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Applications of Nanocomposite Materials in Drug Delivery John Wiley & Sons Biorefinery of Oil Producing Plants for Value-Added

Products An instructive and up-to-date pretreatment and industrial applications of oil producing plants Biorefinery of Oil Producing Plants for Value-Added Products is a two-volume set that delivers a comprehensive exploration of oil producing plants, from their availability to their pretreatment, bioenergy generation, chemical generation, bioproduct generation, and economic impact. The distinguished team of editors has included a wide variety of highly instructive resources written by leading contributors to the field. This set explores the current and future potential of bioenergy production to address the energy and climate crisis, as well as the technologies used to produce materials like biogas, biodiesel, bioethanol, biobutanol, biochar, fuel pellets, and biohydrogen. It also discusses the production of biobased chemicals, including bio-oil, biosurfactants , catanionic surfactants, glycerol, biovanillin, bioplastic, and plant-oil based polyurethanes . Concluding with an insightful analysis of the economic effects of oil producing plants, the set also offers readers: A thorough introduction to the availability of oil

producing plants, including palm oil, castor oil, jatropha, nyamplung, and coconut A comprehensive exploration of the pretreatment of oil producing plants, including the physical, chemical and biological pretreatment of lignocellulosic biomass Practical discussion of the generation of bioenergy, including biogas generation in the palm oil mill and biodiesel production techniques using jatropha In-depth examinations of the generation of biobased chemicals, including those produced from the tobacco plant Perfect for researchers and industry practitioners involved with the biorefinery of oil producing plants, Biorefinery of Oil Producing Plants for Value-Added Products also belongs in the libraries of undergraduate and graduate students studying agriculture, chemistry, engineering, and microbiology.

Self-Organized Surfactant Structures Royal Society of Chemistry Beginning with the basics of surfactant chemistry and micellization, this book presents a range of nanotechnology strategies for controlling colloidal and polymeric structures for the solubilization and targeted delivery of

food nutrients and pharmaceutic als.

Recent Trends in Surface and Colloid Science

DEStech Publications, Inc

This volume examines the role of colloid and interface science in pharmacy, as well as pharmaceutic al formulations and drug delivery. It then goes on to treat pharmaceutic al suspensions and emulsions, including multiple emulsions, as well as liposomes and the role of nanotechnolo gy in drug delivery. A final section is devoted to the hot topic of stem cell research.

A Computational Study of Self-assembled Surfactant Systems

Elsevier

This book develops the thesis that structure and function in a variety of condensed systems - from the atomic assemblies in inorganic frameworks and organic molecules, through molecular self-assemblies to proteins - can be unified when curvature and surface geometry are taken together with molecular shape and forces. An astonishing variety of synthetic and biological assemblies can be accurately modelled and understood in terms of hyperbolic surfaces, whose richness and beauty are only now being

revealed by applied mathematicians, physicists, chemists and crystallographers. These surfaces, often close to periodic minimal surfaces, weave and twist through space, carving out interconnected labyrinths whose range of topologies and symmetries challenge the imaginative powers. The book offers an overview of these structures and structural transformations, convincingly demonstrating their ubiquity in covalent frameworks from zeolites used for cracking oil and pollution control to enzymes and structural proteins, thermotropic and lyotropic bicontinuous mesophases formed by surfactants, detergents and lipids, synthetic block copolymer and protein networks, as well as biological cell assemblies, from muscles to membranes in prokaryotic and eukaryotic cells. The relation between structure and function is analysed in terms of the previously neglected hidden variables of curvature and topology. Thus, the catalytic activity of zeolites and enzymes, the superior material properties of interpenetrating networks in microstructured polymer composites, the transport requirements in cells, the transmission of nerve

signals and the folding of DNA can be more easily understood in the light of this. The text is liberally sprinkled with figures and colour plates, making it accessible to both the beginning graduate student and researchers in condensed matter physics and chemistry, mineralogists, crystallographers and biologists.

