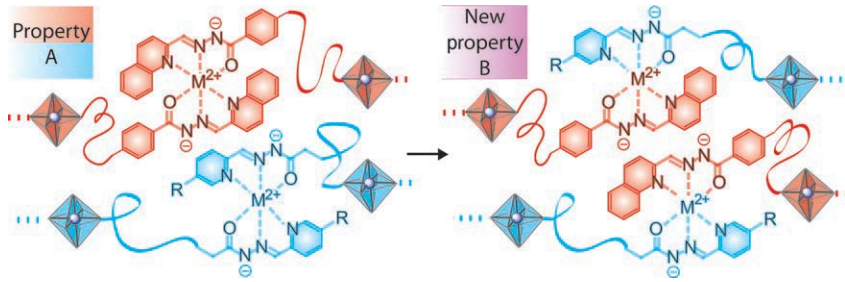
SPOTLIGHTS …

Coordination Polymers

C.-F. Chow, S. Fujii, J.-M. Lehn*

Metallodynamers: Neutral Double-Dynamic Metallosupramolecular Polymers

Chem. Asian J.
DOI: **10.1002/asia.200800101**



A good mix up: Self-assembly polymerization produces dynamic metallosupramolecular polymers (metallodynamers) based on metal–ligand coordination. These polymers can modify their constitution with another metallodynamer through ligand exchange at the metal coordination site. As a result, their mechanical and optical properties are changed dramatically.

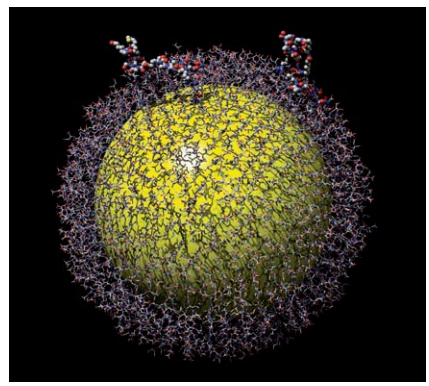
Self-Assembly

L. Duchesne, G. Wells, D. G. Fernig, S. A. Harris, R. Lévy*

Supramolecular Domains in Mixed Peptide Self-Assembled Monolayers on Gold Nanoparticles

ChemBioChem
DOI: **10.1002/cbic.200800326**

Self-organization. A strategy based on chemical cross-linking is introduced to probe proximity between functional peptides embedded in a mixed self-assembled monolayer at the surface of a gold nanoparticle. The results indicate that the peptides are not randomly distributed at the surface of the nanoparticle, but rather self-organize into supramolecular domains.

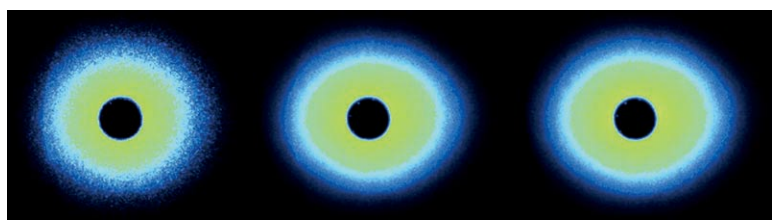


Protein Adsorption

P. Erni,* P. Fischer, V. Herle, M. Haug, E. J. Windhab

Complex Interfaces and their Role in Protein-Stabilized Soft Materials

ChemPhysChem
DOI: **10.1002/cphc.200800346**



Gently dripping: A combination of interfacial stress measurements and in situ structural probing under shear flow shows how globular protein adsorption layers (emulsion drops stabilized by lysozyme shown in picture) control the small deformation response of emulsion drops in shear flow. In-plane interfacial stresses due to the macromolecular adsorption layer stabilize the drops against deformation.

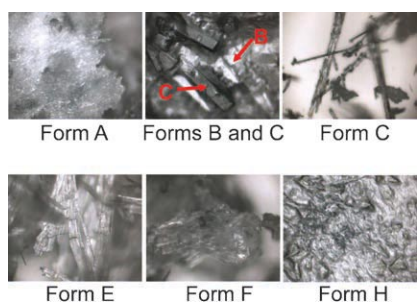
Drug Stability

G. Petruševski, P. Naumov,* G. Jovanovski, G. Bogoeva-Gaceva, S. W. Ng

Solid-State Forms of Sodium Valproate, Active Component of the Anticonvulsant Drug Epilim

ChemMedChem
DOI: **10.1002/cmdc.200800112**

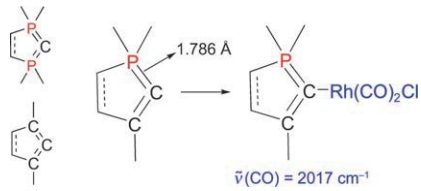
Sodium valproate, the active ingredient of a group of valproate-based anticonvulsants, can be present in eight forms in the solid state, including four solvates with valproic acid. The pronounced hygroscopicity of some of the forms is inherent to the loose crystal packing, which is directed by the symmetric shape of the compound. Partial or complete stabilization can be achieved by thermal/evacuation treatment and crystallization with valproic acid.



