



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.

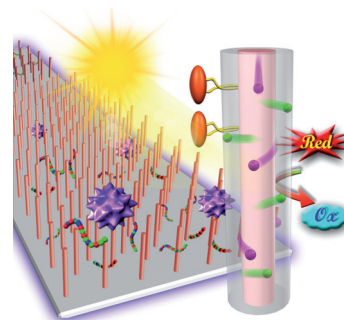


Sensors

J. Tang, J. Li, P. Da, Y. Wang, G. Zheng*

Solar-Energy-Driven Photoelectrochemical Biosensing using TiO_2 Nanowires

Expand your senses! The solar-energy-driven photoelectrochemical biosensing using 1D TiO_2 nanowire arrays is discussed (see figure), with an emphasis of both optimizing semiconductor electronic structures and developing new sensing mechanisms. Representative examples are illustrated with each mechanism. The potential of using this sensing platform for direct interfacing and measurement of living cells is also demonstrated.



Chem. Eur. J.
DOI: 10.1002/chem.201406643

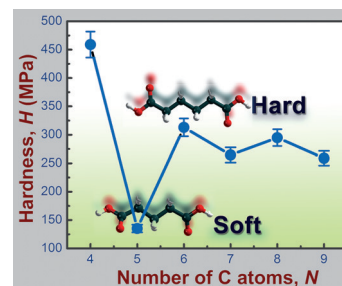


Crystal Engineering

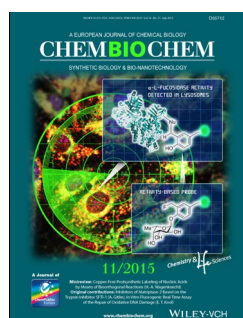
M. K. Mishra, U. Ramamurty,* G. R. Desiraju*

Hardness Alternation in α,ω -Alkanedicarboxylic Acids

Odds on: The effects of odd–even alternation in α,ω -alkanedicarboxylic acids, $\text{C}_N\text{H}_{2N-2}\text{O}_4$ ($4 \leq N \leq 9$) has been examined by recourse to nanoindentation on the major faces of single crystals (see figure). This effect, which is observed for properties such as melting point, is also seen for crystal hardness.



Chem. Asian J.
DOI: 10.1002/asia.201500322

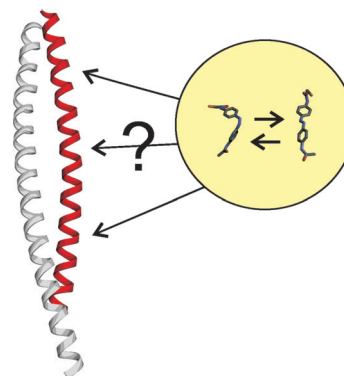


Optogenetics

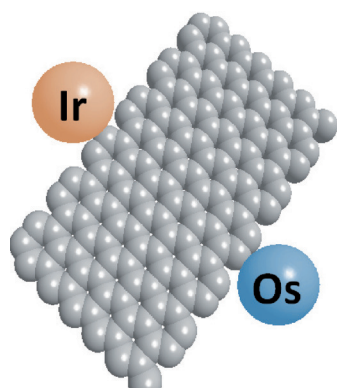
A. M. Ali, M. W. Forbes, G. A. Woolley*

Optimizing the Photocontrol of bZIP Coiled Coils with Azobenzene Crosslinkers: Role of the Crosslinking Site

Systematic testing of potential sites for *cis/trans* photoswitchable azobenzene-based crosslinkers leads to effective light-controlled inhibitors of CREB transcription factors. The largest degree of photocontrol is achieved when the crosslinker is in the zipper region between Cys residues in the heptad segment showing the highest intrinsic helical propensity.



