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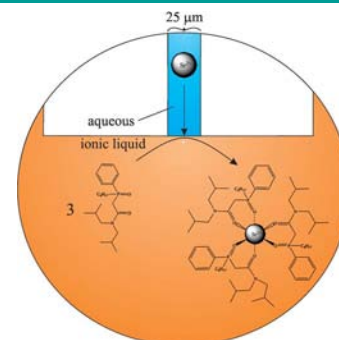


Facilitated Ion Transfer

T. J. Stockmann, Y. Lu, J. Zhang, H. H. Girault, Z. Ding*

Interfacial Complexation Reactions of Sr^{2+} with Octyl(phenyl)-*N,N*-diisobutylcarbamoylmethylphosphine Oxide for Understanding Its Extraction in Reprocessing Spent Nuclear Fuels

The extraction of strontium at a liquid|liquid microinterface, housed at the tip of a pulled capillary is described using “classical” octyl(phenyl)-*N,N*-diisobutylcarbamoylmethylphosphine oxide as a ligand. This system has wide applications as a sensor technology; in the recovery of fissile material and radioisotopes for medicinal use from nuclear waste; or in environmental recovery/reclamation projects. The thermodynamics of simple and facilitated ion transfer at the aqueous|ionic liquid interface are discussed.



Chem. Eur. J.
DOI: 10.1002/chem.201102491

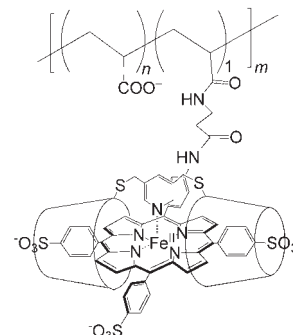


Polymers

K. Kano,* T. Ochi, S. Okunaka, Y. Ota, K. Karasugi, T. Ueda, H. Kitagishi

Preparation and Function of Poly(acrylic acid)s Modified by Supramolecular Complex Composed of Porphinatoiron and a Cyclodextrin Dimer That Bind Diatomic Molecules (O_2 and CO) in Aqueous Solution

Finding hemo! Poly(acrylic acid) was functionalized by attaching a supramolecular chromophore composed of a ferrous porphyrin and a per-*O*-methylated β -cyclodextrin dimer with a pyridine linker that can bind diatomic molecules, such as oxygen and carbon monoxide, in aqueous solution.



Chem. Asian J.
DOI: 10.1002/asia.201100354

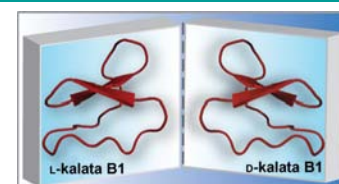


Cyclic Peptides

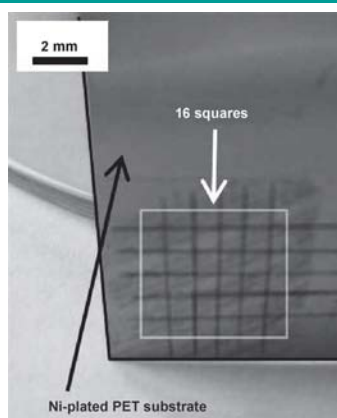
L. Sando, S. Troeira Henriques, F. Foley, S. M. Simonsen, N. L. Daly, K. N. Hall, K. R. Gustafson, M.-I. Aguilar, D. J. Craik*

A Synthetic Mirror Image of Kalata B1 Reveals that Cyclotide Activity Is Independent of a Protein Receptor

D activated: Positive results from hemolysis assays with the all-D isomer imply that the activity of cyclotide kalata B1 is primarily modulated by the lipid-bilayer environment and the self-assembly of cyclotides on the lipid membrane rather than depending on the recognition of chiral receptors.



ChemBioChem
DOI: 10.1002/cbic.201100450



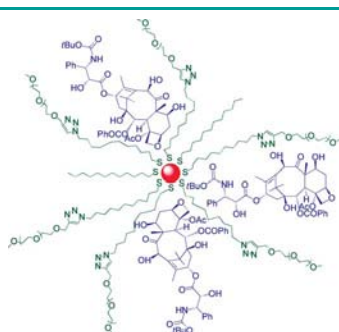
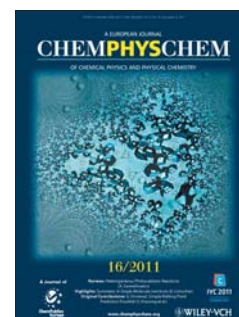
ChemPhysChem
DOI: 10.1002/cphc.201100562

Metal Plating

A. Garcia, T. Berthelot,* P. Viel, P. Jégou, S. Palacin

3D Amino-Induced Electroless Plating: A Powerful Toolset for Localized Metallization on Polymer Substrates

Patterns on polymers: A cost-effective process based on a versatile one-step technique to graft covalent thin polymer films for localized electroless metal plating on polymers, such as flexible and transparent poly(ethylene terephthalate) sheets, is demonstrated (see picture).



