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Essential Equations for Anaesthesia **Understanding Acoustics** *Aplusphysics* Ideal Gas Law, Enthalpy, Heat Capacity, Heats of Solution and Mixing **An Introduction to the Gas Phase** *Concept Development Studies in Chemistry* *Encyclopedic Dictionary of Polymers* University Physics *An Introduction to Statistical Mechanics and Thermodynamics* **Chemistry 2e** **Practical Meteorology** Cambridge International AS and A Level Chemistry Coursebook with CD-ROM *Regulation of Tissue Oxygenation, Second Edition* *Thermodynamics* **Statistical Physics of Biomolecules** **Kinetic Theory of Gases** **Thermodynamics And Statistical Mechanics** *Concepts in Thermal Physics* *The Bases of Chemical Thermodynamics: Volume 1* **Thermodynamics for the Practicing Engineer** **General Chemistry** General, Organic, and Biological Chemistry *Thermodynamics for Chemists, Physicists and Engineers* **General Chemistry** *Principles of Engineering Thermodynamics, SI Edition* **High School Chemistry Tutor** **Making Sense of Secondary Science** **Total Pressure Measurements in Vacuum Technology** *Thermofluids* Positive Pressure Attack for Ventilation & Firefighting Children'S Ideas In Science **Physics for Anesthesiologists** *The Science of Air* **Molecular Physical Chemistry for Engineers** *Physics by Inquiry* An Introduction to Chemistry *Chemistry* 12 Rules for Life **The Basics of Physics** **What If?**

Concepts in Thermal Physics May 12 2021 This text provides a modern introduction to the main principles of thermal physics, thermodynamics and statistical mechanics. The key concepts are presented and new ideas are illustrated with worked examples as well as description of the historical background to their discovery.

Regulation of Tissue Oxygenation, Second Edition Oct 17 2021 This presentation describes various aspects of the regulation of tissue oxygenation, including the roles of the circulatory system, respiratory system, and blood, the carrier of oxygen within these components of the cardiorespiratory system. The respiratory system takes oxygen from the atmosphere and transports it by diffusion from the air in the alveoli to the blood flowing through the pulmonary capillaries. The cardiovascular system then moves the oxygenated blood from the heart to the microcirculation of the various organs by convection, where oxygen is released from

hemoglobin in the red blood cells and moves to the parenchymal cells of each tissue by diffusion. Oxygen that has diffused into cells is then utilized in the mitochondria to produce adenosine triphosphate (ATP), the energy currency of all cells. The mitochondria are able to produce ATP until the oxygen tension or PO2 on the cell surface falls to a critical level of about 4–5 mm Hg. Thus, in order to meet the energetic needs of cells, it is important to maintain a continuous supply of oxygen to the mitochondria at or above the critical PO2 . In order to accomplish this desired outcome, the cardiorespiratory system, including the blood, must be capable of regulation to ensure survival of all tissues under a wide range of circumstances. The purpose of this presentation is to provide basic information about the operation and regulation of the cardiovascular and respiratory systems, as well as the properties of the blood and parenchymal cells, so that a fundamental understanding of the regulation of tissue oxygenation is achieved.

An Introduction to the Gas Phase Jun 25 2022 An Introduction to the Gas Phase is adapted from a set of lecture notes for a core first year lecture course in physical chemistry taught at the University of Oxford. The book is intended to give a relatively concise introduction to the gas phase at a level suitable for any undergraduate scientist. After defining the gas phase, properties of gases such as temperature, pressure, and volume are discussed. The relationships between these properties are explained at a molecular level, and simple models are introduced that allow the various gas laws to be derived from first principles. Finally, the collisional behavior of gases is used to explain a number of gas-phase phenomena, such as effusion, diffusion, and thermal conductivity.

