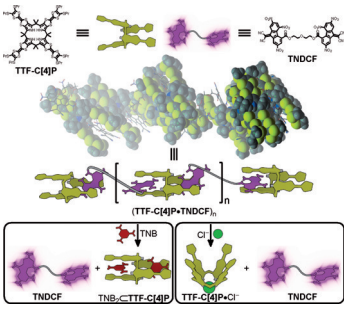
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Supramolecular Chemistry

S. Bähring, L. Martín-Gomis, G. Olsen, K. A. Nielsen, D. S. Kim, T. Duedal, Á. Sastre-Santos,* J. O. Jeppesen,* J. L. Sessler*

Design and Sensing Properties of a Self-Assembled Supramolecular Oligomer

Explosive fluorescence: The hetero-complementary monomeric subunits, tetrathiafulvalene–calix[4]pyrrole (TTF-C[4]P) and bis-2,5,7-trinitrodicyanomethylenefluorene-4-carboxylate (TNDCF), assemble to form oligomeric structures at higher concentrations. Dual-analyte-responsive behavior is seen, with de-aggregation of the supramolecular oligomers and a corresponding increase in the fluorescence intensity being seen in the presence of 1,3,5-trinitrobenzene (TNB) or Cl^- anions.



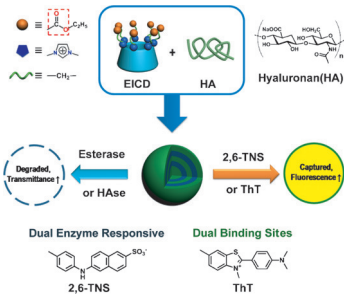
Chem. Eur. J.
DOI: **10.1002/chem.201503701**

Enzymes

P. Hu, Y. Chen, J.-J. Li, Y. Liu*

Construction, Enzyme Response, and Substrate Capacity of a Hyaluronan–Cyclodextrin Supramolecular Assembly

Get it together: A supramolecular assembly that exhibited a HAase/esterase response was constructed with a cationic cyclodextrin (EICD) and native hyaluronan (HA). Owing to these components having two different types of binding sites, the assemblies can bind both cationic and anionic substrates.



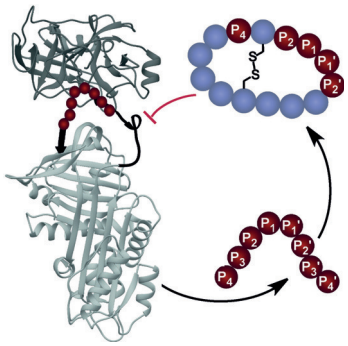
Chem. Asian J.
DOI: **10.1002/asia.201501029**

Protease Inhibitors

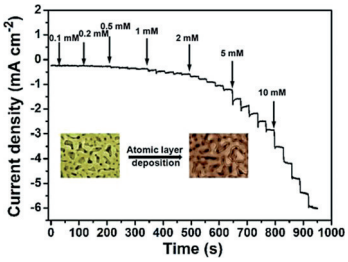
C. Jendrny, A. G. Beck-Sickinger*

Inhibition of Kallikrein-Related Peptidases 7 and 5 by Grafting Serpin Reactive-Center Loop Sequences onto Sunflower Trypsin Inhibitor-1 (SFTI-1)

Out of the loop: Amino acid sequences derived from serpin reactive-center loops were grafted onto the sunflower trypsin inhibitor-1 (SFTI-1) scaffold to develop new inhibitors of serine proteases. It was also shown that their specific substrate preferences enable kallikrein-related peptidases 7 (KLK7) and 5 (KLK5) to distinguish between SFTI peptides derived from different serpins.



