

## Chapter 14 Acids And Bases

Known for its readability and systematic, rigorous approach, this fully updated Ninth Edition of FUNDAMENTALS OF ANALYTICAL CHEMISTRY offers extensive coverage of the principles and practices of analytic chemistry and consistently shows students its applied nature. The book's award-winning authors begin each chapter with a story and photo of how analytic chemistry is applied in industry, medicine, and all the sciences. To further reinforce student learning, a wealth of dynamic photographs by renowned chemistry photographer Charlie Winters appear as chapter-openers and throughout the text. Incorporating Excel spreadsheets as a problem-solving tool, the Ninth Edition is enhanced by a chapter on Using Spreadsheets in Analytical Chemistry, updated spreadsheet summaries and problems, an Excel Shortcut Keystrokes for the PC insert card, and a supplement by the text authors, EXCEL APPLICATIONS FOR ANALYTICAL CHEMISTRY, which integrates this important aspect of the study of analytical chemistry into the book's already rich pedagogy. New to this edition is OWL, an online homework and assessment tool that includes the Cengage YouBook, a fully customizable and interactive eBook, which enhances conceptual understanding through hands-on integrated multimedia interactivity. Available with InfoTrac Student Collections <http://gocengage.com/infotrac>. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Student's Guide to Fundamentals of Chemistry, Fourth Edition provides an introduction to the basic chemical principles. This book deals with various approaches to chemical principles and problem solving in chemistry. Organized into 25 chapters, this edition begins with an overview of how to define and recognize the more common names and symbols in chemistry. This text then discusses the historical development of the concept of atom as well as the historical determination of atomic weights for the elements. Other chapters consider how to calculate the molecular weight of a compound from its formula. This book discusses as well the characteristics of a photon in terms of its particle-like properties and defines the wavelength, frequency, and speed of light. The final chapter deals with the fundamental components of air and the classification of materials formed in natural waters. This book is a valuable resource for chemistry students, lecturers, and instructors.

The Zumdahls' hallmark problem-solving approach and focus on conceptual development come to life in this new edition with interactive problems that promote active learning and visualization. Enhanced by a wealth of online support that is seamlessly integrated with the program, Chemistry's solid explanations, emphasis on modeling, and outstanding problem sets make both teaching and learning chemistry more meaningful and accessible than ever before. The authors emphasize a qualitative approach to chemistry in both the text and the technology program before quantitative problems are considered, helping to build comprehension. The emphasis on modeling throughout the narrative addresses the problem of rote memorization by helping students to better understand and appreciate the process of scientific development. By stressing the limitations and uses of scientific models, the authors show students how chemists think and work. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

This fully updated Ninth Edition of Steven and Susan Zumdahl's CHEMISTRY brings together the solid pedagogy, easy-to-use media, and interactive exercises that today's instructors need for their general chemistry course. Rather than focusing on rote memorization, CHEMISTRY uses a thoughtful approach built on problem-solving. For the Ninth Edition, the authors have added a new emphasis on critical systematic problem solving, new critical thinking questions, and new computer-based interactive examples to help students learn how to approach and solve chemical problems--to learn to think like chemists--so that they can apply the process of problem solving to all aspects of their lives. Students are provided with the tools to become critical thinkers: to ask questions, to apply rules and develop models, and to evaluate the outcome. In addition, Steven and Susan Zumdahl crafted ChemWork, an online program included in OWL Online Web Learning to support their approach, much as an instructor would offer support during office hours. ChemWork is just one of many study aids available with CHEMISTRY that supports the hallmarks of the textbook--a strong emphasis on models, real world applications, visual learning, and independent problem solving. Available with InfoTrac Student Collections <http://gocengage.com/infotrac>. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Clear, integrated approach to contextualising the medical sciences in their clinical application. Highly illustrated. Accessible, readable writing. e-only chapters which animate difficult concepts

Respiratory Care Cardiopulmonary Anatomy and Physiology is a comprehensive, highly illustrated text with a strong emphasis on cardiovascular and pulmonary physiology, acid/base balance, and blood gas interpretation. This text will expertly guide you through cardiopulmonary anatomy and physiology and serves as an ongoing reference throughout your schooling and health profession. With brand new content covering genetics, the inflammatory cycle, and pulmonary remodeling this text will provide you with the most current information on cardiopulmonary anatomy and physiology. Respiratory Care Cardiopulmonary Anatomy and Physiology was written with the understanding to prepare you for successful completion of the National Board for Respiratory Care Examination Matrix. Using this text as your go to guide while studying will be a breeze with the online study aides and detailed illustrations.

