

A Practical Guide To Hplc Detection Adloreo

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 Applied Thin-Layer Chromatography

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COLLINS ALVARO

The HPLC Expert Wiley-Interscience

A practical guide for chemists in the pharmaceutical industry to making automated analyses of drugs that will meet the standards of regulatory agencies. Reviews the standard techniques of high-performance liquid chromatography, specialized detection methods, automation in pharmaceutical analysis, an **LC/MS** CRC Press

Filling a gap in the literature for a hands-on guide focusing on everyday laboratory challenges, this English edition has been expanded and revised using the feedback received on the successful German precursor. Throughout the book, Professor Mascher draws on his 30 years of experience and provides abundant practical advice, troubleshooting and other hints highlighted in boxes, as well as a broad selection of walkthrough case studies. Based on a course taught by the author, the first part of the book intuitively explains all steps of routine bioanalysis and explains how to set up a robust, inexpensive and efficient method for a given substance. In the second part he includes 20 worked example cases that highlight common challenges and how to overcome them. With its appendix containing tried-and-tested analytical methods for 100 clinically relevant substances from the author's own laboratory, complete with spectral and MS data as well as literature references and basic pharmacokinetic information, this is a life-long companion for everyone working in clinical, pharmaceutical and biochemical analysis. Comments to the German book: "The book comes to life through its examples, showing not only what did work in the author's laboratory, but also what didn't." *ChemieReport* "Indispensable for novices, while even old hands will be able to expand their knowledge. A collection of analytical data for ca. 100 substances completes the book's offering, leaving almost nothing to be desired." *pharmind* *Modern Size-Exclusion Liquid Chromatography* John Wiley & Sons Thin-layer chromatography (TLC) is a powerful, fast and inexpensive analytical method. It has proven its usefulness in pharmaceutical, food and environmental analysis. This new edition of the practical TLC guide features a completely revised chapter on documentation, now including the use of digital cameras. Selected new sorbents and instruments are also introduced. Why has the prior edition been successful? All steps of the analytical procedure are clearly explained, starting with the choice of a suitable TLC technique and ending with data evaluation and documentation. Special emphasis is put on the proper choice of materials for TLC. Properties and functions of various materials and the TLC equipment are described, covering

e. g. precoated layers, solvents and developing chambers, including information on suppliers. Many practical hints for trouble shooting are given. All this is illustrated with numerous coloured figures. How to use TLC in compliance with GLP/GMP regulations is described in detail, including the required documentation. Therefore the reader can very easily compile his own standard operating procedures.

HPLC Columns CRC Press

First explaining the basic principles of liquid chromatography and mass spectrometry and then discussing the current applications and practical benefits of LC-MS, along with descriptions of the basic instrumentation, this title will prove to be the indispensable reference source for everyone wishing to use this increasingly important tandem technique. * First book to concentrate on principles of LC-MS * Explains principles of mass spectrometry and chromatography before moving on to LC-MS * Describes instrumental aspects of LC-MS * Discusses current applications of LC-MS and shows benefits of using this technique in practice *Thin-Layer Chromatography* John Wiley & Sons

Why a Second Edition?The Second Edition provides practical answers to the general question, "How can I obtain useful sequence information from my protein or peptide?" rather than the more specific question asked in the first edition, "How can I obtain the N-terminal sequence?" Important new methods include ways of dealing with blocked N termini, computer analysis of protein sequences, and the recent revolution in mass spectrometry. - Mass spectrophotometric characterization of proteins and peptides - N-terminal sequencing of proteins with blocked N termini - Internal amino acid sequence analysis after protease digestion in-gel and on-blot - Improved microscale peptide purification methods - Computer analysis of protein sequences - New protocols tested and refined through everyday use in authors' laboratories - Updated reference chapter covering all aspects of protein microsequencing *Hplc Of Biological Macro- Molecules, Revised And Expanded* Elsevier

