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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introduction -- Literature Review -- General Multicomponent Rate Models for Column Liquid Chromatography -- Parameter Estimation -- Mass Transfer Effects in Liquid Chromatography Simulation -- Interference Effects in Multicomponent Chromatography -- System Peaks in Multicomponent Elution -- Modeling and Scale-up of Size Exclusion Chromatography -- Modeling of LC with cored beads -- Modeling of Slow Kinetics and Affinity Chromatography -- Multicomponent Adsorption with Uneven Saturation Capacities -- Modeling of Multicomponent Gradient Elution -- Modeling of Ion-Exchange Chromatography -- Multicomponents Radial Flow

Chromatography.

Sommario/riassunto

Tingyue Gu's second edition provides a comprehensive set of nonlinear multicomponent liquid chromatography (LC) models for various forms of LC, such as adsorption, size exclusion, ion-exchange, reversed-phase, affinity, isocratic/gradient elution and axial/radial flow LC. Much has advanced since the first edition of this book and the author's software, described here, is now used for teaching and research in 32 different countries. This book comes together with a complete software package with graphical user interface for personal computers, offered free for academic applications. Additionally, this book provides detailed methods for parameter estimation of mass transfer coefficients, bed voidage, particle porosity and isotherms. The author gives examples of how to use the software for predictions and scale-up. In contrast to the first edition, authors do not need to deal with complicated math. Instead, they focus on how to obtain a few parameters for simulation and how to compare simulation results with experimental data. After reading the detailed descriptions in the book, a reader is able to use the simulation software to investigate chromatographic behavior without doing actual experiments. This book is aimed at readers who are interested in learning about LC behaviors and at those who want to scale up LC for preparative- and large-scale applications. Both academic personnel and industrial practitioners can benefit from the use of the book. This new edition includes: - New models and software for pellicular (cored) beads in liquid chromatography - Introduction of user-friendly software (with graphical user interface) - Detailed descriptions on how to use the software - Step-by-step instructions on parameter estimation for the models - New mass-transfer correlations for parameter estimation - Experimental methods for parameter estimation - Several actual examples using the model for product development and scale-up - Updated literature review.