Formulation And Evaluation Of Ethosomes For Transdermal | 6239785095627fae281d80ab94f31dc5


Magnetic Nanoparticles in Human Health and Medicine 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 academical 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

Nanotechnology Applied To Pharmaceutical Technology This book is an amalgamation of knowledge, experience, and expertise in various aspects of nanotechnology, by experts who are proficient in designing of novel nanoformulations that are used in the treatment of various challenging and prevalent diseases. It is an exhaustive compilation of the multi-faceted arena of nanoformulations and the healthcare system that caters to the needs of academicians, scholars, researchers etc. The most important aspect of the book covers various types of nanoformulations and their applications in treatment of communicable and non-communicable diseases. Each chapter focuses on a particular nanoformulation as well as a disease including the pathophysiology of the disease, the current treatment modalities of diseases, the role of nanoformulation in treatment and other future aspects and directions for further work. Coverage includes neuropathic pain, colon targeting, nose-to-brain drug delivery, skin cancer, arthritis and tuberculosis.

Handbook of Nanobiomedical Research Direct Nose-to-Brain Drug Delivery provides the reader with precise knowledge about the strategies and approaches for enhanced nose-to-brain drug delivery. It highlights the development of novel nanocarrier-based drug delivery systems for targeted drug delivery to the brain microenvironments with a focus on the technological advances in the development of the novel drug delivery devices for intranasal administration, including special emphasis on brain targeting through nose. This book explores the various quantification parameters to assess the brain targeting efficiency following intranasal administration and includes an overview on the toxicity aspects of the various materials used to develop the direct nose-to-brain drug delivery vehicles and of the regulatory aspects including patents and current clinical status of the potential neurotherapeutics for the effective management of neuro-aillments. Technological advances in new drug delivery systems with diverse applications in pharmaceutical, biomedical, biomaterials, and biotechnological fields are also explained. This book is a crucial source that will assist the veteran scientists, industrial technologists, and clinical research professionals to develop new drug delivery systems and novel drug administration devices for the treatment of neuro-aillments. Explains the targeting approaches for enhanced brain targeting following intranasal drug administration Explores the various nanocarriers developed to date for neurotherapeutic delivery via nose-to-brain Discusses pharmaceutical and biomedical applications after nose-to-brain delivery of therapeutic pharmaceuticals and biologicals

Nanomedicines Explores the application of magnetic nanoparticles in drug delivery, magnetic resonance imaging, and alternative cancer therapy Magnetic Nanoparticles in Human Health and Medicine addresses recent progress in improving diagnosis by magnetic resonance imaging (MRI) and using non-invasive and non-toxic magnetic nanoparticles for targeted drug delivery. Focusing on cancer diagnosis and therapy, the book covers both fundamental principles and advanced theoretical and experimental research on the magnetic properties, biocompatibility, biofunctionalization, and application of magnetic nanoparticles in nanobiotechnology and nanomedicine. Chapters written by a panel of international specialists in the field of magnetic nanoparticles and their applications in biomedicine cover magnetic hyperthermia (MHT), MRI contrast agents, biomedical imaging, modeling and simulation.
nanobiotechnology, toxicity issues, and more. Readers are provided with accurate information on the use of magnetic nanoparticles in diagnosis, drug delivery, and therapeutics—featuring discussion of current problems, proposed solutions, and future research directions. Topics include magnetic nanoparticles with antioxidant activity, iron oxide nanoparticles in nanomedicine, superparamagnetic hyperthermia in clinical trials, and simulating the physics of magnetic particle heating for biomedical applications. This comprehensive volume: Covers both general research on magnetic nanoparticles in medicine and specific applications in cancer therapeutics Discusses the use of magnetic nanoparticles in alternative cancer therapy including magnetic and superparamagnetic hyperthermia Explores targeted medication delivery using magnetic nanoparticles as a future replacement of conventional techniques Reviews the use of MRI with magnetic nanoparticles to increase the diagnostic accuracy of medical imaging Magnetic Nanoparticles in Human Health and Medicine is a valuable resource for researchers in the fields of nanomagnetism, nanomaterials, magnetic nanoparticles, nanoeengineering, biopharmaceuticals nanobiotechnologies, nanomedicine, and biopharmaceuticals, particularly those focused on cancer diagnosis and therapeutics.

