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Fundamentals of Chemistry, Fourth Edition covers the fundamentals of chemistry. The book describes the formation of ionic and covalent bonds; the Lewis theory of bonding; resonance; and the shape of molecules. The book then discusses the theory and some applications of the four kinds of spectroscopy: ultraviolet, infrared, nuclear (proton) magnetic resonance, and mass. Topics that combine environmental significance with descriptive chemistry, including atmospheric pollution from automobile exhaust; the metallurgy of iron and aluminum; corrosion; reactions involving ozone in the upper atmosphere; and the methods of controlling the pollution of air and water, are also considered. Chemists and students taking courses related to chemistry and environmental chemistry will find the book invaluable.

Machine Learning and Data Science in the Oil and Gas Industry explains how machine learning can be specifically tailored to oil and gas use cases. Petroleum engineers will learn when to use machine learning, how it is already used in oil and gas operations, and how to manage the data stream moving forward. Practical in its approach, the book explains all aspects of a data science or machine learning project, including the managerial parts of it that are so often the cause for failure. Several real-life case studies round out the book with topics such as predictive maintenance, soft sensing, and forecasting. Viewed as a guide book, this manual will lead a practitioner through the journey of a data science project in the oil and gas industry circumventing the pitfalls and articulating the business value. Chart an overview of the techniques and tools of machine learning including all the non-technological aspects necessary to be successful Gain practical understanding of machine learning used in oil and gas operations through contributed case studies Learn change management skills that will help gain confidence in pursuing the technology Understand the workflow of a full-scale project and where machine learning benefits (and where it does not)

General Chemistry Principles and Modern Applications Pearson

“A profoundly illuminating account of how the brain works ... Rebecca Schwarzlose is a neuroscientist with a novelist's literary flair.”—Cass R. Sunstein, author of *Too Much Information* A path-breaking journey into the brain, showing how perception, thought, and action are products of maps etched into your gray matter—and how technology can use them to read your mind. Your brain is a collection of maps. That is no metaphor: scrawled across your brain's surfaces are actual maps of the sights, sounds, and actions that hold the key to your survival. Scientists first began uncovering these maps over a century ago, but we are only now beginning to unlock their secrets—and comprehend their profound impact on our lives. Brain maps distort and shape our experience of the world, support complex thought, and make technology-enabled mind reading a modern-day reality, which raises important questions about what is real, what is fair, and what is private. They shine a light on our past and our possible futures. In the process, they invite us to view ourselves from a startling new perspective. ? In *Brainscapes*, Rebecca Schwarzlose combines unforgettable real-life stories, cutting-edge research, and vivid illustrations to reveal brain maps' surprising lessons about our place in the world—and about the world's place within us.

The Science Focus Second Edition is the complete science package for the teaching of the New South Wales Stage 4 and 5 Science Syllabus. The Science Focus Second Edition package retains the identified strengths of the highly successful First Edition and includes a number of new and exciting features, improvements and components. The innovative Teacher Edition with CD allows a teacher to approach the teaching and learning of Science with confidence as it includes pages from the student book with wrap around teacher notes including answers, hints, strategies and teaching and assessment advice.

Physical Chemistry: Concepts and Theory provides a comprehensive overview of physical and theoretical chemistry while focusing on the basic principles that unite the sub-disciplines of the field. With an emphasis on multidisciplinary, as well as interdisciplinary applications, the book extensively reviews fundamental principles and presents recent research to help the reader make logical connections between the theory and application of physical chemistry concepts. Also available from the author: *Physical Chemistry: Multidisciplinary Applications* (ISBN 9780128005132). Describes how materials behave and chemical reactions occur at the molecular and atomic levels Uses theoretical constructs and mathematical computations to explain chemical properties and describe behavior of molecular and condensed matter Demonstrates the connection between math and chemistry and how to use math as a powerful tool to predict the properties of chemicals Emphasizes the intersection of chemistry, math, and physics and the resulting applications across many disciplines of science

Bridging the Communication Gap is a book about improving communication between customers, business analysts, developers and testers on software projects, especially by using specification by example and agile acceptance testing. These two key emerging software development practices can significantly improve the chances of success of a software project. They ensure that all project participants speak the same language, and build a shared and consistent understanding of the domain. This leads to better specifications, flushes out incorrect assumptions and ensures that functional gaps are discovered before the development starts. With these practices in place you can build software that is genuinely fit for purpose.