Study Guide to Accompany Basics for Chemistry is an 18-chapter text designed to be used with Basics for Chemistry textbook. Each chapter contains Overview, Topical Outline, Skills, and Common Mistakes, which are all keyed to the textbook for easy cross reference. The Overview section summarizes the content of the chapter and includes a comprehensive listing of terms, a summary of general concepts, and a list of numerical exercises, while the Topical Outline provides the subtopic heads that carry the corresponding chapter and section numbers as they appear in the textbook. The Fill-in, Multiple Choice are two sets of questions that include every concept and numerical exercise introduced in the chapter and the Skills section provides developed exercises to apply the new concepts in the chapter to particular examples. The Common Mistakes section is designed to help avoid some of the errors that students make in their effort to learn chemistry, while the Practical Test section includes matching and multiple choice questions that comprehensively cover almost every concept and numerical problem in the chapter. After briefly dealing with an overview of chemistry, this book goes on exploring the concept of matter, energy, measurement, problem solving, atom, periodic table, and chemical bonding. These topics are followed by discussions on writing names and formulas of compounds; chemical formulas and the mole; chemical reactions; calculations based on equations; gases; and the properties of a liquid. The remaining chapters examine the solutions; acids; bases; salts; oxidation-reduction reactions; electrochemistry; chemical kinetics

and equilibrium; and nuclear, organic, and biological chemistry. This study guide will be of great value to chemistry teachers and students.

Barron's two-book Regents Chemistry Power Pack provides comprehensive review, actual administered exams, and practice questions to help students prepare for the Chemistry Regents exam. All Regents test dates for 2020 have been canceled. Currently the State Education Department of New York has released tentative test dates for the 2021 Regents. The dates are set for January 26-29, 2021, June 15-25, 2021, and August 12-13th. This edition includes: Regents Exams and Answers: Chemistry Eight actual administered Regents Chemistry exams so students can get familiar with the test Thorough explanations for all answers Self-analysis charts to help identify strengths and weaknesses Test-taking techniques and strategies A detailed outline of all major topics tested on this exam A glossary of important terms to know for test day Let's Review Regents: Chemistry Extensive review of all topics on the test Extra practice questions with answers A detailed introduction to the Regents Chemistry course and exam One actual, recently released, Regents Chemistry exam with an answer key The Power Pack includes two volumes for a savings of \$4.99.

In the newly released Eighth Edition of Chemistry: The Molecular Nature of Matter, the authors deliver a practical and essential introduction to general chemistry. Thoroughly revised, with particular attention paid to the optimization of the text and included LearnSmart questions, the book focuses throughout on keeping the material accessible and succinct.

Steve and Susan Zumdahl's texts focus on helping students build critical -thinking skills through the process of becoming independent problem-solvers. They help students learn to think like chemists so they can apply the problem solving process to all aspects of their lives. In this Second Edition of CHEMISTRY: AN ATOMS FIRST APPROACH, the Zumdahls use a meaningful approach that begins with the atom and proceeds through the concept of molecules, structure, and bonding, to more complex materials and their properties. Because this approach differs from what most students have experienced in high school courses, it encourages them to focus on conceptual learning early in the course, rather than relying on memorization and a plug and chug method of problem solving that even the best students can fall back on when confronted with familiar material. The atoms first organization provides an opportunity for students to use the tools of critical thinkers: to ask questions, to apply rules and models, and to evaluate outcomes. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Care of patients with skin problems -- Care of patients with burns -- Assessment of the respiratory system -- Care of patients requiring oxygen therapy or tracheostomy -- Care of patients with noninfectious upper respiratory problems -- Care of patients with noninfectious lower respiratory problems -- Care of patients with infectious respiratory problems -- Care of critically ill patients with respiratory problems -- Assessment of the cardiovascular system -- Care of patients with dysrhythmias -- Care of patients with cardiac problems -- Care of patients with vascular problems -- Care of patients with shock -- Care of patients with acute coronary syndromes -- Assessment of the hematologic system -- Care of patients with hematologic problems.

Basics of Chemistry provides the tools needed in the study of General Chemistry such as problem solving skills, calculation methods and the language and basic concepts of chemistry. The book is designed to meet the specific needs of underprepared students. Concepts are presented only as they are needed, and developed from the simple to the complex. The text is divided into 18 chapters, each covering some particular aspect of chemistry such as matter, energy, and measurement; the properties of atoms; description of chemical bonding; study of chemical change; and nuclear and organic chemistry. Undergraduate students will find the book as a very valuable academic material.

