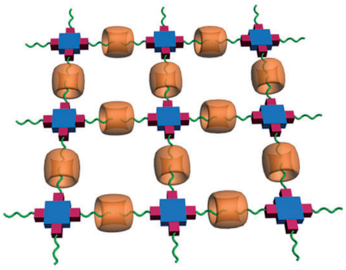
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.

Supramolecular Polymers

X. Xiao, J. Sun, J. Jiang*

X-Ray Structure of a Porphyrin–Tetramethylcucurbit[6]uril Supramolecular Polymer

A host–guest supramolecular polymer was constructed from cucurbit[6]uril host molecules (orange) and porphyrin guest molecules (red and blue) and its formation depends on host-enhanced hydrogen bonding interactions in combination with ion-dipole interactions. The polymer is the first structurally characterized cucurbit[*n*]uril–porphyrin supramolecular polymer.



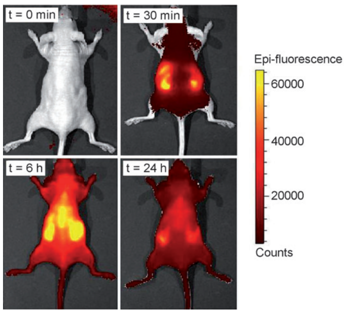
Chem. Eur. J.
DOI: **10.1002/chem.201303530**

Fluorescent probes

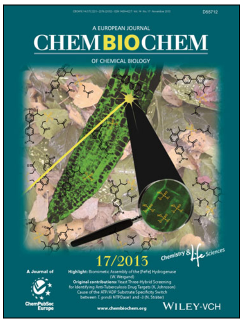
S. G. Awuah, S. K. Das, F. D'Souza, Y. You*

Thieno–Pyrrole-Fused BODIPY Intermediate as a Platform to Multifunctional NIR Agents

Something to PET: We have rationally designed a versatile thieno–pyrrole-fused BODIPY intermediate useful for the development of near-infrared (NIR) multifunctional agents. The NIR excitation range is 650–840 nm. The agents produce bright fluorescence useful for biomedical imaging (see image), generate singlet oxygen (non-halogenated BODIPY) with decent fluorescence for dual therapy and imaging, and were functionalized with donor moieties to induce photoinduced electron transfer/internal charge transfer (PET/ICT).



Chem. Asian J.
DOI: **10.1002/asia.201300855**

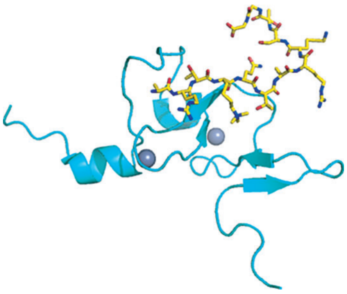


Protein-Protein Interactions

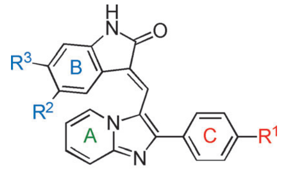
B. Pieters, R. Belle, J. Mecinović*

The Effect of the Length of Histone H3K4me3 on Recognition by Reader Proteins

Thermodynamic analyses of associations between reader domain proteins and histone H3K4me3 peptides demonstrated that the shortest recognised histone substrate contains just the first four amino acids in histone 3. Deletion or addition at the N terminus resulted in a substantial decrease of binding affinity for most readers, thus verifying the importance of the H3A1 binding pocket.



ChemBioChem
DOI: **10.1002/cbic.201300525**



10a–t

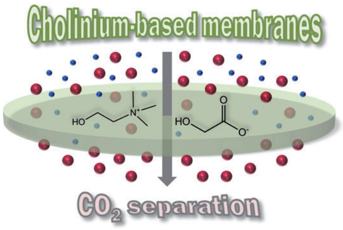
Antitumor Agents

A. Kamal,* V. S. Reddy, S. Karnewar, S. S. Chourasiya, A. B. Shaik, G. B. Kumar, C. Kishor, M. K. Reddy, M. P. Narasimha Rao, A. Nagabhushana, K. V. S. Ramakrishna, A. Addlagatta,* S. Kotamraju*

Synthesis and Biological Evaluation of Imidazopyridine–Oxindole Conjugates as Microtubule-Targeting Agents

Arrested development: A library of imidazopyridine–oxindole conjugates was synthesised and investigated for anticancer activity against various human cancer cell lines. Some of the tested compounds, such as **10a**, **10e**, **10f**, and **10k**, exhibited promising antiproliferative activity.

