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The Essence of Chromatography - C. F. Poole 2003
The Essence of Chromatography presents a comprehensive survey of modern chromatography and is intended as a suitable text for graduate level courses in the separation sciences and as a self-study guide for professional chromatographers wishing to refresh their background in this rapidly expanding field. This title is an effective replacement for Chromatography Today, written by the same author with Salwa K. Poole, which is considered to be one of the definitive chromatographic texts of the last decade. Its format is modular, with extensive cross-references to permit rapid location of related material using different separation concepts. Important features are extensive tabulation of essential data for performing separations and an extensive bibliography to the most recent literature. · Comprehensive and authoritative coverage of chromatographic techniques · Contains extensive coverage of recent literature on this subject · Ideal text for graduates and suitable for professional chromatographers
Fundamentals of Preparative and Nonlinear Chromatography - Georges Guiochon 2006-03-21
The second edition of Fundamentals of Preparative and Nonlinear Chromatography is devoted to the fundamentals of a new process of purification or extraction of chemicals or proteins widely used in the pharmaceutical industry and in preparative chromatography. This process permits the preparation of extremely pure compounds satisfying the requests of the US Food and Drug Administration. The book describes the fundamentals of thermodynamics, mass transfer kinetics, and flow through porous media that are relevant to chromatography. It presents the models used in chromatography and their solutions, discusses the applications made, describes the different processes used, their numerous applications, and the methods of optimization of the experimental conditions of this process.
Gas Chromatography of Steroids in Biological Fluids - Mortimer B. Lipsett 2012-03-14
During the past decade we have witnessed a revolution in analytical methods. The development of vapor phase chromatography for the separation and analysis of classes of substances ranging from metals and gases to a wide variety of organic materials has been one of the most exciting of these new techniques. Gas-liquid chromatography for the measurement of steroids is particularly significant for endocrinologists and reports during the past several years have demonstrated its usefulness. Because of the growing interest in this method, a committee of the Endocrinology Study Section composed of Drs. R. M. Dodson, Seymour Lieberman, Hilton A. Salhanick, and Ralph E. Peterson, felt that the time was propitious to hold this Workshop and it is on their behalf that I welcome you. We hope to obtain enough data during these sessions so that those attending this conference and those who may read the proceedings will be able to make an informed judgement about the usefulness of gas-liquid chromatography for the analysis of steroids in biological fluids. Thus, I hope that there will be adequate documentation of the reliability of the methods as well as a comparison of the advantages and disadvantages of this analytical method with other classical methods. If we can do this, this Workshop will provide a significant base of practical considerations about gas chromatographic analytic techniques. I would like to thank Drs. T. F. Gallagher, H. Wilson, H. Salhanick and L. Engel for agreeing to serve as Chairmen of the sessions.
Chromatography - James M. Miller 1988-01-18
Chromatography has become the most widely used technique for separation and analyses. Because a great deal of information is available on the three main types--gas chromatography (GC), liquid chromatography (LC), and thin layer chromatography (TLC)--they are usually treated separately despite their common theoretical base. This comprehensive work presents a unified study of chromatography which introduces the principles shared by each method while emphasizing the similarities and differences between the three types. The chapters covering these methods build on the introductory coverage of common principles, providing an effective overview of the subject for novices and allowing practitioners to more easily switch from one technique to another. In addition, this approach permits the use of one set of terms and symbols, making learning easier. Includes several practical examples the ways in which GC, LC, and TLC operate, as well as a section on special techniques such as chiral separations and derivatization.
Chromatography of Mycotoxins - V. Betina 1993-05-28
This work comprises two parts, Part A: Techniques and Part B: Applications. In Part A the most important principles of sample preparation, extraction, clean-up, and of established and prospective chromatographic techniques are discussed in relation to mycotoxins. In Part B the most important data, scattered in the literature, on thin-layer, liquid, and gas chromatography of mycotoxins have been compiled. Mycotoxins are mostly arranged according to families, such as aflatoxins, trichothecenes, lactones etc. Chromatography of individual important mycotoxins and multi-mycotoxin chromatographic analyses are also included. Applications are presented in three chapters devoted to thin-layer, liquid, and gas chromatography of mycotoxins.
Plant Drug Analysis - Hildebert Wagner 1996
Here is a useful reference for analyzing plant drugs, identifying unknown drugs or monitoring the purity or constituents of a given drug. This second edition includes nearly 200 new color photographs demonstrating chromatograms of all relevant standard drugs.
Introduction to Modern Liquid Chromatography - Lloyd R. Snyder 2011-09-20
The latest edition of the authoritative reference to HPLC High-performance liquid chromatography (HPLC) is today the leading technique for chemical analysis and related applications, with an ability to separate, analyze, and/or purify virtually any sample. Snyder and Kirkland's Introduction to Modern Liquid Chromatography has long represented the premier reference to HPLC. This Third Edition, with John Dolan as added coauthor, addresses important improvements in columns and equipment, as well as major advances in our understanding of HPLC separation, our ability to solve problems that were troublesome in the past, and the application of HPLC for new kinds of samples. This carefully considered Third Edition maintains the strengths of the previous edition while significantly modifying its organization in light of recent research and experience. The text begins by introducing the reader to HPLC, its use in relation to other modern separation techniques, and its history, then leads into such specific topics as: The basis of HPLC separation and the general effects of different experimental conditions Equipment and detection The column—the "heart" of the HPLC system Reversed-phase separation, normal-phase chromatography, gradient elution, two-dimensional separation, and other techniques Computer simulation, qualitative and quantitative analysis, and method validation and quality control The separation of large molecules, including both biological and synthetic polymers Chiral separations, preparative separations, and sample preparation Systematic development of HPLC separations—new to this edition Troubleshooting tricks, techniques, and case studies for both equipment and chromatograms Designed to fulfill the needs of the full range of HPLC users, from novices to experts, Introduction to Modern Liquid Chromatography, Third Edition offers the most up-to-date, comprehensive, and accessible survey of HPLC methods and applications available.
High-performance Liquid Chromatography - Ivan Lucero 2018

