

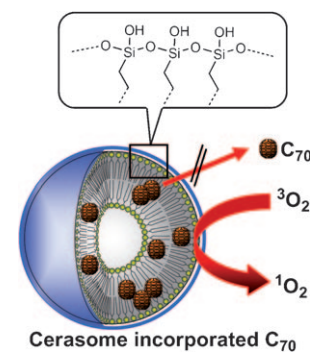


Photosensitizers

A. Ikeda,* M. Nagano, M. Akiyama, M. Matsumoto, S. Ito, M. Mukai, M. Hashizume, J.-i. Kikuchi, K. Katagiri, T. Ogawa, T. Takeya

Photodynamic Activity of C₇₀ Caged within Surface-Cross-Linked Liposomes

A fierce fullerene in a cage: C₇₀ encapsulated into a surface-cross-linked liposome (a morphologically stable cerasome) was prepared by an exchange reaction. The photodynamic activity of the cerasome with incorporated C₇₀ in HeLa cells was similar to that of a lipid membrane with incorporated C₇₀, indicating that the cerasome can be used in photodynamic therapy without the need for prior drug release from the cerasome.



Chem. Asian J.
DOI: 10.1002/asia.200800271

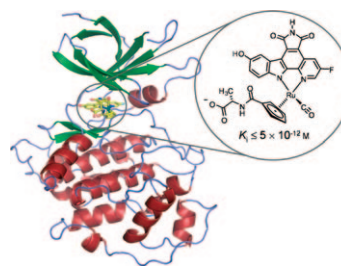


Kinase Inhibitors

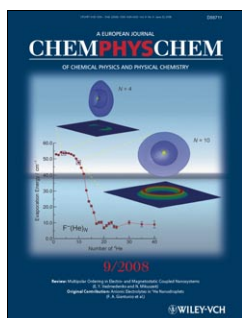
G. E. Atilla-Gokcumen, N. Pagano, C. Streu, J. Maksimoska, P. Filippakopoulos, S. Knapp, E. Meggers*

Extremely Tight Binding of a Ruthenium Complex to Glycogen Synthase Kinase 3

Perfect match: An organoruthenium complex with at most a low picomolar binding constant for glycogen synthase kinases 3 is reported, whose binding to the ATP-binding site has been analyzed by X-ray crystallography. The complex, (R_{Ru})-NP549, is one of the most potent protein kinase inhibitors reported to date, almost four orders of magnitude more potent than the related natural product staurosporine.



ChemBioChem
DOI: 10.1002/cbic.200800489

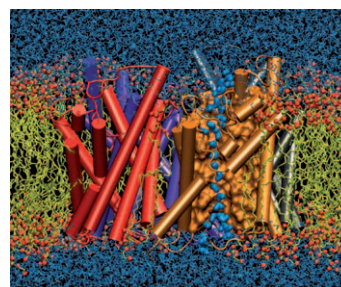


Quantum Dots

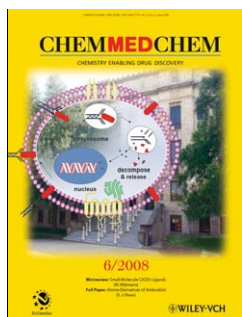
P. Ball*

Water as a Biomolecule

Busy busy busy: Water is not a passive solvent in biology, but plays an active role in many biomolecular and cell processes. It can be regarded as a kind of biomolecule in its own right, adapting its structure and dynamics to the biological macromolecules and other cell solutes that it accommodates. In particular, water may hold the key to the way some proteins interact, fold and bind their substrates.



ChemPhysChem
DOI: 10.1002/cphc.200800515

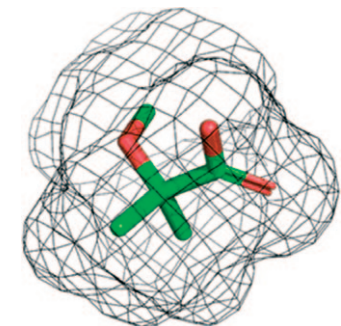


Virtual Screening

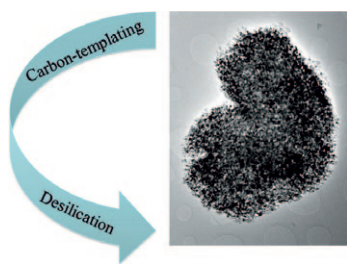
E. Proschak, H. Zettl, Y. Tanrikulu, M. Weisel, J. M. Kriegl, O. Rau, M. Schubert-Zsilavecz, G. Schneider*

From Molecular Shape to Potent Bioactive Agents I: Bioisosteric Replacement of Molecular Fragments

Ligand-based virtual screening: By means of shape- and pharmacophore-based virtual screening, a potent PPAR α -selective activator was identified from a large compound collection with minimal experimental effort. This compound represents a scaffold-hop from known PPAR agonists and provides proof-of-concept for a novel ligand-based virtual screening approach.



