Chemical Curiosities

Advances in Carbohydrate Chemistry
CHEMISTRY
Chemical Modelling
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Chemical Health Threats
Inorganic Chemistry: Adapted for Students in the Elementary Classes of the Science and Art Department
Chemical Structure, Spatial Arrangement
A Fourteen Weeks'Course in Chemistry
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Supramolecular Chemistry in Corrosion and Biofouling Protection
Roald Hoffmann on the Philosophy, Art, and Science of Chemistry
Our Analytical Chemistry and Its Future (Classic Reprint)
Fourteen Weeks in Chemistry
A Guide to Chalcogen-Nitrogen Chemistry
Our analytical chemistry and its future
Advances in Quantum Chemistry
Advances in Carbene Chemistry, Volume 3

Ylid Chemistry
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Core Concepts in Supramolecular Chemistry and Nanochemistry
Organophosphorus Chemistry
A Comprehensive Treatise on Inorganic and Theoretical Chemistry
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Communicating Chemistry
Supplement to Mellor's Comprehensive Treatise on Inorganic and Theoretical Chemistry: suppl. 3. K, Rb, Cs, Fr
Organometallic Chemistry
Chemical Topology
Protecting Groups: Strategies and Applications in Carbohydrate Chemistry
Advances in Carbene Chemistry
Advances in Carbene Chemistry
Organic Photochemistry
Chemical Curiosities
Forensic Chemistry of Substance Misuse
Environmental Chemistry

STRICKLAND DONNA

Advances in Carbohydrate Chemistry CRC Press Topology has been extensively applied in the study of chemically linked and knotted structures, and also in the study of many biologically significant molecules such as proteins and DNA. These are the themes

that are addressed in this volume of the Mathematical Chemistry series. The topological chirality of knotted and linked molecular species and the invariants that may characterize them are explored in detail.

CHEMISTRY Wiley-VCH

Updating and expanding the coverage of the first Edition, this book provides a chemical background to domestic and international controls on substances of misuse. In the United Kingdom, structure-specific (generic) controls have been further developed in the past 13 years and now cover 17 groups of compounds. The focus of those controls has been on new psychoactive substances (NPS). Since 1997, over 800 NPS have been reported to the European Monitoring Centre for Drugs and Drugs Addiction. International generic and analogue controls are described together with a critical review of their effectiveness. Other, established, drugs are described as well as a large group of psychoactive substances that are not scheduled by the International Conventions This book has general appeal to those needing information on illicit drugs including forensic scientists, lawyers, law enforcement agencies, drug regulatory authorities as well as graduate and postgraduate students of chemistry and the

criminal law. The chapters are supported by chemical structures, numerous tables and charts, appendices, a glossary and a bibliography. This unique book is a valuable addition to the literature in this area and will be of great assistance to those studying this topic.

Chemical Modelling World Scientific

This book presents chemical analyses of our most pressing waste, pollution, and resource problems for the undergraduate or graduate student. The distinctive holistic approach provides both a solid ground in theory, as well as a laboratory manual detailing introductory and advanced experimental applications. The laboratory procedures are presented at microscale conditions, for minimum waste and maximum economy. This work fulfills an urgent need for an introductory text in environmental chemistry combining theory and practice, and is a valuable tool for preparing the next generation of environmental scientists.

Chemistry of Natural Products Academic Press

Chemical CuriositiesWiley-VCH

Tellurium in Organic Synthesis Chemical Curiosities

Offering a comprehensive narrative of the early history of stereochemistry, Dr Ramberg explores the reasons for and the consequences of the

