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.

Metallomacrocycles

J.-L. Wang, X. Li, X. Lu, Y.-T. Chan, C. N. Moorefield, C. Wesdemiotis,* G. R. Newkome*

Dendron Functionalized Bis(terpyridine)–Iron(II) or –Cadmium(II) Metallomacrocycles: Synthesis, Traveling-Wave Ion-Mobility Mass Spectrometry, and Photophysical Properties

Fives, sixes, and sevens: A series of metallomacrocycles (an example is shown here), utilizing ⟨tpy-M-tpy⟩ connectivity (M = Fe^{II} or Cd^{II}), and possessing the first- or second-generation dendrons with 1→3 *C*-branching, has been prepared by a one-pot self-assembly procedure, purified, and characterized. Collision cross sections were obtained by traveling-wave ion-mobility mass spectrometry providing detailed images of their sizes and architectures.

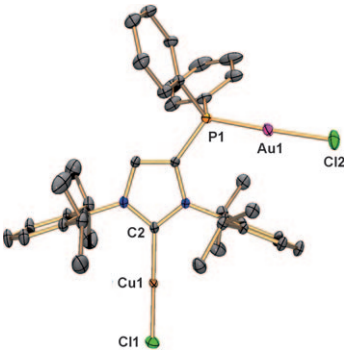
Chem. Eur. J.
DOI: **10.1002/chem.201003681**

Metallic Complexes

D. Mendoza-Espinosa, B. Donnadieu, G. Bertrand*

Facile Preparation of Homo- and Hetero-Dimetallic Complexes with a 4-Phosphino-Substituted NHC Ligand. Toward the Design of Multifunctional Catalysts

A readily available stable metal-free N-heterocyclic carbene bearing a phosphino substituent at the C4 position allows for the straightforward preparation of an extended library of dimetallic complexes. The different electronic properties of the phosphine and carbene centers gives access to a wide combination of metals at both coordination centers.



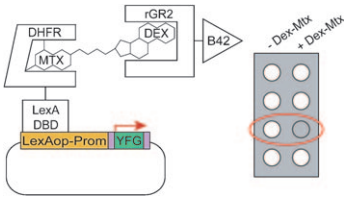
Chem. Asian J.
DOI: **10.1002/asia.201000856**

Synthetic Biology

L. M. Wingler, V. W. Cornish*

A Library Approach for the Discovery of Customized Yeast Three-Hybrid Counter Selections

Developing effective new reporter genes for synthetic biology: Here we demonstrate that we can readily develop a robust counter selection for the yeast three-hybrid assay by screening libraries of genes not traditionally used as reporters, rather than by adapting classic reporter genes.



ChemBioChem
DOI: **10.1002/cbic.201000543**

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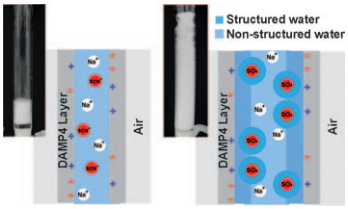


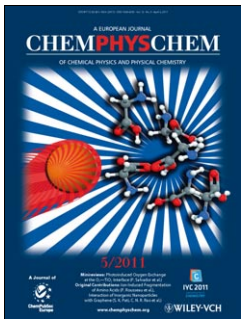
ChemPhysChem
DOI: **10.1002/cphc.201100082**

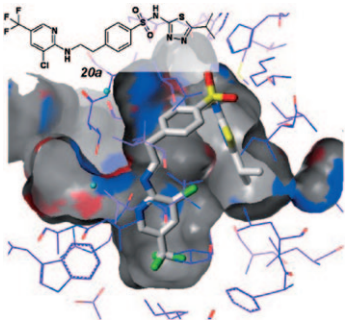
Switchable Foams

A. P. J. Middelberg,* M. Dimitrijev-Dwyer

A Designed Biosurfactant Protein for Switchable Foam Control

Making and breaking foams: A facile method for foam control is reported using a designed biosurfactant. The new biosurfactant is based on a four-helix bundle design which is interfacially active across a broad pH range. At pH 8.5 stable foam forms, yet decreasing the pH to 7.5 causes rapid foam dissipation. This unique behaviour can be linked to subtle molecular and specific-ion effects which lead to switchable changes in the state of the foam thin film (see picture).





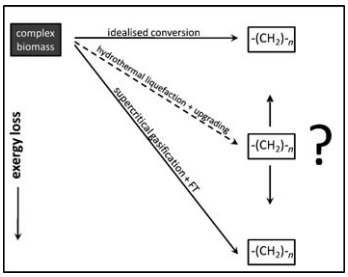
ChemMedChem
DOI: **10.1002/cmdc.201100047**

Drug Design

S. Keil,* H. Matter, K. Schönafinger, M. Glien, M. Mathieu, J.-P. Marquette, N. Michot, S. Haag-Diergarten, M. Urmann, W. Wendler

Sulfonylthiadiazoles with an Unusual Binding Mode as Partial Dual Peroxisome Proliferator-Activated Receptor (PPAR) γ/δ Agonists with High Potency and in vivo Efficacy

HTS efforts identified a partial PPARδ agonist (top), the novel binding mode of which does not involve contact with the PPARδ activation helix AF-2. The X-ray crystal structure of the HTS hit in complex with PPARδ allowed structure-guided optimization, and one of the most active members from this effort (bottom) has respective EC_{50} values of 1.6 and 336 nM for PPARδ and γ. Subsequent crystal structures underscore the success of our design, and the optimized compound clearly exhibits in vivo activity in two chronic mice studies.



