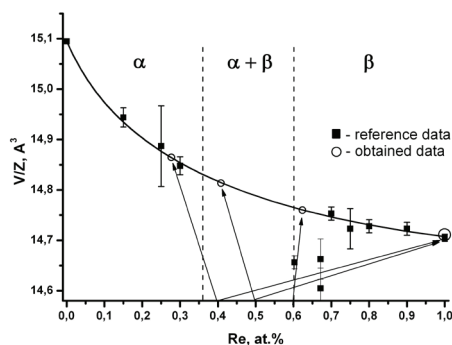


T = 800 °C being limited with  $\text{Pt}_{0.64}\text{Re}_{0.36}$  and  $\text{Pt}_{0.40}\text{Re}_{0.60}$  compositions [1]. Figure shows the correlation between V/Z and the composition for all known reference materials. The  $\text{Pt}_{0.40}\text{Re}_{0.60}$ – $\text{Pt}_{0.33}\text{Re}_{0.67}$  interval is unusual because of the V/Z value which is lower than that for pure rhenium. The solid solutions  $\text{Re}_{0.67}\text{Pt}_{0.33}$  and  $\text{Re}_{0.75}\text{Pt}_{0.25}$  have been obtained by thermal decomposition of  $[\text{Pt}(\text{NH}_3)_4](\text{ReO}_4)_2$  and  $[\text{Pt}(\text{NH}_3)_3\text{Cl}](\text{ReO}_4)_3 \cdot 2\text{H}_2\text{O}$  [2,3].



In the present work, we have used  $(\text{NH}_4)_2[\text{PtCl}_6][\text{ReCl}_6]_{1-x}$  as the precursor because of the ability to form double complex salts with a required metal composition. The compounds  $(\text{NH}_4)_2[\text{PtCl}_6][\text{ReCl}_6]_{1-x}$  ( $x = 0.40$ (I),  $0.50$ (II),  $0.60$ (III)) have been synthesized by adding  $\text{NH}_4\text{Cl}$  to aqueous solutions of  $\text{K}_2[\text{PtCl}_6][\text{ReCl}_6]_{1-x}$ . The latter have been obtained by mixing aqueous solutions of the isostructural complex salts  $\text{K}_2[\text{PtCl}_6]$  and  $\text{K}_2[\text{ReCl}_6]$  in required quantities. Thermal decomposition of the title compounds has been studied. The prepared solid solutions have been characterized by X-ray electron spectroscopy. It shows the pseudomorphism of the crystals of double complex salts. The final products of thermal decomposition are different for each precursor and depend on the initial metal proportions. Compounds II and III decompose to yield two phases. One of them is a solid solution based on the platinum cell and the other is the metal rhenium. Thermal decomposition of I gives a solid solution based on the rhenium cell with the parameters similar to the initial metal proportion.

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**Keywords:** platinum compounds; solid solutions; thermal decomposition

#### FA4-MS06-P18

**Copper (II) Risedronate: the Importance of Structure Validation on the Correct Solution.** Miriam Rossi<sup>a</sup>, Bruno Demoro<sup>b</sup>, Lucia Otero<sup>b</sup>, Dinorah Gambino<sup>b</sup>, Francesco Caruso<sup>c</sup>. <sup>a</sup>Department of Chemistry, Vassar College, Poughkeepsie, NY, 12604, USA. <sup>b</sup>Catedra de Quimica Inorganica, Facultad de Quimica, UDELAR, 11800 Montevideo, Uruguay. <sup>c</sup>Istituto di Chimica Biomolecolare, CNR,

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Chagas' disease (American Trypanosomiasis) is a major cause of death and hardship in the impoverished regions of the developing world. It is the largest parasitic disease burden in the American continent being endemic in 21 countries from southern United States to Argentina and Chile. Our preliminary results show that sodium risedronate has activity against Chagas' disease; therefore, interest in developing effective drugs against this disease has led to using risedronic acid and sodium risedronate (Actonel) as ligands in metal complexes. These compounds are bisphosphonates used to strengthen bone, for osteoporosis, and Paget's disease. In this meeting, we present the crystal structure of copper(II) risedronate.

The paramagnetic nature of the Cu(II) metal precluded NMR spectra from being collected and the chemical composition analysis, for C, H and N content, could not provide absolute certainty of crystal composition. For instance, the sodium ion and water hydrate composition could not be *a priori* defined. From our data, we were able to obtain 2 potential structural solutions. One had the copper (II) complex and included Na ions; it had a satisfactory  $R_f$  of 0.0538 (Rw 0.0561) although some structural features appeared suspicious.

In the other, we replaced the  $\text{Na}^+$  by a water oxygen, and obtained an  $R_f$  of 0.0253 (Rw 0.0282), with satisfactory geometrical, structural and intermolecular interactions showing it to be the real structure.

In this poster, we wish to address the problem of interpreting reasonable looking, but wrong, structures. What parameters are best used in judging the correctness of a crystal structure? Crystallographers have grappled with this issue [1], [2] and PLATON and CIF validation methods are highly useful. However, we wonder about structures deposited in the CSD having  $R_f$  even larger than 5%, are all of them correct?

[1] Spek, A.L. *J. Appl. Cryst.* **2003**, 36, 7. [2] Spek, A.L. *Acta Cryst.* **2009**, D65, 148.

**Keywords:** coordination crystal chemistry; copper (II) coordination complexes; structure validation

#### FA4-MS06-P19

**Synthesis and Crystal Structure of  $[\text{Fe}(\text{HL})(\text{L})]\text{Cl} \cdot \text{CH}_3\text{CH}_2\text{OH} \cdot 2\text{H}_2\text{O}$  ( $\text{H}_2\text{L} = \text{Pyridoxal-semicarbazone}$ ).** Violeta S. Jevtovic. University of Novi Sad, Faculty of Sciences, Department of Chemistry, Novi Sad, Serbia. Stevan Jankov, University of Novi Sad, Faculty of Sciences, Department of Physics, Novi Sad, Serbia.

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Brown single crystals of the title compound  $\text{C}_{20}\text{H}_{31}\text{ClFeN}_8\text{O}_9$ , were prepared by reaction of MeOH solutions of  $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$  and  $\text{H}_2\text{L} \cdot \text{H}_2\text{O}$  in mole ratio 1:2. The complex has octahedral