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Warning Miracle -

Constitutive Equations for Polymer Melts and Solutions - Ronald G. Larson 2013-10-22
Constitutive Equations for Polymer Melts and Solutions presents a description of important constitutive equations for stress and birefringence in polymer melts, as well as in dilute and concentrated solutions of flexible and rigid polymers, and in liquid crystalline materials. The book serves as an introduction and guide to constitutive equations, and to molecular and phenomenological theories of polymer motion and flow. The chapters in the text discuss topics on the flow phenomena commonly associated with viscoelasticity; fundamental elementary models for understanding the rheology of melts, solutions of flexible polymers, and advanced constitutive equations; melts and concentrated solutions of flexible polymer; and the rheological properties of real liquid crystal polymers. Chemical engineers and physicists will find the text very useful.
Marine Bioinvasions: Patterns, Processes and Perspectives - Judith Pederson 2012-12-06
As the global rate of marine introductions increases, exotic species exert greater economic and ecological impacts, affecting ecosystems and human health. The complexity of marine ecosystems challenges our ability to find easy solutions to prevention, management, and control of introductions. This book highlights issues of timely importance in marine bioinvasion science. Selected topics explore the potential evolutionary consequences and ecological impacts of introduced organisms, examine the feasibility of biological control, and describe patterns of introduction. These papers were presented at the Second International Conference on Marine Bioinvasions, which featured new marine invasion research from around the world. These papers should be of interest to scientists, students, and managers with an interest in marine bioinvasions and the application of knowledge to management concerns.

Societal Impact of Spaceflight - Steven J. Dick 2007

PharmPrep: ASHP's NAPLEX Review - Lea S. Eiland 2011-05-20
After years of studying and hard work, you're almost a licensed pharmacist! The final step is passing the North American Pharmacy Licensure Examination, or the NAPLEX®. For the last decade, PharmPrep: ASHP's NAPLEX® Review, has been a trusted resource with new graduates preparing for the NAPLEX examination, both as an online product and a print companion.Using real patient cases accompanied by questions that address all NAPLEX® competency statements, the new fully updated PharmPrep: ASHP's NAPLEX® Review, 4th edition, gives you the flexibility to review information by specific disease state and provides 78 sample cases, as well as calculations and law review sections. As drug therapy becomes more complex, PharmPrep has continued to update and revise cases so they reflect contemporary clinical practice.PharmPrep is an equally important reference for the experienced practitioner as a tool for pharmacists to continue to develop professionally, or for out of practice professionals looking to refresh their skills. Only PharmPrep has case-based questions and detailed explanations that don't just tell you what answers are right or wrong, but why. It is the the most affordable, trusted resource available to prepare for the NAPLEX® exam. As a book or in a convenient online/book package, PharmPrep goes where you go—on the subway, in the break room, to the coffeehouse. Or, just cozy up to the PharmPrep book from the comforts of home. Wherever you go, its the best resource to get you passed and ready to practice.To learn more about PharmPrep Online, visit www.pharmpreponline.com and sign up for a free trial today. Don't have an ASHP account? Simply register at www.ashp.org.

Neural Networks in Bioprocessing and Chemical Engineering - D. R. Baughman 2014-06-28
Neural networks have received a great deal of attention among scientists and engineers. In chemical engineering, neural computing has moved from pioneering projects toward mainstream industrial applications. This book introduces the fundamental principles of neural computing, and is the first to focus on its practical applications in bioprocessing and chemical engineering. Examples, problems, and 10 detailed case studies demonstrate how to develop, train, and apply neural networks. A disk containing input data files for all illustrative examples, case studies, and practice problems provides the opportunity for hands-on experience. An important goal of the book is to help the student or practitioner learn and implement neural networks quickly and inexpensively using commercially available, PC-based software tools. Detailed network specifications and training procedures are included for all neural network examples discussed in the book. Each chapter contains an introduction, chapter summary, references to further reading, practice problems, and a section on nomenclature Includes a PC-compatible disk containing input data files for examples, case studies, and practice problems Presents 10 detailed case studies Contains an extensive glossary, explaining terminology used in neural network applications in science and engineering Provides examples, problems, and ten detailed case studies of neural computing applications, including: Process fault-diagnosis of a chemical reactor Leonard Kramer fault-classification problem Process fault-diagnosis for an unsteady-state continuous stirred-tank reactor system Classification of protein secondary-structure categories Quantitative prediction and regression analysis of complex chemical kinetics Software-based sensors for quantitative predictions of product compositions from flourescent spectra in bioprocessing Quality control and optimization of an autoclave curing process for manufacturing composite materials Predictive modeling of an experimental batch fermentation process Supervisory control of the Tennessee Eastman plantwide control problem Predictive modeling and optimal design of extractive bioseparation in aqueous two-phase systems