Liquid Chromatography of Natural Pigments and Synthetic Dyes - Tibor Cserháti 2006-12-07
This latest volume in the series entitled Liquid Chromatography of Natural Pigments and Synthetic Dyes presents an overview of the latest developments in the field while critically evaluating this method of analysis and providing comparisons of the various liquid chromatographic separation techniques that are currently available. Natural pigments and synthetic dyes are extensively used in various fields of everyday life including food production, textile industry, paper production, agricultural practice and research and water science and technology. Besides their capacity for increasing the marketability of products, natural pigments have shown advantageous biological activity as antioxidants and anticancer agents. On the negative side, synthetic pigments have a significant impact on the environment and can cause adverse toxicological side effects. Both pigment classes exhibit considerable structural diversity. As the stability of the pigments against hydrolysis, oxidation and other environmental and technological conditions is markedly different, the exact determination of the pigment composition may help for the prediction of the shelf-life of products and the assessment of the influence of technological steps on the pigment fractions resulting in more consumer friend processing methods. Furthermore, the qualitative determination and identification of the pigments may contribute to the establishment of the provenance of the product. The unique separation capacity of liquid chromatographic (LC) techniques makes it a method of preference for the analysis of pigments in any complicated accompanying matrices. * an overview of the latest developments in the field * a critical evaluation of results from this form of analysis * a comparison of the various LC (liquid chromatographic) separation techniques * future trends in the LC analysis of pigments
Chromatography - Elsa Lundanes 2013-08-16
Finally a book on chromatography which is easy to grasp for undergraduates and technicians; covers the area in sufficient depth while still being concise. The book includes all recent technology advances and has core textbook features further improving the learning experience. This book is the perfect introduction into a methodology which is the underlying principle of the vast majority of separation methods worldwide. Everyone working in a lab environment must be familiar with the basis of these technologies and Tyge Greibrokk, Elsa Lundanes and Leon Reubsaet succeed in delivering a text which is easy to read for undergraduates and laboratory technicians, and covers the area in sufficient depth while still being concise. The book includes all recent technology advances and has core textbook features further improving the learning experience. Importantly, the text does not only cover all major modern chromatography technology (thin layer, gas, high pressure liquid, and supercritical fluid chromatography) but also related methods, in particular electrophoretic technologies.
Chromatography - Mark F. Vitha 2016-08-22
Provides students and practitioners with a solid grounding in the theory of chromatography, important considerations in its application, and modern instrumentation. Highlights the primary variables that practitioners can manipulate, and how those variables influence chromatographic separations Includes multiple figures that illustrate the application of these methods to actual, complex chemical samples Problems are embedded throughout the chapters as well as at the end of each chapter so that students can check their understanding before continuing on to new sections Each section includes numerous headings and subheadings, making it easy for faculty and students to refer to and use the information within each chapter selectively The focused, concise nature makes it useful for a modular approach to analytical chemistry courses
Gas Phase Chromatography - Rudolf Kaiser 2012-04-19
THE present volume, which is the first of a three-volume work on gas phase chromatography, deals with the problems of gas chromatography in packed columns. Gas chromatography, like any other analytical method, is mainly a matter of practical skill, and therefore emphasis has been given to the apparatus at the expense of a more detailed presentation of the theory. The aim of this book is to make lecturers and students, chemists, works engineers and laboratory workers familiar with this highly effective branch of analytical physical chemistry. I hope too that the experienced worker may find references which will be of value to him in his work and which will spare him part of the now almost impossible task of keeping up to date with the literature. The nomenclature used here is the result of a number of discussions with Professor E. Cremer and Dr. E. Bayer, and I should like to take this opportunity of expressing my grateful thanks to them. The present book is based partly on my book Gas Chromatography which appeared at the end of 1959. Numerous discussions with Professor E. Leibnitz and his colleagues H. P. Angele, M. Hofmann, H. Holzhauser, M. Kuhl and H. G. Struppe and the experimental work carried out with them have all influenced this revision. I should also like to thank Dr. H. Kienitz and his colleagues Dr. K. Dorfner, Dr. H. D. Ermshaus and Dr. H. Runge for valuable suggestions.
