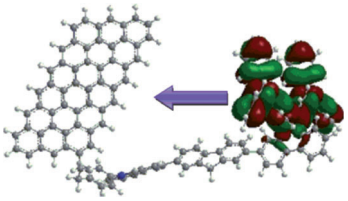
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Graphene

B. Zhang, G. Liu, Y. Chen,* L.-J. Zeng, C.-X. Zhu, K.-G. Neoh, C. Wang, E.-T. Kang*

Conjugated Polymer-Grafted Reduced Graphene Oxide for Nonvolatile Rewritable Memory

Read/write/execute: PFCF-RGO (see figure) was synthesized by the 1,3-dipolar cycloaddition reaction of azomethine ylide. The *J*/*V* curves of the ITO/RGO-PFCF/Al device clearly displayed typical bistable electrical switching and a rewritable memory effect, with a turn-on voltage of about −1.2 V and an ON/OFF current ratio in excess of 10^4.



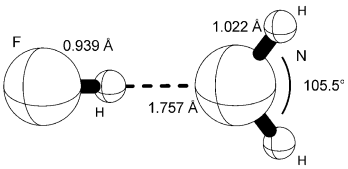
Chem. Eur. J.
DOI: **10.1002/chem.201102686**

Reaction Kinetics

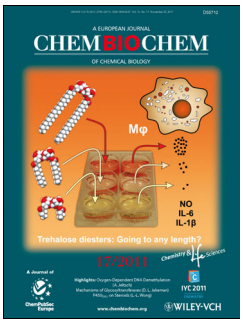
H. Feng,* W. Sun, Y. Xie, H. F. Schaefer, III*

Is There an Entrance Complex for the F+NH_3 Reaction?

House of F−N: The F+NH_3 reaction was studied using a highly correlated ab-initio electronic structure theory, up to the CCSD(T)/aug-cc-pVQZ level of theory. A transition state F•••••H•••••NH_2 structure with a single imaginary vibrational frequency was observed (594 *i* cm^{-1}). The deep entrance complex and small energy barrier are consistent with an exceptionally strong inverse temperature dependence of the F+NH_3 rate constant.



Chem. Asian J.
DOI: **10.1002/asia.201100468**

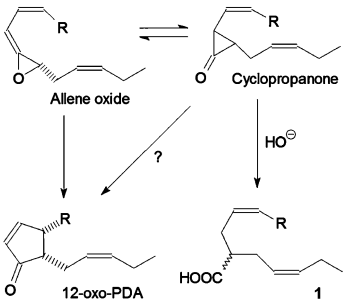


Synthetic Biology

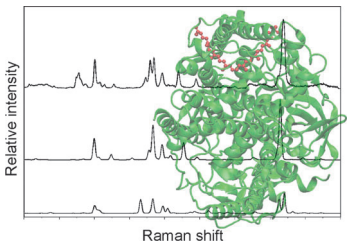
A. N. Grechkin,* N. V. Lantsova, Y. Y. Toporkova, S. S. Gorina, F. K. Mukhitova, B. I. Khairutdinov

Novel Allene Oxide Synthase Products Formed via Favorskii-Type Rearrangement: Mechanistic Implications for 12-Oxo-10,15-phytodienoic Acid Biosynthesis

Novel oxylipins, such as **1**, have been detected as products of the incubation of allene oxide synthases with linolenic acid (*S*)-hydroperoxides. These dicarboxylic acids are formed via cyclopropanones by Favorskii-type rearrangements. The data demonstrate the coexistence of cyclopropanones with 18:3-allene oxides. Cyclopropanone is either a byproduct or a precursor of 12-oxo-PDA.



ChemBioChem
DOI: **10.1002/cbic.201100346**



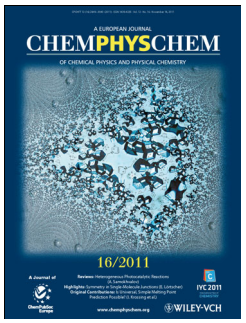
First-Principles Calculations

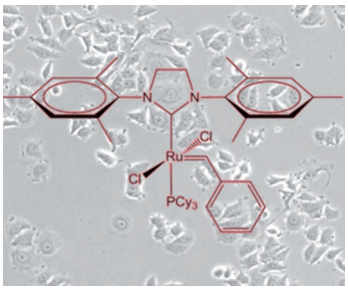
J. M. Boereboom, M. C. van Hemert,* J. Neugebauer*

The Resonance Raman Spectra of Spheroidene Revisited with a First-Principles Approach

Resonance Raman spectra are calculated to unravel the nature of the *cis* configuration of the carotenoid spheroidene in the photosynthetic reaction center of the purple bacterium *Rhodobacter sphaeroides*. To investigate effects of the protein, we study a model of spheroidene in its binding pocket with more than 500 atoms in a first-principles frequency analysis.

ChemPhysChem
DOI: **10.1002/cphc.201100545**





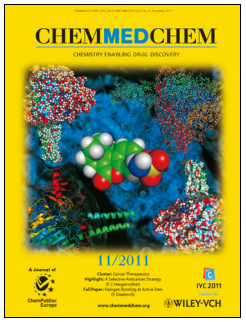
Drug Design

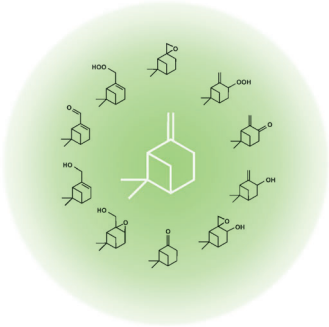
L. Oehninger, H. Alborzinia, S. Ludewig, K. Baumann, S. Wölfl, I. Ott*

From Catalysts to Bioactive Organometallics: Do Grubbs Catalysts Trigger Biological Effects?

