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KEY=OF - VALENCIA LEILA

Handbook of Nonmedical Applications of Liposomes Theory and Basic Sciences CRC Press Liposomes have become an important model in fundamental biomembrane research, including biophysical, biochemical, and cell biological studies of membranes and cell function. They are thoroughly studied in several applications, such as drug delivery systems in medical applications and as controlled release systems, microencapsulating media, signal carriers, support matrices, and solubilizers in other applications. While medical applications have been extensively reviewed in recent literature, there is a need for easily accessible information on applications for liposomes beyond pharmacology and medicine. The Handbook of Nonmedical Applications of Liposomes fills this void. This unique new handbook series presents recent developments in the use of liposomes in many scientific disciplines, from studies on the origin of life, protein function, and vesicle shapes, to applications in cosmetics, diagnostics, ecology, bioreclamation, and the food industry. In these volumes many of the top experts contribute extensive reviews of their work. Handbook of Nonmedical Applications of Liposomes Volume III: From Design to Microreactors CRC Press Liposomes have become an important model in fundamental biomembrane research, including biophysical, biochemical, and cell biological studies of membranes and cell function. They are thoroughly studied in several applications, such as drug delivery systems in medical applications and as controlled release systems, microencapsulating media, signal carriers, support matrices, and solubilizers in other applications. 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It covers cholesterol interactions with lipid bilayers, and the thermodynamics of liposomal systems. There are also computer simulations and molecular dynamics of lipid systems. Handbook of Nonmedical Applications of Liposomes: From design to microreactors Handbook of Nonmedical Applications of Liposomes: Theory and basic sciences Handbook of Nonmedical Applications of Liposomes Theory and basic sciences Handbook of Nonmedical Applications of Liposomes: Models for biological phenomena Handbook of Nonmedical Applications of Liposomes: From gene delivery and diagnostics to ecology Handbook of Nonmedical Applications of Liposomes From Gene Delivery and Diagnosis to Ecology CRC Press First published in 1996, liposomes have become an important model in fundamental biomembrane research, including biophysical, biochemical, and cell biological studies of membranes and cell function. 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Medical Applications of Liposomes Elsevier The development of liposomes as a drug delivery system has fluctuated since its introduction in the late 1960's by A.D. Bangham. While academic research of liposomes as a model membrane system has always flourished, as the exponential growth of papers can testify, the application of these findings to medically useful products has gone through several crises. Following the original optimism in the 70's and early 80's, a period of severe skepticism ensued at the end of the 80's and beginning of the 90's, culminating in a moderate but real optimism in the mid 90's, as a result of a successful launch of the first products in the US and Europe. In this collection of papers, the editors have gathered the most promising ideas, approaches, applications and commercial developments, thereby presenting an up-to-date compilation of the present status of the field. This includes such broad areas as anti-cancer chemotherapy immune stimulation and infectious diseases. Currently, the major areas of progress are in delivery of anti-fungal agents by conventional liposomes or lipid-based carriers and systemic anticancer therapy using long-circulating liposomes. The future applications as characterized by the direction of present day research is in specific targeting and delivery of informational molecules such as DNA plasmids (genes), antisense oligonucleotides or ribozymes. Other future developments may be in topical delivery, vaccination and in diagnostics. Features of this book: • Contributions from almost all the leading labs in the field • Up-to-date, critical reviews bridged by editors' introductions • Organized into a logical framework. Percutaneous Penetration Enhancers Chemical Methods in Penetration Enhancement Nanocarriers Springer Percutaneous Penetration Enhancers in a mini-series format comprising five volumes, represents the most comprehensive reference on enhancement methods – both well established and recently introduced – in the field of dermal/transdermal drug delivery. In detail the broad range of both chemical and physical methods used to enhance the skin delivery of drugs is described. All aspects of drug delivery and measurement of penetration are covered and the latest findings are provided on skin structure and function, mathematics in skin permeation and modern analytical techniques adapted to assess and measure penetration. In offering a detailed description of the methods currently in use for penetration enhancement, this book will be of value for researchers, pharmaceutical scientists, practitioners and also students. Liposomes Elsevier Liposomes are cellular structures made up of lipid molecules. Important as a cellular model in the study of basic biology liposomes are also used in clinical applications such as drug delivery and virus studies. *Liposomes in Immunology *Liposomes in