

Stavros Kromidas

# Practical Problem Solving in HPLC



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# Practical Problem Solving In Hplc

**Yuri V. Kazakevich, Rosario LoBrutto**

A red circular graphic with a gradient, appearing as a partial circle or a stylized arrow pointing to the right, located to the right of the authors' names.

## **Practical Problem Solving In Hplc:**

**Practical Problem Solving in HPLC** Stavros Kromidas, 2000-06-15 Quick and easy solutions to HPLC problems For 45 typical questions of HPLC users the answer and general conclusions are presented on no more than 4 pages each The book covers simple equipment tests and selection criteria for columns buffers etc specific problems and how to solve them options for optimizing separations The book also features a special chapter on the retention of ionizable components in RP HPLC references data tables and check lists It s a first aid kit for every HPLC user Stavros Kromidas is managing director of NOVIA a company offering consulting services and training courses for analytical laboratories For five years he was sales manager for the HPLC manufacturer Waters in Germany He is author and editor of numerous books *More Practical Problem Solving in HPLC* Stavros Kromidas, 2008-01-08 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 intstruments 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 **Handbook of Pharmaceutical Analysis by HPLC** Satinder Ahuja, Michael Dong, 2005-02-09 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 currents trends in HPLC ancillary techniques sample preparations and data handling **Practical Methods in Cardiovascular Research** Stefan Dhein, Friedrich Wilhelm Mohr, Mario Delmar, 2006-02-28 Scientists working or planning to work in the field of cardiovascular research will welcome Methods in Cardiovascular Research as the reference book they have been waiting for Not only general aspects of cardiovascular research are well presented but also detailed descriptions of methods protocols and practical examples Written by leading scientists in their field chapters cover classical methods such as the Langendorff heart or working heart models as well as numerous new techniques and methods Newcomers and experienced researchers alike will benefit from the troubleshooting guide in each chapter the extensive reference lists for advanced reading and the great practical experience of the authors

Methods in Cardiovascular Research is a must have for anybody with an interest in cardiovascular research      **Pitfalls and Errors of HPLC in Pictures** Veronika R. Meyer,2013-02-14 The third edition of this popular problem solving guide for this widely used method includes eleven completely new examples and several updated ones adding up to 100 contributions about pitfalls and errors in HPLC Each example is presented on a double page with the text on the left hand and a figure on the right hand side true to the motto a picture says more than a thousand words In addition the author presents essential fundamentals as well as helpful strategies such as equipment tests or quality assurance processes New in this edition Variability of the standard deviation Influence of the acid type and concentration in the eluent Water as an unintentional additive in the mobile phase Inadequate purity of mobile phase water Incomplete degassing Inadequate stabilization of the extraction solvent Tailing of phosphate compounds in the presence of steel Different detection properties of diastereomers Detector overload in ELSD System suitability test From repeatability to reproducibility A must have resource for all users showing how to use HPLC efficiently and obtain reliable results      **HPLC Made to Measure** Stavros Kromidas,2008-06-05

The only topical HPLC book to focus on optimization this volume addresses the needs of HPLC users who wish to constantly improve their methods in particular in terms of throughput accuracy and cost effectiveness This handbook features contributions from such bestselling authors as John W Dolan Michael McBrien Veronika R Meyer Uwe D Neue Lloyd R Snyder and Klaus K Unger as well as from scientists working for major companies including Agilent AstraZeneca Merck Schering Tosoh Biosep VWR and Waters It covers essential aspects of optimization in general optimization in different LC modalities hyphenated techniques and computer aided optimization The whole is rounded off with a section of user reports

**HPLC Troubleshooting** Günter J. Eppert,2003      **Essentials in Modern HPLC Separations** Serban C.

Moldoveanu,Victor David,2013 This book discusses in a systematic manner the role of separation in HPLC the types and characteristics of stationary phases and of mobile phases used in this technique as well as other factors influencing the separation The selection process of stationary and mobile phase for a specific separation is described as related to the physico chemical characteristics of the molecules to be separated and of their matrix All these subjects are discussed from the point of view of the new developments in HPLC The book also includes a part presenting the practice of modern HPLC as necessary for applications particularly related to the analysis of pharmaceutical and biological samples food and beverages environmental samples etc Gives a clear presentation of notions and concepts Discusses key parameters in HPLC separation Includes modern developments in HPLC Describes interrelation between various HPLC features solvent pressure separation detection Includes a large number of references      **HPLC Method Development for Pharmaceuticals**

