Arabian Journal Of Chemistry

Eventually, you will very discover a new experience and ability by spending more cash. yet when? pull off you take that you require to acquire those all needs with having significantly cash? Why dont you try to acquire something basic in the beginning? Thats something that will lead you to understand even more in this area the globe, experience, some places, considering history, amusement, and a lot more?

It is your extremely own era to comport yourself reviewing habit. along with guides you could enjoy now is **Arabian Journal Of Chemistry** below.

Chemistry and Applications of Benzimidazole and its Derivatives - Maria Marinescu 2019-10-02
Finding new strategies for synthesizing benzimidazole derivatives and functionalizing the benzimidazole core has proved to be important due to the compound's various applications in medicine, chemistry, and other areas. The multitude of benzimidazole derivatives marketed as drugs has led to intensive research in the field for the discovery of new biologically active structures. The general applications of benzimidazole derivatives in materials chemistry, electronics, technology, dyes, pigments,

and agriculture open up new research horizons. This book guides the rational design of benzimidazole derivatives synthesis with certain applications. Chapters cover such topics as therapeutic use of benzimidazole in conditions like diabetes, viruses, and parasitic diseases; X-ray crystal structure of selected benzimidazole derivatives; benzimidazole compounds for cancer therapy; and others.

Proceedings of the 3rd Pan American Materials Congress - Marc André Meyers 2017-02-07

This collection covers a variety of materials science topics and has contributions from leading scientists and engineers representing 8 countries and 9 international materials, metals, and minerals societies. Papers are organized into the following sections:Advanced BiomaterialsAdvanced ManufacturingMaterials for Green Energy Materials for Infrastructure Materials for the Oil and Gas Industry Materials for Transportation and LightweightingMinerals Extraction and ProcessingNanocrystalline and Ultra-fine Grain Materials and Bulk Metallic Glasses Steels

Technology Drivers: Engine for Growth - Alka Mahajan 2018-10-17

This volume of proceedings from the conference provides an opportunity for readers to engage with a selection of refereed papers that were presented during the 6th International Conference NUiCONE'17. Researchers from industry and academia were invited to present their research work in the areas as listed below. The research papers presented in these tracks have been published in this proceeding with the support of CRC Press, Taylor & Francis Group. This proceeding will definitely provide a platform to proliferate new findings among the

researchers. Chemical Process Development and Design Technologies for Green Environment Advances in Transportation Engineering Emerging Trends in Water Resources and Environmental Engineering Construction Technology and Management Concrete and Structural Engineering Sustainable Manufacturing Processes Design and Analysis of Machine and Mechanism Energy Conservation and Management

Handbook of Research on Nano-Strategies for Combatting Antimicrobial Resistance and Cancer - Saravanan, Muthupandian 2021-02-12

Multidrug-resistant bacteria play a significant role in public health by destroying the potency of existing antibiotics. Meanwhile, cancer remains one of the most common health problems that impact society, resulting in many deaths worldwide. Novel strategies are required to combat antimicrobial resistance and create efficient anticancer drugs that could revolutionize treatment. Nanomedicine is one such innovation that plays a significant role in developing alternative and more effective treatment strategies for antimicrobial resistance and cancer theranostics. The Handbook of Research on Nano-Strategies for Combatting Antimicrobial Resistance and Cancer is an essential scholarly resource that examines (1) how to overcome the existing, traditional approaches to combat antimicrobial resistance and cancer; (2) how to apply multiple mechanisms to target the cancer cells and microbes; and (3) how the nanomaterials can be used as carriers. Featuring a range of topics such as bacteriophage, nanomedicine, and oncology, this book is ideal for molecular biologists, microbiologists, nanotechnologists, academicians, chemists,

pharmacists, oncologists, researchers, healthcare professionals, and students.

Biodegradable Waste Management in the Circular Economy - Malgorzata Kacprzak 2022-06-20

Biodegradable Waste Management in the Circular Economy Presents the major developments in new technologies and strategies for more effective recovery of matter, resources, and energy from biodegradable waste The volume of biodegradable waste produced worldwide is progressively increasing—a trend that is predicted to continue well into the foreseeable future. Developing sustainable, cost-effective, and eco-friendly approaches for processing food waste, agricultural and organic industrial waste, cardboard, biodegradable plastics, sewage sludge, and other types of biodegradable waste is one of the most significant challenges of the coming decades. Biodegradable Waste Management in the Circular Economy provides a detailed overview of the latest advances in the management of biomass for economic development. Featuring contributions from an interdisciplinary team of experts, this comprehensive resource addresses various technologies and strategies for recycling organic matter and many other renewable compounds. In-depth chapters describe the concept of circular economy, identify new sources of biodegradable waste, explore technologies for the production of biodegradable waste end-products, discuss the positive and negative effects of end-products on soil and the environment, and more. Throughout the text, the authors explore systematic approaches for secure biodegradable management in various countries and regions around the world. Explores the social, governance, and economic aspects of “waste as a resource” Addresses metal

