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Fundamental questions
Elemental answers

New books

from the Royal Society of Chemistry

With contributions from international authors and editors that cover all of chemistry and related fields, our books programme is relevant globally and provides support to scientists, researchers, students and teachers. We are excited about what we have to share with you this year.

Books to drive progress

In 2020, you can look forward to more titles that cover emerging areas like biomaterials science and inorganic materials, and more additions to our new *Food Chemistry, Function and Analysis* series. The core disciplines are represented by works focusing on significant developments in analytical science, green chemistry, catalysis and detection science.

Continuing our collaboration with IUPAC, we will also be publishing the fourth edition of the *Compendium of Terminology in Analytical Science*, an abridged version of *Quantities, Units and Symbols in Physical Chemistry*, and the *Glossary of Terms Used in Molecular Toxicology*.

Books to enlighten

We are here to help everyone in the chemical sciences to do their best work and drive scientific progress. 2020 textbook topics include *Microfluidics and Lab-on-a-Chip*, *Controlled Drug Analysis* and *Conservation Science*.

In *Good Chemistry*, we provide a textbook that goes beyond experimental procedure, to help practising scientists develop the skills to recognise the ethical and social dimensions of their own work and act appropriately.

Books to inspire

Chemistry is at the centre of everything you can see, smell, touch and taste, so we will be adding to the books that show the chemistry in our lives. *Sticking Together*, *Discovering Cosmetic Science* and *Perfume in the Bible* are just a few examples of books to broaden your chemistry horizons that you can look forward to in 2020.

If you have any queries, contact books@rsc.org  to talk to the team.

For a list of books published prior to 2020, visit [rsc.li/backlist](https://www.rsc.li/backlist)

Happy reading



Serin Dabb Head of books

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Adhesion Science

2nd Edition

John Comyn

The use of adhesives is widespread and growing, and there are few modern artefacts, from the simple cereal packet, to the jumbo jet, that are without this means of joining. Adhesion Science 2nd Edition is fully updated and revised to provide an illuminating account of the science underlying the use of adhesives, a branch of chemical technology which is fundamental to the science of coatings and composite materials and to the performance of all types of bonded structures. This concise and yet detailed book is an ideal guide to students, from the essential basic polymer science to the chemistry of adhesives in use, it is the primary resource for any reader interested in adhesion science and the applications of adhesives.

Paperback | 200 pages | 9781788018883 | 2020 | £29.99 | \$42.00



ISBN 978-1-78801-888-3
9 781788 018883 >

A Chemist's Guide to Intellectual Property

From Concept to Commercial Reality

Joseph Lenthall Haseltine Lake LLP, UK

The global Intellectual Property (IP) market is worth billions of dollars and yet input errors, cultural and literal translation, technical jargon and acronyms in filings can all contribute to incorrect IP data. Within the chemistry and pharmaceutical sectors these risks are amplified by the complex names and compounds being protected. The goal of this book is to provide postgraduate students and early career professionals with a practical guide to using IP in an effective way, focusing primarily on why and when (and when not) to use the IP system rather than simply how. Illustrated throughout with both hypothetical and real world examples this book is a vital guide for chemists with an "everything you need to know" approach.

Hardback | 300 pages | 9781788017343 | 2021 | £70.00 | \$95.00



ISBN 978-1-78801-734-3
9 781788 017343 >

A Practical Guide to Quasi-elastic Neutron Scattering

Mark T F Telling Rutherford Appleton Laboratory, UK

Quasi-elastic neutron scattering (QENS) is an extremely powerful experimental technique for extracting temporal, spatial and energy information about soft and condensed matter systems on the nanoscale. This title provides an accessible introduction to the technique, which clearly and succinctly highlights all key conceptual, theoretical and data interpretation aspects of the method. Real research examples and worked analysis are used to illustrate the concepts addressed. The book will be of interest to students and researchers in academia and industry across chemistry, biology, physics, materials science and nanoscience.

