

Controlled Drug Delivery Concepts And Advances By Vyas And Khar

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It is your completely own epoch to do something reviewing habit. in the midst of guides you could enjoy now is **controlled drug delivery concepts and advances by vyas and khar** below.

Transdermal Drug Delivery - Kevin Ita

2020-06-12

Transdermal Drug Delivery: Concepts and Application provides comprehensive background knowledge and documents the most recent advances made in the field of transdermal drug delivery. It provides comprehensive and updated information regarding most technologies and formulation strategies used for transdermal drug delivery. There has been recent growth in the number of research articles, reviews, and other types of publications in the field of transdermal drug delivery. Research in this area is active both in the academic and industry settings. Ironically, only about 40 transdermal products with distinct active pharmaceutical ingredients are in the market indicating that more needs to be done to chronicle recent advances made in this area and to elucidate the mechanisms involved. This book will be helpful to researchers in the pharmaceutical and biotechnological industries as well as academics and graduate students working in the field of transdermal drug delivery and professionals working in the field of regulatory affairs focusing on topical and transdermal drug delivery systems. Researchers in the cosmetic and cosmeceutical industries, as well as those in chemical and biological engineering, will also find this book useful. Captures the most recent advancements and challenges in the field of transdermal drug delivery Covers both passive and active transdermal drug delivery strategies Explores a selection of state-of-the-art transdermal drug delivery systems

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Drug Delivery Systems, Third Edition - Vasant V. Ranade 2011-04-25

Drug delivery technologies represent a vast, vital area of research and development in pharmaceuticals. The demand for innovative drug delivery systems continues to grow, driving a variety of new developments. *Drug Delivery Systems, Third Edition* provides a comprehensive review of the latest research and development on drug delivery systems. Coverage includes liposomal, transmucosal, transdermal, oral, polymeric, and monoclonal antibody directed delivery. Each chapter provides a table of marketed and investigational products with numerous practical examples. The book also provides readers with a multitude of possible drug delivery systems that can be used to improve therapeutics, along with global and regulatory perspectives. This third edition contains a chapter on nanoscience and technology for drug delivery along with cutting-edge business intelligence and strategies. Written in a straightforward manner, the authors provide a global perspective on current and future advances and market opportunities. Supplying a cogent overview of the field and extensive guidance on where to get more information, it is an essential resource for anyone venturing into this area of drug development.

Peptide Transport and Delivery into the Central Nervous System - Laszlo Prokai 2012-12-06

Hypo- or hypersecretion, alteration in storage, release, catabolism, and post-translational processing of neuropeptides are associated with the etiology of many diseases affecting the central nervous system (CNS). Various peptides native to the brain and the spinal cord, as well as various synthetic peptides, peptide analogues and peptidomimetics developed as their agonists or antagonists could be useful in the treatment of these CNS maladies. However, peptides face a formidable obstacle in reaching the intended site of action due to the existence of the blood-brain barrier (BBB), a vital element in the regulation of the internal environment of the brain and the spinal cord. After reviews on the role and neuropharmaceutical potential of peptides, properties of the BBB in the context of peptide transport in the CNS and potential transport mechanisms to cross the BBB, this volume

discusses the development, present state-of-the-art and future trends of various strategies to overcome this major obstacle to peptide pharmacotherapy involving the CNS. Chapters are devoted to cover invasive approaches that circumvent the BBB by direct administration into the brain or the spinal cord and by transiently opening the tight junctions of or permeabilizing the endothelial cells separating the systemic circulation from the interstitial fluid of the CNS. Subsequently, physiologically based strategies that utilize biological carriers to gain access to the CNS are discussed in detail, followed by methods encompassing prodrug and chemical delivery/targeting strategies, which aim at altering the properties of the peptide to enhance BBB transport, and drug delivery strategies based on peptide vectors. Finally, a comparative evaluation on the present status and perspectives of the techniques is presented.

