Oral Bioavailability Assessment Basics And Strategies For Drug Discovery And Development Wiley Series On Pharmaceutical Science And Biotechnology Practices Applications And Methods

Antibiotics and Antimicrobial Resistance Genes
Bioavailability of Contaminants in Soils and Sediments
Atkinson's Principles of Clinical Pharmacology
A Comprehensive Guide to Toxicology in Nonclinical Drug Development
Fundamentals of HIV Medicine 2019
Environmental Occurrence and Treatment Technologies
Basic & Applied Pharmacokinetics Self Assessment
Volume II: Specific Metals
Processes, Tools, and Applications
Basic Fundamentals of Drug Delivery
Protein Analysis using Mass Spectrometry
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Medical Mineralogy and Geochemistry
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An Integrated Textbook and Computer Simulations
Patient Assessment in Clinical Pharmacy
Developing Solid Oral Dosage Forms
A Comprehensive Guide
Developing Solid Oral Dosage Forms
Dermal Absorption and Toxicity Assessment
Volume 1: Expectations and Realities of Multifunctional Drug Delivery Systems
Basic Principles, Advanced Concepts, and Applications
Fundamentals of Geriatric Pharmacotherapy

Assessing Oral Bioavailability of Metals in Soil
Drug Delivery Systems
Accelerating Protein Biotherapeutics from Lab to Patient
Basic Physical Pharmacy
Pharmaceutical Theory and Practice
Novel Drug Delivery Systems for Phytoconstituents
Biomedical Applications of Nanoparticles
Theory, Practice, Methods, and Applications
Oral Controlled Release Formulation Design and Drug Delivery

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Antibiotics and Antimicrobial Resistance Genes Academic Press
TRPV4 is a ligand-gated Na+/Ca2+ ion channel that is highly expressed in the pulmonary vasculature and its activation is believed to cause the debilitating pulmonary edema associated with heart failure. We identified the pyrrolidine sulfonamide 1 as a promising pre-candidate but were unable to progress the compound into a rat safety assessment study due to its poor oral bioavailability (7%) from high dose crystalline solid. Therefore, we implemented two strategic approaches to overcome the poor suspension dose oral exposure, both of which were aimed at improving aqueous solubility by introducing basic amines. A glycinate prodrug (2) provided excellent exposure of the parent when orally administered at both low and high doses in the rat and dog. We also converted the diol to the corresponding amino-alcohol, taking advantage of the reduced lipophilicity of 1 that was necessary to mitigate selectivity concerns (hERG and phospholipidosis) that had been identified in earlier, more lipophilic amino-alcohol analogs. This led to the identification of 3, a TRPV4 antagonist development candidate.
Bioavailability of Contaminants in Soils and Sediments ASHP
A comprehensive introduction to using modeling and simulationprograms in drug discovery and development Biopharmaceutical modeling has become integral to the design anddevelopment of new drugs. Influencing key aspects of thedevelopment process, including drug substance design, formulationdesign, and toxicological exposure assessment, biopharmaceuticalmodeling is now seen as the linchpin to a drug's future success.And while there are a number of commercially available softwareprograms for drug modeling, there has not been a single resourceguiding pharmaceutical professionals to the actual tools andpractices needed to design and test safe drugs. A guide to the basics of modeling and simulation programs,Biopharmaceutics Modeling and Simulations offerspharmaceutical scientists the keys to understanding how they workand are applied in creating drugs with desired medicinalproperties. Beginning with a focus on the oral absorption of drugs,the book discusses: The central dogma of oral drug absorption (the interplay ofdissolution,

solubility, and permeability of a drug), which formsthe basis of the biopharmaceutical classification system (BCS) The concept of drug concentration How to simulate key drug absorption processes The physiological and drug property data used forbiopharmaceutical modeling Reliable practices for reporting results With over 200 figures and illustrations and a peerlessexamination of all the key aspects of drug research—includingrunning and interpreting models, validation, and compound andformulation selection—this reference seamlessly bringstogether the proven practical approaches essential to developingthe safe and effective medicines of tomorrow.

