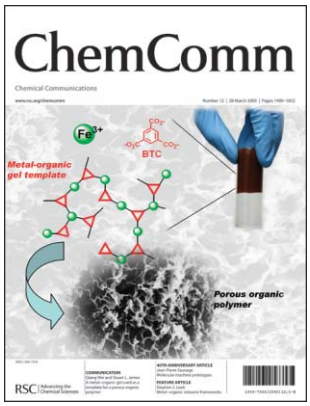
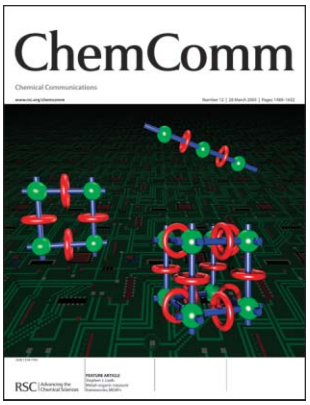
IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS (12) 1489–1652 (2005)

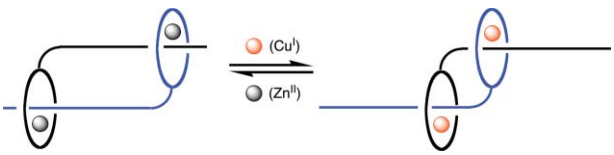


Cover
See Stuart L. James and Qiang Wei, page 1555.
This communication reports a novel use for metal–organic framework chemistry. Macroporous gels based on these structures are used as polymerisation templates. Image produced by permission of Qiang Wei and Stuart L. James from *Chem. Commun.*, 2005, 1555.

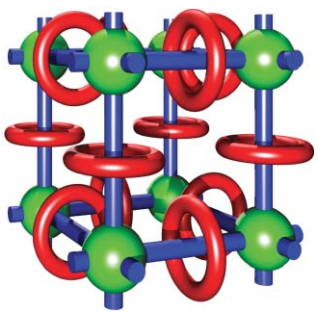


Inside cover
See Stephen Loeb, page 1511.
Mechanically interlocked, molecular components can be organized into one-, two-, and three dimensional arrays by utilizing them as ligand building blocks in metal–organic frameworks.
Image reproduced by permission of Stephen Loeb from *Chem. Commun.*, 2005, 1511.

40TH ANNIVERSARY ARTICLE



FEATURE ARTICLE



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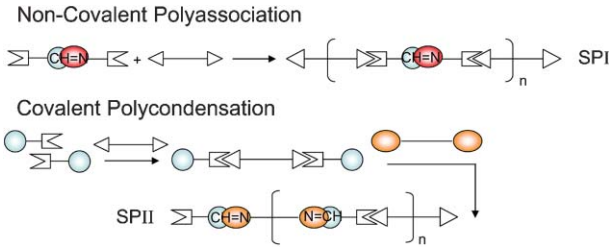

