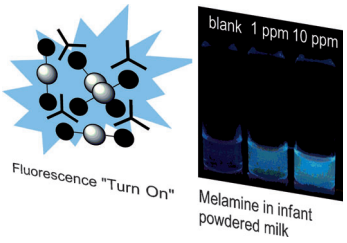
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Sensors

T. Sanji,* M. Nakamura, S. Kawamata, M. Tanaka,* S. Itagaki, T. Gunji

Fluorescence "Turn-On" Detection of Melamine with Aggregation-Induced-Emission-Active Tetraphenylethene

The design and evaluation of fluorescence "turn-on" detection of melamine with cyanuric acid modified tetraphenylethene based on aggregation-induced emission, which can recognize the safe concentration level of melamine (1 ppm) in real powdered milk, is demonstrated (see figure).



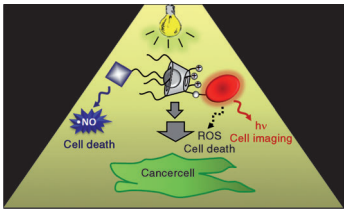
Chem. Eur. J.
DOI: **10.1002/chem.201203081**

Supramolecular Chemistry

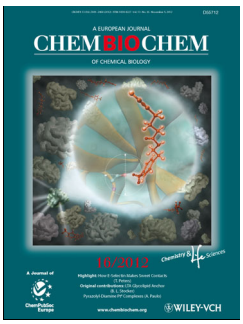
N. Kandoth, M. Malanga, A. Fraix, L. Jicsinszky, É. Fenyvesi,* T. Parisi, I. Colao, M. T. Sciortino, S. Sortino*

A Host–Guest Supramolecular Complex with Photoregulated Delivery of Nitric Oxide and Fluorescence Imaging Capacity in Cancer Cells

NO delivery today: A supramolecular host–guest complex, based on a rhodamine-labeled β-cyclodextrin conjugate and a tailored NO photodonor, effectively internalizes in cancer cells, can be easily mapped intracellularly due to its satisfactory red fluorescence emission, and induces about 50% of cellular death under the exclusive control of visible light stimuli.



Chem. Asian J.
DOI: **10.1002/asia.201200640**

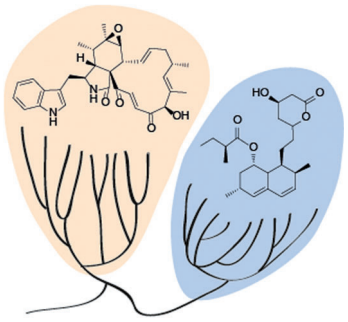


Phylogeny

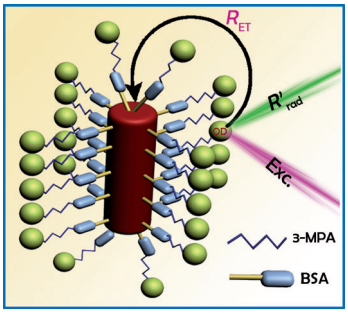
D. Boettger, H. Bergmann, B. Kuehn, E. Shelest,* C. Hertweck*

Evolutionary Imprint of Catalytic Domains in Fungal PKS–NRPS Hybrids

It's in the genes. The functional incompatibility of fragments of a fungal PKS–NRPS hybrid and a related fungal PKS was rationalized by bioinformatic and phylogenetic analyses: Individual domains reflect the evolutionary history of the entire megasynthase, and previously unexplored domain sequence variations imply a complex code for amino acid selection and metabolite assembly.



ChemBioChem
DOI: **10.1002/cbic.201200449**



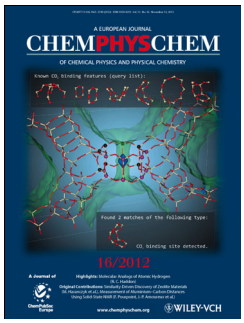
ChemPhysChem
DOI: **10.1002/cphc.201200446**

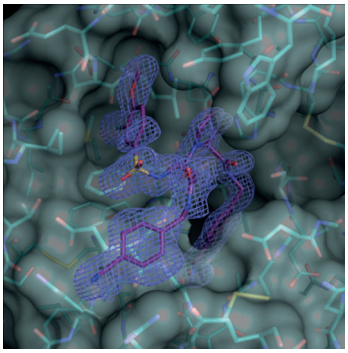
Hybrid Nanostructures

K. K. Haldar, T. Sen, S. Mandal, A. Patra*

Photophysical Properties of Au-CdTe Hybrid Nanostructures of Varying Sizes and Shapes

Size matters! Shape too! The impacts of size and shape of Au-CdTe conjugated nanostructures on the radiative recombination of excitons and the nonradiative energy transfer are investigated (see picture). The red shifting of the plasmonic band and the strong photoluminescence quenching reveal a strong interaction between plasmons and excitons in the Au-CdTe hybrid nanostructures.





