Electronic Supplementary Information for

Synthesis, crystal structure, and magnetic property of oxynitride perovskites $SrMn_{0.2}M_{0.8}O_{2.6}N_{0.4}$ (*M* = Nb, Ta)

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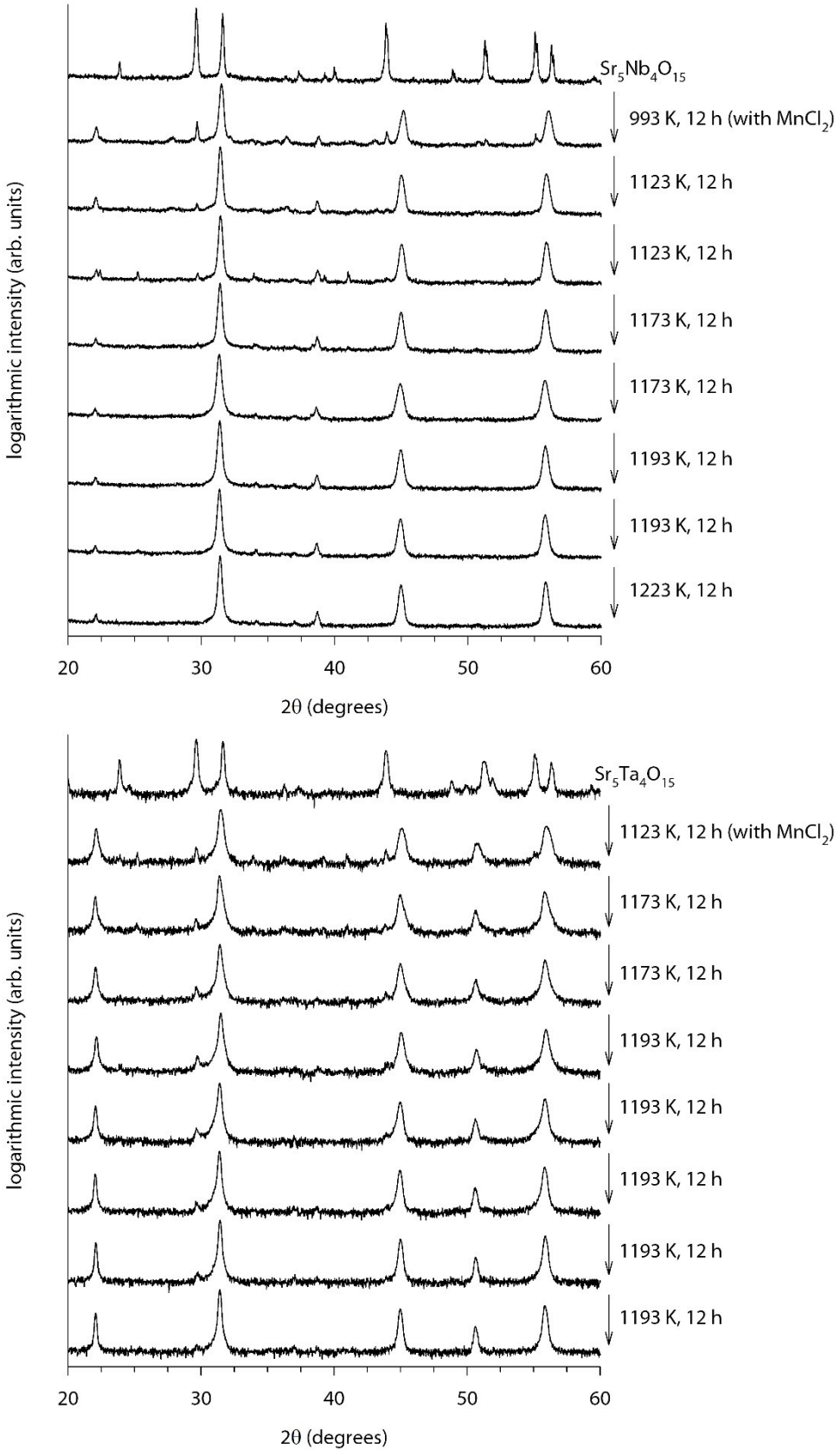

Fig. S1. Progressive evolutions of XRD patterns along the accumulated ammonolytic heating for preparing $SrMn_{0.2}Nb_{0.8}O_{2.6}N_{0.4}$ (top) and $SrMn_{0.2}Ta_{0.8}O_{2.6}N_{0.4}$ (bottom).

