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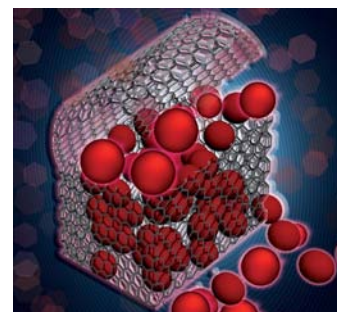


Luminescent Carbon Nanotubes

L. Maggini, J. Mohanraj, H. Traboulsi, A. Parisini, G. Accorsi, N. Armaroli,* D. Bonifazi*

A Luminescent Host–Guest Hybrid between a Eu^{III} Complex and MWCNTs

Shining treasure: Like treasure safeguarded in a chest, a tris-hexafluoro acetylacetonate Eu^{III} complex was encapsulated inside MWCNTs to preserve its luminescent output (see figure). These structures could open the way to novel luminescent hybrid materials with potential applications in biological and materials sciences.



Chem. Eur. J.

DOI: 10.1002/chem.201101216

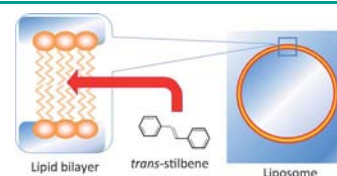


Fluorescence Spectroscopy

Y. Nojima, K. Iwata*

Lipid Bilayer Membrane of Egg-PC Liposome Evaluated as Chemical Reaction Field with Picosecond Time-Resolved Fluorescence Spectroscopy

Egg on your face: Viscosity inside the lipid bilayer of egg-PC liposome is estimated by picosecond time-resolved fluorescence spectroscopy. The presence of two solvation environments within the bilayer is suggested, where one environment is 50 to 100 times more viscous than the other. The use of *trans*-stilbene as a probe provides valuable information on the environments inside the lipid bilayers as a field for chemical reactions.



Chem. Asian J.

DOI: 10.1002/asia.201100143

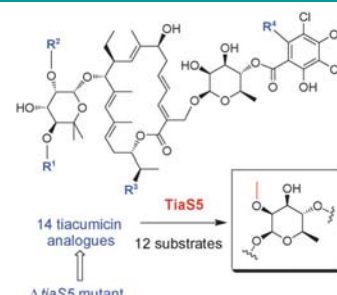


Antibodies

S. Niu, T. Hu, S. Li, Y. Xiao, L. Ma, G. Zhang, H. Zhang, X. Yang, J. Ju, C. Zhang*

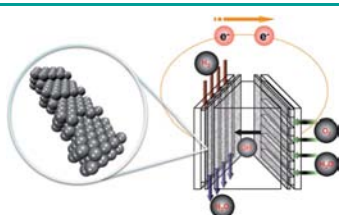
Characterization of a Sugar-O-methyltransferase TiaS5 Affords New Tiacumicin Analogues with Improved Antibacterial Properties and Reveals Substrate Promiscuity

Promiscuous methyltransferase TiaS5 is involved in the 2'-O-methylation in tiacumicin B biosynthesis. The ΔtiaS5 mutant is capable of affording 14 tiacumicin analogues, 11 of which are new and 2 of which exhibit improved antibacterial properties. TiaS5 is biochemically characterized as a flexible enzyme utilizing 12 tiacumicin substrates.



ChemBioChem

DOI: 10.1002/cbic.201100129



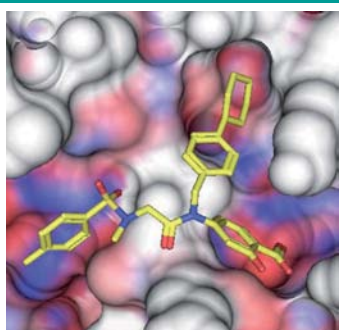
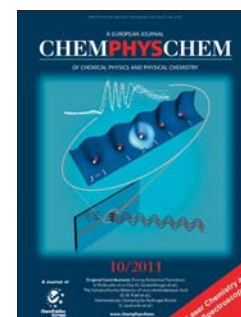
ChemPhysChem
DOI: 10.1002/cphc.201100247

G. García,* M. T. M. Koper

Carbon Monoxide Oxidation on Pt Single Crystal Electrodes: Understanding the Catalysis for Low Temperature Fuel Cells

Catalytic surface reactions: New fundamental advances in the field of electrocatalysis are discussed with the purpose of better understanding the reactions occurring at fuel cell catalysts in alkaline media (see picture). The present review may help to improve the fabrication of novel electrodes in order to enhance the performance and to decrease the cost of low temperature fuel cells.

