Organic & Biomolecular Chemistry

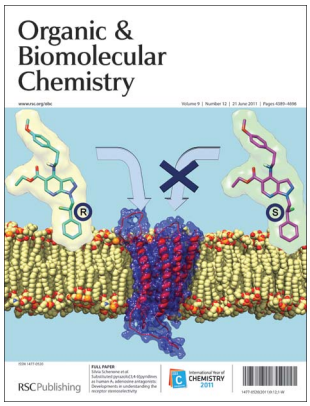
An international journal of synthetic, physical and biomolecular organic chemistry

www.rsc.org/obc

RSC Publishing is a not-for-profit publisher and a division of the Royal Society of Chemistry. Any surplus made is used to support charitable activities aimed at advancing the chemical sciences. Full details are available from www.rsc.org

IN THIS ISSUE

ISSN 1477-0520 CODEN OBCRAK 9(12) 4389–4696 (2011)

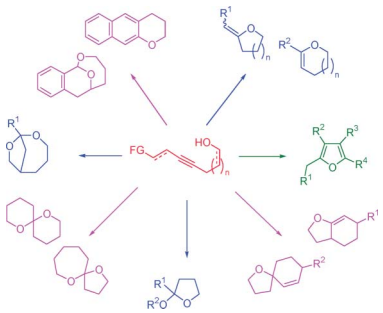


Cover

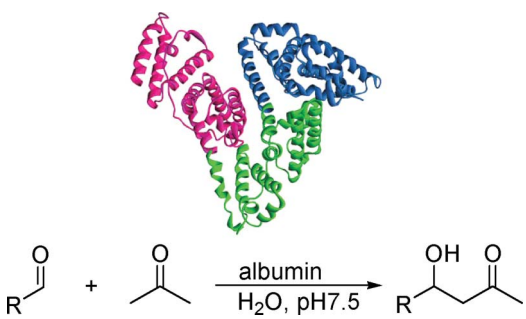
See Tiziano Tuccinardi *et al.*, pp. 4448–4455.

Image reproduced by permission of Silvia Schenone from *Org. Biomol. Chem.*, 2011, **9**, 4448.

PERSPECTIVE



COMMUNICATIONS



Organic & Biomolecular Chemistry (print: ISSN 1477-0520; electronic: ISSN 1477-0539) is published 24 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF. All orders, with cheques made payable to the Royal Society of Chemistry, should be sent to RSC Distribution Services, c/o Portland Customer Services, Commerce Way, Colchester, Essex, UK CO2 8HP. Tel +44 (0)1206 226050; E-mail sales@rscdistribution.org

2011 Annual (print+electronic) subscription price: £3726; US$6955. 2011 Annual (electronic) subscription price: £3353; US$6260 Customers in Canada will be subject to a surcharge to cover GST. Customers in the EU subscribing to the electronic version only will be charged VAT. If you take an institutional subscription to any RSC journal you are entitled to free, site-wide web access to that journal. You can arrange access via Internet Protocol (IP) address at www.rsc.org/ip. Customers should make payments by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank. Periodicals postage paid at Rahway, NJ, USA and at additional mailing offices. Airfreight and mailing in the USA by Mercury Airfreight International Ltd., 365 Blair Road, Avenel, NJ 07001, USA.

US Postmaster: send address changes to Organic & Biomolecular Chemistry (OBC) c/o Mercury Airfreight International Ltd., 365 Blair Road, Avenel, NJ 07001. All despatches outside the UK by Consolidated Airfreight.

Organic & Biomolecular Chemistry

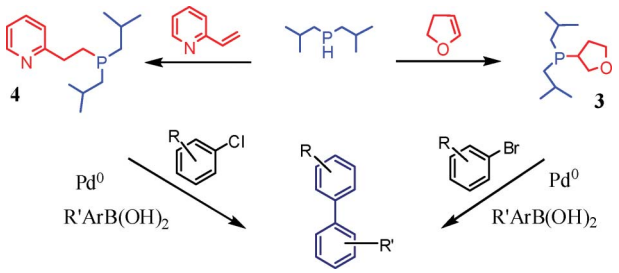
An international journal of synthetic, physical and biomolecular organic chemistry

