Electronic Supporting Information (ESI)

Magnetocaloric Effect and Slow Magnetic Relaxation in Two Only Azido Bridged Ferromagnetic Tetranuclear Metal Clusters

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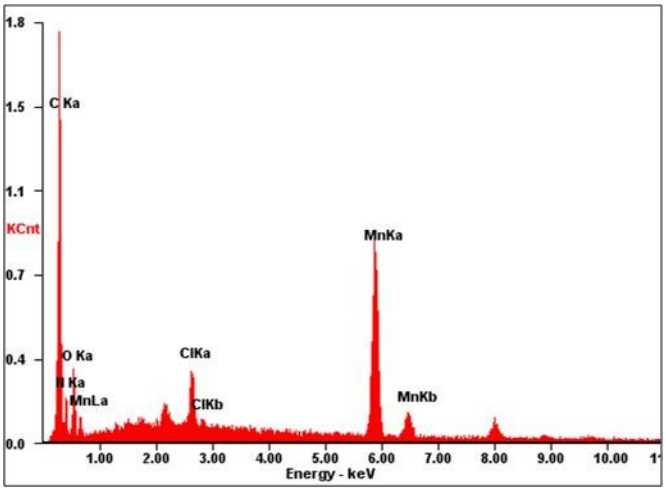
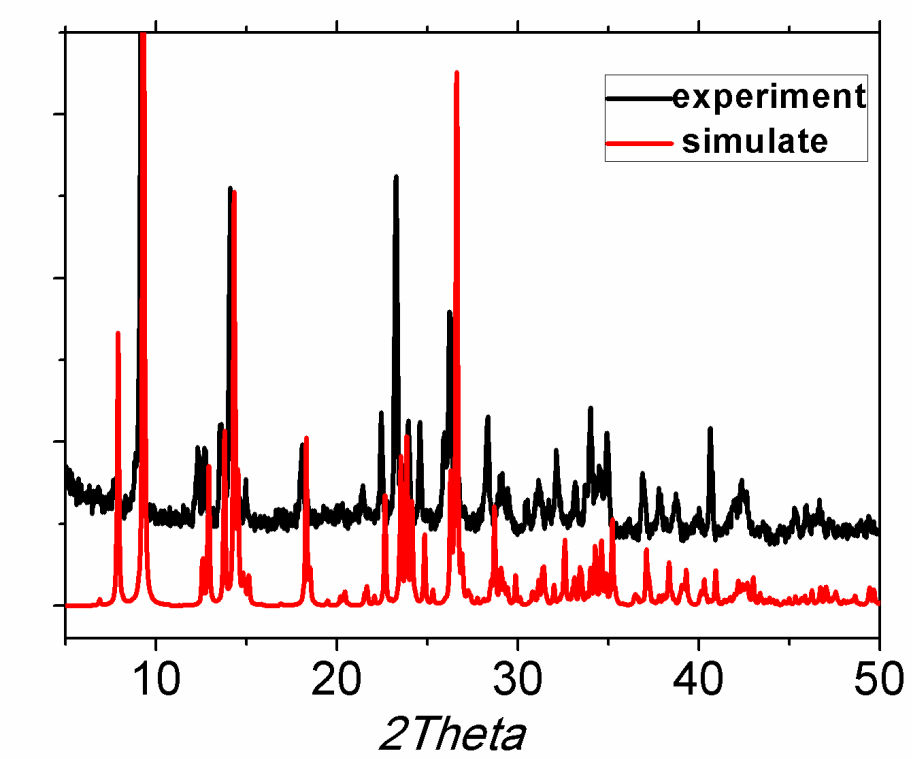
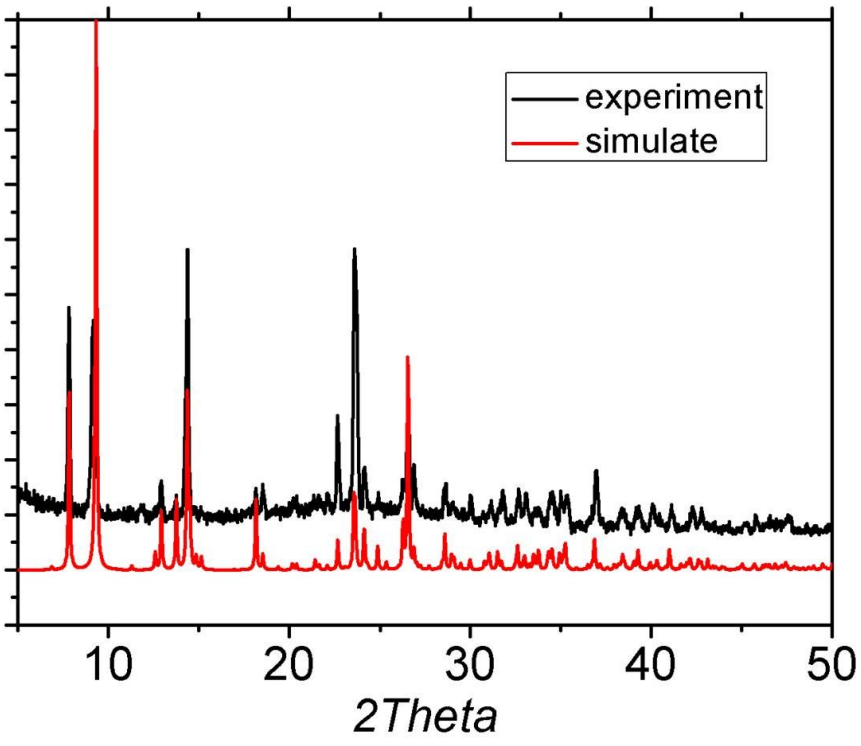


