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Cellulosics Jun 18 2024
The Carbohydrates Feb 07 2021 The Carbohydrates: Chemistry, Biochemistry, Physiology is a 15-chapter text that covers the significant developments in the biochemical and physiological aspects of the carbohydrates. The first two chapters explore the structure, stereochemistry, occurrence, properties, and synthesis of monosaccharides. Considerable chapters are devoted to the chemical aspects of various classes of carbohydrates, including esters, glycosides, acetals, polyols, acidic carbohydrates, ethers, nitrogenous derivatives, oligosaccharides, polysaccharides, and glycosidases. The discussion then shifts to the qualitative and quantitative determination of carbohydrates, as well as their photosynthesis and metabolism. The final chapters focus on the important role of carbohydrates in nutrition and in dental aspects. This work will be of value to chemists, biochemists, industrialists, biologists, histochemists, students, and medical and dental research workers.
Cooperativity and Regulation in Biochemical Processes Jun 13 2021 This book evolved from a graduate course on applications of statistical thermody namics to biochemical systems. Most of the published papers and books on this subject used in the course were written by experimentalists who adopted the phenomenological approach to describe and interpret their results. Two outstanding papers that impressed me deeply were the c1assical papers by Monod, Changeux, and Jacob (1963) and Monod, Wyman, and Changeux (1965), where the allosteric model for regulatory enzymes was introduced. Reading through them I feIt as if they were revealing one of the c1everest and most intricate tricks of nature to regulate biochemical processes. In 1985 I was glad to see T. L. HiII's volume entitled Cooperativity Theory in Biochemistry, Steady State and Equilibrium Systems. This was the fIrst book to systematically develop the molecular or statistical mechanical approach to binding systems. HiI demonstrated how and why the molecular approach is so advanta geous relative to the prevalent phenomenological approach of that time. On page 58 he wrote the following (my italics): The naturalness of Gibbs' grand partition function for binding problems in biology is evidenced by the rediscovery of what is essentially the grand partition function for this particular type of problem by various physical biochentists, including E. Q. Adams, G.
Comprehensive Chemometrics May 25 2022 Designed to serve as the first point of reference on the subject, Comprehensive Chemometrics presents an integrated summary of the present state of chemical and biochemical data analysis and manipulation. The work covers all major areas ranging from statistics to data acquisition, analysis, and applications. This major reference work provides broad-ranging, validated summaries of the major topics in chemometrics—with chapter introductions and advanced reviews for each area. The level of material is appropriate for graduate students as well as active researchers seeking a ready reference on obtaining and analyzing scientific data. Features the contributions of leading experts from 21 countries, under the guidance of the Editors-in-Chief and a team of specialist Section Editors: L. Buydens; D. Coomans; P. Van Espen; A. De Juan; J.H. Kalivas; B.K. Lavine; R. Leardi; R. Phan-Tan-Luu; L.A. Sarabia; and J. Trygg Examines the merits and limitations of each technique through practical examples and extensive visuals: 368 tables and more than 1,300 illustrations (750 in full color) Integrates coverage of chemical and biological methods, allowing readers to consider and test a range of techniques Consists of 2,200 pages and more than 90 review articles, making it the most comprehensive work of its kind Offers print and online purchase options, the latter of which delivers flexibility, accessibility, and usability through the search tools and other productivity-enhancing features of ScienceDirect

Chemical and Biochemical Catalysis for Next Generation Biofuels Jun 25 2022 This title presents a general but substantial review of the most promising processes and the spectrum of biomass pretreatment, enzymes, chemical catalysts, and hybrid approaches of hydrolyzing biomass into fermentable sugars.

Lipids Dec 20 2021 Abstract: An advanced college text for graduate and postdoctural students in health sciences covers most aspects of lipids, ranging from their physical and chemical properties, through their biochemical and metabolic pathways, to their role in nutrition. The 19 text chapters cover: the definition and solubility of lipids; fatty acid characteristics and properties (structures, crystals, films, and soaps; peroxidation, catabolism, and biosynthesis; and essential, unsaturated fatty acids); prostaglandins, thromboxanes, and prostacyclin; eicosanoids; the in vivo digestion, absorption, transport, and metabolism of lipids; triacylglycerol metabolism and adipose tissue metabolism; the biosynthesis of cholesterol and related lipids; the structure and properties of amphiphilic lipids; phosphoglyceride and sphingolipid metabolism; and the nutritional value of lipids. References are given at the end of each chapter, and numerous structures, reactions, and mechanisms are presented throughout the text.

