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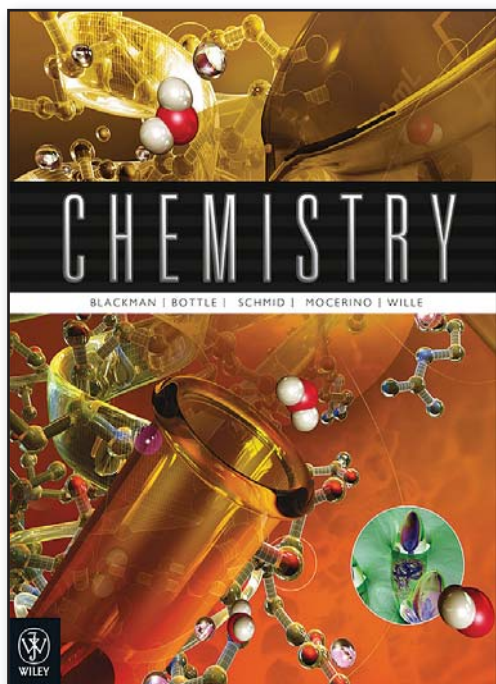


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Chemistry

ALLAN BLACKMAN, University of Otago, New Zealand, STEVE BOTTLE, Queensland University of Technology, Australia, SIEBERT SCHMID, University of Sydney, Australia, MAURO MOCERINO, Curtin University of Technology, Australia and UTA WILLE, University of Melbourne, Australia

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Chemistry has been developed to meet the content needs of a first year chemistry course. It presents the appropriate balance of organic, inorganic and physical chemistry in an integrated single volume, providing lecturers with all the material they need to successfully lead their students through their first year of chemistry.

Throughout the text the authors focus on the core chemistry concepts, and feature many interesting and relevant research and chemical applications to give students a sense of the excitement and huge potential that a career in chemistry can offer them.

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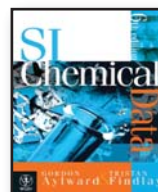
Contents: The atom; The language of chemistry; Chemical reactions and stoichiometry; Atomic energy levels; Chemical bonding and molecular structure; Gases; Condensed phases liquids and solids; Chemical thermodynamics; Chemical equilibria; Solutions and solubility; Acids and bases Oxidation and reduction; Coordination chemistry; Reaction kinetics; The chemistry of carbon; Chirality; Haloalkanes; Alcohols, amines and related compounds; Spectroscopy; Aldehydes and ketones; Carbohydrates; Carboxylic acids and their derivatives; Amino acids and proteins; The chemistry of DNA; Polymers; Nuclear chemistry.

Resources: WileyPLUS; Instructor's Website; Solutions Manual; Power Point Presentation; Test Bank; Text Images CD-ROM.

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Also available



SI Chemical Data, 6th Edition
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9780470398906 • 656pp
April 2009 • Pbk • £39.95/€54.00



Basic Concepts of Chemistry

8th Edition

LEO J. MALONE, Saint Louis University and THEODORE DOLTER

Leo Malone has joined forces with Theodore Dolter to create *Basic Concepts of Chemistry, Eighth Edition*, for the preparatory and basic chemistry market. Professor Dolter's background and expertise in the field of outcomes assessment brings a new dimension to this established work with an emphasis on assessment of chapter objectives and mastery education.

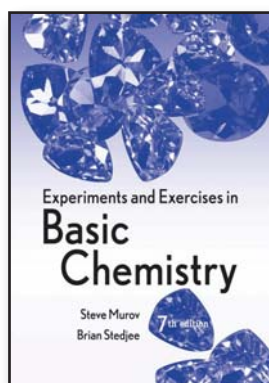
This new edition will aid instructors in the development of their course objectives, and allow students to self-monitor their progression through the lower levels of understanding. This new pedagogical design will free instructors to focus their attention on providing instruction and aid in one of the most rigorous and difficult areas of the sciences.

Brief Contents: Prologue Introduction to The Study of Chemistry; Measurements in Chemistry; Elements and Compounds; The Properties of Matter and Energy; The Periodic Table and Chemical Nomenclature; Chemical Reactions; Quantities In Chemistry; Quantitative Relationships in Chemical Reactions; Modern Atomic Theory; The Chemical Bond; The Gaseous State; The Solid and the Liquid States; Aqueous Solutions; Acids, Bases and Salts; Oxidation-Reduction Reactions; Reaction Rates and Equilibrium; Nuclear Chemistry; Organic Chemistry; Biochemistry; Appendix A Basic Mathematics; Appendix B Basic Algebra; Appendix C Scientific Notation; Appendix D Graphs; Appendix E Calculators; Appendix F Glossary; Appendix G Answers To Problems.

Resources: WileyPLUS; Instructor's Website; Online Test Bank; Instructor's Manual; PPT Lecture Slides; Computerized Test Bank; Study Guide/Solutions Manual.