recovery, biofuel and fertilizer production, and biosorbents and biochar derived from biomass waste Discusses nutrient recovery and energy and bio-methane production from biodegradable waste Covers use cases, collection systems, and regulation of agricultural, industrial, and municipal biodegradable waste streams Presents various technologies for the production of biodegradable waste end-products, including biorefineries, anaerobic digestion, and hybrid methods Reflecting the latest trends in the rapidly changing field, Biodegradable Waste Management in the Circular Economy is essential reading for researchers, engineers, scientists, and consultants working in waste engineering and management, resource recovery, renewable resources, environmental science, agricultural and environmental engineering, soil science, and bioenergy.

Waste Management and Resource Recycling in the Developing World - Pardeep Singh 2022-12-08

Waste Management and Resource Recycling in the Developing World provides a unique perspective on the state of waste management and resource recycling in the developing world, offering practical solutions based on innovative tools and technologies, along with examples and case studies. The book is organized by waste type, including electronic, industrial and biomedical/hazardous, with each section covering advanced techniques, such as remote sensing and GIS, as well as socioeconomic factors, transnational transport and policy implications. Waste managers, environmental scientists, sustainability practitioners, and engineers will find this a valuable resource for addressing the challenges of waste management in the developing world. There is high potential for waste management to

produce energy and value-added products. Sustainable waste management based on a circular economy not only improves sanitation, it also provides economic and environmental benefits. In addition to waste minimization, waste-to-economy and waste-to-energy have become integral parts of waste management practices. A proper waste management strategy not only leads to reduction in environmental pollution but also moves toward generating sufficient energy for improving environmental sustainability in coming decades. Presents case studies in every section to illustrate practical applications across the globe Includes lessons learned from developed regions that can be applied to developing regions Organized by type of waste, with consistent coverage in each section to promote ease of navigation

Corrosion Inhibitors, Principles and Recent Applications - Mahmood Aliofkhazraei 2018-04-04

To protect metals or alloys from corrosion, some methods can be used such as isolating the structure from the aggressive media or compensating the loss of electrons from the corroded structure. The use of corrosion inhibitors may include organic and inorganic compounds that adsorb on the metallic structure to isolate it from its surrounding media to decrease oxidation-reduction processes. This book collects new developments about corrosion inhibitors and their recent applications.

Potential of Essential Oils - Hany El-Shemy 2018-09-26

Essential oils have recently received much attention globally due to the increased use of essential oils as well as the positive impacts from economic backgrounds. New compounds of essential oils have been discovered from medicinal plants and used in anti-disease treatment as well as in most

houses as a source of natural flavor. This book covers some interesting research topics for essential oils, including identification of active ingredients from wild and medicinal plants. This book will add significant value for researchers, academics, and students in the field of medicine.

Valorization of Agri-Food Wastes and By-Products - Rajeev Bhat 2021-08-25 Valorization of Agri-Food Wastes and By-Products: Recent Trends, Innovations and Sustainability Challenges addresses the waste and by-product valorization of fruits and vegetables, beverages, nuts and seeds, dairy and seafood. The book focuses its coverage on bioactive recovery, health benefits, biofuel production and environment issues, as well as recent technological developments surrounding state of the art of food waste management and innovation. The book also presents tools for value chain analysis and explores future sustainability challenges. In addition, the book offers theoretical and experimental information used to investigate different aspects of the valorization of agri-food wastes and by-products. Valorization of Agri-Food Wastes and By-Products: Recent Trends, Innovations and Sustainability Challenges will be a great resource for food researchers, including those working in food loss or waste, agricultural processing, and engineering, food scientists, technologists, agricultural engineers, and students and professionals working on sustainable food production and effective management of food loss, wastes and by-products. Covers recent trends, innovations, and sustainability challenges related to food wastes and by-products valorization Explores various recovery processes, the functionality of targeted

bioactive compounds, and green processing technologies Presents emerging technologies for the valorization of agri-food wastes and by-products Highlights potential industrial applications of food wastes and by-products to support circular economy concepts

