Advances in Pharmaceutical Sciences: Historical Background and Development

Advances in Pharmaceutical Sciences have dramatically changed the processes of discovery and development of new therapeutic drugs and, in turn, resulted in an increased awareness of the role of pharmaceutical sciences in society. This book will serve as a comprehensive source on the subject for undergraduate and graduate pharmacists, pharmaceutical science students, and pharmaceutical scientists in industry and academia.

Advances in Bioregulatory Chemistry: The book is written by the authors in this field and compiled by editors. It covers the latest research and developments in the field of bioregulatory chemistry, including a discussion of the role of bioregulatory systems in health and disease. The book also includes chapters on emerging trends and applications of bioregulatory chemistry, and applications in biologics.

Advances in Bioorganometallic Chemistry: This book is written by the authors in this field and compiled by editors. It covers the latest research and developments in the field of bioorganometallic chemistry, including a discussion of the role of bioorganometallics in health and disease. The book also includes chapters on emerging trends and applications of bioorganometallic chemistry.
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Filtration and Purification in the Biopharmaceutical Industry - Maik J. Jenning 2007-11-28 Filtration and Purification in the Biopharmaceutical Industry. First Edition greatly expands its focus with extensive new material on the critical role of purification and the significant advances in filtration science and technology. This new edition provides state-of-the-science information on all aspects of filtration and purification, in

Development of Biopharmaceutical Drug-Device Products - Foruz Jansslen 2020-03-13 The biotechnology/biopharmaceutical sector has tremendously grown which led to the invention of engineered antibodies such as Antibody Drug Conjugates (ADCs), Bispecific T-cell engager (BTES), Dual Variable Domain (DvD) antibodies, and fusion proteins that are currently being used as therapeutic agents for immunology, oncology and other disease conditions. Regulatory agencies have raised the bar for the development and manufacture of antibody-based products, expecting to see the use of Quality by Design (QbD) elements demonstrating an in-depth understanding of product and process based on sound science. Drug delivery systems have become an increasingly important part of the therapy and most biopharmaceuticals for self-administration are being marketed as combination products. A survey of the market indicates that there is a strong need for a new book that will provide "one stop-shopping" for the latest information and knowledge of the scientific and engineering advances made over the last few years in the area of biopharmaceutical product development. The new book entitled Development of Biopharmaceutical Drug Device Products is a reference text for scientists and engineers in the biopharmaceutical industry, academia or regulatory agencies. With insightful chapters from experts in the field, this new book reviews first principles, covers recent technological advancements and provides case studies and regulatory strategies relating to the development and manufacture of antibody-based products. It covers topics such as the importance of early formulation studies during drug discovery to influence molecular selection for development, formulation strategies for new modalities, and the analytical techniques used to characterize them. It also addresses important considerations for later stage development such as the development of robust formulations and processes, including process engineering and modeling of manufacturing unit operations, the design of analytical comparability studies, and characterization of primary containers (pre-filled syringes and vials). Finally, the latter half of the book reviews key considerations to ensure the development and approval of a patient-centered delivery system design. This involves the evolving regulatory framework with perspectives from both the US and EU industry experts, the role of international standards, design control/risk management, human factors and its importance in the product development and regulatory approval process, as well as review of the risk-based approach to bridging between devices used in clinical trials and the to-be-marketed device. Finally, case studies are provided throughout. The typical roadblock would have biology and engineering degrees and would include researchers, scientific leaders, industry specialists and technology developers working in the biopharmaceutical industry.

Recent Advancement in Prodrugs - Kamal Shah 2020-05-13 Recent Advancement in Prodrugs Drugs used as medicines have many limitations like low chemical stability, aqueous solubility, or oral absorption/bioavailability, rapid pre-systemic metabolism, toxicity, inadequate site specificity; or poor patient acceptance/compliance (unwanted adverse effects, unacceptable taste or odor, irritation or pain). Prodrugs design is an approach to overcome these limitations. Key Features Covers recent advancements in development of prodrugs Presents balanced synthesis and applications of prodrug chemistry Discusses broad spectrum of prodrug categories and outlines industrial applications Reviews prodrugs in cancer nanomedicine, its therapies and treatment Elucidates mathematical models to study the kinetics of prodrugs This book covers recent advances in the design of prodrugs. It contains all the significant recent examples of prodrug chemistry developments and will aid academics and researchers seeking to generate new projects in the field.

Challenges in Protein Product Development - Nicholas W. Warte 2018-07-22 In this volume, the authors discuss the many significant challenges currently faced in biotechnology dosage form development, providing guidance, shared experience and thoughtful reflection on how best to address these potential concerns. As the field of therapeutic recombinant therapeutic proteins enters its fourth decade and the market for biopharmaceuticals becomes increasingly competitive, companies are increasingly dedicating resources to develop innovative biopharmaceuticals to address unmet medical needs. Often, the pharmaceutical development scientist is encountering challenging pharmaceutical properties of a given protein or by the demands placed on the product by stability, manufacturing and preclinical or clinical expectations, as well as the evolving regulatory expectations and landscape. Further, there have been new findings that require close assessment, as for example those related to recapturability, processing, viscosity and device compatibility and administration, solubility and opalescence and container-closure selection. The literature varies widely in its discussion of these critical elements and consensus does not exist. This topic is receiving a great deal of attention within the biotechnology industry as well as with academic researchers and regulatory agencies globally. Therefore, this book is of interest for business leaders, researchers, formulation and process development scientists, analytical scientists, QA and QC offices, regulatory staff, manufacturing leaders and regulators active in the pharmaceutical and biotech industry, and expert reviewers in regulatory agencies.

Drug Delivery Research Advances - Boris O. Markovitch 2007 Drug delivery is a term that refers to the delivery of a pharmaceutical compound to humans or animals. Most common methods of delivery include the preferred non-invasive oral (through the mouth), nasal, pneumonial (inhalation), and rectal routes. Many medications, however, cannot be delivered using these routes because they might be susceptible to degradation or are not incorporated efficiently. For this reason many protein and peptide drugs have to be delivered by injection. For example, many immunisations are based on the delivery of protein drugs and are often done by injection. Current efforts in the area of drug delivery include the development of targeted delivery in which the drug is only active in the target area of the body (for example, in cancerous tissues) and sustained release formulations in which the drug is released over a period of time in a controlled manner from a formulation. This new book focuses on worldwide research on drug delivery and targeting at the molecular, cellular, and higher levels.

Advances in Manufacturing Technology XXXI-P. Thörvald 2018-08-29 The urgent need to keep pace with the accelerating globalization of manufacturing in the 21st century has produced rapid advancements in technology, research and innovation. This book presents the proceedings of the 16th International Conference on Manufacturing Research incorporating the 33nd National Conference on Manufacturing Research (ICMR 2018), held in Skövde, Sweden, in September 2018. The aim of the conference is to create a friendly and inclusive environment, bringing together researchers, academics and industrialists with practical and theoretical knowledge to share and discuss emerging trends and new challenges. The book is divided into 12 parts, covering areas such as the manufacturing process; robots; product design and development; smart manufacturing; and lean, among others. Covering both cutting-edge research and recent industrial applications, the book will appeal to all those with an interest in recent advances in manufacturing technology.