

Electronic Supplementary Information

A Single-Molecule Magnet Featuring a Parallelogram $[\text{Dy}_4(\text{OCH}_2)_4]$ Core and Two Magnetic Relaxation Processes

Cai-Ming Liu,* De-Qing Zhang, and Dao-Ben Zhu

Beijing National Laboratory for Molecular Sciences, Center for Molecular Science, Key Laboratory of Organic Solids, Institute of Chemistry, CAS, Beijing 100190, P. R. China.

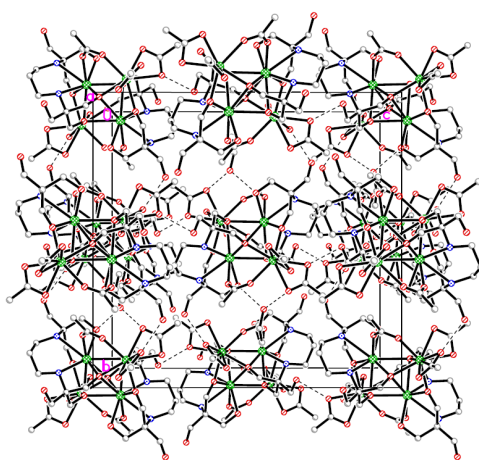


Fig. S1. Packing diagram of **1** viewed down the *a* axis.

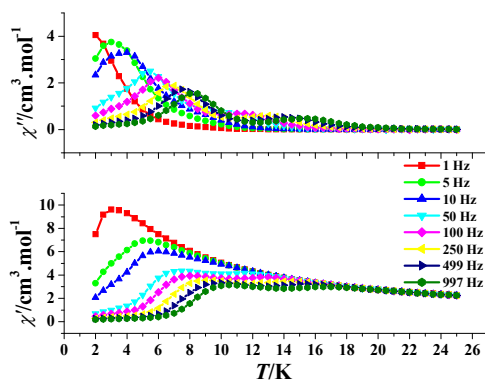


Fig. S2. Ac susceptibilities measured in a 2.5 Oe ac magnetic field for **1** ($H_{dc} = 2000$ Oe).

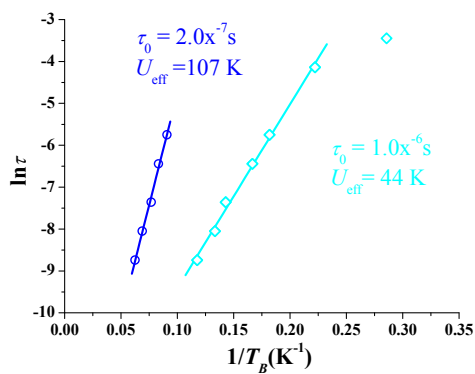


Fig. S3. Plots of $\ln(\tau)$ versus $1/T_B$ for **1** ($H_{ac}=2.5$ Oe, $H_{dc}=2000$ Oe), the solid lines represent the fitting with the Arrhenius law.

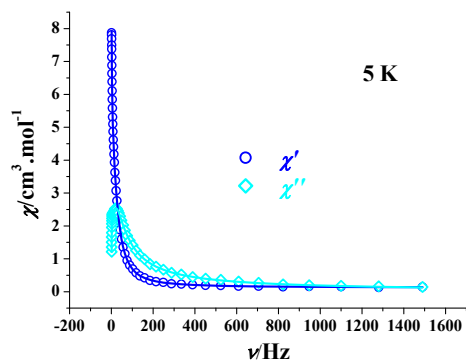


Fig. S4. Frequency dependence of the in-phase (χ' , top) and out-of-phase (χ'' , bottom) ac susceptibility of **1** at 5 K. the solid lines represent the best fitting with the sum of two modified Debye functions.

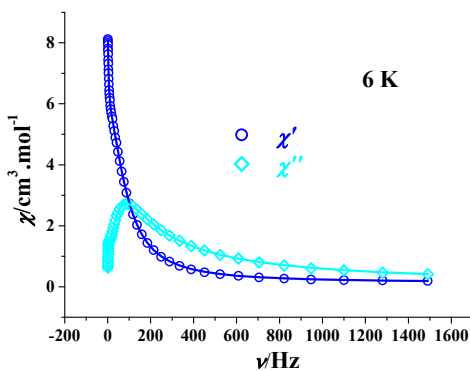


Fig. S5. Frequency dependence of the in-phase (χ' , top) and out-of-phase (χ'' , bottom) ac susceptibility of **1** at 6 K. the solid lines represent the best fitting with the sum of two modified Debye functions.

