Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information for

Slow magnetic relaxation of a three-dimensional metal-organic framework featuring a unique dysprosium(III) oxalate layer

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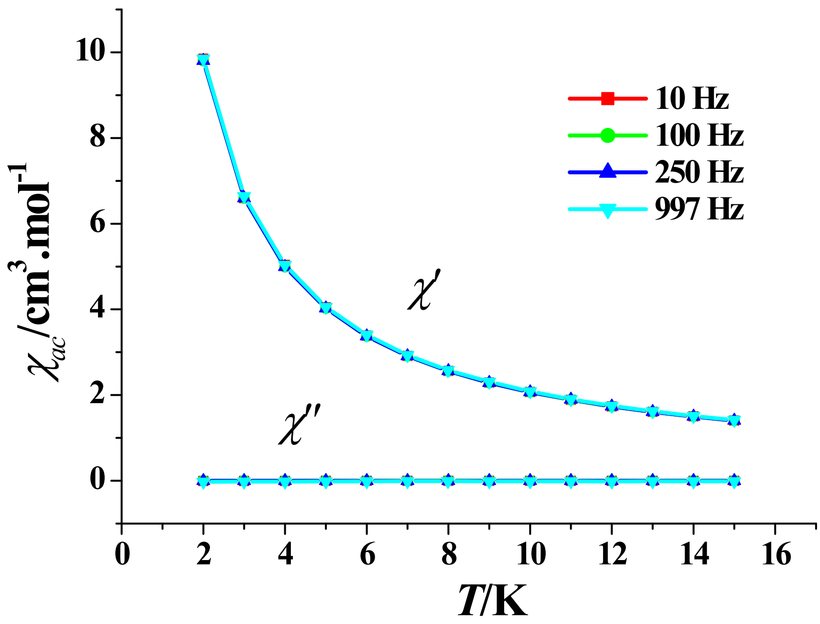

Fig. S1. AC susceptibilities measured in a 2.5 Oe ac magnetic field with a zero dc field for **1.**

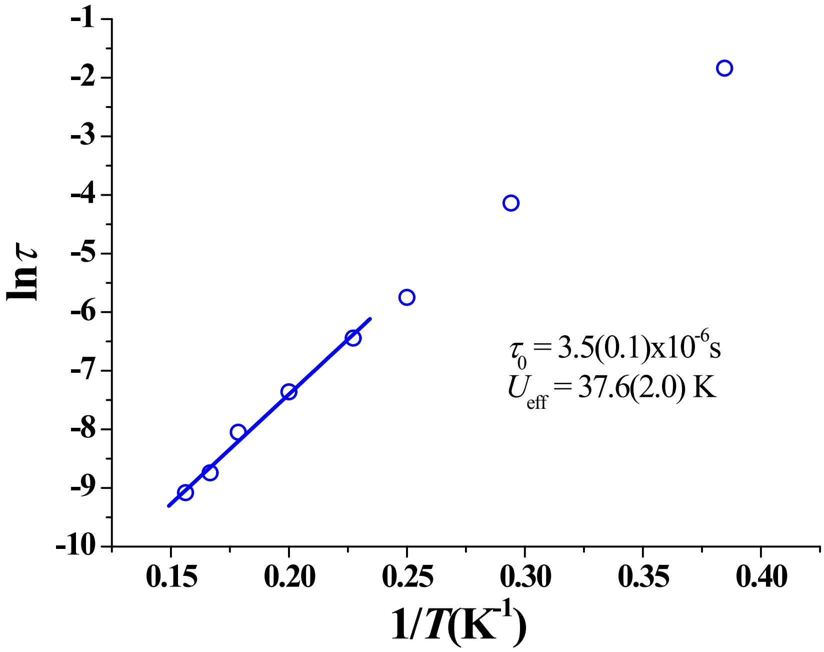

Fig. S2. Plots of ln(τ) versus $1/T_B$ for **1,** the solid lines represent the best fitting with the Arrhénius law.

