Spotlights ...

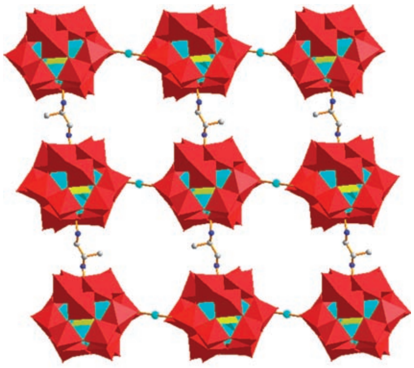
Polyoxometalates

S.-T. Zheng, M.-H. Wang, G.-Y. Yang*

Extended Architectures Constructed from Sandwich Tetra-Metal-Substituted Polyoxotungstates and Transition-Metal Complexes

Chem. Asian J.
DOI: **10.1002/asia.200700166**

All joined up: Hydrothermal synthesis produces three unprecedented coordination polymers constructed from sandwich tetra-transition-metal-substituted polyoxotungstates and transition-metal complexes. These compounds were structurally characterized by X-ray diffraction analysis and exhibit reversible water-sorption capabilities.



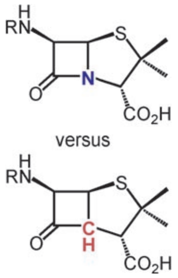
Biosynthesis

A. C. Stewart, I. J. Clifton,
R. M. Adlington, J. E. Baldwin,*
P. J. Rutledge*

A Cyclobutanone Analogue Mimics Penicillin in Binding to Isopenicillin N Synthase

ChemBioChem
DOI: **10.1002/cbic.200700176**

Switching β-lactam for cyclobutanone creates a new class of penicillin-like ring system, in which the β-lactam nitrogen atom is replaced by carbon. But how similar really is the structure of this new carbocyclic ring system to a penicillin? By cocrystallising the cyclobutanone analogue of isopenicillin N with isopenicillin N synthase (the central enzyme in penicillin biosynthesis), we have addressed this question.



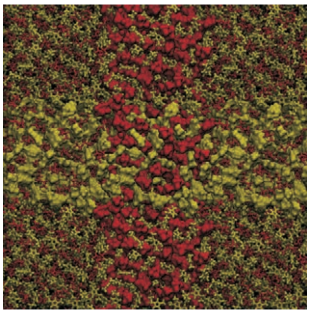
Ionic Liquids

T. Köddermann, D. Paschek, R. Ludwig*

Molecular Dynamic Simulations of Ionic Liquids: A Reliable Description of Structure, Thermodynamics and Dynamics

ChemPhysChem
DOI: **10.1002/cphc.200700552**

Move with the force: A new force field for simulating imidazolium-based ionic liquids $[C_n\text{mim}][\text{NTf}_2]$ (see figure) reproduces with good agreement the experimental values for the heats of vaporization, shear viscosities and NMR rotational correlation times. The results suggest that the inaccuracies arising from previous methods are due to the overestimation of the Lennard–Jones interactions.

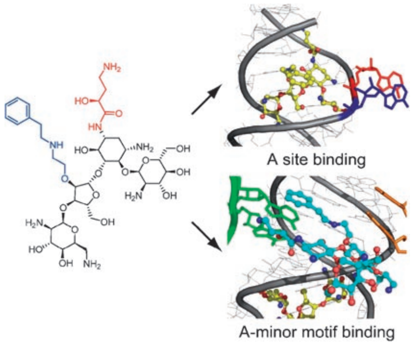


Structural Biology

J. Kondo, K. Pachamuthu, B. François,
J. Szychowski, S. Hanessian,*
E. Westhof*

Crystal Structure of the Bacterial Ribosomal Decoding Site Complexed with a Synthetic Doubly Functionalized Paromomycin Derivative: a New Specific Binding Mode to an A-Minor Motif Enhances in vitro Antibacterial Activity

ChemMedChem
DOI: **10.1002/cmdc.200700113**



The synthetic paromomycin analogue with the L-haba group and an ether chain with an *O*-phenethylaminoethyl group could specifically bind to ribosomes in two different modes: 1) the classical binding to the A site and 2) binding to an A-minor motif participating in the recognition of the codon–anticodon helix or in the intersubunit bridges.

