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Springer Science & Business Media This series presents critical reviews of the present and future trends in polymer and biopolymer science including chemistry, physical chemistry, physics and materials science. It is addressed to all scientists at universities and in industry who wish to keep abreast of advances in the topics covered. Impact Factor Ranking: Always number one in Polymer Science. More information as well as the electronic version of the whole content available at: www.springerlink.com

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RADIATION TECHNOLOGY FOR ADVANCED MATERIALS:

FROM BASIC TO MODERN APPLICATIONS

Academic Press Radiation Technology for Advanced Materials presents a range of radiation technology applications for advanced materials. The book aims to bridge the gap between researchers and industry, describing current uses and future prospects. It describes the mature radiation processing technology used in preparing heat shrinkable materials and in wire and cable materials, giving commercial cases. In addition, the book illustrates future applications, including high-performance fibers, special self-lubricating materials, special ultra-fine powder materials, civil fibers, natural polymeric materials, battery separator membranes, special filtration materials and metallic nanomaterials. Chapters cover radiation technology in high-performance fiber and functional textiles, radiation crosslinking and typical applications, radiation crosslinking for polymer foaming material, radiation degradation and application, radiation emulsion polymerization, radiation effects of ionic liquids, radiation technology in advanced new materials, and future prospects. Presents a range of radiation technology applications and their application to advanced materials Covers the mature radiation processing technology used to prepare heat shrinkable materials and wire cable materials, describing real-world commercial applications Shows the promising application of radiation technology in preparing high-performance Si and carbon fibers Describes the radiation degradation/radiation effect used to prepare fine powder materials Discusses radiation modification and radiation grafting techniques used to synthesize materials, such as civil fibers, natural polymeric materials and others

ADVANCES IN BIOMEDICAL ENGINEERING RESEARCH AND APPLICATION: 2013 EDITION

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ScholarlyEditions Advances in Biomedical Engineering Research and Application: 2013 Edition is a ScholarlyBrief™ that delivers timely, authoritative, comprehensive, and specialized information about ZZZAdditional Research in a concise format. The editors have built Advances in Biomedical Engineering Research and Application: 2013 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about ZZZAdditional Research in this book to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Advances in Biomedical Engineering Research and Application: 2013 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

ADVANCES IN BIOMEDICAL POLYMERS AND COMPOSITES

MATERIALS AND APPLICATIONS

Elsevier Advances in Biomedical Polymers and Composites: Materials and Applications is a comprehensive guide to polymers and polymer composites for biomedical applications, bringing together detailed information on their preparation, properties, cutting-edge technologies, innovative materials and key application areas. Sections introduce polymers and composites in biomedical applications and cover characterization techniques, preparation and properties of composites and gel-based systems. Innovative technologies and instruments used in the fabrication of polymer composites for biomedical applications are then presented in detail, including 3D bioprinting, 4D printing, electrospinning, stimuli-responsive polymers and quantum dots. This is a valuable resource for anyone looking to gain a broader understanding of polymers and composites for biomedical applications. In addition, it is ideal for readers who want to conduct interdisciplinary research or explore new avenues for research and development. Provides broad, systematic and detailed coverage of preparation methods, properties, technologies, structures and applications Explores the state-of-the-art in biomedical polymers, including gene delivery, oleogels, bigels, 3D bioprinting, 4D printing and antiviral materials Offers analysis and comparison of experimental data on physical properties and explains environmental, ethical and medical guidelines

POLYMER GRAFTING AND CROSSLINKING

John Wiley & Sons Rapid advances in technology require materials with improved property profiles. Polymer modification using grafting and crosslinking are key ways to achieve this in an economical way and without the need for developing new materials. Often widely disparate and in a number of references, practical information on polymer grafting and crosslinking is now available in one volume. Researchers seeking information that bridges the knowledge gap between the scientific principles and industrial applications of polymer crosslinking and grafting will find coverage on the basic science, the methodologies, and a focus on the specific techniques used in a variety of industrial applications such as automotive, laminates, paints, adhesives, and cable. Coverage also includes potential biomedical applications. Descriptions of analytical tools that can be used to evaluate the results are also included.

