

chemfile mini guide to gas laws

[#gas laws](#) [#chemfile](#) [#mini guide chemistry](#) [#boyle's law](#) [#ideal gas law](#)

Explore the fundamental principles of gas laws with this concise ChemFile mini guide. Perfect for students and enthusiasts, it offers a clear overview of essential concepts, including Boyle's Law, Charles's Law, and the Ideal Gas Law. Get a solid understanding of how gases behave under different conditions and their practical applications.

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Holt Chemistry File

This reference is a must for students who need extra help, reteaching, or extra practice. The guide moves students through the same concepts as the text, but at a slower pace. More descriptive detail, along with visual algorithms, provides a more structured approach. Each chapter closes with a large bank of practice problems. Book jacket.

The Alkali Metals

Explains the characteristics of alkali metals, where they are found, how they are used by humans, and their relationship to other elements found in the periodic table.

Emergency Response Guidebook

Does the identification number 60 indicate a toxic substance or a flammable solid, in the molten state at an elevated temperature? Does the identification number 1035 indicate ethane or butane? What is the difference between natural gas transmission pipelines and natural gas distribution pipelines? If you came upon an overturned truck on the highway that was leaking, would you be able to identify if it was hazardous and know what steps to take? Questions like these and more are answered in the Emergency Response Guidebook. Learn how to identify symbols for and vehicles carrying toxic, flammable, explosive, radioactive, or otherwise harmful substances and how to respond once an incident involving those substances has been identified. Always be prepared in situations that are unfamiliar and dangerous and know how to rectify them. Keeping this guide around at all times will ensure that, if you were to come upon a transportation situation involving hazardous substances or dangerous goods, you will be able to help keep others and yourself out of danger. With color-coded pages for quick and easy reference, this is the official manual used by first responders in the United States and Canada for transportation incidents involving dangerous goods or hazardous materials.

The Electron: Its Isolation and Measurement and the Determination of Some of Its Properties

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Scientific and Technical Aerospace Reports

This book constitutes the Proceedings of the conference 'Chemical Structures: The International Language of Chemistry' which was held at Leeuwenhorst Congress Centre, Noordwijkerhout in the Netherlands, between May 31 and June 4, 1987. The conference was jointly sponsored by the Chemical Structure Association, the American Chemical Society Division of Chemical Information, and the Chemical Information Groups of the Royal Society of Chemistry and the German Chemical Society. The purpose of the conference was to bring together experts and an international professional audience to discuss and to further basic and applied research and development in the processing, storage, retrieval and use of chemical structures, to focus international attention on the importance of chemical information and the vital research being carried out in chemical information science and to foster co-operation among major chemical information organisations in North America and Europe. Subjects covered included integrated in-house databases, substructure searching methodology, spectral databanks, new technologies (microcomputers, CD-ROM, parallel processing and expert systems) and chemical reactions. The keynote address was given by Mike Lynch of the University of Sheffield. In this, the opening chapter of the book, Mike discusses progress made in chemical information science in the last fifteen years and describes his own approach to research. In a plenary session, Myra Williams of Merck, Sharp and Dohme considered future trends from the point of view of the information manager and strategic planner in industry. She emphasises the need for integration, open architecture and a uniform user interface.

A text-book of practical organic chemistry

Molecular Theory of Solvation presents the recent progress in the statistical mechanics of molecular liquids applied to the most intriguing problems in chemistry today, including chemical reactions, conformational stability of biomolecules, ion hydration, and electrode-solution interface. The continuum model of "solvation" has played a dominant role in describing chemical processes in solution during the last century. This book discards and replaces it completely with molecular theory taking proper account of chemical specificity of solvent. The main machinery employed here is the reference-interaction-site-model (RISM) theory, which is combined with other tools in theoretical chemistry and physics: the ab initio and density functional theories in quantum chemistry, the generalized Langevin theory, and the molecular simulation techniques. This book will be of benefit to graduate students and industrial scientists who are struggling to find a better way of accounting and/or predicting "solvation" properties.

