



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.

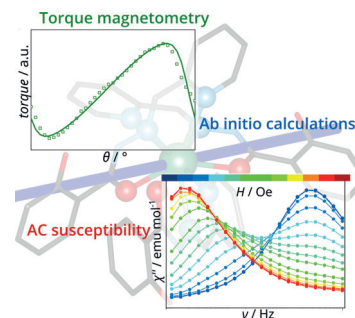


Single-Molecule Magnets

E. Lucaccini, M. Briganti, M. Perfetti, L. Vendier, J.-P. Costes, F. Totti,* R. Sessoli, L. Sorace*

Relaxation Dynamics and Magnetic Anisotropy in a Low-Symmetry Dy^{III} Complex

Magnetic effects: The combination of cantilever torque magnetometry, advanced ab initio calculations and ac susceptibility measurements provided a detailed picture of the electronic structure of a new Dy^{III} single-molecule magnet and its relationship to the rich low-temperature spin dynamics (see figure).



Chem. Eur. J.
DOI: 10.1002/chem.201505211

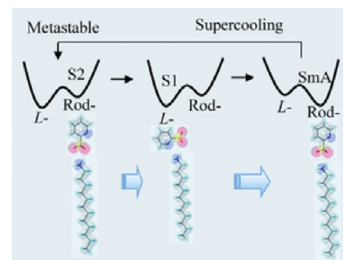


Phase Transitions

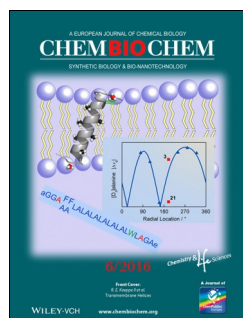
A. Funada, S. Uchikawa, N. Hoshino, T. Takeda, T. Akutagawa*

Conformational Transformations of (C₁₂H₂₅NH₃⁺)(Pyridinesulfonate) in the Solid State

Spare the rod: Dynamic conformational transformations from rodlike to L-shaped assemblies were observed in 1:1 simple organic salts.



Chem. Asian J.
DOI: 10.1002/asia.201501442

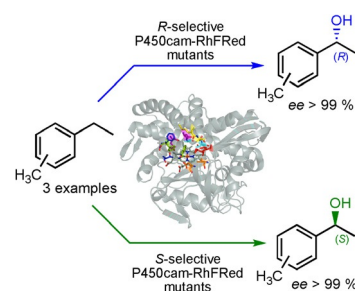


Biocatalysis

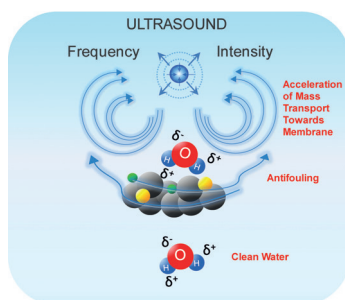
A. Eichler, L. Gricman, S. Herter, P. P. Kelly, N. J. Turner, J. Pleiss,* S. L. Flitsch*

Enantioselective Benzylic Hydroxylation Catalysed by P450 Monooxygenases: Characterisation of a P450cam Mutant Library and Molecular Modelling

Finding the best cast: A combination of experimental screening and molecular dynamics simulation was used to study the enantioselectivity of a library of active-site mutants of chimeric P450cam-RhFRed in benzylic hydroxylation of structurally related regioisomers of ethylmethylbenzene, resulting in the identification of three new P450cam mutants with excellent and opposite enantioselectivities.



ChemBioChem
DOI: 10.1002/cbic.201500536



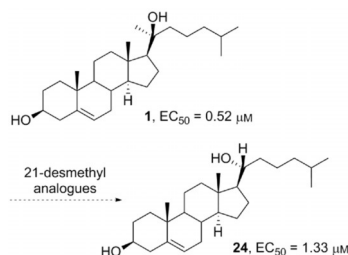
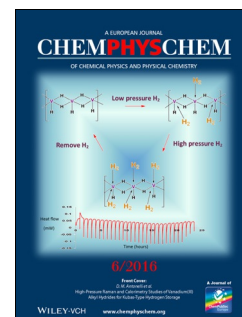
ChemPhysChem
DOI: 10.1002/cphc.201500960

Ultrasound

D. Radziuk,* H. Möhwald

Ultrasonic Mastering of Filter Flow and Antifouling of Renewable Resources

A sound method! The use of ultrasound in water cleaning is reviewed. Important parameters for the delivery of a fluid flow are highlighted from a technical perspective employing principles of physics and chemistry.



