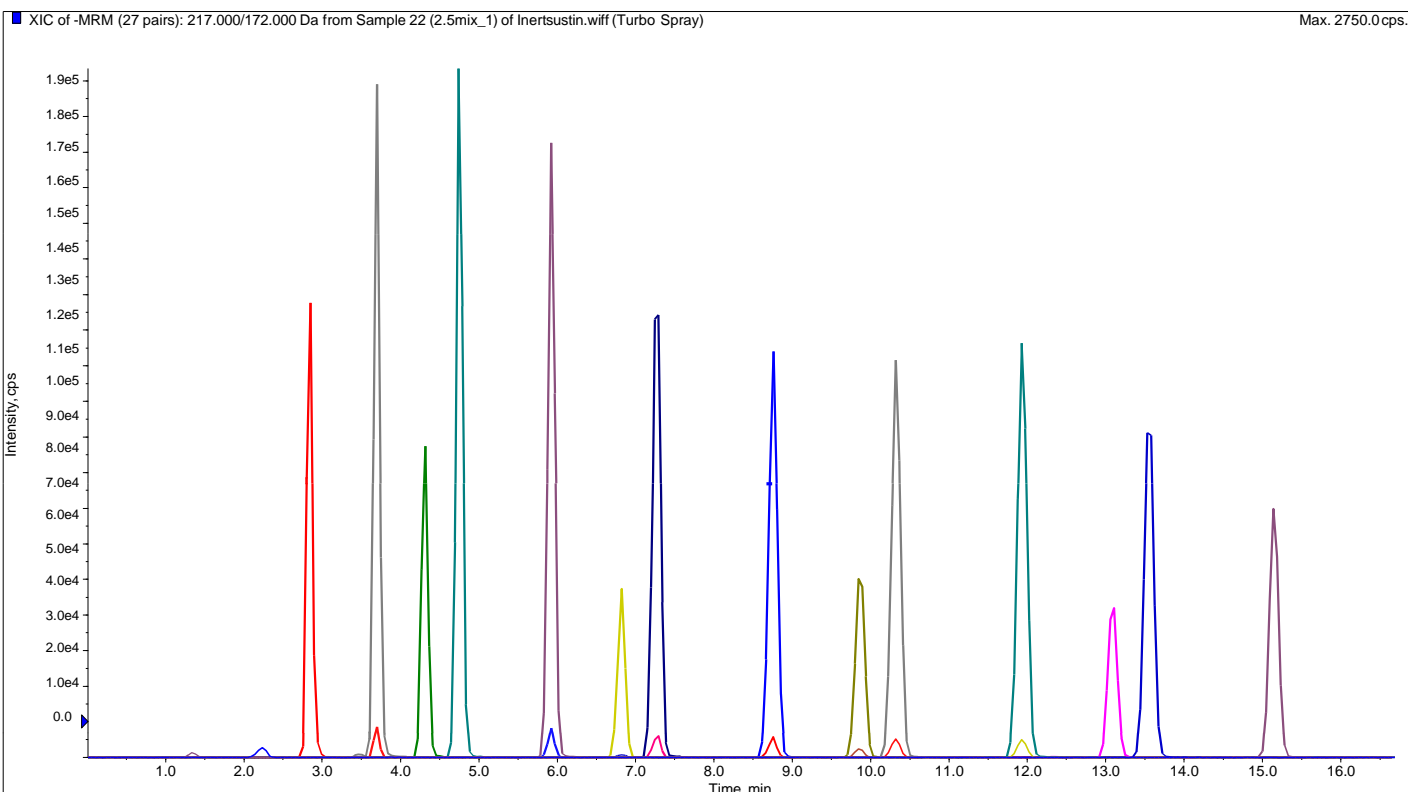


Simultaneous Analysis of Organic Fluorine Compounds Using LC/MS/MS

As represented by perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), organic fluorine compounds are a type of environmental pollutant. These compounds are detected not only in tap water but also in blood of wild animals due to their exceptional stability in the environment. However, their accurate determination has been difficult because these compounds are also eluted from some parts of chromatograph, such as tubing made of PTFE.

In this note, chromatograms obtained with an InertSustain C18 column are shown. Peak shape was excellent for each compound. As for LC800 system, which was used in this note, it is easy to replace PTFE tubing for one made of another material.



PFBS	-	299/80	4.3
PFHxS	-	399/80	
6.8 PFHxS 13C	-	403/103	
6.8 PFOS	-	499/80	9.9
PFOS 13C	-	503/80	9.9
PFDS	-	599/80	13.1
PFBA	-	213/169	2.2
PFBA 13C	-	217/172	2.2
PFPeA	-	263/219	2.8
PFHxA	-	313/269	
3.7 PFHxA 13C	-	315/270	
3.7 PFHpA	-	363/319	4.8

HPLC Conditions;

System :LC800

Column: InertSustain C18 (3 μm, 150 x 2.1 mm I.D.)

Eluent : A) 10 mM Ammonium acetate

B) CH₃CN

A / B = 60 / 40 — 3 min — 50 / 50 — 22 min — 0 / 100

— 5 min — 0 / 100 (Equilibration for 15 min), v/v

Flow rate

: 0.2 mL/min

Column Temp.

: 40 °C

Detection

: LC/MS/MS (4000Q TRAP® : ESI, Nega, MRM)

Injection Vol.

:10 μL

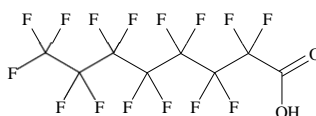
* Contact us for more detailed analytical conditions.

