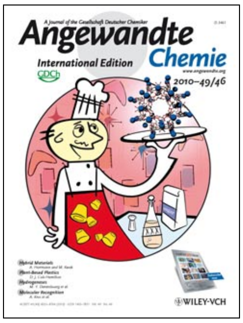
SPOTLIGHTS …

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.

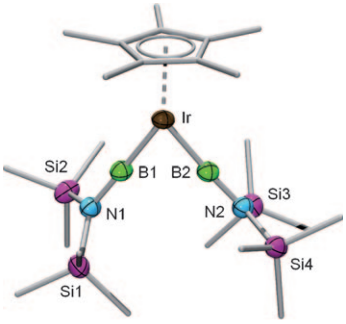


Bis(borylene) Complexes

S. Bertsch, H. Braunschweig,* B. Christ, M. Forster, K. Schwab, K. Radacki

Towards Homoleptic Borylene Complexes: Incorporation of Two Borylene Ligands into a Mononuclear Iridium Species

Place two B: The isolation of the first terminal, mononuclear bis(borylene) complex (see structure) represents a significant step towards the synthesis of homoleptic borylene complexes, and also provides deeper insight into the bonding characteristics of borylene complexes in general. A preliminary elucidation of the question of how two terminal BR ligands affect each other when bound to the same metal center is presented.



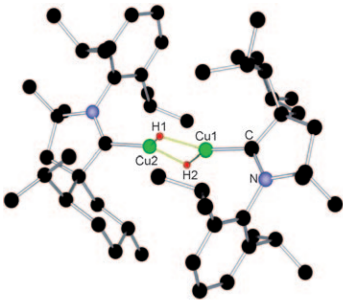
Angew. Chem. Int. Ed.
DOI: **10.1002/anie.201004103**

Copper Hydrides

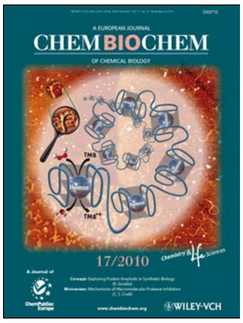
G. D. Frey, B. Donnadieu, M. Soleilhavoup, G. Bertrand*

Synthesis of a Room-Temperature-Stable Dimeric Copper(I) Hydride

CAACs are not NHCs! (NHC)CuH cannot be stored at room temperature, whereas a (CAAC)CuH is stable for weeks both in solution and in the solid state. In the presence of an additional L ligand, the hydride migrates to the carbene carbon affording (CAAC,H)CuL complexes. CAAC = cyclic (alkyl)(amino)carbene; NHC = N-heterocyclic carbene.



Chem. Asian J.
DOI: **10.1002/asia.201000576**

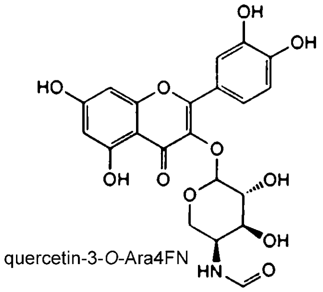


Glycosyltransferase

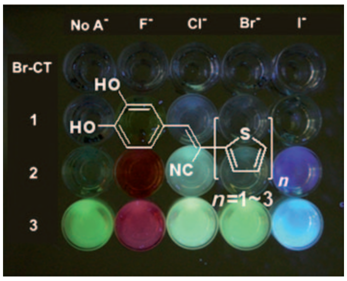
B.-G. Kim, N. R. Jung, E. J. Joe, H.-G. Hur, Y. Lim, Y. Chong, J.-H. Ahn*

Bacterial Synthesis of a Flavonoid Deoxyaminosugar Conjugate in *Escherichia coli* Expressing a Glycosyltransferase of *Arabidopsis thaliana*

Just add sugar: An unnatural flavonoid-deoxyaminosugar conjugate was biologically synthesized in *Escherichia coli* by engineering an *E. coli* nucleotide–sugar pathway and expressing a glycosyltransferase specific for UDP-arabinose derivatives.



ChemBioChem
DOI: **10.1002/cbic.201000456**



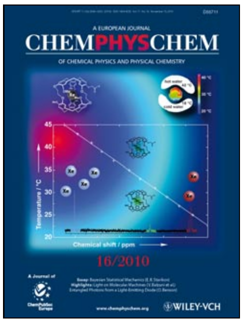
ChemPhysChem
DOI: **10.1002/cphc.201000582**

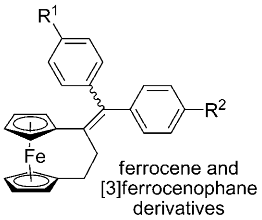
Sensors

B.-K. An, X. Wang, P. L. Burn,* P. Meredith*

Fluoride Sensing by Catechol-Based π-Electron Systems

Selectivity: Catechol-based sensors detect fluoride selectively via fluorescence or optical absorption. The sensitivity of detection is dependent on the chromophore length and fluoride can be sensed over the concentration range 1.7–200 μм (see figure). The catechol dye can detect fluoride in aqueous solution when adsorbed onto a solid support.





