

Supplementary Information

Decrease in particle size and enhancement of upconversion emission through Y³⁺ ions doping in hexagonal NaLuF₄:Yb³⁺/Er³⁺ nanocrystals

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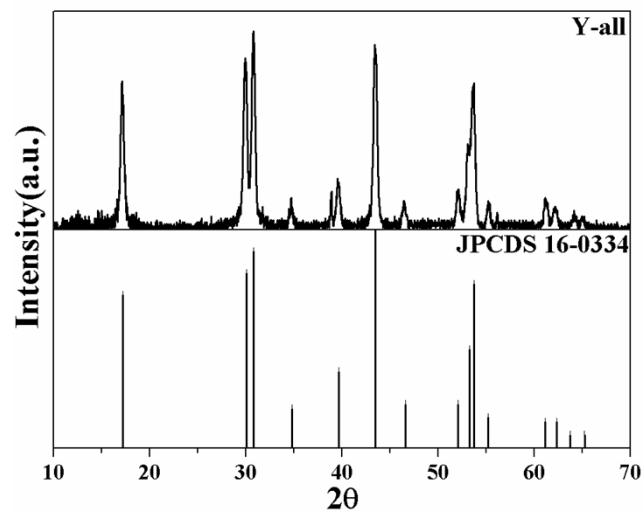


Fig. S1 The standard XRD data of β -NaYF₄ (JCPDS 16-0334) and the XRD patterns of Y-all.

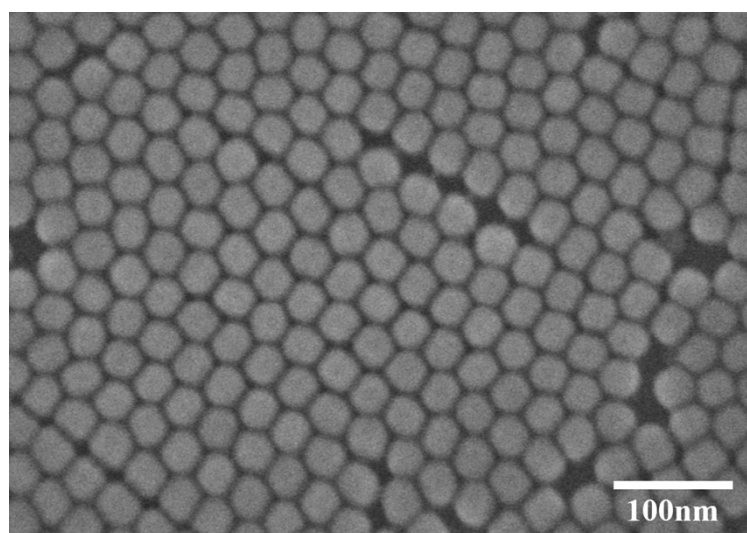


Fig. S2 The SEM image of Y-all.

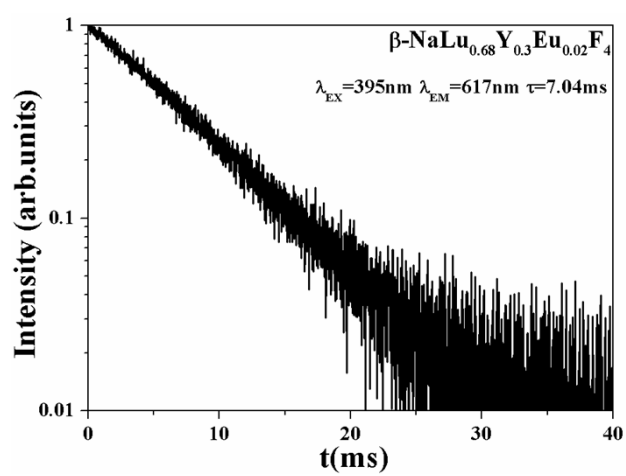


Fig. S3 The decay curve for $\text{Eu}^{3+}: {}^5\text{D}_0$ level of $\beta\text{-NaLu}_{0.68}\text{Y}_{0.3}\text{Eu}_{0.02}\text{F}_4$.