Insights Into New Strategies to Combat Biofilms This book presents new approaches for skin aging and photocarcinogenesis and topical formulations based on nanocarrier systems for skin disorders. It discusses cosmeceuticals, laser, photodynamic therapy, and melatonin-based treatments as important strategies for photoaging management. Photodynamic therapy and melatonin can be used in the photocarcinogenesis context, too. Therefore, the inclusion of this strong antioxidant in sunscreen products could be a promising approach. The book discusses topical formulations, including emulsions (conventional formulations and emulsions stabilized by solid particles), nail films, and nanocarriers used for the delivery of actives in various skin and nail diseases such as acne, psoriasis, atopic dermatitis, fungal diseases, leishmaniasis, and skin cancer. Finally, several nanocarriers are introduced, such as lipid vesicles (ranging from the first-generation conventional liposomes to the more recent deformable vesicles), liquid crystalline nanodispersions, gelatin, and solid lipid nanoparticles. Their composition, formulation, characterization, and topical applications are also discussed. Although this is a broad topic, the most important (nano)pharmaceutical formulations are presented in the book.

Viral and Antiviral Nanomaterials This research book covers the major aspects relating to the use of novel delivery systems in enhancing both transdermal and intradermal drug delivery. It provides a review of transdermal and intradermal drug delivery, including the history of the field and the various methods employed to produce delivery systems from different materials such as device design, construction and evaluation, so as to provide a sound background to the use of novel systems in enhanced delivery applications. Furthermore, it presents in-depth analyses of recent developments in this exponentially growing field, with a focus on microneedle arrays, needle-free injections, nanoparticulate systems and peptide-carrier-type systems. It also covers conventional physical enhancement strategies, such as tape-stripping, sonophoresis, iontophoresis, electroporation and thermal/suction/laser ablation. Discussions about the penetration of the stratum corneum by the various novel strategies highlight the importance of the application method.

Comprehensive and critical reviews of transdermal and intradermal delivery research using such systems focus on the outcomes of in vivo animal and human studies. The book includes laboratory, clinical and commercial case studies featuring safety and patient acceptability studies carried out to date, and depicts a growing area for use of these novel systems is in intradermal vaccine delivery. The final chapters review recent patents in this field and describe the work ongoing in industry.

Design of Experiments for Pharmaceutical Product Development Nano- and Microscale Drug Delivery Systems: Design and Fabrication presents the developments that have taken place in recent years in the field of micro- and nanoscale drug delivery systems. Particular attention is assigned to the fabrication and design of drug delivery systems in order to i) reduce the side effects of therapeutic agents, ii) increase their pharmacological effect, and iii) improve aqueous solubility and chemical stability of different therapeutic agents. This book is designed to offer a cogent, concise overview of current scholarship in this important area of research through its focus on the characterization and fabrication of a variety of nanomaterials for drug delivery applications. It is an invaluable reference source for both biomaterials scientists and biomedical engineers who want to learn more about how nanomaterials are engineered and used in the design of drug delivery nanosystems. Shows how micro- and nanomaterials can be engineered to create more effective drug delivery systems Summarizes current nanotechnology in the field of drug delivery systems Explores the pros and cons of using particular nanomaterials as therapeutic agents Serves as a valuable reference for both biomaterials scientists and biomedical engineers who want to learn more about how nanomaterials are engineered and used in the design of drug delivery nanosystems

Novel Delivery Systems for Transdermal and Intradermal Drug Delivery Nanophytomedicine is a field that involves the application of nanomedicine-based systems to phytotherapy and phytophyamacology. This book assesses the clinical successes and failures of nanophytomedicine and also highlights emerging concepts in this field. The content is divided into three sections, the first of which describes core issues in the pharmaceuticals industry in connection with the successes, failures and prospects of nanophytomedicine. The second section highlights recent advances in phytomedicine formulation development based on nanotechnology approaches, while also discussing a variety of nanocarrier systems for the successful delivery of phytotherapeutics. Focusing on the clinical perspective, the third section addresses the current clinical status of nanophytomedicine as a single drug therapy or combinational drug therapy, pharmacovigilance, pharmacokinetics, drug interactions and toxicological profiles, while also providing concluding remarks on recent experimental findings, and considering ethical issues & regulatory challenges in nanophytomedicine. Given its scope, the book offers a valuable guide for early career researchers, young scientists, master level students, academics and industrial scientists working in various healthcare fields, e.g. the pharmaceutical and biological sciences, life sciences, biotechnology, biomedical engineering, and nanobiotechnology.

