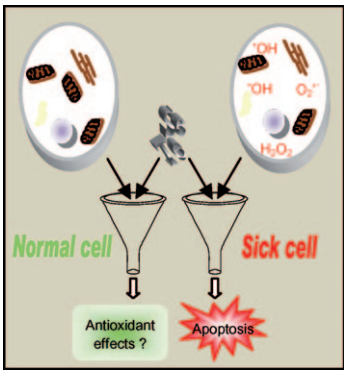
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Cancer Therapy

V. Jamier, L. A. Ba, C. Jacob*

Selenium- and Tellurium-Containing Multifunctional Redox Agents as Biochemical Redox Modulators with Selective Cytotoxicity

Programmed destruction: Selenium- and tellurium-based agents turn the oxidizing redox environment present in certain cancer cells into a lethal cocktail of reactive species, which pushes these cells over a critical redox threshold and ultimately kills them through apoptosis (see figure).



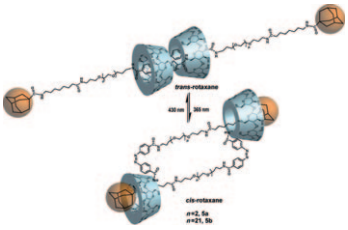
Chem. Eur. J.
DOI: **10.1002/chem.201000884**

Rotaxanes

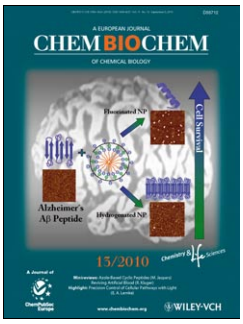
S. Li, D. Taura, A. Hashidzume, A. Harada*

Light-Switchable Janus [2]Rotaxanes Based on α-Cyclodextrin Derivatives Bearing Two Recognition Sites Linked with Oligo(ethylene glycol)

A light switch: With the aim of constructing a molecular muscle, the Janus [2]rotaxane with two recognition sites, which was joined with linkers of different lengths, were synthesized and characterized. Experimental data demonstrated that the recognition site of the α-CD moiety was switched by photoisomerization of the azobenzene moiety, causing a size change in hydrodynamic radius owing to the different length of linker between the two recognition sites.



Chem. Asian J.
DOI: **10.1002/asia.201000169**

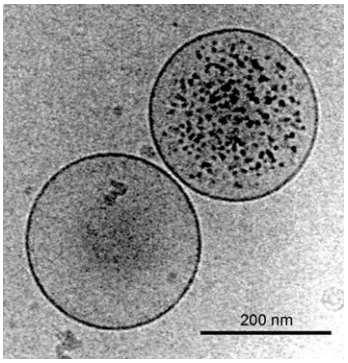


Proteins

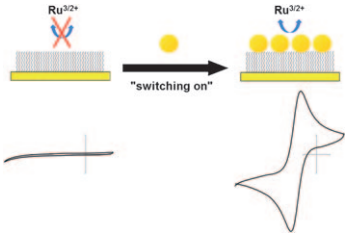
P. L. Luisi,* M. Allegretti, T. Pereira de Souza, F. Steiniger, A. Fahr, P. Stano

Spontaneous Protein Crowding in Liposomes: A New Vista for the Origin of Cellular Metabolism

Ferritin encapsulation inside lipid vesicles reveals the spontaneous formation of protein-rich vesicles. The solute distribution inside the vesicles follows a power law. The important conclusion for origins-of-life scenarios is that the dynamics of membrane closure allow the accumulation of solutes inside primitive cells, thus providing an explanation for the origins of early functional cells.



ChemBioChem
DOI: **10.1002/cbic.201000381**



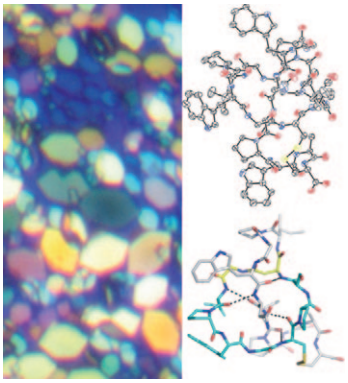
ChemPhysChem
DOI: **10.1002/cphc.201000250**

Nanoparticles

J. Dyne, Y.-S. Lin, L. M. H. Lai, J. Z. Ginges, E. Luais, J. R. Peterson, I. Y. Goon, R. Amal, J. J. Gooding*

Some More Observations on the Unique Electrochemical Properties of Electrode–Monolayer–Nanoparticle Constructs

"**Switching on"** the electrochemistry of ruthenium due to the immobilization of gold nanoparticles on a passivating SAM is investigated (see figure). Gap-mode Raman studies reveal the location of the nanoparticles on top of the SAM and further electrochemical observations are presented on the impacts of nanoparticle diameter and surface charge.



