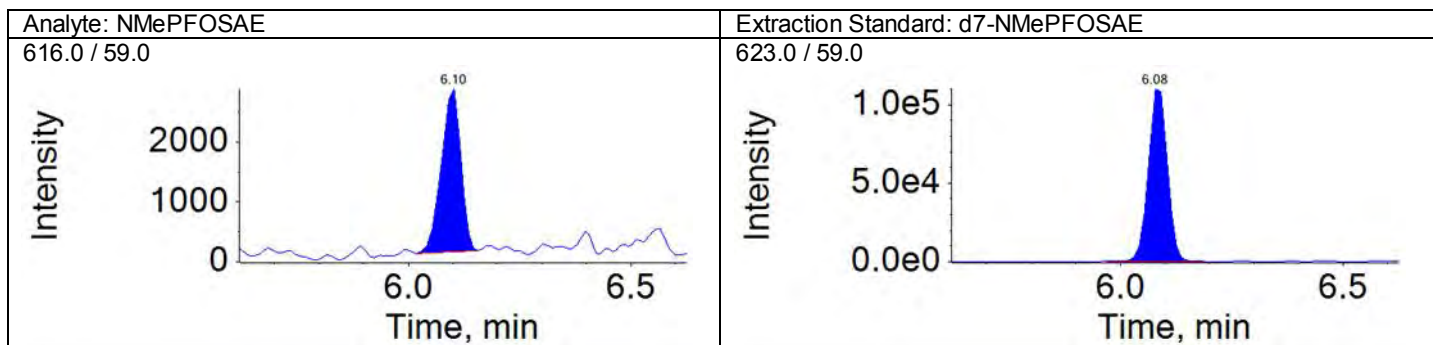
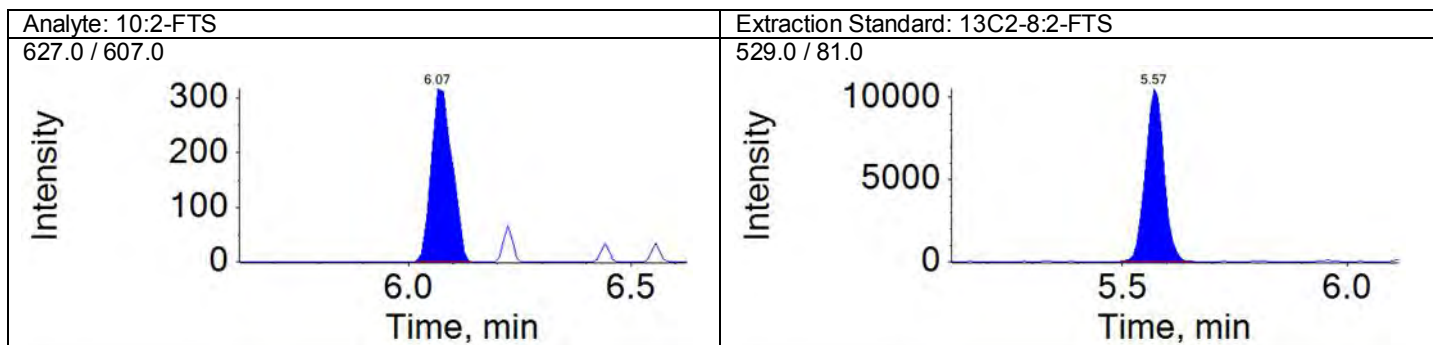
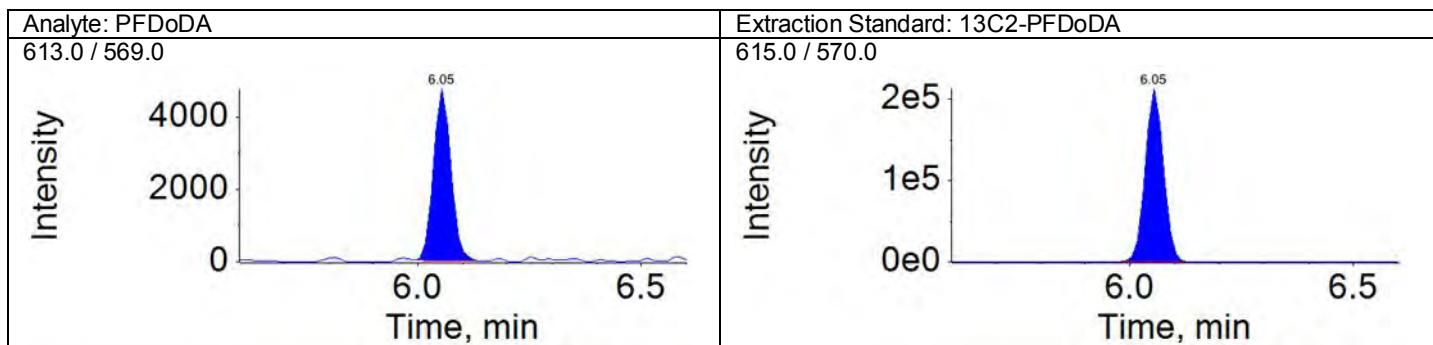
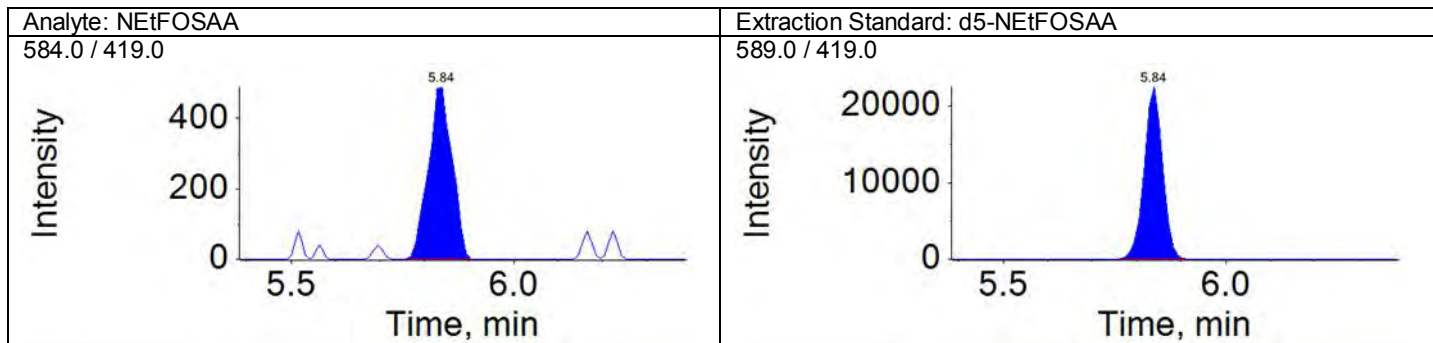
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