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Cover

See Jason S. Fisk, Robert A. Mosey and Jetze J. Tepe, page 1432. The cover illustrates arc welding, which was discovered in the early 20th century as a reliable and inexpensive method to join and construct materials. Image reproduced by permission of Wikipedia, <http://en.wikipedia.org/wiki/Welding>.



Inside cover

See Yun Chi and Pi-Tai Chou, page 1421. Emissive Ru(II) complexes are one of the focuses in this review. The Ru(II) atomic weight of 101 symbolizes the world's tallest skyscraper Taipei 101. Image reproduced by permission of Yun Chi and Pi-Tai Chou from *Chem. Soc. Rev.*, 2007, **36**, 1421.

CHEMICAL SCIENCE

C65

Drawing together the research highlights and news from all RSC publications, *Chemical Science* provides a 'snapshot' of the latest developments across the chemical sciences showcasing newsworthy articles, as well as the most significant scientific advances.

Chemical Science

September 2007/Volume 4/Issue 9

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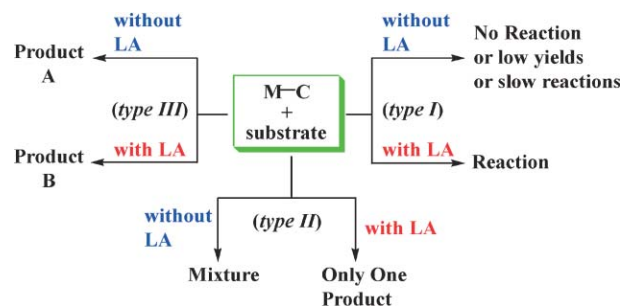
TUTORIAL REVIEW

1395

Co-operative effect of Lewis acids with transition metals for organic synthesis

Congyang Wang and Zhenfeng Xi*

Cooperation of the transition metal-mediated synthetic protocol with the Lewis acid-mediated organic transformation results in powerful synthetic methodologies.



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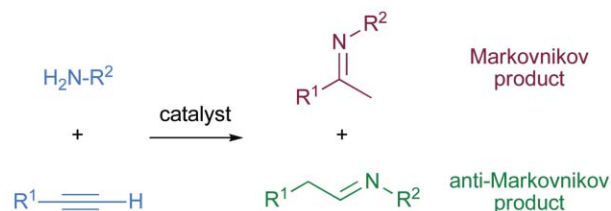
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1407

The catalytic hydroamination of alkynes

René Severin and Sven Doye*

The catalytic intermolecular hydroamination of alkynes:
A powerful tool for synthetic organic chemists.

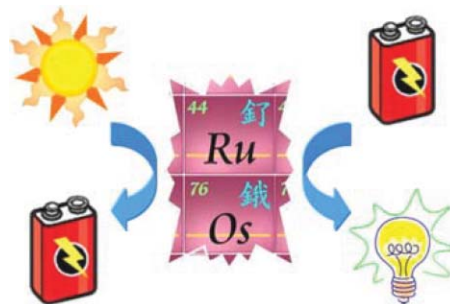


1421

Contemporary progresses on neutral, highly emissive Os(II) and Ru(II) complexes

Yun Chi* and Pi-Tai Chou*

Rational designs of neutral, highly luminescent Os(II) and Ru(II) complexes are given; these complexes not only are well suited for various fundamental investigations, but also have potential in extending toward applications such as OLEDs, optical communication and photovoltaic systems, etc.

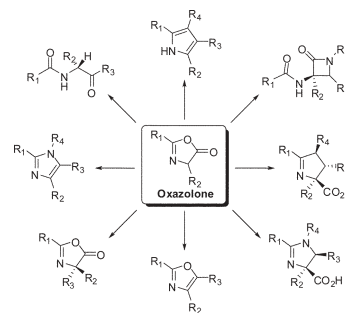


1432

The diverse chemistry of oxazol-5-(4H)-ones

Jason S. Fisk, Robert A. Mosey and Jetze J. Tepe*

This tutorial review aims to summarize some of the more recent applications of oxazolones as a general template for the stereoselective syntheses of amino acids and heterocyclic scaffolds.