This innovative partial version of INTRODUCTION TO GENERAL, ORGANIC, AND BIOCHEMISTRY gives you a solid foundation of the chemistry of the human body, consistently demonstrating that a strong background in molecular structure and properties leads to better understanding of biochemical interactions. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Textbook outlining concepts of molecular science

This book covers theory, clinical and practical aspects of general surgery for undergraduate dental students as per prescribed syllabus of dental council of India (dci). The theory part of the book covers etiopathology, clinical features, investigations, diagnosis and treatment of important diseases that require surgical intervention are discussed in as much detail as required by the dental students. The clinical and practical part deals with clinical cases, surgical instruments, suturing materials, clinical pathology and diagnostic images along with viva voce questions and answers. The book is complete in all aspects and is a perfect resource for undergraduate dental students preparing for exams in general surgery. Key features: Covers general principles of surgery with special emphasis on diseases of head and neck, exam-oriented with key points for quick revision and review questions including objective type for self-assessment, at the end of each chapter, very helpful in preparing for practical exam in surgery. The chapter on clinical cases covers the questioning, case sheet writing, sample cases and viva voce questions while chapters on clinical pathology and diagnostic images presented in question-answer format are helpful in identifying and describing the image clinical specimens.

Softcover

Open CHEMISTRY: THE MOLECULAR SCIENCE, Fifth Edition and take a journey into the beautiful domain of chemistry, a fascinating and powerfully enabling experience! This easy-to-read text gives learners the solid foundation needed for success in science and engineering courses. Every Problem-Solving Example includes a Strategy and Explanation section, which clearly describes the strategy and approach chosen to solve the problem. In addition, an annotated art program emphasizes the three concept levels in a pedagogically sound approach to understanding molecules, concepts, and mathematical equations. Success is within your grasp with CHEMISTRY: THE MOLECULAR SCIENCE, Fifth Edition. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

The leading medical-surgical text for LPN/LVN students, Linton's Introduction to Medical-Surgical Nursing, 6th Edition offers just the right level of information to equip today's students to effectively care for adults and older adults. Covering both medical-surgical and psychiatric mental health conditions and disorders, this comprehensive text addresses the LPN/LVN's role in a variety of care settings, including acute care and long-term care, with a special emphasis on assignment and supervision responsibilities. It also emphasizes culturally competent care and holistic nursing, while thoroughly covering all relevant NCLEX-PN test plan content No other resource offers the breadth of topics at a level that is so perfectly tailored to the LPN/LVN student. Foundational units on basic concepts related to the health care system, care settings, the nursing process, leadership, nutrition, the older adult, growth and nutrition, legal/ethical considerations,

evidence-based nursing care, and many more essential topics, avoid repetition later in the text and create a foundation to build your understanding of disorders by body system. Safety alerts are highlighted throughout the text with a Safety Considerations icon. A separate unit on psychiatric mental health nursing covers psychosocial responses to illness, psychiatric disorders, and substance abuse - eliminating the need for a separate psychiatric mental health nursing text. Content related to the NCLEX-PN test plan is emphasized throughout the text, including health promotion, nutrition, legal/ethical issues, HIPAA, and prevention of medication/medical errors. Separate chapters on common, high-profile disorders (including hypertension, diabetes, and shock), provide an in-depth understanding for patient care. Focus on assignment and supervision helps you assign tasks to nurse assistants, patient care techs, and unlicensed assistive personnel, and makes sure they understand the difference between delegation, management, supervision, and assignment of tasks on the health care team. UNIQUE! In-depth pharmacology coverage includes: the Pharmacology Tutorial covering drug classifications, how drugs work, and nursing responsibilities; Pharmacology Capsules boxes providing medication information, precautions for use, interactions, and side/adverse effects; and Pharmacology and Medications tables including classification, use/action, side/adverse effects, and nursing interventions. A separate unit on gerontologic nursing provides comprehensive coverage of the care of the older adult and related disorders. No other LPN/LVN med-surg text offers as much coverage of this primary patient group. Diagnostic Tests and Procedures tables offer quick reference to MRI, CT, Doppler flow, lumbar puncture tests for neurologic disorders, and much more. Health Promotion Considerations boxes highlight timely wellness and disease prevention topics. Patient Teaching Plans provide bulleted lists of nursing instructions for patients, stressing the role and responsibility of the LPN/LVN to reinforce patient education. Nutrition Considerations boxes are spotlighted at appropriate points throughout the text to emphasize the role that nutrition plays in disease and nursing care. Nursing care plans reinforce the nursing process and focus on critical thinking. Cultural Considerations boxes discuss the importance of providing culturally-competent care related to various clinical situations. Put on Your Thinking Cap boxes allow you to pause and consider the practical implications of what you have just read. Get Ready for the NCLEX-PN Examination! sections at the end of chapters include key points, review questions, and case studies that address the various NCLEX Client Needs categories. NEW! Continued emphasis on evidence-based practice and the most current research findings include specific examples of how scientific evidence can justify and support patient care. NEW! Updated nursing diagnoses all reflect the most current NANDA listings for NCLEX compliance.