Corrosion is a huge issue for materials, mechanical, civil and petrochemical engineers. With comprehensive coverage of the principles of corrosion engineering, this book is a one-stop text and reference for students and practicing corrosion engineers. Highly illustrated, with worked examples and definitions, it covers basic corrosion principles, and more advanced information for postgraduate students and professionals. Basic principles of electrochemistry and chemical thermodynamics are incorporated to make the book accessible for students and engineers who do not have prior knowledge of this area. Each form of corrosion covered in the book has a definition, description, mechanism, examples and preventative methods. Case histories of failure are cited for each form. End of chapter questions are accompanied

by an online solutions manual. * Comprehensively covers the principles of corrosion engineering, methods of corrosion protection and corrosion processes and control in selected engineering environments * Structured for corrosion science and engineering classes at senior undergraduate and graduate level, and is an ideal reference that readers will want to use in their professional work * Worked examples, extensive end of chapter exercises and accompanying online solutions and written by an expert from a key pretochemical university

How can the puzzling game of puzzles benefit young minds? Well, puzzles boost general knowledge, and improve vocabulary as well as spelling, logic and problem-solving. But the main advantage of introducing this activity early in life is that it helps children learn with game-based learning. What this translates is that fun and learning become one. So don't forget to secure your copy now!

Useful introductory course and reference covers origins of quantum theory, Schrödinger wave equation, quantum mechanics of simple systems, electron spin, quantum states of atoms, Hartree-Fock self-consistent field method, more. 1990 edition.

In this Second Edition of her bestseller, Christine Sleeter and new co-author Judith Flores Carmona show how educators can learn to teach rich, academically rigorous, multicultural curricula within a standards-based environment. The authors have meticulously updated each chapter to address current changes in education policy and practice. New vignettes of classroom practice have been added to illustrate how today's teachers navigate the Common Core State Standards. The book's field-tested conceptual framework elaborates on the following elements of curriculum design: ideology, enduring ideas, democratized assessment, transformative intellectual knowledge, students and their communities, intellectual challenges, and curriculum resources. Un-Standardizing Curriculum shows teachers what they can do to "un-standardize" knowledge in their own classrooms, while working toward high standards of academic achievement. Book Features: Classroom vignettes to help teachers bridge theory with practice in the context of commonly faced pressures and expectations. Guidance for teachers who want to develop their classroom practice, including the possibilities and spaces teachers have within a standardized curriculum. Attention to multiple subject areas and levels of schooling, making the book applicable across a wide range of teacher education programs. A critique of the tensions between school reforms and progressive classroom practice. "This second edition is a game changer for educators interested in powerful curriculum engineering to support new century students" —H. Richard Milner IV, Helen Faison Endowed Chair of Urban Education, University of Pittsburgh "This text breaks new ground with a timely contribution that provides solid, potentially emancipatory grounding for a new, inclusive, research-based vision of curriculum, assessment, schools, and society." —Angela Valenzuela, author "This is a book that teachers, teacher educators, policymakers, and researchers will continue to return to for guidance and inspiration." —Dolores Delgado Bernal, University of Utah

This book meets a demand in the science education community for a comprehensive and introductory measurement book in science education. It describes measurement instruments reported in refereed science education research journals, and introduces the Rasch modeling approach to developing measurement instruments in common science assessment domains, i.e. conceptual understanding, affective variables, science inquiry, learning progression, and learning environments. This book can help readers develop a sound understanding of measurement theories and approaches, particularly Rasch modeling, to using and developing measurement instruments for science education research. This book is for anyone who is interested in knowing what measurement instruments are available and how to develop measurement instruments for science education research. For example, this book can be a textbook for a graduate course in science education research methods; it helps graduate students develop competence in using and developing standardized measurement instruments for science education research. Science education researchers, both beginning and experienced, may use this book as a reference for locating available and developing new measurement instruments when conducting a research study.

Businesses are important for economic development of nation and increasing of living standards of people. Also, management is a critical factor for both businesses because it creates utility for businesses. All the success and failure depend upon business functions and management. In this context, this book contains three important factors of business management. In the first part of the book covers strategic management subjects; especially entrepreneurship and human resource management. The second part of the book includes accounting and auditing. The third part of the book is about marketing.

