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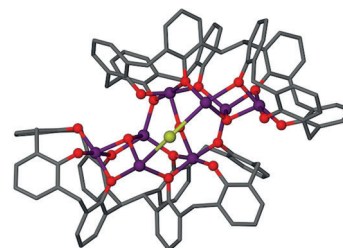


Supramolecular Chemistry

R. McLellan, M. A. Palacios, C. M. Beavers, S. J. Teat, S. Piligkos,*
E. K. Brechin,* S. J. Dalgarno*

Linked Supramolecular Building Blocks for Enhanced Cluster Formation

The butterfly effect: Calix[4]arenes are versatile structural supports for polymetallic clusters possessing fascinating magnetic properties. Bis-calix[4]arene is shown to offer enhanced control over the assembly of such species, and a rational approach towards the targeted synthesis of complex and challenging structures.



Chem. Eur. J.
DOI: 10.1002/chem.201405746

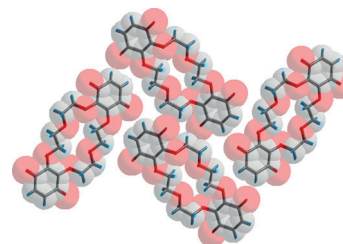


Crown Compounds

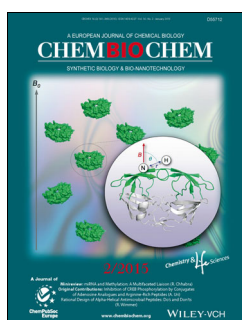
T. Kobayashi, Y. Nakane, T. Takeda, N. Hoshino, H. Kawai,
T. Akutagawa*

Crystal Structures and Redox Responses Coupled with Ion Recognition of *p*-Benzoquinone- and Hydroquinone-Fused [18]crown-6

Like jewels in a crown: Crystal structures of *p*-benzoquinone (BQ)- and hydroquinone-fused [18]crown-6 derivatives were investigated. The redox properties of BQ-fused [18]crown-6 derivatives, coupled with ion capturing, were dominated by electrostatic interactions and the solvation energy.



Chem. Asian J.
DOI: 10.1002/asia.201403262

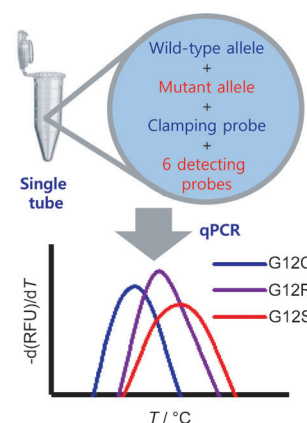


Quantitative PCR

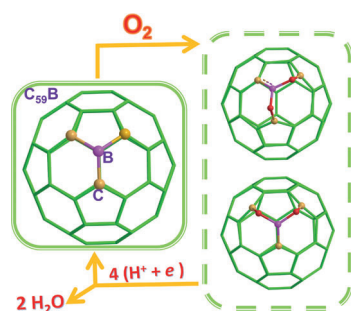
Y.-T. Kim, J. W. Kim, S. K. Kim, G. H. Joe,* I. S. Hong*

Simultaneous Genotyping of Multiple Somatic Mutations by Using a Clamping PNA and PNA Detection Probes

A novel method of simultaneous detection of multiple mutations and a melting curve analysis was developed using clamping PNA/detection PNA probes. Each PNA probe was designed to have a specific melting temperature by the introduction of γ -PNA monomers. This technique was successfully applied to the detection of six genotypes in two different mutations of *K-RAS* at the same time.



ChemBioChem
DOI: 10.1002/cbic.201402640



ChemPhysChem

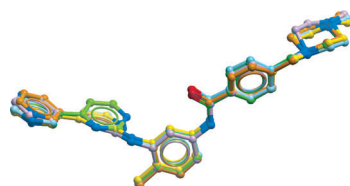
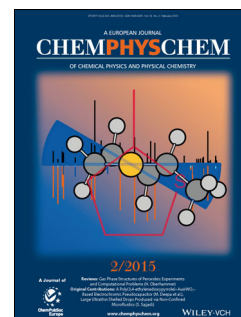
DOI: 10.1002/cphc.201402620

Computational Chemistry

Q.-Z. Li, J.-J. Zheng, J.-S. Dang, X. Zhao*

Boosting Activation of Oxygen Molecules on C₆₀ Fullerene by Boron Doping

B enhanced: Density functional calculations suggest that boron-doped fullerene C₆₀ shows excellent performance in catalyzing the activation of oxygen molecules and the relative oxygen reduction reaction (see figure).



