Electronic Supplementary Information (ESI)

Controllable synthesis of NH₄Eu₃F₁₀ nanospheres and its application in bioimaging

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**Figure. S1** XRD patterns of products prepared in 5.5 mL ammonium hydroxide solution: (a) without oleic acid, (b) without EDTA.

**Figure. S2** XRD patterns of products prepared in (a) 9.5 mL and (b) 10 mL ammonium hydroxide solution after 8 h hydrothermal treating.
**Figure. S3** Down-conversion luminescence spectrum of NH₄Eu₃F₁₀ nanospheres. (λ<sub>ex</sub>=394 nm).

**Figure. S4** Decay curve of Eu³⁺ luminescence (592 nm) upon 394 nm UV excitation of NH₄Eu₃F₁₀ nanospheres.
Figure. S5 Cytotoxicity of as-prepared NH₄Eu₃F₁₀ nanospheres against the human cervical cancer cell line determined by MTT assay after 24 h and 48 h.
**Figure. S6** Exciting at 405 nm, CLFM images of HeLa cells stained with 100 μg/mL NH₄Eu₃F₁₀ nanospheres at 37 °C for (a) 2h, (b) 6 h, (c) 18h, (d) 24h, (e) 48h on the left, the bright field images in the middle, and the merged images of bright field and CLFM images on the right.