

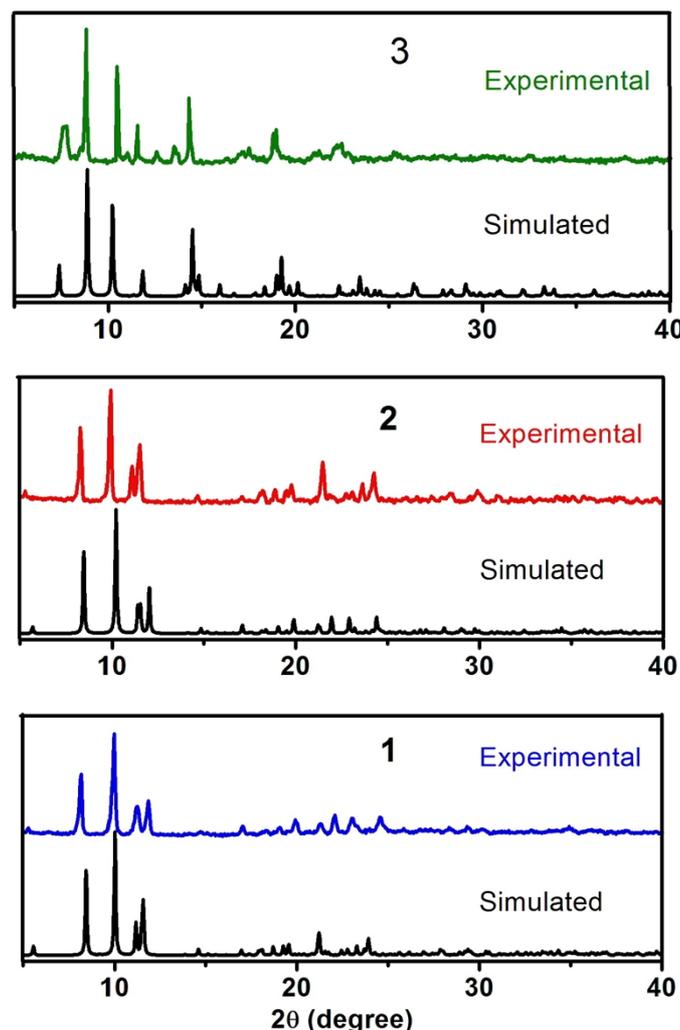
## Supporting Information

**Influence of central metal ion in controlling the self-assembly and magnetic properties of 2D coordination polymers derived from  $[(\text{NiL})_2\text{M}]^{2+}$  nodes ( $\text{M} = \text{Ni}, \text{Zn}$  and  $\text{Cd}$ ) ( $\text{H}_2\text{L} = \text{salen}$  type di-Schiff base) and dicyanamide spacers**

