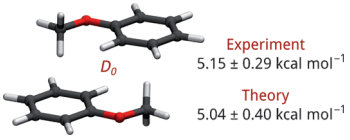
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Bond Energy

J. Řezáč, D. Nachtigallová, F. Mazzoni, M. Pasquini, G. Pietraperzia, M. Becucci,* K. Müller-Dethlefs, P. Hobza*

Binding Energies of the π-Stacked Anisole Dimer: New Molecular Beam—Laser Spectroscopy Experiments and CCSD(T) Calculations

It takes two! The binding energy of the anisole dimer in different states has been newly determined in a combined experimental and computational work. The results reported for the neutral ground state, S_0, are in perfect agreement (see figure).



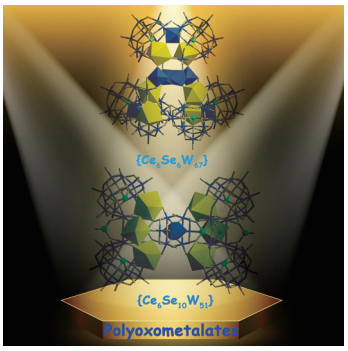
Chem. Eur. J.
DOI: **10.1002/chem.201406134**

Polyoxometalates

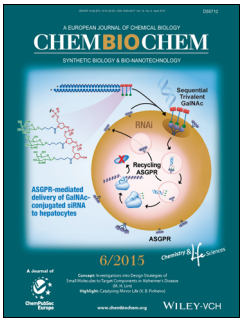
W.-C. Chen, C. Qin,* Y.-G. Li, H.-Y. Zang, K.-Z. Shao, Z.-M. Su,* E.-B. Wang

Assembly of Large Purely Inorganic Ce-Stabilized/Bridged Selenotungstates: From Nanoclusters to Layers

Activate and strengthen your network: A versatile one-pot strategy was used to synthesize two large, purely inorganic selenotungstates, nanocluster $K_6Na_{16}[Ce_6Se_6W_{67}O_{230}(OH)_6(H_2O)_{17}]\cdot 47\,H_2O$ (**1**) and layer $K_9Na_5Ce(H_2O)_4[Ce_6Se_{10}W_{51}O_{187}(OH)_7(H_2O)_{18}]\cdot 45\,H_2O$ (**2**), by combining cerium centers and SeO_3^{2-} heteroanion templates. The latter constitutes the first example of a layer selenotungstate network.



Chem. Asian J.
DOI: **10.1002/asia.201500004**

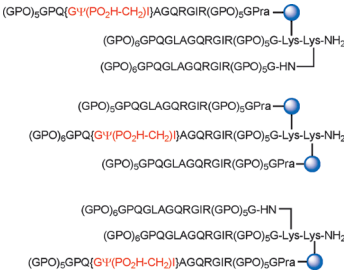


Transition-State Analogues

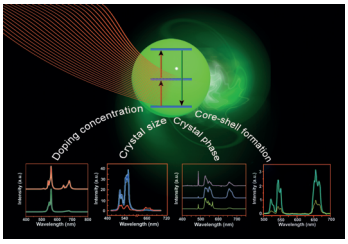
M. Bhowmick, R. Stawikowska, D. Tokmina-Roszyk, G. B. Fields*

Matrix Metalloproteinase Inhibition by Heterotrimeric Triple-Helical Peptide Transition State Analogues

In the matrix: Click chemistry was used to assemble heterotrimeric triple-helical peptide transition state analogues that could serve as matrix metalloproteinase (MMP) inhibitors. These compounds were active, thermally stable, bound the active site and exosites, and, unlike homotrimeric MMP inhibitors, exhibited MMP-1/MT1-MMP selectivity.



