

Electronic Supplementary Information

Assembling 1D magnetic chain based on Octacyanotungstate (V) and [Cu₂L₂Ln] sub-building units (Ln = Eu, Gd, Tb and Dy)

Xiao-Jiao Song,^a Zai-Chao Zhang,^b Yong-Lu Xu,^a Jun Wang,^a Hong-Bo Zhou,^a You Song^{*a}

Table S1. Results of the Continuous Shape Measure Analysis geometry^a

Geometry	SAPR-8	BTP-8	DD-8
1	0.55	1.53	1.69
2	0.56	1.50	1.68
3	0.57	1.47	1.76
4	0.58	1.51	1.62

^aSAPR-8 is the shape measure relative to the square antiprism; BTP-8 is the shape measure relative to the bicapped trigonal prism; DD-8 is the shape measure relative to the dodecahedron.

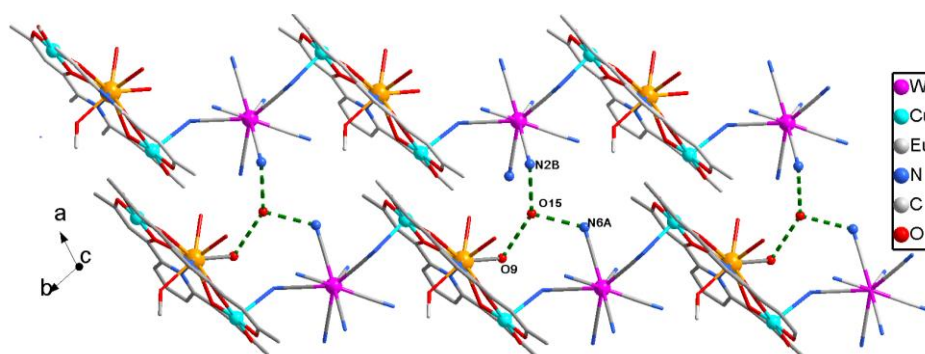


Fig. S1 A view of the interchain linking in **1** via hydrogen bonds, H atoms and other solvents in crystal lattice have been omitted for the clarity. Symmetry code: A = -1+x, -1+y, z; x, -1+y, z.

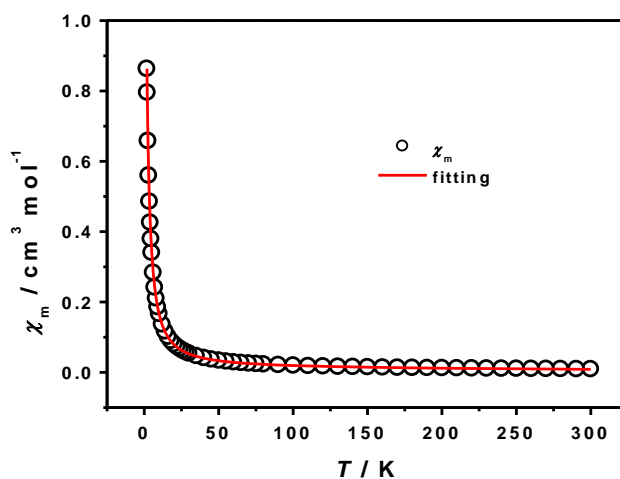


Fig. S2 Temperature dependence of susceptibility of complex **1** in the field of 100 Oe.

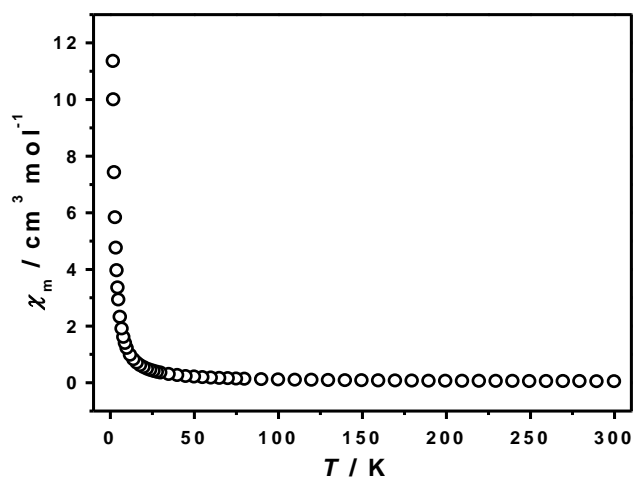


Fig. S3 Temperature dependence of susceptibility of complex **2** in the field of 100 Oe.

