

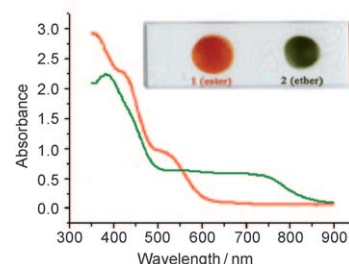


Photoconductive Materials

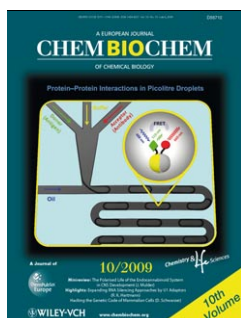
N. Godbert, D. Dattilo, R. Termine, I. Aiello, A. Bellusci, A. Crispini, A. Golemme, M. Ghedini*

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

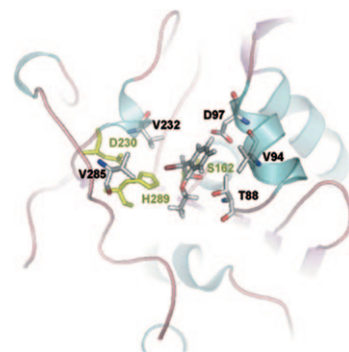


Lipases

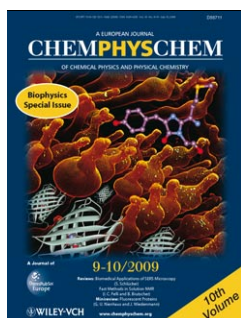
F. Bordes, E. Cambon, V. Dossat-Létisse, I. André, C. Croux, J. M. Nicaud, A. Marty*

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

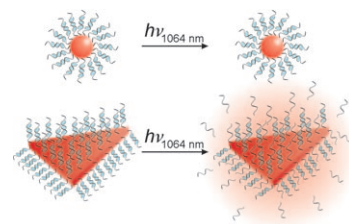


Gold Nanoprisms

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

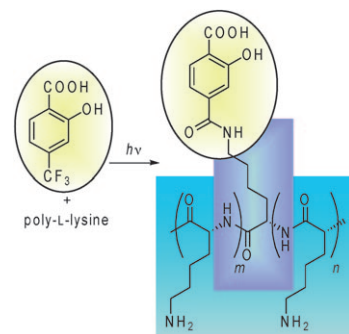


Immunochemistry

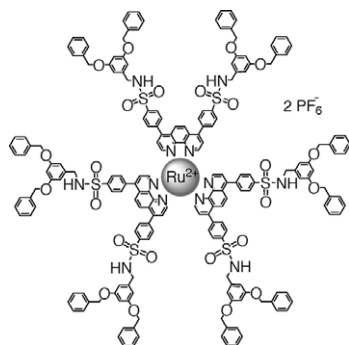
S. Montanaro, V. Lhiaubet-Vallet, M. C. Jiménez, M. Blanca, M. A. Miranda*

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



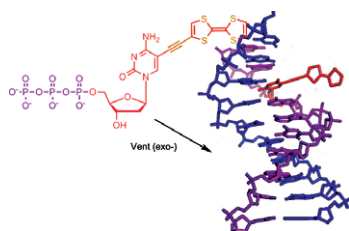
Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200900253

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.



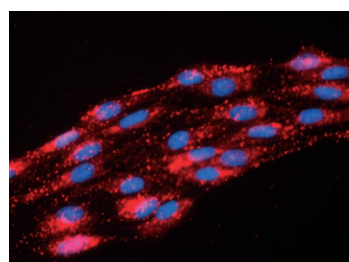
Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200900392

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.



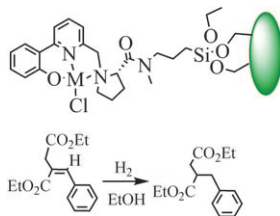
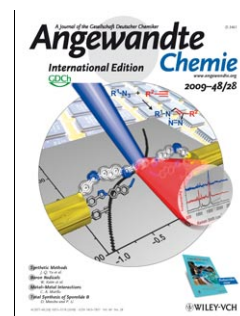
Angew. Chem. Int. Ed.
DOI: 10.1002/anie.200805179

Cell Function

C. J. Bettinger, R. Langer,* J. T. Borenstein*

Engineering Substrate Topography at the Micro- and Nanoscale to Control Cell Function

Grounded: Substrate nanotopography is known to profoundly influence the behavior of cells both in vitro and in vivo. Recent developments have demonstrated the use of engineered synthetic substrates to control complex cell function, including differentiation and tissue formation. The fluorescent micrograph in the picture depicts a multicellular structure of endothelial cells that was assembled using substrates with synthetic nanotopography.



ChemSusChem
DOI: 10.1002/cssc.200900045

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.

