Phosphoramidites

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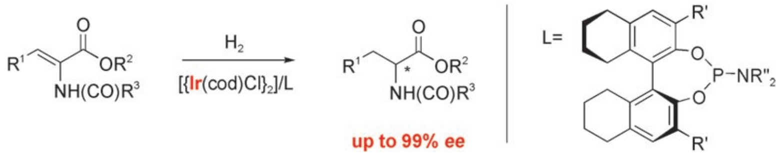
Synthesis of Novel Monodentate Phosphoramidites and Their Application in Iridium-Catalyzed Asymmetric Hydrogenations

Chem. Asian J.
DOI: **10.1002/asia.200800017**



Bulky is better: The iridium-catalyzed hydrogenation of α-amino acid precursors is highly stereoselective when modified by bulky H_8-phosphoramidites. Synthesis of the ligands is accomplished effectively in a few steps, which then allows the substitution effect to be studied in detail. These ligands and catalyst systems might also serve as promising tools for other catalytic transformations.

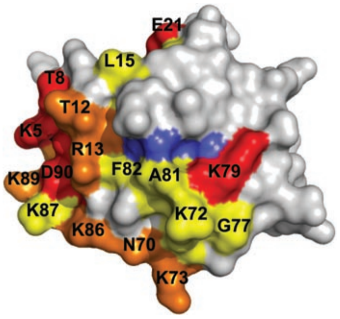
Molecular Recognition

P. B. Crowley,* P. Ganji, H. Ibrahim

Protein Surface Recognition: Structural Characterisation of Cytochrome c–Porphyrin Complexes

ChemBioChem
DOI: **10.1002/cbic.200700736**

Pattern recognition. Chemical-shift-perturbation mapping was used to identify the region of the cytochrome c surface that binds negatively charged porphyrin ligands. Protein–porphyrin binding appears to involve a dynamic ensemble of interactions in which the porphyrin is free to explore different surface patches on the protein.



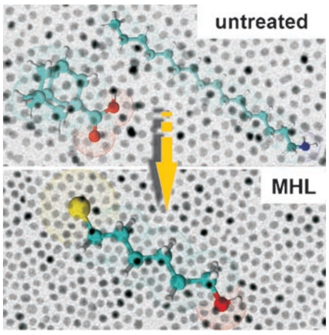
Ligand Exchange

B. Gehl, V. Aleksandrovic, M. Erbacher, B. Jürgens, M. Schürenberg, A. Kornowski, H. Weller, M. Bäumer*

Ligand Exchange with Thiols: Effects on Composition and Morphology of Colloidal CoPt Nanoparticles

ChemPhysChem
DOI: **10.1002/cphc.200700816**

Surfactant exchange: Compared to monometallic particles, ligand exchange on bimetallic systems is more challenging as complications can arise due to different binding affinities between the ligand molecules and the two metals. In colloidal bimetallic Co–Pt nanoparticles (see figure, MHL: 6-mercaptohexan-1-ol) the treatment with thiols mainly leads to a loss of Co.

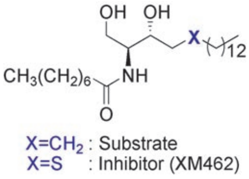


Enzyme Inhibitors

J. M. Munoz-Olaya, X. Matabosch, C. Bedia, M. Egido-Gabás, J. Casas, A. Llebaria, A. Delgado, G. Fabriàs*

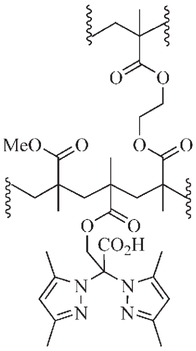
Synthesis and Biological Activity of a Novel Inhibitor of Dihydroceramide Desaturase

ChemMedChem
DOI: **10.1002/cmdc.200700325**



Rational design considering both mechanistic aspects of enzymatic desaturation and structural features of reported fatty acyl-CoA desaturase inhibitors led to the dihydroceramide desaturase inhibitor XM462. The design, synthesis, and biological activity of this compound both in vitro and in Jurkat A3 human leukemia cells are reported.

Addition of a methacryl linker to bis(3,5-dimethylpyrazol-1-yl)acetic acid leads to a new, polymerisation-active κ^3-*N*,*N*,*O* ligand. Copolymers with MMA and EGDMA as well as polymer-bound manganese, rhenium and copper complexes thereof are reported.

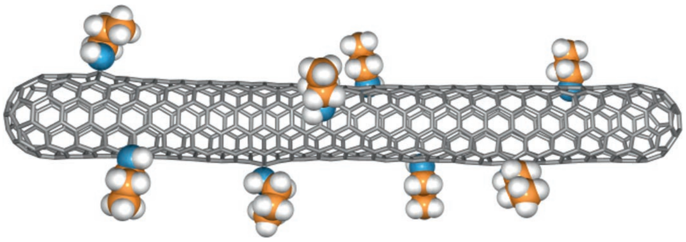


Solid Phase N,N,O *Ligands*

E. Hübner, G. Türkoglu, M. Wolf, U. Zenneck, N. Burzlaff*

Novel *N*,*N*,*O* Scorpionate Ligands and Transition Metal Complexes Thereof Suitable for Polymerisation

Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200701103**



The synthesis and characterization of sidewall amino-functionalized single-walled carbon nanotube derivatives $(n\mathrm{PrNH})_n$-SWNTs is reported. The nucleophilic addition of in situ generated lithium *n*-propylamide to the sidewall of SWNTs and the subsequent reoxidation of charged intermediates of the type $(n\mathrm{PrNH})_n$-SWNT^{n-} leads to carbon nanotube derivatives with covalently attached amino groups.

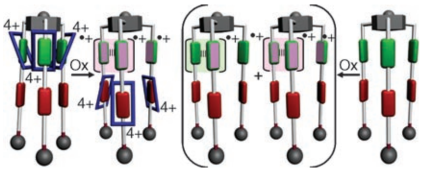
Carbon Nanotube Functionalization

Z. Syrgiannis, F. Hauke, J. Röhrl, M. Hundhausen, R. Graupner, Y. Elemes, A. Hirsch*

Covalent Sidewall Functionalization of SWNTs by Nucleophilic Addition of Lithium Amides

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200800005**

Dimerization in a rotaxane: During the oxidation (Ox) of a tetrathiafulvalene (TTF)-containing bistable [4]rotaxane and its tripodal dumbbell, an unprecedented TTF$^{\bullet+}$ radical cation dimerization takes place to form a radical cation dimer $(\mathrm{TTF}^{\bullet+})_2$ in the rotaxane and a radical cation dimer and a mixed-valence one $[(\mathrm{TTF})_2]^{\bullet+}$ in the dumbbell (see graphic).



Rotaxanes

I. Aprahamian, J.-C. Olsen, A. Trabolsi, J. F. Stoddart*

Tetrathiafulvalene Radical Cation Dimerization in a Bistable Tripodal [4]Rotaxane

Chem. Eur. J.
DOI: **10.1002/chem.200800191**

Seeing the woods for the trees: The global CO_2 problem can only be solved by the introduction of a permanent carbon sink based on using natural photosynthesis. In the "wood growth and burial process", humans produce biomass, especially wood, for it to be later removed from the global carbon cycle by burial under anaerobic conditions (e.g. on the bottom of emptied open pits). Moreover, the buried wood is a deposited good and potentially available for future use.

Carbon Dioxide Fixation

F. Scholz,* U. Hasse

Permanent Wood Sequestration: The Solution to the Global Carbon Dioxide Problem

ChemSusChem
DOI: **10.1002/cssc.200800048**