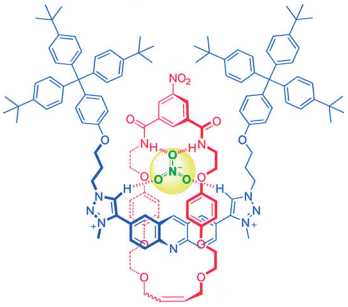
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Rotaxanes

V. Martí-Centelles, P. D. Beer*

Nitrate Anion Recognition in Organic–Aqueous Solvent Mixtures by a Bis(triazolium)acridine-Containing [2]Rotaxane

A sensitive host: A [2]rotaxane host system with a bis(triazolium)acridine-based axle component creates a complementary interlocked host cavity for the selective binding of nitrate over a range of more basic oxoanions (AcO^-, HCO_3^- and $H_2PO_4^-$) in a competitive organic–aqueous solvent mixture.



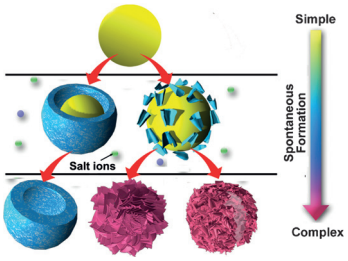
Chem. Eur. J.
DOI: **10.1002/chem.201406066**

Nanomaterials

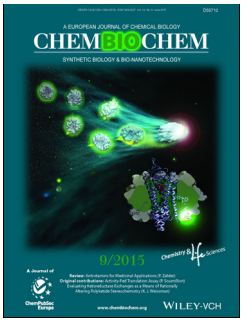
Q. Ji,* S. Ishihara, T. G. Terentyeva, K. Deguchi, S. Ohki, M.-s. Tansho, T. Shimizu, J. P. Hill, K. Ariga*

Manipulation of Shell Morphology of Silicate Spheres from Structural Evolution in a Purely Inorganic System

Take your pick: Silicate hollow spheres with various shell morphologies including flower-like, thick or thin nanosheet-shelled spheres and porous shelled are generated by manipulating a structural evolution process in a purely inorganic system.



Chem. Asian J.
DOI: **10.1002/asia.201500098**

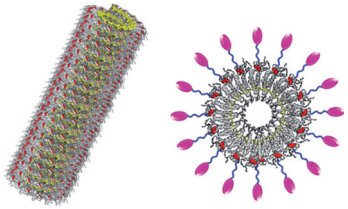


Vaccines

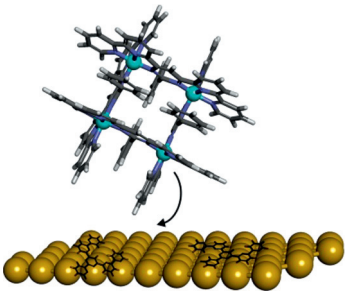
X. Zhao, L. Chen, J. A. Luckanagul, X. Zhang, Y. Lin,* Q. Wang*

Enhancing Antibody Response against Small Molecular Hapten with Tobacco Mosaic Virus as a Polyvalent Carrier

What's hapten-ing: Copper-catalyzed cycloaddition was used to conjugate estriol (E3) onto a tobacco mosaic virus (TMV) capsid. A high density of these small molecular haptens on TMV with oligo(ethylene glycol) linkers was shown to elicit strong, long-term IgG antibody responses in vivo, thus providing a promising platform for induction of humoral immune responses.



ChemBioChem
DOI: **10.1002/cbic.201500028**



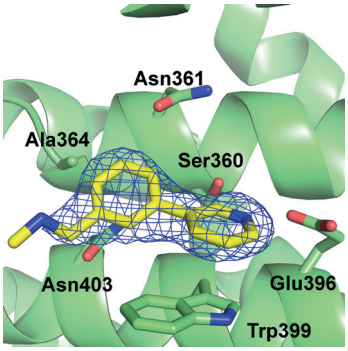
Surface Science

S. Karan,* C. Hamann, H. Tang, A. R. Stefankiewicz, J.-M. Lehn, R. Berndt*

Surface Trapping and STM Observation of Conformational Isomers of a Bis(Terpyridine) Ligand from Metallosupramolecular Grids

Catch me if you can: Fragmentation of a metallosupramolecular grid-type complex on a Au surface leaves the ligands in four different conformations. The most abundant conformer of the ligand is an asymmetric form not observed before. Fragmentation of coordination compounds during the deposition process allows investigation of high-energy, out-of-equilibrium conformations of the ligand molecules at low temperatures, which otherwise would not be observable.

