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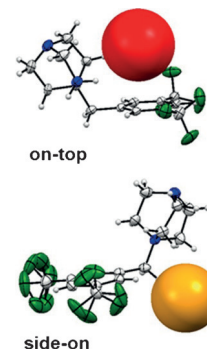


Anion Recognition

M. Albrecht,* H. Yi, O. Köksal, G. Raabe, F. Pan, A. Valkonen, K. Rissanen

CF₃: An Electron-Withdrawing Substituent for Aromatic Anion Acceptors? "Side-On" versus "On-Top" Binding of Halides

The place to be! A subtle interplay of electronic effects at the aromatic system and at aromatic H atoms in connection with the polarizability of the anion controls the position of anions in respect to CF₃ substituted aromatics.



Chem. Eur. J.
DOI: 10.1002/chem.201600249

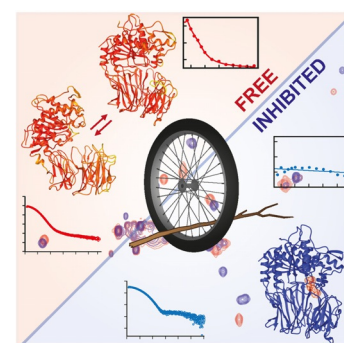


Protein-Protein Interactions

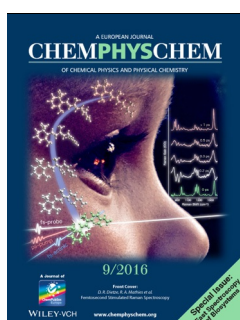
A. López, F. Herranz-Trillo, M. Kotev, M. Gairí, V. Guallar, P. Bernadó, O. Millet, T. Tarragó, E. Giralt*

Active-Site-Directed Inhibitors of Prolyl Oligopeptidase Abolish Its Conformational Dynamics

A spoke on the wheels: A combined approach based on NMR and SAXS experiments complemented by MD simulations has shown that active-site-directed inhibitors of prolyl oligopeptidase (POP) abolish the open/closed conformational equilibrium. Probably, abolishing conformational dynamics by inhibitors causes significant alterations to molecular recognition events of POP.



ChemBioChem
DOI: 10.1002/cbic.201600102

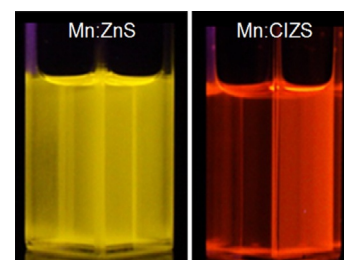


Nanocrystals

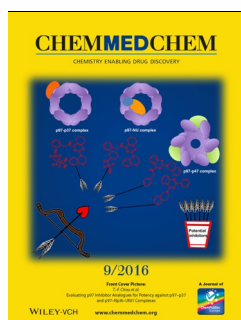
N. Pradhan*

Red-Tuned Mn d-d Emission in Doped Semiconductor Nanocrystals

I prefer it in red: Emission tuned from yellow to red can be obtained from Mn²⁺-doped semiconductor nanocrystals. By changing the environment of the Mn dopant in the crystal lattice, the Mn concentration and the surface ligands, the ligand-field splitting, and therefore also the Mn d-d emission, can be tuned. This Minireview describes recent key studies in this area.



ChemPhysChem
DOI: 10.1002/cphc.201500953

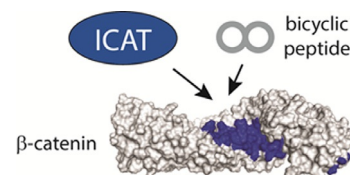


Anticancer Agents

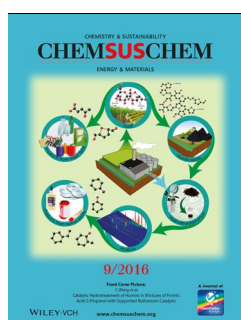
D. Bertoldo, M. M. G. Khan, P. Dessen, W. Held, J. Huelsken, C. Heinis*

Phage Selection of Peptide Macrocyces against β -Catenin To Interfere with Wnt Signaling

Hit the target within a target: Bicyclic peptides that bind to different surface regions of β -catenin were developed by phage display. Several of the ligands compete with the binding of ICAT and therefore bind to the prime target site on β -catenin for therapeutic intervention.



ChemMedChem
DOI: 10.1002/cmdc.201500557

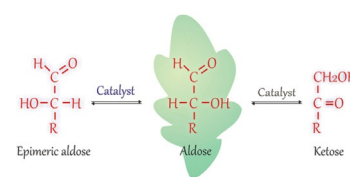


Biomass Conversion

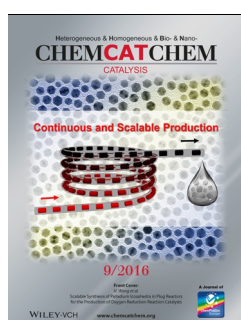
I. Delidovich, R. Palkovits*

Catalytic Isomerization of Biomass-Derived Aldoses: A Review

Sweet on you: Chemocatalytic isomerization of biobased aldoses gives rise to ketoses and C2 epimeric aldoses. Bases and Lewis acids exhibit high catalytic performance for the isomerization processes. Recently uncovered catalytic systems are reviewed, focusing on structure–performance relations, isomerization mechanisms, and catalyst stability under reaction conditions.



