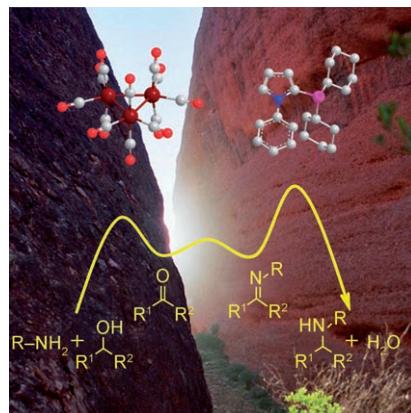


## Aminations

D. Hollmann, A. Tillack, D. Michalik,  
R. Jackstell, M. Beller\*

### An Improved Ruthenium Catalyst for the Environmentally Benign Amination of Primary and Secondary Alcohols

Chem. Asian J.  
DOI: 10.1002/asia.200600391



**Let there be light:** The N-alkylation of amines is catalyzed by a combination of  $[\text{Ru}_3(\text{CO})_{12}]$  and *N*-phenyl-2-(dicyclohexylphosphanyl)pyrrole with excellent activity and selectivity. By applying this novel catalyst, a variety of functionalized alcohols and amines were converted into the corresponding secondary amines in high yield.

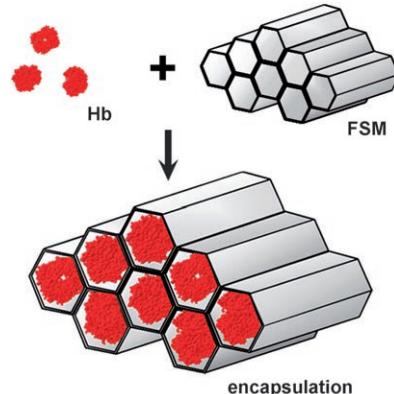
## Mesoporous Silica

Y. Urabe, T. Shiomi, T. Itoh, A. Kawai,  
T. Tsunoda, F. Mizukami, K. Sakaguchi\*

### Encapsulation of Hemoglobin in Mesoporous Silica (FSM)—Enhanced Thermal Stability and Resistance to Denaturants

ChemBioChem  
DOI: 10.1002/cbic.200600486

**In a nutshell.** The oligomeric protein hemoglobin (Hb) was successfully encapsulated in the pores of mesoporous silica (FSM: folded-sheet mesoporous material) that had a diameter of 7.5 nm (see scheme). The Hb-FSM conjugates showed increased thermal and chemical stability compared to native Hb. The mesopores seem to provide a favorable environment that prevents dissociation and denaturing of Hb, even under harsh conditions.

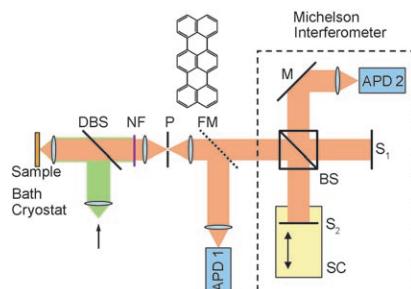


## Fluorescence Spectroscopy

R. Krolacki, M. Steiner, H. Qian,  
A. Hartschuh, A. J. Meixner\*

### Optical Fourier Transform Spectroscopy of Single-Walled Carbon Nanotubes and Single Molecules

ChemPhysChem  
DOI: 10.1002/cphc.200600739



**Single-molecule optical Fourier transform spectroscopy** in combination with confocal microscopy is used for the first time for Raman and fluorescence studies of spatially isolated single-walled carbon nanotubes and single terrylene molecules. The picture shows a schematic diagram of the optical setup that was used to measure two beam interferograms from molecular emission.