Optimization of Chromatographic Selectivity - P.J. Schoenmakers 1986-08-01
This is the first detailed description of method development in chromatography - the overall process of which may be summarized as: method selection, phase selection, selectivity optimization, and system optimization. All four aspects receive attention in this book. Chapter 1 gives a short introduction, describes chromatographic theory and nomenclature, and outlines the method development process. Chapter 2 describes guidelines for method selection, and quantitative concepts for characterizing and classifying chromatographic phases. Selective separation methods, from both gas and liquid chromatography are given in Chapter 3; the main parameters of each method are identified and simple, quantitative relations are sought to describe their effects. Criteria by which to judge the quality of separation are discussed in Chapter 4 with clear recommendations for different situations. The specific problems involved in the optimization of chromatographic selectivity are explained in Chapter 5. Optimization procedures, illustrated by examples, are extensively described and compared on the basis of a number of criteria. Suggestions are made both for the application of different procedures and for further research. The optimization of programmed analysis receives special attention in Chapter 6, and the last chapter summarizes the optimization of the chromatographic system, including the optimization of the efficiency, sensitivity and instrumentation. Those involved in developing chromatographic methods or wishing to improve existing methods will value the detailed, structured way in which the subject is presented. Because optimization procedures and criteria are described as elements of a complete optimization package, the book will help the reader to understand, evaluate and select current and future commercial systems.
Practice of Thin Layer Chromatography - Joseph C. Touchstone 1992-08-04
This Third Edition provides all the basic applications needed to practice thin layer chromatography (TLC). New material includes: the latest techniques on sample preparation and zone detection, the hybridization of TLC with high performance liquid chromatography (HPLC) as it's been developing in the last few years, emphasis on numerous applications of HPTLC involving pharmaceuticals and drugs, plus the fundamental studies of mechanisms, theories and the optimization of TLC.
Paper and Thin Layer Chromatography - Ivor Smith 2013-10-22
Chromatographic & Electrophoretic Techniques, Fourth Edition, Volume I: Paper and Thin Layer Chromatography presents the methods of paper and thin layer chromatography. This book discusses the practical approach in the application of paper and thin layer chromatography techniques in the biological sciences. Organized into 18 chapters, this edition begins with an overview of the clinical aspects related to the detection of those metabolic diseases that can result in serious illness presenting in infancy and early childhood. This text then discusses the three major types of screening for inherited metabolic disorders in which paper or thin-layer chromatography are being used, including screening the healthy newborn population, screening the sick hospitalized child, and screening mentally retarded patients. Other chapters consider the procedures for thin layer chromatography. This book discusses as well the complexity of amino acid mixtures present in natural products. The final chapter deals with the detection of synthetic basic drugs. This book is a valuable resource for chemists and toxicologists.
Gradient Elution in Column Liquid Chromatography - P. Jandera 1985-05-01
Gradient Elution in Column Liquid Chromatography
Preparative Chromatography Techniques - K. Hostettmann 1997-11-04
Over the past few years, increasing attention has been paid to the search for bioactive compounds from natural sources. The success of plant-derived products such as paclitaxel (Taxol) in tumor therapy or artemisinin in the treatment of malaria has provided the impetus for the introduction of numerous research programmes, especially in Industry. A great deal of effort is being expended in the generation of novel lead molecules of vegetable, marine and microbial origin by the use of high throughput screening protocols. When interesting hits are found, it is

