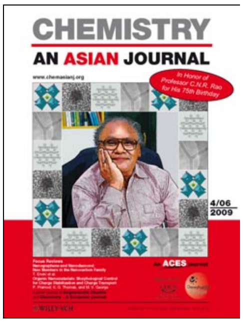
Spotlights ...

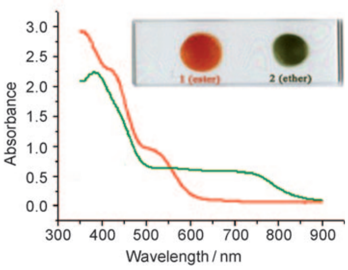


Photoconductive Materials

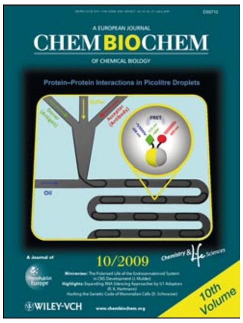
N. Godbert, D. Dattilo, R. Termine, I. Aiello, A. Bellusci, A. Crispini, A. Golemme, M. Ghedini*

UV/Vis to NIR Photoconduction in Cyclopalladated Complexes

Funky discotics: Photoconductivity is measured in newly synthesized cyclopalladated metallomesogens exhibiting hexagonal columnar mesophases at room temperature. The tuning of the HOMO/LUMO energy levels by modification of the chain/core linkage (ester **1** vs ether **2**) makes compound **2** photoconductive across the whole UV/Vis/NIR range.



Chem. Asian J.
DOI: **10.1002/asia.200900023**

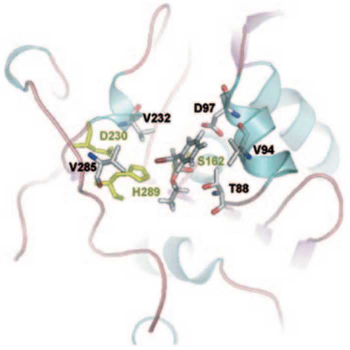


Lipases

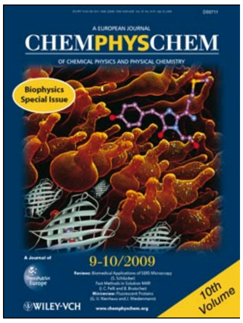
F. Bordes, E. Cambon, V. Dossat-Létisse, I. André, C. Croux, J. M. Nicaud, A. Marty*

Improvement of *Yarrowia lipolytica* Lipase Enantioselectivity by Using Mutagenesis Targeted to the Substrate Binding Site

Enhanced enantioselectivity: The resolution of 2-bromo-arylacetic acid esters by Lip2p lipase from *Yarrowia lipolytica* was improved through mutagenesis of the substrate binding site. Position 232 was identified as crucial for the discrimination. Saturation of this position led to the identification of variant V232S, which has a tremendously increased activity and E value as compared to the parental enzyme.



ChemBioChem
DOI: **10.1002/cbic.200900215**

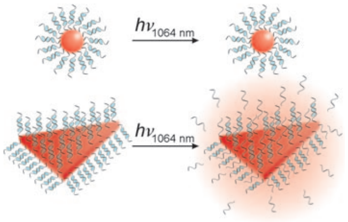


Gold Nanoprisms

M. R. Jones, J. E. Millstone, D. A. Giljohann, D. S. Seferos, K. L. Young, C. A. Mirkin*

Plasmonically Controlled Nucleic Acid Dehybridization with Gold Nanoprisms

Remote release: Triangular gold nanoprisms convert 1064 nm laser irradiation into heat selectively to allow the dehybridization of oligonucleotide conjugated to their surface (see scheme). These conjugates show unprecedented morphological stability under hours of irradiation. Released nucleic acids are unharmed by this process and can be repeatedly dehybridized and sequestered under spatiotemporal control.