ChemPhysChem
DOI: **10.1002/cphc.201500100**



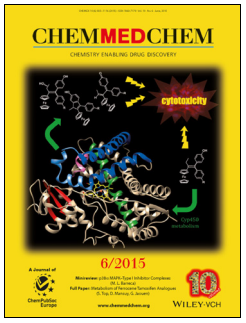
Fragment-Based Design

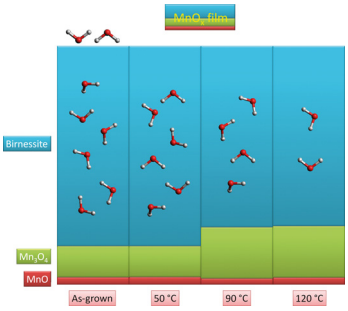
R. S. Holvey, E. Valkov, D. Neal, M. Stewart, C. Abell*

Selective Targeting of the TPX2 Site of Importin-α Using Fragment-Based Ligand Design

Fragments for challenging PPIs: Minor-site-specific compounds were identified and characterised for the TPX2–importin-α protein–protein interaction (PPI), a potential anticancer target. Structure-guided synthesis led to more potent compounds and identified a source of ligand selectivity between the two sites of the importin-α protein.

ChemMedChem
DOI: **10.1002/cmdc.201500014**





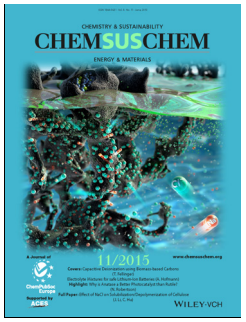
Water Oxidation

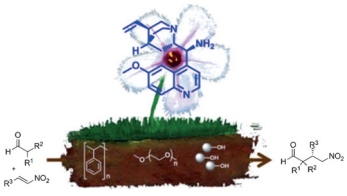
M. Khan, J. Xiao,* F. Zhou, M. Yablonskikh, D. R. MacFarlane, L. Spiccia,* E. F. Aziz*

On the Origin of the Improvement of Electrodeposited MnO_x Films in Water Oxidation Catalysis Induced by Heat Treatment

Show me the lost water: Heat treatment of manganese oxide (MnO_x) films leads to successive losses of adsorbed water on the material surface at 50 °C and structural water in bulk at 90 and 120 °C. The loss of the structural water embedded in birnessite phase at 90 °C triggers the transformation of a small amount of birnessite into an Mn_3O_4 phase, and results in a significant improvement in catalytic performance.

ChemSusChem
DOI: **10.1002/cssc.201500330**





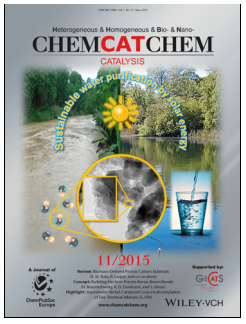
Organocatalysis

R. Porta, F. Coccia, R. Annunziata, A. Puglisi*

Comparison of Different Polymer- and Silica-Supported 9-Amino-9-deoxy-*epi*-quinines as Recyclable Organocatalysts

Organic power for asymmetric catalysis: Properly modified 9-amino-*epi*-quinine derivatives are anchored onto different supports and used as efficient organocatalysts in a variety of reactions, in some cases outperforming their nonsupported counterparts. The immobilization also extends the catalyst lifetime.