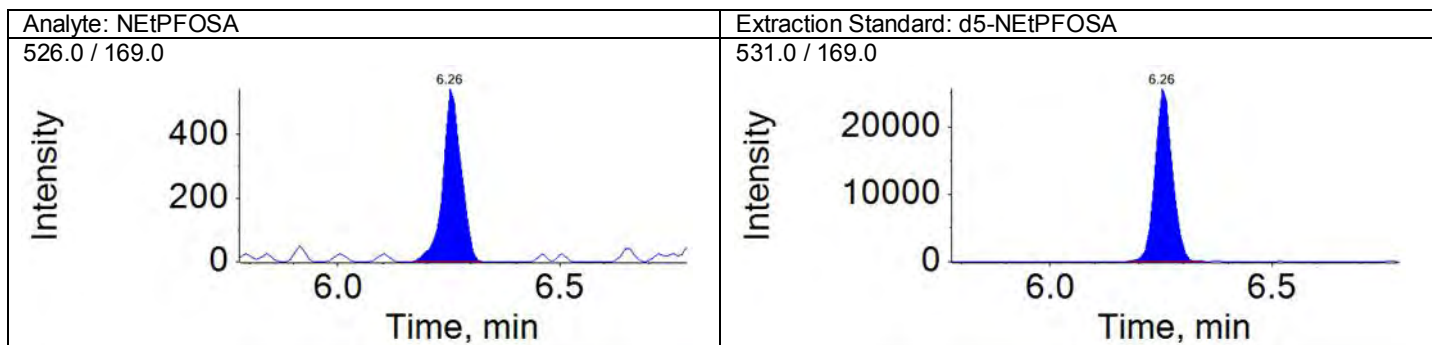
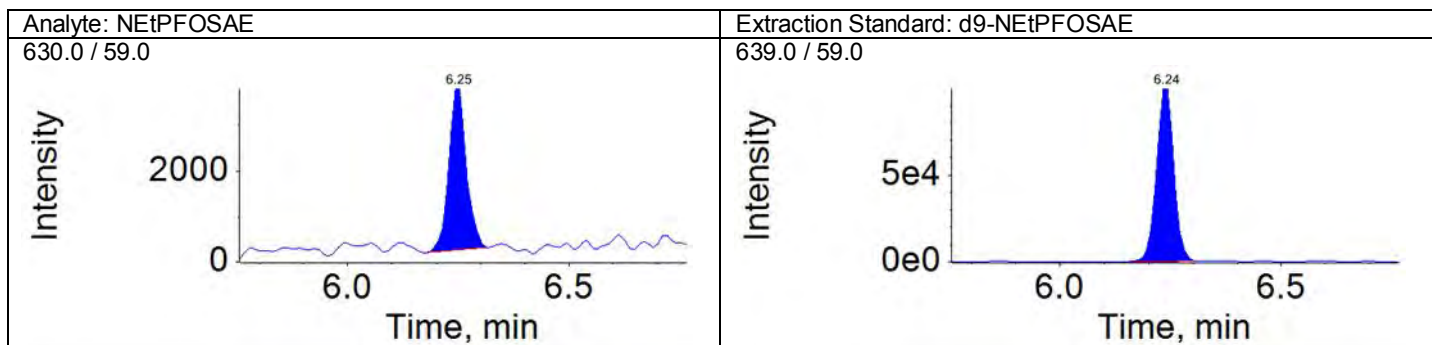
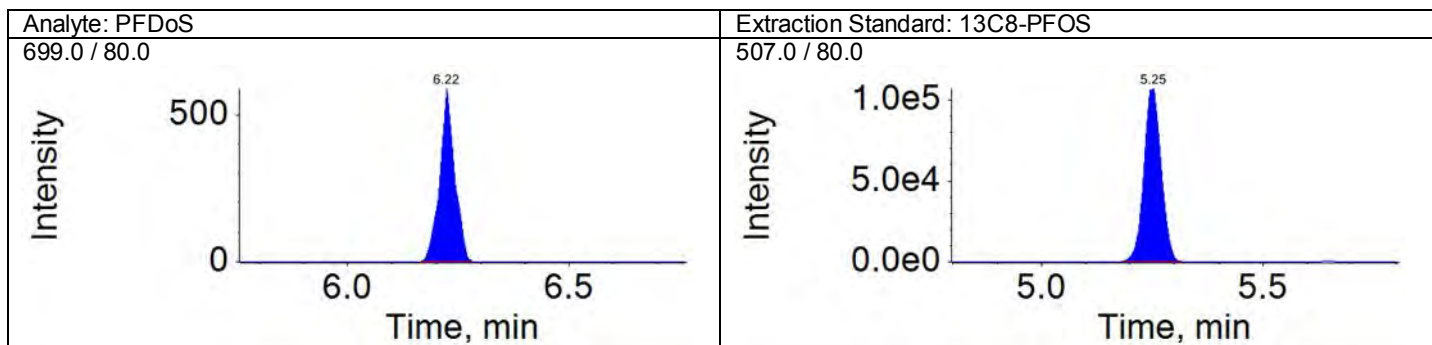
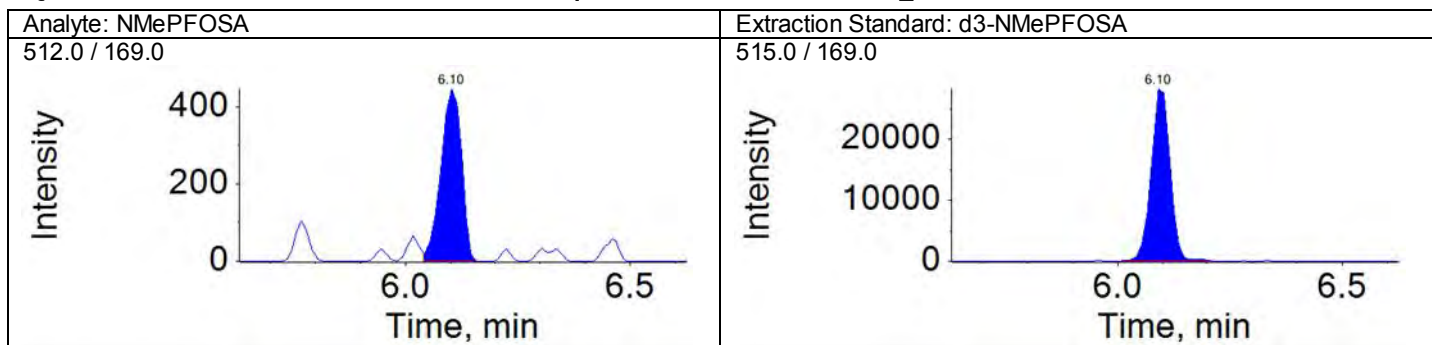
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