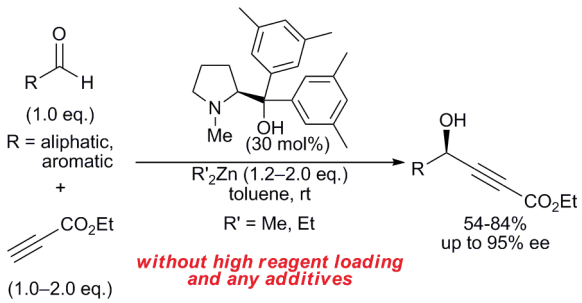
www.rsc.org/obc

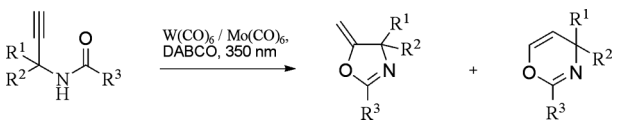
Organic & Biomolecular Chemistry brings together molecular design, synthesis, structure, function and reactivity in one journal. It publishes fundamental work on synthetic, physical and biomolecular organic chemistry as well as all organic aspects of: chemical biology, medicinal chemistry, natural product chemistry, supramolecular chemistry, macromolecular chemistry, theoretical chemistry, and catalysis.

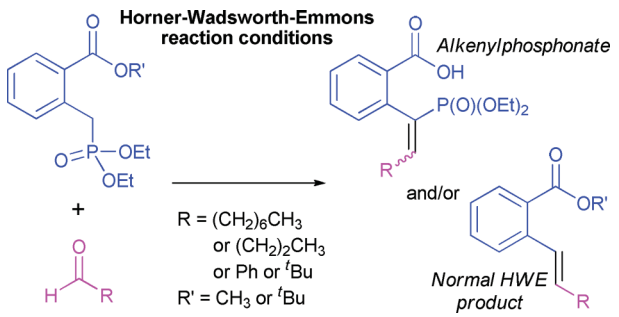
INFORMATION FOR AUTHORS

Full details on how to submit material for publication in Organic & Biomolecular Chemistry are given in the Instructions for Authors (available from http://www.rsc.org/authors). Submissions should be made *via* the journal's homepage: http://www.rsc.org/obc.

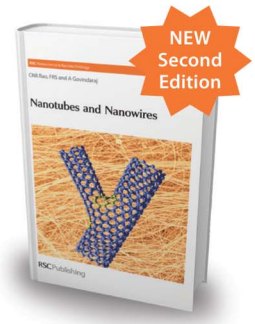








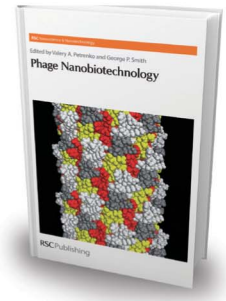
The RSC Nanoscience & Nanotechnology Series



Nanotubes and Nanowires

C N Ram Rao and A Govindaraj, JNCASR, India
ISBN: 9781849730587
Price: £139.99

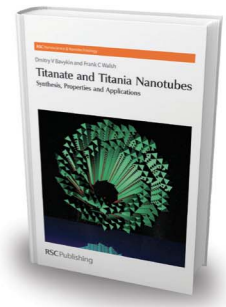
This fully revised new edition is an up-to-date survey of the research areas of carbon nanotubes, inorganic nanotubes and nanowires including synthesis, characterisation, properties and applications. An ideal resource both for graduates needing an introduction to the field of nanomaterials as well as for professionals and researchers in academia and industry.



Phage Nanobiotechnology

Edited by Valery Petrenko, Auburn University, USA | George Smith, University of Missouri, USA
ISBN: 9780854041848
Price: £121.99

This comprehensive book, of value to researchers in all fields, brings the phage display technique closer to specialists in areas of medicine, science and technology, where phage-derived nanomaterials can be most beneficial.



Titanate and Titania Nanotubes Synthesis, Properties and Applications

Dmitry Bavykin and Frank Walsh, University of Southampton, UK
ISBN: 9781847559104
Price: £87.99

A unique compilation of data from a wide range of chemical and spectroscopic instrumentation and their integration into nanostructure characterisation and a valuable reference point aimed at professionals, postgraduates and industrial research workers in nanomaterials.