ChemBioChem
DOI: **10.1002/cbic.201500539**



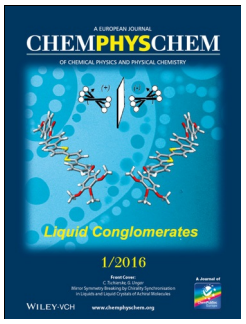
ChemPhysChem
DOI: **10.1002/cphc.201500854**

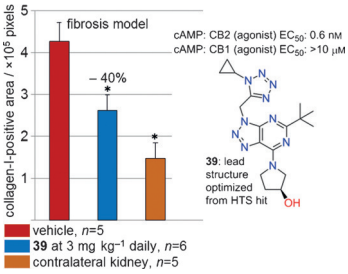
Biosensors

C. Zhang, B. Huang, L. Qian,* S. Yuan, S. Wang, R. Chen*

Electrochemical Biosensor Based on Nanoporous Au/CoO Core–Shell Material with Synergistic Catalysis

It's a CoO: A flexible nanoporous Au/CoO film is configured as a high-performance electrode for electrochemical biosensing, which is evidenced by superior sensitivity for glucose detection and H_2O_2 sensing.





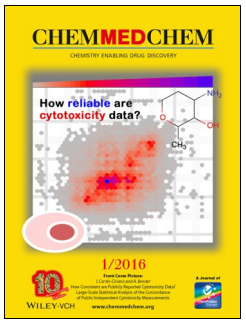
ChemMedChem
DOI: **10.1002/cmdc.201500218**

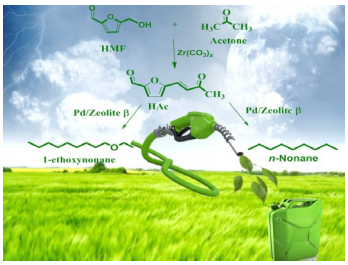
Inflammation

M. Nettekoven,* J.-M. Adam, S. Bendels, C. Bissantz, J. Fingerle, U. Grether, S. Grüner, W. Guba, A. Kimbara, G. Ottaviani, B. Püllmann, M. Rogers-Evans, S. Röver, B. Rothenhäusler, S. Schmitt, F. Schuler, T. Schulz-Gasch, C. Ullmer

Novel Triazolopyrimidine-Derived Cannabinoid Receptor 2 Agonists as Potential Treatment for Inflammatory Kidney Diseases

Kidney protection: A series of small-molecule CB2 receptor agonists was identified in a high-throughput screen. Lead optimization work gave access to novel triazolopyrimidine derivatives, highly potent on CB2 and selective over CB1. Optimized compound **39** was efficacious in an in vivo model for kidney ischemia–reperfusion and in an in vivo model of renal fibrosis (unilateral ureter obstruction) upon p.o. administration.





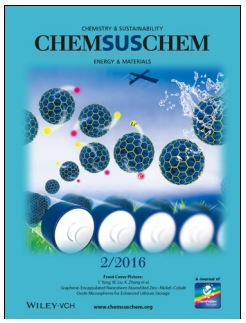
ChemSusChem
DOI: **10.1002/cssc.201501136**

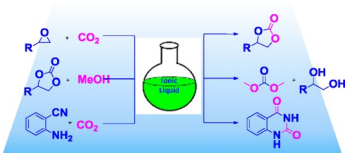
Biofuels

A. Bohre, B. Saha,* M. M. Abu-Omar*

Catalytic Upgrading of 5-Hydroxymethylfurfural to Drop-in Biofuels by Solid Base and Bifunctional Metal–Acid Catalysts

Two-stepping to Biofuels! A recyclable and water tolerant heterogeneous base catalyst produced 92% C_9–aldol product from 5-hydroxymethylfurfural and acetone in water. Subsequent hydrogenation of the isolated aldol product with a metal–acid Pd/zeolite-β catalyst produced gasoline and diesel range *n*-nonane and 1-ethoxynonane with an overall 96% yield.





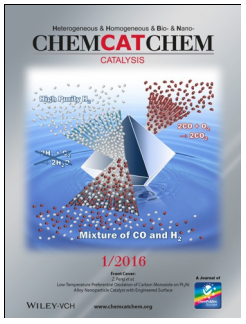
ChemCatChem
DOI: **10.1002/cctc.201501044**

Organocatalysis

V. B. Saptal, B. M. Bhanage*

Bifunctional Ionic Liquids for the Multitask Fixation of Carbon Dioxide into Valuable Chemicals

Multitasking ionic liquids: A series of task-specific ionic liquids (ILs) are synthesized and used as multitasking organocatalysts for transformations of carbon dioxide into valuable chemicals through a range of reactions. The developed methodology is transition-metal free, solvent free, and additive free. The developed ILs were recyclable in up to seven consecutive cycles; thus, making this protocol also green and cost effective.

