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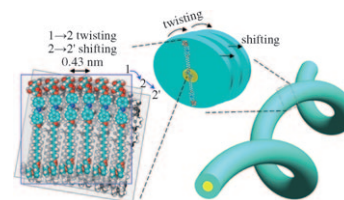


Self-Assembly

T.-F. Lin, R.-M. Ho,* C.-H. Sung, M.-S. Ho, C.-S. Hsu*

Twist Ferrocene Wires from Self-assembly of Chiral Rod-Coil Organometallics

Let's twist again! A chiral rod-coil organometallic material, FC11, has been synthesized and shows liquid-crystalline behavior. By taking advantage of the self-assembly of the chiral Schiff based rod-coil molecule that is end-capped with ferrocene, the self-assembled superstructure can serve as a template to form iron-rich spiral superstructures (see graphic).



Chem. Eur. J.
DOI: 10.1002/chem.201000772

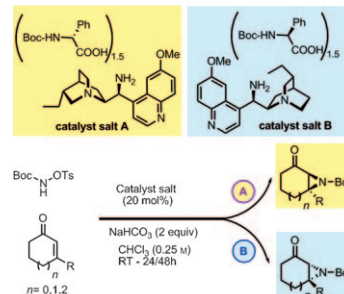


Organocatalysis

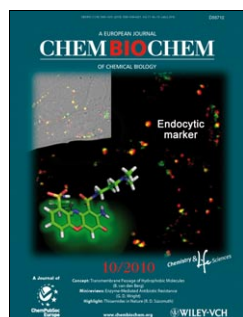
F. De Vincentiis, G. Bencivenni, F. Pesciaoli, A. Mazzanti, G. Bartoli, P. Galzerano, P. Melchiorre*

Asymmetric Catalytic Aziridination of Cyclic Enones

Access to aziridine antipodes: The first catalytic method for the asymmetric aziridination of cyclic enones is described (see scheme). The presented organocatalytic strategy is effective for a wide variety of substrates, thereby providing fast access to both of the antipodes of the aziridines with very high enantiomeric purity.



Chem. Asian J.
DOI: 10.1002/asia.201000040

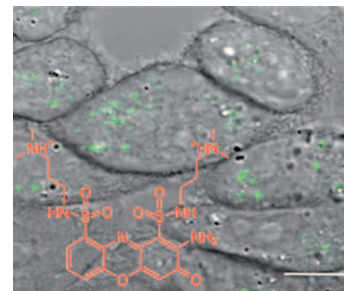


Biocatalysis

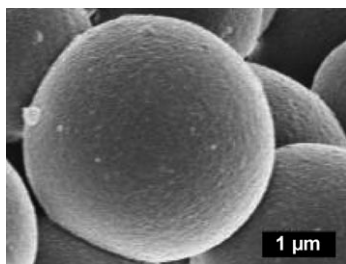
F. Bruyneel, L. D'Auria, O. Payen, P. J. Courttoy, J. Marchand-Brynaert*

Live-Cell Imaging with Water-Soluble Aminophenoxazinone Dyes Synthesised through Laccase Biocatalysis

Light 'em up: Water-soluble aminophenoxazine dyes were used as valuable compounds in live-cell imaging. These heterocycles were produced by using an enzymatic synthetic strategy. Among the compounds tested, one in particular gave excellent results as an endocytic marker; it performed in a similar manner to Lucifer Yellow.



ChemBioChem
DOI: 10.1002/cbic.201000145



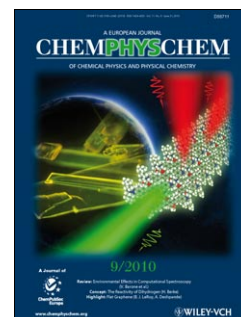
ChemPhysChem
DOI: 10.1002/cphc.201000188

Microfluidics

V. Chokkalingam, B. Weidenhof, M. Krämer, S. Herminghaus, R. Seemann, W. F. Maier*

Template-free Preparation of Mesoporous Silica Spheres through Optimized Microfluidics

Droplet-based microfluidics is used to perform sol–gel reactions. The chemicals are dispensed, mixed, and pre-processed inside a microfluidic device allowing for long operation times without any clogging. Using this approach and optimizing all reaction and processing parameters, mesoporous silica particles with a very high surface area of $820 \text{ m}^2 \text{ g}^{-1}$ and a narrow pore radius distribution of around 2.4 nm are obtained.



 Chemical structure of a macrocyclic histone deacetylase (HDAC) inhibitor, showing a complex ring system with various functional groups.

