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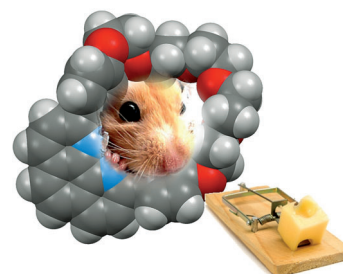


### Self-Assembly

M. Mohankumar, F. Monti, M. Holler, F. Niess, B. Delavaux-Nicot,\*  
N. Armaroli,\* J.-P. Sauvage,\* J.-F. Nierengarten\*

Combining Topological and Steric Constraints for the Preparation of Heteroleptic Copper(I) Complexes

**Fortunately too small...** The bulky PPh<sub>2</sub> subunits of bis-phosphine ligands prevent the threading through of a macrocyclic phenanthroline and the preparation of Cu<sup>I</sup> complexed pseudo-rotaxanes is not possible. The combination of steric and topological constraints governs the self-assembly process and affords a dinuclear Cu<sup>I</sup> complex with trigonal coordination geometry and remarkable photophysical properties.



*Chem. Eur. J.*  
DOI: 10.1002/chem.201402429

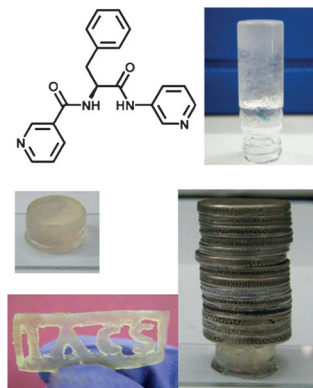


### Supramolecular Gels

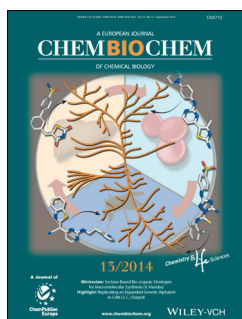
U. K. Das, S. Banerjee, P. Dastidar\*

Remarkable Shape-Sustaining, Load-Bearing, and Self-Healing Properties Displayed by a Supramolecular Gel Derived from a Bis-pyridyl-bis-amide of L-Phenyl Alanine

**Healing is a matter of time:** A series of bis-amides derived from L-phenylalanine and L-alanine displayed moderate to good gelation ability with various solvents. Structure–property correlation using single-crystal and powder X-ray diffraction on selected gels was attempted. One of the gelator resulted in a gel with outstanding load-bearing and self-healing properties. The 1,2-dichlorobenzene gel of this gelator was so strong that letters could be carved into a thin slice of the gel.



*Chem. Asian J.*  
DOI: 10.1002/asia.201402053

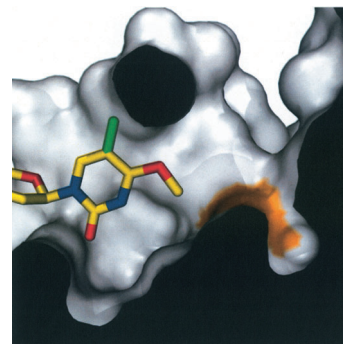


### DNA Repair

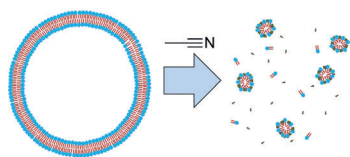
F. P. McManus, C. J. Wilds\*

O<sup>6</sup>-Alkylguanine-DNA Alkyltransferase-Mediated Repair of O<sup>4</sup>-Alkylated 2'-Deoxyuridines

**In need of repair:** O<sup>6</sup>-Alkylguanine-DNA alkyltransferases (AGTs) remove O<sup>6</sup>-alkyl 2'-deoxyguanosine and O<sup>4</sup>-alkyl thymidine adducts from the genome. Unlike the *E. coli* OGT (O<sup>6</sup>-alkylguanine-DNA-alkyltransferase), human AGT only removes methyl groups from the O<sup>4</sup> atom of thymidine poorly. The C5 methyl group of thymidine affects AGT repair, as was revealed by experiments with oligonucleotides containing O<sup>4</sup>-alkyl 2'-deoxyuridines.



