ChemComm

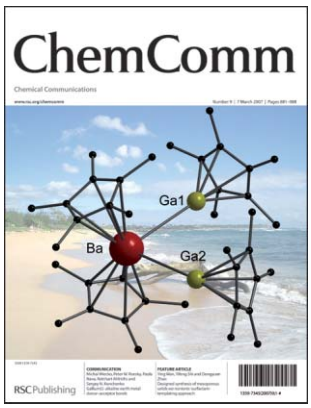
Chemical Communications

www.rsc.org/chemcomm

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

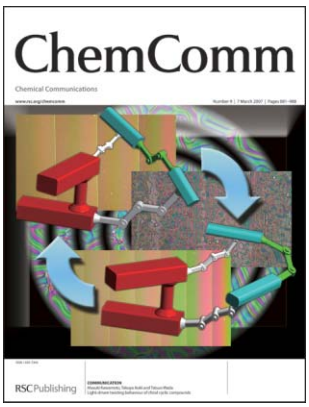
IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS (9) 881–988 (2007)



Cover

See P. W. Roesky *et al.*, p. 927.
The picture shows the structure of the trimetallic compound $[(\eta^5\text{-}C_5Me_5)_2Ba\text{–}\{Ga(\eta^5\text{-}C_5Me_5)\}_2]$, which is the first molecular species with a Ga–Ba–interaction.
Image reproduced by permission of Michal Wiecko, Peter W. Roesky, Paola Nava, Reinhart Ahlrichs and Sergey N. Konchenko from *Chem. Commun.*, 2007, 927.



Inside cover

See Masuki Kawamoto, Takuya Aoki and Tatsuo Wada, page 930.
A dynamic control of alignment of liquid crystals with the aid of light-driven twisting of chiral cyclic compounds.
Image reproduced by permission of Masuki Kawamoto, Takuya Aoki and Tatsuo Wada from *Chem. Commun.*, 2007, 930.

CHEMICAL BIOLOGY

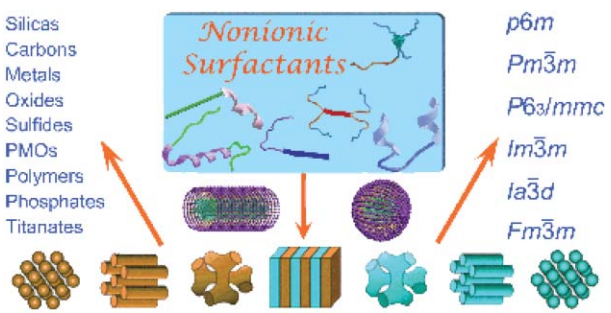
Drawing together research highlights and news from all RSC publications, *Chemical Biology* provides a 'snapshot' of the latest developments in chemical biology, showcasing newsworthy articles and significant scientific advances.

Chemical Biology

March 2007/Volume 2/Issue 3

www.rsc.org/chemicalbiology

FEATURE ARTICLE



Chemical Communications (print: ISSN 1359-7345; electronic: ISSN 1364-548X) is published 48 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

2007 Annual (print + electronic) subscription price: £1832; US$3462. 2007 Annual (electronic) subscription price: £1649; US$3116. 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 Chemical Communications, c/o Mercury Airfreight International Ltd., 365 Blair Road, Avenel, NJ 07001. All despatches outside the UK by Consolidated Airfreight. PRINTED IN THE UK

