
Chiral Separations By Liquid Chromatography And Related Technologies

Chromatographic Science Series

Liquid Chromatography
Ionic Liquids in Analytical Chemistry
HPLC
Separation Technologies for the Industries of the Future
Chiral Separations
A Practical Handbook of Preparative HPLC
Thin Layer Chromatography in Chiral Separations and Analysis
Chiral Chromatography
Handbook of Pharmaceutical Analysis by HPLC
Introduction to Modern Liquid Chromatography
Chiral Separations by Chromatography
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Enantiomer Separation
Essentials in Modern HPLC Separations
Chiral Separations By Liquid Chromatography And Related Technologies
Chiral Separation Methods for Pharmaceutical and Biotechnological Products
A Practical Approach to Chiral Separations by Liquid Chromatography
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Chiral Separations By Liquid Chromatography And Related Technologies
Selection of the HPLC Method in Chemical Analysis
Chiral Liquid Chromatography

Handbook of HPLC
Chiral Separation Techniques
Multidimensional Liquid Chromatography
Advances in Liquid Chromatography
Comprehensive Chirality

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Liquid Chromatography Elsevier

Principles and Practice of Modern Chromatographic Methods, Second Edition takes a comprehensive, unified approach in its presentation of chromatographic techniques. Like the first edition, the book provides a scientifically rigid, but easy-to-follow presentation of chromatography concepts that begins with the purpose and intent of chromatographic theory - the "what and why" that are left out of other books attempting to cover these principles. This fully revised second edition brings the content up-to-date, covering recent developments in several new sections and an additional chapter on composite methods. New topics include sample profiling, sample preparation, sustainable green chemistry, 2D chromatography, miniaturization/nano-LC, HILIC, and more. - Contains thorough chapters that begin with an updated schematic overview and a visual representation of the content - Avoids the obfuscation of different terminologies and classification systems that are prevalent in the area, such as the relationship between liquid chromatography and column chromatography - Provides integrated and comprehensive topic coverage based on chromatographic bibliometrics and survey reports on the relative usage of chromatographic techniques

Ionic Liquids in Analytical Chemistry Wiley-Interscience

What drives a scientist to edit a book on a specific scientific subject such as chiral mechanisms in separation methods? Until December 2005, the journal *Analytical Chemistry* of the American Chemical Society (Washington, DC) had an A-page section that was dedicated to simple and clear presentations of the most recent techniques or the state of the art in a particular field or topic. The "A-page" section was prepared for a broad audience of chemists including industrial professionals, students as well as

academics looking for information outside their field of expertise. 1 Daniel W. Armstrong, one of the editors of this journal and a twenty-year+ long friend, invited me to present my view on chiral recognition mechanisms in a simple and clear way in an "A-page" article. In 2006, the "A-page" section was maintained as the first articles at the beginning of each first bi-monthly issue but the pagination was no longer page distinguished from the regular research articles published by the journal. During the time between the invitation and the submission, the A-page section was integrated into the rest of the journal and the article appeared as (2006) *Anal Chem* (78):2093-2099.

HPLC Elsevier

Liquid Chromatography: Applications, Second Edition, is a single source of authoritative information on all aspects of the practice of modern liquid chromatography. It gives those working in both academia and industry the opportunity to learn, refresh, and deepen their knowledge of the wide variety of applications in the field. In the years since the first edition was published, thousands of papers have been released on new achievements in liquid chromatography, including the development of new stationary phases, improvement of instrumentation, development of theory, and new applications in biomedicine, metabolomics, proteomics, foodomics, pharmaceuticals, and more. This second edition addresses these new developments with updated chapters from the most expert researchers in the field. - Emphasizes the integration of chromatographic methods and sample preparation - Explains how liquid chromatography is used in different industrial sectors - Covers the most interesting and valuable applications in different fields, e.g., proteomic, metabolomics, foodomics, pollutants and contaminants, and drug analysis (forensic, toxicological, pharmaceutical, biomedical) - Includes references and tables with commonly used data to facilitate research, practical work, comparison of results, and decision-making

Separation Technologies for the Industries of the Future World Scientific

In spite of important advances in asymmetric synthesis, chiral compounds cannot all be obtained in a pure state by asymmetric synthesis. As a result, enantiomer separation remains an important technique for obtaining optically active materials. Although asymmetric synthesis is a once-only procedure, an enantiomer separation process can be repeated until the optically pure sample is obtained. This book discusses several new enantiomer separation methods using modern techniques developed by experts in the field. These methods consist mainly of the following three types: 1) Enantiomer separation by inclusion complexation with a chiral host compound 2) Enantiomer separation using biological methods 3) Enantiomer separation by HPLC chromatography using a column containing a chiral stationary phase. Separation of a racemic compound has been called "optical resolution" or simply "resolution". Nowadays, the descriptions "enantiomer resolution" or "enantiomer separation" are also commonly used. Accordingly, "Enantiomer Separation" is used in the title of this book. The editor and all chapter contributors hope that this book is helpful for scientists and engineers working in this field.

