Angewandte Top-Beiträge ...

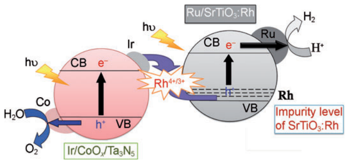
Auf diesen Seiten weisen wir auf wichtige aktuelle Beiträge in unseren Schwesterzeitschriften hin. Wenn Sie die Seiten online lesen, dann können Sie die Artikel mit einem Klick direkt aufrufen, ansonsten sind sie durch Eingabe der DOIs über Wiley Online Library leicht online zugänglich.

Photochemistry

S. S. K. Ma, K. Maeda, T. Hisatomi, M. Tabata, A. Kudo, K. Domen*

A Redox-Mediator-Free Solar-Driven Z-Scheme Water-Splitting System Consisting of Modified Ta_3N_5 as an Oxygen-Evolution Photocatalyst

Split me! A redox-mediator-free Z-scheme water-splitting system capable of working under simulated sunlight was achieved by using Ir/CoO_x/Ta_3N_5 in combination with the aid of Ru/$SrTiO_3$:Rh as a H_2-evolution photocatalyst.



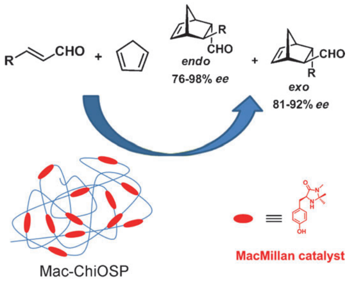
Chem. Eur. J.
DOI: **10.1002/chem.201300579**

Supported Catalysts

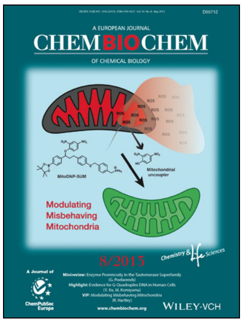
C. A. Wang, Y. Zhang,* J. Y. Shi, W. Wang*

A Self-Supported Polymeric MacMillan Catalyst for Homogeneous Organocatalysis and Heterogeneous Recycling

Lean on me: A soluble, "self-supported" chiral organosilica polymer (ChiOSP) with embedded imidazolidinone catalytic moieties was synthesized by a bottom-up strategy and applied as a highly efficient and recyclable organocatalyst for the asymmetric Diels–Alder reaction.



Chem. Asian J.
DOI: **10.1002/asia.201300152**

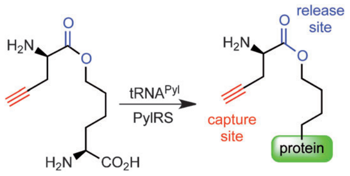


Pyrrolysine

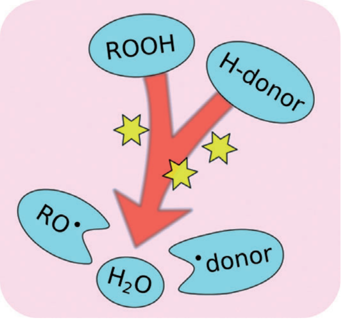
M. M. Lee, T. Fekner, T.-H. Tang, L. Wang, A. H.-Y. Chan, P.-H. Hsu, S. W. Au, M. K. Chan*

A Click-and-Release Pyrrolysine Analogue

What's the catch? A pyrrolysine analogue bearing a terminal alkyne and an ester functionality can be incorporated into recombinant proteins and render them amenable to capture by the click reaction and subsequent release through ester hydrolysis. The utility of this pyrrolysine-inspired technology is demonstrated for the identification of SUMOylation sites.



ChemBioChem
DOI: **10.1002/cbic.201300124**



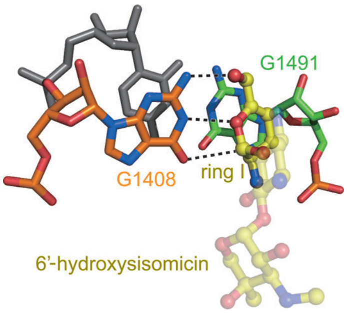
ChemPhysChem
DOI: **10.1002/cphc.201300130**

Radicals

N. Turrà, U. Neuenschwander, I. Hermans*

Molecule-Induced Peroxide Homolysis

A radical is born: Evidence is provided that radicals are easily generated in a bimolecular reaction between alkyl hydroperoxide, the primary chain product during an auto-oxidation, and compounds featuring weak H atoms, such as olefins and dienes. Such compounds are therefore not only more reactive towards radicals; they also greatly assist in their formation.



