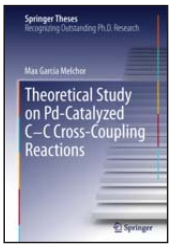
Publications in Brief

BOOKS

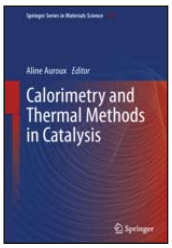
"A Theoretical Study of Pd-Catalyzed C-C Cross-Coupling Reactions"



By M. G. Melchor (Autonomous University of Barcelona, Spain), Springer Theses, Springer International Publishing Switzerland, 2013, 136 pages, ISBN: 978-3-319-01490-6, £90.00, US$129.00

The Springer Theses series recognises outstanding PhD research. This thesis describes how theoretical calculations are used to determine, elucidate and propose mechanisms for Pd-catalysed C–C cross-coupling reactions. Due to its versatility, broad scope and selectivity under mild conditions, the Pd-cross-coupling reaction can be applied in fields as diverse as the agrochemical and pharmaceutical industries. The thesis also covers reaction intermediates and transition states involved in the Negishi, the copper-free Sonogashira and the asymmetric version of Suzuki-Miyaura coupling. A detailed picture of the associated reaction mechanisms is included.

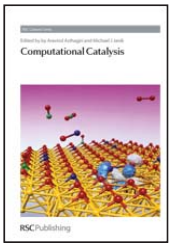
"Calorimetry and Thermal Methods in Catalysis"



Edited by A. Auroux (Institut de Recherches sur la Catalyse et l'Environnement de Lyon, France), Series: Materials Science, Vol. 154, Springer-Verlag, Berlin, Heidelberg, Germany, 2013, 561 pages, ISBN: 978-3-642-11953-8, £117.00, €139.09, US$179.00

This book discusses calorimetry and thermal analysis methods, alone or linked to other techniques and applied to the characterisation of catalysts, supports and adsorbents, and to the study of catalytic reactions in various domains: air and wastewater treatment, clean and renewable energies, refining of hydrocarbons, green chemistry, hydrogen production and storage. This book aims to fill the gap between the basic thermodynamic and kinetics concepts and the use of experimental techniques such as thermal analysis and calorimetry to answer practical questions. The book is suitable as a reference for researchers and engineers, and useful as a tutorial for graduate students.

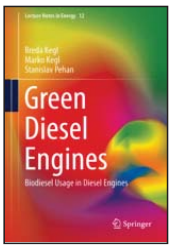
"Computational Catalysis"



Edited by A. Asthagiri (Ohio State University, USA) and M. J. Janik (Pennsylvania State University, USA), RSC Catalysis Series No. 14, The Royal Society of Chemistry, Cambridge, UK, 276 pages, ISBN: 978-1-84973-451-6, £139.99

The ultimate goal of computational catalysis is the design of a novel catalyst entirely from the computer. This book gives a comprehensive review of the methods and approaches being adopted to push the boundaries of computational catalysis. There are applied examples to support each method and the editors share over two decades' experience in this field. This book is an essential reference to postgraduates and professionals working in the field.

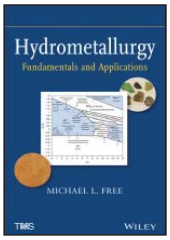
"Green Diesel Engines: Biodiesel Usage in Diesel Engines"



By B. Kegl, M. Kegl and S. Pehan (University of Maribor, Slovenia), Series: Lecture Notes in Energy, Vol. 12, Springer-Verlag, London, UK, 2013, 263 pages, ISBN: 978-1-4471-5324-5, £90.00, €106.99, US$129.00

Diesel engines are explored in relation to current research and developments, with a focus on ecology, economy and engine performance. The most frequently used alternative fuels in diesel engines, the properties of various types of biodiesel and the concurrent improvement of diesel engine characteristics are examined in this book. "Green Diesel Engines" provides a solid foundation in current research.

"Hydrometallurgy: Fundamentals and Applications"

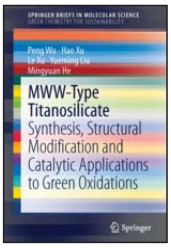


By M. L. Free (University of Utah, USA), John Wiley & Sons, Inc, Hoboken, New Jersey, USA, 2013, 444 pages, ISBN: 978-1-118-23077-0, £90.50, €108.60, US$135.00

This book provides a condensed collection of information that can be used to improve the efficiency and effectiveness with which metals

are extracted, recovered, manufactured and utilised in aqueous media in technically viable and reliable, environmentally responsible and economically feasible ways. The book is suitable for students and researchers.

