

Perovskite-like Metal Formates with Weak Ferromagnetism and as Precursors to Amorphous Materials

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Supporting Information

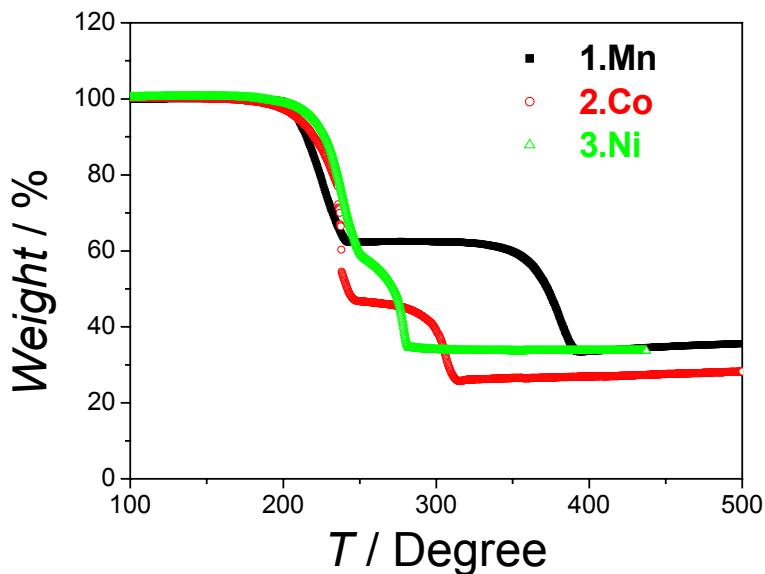


Figure S1 Thermogravimetric analysis (TGA) graph of $M(\text{CHOO})_3[\text{NH}_2(\text{CH}_3)_2]$ ($M = \text{Mn(1-Mn), Co(2-Co), Ni(3-Ni)}$) from room temperature to 500 °C.

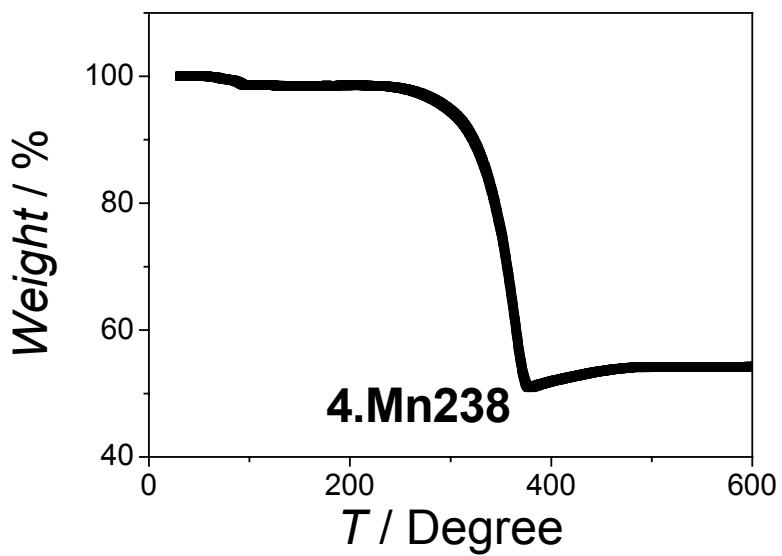


Figure S2 Thermogravimetric analysis (TGA) graph of **4·Mn238** from room temperature to 600 °C.

