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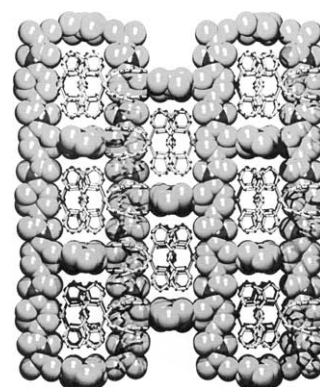
Papers

**B.G. Chand, U.S. Ray, G. Mostafa,
Tian-Huey Lu, Lawrence R. Falvello,
Tatiana Soler, Milagres Tomás, C. Sinha**

Polyhedron 22 (2003) 3161

Anion-directed structural diversity in the complexes of Cd(II)-arylazoimidazole: synthesis, spectral characterization and crystal structure

The work describes the differences in the structures of cadmium(II)-arylazoimidazole (Cd(II)-RaaIR') complexes depending on the nature of the anions. Because of weak coordinating ability of ClO_4^- a tetrakis derivative, $[\text{Cd}(\text{RaaIR}')_4](\text{ClO}_4)_2$ has been obtained compared to Cl^- which gives a bis-complex, $\text{Cd}(\text{RaaIR}')_2\text{Cl}_2$. Use of $\text{Cd}(\text{NO}_3)_2$ as a starting material has yielded a tetragonal channel structure. Nitrate and interstitial water molecules assemble into a supramolecule having a square-grid and brick-wall topology, and the cation takes seat in the groove.

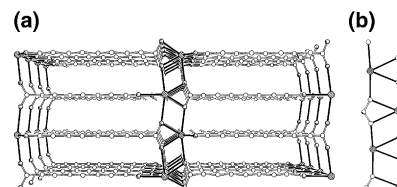


**M. John Plater, Ben De Silva,
Thomas Gelbrich, Michael B. Hursthouse,
Catherine L. Higgitt, David R. Saunders**

Polyhedron 22 (2003) 3171

The characterisation of lead fatty acid soaps in protrusions' in aged traditional oil paint

The first direct evidence for lead soaps in protrusions' encountered in aged lead-containing oil paints, and the structure of lead azelate, is reported.

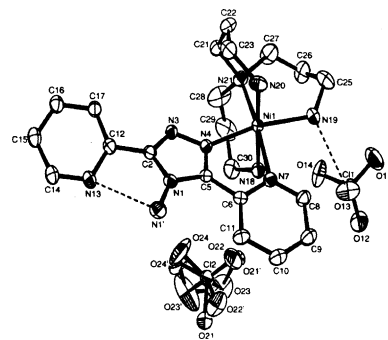


**Mohammad Shakir, Shama Parveen,
Nishat Begum, Yasser Azim**

Polyhedron 22 (2003) 3181

Mononuclear complexes of 4-amino-3,5-bis(pyridin-2yl)-1,2,4 triazole containing tripodal tris(3-aminopropyl)amine: crystal structure of $[\text{Ni}(\text{trpn})(\text{abpt})](\text{ClO}_4)_2$

The title complexes $[\text{M}(\text{trpn})(\text{abpt})](\text{ClO}_4)_2$ were synthesized by the reaction of $\text{M}(\text{ClO}_4)_2 \cdot 6\text{H}_2\text{O}$ with abpt and trpn. The single X-ray crystal structure of the $[\text{Ni}(\text{trpn})(\text{abpt})]^{2+}$ cation exposed an octahedral environment with four nitrogen donors (N_{18} , N_{19} , N_{20} , N_{21}) from trpn, and N_7 (pyridine ring) and N_4 atom (triazole ring) from the abpt ligand. The single crystal structure of **4** and spectral studies suggest that all the complexes are octahedral.