Carrier-Mediated Dermal Delivery This forward-looking book focuses on the recent advances in nanomedicine and drug delivery. It outlines the extraordinary new tools that have become available in nanomedicine and presents an integrated set of perspectives that describe where we are now and where we should be headed to put nanomedicine devices into applications as quickly as possible, while also considering the possible dangers of nanomedicine. The book considers the full range of nanomedicinal applications that employ molecular
nanotechnology inside the human body, from the perspective of a future practitioner in an era of widely available nanomedicine. Written by some of the most innovative minds in medicine and engineering, this unique volume will help professionals understand cutting-edge and futuristic areas of research that can have tremendous payoff in terms of improving human health. Readers will find insightful discussions of nanostructured intelligent materials and devices that are considered technically feasible and which have a high potential to produce advances in medicine in the near future. Topics include: Health benefits of phytochemicals and the application of colloidal delivery systems. Study of non-covalent attachment of recombinant targeting proteins to polymer-modified Adenoviral gene delivery vectors. The role of nanoparticles as adjuvants for mucosal vaccine delivery Poly(AMido-amine)s as delivery systems for biologically active substances. Antimicrobial activity of silver nanoparticles. Nanomedicine in the use of cancer treatment. Dendrimers, capsules based on lipid vesicles for drug delivery. Many other recent achievements.

SOUVENIR of 1st International Science Congress (ISC-2011) The International Science Congress Association (ISCA) organized the 1st International Science Congress (ISC-2011) at Indore, M.P. India with Science and Technology for Sustainable Development as its focal theme. The congress was hosted by Maharaja Ranjit Singh College of Professional Sciences on 24th and 25th December 2011. It was distributed in 20 sections. A total 900 Research Papers and 1300 registrations all over the world were received. Delegates from Malaysia, Egypt, Bangladesh, Nigeria, Indonesia, Iran, South Africa, Israel, Mexico, Japan, Uganda, Pakistan, Kingdom of Saudi Arabia, Russia, Latvia, Nepal, Lithuanian and from length and breadth of our nation participated in the ISC-2011.

Formulation, Evaluation and Statistical Optimization of Diclofenac-loaded Ethosomes for Enhanced Anti-inflammatory Activity Via Transdermal Route 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 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.

Nanomaterials for Drug Delivery and Therapy This book summarizes the synthesis, properties, characterization, and application of viral and antiviral nanomaterials by using interdisciplinary subjects ranging from materials science to biomedical science. Viral and Antiviral Nanomaterials: Synthesis, Properties, Characterization, and Application highlights attainments in utilizing nanomaterials as powerful tools for the treatment of viral infections in plants, animals, and humans. It reviews the adopted strategies for designing viral and antiviral nanomaterials for medical applications, including cancer therapy and drug delivery. It also explains the different kinds of antiviral nanosized structures, their chemistries, and the attributes that enable them to be suitable targets for nanotherapeutics. The contributors have prepared the content in a comprehensive manner for readers to use their research findings to improve the healthcare of all living beings. FEATURES Reviews the novel tools for synthesis and characterization of nanomaterials as viral and antiviral agents Explores the different applications of currently available nanomaterials for the treatment of viral infections Investigates the role of antiviral nanodrugs in human and plant systems Addresses the activity of nanostructures in drug-delivery systems for cancer treatment Allows readers from various backgrounds to access the advanced research and practices across traditional frontiers Discusses viral nanomaterials as the viable future of antiviral drugs and nanovaccines in animals and humans This authoritative book is of exceptional relevance to postgraduate scholars, researchers, and scientists interested in nanomedicine, biomedical science, materials science, biopharmaceutical technology, microbiology, and virology to improve virus- and cancer-based therapeutic tools for animal and human welfare.

