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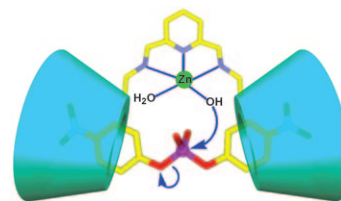
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Glucoside

S.-P. Tang, Y.-H. Zhou, H.-Y. Chen, C.-Y. Zhao, Z.-W. Mao,* L.-N. Ji
Ester Hydrolysis by a Cyclodextrin Dimer Catalyst with a Tridentate N,N',N''-Zinc Linking Group

The zinc complex of a novel 2,6-bis(aminomethyl)pyridine-linked β -cyclodextrin dimer was synthesized, characterized, and demonstrated as a potent catalyst for diester hydrolysis. The zinc complex is shown to exhibit a good catalytic ability for bis(4-nitrophenyl) substrates in the hydrolysis of carboxylic acid ester and phosphate esters. The hydrophobic interaction between catalyst and substrate is observed to play an important role.



Chem. Asian J.
DOI: [10.1002/asia.200900108](https://doi.org/10.1002/asia.200900108)



Glucoside Transport

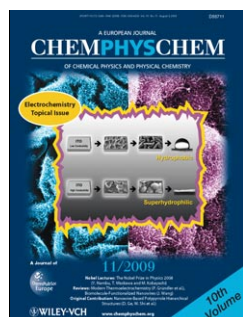
S. Discher, A. Burse, K. Tolzin-Banasch, S. H. Heinemann, J. M. Pasteels, W. Boland*

A Versatile Transport Network for Sequestering and Excreting Plant Glycosides in Leaf Beetles Provides an Evolutionary Flexible Defense Strategy

Beetlejuice: Leaf beetle larvae possess a functional network of transport systems for the import and export of plant-derived glucosides. With thioglucosides as stable glycomimics their passage from the gut to the defensive system could be monitored. Their import from the gut and their export through the Malpighian tubules to the frass is nonselective. Only the transfer from the hemolymph into the defensive glands is specific.



ChemBioChem
DOI: [10.1002/cbic.200900226](https://doi.org/10.1002/cbic.200900226)

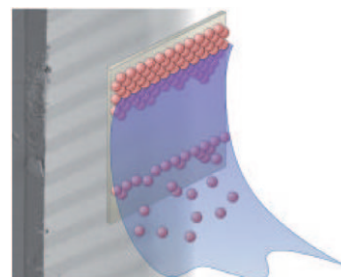


Dilute Suspensions

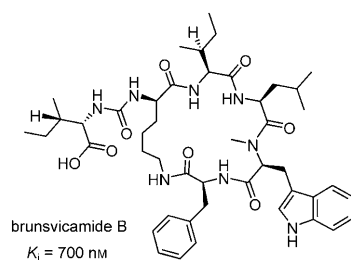
J. A. Lee, K. Reibel, M. A. Snyder, L. E. Scriven, M. Tsapatsis*

Geometric Model Describing the Banded Morphology of Particle Films Formed by Convective Assembly

Banded particle films: Convective assembly of particles from dilute suspensions can produce discrete film morphologies in the form of bands. The spacing between such bands, when they are in a monolayer, is a strong function of the particle size. A geometric model considering the intersection of the particles with a stretched liquid meniscus can quantitatively predict these spacings with varying particle diameter (see picture).



ChemPhysChem
DOI: [10.1002/cphc.200900127](https://doi.org/10.1002/cphc.200900127)



ChemMedChem

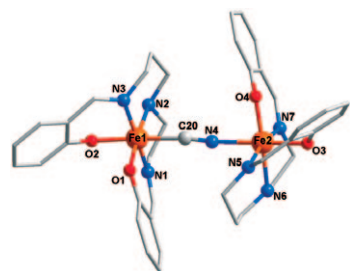
DOI: 10.1002/cmdc.200900139

Molecular Modeling

M. T. Sisay, S. Hautmann, C. Mehner, G. M. König, J. Bajorath,*
M. Gütschow*

Inhibition of Human Leukocyte Elastase by Brunsvicamides A–C:
Cyanobacterial Cyclic Peptides

Cyanobacterial cyclic peptides, brunsvicamides A–C, were evaluated as inhibitors of human leukocyte elastase (HLE), and subsequently tested against a panel of proteases and two serine esterases. Brunsvicamides A–C were found to be highly selective for HLE.



Eur. J. Inorg. Chem.