ChemSusChem
DOI: 10.1002/cssc.201501577

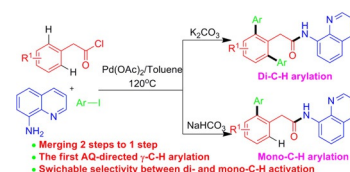


C–H Arylation

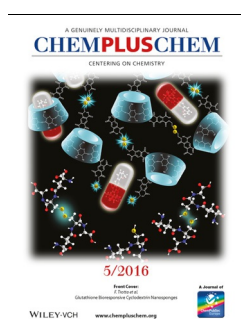
Y. Liu, B. Huang, X. Cao, J.-P. Wan*

Tunable Di- and Mono- γ -C–H Arylation of Phenylacetamides by Palladium-Catalyzed Domino Reactions

One way or another: The palladium-catalyzed C–H arylation of phenylacetamides in the γ position is realized by means of a domino process consisting of in situ directing group installation and C–H arylation. By modifying the reaction conditions, unprecedented selectivity between di- and monoarylation of the two identical γ -C–H bonds is achieved. AQ = 8-aminoquinolyl.



ChemCatChem
DOI: 10.1002/cctc.201600039

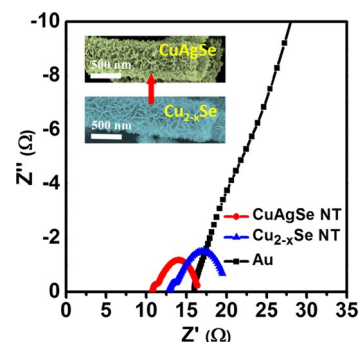


Electrochemistry

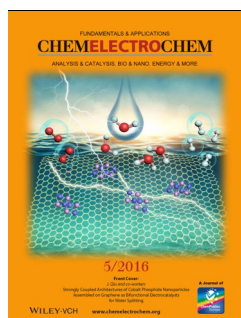
X. Q. Chen, Y. Bai, Z. Li,* L. Z. Wang, S. X. Dou

Ambient Synthesis of One-/Two-Dimensional CuAgSe Ternary Nanotubes as Counter Electrodes of Quantum-Dot-Sensitized Solar Cells

Metal exchange: One-/two-dimensional CuAgSe nanotubes are prepared from Cu_{2-x}Se nanotubes by a cation-exchange approach and explored as counter electrodes in quantum-dot-sensitized solar cells to achieve high conversion efficiency (see figure).



ChemPlusChem
DOI: 10.1002/cplu.201500466

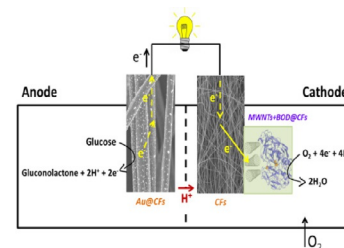


Hybrid Glucose Biofuel Cells

A. Both Engel, M. Bechelany, O. Fontaine, A. Cherifi, D. Cornu, S. Tingry*

One-Pot Route to Gold Nanoparticles Embedded in Electrospun Carbon Fibers as an Efficient Catalyst Material for Hybrid Alkaline Glucose Biofuel Cells

Fueling the future: A new strategy is used to prepare Au metal nanoparticle catalysts incorporated in situ in electrospun carbon nanofibers for the electrooxidation of glucose in hybrid glucose biofuel cells (h-GBFCs). Substantial long-term stability of the h-GBFCs is highlighted (MWNTs = multiwall nanotubes, BOD = bilirubin oxidase, CF = carbon fibers).



ChemElectroChem
DOI: 10.1002/celc.201500537

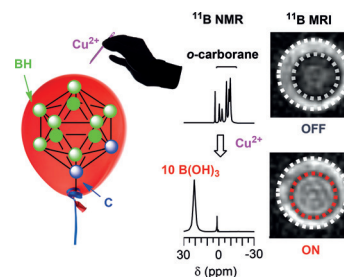


Boron NMR Probes

T. Tanaka, Y. Nishiura, R. Araki, T. Saido, R. Abe, S. Aoki*

¹¹B NMR Probes of Copper(II): Finding and Implications of the Cu²⁺-Promoted Decomposition of *ortho*-Carborane Derivatives

It is found that copper(II) ion promotes full decomposition reactions of *o*-carborane derivatives in aqueous solution to release 10 equiv. of B(OH)₃. The application of this discovery to ¹¹B NMR/MRI detection of Cu²⁺ is also presented.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.201600117

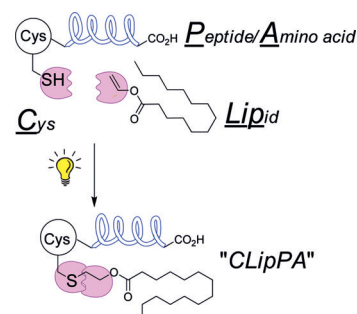


Peptide Lipidation

S.-H. Yang, P. W. R. Harris, G. M. Williams, M. A. Brimble*

Lipidation of Cysteine or Cysteine-Containing Peptides Using the Thiol-Ene Reaction (CLipPA)