essen tial to have methods available for the rapid isolation of target compounds. For this reason, both industry and academia need efficient preparative chromatographic separation techniques and experience in their application. Purified natural products are required for complete spectro scopic identification and full characterization of new compo unds, for biological testing and for the supply of pharmaceuti cals, standards, and starting materials for synthetic work. Obtaining pure products from an extract can be a very long, te dious and expensive undertaking, involving many steps. Sometimes only minute amounts of the desired compounds are at hand and these entities may be labile. Thus it is an advantage to have access to as many different methods as possible in order to aid the isolation process. Although a certain amount of trial and error may be involved, nowadays there is the possibility of devising suitable rapid separation schemes by a judicious choice of the different techniques available.

Quantitation of Amino Acids and Amines by Chromatography - Ibolya Molnár-Perl 2005-06-27

Quantitation of Amino Acids and Amines by Chromatography: Methods and Protocols is intended to serve as a ready-to-use guide for the identification and quantification of amino acids and amines in various matrices, providing an overview on the theory and protocol of available methods. It presents chromatograms with exact elution programs enabling visual analysis and compares the advantages-disadvantages of various chromatographic techniques. In accordance with the chronological order of the development of chromatographic methods, different techniques are discussed: The possibilities of gas chromatography (GC), followed by those of the high performance liquid chromatography (HPLC) and the most recent techniques capillary electrophoresis (CE), capillary, electrochromatography (CEC). The characteristics of the given chromatographic procedure, relating to the topic in question, are classified according to the preliminary preparation/derivatization process(es), which means the simple methods, suitable for the analysis of the selected compound(s) in natural form, are followed by various derivatization proposals. Detailed protocols provide the reader with guidance in beginning tasks and on how to improve current methods. This book appeals to a wide audience and is recommended for those looking towards the wider reaches of identification and quantification of amino acids and amines. * Provides a systematic, and comprehensive summary of chromatographic techniques and derivatization processes * Compares advantages/disadvantages of various chromatographic techniques * Readers can undertake practical tasks using detailed protocols given in the book

Liquid Chromatography - Salvatore Fanali 2013-01-08

A single source of authoritative information on all aspects of the practice of modern liquid chromatography suitable for advanced students and professionals working in a laboratory or managerial capacity Chapters written by authoritative and visionary experts in the field provide an overview and focused treatment of a single topic Each chapter emphasizes the integration of chromatographic methods and sample preparation, automation, and explains how liquid chromatography is used in different industrial sectors Focuses on expanding and illustrating the main features of the fundamental section, while demonstrating where and how the best practices of liquid chromatography are utilized Comprehensive coverage of modern liquid chromatography from theory, to methods, to selected applications Thorough selected references and tables with commonly used data to facilitate research, practical work, comparison of results, and decision making

Techniques and Practice of Chromatography - Raymond P.W. Scott 2020-01-29

This work introduces scientists of all disciplines to the chromatographic process and how it functions. The basic principles of chromatographic separation and specific chromatographic procedures, including gas, liquid and thin-layer chromatography, are covered. For each separation method the book details its characteristics, the instrumentation required, the procedures necessary for effective use, areas of application and examples of its use.;This work is intended for analytical chemists, laboratory technicians, and upper-level undergraduate and graduate students in analytical chemistry or separation science courses.

