PERGAMON

Available online at www.sciencedirect.com
SCIENCE DIRECT®

Volume 22, Number 19, 15 August 2003

POLYHEDRON

www.elsevier.com/locate/poly

Contents

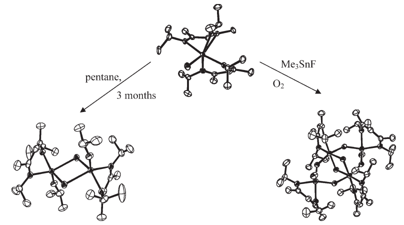
Papers

Grigori B. Nikiforov, Herbert W. Roesky, Jörg Magull, Thomas Labahn, Denis Vidovic, Mathias Noltemeyer, Hans-Georg Schmidt, Narayan S. Hosmane

Polyhedron 22 (2003) 2669

Synthesis and investigation of the stability of Ti(III) β-diketiminato complexes. Structure of the tetrameric non-metallocene titanium fluoride complex $(L2)_4Ti_4F_6O_2 \cdot 2$toluene supported by the β-diketiminato ligand

The titanium(III) β-diketiminato complexes $(L1)TiCl_2$, $(L1)TiCl(N2,6\text{-}{}^iPr_2C_6H_3)$ and $(L2)_2TiCl$ have been prepared. $(L2)_2TiCl$ is converted with Me_3SnF to polymeric $[(L2)TiF_2]_n$. Oxidation of the latter compound yields the tetrameric complex $(L2)_4Ti_4F_6O_2$.

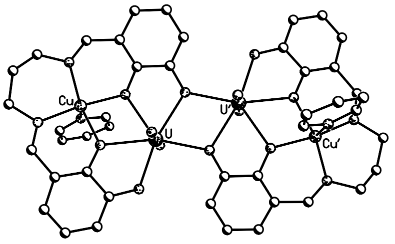


Lionel Salmon, Pierre Thuéry, Michel Ephritikhine

Polyhedron 22 (2003) 2683

Crystal structure of hetero(bi- and tetra-)metallic complexes of compartmental Schiff bases uniting uranyl and transition metal (Ni^{2+}, Cu^{2+}) ions

Hexadentate Schiff bases are able to complex uranyl and 3d metal (Ni^{2+} or Cu^{2+}) ions in their outer and inner sites, respectively. Depending on the nature of the fifth equatorial ligand of the uranyl ion, different species are formed. A purely binuclear complex, a hydrogen bonded assemblage of binuclear complexes and a tetranuclear assembly have been structurally characterized.

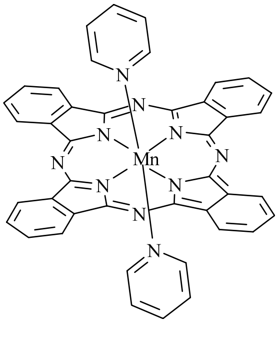


Jan Janczak, Ryszard Kubiak, Małgorzata Śledź, Horst Borrmann, Yuri Grin

Polyhedron 22 (2003) 2689

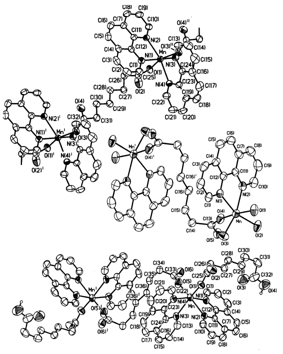
Synthesis, structural investigations and magnetic properties of dipyridinated manganese phthalocyanine, $MnPc(py)_2$

The $MnPc(py)_2$ complex was obtained in crystalline form in the reaction of MnPc with purified and dry pyridine. The $MnPc(py)_2$ is unstable in oxidation conditions and transforms into $[MnPc(py)]_2O$. The calculated magnetic moment μ_{eff} indicates three unpaired electrons ($S = 3/2$). Below 5.5 K (T_N) the magnetic susceptibility sharply decreases due to the co-operative intermolecular antiferromagnetic interactions.

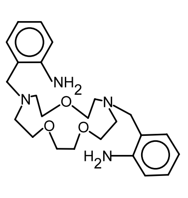


Elsevier B.V.

