

[eBooks] Introduction To Pharmaceutical Chemical Analysis

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pharmaceutical raw materials, finished

Introduction to Pharmaceutical Chemical Analysis - Steen Honoré Hansen - 2011-10-18

This textbook is the first to present a systematic introduction to chemical analysis of

pharmaceutical products, and of drugs in biological fluids, which are carried out in pharmaceutical laboratories worldwide. In addition, this textbook teaches the fundamentals of all the major analytical techniques used in the

Analysis - Steen Honoré Hansen - 2011-10-18 international pharmacopoeias and guidelines of importance for the field. It is primarily intended for the pharmacy student, to teach the requirements in “analytical chemistry” for the 5 years pharmacy curriculum, but the textbook is also intended for analytical chemists moving into the field of pharmaceutical analysis. Addresses the basic concepts, then establishes the foundations for the common analytical methods that are currently used in the quantitative and qualitative chemical analysis of pharmaceutical drugs Provides an understanding of common analytical techniques used in all areas of pharmaceutical development Suitable for a foundation course in chemical and pharmaceutical sciences Aimed at undergraduate students of degrees in Pharmaceutical Science/Chemistry Analytical Science/Chemistry, Forensic analysis Includes many illustrative examples

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Introduction to Pharmaceutical Analytical Chemistry - Stig Pedersen-Bjergaard - 2019-04-22

The definitive textbook on the chemical analysis of pharmaceutical drugs - fully revised and updated Introduction to Pharmaceutical Analytical Chemistry enables students to gain fundamental knowledge of the vital concepts, techniques and applications of the chemical analysis of pharmaceutical ingredients, final pharmaceutical products and drug substances in biological fluids. A unique emphasis on pharmaceutical laboratory practices, such as sample preparation and separation techniques,

framework for undergraduate studies in areas such as pharmaceutical sciences, analytical chemistry and forensic analysis. Suitable for foundational courses, this essential undergraduate text introduces the common analytical methods used in quantitative and qualitative chemical analysis of pharmaceuticals. This extensively revised second edition includes a new chapter on chemical analysis of biopharmaceuticals, which includes discussions on identification, purity testing and assay of peptide and protein-based formulations. Also new to this edition are improved colour illustrations and tables, a streamlined chapter structure and text revised for increased clarity and comprehension. Introduces the fundamental concepts of pharmaceutical analytical chemistry and statistics Presents a systematic investigation of pharmaceutical applications absent from other textbooks on the subject Examines various analytical techniques commonly used in

pharmaceutical products and drug substances in problems, up-to-date practical examples and detailed illustrations Includes updated content aligned with the current European and United States Pharmacopeia regulations and guidelines Covering the analytical techniques and concepts necessary for pharmaceutical analytical chemistry, Introduction to Pharmaceutical Analytical Chemistry is ideally suited for students of chemical and pharmaceutical sciences as well as analytical chemists transitioning into the field of pharmaceutical analytical chemistry.

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Practice and Research - Themistolēs P. Chatzēiōannou - 1993

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Essentials of Pharmaceutical Chemistry -

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Donald Cairns - 2012-01-01

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Chemical Analysis of the Environment and Other Modern Techniques - Sut Ahuja - 2012-12-06

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continues to provide you with practical statistical tests is one of the more thorough I have seen in this type of book . . . The treatment of linear regression is also thorough, and a complete set of equations for uncertainty in the results is presented . . . The bibliography is extensive and will serve as a valuable resource for those seeking more information on virtually any topic covered in the book."-Journal of American Chemical Society "This book treats the application of statistics to analytical chemistry in a very practical manner. [It] integrates PC computing power, testing programs, and analytical know-how in the context of good manufacturing practice/good laboratory practice (GMP/GLP) . . . The book is of value in many fields of analytical chemistry and should be available in all relevant libraries."-Chemometrics and Intelligent Laboratory Systems

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Quantitative chemical analysis - 1991

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Nicorandil & Antiulcerative Agent - Nissar
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Chemometrics and Intelligent Laboratory Systems

Vogel's Quantitative Chemical Analysis -
Mendham - 2009-09

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Stability Indicating HPTLC Method of

Shaikh - 2013

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Pharmaceutical Chemistry - Jill Barber - 2013-07-25