fundamental change in the meaning of chemical formulas with the emergence of stereochemistry during the last quarter of the nineteenth century. As yet relatively unexplored by historians, the development of stereochemistry - the study of the three-dimensional properties of molecules - provides a superb case study for exploring the meaning and purpose of chemical formulas, as it entailed a significant change in the meaning of chemical formulas from the purely chemical conception of 'structure' to the physico-chemical conception of molecules provided by the tetrahedral carbon atom. This study is the first to treat the emergence of the unique visual language of organic chemistry between 1830 and 1874 to place in context the near simultaneous proposal of the tetrahedral carbon atom by J.H. van 't Hoff and J.A. Le Bel in 1874. Dr Ramberg then examines the research programs in stereochemistry by Johannes Wislicenus, Arthur Hantzsch, Victor Meyer, Carl Bischoff, Emil Fischer and Alfred Werner, showing how the emergence of stereochemistry was a logical continuation of established research traditions in chemistry. In so doing, he also illustrates the novel and controversial characteristics of stereochemical ideas, especially the unprecedented use of mechanistic and

dynamic principles in chemical explanation. **Chemical Health Threats** Routledge ' Chalcogen-nitrogen chemistry involves the study of compounds that exhibit a linkage between nitrogen and sulfur, selenium or tellurium atoms. Such studies have both fundamental and practical importance. A Guide to Chalcogen-Nitrogen Chemistry examines the role of chalcogen-nitrogen compounds in areas ranging from solid-state inorganic chemistry to biochemistry. The discussion covers fundamental questions concerning the bonding in electron-rich systems, as well as potential practical applications of polymers and materials with novel magnetic or electrical properties. This book is the only account of this important topic to appear in the last twenty–five years, and coupled with its extensive literature coverage of very recent developments, this comprehensive guide is essential for anyone working in the field. The treatment is unique in providing a comparison of sulfur, selenium and tellurium systems, with an approach intended to emphasize general concepts that will be helpful to the non-specialist. Each chapter is designed to be self–contained, and there are extensive cross–references between chapters. Contents:Formation of Chalcogen–Nitrogen BondsApplications of Physical

MethodsElectronic Structures and Reactivity PatternsBinary SystemsCyclic Chalcogen ImidesMetal ComplexesChalcogen–Nitrogen HalidesChalcogen–Nitrogen OxidesAcyclic Organochalcogen–Nitrogen CompoundsFive–Membered Carbon–Nitrogen–Chalcogen Ring Systems: From Radicals to Functional MaterialsSix–Membered and Larger Carbon–Nitrogen–Chalcogen Ring SystemsHeterocyclothia– and Selena–AzenesChalcogen–Nitrogen Chains and PolymersWeak Intramolecular Chalcogen–Nitrogen Interactions Readership: Scientists interested in the chemistry of sulfur, selenium or tellurium compounds, and upper level undergraduates in inorganic (main group) chemistry courses. Keywords:Sulfur;Selenium;Tellurium;Nitrogen;Heterocycles;Electron-Rich Compounds;Chemical Bonding;Metal ComplexesKey Features:Focuses on important developments in the last 25 yearsCompares Sulfur, Selenium and Tellurium CompoundsTargets the non-specialist as well as experts in the fieldSupplements standard textbook treatments of this subjectDiscusses theoretical concepts and practical applicationsReviews:“Although each chapter is designed to be

self–contained, there is detailed cross-referencing between them ... the focused nature of the chapters together with an adequate subject index makes finding particular compounds relatively easy ... the introductory chapters will be of significant interest to upper level undergraduates as well as to graduate students ... The comprehensive listing of reactions and reaction types found in the later chapters will be of more benefit to specialists in the arena of main group chemistry. This modestly priced resource should be a welcome addition to researchers in the field or to those interested in entering the area."Journal of the American Chemical Society '

Inorganic Chemistry: Adapted for Students in the Elementary Classes of the Science and Art Department

John Wiley & Sons

Organic Chemistry, Volume 7: Ylid Chemistry focuses on the physical and chemical properties of ylids. This book discusses the Wittig synthesis of olefins, which involves the reaction between carbonyl compounds and phosphonium ylids. Organized into two parts encompassing nine chapters, this book starts with an overview of the definition of ylids as a substance in which a carbanion is attached directly to a heteroatom transporting a high degree of positive charge. This text then

examines the unique stabilization that afforded the carbanions by the presence of the adjacent 'onium atom group, which is the special characteristic of ylids. Other chapters consider the general structure of phosphonium ylids, which virtually has no limitation on the nature of the X groups on phosphorus. This book discusses as well the Wittig reaction involving a condensation-elimination between a phosphonium ylid and ketone. The final chapter deals with the various aspects of the chemistry of sulfur ylids. This book is a valuable resource for chemists.