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Experiments and Exercises in Basic Chemistry

7th Edition

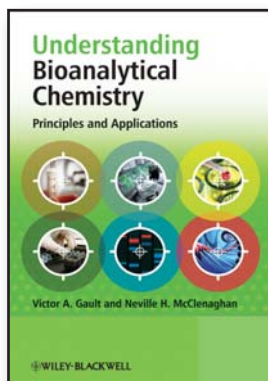
STEVEN MUROV and BRIAN STEDJEE, both of Midesto Junior College

Taking an exploratory approach to chemistry, this hands-on lab manual for preparatory chemistry encourages critical thinking and allows students to make discoveries as they experiment. The sequence of the experiments in the manual is designed to fit closely with the eighth edition of *Basic Concepts of Chemistry*, by Leo Malone and Theodore Dolter.

Contents: **Experiments** Introductory Concepts, Techniques, and Challenges; Measurements; Density; Mixtures: Separation and Purification; Melting Points; Lewis Structures and Molecular Model; Paper Chromatography; Classification of Chemical Reactions; Empirical Formula of Zinc Oxide; Empirical Formula of a Hydrate; Stoichiometry of a Reaction; Enthalpies in Physical and Chemical Changes; Chemical Properties of Oxygen and Hydrogen; Gas Laws; Distillation and Hardness of Water; Ionic Reactions and Conductivity; Analysis of Cations; Spectroscopy; Acidity and pH; Synthesis; Acid-Base Titrations; Oxidation-Reduction; Analysis of Bleach and Copper (II) Glycinate; The Rates of Chemical Reactions; Equilibrium Studies; Molecular Models of Organic Compounds; Carbohydrates. **Exercises:** Measurements: Scientific Notation, Significant Figures, Accuracy and Precision; Unit Conversions, Density; Element Names and Symbols; Protons, Neutrons, Electrons and Isotopes; Polyatomic Ions; Formulas of Compounds; Nomenclature of Compounds; Electronic Structures and Lewis Structures of Atoms; Bonding, Molecular Geometry, and Polarity; Chemical Reactions: Balancing and Classification; Double Replacement Reactions, Net Ionic Equations; Formula Mass, Moles and Molecules; Percent Composition, Empirical and Molecular Formulas; Stoichiometry; Gases and Gas Laws; Concentration Calculations and Solution Stoichiometry; Acids and Bases, pH; Oxidation States and Redox Reactions; Equilibrium Expressions, Le Chatelier's Principle; Nuclear Reactions; Organic Chemistry; Laboratory Terminology; Laboratory Techniques **Appendices:** Appendix A Solutions to Starred Prelaboratory Exercises; Appendix B Common Ions by Charge; Appendix C Solubility of Ionic Compounds **Webercises (available online at www.wiley.com/college/murov)** Webercise 1 Significant Figures; Webercise 2; Properties of Elements; Webercise 3; Chemical Toxicity, Safety, and Uses; Webercise 4; Periodic Properties of the Elements Webercise 5; Atmospheric Gases; Webercise 6; Chemists, Chemistry and Society.

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Understanding Bioanalytical Chemistry

Principles and Applications

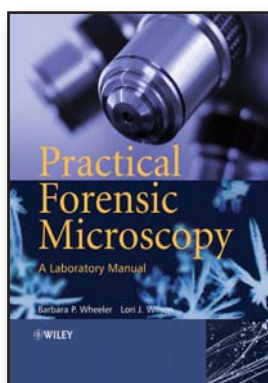
VICTOR GAULT, Biomedical Sciences and NEVILLE McCLENAGHAN, University Of Ulster

Understanding Bioanalytical Chemistry: Principles and Applications is a single core textbook, with supplementary learning materials, which provides a novel teaching and learning resource for tutors and students of first year undergraduate chemistry. The book describes basic principles, terminology, and core technologies, which include modern experimental techniques and equipment used to analyse important biomolecules in diagnostic, industrial, and research laboratory settings. It also provides an introduction to advanced technologies used in the emerging fields of genomics, peptidomics/proteomics, and metabolomics.

Contents: Preface; 1 Introduction to biomolecules; 2 Analysis and quantification of biomolecules; 3 Transition metals in health and disease; 4 Ions, electrodes and biosensors; 5 Applications of spectroscopy; 6 Centrifugation and separation; 7 Chromatography of biomolecules; 8 Principles and applications of electrophoresis; 9 Applications of mass spectrometry; 10 Immunochemical techniques and biological tracers; 11 Bioanalysis by magnetic resonance technologies: NMR and MRI; 12 Bioanalytical approaches from diagnostic, research and pharmaceutical perspectives; 13 Self-Assessment; Appendix 1: International system of units (SI) and common prefixes; Appendix 2: The periodic table of the elements; Appendix 3: Common solvents and biological buffers; Appendix 4: Answers to self-assessment questions; Index.

