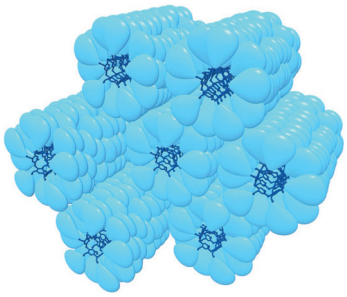
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Self-Assembly

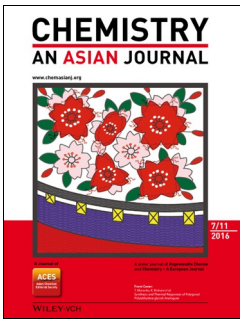
I. Nierengarten, S. Guerra, H. Ben Aziza, M. Holler, R. Abidi, J. Barberá,* R. Deschenaux,* J.-F. Nierengarten*

Piling Up Pillar[5]arenes To Self-Assemble Nanotubes

Born to be piled: New liquid-crystalline pillar[5]arene derivatives have been prepared by grafting first-generation Percec-type poly(benzyl-ether) dendrons onto the macrocyclic scaffold. The molecules adopt a disc-shaped structure that is perfectly suited for self-organization into a columnar liquid-crystalline phase. In this way, the pillar[5]arene cores are piled up, thus forming a nanotubular wire encased within a shell of peripheral dendrons.



Chem. Eur. J.
DOI: **10.1002/chem.201600688**

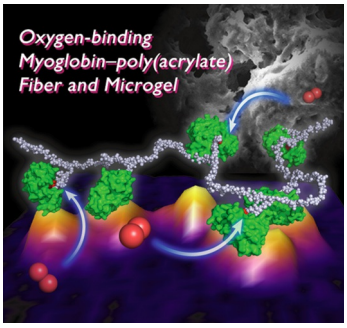


Supramolecular Chemistry

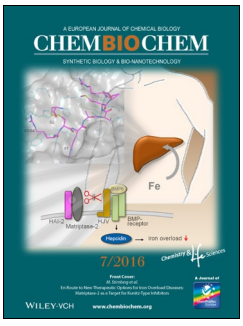
T. Ono, Y. Hisaoka, A. Onoda,* K. Oohora, T. Hayashi*

Oxygen-binding Protein Fiber and Microgel: Supramolecular Myoglobin–Poly(acrylate) Conjugates

What's in your pocket? Myoglobin assemblies along a poly(acrylate) chain were constructed using a supramolecular heme–heme pocket interaction. The fibrous nanostructures of connected myoglobins obtained using the heme-modified poly(acrylate) as a scaffold are visualized by AFM. The combination of heme-modified poly(acrylate) and an apoMb dimer generates a microgel encapsulating myoglobins capable of binding gas molecules.



Chem. Asian J.
DOI: **10.1002/asia.201501415**

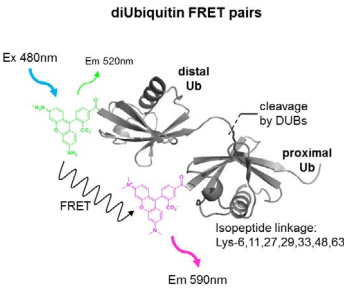


Fluorescent Probes

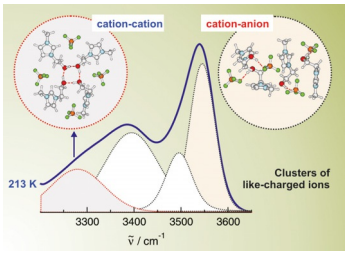
P. P. Geurink,* B. D. M. van Tol, D. van Dalen, P. J. G. Brundel, T. E. T. Mevissen, J. N. Pruneda, P. R. Elliott, G. B. A. van Tilburg, D. Komander, H. Ovaa*

Development of Diubiquitin-Based FRET Probes To Quantify Ubiquitin Linkage Specificity of Deubiquitinating Enzymes

The magnificent seven: All seven isopeptide-linked diubiquitin conjugates equipped with a Rhodamine-TAMRA FRET pair were prepared. The synthesis includes the use of a highly convenient *N*,*N*′-Boc-protected Rhodamine building block. These probes enable the absolute quantification of the ubiquitin linkage specificity of deubiquitinating enzymes by means of Michaelis–Menten kinetics.

