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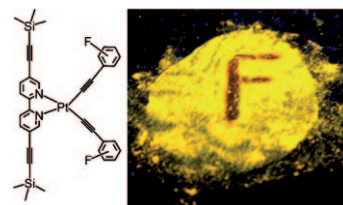


Mechanoluminescence

J. Ni, X. Zhang, Y.-H. Wu, L.-Y. Zhang, Z.-N. Chen*

Vapor- and Mechanical-Grinding-Triggered Color and Luminescence Switches for Bis(σ -fluorophenylacetylide) Platinum(II) Complexes

All change please: Planar bis(σ -fluorophenylacetylide)platinum(II) complexes exhibit mechanical stimuli-responsive color and luminescence changes and specifically selective luminescence vapochromic response to $\text{CHCl}_3/\text{CH}_2\text{Cl}_2$ vapor due to an increased contribution from intermolecular Pt–Pt interactions (see graphic).



Chem. Eur. J.
DOI: 10.1002/chem.201002752

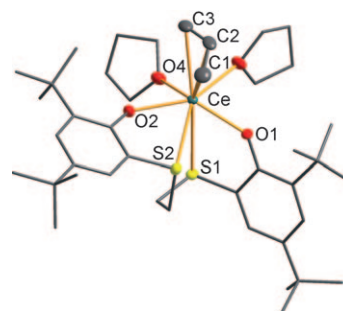


Hydrosilylation

E. Abinet, T. P. Spaniol, J. Okuda*

Olefin Hydrosilylation Catalysts Based on Allyl Bis(phenolato) Complexes of the Early Lanthanides

Non-metallocene allyl complexes of early lanthanides (lanthanum, cerium, neodymium, and samarium), that contain a sulfur-linked bis(phenolate) ligand, catalyze the regioselective hydrosilylation of styrene.



Chem. Asian J.
DOI: 10.1002/asia.201000598

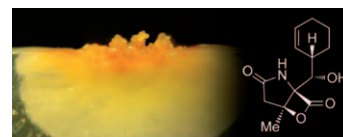


Biosynthesis

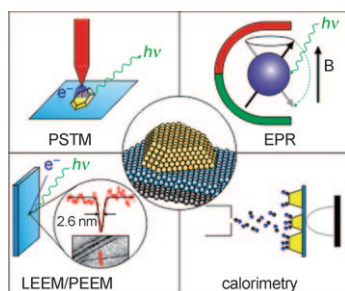
A. S. Eustáquio, S.-J. Nam, K. Penn, A. Lechner, M. C. Wilson, W. Fenical, P. R. Jensen, B. S. Moore*

The Discovery of Salinosporamide K from the Marine Bacterium “*Salinispora pacifica*” by Genome Mining Gives Insight into Pathway Evolution

Evolving biosynthesis: Genome mining of the marine bacterium “*Salinispora pacifica*” has led to the discovery of the new proteasome inhibitor, salinosporamide K. Analysis of its biosynthetic gene cluster revealed a loss of gene function in relation to the salinosporamide A biosynthetic locus of *Salinispora tropica* that accounts for the structural differences in the two natural products.



ChemBioChem
DOI: 10.1002/cbic.201000564



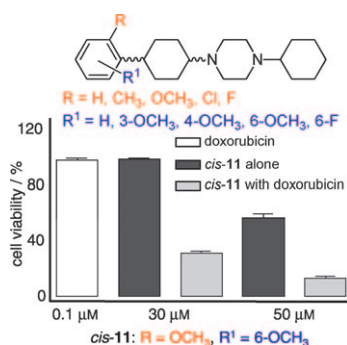
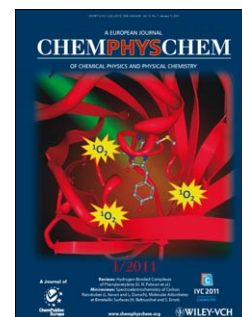
ChemPhysChem
DOI: 10.1002/cphc.201000812

Surface Science

H.-J. Freund,* N. Nilius, T. Risse, S. Schauermaier, T. Schmidt

Innovative Measurement Techniques in Surface Science

New gear: Instrument development is a key necessity to explore nanoparticles and its chemistry at the surface. Four new experimental techniques advanced during the last decade in the authors' laboratory are described. The techniques include photon scanning tunneling microscopy; aberration-corrected low-energy electron microscopy in combination with photoelectron emission microscopy, microcalorimetry, and electron-spin resonance spectroscopy (see picture).



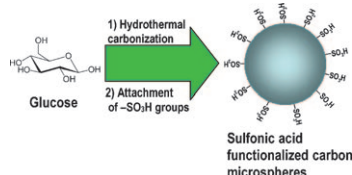
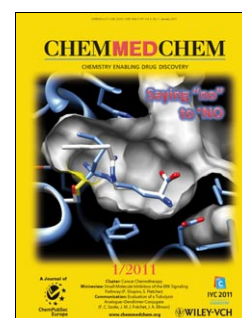
ChemMedChem
DOI: 10.1002/cmdc.201000371

Antitumor Agents

C. Abate,* M. Niso, M. Contino, N. A. Colabufo, S. Ferorelli, R. Perrone, F. Berardi

1-Cyclohexyl-4-(4-arylcyclohexyl)piperazines: Mixed σ and Human Δ_8 - Δ_7 Sterol Isomerase Ligands with Antiproliferative and P-Glycoprotein Inhibitory Activity

Synergistic mixed activity: A series of cyclohexylpiperazines with mixed σ and HSI affinities and P-gp inhibitory activity were synthesized. Their antiproliferative activity, combined with P-gp inhibitory activity, shows the potential of these compounds to be used as antitumor agents devoid of P-gp-mediated resistance, or in association with classic antitumor agents susceptible to P-gp activity.