Handbook of Encapsulation and Controlled Release - Munmaya Mishra 2015-12-01

The field of encapsulation, especially microencapsulation, is a rapidly growing area of research and product development. The *Handbook of Encapsulation and Controlled Release* covers the entire field, presenting the fundamental processes involved and exploring how to use those processes for different applications in industry. Written at a level comp

Alginates in Drug Delivery - Amit Kumar Nayak 2020-07-23

Alginates in Drug Delivery explores the vital precepts, basic and fundamental aspects of alginates in pharmaceutical sciences, biopharmacology, and in the biotechnology industry. The use of natural polymers in healthcare applications over synthetic polymers is becoming more prevalent due to natural polymers' biocompatibility, biodegradability, economic extraction and ready availability. To fully utilize and harness the potential of alginates, this book presents a thorough understanding of the synthesis, purification, and characterization of alginates and their derivative. This book collects, in a single volume, all relevant information on alginates in health care, including recent advances in the field. This is a highly useful resource for pharmaceutical scientists, health care professionals and regulatory scientists actively involved in the

pharmaceutical product and process development of natural polymer containing drug delivery, as well as postgraduate students and postdoctoral research fellows in pharmaceutical sciences. Provides a single source on the complete alginate chemistry, collection, chemical modifications, characterization and applications in healthcare fields Includes high quality illustrations, along with practical examples and research case studies Contains contributions by global leaders and experts from academia, industry and regulatory agencies who are pioneers in the application of natural polysaccharides in diverse pharmaceutical fields
Drug Delivery Systems - 2019-10-23

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

Fundamentals and Applications of Controlled Release Drug Delivery - Juergen Siepmann 2011-12-15

This book approaches the subject from a mechanistic perspective that pitches the language at a level that is understandable to

those entering the field and who are not familiar with its common phrases or complex terms. It provides a simple encapsulation of concepts and expands on them. In each chapter the basic concept is explained as simply and clearly as possible without a great deal of detail, then in subsequent sections additional material, exceptions to the general rule, examples, etc., is introduced and built up. Such material was generously supplemented with diagrams; conceptually elegant line diagrams in two or three colors. The artwork was well thought out and able to condense the scientific principles into a novel and visually exciting form. The diagrams encourage browsing or draw the reader to salient points. In addition, the technique of highlighting key concepts in a separate box is used throughout each chapter.

Polysaccharide Carriers for Drug Delivery - Sabyasachi Maiti 2019-06-14

Polysaccharide Carriers for Drug Delivery presents the latest information on the selection of safe materials. Due to reported safety profiles on polysaccharides; they have been the natural choice for investigation. A wide variety of drug delivery and biomedical systems have been studied, however, the related information either concept-wise or application-oriented is scattered, therefore becoming difficult for readers and researchers to digest in a concise manner. This gathering of information will help readers easily comprehend the subject matter. Focuses on biopolysaccharide-based, distinct approaches for drug delivery applications Illustrates new concepts and highlights future scope for clinical development Provides comprehensive, up-to-date information on different aspects of drug delivery technology
Multifunctional Nanocarriers for Contemporary Healthcare Applications - Barkat, Md. Abul 2018-01-12

Advances in technology permeates every aspect of life, including the healthcare system. Nanotechnology based systems have gained popularity based upon their promise, size, and other characteristics. *Multifunctional Nanocarriers for Contemporary Healthcare Applications* is a critical academic publication that explores advancements in nanostructured systems, applications of these systems in healthcare, and biomedical applications of these

systems. Featuring coverage on a wide range of topics, such as hydrogels, controlled drug delivery systems, and nanomedicine, this book is geared toward researchers, students, and academicians seeking current research on advancements and applications of nanostructured systems in the healthcare industry.

[Handbook of Polymers for Pharmaceutical Technologies, Structure and Chemistry](#) - Vijay Kumar Thakur 2015-06-29

Polymers are one of the most fascinating materials of the present era finding their applications in almost every aspects of life. Polymers are either directly available in nature or are chemically synthesized and used depending upon the targeted applications. Advances in polymer science and the introduction of new polymers have resulted in the significant development of polymers with unique properties. Different kinds of polymers have been and will be one of the key in several applications in many of the advanced pharmaceutical research being carried out over the globe. This 4-partset of books contains precisely referenced chapters, emphasizing different kinds of polymers with basic fundamentals and practicality for application in diverse pharmaceutical technologies. The volumes aim at explaining basics of polymers based materials from different resources and their chemistry along with practical applications which present a future direction in the pharmaceutical industry. Each volume offer deep insight into the subject being treated. Volume 1: Structure and Chemistry Volume 2: Processing and Applications Volume 3: Biodegradable Polymers Volume 4: Bioactive and Compatible Synthetic/Hybrid Polymers

Drug Targeting and Stimuli Sensitive Drug Delivery Systems - Alexandru Mihai Grumezescu 2018-05-21