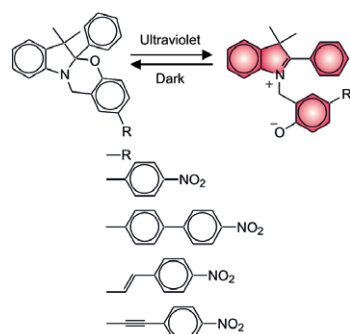
DOI: 10.1002/ejic.200900169

Spin Crossover in Fe(III) Complexes

I. Šalitroš, R. Boča,* L'. Dlháň, M. Gembický, J. Kožíšek, J. Linares,
J. Moncol', I. Nemec, L. Perašínová, F. Renz, I. Svoboda, H. Fuess

Unconventional Spin Crossover in Dinuclear and Trinuclear Iron(III)
Complexes with Cyanido and Metallacyanido Bridges

On the basis of magnetic data and Mössbauer spectra, spin crossover was identified in a number of dinuclear and trinuclear Fe^{III} complexes. The energy bands formed of spin multiplets for the reference states LL and LH show an overlap, which results in spin crossover interference with the magnetic exchange interaction.



Eur. J. Org. Chem.

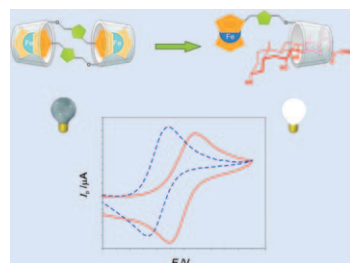
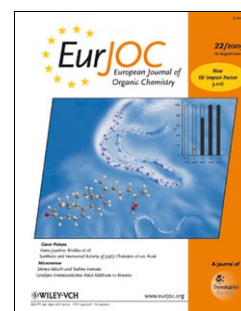
DOI: 10.1002/ejoc.200900604

Fast Photochromic Switches

M. Å. Petersen, E. Deniz, M. B. Nielsen,* S. Sortino,* F. M. Raymo*

Photochromic Oxazines with Extended Conjugation

The ultraviolet irradiation of photochromic 1,3-oxazines results in the formation of zwitterionic isomers after the cleavage of a C–O bond. The photogenerated species incorporate a phenolate chromophore able to absorb in the visible region of the electromagnetic spectrum and revert spontaneously to the original species on a nanosecond timescale.



Chem. Eur. J.

DOI: 10.1002/chem.200900593

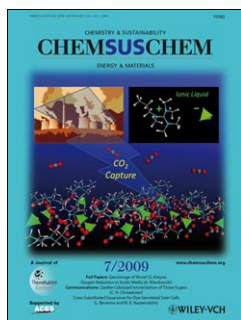
Molecular Sensors

J. M. Casas-Solvas, E. Ortiz-Salmerón, I. Fernández,
L. García-Fuentes, F. Santoyo-González, A. Vargas-Berenguel*

Ferrocene-β-Cyclodextrin Conjugates: Synthesis, Supramolecular
Behavior, and Use as Electrochemical Sensors

Guest room? Two ferrocene-β-cyclodextrin conjugates were conveniently synthesized by click chemistry. The supramolecular behavior of both conjugates was studied in both the absence and presence of three bile salts, and their redox-sensing abilities towards the bile salts were evaluated based on observed guest-induced changes in the half-wave potential and the current peak intensity (see figure).





Biofuels

B. Katryniok, S. Paul, M. Capron, F. Dumeignil*

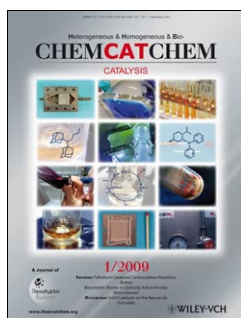
Towards the Sustainable Production of Acrolein by Glycerol Dehydration

How do you say...deee-hydrate?! The massive increase in biodiesel production through the transesterification of vegetable oils goes hand in hand with an oversupply of glycerol, which must be valorized. In this Minireview we provide a detailed, critical view of the state-of-the-art of the dehydration of glycerol to acrolein over acid catalysts; one of the most promising ways of valorization.



ChemSusChem

DOI: 10.1002/cssc.200900134

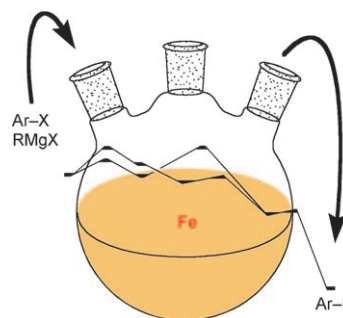


C-C Coupling

J. Kleimark, A. Hedström, P.-F. Larsson, C. Johansson, P.-O. Norrby*

Mechanistic Investigation of Iron-Catalyzed Coupling Reactions

Positive iron: The active catalyst and the mechanism of the iron-catalyzed C–C coupling are determined by a combination of reaction progress monitoring and density functional calculations. The rate-limiting step is the oxidative addition of an Fe^I species to the aryl electrophile. Methods for stabilizing the catalyst are also identified.



ChemCatChem

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