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Analysis of Food Sugars in MILK 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 demonstates analysis of food sugars in milk.

Introduction

Compounds analysed in this application include:

1. p-Toluamide

2. Fructose

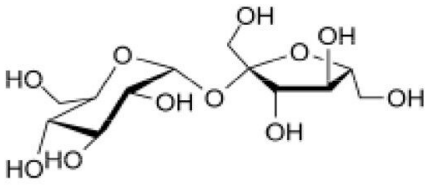
3. Glucose

4. Sucrose

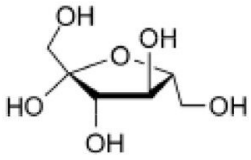
5. Maltose

6. Lactose

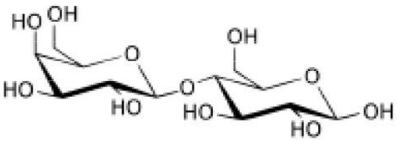
Structures



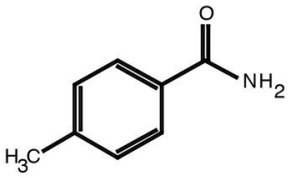
Sucrose



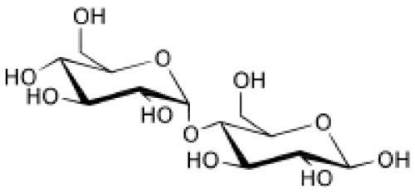
Fructose



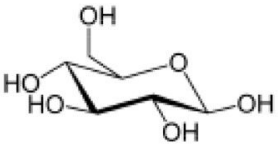
Lactose



p-Toluamide
(unretained compound)



Maltose



Glucose

Experimental

Chromatographic Conditions

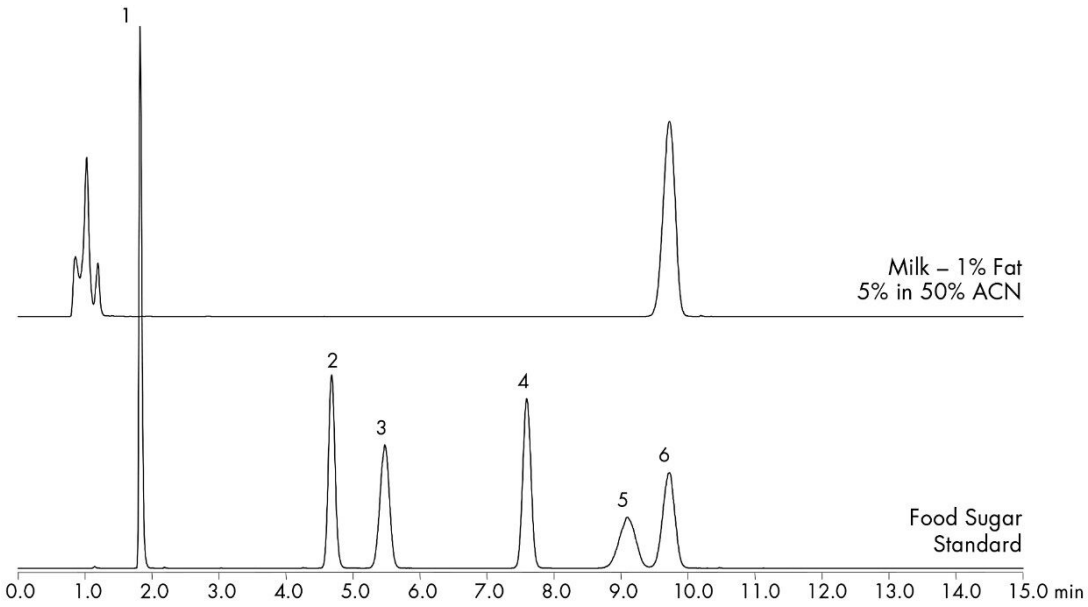
Column:	ACQUITY UPLC BEH Amide 2.1 x 100 mm, 1.7 µm
Part Number:	186004801
Mobile Phase A:	80/20 MeCN/H_2O with 0.2% triethylamine [TEA]
Mobile Phase B:	30/70 MeCN/H_2O with 0.2% triethylamine [TEA]
Flow Rate:	0.13 mL/min

Flow Profile:	90% A/10% B (75% MeCN with 0.2% TEA)
Injection Volume:	1.3 µL (PLNO)
Sample Concentration:	Standards at 1 mg/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 ELSD

ELSD Conditions

Gain:	200
Pressure:	40 psi
Drift Tube Temperature:	40 °C
Nebulizer:	Cooling
Data Rate:	10 pps
Filter Time Constant:	Normal

Results and Discussion



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ACQUITY UPLC ELS Detector <https://www.waters.com/514219>

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