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eBook available 



ISBN: 1757-6729

Queen's University Belfast, UK

Brookhaven National Laboratory, USA | Utrecht University, The Netherlands

Catalysis is a major area of scientific research covering numerous fields of chemistry, and is a key factor in tackling many of the scientific challenges faced today, such as renewable energy systems and environmental protection. The books in this series provide an accessible reference for postgraduates, academics and industrialists working in this exciting field. The books cover both the research developments and applications of catalysis, across academia and industry.

A. P.

Universidad de Sevilla, Spain | C311 42.5197 452.5 J0 4 58 14 58 15 J 2 337.0065/ 1 C



**A** North Carolina State University, USA | **M** | **H** University of Graz, Austria

Surveying current state-of-the-art techniques, this book provides a comprehensive overview of this exciting field. The book focuses on modern techniques that generate better performing enzymatic systems and novel biosynthetic routes to (non-)natural products. This includes the use of molecular techniques in protein design and engineering, the construction of artificial metabolic pathways and the application of computational methods for enzyme discovery and design. The book provides researchers with a greater understanding of current and emerging trends in biocatalysis.

**H**, 300, 9781782627265, 2017, | 149.00, \$245.00 **e**



**J**, **C** J. Heyrovský Institute of Physical Chemistry, Czech Republic | **E M** University of St Andrews, UK | **P**, **N** Charles University of Prague, Czech Republic

Covering zeolite synthesis, characterisation and applications, this book concisely defines zeolite science so readers can quickly grasp the most important and most exciting aspects of the field. It reviews the latest developments, challenges and potential applications of zeolites, making it ideal for researchers and postgraduate students new to this field.

**H**, 500, 9781782627845, 2017, | 179.00, \$300.00 **e**

**T**  
 ISBN: 2055-1975

**B** University of Oxford, UK

**F** University of Manchester, UK | **J** Université de Lorraine, France |  
**N** University of St Andrews, UK

The Chemical Biology Series is a new venture that aims to provide a comprehensive suite of reference books on developing areas at the interface of chemistry and biology. Chapters written and edited by experts worldwide will introduce practical aspects and best methods, will explain the fundamental chemistry knowledge, and will provide forward-looking perspectives. Ultimately, the series aims to aid postgraduate students and researchers apply chemical tools and understand current challenges in the field. The books will provide a valuable reference for scientists working outside their own area of current expertise or looking to engage in chemical biology research. Coverage will include topics such as analytical and computational tools, chemical probes, imaging, glycosciences, genomics and transcriptomics, chemical genetics and gene editing tools, and aspects of synthetic biology.

**M** Centro de Investigaciones Biológicas CIB-CSIC, Spain

The field of computational chemical biology involves utilising the latest techniques to visualise and manipulate processes within living cells. The rapid development of efficient computational tools has allowed researchers to tackle biological problems and to predict, analyse and monitor, at an atomic level, molecular recognition processes. This book, with contributions from internationally renowned experts as well as new leaders in the field, offers a fresh perspective on how computational tools can aid the chemical biology research community.

**H**, 275, 9781782627005, 2017, | 179.00, \$300.00 **e**





**E** **N** **P** **L** University of Sao Paulo, Brazil | **U** **S** **P** University of Sao Paulo, Brazil

Mass spectrometry is one of the most widespread technologies in chemistry and has been increasingly used in biology with the rise of omics sciences. This book summarises important mass spectrometry related methodological approaches and applications in the field of chemical biology. It provides an important compendium of theoretical and experimental techniques that can be applied to study a wide range of problems in biological systems and would therefore be of great interest to students and researchers in the fields of analytical chemistry, biochemistry and chemical biology.

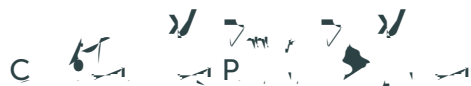
H **275**, **9781782625278**, 2017, | **159.00**, **\$260.00** **e**



**M** **U** **H** University of Helsinki, Finland

Written and edited by leading experts in the field, this book describes the events of primary energy transduction in life processes. It focuses in particular on recent structural results and new biophysical insights that have been made possible by recent advances in high-resolution protein structures, in physical techniques to study reactions in real time, and in computational methods to study and refine both structures and their dynamics. Biochemists, biophysicists and chemical biologists will find this book an essential resource for a complete understanding of the molecular machines of bioenergetics.

H **400**, **9781782628651**, 2018, | **179.00**, **\$300.00** **e**



**C** **B** **P** **I** **G** **E** Imperial College London, UK | **D** **L** **S** **U** **R** **C** **E** Diamond Light Source, UK

Protein crystallography has become vital to further understanding the structure and function of many complex biological systems. With contributions from world leading researchers whose software are used



**t**  
DOI: 10.1039/C9PY00000A

Institut Curie, France | University of Manchester, UK |



**C** Centro de Investigaciones Biológicas (CSIC), Spain | **L** Centro de Investigaciones Biológicas (CSIC), Spain

From a human health perspective, Leishmaniasis is the second most important protozoan disease, superseded only by malaria. Between 10 and 12 million people are affected by the disease and with no known vaccine, the development of new drugs is urgently required. This volume provides a perspective of current treatments and their challenges as well as discussing emerging strategies and methodologies that will drive new drug development for this 'neglected' disease.

**H** 250, 9781782628897, 2017, | 149.00, \$245.00 **e**

ISBN 978-1-78262-889-7



9 781782 628897 >

**F** ABG Patentes, Spain

Written and edited by experts working within the field, this book will provide an essential guide for non-specialists to this specific area of patent law. It includes chapters and case studies on the role of patents in the pharmaceutical industry, on what is patentable and what is not in the pharma and biotech fields, on how to draft a patent application and obtain patent rights in different jurisdictions and on how to manage the lifecycle of a medicament.

**H** 560, 9781849738842, 2017, | 175.00, \$290.00 **e**



**G** Visiting Professor King's College London and Chief Executive Geoff Tovey Associates, UK

This book will provide the reader with the latest information on the principles and practice of pharmaceutical formulation. Covering a wide range of dosage forms intended for human administration of pharmaceuticals, this text also takes into account modern processing methods and recent changes in the regulatory and quality demands of the industry. Pharmaceutical Formulation will be an essential book for students and researchers working both in academia and in the pharmaceutical industry.

