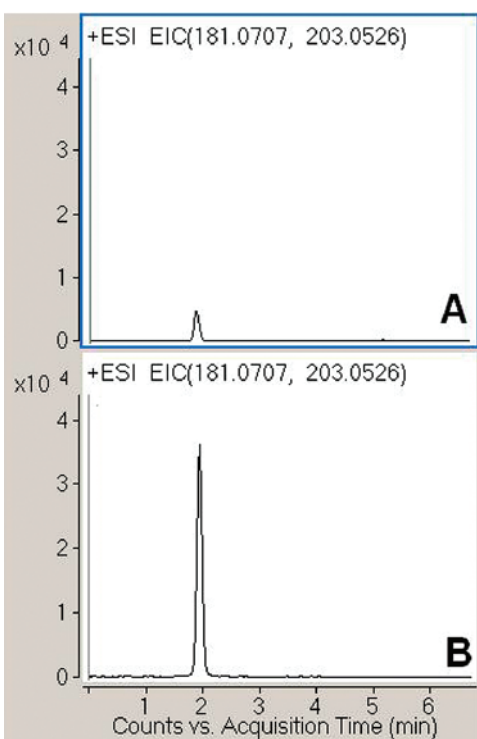
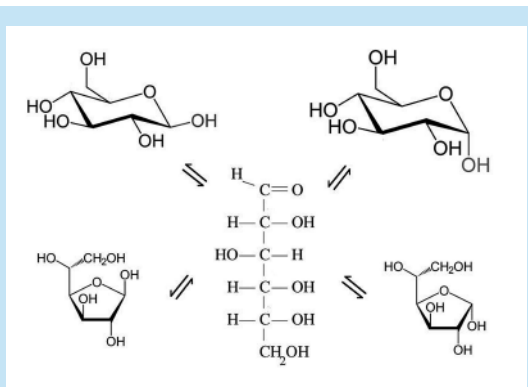


Ionization effect of microM addition of Sodium Acetate Monosaccharide - Glucose retention in the ANP mode



Method Conditions

Column: Cogent Diamond Hydride™ 4µm, 100Å.
Catalog No.: 70000-15P-2
Dimensions: 2.1 x150 mm
Solvents: **In Chromatogram A:**
 A: 80% DI water/20% methanol/0.1% formic acid
 B: 100% acetonitrile+0.2% acetic acid
In Chromatogram B:
 A: 80% DI water/20% methanol/0.1% formic acid/ 100 microM sodium acetate
 B: 100% acetonitrile+0.2% acetic acid
 ATTENTION: Sodium Acetate concentration is in microM.
 Higher concentration is harmful for MS.

Gradient:		Time (min)		%B	
	0.0	100.0	7.0	50.0	
	1.0	100.0	8.0	100.0	
	4.0	50.0			

Post Tme: 5 min.
Flow Rate: 0.600 mL/min
Injection: 1 µL
Samples: Glucose 10 ppm, m/z 203.0526 (M+Na)⁺
Detection: ESI – pos - Agilent 6210 MSD TOF mass spectrometer

Discussion

Glucose, a simple monosaccharide, was analyzed by LC-MS and the peak is very symmetrical and easy to integrate. This application note illustrates the importance of addition of microM amount of sodium to the mobile phase when sugars are analyzed. Sodium adducts of sugars produce much better signal in LC-MS analysis (at least 10 times higher signal for the same sample) – see chromatograms A and B. When glass bottles are used there is enough sodium leaching from the glass that it is possible to find very strong signals for the sodium adduct.

Note: This method may be useful for determination of monosaccharides in blood. Samples used are un-derivatized with detection possible with mass spectrometry. Biological sample preparation is simple, generally focused on the removal of proteins and other high molecular weight components of plasma, urine and saliva.

Cat. No.	Description
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70000-15P-2	Cogent Diamond Hydride™ HPLC Column, 100Å, 4µm, 2.1x150mm
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