

## Electronic supplementary information (ESI)

Up-conversion monodispersed spheres of  $\text{NaYF}_4:\text{Yb}^{3+}/\text{Er}^{3+}$ : green and red emission tailoring mediated by heating temperature, and greatly enhanced luminescence by  $\text{Mn}^{2+}$  doping

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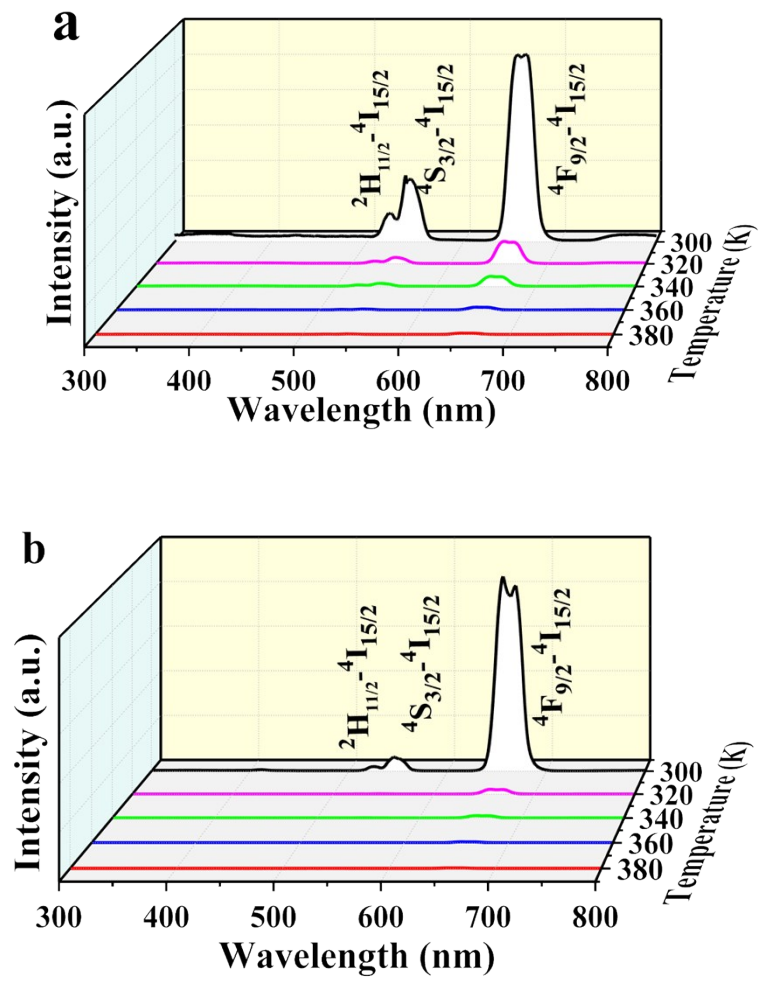


Figure S1. Temperature-dependence of PL spectra from 300 to 380 K for (a)  $Yb^{3+}/Er^{3+}$ - and (b)  $Mn^{2+}/Yb^{3+}/Er^{3+}$ -samples.