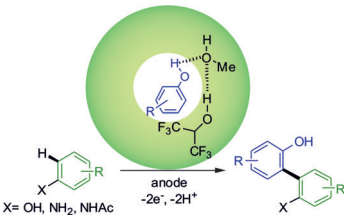
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Cross-Coupling Reactions

B. Elsler, A. Wiebe, D. Schollmeyer, K. M. Dyballa, R. Franke, S. R. Waldvogel*

Source of Selectivity in Oxidative Cross-Coupling of Aryls by Solvent Effect of 1,1,1,3,3,3-Hexafluoropropan-2-ol

A remarkable and tunable solvent effect is responsible for the highly selective cross-coupling of phenols with arenes, phenols or aniline derivatives (see scheme). The solvent mixture allows the decoupling of nucleophilicity and oxidation potential in some extent.



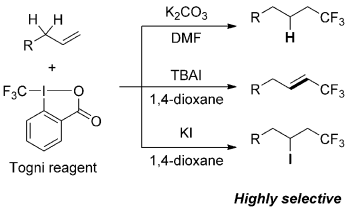
Chem. Eur. J.
DOI: **10.1002/chem.201501604**

Trifluoromethylation

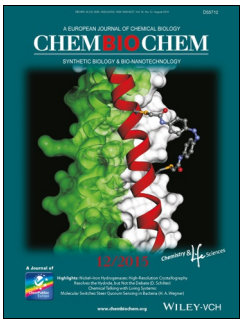
H. Egami, Y. Usui, S. Kawamura, S. Nagashima, M. Sodeoka*

Product Control in Alkene Trifluoromethylation: Hydrotrifluoromethylation, Vinylic Trifluoromethylation, and Iodotrifluoromethylation using Togni Reagent

Three for the price of one: Hydrotrifluoromethylation, vinylic trifluoromethylation, and iodotrifluoromethylation of simple alkenes have been selectively achieved by using Togni reagent in the absence of any transition metal catalyst with the appropriate salts and solvents.



Chem. Asian J.
DOI: **10.1002/asia.201500359**

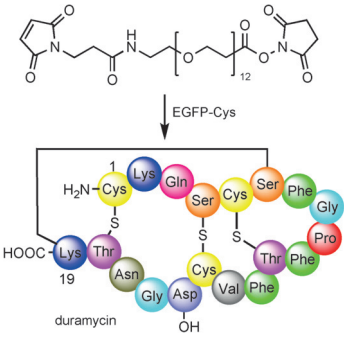


Molecular Probes

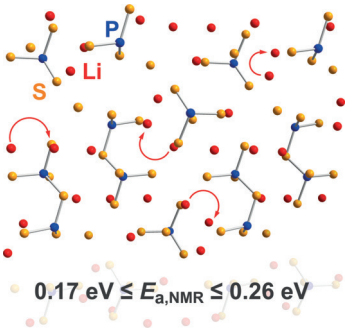
S. Hou, S. E. Johnson, M. Zhao*

A One-Step Staining Probe for Phosphatidylethanolamine

Phospholipid probe: Cellular characterization of the phospholipid phosphatidylethanolamine (PE) is challenging owing to the absence of proper molecular tools. We constructed a one-step molecular probe based on the lantibiotic duramycin that retained the PE binding specificity but not the cytotoxicity of the native compound, thus making it an attractive tool for future PE characterization studies.



ChemBioChem
DOI: **10.1002/cbic.201500127**



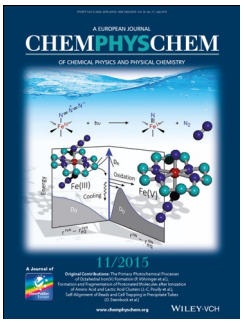
ChemPhysChem
DOI: **10.1002/cphc.201500321**

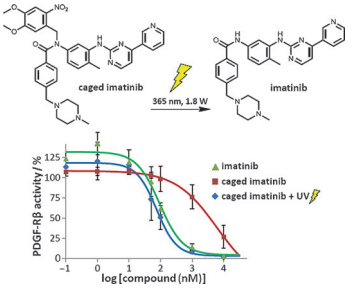
Li-Ion Chemistry

D. Wohlmuth,* V. Epp, M. Wilkening

Fast Li Ion Dynamics in the Solid Electrolyte $Li_7P_3S_{11}$ as Probed by ^{6,7}Li NMR Spin-Lattice Relaxation

Extremely mobile: Li ions in the glass ceramic $Li_7P_3S_{11}$ are distributed over seven crystallographically inequivalent sites. ^{7}Li NMR relaxometry is used to reveal the resulting complex Li self-diffusivity from a microscopic point of view. Heterogeneous ion dynamics is characterized by a broad distribution of jump rates and activation energies.





