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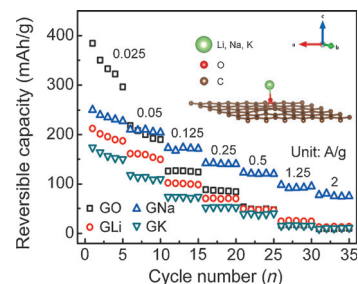


Graphene

F. Wan, Y.-H. Li, D.-H. Liu, J.-Z. Guo, H.-Z. Sun, J.-P. Zhang,*
X.-L. Wu*

Alkali-Metal-Ion-Functionalized Graphene Oxide as a Superior Anode Material for Sodium-Ion Batteries

Superior Na-storage properties of unreduced graphene oxide (GO) by a simple and scalable alkali-metal-ion (Li^+ , Na^+ , K^+)-functionalized process has been achieved. Different alkali metal ions play different roles on adjusting the structure and Na-storage properties, and the GNa electrode exhibits much improved electrochemical properties in terms of higher rate performance and longer cycle stability compared to GO, GLi, and GK (see figure).



Chem. Eur. J.
DOI: 10.1002/chem.201600660

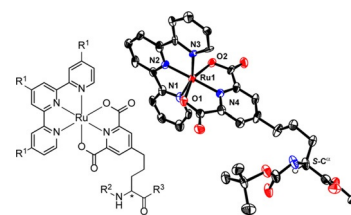


Ruthenium Complexes

K. Isozaki,* T. Yokoi, R. Yoshida, K. Ogata, D. Hashizume,
N. Yasuda, K. Sadakane, H. Takaya,* M. Nakamura*

Synthesis and Applications of
(ONO Pincer)Ruthenium-Complex-Bound Norvalines

ONO? OYes! (ONO pincer)ruthenium-complex-bound norvalines were successfully synthesized as a new type of bioorganometallic material. These materials exhibited interesting self-assembly properties and excellent catalytic properties for the oxidation of alcohols.



Chem. Asian J.
DOI: 10.1002/asia.201600045

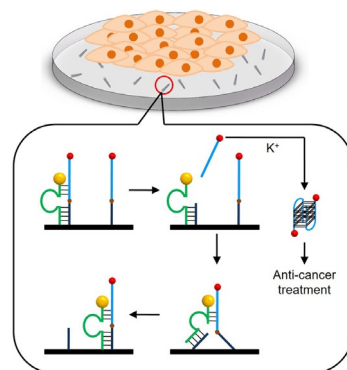


DNA Nanotechnology

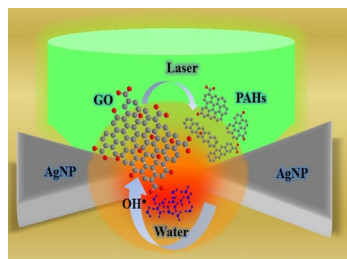
F. Li, T.-G. Cha, J. Pan, A. Ozcelikkale, B. Han, J. H. Choi*

DNA Walker-Regulated Cancer Cell Growth Inhibition

Out for a walk: A DNAzyme walker system was designed as an in situ drug-release platform for cancer treatment. The walkers were embedded in a collagen extracellular matrix of cultured breast cancer cells and released an anticancer oligonucleotide to regulate cancer cell growth.



ChemBioChem
DOI: 10.1002/cbic.201600052



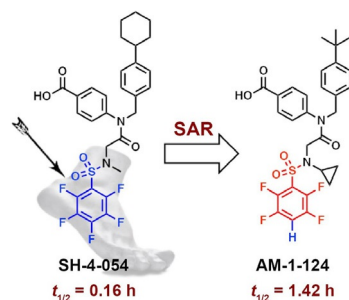
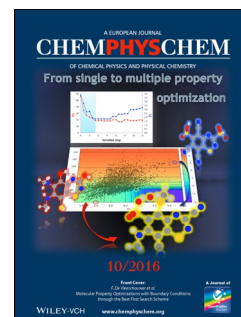
ChemPhysChem
DOI: 10.1002/cphc.201501013

Nanochemistry

L. Ramanauskaite, H. Xu, V. Snitka*

Localized Plasmon-Stimulated Nanochemistry of Graphene Oxide on a SERS Substrate

The power of local surface plasmons: Graphene oxide (GO) is locally reduced and decomposed to polyaromatic hydrocarbon-like compounds on a silver nanowedge-decorated Si substrate. This is a significant step towards the local modification of electrical properties of GO and controlled nanopatterning of organic compounds on a surface.



