

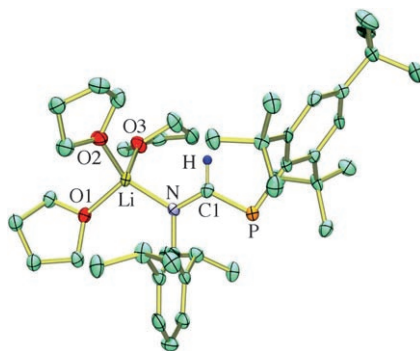
Phosphaalkenes

M. Song, B. Donnadieu,
M. Soleilhavoup, G. Bertrand*

Synthesis of Phosphaformamidines and
Phosphaformamidinates

Chem. Asian J.

DOI: 10.1002/asia.200700103



Forming a formation: Phosphaformamidines and -formamidinates can be readily prepared by reaction of *N*-arylformimidates with lithium phosphanides. These compounds were previously inaccessible by methods for the preparation of phosphaamidines and -amidinates. They have the potential to be precursors of P,N-heterocyclic carbenes, which are as yet unknown.

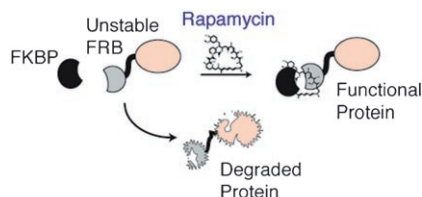
Chemical Chaperones

K. Stankunas, J. H. Bayle, J. J. Havranek,
T. J. Wandless, D. Baker, G. R. Crabtree,
J. E. Gestwicki*

Rescue of Degradation-Prone Mutants of
the FK506-Rapamycin Binding (FRB)
Protein with Chemical Ligands

ChemBioChem

DOI: 10.1002/cbic.200700087



Chemical chaperones. Single point mutations in the ligand-binding pocket of the FK506-rapamycin binding (FRB) protein were found to severely damage its folding and stability. However, addition of a chemical ligand, rapamycin, stabilized the mutants and protected them from degradation in cells or thermal denaturation in vitro.

Time-Resolved Spectroscopy

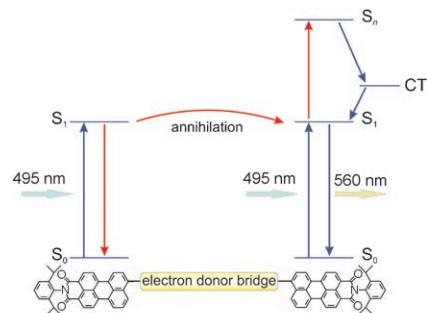
E. Fron, G. Schweitzer, J. Jacob,
A. Van Vooren, D. Beljonne, K. Müllen,
J. Hofkens, M. Van der Auweraer,
F. C. De Schryver*

Singlet–Singlet Annihilation Leading to a
Charge-Transfer Intermediate in
Chromophore-End-Capped
Pentaphenylenes

ChemPhysChem

DOI: 10.1002/cphc.200700136

Higher excited states: A singlet–singlet annihilation mechanism was found to promote one chromophore into a higher excited state, thus allowing observation of an ultrashort-living intermediate charge-transfer (CT) state in the S_n – S_1 deactivation pathway (see picture).



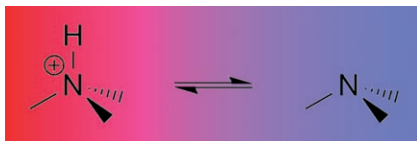
Drug Lead Optimization

M. Morgenthaler, E. Schweizer,
A. Hoffmann-Röder, F. Benini,
R. E. Martin, G. Jaeschke, B. Wagner,
H. Fischer, S. Bendels, D. Zimmerli,
J. Schneider, F. Diederich,* M. Kansy,*
K. Müller*

Predicting and Tuning Physicochemical
Properties in Lead Optimization: Amine
Basicities

