

Supporting Information

Steric Hindrances Create a Discrete Linear Dy₄ Complex Exhibiting SMM Behaviour

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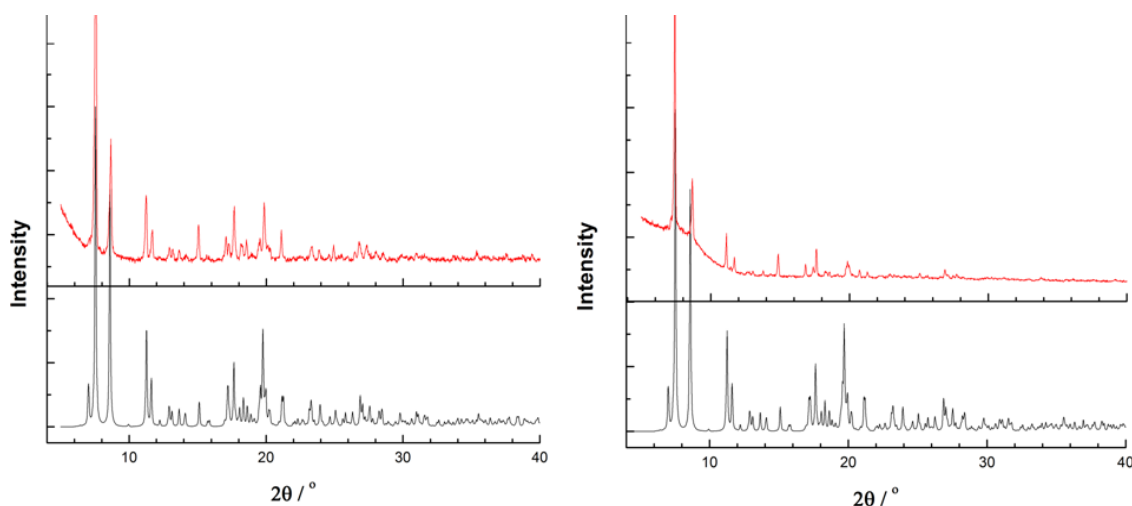


Fig. S1 The experimental XRD pattern of samples (red) and the calculated XRD pattern of single crystal X-ray diffraction data (black) for **1** (left) and **2** (right), respectively.

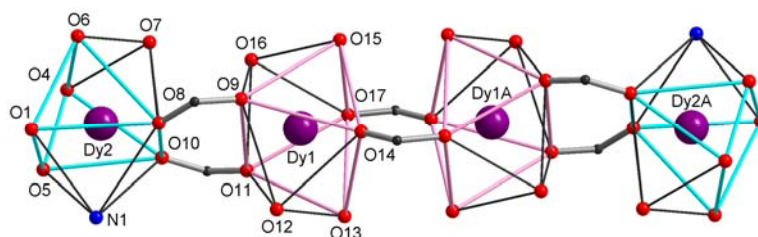


Fig. S2 Coordination polyhedra observed in **1** showing distorted bicapped trigonal-prismatic geometry for Dy1 and Dy2. (Symmetry codes: A, 1 -x+1,-y-1,-z).