Gypsy Moth Management in the United States: Chapters 1-9 and appendixes A-E - 1995

Polymer Processing - Donald G. Baird 2014-03-24
Fundamental concepts coupled with practical, step-by-step guidance With its emphasis on core principles, this text equips readers with the

skills and knowledge to design the many processes needed to safely and successfully manufacture thermoplastic parts. The first half of the text sets forth the general theory and concepts underlying polymer processing, such as the viscoelastic response of polymeric fluids and diffusion and mass transfer. Next, the text explores specific practical aspects of polymer processing, including mixing, extrusion dies, and post-die processing. By addressing a broad range of design issues and methods, the authors demonstrate how to solve most common processing problems. This Second Edition of the highly acclaimed Polymer Processing has been thoroughly updated to reflect current polymer processing issues and practices. New areas of coverage include: Micro-injection molding to produce objects weighing a fraction of a gram, such as miniature gears and biomedical devices New chapter dedicated to the recycling of thermoplastics and the processing of renewable polymers Life-cycle assessment, a systematic method for determining whether recycling is appropriate and which form of recycling is optimal Rheology of polymers containing fibers Chapters feature problem sets, enabling readers to assess and reinforce their knowledge as they progress through the text. There are also special design problems throughout the text that reflect real-world polymer processing issues. A companion website features numerical subroutines as well as guidance for using MATLAB®, IMSL®, and Excel to solve the sample problems from the text. By providing both underlying theory and practical step-by-step guidance, Polymer Processing is recommended for students in chemical, mechanical, materials, and polymer engineering.

Histidine Phosphorylation - Claire E. Eyers 2020-11-10

This volume details the current understanding of roles and regulation on histidine phosphorylation, describing methods for the characterization of protein phosphorylation on histidine. Chapters guide readers through in vitro systems, cell-based systems, comprehensive background review articles on histidine kinases and phosphatases. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and cutting-edge, Histidine Phosphorylation: Methods and Protocols aims to ensure successful results in the further study of this rapidly growing field.

Design and Control of Distillation Systems for Separating Azeotropes - William L. Luyben 2011-12-06

An azeotrope is a mixture of two or more compounds that cannot be separated or changed by simple distillation. This book addresses an important issue in the energy crisis: the distillation of azeotropes to improve the processing of biofuels. It describes azeotropic systems in a comprehensive, readable form, with updates on recent developments in vapor-liquid and liquid-liquid-vapor equilibrium, simulation tools, and specific examples covering the major processing options available. The text also presents methods for achieving optimum economic design and control structures, and demonstrates trade-offs between energy savings and controllability (product quality variability).

Foundations of Molecular Modeling and Simulation - Randall Q Snurr 2016-06-01

This book is a collection of select proceedings of the FOMMS 2015 conference. FOMMS 2015 was the sixth triennial FOMMS conference showcasing applications of theory of computational quantum chemistry, molecular science, and engineering simulation. The theme of the 2015 meeting was on Molecular Modeling and the Materials Genome. This volume comprises chapters on many distinct applications of molecular modeling techniques. The content will be useful to researchers and students alike.

Interacting with Geospatial Technologies - Mordechai (Muki) Haklay 2015-10-26

This book provides an introduction to HCI and usability aspects ofGeographical Information Systems and Science. Its aim is tointroduce the principles of Human-Computer Interaction (HCI); todiscuss the special usability aspects of GIS which designers anddevelopers need to take into account when developing such systems;and to offer a set of tried and tested frameworks, matrices andtechniques that can be used

within GIS projects. Geographical Information Systems and other applications ofcomputerised mapping have gained popularity in recent years. Today,computer-based maps are common on the World Wide Web, mobilephones, satellite navigation systems and in various desktopcomputing packages. The more sophisticated packages that allow themanipulation and analysis of geographical information are used inlocation decisions of new businesses, for public service deliveryfor planning decisions by local and central government. Many moreapplications exist and some estimate the number of people acrossthe world that are using GIS in their daily work at severalmillions. However, many applications of GIS are hard to learn andto master. This is understandable, as until quite recently, themain focus of software vendors in the area of GIS was on thedelivery of basic functionality and development of methods topresent and manipulate geographical information using the availablecomputing resources. As a result, little attention was paid tousability aspects of GIS. This is evident in many public andprivate systems where the terminology, conceptual design andstructure are all centred around the engineering of GIS and not onthe needs and concepts that are familiar to the user. This book covers a range of topics from the cognitive models ofgeographical representation, to interface design. It will providethe reader with frameworks and techniques that can be used anddescription of case studies in which these techniques have beenused for computer mapping application.