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Practical Forensic Microscopy

A Laboratory Manual

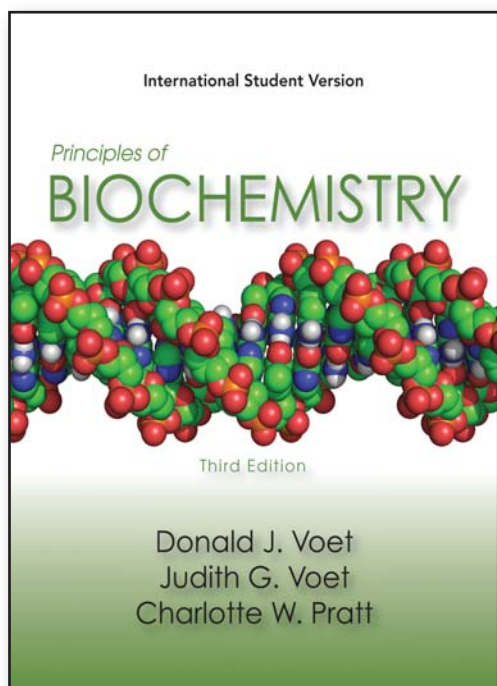
BARBARA WHEELER and LORI J. WILSON, both of Eastern Kentucky University

This text provides students with a practical overview and understanding of the various microscopes and microscopic techniques employed within the field of forensic science. Each laboratory experiment has been carefully designed to cover the variety of evidence disciplines within the forensic science field with carefully set out objectives, explanations of each topic and worksheets to help students compile and analyse their results.

Contents: Preface; Acknowledgements; Laboratory Safety; Microscope Maintenance; The Micro Kit; Experiments; Chapter 1: The Stereomicroscope; Chapter 2: The Compound Light Microscope; Chapter 3: The Polarized Light Microscope; Chapter 4: The Fluorescence Microscope; Chapter 5: The Phase Contrast Microscope; Chapter 6: Physical Match Examinations; Chapter 7: Construction Examinations of Evidence; Chapter 8: Lamp Filament Examinations; Chapter 9: Fingerprint Examinations and Comparison; Chapter 10: Tool Mark Examinations; Chapter 11: Firearms Examinations; Chapter 12 Shoe and Tire; Print/Impression Examinations; Chapter 13 Botanical Examinations; Chapter 14 Paint Examinations; Chapter 15 Hair Examinations; Chapter 16 Glass Examinations; Chapter 17 Fiber Examinations; Chapter 18 Soil Examination; Chapter 19 Microchemical Testing – Inorganic Ions; Chapter 20 Microscopic Analysis of Controlled Substances; Chapter 21 Semen Examinations Instrumental Microscopy; Chapter 22 Fourier Transform Infrared Microspectrometry; Chapter 23 UV-Visible-NIR Microspectrophotometry; Chapter 24: Thermal Microscopy; Chapter 25 Scanning Electron Microscopy; Appendices; Glossary of Microscopy Terms; Index.

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Principles of Biochemistry

3rd Edition

DONALD J. VOET, University of Pennsylvania,
JUDITH G. VOET, Swarthmore College and
CHARLOTTE W. PRATT, Seattle, Washington

Voet, Voet, and Pratt's *Principles of Biochemistry*, challenges students to better understand the chemistry behind the biological structure and reactions occurring in living systems. The third edition continues this tradition, and additionally incorporates coverage of recent research and an expanded focus on preparing and supporting students throughout the course. With the addition of new conceptual assessment content to *WileyPLUS*, students have the opportunity to assess their conceptual understanding of key introductory biochemistry concepts and retrain themselves on their misconceptions.

Features:

- Author reputation – authors are well-known and highly regarded teachers and researchers, and bring the highest level of accuracy, currency and scholarship to the book
- Balanced coverage, explaining the chemistry behind the biology
- Grounding in chemistry provides students with an understanding of reactions at the molecular level and helps students see patterns and the “big picture”
- Includes the most up-to-date coverage, particularly in areas impacting upon human health and disease

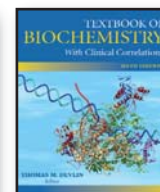
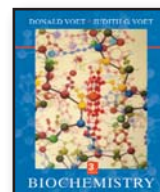
Contents: **PART I: INTRODUCTION;** Introduction to the Chemistry of Life; Water; **PART II: BIOMOLECULES;** Nucleotides, Nucleic Acids, and Genetic Information; Amino Acids; Proteins: Primary Structure; Proteins: Three-Dimensional Structure; Protein Function Part I: Myoglobin and Hemoglobin; Carbohydrates; Lipids and Biological Membranes; Membrane Transport; **PART III: ENZYMES;** Enzymatic Catalysis; Enzyme Kinetics, Inhibition, and Regulation; **PART IV: METABOLISM;** Biochemical Signaling; Introduction to Metabolism; Glucose Catabolism; Glycogen Metabolism and Gluconeogenesis; Citric Acid Cycle; Electron Transport and Oxidative Phosphorylation; Photosynthesis; Lipid Metabolism; Amino Acid Metabolism; Mammalian Fuel Metabolism: Integration and Regulation; Nucleotide Metabolism; **PART V: GENE EXPRESSION AND REPLICATION;** Nucleic Acid Structure; DNA Replication, Repair, and Recombination; Transcription and RNA Processing; Translation; Regulation of Gene Expression; Protein Function Part II: Cytoskeletal and Motor Proteins and Antibodies; Appendix; Bioinformatics Exercises; Answers to Bioinformatics Exercises; Solutions to Problems; Glossary; Guide to Media Resources; Index.

