

**Electronic Supplementary Information For**

**A novel strategy for the aqueous synthesis of down-/up-conversion  
nanocomposites for dual-modal cell imaging and drug delivery**

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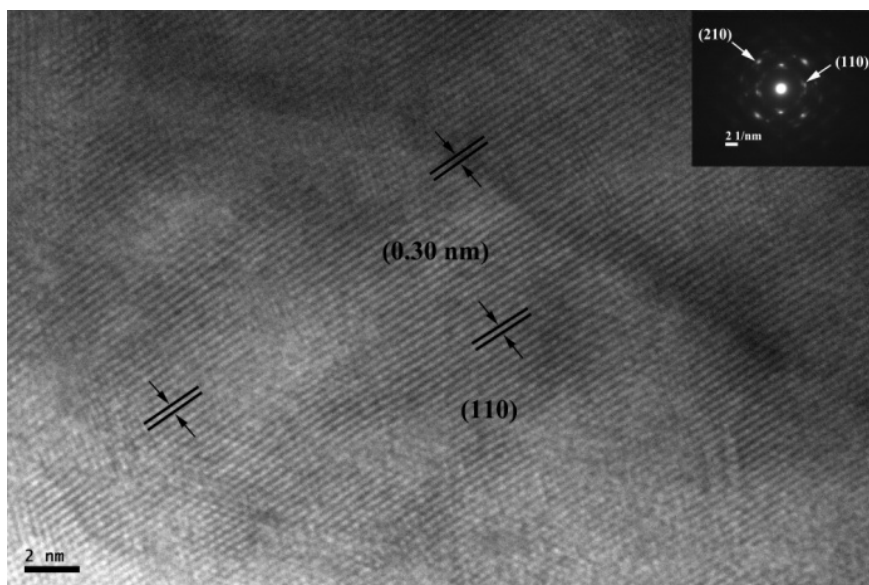


Fig. S1 HRTEM image of NaYF<sub>4</sub>:Yb,Er NPs, inset displays the corresponding SEAD image.

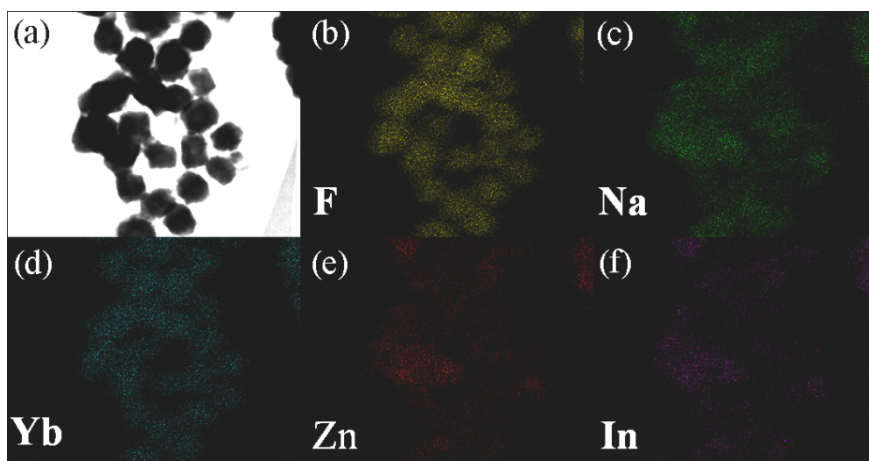


Fig. S2 (a) TEM image obtained from the UCNPs/ZAIS NCs with corresponding EDS maps for (b) F, (c) Na, (d) Yb, (e) Zn, and (f) In.

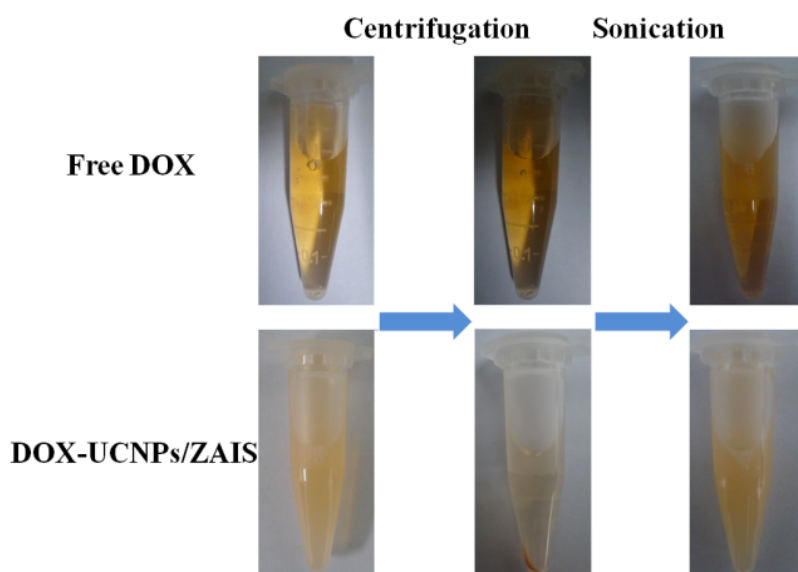


Fig. S3 Photos of free DOX, and DOX-UCNPs/ZAIS solutions after centrifugation and then sonication. DOX was adsorbed by UCNPs/ZAIS, which were precipitated after centrifugation and then re-suspended after a brief sonication.