Chiral Separations Newnes

This book is a contemporary review of selected subjects in liquid chromatography, especially of the technical development, rather than the applications. The subjects are focused in the biomedical and environmental fields. This is also a troubleshooting record. Complex analytical problems such as sensitivity (sensitive detection by chemiluminescence, coulometric detection, laser based detection, necessity of degassing the system for sensitive detection), difficulty (free radical detection by Electron Spin Resonance, Polarimeter for chiral recognition) and reproducibility (packings for chiral separation and stable bonded silica gels) are solved. Theoretically and environmentally important miniaturizations are described. Individual chapters written by specialists provide information beyond what can be found in general textbooks of liquid chromatography.

A Practical Handbook of Preparative HPLC CRC Press

Discusses chiral separations and offers guidance for selecting the optimum method for desired results Chiral separations represent the most intriguing and, by some measures, most difficult separations of chemical compounds. This book provides researchers and students an understanding of chiral separations and offers a convenient route to selecting the best separation method, saving considerable time and cost in product development. Considering chiral separations in the biotechnological and pharmaceutical industries, as well as for food applications, Dr. Ahuja provides insights into a broad range of topics. Opening with a broad overview of chiral separations, regulatory considerations in drug product development, and basic issues in method development, the book: Covers a variety of modern methods such as gas chromatography, high performance liquid chromatography, supercritical fluid chromatography, and capillary electrophoresis Deals with the impact of chirality on the biological activity of small and large molecules Provides detailed information on useful chiral stationary phases (CSPs) for HPLC Includes handy information on selection of an appropriate CSP, including mechanistic studies Offers strategies for fast method development with HPLC, SFC, and CE Discusses preparatory methods utilized in the pharmaceutical industry With in-depth discussions of the current state of the field as well as suggestions to assist future developments, *Chiral Separation Methods for Pharmaceutical and Biotechnological Products* is an essential text for laboratory investigators, managers, and regulators who are involved in chiral separations in the pharmaceutical industry, as well as students preparing for careers in these fields.

Thin Layer Chromatography in Chiral Separations and Analysis Elsevier

This volume represents the proceedings of a two-day international meeting on chiral chromatography held at the University of Surrey between 3-4 September 1987. The meeting was jointly organized by the Chromatographic Society and the Robens Institute of the University of Surrey in response to the burgeoning interest in this rapid maturing field of chromatography. Nowhere is this interest more evident than in the agrochemical and pharmaceutical industries where the implications of different pharmacological and toxicological activity for the individual enantiomers present in a racemic drug are

insecticide is an increasing area of concern. Developments in the area of chiral separations are at last beginning to provide scientists with the necessary tools to study how animals and man handle racemates and relate their observations to the observed biological effects of these substances. The development of robust and simple methods for the separation of enantiomers will therefore have a profound impact on safety evaluation and drug design. The meeting proved to be very successful, with over 160 delegates from thirteen countries in Europe and America present to learn from the experiences of experts in the field of chiral chromatography and to hear about the latest developments. Hopefully, in future symposia on chiral separations at the University of Surrey.

Chiral Chromatography Springer

Multidimensional Liquid Chromatography (MDLC) is a very powerful separation technique for analyzing exceptionally complex samples in one step. This authoritative reference presents a number of recent contributions that help define the current art and science of MDLC. Topics covered include instrumentation, theory, methods development, and applications of MDLC in the life sciences and in industrial chemistry. With the information to help you perform very difficult separations of complex samples, this reference includes chapters contributed by leading experts or teams of experts.

Handbook of Pharmaceutical Analysis by HPLC CRC Press

This revision brings the reader completely up to date on the evolving methods associated with increasingly more complex sample types analyzed using high-performance liquid chromatography, or HPLC. The book also incorporates updated discussions of many of the fundamental components of HPLC systems and practical issues associated with the use of this analytical method. This edition includes new or expanded treatments of sample preparation, computer assisted method development, as well as biochemical samples, and chiral separations.

