Organic Solvent Analysis of Hydroxyethyl Cellulose

Agilent PLgel 5 µm MIXED-C Columns

Technical Overview

Introduction

Cellulose derivatives can be analyzed by aqueous GPC but very often they are soluble in polar organic solvents, such as dimethyl formamide (DMF). PLgel 5 µm MIXED-C columns are well suited to the analysis of these celluloses.

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LiBr modifier is added to minimize sample aggregation as some of these materials are ionic. PEO/PEG standards are used as calibrants; polystyrene is soluble in DMF, but some adsorption is apparent.

PLgel 5 µm MIXED-C columns are designed for rapid polymer analysis. With its linear calibration up to 2 million MW, this is the column of choice for highest resolution and accuracy in molecular weight distribution analyses. Rapid solvent change capability, excellent temperature stability and the high resolution of the PLgel 5 µm MIXED-C also provide the versatility essential for today's R&D laboratory.

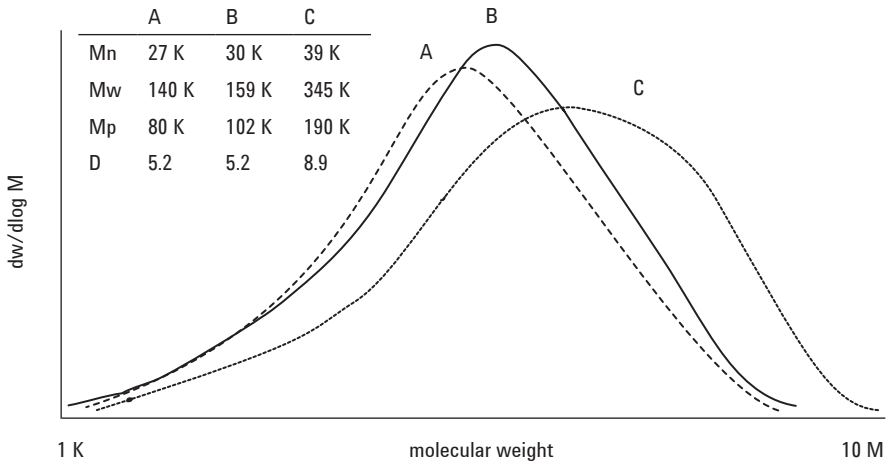

Figure 1. Analysis of hydroxyethyl cellulose using PLgel 5 µm MIXED-C columns

Conditions

Column:	PLgel 5 µm MIXED-C, 300 x 7.5 mm (part number PL1110-6500)
Eluent:	DMF + 0.1% LiBr
Flow Rate:	1.0 mL/min
Temperature:	50 °C
Detection:	Agilent PL-GPC 50 Plus Integrated GPC/SEC System

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