

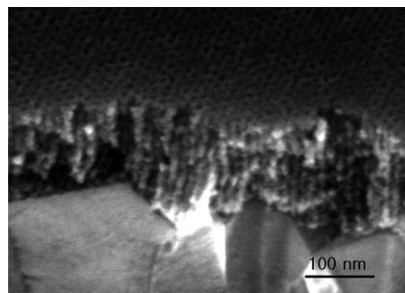
Mesoporous Materials

C.-W. Koh, U.-H. Lee, J.-K. Song,
H.-R. Lee, M.-H. Kim, M. Suh,
Y.-U. Kwon*

Mesoporous Titania Thin Film with
Highly Ordered and Fully Accessible
Vertical Pores and Crystalline Walls

Chem. Asian J.

DOI: 10.1002/asia.200700331



Available vacancies: Novel mesoporous titania thin films can be prepared with highly ordered vertical channels. Most of the pores are accessible from the film surface, and these channels can be filled with gold to produce gold nanowires.

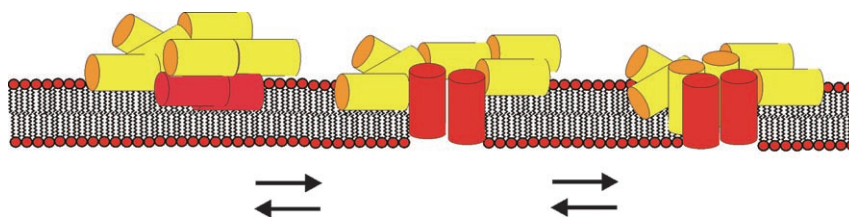
Membrane Proteins

C. Aisenbrey, M. Cusan, S. Lambotte,
P. Jasperse, J. Georgescu, U. Harzer,
B. Bechinger*

Specific Isotope Labeling of Colicin E1
and B Channel Domains For Membrane
Topological Analysis by Oriented
Solid-State NMR Spectroscopy

ChemBioChem

DOI: 10.1002/cbic.200700507



Umbrella or pen-knife? A method is presented to selectively label the colicin E1 and B channel domains with ^{15}N . When the colicin E1 channel that carries a single ^{15}N methionine within its hydrophobic helix 9 region was reconstituted

into oriented membranes and investigated by solid-state NMR spectroscopy, a variety of alignments were observed. This suggests that the protein can adopt a variety of conformations.

Solar Cells

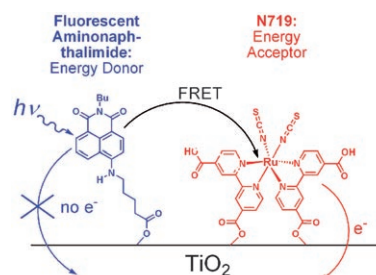
C. Siegers,* U. Würfel, M. Zistler,
H. Gores, J. Hohl-Ebinger, A. Hinsch,
R. Haag

Overcoming Kinetic Limitations of
Electron Injection in the Dye Solar Cell
via Coadsorption and FRET

ChemPhysChem

DOI: 10.1002/cphc.200700864

Two are better than one: Coadsorbing a fluorescent dye with N719 onto the TiO_2 electrode of a transparent dye solar cell leads to photocurrent generation from the additional dye although it is not a good sensitizer for TiO_2 alone. This behavior is attributed to resonant energy transfer to N719 (see figure). The latter thus acts as a catalyst for sensitization of a second dye.



Computer Chemistry

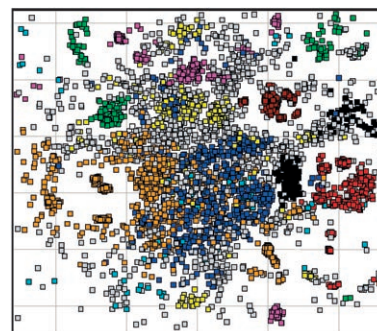
L. Ridder,* M. Wagener*

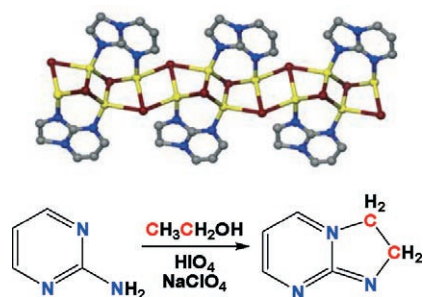
SyGMA: Combining Expert Knowledge
and Empirical Scoring in the Prediction
of Metabolites

ChemMedChem

DOI: 10.1002/cmdc.200700312

A dataset of 6187 metabolic reactions reported to occur in man has been used to develop a rule-based method that systematically predicts and ranks potential metabolites of a given parent compound. The graphic shows a projection of the training set with various types of correctly predicted metabolic reactions represented by different colors.





