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Contents

Sudeshna Saha, Souvik Pal,
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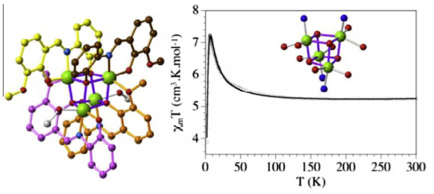
Juan M. Clemente-Juan, Klaus Harms
and Hari Pada Nayek

Polyhedron 74 (2014) 1

A ferromagnetic tetranuclear nickel(II) Schiff-base complex with an asymmetric Ni_4O_4 cubane core

A ferromagnetic tetranuclear nickel(II) complex $[Ni_4(L)_4(CH_3OH)_2]\cdot 2MeOH\cdot 8H_2O$ (**1**) has been synthesized and characterized. The solid-state structure of **1** shows a distorted asymmetric Ni_4O_4 cubane moiety encapsulated by Schiff base ligands. The magnetic study of **1** showed predominant ferromagnetic coupling within the Ni_4O_4 cluster.



Amna Qasem Ali, Siang Guan Teoh,
Naser Eltaher Eltayeb,
Mohamed B. Khadeer Ahamed
and A.M.S. Abdul Majid

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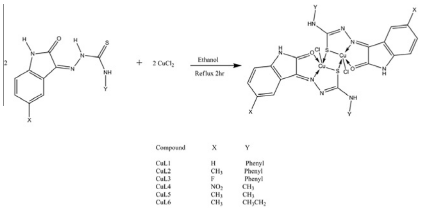
Synthesis of copper(II) complexes of isatin thiosemicarbazone derivatives: *In vitro* anticancer, DNA binding, and cleavage activities

Six new copper(II) complexes of thiosemicarbazone Schiff base with isatin moiety were synthesized. The interaction of these compounds with calf thymus (CT) DNA exhibited high intrinsic binding constant. **CuL1** and **CuL2** showed ability to cleave the DNA by oxidative pathway only, whereas **CuL3**, **CuL4**, **CuL5** and **CuL6** induced DNA cleavage via oxidative and hydrolytic pathway. The *in vitro* anti-proliferative study clearly establishes the anticancer potency of these complexes against (HCT 116).



Compound	X	Y
CuL1	H	Phenyl
CuL2	CH_3	Phenyl
CuL3	F	Phenyl
CuL4	NO_2	CH_3
CuL5	CH_3	CH_3
CuL6	CH_3	CH_3CH_2

Aminul Huq Mirza,
Malai Haniti S.A. Hamid, Sazwani Aripin,
Mohammad Rezaul Karim,
Md. Arifuzzaman, Mohammad Akbar Ali
and Paul V. Bernhardt

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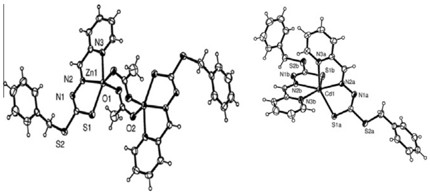
Synthesis, spectroscopy and X-ray crystal structures of some zinc(II) and cadmium(II) complexes of the 2-pyridinecarboxaldehyde Schiff bases of *S*-methyl- and *S*-benzyldithiocarbazates

The complexes, $[Zn(NNS)(CH_3COO)]_2$ and $[M(NNS)_2]$ (M = Zn^{2+}, Cd^{2+}; NNS^- = anionic forms of the tridentate Schiff bases formed by condensation of 2-pyridinecarboxaldehyde with *S*-methyl- and *S*-benzyldithiocarbazates) have been prepared and structurally characterized. The complexes $[Zn(NNS)(CH_3COO)]_2$ are centrosymmetric acetate anion bridged dimers in which the zinc atoms are five-coordinated with approximately square-pyramidal geometries whereas the complexes, $[M(NNS)_2]$ have distorted octahedral structures.



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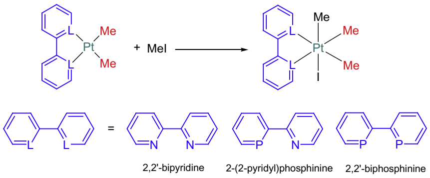
Naghmeh Foroz and Fatemeh Niroomand Hosseini

Polyhedron 74 (2014) 24

Effects of chelate ligands containing NN, PN, and PP on the reactivity of organoplatinum(II) complexes in oxidative addition reactions

The oxidative addition reactions of three platinum square planar complexes of the type $[PtMe_2(LL)]$ (LL = NN, PN, PP) with MeI, with a systematic variation in the chelate ligands, have been theoretically investigated.