"MWW-Type Titanosilicate: Synthesis, Structural Modification and Catalytic Applications to Green Oxidations"



By P. Wu, H. Xu, L. Xu, Y. Liu and M. He (East China Normal University, China), Series: SpringerBriefs in Molecular Science, Springer, Heidelberg, Germany, 125 pages, ISBN: 978-3-642-39114-9, £44.99, €53.49, US$49.99

A comprehensive review of a new generation of selective oxidation titanosilicate catalysts with the MWW topology is provided in this book which gives an overview of the synthesis, structure modification and catalytic properties of Ti-MWW. Ti-MWW can be prepared by direct hydrothermal synthesis with crystallisation-supporting agents, using dual structure directing agents and a dry gel conversion technique. It can also be post-synthesised through unique reversible structure transformation and liquid phase isomorphous substitution. A summary of the structural conversion of Ti-MWW into materials for processing large molecules is provided.

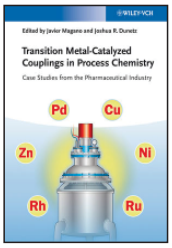
"New Trends in Emission Control in the European Union"

By J. Merkisz, J. Pielecha (Poznan University of Technology, Poland) and S. Radzimirski (Motor Transport Institute, Poland), Series: Springer Tracts on Transportation and Traffic, Vol. 4, Springer International Publishing, Switzerland, 2014, 170 pages, ISBN: 978-3-319-02704-3, £90.00, €106.99, US$139.00

Recent changes in the European legislation for exhaust emissions from vehicles are discussed in this book. The structure and range of applicability of new regulations such as Euro 5 and Euro 6 for light-duty vehicles and Euro VI for heavy-duty vehicles are analysed. This comprehensive book also covers:

- The latest procedures for performing exhaust emissions tests under both bench and operating conditions
- Reports on portable emission measurement systems and their application for assessing gaseous and particulate matter emissions under actual operating conditions and in all transport modes
- Selected findings from exhaust emissions research on engines for various vehicles such as light-duty, heavy-duty and non-road vehicles.

"Transition Metal-Catalyzed Couplings in Process Chemistry: Case Studies from the Pharmaceutical Industry"



Edited by J. Magano and J. R. Dunetz (Pfizer Inc, USA), Wiley-VCH Verlag GmbH & Co KGaA, Weinheim, Germany, 2013, 401 pages, ISBN: 978-3-527-33279-3, £115.00, €138.00, US$190.00

The focus of this book is on case studies of large scale industrial applications, presenting the information and facts that are otherwise hard to find in the current literature. There are contributions by authors from Pfizer, Merck, DSM, Novartis, Amgen and Astra Zeneca and they use case studies to showcase project evolution from inception to early and late development, including commercial routes where applicable. At least one transition metal-catalysed cross-coupling step is included with each case study. Metal removal from the reaction mixtures is also discussed. There is a small section which covers novel technologies for cross-coupling with high future potential for applications on a large scale such as metal removal on a large scale, microwave, flow chemistry and green chemistry. This book is aimed at chemists working in the pharmaceutical, agrochemical and fine chemical industries and also for synthetic chemists working in academia.

JOURNALS

Special Issue: Fuels and Chemicals from Synthesis Gas: State of the Art

Catal. Today, 2013, **214**, 1–152

This special issue is dedicated to a selection of papers presented at the Syngas Convention "Fuels and Chemicals from Synthesis Gas: State of the Art" which was organised by the national DST-NRF Centre of

Excellence in Catalysis (c*change) at the University of Cape Town, South Africa, and run under the auspices of the Catalysis Society of South Africa (CATSA). This convention focused on the generation and uses of synthesis gas for the production of fuels and chemicals. The technologies used for the conversion of synthesis gas into liquid fuels and chemicals are well established but these processes need to be improved to meet the requirements on current and future generations of these technologies. The papers presented at the Syngas Convention were aimed at all areas of synthesis gas conversion.

ChemElectroChem

Editor: G. Heydenrych; Wiley-VCH; e-ISSN: 2196-0216

ChemElectroChem is a sister journal to *Angewandte Chemie*, *ChemPhysChem* and nine more journals of the ChemPubSoc Europe journal family. Electrochemistry in terms of basic and applied chemistry is one of the fastest-growing fields in chemistry today. Moreover, it has developed a strong interdisciplinary flavour due to the emergence of bioelectrochemistry and the development of alternative energy sources. A sample of articles includes: 'Composition-Dependent Oxygen Reduction Activity and Stability of Pt-Cu Thin Films', 'Promotion Effects of Sn on the Electrocatalytic Reduction of Nitrate at Rh Nanoparticles' and 'Topologically Sensitive Surface Segregations of Au-Pd Alloys in Electrocatalytic Hydrogen Evolution'.