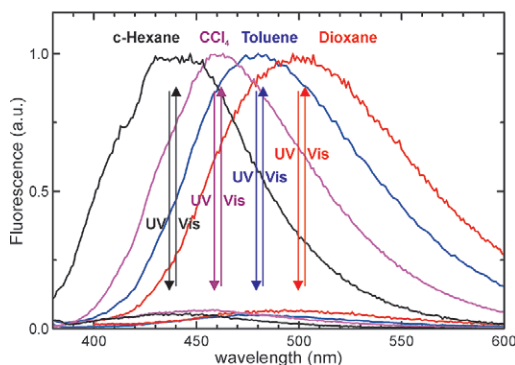
Two luminescent copper halide coordination polymers, $(\text{CuCl})_3\text{C}_6\text{H}_7\text{N}_3$ and $(\text{CuI})_2\text{C}_6\text{H}_7\text{N}_3$ ($\text{C}_6\text{H}_7\text{N}_3 = 2,3$ -dihydroimidazo[1,2- α]pyrimidine), were assembled under solvothermal conditions starting with $\text{CuCl}_2 \cdot 2\text{H}_2\text{O}$, $\text{HIO}_4 \cdot 2\text{H}_2\text{O}$, $\text{NaClO}_4 \cdot \text{H}_2\text{O}$, NaHCO_3 , 2-aminopyrimidine, and ethanol. The nitrogen heterocyclic 2,3-dihydroimidazo[1,2- α]pyrimidine ligand was synthesized by an in situ reaction.

Luminescent Cu Coordination Polymers

M. Bi, G. Li, J. Hua, Y. Lin, J. Cao, Z. Shi,* S. Feng

Synthesis of Copper Halide Coordination Polymers with Ligands Formed by In Situ Cyclization of 2-Aminopyrimidine and Ethanol

Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200701126



New fluorescent probes, whose emission can be switched "on" and "off" photochemically, are also able to sense the polarity of the (micro)environment. The

nature of the solvent produces a solvatochromic effect in the emission spectra, and affects the speed of the switching reaction.

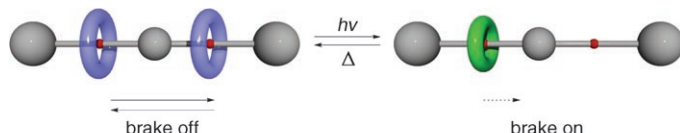


Switchable Fluorescent Probes

S. F. Yan, V. N. Belov, M. L. Bossi,* S. W. Hell

Switchable Fluorescent and Solvatochromic Molecular Probes Based on 4-Amino-N-methylphthalimide and a Photochromic Diarylethene

Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200800125



Switching Device: A report into the design, synthesis, and demonstration of

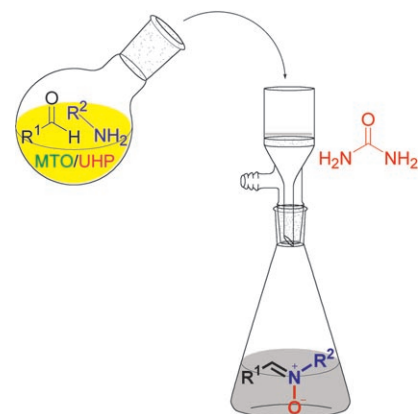
a prototype shuttling molecular machine that has a reversible brake function.

Molecular Shuttle

K. Hirose,* Y. Shiba, K. Ishibashi, Y. Doi, Y. Tobe

A Shuttling Molecular Machine with Reversible Brake Function

Chem. Eur. J.
DOI: 10.1002/chem.200702001



Simple, selective, sustainable: Nitrones can be synthesized from primary amines and aldehydes by a one-pot condensation/oxidation process with urea-hydrogen peroxide (UHP) in the presence of methyltrioxorhenium (MTO). At the end of the reaction, the solid urea is simply filtered off. The reaction is simple and high yielding (68–89%), and it allows the regioselective synthesis of nitrones from easily available starting materials.

Sustainable Chemistry

F. Cardona, M. Bonanni, G. Soldaini, A. Goti*

One-Pot Synthesis of Nitrones from Primary Amines and Aldehydes Catalyzed by Methyltrioxorhenium

ChemSusChem
DOI: 10.1002/cssc.200700156