

Poster Presentations

[MS24-P21] Supramolecular Structure Constructed by Coordination Dimer of Pyromellitate Ligand

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The mixed-ligand coordination dimer $[\text{Mn}(\text{H}_2\text{O})_2(\text{Hpm})_2(\text{ina})_2] \cdot \text{H}_2\text{O}$ (Hpm=trianion of pyromellitic acid, ina=isonicotinamide) was investigated predominantly with regard to supramolecular architecture in the crystal packing. The structural properties of the complex were characterized by X-ray diffraction (XRD) technique and Fourier transform infrared (FT-IR) spectroscopy. The $[\text{Hpm}]^{3-}$ anion bridges Mn(II) ions with a tridentate coordination mode through its carboxylate groups in cis positions. In the formation of the 1D chain structure in the complex, the amide group of the ina ligand and the aqua ligand are involved in DD:AA type H-bonding with the COO^- group of $[\text{Hpm}]^{3-}$. The FT-IR investigation of the complex was performed within the mid-IR region, mainly focusing on the characteristic vibrations of pyromellitic acid and isonicotinamide moieties by considering their free states and ligand behaviour in the case of complex formation.

Keywords: pyromellitic acid; infrared spectroscopy; isonicotinamide