Paperback | 200 pages | 9781788012621 | 2020 | £45.00 | \$63.00



ISBN 978-1-78801-262-1
9 781788 012621 >

Carbonyl Compounds and Derivatives

Paulo Costa Federal University of Rio de Janeiro, Brazil | **Ronaldo Pilli** University of Campinas, Brazil | **Sergio Pinheiro** Universidade Federal Fluminense, Brazil

Originally published in Portuguese, this book is divided into three sections: the chemistry of aldehydes, ketones, nitriles, imines and derivatives; the chemistry of carboxylic and carbonic acids and derivatives and the chemistry of alpha, beta-unsaturated carbonyls. The authors have merged aspects of valence bond and molecular orbital theories in order to discuss structural and physico-chemical properties and reactivity and stereochemical outcomes of the most relevant reactions for these functional groups. The book provides representative experimental procedures for key reactions, highlights to contextualize the concepts and properties discussed and includes some biographical notes. It will help advanced level undergraduate and graduate students to understand and become well acquainted with the reactions of carbonyl compounds and derivatives.

Hardback | 450 pages | 9781788017831 | 2021 | £95.00 | \$130.00



ISBN 978-1-78801-783-1
9 781788 017831 >

Characterization of Nanostructured Materials

Ashok Ganguli IIT Delhi, India | **Jiban Jyoti Panda** Institute of Nano Science and Technology, India | **Menaka Jha** Institute of Nano Science and Technology, India | **Neha Sardana** IIT Jodhpur, India

Written with an interdisciplinary audience in mind, this textbook provides a broad overview of characterisation techniques applied to nanomaterials. Suitable for advanced undergraduate and graduate courses, the authors bring a holistic approach to the subject, balancing physics and materials science perspectives with chemical and biological aspects, ensuring it appeals to a diverse classroom mix. Based on a successful course by the authors, the student will form a clear understanding between fundamentals and applications across a broad range of tools, encompassing chemical characterization, surface characterization, biomolecular characterisation and non-invasive testing of materials inside living and non-living systems.

Hardback | 375 pages | 9781788011853 | 2020 | £60.00 | \$85.00



Chemistry for Sustainable Technologies

2nd Edition

Neil Winterton University of Liverpool, UK

Following the success of the first edition, this fully updated and revised book continues to provide an interdisciplinary introduction to sustainability issues in the context of chemistry and chemical technology. Its prime objective is to equip young chemists (and others) more fully to appreciate, defend and promote the role that chemistry and its practitioners play in moving towards a society better able to control, manage and ameliorate its impact on the ecosphere. Progress since 2010 is reflected by the inclusion of the latest research and thinking, selected and discussed to put the advances concisely in a much wider setting – historic, scientific, technological, intellectual and societal. While the book stresses the central importance of rigour in the collection and treatment of evidence and reason in decision-making, to ensure that it meets the needs of an extensive community of students, it is broad in scope, rather than deep. It is, therefore, appropriate for a wide audience, including all practising scientists and technologists.

Hardback | 550 pages | 9781788012058 | 2020 | £86.99 | \$122.00



Conservation Science

2nd Edition

Paul Garside British Library, UK | **Emma Richardson** University College London, UK

With contributions by scientists working in the museum and heritage sector, this textbook provides an overview of the analytical techniques and data processing methods used in modern conservation science. Each chapter deals with one of the common types of conservation materials in turn and provides case study examples of the techniques employed. It will interest students, scientists involved in conservation, and conservators who want to develop their understanding of their collections at a material level.

Hardback | 400 pages | 9781788010931 | 2021 | £44.99 | \$63.00



Controlled Drug Analysis

Michael Cole Anglia Ruskin University, UK | **Lata Gautam** Anglia Ruskin University, UK | **Agatha Grell** Anglia Ruskin University, UK

This book brings together, for the first time, a number of areas around the analysis of controlled substances. Aimed at undergraduate and postgraduate taught programmes, it will include methods for drug analysis and comparison using physical, biologically based, comparative and numerical techniques. It introduces statistical methods for drug sample comparison and the appropriateness of some of the statistical techniques, which have been applied to drug analysis, and examines their use. It also considers analytical methods that have been developed, and significant legislative changes. Aimed at academics delivering forensic science courses in particular, it could also be used by chemistry, biochemistry, criminalistics, criminology and law and policing students on MSc forensic science courses and postgraduate research candidates.