ChemBioChem
DOI: **10.1002/cbic.201402716**

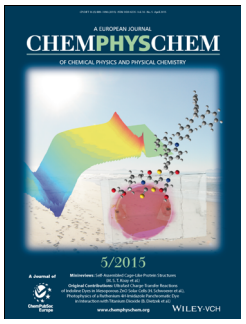


Nanocrystals

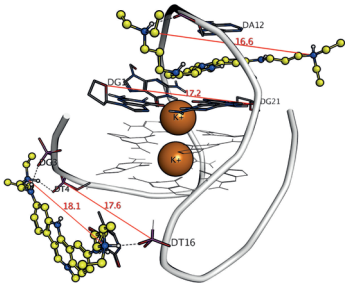
A. Kar, S. Kundu, A. Patra*

Lanthanide-Doped Nanocrystals: Strategies for Improving the Efficiency of Upconversion Emission and Their Physical Understanding

Lighting the way: The influences of doping/co-doping concentration, crystal phase, crystal size of the host, and core–shell structure on the efficiency upconversion emission of rare-earth-based upconverted nanocrystals is reviewed. Furthermore, analysis suggests that the local environment of the ion plays a significant role in modification of radiative and nonradiative relaxation mechanisms of overall upconversion emission properties.



ChemPhysChem
DOI: **10.1002/cphc.201402668**



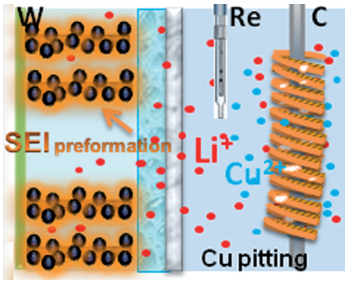
Anticancer Agents

J. Lavrado,* S. A. Ohnmacht, I. Correia, C. Leitão, S. Pisco, M. Gunaratnam, R. Moreira, S. Neidle, D. J. V. A. d. . Santos, A. Paulo

Indolo[3,2-*c*]quinoline G-Quadruplex Stabilizers: a Structural Analysis of Binding to the Human Telomeric G-Quadruplex

A much higher IQ: We report indolo[3,2-*c*]quinoline (IQc) derivatives with two weak basic side chains as potent and selective human telomeric (HT) G-quadruplex (G4) stabilizers. Biophysical data show that stabilization involves the binding of two ligands which induces a conformational rearrangement of the HT G4 structure. Moreover, selected derivatives showed selective antiproliferative activity toward human malignant cell lines.

ChemMedChem
DOI: **10.1002/cmdc.201500067**

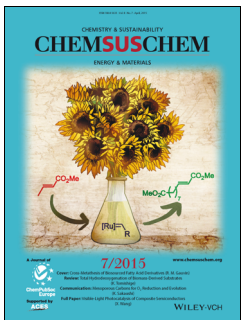


Batteries

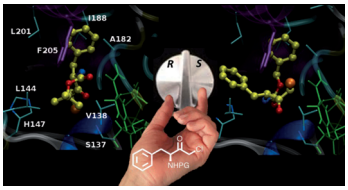
H. Zhou, X. Wang, E. Sheridan, D. Chen*

Boosting Properties of 3D Binder-Free Manganese Oxide Anodes by Preformation of a Solid Electrolyte Interphase

Full on: A complete solid electrolyte interphase layer is preformed on a pristine 3 D binder-free MnO_y-based electrode using a new electrolytic cell, which results in a big boost in the specific energy and cycling stability for the $MnO_y/LiMn_2O_4$ full cells.



ChemSusChem
DOI: **10.1002/cssc.201403393**



Biocatalysis

A. S. de Miranda, R. C. Simon, B. Grischek, G. C. de Paula, B. A. C. Horta, L. S. M. de Miranda, W. Kroutil, C. O. Kappe,* R. O. M. A. de Souza*

Chiral Chlorohydrins from the Biocatalyzed Reduction of Chloroketones: Chiral Building Blocks for Antiretroviral Drugs

Choose your side, not your enzyme: A single alcohol dehydrogenase is able to reduce structurally related chloroketones derived from *S*-amino acids with the opposite enantiopreference to furnish both (*R*,*S*) and (*S*,*S*)-chlorohydrins. Stereocontrol is achieved by changing the N-protecting group in the substrate, which allows the preparation of stereocomplementary halohydrins using the same biocatalyst.

