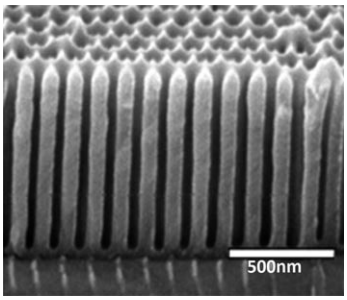
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.


### *Drug Delivery*

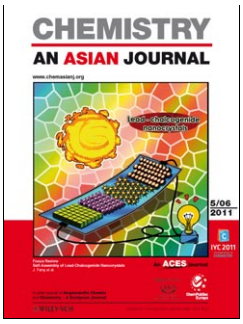
J. L. Perry, C. R. Martin,* J. D. Stewart*

Drug-Delivery Strategies by Using Template-Synthesized Nanotubes

**Special order delivery!** Template synthesis strategies provide excellent control over both the internal and external dimensions of nanotubes. Because these methods also allow internal and external surfaces to display disparate functional groups, template-synthesized nanotubes are very attractive starting points for drug-delivery vehicles (see graphic). Several key advances have recently been made that bring this goal closer to reality and are discussed in this Concept article.




*Chem. Eur. J.*
DOI: **10.1002/chem.201002835**

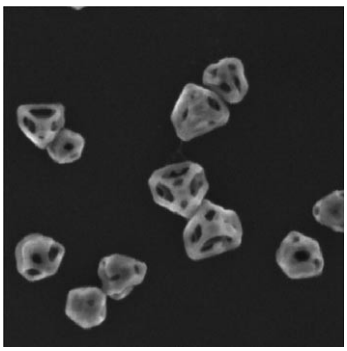



### *Nanocrystals*

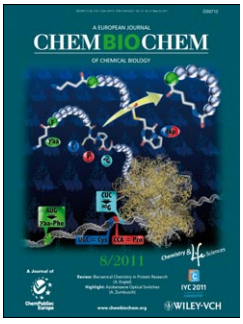
C. M. Cobley, Q. Zhang, W. Song, Y. Xia*

The Role of Surface Nonuniformity in Controlling the Initiation of a Galvanic Replacement Reaction

**Spot the difference**: Performing a galvanic replacement reaction with silver nanostructures that have nonuniform surfaces (e.g., asymmetrically truncated octahedra; see picture) makes it possible to probe the effects of atomic packing, facet location, and facet size on the initiation of the reaction.



*Chem. Asian J.*
DOI: **10.1002/asia.201000944**

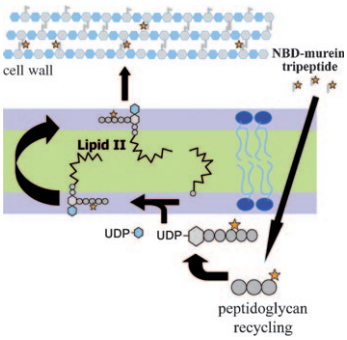



### *Cell Cycle*

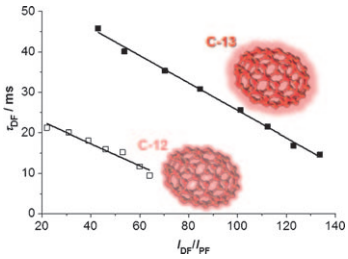
N. K. Olrichs, M. E. G. Aarsman, J. Verheul, C. J. Arnusch, N. I. Martin, M. Hervé, W. Vollmer, B. de Kruijff, E. Breukink,* T. den Blaauwen

A Novel in vivo Cell-Wall Labeling Approach Sheds New Light on Peptidoglycan Synthesis in *Escherichia coli*

**Wall watching**: A new bacterial cell-wall-labeling method has been designed to study peptidoglycan synthesis and turnover in relation to cell growth and division. It involves the incorporation of labeled peptidoglycan precursors into the cell wall by means of the cell wall recycling pathway.




