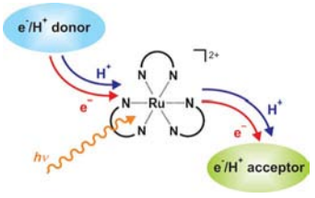
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Electron Transfer

O. S. Wenger*

Proton-Coupled Electron Transfer Originating from Excited States of Luminescent Transition-Metal Complexes

Electron transfer revisited! Proton-coupled electron transfer (PCET) is a key process in natural photosynthesis and nitrogen fixation. For artificial photosynthesis, PCET reactions originating directly from electronically excited states are particularly important. Recent fundamental investigations of this important class of reactions are reviewed.



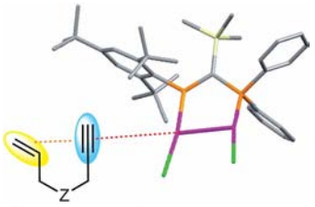
Chem. Eur. J.
DOI: **10.1002/chem.201102011**

Gold Complexes

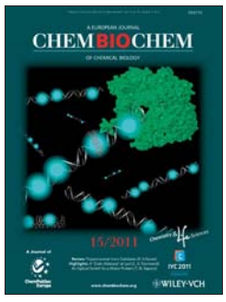
S. Ito,* L. Zhai, K. Mikami

Combination of sp^2- and sp^3-Type Phosphorus Atoms for Gold Chemistry: Preparation, Structure, and Catalytic Activity of Gold Complexes That Bear Ligated 2-Silyl-1,3-diphosphapropenes

Ch-ch-ch-changes: The aurophilic characteristics of a digold(I) structure induce conformational change of the sterically protected 2-silyl-1,3-diphosphapropene moiety, and are effective in activating several enyne substrates to lead to cycloisomerization under moderate conditions (see graphic).



Chem. Asian J.
DOI: **10.1002/asia.201100310**

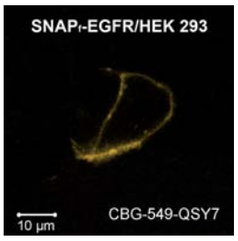


Cell Imaging

X. Sun, A. Zhang, B. Baker, L. Sun, A. Howard, J. Buswell, D. Maurel, A. Masharina, K. Johnsson, C. J. Noren, M.-Q. Xu,* I. R. Corrêa, Jr.*

Development of SNAP-Tag Fluorogenic Probes for Wash-Free Fluorescence Imaging

A cleaner image: We report the design and application of an improved labeling system, which combines the use of a faster reacting variant of SNAP-tag, termed $SNAP_f$, with fluorogenic benzylguanine probes for wash-free labeling of fusion proteins in living cells.



ChemBioChem
DOI: **10.1002/cbic.201100173**

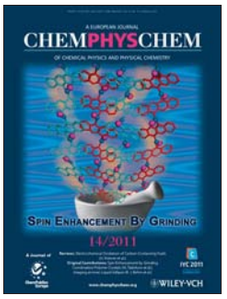
ChemPhysChem
DOI: **10.1002/cphc.201100387**

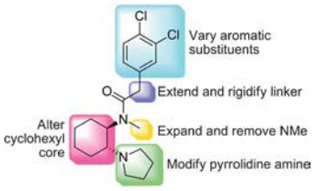
Computational Chemistry

P. Schwerdtfeger*

The Pseudopotential Approximation in Electronic Structure Theory

The pseudopotential approximation introduced in 1934 by Hans G. A. Hellmann (1903–1938), shown in the picture, is the most successful and widely used theory in relativistic electronic structure calculations producing results for valence properties for atoms, molecules or infinite systems such as the solid state in close agreement to all-electron methods.





