

Electronic Supporting Information

Self-produced bubble-template synthesis of $\text{La}_2\text{O}_3\text{:Yb/Er@Au}$ hollow spheres with markedly enhanced luminescence and release properties

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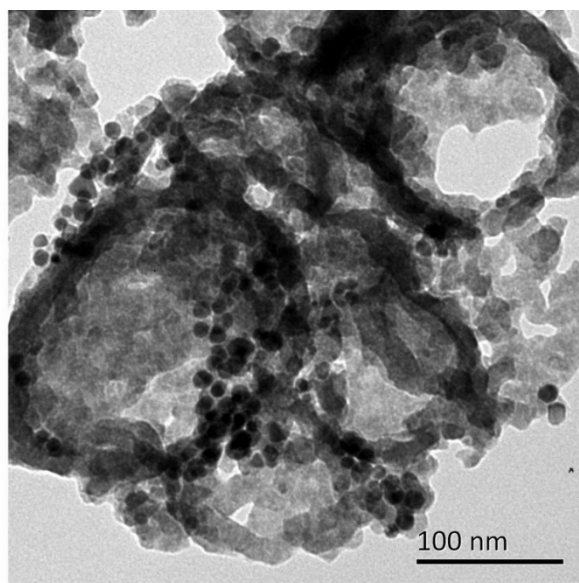


Fig. S1 SEM image of $\text{La}_2\text{O}_3\text{:Yb/Er@Au}$ HMSs dissolved by HCl.

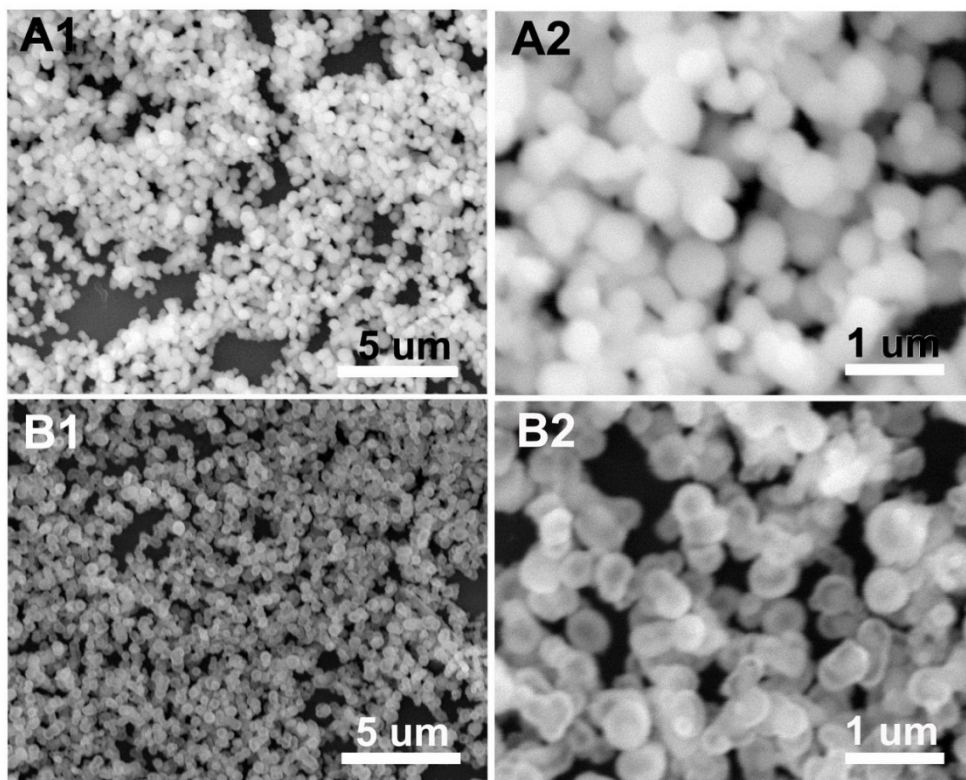


Fig. S2 SEM images of $\text{La}(\text{OH})_3:\text{Yb}/\text{Er}$ prepared at temperatures of 70 °C (A1 and A2), and 90 °C (B1 and B2) with 1 mmol H_3Cit and 2.4 g of NaOH .

