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Structure and Chemistry of Crystalline Solids
Structure and Chemistry of the Apatites and Other Calcium Orthophosphates
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Study Guide for Chemistry
Molecular Design
General Chemistry for Engineers
Lignin Chemistry and Applications
Organic Chemistry
Chemical Structure and Reactivity
The Handy Chemistry Answer Book
Drug-like Properties: Concepts, Structure Design and Methods

SHERLYN SCARLET

Gel Chemistry Royal Society of Chemistry
Part A.: Overviews of biological inorganic chemistry : 1. Bioinorganic chemistry and the biogeochemical cycles -- 2. Metal ions and proteins: binding, stability, and folding -- 3. Special cofactors and metal clusters -- 4. Transport and storage of metal ions in biology -- 5. Biominerals and biomineralization -- 6. Metals in medicine. -- Part B.: Metal ion containing biological systems : 1. Metal ion transport and storage -- 2. Hydrolytic chemistry -- 3. Electron transfer, respiration, and photosynthesis -- 4. Oxygen metabolism -- 5. Hydrogen, carbon, and sulfur metabolism -- 6. Metalloenzymes with radical intermediates -- 7. Metal ion receptors and signaling. -- Cell biology, biochemistry, and evolution: Tutorial I. -- Fundamentals of coordination chemistry: Tutorial II.
Chemistry National Academies Press
The apatites and related calcium phosphates have been of considerable interest to biologists, mineralogists, and inorganic and industrial chemists for many years. This book contains a detailed description of the structures and structural interrelationships of the calcium orthophosphates, including the apatites. Their preparation, crystal growth and dissolution, chemical reactions including thermal decomposition, IR, Raman and NMR spectra and various physical properties are discussed. Apatites other than those containing calcium and phosphorus are included. Synthetic, mineral and biological carbonate apatites are also considered. A wide, but critical coverage of the literature is given, which includes a substantial amount not written in English. Research from many disciplines is included which results in a comprehensive compilation of recent work.
Principles of Organic Chemistry Academic Press
Organic Chemistry Concepts and Applications for Medicinal Chemistry provides a valuable refresher for understanding the relationship between chemical bonding and those molecular properties that help to determine medicinal activity. This book explores the basic aspects of structural organic chemistry without going into the various classes of reactions. Two medicinal chemistry concepts are also introduced: partition coefficients and the nomenclature of cyclic and polycyclic ring systems that comprise a large number of drug molecules. Given the systematic name of a drug, the reader is guided through the process of drawing an accurate chemical structure. By emphasizing the relationship between structure and properties, this book gives readers the connections to more fully comprehend, retain, apply, and build upon their organic chemistry background in further chemistry study, practice, and exams. - Focused approach to review those organic chemistry concepts that are most important for medicinal chemistry practice and understanding - Accessible content to refresh the reader's knowledge of bonding, structure, functional groups, stereochemistry, and more - Appropriate level of coverage for students in organic chemistry, medicinal chemistry, and related areas; individuals seeking content review for graduate and medical

courses and exams; pharmaceutical patent attorneys; and chemists and scientists requiring a review of pertinent material

Physics and Chemistry of Graphene

University Science Books

Organic Chemistry Study Guide: Key Concepts, Problems, and Solutions features hundreds of problems from the companion book, Organic Chemistry, and includes solutions for every problem. Key concept summaries reinforce critical material from the primary book and enhance mastery of this complex subject. Organic chemistry is a constantly evolving field that has great relevance for all scientists, not just chemists. For chemical engineers, understanding the properties of organic molecules and how reactions occur is critically important to understanding the processes in an industrial plant. For biologists and health professionals, it is essential because nearly all of biochemistry springs from organic chemistry. Additionally, all scientists can benefit from improved critical thinking and problem-solving skills that are developed from the study of organic chemistry. Organic chemistry, like any "skill", is best learned by doing. It is difficult to learn by rote memorization, and true understanding comes only from concentrated reading, and working as many problems as possible. In fact, problem sets are the best way to ensure that concepts are not only well understood, but can also be applied to real-world problems in the work place. - Helps readers learn to categorize, analyze, and solve organic chemistry problems at all levels of difficulty - Hundreds of fully-worked practice problems, all with solutions - Key concept summaries for every chapter reinforces core content from the companion book

Beyond the Molecular Frontier

Pearson

The two-part, fifth edition of Advanced Organic Chemistry has been substantially revised and reorganized for greater clarity. The material has been updated to reflect advances in the field since the previous edition, especially in computational chemistry. Part A covers fundamental structural topics and basic mechanistic types. It can stand-alone; together, with Part B: Reaction and Synthesis, the two volumes provide a comprehensive foundation for the study in organic chemistry. Companion websites provide digital models for study of structure, reaction and selectivity for students and exercise solutions for instructors.

