

**Mn⁴⁺ doped (NH₄)₂TiF₆ and (NH₄)₂SiF₆ micro-crystal phosphors:
synthesis through ion exchange at room temperature and their
photoluminescence properties**

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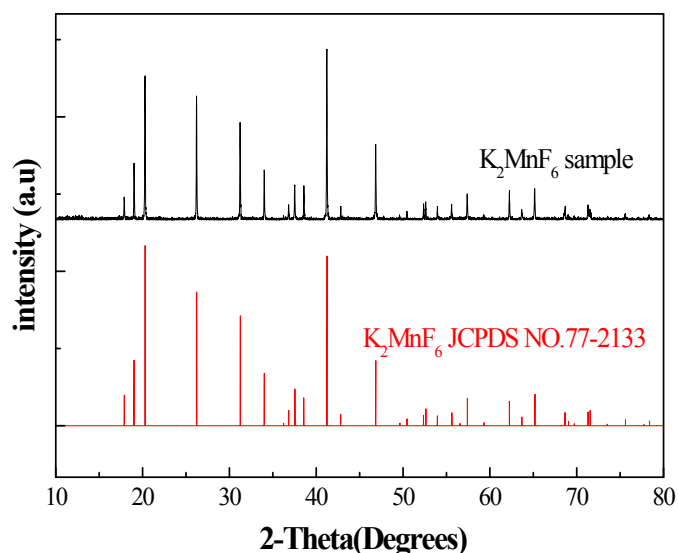


Figure S1. XRD pattern of as-prepared K₂MnF₆.

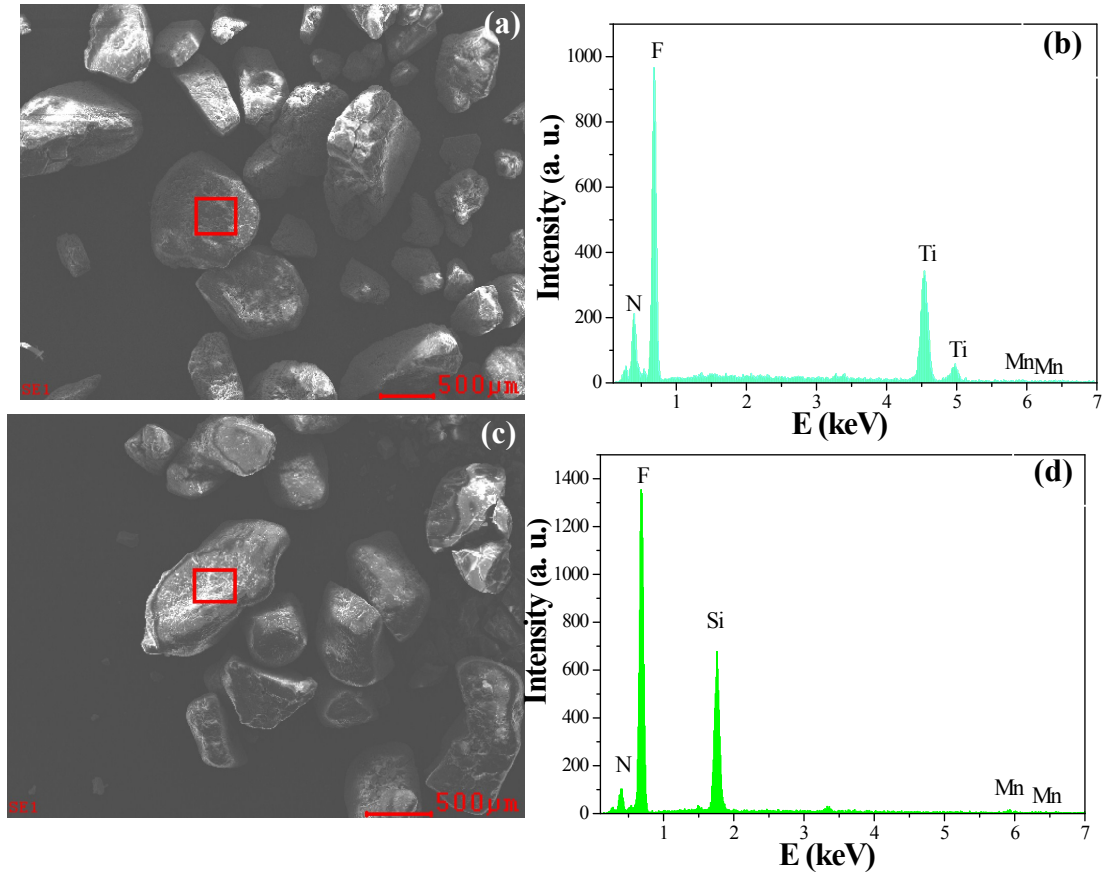


Figure S2. SEM images and EDS spectra of red crystals (a,b) NTF:Mn and (c,d) NSF:Mn prepared at room temperature.