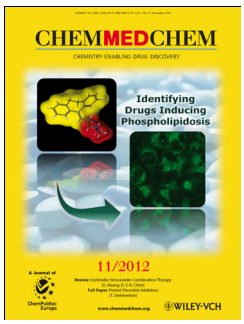
ChemMedChem
DOI: **10.1002/cmdc.201200292**

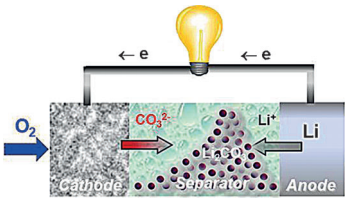
Anticoagulants

T. Steinmetzer,* B. Baum, A. Biela, G. Klebe, G. Nowak, E. Bucha

Beyond Heparinization: Design of Highly Potent Thrombin Inhibitors Suitable for Surface Coupling

To affinity and beyond! A series of potent thrombin inhibitors with high selectivity over related trypsin-like serine proteases was developed. The experimentally determined structure of a thrombin/inhibitor complex reveals that the P3 side chain of these inhibitors is directed into the solvent and therefore could serve as an anchor point for further modification. Such compounds might be suitable candidates for anticoagulant surface coating.





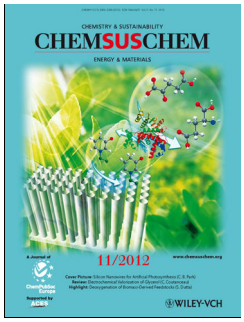
ChemSusChem
DOI: **10.1002/cssc.201200555**

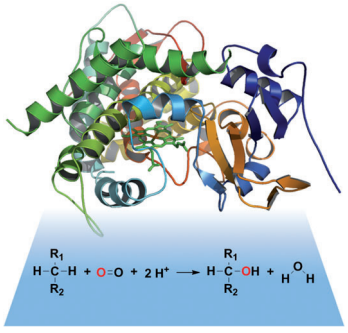
Batteries

J.-L. Shui, J. S. Okasinski, D. Zhao, J. D. Almer, D.-J. Liu*

Microfocused X-ray Study on Precipitate Formation in the Separator Region of Nonaqueous Li–O_2 Batteries

Rejuvenation: Unexpectedly high concentrations of precipitates (mainly Li_2CO_3) with unique spatial and morphological distributions are detected in the separator region of Li–O_2 batteries by microfocused XRD and SEM techniques, revealing the need for a stable electrolyte to minimize the deleterious effect of insoluble lithium salt (see picture).





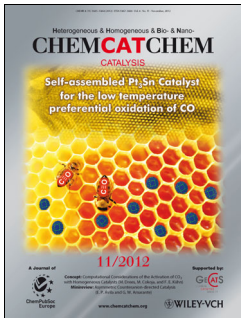
ChemCatChem
DOI: **10.1002/cctc.201200533**

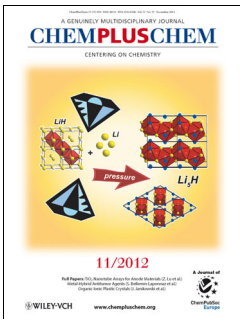
Biooxidation

S. Schulz, M. Girhard, V. B. Urlacher*

Biocatalysis: Key to Selective Oxidations

Going green with biooxidation! The use of cytochrome P450 enzymes for the oxidation of nonactivated hydrocarbons enables the production of high-value chemicals. Mild reaction conditions and reduced consumption of natural resources combined with high selectivity of P450 enzymes results in "green biocatalysts" with great potential in synthetic production of sought-after fine chemicals, drugs, drug metabolites, and vitamins.



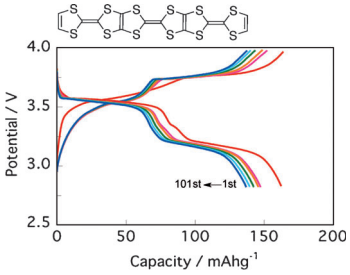


Rechargeable Batteries

Y. Inatomi,* N. Hojo, T. Yamamoto, S.-i. Watanabe, Y. Misaki*

Construction of Rechargeable Batteries Using Multifused Tetrathiafulvalene Systems as Cathode Materials

Rechargeable batteries using bis- or tris-fused tetrathiafulvalenes as an active electrode material exhibits good cycle performance by controlling the number of electrons participating in the redox reaction. The TTPY cell using a four-electron redox process shows a discharge capacity of 168 mAh g^{-1} and good cycle-life stability of 84% of the initial capacity after 100 cycles (see charge-discharge curves).