Conservation Equations And Modeling Of Chemical And Biochemical Processes May 17 2024 Presenting strategies in control policies, this text uses a systems theory approach to predict, simulate and streamline plant operation, conserve fuel and resources, and increase workplace safety in the manufacturing, chemical, petrochemical, petroleum, biochemical and energy industries. Topics of discussion include system theory and chemical/biochemical engineering systems, steady state, unsteady state, and thermodynamic equilibrium, modeling of systems, fundamental laws governing the processes in terms of the state variables, different classifications of physical models, the story of chemical engineering in relation to system theory and mathematical modeling, overall heat balance with single and multiple chemical reactions and single and multiple reactions.

Insect Lipids Apr 23 2022

Chemical Biology Nov 11 2023 This volume seeks to enable the discovery of tools in chemical biology by providing readers with various techniques ranging from initial chemical genetic screening to target identification. To successfully highlight the essential components of the chemical biology tool discovery process, the book is organizes into four parts that focus on platforms for molecular discovery in in vitro cellular systems, in vivo chemical genetic screening protocols, and methods used to discover functional protein targets. Written in the highly successful Methods of 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 key tips on troubleshooting and avoiding known pitfalls. Practical and informative, Chemical Biology: Methods and Protocols seeks to improve the success rate of the chemical biology field through the dissemination of detailed and experiential knowledge.

Chemical Biology of Glycoproteins Jun 06 2023 Glycans play a vital role in modulating protein structure and function from involvement in protein folding, solubility and stability to regulation of tissue distribution, recognition specificity, and biological activity. They can act as both positive and negative regulators of protein function, providing an additional level of control with respect to genetic and environmental conditions. Due to the complexity of glycosylated protein forms, elucidating structural and functional information has been challenging task for researchers but recent development of chemical biology-based tools and techniques is bridging these knowledge gaps. This book provides a thorough review of the current state of glycoprotein chemical biology, describing the development and application of glycoprotein and glycan synthesis technologies for understanding and manipulating protein glycosylation.

Practical Kinetics and Mechanisms of Chemical and Enzymatic Reactions Mar 23 2022 This

book describes fundamental mechanisms in both chemistry and biology, in order to present up-to-date catalytic pathways and molecular features of a series of "hot" enzymes including cytochromes P450, peroxidases, laccases, oxidases, dehydrogenases, kinases and phosphatases. The text will allow the reader to learn quickly how to solve kinetic and mechanistic problems in chemistry, biochemistry and enzymology. Its accessible style will assist young and more experienced scientists in presenting with confidence their kinetic and mechanistic results in modern high-impact chemical and biochemical journals even without significant previous experience in such studies.

Problem Solving in Chemical and Biochemical Engineering with POLYMATH, Excel, and MATLAB Jan 13 2024 Problem Solving in Chemical and Biochemical Engineering with POLYMATH", Excel, and MATLAB , Second Edition, is a valuable resource and companion that integrates the use of numerical problem solving in the three most widely used software packages: POLYMATH, Microsoft Excel, and MATLAB. Recently developed POLYMATH capabilities allow the automatic creation of Excel spreadsheets and the generation of MATLAB code for problem solutions. Students and professional engineers will appreciate the ease with which problems can be entered into POLYMATH and then solved independently in all three software packages, while taking full advantage of the unique capabilities within each package. The book includes more than 170 problems requiring numerical solutions. This greatly expanded and revised second edition includes new chapters on getting started with and using Excel and MATLAB. It also places special emphasis on biochemical engineering with a major chapter on the subject and with the integration of biochemical problems throughout the book. General Topics and Subject Areas, Organized by Chapter Introduction to Problem Solving with Mathematical Software Packages Basic Principles and Calculations Regression and Correlation of Data Introduction to Problem Solving with Excel Introduction to Problem Solving with MATLAB Advanced Problem-Solving Techniques Thermodynamics Fluid Mechanics Heat Transfer Mass Transfer Chemical Reaction Engineering Phase Equilibrium and Distillation Process Dynamics and Control Biochemical Engineering Practical Aspects of Problem-Solving Capabilities Simultaneous Linear Equations Simultaneous Nonlinear Equations Linear, Multiple Linear, and Nonlinear Regressions with Statistical Analyses Partial Differential Equations (Using the Numerical Method of Lines) Curve Fitting by Polynomials with Statistical Analysis Simultaneous Ordinary Differential Equations (Including Problems Involving Stiff Systems, Differential-Algebraic Equations, and Parameter Estimation in Systems of Ordinary Differential Equations) The Book's Web Site (http://www.problemsolvingbook.com) Provides solved and partially solved problem files for all three software packages, plus additional materials Describes discounted purchase options for educational version of POLYMATH available to book purchasers Includes detailed, selected problem solutions in Maple", Mathcad , and Mathematica"