Cellulose Chemistry and Properties: Fibers, Nanocelluloses and Advanced Materials Pearson

Progress in Organic and Physical Chemistry: Structures and Mechanisms provides a collection of new research in the field of organic and physical properties, including new research on: The physical principles of the conductivity of electrical conducting polymer compounds The dependence on constants of electromagnetic interactions upon electron spacial-energy characteristics Effects of chitosan molecultural weight on rehological behavior of chitosan modified nanoclay at hight hydrated state Bio-structural energy criteria of functional states in normal and pathological conditions Potentiometric study on the international between devalent cations and sodium carboxylates in aqueous solutions Structural characteristic changes in erythrocyte membranes of mice bearing Alzheimer’s-like disease caused by the olfactory bulbetomy This volume is

intended to provide an overview of new studies and research for engineers, faculty, researchers, and upper-level students in the field of organic and physical chemistry.

Chemistry Elsevier

This book provides a detailed description of metal-complex functionalized carbon allotrope forms, including classic (such as graphite), rare (such as M- or T-carbon), and nanoforms (such as carbon nanotubes, nanodiamonds, etc.). Filling a void in the nanotechnology literature, the book presents chapters generalizing the synthesis, structure, properties, and applications of all known carbon allotropes. Metal-complex composites of carbons are described, along with several examples of their preparation and characterization, soluble metal-complex carbon composites, cost-benefit data, metal complexes as precursors of carbon allotropes, and applications. A lab manual on the synthesis and characterization of carbon allotropes and their metal-complex composites is included. Provides a complete description of all carbon allotropes, both classic and rare, as well as carbon nanostructures and their metal-complex composites; Contains a laboratory manual of experiments on the synthesis and characterization of metal-complex carbon composites; Discusses applications in diverse fields, such as catalysis on supporting materials, water treatment, sensors, drug delivery, and devices.

Solutions Manual for for Chemistry Elsevier

This book is a systematic presentation of the methods that have been developed for the interpretation of molecular modeling to the design of new chemicals. The main feature of the compilation is the co-ordination of the various scientific disciplines required for the generation of new compounds. The five chapters deal with such areas as structure and properties of organic compounds, relationships between structure and properties, and models for structure generation. The subject is covered in sufficient depth to provide readers with the necessary background to understand the modeling techniques. The book will be of value to chemists in industries involved in the manufacture of organic chemicals such as solvents refrigerants, blood substitutes, etc. It also serves as a reference work for researchers, academics, consultants, and students interested in molecular design.

Chemistry 2e Springer Science & Business Media

Class-tested and thoughtfully designed for student engagement, Principles of Organic Chemistry provides the tools and foundations needed by students in a short course or one-semester class on the subject. This book does not dilute the material or rely on rote memorization. Rather, it focuses on the underlying principles in order to make accessible the science that underpins so much of our day-to-day lives, as well as present further study and practice in medical and scientific fields. This book provides context and structure for learning the fundamental principles of organic chemistry, enabling the reader to proceed from simple to complex examples in a systematic and logical way. Utilizing clear and consistently colored figures, Principles of Organic Chemistry begins by exploring the step-by-step processes (or mechanisms) by which reactions occur to create molecular structures. It then describes some of the many ways these reactions make new compounds, examined by

functional groups and corresponding common reaction mechanisms. Throughout, this book includes biochemical and pharmaceutical examples with varying degrees of difficulty, with worked answers and without, as well as advanced topics in later chapters for optional coverage. Incorporates valuable and engaging applications of the content to biological and industrial uses Includes a wealth of useful figures and problems to support reader comprehension and study Provides a high quality chapter on stereochemistry as well as advanced topics such as synthetic polymers and spectroscopy for class customization

Modern Physical Organic Chemistry CRC Press

Numerous experiments and calculations have shown that isolated metal clusters possess many interesting features, quite different from those known from surface and solid- state physics or from atomic and molecular physics. The technological exploitation of these new properties, e.g. in miniature electronic or mechanical components, requires the cluster to be brought into an environment such as an encapsulating matrix or a surface. Due to the interaction with the contact medium, the properties of the clusters may change or even disappear. Thus the physics of cluster-on-surface systems -- the main subject of this book -- is of fundamental importance. The book addresses a wide audience, from the newcomer to the expert. Starting from fundamental concepts of adsorbate-surface interactions, the modification of electronic properties through electron confinement, and concepts of cluster production, it elucidates the distinct properties of the new metallic nanostructures.

