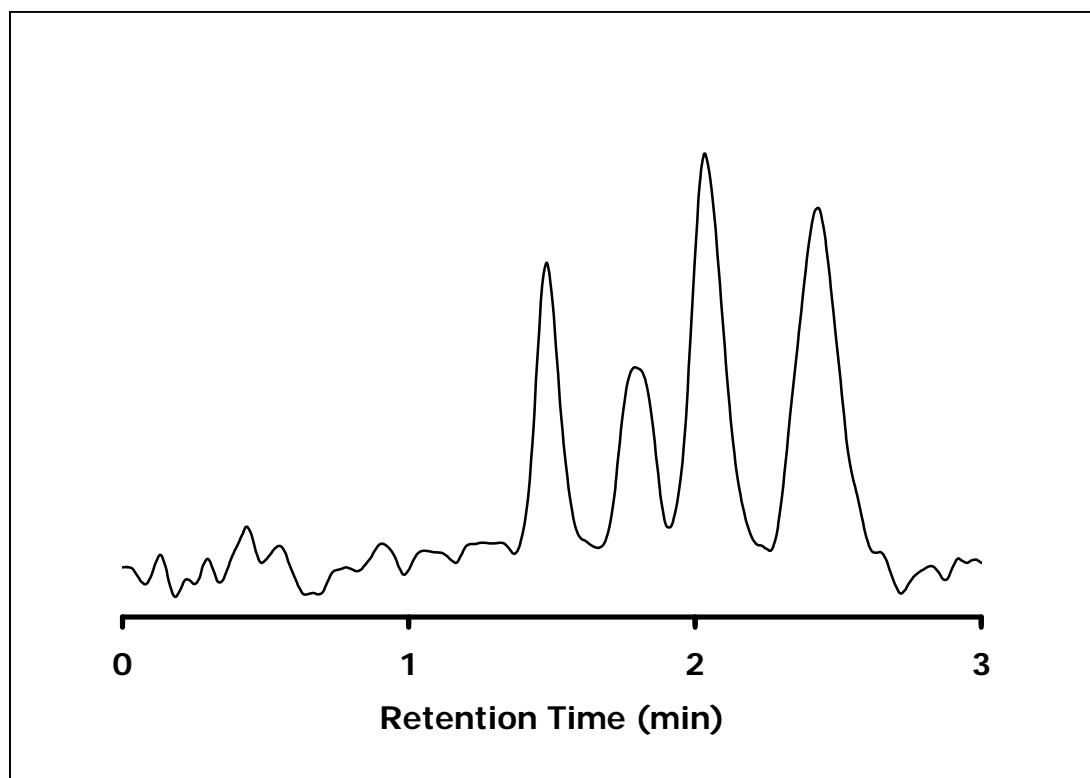


ZIC®-HILIC Separation of Fructose, Glucose, Sucrose and Lactose

Chromatographic Conditions

Column: ZIC®-pHILIC, PEEK 100 x 2.1 mm, 5 µm (P/N 1.50462.0001)
 Injection: 2 µL of a solution containing 0.5 ppm of each analyte in mobile phase
 Detection: Shimadzu LC-2010 Evolution, Detector voltage: 1.6 kV
 Heat block temp: 200 °C; CDL temp: 200 °C; Scan range: m/z 150-450;
 SIM mode: m/z 159.0 (Lac), 177.2 (fru and Glu) and 341.2 (Suc)
 Flow Rate: 0.35 mL/min
 Mobile Phase (v/v): A: 100%, Acetonitrile
 B: 100% Ammonium Hydroxide 1% (257 mM)
 Gradient: Initial composition: 73% B and 27% A. Linear gradient from 0-3 min
 with 4.33 % increase of A/min, followed with 4 min reequilibration
 Temperature: 55 °C
 Pressure Drop: 6.5 MPa (936 psi)



Chromatographic Data

| No. | Compound | Time (min) | Retention factor* | Asymmetry |
|-----|-----------------------|------------|-------------------|-----------|
| 1 | void volume (t_0) | 0,4 | - | - |
| 2 | Fructose | 1,5 | 2,4 | 1,1 |
| 3 | Glucose | 1,8 | 3,1 | 1,1 |
| 4 | Sucrose | 2,0 | 3,7 | 1,2 |
| 5 | Lactose | 2,4 | 4,6 | 1,1 |

All saccharides produced linear calibration curves with $R^2 > 0.997$ in the range 0,5-10 ppm
 The limit of detection (LOD) for all four saccharides were better than 0.5 ppm