

## Gas Absorption

J.-M. Chen, W. Wei, X.-L. Feng, T.-B. Lu\*

CO<sub>2</sub> Fixation and Transformation by a Dinuclear Copper Cryptate under Acidic Conditions

*Chem. Asian J.*

DOI: 10.1002/asia.200700042

**A crypt for carbon:** There exists a dinuclear copper cryptate that can take up atmospheric CO<sub>2</sub> in weakly acidic media. The resulting  $\mu$ -O<sub>2</sub>COH-bridged complex (shown) can be converted into carbonate monoesters in alcohol. The mechanisms of these processes are suggested based on the results of X-ray analysis, solution studies, and DFT calculations.



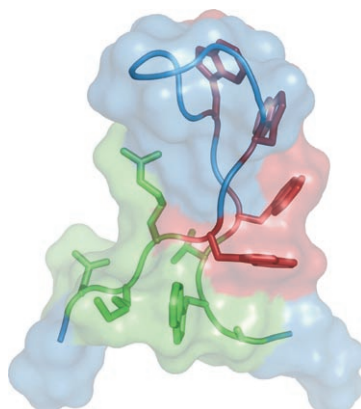
## FRET-Based Screening

Z. Cheng, M. Miskolzie, R. E. Campbell\*

In Vivo Screening Identifies a Highly Folded  $\beta$ -Hairpin Peptide with a Structured Extension

*ChemBioChem*

DOI: 10.1002/cbic.200600565



**Like finding a hairpin in the haystack.**

We have used an in vivo FRET-based screening method to identify highly folded  $\beta$ -hairpin peptides in large libraries. An NMR structure reveals that a cross-strand cation- $\pi$  interaction helps stabilize the most highly folded  $\beta$ -hairpin.

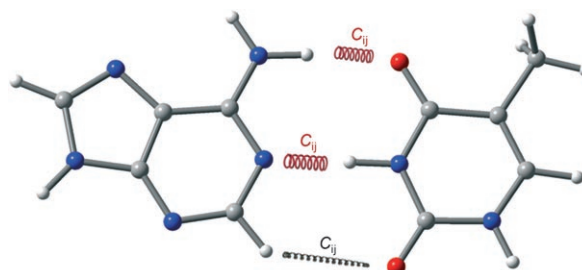
## Bond Theory

K. Brandhorst, J. Grunenberg\*

Characterizing Chemical Bond Strengths Using Generalized Compliance Constants

*ChemPhysChem*

DOI: 10.1002/cphc.200700038



**How strong is it?** The determination of bond strength is a nontrivial task with often controversial results. In this viewpoint, the authors make a case for the utilization of generalized compliance

constants as valid bond-strength descriptors for the comparison of next-neighbor interactions in covalent bonds and for noncovalent interactions such as hydrogen bonds and agostic interactions.

## Receptor Ligands

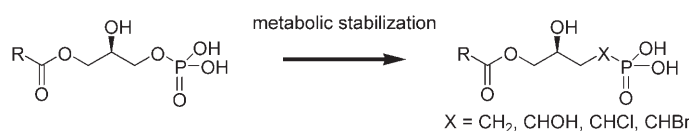
G. Jiang, Y. Xu, Y. Fujiwara, T. Tsukahara, R. Tsukahara, J. Gajewiak, G. Tigyi, G. D. Prestwich\*

$\alpha$ -Substituted Phosphonate Analogues of Lysophosphatidic Acid (LPA) Selectively Inhibit Production and Action of LPA

*ChemMedChem*

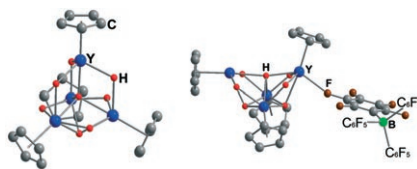
DOI: 10.1002/cmdc.200600280

**Metabolically stabilized:** We present the total synthesis and pharmacological characterization of  $\alpha$ -substituted phosphonate analogues of LPA. The compounds include isoform-selective



agonists and antagonists for the LPA GPCRs, and also include potent inhibitors of lysophospholipase D, a key enzyme involved in LPA biosynthesis.

The synthesis, structures, and novel reactions of a series of neutral (left) and cationic (right) polyhydrido rare earth metal complexes are reviewed.



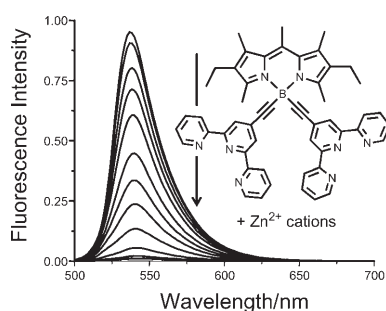
### Rare Earth Metal Polyhydrides

Z. Hou,\* M. Nishiura, T. Shima

Synthesis and Reactions of Polynuclear Polyhydrido Rare Earth Metal Complexes Containing “(C<sub>5</sub>Me<sub>4</sub>SiMe<sub>3</sub>)LnH<sub>2</sub>” Units: A New Frontier in Rare Earth Metal Hydride Chemistry

*Eur. J. Inorg. Chem.*

DOI: 10.1002/ejic.200700085



Equipping bodipy dyes with terpyridine (terpy) units leads to two distinct types of self-assembled structures: In the presence of zinc(II) cations, the terpy units facilitate formation of the corresponding dinuclear complexes. In certain solvents, those dyes bearing B-ethynylpyrene residues assemble into  $\pi$ -stacked structures that fluoresce at longer wavelength.

### Dye Photochemistry

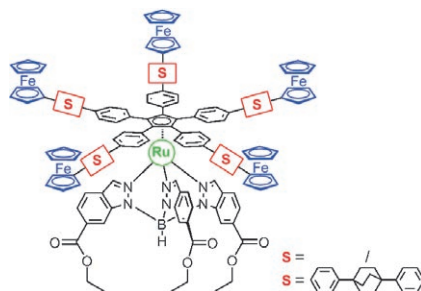
A. Harriman,\* L. J. Mallon, B. Stewart, G. Ulrich, R. Ziessel\*

Boron Dipyrromethene Dyes Bearing Ancillary 2,2':6',2''-Terpyridine Coordination Sites

*Eur. J. Org. Chem.*

DOI: 10.1002/ejoc.200700190

The insulating role of 1,4-disubstituted bicyclo[2,2,2]octane has been examined in a theoretical study on bis-ferrocenyl model compounds. Two prototypes of electron-fuelled molecular motors have been synthesized, incorporating either conjugated or insulating spacers between the central core and the ferrocene terminal electroactive groups (see figure).



### Molecular Motors

G. Vives, A. Gonzalez, J. Jaud, J.-P. Launay, G. Rapenne\*

Synthesis of Molecular Motors Incorporating *para*-Phenylene-Conjugated or Bicyclo[2,2,2]octane-Insulated Electroactive Groups

*Chem. Eur. J.*

DOI: 10.1002/chem.200700223



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