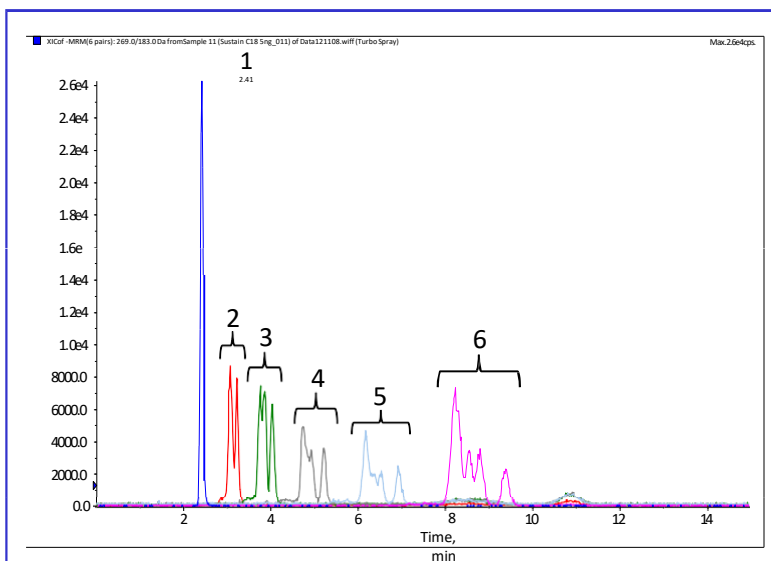


In Japan, a draft of analytical method for linear alkylbenzene sulfonate (LAS) and their salts was released for public comments by Ministry of the Environment. In the draft, enrichment by solid-phase extraction (SPE) and determination using LC/MS/MS are described.

In this note, InertSustain C18 was used as an HPLC column for the analysis. As a result, good reproducibility and linearity of the calibration curve were shown.

(M. Takahashi)

A Chromatogram Obtained from Standard Solution



Conditions

Column : InertSustain C18 (3 μ m, 150 \times 2.1 mm I.D.)

Eluent : A) CH₃CN

B) 0.1 % HCOOH, 50 mM HCOONH₄ in H₂O

A/B = 65/35, v/v

Flow rate : 0.2 mL/min

Col. Temp. : 40°C

Detection : LC/MS/MS

(4000 Q TRAP® : ESI, Negative, MRM)

CUR	CAD	IS	TEM	GS1	GS2
10	4	-4500	600	70	40

Inj. Vol. : 5 μ L

Analyte:

- | | |
|---|---------|
| 1. Sodium Octylbenzenesulfonate(C8) (IS) | Q1/Q3 |
| 2. Sodium Decylbenzenesulfonate(C10) | 269/183 |
| 3. Sodium Undecylbenzenesulfonate(C11) | 297/183 |
| 4. Sodium Dodecylbenzenesulfonate(C12) | 311/183 |
| 5. Sodium Tridecylbenzenesulfonate(C13) | 325/183 |
| 6. Sodium Tetradecylbenzenesulfonate(C14) | 339/183 |

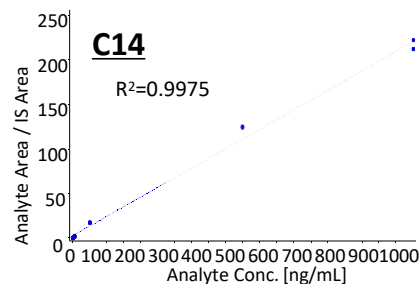
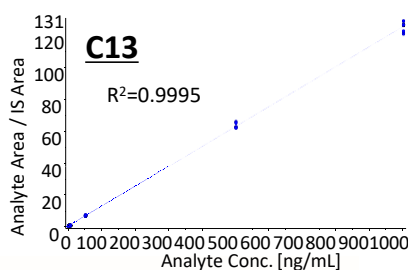
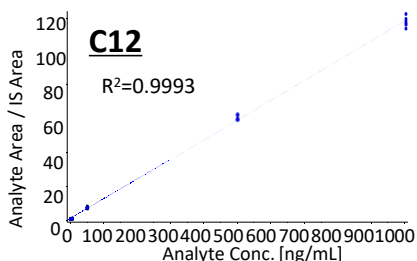
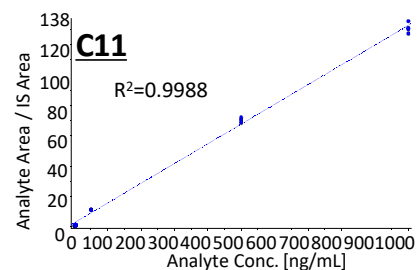
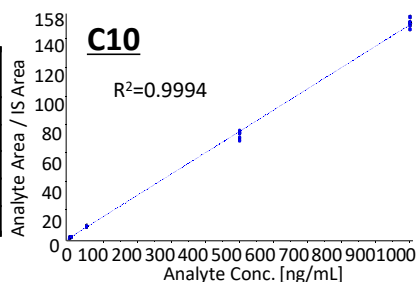
(in CH₃CN/H₂O=65/35 each 5 μ g/L)

