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Synthetic Receptors for Biomolecules CRC Press
CarboranesAcademic Press

Chemistry for the IB Diploma Royal Society of Chemistry

Genetic Diagnosis of Endocrine Disorders, Second Edition provides users with a comprehensive reference that is organized by endocrine grouping (i.e., thyroid, pancreas, parathyroid, pituitary, adrenal, and reproductive and bone), discussing the genetic and molecular basis for the diagnosis of various disorders. The book emphasizes the practical nature of diagnosing a disease, including which tests should be done for the diagnosis of diabetes mellitus in adults and children, which genes should be evaluated for subjects with congenital hypothyroidism, which genetic tests should be ordered in obese patients or for those with parathyroid carcinoma, and the rationale behind testing for multiple endocrine neoplasias. Offers a clear presentations of pharmacogenetics and the actual assays used in detecting endocrine diseases Teaches the essentials of the genetic basis of disease in each major endocrine organ system Offers expert advice from genetic counselors on how to use genetic information in counseling patients Includes new chapters on the genetics of lipid disorders and glycogen storage diseases, genetics of hypoglycemia, and whole genome/exome sequencing

Novel Developments in Pharmaceutical and Biomedical Analysis Royal Society of Chemistry

Green Chemistry: An Inclusive Approach provides a broad overview of green chemistry for researchers from either an environmental science or chemistry background, starting at a more elementary level, incorporating more advanced concepts, and including more chemistry as the book progresses. Every chapter includes recent, state-of-the-art references, in particular, review articles, to introduce researchers to this field of interest and provide them with information that can be easily built upon. By bringing together experts in multiple subdisciplines of green chemistry, the editors have curated a single central resource for an introduction to the discipline as a whole. Topics include a broad array of research fields, including the chemistry of Earth's atmosphere, water and soil, the synthesis of fine chemicals, and sections on pharmaceuticals, plastics, energy related issues (energy storage, fuel cells, solar, and wind energy conversion etc., greenhouse gases and their handling, chemical toxicology issues of everyday products (from perfumes to detergents or clothing), and environmental policy issues. Introduces the topic of green chemistry with an overview of key concepts Expands upon presented concepts with the latest research and applications, providing both the breadth and depth researchers need Includes a broad range of application based problems to make the content accessible for professional researchers and undergraduate and graduate students Authored by experts in a broad range of fields, providing insider information on the aspects or challenges of a given field that are most important and urgent

Mathematical Studies Standard Level for the IB Diploma
Coursebook Royal Society of Chemistry

Chemistry for the IB Diploma, Second edition, covers in full the requirements of the IB syllabus for Chemistry for first examination in 2016. This digital version of Chemistry for the IB Diploma Coursebook, Second edition, comprehensively covers all the knowledge and skills students need during the Chemistry IB Diploma course, for first examination in 2016, in a reflowable format, adapting to any screen size or device. Written by renowned experts in Chemistry teaching, the text is written in an accessible style with international learners in mind. Self-assessment questions allow learners to track their progress, and exam-style questions help learners to prepare thoroughly for their examinations. Answers to all the questions from within the Coursebook are provided.

Green Chemistry Cambridge University Press

The Alkaloids, a series that has covered the topic for more than 60 years, is the leading book series in the field of alkaloid chemistry. In more than 70 volumes, all aspects of alkaloids—including their chemistry, biology, and pharmacology—are covered in high-quality, timeless reviews written by renowned experts in the field. Contains the latest information on the study of alkaloids Covers their chemistry, biology, pharmacology, and medical applications Presents more than 70 volumes in this interesting field of study

Chalcogen-nitrogen Chemistry: From Fundamentals To Applications In Biological, Physical And Materials Sciences (Updated Edition) Royal Society of Chemistry

A pocket guide that provides quick solutions and tips to the Mac OS X power user.

Introducing the IB Diploma Programme Heinemann Educational Publishers

Polyphenols: Mechanisms of Action in Human Health and Disease, Second Edition describes the mechanisms of polyphenol antioxidant activities and their use in disease prevention. Chapters highlight the anti-inflammatory activity of polyphenols on key dendritic cells, how they modulate and suppress inflammation, and how they are inactivated or activated by metabolism in the gut and circulating blood. Polyphenols have proven effective for key health benefits, including bone health, organ health, cardiac and vascular conditions, absorption and metabolism, and cancer and diseases of the immune system. They are a unique group of phytochemicals that are present in all fruits, vegetables and other plant products. This very diverse and multi-functional group of active plant compounds contain powerful antioxidant properties and exhibit remarkable chemical, biological and physiological properties, including cancer prevention and cardio-protective activities. Expands coverage on green tea, cocoa, wine, cumin and herbs Outlines their chemical properties, bioavailability and metabolomics Provides a self-teaching guide to learn the mechanisms of action and health benefits of polyphenols Advances in Microwave Chemistry Royal Society of Chemistry The series Topics in Organometallic Chemistry presents critical overviews of research results in organometallic chemistry. As our understanding of

organometallic structure, properties and mechanisms increases, new ways are opened for the design of organometallic compounds and reactions tailored to the needs of such diverse areas as organic synthesis, medical research, biology and materials science. Thus the scope of coverage includes a broad range of topics in pure and applied organometallic chemistry, where new breakthroughs are being achieved that are of significance to a larger scientific audience. The individual volumes of Topics in Organometallic Chemistry are thematic. Review articles are generally invited by the volume editors.