Diagnostics *Liposomes in Gene Delivery and Gene Therapy Nutrition and Biochemistry of Phospholipids The American Oil Chemists Society Phospholipids are involved in many intrinsic applications within the cell and are part of all major tissue and concentrated in vital organs that require neuronal interactions. This book contains the program presented at the 8th International Congress of ILPS and includes sessions covering phospholipids metabolism in brain function, choline and galactosphingolipids in health and disease, phospholipids in cardiovascular, liver, and muscle health, and finally, phospholipids in infant nutrition. This book, which contains these current research activities and updates, should stimulate the scientific community to continue working on phospholipids in biochemistry and nutrition. Physical Chemistry of Biological Interfaces CRC Press An introduction to the most important fundamental concepts of physicochemical interface science and a description of experimental techniques and applications of surface science in relation to biological systems. It explores artificial assemblies of lipids, proteins and polysaccharides that perform novel functions that living systems cannot duplicate. Biosensors and Their Applications Springer Science & Business Media A biosensor is a device in which a bioactive layer lies in direct contact with a transducer whose responses to change in the bioactive layer generate eloctronic signals for interpretation. The bioactive layer may consist of membrane-bound enzymes, anti-bodies, or receptors. The potential of this blend of electronics and biotechnology includes the direct assay of clinically important

substrates (e.g. blood glucose) and of substances too unstable for storage or whose concentrations fluctuate rapidly. Written by the leading researchers in the field, this book reflects the most current developments in successfully constructing a biosensor. Major applications are in the fields of pharmacology, molecular biology, virology and electronics. Scientific and Clinical Applications of Magnetic Carriers Springer Science & Business Media Proceedings of an international conference held in Rostock, Germany, September 5-7, 1996 Long Acting Injections and Implants Springer Science & Business Media Long acting injections and implants improve therapy, enhance patient compliance, improve dosing convenience, and are the most appropriate formulation choice for drugs that undergo extensive first pass metabolism or that exhibit poor oral bioavailability. An intriguing variety of technologies have been developed to provide long acting injections and implants. Many considerations need to go into the design of these systems in order to translate a concept from the lab bench to actual therapy for a patient. This book surveys and summarizes the field. Topics covered in Long Acting Injections and Implants include the historical development of the field, drugs, diseases and clinical applications for long acting injections and implants, anatomy and physiology for these systems, specific injectable technologies (including lipophilic solutions, aqueous suspensions, microspheres, liposomes, in situ forming depots and self-assembling lipid formulations), specific implantable technologies (including osmotic implants, drug eluting stents and microfabricated systems), peptide, protein and vaccine delivery, sterilization, drug release testing and regulatory aspects of long acting injections and implants. This volume provides essential information for experienced development professionals but was also written to be useful for scientists just beginning work in the field and for others who need an understanding of long acting injections and implants. This book will also be ideal as a graduate textbook. Polymeric Biomaterials, Revised and Expanded CRC Press Offering nearly 7000 references-3900 more than the first edition-Polymeric Biomaterials, Second Edition is an up-to-the-minute source for plastics and biomedical engineers, polymer scientists, biochemists, molecular biologists, macromolecular chemists, pharmacists, cardiovascular and plastic surgeons, and graduate and medical students in these disciplines. Completely revised and updated, it includes coverage of genetic engineering, synthesis of biodegradable polymers, hydrogels, and mucoadhesive polymers, as well as polymers for dermacosmetic treatments, burn and wound dressings, orthopedic surgery, artificial joints, vascular prostheses, and in blood contacting systems. Bionanotechnology II Global Prospects CRC Press The impact and importance of nanotechnology continues to grow, and nanomedicine and biotechnology have become areas of increased development. Biomedical engineers who work with biological processes and structures must have a deeply rooted understanding of the role of bionanotechnology, a rapidly evolving sector of the nanotechnology field. Bionanotechnology II: Global Prospects, a follow-up to the editor’s highly successful first volume, contains 26 entirely new contributions that provide a broad survey of research shaping this critical field. With coverage of technical and nontechnical areas, the book offers representative reporting on a wide variety of activity from around the world. It discusses the role of nanotechnology in novel medical devices, bioanalytical technologies, and nanobiomaterials. Topics discussed include: Emerging microscale technologies Bionanotech-based water treatment Tissue engineering and drug delivery Antimicrobial nanomaterials in the textile industry Bionanotechnology applications in