Satinder Ahuja, Henrik Rasmussen,2011-09-21 High pressure or high performance liquid chromatography HPLC is the method of choice for checking purity of new drug candidates monitoring changes during scale up or revision of synthetic procedures evaluating new formulations and running control assurance of the final drug product HPLC Method Development

for Pharmaceuticals provides an extensive overview of modern HPLC method development that addresses these unique concerns Includes a review and update of the current state of the art and science of HPLC including theory modes of HPLC column chemistry retention mechanisms chiral separations modern instrumentation including ultrahigh pressure systems and sample preparation Emphasis has been placed on implementation in a pharmaceutical setting and on providing a practical perspective HPLC Method Development for Pharmaceuticals is intended to be particularly useful for both novice and experienced HPLC method development chemists in the pharmaceutical industry and for managers who are seeking to update their knowledge Covers the requirements for HPLC in a pharmaceutical setting including strategies for software and hardware validation to allow for use in a regulated laboratory Provides an overview of the pharmaceutical development process clinical phases chemical and pharmaceutical development activities Discusses how HPLC is used in each phase of pharmaceutical development and how methods are developed to support activities in each phase

*Fundamentals of Environmental Sampling and Analysis* Chunlong Zhang, 2007-03-09 An integrated approach to understanding the principles of sampling chemical analysis and instrumentation This unique reference focuses on the overall framework and why various methodologies are used in environmental sampling and analysis An understanding of the underlying theories and principles empowers environmental professionals to select and adapt the proper sampling and analytical protocols for specific contaminants as well as for specific project applications Covering both field sampling and laboratory analysis Fundamentals of Environmental Sampling and Analysis includes A review of the basic analytical and organic chemistry statistics hydrogeology and environmental regulations relevant to sampling and analysis An overview of the fundamentals of environmental sampling design sampling techniques and quality assurance quality control QA QC essential to acquire quality environmental data A detailed discussion of the theories of absorption spectroscopy for qualitative and quantitative environmental analysis metal analysis using various atomic absorption and emission spectrometric methods and the instrumental principles of common chromatographic and electrochemical methods An introduction to advanced analytical techniques including various hyphenated mass spectrometries and nuclear magnetic resonance spectroscopy With real life case studies that illustrate the principles plus problems and questions at the end of each chapter to solidify understanding this is a practical hands on reference for practitioners and a great textbook for upper level undergraduates and graduate students in environmental science and engineering

*Practical Instrumental Analysis* Sergio Petrozzi, 2012-09-24 This practical book in instrumental analytics conveys an overview of important methods of analysis and enables the reader to realistically learn the principally technology independent working techniques the analytical chemist uses to develop methods and conduct validation What is to be conveyed to the student is the fact that analysts in their capacity as problem solvers perform services for certain groups of customers i e the solution to the problem should in any case be processed in such a way as to be fit for purpose The book presents sixteen experiments in analytical chemistry laboratory courses They consist of

the classical curriculum used at universities and universities of applied sciences with chromatographic procedures atom spectrometric methods sensors and special methods e g field flow fractionation flow injection analysis and N determination according to Kjeldahl The carefully chosen combination of theoretical description of the methods of analysis and the detailed instructions given are what characterizes this book The instructions to the experiments are so detailed that the measurements can for the most part be taken without the help of additional literature The book is complemented with tips for effective literature and database research on the topics of organization and the practical workflow of experiments in analytical laboratory on the topic of the use of laboratory logs as well as on writing technical reports and grading them Evaluation Guidelines for Laboratory Experiments A small introduction to Quality Management a brief glance at the history of analytical chemistry as well as a detailed appendix on the topic of safety in analytical laboratories and a short introduction to the new system of grading and marking chemicals using the Globally Harmonized System of Classification and Labelling of Chemicals GHS round off this book This book is therefore an indispensable workbook for students internship assistants and lecturers in the area of chemistry biotechnology food technology and environmental technology in the basic training program of analytics at universities and universities of applied sciences     Practical Skills in Forensic Science Alan Langford, John R. Dean, Robert H. Reed, Jonathan D. B. Weyers, David Holmes, Allan M. Jones, 2018 If you are studying forensic science or a related course such as forensic chemistry or biology then this book will be an indispensable companion throughout your entire degree programme This one stop text will guide you through the wide range of practical analytical and data handling skills that you will need during your studies It will also give you a solid grounding in the wider transferable skills such as teamwork and study skills     *Quality Control Applications in the Pharmaceutical and Medical Device Manufacturing Industry* Carrillo-Cedillo, Eugenia Gabriela, Arredondo-Soto, Karina Cecilia, Palomino-Vizcaino, Kenia, Magaña-Badilla, Héctor Alfonso, 2022-03-18 Quality control in pharmaceutical products and medical devices is vital for users as failing to comply with national and international regulations can lead to accidents that could easily be avoided For this reason manufacturing a quality medical product will support patient safety Microbiologists working in both the pharmaceutical and medical device industries face considerable challenges in keeping abreast of the myriad microbiological references available to them and the continuously evolving regulatory requirements Quality Control Applications in the Pharmaceutical and Medical Device Manufacturing Industry presents the importance of quality control in pharmaceutical products and medical devices which must have very high quality standards to not cause problems to the health of patients It reinforces and updates the knowledge of analytical instrumental and biological methods to demonstrate the correct quality control and good manufacturing practice for pharmaceutical products and medical devices Covering topics such as pharmaceutical nano systems machine learning and software validation this book is an essential resource for managers engineers supervisors pharmacists chemists academicians and researchers     **Additives in Polymers** Jan C. J. Bart, 2005-04-08 This industrially

