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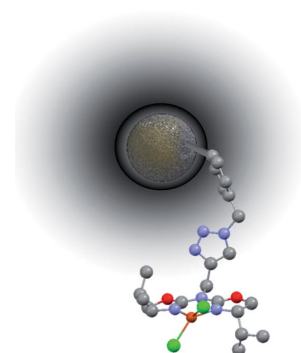


### Nanocatalysis

A. Schätz, O. Reiser, W. J. Stark\*

#### Nanoparticles as Semi-Heterogeneous Catalyst Supports

**High surface area, excellent accessibility,** and the ability to readily disperse in common solvents facilitate the use of nanoparticles as semi-heterogeneous supports. Reversible agglomeration through solvent changes and magnetic separation provide technically attractive alternatives to classical catalyst filtration.



*Chem. Eur. J.*  
DOI: 10.1002/chem.200903462

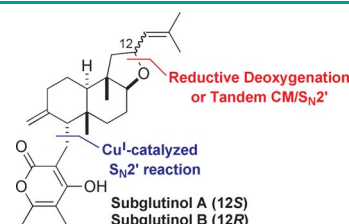


### Tandem Reactions

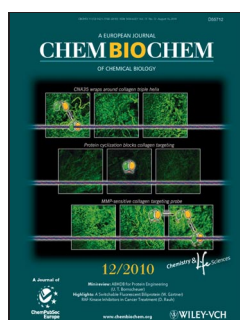
H. Kim, J. B. Baker, Y. Park, H.-B. Park, P. D. DeArmond, S. H. Kim, M. C. Fitzgerald, D.-S. Lee, J. Hong\*

#### Total Synthesis, Assignment of the Absolute Stereochemistry, and Structure-Activity Relationship Studies of Subglutinols A and B

**Get selective!** A stereoselective synthesis of subglutinols A and B, immunosuppressive natural products, has been accomplished from the (*S*)-(+)-5-methyl-Wieland-Miescher ketone enlisting reductive deoxygenation, tandem cross-metathesis/intramolecular  $S_N2'$  reaction, and a  $Cu^I$ -mediated intermolecular  $S_N2'$  reaction (see scheme).



*Chem. Asian J.*  
DOI: 10.1002/asia.201000147



### Chemical Defense

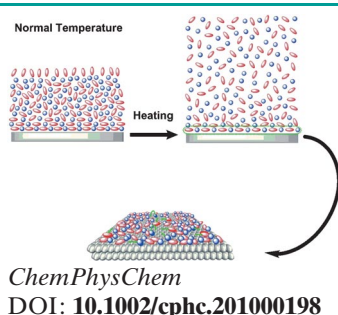
M. Hilker,\* C. Häberlein, U. Trauer, M. Bünnige, M.-O. Vicentini, S. Schulz\*

#### How to Spoil the Taste of Insect Prey? A Novel Feeding Deterrent against Ants Released by Larvae of the Alder Leaf Beetle, *Agelastica alni*

**Off the menu:** We report a new, very strong feeding deterrent against ants released by larvae of the alder leaf beetle *Agelastica alni* when attacked. The major deterrent component proved to be  $\gamma$ -L-glutamyl-L-2-furylalanine, a novel dipeptide containing the unusual amino acid L-2-furylalanine, which, although synthetically well known, has not previously been reported from natural sources.



*ChemBioChem*  
DOI: 10.1002/cbic.201000130

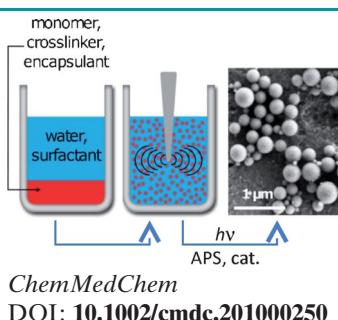
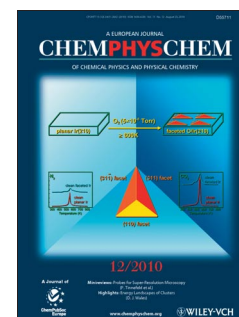


Q. Dou, M. Sha, H. Fu, G. Wu\*

### Mass Distribution and Diffusion of [1-Butyl-3-methylimidazolium][Y] Ionic Liquids Adsorbed on the Graphite Surface at 300–800 K

**Structure and diffusion behavior** of three ionic liquids on graphite is investigated over the temperature range of 300–800 K. The bottom layer of the ionic liquids adjacent to graphite is stable over the investigated temperature range (see picture). Diffusion of the ionic liquid in the bottom layer follows an Arrhenius relation, and the activation barrier increases with decreasing the anion size.