Van de Graaff's Photographic Atlas for the Biology Laboratory Elsevier

Properties of Polymers: Their Correlation with Chemical Structure; Their Numerical Estimation and Prediction from Additive Group Contributions summarizes the latest developments regarding polymers, their properties in relation to chemical structure, and methods for estimating and predicting numerical properties from chemical structure. In particular, it examines polymer electrical properties, magnetic properties, and mechanical properties, as well as their crystallization and environmental behavior and failure. The rheological properties of polymer melts and polymer solutions are also considered. Organized into seven parts encompassing 27 chapters, this book begins with an overview of polymer science and engineering, including the typology of polymers and their properties. It then turns to a discussion of thermophysical properties, from transition temperatures to volumetric and calorimetric properties, along with the cohesive aspects and conformation statistics. It also introduces the reader to the behavior of polymers in electromagnetic and mechanical fields of force. The book covers the quantities that influence the transport of heat, momentum, and matter, particularly heat conductivity, viscosity, and diffusivity; properties that control the chemical stability and breakdown of polymers; and polymer properties as an integral concept, with emphasis on processing and product properties. Readers will find tables that give valuable (numerical) data on polymers and include a survey of the group contributions (increments) of almost every additive function considered. This book is a valuable resource for anyone working on practical problems in the field of polymers, including organic

chemists, chemical engineers, polymer processers, polymer technologists, and both graduate and PhD students.

Chemistry CRC Press

NOTE: You are purchasing a standalone product; MasteringA&P does not come packaged with this content. If you would like to purchase both the physical text and MasteringA&P search for ISBN-10: 0321940873/ISBN-13: 9780321940872 . That package includes ISBN-10: 0321943171/ISBN-13: 9780321943170 and ISBN-10: 013389178X/ISBN-13: 9780133891782. " For two-semester general chemistry courses (science majors)."" "Make critical connections in chemistry clear and visibleMcMurry/Fay/Robinson's "Chemistry," Seventh Edition, aims to help students understand the connections between topics in general chemistry and why they matter. The Seventh Edition provides a concise and streamlined narrative that blends the quantitative and visual aspects of chemistry, demonstrates the connections between topics, and illustrates the application of chemistry to their lives and careers. New content offers a better bridge between organic and biochemistry and general chemistry content, and new and improved pedagogical features make the text a true teaching tool rather than just a reference book. New MasteringChemistry features include conceptual worked examples and integrated Inquiry sections that help make critical connections clear and visible and increase students' understanding of chemistry. The Seventh Edition fully integrates the text with new MasteringChemistry content and functionality to support the learning process before, during, and after class. Also Available with MasteringChemistry(R).MasteringChemistry from Pearson is the leading online homework, tutorial, and assessment system, designed to improve results by engaging students before, during, and after class with powerful content. Instructors ensure students arrive ready to learn by assigning educationally effective content before class, and encourage critical thinking and retention with in-class resources such as Learning Catalytics. Students can further master concepts after class through traditional and adaptive homework assignments that provide hints and answer-specific feedback. The Mastering gradebook records scores for all automatically graded assignments in one place, while diagnostic tools give instructors access to rich data to assess student understanding and misconceptions. Mastering brings learning full circle by continuously adapting to each student and making learning more personal than ever-before, during, and after class.

Progress in Inorganic Chemistry Visible Ink Press

This book covers various molecular, metal-organic, dynamic covalent, polymer and other gels, focusing on their driving interactions, structures and properties. It consists of six chapters demonstrating interesting examples of these gels, classified by the type of driving interaction, and also discusses the effect of these interactions on the gels’ structures and properties. The book offers an interesting and useful guide for a broad readership in various fields of chemical and materials science.

Progress in Organic and Physical Chemistry CRC Press

Structural Chemistry of Inorganic Actinide Compounds is a collection of 13 reviews on structural and coordination chemistry of actinide compounds. Within

the last decade, these compounds have attracted considerable attention because of their importance for radioactive waste management, catalysis, ion-exchange and absorption applications, etc. Synthetic and natural actinide compounds are also of great environmental concern as they form as a result of alteration of spent nuclear fuel and radioactive waste under Earth surface conditions, during burn-up of nuclear fuel in reactors, represent oxidation products of uranium miles and mine tailings, etc. The actinide compounds are also of considerable interest to material scientists due to the unique electronic properties of actinides that give rise to interesting physical properties controlled by the structural architecture of respective compounds. The book provides both general overview and review of recent developments in the field, including such emergent topics as nanomaterials and nanoparticles and their relevance to the transfer of actinides under environmental conditions.* Covers over 2,000 actinide compounds including materials, minerals and coordination polymers* Summarizes recent achievements in the field* Some chapters reveal (secret) advances made by the Soviet Union during the 'Cold war'