ChemComm

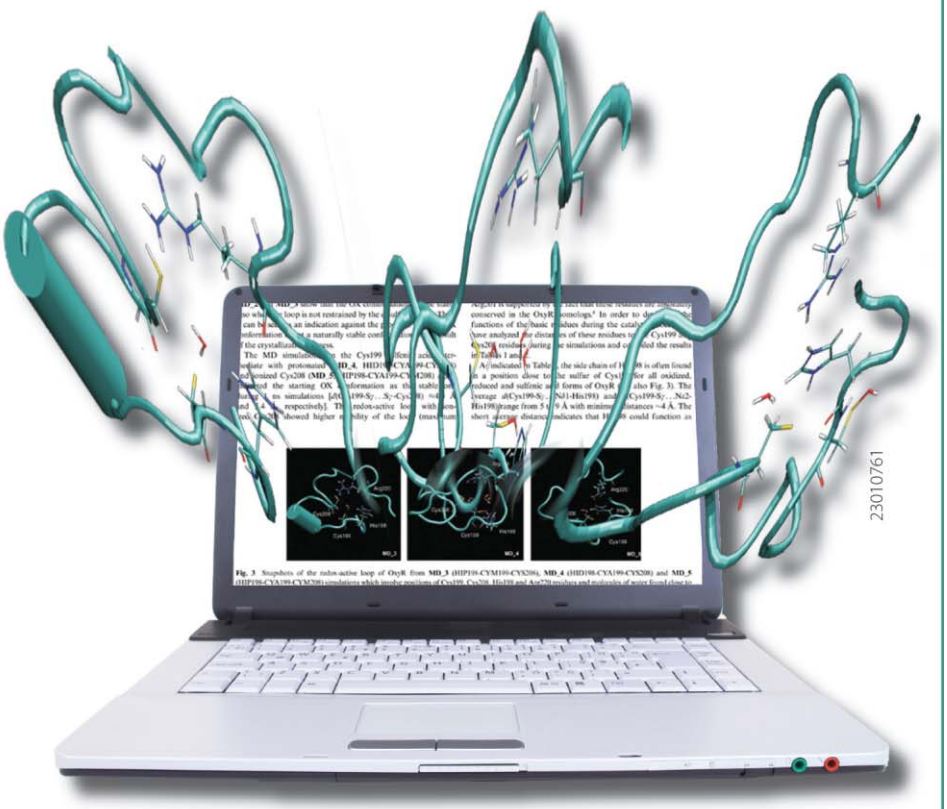
Chemical Communications

www.rsc.org/chemcomm

♾ The paper used in this publication meets the requirements of ANSI/NISO Z39.48–1992 (Permanence of Paper).

Royal Society of Chemistry: Registered Charity No. 207890.

See Science Come Alive



Introducing Project Prospect

Scientists trawling through the thousands of research papers published every month must wish their computer could do the job for them. This could soon be a reality thanks to **Project Prospect**, an initiative developed by RSC Publishing together with academic partners. Readers can click on named compounds and scientific concepts in an electronic journal article to download structures, understand topics, or link through to electronic databases. Powerful functionality instantly helps researchers to find, understand and share (bio)chemical knowledge with each other quicker than ever before. See the science in journal articles *come alive*: visit the **Project Prospect** website for FAQs, examples, contact information and latest news.

Features include

IUPAC Gold Book terms linked

Hyperlinked compound information in text

Ontology terms linked to definitions and related papers

RSS feeds with ontology terms and compound structures

Benefits

Completely free service

At a glance HTML view with additional features accessed by toolbox

Downloadable compound structures

Printer friendly

RSC Publishing

www.projectprospect.org

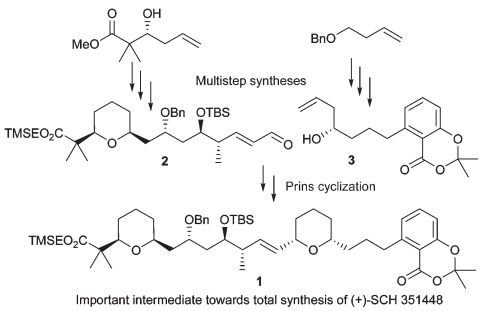
Registered Charity Number 207890

939

Formal synthesis of (+)-SCH 351448: the Prins cyclization approach

Kok-Ping Chan, Yvonne Hui Ling and Teck-Peng Loh*

An efficient synthesis of the monomeric unit of (+)-SCH 351448 has been accomplished using catalytic Prins cyclization as one of the key steps. The convergence of two complex molecular fragments yielded the monomeric unit as a single isomer, illustrating a straightforward and efficient formal synthesis route.

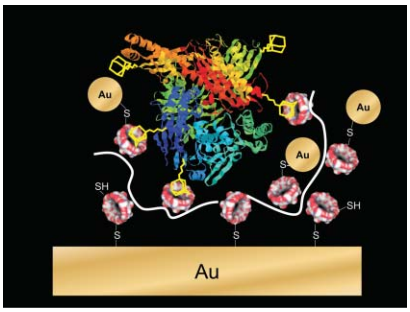


942

Amperometric biosensor for xanthine with supramolecular architecture

Reynaldo Villalonga,* Conrado Camacho, Roberto Cao, Javier Hernández and Juan C. Matías

A novel non covalent strategy for preparing an enzyme biosensor with supramolecular architecture is described, based on the host–guest associations of chemically modified xanthine oxidase with Au nanoparticles coated with a β-cyclodextrin polymer.

