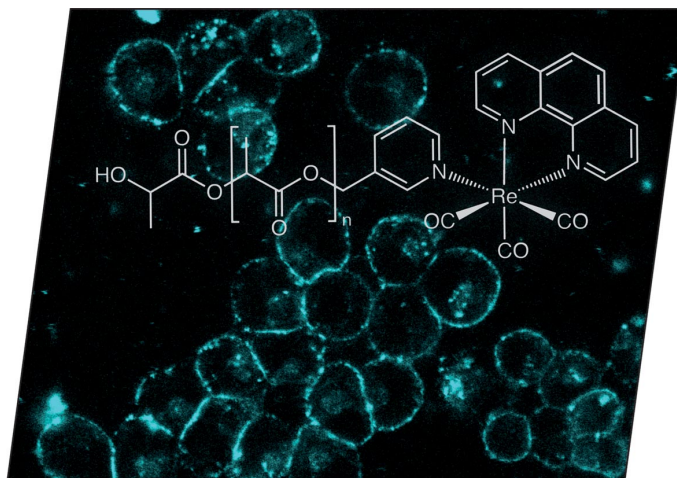


EurJIC is a journal of ChemPubSoc Europe, a union of 16 European chemical societies formed for the purpose of publishing high-quality science. All owners merged their national journals to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*.

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COVER PICTURE

The cover picture shows the structure of a fluorescent polymer consisting of a ligand-functionalised polylactide coordinated to $\text{Re}(\text{CO})_3\text{-(phen)}$. This polymer can passively target cancer tissue and transport the fluorescent dye to the cancer cell membranes, where it can be detected by fluorescence microscopy, which enables early detection of cancer. The resulting fluorescence in the membranes of A2780 cells can be seen in the background. Details are discussed in the article by P. C. Kunz et al. on p. 5063ff.

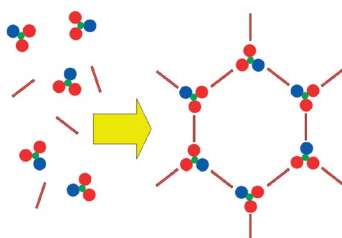


CONTENTS


SHORT COMMUNICATIONS

Topology Control of Porous MOFs

R. A. Polunin, S. V. Kolotilov, M. A. Kiskin, O. Cador, E. A. Mikhalyova, A. S. Lytvynenko, S. Golhen, L. Ouahab,* V. I. Ovcharenko, I. L. Eremenko,* V. M. Novotortsev, V. V. Pavlishchuk* 5055–5057



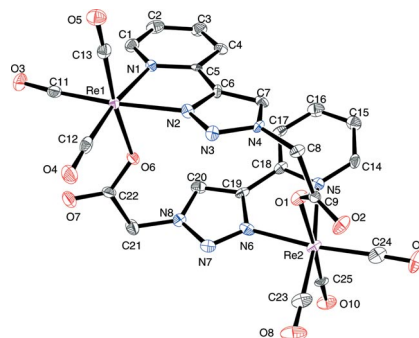
A doubly interpenetrated porous honeycomb framework was assembled from trinuclear heterometallic pivatales, possessing D_{3h} symmetry, and linear 4,4'-bipyridine bridges. The structure of each 2D layer can be predicted exactly from topology considerations.

 Topology Control of Porous Coordination Polymers by Building Block Symmetry


Keywords: Solid-state structures / Microporous materials / Building blocks / Magnetic properties / Spin–orbit coupling

Unconventional Rhenium Dimer

A. Boulay, A. Seridi, C. Zedde, S. Ladeira, C. Picard, L. Maron,* E. Benoist* 5058–5062



Monofunctionalised pyridine–triazole derivatives (pyta) have been synthesised efficiently by the click chemistry approach. Depending on the nature of the pendant arm of the pyta moieties, different luminescent rhenium(I) complexes were obtained – ranging from classical mononuclear complexes to unconventional tricarbonyl rhenium(I) dimeric species.


