



On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a

computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

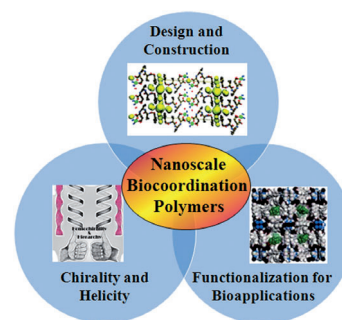


### Biocoordination Polymers

Y. Liu, Z. Tang\*

Nanoscale Biocoordination Polymers: Novel Materials from an Old Topic

**Nature bestows many gifts upon us**, among which countless biomolecules have the ability to bridge metal ions and exert important functions in biology. By taking advantage of specific interactions between metal ions and biomolecules, this article highlights a novel concept for the construction of nanoscale biocoordination polymers through replacement of synthetic organic molecules with natural biomolecules as building blocks. The most recent advances are summarized and future challenges are discussed.



Chem. Eur. J.  
DOI: 10.1002/chem.201101520

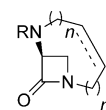


### Antibiotics

A. Sliwa, G. Dive,\* J. Marchand-Brynaert\*

12- to 22-Membered Bridged  $\beta$ -Lactams as Potential Penicillin-Binding Protein Inhibitors

**Bridging inhibition:** A series of 12- to 22-membered bicyclic bridged  $\beta$ -lactams were synthesized with the aim of developing new inhibitors of penicillin-binding proteins and feature a planar amide function and no carboxy group (see picture; Boc = *tert*-butoxycarbonyl).



R = Boc,  $n = 3, 4, 5, 6, 8$   
R = PhOCH<sub>2</sub>CO,  $n = 3, 4, 5$

Chem. Asian J.  
DOI: 10.1002/asia.201100732

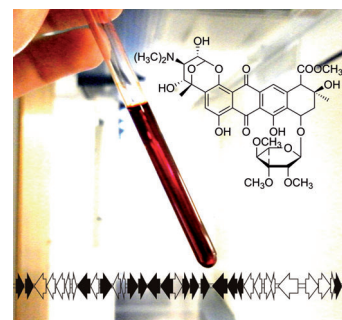


### Glycosylation

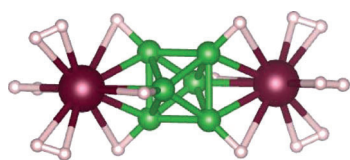
V. Siitonen, M. Claesson, P. Patrikainen, M. Aromaa, P. Mäntsälä, G. Schneider, M. Metsä-Ketelä\*

Identification of Late-Stage Glycosylation Steps in the Biosynthetic Pathway of the Anthracycline Nogalamycin

**Topoisomerase inhibition:** Nogalamycin is an anthracycline antibiotic with an unusual structure and significant cytotoxicity. In this work the nogalamycin biosynthetic gene cluster has been expressed in a heterologous host, late-stage tailoring steps of nogalamycin biosynthesis have been investigated and new compounds have been isolated.



ChemBioChem  
DOI: 10.1002/cbic.201100637



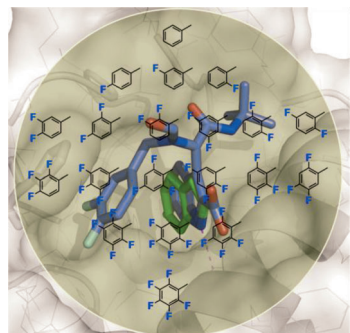
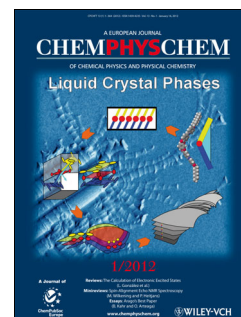
ChemPhysChem  
DOI: 10.1002/cphc.201100585

### Hydrogen Storage

B. Pathak, K. Pradhan, T. Hussain, R. Ahuja, P. Jena\*

Functionalized Boranes for Hydrogen Storage

**Li- and Mg-functionalized boranes** (see picture) are promising materials for hydrogen storage. They can store up to 12 wt% hydrogen with a desorption energy of 0.07 eV–0.27 eV per H<sub>2</sub> molecule.



