

Supplementary Information

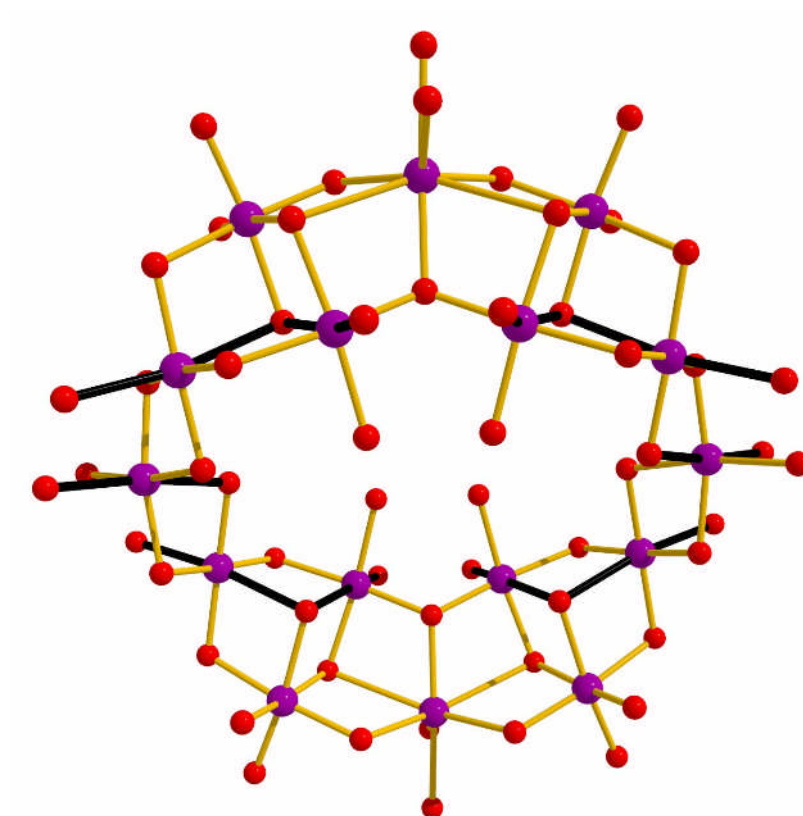


Figure SI1. The metal oxygen core of Mn_{16} (**1**) highlighting (in black) the positions of the Jahn-Teller axes of the Mn^{III} ions.

Magnetism data for complex 1, Mn₁₆.

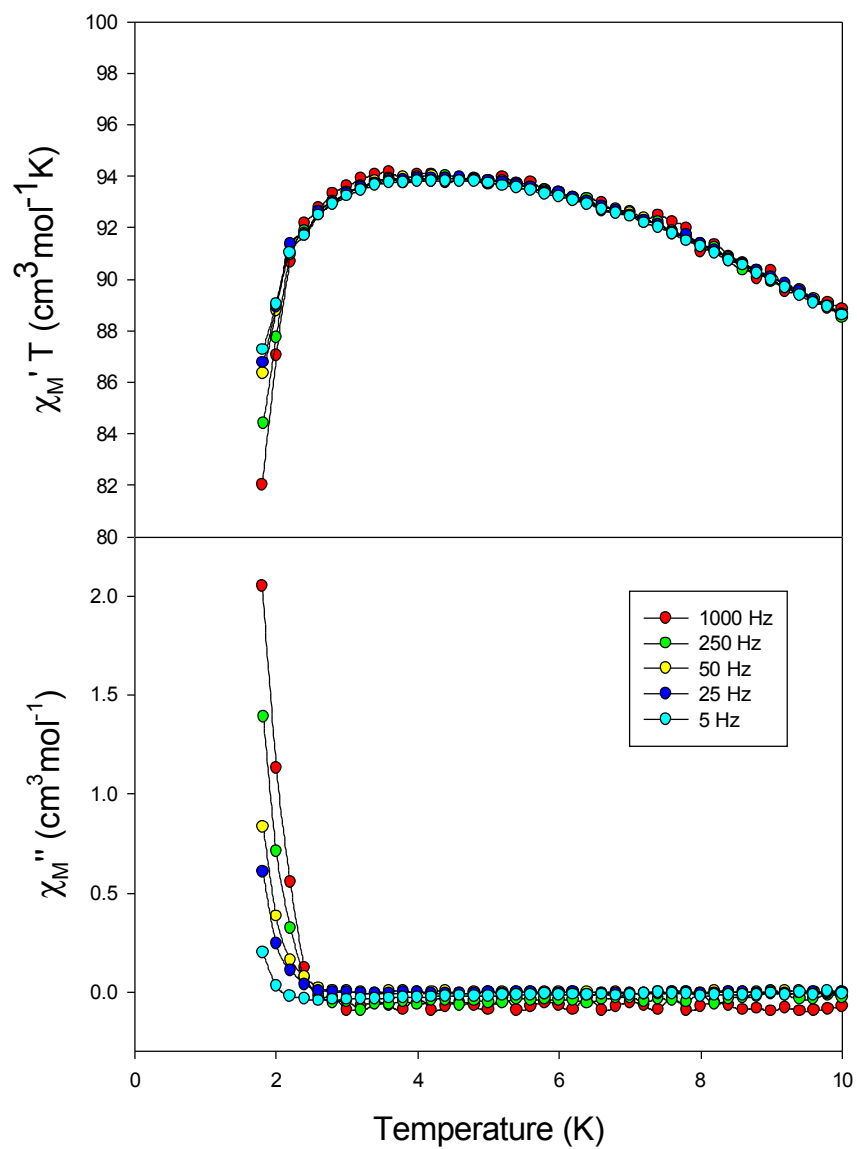


Figure SI2. Plots of the in-phase (χ_M') signal as $\chi_M' T$ and out-of-phase (χ_M'') signal in ac susceptibility studies vs. temperature for **1** in a 3.5 G field oscillating at the indicated frequencies.