

Electronic Supplementary Information

White light-emitting properties of NaGdF₄ nanotubes through Tb³⁺, Eu³⁺ doping

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Figure S1 Powder XRD patterns of the $\text{NaGdF}_4:0.04\text{Tb}^{3+},x\text{Eu}^{3+}$ and the standard reference pattern of NaGdF_4 (JCPDS#00-027-0699): $x = 0$ (a), $x = 0.01$ (b), $x = 0.03$ (c), $x = 0.05$ (d), and $x = 0.07$ (e). Revealing the successful doping of Ln^{3+} ($\text{Ln} = \text{Eu}, \text{Tb}$) into NaGdF_4 host.

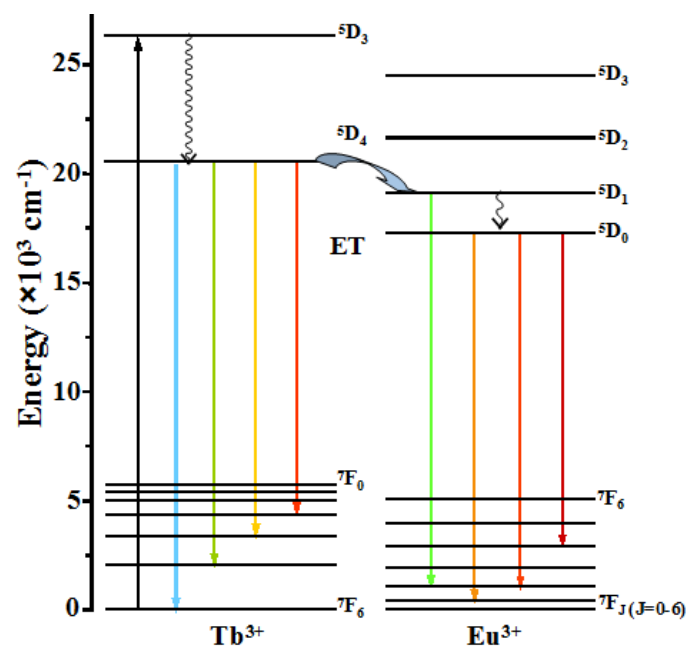


Figure S2 Energy level scheme representing the energy transfer and energy transfer mechanism in the $\text{Tb}^{3+}, \text{Eu}^{3+}$ -codoped NaGdF_4 phosphors.