Biosorption for Wastewater Contaminants - Pardeep Singh 2021-10-13 Pollution due to various anthropogenic activities continues to increase. In terms of water pollutants, organic and inorganic pollutants are the most problematic. Although several measures have been proposed and implemented to prevent or reduce contamination, their increased concentration in water bodies has created serious concerns. Over the years, the problem has been aggravated by industrialization, urbanization and the exploitation of natural resources. The direct discharge of wastewater contaminants and their geographical mobilization have caused an increase in concentration in ground, surface, fluvial and residual waters. Extensive information about detection and disposal methods is needed in order to develop technological solutions for a variety of environments, both urban and rural. This book provides up-to-date information on wastewater contaminants, aimed at researchers, engineers and technologists working in this field. Conventional physicochemical techniques used to remove contaminants from wastewater include ion exchange, precipitation, degradation, coagulation, coating, membrane processes and adsorption. However, these applications have technological and economic limitations, and involve the release of large amounts of chemical reagents and by-products that are themselves difficult to remove. Biosorption - the use of organically generated material as

an adsorbent – is attracting new research and scholarship. Thermally-treated calcined biomaterials may be treated to remove heavy metals from wastewater. To ensure the elimination of these contaminants, existing solutions must be integrated with intelligent biosorption functions. Biosorption for Wastewater Contaminants will find an appreciative audience among academics and postgraduates working in the fields of environmental biotechnology, environmental engineering, wastewater treatment technology and environmental chemistry.

Handbook of Research on Green Synthesis and Applications of Nanomaterials - Garg, Rajni 2022-01-14

Nanomaterials can be synthesized by physical, chemical, and biological methods; however, the latter technique is preferred as it is eco-friendly, non-toxic, and cost-effective. The green synthesized nanomaterials have been found to be more efficient with potential applications in diverse fields. It is crucial to explore green synthesized nanomaterials and the applications that can be made in order to support water remediation, pharmaceuticals, food processing, construction, and more. The Handbook of Research on Green Synthesis and Applications of Nanomaterials provides a multidisciplinary approach to the awareness of using non-toxic, eco-friendly, and economical green techniques for the synthesis of various nanomaterials, as well as their applications across a variety of fields. Covering topics such as antimicrobial applications, environmental remediation, and green synthesis, this book acts as a thorough reference for engineers, nanotechnology professionals, academicians, students, scientists, and researchers pursuing research in the

nanotechnology field.

Wastewater Treatment - Muharrem Ince 2022-09-28

This book focuses on advances in monitoring and controlling wastewater treatment processes using recent technologies. It also discusses new and groundbreaking developments in the field of organic-inorganic pollution. As a comprehensive book, it takes a broad view of the subject and integrates a wide variety of approaches. Written by leading experts in their fields, this book is highly recommended for readers and scholars interested in environmental and human health.

Bioremediation - Sanjay K. Sharma 2019-10-31

Bioremediation: A Sustainable Approach to Preserving Earth’s Water discusses the latest research in green chemistry practices and principles that are involved in water remediation and the quality improvement of water. The presence of heavy metals, dyes, fluoride, dissolved solids and many other pollutants are responsible for water pollution and poor water quality. The removal of these pollutants in water resources is necessary, yet challenging. Water preservation is of great importance globally and researchers are making significant progress in ensuring this precious commodity is safe and potable. This volume illustrates how bioremediation in particular is a promising green technique globally. Features: Addresses bioremediation of all the major water pollutants Approaches the chemistry of water and the concept of water as a renewable resource from a green chemistry aspect Discusses environmental chemistry and the practice of industrial ecology Explains the global concern of adequate high quality water supplies, and how

bioremediation can resolve this Explores sustainable development through green engineering

Synthesis of Bionanomaterials for Biomedical Applications - Munir Ozturk 2023-01-20

Synthesis of Bionanomaterials for Biomedical Applications summarizes a range of procedures, including green synthesis of metal nanoparticles, metal oxide nanoparticles, and other types of nanoparticles while also exploring the appropriate use of these nanoparticles in various therapeutic applications such as anticancer, antibacterial, antifungal, drug delivery, and more. The book provides important information for materials scientists and pharmaceutical scientists on the synthesis of various nanoparticles using a variety of eco-friendly bionanomaterials. As concern has arisen regarding the environmental impact caused by some of nanomaterials, as well as their possible toxicity to cells, this book presents information on a new generation of eco-friendly materials. In addition, the green synthesis of nanoparticles shows how environmentally-friendly nanoparticles can be synthesized from different biological sources, such as microbes, fungi, algae and plants. Provides information on the synthesis and application of eco-friendly bionanomaterials Offers coverage of nanomaterials generated through green synthesis Assesses the challenges of manufacturing eco-friendly nanomaterials on an industrial scale

Plant-Based Functional Foods and Phytochemicals - Megh R. Goyal 2021-03-30

Plant-Based Functional Foods and Phytochemicals: From Traditional Knowledge to Present Innovation covers the importance of the therapeutic health

benefits of phytochemicals derived from plants. It discusses the isolation of potential bioactive molecules from plant sources along with their value to human health. It focuses on physical characteristics, uniqueness, uses, distribution, traditional and nutritional importance, bioactivities, and future trends of different plant-based foods and food products. Functional foods, beyond providing basic nutrition, may offer a potentially positive effect on health and cures for various disease conditions, such as metabolic disorders (including diabetes), cancer, and chronic inflammatory reactions. The volume looks at these natural products and their bioactive compounds that are increasingly utilized in preventive and therapeutic medications and in the production of pharmaceutical supplements and as food additives to increase functionality. It also describes the concept of extraction of bioactive molecules from plant sources, both conventional and modern extraction techniques, available sources, biochemistry, structural composition, and potential biological activities.