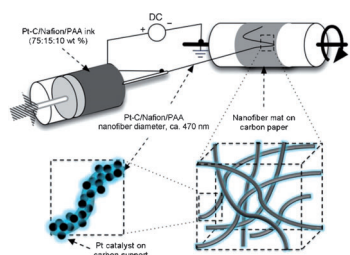
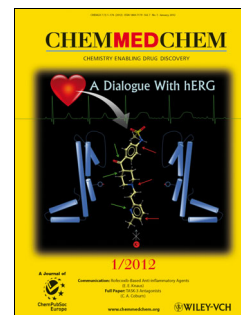
ChemMedChem  
DOI: 10.1002/cmdc.201100428

### Protein–Protein Interactions

Y. Huang, S. Wolf, D. Koes, G. M. Popowicz, C. J. Camacho, T. A. Holak, A. Dömling\*

Exhaustive Fluorine Scanning toward Potent p53–Mdm2 Antagonists

**Fluorine dance:** We discovered potent p53–Mdm2 antagonists by systematically varying the fluorine substitution pattern around a benzyl group that undergoes stacking interactions with His 96 of Mdm2. The potency of the optimized enantiomer (**S**)-**7e** is > 50-fold better than the worst compound of the series. All compounds were efficiently synthesized by Ugi multicomponent reaction chemistry.



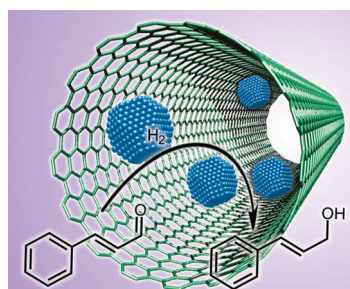
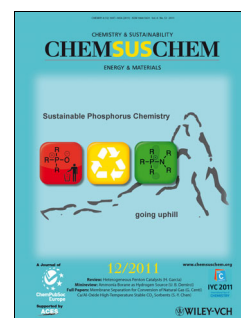
ChemSusChem  
DOI: 10.1002/cssc.201100245

### Fuel Cells

W. Zhang, P. N. Pintauro\*

High-Performance Nanofiber Fuel Cell Electrodes

**A nanofiber electrode** is fabricated by electrospinning an ink composed of ;Pt/C catalyst particles in a solution of Nafion and poly-(acrylic acid). Exceptionally high power densities and platinum mass activity are achieved when using the mat as cathode in H<sub>2</sub>/air and H<sub>2</sub>/O<sub>2</sub> fuel cell membrane–electrode assemblies. The nanofiber cathode also exhibits outstanding stability in accelerated durability tests.



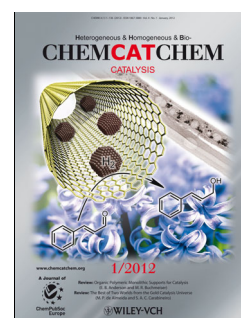
ChemCatChem  
DOI: 10.1002/cctc.201100244

### Hydrogenation

E. Castillejos, M. Jahjah, I. Favier, A. Orejón, C. Pradel, E. Teuma, A. M. Masdeu-Bultó, P. Serp,\* M. Gómez\*

Synthesis of Platinum–Ruthenium Nanoparticles under Supercritical CO<sub>2</sub> and their Confinement in Carbon Nanotubes: Hydrogenation Applications

**Into the nanotube:** Platinum–ruthenium nanoparticles confined into functionalized multiwalled carbon nanotubes were found to be efficient catalysts for the hydrogenation of cinnamaldehyde in contrast to the unsupported catalytic systems. Although bimetallic nanoparticles synthesized in supercritical CO<sub>2</sub> led to more agglomerated materials than those in THF, no important differences were observed in catalysis.