Introduction to Modern Liquid Chromatography CRC Press

Chiral Analysis covers an important area of analytical chemistry of relevance to a wide variety of scientific professionals. The target audience is scientific professionals with an undergraduate background in chemistry or a related discipline, specifically organic chemists, researchers in drug discovery, pharmaceutical

researchers involved with process analysis or combinatorial libraries, and graduate students in chemistry. Chapters have been written with the nonspecialist in mind so as to be self-contained.* Broad coverage - spectroscopic and separation methods covered in a single volume* Up-to-date and detailed review of the various techniques available and/or under development in this field*

Contributions from leading experts in the field

Chiral Separations by Chromatography CRC Press

High pressure liquid chromatography—frequently called high performance liquid chromatography (HPLC or, LC) is the premier analytical technique in pharmaceutical analysis and is predominantly used in the pharmaceutical industry. Written by selected experts in their respective fields, the *Handbook of Pharmaceutical Analysis by HPLC* Volume 6, provides a complete yet concise reference guide for utilizing the versatility of HPLC in drug development and quality control. Highlighting novel approaches in HPLC and the latest developments in hyphenated techniques, the book captures the essence of major pharmaceutical applications (assays, stability testing, impurity testing, dissolution testing, cleaning validation, high-throughput screening). A complete reference guide to HPLC Describes best practices in HPLC and offers 'tricks of the trade' in HPLC operation and method development Reviews key HPLC pharmaceutical applications and highlights current trends in HPLC ancillary techniques, sample preparations, and data handling

Chiral Separations Wiley-VCH

Ionic liquids in Analytical Chemistry: New Insights and Recent Developments focuses on the use of these materials in the field of chemical analysis, paying attention to different areas such as sample preparation, separation techniques, spectroscopy and electrochemical methods. Chapters describe the structure and properties of new ionic liquids and eutectic solvents that are widely used in analytical chemistry, review ionic liquids in sample preparation, liquid, micellar liquid and gas chromatography, and capillary electrophoresis. Final chapters are devoted to spectroscopic and electrochemical techniques. The whole volume provides a broad overview of recent applications of ionic liquids. The book will serve as a valuable resource to researchers and laboratory technicians working in the field, as well as instructors and students of analytical chemistry. Gathers the contributions of leading authorities on the use of ionic liquids in analytical science

Describes the structure and properties of the newer ionic liquids used in chemical analysis Examines the new performance of ionic liquids in analytical chemistry applications

Optimization in HPLC Elsevier

Essentials in Modern HPLC Separations, Second Edition discusses the role of separation in high performance liquid chromatography (HPLC). This new and updated edition systematically presents basic concepts as well as new developments in HPLC. Starting with a description of basic concepts, it provides important guidance for the practical utilization of various HPLC procedures, such as the selection of the HPLC type, proper choice of the chromatographic column, selection of mobile phase and selection of the method of detection, all of which are in correlation with the physico-chemical characteristics of the compounds separated. Every chapter has been carefully reviewed, with several new sections added to bring the book completely up-to-date. Hence, it is a valuable reference for students and professors in chemistry. -

Provides a thoroughly updated resource, with an entirely new section on Computer-aided Method Development in HPLC and new subsections on miniaturization and automation in HPLC, chemometric aspects of HPLC, green solvent use in HPLC, and more - Includes insights into the chromatographic process to find the optimum solution for analyzing complex samples - Presents a basis for understanding the utilization of modern HPLC for applications, particularly for the analysis of pharmaceutical, biological, food, beverage and environmental samples

Chiral Separations John Wiley & Sons

While working as a chromatographer in the pharmaceutical industry, it became apparent to the editor that there was a pressing need for a comprehensive reference text for analysts working on the resolution of enantiomers by liquid chromatography (LC). This need arises from the fact that, whereas previously it was very difficult to determine enantiomers by direct means, there is now a wide choice of direct LC methods. At the same time, regulatory authorities have been changing their attitudes towards the administration of pharmaceuticals as racemates, partly because it is now possible to study the individual enantiomers. Clearly this abundance of new information needs to be rationalized. More importantly, the chiral LC systems which are commercially available or readily accessible to the practising chromatographer needed to be reviewed and, to a

much greater extent than in existing reviews or books, discussed in terms of their practical application. Accordingly this book is very much orientated towards the practical aspects of these commercially available and readily accessible chiral LC systems. To this end, it is written for practising chromatographers by a team of practising, experienced chromatographers who have spent many years tackling the problems presented by resolving enantiomers by LC. The practical aspects of common chiral LC systems cannot be fully understood if discussed in isolation.