An in-depth guide to HPLC column technology High-performance liquid chromatography and its derivative techniques have become the dominant analytical separation tools in the pharmaceutical, chemical, and food industries; environmental laboratories; and therapeutic drug monitoring. Although the column is the heart of the HPLC instrument and essential to its success, until now, no book has focused on the theory and practice of column technology. HPLC Columns provides thorough, state-of-the-art coverage of HPLC column technology for the practicing technician and academician alike. Along with a comprehensive discussion of the chemical and physical processes of the HPLC column, it includes fundamental principles, separation mechanisms and

available technologies, column selection criteria, and special techniques. Special features include: * Comprehensive overview of state-of-the-art HPLC column technology * Explanation of the underlying principles of HPLC columns * Methods for selecting columns * Practical advice on using and applying columns, including examples * Section by M. Zoubair El Fallah on methods development * Special techniques, including preparative chromatography, continuous chromatography, and the simulated moving bed * Troubleshooting section HPLC Columns helps laboratory practitioners make better choices in column selection, methods development, and troubleshooting: it is also an excellent textbook for graduate-level courses and HPLC short courses. *Maintaining and Troubleshooting HPLC Systems* Academic Press Adopting a practical approach, the authors provide a detailed interpretation of the existing regulations (GMP, ICH), while also discussing the appropriate calculations, parameters and tests. The book thus allows readers to validate the analysis of pharmaceutical compounds while complying with both the regulations as well as the industry demands for robustness and cost effectiveness. Following an introduction to the basic parameters and tests in pharmaceutical validation, including specificity, linearity, range, precision, accuracy, detection and quantitation limits, the text focuses on a life-cycle approach to validation and the integration of validation into the whole analytical quality assurance system. The whole is rounded off with a look at future trends. With its first-hand knowledge of the industry as well as regulating bodies, this is an invaluable reference for analytical chemists, the pharmaceutical industry, pharmacologists, QA officers, and public authorities. *Practical HPLC Method Development* John Wiley & Sons A unique approach to solving HPLC problems. Everyone who bought "Problem Solving in HPLC" by Stavros Kromidas will equally benefit from nearly 100 new practical examples for optimization, trouble-shooting, and instrument performance given in this sequel. The author provides - guidance for selecting and evaluating methods, instruments and columns, - practical help with everyday trouble-shooting, - advice for optimizing separations, always explaining the reason why. In each case the problem, the solution and the conclusions are presented over a maximum of 4 pages, and in addition the book contains manufacturers' addresses, references, data tables and checklists. *A Practical Guide to HPLC Detection* John Wiley & Sons The New Edition of the Well-Regarded Handbook on Gas Chromatography Since the publication of the highly successful first edition of *Basic Gas Chromatography*, the practice of chromatography has undergone several notable developments. *Basic Gas Chromatography, Second Edition* covers the latest in the field, giving readers the most up-to-date guide available,

while maintaining the first edition's practical, applied approach to the subject and its accessibility to a wide range of readers. The text provides comprehensive coverage of basic topics in the field, such as stationary phases, packed columns and inlets, capillary columns and inlets, detectors, and qualitative and quantitative analysis. At the same time, the coverage also features key additions and updated topics including: Gas chromatography-mass spectrometry (GC-MS) Sampling methods Multidimensional gas chromatography Fast gas chromatography Gas chromatography analysis of nonvolatile compounds Inverse gas chromatography and pyrolysis gas chromatography Along with these new and updated topics, the references, resources, and Web sites in *Basic Gas Chromatography* have been revised to reflect the state of the field. Concise and fundamental in its coverage, *Basic Gas Chromatography, Second Edition* remains the standard handbook for everyone from undergraduates studying analytical chemistry to working industrial chemists.

HPLC John Wiley & Sons

The rapid development of HPLC instrumentation and technology opens numerous possibilities - and entails new questions. Which column should I choose to obtain best results, which gradient fits to my analytical problem, what are recent and promising trends in detection techniques, what is state of the art regarding LC-MS coupling? All these questions are answered by experts in ten self-contained chapters. Besides these more hardware-related and technical chapters, further related areas of interest are covered: Comparison of recent chromatographic data systems and integration strategies, smart documentation, efficient information search in internet, and tips for a successful FDA inspection. This practical approach offers in a condensed manner recent trends and hints, and will also display the advanced reader mistakes and errors he was not aware of so far.

