

Biochemistry A Short Course 2nd Edition

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Biology 2e - Mary Ann Clark 2018-04

Biochemistry - Rex Montgomery 1977

[The Toxicology and Biochemistry of Insecticides](#)

- Simon J. Yu 2011-03-05

The first book in two decades to address this multi-faceted field, *The Toxicology and Biochemistry of Insecticides* provides the most up-to-date information on insecticide classification, formulation, mode of action, resistance, metabolism, environmental fate, and regulatory legislation. The book draws on the author's groundbreaking research

Quantitative Human Physiology - Joseph J Feher 2017-01-02

Quantitative Human Physiology: An Introduction is the first text to meet the needs of the undergraduate bioengineering student who is being exposed to physiology for the first time, but requires a more analytical/quantitative approach. This book explores how component behavior produces system behavior in physiological systems. Through text explanation, figures, and equations, it provides the engineering student with a basic understanding of physiological principles with an emphasis on quantitative aspects. Features a quantitative approach that includes physical and chemical principles Provides a more integrated approach from first principles, integrating anatomy, molecular biology, biochemistry and physiology Includes clinical applications relevant to the biomedical engineering student (TENS, cochlear implants, blood substitutes, etc.) Integrates labs and problem sets to provide opportunities for

practice and assessment throughout the course
NEW FOR THE SECOND EDITION Expansion of many sections to include relevant information Addition of many new figures and re-drawing of other figures to update our understanding and clarify difficult areas Substantial updating of the text to reflect newer research results Addition of several new appendices including statistics, nomenclature of transport carriers, and structural biology of important items such as the neuromuscular junction and calcium release unit Addition of new problems within the problem sets Addition of commentary to power point presentations

Principles of Medical Biochemistry E-Book - Gerhard Meisenberg 2016-09-28

For nearly 30 years, *Principles of Medical Biochemistry* has integrated medical biochemistry with molecular genetics, cell biology, and genetics to provide complete yet concise coverage that links biochemistry with clinical medicine. The 4th Edition of this award-winning text by Drs. Gerhard Meisenberg and William H. Simmons has been fully updated with new clinical examples, expanded coverage of recent changes in the field, and many new case studies online. A highly visual format helps readers retain complex information, and USMLE-style questions (in print and online) assist with exam preparation. Just the right amount of detail on biochemistry, cell biology, and genetics - in one easy-to-digest textbook. Full-color illustrations and tables throughout help students master challenging concepts more easily. Online case studies serve as a self-assessment and review tool before exams.

Online access includes nearly 150 USMLE-style questions in addition to the questions that are in the book. Glossary of technical terms. Clinical Boxes and Clinical Content demonstrate the integration of basic sciences and clinical applications, helping readers make connections between the two. New clinical examples have been added throughout the text.

Biochemistry and Molecular Biology of Plants - Bob B. Buchanan 2015-08-31

With over 1000 original drawings and 500 photographs, this work offers complete coverage of cell biology, plant physiology and molecular biology.

Biochemistry - David E. Metzler 2001

Biochemistry: The Chemical Reactions of Living Cells is a well-integrated, up-to-date reference for basic biochemistry, associated chemistry, and underlying biological phenomena.

Biochemistry is a comprehensive account of the chemical basis of life, describing the amazingly complex structures of the compounds that make up cells, the forces that hold them together, and the chemical reactions that allow for recognition, signaling, and movement. This book contains information on the human body, its genome, and the action of muscles, eyes, and the brain. It also features: thousands of literature references that provide introduction to current research as well as historical background; twice the number of chapters of the first edition; and each chapter contains boxes of information on topics of general interest. -- Publisher description.

Basic Concepts in Biochemistry: A Student's Survival Guide - Hiram F. Gilbert 2000

This second edition continues to innovatively review the toughest concepts in biochemistry for maximum comprehension in a short period of time. Unlike conventional texts or review books that stress memorizing facts, BASIC CONCEPTS stresses the mastering of fundamental concepts, so that the reader truly comprehends the material and feels comfortable applying it. Dr. Gilbert uses simple, jargon-free language and award-winning teaching techniques including algorithms, mnemonics and clinical examples.

