Spotlights ...

On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley InterScience.

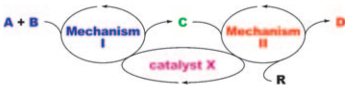
CHEMISTRY
A EUROPEAN JOURNAL
15/45
2009

Auto-Tandem Catalysis

N. Shindoh, Y. Takemoto,* K. Takasu*

Auto-Tandem Catalysis: A Single Catalyst Activating Mechanistically Distinct Reactions in a Single Reactor

Two catalytic reactions with one stroke: "Auto-tandem catalysis" refers to a domino reaction process in which one catalyst promotes more than two fundamentally different chemical transformations in a single reactor. Auto-tandem catalysis offers a more efficient, greener process in organic synthesis by reducing the number of steps, the catalyst loading, and the amount of waste.



Chem. Eur. J.
DOI: **10.1002/chem.200901486**

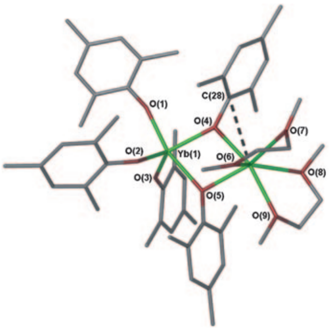
CHEMISTRY
AN ASIAN JOURNAL
11/04
2009

Rare Earth Chemistry

G. B. Deacon,* P. C. Junk,* G. J. Moxey

Mono-, Di-, Tri- and Tetranuclear Rare Earth Complexes Obtained Using a Moderately Bulky Aryloxide Ligand

Medium rare? Redox transmetallation ligand exchange reactions investigated, involving a rare earth metal, 2,4,6-trimethylphenol (HOmes), and a diarylmercurial, afford a wide variety of rare earth aryloxo complexes, which are crystallographically characterized.



Chem. Asian J.
DOI: **10.1002/asia.200900269**

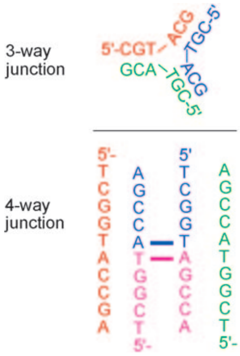
CHEMBIOCHEM
Probing the biological space of PDE5 inhibitors
16/2009
10th Volume

DNA

L. A. Howell, M. Searcey*

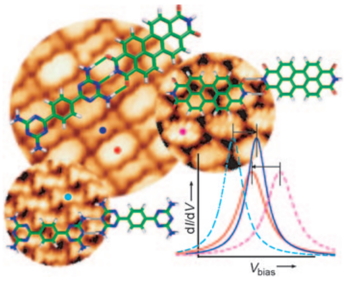
Targeting Higher-Order DNA: Beyond the G-Quadruplex

There must be more to DNA than this: The G-quadruplex is a higher-order DNA structure that is of interest as a potential therapeutic target. However it is not the only structure to bind small-molecule ligands, and in this minireview we describe recent studies of molecules that target three-way and four-way junctions.



ChemBioChem
DOI: **10.1002/cbic.200900243**

Supramolecular Assemblies



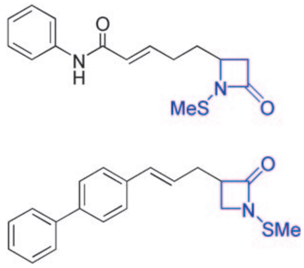
ChemPhysChem
DOI: **10.1002/cphc.200900722**

N. Gonzalez-Lakunza,* M. E. Cañas-Ventura, P. Ruffieux, R. Rieger, K. Müllen, R. Fasel, A. Arnau

Hydrogen-Bonding Fingerprints in Electronic States of Two-Dimensional Supramolecular Assemblies

Induced charge polarization: Different hydrogen-bonding configurations have a distinct impact on the electronic structure of 2D assemblies, as shown by STS experiments. First-principles DFT calculations reveal that an intramolecular charge polarization induced by anisotropic strong triple hydrogen bonds is at the origin of the observed frontier molecular orbital energy level shifts (see picture).

Drug Design

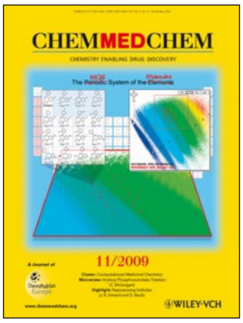


ChemMedChem
DOI: **10.1002/cmdc.200900309**

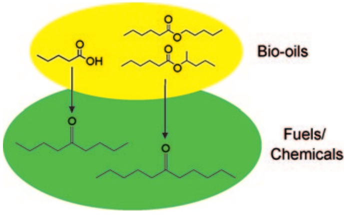
P. Galletti, A. Quintavalla, C. Ventrici, G. Giannini,* W. Cabri, S. Penco, G. Gallo, S. Vincenti, D. Giacomini*

Azetidinones as Zinc-Binding Groups to Design Selective HDAC8 Inhibitors

Isoform-selective HDAC inhibitors: a series of new β-lactams were synthesized and tested against HDAC isoforms. *N*-Thiomethyl-azetidinones showed selective inhibition of HDAC8 in the micromolar range. Molecular modeling validated the *N*-thiomethyl-azetidinone ring as a zinc-binding group in the pharmacophoric model of HDAC inhibitors.



