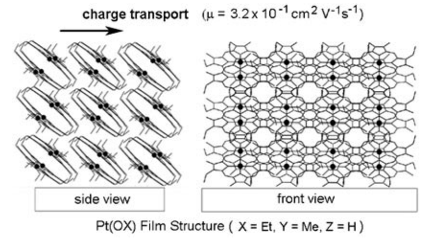
SPOTLIGHTS …

Molecular Electronics

C.-M. Che,* H.-F. Xiang,
S. S.-Y. Chui, Z.-X. Xu, V. A. L. Roy,
J. J. Yan, W.-F. Fu, P. T. Lai,
I. D. Williams

A High-Performance Organic Field-Effect Transistor Based on Platinum(II) Porphyrin: Peripheral Substituents on Porphyrin Ligand Significantly Affect Film Structure and Charge Mobility

Chem. Asian J.
DOI: **10.1002/asia.200800011**



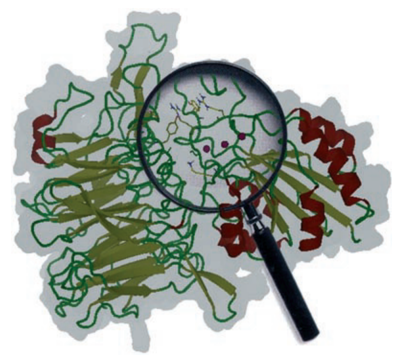
Shaped up: Organic field-effect transistors incorporating planar π-conjugated metal-free macrocycles and their metal derivatives can be fabricated by vacuum deposition. Annealing the Pt(OX)-based transistor leads to the formation of a well-ordered polycrystalline film that exhibits excellent overall charge transport properties, and has the best value of the charge mobility, μ, reported for a metalloporphyrin.

Integrin Ligands

D. Heckmann, A. Meyer, B. Laufer,
G. Zahn, R. Stragies, H. Kessler*

Rational Design of Highly Active and Selective Ligands for the α5β1 Integrin Receptor

ChemBioChem
DOI: **10.1002/cbic.200800045**



Designer ligands: Based on a homology model of the integrin receptor, ligands have been designed and optimised for high affinity for the α5β1 subtype, and high selectivity against the αvβ3 subtype. The identification of hotspot mutations allowed the synthesis of new α5β1 ligands as well as induction of selectivity for formerly nonspecific ligands. The best compounds of the series displayed an IC_{50} value in the low nanomolar range and selectivities that exceeded 8000-fold.

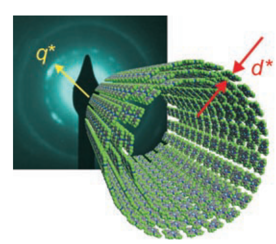
Phthalocyanine Nanotubes

E. Barrena, X. N. Zhang,
B. N. Mbenkum, T. Lohmueller,
T. N. Krauss, M. Kelsch,
P. A. van Aken, J. P. Spatz, H. Dosch*

Self-Assembly of Phthalocyanine Nanotubes by Vapor-Phase Transport

ChemPhysChem
DOI: **10.1002/cphc.200700834**

Gold-borne: Phthalocyanine ($F_{16}CuPc$) assembles into multiwalled nanotubes by vapor deposition onto SiO_2 surfaces functionalized by Au nanodots. Their length can be tuned over a large range. The picture shows the wall spacing d^* of a $F_{16}CuPc$ nanotube as deduced from the first diffration fringe of the electron diffractogram.

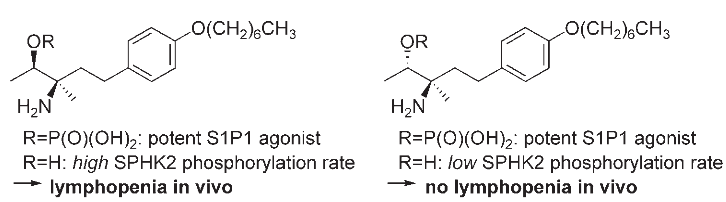


Immunomodulators

K. Högenauer,* A. Billich, C. Pally,
M. Streiff, T. Wagner, K. Welzenbach,
P. Nussbaumer

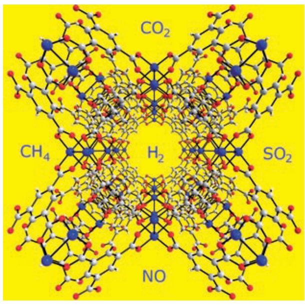
Phosphorylation by Sphingosine Kinase 2 is Essential for in vivo Potency of FTY720 Analogues

