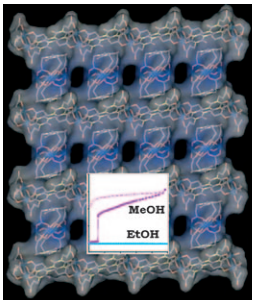
Coordination Polymers

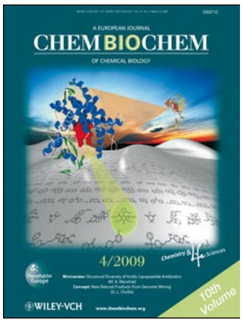
S. K. Ghosh, R. Azhakar, S. Kitagawa*

Control of Structure Dimensionality and Functional Studies of Flexible Cu^{II} Coordination Polymers

Flexibility's the key! Control synthesis of 1D, 2D, and 3D Cu^{II} coordination polymers of flexible ligands were performed by changing the reaction conditions. One 2D compound showed solvent-induced reversible structural transformation between crystalline and amorphous phases. The dehydrated phase of the 2D compound showed size and affinity-based selective sorption of solvents.



Chem. Asian J.
DOI: **10.1002/asia.200800458**

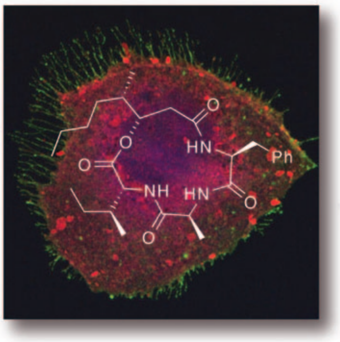


Inhibitors

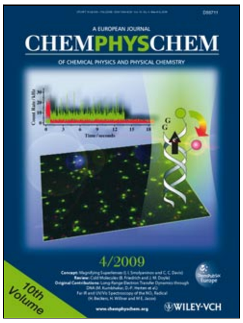
D. P. Witter, Y. Chen, J. K. Rogel, G. E. Boldt, P. Wentworth, Jr.*

The Natural Products Beauveriolide I and III: a New Class of β-Amyloid-Lowering Compounds

Attacking Alzheimer's by ACAT: The aggregation of β-amyloid peptides, especially Aβ$_{42}$, into senile plaques is a hallmark of Alzheimer's disease (AD). We show that the fungal natural products beauveriolides I and III can potently decrease Aβ secretion from cells expressing human amyloid precursor protein; this offers a potential new scaffold for the development of compounds with proven bioavailability for the treatment of AD.



ChemBioChem
DOI: **10.1002/cbic.200900139**

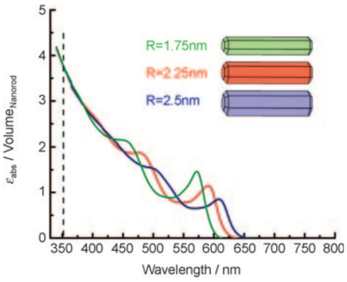


Quantum Dots

E. Shaviv, A. Salant, U. Banin*

Size Dependence of Molar Absorption Coefficients of CdSe Semiconductor Quantum Rods

Fundamental properties: The molar absorption coefficients of CdSe quantum rods are determined experimentally as a function of their dimensions (see figure). Far above the band gap a simple dependence on volume is seen. The behavior at the band gap manifests a concentration of oscillator strength with decreased diameter in agreement with strong quantum confinement behavior.



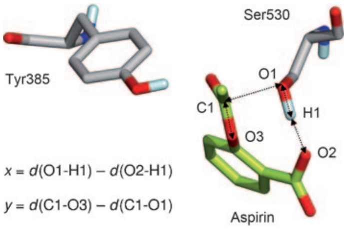
ChemPhysChem
DOI: **10.1002/cphc.200800874**

Quantum Chemistry

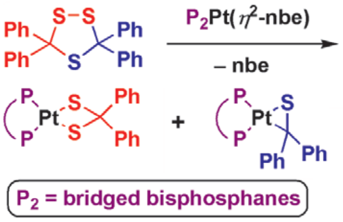
P. Tosco,* L. Lazzarato

Mechanistic Insights into Cyclooxygenase Irreversible Inactivation by Aspirin

A mechanistic hypothesis for the acetylation of cyclooxygenase (COX) by aspirin is proposed on the basis of a QM/MM study. This mechanism is consistent with previous experimental findings by other investigators. Ser 530 appears to be acetylated under intramolecular general base catalysis provided by the carboxylate moiety of aspirin, while Tyr 385 plays a crucial role in orienting and polarizing the acetyl group.



