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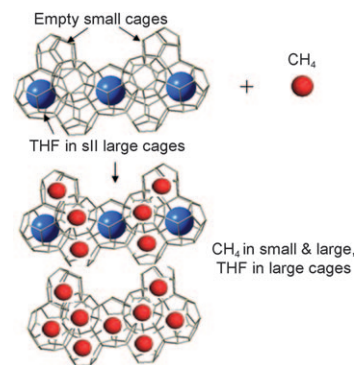


Clathrate Hydrates

Y. Seo, J.-W. Lee, R. Kumar, I. L. Moudrakovski, H. Lee,*
J. A. Ripmeester*

Tuning the Composition of Guest Molecules in Clathrate Hydrates: NMR Identification and Its Significance to Gas Storage

Filling in all the blanks: Structure II (sII) double hydrates can be tuned to optimize gas storage conditions by adjusting the concentration of the water soluble hydrate former, THF in this study. In situ high-pressure NMR experiments were used to measure the kinetics of reaction between frozen THF solutions and methane gas, and ^{13}C MAS NMR experiments were used to measure the distribution of the guests over the cage sites.



Chem. Asian J.
DOI: 10.1002/asia.200900087

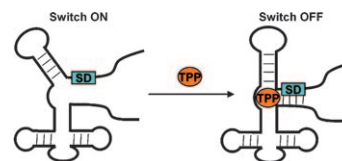


Riboswitches

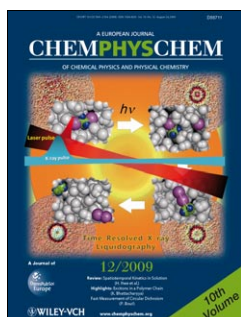
N. Muranaka, K. Abe, Y. Yokobayashi*

Mechanism-Guided Library Design and Dual Genetic Selection of Synthetic OFF Riboswitches

Turn it OFF: A combination of mechanism-guided library design and dual genetic selection provided OFF riboswitches that repress gene expression in response to thiamine pyrophosphate (TPP) in *E. coli*. Two classes of riboswitches that function by controlling the accessibility of the Shine-Dalgarno sequence by the ribosome were selected and characterized.



ChemBioChem
DOI: 10.1002/cbic.200900313

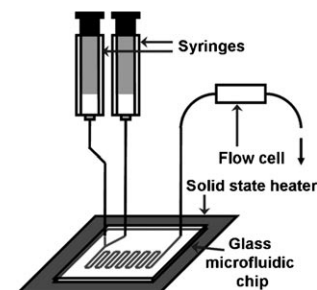


Microfluidic Reactors

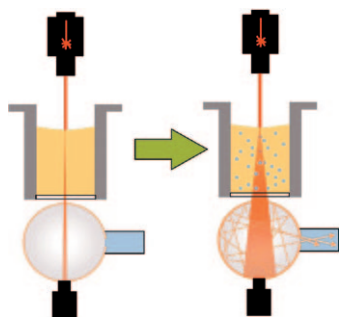
A. M. Nightingale, J. C. de Mello*

Controlled Synthesis of III–V Quantum Dots in Microfluidic Reactors

Defined properties: Microfluidic reactors have recently emerged as near-ideal systems for the growth of high quality colloidal nanoparticles due to the unprecedented control they offer over reaction conditions (see figure). High quality InP quantum dots are synthesized in simple microfluidic devices, and their spectral characteristics are easily tuned.



ChemPhysChem
DOI: 10.1002/cphc.200900462



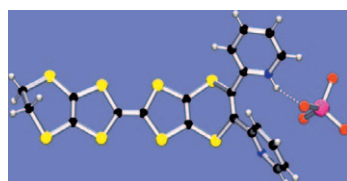
ChemMedChem
DOI: 10.1002/cmdc.200900205

Chemoinformatics

C. Kramer, T. Heinisch, T. Fligge, B. Beck,* T. Clark*

A Consistent Dataset of Kinetic Solubilities for Early-Phase Drug Discovery

A new dataset of kinetic solubilities is reported. The values were determined consistently by nephelometry in one laboratory for 711 druglike compounds. Simple quantitative structure–property relationships (QSPRs) were also investigated.



