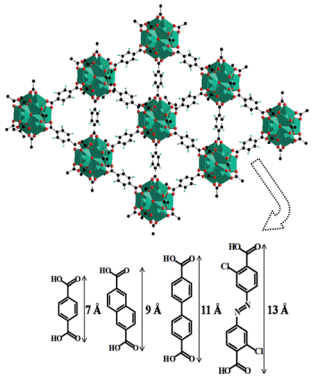
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Metal–Organic Frameworks

F. Ragon, H. Chevreau, T. Devic, C. Serre,* P. Horcajada*

Impact of the Nature of the Organic Spacer on the Crystallization Kinetics of UiO-66(Zr)-Type MOFs

Watch this spacer: The influence of the constitutive dicarboxylate linkers (size, functional group) over the crystallization kinetics of a series of porous UiO-66-type metal–organic frameworks (see figure) has been investigated by in situ time-resolved energy dispersive X-ray diffraction. The impact of the solvent (dimethylformamide vs. water) on the crystallization kinetics of UiO-66-NO_2 was evaluated.



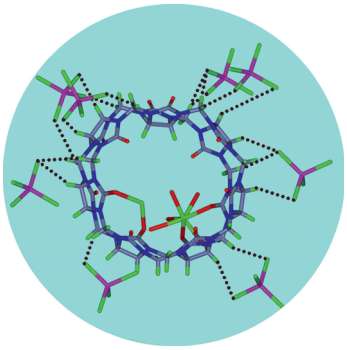
Chem. Eur. J.
DOI: **10.1002/chem.201406119**

Supramolecular Chemistry

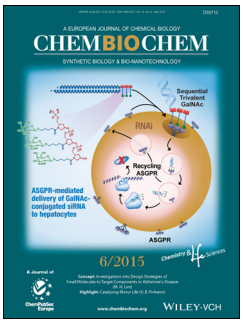
Q. Li, Y.-Q. Zhang, Q.-J. Zhu, S.-F. Xue, Z. Tao,* X. Xiao*

Coordination of Alkaline Earth Metal Ions in the Inverted Cucurbit[7]uril Supramolecular Assemblies Formed in the Presence of $[ZnCl_4]^{2-}$ and $[CdCl_4]^{2-}$

Isolation tank: A convenient method to isolate inverted cucurbit[7]uril (*i*Q[7]) from water-soluble Q[*n*] mixtures is established by eluting a mixture of soluble Q[*n*]s on a Dowex (H^+ form) column so that *i*Q[7] can be selected as a ligand for coordination and supramolecular assembly with alkaline earth cations in aqueous HCl solutions in the presence of $[ZnCl_4]^{2-}$ and $[CdCl_4]^{2-}$ anions as structure-directing agents.



Chem. Asian J.
DOI: **10.1002/asia.201500003**

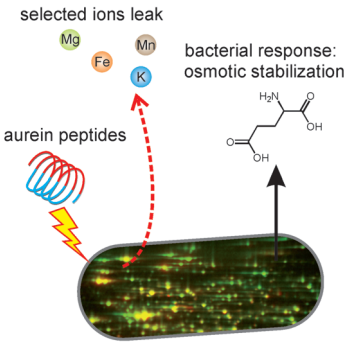


Antibiotics

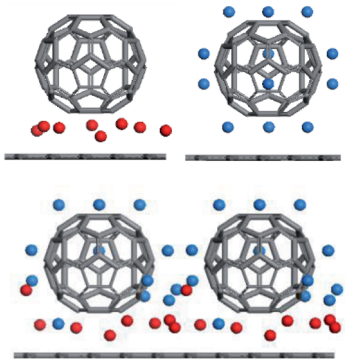
M. Wenzel, C. H. R. Senges, J. Zhang, S. Suleman, M. Nguyen, P. Kumar, A. I. Chiriac, J. J. Stepanek, N. Raatschen, C. May, U. Krämer, H.-G. Sahl, S. K. Straus,* J. E. Bandow*

Antimicrobial Peptides from the Aurein Family Form Ion-Selective Pores in *Bacillus subtilis*

A shotgun for bacteria: The α-helical antimicrobial peptides aurein 2.2 and 2.3 form small pores that cause membrane depolarization and translocation of certain metal ions, namely potassium, magnesium, manganese, and iron. Their impact on ion homeostasis is typical of amphipathic antimicrobial peptides as structurally diverse as gramicidin S, nisin, and MP196.