ChemMedChem
DOI: 10.1002/cmdc.200800313



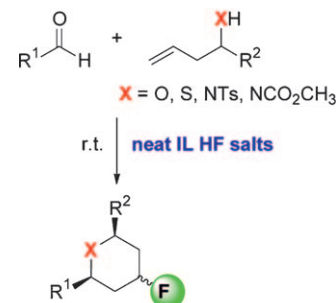
Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200800781

Mesoporous Zeolites

M. S. Holm, K. Egeblad, P. N. R. Vennestrøm, C. G. Hartmann, M. Kustova, C. H. Christensen*

Enhancing the Porosity of Mesoporous Carbon-Templated ZSM-5 by Desilication

A carbon-templated zeolite ZSM-5 was desilicated to obtain a multi-level hierarchical material with a very high mesopore volume. Carbon-templating and desilication can produce mesopores of different sizes, and by coupling the two protocols we observe contributions to mesoporosity over a wide range.



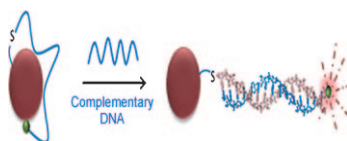
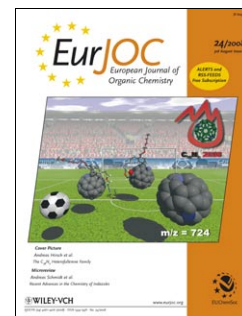
Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200800872

Fluorocyclization

Y. Kishi, S. Inagi, T. Fuchigami*

Prins Cyclization in Ionic Liquid Hydrogen Fluoride Salts: Facile and Highly Efficient Synthesis of 4-Fluorinated Tetrahydropyrans, Thiacyclohexanes, and Piperidines

Prins cyclization of homoallylic alcohols with various aldehydes was investigated in ionic liquid hydrogen fluoride (HF) salts, which played roles as a reaction medium, a catalyst, and a fluorine source. The reaction afforded the corresponding 4-fluorinated tetrahydropyrans in excellent yields with a high stereoselectivity (*cis* form exclusively). Thia- and aza-Prins cyclization were also studied.



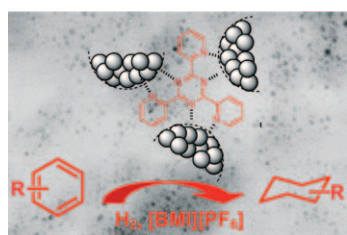
Chem. Eur. J.
DOI: 10.1002/chem.200801812

Gold Nanoparticles

J. Griffin, A. K. Singh, D. Senapati, P. Rhodes, K. Mitchell, B. Robinson, E. Yu, P. C. Ray*

Size- and Distance-Dependent Nanoparticle Surface-Energy Transfer (NSET) Method for Selective Sensing of Hepatitis C Virus RNA

Size matters! This article demonstrates for the first time that size- and distance-dependent nanoparticle surface-energy transfer (NSET) properties of gold nanoparticles can be used for recognizing hepatitis C virus RNA sequences (see scheme) sensitively (300 fm concentration) and selectively (single-base mutations) in a homogeneous format.



ChemSusChem
DOI: 10.1002/cssc.200800194

Biphasic Catalysis

B. Léger, A. Denicourt-Nowicki, H. Olivier-Bourbigou, A. Roucoux*

Rhodium Colloidal Suspensions Stabilised by Poly-N-donor Ligands in Non-Aqueous Ionic Liquids: Preliminary Investigation into the Catalytic Hydrogenation of Arenes

In a state of suspension: Colloidal suspensions of Rh^0 nanoparticles stabilised by polynitrogen ligands such as 2,4,6-tris(2-pyridyl)-s-triazine were prepared in the ionic liquid 1-*n*-butyl-3-methylimidazolium hexafluorophosphate ([BM][PF₆]) by chemical reduction of Rh^{III} . The resulting suspensions of ligand-stabilised metallic nanoparticles were then applied as catalysts in the hydrogenation of arenes with excellent results.