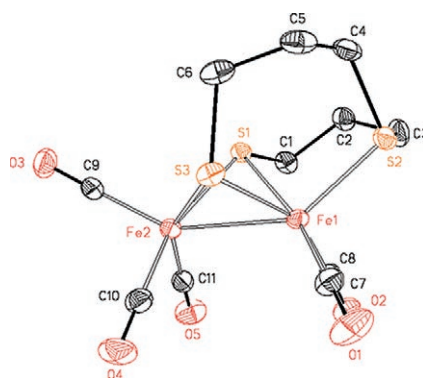
ChemMedChem

DOI: 10.1002/cmdc.200700059



Predicting and tuning amine basicity is one of the crucial factors determining physicochemical properties of leads in drug-discovery research. We present simple-to-use rules for pK_a prediction based on extensive database mining and several case studies from our medicinal chemistry programs over the last years. Stereochemical and conformational factors influencing amine basicity are discussed, and the emergent computational approaches to pK_a predictions are briefly surveyed.

The syntheses of novel [Fe-only]-hydrogenase models starting from 1,2,4-trithiolane, 1,2,5-trithiepane, 1,2,5-trithiocane and 1,2,6-trithionane are described. The products were characterised by spectroscopic methods and X-ray structure analyses. The electrochemical behaviour of one representative complex is described in detail.

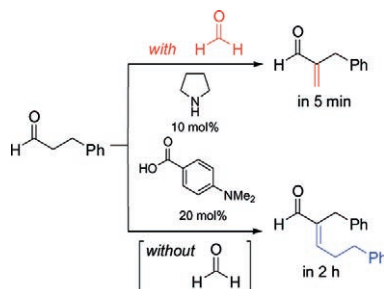


[Fe-only]-Hydrogenase Models

J. Windhager, M. Rudolph,*
S. Bräutigam, H. Görls, W. Weigand*

Reactions of 1,2,4-Trithiolane,
1,2,5-Trithiepane, 1,2,5-Trithiocane and
1,2,6-Trithionane with
Nonacarbonyldiiron: Structural
Determination and Electrochemical
Investigation

Eur. J. Inorg. Chem.
DOI: [10.1002/ejic.200700049](https://doi.org/10.1002/ejic.200700049)



An efficient secondary amine catalyst/
acid co-catalyst combination has been
identified, allowing the preparation of α -
substituted acroleins and α,β -unsatu-
rated aldehydes in a matter of minutes.

Amine Catalysis

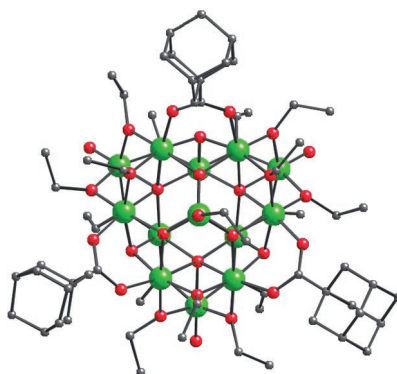
A. Erkkilä, P. M. Pihko*

Rapid Organocatalytic
Aldehyde-Aldehyde Condensation
Reactions

Eur. J. Org. Chem.
DOI: [10.1002/ejoc.200700292](https://doi.org/10.1002/ejoc.200700292)

High nuclearity, but low oxidation states:

A family of high-nuclearity vanadium(III/
IV/V) clusters (an example of which is
shown here; green: vanadium; red:
oxygen; grey: carbon) are reported, anal-
ogous to the polyoxo(alkoxo)vanadates
but in uniquely low oxidation states.



Polyoxometalates

I. S. Tidmarsh, R. H. Laye,*
P. R. Brearley, M. Shanmugam,
E. C. Sañudo, L. Sorace, A. Caneschi,
E. J. L. McInnes*

Highly Reduced,
Polyoxo(alkoxo)vanadium(III/IV) Clusters

Chem. Eur. J.
DOI: [10.1002/chem.200700247](https://doi.org/10.1002/chem.200700247)



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