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Contents

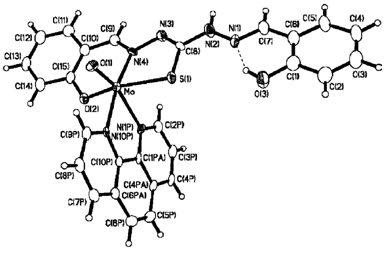
Papers

Arindam Rana, Rupam Dinda, Saktiprosad Ghosh, Alexander J. Blake

Polyhedron 22 (2003) 3075

A series of new oxomolybdenum(IV) complexes involving some NSO donors as the main ligand frame; the first use of diacetyldihydrazones to stabilize the MoO^{+2} acceptor centre

A series of oxomolybdenum(IV) complexes of several related ONS donor ligands (LH$_3$) has been prepared and fully characterized. They have the general formula [MoO(LH)]$_n$ and [MoO(LH)(N–N)], where N–N represents a bidentate neutral donor like *o*-phen, bipy and dihydrazones of diacetyl. It is the first use of diacetyldihydrazones to stabilize the MoO^{2+}-core. The structure of one representative member [MoO(LH)(*o*-phen)] has been determined by X-ray crystallography. Oxo-abstraction capacities of the complexes have been explored using DMSO and pyridine N-oxide as substrates.

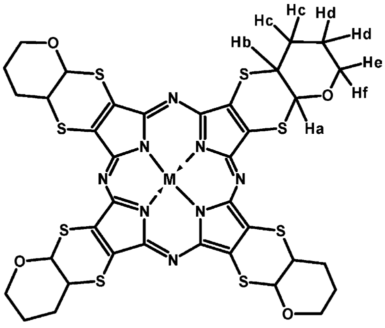


Behice Şebnem Sesalan, Atıf Koca, Ahmet Gül

Polyhedron 22 (2003) 3083

Synthesis and electrochemical properties of porphyrazines with annulated 1,4-dithiaheterocycles

Metal-free, magnesium, zinc or copper porphyrazines with 2,3-trimethyleneoxy-2,3-dihydro-1,4-dithiin or 2-ethoxy-2,3-dihydro-1,4-dithiin groups fused to each pyrrol unit have been isolated. CV measurements indicate that metal insertion into the porphyrazine core shifts the ring centred reduction processes towards negative potentials.

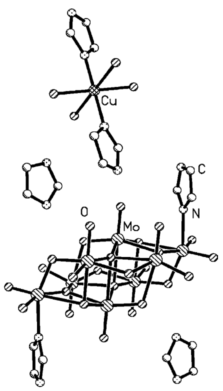


Chuan-De Wu, Can-Zhong Lu, Shu-Mei Chen, Hong-Hui Zhuang, Jin-Shun Huang

Polyhedron 22 (2003) 3091

Synthesis and characterization of two new polyoxomolybdate compounds: [Cu(imi)$_2$(H$_2$O)$_4$][Himi]$_2$[(imi)$_2$Mo$_8$O$_{26}$] and [Himi]$_3$[H$_3$O][SiMo$_{12}$O$_{40}$]$\cdot$H$_2$O

Two new compounds, [Cu(imi)$_2$(H$_2$O)$_4$][Himi]$_2$[(imi)$_2$Mo$_8$O$_{26}$] (**1**) and [Himi]$_3$[H$_3$O][SiMo$_{12}$O$_{40}$]$\cdot$H$_2$O (**2**) (imi = imidazole), have been synthesized and characterized by single crystal X-ray analysis, IR spectra and elemental analysis, of which compound **1** consists of imidazole-coordinated octamolybdates, protonated imidazole cations, imidazole and water coordinating copper cations, while compound **2** crystallizes in the chiral space group, which is built up from acentric Keggin-type [SiMo$_{12}$O$_{40}$]$^{4-}$ anions, protonated imidazole cations, hydroxonium ions and lattice water molecules.



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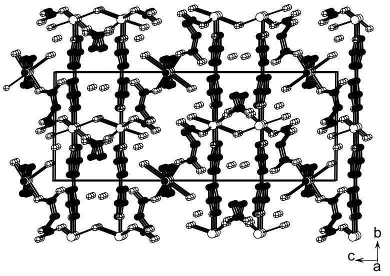
Shao-Ming Ying, Jiang-Gao Mao, Yan-Qiong Sun, Hui-Yi Zeng, Zhen-Chao Dong

Polyhedron 22 (2003) 3097

Syntheses and crystal structures of three open-frameworks of metal succinates containing a 4,4′-bipyridine ligand

Hydrothermal reactions of transitional metal salts with succinic acid and 4,4′-bipyridine afforded three new transition metal complexes with mixed ligands. The structure of $[Cu(C_4H_4O_4)(bipy)(H_2O)_2]\cdot 2H_2O$ (**1**) features a 3D open framework whereas those of $Zn(C_4H_4O_4)(bipy)$ (**2**) and $[Co(bipy)(H_2O)_4](C_4H_4O_4)\cdot 4H_2O$ (**3**) feature a 1D chain.