ChemMedChem

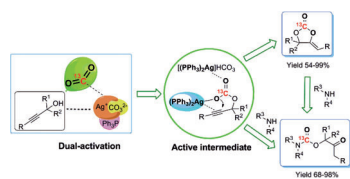
DOI: 10.1002/cmdc.201402389

Drug Discovery

M. W. He, P. S. Lee,* Z. K. Sweeney*

Promiscuity and the Conformational Rearrangement of Drug-Like Molecules: Insight from the Protein Data Bank

Promiscuity in the PDB: A dataset was prepared from 100 drug-like ligands found crystallized in multiple PDB structures that bind to a pair of biological targets with similar in vitro affinity. Compounds were less likely to change conformation upon binding to different proteins if they were highly ligand efficient and had few rotatable bonds. These findings have implications for medicinal chemistry strategies to improve ligand selectivity profiles.



ChemSusChem

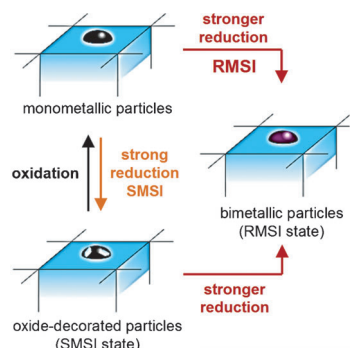
DOI: 10.1002/cssc.201402921

Carbon Dioxide Chemistry

Q.-W. Song, W.-Q. Chen, R. Ma, A. Yu, Q.-Y. Li, Y. Chang, L.-N. He*

Bifunctional Silver(I) Complex-Catalyzed CO₂ Conversion at Ambient Conditions: Synthesis of α -Methylene Cyclic Carbonates and Derivatives

Catalytic fixation of CO₂: [(PPh₃)₂Ag]₂CO₃ is proven to be a robust bifunctional catalyst for the chemical upgrading of CO₂ at atmospheric pressure to produce valuable compounds at ambient conditions. [(PPh₃)₂Ag]₂CO₃ can activate both CO₂ and propargylic alcohol, and promote the subsequent intramolecular nucleophilic cyclization.



ChemCatChem

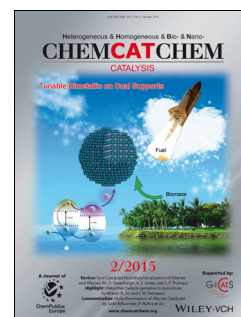
DOI: 10.1002/cctc.201402635

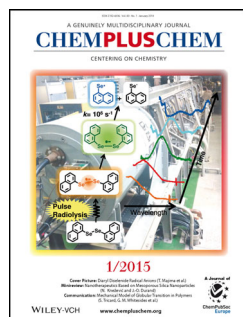
Intermetallic Compounds

S. Penner,* M. Armbrüster

Formation of Intermetallic Compounds by Reactive Metal–Support Interaction: A Frequently Encountered Phenomenon in Catalysis

Strong and stronger: The origin and manifestation of the reactive metal–support interaction (RMSI) as a new type of metal–support interaction are highlighted in selected examples and the structural and catalytic consequences discussed. This new term more accurately describes the most extreme form of metal–support interaction, that is, intermetallic compound formation following high-temperature reduction of oxide-supported metal catalysts.



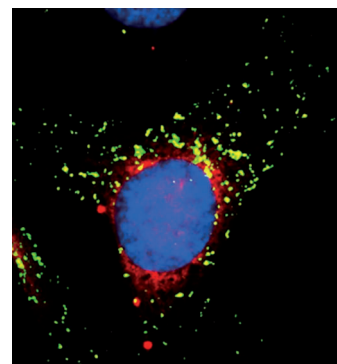


Imaging

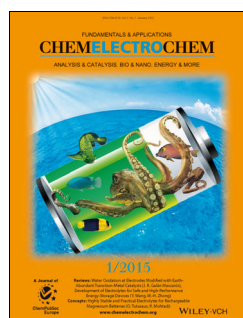
F. Carniato, L. Tei, S. Phadngam, C. Isidoro,* M. Botta*

NaGdF₄ Nanoparticles Coated with Functionalised Ethylenediaminetetraacetic Acid as Versatile Probes for Dual Optical and Magnetic Resonance Imaging

Caught on camera: NaGdF₄ nanoparticles coated with ethylenediaminetetraacetic acid (EDTA) chelators functionalized with organic moieties and luminescent dyes were prepared and characterized, and their potential as dual probes for optical/magnetic resonance imaging (MRI) imaging was investigated (see figure).