Chemical Structure, Spatial Arrangement

Oxford University Press

Organophosphorus Chemistry provides a comprehensive annual review of the literature. Coverage includes phosphines and their chalcogenides, phosphonium salts, low coordination number phosphorus compounds, penta- and hexa-coordinated compounds, tervalent phosphorus acids, nucleotides and nucleic acids, ylides and related compounds, and phosphazenes. The series will be of value to research workers in universities, government and industrial research organisations, whose work involves the use of organophosphorus compounds. It provides a concise but comprehensive survey of a vast field of study with a wide variety of applications, enabling

the reader to rapidly keep abreast of the latest developments in their specialist areas. Specialist Periodical Reports provide systematic and detailed review coverage of progress in the major areas of chemical research. Written by experts in their specialist fields the series creates a unique service for the active research chemist, supplying regular critical in-depth accounts of progress in particular areas of chemistry. For over 80 years the Royal Society of Chemistry and its predecessor, the Chemical Society, have been publishing reports charting developments in chemistry, which originally took the form of Annual Reports. However, by 1967 the whole spectrum of chemistry could no longer be contained within one volume and the series Specialist Periodical Reports was born. The Annual Reports themselves still existed but were divided into two, and subsequently three, volumes covering Inorganic, Organic and Physical Chemistry. For more general coverage of the highlights in chemistry they remain a 'must'. Since that time the SPR series has altered according to the fluctuating degree of activity in various fields of chemistry. Some titles have remained unchanged, while others have altered their emphasis along with their titles; some have been combined under a new name whereas others have had to be

discontinued. The current list of Specialist Periodical Reports can be seen on the inside flap of this volume.
A Fourteen Weeks'Course in Chemistry Springer Science & Business Media
Organic photochemistry is the science arising from the application of photochemicalmethods to organic chemistry and organic chemical methods to photochemistry. It is aninterdisciplinary frontier.Intense activity in organic photochemistry in the last decade has produced so vast anaccumulation of factual knowledge that chemists in general have viewed it with awe.Even those chemists engaged in the study of organic photochemistry will find the rate ofdevelopment in the field perplexing to a high degree. This series originated to fill theneed for a critical summary of this vigorously expanding field with the purpose ofdrawing together seemingly unrelated facts, summarizing progress, and clarifyingproblems.Volume 11 continues to fulfill the original, essential role of this unique series byproviding a convenient review of the structural aspects of organic photochemistry. Aswith earlier volumes, this new book offers the research findings of distinguishedauthorities. It stresses timely aspects of organic photochemistry-previously

scatteredthroughout the large body of literature-for which necessary critical review has beenlacking.This volume of the series emphasizes the mechanistic details of the di-n:-methanerearrangement . .. the synthetic aspects of the oxadi-n:-methane reaction ... thephotochemistry of carbenium ions and related species .. . photoinduced hydrogen atomabstraction by carbonyl compounds ... and matrix photochemistry of nitrenes, carbenes,and excited triplet states. Complete with numerous illustrations and bibliographiccitations of the literature, this book explores these important processes to the advantageof organic chemists, as an aid to research and as a source for supplementary knowledgeon particular topics .

