Waters™

アプリケーションノート

UPLC-MS Analysis of Food Sugars Using ACQUITY UPLC BEH Amide Columns with Acetone as Organic Modifier

Waters Corporation

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

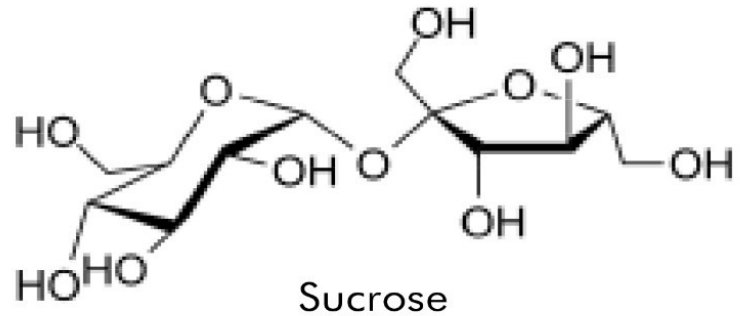
Abstract

This application brief highlights the UPLC-MS analysis of food sugars using ACQUITY UPLC BEH Amide Columns with acetone as organic modifier.

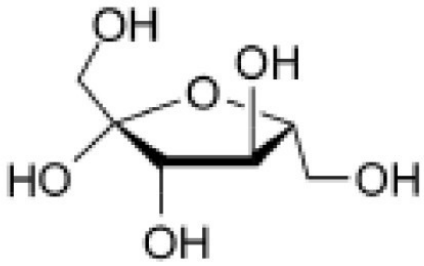
Introduction

Compounds used for this study includes:

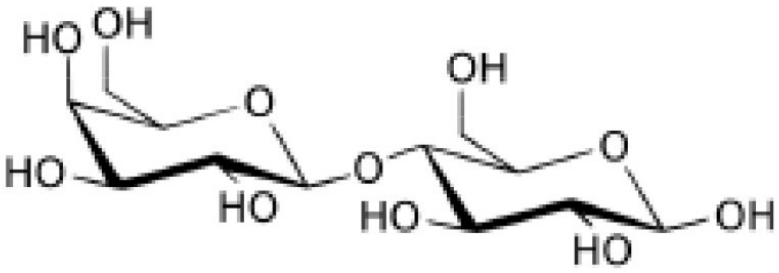
1. Fructose
2. Glucose
3. Sucrose
4. Maltose
5. Lactose



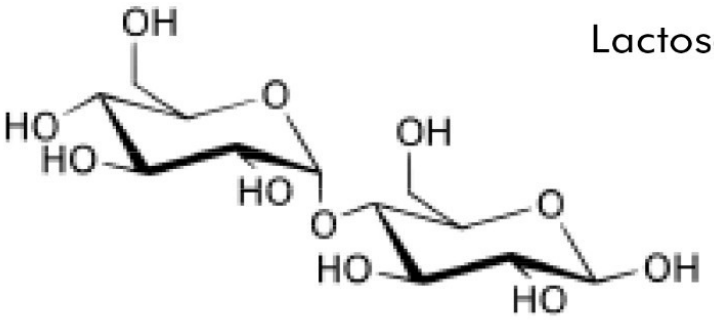
Sucrose



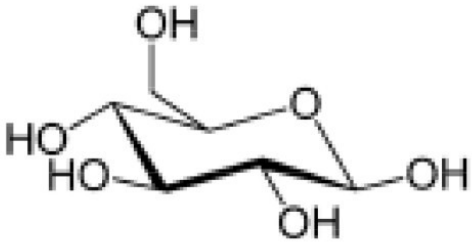
Fructose



Lactose



Maltose



Glucose

Experimental

Chromatographic Conditions

Column:	ACQUITY UPLC BEH Amide 2.1 x 50 mm, 1.7 µm
Part number:	186004800

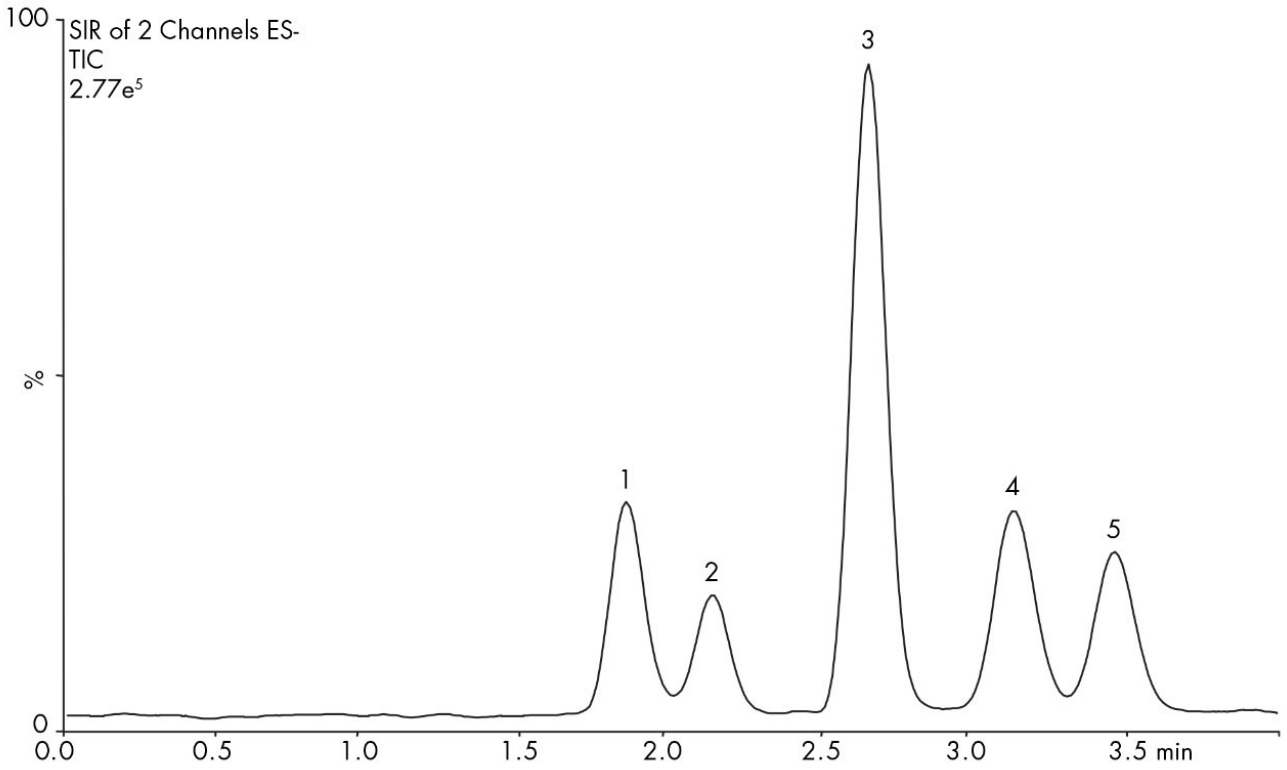
Mobile phase A:	80/20 MeCN/H_2O with 0.05% ammonium hydroxide [NH_4OH]
Mobile phase B:	30/70 acetone/H_2O with 0.05% ammonium hydroxide [NH_4OH]
Flow rate:	0.13 mL/min
Flow profile:	94% A/6% B (77% acetone with 0.05% NH_4OH)
Injection volume:	0.7 µL (PLNO)
Sample concentration:	10 µg/mL each
Sample diluent:	50/50 MeCN/H_2O
Column temperature:	85 °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

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, Lactose)
Dwell time:	0.08 s

Results and Discussion



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