

## **Supporting Information**

### **Slow Magnetic Relaxation in Two New 1D/0D Dy<sup>III</sup> Complexes with Sterically Hindered Carboxylate Ligand**

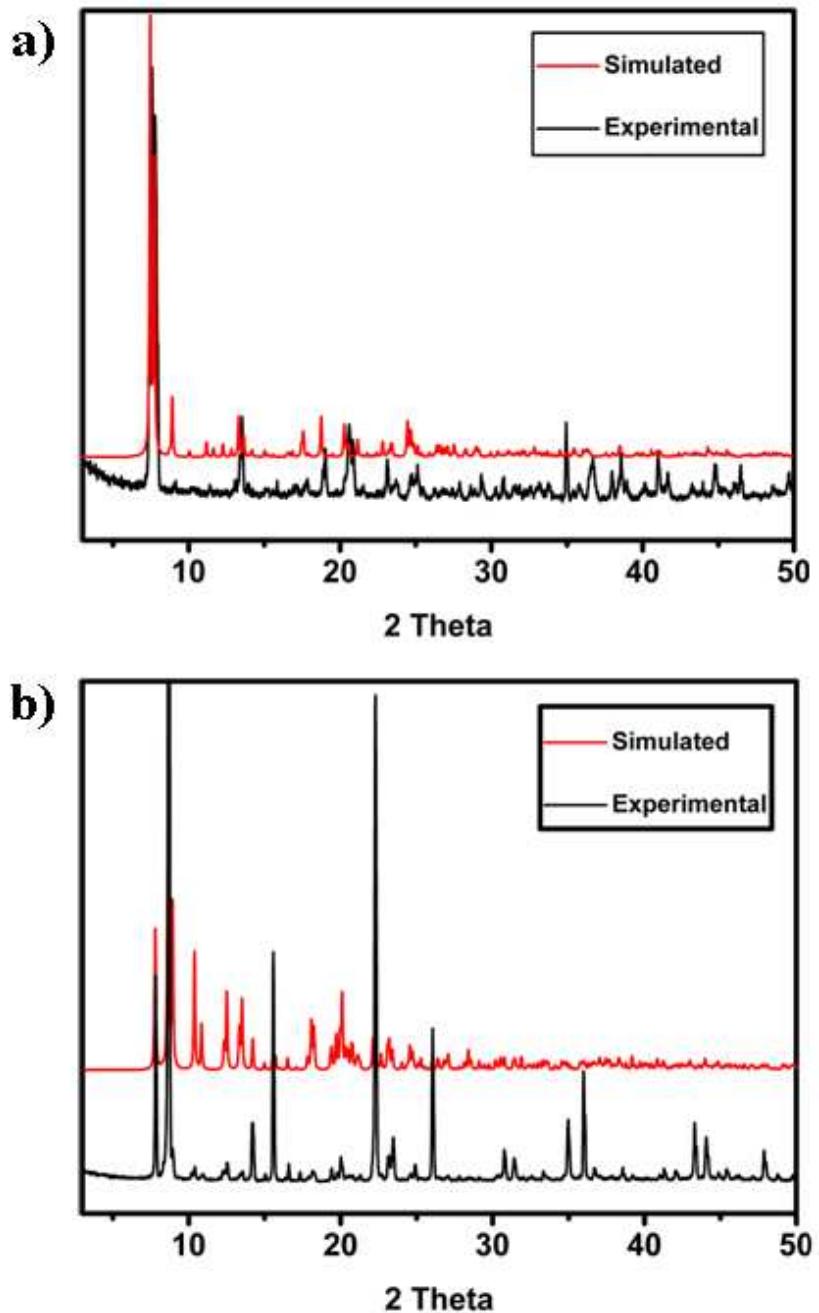
**Sui-Jun Liu,<sup>†</sup> Jiong-Peng Zhao,<sup>†</sup> Wei-Chao Song,<sup>†</sup> Song-De Han,<sup>†</sup> Zhong-Yi Liu,<sup>‡</sup> and  
Xian-He Bu<sup>\*,†</sup>**