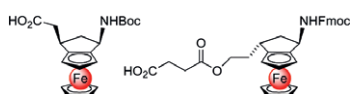
Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200900278

Substituted Tetrathiafulvalenes

A. C. Brooks, P. Day, S. I. G. Dias, S. Rabaça, I. C. Santos, R. T. Henriques, J. D. Wallis, M. Almeida*

Pyridine-Functionalised (Vinylenedithio)tetrathiafulvalene (VDT-TTF) Derivatives and Their Dithiolene Analogues

A group of vinylenedithio-TTFs bearing two or four 2- or 4-pyridyl groups are described, along with related nickel and gold bidithiolene complexes, as potential substrates for preparing multifunctional materials.



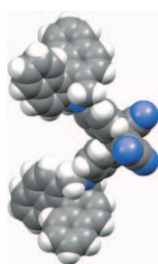
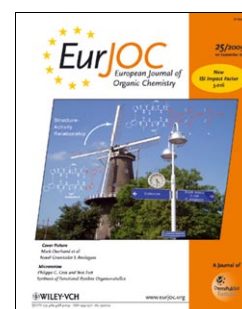
Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200900552

Amino Acid Analogues

A. Hunold, I. Neundorff, P. James, J. Neudörfl, H.-G. Schmalz*

Stereoselective Synthesis of New Ferrocene-Derived Amino Acid Building Blocks

As a contribution to bioorganometallic chemistry, a dia- and enantioselective synthesis of novel carbocyclic amino acid analogues with a 1,2-ferrocenocyclopentene backbone has been developed.



Chem. Eur. J.
DOI: 10.1002/chem.200900913

Liquid Crystals

B. B. Frank, B. Camafort Blanco, S. Jakob, F. Ferroni, S. Pieraccini, A. Ferrarini, C. Boudon, J.-P. Gisselbrecht, P. Seiler, G. P. Spada,* F. Diederich*

N-Arylated 3,5-Dihydro-4H-dinaphtho[2,1-c:1',2'-e]azepines: Axially Chiral Donors with High Helical Twisting Powers for Nonplanar Push–Pull Chromophores

Cholesteric induction: Push–pull chromophores with axially chiral N-phenyl-4,5-dihydro-3H-dinaphtho[1,2-e:2',1'-c]azepine donors (see figure) and 1,1,4,4-tetracyanobuta-1,3-diene (TCBD) acceptors have been obtained by short synthetic routes. These compounds exhibit potent cholesteric induction, when used as dopants in nematic liquid crystals, as well as large chiroptical response.





Biomass Valorization

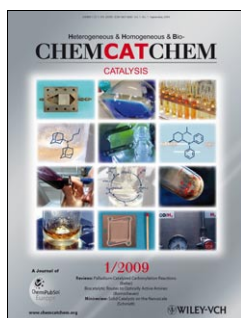
B. Katryniok, S. Paul, M. Capron, F. Dumeignil*

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

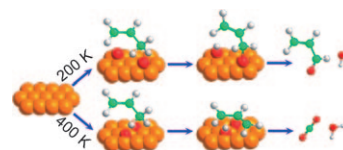


Oxidation Catalysts

B. K. Min, X. Deng, X. Liu, C. M. Friend,* A. R. Alemozafar

Tuning Reactivity and Selectivity for Olefin Oxidation through Local O Bonding on Au

The reactivity and selectivity for oxidation of propene and acrolein promoted by O-covered Au depend strongly on the cluster size and the local bonding of oxygen. The smaller, disordered O-containing gold clusters formed at 200 K show much higher reactivity and selectivity toward partial oxidation as compared to those formed at 400 K where only a fraction of surface oxygen species participates in reaction and leads solely to combustion.



ChemCatChem
DOI: 10.1002/cctc.200900101



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