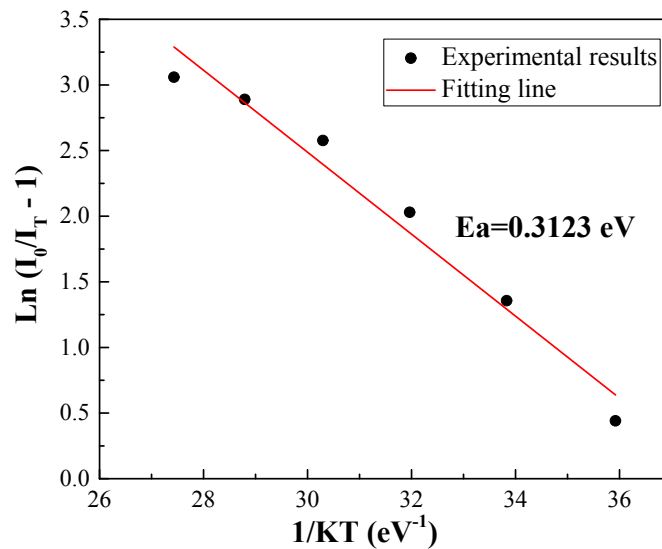


Figure S3. Arrhenius fitting of the emission intensity of the phosphor NTF:Mn decreased with temperature increasing.

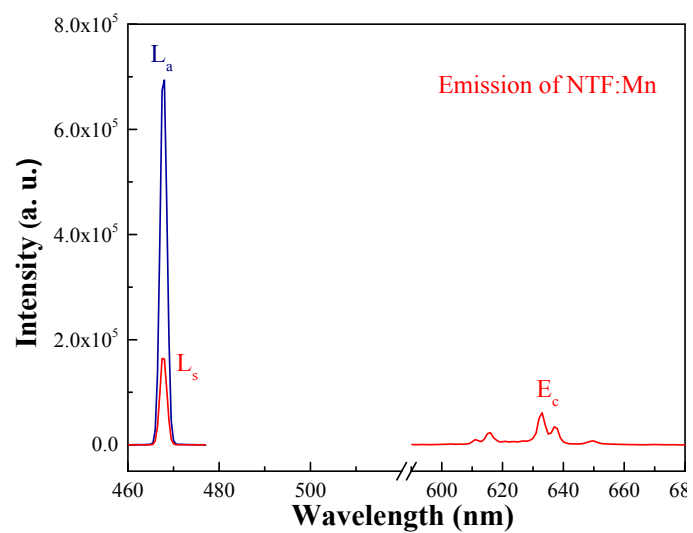


Figure S4. The excitation lines and emission spectrum of NSF:Mn measured using an integrating sphere.

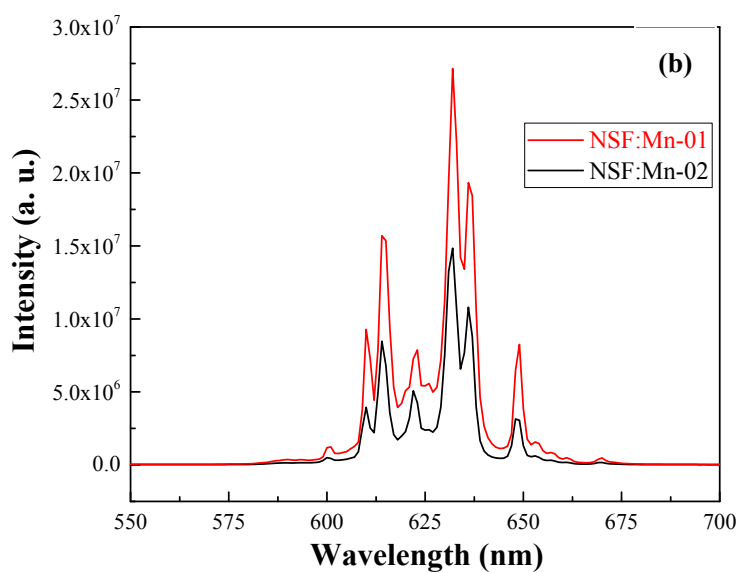
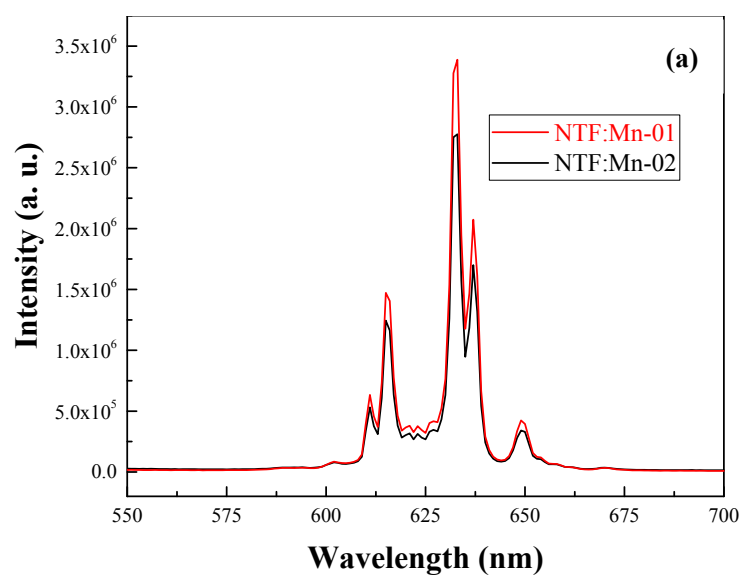


Figure S5. The emission spectra of phosphors (a) NTF:Mn and (b) NSF:Mn obtained by two methods.