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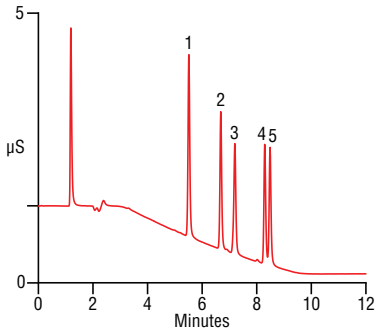
Quaternary Surfactants on a Thermo Scientific™ Acclaim™ Surfactant Column with Suppressed Conductivity Detection



Column: Thermo Scientific™ Acclaim™ Surfactant 5 µm, 4.6 × 150 mm
Pump: Thermo Scientific™ Dionex™ ICS-3000 DP
Mobile Phases: (A) Water
(B) 100 mM formic acid
(C) 70:30 acetonitrile:water (v/v)
Flow: 1.0 mL/min

Gradient Times:

	–5	0	7	12
%A	65	65	30	30
%B	15	15	15	15
%C	20	20	55	55

Temperature: Dionex ICS-3000 DC at 30 °C
Injection: Dionex ICS-3000 AS autosampler; 15 µL
Detector: Suppressed conductivity
Suppressor: Thermo Scientific™ Dionex™ CSRS™ ULTRA II 4 mm, external water mode, 1.0 mL/min, 44 mA

Peaks: (100 µg/mL each)
1. Dodecylpyridinium chloride
2. Dodecyl-benzyl-dimethylammonium chloride
3. (Octylphenoxy)ethoxyethyl-benzyl-dimethylammonium chloride
4. Hexadecyl-trimethylammonium bromide
5. Hexadecylpyridinium chloride

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Quaternary surfactants are used as microbiocides and preservatives in a wide variety of applications, from industrial to pharmaceutical. Ordinary HPLC columns don't cleanly resolve these compounds, producing peaks with severe tailing. The Acclaim Surfactant column resolves this class of surfactants well, with good peak shapes. Suppressed conductivity can detect as little as 15 ng of surfactant, even for substances with weak UV absorbtion.