Chemical Structures

Molecular structure is the most basic information about a substance, determining most of its properties. Determination of accurate structures is hampered in that every method applies its own definition of "structure" and thus results from different sources can yield significantly different results. Sophisticated protocols exist to account for these

Molecular Theory of Solvation

This volume provides updated protocols for chemical protein synthesis. Chapters guide readers through development methods, strategies, and applications of protein chemical synthesis. Written in the format of the highly successful Methods in Molecular Biology series, each chapter includes an introduction to the topic, lists necessary materials and reagents, includes tips on troubleshooting and known pitfalls, and step-by-step, readily reproducible protocols. Authoritative and cutting-edge, Chemical Protein

Synthesis aims to be a useful and practical guide to new researchers and experts looking to expand their knowledge.

Equilibrium Molecular Structures

A guide to the theoretical underpinnings and practical applications of chemically reacting flow Chemically Reacting Flow: Theory, Modeling, and Simulation, Second Edition combines fundamental concepts in fluid mechanics and physical chemistry while helping students and professionals to develop the analytical and simulation skills needed to solve real-world engineering problems. The authors clearly explain the theoretical and computational building blocks enabling readers to extend the approaches described to related or entirely new applications. New to this Second Edition are substantially revised and reorganized coverage of topics treated in the first edition. New material in the book includes two important areas of active research: reactive porous-media flows and electrochemical kinetics. These topics create bridges between traditional fluid-flow simulation approaches and transport within porous-media electrochemical systems. The first half of the book is devoted to multicomponent fluid-mechanical fundamentals. In the second half the authors provide the necessary fundamental background needed to couple reaction chemistry into complex reacting-flow models. Coverage of such topics is presented in self-contained chapters, allowing a great deal of flexibility in course curriculum design.

- Features new chapters on reactive porous-media flow, electrochemistry, chemical thermodynamics, transport properties, and solving differential equations in MATLAB
- Provides the theoretical underpinnings and practical applications of chemically reacting flow
- Emphasizes fundamentals, allowing the analyst to understand fundamental theory underlying reacting-flow simulations
- Helps readers to acquire greater facility in the derivation and solution of conservation equations in new or unusual circumstances
- Reorganized to facilitate use as a class text and now including a solutions manual for academic adopters

Computer simulation of reactive systems is highly efficient and cost-effective in the development, enhancement, and optimization of chemical processes. Chemically Reacting Flow: Theory, Modeling, and Simulation, Second Edition helps prepare graduate students in mechanical or chemical engineering, as well as research professionals in those fields take utmost advantage of that powerful capability.

STD Interchange

Recent advances in machine learning or artificial intelligence for vision and natural language processing that have enabled the development of new technologies such as personal assistants or self-driving cars have brought machine learning and artificial intelligence to the forefront of popular culture. The accumulation of these algorithmic advances along with the increasing availability of large data sets and readily available high performance computing has played an important role in bringing machine learning applications to such a wide range of disciplines. Given the emphasis in the chemical sciences on the relationship between structure and function, whether in biochemistry or in materials chemistry, adoption of machine learning by chemists derivations where they are important

Chemical Protein Synthesis

An original analysis of the parallels between the arrested moment in photography and in the traumatized psyche.

Holt Physics

Closing a gap in the scientific literature, this first comprehensive introduction to the topic is based on current best practice in one of the largest pharmaceutical companies worldwide. The first chapters trace the development of our understanding of drug metabolite toxicity, covering basic concepts and techniques in the process, while the second part details chemical toxicophores that are prone to reactive metabolite formation. This section also reviews the various drug-metabolizing enzymes that can participate in catalyzing reactive metabolite formation, including a discussion of the structure-toxicity relationships for drugs. Two chapters are dedicated to the currently hot topics of herbal constituents and IADRs. The next part covers current strategies and approaches to evaluate the reactive metabolite potential of new drug candidates, both by predictive and by bioanalytical methods. There then follows an in-depth analysis of the toxicological potential of the top 200 prescription drugs, illustrating the power and the limits of the toxicophore concept, backed by numerous case studies. Finally, a risk-benefit approach to managing the toxicity risk of reactive metabolite-prone drugs is presented. Since the authors carefully develop the knowledge needed, from fundamental considerations to current industry

standards, no degree in pharmacology is required to read this book, making it perfect for medicinal chemists without in-depth pharmacology training.

