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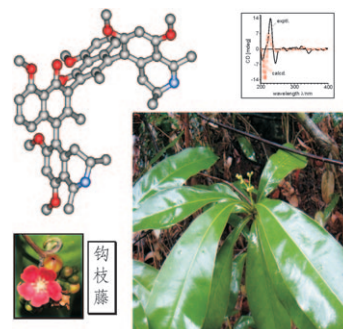


Natural Products

M. Xu, T. Bruhn, B. Hertlein, R. Brun, A. Stich, J. Wu, G. Bringmann*

Shuangancistrocladins A–E, Dimeric Naphthylisoquinoline Alkaloids with Three Chiral Biaryl Axes from the Chinese Plant *Ancistrocladus tectorius*

Three consecutive chiral axes: Natural products with three chiral axes have been isolated from the Chinese plant *Ancistrocladus tectorius* (see picture) and their stereostructures characterized by spectroscopic and quantum chemical methods. These newly discovered dimeric naphthylisoquinoline alkaloids not only have intriguing chiral properties but also promising anti-infective activities.



Chem. Eur. J.
DOI: 10.1002/chem.200903247

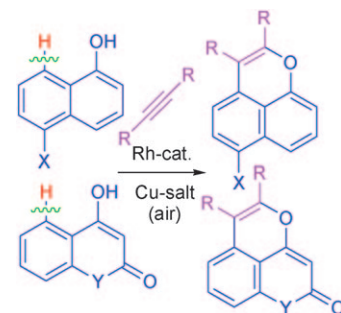


Oxidative Coupling

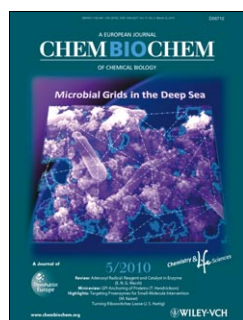
S. Mochida, M. Shimizu, K. Hirano, T. Satoh,* M. Miura*

Synthesis of Naphtho[1,8-*bc*]pyran Derivatives and Related Compounds through Hydroxy Group Directed C–H Bond Cleavage under Rhodium Catalysis

One-step synthesis: The naphtho[1,8-*bc*]pyran skeleton can be found in a wide range of natural products and candidates for pharmaceuticals and organic materials. The straightforward, efficient construction of the tricyclic structure was achieved by the Rh-catalyzed oxidative coupling of 1-naphthols with alkynes by means of regioselective C–H bond cleavage directed by a hydroxy function (see scheme; R = aryl, alkyl; X = H, OMe, NHCOF₃; Y = O, NMe).



Chem. Asian J.
DOI: 10.1002/asia.200900639

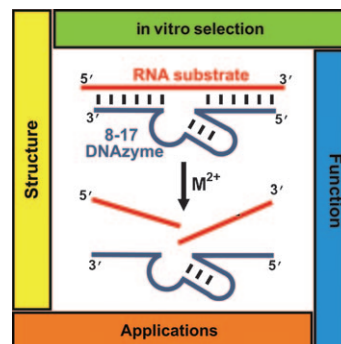


Catalysis

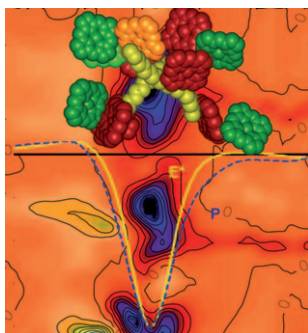
K. Schlosser, Y. Li*

A Versatile Endoribonuclease Mimic Made of DNA: Characteristics and Applications of the 8–17 RNA-Cleaving DNAzyme

Cutting RNA with DNA: The “8–17” DNAzyme is a short single-stranded DNA molecule that can function like an endoribonuclease and catalyze the efficient and site-specific cleavage of cognate RNA molecules. This review provides a comprehensive discussion of the characteristics and applications of this unique DNA-based enzyme.



ChemBioChem
DOI: 10.1002/cbic.200900786



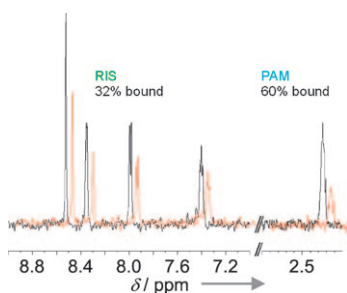
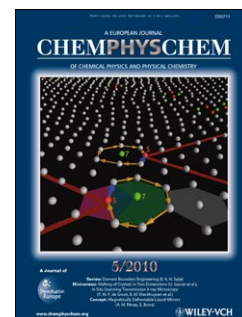
ChemPhysChem
DOI: 10.1002/cphc.200900852

Photosystem II

M. G. Müller, P. Lambrev, M. Reus, E. Wientjes, R. Croce, A. R. Holzwarth*

Singlet Energy Dissipation in the Photosystem II Light-Harvesting Complex Does Not Involve Energy Transfer to Carotenoids

A chlorophyll–chlorophyll state: The energy dissipation mechanism in oligomers of the major light-harvesting complex II (LHC II) from *Arabidopsis thaliana* mutants is studied (see figure). Femtosecond experiments show that a chlorophyll–chlorophyll charge-transfer state is formed as an intermediate in the excited-state quenching.