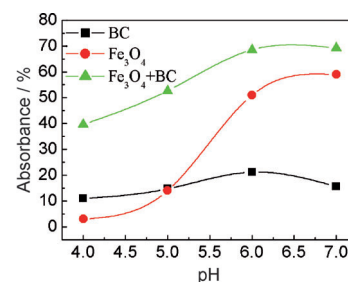


### Nanocrystals

X.-H. Guan, B.-T. Zheng, M. Lu, X. Guan, G.-S. Wang,\* L. Guo\*

Highly Water-Dispersible  $\text{Fe}_3\text{O}_4$  Single Nanocrystals: Gram-Scale Preparation by a Solution-Phase Route and Application for the Absorption of  $\text{Cd}^{2+}$  in Water

**It's all under control:** High-yield production of  $\text{Fe}_3\text{O}_4$  (10–15 nm) was realized by using a simple solution-phase method at room temperature. The  $\text{Fe}_3\text{O}_4$  nanocrystals were continually synthesized by controlling the pH value of the reaction solution. The SEM, TEM, and XRD studies reveal the particles to be single nanocrystals. New adsorbents of FNBC prepared by a simple blending method exhibit significantly higher property in removing the heavy metal  $\text{Cd}^{2+}$  than BC and  $\text{Fe}_3\text{O}_4$  nanocrystals, and show excellent properties in removing  $\text{Cd}^{2+}$ .



ChemPlusChem  
DOI: 10.1002/cplu.201100023

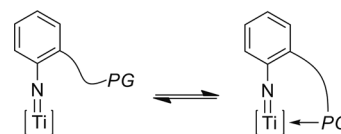


### Titanium–Imido Complexes

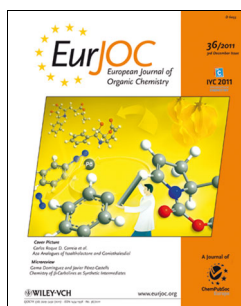
V.-H. Nguyen, L. Vendier, M. Etienne, E. Despagne-Ayoub, P.-A. R. Breuil, L. Magna, D. Proriot, H. Olivier-Bourbigou, C. Lorber\*

Titanium–Imido Complexes with Pendant Groups – Synthesis, Characterization, and Evaluation of Their Role as Precatalysts for Ethylene Polymerization

A variety of new titanium imido complexes with different pendant groups have been synthesized from  $\text{Ti}(\text{NMe}_2)_4$ . The nature of the donor atom in the pendant group and the length of the side arm influence the coordination to the metal center. These compounds were evaluated as ethylene polymerization precatalysts.



Eur. J. Inorg. Chem.  
DOI: 10.1002/ejic.201101005

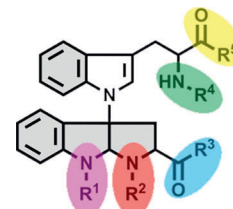


### Orthogonal Protecting Groups

P. Ruiz-Sanchis, S. A. Savina, G. A. Acosta, F. Albericio,\* M. Álvarez\*

Orthogonal Protecting Groups in the Synthesis of Tryptophanyl-Hexahydropyrroloindoles

Several tryptophanyl-hexahydropyrroloindoles (Trp-HPI) with four or five orthogonal protecting groups have been synthesized. This polycyclic system constitutes a scaffold for many natural products that have recently been isolated.



Eur. J. Org. Chem.  
DOI: 10.1002/ejoc.201101057



### Food Chemistry

Klaus Roth

Pesto - Mediterranean Biochemistry

When we take pesto prepared from fresh basil, fold it into steaming pasta, and allow the inimitable fragrance to rise up, we ask ourselves: with what aromatic molecules is this plant blessing us? By uncovering the nature of this culinary-chemical marvel, we come to enjoy it all the more.



ChemViews magazine  
DOI: 10.1002/chemv.201200001