

Analysis of the Isomeric Forms of Methyl-D-Glucopyranose

Application Note

Food

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Introduction

Agilent Hi-Plex ligand-exchange chromatography columns are commonly used for the analysis and separation of sugars and/or sugar alcohols. However, under the right conditions, these columns are also able to separate isomeric forms of simple sugars, such as methyl-D-glucopyranose shown here in this application note.



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Conditions

Column	Agilent Hi-Plex Ca, 7.7 × 300 mm, 8 μm (p/n PL1170-6810)
Sample	Methyl-alpha/beta-D-glucopyranose isomers
Sample size	20 mg/mL
Mobile phase	100% DI H ₂ O
Flow rate	0.6 mL/min
Injection volume	20 μL
Temperature	85 °C
Detector	RI

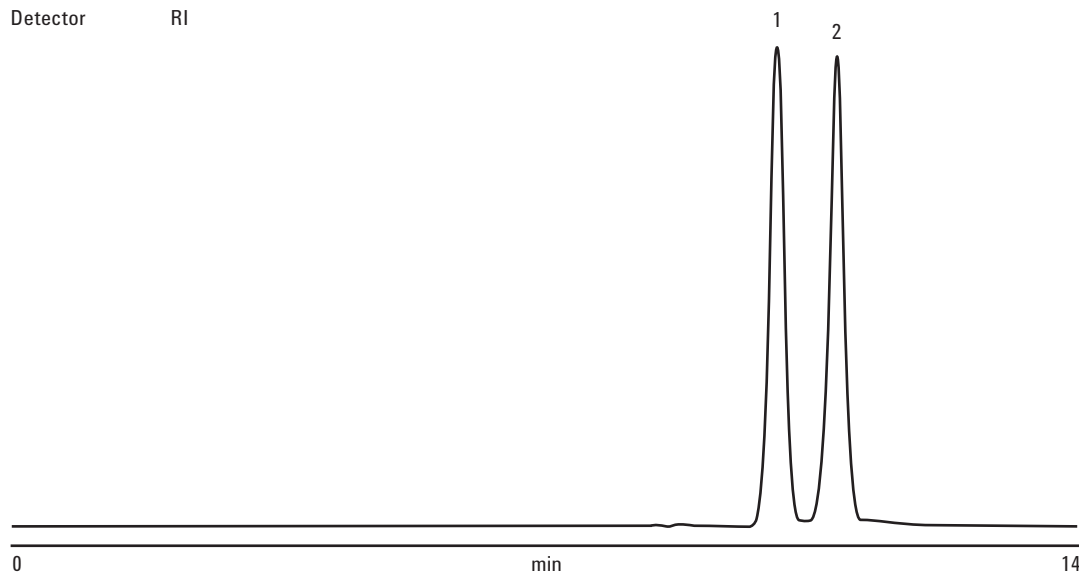


Figure 1. Separation of methyl-alpha/beta-D-glucopyranose isomers using an Agilent Hi-Plex Ca, 8 μm column. See Table 1 for peak identification.

Table 1. Peak Identification for Figure 1

Peak	Name	Time (min)	Height (μV)	Area (%)	Width 50% (min)	As. USP	10% Asymmetry	Res. HW	Plate counts	Plates/m
1	Methyl-beta-D-glucopyranose	10.75	707947.3	47.420	0.22	0.96	0.96	0.00	13722	45739
2	Methyl-alpha-D-glucopyranose	11.59	694379.7	52.580	0.23	0.96	0.97	2.19	13589	45296
Total			1402326.9	100.000						

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