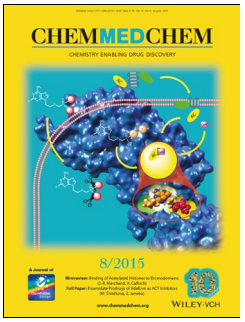
ChemMedChem
DOI: **10.1002/cmdc.201500163**

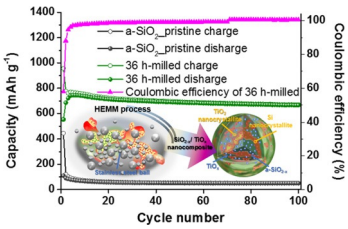
Prodrugs

M. Zindler, B. Pinchuk, C. Renn, R. Horbert, A. Döbber, C. Peifer*

Design, Synthesis, and Characterization of a Photoactivatable Caged Prodrug of Imatinib

Don't fence me in! A caged prodrug of imatinib, the first approved kinase inhibitor, was designed, synthesized, and characterized for photokinetic properties. By using a PDGF-Rβ assay, we demonstrated that upon UV irradiation at $\lambda = 365$ nm the biological activity of imatinib is restored.





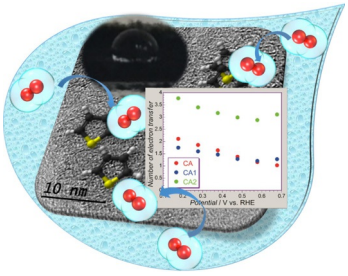
ChemSusChem
DOI: **10.1002/cssc.201500638**

Lithium Storage

K. Kim, J. Moon, J. Lee, J.-S. Yu, M. Cho, K. Cho, M.-S. Park,* J.-H. Kim,* Y.-J. Kim

Mechanochemically Reduced SiO_2 by Ti Incorporation as Lithium Storage Materials

Taking charge! A mechanochemically reduced SiO_{2-x}/TiO_{2-x} composite is designed by thermodynamic calculations and synthesized by high-energy mechanical milling as a promising anode material for lithium-ion batteries. By incorporation of Ti, amorphous SiO_2 can be effectively reduced during the synthesis, leading to the in situ formation of a SiO_{2-x}/TiO_x composite that shows a high reversible capacity with excellent cycle performance.



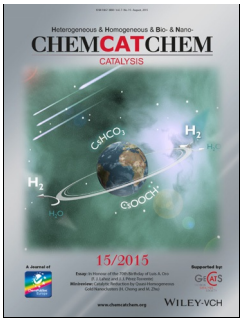
ChemCatChem
DOI: **10.1002/cctc.201500192**

Electrocatalysis

M. Seredych, K. László, T. J. Bandosz*

Sulfur-Doped Carbon Aerogel as a Metal-Free Oxygen Reduction Catalyst

Pores for thought: The thermal treatment of a carbon aerogel with H_2S results in the introduction of thiophenic compounds to the carbon matrix, which increased the efficiency of the oxygen reduction reaction. As a result of their hydrophobicity, the aerogels withdraw O_2 from the electrolyte. The specific micro-/mesoporosity enhances the accessibility of the surface sites to oxygen dissolved in water.

