

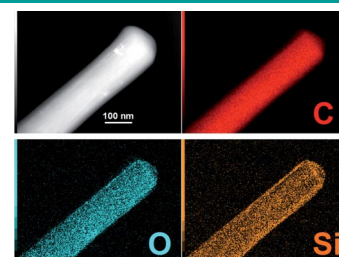


### Carbon Nanotubes

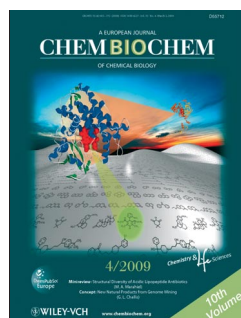
M. Pumera,\* T. Sasaki, B. Šmíd

#### Ultrathin Organically Modified Silica Layer Coated Carbon Nanotubes: Fabrication, Characterization and Electrical Insulating Properties

**Nice coat!** Organically modified silica (ormosil) is used for the ultrathin nanoprecise coating of individual multiwall carbon nanotubes using a soft-chemistry approach. The coating layer has a uniform thickness of about 3 nm. The ormosil coating demonstrates the favorable electrical insulating properties of individual multiwall carbon nanotubes.



Chem. Asian J.  
DOI: 10.1002/asia.200900008

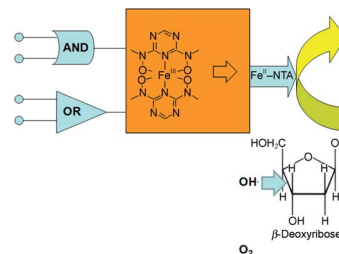


### Logic Gates

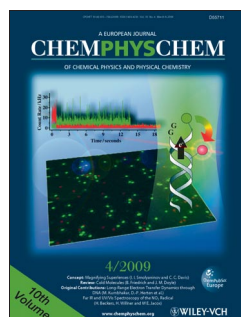
J. Zhou, G. Melman, M. Pita, M. Ornatska, X. Wang, A. Melman,\* E. Katz\*

#### Biomolecular Oxidative Damage Activated by Enzymatic Logic Systems: Biologically Inspired Approach

**Logical, responsible, practical:** Enzymatic logic gates that process chemical input signals were used to trigger the release of redox-active iron ions, which produce reactive oxygen species in a catalytic cascade, and thus result in oxidative damage in biomolecules. Functional coupling between enzymatic logic gates and oxidative damage systems resulted in “smart” biochemical ensembles that are activated upon receiving a certain pattern of biochemical signals.



ChemBioChem  
DOI: 10.1002/cbic.200800833

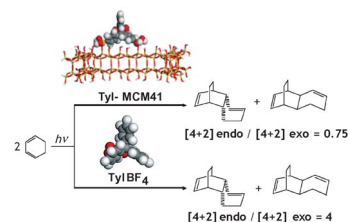


### Photocatalyst

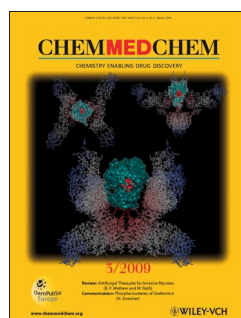
A. Corma,\* M. T. Navarro, F. Rey, V. R. Ruiz, M. J. Sabater\*

#### Direct Synthesis of a Photoactive Inorganic–Organic Mesostructured Hybrid Material and its Application as a Photocatalyst

**A direct route:** Silylated triphenylmethanol is incorporated into mesoporous material MCM-41 through a direct synthesis method. Under acidic conditions, this inorganic–organic hybrid generates trityl cations to give the photoactive material Tyl-MCM41. Tyl-MCM41 promotes the photosensitized dimerization of 1,3-cyclohexadiene with an unprecedented selectivity towards the formation of the *exo* product (see scheme).



ChemPhysChem  
DOI: 10.1002/cphc.200800724

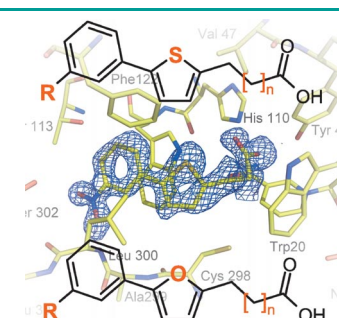


### Drug Design

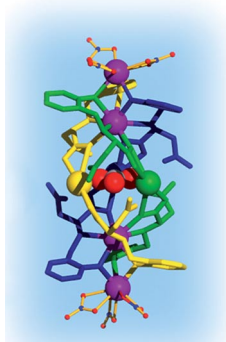
M. Eisenmann, H. Steuber, M. Zentgraf, M. Altenkämper, R. Ortmann, J. Perruchon, G. Klebe,\* M. Schlitzer\*

#### Structure-Based Optimization of Aldose Reductase Inhibitors Originating from Virtual Screening

**Virtual screening** discovered two prospective hits as potential leads for aldose reductase inhibition. Based on their crystal structures with the enzyme, a systematic optimization has been performed to reveal a first structure–activity relationship. A central thiophen moiety and a terminal nitro group exhibit the best binding properties.