REVIEWS OF ACCELERATOR SCIENCE AND TECHNOLOGY

VOLUME 4: ACCELERATOR APPLICATIONS IN INDUSTRY AND THE ENVIRONMENT

World Scientific Since their debut in the late 1920s, particle accelerators have evolved into a backbone for the development of science and technology in modern society. Of about 30,000 accelerators at work in the world today, a majority is for applications in industry (about 20,000 systems worldwide). There are two major categories of industrial applications: materials processing and treatment, and materials analysis. Materials processing and treatment includes ion implantation (semi-conductor materials, metals, ceramics, etc.) and electron beam irradiation (sterilization of medical devices, food pasteurization, treatment of carcasses and tires, cross-linking of polymers, cutting and welding, curing of composites, etc.). Materials analysis covers ion beam analysis (IBA), non-destructive detection using photons and neutrons, as well as accelerator mass spectrometry (AMS). All the products that are processed, treated and inspected using beams from particle accelerators are estimated to have a collective value of US$500 billion per annum worldwide. Accelerators are also applied for environment protection, such as purifying drinking water, treating waste water, disinfecting sewage sludge and removing pollutants from flue gases. Industrial accelerators continue to evolve, in terms of new applications, qualities and capabilities, and reduction of their costs. Breakthroughs are encountered whenever a new product is made, or an existing product becomes more cost effective. Their impact on our society continues to grow with the potential to address key issues in economics or the society of today. This volume contains fourteen articles, all authored by renowned scientists in their respective fields. Contents:Trends for Electron Beam Accelerator Applications in Industry (Sueo Machi)Ion Implantation for Semiconductor Doping and Materials Modification (Lawrence A Larson, Justin M Williams and Michael I Current)Ion Beam Analysis: A Century of Exploiting the Electronic and Nuclear Structure of the Atom for Materials Characterisation (Chris Jeynes, Roger P Webb and Annika Lohstroh)Neutrons and Photons in Non-Destructive Detection (J F Harmon, D P Wells and A W Hunt)Review of Cyclotrons for the Production of Radioactive Isotopes for Medical and Industrial Applications (Paul Schmor)Development of Accelerator Mass Spectrometry and Its Applications (Jiaer Chen, Zhiyu Guo, Kexin Liu and Liping Zhou)Electron Accelerators for Environment Protection (Andrzej G Chmielewski)Studying Radiation Damage in Structural Materials by Using Ion Accelerators (Peter Hosemann)Direct Current Accelerators for Industrial Applications (Ragnar Hellborg and Harry J Whitlow)Radio-Frequency Electron Accelerators for Industrial Applications (Marshall R Cleland)Accelerators for Neutron Generation and Their Applications (Guenter Mank, Guenter Bauer and Françoise Mulhauser)Prospects for Accelerator Technology (Alan Todd)CERN: From Birth to Success (Herwig Schopper)Simon van der Meer (1925–2011): A Modest Genius of Accelerator Science (Vinod C Chohan) Readership: Physicists and engineers in accelerator science and industry. Keywords:Particle

Accelerators;Materials Processing and Treatment;Materials Analysis;Industrial Accelerators;LHC;EnvironmentReviews: "The book is a very helpful way to be introduced in the world of accelerators as powerful tools to carry out quite a big number of applications that play a significant role in common life." IL Nuovo Saggiatore

POLYMER SCIENCE AND ENGINEERING

THE SHIFTING RESEARCH FRONTIERS

National Academies Press Polymers are used in everything from nylon stockings to commercial aircraft to artificial heart valves, and they have a key role in addressing international competitiveness and other national issues. Polymer Science and Engineering explores the universe of polymers, describing their properties and wide-ranging potential, and presents the state of the science, with a hard look at downward trends in research support. Leading experts offer findings, recommendations, and research directions. Lively vignettes provide snapshots of polymers in everyday applications. The volume includes an overview of the use of polymers in such fields as medicine and biotechnology, information and communication, housing and construction, energy and transportation, national defense, and environmental protection. The committee looks at the various classes of polymers--plastics, fibers, composites, and other materials, as well as polymers used as membranes and coatings--and how their composition and specific methods of processing result in unparalleled usefulness. The reader can also learn the science behind the technology, including efforts to model polymer synthesis after nature's methods, and breakthroughs in characterizing polymer properties needed for twenty-first-century applications. This informative volume will be important to chemists, engineers, materials scientists, researchers, industrialists, and policymakers interested in the role of polymers, as well as to science and engineering educators and students.