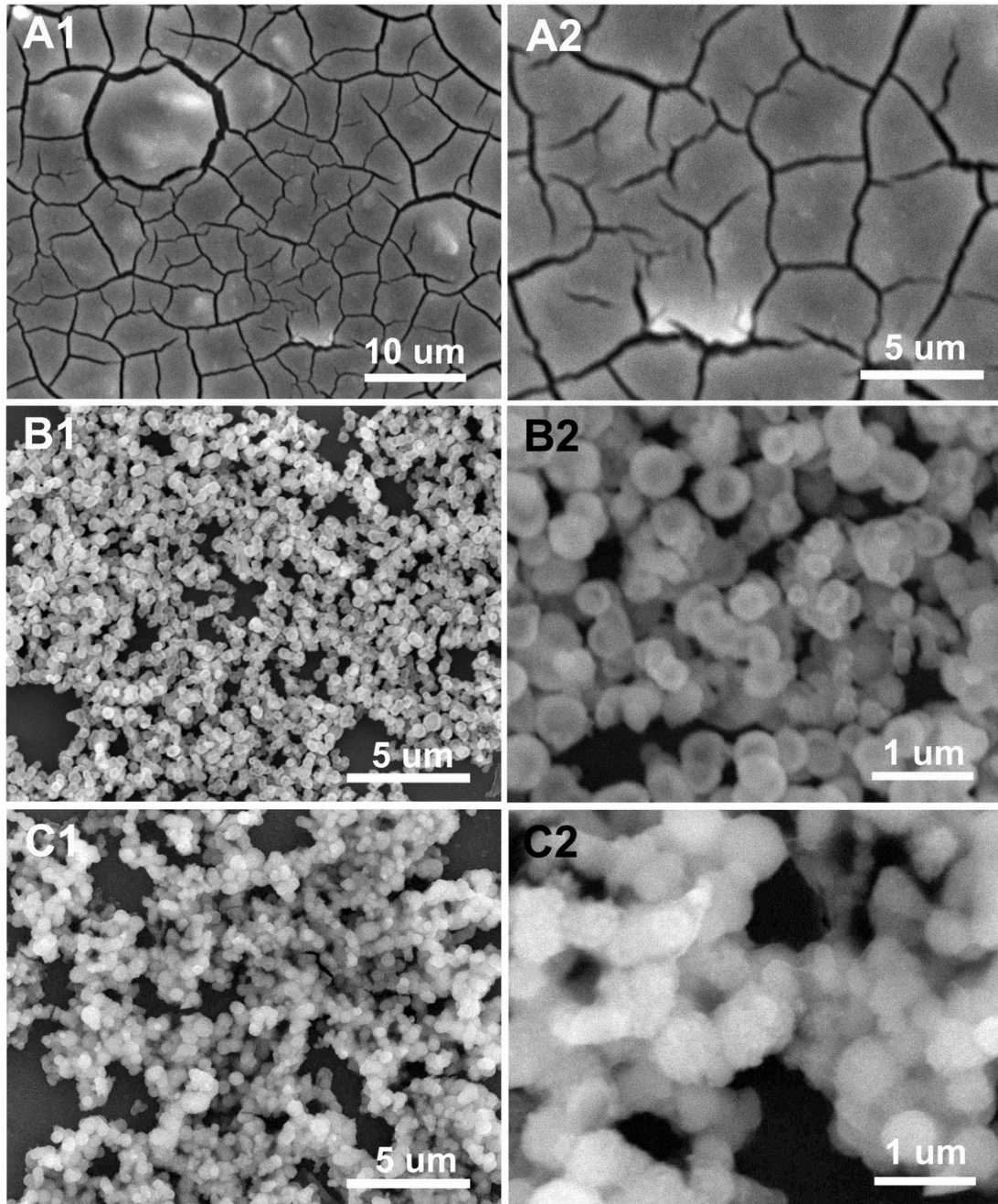


Fig. S3 SEM images of $\text{La}(\text{OH})_3:\text{Yb}/\text{Er}$ prepared with H_3Cit amount of 0 mmol (A1 and A2), 1 mmol (B1 and B2), and 2 mmol (C1 and C2) at 90 °C with 2.4 g of NaOH.