 Tricarbonyl Re^{I} Complexes from Functionalised Pyridine–Triazole Derivatives: From Mononuclear to Unexpected Dimeric Complexes

Keywords: Chelating agents / Triazole / Metallacycles / Rhenium / Carbonyl ligands

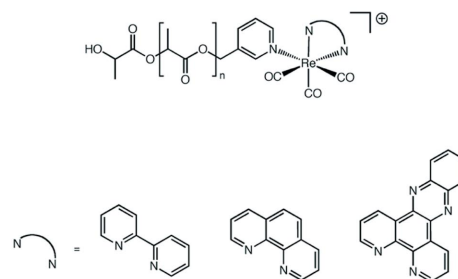
FULL PAPERS

Fluorescent Polymers for Imaging

N. E. Brückmann, S. Kögel, A. Hamacher, M. U. Kassack, P. C. Kunz* 5063–5068

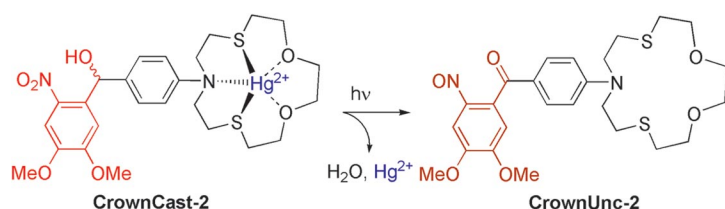
 Fluorescent Polylactides with Rhenium-(bisimine) Cores for Tumour Diagnostics

Keywords: Rhenium / N ligands / Fluorescence / Polymers / Imaging agents



$\text{Re}(\text{CO})_3(\text{bisimine})\text{Br}$ fluorochromes were coordinated to pyridine-functionalised polylactides to afford fluorescent polymers,

which can be used to passively target tumours. Their properties and usefulness for biological imaging have been investigated.



A series of macrocyclic ligands with pendant nitrobenzyl groups undergo photo-reactions to yield benzophenone-based ligands with reduced binding affinity for metal ions. The cages can be used to control

metal ion concentrations. In the macrocycle with two thioether groups, the ligand exhibits small changes in Hg^{2+} affinity since mercury is thiophilic.

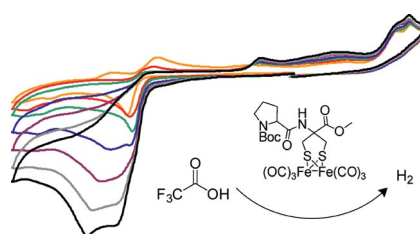
**H. W. Mbatia, D. P. Kennedy,
C. E. Camire, C. D. Incarvito,
S. C. Burdette* 5069–5078**

Buffering Heavy Metal Ions with Photoactive CrownCast Cages

Keywords: Caged Compounds / Macrocycles / Fluorescent probes / Mercury / Lead

[FeFe]-Hydrogenase Models

The synthesis of [FeFe] hydrogenase model complexes, carrying an amino acid containing ligand, and their electrochemical properties are reported.



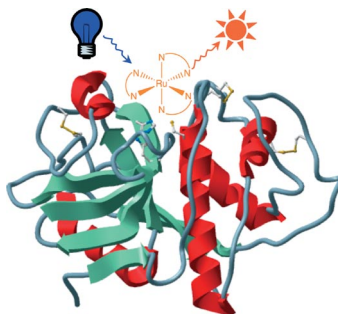
**U.-P. Apfel, C. R. Kowol, E. Morera,
H. Görls, G. Lucente, B. K. Keppler,
W. Weigand* 5079–5086**

Synthetic and Electrochemical Studies of [2Fe2S] Complexes Containing a 4-Amino-1,2-dithiolane-4-carboxylic Acid Moiety

Keywords: Iron / Sulfur / Hydrogenase / Amino acids / Electrocatalysis

Luminescent Ruthenium Complexes

Reaction of dipyrindin-2-ylamine complexes of Ru^{II} functionalized with a maleimide moiety with papain occurred in a stereoselective fashion and yielded bioconjugates displaying enhanced luminescence with respect to the starting materials.



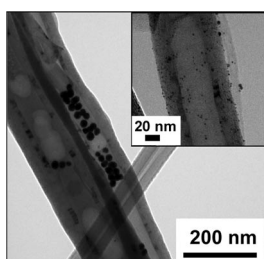
**P. Haquette, J. Jacques, S. Dagorne,
C. Fosse, M. Salmain* 5087–5095**

Synthesis, Characterization and Luminescence Properties of Dipyrindin-2-ylamine Ligands and Their Bis(2,2'-bipyridyl)-ruthenium(II) Complexes and Labelling Studies of Papain from *Carica papaya*

Keywords: Luminescence / Ruthenium / Protein modifications / Circular dichroism / Thiol labels

Gold Nanocatalysis

Gold nanoparticles have been selectively deposited on or inside different types of carbon nanotubes by using various synthetic strategies. The catalytic systems prepared on nitrogen-doped nanotubes show promising activity and selectivity for the selective oxidation of CO in a hydrogen-rich atmosphere.