Commercial Applications of Ionic Liquids Elsevier

The Handbook of Chalcogen Chemistry: New Perspectives in Sulfur, Selenium and Tellurium provides an overview of recent developments, particularly from the last decade, on the chemistry of the chalcogen group elements (S, Se and Te). While up to a few decades ago, chalcogen chemistry was mainly centred on sulphur, in recent years the research based on Se and Te has increased dramatically, and has created huge scope for

the use of compounds based on this type of chemistry. This book is organised into two parts, the first of which deals systematically with the chemistry of chalcogens in relation to other group elements in the periodic table. It also includes an overview of metal-chalcogenides and metal-polychalcogenides. The second part reflects the interdisciplinary nature of chalcogen chemistry and focuses on biological, materials and supramolecular aspects of the field. This book gives a comprehensive overview on recent developments over the last decade and is ideal for researchers in the field.

Chemical Curiosities

Royal Society of Chemistry

Our understanding of carbene chemistry has advanced dramatically, especially in the last decade, and new developments continue to emerge. Some of the recent exciting findings have been collected in the first and second volumes of Advances in Carbene Chemistry. With the third volume, the series continues to provide a periodic coverage of carbene chemistry in its broadest sense. Beginning as chemical curiosities, carbenes are now solidly established as reactive intermediates with fascinating and productive research areas of their own. Five decades of divalent carbon chemistry have provided us with a vast repertoire of new, unusual, and surprising

reactions. Some of those reactions, once classified as exotic, have become standard methods in organic synthesis. These highly reactive carbene species have been harnessed and put to work to achieve difficult synthetic tasks other reactive intermediates cannot easily perform. The fruitful relationship between experiment and theory has pushed carbene chemistry further toward the direction of reaction control; that is, regio- and stereoselectivity in intra- and intermolecular addition and insertion reactions. The interplay between experiment and modern spectroscopy has led to the characterization of many carbenes that are crucial to both an understanding and further development of this field.

College Chemistry II

Science History Publications

Historians and philosophers of science offer 18 papers from a European Science Foundation workshop held in Uppsala, Sweden, in February 1996, explore such questions as how textbooks differ from other forms of chemical literature, under what conditions they become established as a genre, whether they develop a specific rhetoric, how their audiences help shape the profile of chemistry, translations, and other topics. Only names are indexed.

Handbook of Chalcogen Chemistry

Elsevier

Our understanding of

carbene chemistry has advanced dramatically, especially in the last decade, and new developments continue to emerge. Some of the recent exciting findings have been collected in the first and second volumes of Advances in Carbene Chemistry. With the third volume, the series continues to provide a periodic coverage of carbene chemistry in its broadest sense. Beginning as chemical curiosities, carbenes are now solidly established as reactive intermediates with fascinating and productive research areas of their own. Five decades of divalent carbon chemistry have provided us with a vast repertoire of new, unusual, and surprising reactions. Some of those reactions, once classified as exotic, have become standard methods in organic synthesis. These highly reactive carbene species have been harnessed and put to work to achieve difficult synthetic tasks other reactive intermediates cannot easily perform. The fruitful relationship between experiment and theory has pushed carbene chemistry further toward the direction of reaction control; that is, regio- and stereoselectivity in intra- and intermolecular addition and insertion reactions. The interplay between experiment and modern spectroscopy has led to the characterization of many carbenes that are crucial to both an understanding and

further development of this field.
Things not generally known. Curiosities of science: second series ... Third edition. Fifth thousand John Wiley & Sons
Advances in Carbohydrate Chemistry
Supramolecular Chemistry in Corrosion and Biofouling Protection CRC Press
A unique overview of the most important protecting group strategies in carbohydrate chemistry Protecting Groups: Strategies and Applications in Carbohydrate Chemistry provides a detailed account of key strategies and methodologies for the protection of carbohydrates. Divided into two parts, the first focuses on groups that are used best to protect a specific position on a carbohydrate. In the second part, specific carbohydrate residues or compounds are discussed in the context of a specific protecting group strategy used to reach the desired regioisomer. This important book: - Features chapters on protecting groups at the primary and secondary positions of carbohydrates - Describes protecting group strategies towards sialic acid derivatives, glycofuranoses, sulfated glycosaminoglycans, and cyclodextrins - Provides information on automated glycan assembly -Includes a chapter on the

industrial scale synthesis of heparin analogs Written by a team of leaders in the field, Protecting Groups: Strategies and Applications in Carbohydrate Chemistry is an indispensable guide for academics and industrial researchers interested in carbohydrate and natural product synthesis, pharmaceutical chemistry, and biochemistry.