Hardback | 350 pages | 9781788015349 | 2020 | £60.00 | \$85.00



Design of Experiments for Chemists

Matthew Linsley Newcastle University, UK

Design of Experiments (DoE) is recognised as an essential skill by many organisations. Its application ensures robust processes with quality output and is beneficial for improving the efficiency of lab-based academic research. In response to concerns over the lack of chemists with statistical and DoE skills, this book provides a very accessible and practical introduction to the topic written by a statistician with vast experience training chemists and relating to the needs of the chemical science community. It explores real life case studies and experiences to bring the theory to life and readers are given practical advice on applying the techniques presented within their own environments throughout.

Hardback | 300 pages | 9781782626572 | 2020 | £42.99 | \$60.00



ISBN 978-1-78262-657-2
9 781782 626572 >

Fundamentals of Smart Materials

Mohsen Shahinpoor University of Maine, USA

This textbook covers the fundamentals of different functional material systems aimed at advanced undergraduate and postgraduate students. Each chapter includes an introduction to the material, its applications and uses with example problems, fabrication and manufacturing techniques, conclusions, homework problems and a bibliography. Edited by a leading researcher in smart materials, topics include piezoelectric materials, magnetostrictive materials, shape memory alloys, mechanochromic materials, chemomechanical polymers and self-healing materials.

Hardback | 300 pages | 9781782626459 | 2020 | £75.00 | \$105.00



ISBN 978-1-78262-645-9
9 781782 626459 >

Global Energy

Peter Hall University of Sheffield, UK

Global Energy provides an approachable introduction to the often-complex global energy industry. Throughout the book, thumbnail sketches are given of energy systems in certain countries that illustrate different approaches to energy provision. It will give the reader a broad vision of how different energy generation and distribution systems function together to provide global energy. Written by an authority in the field, this title will be of interest to students on advanced courses in energy, engineering, environment and materials, as well as academic professionals and policy makers.

Paperback | 300 pages | 9781788015172 | 2020 | £65.00 | \$90.00



ISBN 978-1-78801-517-2
9 781788 015172 >

Good Chemistry

Methodological, Ethical, and Social Dimensions

Jan Mehlich

Practicing chemists face a number of ethical considerations, from issues of attribution of authorship through the potential environmental impact of a new process to the decision to work on chemicals that could be weaponised. This textbook provides an accessible resource to help chemists recognise the ethical and social dimensions of their own work and act appropriately. Divided into three parts, methodological aspects, research ethics, and social and environmental implications, it is a valuable reference for students and researchers alike.

Hardback | 250 pages | 9781788017435 | 2020 | £50.00 | \$70.00



ISBN 978-1-78801-743-5
9 781788 017435 >

Greener Organic Transformations

James H Clark University of York, UK | **Anwar Jardine** University of Cape Town, South Africa | **Avtar Matharu** University of York, UK | **Christian Stevens** Ghent University, Belgium

Green chemistry has progressed from being a driver for change in the chemical and allied industries to being a critical part of chemical education at all levels. Future Chemists must be able to practice their trade in the light of increasing concerns about waste and resources, the safety of chemicals in consumer products, and increasingly restrictive legislation. Covering a variety of well-known reactions that commonly feature in standard organic textbooks this book supplements and supports the standard organic chemistry texts.

Paperback | 300 pages | 9781788012034 | 2021 | £70.00 | \$95.00



Green Chemistry

Principles and Case Studies

Felicia Etzkorn Virginia Tech, USA

Targeted at advanced undergraduate students and first-year graduate students with a background in General and Organic Chemistry this textbook illustrates the principles of Green Chemistry with real-world case studies.

Paperback | 430 pages | 9781788017985 | 2020 | £70.00 | \$95.00



Hands on NMR

James Hook University of New South Wales, Australia | **Allan Torres** Western Sydney University, Australia | **William S Price** Western Sydney University, Australia

Presenting important practical aspects of NMR spectroscopy, this book will be useful for explaining and facilitating the successful set up of a wide variety of NMR experiments. It will enlighten readers with the relevant information on the basic concepts in NMR, how it works, and how to trouble-shoot artefacts that may be encountered. Bringing books that present practical NMR up to date, this book fills the gap in the literature and provides a new comprehensive practical NMR book for teaching and research at all levels – graduates, postgraduates, industry and research.