**E. Castillejos, R. Chico, R. Bacsá,
S. Coco, P. Espinet, M. Pérez-Cadenas,
A. Guerrero-Ruiz, I. Rodríguez-Ramos,
P. Serp* 5096–5102**

Selective Deposition of Gold Nanoparticles on or Inside Carbon Nanotubes and Their Catalytic Activity for Preferential Oxidation of CO

Keywords: Carbon / Gold / Nanocatalysis / Oxidation / Nanotubes

CONTENTS

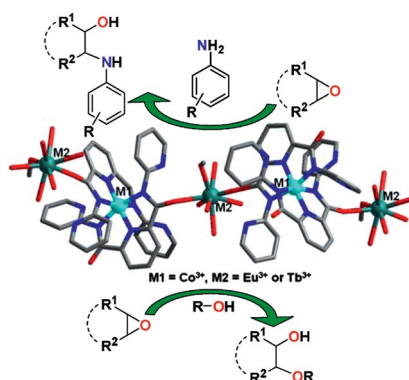
Functional Coordination Polymers

G. Kumar, A. P. Singh,
R. Gupta* 5103–5112



Synthesis, Structures, and Heterogeneous Catalytic Applications of $\{\text{Co}^{3+}-\text{Eu}^{3+}\}$ and $\{\text{Co}^{3+}-\text{Tb}^{3+}\}$ Heterodimetallic Coordination Polymers

Keywords: Cobalt / Europium / Terbium / Polymers / Heterogeneous catalysis



Two $\{\text{Co}^{3+}-\text{Eu}^{3+}\}$ and $\{\text{Co}^{3+}-\text{Tb}^{3+}\}$ zigzag coordination polymers have been synthesized by using a Co^{3+} -based coordination complex. These coordination polymers have been shown to catalyze the ring-opening reactions of epoxides with anilines and alcohols under heterogeneous and solvent-free conditions.

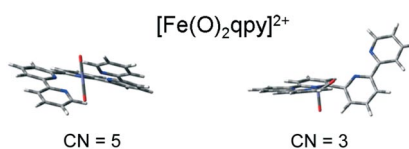
Oxido-Iron Complexes

G. S. M. Tong,*
C.-M. Che* 5113–5123



Density Functional Theory Studies of $[\text{Fe}(\text{O})_2\text{L}]^{2+}$: What is the Role of the Spectator Ligand L with Different Coordination Numbers?

Keywords: Density functional calculations / Iron / High-valency / Oxido ligands / Amines



The electronic structures of $[\text{Fe}(\text{O})_2\text{L}]^{2+}$ complexes, where L has different coordination numbers, have been studied with DFT. Ligand qpy can act as both a penta- and tridentate ligand. The LUMO of the former has higher oxido character and a lower orbital energy than the latter. The latter coordination geometry also has a similar electronic structure to heme Cpd I, suggesting possibly similar oxygen atom transfer reaction mechanisms for these complexes.

Weakly Coordinating Anions

A. B. Chaplin,*
A. S. Weller* 5124–5128



$[\text{B}(3,5-\text{C}_6\text{H}_3\text{Cl}_2)_4]^-$ as a Useful Anion for Organometallic Chemistry

Keywords: Rhodium / Boranes / Organometallic complexes / Weakly coordinating anions / Structure elucidation



The use of the robust $[\text{B}(3,5-\text{C}_6\text{H}_3\text{Cl}_2)_4]^-$ anion in organometallic chemistry is described; this anion partnered with organometallic cations presents desirable solubility properties, a lack of anion disorder in the solid-state, different coordinating properties with metal fragments and convenient metathetical routes for utilization in synthesis.

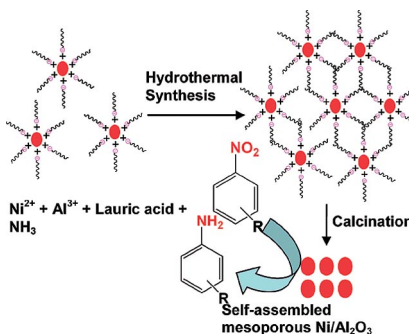
Mesoporous Mixed Oxides

M. Paul, N. Pal,
A. Bhaumik* 5129–5134



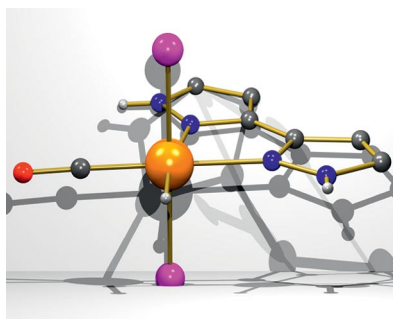
Mesoporous Nickel–Aluminum Mixed Oxide: A Promising Catalyst in Hydride-Transfer Reactions

Keywords: Reduction / Capping agents / Hydrides / Mesoporous materials / Nanostructures



Self-assembled mesoporous nickel–aluminum mixed oxide has been designed by using lauric acid as the capping agent. The material showed excellent catalytic activity in selective liquid-phase hydride-transfer reduction.