Drug Targeting and Stimuli Sensitive Drug Delivery Systems covers recent advances in the area of stimuli sensitive drug delivery systems, providing an up-to-date overview of the physical, chemical, biological and multistimuli-responsive nanosystems. In addition, the book presents an analysis of clinical status for different types of nanoplatforms. Written by an internationally diverse group of researchers, it is an important

reference resource for both biomaterials scientists and those working in the pharmaceutical industry who are looking to help create more effective drug delivery systems. Shows how the use of nanomaterials can help target a drug to specific tissues and cells Explores the development of stimuli-responsive drug delivery systems Includes case studies to showcase how stimuli responsive nanosystems are used in a variety of therapies, including camptothecin delivery, diabetes and cancer therapy

Basic Fundamentals of Drug Delivery - 2018-11-30

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

Modeling and Control of Drug Delivery Systems - Ahmad Taher Azar 2021-02-06

Modeling and Control of Drug Delivery Systems provides comprehensive coverage of various drug delivery and targeting systems and their state-of-the-art related works, ranging from theory to real-world deployment and future perspectives. Various drug delivery and targeting systems have been developed to minimize drug degradation and adverse effect and increase drug bioavailability. Site-specific drug delivery may be either an active and/or passive process. Improving delivery techniques that minimize toxicity and increase efficacy offer significant potential benefits to patients and open up new markets for pharmaceutical companies. This book will attract many researchers working in DDS field as it provides an essential source of information for pharmaceutical scientists and pharmacologists

working in academia as well as in the industry. In addition, it has useful information for pharmaceutical physicians and scientists in many disciplines involved in developing DDS, such as chemical engineering, biomedical engineering, protein engineering, gene therapy. Presents some of the latest innovations of approaches to DDS from dynamic controlled drug delivery, modeling, system analysis, optimization, control and monitoring Provides a unique, recent and comprehensive reference on DDS with the focus on cutting-edge technologies and the latest research trends in the area Covers the most recent works, in particular, the challenging areas related to modeling and control techniques applied to DDS

Cellulose-Based Graft Copolymers - Vijay Kumar Thakur 2015-04-23

Cellulose-Based Graft Copolymers: Structure and Chemistry discusses the synthesis, characterization, and properties of multifunctional cellulose-based graft copolymers. Presenting the contributions of accomplished experts in the field of natural cellulosic polymers, this authoritative text: Offers an overview of cutting-edge technical accomplishments in natural cellulose-based graft polymers Addresses a separate biomaterial in each chapter, exploring composition as well as graft copolymerization chemistry Covers fundamentals and applications including toxic ion removal, biomedical engineering, biofuels, micro/nano composites, papermaking, building materials, and defense Cellulose-Based Graft Copolymers: Structure and Chemistry tackles several critical issues and provides suggestions for future work, supplying deeper insight into the state of the art of advanced cellulose-based graft copolymers.

Nanobiomaterials - Anil K. Sharma 2018-01-03

This new volume focuses on the ever-growing and ever-sophisticated use of nanobiomaterials in drug delivery. There have been significant developments in the delivery of the active pharmaceutical ingredients to target sites, thereby sparing the normal functioning biological systems from damage, and this volume highlights some of the most important developments in the field. The book first provides an overview of nanobiomaterials and then goes on to report on new developments in

drug delivery and nanotechnology, nanobiomaterials as carriers in cancer therapy, and the diverse uses of nanobiomaterials. Broken into sections, the chapters cover: an overview of nanobiomaterials drug delivery and nanotechnology nanobiomaterials as carriers in cancer therapeutics diverse uses of nanobiomaterials This volume will be a valuable resource on drug delivery for pharmaceutical manufacturers, healthcare personnel, and researchers.