ChemBioChem
DOI: **10.1002/cbic.201500020**

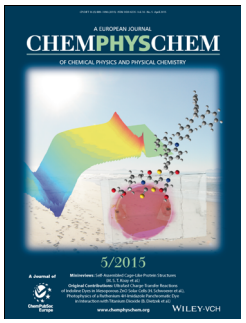


Computational Chemistry

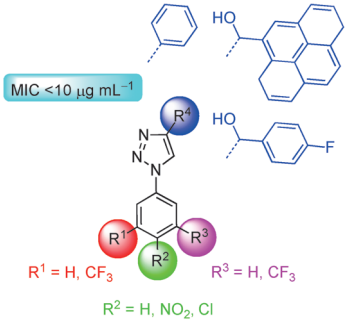
W. Koh, H. S. Moon, S. G. Lee,* J. I. Choi, S. S. Jang*

A First-Principles Study of Lithium Adsorption on a Graphene–Fullerene Nanohybrid System

The mechanism of Li adsorption on a graphene–fullerene nanohybrid system is investigated by density functional theory.



ChemPhysChem
DOI: **10.1002/cphc.201402675**



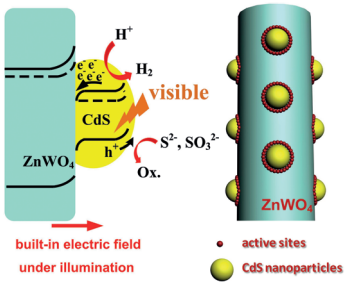
Antibacterial Agents

J. M. Altimari, S. C. Hockey, H. I. Boshoff, A. Sajid, L. C. Henderson*

Novel 1,4-Substituted-1,2,3-Triazoles as Antitubercular Agents

Hitting TB where it hurts! A series of 1,4-substituted-1,2,3-triazoles was synthesized and evaluated as potential antitubercular agents. A number of these novel 1,2,3-triazoles were found to be potent and selective inhibitors of *Mycobacterium tuberculosis*, with minimum inhibitory concentration (MIC) values $<10\ \mu g\,mL^{-1}$. The identified compounds serve as excellent starting points for the development of novel therapeutics against tuberculosis.

ChemMedChem
DOI: **10.1002/cmdc.201500051**

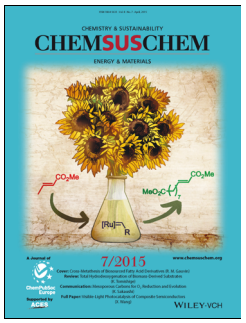


Hydrogen Production

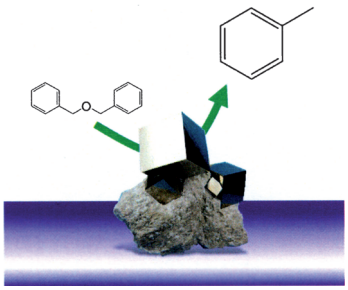
M. Xu, T. Ye, F. Dai, J. Yang, J. Shen, Q. He, W. Chen, N. Liang, J. Zai,* X. Qian*

Rationally Designed n–n Heterojunction with Highly Efficient Solar Hydrogen Evolution

New junction: A rationally designed n–n heterojunction based on CdS-$ZnWO_4$ semiconductor is proposed. Unlike conventional n–n heterojunctions, $ZnWO_4$ has a more negative conduction band and a more positive valence band compared with CdS. The heterojunctions show a high solar H_2 evolution activity, and a plausible mechanism of the enhanced performances of the heterojunctions is also proposed.



ChemSusChem
DOI: **10.1002/cssc.201403334**

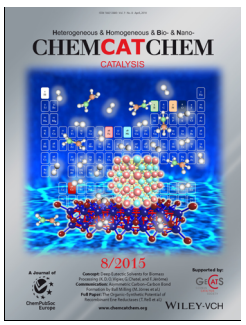


Hydrodeoxygenation

N. Ji, X. Wang, C. Weidenthaler, B. Spliethoff, R. Rinaldi*

Iron(II) Disulfides as Precursors of Highly Selective Catalysts for Hydrodeoxygenation of Dibenzyl Ether into Toluene

Fool's gold? Nanocrystalline iron(II) disulfides are precursors of highly active catalysts for the hydrodeoxygenation of dibenzyl ether into toluene. High yields of toluene (up to 100%) were achieved in experiments performed at 250 °C under initial H_2 pressure of 100 bar for 2 h.



