

Supporting Information

Dependence between Cytotoxicity and Dynamic Subcellular Localization of Upconversion Nanoparticles with Different Surface Charges

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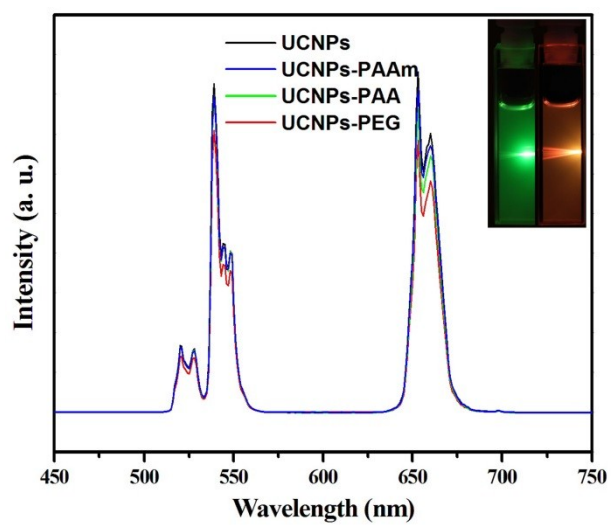


Fig. S1 Spectra of upconversion luminescence of UCNPs modified with different polymers and the inserted pictures shows the digital photos of the sample under excitation of 980 nm.

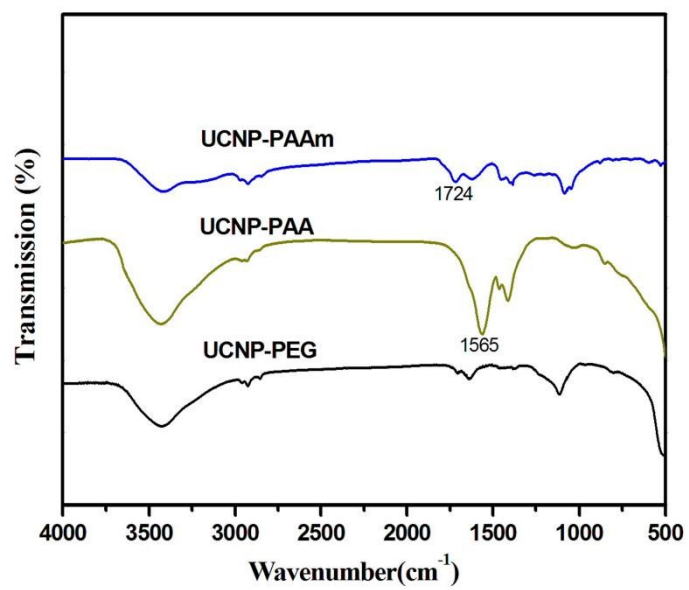


Fig. S2 IR spectra of nanoparticles with different surface coating.

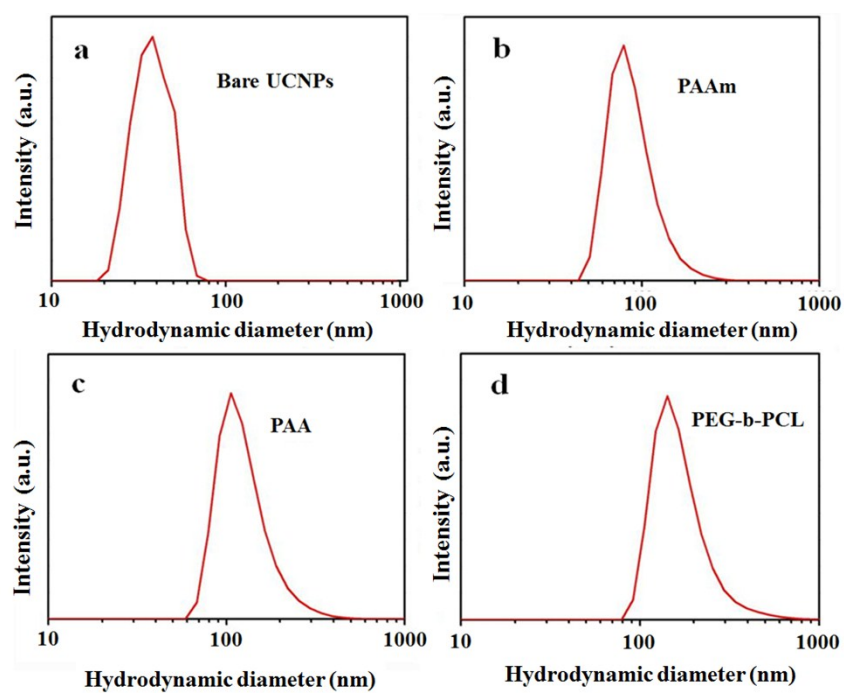


Fig. S3 Hydrodynamic diameter distribution of NaYF₄:Yb³⁺, Er³⁺ UCNPs with different surface coatings (a. for bare UCNPs, b. for UCNPs modified with PAAm, c. for UCNPs modified with PAA, and d. for UCNPs modified with PEG-b-PCL).

