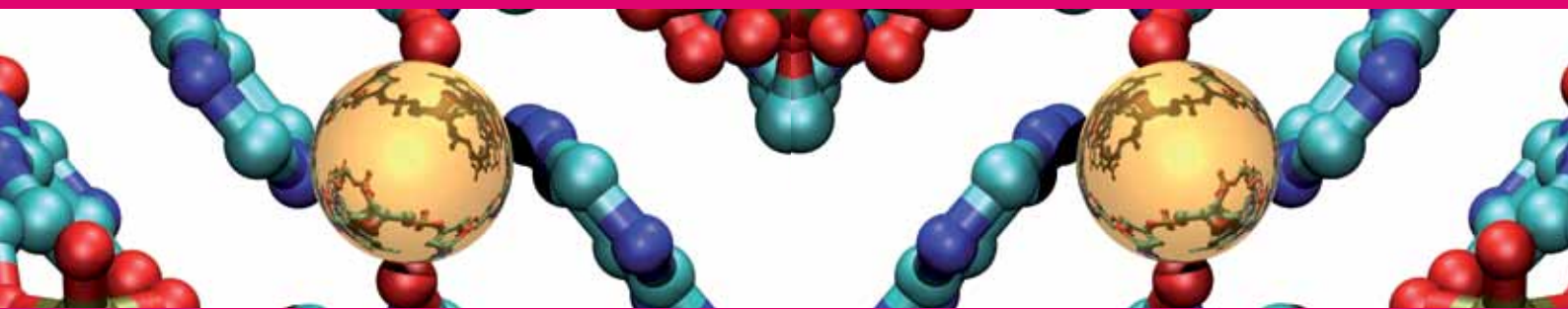


RSC Biomolecular Sciences Series



Pioneering Series from the RSC

The RSC Biomolecular Sciences series is devoted to the coverage of the interface between the chemical and biological sciences, especially structural biology, chemical biology, bio- and chemo-informatics, drug discovery and development, chemical enzymology and biophysical chemistry. The books are ideal for reference and as state-of-the-art guides at the graduate and postgraduate levels.

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Series Editors:

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Roderick E Hubbard University of York and Vernalis, Cambridge, UK

David M J Lilley FRS University of Dundee, UK

Key Features

- An authoritative insight to research at the interface between chemistry and biology
- Suitable for researchers in the fields of structural biology, drug discovery and biophysical chemistry
- An accessible reference for professionals and researchers in academia and industry
- Edited by high profile, international scientists
- Fully referenced to the primary literature

Structure-Based Drug Discovery

"There are very few of us who will invent a drug, but by using the techniques described (in this book), you will shorten your own odds considerably."

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"..is an excellent and astonishingly complete compilation on this broad and demanding topic for current practitioners."

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Ribozymes and RNA Catalysis

"...this is a book that certainly should be found in every laboratory investigating RNA catalysis and can serve as a valuable reference for anyone teaching modern biochemistry."

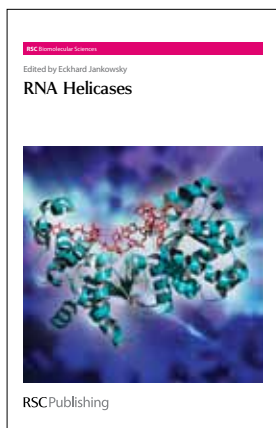
Reviewed in Journal of American Chemical Society

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RNA Helicases

Edited by Eckhard Jankowsky, Case Western Reserve University, USA

RNA helicases are the largest group of enzymes in eukaryotic RNA metabolism. Although these enzymes are essential for virtually all processes involving RNA, there is no overview detailing structure, function and/or biological roles of these pivotal proteins. This book provides the first comprehensive and systematic overview of biology, mechanism, and structure of RNA helicases. The book integrates the current knowledge about RNA helicases from diverse fields ranging from cell and developmental biology to mechanistic enzymology, and structural biology into one valuable resource. The reader will gain insight into biological and biochemical functions, and into structures of the RNA helicase families. Thus, the book will be a key reference for academics, advanced students, researchers and professionals working in or joining this field.

