

## Supporting Information

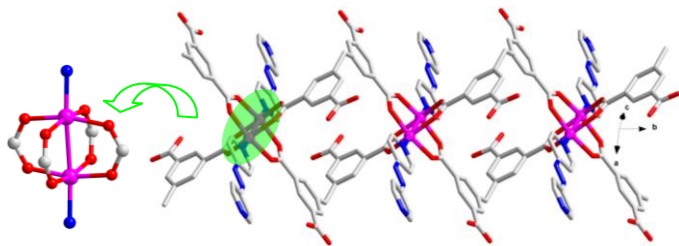


Fig. S1 Representation of 1D  $[\text{Co}_2(\text{H}_2\text{L})(\text{bpn})]_\infty$  chain with paddle-wheel dimeric cobalt unit in **2**.

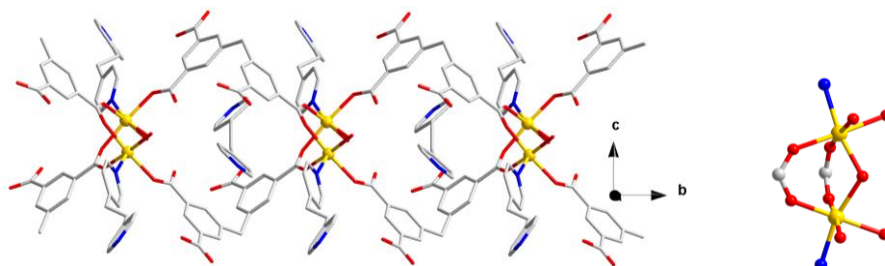
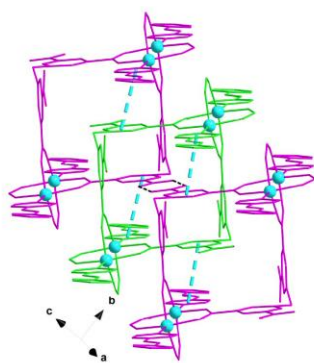
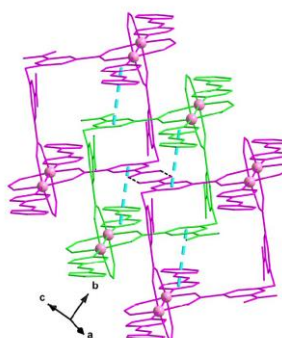


Fig. S2 Left: Representation of 1D  $[\text{Mn}_2(\text{H}_2\text{L})(\text{bpa})(\text{H}_2\text{O})_3]_\infty$  chain with free bpe in the grid of **4**;  
Right: dimeric manganese unit in **4**.



(a)



(b)

