

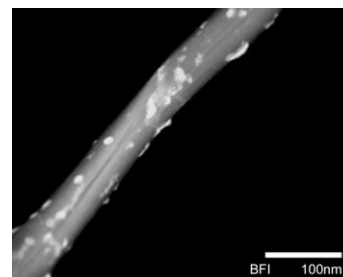


Carbon Nanotubes

M. Pumera*

Imaging of Oxygen-Containing Groups on Walls of Carbon Nanotubes

A method for highly precise and high-resolution imaging and location of oxygen-containing groups on the walls of carbon nanotubes (CNTs) is presented. The soft-chemistry approach is used by means of tagging oxygen-containing groups on the surface of CNTs with Eu^{III} through coordinate covalent bonds. Eu^{III} ions bonded to oxygen-containing groups are observed by high-angle annular dark-field scanning TEM.



Chem. Asian J.
DOI: 10.1002/asia.200800321

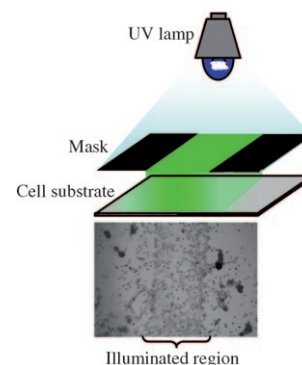


Tissue Engineering

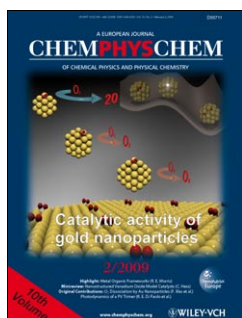
D. S. Miller, S. Chirayil, H. L. Ball, K. J. Luebke*

Manipulating Cell Migration and Proliferation with a Light-Activated Polypeptide

Remote control of cells: A polypeptide has been made that stimulates proliferation and migration of cells upon photochemical activation. This light-activated polypeptide enables spatially defined control of cell populations at the scale of tissue organization; this is accomplished without physically contacting the cells or modifying their substrate.



ChemBioChem
DOI: 10.1002/cbic.200800679

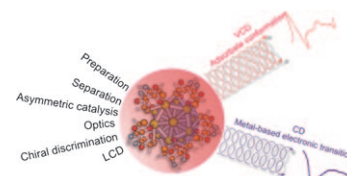


Chiral Nanoparticles

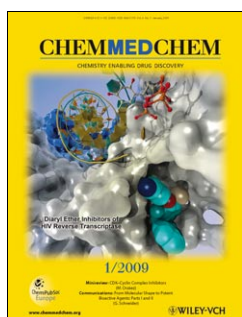
C. Gautier, T. Bürgi*

Chiral Gold Nanoparticles

Nanoparticle chirality has attracted much attention recently, and the application of chiral nanoparticles to chiral technologies (see figure) is also of interest. This Minireview deals with advances in the preparation and characterization of chiral gold nanoparticles. Origins of the chiroptical properties and potential applications are discussed.



ChemPhysChem
DOI: 10.1002/cphc.200800709

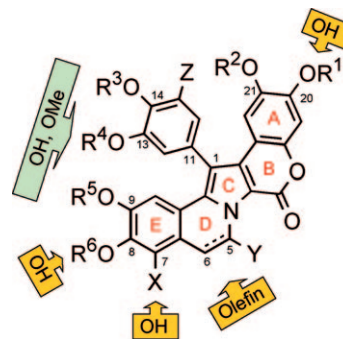


Marine Natural Products

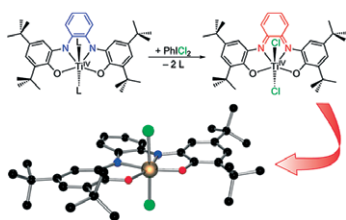
M. Chittchang, P. Batsomboon, S. Ruchirawat, P. Ploypradith*

Cytotoxicities and Structure–Activity Relationships of Natural and Unnatural Lamellarins toward Cancer Cell Lines

Shedding light on the lamellarins: Structural determinants for potent cytotoxic activity toward various cancer cell lines were systematically investigated to establish SARs for the marine alkaloids in the lamellarin family. The $\text{C5}=\text{C6}$ double bond ensures not only the planarity of the D-ring, but also proper alignment of the substituents on the E-ring with their respective moieties of the target. The importance of the C7 OH group is also revealed for the first time.