ChemBioChem
DOI: 10.1002/cbic.201500191



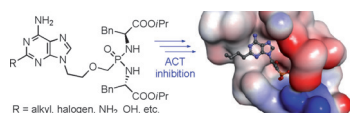
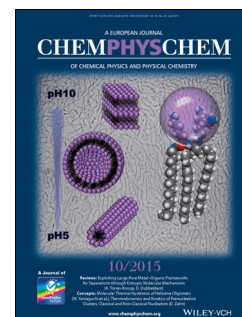
ChemPhysChem
DOI: 10.1002/cphc.201500174

Graphene

C. S. Lim, Z. Sofer, R. J. Toh, A. Y. S. Eng, J. Luxa, M. Pumera*

Iridium- and Osmium-decorated Reduced Graphenes as Promising Catalysts for Hydrogen Evolution

The electrocatalytic abilities of various graphene–metal hybrids are investigated. Iridium- and osmium-doped graphenes seem to be particularly interesting because of their promising electrochemical performance towards the hydrogen evolution reaction.



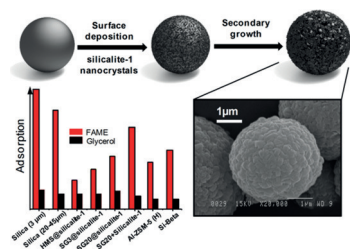
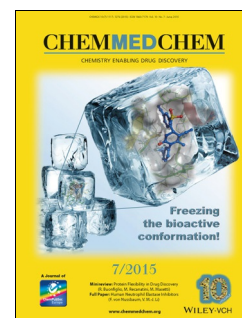
ChemMedChem
DOI: 10.1002/cmdc.201500183

Antibiotics

M. Česnek, P. Jansa, M. Šmídková,* H. Mertlíková-Kaiserová, M. Dračínský, T. F. Brust, P. Pávek, F. Trejtnar, V. J. Watts, Z. Janeba*

Bisamidate Prodrugs of 2-Substituted 9-[2-(Phosphonomethoxy)ethyl]adenine (PMEA, adefovir) as Selective Inhibitors of Adenylate Cyclase Toxin from *Bordetella pertussis*

Whooping cough combatted: With the aim to establish a new strategy against pertussis, C2-modified adefovir analogues in their bisamidate prodrug form were found to efficiently inhibit adenylate cyclase toxin (ACT) from *Bordetella pertussis*. The compounds show favorable plasma stability, effective distribution to target tissues, and good selectivity for ACT over human adenylate cyclase isoforms.



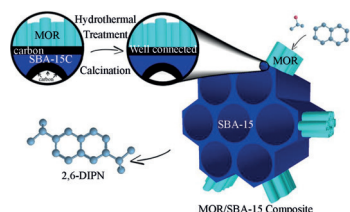
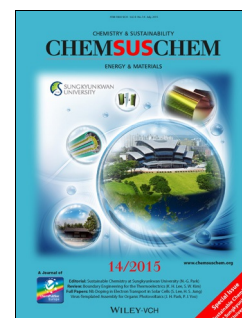
ChemSusChem
DOI: 10.1002/cssc.201500190

Renewable Resources

N. Masoumifard, P. M. Arnal, S. Kaliaguine,* F. Kleitz*

Zeolitic Core@Shell Adsorbents for the Selective Removal of Free Glycerol from Crude Biodiesel

This is a sticky situation...: A new adsorbent for the selective removal of free glycerol from crude biodiesel mixtures is introduced. It consists of a mesoporous silica core with a uniform microporous silicalite-1 shell. Glycerol sorption reveals that effective adsorbents possess highly size-selective pore entrances so as to maintain a larger number of adsorption sites for small molecules (e.g., glycerol, methanol). FAMES = fatty acid methyl esters



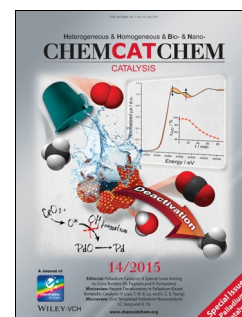
ChemCatChem
DOI: 10.1002/cctc.201500335

Zeolites

M. Banu, Y. H. Lee, G. Magesh, C.-M. Nam, J. S. Lee*

MOR/SBA-15 Composite Catalysts with Interconnected Meso/Micropores for Improved Activity and Stability in Isopropylation of Naphthalene

Networking of big and small: To improve naphthalene conversion in isopropylation of naphthalene, a hierarchical meso/micropore structure of zeolite composites is achieved by combining micropores of MOR with mesopores of SBA-15. In the hydrothermal recrystallization process, MOR recrystallizes in the mesopores of SBA-15 stabilized by carbon coating formed on the pore walls as a template.