Issues in Chemical, Biological, and Medical Engineering: 2012 Edition Apr 11 2021 Issues in Chemical, Biological, and Medical Engineering: 2012 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Metabolic Engineering. The editors have built Issues in Chemical, Biological, and Medical Engineering: 2012 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Metabolic Engineering 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 Chemical, Biological, and Medical Engineering: 2012 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/.

Chemical and Biochemical Engineering Mar 03 2023 This book facilitates the study of problematic chemicals in such applications as chemical fate modeling, chemical process design, and experimental design. This volume provides comprehensive coverage of modern biochemical engineering, detailing the basic concepts underlying the behavior of bioprocesses as well as advances in bioprocess and biochemical engineering science. It combines contemporary engineering science with relevant biological concepts in a comprehensive introduction to biochemical engineering. This book provides both a rigorous view and a more practical, understandable view of chemical compounds and biochemical engineering and their applications. Every section of the book has been expanded where relevant to take account of significant new discoveries and realizations of the importance of key concepts. Furthermore, emphases are placed on the underlying fundamentals and on acquisition of a broad and comprehensive grasp of the field as a whole.

Optimization for Chemical and Biochemical Engineering Oct 30 2022 "Optimization for Chemical and Biochemical Engineering - Theory, Algorithms, Modeling and Applications"--

Vitamin D May 13 2021

Handbook of Chemistry, Biochemistry and Biology Mar 15 2024 The majority of chapters in this book were written by scientists of N. M. Emanuel Institute of Biochemical Physics (IBChPh) of Russian Academy of Sciences. Prof. N. M. Emanuel was one of the founders of biochemical physics -- a part of natural science. This science borders on the line of physics, chemistry and biology with integration of mathematics and with practical applications in medicine and agriculture. The book is devoted to these topics. The time has come to show the scientific community world-wide what Russian scientists have recently done in this area. Six chapters of this volume have information about hydrogels in endovascular embolisation. Special attention devoted to synthesis and properties of spherical particles (SP) of hydrogels and their medico-biological properties, clinical use of SP, radiopaque SP and their preparation and properties, morphological foundation of hydrogels use for vascular occlusion, antitumor agents methotrexate-containing poly(HEMA)-hydrogels and poly(HEMA) with intensified haemostatic activity as a new embolic materials. The volume has very important information about pharmacological premises of the creation of new antitumor preparations of the class of nitrosoalkylurea and investigation of new mechanism of E.coli resistance to alkylation damages induced by NO-donation agent -- a "Quasi-adaptive response". It also includes information about biological activity of different enzymes in process of oxidation in vivo and in vitro, investigation of the properties of lipids in plants and in animals. Some chapters deal with pharmacological criterions for new antitumor drugs, using of Tocopherols as bioantioxidants in vitro and in vivo, creation of new equipment for chemical engineering, investigation of enzyme reactions, thermodegradation and combustion of polymers and polymer composites, formation of char during of combustion, molecular design and reactivity of some chemical compounds, problems of pethrochemistry, preparation and modification of microparticles, investigation of antioxidants in food products, chemistry of rubber and formation of carbon nanostructures. Several chapters include very important information about application of electron spin resonance techniques for investigation of chemical and biochemical reactions.