Higher Level Chemistry BoD – Books on Demand

This is the first complete edited volume devoted to providing comprehensive and state-of-the-art descriptions of science principles and pilot- and field-scaled engineering applications of nanoscale zerovalent iron particles (NZVI) for soil and groundwater remediation. Although several books on environmental nanotechnology contain chapters of NZVI for environmental remediation (Wiesner and Bottero (2007); Geiger and Carvalho-Knighton (2009); Diallo et al. (2009); Ram et al. (2011)), none of them include a comprehensive treatment of the fundamental and applied aspects of NZVI applications. Most devote a chapter or two discussing a contemporary aspect of NZVI. In addition, environmental nanotechnology has a broad audience including environmental engineers and scientists, geochemists, material scientists, physicists, chemists, biologists, ecologists and toxicologists. None of the current books contain enough background material for such multidisciplinary readers, making it difficult for a graduate student or even an experienced researcher or environmental remediation practitioner new to nanotechnology to catch up with the massive, undigested literature.

This prohibits the reader from gaining a complete understanding of NZVI science and technology. In this volume, the sixteen chapters are based on more than two decades of laboratory research and development and field-scaled demonstrations of NZVI implementation. The authors of each chapter are leading researchers and/or practitioners in NZVI technology. This book aims to be an important resource for all levels of audiences, i.e. graduate students, experienced environmental and nanotechnology researchers, and practitioners evaluating environmental remediation, as it is designed to involve everything from basic to advanced concepts.

Theory and Applications Springer Nature

Uniting the key organic topics of total synthesis and efficient synthetic methodologies, this book clearly overviews synthetic strategies and tactics applied in total synthesis, demonstrating how the total synthesis of natural products enables scientific and drug discovery.

- Focuses on efficiency, a fundamental and important issue in natural products synthesis that makes natural product synthesis a powerful tool in biological and pharmaceutical science
- Describes new methods like organocatalysis, multicomponent and cascade reactions, and biomimetic synthesis
- Appeals to graduate students with two sections at the end of each chapter illustrating key reactions, strategies, tactics, and concepts; and good but unfinished total synthesis (synthesis of core structure) before the last section
- Compiles examples of solid phase synthesis and continuing flow chemistry-based total synthesis which are very relevant and attractive to industry R&D professionals

New Horizons of Process Chemistry Oxford University Press, USA

Studies in Natural Products Chemistry: Bioactive Natural Products (Part XIII) is the latest in a series that covers the synthesis or testing and recording of the medicinal properties of natural products, providing cutting-edge accounts of the fascinating developments in the isolation, structure elucidation, synthesis, biosynthesis, and pharmacology of a diverse array of bioactive natural products. Natural products in the plant and animal kingdom offer a huge diversity of chemical structures that are the result of biosynthetic processes that have been modulated over the millennia through genetic effects. With the rapid developments in spectroscopic techniques and accompanying advances in high-throughput screening techniques, it has become possible to quickly isolate and determine the structures and biological activity of natural products, thus opening up exciting opportunities in the field of new drug

development to the pharmaceutical industry. Focuses on the chemistry of bioactive natural products Contains contributions by leading authorities in the field Presents sources of new pharmacophores

Advances in Physical Organic Chemistry Royal Society of Chemistry

This completely new title is written to specifically cover the new IB Diploma Mathematical Studies syllabus. The significance of mathematics for practical applications is a prominent theme throughout this coursebook, supported with Theory of Knowledge, internationalism and application links to encourage an appreciation of the broader contexts of mathematics. Mathematical modelling is also a key feature. GDC tips are integrated throughout, with a dedicated GDC chapter for those needing more support. Exam hints and IB exam-style questions are provided within each chapter; sample exam papers (online) can be tackled in exam-style conditions for further exam preparation. Guidance and support for the internal assessment is also available, providing advice on good practice when writing the project.

Efficiency in Natural Product Total Synthesis OUP Oxford

Following on from its recognition in the 2010 Nobel Prize for Chemistry, contributors from across the globe present the latest cross-coupling trends in both academia and industry.

