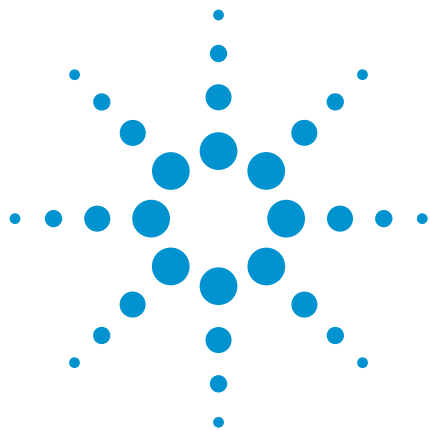




Matching Polystyrene Calibrants and Solvent

Agilent PLgel Individual Pore Size Columns

Technical Overview

Introduction

Polystyrene calibrants exhibit true size exclusion behavior in tetrahydrofuran but some interaction may be evident with more polar solvents. This effect can be demonstrated using PLgel columns.



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The linear portion of the calibration curve, where the slope is at its shallowest, defines the molecular weight region over which optimum resolution will be achieved. Polystyrene calibrants exhibit true size exclusion behavior in THF. However, in more polar eluents, for example DMF and NMP, some solute/stationary phase interaction occurs causing the elution times to increase and, for some standards, no elution at all. This adsorption phenomenon makes polystyrenes unsuitable for use as GPC calibrants in polar organic eluents.

Conditions

Column: PLgel 5 μm 500Å, 300 x 7.5 mm
(part number PL1110-6525)

Flow Rate: 1.0 mL/min

Detection: RI

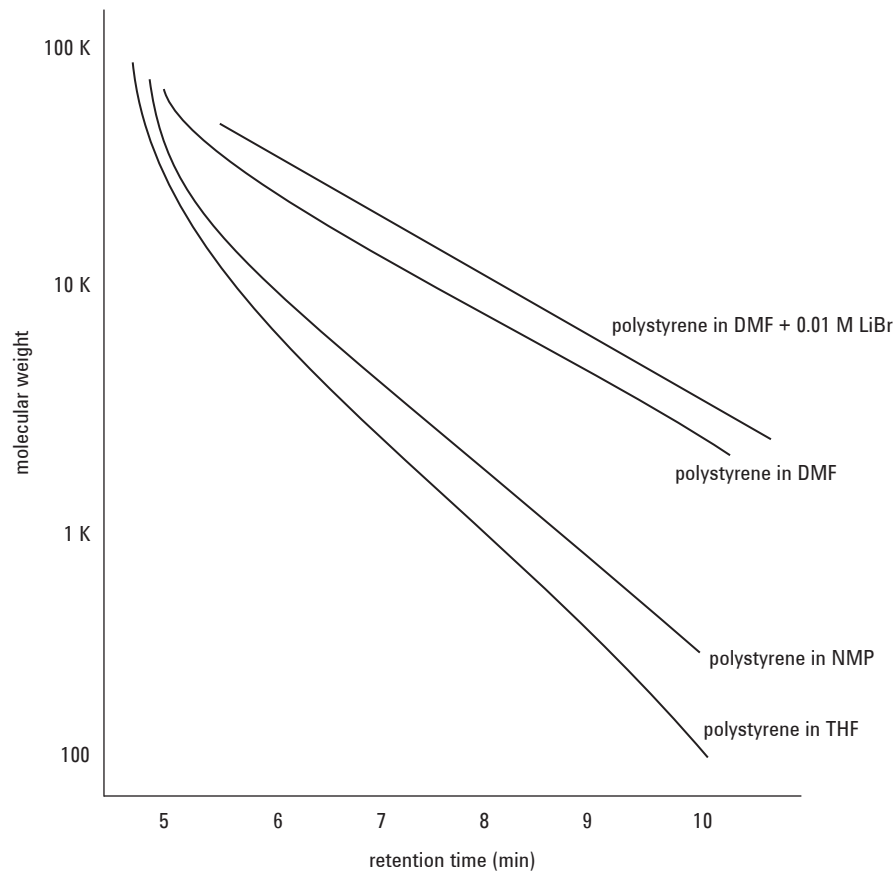


Figure 1. Calibration curves for four polystyrenes in different eluents

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