

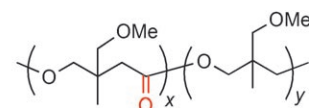
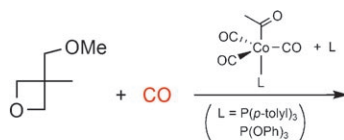
## Ring-Opening Polymerization

Y. Permana, K. Nakano, M. Yamashita,  
D. Watanabe, K. Nozaki\*

### Carbonylative Polymerization of Oxetanes Initiated by Acetyl Cobalt Complexes

*Chem. Asian J.*

DOI: 10.1002/asia.200700339



activity: up to  $1600 \text{ g (mol of Co)}^{-1} \text{ h}^{-1}$   
ester content: up to 63%

**Cooperation required:** The ring-opening polymerization of  $\gamma$ -lactone is not yet successful under practical conditions because rapid "back-biting" immediately takes place to re-form the original  $\gamma$ -lac-

tone owing to the thermodynamic stability of its five-membered-ring structure. Carbonylative polymerization of oxetane provides the poly( $\gamma$ -lactone) unit effectively.

## Small-Molecule Inhibitors

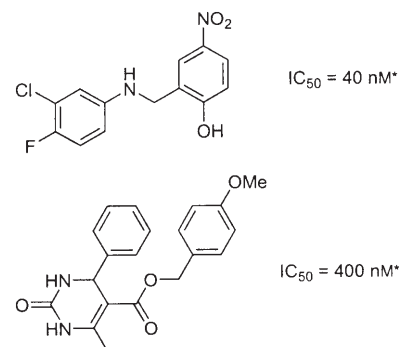
N. Lecat-Guillet, G. Merer, R. Lopez,  
T. Pourcher, B. Rousseau, Y. Ambroise\*

### Small-Molecule Inhibitors of Sodium Iodide Symporter Function

*ChemBioChem*

DOI: 10.1002/cbic.200700682

**Inhibitors of the sodium iodide symporter** have been identified by high-throughput screening. This discovery opens new perspectives for the elucidation of NIS regulation pathways and provides new leads for the development of anti-thyroid drugs.



\*Rat thyroid cell lines

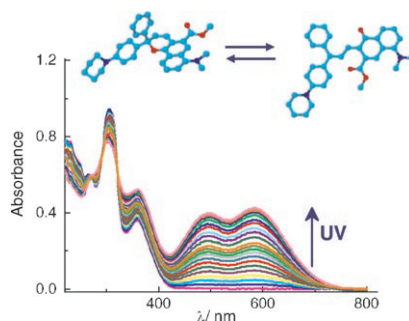
## Photochromic Molecules

M. R. di Nunzio, P. L. Gentili, A. Romani,  
G. Favaro\*

### Photochromic, Thermochromic, and Fluorescent Spirooxazines and Naphthopyrans: A Spectrokinetic and Thermodynamic Study

*ChemPhysChem*

DOI: 10.1002/cphc.200700789



**Switchable coloration:** Spirooxazine (SO) and naphthopyran (NP) dyes transform into colored merocyanine forms under thermal and light stimulation, (see picture showing a NP dye). They act as effective thermochromic compounds at high temperature and efficient photochromic compounds at low temperature.

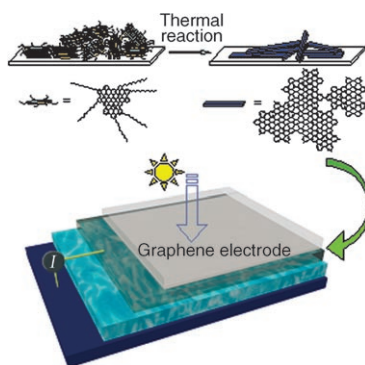
## Nanostructures

X. Wang, L. Zhi,\* N. Tsao, Ž. Tomović,  
J. Li, K. Müllen\*

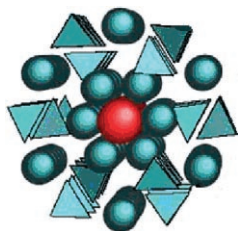
### Transparent Carbon Films as Electrodes in Organic Solar Cells

*Angew. Chem. Int. Ed.*

DOI: 10.1002/anie.200704909



**A window of opportunity:** A transparent graphene film has been obtained by a new bottom-up chemical approach involving the thermal reaction of synthetic nanographene molecules of giant polycyclic aromatic hydrocarbons which are cross-linked with each other and further fused into larger graphene sheets. Such graphene films have been applied as window electrodes in organic solar cells (see picture).