PFOA	-	413/369	5.9
PFOA 13C	-	417/372	5.9
PFNA	-	463/419	
7.3 PFNA	-	468/423	
7.3 PFDA	-	513/469	8.8
PFDA	-	515/470	8.7
PFuDA	-	563/519	10.3
PFuDA 13C	-	565/520	10.3

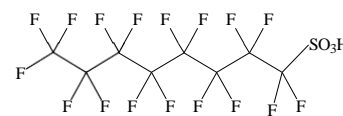
PFdDA	-	613/569	11.9
PFdDA 13C	-	615/570	11.9
PFTeDA	-	663/619	13.6
PFTeDA	-	713/669	15.1

Chemical structures

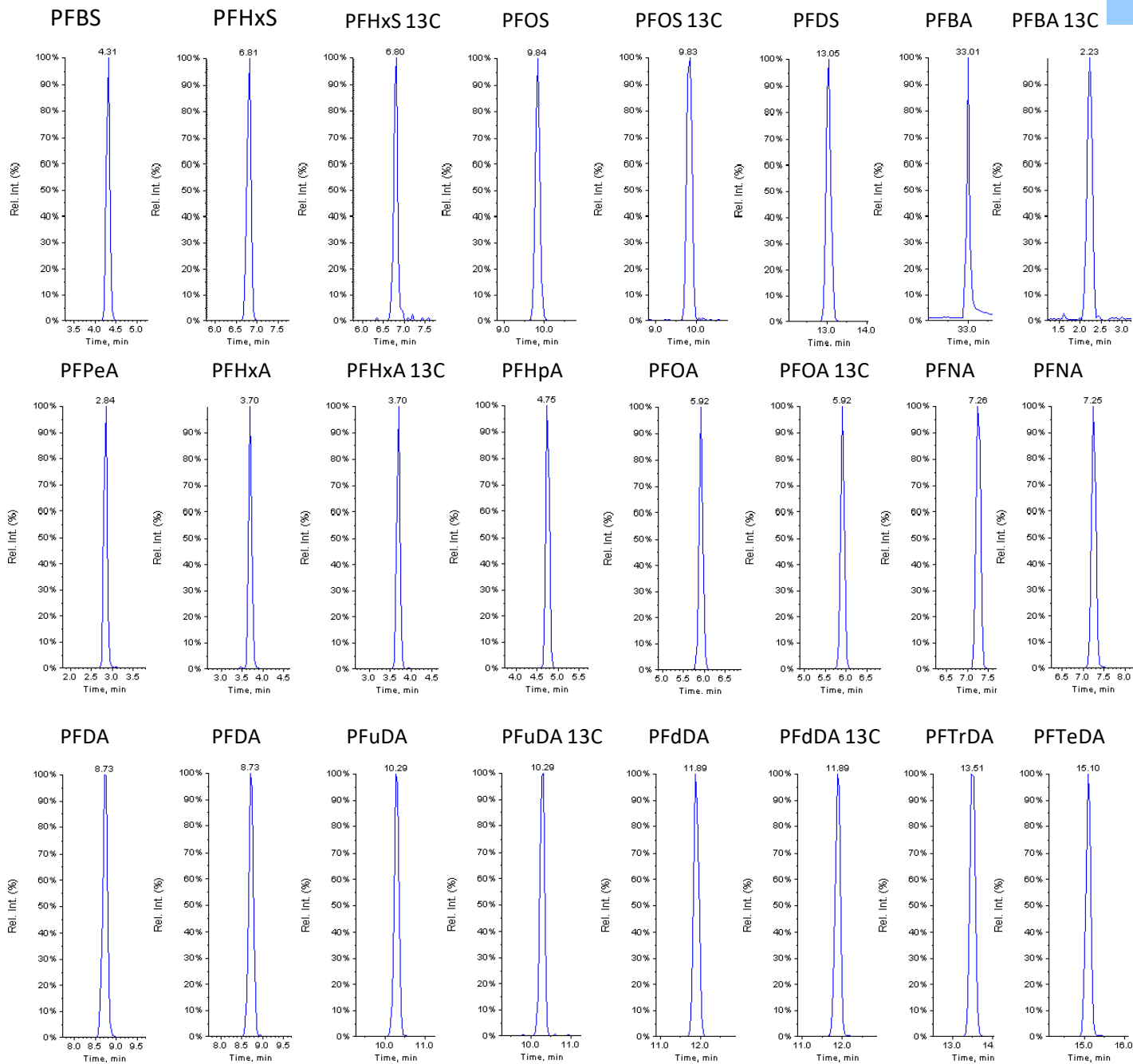
PFOA



PFOS



Structures are created using Chemistry 4-D Draw which is provided by ChemInnovation Software, Inc.



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GL Sciences, Inc. Japan

22-1 Nishishinjuku 6-Chome
Shinjuku-ku, Tokyo,
163-1130, Japan
Phone: +81-3-5323-6620
Fax: +81-3-5323-6621
Email: world@glsc.co.jp
Web: www.glsciences.com

GL Sciences B.V.

De Sleutel 9
5652 AS Eindhoven
The Netherlands
Phone: +31 (0)40 254 95 31
Email: info@glsciences.eu
Web: www.glsciences.eu

GL Sciences (ShangHai) Ltd.

Tower B, Room 2003,
Far East International Plaza,
NO,317 Xianxia Road,
Changning District.
Shanghai, China P.C. 200032
Phone: +86 (0)21-6278-2272
Email: contact@glsciences.com.cn
Web: www.glsciences.com.cn

GL Sciences, Inc. USA

4733 Torrance Blvd. Suite 255
Torrance, CA 90503
Phone: 310-265-4424
Fax: 310-265-4425
Email: info@glsciencesinc.com
Web: www.glsciencesinc.com

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