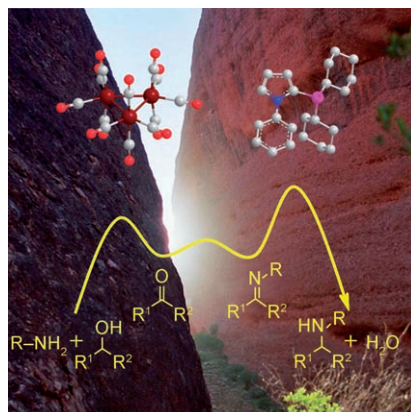


Aminations

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.

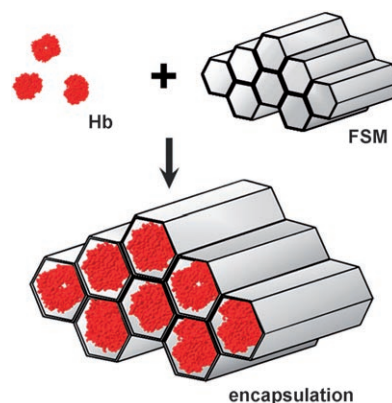
Mesoporous Silica

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.

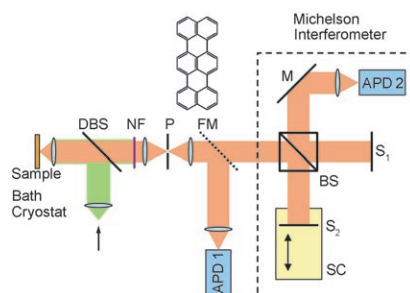


Fluorescence Spectroscopy

R. Korlacki, 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



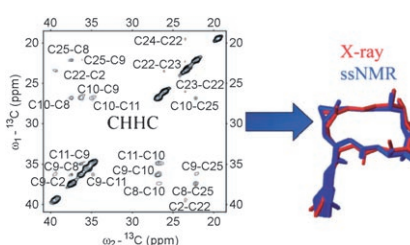
Single-molecule optical Fourier transform spectroscopy in combination with confocal microscopy is used for the first time for Raman and fluorescence studies of spatially isolated single-walled carbon nanotubes and single terrylene molecules. The picture shows a schematic diagram of the optical setup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

Solid-State NMR

A. Lange, T. Schupp, F. Petersen,
T. Carlomagno, M. Baldus*

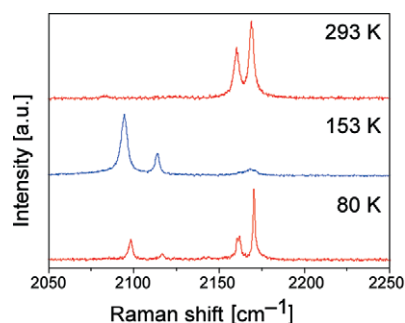
High-Resolution Solid-State NMR
Structure of an Anticancer Agent

ChemMedChem
DOI: 10.1002/cmdc.200600299



The 3D solid-state NMR structure of Epothilone B. Solid-state Nuclear Magnetic Resonance (ssNMR) has recently made significant progress in probing molecular structures. Epothilones are natural compounds produced by the myxobacterium *Sorangium cellulosum* and exhibit high cytotoxic activity against multiresistant tumor cells. Herein, we show that two 2D CHHC correlation experiments are sufficient to rapidly assemble a high-resolution structure of Epothilone B.

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.



Nonstoichiometric Compounds

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

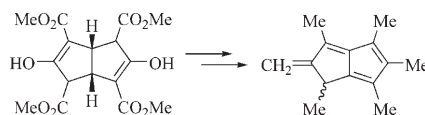
Correlation between the Stoichiometry and the Bistability of Electronic States in Valence-Tautomeric

$\text{Rb}_x\text{Mn}[\text{Fe}(\text{CN})_6]_y \cdot z\text{H}_2\text{O}$ Complexes

Eur. J. Inorg. Chem.

DOI: 10.1002/ejic.200601023

The large-scale synthesis of an exocyclic isomer of the anti-aromatic hexamethylpentalene (C_8Me_6 ; Pn*) has been achieved from readily available starting materials, which is a precursor for entry into organometallic permethylpentalene chemistry.



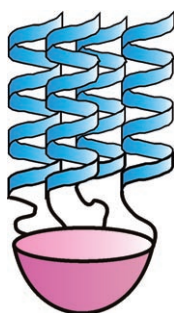
Pentalene Chemistry

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

Permethylpentalene Chemistry

Eur. J. Org. Chem.

DOI: 10.1002/ejoc.200700033



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 cavitand to date.

Synthetic Proteins

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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graphic details are given where available at the time of this issue's publication. If you are reading these pages on a computer, click on any of the items to read the full article.