*Ionic Liquids*

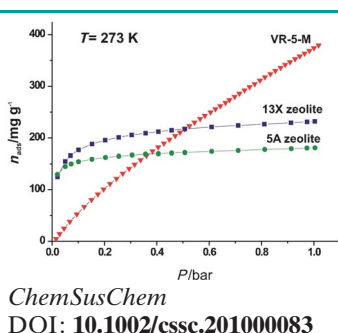
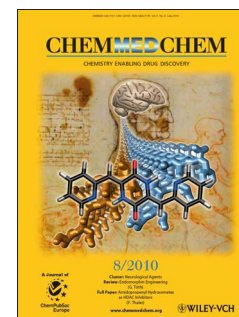


K. A. V. Zubris, O. V. Khullar, A. P. Griset, S. Gibbs-Strauss, J. V. Frangioni, Y. L. Colson,\* M. W. Grinstaff\*

### Ease of Synthesis, Controllable Sizes, and In Vivo Large-Animal-Lymph Migration of Polymeric Nanoparticles

**Flying south for the winter!** Polymeric nanoparticles were synthesized using either a photoinduced or base-catalyzed free-radical polymerization method. The particles ( $\varnothing = 50$  nm), loaded with a dye (IR-786), were observed to migrate over 20 cm to the sentinel lymph node after injection in a live pig.

*Drug Delivery*

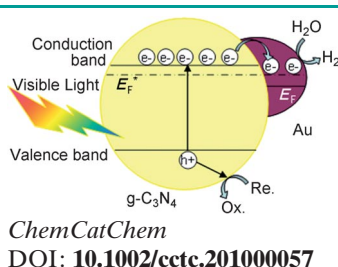
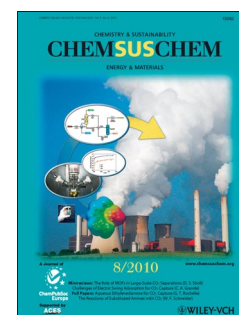


*Carbon Dioxide Adsorption*

A. Wahby, J. M. Ramos-Fernández, M. Martínez-Escandell, A. Sepúlveda-Escribano, J. Silvestre-Albero,\* F. Rodríguez-Reinoso

### High-Surface-Area Carbon Molecular Sieves for Selective CO<sub>2</sub> Adsorption

**A series of carbon molecular sieves** is prepared, either in powder or monolith form, from mesophase pitch using potassium hydroxide as activating agent. The molecular sieves exhibit high adsorption capacities for CO<sub>2</sub>, together with fast adsorption kinetics. Furthermore, the presence of an optimum porous structures makes these molecular sieves excellent adsorbents for the selective adsorption of CO<sub>2</sub> from nitrogen- and methane-rich streams.



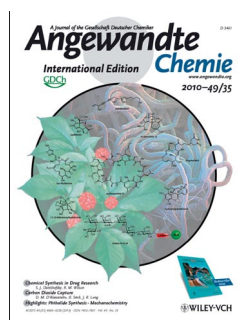
Y. Di, X. Wang, A. Thomas, M. Antonietti\*

### Making Metal–Carbon Nitride Heterojunctions for Improved Photocatalytic Hydrogen Evolution with Visible Light

**Gold nanoparticles** are deposited on the surface of a polymeric carbon nitride known to be active in photochemical water splitting. By diverse deposition methods and surface modification of Au with a secondary metal to generate this heterojunction, the efficiency of hydrogen production can be improved by a factor of ten as compared to the standard systems.

*Photocatalysis*



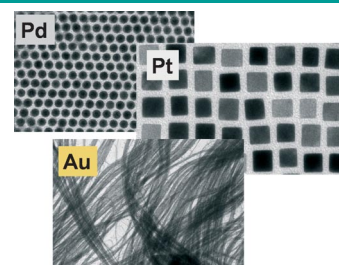


### Metal Nanocrystals

Y. Kang, X. Ye, C. B. Murray\*

#### Size- and Shape-Selective Synthesis of Metal Nanocrystals and Nanowires Using CO as a Reducing Agent

**Putting the pedal to the metal:** A facile strategy for the synthesis of metal nanocrystals is demonstrated that employs carbon monoxide as a reducing agent. Highly monodisperse platinum nanocubes, spherical palladium nanocrystals, and ultrathin gold nanowires can be produced within 15 minutes.



*Angew. Chem. Int. Ed.*  
DOI: [10.1002/anie.201003383](https://doi.org/10.1002/anie.201003383)

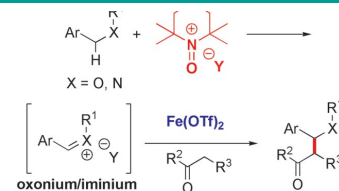


### Dehydrogenative Cross-Coupling

H. Richter, O. García Mancheño\*

#### Dehydrogenative Functionalization of C(sp<sup>3</sup>)-H Bonds Adjacent to a Heteroatom Mediated by Oxoammonium Salts

The dehydrogenative cross-coupling reactions of C(sp<sup>3</sup>)-H bonds  $\alpha$  to a heteroatom with enolizable nucleophiles by using easy-to-handle and nontoxic TEMPO salts is presented. These soft oxidants in combination with a Fe catalyst were efficiently employed to selectively generate the desired C-C coupling products under mild reaction conditions.



*Eur. J. Org. Chem.*  
DOI: [10.1002/ejoc.201000548](https://doi.org/10.1002/ejoc.201000548)

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