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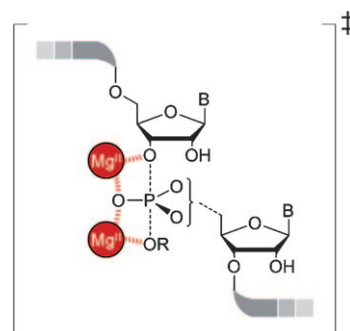


## Enzyme Catalysis

T. Lönnerberg\*

Understanding Catalysis of Phosphate-Transfer Reactions by the Large Ribozymes

**The big picture:** The phosphate-transfer reactions catalyzed by the large ribozymes proceed by attack of an external nucleophile and departure of a 3'-linked nucleoside. The recently determined crystal structures as well as the results of various biochemical studies suggest that all of the large ribozymes utilize variations of a common two-metal-ion mechanism in their catalysis.



*Chem. Eur. J.*  
DOI: [10.1002/chem.201100009](https://doi.org/10.1002/chem.201100009)

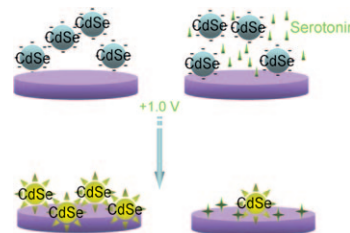


## Nanoparticles

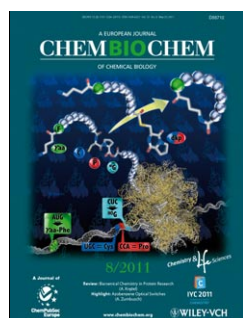
H. Jiang, X. Wang\*

Blocking Effect on Adsorption-Controlled Electrochemiluminescence of CdSe Nanoparticles for Detection of the Neurotransmitter Serotonin

**Electric light orchestra:** The electrooxidation of the important neurotransmitter serotonin has been verified to show significant influence on the adsorption-controlled anodic electrochemiluminescent dynamics of the CdSe-triethylamine system. A facile strategy has been designed for sensitive detection of serotonin, which implicates the potential applications in biological systems.



*Chem. Asian J.*  
DOI: [10.1002/asia.201000851](https://doi.org/10.1002/asia.201000851)

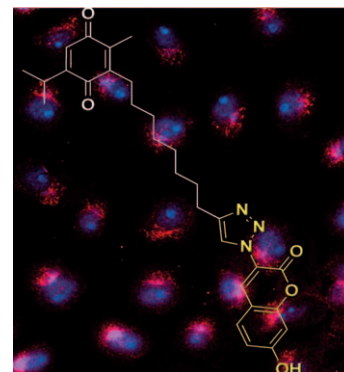


## Fluorescent Probes

K. Effenberger-Neidnicht, S. Breyer, K. Mahal, R. Diestel, F. Sasse, R. Schobert\*

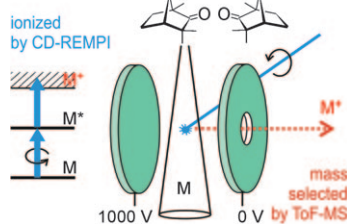
Cellular Localisation of Antitumoral 6-Alkyl Thymoquinones Revealed by an Alkyne–Azide Click Reaction and the Streptavidin–Biotin System

**The distribution of the natural** anticancer agent thymoquinone in cells is unknown. An alkyne-labelled derivative, obtained by a Huisgen-type alkyne–azide click reaction, is shown to accumulate in distinct regions of the nuclei of PtK<sub>2</sub> potaroo kidney cells, and in adjoining regions that are stained by Golgi-selective antibodies.



*ChemBioChem*  
DOI: [10.1002/cbic.201000762](https://doi.org/10.1002/cbic.201000762)

# Enantio-sensitive Laser Mass Spectrometry



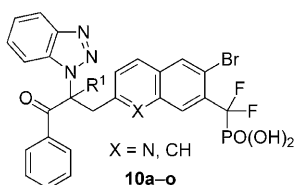
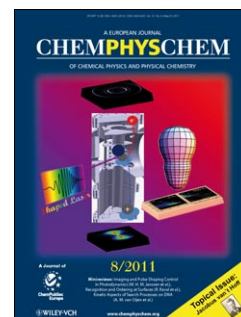
*ChemPhysChem*  
DOI: 10.1002/cphc.201100035

## Mass Spectrometry

C. Logé, U. Boesl\*

Multiphoton Ionization and Circular Dichroism: New Experimental Approach and Application to Natural Products

**Setting sights on chiral molecules:** The combination of circularly polarized laser light and time-of-flight mass spectrometry (ToF-MS, see picture) allows for enantio-sensitive mass-selective spectroscopy and analysis of chiral molecular systems (CD-REMPI=circular dichroism resonance-enhanced multiphoton ionization).