<sup>†</sup>Department of Chemistry and TKL of Metal- and Molecule-Based Material Chemistry,  
Nankai University, Tianjin 300071, China

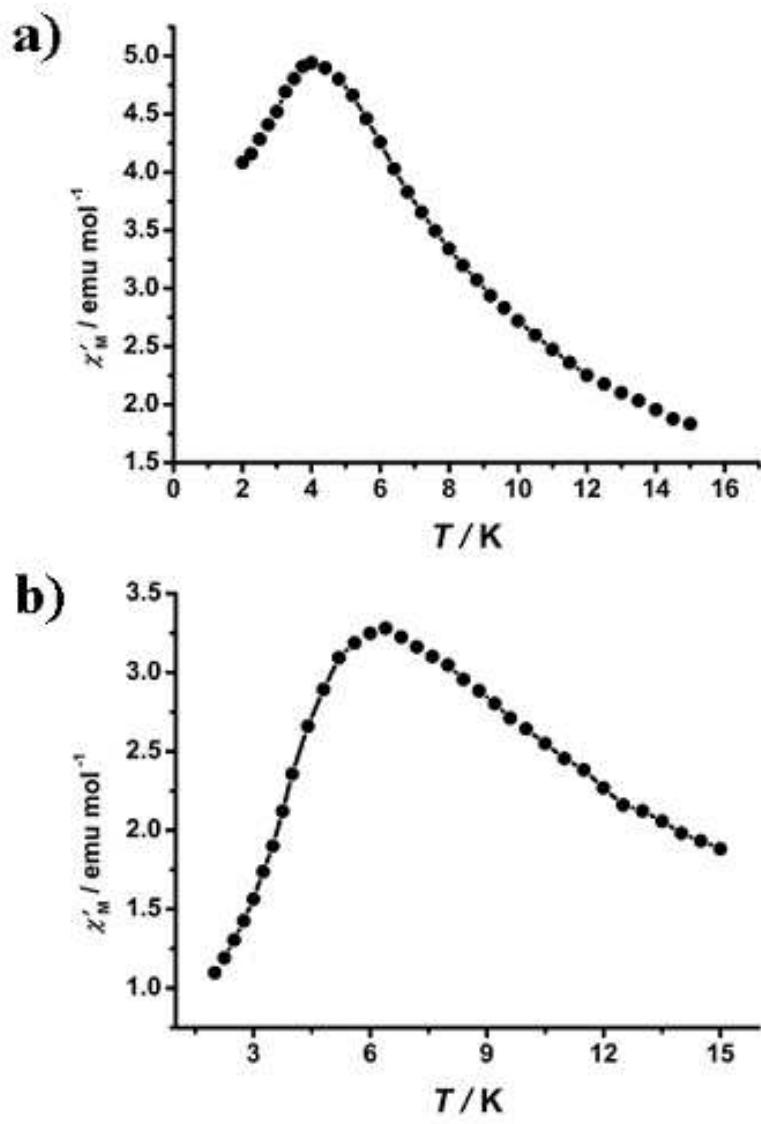
<sup>‡</sup>College of Chemistry and TKL of Structure and Performance for Functional Molecules,  
Tianjin Normal University, Tianjin 300387, China