Atkinson's Principles of Clinical Pharmacology John Wiley & Sons

This volume summarizes and updates information about antibiotics and antimicrobial resistance (AMR)/antibiotic resistant genes (ARG) production, including their entry routes in soil, air, water and sediment, their use in hospital and associated waste, global and temporal trends in use and spread of antibiotics, AMR and ARG. Antimicrobial/antibiotic resistance genes due to manure and agricultural waste applications, bioavailability, biomonitoring, and their Epidemiological, ecological and public health effects. The book addresses the antibiotic and AMR/ARG risk assessment and treatment technologies, for managing antibiotics and AMR/ARG impacted environments The book's expert contributions span 20 chapters, and offer a comprehensive framework for better understanding and analyzing the environmental and social impacts of antibiotics and AMR/ARGs. Readers will have access to recent and updated models regarding the interpretation of antibiotics and AMR/ARGs in environment and biomonitoring studies, and will learn about the management options require to appropriately mitigate environmental contaminants and pollution. The book will be of interest to students, teachers, researchers, policy makers and environmental organizations.

A Comprehensive Guide to Toxicology in Nonclinical Drug Development Springer Nature

By 2050, the world’s 65 and older population will double, and the 85 and older population will grow fivefold. As the number of older patients surges, so too will the medication management challenges pharmacists and other health care providers face in this population. For the Geriatric population, complex cases are often the norm. Providing safe and effective care can mean considering assessments of function and cognition, contacting multiple prescribers, and understanding a patient’s history, beliefs, and caregiving situation before making therapeutic decisions. Fundamentals of Geriatric Pharmacotherapy, Second Edition gives practitioners the information they need to improve outcomes and personalize care for elderly patients. New to this edition are new chapters on “Palliative and Hospice Care” and “Infections and Antimicrobial Stewardship”. Additional enhancements in this edition include added links to new guidelines, assessment tools, and videos. Additional cases and a study guide will match the content map for certified geriatric pharmacists examination. Useful features throughout the book guide practitioners in navigating the maze of information required when caring for the older patient. These include: Summarized treatment guidelines

Reviews of the evidence base Special focus on recommendations for the frail elderly Full case studies in each chapter Clinical Pearls Key Points and Key Terms (with definitions) in each chapter The demands of an aging population mean that a greater understanding of geriatric pharmacotherapy I now essential for all health care providers. Fundamentals of geriatric Pharmacotherapy, Second Edition ensures had the information to allow providers to respond appropriately

Fundamentals of HIV Medicine 2019 BoD – Books on Demand

Explore the latest research in biopharmaceutics from leading contributors in the field In Biopharmaceutics - From Fundamentals to Industrial Practice, distinguished Scientists from the UK's Academy of Pharmaceutical Sciences Biopharmaceutica Focus Group deliver a comprehensive examination of the tools used within the field of biopharmaceutics and their applications to drug development. This edited volume is an indispensable tool for anyone seeking to better understand the field of biopharmaceutics as it rapidly develops and evolves. Beginning with an expansive introduction to the basics of biopharmaceutics and the context that underpins the field, the included resources go on to discuss how biopharmaceutics are integrated into product development within the pharmaceutical industry. Explorations of how the regulatory aspects of biopharmaceutics function, as well as the impact of physiology and anatomy on the rate and extent of drug absorption, follow. Readers will find insightful discussions of physiologically based modeling as a valuable asset in the biopharmaceutics toolkit and how to apply the principles of the field to special populations. The book goes on to discuss: Thorough introductions to biopharmaceutics, basic pharmacokinetics, and biopharmaceutics measures Comprehensive explorations of solubility, permeability, and dissolution Practical discussions of the use of biopharmaceutics to inform candidate drug selection and optimization, as well as biopharmaceutics tools for rational formulation design In-depth examinations of biopharmaceutics classification systems and regulatory biopharmaceutics, as well as regulatory biopharmaceutics and the impact of anatomy and physiology Perfect for professionals working in the pharmaceutical and biopharmaceutical industries, Biopharmaceutics - From Fundamentals to Industrial Practice is an incisive and up-to-date resource on the practical, pharmaceutical applications of the field.

Environmental Occurrence and Treatment Technologies CRC Press

Oral Drug Absorption, Second Edition thoroughly examines the special equipment and methods used to test whether drugs are released adequately when administered orally. The contributors discuss methods for accurately establishing and validating in vitro/in vivo correlations for both MR and IR formulations, as well as alternative approaches for MR an

Basic & Applied Pharmacokinetics Self Assessment William Andrew

The essential work in HIV for providers and pharmacists -- updated with everything they need to know in 2019! Assembled by the leading educational organization in HIV medicine, AAHIVM's Fundamentals of HIV Medicine 2019 is an end-to-end clinical resource for the treatment of individuals with HIV/AIDS. It

offers state-of-the-art practical advice for physicians, pharmacists, nurse practitioners, and other professionals working in the care of HIV patients. Along with updates to the classic domains of HIV medicine, this new edition features expanded coverage of emerging topics, including: behavioral and therapeutic interventions to HIV prevention; updates on the pursuit of a cure; new DHHS and IAS guidelines and their clinical implications; and the myriad issues around aging with HIV. Embodying the American Academy of HIV Medicine's commitment to excellence in the care of seropositive patients, Fundamentals of HIV Medicine 2019 is must-have for health professionals across HIV care, treatment, and prevention.

