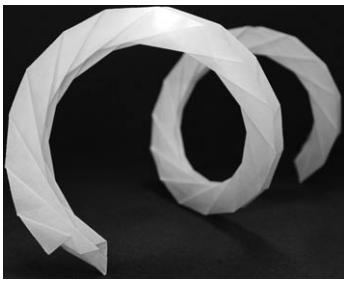
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley InterScience.


## *Convoluted Foldamers*

J. J. Mousseau, L. Xing, N. Tang, L. A. Cuccia*

Design and Synthesis of Urea-Linked Aromatic Oligomers—A Route Towards Convoluted Foldamers

**All folded up**: The design and synthesis of crescent-shaped and helical urea-based foldamers, the curvature of which is controlled by varying the constituent building blocks and their connectivity is reported. These oligomers are comprised of two, three or five alternating aromatic heterocycles (pyridazine, pyrimidine or pyrazine) and methyl-substituted aromatic carbocycles (tolyl, *o*-xylyl or *m*-xylyl) connected together through urea linkages.



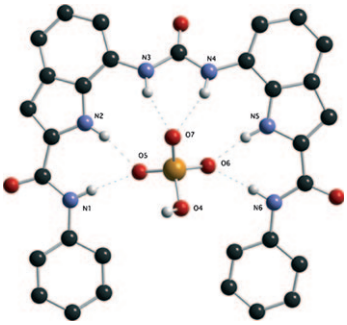
*Chem. Eur. J.*
DOI: **10.1002/chem.200901094**


## *Proton Transfer*

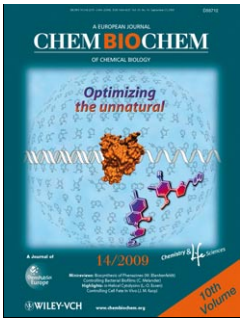
P. A. Gale,* J. R. Hiscock, S. J. Moore, C. Caltagirone, M. B. Hursthouse, M. E. Light

Anion–Anion Proton Transfer in Hydrogen Bonded Complexes

**Shifting p$K_a$**: Amide functionalized diindolylureas donate six hydrogen bonds to a single dihydrogen phosphate anion resulting in an increase in acidity of the bound phosphate guest. This study provides a possible explanation for the apparent formation of complexes with unusual stoichiometries when investigating the binding of dihydrogenphosphate anion to hydrogen-bonding receptors.




*Chem. Asian J.*
DOI: **10.1002/asia.200900230**

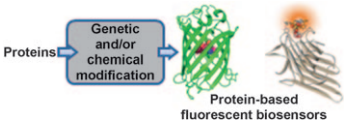



## *Fluorescent Biosensors*

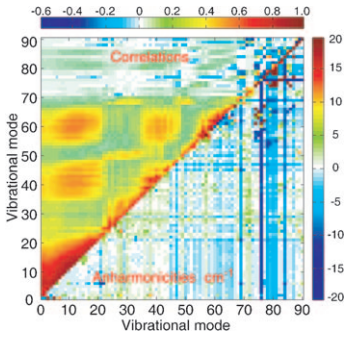
H. Wang, E. Nakata, I. Hamachi*

Recent Progress in Strategies for the Creation of Protein-Based Fluorescent Biosensors

**The enlightenment**: In this review article we provide an overview of recent progress in protein-based fluorescent biosensors with respect to the platform and construction strategies, which are primarily divided into genetically encoded fluorescent biosensors and chemically constructed biosensors.




*ChemBioChem*
DOI: **10.1002/cbic.200900249**



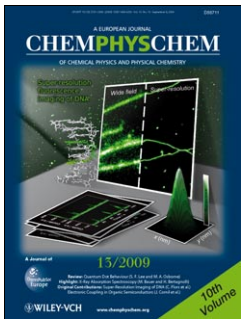

## 2D IR Spectroscopy

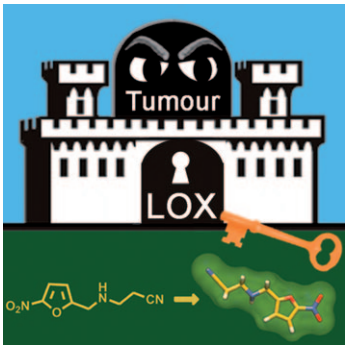
J. Wang,* K. Cai, X. Ma

Ultrafast Structural Dynamics of Biomolecules Examined by Multiple-Mode 2D IR Spectroscopy: Anharmonically Coupled Motions are in Harmony

**Good vibrations**: The vibrational frequency fluctuation correlations and anharmonicities of local and regional internal motions of biomolecules, such as alanine tripeptide, are examined by ab initio computations and molecular dynamics simulations (see picture). The signatures of correlated structural dynamics are predicted to be trackable in the simulated broadband 2D IR spectra.