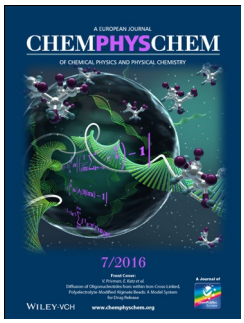


ChemBioChem
DOI: **10.1002/cbic.201600017**



ChemPhysChem
DOI: **10.1002/cphc.201501134**

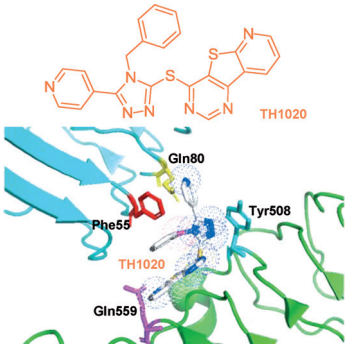
Ionic Liquids



A. Knorr, P. Stange, K. Fumino, F. Weinhold,* R. Ludwig*

Spectroscopic Evidence for Clusters of Like-Charged Ions in Ionic Liquids Stabilized by Cooperative Hydrogen Bonding

Like-charge attraction in ionic liquids: Infrared spectroscopy and density functional theory calculations provide strong evidence for the formation of clusters of like-charged ions in ionic liquids. With decreasing temperature, cooperative hydrogen bonding overcomes repulsive electrostatic interaction. The resulting cyclic tetramers nicely resemble well-known molecular clusters of alcohols.



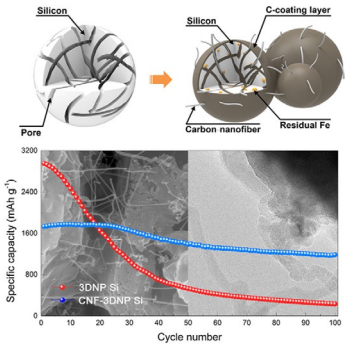
ChemMedChem
DOI: **10.1002/cmdc.201500471**

High-Throughput Screening

L. Yan, J. Liang, C. Yao, P. Wu, X. Zeng, K. Cheng, H. Yin*

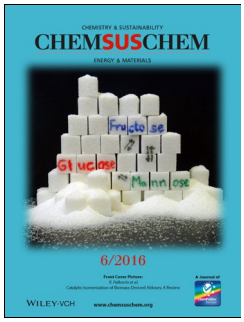
Pyrimidine Triazole Thioether Derivatives as Toll-Like Receptor 5 (TLR5)/Flagellin Complex Inhibitors

Through high-throughput screening, we have successfully developed a series of small-molecule probes as novel inhibitors of flagellin binding to TLR5. TH1020 (pictured) was identified as a potent antagonist of TLR5 signaling with promising activity ($IC_{50} = 0.85 \pm 0.12$ μM) and specificity. TH1020 was shown to repress the expression of downstream TNF-α signaling pathways mediated by the TLR5/flagellin complex. Based on molecular docking simulation, TH1020 was suggested to compete with flagellin and disrupt its association with TLR5.



ChemSusChem
DOI: **10.1002/cssc.201501633**

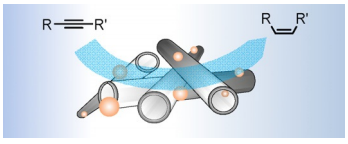
Batteries



H.-I. Park, M. Sohn, D. S. Kim, C. Park, J.-H. Choi, H. Kim*

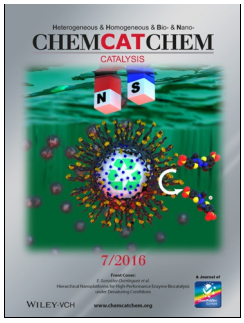
Carbon Nanofiber/3D Nanoporous Silicon Hybrids as High Capacity Lithium Storage Materials

CNF on porous Si: Carbon nanofiber (CNF)/3D nanoporous (3DNP) Si hybrid materials are prepared by chemical etching and subsequent carbonization of melt-spun Si/Al–Cu–Fe alloy nanocomposites. Residual Fe after the chemical etching acts as a catalyst for the growth of CNFs; the resulting CNF/3DNP Si hybrid materials show promising electrochemical behavior as high-capacity anode materials for Li-ion batteries.



ChemCatChem
DOI: **10.1002/cctc.201501126**

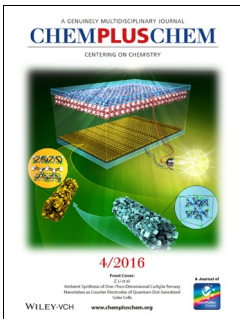
Continuous Flow



N. Linares, C. Moreno-Marrodan, P. Barbaro*

PdNP@Titanate Nanotubes as Effective Catalyst for Continuous-Flow Partial Hydrogenation Reactions

TiNT–you're dynamite: Pd nanoparticles were immobilized on titanate nanotubes and used to promote the selective hydrogenation of alkynes under continuous-flow with high productivity. Overall, the system reported may represent a significant contribution to the development of more sustainable industrial processes.