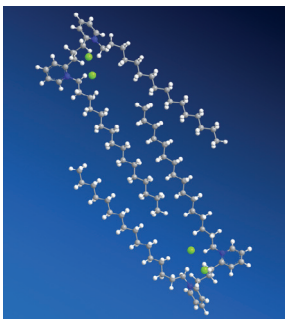


Surfactants

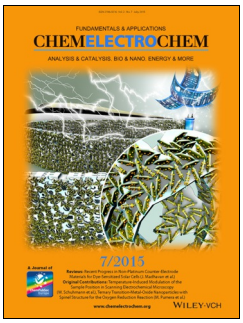
N. Barbero, C. Magistris, P. Quagliotto,* L. Bonandini, C. Barolo, R. Buscaino, C. Compari, L. Contardi, E. Fisicaro, G. Viscardi

Synthesis, Physicochemical Characterization, and Interaction with DNA of Long-Alkyl-Chain Gemini Pyridinium Surfactants

Bringing it all together: This study on gemini pyridinium surfactants (see figure) contributes to the knowledge about the aggregation behavior of these compounds and their interactions with biological molecules. Structure–activity relationships were found in the context of the physico-chemical properties of these compounds and DNA compaction. These insights should improve the understanding of surfactant-based gene delivery.



ChemPlusChem
DOI: **10.1002/cplu.201500007**

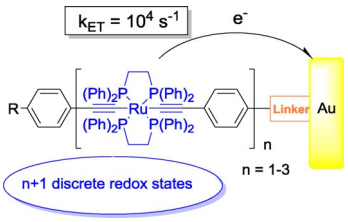


Molecular Wires

A. Mulas, Y.-M. Hervault, L. Norel, S. Rigaut,* C. Lagrost*

Electron-Transfer Kinetics in Polymetallic Carbon-Rich Ruthenium(II) Bis(σ-arylacetylides) Wires Connected to Gold

Well connected: Self-assembly of organometallic molecular wires consisting of mono-, bi-, and trinuclear ruthenium bis(σ-arylacetylides) functionalized with different anchoring groups all display fast electron-transfer dynamics ($10^4\ s^{-1}$) together with discrete oxidation events at remarkably low potentials.



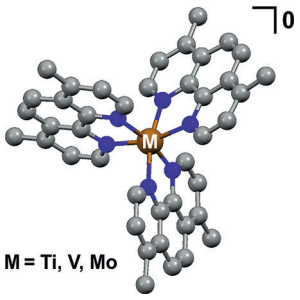
ChemElectroChem
DOI: **10.1002/celc.201500206**

Cooperative Phenomena

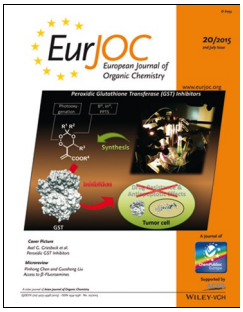
M. Wang, T. Weyhermüller, K. Wieghardt*

Determining the Electronic Structure of a Series of $[(phen)_3M]^0$ (M = Ti, V, Mo) and $[(pdi)_2M]^{n+}$ (M = Cr, Mo) Complexes: Coordination of Neutral Ligands vs. π-Radical Anions

The appropriate oxidation levels of the tridentate ligands pyridine-2,6-diimine (pdi) and 2,9-dimethyl-1,10-phenanthroline (^{Me}phen) as neutral species, monoanion π-radical and dianion in "low valent" octahedral complexes $[M(^{Me}phen)_3]^0$ (M = Ti, V, Cr, Mo) and $[Mo(pdi)_2]^n$ (n = 0,1+) have been experimentally determined by X-ray crystallography and by UV/Vis and EPR spectroscopy.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201500420**

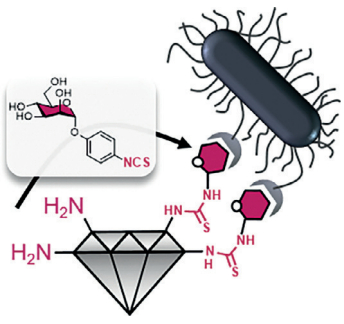


Glyconanodiamonds

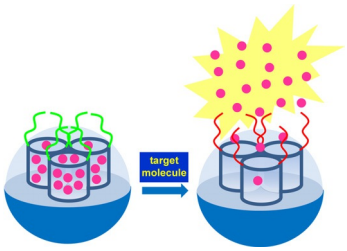
C. Fessele, S. Wachtler, V. Chandrasekaran, C. Stiller, T. K. Lindhorst,* A. Krueger*