Sustainable Nanotechnology - Yashwant V. Pathak 2022-03-29

Sustainable Nanotechnology A robust examination of the use of nanotechnology in the manufacture of sustainable products In Sustainable Nanotechnology: Strategies, Products, and Applications, a team of distinguished researchers delivers a comprehensive and up-to-date exploration of nanotechnology applications in environmental, pharmaceutical, and engineering products in the context of global sustainability. The book offers balanced coverage of the benefits and risks of nanotechnology. Divided into three parts, the editors have included contributions from leading scholars discussing sustainability, toxicological impacts, and nanomaterial-based adsorbents. This edited volume helps readers understand how nanotechnology and nanomaterials apply in different global sustainability challenges. It also discusses models for understanding the lifecycle and risk assessments of manufactured nanomaterials. Case studies are included to explore such topics as design, remediation, and technology assessment. The book also provides: Thorough introductions to nanotechnology-based research priorities for global sustainability and the challenges and opportunities of modern, sustainable nanotechnology Comprehensive explorations of improving the sustainability of bio-based products with nanotechnology and the improvement of the environmental sustainability of biopolymers using nanotechnology Practical discussions of nanotechnology-based polymers for drug delivery applications In-depth examinations of green nanotechnology-driven drug delivery systems Perfect for nanotechnology-focused professionals, sustainability experts, biomedical experts, and pharmaceutical industry practitioners,

Sustainable Nanotechnology: Strategies, Products, and Applications will also earn a place in the libraries of neuroscientists, bioengineering professionals, and those involved in neuroprosthetic engineering.

Plant Polysaccharides-Based Multiple-Unit Systems for Oral Drug Delivery - Amit Kumar Nayak 2019-03-27

This book explores the use of various plant polysaccharides for pharmaceutical purposes, including drug delivery. It examines the exploitation of plant polysaccharides' auxiliary functions to enhance drug release, stability, bioavailability and target specificity. Plant-derived materials are at the center of drug-delivery research thanks to their non-toxicity, biodegradability, ready availability, eco-friendliness and low extraction costs. These materials include polysaccharides, a class of naturally occurring polymers consisting of glucose monomers, which serve as storage carbohydrates in cereals, root vegetables, rhizomes, seeds, fruits, etc.

Smart Polymeric Nano-Constructs in Drug Delivery - Suresh P Vyas 2022-11-25

Smart Polymeric Nano-Constructs in Drug Delivery: Concept, Design and Therapeutic Applications provides a thorough discussion of the most state of the art material and polymer exploitations for the delivery of bioactive(s) as well as their current and clinical status. The book enables researchers to prepare a variety of smart drug delivery systems to investigate their properties as well as to discover their uses and applications. The novelty of this approach addresses an existing need of exhaustively understanding the potential of the materials including polymeric drug delivery systems that are smartly designed to deliver bioactive(s) into the body at targeted sites without showing side effects. The book is helpful for those in the health sector, specifically those developing nanomedicine using smart material-based nano-delivery systems. Polymers have unique co-operative properties that are not found with low-molecular-weight compounds along with their appealing physical and chemical properties, constituting the root of their success in drug delivery. Smart Polymeric Nano-Constructs in Drug Delivery: Concept, Design and Therapeutic Applications discusses smart and stimuli

responsive polymers applicable in drug delivery, followed detailed information about various concepts and designing of polymeric novel drug delivery systems for treatment of various type of diseases, also discussing patents related to the field. The book helps readers to design and develop novel drug delivery systems based on smart materials for the effective delivery of bioactive that take advantage of recent advances in smart polymer-based strategies. It is useful to those in pharmaceutical sciences and related fields in developing new drug delivery systems. Provides comprehensive overview of the potential role of polymeric systems in drug delivery Explores the design, synthesis, and application of different smart material-based delivery systems Includes fundamental and clinical applications

Controlled and Novel Drug Delivery - N. K. Jain 2019-01-30

This book gathers together the research work of leading Indian scientists actually engaged in pharmaceutical research. The contributors are all distinguished experts in their respective fields. All the contributors are scientists working in Indian laboratories, however their achievements in the field are full of valuable information supplemented with adequate references which help the intended readers in digging out the complete information on any aspect. The book has 17 chapters, 150 figures and over 2150 references and will be of immense use for all pharmaceutical industries, RD laboratories, research scientists in universities colleges, teachers as well as post-graduate and graduate students.

Recent Advances in Novel Drug Carrier Systems - Ali Demir Sezer 2012-10-31

This contribution book collects reviews and original articles from eminent experts working in the interdisciplinary arena of novel drug delivery systems and their uses. From their direct and recent experience, the readers can achieve a wide vision on the new and ongoing potentialities of different drug delivery systems. Since the advent of analytical techniques and capabilities to measure particle sizes in nanometer ranges, there has been tremendous interest in the use of nanoparticles for more efficient methods of drug delivery. On the other hand, this reference discusses advances in the

design, optimization, and adaptation of gene delivery systems for the treatment of cancer, cardiovascular, pulmonary, genetic, and infectious diseases, and considers assessment and review procedures involved in the development of gene-based pharmaceuticals.

