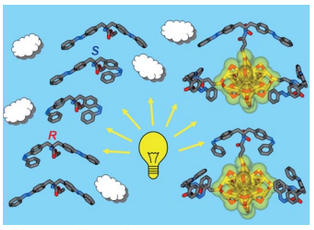
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Nanomaterials

P. Fatás, E. Longo, F. Rastrelli, M. Crisma, C. Toniolo, A. I. Jiménez, C. Cativiela, A. Moretto*

Bis(azobenzene)-Based Photoswitchable, Prochiral, C^{α}-Tetrasubstituted α-Amino Acids for Nanomaterials Applications

Light-driven chirality: Sequential light-driven isomerization of prochiral, bis(azobenzene)-containing amino acids results in the formation of chiral entities that have been characterized by different techniques. Metal nanoparticles conjugated with these amino acids retain the photoswitching properties and show conformation-dependent magnetic susceptibility that can be reversibly controlled by irradiation (see figure).



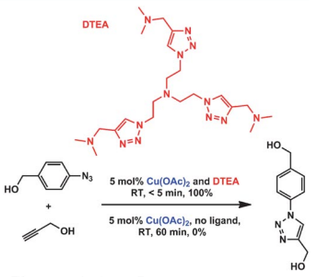
Chem. Eur. J.
DOI: **10.1002/chem.201102609**

Click Chemistry

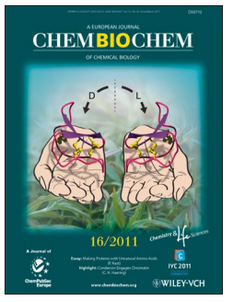
H. A. Michaels, L. Zhu*

Ligand-Assisted, Copper(II) Acetate-Accelerated Azide–Alkyne Cycloaddition

A need for speed: Polytriazole ligands accelerate copper(II) acetate-mediated azide–alkyne cycloaddition with unactivated, nonchelating azides (see scheme). Kinetic investigations reveal a mechanistic dependence on the relative affinity of azide and alkyne to copper(II). We also offer evidence for the mechanistic synergy between the title reaction and the alkyne oxidative homocoupling reaction.



Chem. Asian J.
DOI: **10.1002/asia.201100426**

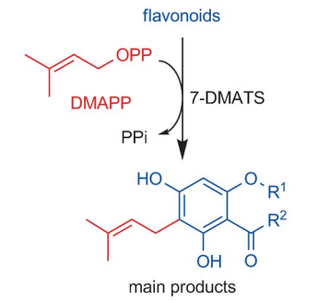


Flavonoids

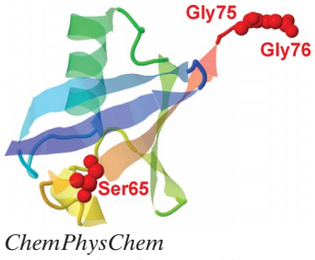
X. Yu, S.-M. Li*

Prenylation of Flavonoids by Using a Dimethylallyltryptophan Synthase, 7-DMATS, from *Aspergillus fumigatus*

Production of typical plant metabolites by a fungal enzyme: Fungal prenyltransferases of the DMATS superfamily are mainly involved in the biosynthesis of prenylated indole alkaloids, but also catalyze the prenylation of tyrosine and naphthalene derivatives. In this study, nine prenylated flavonoids were produced by using the recombinant dimethylallyltryptophan synthase 7-DMATS from *Aspergillus fumigatus*.



ChemBioChem
DOI: **10.1002/cbic.201100413**



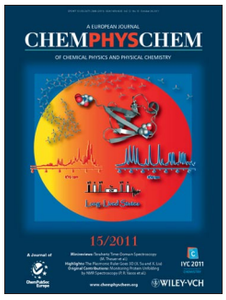
ChemPhysChem
DOI: **10.1002/cphc.201100365**

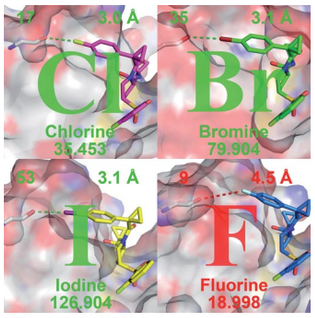
NMR Spectroscopy

A. Bornet, P. Ahuja, R. Sarkar, L. Fernandes, S. Hadji, S. Y. Lee, A. Haririnia, D. Fushman, G. Bodenhausen, P. R. Vasos*

Long-Lived States to Monitor Protein Unfolding by Proton NMR

Sit back, relax…: The relaxation time constants of long-lived states of Gly and Ser residues at specific locations (shown in red along the backbone of ubiquitin) are found to be sensitive to partial unfolding of the protein.