relevant resource covers all established and emerging analytical methods for the deformation of polymeric materials with emphasis on the non polymeric components Each technique is evaluated on its technical and industrial merits Emphasis is on understanding principles and characteristics and industrial applicability Extensively illustrated throughout with over 200 figures 400 tables and 3 000 references **HPLC for Pharmaceutical Scientists** Yuri V. Kazakevich, Rosario

LoBrutto, 2006-12-13 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 **Methods for Environmental Trace Analysis** John R. Dean, 2003-07-11 Provides the basic skills and

information required to prepare an environmental sample for analysis Divided into two sections i e Inorganic Analysis and Organic Analysis this book covers selected techniques principally atomic spectroscopy and chromatography Using flow diagrams to augment the experimental information it highlights the most appropriate methods and the likely results Detailed experimental information provided in an easy to follow style with illustrations Describes the specific sample preparation approaches necessary to analyse a particular sample type Discussion of selected literature sources highlights the most appropriate methods and the likely results obtained **Multivariate Methods in Chromatography** Tibor

Cserhati, 2008-09-15 A comprehensive compilation and evaluation of the newest results in the field of enumerate evaluation of chromatographic data Aimed at the practicing professional researchers and advanced students working in this area Special emphasis on practical applications While the principles of chromatography and multivariate mathematical statistical methods are discussed separately the book focuses on their interconnection Written by a chromatographer for chromatographers *Forensic Applications of Gas Chromatography* Michelle Groves Carlin, John Richard Dean, 2017-09-11

Several areas of forensic science use the technique of gas chromatography ranging from fire analysis to the investigation of fraudulent food and perfumes Covering the essentials of this powerful analytical technique Forensic Applications of Gas Chromatography explains the theory and shows applications of this knowledge to various realms of foren

**Bioavailability, Bioaccessibility and Mobility of Environmental Contaminants** John R. Dean, 2007-04-30 This book

covers all aspects of bioavailability as related to environmental contaminants After a discussion of the definition of bioavailability and its context focus is placed on the role of risk assessment and bioavailability Methods of analysis are then discussed including a range of atomic spectroscopic and electrochemical techniques for metal analysis and chromatographic approaches for persistent organic pollutants POPs The occurrence properties and eco toxicity of POPs and metals in the soil sediment environment are discussed Particular emphasis is placed on the uptake of POPs and metals by plants phytoextraction Examples of POPs and metals in the environment are reviewed Methods to assess the bioavailability of POPs and metals in the environment are discussed The particular approaches considered are non exhaustive extraction techniques single extraction techniques sequential extraction techniques use of cyclodextrin and surfactants in vitro gastrointestinal methods including physiological based extraction test the use of bioassays including earthworms Finally selected case studies highlight the importance of determining the bioavailability of POPs and metals

The HPLC-MS Handbook for Practitioners Stavros Kromidas, 2017-10-16 Dieses pr gnante kompakte und bersichtliche Fachbuch befasst sich ausschlie lich mit den praktischen Aspekten der HPLC MS Kopplung und vermittelt detailliert die Kenntnisse um diese Methode effizient einsetzen zu k nnen Nach einem berblick ber den aktuellen Wissensstand rund um HPLC MS und die eingesetzten Instrumente werden alle relevanten Aspekte der Methodenentwicklung erl utert Ein Kapitel zeigt Tipps und Tricks und enth lt Anwenderberichte zu den Vorteilen und T cken bei der Anwendung der Methode in der Praxis Abgerundet werden die Darstellungen durch einen Ausblick auf zuk nftige Entwicklungen renommierter Hersteller



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