Resources: WileyPLUS; Instructor's Website; Image Galley; Testbank; Student Website.

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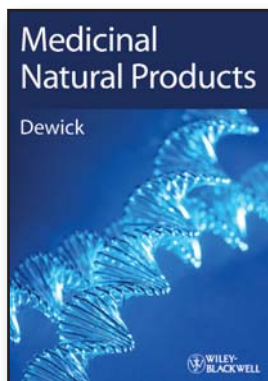
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Biochemistry, 3rd Edition
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Textbook of Biochemistry: With Clinical Correlations,
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by THOMAS M. DEVLIN - 9780471678083

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Medicinal Natural Products

A Biosynthetic Approach

3rd Edition

PAUL M. DEWICK, University of Nottingham

Medicinal Natural Products, Third Edition, provides a comprehensive and balanced introduction to natural products from a biosynthetic perspective, focusing on the metabolic sequences leading to various classes of natural products. The book builds upon fundamental chemical principles and guides the reader through a wealth of diverse natural metabolites with particular emphasis on those used in medicine: sources, production methods, use as drugs, semi-synthetic derivatives and synthetic analogues, and modes of action are all extensively covered.

Rapid advances have been made in the last decade in gene isolation and genetic engineering, leading to the elaboration of many biosynthetic pathways. *Medicinal Natural Products* has been extended and fully updated in this new edition to reflect and explain these new developments and other advances in the field. It retains the user-friendly style and highly acclaimed features of previous editions:

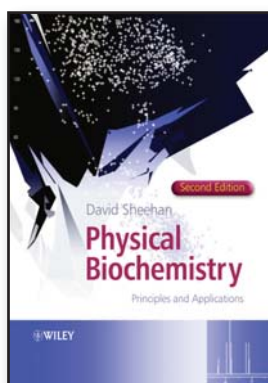
- A comprehensive treatment of plant, microbial, and animal natural products in one volume
- Extensive use of chemical schemes with annotated mechanistic explanations
- Cross-referencing to emphasize links and similarities
- Boxed topics giving further details of medicinal materials, covering sources, production methods, use as drugs, semi-synthetic derivatives and synthetic analogues, and modes of action

Medicinal Natural Products, Third Edition, is an invaluable textbook for students of pharmacy, pharmacognosy, medicinal chemistry, biochemistry and natural products synthesis.

Brief Contents: About This Book, and How to Use It; Secondary Metabolism: The Building Blocks and Construction Mechanisms; The Acetate Pathway: Fatty Acids and Polyketides; The Shikimate Pathway: Aromatic Amino Acids and Phenylpropanoids; The Mevalonate and Methylerythritol Phosphate Pathways: Terpenoids and Steroids; Alkaloids; Peptides, Proteins, and Other Amino Acid Derivatives; Carbohydrates.

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Physical Biochemistry

Principles and Applications

2nd Edition

DAVID SHEEHAN, University of Ireland, Cork, Ireland

"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 new edition of this successful textbook explains the basic principles behind the key techniques currently used in the modern biochemical laboratory in a way that is comprehensive and approachable for students who are not physical chemists. It bridges the gap between general biochemistry textbooks and the more specialist books covering individual techniques.

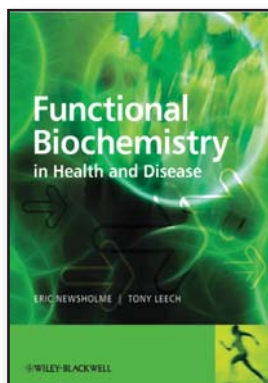
The second edition maintains the strengths of the first and includes the following specific changes:

- Incorporates much more material on proteomics
- Includes more information on small-scale physical methods and fourier transform mass spectrometry
- Covers the latest developments in biological NMR
- Presents a revised chapter on chromatography and an updated bibliography
- Provides case studies to help readers appreciate the multi-disciplinary nature of physical biochemistry

Brief Contents: Introduction; Chromatography; Spectroscopic Techniques; Mass spectrometry; Electrophoresis; Three-dimensional structure determination of macromolecules; Hydrodynamic methods; Bicalorimetry; Appendix 1 SI units; Appendix 2 The Fourier transform; Index

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Functional Biochemistry in Health and Disease

ERIC NEWSHOLME, Merton College and Department of Biochemistry, University of Oxford, UK, and
TONY LEECH, Gresham's School, Norfolk, UK

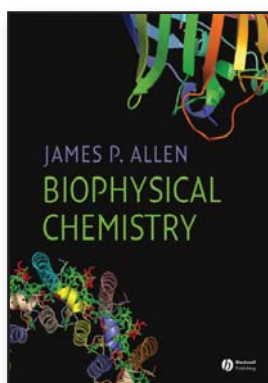
This text provides a clear and straightforward account of the biochemistry that is necessary to understand the physiological functions of tissues or organs essential to the life of human beings. Focusing on the dynamic aspects of biochemistry and its application to the basic functions of the body, the book bridges the gap between biochemistry and medical practice.