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Robustness of Analytical Chemical Methods and Pharmaceutical Technological Products

- M.M.W.B. Hendriks - 1996-12-11

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methods to improve this quality. It provides procedures and ideas on how to make a product or a method less sensitive to small variations in influencing factors. Major issues covered are robustness and stability improvement and ruggedness testing. General strategies and a theoretical introduction to these methods are described, and thorough overviews of methods used in both application areas and descriptions of practical applications are given. Features of this book: • Gives a good overview of mathematical and statistical methods used in two application areas, i.e. pharmaceutical technology and analytical chemistry • Illustrates the different approaches available to attain robustness • Gives ideas on how to use methods in practical situations. The book is intended for those who develop and optimize, and are responsible for the overall quality of, analytical methods and pharmaceutical technological products and procedures.

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An introduction to pharmaceutical and medical chemistry, theoretical and practical

- John Muter - 1874

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High-Performance Capillary Electrophoresis

- Morteza G. Khaledi - 1998-04-27

A complete and up-to-date manual on HPCE theory and practice High Performance Capillary Electrophoresis brings together in one volume essential coverage of the theory, techniques, and applications of this highly useful and efficient

with the rapid changes in this field and the experienced user of HPCE, this book features expert contributions from highly respected scientists representing a wide range of disciplines. Chapters, which are grouped into sections to make information easy to find, cover:

- * Theory and principles of the six HPCE techniques
- * Detection systems, including indirect detection
- * Essential operation topics such as sample introduction and stacking, coated capillaries, and method validation
- * Recently developed methods, including two-dimensional separations, nonaqueous CE, and HPCE on microchips
- * All of the basic HPCE applications, with an emphasis on bioanalytical uses
- * HPCE in the determination of physico-chemical properties of molecules

With features and capabilities that match--and even surpass--those of conventional electrophoresis and HPLC, high performance capillary electrophoresis (HPCE) is the fastest developing technology for the separation and analysis of chemical compounds. Keeping pace

wealth of journal articles on the subject is a difficult and time-consuming challenge for anyone needing a basic and up-to-date grasp of HPCE. This book makes it much easier to find this important information--with comprehensive one-source coverage of all of the essential aspects of HPCE theory, techniques, and applications. Featuring the contributions of well-qualified, highly regarded scientists, it is organized into sections on:

- * Theory and principles of HPCE techniques
- * Detection systems
- * Operation aspects and special methods in HPCE
- * Uses in chemical analysis
- * Physico-chemical studies

Specific topics addressed here that are not treated extensively by other books include two-dimensional separations, CE on microchips, nonaqueous CE, indirect detection, monitoring enzymatic reactions, and more. As interest in HPCE continues to grow, it is clear that this technology has much to offer researchers and others working in disciplines

such as sample introduction and stacking, coated biochemistry to pharmaceutical chemistry and biotechnology. High Performance Capillary Electrophoresis equips scientists and students with the knowledge they need to take immediate advantage of the exciting potential of HPCE.

High-Performance Capillary Electrophoresis

- Morteza G. Khaledi - 1998-04-27

A complete and up-to-date manual on HPCE theory and practice High Performance Capillary Electrophoresis brings together in one volume essential coverage of the theory, techniques, and applications of this highly useful and efficient technology. Suitable for the novice as well as the experienced user of HPCE, this book features expert contributions from highly respected scientists representing a wide range of disciplines. Chapters, which are grouped into sections to make information easy to find, cover:

* Theory and principles of the six HPCE techniques * Detection systems, including indirect detection * Essential operation topics

capillaries, and method validation * Recently developed methods, including two-dimensional separations, nonaqueous CE, and HPCE on microchips * All of the basic HPCE applications, with an emphasis on bioanalytical uses * HPCE in the determination of physico-chemical properties of molecules With features and capabilities that match--and even surpass--those of conventional electrophoresis and HPLC, high performance capillary electrophoresis (HPCE) is the fastest developing technology for the separation and analysis of chemical compounds. Keeping pace with the rapid changes in this field and the wealth of journal articles on the subject is a difficult and time-consuming challenge for anyone needing a basic and up-to-date grasp of HPCE. This book makes it much easier to find this important information--with comprehensive one-source coverage of all of the essential aspects of HPCE theory, techniques, and applications. Featuring the contributions of well-

