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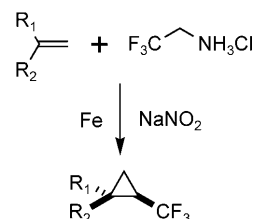


## Iron Catalysis

B. Morandi, E. M. Carreira\*

### Iron-Catalyzed Cyclopropanation with Trifluoroethylamine Hydrochloride and Olefins in Aqueous Media: In Situ Generation of Trifluoromethyl Diazomethane

**Let's avoid the risk!** The title transformation has been developed for the synthesis of trifluoromethyl-substituted cyclopropane derivatives (see scheme). It avoids the preparation of trifluoromethyl diazomethane and merges a number of areas: water as a reaction medium, iron catalysis, and access to reactive intermediates under operationally safe conditions.



*Angew. Chem. Int. Ed.*  
DOI: [10.1002/anie.200905573](https://doi.org/10.1002/anie.200905573)



## Binding Interactions

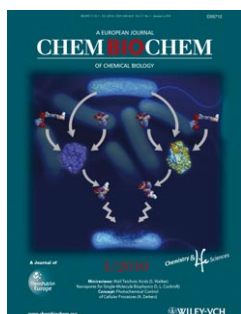
M. O. Sydnes, M. Isobe\*

### Tautomycin's Interactions with Protein Phosphatase 1

**Recently the cocrystal structure** of the natural product tautomycin (TTM) and protein phosphatase 1 (PP1) was reported. This Focus Review describes the work aimed at elucidating the binding interactions between TTM and PP1 prior to the X-ray cocrystal structure. Finally, the conclusions that prevailed prior the latter result are compared with the lessons learnt from the X-ray structure.



*Chem. Asian J.*  
DOI: [10.1002/asia.200900394](https://doi.org/10.1002/asia.200900394)

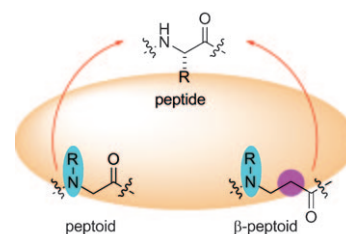


## Peptidomimetics

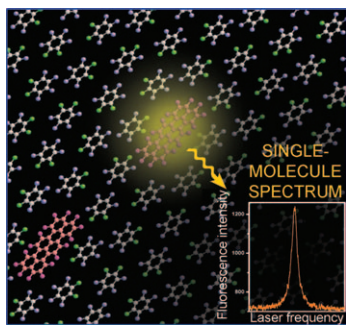
C. A. Olsen\*

### Peptoid–Peptide Hybrid Backbone Architectures

**The right blend:** Peptidomimetics with hybrid backbone architectures (i.e., those containing at least two different types of monomers) have received increased attention recently. This article provides an overview of the literature concerning hybrid peptidomimetics containing peptoid (N-alkylated glycine) or  $\beta$ -peptoid (N-alkylated  $\beta$ -alanine) residues in combination with  $\alpha$ -amino acids, and shows that these types of structures have potential as ligands in a wide variety of biological systems.



*ChemBioChem*  
DOI: [10.1002/cbic.200900618](https://doi.org/10.1002/cbic.200900618)



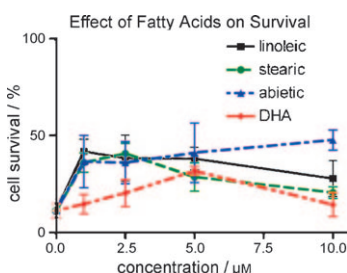
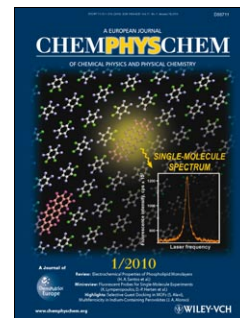
ChemPhysChem  
DOI: 10.1002/cphc.200900651

## Photonics

A. A. Gorshelev, A. V. Naumov,\* I. Yu. Eremchev, Yu. G. Vainer, L. Kador, J. Köhler

### Ortho-Dichlorobenzene Doped with Terrylene—a Highly Photo-Stable Single-Molecule System Promising for Photonics Applications

**A promising system:** Crystalline *ortho*-dichlorobenzene doped with terrylene (see picture) reveals huge fluorescence emission rates, extraordinary spectral stability, absence of blinking, and a broad inhomogeneous distribution. It makes Tr/o-DCB promising for single-molecule spectroscopy (see inset) and different photonics applications.