Experiments in Biochemistry: A Hands-on Approach - Shawn O. Farrell 2005-02-07

EXPERIMENTS IN BIOCHEMISTRY: A HANDS-ON APPROACH, Second Edition features a

variety of hands-on, classroom tested experiments that are proven to work and can be completed in a normal lab period. The manual's stand-alone experiments are effective in courses meeting only once a week, giving students a broad overview of the subject matter. A more comprehensive set of experiments is also available and allows students to delve further into each of the topics presented. The Second Edition also features new and revised experiments, including a new experiment that involves cloning the barracuda LDH gene!

Students and professors will also find expanded problem sets in this edition. Tip boxes, located throughout the text, provide pointers to students on how to perform the experiment at hand, while Essential Information boxes highlight pertinent information that will help the student complete the experiment. The second edition continues to include references and further readings at the end of each chapter. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Biochemistry - Roger L Miesfeld 2020-12

"Biochemistry, Second Edition is a learning tool for students and a teaching tool for instructors—one that delivers exceptionally readable explanations, stunning graphics, and rigorous content. Relevant everyday biochemistry examples make clear why biochemistry matters in a way that develops students' knowledge base and critical thinking skills. The second edition includes exciting new Your Turn critical thinking pedagogy, a thoughtful balance of biology and chemistry, and new research in the field such as CRISPR and cryo-EM"--

Biochemistry - John L. Tymoczko 2013

This text focuses on the major topics taught in a one-semester biochemistry course.

Cell Biology - Stephen R. Bolsover 2004-02-15

This text tells the story of cells as the unit of life in a colorful and student-friendly manner, taking an "essentials only" approach. By using the successful model of previously published Short Courses, this text succeeds in conveying the key points without overburdening readers with secondary information. The authors (all active researchers and educators) skillfully present concepts by illustrating them with clear diagrams and examples from current research.

Special boxed sections focus on the importance of cell biology in medicine and industry today. This text is a completely revised, reorganized, and enhanced revision of *From Genes to Cells*.
Biochemistry - Donald Voet 2004-03-09
CD-ROM includes computer animated interactive exercises, guided explorations, and color images.

Physical Biochemistry - David Sheehan
2013-04-30

"As will be seen, there is not much missing here. I thought that the sections were well balanced, with rarely too much or too little on a given topic...This is a text to be welcomed by both teachers and students." BIOCHEMISTRY & MOLECULAR BIOLOGY EDUCATION (on the first edition) The second edition of this successful textbook explains the basic principles behind the key techniques currently used in the modern biochemical laboratory and describes the pros and cons of each technique and compares one to another. It is non-mathematical, comprehensive and approachable for students who are not physical chemists. A major update of this comprehensive, accessible introduction to physical biochemistry. Includes two new chapters on proteomics and bioinformatics. Introduces experimental approaches with a minimum of mathematics and numerous practical examples. Provides a bibliography at the end of each chapter. Written by an author with many years teaching and research experience, this text is a must-have for students of biochemistry, biophysics, molecular and life sciences and food science.

Achieve for Biochemistry - John L. Tymoczko
2020-11

Experimental Design for Biologists - David J. Glass 2007

Experimental Design for Biologists explains how to establish the framework for an experimental project, including the effects of using a hypothesis-driven approach versus a question/answer approach, how to set up a system, design experiments within that system, and how to determine and use the correct set of controls. Separate chapters are devoted to the negative control, the positive control, and other categories of controls which are perhaps less recognized, such as "assumption controls", and

"experimentalist controls." Further, there are sections on establishing the experimental system, which includes performing critical "system controls". While the book does reference the use of statistics, statistics is not the focus of this book, but rather the way the scientist should go about framing an experimental question, establishing a validated system to answer the question, and deriving verifiable models from experimental data. There is often very little formal training in this area for biologists; therefore this text serves as an essential teaching tool for understanding the theory and practice of designing a research plan.
Food Biochemistry and Food Processing - Y. H. Hui 2008-02-15