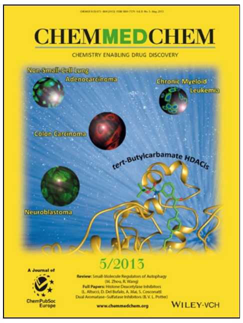
ChemMedChem
DOI: **10.1002/cmdc.201200579**

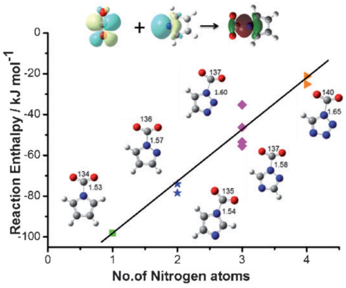
Antimicrobial Drug Design

J. Kondo,* M. Koganei, J. P. Maianti, V. L. Ly, S. Hanessian*

Crystal Structures of a Bioactive 6′-Hydroxy Variant of Sisomicin Bound to the Bacterial and Protozoal Ribosomal Decoding Sites

Activity explained: The crystal structure of 6′-hydroxysisomicin bound to the protozoal ribosomal A-site provides structural insight into the molecular mechanisms through which it derives its antiprotozoal activity. The key interactions for specific binding are a pseudo pair and a stacking from the unsaturated ring I of the aminoglycoside to G1408 and G1491 of the ribosomal RNA, respectively. These interactions are distinct to those with bacterial rRNA.





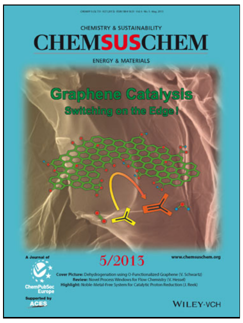
ChemSusChem
DOI: **10.1002/cssc.201200986**

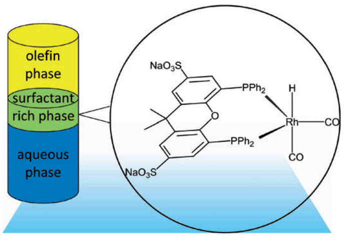
Carbon Dioxide Chemistry

H. Tang, C. Wu*

Reactivity of Azole Anions with CO_2 from the DFT Perspective

Catch me if you can: Azole anions represent a key component in CO_2 absorption materials. A variety of different azole anions have been investigated for their reactivity with CO_2 by using DFT calculations and a Langmuir adsorption model. Unlike SO_2, multi-site CO_2 absorption does not occur for azole anions under normal conditions. This study provides insight into designing azole-based CO_2-capture materials.





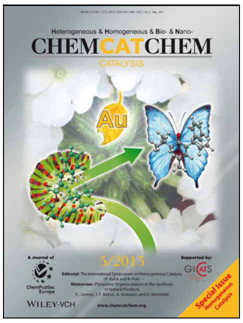
ChemCatChem
DOI: **10.1002/cctc.201200744**

Phase Catalysis

T. Hamerla, A. Rost, Y. Kasaka, R. Schomäcker*

Hydroformylation of 1-Dodecene with Water-Soluble Rhodium Catalysts with Bidentate Ligands in Multiphase Systems

Third phase for the catalyst: A hydrophilic metal–ligand complex formed from the precursor $[Rh(acac)(CO)_2]$ and the bidentate ligand SulfoXantPhos (see picture) was found to be a suitable candidate as a catalyst complex for the hydroformylation of 1-dodecene in multiphase systems formulated from water, 1-dodecene, and a nonionic surfactant.

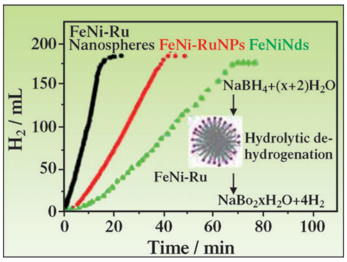


Hierarchical Nanostructures

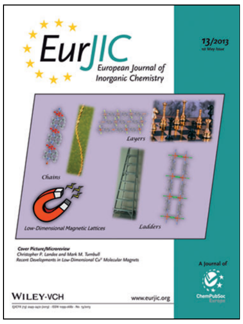
Y. Sun, M. Wen,* Q. Wu, Q. Wu

Controllable Assembly and Dehydrogenation Catalysis Activity of Urchinlike FeNi–Ru(tips) Amorphous Alloy Hierarchical Nanostructures

Feeling tips-y: Newly designed magnetic urchinlike FeNi–Ru(tips) hierarchical nanostructures, synthesized through a controllable assembly process, exhibit excellent catalytic activity toward the hydrolytic dehydrogenation of aqueous $NaBH_4$ under ambient atmosphere at room temperature (see figure).



ChemPlusChem
DOI: **10.1002/cplu.201200297**

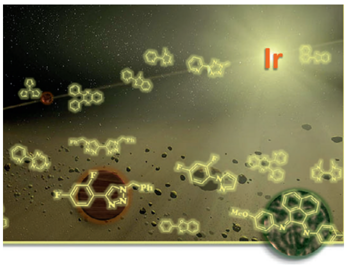


Iridium Complexes

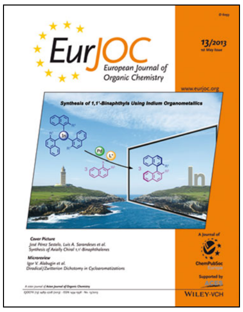
S. Ladouceur, E. Zysman-Colman*

A Comprehensive Survey of Cationic Iridium(III) Complexes Bearing Nontraditional Ligand Chelation Motifs