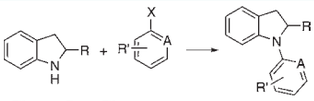
ChemMedChem
DOI: **10.1002/cmdc.201100278**

Antiparasitic Agents

V. C. Smith, L. A. T. Cleghorn, A. Woodland, D. Spinks, I. Hallyburton, I. T. Collie, N. Yi Mok, S. Norval, R. Brenk, A. H. Fairlamb, J. A. Frearson, K. D. Read, I. H. Gilbert,* P. G. Wyatt*

Optimisation of the Anti-*Trypanosoma brucei* Activity of the Opioid Agonist U50488

Screening of the LOPAC library against *Trypanosoma brucei* in culture identified a number of compounds with selective antiproliferative activity. This paper describes the modification of key structural elements of the hit U50488 to investigate structure–activity relationships and to optimise its antiproliferative activity and pharmacokinetic properties.



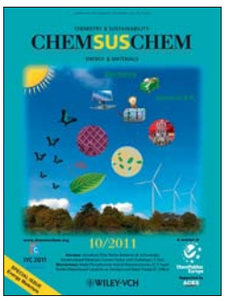
ChemSusChem
DOI: **10.1002/cssc.201100098**

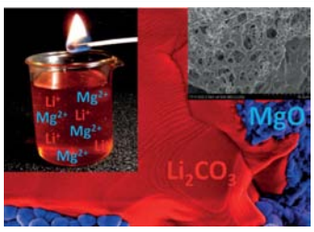
Microwave Synthesis

L. Basolo, A. Bernasconi, E. Borsini, G. Broggini, E. M. Beccalli*

Solvent-Free, Microwave-Assisted *N*-Arylation of Indolines by using Low Palladium Catalyst Loadings

Indulging in indolines: A series of substituted *N*-aryl indolines is prepared by a solvent-free, palladium-catalyzed procedure under microwave irradiation. Low catalyst loadings can be used, and a range of commercially available substrates is successfully converted. The reaction proceeds in good yields and in short reaction time with aryl bromides, chlorides, and iodides, also on 2-substituted indolines.





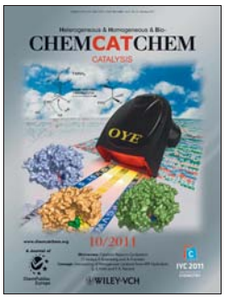
ChemCatChem
DOI: **10.1002/cctc.201100146**

Structure Modifier

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.

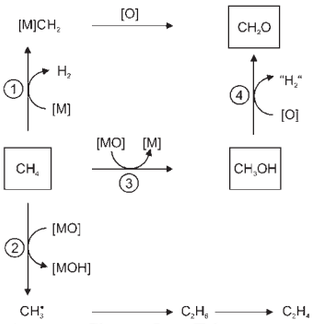


Gas-Phase Chemistry

H. Schwarz*

Chemistry with Methane: Concepts Rather than Recipes

Elementary steps associated with the activation of methane are addressed from experimental and computational viewpoints; what matters most are relativistic effects, two-state reactivity scenarios, and cluster-size and ligand effects, which all play a role in the organometallic chemistry of methane at ambient conditions.



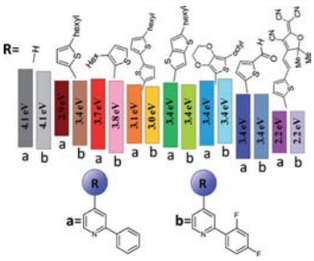
Angew. Chem. Int. Ed.
DOI: **10.1002/anie.201006424**

Arylpyridine Ligands

C. Coluccini, N. Manfredi, E. H. Calderon, M. M. Salamone, R. Ruffo, D. Roberto, M. G. Lobello, F. De Angelis, A. Abbotto*

Photophysical and Electrochemical Properties of Thiophene-Based 2-Arylpyridines

Two unprecedented families of electron-poor and electron-rich thiophene-based 2-arylpyridines, with a broad range of optical and electronic properties, are introduced as potential precursors of materials for photovoltaic and optoelectronic applications.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201100651**