The biochemistry of food is the foundation on which the research and development advances in food biotechnology are built. In *Food Biochemistry and Food Processing*, lead editor Y.H. Hui has assembled over fifty acclaimed academicians and industry professionals to create this indispensable reference and text on food biochemistry and the ever-increasing development in the biotechnology of food processing. While biochemistry may be covered in a chapter or two in standard reference books on the chemistry, enzymes, or fermentation of food, and may be addressed in greater depth by commodity-specific texts (e.g., the biotechnology of meat, seafood, or cereal), books on the general coverage of food biochemistry are not so common. *Food Biochemistry and Food Processing* effectively fills this void. Beginning with sections on the essential principles of food biochemistry, enzymology and food processing, the book then takes the reader on commodity-by-commodity discussions of biochemistry of raw materials and product processing. Later sections address the biochemistry and processing aspects of food fermentation, microbiology, and food safety. As an invaluable reference tool or as a state-of-the-industry text, *Food Biochemistry and Food Processing* fully develops and explains the biochemical aspects of food processing for scientist and student alike.

Biochemistry - Jeremy M. Berg 2015-04-08

For four decades, this extraordinary textbook played an pivotal role in the way biochemistry is taught, offering exceptionally clear writing, innovative graphics, coverage of the latest

research techniques and advances, and a signature emphasis on physiological and medical relevance. Those defining features are at the heart of this edition. See what's in the LaunchPad

Fundamental Laboratory Approaches for Biochemistry and Biotechnology - Alexander

J. Ninfa 2009-05-26

Ninfa/Ballou/Benore is a solid biochemistry lab manual, dedicated to developing research skills in students, allowing them to learn techniques and develop the organizational approaches necessary to conduct laboratory research.

Ninfa/Ballou/Benore focuses on basic biochemistry laboratory techniques with a few molecular biology exercises, a reflection of most courses which concentrate on traditional biochemistry experiments and techniques. The manual also includes an introduction to ethics in the laboratory, uncommon in similar manuals. Most importantly, perhaps, is the authors' three-pronged approach to encouraging students to think like a research scientist: first, the authors introduce the scientific method and the hypothesis as a framework for developing conclusive experiments; second, the manual's experiments are designed to become increasingly complex in order to teach more advanced techniques and analysis; finally, gradually, the students are required to devise their own protocols. In this way, students and instructors are able to break away from a "cookbook" approach and to think and investigate for themselves. Suitable for lower-level and upper-level courses; Ninfa spans these courses and can also be used for some first-year graduate work.

Biochemistry For Dummies - John T. Moore
2011-08-09

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.

Biochemistry: A Short Course - John L. Tymoczko 2011-12-23

Derived from the classic text originated by Lubert Stryer and continued by John Tymoczko and Jeremy Berg, *Biochemistry: A Short Course* offers that bestseller's signature writing style and physiological emphasis, while focusing on the major topics taught in a one-semester biochemistry course. This second edition takes into account recent discoveries and advances that have changed how we think about the fundamental concepts in biochemistry and human health.

Guide to Biochemistry - James C. Blackstock
2014-06-28

Guide to Biochemistry provides a comprehensive account of the essential aspects of biochemistry. This book discusses a variety of topics, including biological molecules, enzymes, amino acids, nucleic acids, and eukaryotic cellular organizations. Organized into 19 chapters, this book begins with an overview of the construction of macromolecules from building-block molecules. This text then discusses the strengths of some weak acids and bases and explains the interaction of acids and bases involving the transfer of a proton from an acid to a base. Other chapters consider the effectiveness of enzymes, which can be appreciated through the comparison of spontaneous chemical reactions and enzyme-catalyzed reactions. This book discusses as well structure and function of lipids. The final chapter deals with the importance and applications of gene cloning in the fundamental biological research, which lies in the preparation of DNA fragments containing a specific gene. This book is a valuable resource for biochemists and students.