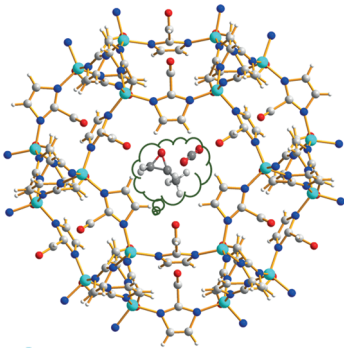
ChemCatChem
DOI: **10.1002/cctc.201500041**

Zeolitic Imidazolate Framework

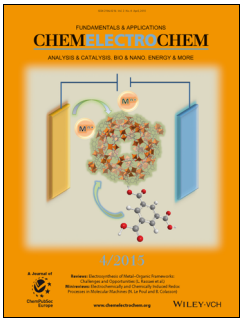
J. Tharun, G. Mathai, A. C. Kathalikkattil, R. Roshan, Y.-S. Won, S. J. Cho, J.-S. Chang, D.-W. Park*

Exploring the Catalytic Potential of ZIF-90: Solventless and Co-Catalyst-Free Synthesis of Propylene Carbonate from Propylene Oxide and CO_2

The cage is a gateway: ZIF-90, a highly porous zeolitic imidazolate framework with a colossal cage (see figure), acts as a catalytic gateway to the propylene oxide (PO)–CO_2 cycloaddition reaction without any co-catalysts or solvents under moderate reaction conditions. DFT calculations were performed to understand the role played by ZIF-90 in creating a favorable environment for the PO–CO_2 cycloaddition reaction.



ChemPlusChem
DOI: **10.1002/cplu.201402395**

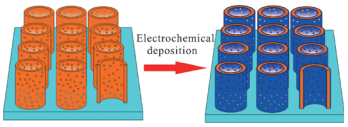


Supercapacitors

X. Peng, K. Huo,* J. Fu, B. Gao, L. Wang, L. Hu, X. Zhang, P. K. Chu

Porous Dual-Layered MoO_x Nanotube Arrays with Highly Conductive TiN Cores for Supercapacitors

Sandwich TiN: Porous double-layered MoO_x/TiN/MoO_x nanotube arrays are prepared with highly conductive TiN cores. Their application as a high-performance supercapacitor is demonstrated.



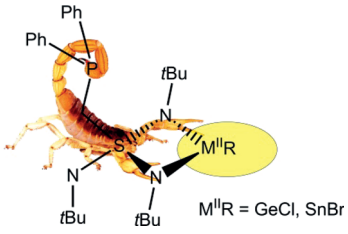
ChemElectroChem
DOI: **10.1002/celc.201402349**

Main-Group Coordination Chemistry

E. Carl, D. Stalke*

Germanium(II) and Tin(II) Halide Complexes Containing the Triimido Sulfur(VI) Phosphanyl Ligand

The P-functionalized triimido sulfur ligand $[(NtBu)_3SCH_2PPh_2]^-$ can be used without ligand scrambling to stabilize synthetically useful group 14 metal(II) halides. It chelates the metal through two *S*-bound imido nitrogen atoms only. The additional coordination site is provided by the phosphorus atom; although with germanium the P sidearm is pendant, it forms a long-range interaction with tin.



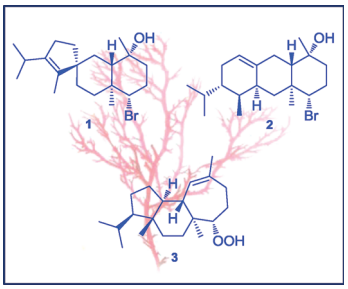
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201500074**

Marine Natural Products

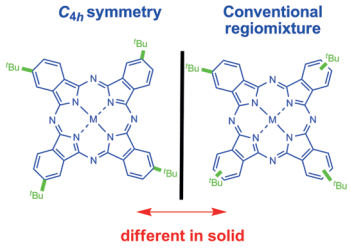
V. Smyrniotopoulos, R. Kiss, V. Mathieu, C. Vagias, V. Roussis*

Diterpenes with Unprecedented Skeletons from the Red Alga *Sphaerococcus coronopifolius*

Chemical investigation of the red alga *Sphaerococcus coronopifolius* led to the isolation and structure elucidation of the three new minor metabolites **1**–**3**, featuring rearranged tricyclic diterpene skeletons. The in vitro antitumour activities of **1**–**3** were evaluated against one murine cancer cell line and five human cancer cell lines.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201500133**