Gas Chromatography and Mass Spectrometry - Orrin David Sparkman 2011

The Second Edition of Gas Chromatography and Mass Spectrometry serves as an indispensible resource for those learning and practicing GC/MS. While retaining the original goals of brevity and accessibility, the authors have expanded the science and techniques to include those that have emerged since the publication of the previous edition. Throughout the book, quick references to data interpretation facilitate the extraction of information from GC/MS data. Enhancements to the Second Edition include: -Added coverage of chromatographic peak deconvolution and in-depth discussion of the use of mass spectral databases in the identification of unknowns. -Advancements in GC inlet systems and sample introduction techniques. -Incorporation of fast GC and options for combining GC detectors with mass spectrometry. -Increased emphasis on mass spectral interpretation.

Comprehensive Two Dimensional Gas Chromatography - Lourdes Ramos 2009-07-22

The book reviews the basic concepts and highlights the most relevant advances and developments that have taken place in the field of comprehensive two dimensional gas chromatography (GC x GC) since its introduction in 1991. The several instrumental and technical approaches assayed and developed during these seventeen years and that have contributed to the development of this powerful separation technique and to its increasing application in many areas is explained and comprehensively illustrated through a number of chapters devoted these specific topics. More specialized aspects of the technique, including theoretical aspects, modelization of the chromatographic process, software developments, and alternative couplings is also covered. Finally, special attention is paid to data treatment, for both qualitative and quantitative analysis. This book will be a practical resource that will explain from basic to specialized concepts of GC x GC and will show the current state-of-the-art and discuss future trends of this technique. Outlines basic concepts and principles of GCxGC technique for non-specialists to apply the technique to their research Provides detailed descriptions of recent technical advances and serves as an instructional guide in latest applications in GCxGC Sets the scene for possible future development and alternative new applications of technique

Paper Chromatography - Richard J. Block 2013-09-03

Paper Chromatography: A Laboratory Manual focuses on methods, technologies, and processes, and aims to provide readers with a readily accessible source for the uses and adaptations of paper chromatography. The book first offers information on general methods, including descending, ascending, and ascending-descending chromatography, filter paper ""chromatopile"", ""reversed phase"" paper chromatography, and paper electrophoresis. The text then elaborates on quantitative methods and amino acids, amines, and proteins. Discussions focus on visual comparison, elution, area of spot, total color of spot, maximum color density, identification of amines, separation of proteins, and general directions. The publication examines carbohydrates and aliphatic acids and steroids. Topics include simple sugars, miscellaneous derived sugars, and aliphatic acids. The text also ponders on purines, pyrimidines, and related substances and phenols, aromatic acids, and porphyrins. The text is a valuable reference for readers interested in paper chromatography.

Modern Liquid Chromatography of Macromolecules - B.G. Belenkii 2000-04-01

Modern Liquid Chromatography of Macromolecules

Liquid Chromatography - Salvatore Fanali 2017-06-22

Liquid Chromatography: Fundamentals and Instrumentation, 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 understanding of new fundamentals and instrumentation techniques 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

Advances in Chromatography - Phyllis R. Brown 1994-05-10

This 34th volume examines subjects such as high-performance capillary electrophoresis; gas chromatography, matrix isolation, and infrared spectrometry; and statistical theories of peak overlap in chromatography.

Handbook of Process Chromatography - Gunter Jagschies 2007-12-08
This book will update the original edition published in 1997. Since the publication of the first edition, the biotechnology and biologics industries have gained extensive knowledge and experience in downstream processing using chromatography and other technologies associated with recovery and purification unit operations. This book will tie that experience together for the next generation of readers. Updates include: - sources and productivity - types of products made today - experiences in clinical and licensed products - economics - current status of validation - illustrations and tables - automated column packing - automated systems New topics include: - the use of disposables - multiproduct versus dedicated production - design principles for chromatography media and filters - ultrafiltration principles and optimization - risk assessments - characterization studies - design space - platform technologies - process analytical technologies (PATs) - biogenerics - comparability assessments Key Features: - new approaches to process optimiaztion - use of patform technologies - applying risk assessment to process design

High Performance Liquid Chromatography - Sandie Lindsay 1992-07-27
High performance liquid chromatography is the most powerful of all the chromatographic techniques, often achieving separations and analyses that would be difficult or impossible with other forms of chromatography. This study and training text examines the concepts and techniques used in this field. A selection of literature available from equipment manufacturers is included along with a brief review of some more specialized topics.

Encyclopedia of Chromatography - Jack Cazes 2005
A convenient source of information for workers in analytical chemistry, experimental biology, physics, and engineering, this Second Edition stands as a quick reference source and clear guide to specific chromatographic techniques and principles-providing a basic introduction to the science and technology of the method, as well as additional references on the theory and methodology for analysis of specific chemicals and applications in a range of industries.