ChemMedChem
DOI: **10.1002/cmdc.200800037**



Decisive diastereomers. Sphingosine kinase 2 (SPHK2) phosphorylation rate was found to be the major limiting factor for decreasing peripheral lymphocyte counts of FTY720-like derivatives in vivo. For a diastereomeric pair of potent S1P1 agonists, lymphopenia was only observed for the epimer showing an efficient SPHK2 phosphorylation rate of the parent amino alcohol.

Gas Storage Materials



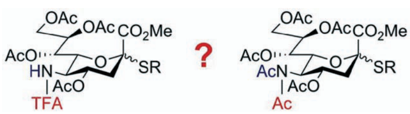
Gas tanks for all: Gas storage technologies are developing in many areas and the use of nanoporous materials as storage media for gases as varied as hydrogen, carbon dioxide, and nitric oxide is the focus of significant research effort. Different applications require different properties from the materials to be used, and how we can improve on currently available materials is a significant challenge for chemists.

R. E. Morris,* P. S. Wheatley

Gas Storage in Nanoporous Materials

Angew. Chem. Int. Ed.
DOI: **10.1002/anie.200703934**

Glycosylation



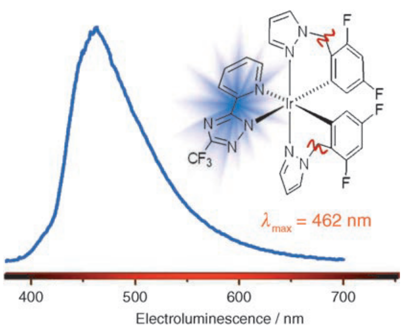
Which one of the two glycosyl donors shown in this picture is more reactive? Conflicting opinions are known. Our approach, which relies on supramolecular aggregation in solutions, can provide a clue to the reasons for the inconsistencies in the literature data on the relative reactivity of sialyl donors.

L. O. Kononov,* N. N. Malysheva, E. G. Kononova, A. V. Orlova

Intermolecular Hydrogen-Bonding Pattern of a Glycosyl Donor: The Key to Understanding the Outcome of Sialylation

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200800324**

Light-Emitting Diodes



True blue: The nonconjugated nature of a methylene spacer interrupts the π conjugation of the cyclometalated ligands, which lowers the π orbital energies and destabilizes the respective π^* orbitals. Incorporation of a third chelating chromophore with a blue-light energy gap induces true-blue-light emission at room temperature (see figure).

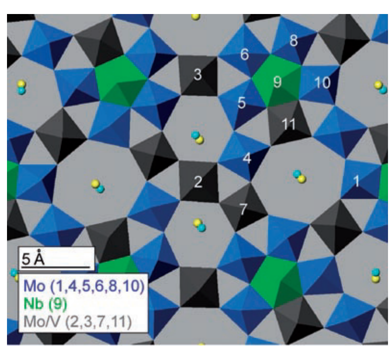
Y.-H. Song, Y.-C. Chiu, Y. Chi,* Y.-M. Cheng, C.-H. Lai, P.-T. Chou,* K.-T. Wong, M.-H. Tsai, C.-C. Wu*

Phosphorescent Iridium(III) Complexes with Nonconjugated Cyclometalated Ligands

Chem. Eur. J.
DOI: **10.1002/chem.200800050**

Heterogeneous Catalysis

A friendly phase: Bulk mixed-metal Mo-V-Te-Nb oxides are highly promising catalysts for the environmentally friendly selective ammoxidation of propane to acrylonitrile and oxidation of propane to acrylic acid. In this context, the crystal structures and catalytic behavior of Mo-V-Te-Nb-O, Mo-V-Te-O, and Mo-V-O M1 phase catalysts have been studied.



N. R. Shiju, V. V. Guliants, S. H. Overbury, A. J. Rondinone*

Toward Environmentally Benign Oxidations: Bulk Mixed Mo-V-(Te-Nb)-O M1 Phase Catalysts for the Selective Ammoxidation of Propane

ChemSusChem
DOI: **10.1002/cssc.200800039**

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