HPLC column

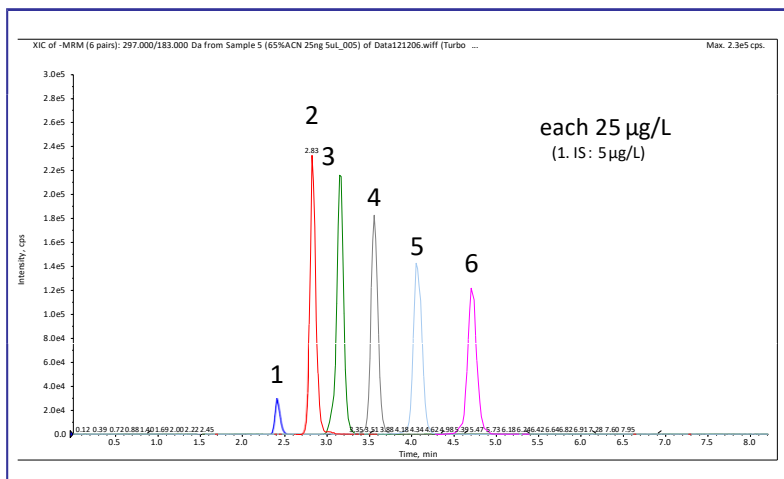
InertSustain C18
(3 μ m, 150 \times 2.1 mm I.D.)
Cat.No. 5020-07415

Calibration Curves

	Regression equation	Correlation coefficient	RSD, % (50 ng/mL, n=5, Area)
C10LAS	y=0.15x-0.0284	0.9994	12
C11LAS	y=0.13x+2.31	0.9988	14
C12LAS	y=0.117x+1.07	0.9993	27
C13LAS	y=0.125x+0.672	0.9995	27
C14LAS	y=0.218x+2.56	0.9975	20



Another Choice: C8 Column



Isomers of each linear alkylbenzene sulfonate are separated to some extent when standard C18 column is used. A chromatogram shown left was obtained by using less retentive C8 column. Each compound was eluted as a single peak because of relatively weak hydrophobic interaction, and peak area can be calculated more easily.

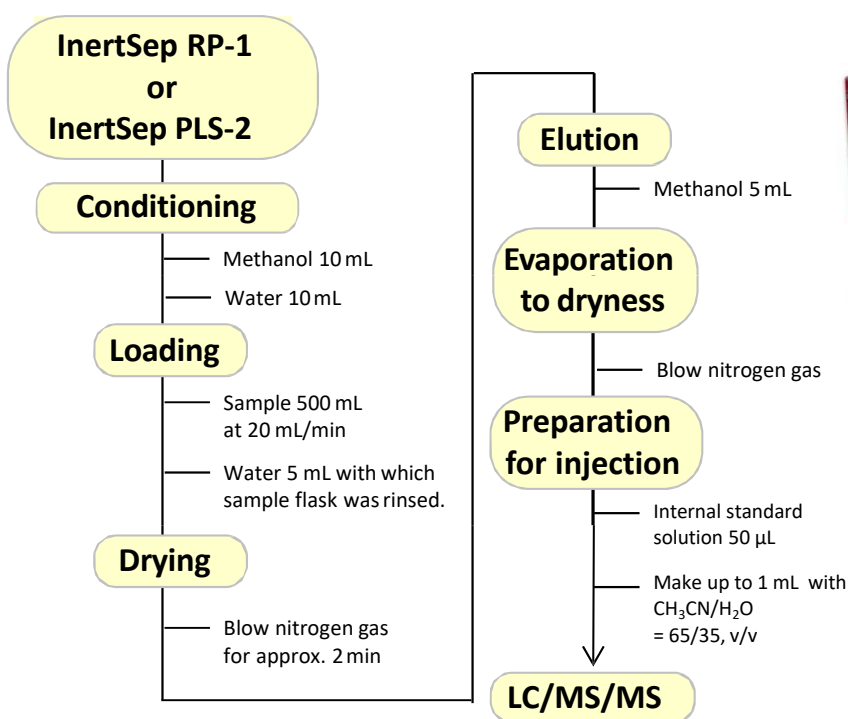
Conditions

Column : Inertsil C8-4 (3 µm, 150 × 2.1 mm I.D.)

Cat.No. : 5020- 03975

Others are the same as described in the previous page.

Example of Sample Pretreatment using SPE



SPE cartridge :
InertSep RP-1, InertSep PLS-2



"SlimJ" has top and bottom luer fittings.

InertSep SlimJ RP-1 230mg 50 pk

Cat. No. 5010-65730

InertSep RP-1 250mg/6mL 30 pk

Cat. No. 5010-27000

InertSep SlimJ PLS-2 265mg 50 pk

Cat. No. 5010-65721

InertSep PLS-2 265mg/6mL 50 pk

Cat. No. 5010-27430

GL Sciences disclaims any and all responsibility for any injury or damage which may be caused by this data directly or indirectly. We reserve the right to amend this information or data at any time and without any prior announcement.

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

International Distributors

Visit our Website at:
<https://www.glsciences.com/company/distributor.html>

