

compounds. Each chapter includes worked examples on the study topics which, together with the problems provided, should ensure a thorough understanding of the textual material.

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Inorganic Chemistry, Second Edition, provides essential information for students of inorganic chemistry or for chemists pursuing self-study. The presentation of topics is made with an effort to be clear and concise so that the book is portable and user friendly. The text emphasizes fundamental principles—including molecular structure, acid-base chemistry, coordination chemistry, ligand field theory, and solid state chemistry. It is organized into five major themes (structure, condensed phases, solution chemistry, main group and coordination compounds) with several chapters in each. There is a logical progression from atomic structure to molecular structure to properties of substances based on molecular structures, to behavior of solids, etc. The textbook contains a balance of topics in theoretical and descriptive chemistry. For example, the hard-soft interaction principle is used to explain hydrogen bond strengths, strengths of acids and bases, stability of coordination compounds, etc. Discussion of elements begins with survey chapters focused on the main groups, while later chapters cover the elements in greater detail. Each chapter opens with narrative introductions and includes figures, tables, and end-of-chapter problem sets. This new edition features new and improved illustrations, including symmetry and 3D molecular orbital representations; expanded coverage of spectroscopy, instrumental techniques, organometallic and bio-inorganic chemistry; and more in-text worked-out examples to encourage active learning and to prepare students for their exams. This text is ideal for advanced undergraduate and graduate-level students enrolled in the Inorganic Chemistry course. This core course serves Chemistry and other science majors. The book may also be suitable for biochemistry, medicinal chemistry, and other professionals who wish to learn more about this subject area. Concise coverage maximizes student understanding and minimizes the inclusion of details students are unlikely to use Discussion of elements begins with survey chapters focused on the main groups, while later chapters cover the elements in greater detail Each chapter opens with narrative introductions and includes figures, tables, and end-of-chapter problem sets

Determining the structure of molecules is a fundamental skill that all chemists must learn. Structural Methods in Molecular Inorganic Chemistry is designed to help readers interpret experimental data, understand the material published in modern journals of inorganic chemistry, and make decisions about what techniques will be the most useful in solving

particular structural problems. Following a general introduction to the tools and concepts in structural chemistry, the following topics are covered in detail: • computational chemistry • nuclear magnetic resonance spectroscopy • electron paramagnetic resonance spectroscopy • Mössbauer spectroscopy • rotational spectra and rotational structure • vibrational spectroscopy • electronic characterization techniques • diffraction methods • mass spectrometry The final chapter presents a series of case histories, illustrating how chemists have applied a broad range of structural techniques to interpret and understand chemical systems. Throughout the textbook a strong connection is made between theoretical topics and the real world of practicing chemists. Each chapter concludes with problems and discussion questions, and a supporting website contains additional advanced material. Structural Methods in Molecular Inorganic Chemistry is an extensive update and sequel to the successful textbook Structural Methods in Inorganic Chemistry by Ebsworth, Rankin and Cradock. It is essential reading for all advanced students of chemistry, and a handy reference source for the professional chemist.

This book entitled "Inorganic Chemistry-II", is an effort to present the subject matter in a comprehensible and easily understandable form. This textbook is purposefully prepared for the postgraduate Inorganic Chemistry second semester course and it covers all the topics recommended.

The present supplement to Inorganic Chemistry courses is developed in the form of reference schemes, presenting the information on one or several related element derivatives and their mutual transformations within one double-sided sheet. The compounds are placed from left to right corresponding to the increase in the formal oxidation number of the element considered. For each distinct oxidation state the upper position in the column is occupied by an oxide, its hydrated forms, followed then by basic (and oxo-) and normal salts. The position of each compound in this scheme is unambiguously determined in this approach by the central atom oxidation number (in the horizontal direction) and the nature of ligand (in the vertical one), which simplifies considerably the search for necessary information. The mutual transformations are displayed by arrows accompanied by the reagents or other factors responsible for the reaction (red arrows mean oxidation, green arrows mean reduction, black arrows – if the oxidation number is not changed). Modern training programs require the mastering of a tremendous amount of data. The present tables should serve as a useful addition to textbooks and lectures.

Instant Notes in Inorganic Chemistry, second edition has been fully updated and new material added on developments in noble-gas chemistry and the synthesis, reactions and characterization of inorganic compounds. New chapters cover the classification of inorganic reaction types concentrating on those useful in synthesis; techniques used in characterizing compounds, including elemental analysis; spectroscopic methods (IR, NMR) and structure determination by X-ray crystallography; and the factors involved in choosing appropriate solvents for

synthetic reactions. The new edition continues to provide concise coverage of inorganic chemistry at an undergraduate level, offering easy access to all important areas of inorganic chemistry in a format which is ideal for learning and rapid revision.

