Waters™

Application Note

UPLC-MS Analysis of Mono-, Di- and Oligosaccharides Using ACQUITY UPLC BEH Amide Columns

Waters Corporation

This is an Application Brief and does not contain a detailed Experimental section.

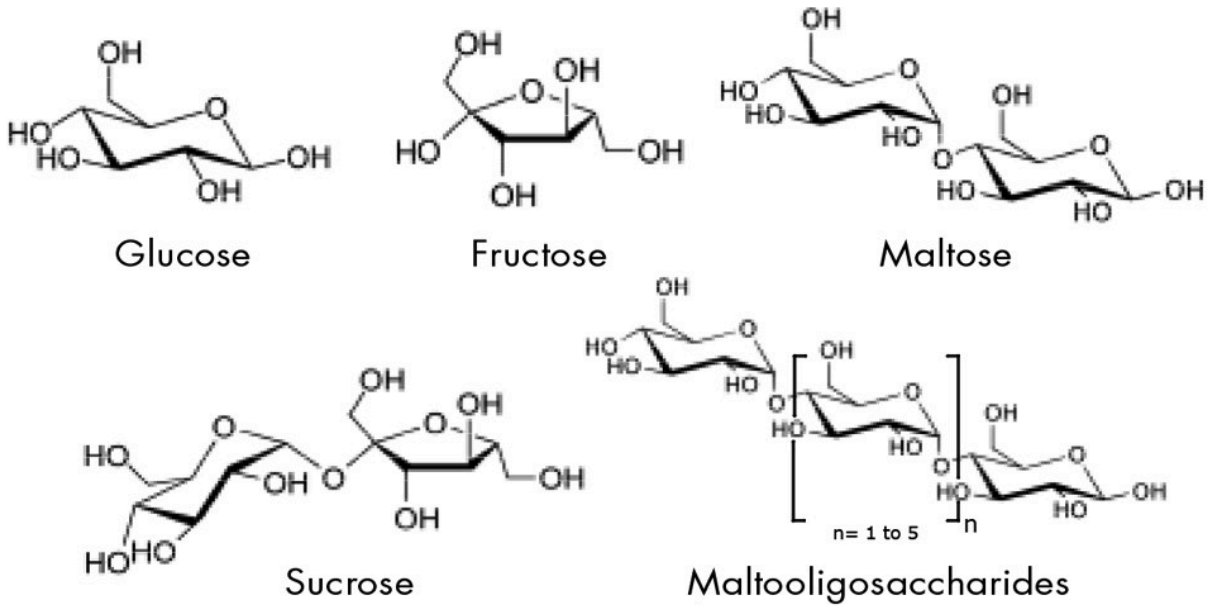
Abstract

This application brief highlights the UPLC-MS analysis of mono-, di-,and oligosaccharides using ACQUITY UPLC BEH Amide Columns.

Introduction

Compounds used for this study includes:

1. Fructose
2. Glucose
3. Sucrose
4. Maltose
5. Maltotriose
6. Maltotetraose
7. Maltopentaose
8. Maltohexahose
9. Maltoheptaose



Experimental

Chromatographic Conditions

Column:	ACQUITY UPLC BEH Amide 2.1 x 50 mm, 1.7 µm
Part Number:	186004800
Mobile Phase A:	80/20 MeCN/H_2O with 0.10%ammonium hydroxide [NH_4OH]
Mobile Phase B:	30/70 acetone/H_2O with 0.10% ammonium hydroxide [NH_4OH]
Flow Rate:	0.17 mL/min
Gradient:	5 minute gradient, 80%-50% MeCN with 10 minute re-equilibration

Injection Volume:	0.7 µL (PLNO)
Sample Concentration:	10 µg/mL each
Sample Diluent:	50/50 MeCN/H_2O
Column Temperature:	35 °C
Strong Needle Wash:	20/80 MeCN/H_2O (800 µL)
Weak Needle Wash:	75/25 MeCN/H_2O (500 µL)
Seal Wash:	50/50 MeCN/H_2O
Instrument:	Waters ACQUITY UPLC with ACQUITY TQD

Gradient:

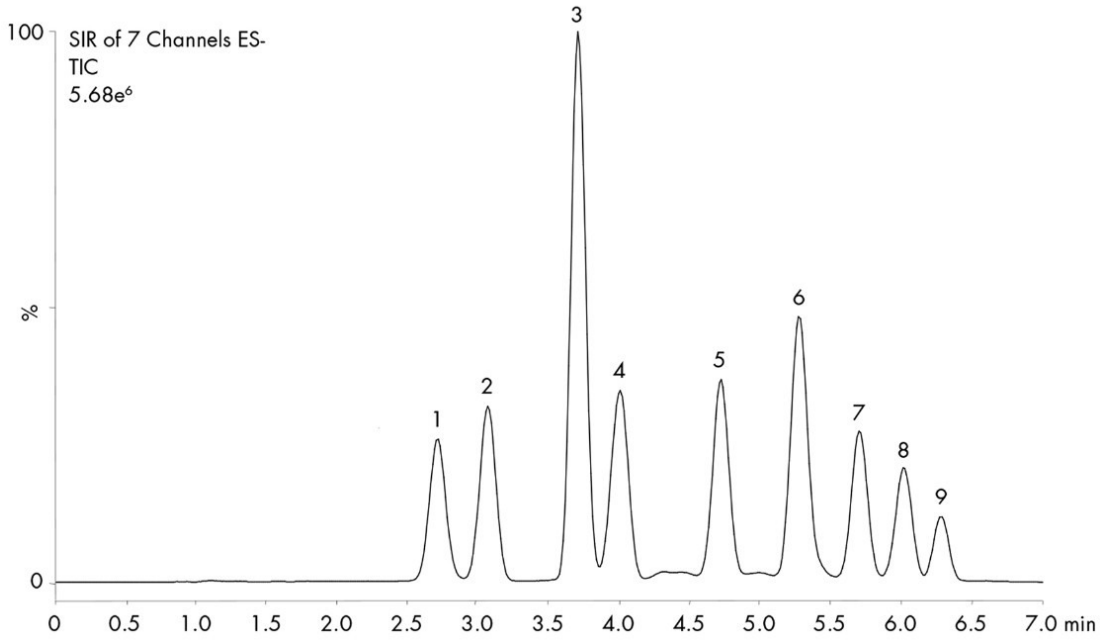
Time (min)	%A	%B
0.00	100.00	0.00
5.00	40.00	60.00
5.01	100.00	0.00
15.00	100.00	0.00

Mass Spectrometer Conditions

Ionization Mode:	ES
Capillary:	2.8 kV
Cone Voltage:	25 V

Source Temperature:	120 °C
Desolvation Temperature:	350 °C
Desolvation Gas Flow:	500 L/Hr
Cone:	50 L/Hr
SIR (*m/z*):	179.2 (fructose, glucose); 341.3 (sucrose, maltose); 503.4, 665.5, 827.6, 989.7, 1151.8 (maltooligosaccharides [n=1 to 5])
Dwell Time:	0.08 s

Results and Discussion



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ACQUITY UPLC System <https://www.waters.com/514207>

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