Study more effectively and improve your performance at exam time with this comprehensive guide. The study guide includes: chapter summaries that highlight the main themes, study goals with section references, solutions to all textbook Example problems, and over 1,500 practice problems for all sections of the textbook. The Study Guide helps you organize the material and practice applying the concepts of the core text. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Chemistry can be a daunting subject for the uninitiated, and all too often, introductory textbooks do little to make students feel at ease with the complex subject matter. Basic Chemistry Concepts and Exercises brings the wisdom of John Kenkel's more than 35 years of teaching experience to communicate the fundamentals of chemistry in a practical, d This Revised Edition Includes Several New Topics To Make The Treatment More Comprehensive And Contemporary. The Exposition In Several Chapters Has Also Been Recast To Facilitate An Easier Understanding Of The Subject. \* Molecular Orbital And Bonding Thoroughly Explained. \* Resonance Structures And Allylic Systems Included. \* Organic Acids And Bases Explained In Detail With Additional Examples. \* Discussion Of Organic Reactions Considerably Expanded. \* Various Additional Dimensions Of Photochemistry Highlighted. \* A New Chapter On Special Topics Included. With Its Clear And Systematic Presentation, This Is An Essential Text For B.Sc. And M.Sc. Chemistry Students. This book is a complete guide to the field of paediatrics for undergraduate and postgraduate medical students. Beginning with an overview of growth and development, nutrition, and genetics, the following chapters provide in depth discussion on paediatric subspecialties, including neonatology, gastroenterology, cardiology, endocrinology, nephrology, and much more. Additional chapters examine the diagnosis and management of specific disorders such as poisoning, diabetic ketoacidosis, emergencies, and infections. The final section covers child abuse. The comprehensive text of nearly 1000 pages, is highly illustrated with more than 1300 clinical photographs, diagrams, boxes and tables. A colour atlas demonstrates neurological examination of an infant. Each chapter features a brief history panel providing interesting facts about innovators and major milestones in medical history. Key points Comprehensive guide to paediatrics for undergraduate and postgraduate students Covers all paediatric subspecialties and specific disorders Highly illustrated with more than 1300 images, diagrams and tables Features history panel boxes on innovators and major medical history milestones

Barron's Let's Review Regents: Chemistry gives students the step-by-step review and practice they need to prepare for the Regents Chemistry/Physical Setting exam. This updated edition is an ideal companion to high school textbooks and covers all Chemistry topics prescribed by the New York State Board of Regents. All Regents test dates for 2020 have been canceled. Currently the State Education Department of New York has released tentative test dates for the 2021 Regents. The dates are set for January 26-29, 2021, June 15-25, 2021, and August 12-13th. Let's Review Regents: Chemistry covers all high school-level Chemistry topics and includes: Extensive review of all topics on the test Extra practice questions with answers A detailed introduction to the Regents Chemistry course and exam One actual, recently released, Regents Chemistry exam with an answer key Looking for additional practice and review? Check out Barron's Regents Chemistry Power Pack two-volume set, which includes Regents Exams and Answers: Chemistry in addition to Let's Review Regents: Chemistry.

Making explicit the connections between physical organic chemistry and critical fields such as organometallic chemistry,

materials chemistry, bioorganic chemistry and biochemistry, this book escorts the reader into an area that has been thoroughly updated in recent times.

This volume contains evaluated data on the solubility of beryllium hydroxide, magnesium hydroxide, calcium hydroxide, strontium hydroxide and barium hydroxide in water and in a number of electrolyte and nonelectrolyte solutions in water. The alkaline earth hydroxides can be divided into two groups depending on the hydration of the solid. First, the sparingly soluble anhydrous beryllium, magnesium and calcium hydroxides, whose freshly precipitated solids are poorly crystalline and show decreasing solubility with aging, and whose solubility in water decreases with increasing temperature. Second, the soluble strontium and barium hydroxide octahydrates that form crystalline precipitates which do not show changes in solubility on aging, and whose solubility in water increases with increasing temperature.