Invasive Bladder Cancer - PierFrancesco Bassi 2007-07-29

Invasive bladder tumors affect the muscle wall, and have a propensity to metastasize and spread to other areas of the body, and are more likely to be fatal. This book presents state-of-the-art diagnoses and treatments available for bladder cancer that has metastasised into the body. A thorough review of current practice is presented in a full color volume with more than 40 tables and 50 illustrations. The book offers a comprehensive review of the subject, covering epidemiology, screening, diagnostic factors, surgery, chemotherapy and post-operative monitoring. Most chapters are jointly written by a basic researcher and a clinician.

First Aid for the USMLE Step 1 - Vikas Bhushan 2007-01-09

The #1 Review for the USMLE Step 1 - written by students who aced the boards! 900+ must-know facts and mnemonics organized by organ systems and general principles 24 pages of color photos like those on the exam 100+ clinical vignettes Brand new Pathology chapter and totally revised Behavioral Science chapter The famous “First Aid Ratings” - 300+ medical test prep resources rated by students Updated exam preparation guide with advice from Step 1 veterans Strategies that maximize your study time and deliver the results you want

Adsorption and Diffusion - Hellmut G. Karge 2008-06-17

"Molecular Sieves - Science and Technology" covers, in a comprehensive manner, the science and technology of zeolites and all related microporous and mesoporous materials. The contributions are grouped together topically in such a way that each volume deals with a specific sub-field. Volume 7 treats fundamentals and analyses of adsorption and diffusion in zeolites including single-file diffusion. Various methods of measuring adsorption and diffusion are described and discussed.

Report of the Selectmen - 1888

Polyolefin Reaction Engineering - Joao B. P. Soares 2013-10-02

Monomers composed of carbon and hydrogen atoms are the simple building blocks that make up polyolefins - molecules which are extremely useful and which have an extraordinary range of properties and applications. How these monomer molecules are connected in the polymer chain defines the molecular architecture of polyolefins. Written by two world-renowned authors pooling their experience from industry and academia, this book adopts a unique engineering approach using elegant mathematical modeling techniques to relate polymerization conditions, reactor and catalyst type to polyolefin properties. Readers thus learn how to design and optimize polymerization conditions to produce polyolefins with a given microstructure, and how different types of reactors and processes are used to create the different products. Aimed at polymer chemists, plastics technologists, process engineers,the plastics industry, chemical engineers, materials scientists, and company

libraries.

Chemical Thermodynamics for Process Simulation - Jürgen Gmehling 2019-06-10

The only textbook that applies thermodynamics to real-world process engineering problems This must-read for advanced students and professionals alike is the first book to demonstrate how chemical thermodynamics work in the real world by applying them to actual engineering examples. It also discusses the advantages and disadvantages of the particular models and procedures, and explains the most important models that are applied in process industry. All the topics are illustrated with examples that are closely related to practical process simulation problems. At the end of each chapter, additional calculation examples are given to enable readers to extend their comprehension. Chemical Thermodynamics for Process Simulation instructs on the behavior of fluids for pure fluids, describing the main types of equations of state and their abilities. It discusses the various quantities of interest in process simulation, their correlation, and prediction in detail. Chapters look at the important terms for the description of the thermodynamics of mixtures; the most important models and routes for phase equilibrium calculation; models which are applicable to a wide variety of non-electrolyte systems; membrane processes; polymer thermodynamics; enthalpy of reaction; chemical equilibria, and more. - Explains thermodynamic fundamentals used in process simulation with solved examples -Includes new chapters about modern measurement techniques, retrograde condensation, and simultaneous description of chemical equilibrium -Comprises numerous solved examples, which simplify the understanding of the often complex calculation procedures, and discusses advantages and disadvantages of models and procedures - Includes estimation methods for thermophysical properties and phase equilibria thermodynamics of alternative separation processes - Supplemented with MathCAD-sheets and DDBST programs for readers to reproduce the examples Chemical Thermodynamics for Process Simulation is an ideal resource for those working in the fields of process development, process synthesis, or process optimization, and an excellent book for students in the engineering sciences.