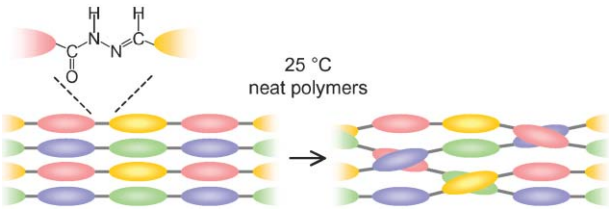

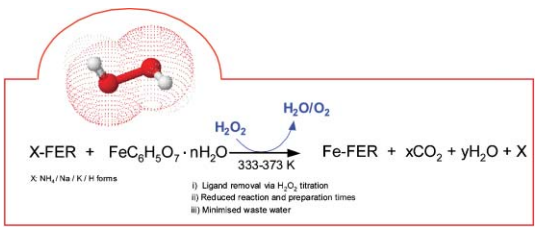

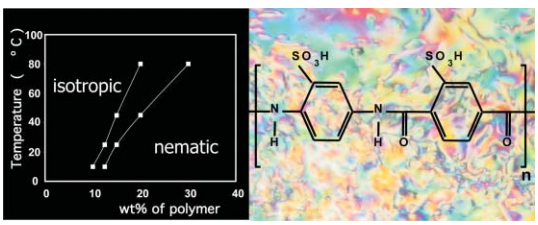

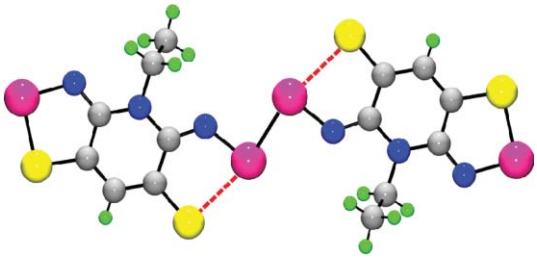

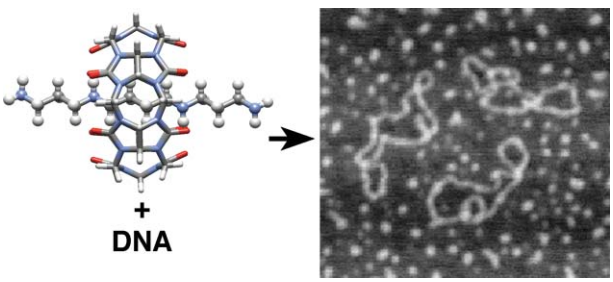

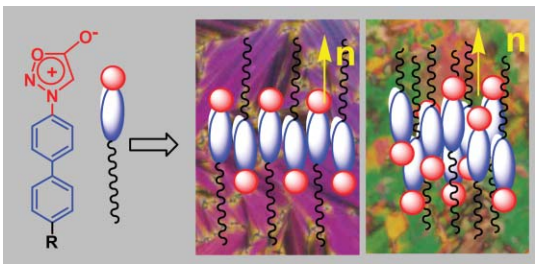

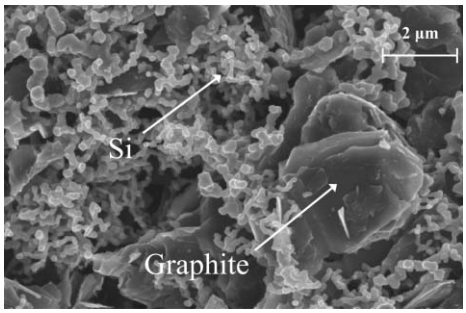

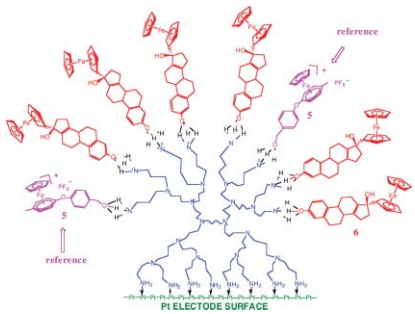

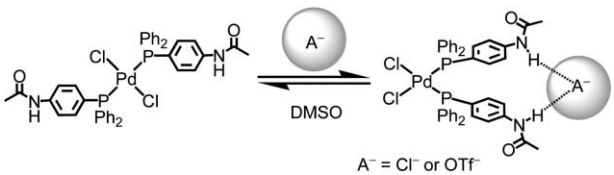

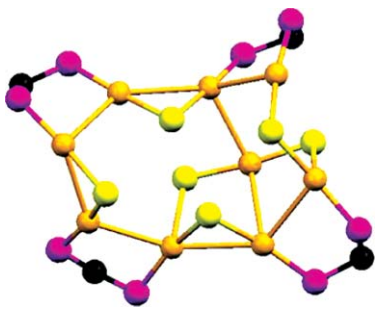

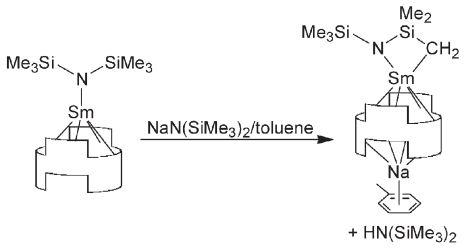

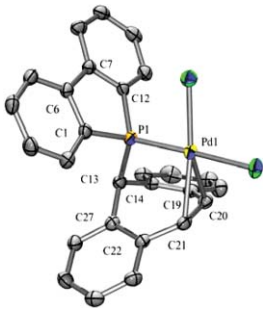

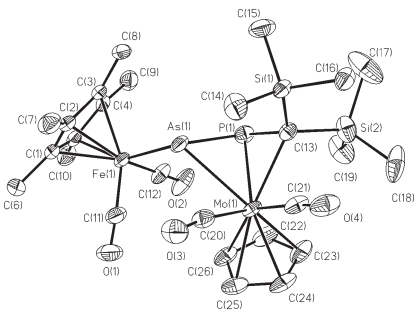

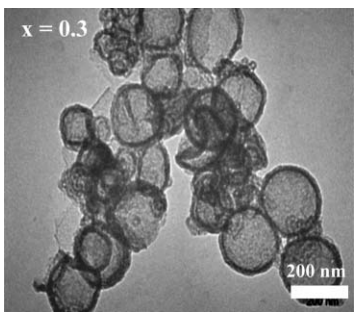

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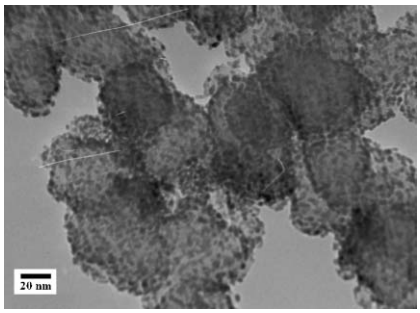
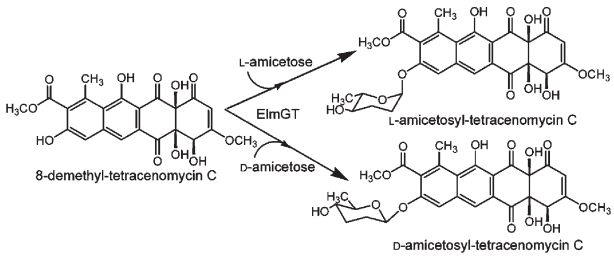


Simple and controllable synthesis of highly dispersed Pt–Ru/C catalysts by a two-step spray pyrolysis process

Xinzhong Xue, Tianhong Lu, Changpeng Liu and Wei Xing*

A carbon supported Pt–Ru catalyst with uniform distribution and small average size of the Pt–Ru particles was synthesized using a two-step spray pyrolysis (SP) method. The electrocatalytic activity of the prepared catalyst for methanol oxidation is better than that of the standard commercial catalyst.

1604

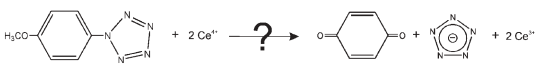


Combining sugar biosynthesis genes for the generation of L- and D-amicetose and formation of two novel antitumor tetracenomycins

María Pérez, Felipe Lombó, Lili Zhu, Miranda Gibson, Alfredo F. Braña, Jürgen Rohr, José A. Salas and Carmen Méndez*