*ChemBioChem*
DOI: **10.1002/cbic.201000552**



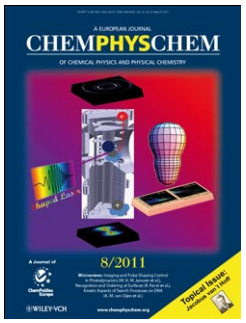

*ChemPhysChem*
DOI: **10.1002/cphc.201100156**

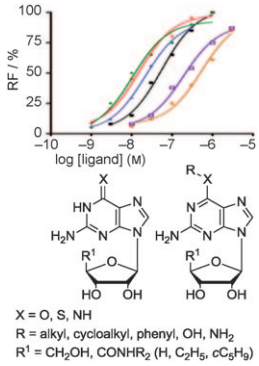
***Isotope Effects***

C. Baleizão, M. N. Berberan-Santos*

The Brightest Fullerene: A New Isotope Effect in Molecular Fluorescence and Phosphorescence

**The brightest one**: Substitution of $^{12}C$ by $^{13}C$ in $C_{70}$ leads to major changes in its delayed fluorescence and phosphorescence properties (see graphs). This new isotope effect decreases the internal conversion and $T_1 \rightarrow S_0$ intersystem crossing rates by a mass effect, and increases the $S_1 \leftarrow T_1$ intersystem crossing rate by a nuclear magnetic effect. It is also shown that $^{13}C_{70}$ is by far the brightest fullerene known.



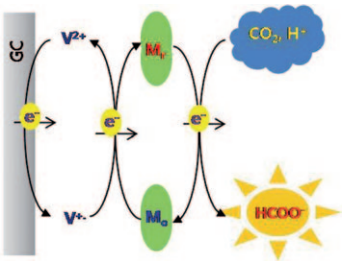

*ChemMedChem*
DOI: **10.1002/cmdc.201100100**

***Drug Discovery***

R. Volpini, G. Marucci, M. Buccioni, D. Dal Ben, C. Lambertucci, C. Lammi, R. C. Mishra, A. Thomas, G. Cristalli*

Evidence for the Existence of a Specific G Protein-Coupled Receptor Activated by Guanosine

**Catching the elusive guanosine receptor**: The innovative DELFIA Eu-GTP binding assay was applied to characterize the guanosine binding site by using novel and known guanosine derivatives. Some of the tested compounds, which proved to be full agonists with $EC_{50}$ values in the low nanomolar range, could be useful tools for further characterization of the putative guanosine receptor.

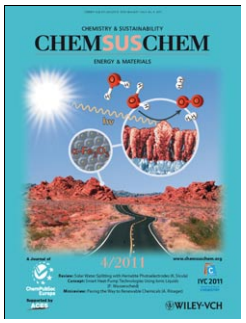

*ChemSusChem*
DOI: **10.1002/cssc.201100107**

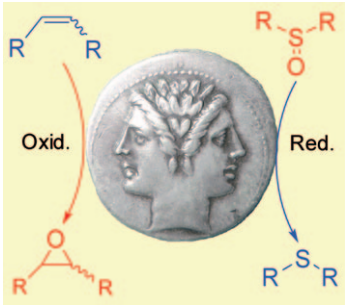
***Carbon dioxide conversion***

J. Song, Y. Kim, M. Lim, H. Lee, J. I. Lee, W. Shin*

Microbes as Electrochemical $CO_2$ Conversion Catalysts

**Microbe Machines**: The acetogenic bacteria *Moorella thermoacetica* and *Clostridium formicoaceticum* convert $CO_2$ into formate with a current efficiency of 80–100% in phosphate buffer solution (pH 7.0) at −0.58 V vs. NHE; near the equilibrium potential of $CO_2$/formate. The results widen the choice of catalysts for electrochemical $CO_2$ conversion by including microorganisms already developed and optimized in Nature.