What does it really take to succeed in business in the developing world? One man's remarkable journey from a rural Nigerian village to a top job in a global corporation reveals the challenges, the opportunities and the issues we must all face up to if we're to create positive organizational and societal impact, equality and equity in global business. Babs Omotowa has spent his life rejecting the status quo. His own career disproves the unthinking perception that Africans underperform in global businesses, and his insistence that bigger societal issues such as community development, corruption, transparency and pollution belong on the corporate agenda alongside market and production target has revolutionized big business's approach to the developing world. From government agency blockades due to his refusal to pay an illegal levy, to the fallout from his resistance to paying \$2bn to fund elections, to bringing transparency to oil spills and revenues to government, to creating strategic master-planning for community development and to taking tough stance to address corruption issues, his story exposes the challenges of big businesses in developing countries and reveals a better way for multinational companies to navigate these challenges: with integrity and courage.

Alkaloids are a large group of structurally complex natural products displaying a wide range of biological activities. The purpose of Alkaloids: A Treasury of Poisons and Medicines is to classify, for the first time, the alkaloids isolated from the natural sources until now. The book classifies all of the alkaloids by their biosynthetic origins. Of interest to the organic chemistry and medicinal chemistry communities involved in drug discovery and development, this book describes many alkaloids isolated from the medicinal plants, including those used in Japanese Kampo medicine. Classifies and lists alkaloids from natural sources Occurrence and biosynthetic pathways of alkaloids Indicates key uses and bioactivity of alkaloids

Organic Chemistry I For Dummies, 2nd Edition (9781119293378) was previously published as Organic Chemistry I For Dummies, 2nd Edition (9781118828076). 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. The easy way to take the confusion out of organic chemistry Organic chemistry has a long-standing reputation as a difficult course. Organic Chemistry I For Dummies takes a simple approach to the topic, allowing you to grasp concepts at your own pace. This fun, easy-to-understand guide explains the basic principles of organic chemistry in simple terms, providing insight into the language of organic chemists, the major classes of compounds, and top trouble spots. You'll also get the nuts and bolts of tackling organic chemistry problems, from knowing where to start to spotting sneaky tricks that professors like to incorporate. Refreshed example equations New explanations and practical examples that reflect today's teaching methods Fully worked-out organic chemistry problems Baffled by benzines? Confused by carboxylic acids? Here's the help you need—in plain English!

Part I: Process design -- Introduction to design -- Process flowsheet development -- Utilities and energy efficient design -- Process simulation -- Instrumentation and process control -- Materials of construction -- Capital cost estimating -- Estimating revenues and production costs -- Economic evaluation of projects -- Safety and loss prevention -- General site considerations -- Optimization in design -- Part II: Plant design -- Equipment selection, specification and design -- Design of pressure vessels -- Design of reactors and mixers -- Separation of fluids -- Separation columns (distillation, absorption and extraction) -- Specification and design of solids-handling equipment -- Heat transfer equipment -- Transport and storage of fluids.

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 treatment of the subject. The 11th edition offers enhanced hallmark features, new innovations and revised discussions 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

mLearning or "mobile learning" has changed the landscape of education. The impact of mLearning is far-reaching and it has commercial and pedagogical implications, especially in advancing lifelong learning. This book discusses the theory and applications of mLearning with a focus on the development, recent advances and future possibilities in the field. mLearning: A New Dimension of Curriculum Advancement avoids technical jargon and explains mLearning in a readable and lively style for the general reader.

This text is different--by design. By relating fundamental concepts of general, organic, and biological chemistry to the everyday world, Jan Smith effectively engages students with bulleted lists, extensive illustrations, and step-by-step problem solving. Smith writes with an approach that delivers need-to-know information in a succinct style for today's students. Armed with an excellent illustration program full of macro-to-micro art, as well as many applications to biological, medical, consumer, and environmental topics, this book is a powerhouse of learning for students.

