

Synthesis and Application in Anti-counterfeiting of RGB

Up-conversion Nanoparticles

Yongling Zhang*, Peng Lv, Zhengkun Qin*

Supporting information

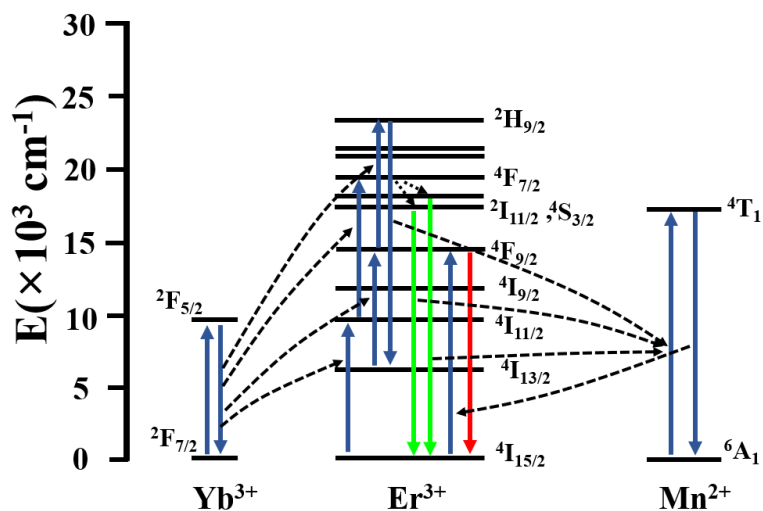


Figure S1: The energy-level diagram of $\text{KMnF}_3:\text{Yb}^{3+},\text{Er}^{3+}$ NPs excited with 980 nm laser.

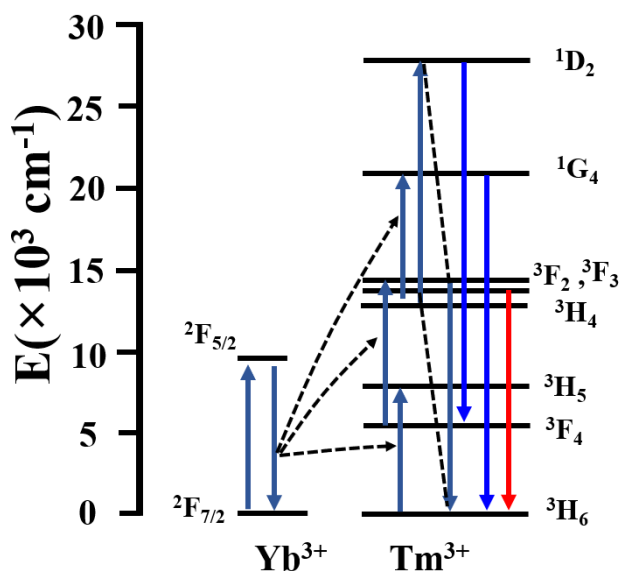


Figure S2: The energy-level diagram of $\text{NaYF}_4:\text{Yb}^{3+},\text{Tm}^{3+}$ NPs excited with 980 nm laser.

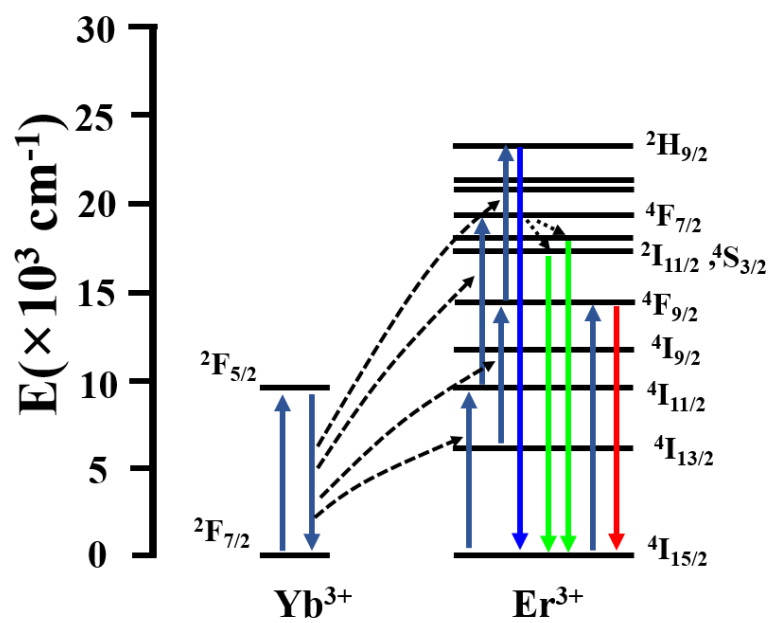


Figure S3: The energy-level diagram of NaYF₄:Yb³⁺, Er³⁺ NPs excited with 980 nm laser.