BB Hardback | 300 pages | ISBN 9781847559142 | 2010 | £132.99

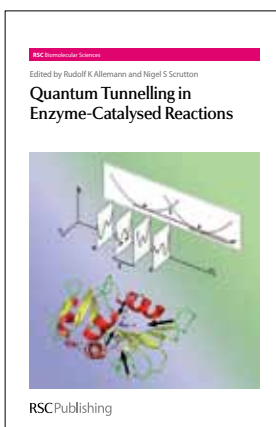


Natural Product Chemistry for Drug Discovery

Edited by Antony Buss, MerLion Pharmaceuticals, Singapore
Mark Butler, University of Queensland, Australia

This comprehensive book covers emerging technologies and case studies and is a source of up-to-date information on the much debated subject of natural products. The authors provide compelling arguments as to why natural products should be considered important tools in the drug discovery process. The case studies selected for inclusion highlight recently marketed drugs and development candidates that have been derived from natural products. These 'real-life' examples show how new technologies, such as advances in screening, isolation, dereplication and prefractionation have significantly enhanced the discovery process.

BB Hardback | 458 pages | ISBN 9780854041930 | 2009 | £144.99



Quantum Tunnelling in Enzyme-Catalysed Reactions

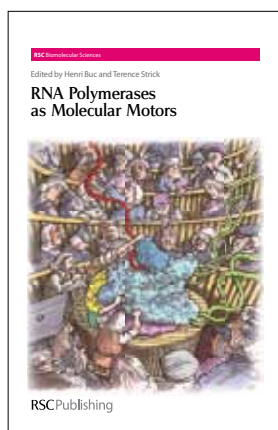
Edited by Rudolf Allemann, Cardiff University, UK | Nigel Scrutton, University of Manchester, UK

The book, a unique primer to modern theories of enzyme catalysis, presents the latest methods used to study quantum tunnelling in biological systems starting with an introduction by Nobel Laureate, Rudolph A. Marcus. The reader is then guided through computational, kinetic and structural analysis of tunnelling and the synergy in combining these methods (with a major focus on H-tunneling reactions in enzyme systems). Edited by two leading experts, and bringing together the foremost practitioners in the field, this up-to-date account of a rapidly developing field sits at the interface between biology, chemistry and physics. Written in an accessible style, it is suitable for a wide audience but will be particularly useful to advanced level undergraduates, postgraduates and early postdoctoral researchers.

BB Hardback | 412 pages | ISBN 9780854041220 | 2009 | £144.99

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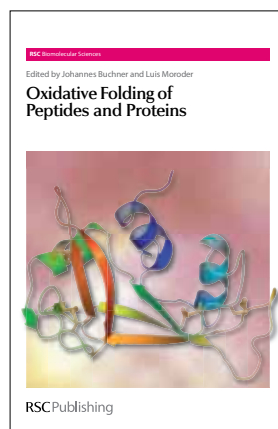


RNA Polymerases as Molecular Motors

Edited by Henri Buc and Terence Strick, Institut Jacques Monod, Paris

The cell can be viewed as a 'collection of protein machines' and understanding these molecular machines requires sophisticated cooperation between cell biologists, geneticists, enzymologists, crystallographers, chemists and physicists. To observe these machines in action, researchers have developed entirely new methodologies for the detection and the nanomanipulation of single molecules. This book analyses how these diverse fields of research interact on a specific example - RNA polymerases. RNA polymerases play a central role among all the other machines operating in the cell and are the target of a wide range of regulatory mechanisms and have also been the subject of spectacular advances in their structural understanding in recent years.

BB Hardback | 352 pages | ISBN 9780854041343 | 2009 | £144.99

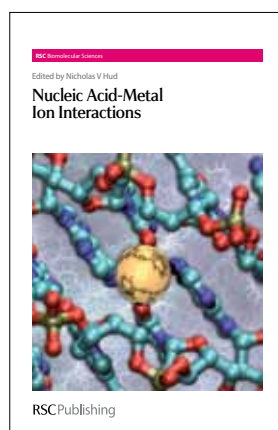


Oxidative Folding of Peptides and Proteins

Edited by Luis Moroder, Max-Planck Institute of Biochemistry, Germany
Johannes Buchner, Technical University of Munich, Germany

The formation of disulfide bonds is probably the most influential modification of peptides and proteins with significant progress achieved in recent years, both concerning their *in vivo* situation and *in vitro* manipulation. This book is the first monograph covering this exciting and rapidly developing area with contributions from major experts in the field providing a comprehensive overview. The topics covered include the enzymes involved in the correct oxidative folding of cysteine-containing proteins in prokaryotes and eukaryotes, their mimicking for successful *in vitro* folding of proteins, including synthetic replicates and important aspects concerning cysteine-rich peptides. The book will be particularly valuable for peptide and protein chemists involved in related research and production.

