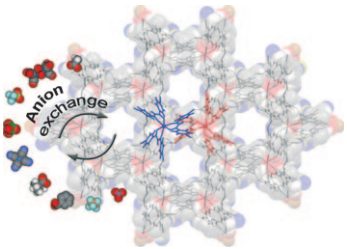
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.


## *Heterometallic Networks*

L. Carlucci,* G. Ciani, S. Maggini, D. M. Proserpio, M. Visconti

Heterometallic Modular Metal–Organic 3D Frameworks Assembled via New Tris-β-Diketonate Metalloligands: Nanoporous Materials for Anion Exchange and Scaffolding of Selected Anionic Guests

**Remarkably always the same framework!** Novel tris-chelate β-diketonate metalloligands were reacted with AgX salts to give more than 20 heterometallic networks of the type $[M^{III}\mathbf{L}_3Ag_3]X_3$ and $[M^{II}\mathbf{L}_3Ag_3]X_2$, all exhibiting the same framework structure, in spite of the different metal nodes, ionic charges and $X^-$ counterions. These nanoporous networks display large 1D channels containing the anions, which are easily exchanged with many anionic species (see figure).



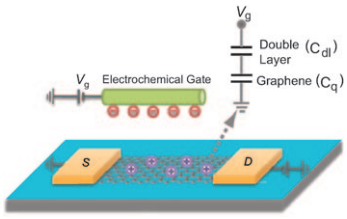

*Chem. Eur. J.*
DOI: **10.1002/chem.201001256**


## *Graphene*

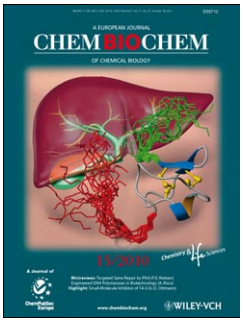
F. Chen, Q. Qing, J. Xia, N. Tao*

Graphene Field-Effect Transistors: Electrochemical Gating, Interfacial Capacitance, and Biosensing Applications

**The gates of Eden**: Electrochemically gated graphene field-effect transistors allow us to explore the intrinsic electronic properties of graphene, such as interfacial and quantum capacitance, and the density of charged impurities. The sensitive dependence of graphene electron transport on the surrounding environment points to their potential applications as ultrasensitive chemical and biosensors.




*Chem. Asian J.*
DOI: **10.1002/asia.201000252**

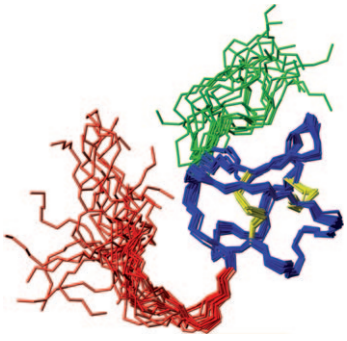



## *Antibiotics*

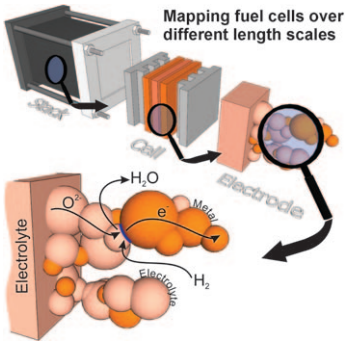
S. T. Henriques, C. C. Tan, D. J. Craik, R. J. Clark*

Structural and Functional Analysis of Human Liver-Expressed Antimicrobial Peptide 2

**Turning over a new LEAP**: The 3D structure of liver-expressed antimicrobial peptide 2 (LEAP-2) has been elucidated by using NMR spectroscopy. This peptide is believed to have a protective role against bacterial infection. The structure and key features of this cationic antimicrobial peptide are described, and its interaction with model membranes has been analyzed.



*ChemBioChem*
DOI: **10.1002/cbic.201000400**



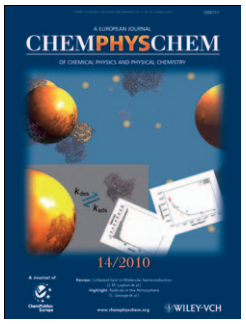

## Fuel Cells

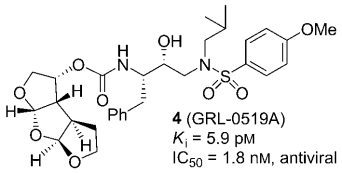
D. J. L. Brett,* A. R. Kucernak,* P. Aguiar, S. C. Atkins, N. P. Brandon, R. Clague, L. F. Cohen, G. Hinds, C. Kalyvas, G. J. Offer, B. Ladewig, R. Maher, A. Marquis, P. Shearing, N. Vasileiadis, V. Vesovic

What Happens Inside a Fuel Cell? Developing an Experimental Functional Map of Fuel Cell Performance

**What's going on inside?** Fuel cells are complex devices that rely on many coupled physical and chemical processes to operate. Understanding how a fuel cell works and appreciating how these processes interact is key to realising advanced designs and discovery of new materials. Novel diagnostic techniques are being used to examine the internal workings of fuel cells over a wide range of distance scales (see picture).