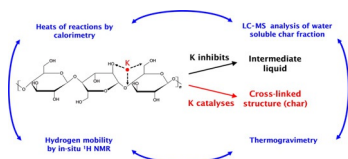
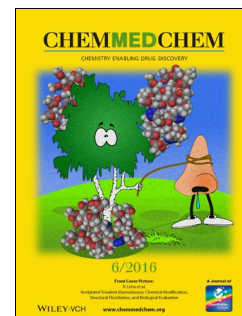
ChemMedChem
DOI: 10.1002/cmdc.201500550

Structure–Activity Relationships

C. A. Maschinot, A. R. Corman, A. M. DeBerardinis, M. K. Hadden*

Synthesis and Evaluation of Osteogenic Oxysterols as Hedgehog Pathway Activators

Smoothing out some SARs: The stereochemical orientation of side chain functional groups on the oxysterol scaffold is known to be important for Hedgehog pathway activation. The development of a new synthetic strategy for a previously reported agonist has allowed further structure–activity relationship explorations of this region with the evaluation of synthetic analogues possessing inverted or removed C21 methyl groups.



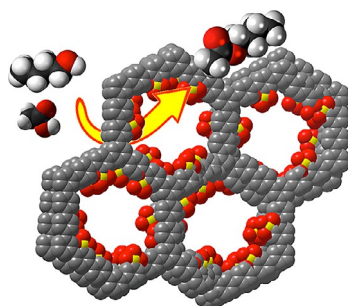
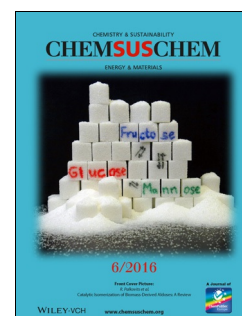
ChemSusChem
DOI: 10.1002/cssc.201501560

Biomass Pyrolysis

Y. Le Brech, T. Ghislain, S. Leclerc, M. Bouroukba, L. Delmotte, N. Brosse, C. Snape, P. Chaimbault, A. Dufour*

Effect of Potassium on the Mechanisms of Biomass Pyrolysis Studied using Complementary Analytical Techniques

Potassium gets intimate with biomass! Complementary analytical methods have been developed to study the effect of potassium on the pyrolysis mechanisms of biomass. Thermogravimetry, calorimetry, in situ ^1H NMR spectroscopy, and size-exclusion chromatography coupled with mass spectrometry have been combined for the first time.



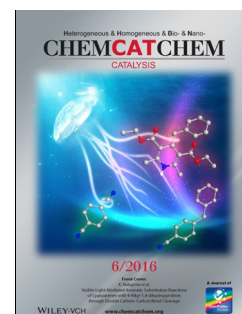
ChemCatChem
DOI: 10.1002/cctc.201501340

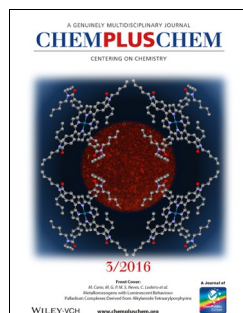
Cross-Coupling

M. G. Goesten,* Á. Szécsényi, M. F. de Lange, A. V. Bavykina, K. B. S. S. Gupta, F. Kapteijn, J. Gascon*

Sulfonated Porous Aromatic Frameworks as Solid Acid Catalysts

Making the frame work: Sulfonated porous aromatic frameworks synthesized by Suzuki–Miyaura cross-coupling display an excellent catalytic performance in the acid-catalyzed esterification of *n*-butanol and acetic acid with a similar or superior performance to state-of-the-art Amberlyst-15 over multiple catalytic cycles.



