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Keywords: platinum group; X-ray powder diffraction; crystal structure analysis

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Heterobimetallic Malonate-Containing Molecular Compounds. Laura Cañadillas-Delgado[a], Fernando S. Delgado-Trujillo[b], Óscar Fabelo[a], Jorge Pasán[a], Javier Campo-Ruiz[c], Garry McIntyre[d], Yolanda Rodríguez-Martín[a], Catalina Ruiz-Pérez[a]. [a]*Laboratorio de Rayos X y Materiales Moleculares, Dpto. de Física Fundamental II, Fac. Física, Avda. Astrofísico Fco. Sánchez,s/n. La Laguna, S/C de Tenerife. Spain.* [b]*BM16-LLS european Synchrotron Radiation Facility, 6 Rue Jules Horowitz-BP 220, 38043 Grenoble Cedex 9, France.* [c]*Instituto de Ciencia de Materiales de Aragón, CSIC-Universidad de Zaragoza, C/ Pedro Cerbuna 12, Zaragoza. Spain.* [d]*Institut Laue Langevin, 38100, Grenoble, France.*
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There has been an increasing interest in complexes containing paramagnetic metal ions exhibiting extended networks because of their potential applications in molecular magnetic materials [1]. In the context of our magneto-structural research with malonate-containing complexes with first-row metal transition centres, we have characterized the homometallic malonate-containing compounds of formula $[M(H_2O)][M(mal)_2(H_2O)_2]$ [M = Co(II), Ni(II) and Zn(II)]. They crystallize in a monoclinic structure with space group C2/m, the metal atoms lying on a 2/m site [2].

In these context we have synthesized three new heterobimetallic compounds of formula $[M_xM'_{1-x}(H_2O)][M_yM'_{1-y}(mal)_2(H_2O)_2]$, which are isostructural with the malonate-containing homometallic complexes, previously studied.

A quantitative analysis of a crystal of each sample through the X-ray microanalysis technique by using a copper pattern have been made, the analysis showing that M and M' ions are present in a 1:1 molar ratio. The single crystal X-ray studies don't allow us to distinguish each metal ion, due to the similar form factor, and therefore different crystal structures are possible; alternation of the homometallic layers or existence heterometallic planes within the crystal structure.

The aim of a proposed neutron diffraction experiment was, therefore, to determine the cationic distribution of the metal atoms in the crystal structure (Laue diffractometer VIVALDI).

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Keywords: neutron diffraction techniques; bimetallics; carboxylic acids

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Syntheses and Crystal Structures of Two New Tri-coordinate Cu(I) Complexes with Bidentate Schiff Base Ligands. Hadi Kargar[a], Reza Kia[b], Hoong-Kun Fun[b]. [a]*Department of Chemistry, School of Science, Payame Noor University (PNU), Ardakan, Yazd, Iran.* [b]*X-ray Crystallography Lab., School of Physics, Universiti Sains Malaysia, 11800, Penang, Malaysia.*
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The coordination chemistry of copper(I) complexes has received increased attention over the last decades. This is mainly due to the potential application of these complexes in catalytic processes, photosensitization reactions, lightharvesting studies, and the design of supramolecular arrays [1,2]. The steric, electronic, and conformational effects imparted by the coordinated ligands play an important role in modifying the properties of the prepared metal complexes. In recent years, an increasing amount of research has been focused on the design and preparation of mono or dinuclear mixed ligand transition metal complexes with neutral, chelating nitrogen-containing ligands [3]. Here we report the crystal structures of two new tri-coordinate Cu(I) complexes with two bidentate Schiff base ligands and copper(I) iodode. To the best of our knowledge, these complexes are the first tricoordinate complexes of copper(I) iodide with two bidentate unconjugated Schiff base ligands.

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Keywords: copper(I) complexes; schiff base; bidentate ligand

FA4-MS06-P14

Magnetoresistance and Magnetocaloric Effect of the $SmMn_{2-x}T_xGe_2$ (T:Fe and Co; x=0.05, 0.1 nd 0.15) Compound. Yalcin Elerman[a], Ilker Dincer[a], Guliz Sevgül[a]. [a]*Department of Engineering Physics, Ankara University, Ankara Turkey.*
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During past three decades, extensive investigations have been performed on magnetism of the intermetallic compounds RMn_2X_2 (R: rare earth, X: Si or Ge) which are characterized by a layered arrangement of R, Mn and X atoms. The magnetic properties of these compounds are governed by