ICARST 2017 INTERNATIONAL CONFERENCE ON APPLICATIONS OF RADIATION SCIENCE AND TECHNOLOGY

INTERNATIONAL CONFERENCE ON APPLICATIONS OF RADIATION SCIENCE AND TECHNOLOGY

IAEA

ADVANCED NANOFIBROUS MATERIALS MANUFACTURE TECHNOLOGY BASED ON ELECTROSPINNING

CRC Press This book comprehensively addresses advanced nanofiber manufacturing based on electrospinning technology. The principles, relationships between process parameters and structure, morphology and performance of electrospun nanofibers and nanomaterials, and the methods for enhanced field intensity and uniform distribution are discussed. The electric field intensity and distribution during electrospinning is also analyzed based on finite element analysis on both the needle and the needleless electrospinning. Furthermore, the modification techniques for improved nanomaterials strength are covered, aiming to provide effective avenues towards the manufacture of stronger nanofiber or nanomaterial products.

MECHANICAL ENGINEERING, INDUSTRIAL ELECTRONICS AND INFORMATION TECHNOLOGY APPLICATIONS IN INDUSTRY

Trans Tech Publications Ltd Collection of selected, peer reviewed papers from the 2013 2nd International Conference on Mechanical Engineering, Industrial Electronics and Informatization (MEIEI 2013), September 14-15, 2013, Chongqing, China. The 656 papers are grouped as follows: Chapter 1: Applied Mechanics and Advances in Mechanical Engineering; Chapter 2: Industrial Electronics, Measurements, Automation and Control Technology; Chapter 3: Signal and Data Processing, Data Mining, Applied and Computational Mathematics; Chapter 4: Information Technology Applications in Industry and Engineering.

SOLID STATE NMR OF POLYMERS

Elsevier In polymer science and technology, the advanced development of various new polymer materials with excellent properties and functions is desirable. For this purpose it is necesary to determine the exact relationship between physical properties and molecular structure-dynamics with powerful techniques. One such technique is solid state NMR. Recently, high resolution NMR studies of solids have been realized by using advanced pulse and mechanical techniques, which has resulted in a variety of structural and dynamical information on polymer systems. Solid state NMR has provided characteristic information which cannot be obtained by other spectroscopic methods. This book is divided into two parts. The first part covers the principles of NMR, important NMR parameters such as chemical shifts, relaxation times, dipolar interactions, quadrupolar interactions, pulse techniques and new NMR methods. In the second part, applications of NMR to a variety of polymer systems in the solid state are described. Features of this book: • Contains an up-to-date and comprehensive account of solid state NMR of polymers by leading researchers in the field • Provides a compilation of solid state NMR of polymers, which makes it an ideal reference book for both NMR researchers and general polymer scientists. This book will be of interest to the NMR community, and will be invaluable for both the beginner and the expert.

SILICON-CONTAINING POLYMERS

THE SCIENCE AND TECHNOLOGY OF THEIR SYNTHESIS AND APPLICATIONS

Springer Science & Business Media Within this text, for the first time the synthesis, structural characteristics, physical properties, applications and potential applications of polysiloxanes, polycarbosilanes, polysilazanes, polysilanes, and other silicon-containing polymers are detailed. For years to come this book will be the first point of entry for those seeking to learn about the very significant differences that exist between carbon-based polymers and those with silicon in their backbone.

ISSUES IN MEDICAL LASERS, IMAGING, AND DEVICES RESEARCH AND APPLICATION: 2011 EDITION

ScholarlyEditions Issues in Medical Lasers, Imaging, and Devices Research and Application: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Medical Lasers, Imaging, and Devices Research and Application. The editors have built Issues in Medical Lasers, Imaging, and Devices Research and Application: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Medical Lasers, Imaging, and Devices Research and Application in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Medical Lasers, Imaging, and Devices Research and Application: 2011 Edition has been produced by the world’s leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

HANDBOOK OF POLYMER SCIENCE AND TECHNOLOGY

CRC Press This handbook focuses on physical, structural, and compositional properties of elastomeric materials and plastics. It provides a broad overview of the physical and physicochemical properties of synthetic rubbers that are used in conventional cured applications.