---

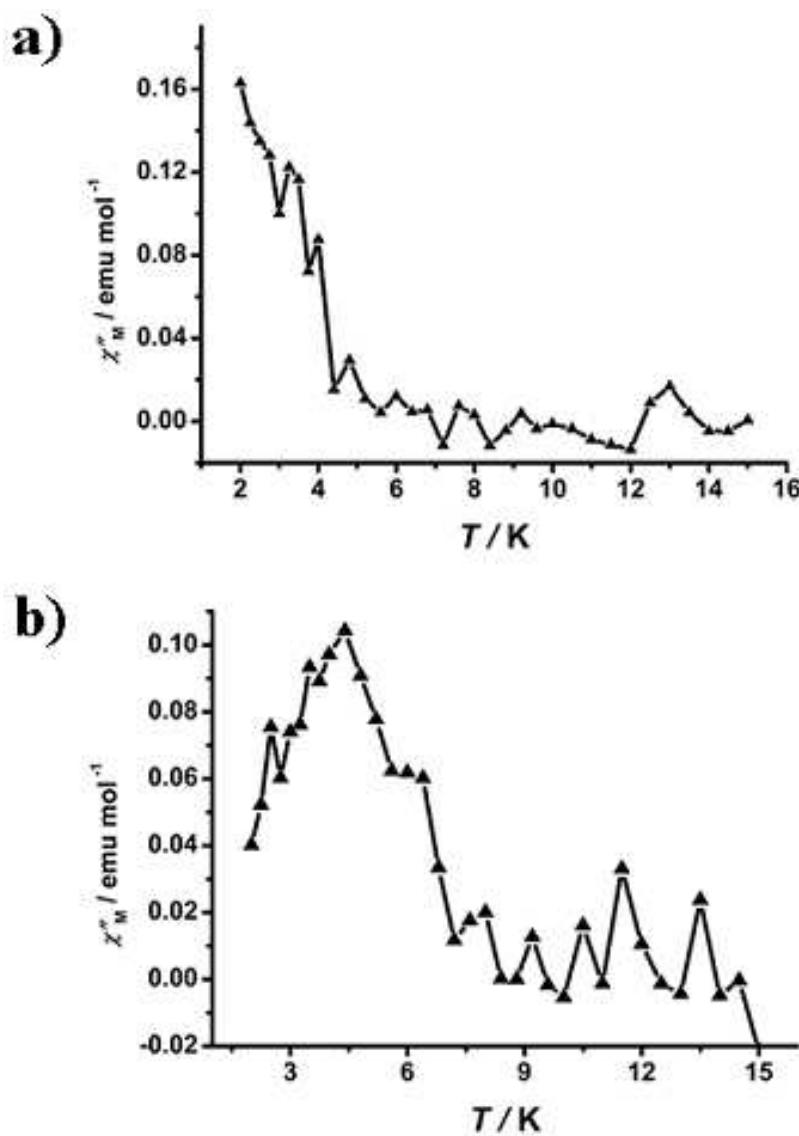
\*Corresponding author. E-mail: [buxh@nankai.edu.cn](mailto:buxh@nankai.edu.cn).



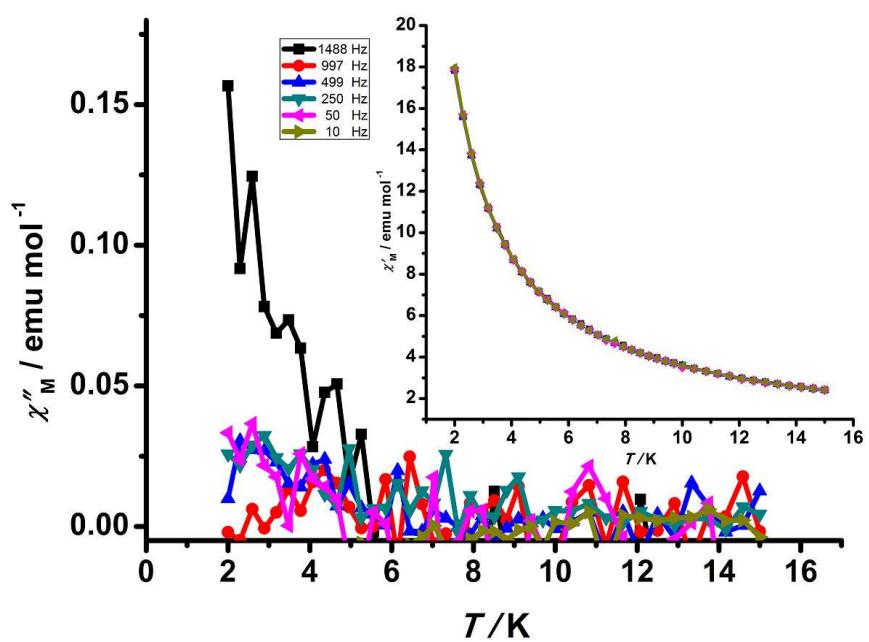
**Figure S1.** X-ray powder diffraction (XRPD) patterns of **1** (a) and **2** (b).



