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## **Supplementary Information**

## Structure and properties of a novel staircase-like decanuclear $[Cu^{II}_{10}]$ cluster supported by carbonate and carboxylate bridges

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## **Figures with Captions**



Fig. S1 <sup>1</sup>H NMR spectrum of the ligand H<sub>3</sub>cpdp in D<sub>2</sub>O solution.





Fig. S3 ESI mass spectrum (positive ion mode) of the ligand H<sub>3</sub>cpdp in methanol solution.



Fig. S4 TGA plot of the ligand  $H_3$ cpdp under  $N_2$  gas atmosphere at a heating rate of 10°C min<sup>-1</sup>.



Fig. S5 FTIR spectrum of 1 in the region of  $4000-450 \text{ cm}^{-1}$ .



Fig. S6 UV-Vis spectra of 1 at (a)  $10^{-3}$ (M) and (b)  $10^{-5}$  (M) in methanol solution.



Fig. S7 TGA plot of 1 under N<sub>2</sub> gas atmosphere at a heating rate of 10°C min<sup>-1</sup>.



**Fig. S8** Temperature dependence of  $\chi_M T$  for **1**.



Fig. S9 Temperature dependence of the reciprocal of susceptibility for 1.