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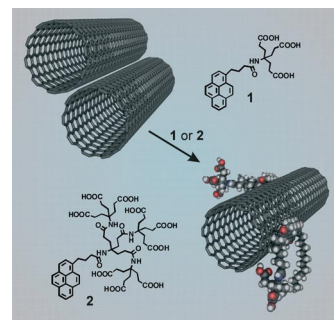


### Carbon Nanotubes

C. Backes, U. Mundloch, A. Ebel, F. Hauke, A. Hirsch\*

#### Dispersion of HiPco® and CoMoCAT® Single-Walled Nanotubes (SWNTs) by Water Soluble Pyrene Derivatives—Depletion of Small Diameter SWNTs

**Nanotube surfactant design**—the dispersion of SWNTs by designed surfactants based on water-soluble pyrene derivatives is reported. Significantly, nanotubes of small diameters are depleted in the supernatant after centrifugation presenting the foundation for future nanotube separation by selective dispersion.



*Chem. Eur. J.*  
DOI: 10.1002/chem.200903420

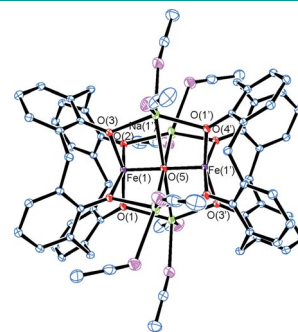


### Ring-Opening Polymerization

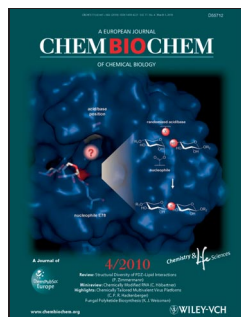
A. Arbaoui, C. Redshaw,\* M. R. J. Elsegood, V. E. Wright, A. Yoshizawa, T. Yamato

#### Iron(III) and Zinc(II) Calixarene Complexes: Synthesis, Structural Studies, and Use as Precatalysts for $\epsilon$ -Caprolactone Polymerization

**Opening rings:** Synthetic routes have been investigated towards new iron(III) precatalysts for  $\epsilon$ -caprolactone, utilizing the heterobimetallic reagents  $[(\text{THF})\text{MFe}(\text{OtBu})_3]_2$  ( $\text{M} = \text{Na}, \text{K}$ ) and calix[n]arenes or oxacalixarenes. Improved polymerization activity is observed in the case of the related zinc(II) systems over that observed for the iron(III) heterobimetallic systems.



*Chem. Asian J.*  
DOI: 10.1002/asia.200900514

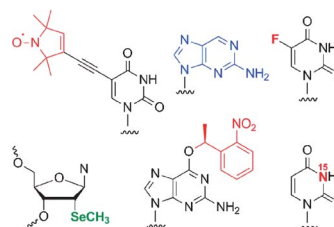


### RNA

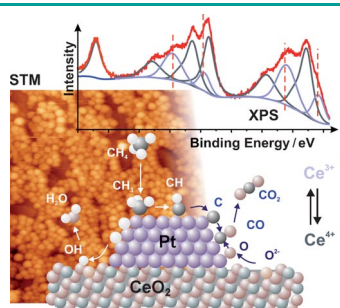
F. Wachowius, C. Höbartner\*

#### Chemical RNA Modifications for Studies of RNA Structure and Dynamics

**RNA watching:** Artificial nucleoside modifications (see figure for examples) add unique properties to functional RNAs for the exploration of RNA structures, folding pathways, dynamic conformations, catalysis mechanisms, and small-molecule recognition by using various biophysical methods including NMR, EPR, and fluorescence spectroscopies and X-ray crystallography. This article provides an overview of recent applications.



*ChemBioChem*  
DOI: 10.1002/cbic.200900697



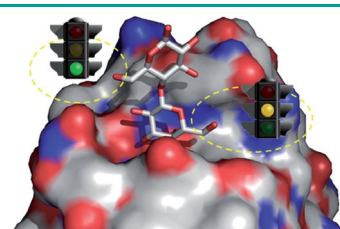
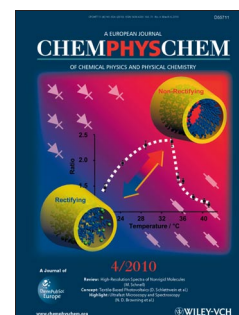
*ChemPhysChem*  
DOI: 10.1002/cphc.200900673

### Pt/Ceria Catalysts

Y. Lykhach,\* T. Staudt, M. P. A. Lorenz, R. Streber, A. Bayer, H.-P. Steinrück, J. Libuda

#### Microscopic Insights into Methane Activation and Related Processes on Pt/Ceria Model Catalysts

**Supporting role:** Ceria-supported noble-metal catalysts release oxygen, which may help to reduce the formation of carbonaceous residues during hydrocarbon reforming. The microscopic origins of these effects are examined using single-crystal-based supported model catalysts. The systems involve Pt nanoparticles on well-defined CeO<sub>2</sub>(111) films studied by molecular beam experiments, XPS, and STM (see picture).