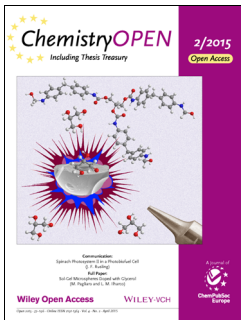
ChemistryOpen
DOI: **10.1002/open.201402093**

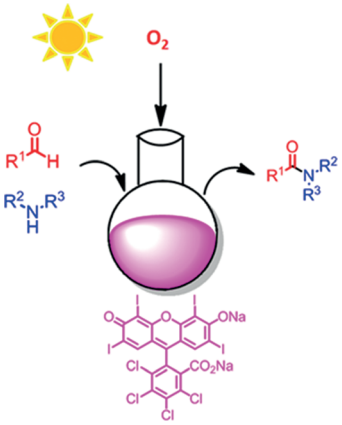
Regioselectivity

N. Iida, K. Tanaka, E. Tokunaga, H. Takahashi, N. Shibata*

Regioisomer-Free C_{4h} β-Tetrakis(*tert*-butyl)metallo-phthalocyanines: Regioselective Synthesis and Spectral Investigations

A solid case for regioselectivity! The C_{4h}-selective synthesis of β-(*tert*-butyl)metallophthalocyanines by tetramerization of α-trialkylsilyl phthalonitriles with metal salts following acid-mediated desilylation is disclosed for the first time. Investigation of regioisomer-free zinc β-tetrakis(*tert*-butyl)phthalocyanine using spectroscopy showed that the C_{4h} single isomer is distinct in the solid state to zinc β-tetrakis(*tert*-butyl)phthalocyanine obtained by a conventional method.





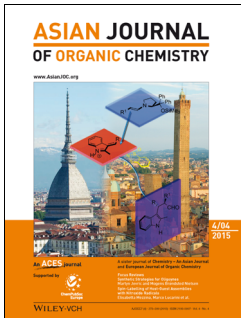
Asian J. Org. Chem.
DOI: **10.1002/ajoc.201500076**

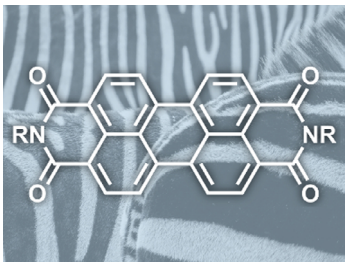
Photooxidation

F. K.-C. Leung, J.-F. Cui, T.-W. Hui, K. K.-Y. Kung, M.-K. Wong*

Photooxidative Amidation of Aldehydes with Amines Catalyzed by Rose Bengal

A rose by any other name: A catalytic method for the direct synthesis of tertiary amides from benzaldehydes and amines is possible through the synergistic role of a photocatalyst, rose bengal, and oxygen. This mild method is "green", atom-economic, and environmental friendly compared with classic acylation reactions and transition-metal-catalyzed oxidative amidations, transamidation reactions, and visible-light-mediated C–H amidations.





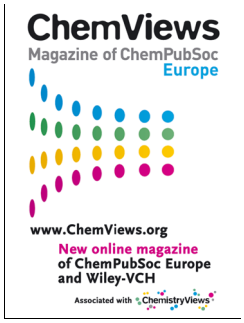
ChemViews magazine
DOI: **10.1002/chemv.201500020**

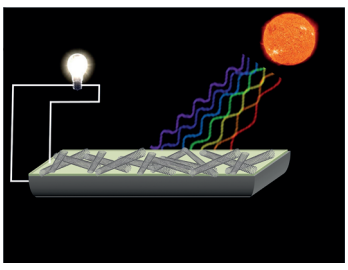
Molecular Logic Units

David Bradley

An Outline for Molecular Edge Detection

Finding the edges of objects is an important, yet non-trivial process in computer pattern recognition – and in nature. The team of A. Prasanna de Silva, Queen's University of Belfast, UK, uses fluorescent compounds and inexpensive equipment to carry out edge detection, demonstrating that simple molecules can perform complex computational tasks.





ChemNanoMat
DOI: **10.1002/cnma.201400005**

Solar Cells

L. Yu, D. D. Tune, C. J. Shearer, J. G. Shapter*

Application of Polymer Interlayers in Silicon–Carbon Nanotube Heterojunction Solar Cells

Carbon nanotube–silicon heterojunction solar cells have been studied in recent years. Application of a conducting polymer interlayer between the silicon surface and carbon nanotube film can improve the performance of these devices. This provides a simple and potentially economic approach to achieve a higher efficiency device.