Supporting Information

**Fig. S1** Diamond topological net of 1 constructed by btdc and Co(II) centres.

**Fig. S2** Simulated (i) and experimental (ii) PXRD pattern of 1
Fig. S3 Simulated (i) and experimental (ii) PXRD pattern of 2.

Fig. S4 Thermal gravimetric analysis (TGA) for 1
Fig. S5 Thermal gravimetric analysis (TGA) for 2