**H** 350, 9781849739412, 2018, | 169.00, \$275.00 **e**

**K** King's College London, UK | **D** King's College London, UK

This title highlights recent progress in the development of small-molecule inhibitors of oncogenic transcription factors. It also presents the evidence that this important protein class can be modulated in a number of ways to develop novel classes of therapeutic agents for anticancer treatments. This book is a unique reference book for postgraduates, academic researchers and practitioners working in the fields of biochemistry, biotechnology, cell and molecular biology and bio-inorganic chemistry.

**H** 250, 9781782621454, 2017, | 149.00, \$245.00 **e**



M King's College London, UK

Understanding drug bio-distribution is a crucial step in developing new methods and mechanisms for targeted drug delivery. Molecular imaging of drugs and drug carriers is a valuable tool that can provide important information on their spatiotemporal distribution, allowing improved drug distribution at the target sites. This book introduces the topic of image guided drug delivery and covers the latest imaging techniques and developments in theranostics, highlighting the interdisciplinary nature of this field.

H 400 , 9781782624660, 2017, | 179.00, \$290.00 

ISBN 978



9 781782 624660

A DC Université du Luxembourg, Luxembourg | C E Biotechnology Centre of Oslo, Norway

The use of the zebrafish model as drug discovery and safety screening platforms has grown in biomedical research and the pharmaceutical industry. This book provides a much-needed summary of zebrafish-based drug discovery, highlighting not only the latest disease models in various indication areas and their use for small-molecule screens, but also the latest technologies and tools important for zebrafish-based drug discovery and toxicity research. A unique feature of Zebrafish in Drug Discovery is a chapter summarizing the intellectual property situation for zebrafish technologies relevant for drug discovery.

H 350 , 9781782624349, 2017, | 169.00, \$275.00 

**Energy Conversion**  
 ISBN: 2044-0774

**H. F.** Lawrence Berkeley National Laboratory, USA

**I. P.** Imperial College London, UK

Energy lies at the heart of modern society, and it is critical that we make informed choices of the methods by which we convert and manage energy. This series provides up-to-date and critical perspectives on the various options that are available. The wide range of topics covered reflects the wealth of chemical ideas and concepts that have the potential to make an important impact the search for sustainable energy. Books in this series form important references for chemical and material scientists, chemical and process engineers, energy researchers, bio-scientists and environmental scientists from across academia, industry and Government.

**D. E. A. K.** University of Zurich, Switzerland | **N. R. E. L.** National Renewable Energy Laboratory, USA | **H. Z. B.** Helmholtz Zentrum Berlin, Germany

With a strong focus on theory, this book is an up-to-date review of photoelectrochemical water splitting. The book discusses prediction of band alignments, the discovery of novel materials with attractive band gaps and stability; recent developments such as protective overlayers for photoanodes and in operando X-ray measurements of PEC cells; and concludes with a systems analysis of photoelectrochemical water splitting technologies. It is an important reference for researchers working in solar fuels as well as those working in theoretical chemistry.

**H. 250**, **9781782629252**, 2018, | **149.00**, **\$245.00** 



9 781782 629252

**D. F. L. P.** University of Bristol, UK | **F. M.** University of Bath, UK

One of the crucial challenges in the energy sector is the efficient capture and utilisation of CO<sub>2</sub> generated from fossil fuels. This book covers the most recent developments in the field of electrochemical reduction of CO<sub>2</sub>, from first-principle mechanistic studies to technological perspectives. An introduction to basic concepts in electrochemistry and electrocatalysis is included to provide a background for newcomers to this field. This book provides a comprehensive overview for researchers and industrial chemists working in environmental science, electrochemistry and chemical engineering.

**H. 300**, **9781782620426**, 2017, | **149.00**, **\$245.00** 



I. S. J. Lawrence Berkeley National Laboratory, USA | H. A. A. California Institute of Technology, USA | H. J. L. Helmholtz-Zentrum Berlin, Germany


Exploring integrated artificial photosystems, this book discusses the scientific and engineering efforts to overcome the formidable challenges involved with this solar fuels technology. It describes the critical areas of research and development towards viable integrated solar fuels systems, the current state of the art of these efforts, and outlines the future research needs that will accelerate progress towards a deployable technology. It is an important reference for researchers and industrialists in chemistry and engineering working in solar energy conversion.

H. 350, 9781782625551, 2017, | 169.00, \$275.00 



E. A. National Renewable Energy Laboratory, USA

Lignocellulosic biomass represents a vast resource for the sustainable production of renewable fuels, chemicals, and materials. This book reviews the latest breakthroughs and challenges in upgrading lignin to fuels and chemicals. Bringing together biology, catalysis, engineering, and analytical chemistry, it presents a comprehensive picture of how lignocellulosic biorefineries could potentially employ lignin valorization technologies. It is ideal for graduate students and researchers working in lignin as well as industrialists working in biorefinery technologies.

H. 500, 9781782625544, 2017, | 179.00, \$300.00 



A. B. Stanford University, USA | Lawrence Berkeley National Laboratory, USA | J. Lawrence Berkeley National Laboratory, USA

Introducing the principles and properties of the currently operating and future X-ray free electron lasers (XFELs) and their applications in the fields of materials, chemistry and biology, this book brings readers up to date with recent advances. Focusing on breakthroughs using the revolutionary properties of XFEL radiation, it is ideal for researchers.

H. 300, 9781849731003, 2017, | 159.99, \$260.00 







**t**  
IDN: 1359-6640

A. M. University of Edinburgh, UK

A. University of St Andrews, UK | E. C. University of Edinburgh, UK | P. K. Brunel University London, UK | F. M. University of Bristol, UK | K. University of Nottingham, UK | E. University of

There is a rapid growth of interest in the use of renewable resources, and in particular bio-resources for the manufacture of future, sustainable chemicals and materials. This Faraday Discussion addresses some of the critical issues in this field by bringing together experts in different but complementary areas in the chemical sciences.

H 450, 9781782629542, 2017, | 170.00, \$270.00

Developing a fundamental understanding of key aspects of the chemical physics of electroactive materials, this Faraday Discussion brings together internationally leading researchers in this new interdisciplinary field to explore ideas on the physical and chemical principles underlying these phenomena. The book covers electroactuation effect, voltage controlled friction, electro-tunable wetting, and the tuning of surface plasmons in nanostructures – bringing communities together in this interdisciplinary field.

H 450, 9781782629511, 2017, | 170.00, \$270.00

The unique behavior of compounds confined at interfaces can be very different from those in bulk situations. Determining structure and chemical bonding at surfaces is central to continued progress in the field. This Faraday Discussion focuses on understanding the interaction of molecules with surfaces and their subsequent organisation, reactivity, or properties from both experimental and theoretical perspectives. It features contributions from scientists working on surface structuring with molecules, surface reactivity, characterisation, measurement of properties and modelling all of these features.