Polymer Nanocomposites by Emulsion and Suspension Polymerization

Edited by Vikas Mittal, BASF, Germany
ISBN: 9781847552259
Price: £132.99

Brings together all the research and technologies in the field, provides comprehensive information about one of the most important facets of polymer nanocomposites technology - synthesis in emulsion and suspension. Ideal for the experienced researcher as well as a valuable point of reference for newcomer to the field.

This book series covers the wide ranging areas of Nanoscience and Nanotechnology. In particular, the series provides a comprehensive source of information on research associated with nanostructured materials and miniaturised lab on a chip technologies. Titles are intended to provide an accessible reference for professionals and researchers in academia and industry and all are fully referenced to primary literature.

Series Editors:

Sir Harry W. Kroto, KCB, FRS
Florida State University, USA

Paul O'Brien
Manchester University, UK

Ralph Nuzzo
University of Illinois, USA

New for 2011

Fullerenes: Principles and Applications
NEW Second Edition
Price £144.99 | ISBN 9781849731362

Fully revised and up-dated, written by leading experts in the field the second edition summarises the basic principles of fullerene chemistry but also highlights some of the most remarkable advances that have occurred in recent years. This book will appeal to researchers in both academia and industry.

Biological Interactions with Surface Charge Biomaterials
Price £121.99 | ISBN 9781849731850

This book is the first to comprehensively address the complex phenomenon of biological interactions with the surface charge of biomaterials. Aimed at academics, practitioners and graduate students this book makes a significant contribution to the newly emerging discipline of 'nanomedicine'.

Nanostructured Catalysts
Price £144.99 | ISBN 9780854041862

A comprehensive up-to-date summary of the existing information on the structural/electronic properties, chemistry and catalytic properties of vanadium and molybdenum containing catalysts.

RSC Nanoscience and Nanotechnology Series Package

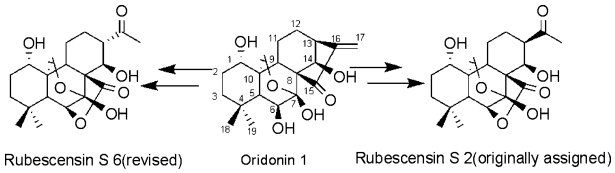
- Includes 10 leading series titles
- Comprehensive source of information
- Cutting-edge developments in research

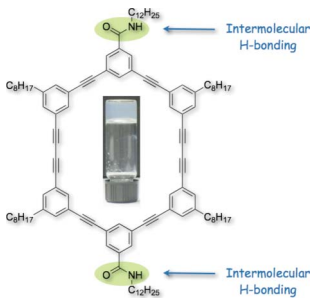
SAVE 35% on the individual purchase price of these leading series titles – purchase as one complete package!

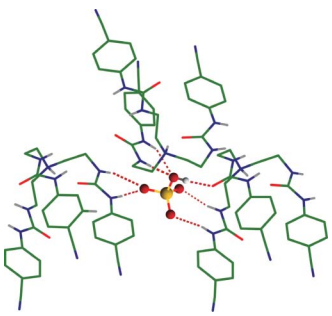
To order any of these titles please email books@rsc.org or visit the website!