Hardback | 500 pages | 9781788010887 | 2020 | £86.99 | \$122.00



Histological Techniques

Robert Maynard University of Birmingham, UK | **Noel Downes** Sequani Limited, UK | **Brenda Finney** Sequani Limited, UK

Histological techniques form the basis of many areas of research, yet they can often be poorly understood. Aimed at postgraduate students and those at an early stage of their career, this title provides a detailed and comprehensive introduction to the techniques and how to apply them successfully.

Paperback | 334 pages | 9781839161476 | 2020 | £40.00 | \$56.00



Introduction to Glass Science and Technology e

3rd Edition

James E Shelby Alfred University, USA

This new edition provides a concise and inexpensive introduction for an undergraduate course in glass science and technology. The contents cover the fundamental topics of importance in glass science and technology, including glass formation, crystallization, phase separation and structure of glasses. Additional chapters discuss the most important properties of glasses, the composition and properties of vitreous and doped vitreous silicas and a final chapter provides an introduction to a number of methods used to form technical glasses. Although intended primarily as a textbook, it is also invaluable to the engineer or scientist who desires more knowledge regarding the formation, properties and production of glass.

Paperback | 320 pages | 9781839161414 | 2021 | £35.99 | \$49.99



Microfluidics and Lab-on-a-chip e

Andreas Manz Universität des Saarlandes, Germany | **Giuseppina Simone** Northwestern Polytechnical University, China | **Pavel Neuzil** Northwestern Polytechnical University, China

Covering the fast and dynamic development of miniaturization, μ 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 information to open up this area to them, this book is useful to a wide audience, students that for the first time approach the field, as well as engineers, physicians, cell biologists, biochemists, microbiologists, geneticists, and medical researchers.

Paperback | 200 pages | 9781782628330 | 2020 | £35.99 | \$50.00



Macromolecules at the Interface e

Gil Garnier Monash University, Australia | **Vikram Singh Raghuvanshi** Monash University, Australia

This book portrays, clearly and simply, how and why macromolecules adsorb at the interface, the basic mechanisms and forces involved, what systems of macromolecules there are at the interface, how polymer conformations vary with environment and how control of macromolecules at the interface is used in traditional and emerging fields. Written for advanced level students and researchers in academia and industry, the effect of macromolecules at the interface is presented and linked to applications. Following a descriptive approach the authors bring the literature up-to-date and make it accessible.

Paperback | 250 pages | 9781788012256 | 2021 | £40.00 | \$56.00



Mimicking the Extracellular Matrix e

Gregory A Hudalla University of Florida, USA | **William L Murphy** University of Wisconsin - Madison, USA

Materials which are able to mimic the properties of the extracellular matrix are of great interest for many therapeutic and biomedical applications. Edited by leading experts in the field, this book brings together the current knowledge of extracellular matrix biology with the state-of-the-art of extracellular matrix-mimicking biomaterials. The book is suitable for both biologists and bioengineers interested in the extracellular matrix, and provides material scientists with a benchmark for future efforts to develop synthetic biomaterials as extracellular matrix mimics.

Paperback | 405 pages | 9781839161483 | 2020 | £45.00 | \$63.00



Molecular Biology and Biotechnology

7th Edition

Ralph Rapley University of Hertfordshire, UK

This popular textbook has been revised and updated to provide a comprehensive overview and to reflect the latest developments in this rapidly developing area. Advances in basic research at the molecular level have provided many insights into biological processes and allowed the production of new developments across the fields of genome editing, proteomics, agriculture, microbial biotechnology, bioinformatics and therapeutics. This new edition provides the reader with a number of key areas in discrete chapters either updated from the previous edition or written as entirely new chapters concerning emerging fields. By presenting information in an easily assimilated form, this book makes an ideal undergraduate text for students of biology and chemistry, as well as appealing to postgraduates.