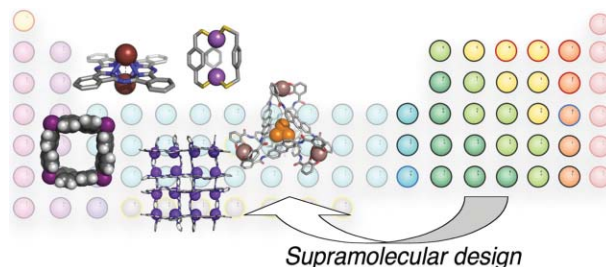


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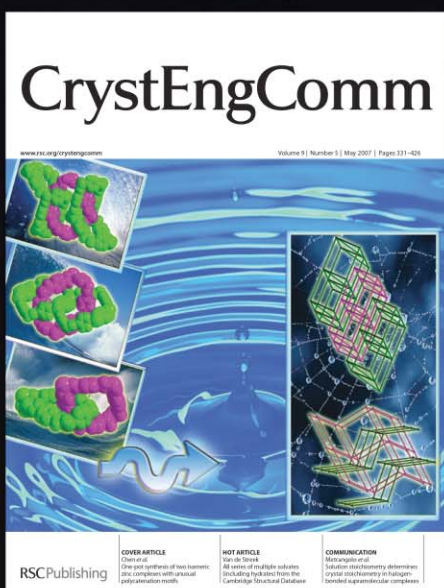
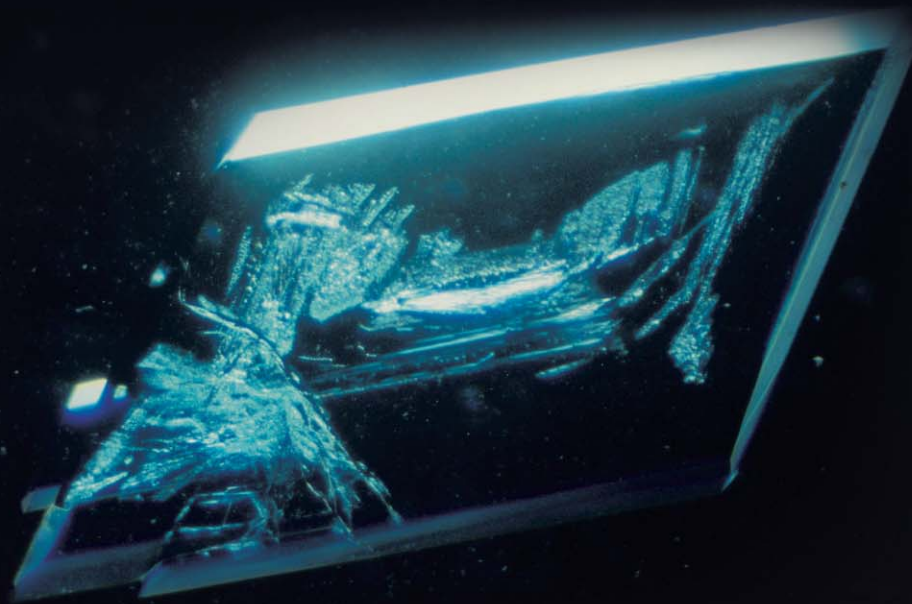
Main group supramolecular chemistry

Melanie A. Pitt and Darren W. Johnson*

Supramolecular chemistry has expanded to include the use of main group elements as directing forces for self-assembly—highlights in this area are reviewed.



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1454

Functional inorganic nanofillers for transparent polymers

H. Althues, J. Henle and S. Kaskel*

Integrating inorganic nanoparticles and their optical functions into transparent polymers offers a great potential in the development of new hybrid materials, bulk polymers, functional films, coatings and in devices.

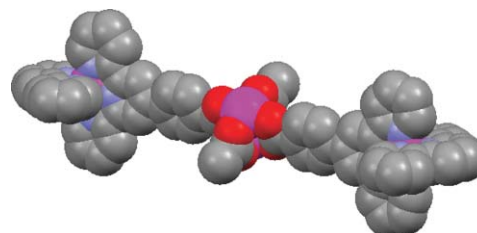


1466

Luminescent polynuclear assemblies

Michael W. Cooke and Garry S. Hanan*

Luminescent polynuclear arrays self-assembled by metal ion coordination display a variety of optoelectronic properties.



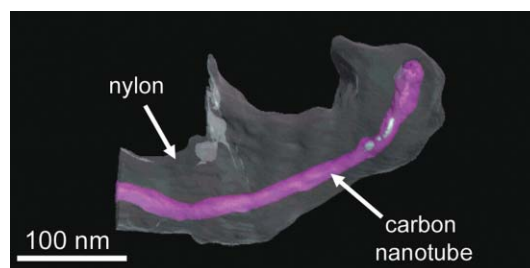
CRITICAL REVIEWS

1477

Nanotomography in the chemical, biological and materials sciences

Paul A. Midgley,* Edmund P. W. Ward, Ana B. Hungria and John Meurig Thomas*

Nanotomography reveals shape, size, distribution and elemental composition for three-dimensional nanoscale investigations of key structures in the chemical, biological and materials sciences.