Novel ruthenium complexes with protic N–H and hydridic Ru–H units can efficiently be obtained by combining hydridoruthenium precursors with pyrazole-derived ligands.

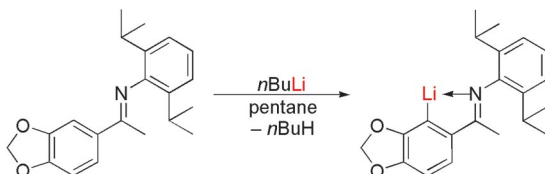


T. Jozak, D. Zabel, A. Schubert,
Y. Sun, W. R. Thiel* 5135–5145

Ruthenium Complexes Bearing N–H
Acidic Pyrazole Ligands

Keywords: Ruthenium / Pyrazole / Hydrogenation / Ligand effects

ortho-Lithiated Imine Ligands



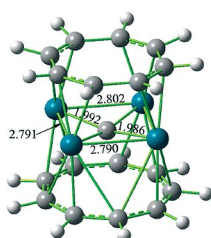
Direct lithiation of phenyl imines has proven to be problematic; however, inclusion of a 3,4-methylenedioxy group on phenyl imines allows for the facile lithiation and

isolation of *ortho*-lithiated imines. Single-crystal X-ray diffraction allowed the structural elucidation of the clustering in these lithium complexes in the solid state.

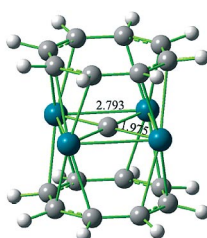
J. F. Beck, A. Neshat,
J. A. R. Schmidt* 5146–5155

Structural Characterization of Novel *ortho*-
Lithiated Imines

Keywords: Lithiation / Ligand design / Schiff bases / Imines / Coordination polymer



$C_8 [C_8H_8]Pd_4C[C_9H_9]^+$



$D_{4h} [C_8H_8]Pd_4C[C_8H_8]$

The planar tetracoordinate carbon (ptC) centered $[C_nH_n]M_4C[C_nH_n]^-$ sandwich complexes with the large π -coordinating ligands $[C_8H_8]^{2-}$ and $[C_9H_9]^-$ invite exper-

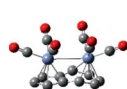
imental syntheses in order to open up a new area in coordination chemistry for planar tetracoordinate carbon and other non-metal atoms.

Planar Tetracoordinate Carbon

J.-C. Guo, S.-D. Li* 5156–5160

Planar Tetracoordinate Carbon Atoms in M_4C Square Sheets ($M = Ni, Pd$, and Pt) Sandwiched between the Large π -Coordinating Ligands $[C_8H_8]^{2-}$ and $[C_9H_9]^-$

Keywords: Planar tetracoordinate carbon / Palladium / Density functional calculations / Sandwich complexes / Electronic structure



$C_{10}H_8Cr_2(CO)_6$



$C_{10}H_8Cr_2(CO)_5$



$C_{10}H_8Cr_2(CO)_4$



$C_{10}H_8Cr_2(CO)_3$

The experimentally known *cis*- $[(\eta^5-C_{10}H_8)Cr_2(CO)_6]$ structure is predicted to be the lowest energy $C_{10}H_8Cr_2(CO)_6$ structure. The lowest energy structures for $C_{10}H_8Cr_2(CO)_n$ ($n = 5, 4, 3, 2$) have *cis* stereochemistry of the two chromium atoms, a Cr–Cr formal double or triple bond, and a single bridging carbonyl group. The $C_{10}H_8Cr_2(CO)_5$ structure is

stable with respect to disproportionation into $C_{10}H_8Cr_2(CO)_6$ and $C_{10}H_8Cr_2(CO)_4$, in contrast to $[(\eta^5-C_5H_5)_2Cr_2(CO)_5]$. However, the $C_{10}H_8Cr_2(CO)_4$ structure is unfavorable with respect to analogous disproportionation in contrast to the very stable and experimentally known $[(\eta^5-C_5H_5)_2Cr_2(CO)_4]$.

Binuclear Chromium Complexes

H. Wang,* Z. Sun, Y. Xie, R. B. King,*
H. F. Schaefer III 5161–5173

Chromium–Chromium Bonding in Binuclear Azulene Chromium Carbonyl Complexes

Keywords: Density functional calculations / Chromium / Carbonyl ligands / Metalmetal interactions / Azulene

* Author to whom correspondence should be addressed.

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