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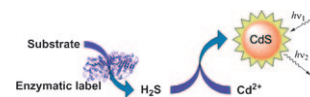


Quantum Dots

L. Saa, A. Virel, J. Sanchez-Lopez, V. Pavlov*

Analytical Applications of Enzymatic Growth of Quantum Dots

Dot products: We have developed two analytical assays for enzymatic activity based on the generation of quantum dots from enzymatic products. These assays were applied to the detection of acetylcholine esterase and alkaline phosphatase. These enzymes induce formation of H_2S , which in the presence of cadmium cations yield CdS quantum dots.



Chem. Eur. J.
DOI: [10.1002/chem.200903373](https://doi.org/10.1002/chem.200903373)

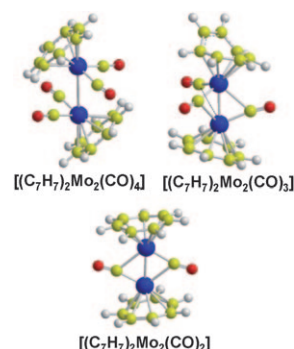


Organometallics

X. Feng,* C. Xie, Y. Xie, R. B. King,* H. F. Schaefer, III

Heptahapticity in Binuclear (Cycloheptatrienyl)molybdenum Carbonyl Derivatives: The Interplay between Ring Hapticity/Planarity and Metal–Metal Multiple Bonding

A worthy competitor: Theoretical studies on $[(C_7H_7)_2Mo_2(CO)_n]$ (see figure) indicate structures with fully bonded heptahapto C_7H_7 rings and four or fewer carbonyl groups to be energetically competitive, contrary to their chromium analogues. The lowest-energy structures for the carbonyl-rich systems ($n=6, 5$) contain one trihapto and one pentahapto C_7H_7 ring.



Chem. Asian J.
DOI: [10.1002/asia.200900363](https://doi.org/10.1002/asia.200900363)

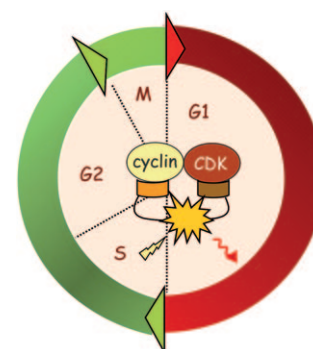


Biosensors

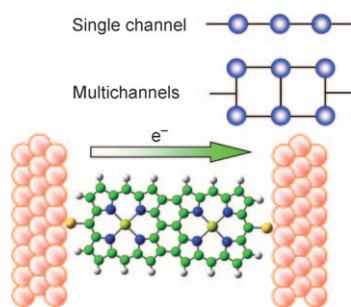
L. Kurzawa, M. C. Morris*

Cell-Cycle Markers and Biosensors

Seeing signals: Characterisation of the cell-cycle status in eukaryotic cells is essential to determine the impact of physiological and pathological signals. This review describes classical approaches that rely on cell fixation, and more recent approaches based on fluorescent markers and biosensors to probe cell-cycle regulators in living cells.



ChemBioChem
DOI: [10.1002/cbic.200900729](https://doi.org/10.1002/cbic.200900729)



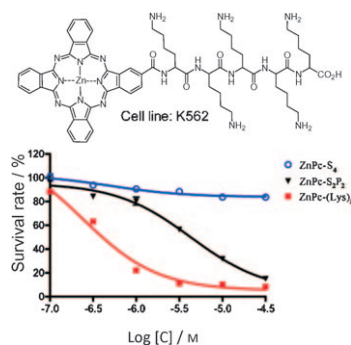
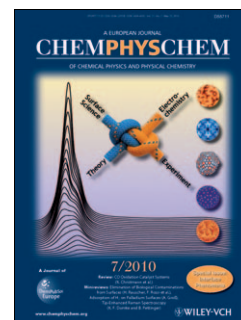
ChemPhysChem
DOI: 10.1002/cphc.201000092

Molecular Junctions

H. Liu, C. Yu, N. Gao, J. Zhao*

The Diversity of Electron-Transport Behaviors of Molecular Junctions: Correlation with the Electron-Transport Pathway

The length–conductivity relations of conjugated molecules are diverse—and they are dominated by the electron-transport pathway (see picture). In the case of a single channel, the conductance decays rapidly with the length and follows an exponential law. However, when the molecular wires have multichannels, the decay of conductance does not follow the exponential relation.