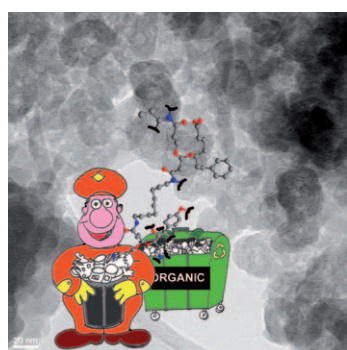
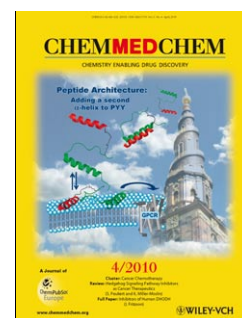
ChemMedChem
DOI: 10.1002/cmdc.201000016

Drug Delivery

W. Jahnke,* C. Henry

An in vitro Assay to Measure Targeted Drug Delivery to Bone Mineral

Safer bone drugs. An NMR-based assay to determine binding affinities of small molecules to bone powder or hydroxyapatite was developed and used to rank clinical bisphosphonates. This assay can be used to monitor the bone affinity of active substance conjugates with bone-affinity tags in order to target active substances to bone.



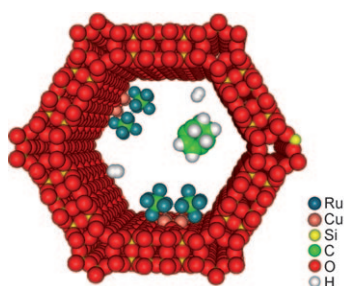
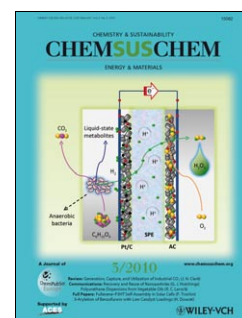
ChemSusChem
DOI: 10.1002/cssc.200900205

Surfactants

V. Boffa, D. G. Perrone, E. Montoneri,* G. Magnacca, L. Bertinetti, L. Garlasco, R. Mendichi

A Waste-Derived Biosurfactant for the Preparation of Templated Silica Powders

A biosurfactant isolated from a mix of green and humid municipal refuses, aged for 110 days under aerobic conditions, is used to tailor the morphology of silica particles prepared via sol–gel synthesis. By varying the biosurfactant concentration in the reaction medium from 1 to 10 g L^{−1} it is possible to produce materials with a main pore size ranging from 4 to 30 nm. These results encourage the exploitation of urban refuse as a source of bioorganic products.



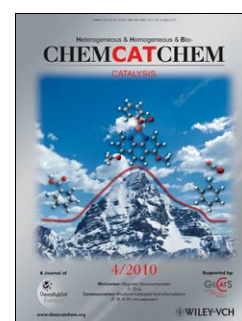
ChemCatChem
DOI: 10.1002/cctc.200900258

Metal Nanoclusters

J. M. Thomas,* R. Raja,* P. L. Gai, H. Grönbeck, J. C. Hernández-Garrido

Exceptionally Active Single-Site Nanocluster Multifunctional Catalysts for Cascade Reactions

Cluster's last stand: Metal nanoparticles, which are well known for their catalytic properties, contain 10³–10⁶ atoms in each particle, giving rise to a continuous band of electronic energy levels. As a result, they are very different electronically from metal nanoclusters composed of aggregates of approximately 3–20 atoms. Such nanoclusters themselves exhibit remarkable catalytic performances in hydrogenation and ammoxidation cascade reactions.



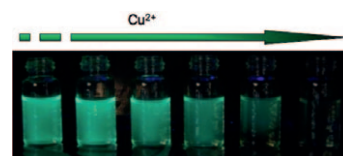


Sensors

A. Reynal, J. Etxebarria, N. Nieto, S. Serres, E. Palomares,*
A. Vidal-Ferran*

A Bipyridine-Based “Naked-Eye” Fluorimetric Cu^{2+} Chemosensor

A new molecular probe for the optical detection of Cu^{II} ions is described. The molecule can be used as a chemodosimeter to estimate the concentration of Cu^{II} ions in solution either by UV/Vis or photoluminescence spectroscopy.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200900887



Chemoselectivity Mapping

N. Bense, D. Klär, C. Catala, P. Schneckenburger, F. Hoonakker,
S. Goncalves, A. Wagner*

A Chemometric Approach to Map Reaction Media Chemoselectivity: Example of Selective Debenzylation

A chemometric process consisting in measuring the reactivity of a tailored set of substrates under standardized and complementary reaction conditions was run to evaluate the possibility of building a coherent database that would give a general overview of the selectivity of a variety of catalysts. This systematic experimental data collection was applied to the hydrogenolysis of *O*-benzyl ether compounds.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200901497

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Heterogeneous, Homogeneous and BioCatalysis

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