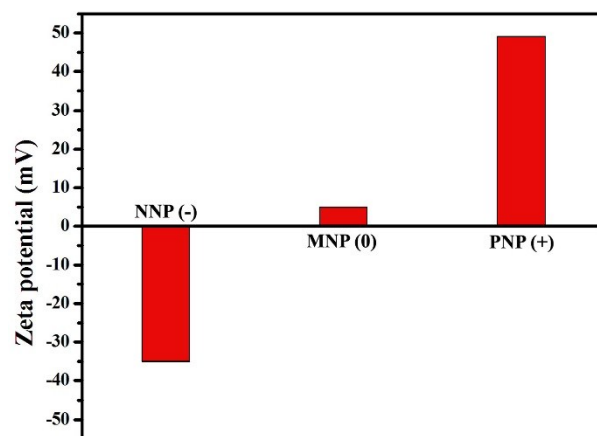


Fig. S4 Zeta-potential of UCNPs with different surface charges (negative, neutral, and positive).

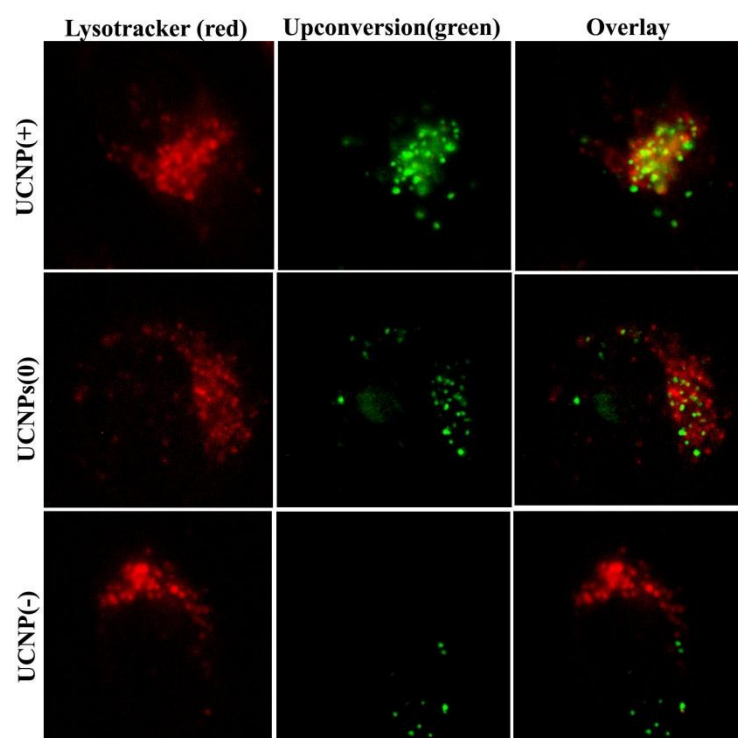


Fig. S5 Polymer-coated UCNPs intracellular localization in A549 cells stained with lysotracker.

