Electronic Supplementary Material (ESI) for CrystEngComm

Supporting information

Novel Synthesis and Luminescence Properties of *t*-$LaVO_4$:Eu^{3+} Micro Cube

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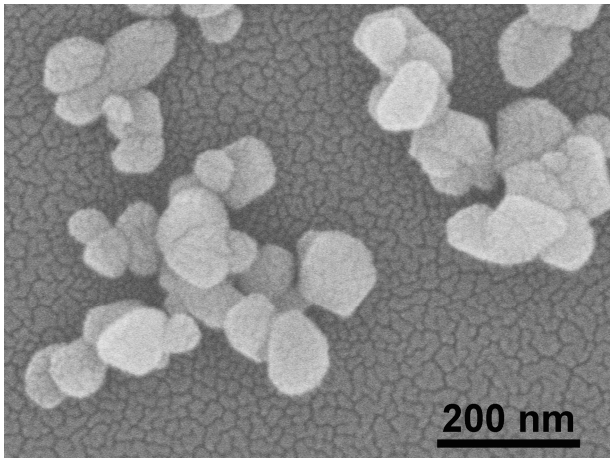

Figure S1 SEM image of $LaVO_4$:Eu^{3+} samples prepared with La(NO3)3 as precursor when 1,3,5-BTC was absent.

Experiment process. In a typical synthesis, 0.5 mmol NaAc was added into 30 mL solution containing 0.5 mmol $La_{0.95}Eu_{0.05}(NO_3)_3$ under magnetic stirring, and then the pH value was adjusted to 4 with HAc (1:1). After stirring for 10 min, 10 mL solution containing 0.5 mmol NH_4VO_3 was introduced to the above mixture. After further

stirring for 10 min, the mixture was transferred into 50 mL Teflon-lined autoclave and maintained at 180 °C for 24 h. After the autoclave was cooled naturally, the precipitation was collected and washed with water and ethanol in turn for 3 times, and air dried at 60 °C for 12 h.

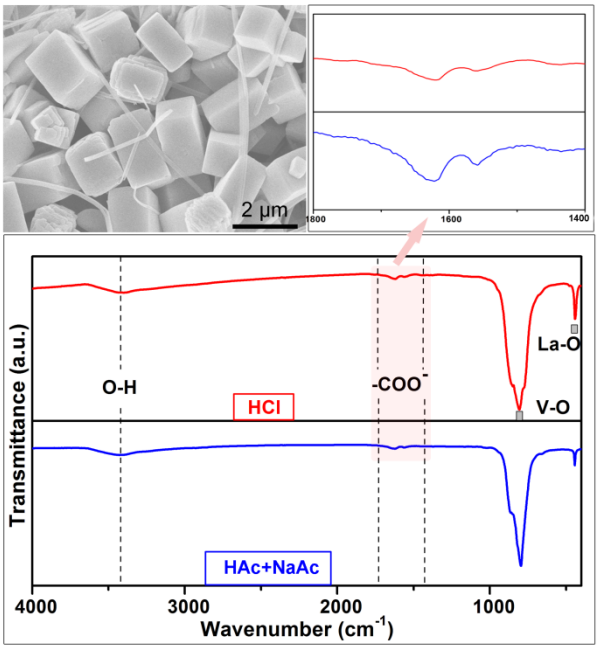

Figure S2 SEM image of $LaVO_4:Eu^{3+}$ samples prepared with pH adjusted to 4.0 by HCl, and FT-IR patterns of the samples prepared with pH adjusted to 4.0 by HCl and HAc + NaAc, respectively. The upper-right panel is the magnified image of the pink area.

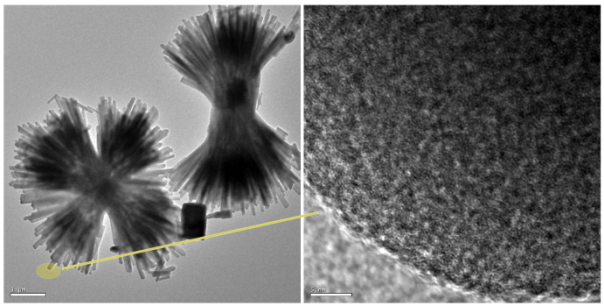

Figure S3 TEM and corresponding HRTEM images of the 2 h hydrothermal treated precursors.

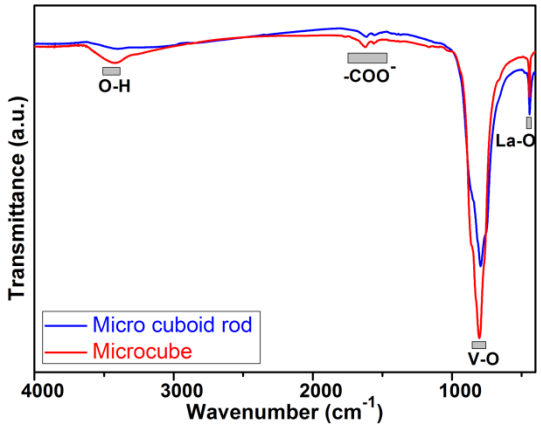

Figure S4 FT-IR spectra of the as-obtained cube and cuboid rod-shaped $LaVO_4:Eu^{3+}$ samples.