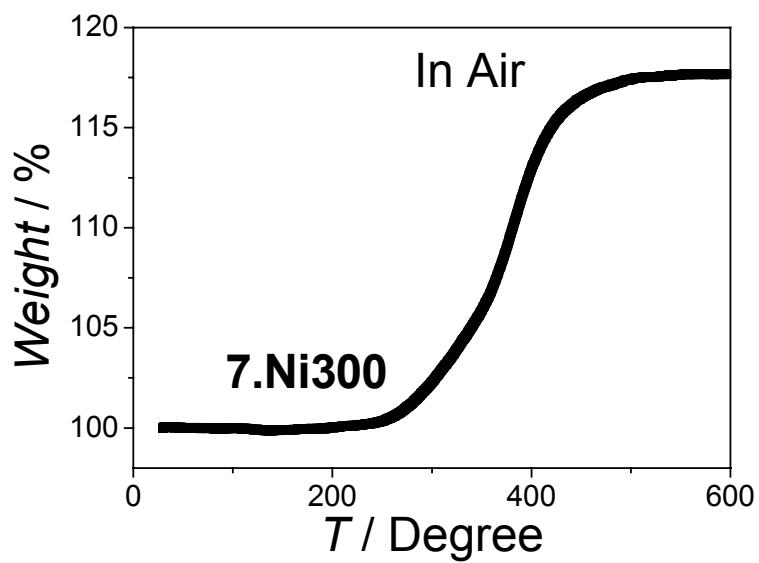


Figure S3 Thermogravimetric analysis (TGA) graph of **7·Ni300** from room temperature to 600 °C.

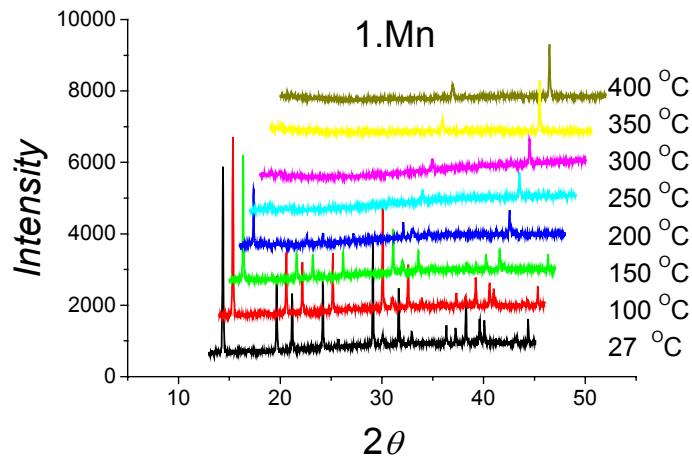


Figure S4 The variable-temperature XRD pattern of $\text{Mn}(\text{CHOO})_3[\text{NH}_2(\text{CH}_3)_2]$ from room temperature to 400 °C. Scanning range: $13^\circ < 2\theta < 45^\circ$. Peaks at $2\theta = 29.9^\circ$ and 39.4° are the diffractions from the substrate

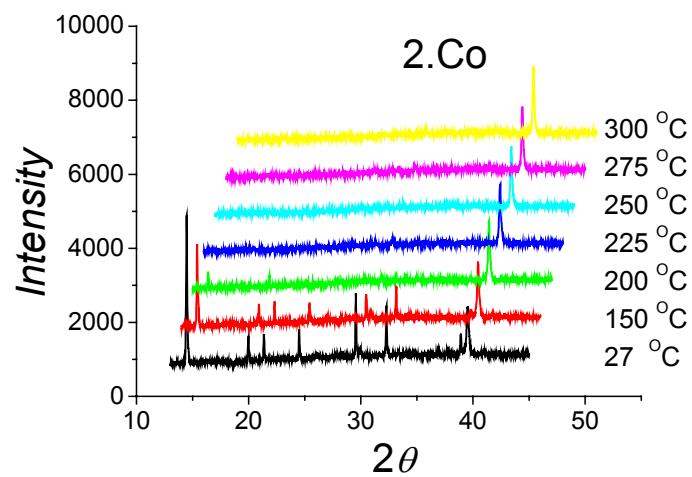


Figure S5 The variable-temperature XRD pattern of $\text{Co}(\text{CHOO})_3[\text{NH}_2(\text{CH}_3)_2]$ from room temperature to 300 °C. Scanning range: $13^\circ < 2\theta < 45^\circ$. Peaks at $2\theta = 29.9^\circ$ and 39.4° are the diffractions from the substrate