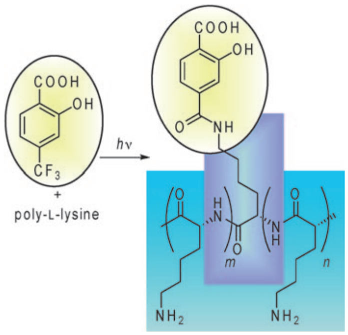
ChemPhysChem
DOI: **10.1002/cphc.200900269**

Immunochemistry

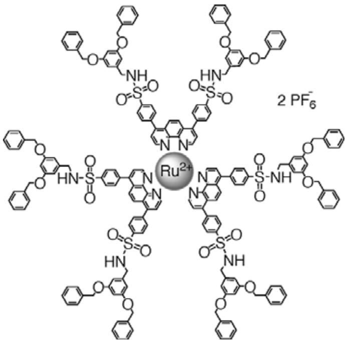
S. Montanaro, V. Lhiaubet-Vallet, M. C. Jiménez, M. Blanca, M. A. Miranda*

Photonucleophilic Addition of the ε-Amino Group of Lysine to a Triflusal Metabolite as a Mechanistic Key to Photoallergy Mediated by the Parent Drug

A mechanism for triflusal-induced photoallergy involving complexation of 2-hydroxy-4-trifluoromethylbenzoic acid with site I of human serum albumin and subsequent formation of a covalent adduct by photoreaction between a metabolite and a neighboring lysine residue is proposed. This is supported by the observed photobinding to poly-L-lysine. Thereby, a photoantigen is generated, which is a likely trigger of the immune response.



ChemMedChem
DOI: **10.1002/cmdc.200900066**



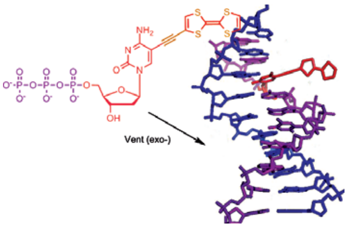
Luminescent Dendrimers

U. Hahn,* F. Vögtle,* G. De Paoli, M. Staffilani, L. De Cola*

Long-Lived Luminescent Dendrimers with a $[Ru(dpp)_3]^{2+}$-Type Core: Synthesis and Photophysical Properties

Four metallodendrimers with a photoactive luminescent $[Ru(dpp)_3]^{2+}$-type core were prepared. The photophysical characterisation revealed a dendritic effect on the excited-state lifetimes, which were found to increase with growing size of the surrounding dendritic shell.

Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200900253**



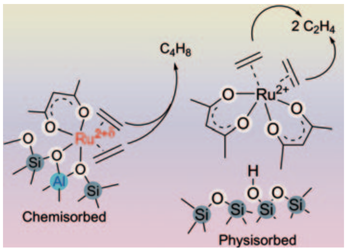
DNA Labelling

J. Riedl, P. Horáková, P. Šebest, R. Pohl, L. Havran, M. Fojta,*
M. Hocek*

Tetrathiafulvalene-Labelled Nucleosides and Nucleoside Triphosphates: Synthesis, Electrochemistry and the Scope of Their Polymerase Incorporation into DNA

DNA labelling by tetrathiafulvalene has been attempted. TTF-modified nucleoside triphosphates were prepared and tested as substrates for DNA polymerases. Their enzymatic incorporation was inefficient and at higher concentrations they totally inhibited the polymerase.

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200900392**



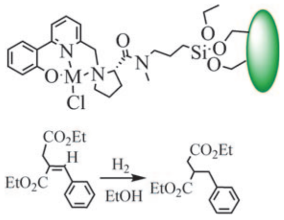
Heterogeneous Catalysts

I. Ogino, B. C. Gates*

Role of the Support in Catalysis: Activation of a Mononuclear Ruthenium Complex for Ethene Dimerization by Chemisorption on Dealuminated Zeolite Y

Many roles make zeolite work: Understanding the roles of the support in supported metal complex catalysts is challenging because of the structural nonuniformity of supported metal complexes. By taking advantage of the uniformity of zeolite-supported mononuclear ruthenium complexes and varying the ratios of chemisorbed to physisorbed species, the roles of the zeolite in the catalytic dimerization of ethene are demonstrated (see scheme).

Chem. Eur. J.
DOI: **10.1002/chem.200900927**



Catalysis

C. del Pozo, N. Debono, A. Corma, M. Iglesias,* F. Sánchez*

Homogeneous versus Supported ONN Pincer-Type Gold and Palladium Complexes: Catalytic Activity

Palladium and gold complexes with ONN-tridentate unsymmetrical pincer ligands are immobilized onto ordered mesoporous silica (MCM-41) and are shown to be very active catalysts, especially in the hydrogenation of prochiral olefins. The repeated use demonstrates “homogeneous” catalysis with “heterogeneous” catalysts; reducing solvent waste and avoiding the loss of precious metals and/or ligands.

ChemSusChem
DOI: **10.1002/cssc.200900045**