PROCEEDINGS OF 4TH EDITION OF INTERNATIONAL CONFERENCE ON POLYMER SCIENCE AND TECHNOLOGY 2018

JOURNAL OF POLYMER SCIENCES : VOLUME 4

EuroScicon June 04-05, 2018 London, UK Key Topics : Polymer Science -The Future, Polymers In Industries, Polymer Material Science, Polymer Engineering, Polymer Nanotechnology, Polymer Chemistry, Composite Polymeric Material, Advanced Polymers, Role Of Polymers In Biology And Biological Systems, Polymer Physics, Bioplastics And Biopolymers, Applications Of Polymer Materials, Polymers In Wastes And Their Environmental Impact,

SOFT MATTER FOR BIOMEDICAL APPLICATIONS

Royal Society of Chemistry Dynamic soft materials that have the ability to expand and contract, change stiffness, self-heal or dissolve in response to environmental changes, are of great interest in applications ranging from biosensing and drug delivery to soft robotics and tissue engineering. This book covers the state-of-the-art and current trends in the very active and exciting field of bioinspired soft matter, its fundamentals and comprehension from the structural-property point of view, as well as materials and cutting-edge technologies that enable their design, fabrication, advanced characterization and underpin their biomedical applications. The book contents are supported by illustrated examples, schemes, and figures, offering a comprehensive and thorough overview of key aspects of soft matter. The book will provide a trusted resource for undergraduate and graduate students and will extensively benefit researchers and professionals working across the fields of chemistry, biochemistry, polymer chemistry, materials science and engineering, nanosciences, nanotechnologies, nanomedicine, biomedical engineering and medical sciences.

EXPERT LEVEL OF DENTAL RESINS - MATERIAL SCIENCE & TECHNOLOGY

DETAILED DISCUSSION OF THE FORMULATION, PRODUCTION AND PROPERTIES OF DENTAL RESINS AND DENTAL RESIN COMPOSITES.

tredition Resin materials are broadly used in dentistry for almost all indications and they will gain even more importance in future. Especially the increasing performance and efficiency of the CAD/CAM technology and 3D-printing open possibilities to use resins which were not used up to now in dentistry. Besides of dentists, dental students or dental technicians there are many other specialists such as researchers, material scientists, industrial developers or experts of adjoining professional disciplines who are technically engaged in dental resins. The "Expert Level” is the third book of the series "Dental Resins - Material Science & Technology”. The "Expert Level" includes all information and data presented in the "Basic Level" and "Advanced Level" of this series but enormously expands the knowledge base. From a total data base of 8.198 references 1.707 were selected and used for this textbook. It comprises more than 1.000 manuscript pages, 384 figures and 124 tables. The "Expert Level" describes very accurately and comprehensively all details of the material science and technology of dental polymers and composites as well as their application and thus is an unique treatise of nearly the complete present knowledge about

dental resins and dental resin composites. This includes the discussion of the - raw/starting materials together with the explanation and presentation of their chemical structures and properties, their CAS Numbers and the names of the manufacturers. - amounts of the raw/starting materials usually used to formulate the finished products. - important material and toxicological properties of the starting materials and the finished products. - detailed description of the production processes of important starting materials such as the syntheses of important monomers, the silanization of inorganic fillers or the manufacturing of unfilled and filled splinter polymers. - detailed description of the formulation and the properties of the finished products. Furthermore, for many commercial endproducts rather detailed formulations as well as the exact production prcesses are described. All ISO standards that are relevant for dental resins are listed, too. Furthermore, many important methods to test the mechanical, chemical and toxicological properties are also presented and explained. The "Expert Level" enables every scientist with a good chemical knowledge not only to understand how dental polymers function but also to develop new and improved products.