Nanostructured Materials for Environmental Applications - Subramanian Balakumar 2021-08-25

This book discusses how nanostructured materials play a key role in helping address environmental challenges. Employing nanostructured materials in catalysis can increase the efficient decomposition of toxic pollutants in air, water, and soil. This multidisciplinary book discusses the most promising nanostructured materials made-up of metals, metal oxides, metal chalcogenides, multi-metal oxides, carbon nanostructures, and hybrid materials that can address environmental remediation. It provides a well-referenced introduction to newcomers from allied disciplines and will

be valuable to researchers in academia, industry, and government working on solutions to environmental problems.

Biostimulation Remediation Technologies for Groundwater Contaminants - Rathoure, Ashok K. 2018-05-19

The rapid progression of technology has significantly impacted population growth, urbanization, and industrialization in modern society. These developments, while positive on the surface, have created critical environmental problems in recent years. Biostimulation Remediation Technologies for Groundwater Contaminants is a critical scholarly publication that examines the release of heavy metals into the environment as a result of human activities and the use of nanoparticles and other technologies to manage and treat the effects of the pollution. Featuring coverage on a broad range of topics such as toxicity of heavy metals, bioremediation, and acclimated bacterial strains, this book is geared toward environmentalists, engineers, academics, researchers, and graduate-level students seeking current research on bioremediation as an alternate way to manage or degrade heavy metal waste.

Nanomaterials for Carbon Dioxide Capture and Conversion Technologies - Shaukat Ali Mazari 2022-10-04

Nanomaterials for Carbon Dioxide Capture and Conversion Technologies focuses on the applications of nanomaterials for CO2 capture and conversion. The book highlights the need for CO2 mitigation, followed by the basic principles for CO2 capture and conversion, using different nanomaterials, while also discussing and highlighting challenges and perspectives. Abundant CO2 emissions from industries and the transportation sector are a threat

to the planet due to overwhelming concerns regarding CO2-induced climate change. Nanomaterials are being widely investigated for CO2 capture and conversion processes. Nano absorbents, adsorbents and nanomembranes for CO2 capture, nano catalysts for catalytic CO2 conversion, and chemical fixation of CO2 are some of the broader applications of nanomaterials for CO2 mitigation. Helps readers understand the basic mechanisms and theories behind CO2 capture and conversion using nanomaterials Provides information on the range of nanomaterials types used in CO2 capture and storage systems Assesses the major challenges for integrating nanotechnology into carbon dioxide capture and storage systems at an industrial scale

Antibacterial Drug Discovery to Combat MDR - Iqbal Ahmad 2019-11-09

This book compiles the latest information in the field of antibacterial discovery, especially with regard to the looming threat of multi-drug resistance. The respective chapters highlight the discovery of new antibacterial and anti-infective compounds derived from microbes, plants, and other natural sources. The potential applications of nanotechnology to the fields of antibacterial discovery and drug delivery are also discussed, and one section of the book is dedicated to the use of computational tools and metagenomics in antibiotic drug discovery. Techniques for efficient drug delivery are also covered. The book provides a comprehensive overview of the progress made in both antibacterial discovery and delivery, making it a valuable resource for academic researchers, as well as those working in the pharmaceutical industry.

Chemical Analysis of Food - Yolanda Pico 2020-06-16

Chemical Analysis of Food: Techniques and Applications, Second Edition, reviews the latest technologies and challenges in all stages of food analysis, from selecting the right approach, how to perform analytic procedures, and how to measure and report the results. The book is structured in two parts: the first describes the role of the latest developments in analytical and bio-analytical techniques, with the second reviewing innovative applications and issues in food analysis. The techniques discussed range from the non-invasive and non-destructive, such as infrared spectroscopy and ultrasound, to newly emerging areas, such as nanotechnology, biosensors and electronic noses and tongues. This thoroughly updated edition includes new chapters on ambient mass spectrometry, imaging techniques, omics approaches in food analysis, natural toxins analysis, food contact materials, nanomaterials and organic foods. All chapters are updated or rewritten to bring the content completely up-to-date. Reviews the attributes, benefits, limits and potential of all relevant analytic modalities, including spectroscopy, ultrasound and nanotechnology applications Provides in-depth coverage of each technology, including near-infrared, mid-infrared, and Raman spectroscopy, low intensity ultrasound, microfluidic devices and biosensors, electronic noses and tongues, mass spectrometry and molecular techniques Outlines practical solutions to challenging problems in food analysis, including how to combine techniques for improved efficacy Covers all relevant applications of food analysis, such as traceability, authenticity and fraud, biologically-active food components, novel food and nutritional supplements, flavors and fragrances, and contaminants and

allergens Provides researchers with a single source of current research and includes contributions from internationally renowned experts in food science and technology and nutrition

