Preparative Gel Permeation Chromatography - Recycling

Technical Overview

Introduction

In preparative gel permeation chromatography, resolution of sample components can be improved by recycling the sample back through the column a number of times before fraction collection. This is a convenient way of minimizing cross-fraction contamination. The high column volume of the Agilent PLgel 10 µm 100 Å, 25 × 300 mm prep column facilitates recycle capability (Figure 1). The improved resolution after three cycles is apparent in Figure 2.

Conditions

Column	2 × Agilent PLgel 10 µm 100Å, 25 × 300 mm (p/n PL1210-6120)
Eluent	THF
Flow rate	9.0 mL/min
Detector	VWD, 254 nm
System	Agilent 1260 Infinity GPC-SEC Analysis System

Agilent Technologies

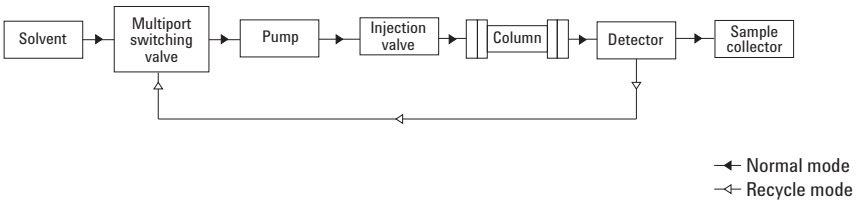

Figure 1. Schematic diagram of a preparative GPC system set up for recycling before fraction collection.

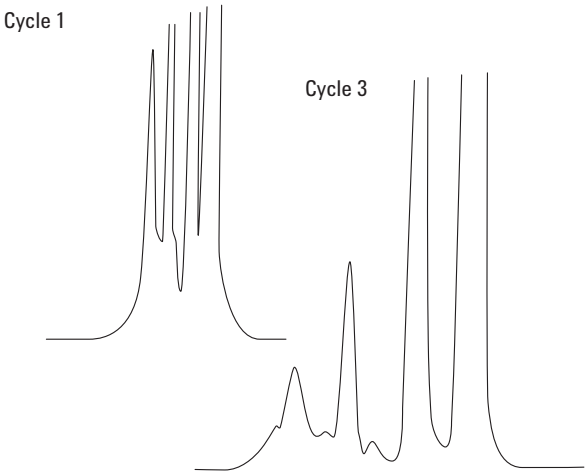

Figure 2. Improved resolution of sample components after three cycles on a set of preparative Agilent PLgel 10 µm columns

GPC/SEC Columns and Calibrants from Agilent

Agilent offers a comprehensive portfolio of GPC/SEC columns and calibrants for high-performance separations based on molecular size in solution. Agilent delivers leading solutions for characterizing and separating polymers by GPC/SEC, and manufactures all components for accurate polymer analysis.

Look at the Agilent Literature Library on www.agilent.com/chem/gpc-sec for a comprehensive range of application notes and technical overviews to help you get the best from your Agilent GPC/SEC columns and instruments.

www.agilent.com/chem

Printed in the USA
April 30, 2015
5990-8427EN

Agilent Technologies