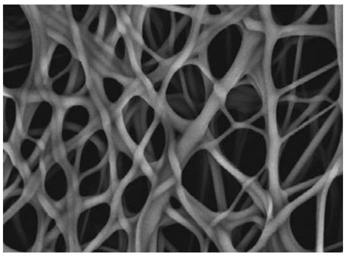
ChemMedChem
DOI: **10.1002/cmdc.201000286**

Bioorganometallic Chemistry

M. Görmen, P. Pigeon, S. Top,* E. A. Hillard,* M. Huché, C. G. Hartinger, F. de Montigny, M.-A. Plamont, A. Vessières, G. Jaouen

Synthesis, Cytotoxicity, and COMPARE Analysis of Ferrocene and [3]Ferrocenophane Tetrasubstituted Olefin Derivatives against Human Cancer Cells

A vicious cycle! A 28-compound structure–activity relationship study of ferrocene derivatives revealed that [3]ferrocenophanes are more cytotoxic than the corresponding ferrocene compounds, with the best IC_{50} values at approximately 10^{-8} м. Two leads were further tested against a panel of approximately 60 cell lines.



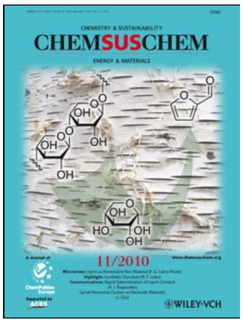
ChemSusChem
DOI: **10.1002/cssc.201000220**

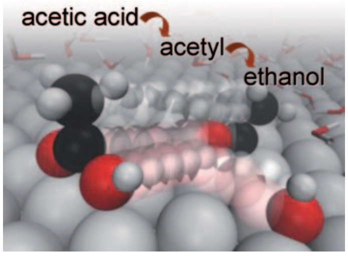
Fuel Cells

J. Choi, R. Wycisk, W. Zhang, P. N. Pintauro,* K. M. Lee, P. T. Mather

High Conductivity Perfluorosulfonic Acid Nanofiber Composite Fuel-Cell Membranes

Membranes are fabricated as a three-dimensional network of interconnected proton-conducting ionomer nanofibers that are embedded in an inert polymer matrix. The inert polymer controls water swelling of the nanofibers, thus permitting the fibers to have an ion-exchange capacity much greater than that which is practical in a homogeneous membrane. Such a high ion-exchange capacity membrane is needed for proton conduction in a hydrogen/air fuel cell that operates at high temperature and low humidity conditions.





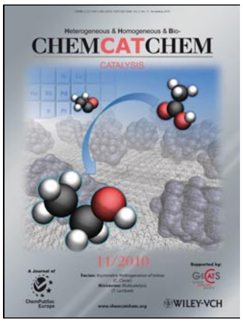
ChemCatChem
DOI: **10.1002/cctc.201000134**

Heterogeneous Catalysis

H. Olcay, L. Xu, Y. Xu,* G. W. Huber*

Aqueous-Phase Hydrogenation of Acetic Acid over Transition Metal Catalysts

Vision in scission: Catalytic hydrogenation of acetic acid to ethanol has been carried out in aqueous phase on several metals, with ruthenium being the most active and selective. DFT calculations suggest that the initial C–O bond scission yielding acetyl is the key step and that the intrinsic reactivity of the metals accounts for the observed activity.

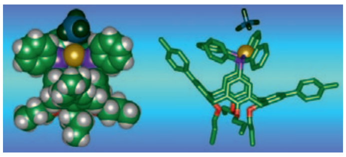


Calixarene Chelator

S. Sameni, C. Jeunesse,* M. Awada, D. Matt,* R. Welter

Unusually Large Bite Angle of a Distally Diphosphanylated Calix[4]arene Chelator

An upper-rim, distally diphosphanylated calix[4]arene readily forms a complex with $AgBF_4$. In the solid state the ligand displays an unexpectedly large bite angle of 138.8°, which reflects the flexibility of the calixarene skeleton. In solution the silver atom moves rapidly between two positions lying on either side of the calixarene axis.



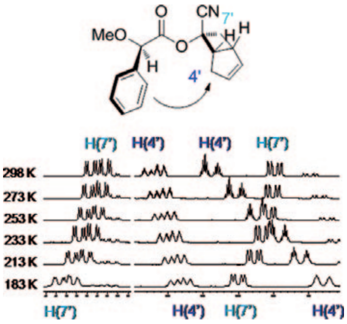
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201000595**

Absolute Configuration

I. Louzao, J. M. Seco, E. Quiñoá, R. Riguera*

The Use of a Single Derivative in the Configurational Assignment of Ketone Cyanohydrins

A simple NMR method for the assignment of the absolute configuration of ketone cyanohydrins is presented. The comparison of two ^1H NMR spectra recorded at different temperatures of a single MPA derivative constitutes its basis. This procedure allows surpassing the limitation on the amount of sample that is usually found in research areas such as natural product chemistry.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201001107**