Industrial Water Reuse and Wastewater Minimization - James G. Mann 1999

Money-saving water strategies for industry. In the U.S. alone, process industries, petrochemicals, pulp and paper, metals and minerals, and many others ù will generate over 120 million tons of wastewater by the year 2000. Industrial Water Reuse and Wastewater Minimization, by James G. Mann and Y.A. Liu, describes water reuse and wastewater minimization principles and practices that can be used worldwide. Relatively easy to use and surprisingly inexpensive, the methods youÆll find in this important guide - particularly water-pinch technology ù are not only ecologically sound, but significantly lower manufacturing costs. Concepts are illustrated with abundant charts, tables, and real-life case studies. This resource includes a CD-ROM at no additional cost. Its Water/Target software generates freshwater use/wastewater generation targets, and suggests ways to reach them....lets you isolate bottlenecks limiting water reuse and find new reuse opportunities - all without the expense ofdetailed engineering designs.

Reaction Engineering of Step Growth Polymerization - Santosh K. Gupta 2011-12-21

The literature in polymerization reaction engineering has bloomed sufficiently in the last several years to justify our attempt in putting together this book. Rather than offer a comprehensive treatment of the entire field, thereby duplicating earlier texts as well as some ongoing bookwriting efforts, we decided to narrow down our aim to step growth polymerization systems. This not only provides us the lUxury of a more elaborate presentation within the constraints of production costs, but also enables us to remain on somewhat familiar terrain. The style and format we have selected are those of a textbook. The first six chapters present the principles of step growth polymerization. These are quite general, and can easily be applied in such diverse and emerging fields as polymerization applications in photolithography and microelec tronics. A detailed discussion of several important step growth polymeriz ations follows in the next five chapters. One could cover the first six chapters of

this book in about six to eight weeks of a three-credit graduate course on polymerization reactors, with the other chapters assigned for reading. This could be followed by a discussion of chain-growth and other polymeriz ations, with which our material blends well. Alternately, the entire contents of this book could be covered in a course on step growth systems alone.

Bowser the Hound - Thornton Waldo Burgess 1920

When Bowser the Hound gets lost in the Green Forest, Blacky the Crow and other animals decide to help him.

Book Review Index 2009 - Dana Ferguson 2009-08

Book Review Index provides quick access to reviews of books, periodicals, books on tape and electronic media representing a wide range of popular, academic and professional interests. The up-to-date coverage, wide scope and inclusion of citations for both newly published and older materials make Book Review Index an exceptionally useful reference tool. More than 600 publications are indexed, including journals and national general interest publications and newspapers. Book Review Index is available in a three-issue subscription covering the current year or as an annual cumulation covering the past year.

Design, Simulation and Optimization of Adsorptive and Chromatographic Separations: A Hands-On Approach - Kevin R. Wood 2018-02-27

A comprehensive resource to the construction, use, and modification of the wide variety of adsorptive and chromatographic separations Design, Simulation and Optimization of Adsorptive and Chromatographic Separations offers the information needed to effectively design, simulate, and optimize adsorptive and chromatographic separations for a wide range of industrial applications. The authors?noted experts in the field?cover the fundamental principles, the applications, and a range of modeling techniques for the processes. The text presents a unified approach that includes the ideal and intermediate equations and offers a wealth of hands-on case studies that employ the rigorous simulation packages Aspen Adsorption and Aspen Chromatography. The text reviews the effective design strategies, details design considerations, and the assumptions which the modelers are allowed to make. The authors also cover shortcut design methods as well as mathematical tools that help to determine optimal operating conditions. This important text: -Covers everything from the underlying pheonmena to model optimization and the customization of model code -Includes practical tutorials that allow for independent review and study -Offers a comprehensive review of the construction, use, and modification of the wide variety of adsorptive and chromatographic separations -Contains contributions from three noted experts in the field Written for chromatographers, process engineers, ehemists, and other professionals, Design, Simulation and Optimization of Adsorptive and Chromatographic Separations offers a comprehensive review of the construction, use, and modification of adsorptive and chromatographic separations.