Chemical and Biochemical Technology Aug 08 2023 By providing an applied and modern approach, this volume will help readers understand the value and relevance of studying chemical physics and technology to all areas of applied chemical engineering, and gives them the depth of coverage they need to develop a solid understanding of the key principles in the field. Presenting a wide-ranging view of current developments in applied methodologies in chemical and biochemical physics research, the papers in this collection, all written by highly regarded experts in the field, examine various aspects of chemical and biochemical physics and experimentation. The book: • Highlights applications of chemical physics to subjects that chemical engineering students will see in graduate courses • Introduces the types of challenges

and real problems that are encountered in industry and graduate research • Provides short chapters that introduce students to the subject in more bite-sized pieces • Presents biochemical examples and applications • Focuses on concepts above formal experimental techniques and theoretical methods The book is ideal for upper-level research students in chemistry, chemical engineering, and polymers. The book assumes a working knowledge of calculus, physics, and chemistry, but no prior knowledge of polymers.

Biology and Biochemistry for Chemists and Chemical Engineers Sep 09 2023 The aim of this text is to provide chemical engineers with an introduction to biochemistry and microbiology. Principles are illustrated with industrially relevant case studies wherever possible. Familiarity with this material should enable readers to understand conventional biological literature.

Bioorganic Chemistry Nov 30 2022 This widely-praised textbook is particularly suited for advanced undergraduates or graduates in chemistry, biochemistry, medicinal chemistry, and pharmacology. The third edition has been substantially revised to reflect new research in the field, and features a major new chapter on self-assembly, auto-organization, and molecular devices. The outstanding figures remain a highlight of the book, and were described in an earlier edition as "the best I've seen for showing the organic chemistry of biomolecules." (Quart. Rev. Biol.)

Thermochemistry and Its Applications to Chemical and Biochemical Systems Jan 21 2022 Proceedings of the NATO Advanced Study Institute on Thermochemistry Today and Its Role in the Immediate Future, Viano do Castelo, Portugal, July 5-15, 1982

Chemical and Biochemical Physics Apr 16 2024 Written by highly regarded experts in the field, this book covers many of the major themes of chemical and biochemical physics, addressing important issues, from concept to technology to implementation. It provides new research and updates on a variety of issues in physical chemistry and biochemical physics. Many chapters include case studies and supporting technologies and explain the conceptual thinking behind current uses and potential uses not yet implemented. By providing an applied and modern approach, this volume presents a wide-ranging view of current developments in applied methodologies in chemical and biochemical physics research.

The Chemical-Biological Coordination Center of the National Research Council Aug 28 2022

Chemical and Engineering Thermodynamics Feb 02 2023 A revised edition of the well-received thermodynamics text, this work retains the thorough coverage and excellent organization that made the first edition so popular. Now incorporates industrially relevant microcomputer programs, with which readers can perform sophisticated thermodynamic calculations, including calculations of the type they will encounter in the lab and in industry. Also provides a unified treatment of phase equilibria. Emphasis is on analysis and prediction of liquid-liquid and vapor-liquid equilibria, solubility of gases and solids in liquids, solubility of liquids and solids in gases and supercritical fluids, freezing point depressions and osmotic equilibria, as well as traditional vapor-liquid and chemical reaction equilibria. Contains many new illustrations and exercises.

Voet's Principles of Biochemistry Oct 10 2023 Voets Principles of Biochemistry, Global Edition addresses the enormous advances in biochemistry, particularly in the areas of structural biology and bioinformatics. It provides a solid biochemical foundation that is rooted in chemistry to prepare students for the scientific challenges of the future. New information related to advances in biochemistry and experimental approaches for studying complex systems are introduced. Notes on a variety of human diseases and pharmacological effectors have been expanded to reflect recent research findings. While continuing in its tradition of presenting complete and balanced coverage, this Global Edition includes new pedagogy and enhanced visuals that provide a clear pathway for student learning (4e de couverture).