Nanoparticles in Pharmacotherapy Drug Delivery Trends examines a drift in the pharmaceutical field across the wide range of dosage forms, drug delivery systems (micro and nanoparticulate), at the regulatory front and on new types of therapies in the market. This volume additionally covers the challenges on drug delivery systems in terms of preclinical and current ways of determining quality and the options to solve the challenges associated with this. Most small-medium scale industries and academics struggle with initial regulatory challenges so a detailed discussion on regulatory trend covers the necessary basic understanding of regulatory procedures and provides the required guidance. The series Expectations and Realities of Multifunctional Drug Delivery Systems examines the fabrication, optimization, biological aspects, regulatory and clinical success of wide range of drug delivery carriers. This series reviews multifunctionality and applications of drug delivery systems, industrial trends, regulatory challenges and in vivo success stories. Throughout the volumes discussions on diverse aspects of drug delivery carriers, such as clinical, engineering, and regulatory, facilitate insight sharing across expertise area and form a link for collaborations between industry-academic scientists and clinical researchers. Expectations and Realities of Multifunctional Drug Delivery Systems connects formulation scientists, regulatory experts, engineers, clinical experts and regulatory stakeholders. The wide scope of the book ensures it as a valuable reference resource for researchers in both academia and the pharmaceutical industry who want to learn more about drug delivery systems. Encompasses trends in drug delivery systems and selected dosage forms Illustrates regulatory, preclinical and quality principles Contains in-depth investigation of upcoming types of drug delivery systems.

Nanoconjugate Nanocarriers for Drug Delivery
Drug Delivery Trends

This research book covers the major aspects relating to the use of novel delivery systems in enhancing both transdermal and intradermal drug delivery. It provides a review of transdermal and intradermal drug delivery, including the history of the field and the various methods employed to produce delivery systems from different materials such as device design, construction and evaluation, so as to provide a sound background to the use of novel systems in enhanced delivery applications. Furthermore, it presents in-depth analyses of recent developments in this exponentially growing field, with a focus on microneedle arrays, needle-free injections, nanoparticulate systems and peptide-conjugational physicochemical strategies, such as sonophoresis, iontophoresis, electroporation and thermal/suction/laser ablation. Discussions about the penetration of the stratum corneum by the various novel strategies highlight the importance of the application method. Comprehensive and critical reviews of transdermal and intradermal delivery research using such systems focus on the outcomes of in vivo and human studies. The book includes laboratory, clinical and commercial case studies featuring safety and patient acceptability studies carried out to date, and depicts a growing area for use of these novel systems in intradermal vaccine delivery. The final chapters review recent patents in this field and describe the work ongoing in industry.

Novel Delivery Systems for Transdermal and Intradermal Drug Delivery

The editors offer pharmaceutical perspectives, exploring the development of nanobiomaterials and their application in the human body. Chlorides show how nanotechnology in drug delivery is changing treatment paradigms and how nanoparticles and nanomaterials are revolutionizing the treatment of diseases and disorders, from global institutions, this book offers a broad, international perspective on how nanotechnology-based advances are leading to novel drug delivery and treatment solutions. It is a valuable research resource that will help both practicing medics and researchers in pharmaceutical science and nanomedicine learn more about how nanotechnology is improving treatments. It assesses the opportunities and challenges of nanotechnology-based drug delivery systems. This volume focuses on nanotechnology and its applications. It demonstrates the crucial role this plays in tackling multi-drug resistant threats.

Multifunctional Systems for Combined Delivery, Biosensing and Diagnostics

Focusing on the application of nanotechnology in pharmaceutical technology the editors seek to integrate the two in order to obtain innovative products and solutions in pharmacology. Interdisciplinary in content it is of interest to those who are involved in the development of nanoproducts including nanotechnologists, microbiologists, biotechnologists and pharmacologists and clinicians. Recent studies are presented that include the biosynthesis of nanoparticles focusing on antimicrobials; nanomaterial-based formulations that treat cancer, infections, skin disorders and wounds; nanomaterials in eye diseases and toxicity and safety issues. It demonstrates the crucial role this plays in tackling multi-drug resistant threats.