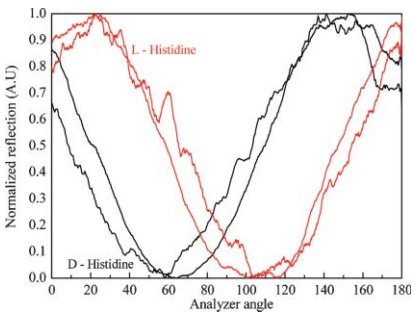


945

Sub-micrometer polarimetry of chiral surfaces using near-field scanning optical microscopy

David H. Dressler, Asher Landau, Arie Zaban and Yitzhak Mastai*

In this work we have studied the optical activity of chiral crystal surfaces with polarized near-field scanning optical microscopy (NSOM). Our studies clearly demonstrated that NSOM can be utilized to determine chirality of surfaces. The sensitivity of this method allows us to measure chirality of nanostructures.

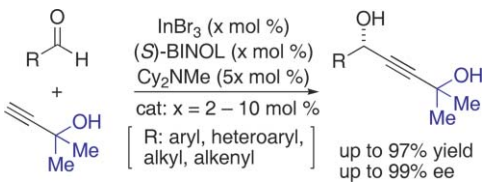


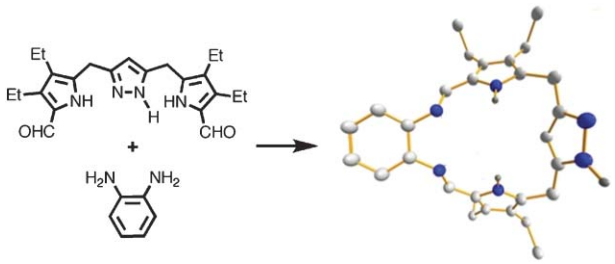
948

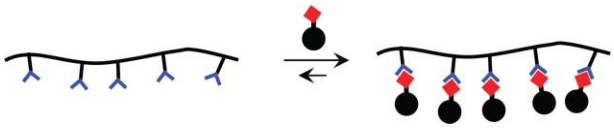
Ligand accelerated indium(III)-catalyzed asymmetric alkynylation of aldehydes with 2-methyl-3-butyn-2-ol as an ethyne equivalent donor

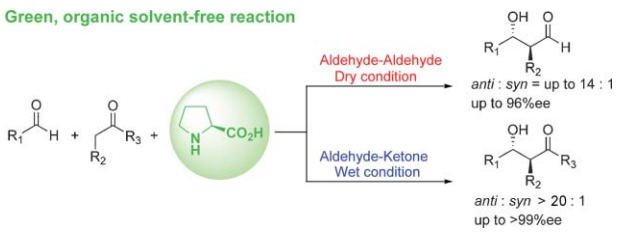
Shinji Harada, Ryo Takita, Takashi Ohshima, Shigeki Matsunaga and Masakatsu Shibasaki*

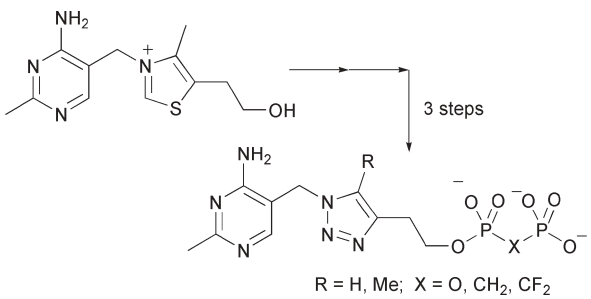
Indium(III)-catalyzed asymmetric alkynylation of aryl, heteroaryl, alkyl and alkenyl aldehydes with 2-methyl-3-butyn-2-ol as an ethyne equivalent donor was realized, giving products in up to 97% yield and 99% ee.



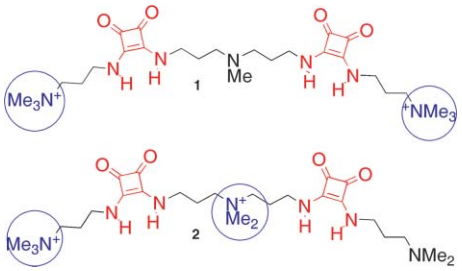








963

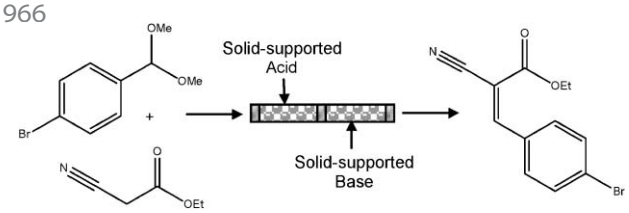


Evidence of anion-induced dimerization of a squaramide-based host in protic solvents

M. Neus Piña, Carmen Rotger,* Bartomeu Soberats, Pablo Ballester, Pere M. Deyà and Antoni Costa*

The combination of squaramide units with tetraalkylammonium groups leads to two hosts that bind distinctively dianions in water–ethanol mixtures. The formation of complexes of 2 : 1 stoichiometry with host **2** was supported by ITC, fluorescence, and ^{1}H NMR data.