Orthotics and Prosthetics in Rehabilitation - Michelle M. Lusardi 2007

Whether you are a student or a clinician, if you work with patients with neuromuscular and musculoskeletal impairments, you will find this text supplies a strong foundation in and appreciation for the field of orthotics and prosthetics that will give you the critical skills you need when working with this unique client population.

Multimodal Polymers with Supported Catalysts - Alexandra Romina Albunia 2019-01-16

This book provides an overview of polyolefine production, including several recent breakthrough innovations in the fields of catalysis, process technology, and materials design. The industrial development of polymers is an extraordinary example of multidisciplinary cooperation, involving experts from different fields. An understanding of structure-property and processing relationships leads to the design of materials with innovative performance profiles. A comprehensive description of the connection between innovative material performance and multimodal polymer design, which incorporates both flexibility and constraints of multimodal processes and catalyst needs, is provided. This book provides a summary of the polymerization process, from the atomistic level to the macroscale, process components, including catalysts, and their influence

on final polymer performance. This reference merges academic research and industrial knowledge to fill the gaps between academic research and industrial processes. · Connects innovative material performance to the flexibility of multimodal polymer design processes; · Provides a comprehensive description of the polymerization process from the atomic level to the macroscale; · Presents a polyhedric view of multimodal polymer production, including structure, property, and processing relationships, and the development of new materials.

Handbook of Benzoxazine Resins - Hatsuo Ishida 2011-07-13

This handbook provides a wide overview of the field, fundamental understanding of the synthetic methods and structure/property correlation, as well as studies related to applications in a wide range of subjects. The handbook also provides 1H and 13C NMR spectra, FTIR spectra, DSC and TGA thermograms to aid in research activities. Additional tables on key NMR and FTIR frequencies unique to benzoxazine, heat of polymerization, Tg, and char yield will greatly aid in the choice of proper benzoxazine for a specific application. Provides thorough coverage of the chemistry and applications of benzoxazine resins with an evidence-based approach to enable chemists, engineers and material scientists to evaluate effectiveness Features spectra, which allow researchers to compare results, avoid repetition and save time as well as tables on key NMR frequency, IR frequency, heat of polymerization, of many benzoxazine resins to aid them in selection of materials Written by the foremost experts in the field

Applied Polymer Science - Ulf W. Gedde 2021-10-29

This companion volume to “Fundamental Polymer Science” (Gedde and Hedenqvist, 2019) offers detailed insights from leading practitioners into experimental methods, simulation and modelling, mechanical and transport properties, processing, and sustainability issues. Separate chapters are devoted to thermal analysis, microscopy, spectroscopy, scattering methods, and chromatography. Special problems and pitfalls related to the study of polymers are addressed. Careful editing for consistency and cross-referencing among the chapters, high-quality graphics, worked-out examples, and numerous references to the specialist literature make “Applied Polymer Science” an essential reference for advanced students and practicing chemists, physicists, and engineers who want to solve problems with the use of polymeric materials.

Refinery Engineering - Ai-Fu Chang 2013-03-01

A pioneering and comprehensive introduction to the complex subject of integrated refinery process simulation, using many of the tools and techniques currently employed in modern refineries. Adopting a systematic and practical approach, the authors include the theory, case studies and hands-on workshops, explaining how to work with real data. As a result, senior-level undergraduate and graduate students, as well as industrial engineers learn how to develop and use the latest computer models for the predictive modeling and optimization of integrated refinery processes. Additional material is available online providing relevant spreadsheets and simulation files for all the models and examples presented in the book.

Reactive Extrusion - Günter Beyer 2018-01-03

This first comprehensive overview of reactive extrusion technology for over a decade combines the views of contributors from both academia and industry who share their experiences and highlight possible applications and markets. They also provide updated information on the underlying chemical and physical concepts, summarizing recent developments in terms of the material and machinery used. As a result, readers will find here a compilation of potential applications for reactive extrusion to access new and cost-effective polymeric materials, while using existing compounding machines.

Catalytic Reactors - Basudeb Saha 2016-01-01

Reactor design for Chemical Engineering deals with maximization of product yields and the net present value for the chemical reaction, optimization of the reaction efficiency, and minimization of costs. This book discusses the best choice of catalysts, different reaction steps and intermediates and the design of the catalytic reactors, in which the catalysis and chemical reaction are combined to achieve intensification.

