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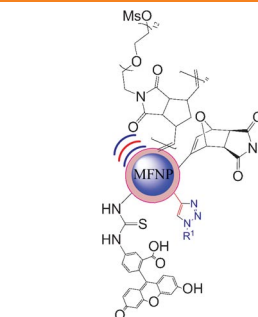


Metathesis

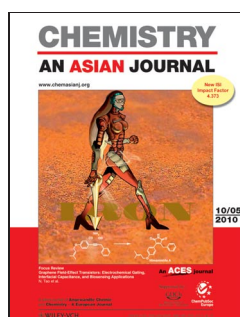
T. Perrier,* P. Saulnier, J.-P. Benôit

Methods for the Functionalisation of Nanoparticles: New Insights and Perspectives

All in one: Nanoparticles are involved in many fields of research and many realisations and expectations rely on them. Indeed, nanoparticles can be used as supports regardless of the application. Thus, methods have to be set up to fulfil the goal of multifunctionality. The developments in the field of multi-functional nanoparticles (MFNPs) are presented and discussed.



Chem. Eur. J.
DOI: 10.1002/chem.201000808

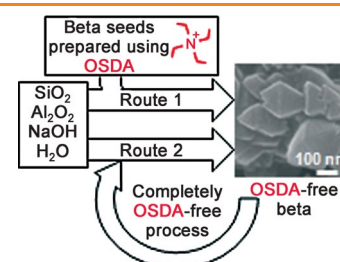


Zeolites

Y. Kamimura, W. Chaikittisilp, K. Itabashi, A. Shimojima, T. Okubo*

Critical Factors in the Seed-Assisted Synthesis of Zeolite Beta and “Green Beta” from OSDA-Free Na⁺-Aluminosilicate Gels

Green zeolites: Zeolite beta has been synthesized by seed-assisted crystallization in a Na⁺-aluminosilicate gel in the absence of an organic structure-directing agent (OSDA). The use of OSDA-free beta as seeds enables the crystallization of high quality “green beta” in an environmentally friendly process.



Chem. Asian J.
DOI: 10.1002/asia.201000234

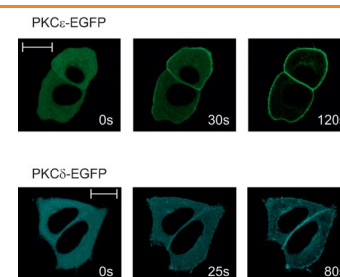


Protein Kinases

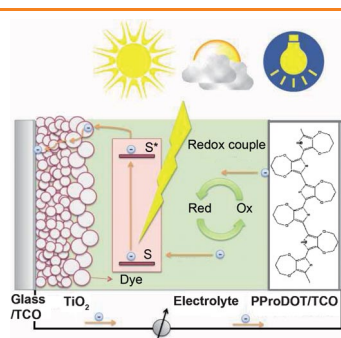
O. Raifman, S. Kolusheva, S. El Kazzouli, D. M. Sigano, N. Kedei, N. E. Lewin, R. Lopez-Nicolas, A. Ortiz-Espin, J. C. Gomez-Fernandez, P. M. Blumberg, V. E. Marquez,* S. Corbalan-Garcia,* R. Jelinek*

Membrane-Surface Anchoring of Charged Diacylglycerol-Lactones Correlates with Biological Activities

At anchor: The biological activities of charged diacylglycerol (DAG)-lactones exhibiting different alkyl groups attached to the heterocyclic nitrogen of an α -pyridylalkylidene chain appear highly correlated to their interactions with the cell membrane (see figure). The results highlight the fundamental role of membrane anchoring in determining the biological profiles of synthetic DAG-lactone ligands.



ChemBioChem
DOI: 10.1002/cbic.201000343



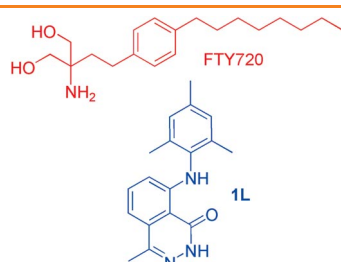
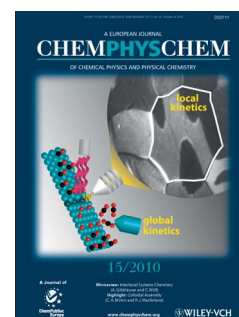
ChemPhysChem
DOI: 10.1002/cphc.201000612

Solar Cells

S. Ahmad,* J.-H. Yum, H.-J. Butt, M. K. Nazeeruddin, M. Grätzel*

Efficient Platinum-Free Counter Electrodes for Dye-Sensitized Solar Cell Applications

Reducing the costs: Highly efficient platinum-free dye-sensitized solar cells are fabricated using poly(3,4-propylenedioxythiophene) as the counter electrode (see picture). These cells work effectively, also under diffuse-light conditions.