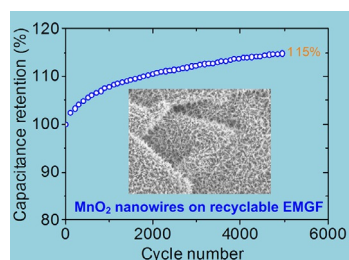
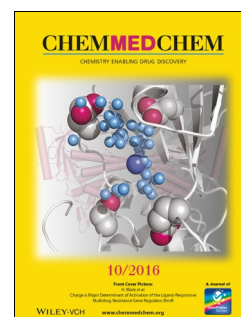
ChemMedChem
DOI: 10.1002/cmdc.201600021

Anticancer Agents

A. M. Ali, R. F. Gómez-Biagi, D. A. Rosa, P.-S. Lai, W. L. Heaton,* J. S. Park, A. M. Eiring, N. A. Vellore, E. D. de Araujo, D. P. Ball, A. E. Shouksmith, A. B. Patel, M. W. Deininger,* T. O'Hare,* P. T. Gunning*

Disarming an Electrophilic Warhead: Retaining Potency in Tyrosine Kinase Inhibitor (TKI)-Resistant CML Lines While Circumventing Pharmacokinetic Liabilities

Tempered electrophilicity: AM-1-124 is a promising STAT3-targeting inhibitor with demonstrated activity in tyrosine kinase inhibitor (TKI)-resistant chronic myeloid leukemia (CML) cell lines. In contrast to SH-4-054, AM-1-124 exhibits promising bioavailability in murine models (CD-1 mice), making it a candidate for evaluation in preclinical cancer models.



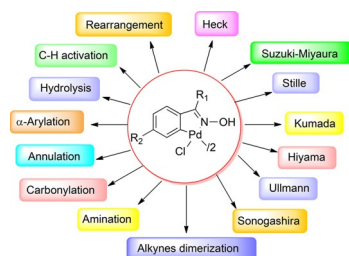
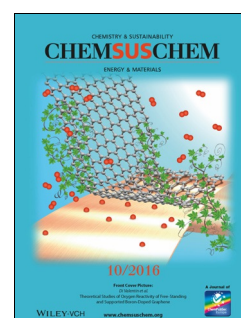
ChemSusChem
DOI: 10.1002/cssc.201600024

Recyclable Electrodes

Z. J. Han,* Z. Bo, D. H. Seo, S. Pineda, Y. Wang, H. Y. Yang, K. Ostrikov

High Pseudocapacitive Performance of MnO₂ Nanowires on Recyclable Electrodes

Stable pseudocapacitor: A simple electrochemical surface treatment is used to enable the covalent chemical bonding between manganese oxide (MnO₂) nanowires and electrochemically modified graphite foil (EMGF). The resultant MnO₂/EMGF nanohybrids exhibit a high areal capacitance and cycling stability with 115 % capacitance retention after 5000 cycles. Furthermore, the EMGF can be recycled as new electrode support.



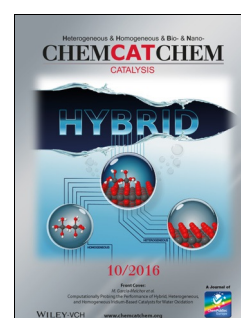
ChemCatChem
DOI: 10.1002/cctc.201600035

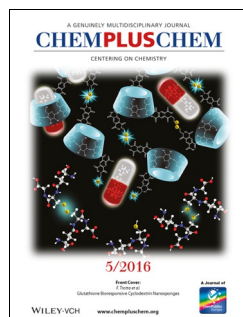
Palladium

C. Nájera*

Oxime-Derived Palladacycles: Applications in Catalysis

15 Years of catalysis: This minireview highlights the catalytic activity of oxime-derived palladacycles for alkenylation, cross-coupling, alkynylation, carbonylation, annulation, α-arylation, C–H activation, and oxime rearrangement reactions as well as their role as metalloenzymes in hydrolytic processes along with others applications in organic synthesis.