*ChemBioChem*  
DOI: 10.1002/cbic.201402169



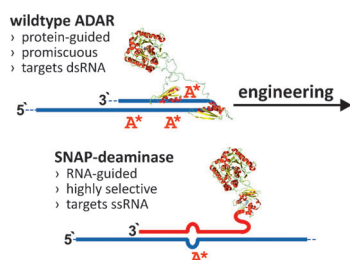
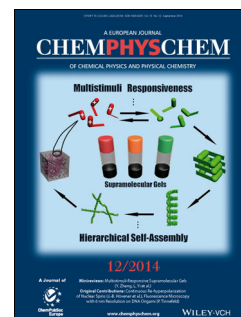
ChemPhysChem  
DOI: 10.1002/cphc.201402333

## Liposome Bursting

K. Yoshida,\* K. Horii, Y. Fujii, I. Nishio

Real-Time Observation of Liposome Bursting Induced by Acetonitrile

**Popping some bubbles:** Liposome bursting induced by acetonitrile addition is demonstrated. The picture shows a schematic illustration of the bursting process. Lipid droplets and/or small vesicles form after large liposomes burst.



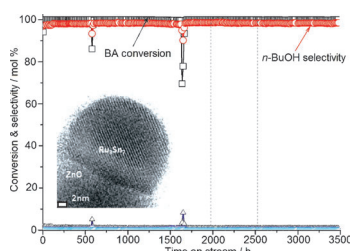
ChemMedChem  
DOI: 10.1002/cmdc.201402139

## Bioengineering

P. Vogel, T. Stafforst\*

Site-Directed RNA Editing with Antagomir Deaminases — A Tool to Study Protein and RNA Function

**Molecular editing:** RNA editing activity was engineered into a tool for the precise manipulation of RNA and protein function. The engineering principle may be useful as a blueprint for the creation of further riboproteins with arbitrary functions as they are desired in basic biology, medicine, or nanotechnology.



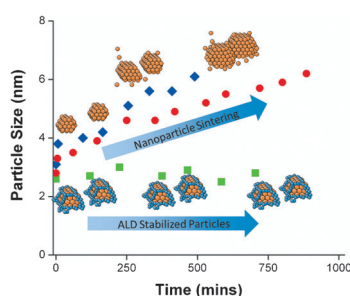
ChemSusChem  
DOI: 10.1002/cssc.201402311

## Platform Chemicals

J.-M. Lee, P. P. Upare, J.-S. Chang,\* Y. K. Hwang, J. H. Lee, D. W. Hwang, D.-Y. Hong, S. H. Lee, M.-G. Jeong, Y. D. Kim, Y.-U. Kwon

Direct Hydrogenation of Biomass-Derived Butyric Acid to *n*-Butanol over a Ruthenium–Tin Bimetallic Catalyst

**True convert:** A hybrid conversion process for the selective hydrogenation of butyric acid combined with fermentation of glucose is developed. Bimetallic ruthenium–tin catalysts supported on zinc oxide (Ru–Sn/ZnO) show good performance in the vapor-phase hydrogenation of biomass-derived butyric acid to *n*-butanol, as well as good long-term performance.



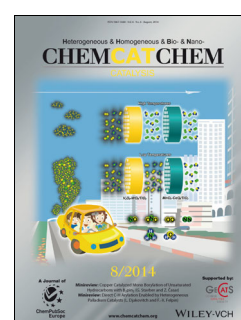
ChemCatChem  
DOI: 10.1002/cctc.201402356

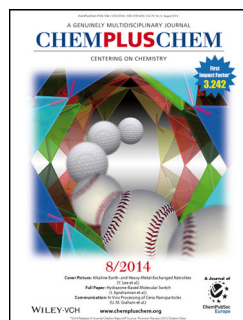
## Sintering

B. J. O'Neill, J. T. Miller, P. J. Dietrich, F. G. Sollberger, F. H. Ribeiro, J. A. Dumesic\*

Operando X-ray Absorption Spectroscopy Studies of Sintering for Supported Copper Catalysts during Liquid-phase Reaction