Chemical Biology Oct 18 2021 Written by a team of international researchers and teachers at the cutting edge of chemical biology research, this book provides an exciting, comprehensive introduction to a wide range of chemical and physical techniques with applications in areas as

diverse as molecular biology, signal transduction, drug discovery and medicine. Techniques include: Cryo-electron microscopy, atomic force microscopy, differential scanning calorimetry in the study of lipid structures, membrane potentials and membrane probes, identification and quantification of lipids using mass spectroscopy, liquid state NMR, solid state NMR in biomembranes, molecular dynamics, two dimensional infra-red studies of biomolecules, single and two-photon fluorescence, optical tweezers, PET imaging and chemical genetics. KEY FEATURES: a unique guide to the rapidly evolving, interdisciplinary field of chemical biology. adopts a molecular structure for maximum flexibility. addresses relevant, topical chemical biological questions throughout. includes stunning illustrations. associates website with PowerPoint slides of figures within the book. Chemical Biology: Techniques and Applications provides an invaluable resource for final year undergraduate and post graduate bioscience and biomedical students and pharmaceutical researchers with an interest in this fascinating, and ever changing field.

Nitrogen Fixation Jan 01 2023 Nitrogen fixation: its scope and importance; Aspects of biochemistry and genetics; Reactions and physicochemical properties of the nitrogenase MoFe proteins; Mossbauer investigation of nitrogenase; Iron-molybdenum cofactor and its complementary protein from mutant organisms; Genetics of nitrogen fixation in free-living organisms; Biochemical genetics of nitrogen fixation in Rhizobium; Regulation and control of nitrogenase activity; Chemical aspects; Thiomolybdates and thiotungstates: their properties and role as ligands in coordination chemistry; The chemistry of the Fe-M-S complexes (M=Mo, W); Iron-molybdenum-sulfur clusters; Dinitrogen complexes and their reactions; Structures of complexes of reduced nitrogen ligands; Overview of 95 Mo NMR; Multisulfur metal sites in enzymes, complexes, clusters and solids: possible relevance for nitrogenase.

Chemical Engineering in Medicine and Biology Dec 12 2023 'lbere is much discussion today concerning "Bioengineering" (or "Biomedical Engineering"). It is not exactly clear what these names signify, particularly in chemical engineering. Some have suggested retreading the old war horse "Biochemical Engineering" (or was it "Biomedical Chemical Engineering). In an effort to demonstrate the on-going activities of chemical engineers in the life science area, we accepted the invitation of the Industrial and Engineering Division of the American Chemical Society to organize the 33rd Annual Chemical Engineering Symposium. We decided to call the symposium, Chemical Engineering in Medicine and Biology, and hence avoided the problem of having to decide which "bio" prefix to use. Many chemical engineers in the academic and industrial world were contacted. From these contacts and a good deal of publicity arose the Symposium. The two-day meeting was held at the University of Cincinnati in the Losantiville Room of the Student Union Building on October 20-21, 1966. Twenty-one papers were presented on topics relating chemical engineering to medicine and biology. Tile papers were representation al of the scope of the activities across the country with presenters coming from Washington, California, Massachusetts, New York, South Carolina, Wisconsin, Iowa, Pennsylvania, Michigan, Indiana and Texas. TOpics ranged over blood flow properties, diffusion in blood phenomena, ix INTRODUCTION X mass transfer in the eye, artificial kidney analysis, separation of bacteria by ion exchange, mathematical modeling of drug distribution, carbon dioxide respiration, photosynthetic kinetics, water in frozen tissues, electrophoretic separation of proteins, and outerspace re search on life support systems.

Mass Spectrometry in Chemical Biology Apr 04 2023 Mass spectrometry is one of the most widespread technologies in chemistry and has been increasingly used in biology with the rise of omics sciences. This book summarizes some important methodological approaches in mass spectrometry and applications in the field of chemical biology. The core chapters build on basic concepts introduced in the opening chapter and explore established fields such as high throughput screening, proteomics and metabolomics. Emerging applications of mass spectrometry in elucidating biosynthetic pathways, enzyme mechanisms and protein-protein

interactions are then presented. Connections between these diverse research fields are highlighted throughout. The book concludes with a discussion of databases and future perspectives. This book will be a useful tool to early chemical biology researchers wishing to incorporate mass spectrometry as a tool in their research.