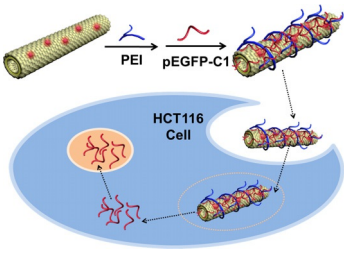


Gene Delivery

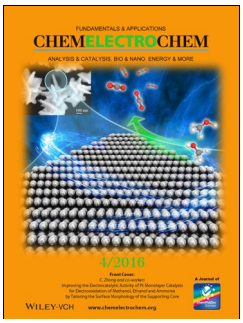
J. Lee, D. Min, E.-T. Oh, H. Yoon, H. J. Park,* C. Kim*

Self-Assembled Dendron–Cyclodextrin Nanotubes with a Polyethylenimine Surface and Their Gene Delivery Capability

A more complex delivery than usual: Intracellular uptake of self-assembled dendron–cyclodextrin nanotubes with anionic surface was enhanced by its complexation with a cationic polyethylenimine (PEI) layer through electrostatic interactions (see figure). The nanotube–PEI complex exhibited DNA complexation with reduced enzymatic degradation, higher transfection efficiency and lower cytotoxicity than PEI alone.



ChemPlusChem
DOI: **10.1002/cplu.201500376**

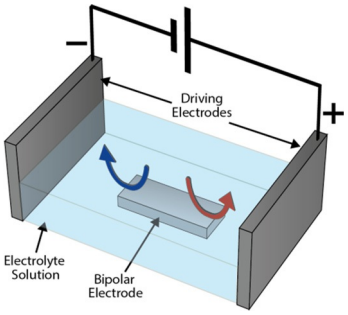


Bipolar Electrochemistry

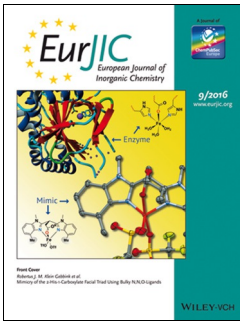
R. M. Crooks*

Principles of Bipolar Electrochemistry

Now you know: A tutorial on the fundamental concepts of bipolar electrochemistry is presented.



ChemElectroChem
DOI: **10.1002/celc.201500549**

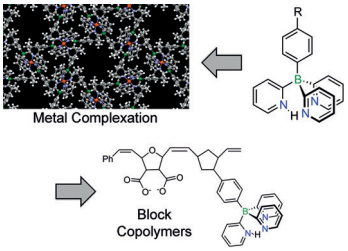


Pyridylborates

G. M. Pawar, J. B. Sheridan,* F. Jäkle*

Pyridylborates as a New Type of Robust Scorpionate Ligand: From Metal Complexes to Polymeric Materials

An overview of the different classes of scorpionate ligands is provided, and an in-depth discussion of a new type of robust and tunable ligand, the tris(2-pyridyl)borates. The structure and synthesis of the ligands, key features of coordination with metal ions, the supramolecular crystal packing, transmetallation and applications in metallo-supramolecular polymer chemistry are addressed.



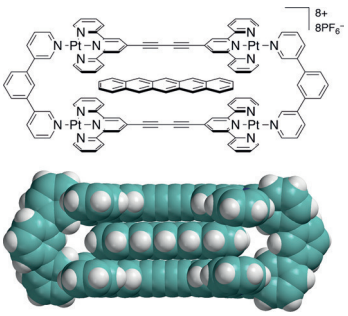
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201501373**

Host–Guest Systems

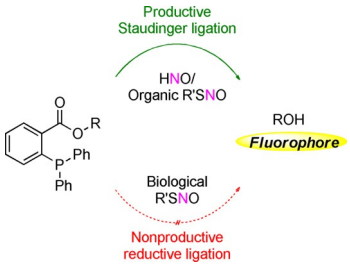
Y. Yamaki, T. Nakamura, S. Suzuki, M. Yamamura, M. Minoura, T. Nabeshima*

A Self-Assembled Rectangular Host with Terpyridine–Platinum(II) Moieties That Binds Unsubstituted Pentacene in Solution