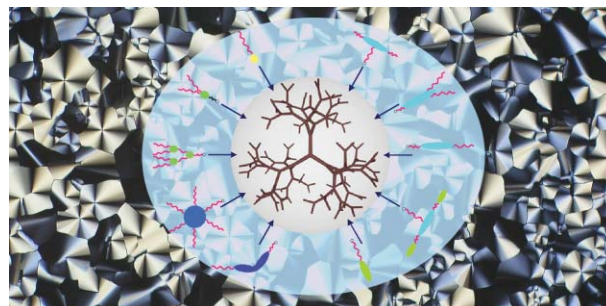


1495

Liquid crystalline dendrimers

Bertrand Donnio,* Saiwan Buathong, Izabela Bury and Daniel Guillon

This *critical review* focuses on the advances in the field of LC dendrimers. Conceptually different synthetic strategies have been developed, leading to distinct families of LC dendrimers. The mesophases types and structures are discussed in relation to the dendritic supermolecular architectures.



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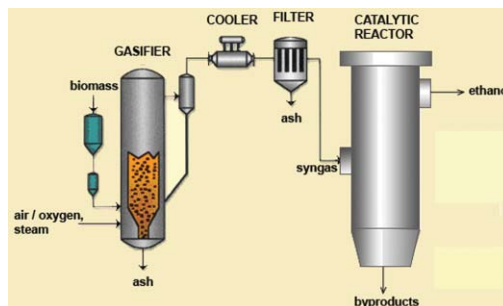
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1514

Heterogeneous catalytic synthesis of ethanol from biomass-derived syngas

James J. Spivey* and Adefemi Egbebi

The conversion of gasified biomass to ethanol requires an active and selective catalyst that reacts the clean syngas to ethanol. Rh-based catalysts have been the most widely studied.



ADDITION AND CORRECTION


1529

What do we need for a superhydrophobic surface? A review on the recent progress in the preparation of superhydrophobic surfaces

Xue-Mei Li, David Reinhoudt and Mercedes Crego-Calama

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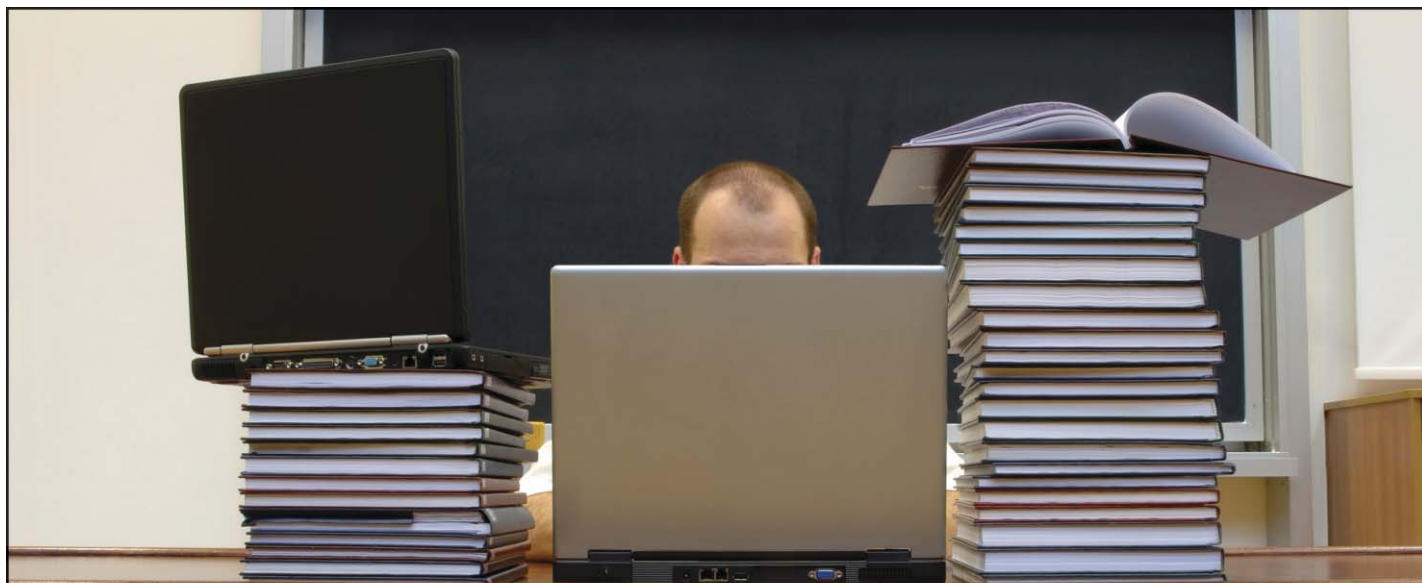
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