EurJIC European Journal of Inorganic Chemistry

Cyclic Heteroallenes

Best of both worlds: Related to carbodiphosphoranes and carbodicarbenes (bent allenes), a cyclic vinylidenephosphorane has been isolated and is stable at room temperature (see scheme). It features a very long phosphorus ylide bond, much longer than in the acyclic version, which leaves the carbon lone pair fully available. Accordingly, this species behaves as a strong electron-donating ligand, giving rise to very robust transition-metal complexes.

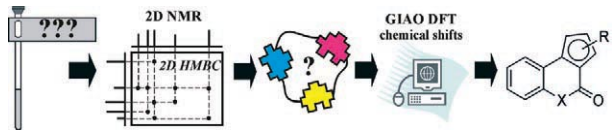


M. Asay, T. Kato, N. Saffon-Merceron, F. P. Cossío, A. Baceiredo,* G. Bertrand*

Synthesis and Ligand Properties of a Stable Five-Membered-Ring Vinylidenephosphorane

Angew. Chem. Int. Ed.
DOI: **10.1002/anie.200802741**

GIAO Structure Elucidation



A combination of NMR experiments (2D HMBC) and theory (DFT GIAO) is a reliable and convenient way for the structure elucidation of regioisomeric heterocyclic systems.

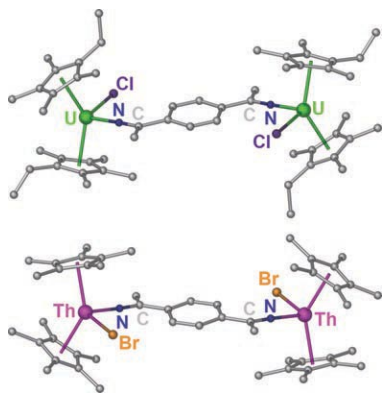
S. Latypov,* A. Balandina, M. Boccalini, A. Matteucci, K. Usachev, S. Chimichi*

Structure Determination of Regioisomeric Fused Heterocycles by the Combined Use of 2D NMR Experiments and GIAO DFT ^{13}C Chemical Shifts

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200800550**

Actinide Complexes

Bridging the gap: Nitrile insertion chemistry with 1,4-dicyanobenzene has been used to prepare discrete dinuclear Th^{IV}/Th^{IV} ($5f^0$–$5f^0$) and U^{IV}/U^{IV} ($5f^2$–$5f^2$) organometallic complexes in which the two metal centers are covalently connected by a 1,4-phenylenediketimide bridging ligand (see picture). The uranium system displays appreciable electronic communication between the U^{IV} centers through the π system of the dianionic diketimide bridging ligand.

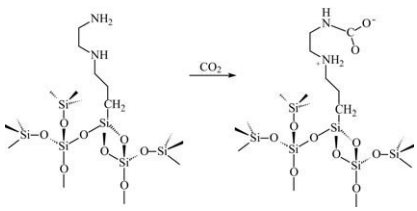


E. J. Schelter, J. M. Veauthier, C. R. Graves, K. D. John, B. L. Scott, J. D. Thompson, J. A. Pool-Davis-Tournear, D. E. Morris,* J. L. Kiplinger*

1,4-Dicyanobenzene as a Scaffold for the Preparation of Bimetallic Actinide Complexes Exhibiting Metal–Metal Communication

Chem. Eur. J.
DOI: **10.1002/chem.200800585**

CO_2 Sorption



Quick on the uptake: The mechanism of uptake of CO_2 from simulated flue gases by mono- and disilyl amines, either in their free form, as organic (wet) solutions, or as xerogels, was investigated, and the products formed were characterized by IR and NMR spectroscopy. Several absorption/desorption cycles were carried out which revealed a reversible uptake of CO_2 and confirmed the stability of the amines.

A. Dibenedetto, C. Pastore, C. Fragale, M. Aresta*

Hybrid Materials for CO_2 Uptake from Simulated Flue Gases: Xerogels Containing Diamines

ChemSusChem
DOI: **10.1002/cssc.200800090**