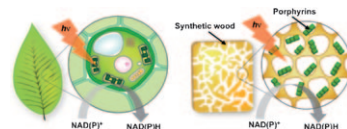
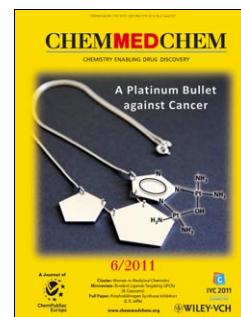
*ChemMedChem*  
DOI: 10.1002/cmdc.201100077

## Metabolic Disorders

D. Patel, M. Jain,\* S. R. Shah,\* R. Bahekar,\* P. Jadav, B. Darji, Y. Siriki, D. Bandyopadhyay, A. Joharapurkar, S. Kshirsagar, H. Patel, M. Shaikh, K. V. V. M. Sairam, P. Patel

Discovery of Orally Active, Potent, and Selective Benzotriazole-Based PTP1B Inhibitors

**A two-hand grasp on one enzyme:** A novel series of dual-site benzotriazole derivatives are reported as potent PTP1B inhibitors. Some of the test compounds exhibit good selectivity for PTP1B over various other PTPs, including TCPTP (in vitro), and the lead compound **10h** shows excellent antidiabetic activity (in vivo).



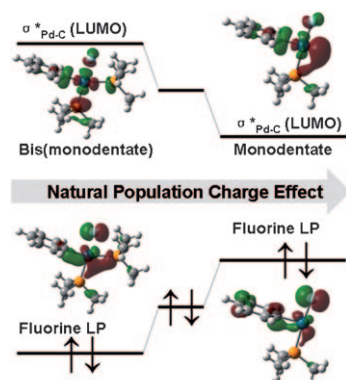
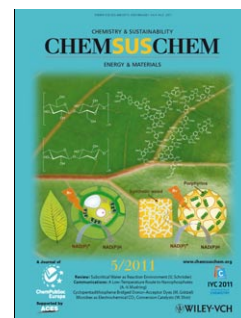
*ChemSusChem*  
DOI: 10.1002/cssc.201100074

## Artificial Photosynthesis

M. Lee, J. H. Kim, S. H. Lee, S. H. Lee, C. B. Park\*

Biomimetic Artificial Photosynthesis by Light-Harvesting Synthetic Wood

**Tree of a kind:** An integrated artificial photosynthetic system is developed by reassembling raw materials from plants as support matrix for the encapsulation of porphyrins. The hybrids allow visible-light-driven regeneration of NADH and production of fine chemicals. The synthetic wood not only provides a microenvironment for porphyrin encapsulation but also makes the photosynthesis more effective due to the redox-active lignin component.



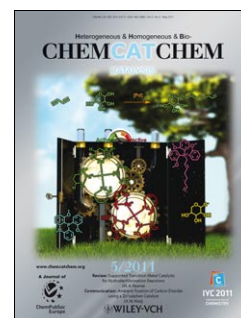
*ChemCatChem*  
DOI: 10.1002/cctc.2011000461

## Ligand Selection

L. Cui, M. Saeys\*

Aryl Fluoride Reductive Elimination from Pd<sup>II</sup> Complexes: a Descriptor to Guide Ligand Selection

**Charge is the essence:** Aryl fluoride reductive elimination from Pd<sup>II</sup> complexes was analyzed by using DFT calculations. The reactivity of Ar–F reductive elimination is determined by the sum of the NPA charges on the Pd center and aryl  $\alpha$ -carbon atom. Ar–F reductive elimination can be described as the nucleophilic attack of one of the fluorine lone pairs on the antibonding  $\sigma^*$  Pd–C orbital.



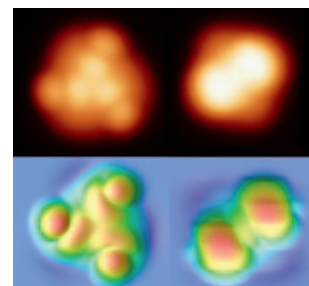


## UHV-STM on Ruthenium Complexes

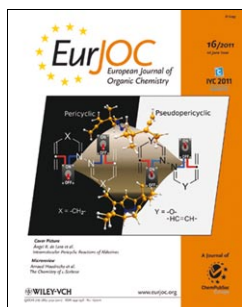
S. Munery, N. Ratel-Ramond, Y. Benjalal, L. Vernisse, O. Guillermet, X. Bouju, R. Coratger, J. Bonvoisin\*

Synthesis and Characterization of a Series of Ruthenium Tris( $\beta$ -diketonato) Complexes by an UHV-STM Investigation and Numerical Calculations

Experimental (top) and EHMO-ESQC calculated (bottom) STM image of  $\text{Ru}(\text{dbm})_3$  adsorbed on a  $\text{Ag}(111)$  surface at liquid helium temperature.



*Eur. J. Inorg. Chem.*  
DOI: 10.1002/ejic.201100116

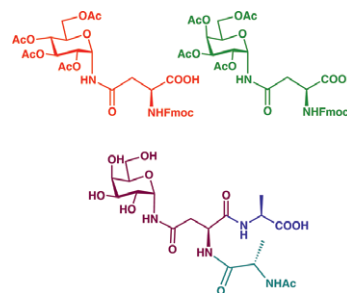


## Nonnatural Glycopeptides

C. Colombo, A. Bernardi\*

Synthesis of  $\alpha$ -N-Linked Glycopeptides

Neo-glycopeptides featuring the unnatural  $\alpha$ -N-glycosyl linkage can now be synthesized in solution and in the solid phase by using the building blocks and methodologies described in this paper.



*Eur. J. Org. Chem.*  
DOI: 10.1002/ejoc.201100124

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