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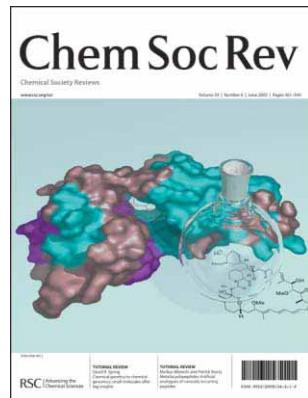
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Cover

See David R. Spring, p. 472. The chemistry – biology interface. The image includes the structure of rapamycin, the potent immunosuppressive natural product, and its ternary crystal structure with the two proteins: FK506-binding protein (FKBP-12) and the FKBP-rapamycin-associated protein (FRAP). Front cover image reproduced by permission of Dr. David R. Spring, *Chem. Soc. Rev.*, 2005, **34**, 472.

CHEMICAL SCIENCE

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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

June 2005/Volume 2/Issue 6

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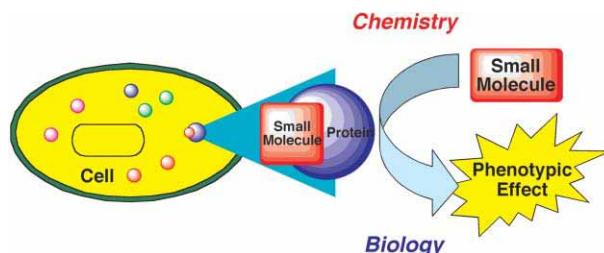
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Chemical genetics to chemical genomics: small molecules offer big insights

David R. Spring*

Chemical genetics involves using small molecules to explore biology. Find out how chemistry can be used to help solve complex biological problems.



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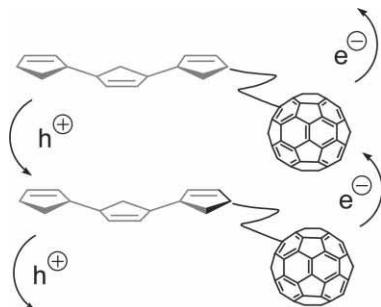
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Linear π -conjugated systems derivatized with C_{60} -fullerene as molecular heterojunctions for organic photovoltaics

Jean Roncali

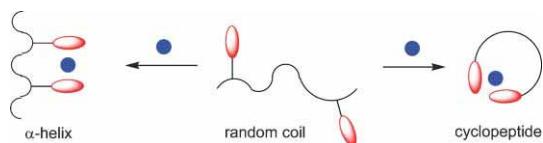
C_{60} -derivatized π -conjugated polymers and oligomers designed as active materials for the fabrication of single component organic photovoltaic devices are reviewed.



Metallacyclopeptides: Artificial analogues of naturally occurring peptides

Markus Albrecht and Patrick Stortz

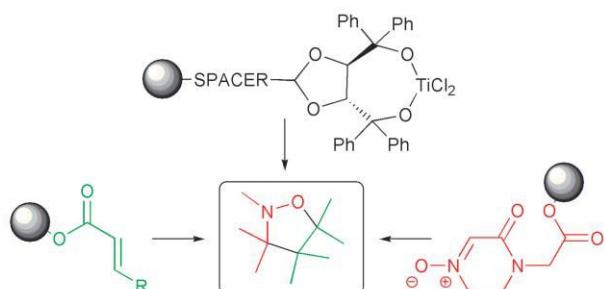
Metal-coordination is a valuable tool for the stabilization of peptide structures in artificial as well as natural systems.



1,3-Dipolar cycloaddition on solid supports: nitrone approach towards isoxazolidines and isoxazolines and subsequent transformations

Karola Rück-Braun,* Tonia H. E. Freysoldt and Frank Wierschem

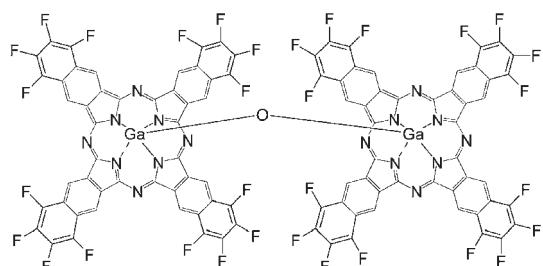
Information on intra- and intermolecular reactions, alkene vs. nitrone immobilisation, reactions promoted by high pressure or for example, the use of polymer-bound catalysts.

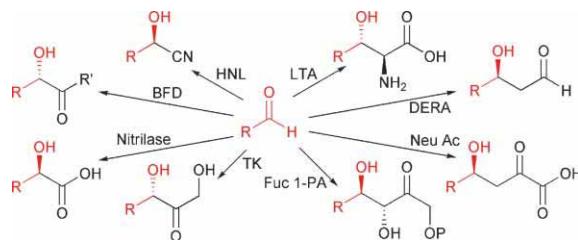


Axially modified gallium phthalocyanines and naphthalocyanines for optical limiting

Yu Chen,* Michael Hanack, Yasuyuki Araki and Osamu Ito

Substitution and dimerization of the phthalocyanine monomer resulted in significant reductions in the saturation energy density of the material displaying clear evidence of the usefulness of structurally modifying the gallium phthalocyanine unit. The current series presents a selection of structural modifications useful for varying their nonlinear optical properties.