H 450, 9781782629443, 2017, | 170.00, \$270.00

The halogen bond may be considered as a special case of sigma-hole bonding, where an electron-deficient area on the halogen atom (the sigma-hole) interacts with a nucleophile (the nucleophile). The halogen bond is a non-covalent interaction between a halogen atom and a nucleophile. It is a type of non-covalent interaction that is similar to hydrogen bonding, but involves a halogen atom instead of a hydrogen atom. The halogen bond is a type of non-covalent interaction that is similar to hydrogen bonding, but involves a halogen atom instead of a hydrogen atom.



Metal-organic frameworks (MOFs), covalent-organic frameworks (COFs), and related molecular porous materials have entered a stage where not just the porosity, but other physical attributes are now playing a major role in their properties. This Faraday Discussion explores several important new directions in the chemistry of porous crystalline materials. It develops a fundamental understanding of key aspects in the chemistry of porous crystalline materials: chemical properties, electronic properties and physical properties.

H **450**, **9781782629535**, 2017, | **170.00**, **\$270.00**

ISBN 978-1-78262-953-5



9 781782 629535 >

Reaction rate theory has developed rapidly in recent years and is being used to interpret and simulate an ever growing range of challenging rate-processes in chemistry, physics and biology. This Faraday Discussion brings together theoretical and physical chemists, molecular biologists, solid state physicists and bio-physicists in academia and industry to discuss recent advances in reaction rate theory.

H **450**, **9781782624837**, 2017, | **170.00**, **\$270.00**



Academic and industrial interest in surface-enhanced Raman scattering (SERS) has grown over the past decade. This book discusses SERS enhancement from plasmonic and possibly non-plasmonic enhancing surfaces; applications in biological studies, including immunoassays and ultrasensitive biomolecular detection; single molecule detection; tip-enhanced Raman scattering (TERS); and analytical applications. This Faraday Discussion introduces new emerging areas and explores the diverse range of approaches and disciplines contributing to the growth and understanding of this optical phenomenon.

H **450**, **9781782629429**, 2018, | **170.00**, **\$270.00**



**t**  
ISBN: 2398-0656

The University of Leeds, UK | Australia | University of Guelph, Canada | University of Canterbury, New Zealand

Food Chemistry, Function and Analysis provides a suite of reference books focusing on food chemistry, the functions of food in relation to health and the analytical methods and approaches used by scientists in the area. Providing comprehensive coverage of important topics such as the biochemistry of food, physical properties and structure, efficacy and mechanisms of bioactives in the b2fpyin cluing cioamark



From flagships like Chemical Science to brand new launches set to soar to the top of their field, explore high quality content spanning a wide range of specialist subjects.







P. M. Mahatma Gandhi University, India | L. H. L. M., State University of Campinas, Brazil

Discussing the preparation, characterisation and application of soy protein-based blends and composites, this book different types of polymer matrixes, such as thermoplastics, thermoset, natural rubbers and synthetic rubbers. The book is an essential reference for researchers working on natural polymers as well as a valuable resource for those new to the area and interested in the materials applications.

H 400, 9781782628408, 2017, | 179.00, \$300.00 

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J HC



**t**  
ISBN: 1350-7585

**MH** University of Birmingham, UK | **EH** University of York, UK

Written by world experts in their specialised fields, this series tackles important environmental topics. It also focuses on broader issues, notably economic, legal and political considerations. Authors are drawn from industry, the public service and academic organisations. The books are invaluable for scientists and engineers in industry and public service, consultancy and academic institutions. They are also essential reading for students taking specialised courses in environmental chemistry, and provide supplementary reference material for general science courses. Two new volumes are published each year and the series is available through subscription as well as individual purchase.



**T**  
 ISBN: 1757-7179

**D. A. ...** University of Bradford, UK

**M. ...** Edentox Associates, UK | **M. ... D. ...** Consultant, Integrated Laboratory Systems (ILS) Inc., USA

The field of toxicological research is continually expanding and diversifying, driven by the need to understand the human and ecological risks of exposure to chemicals and other toxicants. This series is devoted to coverage of modern toxicology and assessment of risk. Written by expert scientists from academia, government and industry, each book will serve as a guide to investigations in toxicology, biomedicine, biochemistry, forensics and environmental and pollution sciences.

**D. N. ...** University of Bradford, UK | **A. ... N. ...** European Commission - Joint Research Centre, Italy


The rate and volume of toxicological data generation is continually growing due to novel techniques and software. The amplified pace and capacity of data generation has repercussions for organising and analysing data output. This book discusses these challenges as well as the nature, storage, analysis and interpretation of toxicological big data. It details how these data are applied in toxicity prediction, modelling and risk assessment. This title is relevant for researchers and postgraduates in the fields of computer methods, applied and physical chemistry, safety and hazard assessment, cell and molecular biology, medicinal and pharmaceutical toxicology, predictive toxicology, and data science.

**H ... , 300 ... , 9781782622987, 2017, | 159.00, \$260.00** 



**A ...**  
**D. ... -D ...** Public Health England, UK | **O ...** Public Health England, UK |  
**...** Public Health England, UK

This book covers recent developments in the implementation of a European collaboration for assessing cross-border toxicological threats. It discusses the European guidelines for the risk assessment and management of serious international public health dangers. It covers REACH (Registration, Evaluation, Authorisation & Restriction of Chemicals) directives and the work of the ASHT (Alerting System for Chemical Health Threats) project. It will be useful for to public health regulators, toxicologists, poisons centres, industrialists and COSHH (Control of Substances Hazardous to Health) specialists.

**H ... , 400 ... , 9781782620716, 2018, | 179.00, \$300.00** 



M. L. ... National University of La Plata, Argentina

The potential impact of pollutants such as agrochemicals on the environment is of global concern. Increasing anthropogenic use of these compounds can result in contamination of food, water and atmospheric systems and in order to combat this pollution it is important to be able to accurately monitor the long term effects. This book describes the latest non-traditional terrestrial species models used as indicators of the effects of environmental pollutants.

