

Supporting information for

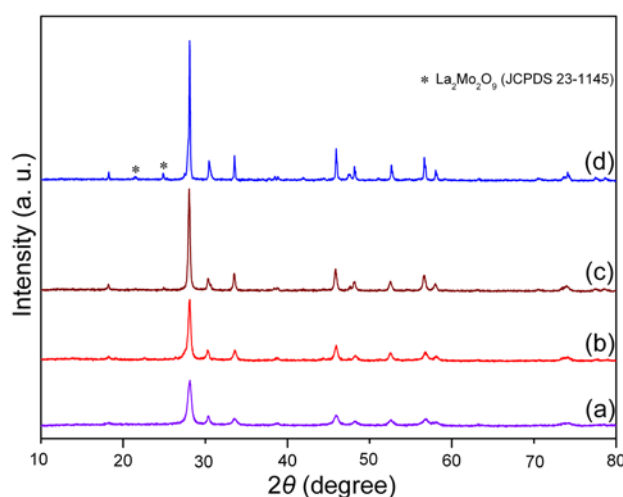
Various Self-Assembled Three-Dimensional Hierarchical Architectures of $\text{La}_2(\text{MoO}_4)_3$: Controlled Synthesis, Growth Mechanisms, Luminescence Properties and Adsorption Activities

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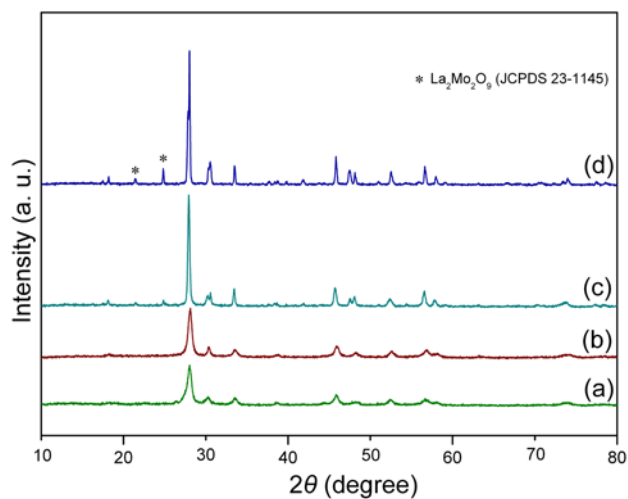
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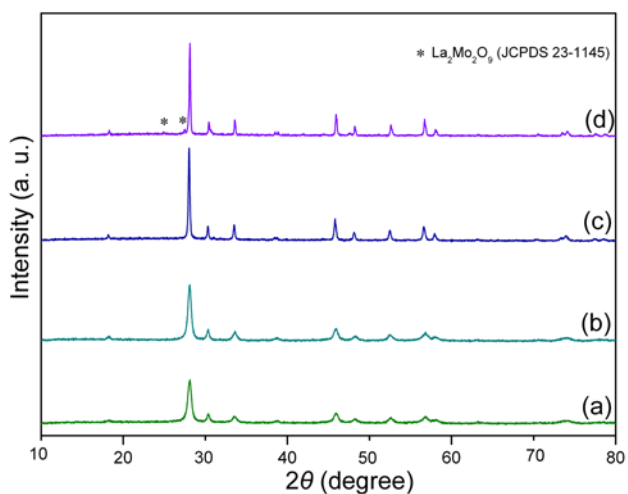
Supporting Information, Fig. S11. XRD patterns of S1 calcined at different temperatures for 3 h.

(a) 350 °C, (b) 500 °C, (c) 650 °C and (d) 800 °C.