Hardback | 500 pages | 9781788017862 | 2020 | £59.99 | \$85.00

ISBN 978-1-78801-786-2



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Petroleum Engineering Explained

David Shallcross University of Melbourne, Australia

Featuring the same non-mathematical, informal style of Chemical Engineering Explained: Basic Concepts for Novices by D. Shallcross, this book will introduce basic petroleum engineering concepts to chemists and engineers, exemplified with pertinent real-life case studies. It is intended to be used as the main textbook on specialised courses introducing petroleum engineering to non-petroleum engineers working in the petroleum, oil and gas, and chemical process industries. It can also be used as a supplementary text for mainstream introductory petroleum engineering courses and more traditional chemical engineering courses.

Hardback | 450 pages | 9781788016681 | 2020 | £80.00 | \$115.00

ISBN 978-1-78801-668-1



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Principles and Applications of Artificial Photosynthesis

Shunichi Fukuzumi Osaka University, Japan

Harnessing light energy from the sun is already possible and widely used to produce electricity via photovoltaic cells, however there is a fundamental issue in finding a suitable way of storing electricity. Photosynthesis in green plants locks energy from the sun within the chemical bonds of glucose molecules, not only producing energy but storing it. Molecular mimicry of the fundamental processes occurring in photosynthesis has thus attracted much attention. This book will comprehensively review the molecular-based artificial photosynthesis systems and provide a unified view and future perspective of real artificial photosynthesis by a single author covering the different approaches.

Paperback | 350 pages | 9781788014311 | 2021 | £80.00 | \$110.00

ISBN 978-1-78801-431-1



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Principles of Modern Structural Analysis

Richard Cooper University of Oxford, UK | **Andrew Goodwin** University of Oxford, UK | **Paul Raithby** University of Bath, UK

Embracing crystal structure analysis and materials science, this textbook provides students with a broad view of diffraction and its applications. By using this book, the student will learn the key theories, techniques, analysis and modeling tools needed to build confidence in modern structural science. Highlights of the book include diffraction principles with underpinning theories emphasised, core techniques such as single crystal, powder X-Ray and neutron diffraction and their applications, modeling methods and PDF analysis and emerging techniques and developments. With worked examples, this book offers advanced undergraduates and graduates a concise and thorough guide to the subject.

Hardback | 250 pages | 9781782624622 | 2020 | £60.00 | \$85.00

ISBN 978-1-78262-462-2



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Printed Electronic Technologies

Wei Wu Wuhan University, China

Modern printing technology has paved the way for the fabrication of thin inexpensive electronics, with applications including wearable devices, smart packaging, healthcare, and the automotive industry. This textbook describes the key printing technologies for printed electronics, including explanations of the materials, mechanisms, printing methods and processes along with examples of printed devices and their applications. This title will be essential reading for students on courses across materials science, electronic science, manufacturing and engineering, as well as those with an interest in printed electronics.

Paperback | 360 pages | 9781788014151 | 2020 | £75.00 | \$105.00



Solid Rocket Propellants

Haridwar Singh Defense Research and Development Organisation, India | **Himanshu Shekhar** Defense Research and Development Organisation, India

Presenting up-to-date practical and theoretical aspects of rocket propellants and propulsion, this book is a much needed addition to the post graduate level literature. Covering all relevant information including formulation, processing and evaluation, it will be vital for students and researchers working in the area of solid rocket propellants in all sectors namely academics, the propellant industry, propellant production, quality control and associated agencies such as the armed forces, defence and space organisations. The authors bring together a wealth of accumulated knowledge into one book aiding future generations to meet the challenges in this area.

Paperback | 223 pages | 9781839161490 | 2020 | £30.00 | \$42.00



The Science of Running a Consultancy

William P Edwards Bardfield Consultants, UK

Aimed at chemical consultancy, although the principles can be applied more broadly, this book shows the reader how to set themselves up as an independent consultant. The author focusses not only on the essential business functions, from being a sole trader, accounting and marketing, but also pays attention to the necessary mind set needed, with particular respect to those making the move from employee to consultant. Various other activities, such as those which raise your international profile like writing, to running training courses and acting as an expert witness are included.