966

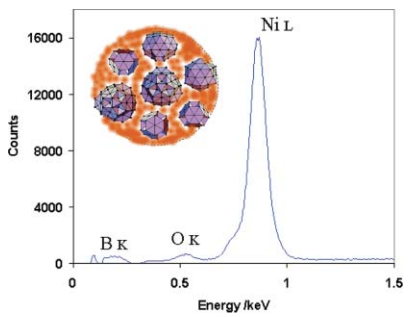


The use of electroosmotic flow as a pumping mechanism for semi-preparative scale continuous flow synthesis

Charlotte Wiles, Paul Watts* and Stephen J. Haswell

Employing a series of acid- and base-catalysed reactions, electroosmotic flow is shown as a continuous pumping mechanism suitable for semi-preparative scale synthesis, affording an array of small organic compounds in analytical purity.

969

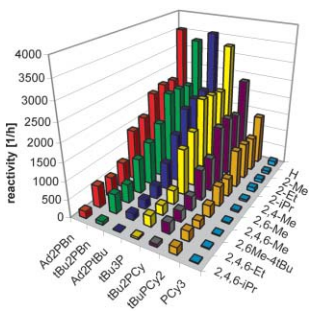


The unusual nanostructure of nickel–boron catalyst

Junfeng Geng,* David A. Jefferson and Brian F. G. Johnson*

A highly unusual nanostructure of the nickel–boron particulate material, initially synthesised in the 1950s and well known to be an exceedingly active hydrogenation catalyst, has been identified for the first time.

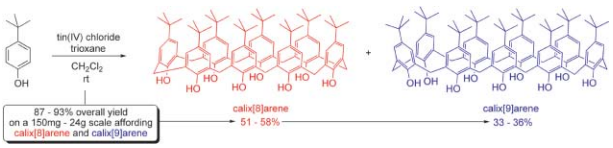
972

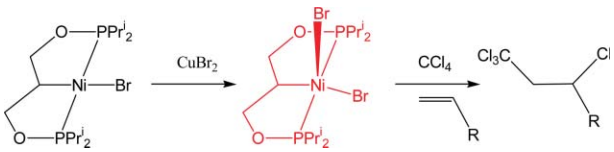


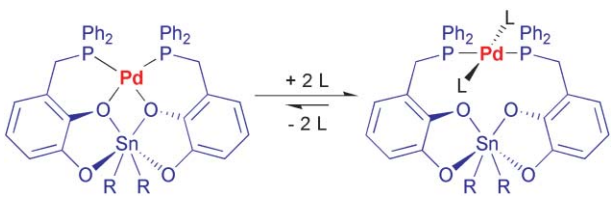
The effect of steric bulk in Sonogashira coupling reactions

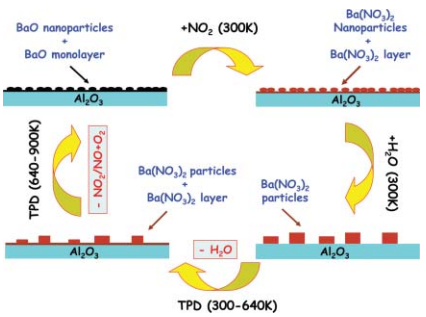
Markus an der Heiden and Herbert Plenio*

