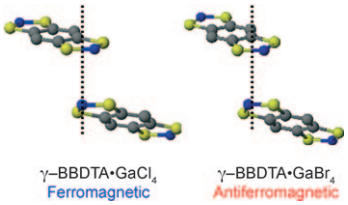
Intermolecular Interactions

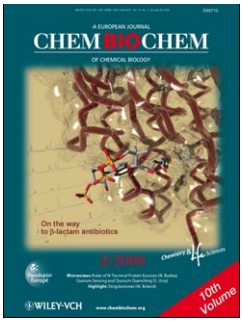
W. Fujita,* K. Kikuchi

Magneto-Structural Correlations in a 1,3,2-Dithiazolyl Radical Crystal, BBDTA·$GaBr_4$: Structure and Magnetic Properties of its Three Polymorphs

Three attractions in one cage: Various magnetic networks are formed in the three polymorphs of an organic magnet, BBTDA(=benzo[1,2-d:4,5-d′]bis[1,3,2]dithiazole)·$GaBr_4$. The three phases show quite different magnetic behaviors in spite of having the same chemical formula. Their magnetic differences originate from the relative configuration of the neighboring organic radical molecules in their crystals.



Chem. Asian J.
DOI: **10.1002/asia.200800362**

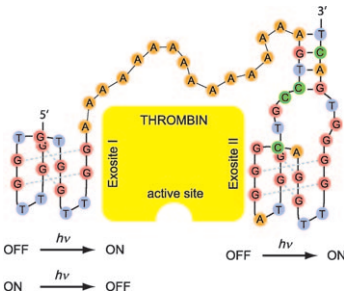


Aptamers

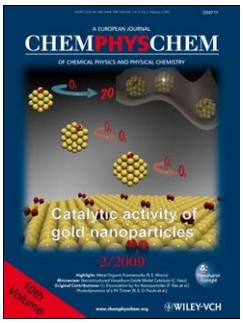
G. Mayer,* J. Müller, T. Mack, D. F. Freitag, T. Höver, B. Pötzsch, A. Heckel*

Differential Regulation of Protein Subdomain Activity with Caged Bivalent Ligands

Subtle change: Spatiotemporal modulation of individual protein subdomains with light as the trigger signal becomes possible by using bivalent aptamers and introducing photolabile "caging groups" to switch individual aptamer modules ON or OFF differentially. To the best of our knowledge, this is the first study to show that it is possible to modulate individual domain activity in aptamers, and thus also domain activity in proteins, with light.



ChemBioChem
DOI: **10.1002/cbic.200800814**

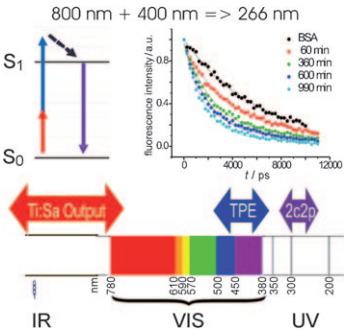


Protein Fluorescence

S. Quentmeier, C. C. Quentmeier, P. J. Walla, K.-H. Gericke*

Two-Color Two-Photon Excitation of Intrinsic Protein Fluorescence: Label-Free Observation of Proteolytic Digestion of Bovine Serum Albumin

Two into one: Simultaneous absorption of two photons of different colors (2c2p) extends the applicable wavelength range of the Ti:Sa laser beyond that of conventional two-photon excitation (TPE) into the UV region (see schematic). The intrinsic fluorescence of bovine serum albumin during proteolytic cleavage by subtilisin (see plot) are monitored without exposing the protein to damaging UV radiation.



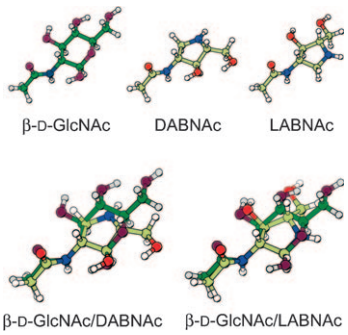
ChemPhysChem
DOI: **10.1002/cphc.200800586**

Chemical Chaperones

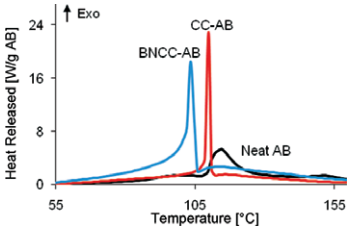
J. S. S. Rountree,* T. D. Butters,* M. R. Wormald, S. D. Boomkamp, R. A. Dwek, N. Asano, K. Ikeda, E. L. Evinson, R. J. Nash, G. W. J. Fleet*

Design, Synthesis, and Biological Evaluation of Enantiomeric β-*N*-Acetylhexosaminidase Inhibitors LABNAc and DABNAc as Potential Agents against Tay-Sachs and Sandhoff Disease

Combating glycolipid storage disorders: LABNAc was prepared in an efficient 11-step procedure from D-lyxonolactone. The enantiomer DABNAc was also prepared from L-lyxonolactone. Preliminary cellular studies indicate that these compounds may find utility as chemical chaperones for the treatment of Tay-Sachs and Sandhoff diseases.



