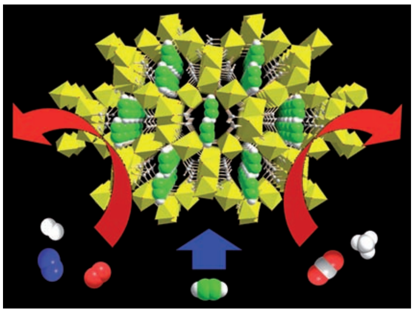
Gas Adsorption

D. G. Samsonenko, H. Kim, Y. Sun, G.-H. Kim, H.-S. Lee, K. Kim*

Microporous Magnesium and Manganese Formates for Acetylene Storage and Separation

Chem. Asian J.
DOI: **10.1002/asia.200600390**

Exclusive entry: Microporous magnesium and manganese formates show not only a high capacity for acetylene sorption but also remarkable selectivity over CO_2, CH_4, N_2, O_2, and H_2 at room temperature. The single-crystal X-ray structure analysis of the acetylene-adsorbed metal formates reveals two acetylene sorption sites.

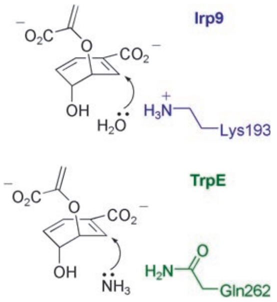


Enzyme Catalysis

O. Kerbarh, A. Ciulli, D. Y. Chirgadze, T. L. Blundell, C. Abell*

Nucleophile Selectivity of Chorismate-Utilizing Enzymes

ChemBioChem
DOI: **10.1002/cbic.200700019**



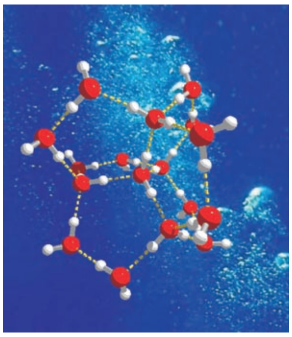
A comparison of the active sites from the crystal structures of the product complexes of salicylate synthase (Irp9) and the TrpE subunit of anthranilate synthase shows that they are identical, apart from residue Lys193 in Irp9, which is Gln262 in TrpE. ^{1}H NMR spectroscopic analysis of the Irp9^{K193Q} and TrpE^{Q262K} mutants indicates that both residues have a key role in the initial nucleophilic attack at C2 of the common substrate chorismate.

Hydrogen Bonds

R. Ludwig*

The Importance of Tetrahedrally Coordinated Molecules for the Explanation of Liquid Water Properties

ChemPhysChem
DOI: **10.1002/cphc.200700067**



Liquid water anomalies are accounted for when significant amounts of tetrahedrally coordinated water molecules as well as ring motifs (see picture) are included in computations. When both these species are included in the quantum cluster equilibrium model, the shift of the temperature maximum density as a function of pressure and isotopic substitution is reproduced correctly.

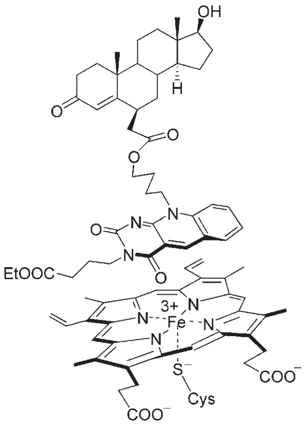
Fluorescence Detection

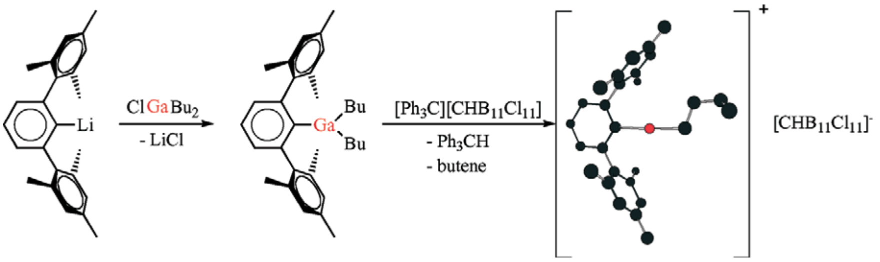
A. Chougnet, Y. Grinkova, D. Ricard, S. Sligar, W.-D. Woggon*

Fluorescent Probes for Rapid Screening of Potential Drug–Drug Interactions at the CYP3A4 Level

ChemMedChem
DOI: **10.1002/cmdc.200600300**

Drug–drug interactions related to cytochrome P450 3A4 (CYP3A4) are a serious problem in drug development. Several steroid-linked fluorophores were synthesized and are shown to be excellent CYP3A4 inhibitors. On binding to CYP3A4 their fluorescence is quenched; it is restored in the presence of compounds having higher affinity for CYP3A4. This method uses a simple fluorescence measurement to identify new drugs that could pose problematic drug–drug interactions.





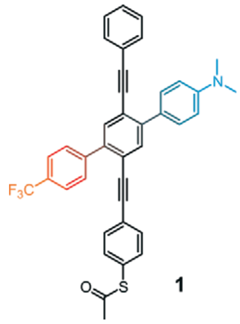
m-Terphenylalanes and -gallanes are obtained from the reaction of *m*-terphenyllithium with MCl$_3$, AlH$_3$·NMe$_3$, or [Bu$_2$Ga]Cl. Butanide abstraction from the dibutyl(*m*-terphenyl)gallanes [(terph)GaBu$_2$] with trityl salts of weakly coordinating anions ([A]$^-$) affords the ionic species [(terph)GaBu]$^+$[A]$^-$.

Cationic Organogallanes

J. D. Young, M. A. Khan, D. R. Powell, R. J. Wehmschulte*

m-Terphenylaluminum and -gallium Compounds: Synthesis and Conversion into Low-Coordinate Organogallium Cations

Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200601049**



1

The synthesis of a series of cruciform molecules like **1**, consisting of a terminally sulfur-functionalized oligophenylene-ethynyl rod of various length and a transversal oligophenylene push-pull system, is reported. These new cruciform structures are expected to display electric field-dependent transport properties in nanoscale junctions.

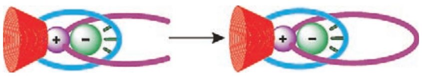
Molecular Electronics

A. Błaszczyk, M. Fischer, C. von Hänisch, M. Mayor*

The Synthesis of Molecular Rods with a Transversal Push-Pull System

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200700070**

“Slipping a ring through a vase with a handle”: A strategic anion-template approach was used to generate pseudorotaxane and catenane species based on the calix[4]arene motif (see scheme). The interlocked species has unique anion-binding properties defined by the catenane structure.



Supramolecular Chemistry

M. D. Lankshear, N. H. Evans, S. R. Bayly, P. D. Beer*

Anion-Templated Calix[4]arene-Based Pseudorotaxanes and Catenanes

Chem. Eur. J.
DOI: **10.1002/chem.200700041**

On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. DOIs are given for easy online access through Wiley InterScience. Full bibliographic details are given where available at the time of this issue’s publication. If you are reading these pages on a computer, click on any of the items to read the full article.