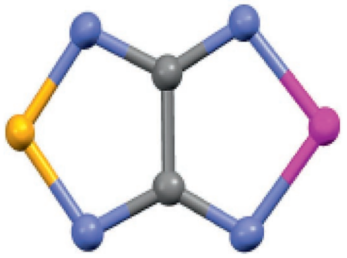
Radical Anion Salts

I. Yu. Bagryanskaya, Yu. V. Gatilov, N. P. Gritsan,* V. N. Ikorskii, I. G. Irtegova, A. V. Lonchakov, E. Lork, R. Mews,* V. I. Ovcharenko,* N. A. Semenov, N. V. Vasilieva, A. V. Zibarev*

[1,2,5]Selenadiazolo[3,4-*c*][1,2,5]thiadiazole and [1,2,5]Selenadiazolo[3,4-*c*][1,2,5]thiadiazolidyl – A Synthetic, Structural, and Theoretical Study

Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200700501**

The title heterocycles are prepared and electrochemically and chemically reduced to their long-lived radical anions, which can be isolated in the form of the thermally stable salts of the $[K(18\text{-crown-}6)]^+$ cation. These salts reveal low-temperature antiferromagnetic ordering of the spin system ($J = -1.65\ \mathrm{cm}^{-1}$). Color code: gray = C, blue = N, yellow = S, magenta = Se.



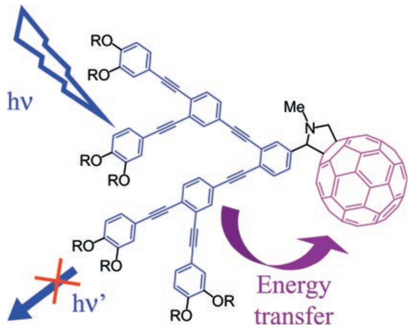
Light-Harvesting Devices

J. N. Clifford, A. Gégout, S. Zhang, R. Pereira de Freitas, M. Urbani, M. Holler, P. Ceroni,* J.-F. Nierengarten,* N. Armaroli*

Fullerene Derivatives Substituted with Differently Branched Phenyleneethynylene Dendrons: Synthesis, Electronic and Excited State Properties

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200700689**

The wider spectral profile of fullerene dyads with 1,2,4-triethynylbenzene branching units when compared to their 1,3,5-triethynylbenzene analogues clearly points out improved light-harvesting capabilities.

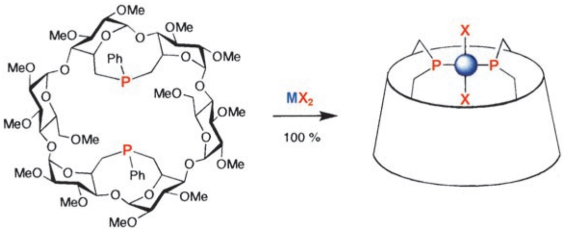


Phosphane Ligands

L. Poorters, D. Armspach,* D. Matt,* L. Toupet, S. Choua, P. Turek

Synthesis and Properties of TRANSDIP, a Rigid Chelator Built upon a Cyclodextrin Cavity: Is TRANSDIP an Authentic *trans*-Spanning Ligand?

Chem. Eur. J.
DOI: **10.1002/chem.200700831**



Tailor-made for *trans* chelation: A remarkably rigid diphosphane has been obtained by capping the entrance of a cyclodextrin with two “PPh” units. When treated with Group 10 metal halides, this ligand not only behaves exclusively as a chelating ligand, but also selectively forms *trans* complexes (see picture).

On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley InterScience.