first proposed in 1975 by Ruzicka and Hansen, organized into sections on: * Theory and principles of HPCE techniques * Detection systems * Operation aspects and special methods in HPCE * Uses in chemical analysis * Physico-chemical studies Specific topics addressed here that are not treated extensively by other books include two-dimensional separations, CE on microchips, nonaqueous CE, indirect detection, monitoring enzymatic reactions, and more. As interest in HPCE continues to grow, it is clear that this technology has much to offer researchers and others working in disciplines ranging from analytical chemistry and biochemistry to pharmaceutical chemistry and biotechnology. High Performance Capillary Electrophoresis equips scientists and students with the knowledge they need to take immediate advantage of the exciting potential of HPCE.

Advances in Flow Injection Analysis and Related Techniques - - 2008

The concept of flow injection analysis (FIA) was

and this initiated a field of research that would, over more than three decades, involve thousands of researchers, and which has to date resulted in close to 20,000 publications in the international scientific literature. Since its introduction, a number of books, including some specialized monographs, have been published on this subject with the latest in 2000. However, in this decade there has been a number of significant advances in the flow analysis area, and in particular in sequential injection analysis (SIA) techniques, and more recently with the introduction of Lab on a Valve (LOV) and bead injection flow systems. This book aims to cover the most important advances in these new areas, as well as in classical FIA, which still remains the most popular flow analysis technique used in analytical practice. Topics covered in the 23 chapters include the fundamental and underlying principles of flow analysis and associated equipment, the fluid-dynamic theory of FIA, an

Presents important applications in all major atomic and molecular spectrometry, electroanalytical methods). In addition, there are several chapters on on-line separation (e.g. filtration, gas diffusion, dialysis, pervaporation, solvent and membrane extraction, and chromatography), as well as on other sample pretreatment techniques, such as digestion. The book also incorporates several chapters on major areas of application of flow analysis in industrial process monitoring (e.g food and beverages, drugs and pharmaceuticals), environmental and agricultural analysis and life sciences. The contributing authors, who include the founders of flow injection analysis, are all leading experts in flow analytical techniques, and their chapters not only provide a critical review of the current state of this area, but also suggest future trends. Provides a critical review of the current state of and future trends in flow analytical techniques Offers a comprehensive elucidation of the principles and theoretical basis of flow analysis

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Design of Experiments for Chemical, Pharmaceutical, Food, and Industrial Applications - Carrillo-Cedillo, Eugenia Gabriela - 2019-12-13

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Modern Supercritical Fluid Chromatography

- Larry M. Miller - 2019-12-12

Explains why modern supercritical fluid chromatography (SFC) is the leading "green" analytical and purification separations technology. Modern supercritical fluid chromatography (SFC) is the leading method used to analyze and purify chiral and achiral chemical compounds, many of which are pharmaceuticals, pharmaceutical candidates, and natural products including cannabis-related compounds. This book covers current SFC instrumentation as it relates to greater robustness, better reproducibility, and increased analytical sensitivity. Modern Supercritical Fluid Chromatography: Carbon Dioxide Containing Mobile Phases covers the history, instrumentation, method development and

readers with an overview of analytical and preparative SFC equipment, stationary phases, and mobile phase choices. Topics covered include: Milestones of Supercritical Fluid Chromatography; Physical Properties of Supercritical Fluids; Instrumentation for SFC; Detection in SFC; Achiral SFC Method Development; Chiral SFC Method Development; and Preparative Scale SFC. The book also includes highlights of modern applications of SFC in the final chapters—namely pharmaceuticals, consumer products, foods, polymers, petroleum-related mixtures, and cannabis—and discusses the future of SFC. Provides a clear explanation of the physical and chemical properties of supercritical fluids, which gives the reader a better understanding of the basis for improved performance in SFC compared to HPLC and GC Describes the advantages of SFC as a green alternative to HPLC and GC for the analysis of both polar,

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both achiral and chiral SFC method development, including modifiers, additives, the impact of temperature and pressure, and stationary phase choices Details why SFC is the premier modern preparative chromatographic technique used to purify components of mixtures for subsequent uses, both from performance and economic perspectives Covers numerous detectors, with an emphasis on SFC-MS, SFC-UV, and SFC-ELSD (evaporative light scattering detection) Describes the application of SFC to numerous high-value application areas Modern Supercritical Fluid Chromatography: Carbon Dioxide Containing Mobile Phases will be of great interest to professionals, students, and professors involved in analytical, bioanalytical, separations science, medicinal, petroleum, and environmental chemistries. It will also appeal to pharmaceutical scientists, natural-product scientists, food and consumer-products scientists, chemical engineers, and managers in these areas.