Volume II: Specific Metals John Wiley & Sons

The first book to offer a blueprint for overcoming the challenges to successfully quantifying biomarkers in living organisms The demand among scientists and clinicians for targeted quantitation experiments has experienced explosive growth in recent years. While there are a few books dedicated to bioanalysis and biomarkers in general, until now there were none devoted exclusively to addressing critical issues surrounding this area of intense research. Target Biomarker Quantitation by LC-MS provides a detailed blueprint for quantifying biomarkers in biological systems. It uses numerous real-world cases to exemplify key concepts, all of which were carefully selected and presented so as to allow the concepts they embody to be easily expanded to future applications, including new biomarker development. Target Biomarker Quantitation by LC-MS primarily focuses on the assay establishment for biomarker quantitation—a critical issue rarely treated in depth. It offers comprehensive coverage of three core areas of biomarker assay establishment: the relationship between the measured biomarkers and their intended usage; contemporary regulatory requirements for biomarker assays (a thorough understanding of which is essential to producing a successful and defendable submission); and the technical challenges of analyzing biomarkers produced inside a living organism or cell. Covers the theory of and applications for state-of-the-art mass spectrometry and chromatography and their applications in biomarker analysis Features real-life examples illustrating the challenges involved in target biomarker quantitation and the innovative approaches which have been used to overcome those challenges Addresses potential obstacles to obtain effective biomarker level and data interpretation, such as specificity establishment and sample collection Outlines a tiered approach and fit-for-purpose assay protocol for target biomarker quantitation Highlights the current state of the biomarker regulatory environment and protocol standards Target Biomarker Quantitation by LC-MS is a valuable resource for bioanalytical scientists, drug metabolism and pharmacokinetics scientists, clinical scientists, analytical chemists, and others for whom biomarker quantitation is an important tool of the trade. It also functions as an excellent text for graduate courses in pharmaceutical, biochemistry and chemistry.

Processes, Tools, and Applications Academic Press

Dosage Form Design Parameters, Volume I, examines the history and current state of the field within the

pharmaceutical sciences, presenting key developments. Content includes drug development issues, the scale up of formulations, regulatory issues, intellectual property, solid state properties and polymorphism. Written by experts in the field, this volume in the Advances in Pharmaceutical Product Development and Research series deepens our understanding of dosage form design parameters. Chapters delve into a particular aspect of this fundamental field, covering principles, methodologies and the technologies employed by pharmaceutical scientists. In addition, the book contains a comprehensive examination suitable for researchers and advanced students working in pharmaceuticals, cosmetics, biotechnology and related industries. Examines the history and recent developments in drug dosage forms for pharmaceutical sciences Focuses on physicochemical aspects, prefomulation solid state properties and polymorphism Contains extensive references for further discovery and learning that are appropriate for advanced undergraduates, graduate students and those interested in drug dosage design

Basic Fundamentals of Drug Delivery Springer

Handbook on the Toxicology of Metals, Volume II: Specific Metals, Fifth Edition provides complete coverage of 38 individual metals and their compounds. This volume is the second volume of a two-volume work which emphasizes toxic effects in humans, along with discussions on the toxic effects of animals and biological systems in vitro when relevant. The book has been systematically updated with the latest studies and advances in technology. As a multidisciplinary resource that integrates both human and environmental toxicology, the book is a comprehensive and valuable reference for toxicologists, physicians, pharmacologists, and environmental scientists in the fields of environmental, occupational and public health. Contains peer-reviewed chapters that deal with the effects of metallic elements and their compounds on biological systems with a focus on human health effects Includes information on sources, transport, and the transformation of metals in the environment Provides critical information on the properties, use, biological monitoring, dose-response relationships, diagnosis, treatment, and prevention of 38 metallic elements and their compounds

Protein Analysis using Mass Spectrometry John Wiley & Sons

In order to avoid late-stage drug failure due to factors such as undesirable metabolic instability, toxic metabolites, drug-drug interactions, and polymorphic metabolism, an enormous amount of effort has been expended by both the pharmaceutical industry and academia towards developing more powerful techniques and screening assays to identify the metabolic profiles and enzymes involved in drug metabolism. This book presents some in-depth reviews of selected topics in drug metabolism. Among the key topics covered are: the interplay between drug transport and metabolism in oral bioavailability; the influence of genetic and epigenetic factors on drug metabolism; impact of disease on transport and metabolism; and the use of novel microdosing techniques and novel LC/MS and genomic technologies to predict the metabolic parameters and profiles of potential new drug candidates.