Thermodynamics for the Practicing Engineer Mar 10 2021 Enables you to easily advance from thermodynamics principles to applications Thermodynamics for the Practicing Engineer, as the title suggests, is written for all practicing engineers and anyone studying to become one. Its focus therefore is on applications of thermodynamics, addressing both technical and pragmatic problems in the field. Readers are provided a solid base in thermodynamics theory; however, the text is mostly dedicated to demonstrating how theory is applied to solve real-world problems. This text's four parts enable readers to easily gain a foundation in basic principles and then learn how to apply them in practice: Part One: Introduction. Sets forth the basic principles of thermodynamics, reviewing such topics as units and dimensions, conservation laws, gas laws, and the second law of thermodynamics. Part Two: Enthalpy Effects. Examines sensible, latent, chemical reaction, and mixing enthalpy effects. Part Three: Equilibrium Thermodynamics. Addresses both principles and calculations for phase, vapor-liquid, and chemical reaction equilibrium. Part Four: Other Topics. Reviews such important issues as economics, numerical methods, open-ended problems, environmental concerns, health and safety management, ethics, and exergy. Throughout the text, detailed illustrative examples demonstrate how all the principles, procedures, and equations are put into practice. Additional practice problems enable readers to solve real-world problems similar to the ones that they will encounter on the job. Readers will gain a solid working knowledge of thermodynamics principles and applications upon successful completion of this text. Moreover, they will be better prepared when approaching/addressing advanced material and more complex problems.

High School Chemistry Tutor Sep 04 2020 Specifically designed to meet the needs of high school students, REA's High School Chemistry Tutor presents hundreds of solved problems with step-by-step and detailed solutions. Almost any imaginable problem that might be assigned for homework or given on an exam is covered. Included are thorough sections on thermodynamics, electrochemistry, organic chemistry, biochemistry, and nuclear chemistry. Fully indexed for locating specific problems rapidly.
Kinetic Theory of Gases Jul 14 2021 Monograph and text supplement for first-year students of physical chemistry focuses chiefly on the molecular basis of important thermodynamic properties of gases, including pressure, temperature, and thermal energy. 1966 edition.
An Introduction to Statistical Mechanics and Thermodynamics Feb 21 2022 This text presents statistical mechanics and thermodynamics as a theoretically integrated field of study. It stresses deep coverage of fundamentals, providing a natural foundation for advanced topics. The large problem sets (with solutions for teachers) include many computational problems to advance student understanding.
Ideal Gas Law, Enthalpy, Heat Capacity, Heats of Solution and Mixing Jul 26 2022
An Introduction to Chemistry Oct 25 2019 Bishop's text shows students how to break the material of preparatory chemistry down and master it. The system of objectives tells the students exactly what they must learn in each chapter and where to find it.
12 Rules for Life Aug 23 2019 Jordan Peterson's work as a clinical psychologist has reshaped the modern understanding of personality, and now he has become one of the world's most popular public thinkers, with his lectures on topics ranging from the Bible to romantic relationships drawing tens of millions of viewers. In an era of polarizing politics, echo chambers and trigger warnings, his startling message about the value of personal responsibility and the dangers of ideology has resonated around the world. In this book, he combines ancient wisdom with decades of experience to provide twelve profound and challenging principles for how to live a meaningful life, from setting your house in order before criticising others to comparing yourself to who you were yesterday, not someone else today. Gripping, thought-provoking and deeply rewarding, 12 Rules for Life offers an antidote to the chaos in our lives: eternal truths applied to our modern problems.
Essential Equations for Anaesthesia Oct 29 2022 Covers all of the equations that candidates need to understand and be able to apply when sitting postgraduate anaesthetic examinations.
Thermodynamics for Chemists, Physicists and Engineers Dec 07 2020 This textbook takes an interdisciplinary approach to the subject of thermodynamics and is therefore suitable for undergraduates in chemistry, physics and engineering courses. The book is an introduction to phenomenological thermodynamics and its applications to phase transitions and chemical reactions, with some references to statistical mechanics. It strikes the balance between the rigorousness of the Callen text and phenomenological approach of the Atkins text. The book is divided in three parts. The first introduces the postulates and laws of thermodynamics and complements

these initial explanations with practical examples. The second part is devoted to applications of thermodynamics to phase transitions in pure substances and mixtures. The third part covers thermodynamic systems in which chemical reactions take place. There are some sections on more advanced topics such as thermodynamic potentials, natural variables, non-ideal mixtures and electrochemical reactions, which make this book of suitable also to post-graduate students.

Encyclopedic Dictionary of Polymers Apr 23 2022 This is the first complete book of polymer terminology ever published. It contains more than 7,500 polymeric material terms. Supplementary electronic material brings important relationships to life, and audio supplements include pronunciation of each term.