Hardback | 300 pages | 9781788017787 | 2021 | £45.00 | \$60.00



Transition States in Biological Chemistry

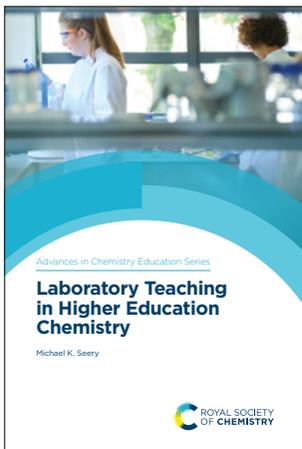
Stereoelectronics and Catalytic Mechanisms

G Michael Blackburn University of Sheffield, UK | **Nigel G J Richards** Cardiff University, UK

Transition states play a significant role in the function of enzymes but to make use of this fact in the design of novel catalysts it is necessary to understand the underlying chemistry of these states. This book provides the first comprehensive overview of transition states in enzyme catalysis, discussing how an understanding of transition states impacts drug discovery and the engineering of novel biocatalysts, and identifying key problems in the field that remain to be addressed.

Hardback | 300 pages | 9781788017961 | 2020 | £75.00 | \$105.00





About the series

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Books in this series review developments in areas of chemistry education internationally or report on a single educational context where the work has clear international significance; cover formal education, informal education, teacher education/development or public understanding of chemistry; and cover innovations in chemical education practice where suitable evidence of research-based evaluation is included. Topics covered will include approaches to teaching chemistry and chemistry topics; the use of technology in chemistry teaching and learning; assessment of learning in chemistry education; chemistry in the curriculum; chemistry teacher preparation and development; initiatives to improve public understanding of chemistry; and developments in research methodology as applied in chemistry education. The series provides volumes of high quality and significance in the field of chemistry education research for researchers and postgraduates.

Creative Chemists



Simon Rees University of Durham, UK | **Douglas Newton** University of Durham, UK

Addressing the importance of making time for creativity in science, this book will empower chemistry teachers to incorporate creativity in teaching. Providing practical teaching strategies and exemplars to equip teachers with the confidence to encourage creative thinking in chemistry, users of this book will engage students with a rich learning experience.

Hardback | 175 pages | 9781788015110 | 2020 | £99.99 | \$140.00



Engaging Learners with Chemistry



Projects to Stimulate Interest and Participation

Ilka Parchmann The Leibniz Institute for Science and Mathematics Education, Germany | **Shirley Simon** University College London, UK | **Jan Apotheker** University of Groningen, Netherlands

Describing context-based learning and engagement tools, applied to the fostering of long-term student engagement with chemistry, this book is ideal for those involved in professional development, chemistry teaching, chemistry education research, and practitioners in the chemical industry seeking to attract students to careers in the chemical sector. The editors set out a context-based theoretical framework and ask contributors to explore different approaches, discussing the design and implementation of projects that stimulate, foster and sustain student interest with the subject.

Hardback | 225 pages | 9781788015080 | 2020 | £99.99 | \$140.00



A History of Distillation

Ian Hornsey Nethergate Brewery, UK

Although early texts tend to be shrouded in mystery, it is certain that in the alchemist's quest for the elixir of life, distillation played a central role. There is no modern book that deals with the history of distillation and there is a wealth of new material to report particularly around the early alchemists and into the origins of distillation from other civilisations. With the growth of the craft distillation industry internationally, both producers and the layman with a specialist interest in distilling will find this book of interest. Ian Hornsey has extensively researched the literature and brings his topic to life through his contagious enthusiasm and excellent writing.

Paperback | 300 pages | 9781788011952 | 2020 | £33.99 | \$48.00



Discovering Cosmetic Science

A Journey through the Personal Care Industry

Stephen Barton Skin Thinking Ltd., UK

Cosmetic science and the personal care industry are often misrepresented. This book will educate and inform the public and the wider science community about the sound science they are based on. In the process many positive aspects of cosmetic chemistry can be revealed, from creating colours, fragrances and sensorial formulations to understanding the important interactions of UV light with organic and inorganic absorbers and blending these for effective SPF sunscreens. Providing background material for education and as an accessible scientific title for the interested lay reader, this book shows chemistry in an everyday context based on the real world and dispelling the many myths.