ChemPlusChem
DOI: 10.1002/cplu.201402245

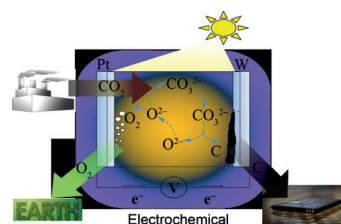


Li-Ion Batteries

J. Ge, L. Hu, W. Wang, H. Jiao, S. Jiao*

Electrochemical Conversion of CO₂ into Negative Electrode Materials for Li-Ion Batteries

Capture the energy: CO₂ was captured in molten LiCl–Li₂CO₃ salt and subsequently converted into amorphous carbon on the cathode and oxygen gas on the inert anode. The obtained carbon displays good performance as a negative electrode material for Li-ion batteries, thus demonstrating the feasibility of this energy conversion and storage process.



ChemElectroChem
DOI: 10.1002/celec.201402297

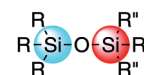


Siloxanes

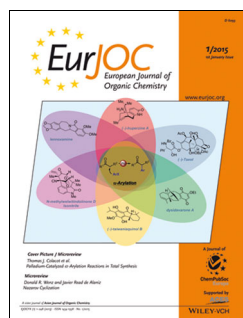
G. Hreczycho*

An Efficient Catalytic Approach for the Synthesis of Unsymmetrical Siloxanes

An efficient methodology for the synthesis of unsymmetrical disiloxanes by means of catalytic one-pot hydrolysis/O-silylation of alkoxy-silanes with allylsilanes (via silanol intermediates) in the presence of scandium(III) trifluoromethanesulfonate under mild conditions is described. Unsaturated siloxane products are used as substrates for further functionalization through the catalytic hydrosilylation reaction.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.201402904

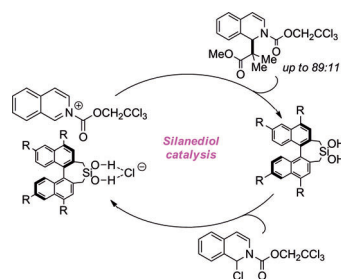


Asymmetric Catalysis

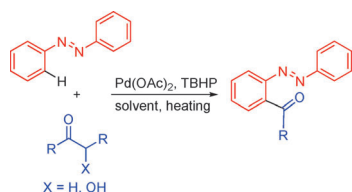
J. M. Wieting, T. J. Fisher, A. G. Schafer, M. D. Visco, J. C. Gallucci, A. E. Mattson*

Preparation and Catalytic Activity of BINOL-Derived Silanediols

A family of BINOL-derived enantiopure silanediols has been prepared and studied. The effect of the substitution pattern of the BINOL backbone on catalyst performance is detailed. The acidities and chloride binding constants are also reported for this new and exciting class of hydrogen-bond donor (HBD) catalysts.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201403441



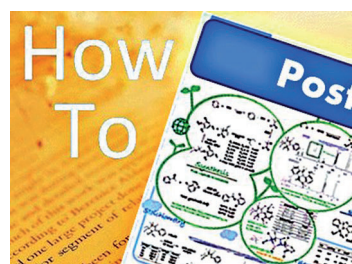
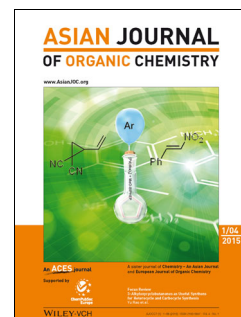
Asian J. Org. Chem.
DOI: 10.1002/ajoc.201402280

Acylation

B. Majhi, S. Ahammed, D. Kundu, B. C. Ranu*

Palladium-Catalyzed Oxidative C–C Bond Cleavage of α -Hydroxyketones: Application to C–H Acylation of Azoarenes and Synthesis of a Liver(X) Receptor Agonist

Soul acyl-um: Palladium-catalyzed oxidative C–C cleavage of α -hydroxyketones and 2-aryl acetophenones in the presence of *tert*-butyl hydrogen peroxide (TBHP) and subsequent C–H acylation of azoarenes with the generated acyl moiety provides easy access to acyl azoarenes.



ChemViews magazine
DOI: 10.1002/chemv.201400072

Conferences

R. Threlfall

Talking in Poster Sessions: Breaking the Ice

Getting a conversation going in a poster session can be a challenge. Richard Threlfall, Asian Journal of Organic Chemistry, gives tips on how to get the most out of a poster session and provides some simple strategies to engage attendees.