This solutions manual accompanies Shriver and Atkins' Inorganic Chemistry 5e. It provides detailed solutions to all the self tests and end of chapter exercises that feature in the fifth edition of the text. This manual is available free to all instructors who adopt the main text.

This book addresses the question, What is inorganic chemistry good for? rather than the more traditional question, How can we develop a theoretical basis for inorganic chemistry from sophisticated theories of bonding? The book prepares students of science or engineering for entry into the multi-billion-dollar inorganic chemical and related industries, and for rational approaches to environmental problems such as pollution abatement, corrosion control, and water treatment. A much expanded and updated revision of the 1990 text, Applied Inorganic Chemistry (University of Calgary Press), Inorganic Chemistry covers topics including atmospheric pollution and its abatement, water conditioning, fertilizers, cement chemistry, extractive metallurgy, metallic corrosion, catalysts, fuel cells and advanced battery technology, pulp and paper production, explosives, supercritical fluids, sol-gel science, materials for electronics, and superconductors. Though the book was written as a textbook for undergraduates with a background of freshman chemistry, it will also be a valuable sourcebook for practicing chemists, engineers, environmental scientists, geologists, and educators. Key Features * Presents the principles of inorganic chemistry in terms of its relevance to the real world of industry and environmental protection * Serves as a concise reference for practicing scientists, engineers, and educators * Emphasizes industrially relevant energetics and kinetics rather than bonding theories * Features extensive cross-referencing for easy location of supporting material

It has long been recognized that metal spin states play a central role in the reactivity of important biomolecules, in industrial catalysis and in spin crossover compounds. As the fields of inorganic chemistry and catalysis move towards the use of cheap, non-toxic first row transition metals, it is essential to understand the important role of spin states in influencing molecular structure, bonding and reactivity. Spin States in Biochemistry and Inorganic Chemistry provides a complete picture on the importance of spin states for reactivity in biochemistry and inorganic chemistry, presenting both theoretical and experimental perspectives. The successes and pitfalls of theoretical methods such as DFT, ligand-field theory and coupled cluster theory are discussed, and these methods are applied in studies throughout the book. Important spectroscopic techniques to determine spin states in transition metal complexes and proteins are explained, and the use of NMR for the analysis of spin densities is described. Topics covered include: DFT and ab initio wavefunction approaches to spin states Experimental techniques for determining spin states Molecular discovery in spin crossover Multiple spin state scenarios in organometallic reactivity and gas phase reactions Transition-metal complexes involving redox non-innocent ligands Polynuclear iron sulfur clusters Molecular magnetism NMR analysis of spin densities This book is a valuable reference for researchers working in bioinorganic and inorganic chemistry, computational chemistry, organometallic chemistry, catalysis, spin-crossover materials, materials science, biophysics and pharmaceutical chemistry. Never HIGHLIGHT a Book Again! Virtually all of the testable terms, concepts, persons, places, and events from the textbook are included. Cram101 Just the FACTS101 studyguides give all of the outlines, highlights, notes, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompanys: 9781429218207 .

This book "Inorganic Chemistry" is presented to fulfill the basic demand of M.Sc. students of various Indian Universities and also for CSIR NET, GATE and other competitive examinations. From time to time number of new topics are added to the syllabus of Inorganic Chemistry which makes the syllabus highly exhaustive for the students and therefore I have divided the subject matter into three volumes in order to

make it very easy to understand fulfill the basic demand of M.Sc. students of various Indian Universities and also for CSIR NET, GATE and other competitive examinations. From time to time number of new topics are added to the syllabus of Inorganic Chemistry which makes the syllabus highly exhaustive for the students and therefore I have divided the subject matter into three volumes in order to make it very easy to understand. The present book is an assembly of materials from a number of books, notes, question papers, and there before this book is going to serve as a "nutshell" of inorganic chemistry. The upcoming volumes of this book will cover the other topics of inorganic chemistry. Solved multiple choice questions have been given as an example in the last of every chapters so as to accord the students with a trend of questions that they expect in their M.Sc. examinations as well as other competitive examinations. Therefore, this book will be successful in its objectives and therefore useful to the students. Any constructive suggestions and comments from the students are gratefully invited for further improvement of the book.

P.J. van der Put offers students an original introduction to materials chemistry that integrates the full range of inorganic chemistry. Technologists who need specific chemical facts to manipulate matter will also find this work invaluable as an easy-to-use reference. The text includes practical subjects of immediate use for materials such as bonding, morphogenesis, and design that more orthodox materials science volumes often leave out.