DICARBOXYLIC ACIDS: ADVANCES IN RESEARCH AND APPLICATION: 2011 EDITION

ScholarlyEditions Dicarboxylic Acids: Advances in Research and Application: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Dicarboxylic Acids. The editors have built Dicarboxylic Acids: Advances in Research and Application: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Dicarboxylic Acids in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Dicarboxylic Acids: Advances in Research and Application: 2011 Edition has been produced by the world’s leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

APPLICATIONS OF IONIC LIQUIDS IN SCIENCE AND TECHNOLOGY

BoD – Books on Demand This volume, of a two volume set on ionic liquids, focuses on the applications of ionic liquids in a growing range of areas. Throughout the 1990s, it seemed that most of the attention in the area of ionic liquids applications was directed toward their use as solvents for organic and transition-metal-catalyzed reactions. Certainly, this interest continues on to the present date, but the most innovative uses of ionic liquids span a much more diverse field than just synthesis. Some of the main topics of coverage include the application of RTILs in various electronic applications (batteries, capacitors, and light-emitting materials), polymers (synthesis and functionalization), nanomaterials (synthesis and stabilization), and separations. More unusual applications can be noted in the fields of biomass utilization, spectroscopy, optics, lubricants, fuels, and refrigerants. It is hoped that the diversity of this volume will serve as an inspiration for even further advances in the use of RTILs.

POLYSTYRENE

SYNTHESIS, PRODUCTION AND APPLICATIONS

iSmithers Rapra Publishing This review describes the production of styrene polymers in detail, including the synthesis of raw materials, polymerisation routes to polystyrene, production of high impact polystyrene and anionic block copolymers. The review also describes the mechanical properties of styrenic polymers, their electrical properties, and their behaviour in fire. An additional indexed section containing several hundred abstracts from the Rapra Polymer Library database gives useful references for further reading.

ISSUES IN TECHNOLOGY THEORY, RESEARCH, AND APPLICATION: 2013 EDITION

ScholarlyEditions Issues in Technology Theory, Research, and Application: 2013 Edition is a ScholarlyEditions™ book that delivers timely, authoritative, and comprehensive information about Ocean Technology. The editors have built Issues in Technology Theory, Research, and Application: 2013 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Ocean Technology in this book to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Technology Theory, Research, and Application: 2013 Edition has been produced by the world’s leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

MATERIALS SCIENCE AND ENGINEERING: CONCEPTS, METHODOLOGIES, TOOLS, AND APPLICATIONS

CONCEPTS, METHODOLOGIES, TOOLS, AND APPLICATIONS

IGI Global The design and study of materials is a pivotal component to new discoveries in the various fields of science and technology. By better understanding the components and structures of materials, researchers can increase its applications across different industries. Materials Science and Engineering: Concepts, Methodologies, Tools, and Applications is a compendium of the latest academic material on investigations, technologies, and techniques pertaining to analyzing the synthesis and design of new materials. Through its broad and extensive coverage on a variety of crucial topics, such as nanomaterials, biomaterials, and relevant computational methods, this multi-volume work is an essential reference source for engineers, academics, researchers, students, professionals, and practitioners seeking innovative perspectives in the field of materials science and engineering.

ADVANCED LEVEL OF DENTAL RESINS - MATERIAL SCIENCE & TECHNOLOGY

2ND EDTION

tredition Resin materials are broadly used in dentistry for almost all indications and they will gain even more importance in future. Especially the increasing performance and efficiency of the CAD/CAM technology and 3D-printing open possibilities to use resins not used up to now in dentistry. Besides of dentists, dental students or dental technicians there are many other specialists such as researchers, material scientists, industrial developers or experts of adjoining professional disciplines who are technically engaged in dental resins. The idea of this ebook series is to present a three-level textbook consisting of Basic Level, Advanced Level and Expert Level versions dealing with material science and technology of dental resins. Every level significantly expands the information and knowledge given by the respective preceding version. This book presents the Advanced Level version. The Advanced Level broadens the information of the Basic Level significantly and mainly addresses teachers of dental universities/schools, postgraduate students, PhD candidates, researchers, material scientists, industrial developers or experts of adjoining professional disciplines. It gives a very deep insight into chemistry, physics, testing methods and toxicology of dental resins and their technical application.