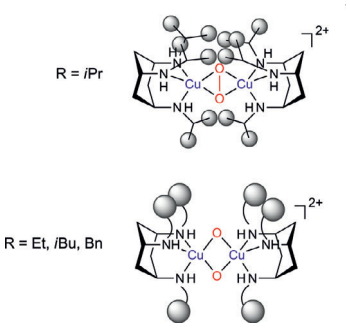
ChemPlusChem
DOI: **10.1002/cplu.201200197**

Dicopper Complexes

J. Matsumoto, Y. Kajita, H. Masuda*

Synthesis and Characterization of a (μ-η^2:η^2-Peroxido)dicopper(II) Complex with *N,N′,N″*-Triisopropyl-*cis,cis*-1,3,5-triaminocyclohexane (R_3TACH, R = *i*Pr): Selective Preparation of (μ-η^2:η^2-Peroxido)-dicopper(II) and Bis(μ-oxido)dicopper(III) Species Regulated by Substituent Groups

The selective preparation of (μ-η^2:η^2-peroxido)dicopper(II) and bis(μ-oxido)dicopper(III) species is regulated by the substituent groups of triaminocyclohexane derivative ligands. Their structural and spectroscopic features and reactivity are discussed.



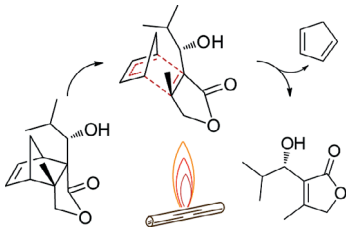
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201200228**

Butenolides

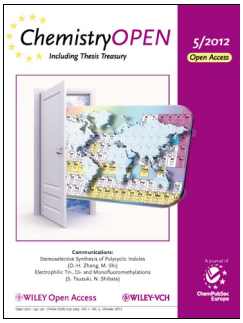
C. A. Citron, S. M. Wickel, B. Schulz, S. Draeger, J. S. Dickschat*

A Diels–Alder/Retro-Diels–Alder Approach for the Enantioselective Synthesis of Microbial Butenolides

The Diels–Alder reaction of cyclopentadiene and citraconic anhydride was followed by reduction to the corresponding lactone and its α-alkylation. Subsequent pyrolysis gave highly substituted butenolides as found in the endophytic fungus *Geniculosporium*. An enantioselective Diels–Alder reaction was used to stereoselectively synthesise butenolide-signalling molecules from *Streptomyces*.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201200991**

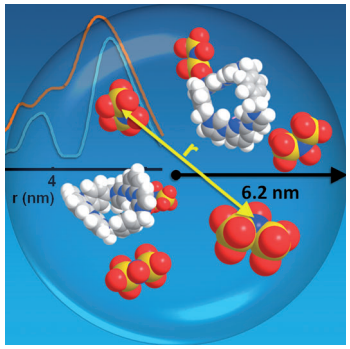


Nano-Assemblies

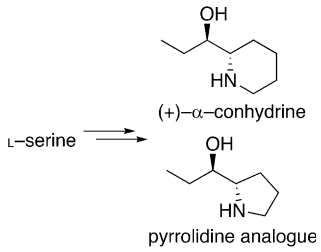
D. Kurzbach, D. R. Kattnig, N. Pfaffenberger, W. Schärtl, D. Hinderberger*

Highly Defined, Colloid-Like Ionic Clusters in Solution

Ionoids: Macrocyclic, organic and small inorganic building blocks electrostatically self-assemble in solution. The formed nano-objects feature a mobile interior. The molecules inside the aggregates seem to rotate freely on certain spatial positions. The hydrodynamic radius of the nano-assemblies, however, is precisely defined.



ChemistryOpen
DOI: **10.1002/open.201200025**



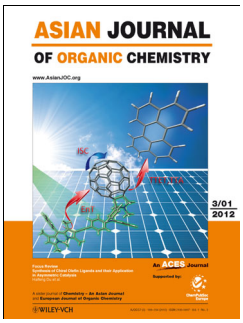
Asian J. Org. Chem.
DOI: **10.1002/ajoc.201200065**

Total Synthesis

T. Jin, Y. Mu, G.-W. Kim, S.-S. Kim, J.-S. Kim, S.-I. Huh, K.-Y. Lee, J.-E. Joo, W.-H. Ham*

Stereoselective Synthesis of Piperidine Alkaloid (+)-α-Conhydrine and Its Pyrrolidine Analogue

Concise stereoselective syntheses of (+)-α-conhydrine in 10 steps and 25% overall yield and its pyrrolidine analogue in 9 steps and 36% overall yield are described. The key features are a highly diastereoselective chelation-controlled hydride reduction of the amino ketone to give the *anti* amino alcohol directly, and an intramolecular ring-closing metathesis. Cbz = carboxybenzyl; TBS = *tert*-butyldimethylsilyl.



ChemViews magazine
DOI: **10.1002/chemv.201200112**

Industrial Production

Klaus Roth

Halal and Kosher Food Production: Interview with Prignitzer Marketing Director and Chief Executive

How do you put a 40-meter tall distillation tower through the process of "*koshering*" so that it is fit for use with *kosher* materials? Wolfgang Krüger and Rolf-Ekkehard Kühn, Prignitzer Chemie GmbH, Wittenberge, Germany, certified producers of *kosher* and *halal* vegetable oils and fatty acids, tell Klaus Roth what was involved in gaining their certification.