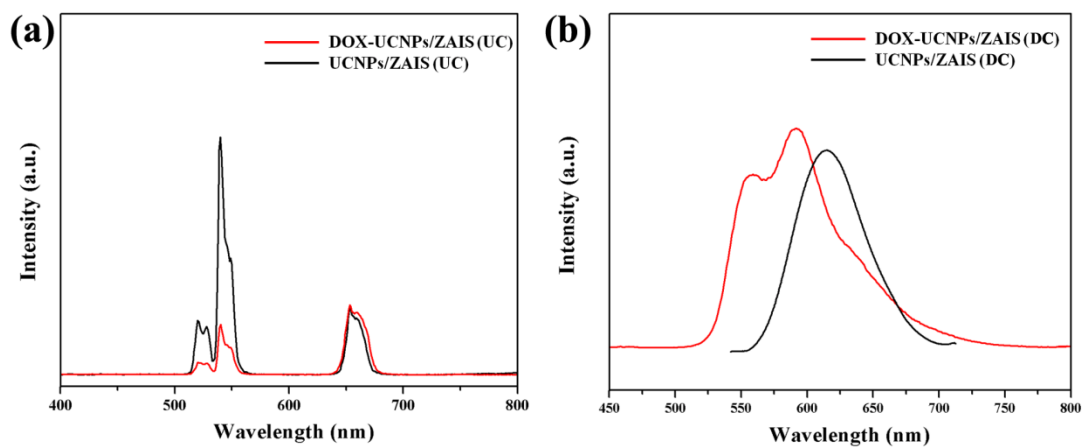


Fig. S4 (a) UC and (b) DC emission spectra of UCNPs/ZAIS and DOX-UCNPs/ZAIS solutions with the same UCNPs/ZAIS concentration ( $0.2 \text{ mg mL}^{-1}$ ) under 980 nm excitation and 365 nm excitation, respectively.

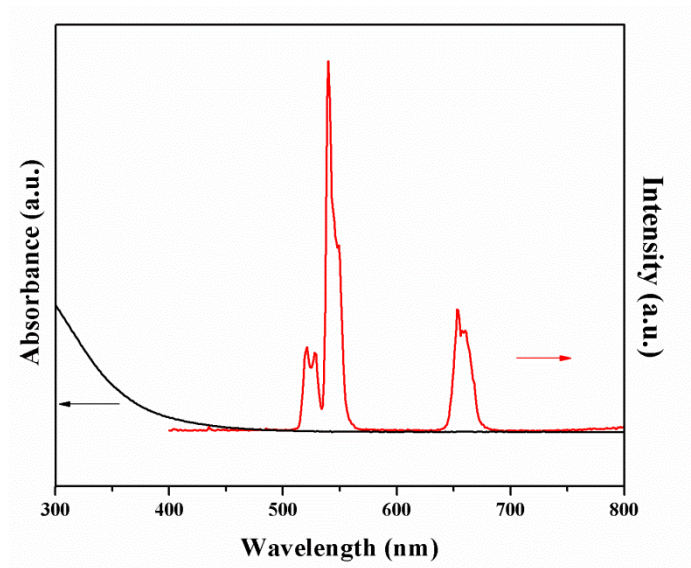


Fig. S5 Absorption spectrum (black line) of ZAIS QDs and the emission spectrum (red line) of the UCNP excited at 980 nm.

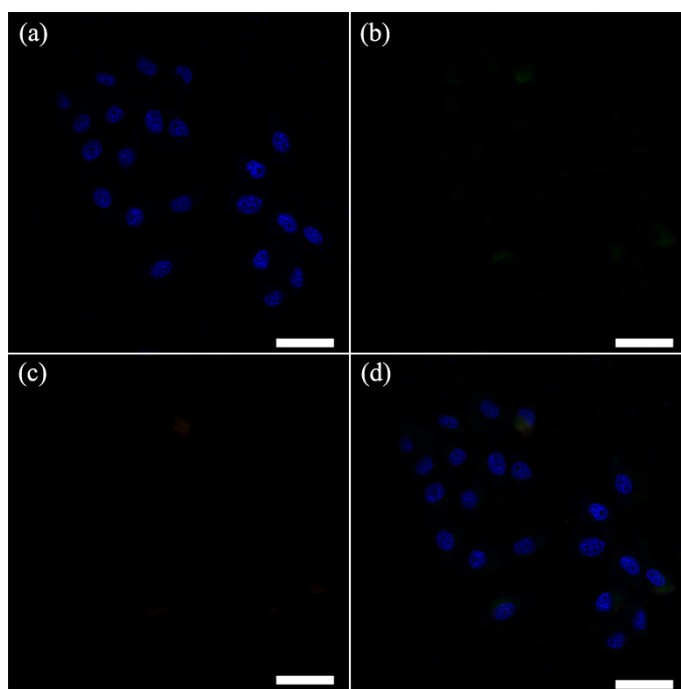


Fig. S6 CLSM images of HeLa cells incubated with UCNP/ZAIS NCs for 1 h at 37 °C. (a) The nucleus stained with DAPI; (b) UC image under 980 nm excitation; (c) DC image under 365 nm excitation; (d) overlay of (a), (b) and (c). All scale bars are 50  $\mu\text{m}$ .