Easy Calibration of Agilent OligoPore Columns (THF)

Technical Overview

Introduction

OligoPore columns make use of an innovative new medium that exhibits significantly increased pore volumes compared to conventional low pore size columns for gel permeation chromatography, resulting in higher resolution in the oligomeric region.

OligoPore columns are designed specifically for the analysis of low molecular weight oligomers in organic solvents. Their high pore volume is ideal for resolution of lower molecular weight polymers. Molecular weight information of a sample is calculated by reference to a standard calibration curve generated by analyzing a series of narrow distribution polymers of known molecular weight. One of the most common combinations of calibrant and eluent is polystyrene narrow standards in tetrahydrofuran (THF). Using these standards, the calibration of OligoPore columns in THF is straightforward.

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Figure 1 shows overlaid chromatograms of a series of narrowly dispersed Agilent polystyrene standards obtained in THF. The lower molecular weight polystyrenes 1270 and 580 have been resolved into individual oligomers by the high pore volume OligoPore columns, and the molecular weights of the oligomers can be used in the calibration. The polystyrene narrow standards used in the calibration are Mp 30,300, 5000, 2450, 1270, 580 and 162.

Figure 2 shows the resulting calibration curve for the OligoPore columns. The calibration is linear up to the exclusion limit of the column and illustrates the high pore volume of these columns.

Conditions

Columns:	2 x OligoPore, 300 x 7.5 mm (p/n PL1113-6520)
Samples:	Polystyrene narrow standards, 0.1% (w/v)
Eluent:	THF
Flow Rate:	1.0 mL/min
Injection Volume:	100 µL
Detection:	RI

These data represent typical results. For further information, contact your local Agilent Sales Office.

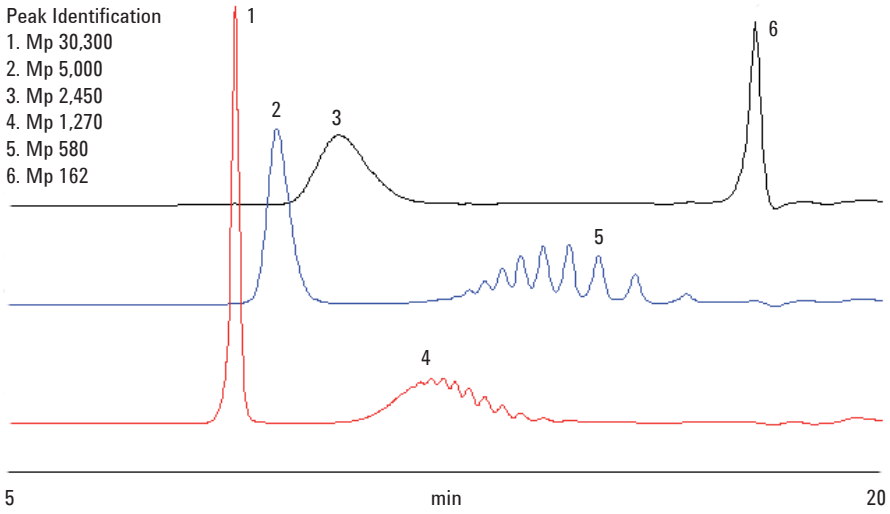

Figure 1. Overlaid chromatograms of a series of narrowly dispersed polystyrene standards obtained in THF

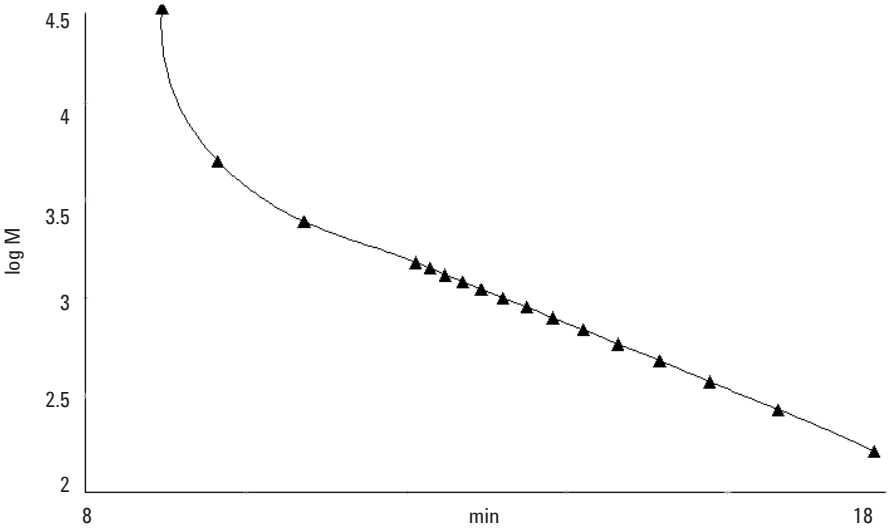

Figure 2. Calibration curve for the OligoPore columns

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