

Fig. S1 Rietveld refinement result for the SLT phosphors

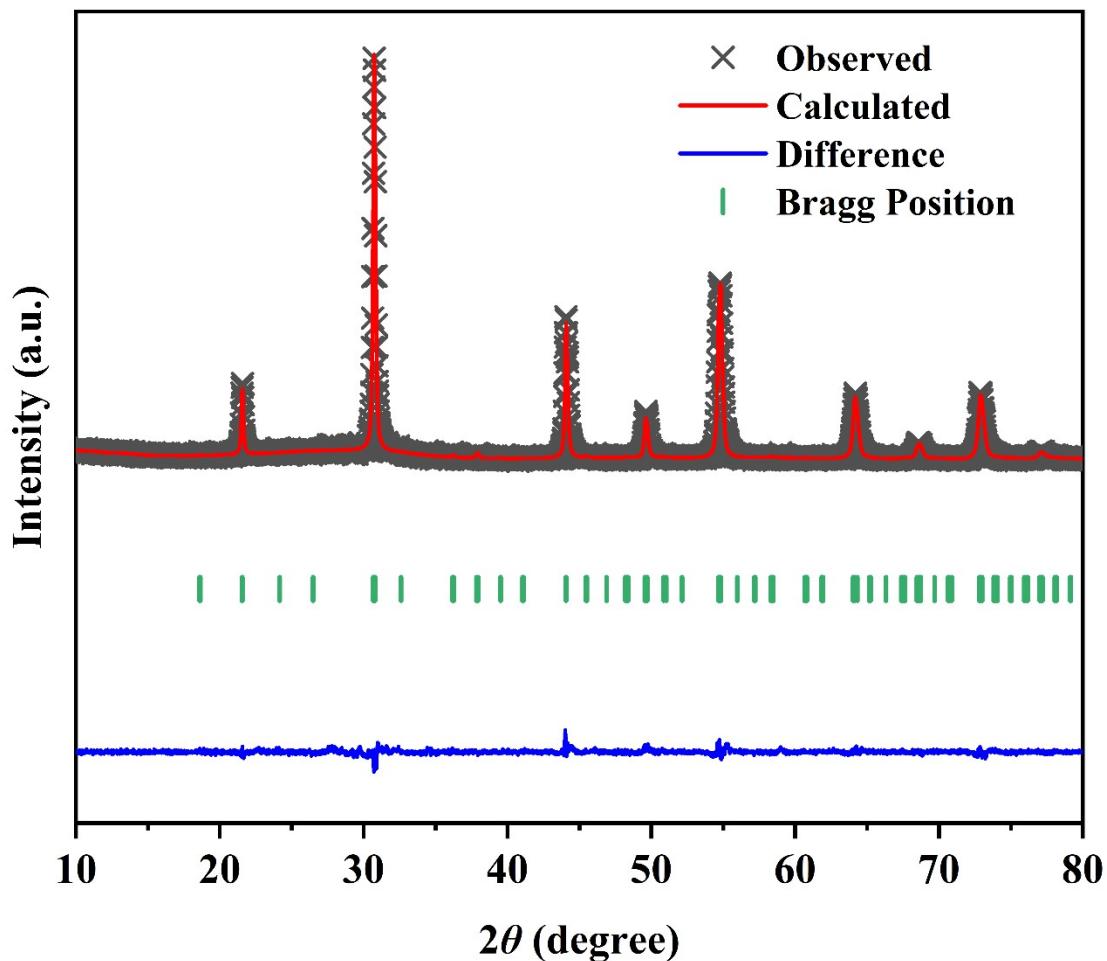


Fig. S2 Rietveld refinement result for the SLT:0.004Mn⁴⁺ phosphors

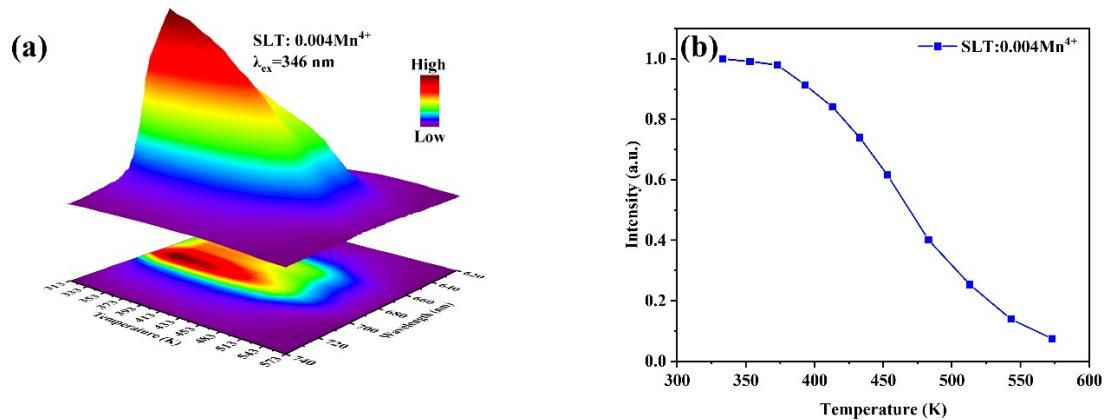


Fig. S3 (a) The PL spectra of SLT:0.004Mn⁴⁺ at different temperature(313-573 K). (b) Integrated emission intensities of $^2E_g(\text{Mn}^{4+})$ of SLT:0.004Mn⁴⁺.