- Focuses on medically relevant aspects of biochemistry written from a physiological rather than a molecular perspective
- Clear presentation that minimises the use of jargon
- Each chapter contains boxes on related topics, relevant diagrams and a brief glossary
- Coverage includes athletic performance, cell growth and the immune system
- Key historical developments are included to show how modern biochemistry has evolved

Contents: Preface; INTRODUCTION; Structural and biochemical hierarchy: from the cell to the human; ESSENTIAL TOPICS IN DYNAMIC BIOCHEMISTRY; Energy: in the body, tissues and biochemical processes; Enzymes: activities, properties, regulation and physiology; Transport into the body: the gastrointestinal tract, digestion and absorption; Transport into the cell; ESSENTIAL METABOLISM; Carbohydrate metabolism; Fat metabolism; Protein and amino acid metabolism; Fuel oxidation and ATP generation; Ammonia metabolism; Synthesis of fats, phospholipids, fatty messengers and cholesterol; Hormones: principles underlying their actions; ESSENTIAL PROCESSES OF LIFE; Physical activity: in athletes, non-athletes and patients; Mental activity mental disorders and recreational drugs; Nutrition: inadequate, healthy, unhealthy and excess; Starvation: metabolic changes, survival and death; Defence: barriers, enzymes and the immune system; Survival after trauma: metabolic changes and response of the immune system; Sexual reproduction; Growth of cells: the cell cycle; SERIOUS DISEASES; Cancer: genes, cachexia and death; Atherosclerosis, hypertension and heart attack; Appendices: A Chemistry Relevant to Biochemistry; B Conformational Diseases; Index.

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9781405124362 • 512pp
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Biophysical Chemistry

JAMES P. ALLEN, Arizona State University

This text presents physical chemistry through the use of biological and biochemical topics, examples, and applications to biochemistry. It presents a rigorous, up-to-date treatment of the material without presuming unrealistic prior knowledge of math theory. Necessary calculus models are laid out in a step-by-step fashion for students less confident in their math abilities. The format of the text allows teachers ample flexibility in deciding which derivations to present in class. Students are guided through an in-depth understanding of fundamental concepts – such as a quantum mechanical description of the hydrogen atom – and techniques are presented with an emphasis on learning through analysis of real data.

Brief Contents: Basic thermodynamic and biochemical concepts; First law of thermodynamics; Second law of thermodynamics; Phase diagrams, mixtures and chemical potential; Equilibria and reactions involving protons; Oxidation/reduction reactions and bioenergetics; Kinetics and enzymes; The Boltzmann distribution and statistical thermodynamics; Quantum theory: Introduction and principles; Particle in box and tunnelling; Vibrational motion and infrared spectroscopy; Atomic structure: Hydrogen atom and Multi-electron atoms; Chemical bonds and protein interactions; Electronic Transitions and optical spectroscopy; X-ray diffraction and EXAFS; Magnetic resonance; Signal transduction; Membrane potentials, transporters, and channels; Molecular imaging; Photosynthesis.

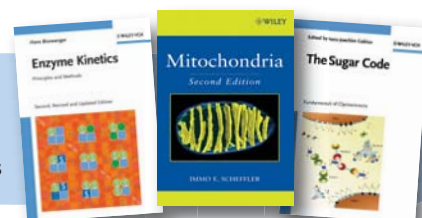
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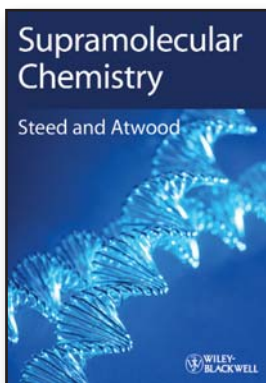
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Supramolecular Chemistry

2nd Edition

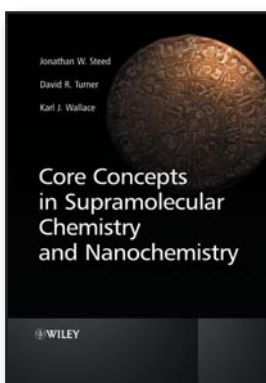
JONATHAN W. STEED, King's College, London and JERRY L. ATWOOD, University of Missouri, Columbia

Supramolecular Chemistry is an up-to-date, integrated textbook that tells the newcomer to the subject everything they need to know to get started. Assuming little in the way of prior knowledge, the book covers the theory behind the subject, how the theory is applied, and includes coverage of the more important techniques needed by supramolecular chemists.