H ... 300 ... 9781782628118, 2017, | 159.00, \$260.00 



**J. C. D. F.** University of Nebraska-Lincoln, USA | **J. D.** University of Iowa, USA | **J. C.** Purdue University, USA

Parkinson's disease is the second most common neurodegenerative disorder affecting millions of people worldwide. In order to find neuroprotective strategies, the mechanisms of the disease need to be understood, and there have been links made between oxidative damage and Parkinson's disease. This book provides a thorough review of the latest research developments regarding the mechanisms by which oxidative stress and redox signalling mediate Parkinson's disease. It is designed to cover basic knowledge regarding oxidative stress and redox signalling, Parkinson's disease, and neurodegeneration, while also exploring in detail the latest advancement in the research field. Topics covered will include dopamine metabolism, metal homeostasis and DNA-damage. The text will also discuss the current advance in the identification of potential biomarkers for diagnosis and disease progression and the future of antioxidant based therapeutics. Written by recognised experts in the field this book will be a great source of information for postgraduate students and academics, clinicians, toxicologists and risk assessment groups.

**H** 500, 9781782621881, 2017, | 179.00, \$300.00 **e**



**M. T. K.** Edentox Associates, UK | **T. K.** TOGE Consulting Limited, UK

Consumer and environmental protection depends on the careful regulation of all classes of chemicals. Toxicology is the key science used to evaluate safety and so underpins regulatory decisions on chemicals. This book is the first to cover regulatory toxicology in Europe and addresses the need for a wider understanding of the principles of regulatory toxicology and their application. It will be an essential reference to regulatory authorities, industry, and toxicologists working across the European Union and for those based in other countries trying to understand and comply with European Union regulations.

**H** 500, 9781782620662, 2017, | 179.00, \$300.00 **e**

ISBN: 2045-547X

University of Nottingham, UK

University of Melbourne, Australia | University of Hong Kong, Hong Kong | Università di Bologna, Italy

The Metallobiology series is a collection of professional reference books covering all aspects of the roles of metals in biological systems. The scope includes metalloenzymes, metalloproteins, storage and transport of metal ions, bio-organometallic chemistry and interaction of metal ions with biomolecules. Books in this series provide authoritative perspectives from international experts and will be of interest to both academics and those working in industry in a wide range of disciplines, including medicinal chemistry, pharmaceutical science, biochemistry, metallomics and inorganic biochemistry.

University of Hong Kong, Hong Kong

The rapidly developing and interdisciplinary field of metallomics falls at the frontiers of bioinorganic and bioanalytical chemistry. This book provides a comprehensive account from basic concepts and principles to applications of metallomics in biomedical and environmental sciences. It covers a range of cell types and the arsenal of bioanalytical tools used in the field. Written and edited by leading experts in the field, this book provides a useful resource for postgraduate students, biochemists, bioanalytical chemists and environmental scientists.

H 350, 9781782624509, 2017, | 169.00, \$275.00 

University of Wroclaw, Poland | University of Toronto, Canada | University of Wroclaw, Poland

Nickel is an essential element in many biochemical processes and there has been significant recent research into understanding the role this transition element plays. This book discusses a range of key topics in this field including the coordination chemistry of nickel-containing biomolecules, current





ISBN: 1368-8642


University of Southampton, UK | Durham University, UK

Supramolecular chemistry concerns the structure and function of molecular assemblies formed through weak interactions. These complexes have found diverse applications in materials chemistry, nanoscience, catalysis, food sciences, and medicine, and this has led to a rapid expansion in supramolecular chemistry research. With contributions from high profile international scientists working within the field, each book in the series covers a key concept for graduate level students and above interested in supramolecular chemistry and its diverse applications. The books are ideal for reference and as state-of-the-art guides, and they aim to enable further developments of new applications through an understanding of the fundamentals and a comprehensive overview of the latest research.



Kingston University London, UK | University of Pennsylvania, USA |  
Technische Universität Berlin, Germany | Australian National University,  
Australia

Structural entanglement in molecular graphs and nets is relevant to many chemical materials, from fullerenes to DNA complexes. This book explores the concepts of two-dimensional topology, geometry, and reticulations of surfaces of varying topology as a means to generate and describe tangled structures. Orbifolds, knot theory and chirality are discussed as modern approaches to symmetry, concepts that were pioneered by the authors of this new book. The book maintains a focus on the latest chemical applications throughout.

300 | 9781782626480, 2017, | 159.00, \$260.00 

ISBN 978-1-78262-648-0



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MOF

CSIR-National Chemical Laboratory, India

Supramolecular materials have a great number of applications due to the reversibility of their non-covalent molecular interactions, such as reversible hydrogen bonding, host-guest interactions and electrostatic interactions. This book provides a comprehensive source of information on the structure, function and novel applications of organic and metal-organic supramolecular materials. Written by international experts in their fields, this book will be of interest to students and researchers in academia and industry in the areas of supramolecular chemistry and functional materials science.

350 | 9781782625407, 2017, | 169.00, \$275.00 




Tsinghua University, China

Supramolecular amphiphiles are one of the most important emerging species in supramolecular chemistry. Because they employ of non-covalent interactions, these species demonstrate adaptability and reversibility in conformational transformation, making them important in bridging the gap between molecular architecture and functional assembly. This book provides a detailed and systematic overview of the history, development and future perspectives of supramolecular amphiphiles and will benefit both students new to this field and experienced researchers wanting to explore the wider context of their work.

250 | 9781782625421, 2017, | 149.00, \$245.00 





ISBN: 1757-7136

Prof. O. B. CBE F University of Manchester, UK

National University of Singapore, Singapore | University of Illinois at Urbana-Champaign, USA | University of Aveiro, Portugal

The possible uses of nanotechnology span many fields from energy to health; as a result there is a wealth of scientific nanoscience research taking place all over the world. When there is so much information available on the topic, it can be difficult to get a complete overview of the latest developments. The Nanoscience & Nanotechnology Series provides a comprehensive resource of books covering key topics such as the characterisation, performance and properties of nanostructured materials and technologies and their



P. University of Strathclyde, UK | M. A. M. University of Manchester, UK

Materials for Type III solar cells have branched into a series of generic groups, including organic 'small molecule' and polymer conjugated structures, fullerenes, quantum dots, hybrid organic/inorganic composites and perovskites. This book will give a collective insight into the different roles that nanostructured materials play in Type III solar cells. This will be an essential text for those working in materials science and technology, providing a fundamental understanding and appreciation of the potential and challenges associated with each of these technologies.

H 300 9781782624585, 2017, | 159.00, \$260.00



2 E. University of Chester, UK

L. C. DEFRA Central Science Laboratory, UK | DEFRA, UK

This book provides an overview of the products and applications of nanotechnologies in agri-food and related sectors. Following on from the success of the first edition, this new edition has been revised and updated to bring the reader fully up-to-date on the emerging technological, societal, and policy and regulatory aspects in relation to nanotechnologies in food. The book is a source of much needed information on the products and applications of nanotechnology for the food sector - for scientists, regulators, and consumers alike.