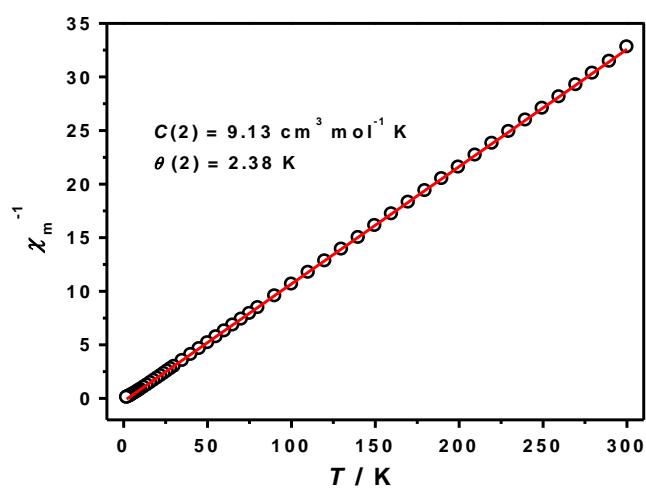
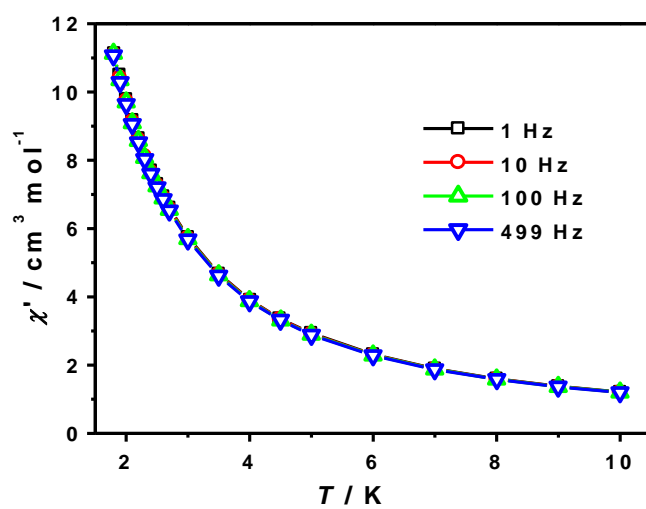


Fig. S4 Temperature dependence of the reciprocal of susceptibility of complex **2**. The red line is the fitting result by Curie-Weiss law.



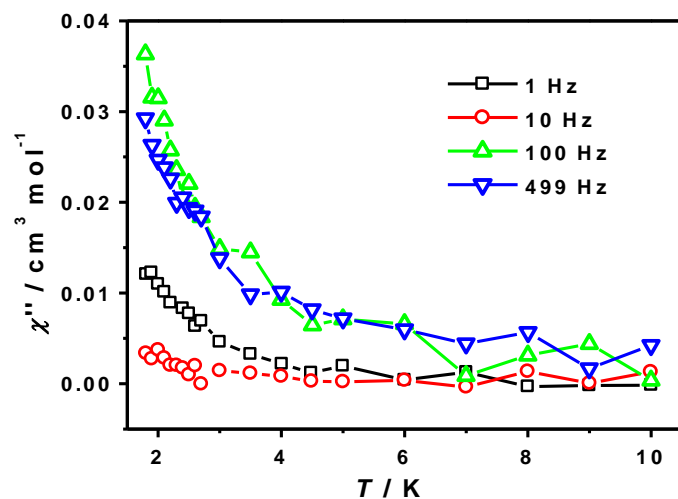


Fig. S5 Temperature dependence of the AC in-phase, χ' (top), and out-of phase, χ'' (bottom), components of the ac susceptibility of complex **2**, $H_{dc}=0$, $H_{ac}=30\text{Oe}$.

