

SPOTLIGHTS ...

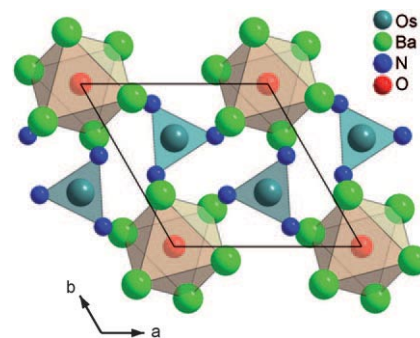
Nitrides

C. L. Schmidt, U. Wedig,
R. Dinnebier, M. Jansen*

Synthesis, Crystal Structure, Bonding, and Properties of $(\text{Ba}_6\text{O})(\text{OsN}_3)_2$

Chem. Asian J.
DOI: 10.1002/asia.200800232

4+ preferred: The structure, bonding, and physical properties of a novel nitridoosmate $(\text{Ba}_6\text{O})(\text{OsN}_3)_2$ are presented, containing trigonal, virtually planar OsN_3^{5-} anions. The oxidation state 4+ of osmium is stabilized by oxygen in the Ba partial structure.



Natural Products

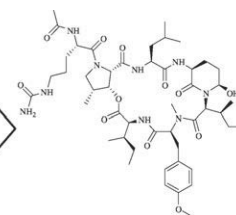
C. Mehner, D. Müller, S. Kehraus,
S. Hautmann, M. Gütschow,
G. M. König*

New Peptolides from the Cyanobacterium *Nostoc insulare* as Selective and Potent Inhibitors of Human Leukocyte Elastase

ChemBioChem
DOI: 10.1002/cbic.200800415



- NRPS gene fragments
- MALDI-TOF detection of peptides
- HLE inhibition



Combinatorial chemistry in cyanobacteria. *Nostoc insulare* has the biosynthetic capability to produce an impressive library of nonribosomal peptides. Molecular biological investigations and

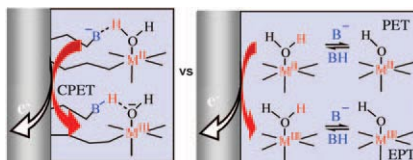
bioactivity studies led to the isolation of potent and selective inhibitors of the enzyme human leukocyte elastase (HLE).

Electrochemistry

C. Costentin, M. Robert,
J.-M. Savéant,* A.-L. Teillout

Concerted and Stepwise Proton-Coupled Electron Transfers in Aquo/Hydroxo Complex Couples in Water: Oxidative Electrochemistry of $[\text{Os}^{\text{II}}(\text{bpy})_2(\text{py})(\text{OH}_2)]^{2+}$

ChemPhysChem
DOI: 10.1002/cphc.200800361



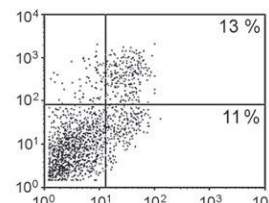
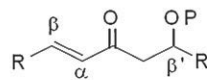
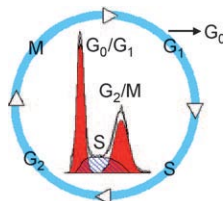
To be or not to be concerted. That is the question. Successive oxidation of transition metal(II) aqua complexes ($\text{M}^{\text{II}}\text{OH}_2$ to $\text{M}^{\text{III}}\text{OH}$) is a domain in which proton-coupled electron-transfer reactions are extremely common (see figure). The concerted (CPET) or stepwise (EPT, PET) character of the mechanism is an important fundamental issue for understanding and designing natural or artificial catalytic systems.

Antitumor Agents

L. G. León, R. M. Carballo,
M. C. Vega-Hernández,
P. O. Miranda, V. S. Martín,
J. I. Padrón, J. M. Padrón*

β' -Hydroxy- α,β -unsaturated ketones: A new pharmacophore for the design of anticancer drugs. Part 2.