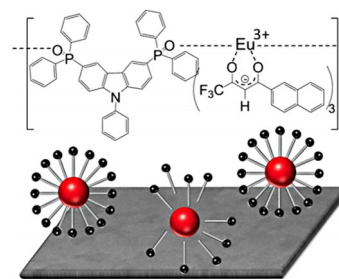


Coordination Complexes

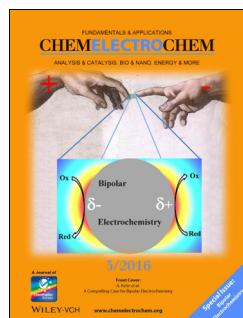
Y. Hasegawa,* T. Sugawara, T. Nakanishi, Y. Kitagawa, M. Takada, A. Niwa, H. Naito, K. Fushimi

Luminescent Thin Films Composed of Nanosized Europium Coordination Polymers on Glass Electrodes

Make a film about it: Luminescent thin films composed of thermostable europium coordination polymers on indium tin oxide glass electrodes were prepared using a novel combination of micelle reactions and electrochemical deposition techniques. The emission spectra, lifetimes and quantum yields of these films were determined.



ChemPlusChem
DOI: 10.1002/cplu.201500382

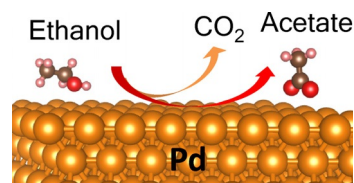


Electrocatalysis

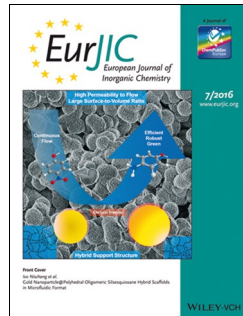
E. A. Monyoncho, S. Ntais, N. Brazeau, J.-J. Wu, C.-L. Sun, E. A. Baranova*

Role of the Metal-Oxide Support in the Catalytic Activity of Pd Nanoparticles for Ethanol Electrooxidation in Alkaline Media

A supporting role: A comparative study of Pd nanoparticles (NPs) supported on oxides (CeO_2 , SnO_2 , and TiO_2) and carbon in alkaline media, using cyclic voltammetry, chronoamperometry, and polarization modulation–infrared reflection absorption spectroscopy, is presented. CeO_2 is found to increase the selectivity of Pd NPs towards breaking the C–C bond. Acetate is evident in all four of the supports tested.



ChemElectroChem
DOI: 10.1002/celc.201500432

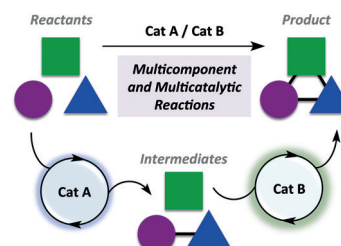


Catalysis Strategy

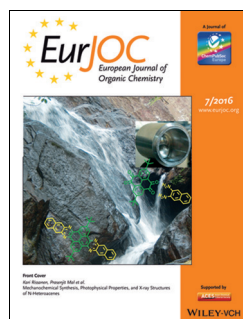
A. Galván, F. J. Fañanás,* F. Rodríguez*

Multicomponent and Multicatalytic Reactions – A Synthetic Strategy Inspired by Nature

Multicomponent and multicatalytic reactions are among the newest trends in the context of catalysis. Selected recent examples showing the power and potential of these reactions are highlighted.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.201501287

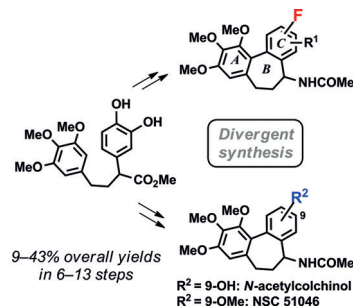


Aromatic Deoxyfluorination

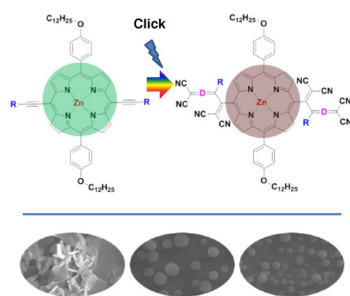
K. Takubo, K. Furutsu, T. Ide, H. Nemoto, Y. Ueda, K. Tsujikawa, T. Ikawa, T. Yoshimitsu, S. Akai*