Roald Hoffmann on the Philosophy, Art, and Science of Chemistry

Elsevier

Excerpt from Our Analytical Chemistry and Its Future In an address read at Philadelphia nearly twelve years ago, I gave expression to some thoughts on the condition of analytical chemistry in our country as the condition appeared to me then to be. Those thoughts were based on an experience of many years, during which I was engaged wholly in analytical work of a more than ordinarily exacting nature, and especially upon observations that had been acquired in connection with several series of cooperative analyses of diverse materials. Since then my attention has been no less given to analysis, largely for the past eight years in a supervisory capacity, however, and I have had opportunity to note the conditions that now prevail with respect to chemical analysis and what an important bearing exact analytical work

often has on problems of physical and electrochemistry, metallurgy, etc. It seems to me then that I can choose no more fitting subject for my present discourse than a continuation of one so closely related to my life-work, one in which I feel a deep interest and of which I may be presumed to have knowledge somewhat worth presenting on an occasion like this. About the Publisher Forgotten Books publishes hundreds of thousands of rare and classic books. Find more at www.forgottenbooks.com This book is a reproduction of an important historical work. Forgotten Books uses state-of-the-art technology to digitally reconstruct the work, preserving the original format whilst repairing imperfections present in the aged copy. In rare cases, an imperfection in the original, such as a blemish or missing page, may be replicated in our edition. We do, however, repair the vast majority of imperfections successfully; any imperfections that remain are intentionally left to preserve the state of such historical works. Our Analytical Chemistry and Its Future (Classic Reprint) Royal Society of Chemistry Supramolecular chemistry, "the chemistry beyond the molecule", is a fascinating realm of modern science. The design of novel

supramolecular structures, surfaces, and techniques are at the forefront of research in different application areas, including corrosion and biofouling protection. A team of international experts provide a comprehensive view of the applications and potential of supramolecular chemistry in corrosion and biofouling prevention. Chapter topics include types and fundamentals of supramolecules, supramolecular polymers and gels, host-guest inclusion compounds, organic-inorganic hybrid materials, metallo-assemblies, cyclodextrins, crown ethers, mesoporous silica and supramolecular structures of graphene and other advances. Additional Features include: Focuses on different aspects of supramolecular chemistry in corrosion and biofouling prevention. Comprehensively covers supramolecular interactions that can provide better corrosion and biofouling protection. Provides the latest developments in self-healing coatings. Explores recent research advancements in the suggested area. Includes case studies specific to industries. The different supramolecular approaches being investigated to control corrosion and biofouling are gathered in one well-organized reference to serve senior undergraduate

and graduate students, research students, engineers, and researchers in the fields of corrosion science & engineering, biofouling, and protective coatings.
Fourteen Weeks in Chemistry Royal Society of Chemistry
The editors have approached leading researchers to review the area of organometallic chemistry with the potential to provide answers to problems and challenges faced in catalysis, synthetic organic chemistry and unusal reactivity and the development of new materials.
A Guide to Chalcogen-Nitrogen Chemistry Royal Society of Chemistry
Almost all branches of chemistry and material science now interface with organometallic chemistry-the study of compounds containing carbon-metal bonds. Organometallic compounds range from species which are so reactive that they only have a transient existence at ambient temperatures to species which are thermally very stable. This widely acclaimed serial contains authoritative reviews that address all aspects of organometallic chemistry, a field which has expanded enormously since the publication of Volume 1 in 1964.
Our analytical chemistry and its future Academic Press
This book examines the European guidelines for the risk assessment and management of

serious international public health threats.

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