Carrier-Mediated Dermal Delivery

Nanomedicine is the application of nanotechnology in medicines at an atomic, molecular, and supramolecular level. Nanomedicine covers a wide range of topics from the development of nanomaterials for use in medicines to the synthesis of nanomedicines with their multiple applications. The major focus of the book is on developments in nanomedicines and their effectiveness compared to conventional drugs. Some drugs are administered twice daily for days and weeks. However, the frequency of administration of some drugs can be reduced to once or twice a week with lower side effects. This book contains five chapters from leading scientists working in the area of nanomedicines. Particular topics that are highlighted are exosomes, nanoantimicrobial solutions, transethosomes, nanoethosomes, nanoparticles, multifunctional drugs, and natural dietary products.

Handbook of Polymers for Pharmaceutical Technologies, Structure and Chemistry

This volume, the first of the two-volume Drug Delivery Approaches and Nanosystems series, presents a full picture of the state-of-the-art research and development in drug delivery systems using nanotechnology and its applications. It addresses the ever-expanding application of nanomedicine on nano-sized materials in the medical field and the real-world challenges and complexities of current drug delivery methodologies and techniques. Many methods of drug delivery systems have been used, but very few of them have been validated for medical use. A major reason for the above situation, the editors believe, is the gap between academia and research, and the gap between academic research and real-time clinical applications and needs. This volume addresses that gap. This volume presents 12 chapters that provide information about the preparation and characterization of nanocomposite materials used in drug delivery systems; advanced research of carbon nanotubes, nanocomposite materials, and polymer-clay, ceramics, and silicate glass-based nanocomposites; and the functionality of graphene nanocomposites. The book also provides detailed information on the application of nanomedicine in drug delivery systems in health care systems and medicine. The book describes how nanostructures are synthesized and draws attention to a wide variety of nanostructures available for biological research and treatment applications. This volume provides a wealth of information that will be valuable to scientists and researchers, faculty, and students. Volume 2 of the two-volume series is subtitled Drug Targeting Aspects of Nanotechnology. The volumes are available separately or as a set.

Nanophytomedicine

Mitochondrial Dysfunction and Nanotherapeutics: Aging, Diseases, and Nanotechnology-Related Strategies in Mitochondrial Medicine provides a comprehensive overview of mitochondrial dysfunction and current strategies for targeting the organelle. Based on the most current research, the editor lined up a team of worldwide experts to cover the most exciting research in the area, considering the impact through the human life span. This book is structured in two parts that provide a good balance of foundational and applied content. Part I deals with an overview of mitochondrial dysfunction and its role in the aging process, including metabolic diseases, neuro-affective and neurodegenerative disorders, sepsis, and toxicological aspects. Part II covers therapeutic substance delivery to mitochondria with a focus on cancer, neurodegenerative diseases, and increasing the bioavailability of natural compounds of interest. Several nanoscale strategies are described. Mitochondrial Dysfunction and Nanotherapeutics: Aging, Diseases, and Nanotechnology-Related Strategies in Mitochondrial Medicine is a complete resource for researchers in this exciting field. Its comprehensive coverage makes this book particularly interesting to bioscience researchers looking to understand the foundations of mitochondrial health throughout the human life span. Additionally, clinician researchers, medical doctors, nutritionists, pharmacologists, and sports scientists may be attracted to the detailed information on the organelle-targeted delivery strategies. Contains detailed information on
mitochondrial dysfunction Reviews our current understanding of the role of mitochondria in aging Includes coverage of specific conditions, including sports and affective disorders, among others Discusses mitochondria targeted delivery of therapeutic compounds

Nanopharmaceuticals: Principles and Applications Vol. 1 This book collects reviews and original articles from eminent experts working in the interdisciplinary arena of nanotechnology use in drug delivery. From their direct and recent experience, the readers can achieve a wide vision on the new and ongoing potentialities of nanotechnology application of drug delivery. 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 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.

Cosmeceuticals This book volume provides complete and updated information on the applications of Design of Experiments (DoE) and related multivariate techniques at various stages of pharmaceutical product development. It discusses the applications of experimental designs that shall include oral, topical, transdermal, injectables preparations, and beyond for nanopharmaceutical product development, leading to dedicated case studies on various pharmaceutical experiments through illustrations, art-works, tables and figures. This book is a valuable guide for all academic and industrial researchers, pharmaceutical and biomedical scientists, undergraduate and postgraduate research scholars, pharmacists, biostatisticians, biotechnologists, formulations and process engineers, regulatory affairs and quality assurance personnel.