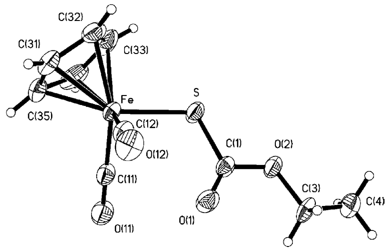


Mohammad El-khateeb, Khalil J. Asali, Anas Lataifeh

Polyhedron 22 (2003) 3105

Half sandwich iron S-bonded mono-thiocarbonate complexes: structure of CpFe$(CO)_2SCO_2Et$

Iron thiocarbonate complexes of general formula $CpFe(CO)_2SCO_2R$ [R = Et (**1**), *iso*-Bu (**2**), Ph (**3**), 4-$C_6H_4NO_2$ (**4**), Me (**5**)] were prepared by reacting $(\mu\text{-}S_x)[CpFe(CO)_2]_2$ ($x = 2$, 3) with the corresponding ROCOCl. These new complexes have been characterized by elemental analyses and spectroscopic methods. The crystal structure of $CpFe(CO)_2SCO_2Et$, **1**, has been determined by single crystal X-ray diffraction analysis.

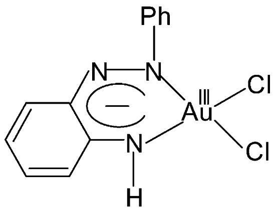


Nilkamal Maiti, Bimal Kumar Dirghangi, Surajit Chattopadhyay

Polyhedron 22 (2003) 3109

Diazoketiminato complexes of Au(III): syntheses, characterisation and structure

Reaction of 2-(arylazo)anilines with tetrachloroauric acid afforded the diazoketiminato complexes of Au(III) for the first time. The X-ray structure displayed the *cis* disposition of two chloride ligands on Au(III), relevant to anti cancer agent.

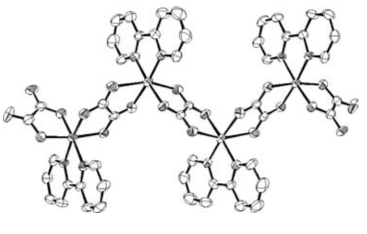


Eugenio Coronado, Mari Carmen Giménez, Carlos J. Gómez-García, Francisco M. Romero

Polyhedron 22 (2003) 3115

Synthesis, crystal structure and magnetic properties of $[Cr_2Cu_2(bpy)_4(ox)_5]\cdot 2H_2O$. An oxalato-bridged heterometallic tetramer

A new heterometallic tetramer of formula $[Cr_2Cu_2(bpy)_4(ox)_5]\cdot 2H_2O$ (**1**) has been prepared and characterised by single-crystal X-ray diffraction and magnetic susceptibility measurements. The tetranuclear unit in **1** can be viewed as the combination of two terminal $[Cr(bpy)_2(ox)]^-$ units with a central oxalato-bridged copper(II) dimer.

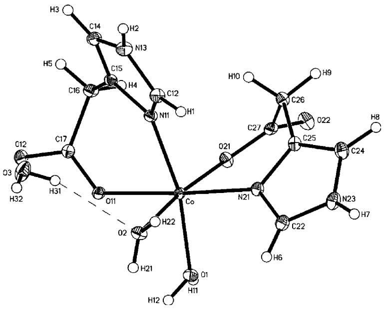


Krystyna Kurdziel, Tadeusz Głowiak, Stefano Materazzi, Julia Jezierska

Polyhedron 22 (2003) 3123

Crystal structure and physico-chemical properties of cobalt(II) and manganese(II) complexes with imidazole-4-acetate anion

The molecular structure and the physico-chemical properties of the isostructural complexes of cobalt(II) and manganese(II) with imidazole-4-acetate (4-iaa) of the generalized formula $[M(4\text{-iaa})_2(H_2O)_2]H_2O$ are presented here. In these complexes 4-iaa is a chelating ligand. The oxygen atom of the carboxyl group and the azomethine nitrogen atom of the heterocyclic ring are donors in the coordinate bonds. The immediate environment of the central ion is described by distorted *cis*-octahedral.