By combining sugar biosynthesis genes from different antibiotic pathways L- and D-amicetose were produced and transferred by the sugar flexible glycosyltransferase ElmGT to the elloramycin aglycone.

1607

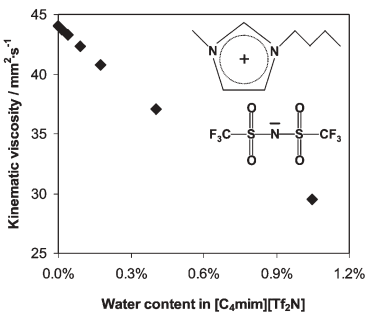


The race for the first generation of the pentazolate anion in solution is far from over

Thorsten Schroer,* Ralf Haiges, Stefan Schneider and Karl O. Christe*

The previous claim for the first generation of the pentazolate anion in solution was carefully reexamined. No evidence for the formation of *cyclo*-N_5^- was found under the reported conditions. The ^{15}N NMR signal at $\delta = -10 \pm 2$ ppm, previously assigned to *cyclo*-N_5^-, belongs to NO_3^-, and the one at $\delta = -147.2$ ppm, previously attributed to the crucial decomposition product, N_β-labeled N_3^-, is due to 4-$MeOC_6H_4N_3$, one of the decomposition products of the starting material.

1610



The effect of dissolved water on the viscosities of hydrophobic room-temperature ionic liquids

Jason A. Widegren, Arno Laesecke and Joseph W. Magee*

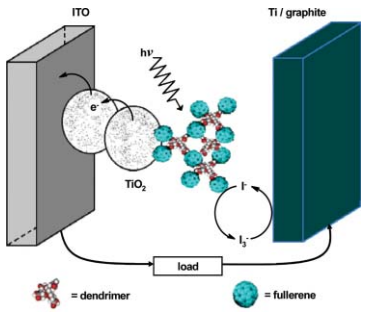
The viscosities of room-temperature ionic liquids (RTILs) are found to be strongly dependent on the amount of dissolved water. The presence of 100 ppm water can lower the viscosity of an RTIL by 1%. These results call for a reassessment of previously reported viscosities for RTILs.