H 325 9781782621713, 2017, | 159.00, \$260.00



**ISBN: 2045-7545**

**J. G.** Queen Mary University of London, UK

**M. A. H.** Maastricht University, The Netherlands | **C. M.** University of Colorado Denver, USA | **M.** Hamamatsu University, Japan

Examining instrument and method development and new applications of mass spectrometry, this series is an important resource for graduate students, researchers and analytical chemists interested in the respective instrumentation and techniques. The books present the key facts and concepts in a concise and readable manner to keep readers up-to-date with the latest information and to promote the practice of mass spectrometry techniques.



**N. J. B.** Memorial University of Newfoundland, Canada

Devoted to highlighting mass spectrometry and tandem mass spectrometry techniques used for the elucidation of the chemical structure of lignin, this unique book sheds new light on the research in this area. Specific pertinent examples are presented that highlight the key role of the state-of-the-art mass spectrometry methods that employ softer ionization modes to analyse the structure of native and modified types of lignin. Providing an overview and critique of the current understanding of lignin structure, it takes into account the various extraction methodologies that have been employed. In addition, it emphasizes how these various aspects have contributed to the current knowledge of the structure of lignins. This book is useful for mass spectrometry researchers and other analytical chemists interested in biopolymers and also those in bio-fuels laboratories.

**H**, 350, 9781782628286, 2017, | 169.00, \$275.00





**t**  
ISBN: 2044-253X

**P** University of Western Sydney, Australia

**A** University of St Andrews, UK | **B** The University of New Brunswick, Canada | **I** KTH Royal Institute of Technology, Sweden | **M** Chinese Academy of Sciences, China | **M** **K** Tokyo Metropolitan University, Japan

Focusing on novel aspects of method and instrumentation development, applications in emerging fields and new techniques and technologies, this series documents the important advances being made in this field. The books provide comprehensive introductions to the relevant theory to facilitate greater understanding and to encourage wider usage of NMR techniques, making them ideal for students, researchers and practising analytical scientists, as well as manufacturers with an interest in the instrumentation.



**C. P.** University of Minnesota, USA | **M** **J A** Wayne State University, USA

As a practical reference guide for designing and performing experiments, this book focuses on the five most common classes of contrast agents for MRI and describes how to characterise and evaluate them. For each class of contrast agents, a description of the theory behind their mechanisms is discussed briefly to orient the new reader. Then detailed subchapters discuss the different physical chemistry methods used to characterise each class of contrast agents in terms of their efficacy, safety and in vivo behaviour and their performance. The editors and contributors are at the forefront of research in the field of MRI contrast agents and this unique book is a timely addition to the literature in this area.

**H** 400, 9781782624479, 2017, | 179.00, \$300.00

**A P. H.**  
Durham University, UK

Solid-state NMR has reached the point where the basic techniques are easily accessible and increasingly viewed as a standard analytical tool. There is, however, a vast array of experiments and analyses that are potentially challenging for a non-expert to exploit effectively. This volume focuses on "practical aspects", ie where experts in a particular experimental or analytical method illustrate what questions can and can't be addressed by the technique, and common pitfalls. Aimed at researchers starting in this field, this book is the equivalent of spending time in a different laboratory learning what they did and all the hints and tricks that make the difference between knowing about a technique and feeling comfortable giving it a go.

H ..... 250 ..... 9781782628545, 2017, | 149.00, \$245.00 **e**

**Wuhan Institute of Physics and Mathematics (WIPM), China**

NMR and MRI have been applied to various disciplines, but the sensitivity of NMR is intrinsically lower comparing to other analytical or imaging methods. This has caused many non-conventional developments looking at improving NMR sensitivity, such as SQUID (Superconducting QUantum Interference Device), atomic magnetometer, MRFM (Magnetic Resonance Force Microscopy) and remote detection. The NMR detection threshold has been largely boosted by these methods, resulting in the emergence of novel applications. This book will describe the recent advances in non-conventional NMR detection methods and their applications, and also summarise the challenges facing the next generation of users. Aimed at both academia and industry, readers should buy this publication to broaden their knowledge beyond conventional NMR.

H ..... 480 ..... 9781849739061, 2017, | 179.00, \$300.00 **e**

**National Institutes of Natural Sciences, Japan | University of Luebeck, Germany**

Focusing on solution and solid-state NMR of carbohydrates, glycoproteins, glyco-technologies, biomass and related topics which will have significant impact on the development of therapeutic agents eg vaccines, this volume is timely and useful not only for NMR specialists but also for a broader scientific community. The precise analysis of glycosylation patterns in humans can be used in therapies of utmost importance. However, the complexity and heterogeneity of dynamic glycan structures often discouraged researchers from actively challenging and addressing this important issue. Written by leading experts in the field, this book is an important contribution to the literature in this area for a wide spectrum of readers.

H ..... 300 ..... 9781782623106, 2017, | 159.00, \$260.00 **e**

**Imperial College London, UK**

In this rapidly growing field, a comprehensive book describing the state of the art in the application of NMR spectroscopy to metabolomics will easily find a home. Directed at the metabolomics community, this book will be unique in providing background knowledge, resources, instrumental platforms and software. It will introduce relevant theory to the researcher as well as serve as a practical guide detailing key experiments and data handling procedures. Information available on common sample types will



D. B. University of Toronto, Canada | F. University of Toronto, Canada

This book is aimed at informing organic chemists and natural products chemists on the use of NMR for structure elucidation to enable them to ensure they yield the most reliable possible data in the minimum possible time. It covers the latest pulse sequences, acquisition and processing methods, practical areas not covered in most texts eg detailed consideration of the relative advantages and disadvantages of different pulse sequences, choosing acquisition and processing parameters to get the best possible data in the least possible time, pitfalls to avoid and how to minimize the risks of getting wrong structures. Useful in industrial, pharma or research environments, this reference book is for anyone involved with organic chemistry research and, in particular, natural products research requiring advice for getting the best results from the NMR facilities.

H 250, 9781782625391, 2017, | 159.00, \$260.00 




9 781782 625391



L. China University of Petroleum, Beijing, China

Describing comprehensively the development and applications of NMR to oil and gas exploration, this book will bring the literature up to date as it has developed very quickly in the last two decades. Outlining new methodologies, it will provide a thorough and comprehensive document enabling a better understanding of the basics of NMR physics, petrophysics, downhole tools and raw data. This book is designed to meet the needs of the community and encourage applications in low field NMR. The author has more than 30 years' experience in this hot and important topic.