Biological Inorganic Chemistry Elsevier

Lignin Chemistry and Application systematically discusses the structure, physical and chemical modification of lignin, along with its application in the field of chemicals and materials. It presents the history of lignin chemistry and lignin-modified materials, describes recent progresses, applications and studies, and prospects the development direction of high value applications of lignin in the field of material science. In addition to covering the basic theories and technologies relating to the research and application of lignin in polymer chemistry and materials science, the book also summarizes the latest applications in rubber, engineering plastics, adhesives, films and hydrogels. - Systematically discusses the structure, physical and chemical modification of lignin and its application in materials - Presents the latest research results in the field of lignin - Indicates the development direction of high value applications of lignin in a range of fields, including petrochemicals, household applications, medicine, agriculture, and more

Advanced Organic Chemistry John Wiley & Sons

This Study Guide was written specifically to assist students using Structure and Properties. It presents the major concepts, theories, and applications discussed in the text in a comprehensive and accessible manner for students. It contains learning objectives, chapter summaries and outlines, as well as examples, self tests and concept questions.

Metal Clusters at Surfaces Elsevier

Descriptive Inorganic Chemistry, Second Edition, covers the synthesis, reactions, and properties of elements and inorganic compounds for courses in descriptive inorganic chemistry. This updated version includes expanded coverage of chemical bonding and enhanced treatment of Buckminster Fullerenes, and incorporates new industrial applications matched to key topics in the text. It is suitable for the one-semester (ACS-recommended) course or as a supplement in general chemistry courses. Ideal for majors and non-majors, the book incorporates rich graphs and diagrams to enhance the content and maximize learning. -

Includes expanded coverage of chemical bonding and enhanced treatment of Buckminster Fullerenes - Incorporates new industrial applications matched to key topics in the text

Vitamin E Ingram

Computational Quantum Chemistry presents computational electronic structure theory as practised in terms of ab initio waveform methods and density functional approaches. Getting a full grasp of the field can often prove difficult, since essential topics fall outside of the scope of conventional chemistry education. This professional reference book provides a comprehensive introduction to the field. Postgraduate students and experienced researchers alike will appreciate Joseph McDouall's engaging writing style. The book is divided into five chapters, each providing a major aspect of the field. Electronic structure methods, the computation of molecular properties, methods for analysing the output from computations and the importance of relativistic effects on molecular properties are also discussed. Links to the websites of widely used software packages are provided so that the reader can gain first hand experience of using the techniques described in the book.

Structural Chemistry of Inorganic Actinide Compounds Academic Press

Organic Chemistry: Structure, Mechanism, Synthesis, Second Edition, provides basic principles of this fascinating and challenging science, which lies at the interface of physical and biological sciences. Offering accessible language and engaging examples and illustrations, this valuable introduction for the in-depth chemistry course engages students and gives future and new scientists a new approach to understanding, rather than merely memorizing the key concepts underpinning this fundamental area. The book builds in a logical way from chemical bonding to resulting molecular structures, to the corresponding physical, chemical and biological properties of those molecules. The book explores how molecular structure determines reaction mechanisms, from the smallest to the largest molecules—which in turn determine strategies for organic synthesis. The book then describes the synthetic principles which extend to every aspect of synthesis, from drug design to the methods cells employ to synthesize the molecules of which they are made. These relationships form a continuous narrative throughout the book, in which principles logically evolve from one to the next, from the simplest to the most complex examples, with abundant connections between the theory and applications. Featuring in-book solutions and instructor PowerPoint slides, this Second Edition offers an updated and improved option for students in the two-semester course and for scientists who require a high quality introduction or refresher in the subject. - Offers improvements for the two-semester course sequence and valuable updates including two new chapters on lipids and nucleic acids - Features biochemistry and biological examples highlighted throughout the book, making the information relevant and engaging to readers of all backgrounds and interests - Includes a valuable and highly-praised chapter on organometallic chemistry not found in other standard references

Chemistry and Properties of Crosslinked Polymers Pearson

Vincent Bulone et al.: Cellulose sources and new understanding of synthesis in

plants Thomas Heinze et al.:Cellulose structure and properties Thomas Rosenau, Antje Potthast, Ute Henniges et al.: Recent developments in cellulose aging (degradation / yellowing / chromophore formation) Sunkyu Park et al.:Cellulose crystallinity Lina Zhang et al.:Gelation and dissolution behavior of cellulose Yoshiyuki Nishio et al.:Cellulose and derivatives in liquid crystals Alessandro Gandini, Naceur Belgacem et al.:The surface and in-depth modification of cellulose fibers Emily D. Cranston et al.:Interfacial properties of cellulose Herbert Sixta, Michael Hummel et al.Cellulose Fibers Regenerated from Cellulose Solutions in Ionic Liquids Qi Zhou et al.:Cellulose-based biocomposites Orlando Rojas et al.:Films of cellulose nanocrystals and nanofibrils Pedro Fardim et al.:Functional cellulose particles Wadood Hamad et al.:Cellulose Composites