ChemCatChem
DOI: **10.1002/cctc.201500106**

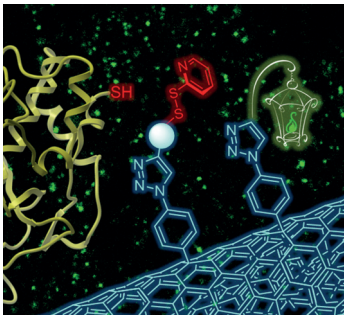


Carbon-Based Nanostructures

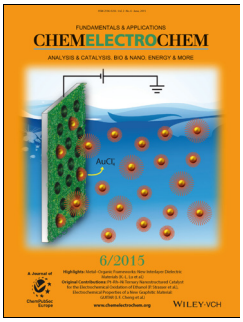
G. Tuci, L. Luconi, A. Rossin, F. Baldini, S. Cicchi, S. Tombelli, C. Trono, A. Giannetti, I. Manet, S. Fedeli, A. Brandi, G. Giambastiani*

A Hetero-Bifunctional Spacer for the Smart Engineering of Carbon-Based Nanostructures

Building on solid foundations: A hetero-bifunctional linker joining a "cleavable" disulfide moiety and a "clickable" terminal acetylene group was synthesized and used to decorate carbon nanotubes (CNTs). When used in combination with other selected terminal acetylene molecules, the linker can impart multimodality through a controlled click reaction to give carbon nanohybrids (see figure).



ChemPlusChem
DOI: **10.1002/cplu.201402391**

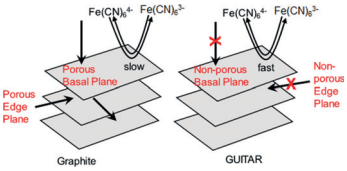


Carbon Materials

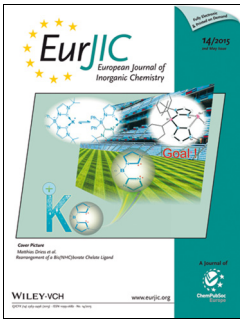
I. O. Gyan, P. M. Wojcik, D. E. Aston, D. N. McIlroy, I. F. Cheng*

A Study of the Electrochemical Properties of a New Graphitic Material: GUITAR

Electric GUITAR: Properties of a new carbon material include 1) fast heterogeneous electron-transfer kinetics across the basal plane of GUITAR, unlike graphite and graphene, and 2) lack of electrolyte intercalation through both edge and basal planes in GUITAR, unlike graphite (see Figure).



ChemElectroChem
DOI: **10.1002/celc.201402433**

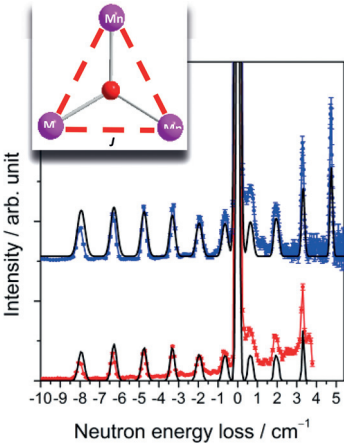


Zerofield Splitting Parameters

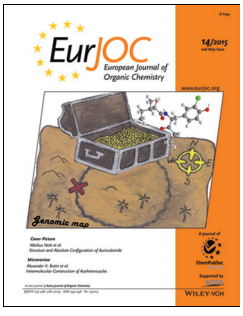
M. Sigrist, P. L. Tregenna-Piggott, K. S. Pedersen, M. A. Sørensen, A.-L. Barra, J. Hauser, S.-X. Liu, S. Decurtins, H. Mutka, J. Bendix*

Zero-Field Splitting in $\{Mn^{III}_3(\mu_3\text{-}O)\}$ Core Single-Molecule Magnets Investigated by Inelastic Neutron Scattering and High-Field Electron Paramagnetic Resonance Spectroscopy

Highly resolved inelastic neutron scattering spectroscopy and high-field electron paramagnetic resonance spectroscopy yield a uniquely accurate picture of the ground-state energetics of trinuclear Mn^{III}–oximate complexes. Variations in the magnitude of the anisotropy barriers leading to single-molecule magnet behavior of these systems can be explained in terms of molecular structures.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201500084**

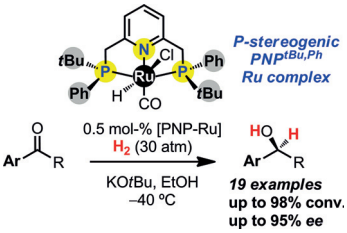


Ru-Chiral Pincer Complexes

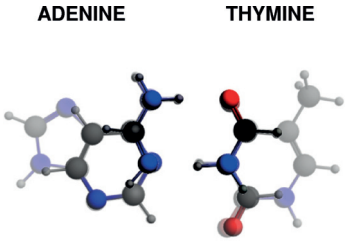
I. Arenas, O. Boutureira, M. I. Matheu, Y. Díaz,* S. Castillón*