Enantiomer Separation John Wiley & Sons

This volume represents the proceedings of a two-day international meeting on chiral chromatography held at the University of Surrey between 3-4 September 1987. The meeting was jointly organized by the Chromatographic Society and the Robens Institute of the University of Surrey in response to the burgeoning interest in this rapid maturing field of chromatography. Nowhere is this interest more evident than in the agrochemical and pharmaceutical industries where the implications of different pharmacological and toxicological activity for the individual enantiomers present in a racemic drug or insecticide is an increasing area of concern. Developments in the area of chiral separations are at last beginning to provide Scientists with the necessary tools to study how animals and man handle racemates and relate their observations to the observed biological effects of these substances. The development of robust and simple methods for the separation of enantiomers will therefore have a profound impact on safety evaluation and drug design. The meeting proved to be very successful. with over 160 delegates from thirteen countries in Europe and America present to learn from the experiences of experts in the field of chiral chromatography and to hear about the latest developments. Hopefully, in future symposia on chiral separations at the University of Surrey.

Essentials in Modern HPLC Separations CRC Press

Covering definitions, concepts, and applications, Countercurrent Chromatography recounts the developments in two types of liquid-liquid chromatography termed countercurrent-high-speed countercurrent chromatography (HSCCC) and centrifugal partition chromatography (CPC)-as well as the HSCCC-derived cross-axis CCC, a versatile technique for purification in biotechnology applications. The text investigates mechanisms for mixing liquid

phases, particularly hydrostatic techniques for CPC and hydrodynamic for coil planet centrifuges. It also explores the use of countercurrent chromatography in inorganic analysis, chiral separation, and the separation of natural products.

Chiral Separations By Liquid Chromatography And Related Technologies John Wiley & Sons

This volume represents the proceedings of the second international meeting on chiral separations held at the University of Surrey between the 12th and 15th of September 1989. Like the preceding meeting, it was jointly organised by the Chromatographic Society and the Robens Institute of the University of Surrey in response to the continued interest in this area of separation science. Of particular interest to the organisers was the very clear change in the nature of the delegates attending this second symposium as compared with the first. At the previous meeting the majority of the delegates were composed of chromatographers with problems in the area of chiral separations who were keen to learn as much as possible about these techniques from the handful of recognised experts in this area. In this second symposium the divide between expert and novice was much less apparent, with the latter providing many interesting and useful contributions to the scientific programme in terms of both oral and poster presentations.

Chiral Separation Methods for Pharmaceutical and Biotechnological Products John Wiley & Sons

Written by experts on current innovations in their fields, this 33rd volume of Advances in Chromatography covers subjects such as planar chips technology, molecular biochromatography, fusion reaction chromatography and enantioselective liquid chromatographic separations.

A Practical Approach to Chiral Separations by Liquid Chromatography John Wiley & Sons

Although many books exist on the subject of chiral chemistry, they only briefly cover chiral synthesis and analysis as a minor part of a larger work, to date there are none that pull together the background information and latest advances in one comprehensive reference work. Comprehensive Chirality provides a complete overview of the field, and includes chiral research relevant to synthesis, analytic chemistry, catalysis, and pharmaceuticals. The individual chapters in each of the 9 volumes provide an in depth review and collection of references on

definition, technology, applications and a guide/links to the related literature. Whether in an Academic or Corporate setting, these chapters will form an invaluable resource for advanced students/researchers new to an area and those who need further background or answers to a particular problem, particularly in the development of drugs. Chirality research today is a central theme in chemistry and biology and is growing in importance across a number of disciplinary boundaries. These studies do not always share a unique identifying factor or subject themselves to clear and concise definitions. This work unites the different areas of research and allows anyone working or researching in chiral chemistry to navigate through the most essential concepts with

ease, saving them time and vastly improving their understanding. The field of chirality counts several journals that are directly and indirectly concerned with the field. There is no reference work that encompasses the entire field and unites the different areas of research through deep foundational reviews. Comprehensive Chirality fills this vacuum, and can be considered the definitive work. It will help users apply context to the diverse journal literature offering and aid them in identifying areas for further research and/or for solving problems. Chief Editors, Hisashi Yamamoto (University of Chicago) and Erick Carreira (ETH Zürich) have assembled an impressive, world-class team of Volume

Editors and Contributing Authors. Each chapter has been painstakingly reviewed and checked for consistent high quality. The result is an authoritative overview which ties the literature together and provides the user with a reliable background information and citation resource.

Practical HPLC Method Development Royal Society of Chemistry
Eine Ergänzung anderer, in der Reihe Separation Sciences bereits erschienener Titel. Viel Theorie und zahlreiche Anwendungsbeispiele für die Praxis der chiralen HPLC- und GC-Trennung machen dieses top-aktuelle Buch zu einer unverzichtbaren Informationsquelle für jeden Neueinsteiger auf diesem Gebiet. (11/98)

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