Electronic Supplementary Material (ESI) for CrystEngComm

Supporting Information

3d-4f heterometallic coordination polymers constructed by tetranuclear lanthanide-based cluster as secondary building unit

Guo Peng, Li Ma, Liang Li, Yingzhao Ma, Chengfeng Yang, Hong Deng*

Table S1 Selected bond lengths (Å) for compound **2** and **4**

Compound **2**			
Gd(1)-O(13)#2	2.305(3)	Gd(1)-O(2)	2.409(3)
Gd(1)-O(5)#1	2.421(3)	Gd(1)-O(3)	2.441(3)
Gd(1)-O(9)#1	2.459(3)	Gd(1)-O(10)#1	2.511(3)
Gd(1)-N(1)	2.515(3)	Gd(1)-O(6)	2.525(3)
Gd(1)-O(5)	2.561(3)	Gd(2)-O(8)	2.401(3)
Gd(2)-O(6W)	2.402(3)	Gd(2)-O(11)	2.427(3)
Gd(2)-O(5W)	2.428(4)	Gd(2)-O(4W)	2.432(3)
Gd(2)-O(10)	2.459(3)	Gd(2)-O(4)	2.504(3)
Gd(2)-N(2)	2.528(3)	Gd(2)-O(3)	2.564(3)
Mn(1)-O(12)#3	2.143(3)	Mn(1)-O(12)	2.143(3)
Mn(1)-O(7W)	2.222(3)		
Compound **4**			
Tb(1)-O(2)	2.395(4)	Tb(1)-O(3)	2.422(3)
Tb(1)-O(5) #2	2.499(3)	Tb(1)-O(6) #2	2.442(3)
Tb(1)-O(10) #2	2.398(3)	Tb(1)-O(10)	2.542(3)
Tb(1)-O(11)	2.520(3)	Tb(1)-O(13)#1	2.290(4)
Tb(1)-N(1)	2.496(4)	Tb(2)-N(2)	2.503(4)
Tb(2)-O(3)	2.561(3)	Tb(2)-O(4)	2.491(3)
Tb(2)-O(5)	2.442(3)	Tb(2)-O(7)	2.424(3)
Tb(2)-O(9)	2.384(3)	Tb(2)-O(1W)	2.423(4)
Tb(2)-O(2W)	2.407(4)	Tb(2)-O(3W)	2.407(4)
Zn(1)-O(8)#3	2.074(3)	Zn(1)-N(3)#3	2.110(4)
Zn(1)-O(4W)#3	2.182(4)		

Symmetry codes: for **2** #1 *-x+1, -y+1, -z*; #2 *x-1, y-1, z*; #3 *-x+3, -y+2, -z+1*; for **4** #1 *x+1, y+1, z*; #2 *-x-1, -y, -z*; #3 *-x+1, -y+1, -z+1*.

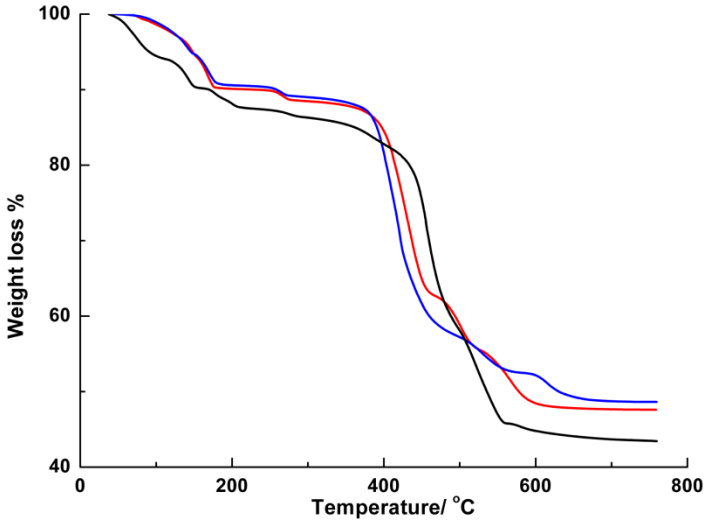

Fig. S1 TGA curves of compound **1**(black), **3** (red) and **4** (blue).