The tools you need to ace your Chemistry II course College success for virtually all science, computing, engineering, and premedical majors depends in part on passing chemistry. The skills learned in chemistry courses are applicable to a number of fields, and chemistry courses are essential to students who are studying to become nurses, doctors, pharmacists, clinical technicians, engineers, and many more among the fastest-growing professions. But if you're like a lot of students who are confused by chemistry, it can seem like a daunting task to tackle the subject. That's where Chemistry II For Dummies can help! Here, you'll get plain-English, easy-to-understand explanations of everything you'll encounter in your Chemistry II class. Whether chemistry is your chosen area of study, a degree requirement, or an elective, you'll get the skills and confidence to score high and enhance your understanding of this often-intimidating subject. So what are you waiting for? Presents straightforward information on complex concepts Tracks to a typical Chemistry II course Serves as an excellent supplement to classroom learning Helps you understand difficult subject matter with confidence and ease Packed with approachable information and plenty of practice opportunities, Chemistry II For Dummies is just what you need to make the grade.

Chemistry: The Molecular Nature of Matter and Change by Martin Silberberg has become a favorite among faculty and students. Silberberg's 4th edition contains features that make it the most comprehensive and relevant text for any student enrolled in General Chemistry. The text contains unprecedented macroscopic to microscopic molecular illustrations, consistent step-by-step worked exercises in every chapter, an extensive range of end-of-chapter problems which provide engaging applications covering a wide variety of freshman interests, including engineering, medicine, materials, and environmental studies. All of these qualities make Chemistry: The Molecular Nature of Matter and Change the centerpiece for any General Chemistry course.

Introductory Organic Chemistry provides a descriptive overview of organic chemistry and how modern organic chemistry is practiced. Organic compounds such as alkanes, cycloalkanes, alkenes, cycloalkenes, and alkynes are covered, along with aromatic hydrocarbons, compounds derived from water and hydrogen sulfide, and compounds derived from ammonia. This book also explores organic reaction mechanisms and describes the use of molecular spectroscopy in studying the chemical structure of organic complexes. This text consists of 15 chapters and begins with a discussion on some fundamental ideas about organic chemistry, from the electronic structure of atoms to molecular structure, molecular orbitals, hybridization of atomic orbitals in carbon, chemical equilibrium, enthalpy, and acids and bases. The chapters that follow focus on the compounds of carbon such as alkanes and cycloalkanes; benzene and other aromatic hydrocarbons; amines and other heterocyclic molecules; aldehydes and ketones; carboxylic acids and their derivatives; nucleic acids; amino acids; peptides; and proteins. The use of instrumentation methods in organic chemistry, particularly mass spectrometry and nuclear magnetic resonance spectroscopy, is also considered. An account of the mechanisms of an organic reaction is presented, paying particular attention to displacement and elimination reactions. This book concludes with a commentary on how most of the amino acids, sugars, heterocyclic molecules, and fatty acids necessary for life processes could have been formed on Earth. This book is intended for nonmajors taking an introductory organic chemistry course of two quarters or one semester in length.

Oxygen has had extraordinary effects on life. Three hundred million years ago, in Carboniferous times, dragonflies grew as big as seagulls, with wingspans of nearly a metre. Researchers claim they could have flown only if the air had contained more oxygen than today - probably as much as 35 per cent. Giant spiders, tree-ferns, marine rock formations and fossil charcoals all tell the same story. High oxygen levels may also explain the global firestorm that contributed to the demise of the dinosaurs after the asteroid impact. The strange and profound effects that oxygen has had on the evolution of life pose a riddle, which this book sets out to answer. Oxygen is a toxic gas. Divers breathing pure oxygen at depth suffer from convulsions and lung injury. Fruit flies raised at twice normal atmospheric levels of oxygen live half as long as their siblings. Reactive forms of oxygen, known as free radicals, are thought to cause ageing in people. Yet if atmospheric oxygen reached 35 per cent in the Carboniferous, why did it promote exuberant growth, instead of rapid ageing and death? Oxygen takes the reader on an enthralling journey, as gripping as a thriller, as it unravels the unexpected ways in which oxygen spurred the evolution of life and death. The book explains far more than the size of ancient insects: it shows how oxygen underpins the origin of biological complexity, the birth of photosynthesis, the sudden evolution of animals, the need for two sexes, the accelerated ageing of cloned animals like Dolly the sheep, and the surprisingly long lives of bats and birds. Drawing on this grand evolutionary canvas, Oxygen offers fresh perspectives on our own lives and deaths, explaining modern killer diseases, why we age, and what we can do about it. Advancing revelatory new ideas, following chains of evidence, the book ranges through many disciplines, from environmental sciences to molecular medicine. The result is a captivating vision of contemporary science and a humane synthesis of our place in nature. This remarkable book will redefine the way we think about the world. In the 21st century technology has become an essential part of teaching and learning. This manual provides practical advice on teaching in a wide range of technologies, including the internet and multimedia packages. Using case studies to illustrate the key concepts, this book aims to promote student learning and understanding, and show educators how to use technology to motivate learners and encourage productive interaction.