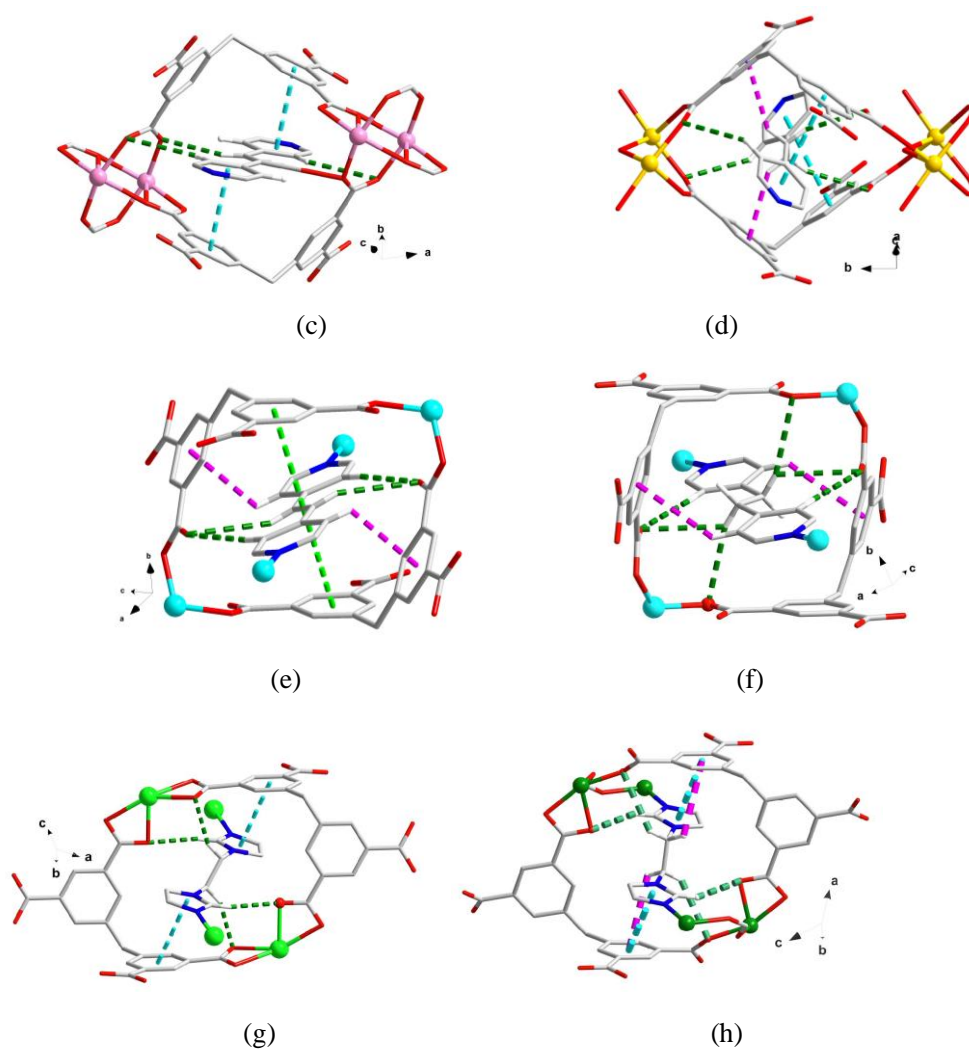
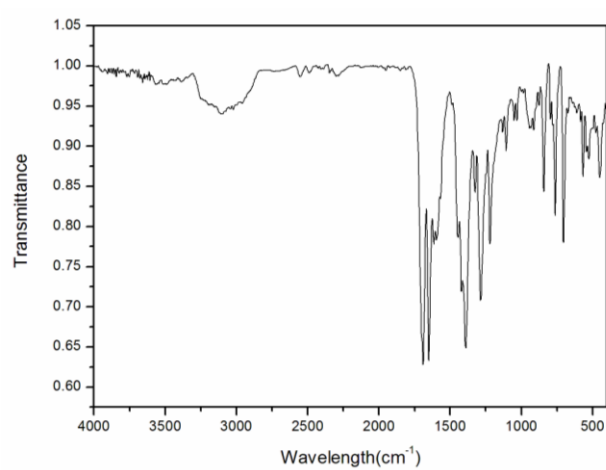
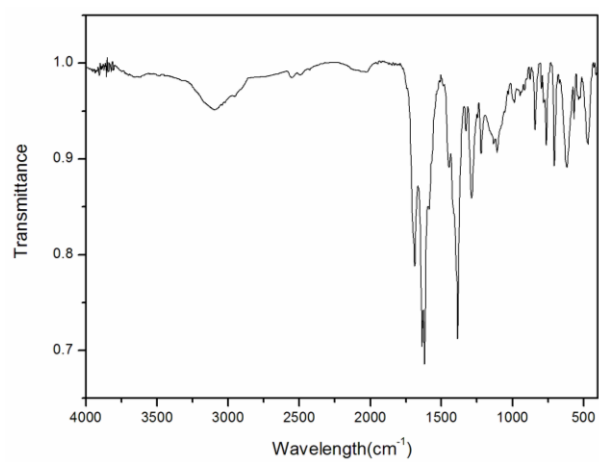


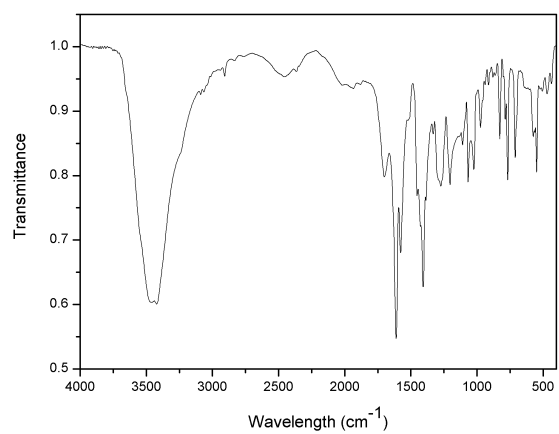
Fig. S3 Representations of weak interactions in complexes **1-8** (a-h).