Nanotechnology Applications in Agricultural and Bioprocess Engineering - Megh R. Goyal 2022-06-16

This new volume looks at new research and advances in the use of nanotechnology applications in agricultural and bioprocess engineering. The first section deals with the impact of nanotechnology in agricultural engineering, looking at the role of nanomaterials in plant growth and nutrition. It goes on to discuss specific methods and processes in the development of food products, nutraceuticals, and therapeutics. This includes nanotechnological methods for iron fortification of dairy food, for processing and preservation of meat and meat products, for selective targeting of cancer, and more. The book then discusses the role of nanotechnology in bioprocessing, such as for biofuel production, for wastewater treatment, and as enzymatic nanoparticles for fabrication processes.

Research Anthology on Synthesis, Characterization, and Applications of Nanomaterials - Management Association, Information Resources 2021-03-19

The use of nanotechnologies continues to grow, as nanomaterials have proven their versatility and use in many different fields and industries within the scientific profession. Using nanotechnology, materials can be made lighter, more durable, more reactive, and more efficient leading nanoscale materials to enhance many everyday products and processes. With many different sizes, shapes, and internal structures, the applications are endless. These uses range from

pharmaceutics to materials such as cement or cloth, electronics, environmental sustainability, and more. Therefore, there has been a recent surge of research focused on the synthesis and characterizations of these nanomaterials to better understand how they can be used, their applications, and the many different types. The Research Anthology on Synthesis, Characterization, and Applications of Nanomaterials seeks to address not only how nanomaterials are created, used, or characterized, but also to apply this knowledge to the multidimensional industries, fields, and applications of nanomaterials and nanoscience. This includes topics such as both natural and manmade nanomaterials; the size, shape, reactivity, and other essential characteristics of nanomaterials; challenges and potential effects of using nanomaterials; and the advantages of nanomaterials with multidisciplinary uses. This book is ideally designed for researchers, engineers, practitioners, industrialists, educators, strategists, policymakers, scientists, and students working in fields that include materials engineering, engineering science, nanotechnology, biotechnology, microbiology, drug design and delivery, medicine, and more.

Corrosion Mitigation - Ashish Kumar 2022-07-18

Corrosion Science and Engineering is now an integral part of research throughout the world. Researchers are actively looking for an alternative eco-friendly way of developing non-toxic corrosion inhibitors from natural sources. This book discusses all the recent advancements in the corrosion field with an emphasis on natural sources which is the demand of the era to replace the commercially available toxic corrosion inhibitors.

Polymeric Corrosion Inhibitors for Greening the Chemical and Petrochemical Industry - Mohammad Abu Jafar Mazumder 2022-09-27

Polymeric Corrosion Inhibitors for Greening the Chemical and Petrochemical Industry Primary reference on polymeric corrosion inhibitors for researchers and professionals in the chemical and petrochemical industries Polymeric Corrosion Inhibitors for Greening the Chemical and Petrochemical Industry provides an extensive overview of polymeric corrosion inhibitors for chemical and petrochemical industry—from design, synthesis, and characterization—to applications. The text discusses the different media in which corrosion is observed and enables readers to minimize/prevent pipes and other plant systems' failures by adequately dealing with corrosion. Considering the high importance of corrosion inhibitors development for the chemical and petrochemical industries, this book aims to provide fundamental and current practice with comprehensive coverage of the recent advancements of green polymeric corrosion inhibitors that could be used. The text systematically presents fundamentals, up-to-date development, and industrial applications of polymeric corrosion inhibitors. In Polymeric Corrosion Inhibitors for Greening the Chemical and Petrochemical Industry, readers can expect to find specific information on: Water- and oil-soluble polymeric corrosion inhibitors, plus polymeric corrosion inhibitors for acid, CO2 (sweet), H2S (sour), cooling water, and basic media Polymers as kinetic hydrate inhibitors, high-temperature polymeric corrosion inhibitors, and polymeric inhibitors for microbiologically influenced corrosion Surface characterization techniques in corrosion inhibition research

and guidelines for designing corrosion inhibitors for oil and gas production The impact of corrosion inhibitors as green polymeric materials and what they mean for the future of the field Polymeric Corrosion Inhibitors for Greening the Chemical and Petrochemical Industry is a primary reference for researchers and professionals in the material science, chemistry and electrochemistry, chemical, mechanical, and metallurgical engineering industries who wish to counter the economic and environmental consequences of corrosion in various plant systems.

Marine Glycobiology - Se-Kwon Kim 2016-10-14

Marine glycobiology is an emerging and exciting area in the field of science and medicine. Glycobiology, the study of the structure and function of carbohydrates and carbohydrate-containing molecules, is fundamental to all biological systems and represents a developing field of science that has made huge advances in the last half-century. This book revolutionizes the concept of marine glycobiology, focusing on the latest principles and applications of marine glycobiology and their relationships.