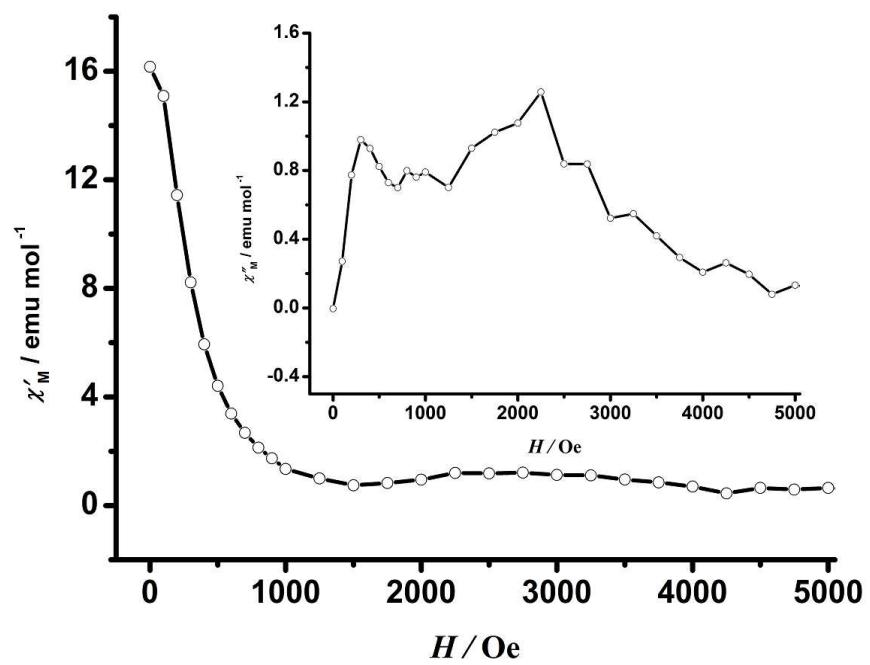
**Figure S2.** Temperature dependence of the in-phase susceptibility for complex **1** with  $f = 997$  Hz, and (a)  $H_{dc} = 2$  kOe, (b)  $H_{dc} = 5$  kOe.



