Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.
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SUPPORTING INFORMATION

Two EPR spectra for Li_2SnO_3 compound doped with Cr^{3+} and Mn^{4+} ions at room temperature and T = 80 K are shown in Figure S1.

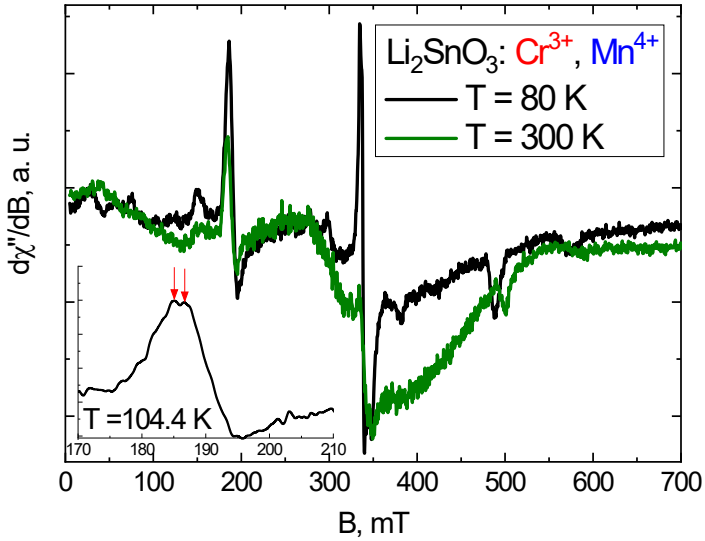
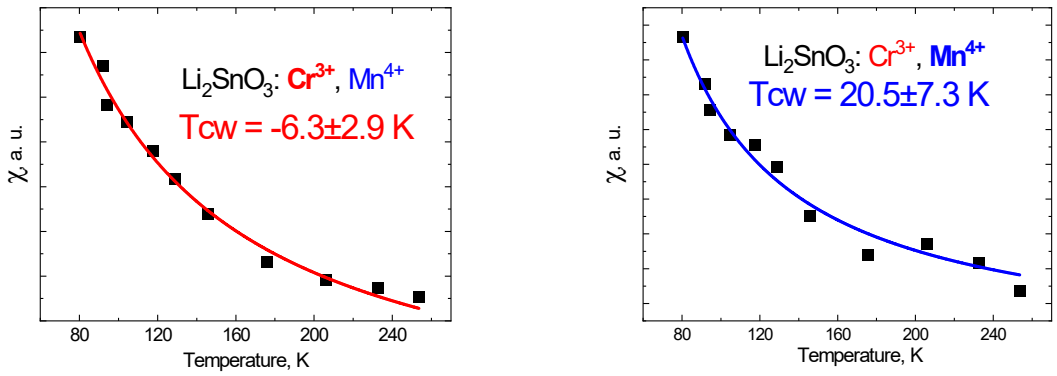


Fig. S1. EPR spectra of the compound Li_2SnO_4 doped with Cr^{3+} and Mn^{4+} ions for two selected temperatures T = 80 K and T = 300 K. The inset shows a fragment of the spectrum at T = 104.4 K. The red arrows indicate the intensity maxima of the EPR lines at g_{eff} ~3.6.

The temperature dependence of the EPR magnetic susceptibility can be described by the Curie-Weiss equation using the following equation [24]:

$$\chi = \frac{C}{T - T_{CW}}, \qquad \text{(S1)}$$

where C is a constant value and T_{CW} is the Curie-Weiss temperature (see Figs. S2a and S2b). To distinguish between contributions from Cr^{3+} and Mn^{4+} ions the EPR spectra were deconvoluted using SH parameter fits. The magnetic susceptibility was then determined by calculating the area under the absorption curve of Cr^{3+} and Mn^{4+} ions in the experimental EPR spectra. The magnitude and sign of the T_{CW} indicate the strength and nature of the interactions between the paramagnetic ions. The temperature studies reveal weak antiferromagnetic interactions among Cr^{3+} ions (indicated by a negative T_{CW} value) while ferromagnetic interactions (indicated by a positive T_{CW} value) are observed among Mn^{4+} ions. The difference in interaction strength between Cr^{3+} and Mn^{4+} ions is due to the difference in ionic radii between these ions.



a) b)

Fig. S2. Temperature dependence of magnetic susceptibility for Cr^{3+} (a) and Mn^{4+} (b) ions in the Li_2SnO_3 compound and fitting of the Curie-Weiss equation to experimental data.