General Chemistry for Engineers explores the key areas of chemistry needed for engineers. This book develops material from the basics to more advanced areas in a systematic fashion. As the material is presented, case studies relevant to engineering are included that demonstrate the strong link between chemistry and the various areas of engineering.

Serves as a unique chemistry reference source for professional engineers Provides the chemistry principles required by various engineering disciplines Begins with an 'atoms first' approach, building from the simple to the more complex chemical concepts Includes engineering case studies connecting chemical principles to solving actual engineering problems Links chemistry to contemporary issues related to the interface between chemistry and engineering practices Soap Manufacturing Technology, Second Edition, is the most authoritative and up-to-date book on soap technology available today. Editor and contributing author Luis Spitz leads a world-renowned team in providing comprehensive information on all components of soap manufacturing including formulation, performance evaluation, cleansing systems, and more. This new edition includes two new chapters, Integrated Saponification and Drying Systems and Laundry Bars, and the others are completely revised and updated. Includes new chapters and figures, tables, and text updated from the first edition Serves as a technical reference book ideal for both experienced and beginning soap producers and suppliers Provides an overview of the AOCS methods used for the evaluation of soap and soap products Includes two new chapters on Integrated Saponification and Drying Systems and Laundry Bars

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

Kids usually come to a time in their childhood when they wonder about life and how the human body works. Often times, however, parents do not have the knowledge, the resources or the creativity to teach their children about how the human body works. A book about human anatomy would relieve parents of that burden while enriching children with more knowledge.

The didactic presentation of the material makes this book an essential bench-top tool not only for specialists in organic chemistry, but also for students and all those involved in the preparation of organic molecules. Key Features: A critical survey of the most used protecting groups, as used by organic chemists Organization based on functional groups: hydroxyl ; diol; carbonyl; carboxyl; amine Special emphasis placed on deprotection conditions applied to complex structures where selectivity is a prime issue Transformations accompanied by key experimental details Examples from the recent literature span a wide domain of organic synthesis Over 500 schemes aid visual retrieval End-of-chapter list reviews which amplify topics covered.

Reaction Engineering clearly and concisely covers the concepts and models of reaction engineering and then applies them to real-world reactor design. The book emphasizes that the foundation of reaction engineering requires the use of kinetics and transport knowledge to explain and analyze reactor behaviors. The authors use readily understandable language to cover the subject, leaving readers with a comprehensive guide on how to understand, analyze, and make decisions related to improving chemical reactions and chemical reactor design. Worked examples, and over 20 exercises at the end of each chapter, provide opportunities for readers to practice solving problems related to the content covered in the book. Seamlessly integrates chemical kinetics, reaction engineering, and reactor analysis to provide the foundation for optimizing reactions and reactor design Compares and contrasts three types of ideal reactors, then applies reaction engineering principles to real reactor design Covers advanced topics, like microreactors, reactive distillation, membrane reactors, and fuel cells, providing the reader with a broader appreciation of the applications of reaction engineering principles and methods

This book is designed to teach the basics of Information Technology specially to the students of business management. It is based on the syllabuses of undergraduate courses of many Indian universities. It is so organized that one can learn a great deal simply by reading the text carefully and following the step-by-step instructions given with it. One does not need any previous knowledge of computers — all that is needed is access to a computer and willingness to learn.

