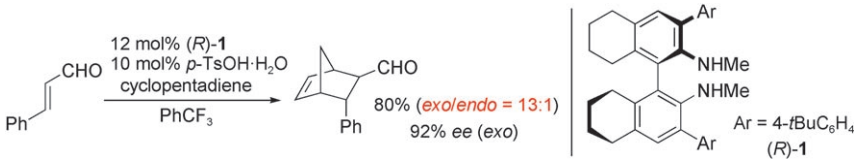
Organocatalysis

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**



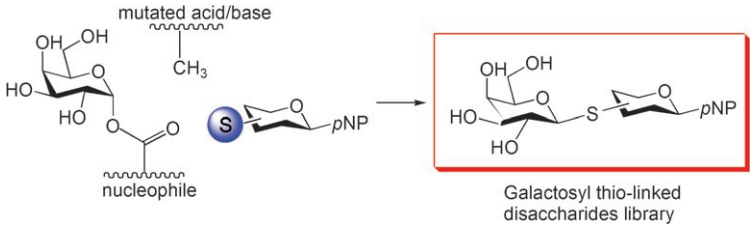
It's cool to be different: The axially chiral diamine (*R*)-**1** was designed and used successfully with *p*-TsOH·H_2O as an organocatalyst in the Diels–Alder reaction of cyclopentadiene with α,β-unsaturated aldehydes. Although the Diels–Alder reaction of such compounds is inherently *endo* selective, (*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 described 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.

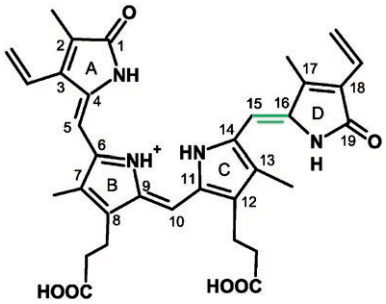
Primary Photoreaction

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 tumefacines* are followed by means of ultrafast infrared spectroscopy.

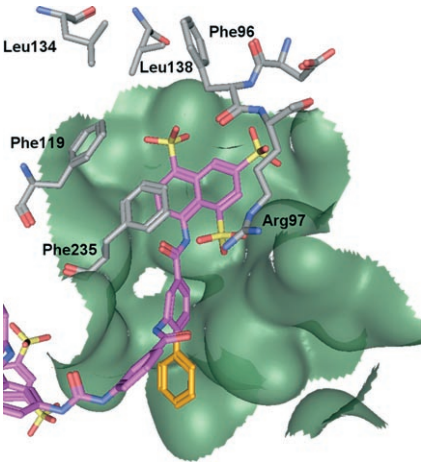


Inhibitor Screening

J. Trapp, R. Meier, D. Hongwiset, M. U. Kassack, W. Sippl, M. Jung*

Structure–Activity Studies on Suramin Analogues as Inhibitors of NAD$^+$-Dependent Histone Deacetylases (Sirtuins)

ChemMedChem
DOI: **10.1002/cmdc.200700003**



New inhibitors for sirtuins: Suramin emerged as an inhibitor of the NAD$^+$-dependent histone deacetylase SIRT1. We found suramin-related compounds to be much more potent than the parent molecule and established structure–activity relationships for a large set of suramin derivatives. Molecular modeling accompanied the screening process and gives new insight into suramin binding on sirtuins.

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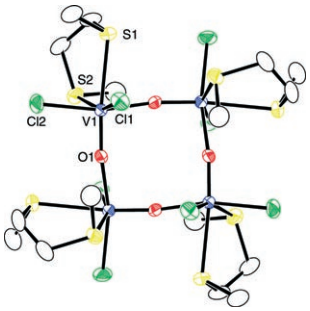
The first examples of oxidotrichloridovanadium(V) thioether complexes have been prepared and fully characterised, together with vanadyl(IV) and tetrachloridovanadium(IV) analogues. The structure of a unique tetranuclear oxidovanadium(IV) thioether complex is described.

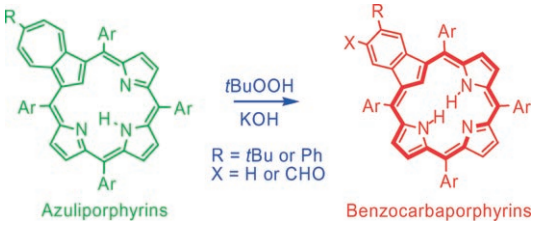


Vanadium(IV/V) Complexes

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**



Tetraarylazuliporphyrins with 2^3-*tert*-butyl- or 2^3-phenyl substituents were found to undergo oxidative rearrangements with *t*BuOOH 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.

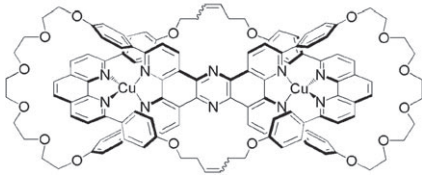
Carbaporphyrinoid Chemistry

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

Synthesis and Reactivity of 2^3-*tert*-Butyl- and 2^3-Phenyltetraarylazuliporphyrins: an Analysis of the Effect of Bulky Substituents on Oxidative Ring Contractions to Benzocarbaporphyrins

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

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.



Macrocycles

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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