H 600, 9781849739160, 2017, | 179.00, \$300.00 



**ISBN: 2044-0790**

**B** The Hong Kong University of Science and Technology, Hong Kong

**A** University of Prince Edward Island, Canada | **C** Duke University, USA | **J** National Natural Science Foundation of China, China | **M** Shanghai University, China | **C** University of Fribourg, Switzerland

Polymer chemistry is a vast research area and with so many papers published on the topic, it's hard to know where to start and what papers to read. With contributions from leading experts across the world, each book in the series covers key themes in polymer chemistry research for graduate students and researchers. The perfect introduction to key topics giving the reader the knowledge to continue their work.



**B** The Hong Kong University of Science and Technology, Hong Kong | **A** South China University of Technology, China

A comprehensive summary of the recently emerged technique of click polymerization, edited by world renowned experts. From the basic knowledge through to the recent progress of click polymerizations, the book provides a complete overview for readers. This authoritative guide will provide an excellent resource for graduate students and researchers interested in polymer chemistry and materials science.

**H** 350, 9781782627166, 2018, | 169.00, \$275.00 



**A** University of Prince Edward Island, Canada | **C** University of Prince Edward Island, Canada | **H** Hong Kong Baptist University, Hong Kong

New materials are required to solve global challenges such as the growing energy demand and reducing the threat of new and re-emerging diseases and infections. Metallopolymers is an exciting and promising area of research and this book focuses on the strategy of incorporating transition metals into macromolecules to design functional materials for addressing such problems. The book appeals to those interested in polymer chemistry, organometallic chemistry and materials science as well as the applications of the materials for example optoelectronic systems, sensors, energy harvesting and biomedical research.

**H** 350, 9781782628996, 2018, | 169.00, \$275.00 



Mechanochemistry in materials science has experienced tremendous growth in the last five years and has developed to become one of the most important topics in polymer science today. With a particular focus on polymers and soft materials the book discusses experimental and theoretical considerations. Appealing to a broad range of materials scientists, working in industry and academia, this well-presented and comprehensive title will be essential reading for postgraduate researchers upwards.

**H** 350, 9781782621461, 2017, | 169.00, \$275.00 

F. B. B. A. A. McGill University, Canada

Miktoarm polymers constitute a relatively new entry to the macromolecular field. However, with the recent advances in the synthesis of these branched macromolecules and their intriguing supramolecular chemistry in a desired medium, the scope of their applications is fast expanding. Providing a detailed monograph on the topic, the book features chapters from experts actively working in this field, giving the reader a unique overview of the fundamental principles of this exciting macromolecular platform. Topics covered include the design, synthesis, characterization, self-assembly and applications of the polymers.

H 400 9781782625759, 2017, | 179.00, \$300.00 

K Polish Academy of Sciences, Poland | Polish Academy of Science, Poland

There is great interest in the preparation and application of synthetic receptor-based recognition units for chemical sensors. The book summarizes the latest developments and applications of molecular imprinting for selective chemical sensing. Specific chapters include: designing of molecular cavities

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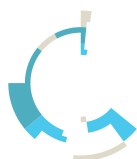
Universität des Saarlandes, Germany | M University of Maine, USA

The progress of new functional materials plays a vital role in solving many of today's global challenges, from energy and sustainability to medicine and healthcare. With a wealth of information available it's hard to find a resource providing a complete overview of the different types of smart materials available. Each book in the series covers the fundamentals and applications of different material system from renowned international experts. Stay in the know with the Smart Materials Series - the intelligent way to find your materials solution.



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M. J. Frisch, University of Saarland, Germany | J. O. J. Kowalewski, Dresden University of Technology, Germany

Chemical modelling covers a wide range of disciplines and this book is the first stop for any materials scientist, biochemist, chemist or molecular physicist wishing to acquaint themselves with major developments in the applications and theory of chemical modelling. Containing both comprehensive and critical reviews, this volume is a convenient reference to the current literature.

HARDCOVER, 300 PAGES, 9781788010047, 2018, | 314.95, \$505.00



C. B. Faulkner, Manchester Metropolitan University, UK | M. L. Huggins, Lehigh University, USA

Providing the reader with an up to date digest of the most important research currently carried out in the field, Electrochemistry Volume 14 is compiled and written by leading experts from across the globe. Coverage includes chapters on the use of metal organic frameworks as a precursor for electrocatalytic centre supports to enhance the oxygen reduction process in low temperature fuel cell systems, electrocatalysis for ethanol electrooxidation in alkaline media, and new polymer electrolyte and electrocatalysts for direct alcohol fuel cells. This volume is a key reference for researchers providing a timely overview of this exciting and developing area.

HARDCOVER, 220 PAGES, 9781782621140, 2017, | 314.95, \$505.00



P. J. Flory, Bangor University, UK | N. M. M. S. S. M. S. S., University of Zululand, South Africa

The field of nanoscience continues to grow at an impressive rate and, with such a vast landscape of material, careful distillation of the most important discoveries will help researchers find the key information they require. Nanoscience Volume 4 provides a critical and comprehensive assessment of the most recent research and opinion from across the globe. Coverage includes diverse topics such as 2-D nanomaterials, quantum dot solar cells and core nanoparticles for drug delivery applications. Anyone practising in any nano-allied field, or wishing to enter the nano-world will benefit from this resource, presenting the current thought and applications of nanoscience.

HARDCOVER, 250 PAGES, 9781782621591, 2017, | 314.95, \$505.00





N. P. University of Huddersfield, UK | P. E. University of Huddersfield, UK

With the increase in volume, velocity and variety of information, researchers can find it difficult to keep up to date with the literature in their field. This interdisciplinary field has the potential to provide answers to problems and challenges faced in catalysis, synthetic organic chemistry and the development of therapeutic agents and new materials. Providing an invaluable volume, this volume contains analysed, evaluated and distilled information on the latest in organometallic chemistry research.

H 250 9781788010054, 2018, | 314.95, \$505.00



D. A. Sheffield Hallam University, UK | D. L. University of Cambridge, UK |  
J. C. Sheffield Hallam University, UK

Coverage in this annual review of the literature presents a comprehensive and critical survey of the vast field of study involving organophosphorus compounds, from phosphines and phosphonium salts through to phosphorus acids, nucleotides, ylides and phosphazenes. The Editors have added to the usual content with a timely chapter on the recent developments in green synthetic approaches in organophosphorus chemistry to reflect current interests in the area.

