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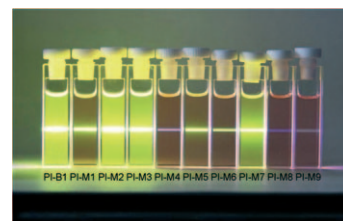


Photoinduced Electron Transfer

L. Flamigni,* B. Ventura, A. Barbieri, H. Langhals,* F. Wetzel, K. Fuchs, A. Walter

On/Off Switching of Perylene Tetracarboxylic Bisimide Luminescence by Means of Substitution at the N-Position by Electron-Rich Mono-, Di-, and Trimethoxybenzenes

Making light of things: The luminescence properties of perylene tetracarboxylic bisimides were controlled by the attachment of methoxyphenyl groups in which structural variations and solvent effects induce an on/off switching of the fluorescence due to the formation of charge-separated states (see photo).



Chem. Eur. J.
DOI: 10.1002/chem.201001489

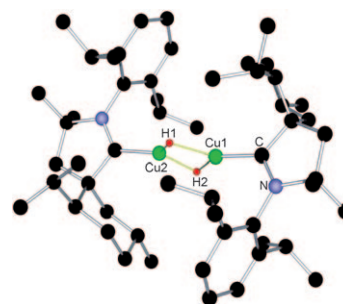


Copper Hydrides

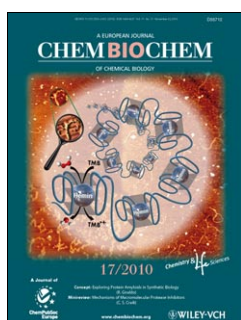
G. D. Frey, B. Donnadieu, M. Soleilhavoup, G. Bertrand*

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

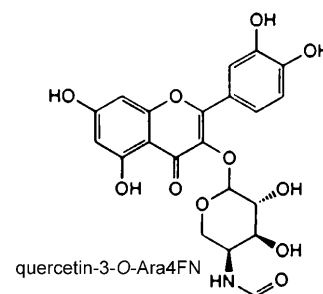


Glycosyltransferase

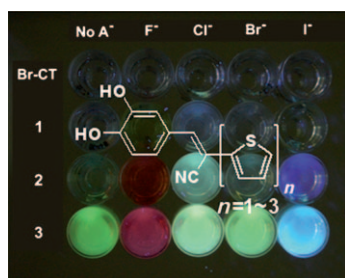
B.-G. Kim, N. R. Jung, E. J. Joe, H.-G. Hur, Y. Lim, Y. Chong, J.-H. Ahn*

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



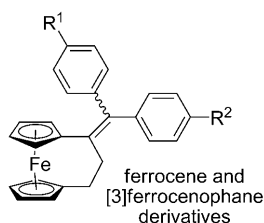
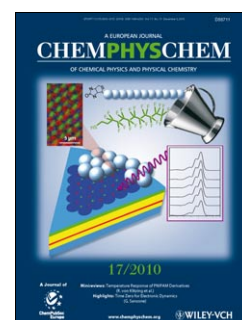
ChemPhysChem
DOI: 10.1002/cphc.201000582

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 μM (see figure). The catechol dye can detect fluoride in aqueous solution when adsorbed onto a solid support.



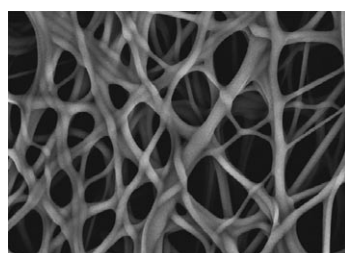
ChemMedChem
DOI: 10.1002/cmdc.201000286

Bioorganometallic Chemistry

M. Görmén, P. Pigeon, S. Top,* E. A. Hillard,* M. Huché, C. G. Hartinger, F. de Montigny, M.-A. Plamont, A. Vessièrès, 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} M. Two leads were further tested against a panel of approximately 60 cell lines.



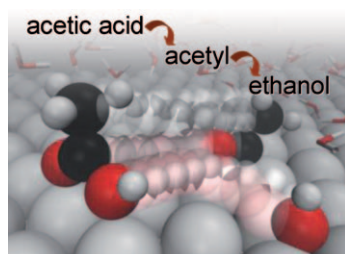
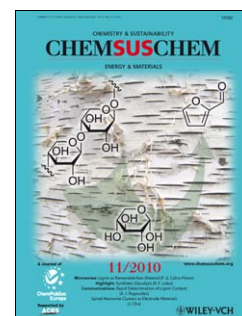
ChemSusChem
DOI: 10.1002/cssc.201000220

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.



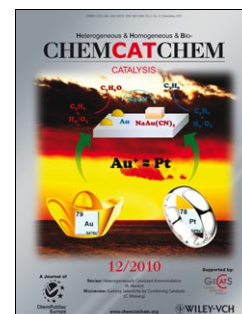
ChemCatChem
DOI: 10.1002/cctc.201000134

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.



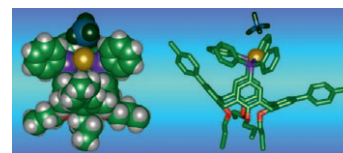


Calixarene Chelator

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

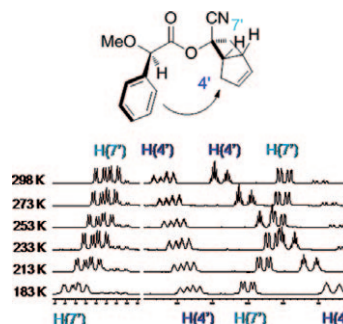


Absolute Configuration

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

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