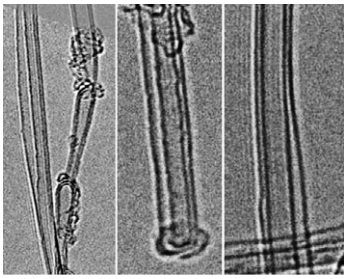
Carbon Nanotubes

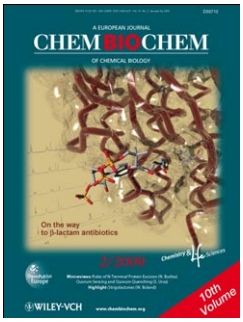
G. Q. Ning, H. Shinohara*

Unsynchronized Diameter Changes of Double-Wall Carbon Nanotubes during Chemical Vapour Deposition Growth

Unsynchronized growing! Unsynchronized diameter changes of the inner and the outer tubes are observed in the double-wall carbon nanotubes (DWNTs) prepared by CoMo/MgO catalysts. The difference of the growth surroundings for the inner and outer tubes of DWNTs can consistently explain the observed unsynchronized diameter changes.



Chem. Asian J.
DOI: **10.1002/asia.200800347**

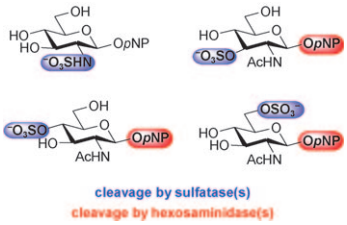


Glycobiology

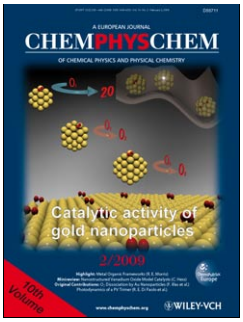
K. J. Loft, P. Bojarová, K. Slámová, V. Křen,* S. J. Williams*

Synthesis of Sulfated Glucosaminides for Profiling Substrate Specificities of Sulfatases and Fungal β-*N*-Acetylhexosaminidases

Systematic sulfation: Sulfated glycoconjugates are degraded either by desulfation followed by glycoside cleavage, or by glycoside cleavage followed by desulfation. To study these processes, here we report the synthesis of four regioisomerically sulfated *p*-nitrophenyl glucosaminides from the common precursor *p*-nitrophenyl *N*-acetyl-β-D-glucosaminide. These substrates allowed the rapid analysis of the substrate preferences of a set of four sulfatases and 24 hexosaminidases.



ChemBioChem
DOI: **10.1002/cbic.200800656**

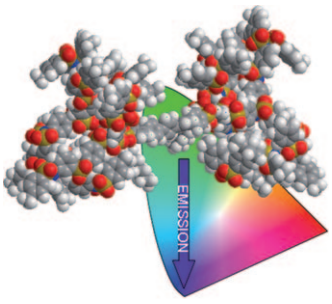


Dendrimers

G. Bergamini, P. Ceroni,* V. Balzani, R. Kandre, O. Lukin*

Dendrimers with a Pentaphenylene Core: A Photophysical Study

A plodding dendrimer: Intense violet luminescence both in solution and in the solid state is shown by a family of dendrimers with a *p*-pentaphenylene core and sulfonimide branches. The fourth-generation dendrimer (see image) has an extremely high steady-state fluorescence anisotropy in dichloromethane solution at 293 K.



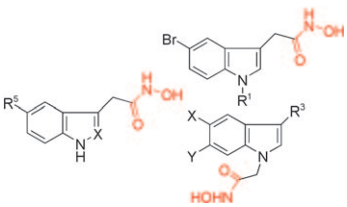
ChemPhysChem
DOI: **10.1002/cphc.200800597**

Antibiotics

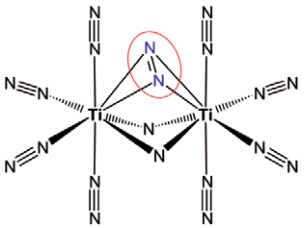
S. Petit, Y. Duroc, V. Larue, C. Giglione, C. Léon, C. Soulama, A. Denis, F. Dardel, T. Meinnel, I. Artaud*

Structure–Activity Relationship Analysis of the Peptide Deformylase Inhibitor 5-Bromo-1*H*-indole-3-acetohydroxamic Acid

SAR by NMR. A series of indole compounds derived from 5-bromo-1*H*-indole-3-acetohydroxamic acid were synthesized. Their inhibitory activities were evaluated against purified peptide deformylases (PDFs), and their antibacterial activities against *B. subtilis*, *E. coli* (wild-type and *tolC*), and a variety of pathogens were also determined. The potency of the best inhibitors was related to the NMR footprints of the respective acids with ^{15}N-labeled *E. coli* Ni-PDF.