Controlled Release Veterinary Drug Delivery

- M.J. Rathbone 2000-07-20

Many controlled release veterinary drug delivery systems (CRVDDS) are presently in use, and recently there has been a host of new CRVDDS within veterinary medicine. The challenges of this area of drug delivery arise from the unique anatomy and physiology of the target animal, the cost constraints associated with the value of the animal being treated and the extended periods of time that delivery must be sustained for (often measured in months). The purpose of this book is to introduce the reader to the unique opportunities and challenges of the field of CRVDDS and to explain and discuss the basic controlled release principles underlying the development of CRVDDS. Its aim is to provide an overview of many of the areas where CRVDDS have application, and to highlight the opportunities and prospects for controlled release technology in the veterinary field. *Controlled Release Veterinary Drug Delivery* comprises chapters that provide workers in the field (and those interested in this area) with information on the design, development and assessment of a variety of CRVDDS. The book contains chapters that describe the relevant animal physiological and anatomical considerations alongside descriptions of current and emerging controlled release delivery systems for a variety of routes for drug delivery, and present overviews on the physical and chemical assessment of veterinary controlled release delivery systems. The veterinary area is abound with opportunities for the development of controlled release drug delivery technologies. It is an area of medicine that is open to the acceptance of novel drug delivery devices, and which readily encompasses the use of novel routes of administration. It is an area of many unmet needs, most of which offer opportunities and unique challenges for the innovative formulation scientist to provide solutions. This book will provide an insight into the biological, clinical and pharmaceutical challenges that face

the formulation scientist in this interesting and diverse area of research.

Targeted Drug Delivery : Concepts and Design

- Padma V. Devarajan 2014-12-08

This authoritative volume explores the fundamental concepts and numerous applications of targeted delivery of drugs to the body. This compilation has been divided into eight sections comprised of the basic principles of drug targeting, disease and organ/organelle-based targeting, passive and active targeting strategies, and various advanced drug delivery tools such as functionalized lipidic, polymeric and inorganic nanocarriers. Together, the twenty-three chapters cover a wide range of topics in the field, including tumor and hepatic targeting, polymer-drug conjugates, nanoemulsion, physical and biophysical characteristics of nanoparticles, and in vivo imaging techniques, among others. The book also examines advanced characterization techniques, regulatory hurdles and toxicity-related issues that are key features for successful commercialization of targeted drug delivery system products. *Targeted Drug Delivery* is a comprehensive reference guide for drug delivery researchers, both beginners and those already working in the field.

Smart Drug Delivery System - Ali Demir Sezer 2016-02-10

This contribution book collects reviews and original articles from eminent experts working in the interdisciplinary arena of novel drug delivery systems and their uses. From their direct and recent experience, the readers can achieve a wide vision on the new and ongoing potentialities of different smart drug delivery systems. Since the advent of analytical techniques and capabilities to measure particle sizes in nanometer ranges, there has been tremendous interest in the use of nanoparticles for more efficient methods of drug delivery. On the other hand, this reference discusses advances in the design, optimization, and adaptation of gene delivery systems for the treatment of cancer, cardiovascular, diabetic, genetic, and infectious diseases, and considers assessment and review procedures involved in the development of gene-based pharmaceuticals. **Theory and Applications of Nonparenteral Nanomedicines** - Prashant Kesharwani

2020-09-12

Theory and Applications of Nonparenteral Nanomedicines presents thoroughly analysed data and results regarding the potential of nanomedicines conceived by diverse non-parenteral routes. In the context of nanotechnology-based approaches, various routes such as oral, pulmonary, transdermal, delivery and local administration of nanomedicine have been utilized for the delivery of nanomedicine. This book discusses the non-parenteral application of nanomedicine, its regulatory implications, application of mucus penetrating nanocarrier, and detailed chapters on development of nanomedicines developed for drug delivery by various route. Beginning with a brief introduction to the non-parenteral delivery of nanomedicine and the safety and regulatory implications of the nanoformulations, further chapters discuss the physiology of the biological barriers, the specificity of the nanocarriers as well as their multiple applications. Theory and Applications of Nonparenteral Nanomedicines helps clinical researchers, researchers working in pharmaceutical industries, graduate students, and anyone working in the development of non-parenteral nanomedicines to understand the recent progress in the design and development of nanoformulations compatible with non-parenteral applications. Contains a comprehensive review of non-parenteral nanomedicines Provides analysis of non-parenteral methods of nanomedicines including regulatory implications and future applications Explores a wide range of promising approaches for non-parenteral drug delivery using the latest advancement in nanomedicine written by experts in industry and academia