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NMR Spectroscopy in Pharmaceutical Analysis - Iwona Wawer - 2017-07-07

For almost a decade, quantitative NMR spectroscopy (qNMR) has been established as

polymorphism, and drug formulations, e.g. e. drug identification, impurity profiling and assay, qNMR can be utilized. Separation techniques such as high performance liquid chromatography, gas chromatography, super fluid chromatography and capillary electrophoresis techniques, govern the purity evaluation of drugs. However, these techniques are not always able to solve the analytical problems often resulting in insufficient methods. Nevertheless such methods find their way into international pharmacopoeias. Thus, the aim of the book is to describe the possibilities of qNMR in pharmaceutical analysis. Beside the introduction to the physical fundamentals and techniques the principles of the application in drug analysis are described: quality evaluation of drugs, polymer characterization, natural products and corresponding reference compounds, metabolism, and solid phase NMR spectroscopy for the characterization drug substances, e.g. the water content,

tablets, powders. This part is accompanied by more special chapters dealing with representative examples. They give more detailed information by means of concrete examples. Combines theory, techniques, and concrete applications—all of which closely resemble the laboratory experience. Considers international pharmacopoeias, addressing the concern for licensing. Features the work of academics and researchers, appealing to a broad readership

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Practical Pharmaceutical Chemistry - Payal Verma - 2008

The rapid development of chemical, physico-chemical and instrumental techniques and their wide spread application in Pharmaceutical Chemistry, together with the introduction of several new drugs, has created a need to write this book of Practical Pharmaceutical Chemistry. In pharmaceuticals, it is very essential to have sensitive, accurate precise and selective methods of analysis for quality assurance. This book of Practical Pharmaceutical Chemistry is written with an idea to provide the coverage of different methods of analysis. It will be useful for analysts, quality control chemist and res.

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Pharmaceutical chemistry is the study of drugs, and it involves drug development. This includes drug discovery, delivery, absorption, metabolism, and more. There are elements of biomedical analysis, pharmacology, pharmacokinetics, and pharmacodynamics. Pharmaceutical chemistry work is usually done in a lab setting. Drug discovery is the core of pharmaceutical chemistry. The drug discovery process includes all the stages of drug development, from targeting a disease or medical condition to toxicity studies in animals, or even, by some definitions, testing the drug on human subjects. Typically, conditions that affect a larger percentage of the population receive more attention and more research funding. Antiulcer drugs and cholesterol- reducing agents are currently the therapeutic areas of greatest emphasis. To develop a drug to target a specific disease, researchers try to understand the biological mechanism responsible for that

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Textbook of Pharmaceutical Inorganic Chemistry - Ali Mohammed - 2018-01-30

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Spectrophotometric methods for the
Pharmaceutical Dosage Forms - Palanirajan
Vijayaraj Kumar - 2012

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Capillary Electrophoresis Methods for Pharmaceutical Analysis - Satinder Ahuja - 2011-08-09

Capillary electrophoresis (CE) is a powerful analytical technique that is widely used in research and development and in quality control of pharmaceuticals. Many reports of highly efficient separations and methods have been published over the past 15 years. CE offers several advantages over high-pressure or high-

These include simplicity, rapid analysis, automation, ruggedness, different mechanisms for selectivity, and low cost. Moreover, EC requires smaller sample size and yet offers higher efficiency and thus greater resolution power over HPLC. These characteristics are very attractive in research and development, even more so in pharmaceutical quality control (QC) and stability monitoring (SM) studies. This book will provide busy pharmaceutical scientists a complete yet concise reference guide for utilizing the versatility of CE in new drug development and quality control. - Provides current status and future developments in CE analysis of pharmaceuticals. - Explains how to develop and validate methods. - Includes major pharmaceutical applications including assays and impurity testing.