**Scouting for the next best thing:** Operando X-ray absorption spectroscopy measured simultaneous changes in catalyst structure and activity during the liquid-phase hydrogenation of furfural over supported copper catalysts, allowing these changes to be accounted for in the calculation of turnover frequency. Sintering is the predominant form of deactivation for a Cu/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> catalyst, and is eliminated by atomic layer deposition of an alumina overcoat.



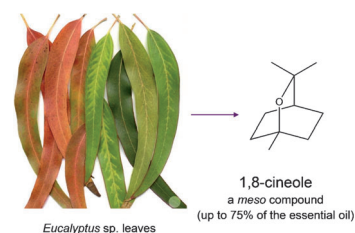


## 1,8-Cineole Chemistry

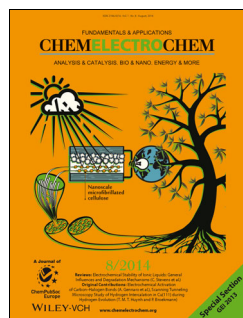
R. Azerad\*

1,8-Cineole: Chemical and Biological Oxidation Reactions and Products

**Turn over a new leaf:** The products of chemical and biological oxidation (hydroxy, oxo, and acid derivatives) of 1,8-cineole (see figure) are reviewed with a focus on the diverse regio- and stereoselectivities obtained from this *meso* monoterpene compound abundantly present in eucalyptus leaves.



ChemPlusChem  
DOI: 10.1002/cplu.201300422

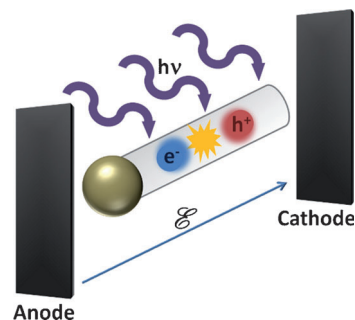


## Janus objects

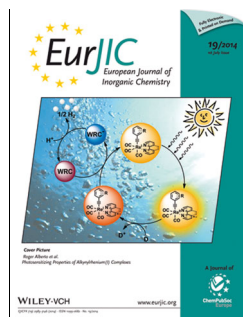
M. Ongaro, J. Roche, A. Kuhn,\* P. Ugo\*

Asymmetric Modification of TiO<sub>2</sub> Nanofibers with Gold by Electric-Field-Assisted Photochemistry

**Directing charge carriers:** Highly site-selective metal deposition on semiconductor nanofibers is achieved based on a synergetic effect when combining UV irradiation and strong electric fields. This leads in a straightforward way to metal/semiconductor Janus objects. With this approach, TiO<sub>2</sub> nanofibers are anisotropically functionalised depositing gold only at one tip of each fiber.



ChemElectroChem  
DOI: 10.1002/celc.201402161

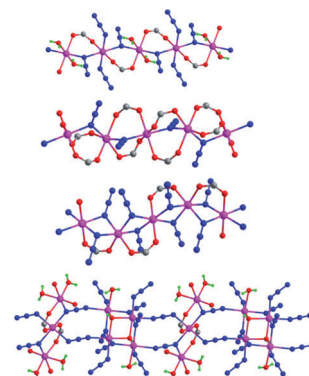


## Coordination Polymers

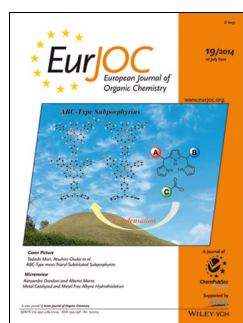
G.-M. Zhuang, X.-B. Li, Y.-Q. Wen, C.-Y. Tian, E.-Q. Gao\*

Structures and Magnetic Properties of Manganese(II) Compounds Based on Chains with Simultaneous Carboxylate and Pseudohalide Bridges

Various zwitterionic carboxylate ligands lead to 1D, 2D and 3D Mn<sup>II</sup> coordination polymers based on distinct chains with mixed carboxylate and pseudo-halide (azide or cyanate) bridges. Magneto-structural correlations are discussed.