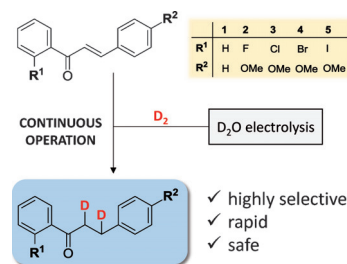


Continuous-Flow Processing

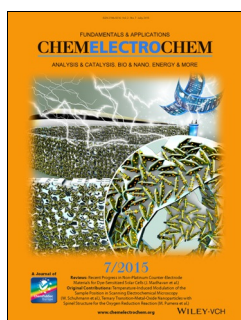
C.-T. Hsieh, S. B. Ötvös, Y.-C. Wu, I. M. Mándity, F.-R. Chang,*
F. Fülöp*

Highly Selective Continuous-Flow Synthesis of Potentially Bioactive Deuterated Chalcone Derivatives

Avoiding over-reaction: Various dideuterochalcones have been synthesized selectively by means of the highly controlled partial deuteration of antidiabetic chalcone derivatives. The benefits of continuous-flow processing were exploited in combination with on-demand electrolytic generation of D_2 gas (see figure) to avoid over-reaction to undesired side products and to achieve selective deuterium incorporation without the need for special reagents.



ChemPlusChem
DOI: 10.1002/cplu.201402426

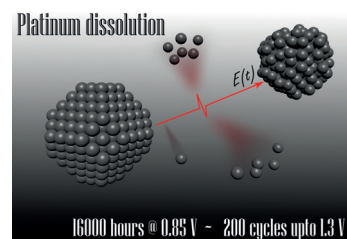


Catalyst Degradation

S. Cherevko,* G. P. Keeley, S. Geiger, A. R. Zeradjanin, N. Hodnik,
N. Kulyk, K. J. J. Mayrhofer*

Dissolution of Platinum in the Operational Range of Fuel Cells

Powerful potential: Polarization at a relatively low potential leads to low, but measurable, dissolution of platinum from bulk platinum and carbon-supported platinum nanoparticles. Dissolution accelerates dramatically during potential spikes in oxide formation and reduction regions. These potential-driven processes are discussed in the context of electrocatalyst degradation in fuel cells.



ChemElectroChem
DOI: 10.1002/celec.201500098

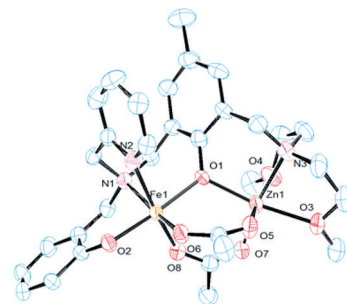


Enzyme Mimics

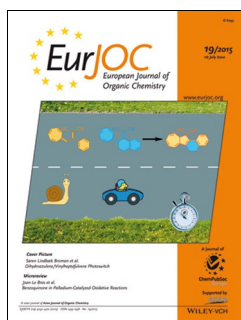
A. E. Roberts, G. Schenk, L. R. Gahan*

A Heterodinuclear $Fe^{III}Zn^{II}$ Complex as a Mimic for Purple Acid Phosphatase with Site-Specific Zn^{II} Binding

The ligand 2-[[bis(2-methoxyethyl)amino]methyl]-6-[[[(2-hydroxybenzyl)(2-pyridylmethyl)amino]methyl]-4-methylphenol (BMMHPH₂) with two distinct coordination sites, N_2O_2 (α) and NO_3 (β), and the corresponding iron(III)–zinc(II) complex $[FeZn(BMMHP)(CH_3COO)_2](BPh_4)$ were prepared as a mimic for the active site of the plant enzyme purple acid phosphatase. The complex exhibits phosphoesterase-like activity. The centrosymmetric dimer $[Fe_2(BMMHPH)_2(\mu-OH)_2](BPh_4)_2$ and the acentrosymmetric trimer $[Fe_2Mg(BMMHPH)_2(CH_3COO)_2 \cdot (CH_3O)_2](BPh_4)_2$ were also characterized.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.201500351