Fundamentals of Pharmaceutical Nanoscience Taylor & Francis

This volume contains selected papers presented at the 42nd Biennial Meeting of the Kolloid-Gesellschaft held at the RWTH Aachen University September 26-28, 2005. The contributions in this volume represent the diversity of research topics in colloid and polymer science. They include the investigation of synthesis and properties of advanced temperature sensitive particles and their biomedical applications, drug delivery systems, foams, capsules, vesicles and gels, polyelectrolytes, nanoparticles surfactants and hybrid materials.

Controlled Release of Drugs CRC Press

This study deals with crystalline nonionic surfactant-water mixtures having lamellar gel structures. The release of

an extremely hydrophilic drug (nicotinamide) from mixtures with various water contents was measured and the results compared with Differential Scanning Calorimetry data. It is concluded that the lamellar gel structure fits a simple pore model in which the interlamellar channels behave as pores, the porosity being determined by the free (i. e. unbound) water content, the tortuosity by the orientation of the lamellae. *Colloidal Carriers for Controlled Drug Delivery and Targeting* CRC Press The 14th Conference of the European Colloid and Interface Society (ECIS 2000) was held in September 2000, in Patras, GREECE. Researchers from the academia and the industrial sector met and presented research work divided in nine thematic sections: molecular interactions in thin films, polymer-surfactant interactions, structure and dynamics at interfaces, biocolloids, colloids in pharmaceutical and biological applications, new trends in colloid and interface science techniques, rheology, self assembly of amphiphiles and measurements in concentrated suspensions. Selected contributions from these thematic

areas are presented in the present volume and show the up today achievements of the Colloid and Interface Science. *Colloid Stability and Application in Pharmacy* Woodhead Publishing Colloidal drug delivery systems present a range of therapeutic benefits in the treatment of a number of challenging conditions, allowing researchers to cross barriers that have previously prevented efficient treatment while offering improved and more targeted absorption. Summarizing recent research in the field, Colloids in Drug Delivery assembles **Nanoemulsions** Springer Science & Business Media Finally, particle aerosolization on surfactant was performed to mimic the physiologically relevant route of surfactant exposure to particles. Particle aerosolization on DPPC monolayers significantly inhibited surfactant function in the lung-relevant surface tension range. When aerosolized on Infasurf, particles caused inhibitory effects as a function of time suggesting adsorption of surfactant components on particle surfaces as the main mechanism of interaction. This research will enhance understanding of the

mechanisms of particle-induced surfactant dysfunction, thereby providing information for the safe design of polymeric particles for drug delivery and for developing guidelines for particles used in occupational settings. **Nanotechnologies for Solubilization and Delivery in Foods, Cosmetics and Pharmaceuticals** BoD – Books on Demand Colloid and Interface Science in Pharmaceutical Research and Development describes the role of colloid and surface chemistry in the pharmaceutical sciences. It gives a detailed account of colloid theory, and explains physicochemical properties of the colloidal-pharmaceutical systems, and the methods for their measurement. The book starts with fundamentals in Part I, covering fundamental aspects of colloid and interface sciences as applied to pharmaceutical sciences and thus should be suitable for teaching. Parts II and III treat applications and measurements, and they explains the application of these properties and their influence and use for the development of new drugs. Provides a clear description of

the fundamentals of colloid and interface science relevant to drug research and development Explains the physicochemical/colloidal basis of pharmaceutical science Lists modern experimental characterization techniques, provides analytical equations and explanations on analyzing the experimental data Describes the most advanced techniques, AFM (Atomic Force Microscopy), SFA (Surface Force Apparatus) in detail **New Frontiers in Colloid Science** CRC Press Colloidal Biomolecules, Biomaterials, and Biomedical Applications is an authoritative presentation of established and recent techniques promising to revolutionize the areas of biomedical diagnostics, therapeutics, pharmaceutics, and drug delivery. This exceptional book details an original homogeneous assay for biomolecule detection and capture through duplex colloid particles, as well as new methods for utilizing peptides in particle agglutination. Featuring contributions from over 30 prominent researchers, it investigates physical studies of the agglutination of sensitive latexes, and indicates benefits to drug delivery through

supercritical fluid process production of polymer particles.