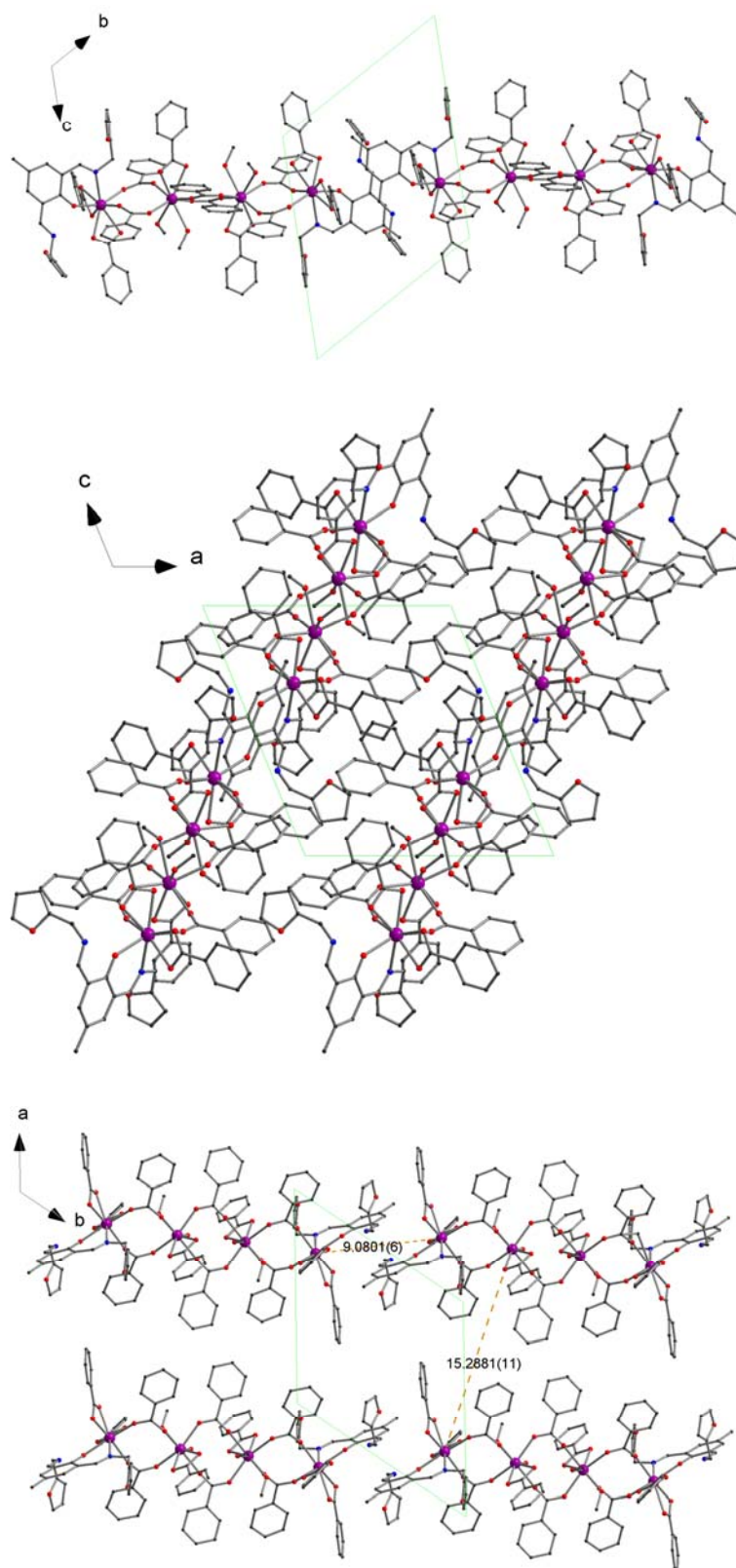


Fig. S3 Packing arrangement of the molecules along *a* (top), *b* (middle), *c* (bottom) axis, respectively.
Violet (Dy), Red (O), Blue (N).