Advances and Challenges in Pharmaceutical Technology - Amit Kumar Nayak 2021-02-09

Advances and Challenges in Pharmaceutical Technology: Materials, Process Development and Drug Delivery Strategies examines recent advancements in pharmaceutical technology. The book discusses common formulation strategies, including the use of tools for statistical formulation optimization, Quality by design (QbD), process analytical technology, and the uses of various pharmaceutical biomaterials, including natural polymers, synthetic polymers, modified natural polymers, bioceramics, and

other bioinorganics. In addition, the book covers rapid advancements in the field by providing a thorough understanding of pharmaceutical processes, formulation developments, explorations, and exploitation of various pharmaceutical biomaterials to formulate pharmaceutical dosage forms. Provides extensive information and analysis on recent advancements in the field of pharmaceutical technology Includes contributions from global leaders and experts in academia, industry and regulatory agencies Uses high quality illustrations, flow charts and tables to explain concepts and text to readers, along with practical examples and research case studies
Polymeric Nanomedicines - Marcel Popa
2013-05-29

Over the last few decades, numerous nanoparticle platforms have been studied for their use in therapeutic applications. This book deals with the description of the construction of technical systems that combines different functionalities which bring liposomes, polymer-drug conjugates, polymer-protein conjugates, dendrimers, polymeric micelles, polymerosomes and other nanoparticles into the realm of nanotechnology proper, as opposed to traditional pharmacology or supramolecular chemistry. The volume additionally covers topics such as passive and active targeting, the strategies used for drug targeting, and the synthesis and characterization of polymeric nanoparticle platforms. Targeted polymeric nanomedicines have shown exciting results in preclinical studies, demonstrating their potential as therapeutic carriers. Therefore, the development of polymeric nanomedicines as therapeutic agents has generated great enthusiasm both in academia and industry. The book is systematically divided into chapters devoted to a class of polymeric nanomedicines. Each chapter also describes relevant aspects relating to drug design and targeting of polymeric nanomedicines wherever possible. In addition, a series of chapters concerning the contribution of polymeric nanomedicines in the treatment of several categories of diseases including cancer, inflammatory, renal, immunological diseases, and brain disorders is also presented. Key features of this book include: - A comprehensive and cutting-edge overview of polymeric

nanomedicines available in a single dedicated volume - Discussions on advances in drug delivery systems for a variety of diseases - more than 2000 references, tables, equations, and drawings Readers, whether beginners or experts, will find in this book, contemporary and relevant information regarding the synthesis, evaluation and applications of polymeric nanomedicines. Supplemented with extensive bibliographic references, tables and figures, this book is an essential and incomparable reference for medicinal chemists, biologists, and medical (oncologic) researchers, as well as for scientists, undergraduate and graduate students in the field of medical bioengineering and polymer nanoscience.

Nanocarriers: Drug Delivery System - Nirmal Shah 2021-01-22

A suitable drug delivery system is an essential element in achieving efficient therapeutic responses of drug molecules. With this desirability in mind, the book unites different techniques through which extremely small-sized particles can be utilized as a successful carrier for curing chronic as well as life-threatening diseased conditions. This is a highly informative and prudently organized book, providing scientific insight for readers with an interest in nanotechnology. Beginning with an overview of nanocarriers, the book impetuses on to explore other essential ways through which these carriers can be employed for drug delivery to varieties of administrative routes. This book discusses the functional and significant features of nanotechnology in terms of Lymphatic and other drug targeting deliveries. The book is presenting depth acquaintance for various vesicular and particulate nano-drug delivery carriers, utilized successfully in Pharmaceutical as well as in Cosmeceutical industries along with brief information on their related toxicities. In addition, the work also explores the potential applications of nanocarriers in biotechnology sciences for the prompt and safe delivery of nucleic acid, protein, and peptide-based drugs. An exclusive section in the book illuminates the prominence and competent applicability of nanotechnology in the treatment of oral cancer. The persistence of this book is to provide basic to advanced information for different novel carriers which are under scale-up consideration

for the extensive commercialization. The book also includes recent discoveries and the latest patents of such nanocarriers. The cutting-edge evidence of these nanocarriers available in this book is beneficial to students, research scholars, and fellows for promoting their advanced research.

