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JOVANI MAXIMILLIAN

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Advances and Applications Elsevier
Determination of Organic Structures by Physical Methods, Volume 1 focuses on the processes, methodologies, principles, and approaches involved in the determination of organic structures by physical methods, including infrared light absorption, thermodynamic properties, Raman spectra, and kinetics. The selection first elaborates on the phase properties of small molecules, equilibrium and dynamic properties of large molecules, and optical rotation. Discussions focus on simple acyclic compounds, carbohydrates, steroids, diffusion, viscosity, osmotic pressure, sedimentation velocity, melting and boiling points, and molar volume. The book then examines ultraviolet and visible light absorption, infrared light absorption, Raman spectra, and the theory of magnetic susceptibility. Concerns cover applications to the study of organic compounds, applications to the determination of structure, determination of thermodynamic properties, and experimental methods and evaluation of data. The text ponders on wave-mechanical theory, reaction kinetics, and dissociation constants, including dissociation of molecular addition compounds, principles of reaction kinetics, and valence-bond treatment of aromatic systems. The selection is a valuable source of data for researchers interested in the determination of organic structures by physical methods.
FarEast?on - Materials and Construction II Academic Press
Agricultural and food industry waste materials have been an important feedstock for activated carbon production for many years. In the development of cleaner energy production and utilization processes, new advanced carbon materials with enhanced properties have been studied. Techniques to tailor pore structure and surface chemistry can produce better carbon materials for energy storage, electrode materials, and selective adsorption of pollutants. This book surveys available waste materials and processes for carbon production and then reviews the recent developments in the use of carbon materials for energy storage, as catalyst supports, and for environmental applications.
Determination of Surface PKa Values of Surface-confined Molecules Derivatized with PH-sensitive Pendant Groups Springer Science & Business Media
This first book to focus on the use of SPMs to actively manipulate molecules and nanostructures on surfaces goes way beyond conventional treatments of scanning microscopy merely for imaging purposes. It reviews recent progress in the use of SPMs on such soft materials as polymers, with a particular emphasis on chemical discrimination, mechanical properties, tip-induced reactions and manipulations, as well as their nanoscale electrical properties. Detailing the practical application potential of this hot topic, this book is of great interest to specialists of wide-ranging disciplines, including physicists, chemists, materials scientists, spectroscopy experts, surface scientists, and engineers.
From Gene Delivery and Diagnosis to Ecology John Wiley & Sons
Crystallography is one of the most multidisciplinary sciences, with roots in fields as varied as mathematics, physics, chemistry, biology, materials science, computation and earth and planetary science. The structural knowledge gained from crystallography has been instrumental in acquiring new levels of understanding in numerous scientific areas. Perspectives in Crystallography provides an overview of the current state of the field, reviews its historical origins and explains how crystallography contributes to the sustainability of life. This book resonates with the recent United Nations and UNESCO International Year of Crystallography, a celebration of its achievements and importance, undertaken with the International Union of Crystallography. The author of this book is the editor in chief of Crystallography Reviews, where some of the contents have been previously published. Here, subjects of interest to specialists and non-specialists have been brought together in a single source. The book opens with a description of the ways to explain crystallography to diverse general audiences. It also addresses various topics in crystallography, including: The evolution and importance of synchrotron radiation to crystallography The structural chemistry and biology of colouration in marine crustacea Predicting protonation states of proteins versus crystallographic experimentation The book then offers a projection of crystal structure analysis in the next 100 years and concludes by emphasizing the societal impacts of crystallography that allow for sustainability of life. Perspectives in Crystallography offers a threefold look into the past, present and long-term development and relevance of crystal structure analysis. It is concerned not only with the state of the field, but with its role in the perpetuation of life on earth. As such, it is a reference of vital interest to a broad range of analytical and practical sciences.
Fundamentals and Design Springer Science & Business Media
Determination of Surface PKa Values of Surface-confined Molecules Derivatized with PH-sensitive Pendant GroupsDetermination of Surface PKa Values of Surface-Confined Molecules Derivitized with PH-Sensitive Pendant Groups
Green Adsorbents for Pollutant Removal CRC Press
This textbook is specifically designed for upper-division undergraduate or graduate students in life science or pre-medical majors including dentistry or pharmacology, who are required to take a biochemistry or medical biochemistry course, but who are not necessarily biochemistry majors. The book adopts a unique approach to the topic compared with other biochemistry textbooks currently available, in that each biochemical subject is introduced by a human disease relating the biochemical principles to be developed in that chapter. The goal is to make biochemistry more meaningful to the student who is not normally shown the connection between biochemistry and medicine. * Includes an abundance of figures * Emphasizes human biochemistry * Introduces each chapter with a relevant disease or clinical relationship
From Nano- to Bio-Scale CRC Press
"Kinetics and Dynamics" on molecular modeling of dynamic processes opens with an introductory overview before discussing approaches to reactivity of small systems in the gas phase. Then it examines studies of systems of increasing complexity up to the dynamics of DNA. This title has