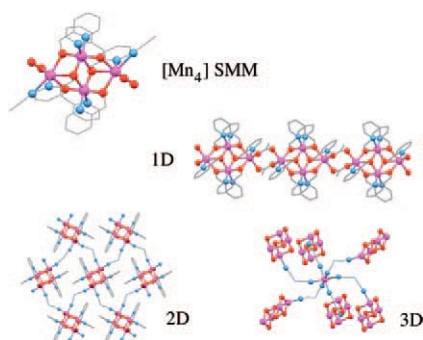
ChemMedChem
DOI: 10.1002/cmdc.200800212



An iron(III)-catalyzed multicomponent domino process is the key step in the synthesis of β' -acyloxy- α,β -unsaturated ketones. These novel compounds arrest the cell cycle and trigger apopto-

sis by irreparably damaging cancer cells. The biological activity of these compounds seem parallel to those observed with the antitumor natural product, persin.

The different forms of a rhombic $[\text{Mn}_4]$ single-molecule magnet and their assembly into infinite coordination networks are reviewed as a case study of how the rational design of extended arrays of high-spin complexes may afford unprecedented, interesting magnetic properties. Potential synthetic strategies and outcomes are discussed.



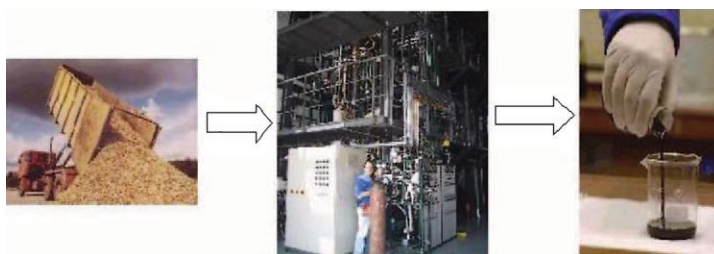
Assemblies of High-Spin Complexes

O. Roubeau,* R. Clérac

Rational Assembly of High-Spin Polynuclear Magnetic Complexes into Coordination Networks: the Case of a $[\text{Mn}_4]$ Single-Molecule Magnet Building Block

Eur. J. Inorg. Chem.

DOI: 10.1002/ejic.200800603



Wood, a renewable energy source, can be converted into fuels, chemicals, and energy products. An overview is presented of the processing of lignocellulose-rich starting materials into BTL (biomass-to-liquid) fuels, describes the

complex reactions that take place at the porous catalysts in a biorefinery, and brings to light the challenges involved in the transition from pilot to production plants.

Renewable Resources

M. Stöcker*

Biofuels and Biomass-To-Liquid Fuels in the Biorefinery: Catalytic Conversion of Lignocellulosic Biomass using Porous Materials

Angew. Chem. Int. Ed.

DOI: 10.1002/anie.200801476

Room at the anion? Three diindolylureas assemble around PO_4^{3-} in the solid-state, saturating its coordination sphere with twelve hydrogen bonds (see figure).



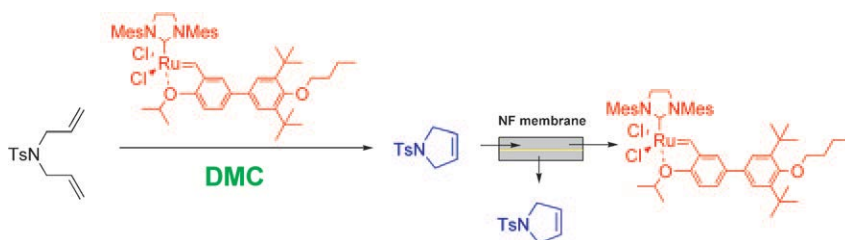
Anion Binding

C. Caltagirone, J. R. Hiscock, M. B. Hursthouse, M. E. Light, P. A. Gale*

1,3-Diindolylureas and 1,3-Diindolylthioureas: Anion Complexation Studies in Solution and the Solid State

Chem. Eur. J.

DOI: 10.1002/chem.200801639



Repeat performances: Several enlarged ruthenium-based catalysts were prepared and tested in an olefin metathesis reaction coupled to a nanofiltration (NF) process, aimed at recovering and recycling the catalyst. Retention of

the catalyst was as high as 92 %, and five catalytic cycles could be performed in a test ring-closing metathesis reaction in dimethyl carbonate (DMC) before a decrease in the catalyst activity was observed.

Olefin Metathesis

A. Keraani, T. Renouard, C. Fischmeister,* C. Bruneau, M. Rabiller-Baudry*

Recovery of Enlarged Olefin Metathesis Catalysts by Nanofiltration in an Eco-Friendly Solvent

ChemSusChem

DOI: 10.1002/cssc.200800152