Introduction to High Performance Liquid Chromatography - R. Hamilton 1982-06-03
Since the first edition of this book the major advances have been in column packings, where over ninety per cent of separations are now performed using chemically bonded microparticulate packings, and in instrumentation. The use of microprocessor control has brought about a rationalization of mobile phase delivery systems and in detectors, the introduction of electrochemical and spectrophotometric detection other than in the ultra-violet region, has widened the field of applications and the sensitivity of the technique. The use of ion pair chromatography has increased at the expense of ion-exchange and this together with the improvements in detectors has greatly increased the appli cation of the technique in the biomedical field. These advances are described together with the established methods to enable the beginner to carry out a satisfactory separation and to gain the experience necessary for the full exploitation of the technique. R. J. Hamilton P. A. Sewell Liverpool,1981 1 Introduction to high performance liquid chromatography 1. 1 Introduction Chromatography in its many forms is widely used as a separative and an analytical technique. Gas chromatography since its introduction by James and Martin [1] has been pre-eminent in the field. Uquid chromatography in the of paper, thin-layer, ion-exchange, and exclusion (gel permeation and gel form filtration) chromatography had not been able to achieve the same success, mainly because of the poor efficiences and the long analysis times arising from the low mobile phase flow rates.

Chromatographic Methods - A. Braithwaite 1995-12-31
Since the inception of chromatography in 1903, the principal landmarks in its progress have been the virtual rediscovery of the technique in the 1930s, invention of synthetic resins in 1935, introduction of paper chromatography in the 1940s followed by that of thin layer, gas-solid and gas-liquid chroma tography in the early 1950s. Whilst the theoretical aspects of HPLC were developed in the 1960s, it was the late 1970s before commercial instruments appeared. Developments through the 1980s in microelectronics and micro processor technology afforded enhanced control, data acquisition and processing capabilities, and improved technologies for the manufacture of instrumentation. Developments in chromatographic media and packings and rapid scanning spectroscopic instruments have enabled combination techniques such as GC-MS, GC-IR, HPLC-MS and HPLC-IR to reach maturity and become standard routine techniques for the analyst. Further considerable research activity in the 1980s and early 1990s has led to the development of supercritical fluid chromatography (SFC), and high perfor mance capillary electrophoresis is a technique that has proved invaluable in the genome project and the separation and typing of DNA fragments. Applications in environmental, health and safety, foods analysis and medical studies have contributed significantly to the advancement of these tech niques. All of the instrumental chromatographic techniques are now used routinely by academic and industrial analysts. An understanding and experi ence of such techniques is fundamental to the training of today's science undergraduates studying a range of disciplines reflecting the application areas mentioned above.

Practice of High Performance Liquid Chromatography - H. ENGELHARDT (ed) 1986
Liquid chromatography equipment; Quantitative analysis in HPLC; Preparative application of HPLC; Column switching; Sample pretreatment and cleanup; Liquid-liquid chromatography; Ion pair liquid chromatography; Application of HPLC in inorganic chemistry; HPLC in forensic chemistry; Application of HPLC to the separation of lipids; Application of HPLC to the separation of metabolites of nucleic acids in physiological fluids; Application of HPLC to the analysis of natural and synthetic pharmaceutically important drugs; Application of HPLC for analysis of phychotropic drugs in body fluids; HPLC of amino acids and proteins; HPLC in the separation of coal and oil products.

Paper Chromatography - Joseph Sherma 2013-10-22
Paper Chromatography and Electrophoresis, Volume II presents methods, techniques and complete experimental procedures in paper chromatography. The book provides information and applications of paper chromatography such as the theory, mechanism, and fundamentals of the process; the separation of amino acids, carbohydrates, lipophilic steroids, and related compounds; and the separation and estimation of inorganic ions by paper chromatography. Chemists and laboratory researchers and technicians will find the book a valuable reference material.