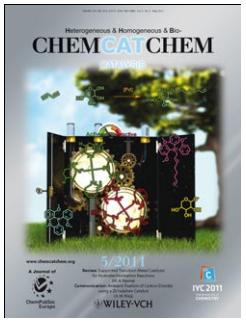

*ChemCatChem*
DOI: **10.1002/cctc.201100007**

***Epoxidation***

S. Krackl, A. Company, S. Enthaler,* M. Driess*

Low-Valent Molybdenum-Based Dual Pre-Catalysts for Highly Efficient Catalytic Epoxidation of Alkenes and Deoxygenation of Sulfoxides

**Molybdenum, the hero**: A series of triply bonded dimolybdenum(III) hexaalkoxides were tested as pre-catalysts in olefin epoxidation and sulfoxide deoxygenation. The complexes exhibited high performance in both types of reactions. For example, in the catalytic epoxidation of cyclooctene, turnover frequencies of above 60000 $h^{-1}$ were achieved at elevated temperatures (≈50 °C). In general, their activities are very high, surpassing those previously reported for other molybdenum-based catalysts in analogous transformations.

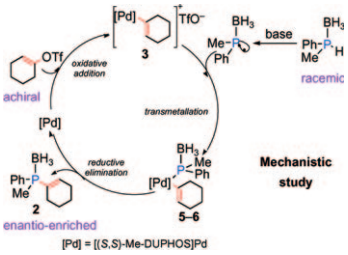



## *Asymmetric Phosphination*

D. Julienne, O. Delacroix, J.-F. Lohier, J. S. de Oliveira-Santos, A.-C. Gaumont*

Mechanistic Insights into the Palladium-Catalysed Asymmetric Phosphination of Cyclohexenyl Triflate

Preliminary mechanistic investigations on the asymmetric C–P cross-coupling reaction between secondary (methyl)phenylphosphane–borane and cyclohexenyl triflate is reported. The individual steps as well as the structure of the main intermediates involved in the catalytic cycle have been determined. A kinetic resolution process was proposed to explain the enantioselection observed.



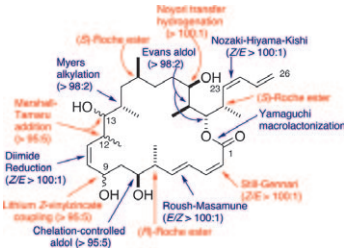

*Eur. J. Inorg. Chem.*
DOI: **10.1002/ejic.201000987**


## *Asymmetric Total Synthesis*

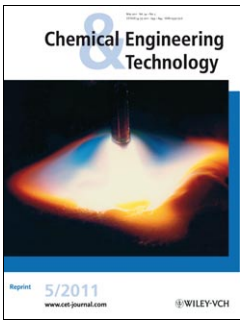
C. Zanato, L. Pignataro, A. Ambrosi, Z. Hao, C. Trigili, J. F. Díaz, I. Barasoain, C. Gennari*

Highly Stereoselective Total Synthesis of (+)-9-*epi*-Dictyostatin and (–)-12,13-Bis-*epi*-dictyostatin

Eleven stereogenic centers and fourstereogenic double bonds were obtained with a high level of stereocontrol in the total synthesis of (+)-9-*epi*-dictyostatin and (–)-12,13-bis-*epi*-dictyostatin, diastereomers of the antimitotic marine sponge-derived macrolide (–)-dictyostatin.




*Eur. J. Org. Chem.*
DOI: **10.1002/ejoc.201100244**

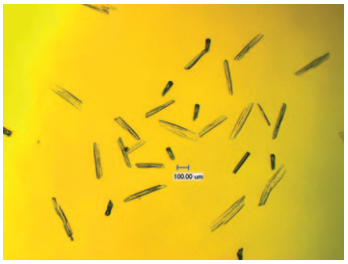



## *Purified* L-*Asparaginase B*

C. Müller, Y. Liu, A. Migge, M. Pietzsch, J. Ulrich*

Recombinant *L*-Asparaginase B and its Crystallization – What is the Nature of Protein Crystals?

A new recombinant *Escherichia coli* BL21Gold (DE3) pET11a-ansB was used to increase the production of *L*-asparaginase B. To enhance the purity and preserve the activity of *L*-asparaginase B, crystallization was reproducibly performed in two modifications. Purification by vacuum filtration with a cellulose acetate membrane provided the best result regarding activity, crystallization ability, and crystal shape.



*Chem. Eng. Technol.*
DOI: **10.1002/ceat.201000504**