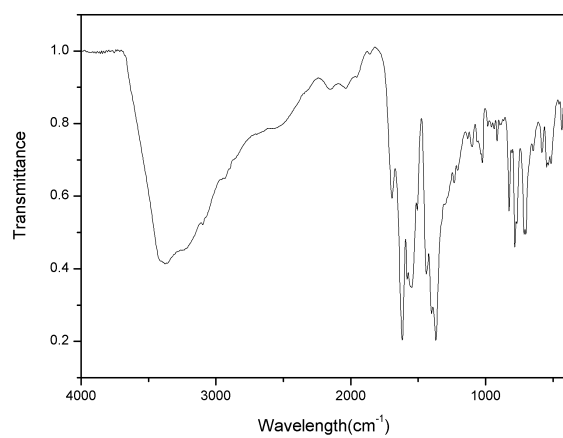
(a)



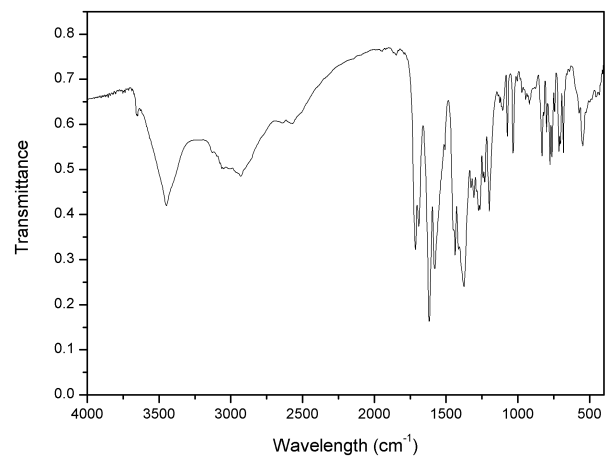
(b)



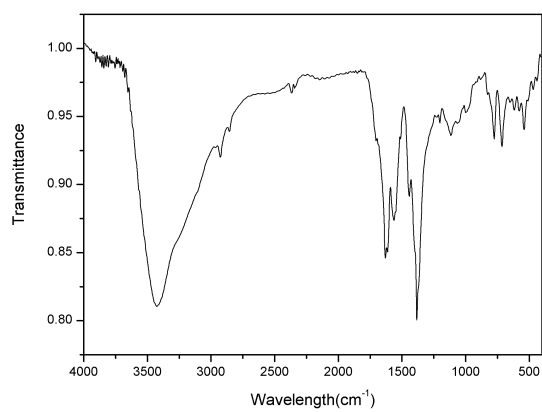
(c)



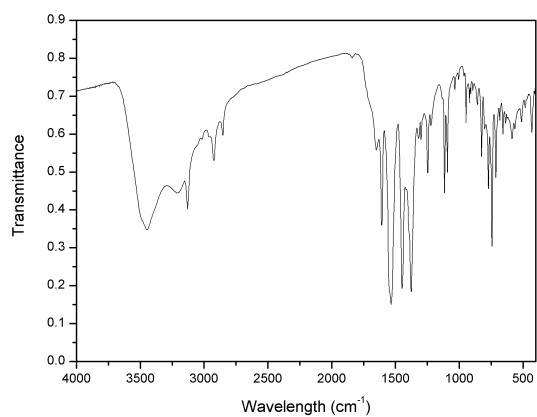
(d)