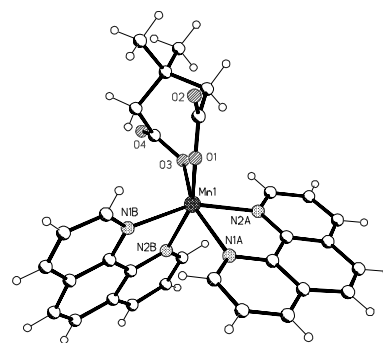


**Michael Devereux, Malachy McCann,
Vanessa Leon, Rachel Kelly,
Denis O Shea, Vickie McKee**

Polyhedron 22 (2003) 3187

Synthesis and in vitro anti-microbial activity of manganese (II) complexes of 2,2-dimethylpentanedioic acid and 3,3-dimethylpentanedioic acid: X-ray crystal structure of $[\text{Mn}(\text{3dmepda})(\text{phen})_2] \cdot 7.5\text{H}_2\text{O}$ ($\text{3dmepdaH}_2 = 3,3\text{-dimethylpentanedioic acid}$ and $\text{phen} = 1,10\text{-phenanthroline}$)

Reactions of 2,2- and 3,3-dimethyl pentanedioic acid with $\text{Mn}(\text{CH}_3\text{COO})_2 \cdot 4\text{H}_2\text{O}$ yield $[\text{Mn}(\text{2dmepda})] \cdot 1.5\text{H}_2\text{O}$ and $[\text{Mn}(\text{3dmepda})] \cdot \text{H}_2\text{O}$. Reactions of these complexes with 2,2'-bipyridine or 1,10-phenanthroline yield $[\text{Mn}_2(\text{2dmepda})_2(\text{bipy})] \cdot \text{H}_2\text{O}$, $[\text{Mn}(\text{2dmepda})(\text{phen})]$, $[\text{Mn}_2(\text{3dmepda})_2(\text{bipy})_3] \cdot 5\text{H}_2\text{O}$ and $[\text{Mn}(\text{3dmepda})(\text{phen})_2] \cdot 7.25\text{H}_2\text{O}$. The molecular structure of $[\text{Mn}(\text{3dmepda})(\text{phen})_2] \cdot 7.25\text{H}_2\text{O}$ was determined by X-ray crystallography. The complexes, the free ligands and some manganese salts were tested for their anti-*Candida* activity. Only the "metal free" 1,10-phenanthroline and its dicarboxylate complexes were active.

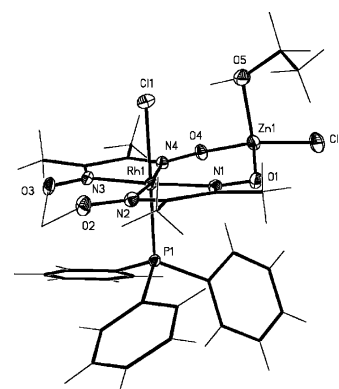


**Monika Moszner, Zbigniew Ciunik, Józef
J. Ziółkowski**

Polyhedron 22 (2003) 3195

Synthetic routes and structures of $[\text{Rh}(\text{Hdmg})\{\text{ClZn}(\text{C}_2\text{H}_5\text{OH})\text{dmg}\}(\text{PPh}_3)\text{Cl}]$, $[\text{Rh}(\text{Hdmg})_2(\text{PPh})_2]^+[\text{Rh}(\text{Hdmg})_2(\text{Cl})_2]^- \cdot 2\text{CH}_3\text{OH}$, and $[\text{Rh}(\text{Hdmg})_2(\text{PPh}_3)\text{I}] \cdot 0.5\text{C}_2\text{H}_5\text{OH}$ complexes

The first instance of a bimetallic oximato compound containing Rh(III) and Zn(II) centres, **1**, has been obtained and structurally determined in addition to two new rhodioximes, **2** and **3**. It has been demonstrated that rhodium compounds with dioximato ligands can serve as suitable models for designing heteronuclear complexes.

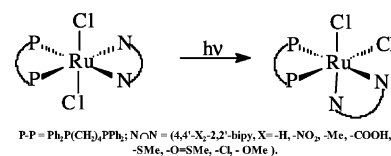


**Marcelo O. Santiago, Claudio L.
Donicci Filho, Icaro de S. Moreira,
Rose Maria Carlos, Saete L. Queiroz,
Alzir A. Batista**

Polyhedron 22 (2003) 3205

Photochemical isomerization of *trans*- to *cis*- $[\text{RuCl}_2(\text{dppb})(4,4'\text{-X}_2\text{-2,2'-bipy})]$ ($\text{X} = \text{-H, -NO}_2, \text{-Me, -COOH, -SMe, -OSMe, -Cl, -OMe}$) complexes

The isomerization rate constants from *trans* to *cis*- $[\text{RuCl}_2(\text{P-P})(\text{N-N})]$ isomers are consistent with first order reactions and are correlated with the $\text{p}K_a$ of the ligands and with the $E_{1/2}$ of the complexes. The large negative activation entropy of the isomerization is consistent with an intramolecular twist mechanism for the isomerization reaction.

