

# SPOTLIGHTS ...

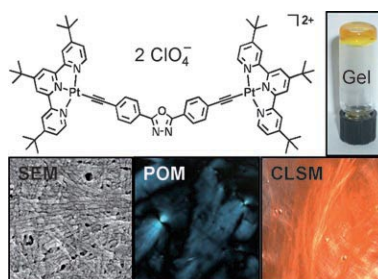
## Phosphorescent Gelators

W. Lu, Y.-C. Law, J. Han,  
S. S.-Y. Chui, D.-L. Ma, N. Zhu,  
C.-M. Che\*

**A Dicationic Organoplatinum(II) Complex Containing a Bridging 2,5-Bis-(4-ethynylphenyl)-[1,3,4]oxadiazole Ligand Behaves as a Phosphorescent Gelator for Organic Solvents**

*Chem. Asian J.*

DOI: 10.1002/asia.200700265



**It all gels!** A binuclear terpyridyl platinum(II) salt with a 2,5-bis(4-ethynylphenyl)[1,3,4]oxadiazole bridging ligand acts as a low-molecular-mass phosphorescent gelator for acetonitrile or acetonitrile/alcohol mixtures. Notably, this metal-containing gelator carries neither conventional gelating motifs nor long alkyl chains.

## Quantum Dots

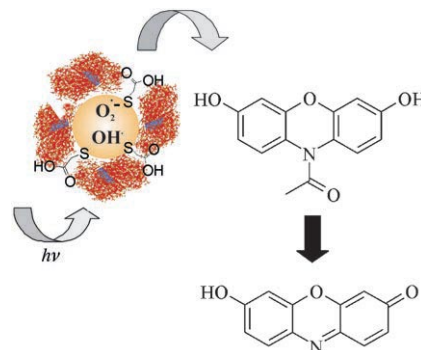
L. Fruk, V. L. Rajendran,  
M. Sprengler, C. M. Niemeyer\*

**Light-Induced Triggering of Peroxidase Activity Using Quantum Dots**

*ChemBioChem*

DOI: 10.1002/cbic.200700594

**On the dot.** Peroxidase enzymes, which play a key role in numerous applications in biocatalysis and bioanalytics, were reversibly switched on and off by photoirradiation in the presence of CdS quantum dots (QDs). Four different peroxidases were successfully activated by using this QD-irradiation methodology. These light switchable catalysts could prove useful in biosensing, biocatalysis, and design of novel cellular assay procedures.



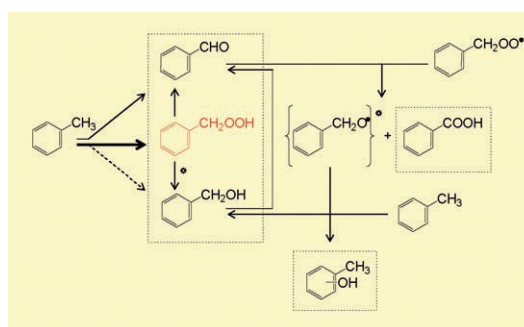
## Toluene

I. Hermans,\* J. Peeters, L. Vereecken,  
P. A. Jacobs

**Mechanism of Thermal Toluene Autoxidation**

*ChemPhysChem*

DOI: 10.1002/cphc.200700563



**The pivotal intermediate** in toluene autoxidation (see scheme) is identified as the highly reactive benzyl hydroperoxide by a combined experimental and theoretical investigation. Co-oxidation

of benzaldehyde yields benzoic acid and benzyl alcohol, and causes deactivation by the formation of radical inhibitors such as cresols.

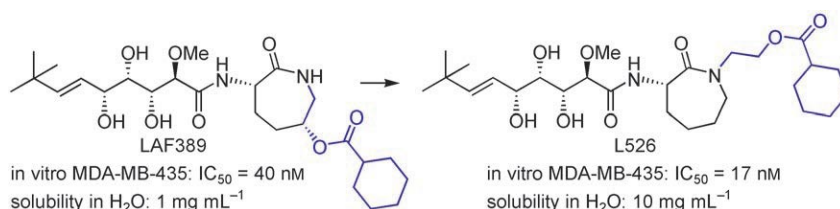
## Natural Products

G. Liu, Y.-M. Ma, W.-Y. Tai,  
C.-M. Xie, Y.-L. Li, J. Li,\* F.-J. Nan\*

**Design, Synthesis, and Biological Evaluation of Caprolactam-Modified Bengamide Analogues**

*ChemMedChem*

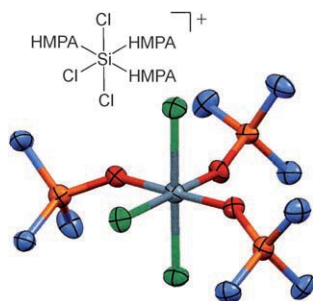
DOI: 10.1002/cmdc.200700214



**A series of potent, water-soluble N**-substituted bengamide analogues were discovered through diverse derivatives of the caprolactam unit of bengamide. Important SAR information was also

gathered, and is different from previously reported SARs of this compound class. We therefore present a new view of bengamide natural products.