The book has been thoroughly updated for this second edition. In addition to the strengths of the first edition in topics such as cation, anion and molecular ion host guest chemistry, crystal engineering, networks, topological entanglement, clathrates, self-assembly, molecular devices and liquid phase assembly, this new edition expands coverage into emerging areas such as dendrimers, supramolecular polymers, microfabrication, nanoparticles, chemical emergence, metal-organic frameworks, ion pairs, gels, ionic liquids, supramolecular catalysis, molecular electronics, polymorphism, gas sorption reactions and anion- π interactions. Clear explanations of both fundamental and nascent concepts are supplemented by up-to-date coverage of exciting new trends in the literature. Numerous examples and problems are included throughout the book.

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2007 • Pbk • £24.95/€33.70

Core Concepts in Supramolecular Chemistry and Nanochemistry

JONATHAN W. STEED, Durham University, DAVID R. TURNER, Monash University and KARL WALLACE, The University of Southern Mississippi

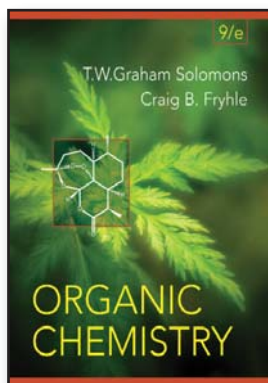
This textbook clearly outlines the fundamentals that underlie supramolecular chemistry and nanochemistry and takes an umbrella view of the whole area. It traces the fascinating modern practice of the chemistry of the non-covalent bond from its fundamental origins through to its expression in the emergence of nanochemistry.

Contents: Preface; About the authors; Introduction: What is supramolecular chemistry? Selectivity; Supramolecular interactions; Supramolecular design Solution host-guest chemistry: 2.1 Introduction: guests in solution; Macrocyclic versus acyclic hosts; Cation binding; Anion binding; Metal-containing receptors; Simultaneous cation and anion receptors; Neutral-molecule binding; Supramolecular catalysis and enzyme mimics; Self-assembly: Introduction; Biological self-assembly; Ladders, polygons and helices; Rotaxanes, catenanes and knots; Self-assembling capsules; Solid-state supramolecular chemistry: Introduction; Zeolites; Clathrates; Clathrate hydrates; Crystal engineering; Coordination polymers Nanochemistry: Nanomanipulation: Molecular devices; Self-assembled monolayers (SAMs); Soft lithography; Nanoparticles; Fullerenes and nanotubes; Dendrimers; Fibres, gels and polymers; Nanobiology and biomimetic chemistry; Index.

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ORGANIC CHEMISTRY



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Organic Chemistry

9th Edition

T. W. GRAHAM SOLOMONS, University of South Florida and CRAIG B. FRYHLE, Pacific Lutheran University

The Ninth Edition of *Organic Chemistry* continues Solomons/Fryhle's tradition of excellence in teaching and preparing students for success in the organic classroom and beyond.

Students are often overwhelmed by the early rigors of organic chemistry. Solomons–Fryhle prepares students for these early rigors by introducing acids & bases—topics they know from general chemistry—early, followed by chapters on structure and stereochemistry. Next, a discussion of ionic reactions gives students a foundation for the vast majority of reactions that they will encounter. The Ninth Edition continues to introduce IR spectroscopy in chapter 2 (after functional groups) and Carbon-13 NMR spectroscopy in chapter 4, providing synergy with most lab courses and, again, reinforcing learning.

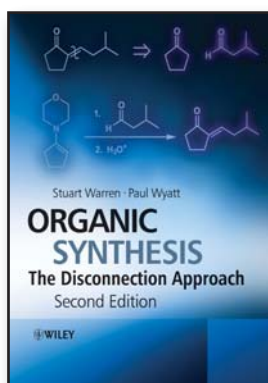
This edition also has a completely revised *WileyPLUS* course to help students and instructors reach their full potential.

Contents: The Basics: Bonding and Molecular Structure; Representative Carbon Compounds: Functional Groups, Intermolecular Forces, and Infrared (Ir) Spectroscopy; An Introduction to Organic Reactions and their Mechanisms: Acids and Bases; Nomenclature and Conformations of Alkanes and Cycloalkanes; Stereochemistry: Chiral Molecules; Ionic Reactions: Nucleophilic Substitution and Elimination Reactions of Alkyl Halides; Alkenes And Alkynes I: Properties And Synthesis. Elimination Reactions of Alkyl Halides; Alkenes And Alkynes II: Addition Reaction; Nuclear Magnetic Resonance and Mass Spectrometry: Tools for Structure Determination; Radical Reactions; Alcohols and Ethers; Alcohols from Carbonyl Compounds: Oxidation-Reduction and Organometallic Compounds; Conjugated Unsaturated Systems; Aromatic Compounds; Reactions Of Aromatic Compounds; Aldehydes and Ketones I: Nucleophilic Additions to the Carbonyl Group; Aldehydes And Ketones II: Enols And Enolates; Carboxylic Acids and their Derivatives: Nucleophilic Addition-Elimination At The Acyl Carbon; Synthesis And Reactions Of β -Dicarbonyl Compounds: More Chemistry of Enolates; Amines; Phenols and Aryl Halides: Nucleophilic Aromatic Substitution; Carbohydrates; Lipids; Amino Acids & Proteins; Nucleic Acids & Protein Synthesis; Answers to Selected Problems; Glossary; Photo Credits; Index.