General, Organic, and Biological Chemistry Jan 08 2021 Frost and Deal's General, Organic, and Biological Chemistry gives students a focused introduction to the fundamental and relevant connections between chemistry and life. Emphasizing the development of problem-solving skills with distinct Inquiry Questions and Activities, this text empowers students to solve problems in different and applied contexts relating to health and biochemistry. Integrated coverage of biochemical applications throughout keeps students interested in the material and allow for a more efficient progression through the topics. Concise, practical, and integrated, Frost's streamlined approach offers students a clear path through the content. Applications throughout the narrative, the visual program, and problem-solving support in each chapter improve their retention of the concepts and skills as they master them. General, organic, and biological chemistry topics are integrated throughout each chapter to create a seamless framework that immediately relates chemistry to students' future allied health careers and their everyday lives.Note: This is the standalone book, if you want the book/access card order the ISBN below: 0321802632 / 9780321802637 General, Organic, and Biological Chemistry Plus MasteringChemistry with eText -- Access Card Package Package consists of: 0321803035 / 9780321803030 General, Organic, and Biological Chemistry 0321833945 / 9780321833945 MasteringChemistry with Pearson eText -- ValuePack Access Card -- for General, Organic, and Biological Chemistry

Physics for Anesthesiologists Feb 27 2020 This book discusses, explains and provides detailed, up-to-date information on physics applied to clinical practice in anesthesiology, with the aid of simple examples from daily life. Almost everything that happens around us, including in the operating room and intensive care units, can be explained by physical laws. An awareness and understanding of relatively simple laws such as Bernoulli’s theorem, Hagen-Poiseuille equation and Pascal’s principle, to name just a few, offer anesthesiologists and intensivists fascinating insights into why they do what they do. Each of the 16 chapters starts with an everyday phenomenon, explains it with a physical law, and then shows why that law is important in anesthesia practice. Numerous illustrations are included for extra clarity. It is intended for anesthesiologists, intensivists, anesthesia teachers, anesthesia trainees, and medical students.

Concept Development Studies in Chemistry May 24 2022

General Chemistry Nov 06 2020 The most trusted general chemistry text in Canada is back in a thoroughly revised 11th edition. General Chemistry: Principles and Modern Applications, is the most trusted book on the market recognized for its superior problems, lucid writing, and precision of argument and precise and detailed and treatment of the subject. The 11th edition offers enhanced hallmark features, new innovations and revised discussions that that respond to key market needs for detailed and modern treatment of organic chemistry, embracing the power of visual learning and conquering the challenges of effective problem solving and assessment. Note: You are purchasing a standalone product; MasteringChemistry does not come packaged with this content. Students, if interested in purchasing this title with MasteringChemistry, ask your instructor for the correct package ISBN and Course ID. Instructors, contact your Pearson representative for more information. If you would like to purchase both the physical text and MasteringChemistry, search for: 0134097327 / 9780134097329 General Chemistry: Principles and Modern Applications Plus MasteringChemistry with Pearson eText -- Access Card Package, 11/e Package consists of: 0132931281 / 9780132931281 General Chemistry: Principles and Modern Applications 0133387917 / 9780133387919 Study Card for General Chemistry: Principles and Modern Applications 0133387801 / 9780133387803 MasteringChemistry with Pearson eText -- Valuepack Access Card -- for General Chemistry: Principles and Modern Applications

Physics by Inquiry Nov 25 2019 A hands-on approach to learning physics fundamentals Physics by Inquiry: An Introduction to Physics and the Physical Sciences, Volume 2 offers a practical lab-based approach to understanding the fundamentals of physics. Step-by-step protocols provide clear guidance to observable phenomena, and analysis of results facilitates critical thinking and information assimilation over rote memorization. Covering essential concepts relating to electrical circuits, electromagnets, light and optics, and kinematics, this book provides beginner students with an engaging introduction to the foundation of physical science.

University Physics Mar 22 2022 "University Physics is a three-volume collection that meets the scope and sequence requirements for two- and three-semester calculus-based physics courses. Volume 1 covers mechanics, sound, oscillations, and waves. This textbook emphasizes connections between theory and application, making physics concepts interesting and accessible to students while maintaining the mathematical rigor inherent in the subject. Frequent, strong examples focus on how to approach a problem, how to work with the equations, and how to check and generalize the result."--Open Textbook Library.