A self-assembled rectangular host with terpyridine–Pt^{II} moieties encapsulates unsubstituted pentacene with a remarkably strong binding constant of $K_a \approx 10^7\ M^{-1}$. Furthermore, a planar arrangement of two molecules of the smaller acenes (i.e., naphthalene to tetracene) is achieved inside the cavity.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201600058**



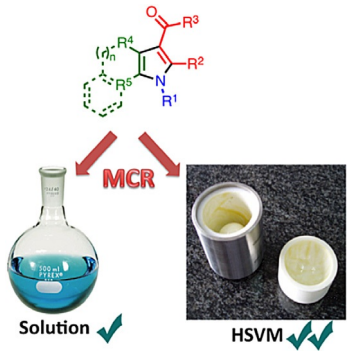
Fluorescent Probes

Z. Miao, S. B. King*

Comparison of Reductive Ligation-Based Detection Strategies for Nitroxyl (HNO) and *S*-Nitrosothiols

HNO... it's me! Call me on my sulfone. Phosphine-based detection strategies for both nitroxyl (HNO) and *S*-nitrosothiols (RSNO) were investigated and compared. Phosphorus NMR and HPLC-MS studies show that azaylides derived from HNO or organic RSNO efficiently participate in subsequent reductive ligation required for fluorescence generation in properly substituted substrates. *S*-Azaylides derived from biological RSNO containing free amine and carboxylic acid groups primarily yield phosphine oxides and cannot generate fluorescence effectively.

ChemistryOpen
DOI: **10.1002/open.201500200**

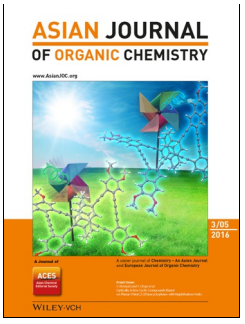


Domino Reactions

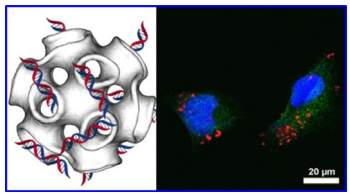
V. Estévez, V. Sridharan, S. Sabaté, M. Villacampa, J. C. Menéndez*

Three-Component Synthesis of Pyrrole-Related Nitrogen Heterocycles by a Hantzsch-Type Process: Comparison between Conventional and High-Speed Vibration Milling Conditions

Good vibrations: A one-pot telescoped process comprising an initial α-iodination followed by an in situ three-component Hantzsch-type reaction under solvent-free, high-speed vibration milling conditions is described. This method allowed the general and efficient synthesis of pyrroles and several fused pyrrole frameworks starting from ketones, primary amines, and β-dicarbonyl compounds.



Asian J. Org. Chem.
DOI: **10.1002/ajoc.201600061**



Mesoporous Materials

A. K. Meka, Y. Niu, S. Karmakar, S. B. Hartono, J. Zhang, C. X. C. Lin, H. Zhang, A. Whittaker, K. Jack, M. Yu, C. Yu*

Facile Synthesis of Large-Pore Bicontinuous Cubic Mesoporous Silica Nanoparticles for Intracellular Gene Delivery

Special delivery: A novel and facile approach has been developed to synthesize KIT-6 type mesoporous silica nanoparticles (KIT-6-MSNs) with a bicontinuous cubic *Ia3d* mesostructure and large pore size (9 nm) and small particle size (200–400 nm). After octadecyl group (C_{18}) modification, KIT-6-MSNs-C_{18} have demonstrated successful delivery of survivin siRNA into human colon cancer cells (HCT-116) and efficient suppression of survivin protein, causing a significant inhibition of cell proliferation.

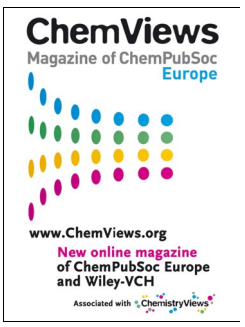
ChemNanoMat
DOI: **10.1002/cnma.201600021**

Science Communication

V. Köster, G. Schwedt, R. Weber

Intrigued by Chemistry through Simple Experiments

Georg Schwedt, Professor Emeritus for Inorganic and Analytical Chemistry at the Technical University of Clausthal, Germany, is a researcher, but also the author of many popular science articles and books. In *ChemViews Magazine*, he talks about the thrill of using simple experiments to easily and clearly describe chemistry and how this helps us to understand our world.



ChemViews magazine
DOI: **10.1002/chemv.201600018**