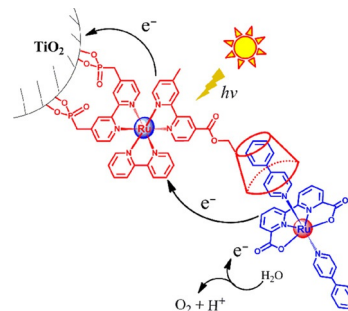


Water Splitting

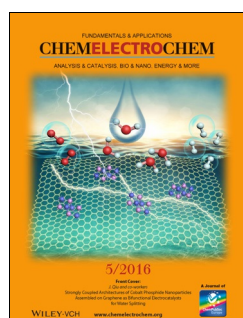
H. Li, F. Li,* Y. Wang, L. Bai, F. Yu, L. Sun

Visible-Light-Driven Water Oxidation on a Photoanode by Supramolecular Assembly of Photosensitizer and Catalyst

A “take-charge” guest: A ruthenium water oxidation catalyst was incorporated on the surface of a dye-sensitized nanostructured TiO₂ film when it formed a host–guest adduct with the chromophore, providing a new strategy for photoanode construction.



ChemPlusChem
DOI: 10.1002/cplu.201500539

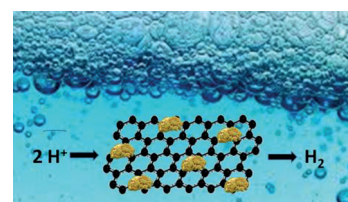


Electrocatalysis

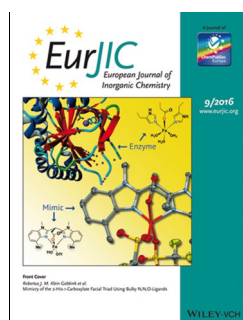
J. Luxa, V. Mazánek, D. Bouša, D. Sedmidubský, M. Pumera,* Z. Sofer*

Graphene–Amorphous Transition-Metal Chalcogenide (MoS_x, WS_x) Composites as Highly Efficient Hybrid Electrocatalysts for the Hydrogen Evolution Reaction

Cheap and effective: Layered transition-metal dichalcogenides (TMDs) show promising electrocatalytic properties towards the hydrogen evolution reaction. A series of graphene–amorphous TMD composites were prepared under hydrothermal conditions and fully characterized.



ChemElectroChem
DOI: 10.1002/celec.201500497

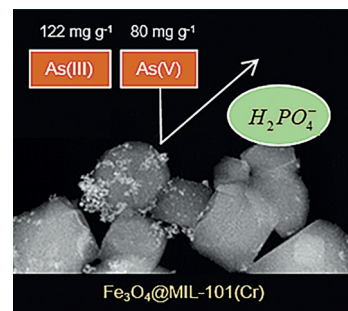


Arsenic Remediation

K. Folens, K. Leus, N. R. Nicomel, M. Meledina, S. Turner, G. Van Tendeloo, G. D. Laing, P. Van Der Voort*

Fe₃O₄@MIL-101 – A Selective and Regenerable Adsorbent for the Removal of As Species from Water

MIL-101(Cr) serves as a host for the in situ synthesis of Fe₃O₄ nanoparticles. The resulting material shows excellent affinity towards As^{III} and As^V species in water. Ca²⁺, Mg²⁺, and phosphate ions as well as natural organic matter do not affect the removal efficiency or selectivity. The structural integrity of the host is maintained during the adsorption and desorption process.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.201600160

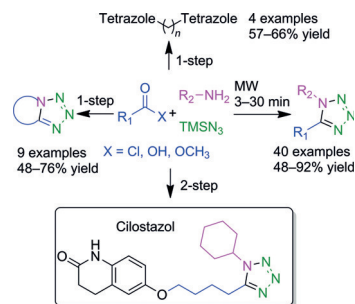


Multicomponent Reactions

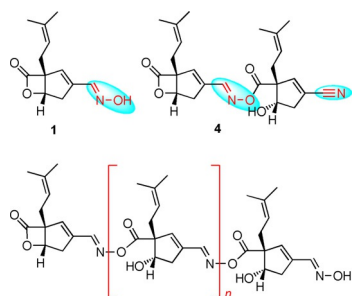
A. L. Chandgude, A. Dömling*

Convergent Three-Component Tetrazole Synthesis

Short, simple, safe, and diverse! The herein described multicomponent reaction arguably provides the most versatile access towards 1,5-disubstituted and fused tetrazoles. The usefulness of this method is demonstrated in the synthesis of biologically important fused tetrazole scaffolds and the marketed drug cilostazol.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201600317