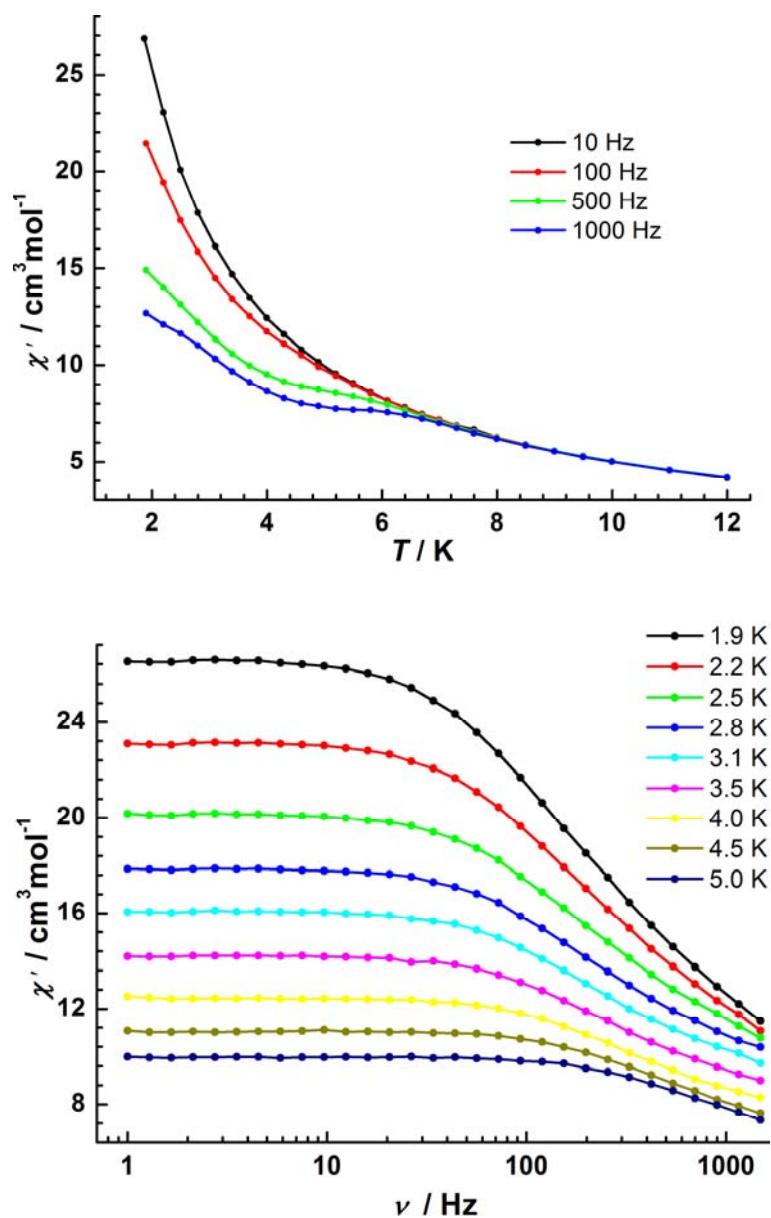


Fig. S4 Temperature (top) and frequency (bottom) dependence of the in-phase (χ') ac susceptibility of **1**, under zero dc field. Solid lines are eye guides.

Table S1 Selected bond lengths (Å) and bond angles (°) of **1**.

Dy(1)-O(11)	2.273(5)	O(17)-Dy(1)-O(13)	80.08(19)	O(7)-Dy(2)-O(5)	127.82(17)
Dy(1)-O(14)	2.278(5)	O(12)-Dy(1)-O(13)	53.19(18)	O(10)-Dy(2)-O(1)	153.0(2)
Dy(1)-O(9)	2.300(5)	O(16)-Dy(1)-O(13)	146.63(19)	O(10)-Dy(2)-O(8)	90.28(19)
Dy(1)-O(17)	2.307(5)	O(15)-Dy(1)-O(13)	129.17(17)	O(1)-Dy(2)-O(8)	92.89(19)
Dy(1)-O(12)	2.417(6)	O(14)-Dy(1)-O(15)	69.0(2)	O(10)-Dy(2)-O(4)	82.99(18)
Dy(1)-O(16)	2.421(5)	O(9)-Dy(1)-O(15)	82.1(2)	O(1)-Dy(2)-O(4)	105.22(17)
Dy(1)-O(15)	2.495(6)	O(17)-Dy(1)-O(15)	77.4(2)	O(8)-Dy(2)-O(4)	152.37(19)
Dy(1)-O(13)	2.502(5)	O(12)-Dy(1)-O(15)	142.2(2)	O(10)-Dy(2)-O(6)	136.60(18)
Dy(2)-O(10)	2.238(5)	O(16)-Dy(1)-O(15)	68.57(19)	O(1)-Dy(2)-O(6)	70.40(17)
Dy(2)-O(1)	2.252(5)	O(11)-Dy(1)-O(13)	78.43(19)	O(8)-Dy(2)-O(6)	84.32(18)
Dy(2)-O(8)	2.284(5)	O(14)-Dy(1)-O(13)	73.7(2)	O(4)-Dy(2)-O(6)	82.41(18)
Dy(2)-O(4)	2.396(5)	O(9)-Dy(1)-O(17)	149.3(2)	O(10)-Dy(2)-O(7)	83.09(18)
Dy(2)-O(6)	2.435(5)	O(11)-Dy(1)-O(12)	75.31(19)	O(1)-Dy(2)-O(7)	123.77(18)
Dy(2)-O(7)	2.438(5)	O(14)-Dy(1)-O(12)	78.5(2)	O(8)-Dy(2)-O(7)	77.48(18)
Dy(2)-O(5)	2.450(5)	O(9)-Dy(1)-O(12)	78.4(2)	O(4)-Dy(2)-O(7)	75.12(18)
Dy(2)-N(1)	2.533(6)	O(17)-Dy(1)-O(12)	130.8(2)	O(6)-Dy(2)-O(7)	53.67(16)
O(9)-Dy(1)-O(13)	130.56(19)	O(11)-Dy(1)-O(16)	74.4(2)	O(10)-Dy(2)-O(5)	81.47(18)
O(11)-Dy(1)-O(14)	149.6(2)	O(14)-Dy(1)-O(16)	135.9(2)	O(1)-Dy(2)-O(5)	83.06(18)
O(11)-Dy(1)-O(9)	100.68(19)	O(9)-Dy(1)-O(16)	74.09(19)	O(8)-Dy(2)-O(5)	151.53(19)
O(14)-Dy(1)-O(9)	88.7(2)	O(17)-Dy(1)-O(16)	77.22(18)	O(4)-Dy(2)-O(5)	53.71(18)
O(11)-Dy(1)-O(17)	81.7(2)	O(12)-Dy(1)-O(16)	133.94(17)	O(6)-Dy(2)-O(5)	120.05(17)
O(14)-Dy(1)-O(17)	104.7(2)	O(11)-Dy(1)-O(15)	140.6(2)		