Enzymes - T Palmer 2007-04-04

In recent years, there have been considerable developments in techniques for the investigation and utilisation of enzymes. With the assistance of a co-author, this popular student textbook has been updated to include techniques such as membrane chromatography, aqueous phase partitioning, engineering recombinant proteins for purification and due to the rapid advances in bioinformatics/proteomics, a discussion of the analysis of complex protein mixtures by 2D-electrophoresis and RPHPLC prior to sequencing by mass spectroscopy. Written with the student firmly in mind, no previous knowledge of biochemistry, and little of chemistry, is assumed. It is intended to provide an introduction to enzymology, and a balanced account of all the various theoretical and applied aspects of the subject which are likely to be included in a course. Provides an introduction to enzymology and a balanced account of the theoretical and applied aspects of the subject Discusses techniques such as membrane chromatography, aqueous phase partitioning and engineering recombinant proteins for purification Includes a discussion of the analysis of complex protein mixtures by 2D-electrophoresis and RPHPLC prior to sequencing by mass spectroscopy
Student Companion for Biochemistry: A Short Course - John L. Tymoczko 2012-01

Color Atlas of Biochemistry - Jan Koolman 2011-01-01

Totally revised and expanded, the Color Atlas of Biochemistry presents the fundamentals of human and mammalian biochemistry on 215 stunning color plates. Alongside a short introduction to chemistry and the classical topics of biochemistry, the 2nd edition covers new approaches and aspects in biochemistry, such as links between chemical structure and biological function or pathways for information transfer, as well as recent developments and discoveries, such as the structures of many new important molecules. Key features of this title include:- The unique combination of highly effective color graphics and comprehensive figure legends;- Unified color-coding of atoms, coenzymes, chemical classes, and cell organelles that allows quick recognition of all involved systems;- Computer graphics provide simulated 3D

representation of many important molecules. This Flexibook is ideal for students of medicine and biochemistry and a valuable source of reference for practitioners.

Essentials of Glycobiology - Ajit Varki 1999
Sugar chains (glycans) are often attached to proteins and lipids and have multiple roles in the organization and function of all organisms. "Essentials of Glycobiology" describes their biogenesis and function and offers a useful gateway to the understanding of glycans.
Biochemistry - a Short Course + Saplingplus for Biochemistry - a Short Course 4th Ed Six-months Access -

Medical Biochemistry - N. V. Bhagavan 2002

This text presents the fundamentals of biochemistry and related topics for all those pursuing medical or other health-related fields such as clinical chemistry, medical technology, or pharmacology.

Enzymes - Robert A. Copeland 2004-04-07
Fully updated and expanded-a solid foundation for understanding experimental enzymology. This practical, up-to-date survey is designed for a broad spectrum of biological and chemical scientists who are beginning to delve into modern enzymology. Enzymes, Second Edition explains the structural complexities of proteins and enzymes and the mechanisms by which enzymes perform their catalytic functions. The book provides illustrative examples from the contemporary literature to guide the reader through concepts and data analysis procedures. Clear, well-written descriptions simplify the complex mathematical treatment of enzyme kinetic data, and numerous citations at the end of each chapter enable the reader to access the primary literature and more in-depth treatments of specific topics. This Second Edition of Enzymes: A Practical Introduction to Structure, Mechanism, and Data Analysis features refined and expanded coverage of many concepts, while retaining the introductory nature of the book. Important new features include: A new chapter on protein-ligand binding equilibria Expanded coverage of chemical mechanisms in enzyme catalysis and experimental measurements of enzyme activity Updated and refined discussions of enzyme inhibitors

and multiple substrate reactions Coverage of current practical applications to the study of enzymology Supplemented with appendices providing contact information for suppliers of reagents and equipment for enzyme studies, as well as a survey of useful Internet sites and computer software for enzymatic data analysis, *Enzymes, Second Edition* is the ultimate practical guide for scientists and students in biochemical, pharmaceutical, biotechnical, medicinal, and agricultural/food-related research.

