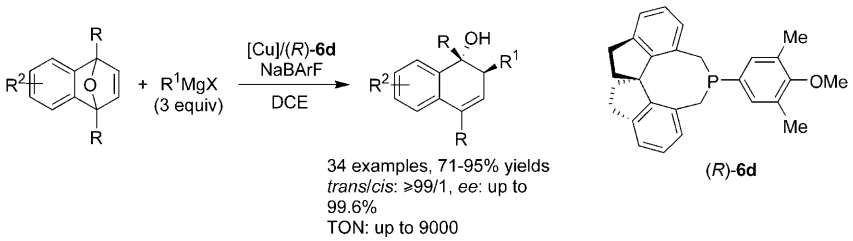
Cross-coupling

W. Zhang, S.-F. Zhu, X.-C. Qiao, Q.-L. Zhou*

Highly Enantioselective Copper-Catalyzed Ring Opening of Oxabicyclic Alkenes with Grignard Reagents

Chem. Asian J.
DOI: **10.1002/asia.200800159**



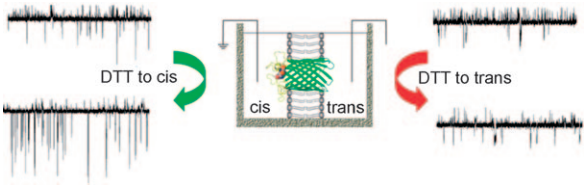
Open sesame: A highly efficient enantioselective desymmetrization of oxabicyclic alkenes is established with chiral copper complexes of spiro phosphines as catalysts. Excellent enantioselectivities (up to 99.6% *ee*) and high catalytic activity (TON = 9000) are obtained.

Biosensors

M. Chen, Q.-H. Li, H. Bayley*

Orientation of the Monomeric Porin OmpG in Planar Lipid Bilayers

ChemBioChem
DOI: **10.1002/cbic.200800444**



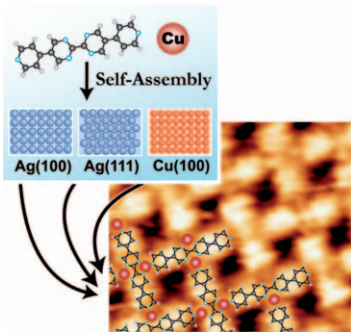
The orientations of single OmpG pores in planar lipid bilayers were determined from the sidedness of the response of an extracellular disulfide bond to dithiothreitol (DTT). With this knowledge, the binding of a cyclodextrin adapter presented to OmpG from the extracellular or periplasmic side was investigated. The information on the interaction between the cyclodextrin and OmpG serves to advance the use of OmpG as a biosensor.

Self-Assembly

S. L. Tait,* A. Langner, N. Lin, R. Chandrasekar, O. Fuhr, M. Ruben,* K. Kern

Assembling Isostructural Metal-Organic Coordination Architectures on Cu(100), Ag(100) and Ag(111) Substrates

ChemPhysChem
DOI: **10.1002/cphc.200800575**



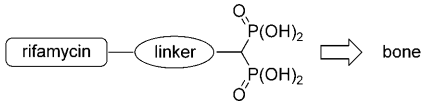
Isostructural coordination architectures in two dimensions on different substrates require sufficient metal-organic bonding strength to overcome templating effects from the surface. The network structure in this STM image was grown on Cu(100) and was also produced on Ag(111) and Ag(100) surfaces, due to robust three-fold N–Cu coordination interactions stabilizing the network.

Prodrugs

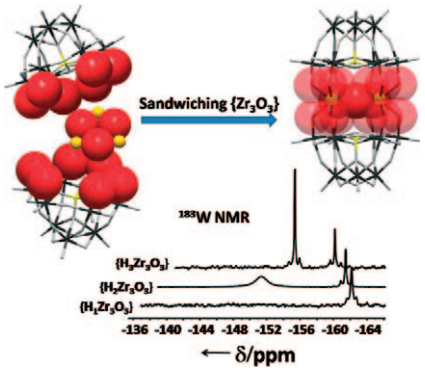
R. Reddy, E. Dietrich, Y. Lafontaine, T. J. Houghton, O. Belanger, A. Dubois, F. F. Arhin, I. Sarmiento, I. Fadhil, K. Laquerre, V. Ostiguy, D. Lehoux, G. Moeck, T. R. Parr, Jr., A. Rafai Far*

Bisphosphonated Benzoxazinorifamycin Prodrugs for the Prevention and Treatment of Osteomyelitis

ChemMedChem
DOI: **10.1002/cmdc.200800255**



Benzoxazinorifamycins are potent antibacterial agents currently in development. Tethering these antibiotics to a bisphosphonate functional group by a cleavable linker allows the delivery of these agents to osseous tissues, where they can be released over time to treat bone infections. Various linker strategies are presented herein to develop osteotropic prodrugs, the activities of which are examined in vitro and in vivo.



