

## Electronic Supplementary Information

### Dual-Functional Upconversion Core@Shell Nanostructure for White-Light-Emitting and Temperature Sensing

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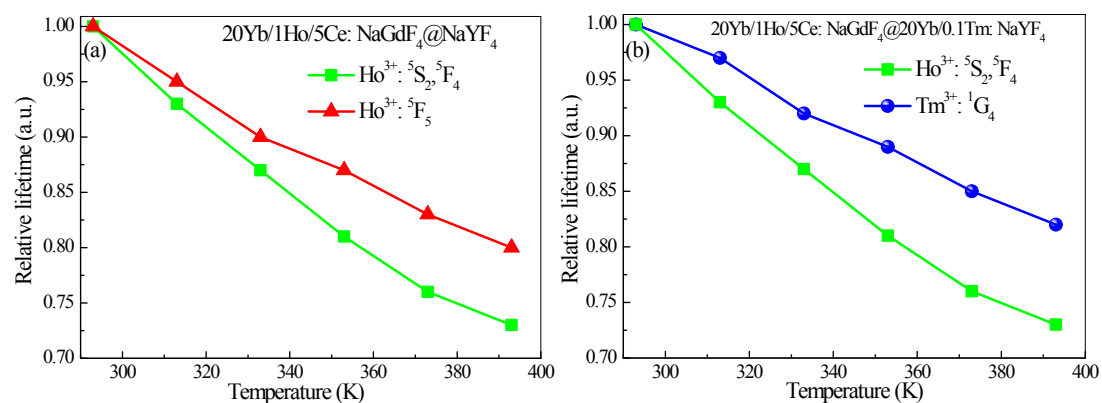


Figure S1 (a) Temperature-dependent relative lifetimes for Ho<sup>3+</sup>: <sup>5</sup>S<sub>2</sub><sup>5</sup>F<sub>4</sub> states (green emitting) and <sup>5</sup>F<sub>5</sub> one (red emitting) in the 20Yb/1Ho/5Ce: NaGdF<sub>4</sub>@NaYF<sub>4</sub> active-core@inert-shell NCs. (b) Temperature-dependent relative lifetimes for Ho<sup>3+</sup>: <sup>5</sup>S<sub>2</sub><sup>5</sup>F<sub>4</sub> states (green emitting) and Tm<sup>3+</sup>: <sup>1</sup>G<sub>4</sub> one (blue emitting) in the 20Yb/1Ho/5Ce: NaGdF<sub>4</sub>@20Yb/0.1Tm: NaYF<sub>4</sub> active-core@active-shell NCs.