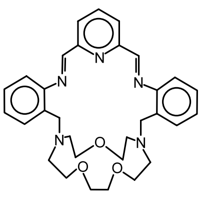
Three new complexes $\{[Mn(phen)_2]L_{2/2}\}_2\cdot H_2L\cdot 8H_2O$ (**1**), $\{[Mn(phen)(H_2O)_3]_2L\}L\cdot 2H_2L\cdot 4H_2O$ (**2**) and $\{[Mn(phen)_2(HL)]_2L\}\cdot H_2L$ (**3**) were synthesized. The crystal structures showed that the basic building blocks in **1**, **2** and **3** are the polymeric chains $^1_\infty[Mn(phen)_2L_{2/2}]$, the dinuclear cations $\{[Mn(phen)(H_2O)_3]_2L\}^{2+}$ and the dinuclear molecules $\{[Mn(phen)_2(HL)]_2L\}$, respectively.



We report the synthesis and structural characterisation of lead(II) isothiocyanate complexes with the receptors $\mathbf{L^1}$ and $\mathbf{L^3}$. In order to understand the effect that the nature of the counteranion has on the coordination environment around Pb(II) their structures are compared to those previously described for the perchlorate analogues.

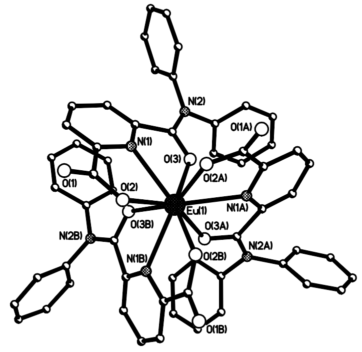


L^1

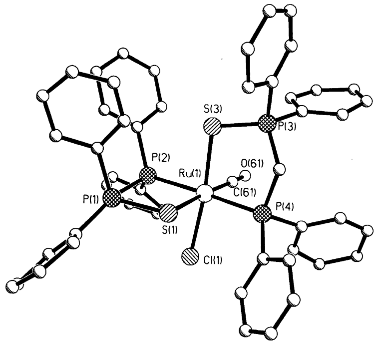


L^3

A novel organic ligand, 6-diphenylamine carbonyl 2-pyridine carboxylic acid (HDPAP), and the corresponding europium complex, tris(6-diphenylamine carbonyl 2-pyridine carboxylato) europium(III) (Eu-DPAP) have been designed and synthesized. The crystal structure and photoluminescence of Eu-DPAP complex have been studied. The results showed that Eu-DPAP is an electroneutral complex that emits very strong red fluorescence.



The ligands $Ph_2P(CH_2)_nP(S)Ph_2$ (P, S) ($n = 1$–4) produce chelated *cis*-$[Ru(CO)_2Cl_2(P\cap S)]$($n = 1$) and non-chelated *cis*-$[Ru(CO)_2Cl_2(P–S)_2]$ ($n = 1$–4) complexes upon reaction with $[Ru(CO)_2Cl_2]_n$ at different molar ratios. The complex $[Ru(CO)_2Cl_2(P–S)_2]$ ($n = 1$) undergoes a partial decarbonylation reaction producing chelated complex $[Ru(CO)Cl(P\cap S)_2]Cl$ and the crystal structure of the latter reveals that ruthenium atom is at the centre of slightly distorted octahedral structure.

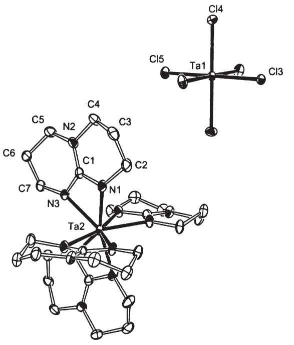


Delia B. Soria, Joanna Grundy, Martyn P. Coles, Peter B. Hitchcock

Polyhedron 22 (2003) 2731

Tantalum chloride species incorporating anionic and cationic guanidine components

The tantalum complex $(hpp)_2TaCl_3$ (where hppH = 1,3,4,6,7,8-hexahydro-2*H*-pyrimido[1,2-*a*]pyrimidine crystallises as the ion pair $[Ta(hpp)_4][TaCl_6]$. Inadvertent hydrolysis of the reaction mixture affords molecular structures containing $[hppH_2]^+$ cations and $[Cl]^-$ and $[TaCl_6]^-$ anions in extended arrays, linked by intermolecular hydrogen bonds.