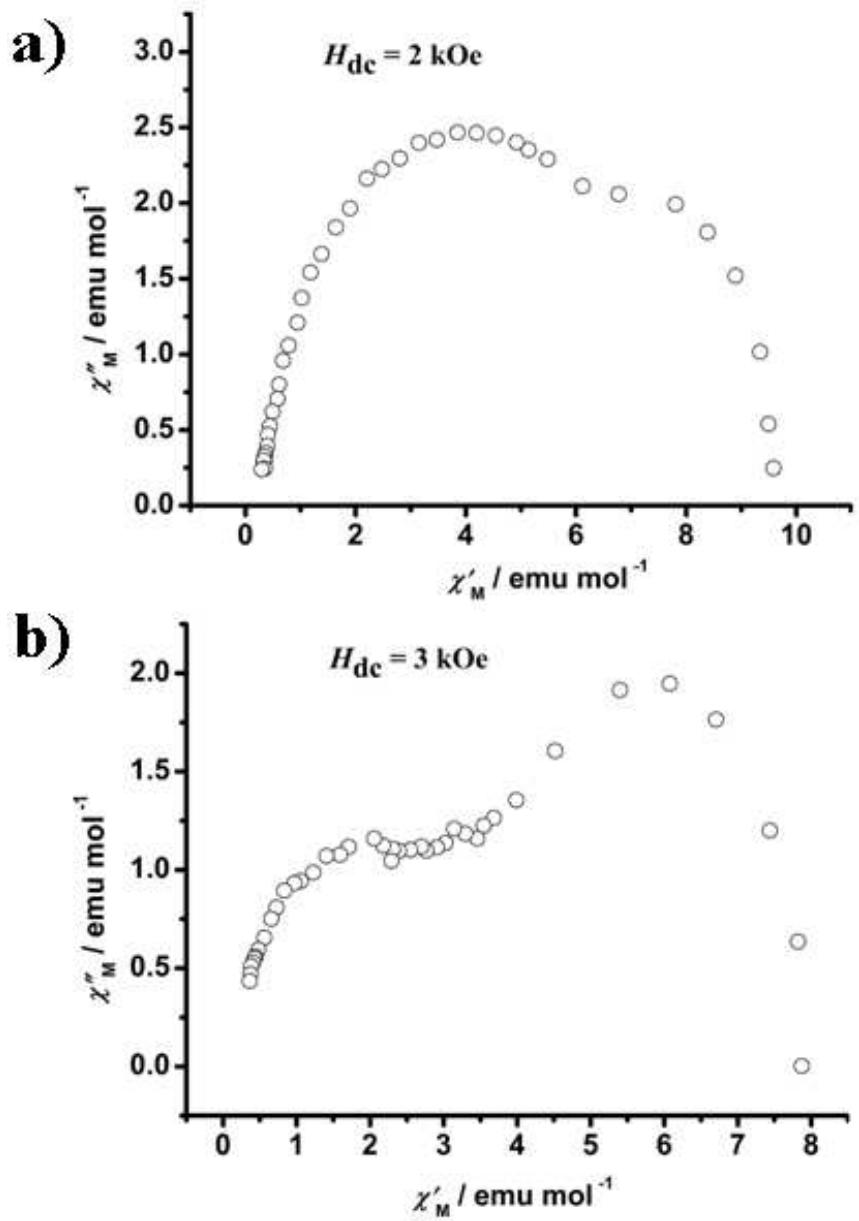
**Figure S3.** Temperature dependence of the out-of-phase susceptibility for complex **1** with  $f = 997$  Hz, and (a)  $H_{dc} = 2$  kOe, (b)  $H_{dc} = 5$  kOe.



**Figure S4.** Temperature dependence of the ac  $\chi_M$  at different frequencies for complex 2 with  $H_{dc} = 0$  Oe.



