Supporting Information

Slow magnetic relaxation and antiferromagnetic ordering in one dimensional nitronyl nitroxide-Tb(III) chain

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The expression used to fit the magnetic susceptibility of Complex **1** is as follows :

$$\chi_M = \frac{N\beta^2}{6kT}\left[(g_a^e + g_b^e)^2 \frac{1+P}{1-P} + (g_a^e - g_b^e)^2 \frac{1-P}{1+P}\right]$$

where

$$g_i^e = g_i\sqrt{S_i(S_i+1)}$$

$$J^e = J\sqrt{S_a(S_a+1)S_b(S_b+1)}$$

$$P = \coth(J^e/kT) - (kT/J^e)$$

$$S_a = S_{Gd}$$

$$S_b = S_{rad}$$

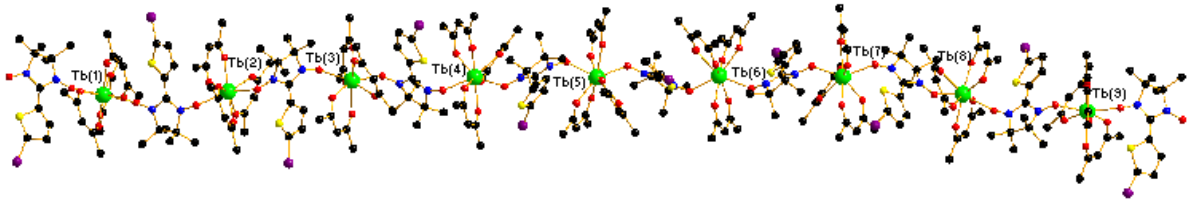

Figure S1. Crystal structure of complex **2**. All hydrogen and fluorine atoms are omitted for clarity.

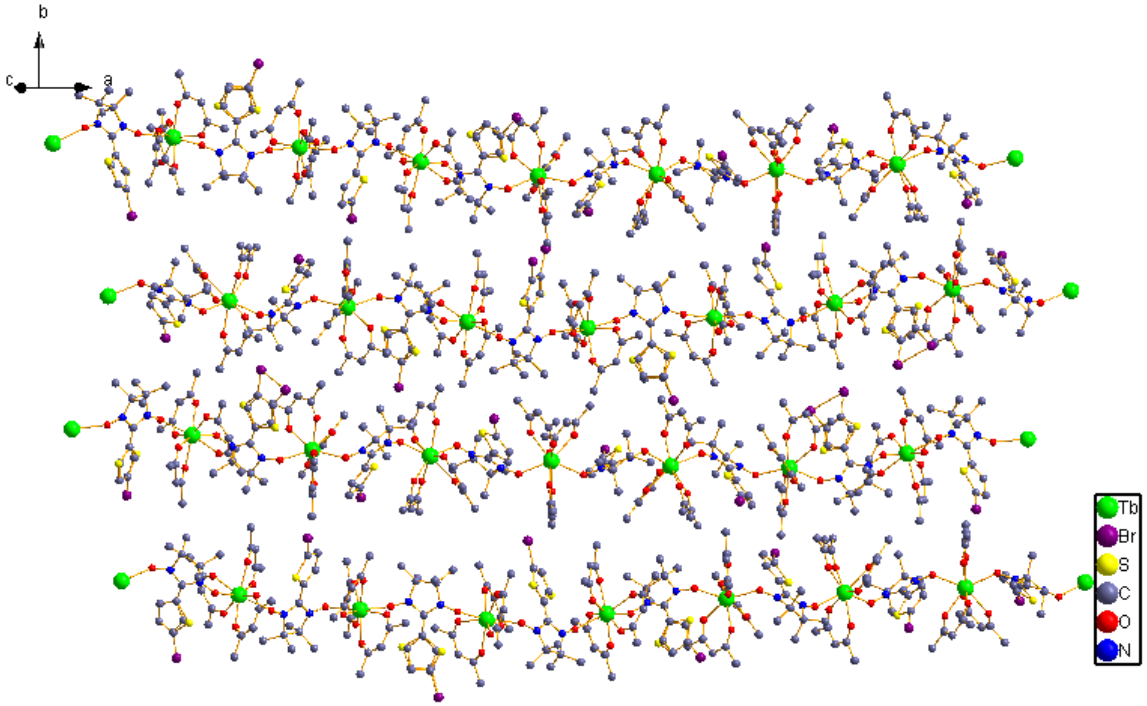

Figure S2. Packing arrangement of the chains in **2**. All hydrogen and fluorine atoms are omitted for clarity.