Sodium Alginate-Based Nanomaterials for Wastewater Treatment - Awais Ahmad 2022-10-11

Sodium Alginate-based Nanomaterials for Wastewater Treatment offers detailed coverage of fundamentals and recent advances in sodium alginate-based nanomaterials for wastewater treatment. The book provides a detailed overview of the development and application of nanomaterials-based sodium alginate so that new methods can be put in place for efficient wastewater treatment. This includes illustrating how nanomaterials have enabled the formation of nanocomposites or blends of sodium

alginate with other compounds like chitosan for the effective removal of heavy metals from wastewater. This important reference source for materials scientists and environmental engineers comprehensively covers nanotechnology applications in efficient wastewater treatment solutions. Shows how sodium alginate is being used for the removal of organic and inorganic pollutants from wastewater Explains the formation and application of sodium alginate- based beads, electro-spun fibers, nanofibers, blends and zerovalent sodium alginate Discusses the future potential of nanomaterial-based sodium alginate and its blends

Green Chemistry for Dyes Removal from Waste Water - Sanjay K. Sharma 2015-03-04

The use of synthetic chemical dyes in various industrialprocesses, including paper and pulp manufacturing, plastics, dyeingof cloth, leather treatment and printing, has increasedconsiderably over the last few years, resulting in the release ofdye-containing industrial effluents into the soil and aquatic ecosystems. The textile industry generates high-pollutingwastewaters and their treatment is a very serious problem due tohigh total dissolved solids (TDS), presence of toxic heavy metals,and the non-biodegradable nature of the dyestuffs in theeffluent. The chapters in this book provide an overview of the problem andits solution from different angles. These problems and solutionsare presented in a genuinely holistic way by world-renownedresearchers. Discussed are various promising techniques to removedyes, including the use of nanotechnology, ultrasound, microwave,catalysts, biosorption, enzymatic treatments, advanced oxidationprocesses,

etc., all of which are “green.” Green Chemistry for Dyes Removal from Wastewatercomprehensively discusses: Different types of dyes, their working and methodologies andvarious physical, chemical and biological treatment methodsemployed Application of advanced oxidation processes (AOPs) in dyeremoval whereby highly reactive hydroxyl radicals are generatedchemically, photochemically and/or by radiolytic/ sonolytic means.The potential of ultrasound as an AOP is discussed as well. Nanotechnology in the treatment of dye removal types ofadsorbents for removal of toxic pollutants from aquaticsystems Photocatalytic oxidation process for dye degradation under bothUV and visible light, application of solar light and solarphotoreactor in dye degradation

Sustainable Water Treatment - Siddhartha Moulik 2022-06-21

SUSTAINABLE WATER TREATMENT: ADVANCES AND INTERVENTIONS This outstanding new volume is a compendium of reference material which will cover most of the relevant and state-of-art approaches in the field of water treatment, focusing on technological advances for water treatment in four categories: advanced oxidation technologies, nanoparticles for water treatment, membrane separations, and other emerging technologies or processes. Apart from this perspective, fundamental discussions on a wide variety of pollutants have also been included, such as acidic wastewater treatment, metallurgical wastewater, textile wastewater as well as groundwater. The editors have not only covered a wide range of water treatment techniques, but also focus on their applications, offering a holistic perspective on water treatment in general. Covering all of the latest advances, innovations, and

developments in practical applications for sustainable water treatment, this volume represents the most comprehensive, up-to-date coverage of the issues of the day and state of the art. Whether for the veteran engineer or scientist or a student, this volume is a must-have for any library. Sustainable Water Treatment: Advances and Interventions covers: Provides an insight into various sectors of water and wastewater treatment technologies, introducing key technical topics Is a comprehensive guide to technological interventions for water and wastewater treatment Is also a reference book for any elective course on water treatment for engineers, scientists, and students, at both the undergraduate and graduate levels Presents the most current and up-to-date advances in sustainable water treatment Covers key technical topics and gives readers a comprehensive understanding of the latest research findings Includes perspectives on future trends and challenges

Wound Healing Biomaterials - Volume 2 - Magnus Ågren 2016-05-30

Wound Healing Biomaterials: Volume Two, Functional Biomaterials discusses the types of wounds associated with trauma, illness, or surgery that can sometimes be extremely complex and difficult to heal. Consequently, there is a prominent drive for scientists and clinicians to find methods to heal wounds opening up a new area of research in biomaterials and the ways they can be applied to the challenges associated with wound care. Much research is now concerned with new therapies, regeneration methods, and the use of biomaterials that can assist in wound healing and alter healing responses. This book provides readers with a thorough review of the functional biomaterials used

for wound healing, with chapters discussing the fundamentals of wound healing biomaterials, films for wound healing applications, polymer-based dressing for wound healing applications, and functional dressings for wound care. Includes more systematic and comprehensive coverage on the topic of wound care Provides thorough coverage of all specific therapies and biomaterials for wound healing Contains clear layout and organization that is carefully arranged with clear titles and comprehensive section headings Details specific sections on the fundamentals of wound healing biomaterials, films for wound healing applications, polymer-based dressing for wound healing applications, and more