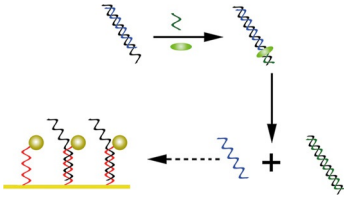


Biosensors

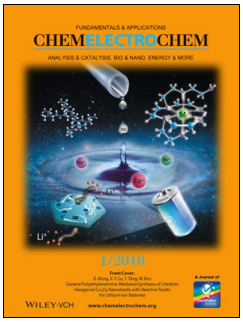
P. Miao,* Y. Tang, Q. Zhang, B. Bo, J. Wang*

Identification of Cellular MicroRNA Coupling Strand Displacement Polymerization and Nicking-Endonuclease-Based Cleavage

A highly sensitive method to identify cellular microRNA has been developed by coupling strand displacement polymerization and nicking-endonuclease-based cleavage. This strategy consists of having a blocker/signal DNA hybrid on the electrode, target induced strand displacement amplification composed of a primer and polymerase, and nicking endonuclease to cleave the complete blocker/signal DNA hybrid.



ChemPlusChem
DOI: **10.1002/cplu.201500249**

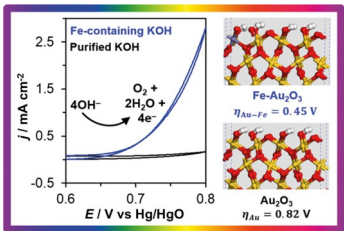


Electrocatalysis

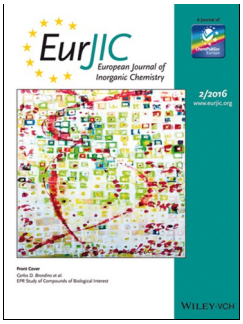
S. Klaus, L. Trotochaud, M.-J. Cheng, M. Head-Gordon, A. T. Bell*

Experimental and Computational Evidence of Highly Active Fe Impurity Sites on the Surface of Oxidized Au for the Electrocatalytic Oxidation of Water in Basic Media

All that glitters isn't gold: It is shown that Fe cations bound to the surface of oxidized Au exhibit enhanced oxygen evolution reaction (OER) activity. We find that the OER activity increases with increasing surface concentration of Fe.



ChemElectroChem
DOI: **10.1002/celc.201500364**

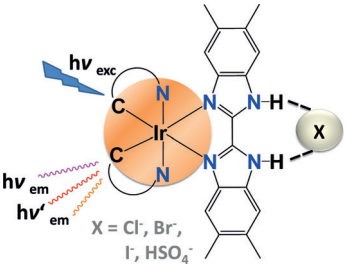


Luminescent Iridium Complexes

S. A. Rommel, D. Sorsche, A. Dixit, S. Rau*

Interaction of an Iridium(III)–Bibenzimidazole Complex with Anions – Implications for Luminescent Sensing

Under aerobic conditions, systematic studies on the interaction of the iridium(III) complex system $[Ir(ppy)_2(tmBBI\text{-}H_2)](PF_6)$ ($IrBBI\text{-}H_2$) with various anions have been performed. An interaction through the formation of hydrogen bonds or by deprotonation was investigated by emission spectroscopy or NMR titration, respectively.



