Supplementary material (ESI) for Journal of Materials Chemistry

Synthesis, Structure and Magnetic Properties of an Inorganic-Organic Hybrid Compound

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Electronic Supplementary Information

Figure - 1: Thermogravimetric analysis of $[C_4N_2H_{12}][Mn^{II}_2(HPO_3)_2(C_2O_4)]$, **I**,

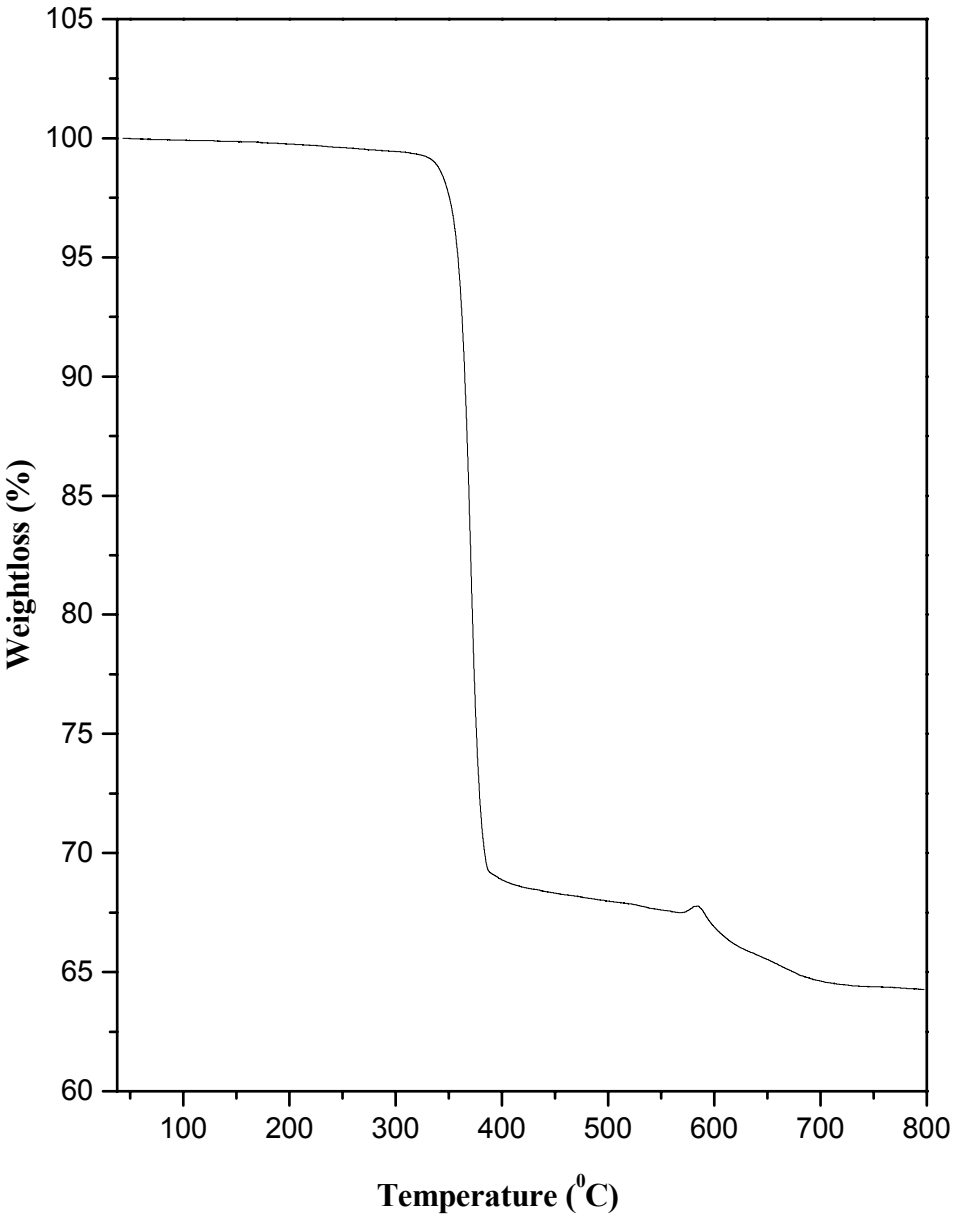

Figure 2: IR spectrum of $[C_4N_2H_{12}][Mn^{II}_2(HPO_3)_2(C_2O_4)]$, **I**:

