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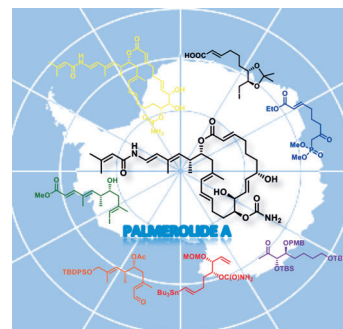


Natural Products

M. P. Lisboa, G. B. Dudley*

Synthesis of Cytotoxic Palmerolides

Can synthesis deliver? Chemical synthesis is the key to unlocking the chemotherapeutic potential of the palmerolides. This review covers the chemistry and biology of the palmerolides through early 2013, highlighting the evolution of a consensus strategy that could lead to cost-effective production of synthetic palmerolides. Palmerolide A is potently and selectively cytotoxic to certain melanomas. Its mechanism of action is poorly understood but likely involves inhibition of a transmembrane proton pump involved in regulation of cellular pH and metastasis.



Chem. Eur. J.
DOI: 10.1002/chem.201302167

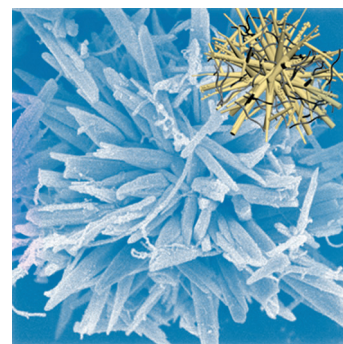


Anode Materials

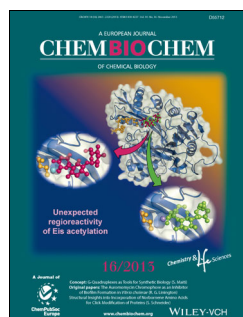
H.-W. Shim, A.-H. Lim, J.-C. Kim, G.-H. Lee, D.-W. Kim*

Hydrothermal Realization of a Hierarchical, Flowerlike MnWO_4 @MWCNTs Nanocomposite with Enhanced Reversible Li Storage as a New Anode Material

Positively attracted: A hierarchical, flowerlike MnWO_4 -based composite with multiwalled carbon nanotubes (MWCNTs) was synthesized through a one-pot hydrothermal route and evaluated as new anodes for Li-ion batteries. Relative to bare MnWO_4 electrodes, the composite electrodes exhibit outstanding electrochemical behavior with increased cyclability and rate capability and a high specific capacity.



Chem. Asian J.
DOI: 10.1002/asia.201300765

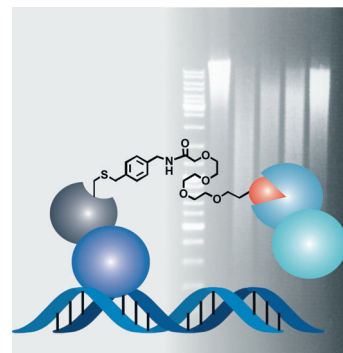


TB Drug Screening

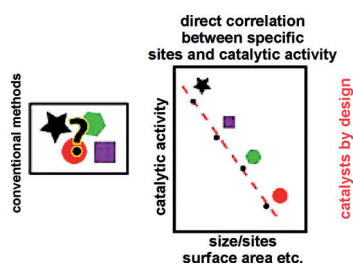
S. Moser, K. Johnsson*

Yeast Three-Hybrid Screening for Identifying Anti-Tuberculosis Drug Targets

Mycobacterium goes yeast: Target deconvolution of anti-tuberculosis drugs can be a very challenging task. Here we report a yeast 3-hybrid system that allows promising small molecules to be screened for protein targets of a pathogen in nontoxic yeast cells. The system employs libraries of randomly fragmented bacterial DNA and offers a technically simple alternative approach for target identification.



ChemBioChem
DOI: 10.1002/cbic.201300472



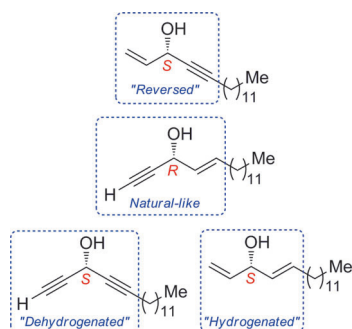
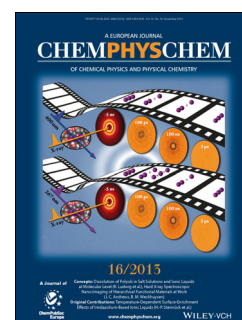
ChemPhysChem
DOI: 10.1002/cphc.201300702

Catalysts

M. Carnello,* P. Fornasiero, R. J. Gorte

Playing with Structures at the Nanoscale: Designing Catalysts by Manipulation of Clusters and Nanocrystals as Building Blocks

Catalysts with improved activity, stability and selectivity can be prepared by synthetic techniques that produce uniform building blocks, such as clusters and nanocrystals, and by appropriate manipulation and assembly at the nanoscale.