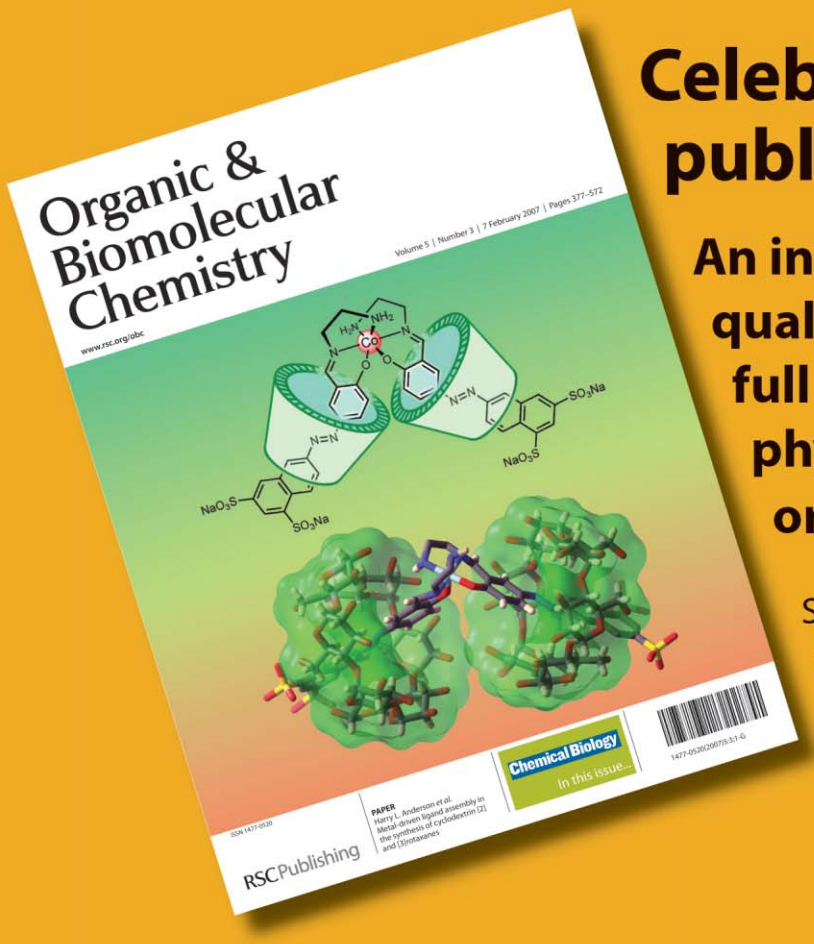
Parallel multisubstrate screening allows the fast collection of kinetic data, whose evaluation ultimately leads to a better understanding of cross-coupling reactions.











Celebrating 5 years of publishing

An international, high quality journal covering the full breadth of synthetic, physical and biomolecular organic chemistry.

See for yourself - examples of articles are listed below.

For further details and free access to the whole of Issue 1, visit **www.rsc.org/obc**

Perspective

Density functional theory with dispersion corrections for supramolecular structures, aggregates, and complexes of (bio)organic molecules

Stefan Grimme, Germany

Emerging Area

Micro reactors: a new tool for the synthetic chemist

Paul Watts, UK

Advanced organic synthesis using microreactor technology

Thomas Wirth, UK

Communications

Virtually epimerization-free synthesis of peptide-alpha-thioesters

Katja Michael, USA

A microwave enhanced cross-metathesis approach to peptidomimetics

Stephen Caddick, UK

Articles

Synthesis of cyclic bis- and trismelamine derivatives and their complexation properties with barbiturates

Shin-ichi Kondo, Japan

Synthesis of DOTA-conjugated multivalent cyclic-RGD peptide dendrimers *via* 1,3-dipolar cycloaddition and their biological evaluation: implications for tumor targeting and tumor imaging purposes

Rob Liskamp, The Netherlands

Structure and folding dynamics of a DNA hairpin with a stabilising d(GNA) trinucleotide loop: influence of base pair mis-matches and point mutations on conformational equilibria

Mark Searle, UK

Using singlet oxygen to synthesise a [6,6,5]-bis-spiroketal in one-pot from a simple 2,5-disubstituted furan

Georgios Vassilikogiannakis, Greece

RSC Publishing **www.rsc.org/obc**

AUTHOR INDEX

FREE E-MAIL ALERTS AND RSS FEEDS

Contents lists in advance of publication are available on the web *via* www.rsc.org/chemcomm – or take advantage of our free e-mail alerting service (www.rsc.org/ej_alert) to receive notification each time a new list becomes available.

Try our RSS feeds for up-to-the-minute news of the latest research. By setting up RSS feeds, preferably using feed reader software, you can be alerted to the latest Advance Articles published on the RSC web site. Visit www.rsc.org/publishing/technology/rss.asp for details.

ADVANCE ARTICLES AND ELECTRONIC JOURNAL

Free site-wide access to Advance Articles and electronic form of this journal is provided with a full-rate institutional subscription. See www.rsc.org/ejs for more information.

* Indicates the author for correspondence: see article for details.

Electronic supplementary information (ESI) is available *via* the online article (see http://www.rsc.org/esi for general information about ESI).