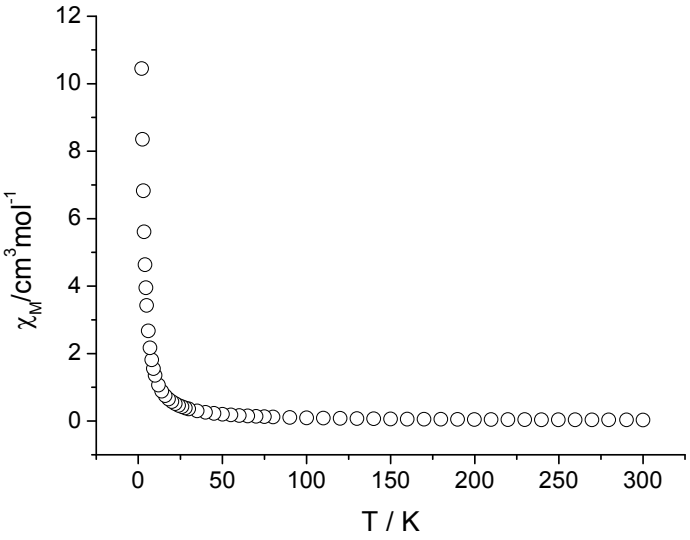

Figure S3 χ_M versus T plot for **1**.

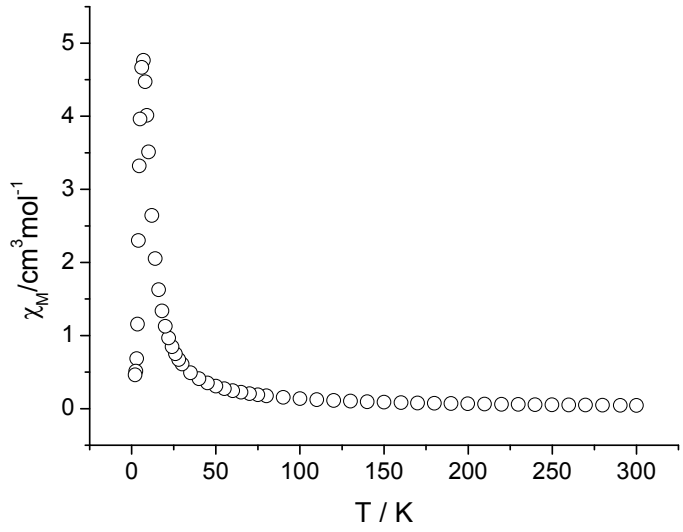

Figure S4 χ_M versus T plot for **2**.

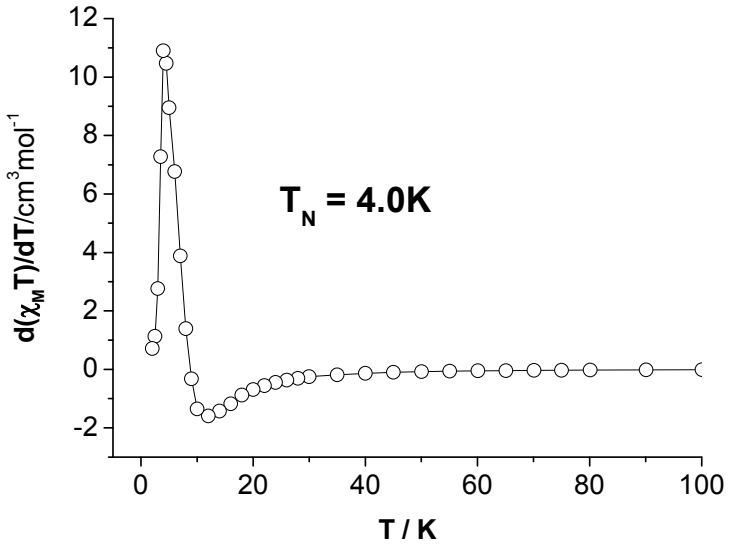

Figure S5 d(χ_MT)/dT vs T plot for complex **2**.

