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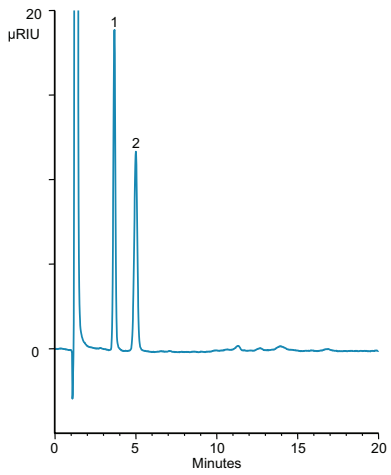
Sugars in Honey Using Accucore 150-Amide-HILIC



Column:	Thermo Scientific™ Accucore™ 150-Amide-HILIC, 2.6 µm
Dimensions:	4.6 × 100 mm
System:	Thermo Scientific™ Dionex™ UltiMate™ 3000
Mobile Phase:	Acetonitrile:water 85:15 (v/v) + 10 mM sodium perchlorate
Flow:	1.00 mL/min
Temperature:	50 °C
Injection:	5 µL
Detector:	Refractive Index
Sample:	Honey, 10 mg/mL in water, filtered
Peaks:	1. Fructose 2. Glucose

PB20799_E 05/13S

Honey is the original sweetening agent known from ancient times. The Accucore 150-Amide-HILIC column is based on advanced superficially porous silica particles that was covalently modified with polyacrylamide polymer. As the result, it provides high efficiency and excellent interactions for highly polar analytes. Shown here is the analysis of a honey sample under an isocratic condition. As revealed here, the sugars in honey are mainly fructose and glucose, with a scattering of complex saccharides. Glucose and fructose have internal hemi-acetal linkages that exists in solution as a mixture of isomeric forms in slow equilibrium. This causes peak broadening, so the column is operated at 50 °C to raise the rate of interconversion and so reduce the broadening effect. For measuring the main components, the refractive index detector is convenient.