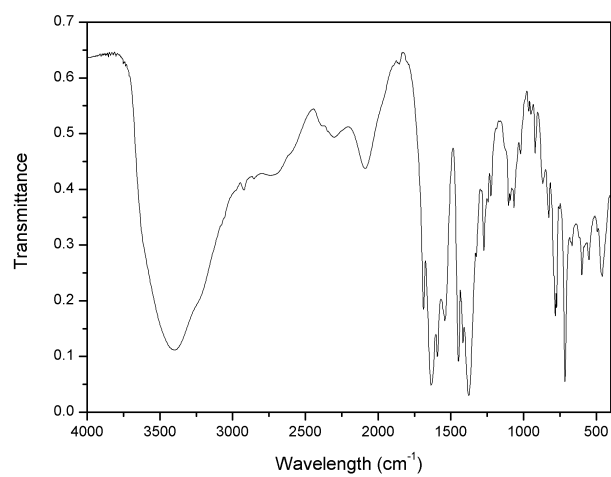
(e)



(f)

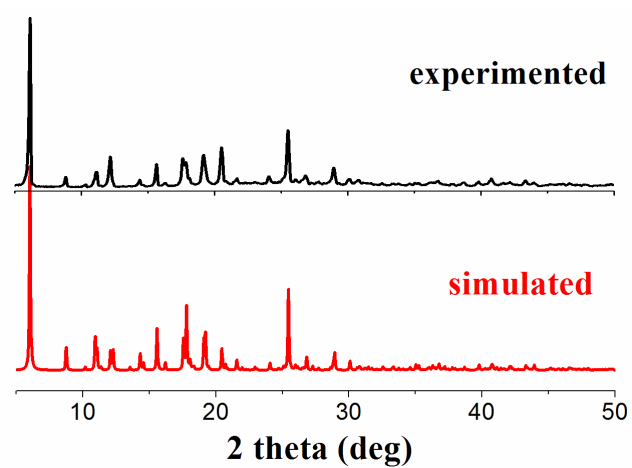


(g)

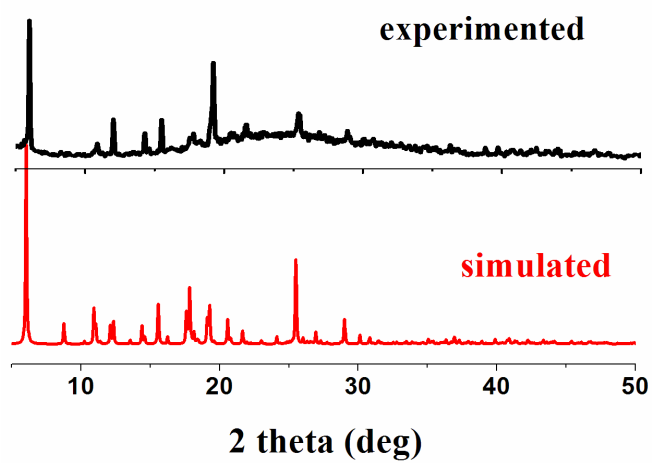


(h)

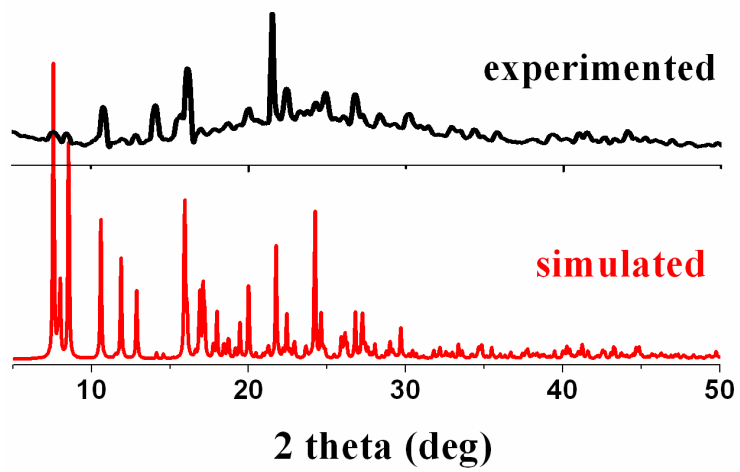
Figure S4 IR spectra of complexes **1-8** (a-h).