Reaction of $ZrOCl_2$ with A-α-$[SiW_9O_{34}]^{9-}$ leads to a "sandwich" complex which consists of a central triangular $\{Zr_3O_3\}$ core closely embedded between two $\{SiW_9O_{34}\}$ subunits. Structural characterisation shows that the central $\{Zr_3O_3\}$ core becomes protonated as a result of a remarkably slow proton transfer within the central triangle.

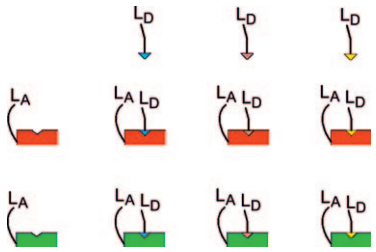
Polyoxometalate Chemistry

N. Leclerc-Laronze, J. Marrot, M. Haouas, F. Taulelle, E. Cadot*

Slow-Proton Dynamics within a Zirconium-Containing Sandwich-Like Complex Based on the Trivacant Anion α-$[SiW_9O_{34}]^{10-}$ – Synthesis, Structure and NMR Spectroscopy

Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200800214**

This article describes the formation of a 450-membered (chiral) bidentate phosphorus ligand library for application in homogeneous asymmetric catalysis. The ligands are formed by noncovalent interactions, namely nitrogen–porphyrinatozinc(II). Examples of their application in catalysis are given.



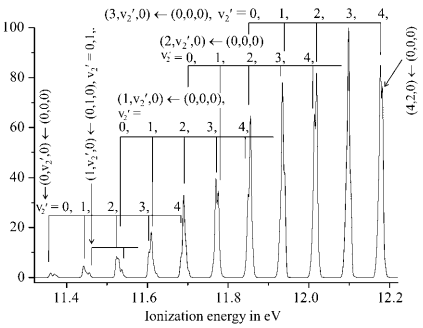
Supramolecular Ligand Libraries

P. E. Goudriaan, X.-B. Jang, M. Kuil, R. Lemmens, P. W. N. M. Van Leeuwen, J. N. H. Reek*

Synthesis of Building Blocks for the Development of the SUPRAPhos Ligand Library and Examples of Their Application in Catalysis

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200800499**

The first photoelectron band of difluorocarbene CF_2, has been studied by threshold photoelectron (TPE) spectroscopy. CF_2 was prepared by microwave discharge of a flowing mixture of hexafluoropropene, C_3F_6, and argon.

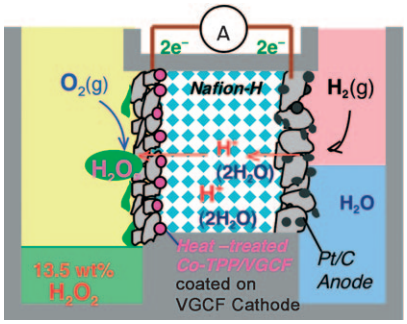


Reactive Intermediates

F. Innocenti, M. Eypper, E. P. F. Lee, S. Stranges, D. K. W. Mok, F.-t. Chau, G. C. King, J. M. Dyke*

Difluorocarbene Studied with Threshold Photoelectron Spectroscopy (TPES): Measurement of the First Adiabatic Ionization Energy (AIE) of CF_2

Chem. Eur. J.
DOI: **10.1002/chem.200801699**



Peroxide power: Neutral solutions of H_2O_2 can be produced directly and safely from O_2 and H_2 by using a fuel cell reaction. The most active and efficient cathode is a vapour-grown carbon fibre (VGCF) electrode coated with Co-tetraphenylporphyrin (0.05 wt%) on VGCF (2 mg cm^{-2}). A maximum concentration of 13.5 wt% (4.0 M) H_2O_2 is obtained under optimized conditions at 278 K.

Hydrogen Peroxide Synthesis

I. Yamanaka,* S. Tazawa, T. Murayama, R. Ichihashi, N. Hanaizumi

Catalytic Synthesis of Neutral H_2O_2 Solutions from O_2 and H_2 by a Fuel Cell Reaction

ChemSusChem
DOI: **10.1002/cssc.200800176**

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