ChemMedChem
DOI: **10.1002/cmdc.201300308**



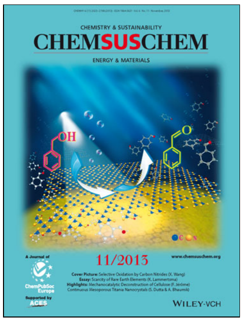
Carbon Dioxide Separation

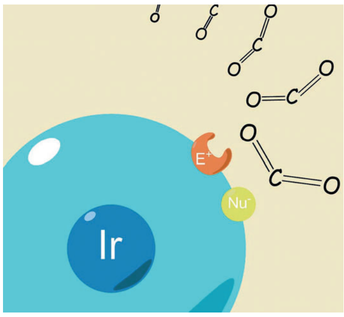
L. C. Tomé, D. J. S. Patinha, R. Ferreira, H. Garcia, C. Silva Pereira, C. S. R. Freire, L. P. N. Rebelo, I. M. Marrucho*

Cholinium-based Supported Ionic Liquid Membranes: A Sustainable Route for Carbon Dioxide Separation

Cholinium carboxylates are used to prepare sustainable alternative supported ionic liquid membranes (SILMs) for carbon dioxide (CO_2) separation. The salts are biodegradable and their ecotoxicities are promisingly low. Their CO_2/CH_4 and CO_2/N_2 permselectivities are competitive compared to other membranes based on commonly used ionic liquids.

ChemSusChem
DOI: **10.1002/cssc.201300613**





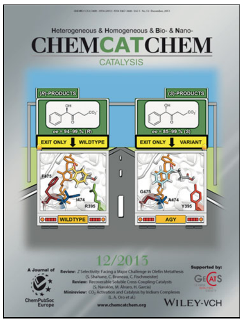
CO_2 Oxidation

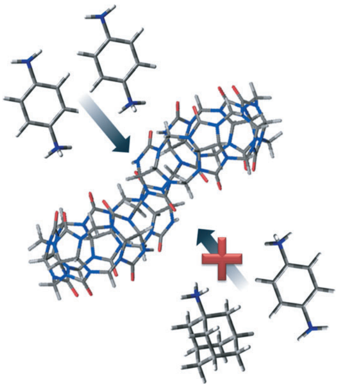
F. J. Fernández-Alvarez, M. Iglesias, L. A. Oro,* V. Polo

CO_2 Activation and Catalysis Driven by Iridium Complexes

CO_2 activation: The interaction of iridium complexes with carbon dioxide and subsequent homogeneous catalytic processes reported so far are reviewed. In general, outer-sphere mechanisms seem to prevail in the catalytic functionalization of carbon dioxide by iridium complexes.

ChemCatChem
DOI: **10.1002/cctc.201300559**





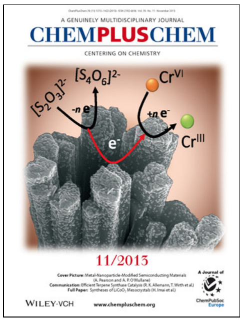
Cucurbiturils

V. Lemaur, G. Carroy, F. Poussigue, F. Chirot, J. De Winter, L. Isaacs, P. Dugourd, J. Cornil, P. Gerbaux*

Homotropic Allosterism: In-Depth Structural Analysis of the Gas-Phase Noncovalent Complexes Associating a Double-Cavity Cucurbit[*n*]uril-Type Host and Size-Selected Protonated Amino Compounds

Molecular containers: Noncovalent complexes associating two size-selected protonated amino guests inside a double-cavity cucurbit[*n*]uril-type host are transferred from their acidic aqueous solutions to the gas phase upon electrospray ionization. Ion mobility spectroscopy coupled with mass spectrometry and combined with computational chemistry point to the conservation of the condensed-phase structure (see figure).

ChemPlusChem
DOI: **10.1002/cplu.201300208**

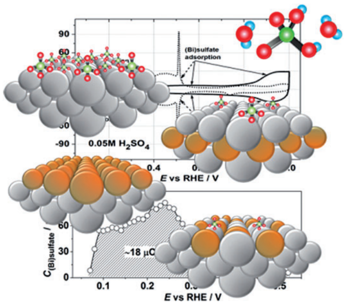


Surface Science

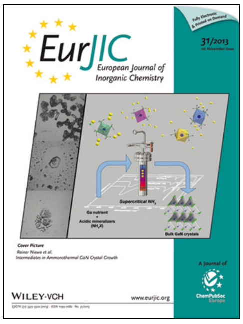
J. Tymoczko, W. Schuhmann, A. S. Bandarenka*

Position of Cu Atoms at the Pt(111) Electrode Surfaces Controls Electrosorption of (H)SO$_4^{(2)-}$ from H$_2$SO$_4$ Electrolytes

Strategic placement: Changing the relative position of Cu atoms located at the surface of Pt(111) electrodes allows the control of the electrosorption properties of the surface.