interdisciplinary character presenting wherever possible an interplay between the theory and the experiment. It provides basic information as well as the details of theory and examples of its application to experimentalists and theoreticians interested in modeling of dynamic processes in chemical and biochemical systems. All contributing authors are renowned experts in their fields and topics covered in this volume represent the forefront of today's science.

Government Reports Announcements & Index Elsevier

The International Scientific Conference FarEastCon took place on October 1-4, 2019 in Vladivostok, Russian Federation. This collection presents papers reflecting recent advances in the field of materials engineering and technologies for production and processing in the different areas of modern manufacturing.

Surface Complexation Modeling

Legare Street Press

Advances in Catalysis

Solid Base Catalysis

MDPI

Smart materials stimulated by chemical or biological signals are of interest for their many applications including drug delivery, as well as in new sensors and actuators for environmental monitoring, process and food control, and medicine. In contrast to other books on responsive materials, this volume concentrates on materials which are stimulated by chemical or biological signals. Chemoresponsive Materials introduces the area with chapters covering different responsive material systems including hydrogels, organogels, membranes, thin layers, polymer brushes, chemomechanical and imprinted polymers, nanomaterials, silica particles, as well as carbohydrate- and bio-based systems. Many promising applications are highlighted, with an emphasis on drug delivery, sensors and actuators. With contributions from internationally known experts, the book will appeal to graduate students and researchers in academia, healthcare and industry interested in functional materials and their applications.

Theory and Applications

Springer

This book describes the role modern pharmaceutical analysis plays in the development of new drugs. Detailed information is provided as to how the quality of drug products is assured from the point of discovery until the patient uses the drug. Coverage includes state-of-the-art topics such as analytics for combinatorial chemistry and high-throughput screening, formulation development, stability studies, international regulatory aspects and documentation, and future technologies that are likely to impact the field. Emphasis is placed on current, easy-to-follow methods that readers can apply in their laboratories. No book has effectively replaced the very popular text, Pharmaceutical Analysis, that was edited in the 1960s by Tak Higuchi. This book will fill that gap with an up-to-date treatment that is both handy and authoritative.

Bioinformatics MDPI

Nano/micro-size particles are widely applied in various fields. Among the various particles, silver particles are considered among the most prominent nanomaterials in the biomedical and industrial sectors because of their favorable physical, chemical, and biological characteristics. Thus, numerous studies have been conducted to evaluate their properties and utilize them in various applications, such as diagnostics, anti-bacterial and anti-cancer therapeutics, and optoelectronics. The properties of silver particles are strongly influenced by their size, morphological shape, and surface characteristics, which can be modified by diverse synthetic methods, reducing agents, and stabilizers. This Special Issue provides a range of original contributions detailing the synthesis, modification, properties, and applications of silver materials. Nine outstanding papers describing examples of the most recent advances in silver nano/microparticles are included. Silver nano/micro-size particles have many potential advantages as next-generation materials in various areas, including nanomedicine. This Special Issue might be helpful to understand the value of silver particles in the biomedical and industrial fields

Nanoscale Materials CRC Press

Very thin film materials have emerged as a highly interesting and useful quasi 2D-state functionality. They have given rise to numerous applications ranging from protective and smart coatings to electronics, sensors and display technology as well as serving biological, analytical and medical purposes. The tailoring of polymer film properties and functions has become a major research field. As opposed to the traditional treatise on polymer and resin-based coatings, this one-stop reference is the first to give readers a comprehensive view of the latest macromolecular and supramolecular film-based nanotechnology. Bringing together all the important facets and state-of-the-art research, the two well-structured volumes cover film assembly and depostion, functionality and patterning, and analysis and characterization. The result is an in-depth understanding of the phenomena, ordering, scale effects, fabrication, and analysis of polymer ultrathin films. This book will be a valuable addition for Materials Scientists, Polymer Chemists, Surface Scientists, Bioengineers, Coatings Specialists, Chemical Engineers, and Scientists working in this important research field and industry.