Chemically Reacting Flow

Designing molecules and materials with desired properties is an important prerequisite for advancing technology in our modern societies. This requires both the ability to calculate accurate microscopic properties, such as energies, forces and electrostatic multipoles of specific configurations, as well as efficient sampling of potential energy surfaces to obtain corresponding macroscopic properties. Tools that can provide this are accurate first-principles calculations rooted in quantum mechanics, and statistical mechanics, respectively. Unfortunately, they come at a high computational cost that prohibits calculations for large systems and long time-scales, thus presenting a severe bottleneck both for searching the vast chemical compound space and the stupendously many dynamical configurations that a molecule can assume. To overcome this challenge, recently there have been increased efforts to accelerate quantum simulations with machine learning (ML). This emerging interdisciplinary community encompasses chemists, material scientists, physicists, mathematicians and computer scientists, joining forces to contribute to the exciting hot topic of progressing machine learning and AI for molecules and materials. The book that has emerged from a series of workshops provides a snapshot of this rapidly developing field. It contains tutorial material explaining the relevant foundations needed in chemistry, physics as well as machine learning to give an easy starting point for interested readers. In addition, a number of research papers defining the current state-of-the-art are included. The book has five parts (Fundamentals, Incorporating Prior Knowledge, Deep Learning of Atomistic Representations, Atomistic Simulations and Discovery and Design), each prefaced by editorial commentary that puts the respective parts into a broader scientific context.

Machine Learning in Chemistry

An international and interdisciplinary team of leading experts from both academia and industry report on the wide range of hot applications for MOFs, discussing both the advantages and limits of the material. The resulting overview covers everything from catalysis, H₂ and CH₄ storage and gas purification to drug delivery and sensors. From the Contents: - Design of Porous Coordination Polymers/Metal-Organic Frameworks: Past, Present and Future - Design of Functional Metal-Organic Frameworks by Post-Synthetic Modification - Thermodynamic Methods for Prediction of Gas Separation in Flexible Frameworks - Separation and purification of gases by MOFs - Opportunities for MOFs in CO₂ capture from flue gases, natural gas and syngas by adsorption - Manufacture of MOF thin films on structured supports for separation and catalysis - Research status of Metal-Organic Frameworks for on-board cryo-adsorptive hydrogen storage applications - Separation of xylene isomers - Metal-Organic Frameworks as Catalysts for Organic Reactions - Biomedical applications of Metal Organic Frameworks - Metal Organic Frameworks for Biomedical Imaging - Luminescent Metal-Organic Frameworks - Deposition of thin films for sensor applications - Industrial MOF Synthesis - MOF shaping and immobilisation A must-have for every scientist in the field.

Spectral Evidence

This book presents recent advances in and perspectives on the use of organoselenium compounds, primarily highlighting the new frontiers in the field of Green Chemistry, their therapeutic and biological relevance and new materials. Throughout its 200 pages, readers will find an updated and comprehensive review of new aspects of organoselenium chemistry and biochemistry. Fully referenced and written in an easy to read style, it offers readers a primary resource for including organoselenium derivatives in their projects. This book will be of interest to specialists, students and researchers involved in a broad range of fields, from synthetic green chemistry to medicinal chemistry and the chemistry of natural products. The connection between organoselenium compounds and green chemistry, despite having only recently emerged, is one of the subjects of this book. The first chapter highlights the use of Se-containing molecules as reagents and catalysts in new green protocols to access important organic transformations. The book provides a wealth of examples of bioactive Se-containing molecules, especially focusing on those with potential therapeutic uses. The second chapter focuses on the state of the art concerning the role of organoselenium compounds as antioxidants, GPx mimics, and derivatives endowed with different bioactive properties. "Organoselenium in nature" is the title of the third chapter, which equips readers with essential information on the main natural organoselenium compounds and where they are found. Selected aspects of the metabolism of selenium in plants and microorganisms

are also discussed. In closing, the book includes a chapter dedicated to recent advances concerning the nonbonding interactions between organochalcogen compounds. This is currently a hot topic in selenium chemistry and biochemistry, and here readers will find key insights into the chalcogen bond and its role in the biological activity of organoselenium compounds.

Comprehensive Supramolecular Chemistry: Cumulative subject index

This book covers the fundamental principles of optimization in finite dimensions. It develops the necessary material in multivariable calculus both with coordinates and coordinate-free, so recent developments such as semidefinite programming can be dealt with.