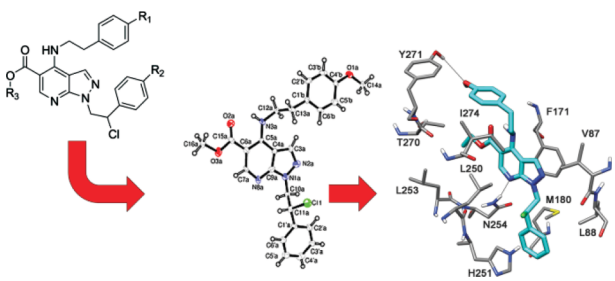
RSC Publishing

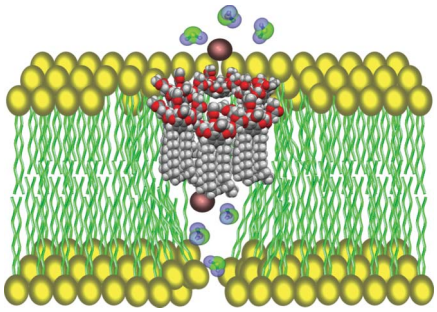
www.rsc.org/nanoscience

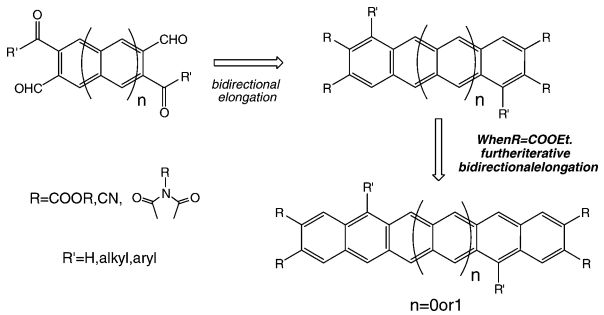


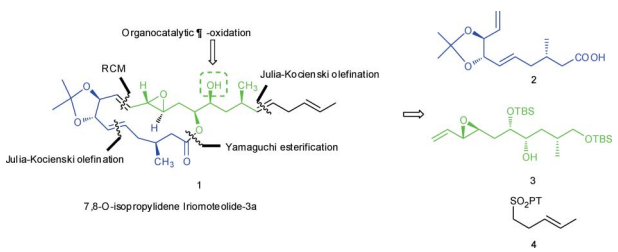


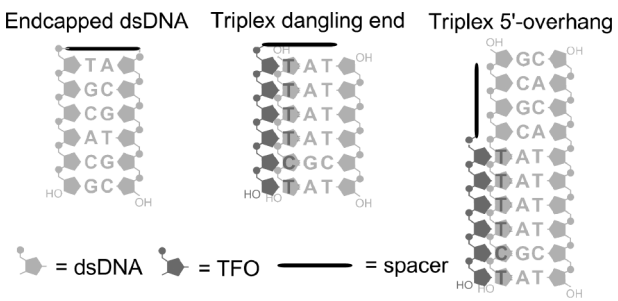












International Symposia on Advancing the Chemical Sciences (ISACS)

Challenges in Chemical Biology (ISACS5)

26-29 July 2011 ● University of Manchester, UK

Topical

Gain a state-of-the-art review of current research developments and identify future challenges in a comprehensive plenary programme.

Interactive

Network with the editors of *Chemical Science* and international colleagues and present your research in the poster sessions.

Dynamic

Hear from a new generation of exceptional, internationally renowned researchers.

New for 2011

We have a limited number of oral presentation slots available at ISACS5. If you are interested in presenting your work at the meeting, visit the website to submit your abstract for consideration by the conference committee.

About ISACS

The International Symposia on Advancing the Chemical Sciences (ISACS) is a significant new global symposia series, supporting the launch of the new RSC flagship journal *Chemical Science*.
Related events include:

Challenges in Renewable Energy (ISACS4)

5-8 July 2011 ● Boston, USA ● www.rsc.org/isacs4

Challenges in Organic Materials & Supramolecular Chemistry (ISACS6)

2-5 September 2011 ● Beijing, China ● www.rsc.org/isacs6

Speakers include

Thomas Steitz, *USA (Nobel Laureate)*
Venki Ramakrishnan, *UK (Nobel Laureate)*
Donna Blackmond, *USA*
Ben Davis, *UK*
Andrew Ellington, *USA*
Hermann Gaub, *Germany*
Reza Ghadiri, *USA*
Nathaneal Gray, *USA*
Andrew Griffiths, *France*
Bartosz A Grzybowski, *USA*
Johan Hofkens, *Belgium*
Philip Holliger, *UK*
Clyde Hutchison, *USA*
Stefan Knapp, *UK*
Stephen Mann, *UK*
David Rees, *UK*
Hugh Rosen, *USA*
William Shih, *USA*
Hiroaki Suga, *Japan*
Erik Winfree, *USA*

Conference Committee

Hagan Bayley, *UK (Conference Chair)*
Benjamin Cravatt, *USA*
Thomas Carell, *Germany*
Nigel Scrutton, *UK*
Sabine Flitsch, *UK*