ChemistryOpen

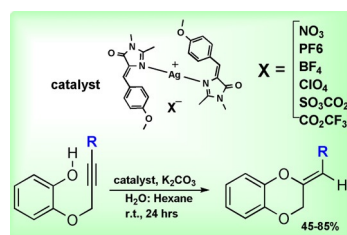
DOI: 10.1002/open.201500198

Natural Products

H.-P. Chen, Z.-Z. Zhao, Z.-H. Li, Z.-J. Dong, K. Wei, X. Bai, L. Zhang, C.-N. Wen, T. Feng,* J.-K. Liu*

Novel Natural Oximes and Oxime Esters with a Vibrallactone Backbone from the Basidiomycete *Boreostereum vibrans*

Valuable vibrallactoximes! Sixteen vibrallactoximes—novel oximes and oxime esters—were isolated from the scale-up fermentation of the fungus *Boreostereum vibrans*. These compounds represent the first oxime esters from nature. Seven compounds showed significant pancreatic lipase inhibition, while ten had cytotoxicities towards five human cancer cell lines (HL-60, SMMC-7721, A-549, MCF-7, and SW480) comparable with cisplatin.



Asian J. Org. Chem.

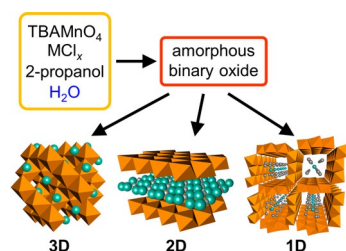
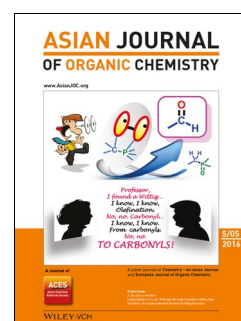
DOI: 10.1002/ajoc.201600173

Heterogeneous Catalysis

A. Singh, G. Ramanathan*

Rational Design of Heterogeneous Silver Catalysts by Exploitation of Counteranion-Induced Coordination Geometry

Green machine: The coordination complexes of a green fluorescent protein (GFP) chromophore analogue with a variety of silver salts have been synthesized by varying the counteranion. The counteranion influences the geometry and coordination number of the silver ion in these complexes. Complexes that have a free coordination site have been exploited as heterogeneous catalysts for cyclization reactions under “green” conditions.



ChemNanoMat

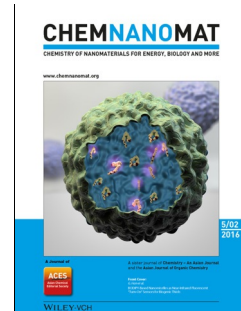
DOI: 10.1002/cnma.201600034

Metal Oxides

Y. Miyamoto, Y. Kuroda, T. Uematsu, H. Oshikawa, N. Shibata, Y. Ikuhara, K. Suzuki, M. Hibino, K. Yamaguchi, N. Mizuno*

Rational Low-Temperature Synthesis of Ultrasmall Nanocrystalline Manganese Binary Oxide Catalysts under Controlled Metal Cation Hydration in Organic Media

Ultrasmall nanocrystalline manganese binary oxides, such as spinel (3D), layered (2D), and tunnel (1D) structures were synthesized in 2-propanol-based solutions under controlled metal cation template hydration. These oxides acted as efficient reusable heterogeneous catalysts for primary alcohol ammoxidation and amidation using aqueous NH_3 as a nitrogen source and O_2 (air) as a terminal oxidant.



ChemViews magazine

DOI: 10.1002/chemv.201600027

Biocatalysis

M. Campbell, J. Micklefield

Changing the Selectivity of Biocatalysts

In “Behind the Science”, *ChemViews Magazine* gives readers a peek behind the scenes of a research article. This time, Meghan Campbell, *ChemBioChem*, talks to Jason Micklefield, University of Manchester, about his article on the design of a new halogenase enzyme that could prove useful for the halogenation of aromatic molecules.