High-performance Liquid Chromatography and Lipids John Wiley & Sons

High-temperature liquid chromatography has attracted much interest in recent years but has not yet recognized its full potential in the chromatographic community. There is a widespread reluctance in industry to use temperature to speed up the separation process, influence the selectivity of a separation or implement novel detection techniques. However, the technology has now matured and could revolutionize chromatography as we see it today. Better equipment, such as heating systems able to generate faster heating rates, is becoming more readily available. Also, columns based on silica gel, which can withstand higher temperatures for an extended period, are now being introduced. Nevertheless, further technological and methodical efforts are needed to establish the method in a regulated environment like the pharmaceutical industry. This is the only text to cover all the practical aspects, as well as the underlying theoretical principles, of setting up an HPLC system for high-temperature operation. It is not intended solely for academics but will also benefit the researcher interested in more practical considerations. The author is a recognized expert and has conducted several studies with partners from industry to validate the method. Many real examples from these studies have been included in the book. The aim is to support practitioners in the creation of their own protocols without the need to rely solely on trial and error. The book starts with a brief definition of high-temperature liquid chromatography before going on to cover: system set up; the heating system; mobile phase considerations; suitable stationary phases; method development using temperature programming; analyte stability, and special hyphenation techniques using superheated water as a mobile phase. In each chapter, experimental data is used to illustrate the main statements and the advantages over conventional HPLC are evaluated. The book concludes with a critical outlook on further developments and applications underlining the necessary advances needed to make high-temperature HPLC more robust.

Selection of the HPLC Method in Chemical Analysis Bay

Bioanalytical Laboratory, Incorporated

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. Since publication of the first edition in 1979, there have been many important advances in the field of size-exclusion chromatography. This Second Edition brings the book thoroughly up to date, with expert coverage of: New and emerging industrial and research applications Practical aspects of

size-exclusion chromatography (SEC) and multidetector and multidimensional SEC technologies for polymer architecture and copolymer analysis Updated information on the latest equipment and techniques New best practices for the lab SEC in relation to polymer characterization techniques such as GPEC, LCCC, and rheology Throughout the text, detailed examples guide you step by step through all the latest techniques and applications. With its extensive revisions and updates written by leading experts and pioneers in the field, *Modern Size-Exclusion Liquid Chromatography* remains the definitive resource for the broad range of researchers and scientists who use HPLC and GPC methods.

Solid-Phase Synthesis Pergamon

How can these compounds be separated? Why was that method used? These are the two basic questions often asked by students of chromatography. *HPLC: A Practical Guide* provides the answers, enabling the reader to grasp the concepts of the technique using simple, representative chromatograms. Divided into six chapters, this practical guide covers basic concepts of HPLC; instrumentation; stationary phase materials; eluents; column efficiency; and the influence of physical chemistry on separations. Focusing on the basic considerations such as selection of stationary phase and eluent, rather than specific applications, sections on troubleshooting are also included. Uniquely, the descriptions of chromatographic separations are based on solubility using molecular properties, and solubility parameters are used to analyse the selections of chromatographic mode and column. Presenting the chemistry of liquid chromatography for undergraduate students, this valuable practical guide will also be useful for laboratory staff in industry and academia.

An Introduction to HPLC for Pharmaceutical Analysis CRC Press

Closing a gap in the current literature by addressing the evaluation and quality assessment of raw data, this practice-oriented guide is clearly divided into three parts. The first describes basic considerations of chromatographic data quality, common errors and potential pitfalls in reading out and quantifying the data. Part two systematically covers the most important chromatographic methods as well as the specific requirements for obtaining good chromatographic data. The final part looks at data quality from the perspective of those regulatory authorities demanding certain standards in data quality, describing in detail best practices. Written with the practitioner in mind, the text not only teaches the mathematical basics but also provides invaluable advice.

HPLC Methods for Clinical Pharmaceutical Analysis Elsevier

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.

High Performance Liquid Chromatography John Wiley & Sons

Provides users of HPLC equipment with a comprehensive text for troubleshooting and maintaining HPLC systems. Describes how the chromatographer can maintain the HPLC system in operating condition, what to look for and do to prevent and solve HPLC problems, and what can and should be done before calling a service representative. Organized into chapters which basically represent the typical components of the HPLC system, with each chapter describing a basic element of the HPLC system in terms of maintenance and solving system problems. Arranged as a guide and working manual to help the chromatographer reduce instrument downtime, allowing for more efficiency and cost effectiveness in the HPLC laboratory.