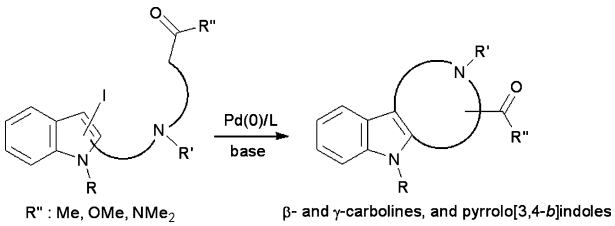
International Year of CHEMISTRY 2011

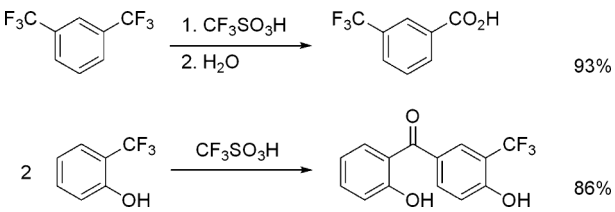
Co-sponsored by:
RSC Chemical Biology Interface Division

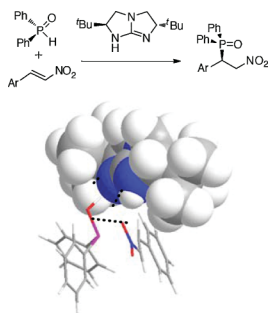
Sign up for news updates and register at:

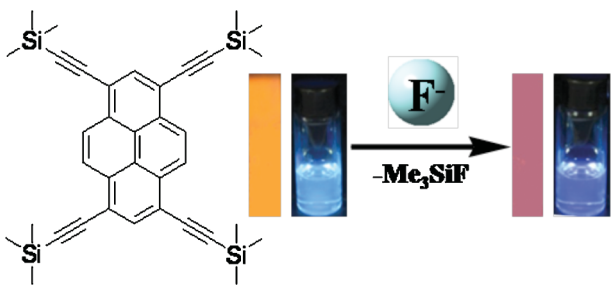
RSC | Advancing the Chemical Sciences

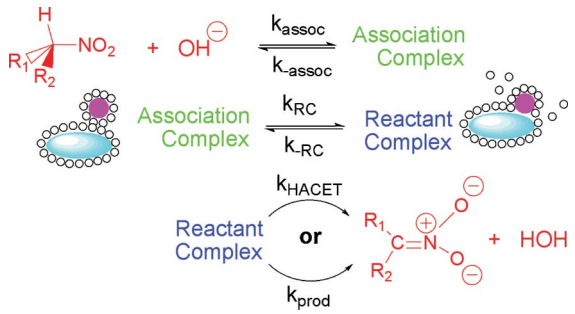
www.rsc.org/isacs5







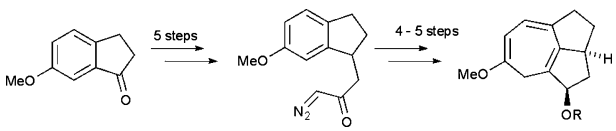




Reactions of the simple nitroalkanes with hydroxide ion in water. Evidence for a complex mechanism

Zhao Li, Jin-Pei Cheng* and Vernon D. Parker*

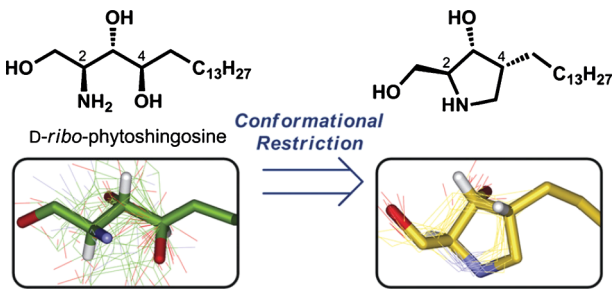
Intermediates were observed during the complex proton transfer reactions of the simple nitroalkanes, the basis for the "Nitroalkane Anomaly".



Synthesis of novel molecular probes inspired by harringtonolide

Vinayak Hegde, Marc Campitelli, Ronald J. Quinn and David Camp*

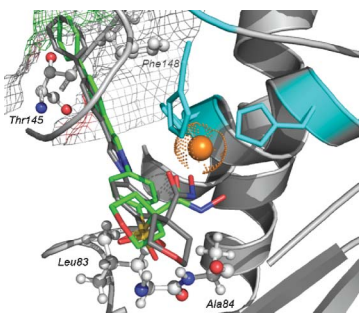
A novel scaffold inspired by the unusual and highly complex natural product, harringtonolide, has been synthesised and enumerated into a small library of derivatives.



