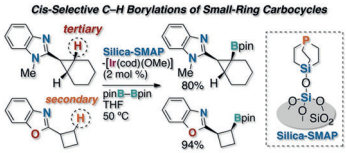
On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley Online Library.



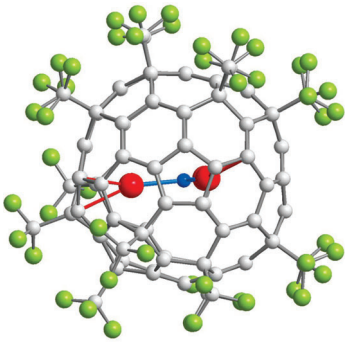
Chem. Eur. J.
DOI: **10.1002/chem.201404362**

Organic Synthesis

R. Murakami, K. Tsunoda, T. Iwai, M. Sawamura*

Stereoselective C–H Borylations of Cyclopropanes and Cyclobutanes with Silica-Supported Monophosphane–Ir Catalysts

Heteroatom-directed C–H borylations of small-ring carbocycles, such as cyclopropanes and cyclobutanes, were achieved with silica-supported monophosphane–Ir catalysts (see scheme). Borylation occurred at the C–H bonds located γ to the directing N or O atoms with exceptional *cis* stereoselectivity relative to the directing groups.



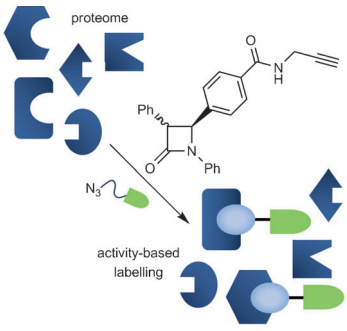
Chem. Asian J.
DOI: **10.1002/asia.201402573**

Endrohedral Fullerenes

T. Wei, N. B. Tamm, S. Yang,* S. I. Troyanov*

New Trifluoromethylated Derivatives of Metal Nitride Clusterfullerenes: $Sc_3N@I_h$-$C_{80}(CF_3)_{14}$ and $Sc_3N@D_{5h}$-$C_{80}(CF_3)_{16}$

Interesting structural relations exist between CF_3 derivatives of both $Sc_3N@D_{5h}$-C_{80} and $Sc_3N@I_h$-C_{80}: Triple-hexagon-junction-added CF_3 groups are present in all $Sc_3N@C_{80}(CF_3)_{14,16}$ compounds, and the Sc_3N cluster is fixed inside the C_{80} cage. $Sc_3N@D_{5h}$-$C_{80}(CF_3)_{16}$ (picture) is a precursor of the known $Sc_3N@D_{5h}$-$C_{80}(CF_3)_{18}$. Seven $Sc_3N@I_h$-$C_{80}(CF_3)_{14}$ isomers form two subfamilies with different relative positions of CF_3 groups and the Sc_3N cluster.



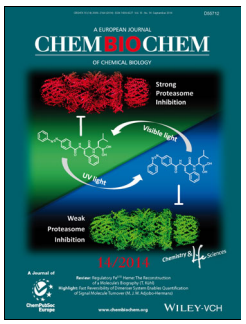
ChemBioChem
DOI: **10.1002/cbic.201402097**

Activity-Based Probes

N. Nasheri, C. S. McKay, K. Fulton, S. Twine, M. H. Powdrill, A. R. Sherratt, J. P. Pezacki*

Hydrophobic Triaryl-Substituted β-Lactams as Activity-Based Probes for Profiling Eukaryotic Enzymes and Host–Pathogen Interactions

ABPP with β-lactams: We identified the eukaryotic targets of β-lactam-containing compounds by activity-based protein profiling. Using this method, we demonstrated that β-lactam-based activity probes can be applied to identify differentially active enzymes in different cell lines and during hepatitis C virus replication.