Percutaneous Penetration Enhancers, Second Edition

Transdermal Drug Delivery Multifunctional Systems for Combined Delivery, Biosensing, and Diagnostics explores how multifunctional nanocarriers are being used in combined delivery and diagnostics in contemporary medicine. Particular attention is given to efforts to i) reduce the side effects of therapeutic agents, ii) increase the pharmacological effect, and iii) improve aqueous solubility and chemical stability of different therapeutic agents. The chapters focus on applications of nanostructured materials and nanocarriers, highlighting how these can be used effectively in both diagnosis and delivery. This applied focus makes the book an important reference source for those wanting to learn more about how specific nanomaterials and nanotechnology systems can help to solve drug delivery and diagnostics problems. This book is a valuable resource for materials scientists, bioengineers, and medical researchers who are looking for an applications-oriented guide on how nanotechnology and nanomaterials can be used effectively throughout the medical treatment process, from diagnosis to treatment. Explores the benefits of using a variety of nanomaterials as drug delivery agents Explains how nanocarriers can reduce the side effects of therapeutic agents Provides an analysis of the pros and cons of using specific nanocarriers to solve particular diagnosis and delivery problems

Lipid Nanocarriers for Drug Targeting Novel Drug Delivery Systems for Phytoconstituents discusses general principles of drug targeting, construction material and technological concerns of different phytoconstituent in delivery systems. It focuses on the development of novel herbal formulations and summarizes their method of preparation, type of active ingredients, route of administration, biological activity and their applications. It discuses therapeutic activities of plant derived chemicals, their limitations in clinical applications and novel drug delivery solutions to overcome them to provide better therapeutic effects with controlled and targeted drug delivery. Focus on drug delivery of phytomolecules Act as bridge between natural product scientist and clinical doctors Discusses mechanism of poor bioavailability of herbal molecules Increases awareness towards phytochemical efficacy Summarizes efficient novel delivery systems-based formulations. It extensively covers the applications of novel drug delivery systems including polymeric nanoparticles, solid lipid nanoparticles, nanostructured lipid capsules, liposomes, phytosomes, microsphere, transferosomes, and ethosomes. Some chapters are especially focused on anticancer phytodrugs, silymarin, andrographolide, berberine, and curcumin delivery with special emphasis on their application.

Pharmaceutical Quality by Design This book details several important medicinal plants, their occurrence, plant compounds and their chemical structures, and pharmacological properties against various human diseases. It also gives information on isolation and structural elucidation of phytocompounds, bio-assays, metabolomic studies, and therapeutical applications of plant compounds.

Mitochondrial Dysfunction and Nanotheapeutics Pharmaceutical Quality by Design: Principles and Applications discusses the Quality by Design (QbD) concept implemented by regulatory agencies to ensure the development of a consistent and high-quality pharmaceutical product that safely provides the maximum therapeutic benefit to patients. The book walks readers through the QbD framework by covering the fundamental principles of QbD, the current regulatory requirements, and the applications of QbD at various stages of pharmaceutical product development, including drug substance and excipient development, analytical development, formulation development, dissolution testing, manufacturing, stability studies, bioequivalence testing, risk and assessment, and clinical trials. Contributions from global leaders in QbD provide specific insight in its application in a diversity of pharmaceutical products, including nanopharmaceuticals, biopharmaceuticals, and vaccines. The inclusion of illustrations, practical examples, and case studies makes this book a useful reference guide to pharmaceutical scientists and researchers who are engaged in the formulation of various delivery systems and the analysis of pharmaceutical product development and drug manufacturing process. Discusses vital QbD precepts and fundamental aspects of QbD implementation in the pharma, biopharma and biotechnology industries Provides helpful illustrations, practical examples and research case studies to explain QbD concepts to readers Includes contributions from global leaders and experts from academia, industry and regulatory agencies

Nanoformulations in Human Health Thoroughly updated, this second edition is the most comprehensive reference on the methods available for the enhancement of percutaneous
penetration. The book examines a broad scope of chemical enhancers and various physical methods of enhancement. The range of chemicals discussed is, arguably, unsurpassed anywhere in the literature. This edition contains comprehensive descriptions of the latest techniques and several chapters cover the modern analytical techniques used to assess and measure penetration enhancement. New to this volume are chapters addressing penetration retardation, important for substances such as sunscreen agents, for which skin penetration is not desirable.

