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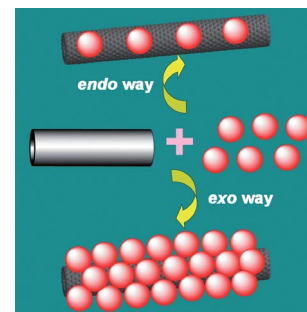


Nanomaterials

R. Singh, T. Premkumar, J.-Y. Shin, K. E. Geckeler*

Carbon Nanotube and Gold-Based Materials: A Symbiosis

The interaction between carbon materials and gold provides access to new hybrid materials with useful properties for various potential applications. Here we provide an overview of the recent progress in this area by exploring the various synthesis approaches and types of assemblies, and study the diverse applications of the resulting composites (see graphic).



Chem. Eur. J.
DOI: 10.1002/chem.200901609

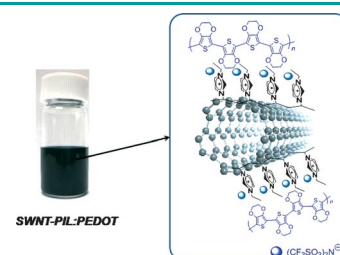


Nanomaterials

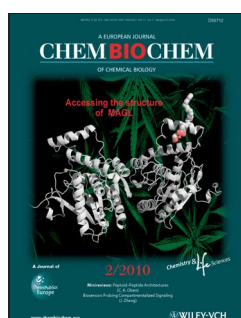
T. Kim, T. T. Tung, T. Lee, J. Kim, K. S. Suh*

Poly(ionic liquid)-Mediated Hybridization of Single-Walled Carbon Nanotubes and Conducting Polymers

A practical method to fabricate SWNT-conducting polymer nano-composites through poly(ionic liquid)-mediated process is developed. It is demonstrated that the poly(ionic liquid) layer along and around SWNT not only gives the facility for good dispersion of SWNT, but also provides a functionality to interlink SWNT with conducting polymers.



Chem. Asian J.
DOI: 10.1002/asia.200900471

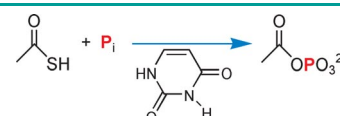


Prebiotic Chemistry

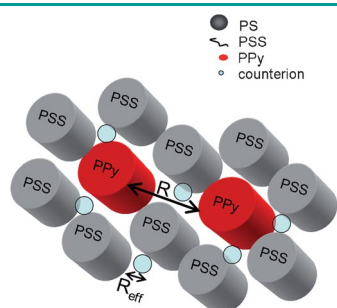
W. J. Hagan, Jr.*

Uracil-Catalyzed Synthesis of Acetyl Phosphate: A Photochemical Driver for Protometabolism

In the beginning: Uracil, as a catalyst for phosphate activation, may seem counterintuitive. Herein is described a unique role for this genetic component in photochemical synthesis of the metabolite, acetyl phosphate. This compound may have served at the core of the earliest energy-storage networks, and thus could be a missing link to the RNA World.



ChemBioChem
DOI: 10.1002/cbic.200900433



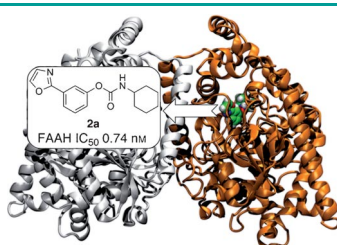
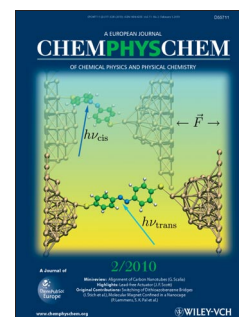
ChemPhysChem
DOI: 10.1002/cphc.200900643

Nanoparticles

K. Mpoukouvalas, J. Wang, G. Wegner*

Conductivity of Poly(pyrrole)-Poly(styrene sulfonate) Core-Shell Nanoparticles

The counter ion matters: Film-forming materials which may serve as hole-injection-layers in organic light-emitting diodes, exhibit a core-shell-type morphology (see simplified sketch) with a core of electrically insulating poly(styrene) and a shell consisting of a corona of PSS chains which form the matrix in which the electrically conducting complex of PPy and PSS is embedded.



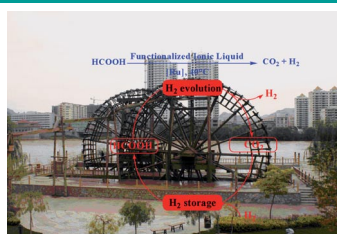
ChemMedChem
DOI: 10.1002/cmdc.200900390

Drug Design

H. Käsänen, M. J. Myllymäki, A. Minkkilä, A. O. Kataja, S. M. Saario, T. Nevalainen, A. M. P. Koskinen, A. Poso*

3-Heterocycle-Phenyl *N*-Alkylcarbamates as FAAH Inhibitors: Design, Synthesis and 3D-QSAR Studies

Computer-aided drug design: Carbamates are widely known FAAH inhibitors, however, validated 3D-QSAR data has been lacking in the literature. Here we extend our previously reported inhibitor series, and subsequently create CoMSIA and GRID/GOLPE models, which are then subjected to thorough validation.



