Poster Presentations

[MS24-P22] Coordination Dimer of Pyromellitic Acid Based on Supramolecular Architecture.

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Mixed-ligand coordination dimer $[Ni_2(H_2O)_4(H_2pm)(ina)_2]$ (H_2pm=dianion of pyromellitic acid, ina=isonicotinamide) was investigated mainly from the point of supramolecular architecture in their respective crystal packings. The structural properties of complex were characterized by X-ray diffraction (XRD) technique and Fourier transform infrared (FT-IR) spectroscopy. Each $[H2pm]^{2-}$ anion adopts a μ2-bridging mode to connect with two Ni(II) ions through its carboxylate O atoms. The discrete coordination dimers are connected by H-bond dimers involving N–H···O interactions between the amide groups of adjacent ina ligands. In addition, these H-bonded chains are inter-connected by O–H···O bonds formed by DA:AD type organization of aqua ligands. 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