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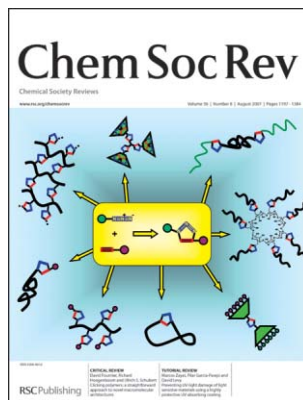
IN THIS ISSUE

ISSN 0306-0012 CODEN CSRVBR 36(8) 1197–1384 (2007)



Cover

See Pavel Matousek, page 1292. Non-invasive characterisation of human bones *in vivo* using Spatially Offset Raman Spectroscopy (SORS). Image reproduced by permission of Pavel Matousek from *Chem. Soc. Rev.*, 2007, 36, 1292.



Inside cover

See David Fournier, Richard Hoogenboom and Ulrich S. Schubert, page 1369. The combination of click chemistry and living/controlled polymerization techniques provides an ideal platform for the construction of complex well-defined macromolecular architectures. Image reproduced by permission of David Fournier, Richard Hoogenboom and Ulrich S. Schubert from *Chem. Soc. Rev.*, 2007, 36, 1369.

CHEMICAL SCIENCE

C57

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

August 2007/Volume 4/Issue 8

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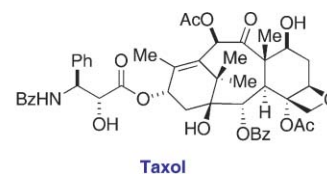
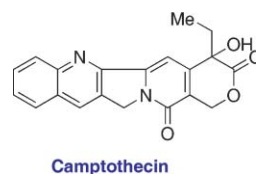
TUTORIAL REVIEWS

1207

Applications of total synthesis toward the discovery of clinically useful anticancer agents

Rebecca M. Wilson and Samuel J. Danishefsky*

The paper describes efforts at synthesizing small molecule natural products of promising antitumor activity.



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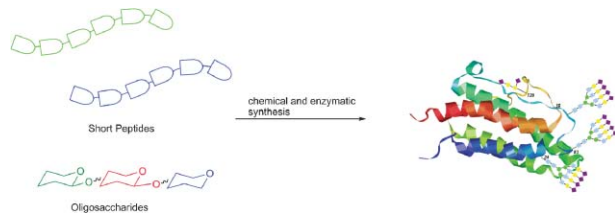
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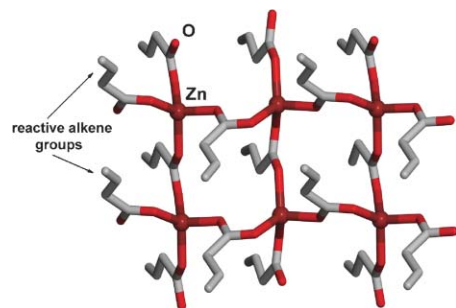


Chemoenzymatic approaches to glycoprotein synthesis

Clay S. Bennett and Chi-Huey Wong*

The synthesis of homogeneous glycoproteins is a challenging endeavor, this review describes methods for chemical and enzymatic glycoprotein synthesis.

1239

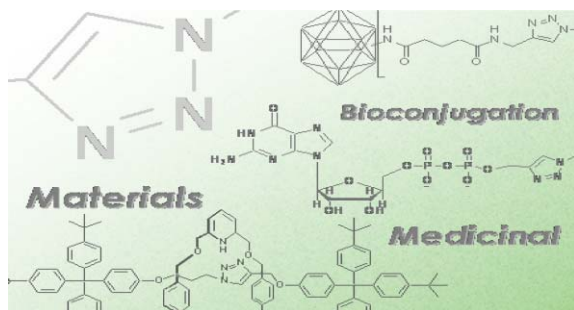


Metal-mediated reactivity in the organic solid state: from self-assembled complexes to metal-organic frameworks

Ivan G. Georgiev and Leonard R. MacGillivray*

The synergy of metal-ions and the solid state to dictate organic reactivity is revealed.

1249

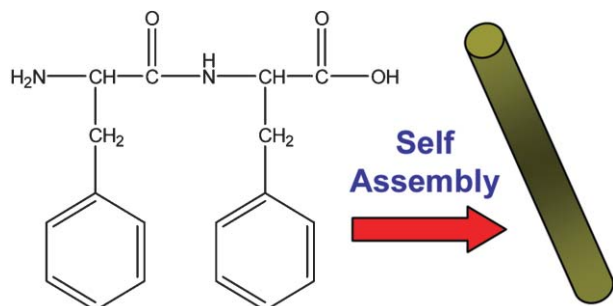


The growing applications of click chemistry

John E. Moses and Adam D. Moorhouse

There has been an explosive growth in publications describing a wealth of applications of click chemistry. This tutorial review is intended to highlight key areas where click chemistry has had significant impact.