Molecular Modeling of Geochemical Reactions Academic 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. 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.

Principles and Applications Academic Press

Presented in an easy-to-read form, this book on zeolite catalysis cover all aspects of the subject. It focuses on synthesis, structure, diffusion, deactivation, and industrial applications. This book is an ideal text for courses on catalysis or as a supplementary text for those studying applied or industrial chemistry. It is also a useful resource for anyone who works with zeolites as catalysts in the laboratory, pilot plants, or commercial installations.

Methods and Applications

CRC Press

Whilst following in the footsteps of previous volumes by presenting comprehensive reviews of drug substances and additional materials, this title also heralds a significant expansion of the scope of the series. Traditional contributions will now also be augmented by publication of critical review chapters that summarize information related to the characterization of drug substances and excipients. This change is required to better meet the needs of the pharmaceutical communtiy and to allow the development of a timely vehicle for publishing review materials on this topic. The scope of the Profiles series will encompass review articles and database compilations that fall within one of the following six broad categories: Physical profiles of drug substances and excipients; Analytical profiles of drug substances and excipients; Drug metabolism and pharmacokinetic profiles of drug substances and excipients; Methodology related to the characterization of drug substances and excipients; Methods of chemical synthesis; and Reviews of the uses and applications for individual drug substances, classes of drug substances, or excipients. * Presents comprehensive reviews covering all aspects of drug development and formulation of drugs * Now encompassing critical review chapters * Meets the information needs of the drug development community

Silver Nano/microparticles: Modification and Applications Elsevier

Bioinformatics: Methods and Applications provides a thorough and detailed description of principles, methods, and applications of bioinformatics in different areas of life sciences. It presents a compendium of many important topics of current advanced research and basic principles/approaches easily applicable to diverse research settings. The content encompasses topics such as biological databases, sequence analysis, genome assembly, RNA sequence data analysis, drug design, and structural and functional analysis of proteins. In addition, it discusses computational approaches for vaccine design, systems biology and big data analysis, and machine learning in bioinformatics. It is a valuable source for bioinformaticians, computer biologists, and members of biomedical field who needs to learn bioinformatics approaches to apply to their research and lab activities. Covers basic and more advanced developments of bioinformatics with a diverse and interdisciplinary approach to fulfill the needs of readers from different backgrounds Explains in a practical way how to decode complex biological problems using computational approaches and resources Brings case studies, real-world examples and several protocols to guide the readers with a problem-solving approach

Functional Polymer Films, 2 Volume Set John Wiley & Sons

The importance of solid base catalysts has come to be recognized for their environmentally benign qualities, and much significant progress has been made over the past two decades in catalytic materials and solid base-catalyzed reactions. The book is focused on the solid base. Because of the advantages over liquid bases, the use of solid base catalysts in organic synthesis is expanding. Solid bases are easier to dispose than liquid bases, separation and recovery of products, catalysts and solvents are less difficult, and they are non-corrosive. Furthermore, base-catalyzed reactions can be performed without using solvents and even in the gas phase, opening up more possibilities for discovering novel reaction systems. Using numerous examples, the present volume describes the remarkable role solid base catalysis can play, given the ever increasing worldwide importance of "green" chemistry. The reader will obtain an overall view of solid base catalysis and gain insight into the versatility of the reactions to which solid base catalysts can be utilized. The concept and significance of solid base catalysis are discussed, followed by descriptions of various methods for the characterization of solid bases, including spectroscopic methods and test reactions. The preparation and properties of base materials are presented in detail, with the two final chapters devoted to surveying the variety of reactions catalyzed by solid bases.

Microscale Laboratory Experiments

John Wiley & Sons

Separation Methods in Drug Synthesis and Purification, Second Edition, Volume Eight, provides an updated on the analytical techniques used in drug synthesis and purification. Unlike other books on either separation science or drug synthesis, this volume combines the two to explain the basic principles and comparisons of each separation technique. New sections to this volume include enantiomer separation using capillary electrophoresis (CE) and capillary electro- chromatography, the computer simulation of chromatographic separation for accelerating method development, the application of chromatography and capillary electrophoresis used as surrogates for biological processes, and new developments in the established techniques of chromatography and preparative methods. Features descriptions and applications of all separation methods used in the pharmaceutical industry Written by the leading scientists in their respective fields, providing solutions for a wide range of industrial separation problems encountered within the pharmaceutical industry Thoroughly updated with brand new separation science techniques and the latest developments in the established techniques of chromatography

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