

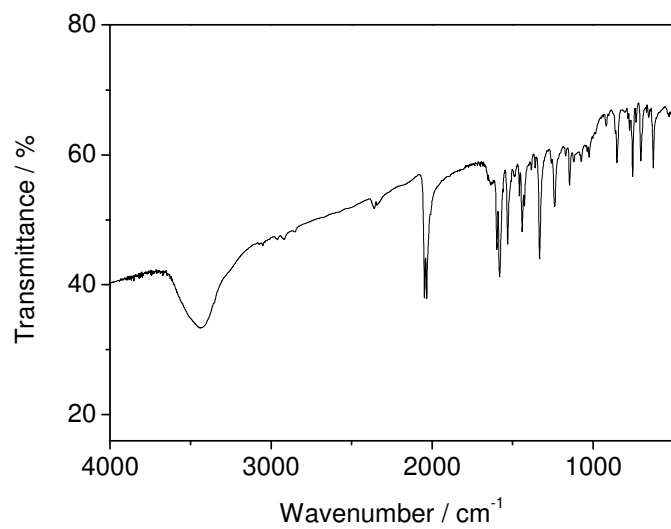
## Supporting Information

### **Synthesis, Structures, and Magnetic Properties of End-To-End Azide-Bridged Mn(III) Chains: Elucidation of Direct Magnetostructural Correlation**

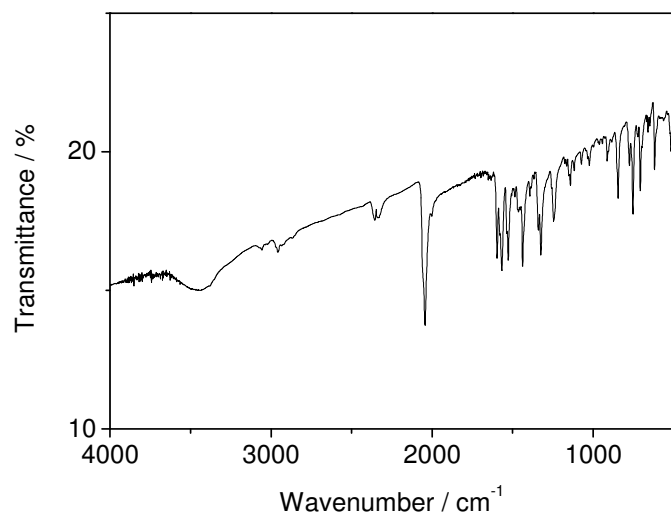
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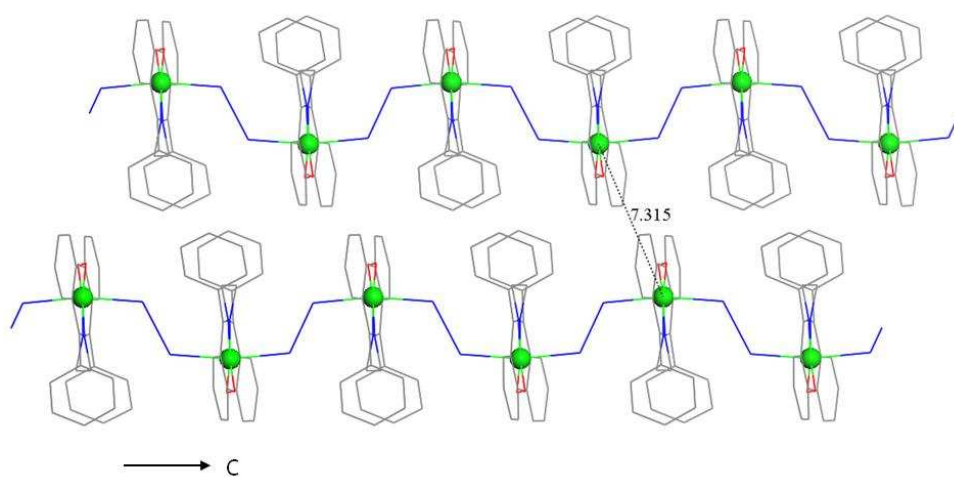


