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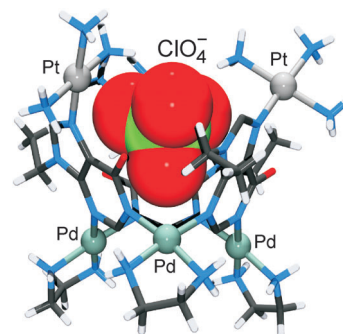


Host–Guest Systems

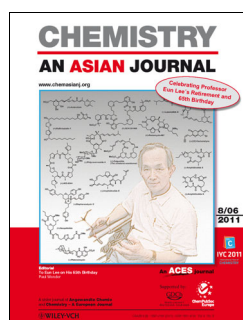
S. Ibáñez, F. M. Albertí, P. J. Sanz Miguel,* B. Lippert*

C₃-Symmetric Pt₃Pd₃ Purine Vases Based on a Metal Coordination Motif Involving the Pyrimidinic N1 and N3 Sites

Vase-shaped hexanuclear (Pt₃Pd₃) complexes with 9-alkylhypoxanthinate ligands bridging three (en)Pd^{II} units through N1 and N3 sites are reported, which bind ClO₄[−] ions in their cavities, albeit not in strictly analogous ways. The structural differences reflect the flexibility of the host cation and may even be relevant to the mechanism of ClO₄[−] incorporation into the host or ejection from it.



Chem. Eur. J.
DOI: 10.1002/chem.201101414

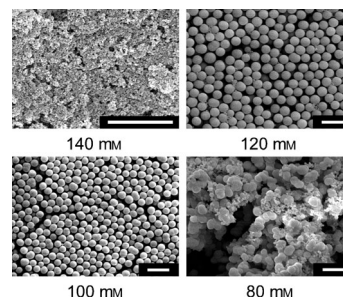


Microspheres

J. H. Park, J. Y. Choi, T. Park, S. H. Yang, S. Kwon, H.-S. Lee,* I. S. Choi*

Structure Modulation of Silica Microspheres in Bio-Inspired Silicification: Effects of TEOS Concentration

People in glass houses: The concentration of tetraethyl orthosilicate was found to have a deterministic effect on the morphogenesis of silica in the cysteamine-CTAB system. The individually separate silica microspheres were formed in a controlled manner.



Chem. Asian J.
DOI: 10.1002/asia.201100265

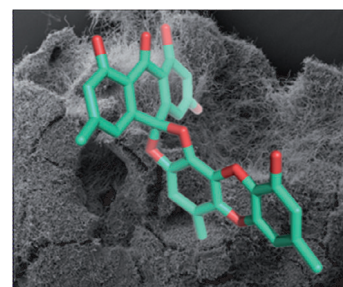


Biosynthesis

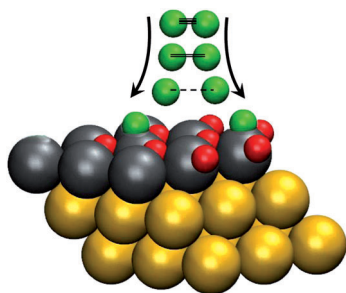
K. Scherlach, A. Sarkar, V. Schroeckh, H.-M. Dahse, M. Roth, A. A. Brakhage, U. Horn, C. Hertweck*

Two Induced Fungal Polyketide Pathways Converge into Antiproliferative Spiroanthrones

Unite in times of deprivation: We report on the use of a chemostat to elicit cryptic biosynthetic pathways in a fungus. Cultivation of *Aspergillus nidulans* under N-limiting conditions in a chemostat led to the specific induction of polyketide biosynthesis genes that were otherwise silent. The merger of an anthraquinone with an orsellinic acid-derived oxanthrene yielded two spiroanthrones, sanghaspirodins A and B (see figure).



ChemBioChem
DOI: 10.1002/cbic.201100132



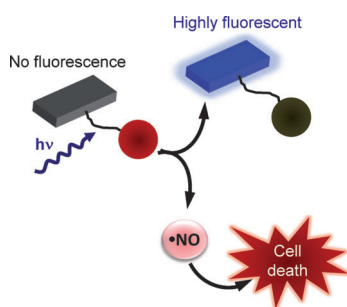
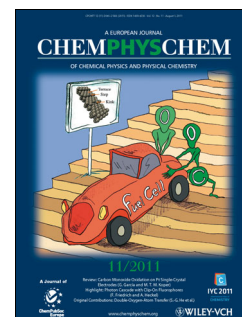
ChemPhysChem
DOI: 10.1002/cphc.201100309

Electrocatalysis

E. Santos, P. Hindelang, P. Quaino, E. N. Schulz, G. Soldano, W. Schmickler*

Hydrogen Electrocatalysis on Single Crystals and on Nanostructured Electrodes

Spectators do not help: Using a theory developed in our group, we have investigated hydrogen evolution on a large number of electrodes. On many transition metals a strongly adsorbed hydrogen acts as a spectator and competes with another species which is the reaction intermediate. On open nanostructures, like a monolayer of palladium or rhodium on gold, the repulsion between adsorbed hydrogen species is reduced and the reaction proceeds more rapidly (see picture).