H 350 9781782629016, 2017, | 314.95, \$505.00



A. A. University of Pavia, Italy | E. F. University of Pavia, Italy

Reviewing photo-induced processes that have relevance to a wide ranging number of academic and commercial disciplines and interests, this volume reflects the current interests in chemistry, physics,







In this section, you will find the books that we don't publish as part of a series. It features our versatile collection of textbooks, as well as professional reference titles to be published in 2017. If you are seeking some help with background reading, looking for an insight to advance your career or simply want to fill any gaps in your knowledge, these books will help.

**G** ... New Mexico State University, USA

Accounts are appearing on some facet of genetics in nearly every issue of scientific magazines and often in the daily newspapers. This book sets out to cover the fundamentals of the subject without the details in a much larger genetics text in order to provide background reading for those not studying the subject. It features humans (a lot), other mammals (a good deal) and occasionally other animals to illustrate principles. Supported with numerous figures and short vignettes, it will be useful to a wide audience from chemists, pharmacists and healthcare professionals.

**P** ... 200 ... 9781782627609, 2017, | 34.99, \$56.00 

**J** ... Imperial College London, UK

Written in a clear, concise and consistent way, this textbook is a valuable introduction to ionic liquids for advanced undergraduate and graduate courses. It explores their nomenclature, history, properties and their wide ranging applications, from catalysis to electrochemistry and clean technology. This second edition covers major developments in ionic liquids science and its applications over recent years, such as the use of ionic liquids for carbon dioxide capture; biomass processing; making biofuels such as ethanol; biomedical applications including drug delivery; and surface science studies and applications including lubrication.

**H** ... 360 ... 9781782623366, 2017, | 49.95, \$79.99 

**D** ... University College London, UK | ... University of Leeds, UK |  
**J** ... University College London, UK | **C** ... -P ... Università degli Studi di  
 Palermo, Italy | ... University College London, UK

Astrochemistry is a well-established interdisciplinary subject. Existing astrochemical books normally describe the subject in terms of chemistry in static or slowly-varying astronomical situations but the most significant astronomical regions are those in which the physical conditions change on timescales that are comparable to or shorter than chemical timescales. This is the first book specifically devoted to the astrochemistry of dynamically evolving astronomical regions. It provides a comprehensive description of this important area of science, stressing in particular the methods that have been developed for specific purposes. It will be( )TJllege1 pal1en to t pal1en.571.5317(e,gnif v7JT\*e c)3(omparable to3)d9 0 0 9 42.5 sb5.85 0.9.daR200.9 cfgd on tim3en



M. L. University of Hull, UK | A. M. University of Salford, UK

A Flash of Light is an intriguing book that starts at the beginning of time itself and then winds its way through a host of fascinating light related topics including the hues of aliens sunsets, the psychology of colour, and the chemistry of LCD screens. Drawing on the experience of some of the UK's best science communicators, this book will appeal to anyone with an interest in science. Its pacey, witty and engaging tone provides illuminating insight into how and why we see the universe the way we do.

P. 128, 9781782627319, 2016, | 12.00, \$19.00 



N. J. University of Manchester, UK | L. H. GlaxoSmithKline, UK

This unique textbook provides new guidelines for "biocatalytic retrosynthesis" in which molecules are disconnected with consideration for applying biocatalysts in the forward synthesis direction. It aims to

J. D. The Edinburgh Centre for Toxicology, UK | D. University of Toronto, Canada | M. Federal Public Health Department, Germany

This glossary updates and expands on previous glossaries of toxicological terms provided by IUPAC. Toxicology has become crucial to global trade in chemicals as legislation has become harmonised around the world and is based on the classification of toxicity. This glossary addresses the need for harmonised terminology, especially as toxicology uses terminology from chemistry, medicine, geology, botany, zoology, ecology, and veterinary medicine, as well as some legal terms. This will be a valuable reference for students and researchers in toxicology, those involved in chemicals legislation and regulation and risk assessment.

H 150, 9781782621379, 2017, | 66.99, \$118.00 




A. O. Skolkovo Institute of Science and Technology, Russia | A. K. Skolkovo Institute of Science and Technology, Russia | G. Moscow Institute of Physics and Technology, Russia

Until a few years ago, new materials could only be discovered experimentally. Now the situation is dramatically different with advances in computational techniques. This is the first book to provide a systematic review of computational materials discovery, covering different methods and materials discovery for specific classes of materials including low-dimensional materials. The book is a convenient introduction for young researchers and industrial scientists to the topic of computational materials design.

H 430, 9781782629610, 2018, | 179.00, \$300.00 

P. C. J. K. University of St Andrews, UK | D. University of Edinburgh, UK | J. Ghent University, Belgium

Covering the basic principles, this book covers aspects of homogeneous, heterogeneous, organo-, bio- and computational catalysis. It discusses catalyst preparation, catalyst characterization and reactor engineering, and explores recent developments in the understanding of catalytic mechanism, such as operando spectroscopy. Several important case studies using industrial applications are given. It is an integrated approach ideal for graduate students from a range of backgrounds, including catalysis, engineering and organic synthesis.

H 900, 9781849739900, 2017, | 86.99, \$143.00 

K. King's College London, UK

This text describes the current state-of-the-art techniques used for identifying and confirming drug misuse as well as recent advances in biomarkers, instrumentation and analysis methodology. The title discusses both recreational and designer drugs, including non-addictive and addictive drugs. This book is a useful and fascinating resource for healthcare professionals working in the field of drug misuse as well as academics and postgraduates researching within analytical, chromatography, medicinal and pharmaceutical chemistry; drug metabolism; addiction science; and forensic toxicology, science and medicine.

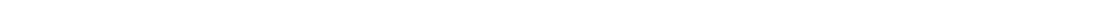
H 500, 9781782621577, 2017, | 86.99, \$143.00





K. C. B. University of Saskatchewan, Canada

Beginning with a review of the important areas of mathematics, this book then covers many of the underlying theoretical and practical aspects of NMR spectroscopy from a maths point of view. Competence in algebra and introductory calculus is needed but all other maths concepts are covered. It will bridge a gap between high level and introductory titles used in NMR spectroscopy. Uniquely, it takes a very careful and pedagogical approach to the mathematics behind NMR. It leaves out very few steps, which distinguishes it from other books in the field. This is an essential text aimed at graduate





Surface plasmon resonance (SPR) plays a dominant role in real-time interaction sensing of bimolecular binding events and with the biosensor field expanding more applications are being found. In response to the market, an update to the original title which was published in 2008 is now appropriate. With over fifty percent of the material being updated, this book provides a total system description including optics, fluidics and sensor surfaces. Spanning theory, instrumentation and applications it covers all the relevant issues for the practicing researcher. Intended for a wide audience, it contains expanded tutorial details for inspiring students to use and is a comprehensive accessible guide.