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The Disconnection Approach

2nd Edition

STUART WARREN, Cambridge University, UK and PAUL WYATT, School of Chemistry, University of Bristol, UK

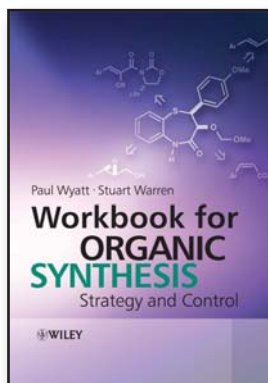
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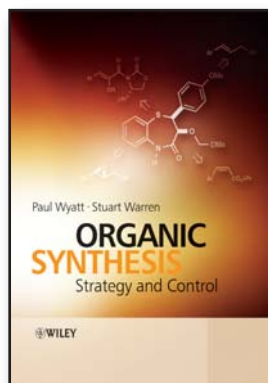
PAUL WYATT, University of Bristol and STUART WARREN, Cambridge University

This workbook provides a comprehensive graded set of worked examples to illustrate and develop the themes of each of the chapters in the textbook *Organic Synthesis: Strategy and Control* by Warren & Wyatt. By working through these examples students will develop their skills in analyzing synthetic challenges, and build a toolkit of strategies for planning new syntheses. Together the workbook and textbook provide a complete course in advanced organic synthesis.

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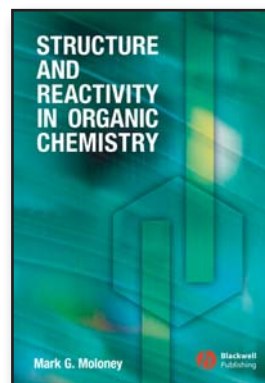
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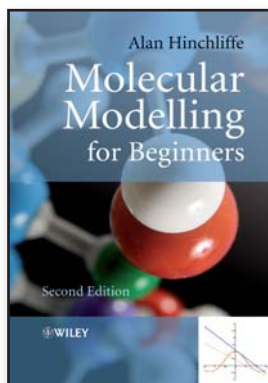
This text opens with a short overview of the way chemists understand chemical structure, and how that understanding is essential in developing a good knowledge of chemical reactivity and mechanism. The remainder of the text presents a mechanistic classification of modern organic chemistry, developed in the context of synthetic organic chemistry and exemplified by reference to stereoselective synthesis and protecting group chemistry. This approach is intended to illustrate the importance and value of a good grasp of organic reaction mechanisms, which is a prerequisite for a broader understanding of organic chemistry.

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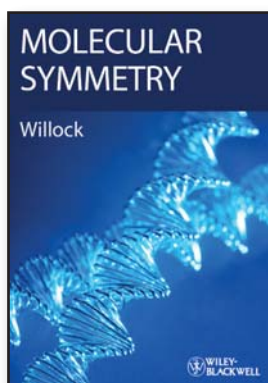
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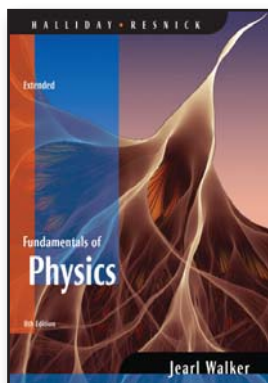
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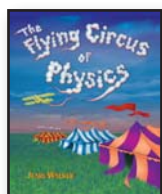
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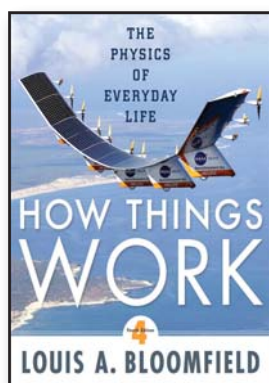
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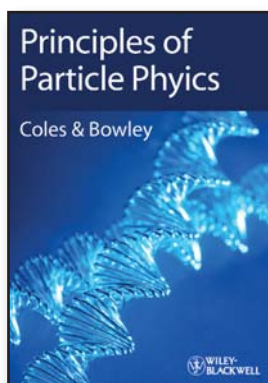
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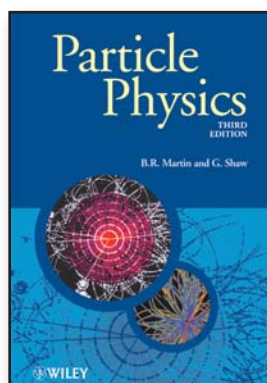
PETER COLES, University of Cardiff and
ROGER BOWLEY, University of
Nottingham

Principles of Particle Physics aims to provide a basic grounding in particle theory whilst avoiding the more advanced topic of quantum field theory. The mathematical language of particle physics is carefully developed and supported by plenty of worked examples showing how relatively simple mathematical ideas can lead to testable predications. Key ideas are illustrated by reference to simpler applications in atomic physics leading to a greater understanding of basic quantum mechanics. The text is illustrated throughout with Feynman diagrams, and each section contains many worked examples and problems, some drawn from astrophysics and cosmology. A key aim of the book is to show how particle physics is related to other areas of physics and the text draws this out by using examples from many areas, including astrophysics and cosmology.

