Polyhedron 110, 28 May 2016

Contents lists available at ScienceDirect

Polyhedron

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Contents

Timothy J. Boyle, Michael L. Neville and Marie V. Parkes

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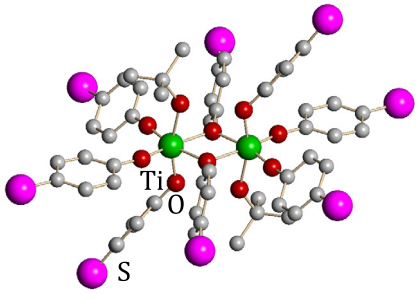
Synthesis and characterization of a series of Group 4 phenoxy-thiol derivatives

A series of 4-mercaptophenol (H-4MP) modified Group 4 metal alkoxides (**1**–**12**) were structurally characterized as $[(HOBu^t)(4MP)_3M(\mu\text{-}4MP)]_2$ (shown) from toluene and $[(py)_2M(4MP)]$ or $[(py)(4MP)_3Hf(\mu\text{-}4MP)]_2$ from pyridine. Based on the simulated and observed UV–Vis spectra, the red color of the Ti compounds was due to a ligand-to-metal charge transfer.



Oriel Sánchez, Sorenlis González, Ángel R. Higuera-Padilla, Yokoy León, David Coll, Mercedes Fernández, Peter Taylor, Izaskun Urdanibia, Héctor R. Rangel, Joseph T. Ortega, William Castro and María Cristina Goite

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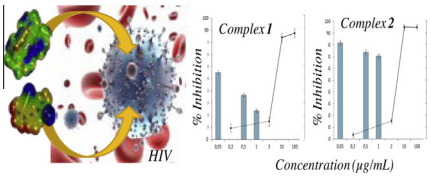
Remarkable *in vitro* anti-HIV activity of new silver(I)– and gold(I)–N-heterocyclic carbene complexes. Synthesis, DNA binding and biological evaluation

Two novel complexes of silver and gold with 2,6-bis(3-methylimidazolin-2-yliden-1-yl)pyridine dibromide were synthesized and characterized. Their biological activities were evaluated through of the binding to CT DNA and inhibition in tumor cell lines and MT4 cells infected with HIV-1. Inhibition of the viral activity was over 55% at low concentrations.



Hye Jin Im and Soon W. Lee

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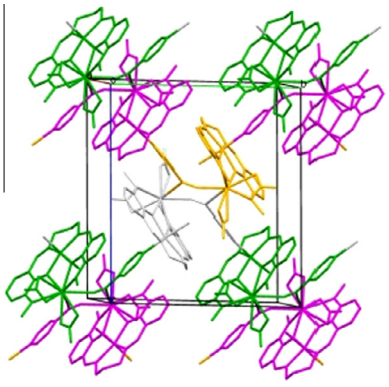
Two-dimensional 3*d*–4*f* coordination polymers based on compartment compounds: $[NiLn(L)(NO_3)_2(4\text{-pca})(H_2O)]$ (Ln = Nd, Eu, Tb; H_2L = 1,3-bis((3-methoxysalicylidene)amino)propane); 4-Hpca = pyridine-4-carboxylic acid)

This paper describes the preparation and properties of three Ni–Ln (Nd, Eu, Tb) coordination polymers, by using dinuclear 3*d*–4*f* compartment compounds as secondary building units. The polymers exhibited the emission quenching of the Ln^{3+} ion, which probably arises from the $Ln^{3+} \rightarrow Ni^{2+}$ energy transfer.



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Szabolcs Jákó, Alexandru Lupan, Attila-Zsolt Kun and R. Bruce King

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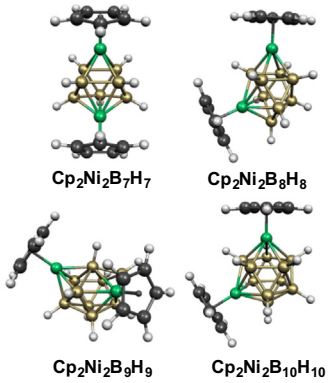
Polyhedral dinickelaboranes as analogues of the dicarbaboranes

Density functional theory of dinickelaboranes $Cp_2Ni_2B_{n-2}H_{n-2}$ (n = 8–12), including the experimentally known 10- and 12-vertex systems, indicates an energetic preference for the most spherical *closo* deltahedra having non-adjacent nickel atoms with one such nickel atom at a degree 4 vertex.



Burak Kadem, Meltem Göksel, Ahmet Şenocak, Erhan Demirbaş, Devrim Atilla, Mahmut Durmuş, Tamara Basova, Komathi Shanmugasundaram and Aseel Hassan

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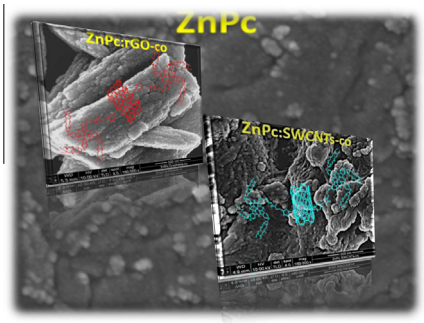
Effect of covalent and non-covalent linking on the structure, optical and electrical properties of novel zinc(II) phthalocyanine functionalized carbon nanomaterials

A novel asymmetrically substituted zinc(II) phthalocyanine dye and its hybrid materials prepared with single walled carbon nanotubes (SWCNTs) or reduced graphene oxide (rGO) have been studied.



Mehdi Bayat and Masoud Hatami

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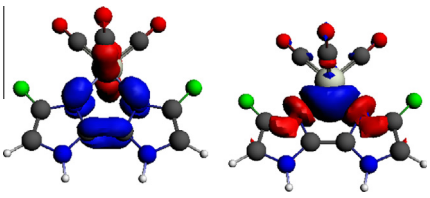
Nature of the metal–ligand bond in some $[(CO)_4M$ BIIM(R)] {M = Cr, Mo, W; R = H, F, Cl, Br} complexes: A theoretical study

A theoretical study on the structure and nature of M N bonds in some potential pharmacologically active $[(CO)_4M$ BIIM(R)] {M = Cr, Mo, W; R = H, F, Cl, Br} complexes have been investigated with the BP86 and MP2 methods using the def2-TZVPP basis set.



Khaled Ghasemi, Fatemeh Ghasemi, Ali Reza Rezvani, Ardeshir Shokrollahi, Masoud Refahi, Santiago García-Granda and Rafael Mendoza-Meroño

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Mn(II) and Zn(II) ions catalytic oxidation of o-phenylenediamine and characterization, X-ray crystal structure and solution study of the final products $DAPH^+Cl^-{\cdot}3H_2O$ and $[DAPH][Zn(dipicH)(dipic)]{\cdot}4H_2O$

The reactions between o-phenylenediamine and $dipicH_2$ with Mn(II) and Zn(II) ions were investigated and the resulting products characterized by some spectroscopic methods. In the reaction process two molecules of o-phenylenediamine have reacted and produced 2,3-diaminophenanzineum. Solution potentiometric studies were also compared with the solid-state results.