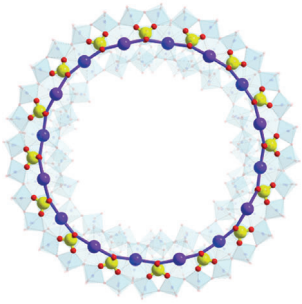
Chemical Adaptability

A. Müller,* A. Merca, A. J. M. Al-Karawi, S. Garai, H. Bögge, G. Hou, L. Wu, E. T. K. Haupt,* D. Rehder, F. Haso, T. Liu

Chemical Adaptability: The Integration of Different Kinds of Matter into Giant Molecular Metal Oxides

Integration without changing shape: $\{Mo_{11}\}_n$ ($n=14$, 16)-type molybdenum oxide clusters allow integration of matter—without changing their wheel shapes—like cations and anions positioned at the same places as well as "salt-like" $\{M(SO_4)\}_{16}$ rings (M = K, NH_4) caused by unique flexible building block properties similar to those present in related dynamic libraries which lead to a variety of giant clusters.



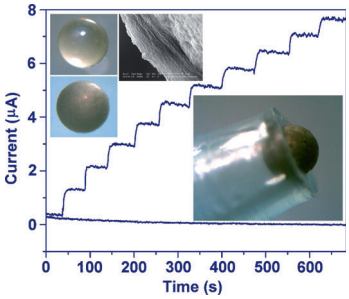
Chem. Eur. J.
DOI: **10.1002/chem.201203186**

Electrochemical Sensing

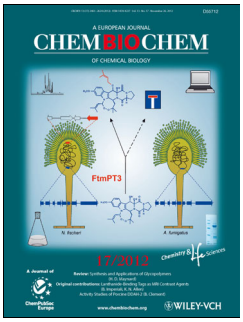
S. Sheng, S. Liu, L. Zhang, G. Chen*

Facile Assembly of Graphene on Anion Exchange Resin Microspheres for Electrochemical Sensing and Biosensing

Ace in the hole: Graphene sheets were assembled on anion exchange resin (AER) microspheres based on the electrostatic interactions between graphene oxide and AER and subsequent chemical reduction. The prepared graphene-coated AER microspheres were then embedded in the bores of pipette tips to fabricate disposable electrodes and biosensors for sensing of biologically active substances.



Chem. Asian J.
DOI: **10.1002/asia.201200745**

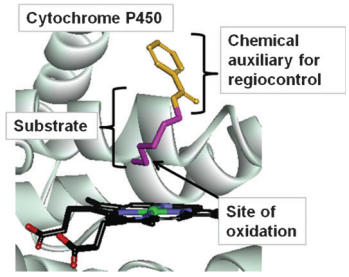


Cytochromes

A. Ménard, C. Fabra, Y. Huang, K. Auclair*

Type II Ligands as Chemical Auxiliaries To Favor Enzymatic Transformations by P450 2E1

Controlling P450 transformations: Type II ligands contain an aromatic nitrogen that coordinates to the heme iron in the active site of cytochrome P450 enzymes. The type II ligand nicotinate can serve as a useful chemical auxiliary for biocatalysis with P450 2E1 by promoting the predictable oxidation of small hydrocarbon substrates.



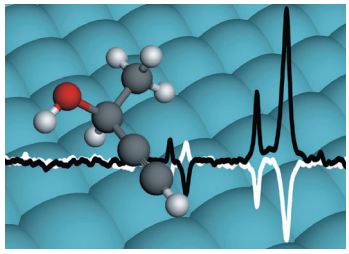
ChemBioChem
DOI: **10.1002/cbic.201200524**

Circular Dichroism

C. Merten, Y. Xu*

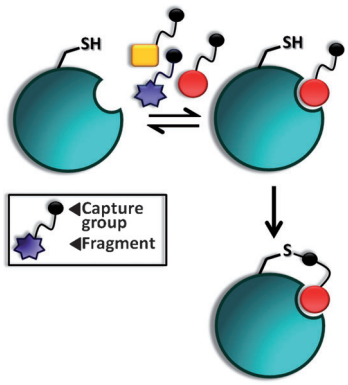
Matrix Isolation-Vibrational Circular Dichroism Spectroscopy of 3-Butyn-2-ol and its Binary Aggregates

Good vibrations: Good mirror-image matrix isolation-vibrational circular dichroism (MI-VCD) spectra of the two enantiomers of 3-butyn-2-ol are achieved in low-temperature matrices (see picture). The well-resolved experimental MI-VCD bands provide the essential mean to assign associated vibrational absorption spectral features correctly. By varying the matrix temperature, it is possible to follow the self-aggregation of the chiral alcohol.