ChemElectroChem
DOI: **10.1002/celc.201300107**

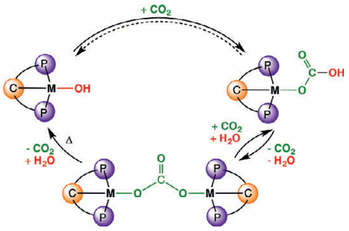


Carbon Dioxide Chemistry

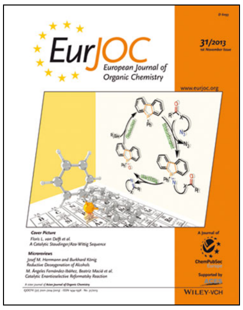
L. M. Martínez-Prieto, C. Real, E. Ávila, E. Álvarez, P. Palma, J. Cámpora*

Reversible Reactions of Ni and Pd Hydroxo Pincer Complexes [(^{iPr}PCP)M–OH] with CO$_2$: Solid-State Study of the Decarboxylation of the Monomeric Bicarbonate Complexes [(^{iPr}PCP)M–OCOOH] (M = Ni, Pd)

Monomeric Ni and Pd hydroxides stabilized by the ^{iPr}PCP pincer ligand react with CO$_2$ to give labile terminal hydrogen carbonate complexes that readily lose CO$_2$ and water to give binuclear carbonate complexes.



Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201300995**

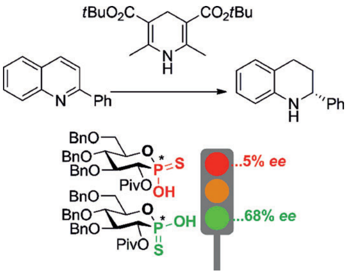


Organocatalysis

A. Ferry, J. Stemper, A. Marinetti, A. Voituriez,* X. Guinchard*

Thiophostone-Derived Brønsted Acids in the Organocatalyzed Transfer Hydrogenation of Quinolines: Influence of the P-Stereogenicity

The synthesis and catalytic activities of P-chiral Brønsted acids possessing a thiophostone-derived skeleton are described. The stereochemical outcome of the test reaction is strongly dependant on the stereochemistry of the phosphorus atom.



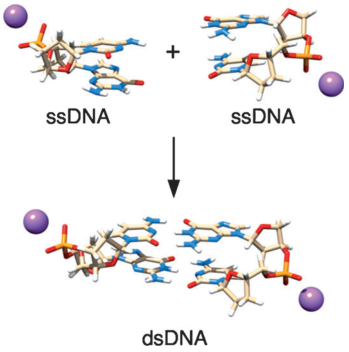
Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201301253**

Computational Chemistry

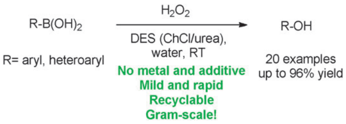
G. Barone,* C. Fonseca Guerra, F. M. Bickelhaupt*

B-DNA Structure and Stability as Function of Nucleic Acid Composition: Dispersion-Corrected DFT Study of Dinucleoside Monophosphate Single and Double Strands

Bonds and order: The stability of the B-DNA double helix is shown (see illustration), based on dispersion-corrected density functional computations, to depend not only on the number of hydrogen bonds in Watson–Crick base pairs but also on the order and orientation in which these base pairs occur.



ChemistryOpen
DOI: **10.1002/open.201300019**



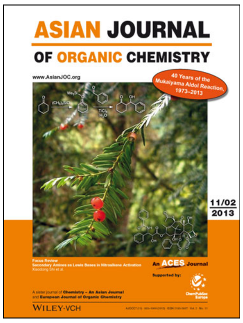
Sustainable Chemistry

L. Wang, D.-Y. Dai, Q. Chen, M.-Y. He*

Rapid, Sustainable, and Gram-Scale Synthesis of Phenols Catalyzed by a Biodegradable Deep Eutectic Mixture in Water

In deep: A rapid, sustainable, and gram-scale synthesis of phenols from aryl/heteroarylboronic acids and their derivatives in the presence of a deep eutectic solvent (DES) of choline chloride and urea has been developed. The reactions proceed at room temperature to give the desired products selectively in a few minutes and the catalyst is recyclable up to five times without loss of product yield.

Asian J. Org. Chem.
DOI: **10.1002/ajoc.201300192**



Chemistry Careers

Vera Koester

As a Chemist Coaching Managers

After gaining a Ph.D. in inorganic chemistry Dr. Gaby Schilling then worked in industry for many years, initially as a research chemist and then as a manager. Now she is a coach for scientists in managerial positions. In this interview, she explains that as her career progressed her interests shifted from the science to the more human side of business and discusses the unique challenges of her new position.

ChemViews magazine
DOI: **10.1002/chemv.201300115**