Reactive Drug Metabolites

This translation, in two volumes, of an introductory paper to a Symposium on Chemical Kinetics and Reactivity, held in Moscow in 1954, has been enlarged and revised by the author, winner of the Nobel Prize in chemistry in 1956 and one of the two or three top flight Russian physical scientists. Volume 1 covers a wide range of important work and includes a survey of radical and chain reactions and a discussion of chemical changes, direct mono- and bi-molecular processes, ionic reactions, heterogeneous catalysis, initiation and destruction of radical chains on solid surfaces. Originally published in 1958. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

Machine Learning Meets Quantum Physics

Providing vital knowledge on the design and synthesis of specific metal-organic framework (MOF) classes as well as their properties, this ready reference summarizes the state of the art in chemistry. Divided into four parts, the first begins with a basic introduction to typical cluster units or coordination geometries and provides examples of recent and advanced MOF structures and applications typical for the respective class. Part II covers recent progress in linker chemistries, while special MOF classes and morphology design are described in Part III. The fourth part deals with advanced characterization techniques, such as NMR, in situ studies, and modelling. A final unique feature is the inclusion of data sheets of commercially available MOFs in the appendix, enabling experts and newcomers to the field to select the appropriate MOF for a desired application. A must-have reference for chemists, materials scientists, and engineers in academia and industry working in the field of catalysis, gas and water purification, energy storage, separation, and sensors.

Metal-Organic Frameworks

Clinical Chemistry: Principles, Techniques, and Correlations, Eighth Edition demonstrates the how, what, why, and when of clinical testing and testing correlations to help you develop the interpretive and analytic skills you'll need in your future career.

New Frontiers in Organoselenium Compounds

Stereoelectronic Effects illustrates the utility of stereoelectronic concepts using structure and reactivity of organic molecules. An advanced textbook that provides an up-to-date overview of the field, starting from the fundamental principles. Presents a large selection of modern examples of stereoelectronic effects in organic reactivity. Shows practical applications of stereoelectronic effects in asymmetric catalysis, photochemical processes, bioorganic chemistry and biochemistry, inorganic and organometallic reactivity, supramolecular chemistry and materials science.

Foundations of Optimization

Aggregation-Induced Emission (AIE): A Practical Guide introduces readers to the topic, guiding them through fundamental concepts and the latest advances in applications. The book covers concepts, principles and working mechanisms of AIE in AIE-active luminogens, with different classes of AIE luminogens reviewed, including polymers, three-dimensional frameworks (MOFs and COFs) and supramolecular gels. Special focus is given to the structure-property relationship, structural design

strategies, targeted properties and application performance. The book provides readers with a deep understanding, not only on the fundamental principles of AIE, but more importantly, on how AIE luminogens and AIE properties can be incorporated in material development. Provides the fundamental principles, design and synthesis strategies of aggregation induced emission materials. Reviews the most relevant applications in materials design for stimuli-responsive materials, biomedical applications, chemo-sensing and optoelectronics. Emphasizes structural design and its connection to aggregation induced emission properties, also exploring the structure-property relationship.

Some Problems in Chemical Kinetics and Reactivity, Volume 1

Answering the need to facilitate quantum-chemical calculations of systems with thousands of atoms, Kazuo Kitaura and his coworkers developed the Fragment Molecular Orbital (FMO) method in 1999. Today, the FMO method can be applied to the study of whole proteins and protein-ligand interactions, and is extremely effective in calculating the properties.

The Chemistry of Metal-Organic Frameworks, 2 Volume Set

Structural Bioinformatics was the first major effort to show the application of the principles and basic knowledge of the larger field of bioinformatics to questions focusing on macromolecular structure, such as the prediction of protein structure and how proteins carry out cellular functions, and how the application of bioinformatics to these life science issues can improve healthcare by accelerating drug discovery and development. Designed primarily as a reference, the first edition nevertheless saw widespread use as a textbook in graduate and undergraduate university courses dealing with the theories and associated algorithms, resources, and tools used in the analysis, prediction, and theoretical underpinnings of DNA, RNA, and proteins. This new edition contains not only thorough updates of the advances in structural bioinformatics since publication of the first edition, but also features eleven new chapters dealing with frontier areas of high scientific impact, including: sampling and search techniques; use of mass spectrometry; genome functional annotation; and much more. Offering detailed coverage for practitioners while remaining accessible to the novice, Structural Bioinformatics, Second Edition is a valuable resource and an excellent textbook for a range of readers in the bioinformatics and advanced biology fields. Praise for the previous edition: "This book is a gold mine of fundamental and practical information in an area not previously well represented in book form." —Biochemistry and Molecular Education "...destined to become a classic reference work for workers at all levels in structural bioinformatics...recommended with great enthusiasm for educators, researchers, and graduate students." —BAMBED "...a useful and timely summary of a rapidly expanding field." —Nature Structural Biology "...a terrific job in this timely creation of a compilation of articles that appropriately addresses this issue." —Briefings in Bioinformatics