Paperback | 200 pages | 9781782624721 | 2020 | £19.99 | \$28.00



Dust in Galaxies

David A Williams University College London, UK | **Cesare Cecchi-Pestellini**
Osservatorio Astronomico di Palermo, Italy

Without interstellar dust, the Universe as we see it today would not exist. Yet this vital ingredient was first considered merely an irritating fog that prevented a clear view of stars and nebulae in the Milky Way and other galaxies. We now know that interstellar dust has essential roles in physics and chemistry, in the formation of stars and planetary systems, in the creation of the building blocks related to the origin of life, and in the movement of those molecules to new planets. This is the story the authors tell in this book. Appealing to a general audience, it is the first attempt to discuss interstellar dust at an accessible level with any chemical presentations kept to a minimum.

Paperback | 230 pages | 9781788015059 | 2020 | £24.99 | \$35.00



Perfume in the Bible

Charles Sell

The stories around the perfumes of the Bible are as abundant as the contemporary fragrances that are available. Identifying the ingredients used in biblical times is difficult when information and meaning is lost in ancient languages. Biblical perfumes might be expected to be made from natural products with the majority of ingredients from flower oils providing heart notes to the fragrances but although flowers are mentioned in the Bible it is never as part of a perfume. The biblical ingredients are base notes; their natural origins are either as defensive substances or as products of decay, which opens up an avenue of speculation as to why this is so! Aimed at a broad audience from chemists and general scientists to historians and those interested in religious studies also lay readers with an interest in exploring chemistry in the world of art and creative professions.

Hardback | 154 pages | 9781788017305 | 2019 | £19.99 | \$28.00



Sticking Together

The Science of Adhesion

Steven Abbott University of Leeds, UK

This popular science title will cover adhesion science in an easily accessible entertaining manner. As well as outlining types of adhesion and their importance in everyday life, the book covers interesting future applications of adhesion and inspiration taken from nature. Ideal for students and the scientifically minded reader this book provides a fascinating introduction to the science of what makes things stick.

Paperback | 220 pages | 9781788018043 | 2020 | £19.99 | \$27.99



ISBN 978-1-78801-804-3
9 781788 018043 >

The Science and Commerce of Whisky

2nd Edition

Ian Buxton Brollachan Ltd, UK | **Paul S Hughes** Oregon State University, USA

Since the publication of the first edition in 2014, the whisky industry has changed and this book provides the reader with an overview of the latest academic research and industry best practice in an accessible and authoritative format. An entirely new chapter discussing the management and utilization of co-products and recent developments in areas such as anaerobic digestion is included along with revisions and updates to most chapters. Written by acknowledged and experienced authorities, this book provides an up to date treatment of this fast developing area. Aimed at the popular market, it provides a leading text for students of distilling, industry practitioners, new craft distillers and whisky enthusiasts.

Hardback | 300 pages | 9781788015387 | 2020 | £34.99 | \$49.00



ISBN 978-1-78801-538-7
9 781788 015387 >

Traveling with the Atom

Glen E Rodgers Allegheny College, USA

The atomic concept is perhaps one of the most significant and enduring ideas in the history of humankind and to truly appreciate the labour that the great minds of the age expended upon atomic theory one can scarcely do better than trace their footsteps throughout Europe and across the globe. From Parisian museums to the legendary Cavendish laboratory - via Christchurch, Montreal and Pennsylvania Traveling with the Atom sketches the development of the atomic concept through the places and people central to the advances in our understanding of the particles forming our entire physical universe. An ideal travelling companion or fireside read, this book will intrigue and amuse anyone with an interest in the history of science.

Paperback | 450 pages | 9781788015288 | 2020 | £29.99 | \$41.99



ISBN 978-1-78801-528-8
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Molymod MMS-003

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These popular molecular modelling sets can be used to make many different molecules. Designed for teachers, this set contains 111 colour-coded atoms and 140 links. The medium links can be used for single bonds, while the longer, flexible links can be used for double or triple bonds. Short links can be used to create compact models.

