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Altri autori (Persone)	StriegelAndre M. <1967->
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Nota di contenuto	MODERN SIZE-EXCLUSION LIQUID CHROMATOGRAPHY; CONTENTS; Foreword; Preface; 1 Background; 1.1 Introduction; 1.2 History; 1.3 Utility of SEC; 1.4 Molar Mass Averages and Molar Mass Distribution; 1.5 Structure of The Book; References; 2 Retention; 2.1 Introduction; 2.2 Solute Retention in LC; 2.3 Solute Retention in SEC; 2.4 SEC Retention Mechanism; 2.5 Theoretical Models of SEC Separation; 2.5.1 Hard-Sphere Solute Model; 2.5.2 Rigid Molecules of Other Shapes; 2.5.3 Random-Coil Solute Model; 2.6 Other Considerations; 2.6.1 Factors Influencing SEC Retention 2.6.2 Failure to Define an Effective Polymer Radius2.6.3 Hydrodynamic Chromatography Effects in SEC; 2.6.4 Slalom Chromatography Effects in SEC; References; 3 Band Broadening; 3.1 Introduction; 3.1.1 Basic Column-Dispersion Processes; 3.1.2 Peak Variance; 3.2 LC Plate Theory; 3.2.1 Basic Plate Theory; 3.2.2 The van Deemter Equation; 3.2.3 Flow-Diffusion Coupling; 3.2.4 Reduced Plate Height; 3.3 Mechanism of SEC Band Broadening; 3.3.1 Experimental Verification; 3.3.2 Rate Theory; 3.3.3 Theoretical Inferences; 3.4 Influencing Factors; 3.4.1 Column Parameters; 3.4.2 Kinetic Factors 3.4.3 Experimental Factors3.5 Experimental Methods; 3.5.1 Plate

Number; 3.5.2 Column-Dispersion Calibration; References; 4 Resolution; 4.1 Introduction; 4.1.1 Chromatographic Resolution; 4.1.2 Peak-Capacity Concept; 4.2 Resolution Concept in SEC of Polymers; 4.3 Molar Mass Accuracy Criterion; 4.4 Applications of Column Performance Criteria; 4.5 Pore Geometry and Operational Effects; 4.5.1 Connecting Columns; 4.5.2 Separation Capacity of Single Pores; 4.5.3 Effect of Packing Pore-Size Distribution; 4.5.4 Effect of Operating Parameters; References; 5 Equipment; 5.1 Introduction 5.2 Extra-Column Effects: General 5.3 Mobile-Phase Reservoirs, Inlet Filters, and Degassers; 5.4 Solvent-Metering Systems (Pumps); 5.4.1 General Pump Specifications; 5.4.2 Reciprocating Pumps; 5.5 Sample Injectors and Autosamplers; 5.6 Miscellaneous Hardware; 5.7 Laboratory Safety; References; 6 The Column; 6.1 Introduction; 6.2 Column Packings; 6.2.1 Semirigid Organic Gels; 6.2.2 Rigid Inorganic Packings; 6.3 Column-Packing Methods; 6.3.1 Particle Technology; 6.3.2 Basis of Column-Packing Techniques; 6.4 Column Performance; References; 7 Experimental Variables and Techniques; 7.1 Introduction 7.2 Solvent Effects 7.2.1 Sample Solubility; 7.2.2 Other Solvent Effects; 7.2.3 Flow-Rate Effects; 7.2.4 Temperature Effects; 7.3 Substrate Effects; 7.4 Sample Effects; 7.4.1 Sample Volume; 7.4.2 Sample Weight or Concentration; 7.5 Laboratory Techniques; 7.6 Solvent Selection and Preparation; 7.6.1 Convenience; 7.6.2 Sample Type; 7.6.3 Effect on Column Packing; 7.6.4 Operation; 7.6.5 Safety; 7.6.6 Solvent Purification and Modification; 7.7 Selection and Use of Standard Reference Materials; 7.8 Detector Selection; 7.9 Column Selection and Handling; 7.9.1 Optimum Single Pore-Size Separations 7.9.2 Bimodal Pore-Size Separations: Optimum Linearity and Range

Sommario/riassunto

The Second Edition of Modern Size-Exclusion Chromatography offers a complete guide to the theories, methods, and applications of size-exclusion chromatography. It provides an unparalleled, integrated, up-to-date treatment of gel permeation and gel filtration chromatography. With its detailed descriptions of techniques, data handling, compilations of information on columns and column packings, and tables of important solvents and reference materials, the book offers readers everything they need to take full advantage of this popular macromolecular characterization technique. Sin