Novel Drug Delivery Systems for Phytoconstituents "The purpose of this book is to show how cosmeceuticals (defined as a skin care product with bioactive ingredients, which have a desired effect on the skin) work for a variety of skin care concerns, and in concert with cosmetic procedures commonly used by dermatologists and cosmetic physicians"--

Drug Delivery Approaches and Nanosystems, Volume 1 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

Application of Nanotechnology in Drug Delivery This text book is a guide for pharmaceutical academicians (students and teachers) as well as industry professionals learning about drug delivery and formulation. Chapters presents comprehensive information about self-emulsifying formulations by providing an in-depth understanding of the basic concepts and formulation mechanisms. This information is supplemented by details about current research and development in this field. Readers will learn about the types of self-emulsifying drug delivery systems, evaluation parameters and digestion models, among other topics. Key Features: - 9 chapters organized in a reader-friendly layout - complete guide on self-emulsifying drug delivery formulations, including lipid based systems, SMEDOs, surfactants, and oral dosage forms - includes basic concepts and current developments in research and industrial applications - presents information on conventional and herbal formulations - references for further reading

Medicinal Plants Novel drug delivery systems cover the approaches, formulation, technologies, and modes for transporting any pharmaceutical compound throughout the body to safely get the desired effect. A growing area of research is the use of herbal formulations for disease therapy. In combining these two areas of research, that of novel drug delivery systems and that of herbal formulations, the usefulness of herbs is not only proved but its future applications and effectiveness are studied. The move towards herbal-based novel drug delivery systems can benefit society in a multitude of advantageous ways. Enhancing the Therapeutic Efficacy of Herbal Formulations discusses and explores the ways of preparing herbal formulations loaded in novel drug delivery systems and the resultant improvement in efficacy of the effected drugs/herbs already available on the market. The chapters will highlight traditional and herbal formulations, the effects of novel drug delivery systems on herbal formulations, and the safe and effective preparation and effects of herbal formulations as a therapeutic intervention. This book is ideal for pharmacists, doctors, and researchers specializing in herbal therapeutics, along with practitioners, researchers, academicians, and students interested in how herbal-based novel drug delivery systems can benefit society.

A Comprehensive Text Book on Self-emulsifying Drug Delivery Systems Nanoparticles in Pharmacotherapy explores the most recent findings on how nanoparticles are used in pharmacotherapy, starting with their synthesis, characterization and current or potential uses. This book is a valuable resource of recent scientific progress that includes the most cutting-edge applications of nanoparticles in pharmacotherapy. It is ideal for researchers, medical doctors and those in academia.

Basic Fundamentals of Drug Delivery

Medintz, and W Russ Algar)"Applications in Therapy: "The Application of Nanomedicine to Cardiovascular Diseases "(Kevin M Bardon, Olivier Kister and Jason R McCarthy)"Nanomedicines for Restenosis Therapy "(I E Tengood, I Fishbein, R J Levy and M Chorny)"Nanopreparations for Cancer Treatment and Diagnostics "(Jayant Khandare, Shashwat Banerjee and Tamara Minko)"Nanoparticles in the Gastrointestinal Tract "(Abraham Rubinstein)"Nanopreparations for Oral Administration "(D Hubbard, D J Brayden and H Ghandehari)"Nanopreparations for Central Nervous System Diseases "(Leyuan Xu and Hu Yang)"Nanoparticles for Dermal and Transdermal Delivery: Permeation Pathways and Applications "(Mariana Foldvari, Marjan Charogzadeh and Christine Li)"Lysoosomes and Nanotherapeutics: Diseases, Treatments, and Side Effects "(Rachel I Manthe and Silvia Muro)"Nanostructured Biomaterials for Inhibiting Cancer Cell Functions "(Lijuan Zhang and Thomas J Webster)"Nanomedicine in Otorhinolaryngology"