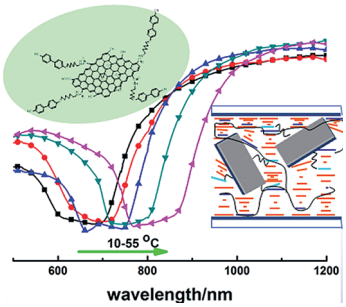
ChemCatChem
DOI: **10.1002/cctc.201403023**

Broad-Band Reflectors

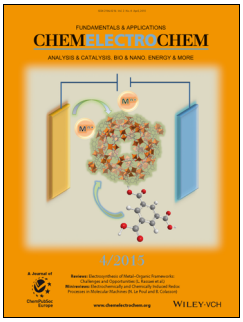
X. Wang, H. Cao, L. Zhang, R. Zhang, D. Wang,* Z. Yang,* W. He, H. Cao, H. Yang*

Graphene Oxide Modified with Mesogenic Groups and Its Effect in Broad-Band Reflectors

Broad-band reflector: Liquid-crystal-grafted sheets of graphene oxide (GO-LC) are synthesized and characterized successfully. A broad-band reflector is obtained by doping different amountsof GO-LC nanosheets into chiral nematic liquid crystalline media with photopolymerization. The effects of the polymerization temperature and amount of the GO-LC dopant on the broad-band reflection of the N*-LC composite films are investigated (see figure).



ChemPlusChem
DOI: **10.1002/cplu.201402315**

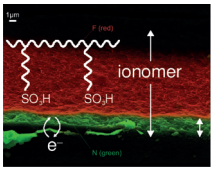


Proton Exchange Membranes

Y. Buchmüller, R. Hafner, A. Wokaun, T. J. Schmidt, L. Gubler*

From Electrochemical Interface to Interphase (2D→3D) on Ionomer Membranes

Face to phase: A method whereby the electrochemical contact between a proton exchange membrane and a gas diffusion electrode is enhanced from 2D to 3D by incorporating a conducting polymer into the near-surface region of the ionomer membrane is reported. Thus, electrochemical reactions in a spatially extended zone of the electrolyte membrane can be triggered, increasing the electrochemical response by two orders of magnitude.



electrochemical interphase

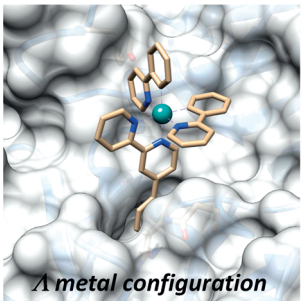
ChemElectroChem
DOI: **10.1002/celc.201402332**

Cirality of Metal Complexes

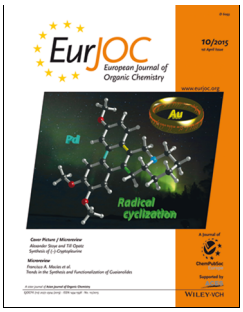
P. Göbel, F. Ritterbusch, M. Helms, M. Bischof, K. Harms, M. Jung, E. Meggers*

Probing Chiral Recognition of Enzyme Active Sites with Octahedral Iridium(III) Propeller Complexes

Enzyme inhibiting chiral *bis*-cyclometalated organoiridium(III) complexes were designed to investigate the influence of the metal-centered configuration.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201500087**

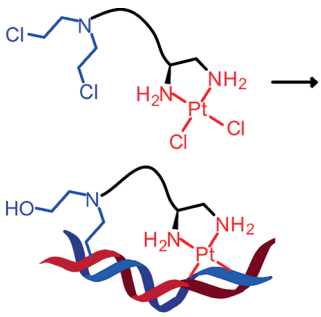


Cisplatin-N-Mustard Conjugates

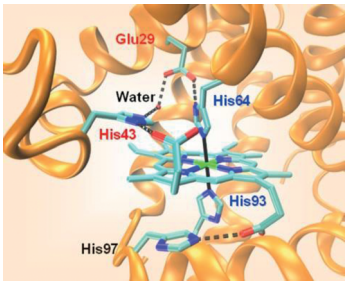
S. Schiesser, B. Hackner, M. Vrabel, W. Beck, T. Carell*

Synthesis and DNA-Damaging Properties of Cisplatin-*N*-Mustard Conjugates

Two cisplatin-*N*-mustard conjugates have been synthesized with the two cytotoxic groups separated by one or four ethylene glycol units. MS analyses of their reactions with DNA duplexes proved that both cytotoxic groups can bind to DNA, leading to a variety of DNA lesions that should hamper the repair machinery of tumor cells to counteract cisplatin resistance. Both conjugates inhibit cell division.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201500144**



