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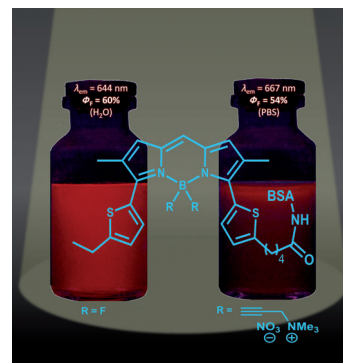


### Fluorescent Probes

A. Poirel, P. Retailleau, A. D. Nicola,\* R. Ziessel\*

Synthesis of Water-Soluble Red-Emitting Thienyl-BODIPYs and Bovine-Serum-Albumin Labeling

**Red and water soluble:** Highly fluorescent water-soluble thienyl-BODIPY dyes with quantum yields reaching 60% were prepared by a facile synthesis by using dimethylaminopropyne, followed by quaternization to the ammonium salt. When adequately engineered, such dyes could be used as fluorescent label for covalent binding to proteins (see figure).



Chem. Eur. J.  
DOI: 10.1002/chem.201303988

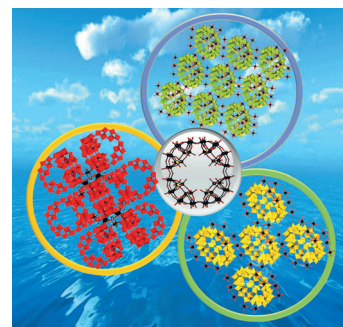


### Polyoxometalates

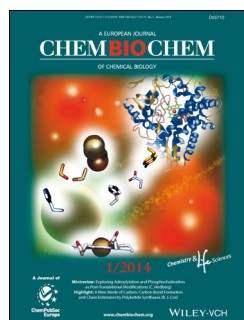
Y.-Q. Jiao, C. Qin, X.-L. Wang,\* C.-G. Wang, C.-Y. Sun, H.-N. Wang, K.-Z. Shao, Z.-M. Su\*

Three Cobalt(II)-Linked  $\{P_8W_{48}\}$  Network Assemblies: Syntheses, Structures, and Magnetic and Photocatalysis Properties

**New connections:** A series of cobalt(II)-linked  $\{P_8W_{48}\}$  network assemblies have been discovered, one of which contains the largest-ever number of cobalt ions and represents a 3D 12-connected network (see picture). The  $\{P_8W_{48}\}$  backbone also shows the highest number of connections. Their magnetic and photocatalysis properties are investigated.



Chem. Asian J.  
DOI: 10.1002/asia.201300856

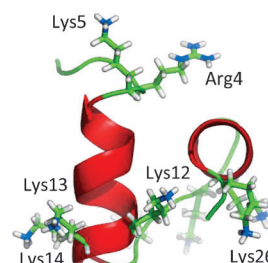


### Antimicrobial Peptides

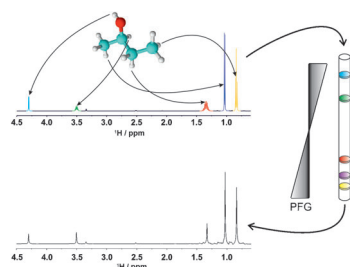
L. Monincová, M. Buděšínský, S. Čujová, V. Čerovský, V. Veverka\*

Structural Basis for Antimicrobial Activity of Lasiocapsin

**Membrane penetration:** The amphipathic character of lasiocapsin is key for its integration into bacterial membranes. The peptide shows a strong preference for anionic phospholipids, and this is further stimulated by increasing concentrations of cardiolipin at the poles of bacterial cells. Cardiolipin-containing model membranes can be fully penetrated by the peptide.



ChemBioChem  
DOI: 10.1002/cbic.201300509



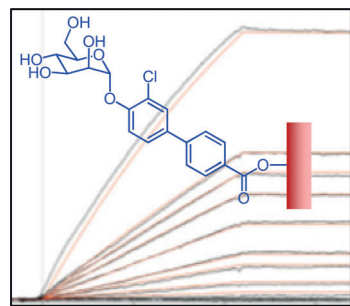
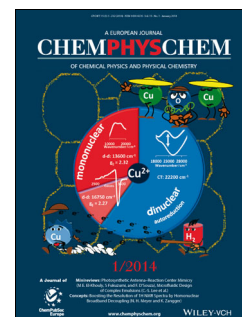
ChemPhysChem  
DOI: 10.1002/cphc.201300861

## NMR Spectroscopy

N. H. Meyer, K. Zangger\*

Boosting the Resolution of  $^1\text{H}$  NMR Spectra by Homonuclear Broadband Decoupling

**Unsnarl!** An introduction and overview of the techniques and applications of broadband proton-decoupled proton experiments is presented.