Clinical Chemistry: Principles, Techniques, Correlations

Frontiers in Computational Chemistry presents contemporary research on molecular modeling techniques used in drug discovery and the drug development process: computer aided molecular design, drug discovery and development, lead generation, lead optimization, database management, computer and molecular graphics, and the development of new computational methods or efficient algorithms for the simulation of chemical phenomena including analyses of biological activity. The third volume of this series features four chapters covering in silico approaches to computer aided drug design, modeling of platinum and adjuvant anti-cancer drugs, allostery in proteins and studies on the theory of chemical space in electron systems.

Stereoelectronic Effects

Free energy constitutes the most important thermodynamic quantity to understand how chemical species recognize each other, associate or react. Examples of problems in which knowledge of the underlying free energy behaviour is required, include conformational equilibria and molecular association, partitioning between immiscible liquids, receptor-drug interaction, protein-protein and protein-DNA association, and protein stability. This volume sets out to present a coherent and comprehensive account of the concepts that underlie different approaches devised for the determination of free energies. The reader will gain the necessary insight into the theoretical and computational foundations of the subject and will be presented with relevant applications from molecular-level modelling and simulations of chemical and biological systems. Both formally accurate and approximate methods are covered using both classical and quantum mechanical descriptions. A central theme of the book is that

the wide variety of free energy calculation techniques available today can be understood as different implementations of a few basic principles. The book is aimed at a broad readership of graduate students and researchers having a background in chemistry, physics, engineering and physical biology.

Aggregation-Induced Emission (AIE)

The molecular structure hypothesis - that a molecule is a collection of atoms linked by a network of bonds - was forged in the crucible of nineteenth century experimental chemistry and has continued to serve as the principal means of ordering and classifying the observations of chemistry. There is a difficulty with the hypothesis, however, in that it is not related directly to the physics which governs the motions of the nuclei and electrons that make up the atoms and the bonds. It is the purpose of this important book - now available in paperback for the first time - to show that a theory can be developed to underpin the molecular structure hypothesis - that the atoms in a molecule are real, with properties predicted and defined by the laws of quantum mechanics can be incorporated into the resulting theory - a theory of atoms in molecules. The book is aimed at those scientists responsible for performing the experiments and collecting the observations on the properties of matter at the atomic level, in the belief that the transformation of qualitative concepts into a qualitative theory will serve to deepen our understanding of chemistry.

The Fragment Molecular Orbital Method

Many times drugs work fine when tested outside the body, but when they are tested in the body they fail. One of the major reasons a drug fails is that it cannot be absorbed by the body in a way to have the effect it was intended to have. Permeability, Solubility, Dissolution, and Charged State of Ionizable Molecules: Helps drug discovery professionals to eliminate poorly absorbable molecules early in the drug discovery process, which can save drug companies millions of dollars. Extensive tabulations, in appendix format, of properties and structures of about 200 standard drug molecules.

Structural Bioinformatics

This book deals with a subject that has been studied since the beginning of physical chemistry. Despite the thousands of articles and scores of books devoted to solvation thermodynamics, I feel that some fundamental and well-established concepts underlying the traditional approach to this subject are not satisfactory and need revision. The main reason for this need is that solvation thermodynamics has traditionally been treated in the context of classical (macroscopic) thermodynamics alone. However, solvation is inherently a molecular process, dependent upon local rather than macroscopic properties of the system. Therefore, the starting point should be based on statistical mechanical methods. For many years it has been believed that certain thermodynamic quantities, such as the standard free energy (or enthalpy or entropy) of solution, may be used as measures of the corresponding functions of solvation of a given solute in a given solvent. I first challenged this notion in a paper published in 1978 based on analysis at the molecular level. During the past ten years, I have introduced several new quantities which, in my opinion, should replace the conventional measures of solvation thermodynamics. To avoid confusing the new quantities with those referred to conventionally in the literature as standard quantities of solvation, I called these "nonconventional," "generalized," and "local" standard quantities and attempted to point out the advantages of these new quantities over the conventional ones.