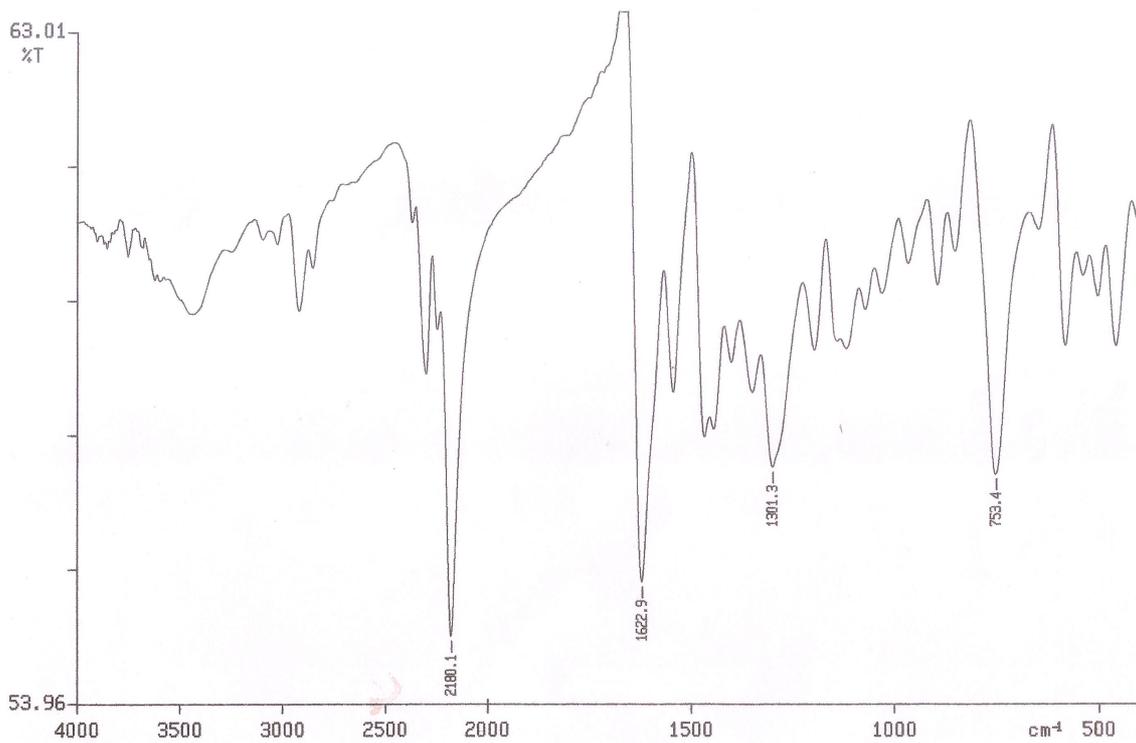
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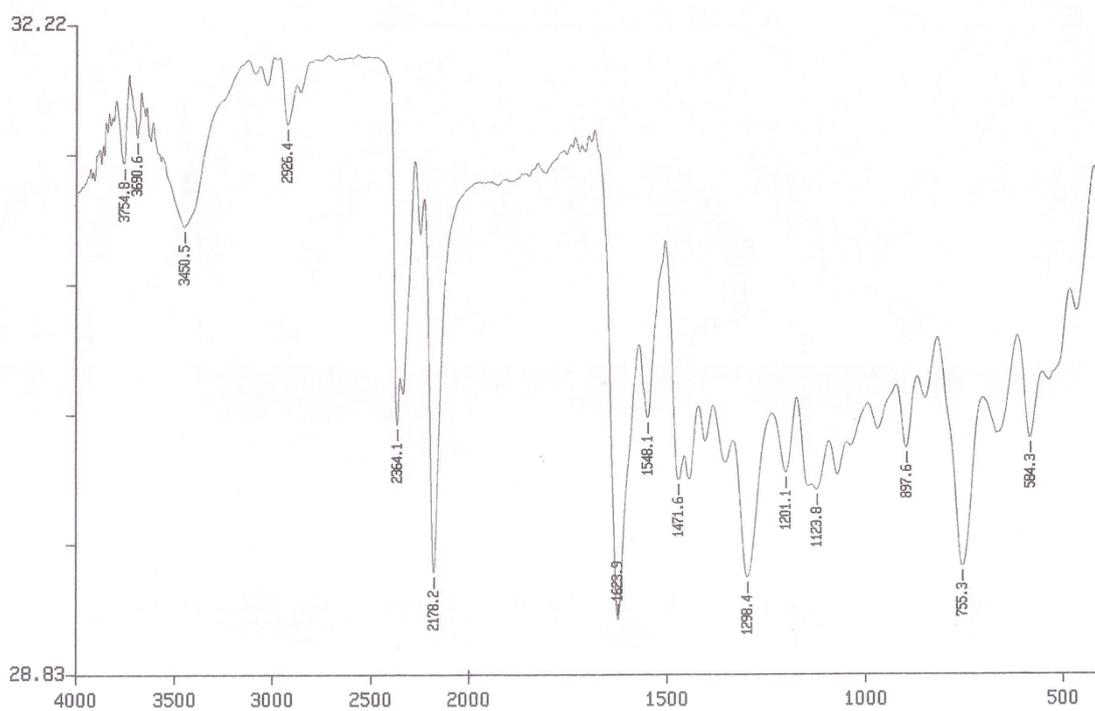
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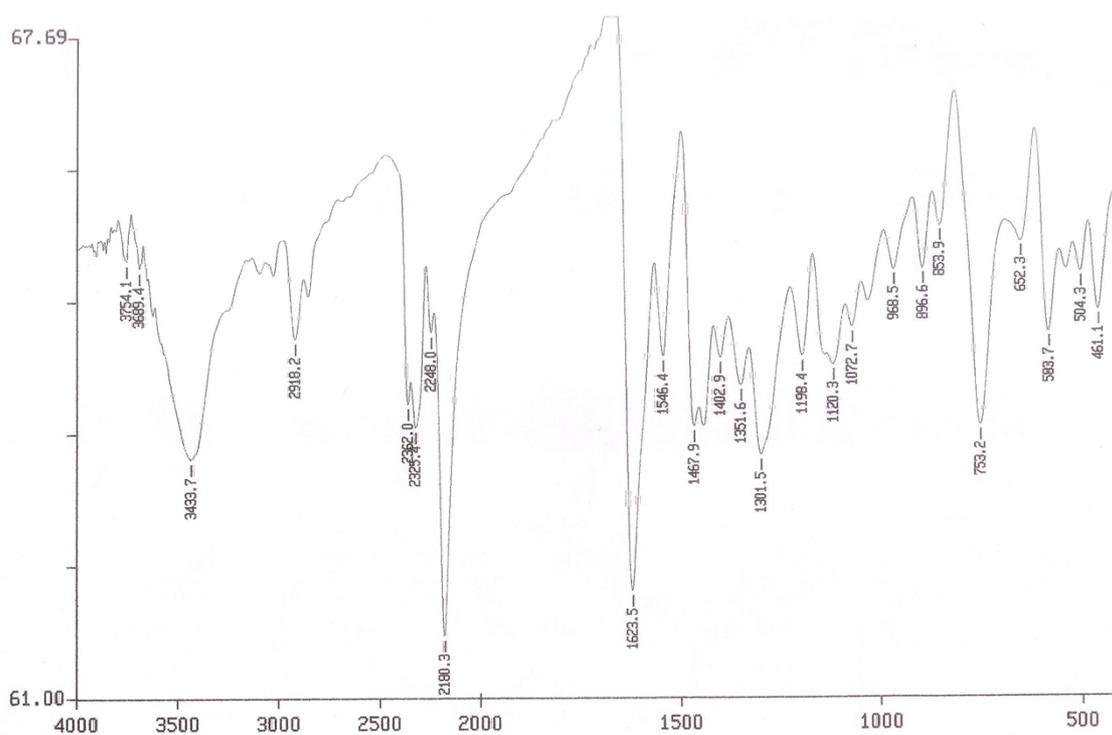
**Fig. S1.** Plots of the simulated and experimental powder XRD patterns for the three compounds 1-3.