Thiourea-Bridged Nanodiamond Glycoconjugates as Inhibitors of Bacterial Adhesion

Thiourea-bridging is a new approach to conjugating nanodiamond nanoparticles and biomolecules. This was exemplified by preparation of saccharide-functionalized nanodiamonds (NDs) that were characterized and employed in biological studies. These studies revealed specific ND binding to *E. coli* bacterial cells.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201500532**



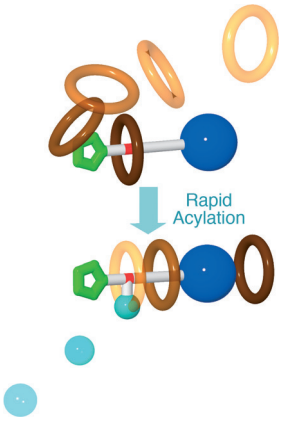
ChemistryOpen
DOI: **10.1002/open.201500053**

Chemosensors

F. Sancenón,* L. Pascual, M. Oroval, E. Aznar, R. Martínez-Máñez*

Gated Silica Mesoporous Materials in Sensing Applications

Heightened senses! Capped silica mesoporous supports (SMSs) have found wide application as delivery vehicles due to their ability to release their cargo in response to chemical, biochemical or physical stimuli. Here, a review of the application of gated SMSs in recognition protocols for anions, cations, small molecules, and large biomolecules is presented.



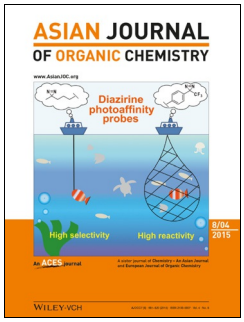
Asian J. Org. Chem.
DOI: **10.1002/ajoc.201500248**

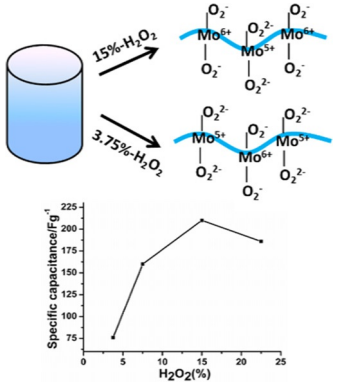
Rotaxanes

J. Nishiyama, Y. Makita, N. Kihara*

Rapid and Efficient Acylative Active Transport on a Rotaxane

Very moving: Smooth and efficient active transport was achieved on a rotaxane consisting of a secondary ammonium salt bearing a cyclopentyl group and dibenzo-24-crown-8-ether (DB24C8) mover by applying rapid acylation conditions. Thus, a two-step, unidirectional transport system was developed. The DB24C8 mover enters the track over the left cyclopentyl group. The rapid acylation actively transports the mover to the right. Finally, the DB24C8 mover dethreaded over the right terminal group.





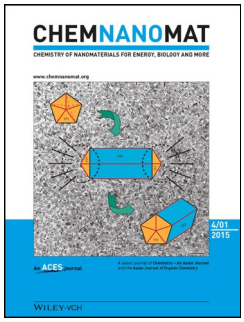
ChemNanoMat
DOI: **10.1002/cnma.201500045**

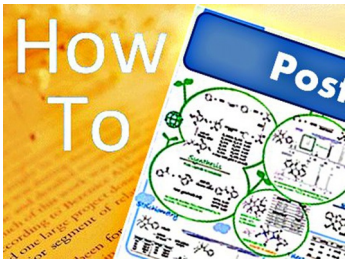
Electrode Materials

V. Kumar, X. Wang, P. S. Lee*

Oxygen-Ions-Mediated Pseudocapacitive Charge Storage in Molybdenum Trioxide Nanobelts

Surface species: The coordination of surface atoms can tune the electrochemical properties of electrode materials. The oxygen species present on the surface of MoO_3 nanobelts affect their charge-storage properties.





ChemViews magazine
DOI: **10.1002/chemv.201400081**

Science Communication

R. Threlfall

Presentation Tips: Making it Memorable

Making scientific presentations engaging for the audience can be a challenge. Richard Threlfall, *Asian Journal of Organic Chemistry*, gives tips on how to design your slide show, step into the spotlight, and add some magic to your presentation.