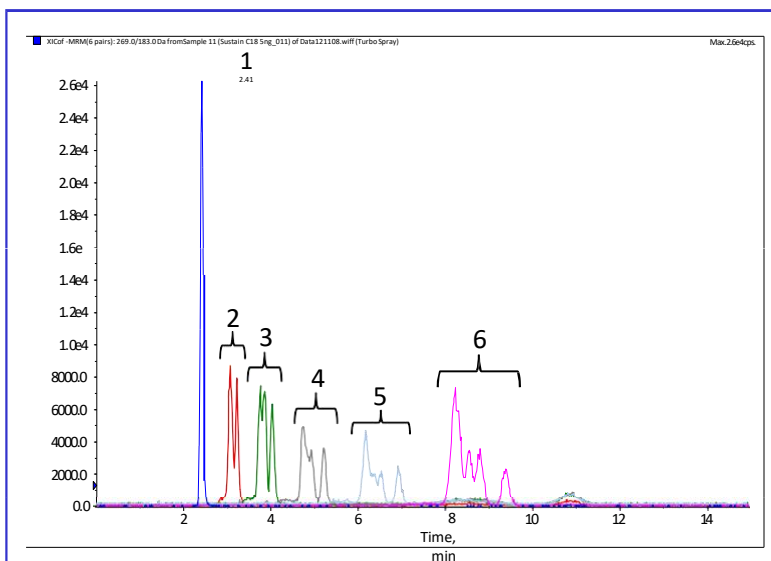


In Japan, a draft of analytical method for linear alkylbenzene sulfonate (LAS) and their salts was released for public comments by Ministry of the Environment. In the draft, enrichment by solid-phase extraction (SPE) and determination using LC/MS/MS are described.

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  $\mu$ m, 150  $\times$  2.1 mm I.D.)

**Eluent** : A) CH<sub>3</sub>CN

B) 0.1 % HCOOH, 50 mM HCOONH<sub>4</sub> in H<sub>2</sub>O

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  $\mu$ 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 |

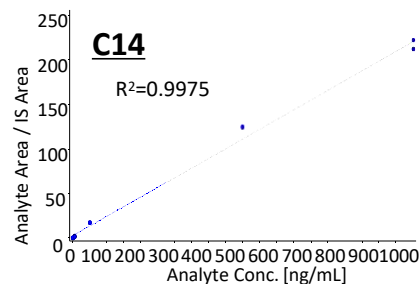
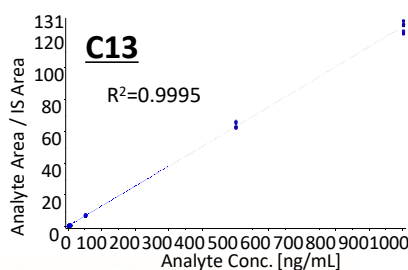
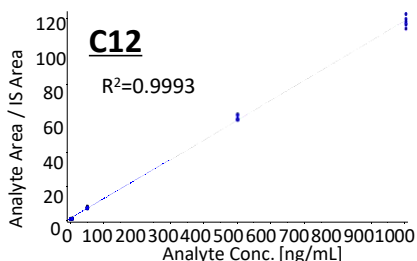
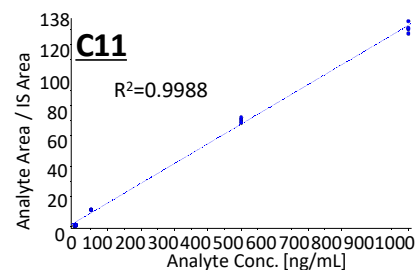
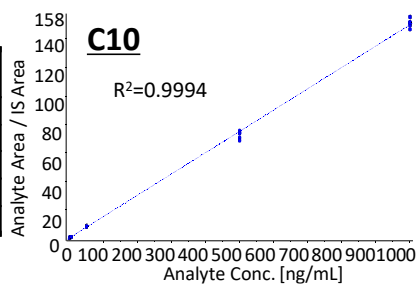
(in CH<sub>3</sub>CN/H<sub>2</sub>O=65/35 each 5  $\mu$ g/L)

### HPLC column

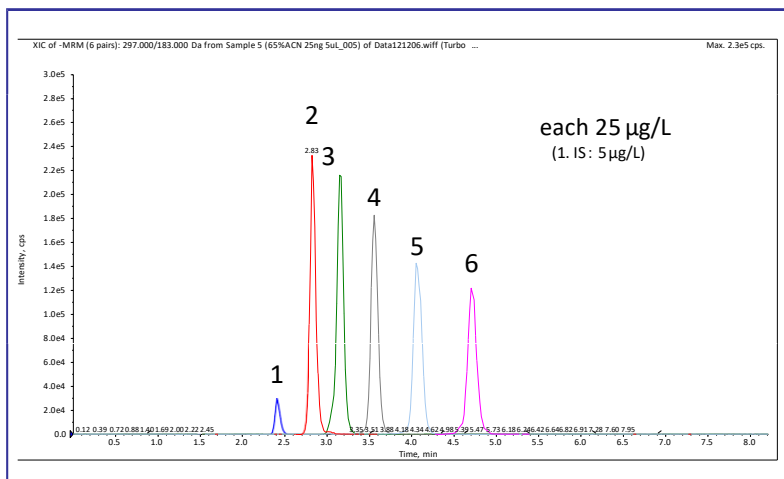
InertSustain C18  
(3  $\mu$ m, 150  $\times$  2.1 mm I.D.)  
Cat.No. 5020-07415

### 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.

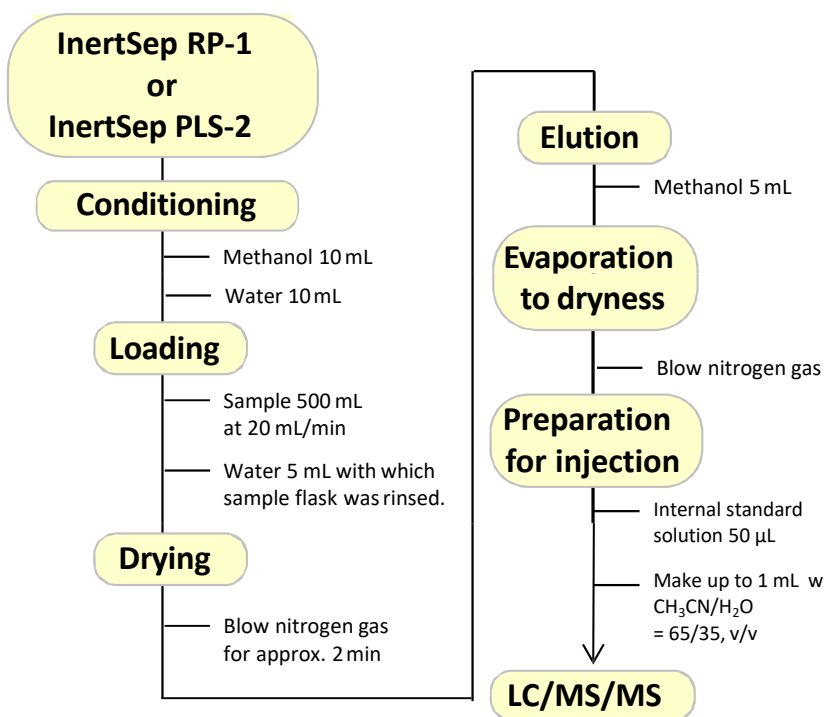
### Conditions

**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

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