BB Hardback | 448 pages | ISBN 9780854041480 | 2008 | £144.99



Nucleic Acid-Metal Ion Interactions

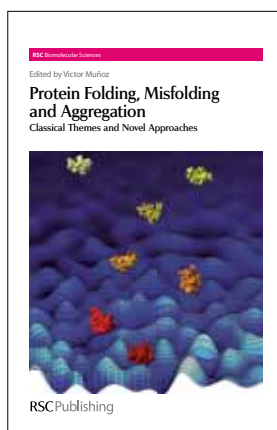
Edited by Nicholas Hud, Georgia Institute of Technology, USA

This book provides a perspective of nucleic acid-metal ion interactions with an emphasis on experimental biophysical studies. Topics covered range from X-ray crystallographic studies of transition metal ion coordination by the nucleotide bases to the application of polyelectrolyte theory for understanding the nature of delocalized counterions that surround nucleic acids in solution. Separate chapters cover how nucleic acid-metal ions play a role in the kinetics and thermodynamics of RNA folding, as well as the role of metal ions in RNA catalysis, in disease and in medicine. The book will serve as a reference source for researchers in nucleic acids biophysics and molecular biology, but it also includes enough background material for students and researchers who have not previously worked in the field.

BB Hardback | 484 pages | ISBN 9780854041954 | 2008 | £144.99

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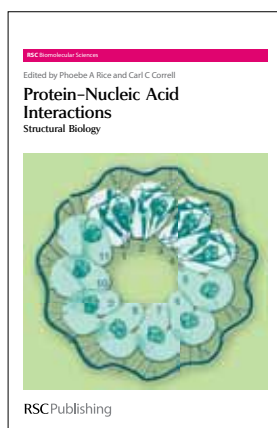


Protein Folding, Misfolding and Aggregation: Classical Themes and Novel Approaches

Edited by Victor Muñoz, University of Maryland, USA

The study of protein folding and aggregation has recently acquired a high level of technical and conceptual sophistication, in which theory, computer simulations and experiments are starting to be employed in tight combination. This book includes chapters, in all the areas, that have witnessed the major developments. Written by top experts it is unique in its comprehensive scope and coverage of all new developments in this area. The reader will obtain a perspective of the problems faced in protein folding and aggregation, and how these problems are being solved with a multidisciplinary approach using theory, experiment, and computer simulations.

BB Hardback | 228 pages | ISBN 9780854042579 | 2008 | £132.99



Protein-Nucleic Acid Interactions: Structural Biology

Edited by Phoebe Rice, The University of Chicago, USA | Carl Correll, Rosalind Franklin University of Medicine and Science, USA

This book provides both in-depth background and up-to-date information in this area. The chapters are organized by general themes and principles, written by experts who illustrate topics with current findings. Topics covered include, the role of ions and hydration in protein-nucleic acid interactions, transcription factors and combinatorial specificity, indirect readout of DNA sequence, single-stranded nucleic acid binding proteins, nucleic acid junctions and proteins, RNA-protein recognition, and recognition of DNA damage. It will be a key reference for both advanced students and established scientists wishing to broaden their horizons.

BB Hardback | 416 pages | ISBN 9780854042722 | 2008 | £144.99



Therapeutic Oligonucleotides

Edited by Jens Kurreck, Free University Berlin, Germany

This book provides a comprehensive overview of the development of therapeutic oligonucleotides for therapeutic applications, touching on a number of additional oligonucleotides including a number of small interfering RNAs currently in various phases of clinical development. Written by expert scientists from both academia and leading biotechnical companies, the authors provide a compelling update on current status of RNA interference with emphasis on fascinating topics including: oligonucleotides, antisense oligonucleotides, ribozymes, siRNAs, decoy oligonucleotides and aptamers. This exceptional work will be a valid resource for researchers and students as well as academics, consultants and scientists.

BB Hardback | 368 pages | ISBN 9780854041169 | 2008 | £144.99

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The RSC Drug Discovery Series

The new **RSC Drug Discovery Series** is a suite of professional reference books that will encourage learning in a range of different topics and provide an up-to-date perspective to scientists working outside of their own areas of expertise. The competitive advantage of the series is that it will provide comprehensive coverage of the drug discovery process with an emphasis on learning and critical evaluation.



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- Structured to walk readers through different aspects in a logical fashion
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- Comprehensive treatment with contributions from internationally recognised leaders in the field

Readership

Advanced and postgraduate level students, medicinal chemists, scientists in pharmaceutical companies and university departments, in the areas of chemistry, pharmacy and the pharmaceutical sciences.

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