1613

Preparation, characterization and photoelectrochemical study of mixed C_{60}–Starburst® PAMAM G0.0 dendrimer films anchored on the surface of nanocrystalline TiO_2 semiconductor electrodes

Erika Bustos, Juan Manríquez, Luis Echegoyen and Luis A. Godínez*

Nanocrystalline TiO_2 silanized electrodes were modified in a sequential fashion with C_{60} and Starburst® PAMAM G0.0 dendrimers, resulting in a novel photoelectrochemical sensitization film that showed particularly high photocurrent (IPCE) and global photoconversion efficiencies (η).

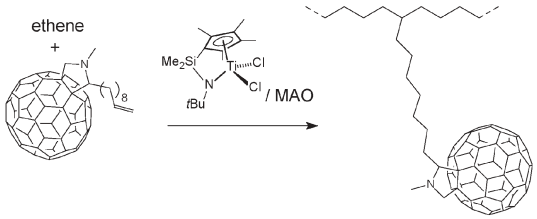


1616

Polyethene with pendant fullerene moieties

Xiaochun Zhang, Alexander B. Sieval, Jan C. Hummelen and Bart Hessen*

A novel polyethene copolymer bearing pendant fullerene groups, with up to 25 wt% net fullerene content, was prepared by catalytic copolymerisation of ethene with a fullerene-containing vinylic comonomer.

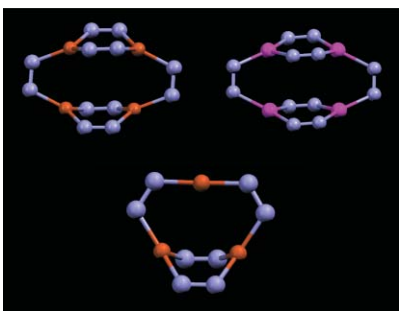


1619

Neutral Cu_4N_{12} and Ag_4N_{12} metallacycles with a *para*-cyclophane framework assembled from copper(I) and silver(I) pyrazolates and pyridazine

H. V. Rasika Dias,* Himashinie V. K. Diyabalanage and Chammi S. Palehepitiya Gamage

Novel copper–nitrogen and silver–nitrogen based *para*-cyclophanes have been synthesized using the corresponding metal(I) pyrazolates and pyridazine. The use of benzo[*c*]cinnoline leads to partially assembled metalla-aza-cyclophane systems.

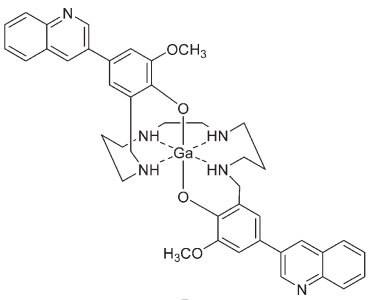


1622

Metalloantimalarials: synthesis and characterization of a novel agent possessing activity against *Plasmodium falciparum*

Joseph A. Ocheskey, Scott E. Harpstrite, Anna Oksman, Daniel E. Goldberg and Vijay Sharma*

A novel gallium(III) complex **7** was synthesized and characterized. While equipotent in Dd2 lines, **7** demonstrated enhanced efficacy against HB3 lines compared with its predecessor antimalarial suggesting feasibility of rational drug design in metallotherapeutics.



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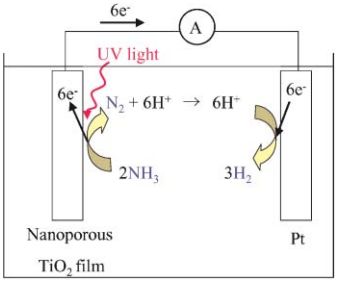
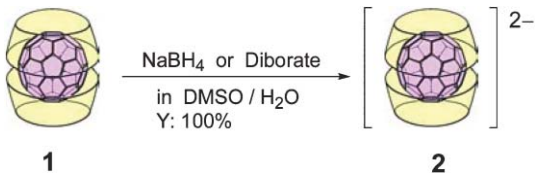


Artificial photochemical nitrogen cycle to produce nitrogen and hydrogen from ammonia by platinized TiO_2 and its application to a photofuel cell

M. Kaneko,* N. Gokan, N. Katakura, Y. Takei and M. Hoshino

Photocatalytic decomposition of aqueous ammonia to H_2 and N_2 was achieved, and its application to a photofuel cell producing electricity and H_2/N_2 was reported.