Direct Nose-to-Brain Drug Delivery This book presents new approaches for skin aging and photocarcinogenesis and topical formulations based on nanocarrier systems for skin disorders. It discusses cosmeceuticals, laser, photodynamic therapy, and melanin-based treatments as important strategies for photoaging management. Photodynamic therapy and melanin can be used in the photocarcinogenesis context, too. Therefore, the inclusion of this strong antioxidant in sunscreen products could be a promising approach. The book discusses topical formulations, including emulsions (conventional formulations and emulsions stabilized by solid particles), nail films, and nanocarriers used for the delivery of actives in various skin and nail diseases such as acne, psoriasis, atopic dermatitis, fungal diseases, leishmaniasis, and skin cancer. Finally, several nanocarriers are introduced, such as lipid vesicles (ranging from the first-generation conventional liposomes to the more recent deformable vesicles), liquid crystalline nanodispersions, gelatin, and solid lipid nanoparticles.

Their composition, formulation, characterization, and topical applications are also discussed. Although this is a broad topic, the most important (nano)pharmaceutical formulations are presented in the book.

Theory and Applications of Nonparenteral Nanomedicines This book discusses the biological, technical and study-design challenges of Nanopharmaceuticals. Chapters of this book are dedicated to supermagnetic iron oxide nanoparticles for the diagnosis of brain, breast, gastric, ovarian, liver, colorectal, lung and pancreatic cancers. It also includes a brief introduction to magnetic resonance imaging and ends with the future prospective of iron oxide nanoparticles in cancer detection. The book also provides a critical discussion on 'Computational sequence design for DNA nanostructures' and gives a brief introduction about the skin delivery. A detailed discussion has been included about the different types of nanocarriers such as micells, microemulsions, nanoemulsions, polymeric and lipid based nanoparticles. Focussing on the safety concerns of nanomedicine it also covers the safety issues, clinical benefits, ecotoxicity and regulatory frame work of nanopharmaceuticals.

Nanomedicine and Drug Delivery Lipid Nanocarriers for Drug Targeting presents recent advances in the area of lipid nanocarriers. The book focuses on cationic lipid nanocarriers, solid lipid nanocarriers, liposomes, thermosensitive vesicles, and cubosomes, with applications in phototherapy, cosmetic and others. As the first book related to lipid nanocarriers and their direct implication in pharmaceutical nanotechnology, this important reference resource is ideal for biomedical scientists and those working in the medical and pharmaceutical industries that want to learn more on how lipids can be used to create more effective drug delivery systems. Highlights the most commonly used types of lipid nanocarriers and explains how they are applied in pharmacy Shows how lipid nanocarriers are used in different types of treatment, including oral medicine, skin repair and cancer treatment Assesses the pros and cons of using different lipid nanocarriers for different therapies

Indian Science Abstracts 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

Nano- and Microscale Drug Delivery Systems This new volume presents a plethora of new research on the use of nanoconjugate nanocarriers in drug delivery. Nanotechnology as drug carriers has been observed to increase the level of sophistication through a variety of ways. It helps to alleviate some of the pitfalls of conventional dosage forms, such as few pitfalls such as non-specific drug delivery, dose dumping, poor patient compliance, toxicities linked with higher doses, etc. With chapters from highly skilled, experienced, and renowned scientists and researchers, Nanoconjugate Nanocarriers for Drug Delivery is divided into four sections, providing an introduction to nanocarriers for drug delivery, physicochemical features of nanocarriers, and specific applications dealing with drug delivery in particular. The materials used as well as formulation and characterization have been discussed in detail. The nanocarriers covered in the book include nanoparticles, vesicular carriers, carriers having carbon as the core constituent, dispersed systems, etc. The book also delves into the interaction and associations between drug delivery research and its therapeutic applications in practice. The book integrates a wide variety of case studies, research, and theories in an attempt to reveal the diversity and capture the novel approaches of nanoconjugate nanocarriers for drug delivery employed by developers and content experts in the field. This timely publication will be an essential reference and current awareness source, building on the available literature in the field of pharmacy and biomedical science, while also providing ideas for further research opportunities in this dynamic field.