

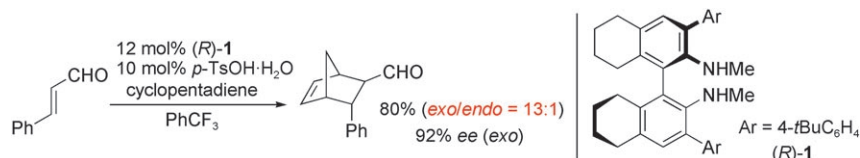
Organocatalysis

T. Kano, Y. Tanaka, K. Maruoka*

exo-Selective Asymmetric Diels–Alder Reaction Catalyzed by Diamine Salts as Organocatalysts

Chem. Asian J.

DOI: 10.1002/asia.200700122



It's cool to be different: The axially chiral diamine (R)-1 was designed and used successfully with *p*-TsOH·H₂O as an organocatalyst in the Diels–Alder reaction of cyclopentadiene with α,β -unsaturated aldehydes.

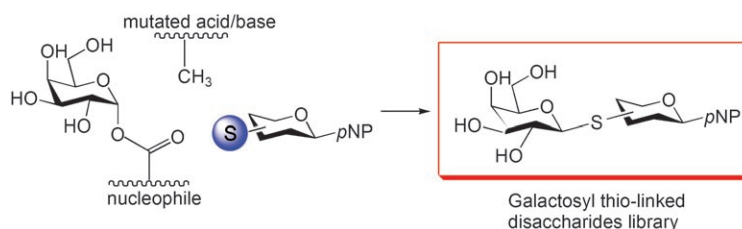
Although the Diels–Alder reaction of such compounds is inherently *endo* selective, (R)-1 exhibits unprecedented levels of *exo* selectivity. Ts = toluenesulfonyl.

Library Screening

Y.-W. Kim, H.-M. Chen, J. H. Kim,
J. Müllegger, D. Mahuran, S. G. Withers***Thioglycoligase-Based Assembly of Thiodisaccharides: Screening as β -Galactosidase Inhibitors**

ChemBioChem

DOI: 10.1002/cbic.200700263



New way of doing things. An efficient inhibitor of a human lysosomal acid β -galactosidase was identified through screening of a small collection of thioglycosides created by using a thioglycoligase derived from a bacterial β -galactosidase (see scheme). The results de-

scribed here open the interesting possibility of finding novel and unpredicted inhibitors of enzymes of interest through the relatively simple strategy of library generation by using thioglycoligases.

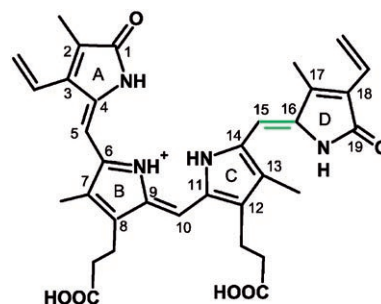
Primary Photoreaction

C. Schumann, R. Groß, N. Michael,
T. Lamparter, R. Diller***Sub-Picosecond Mid-Infrared Spectroscopy of Phytochrome Agp1 from *Agrobacterium tumefaciens***

ChemPhysChem

DOI: 10.1002/cphc.200700210

Isomerization: Light sensing by phytochrome photoreceptors is initiated via *Z*–*E* isomerization of the chromophore, an open chain tetrapyrrole molecule (see picture). The vibrational dynamics of this primary photoreaction in the bacterial phytochrome Agp1 from *Agrobacterium tumefaciens* are followed by means of ultrafast infrared spectroscopy.



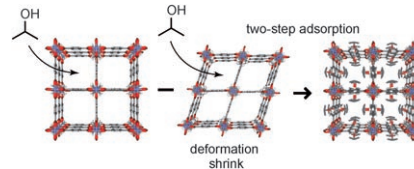
Coordination Polymers

K. Uemura,* Y. Yamasaki, Y. Komagawa,
K. Tanaka, H. Kita**Two-Step Adsorption/Desorption on a Jungle-Gym-Type Porous Coordination Polymer**

Angew. Chem. Int. Ed.

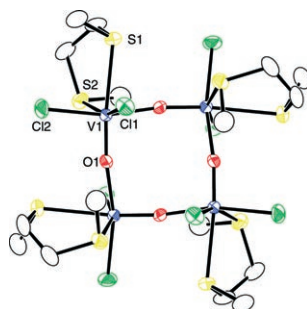
DOI: 10.1002/anie.200702390

Flexible frameworks: Unique two-step isotherms were observed for the adsorption/desorption of propan-2-ol on [Zn₂(1,4-benzenedicarboxylate)₂(1,4-diazabicyclo[2.2.2]octane)]_n with hydrophobic open spaces. The isotherms were characterized by means of thermal analysis and single-crystal X-ray diffraction (see picture).



Vanadium(IV/V) Complexes

The first examples of oxidotrichloridovanadium(V) thioether complexes have been prepared and fully characterised, together with vanadyl(IV) and tetrachloridovanadium(IV) analogues. The structure of a unique tetranuclear oxidovanadium(IV) thioether complex is described.



A. L. Hector, W. Levason, A. J. Middleton, G. Reid, M. Webster

Vanadium(IV) and Oxidovanadium(IV) and -(V) Complexes with Soft Thioether Coordination – Synthesis, Spectroscopic and Structural Studies

Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200700349

Carbaporphyrinoid Chemistry



Tetraarylazuliporphyrins with 2³-tert-butyl- or 2³-phenyl substituents were found to undergo oxidative rearrangements with tBuOOH and KOH to give substituted benzocarbaporphyrins. The data indicate that these reactions are triggered by nucleophilic attack at the positions adjacent to the azulene substituents.

J. A. El-Beck, T. D. Lash*

Synthesis and Reactivity of 2³-tert-Butyl- and [pa 2³-Phenyl]tetraarylazuliporphyrins: an Analysis of the Effect of Bulky Substituents on Oxidative Ring Contractions to Benzocarbaporphyrins

Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200700526

Macrocycles

A new bis-macrocycle has been prepared via two different routes and used for the synthesis of an intricate topology. The spectroscopic and electrochemical properties of this bis-copper(I) catenane have been explored.



J. Frey, T. Kraus, V. Heitz,* J.-P. Sauvage*

Synthesis of a Bis-macrocycle Containing Two Back-to-Back Rigidly Connected 1,10-Phenanthroline Units as a Central Core and its Incorporation in a Handcuff-Like Catenane

Chem. Eur. J.
DOI: 10.1002/chem.200700671



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