

SUPPORTING INFORMATION

Synthesis, Structure and Magnetic Properties of a Novel Family of Heterometallic Nonanuclear $\text{Na}^{\text{I}}_2\text{Mn}^{\text{III}}_6\text{Ln}^{\text{III}}$ (Ln = Eu, Gd, Tb, Dy) Complexes

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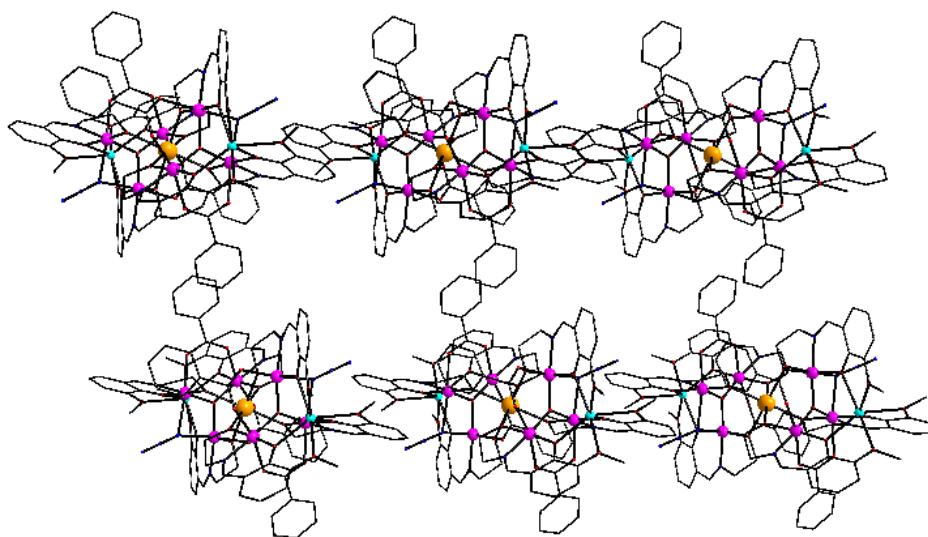


Fig. S1. The molecular packing structure of complex **2** (H atoms and solvent molecules are omitted for clarity).

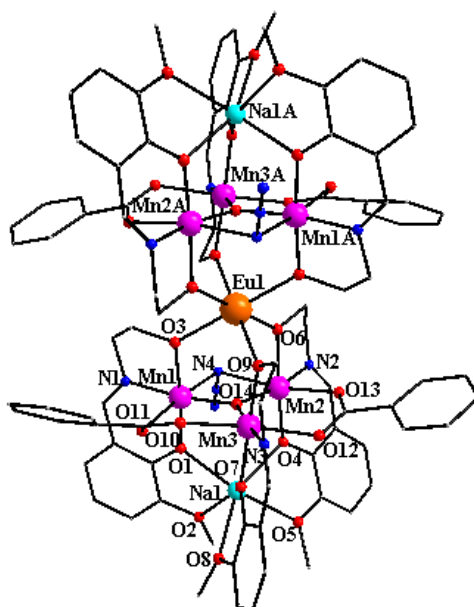


Fig. S2. Molecular structure of the cation $[\text{Na}_2\{\text{Mn}_3^{\text{III}}(\mu_3\text{-O}^{2-})\}_2\text{Eu}^{\text{III}}(\text{hmmp})_6(\text{O}_2\text{CPh})_4(\text{N}_3)_2]^+$ in complex **1** (symmetry operation A: $-x, -y, -z+1$; Hydrogen atoms, counterion and solvent molecules have been omitted for clarity.)

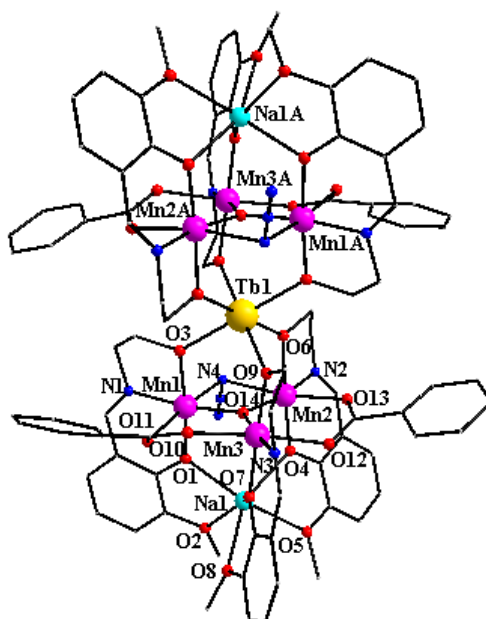


Fig. S3. Molecular structure of the cation $[\text{Na}_2\{\text{Mn}_3^{\text{III}}(\mu_3\text{-O}^{2-})\}_2\text{Tb}^{\text{III}}(\text{hmmp})_6(\text{O}_2\text{CPh})_4(\text{N}_3)_2]^+$ in complex **3** (symmetry operation A: $-x, -y, -z+1$; Hydrogen atoms, counterion and solvent molecules have been omitted for clarity).