Figure S1. EDX of complex **1**.



(a)



(b)

Figure S2 The XRPD diagrams for **1** (a) and **2** (b).

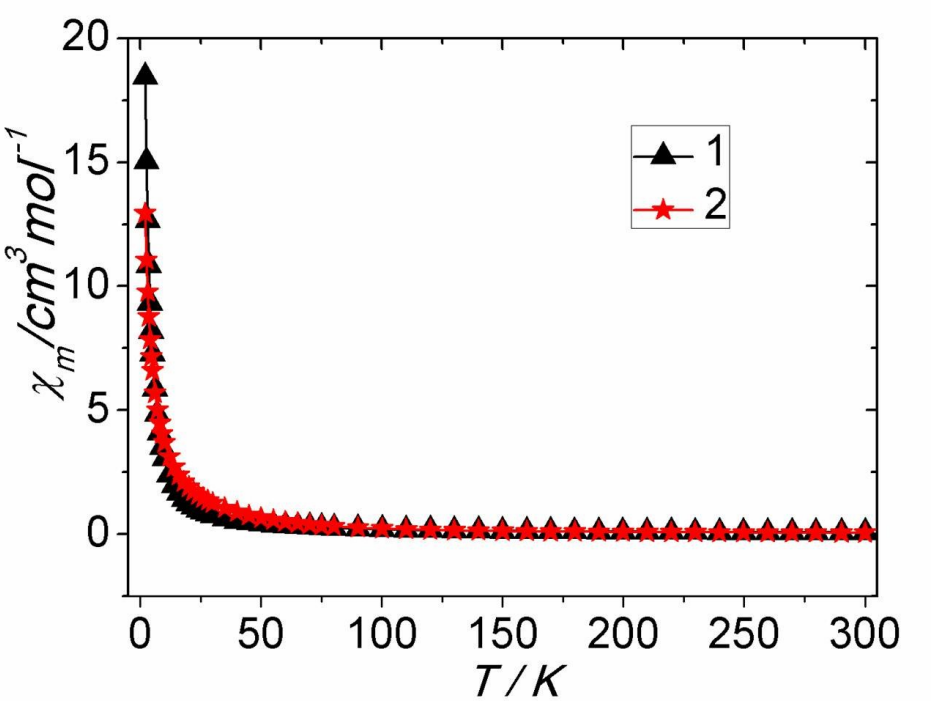


Figure S3. a) χ_m vs. T plots for complexes **1** and **2**.