COSMO-RS - Andreas Klamt 2005-07-26

The COSMO-RS technique is a novel method for predicting the thermodynamic properties of pure and mixed fluids which are important in many areas, ranging from chemical engineering to drug design. COSMO-RS, From Quantum Chemistry to Fluid Phase Thermodynamics and Drug Design is about this novel technology, which has recently proven to be the most reliable and efficient tool for the prediction of vapour-liquid equilibria. In contrast to group contribution methods, which depend on an extremely large number of experimental data, COSMO-RS calculates the thermodynamic data from molecular surface polarity distributions, resulting from quantum chemical calculations of the individual compounds in the mixture. In this book, the author cleverly combines a vivid overview of the partly demanding theoretical steps with a deeper analysis of their scientific background and justification. Aimed at theoretical chemists, computational chemists, physical chemists, chemical engineers, thermodynamicists as well as students,academic and industrial experts, COSMO-RS, From Quantum Chemistry to Fluid Phase Thermodynamics and Drug Design provides a novel viewpoint to anyone looking to gain more insight into the theory and potential of the unique method, COSMO-RS. The only book currently available on COSMO-RS technique Provides a novel viewpoint for the scientific understanding and for the practical quantitative treatment of fluid phase thermodynamics Includes illustrative examples of the COSMOtherm program

Principles of Polymerization - George Odian 2004-02-09

The new edition of a classic text and reference The large chains of molecules known as polymers are currently used in everything from "wash and wear" clothing to rubber tires to protective enamels and paints. Yet the practical applications of polymers are only increasing; innovations in polymer chemistry constantly bring both improved and entirely new uses for polymers onto the technological playing field. Principles of Polymerization, Fourth Edition presents the classic text on polymer synthesis, fully updated to reflect today's state of the art. New and expanded coverage in the Fourth Edition includes: * Metallocene and post-metallocene polymerization catalysts * Living polymerizations (radical, cationic, anionic) * Dendrimer, hyperbranched, brush, and other polymer architectures and assemblies * Graft and block copolymers * High-temperature polymers * Inorganic and organometallic polymers * Conducting polymers * Ring-opening polymer ization * In vivo and in vitro polymerization Appropriate for both novice and advanced students as well as professionals, this comprehensive yet accessible resource enables the reader to achieve an advanced, up-to-date understanding of polymer synthesis. Different methods of polymerization, reaction parameters for synthesis, molecular weight, branching and crosslinking, and the chemical and physical structure of polymers all receive ample coverage. A thorough discussion at the elementary level prefaces each topic, with a more advanced treatment following. Yet the language throughout remains straightforward and geared towards the student. Extensively updated, Principles of Polymerization, Fourth Edition provides an excellent textbook for today's students of polymer chemistry, chemical engineering, and materials science, as well as a current reference for the researcher or other practitioner working in these areas.

Solid State Polymerization - Constantine D. Papaspyrides 2009-04-27

The most current guide to solid state polymerization Solid State Polymerization (SSP)is an indispensable tool in the design, manufacture, and study of polymers, plastics, and fibers. SSP presents significant advantages over other polymerization techniques due to low operating temperatures, inexpensive equipment, and simple and environmentally sound procedures. Combining fundamentals of polymer science, chemistry, physical chemistry, and engineering, SSP also offers many research applications for a wide range of students and investigators. Gathering and filtering the latest literature on SSP, Solid Solid State Polymerization offers a unique, one-stop resource on this important process. With chapters contributed by leaders in the field, this text summarizes SSP, and provides essential coverage that includes: An introduction to SSP, with chemical and physical steps, apparatus, advantages, and parameters SSP physical chemistry and mechanisms Kinetic aspects of polyesters and polyamides SSP Catalysis in SSP processes Application of SSP under high pressure conditions in the laboratory Engineering aspects regarding process modeling and

industrial application Recent developments and future possibilities Solid State Polymerization provides the most up-to-date coverage of this constantly developing field to academic and industry professionals, as well as graduate and postgraduate-level students in chemical engineering, materials science and engineering, polymer chemistry, polymer processing and polymer engineering.

Cancer Vaccines and Immunotherapy - Peter L. Stern 2000-08-17

Rapid progress in the definition of tumor antigens, and improved immunization methods, bring effective cancer vaccines within reach. In this wide-ranging survey, leading clinicians and scientists review therapeutic cancer vaccine strategies against a variety of diseases and molecular targets. Intended for an interdisciplinary readership, their contributions cover the rationale, development, and implementation of vaccines in human cancer treatment, with specific reference to cancer of the cervix, breast, colon, bladder, and prostate, and to melanoma and lymphoma. They review target identification, delivery vectors and clinical trial design. The book begins and ends with lucid overviews from the editors, that discuss the most recent developments.