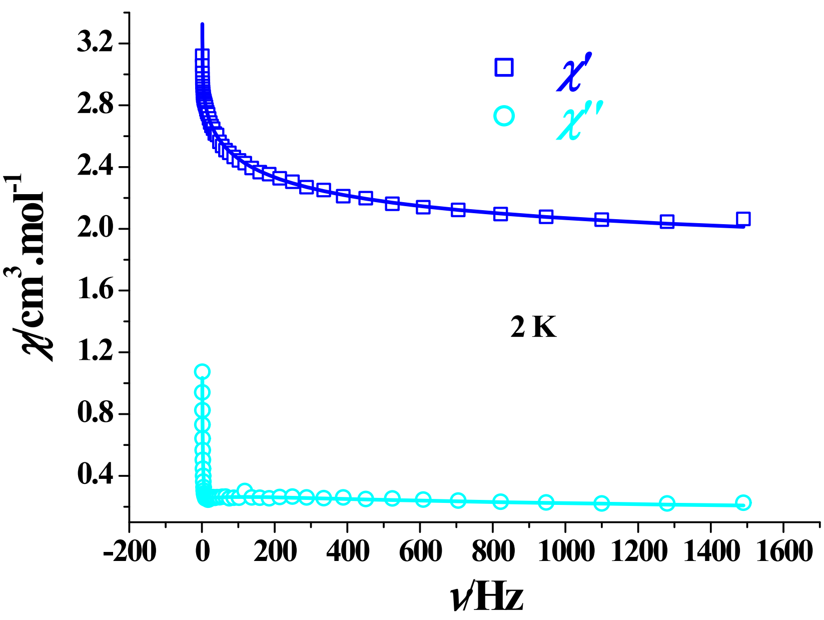

Fig. S3. Frequency dependence of the in-phase (χ', top) and out-of-phase (χ'', bottom) ac susceptibility of **1** at 2 K. the solid lines represent the best fitting with the sum of two modified Debye functions

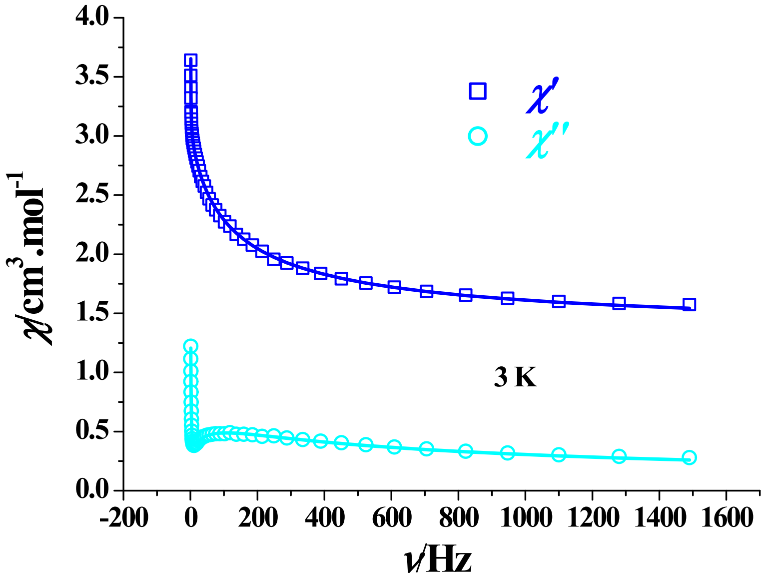

Fig. S4. Frequency dependence of the in-phase (χ', top) and out-of-phase (χ'', bottom) ac susceptibility of **1** at 3 K. the solid lines represent the best fitting with the sum of two modified Debye functions.