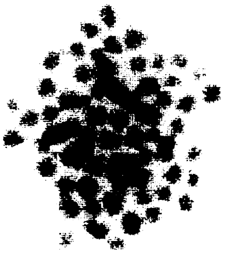


P. Sreekumari Nair, Thottackad Radhakrishnan, Neerish Revaprasadu, Gabriel A. Kolawole, Paul O'Brien

Polyhedron 22 (2003) 3129

$Cd(NH_2CSNHNHCSNH_2)Cl_2$: a new single-source precursor for the preparation of CdS nanoparticles

The complex of cadmium with dithiobiurea, $[Cd(NH_2CSNHNHCSNH_2)Cl_2]$, has been used as a precursor for the synthesis of CdS nanoparticles.

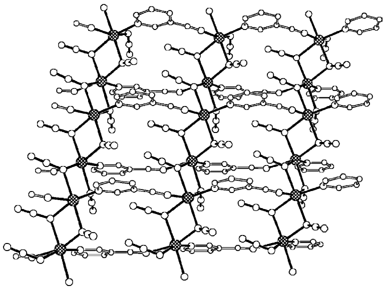


Mohamed A.S. Goher, Franz A. Mautner, Morsy A.M. Abu-Youssef, Afaf K. Hafez, Ahmed M.-A. Badr, Christian Gspan

Polyhedron 22 (2003) 3137

Structural characterization of one-, two-, and three-dimensional polymeric complexes assembled by cadmium(II) pseudohalides and some pyridine ligands via covalent bonds and hydrogen bonds

Three new thiocyanato and azido bridged polymers of cadmium(II): $[Cd(4\text{-Clpy})_2(NCS)_2]_n$ (**1**) (4-Clpy = 4-chloropyridine), $[Cd(3\text{-aldpy})(H_2O)(N_3)_2]_n$ (**2**) (3-aldpy = 3-aldehydepyridine) and *cis*-$[Cd(3\text{-CNpy})(N_3)_2]_n$ (**3**) (3-CNpy = 3-cyanopyridine) have been synthesized and structurally characterized.

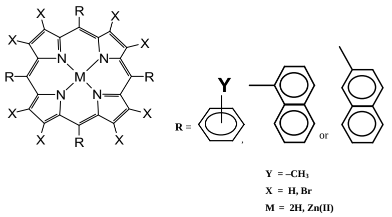


Regimol G. George, M. Padmanabhan

Polyhedron 22 (2003) 3145

Studies on some new *meso*-aryl substituted octabromo-porphyrins and their Zn(II) derivatives

A series of porphyrins with various aryl substituents at the *meso* positions, their perbromoderivatives with Br substituents at all the β-pyrrole positions and their Zn(II) derivatives are synthesized and characterized by ^1H NMR, electronic, fluorescence and electrochemical studies. The spectral and redox characteristics of all the bromoporphyrins show significant change which could be explained in terms of cumulative −I effect of Br atoms, appreciable mesomeric participation of *meso*-aryl moieties and distortion of the framework leading to HOMO–LUMO rearrangement by octabromosubstitution.

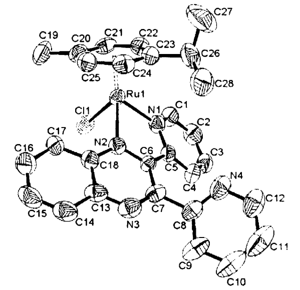


R. Lalrempuia, Mohan Rao Kollipara

Polyhedron 22 (2003) 3155

Reactivity studies of η^6-arene ruthenium (II) dimers with polypyridyl ligands: isolation of mono, binuclear *p*-cymene ruthenium (II) complexes and bisterpyridine ruthenium (II) complexes

The mononuclear complexes $[(\eta^6\text{-}p\text{-cymene})RuCl(L_2)]^+$ and a ligand bridged complex $[\{(\eta^6\text{-}p\text{-cymene})RuCl\}(_2L)]^{2+}$ were obtained by cleavage of halide bridges of $[\{(\eta^6\text{-}p\text{-cymene})Ru(\text{-}Cl)\}_2Cl_2]$ with the corresponding ligands. The reactions of $[\{(\eta^6\text{-arene})Ru(\text{-}Cl)\}_2Cl_2]$ with para substituted phenylterpyridines yielded unexpected bis phenylterpyridine ruthenium (II) complexes of the type $[(x\text{-phterpy})_2Ru]^{2+}$ by the facile displacement of η^6-arene ring, as well as chloride ligands. The molecular structures of $[(\eta^6\text{-}p\text{-cymene})RuCl(biqui)]PF_6$ (**3**) and $[(\eta^6\text{-}p\text{-cymene})RuCl(bpq)]PF_6$ (**5**) have been determined by single crystal X-ray diffraction study.



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