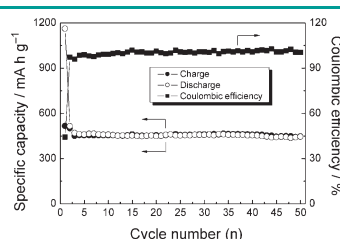
*ChemMedChem*  
DOI: 10.1002/cmdc.200900476

### Drug Discovery

J. P. Ribeiro, S. André, F. J. Cañada, H.-J. Gabius, A. P. Butera, R. J. Alves, J. Jiménez-Barbero\*

#### Lectin-Based Drug Design: Combined Strategy to Identify Lead Compounds using STD NMR Spectroscopy, Solid-phase Assays and Cell Binding for a Plant Toxin Model

**Carbohydrate chemistry:** Sugar-binding proteins, lectins, are an increasingly valid target in drug design with growing awareness of the biological importance of glycans. A series of modified lactosides containing aromatic aglycan moieties were tested in a plant toxin model for their ability to block lectin binding to cell-surface glycans and consequently prevent the uptake of the plant toxin by the cell.



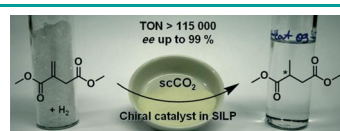
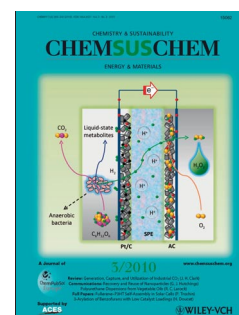
*ChemSusChem*  
DOI: 10.1002/cssc.200900191

### Lithium Storage

Y.-S. Hu,\* P. Adelhelm, B. M. Smarsly,\* J. Maier

#### Highly Stable Lithium Storage Performance in a Porous Carbon/Silicon Nanocomposite

**A porous carbon/silicon nanocomposite** was synthesized in a one-step procedure based on a “soft-templating” methodology, taking advantage of phase separation between mesophase-pitch and organic polymers as soft templates. The resulting nanocomposite exhibits a highly stable reversible capacity of 450 mA h g<sup>-1</sup> in a vinylene carbonate-containing electrolyte.



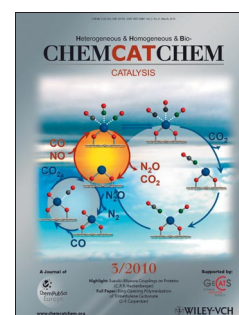
*ChemCatChem*  
DOI: 10.1002/cctc.200900261

### Ionic Liquids

U. Hintermair, T. Höfener, T. Pullmann, G. Franciò, W. Leitner\*

#### Continuous Enantioselective Hydrogenation with a Molecular Catalyst in Supported Ionic Liquid Phase under Supercritical CO<sub>2</sub> Flow

**Highly efficient continuous-flow asymmetric catalysis** was achieved by combination of supported ionic liquid phase (SILP) catalysts with supercritical CO<sub>2</sub> (scCO<sub>2</sub>) as the mobile phase, as demonstrated for enantioselective hydrogenation in the presence of a molecular rhodium–QUINAPHOS complex. The integrated reaction and separation process yielded chemically and enantiomerically pure products without the need for organic solvents.





### Process Optimization

F. E. Valera, M. Quaranta, A. Moran, J. Blacker,\*  
A. Armstrong,\* J. T. Cabral,\* D. G. Blackmond\*

#### The Flow's the Thing...Or Is It? Assessing the Merits of Homogeneous Reactions in Flask and Flow

**Against the flow?!** What factors dictate the relative merits of microflow reactors versus batch-reaction flasks for homogeneous catalytic reactions? The optimal reaction protocol must be decided on a case-by-case basis. Flask reactors equipped with in situ detection devices provide a concise and information-rich means of obtaining the intrinsic kinetic information required to make this decision.



*Angew. Chem. Int. Ed.*  
DOI: [10.1002/anie.200906095](https://doi.org/10.1002/anie.200906095)

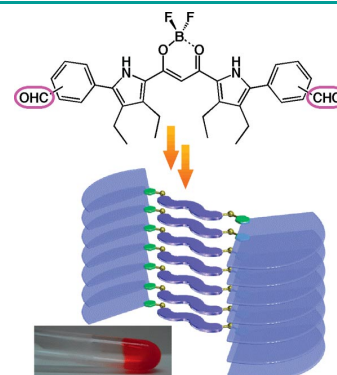


### Supramolecular Chemistry

H. Maeda,\* R. Fujii, Y. Haketa

#### Supramolecular Assemblies Derived from Formyl-Substituted $\pi$ -Conjugated Acyclic Anion Receptors

The synthesis and properties of formyl-substituted dipyrrolyl diketone- $\text{BF}_2$  complexes (anion receptors) and their extended derivatives are reported. The extended derivatives, which are prepared by formation of Schiff bases and subsequent reduction, behave as building subunits to provide anion-responsive gel-like materials.



*Eur. J. Org. Chem.*  
DOI: [10.1002/ejoc.200901346](https://doi.org/10.1002/ejoc.200901346)

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