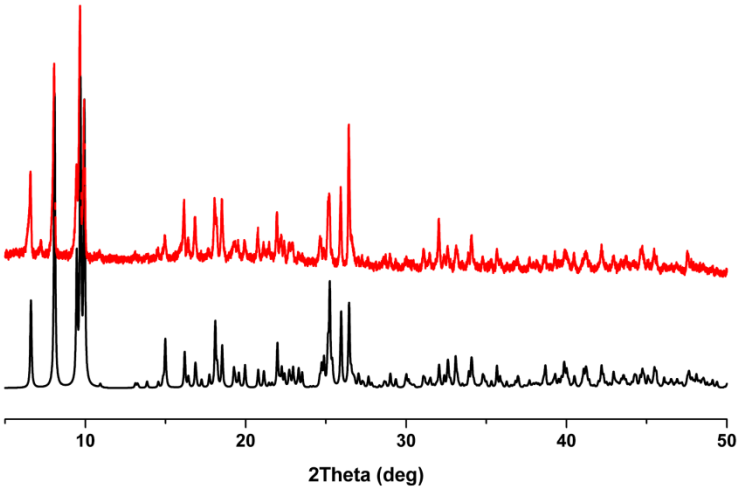

Fig. S2 PXRD patterns for that simulated based on X-ray single-crystal diffraction data of **1** (black) and as-synthesized **1** (red).

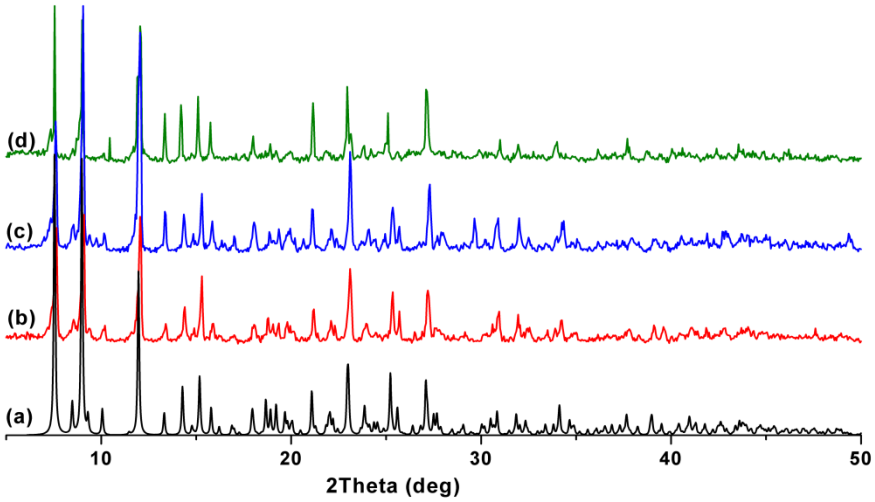

Fig. S3 PXRD patterns for: a) compound **2**, as simulated based on X-ray single-crystal diffraction data; b) compound **2**, as synthesized; c) compound **3**, as synthesized; d) compound **4**, as synthesized.

