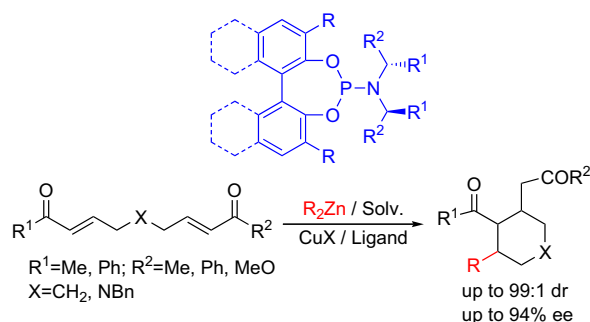


Science Concentrates

Copper-Catalyzed Enantioselective Intramolecular Conjugate Addition/Trapping Reactions: Synthesis of Cyclic Compounds with Multichiral Centers

K. Li and A. Alexakis*, *Chem. Eur. J.* 2007, 13, 3765
University of Geneva

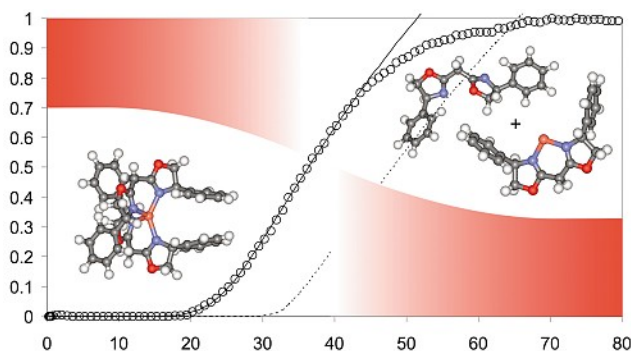
The Cu-catalyzed enantioselective intramolecular conjugate addition of dialkylzinc to bis- α,β -unsaturated carbonyl compounds with subsequent *in situ* trapping of the zinc enolate in the presence of chiral phosphoramidite ligands was investigated. In the case of cyclic and heterocyclic compounds with multiple stereogenic centers, good enantioselectivities and excellent diastereoselectivities (up to 99:1) were obtained.



Energy-Resolved Collision-Induced dissociation Cross Sections of 2:1 Bis-Oxazoline Copper Complexes. Nonbonded Interactions and Non Linear Effects

E. Zocher, R. Dietiker, and P. Chen*, *J. Am. Chem. Soc.* 2007, 129, 2476
ETH Zürich

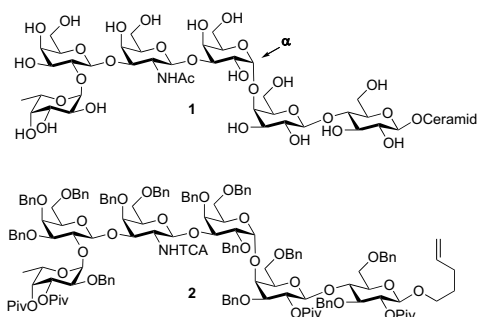
Absolute ligand binding energies were determined for the 2:1 complexes of bis-oxazoline ligands and Cu(I) in the gas phase by fitting of energy-resolved collision-induced dissociation cross sections. This study shows that heterochiral rather than homochiral complexes are preferred when the oxazoline rings bear isopropyl substituents; this stability order being inverted with phenyl-substituted ligands. This results leads to the prediction of nonlinear effects in asymmetric catalysis by the complexes with isopropyl-substituted ligands.



Automated Synthesis of Tumor-Associated Carbohydrate Antigens Gb-3 and Globo-H: Incorporation of α -Galactosidic Linkages

D. B. Werz, B. Castagner, and P. Seeberger*, *J. Am. Chem. Soc.* 2007, 129, 2770
ETH Zürich

Glycosphingolipids Globo-H (**1**) and Gb-3 (**2**) are antigens associated with different types of tumor cells. These carbohydrates present α -galactosidic linkages. The authors report the construction of such *cis*-glycosides on a solid support thus extending the scope of automated oligosaccharide synthesis to structurally more challenging carbohydrates. The new approach permits the automated synthesis of **2** in 24 h with high selectivity.



Rotation-Libration in a Hierarchic Supramolecular Rotor-stator System: Arrhenius Activation and Retardation by Local Interaction

M. Wahl, M. Stohr*, H. Spillmann, T.A. Jung*, and L.H. Gade*, *Chem. Commun.* 2007, 1349
NCCR, University of Basel; Paul-Scherrer-Institute, Villigen; Universität Heidelberg

Fourfold symmetric zinc-octaethylporphyrin (OEP) has been incorporated in the holes of the hexagonal molecular network generated by thermal dehydrogenation of 4,9-diaminoperylene-quinone-3,10-diimine (DPDI) on a Cu(111) surface and displayed hindered rotation; the reorganization between the potential minima, a rotation-libration, which is characterized by an activation energy of $E_D = 0.17 \pm 0.03$ eV, has been monitored in the STM tunnelling currents as a bi-state 'switching'.