ChemMedChem
DOI: **10.1002/cmdc.200800251**



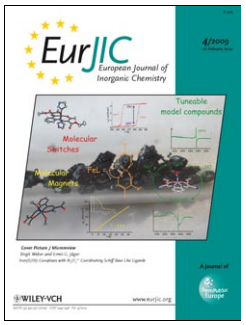
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200801044**

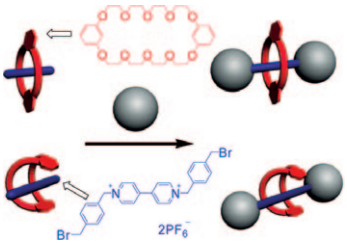
Dinitrogen Activation

L. Manceron,* O. Hübner, H.-J. Himmel*

Dinitrogen Activation by the Ti_2N_2 Molecule: A Matrix Isolation Study

N_2 activation by a nitride: reaction of matrix-isolated $Ti_2(\mu\text{-}N)_2$ with N_2 affords several new N_2 complexes with different degrees of N_2 bond activation. In neat solid N_2 matrices, the complex $[\{(N_2)_4Ti\}_2(\mu\text{-}N)_2(\mu\text{-}\eta^2\text{:}\eta^2\text{-}N_2)]$ is formed.





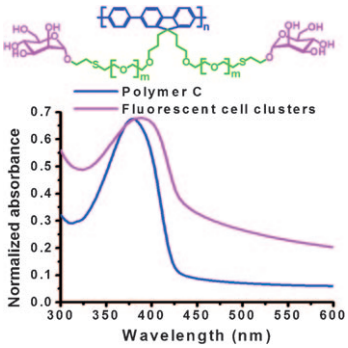
Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200801128**

Crown Ether Rotaxanes

S. Li, K. Zhu, B. Zheng, X. Wen, N. Li, F. Huang*

A Bis(*m*-phenylene)-32-crown-10/Paraquat [2]Rotaxane

The first bis(*m*-phenylene)-32-crown-10/paraquat [2]rotaxane was synthesized by the threading-followed-by-stoppering strategy. The successful preparation of this [2]rotaxane showed unambiguously that pseudorotaxane-type complexation, rather than the previously reported taco-complex-type complexation, exists for complexation between bis(*m*-phenylene)-32-crown-10 and paraquat derivatives in solution.



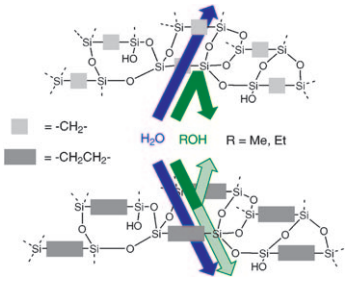
Chem. Eur. J.
DOI: **10.1002/chem.200801875**

Conjugated Glycopolymers

C. Xue, S. Velayudham, S. Johnson, R. Saha, A. Smith, W. Brewer, P. Murthy, S. T. Bagley, H. Liu*

Highly Water-Soluble, Fluorescent, Conjugated Fluorene-Based Glycopolymers with Poly(ethylene glycol)-Tethered Spacers for Sensitive Detection of *Escherichia coli*

Know your bacteria! Two fluorene-based, conjugated polymers with oligo(ethylene glycol)- and poly(ethylene glycol)-tethered spacers have been prepared by the Suzuki coupling polymerization reactions. β-Glucose and α-mannose residues were covalently attached to the conjugated polymers by post-polymerization functionalization with thiol-functionalized carbohydrates under basic conditions. Investigation on their use as biosensing materials for the detection of *Escherichia coli* are reported.



ChemSusChem
DOI: **10.1002/cssc.200800198**

Biofuel Production

R. Kreiter, M. D. A. Rietkerk, H. L. Castricum, H. M. van Veen, J. E. ten Elshof, J. F. Vente*

Stable Hybrid Silica Nanosieve Membranes for the Dehydration of Lower Alcohols

A thirst for water: Organic–inorganic hybrid silica nanosieve membranes with narrow pore size distributions were developed for the separation of binary (bio)alcohol/water mixtures, for example, to remove water from wet biofuels during production. These membranes dehydrate lower alcohols and show a stable performance in the presence of significant amounts of acetic acid.