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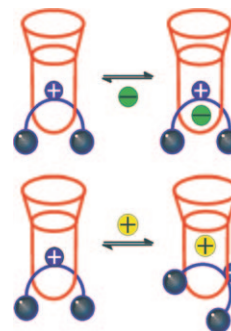


## Rotaxanes

A. V. Leontiev, C. A. Jemmett, P. D. Beer\*

Anion Recognition and Cation-Induced Molecular Motion in a Heteroditopic [2]Rotaxane

**Caught in a bind:** A heteroditopic [2]rotaxane with the capability to recognise anions and cations is described. Barium cation complexation effects a molecular displacement of the axle's positively charged pyridinium group from the rotaxane macrocyclic cavity resulting in molecular shuttling behaviour (see figure).



*Chem. Eur. J.*  
DOI: 10.1002/chem.201002405

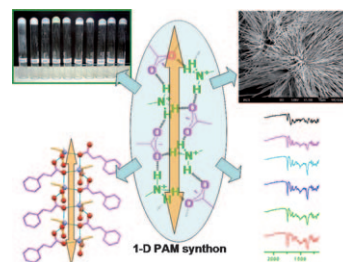


## Gelators

P. Sahoo, D. K. Kumar, S. R. Raghavan, P. Dastidar\*

Supramolecular Synthons in Designing Low Molecular Mass Gelling Agents: L-Amino Acid Methyl Ester Cinnamate Salts and their Anti-Solvent-Induced Instant Gelation

**Salts for gels and pest:** Primary ammonium monocarboxylate (PAM) supramolecular synthon (see figure) has been exploited to get an easy access to a new class of chiral gelators derived from L-amino acid methyl esters and cinnamic acid derivatives. Remarkably, 87.5% of the salts tested show gelation abilities. Some of these salts could be used as supramolecular containers for the slow release of pest sex pheromones.



*Chem. Asian J.*  
DOI: 10.1002/asia.201000560

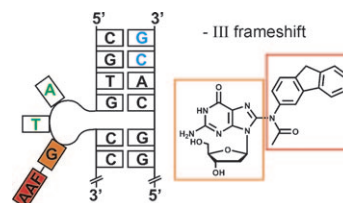


## DNA Damage

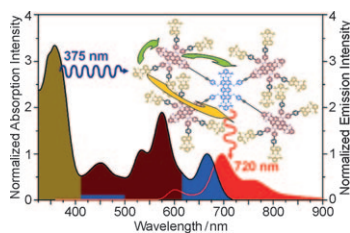
S. Schorr, T. Carell\*

Mechanism of Acetylaminofluorene-dG Induced Frameshifting by Polymerase  $\eta$

**Frameshift mutations:** Bulky adduct DNA lesions, such as the C8-acetylaminofluorene dG lesion (AAF-dG), induce frameshift mutations if they are placed in special gene sequences. With the help of synthetic AAF-dG lesions inserted into different repetitive frameshift-prone sequences, the molecular basis of the -I, -II, and -III frameshifting events was determined.



*ChemBioChem*  
DOI: 10.1002/cbic.201000579



ChemPhysChem

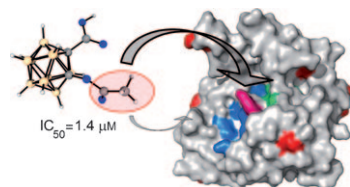
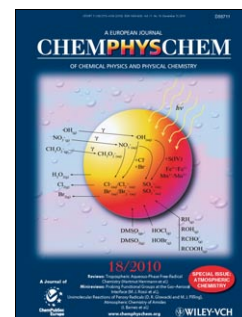
DOI: 10.1002/cphc.201000665

## Energy Transfer

E. Fron, L. Puhl, I. Oesterling, C. Li, K. Müllen, F. C. De Schryver, J. Hofkens, T. Vosch\*

Energy Transfer Pathways in a Rylene-Based Triad

**Rollercoaster energy:** Excitation of the naphthalenemonoimide units in a rylene-based triad leads to efficient migration of the excitation energy towards the central terrylene diimide (see picture).



ChemMedChem

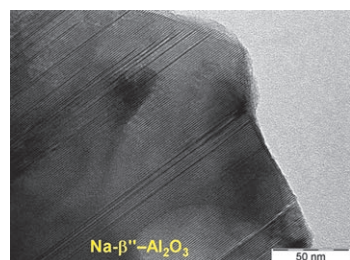
DOI: 10.1002/cmdc.201000368

## Carbaboranes

M. Scholz, M. Steinhagen, J. T. Heiker, A. G. Beck-Sickinger, E. Hey-Hawkins\*

Asborin Inhibits Aldo/Keto Reductase 1A1

**Never a dull moment with borane!** Substitution of the phenyl ring in aspirin for an *ortho*-carbaborane to give asborin led to a loss in inhibitory potency against cyclooxygenases (COX); however, asborin inhibits aldo/keto reductase (AKR) instead. This change in drug target can be attributed to both the geometry and the unique electronic properties of the *ortho*-carbaborane pharmacophore.