ChemPhysChem
DOI: **10.1002/cphc.201200758**

© 2012 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim



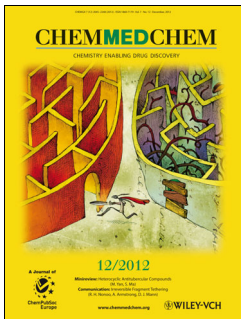
Fragment-Based Drug Design

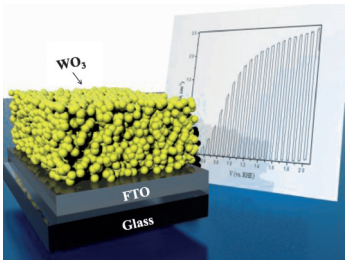
R. H. Nonoo, A. Armstrong,* D. J. Mann*

Kinetic Template-Guided Tethering of Fragments

Birds of a tether: A tethering strategy for the site-directed discovery of low-molecular-weight fragments that bind weakly to defined protein surfaces is described. A solvent-exposed protein thiol captures acrylamide-modified fragments in a conjugate addition reaction that requires a template to produce a measureable quantity of protein–fragment adduct, which can be rapidly identified by mass spectrometry.

ChemMedChem
DOI: **10.1002/cmdc.201200404**





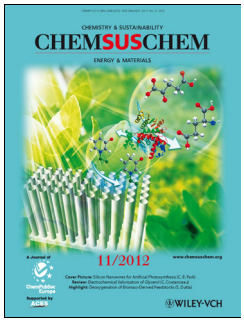
Water Splitting

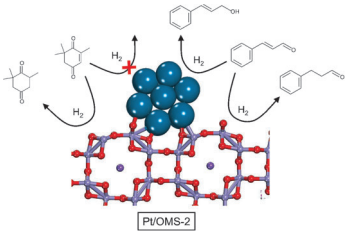
R. H. Gonçalves,* L. D. T. Leite, E. R. Leite*

Colloidal WO_3 Nanowires as a Versatile Route to Prepare a Photoanode for Solar Water Splitting

Wired for success: We describe a synthetic method to produce WO_3 nanowires as photoanodes through colloidal nanowire deposition. Among the several nanowires synthesized in non-hydrolytic media, orthorhombic $WO_3{\cdot}H_2O$ nanowires show the best performance as photoanode and also good photocurrent stability during long-term analysis. Structural and photoelectrochemical characterization shows the importance of nanostructural features in WO_3 photoanode performance.

ChemSusChem
DOI: **10.1002/cssc.201200484**





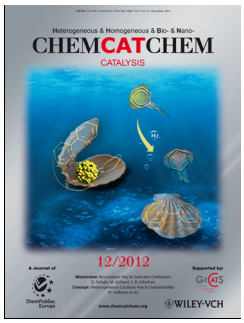
Hydrogenation

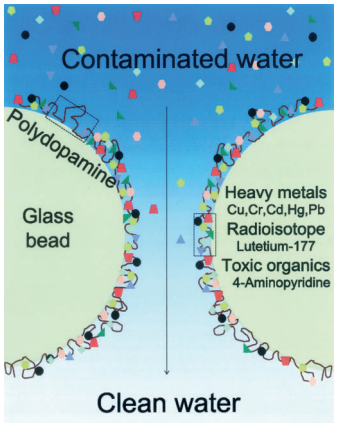
H. G. Manyar, B. Yang, H. Daly, H. Moor, S. McMonagle, Y. Tao, G. D. Yadav, A. Goguet, P. Hu, C. Hardacre*

Selective Hydrogenation of α,β-Unsaturated Aldehydes and Ketones using Novel Manganese Oxide and Platinum Supported on Manganese Oxide Octahedral Molecular Sieves as Catalysts

The name's Bond, Double Bond: Selective hydrogenation of ketoisophorone and cinnamaldehyde as desired either at C=C or C=O double bond was achieved using manganese oxide octahedral molecular sieves (OMS-2) and platinum supported on OMS-2 catalysts.

ChemCatChem
DOI: **10.1002/cctc.201200447**





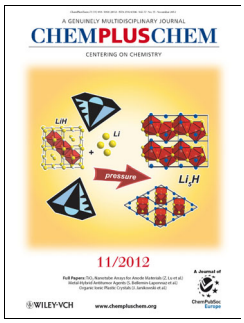
Water Detoxification

M. Lee, J. Rho, D.-E. Lee, S. Hong, S.-J. Choi, P. B. Messersmith,* H. Lee*

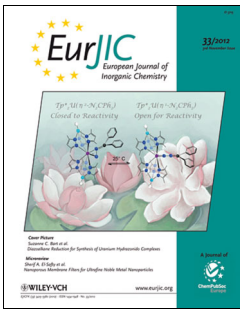
Water Detoxification by a Substrate-Bound Catecholamine Adsorbent

A bio-inspired approach for detoxification of water has been investigated. In this approach, three major classes of toxic agents, heavy-metal ions (Cr, Hg, Pb, Cu, and Cd), toxic organic species (4-aminopyridine), and a radioisotope (Lutetium-177) were effectively removed from contaminated water by polydopamine, a mussel-inspired adhesive catecholamine (see figure). In addition, this polydopamine filter was easily regenerated by treatment with acid or hydrogen peroxide.