ChemMedChem  
DOI: 10.1002/cmdc.200800410



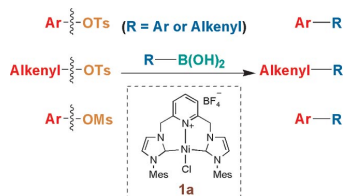
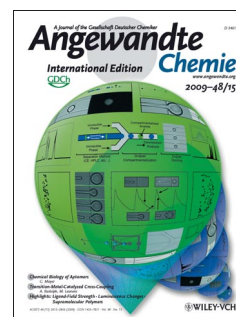
Angew. Chem. Int. Ed.  
DOI: 10.1002/anie.200900838

### Heptameric Lanthanum Clusters

X.-L. Tang, W.-H. Wang, W. Dou, J. Jiang, W.-S. Liu,\*  
W.-W. Qin, G.-L. Zhang, H.-R. Zhang, K.-B. Yu, L.-M. Zheng

#### Olive-Shaped Chiral Supramolecules: Simultaneous Self-Assembly of Heptameric Lanthanum Clusters and Carbon Dioxide Fixation

**Cluster's last stand:** Six chiral reduced Schiff base ligands containing amino acids and seven  $\text{La}^{\text{III}}$  ions self-assemble to form a novel heptameric lanthanum supramolecule with the aid of the  $\text{CO}_3^{2-}$  ion (see picture). The cluster exists as a single chiral triple helix. The  $\text{CO}_3^{2-}$  ion, which is derived from atmospheric  $\text{CO}_2$ , adopts a rare  $\mu_3$ -tridentate bridging mode that links three  $\text{La}^{\text{III}}$  ions, thus allowing the cluster to efficiently fix  $\text{CO}_2$ .



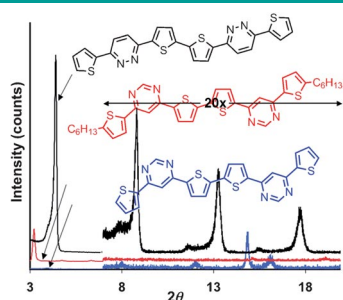
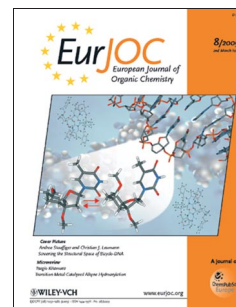
Eur. J. Org. Chem.  
DOI: 10.1002/ejoc.200900067

### Nickel-Pincer Catalysts

J.-i. Kuroda, K. Inamoto,\* K. Hiroya, T. Doi\*

#### N-Heterocyclic Carbene Derived Nickel-Pincer Complexes: Efficient and Applicable Catalysts for Suzuki-Miyaura Coupling Reactions of Aryl/Alkenyl Tosylates and Mesylates

N-Heterocyclic carbene derived nickel-pincer complexes exhibit high catalytic activities for the Suzuki-Miyaura coupling reactions of a range of aryl/alkenyl tosylates and mesylates.



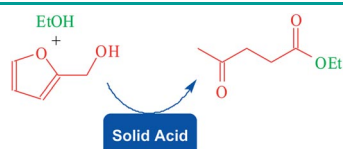
Chem. Eur. J.  
DOI: 10.1002/chem.200802424

### Semiconductors

R. P. Ortiz, J. Casado, V. Hernández, J. T. L. Navarrete,\*  
J. A. Letizia, M. A. Ratner, A. Facchetti,\* T. J. Marks\*

#### Thiophene-Diazine Molecular Semiconductors: Synthesis, Structural, Electrochemical, Optical, and Electronic Structural Properties; Implementation in Organic Field-Effect Transistors

**New transportation:** New thiophene-based semiconductors have been produced and studied by electrochemistry, various spectroscopic methods, and structural and morphological techniques in conjunction with model chemistry. Their electrical properties have been analyzed by implementation in field-effect transistor devices (see figure).



ChemSusChem  
DOI: 10.1002/cssc.200800216

### Solid Acid Catalysts

J.-P. Lange,\* W. D. v. d. Graaf, R. J. Haan

#### Conversion of Furfuryl Alcohol into Ethyl Levulinate using Solid Acid Catalysts

**Cellulosic biofuel:** Ethyl levulinate is a promising biofuel that can be obtained from lignocellulosic residues. A byproducts, furfural, can be converted into ethyl levulinate in an acid-based process. Here, the use of solid acid catalysts for the conversion of furfuryl alcohol into ethyl levulinate is reported.



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puter, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley InterScience.