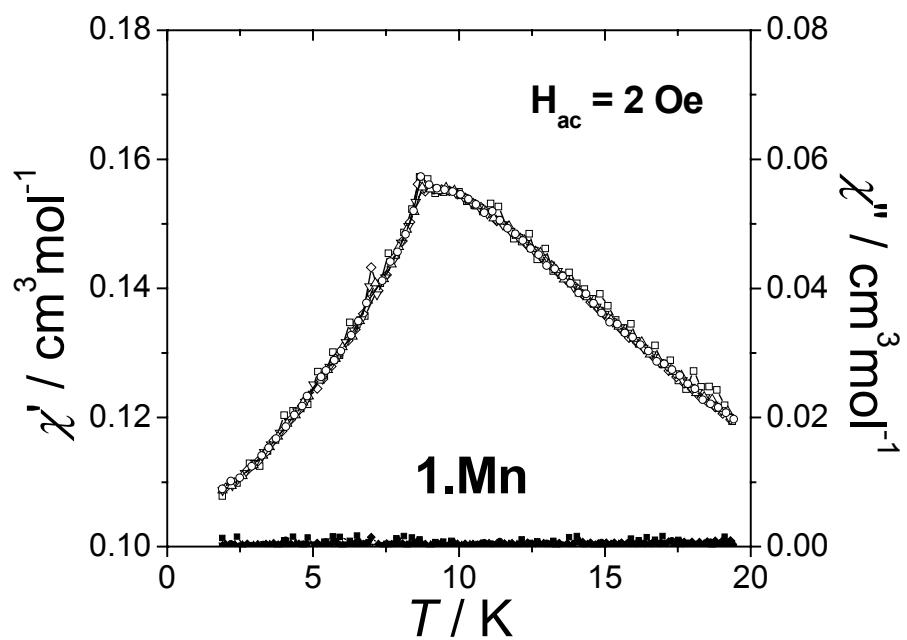


Figure S6 Real (χ_M') and imaginary (χ_M'') *ac* magnetic susceptibilities in zero applied *dc* field and an *ac* field of 2 Oe at different frequencies (111, 199, 355, 633, 1111 Hz) for **1·Mn**.

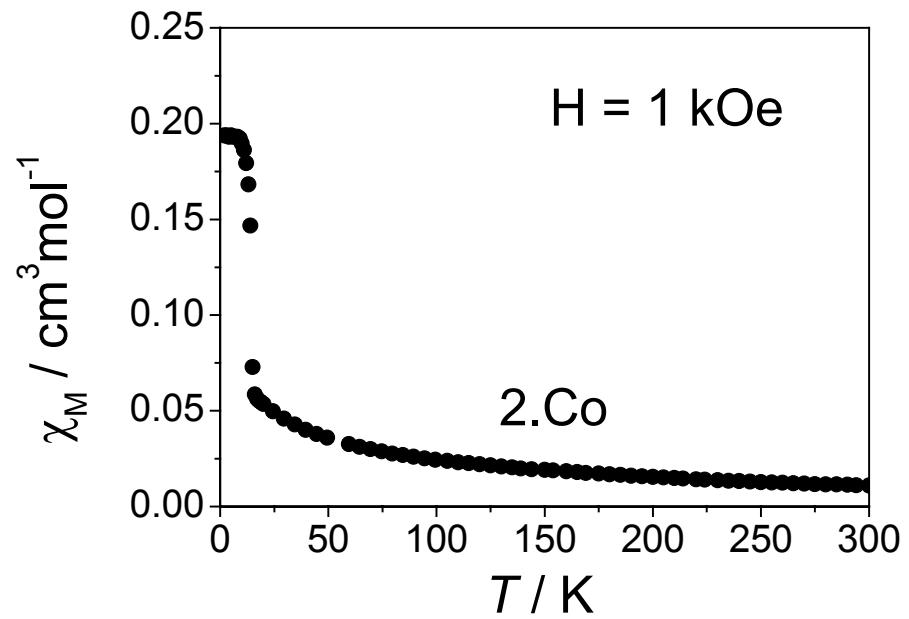


Figure S7 Temperature dependence of χ_M of **2·Co** at $H = 1000$ Oe from 2-300 K.