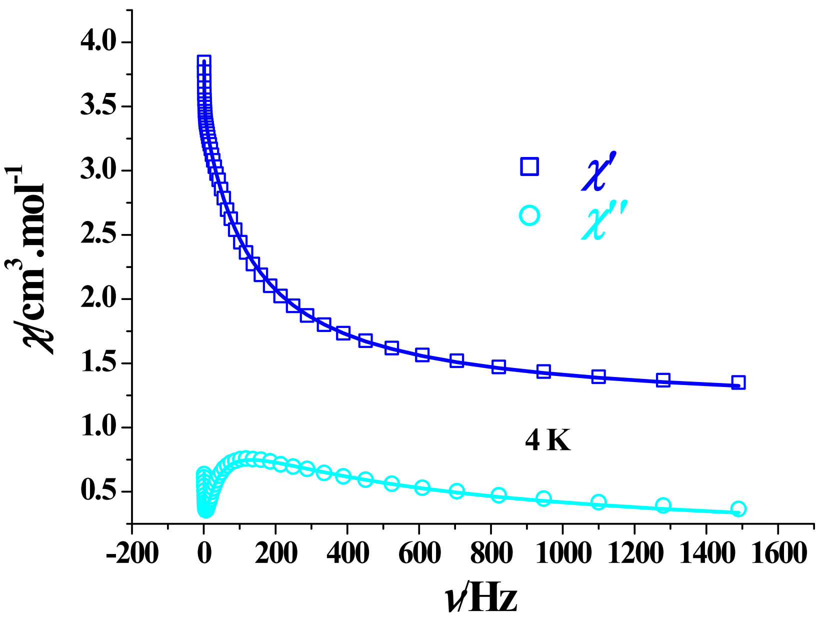

Fig. S5. Frequency dependence of the in-phase (χ', top) and out-of-phase (χ'', bottom) ac susceptibility of **1** at 4 K. the solid lines represent the best fitting with the sum of two modified Debye functions.

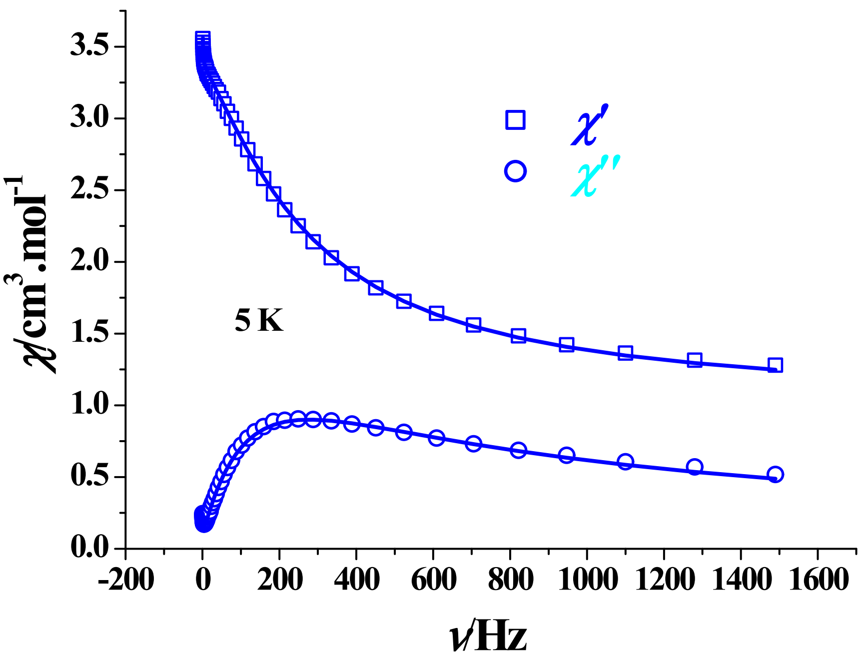

Fig. S6. Frequency dependence of the in-phase (χ', top) and out-of-phase (χ'', bottom) ac susceptibility of **1** at 5 K. the solid lines represent the best fitting with the sum of two modified Debye functions.