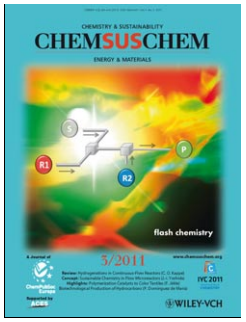
ChemSusChem
DOI: **10.1002/cssc.201000341**

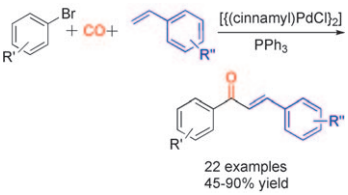
Biomass Processing

M. Möller, P. Nilges, F. Harnisch, U. Schröder*

Subcritical Water as Reaction Environment: Fundamentals of Hydrothermal Biomass Transformation

Water, water, everywhere: Subcritical water is a unique and sustainable reaction medium, often considered as a potential solvent for biomass processing. However, current knowledge on biomass transformation in subcritical water does not provide a consistent picture. Concentrating on fundamental physical and chemical aspects and on selected carbohydrates, this review summarizes the current state of knowledge of hydrothermal biomass conversion in subcritical water.





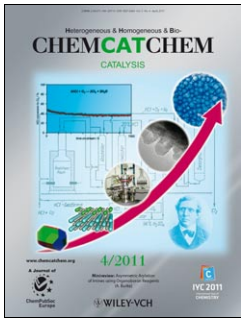
ChemCatChem
DOI: **10.1002/cctc.201000356**

Heck Reactions

X.-F. Wu, H. Jiao,* H. Neumann, M. Beller*

Progress in Carbonylative-Heck Reactions of Aryl Bromides: Catalysis and DFT Studies

cHeck you out! A general and efficient palladium-catalyzed carbonylative Heck coupling reaction of aryl bromides with styrenes is described. In the presence of $[\{(cinnamyl)PdCl\}_2]/PPh_3$, 22 different chalcones have been synthesized in high yield.



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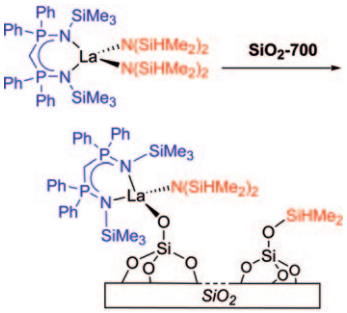
Silica-Grafted Lanthanum Species

B. Revel, L. Delevoye, G. Tricot, M. Rastätter, M. Kuzdrowska, P. W. Roesky,* R. M. Gauvin*

A Well-Defined Silica-Supported Lanthanum Bis(phosphinimino)methanide

The bis(phosphinimino)methanide complex [La{L}{N(SiHMe$_2$)$_2$}$_2$] {L=CH(PPh$_2$NSiMe$_3$)$_2$} has been grafted onto dehydroxylated silica (SiO$_2$-700), affording a material decorated with [(≡SiO)La{L}{N-(SiHMe$_2$)$_2$}] surface species along with [≡SiOSiHMe$_2$] sites.



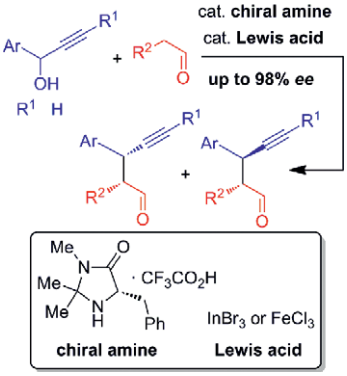
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.201001325**

Enantioselective Alkylation

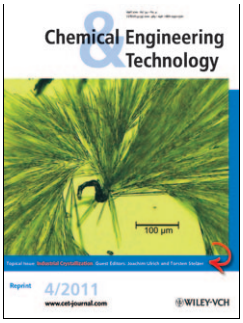
K. Motoyama, M. Ikeda, Y. Miyake, Y. Nishibayashi*

Cooperative Catalytic Reactions Using Lewis Acids and Organocatalysts: Enantioselective Propargylic Alkylation of Propargylic Alcohols Bearing an Internal Alkyne with Aldehydes

The enantioselective propargylic alkylation of propargylic alcohols bearing an internal alkyne moiety with aldehydes in the presence of a metal salt as the Lewis acid and an optically active secondary amine as the co-catalyst has been found to give the corresponding propargylic alkylated products in high yields as a mixture of two diastereoisomers with high enantioselectivity.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.201100044**

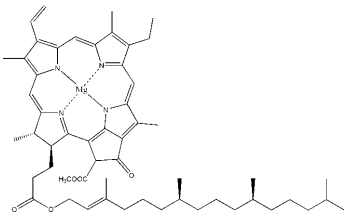


Supercritical CO_2 Extraction

Y. Tong, L. Gao, G. Xiao*, X. Pan

Supercritical CO_2 Extraction of Chlorophyll a from *Spirulina platensis* with a Static Modifier

Chlorophyll a was extracted by supercritical CO_2 with a static modifier from *Spirulina platensis*. The effects of different parameters were investigated and the optimal conditions for supercritical CO_2 extraction were determined. The results suggested that the yield of chlorophyll a by supercritical CO_2 extraction with modifier was higher than that obtained by conventional solvent extraction.



Chem. Eng. Technol.
DOI: **10.1002/ceat.201000379**

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