Table S2 Selected bond lengths (Å) and bond angles (°) of 2.

Gd(1)-O(14)	2.297(5)	O(11)-Gd(1)-O(16)	82.20(18)	O(8)-Gd(2)-O(1)	152.30(16)
Gd(1)-O(9)	2.301(5)	O(12)-Gd(1)-O(16)	142.20(18)	O(8)-Gd(2)-O(10)	90.11(18)
Gd(1)-O(15)	2.327(5)	O(17)-Gd(1)-O(16)	69.07(17)	O(1)-Gd(2)-O(10)	92.35(18)
Gd(1)-O(11)	2.327(5)	O(13)-Gd(1)-O(16)	129.07(17)	O(8)-Gd(2)-O(5)	83.35(17)
Gd(1)-O(12)	2.431(5)	O(15)-Gd(1)-O(13)	80.10(17)	O(1)-Gd(2)-O(5)	105.96(16)
Gd(1)-O(17)	2.451(5)	O(11)-Gd(1)-O(13)	130.27(17)	O(10)-Gd(2)-O(5)	152.07(17)
Gd(1)-O(13)	2.509(5)	O(12)-Gd(1)-O(13)	52.95(16)	O(8)-Gd(2)-O(7)	84.07(17)
Gd(1)-O(16)	2.512(5)	O(17)-Gd(1)-O(13)	146.67(16)	O(1)-Gd(2)-O(7)	123.33(15)
Gd(2)-O(8)	2.263(5)	O(14)-Gd(1)-O(16)	68.90(18)	O(10)-Gd(2)-O(7)	77.03(16)
Gd(2)-O(1)	2.268(4)	O(9)-Gd(1)-O(16)	140.71(18)	O(5)-Gd(2)-O(7)	75.30(16)
Gd(2)-O(10)	2.312(5)	O(15)-Gd(1)-O(16)	77.94(19)	O(8)-Gd(2)-O(6)	137.11(16)
Gd(2)-O(5)	2.428(4)	O(15)-Gd(1)-O(11)	149.53(18)	O(1)-Gd(2)-O(6)	70.54(15)
Gd(2)-O(7)	2.460(4)	O(14)-Gd(1)-O(12)	78.25(18)	O(10)-Gd(2)-O(6)	83.50(16)
Gd(2)-O(6)	2.462(4)	O(9)-Gd(1)-O(12)	75.31(17)	O(5)-Gd(2)-O(6)	83.02(15)
Gd(2)-O(4)	2.479(5)	O(15)-Gd(1)-O(12)	130.43(18)	O(7)-Gd(2)-O(6)	53.13(15)
Gd(2)-N(1)	2.560(5)	O(11)-Gd(1)-O(12)	78.40(18)	O(8)-Gd(2)-O(4)	81.72(17)
O(14)-Gd(1)-O(9)	149.61(19)	O(14)-Gd(1)-O(17)	136.03(18)	O(1)-Gd(2)-O(4)	83.45(15)
O(14)-Gd(1)-O(15)	105.8(2)	O(9)-Gd(1)-O(17)	74.21(17)	O(10)-Gd(2)-O(4)	152.44(16)
O(9)-Gd(1)-O(15)	80.93(19)	O(15)-Gd(1)-O(17)	77.33(17)	O(5)-Gd(2)-O(4)	53.16(15)
O(14)-Gd(1)-O(11)	88.0(2)	O(11)-Gd(1)-O(17)	74.07(17)	O(7)-Gd(2)-O(4)	127.64(15)
O(9)-Gd(1)-O(11)	100.96(18)	O(12)-Gd(1)-O(17)	133.60(17)	O(6)-Gd(2)-O(4)	120.01(16)
O(9)-Gd(1)-O(13)	78.28(17)	O(14)-Gd(1)-O(13)	73.92(18)		