*ChemPhysChem*
DOI: **10.1002/cphc.201000487**



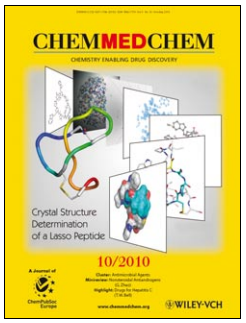

## Antiviral Agents

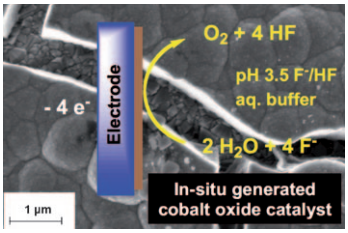
A. K. Ghosh,* C.-X. Xu, K. V. Rao, A. Baldridge, J. Agniswamy, Y.-F. Wang, I. T. Weber, M. Aoki, S. G. P. Miguel, M. Amano, H. Mitsuya

Probing Multidrug-Resistance and Protein–Ligand Interactions with Oxatricyclic Designed Ligands in HIV-1 Protease Inhibitors

**A healthier HAART**: We report the design, synthesis, biological evaluation, and X-ray crystallographic analysis of a new class of HIV-1 protease inhibitors. Compound **4** proved to be an extremely potent inhibitor toward various multidrug-resistant HIV-1 variants, representing a near 10-fold improvement over darunavir (DRV). Compound **4** also blocked protease dimerization with at least 10-fold greater potency than DRV.

*ChemMedChem*
DOI: **10.1002/cmdc.201000318**



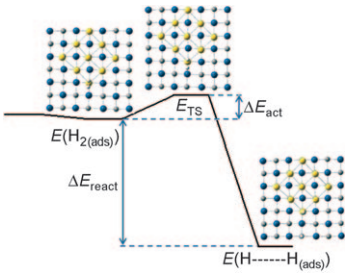

## Electrochemistry

J. B. Gerken, E. C. Landis, R. J. Hamers, S. S. Stahl*

Fluoride-Modulated Cobalt Catalysts for Electrochemical Oxidation of Water under Non-Alkaline Conditions

**The acid test**: Electrochemical oxidation of $Co^{II}$ salts in aqueous solution in the presence of fluoride (pH 3.5) results in formation of an heterogeneous cobalt oxide deposit on the electrode that serves as an electrocatalyst for water oxidation under mildly acidic conditions. Further studies reveal that fluoride is an effective proton acceptor for the oxygen-evolving reaction and lacks the inhibitory properties evident with other buffering electrolytes, such as inorganic phosphate.

*ChemSusChem*
DOI: **10.1002/cssc.201000161**


## Density Functional Theory

E. Florez, T. Gomez, P. Liu, J. A. Rodriguez, F. Illas*

Hydrogenation Reactions on Au/TiC(001): Effects of Au–C Interactions on the Dissociation of $H_2$

**Density functional** calculations carried out for realistic models evidence that Au particles supported on TiC(001) are very active towards $H_2$ dissociation. The molecular mechanisms show that the support is not a mere spectator but plays a major role in the catalyzed reaction and acts as a reservoir of atomic H, making this system an excellent candidate as a catalyst for the hydrogenation of olefins and hydrodesulfurization reactions.

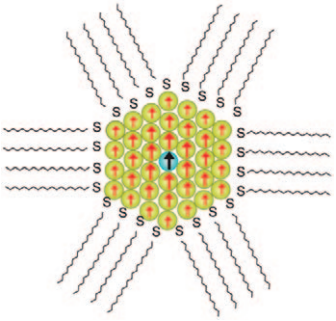
*ChemCatChem*
DOI: **10.1002/cctc.201000190**

## *Metal-Particle Nanomagnets*

A. Miyazaki,* Y. Ito, T. Enoki*

Classes of Nanomagnets Created from Alkanethiol-Coated Pt or Pd Nanoparticles and Their Alloys with Co

Novel classes of magnetic nanosystems are created using Pd or Pt nanopartices covered with alkanethiols and their alloys with a 3d transition metal. Charge transfer at the metal-organic interface and the quantum size effect yield magnetic Pt or Pd nanoparticles. Pd nanoparticles embedded with only one Co atom behave as a single-particle magnet showing blocking behaviour.



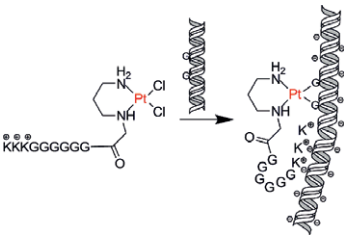
*Eur. J. Inorg. Chem.*
DOI: **10.1002/ejic.201000483**

## *Cisplatin Analogues*

M. S. Damian, H. K. Hedman, S. K. C. Elmroth, U. Diederichsen*

Synthesis and DNA Interaction of Platinum Complex/Peptide Chimera as Potential Drug Candidates

NA modification considering the influence of DNA confoCisplatin analogs based on cationic peptide/metal binding hybrids and differing in the number of peptide charges and the platinum coordination sites were prepared. Their cooperativity was investigated with respect to covalent Drmational change by charge-charge interaction and the significance of platinumligation.



*Eur. J. Org. Chem.*
DOI: **10.1002/ejoc.201000677**