The Bases of Chemical Thermodynamics: Volume 1 Apr 11 2021 In this volume (volume 1), the fundamental aspects of thermodynamics are presented. The first & second laws of thermodynamics are illustrated. The need to define thermodynamic temperature & the nature of entropy are explained. The book explores the meaning of auxiliary thermodynamic functions, the origin, usefulness & use of partial molar quantities. Gaseous systems & phase equilibrium, in systems where chemical reactions do not take place, are described In volume 2, the tools necessary to study & understand systems in which chemical reactions can take place are developed. The variables of reaction are the keys to understanding. Criteria for chemical equilibrium are established. It is shown how

chemical reactions can provide work, as for example, in batteries. For complex systems, the number of independent reactions & their nature have to be determined systematically. The effect of external factors on chemical equilibria is analyzed & illustrated. The formalism necessary to study ideal & real solutions is provided. The various standard states in use & the corresponding activity coefficients are clearly defined. The statistical aspect of thermodynamics is best understood once students are familiar with the rest of the book, for this reason, is treated in the last chapter. Both volumes comply with the latest IUPC recommendations for symbols. Most of the specific mathematical tools are presented either directly in the text if they are used mostly in one chapter, while the others are included in an appendix. A primarily phenomenological approach has been selected to keep chemical thermodynamics easily accessible to beginners. Intermediate steps in the derivations have been kept to enhance the clarity of the presentation. A large number of problems, most of them original, will with complete solutions, are provided. They give this textbook a great pedagogical value. This book is primarily destined to students, graduate students & practicing scientists in the fields of Chemistry, Chemical Engineering & Material Sciences.

The Science of Air Jan 28 2020 Hailed on first publication as a masterful review of the topic, The Science of Air: Concepts and Applications quickly became a standard resource in the field. Clearly written and user-friendly, the second edition continues to provide the scientific underpinnings of the essence of air. Major expansions include: Air math and physics Air flow parameters Indoor air quality Regulatory updates related to indoor and outdoor air quality Updated air pollution control technologies The text follows a pattern that is nontraditional, using a paradigm based on real-world experience. It covers air resource utilization and air protection, contains regulatory updates related to air quality, and provides an update on pollution control technologies. In addition to the discussion of numerous mitigation and remediation procedures, this authoritative resource includes an expanded section on the fundamentals of air chemistry and physics, making it an indispensable text for those tasked with compliance to air pollution laws. The common thread woven through the fabric of this text is air resource utilization and its protection. Numerous examples exist on how understanding the science of air can assist in understanding global climate change, air pollution, radon, indoor air quality, and acid rain. To solve these problems and understand the issues related to air, air pollution control practitioners need a broad base of scientific information from which to draw — The Science of Air fills this critical need.

What If? Jun 20 2019 The creator of the incredibly popular webcomic xkcd presents his heavily researched answers to his fans' oddest questions, including “What if I took a swim in a spent-nuclear-fuel pool?” and “Could you build a jetpack using downward-firing machine guns?” 100,000 first printing.

Cambridge International AS and A Level Chemistry Coursebook with CD-ROM Nov 18 2021 Fully revised and updated content matching the Cambridge International AS & A Level Chemistry syllabus (9701). Endorsed by Cambridge International Examinations, the Second edition of the AS/A Level Chemistry Coursebook comprehensively covers all the knowledge and skills students need for

AS/A Level Chemistry 9701 (first examination 2016). Written by renowned experts in Chemistry, the text is written in an accessible style with international learners in mind. The Coursebook is easy to navigate with colour-coded sections to differentiate between AS and A Level content. Self-assessment questions allow learners to track their progression and exam-style questions help learners to prepare thoroughly for their examinations. Contemporary contexts and applications are discussed throughout enhancing the relevance and interest for learners.

Chemistry Sep 23 2019 From core concepts to current applications, Chemistry: The Practical Science makes the connections from chemistry concepts to the world we live in, developing effective problem solvers and critical thinkers for today's visual, technology-driven world. Students learn to appreciate the role of asking questions in the process of chemistry and begin to think like chemists. In addition, real-world applications are interwoven throughout the narrative, examples, and exercises, presenting core chemical concepts in the context of everyday life. This integrated approach encourages curiosity and demonstrates the relevance of chemistry and its uses in students' lives, their future careers, and their world. For this Media Enhanced Edition, a wealth of online support is seamlessly integrated with the textbook content to complete this innovative program.