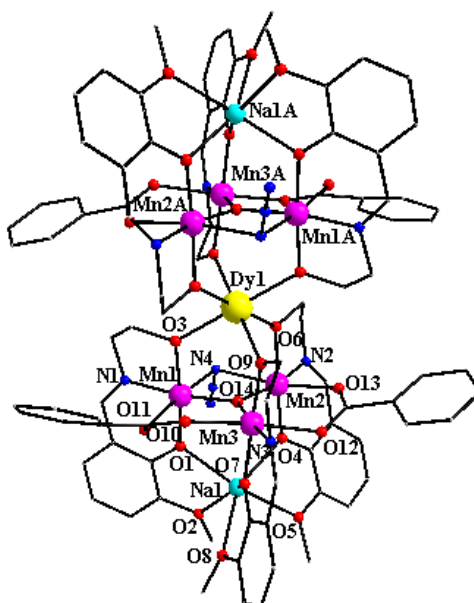


Fig. S4. Molecular structure of the cation $[\text{Na}_2\{\text{Mn}_3^{\text{III}}(\mu_3\text{-O}^{2-})\}_2\text{Dy}^{\text{III}}(\text{hmmp})_6(\text{O}_2\text{CPh})_4(\text{N}_3)_2]^+$ in complex **4** (symmetry operation A: $-x, -y, -z+1$; Hydrogen atoms, counterion and solvent molecules have been omitted for clarity).

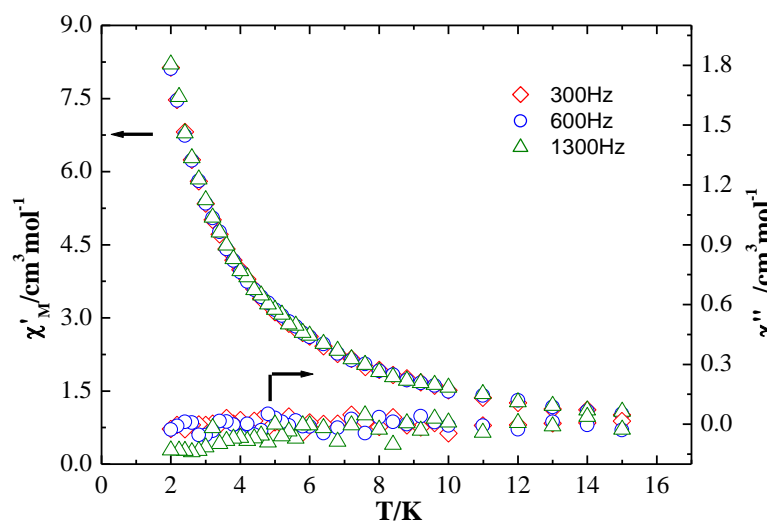


Fig. S5. Temperature dependence of the in-phase (χ_M') and the out-of-phase (χ_M'') ac susceptibility components for **2** in a 3.5 G field oscillating at the indicated frequencies.

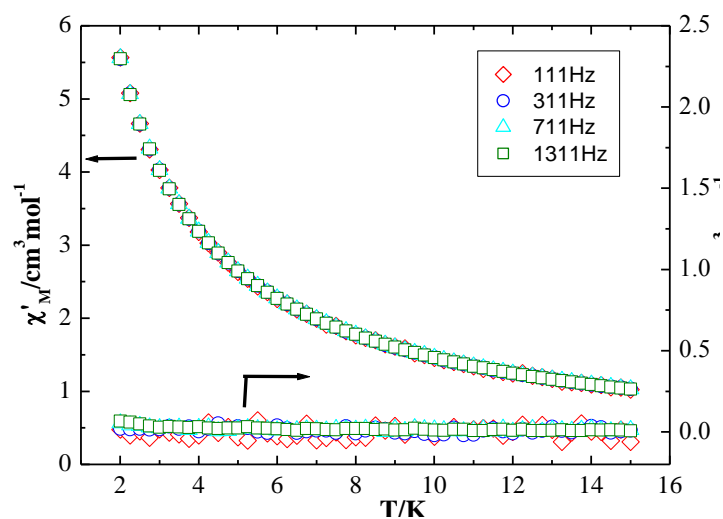


Fig. S6. Temperature dependence of the in-phase (χ_M') and the out-of-phase (χ_M'') ac susceptibility components for **3** in a 3.5 G field oscillating at the indicated frequencies.

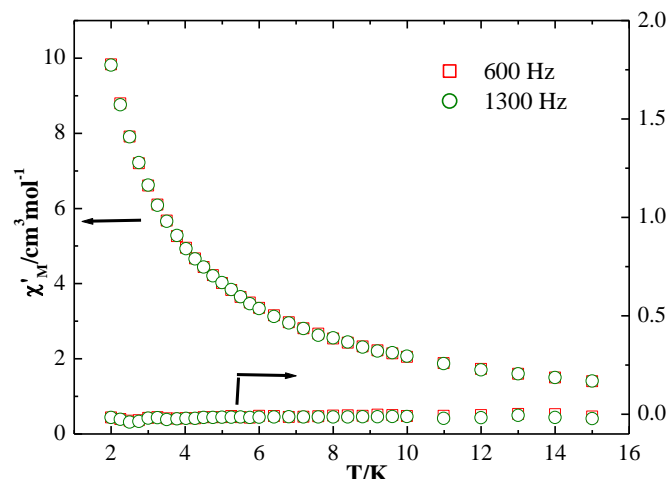


Fig. S7. Temperature dependence of the in-phase (χ_M') and the out-of-phase (χ_M'') ac susceptibility components for **4** in a 3.5 G field oscillating at the indicated frequencies.