plants and agriculture With contributions from researchers in Israel, Egypt, Iran, Jordan, Singapore, South Africa, Turkey, Thailand, Argentina, the United Kingdom, and the United States, this volume presents a worldwide perspective on some of the critical areas shaping bionanotechnology today. Nanoscale Materials in Targeted Drug Delivery, Theragnosis and Tissue Regeneration Springer This book is the first of its kind to offer a comprehensive and up-to-date discussion of the use of nanoscale materials for biomedical applications, with a particular focus on drug delivery, theragnosis and tissue regeneration. It also describes in detail the methods used in the preparation of nanoparticles. Response of nanoparticles in biological systems are also explored. Nanotechnology has led to the advent of a new field, nanomedicine, which focuses on the use of nanomaterials as drug-delivery vehicles to develop highly selective and effective drugs. The combination of molecular imaging and nanotechnology has produced theragnostic nanoparticles, which allow the simultaneous detection and monitoring of diseases. Nanotechnology can also be combined with biomaterials to create scaffolds for tissue regeneration. Further, significant advances have been made in the areas of drug delivery, theragnostic nanoparticles and tissue regeneration materials. Some nanomedicines and tissue regeneration materials are already commercially available, while others are undergoing clinical trials, and promising results have been documented. Despite the rapid advances in nanomedicine, there is a relative dearth of literature on the biomedical applications of nanoscale materials. Liposomes Elsevier Liposomes are cellular structures made up of lipid molecules. Important as a cellular model in the study of basic biology, liposomes are also used in clinical applications such as drug delivery and virus studies. Methods in Liposome Preparation Physiochemical Characterization of Liposomes Novel Approaches for Drug Delivery IGI Global Providing optimal care to patients is a primary concern in the healthcare field. By utilizing the latest resources and research in biomedical applications, the needs and expectations of patients can be successfully exceeded. Novel Approaches for Drug Delivery is an authoritative reference source for the latest scholarly research on emerging developments within the pharmaceutical industry, examining the current state and future directions of drug delivery systems. Highlighting therapeutic applications, predictive toxicology, and risk assessment perspectives, this book is ideally designed for medical practitioners, pharmacists, graduate-level students, scientists, and researchers. The National Science Foundation Fiscal Year 2001 Budget Authorization Request, Parts I-III Hearing Before the Subcommittee on Basic Research of the Committee on Science, House of Representatives, One Hundred Sixth Congress, Second Session, February 16, February 29, and March 15, 2000 Self-assembly IOS Press The book contains six sections. The first section covers general articles; then there is a section concentrating on novel systems and applications. This is followed by one that deals with a range of applications of polymers, surfactants and liquid crystals. This is followed by a section on advances in fundamental

understanding. Then there is one on biological systems, and finally there is a section on micelle and vesicle systems, with particular emphasis on dynamic aspects. The contributors, including Physicists, Chemists, Biologists and Chemical Engineers, variously chose to write review-type articles, summaries of their own recent work in the field and its relevance in the general concept of self-assembly, specific short papers related to their particular presentation, or their own thoughts concerning the future development of their particular interest area. All these aspects are addressed in the book. The book covers research at the forefront of the subject, and it is expected to be a very useful addition to the literature in this important field. Advances in Blood Substitutes Industrial Opportunities and Medical Challenges Springer Science & Business Media Each chapter of this volume is a contribution from an expert in the field, chosen by the editors to contribute to the 1997 "Current Issues in Blood Substitute Research and Development" course given in San Diego, March 17-19. The contributors were selected because of their expertise in areas which the editors believe to be critical to the advancement of the field, and which reflect activity in "hot" areas of relevant research. While there is a continuity in style for the annual course, each year brings changes in emphasis and content. In previous years, we were often not able to provide time for participants to present their views and opinions. Consequently, this year we encouraged discussion after each presentation. These sessions were recorded, transcribed, and are printed with the chapters herein. We believe that the product is very close to the capturing this year's course in print, and trust readers will enjoy reading the always candid and often provocative remarks from the audience. The price paid for inclusion of the discussion transcriptions was a delay in publication. Each author was allowed to edit his/her discussion section as well as the final version of the chapters prior to publication. The changes are mainly for grammar, and we tried, when possible, not to alter the conversational style of these interchanges. Drug Delivery Springer Science & Business Media In the view of most