**Figure S5.** Field dependence of the ac  $\chi_M$  for complex **2** with  $f = 100$  Hz.



**Figure S6.** Cole–Cole plots for complex **2** measured at 3 K with (a) 2 kOe and (b) 3 kOe dc fields.

**Table S1.** Selected bond lengths ( $\text{\AA}$ ) and angles ( $^{\circ}$ ) for complex **1<sup>a</sup>**

Dy1-O7	2.253(7)	Dy2-O1	2.258(10)
Dy1-O6	2.327(8)	O11-Dy2 <sup>#2</sup>	2.310(7)
Dy1-O8 <sup>#1</sup>	2.339(7)	Dy2-O5	2.266(8)
Dy1-O2 <sup>#2</sup>	2.361(10)	Dy2-O10	2.350 (6)
Dy1-O1W	2.422(7)	Dy2-O3	2.384 (8)
Dy1-O11	2.443(7)	Dy2-O11	2.396 (7)
Dy1-O9	2.487(7)	Dy2-O4	2.443 (7)
Dy1-O10	2.587(7)		
O7-Dy1-O6	83.3(3)	O7-Dy1-O9	76.5 (3)
O7-Dy1-O8 <sup>#1</sup>	107.0 (3)	O6-Dy1-O9	79.8(3)
O6-Dy1-O8 <sup>#1</sup>	148.0(3)	O8 <sup>#1</sup> -Dy1-O9	73.6(3)
O7-Dy1-O2 <sup>#2</sup>	101.6(4)	O1-Dy2-O10	90.9(4)
O6-Dy1-O2 <sup>#2</sup>	76.4(4)	O10-Dy2-O11	70.6(2)
O8 <sup>#1</sup> -Dy1-O2 <sup>#2</sup>	128.3(4)	O3-Dy2-O11	150.9(3)
O7-Dy1-O1W	76.2(3)	O1-Dy2-O4	92.8(4)
O6-Dy1-O1W	137.9(3)	O5-Dy2-O4	92.5(3)
O8 <sup>#1</sup> -Dy1-O1W	73.9(3)	O11 <sup>#2</sup> -Dy2-O4	83.5(3)
O2 <sup>#2</sup> -Dy1-O1W	72.4(3)	O10-Dy2-O4	133.3(2)
O7-Dy1-O11	167.0(3)	O3-Dy2-O4	53.1(3)
O6-Dy1-O11	106.0(3)	O11-Dy2-O4	155.7(3)
O1W-Dy1-O10	144.5(2)	O11 <sup>#2</sup> -Dy2-O3	135.2(3)
O11-Dy1-O10	66.1(2)	O10-Dy2-O3	80.3(3)
O9-Dy1-O10	51.0(2)	O1-Dy2-O11	90.7(4)
O2 <sup>#2</sup> -Dy1-O9	156.1(3)	O5-Dy2-O11	87.0(3)
O1W-Dy1-O9	128.5(2)	O11 <sup>#2</sup> -Dy2-O11	72.3(3)
O11-Dy1-O9	113.7(2)	O5-Dy2-O10	80.9(3)
O7-Dy1-O10	126.0(2)	O1-Dy2-O5	171.7(4)
O6-Dy1-O10	76.5(3)	O1-Dy2-O11 <sup>#2</sup>	102.3(4)
O8 <sup>#1</sup> -Dy1-O10	73.0(3)	O5-Dy2-O11 <sup>#2</sup>	84.6(3)
O2 <sup>#2</sup> -Dy1-O10	120.7(3)	O11 <sup>#2</sup> -Dy2-O10	140.7(2)
O8 <sup>#1</sup> -Dy1-O11	70.0(3)	O1-Dy2-O3	91.4(4)
O2 <sup>#2</sup> -Dy1-O11	72.5(4)	O5-Dy2-O3	86.8(4)
O1W-Dy1-O11	90.8 (2)		

<sup>a</sup>Symmetry codes: #1: -x+1, -y+2, -z; #2: -x+2, -y+2, -z.

**Table S2.** Selected bond lengths ( $\text{\AA}$ ) and angles ( $^{\circ}$ ) for complex **2<sup>a</sup>**

Dy1-O5	2.244 (5)	Dy1-O3	2.400 (5)
Dy1-O6 <sup>#1</sup>	2.323 (5)	Dy1-O4	2.422 (5)
Dy1-O2	2.365 (5)	Dy1-N2	2.532 (6)
Dy1-O1	2.387 (5)	Dy1-N1	2.557 (6)
O5-Dy1-O6 <sup>#1</sup>	88.5 (2)	O2-Dy1-N2	81.2 (2)
O5-Dy1-O2	100.6 (2)	O1-Dy1-N2	73.13(19)
O1W-Dy1-O2	156.2 (2)	O3-Dy1-N2	74.68(19)
O5-Dy1-O1	79.8 (2)	O4-Dy1-N2	127.61(18)
O1W-Dy1-O1	149.20(19)	O5-Dy1-N1	88.9 (2)
O2-Dy1-O1	54.59(18)	O6 <sup>#1</sup> -Dy1-N1	72.5 (2)
O5-Dy1-O3	140.1 (2)	O2-Dy1-N1	129.02(19)
O1W-Dy1-O3	77.2 (2)	O1-Dy1-N1	78.78 (18)
O2-Dy1-O3	81.9 (2)	O3-Dy1-N1	120.68(19)
O1-Dy1-O3	128.65(19)	O4-Dy1-N1	150.03(19)
O5-Dy1-O4	86.5 (2)	N2-Dy1-N1	65.03 (19)
O6 <sup>#1</sup> -Dy1-O4	77.75 (19)	O3-Dy1-O4	54.24 (18)
O2-Dy1-O4	80.90 (18)	O5-Dy1-N2	145.3 (2)
O1-Dy1-O4	129.15(19)	O6 <sup>#1</sup> -Dy1-N2	103.7 (2)

<sup>a</sup>Symmetry code: #1: -x+2, -y+1, -z+1.