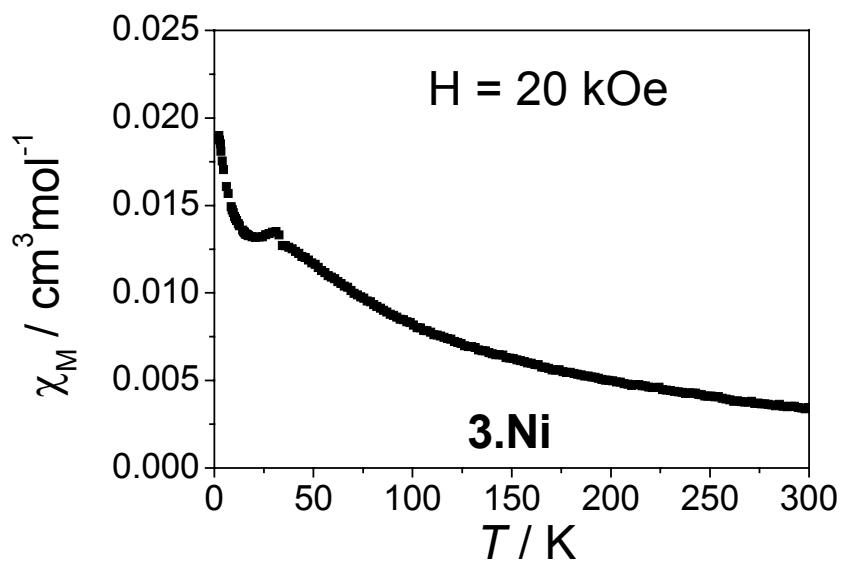


Figure S8 Temperature dependence of χ_M of **3·Ni** at $H = 20$ kOe from 2-300 K

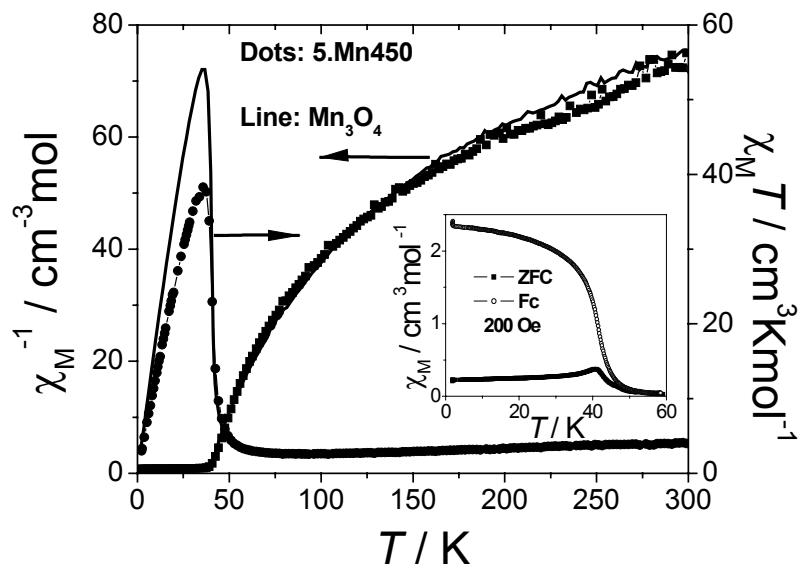


Figure S9 Temperature dependence of $\chi_M T$ and χ_M^{-1} of **5·Mn450** (dots) and Mn_3O_4 (line) at $H = 5$ kOe from 2–300 K. Inset: ZFC and FC curves of **5·Mn450** at $H = 200$ Oe.