*ChemPhysChem*
DOI: **10.1002/cphc.200900301**



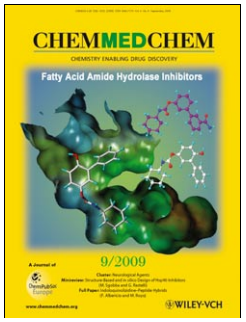

## Prodrugs

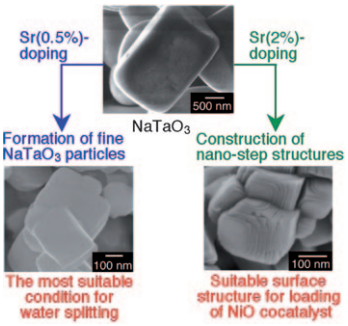
C. Granchi, T. Funaioli, J. T. Erler, A. J. Giaccia, M. Macchia, F. Minutolo*

Bioreductively Activated Lysyl Oxidase Inhibitors against Hypoxic Tumours

**The right keys for tumour locks**: Nitroaromatic and heteroaromatic portions are suitably sensitive to hypoxic conditions when used as BAPN masking groups, and the resulting prodrugs (pro-BAPNs) showed good levels of in vitro hypoxia-selective inhibition of lysyl oxidase (LOX) activity and cancer cell invasion.

*ChemMedChem*
DOI: **10.1002/cmdc.200900247**



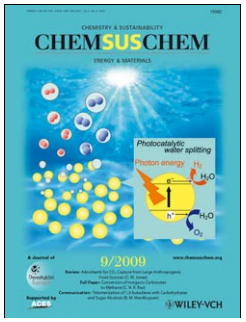

## Water Splitting

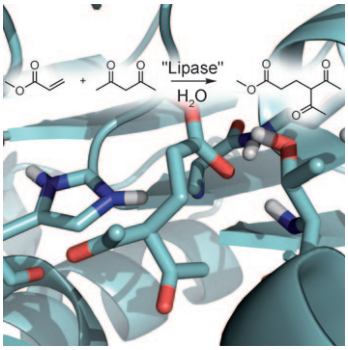
A. Iwase, H. Kato, A. Kudo*

The Effect of Alkaline Earth Metal Ion Dopants on Photocatalytic Water Splitting by $NaTaO_3$ Powder

**Quick-step**: The doping of alkaline earth metal ions into $NaTaO_3$ gives fine particles and surfaces with nanometer-scale step structures (see figure). The materials show dramatically improved activities in the photocatalytic water splitting reaction.

*ChemSusChem*
DOI: **10.1002/cssc.200900160**



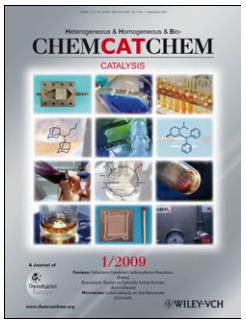

## Enzyme Catalysis

M. Svedendahl, B. Jovanović, L. Fransson, P. Berglund*

Suppressed Native Hydrolytic Activity of a Lipase to Reveal Promiscuous Michael Addition Activity in Water

**Enzyme catalytic promiscuity**: The native hydrolytic and promiscuous Michael addition activities of *Pseudozyma antarctica* lipase B, formerly known as *Candida antarctica* lipase B, are explored with and without the nucleophilic Ser105 residue in the active site by using both laboratory experiments and molecular modeling (see picture).

*ChemCatChem*
DOI: **10.1002/cctc.200900041**

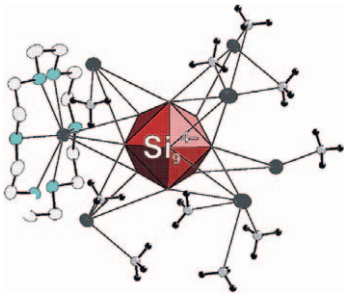


### $Si_9^{4-}$ Anions in Solution

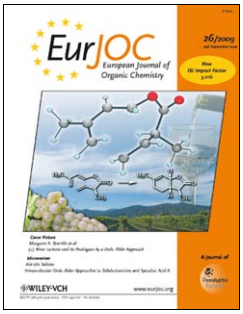
S. Joseph, C. Suchentrunk, F. Kraus, N. Korber*

$Si_9^{4-}$ Anions in Solution – Structures of the Solvates $Rb_4Si_9{\cdot}4.75NH_3$ and $[Rb(18\text{-crown-6})]Rb_3Si_9{\cdot}4NH_3$, and Chemical Bonding in $Si_9^{4-}$

Whereas the solution chemistry of $Ge_9^{4-}$, $Sn_9^{4-}$ and $Pb_9^{4-}$ is now well established, any evidence that $Si_9^{4-}$ might be similarly extracted from solids is still missing.




*Eur. J. Inorg. Chem.*
DOI: **10.1002/ejic.200900230**

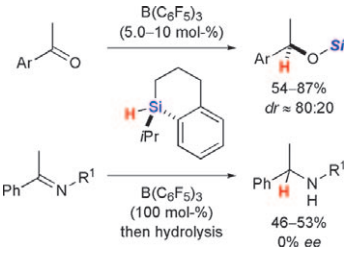


### *Lewis Acid Catalysis*

D. T. Hog, M. Oestreich*

$B(C_6F_5)_3$-Catalyzed Reduction of Ketones and Imines Using Silicon-Stereogenic Silanes: Stereoinduction by Single-Point Binding

**Probed with silicon**: Chirality at Si induces decent diastereoselectivity in the $B(C_6F_5)_3$-catalyzed carbonyl reduction whereas no stereoinduction is observed in the related imine reduction. Mechanisms of action are suggested for the irreversible, stereochemistry-determining hydride transfer from a borohydride. Moreover, an unusual 1,6-reduction with a borohydride is disclosed for a sterically congested ketone.




*Eur. J. Org. Chem.*
DOI: **10.1002/ejoc.200900796**