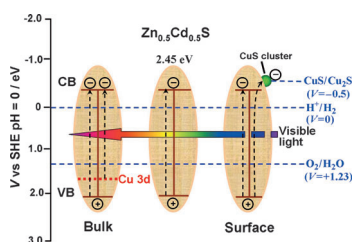
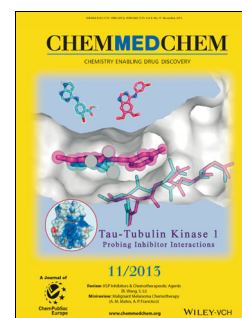
ChemMedChem
DOI: 10.1002/cmdc.201300230

Natural Product Chemistry

D. El Arfaoui, D. Listunov, I. Fabing, M. Oukessou, C. Frongia, V. Lobjois, A. Samson, F. Ausseil, A. Ben-Tama, E. M. El Hadrami, R. Chauvin,* Y. Génisson*

Identification of Chiral Alkenyl- and Alkynylcarbinols as Pharmacophores for Potent Cytotoxicity

Illumination by acetylene: Systematic structural variations in a series of archetypal acetylenic lipids derived from the naturally occurring (S,E)-icos-4-en-1-yn-3-ol allowed the discovery of a series of 3R-like 1,4-di-unsaturated carbinol units with a significant and systematic enantiomeric effect on cytotoxicity.



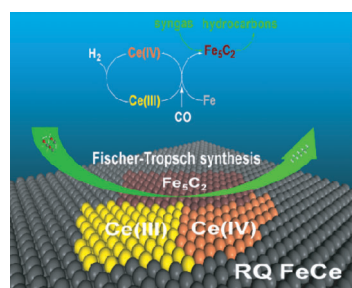
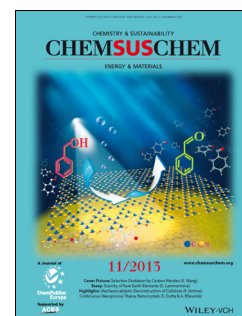
ChemSusChem
DOI: 10.1002/cssc.201300409

Hydrogen Production

J. Zhang, Q. Xu, S. Z. Qiao,* J. Yu*

Enhanced Visible-Light Hydrogen-Production Activity of Copper-Modified Zn_xCd_{1-x}S

Bulked up! Two different synthetic pathways are devised to prepare surface and bulk Cu²⁺-modified Zn_xCd_{1-x}S through cation-exchange and coprecipitation methods, respectively. Cu²⁺ surface modification can provide a new electron-transferring pathway (interfacial charge transfer) and also form new surface active sites for H₂ evolution, resulting in enhanced visible-light H₂-production activity (see picture).



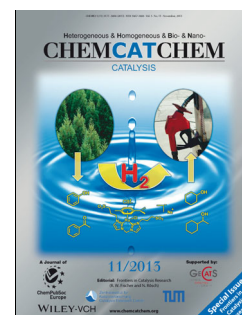
ChemCatChem
DOI: 10.1002/cctc.201300430

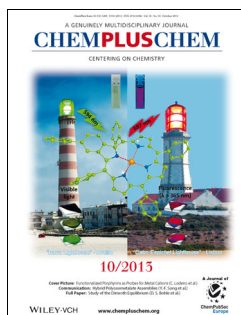
Fischer-Tropsch

B. Sun, J. Lin, K. Xu, Y. Pei, S. Yan, M. Qiao,* X. Zhang, B. Zong*

Fischer-Tropsch Synthesis Over Skeletal Fe-Ce Catalysts Leached from Rapidly Quenched Ternary Fe-Ce-Al Alloys

Ce^{III} works: The promotion of rapidly quenched skeletal Fe with Ce significantly increases the selectivity to C₅₊ hydrocarbons in the Fischer-Tropsch synthesis reaction, which is correlated with the surface concentration of Hägg carbide and interpreted as a consequence of the chemical promotion effect of Ce imparted by Ce^{III}. RQ = Rapidly quenched.



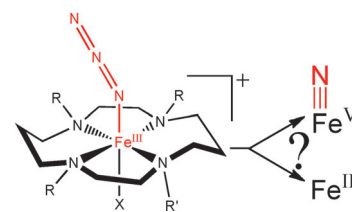


High-Valent Iron

O. Krahe, F. Neese,* M. Engeser*

Iron Azides with Cyclam-Derived Ligands: Are They Precursors for High-Valent Iron Nitrides in the Gas Phase?

