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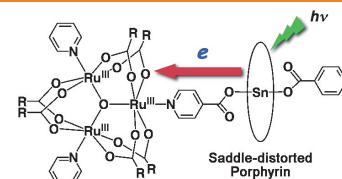


Donor–Acceptor Systems

T. Kojima,* K. Hanabusa, K. Ohkubo, M. Shiro, S. Fukuzumi*

Construction of Sn^{IV} Porphyrin/Trinuclear Ruthenium Cluster Dyads Linked by Pyridine Carboxylates: Photoinduced Electron Transfer in the Marcus Inverted Region

Saddle up! Saddle-distorted Sn^{IV} porphyrin complexes form stable conglomerates with trinuclear Ru clusters with use of pyridine carboxylates as linkers (see figure). These novel dyads exhibit efficient photoinduced electron transfer, in which Sn porphyrin moieties act as electron donors and Ru clusters act as electron acceptors.



Chem. Eur. J.

DOI: 10.1002/chem.200902939

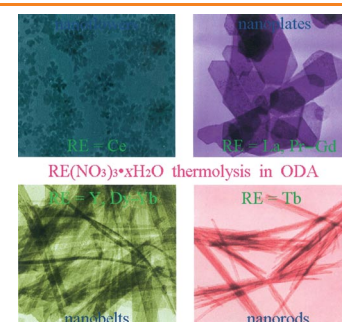


Nanomaterials

D. Wang, Z. Wang, P. Zhao, W. Zheng, Q. Peng, L. Liu, X. Chen, Y. Li*

Rare-Earth Oxide Nanostructures: Rules of Rare-Earth Nitrate Thermolysis in Octadecylamine

The final structure: The decomposed regularity of rare-earth nitrates in octadecylamine was studied systematically and rare-earth oxides with various nanostructures including flowers, plates, belts, and rods were obtained. The investigation of their catalytic and luminescent properties indicates potential applications of as-obtained materials.



Chem. Asian J.

DOI: 10.1002/asia.200900499

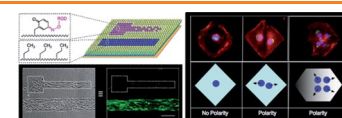


Cell Adhesion

A. Pulsipher, M. N. Yousaf*

Surface Chemistry and Cell Biological Tools for the Analysis of Cell Adhesion and Migration

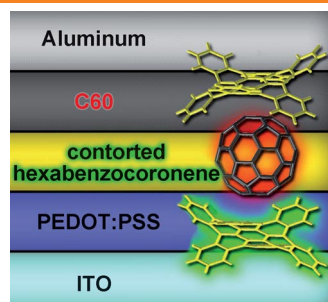
Sticking with SAMs: Within the past few years, the surface-chemistry community has actively pursued the development and integration of strategies to control the interface between cells and a solid support. In doing so, tailored substrates that aim to mimic the extracellular matrix and induce cellular behavior have been generated. Recent advances in the design and utility of self-assembled monolayers (SAMs) as dynamic surfaces for the analysis of cell adhesion and migration will be discussed.



Cell • Adhesion • Polarization • Migration • Co-Culture

ChemBioChem

DOI: 10.1002/cbic.200900787



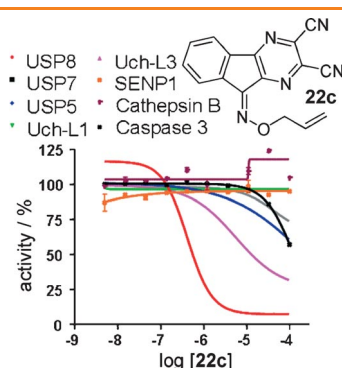
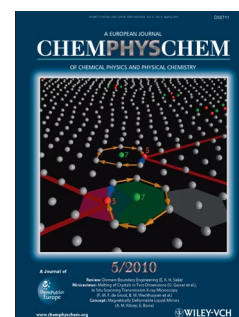
ChemPhysChem
DOI: 10.1002/cphc.200900941

Organic Photovoltaic Devices

N. J. Tremblay, A. A. Gorodetsky, M. P. Cox, T. Schiros, B. Kim, R. Steiner, Z. Bullard, A. Sattler, W.-Y. So, Y. Itoh, M. F. Toney, H. Ogasawara, A. P. Ramirez, I. Kymissis,* M. L. Steigerwald, C. Nuckolls*

Photovoltaic Universal Joints: Ball-and-Socket Interfaces in Molecular Photovoltaic Cells

A new approach toward higher efficiency organic photovoltaic devices (OPVs) is described. Complementarity in shape between the donor (contorted hexabenzocoronene, see picture) and acceptor (buckminsterfullerene) molecules results in OPVs that perform surprisingly well. This exploitation of host–guest chemistry at the organic/organic interface demonstrates a new direction for OPV device design.