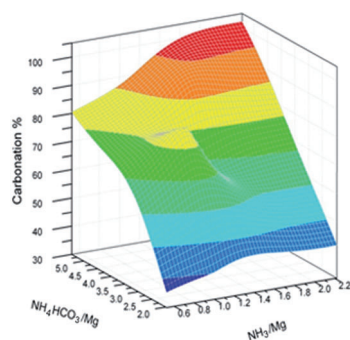
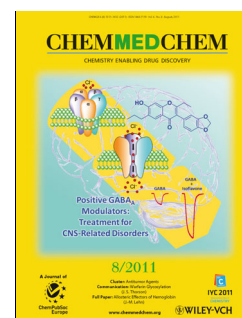
ChemMedChem
DOI: 10.1002/cmdc.201100198

Antitumor Agents

E. Vittorino, M. T. Sciortino, G. Siracusano, S. Sortino*

Light-Activated Release of Nitric Oxide with Fluorescence Reporting in Living Cells

Prison break! A nitric oxide (NO) photocage incorporating a masked fluorescent unit within the same molecular skeleton allows the photo-regulated release of NO within a cell, leading to cytotoxicity. Concomitant release of a strongly fluorescent co-product serves as an optical reporter for intracellular NO release.



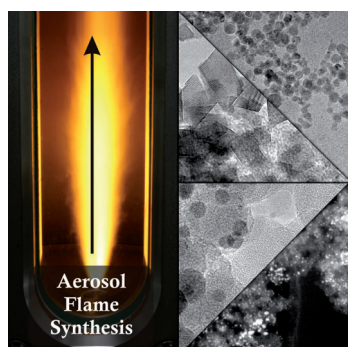
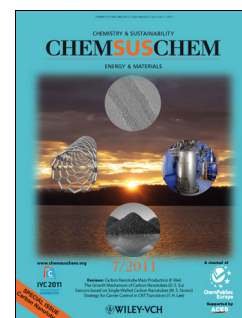
ChemSusChem
DOI: 10.1002/cssc.201000441

Carbon Dioxide Capture

X. Wang, M. M. Maroto-Valer*

Integration of CO₂ Capture and Mineral Carbonation by Using Recyclable Ammonium Salts

Breathe out later: A new approach to capture and store CO₂ by mineral carbonation using recyclable ammonium salts is studied. The mass ratio of Mg/NH₄HCO₃/NH₃ is the key factor that controls carbonation (see image). The use of NH₄HCO₃ as the source of CO₂ can avoid desorption and compression of CO₂.



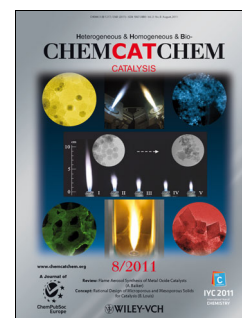
ChemCatChem
DOI: 10.1002/cctc.201000425

Pyrolysis

B. Schimmoeller, S. E. Pratsinis, A. Baiker*

Flame Aerosol Synthesis of Metal Oxide Catalysts with Unprecedented Structural and Catalytic Properties

It's getting hot in here! Flame synthesis and especially flame spray pyrolysis is a versatile technique for the production of a large variety of mixed metal oxide and supported noble metal catalysts. These aerosol-based methods allow tailoring the physical and chemical characteristics of such novel materials. Such flame-made catalysts can be significantly different from their wet-chemistry derived counterparts and show unprecedented structural and catalytic properties.



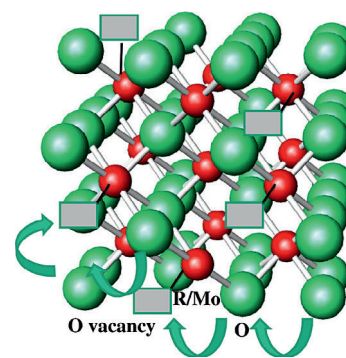


Anodes for Solid Oxide Fuel Cells

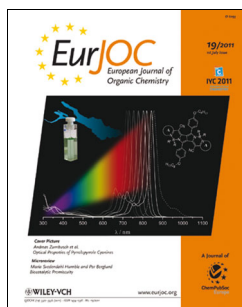
A. Aguadero,* M. J. Martínez-Lope, V. Pomjakushin, J. A. Alonso

Oxygen-Deficient $R_2MoO_{6-\delta}$ ($R = Tb, Dy, Y, Ho, Er, Tm, Yb$) with Fluorite Structure as Potential Anodes in Solid Oxide Fuel Cells

The highly oxygen-deficient members of the family of fluorites $R_2MoO_{6-\delta}$ with δ values of 0.8(1) ($R = Y, Tm$) and 1.2(1) ($R = Tb, Dy, Ho, and Er$) have been proposed as possible mixed ionic/electronic conductors useful as anodes for solid oxide fuel cells (SOFCs), with maximum conductivities of 1.1 S cm^{-1} and thermal expansion coefficients around $9 \times 10^{-6} \text{ K}^{-1}$.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.201100234

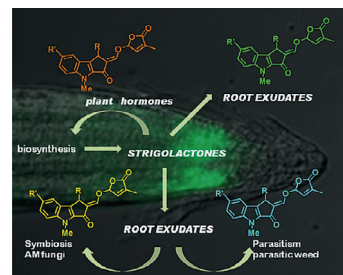


Natural Products

C. Prandi,* E. G. Occhiato, S. Tabasso, P. Bonfante, M. Novero, D. Scarpi, M. E. Bova, I. Miletto

New Potent Fluorescent Analogues of Strigolactones: Synthesis and Biological Activity in Parasitic Weed Germination and Fungal Branching

Strigolactones (SLs) are a new group of plant hormones that suppress lateral shoot branching and are crucial to root development; a role as signalling molecules in the rhizosphere is well documented. In this work new fluorescent SLs analogues have been synthesized, spectroscopically investigated, and tested for bioactivity using seeds of *Orobanche aegyptiaca* and spores of *Gigaspora margarita*.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201100616

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