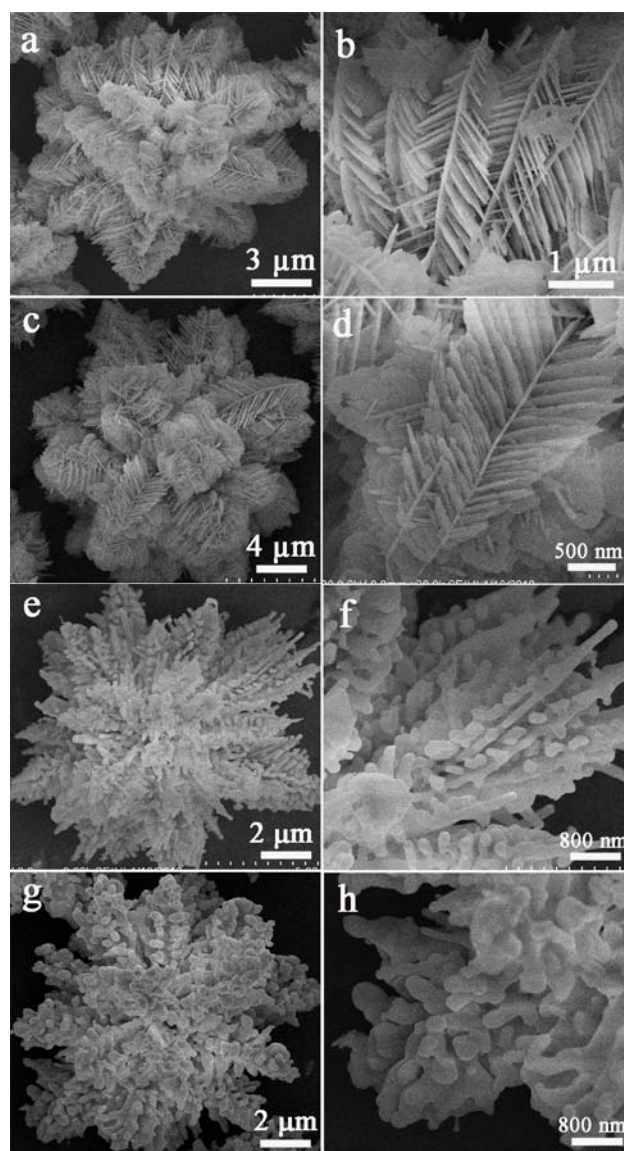
Supporting Information, Fig. SI2. XRD patterns of S2 calcined at different temperatures for 3 h.

(a) 350 °C, (b) 500 °C, (c) 650 °C and (d) 800 °C.



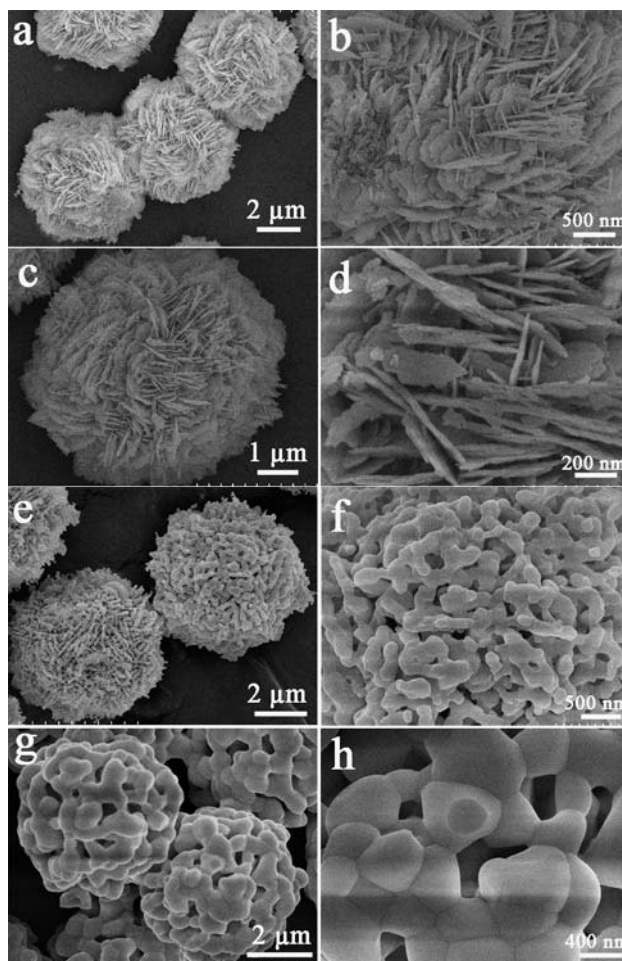
Supporting Information, Fig. SI3. XRD patterns of S5 calcined at different temperatures for 3 h.

(a) 350 °C, (b) 500 °C, (c) 650 °C and (d) 800 °C.