(a)

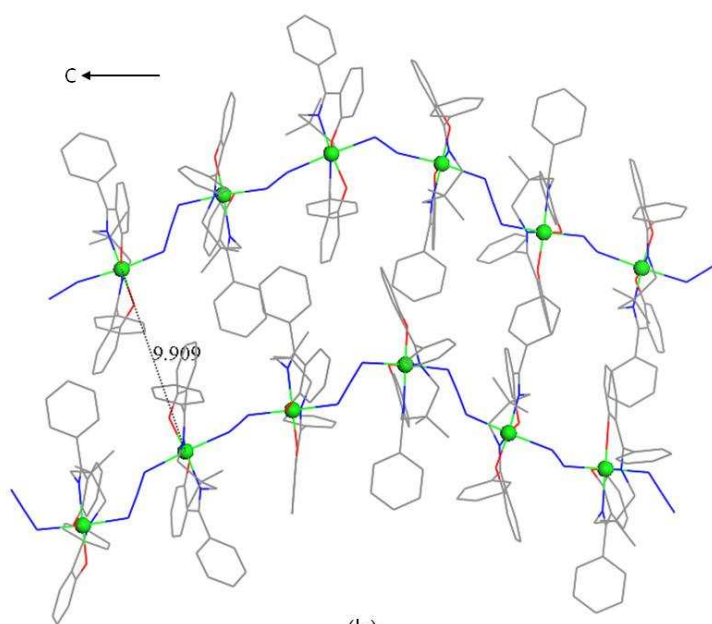
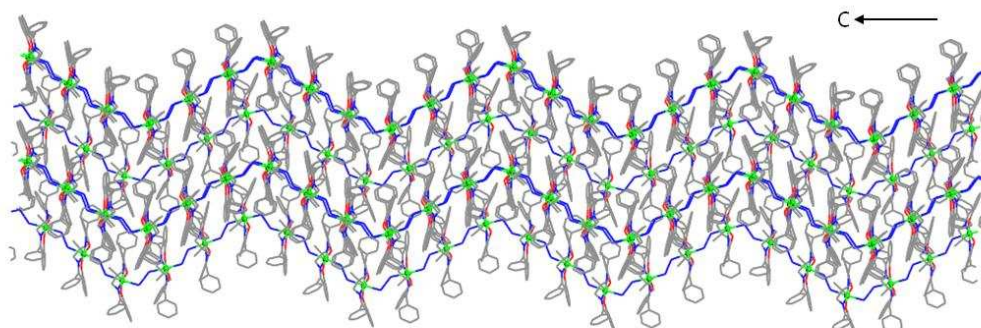


(b)

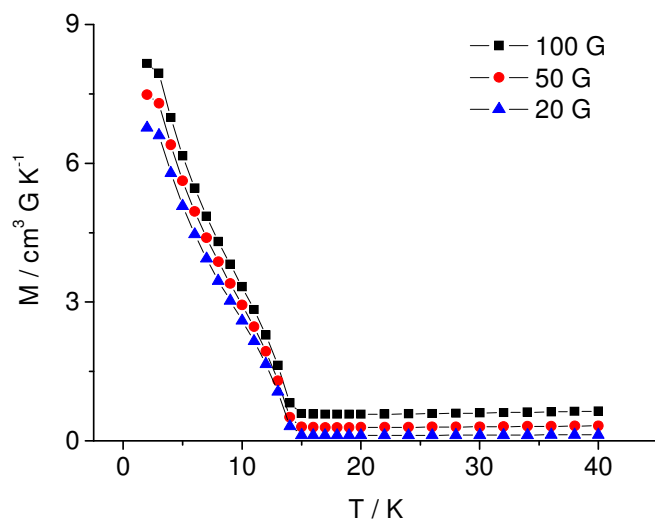
**Figure S1.** IR spectra for (a) **1·H<sub>2</sub>O** and (b) **2**.