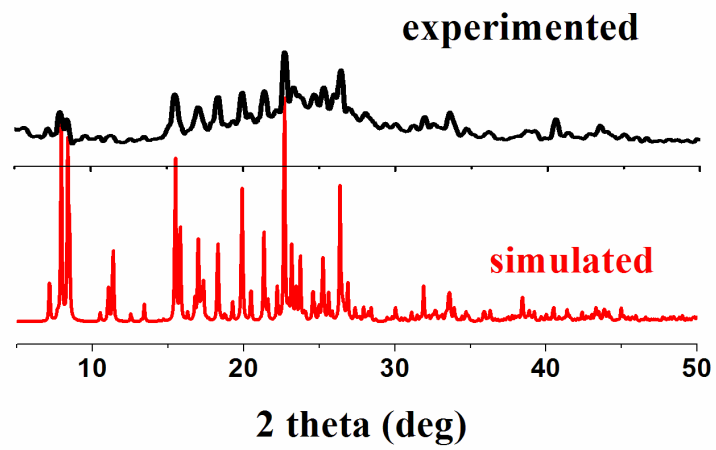
(a)



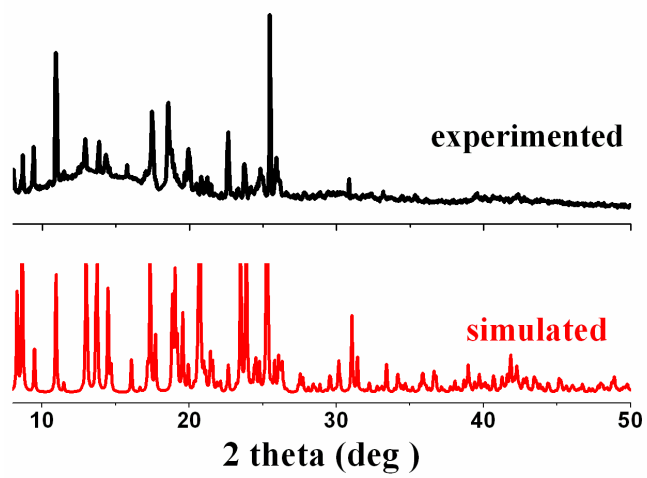
(b)



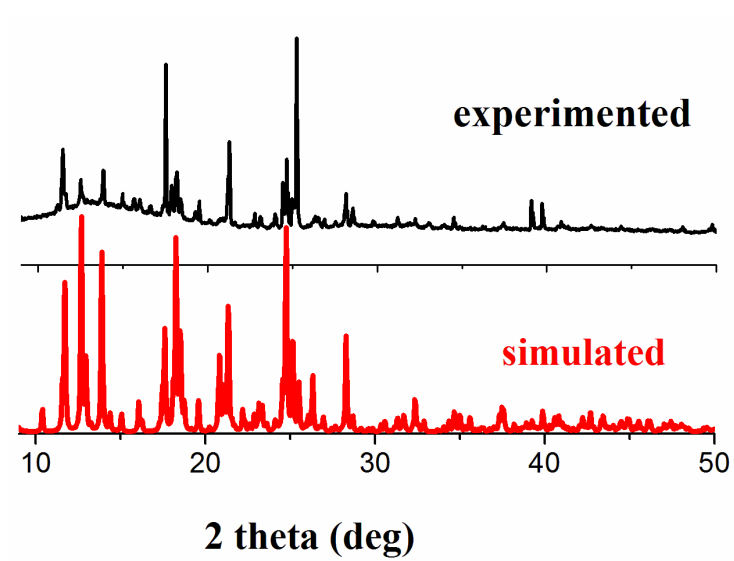
(c)



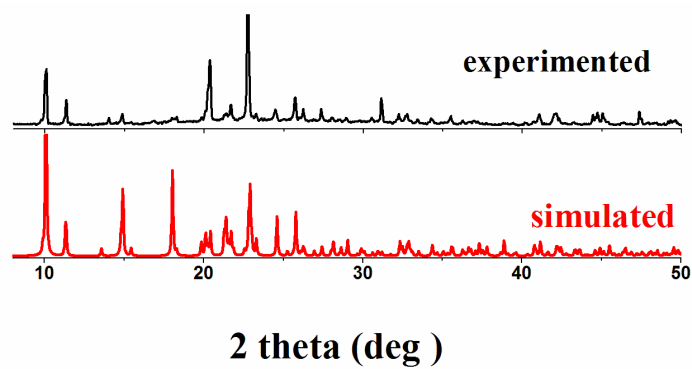
(d)