## ... ON OUR SISTER JOURNALS



**The Lewis acid–Lewis base complexation chemistry of  $\text{SiCl}_4$  and HMPA** has been studied in solution and the solid state. The cationic complex  $3 \text{HMPA} \cdot \text{SiCl}_3^+ \text{HCl}_2^-$  (see figure) has been structurally characterized for the first time.

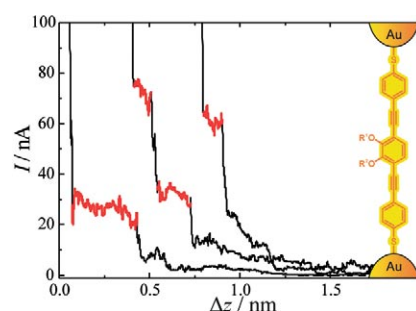
### Organic Chemistry

S. E. Denmark,\* B. M. Eklov

#### Neutral and Cationic Phosphoramidate Adducts of Silicon Tetrachloride: Synthesis and Characterization of Their Solution and Solid-State Structures

*Chem. Eur. J.*

DOI: 10.1002/chem.200701466



Several molecular rods comprising variously protected catechol subunits have been synthesized and investigated as potential precursors of a catechol-functionalized molecular rod. Furthermore, molecular junctions formed by the dimethyl-protected catechol-functionalized rod in an electrochemical STM set-up allowed preliminary single-molecule transport measurements.

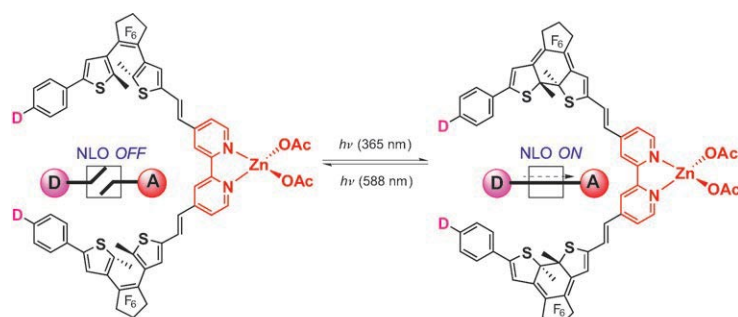
### Molecular Electronics

N. Weibel, A. Błaszczuk, C. von Hänisch, M. Mayor,\* I. Pobelov, T. Wandlowski,\* F. Chen, N. Tao\*

#### Redox-Active Catechol-Functionalized Molecular Rods: Suitable Protection Groups and Single-Molecule Transport Investigations

*Eur. J. Org. Chem.*

DOI: 10.1002/ejoc.200700810



**Flipping the switch:** A new type of bi-pyridine-based ligand functionalized by phenyl- and dimethylaminophenyl-dithienylethene groups allows the preparation of photochromic dipolar

zinc(II) complexes. For the first time, efficient on/off photoswitching of the NLO response of metallochromophores is observed.

### Nonlinear Optics

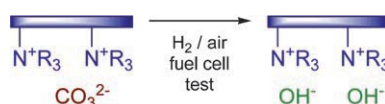
V. Aubert, V. Guerschais, E. Ishow, K. Hoang-Thi, I. Ledoux, K. Nakatani, H. Le Bozec\*

#### Efficient Photoswitching of the Nonlinear Optical Properties of Dipolar Photochromic Zinc(II) Complexes

*Angew. Chem. Int. Ed.*

DOI: 10.1002/anie.200704138

**Fuelling the discussion:** A carbonate-form metal-cation-free alkaline membrane was evaluated in a fuel cell, and, contrary to prior wisdom, the carbonate content of the membranes was found to decrease. Surprisingly, the power performance was higher relative to tests with the equivalent hydroxide-form membranes.



### Fuel Cells

L. A. Adams, S. D. Poynton, C. Tamain, R. C. T. Slade, J. R. Varcoe\*

#### A Carbon Dioxide Tolerant Aqueous-Electrolyte-Free Anion-Exchange Membrane Alkaline Fuel Cell

*ChemSusChem*

DOI: 10.1002/cssc.200700013