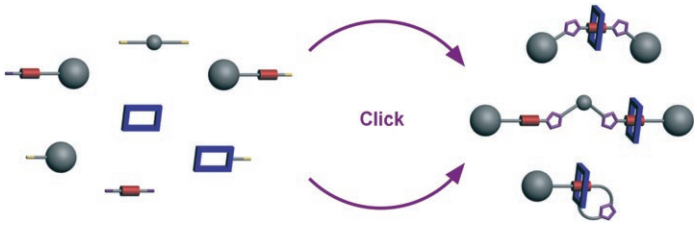
## Rotaxanes

A. B. Braunschweig, W. R. Dichtel, O. Š. Miljanić, M. A. Olson, J. M. Spruell, S. I. Khan, J. R. Heath,* J. F. Stoddart*

Modular Synthesis and Dynamics of a Variety of Donor–Acceptor Interlocked Compounds Prepared by Click Chemistry

*Chem. Asian J.*
DOI: **10.1002/asia.200700035**



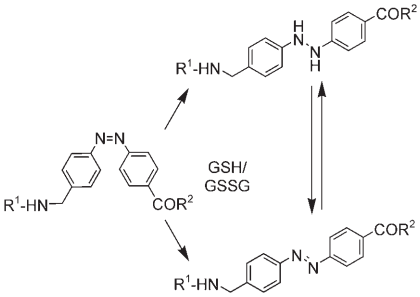

**Clicking into position**: Donor–acceptor rotaxanes can be synthesized by a threading-followed-by-stoppering approach, in which the required stoppers are attached to the precursor pseudorotaxanes by $Cu^{I}$-catalyzed Huisgen 1,3-dipolar cycloaddition. This approach to rotaxanes with a donor 1,5-dioxynaphthalene unit and a cyclophane acceptor gives higher yields than conventional strategies.

## Azobenzene

C. Boulègue, M. Löweneck, C. Renner, L. Moroder*

Redox Potential of Azobenzene as an Amino Acid Residue in Peptides

*ChemBioChem*
DOI: **10.1002/cbic.200600495**



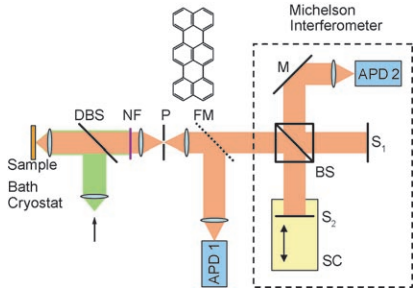

**Azobenzene is a common light switch.** Azobenzene, as ω-amino acid derivative in peptides, exhibits redox properties that make it susceptible to reduction by thiols with concurrent thiol-induced enhanced thermal *Z*-to-*E* isomerization rates.

## Low-Temperature Physics

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.

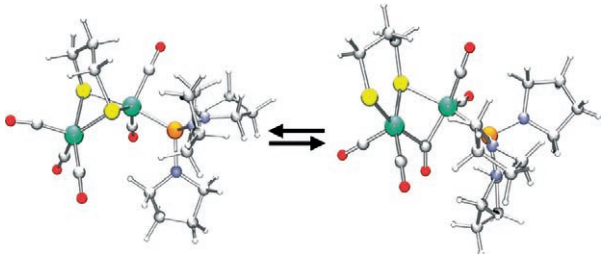
## Essay: The Drug Industry

I. R. Baxendale, J. J. Hayward, S. V. Ley,* G. K. Tranmer

Pharmaceutical Strategy and Innovation: An Academics Perspective

*ChemMedChem*
DOI: **10.1002/cmdc.200700008**

**The challenges ahead:** In this essay we describe and discuss issues facing the global pharmaceutical market, investigating the basis for many of these issues and highlighting the hurdles the industry needs to overcome, especially as they relate to the chemical sciences.



The structural and electronic properties of (μ-pdt)[$Fe_2(CO)_5P(NC_4H_8)_3$], a recently synthesized model of the active site of Fe-hydrogenase, have been studied by means of density functional theory. The unprotonated, mono-, and di-protonated forms of this compound were taken into account, in order to disclose the geometric features of the various intermediates involved in the electrocatalytic process of $H_2$ evolution.

### *Biomimetic Dihydrogen Evolution*

C. Greco, M. Bruschi, P. Fantucci, L. De Gioia*

Influence of a Large σ-Donor Ligand on Structural and Catalytic Properties of Di-Iron Compounds Related to the Active Site of Fe-Hydrogenase – A DFT Investigation

*Eur. J. Inorg. Chem.*
DOI: **10.1002/ejic.200601097**

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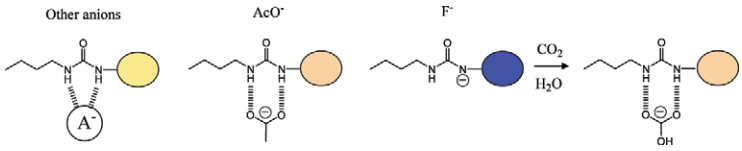


A family of azo dyes containing amide, urea, thiourea, carbamate or amino hydrogen-bond donating groups were synthesized and their chromogenic response toward anions was studied. Two different effects were observed; (i) bathochromic shifts of $<40$ nm due to anion coordination, and (ii) red shifts of ca. 200 nm due to deprotonation. This behaviour is associated with a balance between the deprotonation tendency of the binding sites and the proton affinities of the anions.

### *Anion Chemosensors*

J. V. Ros-Lis, R. Martínez-Máñez,* F. Sancenón, J. Soto, K. Rurack,* H. Weißhoff

Signalling Mechanisms in Anion-Responsive Push-Pull Chromophores: The Hydrogen-Bonding, Deprotonation and Anion-Exchange Chemistry of Functionalized Azo Dyes

*Eur. J. Org. Chem.*
DOI: **10.1002/ejoc.200601111**

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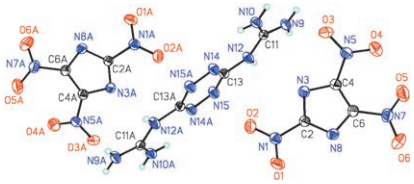

**High nitrogen-containing polynitro salts:** Polynitro guanidininum and hydrazinium tetrazine trinitroimidazolate salts (an example of which is depicted here) are highly hydrogen bonded with enhanced densities, oxygen balances and thermal stabilities.

### *Polynitro Compounds*

H. Gao, C. Ye, O. D. Gupta, J.-C. Xiao, M. A. Hiskey, B. Twamley, J. M. Shreeve*

2,4,5-Trinitroimidazole-Based Energetic Salts

*Chem. Eur. J.*
DOI: **10.1002/chem.200601860**

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