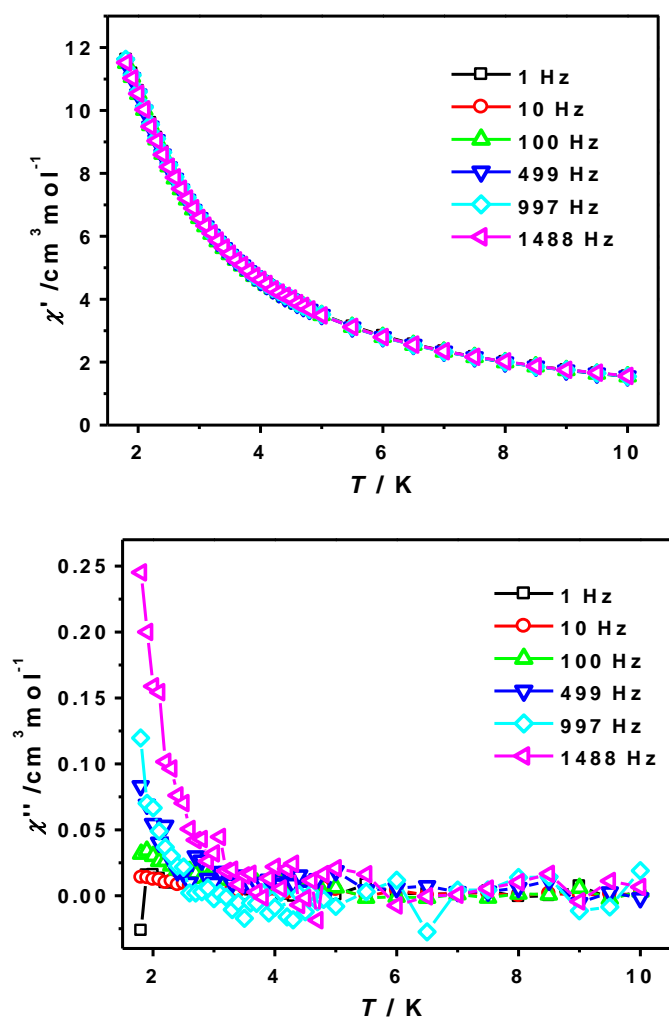


Fig. S6 Temperature dependence of in-phase, χ' (top), and out-of phase, χ'' (bottom), components of the ac susceptibility of complex **3**, $H_{dc}=0$, $H_{ac}=30\text{Oe}$.

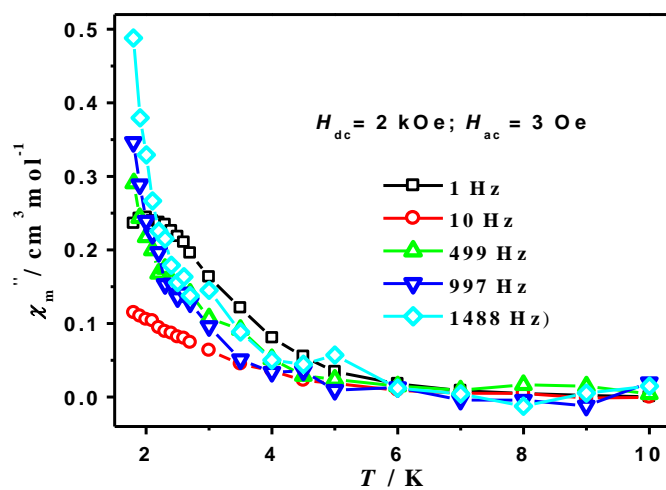


Fig. S7 Temperature dependence of the out-of phase ac susceptibility of complex 3, $H_{dc} = 2 \text{ kOe}$, $H_{ac} = 3 \text{ Oe}$.

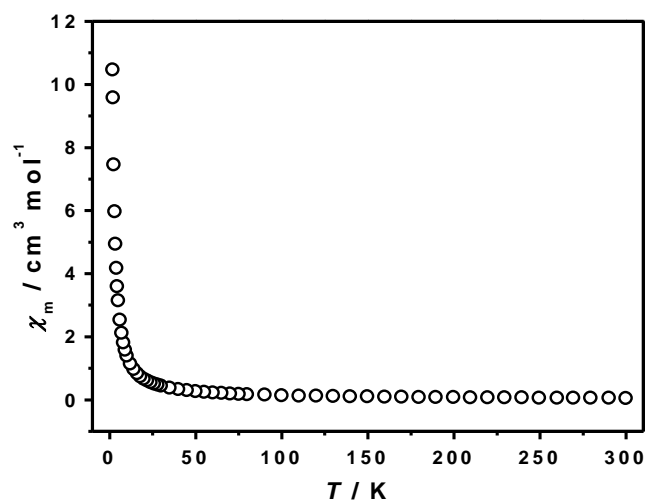


Fig. S8 Temperature dependence of susceptibility of complex 3 in the field of 100 Oe.