Electrochemistry plays a key role in a broad range of research and applied areas including the exploration of new inorganic and organic compounds, biochemical and biological systems, corrosion, energy applications involving fuel cells and solar cells, and nanoscale investigations. The Handbook of Electrochemistry serves as a source of electrochemical information, providing details of experimental considerations, representative calculations, and illustrations of the possibilities available in electrochemical experimentation. The book is divided into five parts: Fundamentals, Laboratory Practical, Techniques, Applications, and Data. The first section covers the fundamentals of electrochemistry which are essential for everyone working in the field, presenting an overview of electrochemical conventions, terminology, fundamental equations, and electrochemical cells, experiments, literature, textbooks, and specialized books. Part 2 focuses on the different laboratory aspects of electrochemistry which is followed by a review of the various electrochemical techniques ranging from classical experiments to scanning electrochemical microscopy, electrogenerated chemiluminescence and spectroelectrochemistry. Applications of electrochemistry include electrode kinetic determinations, unique aspects of metal deposition, and electrochemistry in small places and at novel interfaces and these are detailed in Part 4. The remaining three chapters provide useful electrochemical data and information involving electrode potentials, diffusion coefficients, and methods used in measuring liquid junction potentials. * serves as a source of electrochemical

information * includes useful electrochemical data and information involving electrode potentials, diffusion coefficients, and methods used in measuring liquid junction potentials * reviews electrochemical techniques (incl. scanning electrochemical microscopy, electrogenerated chemiluminescence and spectroelectrochemistry)

Have you ever wondered why ice floats and water is such a freaky liquid? Or why chillies and mustard are both hot but in different ways? Or why microwaves don't cook from the inside out? In this fascinating scientific tour of household objects, The One Show presenter and all-round Science Bloke Marty Jopson has the answer to all of these, and many more, baffling questions about the chemistry and physics of the everyday stuff we use every day.

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.

An accessible history of alchemy by a leading world authority explores its development and relationship with myriad disciplines and pursuits, tracing its heyday in early modern Europe while profiling some of history's most colorful alchemists and describing the author's recreation of famous alchemy recipes.

Now in its fifth edition, the book has been updated to include more detailed descriptions of new or more commonly used techniques since the last edition as well as remove those that are no longer used, procedures which have been developed recently, ionization constants (pKa values) and also more detail about the trivial names of compounds. In addition to having two general chapters on purification procedures, this book provides details of the physical properties and purification procedures, taken from literature, of a very extensive number of organic, inorganic and biochemical compounds which are commercially available. This is the only complete source that covers the purification of laboratory chemicals that are commercially available in this manner and format. * Complete update of this valuable, well-known reference * Provides purification procedures of commercially available chemicals and biochemicals * Includes an extremely useful compilation of ionisation constants

Grasp biochemistry basics, apply the science, and ace your exams Are you baffled by biochemistry? If so here's the good news ? you don't have to stay that way! Biochemistry For Dummies shows you how to get a handle on biochemistry, apply the science, raise your grades, and prepare yourself to ace any standardized test. This friendly, unintimidating guide presents an overview of the material covered in a typical college-level biochemistry course and makes the subject easy to understand and accessible to everyone. From cell ultrastructure and carbohydrates to amino acids, proteins, and supramolecular structure, you'll identify biochemical structures and reactions, and send your grades soaring. Newest biology, biochemistry, chemistry, and scientific discoveries Updated examples and explanations Incorporates the most current teaching techniques From water biochemistry to protein synthesis, Biochemistry For Dummies gives you the vital information, clear explanations, and important insights you need to increase your understanding and improve your performance on any biochemistry test.

Vapor-Liquid Equilibrium, Second Edition covers the theoretical principles and methods of calculation of equilibrium conditions from various experimental data and the elements of measuring technique, as well as the instruments for the direct determination of the equilibrium compositions of the liquid and vapor phases of the system. The book discusses the relations necessary for the thermodynamic treatment of the equilibrium between the liquid and vapor phase of a system; the concept of an ideal solution and auxiliary thermodynamic functions; and the activity and the activity coefficient. The text also describes vapor-liquid equilibrium in real systems (electrolytes and non-electrolytes) and in systems whose components (i.e. temperature, pressure, and composition of phases) mutually react according to several stoichiometric equations. The criteria of purity of substances and the methods of measuring temperature; low, medium, and high pressures; the pressures of the saturated vapors at given temperatures; and the boiling points at given pressures used in laboratory work in the field of vapor-liquid equilibrium are considered. The book also tackles the methods for the direct determination of equilibrium data (distillation, circulation, static, dew and bubble point, and flow methods). The text concludes with a review of the literature on the systems whose vapor-liquid equilibrium data had been measured and reported to the beginning of 1954. Workers in the chemical industry who deal with problems of distillation and rectification will find the book useful.

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