Renewable Materials

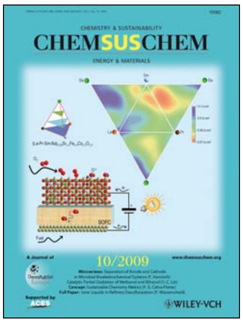


ChemSusChem
DOI: **10.1002/cssc.200900178**

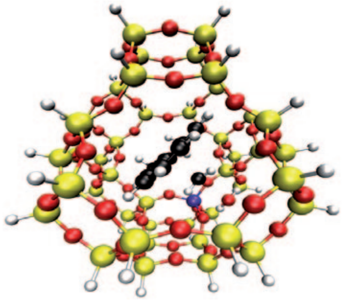
C. A. Gärtner, J. C. Serrano-Ruiz, D. J. Braden, J. A. Dumesic*

Catalytic Upgrading of Bio-Oils by Ketonization

Esterrific and ketonderful! Mixtures of acids and esters, produced by esterification reactions with alcohols in bio-oils, can be upgraded to larger ketones by ketonization reactions using a ceria–zirconia catalyst, on which acids adsorb more strongly than esters, leading to the preferential ketonization of acids followed by ketonization of esters at higher conversions.



Ab Initio Calculation

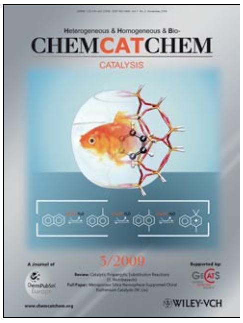


ChemCatChem
DOI: **10.1002/cctc.200900208**

K. Hemelsoet,* A. Nollet, M. Vandichel, D. Lesthaeghe, V. Van Speybroeck,* M. Waroquier

The Effect of Confined Space on the Growth of Naphthalenic Species in a Chabazite-Type Catalyst: A Molecular Modeling Study

Big fish in a small pond: The growth of bulky naphthalenic species within a zeolite with chabazite topology is investigated. Computed rate coefficients of methylation reactions reveal that the zeolite pore dimensions do not prohibit the formation of large trimethylated bicyclic compounds.

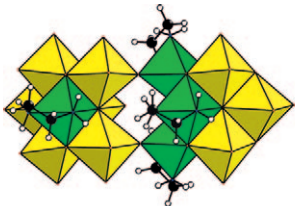


Chelate Centers in Polymolybdates

N. Belai, P. N. Kapoor, M. H. Dickman, R. J. Butcher,* M. T. Pope*

Fusion of Coordination- and Polyoxometalate Chemistry – Chelated Cobalt(III) Centers as Structural Components of Polyoxomolybdates – $[\{Co(en)\}_4Mo_{10}O_{38}]^{4-}$ and Macrocyclic $[\{Co^{II}(H_2O)_2\}\{Co(en)\}_8\{Mo_{20}O_{76}\}]^{6-}$

Two polymolybdate anions that incorporate multiple $\{Co(en)\}^{3+}$ groups confirm that monochelated transition-metal centers can act as topological analogs of the *cis*-$\{MO_2\}^{2+}$ motifs frequently observed in polyoxometalate structures. The possible resulting hybrid structures offer new properties and applications.



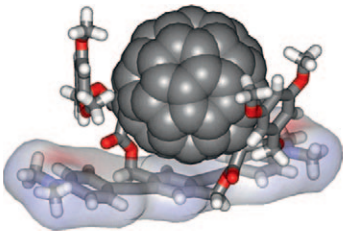
Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200900599**

Electronic Interactions

T. M. Figueira-Duarte, V. Lloveras, J. Vidal-Gancedo, B. Delavaux-Nicot,* C. Duhayon, J. Veciana,* C. Rovira,* J.-F. Nierengarten*

Ground State Electronic Interactions in Macrocyclic Fullerene Bis-Adducts Functionalized with Bridging Conjugated Oligomers

In order to clearly show the influence of π-π interactions between the conjugated system and the fullerene moiety on the electronic properties of C_{60}-(π-conjugated oligomer) conjugates, macrocyclic dyads in which the two components are at the van der Waals contact have been prepared and their properties investigated.



Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200900830**