Petroleum Refinery Process Modeling - Y. A. Liu 2018-02-09

A comprehensive review of the theory and practice of the simulation and optimization of the petroleum refining processes Petroleum Refinery Process Modeling offers a thorough review of how to quantitatively model key refinery reaction and fractionation processes. The text introduces the basics of dealing with the thermodynamics and physical property predictions of hydrocarbon components in the context of process modeling. The authors - three experts on the topic - outline the procedures and include the key data required for building reaction and fractionation models with commercial software. The text shows how to filter through the extensive data available at the refinery and using plant data to begin calibrating available models and extend the models to include key fractionation sub-models. It provides a sound and informed basis to understand and exploit plant phenomena to improve yield, consistency, and performance. In addition, the authors offer information on applying models in an overall refinery context through refinery planning based on linear programming. This important resource: -Offers the basic information of thermodynamics and physical property predictions of hydrocarbon components in the context of process modeling -Uses the key concepts of fractionation lumps and physical properties to develop detailed models and workflows for atmospheric (CDU) and vacuum (VDU) distillation units -Discusses modeling FCC, catalytic reforming and hydroprocessing units Written for chemical engineers, process engineers, and engineers for measurement and control, this resource explores the advanced simulation tools and techniques that are available to support experienced and aid new operators and engineers.

Step-Growth Polymerization Process Modeling and Product Design - Kevin Seavey 2009-04-22

Understand quantitative model step-growth polymerization plans and how to predict properties of the product polymer with the essential information in Step-Growth Polymerization Process Modeling and Product Design. If you want to learn how to simulate step-growth polymerization processes using commercial software and seek an in-depth, quantitative understanding of how to develop, use, and deploy these simulations, consult this must-have guide. The book focuses on quantitative relationships between key process input variables (KPIVs) and key process output variables (KPOVs), and the integrated modeling of an entire polymer manufacturing train.

Bone and Cartilage Regeneration - Phuc Van Pham 2017-01-24

This invaluable resource discusses clinical applications with effects and side-effects of applications of stem cells in bone and cartilage regeneration. Each chapter is contributed by a pre-eminent scientist in the field and covers such topics as skeletal regeneration by mesenchymal stem cells, clinical improvement of mesenchymal stem cell injection in injured cartilage and osteoarthritis, Good manufacturing practice (GMP), minimal critera of stem cells for clinical applications, future directions of the discussed therapies and much more. Bone & Cartilage Regeneration and the other books in the Stem Cells in Clinical Applications series will be invaluable to scientists, researchers, advanced students and clinicians

working in stem cells, regenerative medicine or tissue engineering.

Peptide-Based Materials - Timothy Deming 2012-01-13

Synthesis of Polypeptides by Ring-Opening Polymerization of α-Amino Acid N-Carboxyanhydrides, by Jianjun Cheng and Timothy J. Deming.- Peptide Synthesis and Self-Assembly, by S. Maude, L. R. Tai, R. P. W. Davies, B. Liu, S. A. Harris, P. J. Kocienski and A. Aggeli.- Elastomeric Polypeptides, by Mark B. van Eldijk, Christopher L. McGann, Kristi L. Kiick andJan C. M. van Hest.- Self-Assembled Polypeptide and Polypeptide Hybrid Vesicles: From Synthesis to Application, by Uh-Joo Choe, Victor Z. Sun, James-Kevin Y. Tan and Daniel T. Kamei.- Peptide-Based and Polypeptide-Based Hydrogels for Drug Delivery and Tissue Engineering, by Aysegul Altunbas and Darrin J. Pochan.-

EPA 630/R - 1998

Synthesis and Characterization of Oligomers - Constantin V. Uglea 1991-07-24

This book provides an excellent introduction to the fundamentals of oligomer chemistry. Each section describes the synthesis, separation, physico-chemical characterization, and present and future applications of individual classes of oligomers organized according to the chemical structure of the main chain. In addition, this book features up-to-date references from both journals and patents and an extensive appendix covering synthesis and characterization methods of oligomeric derivatives. Synthesis and Characterization of Oligomers is a broad, state-of-the-art survey and will be useful not only for students and professionals working with oligomers, but also chemists who are new to the field.