Thermofluids Jun 01 2020 The two associated subjects of thermodynamics and fluid mechanics are combined in this book to provide the reader with an easy-to-follow text which emphasizes the essential coherence of the material.

Children'S Ideas In Science Mar 30 2020 This book documents and explores the ideas of school students (aged 10-16) about a range of natural phenomena such as light, heat, force and motion, the structure of matter and electricity, they are to study even when they have received no prior systematic instruction. It also examines how students' conceptions change and develop with teaching.

The Basics of Physics Jul 22 2019 An excellent introduction to the basics of physics from antiquity to the modern era, including motion, work, energy, heat, matter, light, electricity, quantum & nuclear physics.

Principles of Engineering Thermodynamics, SI Edition Oct 05 2020 Master the fundamentals of thermodynamics and learn how to apply these skills in engineering practice today with Reisel's PRINCIPLES OF ENGINEERING THERMODYNAMICS, SI, 2nd Edition. This edition's informal writing style helps make abstract concepts easier to understand. In addition to mastering fundamental principles and applications, you explore the impact of different system parameters on the performance of devices and processes. For example, you study how changing outlet pressure in a turbine changes the power produced or how the power requirement of a compressor varies with inlet temperature. This unique approach strengthens your understanding of how different components of thermodynamics interrelate, while demonstrating how you will use thermodynamics in your engineering career. You also learn to develop computer-based models of devices, processes and cycles as well as practice using internet-based programs and computer apps to find thermodynamic data, exactly like today's practicing engineers. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Total Pressure Measurements in Vacuum Technology Jul 02 2020 Total Pressure Measurements in Vacuum Technology focuses on the measurement of low total pressure in hostile environments or in the presence of magnetic fields. This book emphasizes the general processes and problems involved in measurement techniques and physical principles on which vacuum gauges operate, rather than on the detailed description of the gauges. The design and techniques involved in the use of special instruments that determine “pressure or gas density, such as pressure converters or radioactive gauges, are also described. This publication is mainly intended for graduate students and research scientists who have a good general background in physics and engineering.
Statistical Physics of Biomolecules Aug 15 2021 From the hydrophobic effect to protein-ligand binding, statistical physics is relevant in almost all areas of molecular biophysics and biochemistry, making it essential for modern students of molecular behavior. But traditional presentations of this material are often difficult to penetrate. Statistical Physics of Biomolecules: An Introduction brin
Making Sense of Secondary Science Aug 03 2020 When children begin secondary school they already have knowledge and ideas about many aspects of the natural world from their experiences both in primary classes and outside school. These ideas, right or wrong, form the basis of all they subsequently learn. Research has shown that teaching is unlikely to be effective unless it takes into account the position from which the learner starts. Making Sense of Secondary Science provides a concise and accessible summary of the research that has been done internationally in this area. The research findings are arranged in three main sections: * life and living processes * materials and their properties * physical processes. Full bibliographies in each section allow interested readers to pursue the themes further. Much of this material has hitherto been available only in limited circulation specialist journals or in unpublished research. Its publication in this convenient form will be welcomed by all researchers in science education and by practicing science teachers continuing their professional development, who want to deepen their understanding of how their children think and learn.
Practical Meteorology Dec 19 2021 A quantitative introduction to atmospheric science for students and professionals who want to understand and apply basic meteorological concepts but who are not ready for calculus.
Molecular Physical Chemistry for Engineers Dec 27 2019 This text emphasizes the behaviour of material from the molecular point of view. It is for engineering students who have a background in chemistry and physics and in thermodynamics. A background in calculus and differential equations is assumed. Each chapter includes a vast array of exercises, for which a Student Solutions Manual is also available.
Thermodynamics And Statistical Mechanics Jun 13 2021 This book provides a comprehensive exposition of the theory of equilibrium thermodynamics and statistical mechanics at a level suitable for well-prepared undergraduate students. The fundamental message of the book is that all results in equilibrium thermodynamics and statistical mechanics follow from a single unprovable axiom — namely, the principle of equal a priori probabilities — combined with elementary probability theory, elementary classical mechanics, and elementary quantum mechanics.