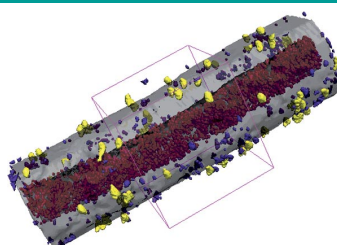
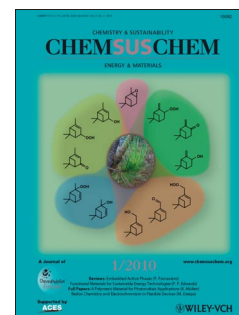
ChemSusChem
DOI: 10.1002/cssc.200900218

Ionic Liquids

X. Li, X. Ma, F. Shi,* Y. Deng*

Hydrogen Generation from Formic Acid Decomposition with a Ruthenium Catalyst Promoted by Functionalized Ionic Liquids

A series of amine-functionalized ionic liquids is prepared and used for hydrogen generation by the selective catalytic decomposition of formic acid. A good catalytic activity was obtained using an *i*Pr₂NEMimCl-HCOONa system at 40 °C. The use of volatile organic amines is thus avoided, simplifying the purification of hydrogen



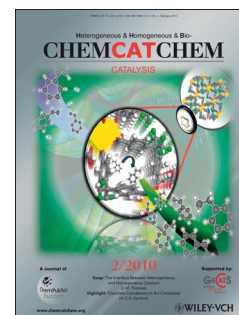
ChemCatChem
DOI: 10.1002/cctc.200900283

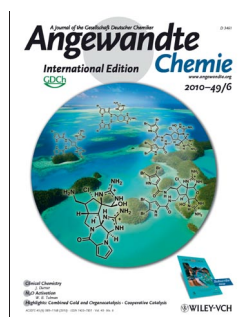
Heterogeneous Catalysis

P. Serp,* E. Castillejos

Catalysis in Carbon Nanotubes

Different on the inside: In recent years, the use of carbon nanotubes in catalysis has increased greatly. This Minireview discusses the different strategies used for selective confinement of nanoparticles in the inner cavity of carbon nanotubes and the effects of this confinement on chemical reactivity, and highlights the benefits that could be expected from these unique nanocatalysts.



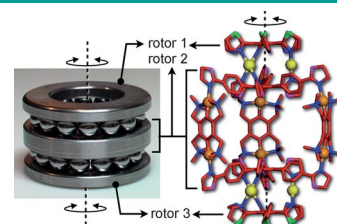


Molecular Rotors

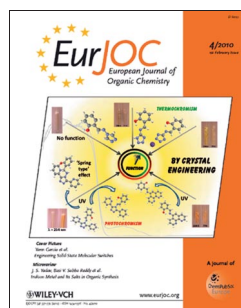
S. Hiraoka,* Y. Hisanaga, M. Shiro, M. Shionoya*

A Molecular Double Ball Bearing: An Ag^I–Pt^{II} Dodecanuclear Quadruple-Decker Complex with Three Rotors

A marvelous machine: A 2.5 nm sized molecular machine that behaves like a double ball bearing with three rotors was constructed from two kinds of disk-shaped ligands, Ag^I ions, and dinuclear Pt^{II} bridging complexes (see structure: C red, N blue, O purple, S green, Ag yellow, Pt brown). Motion of the three rotors was found to depend greatly on the degree of interlocking between the two ligands in rotor 2 through helix inversion.



Angew. Chem. Int. Ed.
DOI: 10.1002/anie.200905947

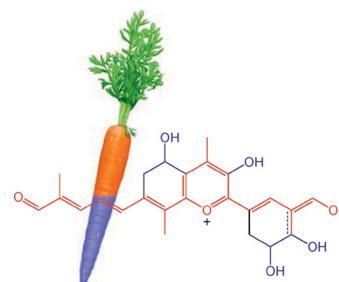


Pyran Polyenes

C. L. Øpstad, H.-R. Sliwka,* V. Partali

New Colours for Carotenoids – Synthesis of Pyran Polyenes

The straight conjugation of pyran polyenes is obstructed by an oxo barrier, which results in a deviation of the conjugation through *cis* bonds. Nevertheless, pyrancarotenoids absorb at longer λ_{max} than the corresponding all-*trans* carotenoids, especially when protonated. These pyranium compounds combine the structural elements of carotenoids and anthocyanidins.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200901093

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