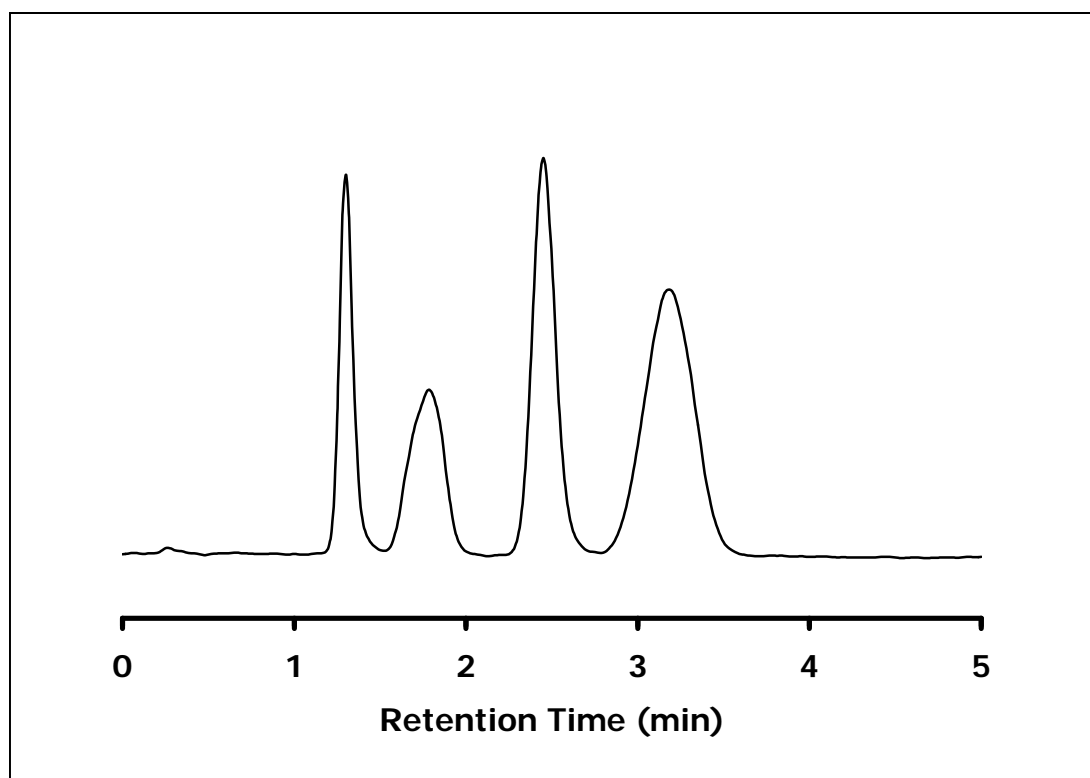


ZIC®-HILIC Separation of Fructose, Glucose, Sucrose and Lactose

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 25 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: 0.6 mL/min
 Mobile Phase (v/v): 80%, Acetonitrile
 20%, Ammonium Hydroxide 1% (257 mM)
 $I_{\text{tot}} = 51 \text{ mM}$ or 0.2 %
 Temperature: 55 °C
 Pressure Drop: 5.7 MPa (821 psi)



Chromatographic Data

No.	Compound	Time (min)	Retention factor	Asymmetry
1	void volume (t_0)	0,3	-	-
2	Fructose	1,3	3,9	1,2
3	Glucose	1,8	5,7	0,9
4	Sucrose	2,5	8,2	1,1
5	Lactose	3,2	10,9	1,0

All saccharides produced linear calibration curves with $R^2 > 0.995$ in the range 1-25 ppm

The limit of detection (LOD) for all four saccharides were better than 1 ppm