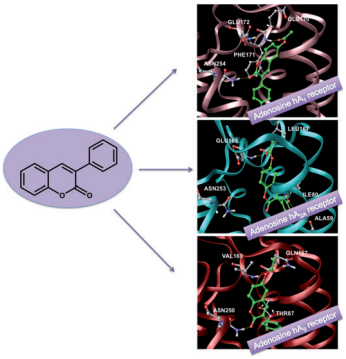


Ligand–Receptor Interactions

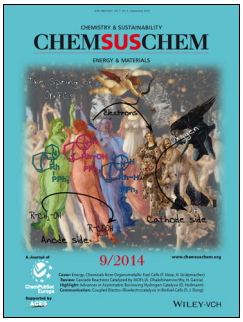
M. J. Matos,* S. Vilar, S. Kachler, A. Fonseca, L. Santana, E. Uriarte, F. Borges, N. P. Tatonetti, K.-N. Klotz

Insight into the Interactions between Novel Coumarin Derivatives and Human A_3 Adenosine Receptors

Coumarin contacts: The current work describes the synthesis and evaluation of the affinity for the four human adenosine receptor subtypes of potent and selective 3-arylcoumarins. We also present theoretical predictions of ADME properties and docking calculations for these compounds.



ChemMedChem
DOI: **10.1002/cmdc.201402205**

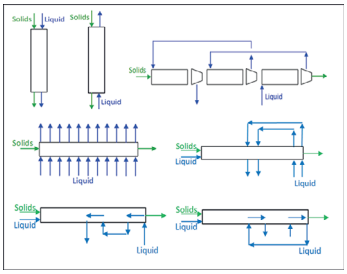


Biomass Pretreatment

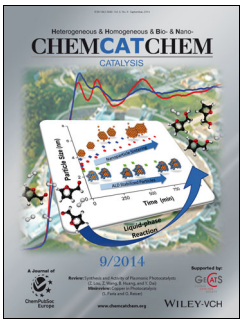
V. Archambault-Léger, X. Shao, L. R. Lynd*

Simulated Performance of Reactor Configurations for Hot-Water Pretreatment of Sugarcane Bagasse

Bagasse bonus: The production of fuel from lignocellulosic biomass is of interest to develop a sustainable global energy system. Sugarcane residues such as bagasse are a particularly promising feedstock, but bagasse requires pretreatment. Simulated results show that a variety of promising flow-through pretreatment configurations result in very low sugar degradation and very high fiber digestibility for subsequent microbial or enzymatic processing to biofuel.



ChemSusChem
DOI: **10.1002/cssc.201402087**

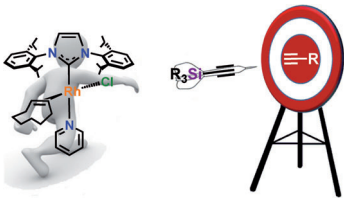


Stereoselective Catalysis

R. Azpíroz, L. Rubio-Pérez, R. Castarlenas,* J. J. Pérez-Torrente, L. A. Oro*

gem-Selective Cross-Dimerization and Cross-Trimerization of Alkynes with Silylacetylenes Promoted by a Rhodium–Pyridine–*N*-Heterocyclic Carbene Catalyst

What a *gem*: The rhodium(I) complex [RhCl(IPr)(η^2-coe)(py)] [IPr = 1,3-bis-(2,6-diisopropylphenyl)imidazol-2-carbene, coe = cyclooctene, and py = pyridine] has proven to be an effective catalyst precursor for the cross-dimerization and -trimerization of terminal alkynes with alkylsilylacetylenes, which give enynes and dienynes with high regio- and stereoselectivity.



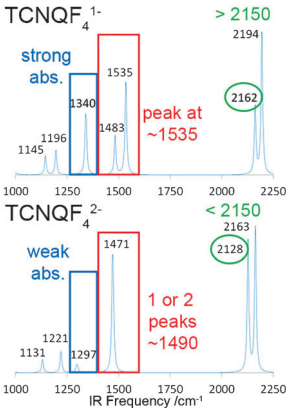
ChemCatChem
DOI: **10.1002/cctc.201402327**

Vibrational Spectroscopy

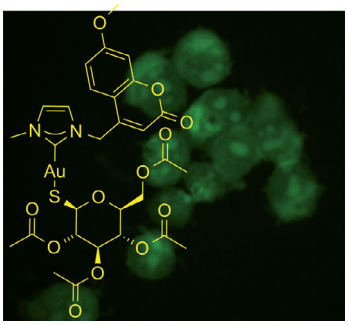
N. L. Haworth, J. Lu, N. Vo, T. H. Le, C. D. Thompson, A. M. Bond,* L. L. Martin*