Biopharmaceutics John Wiley & Sons

Basic Fundamentals of Drug Delivery covers the fundamental principles, advanced methodologies and technologies employed by pharmaceutical scientists, researchers and pharmaceutical industries to transform a drug candidate or new chemical entity into a final administrable drug delivery system. The book also covers various approaches involved in optimizing the therapeutic performance of a biomolecule while designing its appropriate advanced formulation. Provides up-to-date information on translating the physicochemical properties of drugs into drug delivery systems Explores how drugs are administered via various routes, such as orally, parenterally, transdermally or through inhalation Contains extensive references and further reading for course and self-study

Oral Drug Absorption John Wiley & Sons

Bioavailability refers to the extent to which humans and ecological receptors are exposed to contaminants in soil or sediment. The concept of bioavailability has recently piqued the interest of the hazardous waste industry as an important consideration in deciding how much waste to clean up. The rationale is that if contaminants in soil and sediment are not bioavailable, then more contaminant mass can be left in place without creating additional risk. A new NRC report notes that the potential for the consideration of bioavailability to influence decision-making is greatest where certain chemical, environmental, and regulatory factors align. The current use of bioavailability in risk assessment and hazardous waste cleanup regulations is demystified, and acceptable tools and models for bioavailability assessment are discussed and ranked according to seven criteria. Finally, the intimate link between bioavailability and bioremediation is explored. The report concludes with suggestions for moving bioavailability forward in the regulatory arena for both soil and sediment cleanup.

Basic Skills in Interpreting Laboratory Data National Academies Press

Drug Delivery Systems examines the current state of the field within pharmaceutical science and concisely explains the history of drug delivery systems, including key developments. The book translates the physicochemical properties of drugs into drug delivery systems administered via various routes, such as oral, parenteral, transdermal and inhalational. Regulatory and product development topics are also explored. Written by experts in the field, this volume in the Advances in Pharmaceutical Product Development and Research series deepens our understanding of drug delivery systems within the pharmaceutical sciences industry and research, as well as in chemical engineering. Each chapter delves into a particular aspect of this fundamental field to cover the principles, methodologies and technologies employed by pharmaceutical scientists. This book provides a comprehensive examination that is suitable for researchers and advanced students working in pharmaceuticals, cosmetics, biotechnologies, and related industries. Provides up-to-date information on how to translate the physicochemical properties of drugs into drug delivery systems Explores how drugs are administered via various routes, such as oral, parenteral, transdermal and inhalational Contains extensive references and further reading for course and self-study

Oral Bioavailability ASHP
Bioavailability refers to the extent to which humans and ecological receptors are exposed to contaminants in soil or sediment. The concept of bioavailability has recently piqued the interest of the hazardous waste industry as an important consideration in deciding how much waste to clean up. The rationale is that if contaminants in soil and sediment are not bioavailable, then more contaminant mass can be left in place without creating additional risk. A new NRC report notes that the potential for the consideration of bioavailability to influence decision-making is greatest where certain chemical, environmental, and regulatory factors align. The current use of bioavailability in risk assessment and hazardous waste cleanup regulations is demystified, and acceptable tools and models for bioavailability assessment are discussed and ranked according to seven criteria. Finally, the intimate link between bioavailability and bioremediation is explored. The report concludes with suggestions for moving bioavailability forward in the regulatory arena for both soil and sediment cleanup.
The Era of Nanotechnology CRC Press
More than 800 high-yield Q&A provide the preparation you need to ace the ABA BASIC Examination Here's a great way to boost your confidence – and your score -- on the high-stakes American Board of Anesthesiology BASIC Exam. This powerful, results-oriented review delivers more than 800 questions and answers that cover a wide range of topics found on the ABA BASIC exam outline. Each question comes complete with a detailed answer explanation for both the correct and incorrect answer choices, along with references to essential texts to facilitate further study. Anesthesiology Self-Assessment and Board Review: BASIC Exam is the perfect resource to supplement your daily reading in addition to the intense, streamlined study you want in the weeks and months before the exam. Here's why this is the best Q&A review for the ABA BASIC Exam: • 800+ questions and answers cover the breadth of topics found on the exam • Rich full-color presentation includes numerous clinically relevant drawings and photos • Focuses on what you must know to pass the exam, enabling you to maximize your study time • Content is based on the ABA BASIC Exam outline, so you know you are studying the most relevant, up-to-date material possible • Detailed answer explanations for both correct and incorrect answers provide concept-clarifying "whys" behind each answer
Medical Mineralogy and Geochemistry Academic Press
Developing Solid Oral Dosage Forms: Pharmaceutical Theory and Practice, Second Edition illustrates how to develop high-quality, safe, and effective pharmaceutical products by discussing the latest techniques, tools, and scientific advances in preformulation investigation, formulation, process design, characterization, scale-up, and production operations. This book covers the essential principles of physical pharmacy, biopharmaceutics, and industrial pharmacy, and their application to the research and development process of oral dosage forms. Chapters have been added, combined, deleted, and completely revised as necessary to produce a comprehensive, well-organized, valuable reference for industry professionals and academics engaged in all aspects of the development process. New and