Food Technology - Murlidhar Meghwal 2017-08-22

In this era of climate change and food/water/natural resource crises, it is important that current advancements in technology are made taking into consideration the impact on humanity and the environment. This new volume, Food Technology: Applied Research and Production Techniques, in the Innovations in Agricultural and Biological Engineering book series, looks at recent developments and innovations in food technology and sustainable technologies. Advanced topics in the volume include food processing, preservation, nutritional analysis, quality control and maintenance as well as good manufacturing practices in the food industries. The chapters are highly focused reports to help direct the development of current food- and agriculture-based knowledge into promising technologies. Features: provides information on relevant technology makes suggestions for equipment and devices looks at standardization in food technology explores

new and innovative packaging technology studies antimicrobial activities in food considers active constituents of foods and provides information about isolation, validation and characterization of major bioactive constituents discusses the effect of laws and regulatory guidelines on infrastructure to transform technology into highly value-added products Food Technology: Applied Research and Production Techniques will be a very useful reference book for food technologists, practicing food engineers, researchers, professors, students of these fields and professionals working in food technology, food science, food processing, and nutrition.

Nanomaterials - R. Praveen Kumar 2021-05-19

Nanomaterials: Application in Biofuels and Bioenergy Production Systems looks at how biofuels and bioenergy can be part of the "sustainable" solution to the worlds energy problems. By addressing bioenergy products compared to their fossil energy counterparts, covering research and development in biofuels applied with nanomaterials this book analyzes the future trends and how biofuels and bioenergy can contribute to its optimization. Starting from fundamentals up to synthesis, characterization and applications of nanomaterials in biofuels and bioenergy production systems, the chapters include the procedures needed for introducing nanomaterials in these specific sectors along with the benefits derived from their applications. Including the hazards and environmental effects of nanomaterials in bioenergy applications, sustainability issues and a techno-economic analysis of the topic, this book provides researchers in bioscience, energy & environment and bioengineering with an up to date look at

the full life cycle assessment of nanomaterials in bioenergy. Provides a one stop solution manual for applications of nanomaterials in bioenergy and biofuels Includes biofuel applications with compatible global application case studies Addresses the demand for environmental and techno-economic analysis of nanomaterials applications

Biological Synthesis of Nanoparticles and Their Applications - L Karthik 2019-12-06

Biological Synthesis of Nanoparticles and Their Applications gives insight into the synthesis of nanoparticles utilizing the natural routes. It demonstrates various strategies for the synthesis of nanoparticles utilizing plants, microscopic organisms like bacteria, fungi, algae and so forth. It orchestrates interdisciplinary hypothesis, ideas, definitions, models and discoveries associated with complex cell of the prokaryotes and eukaryotes. Highlights: Discusses biological approach towards the nanoparticle synthesis Describes the role of nanotechnology in the field of medicine and its medical devices Covers application and usage of the chemicals at the molecular level to act as catalysts and binding products for both organic and inorganic Chemical Reactions Reviews application in physics such as solar cells, photovoltaics and other usage Microorganisms can aggregate and detoxify substantial metals because of different reductase enzymes, which can diminish metal salts to metal nanoparticles. The readers after going through this book will have detailed account of mechanism of bio-synthesis of nanoparticles.

Index of NLM Serial Titles - National Library of Medicine (U.S.) 1984

A keyword listing of serial titles currently received by the National Library of

Medicine.

Environmental Management in India: Waste to Wealth - Shalini Yadav 2022-04-01

This book presents unique connectivity between waste management within the agenda 2030 of India. This book is the first publication presenting up-to-date work and knowledge about waste management and waste technologies to transfer waste to wealth in India. Besides, this book also presents the role of waste management and its contribution to achieving a sustainable development program in India, with vast implication worldwide. The main focuses of the book include waste and wealth and the associated technologies, recycling of solid waste, utilization of hazardous waste, use of nanoparticle in waste management, urban solid waste, generation of energy from organic waste, clean technologies, and use of waste in agriculture. The book is a unique source of information on the transformation of waste to wealth in India. This book is of interest to research communities in the field of waste management in India, and in similar socioeconomic countries, but also, due to the planetary implications, has global interest.