experts pharmacology is on drugs, targets, and actions. In the context the drug as a rule is seen as an active pharmaceutical ingredient and not as a complex mixture of chemical entities of a well defined structure. Today, we are becoming more and more aware of the fact that delivery of the active compound to the target site is a key. The present volume gives a topical overview on various modern approaches to drug targeting covering today’s options for specific carrier systems allowing successful drug treatment at various sites of the body difficult to address and allowing to increase the benefit-risk-ratio to the optimum possible. Nuclear Magnetic Resonance Volume 26 Royal Society of Chemistry For those wanting to become rapidly acquainted with specific areas of NMR, this title provides unrivalled scope of coverage. Targeting of Drugs 6 Strategies for Stealth Therapeutic Systems Springer Science & Business Media Proceedings of a NATO ASI held in Cape Sounion Beach, Greece, June 24-July 5, 1997 Dekker Encyclopedia of Nanoscience and Nanotechnology CRC Press Delivery and Controlled Release of Bioactives in Foods and Nutraceuticals Elsevier Active ingredients in foods must remain fully functional for as long as necessary and be transported and discharged appropriately to have the desired nutritional effect. Delivery and controlled release systems are an essential way to achieve these aims. This important book reviews how to optimise these systems to maximise the health-promoting properties of food products. Opening chapters review factors affecting nutrient bioavailability and methods to test delivery system efficacy. Part two addresses materials used and specific techniques for delivery and release. The benefits and drawbacks of structured lipids, micro- and nano-emulsions, food-protein-derived materials, complexes and conjugates of biopolymers, and starch as an encapsulation material for delivery of functional food ingredients, are all considered. Part three discusses the delivery and controlled release of particular nutraceuticals such as antioxidants and vitamins, folic acid, probiotics, fish oils and proteins. Part four covers regulatory issues and future trends in bioactives and nutraceuticals. Edited by a leading expert in the field, Delivery and controlled release of bioactives in foods and nutraceuticals is a valuable reference for those working in the food industry and particularly those developing nutraceuticals. Reviews techniques to optimise the delivery and release of bioactives in food Discusses the factors that affect nutrient bioavailability and methods to test delivery system efficacy Addresses materials used and specific techniques for delivery and release Particle Toxicology CRC Press Exposure to particles in industry and mining and from accidental anthropogenic sources constitutes an ongoing threat. Most recently nanoparticles arising from advances in technology are exposing a wider population to pathogenic stimuli. The effects of inhaled particles are no longer confined to the lung as nanoparticles have the potential to translocate to the bloodstream, the brain, and other target sites. The new questions posed by nanoparticles underscore the importance of interdisciplinary research and exchange and highlight the need for new collaborations among disciplines in medicine, toxicology, chemistry, and material sciences. Particle Toxicology brings together the state of the science in particle physico-chemistry, cell biology, and toxicology in a single volume. While organized around the classical toxicology paradigm of exposure - dose - response, the book is unique in its emphasis on mechanistic toxicology. Preparing the reader with a brief historical overview and a conceptual framework for particle research, the book provides reviews on the mechanisms and properties of pathogenic particles and their effects on target cells at various sites in the body. The text describes how adverse effects are a consequence of deposition, translocation, and the complex issue of “dose” dominates. Contributions from leading researchers address particle-associated pro-inflammatory effects and inflammatory signaling, cellular and extracellular oxidative and nitrosative stress, particulate interactions in the pulmonary, cardiovascular, and central nervous systems, as well as genotoxic effects. Exemplar particles include quartz, asbestos, particulate material and nanoparticles. The book also covers mathematical modeling and human studies as avenues for future research. Responding to the evolving trend of consumer applications for particulate matter, Particle Toxicology provides the comprehensive resource for current knowledge from which to develop new concepts to understanding particle actions, measurement, testing, and pathogenic exposure to fine and ultrafine particles. Advanced Gene Delivery CRC Press A practical resource for everyone involved in the gene therapy field and in the design of effective gene delivery systems, this volume presents an overview and