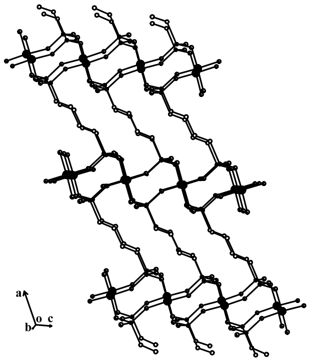


Rui-Biao Fu, Xin-Tao Wu, Sheng-Min Hu, Jian-Jun Zhang, Zhi-Youg Fu, Wen-Xin Du

Polyhedron 22 (2003) 2739

Crystal structures of five transition-metal 1,4-butylenediphosphonates

The structures of five transition-metal 1,4-butylenediphosphonates: $[\{Co(H_2O)_6\}\ \{HO_3P(CH_2)_4PO_3H\}\cdot 2H_2O]$ (**1**), $[\{Ni(H_2O)_6\}\{HO_3P(CH_2)_4PO_3H\}\cdot 2H_2O]$ (**2**), $[\{Cu(H_2O)_2\}\{HO_3P(CH_2)_4PO_3H\}]_n$ (**3**), $[Zn\{HO_3P(CH_2)_4PO_3H\}\cdot 2H_2O]_n$ (**4**) and $[\{Cu_2(H_2O)_2\}\{O_3P(CH_2)_4PO_3\}\cdot H_2O]_n$ (**5**) have been determined by single crystal X-ray diffraction. The structures are diverse, including zero-dimensional, chain-like and three-dimensional framework types.

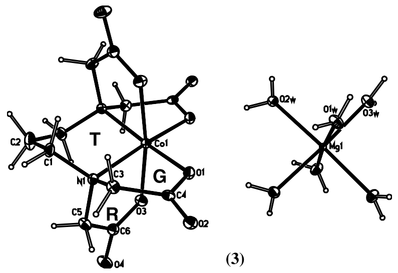


Dušanka D. Radanović, Urszula Rychlewska, Miloš I. Djuran, Nenad S. Drašković, Miorad M. Vasojević, Ismet M. Hodžić, Dušan J. Radanović

Polyhedron 22 (2003) 2745

Simple synthetic method and structural characteristics of (1,3-propanediaminetetraacetato)cobalt(II) complexes: uniform crystal packing in a series of metal(II) complexes with 1,3-propanediaminetetraacetate ligand

Simple synthetic method for the preparation of cobalt(II) complexes $[M^{II}(H_2O)_6][Co^{II}(1,3\text{-pdta})]\cdot 2H_2O$ (M^{II} = Ba (**1**), Co (**2**) and Mg (**3**)) is reported. The studied complexes **2** and **3** appeared to be isomorphic as evidenced by X-ray crystallography. Electronic absorption spectra of $[Co^{II}(1,3\text{-pdta})]^{2-}$ complexes are presented and discussed in terms of octahedral distortion in edta-type Co^{II} complexes.

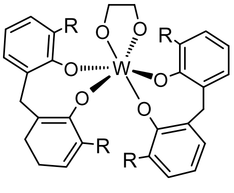


Ari Lehtonen, Reijo Sillanpää

Polyhedron 22 (2003) 2755

Mononuclear tungsten(VI) complexes with methylenebis(6-alkylphenol)s

The reaction of bulky methylene-bridged bis(phenol)s with tris(ethanediolato)tungsten(VI) $[W(eg)_3]$ provides heteroleptic complexes $[W(bisphenolate)(eg)_2]$ or $[W(bisphenolate)_2(eg)]$, depending on the stoichiometry of reaction mixture and the bulkiness of *ortho*-substituents of bis(phenol)s.



Elsevier B.V.