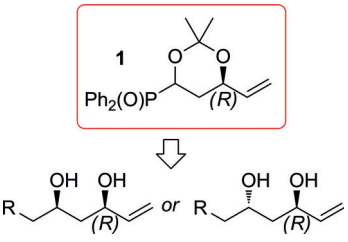
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201501108**

1,3-Diol Synthesis

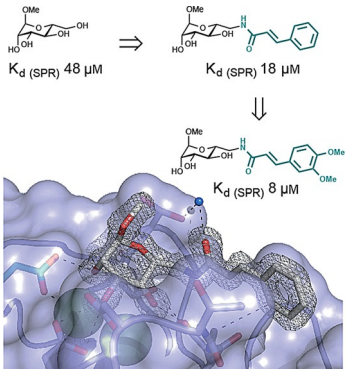
A. Bredenkamp, Z.-B. Zhu, S. F. Kirsch*

A Chiral Building Block for the Stereocontrolled Installation of the 1,3-Diol Motif

A new chiral building block for the direct installation of the 1,3-diol motif is presented. Aldehyde olefination followed by directed reduction allows for the synthesis of both the *syn*- and the *anti*-configured diol in a fully stereocontrolled way.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201501325**



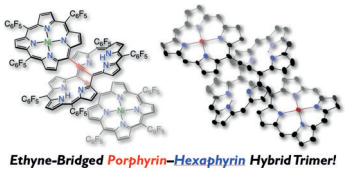
Antibacterial Carbohydrates

R. Sommer, D. Hauck, A. Varrot, S. Wagner, A. Audfray, A. Prestel, H. M. Möller, A. Imberty, A. Titz*

Cinnamide Derivatives of D-Mannose as Inhibitors of the Bacterial Virulence Factor LecB from *Pseudomonas aeruginosa*

Looking at LecB: The lectin LecB plays a key role in biofilm formation and thus chronic infections with *Pseudomonas aeruginosa*. Here, we report an extensive structure–activity relationship (SAR) study on glycomimetics targeting LecB. Cinnamide-based mannosides were optimized, and the crystal structure in complex with LecB was solved. Structure–kinetics relationship analysis revealed a strong increase in ligandreceptor half-lives of glycomimetics over the natural ligand methyl mannoside.

ChemistryOpen
DOI: **10.1002/open.201500162**



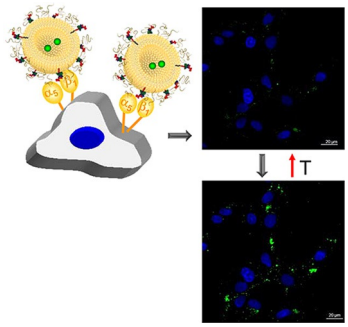
Porphyrins

K. Honjo, H. Mori, A. Osuka*

An Ethyne-Bridged Porphyrin-Hexaphyrin-Porphyrin Triad That Undergoes a Thermal Transannular Cyclization

Building bridges: An ethyne-bridged porphyrin-[26]hexaphyrin-porphyrin hybrid trimer has been synthesized and shown to adopt a dumbbell-like conformation. The aromatic nature of the central 26π hexaphyrin was largely perturbed by π-extension over the whole molecule through acetylene linkers. Transannular rearrangement proceeded upon heating to give a vinylene-bridged hexaphyrin in quantitative yield.

Asian J. Org. Chem.
DOI: **10.1002/ajoc.201500509**



Liposomes

K. Shroff, D. Liu, R. N. Aravalli, C. L. Forster, T. Pengo, M. A. Sanders, E. S. Ebbini,* E. Kokkoli*

Design Principles for Peptide-Amphiphile-Induced Liposomal Receptor-Targeting with Intracellular Thermosensitivity

Single-tail peptide-amphiphiles are responsible for receptor targeting and the thermosensitive properties of PEGylated liposomes. The peptide-functionalized nanoparticles specifically bind to the receptor of choice, and after cell internalization they release their encapsulated load with temperature increase. They are stable in serum at 37 °C and exhibit fast release under mild hyperthermia at 41 °C in vitro and in vivo.

ChemNanoMat
DOI: **10.1002/cnma.201500138**

Chemical Societies

V. Koester, M. Linden, A. Augustin, T. John, C. Schrapel

Working for the JCF - The Young Chemists' Forum of the German Chemical Society

The JungChemikerForum (JCF), the organization of young chemists of the GDCh, has over 10,000 members. Four of them talk about their personal motivation and explain the workings of the JCF. More than 50 regional sections organize public lectures, excursions to industrial workplaces, symposia, and job fairs.

ChemViews magazine
DOI: **10.1002/chemv.201500082**