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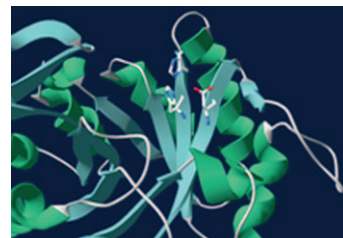


## Artificial Metalloenzymes

J. Podtetenieff, A. Taglieber, E. Bill, E. J. Reijerse, M. T. Reetz\*

### An Artificial Metalloenzyme: Creation of a Designed Copper Binding Site in a Thermostable Protein

**Guided by nature:** A designed binding site comprising the His/His/Asp motif for  $\text{Cu}^{\text{II}}$  complexation has been constructed in a robust protein by site-specific mutagenesis (see picture). The artificial metalloenzyme catalyzes an enantioselective Diels–Alder reaction.



*Angew. Chem. Int. Ed.*  
DOI: [10.1002/anie.201002106](https://doi.org/10.1002/anie.201002106)

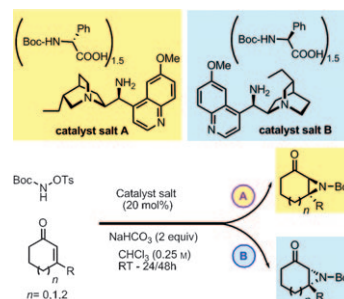


## Organocatalysis

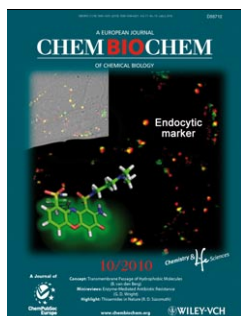
F. De Vincentiis, G. Bencivenni, F. Pesciaoli, A. Mazzanti, G. Bartoli, P. Galzerano, P. Melchiorre\*

### 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](https://doi.org/10.1002/asia.201000040)

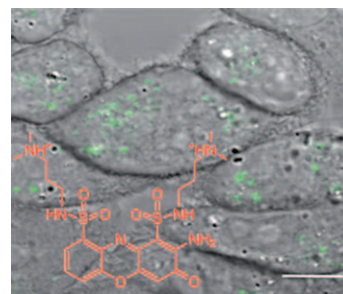


## Biocatalysis

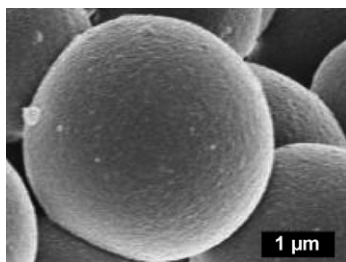
F. Bruyneel, L. D'Auria, O. Payen, P. J. Courttoy, J. Marchand-Brynaert\*

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

**Light 'em up:** Water-soluble aminophenoxazinone 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](https://doi.org/10.1002/cbic.201000145)



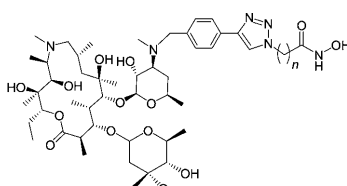
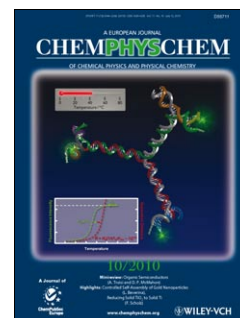
*ChemPhysChem*  
DOI: 10.1002/cphc.201000188

### 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.



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

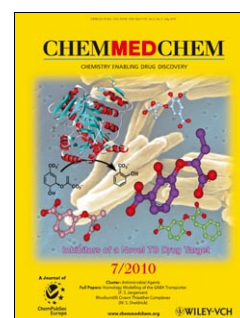
*ChemMedChem*  
DOI: 10.1002/cmdc.201000087

### Antiparasitic Agents

W. Guarrant, S. C. Mwakwari, P. C. Chen, S. I. Khan, B. L. Tekwani,\* A. K. Oyelere\*

#### 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

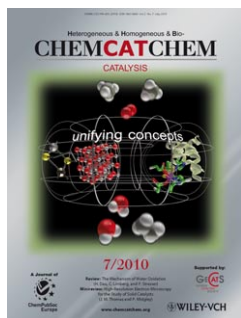
### Aqueous-Phase Reforming

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/Al<sub>2</sub>O<sub>3</sub> 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.



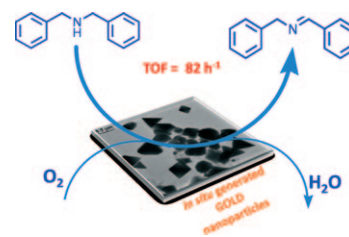


## Gold Catalysis

L. Aschwenden, 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/CeO<sub>2</sub> 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

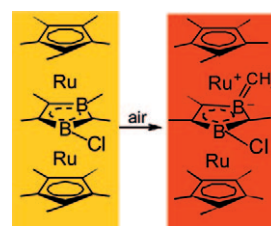


## Triple-Decker Complexes

E. V. Mutseneck, H. Wadepl, 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

Refluxing of a mixture of [Cp\*RuCl]<sub>4</sub> 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 CH<sub>2</sub>Cl<sub>2</sub> to give the diamagnetic triple-decker complex with a bridging dihydro-diborafulvene derivative whose unique B=CH<sub>2</sub> 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

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