Synthesis of a *P*-Stereogenic $PNP^{tBu,Ph}$ Ruthenium Pincer Complex and Its Application in Asymmetric Reduction of Ketones

P-stereogenic $PNP^{tBu,Ph}$ Ru complex was for the first time synthesized and characterized and has proven to be an efficient catalyst for the asymmetric reduction of a wide range of ketones



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201500389**



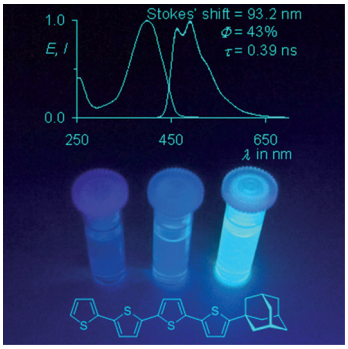
Hydrogen Bonding

L. Guillaumes, S. Simon, C. Fonseca Guerra*

The Role of Aromaticity, Hybridization, Electrostatics, and Covalency in Resonance-Assisted Hydrogen Bonds of Adenine—Thymine (AT) Base Pairs and Their Mimics

σ beats π! Hydrogen bonds play a crucial role in many biochemical processes. We show quantum chemically that neither aromaticity nor π assistance is responsible for the enhanced stability of the H-bonds in adenine–thymine DNA base pairs. Our bonding analyses reveal that stronger lone pair to σ* N–H donor–acceptor interactions are behind the enhanced and contracted H-bonds between aromatic and other unsaturated model bases, as compared with fully saturated analogs.

ChemistryOpen
DOI: **10.1002/open.201402132**



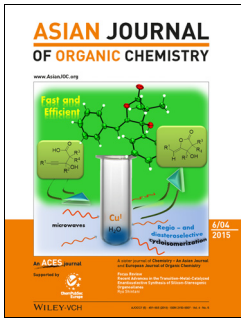
Organic Electronics

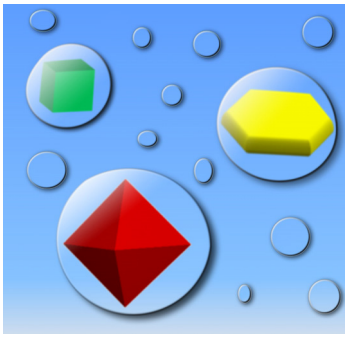
T. Schlücker, V. Dhayalan, H. Langhals,* C. Sämann, P. Knochel*

Soluble Adamantyl-Substituted Oligothiophenes with Short Fluorescence Decay: An Approach for Ultrafast Optical Signal Processing

Short and sweet: Oligothiophenes were substituted with 1-adamantyl groups via zinc-mediated Negishi cross-coupling. The increased solubility enables efficient Pd-catalyzed Negishi cross-coupling of higher oligothiophenes. Particularly, 5-(1-adamantyl)quarterthiophene has an increased Stokes' shift, a high fluorescence quantum yield, and a very fast fluorescence decay of 0.39 ns, which is of interest for application in optical signal processing exceeding data rates of 1 GBit s^{-1}.

Asian J. Org. Chem.
DOI: **10.1002/ajoc.201500150**





Nanocrystals

D. P. Chen, J. Fu, S. E. Skrabalak*

Towards Shape Control of Metal Oxide Nanocrystals in Confined Molten Media

Everything under control: Spraying the way to shape-controlled metal oxide nanocrystals, aerosol-assisted molten salt synthesis provides spatially and temporally confined droplets for the crystallization of high-quality nanomaterials.

ChemNanoMat
DOI: **10.1002/cnma.201500032**

Total Synthesis

K. Roth

Strychnine: From Isolation to Total Synthesis

Strychnine has given generations of chemists a tough time in problems of isolation, structure determination, and total synthesis. We look back at some of the preeminent achievements in this regard and at the history of strychnine as a poison and a remedy.

ChemViews magazine
DOI: **10.1002/chemv.201500031**