Fundamentals and Applications of Controlled Release Drug Delivery - Juergen Siepmann 2011-12-14

Pitched at a level comprehensible to those new to the field, this authoritative text covers the scientific and technological fundamentals of drug delivery as well as clinical applications and the developmental potential in controlled release drug delivery.

Applications of Nanocomposite Materials in Drug Delivery - Dr Inamuddin 2018-06-18

Applications of Nanocomposite in Drug Delivery discusses and explores the applications of nanocomposites in the area of drug delivery.

Starting with a scientific understanding of drug delivery fundamentals, the book explores the utility of nanocomposites in the area of controlled, transdermal, osteo-articular tuberculosis and stimulus sensitive drug delivery applications. The book intricately details and discusses a variety of methods for their preparation, while also highlighting specific applications of nanocomposites in targeted drug delivery. Discusses nanocomposite and nanotechnology for drug delivery Outlines the mechanisms involved in targeted drug delivery using nanocomposites Includes synthesis methods for nanocomposites used in controlled drug delivery Lists various applications of nanocomposites in drug delivery

Targeted & Controlled Drug Delivery: Novel Carrier Systems (HB) - Vyas; Khar 2006-02-01

Surface Modification of Biopolymers - Vijay Kumar Thakur 2015-05-26

This book addresses surface modification techniques, which are critical for tailoring and broadening the applications of naturally occurring biopolymers. Biopolymers represent a sustainable solution to the need for new materials in the auto, waste removal, biomedical device, building material, defense, and paper industries. Features: First comprehensive summary of biopolymer modification methods to

enhance compatibility, flexibility, enhanced physicochemical properties, thermal stability, impact response, and rigidity, among others Address of a green, eco-friendly materials that is increasing in use, underscoring the roles of material scientists in the future of new "green" biopolymer material use Coverage applications in automotive development, hazardous waste removal, biomedical engineering, pulp and paper industries, development of new building materials, and defense-related technologies Facilitation of technology transfer

Recent Advances in Drug Delivery Systems - James M. Anderson 2012-12-06

The evident rapid expansion of scientific work and intense interest in both experimental and clinical aspects of new drug delivery systems provided strong motivation for planning this symposium. In designing the program, speakers were identified for their particular expertise in a wide range of topics such as dermal delivery systems, pro-drugs, oral prolonged release, rate-controlled drug delivery, the pharmacokinetics of drug release systems, the synthesis of polymeric drug carriers and the refinement of drug delivery pumps. Because of the considerable involvement of diverse scientists from laboratories around the world where investigations relevant to the topic are now being pursued, a deliberate effort was made to invite international leaders in the field to share their knowledge and experimental outcomes. Thus, plenary papers and panel discussions were offered by organic chemists, bioengineers, pathologists, material scientists, physical chemists, and pharmacokineticists from academic and industrial laboratories in some dozen countries. This book which records the presentations offered at the symposium covers a broad array of topics ranging from general overviews of the physicochemical concepts and analytical methodology which underpin the refinement of drug delivery systems and the tissue responses associated with the use of such systems through detailed discussions of a variety of current approaches employed in the development of new systems.

Strategies to Modify the Drug Release from Pharmaceutical Systems - Marcos Luciano Bruschi 2015-06-16

Since the earliest dosage forms to modern drug

delivery systems, came a great development and growth of knowledge with respect to drug delivery. Strategies to Modify the Drug Release from Pharmaceutical Systems will address principles, systems, applications and advances in the field. It will be principally a textbook and a reference source of strategies to modify the drug release. Moreover, the characterization, mathematical and physicochemical models, applications and the systems will be discussed. Addresses the principles, systems, applications and advances in the field of drug delivery Highlights the mathematical and physicochemical principles related to strategies Discusses drug release and its possible modifications