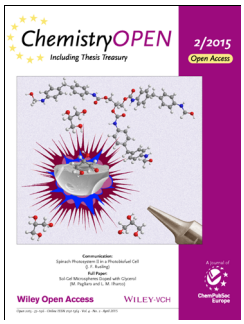
ChemistryOpen
DOI: **10.1002/open.201402108**

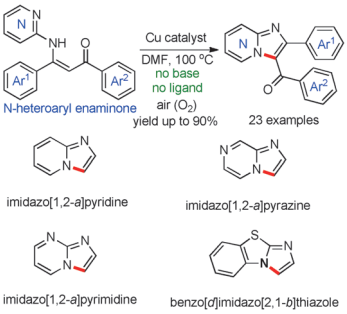
Protein Design

J.-F. Du, W. Li, L. Li, G.-B. Wen, Y.-W. Lin,* X. Tan*

Regulating the Coordination State of a Heme Protein by a Designed Distal Hydrogen-Bonding Network

Fine-tuning heme proteins: Heme coordination state determines the functional diversity of heme proteins. We introduced distal glutamic acid (Glu29) and histidine (His43) residues in myoglobin and regulated the heme into a non-native bis-His coordination state with native ligands His64 and His93, resembling natural globins such as cytoglobin and neuroglobin. This new approach can be generally applied for fine-tuning the structure and function of heme proteins.





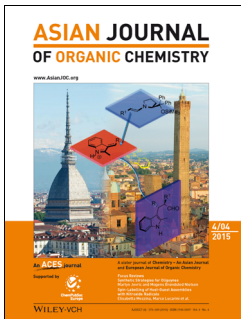
Asian J. Org. Chem.
DOI: **10.1002/ajoc.201500052**

Synthetic Methods

K. R. Reddy, A. S. Reddy, R. Shankar, Rajnikant, P. Das*

Copper-Catalyzed Oxidative C–H Amination: Synthesis of Imidazo[1,2-*a*]-N-Heterocycles from N-Heteroaryl Enaminones

Great cross: Copper (I)-catalyzed oxidative C–N bond cross-coupling reactions have been developed for the construction of imidazo[1,2-*a*]-N-heterocycles from readily available N-heteroaryl enaminones. This route offers significant flexibility to access these important heteroaromatic frameworks with unexplored and/or otherwise challenging substitution patterns.



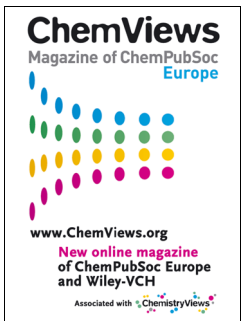
ChemViews magazine
DOI: **10.1002/chemv.201500015**

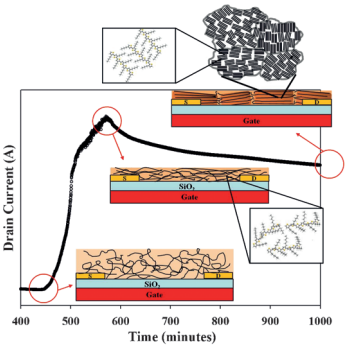
Noble Gases

D. Bradley

Locking Up Xenon's Potential

Xenon seems like such an innocuous noble gas, but still has potential for many applications. A self-assembling metallosupramolecular cage can trap a xenon atom in aqueous solution. This opens up opportunities for NMR applications such as improved imaging, molecular temperature probes, and pH sensors.





ChemNanoMat
DOI: **10.1002/cnma.201400003**

Thin Films

M. S. Park, A. Aiyar, J. O. Park, E. Reichmanis,* M. Srinivasarao*

Drain Current in Poly(3-hexylthiophene) Solutions during Film Formation: Correlations to Structural Changes

Insight into the real-time evolution of film formation: Drain current reaches its maximum prior to the advent of aggregation of P3HT microcrystalline domains. Macroscopic charge transport can be enhanced by quenching the structurally favorable state over the evaporation timeline.