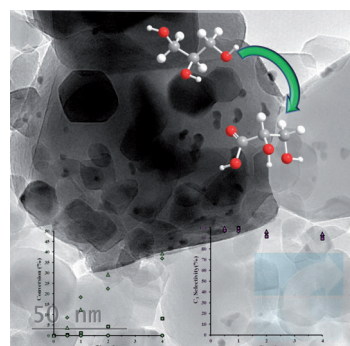
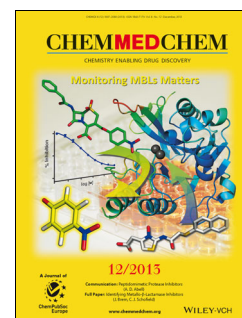
ChemMedChem  
DOI: 10.1002/cmdc.201300349

## Antibacterial Agents

M. Scharenberg, X. Jiang, L. Pang, G. Navarra, S. Rabbani, F. Binder, O. Schwardt, B. Ernst\*

Kinetic Properties of Carbohydrate–Lectin Interactions: FimH Antagonists

**Indicators for efficacy:** The kinetic properties of carbohydrate–lectin interactions for various FimH antagonists were investigated by surface plasmon resonance. Using the FimH lectin domain in the high-affinity state, surprisingly small dissociation rates were found for the FimH–antagonist complex, resulting in long half-lives in the range of several hours ( $> 3.6$  h), which are indicators for high in vivo efficacy.



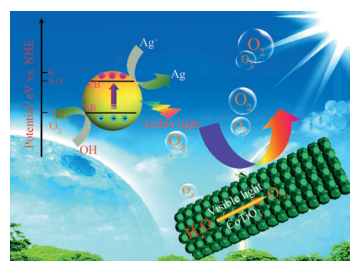
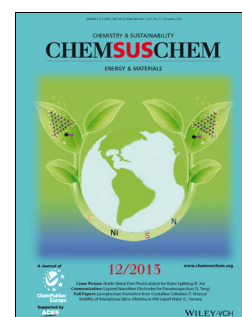
ChemSusChem  
DOI: 10.1002/cssc.201300834

## Glycerol Oxidation

S. A. Kondrat, P. J. Miedzian, M. Douthwaite, G. L. Brett, T. E. Davies, D. J. Morgan, J. K. Edwards, D. W. Knight, C. J. Kiely, S. H. Taylor, G. J. Hutchings\*

Base-Free Oxidation of Glycerol Using Titania-Supported Trimetallic Au–Pd–Pt Nanoparticles

**The noble trio:** Base-free selective oxidation of glycerol is investigated using trimetallic Au–Pd–Pt nanoparticles supported on titania and their corresponding bimetallic catalysts. Increased activity is observed for the trimetallic Au–Pd–Pt/TiO<sub>2</sub> catalyst, with retention of selectivity towards C<sub>3</sub> products.



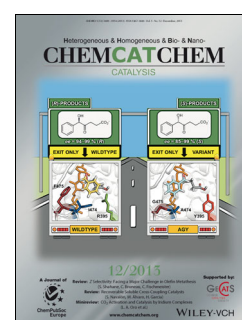
ChemCatChem  
DOI: 10.1002/cctc.201300718

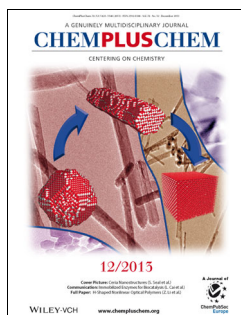
## Photocatalysis

Y. Qu, W. Zhou, H. Fu\*

Porous Cobalt Titanate Nanorod: A New Candidate for Visible Light-Driven Photocatalytic Water Oxidation

**Let there be light!** Porous cobalt titanate nanorods with a suitable narrow band gap, large surface area, and good crystallinity is found to be an excellent photocatalyst candidate for visible light-driven photocatalytic water oxidation.



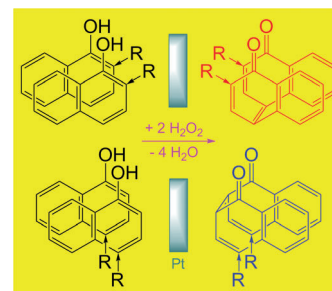


## Heterogeneous Catalysis

M. V. Maphoru, J. Heveling,\* S. K. Pillai

Oxidative Coupling of 1-Naphthols over Noble and Base Metal Catalysts

**Show your true colors:** 1-Naphthols with electron-donating substituents at the *ortho* or *para* position couple oxidatively in the presence of hydrogen peroxide and metallic-state catalysts, such as platinum, gold, and nickel to give brightly colored conjugated diones. Yields of up to 99% can be obtained within 20 minutes under mild reaction conditions ( $< 60^\circ\text{C}$  and ambient pressure; see scheme).



