

Supporting Information

Rapid Detection of Microalgae Cells Based on Upconversion Nanoprobes

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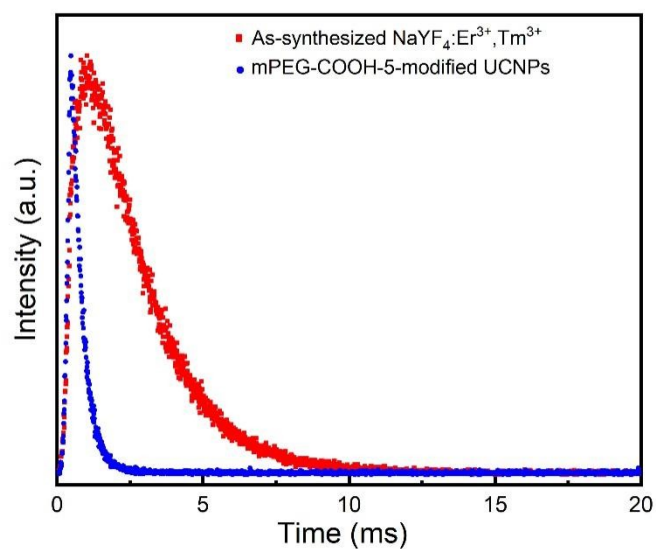


Figure S1. Fluorescence decay dynamics of $^4F_{9/2}$ levels of Er^{3+} before and after mPEG-COOH-5 modification.

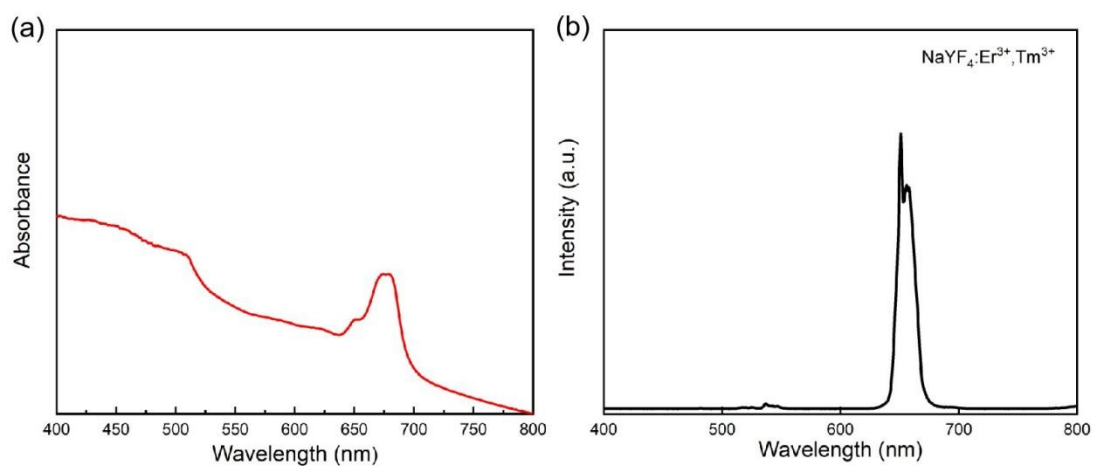


Figure S2. (a) Absorption spectrum of microalgae solution and (b) UCL spectra of $\text{NaYF}_4:\text{Er}^{3+},\text{Tm}^{3+}$ nanoparticles.

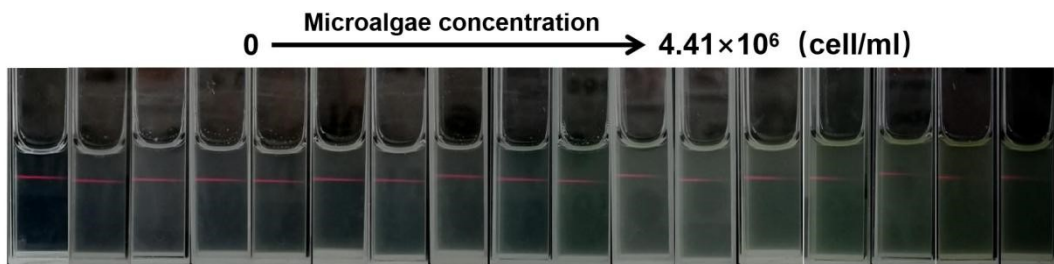


Figure S3. The digital photographs UCNPs solution mixed with different concentration of microalgae from 0 to 4.41×10^6 (cell/ml) (left to right) under 980 nm excitation.