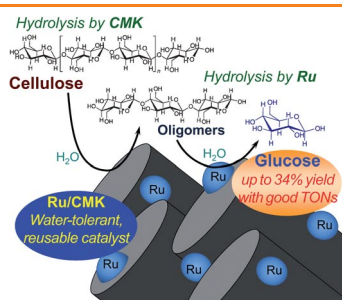
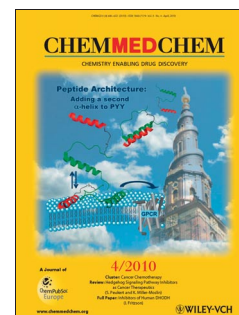
ChemMedChem
DOI: 10.1002/cmdc.200900409

Drug Discovery

M. Colombo,* S. Vallese, I. Peretto, X. Jacq, J.-C. Rain, F. Colland, P. Guedat*

Synthesis and Biological Evaluation of 9-Oxo-9H-indeno-[1,2-b]pyrazine-2,3-dicarbonitrile Analogues as Potential Inhibitors of Deubiquitinating Enzymes

Ubiquitin-specific proteases 7 and 8 (USP7 and USP8) have been identified as promising anticancer targets. A new series of compounds that inhibit this class of cysteine proteases was discovered; selected compounds show IC_{50} values in the sub-micromolar range and display in vitro specificity for USP8.



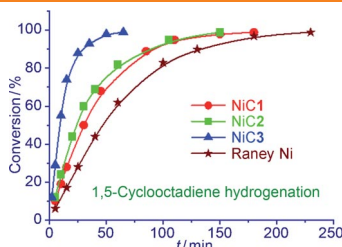
ChemSusChem
DOI: 10.1002/cssc.200900296

Reusable Catalysts

H. Kobayashi, T. Komanoya, K. Hara, A. Fukuoka*

Water-Tolerant Mesoporous-Carbon-Supported Ruthenium Catalysts for the Hydrolysis of Cellulose to Glucose

Best Supporting Role: Ru/CMK-3 is a water-tolerant and reusable catalyst for the hydrolysis of cellulose, and exhibits high glucose yields and turnover numbers due to a synergistic effect between CMK-3 and Ru. CMK-3 contributes to the conversion of cellulose into oligosaccharides, while Ru promotes the hydrolysis of oligosaccharides to glucose.



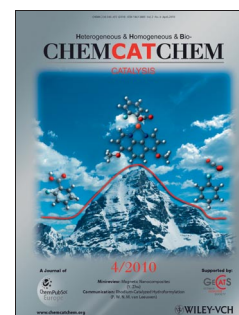
ChemCatChem
DOI: 10.1002/cctc.200900299

Raney Nickel

N. Mahata,* A. F. Cunha, J. J. M. Órfão, J. L. Figueiredo

Simultaneous Elimination of Pyrophoricity and Enhancement of Activity of Raney Nickel by Carbon Deposition: Synthesis of Highly Active NiC Catalysts

In good NiC: Nickel–carbon composite catalysts were synthesized by controlled carbon deposition over Raney nickel. The use of these catalysts simultaneously eliminates pyrophoricity and enhances the activity in comparison to Raney nickel. The catalysts are stable under normal atmospheric condition and exhibit excellent activity, superior to the parent Raney nickel, in the hydrogenation of several organic substrates.



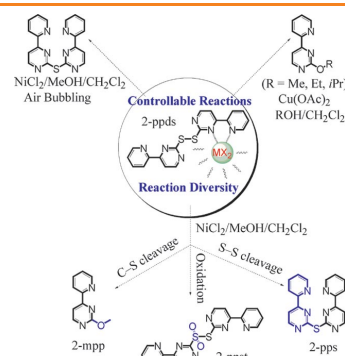


In Situ Metal-Promoted Reactions

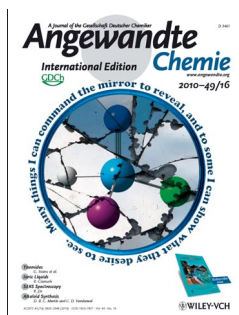
H.-B. Zhu, L. Li, G. Xu, S.-H. Gou*

Reaction Diversity of the S-S Bond Promoted by Metal Coordination: From Discovery to Controllable Reactions

Promoted by metal coordination, the disulfide ligand of 2-ppds undergoes diverse in situ reactions, such as S-oxidation and C-S and S-S bond scission, which can be orientated towards one specific product under appropriate reaction conditions.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200900913

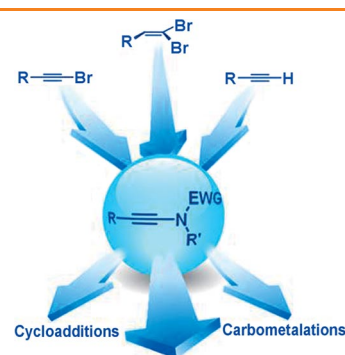


Ynamides

G. Evano,* A. Coste, K. Jouvin

Ynamides: Versatile Tools in Organic Synthesis

A world of possibilities: Ynamides display an exceptionally fine balance between stability and reactivity, and they offer multiple opportunities for the inclusion of nitrogen-based functionalities into organic molecules (see scheme). Recent breakthroughs in the preparation of these substrates have revitalized interest in nitrogen-substituted alkynes. Recent developments in this area are highlighted.



Angew. Chem. Int. Ed.
DOI: 10.1002/anie.200905817

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