

Solvothermal synthesis and modification of NaYF₄: Yb/Er@NaLuF₄: Yb for enhanced up-conversion luminescence for bioimaging

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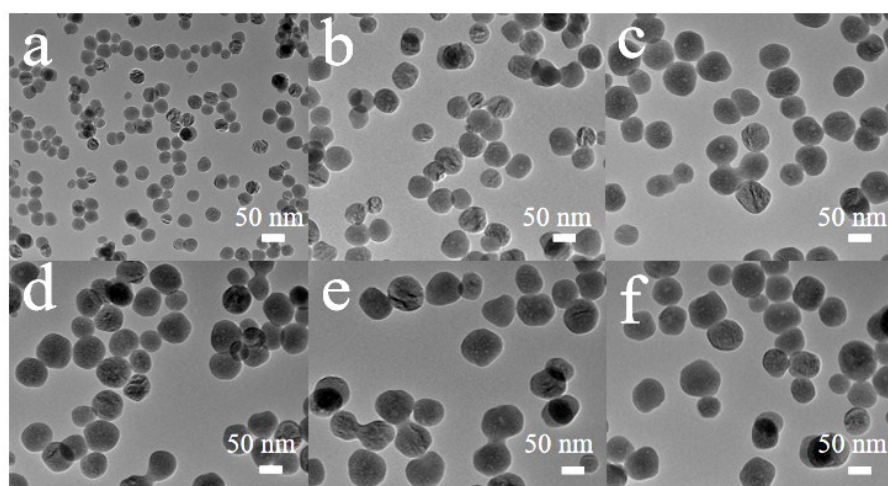


Fig. S1 TEM images of NaYF₄:Yb/Er(a), NaYF₄:Yb/Er@NaLuF₄:Yb with reaction time of 2 h (b), 3 h (c), 4 h (d), UCNPs-OAO (e) and UCNPs-PEI (f), respectively

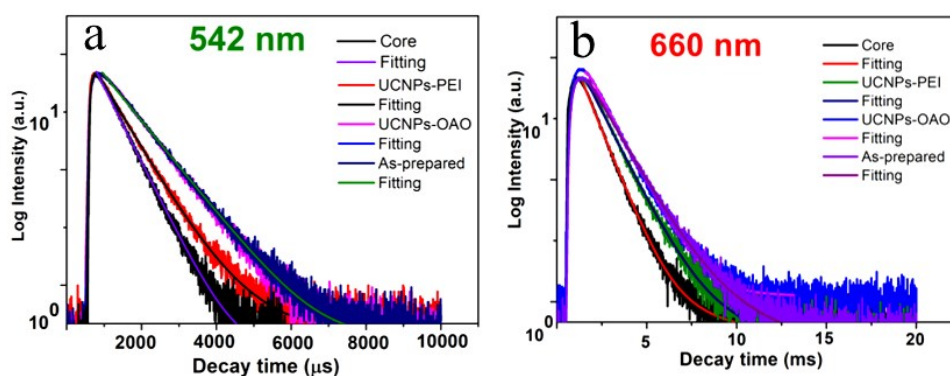


Fig. S2 The fluorescence attenuation curve of the samples at different 542 (a) and 660 (b) levels

Table S1. Fitting Lifetime of fluorescence attenuation Curves of $^4S_{3/2}$ to $^4I_{15/2}$ (542 nm) and $^4F_{9/2}$ to $^4I_{15/2}$ (660 nm)

	$^4S_{3/2}$ to $^4I_{15/2}$ (542 nm)			$^4F_{9/2}$ to $^4I_{15/2}$ (660 nm)		
	$\tau_1/\mu s$	$\tau_2/\mu s$	$\tau/\mu s$	$\tau_1/\mu s$	$\tau_2/\mu s$	$\tau/\mu s$
Core	446.8	956.9	538.4	788.5	4261.5	933.5
UCNPs-PEI	699.3	986.5	769.4	868.5	2869.4	1120.8
UCNPs-OAO	174.0	882.5	923.8	242.2	1295.5	1381.3
As-prepared	252.9	892.6	968.99	1188.5	3448.6	1392.2