H 600, 9781782627302, 2017, | 179.00, \$300.00 



Industrial Polymer Applications provides a comprehensive overview of the diverse properties and applications of thermoset and thermoplastic polymer technologies used routinely in the protection, repair, restoration and bonding of the main classes of industrial engineering materials such as concrete, masonry, wood, metal, rubber, plastic, glass and advanced ceramics. Written in an accessible way, the book provides a supplementary text for undergraduates, postgraduates and industrialists who



P. C. University of Michigan, USA | P. University of Michigan, USA |  
G. University of Siena, Italy | H. K. University of Wrocław, Poland

Metals in Biology and Medicine provides students of chemistry, biochemistry, molecular biology and pharmaceutical sciences who are learning bioinorganic chemistry as part of their degree with a comprehensive understanding of the subject. The book emphasises a molecular approach to understanding whilst highlighting clinical aspects through the logical presentation of the co-ordination chemistry, followed by metals in biology, in homeostasis, in disease and in medicine. The book contains teaching aids and cues for group learning discussions.

H. 600, 9781782626503, 2018, | 86.99, \$143.00 



A. M. Universität des Saarlandes, Germany | M. D. University of Leeds, UK | G.  
University of Naples "Federico II", Italy | E. C.

Covering the fast and dynamic development of miniaturization,  $\mu$ TAS and microfluidics, this accessible text is unique in its approach. The chapters provide the tools for analysing phenomena from the scientific point of view and aids for implementing quantitative/qualitative models including applications in cell biology and bioanalytical chemistry. Providing a short, affordable text for students that includes sufficient









Are you good at solving puzzles? Do you have an active interest in science? Then why not try Chemistry Crosswords? With 70 crosswords all with chemistry related clues and answers, and designed with chemists in mind, this collection is set to challenge you. So distil your thoughts, find the solutions and good luck!

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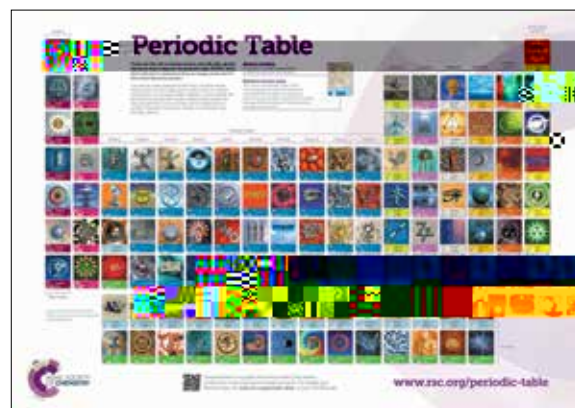
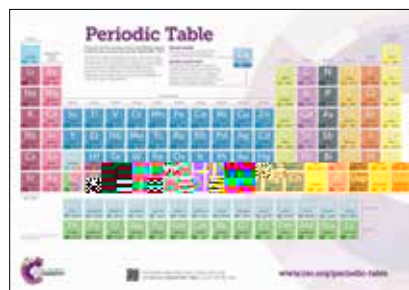
A bold and clear new representation of the periodic table from the Royal Society of Chemistry. The poster is two-sided: on one side, a Visual Elements version, with fascinating element artwork by Murray Robertson based on scientific data provided by the chemist and science writer John Emsley; on the other, a bold colour-coded version, emphasising readability and clarity. Printed in full colour, there are two sizes of the wallchart available: A0 (1189 x 841 mm) and 2A0 (1682 x 1189 mm). Information for each element includes the name, chemical symbol, atomic number, and relative atomic mass. The groups are readily identifiable by colour, and the wallchart has been updated to include elements 110, 111, 112, 114, and 116. We've designed the wallchart to be readable, visually engaging, and an excellent addition to any classroom, laboratory, or office. Price shown does not include VAT in the EU.

A0 P 9781849736787, 2014, | 9.95, \$16.00

2A0 P 9781782620730, 2014, | 30.00, \$49.50

2A0 (1682 x 1189 mm)

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Murray Robertson | Visual Elements, UK

With 550 pieces and a stunning full-colour design, this jigsaw puzzle beautifully illustrates the periodic table in all its glory. The jigsaw would be an attractive gift for any puzzle-loving friends or relatives, and might even spark an interest in chemistry. Price shown does not include VAT in the EU.

NB / M 9780854048434, 2006, | 12.08, \$24.00



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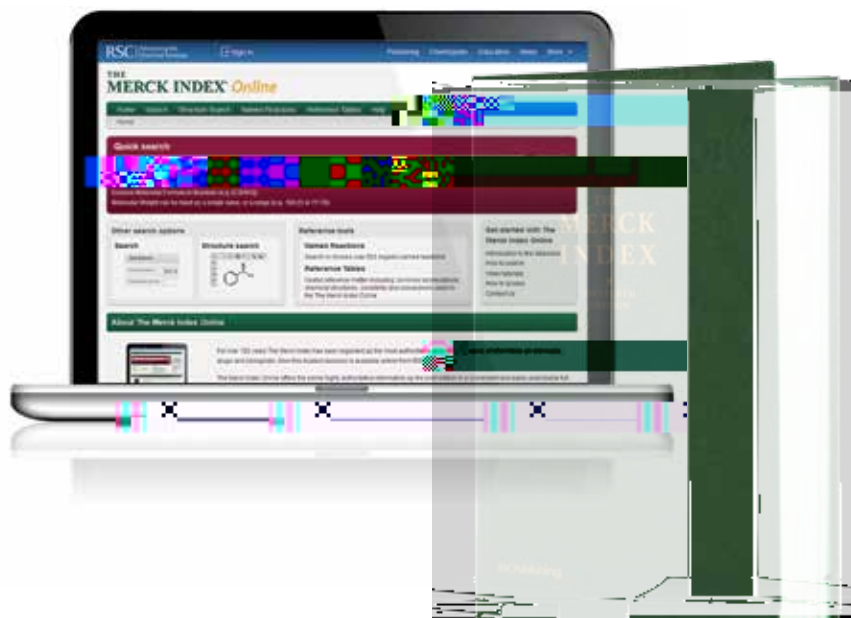


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