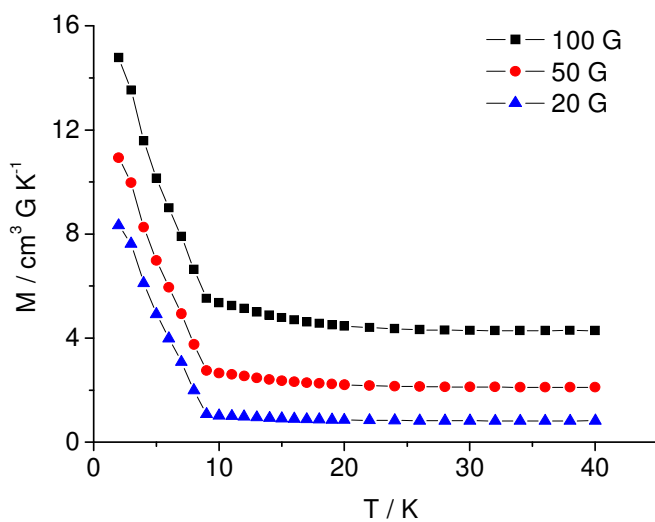
**Figure S2.** Extended view of **1** running along the c axis. The dotted line indicates the shortest interchain Mn-Mn distance between the adjacent chains. The green color represents Mn atom.



**Figure S3.** Extended view of **2** showing (a) zigzag pattern and (b) the shortest Mn-Mn distance. The green color represents Mn atom.

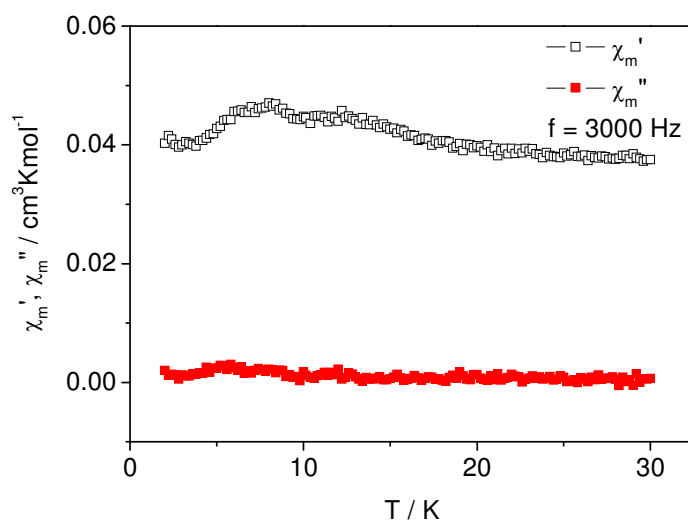
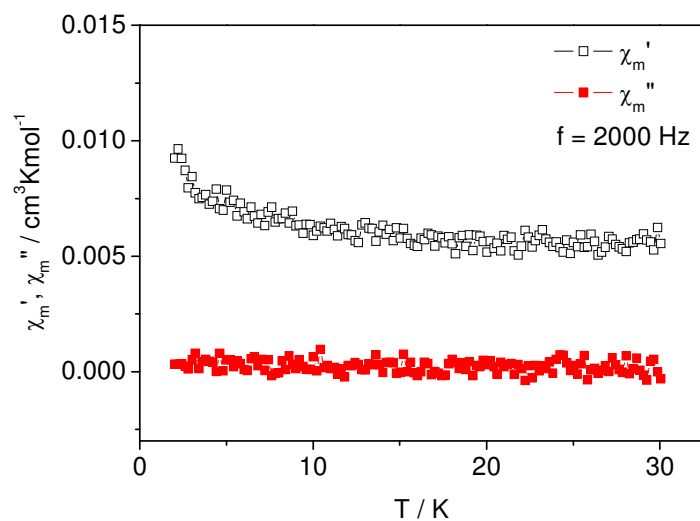


(a)

