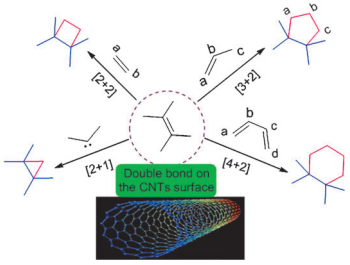
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Carbon Nanotubes

I. Kumar, S. Rana, J. W. Cho*

Cycloaddition Reactions: A Controlled Approach for Carbon Nanotube Functionalization

Tuning tubes: The functionalization of carbon nanotubes (CNTs) by means of cycloaddition reactions plays an important role in achieving mechanical, electrical, and biological functions and enhancing their dispersion in different matrixes. Through these reactions, an enormous variety of molecules can be coupled onto CNTs in a very controlled manner and they can be exploited to prepare CNT-based hybrid materials for a wide range of applications.



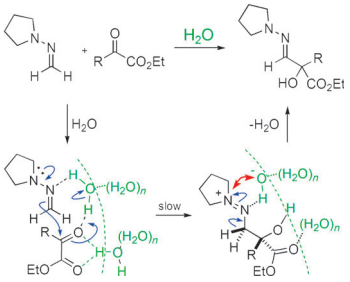
Chem. Eur. J.
DOI: **10.1002/chem.201101260**

Nucleophilic Additions

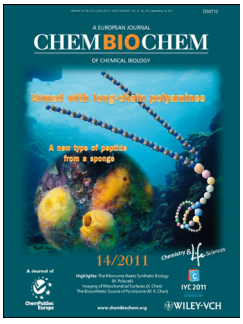
A. Crespo-Peña, E. Martín-Zamora, R. Fernández,* J. M. Lassaletta*

"On Water" Nucleophilic Addition of Formaldehyde *N*,*N*-Dialkylhydrazones to α-Keto Esters

Water solves the problem: The use of pure water as the reaction mixture is key for the nucleophilic addition of formaldehyde hydrazones to α-keto esters, leading to highly functionalized carbinols in high yields and short reaction times. The need for heterogeneous conditions and the observed solvent kinetic isotope effect are in agreement with the proposed "on water" activation.



Chem. Asian J.
DOI: **10.1002/asia.201100174**

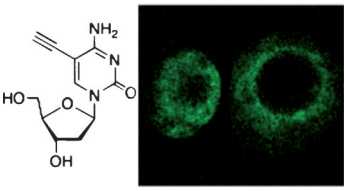


DNA Methylation

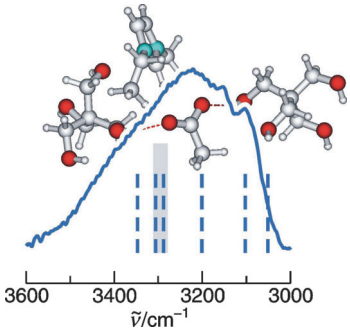
L. Guan, G. W. van der Heijden, A. Bortvin,* M. M. Greenberg*

Intracellular Detection of Cytosine Incorporation in Genomic DNA by Using 5-Ethynyl-2′-Deoxycytidine

Tracking cytosine incorporation: 5-Ethynyl-2′-deoxycytidine (EdC; see figure) was synthesized and validated for tracking DNA-centered processes in live mouse male germ cells and one-cell embryos. Using this technique we show that EdC can be used as a mechanism-based tool to further explore the chemical mechanism of DNA demethylation.



ChemBioChem
DOI: **10.1002/cbic.201100353**



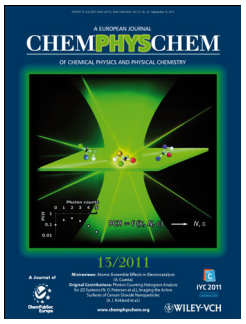
Hydrogen Bonds

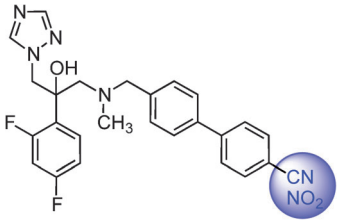
Z. Papanyan, C. Roth, D. Paschek, R. Ludwig*

Understanding the Dissolution of Polyols by Ionic Liquids Using the Example of a Well-Defined Model Compound

Break the bond: The dissolution strength of ionic liquids and traditional solvents is studied spectroscopically and computationally for a well-defined model compound of polyols (see picture). Due to a strong hydrogen bond network the alcohol pentaerythritol closely resembles the natural polymer cellulose. Not only the ionic character of the solvent but in particular strong interacting anions are essential for disrupting the hydrogen bond networks and are crucial for its dissolution power.

