

SPOTLIGHTS ...

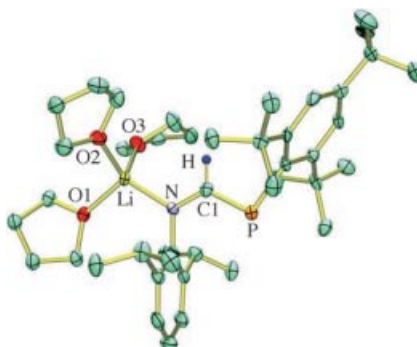
Phosphaalkenes

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.

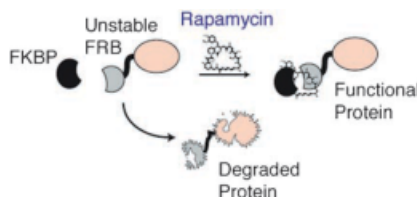
Chemical Chaperones

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

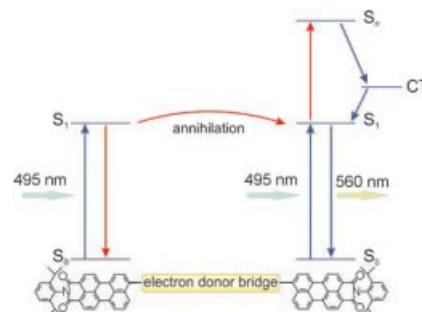
E. Fron, G. Schweitzer, J. Jacob,
A. Van Vooren, D. Beljonne,
K. Müllen, J. Hofkens,
M. Van der Auweraer,
F. C. De Schryver*

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

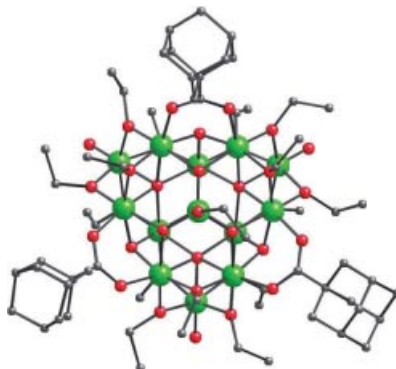


Predicting and tuning amine basicity is one of the crucial factors determining physicochemical properties of leads in drug-discovery research. We present simple-to-use rules for pK_a prediction based on extensive database mining and several case studies from our medicinal chemistry programs over the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

Polyoxometalates

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, analogous to the polyoxo(alkoxo)vanadates but in uniquely low oxidation states.

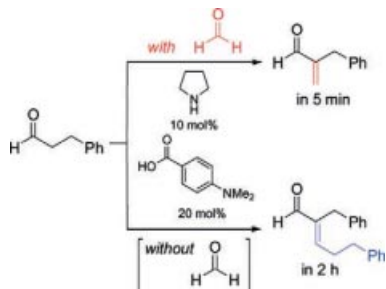


I. S. Tidmarsh, R. H. Laye,*
P. R. Brearley, M. Shanmugam,
E. C. Sañudo, L. Sorace, A. Caneschi,
E. J. L. McInnes*

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

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

Amine Catalysis



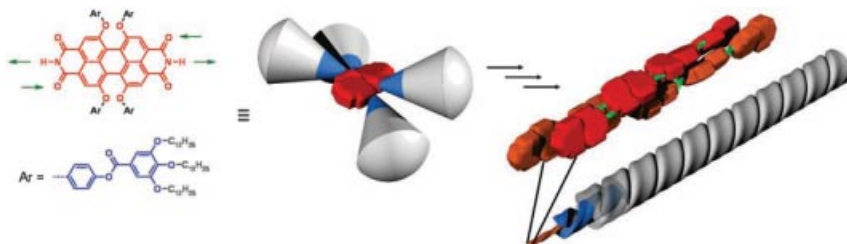
An efficient secondary amine catalyst/acid co-catalyst combination has been identified, allowing the preparation of α -substituted acroleins and α,β -unsaturated aldehydes in a matter of minutes.

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)

Self-Assembly Processes



Luminous nanorods: The self-assembly of core-twisted perylene bisimide fluorophores (see structures) in nonpolar organic solvents is directed by hydro-

gen-bonding interactions. This supermolecular concept resulted in one-dimensional J-aggregates with a fluorescence quantum yield of near unity.

T. E. Kaiser, H. Wang,
V. Stepanenko, F. Würthner*

Supramolecular Construction of Fluorescent J-Aggregates Based on Hydrogen-Bonded Perylene Dyes

Angew. Chem. Int. Ed.
DOI: [10.1002/anie.200701139](https://doi.org/10.1002/anie.200701139)



On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of

the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley InterScience.