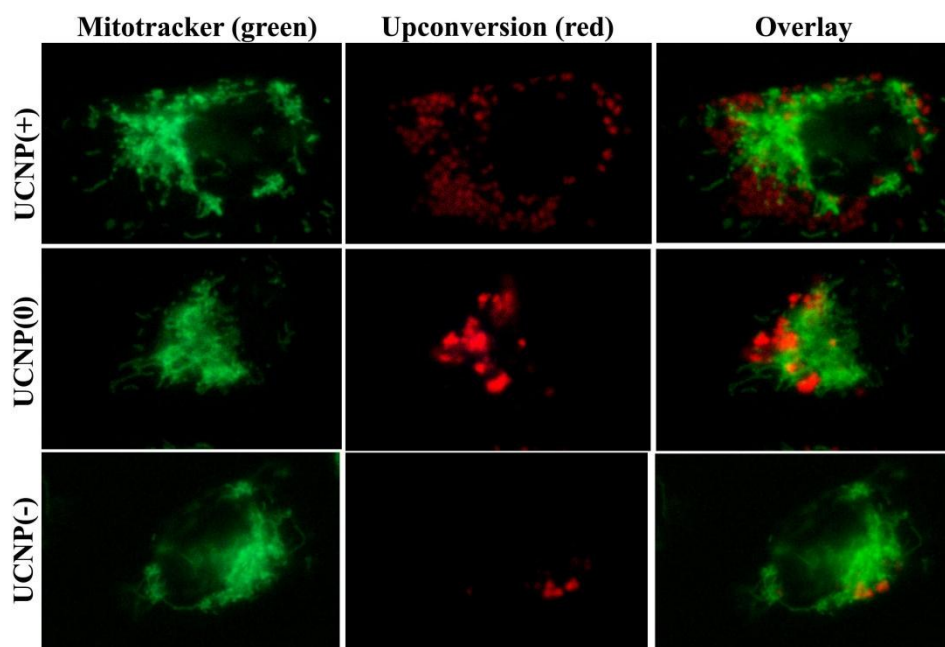


Fig. S6 Polymer-coated UCNP's intracellular localization in A549 cells stained with Mitotracker.

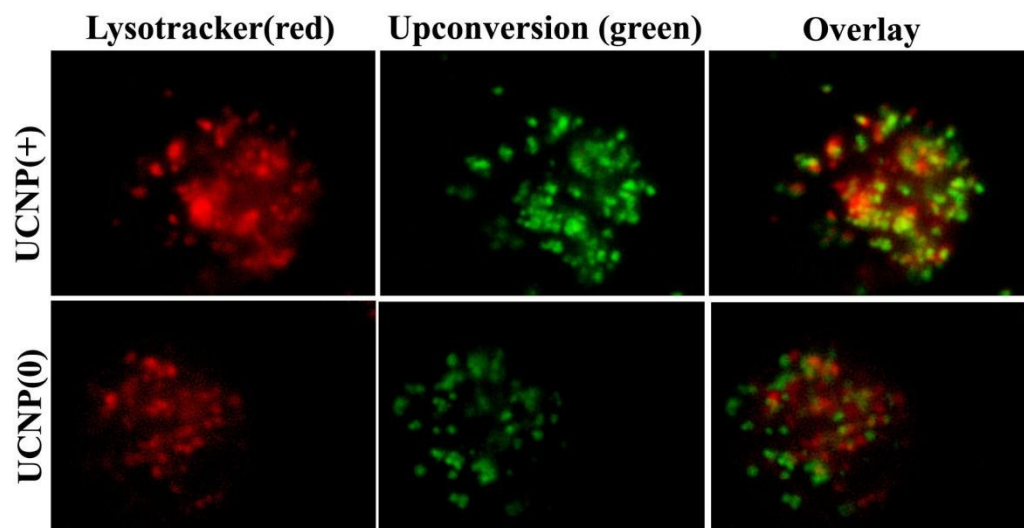


Fig. S7 Polymer-coated UCNPs intracellular localization in BV-2 cells stained with lysotracker.

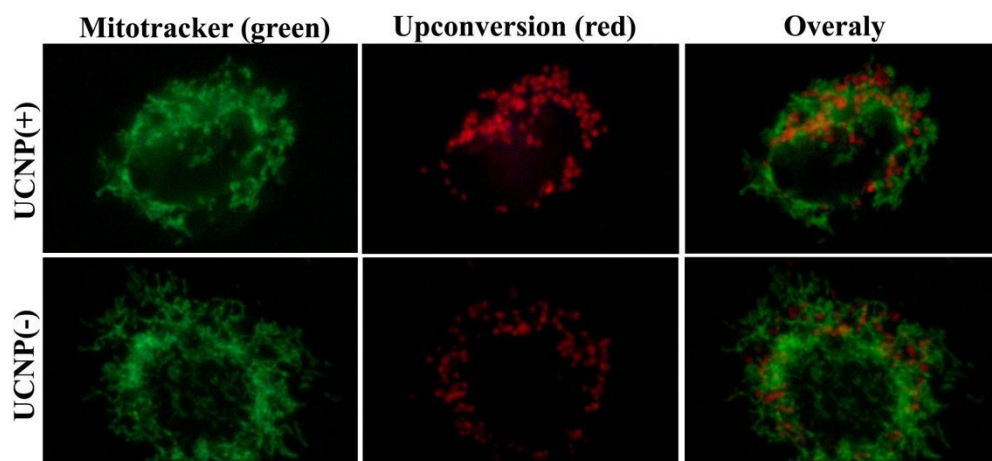


Fig. S8 Polymer-coated UCNPs intracellular localization in BV-2 cells stained with Mitotracker.

Cell line	BV-2	HUVEC	A549	QBC939
UCNPs(+)	21.5	20.6	28.5	35.8
UCNPs(0)	15.8	14.5	18.5	16.9
UCNPs(-)	<1	<1	1.8	7.6

Table S1. The ICP analysis of Y^{3+} concentrations [% mg-1] in studied cell lines treated with different charged UCNPs.