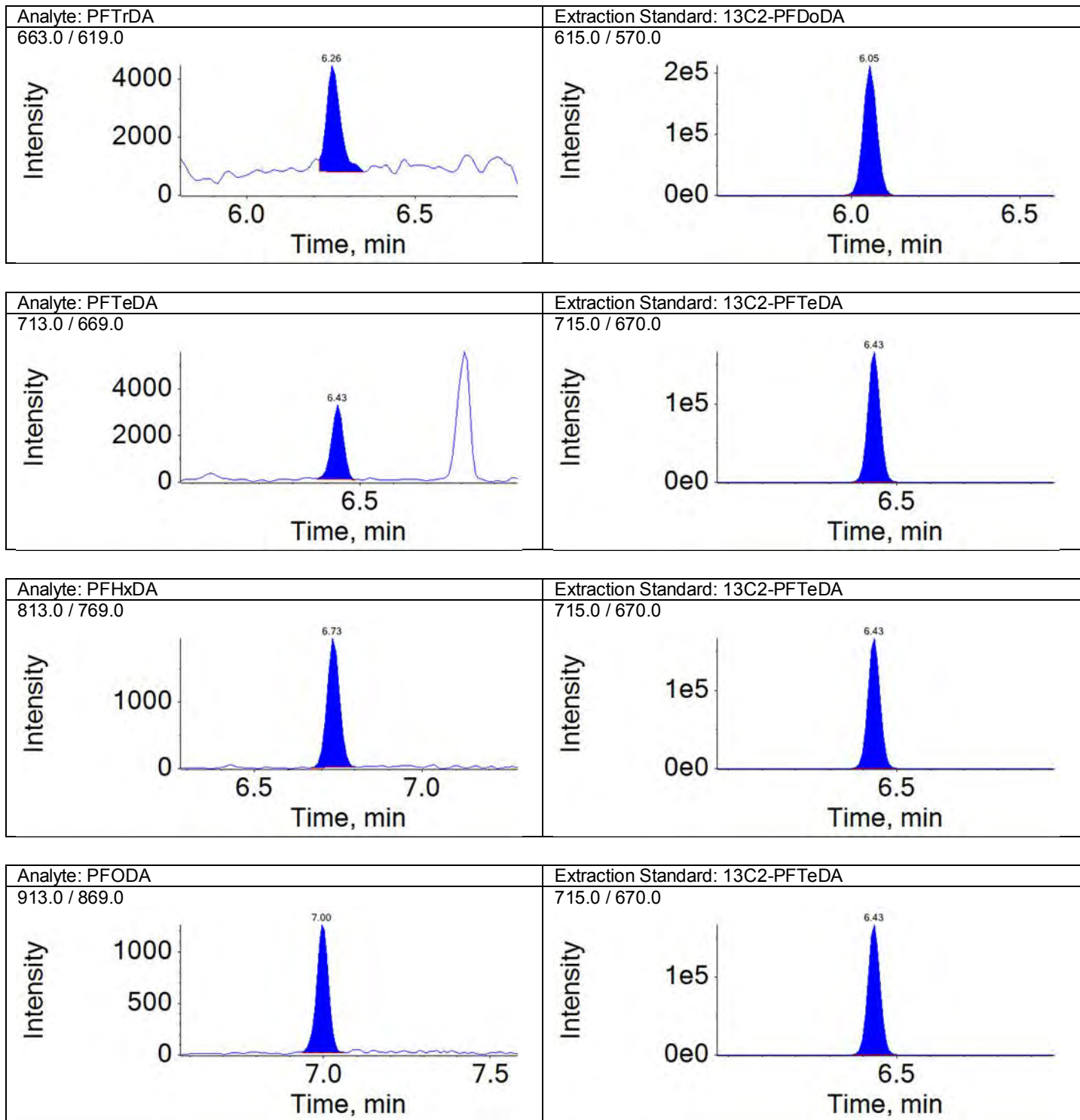
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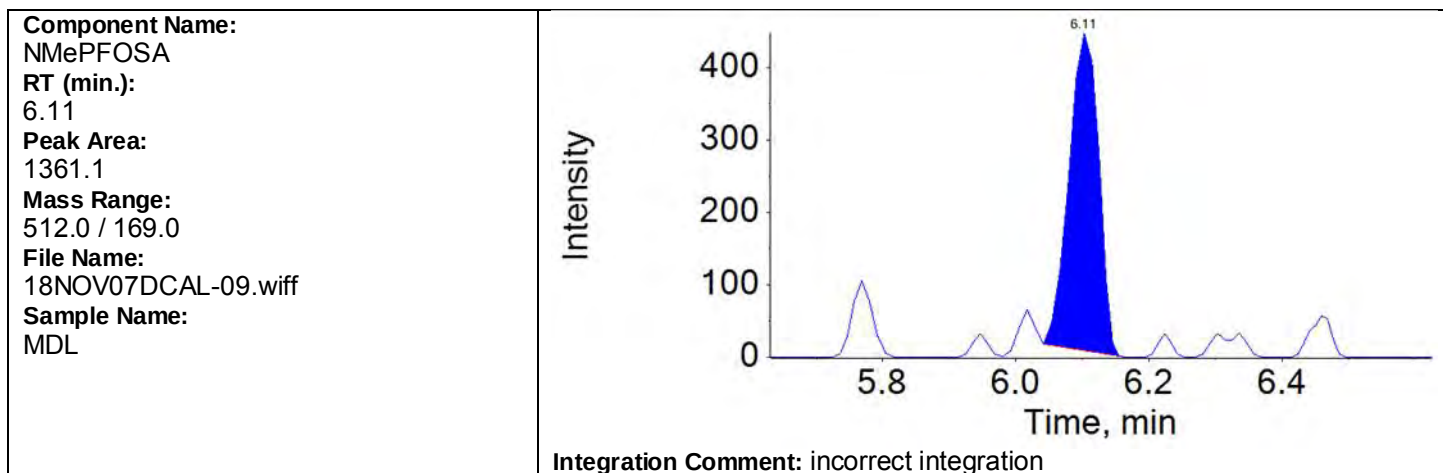
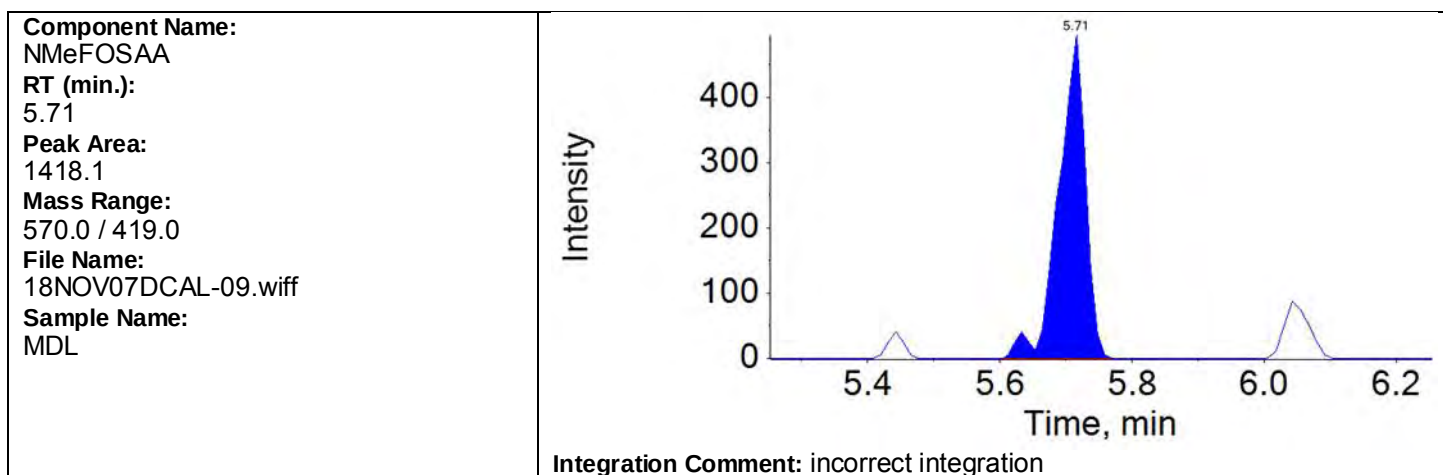
