

Electronic Supplementary Information (ESI)

Red-emitting phosphors $\text{Na}_2\text{XF}_6: \text{Mn}^{4+}$ (X = Si, Ge, Ti) with high colour-purity for warm white-light-emitting diodes

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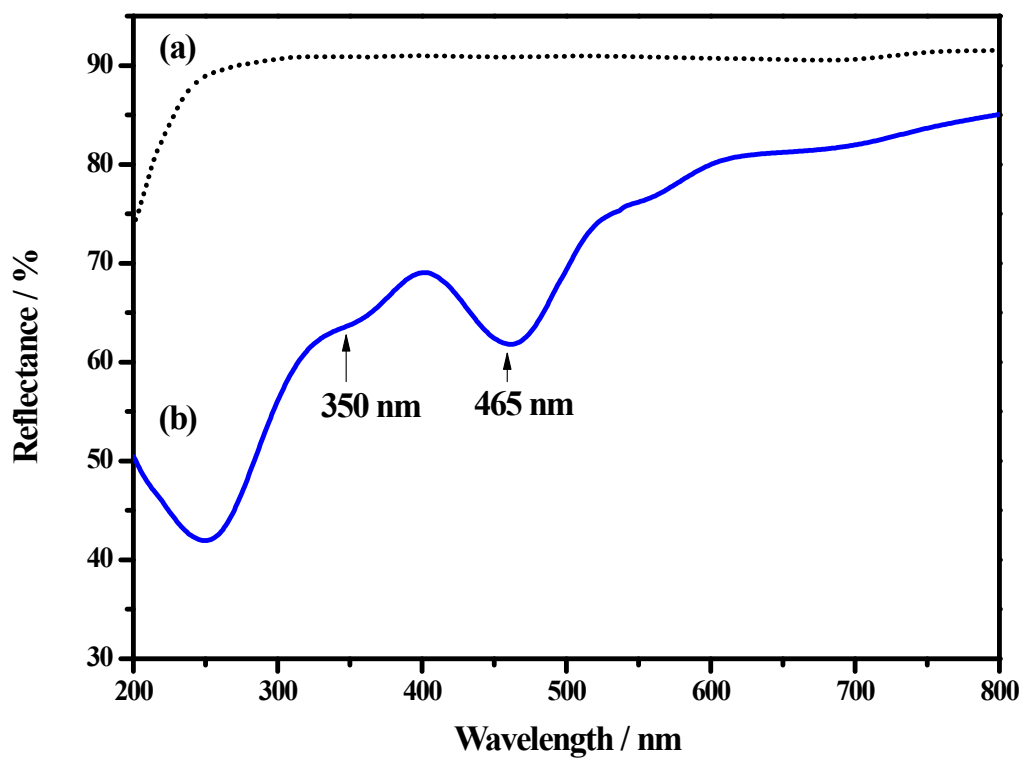


Fig. S1 Diffuse reflectance spectra of (a) Na_2SiF_6 and (b) $\text{Na}_2\text{SiF}_6: \text{Mn}^{4+}$.

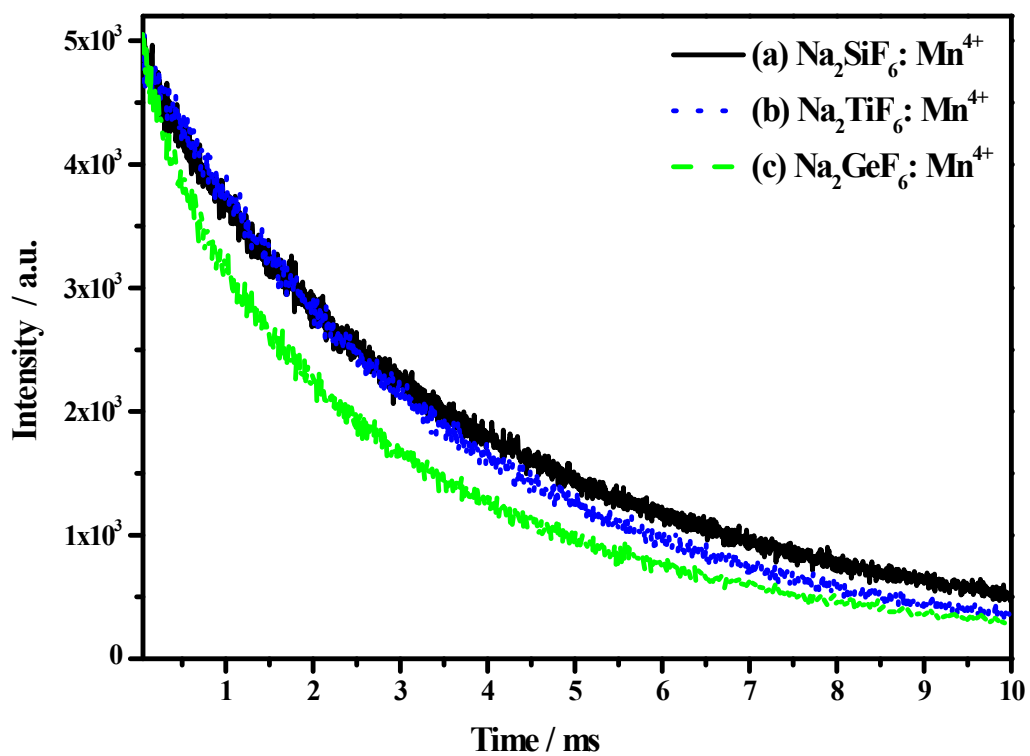


Fig. S2: Decay curves of the Mn⁴⁺ emission in (a) Na₂SiF₆: Mn⁴⁺, (b) Na₂TiF₆:

Mn⁴⁺ and (c) Na₂GeF₆: Mn⁴⁺: $\lambda_{\text{ex}} = 465 \text{ nm}$; $\lambda_{\text{em}} = 627 \text{ nm}$.