The African and Arabian Moringa Species - Solomon Habtemariam 2017-06-09

The African and Arabian Moringa Species: Chemistry, Bioactivity and Therapeutic Applications reviews the botany, socioeconomic significance and underlying chemistry of these interesting plants. The book begins by addressing the botanical and socioeconomic aspect of M. stenopetala, one of the most widely cultivated species within the genus. Next, it reviews the chemistry of the plant, with a systematic presentation covering the seed oil, various secondary metabolites, and

issues relating to quality control. Final sections address the chemistry behind the reported use of the plant for the management of various diseases, highlighting potential antioxidant, antimicrobial, antidiabetic, anticancer properties and more. Other African and Arabian Moringa species, from their botany, to their chemical and pharmacological profiles are also included. Drawing on the author's latest research and the most current literature in the field, this book is an invaluable guide for researchers in medicinal chemistry, herbal medicine, drug discovery/development, and plant derived natural products within both industry and academic environments. Outlines the botanical description, traditional uses and socioeconomic significance of the African and Arabian Moringa plants Exhaustively discusses the chemistry of these plants to highlight secondary metabolites and methodologies for their isolation, identification and quality control Discusses the future potential of the plants and their chemical components for various disease conditions

Sonochemical Reactions - Selcan Karakuş 2020-03-25

This book was written by authors in the field of ultrasound-assited synthesis and their applications. Among others, some of the topics covered are: ultrasound-assited synthesis of metal/metal oxide nanoparticles, graphene nanosheets, and ultrasound applications. In this book, authors focused on recent studies, applications, and new technological developments on fundamental properties of the ultrasound process.

Heterocyclic Organic Corrosion Inhibitors - Mumtaz A. Quraishi 2020-03-07

Heterocyclic Organic Corrosion Inhibitors: Principles and Applications aims to

comprehend the synthesis and application of organic heterocyclic compounds as corrosion inhibitors in various corrosive environments. Considering the high importance of corrosion inhibitor development for different industries, the book provides the fundamentals and most recent advancements in this field. The book is an indispensable reference tool for industrialists and academicians working in the field of corrosion protection. Provides a systematic overview of fundamentals and current advancements Acts as a primary reference for beginner researchers in this arena Presents a handy reference tool to different chemical industries Covers fundamentals, industrial applications and most recent advancements in this area

Nanomaterials for Spectroscopic Applications - Kaushik Pal 2021-06-18

This book provides an overview of key current developments in the synthetic strategy of functional novel nanomaterials in various spectroscopic characterizations and evaluations and highlights possible future applications in nanotechnology and materials science. It illustrates the wide-ranging interest in these areas and provides a background to the later chapters, which address the novel synthesis of high-yield nanomaterials and their biomaterials, graphene, polymeric nanomaterials, green nanomaterials, green polyester, liquid crystal electro-optic switching applications, nanobiotechnology, transition metal oxides, response characteristics of exclusive spectroscopic investigation as well as electron microscopic study, flexible and transparent electrodes, optoelectronics, nanoelectronics, smart displays, switchable device modulation, health care, energy storage, solar/fuel cells, environmental and plant biology, social, ethical, and regulatory implications of various aspects of green

nanotechnology, as well as significant foreseeable spectroscopic applications of key functional nanomaterials. Given appropriate regulation for and research on the topics covered, commercial production of manufactured novel composite materials can be realized. Furthermore, the many discoveries highlighted in the book can modulate spectroscopic performances with technical excellence in multidisciplinary research of high competence.

Polymeric Biomaterials for Healthcare Applications - Kokkarachedu Varaprasad 2022-05-16

Polymeric Biomaterials for Healthcare Applications details a broad range of polymeric biomaterials, methods of synthesis and preparation, and their various applications in healthcare and biomedicine. The book provides a fundamental overview of polymers and processing technologies to allow clinical scientists to explore the use of these polymers in alternative applications. A wide variety of healthcare applications are covered, including treatment for autoimmune diseases and bacterial infections, tissue engineering, gene delivery, wound dressing, and more. The book provides a core introductory text for clinical and materials scientists new to the area of polymeric biomaterials. This book will prove useful to academics and researchers in materials science, biomedical engineering, clinical science and pharmaceutical science. Covers a broad range of polymeric biomaterials, including chitosan, alginate, cellulose, collagen, synthetic conjugates, and more Details a wide variety of healthcare applications for polymeric biomaterials, such as orthopedic engineering, antibiotics, targeted drug delivery, and more Provides a detailed overview of polymer processing technologies and sterilization

considerations

Corrosion Protection of Metals and Alloys Using Graphene and Biopolymer Based Nanocomposites - Hatem M.A. Amin 2021-02-15

With contributions from experts from both academia and industry, this book provides up-to-date reviews and promising approaches for corrosion control of metals and alloys via sustainable biopolymers and carbon nanomaterials coatings, focusing on the wonder material “graphene” which is more solid than steel. This book delivers essential information for improving the environmental and economic viability of current coating technologies. It is also a valuable reference for those who are interested in corrosion science and corrosion protection including professionals from the industry as well as academia.