

## Gas Adsorption

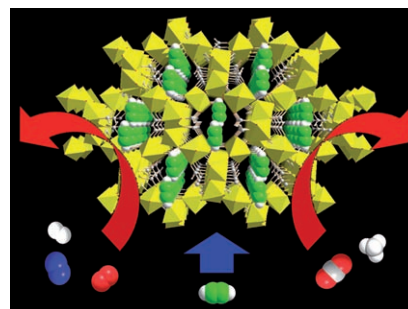
D. G. Samsonenko, H. Kim, Y. Sun,  
G.-H. Kim, H.-S. Lee, K. Kim\*

Microporous Magnesium and  
Manganese Formates for Acetylene  
Storage and Separation

*Chem. Asian J.*

DOI: 10.1002/asia.200600390

**Exclusive entry:** Microporous magnesium and manganese formates show not only a high capacity for acetylene sorption but also remarkable selectivity over  $\text{CO}_2$ ,  $\text{CH}_4$ ,  $\text{N}_2$ ,  $\text{O}_2$ , and  $\text{H}_2$  at room temperature. The single-crystal X-ray structure analysis of the acetylene-adsorbed metal formates reveals two acetylene sorption sites.



## Solid-state NMR Spectroscopy

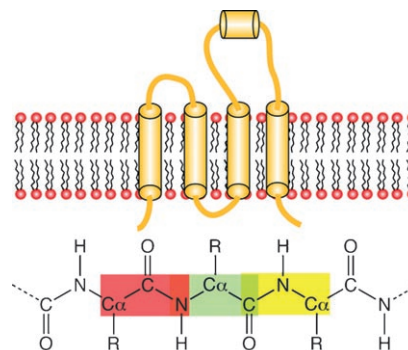
Y. Li, D. A. Berthold, H. L. Frericks,  
R. B. Gennis, C. M. Rienstra\*

Partial  $^{13}\text{C}$  and  $^{15}\text{N}$  Chemical-Shift  
Assignments of the Disulfide-Bond-  
Forming Enzyme DsbB by 3D Magic-  
Angle Spinning NMR Spectroscopy

*ChemBioChem*

DOI: 10.1002/cbic.200600484

**Another piece of the puzzle.** A 20 kDa integral membrane protein DsbB has been studied by 2D and 3D solid-state NMR. Partial chemical-shift assignments have been made in the transmembrane helices.



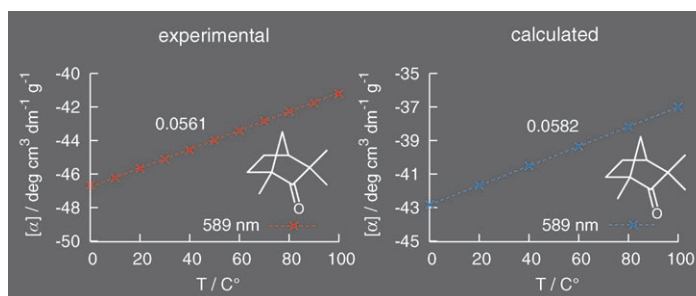
## Optical Rotation

B. C. Mort, J. Autschbach\*

Temperature Dependence of the Optical  
Rotation in Six Bicyclic Organic  
Molecules Calculated by Vibrational  
Averaging

*ChemPhysChem*

DOI: 10.1002/cphc.200600757



**Accurate predictions:** A computational model which includes vibrational corrections is used to compute optical rotations in bicyclic molecules. The inclusion

of temperature effects in the vibrational averaging elucidates the temperature dependence (see figure) of the optical rotation from a purely vibrational effect.

## Functionalized Nanoparticles

J. Li, X. Wang,\* C. Wang, B. Chen,  
Y. Dai, R. Zhang, M. Song, G. Lv, D. Fu

The Enhancement Effect of Gold  
Nanoparticles in Drug Delivery and as  
Biomarkers of Drug-Resistant Cancer  
Cells

*ChemMedChem*

DOI: 10.1002/cmdc.200600264

**A golden opportunity:** Functionalized gold nanoparticles (NPs) synergistically enhance the delivery of drugs to, and serve as biomarkers of drug-resistant leukemia cells. The combination of 3-mercaptopropionic acid capped Au NPs with anticancer drugs could be a new approach to the treatment of cancer.





Four cyanido-bridged complexes derived from the  $[\text{Cr}(\text{CN})_5(\text{NO})]^{3-}$  anion and  $\text{Mn}^{\text{III}}$  Schiff-base cations have been synthesized with trinuclear, 1D chain or 2D

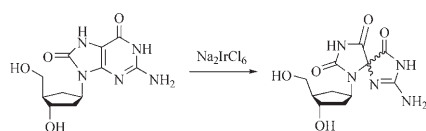
layered molecular structures. Antiferromagnetic  $\text{Mn}^{\text{III}}\text{--Cr}^{\text{I}}$  coupling has been exclusively observed in these complexes.

#### Heterodimetallic Complexes

Z.-H. Ni, Lei Zheng, L.-F. Zhang,  
A.-L. Cui, W.-W. Ni, C.-C. Zhao,  
H.-Z. Kou\*

Cyano-Bridged Dimetallic Complexes  
Derived from Manganese(III) Schiff  
Bases and Pentacyanonitrosyl-  
chromate(I): Synthesis, Crystal Structure  
and Magnetic Properties

*Eur. J. Inorg. Chem.*  
DOI: 10.1002/ejic.200600958



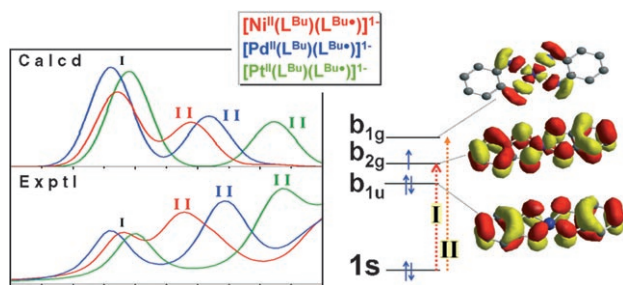
Carbocyclic DNA lesion analogs provide a powerful tool for the investigation of the recognition of DNA lesions by DNA glycosylases. Here, we report the synthesis of carbocyclic analogs of the DNA lesions 7,8-dihydro-8-oxo-2'-deoxyguanosine and spiroiminodihydantoin as a nucleoside as well as in single-stranded DNA.

#### Carbocyclic Spiroiminodihydantoin

H. Müller, T. Carell\*

A Carbocyclic Analog of the Oxidatively  
Generated DNA Lesion  
Spiroiminodihydantoin

*Eur. J. Org. Chem.*  
DOI: 10.1002/ejoc.200600982



A new methodology based on quasi-relativistic time-dependent density functional theory (TD-DFT) has been applied in order to interpret experimental covalen-

cies from the S K-edge pre-edge intensities obtained for a series of transition-metal dithiolene complexes (see example in diagram).

#### Coordination Modes

K. Ray, S. DeBeer George,  
E. I. Solomon, K. Wieghardt,\* F. Neese\*

Description of the Ground-State  
Covalencies of the Bis(dithiolato)  
Transition-Metal Complexes from X-ray  
Absorption Spectroscopy and  
Time-Dependent Density-Functional  
Calculations

*Chem. Eur. J.*  
DOI: 10.1002/chem.200601425



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