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Inorganic Pharmaceutical Chemistry - Dr. K. G. Bothara - 2008-10-07

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Analytical Chemistry and Quantitative Analysis - David S. Hage - 2011

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Analytical Chemistry and Quantitative

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Selectivity and Detectability Optimizations

in HPLC - Satinder Ahuja - 1989-06-06

High Performance Liquid Chromatography

Edited by Phyllis Brown and Richard Hartwick

This contributed volume is designed to consolidate the basic theories of chromatography along with the more exciting developments in the field. This monograph addresses some questions that concern researchers in separation science, including: what is the current state of the art in liquid chromatography; has the development of liquid chromatography plateaued; if so, what new methods will take its place or complement it; and

direction will liquid chromatography take? 1989 (0 471-84506-X) 688 pp. Quantitative Structure-Chromatographic Retention Relationships R. Kaliszan Written by a pioneer in the field, this book extends and updates research on quantitative structure retention relationships by consolidating and critically reviewing the extensive literature on the subject, while also providing the basic theoretical and practical information required in all investigations involving chromatography, analytical chemistry, biochemistry, and pharmaceutical research. Among the topics covered are the nature of chromatographic interactions, molecular interpretation of distribution processes in chromatography, topological indices as retention descriptors, and multiparameter structure-chromatographic retention relationships. 1987 (0 471-85983-4) 303 pp. Detectors for Liquid Chromatography Edited by Edward S. Yeung With its singular coverage of this fast-growing

that concern researchers in separation science, presents the state of the art in this subject area. It offers a comprehensive examination of the basic principles behind the detector response, instrumentation, and selected applications for comparison and evaluation of potential. Specifically, topics given in-depth coverage include polarimetric, indirect absorbance, refractive index detectors, absorption detectors for HPLC, FTIR and fluorometric detection, detection based on electrical and electromechanical measurements, and mass spectroscopy as an on-line detector for HPLC. 1986 (0 471-82169-1) 366 pp.

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Edited by Phyllis Brown and Richard Hartwick

This contributed volume is designed to consolidate the basic theories of chromatography along with the more exciting developments in the field. This monograph addresses some questions

including: what is the current state of the art in liquid chromatography; has the development of liquid chromatography plateaued; if so, what new methods will take its place or complement it; and if not, where will the new frontiers be and what direction will liquid chromatography take? 1989 (0 471-84506-X) 688 pp. Quantitative Structure-Chromatographic Retention Relationships R. Kaliszan Written by a pioneer in the field, this book extends and updates research on quantitative structure retention relationships by consolidating and critically reviewing the extensive literature on the subject, while also providing the basic theoretical and practical information required in all investigations involving chromatography, analytical chemistry, biochemistry, and pharmaceutical research. Among the topics covered are the nature of chromatographic interactions, molecular interpretation of distribution processes in chromatography, topological indices as retention

Organic Pharmaceutical Chemistry - Dr. K. G. chromatographic retention relationships. 1987 (0 471-85983-4) 303 pp. Detectors for Liquid Chromatography Edited by Edward S. Yeung With its singular coverage of this fast-growing field, Detectors for Liquid Chromatography presents the state of the art in this subject area. It offers a comprehensive examination of the basic principles behind the detector response, instrumentation, and selected applications for comparison and evaluation of potential. Specifically, topics given in-depth coverage include polarimetric, indirect absorbance, refractive index detectors, absorption detectors for HPLC, FTIR and fluorometric detection, detection based on electrical and electromechanical measurements, and mass spectroscopy as an on-line detector for HPLC. 1986 (0 471-82169-1) 366 pp.

Organic Pharmaceutical Chemistry - Dr. K. G. Bothara - 2008-01-07

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Elementary instruction in chemical analysis [tr. from Anleitung zur qualitativen chemischen Analyse] ed. by J.L. Bullock - Carl Remigius Fresenius - 1876

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A Course of Qualitative Chemical Analysis - William George Valentin - 1880

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Trace Quantitative Analysis by Mass Spectrometry - Robert K. Boyd - 2011-08-24
This book provides a serious introduction to the subject of mass spectrometry, providing the

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New Developments in Nanosensors for Pharmaceutical Analysis - Sibel A. Ozkan - 2019-05-22