Drug Delivery - Anya M Hillery 2016-09-15

This book provides a comprehensive introduction to advanced drug delivery and targeting, covering their principles, current applications, and potential future developments. This edition has been updated to reflect significant trends and cutting-edge advances that have occurred since the first edition was published. All the original chapters have been retained, but the material therein has been updated. Eight new chapters have been added that deal with entirely new technologies and approaches. Features: Offers a comprehensive introduction to the fundamental concepts and underlying scientific principles of drug delivery and targeting Presents an in-depth analysis of the opportunities and obstacles afforded by the application of nanotechnologies for drug delivery and targeting Includes a revised and expanded section on the major epithelial routes of drug delivery currently under investigation Describes the most recent, emerging, and innovative technologies of drug delivery Provides real-life examples of the clinical translation of drug delivery technologies through the use of case studies Discusses the pertinent regulatory hurdles and safety issues of drug delivery and targeting systems—crucial considerations in order to achieve licensing approval for these new technologies

Advanced Technology for Delivering

Therapeutics - Sabyasachi Maiti 2017-05-11

The goal of any novel drug delivery system is to provide therapeutic benefits to the patients by increasing duration of drug action, reducing

dosing frequency, and controlling drug release rate at the target site, thereby reducing unwanted side effects. **Advanced Technology for Delivering Therapeutics** is a reference book that covers recent developments in the field of drug delivery science and technology. The purpose of this book is to bring together descriptions of some selective technologies including new and promising nanotechnology currently being investigated for drug delivery applications. This book is a useful source of information for graduate and post-graduate students of pharmacy and biomedical science; pharmaceutical

Herbal Bioactive-Based Drug Delivery Systems - Inderbir Singh Bakshi 2022-03-13

Herbal Bioactive-Based Drug Delivery Systems: Challenges and Opportunities provides a wide-ranging, in-depth resource for herbal bioactives, including detailed discussion of standardization and regulations. The book first explores specific drug delivery systems such as gastrointestinal, ocular, pulmonary, transdermal, and vaginal and rectal. It then discusses novel applications for nano, cosmetics, nutraceuticals, wound healing and cancer treatment. Finally, there is a section focusing on standardization and regulation which includes an enhancement of properties. This book is an essential resource for pharmacologists, pharmaceutical scientists, material scientists, botanists, and all those interested in natural products and drug delivery systems developments. Explores standardization, regulation and enhancement issues in herbal bioactives Discusses novel developments, herbal cosmetics and toxicity/interaction issues Provides a comprehensive reference on all aspects of herbal bioactives

Applications of Encapsulation and Controlled Release - Munmaya K. Mishra 2019-09-18

The field of encapsulation, especially microencapsulation, is a rapidly growing area of research and product development. **Applications of Encapsulation and Controlled Release** offers a broad perspective on a variety of applications and processes, including, up-to-date research, figures, tables, illustrations, and references. Written at a level comprehensible to non-experts, it is a rich source of technical

information and current practices in research and industry.

Drug Delivery Systems - Kewal K. Jain 2008-03-07

In this concise and systematic book, a team of experts select the most important, cutting-edge technologies used in drug delivery systems. They take into account significant drugs, new technologies such as nanoparticles, and therapeutic applications. The chapters present step-by-step laboratory protocols following the highly successful *Methods in Molecular Biology*™ series format, offering readily reproducible results vital for pharmaceutical physicians and scientists.

Drug Delivery and Targeting - Anya M. Hillery 2003-09-02

The advances in biotechnology and molecular biology over recent years have resulted in a large number of novel molecules with the potential to revolutionize the treatment and prevention of disease. However, such potential is severely compromised by significant obstacles to delivery of these drugs in vivo. These obstacles are often so great that effective drug delivery and targeting is now recognized as the key to effective development of many therapeutics. Advanced drug delivery and targeting can offer significant advantages to conventional drugs, such as increased efficiency, convenience, and the potential for line extensions and market expansion. An accessible and easy-to-read textbook, **Drug Delivery and Targeting for Pharmacists and Pharmaceutical Scientists** is the first book to provide a comprehensive introduction to the principles of advanced drug delivery and targeting, their current applications and potential future developments, including: *Methods to optimize therapeutic efficacy, and the related commercial implications *Difficulties with drug absorption, unwanted distribution and premature inactivation / elimination *Attempts to minimize toxicity or alter immunogenicity *Methods to achieve rate-controlled drug release and effective drug targeting *Novel and established routes of delivery *Use of new generation technologies such as biosensors, microchips, stimuli-sensitive hydrogels and plasmid-based gene therapy This volume is indispensable for pharmaceutical students, scientists and researchers.