This Microreview summarizes the optoelectronic properties of luminescent cationic iridium complexes bearing nontraditional ligand motifs with generalized structure $[(C^\wedge N)_2Ir(\mathbf{L}^\wedge X)]^+$, in which C^N is a cyclometalating ligand and **L**^X is a bidentate neutral ancillary ligand, with the goal of elucidating structure–property trends. Their use in applications such as photosensitizers for solar fuels and as luminophores in light-emitting electrochemical cells is also discussed.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201300171**

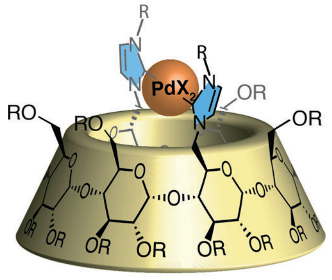


NHC-Appended Cyclodextrins

M. Guitet, F. Marcelo, S. A. d. Beaumais, Y. Zhang, J. Jiménez-Barbero, S. Tilloy, E. Monflier, M. Ménand, M. Sollogoub

Diametrically Opposed Carbenes on an α-Cyclodextrin: Synthesis, Characterization of Organometallic Complexes and Suzuki–Miyaura Coupling in Ethanol and in Water

Two carbene-based ligands have been attached to perbenzylated and permethylated cyclodextrins. Their palladium complexes were synthesized, characterized and used as catalysts in Suzuki–Miyaura coupling reactions both in ethanol and water.



R = Me or Bn

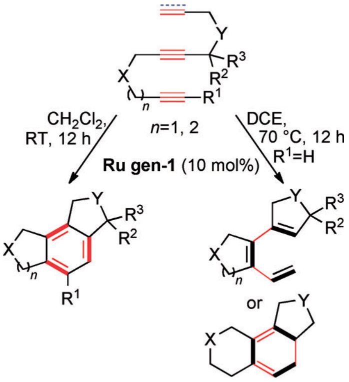
Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201300190**

Catalysis

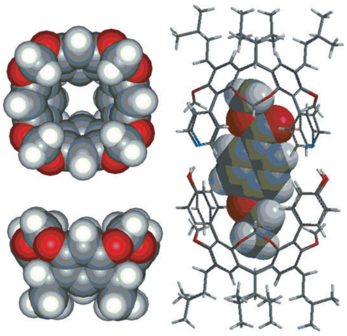
W. Yuan, Y. Wei, M. Shi*

Ruthenium-Catalyzed Intramolecular [2+2+2] Cycloaddition and Tandem Cross-Metathesis of Triynes and Enediynes

Back to generation one! Catalyzed by the first-generation Grubbs ruthenium complex, intramolecular [2+2+2] cycloaddition of triynes to their benzene derivatives **2** and tandem cross-metathesis reactions of enediynes to their conjugated triene derivatives **4** perform smoothly in moderate to good yields under mild conditions. A possible reaction mechanism is presented on the basis of deuterium-labeling results.



ChemistryOpen
DOI: **10.1002/open.201300002**



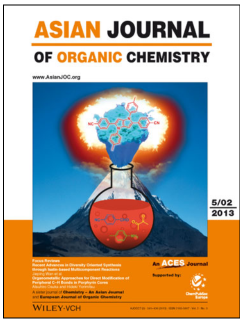
Asian J. Org. Chem.
DOI: **10.1002/ajoc.201200175**

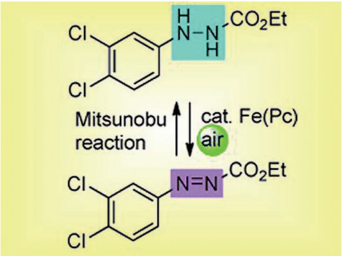
Cavitands

M. Yamanaka,* K. Kobayashi*

Capsular Assemblies of Calix[4]resorcinarene-based Cavitands

Supra-calix-fragilisticexpialidocious! Calix[4]resorcinarene-based cavitands with a bowl-shaped aromatic cavity are suitable platforms for the formation of capsular assemblies. Various types of intermolecular interactions, such as hydrogen bonding, metal–ligand coordination, dynamic covalent bonding, hydrophobic interactions, and electrostatic interactions can be used as a driving force for the formation of capsular assemblies.





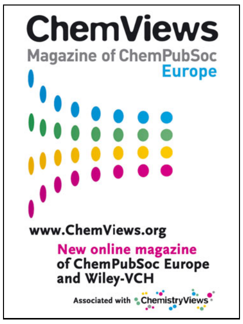
ChemViews magazine
DOI: **10.1002/chemv.201300049**

Recyclable Reagents

David Bradley

Replacing a DEAD, Middle-aged Reagent

The Mitsunobu reaction is a classic of organic synthesis, but the production of hydrazines and the use of toxic diethyl azodicarboxylate (DEAD) have limited its industrial applications. Replacement of DEAD with ethyl 2-phenylazocarboxylate and use of an iron catalyst to re-oxidize the hydrazine-based waste product is breathing new life into this old reaction and opening up larger-scale applications.



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