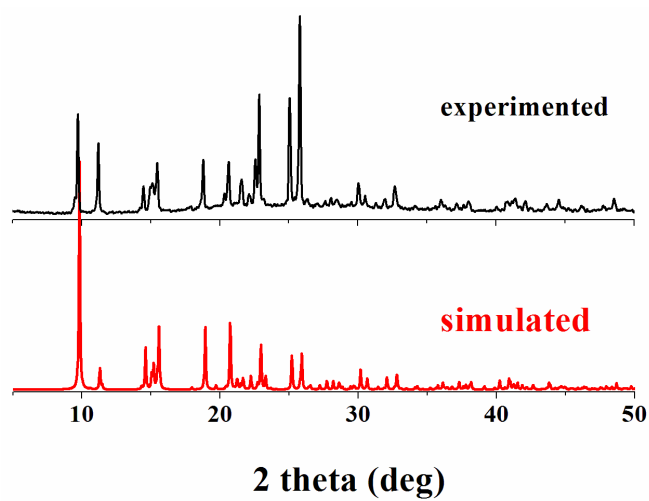
(e)



(f)



(g)



(h)

Figure S5 XRD spectra of complexes 1-8 (a-h).

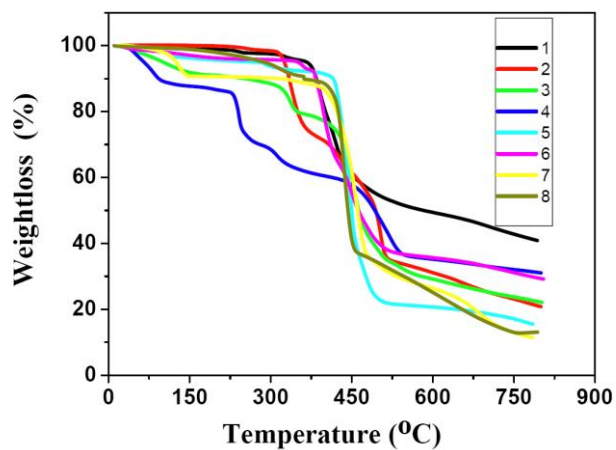


Figure S6 The TG curves of complexes **1-8**.

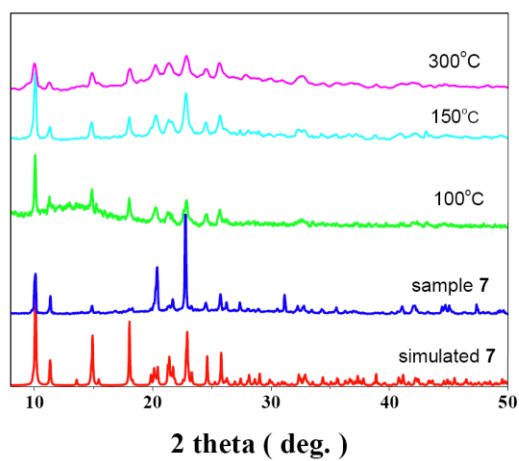


Figure S7 PXRD figures of complex **7** at 100, 150 and 300°C for two hours in air.

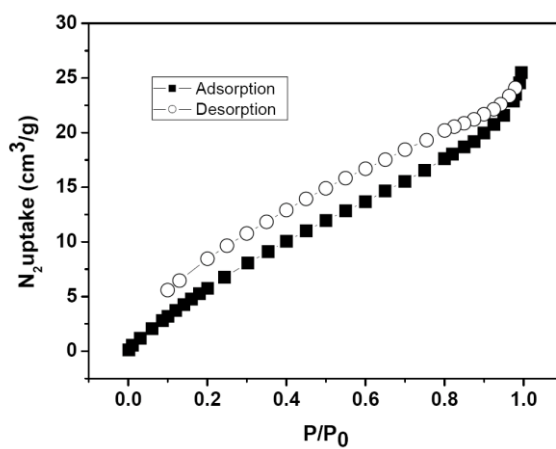


Figure S8 N<sub>2</sub> adsorption isotherms at 77K of complex **7**.