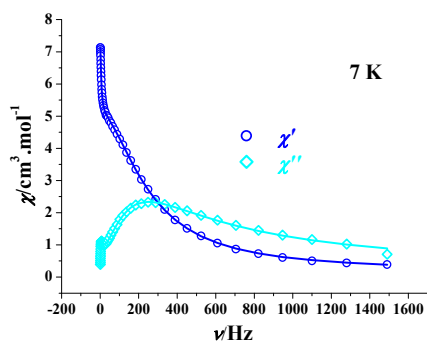


Fig. S6. Frequency dependence of the in-phase (χ' , top) and out-of-phase (χ'' , bottom) ac susceptibility of **1** at 7 K. the solid lines represent the best fitting with the sum of two modified Debye functions.

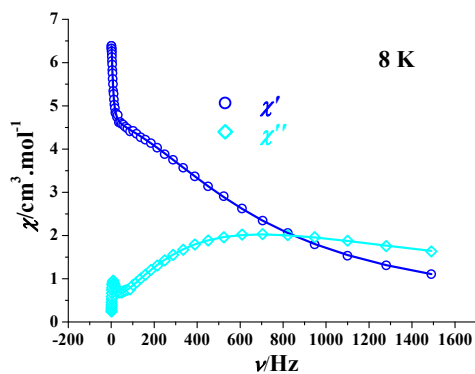


Fig. S7. Frequency dependence of the in-phase (χ' , top) and out-of-phase (χ'' , bottom) ac susceptibility of **1** at 8 K. the solid lines represent the best fitting with the sum of two modified Debye functions.

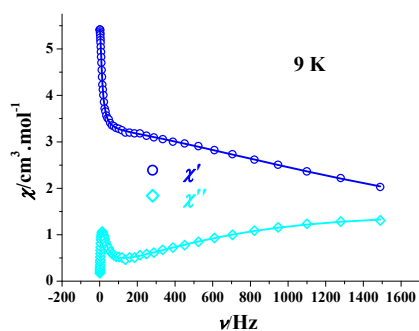


Fig. S8. Frequency dependence of the in-phase (χ' , top) and out-of-phase (χ'' , bottom) ac susceptibility of **1** at 9 K. the solid lines represent the best fitting with the sum of two modified Debye functions.

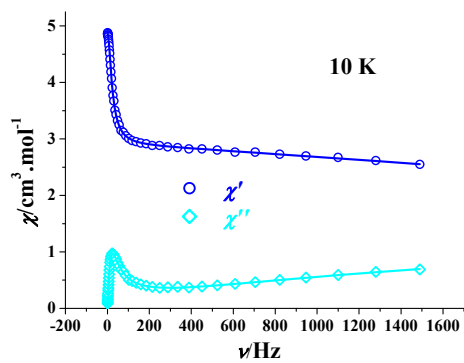


Fig. S9. Frequency dependence of the in-phase (χ' , top) and out-of-phase (χ'' , bottom) ac susceptibility of **1** at 10 K. the solid lines represent the best fitting with the sum of two modified Debye functions.

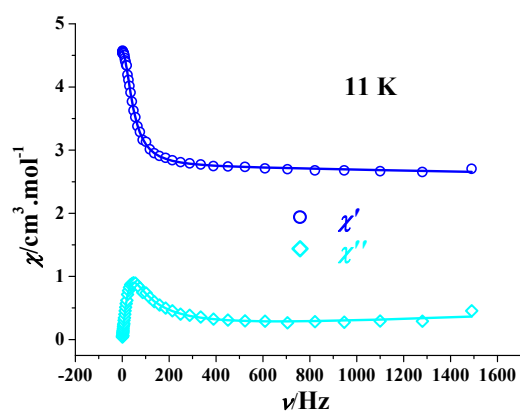


Fig. S10. Frequency dependence of the in-phase (χ' , top) and out-of-phase (χ'' , bottom) ac susceptibility of **1** at 11 K. the solid lines represent the best fitting with the sum of two modified Debye functions.