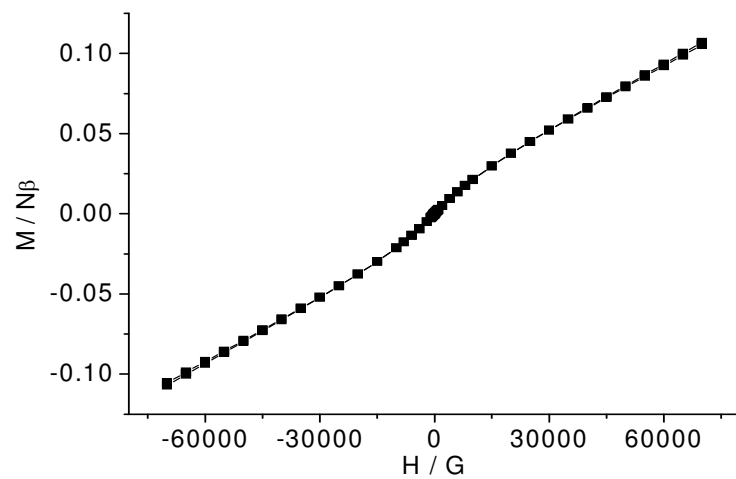


(b)

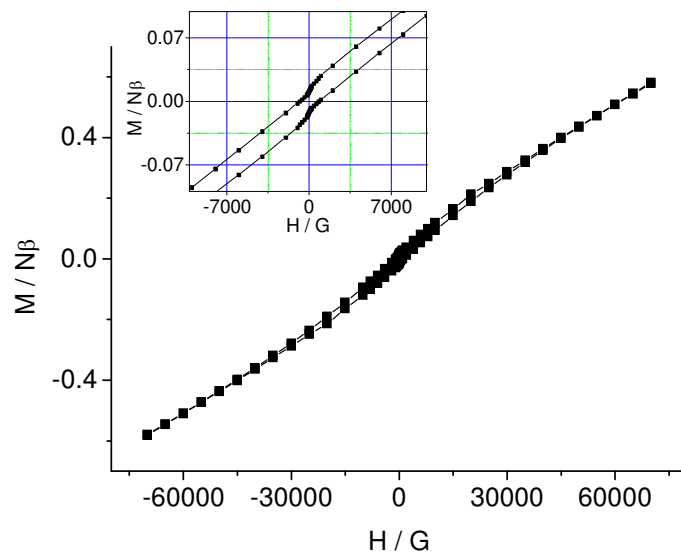
**Figure S4.** Magnetization versus  $T$  for (a)  $1 \cdot \text{H}_2\text{O}$  and (b)  $2$ .



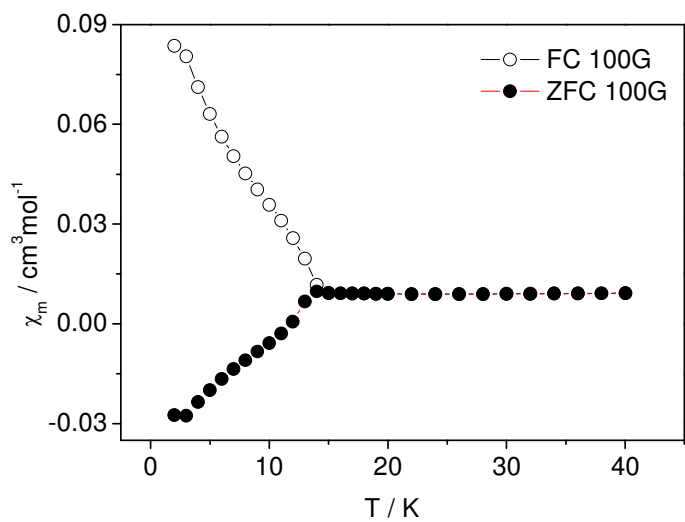
**Figure S5.** In-phase ( $\chi_m'$ ) and out-of-phase ( $\chi_m''$ ) components for (a) **1**-H<sub>2</sub>O at zero dc field and an ac field of 3 G, and (b) **2** at zero dc field and an ac field of 5 G.



**Figure S6.** Hysteresis loops for  $1 \cdot \text{H}_2\text{O}$  at 2 K



**Figure S7.** Hysteresis loops for **2** at 2 K.



**Figure S8.** ZFC and FC data of  $1 \cdot \text{H}_2\text{O}$ .