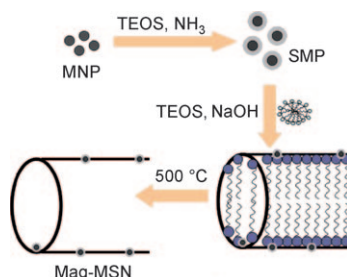
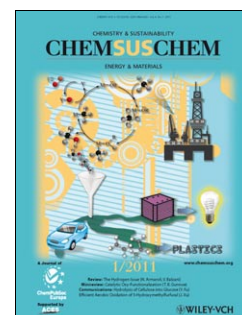
ChemSusChem
DOI: 10.1002/cssc.201000308

Biofuels

J. A. Maciá-Agulló, M. Sevilla, M. A. Díez, A. B. Fuertes*

Synthesis of Carbon-based Solid Acid Microspheres and Their Application to the Production of Biodiesel

Nonporous carbon microspheres functionalized with sulfonic groups are produced from glucose, a renewable and abundant material. The solid acid exhibits a remarkably high catalytic performance in the production of fatty acid ethyl esters (biodiesel).



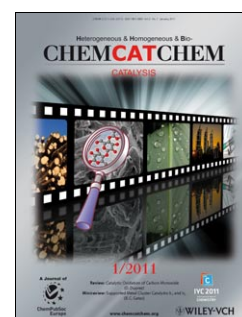
ChemCatChem
DOI: 10.1002/cctc.201000215

Magnetic Nanocomposites

S. Shylesh, L. Wang, S. Demeshko, W. R. Thiel*

Facile Synthesis of Mesoporous Magnetic Nanocomposites and their Catalytic Application in Carbon–Carbon Coupling Reactions

A 'bottom-up' approach is utilized for assembling magnetic nanoparticles in a mesoporous silica solid for the generation of a magnetic nanocomposite. Grafting of a palladium complex of the type $(L)_2PdCl_2$ ($L = Si(OMe)_3$ functionalized PPh_3) results in an active, recyclable catalyst for C–C coupling reactions.



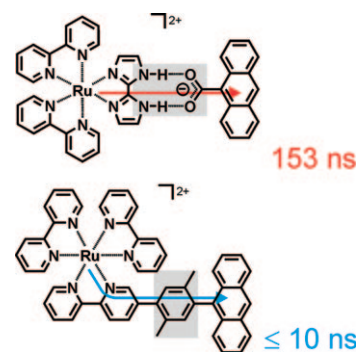


Ru–Anthracene Donor–Acceptors

J. C. Freys, O. S. Wenger*

Supramolecular and Intramolecular Energy Transfer with Ruthenium–Anthracene Donor–Acceptor Couples: Salt Bridge versus Covalent Bond

A ruthenium(II) biimidazole complex forms closely interacting cation–anion adducts with anthracene-9-carboxylate. Energy transfer within these adducts and a covalent donor-bridge-acceptor system is compared.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.201000815

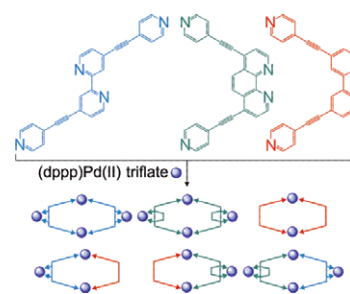


Metallo-Supramolecular Chemistry

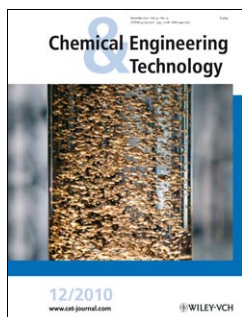
B. Brusilowskij, C. A. Schalley*

Multidentate Pyridyl-Based Ligands in the Coordination-Driven Self-Assembly of Palladium Metallo-Macrocycles

Doubly pyridylethynyl-substituted ligands with different conformational flexibilities and multiple coordination sites were self-assembled into metallo-supramolecular polygons when combined with a *cis*-protected Pd complex. Furthermore, the formation of dynamic combinatorial libraries was monitored, after mixing the ligands in all possible combinations with the Pd metal complex.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201001368



Encapsulation

C. V. Luciani, K. Y. Choi*, Z. Xiao

Inverse Free Radical Suspension Polymerization as a Potential Means to Encapsulate Biologically Active Materials

An inverse free radical suspension polymerization of water-soluble monomers has been investigated as an alternative technique to produce hollow polymer microspheres by inducing an intradroplet phase separation during the course of polymerization. This new kind of polymerization may provide a potentially attractive technique for encapsulation of voluminous virulent pathogens.



Chem. Eng. Tech.
DOI: 10.1002/ceat.201000254