

Figure S1. Emission spectra of (a) $\text{Na}_3\text{AlF}_6:\text{Mn}^{4+}$ (0.4%) and (b) $\text{K}_2\text{NaAlF}_6:\text{Mn}^{4+}$ (0.9%) at various temperatures between 298 and 573 K ($\lambda_{\text{exc}} = 450 \text{ nm}$).

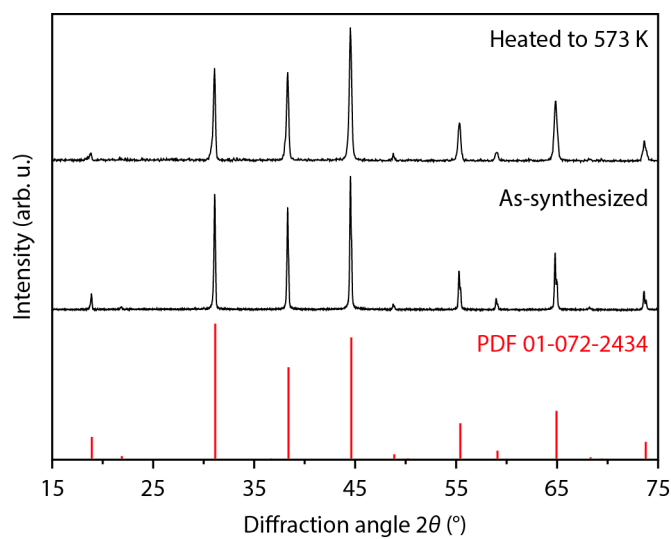


Figure S2. XRD patterns of $\text{K}_2\text{NaAlF}_6:\text{Mn}^{4+}$ (2.9%) for as-synthesized $\text{K}_2\text{NaAlF}_6:\text{Mn}^{4+}$ phosphor and $\text{K}_2\text{NaAlF}_6:\text{Mn}^{4+}$ phosphor that has been heated to 573 K. The XRD patterns are in agreement with the reference diffraction pattern for K_2NaAlF_6 (PDF 01-072-2434, red).

Video S1. Movie of synthesis of $\text{K}_2\text{NaAlF}_6:\text{Mn}^{4+}$ phosphor. The phosphor shows bright red Mn^{4+} luminescence under 405 nm illumination.