Fuel Cells



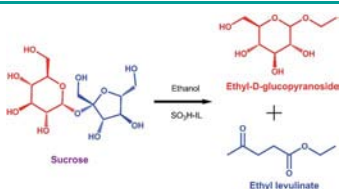
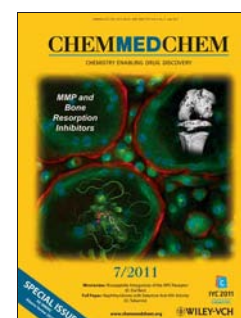
ChemMedChem
DOI: 10.1002/cmdc.201100194

S. Fletcher, B. D. G. Page, X. Zhang, P. Yue, Z. H. Li, S. Sharmeen, J. Singh, W. Zhao, A. D. Schimmer, S. Trudel, J. Turkson,* P. T. Gunning*

Antagonism of the Stat3–Stat3 Protein Dimer with Salicylic Acid Based Small Molecules

Where it's Stat: We developed Stat3 inhibitors that show potent suppression of Stat3 DNA binding activity (IC_{50} ~18–50 μ M), disrupt Stat3–pTyr peptide interactions (K_i ~15–41 μ M), potentially inhibit Stat3 phosphorylation in both breast and multiple myeloma tumor cells, suppress the expression of Stat3 target genes, and induce antitumor effects in tumor cells harboring activated Stat3 protein.

Antitumor Agents



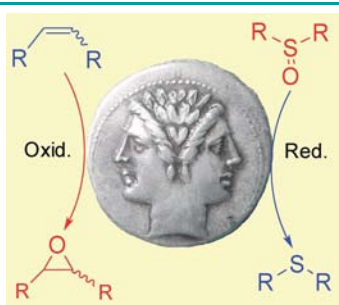
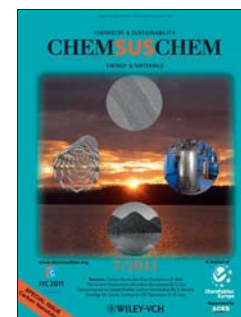
ChemSusChem
DOI: 10.1002/cssc.201100137

S. Saravanamurugan, O. Nguyen Van Buu, A. Riisager*

Conversion of Mono- and Disaccharides to Ethyl Levulinate and Ethyl Pyranoside with Sulfonic Acid-Functionalized Ionic Liquids

Value-added chemicals from sugars: Sulfonic acid-functionalized ionic liquids are attractive and promising catalyst for the conversion of sugars to ethyl levulinate and ethyl-D-glucopyranoside in ethanol. These task-specific ionic liquids can be recovered and reused in at least three cycles in the conversion of fructose to ethyl levulinate without any loss of activity.

Ionic Liquids



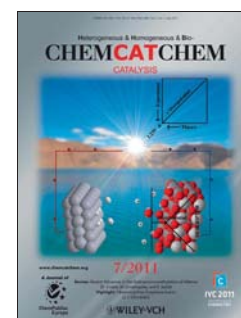
ChemCatChem
DOI: 10.1002/cctc.201100007

S. Krackl, A. Company, S. Enthaler,* M. Driess*

Low-Valent Molybdenum-Based Dual Pre-Catalysts for Highly Efficient Catalytic Epoxidation of Alkenes and Deoxygenation of Sulfoxides

Molybdenum, the hero: A series of triply bonded dimolybdenum-(III) hexaalkoxides were tested as pre-catalysts in olefin epoxidation and sulfoxide deoxygenation. The complexes exhibited high performance in both types of reactions. For example, in the catalytic epoxidation of cyclooctene, turnover frequencies of above 60 000 h^{-1} were achieved at elevated temperatures ($\approx 50^\circ C$). In general, their activities are very high, surpassing those previously reported for other molybdenum-based catalysts in analogous transformations.

Epoxidation



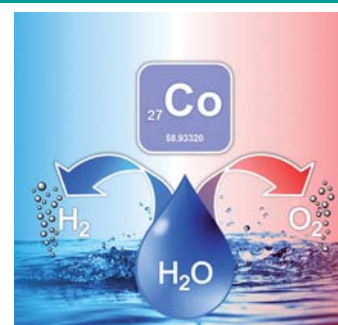


Photocatalytic Water Splitting

V. Artero,* M. Chavarot-Kerlidou, M. Fontecave*

Splitting Water with Cobalt

It's cobalt's turn: Splitting water with light appears to be a promising solution for the renewable production of a fuel such as hydrogen. Recent developments on cobalt-based catalysts for H_2 or O_2 evolution are discussed, along with how they can be coupled with photosensitizers, to generate light-driven systems, or immobilized onto conducting materials to form electrodes or photoelectrodes for integration in a photoelectrochemical cell.



Angew. Chem. Int. Ed.
DOI: [10.1002/anie.201007987](https://doi.org/10.1002/anie.201007987)

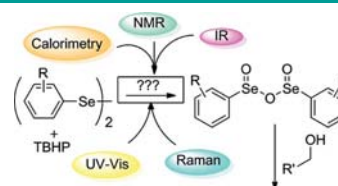


Selenium-Catalyzed Oxidations

J. C. van der Toorn, G. Kemperman, R. A. Sheldon,
I. W. C. E. Arends*

Studies on Substituted Aromatic Diselenides as Catalysts for Selective Alcohol Oxidation Using *tert*-Butyl Hydroperoxide

The oxidation steps from Ph_2Se_2 to benzeneseleninic anhydride, which is a good dehydrogenation agent, have been elucidated by a combination of spectroscopic techniques, both in situ and ex situ. The oxidation potentials of derivatives of this anhydride have been investigated in the oxidation of 1-decanol.



Eur. J. Org. Chem.
DOI: [10.1002/ejoc.201100487](https://doi.org/10.1002/ejoc.201100487)

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