Chemical-biochemical Signal and Noise Sep 16 2021

The Chemistry of Organophosphorus Pesticides Aug 16 2021 Our intention has been to provide a short introduction to the chemistry and mode of action of insecticidal phosphoric acid compounds, with particular reference to the relationship between structure and activity. The yearly production of these pesticides is now approaching 100,000 tons and thus offers an important example of applied research. If, however, one examines the historical develop ment of these compounds, it is apparent that this was preceded by a hundred years of pure chemistry of phosphorus. The utility of the phosphoric acid pesticides is undisputed today - and furthermore it can be expected that they will solve many of the world's nutritional problems" yet from this field of applied research many paths are now leading back into basic research in chemistry, biochemistry, biology and toxicology etc. This clearly illustrates the problem of attempting to define pure and applied research. Originally, this book was conceived for students of chemistry who, on completion of their study, were uncertain about the place of applied research in industry but it was soon clear that such material, when supplemented with further data, would serve as an introduction to the field of pesticidal phosphoric acid compounds for many technicians, officials and scientists who, in various authorities in agriculture, in chemical and biological research, are concerned with the problems of crop protection and more recently with questions of pollution of the environ ment.

Liquid Interfaces In Chemical, Biological And Pharmaceutical Applications Mar 11 2021 Offers a comprehensive treatment of surface chemistry and its applications to chemical engineering, biology, and medicine. Focuses on the chmical and physical structure of oil-water interfaces and membrane surfaces. Details interfacial potentials, ion solvation, and electrostatic instabilities in double layers.

Organic Sulfur Chemistry May 05 2023 his volume provides an organic chemical perspective on the biochemistry of sulfur compounds. The authors have applied the principles of various biochemical processes to a general theory of the biochemical phenomena of sulfur compounds. These processes include metabolisms of inorganic sulfur compounds and metalloenzymes, mechanisms of thiolesterase actions, functions of disulfides in proteins, and biochemical redox reactions. Organic Sulfur Chemistry: Biochemical Aspects is an ideal reference for students and researchers in both biochemistry and organic chemistry.

Chemical Biotechnology and Bioengineering Feb 19 2022 In biotechnology and bioengineering, small molecules can be used to increase the efficiency reduce the cost and damage to the environment of certain bioprocesses. This book introduces readers to the important field of chemically promoted biotechnology and bioengineering and presents the theory behind the biotechnology of enzymatic reactions and how they can be chemically enhanced. The book covers chemical modulators for enzymatic reactions, chemically promoted biotechnology in plant cell cultures, chemically promoted biotechnology for plant protection and future prospects for the field. Knowledge gained allows both chemists to make use of biotechnology to solve chemical problems in an environmentally-friendly way, and biologists to make use of chemistry to increase biotechnological efficiency. This book is useful for scientists in a broad range of disciplines, including agricultural chemistry, pesticide science, medicinal chemistry, biochemistry, bio-organic chemistry, cell and molecular biology. Students and researchers in both academia and industry will find it a useful handbook.

Chemistry and Technology of Plant Substances Jul 07 2023 Chemistry and Technology of Plant Substances: Chemical and Biochemical Aspects demonstrates the progress and promise of developing new chemical substances from renewable sources of chemical raw materials. The

volume brings together new achievements in the field of research and processing of plant raw materials and the synthesis of natural compounds for the production of biologically active substances and drugs. The volume looks closely at the rational use of renewable raw materials, which is the source of new compounds and intermediates for the chemical industry. It covers a wide range of problems associated with the use of the components of plants to produce new substances with a wide variety of purposes. According to the latest estimates, plants form about a million chemical substances. In some cases, plant products have pharmacological or biological activity that can be of therapeutic benefit in treating diseases. In addition, due to the structural diversity of plant material, chemical synthesis is easily reachable. Synthetic analogs of natural products with improved potency and safety can be prepared by chemical synthesis. Such synthetic analogs are safer for humans. Plant materials are often used as starting points for drug discovery. Chemistry and Technology of Plant Substances: Chemical and Biochemical Aspects presents the theoretical trends and recent practical achievements on complex processing of plant-based raw materials. Low molecular weight components, isolated from plant material, are widely used in fine organic synthesis. High molecular weight polysaccharides of conifers and other greens, such as pectin and hemicellulose, are the basis for the creation of anticoagulants and other drugs. The range of research papers presented in the book is quite wide: from fundamental and applied problems of wood chemistry and organic synthesis to biological activity of natural compounds. The book provides valuable information for those skilled in organic chemistry, chemical engineers, researchers and scientists as well as for faculty and upper-level students. This volume, Chemistry and Technology of Plant Substances: Chemical and Biochemical Aspects, was created on the initiative of Emanuel Institute of Biochemical Physics of the Russian Academy of Sciences (Moscow) and the Institute of Chemistry of Komi Scientific Center of Ural Branch of the Russian Academy of Sciences (Syktyvkar).