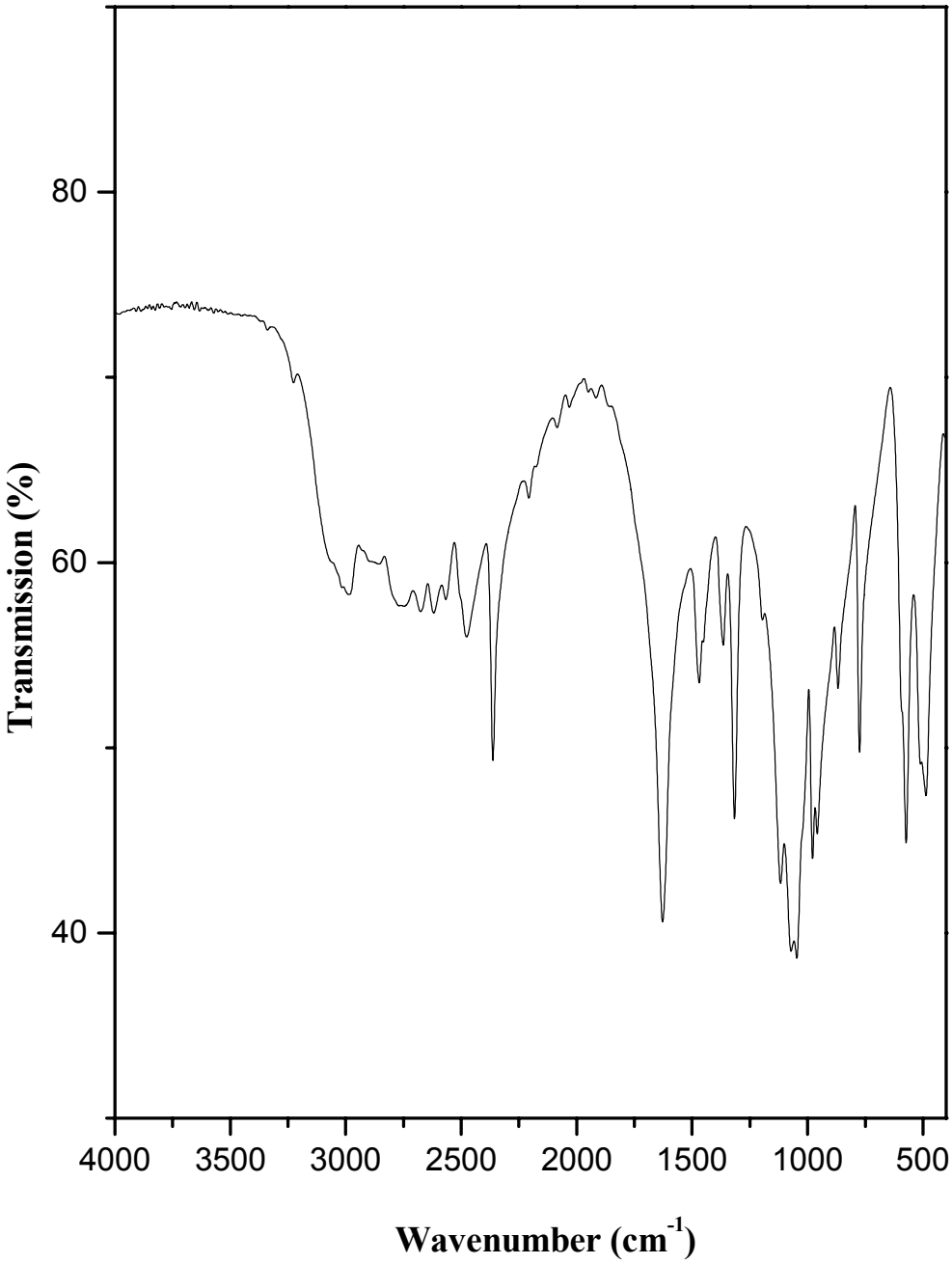

Figure - 3 UV-Vis spectrum of $[C_4N_2H_{12}][Mn^{II}_2(HPO_3)_2(C_2O_4)]$, **I**. The diffuse reflectance UV – Vis spectrum for the compound shows a strong peak around 267 nm and weaker peaks at around 409 nm, 429 nm and 532 nm. The strong peak at ~267 nm may be due to charge-transfer transition from the O atoms of the ligand to the half-filled 3d orbital of the Mn^{2+} ion. The remaining weak peaks may correspond to the spin-forbidden d-d transitions [409 nm ($^4A_{1g}$, ^4E_g), 429 nm ($^4T_{2g}$) and 532 nm ($^4T_{1g}$)].

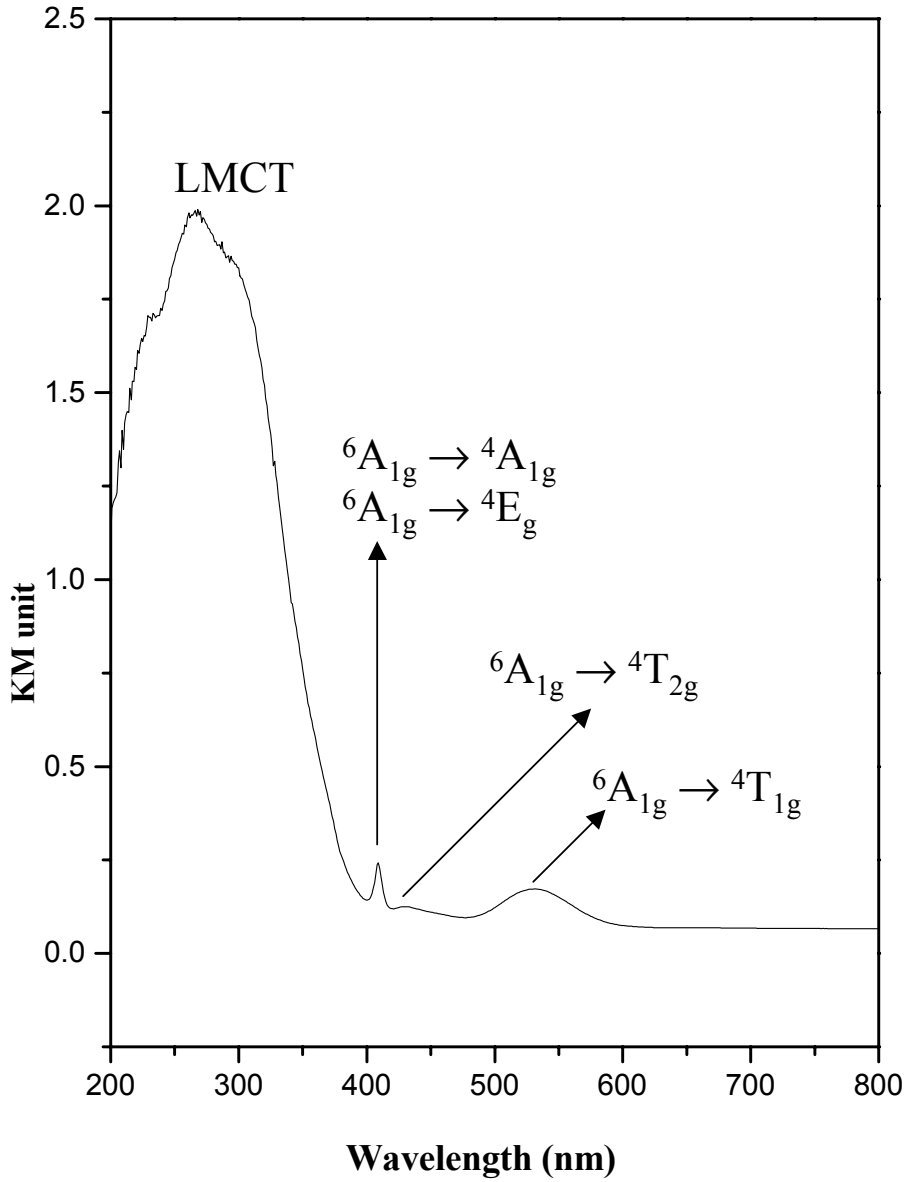

Fig. 4. Asymmetric unit of **I**. Thermal ellipsoids are given at 50% probability.

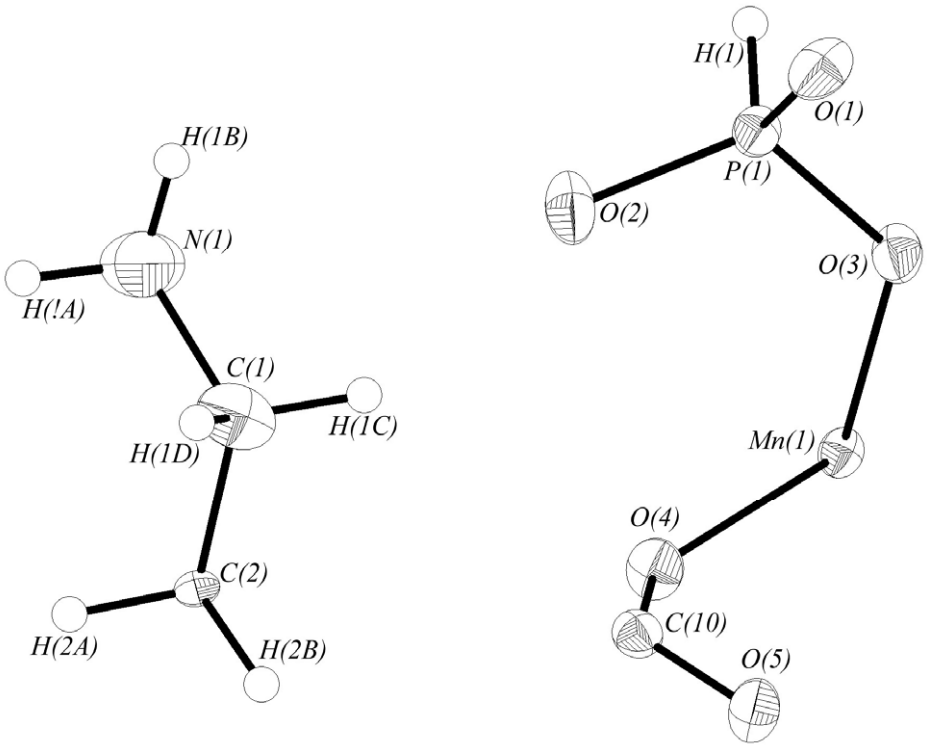

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Figure 5. The thermal variation of *dc* susceptibility at 10 T applied field.