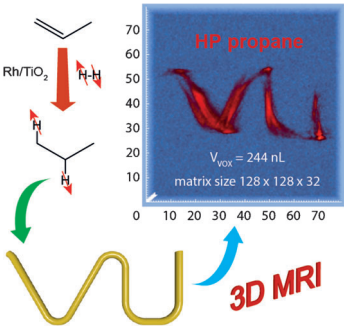
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Magnetic Resonance Imaging

K. V. Kovtunov,* D. A. Barskiy, A. M. Coffey, M. L. Truong, O. G. Salnikov, A. K. Khudorozhkov, E. A. Inozemtseva, I. P. Prosvirin, V. I. Bukhtiyarov, K. W. Waddell, E. Y. Chekmenev,* I. V. Koptyug

High-Resolution 3D Proton MRI of Hyperpolarized Gas Enabled by Parahydrogen and Rh/TiO_2 Heterogeneous Catalyst

What a gas! 3D magnetic resonance imaging (MRI) of a hyperpolarized (HP) gas with submillimeter spatial resolution using parahydrogen-induced polarization (PHIP) and a Rh/TiO_2 catalyst is demonstrated.



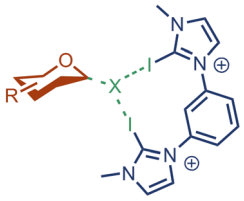
Chem. Eur. J.
DOI: **10.1002/chem.201403604**

Glycosylation

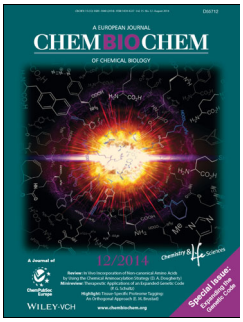
R. Castelli, S. Schindler, S. M. Walter, F. Kniep, H. S. Overkleeft, G. A. Van der Marel, S. M. Huber,* J. D. C. Codée*

Activation of Glycosyl Halides by Halogen Bonding

Can we please find a donor? Glycosyl halides could be activated for the first time by means of genuine halogen-bonding interactions. Using various glycopyranosyl halides, we have mapped the reactivity profile of a bidentate iodoimidazolium halogen-bond donor in glycosylation reactions.



Chem. Asian J.
DOI: **10.1002/asia.201402259**

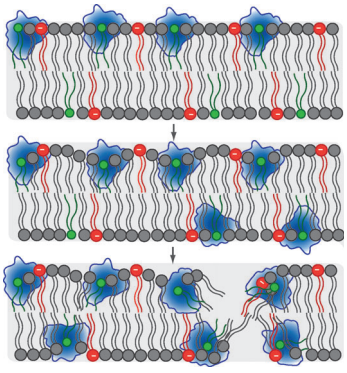


Cyclic Peptides

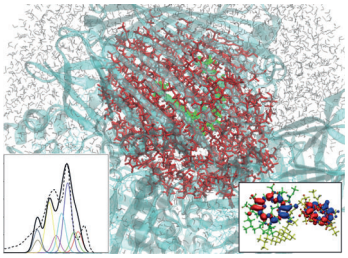
S. Troeira Henriques,* Y.-H. Huang, S. Chaousis, C. K. Wang, D. J. Craik

Anticancer and Toxic Properties of Cyclotides are Dependent on Phosphatidylethanolamine Phospholipid Targeting

The circle of death: Cyclotides kill cancer cells by targeting phosphatidylethanolamine phospholipids in the cell membrane, followed by insertion and membrane disruption. Cyclotides are shown to be toxic against cancer and non-cancer cells and that the toxicity correlates with the ability to target and disrupt the lipid bilayer.



ChemBioChem
DOI: **10.1002/cbic.201402144**



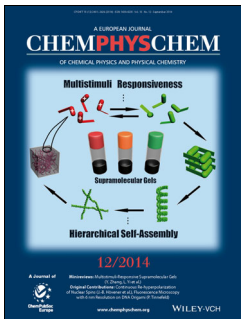
ChemPhysChem
DOI: **10.1002/cphc.201402244**

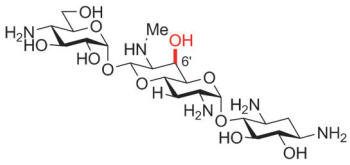
(TD)DFT/MM Simulation

S. Jurinovich, C. Curutchet, B. Mennucci*

The Fenna–Matthews–Olson Protein Revisited: A Fully Polarizable (TD)DFT/MM Description

Teaching an old protein new tricks: A critical investigation into the role of both structural and electrostatic effects of the environment in determining the excitonic states of the Fenna–Matthews–Olson protein is carried out by using a polarizable quantum mechanics/molecular mechanics model (see figure).