Colloids in Biotechnology

CRC Press

Surfactants by virtue of their structure form self-assembled organized structures that exhibit fascinating properties useful for a wide range of applications. This book is a compilation of chapters from leading experts highlighting the use of specific surfactants and their functional properties in new and emerging areas of science and technology. The first two chapters of this book discuss the various applications of surfactants, including their use in cosmetics, oil recovery from rocks and mineral processing. Subsequent chapters cover advanced topics like new-generation polymer-based nanoparticles with microbial activity and complex phase systems formed as a result of charge-induced interactions between surfactants, polymers and proteins with potential applications in medical devices. In addition, this book reports for the first time on bio-surfactants extracted from micro-organisms present in the clouds. This report is not the only one of its kind, but it opens up a totally new area of

research in terms of an unexplored source of bio-surfactants. It also paves the way for understanding their role in controlling our atmosphere and climate.

Colloidal Drug Delivery Systems Elsevier Integrating fundamental research with the technical applications of this rapidly evolving field, Structure and Functional Properties of Colloidal Systems clearly presents the connections between structure and functional aspects in colloid and interface science. It explores the physical fundamentals of colloid science, new developments of synthesis

Surfactant/polymers as Drug Delivery Vehicles Steinkopff Volume 3 of the Handbook of Colloid and Interface Science is a survey into the applications of colloids in a variety of fields, based on theories presented in Volumes 1 and 2. The Handbook provides a complete understanding of how colloids and interfaces can be applied in materials science, chemical engineering, and colloidal science. It is ideally suited as reference work for research scientists, universities, and industries.

The Language of Shape BoD – Books on Demand Colloids show great potential in a wide variety of applications, including drug

delivery and medical imaging, and the design and fabrication of colloid systems has attracted considerable interest in the research community. Colloids in Biotechnology describes developments in the field of biotechnological applications in the past decade and bridges t Industrial Applications I CRC Press This volume provides a single-source of reviews for all the important colloidal drug delivery systems, including nanoparticles, liposomes, niosomes, microemulsions and ointments. Over 1000 bibliographic citations, as well as tables, drawings, equations and photographs, are provided. Arranged in order of increasing physical complexity, this work analyzes developments in the field. **Metallosurfactants** John Wiley & Sons Surfactants are ubiquitous and have applications in diverse areas, including food, cosmetics, detergents, lubricants, enhanced oil recovery (EOR), and targeted drug delivery systems. Their wide diversity of applications owes to their unique structure, namely, a hydrophilic and a hydrophobic group present in the same molecule. Although most surfactants used industrially are synthetic, there is a growing need

for natural surfactants, as the latter is obtainable from renewable sources and are less toxic and highly biodegradable in contrast to their synthetic counterparts. This book is a compilation of interesting articles by various experts that cover various applications of both synthetic and natural surfactants. Colloidal Systems for Controlled Drug Delivery -- Structure Activity Relationships Springer Science & Business Media An authoritative and comprehensive reference relevant to all scientists and engineers in the field. This encyclopedia not only helps chemistry, materials science and physics researchers to understand the principles, but also provides practicing engineers with the necessary information for implementing practical applications, such as Food and agrochemicals Polymers and ceramics Cosmetics and detergents Paints and coatings Pharmaceuticals and drug delivery In addition, the encyclopedia is an important reference for industrial chemists and chemical engineers faced with a multitude of industrial systems of a colloidal nature. As wide as the range of applications that colloid and interface science has is

the range of scientific disciplines that contribute to research and development in this field. These encompass chemistry, physics, biology and mathematics as well as nanoscience and nanotechnology. The encyclopedia provides easy-to-digest information for meeting these interdisciplinary challenges. While providing numerous concise definitions of key terms, the encyclopedia also features more than forty in-depth essays on topics ranging from Agrochemical Formulations to Zeta Potential. All entries are cross-referenced and include selected references to original literature as well as synonyms.

Self-Assembly Wiley-VCH

Surfactant research explores the forces responsible for surfactant assembly and the critical industrial, medical, and personal applications, including viscosity control, microelectronics, drug stabilization, drug delivery, cosmetics, enhanced oil recovery, and foods. Surfactant Science and Technology: Retrospects and Prospects, "a Festschrift in ho

Colloidal Biomolecules, Biomaterials, and Biomedical Applications John Wiley & Sons

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