Practice makes perfect—and helps deepen your understanding of chemistry Every high school requires a course in chemistry, and many universities require the course for majors in medicine, engineering, biology, and various other sciences. 1001 Chemistry Practice Problems For Dummies provides students of this popular course the chance to practice what they learn in class, deepening their understanding of the material, and allowing for supplemental explanation of difficult topics. 1001 Chemistry Practice Problems For Dummies takes you beyond the instruction and guidance offered in Chemistry For Dummies, giving you 1,001 opportunities to practice solving problems from the major topics in chemistry. Plus, an online component provides you with a collection of chemistry problems presented in multiple-choice format to further help you test your skills as you go. Gives you a chance to practice and reinforce the skills you learn in chemistry class Helps you refine your understanding of chemistry Practice problems with answer explanations that detail every step of every problem Whether you're studying chemistry at the high school, college, or graduate level, the practice problems in 1001 Chemistry Practice Problems For Dummies range in areas of difficulty and style, providing you with the practice help you need to score high at exam time.

1. B. Pharma Entrance Examination 2021 is a one-point solution for the entrance exam? 2. The book is divided into 4 sections 3. Previous Years' Solved papers are given for the practice 4. Precise and detailed text with illustrations eases in learning the concepts 5. This book uses the easy language for better understanding Bachelor of Pharmacy (B. Pharma) is a 4 years' undergraduate program in which students study the methods and process of preparing medicines. To get into the proper college or institution one needs to clear the entrance exam that tests the suitability and apparent knowledge required for the course. The "Self Study Guide of B. Pharma Entrance Examination 2021" is an on point solution for various B. Pharma Entrances, conceived and designed as according to latest exam pattern. Precise and detailed text with illustrations makes it suitable for all categories of students. Strict approach towards the prescribed syllabus enables students to get focused preparation. Also, Last 9 Years' Solved Papers are provided following the actual trends of the exams and helping students to get prepared accordingly. A Must have book for those who really aspire to be a pharmacist. TOC Solved Papers (2020 – 2012), Physics, Chemistry, Botany, Zoology, Appendix Chemistry For Dummies, 2nd Edition (9781119293460) was previously published as Chemistry For Dummies, 2nd Edition (9781118007303). While this version features a new Dummies cover and design, the content is the same as the prior release and should not be considered a new or updated product. See how chemistry works in everything from soaps to medicines to petroleum We're all natural born chemists. Every time we cook, clean, take a shower, drive a car, use a solvent (such as nail polish remover), or perform any of the countless everyday activities that involve complex chemical reactions we're doing chemistry! So why do so many of us desperately resist learning chemistry when we're young? Now there's a fun, easy way to learn basic chemistry. Whether you're studying chemistry in school and you're looking for a little help making sense of what's being taught in class, or you're just into learning new things, Chemistry For Dummies gets you rolling with all the basics of matter and energy, atoms and molecules, acids and bases, and much more! Tracks a typical chemistry course, giving you step-by-step lessons you can easily grasp Packed with basic chemistry principles and time-saving tips from chemistry professors Real-world examples provide everyday context for complicated topics Full of modern, relevant examples and updated to mirror current teaching methods and classroom protocols, Chemistry For Dummies puts you on the fast-track to mastering the basics of chemistry.

The CliffsStudySolver workbooks combine 20 percent review material with 80 percent practice problems (and the answers!) to help make your lessons stick. CliffsStudySolver Chemistry is for students who want to reinforce their knowledge with a learn-by-doing approach. Inside, you'll get the practice you need to learn Chemistry with problem-solving tools such as Clear, concise reviews of every topic Practice problems in every chapter — with explanations and solutions A diagnostic pretest to assess your current skills A full-length exam that adapts to your skill level A glossary, examples of calculations and equations, and situational tasks can help you practice and understand chemistry. This workbook also covers measurement, chemical reactions and equations, and matter — elements, compounds, and mixtures. Explore other aspects of the language including Formulas and ionic compounds Gases and the gas laws Atoms The mole — elements and compounds Solutions and solution concentrations Chemical bonding Acids, bases, and buffers Practice makes perfect — and whether you're taking lessons or teaching yourself, CliffsStudySolver guides can help you make the grade.

