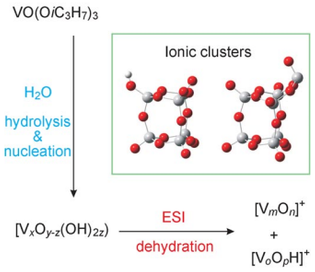
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley InterScience.

Metal-Oxide Clusters

X. Zhang, H. Schwarz*

Generation of Gas-Phase Nanosized Vanadium-Oxide Clusters from a Mononuclear Precursor by Solution Nucleation and Electrospray Ionization

H_2O, then no H_2O: A new protocol combining sol–gel processing with electrospray ionization can produce charged metal-oxide clusters from the mononuclear precursor $VO(OiC_3H_7)_3$. The size range of vanadium-oxide cluster ions in the gas phase was extended significantly up to $[V_{30}O_{75}H]^+$ (m/z 2728).



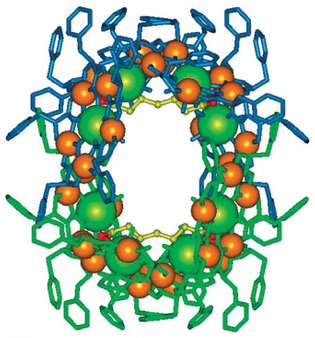
Chem. Eur. J.
DOI: **10.1002/chem.200902810**

Host–Guest Systems

C.-S. Lim, J. Jankolovits, J. W. Kampf, V. L. Pecoraro*

Chiral Metallacrown Supramolecular Compartments that Template Nanochannels: Self-Assembly and Guest Absorption

Bigger is better: With the appropriate guest and lanthanide central metal, chiral 15-metallacrown-5 hosts form 11,600 Dalton octameric nanoscale compartments. Notably, these massive molecular containers are accessible to guests in the solid state through the 2.4 nm diameter solvent channels that run through the crystal lattice. The absorption of large guest molecules at the solid–liquid interface is demonstrated.



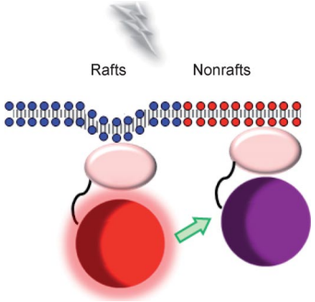
Chem. Asian J.
DOI: **10.1002/asia.200900612**

Biosensors

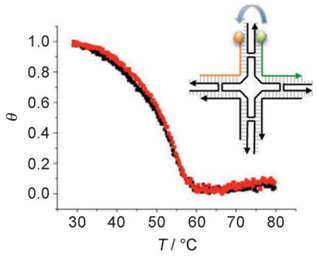
X. Gao, J. Zhang*

FRET-Based Activity Biosensors to Probe Compartmentalized Signaling

Illuminating compartmentalized signaling: We discuss the applications of FRET-based biosensors with a focus on understanding compartmentalized signaling of kinase and second-messenger dynamics. With their unique features of genetic encodability and targetability, these biosensors allow real-time tracking of activity dynamics with high spatiotemporal resolution.



ChemBioChem
DOI: **10.1002/cbic.200900594**



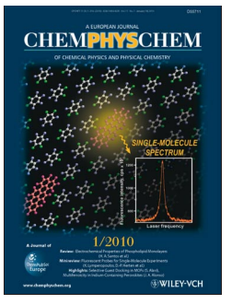
ChemPhysChem
DOI: **10.1002/cphc.200900477**

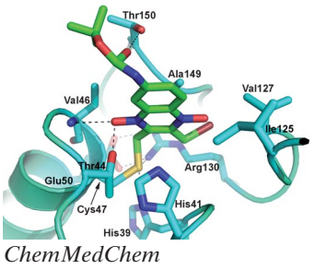
DNA Superstructure

B. Saccà, R. Meyer, C. M. Niemeyer*

Analysis of the Self-Assembly of 4×4 DNA Tiles by Temperature-Dependent FRET Spectroscopy

Potential weak points in the design of a DNA superstructure that can influence its structural integrity can be rapidly identified by a microplate-based method employing temperature-dependent Förster resonance energy transfer (FRET) spectroscopy, which is applied for detailed analysis of the self-assembly of different 4×4 DNA tile motifs (see figure).





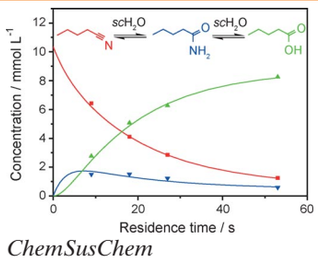
ChemMedChem
DOI: **10.1002/cmdc.200900391**

Antiparasitic Agents

G. Liu, C. H. Botting, K. M. Evans, J. A. G. Walton, G. Xu, A. M. Z. Slawin, N. J. Westwood*

Optimisation of Conoidin A, a Peroxiredoxin Inhibitor

Lead optimisation: Interest in the inhibition of peroxiredoxin has been revitalised by their recently identified role in signalling cascades. Here, the synthesis and analysis of novel analogues of the peroxiredoxin inhibitor conoidin A is described. Computational methods are used to rationalise the generated SAR data. These studies lead to a proposed binding mode for this class of compounds that will aid the design of second generation inhibitors.