Practical Liquid Chromatography - S. Perry 2012-03-17
This book is intended to provide a practical introduction to high-speed, high-efficiency liquid chromatography. It covers modern column technology (which has leapt into prominence only in the last five years) and relates this to the well-established thin-layer techniques. The development of liquid chromatography has proceeded in fits and starts over many years and in alliance with various scientific disciplines. Liquid chromatography has for years fulfilled an effective role in various fields. Ion-exchange chromatography, for example, is particularly associated with the separation of the rare earths, and exclusion chromatography with the fractionation of naturally occurring materials like proteins and of syn thetic polymers. Partition chromatography, especially in the form of paper chromatography, has been an indispensable tool in the study of biochemical systems, while its more recent adsorption counterpart, thin-layer chromatog raphy, developed most rapidly within the pharmacognosic and pharma ceutical fields. Until recently, however, liquid chromatography has not played a prominent role in the field of industrial organic analysis.

Analytical Gas Chromatography - Walter Jennings 1987

Contemporary Practice of Chromatography - C.F. Poole 2012-12-02
Written for all those who use chromatography as an analytical tool, this book covers all areas of gas, liquid, and thin-layer chromatography; no other book offers the same scope. The authors have had considerable experience in teaching graduate-level courses and the material presented here has been tried and tested, having formed the basis for short courses taught to groups of industrial chemists. Emphasis is on the practice of chromatographic methods, including ``how to'' sections and numerous examples of calculation methods. Extensively illustrated, the book contains numerous tables of all useful constants, materials and formulas frequently used by chromatographers. Valuable features are the chapters on sample preparation for chromatographic analysis, on instrumental methods for sample identification, and the comprehensive literature review.

Chromatography and Separation Science - Satinder Ahuja 2003-01-11
The basic objectives of this book are to: provide basic information on chromatography and separation science; show how simple extraction and partition processes provide the basis for development of chromatography and separation science; describe the role of chromatography and separation science in various fields; discuss the role of chromatography and separation science in development of new methodology; and present

new evolving methods and how to select an optimum method. · The book covers the fundamental physical and chemical phenomena involved in separations · Provides a concise overview of the basics of transport phenomena and thermodynamics · Shows the importance of chromatography within separation science

The Analysis of Gases by Chromatography - C. J. Cowper 2013-10-22

Intended to enable trained scientists to equip themselves to successfully perform analyses of complex gas mixtures. The equipment and the considerations governing the choice of carrier gas are described in detail. Selection of methods for use on complex mixtures often involves the choice of more than one column; the separating capabilities of column packing and how they can be used in combinations are described and numerous examples are given. The handling of samples prior to separation and the calculation of results after separation, including calibration, are described. Throughout, special emphasis is given to the differences between gas analysis and the better documented liquid analysis.

Modern Practice of Gas Chromatography - Robert L. Grob, PhD 2004-06-11

The bible of gas chromatography-offering everything the professional and the novice need to know about running, maintaining, and interpreting the results from GC Analytical chemists, technicians, and scientists in allied disciplines have come to regard Modern Practice of Gas Chomatography as the standard reference in gas chromatography. In addition to serving as an invaluable reference for the experienced practitioner, this bestselling work provides the beginner with a solid understanding of gas chromatographic theory and basic techniques. This new Fourth Edition incorporates the most recent developments in the field, including entirely new chapters on gas chromatography/mass spectrometry (GC/MS); optimization of separations and computer assistance; high speed or fast gas chromatography; mobile phase requirements: gas system requirements and sample preparation techniques; qualitative and quantitative analysis by GC; updated information on detectors; validation and QA/QC of chromatographic methods; and useful hints for good gas chromatography. As in previous editions, contributing authors have been chosen for their expertise and active participation in their respective areas. Modern Practice of Gas Chromatography, Fourth Edition presents a well-rounded and comprehensive overview of the current state of this important technology, providing a practical reference that will greatly appeal to both experienced chomatographers and novices.

Thin-Layer Chromatography - Peter E Wall 2007-10-31

Thin-Layer Chromatography (TLC) is a modern, reliable tool that complements other chromatographic techniques. This book provides a practical guide to the basic principles, procedures and pitfalls on the practical application of TLC. Thin Layer Chromatography: A Modern Practical Approach offers a sequence of chapters following the steps of the technique as the chromatographer would follow them. The chapters provide a choice of sorbent best suited to the separation intended, followed by pre-treatment required for the sample, applying the sample to the sorbent layer, development procedure, visualisation and detection, and finally quantification. Imaging and hyphenation techniques are described. The reasons why recommendations are made for specific and more general methods are covered. The book also provides an overview of some recent developments in the field.