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Molymod MMS-072

Molecular Set for Inorganic & Organic Chemistry, 72 atoms

These popular molecular modelling sets can be used to make many different molecules. This makes them ideal for student use and also for educators and researchers. The set contains 72 colour-coded atoms, 105 links and five lone pair electron clouds. The shorter links can be used for single bonds, while the longer, flexible links can be used for double or triple bonds. Using molecular models can help students to visualise concepts such as isomerism through hands-on learning. The models can also be used to learn about balancing equations and molecular geometry.

NOT AVAILABLE IN NORTH AMERICA AND CANADA

Non Book / Merchandise | 9781782624318 | 2015 | £19.95



Top Trumps™

Single pack / Pack of six

Royal Society of Chemistry

Elements Top Trumps is an entertaining, fast-paced chemistry card game. With eye-catching imagery and fascinating facts about the elements, it's a great way to have fun and learn about the elements. Recommended for children aged 7-14, the game can be played by two or more players. Each of the 30 cards represents an element. Players compare numerical properties of the elements (melting point, density, price, discovery date and the size of the atom) and choose the category they think will win. Elements Top Trumps is created by the Royal Society of Chemistry in partnership with Winning Moves Ltd, the makers of Top Trumps™.

Single pack | 9781782620747 | 2014 | £6.00 | \$8.50

Pack of six | 9781782620754 | 2014 | £36.00 | \$50.00



RSC Periodic Table

Wallchart, A0 - 2A0

Murray Robertson Visual Elements, UK

Updated for 2017, the Royal Society of Chemistry's bold and clear representation of the periodic table now includes the four new elements, completing the seventh period. 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, the wallchart measures A0. Information for each element includes the name, chemical symbol, atomic number, and relative atomic mass.

The groups are readily identifiable by colour. 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 Poster | 9781788011938 | 2014 | £10.95 | \$16.00

2A0 Poster | 9781788011921 | 2014 | £33.00 | \$49.50

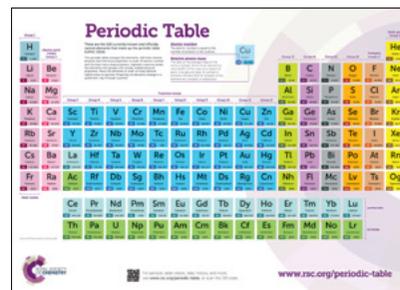
Visual Elements Jigsaw

Murray Robertson Visual Elements, UK

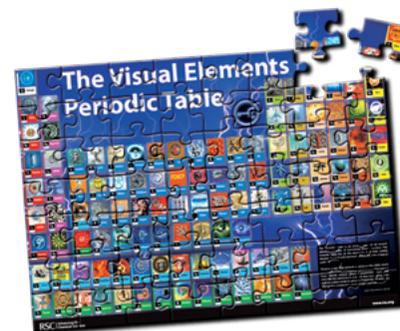
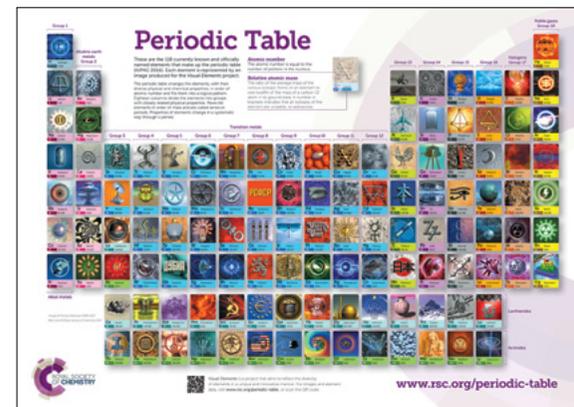
With 550 pieces and a stunning full-colour design, this jigsaw puzzle beautifully illustrates the periodic table in all its glory. The jigsaw would be an attractive gift for any puzzle-loving friends or relatives, and might even spark an interest in chemistry. Price shown does not include VAT in the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

Non Book / Merchandise | 9780854048434 | 2006 | £12.08 | \$24.00

A0 (1189 x 841 mm)



2A0 (1682 x 1189 mm)



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