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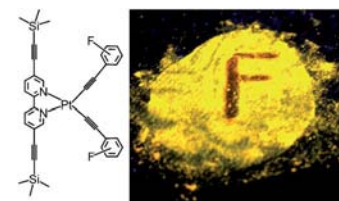


### Mechanoluminescence

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

#### Vapor- and Mechanical-Grinding-Triggered Color and Luminescence Switches for Bis( $\sigma$ -fluorophenylacetylide) Platinum(II) Complexes

**All change please:** Planar bis( $\sigma$ -fluorophenylacetylide)platinum(II) complexes exhibit mechanical stimuli-responsive color and luminescence changes and specifically selective luminescence vapo-chromic 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

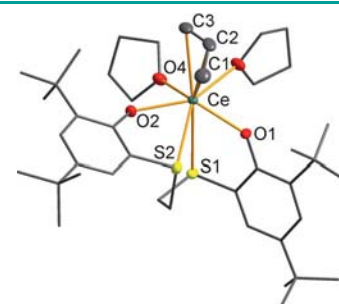


### Hydrosilylation

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

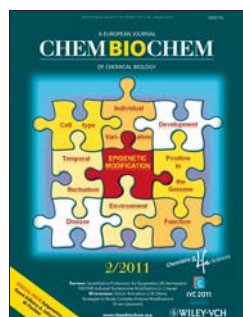
#### Olefin Hydrosilylation Catalysts Based on Allyl Bis(phenolato) Complexes of the Early Lanthanides

**Non-metallocene allyl complexes** of early lanthanides (lanthanum, cerium, neodymium, and samarium), that contain a sulfur-linked bis(phenolato) 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\*

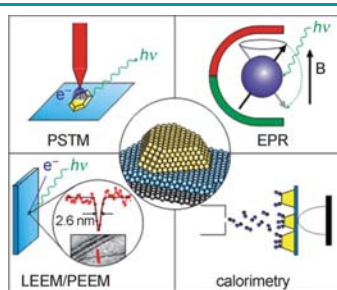
#### The Discovery of Salinisporamide K from the Marine Bacterium “*Salinispora pacifica*” by Genome Mining Gives Insight into Pathway Evolution

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



*ChemBioChem*

DOI: 10.1002/cbic.201000564



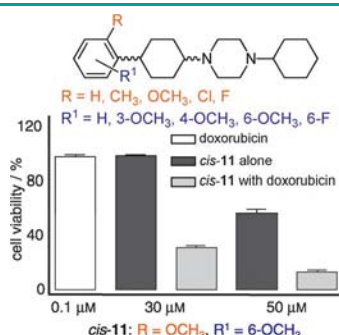
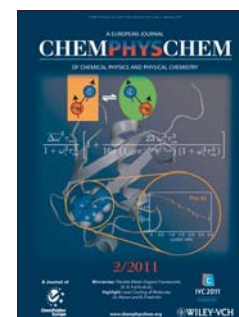
*ChemPhysChem*  
DOI: 10.1002/cphc.201000812

## Surface Science

H.-J. Freund,\* N. Nilius, T. Risse, S. Schauer mann, 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).



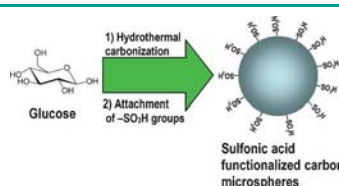
*ChemMedChem*  
DOI: 10.1002/cmdc.201000371

## Antitumor Agents

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

### 1-Cyclohexyl-4-(4-aryl cyclohexyl)piperazines: Mixed $\sigma$ and Human $\Delta_8$ - $\Delta_7$ Sterol Isomerase Ligands with Antiproliferative and P-Glycoprotein Inhibitory Activity

**Synergistic mixed activity:** A series of cyclohexylpiperazines with mixed  $\sigma$  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.



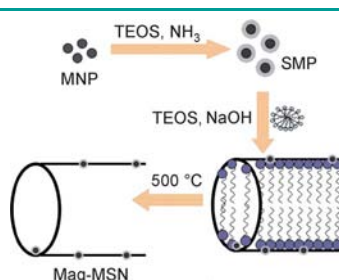
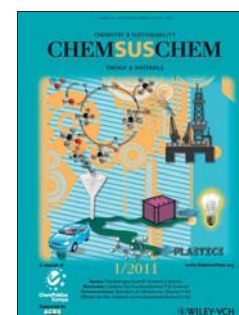
*ChemSusChem*  
DOI: 10.1002/cssc.201000308

## 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).



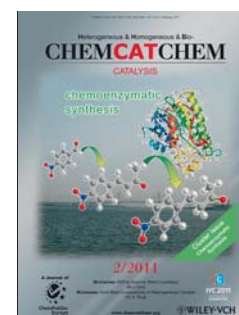
*ChemCatChem*  
DOI: 10.1002/cctc.201000215

## 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.



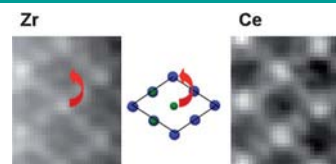


### Nanocrystal Structure

S. Trasobares,\* M. López-Haro, M. Kociak, K. March, F. de La Peña, J. A. Perez-Omil, J. J. Calvino, N. R. Lugg, A. J. D'Alfonso, L. J. Allen, C. Colliex

#### Chemical Imaging at Atomic Resolution as a Technique To Refine the Local Structure of Nanocrystals

**New order:**  $\text{Ce}_2\text{Zr}_2\text{O}_8$  nanocrystals are characterized by aberration-corrected electron microscopy, core-loss electron energy-loss spectroscopy, and simulations. Direct chemical evidence of an ordered cation sublattice in nanosized (20–30 nm) crystallites is found for the first time. Local deviations in the chemical composition are also detected, with Zr occupying Ce sites (see scheme).



*Angew. Chem. Int. Ed.*  
DOI: [10.1002/anie.201004502](https://doi.org/10.1002/anie.201004502)

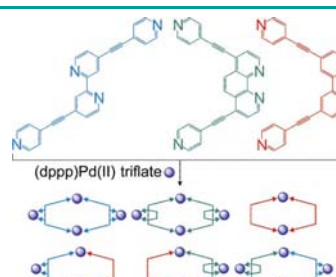


### Metallo-Supramolecular Chemistry

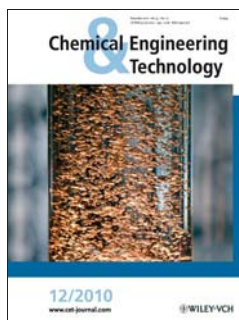
B. Brusilowskij, C. A. Schalley\*

#### 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](https://doi.org/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 intra-droplet 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. Technol.*  
DOI: [10.1002/ceat.201000254](https://doi.org/10.1002/ceat.201000254)