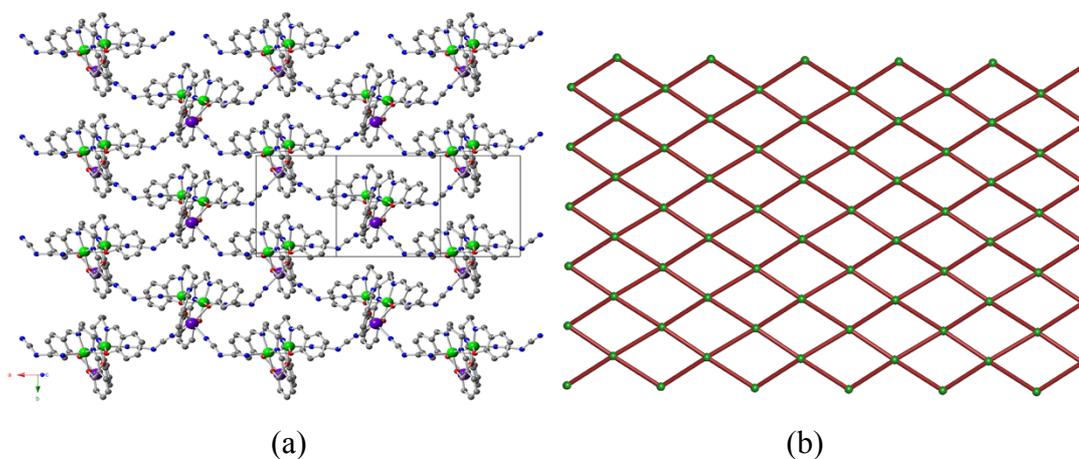
**Fig. S2.** IR spectrum of compound 1.