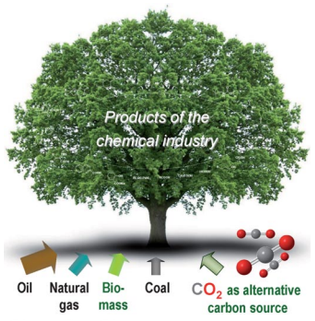
ChemMedChem
DOI: **10.1002/cmdc.201100353**

Protein–Ligand Interactions

L. A. Hardegger, B. Kuhn, B. Spinnler, L. Anselm, R. Ecabert, M. Stihle, B. Gsell, R. Thoma, J. Diez, J. Benz, J.-M. Plancher, G. Hartmann, Y. Isshiki, K. Morikami, N. Shimma, W. Haap,* D. W. Banner,* F. Diederich*

Halogen Bonding at the Active Sites of Human Cathepsin L and MEK1 Kinase: Efficient Interactions in Different Environments

Halogen-ius! X-ray co-crystal structures of inhibitors undergoing halogen bonding in the water-exposed S3 pocket of human cathepsin L and the apolar back pocket of MEK1 kinase are analyzed (see figure). A similar affinity trend is observed for both polar and apolar environments.



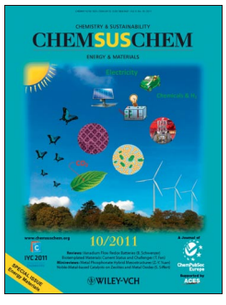
ChemSusChem
DOI: **10.1002/cssc.201000447**

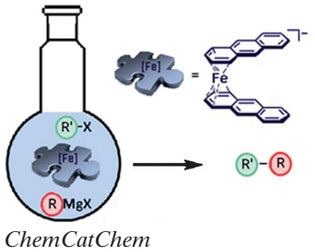
Carbon Dioxide Conversion

M. Peters, B. Köhler, W. Kuckshinrichs, W. Leitner,* P. Markewitz, T. E. Müller*

Chemical Technologies for Exploiting and Recycling Carbon Dioxide into the Value Chain

Curbing carbon: Carbon dioxide is a promising carbon source, with practically unlimited availability for a range of industrially relevant applications. The chemical exploitation of carbon dioxide should aim at adding value and developing better and more-efficient processes with reduced overall carbon footprints. This Review will discuss the connection to carbon capture technologies and provide some general criteria for evaluating the use of carbon dioxide as raw material.





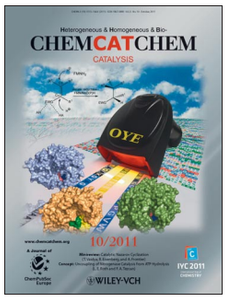
ChemCatChem
DOI: **10.1002/cctc.201100199**

Cross-Coupling

K. Weber, E.-M. Schnöckelborg, R. Wolf*

Catalytic Properties of Low Oxidation State Iron Complexes in Cross-Coupling Reactions: Anthracene Iron(−I) Complexes as Competent Catalysts

Catalyzing cross-couplings: The catalytic activity of well-defined low-valent iron complexes in cross-coupling reactions has been investigated. The results show that labile ligands in the catalyst precursor are beneficial for high catalytic activity. Thus, anionic iron(−I) complexes with labile anthracene ligands are competent precatalysts for cross couplings that involve alkyl, aryl, and alkenyl electrophiles.

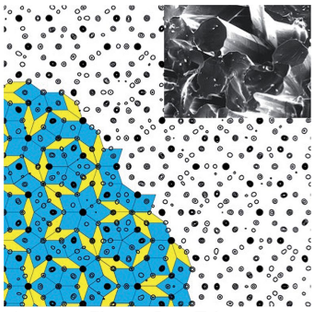


Nobel Prize in Chemistry 2011

W. Steurer*

Quasicrystals: Sections of Hyperspace

Since the moment Dan Shechtman discovered a material with an ordered but aperiodic ("quasiperiodic") structure, which was believed to be impossible at the time, he began a long battle to convince his colleagues that his data were real. His efforts were finally rewarded with a Nobel Prize. The picture shows the projected electron density distribution function of decagonal Al-Co-Ni with Penrose tiling as an example of a quasicrystal.



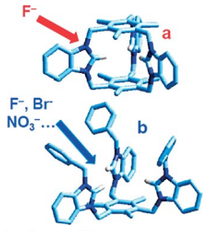
Angew. Chem. Int. Ed.
DOI: **10.1002/anie.201107163**

Anion Recognition

V. Amendola, M. Boiocchi, L. Fabbrizzi,* N. Fusco

Putting the Anion into the Cage – Fluoride Inclusion in the Smallest Trisimidazolium Macrotricycle

The trisbenzimidazolium cage **a** encapsulates F^- and refuses the inclusion of any other anion. The bowl-shaped trisimidazolium receptor **b** is less restrictive and interacts with anions of varying size and shape. In contrast to the robust $[\mathbf{a}\cdots F]^{2+}$ cage complex, $[\mathbf{b}\cdots F]^{2+}$, on further addition of F^-, decomposes due to the deprotonation of an imidazolium C–H fragment and formation of HF_2^-.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201100902**

ChemViews magazine – The magazine of ChemPubSoc Europe

K. Roth

The Chemist's Fear of the Fugu

The fugu poison, tetrodotoxin, falls very near the top of the international hit parade of poisons. Klaus Roth proves that such a poisonous species must also be a brillant chemist and expains what to do if one's fugu banquet seems not to sit well.

ChemViews magazine
DOI: **10.1002/chemv.201000104**