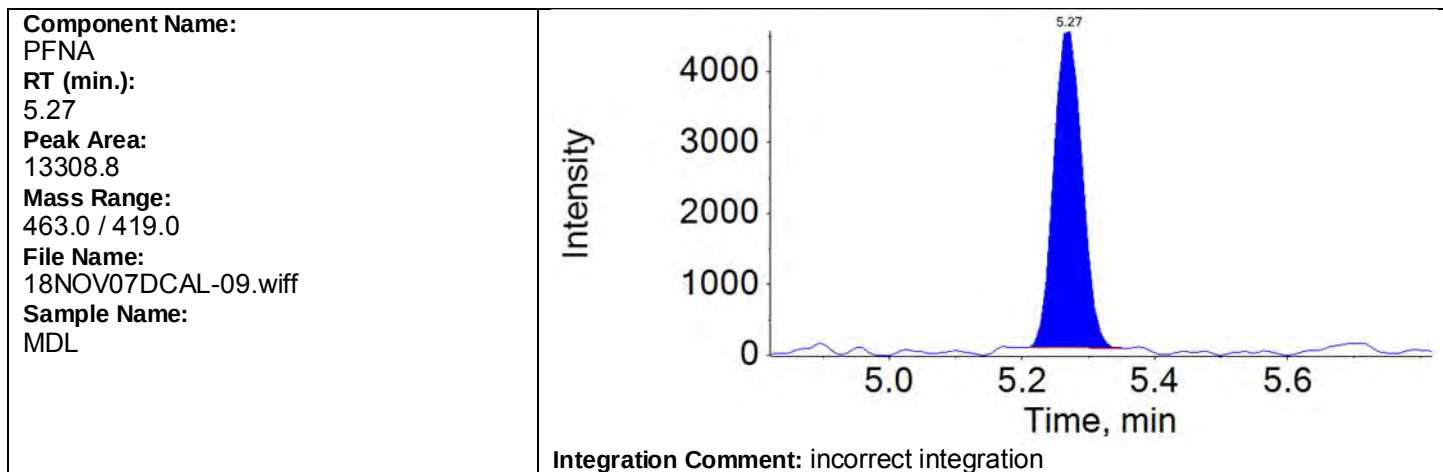
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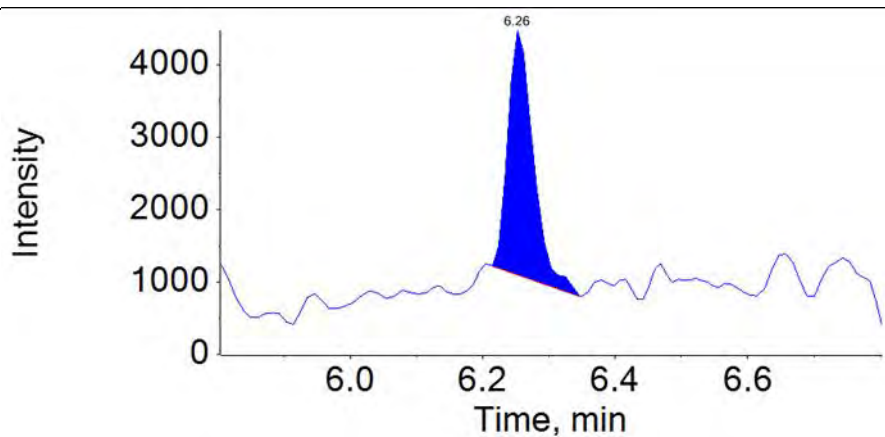
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Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

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Peak Area:
8999.3
Mass Range:
663.0 / 619.0
File Name:
18NOV07DCAL-09.wiff
Sample Name:
MDL



Integration Comment: incorrect integration

Results Table Name: 18NOV07DCAL
Results Table Date: 11/7/2018 2:18:30 PM

Acquisition Method: 18AUG13_3uL.dam
QMethod File: MQ4-18AUG13

APPROVED
By JPT at 2:54 pm, 11/7/18

REVIEWED
By umar at 5:24 pm, 11/9/18