

Supporting Information

$\text{NaYF}_4:\text{Yb}^{3+}(58\%),\text{Tm}^{3+}@NaYF_4@Au$

Nanocomposite for 4-Nitrophenol Ultrasensitive
Quantitative Detection and Highly Efficient
Catalytic Reduction

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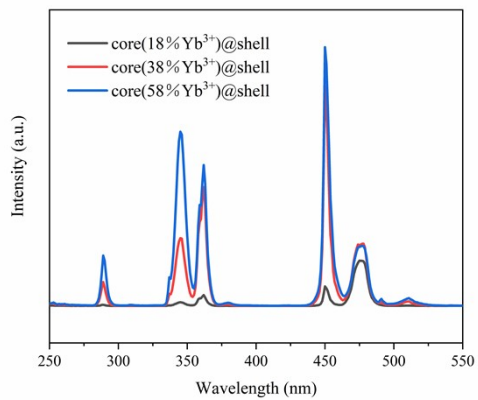


Fig. S1 Upconversion luminescence spectra of core(18% Yb³⁺)@shell, core(38% Yb³⁺)@shell and core(58% Yb³⁺)@shell nanocrystals under 980 nm excitation.

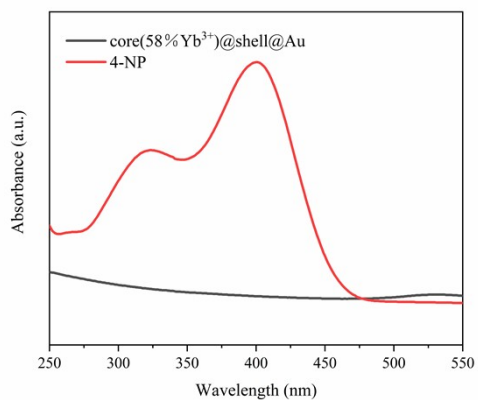


Fig. S2 UV-visible absorption spectra of core(58% Yb³⁺)@shell@Au and 4-NP.

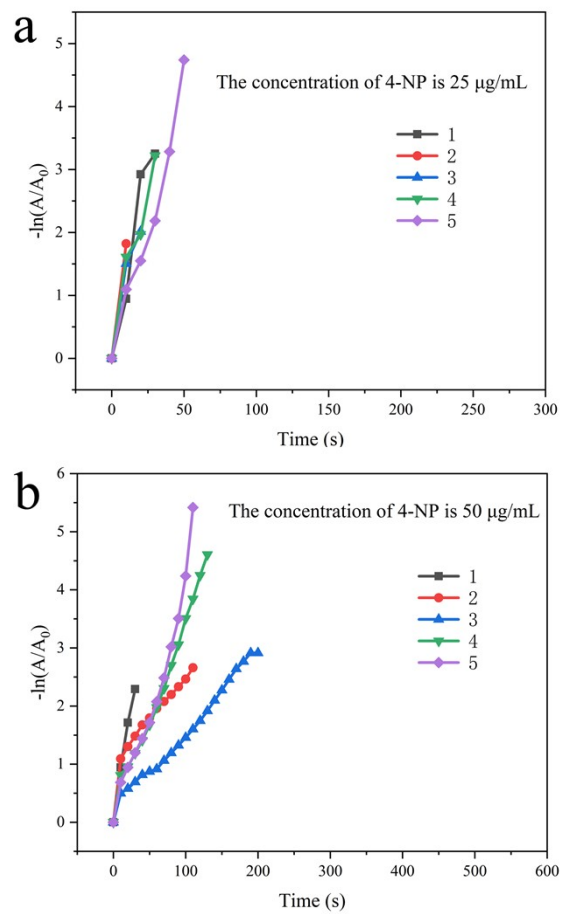


Fig. S3 Reusability of core(58% Yb³⁺)@shell@Au in five cycles for catalyzing reduction 4-NP: (a) the concentration of 4-NP is 25 µg/mL, (b) the concentration of 4-NP is 50 µg/mL.