Supporting Information



Fig. S1 The 8-coordinate environment of Dy1 ion in compound 2 completed by four nitrogen atoms and four oxygen atoms.



Fig. S2 The 8-coordinate environment of Dy2 or Dy3 ion in compound 2 completed by eight oxygen atoms



Fig. S3 The 8-coordinate environment of Dy4 ion in compound 2 completed by eight oxygen atoms.



Fig. S4 The 9-coordinate environment of Dy5 ion in compound 2 completed by nine oxygen atoms



Fig. S5 Powder X-ray diffraction patterns of compounds 1 and 2.



Fig. S6 Thermogravimetry curves of compounds 1 and 2.



Fig. S7 The solid-state luminescence of compound 1.



Fig. S8 The magnetic susceptibility χ_{M}^{-1} vs. *T* curve and the fitting curve following the Curie-Weiss law of complound **1**.



Fig. S9 The magnetic susceptibility χ_{M}^{-1} vs. *T* curve and the fitting curve following the Curie-Weiss law of complound **2**.



Fig. S10 In-phase of ac susceptibility at indicated frequencies for 2 under 6 kOe dc field.



Fig. S11 Arrhenius plot of the natural logarithm of relaxation time against reciprocal temperature for a pure sample of 2. The solid line represents the fitting result.