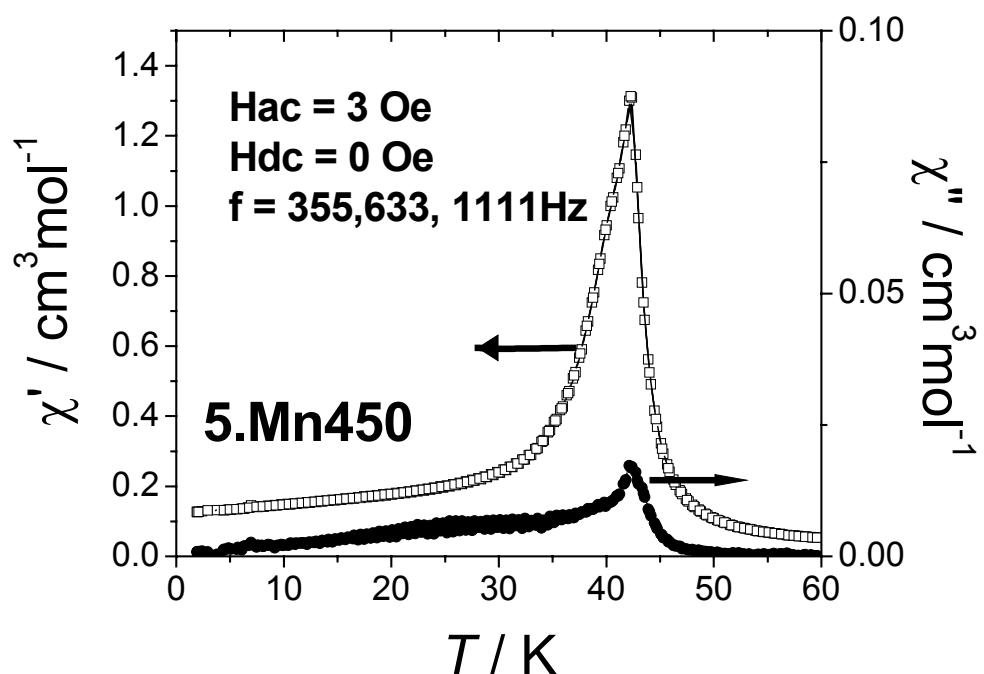


Figure S10 Real (χ_M') and imaginary (χ_M'') *ac* magnetic susceptibilities in zero applied *dc* field and an *ac* field of 3 Oe at different frequencies (355, 633, 1111 Hz) for **5·Mn450**

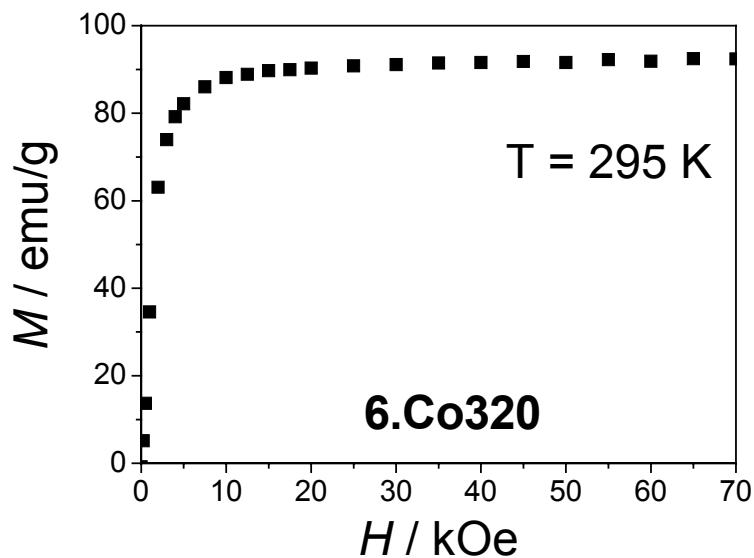


Figure S11 Field dependent isothermal magnetization $M(T,H)$ for **6·Co320** at 295 K from 0 to 70 kOe.

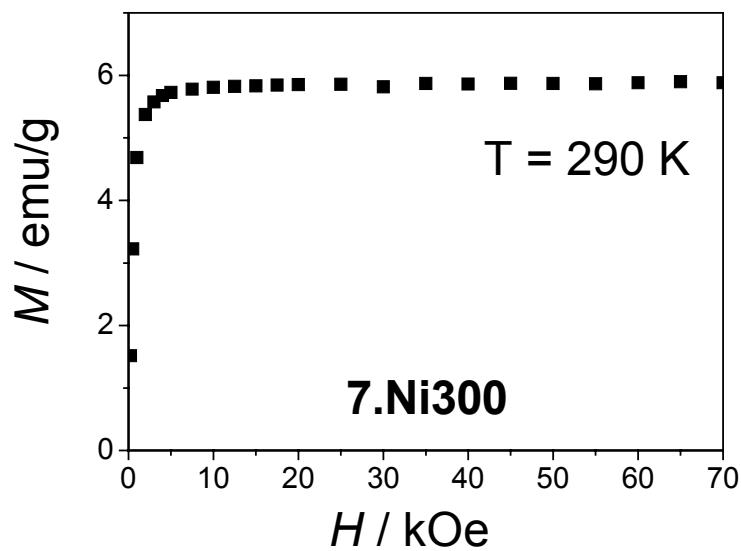


Figure S12 Field dependent isothermal magnetization $M(T,H)$ for **7·Ni300** at 290 K from 0 to 70 kOe.