Application Report 45

Resolution of Acrylic Acid Derivatives on Discovery Zr-Carbon

Acrylic acid and various derivatives thereof are weakly retained, if at all, on traditional reversed-phase chromatographic matrices. Polar compounds such as these can be successfully chromatographed on Discovery Zr-Carbon.

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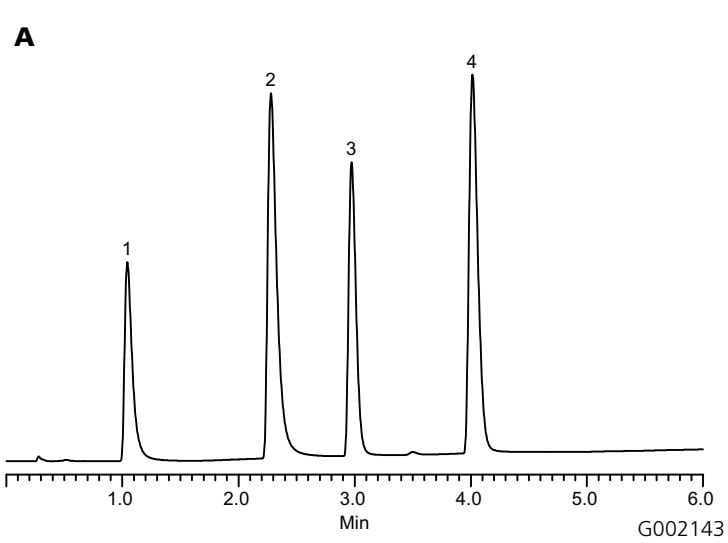
Raw Data File Names: \\Suplab\User\Public\Applications Group\Application Reports\acrylate_derivatives

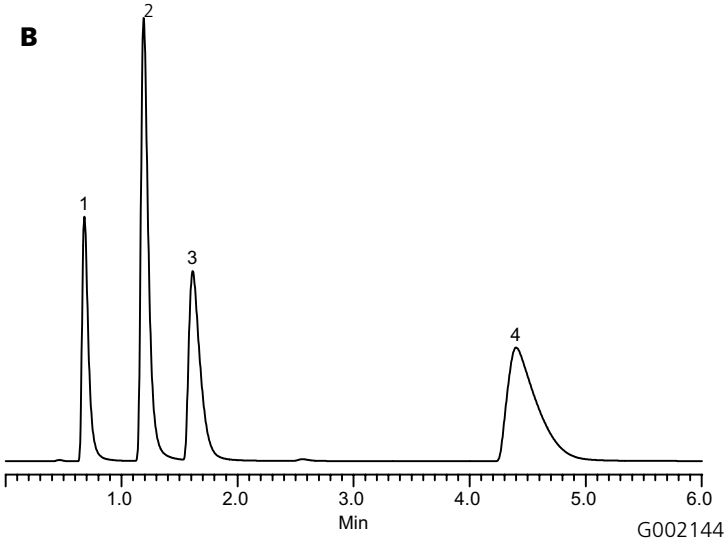
Acquisition System: Shimadzu LC-10Ai low-pressure-mixing system

Notebook Reference: 1465

Key Words

acrylic acid, acrylate, 79-10-7, 147230; methacrylic acid, methacrylate, 2-methacrylic acid, 2-methylpropenoic acid, 79-41-4, 155721; sulfopropylacrylate potassium salt, 3-sulfopropylacrylate potassium salt, 3-sulfopropylacrylic acid potassium salt, 31098-20-1, 251631; sulfopropylmethacrylate potassium salt, sulfopropylmethacrylic acid potassium salt, 3-sulfopropylmethacrylate potassium salt, 3-sulfopropylmethacrylic acid potassium salt, 31098-21-2, 251658, Discovery Zr-Carbon, Discovery Zr, 65726-U





Conditions

Column: Discovery Zr-Carbon, 7.5cm x 2.1mm ID, 3µm
Cat. No.: 65726-U
Flow Rate: 0.42mL/min
Temp.: 50°C
Det.: UV at 210nm (200nm will enhance sensitivity ~2x)
Inj.: 1µL
Sample: Acrylate @ 0.05g/L, Methacrylate @ 0.05g/L, Sulfopropylacrylate @ 0.02g/L, Sulfopropylmethacrylate @ 0.02g/L in 30mM H_3PO_4, pH 1.9

Method for Chromatogram A:

Mobile Phase A: 30mM H_3PO_4, pH 1.9
Mobile Phase B: CH_3CN
Gradient:

Min	%A	%B
0	100	0
5	80	20

Method for Chromatogram B:

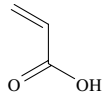
Mobile Phase: 95:5, (30mM H_3PO_4, pH 1.9) : CH_3CN

Peak IDs

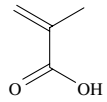
1. Acrylate
2. Methacrylate
3. Sulfopropylacrylate
4. Sulfopropylmethacrylate

Structures

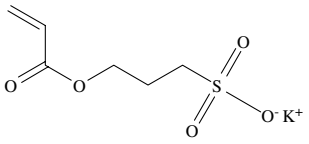
Acrylate - G002148



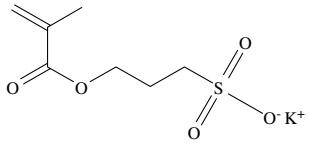
Methacrylate - G002147



Sulfopropylacrylate - G002146



Sulfopropylmethacrylate - G002145



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