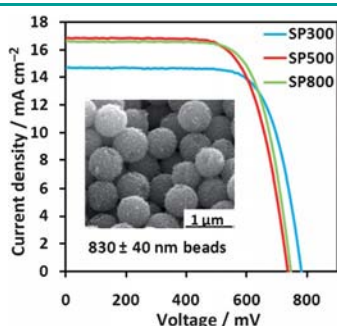
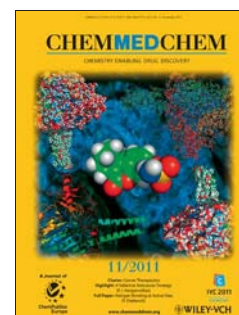
ChemMedChem
DOI: 10.1002/cmdc.201100311

Antitumor Agents

A. François, A. Laroche, N. Pinaud, L. Salmon, J. Ruiz, J. Robert,* D. Astruc*

Encapsulation of Docetaxel into PEGylated Gold Nanoparticles for Vectorization to Cancer Cells

Right on target: Herein we describe the preparation of *click* PEGylated gold nanoparticles that encapsulate and solubilize docetaxel for specific delivery to cancer cells. These nanovectors were characterized spectroscopically and tested against cultured tumor cells as a preliminary in vitro assessment of their anticancer properties.



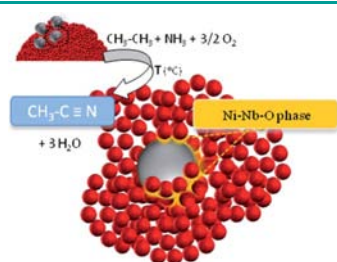
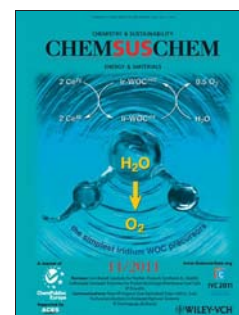
ChemSusChem
DOI: 10.1002/cssc.201100060

Solar Cells

Y. Chen, F. Huang, D. Chen, L. Cao, X. L. Zhang, R. A. Caruso, Y.-B. Cheng*

Effect of Mesoporous TiO₂ Bead Diameter in Working Electrodes on the Efficiency of Dye-Sensitized Solar Cells

Big beads better: The effect of the diameter of mesoporous TiO₂ beads in dye-sensitized solar cells is studied. Cells with larger beads achieve the highest conversion efficiency, mainly because of their higher electron diffusion coefficient.



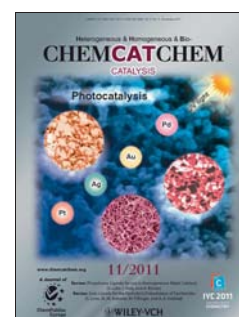
ChemCatChem
DOI: 10.1002/cctc.201100115

Ammonoxidation

F. Rubio-Marcos,* E. Rojas, R. López-Medina, M. O. Guerrero-Pérez, M. A. Bañares, J. F. Fernandez

Tuning of Active Sites in Ni–Nb–O Catalysts for the Direct Conversion of Ethane to Acetonitrile or Ethylene

Spreading the activity: The results of this study demonstrate that NiO nanoparticles are active for ethane activation and that their catalytic performance can be modulated through the use of the appropriate support. These nanoparticles are dispersed on the surface of two different Nb₂O₅ materials by using a novel dry nanodispersion method. The catalysts obtained by the proposed route are promising catalytic materials for the ethane ammoxidation.



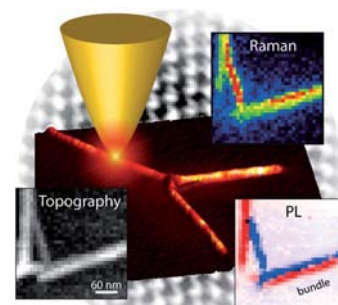


Nanomaterials

M. Böhmeler, Z. Wang, A. Myalitsin, A. Mews, A. Hartschuh*

Optical Imaging of CdSe Nanowires with Nanoscale Resolution

Down to the wire: High-resolution photoluminescence (PL) and Raman images of CdSe nanowires were obtained using tip-enhanced near-field optical microscopy. They show that the optical properties of the CdSe nanowires vary significantly within a few nanometers leading to strong spatial fluctuations in both PL intensities and energies (see picture).



Angew. Chem. Int. Ed.
DOI: 10.1002/anie.201105217

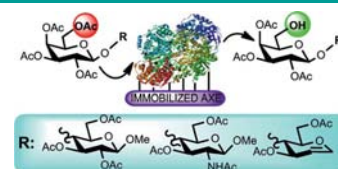


Enzymatic Deprotection

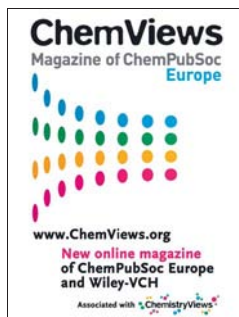
T. Bavaro, M. Filice,* P. Bonomi, Q. Abu alassal, G. Speranza, J. M. Guisan, M. Terreni

Regioselective Deprotection of Peracetylated Disaccharides at the Primary Position Catalyzed by Immobilized Acetyl Xylan Esterase from *Bacillus pumilus*

A novel regioselective deprotection at the C6' position of peracetylated β -methyl lactoside, β -methyl lactosaminide, and lactal catalyzed by immobilized acetyl xylan esterase from *Bacillus Pumilus* was developed.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201100944



Women in Chemistry – Interview with Supawan Tantayanon

Vera Köster

Women in Chemistry – Interview with Supawan Tantayanon

2011 is the International Year of Chemistry and the centenary of Marie Curie's Nobel prize in Chemistry. Therefore, ChemViews introduces interesting women throughout the year. Professor Supawan Tantayanon, Chulalongkorn University, Thailand, is the first female president of the Federation of Asian Chemical Societies.



ChemViews magazine
DOI: 10.1002/chemv.201000099