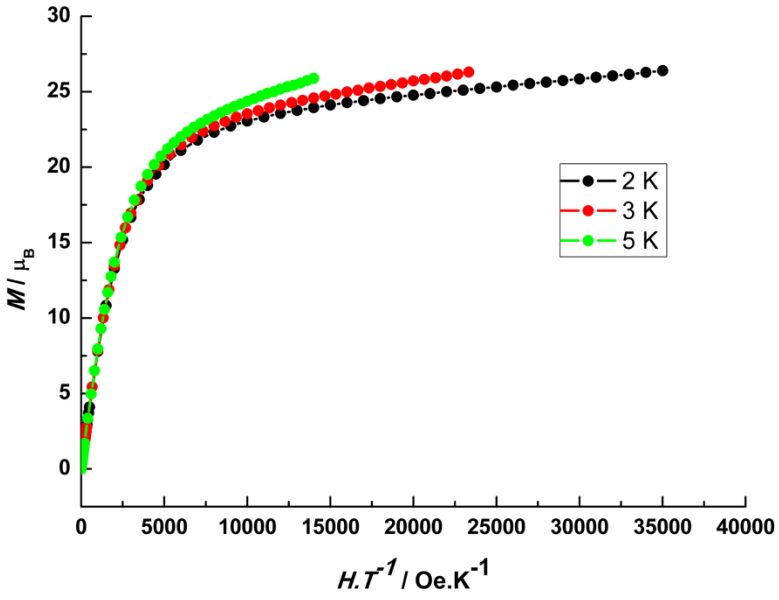

Fig. S4 Plot of M *vs*. HT^{-1} for compound **1**.

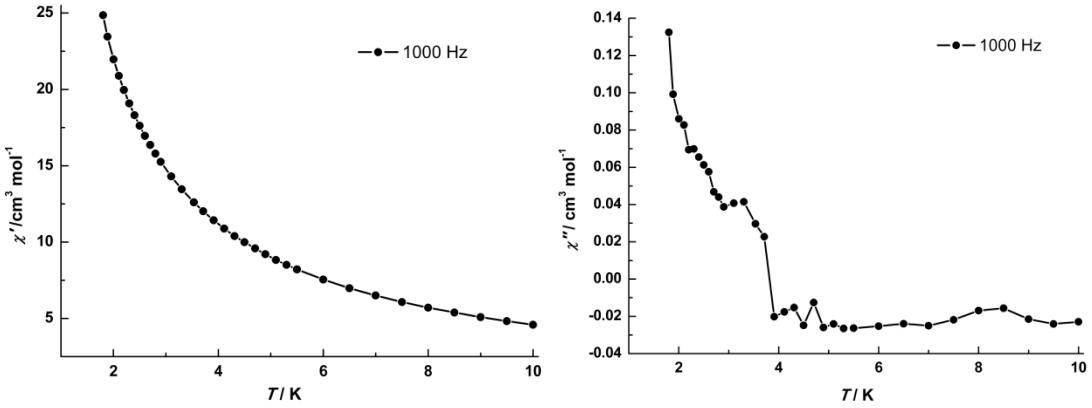

Fig. S5 Temperature dependence of the in-phase and the out-of-phase ac susceptibility components at 1000 Hz under zero dc field for **1**

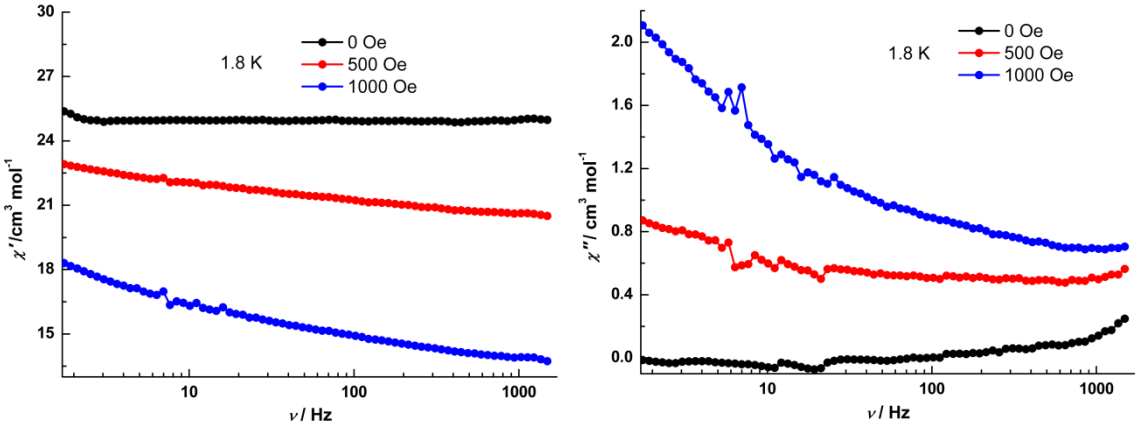

Fig. S6 Frequency dependence of the in-phase and the out-of-phase ac susceptibility components at 1.8 K under different dc field for **1**.