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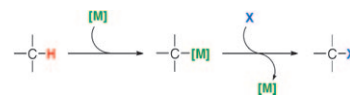


## C–H Activation

R. Jazzar, J. Hitce, A. Renaudat, J. Sofack-Kreutzer, O. Baudoin\*

Functionalization of Organic Molecules by Transition-Metal-Catalyzed C(sp<sup>3</sup>)–H Activation

**Breaking strong bonds:** This Minireview highlights recent strategies to functionalize alkyl C–H bonds by transition-metal-catalyzed C–H activations that involve inner-sphere-type mechanisms. These methods allow the introduction of carbon- or heteroatom-based functional groups and show great promise in the synthesis of complex organic molecules.



Chem. Eur. J.  
DOI: 10.1002/chem.200902374

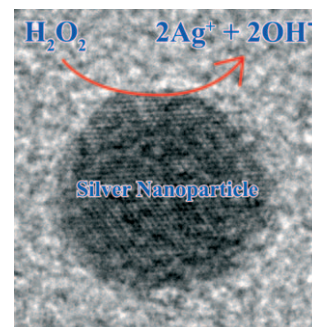


## Nanomaterials

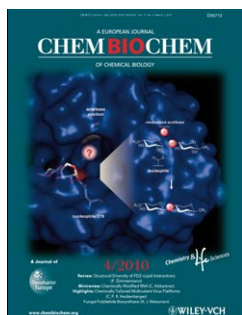
C.-M. Ho,\* S. K.-W. Yau, C.-N. Lok, M.-H. So, C.-M. Che\*

Oxidative Dissolution of Silver Nanoparticles by Biologically Relevant Oxidants: A Kinetic and Mechanistic Study

**Hi H<sub>2</sub>O<sub>2</sub>, silver!** Silver nanoparticles can be oxidized by various reactive oxygen species (e.g., H<sub>2</sub>O<sub>2</sub>, OCl<sup>−</sup>). The kinetics and mechanistic studies of the oxidative dissolution of AgNPs by H<sub>2</sub>O<sub>2</sub> in aqueous solution over a physiological pH range of 6.0–8.5 using a stopped-flow technique are reported, and a possible mechanism is proposed.



Chem. Asian J.  
DOI: 10.1002/asia.200900387

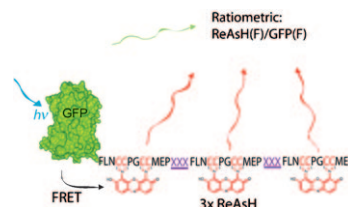


## Cell Imaging

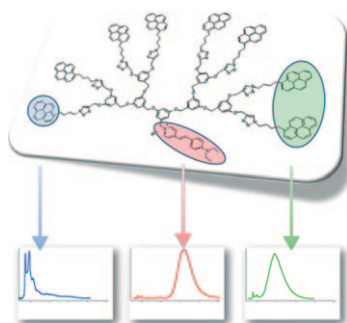
S. B. Van Engelenburg, T. Nahreini, A. E. Palmer\*

FACS-Based Selection of Tandem Tetracysteine Peptides with Improved ReAsH Brightness in Live Cells

**Reintroducing ReAsH:** Three tandem tetracysteine motifs were optimized for higher-order biarsenical fluorophore binding and enhanced brightness. FACS-based in vivo selections of peptide linkers uncovered new 3×tetracysteine motifs with ~2.5-fold increased brightness in vitro and ~twofold increased brightness in live cells.



ChemBioChem  
DOI: 10.1002/cbic.200900689



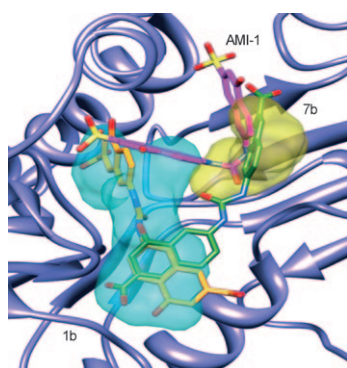
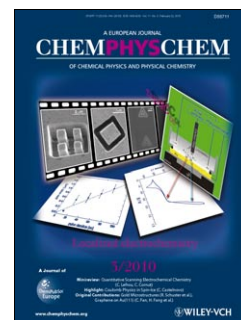
ChemPhysChem  
DOI: 10.1002/cphc.200900771

## Electroluminescence

U. Giovannella, W. Mróz, P. Foggi, P. Fabbri, S. Cicchi, C. Botta\*

Multi-Colour Electroluminescence of Dendritic Antennae Containing Pyrenes as Light Harvesters

**Passing the flame:** Dendrons containing pyrene moieties that act as light harvesters give multi-colour electroluminescence in spin-coatable single-layer light-emitting diodes through energy-transfer processes from a polyvinylcarbazole matrix (see picture).