The S-selective lipidation of cysteine or cysteine-containing peptides has been optimised to produce an S-palmitoylated building block or an S-palmitoylated peptide directly with high conversions and excellent yields. Key to this process, for which we coin the term "CLipPA", is the use of tBuSH together with triisopropylsilane as radical quenchers to favour the formation of monolipidated products.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201501375

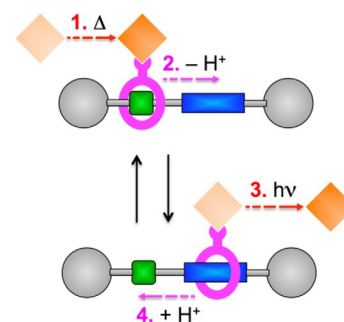


Molecular Machines

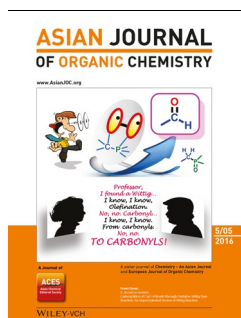
C. Schäfer, G. Ragazzon, B. Colasson, M. La Rosa, S. Silvi, A. Credi*

An Artificial Molecular Transporter

Nanoscale logistics: We describe a bistable [2]rotaxane shuttle designed to catch, displace, and release molecular cargo in solution under external control. The cargo loading/unloading and ring displacement/return processes are reversible and can be controlled independently with optical and chemical stimuli, respectively. The robust coordination bond ensures that the cargo remains attached to the device during transport.



ChemistryOpen
DOI: 10.1002/open.201500217

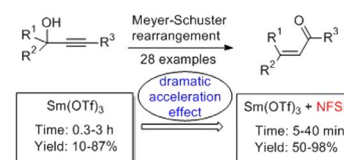


Lewis Acid Catalysis

C. Du, X. Wang, S. Jin, H. Shi, Y. Li, Y. Pang, Y. Liu, M. Cheng, C. Guo,* Y. Liu*

Investigation of Meyer–Schuster Rearrangement Promoted by a Samarium(III) Triflate/*N*-Fluorobenzenesulfonimide Lewis Acid System

The good samarium: The acceleration effect from the addition of *N*-fluorobenzenesulfonimide to a Sm(OTf)₃-catalyzed (OTf = trifluoromethanesulfonate) Meyer–Schuster rearrangement under microwave irradiation was studied. This new catalytic system has several advantages such as employing mild reaction conditions, short reaction times, and simple experimental procedures.



Asian J. Org. Chem.
DOI: 10.1002/ajoc.201600124

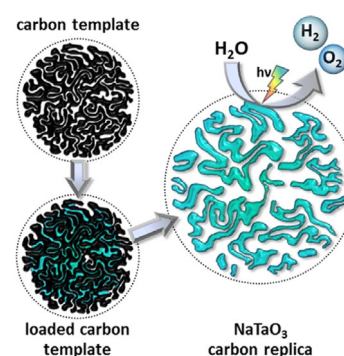


Mesoporous Materials

T. Grewe, H. Tüysüz*

Activated-Carbon-Templated Crystalline Tantalates for Photocatalytic Water Splitting

Mesoporous Ta₂O₅ and NaTaO₃ were successfully synthesized via hard templating, exhibiting porous networks with high surface areas that consist of sintered crystalline nanoparticles. These material properties contribute strongly to the high photocatalytic activity of the mesoporous tantalates towards water splitting.



ChemNanoMat
DOI: 10.1002/cnma.201600033



Quiz

Opening Lines of Famous Papers

The opening lines of many books are famous quotes, but what about scientific articles? This quiz in *ChemViews Magazine* covers the first sentences of important papers in scientific history.



ChemViews magazine
DOI: 10.1002/chemv.201600031

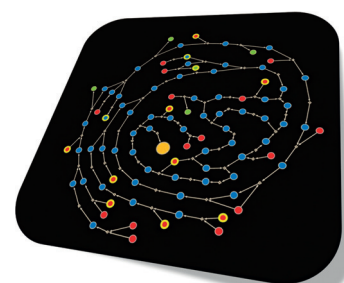


Computer-Aided Synthetic Planning

S. Szymkuć, E. P. Gajewska, T. Klucznik, K. Molga, P. Dittwald, M. Startek, M. Bajczyk, B. A. Grzybowski*

Computer-Assisted Synthetic Planning: The End of the Beginning

By combining chemical knowledge with network theory and chess-like algorithms, computers can, at last, design synthetic pathways to non-trivial targets. The picture shows a cost-optimized synthesis of Taxol (large yellow node) selected by the Chematica program from amongst 400 + million possibilities in just 7 s. Red nodes are commercially available chemicals, blue are intermediates, green are side products, and yellow halos indicate regulated substances.



Angew. Chem. Int. Ed.
DOI: 10.1002/anie.201506101