Thermodynamics Sep 16 2021 Thermodynamics: Fundamentals and Applications is a 2005 text for a first graduate course in Chemical Engineering. The focus is on macroscopic thermodynamics; discussions of modeling and molecular situations are integrated throughout. Underpinning this text is the knowledge that while thermodynamics describes natural phenomena, those descriptions are the products of creative, systematic minds. Nature unfolds without reference to human concepts of energy, entropy, or fugacity. Natural complexity can be organized and studied by thermodynamics methodology. The power of thermodynamics can be used to advantage if the fundamentals are understood. This text's emphasis is on fundamentals rather than modeling. Knowledge of the basics will enhance the ability to combine them with models when applying thermodynamics to practical situations. While the goal of an engineering education is to teach effective problem solving, this text never forgets the delight of discovery, the satisfaction of grasping intricate concepts, and the stimulation of the scholarly atmosphere.
Aplusphysics Aug 27 2022 Featuring more than five hundred questions from past Regents exams with worked out solutions and detailed illustrations, this book is integrated with APlusPhysics.com website, which includes online questions and answer forums, videos, animations, and supplemental problems to help you master Regents Physics Essentials.
Positive Pressure Attack for Ventilation & Firefighting Apr 30 2020 In the past decades, lightweight building construction methods and the use of manmade materials in construction and furnishings have become more and more common. The time until structural failure can be expected in a fire has been reduced, and firefighters have seen hotter fires that generate high levels of deadly gasses. But the ventilation methods used by modern firefighters have not kept pace. Positive pressure was first used in the fire service to ventilate a structure after the fire was knocked down. Authors Kriss Garcia and Reinhard Kauffmann have taken positive pressure a step further to achieve effective ventilation in coordination with aggressive fire attack, called positive pressure attack (PPA). Properly used PPA allows firefighters great control over the interior environment of a fire building, and starts at the earliest stages of the operation when ventilation can provide the greatest benefit for victims, firefighters, and the structure. With a small investment in equipment and a commitment to training, any fire department can implement PPA at the company level. Subjects covered in this book include: • Basics of positive pressure and how to maximize its effectiveness for fireground ventilation. • PPA: how effective ventilation can be coordinated to support an aggressive fire attack. • Safety considerations and limitations of PPA and positive pressure. • Other ways positive pressure blowers can be used to help victims and firefighters in a variety of situations. • Implementing PPA on a department, and how to train each engine company to become its own firefighting force that can accomplish both ventilation and fire attack. In the past decades, lightweight building construction methods and the use of manmade materials in construction and furnishings have become more and more common. The time until structural failure can be expected in a fire has been reduced, and firefighters have seen hotter fires that generate high levels of deadly gasses. But the ventilation methods used by modern firefighters have not kept pace. Positive pressure was first used in the fire service to ventilate a structure after the fire was knocked down. Authors Kriss Garcia and

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Understanding Acoustics Sep 28 2022 This textbook provides a unified approach to acoustics and vibration suitable for use in advanced undergraduate and first-year graduate courses on vibration and fluids. The book includes thorough treatment of vibration of harmonic oscillators, coupled oscillators, isotropic elasticity, and waves in solids including the use of resonance techniques for determination of elastic moduli. Drawing on 35 years of experience teaching introductory graduate acoustics at the Naval Postgraduate School and Penn State, the author presents a hydrodynamic approach to the acoustics of sound in fluids that provides a uniform methodology for analysis of lumped-element systems and wave propagation that can incorporate attenuation mechanisms and complex media. This view provides a consistent and reliable approach that can be extended with confidence to more complex fluids and future applications. Understanding Acoustics opens with a mathematical introduction that includes graphing and statistical uncertainty, followed by five chapters on vibration and elastic waves that provide important results and highlight modern applications while introducing analytical techniques that are revisited in the study of waves in fluids covered in Part II. A unified approach to waves in fluids (i.e., liquids and gases) is based on a mastery of the hydrodynamic equations. Part III demonstrates extensions of this view to nonlinear acoustics. Engaging and practical, this book is a must-read for graduate students in acoustics and vibration as well as active researchers interested in a novel approach to the material.

General Chemistry Feb 09 2021

Chemistry 2e Jan 20 2022