ChemMedChem
DOI: **10.1002/cmdc.200800438**



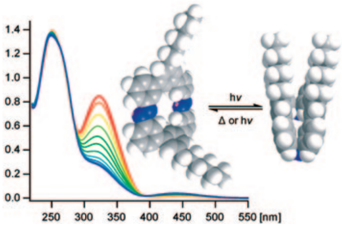
Fragmentation of Trithiolanes

T. Weisheit, H. Petzold, H. Görls, G. Mloston, W. Weigand*

Reaction of 3,3,5,5-Tetraphenyl-1,2,4-trithiolane with Pt^0(bisphosphane)(η^2-nbe) Complexes Bearing Bridged Bisphosphane Ligands with Various Bite Angles

The reaction of 3,3,5,5-tetraphenyl-1,2,4-trithiolane with several Pt^0 complex fragments bearing bridged bisphosphane ligands results in the formation of the corresponding dithiolato as well as the η^2-thioketone complex. The reactions were found to be of first order, pointing to thermal cycloreversion of the heterocycle as the initial step.

Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200900121**



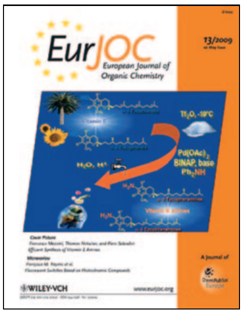
Shape-Switchable Azo-Macrocycles

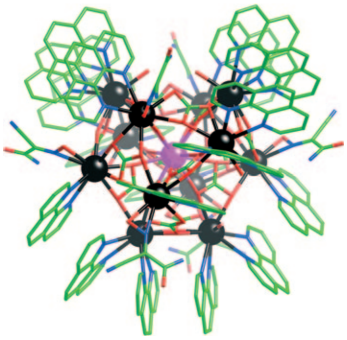
M. Müri, K. C. Schuermann, L. De Cola, M. Mayor*

Shape-Switchable Azo-Macrocycles

The synthesis of four differently substituted azo-macrocycles is reported. Their optically and/or thermally triggered isomerization reactions were investigated by UV/Vis spectroscopy and displayed very slow thermal back-reactions due to the mechanical interlinking of the two azo groups within each compound.

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200801282**





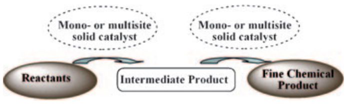
Lanthanoid Clusters

A. S. R. Chesman, D. R. Turner, B. Moubaraki, K. S. Murray, G. B. Deacon, S. R. Batten*

Lanthaballs: Chiral, Structurally Layered Polycarbonate Tridecanuclear Lanthanoid Clusters

New balls please! The viability of using carbonate as the primary anion in cluster formation is demonstrated in the synthesis of 'lanthaballs', spherical tridecanuclear lanthanoid complexes with a novel [Ln(CO$_3$)$_6$] moiety in a [Ln$_{13}$(CO$_3$)$_{14}$] core (see picture). The chirality of the lanthaballs is evidenced in the configuration of extended columns of π stacked phenanthroline ligands. The structural and magnetic properties of lanthaballs are investigated.

Chem. Eur. J.
DOI: **10.1002/chem.200900400**



Process Intensification

M. J. Climent, A. Corma,* S. Iborra

Mono- and Multisite Solid Catalysts in Cascade Reactions for Chemical Process Intensification

Catscade reactions: Heterogeneous catalysis can enable sustainability by carrying out multistep reactions in one step. It is shown that single- and multisite solid catalysts can be designed to carry out cascade reactions for the synthesis of fine chemicals.

ChemSusChem
DOI: **10.1002/cssc.200800259**

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