High-valent iron nitrides: Azide complexes as their potential precursors are studied in the gas phase by mass spectrometry. A subtle interplay between pathways to Fe^{II} , Fe^{III} , and Fe^{V} products is controlled by choice of the ligand (see figure). The observations partly parallel those seen after irradiating frozen solutions.



ChemPlusChem

DOI: 10.1002/cplu.201300182

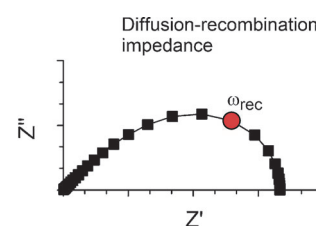


Solar Cells

J. Bisquert,* I. Mora-Sero, F. Fabregat-Santiago

Diffusion-Recombination Impedance Model for Solar Cells with Disorder and Nonlinear Recombination

Diffusing out: The theory of diffusion-recombination impedance applied to nanostructured solar cells is presented with an emphasis on the effects of energy disorder and short diffusion length.



ChemElectroChem

DOI: 10.1002/celc.201300091

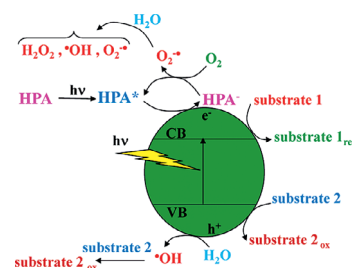


HPA-Based Photocatalysts

G. Marcì,* E. I. García-López, L. Palmisano

Heteropolyacid-Based Materials as Heterogeneous Photocatalysts

The microreview describes the most significant contributions related to heteropoly acid (HPA) based materials used as heterogeneous photocatalysts. HPAs supported on different oxides (insulating or semiconductor) or associated to an inorganic, organic, or organometallic moiety are presented.



Eur. J. Inorg. Chem.

DOI: 10.1002/ejic.201300883

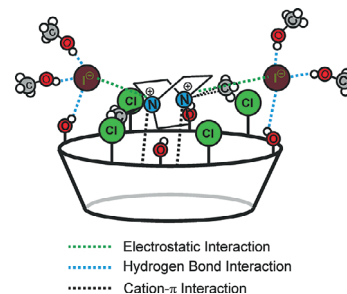


Ion-Pair Recognition

N. Kodiah Beyeh, M. Göth, L. Kaufmann, C. A. Schalley,* K. Rissanen*

The Synergetic Interplay of Weak Interactions in the Ion-Pair Recognition of Quaternary and Diquaternary Ammonium Salts by Halogenated Resorcinarenes

The noncovalent interactions of upper-rim halogenated resorcinarenes with quaternary and diquaternary ammonium salts were analysed in the gas phase and in solution. Enhanced ion pair binding by a synergetic combination of cation- π and hydrogen-bond interactions was observed in solution, while the electronic effects of the substituents prevailed in the gas phase in the absence of the counteranion.



Eur. J. Org. Chem.

DOI: 10.1002/ejoc.201300886



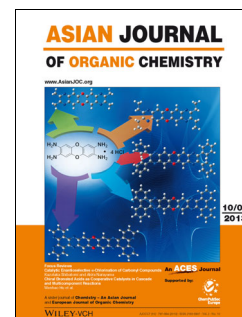
Asian J. Org. Chem.
DOI: 10.1002/ajoc.201300144

Charge Transfer

H. Jia, J. Ding, A. Hauser, S. Decurtins, S.-X. Liu*

Large π -Conjugated Chromophores Derived from Tetrathiafulvalene

Make mine a large: The direct annulation of two dipyrro[3,2-a:2',3'-c]phenazine units to a tetrathiafulvalene core leads to a large π -conjugate as a bridging ligand. Its coordination ability to transition-metal ions is exemplified by the formation of a stable dinuclear Ru^{2+} complex. The electrochemical, optical absorption, photoinduced intramolecular charge-transfer, and fluorescence characteristics of the ligand and the complex are described.



ChemViews magazine
DOI: 10.1002/chemv.201300113

Smart Materials

David Bradley

Molecular Dockers Move Microscopic Cargoes

Although the controlled movement and transportation of objects is easy to achieve at the macroscopic level, it is a much more complicated process at the microscopic level. This manipulation of microscopic particles was accomplished by Jérémie Palacci et al., USA, by using a cargo transport system based on self-propelled colloidal hem- atite particles, as David Bradley discusses.



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NOMINATIONS MAY BE SUBMITTED UNTIL FEBRUARY 28, 2014.

They must include the following documents (in English): laudation summarizing the achievements of the candidate (maximum two pages), list of the five most relevant publications of the past ten years, CV, and bibliography.

Please send a PDF file (via e-mail or on CD) including all documents to Dr. Anja Hoffmann, hwp@boehringer-ingelheim-stiftung.de, Boehringer Ingelheim Foundation, Schusterstr. 46-48, 55116 Mainz, Germany.

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