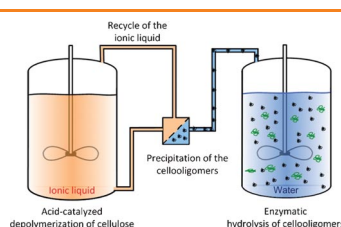
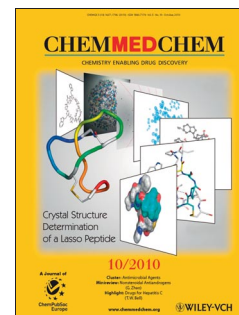
ChemMedChem
DOI: 10.1002/cmdc.201000253

Drug Design

H. Mattes,* K. K. Dev, R. Bouhelal, C. Barske, F. Gasparini, D. Guerini, A. K. Mir, D. Orain, M. Osinde, A. Picard, C. Dubois, E. Tasdelen, S. Haessig

Design and Synthesis of Selective and Potent Orally Active S1P5 Agonists

Putting the brakes on demyelination: Fingolimod (FTY720) was recently shown to significantly decrease relapse rates in patients with multiple sclerosis. This drug attenuates the trafficking of harmful T-cells entering the brain by regulating sphingosine-1-phosphate (S1P) receptors. We designed, synthesized, evaluated 2H-phthalazin-1-one derivatives (e.g., **1L**) as selective S1P5 receptor agonists; these compounds are highly potent and selective, with good PK properties, and significant activity in oligodendrocytes.



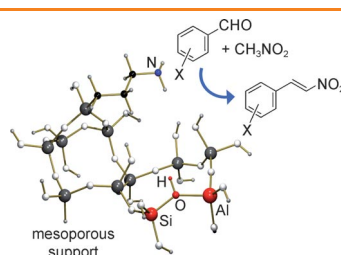
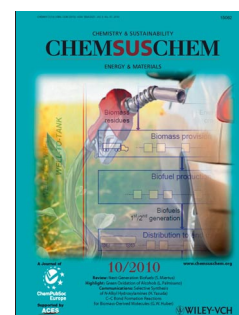
ChemSusChem
DOI: 10.1002/cssc.201000153

Biorenewables

R. Rinaldi,* P. Engel, J. Büchs, A. C. Spiess,* F. Schüth*

An Integrated Catalytic Approach to Fermentable Sugars from Cellulose

The production of fermentable sugars from cellulose in almost quantitative yield is accelerated. Starting from cello-oligomers obtained by acid hydrolysis of cellulose in an ionic liquid, the catalytic approach described herein, integrating acid and enzymatic catalysis, quantitatively converts cellulose to fermentable sugars (glucose and cellobiose) within only a few hours.



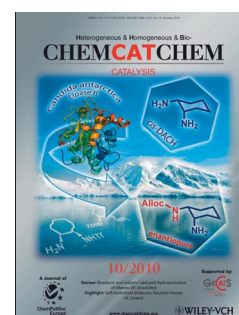
ChemCatChem
DOI: 10.1002/cctc.201000086

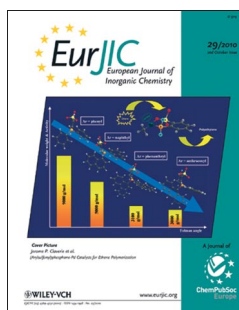
Heterogeneous Catalysis

S. Shylesh, A. Wagener, A. Seifert, S. Ernst, W. R. Thiel*

Bifunctional Mesoporous Materials with Coexisting Acidic and Basic Sites for C–C Bond Formation in Co-operative Catalytic Reactions

Graftwerk: Primary amines grafted onto mesoporous aluminosilicas act as efficient, recyclable bifunctional catalysts for the one-step co-operative catalytic Henry reaction of substituted benzaldehydes and nitromethane, irrespective of the nature of solvents used for the grafting process.





Tetracarboxylate MOFs

R. Gr nker, I. Senkovska, R. Biedermann, N. Klein, A. Klausch, I. A. Baburin, U. Mueller, S. Kaskel*

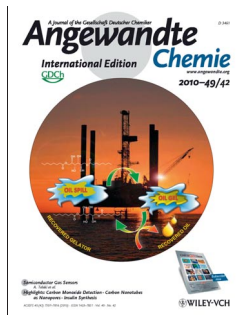
Topological Diversity, Adsorption and Fluorescence Properties of MOFs Based on a Tetracarboxylate Ligand

Four supramolecular isomeric MOFs based on *N,N,N',N'*-benzidine-tetrabenzoate were synthesized. Conformational effects of the ligand were observed in DUT-10(Zn) and DUT-11, having an *lvt* and *pts* net, respectively, whereas DUT-10(Cu) and DUT-12, with the same linker conformation, have *lvt* and *ssb* net topologies, respectively. DUT-10(Zn) shows solvent-induced change in fluorescence and selective gas adsorption properties.



Eur. J. Inorg. Chem.

DOI: 10.1002/ejic.201000415

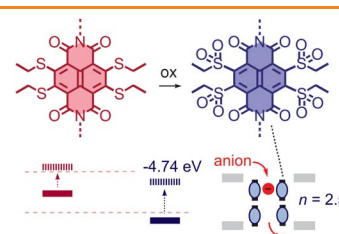


Functional Supramolecular Systems

J. M  sek, A. Vargas Jentzsch, S. Sakurai, D. Emery, J. Mareda, S. Matile*

A Chiral and Colorful Redox Switch: Enhanced π Acidity in Action

Deep blue diving: π Acidities up to a new record of -4.74 eV are made possible with simple sulfur redox chemistry (see scheme). This attractive method is able to generate exceptional electron affinities and anion transport efficiencies for applications in optoelectronic devices, medicinal chemistry, and anion- π catalysis.



Angew. Chem. Int. Ed.

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