ChemMedChem
DOI: **10.1002/cmdc.200800350**



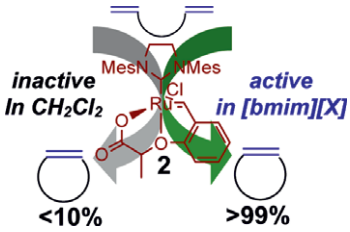
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200800814**

Hydrogen Storage Materials

S. Sepehri, B. B. García, G. Z. Cao*

Influence of Surface Chemistry on Dehydrogenation in Carbon Cryogel Ammonia Borane Nanocomposites

Incorporating ammonia–borane (AB) into the pores of carbon cryogels lowers the dehydrogenation temperatures of AB. Boron- and nitrogen-modification of carbon cryogels can promote the destabilization of AB further and thus lower its dehydrogenation temperature and activation energy relative to the unmodified carbon cryogel scaffold with the same pore size.



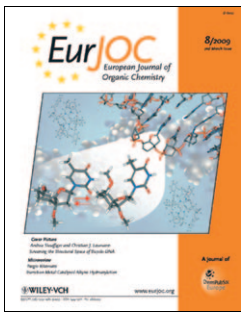
Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200801214**

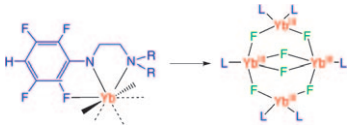
Metathesis in Ionic Liquid

J. H. Kim, B. Y. Park, S.-W. Chen, S.-g. Lee*

In Situ Activation of a Latent Ruthenium–Carbene Complex in Ionic Liquid and Its Application in Ring-Closing Metathesis

Ionic liquid as an activator for latent Ru complex: Latent Ru–carboxylate complex **2** can be activated in situ in the presence of an equivalent amount of [bmim][Br] in the ionic liquid [bmim][SbF_6] and used to catalyze the ring-closing metathesis of various dienes with conversions of up to >99%.





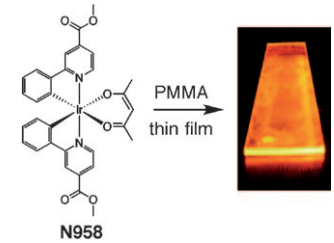
Chem. Eur. J.
DOI: **10.1002/chem.200802294**

Coordination Chemistry

G. B. Deacon,* C. M. Forsyth, P. C. Junk,* J. Wang

Intramolecular Metal–Fluorocarbon Coordination, C–F Bond Activation and Lanthanoid–Fluoride Clusters with Tethered Polyfluorophenylamide Ligands

Activating C–F bonds: Strong metal–fluorocarbon coordination in complexes of electropositive metals (e.g. Na, K, Yb) with chelating polyfluorophenyl-substituted amide ligands is a precursor to C–F bond activation and fluoride abstraction when $M=Yb^{II}$, giving heteroleptic Yb^{III} fluoride clusters (see scheme).



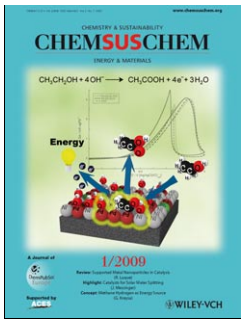
ChemSusChem
DOI: **10.1002/cssc.200800220**

OLEDs

E. Baranoff, S. Suarez, P. Bugnon, H. J. Bolink, C. Klein, R. Scopelliti, L. Zuppiroli, M. Grätzel, M. K. Nazeeruddin*

An Ester-Substituted Iridium Complex for Efficient Vacuum-Processed Organic Light-Emitting Diodes

Red OLED: An orange–red-emitting iridium complex (**N958**) was prepared, and its photophysical and device-based characteristics were investigated. Despite **N958** displaying quite poor photophysical properties in solution (acetonitrile), organic light-emitting diode (OLED) devices based on the complex exhibit an efficiency close to 10%.



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