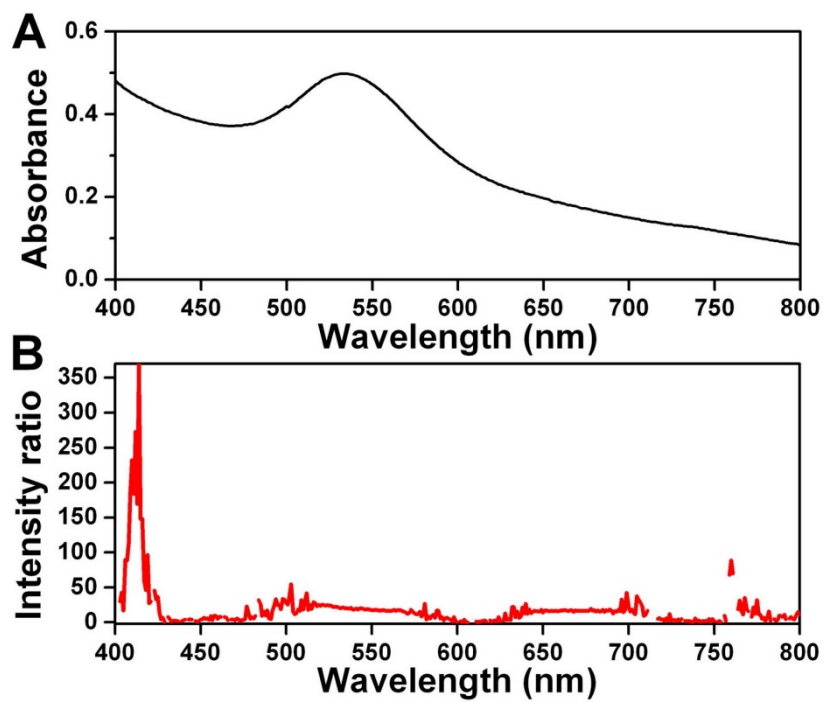


Fig. S4 UV-vis spectra of ANs (A) and the intensity ratio (B) between the AHMSs and LHMSs

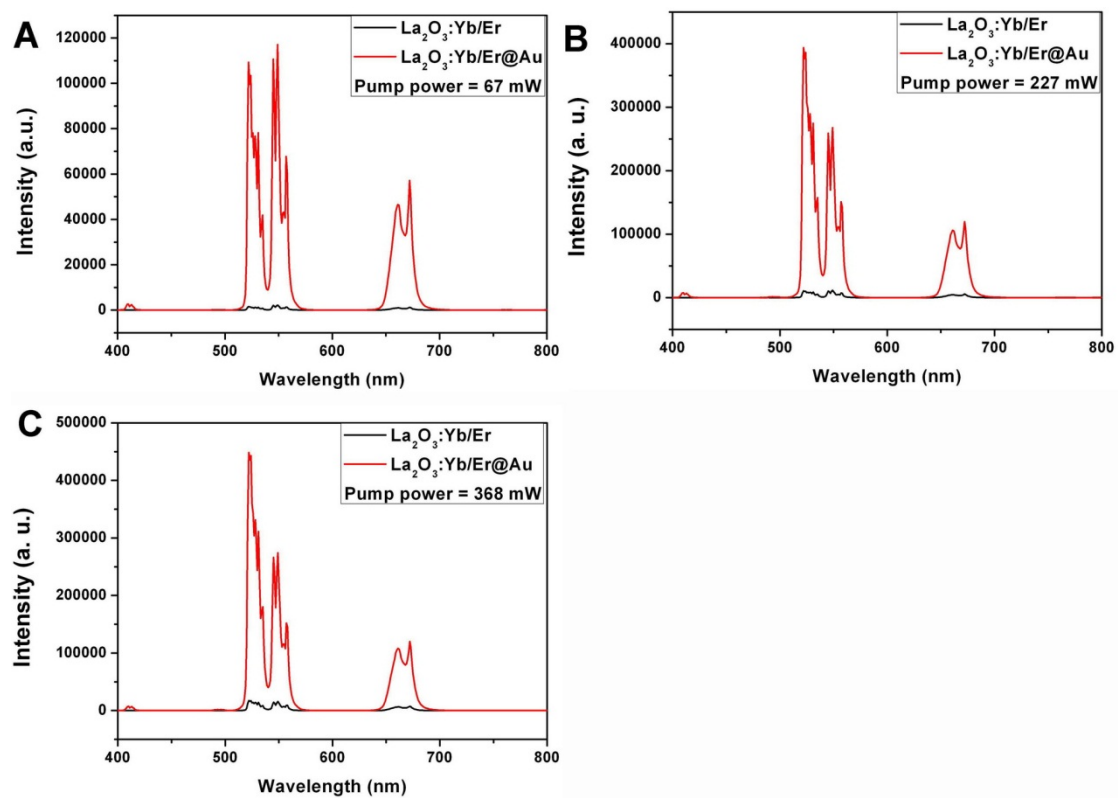


Fig. S5 The UC emission spectra of LHMSs and AHMSs under the pump power of 67 mW (A), 227 mW (B), and 368 mW.



Fig. S6 The photograph of the $\text{La}_2\text{O}_3:\text{Yb/Er@Au}$ sample dispersed in the deionized water under the daylight.