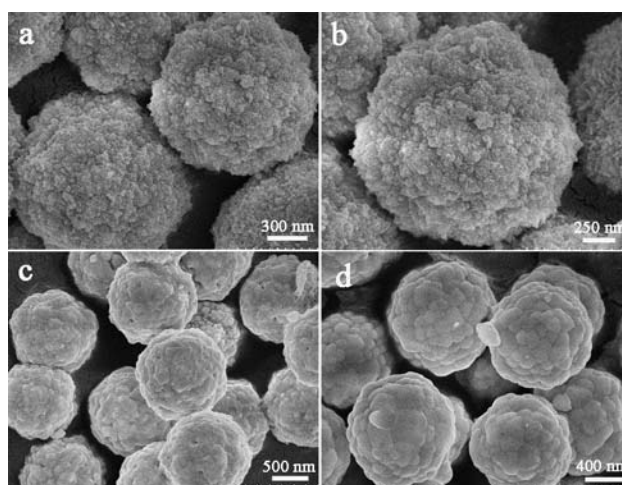
Supporting Information, Fig. SI4. SEM images of S1 calcined at different temperatures for 3 h.

(a, b) 350 °C, (c, d) 500 °C, (e, f) 650 °C and (g, h) 800 °C.



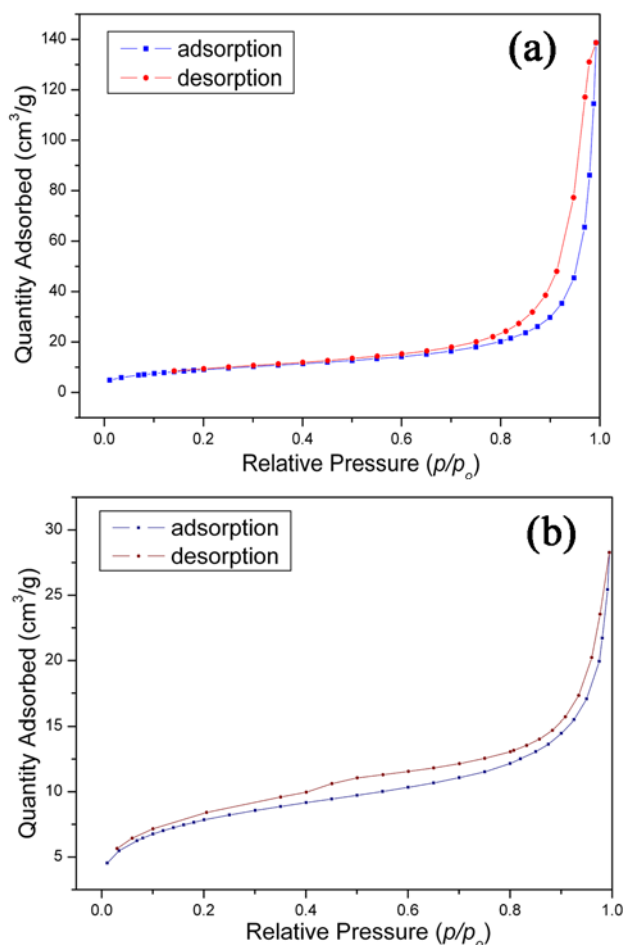
Supporting Information, Fig. SI5. SEM images of S2 calcined at different temperatures for 3 h.

(a, b) 350 °C, (c, d) 500 °C, (e, f) 650 °C and (g, h) 800 °C.



Supporting Information, Fig. SI6. SEM images of S5 calcined at different temperatures for 3 h.

(a) 350 °C, (b) 500 °C, (c) 650 °C and (d) 800 °C.



Supporting Information, Fig. SI7. Nitrogen adsorption-desorption isotherms of S1 (a) and S5 (b).

From Fig. SI7, it can be seen clearly that both nitrogen sorption isotherms of the two samples can be classified as type IV, according to IUPAC classification (please see: *Pure Appl. Chem.* 1985, **57**, 603). As illustrated in Fig. SI7a, the H3-type hysteresis loop reveals the macroporous structure nature of sample S1. On the other hand, the open H4-type hysteresis loop of sample S5 shown in Fig. SI7b can be attributed to the mesoporous structures formed by the aggregation of particles (please see: *Chem. Mater.* 2007, **19**, 2304 and *Chem. Mater.* 2008, **20**, 3034). The above result agrees well with the SEM observation. Furthermore, the pore volumes of S1 and S5 are 0.22 and 0.047 cm³·g⁻¹, respectively. It is obvious that S1 exhibits a much larger adsorption capacity than S5, accounting for relative more macropores in S1.