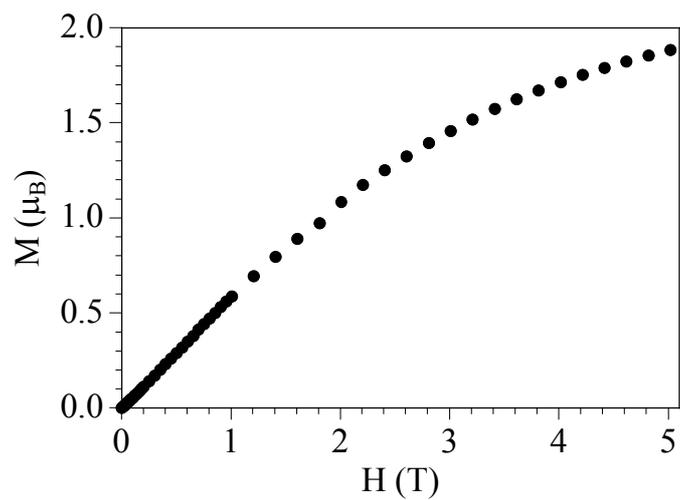
**Fig. S3.** IR spectrum of compound 2.



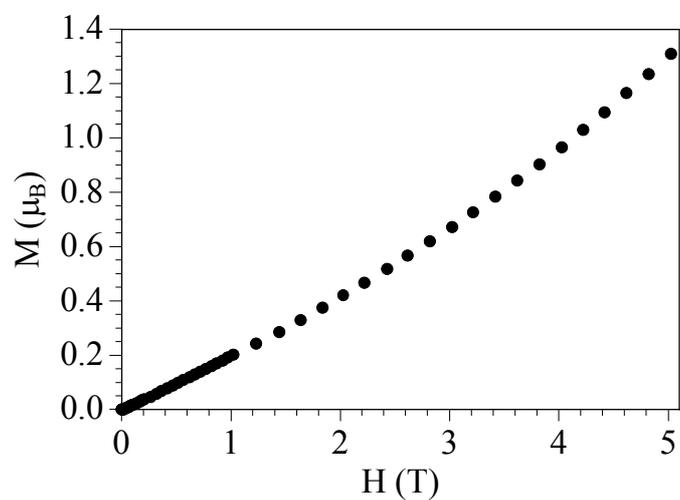
**Fig. S4.** IR spectrum of compound **3**.



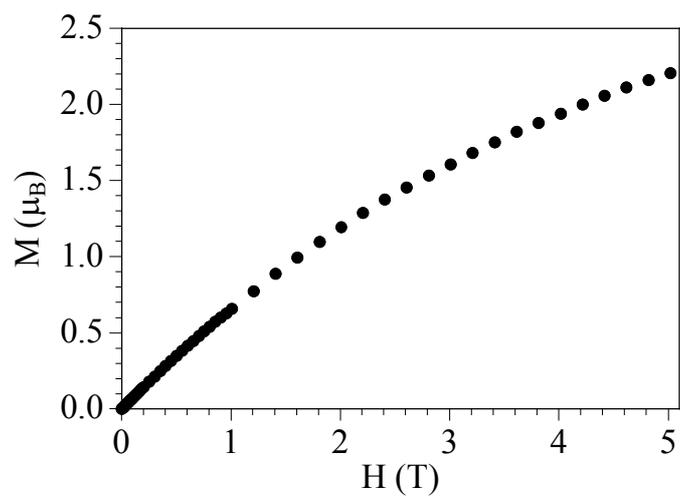
**Fig. S5.** (a) The 2D coordination network in **2** constructed by assembling in the trinuclear  $[(\text{NiL})_2\text{Cd}]^{2+}$  units through the central Cd and terminal Ni centres with the dca<sup>-</sup> bridges. All H atoms are omitted for clarity, Ni = green, Cd = violet, N = blue, O = red, C = brown. (b) Simplified uninodal 4-connected net with the **sql** topology and the point symbol of  $(4^4.6^2)$ . Centroids of the 4-connected trinuclear units are shown as green balls.



**Fig. S6.** Isothermal magnetization of compound 1 at 2 K.



**Fig. S7.** Isothermal magnetization of compound 2 at 2 K.



**Fig. S8.** Isothermal magnetization of compound 3 at 2 K.