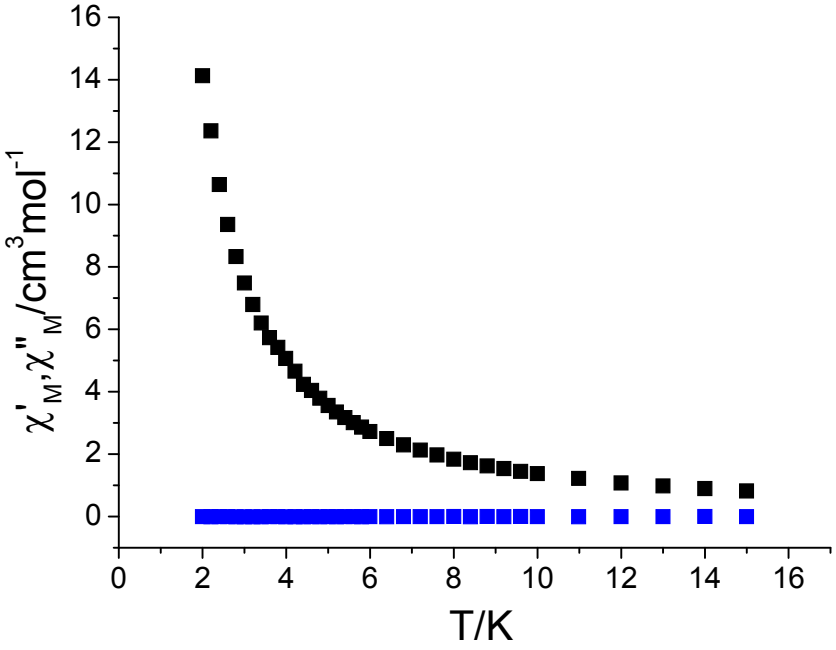

Figure S6 Temperature dependence of in-phase(χ_M') and out-of-phase(χ_M'') components of ac susceptibility for **1** in zero dc field with an oscillating of 3.5 Oe.

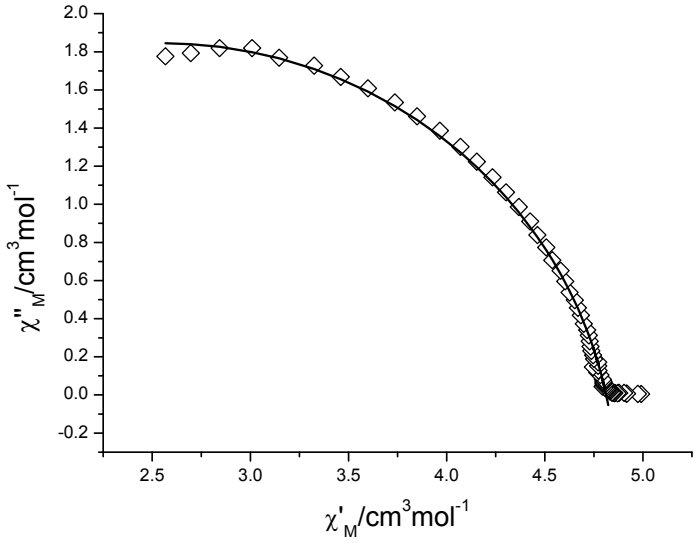

Figure S7 Plot of χ' vs χ'' of **2** at 5.5 K. Solid line represents the least-squares fitting results obtained with a Debye model