1263



Self-assembled peptide nanostructures: the design of molecular building blocks and their technological utilization

Ehud Gazit*

The process and applications of peptide self-assembly into nanotubes, nanospheres, nanofibrils, nanotapes, and other ordered structures at the nano-scale are discussed.

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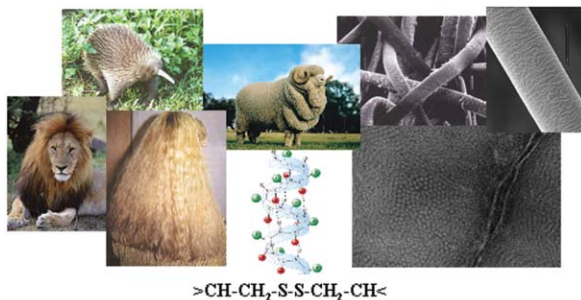


Preventing UV-light damage of light sensitive materials using a highly protective UV-absorbing coating

Marcos Zayat, Pilar Garcia-Parejo and David Levy*

Highly transparent UV protective coatings prepared by the Sol-Gel route allow protection of light sensitive materials against damaging UV-radiation

1282

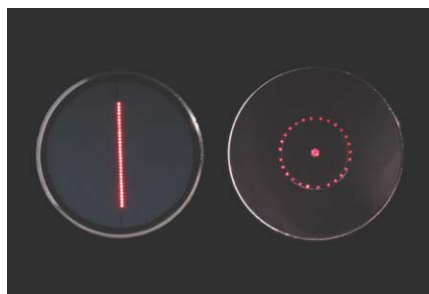


Hair—the most sophisticated biological composite material

Crisan Popescu and Hartwig Höcker*

Hair represents a fascinating protein composite material with strongly hierarchical morphology comprising smart chemistry and resulting in surprising physical properties.

1292

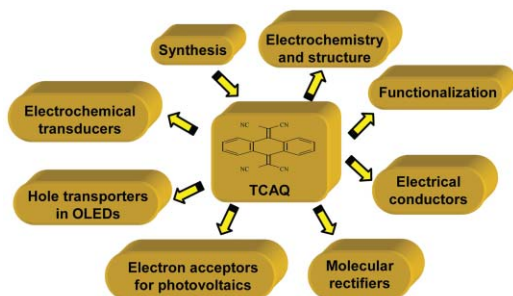


Deep non-invasive Raman spectroscopy of living tissue and powders

Pavel Matousek

Emerging Raman spectroscopy approaches for deep probing of turbid media with applicability in disease diagnosis, pharmaceutical quality control and security screening.

1305



The first two decades of a versatile electron acceptor building block: 11,11,12,12-tetracyano-9,10-anthraquinodimethane (TCAQ)

Rafael Gómez, Carlos Seoane and José L. Segura*

The creativity and inventiveness of chemists working with the 11,11,12,12-tetracyano-9,10-anthraquinodimethane (TCAQ) building block is highlighted in this review.



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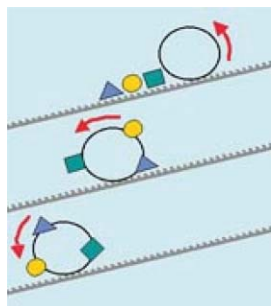


A set up of a modern analytical laboratory for wastewaters from pulp and paper industry

Natalia Maximova* and Olli Dahl

The diversity of fundamental phenomena and the captivating elegance of interdisciplinary applications involved in the development of wastewater analytical techniques attracts the interest of a wide scientific audience.

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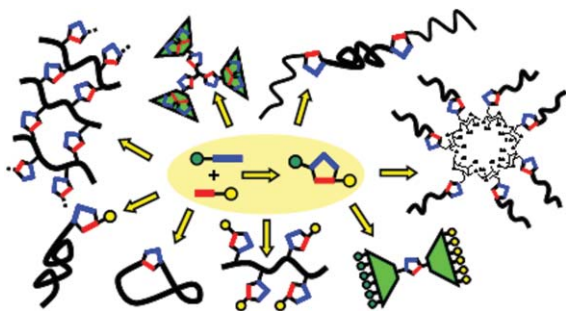


What do we need for a superhydrophobic surface? A review on the recent progress in the preparation of superhydrophobic surfaces

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

From lotus leaves to a water strider's leg, what makes them so interesting? Superhydrophobicity and self-cleaning properties.

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Clicking polymers: a straightforward approach to novel macromolecular architectures

David Fournier, Richard Hoogenboom and Ulrich S. Schubert*

This *critical review* illustrates how click chemistry has revolutionized the synthesis of novel functional macromolecular architectures.

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