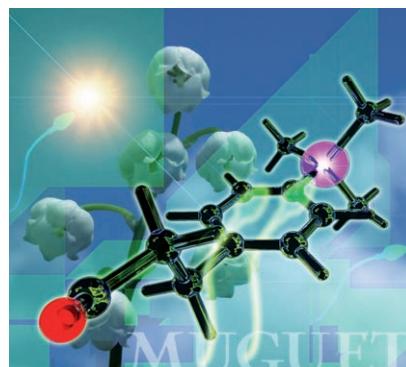
## Carbon–Silicon Exchange

L. Doszczak, P. Kraft,\* H.-P. Weber,  
R. Bertermann, A. Triller, H. Hatt,\*  
R. Tacke\*

### Prediction of Perception: Probing the hOR17-4 Olfactory Receptor Model with Silicon Analogues of Bourgeonal and Lilial

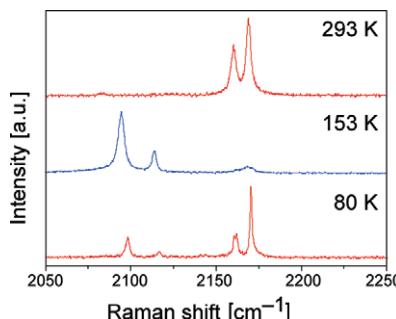
Angew. Chem. Int. Ed.  
DOI: 10.1002/anie.200605002

**Sense and sensibility:** Silicon analogues of the lily-of-the-valley odorants lilial and bourgeonal demonstrate that the electronic surface structure determines the interaction of an odorant with its olfactory receptor. The subtle changes in the stereoelectronic properties enable a comparison of *in vivo*, *in vitro*, and *in silico* data. Odor thresholds, as well as the swimming behavior of sperm cells, correlate well with the binding energies obtained from a computational model of the hOR17-4 receptor.



Nonstoichiometric Compounds

The Prussian blue analogues  $\text{Rb}_x\text{Mn}[\text{Fe}(\text{CN})_6]_y \cdot z\text{H}_2\text{O}$  with different stoichiometries have been synthesized and characterized. Some of the samples exhibit a first-order phase transition between the  $\text{Mn}^{\text{II}}\text{--Fe}^{\text{III}}$  and  $\text{Mn}^{\text{III}}\text{--Fe}^{\text{II}}$  electronic states accompanied by large entropy changes that are mainly of vibrational origin.



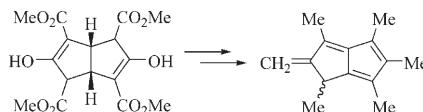
S. Cobo, R. Fernández, L. Salmon,  
G. Molnár, A. Bousseksou\*

**Correlation between the Stoichiometry and the Bistability of Electronic States in Valence-Tautomeric  $\text{Rb}_x\text{Mn}[\text{Fe}(\text{CN})_6]_y \cdot z\text{H}_2\text{O}$  Complexes**

*Eur. J. Inorg. Chem.*  
DOI: 10.1002/ejic.200601023

Pentalene Chemistry

The large-scale synthesis of an exocyclic isomer of the anti-aromatic hexamethyl-pentalene ( $\text{C}_8\text{Me}_6$ ;  $\text{Pn}^*$ ) has been achieved from readily available starting materials, which is a precursor for entry into organometallic permethylpentalene chemistry.

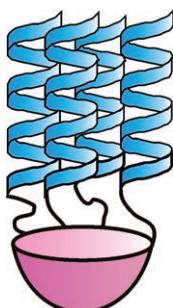


A. E. Ashley, A. R. Cowley, D. O'Hare\*

**Permethylpentalene Chemistry**

*Eur. J. Org. Chem.*  
DOI: 10.1002/ejoc.200700033

Synthetic Proteins



Rigid synthetic organic cavitand scaffolds promote well-defined helical-bundle proteins when appropriate peptide sequences are incorporated. Positioning of the bundles through the linkage of the cavitand (see diagram) to the hydrophobic face of the protein yields the most native-like cavitein to date.

E. S. Seo, W. R. P. Scott, S. K. Straus,  
J. C. Sherman\*

**Optimal Attachment Position and Linker Length Promote Native-like Character of Cavitand-Based Template-Assembled Synthetic Proteins (TASPs)**

*Chem. Eur. J.*  
DOI: 10.1002/chem.200601784



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