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

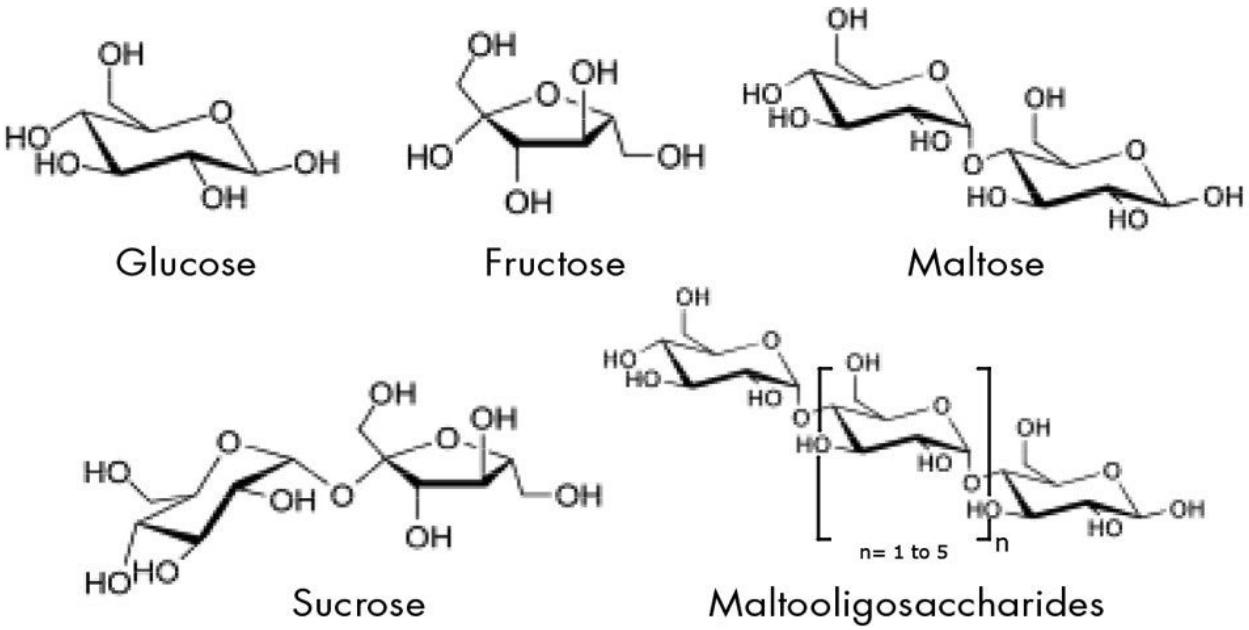
5. Maltotriose

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 MeCN/$H_2O$ 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 |

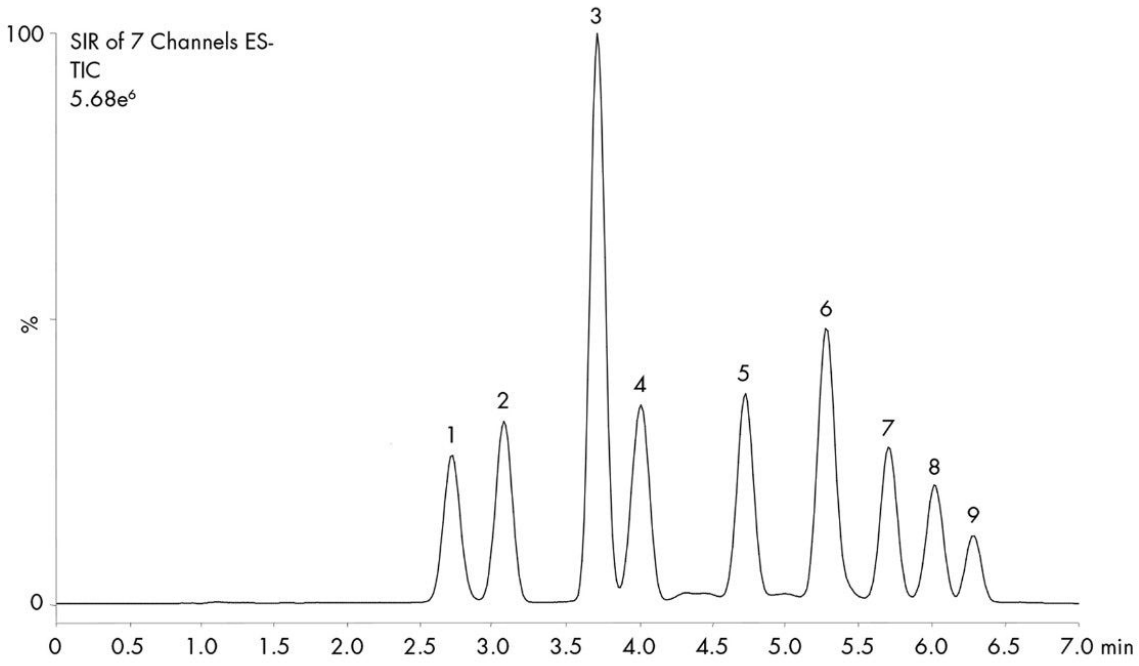
## Gradient:

| 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);<br>341.3 (sucrose, maltose);<br>503.4, 665.5, 827.6, 989.7, 1151.8 (maltooligosaccharides [n=1 to 5]) |
| Dwell time: | 0.08 s |

## Results and Discussion




## Featured Products

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

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