New Developments for Nanosensors in Pharmaceutical Analysis presents an overview of developments in nanosensor usage in pharmaceutical analysis, thereby helping pharmaceutical companies attain reliable, precise, and accurate analysis of pharmaceuticals. This book presents very simple, precise, sensitive, selective, fast, and relatively inexpensive methods for pre-treatment, prior to analysis. These methods may be considered for further application in clinical studies and assays. The book includes the manufacturing of sensors for pharmaceutical analysis at nano- or smaller scales, and gives simple and relatable designs for the fabrication of sensors. Twelve chapters cover

ways to optimize pharmaceutical processes with techniques, mechanism effect of nanomaterials on structure, optical nanosensors for pharmaceutical detection, chemical nanosensors in pharmaceutical analysis, noble metal nanoparticles in electrochemical analysis of drugs, photo-electrochemical nanosensors for drug analysis, molecularly imprinted polymer based nanosensors for pharmaceutical analysis, nanomaterials for drug delivery systems, nanomaterials enriched nucleic acid-based biosensors, nanosensors in biomarker detection, and nanomaterials-based enzyme biosensors for electrochemical applications. Presents nanosensor types, synthesis, immobilizations and applications in different fields Gives simple repeatable designs for the fabrication of sensors for pharmaceutical analysis Details how to carry out sensitive analysis of pharmaceuticals using nanosensors Describes how to synthesize and immobilize nanosensors, and how nanosensors can be applied in drug assay Proposes innovative

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Thin Layer Chromatography in Drug

pharmaceutical detection, chemical nanosensors in pharmaceutical analysis, noble metal nanoparticles in electrochemical analysis of drugs, photo-electrochemical nanosensors for drug analysis, molecularly imprinted polymer based nanosensors for pharmaceutical analysis, nanomaterials for drug delivery systems, nanomaterials enriched nucleic acid-based biosensors, nanosensors in biomarker detection, and nanomaterials-based enzyme biosensors for electrochemical applications. Presents nanosensor types, synthesis, immobilizations and applications in different fields Gives simple repeatable designs for the fabrication of sensors for pharmaceutical analysis Details how to carry out sensitive analysis of pharmaceuticals using nanosensors Describes how to synthesize and immobilize nanosensors, and how nanosensors can be applied in drug assay Proposes innovative ways to optimize pharmaceutical processes with nanosensors

Analysis - Lukasz Komsta - 2013-12-20

Used routinely in drug control laboratories, forensic laboratories, and as a research tool, thin layer chromatography (TLC) plays an important role in pharmaceutical drug analyses. It requires less complicated or expensive equipment than other techniques, and has the ability to be performed under field conditions. Filling the need for an up-to-date, complete reference, Thin Layer Chromatography in Drug Analysis covers the most important methods in pharmaceutical applications of TLC, namely, analysis of bulk drug material and pharmaceutical formulations, degradation studies, analysis of biological samples, optimization of the separation of drug classes, and lipophilicity estimation. The book is divided into two parts. Part I is devoted to general topics related to TLC in the context of drug analysis, including the chemical basis of TLC, sample preparation, the optimization of layers and mobile phases, detection and

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separation and analysis of chiral substances. The text addresses the newest advances in TLC instrumentation, two-dimensional TLC, quantification by slit scanning densitometry and image analysis, statistical processing of data, and various detection and identification methods. It also describes the use of TLC for solving a key issue in the drug market—the presence of substandard and counterfeit pharmaceutical products. Part II provides an in-depth overview of a wide range of TLC applications for separation and analysis of particular drug groups. Each chapter contains an introduction about the structures and medicinal actions of the described substances and a literature review of their TLC analysis. A useful resource for chromatographers, pharmacists, analytical chemists, students, and R&D, clinical, and forensic laboratories, this book can be utilized as a manual, reference, and teaching source.

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Essentials of Pharmaceutical Analysis -
Muhammad Sajid Hamid Akash - 2019-12-17

and biotechnology have facilitated the production, design, formulation and use of various types of pharmaceuticals and biopharmaceuticals. This book provides detailed information on the background, basic principles, and components of techniques used for the analysis of pharmaceuticals and biopharmaceuticals. Focusing on those analytical techniques that are most frequently used for pharmaceuticals, it classifies them into three major sections and 19 chapters, each of which discusses a respective technique in detail. Chiefly intended for graduate students in the pharmaceutical sciences, the book will familiarize them with the components, working principles and practical applications of these indispensable analytical techniques.

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