Exercise Biochemistry - Vassilis Mougios
2019-02-04

Exercise Biochemistry brings an admittedly difficult and technical subject to life. Extremely user- and student-friendly, it is written in conversational style by Vassilis Mougios, who poses and then answers questions as if in conversation with a student. Mougios does an excellent job of making the information interesting by using simple language without compromising scientific accuracy and content. He also uses ample analogies, related works of art, and numerous illustrations to drive home his points for readers. The result is that *Exercise Biochemistry* is a highly informative and illuminating text on the effects of exercise on molecular-level functioning. It presents the basics of biochemistry as well as in-depth coverage of exercise biochemistry. The book uses key terms, sidebars, and questions and problems posed at the end of each chapter to facilitate learning. It also covers metabolism, endocrinology, and assessment all in one volume, unlike other exercise biochemistry books. In exploring all of these topics, *Exercise Biochemistry* makes the case for exercise biochemistry to have a stand-alone textbook. In fact, this book will encourage more universities to introduce exercise biochemistry courses to their curricula. Having the necessary topics of basic biochemistry in a single volume will facilitate the work of both instructors and students. *Exercise Biochemistry* will also be useful to graduate students in sport science who have not been formally introduced to exercise biochemistry during their undergraduate programs. Additionally, it can supplement exercise physiology textbooks with its coverage of the molecular basis of physiological processes. This book is also for physical

education and sport professionals who have an interest in how the human body functions during and after exercise. And this book is addressed to health scientists who are interested in the transformations in human metabolism brought about by physical activity. The book is organized in four parts. Part I introduces readers to biochemistry basics, including chapters on metabolism, proteins, nucleic acids and gene expression, and carbohydrates and lipids. Part II consists of two chapters that explore neural control of movement and muscle contraction. The essence of the book is found in part III, which details exercise metabolism in its six chapters. Included are chapters on carbohydrate, lipid, and protein metabolism in exercise; compounds of high phosphoryl transfer potential; effects of exercise on gene expression; and integration of exercise metabolism. In part IV, the author focuses on biochemical assessment of people who exercise, with chapters on iron status, metabolites, and enzymes and hormones. Simple biochemical tests are provided to assess an athlete's health and performance. *Exercise Biochemistry* is a highly readable book that serves as a source for understanding how exercise changes bodily functions. The text is useful for both students and practitioners alike.

Inorganic Biochemistry - J. A. Cowan
1997-03-21

The text will provide a set of problems covering mechanistic, structural and spectroscopic issues in inorganic chemistry. Specific areas to be covered include coordination chemistry, physicochemical aspects of solution chemistry, inorganic chemistry of biological systems (both natural biomolecules and bioinorganic models). Illustrative worked examples will be included. The problems will be categorized by topic chapters for ease of reference and use in courses. They will provide a valuable resource for instructors, providing a means of testing and developing the many principles covered in texts and advanced courses. Often students find it difficult to find practical problems to test the principles they have learned in class. This text will provide a series of questions to test understanding and worked examples as a pedagogical aid.

Biotechnology - Jeffery M. Becker 2012-12-02

Biotechnology: A Laboratory Course is a series of laboratory exercises demonstrating the in-depth experience and understanding of selected methods, techniques, and instrumentation used in biotechnology. This manual is an outgrowth of an introductory laboratory course for senior undergraduate and first year graduate students in the biological sciences at The University of Tennessee. This book is composed of 19 chapters and begins with some introductory notes on record keeping and safety rules. The first exercises include pH measurement, the use of micropipettors and spectrophotometers, the concept of aseptic technique, and preparation of culture media. The subsequent exercises involve the application of the growth curve, the isolation, purification, and concentration of plasmid DNA from *Escherichia coli*, and the process of agarose gel electrophoresis. Other exercises include the preparation, purification, and hybridization of probe, the transformation of *Saccharomyces cerevisiae*, the transformation of *E. coli* by plasmid DNA, and the principles and applications of protein assays. The final exercises explore the β -galactosidase assay and the purification and determination of β -galactosidase in permeabilized yeast cells. This book is of great value to undergraduate biotechnology and molecular biology students.

Short Course in Biochemistry - Albert L.