ChemSusChem

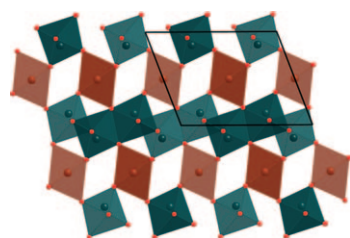
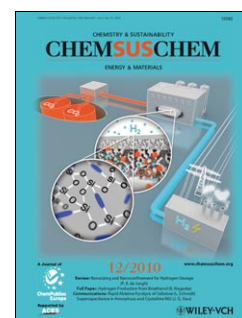
DOI: 10.1002/cssc.201000223

## Energy Storage

D. La Rosa, G. Monforte, C. D'Urso, V. Baglio, V. Antonucci, A. S. Aricò\*

Enhanced Ionic Conductivity in Planar Sodium- $\beta$ "-Alumina Electrolyte for Electrochemical Energy Storage Applications

**A high-density, planar Na- $\beta$ "-Al<sub>2</sub>O<sub>3</sub> solid electrolyte** is prepared by a simple chemical route at temperatures lower than the state-of-the-art, from a nanometer-sized boehmite precursor. The ionic conductivity of the electrolyte is about double that of a commercial sodium- $\beta$ "-alumina tube in the temperature range of interest for electrochemical energy storage devices.



ChemCatChem

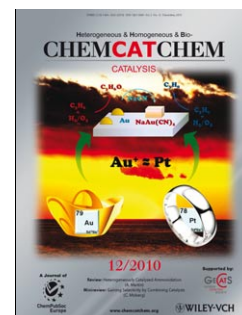
DOI: 10.1002/cctc.201000224

## Heterogeneous Catalysis

A. Karpov, C. Deissler, C.-K. Dobner, H. Hibst, G. Cox, N. Brem, S. A. Schunk, R. E. Dinnebier, F. Rosowski\*

AgMoVO<sub>6</sub>: A Promising Catalyst for Selective Gas-Phase Oxidation of *o*-Xylene

**MoVing on up:** AgMoVO<sub>6</sub>, a new crystalline catalyst for the gas-phase oxidation of *o*-xylene, with a remarkably high selectivity to value products, has been developed by high-throughput experimentation. Doping of the catalyst with elements such as P results in further enhancement of the catalytic properties.



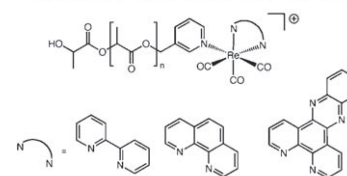
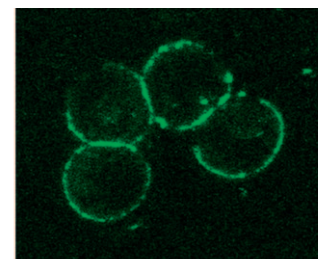


## Fluorescent Polymers for Imaging

N. E. Brückmann, S. Kögel, A. Hamacher, M. U. Kassack, P. C. Kunz\*

Fluorescent Poly(lactides) with Rhenium(bisimine) Cores for Tumour Diagnostics

$\text{Re}(\text{CO})_3(\text{bisimine})\text{Br}$  fluorochromes were coordinated to pyridine-functionalised poly(lactides) to afford fluorescent polymers, which can be used to passively target tumours. Their properties and usefulness for biological imaging have been investigated.



*Eur. J. Inorg. Chem.*  
DOI: 10.1002/ejic.201000721

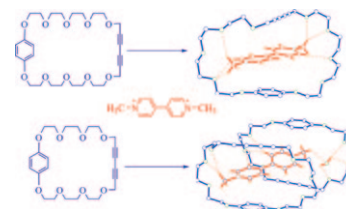


## Host–Guest Chemistry

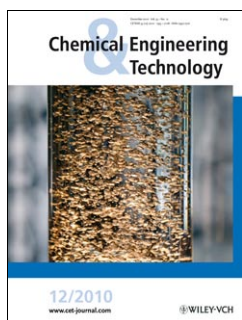
Y. Feng, J. Li, L. Jiang,\* Z. Gao, W. Huang, F. Jiang, N. Luo, S. Han, R. Zeng, D. Yang

Efficient Syntheses and Complexation Studies of Diacetylene-Containing Macrocylic Polyethers

A series of diacetylene-containing crown ethers was synthesized in high yields by employing copper(II)-mediated Eglinton coupling as the key macrocyclization. Complexation results show that macrocycles with tetraethylene glycol and triethylene glycol chains bind a paraquat guest to form [2]- and [3]pseudorotaxane-like complexes, respectively.



*Eur. J. Org. Chem.*  
DOI: 10.1002/ejoc.201001140

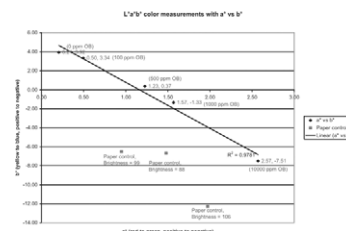


## Polymers

G. L. Shoaf

Delivering Solvent Based Polymers in Eco-Friendly Water Based Systems

Providing solvent-borne polymer properties in waterborne systems has been a challenge for a long time. Now, many types of solvent-borne polymers can be incorporated in hybrid polymer systems by using a unique polymer processing technique providing a wide range of important properties for coatings, adhesives, and brightening agents in environmentally friendly water-based delivery systems.



*Chem. Eng. Tech.*  
DOI: 10.1002/ceat.201000141