ChemPhysChem
DOI: **10.1002/cphc.201100437**





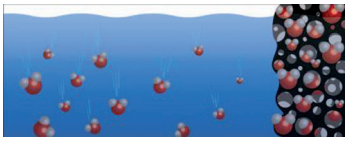
Drug Design

R. Guillon, F. Pagniez, C. Rambaud, C. Picot, M. Duflos, C. Logé,* P. Le Pape

Design, Synthesis, and Biological Evaluation of 1-[(Biarylmethyl)methylamino]-2-(2,4-difluorophenyl)-3-(1*H*-1,2,4-triazol-1-yl)propan-2-ols as Potent Antifungal Agents: New Insights into Structure–Activity Relationships

Attacking the fungus among us: 1-[(Biarylmethyl)methylamino] derivatives with broad-spectrum antifungal activities against the most prevalent human pathogenic fungi (*Candida* spp. and *Aspergillus fumigatus*) are described, revealing further information about their structure–activity relationships.

ChemMedChem
DOI: **10.1002/cmdc.201100262**



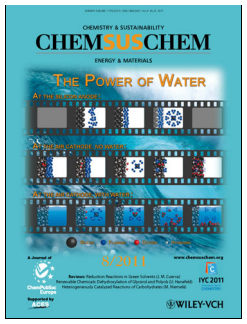
Fuel Cells

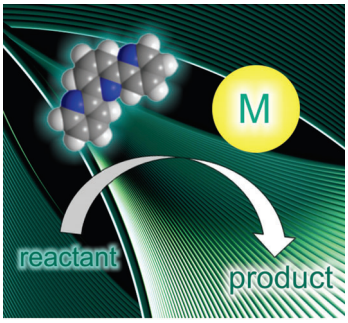
G. Cohn, D. D. Macdonald, Y. Ein-Eli*

Remarkable Impact of Water on the Discharge Performance of a Silicon–Air Battery

Changing the chemical reaction zone: The addition of water to an ionic liquid electrolyte is found to be responsible for shifting the silica formation reaction zone from the carbonaceous air electrode into the bulk electrolyte. This process improves the cell capacity by 40%. Other effects of water addition are also discussed.

ChemSusChem
DOI: **10.1002/cssc.201100169**





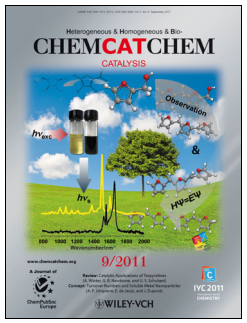
Terpyridine Catalysis

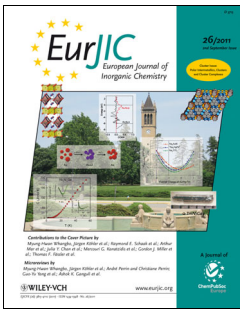
A. Winter, G. R. Newkome,* U. S. Schubert*

Catalytic Applications of Terpyridines and their Transition Metal Complexes

More to this than meets the eye: The concept of terpyridine complexes and catalysis is reviewed critically with respect to applications in conventional organometallic catalysis as well as in electro- and photcatalytic processes.

ChemCatChem
DOI: **10.1002/cctc.201100118**



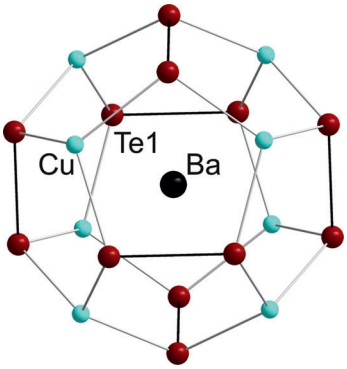


Barium Copper Polychalcogenides

O. Mayasree, C. R. Sankar, Y. Cui, A. Assoud, H. Kleinke*

Synthesis, Structure, and Thermoelectric Properties of Barium Copper Polychalcogenides with Chalcogen-Centered Cu Clusters and Te_2^{2-} Dumbbells

These polychalcogenides are bestowed with Ba-centered pentagonal Cu_8Te_{12} dodecahedra and Te_2^{2-} dumbbells of full T_h symmetry, in addition to chalcogen-centered Cu clusters. In accord with the Zintl concept implying that these materials would be intrinsic semiconductors when $x = 0$, the Cu-deficient selenide-telluride with $x = 0.3$ is a *p*-type semiconductor, exhibiting very low thermal conductivity.



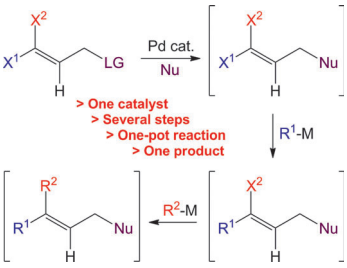
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201100284**

Trisubstituted Olefins

L. R. Rogers, Z. Konstantinou, M. Reddy, M. G. Organ,*

The Synthesis of Stereodefined Trisubstituted Olefins From Olefin Templates Using Pd Catalysis – Synthesis of the Antihypertensive Isbogrel

A strategy has been devised whereby small, highly functionalized olefin building blocks are systematically converted to a variety of products using the same catalyst. These building blocks, called olefin templates, can be acted upon by the same catalyst up to three times by different mechanisms to produce trisubstituted olefin products convergently and efficiently as single stereoisomers.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201100849**