Enantioselective C–C bond synthesis catalysed by enzymes

Joly Sukumaran and Ulf Hanefeld*

The enantioselective synthesis of C–C bonds is a major challenge in organic chemistry. This review describes straightforward approaches for these syntheses. All of them are catalysed by enzymes, proceed under mild conditions and are readily performed.

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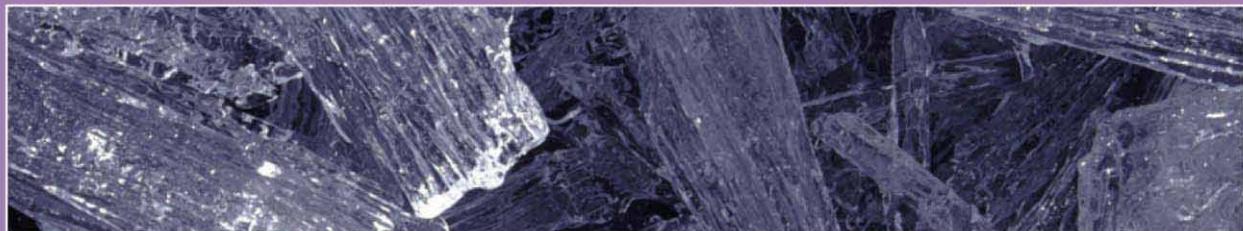
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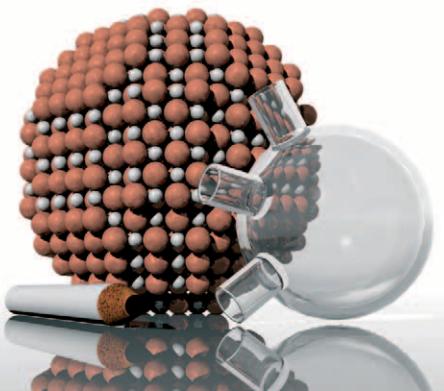
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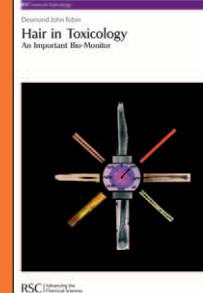
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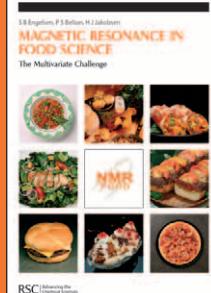
Geoffrey A Ozin & André Arsenault



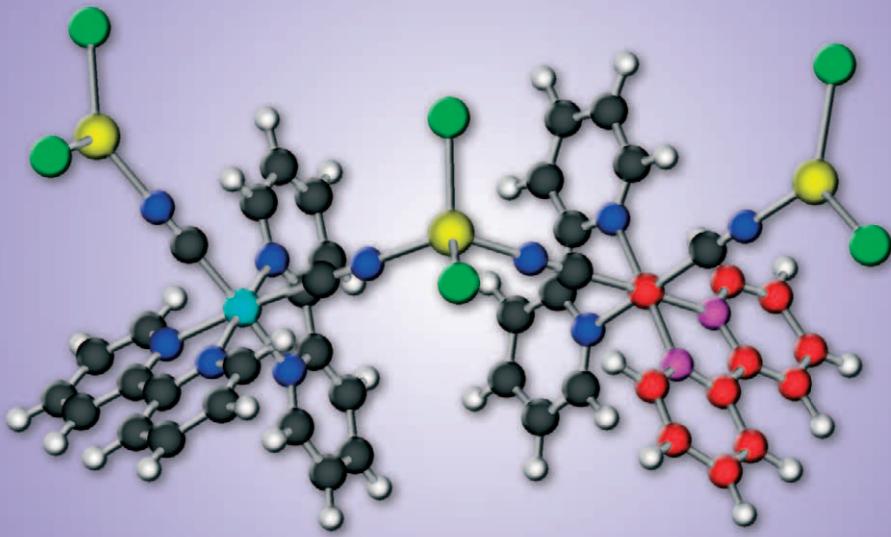
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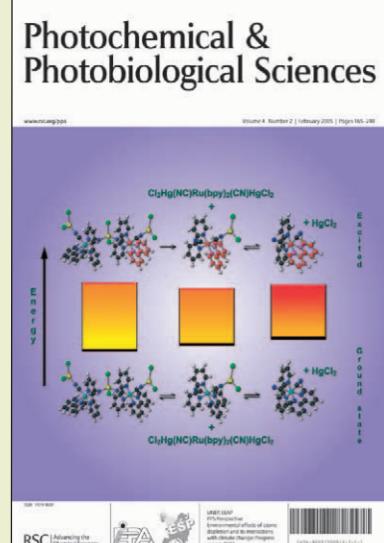
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