ACYCLIC ACIDS: ADVANCES IN RESEARCH AND APPLICATION: 2011 EDITION

ScholarlyEditions Acyclic Acids: Advances in Research and Application: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Acyclic Acids. The editors have built Acyclic Acids: Advances in Research and Application: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Acyclic Acids in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Acyclic Acids: Advances in Research and Application: 2011 Edition has been produced by the world’s leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

REVIEWS OF ACCELERATOR SCIENCE AND TECHNOLOGY

World Scientific Particle accelerators are a major invention of the 20th century. In the last eight decades, they have evolved enormously and have fundamentally changed the way we live, think and work.Accelerators are the most powerful microscopes for viewing the tiniest inner structure of cells, genes, molecules, atoms and their constituents such as protons, neutrons, electrons, neutrinos and quarks. This opens up a whole new world for materials science, chemistry and molecular biology. Accelerators with megawatt beam power may ultimately solve a critical problem faced by our society, namely, the treatment of nuclear waste and the supply of an alternative type of energy.There are also tens of thousands of small accelerators all over the world. They are used every day for medical imaging, cancer therapy, radioisotope production, high-density chip-making, mass spectrometry, cargo x-ray/gamma-ray imaging, detection of explosives and illicit drugs, and weapons. This volume provides a comprehensive review of this driving and fascinating field.The poster (also available in 1118 x 406 mm size) which illustrates the history and development of particle accelerators from 1919 to the future can be purchased separately

IMPLEMENTATION AND EVALUATION OF GREEN MATERIALS IN TECHNOLOGY DEVELOPMENT: EMERGING RESEARCH AND OPPORTUNITIES

EMERGING RESEARCH AND OPPORTUNITIES

IGI Global Due to legal and consumer demands, eco-friendly resources that comply with environmental concerns while maintaining or improving performance are highly sought amongst manufacturers. Green materials are a specific material that are widely found in many product markets and are popular choices as alternative materials due to their recyclable, reusable, highly available, and corrosion-resistant features. These materials positively impact the environment through fewer emissions during the production process, positive carbon credits and energy recovery from incineration, and lower global warming effect. Extensive research is required to understand the full potential of these eco-friendly substances. Implementation and Evaluation of Green Materials in Technology Development: Emerging Research and Opportunities provides emerging research exploring the theoretical and practical aspects of environmentally friendly resources and applications within technology. Featuring coverage on a broad range of topics such as life cycle analysis, nanomaterials, and environment management, this book is ideally designed for manufacturers, engineers, product developers, industrial practitioners, policymakers, researchers, academicians, students, and business and marketing associates seeking current research on the advancements and applications of green materials in future technology.

APATITES—ADVANCES IN RESEARCH AND APPLICATION: 2013 EDITION

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NOVEL ENZYME TECHNOLOGY FOR FOOD APPLICATIONS

Elsevier The food industry is constantly seeking advanced technologies to meet consumer demand for nutritionally balanced food products. Enzymes are a useful biotechnological processing tool whose action can be controlled in the food matrix to produce higher quality products. Written by an international team of contributors, Novel enzyme technology for food applications reviews the latest advanced methods to develop specific enzymes and their applications. Part one discusses fundamental aspects of industrial enzyme technology. Chapters cover the discovery, improvement and production of enzymes as well as consumer attitudes towards the technology. Chapters in Part two discuss enzyme technology for specific food applications such as textural improvement, protein-based fat replacers, flavour enhancers, and health-functional carbohydrates. Novel enzyme technology for food applications is a standard reference for all those in industry and academia concerned with improving food products with this advanced technology. Reviews the latest advanced methods to develop specific enzymes Discusses ways of producing higher quality food products Explores the improvement and production of enzymes

INTERNATIONAL POLYMER SCIENCE AND TECHNOLOGY

ISSUES IN TECHNOLOGY THEORY, RESEARCH, AND APPLICATION: 2012 EDITION

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BIOMATERIAL SCIENCE

ANATOMY AND PHYSIOLOGY ASPECTS

Walter de Gruyter GmbH & Co KG This books bridges the gap between a clinician's knowledge and the biomaterial designer's by elucidating upon the different biomaterials used in anatomical systems and how those materials react to the human body. It explores established and future prospectives of biomaterial types/designs, considerations/characterization and synthesis, in order to guide students in understanding the relations of material science and the human body.