Eur. J. Inorg. Chem.  
DOI: 10.1002/ejic.201402287

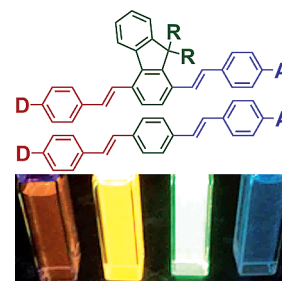


## Donor–Acceptor Systems

B. J. Laughlin, M. K. Burdette, C. R. Powell, B. E. Levy, A. G. Tennyson,\* R. C. Smith\*

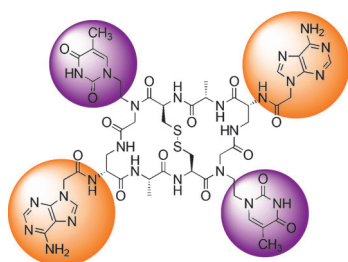
Donor–Acceptor 1,4-Fluorenylene Chromophores: Photophysics, Electrochemistry, and Synthesis through a Route for Asymmetric Chromophore Preparation

A convenient route for the asymmetric derivatization of 1,4-phenylene and 1,4-fluorenylene cores is reported and applied to the preparation of fourteen chromophores. The chromophores were examined by electrochemical techniques, photophysical studies, and DFT calculations.



Eur. J. Org. Chem.  
DOI: 10.1002/ejoc.201402181





ChemistryOpen

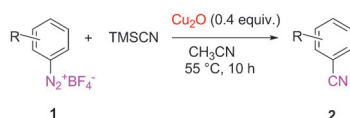
DOI: 10.1002/open.201400001

## DNA Binders

U. M. Kotyrba, K. Pröpper, E.-F. Sachs, A. Myanovska, T. Joppe, F. Lissy, G. M. Sheldrick, K. Koszinowski, U. Diederichsen\*

Triostin A Derived Cyclopeptide as Architectural Template for the Alignment of Four Recognition Units

**Designed to match!** Four nucleobases were attached to the disulfide bridged cyclopeptide scaffold derived from the DNA bisintercalator triostin. The aza-TANDEM backbone provides organization and alignment of the nucleobases, allowing for application in sequence-dependent DNA recognition and molecular architecture.

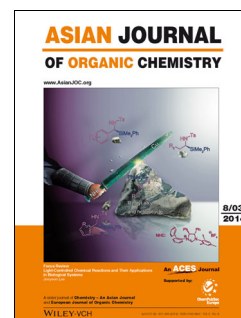


## Cyanation

W.-B. Xu, Q.-H. Xu, Z.-F. Zhang, J.-Z. Li\*

Copper(I)-Oxide-Mediated Cyanation of Arenediazonium Tetrafluoroborates with Trimethylsilyl Cyanide: A Method for Synthesizing Aromatic Nitriles

**Goodnit-rile:** A Cu<sub>2</sub>O-mediated cross coupling of arenediazonium tetrafluoroborates with trimethylsilyl cyanide (TMS-CN) to form aromatic nitriles is presented. This method provides appealing and convenient access to aromatic nitriles compared with the traditional Sandmeyer reaction with toxic CuCN via nucleophilic substitution. A variety of functional groups are well tolerated in moderate to high yield in this protocol.



Asian J. Org. Chem.

DOI: 10.1002/ajoc.201402084



## Comic Competition

Cartoon Contest

ChemistryViews invites you to submit a cartoon showing the challenges, pitfalls, fun, and excitement related to chemistry in a creative way. All comics will be published on the ChemistryViews.org website and the best three submissions will receive prizes.

ChemViews magazine

DOI: 10.1002/chemv.201400065