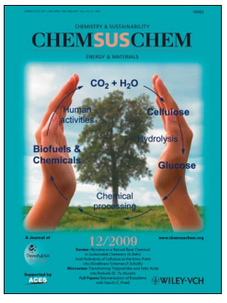
ChemSusChem
DOI: **10.1002/cssc.200900154**

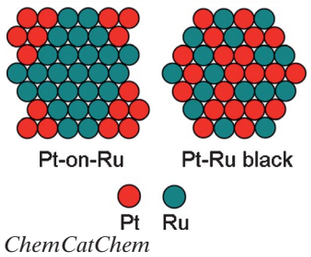
Supercritical Solvents

M. Sarlea, S. Kohl, N. Blickhan, H. Vogel*

Valeronitrile Hydrolysis in Supercritical Water

The outstanding characteristic of water as a reaction medium is the possibility of tuning properties by changing temperature and pressure. The hydrolysis of valeronitrile is investigated under supercritical conditions and optimal reaction parameters are determined. A valeric acid selectivity and nitrile conversion greater than 90% could be achieved.





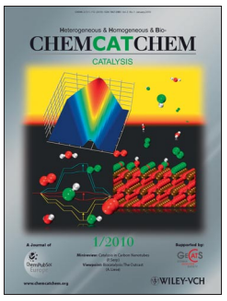
ChemCatChem
DOI: **10.1002/cctc.200900051**

Electrocatalysis

C.-H. Chen, L. S. Sarma, D.-Y. Wang, F.-J. Lai, C.-C. Al Andra, S.-H. Chang, D.-G. Liu, C.-C. Chen, J.-F. Lee, B.-J. Hwang*

Platinum-Decorated Ruthenium Nanoparticles for Enhanced Methanol Electrooxidation

An electrocatalyst formed by the reduction of Pt^{2+} ions on the surface of hexagonally close-packed (hcp) Ru core nanoparticles has been prepared by a redox–transmetalation process. As a result of the significant changes in the hcp stacking order and in the d-band vacancies, Pt-on-Ru catalyst nanoparticles exhibit improved catalytic activity for the electrooxidation of methanol compared to the commercial Pt–Ru catalyst.

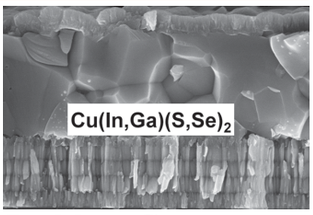


Solution-Processed Chalcopyrites

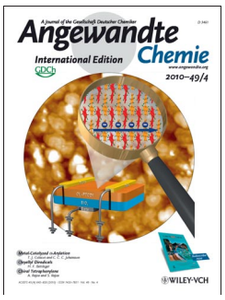
T. Todorov, D. B. Mitzi*

Direct Liquid Coating of Chalcopyrite Light-Absorbing Layers for Photovoltaic Devices

High-throughput deposition techniques available from coating and printing industries can be adapted for photovoltaic manufacturing, replacing costly vacuum processing. Recent advances in direct liquid-coating techniques for chalcopyrite thin films have achieved high device efficiencies. Transfer of these techniques to large-volume and low-cost production is in progress.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200900837**

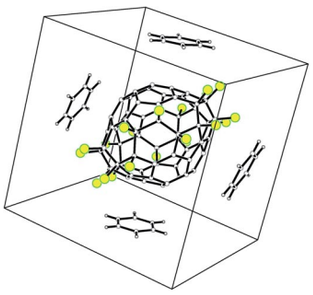


Fullerenes

N. B. Shustova, Z. Mazej, Y.-S. Chen, A. A. Popov, S. H. Strauss,* O. V. Boltalina*

Saturnene Revealed: X-ray Crystal Structure of D_{5d}-$C_{60}F_{20}$ Formed in Reactions of C_{60} with A_xMF_y Fluorinating Agents (A = Alkali Metal; M = 3d Metal)

Saturnene has four moons: Reactions of C_{60} with ternary metal fluorides yielded fluorofullerenes from $C_{60}F_2$ to $C_{60}F_{48}$, including elusive saturnene, $C_{60}F_{20}$, which has now been characterized by X-ray crystallography. Four benzene molecules "hover" over this D_{5d} molecule at the corners of a square inscribed in the idealized body-centered-cubic unit cell (see structure; F yellow). The tight unit-cell packing explains the very low solubility of saturnene.



Angew. Chem. Int. Ed.
DOI: **10.1002/anie.200905832**