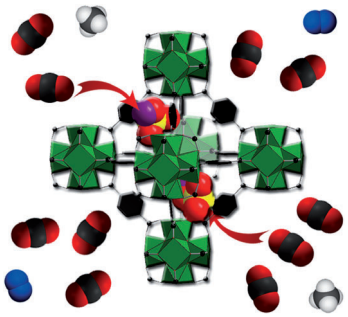
ChemMedChem
DOI: **10.1002/cmdc.201402146**

Antibiotics

A. R. Mandhapati, D. Shcherbakov, S. Duscha, A. Vasella,* E. C. Böttger,* D. Crich*

Importance of the 6′-Hydroxy Group and Its Configuration for Apramycin Activity

Inversion of configuration of the 6′-OH group of apramycin moderates the antiribosomal and antibacterial activities of this aminoglycoside antibiotic. Deletion of the 6′-OH group diminishes all activity substantially, and its replacement by an amino group is detrimental to activity. These results are consistent with apramycin adopting the standard binding mode of the 4,5- and 4,6-aminoglycosides in the decoding A-site of the bacterial ribosome as opposed to the alternative binding mode proposed in some studies.



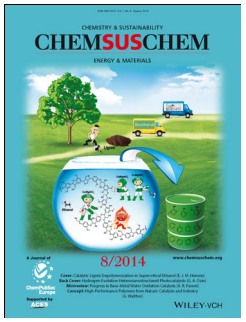
ChemSusChem
DOI: **10.1002/cssc.201402378**

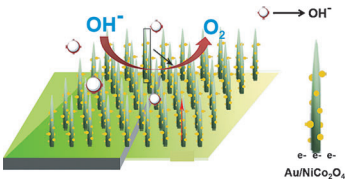
Metal–Organic Frameworks

Z. Hu, K. Zhang, M. Zhang, Z. Guo, J. Jiang, D. Zhao*

A Combinatorial Approach towards Water-Stable Metal–Organic Frameworks for Highly Efficient Carbon Dioxide Separation

With our powers combined: A library of 20 UiO-66-derived metal–organic frameworks (MOFs) is synthesized following a combinatorial approach involving mixed ligand copolymerization and two post-synthetic modifications in tandem. The MOFs have excellent water stabilities in a pH range of 1 to 12 together with high carbon dioxide (CO_2) uptake capacities and selectivities. These features make them promising adsorbents in adsorption-based CO_2 separations such as post-combustion CO_2 capture and upgrading natural gas.





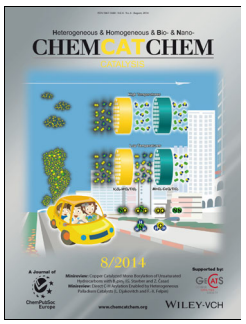
ChemCatChem
DOI: **10.1002/cctc.201402217**

Water Oxidation

X. Liu, J. Liu,* Y. Li, Y. Li, X. Sun*

$Au/NiCo_2O_4$ Arrays with High Activity for Water Oxidation

The man with the golden array: Electrodes made from a novel $Au/NiCo_2O_4$ hybrid array exhibit high catalytic activity for the oxygen evolution reaction and outperform commercial Ir/C. The enhanced performance can be attributed to the optimized chemical environment of the Co ions and the construction of well-aligned nanoarrays.

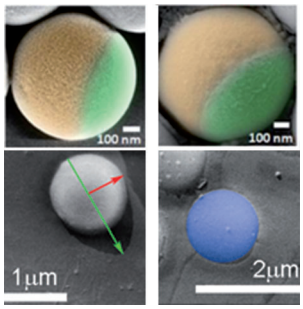


Janus Particles

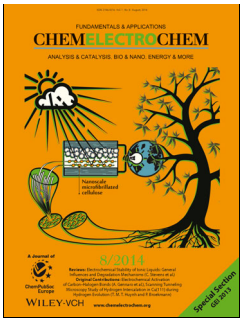
A. Synytska,* M. S. Kirillova, L. Isa*

Synthesis and Contact Angle Measurements of Janus Particles

Two-faced: Janus microparticles are a promising alternative to molecular surfactants for emulsion stabilisation. The synthesis of diverse Janus microparticles (figure, top) with a defined Janus ratio is reported and their position in situ at a water/oil interface using freeze-fracture, shadow-casting cryo-SEM is measured (figure, bottom).



ChemPlusChem
DOI: **10.1002/cplu.201400020**

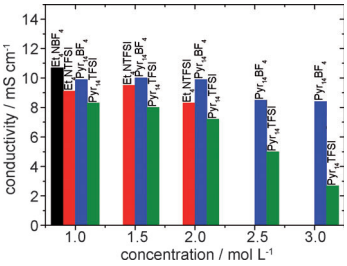


Supercapacitors

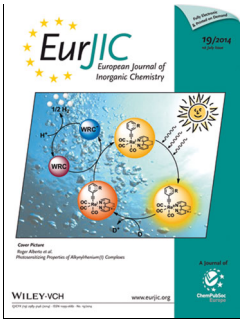
S. Pohlmann, R.-S. Kühnel, T. A. Centeno, A. Balducci*

The Influence of Anion–Cation Combinations on the Physicochemical Properties of Advanced Electrolytes for Supercapacitors and the Capacitance of Activated Carbons

Optimum selection: The operating voltage of propylene carbonate based electrolytes is strongly dependent on the chosen conductive salt, and the change in ion size has a large influence on the electrolyte–carbon interface (see picture).