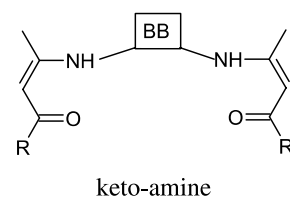


Lawrence C. Nathan, Christopher A. Traina

Polyhedron 22 (2003) 3213

Tautomerism in complexes with neutral tetradentate Schiff base ligands: the X-ray structures of cadmium(II) nitrate complexes of bis(acetylacetonate)-*m*-phenylenediimine and bis(acetylacetonate)-*p*-phenylenediimine

The Schiff bases bis(acetylacetonate)-*m*-phenylenediimine and bis(acetylacetonate)-*p*-phenylenediimine form complexes with polymeric structures in which the ligands coordinate to Cd only through oxygen atoms and function as bridging bidentate keto-amine tautomers.

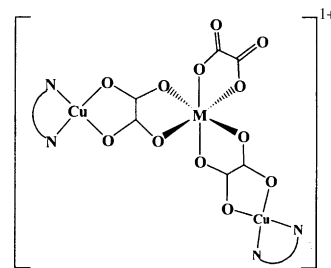


Yan-Tuan Li, Cui-Wei Yan, Hua-Shi Guan

Polyhedron 22 (2003) 3223

Synthesis and magnetic studies of oxalato-bridged copper(II)–chromium(III)–copper(II) and copper(II)–iron(III)–copper(II) heterotrinuclear complexes

Three new μ -oxalato-bridged $\text{Cu}^{\text{II}}\text{M}^{\text{III}}$ -type ($\text{M} = \text{Cr}$ and Fe) heterotrinuclear complexes have been synthesized and characterized. The cryomagnetic investigation reveals ferromagnetic interaction between the copper(II) and chromium(III) ions within the $\text{Cu}^{\text{II}}\text{Cr}^{\text{III}}$ trinuclear complex, whereas the spin-coupling between the copper(II) and iron(III) ions through the oxalato-bridge in the $\text{Cu}^{\text{II}}\text{Fe}^{\text{III}}$ trinuclear complex is antiferromagnetic. The influence of electronic-structural variation of the metal ions on the nature of spin-exchange interaction between the paramagnetic centers is also discussed.

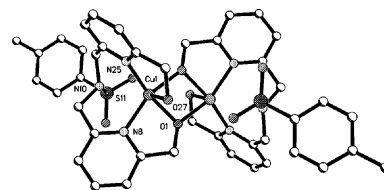


**Thorfinnur Gunnlaugsson,
Mark Nieuwenhuyzen, Claire Nolan**

Polyhedron 22 (2003) 3231

Synthesis, X-ray crystallographic, spectroscopic investigation and cleavage studies of HPNP by simple bispyridyl iron, copper, cobalt, nickel and zinc complexes as artificial nucleases

The synthesis of **L** and its Fe(II), Co(II), Ni(II), Cu(I), Cu(II), and Zn(II) complexes were undertaken. The ligand and the resulting complexes were characterised using various spectroscopic techniques and by X-Ray crystallography. These complexes were then employed as potential catalysts for the hydrolysis of phosphate diesters such as 2-hydroxypropyl *p*-nitrophenyl phosphate (HPNP) and mRNA.



Martin Breza

Polyhedron 22 (2003) 3243

On non-planarity of cyclo-tetraphosphazenes

Using MP2/cc-pVDZ treatment, the optimal conformations of cyclo-(NPX_2)₄ for $\text{X} = \text{H}$, F and Cl , are investigated. The most stable structures correspond to D_{2d} symmetry. Only C_{4v} , D_{2d} and two different C_{2h} stable structures are found.



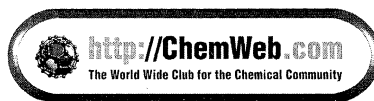
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