Waters™

Application Note

Analysis of Food Sugars/Saccharides in Beer Using ACQUITY UPLC BEH Amide Columns

Waters Corporation

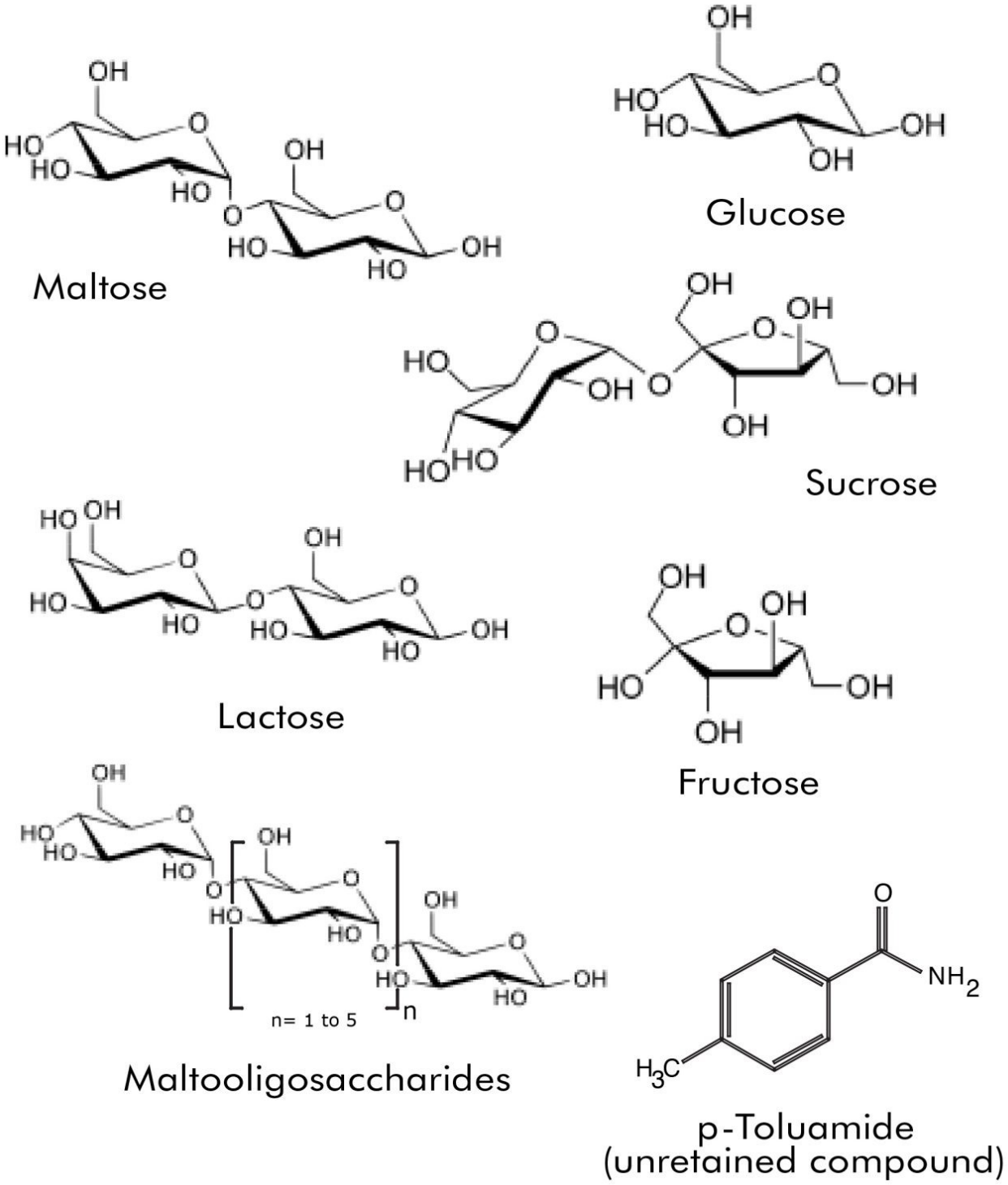
This is an Application Brief and does not contain a detailed Experimental section.

Abstract

This application brief highlights the analysis of food sugars/saccharides in beer using ACQUITY UPLC BEH Amide Columns.