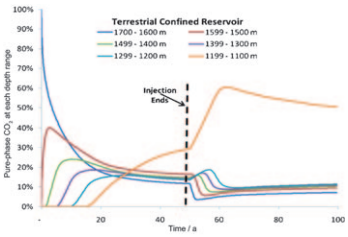
ChemMedChem
DOI: **10.1002/cmdc.201000264**

Bioactive Peptides

H. Nar,* A. Schmid, C. Puder, O. Potterat

High-Resolution Crystal Structure of a Lasso Peptide

Have I got noose for you! Lasso peptides are a growing class of bioactive peptides of microbial origin. The first crystal structure of a member of this family, the glucagon receptor antagonist BI-32169, shows that the fold is built predominantly by regular secondary structural elements and a tight network of hydrogen bonds that are partially shielded from solvent by hydrophobic amino acid side chains. This results in an extraordinarily stable structure that is resistant to thermal unfolding or proteolytic digestion, which facilitates its biological function.



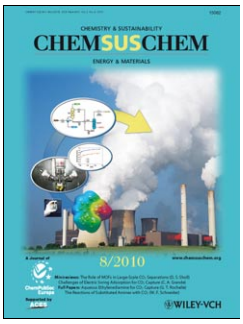
ChemSusChem
DOI: **10.1002/cssc.201000032**

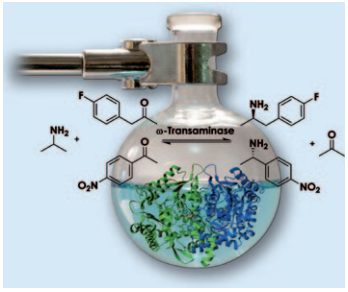
Carbon Dioxide Storage

K. Z. House,* B. Altundas, C. F. Harvey, D. P. Schrag

The Immobility of CO_2 in Marine Sediments Beneath 1500 Meters of Water

Injecting liquid CO_2 into deep-sea sediments below ca. 3 km of seawater has been suggested for the permanent storage of anthropogenic CO2. It is demonstrated that buoyant liquid CO_2 with a density of about 90% that of seawater is sufficiently immobile that it can be considered trapped by gravity and capillarity.





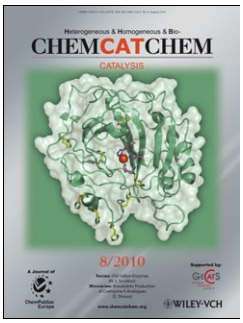
ChemCatChem
DOI: **10.1002/cctc.201000107**

Enzymes

M. Svedendahl, C. Branneby, L. Lindberg, P. Berglund*

Reversed Enantiopreference of an ω-Transaminase by a Single-Point Mutation

Rational design of an (*S*)-selective ω-transaminase from *Arthrobacter citreus* variant CNB05-01 increased the enantioselectivity for 4-fluorophenylacetone. Additionally, a single-point mutation, V328A, reversed the enzyme enantiopreference for 4-fluorophenylacetone, which was found to be substrate dependent. The shift in enantiopreference was confirmed by molecular docking simulations.

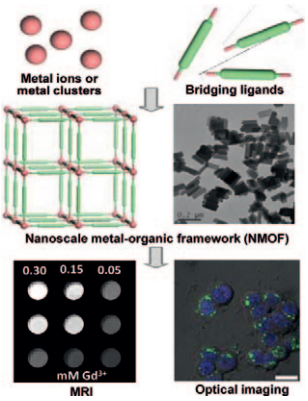


MRI Agents

J. Della Rocca, W. Lin*

Nanoscale Metal–Organic Frameworks: Magnetic Resonance Imaging Contrast Agents and Beyond

This microreview covers the development of nanoscale metal–organic frameworks (NMOFs) as magnetic resonance imaging contrast agents. NMOFs not only provide large amounts of paramagnetic metal ions but are superior to clinically used contrast agents on a per-metal basis. NMOFs show promise as contrast agents for other imaging modalities and in chemical and biological sensing applications.



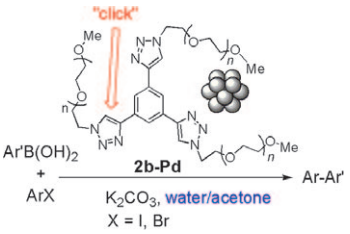
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201000496**

Aqueous Chemistry

N. Mejías, R. Pleixats,* A. Shafir,* M. Medio-Simón, G. Asensio

Water-Soluble Palladium Nanoparticles: Click Synthesis and Applications as a Recyclable Catalyst in Suzuki Cross-Couplings in Aqueous Media

Incorporation of three PEG chains into a nanoparticle stabilizer was achieved by click coupling. The Pd nanoparticles were water-soluble, underwent Suzuki cross-coupling in a water/acetone mixture, and could be recycled several times. A range of functionalized aryl bromides and boronic acids also underwent efficient coupling.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201000671**