Bioluminescence: Fundamentals and Applications in Biotechnology - Volume 2 Sep 28 2022 This book review series presents current trends in modern biotechnology. The aim is to cover all aspects of this interdisciplinary technology where knowledge, methods and expertise are required from chemistry, biochemistry, microbiology, genetics, chemical engineering and computer science. Volumes are organized topically and provide a comprehensive discussion of developments in the respective field over the past 3-5 years. The series also discusses new discoveries and applications. Special volumes are dedicated to selected topics which focus on new biotechnological products and new processes for their synthesis and purification. In general, special volumes are edited by well-known guest editors. The series editor and publisher will however always be pleased to receive suggestions and supplementary information. Manuscripts are accepted in English.

Phosphorus Nov 18 2021

Chemical Technology Feb 14 2024 This collection presents a broad spectrum of chapters in the various branches of industrial chemistry, biochemistry, and materials science which demonstrate key developments in these rapidly changing fields. This book offers a valuable overview and myriad details on current chemical processes, products, and practices. The book serves a spectrum of

Peptides Jul 27 2022 Peptides play a decisive role in many physiological processes, whether as neurotransmitters, hormones or antibiotics. The rapid developments in peptide research over the past few decades make it almost impossible for newcomers to gain an overview. This means an easily comprehensible yet concise introduction is vital. This unique work covers all the important aspects of this wide-ranging field in one handy volume. On the basis of the fundamental chemical and structural properties of peptides, this reference runs the gamut from analysis, the occurrence and biological importance of peptides, via chemical, biochemical and genetic methods of peptide synthesis, right up to peptide libraries, peptide design and their role

in drug research. Yet this book offers much more than a mere overview of the latest level of research. An encyclopedic appendix with valuable data on more than 500 biological relevant peptides and proteins, a comprehensive register and details of further literature references make this the ideal reference for all questions regarding peptide research. For newcomers and specialists alike. On the basis of the fundamental chemical and structural properties of peptides, this reference runs the gamut from analysis, the occurrence and biological importance of peptides.

Radical and Radical Ion Reactivity in Nucleic Acid Chemistry Jul 15 2021 Comprehensive coverage of radical reactive intermediates in nucleic acid chemistry and biochemistry The Wiley Series on Reactive Intermediates in Chemistry and Biology investigates reactive intermediates from the broadest possible range of disciplines. The contributions in each volume offer readers fresh insights into the latest findings, emerging applications, and ongoing research in the field from a diverse perspective. The chemistry and biochemistry of reactive intermediates is central to organic chemistry and biochemistry, and underlies a significant portion of modern synthetic chemistry. Radical and Radical Ion Reactivity in Nucleic Acid Chemistry provides the only comprehensive review of the chemistry and biochemistry of nucleic acid radical intermediates. With contributions by world leaders in the field, the text covers a broad range of topics, including: A discussion of the relevant theory Ionization of DNA Nucleic acid sugar radicals Halopyrimidines Oxidative, reductive, and low energy electron transfer Electron affinity sensitizers Photochemical generative of reactive oxygen species Reactive nitrogen species Enediyne rearrangements Phenoxyl radicals A unique compilation on the cutting edge of our understanding, Radical and Radical Ion Reactivity in Nucleic Acid Chemistry provides an unparalleled resource to student and professional researchers in such fields as organic chemistry, biochemistry, molecular biology, and physical chemistry, as well as the industries associated with these disciplines.