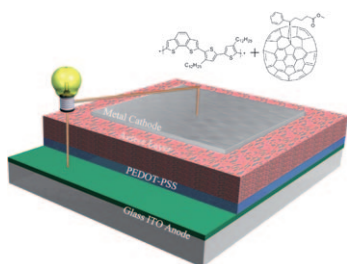
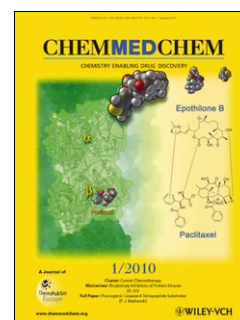
ChemMedChem  
DOI: 10.1002/cmdc.200900418

## Neuroprotection

A. C. Biraboneye, S. Madonna, P. Maher, J.-L. Kraus\*

### Neuroprotective Effects of *N*-Alkyl-1,2,4-oxadiazolidine-3,5-diones and Their Corresponding Synthetic Intermediates *N*-Alkylhydroxylamines and *N*-1-Alkyl-3-carbonyl-1-hydroxyureas against in vitro Cerebral Ischemia

**Starting from the hypothesis** that the acidic properties of 1,2,4-oxadiazolidine-3,5-diones are similar to that of carboxylic acid and could therefore have similar neuroprotective effects to those of stearic acid, the synthesis and biological activity of new *N*-alkyl-1,2,4-oxadiazolidine-3,5-dione derivatives and their synthetic intermediates were investigated.



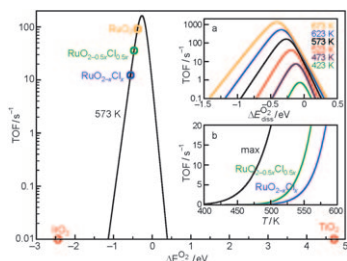
ChemSusChem  
DOI: 10.1002/cssc.200900161

## Photovoltaics

M. Liu, R. Rieger, C. Li, H. Menges, M. Kastler, M. Baumgarten, K. Müllen\*

### A Polymer with a Benzo[2,1-b;3,4-b']dithiophene Moiety for Photovoltaic Applications

**The photovoltaic performance** of a new benzo[2,1-b;3,4-b']dithiophene-containing conjugated polymer is demonstrated. The pairing of this polymer as donor and [70]PCBM as acceptor results in a good performance in a bulk heterojunction solar cell, featuring a power conversion efficiency of 2.7 % upon stepwise post-annealing.



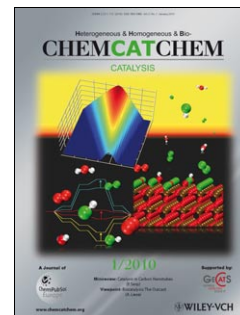
ChemCatChem  
DOI: 10.1002/cctc.200900194

## DFT

F. Studt, F. Abild-Pedersen, H. A. Hansen, I. C. Man, J. Rossmeisl, T. Bligaard\*

### Volcano Relation for the Deacon Process over Transition-Metal Oxides

**Lava applets:** DFT calculations are used to establish a volcano relation for the Deacon Process over rutile transition-metal oxides. It is found that  $\text{RuO}_2$  catalysts are close to the top of the volcano curve, but that there is still room for improvements in the catalytic activity. Importantly, the volcano curve can be based on just one descriptor, the dissociative oxygen chemisorption, which potentially allows for the fast computational screening for new catalysts.



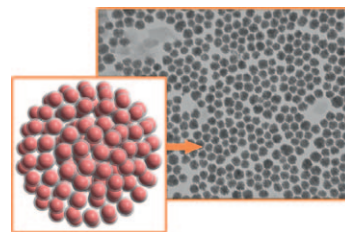


### ZnO Colloidal Clusters

C. Li, Y. Zhao, L. Wang, G. Li, Z. Shi,\* S. Feng

#### Polyol-Mediated Synthesis of Highly Water-Soluble ZnO Colloidal Nanocrystal Clusters

Highly water-soluble ZnO colloidal nanocrystal clusters (CNCs) with tunable size have been prepared successfully by using a high-temperature hydrolysis reaction. The as-prepared ZnO CNCs still exhibited strong UV emission in the photoluminescence (PL) spectrum due to the existence of secondary structures despite a particle size ranging from 60 to ca. 200 nm.



*Eur. J. Inorg. Chem.*  
DOI: 10.1002/ejic.200900833

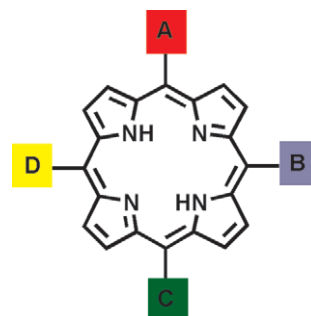


### Porphyrins

M. O. Senge,\* Y. M. Shaker, M. Pintea, C. Ryppa, S. S. Hatscher, A. Ryan, Yu. Sergeeva

#### Synthesis of *meso*-Substituted ABCD-Type Porphyrins by Functionalization Reactions

A comprehensive study of contemporary synthetic methods by using organolithium and Pd-catalyzed C–C coupling reactions for ABCD-porphyrins reveals that it is now possible to prepare almost any desired *meso*-substituted porphyrin.



*Eur. J. Org. Chem.*  
DOI: 10.1002/ejoc.200901113