ChemPlusChem
DOI: **10.1002/cplu.201200209**



© 2012 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim

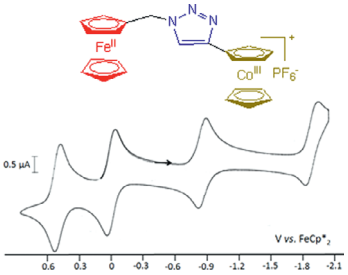


Click Reactions

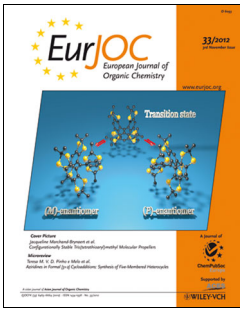
A. Rapakousiou, C. Mouche, M. Duttine, J. Ruiz, D. Astruc*

Click Synthesis and Redox Chemistry of Mono- and Heterobimetallic Triazolyl and Triazolium-Ferrocene and Cobalticinium Complexes

The click syntheses (CuAAC) of triazole and access to triazolium derivatives containing ferrocene and/or cobalticinium allowed us to evaluate their redox chemistry by cyclic voltammetry and with the use of redox reagents.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201200755**

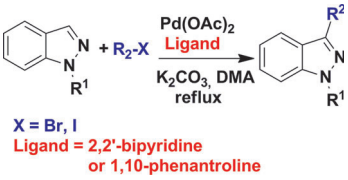


Arylation of Heterocycles

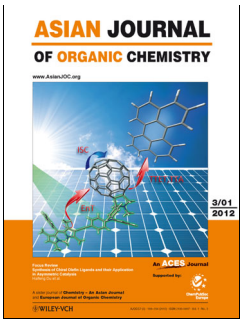
A. Ben-Yahia, M. Nass, S. El Kazzouli,* E. M. Essassi, G. Guillaumet*

Direct C-3-Arylations of 1*H*-Indazoles

A new C-3 arylation method for 1*H*-indazoles was developed. Various C-3-arylated products were prepared using $Pd(OAc)_2$, 1,10-phenanthroline, and K_2CO_3 in refluxing DMA.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201200860**

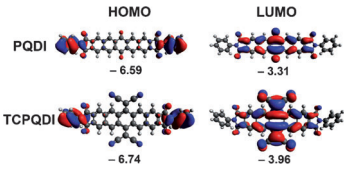


Tetracyanoquinodimethanes

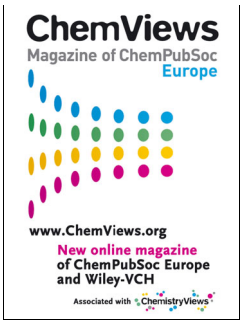
T. Wu, J. Chen, Y. Guo, G. Yu, Z. Shuai, Y. Liu*

Synthesis and Characterization of N,N′-Substituted 15,15,16,16-Tetracyano-6,13-pentacenequinodimethane-2,3,9,10-tetracarboxylic Diimide Derivatives

How low can you go? N,N′-substituted 15,15,16,16-tetracyano-6,13-pentacenequinodimethane-2,3,9,10-tetracarboxylic diimide derivatives (TCPQDI-OC8 and TCPQDI-OC10) were prepared in the presence of Lehnert's reagent at room temperature in good yields from the corresponding quinones. The tetracarboxylic diimide units in TCPQDI derivatives increase the π delocalization and lead to low LUMO energy levels of less than −4.0 eV.



Asian J. Org. Chem.
DOI: **10.1002/ajoc.201200119**



Alkaloids

Klaus Roth and Sabine Streller

A Chemical Examination of the Isenheim Altar: Role Played in History by Horned Rye (1)

The Isenheim Altar depicts the symptoms and treatment of "St. Anthony's Fire", a disease resulting from poisoning by ergot alkaloids in contaminated rye-bread. Klaus Roth and Sabine Streller, Berlin, Germany, examine in this first of three parts the disastrous influence that these alkaloids have had on human history.

ChemViews magazine
DOI: **10.1002/chemv.201200134**

© 2012 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim