Supporting Information

Synthesis, Structure and Thermal Stability of Supramolecular Polymers with 1D Chain : $[M(BPP)_2(TBTA)(H_2O)_2]_n$ [M=Mn(1), Co(2)]

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General Information. All the reagents and solvents were obtained as commercial products and used without further purification. Distilled water was used throughout. Elementary analyses were performed on a varioEL cube analyzer by the elementary analysis group of this institute. IR spectra (KBr pellets) were taken on a FTIR-8400S spectrometer in the range of 4000-400 cm^{-1}. Thermal gravimetric analysis (TGA) was carried out on a ZCT-A instrument in the temperature range of 25-800℃ at a heating rate of 10℃/min under air atmosphere. An empty Al_2O_3 crucible was used as the reference. Powder X-ray diffraction (PXRD) data were recorded on a Rigaku D/Max-2500 diffractometer at 40 kV and 30 mA for a Cu-target tube. The calculated PXRD patterns were produced from the single-crystal diffraction data using the diamond software.

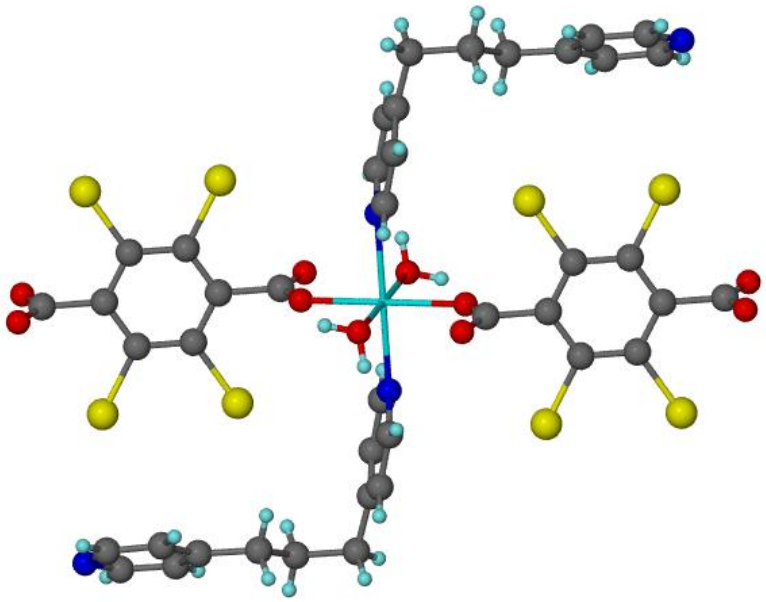

Figure S1. Coordination environments of metal atom in 1 and 2 [M = Mn(1), Co(2)].

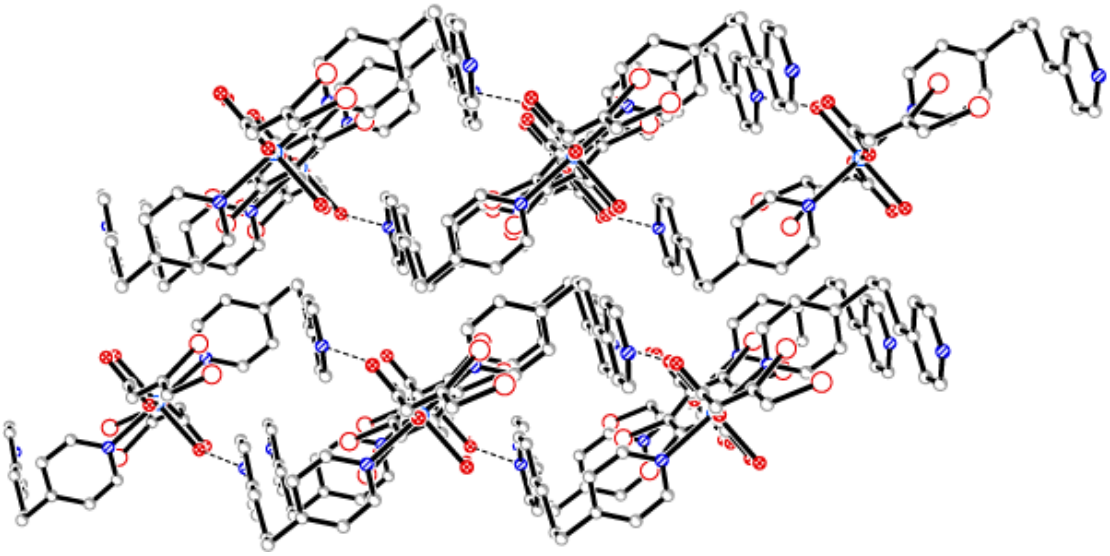

Figure S2. Packing diagram of 1 showing hydrogen-bonding interactions (dashed lines).

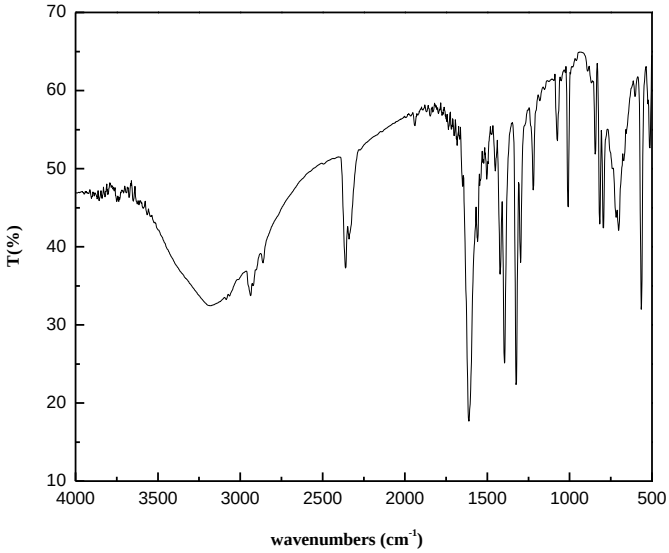

Figure S3. IR spectra of complexes 1

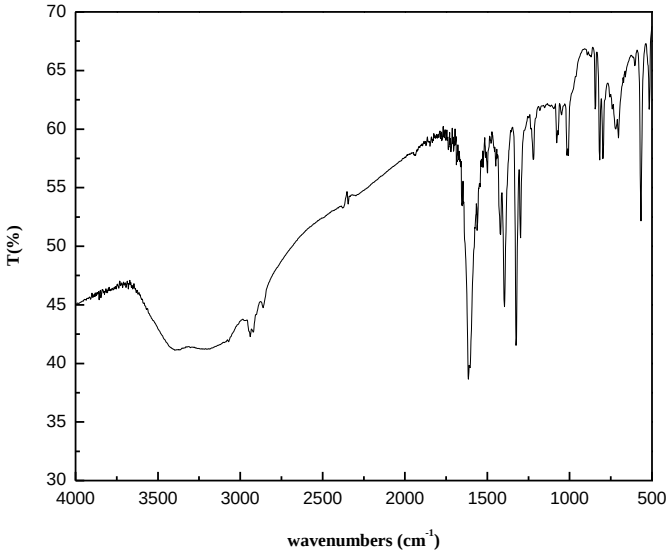

Figure S4. IR spectra of complexes 2

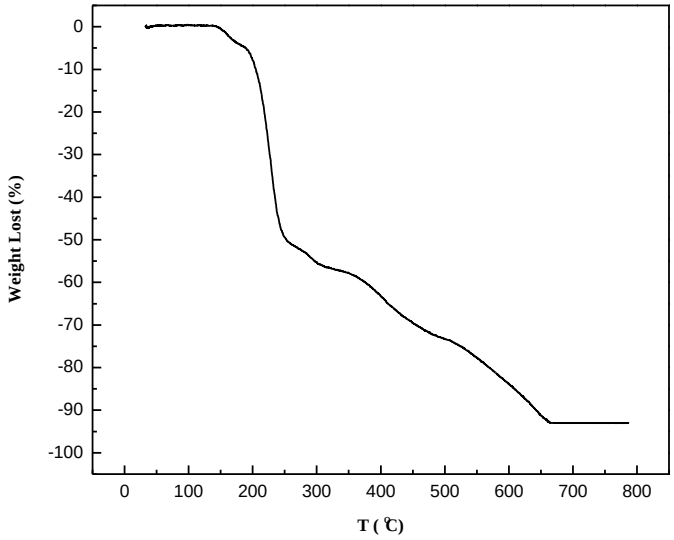

Figure S5. Thermogravimetric analyses for complexes 1

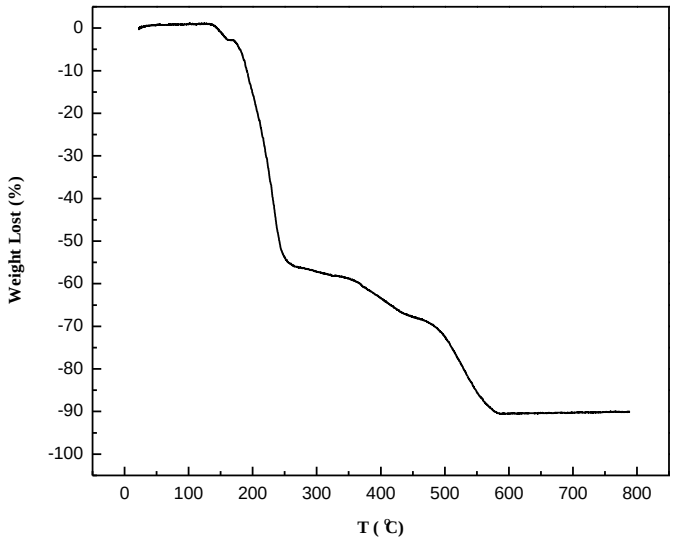

Figure S6. Thermogravimetric analyses for complexes 2

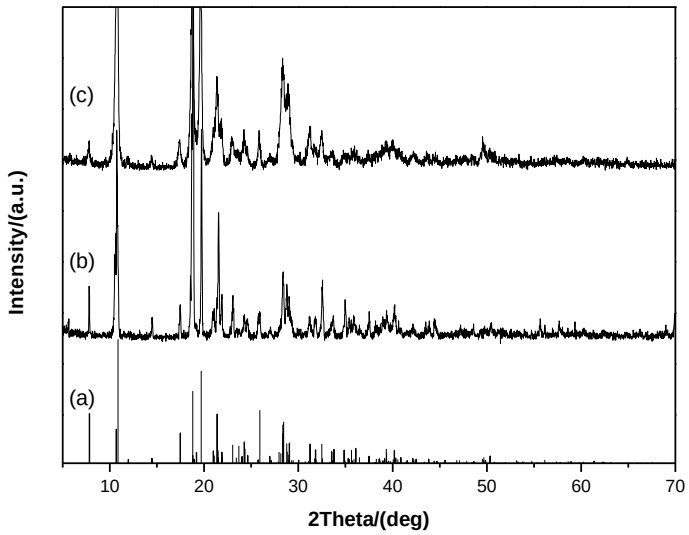

Figure S7. The PXRD patterns for complexes 1

(a): simulated PXRD pattern; (b): experimental PXRD pattern; (c): The PXRD pattern of the sample prepared at 144 ℃ for 20 min.

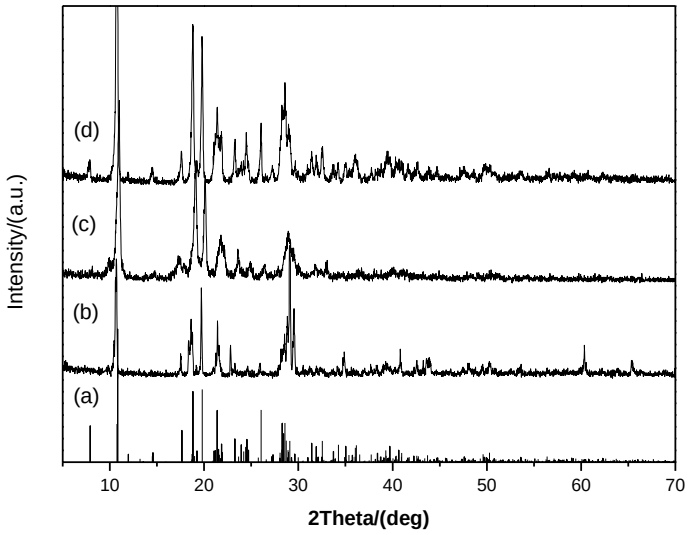

Figure S8. The PXRD patterns for complexes 2

(a): simulated PXRD pattern; (b): experimental PXRD pattern; (c): The PXRD pattern of the sample prepared at 139 ℃ for 20 min; (d): The PXRD pattern of the sample prepared at 139 ℃ for 20 min and then soaked in the solvent for 12 h.