ChemPlusChem  
DOI: 10.1002/cplu.201300307

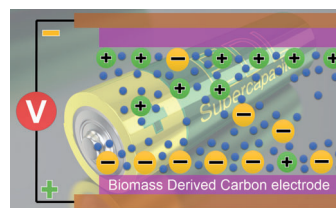


## Energy Storage

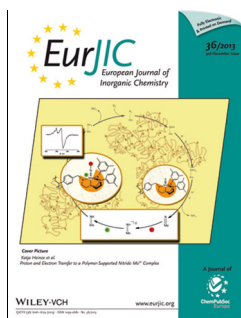
H. Wang, Z. Li,\* D. Mitlin\*

Tailoring Biomass-Derived Carbon Nanoarchitectures for High-Performance Supercapacitors

**Don't throw that away!** Biomass-derived carbons with low cost and unique nano-sized architectures are proved to be excellent electrode materials for electrochemical capacitors—a promising class of energy storage devices.



ChemElectroChem  
DOI: 10.1002/celec.201300127

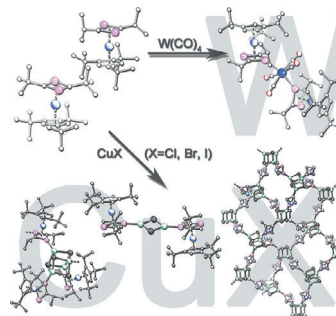


## Diphosphete Complexes

E.-M. Rummel, M. Eckhardt, M. Bodensteiner, E. V. Peresypkina, W. Kremer, C. Gröger, M. Scheer\*

Formation of 1,3-Diphosphacyclobutadiene Complexes from Phosphaalkynes and Their Coordination Behavior

A new synthetic route to diphosphete complexes of cobalt was developed and their reactivity towards  $\text{W}(\text{CO})_4(\text{nb})$  (nb = norbornadiene) and  $\text{Cu}^I$  halides was investigated. For the latter, dimeric, 1D, or 2D polymeric compounds are obtained depending on the stoichiometry used, and their structures reveal  $(\text{CuX})_4$  cubes connected by diphosphete units in which each P atom is able to coordinate to a copper atom.



Eur. J. Inorg. Chem.  
DOI: 10.1002/ejic.201301299

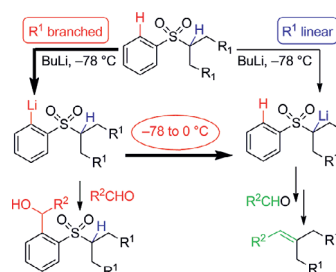


## Sulfone Carbanion Transmetalation

L. Řehová, I. Císařová, U. Jahn\*

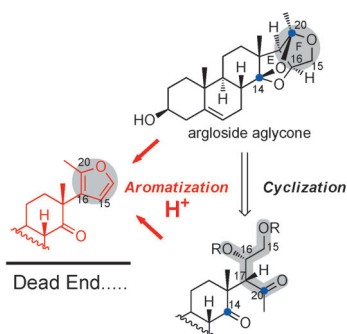
Divergent Reactivity of Alkyl Aryl Sulfones with Bases: Selective Functionalization of *ortho*-Aryl and  $\alpha$ -Alkyl Units Enabled by a Unique Carbanion Transmetalation

An unusual lithiation selectivity and subsequent transfer of the metal upon warming was observed for various branched alkyl phenyl sulfones. This divergent reactivity was used to prepare substituted aryl sulfones as well as olefins by application of the Julia reaction.



Eur. J. Org. Chem.  
DOI: 10.1002/ejoc.201301553





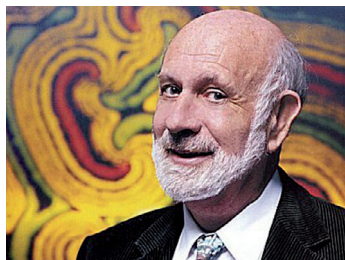
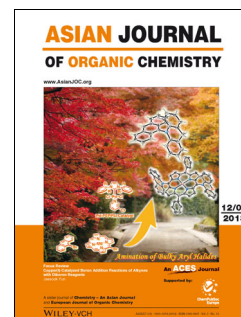
*Asian J. Org. Chem.*  
DOI: 10.1002/ajoc.201300219

## Oxidation

M. Tamiya,\* N. Isaka, T. Kitazawa, M. Ishiguro\*

Synthesis of the Aglycone of the Argelosides: Antiproliferative 14,15-*seco*-Pregnane Glycosides

**To aromatize or not to aromatize:** The synthesis of the argelosides aglycone, a unique compound consisting of a 14,15-*seco*-pregnane core with a highly-oxygenated cage-like moiety in the D, E, and F rings, was achieved. Although the strategy for the synthesis of the target molecule seemed simple, the primary challenge lay in handling the easy-to-aromatize  $\beta,\gamma$ -dihydroxyketone precursor as well as the diketal moiety of the target molecule under acidic conditions.



*ChemViews magazine*  
DOI: 10.1002/chemv.201300010

## Poetry

Vera Köster

Poetry and Chemistry

Professor Mario Markus, Dortmund, has combined science and art in a series of poems, each one describing an element of the periodic table. After a successful career in research, he became interested in the more artistic side of science. Here, he talks to Vera Köster about the poems, his other projects, in which he has merged art and science, and how art could help inspire scientists.