Lehninger 1973-01-01

Biomolecules; Catabolism and the generation of phosphate-bond energy; Biosynthesis and the utilization of phosphate-bond energy; Replication, transcription, and translation of genetic information.

Student Companion for Biochemistry: A Short

Course - John L. Tymoczko 2019-07-31

Biochemistry is very time-consuming, and spending only one or two nights studying for an exam is a recipe for disaster. This Companion is designed to help students cope with the volume of detail in a biochemistry course. It is carefully arranged so that the material matches the content of *Biochemistry: A Short Course*, Fourth Edition. Each chapter in this Companion consists of an Introduction, Learning Objectives, a Self-Test, Answers to Self-Test, Problems, and Answers to Problems.

Instant Notes in Biochemistry - David Hames
2006-09-07

A major update of the highly popular second edition, with changes in the content and organisation that reflect advances in the subject. New and expanded topics include cytoskeleton, molecular motors, bioimaging, biomembranes, cell signalling, protein structure, and enzyme regulation. As with the first two editions, the third edition of *Instant Notes in Biochemistry* provides the essential facts of biochemistry with detailed explanations and clear illustrations.

Loose-leaf Version for Biochemistry: A Short Course - John L. Tymoczko 2018-12-28

Derived from the classic text originated by Lubert Stryer and continued by John Tymoczko and Jeremy Berg, *Biochemistry: A Short Course* focuses on the major topics taught in a one-semester biochemistry course. With its brief chapters and relevant examples, this thoroughly updated new edition helps students see the connections between the biochemistry they are studying and their own lives. The focus of the 4th edition has been around: Integrated Text and Media with the NEW SaplingPlus Paired for the first time with SaplingPlus, the most innovative digital solution for biochemistry students. Media-rich resources have been developed to support students' ability to visualize and understand individual and complex biochemistry concepts. Built-in assessments and interactive tools help students keep on track with reading and become proficient problem solvers with the help and guidance of hints and targeted feedback--ensuring every problem counts as a true learning experience. Tools and Resources for Active Learning A number of new features are designed to help instructors create a more active environment in the classroom. Tools and resources are provided within the text, SaplingPlus and instructor resources. Extensive Problem-Solving Tools A variety of end of chapter problems promote understanding of single concept and multi-concept problems. Built-in assessments help students keep on track with reading and become proficient problem solvers with the help and guidance of hints and targeted feedback--ensuring every problem counts as a true learning experience. Unique case studies and new Think/Pair/Share Problems help provide application and relevance, as well as a vehicle for active learning.

Proteins - Gary Walsh 2014-03-13

Proteins Biochemistry and Biotechnology 2e is a definitive source of information for all those interested in protein science, and particularly the commercial production and isolation of specific proteins, and their subsequent utilization for applied purposes in industry and medicine. Fully updated throughout with new or fundamentally revised sections on proteomics as, bioinformatics, protein glycosylation and engineering, well as sections detailing advances in upstream processing and newer protein applications such as enzyme-based biofuel production this new edition has an increased focus on biochemistry to ensure the balance between biochemistry and biotechnology, enhanced with numerous case studies. This second edition is an invaluable text for undergraduates of biochemistry and biotechnology but will also be relevant to students of microbiology, molecular biology, bioinformatics and any branch of the biomedical sciences who require a broad overview of the various medical, diagnostic and industrial uses of proteins.

- Provides a comprehensive overview of all aspects of protein biochemistry and protein biotechnology
- Includes numerous case studies
- Increased focus on protein biochemistry to ensure balance between biochemistry and biotechnology
- Includes new section focusing on proteomics as well as sections detailing protein function and enzyme-based biofuel production

"With the potential of a standard reference source on the topic, any molecular biotechnologist will profit greatly from having this excellent book." (Engineering in Life Sciences, 2004; Vol 5; No. 5) "Few texts would be considered competitors, and none compare favorably." (Biochemistry and Molecular Education, July/August 2002) "...The book is well written, making it informative and easy to read..." (The Biochemist, June 2002)

Bioinorganic Chemistry - Rosette M. Roat-Malone 2007-10-05

An updated, practical guide to bioinorganic chemistry *Bioinorganic Chemistry: A Short Course, Second Edition* provides the fundamentals of inorganic chemistry and biochemistry relevant to understanding bioinorganic topics. Rather than striving to provide a broad overview of the whole, rapidly expanding field, this resource provides essential

background material, followed by detailed information on selected topics. The goal is to give readers the background, tools, and skills to research and study bioinorganic topics of special interest to them. This extensively updated premier reference and text: Presents review chapters on the essentials of inorganic chemistry and biochemistry Includes up-to-date information on instrumental and analytical techniques and computer-aided modeling and visualization programs Familiarizes readers with the primary literature sources and online resources Includes detailed coverage of Group 1 and 2 metal ions, concentrating on biological molecules that feature sodium, potassium, magnesium, and calcium ions Describes proteins and enzymes with iron-containing porphyrin ligand systems-myoglobin, hemoglobin, and the ubiquitous cytochrome metalloenzymes-and the non-heme, iron-containing proteins aconitase and methane monooxygenase Appropriate for one-semester bioinorganic chemistry courses for chemistry, biochemistry, and biology majors, this text is ideal for upper-level undergraduate and beginning graduate students. It is also a valuable reference for practitioners and researchers who need a general introduction to bioinorganic chemistry, as well as chemists who want an accessible desk reference.

Protein Physics - Alexei V. Finkelstein
2016-06-22

Protein Physics: A Course of Lectures covers the most general problems of protein structure, folding and function. It describes key experimental facts and introduces concepts and theories, dealing with fibrous, membrane, and water-soluble globular proteins, in both their native and denatured states. The book systematically summarizes and presents the results of several decades of worldwide fundamental research on protein physics, structure, and folding, describing many physical models that help readers make estimates and predictions of physical processes that occur in proteins. New to this revised edition is the inclusion of novel information on amyloid aggregation, natively disordered proteins, protein folding in vivo, protein motors, misfolding, chameleon proteins, advances in protein engineering & design, and advances in the modeling of protein folding. Further, the

book provides problems with solutions, many new and updated references, and physical and mathematical appendices. In addition, new figures (including stereo drawings, with a special appendix showing how to use them) are added, making this an ideal resource for graduate and advanced undergraduate students and researchers in academia in the fields of biophysics, physics, biochemistry, biologists, biotechnology, and chemistry. Fully revised and expanded new edition based on the latest research developments in protein physics

Written by the world's top expert in the field
Deals with fibrous, membrane, and water-soluble globular proteins, in both their native and denatured states
Summarizes, in a systematic form, the results of several decades of worldwide fundamental research on protein physics and their structure and folding
Examines experimental data on protein structure in the post-genome era

Medical Biochemistry - Antonio Blanco

2022-03-23

Medical Biochemistry, Second Edition covers the structure and physical and chemical properties of hydrocarbons, lipids, proteins and nucleotides in a straightforward and easy to comprehend language. The book develops these concepts into

the more complex aspects of biochemistry using a systems approach, dedicating chapters to the integral study of biological phenomena, including particular aspects of metabolism in some organs and tissues, the biochemical bases of endocrinology, immunity, vitamins, hemostasis, autophagy and apoptosis. Additionally, the book has been updated with full-color figures, chapter summaries, and further medical examples to improve learning and illustrate the concepts described in the book. Sections cover bioenergetics and metabolic syndromes, antioxidants to treat disease, plasma membranes, ATPases and monocarboxylate transporters, the human microbiome, carbohydrate and lipid metabolism, autophagy, virology and epigenetics, non-coding, small and long RNAs, protein misfolding, signal transduction pathways, vitamin D, cellular immunity and apoptosis. Integrates basic biochemistry principles with molecular biology and molecular physiology
Illustrates basic biochemical concepts through medical and physiological examples
Utilizes a systems approach to understanding biological phenomena
Fully updated for recent studies and expanded to include clinically relevant examples and succinct chapter summaries