	IC ₅₀ values	
	7 (<i>n</i> =6)	16 (<i>n</i> =9)
HDAC1	13.9 nM	226.7 nM
pf-HDAC-1	29 nM	182 nM
<i>P. falciparum</i>	0.098 mg mL ⁻¹	0.883 mg mL ⁻¹
<i>L. donovani</i>	NA	3.54 mg mL ⁻¹

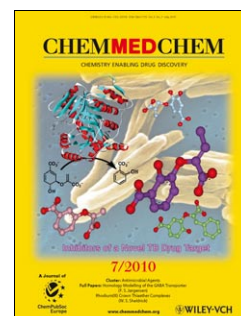
ChemMedChem
DOI: 10.1002/cmdc.201000087

Antiparasitic Agents

W. Guerrant, S. C. Mwakwari, P. C. Chen, S. I. Khan, B. L. Tekwani,* A. K. Oyeler*

A Structure–Activity Relationship Study of the Antimalarial and Antileishmanial Activities of Nonpeptide Macrocyclic Histone Deacetylase Inhibitors

Histone deacetylase inhibitors (HDACi) cause a diverse range of responses in biological systems. The depth of the antiparasitic capabilities of macrocyclic HDACi was determined against malarial and leishmanial pathogens. Antiparasitic activities of macrocyclic HDACi derived from macrolide skeletons are dependent on the length (*n*) of the spacer group that separates their zinc-binding and surface-recognition moieties. Antimalarial activities peak when *n*=6, whereas antileishmanial activities are optimum when *n*=8–9. This observation could facilitate the identification of other HDACi that are more selective for either parasite.



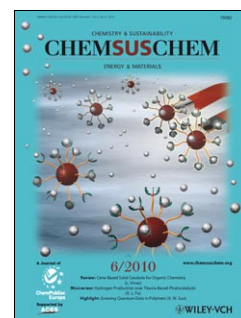
ChemSusChem
DOI: 10.1002/cssc.200900254

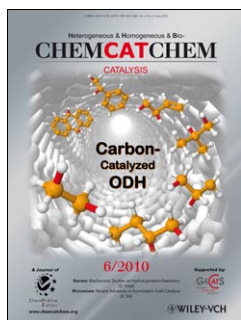
Aqueous-Phase Reforming

A. V. Kirilin, A. V. Tokarev, E. V. Murzina, L. M. Kustov, J.-P. Mikkola,* D. Yu. Murzin*

Reaction Products and Transformations of Intermediates in the Aqueous-Phase Reforming of Sorbitol

Aqueous-phase reforming of sorbitol over a Pt/Al₂O₃ catalyst is investigated. Parameters such as the sorbitol feed rate and temperature are studied. An analytical approach based on analysis of the gas and liquid phases as well as the total carbon content is developed to identify intermediates. The formation of the majority of identified compounds is explained, and a plausible reaction network for the conversion of sorbitol and transformation of intermediates is proposed.



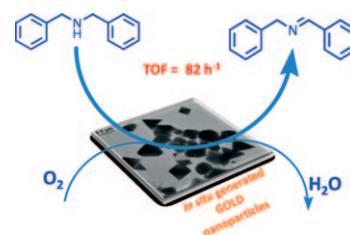


Gold Catalysis

L. Aschwanden, T. Mallat, M. Maciejewski, F. Krumeich, A. Baiker*

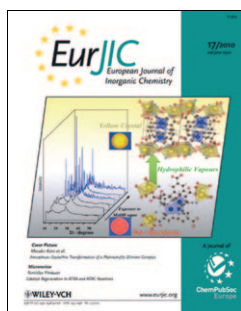
Development of a New Generation of Gold Catalysts for Amine Oxidation

New gold dream: Outstandingly active Au/CeO₂ catalysts have been developed for the aerobic oxidation of amines to imines. The gold nanoparticles are generated in an organic medium in situ prior to the oxidation reaction. Various halogen-containing gold salts can be applied in the presence of nanoceria and the amine substrate acts as the reducing agent. A crucial point is the synergism between the vacuum-treated (200 °C) ceria and gold.



ChemCatChem

DOI: 10.1002/cctc.201000092

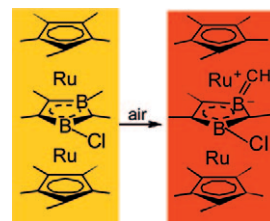


Triple-Decker Complexes

E. V. Mutseneck, H. Wadepohl, M. Enders,* A. R. Kudinov,* W. Siebert*

Paramagnetic (1,3-Diborolyl)ruthenium Triple-Decker Complexes and Transformation into Diamagnetic Complexes Having Bridging 1,3-Diborafulvene Ligands

eFluxing of a mixture of [Cp*₂RuCl]₄ and pentamethyl-2,3-dihydro-1,3-diborole in thf leads to the paramagnetic triple-decker complex. Exposed to air it slowly loses a hydrogen atom in CH₂Cl₂ to give the diamagnetic triple-decker complex with a bridging dihydro-diborafulvene derivative whose unique B=CH₂ group is strongly bent toward one of the ruthenium atoms.



Eur. J. Inorg. Chem.

DOI: 10.1002/ejic.200901232



Reaction Monitoring

E. Heller,* J. Klöckner, W. Lautenschläger, U. Holzgrabe*

Online Monitoring of Microwave-Enhanced Reactions by UV/Vis Spectroscopy

Fast microwave-enhanced reactions were monitored online by UV/Vis spectroscopy with a sensor in solution. This method is superior to slower methods (e.g. NMR, HPLC, TLC), because it is much faster and can also be performed in concentrated solutions.



Eur. J. Org. Chem.

DOI: 10.1002/ejoc.201000441