

Characterization of Dextrans Using Gel-Permeation Chromatography

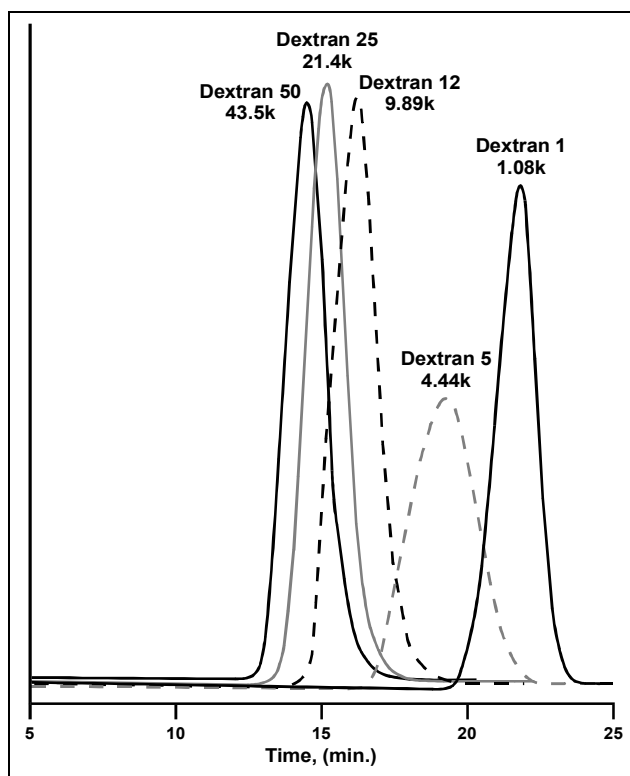
Application

Polymers

Robert Ricker

Dextrans are a broadly used class of polymers consisting only of α -D-glucose. These compounds are used as fillers in certain confections, as blood extenders, lacquers, and are crosslinked or conjugated for a wide variety of biotechnical uses. The size-separation and characterization of dextrans is very important since their physical and chemical properties are largely controlled by chain-length.

Figure 1



Courtesy of Mr. W. Lambrechts, Sint Joseph Hospital, Laboratory Pharmacy, P.O. 7777, 5500 MB Veldhoven, The Netherlands

Conditions:
ZORBAX PSM-60, PSM-300 (6.2 x 25 mm) (Agilent P/N: 880957-801, 880957-805)
Mobile Phase: 100mM Sodium Acetate (pH 6.0-6.5) with H_3PO_4
Injection 50 μ L, 0.5 mL/min, 30°C, Detect. RI

Highlights

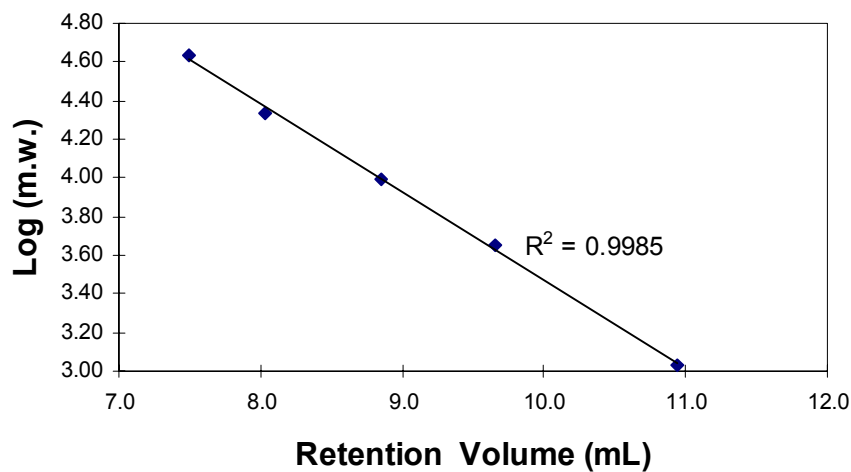
- The ZORBAX PSM-series columns are packed with 5 μ m particles having a narrow size distribution so that separations are achieved with high efficiency (Figure 1).
- The rugged nature of ZORBAX PSM packings permits use of a wide range of solvents, at high temperature and flow rates.
- ZORBAX PSM-series size-exclusion columns are available in a wide variety of pore sizes from 60 to 3000Å, facilitating linear separations (Figure 2) over a broad molecular-weight range.
- These same rugged packings are available in a silanized version, for work with non-polar to relatively polar polymers in organic, to slightly aqueous, mobile phases.



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Figure 2

**Linear Elution of Dextrans on Zorbax
PSM 60 and 300 Columns in Series**



NOTE: For Investigational / Research only. The performance characteristic for this procedure has not been established. Not for in vitro diagnostic procedures.

Robert Ricker is an application chemist based at Agilent Technologies, Wilmington, Delaware.

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