Studies in Natural Products Chemistry Royal Society of Chemistry

Synthetic Methods in Drug Discovery Volume 1 focusses on the hugely important area of transition metal mediated methods used in industry. Current methods of importance such as the Suzuki-Miyaura coupling, Buchwald-Hartwig couplings and CH activation are discussed. In addition, exciting emerging areas such as decarboxylative coupling, and the uses of iron and nickel in coupling reactions are also covered. This book provides both academic and industrial perspectives on some key reactions giving the reader an excellent overview of the techniques used in modern synthesis. Reaction types are conveniently framed in the context of their value to industry and the challenges and limitations of methodologies are discussed with relevant illustrative examples. Edited and authored by leading scientists from both academia and industry, this book will be a valuable reference for all chemists involved in drug discovery as well as postgraduate students in medicinal chemistry.

for the IB Diploma Cambridge University Press

Written by a "who is who" of leading organic chemists, this anniversary volume represent the Organic Reactions editors' choice of the most important, ground-breaking and versatile reactions in current organic synthesis. The 15 reaction types selected for this volume include reactions for carbon-carbon bond formation, cross-coupling reactions, hydro- and halofunctionalizations, among many others. In line with the successful recipe of the series, each chapter is focused on a single reaction, discussing its mechanism and stereochemistry, scope and limitations, applications to synthesis, comparison with other methods, and experimental procedures. Each chapter concludes with a tabular survey of selected key application examples, complete with reported reaction conditions and yields, to serve as a quick reference guide for synthesis planning.

An Inclusive Approach Academic Press

Electron paramagnetic resonance (EPR) applications remain highly significant in modern analytical science and this volume compiles critical coverage of developments in the recent literature. The topics covered in this volume describe contrasting types of EPR application, including rapid scan EPR, using the EPR toolkit to investigate the structural dynamics of membrane proteins and pulse dipolar EPR spectroscopy for investigating biomolecular binding events. An additional chapter reviewing the PARACAT collaboration from the EU has also been included. Providing a snapshot of the area by a handpicked group of researchers at the cutting-edge of the field, this book is a useful addition to any library supporting this research.

Essential Code and Commands Academic Press

This book reviews the latest research on bioproducts from various economically important insects, such as silkworms, honey bees, lac and drosophila, and

termites, and discusses their general, biomedical and industrial applications in detail. It includes chapters focusing on insects as a food source, probiotics, silk-based biomaterials, insect pheromones, insects as biomedicine source, pupa oil chemistry, non-protein compounds from Lepidopteran insects, insect chitin and chitosan, polyphenols and flavonoids. Model insects like *Bombyx mori* or bees were domesticated in Asian countries thousands of years ago. Over time, natural products from these animals became industrialized and today they attracting increasing attention thanks to their sustainability and their manifold applications in agriculture and biomedicine. The book is intended for entomologists, material scientists, natural product researchers and biotechnologists.

Bioinspired Inorganic Materials Royal Society of Chemistry

Protein-protein interactions (PPI) are at the heart of the majority of cellular processes, and are frequently dysregulated or usurped in disease. Given this central role, the inhibition of PPIs has been of significant interest as a means of treating a wide variety of diseases. However, there are inherent challenges in developing molecules capable of disrupting the relatively featureless and large interfacial areas involved. Despite this, there have been a number of successes in this field in recent years using both traditional drug discovery approaches and innovative, interdisciplinary strategies using novel chemical scaffolds. This book comprehensively covers the various aspects of PPI inhibition, encompassing small molecules, peptidomimetics, cyclic peptides, stapled peptides and macrocycles. Illustrated throughout with successful case studies, this book provides a holistic, cutting-edge view of the subject area and is ideal for chemical biologists and medicinal chemists interested in developing PPI inhibitors.

Organophosphorus Chemistry Academic Press

This eclectic volume features two major topics: applications of mass spectrometry in bioscience; and computational methods for analysis of protein structure and interactions with other macromolecules. Published continuously since 1944, the Advances in Protein Chemistry and Structural Biology series has been the essential resource for protein chemists. Each volume brings forth new information about protocols and analysis of proteins. Each thematically organized volume is guest edited by leading experts in a broad range of protein-related topics. Describes advances in application of powerful techniques in a wide bioscience area Chapters are written by authorities in their field Targeted to a wide audience of researchers, specialists, and students The information provided in the volume is well supported by a number of high quality illustrations, figures, and tables

Chemistry for the IB Diploma Coursebook with Free Online

Material John Wiley & Sons

Chalcogen-nitrogen chemistry involves the study of compounds that exhibit a linkage between nitrogen and sulfur, selenium or tellurium atoms. Since the publication of A Guide to Chalcogen-Nitrogen Chemistry in 2005, the emphasis of investigations of chalcogen-nitrogen compounds has advanced from a focus on fundamental studies to the development of practical applications, as indicated by the title of this new edition. Pharmaceutical applications of organic sulfur-nitrogen compounds include drugs for the treatment of various diseases, as well as probes for locating tumour cells. From a materials perspective, carbon-containing chalcogen-nitrogen heterocycles have applications in everyday devices such as LEDs and solar cells. A new technology based on binary sulfur nitrides is being used for fingerprint detection in forensic science. As a result, this book includes seven new chapters and updates the others with extensive literature coverage of developments since 2005 while retaining earlier seminal results. This comprehensive text is essential for anyone working in the field, and the four introductory chapters emphasise general concepts that will be helpful to the non-specialist. The treatment is unique in providing a comparison of sulfur, selenium and tellurium compounds. Each chapter is designed to be self-contained, and there are extensive cross-references between chapters.