update of recent advances in the field of non-viral methods for the in vivo transfer of therapeutic genes to biological targets using conventional routes of administration. Methods to control the spatial and temporal modulation of gene function in vivo as well as the level, duration, specificity, and fidelity of gene expression are described. The rational design and the applications of a variety of non-viral gene delivery systems, such as cationic lipid-, polymer-, and (poly) peptide-based systems, are exemplified for the control of location of therapeutic genes administered by various routes. Current and potential clinical applications of gene-based medicines are presented for the prevention, correction or modulation of diseases. Examples of current applications of plasmid-based systems for genetic vaccination, treatment of genetic disorders such as cystic fibrosis, and treatment of acquired diseases such as cancer are also provided. Synthetic Surfactant Vesicles Niosomes and Other Non-Phospholipid Vesicular Systems CRC Press The self-assembly of synthetic surfactants and other non-phospholipids into vesicles was first studied in the 1970s by cosmetic scientists when non-ionic surfactant vesicles or niosomes were reported. Since this time a large body of research has sought to define these systems primarily as drug carriers and also as features of interest to the colloid scientist. Synthetic surfactant vesicles, as the name implies, may also be fabricated from a vast array of amphiphiles, including a number of pharmaceutically acceptable materials. They may also be prepared in a variety of shapes and sizes and have a number of applications. This book is designed to serve as an introductory text to the science of non-phospholipid vesicles and will be of use to colloid, drug delivery, cosmetic, and materials scientists. It aims to acquaint the reader with the physicochemistry and biomedical applications of these synthetic surfactant non-phospholipid vesicles. Part one introduces the reader to physicochemical aspects of these synthetic surfactant dispersions and explores the diversity of materials that may be used to formulate vesicles. Part two details methods of vesicle preparation and the application of synthetic surfactant vesicles in a variety of fields ranging from anti-cancer chemotherapy to immunization. Chemical Probes in Biology Science at the Interface of Chemistry, Biology and Medicine Springer Science & Business Media This NATO Advanced Study Institute (co-sponsored by FEBS and INTAS) under the title "Chemical Probes in Biology" was designed to summarize and disseminate recent expert knowledge regarding a deeper understanding ofbiological phenomena on a molecular level. Such scientific activities -frequently termed Bio-organic Chemistry or Chemical Biology are constituting a highly interdisciplinary branch of chemistry beyond the traditional ways in which chemists and biologists have been working in the past. Thus, on this occasion we were bringing together senior experts from the disciplines of Chemistry and Biology in order to amalgamate their diverse yet basically common interests in this area. Ultimate goal was - next to an exchange of information between the two scientific cultures - the communication ofexciting possibilities in interdisciplinary research to the young scientists present. The meeting was held in the Anargyros and Korgialenios School on the Island ofSpeteses, Greece from 18-30 August 2002. The ASI was attended by a total of 91 scholars from 23 different countries. A group of 27 speakers presented a series of 34 highly stimulating, informative and educational lectures covering a broad range of topics relevant to the general theme ofthis meeting: Science at the InteifaceofChemistry, Biology and Medicine. The lectures were complemented by a total of 89 posters presented by the young scholars and a series of short lectures derived thereof This was clearly one ofthe highlites of the meeting creating a lively atmosphere of interaction and intellectual creativity - typical phenomena for the whole meeting. Thermophiles Biology and Technology at High Temperatures CRC Press We might think of them as living on the very edge of existence. Referred to as extremophiles, these microorganisms exhibit the most radical capacity for adaptation in those harsh environments that are just barely conducive to the existence of cellular life. Unlocking the mechanisms and understanding the evolutionary development that allows these simple organisms to thrive can teach us much about microbiology in extremis. Highly diverse, these microorganisms are found nearly everywhere. One example, thermophiles are microorganisms that thrive at temperatures above the mesophilic range of 25-40 degrees C. Until recently, due to their extreme environment, the study of thermophiles was limited. However with the advent of new tools, particularly genetic analysis, remarkable strides have been made. Thermophiles: Biology and Technology at High Temperatures presents a cogent summary of the progress made in studying these extremophiles. Discover how thermophiles demonstrate extremes that indicate a lack of evolutionary constraints Much is being learned from the study of thermophiles, especially our understanding of biology at the molecular level and the genetic mechanisms that permit adaptation. Included in this volume is a discussion of protective strategies of thermophiles, including their thermostability, which allow them to maintain functional proteins. It also investigates whether hyperthermophiles employ protein phosphorylation-dephosphryation as a molecular regulatory mechanism, and provides significant clues regarding the synthesis of protein. By studying this extreme example, its subtle, yet exaggerated response mechanisms, and its development over the course of many short-lived generations, we may begin to understand the mechanisms in diseases linked to improper protein folding, and also begin to more fully understand the ingenious design of DNA, and all that such an understanding implies regarding the survival of human life in a rapidly changing environment.