Natalia Pawlak and Grażyna Oczko

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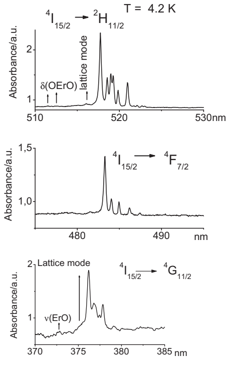
Optical properties of heavy lanthanide maleates in solution and crystal form

The spectroscopic results confirm the X-ray measurements on an $Eu(C_4O_4H_3)_3{\cdot}8H_2O$ crystal, which is isostructural with the Nd^{3+} analogue. In the absorption spectra, a 'red shift' was observed for the hypersensitive transitions of the lanthanide ions. The variation of the spectroscopic parameters, calculated based on the absorption spectra, the nephelauxetic ratio β and Sinha's parameter δ, suggested an increase in the 'degree of covalency' of the metal–ligand coordination bond from the Eu^{3+} crystal to the Ho^{3+} crystal and to the Er^{3+} crystal of the title compounds. An emission from the $^5D_1$ level for europium maleate was detected in spite of the presence of water molecules in the inner coordination sphere for the lanthanide maleate crystals. On the basis of the europium maleate-excited spectra, a ligand-to-metal charge transfer (LMCT) band was determined at 345 nm.



Absorption spectra of $Er(HOOC\text{-}CH{=}CH\text{-}COO)_3{\cdot}8H_2O$ crystals at 4.2 K.

Ya-Qiu Sun, Shang-Yuan Liu, Yan-Yan Xu, Lin Wu, Dong-Zhao Gao, Guo-Ying Zhang and Dai-Zheng Liao

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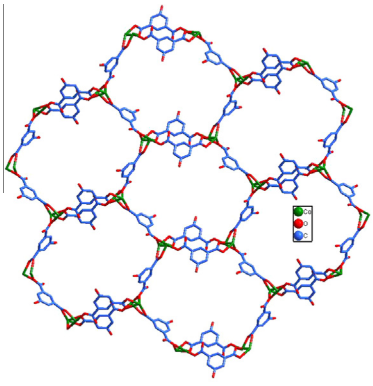
Six heterometallic coordination polymers containing cobalt(II): Syntheses, crystal structures and magnetic properties

Six heterometallic coordination polymers containing cobalt(II), CoNi (**1**), Co_2Cu (**2**), Co_2Ni (**3**), Co_2Cu_2 (**4**), Co_4Ni_4 (**5**) and CoCu (**6**), have been synthesized with macrocyclic oxamide and aromatic multicarboxylate (including $aipt^{2-}$, $hipt^{2-}$, ipt^{2-} and tpt^{2-}) ligands, structurally determined and magnetically studied.



Li Yang, Shu-Hua Zhang, Wei Wang, Jing-Jing Guo, Qiu Ping Huang, Ru-Xia Zhao, Chun-Lian Zhang and Gilles Muller

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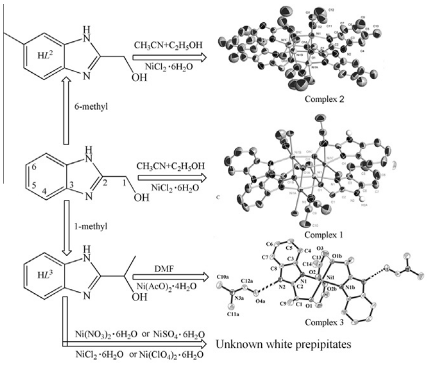
Ligand induced diversification from tetranuclear to mononuclear compounds: Syntheses, structures and magnetic properties

Three new complexes **1**–**3** have been constructed. The studies show that the position and steric hindrances of the substituted groups are essential in determining the final structures of the assemblies. The $\{Ni_4O_4\}$ core displays dominant ferromagnetic interactions due to the nature of the binding modes through μ_3-O.



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