1628



Reducing ability of supramolecular C_{60} dianion toward C=O, C=C and N–N bonds

Shin-ichi Takekuma, Hideko Takekuma and Zen-ichi Yoshida*

Supramolecular C_{60} dianion (**2**) generated from γ-cyclodextrin-bicapped C_{60} (**1**) is able to reduce N–N^+, C=C–EWG and C=O linkages; **1**-mediated reduction of acetophenone with $NaBH_4$ in the presence of $(Me_2N)_2CH_2$ and EtONa gives TOF (h^{-1}) of 400.

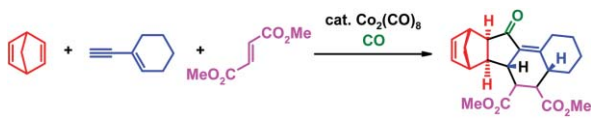
1631

Direct and continuous synthesis of concentrated hydrogen peroxide by the gaseous reaction of H_2/O_2 non-equilibrium plasma

Juncheng Zhou, Hongchen Guo,* Xiangsheng Wang, Mingxing Guo, Jiangli Zhao, Lixing Chen and Weimin Gong

Under ambient conditions, H_2O_2 has been synthesized with 32.51% yield and 56.25% selectivity *via* the gas-phase reaction of H_2/O_2 non-equilibrium plasma.

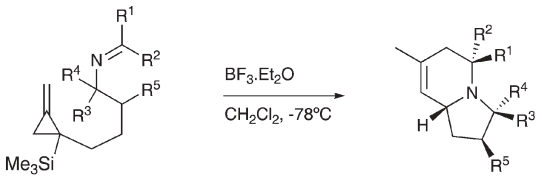
1634

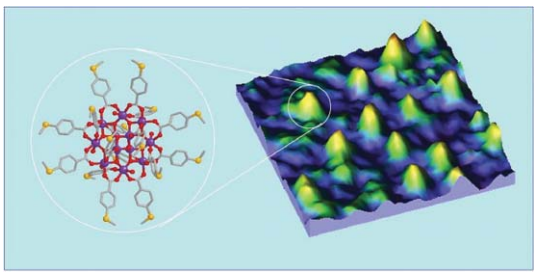


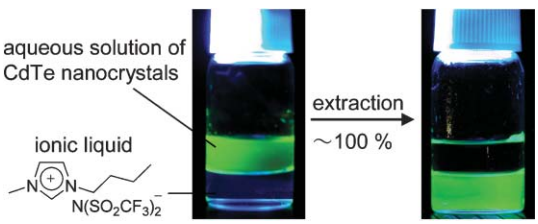
Tandem Pauson–Khand reaction and Diels–Alder reaction for access to polycycles in a one-pot reaction

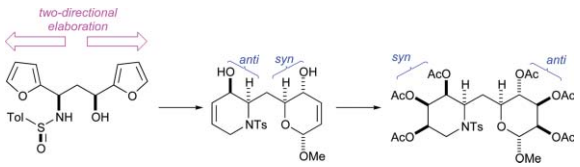
Do Han Kim and Young Keun Chung*

Starting from easily available cyclic alkenes, enynes, and dienophiles, a tandem intermolecular Pauson–Khand reaction and Diels–Alder reaction yields polycyclic compounds in high yields.









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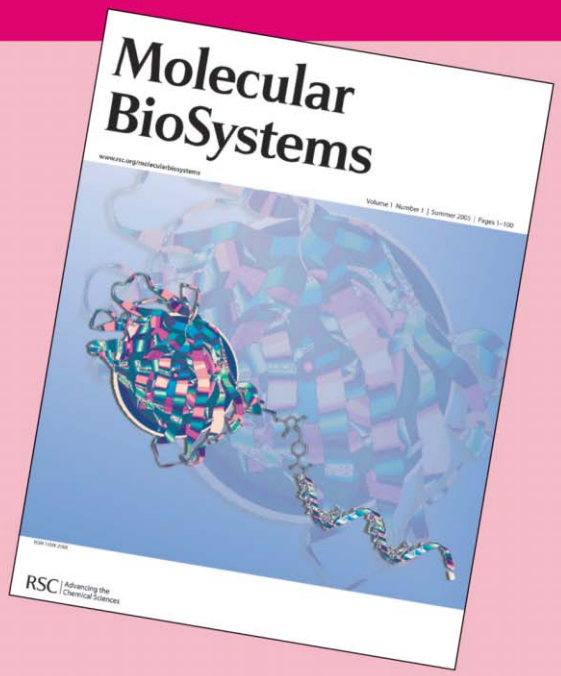

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