Grubbs up! Grubbs-type catalysts have potential as inhibitors of tumor-relevant enzymes, exhibit antiproliferative effects in cultured tumor cells, and influence cell metabolism. While the potencies of these catalysts are poor to moderate from a drug development prospective, their biological activity suggests that incorporating aspects of their structures could be beneficial for drug design.

ChemMedChem
DOI: **10.1002/cmdc.201100308**





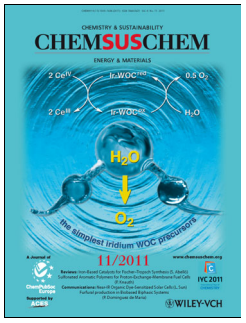
Renewable Resources

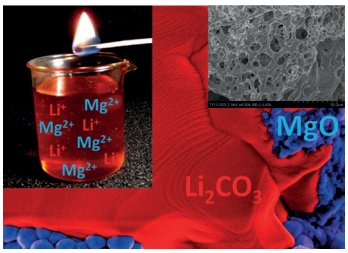
U. Neuenschwander, E. Meier, I. Hermans*

Peculiarities of β-Pinene Autoxidation

Totally radical! The aerobic oxidation of the renewable β-pinene is not only a synthetically approach to valuable allylic compounds, it is also interesting from a fundamental mechanistic point of view (see scheme).

ChemSusChem
DOI: **10.1002/cssc.201100266**





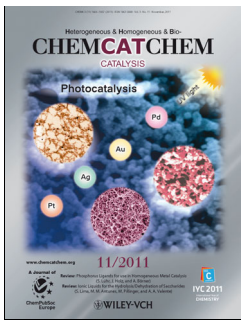
Porous Materials

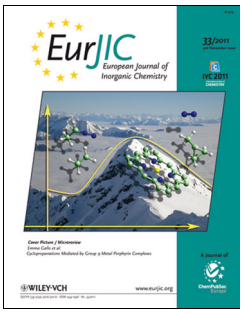
U. Zavyalova, G. Weinberg, W. Frandsen, F. Girgsdies, T. Risse, K. P. Dinse, R. Schloegl, R. Horn*

Lithium as a Modifier for Morphology and Defect Structure of Porous Magnesium Oxide Materials Prepared by Gel Combustion Synthesis

Once intimately united—though, at the end divided: Gel combustion synthesis is used in an attempt to synthesize Li doped MgO, a classical catalyst for methane oxidative coupling. At low Li loadings, hierarchically structured materials are obtained resistant to temperatures up to 800 °C. At higher Li loadings, these structures collapse into phase separated Li_2CO_3 and MgO. Li^+ incorporated in MgO could not be detected. Addition of Li modifies the morphology and defect structure of MgO, which is studied systematically using a multimethod approach.

ChemCatChem
DOI: **10.1002/cctc.201100146**



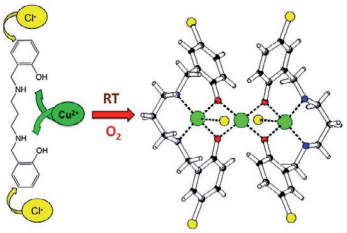


Oxidative Halogenation

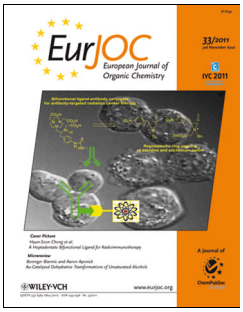
I. Gamba, P. Gamez, E. Monzani, L. Casella, I. Mutikainen, J. Reedijk*

Selective Copper-Mediated Halogenation of Aromatic Rings Under Mild Conditions

The selective copper-mediated halogenation of the aromatic rings of saltren-type ligands can be obtained under extremely mild conditions: the simple aerobic reaction of the ligand with $CuCl_2$ or $CuBr_2$ at room temperature in acetonitrile leads to the formation of a trinuclear copper complex exhibiting halogenated ligands.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201100489**

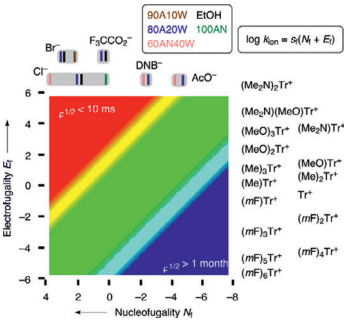


Solvolyses of Trityl Derivatives

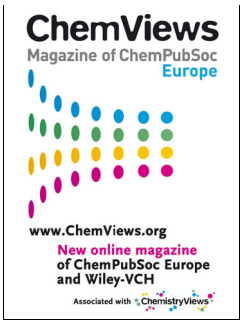
M. Horn, C. Metz, H. Mayr*

Electrofugalities of Acceptor-Substituted Tritylium Ions

Ionization rate constants of differently substituted trityl halides and carboxylates have been determined in aqueous acetonitrile and in acetone. The solvolysis rate constants of trityl chlorides and bromides have been employed to derive electrofugality parameters (E_f) of tritylium ions according to the linear free energy relationship $\log k_{ion} = s_f(E_f + N_f)$.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201100912**



Interview with Tobias Stengel – Fine Arts & Chemistry

Vera Köster

Interview with Tobias Stengel – Fine Arts & Chemistry

The artist Tobias Stengler illustrates the weekly radio series Molecule of the Week on Deutschlandfunk. He talks about his interest in chemistry and the sciences and the connection between chemistry and fine arts.

ChemViews magazine
DOI: **10.1002/chemv.201000136**