A Practical Handbook of Preparative HPLC Elsevier

HPLC for Pharmaceutical Scientists is an excellent book for both novice and experienced pharmaceutical chemists who regularly use HPLC as an analytical tool to solve challenging problems in the pharmaceutical industry. It provides a unified approach to HPLC with an equal and balanced treatment of the theory and practice of HPLC in the pharmaceutical industry. In-depth discussion of retention processes, modern HPLC separation theory, properties of stationary phases and columns are well blended with the practical aspects of fast and effective method development and method validation. Practical and pragmatic approaches and actual examples of effective development of selective and rugged HPLC methods from a physico-chemical point of view are provided. This book elucidates the role of HPLC

throughout the entire drug development process from drug candidate inception to marketed drug product and gives detailed specifics of HPLC application in each stage of drug development. The latest advancements and trends in hyphenated and specialized HPLC techniques (LC-MS, LC-NMR, Preparative HPLC, High temperature HPLC, high pressure liquid chromatography) are also discussed.

Validating Chromatographic Methods Lulu.com

This volume provides a straightforward approach to isolation and purification problems with a thorough presentation of preparative LC strategy including the interrelationship between the input and output of the instrumentation, while keeping to an application focus. The book stresses the practical aspects of preparative scale separations from TLC isolations through various laboratory scale column separations to very large scale production. It also gives a thorough description of the performance parameters (e.g. throughput, separation quality, etc.) as a function of operational parameters (e.g. particle size, column size, solvent usage, etc.). Experts in the field have contributed a well balanced presentation of separation development strategies from preparative TLC to commercial preparative process with practical examples in a wide variety of application areas such as drugs, proteins, nucleotides, industrial extracts, organic chemicals, enantiomers, polymers, etc.

High Performance Liquid Chromatography in Pesticide Residue Analysis John Wiley & Sons

Of related interest. *Trace and Ultratrace Analysis by HPLC* Satinder Ahuja Written by a leading scientist in the field, this monograph provides the first definitive and technically up-to-date treatment of the theory, equipment, and applications of chemistry's most powerful reliable analytical technique. Coverage includes an encyclopedic compendium of common substances that require trace and ultratrace analysis, and features clear discussion of such important topics as considerations for HPLC equipment, sensitive detectors, sample preparation, method development, selectivity and computer-based optimizations, optimizing detectability, and much more. 1991 (0 471-51419-5) 432 pp. *High Performance Liquid Chromatography in Biotechnology* Edited by William S. Hancock Analytical chemists, biochemists, and chemical engineers will find this up-to-date guide to HPLC's recent developments essential for enhancing on-the-job technical expertise. Extensive coverage includes the broad applications of HPLC, ranging from major chromatographic techniques (including reversed phase, ion exchange, affinity and hydrophobic interaction chromatography) to specific separations such as those in monoclonal antibody and nucleic acid purification. Techniques for quality control programs and advanced technology are also discussed. 1990 (0 471-82584-0) 564 pp. *Unified Separation Science* J. Calvin Giddings This advanced text/monograph brings together for the first time the variety of techniques used for chemical separations by outlining their common underlying mechanisms. The mass transport phenomena underlying all separation processes are developed in a simple physical-mathematical form, facilitating analysis of alternative separation techniques and the factors integral to separation power. The first six chapters provide background material applicable to a wide range of separation methods, while the final five chapters illustrate specific techniques and methods. 1991 (0 471-52089-6) 320 pp.

A Practical Guide to Protein and Peptide Purification for Microsequencing CRC Press

Selection of the HPLC Method in Chemical Analysis serves as a practical guide to users of high-performance liquid chromatography and provides criteria for method selection, development, and validation. High-performance liquid chromatography (HPLC) is the most common analytical technique currently practiced in chemistry. However, the process of finding the appropriate information for a particular analytical project requires significant effort and pre-existent knowledge in the field. Further, sorting through the wealth of published data and literature takes both time and effort away from the critical aspects of HPLC method selection. For the first time, a systematic approach for sorting through the available information and reviewing critically the up-to-date progress in HPLC for selecting a specific analysis is available in a single book. Selection of the HPLC Method in Chemical Analysis is an inclusive go-to reference for HPLC method selection, development, and validation. - Addresses the various aspects of practice and instrumentation needed to obtain reliable HPLC analysis results - Leads researchers to the best choice of an HPLC method from the overabundance of information existent in the field - Provides criteria for HPLC method selection, development, and validation - Authored by world-renowned HPLC experts who have more than 60 years of combined experience in the field