Introduction

Structures


Maltose
Glucose
Sucrose
Lactose
Fructose
n= 1 to 5
Maltooligosaccharides
p-Toluamide
(unretained compound)

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
Gradient:	10 minute gradient, 80%-50% MeCN (w/0.2% TEA) with 25 minute re-equilibration
Injection Volume:	1.3 µL (PLNO)
Sample Concentration:	Standards at 1mg/mL, beer at 100% (No dilution)
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

Gradient

Time (min)	Profile	
	%A	%B
0.00	90.00	10.00
10.00	30.00	70.00
10.01	90.00	10.00
35.00	90.00	10.00

ELSD Conditions

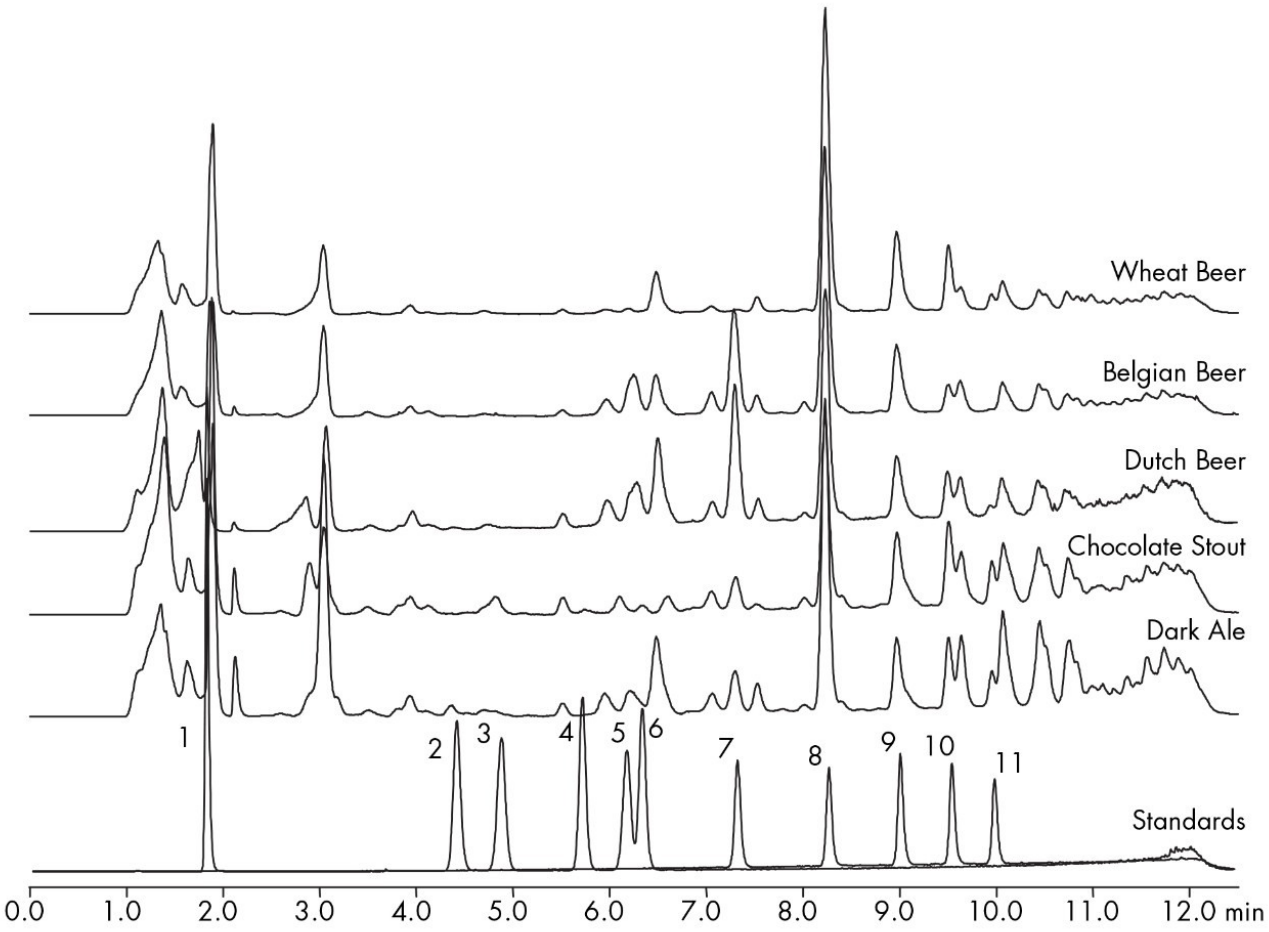
Gain:	200
Pressure:	40 psi

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

Results and Discussion

The compounds analysed in this study are:

1. p-Toluamide
2. Fructose
3. Glucose
4. Sucrose
5. Maltose
6. Lactose
7. Maltotriose
8. Maltotetraose
9. Maltopentaose
10. Maltohexahose
11. Maltoheptaose



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