ChemMedChem
DOI: 10.1002/cmdc.200800339



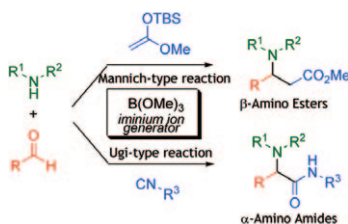
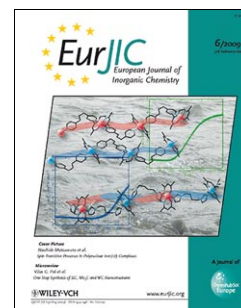
Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200800945

Redox-Active Ligands

K. J. Blackmore, N. Lal, J. W. Ziller, A. F. Heyduk*

Group IV Coordination Chemistry of a Tetradentate Redox-Active Ligand in Two Oxidation States

Group IV metal complexes of the redox-active ligand $[N_2O_2^{red}]^{4-}$ react with halogen oxidants to afford oxidative-addition-type products. The salen-like ligand binds strongly to the d^0 metal atoms titanium(IV), zirconium(IV) and hafnium(IV) and acts as a two-electron reservoir to enable an oxidative addition pathway.



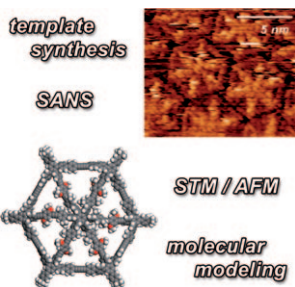
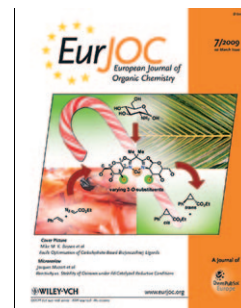
Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200801190

Iminium Ion Generator

Y. Tanaka, K. Hidaka, T. Hasui, M. Sugimoto*

$B(OMe)_3$ as a Nonacidic Iminium Ion Generator in Mannich- and Ugi-Type Reactions

Trimethoxyborane serves as an inexpensive and virtually nonacidic iminium ion generator, allowing Mannich-type reaction of aldehydes, secondary amines, and ketene silyl acetals to afford β -amino esters. The reagent also allowed nonacidic Ugi-type three-component coupling of aldehydes, secondary amines, and isocyanides, which leads to the formation of α -amino acid derivatives.



Chem. Eur. J.
DOI: 10.1002/chem.200801939

Two-Dimensional Oligomers

S. Lei, A. Ver Heyen, S. De Feyter,* M. Surin, R. Lazzaroni,* S. Rosenfeldt,* M. Ballauff, P. Lindner, D. Mössinger, S. Höger*

Two-Dimensional Oligo(phenylene-ethynylene-butadiynylene)s: All-Covalent Nanoscale Spoked Wheels

Round and round: Covalently bound spokes induce an efficient template-directed cyclization towards a rigid molecular wheel (see figure) and afford dramatically increased shape-persistence properties compared to non-strutted macrocycles.



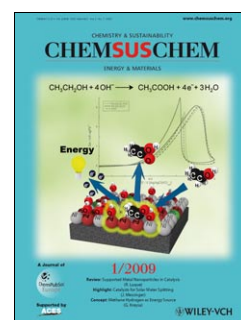
ChemSusChem
DOI: 10.1002/cssc.200800241

Biobased Polymer

Y. Lu, R. C. Larock*

Novel Polymeric Materials from Vegetable Oils and Vinyl Monomers: Preparation, Properties, and Applications

Veggie-based products: Vegetable oil based polymeric materials, prepared by free radical, cationic, and olefin metathesis polymerizations, range from soft rubbers to ductile or rigid plastics, and to high-performance biocomposites and nanocomposites. They display a wide range of thermophysical and mechanical properties and may find promising applications as alternatives to petroleum-based polymers.



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