Diagnosis of the Redox Levels of $TCNQF_4$ Compounds Using Vibrational Spectroscopy

Righting wrongs: The vibrational spectroscopy of $TCNQF_4$ is reassessed, revealing many bands have been mis-assigned in recent studies. The revised data have allowed the development of a series of diagnostics for characterisation of $TCNQF_4$ redox levels (see figure). The previous primary diagnostic tool, the ν(C≡N) modes, is sensitive to metal-ion coordination. Recognition of this sensitivity is essential for interpreting spectra of organic molecular species.



ChemPlusChem
DOI: **10.1002/cplu.201402013**



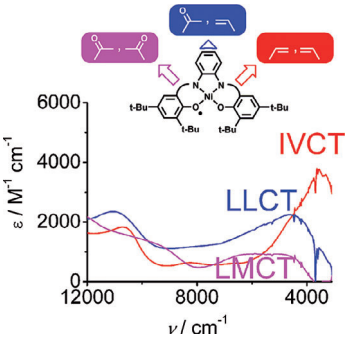
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201402248**

Organometallic Gold Compounds

B. Bertrand, A. de Almeida, E. P. M. van der Burgt, M. Picquet, A. Citta, A. Folda, M. P. Rigobello, P. Le Gendre, E. Bodio,* A. Casini*

New Gold(I) Organometallic Compounds with Biological Activity in Cancer Cells

Organometallic N-heterocyclic carbene gold(I) complexes bearing a fluorescent coumarin ligand are synthesized, and their antiproliferative effects in normal and tumor cells in vitro are studied. Their biological properties may be due to inhibition of thioredoxin reductases. Fluorescence confocal microscopy allows the uptake of the compounds in cancer cells to be observed.



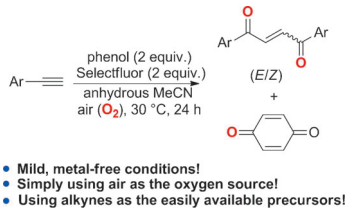
Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201402701**

Carbohydrate Vaccines

D. Ramella, L. Polito,* S. Mazzini, S. Ronchi, L. Scaglioni, M. Marelli, L. Lay*

A Strategy for Multivalent Presentation of Carba Analogues from *N. meningitidis* A Capsular Polysaccharide

Carba analogues of fragments of the *N. meningitidis* A polysaccharide have been proposed as hydrolytically stable analogues that have immunological activity in mice. Using the MRI technique, we found that when the carba analogues are loaded onto the surface of iron oxide nanoparticles, they show a multivalent effect that enhances their ability to be recognised by MenA antiserum.



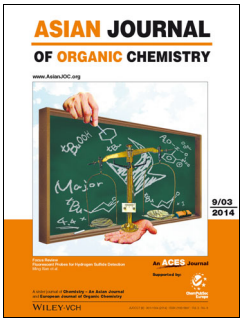
Asian J. Org. Chem.
DOI: **10.1002/ajoc.201402171**

Synthetic Methods

D. Wu, J. Zhang, H. Wang, J. Zhang, Y. Liu,* M. Liu

Activation of Dioxygen in Air by Phenol/Selectfluor System: An Application in the Oxidation-Dimerization of Alkynes to 2-Ene-1,4-diones

The Table of Contents text should give readers a short preview of the main theme of the research and results included in the paper to attract their attention into reading the paper in full. The Table of Contents text **should be different from the abstract** and should be no more than 450 characters including spaces. This means your Table of Contents text should be no longer than this block of text. Please add your short Table of Contents text here.



ChemViews magazine
DOI: **10.1002/chemv.201400085**

Ionic Liquids

M. Müller

Developing More Environmentally Friendly Solvents

Separating carbon dioxide from flue gases helps reduce greenhouse gas emissions and allows the recovered CO_2 to be used in a variety of industrial applications. In a short video, Professor Joan Brennecke tells the story of the serendipitous discovery of an ionic liquid that improves the efficiency of this process significantly.