important topics include spray drying, amorphous solid dispersion using hot-melt extrusion, modeling and simulation, bioequivalence of complex modified-released dosage forms, biowaivers, and much more. Written and edited by an international team of leading experts with experience and knowledge across industry, academia, and regulatory settings Includes new chapters covering the pharmaceutical applications of surface phenomenon, predictive biopharmaceutics and pharmacokinetics, the development of formulations for drug discovery support, and much more Presents new case studies throughout, and a section completely devoted to regulatory aspects, including global product regulation and international perspectives

Generics and Bioequivalence John Wiley & Sons

Basic Skills in Interpreting Laboratory Data, Fifth Edition, is the classic and most popular pharmacy laboratory text because it is the only reference on this subject written by pharmacists, for pharmacists. Students find this guide a clear and useful introduction to the fundamentals of interpreting laboratory test results. The book enhances the skills pharmacists need by providing essential information on common laboratory tests used to screen for or diagnose diseases and monitor the effectiveness and safety of treatment and disease severity. Each chapter contains learning objectives, case studies, bibliographies, and charts that summarize the causes of high and low test results. New for this edition: Updated and expanded Quick View tables in each chapter now match those in the popular quick-reference, Interpreting Laboratory Data: A Point-of-Care Guide New glossary of acronyms is right up front for a streamlined reference Normal value ranges of all tests have been standardized by an expert pathologist New and updated cases in each chapter apply your Basic Skills in clinical situations Reorganized to highlight the application of concepts by body system, and in special populations Basic Skills in Interpreting Laboratory Data offers features that will help pharmacy students not only understand and engage with the material but also will streamline the transition from classroom to practice setting. After studying with this trusted text, students and pharmacists will more effectively monitor patient therapy, evaluate test results, and improve outcomes through optimal and focused pharmacotherapy.

Bioavailability in Environmental Risk Assessment Academic Press

This book presents a broad overview of the field of nanotechnology, focusing on key essentials, and delivers examples of applications in various fields. It offers a basic to advanced level study of the emerging, developing, and growing nanotechnology field by highlighting the key fundamentals and application of advanced nanotechnology in real-life applications. The book looks at nanotechnology applications in a variety of fields, including health care, pharmaceutical sciences and drug delivery, nanomedicine, renewable energy, and more. The chapters offer some realistic examples and the latest research in the field of nanoscience and nanotechnology. With chapters written by internationally recognized experts that describe developments in the field of nanotechnology and nanostructured materials, this volume will provide a valuable resource for all involved in the study related to nanotechnology.

Bioavailability of Contaminants in Soils and Sediments Academic Press

Presents Practical Applications of Mass Spectrometry for Protein Analysis and Covers Their Impact on Accelerating Drug Discovery and Development Covers both qualitative and quantitative aspects of Mass Spectrometry protein analysis in drug discovery Principles, Instrumentation, Technologies topics include MS of peptides, proteins, and ADCs , instrumentation in protein analysis, nanospray technology in MS protein analysis, and automation in MS protein analysis Details emerging areas from drug monitoring to patient care such as Identification and validation of biomarkers for cancer, targeted MS approaches for biomarker validation, biomarker discovery, and regulatory perspectives Brings together the most current advances in the mass spectrometry technology and related method in protein analysis