ChemElectroChem
DOI: **10.1002/celc.201402091**

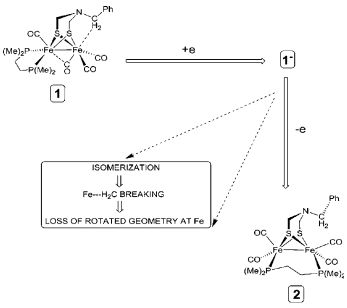


Isomerization

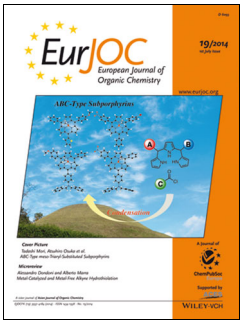
L. De Gioia, C. Elleouet,* S. Munery, F. Y. Pétillon, P. Schollhammer,* J. Talarmin, G. Zampella*

Reductive Behavior of $[Fe_2(CO)_4(\kappa^2\text{-dmpe})\{\mu\text{-}(SCH_2)_2NBn\}]$: Effect of Symmetrization on the Rotated Conformation in Fe^I-Fe^I Models of $[2Fe]_H$ Subsite of $[Fe\text{-}Fe]H_2$ases

Electrosynthesis, through an electron-transfer-catalyzed process, and structural characterization of the symmetrical complex $[Fe_2(CO)_4(\mu\text{-dmpe})\{\mu\text{-}(SCH_2)_2NBn\}]$ [dmpe = 1,2-bis(dimethylphosphino)ethane] afford straight experimental evidence that desymmetrization is required to promote an inverted pyramidal conformation in this class of model compounds of the $[2Fe]_H$ subsite of $[Fe\text{-}Fe]H_2$ases.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201402335**

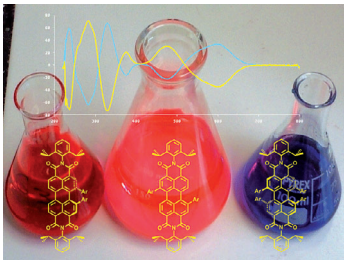


Atropisomerism

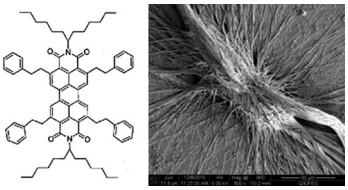
B. Pagoaga, L. Giraudet, N. Hoffmann*

Synthesis and Characterisation of 1,7-Di- and Inherently Chiral 1,12-Di- and 1,6,7,12-Tetraarylperylenetetracarbox-3,4:9,10-diimides

Perylene bisimide derivatives possessing aryl substituents in the bay positions have been synthesised and characterised, including the inherently chiral C_2 and D_2 symmetric derivatives. Pure enantiomers have been prepared.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201402625**



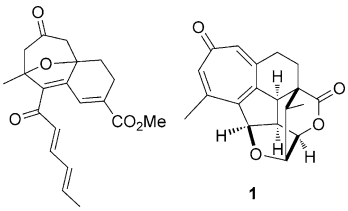
Organic Dyes

D. Dasgupta, A. M. Kendhale, M. G. Debije, J. ter Schiphorst, I. K. Shishmanova, G. Portale, A. P. H. J. Schenning*

Effect of the *Ortho* Alkylation of Perylene Bisimides on the Alignment and Self-Assembly Properties

Big effect with small alteration! Styrylation of a perylene bisimide significantly alters the alignment in a liquid crystalline host and the self-assembly in solution. It was found that the dichroic properties of perylene bisimides in a liquid crystal host can be reversed with a single synthetic step by *ortho* alkylation.

ChemistryOpen
DOI: **10.1002/open.201402011**



Total Synthesis

Z. Ma, B. Cheng, H. Zhai*

Synthetic Studies Toward Harringtonolide

It's got potential: An efficient synthesis of the oxo-bridged 7/6-bicyclic precursor **4** that is potentially useful for the construction of harringtonolide (**1**) has been realized through a [4+3] cycloaddition reaction as the key transformation.

Asian J. Org. Chem.
DOI: **10.1002/ajoc.201402116**

Mass Spectrometry

V. Köster, G. Giorgi

Importance of Mass Spectrometry for Newborn Screening

Tandem Mass Spectrometry is a valuable method to detect metabolites which can indicate a wide range of metabolic disorders in newborns. Professor Giancarlo la Marca of the University of Florence, Italy, spoke to ChemViews Magazine about the history of newborn screening programs and current progress in developing new and improved tests.

ChemViews magazine
DOI: **10.1002/chemv.201400057**