Arsenical C-Glycosides

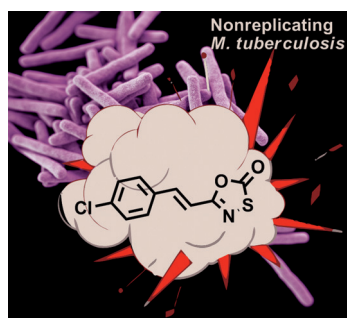
G. D'Orazio, G. Parisi, C. Policano, R. Mechelli, G. Codacci Pisanelli,
M. Pitaro, G. Ristori, M. Salvetti, F. Nicotra, B. La Ferla*

Arsenical C-Glucoside Derivatives with Promising Antitumor Activity

C-Glucoside derivatives covalently linked to the arsenic atom in different oxidation states have been synthesized. The C-glucoside conjugated to the phenyldithioarsolan group, showed promising antiproliferative activity on human neuroblastoma cells (SK-N-BE).



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201500529



Drug Design

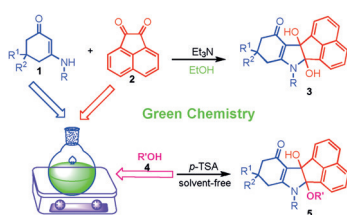
F. Russo, J. Gising, L. Åkerbladh, A. K. Roos, A. Naworyta, S. L. Mowbray, A. Sokolowski, I. Henderson, T. Alling, M. A. Bailey, M. Files, T. Parish, A. Karlén, M. Larhed*

Optimization and Evaluation of 5-Styryl-Oxathiazol-2-one *Mycobacterium tuberculosis* Proteasome Inhibitors as Potential Antitubercular Agents

Targeting tuberculosis: 5-styryl-oxathiazol-2-ones were found to be inhibitors of the *Mycobacterium tuberculosis* (*Mtb*) proteasome. The compounds displayed a good selectivity for *Mtb* and were rapidly bactericidal against nonreplicating *Mtb*. The results suggest that this new class of *Mtb* proteasome inhibitors has the potential to be further developed into novel antitubercular agents for synergistic combination therapies with existing drugs.



ChemistryOpen
DOI: 10.1002/open.201500001



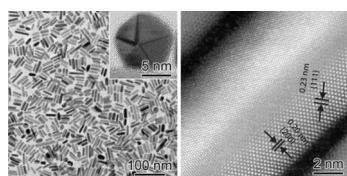
Asian J. Org. Chem.
DOI: 10.1002/ajoc.201500159

Synthetic Methods

X.-B. Chen, T.-B. Luo, G.-Z. Gou, J. Wang, W. Liu,* J. Lin*

Selective Synthesis of Acenaphtho[1,2-*b*]indole Derivatives via Tandem Regioselective Aza-Ene Addition/N-Cyclization/S_N1 Type Reaction

Ace: A concise and efficient synthesis of acenaphtho[1,2-*b*]indoles with different substitution patterns from a [3+2] condensation of enaminones with acenaphthoquinone has been developed.



ChemNanoMat
DOI: 10.1002/cnma.201500042

Seeded-Mediated Growth

H. Huang, L. Zhang, T. Lv, A. Ruditskiy, J. Liu, Z. Ye, Y. Xia*

Five-Fold Twinned Pd Nanorods and Their Use as Templates for the Synthesis of Bimetallic or Hollow Nanostructures

Better when separated: Pd decahedra were synthesized and then used as seeds in a separate growth step to generate five-fold twinned Pd nanorods as nearly pure samples, together with controllable diameters and lengths.



News & Information

V. Köster

Five Years of ChemistryViews

ChemistryViews.org, an online news service for scientists, was launched on May 21, 2010. The 16 chemical societies in ChemPubSoc Europe joined forces to inform and connect chemists worldwide. *ChemistryViews* publishes news, interviews, commentary, tips, and videos on chemical research and education. This unique experiment now turns five, and to celebrate, we showcase some of the most interesting contributions in our archives.



ChemViews magazine
DOI: 10.1002/chemv.201500038