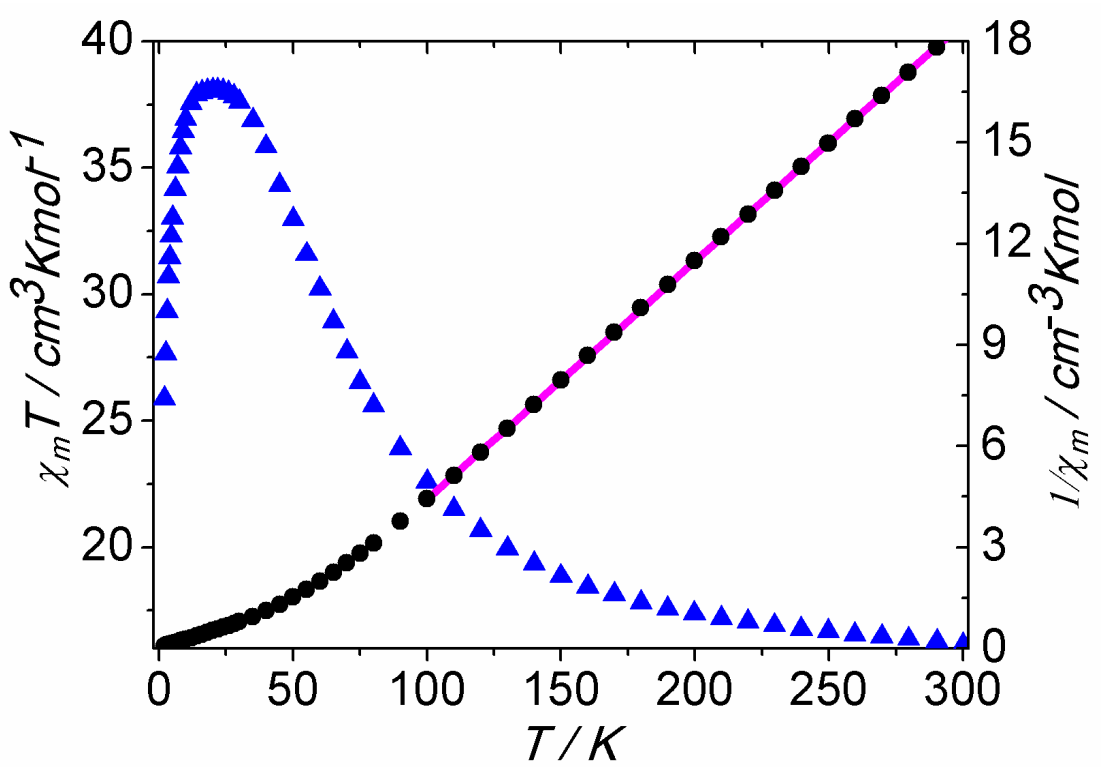


Figure S4. Temperature dependence of $\chi_m T$ and $1/\chi_m$ plots for **2**. The solid line is the best fit to the Curie-Weiss law.

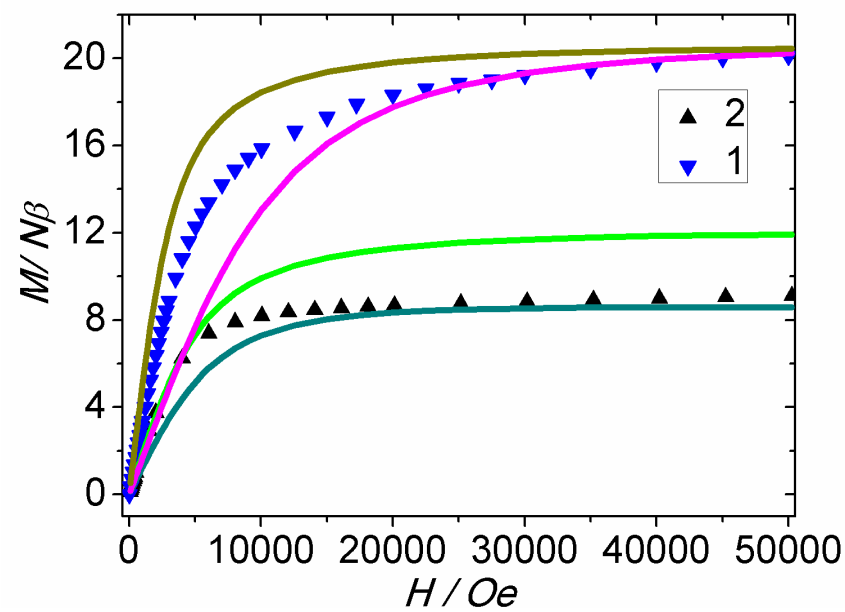


Figure S5. Magnetization versus field of **1** and **2** at 2 K. The solid lines are the Brillouin functions with different S and g: one magnetically isolated spin S = 6, g = 2 (—); one magnetically isolated spin S = 2, g = 4.3 (—); one magnetically isolated spin S = 10, g = 2.05 (—) and four magnetically isolated spin S = 5/2, g = 2.05 (—).

