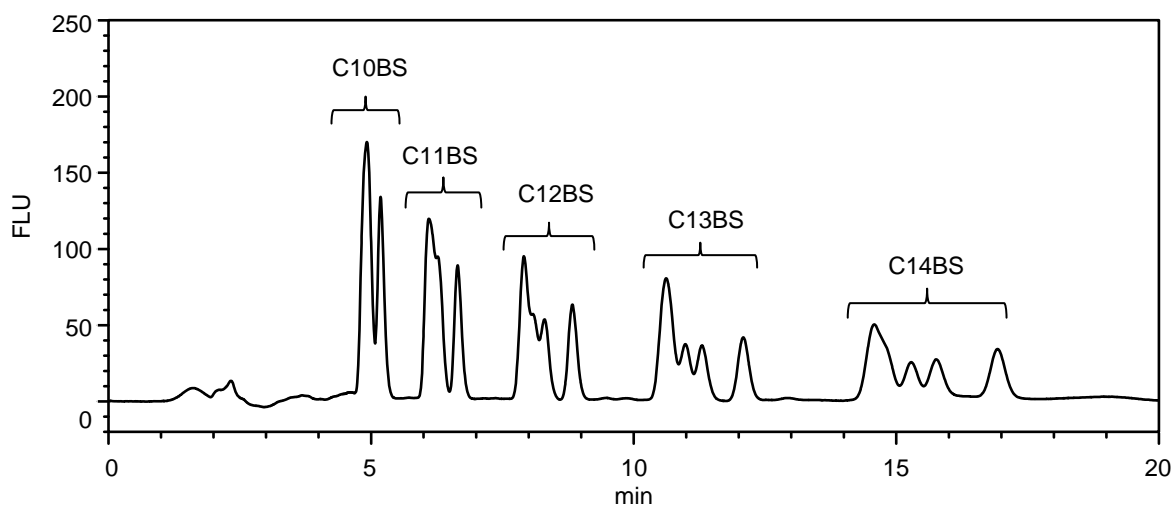


Analysis of Anionic Surfactants

Anionic surfactants were analyzed in accordance with the test method specified by the water quality standard. The test method is described in Appendix 24 of the notice "Solid Phase Extraction-HPLC Method" and the standard value for 5 anionic surfactants is specified as a total of 0.2 mg/L (0.04 mg/L each). An example of the analysis for anionic surfactants at the concentration equivalent to 1/10 of the standard value (each component at 1 mg/L after 250 times concentration in the preparation) is introduced here. Depending on the sample, toluene used in the preparation may overlap with the component of the anionic surfactants and the assay may be affected. However, toluene is eluted between C12 and C13 under this condition and the separation from the anionic surfactants is possible.



C10BS : Sodium Decylbenzenesulfonate
 C11BS : Sodium Undecylbenzenesulfonate
 C12BS : Sodium Dodecylbenzenesulfonate

C13BS : Sodium Tridecylbenzenesulfonate
 C14BS : Sodium Tetradecylbenzenesulfonate

SAMPLE	20 μ L of Std. Soln. (1 mg/L)	PRESSURE	
PACKING MATERIAL	Hitachi-Inertsil ODS-3 (3 μ m)	TEMPERATURE	40°C
COLUMN SIZE	4.6 mm I.D. \times 150 mm (P/N : 890-5920)	SEPARATION METHOD	Partition·Adsorption
ELUENT	0.1 mol/L Sodium perchlorate CH ₃ CN (acetonitrile) : H ₂ O = 65 : 35 (v/v)	DETECTOR	FL Ex 221 nm, Em 284 nm
		INSTRUMENTS	Chromaster 5110 (Pump), Chromaster 5210 (Autosampler), Chromaster 5310 (Column Oven), Chromaster 5440 (Fluorescence Detector)
FLOW RATE	0.6 mL/min		
NOTE	Standard stock solution: Mixed standard of anionic surfactants (methanol solution containing each surfactant at 1 mg/mL)* (*Wako Pure Chemical Industries, Code No. 013-20131) Standard solutions: Diluted with methanol to have the concentrations of 0.04, 0.1, 0.4, 1, 2, and 10 mg/L.		
KEY WORDS	Environmental Analysis Related, Environmental Water, Sewage, Environmental Chemistry, Environment, Water Quality, Water Quality Standard, Surfactant, Fluorometry, Anionic Surfactant, Chromaster, Partition/Adsorption		High Performance Liquid Chromatograph (HPLC)
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