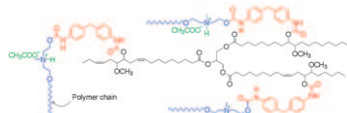
ChemMedChem  
DOI: 10.1002/cmdc.200900459

## Antitumor Agents

S. Castellano, C. Milite, R. Ragno, S. Simeoni, A. Mai, V. Limongelli, E. Novellino, I. Bauer, G. Brosch, A. Spannhoff, D. Cheng, M. T. Bedford,\* G. Sbardella\*

Design, Synthesis and Biological Evaluation of Carboxy Analogues of Arginine Methyltransferase Inhibitor 1 (AMI-1)

**PRMT inhibitors:** The bis-carboxylic acid derivatives **1b** (yellow) and **7b** (green), shown here docked into the active site of protein arginine N-methyltransferase 1 (PRMT1), are disclosed as effective inhibitors of this enzyme, both in vitro and in vivo. These carboxy analogues are comparable or even better PRMT inhibitors compared with arginine methyltransferase inhibitor 1 (AMI-1; magenta), and they are practically inactive against the lysine methyltransferase SET7/9.



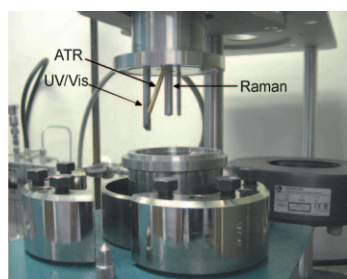
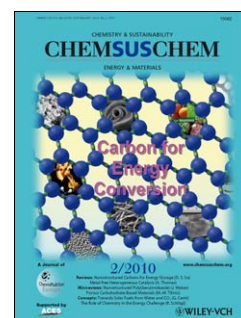
ChemSusChem  
DOI: 10.1002/cssc.200900251

## Polyurethanes

Y. Lu, R. C. Larock\*

Aqueous Cationic Polyurethane Dispersions from Vegetable Oils

**Aqueous cationic polyurethane dispersions (PUDs)** are synthesized by making use of raw vegetable oils as starting materials. The resulting environmentally friendly PUDs exhibit excellent physical properties, indicating great promise for use as adhesives, plastics, and coatings.



ChemCatChem  
DOI: 10.1002/cctc.200900273

## Spectroscopy

L. R. Knöpke, N. Nemat, A. Köckritz, A. Brückner, U. Bentrup\*

Reaction Monitoring of Heterogeneously Catalyzed Hydrogenation of Imines by Coupled ATR-FTIR, UV/Vis, and Raman Spectroscopy

**Operando spectroscopy:** A setup is presented that enables simultaneous in situ ATR-FTIR, UV/Vis, and Raman spectroscopic measurements by implementation of spectroscopic immersion probes into a modified autoclave reactor. This setup allows the monitoring of liquid-phase hydrogenation reactions under elevated H<sub>2</sub> pressures.



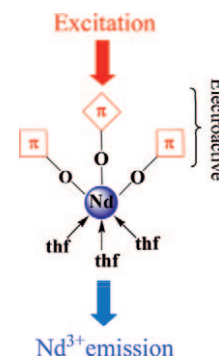


## Luminescent Lanthanide Alkoxides

M. Veith,\* C. Belot, V. Huch, H. L. Cui, L. Guyard, M. Knorr, C. Wickleder

Synthesis, Crystal Structure and Physico-Chemical Studies of Neodymium and Erbium Methoxides Containing Thienyl Substituents

Two novel mononuclear neodymium methoxides containing thienyl substituents have been synthesized and structurally characterized. The physico-chemical properties of a series of rare earth thienyl-substituted methoxides are presented. The luminescence spectra of the neodymium alkoxides reveal an energy transfer from the ligand to the metal centre.



*Eur. J. Inorg. Chem.*  
DOI: 10.1002/ejic.200900972

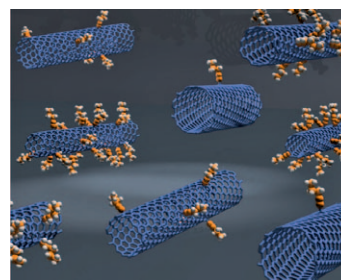


## Functionalization of SWCNTs

B. Gebhardt, R. Graupner, F. Hauke, A. Hirsch\*

A Novel Diameter-Selective Functionalization of SWCNTs with Lithium Alkynylides

Single-walled carbon nanotubes (SWCNTs) have been functionalized with different terminal lithium acetylides in a nucleophilic addition sequence to yield soluble SWCNT derivatives that have been characterized by TGA/MS, Raman, UV/Vis/NIR and fluorescence spectroscopy. Based on a detailed radial breathing-mode analysis, size-selective side-wall functionalization of small-diameter tubes is revealed.



*Eur. J. Org. Chem.*  
DOI: 10.1002/ejoc.200900848

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