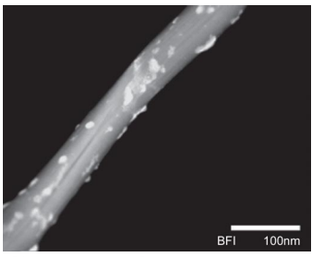
Carbon Nanotubes

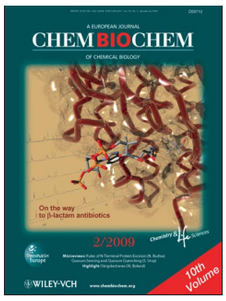
M. Pumera*

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**

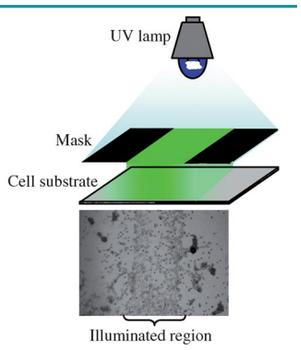


Tissue Engineering

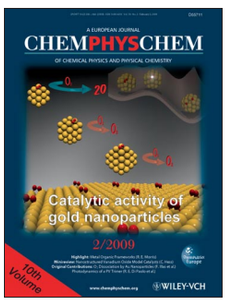
D. S. Miller, S. Chirayil, H. L. Ball, K. J. Luebke*

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**

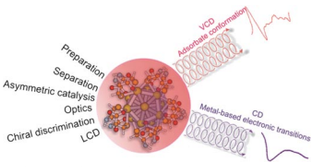


Chiral Nanoparticles

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.



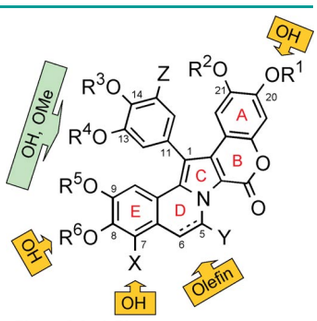
ChemPhysChem
DOI: **10.1002/cphc.200800709**

Marine Natural Products

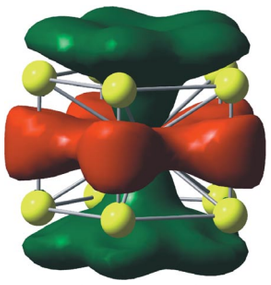
M. Chittchang, P. Batsomboon, S. Ruchirawat, P. Ploypradith*

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 C5=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**



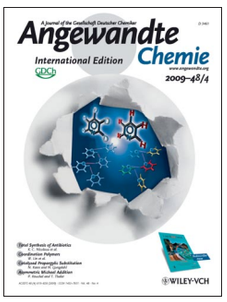
Angew. Chem. Int. Ed.
DOI: **10.1002/anie.200805511**

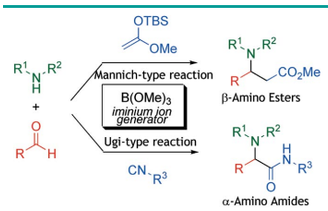
Cluster Compounds

J.-Q. Wang, S. Stegmaier, T. F. Fässler*

$[Co@Ge_{10}]^{3-}$: An Intermetalloid Cluster with Archimedean Pentagonal Prismatic Structure

Inorganic pentaprismane: The unusual structure of the anion $[Co@Ge_{10}]^{3-}$, which was obtained by the reaction of K_4Ge_9 with $[Co(C_8H_{12})(C_8H_{13})]$ in ethylenediamine, raises questions about chemical bonding in the anion. The Zintl ion cluster has virtual D_{5h} symmetry and is a unique example of a ligand-free cluster that is not a deltahedron. The delocalized chemical bonding is represented in the picture by one of the bonding orbitals of the anion.





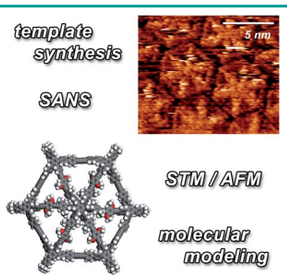
Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200801190**

Iminium Ion Generator

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

$B(OMe)_3$ 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.

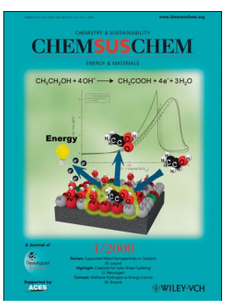
ChemSusChem
DOI: **10.1002/cssc.200800241**

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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