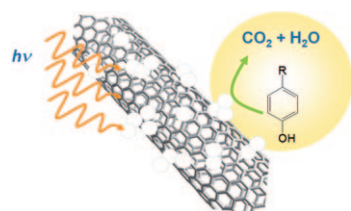
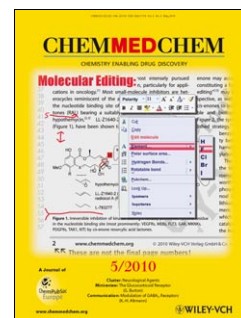
ChemMedChem
DOI: 10.1002/cmdc.201000042

Photodynamic Therapy

Z. Chen, S. Zhou, J. Chen, Y. Deng, Z. Luo, H. Chen, M. R. Hamblin, M. Huang*

Pentalysine β -Carbonylphthalocyanine Zinc: An Effective Tumor-Targeting Photosensitizer for Photodynamic Therapy

A new unsymmetrical zinc phthalocyanine photosensitizer (pentalysine β -carbonylphthalocyanine zinc, ZnPc-(Lys)₅) was prepared in large quantity and high purity. This water-soluble cationic photosensitizer shows high tumor phototoxicity and significant inhibition of tumor growth.



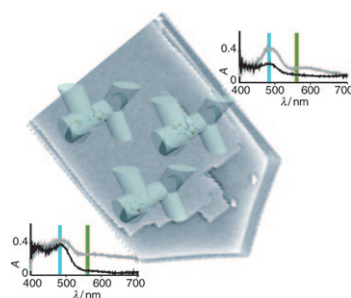
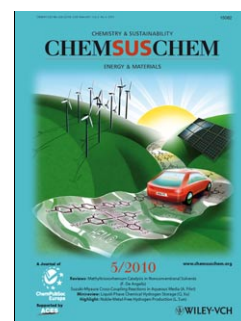
ChemSusChem
DOI: 10.1002/cssc.200900262

Photocatalysis

C. G. Silva, J. L. Faria*

Photocatalytic Oxidation of Phenolic Compounds by Using a Carbon Nanotube-Titanium Dioxide Composite Catalyst

A multiwalled carbon nanotube-titanium dioxide catalyst produced by a sol-gel method shows a high activity in the photocatalytic degradation of *para*-substituted phenols containing electron-donating groups. A synergetic effect is ascribed to the action of the carbon nanotubes as sensitizers, injecting electrons in the conduction band of the semiconductor, thereby increasing the efficiency of the photocatalytic process.



ChemCatChem
DOI: 10.1002/cctc.200900329

Spectroscopy

M. H. F. Kox, A. Mijovilovich, J. J. H. B. Sättler, E. Stavitski, B. M. Weckhuysen*

The Catalytic Conversion of Thiophenes over Large H-ZSM-5 Crystals: An X-Ray, UV/Vis, and Fluorescence Microspectroscopic Study

Inner visions: Thiophene derivatives are chemically imaged during acid-catalyzed conversion within the micropores of individual coffin-shaped H-ZSM-5 zeolite crystals by X-ray absorption, UV/Vis, and confocal fluorescence microspectroscopy. A thiophene sulfur atom is found to be in a close proximity to two oxygen framework atoms and the reaction products are aligned within the straight pores of H-ZSM-5.



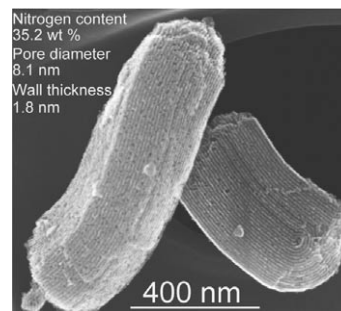


Mesoporous Silicon (Oxy)Nitride

F. Hayashi, K.-i. Ishizu, M. Iwamoto*

Effect of Pore Structure on the Nitridation of Mesoporous Silica with Ammonia

Mesoporous silicon (oxy)nitrides with regular pore structures were prepared by nitridation of mesoporous silica MCM-41, SBA-15, and MCM-48 with ammonia. The nitrogen contents were 35–39 wt.-%. The reaction rates were dependent on the surface areas. Characterization revealed no collapse of the regular pore structure through the nitridation.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200901236

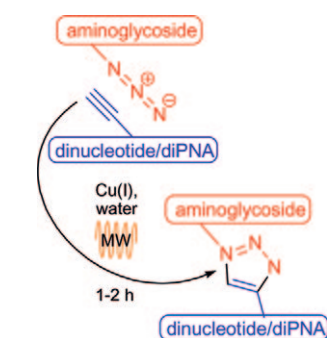


Aminoglycoside Antibiotics

J. Alguacil, S. Defaus, A. Claudio, A. Trapote, M. Masides, J. Robles*

A Straightforward Preparation of Aminoglycoside–Dinucleotide and –diPNA Conjugates via Click Ligation Assisted by Microwaves

Here, we report on an alternative procedure to prepare aminoglycoside–dinucleotide and –diPNA conjugates which combines copper-catalyzed Huisgen azide-alkyne cycloaddition with microwave irradiation (MW).



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201000182

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