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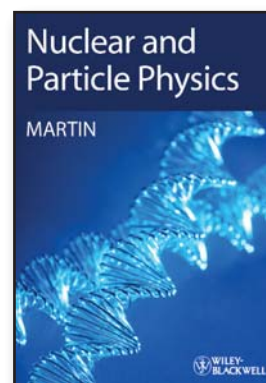
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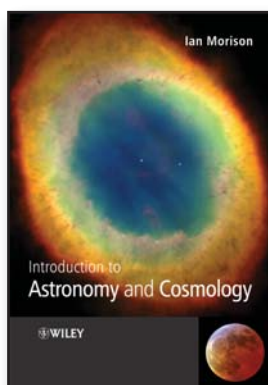
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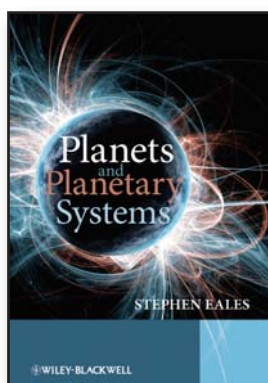
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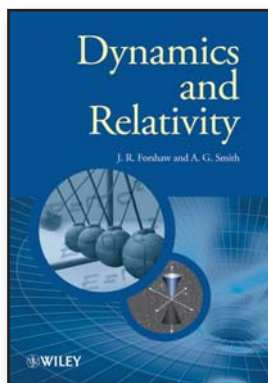
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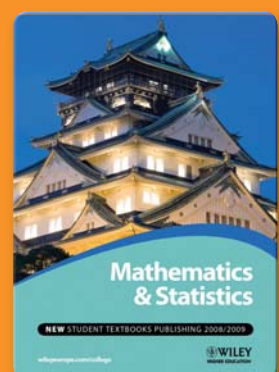
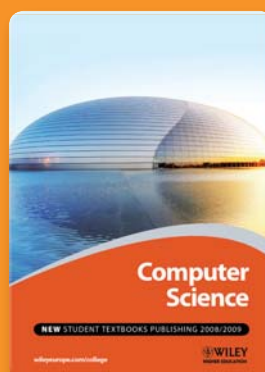
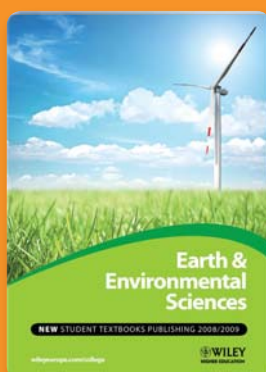
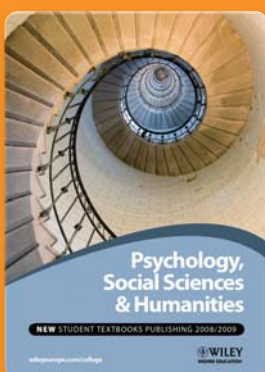
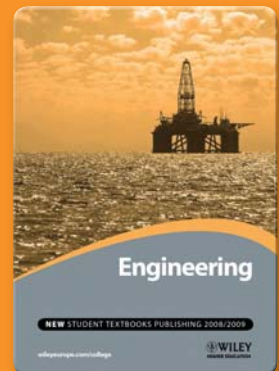
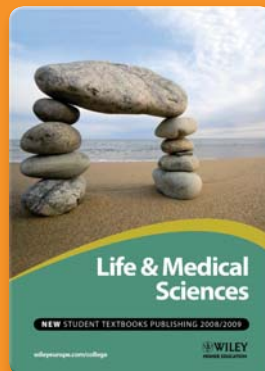
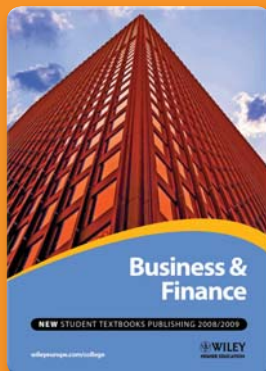
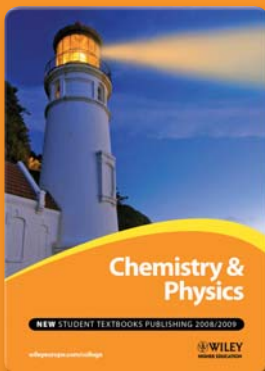
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