1. Record Nr. UNINA9910830286003321

Titolo	Monolithic silicas in separation science [[electronic resource]] : concepts, syntheses, characterization, modeling and applications / / edited by Klaus K. Unger, Nobuo Tanaka, and Egidijus Machtejevas
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, c2011
ISBN	1-282-88971-0 9786612889714 3-527-63326-X 3-527-63324-3 3-527-63325-1
Descrizione fisica	1 online resource (364 p.)
Altri autori (Persone)	MachtejevasEgidijus TanakaNobuo UngerK. K <1936-> (Klaus K.)
Disciplina	546.68 546.683
Soggetti	Separation (Technology) Silica
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Monolithic Silicas in Separation Science; Contents; Preface; List of Contributors; 1: The Basic Idea and the Drivers; 1.2: Monoliths as Heterogeneous Catalysts; 1.3: Monoliths in Chromatographic Separations; 1.4: Conclusion and Perspectives; References; Part One: Preparation; 2: Synthesis Concepts and Preparation of Silica Monoliths; 3: Preparation and Properties of Various Types of Monolithic Silica Stationary Phases for Reversed-Phase, Hydrophilic Interaction, and Ion-Exchange Chromatography Based on Polymer-Coated Materials; Part Two: Characterization and Modeling 4: Characterization of the Pore Structure of Monolithic Silicas5: Microscopic Characterizations; 6: Modeling Chromatographic Band Broadening in Monolithic Columns; 7.1: Introduction; 7.2: Basic Columns Properties; 7.3: Comparison of the Through-Pore Structures and Related Properties; 7.4: Thermodynamic Properties; 7.5: Kinetic

Properties and Column Efficiency; 7.6: Conclusions; Part Three: Applications; 8: Quantitative Structure-Retention Relationships in Studies of Monolithic Materials; 9: Performance of Silica Monoliths for Basic Compounds. Silanol Activity; 10: Quality Control of Drugs 11: Monolithic Stationary Phases for Fast Ion Chromatography12: Monolithic Chiral Stationary Phases for Liquid-Phase Enantioseparation Techniques; 13: High-Speed and High-Efficiency Separations by Utilizing Monolithic Silica Capillary Columns; 14: Silica Monolithic Columns and Mass Spectrometry; 15: Silica Monoliths for Small-Scale Purification of Drug-Discovery Compounds; 16: Monolithic Silica Columns in Multidimensional LC-MS for Proteomics and Peptidomics; 17.1: Introduction; 17.2: Extraction Process; 17.3: Extraction Platforms; 17.4: Applications; 17.5: Conclusion and Outlook; References Index

Sommario/riassunto

Edited by the experts and pioneers in the field, this is the first monograph to cover the topic, containing the must-have information hitherto only scattered among journals.Clearly divided into sections on preparation, characterization and modeling, and applications, this is essential reading for chemists, chromatographers, analytical chemists, biochemists and biologists.