

# Chem Soc Rev

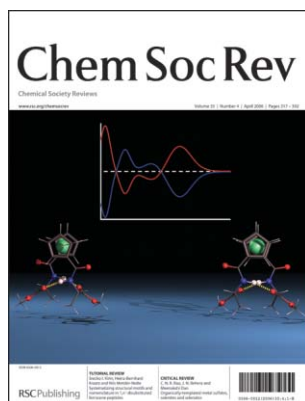
Chemical Society Reviews

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## IN THIS ISSUE

ISSN 0306-0012 CODEN CSRVBR 35(4) 317–392 (2006)



### Cover

See Srećko I. Kirin, Heinz-Bernhard Kraatz and Nils Metzler-Nolte, page 348. The cover artwork shows helically chiral ferrocene-peptide conjugates that provide new and unusual hydrogen bonding patterns and serve as novel peptide mimetics. Image reproduced by permission of Srećko I. Kirin, Heinz-Bernhard Kraatz and Nils Metzler-Nolte from *Chem. Soc. Rev.*, 2006, 35, 348.



### Inside cover

See T. J. Wallington, E. W. Kaiser and J. T. Farrell, page 335. A chemical perspective on the production, combustion, and environmental aspects of automotive fuels is provided by research scientists at Ford Motor Company and ExxonMobil. Image reproduced by permission of T. J. Wallington, E. W. Kaiser, and J. T. Farrell from *Chem. Soc. Rev.*, 2006, 35, 335.

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C25

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

April 2006/Volume 3/Issue 4

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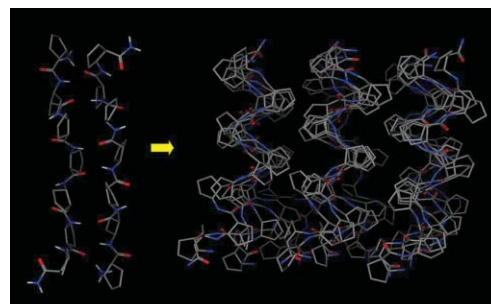
## TUTORIAL REVIEWS

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### Application of alicyclic $\beta$ -amino acids in peptide chemistry

Ferenc Fülöp,\* Tamás A. Martinek and Gábor K. Tóth

The self-organizing  $\beta$ -peptide secondary structures can be controlled *via* the  $\beta$ -amino acid sequence, and cyclic  $\beta$ -amino acid residues play a crucial role in the design.



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### Automotive fuels and internal combustion engines: a chemical perspective

T. J. Wallington, E. W. Kaiser and J. T. Farrell

Automotive fuels are an important part of modern life. Their chemistry is described by research scientists at ExxonMobil and Ford Motor Company.

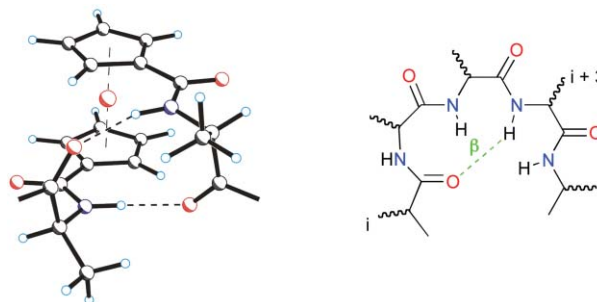


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### Systematizing structural motifs and nomenclature in 1,*n*'-disubstituted ferrocene peptides

Srećko I. Kirin, Heinz-Bernhard Kraatz\* and Nils Metzler-Nolte\*

Chiral ferrocene-peptide conjugates offer great opportunities as peptide mimetics in biomaterials and asymmetric catalysis. For such compounds, we present a universal, systematic nomenclature.

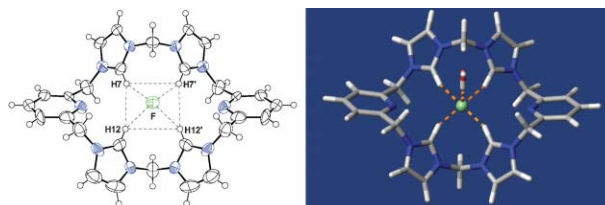


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### Imidazolium receptors for the recognition of anions

Juyoung Yoon,\* Sook Kyung Kim, N. Jiten Singh and Kwang S. Kim\*

Imidazolium receptors for anion recognition are reviewed according to their topological and structural classification

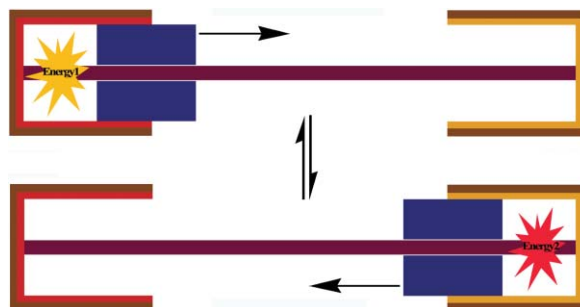


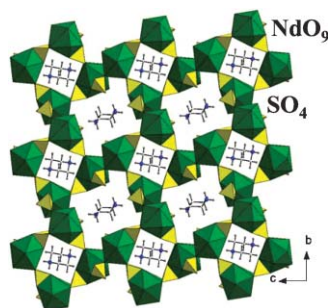
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### Recent progress on switchable rotaxanes

He Tian\* and Qiao-Chun Wang

A shuttle at the molecular level! When external stimuli trigger, it works!





### Organically-templated metal sulfates, selenites and selenates

C. N. R. Rao,\* J. N. Behera and Meenakshi Dan

An up-to-date survey of organically templated metal sulfates, selenites and selenates with one-, two-, and three-dimensional structures, many of which possess open architectures is presented. The article shows how most oxy-anions can be used to build complex structures with metal-oxygen polyhedra.

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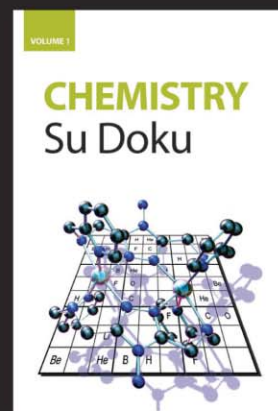


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