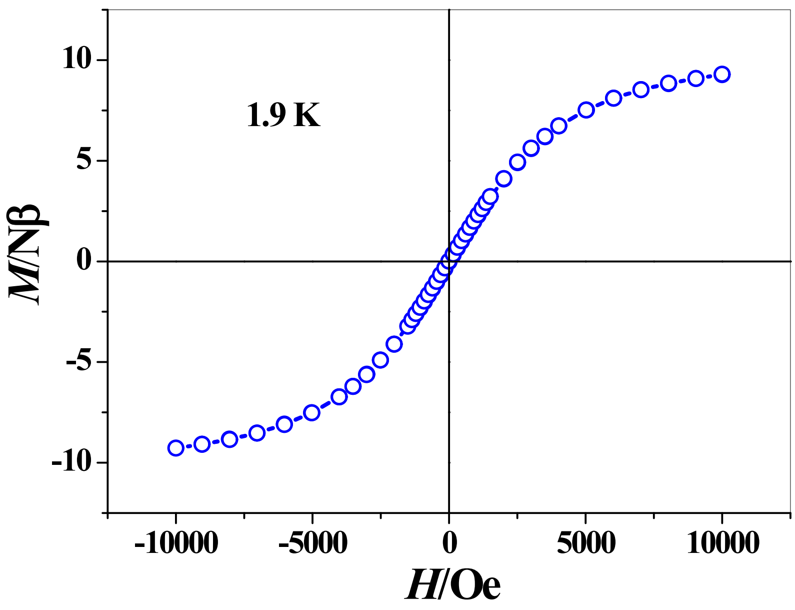

Figure S7. Plot of M versus H at 1.9 K from −10000 to 10000 Oe for **1**.

Table S1. Selected bond distences(Å) and angles(°) for **1** and **2**.

1 (#1 X, 1/2−Y, Z; #2 1/2+X, Y, 1/2−Z; #3 1/2+X, 1/2−Y, 1/2−Z; #4 X, −1/2−Y, Z; #5 1/2+X, −1/2−Y, 1/2−Z; #6 1−X, −Y, 1−Z; #7 1/2−X, −Y, −1/2+Z)			
Dy1-O1	2.351(3)	Dy1-$O1_W$	2.324(5)
Dy1-O4	2.524(4)	Dy1-O6	2.369(4)
Dy1-O8	2.430(3)	Dy1-$O8^{\#1}$	2.430(3)
Dy1-$O9^{\#2}$	2.419(3)	Dy1-$O9^{\#3}$	2.419(3)
Dy2-O2	2.265(3)	Dy2-$O2^{\#4}$	2.265(3)
Dy2-$O3^{\#2}$	2.309(3)	Dy2-$O3^{\#6}$	2.309(3)
Dy2-$O5^{\#5}$	2.464(4)	Dy2-$O5^{\#7}$	2.395(4)
Dy2-$O7^{\#5}$	2.293(4)	C1-O1	1.245(5)
O6-Dy1-O4	67.41(13)	O8- Dy1-$O8^{\#1}$	66.63(15)
$O9^{\#2}$-Dy1-$O9^{\#3}$	66.42(15)	$O7^{\#7}$-Dy2-$O5^{\#7}$	67.51(14)
2 (#1 −1−X, −Y, 1−Z; #2 −X, −Y, 1−Z)			
Gd1-O1	2.572(5)	Gd1-O2	2.504(5)
Gd1-$O1_W$	2.470(5)	Gd1-O7	2.450(5)
Gd1-O4	2.441(5)	Gd1-$O5^{\#1}$	2.351(4)
Gd1-$O8^{\#2}$	2.446(5)	Gd1-$O2_W$	2.417(5)
Gd1-$O3_W$	2.400(5)	C7-O6	1.254(8)
$O8^{\#2}$-Gd1-O7	67.06(16)	O2-Gd1-O1	51.43(15)
$O3_W$-Gd1-$O2_W$	82.91(19)	$O3_W$-Gd1-$O1_W$	72.28(18)
$O2_W$-Gd1-$O1_W$	70.73(17)	$O5^{\#1}$-Gd1-$O2_W$	80.06(18)
$O5^{\#1}$-Gd1-$O1_W$	73.98(17)	O4-Gd1-O7	68.25(16)

Table S2. Linear combination of two modified Debye model fitting parameters from 2 K to 5 K of **1** under 2k Oe dc field.

T(K)	χ_2(cm^3.mol^{-1})	χ_1(cm^3.mol^{-1})	χ_0(cm^3.mol^{-1})	τ_1(s)	α_1	τ_2(s)	α_2
2	6.10704	4.55739	1.58805	0.44621	4.5341E-6	0.00094	0.59369
3	5.9966	4.11388	1.28101	0.32252	4.8352E-6	0.00132	0.40354
4	4.76201	2.33233	1.08065	0.24135	7.8018E-6	0.00118	0.30226
5	3.97861	1.56401	0.97179	0.27829	0.12446	0.00057	0.18603