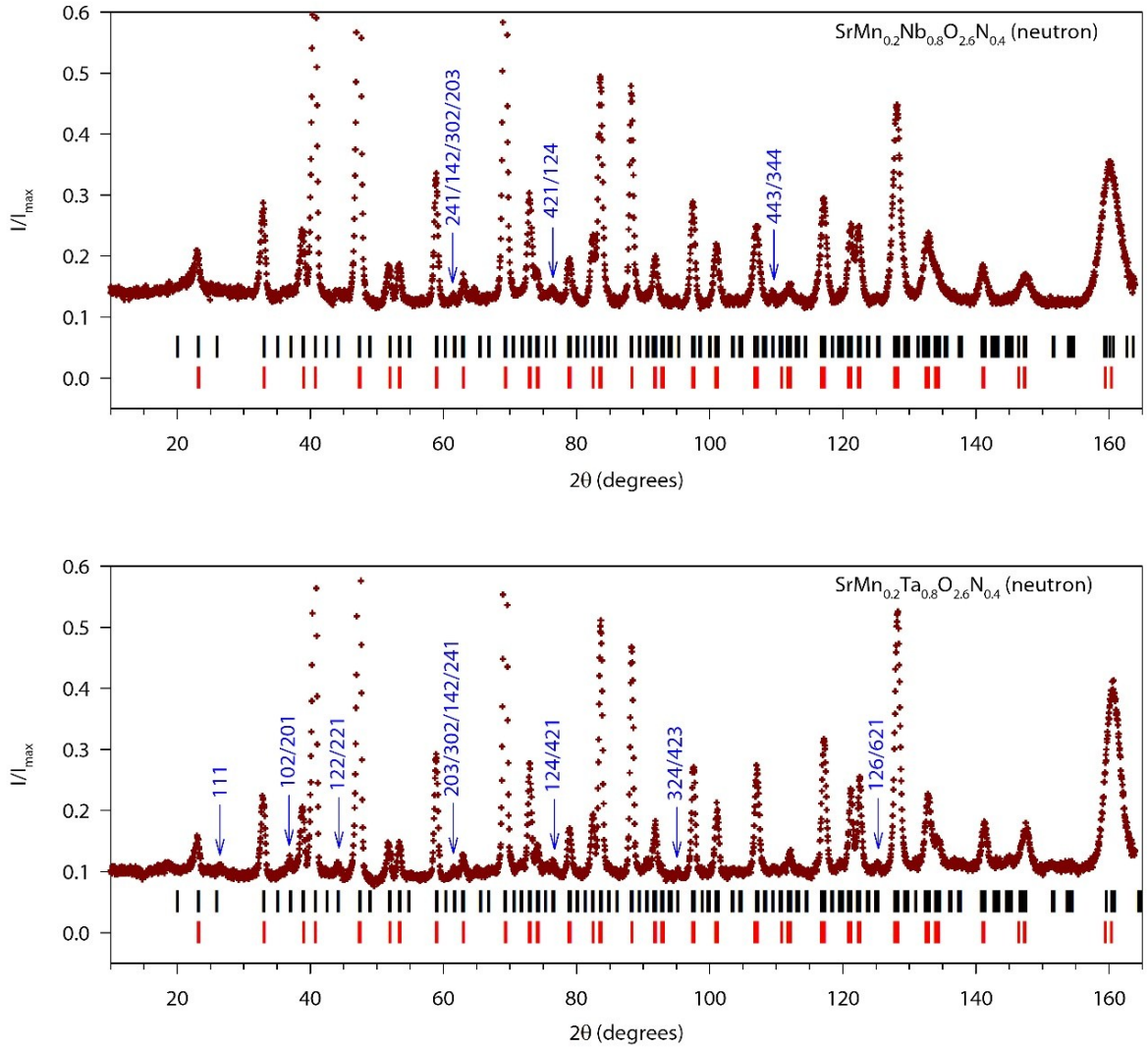

Fig. S2. Neutron diffraction patterns of $SrMn_{0.2}Nb_{0.8}O_{2.6}N_{0.4}$ (top) and $SrMn_{0.2}Ta_{0.8}O_{2.6}N_{0.4}$ (bottom), along with the Bragg positions of the *Pnma* (upper set) and *I*4/*mcm* (lower set) cells. Several peaks can be indexed based on the *Pnma* cell (Miller indices shown), but not on the *I*4/*mcm* cell.