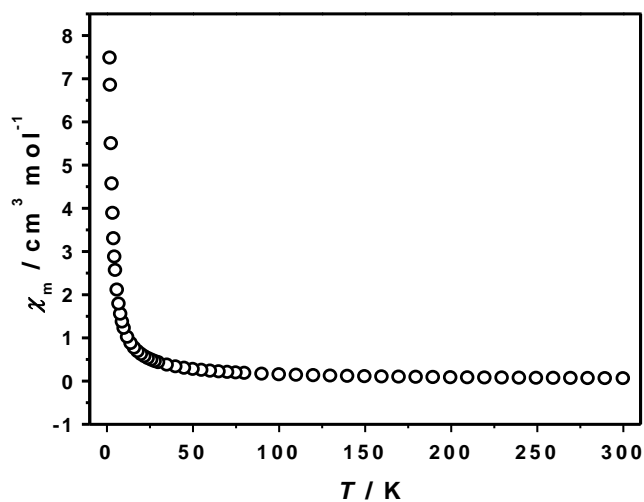


Fig. S9 Temperature dependence of susceptibility of complex 4 in the field of 100 Oe.

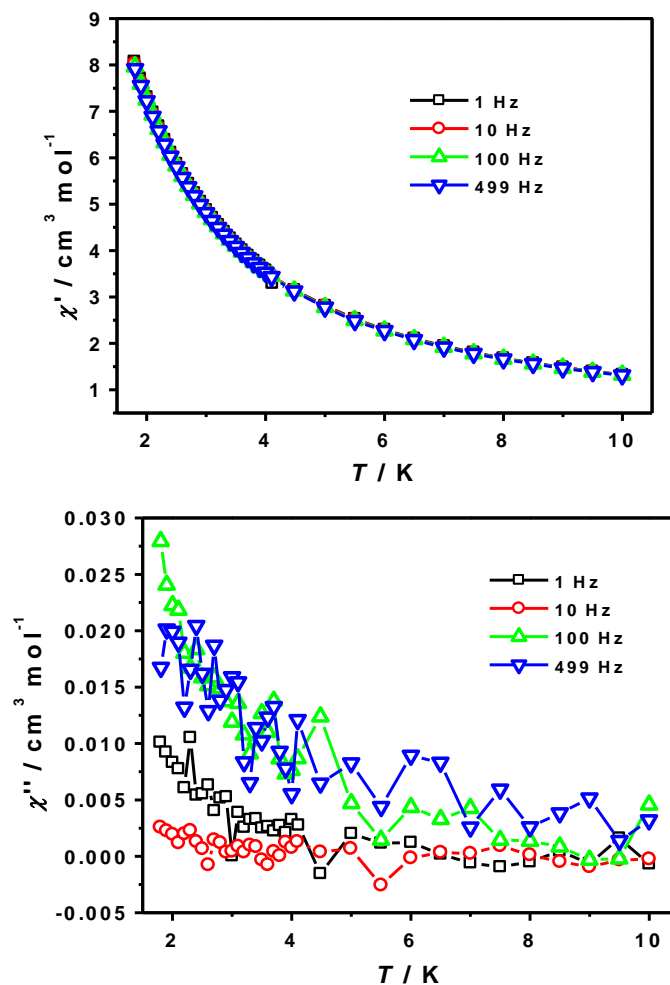


Fig. S10 Temperature dependence of in-phase, χ' (top), and out-of phase, χ'' (bottom), components of the ac susceptibility of complex **4**, $H_{\text{dc}}=0$, $H_{\text{ac}}=3\text{Oe}$.

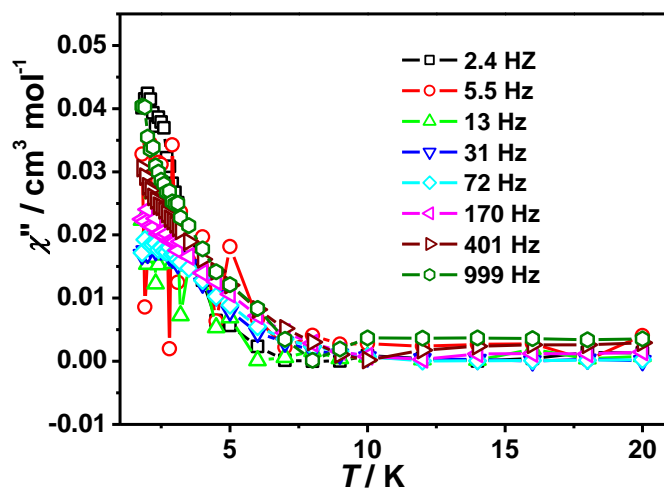


Fig. S11 Temperature dependence of the out-of phase ac susceptibility of complex **4**, $H_{\text{dc}}=2\text{kOe}$, $H_{\text{ac}}=3\text{Oe}$.