APPLICATIONS OF IONIC LIQUIDS IN POLYMER SCIENCE AND TECHNOLOGY

Springer This book summarizes the latest knowledge in the science and technology of ionic liquids and polymers in different areas. Ionic liquids (IL) are actively being investigated in polymer science and technology for a number of different applications. In the first part of the book the authors present the particular properties of ionic liquids as speciality solvents. The state-of-the art in the use of ionic liquids in polymer synthesis and modification reactions including polymer recycling is outlined. The second part focuses on the use of ionic liquids as speciality additives such as plasticizers or antistatic agents. The third part examines the use of ionic liquids in the design of functional polymers (usually called polymeric ionic liquids (PIL) or poly(ionic liquids)). Many important applications in diverse scientific and industrial areas rely on these polymers, like polymer electrolytes in electrochemical devices, building blocks in materials science, nanocomposites, gas membranes, innovative anion sensitive materials, smart surfaces, and a countless set range of emerging applications in different fields such as energy, optoelectronics, analytical chemistry, biotechnology, nanomedicine or catalysis.

VACUUM ELECTRONICS

COMPONENTS AND DEVICES

Springer Science & Business Media Nineteen experts from the electronics industry, research institutes and universities have joined forces to prepare this book. It does nothing less than provide a complete overview of the electrophysical fundamentals, the present state of the art and applications, as well as the future prospects of microwave tubes and systems. The book does the same for optoelectronics vacuum devices, electron and ion beam devices, light and X-ray emitters, particle accelerators and vacuum interrupters.

APPLICATIONS OF ENGINEERING MATERIALS

Trans Tech Publications Ltd This book covers the subject areas of new functional materials, building materials, new energy materials, environmental catalysis and environment-friendly materials, earthquake-resistant structures, materials and design, biomaterials, chemical materials, thin films, hydrogen and fuel cell science, engineering and technology, textile materials, smart/intelligent materials/intelligent systems and other related topics. An invaluable guide to the topics.

INDUSTRIAL POLYMER APPLICATIONS

ESSENTIAL CHEMISTRY AND TECHNOLOGY

Royal Society of Chemistry Industrial Polymer Applications provides a comprehensive overview of the diverse properties and applications of thermoset and thermoplastic polymer technologies used routinely in the modification, protection, repair, restoration and bonding of the main classes of industrial engineering materials such as concrete, masonry, wood, metal, rubber, plastic, glass and advanced ceramics. The Author, with extensive industrial experience in the design and development of polymeric adhesives, composites, concrete repair and industrial coatings materials, provides a balanced perspective of the essential chemistries and technologies for each of the relevant polymeric solutions. This book includes explanations as to why polymers are needed and the specific problems and key industrial application challenges that can be overcome for each class of engineering material. The use of supplementary information boxes, suggestions for further reading, and supportive appendices including worked examples delivers an easy to understand guide of relevant industrial applications of polymers. Written in an accessible way, the book provides a supplementary text for undergraduates, postgraduates and industrialists who have studied or are involved in chemistry, polymer chemistry, industrial chemistry, materials science, chemical engineering, mechanical engineering, civil engineering or corrosion engineering, science and technology.

HALOGENS—ADVANCES IN RESEARCH AND APPLICATION: 2012 EDITION

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TEXTILE TECHNOLOGY DIGEST

CHITOSAN BASED MATERIALS AND ITS APPLICATIONS

Bentham Science Publishers This volume presents 10 reviews contributed by eminent researchers around the world on chitosan based materials. The introductory chapters present information on general characteristics of chitosan and various types of materials which are based on it such as nanofibers, nanoparticles, nanocapsules and other chemically modified chitosans. This is followed by an explanation of chitosan characterization and extraction techniques. Concluding chapters describe the applications of chitosan products in water treatment, drug delivery, edible films and pervaporation membranes. Readers will therefore gain an understanding about chitosan and materials derived from this polymer and their practical applications. The volume serves as a simple reference for chemical engineering students and professionals interested in the basic and applied chemistry of chitosan and chitosan-derived products.