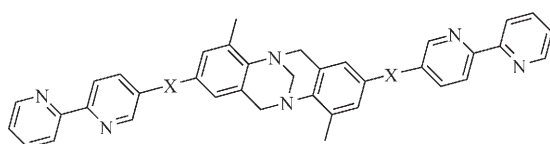
The cluster-topotactic mechanism of the formation of apatite-type lanthanum silicate by mechanochemical treatment involving hydration of the starting compounds and acid–base reactions is shown. The formation of the  $\text{LaAlO}_3$  phase, which depends on the sample stoichiometry, suggests the existence of a biphasic domain in the  $\text{La}_2\text{O}_3\text{--SiO}_2\text{--Al}_2\text{O}_3$  phase diagram at room temperature.

## Nanocrystalline Lanthanum Silicates

*T. Kharlamova,\* S. Pavlova, V. Sadykov, M. Chaikina, T. Krieger, O. Lapina, D. Khabibulin, A. Ishchenko, V. Zaikovskii, C. Argirusis, J. Frade*

### Al-Doped Apatite-Type Nanocrystalline Lanthanum Silicates Prepared by Mechanochemical Synthesis: Phase, Structural and Microstructural Study

*Eur. J. Inorg. Chem.*  
DOI: 10.1002/ejic.200700972



X = single bond, ethynylene, ester, or amide linker

Dissymmetrical bis(bipyridine) ligands based on the Tröger's base scaffold have been synthesized with both rigid and flexible spacer units. These racemic ligands do form double- and triple-stranded helicates

tion to suitable transition metal ions. These self-assembly processes are diastereoselective in the cases of dinuclear  $\text{Cu}^+$ ,  $\text{Ag}^+$ , and  $\text{Fe}^{2+}$  helicates but not in the case of  $\text{Zn}^{2+}$  complexes.

## Diastereoselective Self-Assembly

*U. Kiehne, T. Weilandt, A. Lützen\**

### Self-Assembly of Dinuclear Double- and Triple-Stranded Helicates from Bis(bipyridine) Ligands Derived from Tröger's Base Analogues

*Eur. J. Org. Chem.*  
DOI: 10.1002/ejoc.200701215



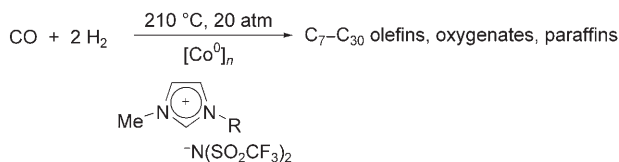
**Seeing red with dimers!** BisBODIPYs, dimers of well-known boron dipyrin (BODIPY) fluorophores, have successfully been prepared from boron trifluoride and 2,2'-bidipyrins. The dimers display conformationally locked molecular structures and are characterized by an intense red fluorescence at 640 nm, with quantum yields of about 0.70 and Stokes shifts of at least 80 nm (see graphic).

## Fluorescence

*M. Bröring,\* R. Krüger, S. Link, C. Kleeberg, S. Köhler, X. Xie, B. Ventura, L. Flamigni*

### Bis(BF<sub>2</sub>)-2,2'-Bidipyrins (BisBODIPYs): Highly Fluorescent BODIPY Dimers with Large Stokes Shifts

*Chem. Eur. J.*  
DOI: 10.1002/chem.200701912



**FT special report:** Cobalt nanoparticles with a size of around 7.7 nm prepared in 1-alkyl-3-methylimidazolium bis(trifluoromethanesulfonyl)imide ionic liquids are effective catalysts for the Fischer–Tropsch (FT) synthesis, yielding ole-

fins, oxygenates, and paraffins ( $\text{C}_7\text{--C}_{30}$ ). The nanoparticles are easily prepared by the decomposition of  $[\text{Co}(\text{CO})_8]$  in the ionic liquid at  $150 \text{ }^\circ\text{C}$  and can be reused at least three times if they are not exposed to air.

## Fischer-Tropsch Catalysts

*D. O. Silva, J. D. Scholten, M. A. Gelesky, S. R. Teixeira, A. C. B. Dos Santos, E. F. Souza-Aguiar, J. Dupont\**

### Catalytic Gas-to-Liquid Processing Using Cobalt Nanoparticles Dispersed in Imidazolium Ionic Liquids

*ChemSusChem*  
DOI: 10.1002/cssc.200800022