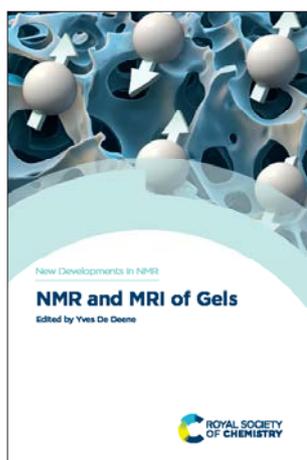


Just published – July 2020



NMR and MRI of Gels

Yves De Deene Macquarie University, Australia

Gels are used in a large variety of commercial and scientific products from drug delivery and food science to biomedical sensors. This book has been developed to discuss the state-of-the-art of NMR and MRI techniques in studying the physics and chemistry of gel systems. The first part of the book will cover the fundamental physical concepts of gels and the NMR techniques to study gel systems. The second part of the book will be dedicated to the application of gels in life sciences and in the medical practice to validate radiotherapy and new MRI techniques.

Hardback | 440 pages | ISBN 9781788011525 | £179.00 | \$250.00 | 10/07/2020

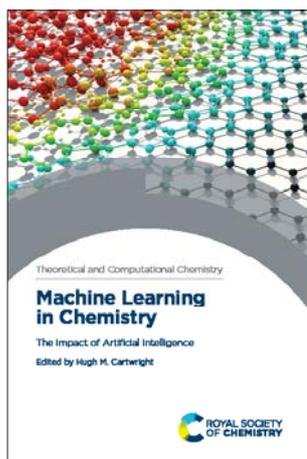


Luminescent Silicon Nanostructures

Faraday Discussion 222

Silicon is the most important semiconducting material of the microelectronic industry. Bulk silicon does not exhibit good optical properties, however in the late 1980s good emission was observed in porous silicon. Since then, a variety of luminescent silicon nanostructures have been investigated, but the origin of this luminescence is debated in the literature. This Faraday Discussion explores new methodologies to synthesize and characterise luminescent silicon nanostructures, from porous silicon to nanocrystals and nanorods.

Hardback | 437 pages | ISBN 9781788019088 | £170.00 | \$235.00 | 15/07/2020



Machine Learning in Chemistry

The Impact of Artificial Intelligence

Hugh M Cartwright Oxford University, UK

There is a growing consensus that machine learning (ML) has the potential to develop into a tool that is almost as fundamental in scientific research as computers themselves. With contributions from leading research groups, this book presents in-depth examples of the application of ML to real chemical problems. Through these examples, readers who are intrigued by the power of this technique can gain a feel for its potential and discover how it might be applied in their own field.

Hardback | 546 pages | ISBN 9781788017893 | £179.00 | \$250.00 | 17/07/2020

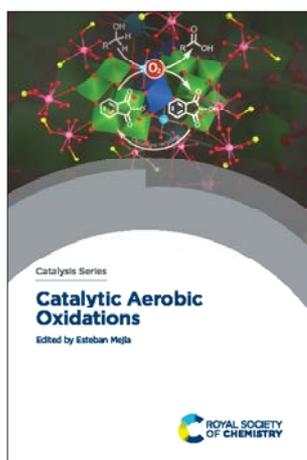
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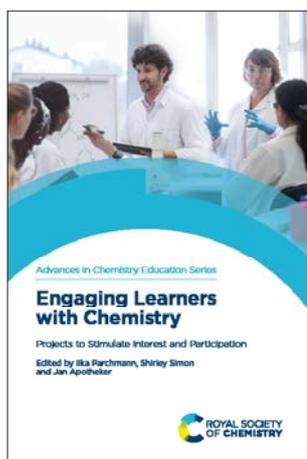


Catalytic Aerobic Oxidations

Esteban Mejía Leibniz Institute for Catalysis (LIKAT), Germany

Catalytic reactions that are selective and efficient and allow the replacement of common stoichiometric oxidants with molecular oxygen from air at atmospheric pressure provide higher atom efficiency and water as the only side product. Focusing on the use of molecular oxygen as the terminal oxidant, this book covers recent advances in both heterogeneous and homogeneous catalytic systems in academia and industry.

Hardback | 334 pages | ISBN 9781788017206 | £169.00 | \$235.00 | 14/07/2020



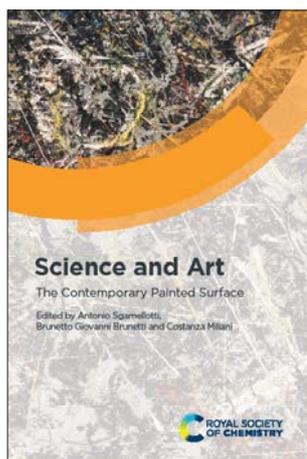
Engaging Learners with Chemistry

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 | 273 pages | ISBN 9781788015080 | £99.99 | \$140.00 | 31/07/2020



Science and Art

The Contemporary Painted Surface

Antonio Sgamellotti Accademia Nazionale dei Lincei, University of Perugia, Italy
Brunetto Giovanni Brunetti INSTM, University of Perugia, Italy
Costanza Milani CNR-ISTM, Perugia, Italy

Science and art are increasingly linked to the study and conservation of works of art. With an emphasis on current artists, the reader will learn about how these protagonists developed new and meaningful techniques, innovative methodologies and artistic languages. With contributions from art historians, curators, scientists and artists, this book will appeal to those scientifically interested in the area, students studying art conservation as well as those actively working in conservation science of contemporary art.

Hardback | 524 pages | ISBN 9781788014694 | £70.00 | \$95.00 | 01/07/2020

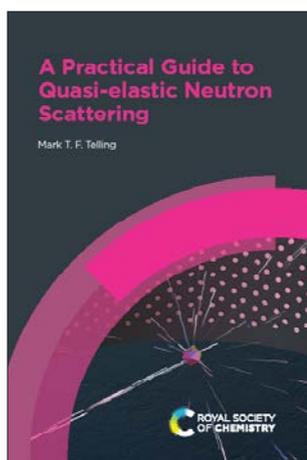
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Just published – July 2020



A Practical Guide to Quasi-elastic Neutron Scattering

Mark T F Telling Science and Technologies Facility Council, 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 | 152 pages | ISBN 9781788012621 | £45.00 | \$63.00 | 07/07/2020

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