Design and synthesis of pyrrolidine-containing sphingomimetics

Seokwoo Lee, Sukjin Lee, Hyen Joo Park, Sang Kook Lee and Sanghee Kim*

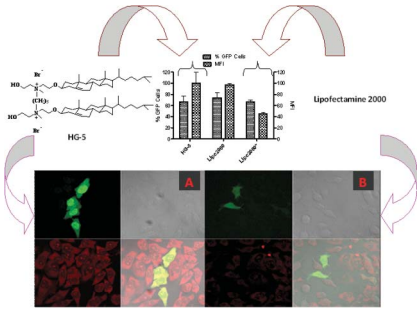
This paper describes conformationally constrained sphingomimetics in which a pyrrolidine moiety is incorporated between the 2-amino group and the C-4 carbon atom of the sphingoid base.

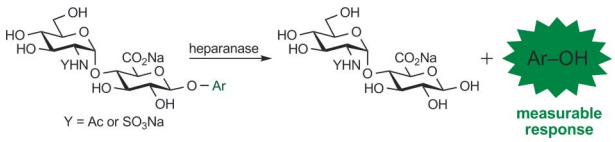


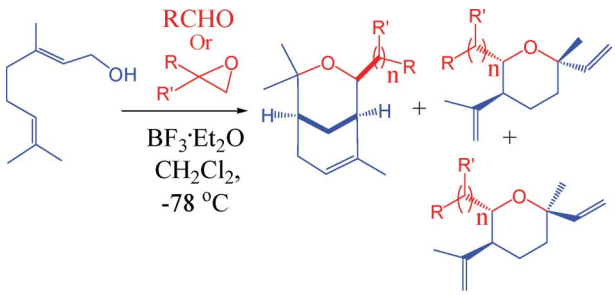
Potent "Clicked" MMP2 Inhibitors: Synthesis, Molecular Modeling and Biological Exploration

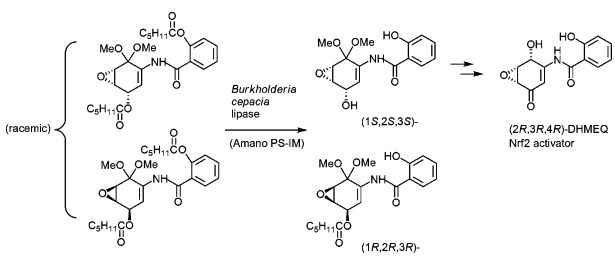
Jose María Zapico, Pilar Serra, Josune García-Sanmartín, Kamila Filipiak, Rodrigo J. Carbajo, Anne K. Schott, Antonio Pineda-Lucena, Alfredo Martínez, Sonsoles Martín-Santamaría, Beatriz de Pascual-Teresa* and Ana Ramos*

Potent hydroxamate MMP2 inhibitors have been discovered making use of molecular modelling techniques, click chemistry, inhibition assays and NMR experiments.









RSC Advances

An international journal to further the chemical sciences

RSC Advances is a new peer-reviewed journal covering all the chemical sciences, including interdisciplinary fields. Published articles will report high quality, well-conducted research that adds to the development of the field.

- Submissions now open – first issue mid-2011
- An expert editorial team led by Professor Mike Ward, University of Sheffield, UK
- Free access to all content throughout 2011 and 2012
- Free colour, no page charges
- Published online only

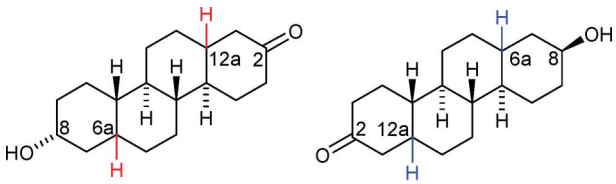
Go online today

RSC Publishing

www.rsc.org/advances

Registered Charity Number 207890

4685



The use of symmetry in enantioselective synthesis: Four pairs of chrysene enantiomers prepared from 19-nortestosterone

Eva Stastna, Nigam P. Rath and Douglas F. Covey*

Four optically pure 2,8-difunctionalized hexadecahydrochrysene diastereomers, and their corresponding optically pure enantiomers were prepared from 19-nortestosterone.