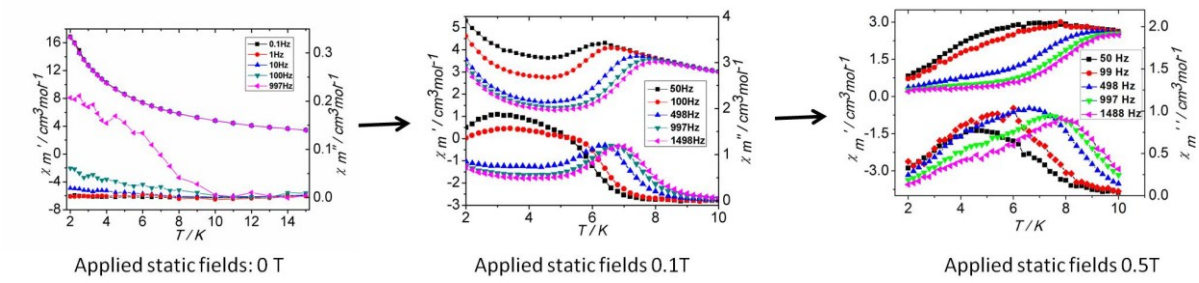


Figure S6. Temperature dependence of the in-phase and out-of-phase ac susceptibilities at the indicated frequencies in zero, 0.1 T and 0.5 T applied static fields for **2**.

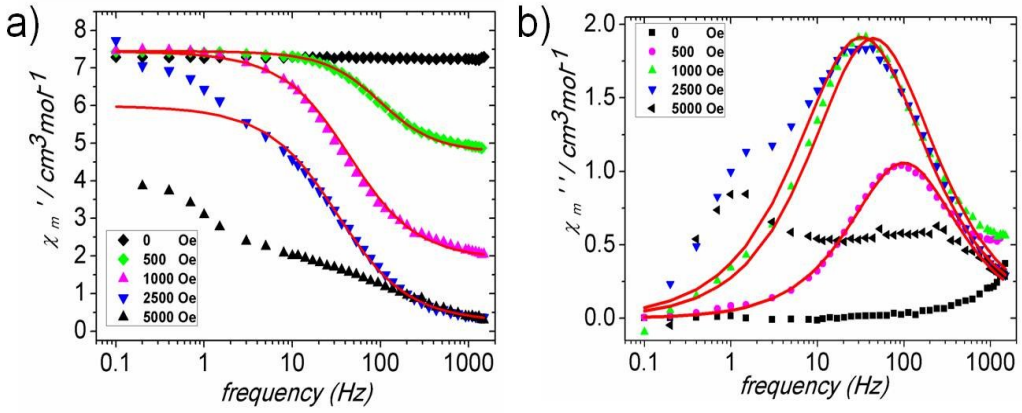


Figure S7. a) and b)**:** χ_m' and χ_m'' *vs.* ν plots at 3 K under various applied fields for **2**. The red solid line represents the least-squares fitting of the data for applied fields 500-2500 Oe.

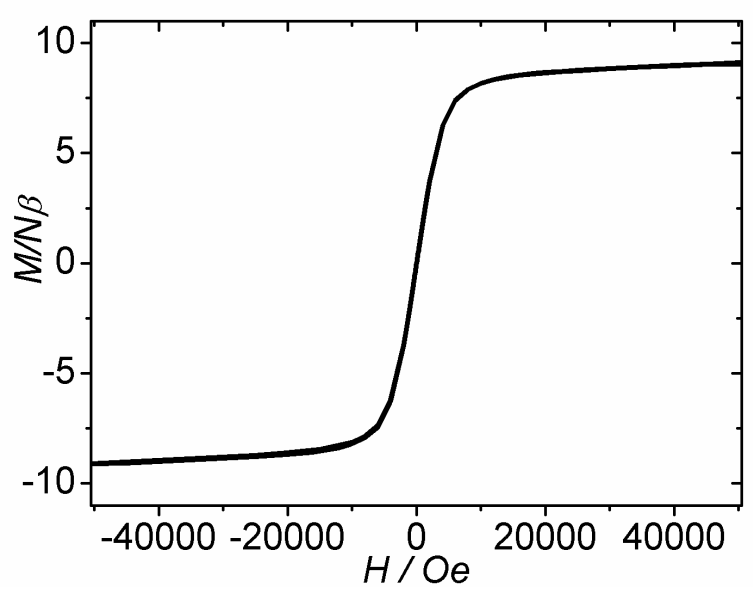


Figure S8. Hysteresis loop for complex **2** at 2 K.