Chemistry: The Molecular Science Cengage Learning

Covers measurement, atoms and molecules, formulas, chemical equations, bonding, liquids, solids, gases, solutions, equilibrium, acids and bases, oxidation, and reduction, and includes sample problems and their answers

This advanced chemistry text has been updated to match the specification for A Level Chemistry from September 2000. The problems have been revised and graded to allow more differentiation, helping the teacher to teach students of a wide range of abilities. The new editions of all the texts in this series should make it easier for teachers to match their teaching to the new modular specification. There are new activities to cover ICT and key skills, and end-of-unit tests to give students practice.

Learn the principles and skills you'll need as a respiratory therapist! Egan's Fundamentals of Respiratory Care, 12th Edition provides a solid foundation in respiratory care and covers the latest advances in this ever-changing field. Known as "the bible for respiratory care," this text makes it easy to understand the role of the respiratory therapist, the scientific basis for treatment, and clinical applications. Comprehensive chapters correlate to the 2020 NBRC Exam matrices, preparing you for clinical and exam success. Written by noted educators Robert Kacmarek, James Stoller, and Albert Heuer, this edition includes new chapters on heart failure as well as ethics and end-of-life care, plus the

latest AARC practice guidelines. Updated content reflects the newest advances in respiratory care, preparing you to succeed in today's health care environment. UNIQUE! Mini-Clinis provide case scenarios challenging you to use critical thinking in solving problems encountered during actual patient care. Decision trees developed by hospitals highlight the use of therapist-driven protocols to assess a patient, initiate care, and evaluate outcomes. Rules of Thumb highlight rules, formulas, and key points that are important to clinical practice. Learning objectives align with the summary checklists, highlighting key content at the beginning and at the end of each chapter, and parallel the three areas tested on the 2020 NBRC Exam matrices. Learning resources on the Evolve companion website include an NBRC correlation guide, image collection, lecture notes, Body Spectrum electronic anatomy coloring book, and an English/Spanish glossary. Student workbook provides a practical study guide reflecting this edition of the text, offering numerous case studies, experiments, and hands-on activities. Available separately. Full-color design calls attention to the text's special features and promotes learning. Glossary includes key terms and definitions needed for learning concepts. NEW Heart Failure chapter covers the disease that is the most frequent cause of unscheduled hospital admissions. NEW Ethics and End-of-Life Care chapter explains related issues and how to help patients and their families. NEW! Improved readability makes the text easier to read and concepts easier to understand. NEW! Updated practice guidelines from the AARC (American Association for Respiratory Care) are included within the relevant chapters. NEW! Updated chapters include topics such as arterial lines, stroke, ACLS, PALS, hemodynamics, polysomnography, waveform interpretation, and laryngectomy. NEW! Streamlined format eliminates redundancy and complex verbiage.

Long considered the standard for honors and high-level mainstream general chemistry courses, PRINCIPLES OF MODERN CHEMISTRY continues to set the standard as the most modern, rigorous, and chemically and mathematically accurate text on the market. This authoritative text features an "atoms first" approach and thoroughly revised chapters on Quantum Mechanics and Molecular Structure (Chapter 6), Electrochemistry (Chapter 17), and Molecular Spectroscopy and Photochemistry (Chapter 20). In addition, the text utilizes mathematically accurate and artistic atomic and molecular orbital art, and is student friendly without compromising its rigor. End-of-chapter study aids focus on only the most important key objectives, equations and concepts, making it easier for students to locate chapter content, while applications to a wide range of disciplines, such as biology, chemical engineering, biochemistry, and medicine deepen students' understanding of the relevance of chemistry beyond the classroom.

Introductory chemistry students need to develop problem-solving skills, and they also must see why these skills are important to them and to their world. Introductory Chemistry, Fourth Edition extends chemistry from the laboratory to the student's world, motivating students to learn chemistry by demonstrating how it is manifested in their daily lives. Throughout, the Fourth Edition presents a new student-friendly, step-by-step problem-solving approach that adds four steps to each worked example (Sort, Strategize, Solve, and Check). Tro's acclaimed pedagogical features include Solution Maps, Two-Column Examples, Three-Column Problem-Solving Procedures, and Conceptual Checkpoints. This proven text continues to foster student success beyond the classroom with MasteringChemistry®, the most advanced online tutorial and assessment program available. This package contains: Tro, Introductory Chemistry with MasteringChemistry® Long, Introductory Chemistry Math Review Toolkit

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