Frontiers in Computational Chemistry

A must-have resource to the booming field of sulfur-containing polymers Sulfur-Containing Polymers is a state-of-the-art text that offers a synthesis of the various sulfur-containing polymers from low-cost sulfur resources such as elemental sulfur, carbon disulfide (CS₂), carbonyl sulfide (COS) and mercaptan. With contributions from noted experts on the topic, the book presents an in-depth understanding of the mechanisms related to the synthesis of sulfur-containing polymers. The book also includes a review of the various types of sulfur-containing polymers, such as: poly(thioester)s, poly(thioether)s and poly(thiocarbonate)s and poly(thiourethane)s with linear or hyperbranched (dendrimer) architectures. The expert authors provide the fundamentals on the structure-property relationship and applications of sulfur-containing polymers. Designed to be beneficial for both research and application-oriented chemists and engineers, the book contains the most recent research and developments of sulfur-containing polymers. This important book: Offers the first comprehensive handbook on the topic Contains state-of-the-art research on synthesis of sulfur containing polymers from low-cost sulfur-containing

compounds Examines the synthesis, mechanism, structure properties, and applications of various types of sulfur-containing polymers Includes contributions from well-known experts Written for polymer chemists, materials scientists, chemists in industry, biochemists, and chemical engineers, Sulfur-Containing Polymers offers a groundbreaking text to the field with information on the most recent research.

Free Energy Calculations

This first systematic summary of the impact of fragment-based approaches on the drug development process provides essential information that was previously unavailable. Adopting a practice-oriented approach, this represents a book by professionals for professionals, tailor-made for drug developers in the pharma and biotech sector who need to keep up-to-date on the latest technologies and strategies in pharmaceutical ligand design. The book is clearly divided into three sections on ligand design, spectroscopic techniques, and screening and drug discovery, backed by numerous case studies.

Atoms in Molecules

Quantum Chemistry in the Age of Machine Learning covers this exciting field in detail, ranging from basic concepts to comprehensive methodologies. Such an approach helps readers get a quick overview of existing techniques, providing users with an opportunity to learn the intricacies and inner working of the state-of-the-art methods. The book describes underlying concepts of supervised and unsupervised learning applied to solve quantum chemical problems, covering the broad field of special- and general-purpose machine learning potentials, active learning, learning of various quantum chemical properties, ρ -learning, improving the Hamiltonian, learning the wavefunction, and analysis of Big Data. Drawing on the experience of an expert team of contributors, this book is a valuable guide to this exciting area for both aspiring beginners and specialists in the field.

Absorption and Drug Development

Sections 1-2. Keyword Index.--Section 3. Personal author index.--Section 4. Corporate author index.--Section 5. Contract/grant number index, NTIS order/report number index 1-E.--Section 6. NTIS order/report number index F-Z.

Solvation Thermodynamics

This book will review macrocycles in drug discovery, both those of natural origin and semi-synthetic derivatives of natural products, and those designed and synthesized based on principles of medicinal chemistry. A variety of macrocyclic natural products have become important drugs or have been identified as leads to marketed drugs. This text will discuss these compounds in the context of their broad chemotype as compounds composed of large rings. The medicinal chemistry of natural products is interesting in itself, but lessons learned from these compounds, in terms of the relationship between structure and desirable physicochemical properties, is now informing the design of fully synthetic drug candidates against a variety of targets. Furthermore, as more and more non-classical drug targets, such as protein-protein interactions, are pursued in the pharmaceutical industry, macrocyclic molecules are becoming increasingly important as they offer a way to provide drug-protein interactions that cover a larger surface area than traditional small molecules. An indication of this growing importance is the fact that several companies now provide libraries of macrocyclic molecules produced by proprietary chemical technology to use for lead generation. Providing a wide reaching review of this important area in a single volume, this book will be of interest to biochemists, pharmaceutical scientists and medicinal chemists working in industry or academia.

Sulfur-Containing Polymers

This practical reference explores computer modeling of enzyme reactions--techniques that help chemists, biochemists and pharmaceutical researchers understand drug and enzyme action.

Fragment-based Approaches in Drug Discovery

Quantum Chemistry in the Age of Machine Learning