Diversity Oriented Synthesis of Alcolchicinoids with Fluoro and/or Oxygen Substituent(s) on the C-Ring from a Single Common Intermediate

Eight C-ring fluorinated analogues of alcolchicinoids, seven C-ring oxygen-substituted analogues, and known compounds *N*-acetylcolchicinol and NSC 51046 were synthesized from a single common intermediate by using either the deoxyfluorination/migration domino reaction or acid-promoted migration as the key step. Some fluorinated compounds showed high cytotoxicity against prostate cancer cells.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201501624



ChemistryOpen

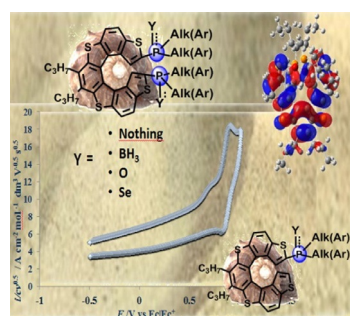
DOI: 10.1002/open.201500124

Nonlinear Optical Materials

Y. Mi, P. Liang, Z. Yang,* D. Wang,* H. Cao, W. He, H. Yang,* L. Yu*

Application of Near-IR Absorption Porphyrin Dyes Derived from Click Chemistry as Third-Order Nonlinear Optical Materials

Let's get photophysical! A new functionalized porphyrin dye containing electron-rich alkynes was synthesized and further modified by formal [2+2] click reactions with tetracyanoethylene and 7, 7, 8, 8-tetracyanoquinodimethane. Their photophysical properties, as well as third-order nonlinear optical properties, which showed typical D- π -A structures, were characterized. Selfassembly properties were investigated, and highly organized morphologies were also observed by SEM.



Asian J. Org. Chem.

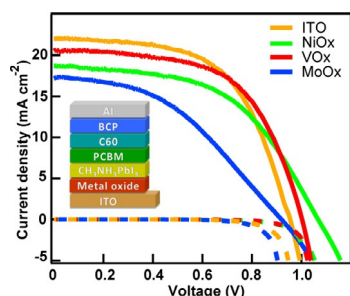
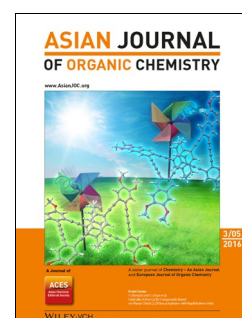
DOI: 10.1002/ajoc.201600025

Helical Phosphanes

D. Dova, L. Viglianti, P. R. Mussini, S. Prager, A. Dreuw, A. Voiturez, E. Licandro, S. Castruccio*

Tetrathia[7]helicene Phosphorus Derivatives: Experimental and Theoretical Investigations of Electronic Properties, and Preliminary Applications as Organocatalysts

Tetrathiahelicene phosphorus derivatives: A deep investigation onto the electronic and electrochemical properties of tetrathiahelicene (7-TH) alkyl and aryl phosphorus derivatives has been performed. The σ -donor ability of the phosphorus atoms mainly depends on the aryl or alkyl nature of the substituent. Quantum chemical calculations show a clear dominance of the 7-TH scaffold on the electronic properties of all investigated molecules.



ChemNanoMat

DOI: 10.1002/cnma.201500223

Perovskite-Based Solar Cells

M. Xiao, M. Gao, F. Huang, A. R. Pascoe, T. Qin, Y.-B. Cheng, U. Bach, L. Spiccia*

Efficient Perovskite Solar Cells Employing Inorganic Interlayers

Inverted-structure perovskite solar cells employing different inorganic metal oxides as hole-selective interlayers have been fabricated which exhibit little J-V hysteresis and achieve power conversion efficiencies of over 10%. The metal oxide layers deposited on ITO substrates were found to modify the work functions, leading to improvements in the V_{oc} .



ChemViews magazine

DOI: 10.1002/chemv.201600023

Chemical Societies

M. Müller

Research and Innovation in Asia

Professor Andy Hor is Vice-President for Research at the University of Hong Kong. In a video interview, he talks about the state of chemical research in Asia and Europe, the challenges the Federation of Asian Chemical Societies (FACS) faces, and what prompted him to leave Singapore for Hong Kong.