From the fundamentals to the frontiers of research, this classic text offers an introduction to inorganic chemistry no other book can match. The new edition is most modern and most student-friendly yet, covering both the theoretical and descriptive aspects of inorganic chemistry in presentation that includes helpful new study tools and, as always, a captivating focus on experimental methods, industrial applications, and cutting-edge topics.

Both elementary inorganic reaction chemistry and more advanced inorganic theories are presented in this one textbook, while showing the relationships between the two.

Inorganic Chemistry fifth edition represents an integral part of a student's chemistry education. Basic chemical principles are set out clearly in 'Foundations' and are fully developed throughout the text, culminating in the cutting-edge research topics of the 'Frontiers', which illustrate the dynamic nature of inorganic chemistry.

Shriver and Atkins' Inorganic Chemistry Oxford University Press, USA

This textbook introduces the reader to the elementary chemistry on which materials science depends by discussing the different classes of materials and their applications. It shows the reader how different types of materials are produced, why they possess specific properties, and how they are used in technology. Each chapter contains study questions to enable discussions and consolidation of the acquired knowledge. The new edition of this textbook is completely revised and updated to reflect the significant expansion of the field of materials chemistry over the last years, covering now also topics such as graphene, nanotubes, light emitting diodes, extreme photolithography, biomedical materials, and metal organic frameworks. From the reviews of the first edition: "This book is not only informative and comprehensive for a

novice reader, but also a valuable resource for a scientist and/or an industrialist for new and novel challenges." (Materials and Manufacturing Process, June 2009) "Allcock provides a clear path by first describing basic chemical principles, then distinguishing between the various major materials groups, and finally enriching the student by offering a variety of special examples." (CHOICE, April 2009) "Proceeding logically from the basics to materials in advanced technology, it covers the fundamentals of materials chemistry, including principles of materials synthesis and materials characterization methods." (Internationale Fachzeitschrift Metall, January 2009)

Taking medication is a common occurrence for many people, whether it is to soothe an aching head, regulate blood sugars, or treat life-threatening conditions such as HIV or cancer. Examining how drugs are manufactured, formulated, and the way that they work in our bodies, Pharmaceutical Chemistry provides a wide-ranging overview of organic chemistry as it is applied to the study and practice of pharmacy. FEATURES * Supports an integrated pharmacy education * Focuses on the fundamental ideas that first-year students need to fully grasp before progressing in their studies * Demonstrates the connections between scientific concepts and principles and how they are applied to pharmacy * Written and edited by experts who have a wealth of teaching experience COMPANION WEBSITE For registered adopters of the book: - Figures from the book, available to download For students: - Self-assessment questions for each chapter - Related additional resources ABOUT THE SERIES The Integrated Foundations of Pharmacy series supports those who are at the beginning of their journey to become a pharmacist. Students will begin to understand how a drug molecule is made; the process that turns it into a medicine; the role the pharmacist has when dispensing that medicine; and what happens in the body when it is taken. Most importantly, the series shows how each of these aspects are integrated, reflecting the most up-to-date teaching practices.

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From the fundamental principles of inorganic chemistry to cutting-edge research at the forefront of the subject, this text provides a comprehensive introduction to the field.

Aimed at senior undergraduates and first-year graduate students, this book offers a principles-based approach to inorganic chemistry that, unlike other texts, uses chemical applications of group theory and molecular orbital theory throughout as an underlying framework. This highly physical approach allows students to derive the greatest benefit of topics such as molecular orbital acid-base theory, band theory of solids, and inorganic photochemistry, to name a few. Takes a principles-based, group and molecular orbital theory approach to inorganic chemistry The first inorganic chemistry textbook to provide a thorough treatment of group theory, a topic usually relegated to only one or two chapters of texts, giving it only a cursory overview Covers atomic and molecular term symbols, symmetry coordinates in vibrational spectroscopy using the projection operator method, polyatomic MO theory, band theory, and Tanabe-Sugano diagrams Includes a heavy dose of group theory in the primary inorganic textbook, most of the pedagogical benefits of integration and reinforcement of this material in the treatment of other topics, such as frontier MO

acid--base theory, band theory of solids, inorganic photochemistry, the Jahn-Teller effect, and Wade's rules are fully realized Very physical in nature compare to other textbooks in the field, taking the time to go through mathematical derivations and to compare and contrast different theories of bonding in order to allow for a more rigorous treatment of their application to molecular structure, bonding, and spectroscopy Informal and engaging writing style; worked examples throughout the text; unanswered problems in every chapter; contains a generous use of informative, colorful illustrations

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