

Supporting information

Table S1 Samples and Corresponding Experimental Parameters.

Sample	Reaction time (h)	Reaction Temperature (°C)	n (Ce ³⁺) (mmol)	n (BTTA) (mmol)	Molar ratio of Ce ³⁺ and BTTA
1	6	120	0.1	0.1	1:1
2	6	80	0.1	0.1	1:1
3	6	100	0.1	0.1	1:1
4	6	160	0.1	0.1	1:1
5	6	200	0.1	0.1	1:1
6	0.75	120	0.1	0.1	1:1
7	2	120	0.1	0.1	1:1
8	4	120	0.1	0.1	1:1
9	6	120	0.1	0.2	1:2
10	6	120	0.1	0.3	1:3

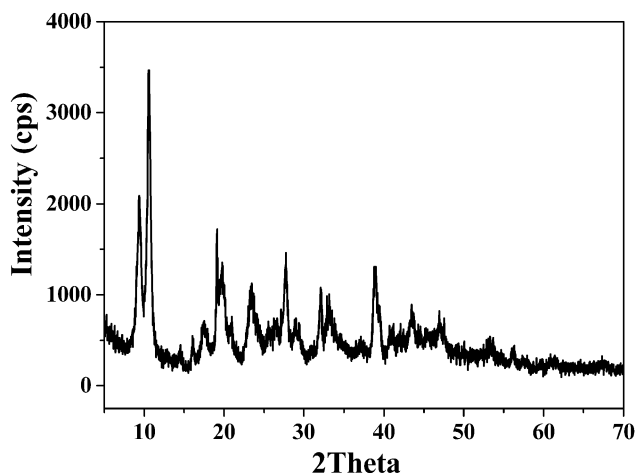


Fig. S1 XRD pattern of sample 1.

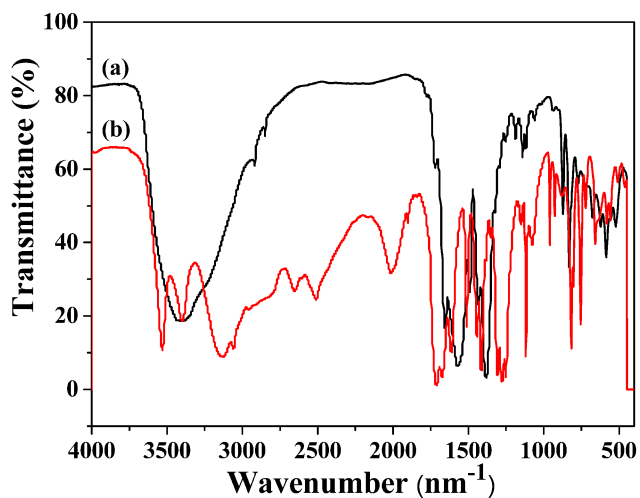


Fig. S2 FT-IR spectrums of the (a) sample 1 and (b) BTTA.

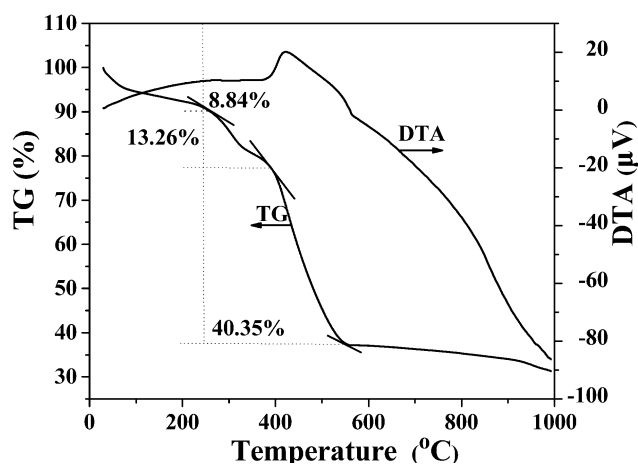


Fig. S3 TG-DTA curves of sample 1.

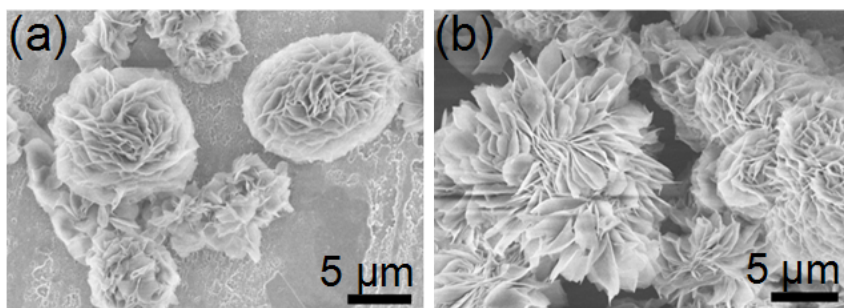


Fig. S4 SEM images of the as-prepared product: the ratio of $\text{Ce}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$ to BTTA is 1:2 (sample 13), 1:3 (sample 14) separately.

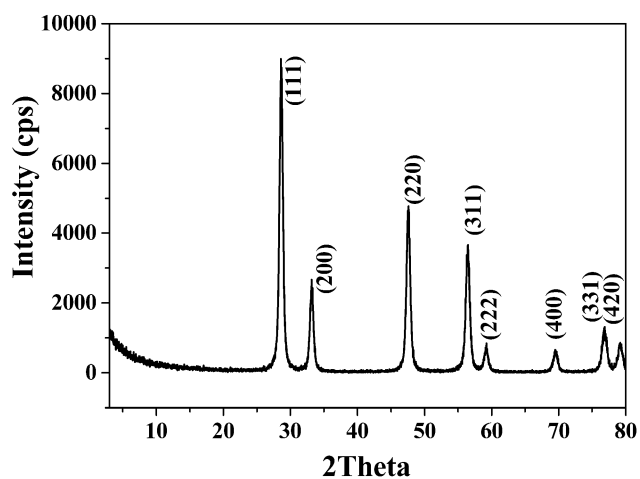


Fig. S5 XRD pattern of the flowerlike ceria.

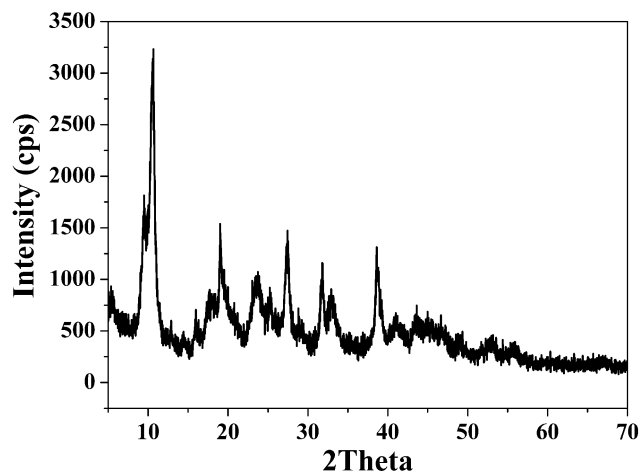


Fig. S6 XRD pattern of the flowerlike La-BTTA.

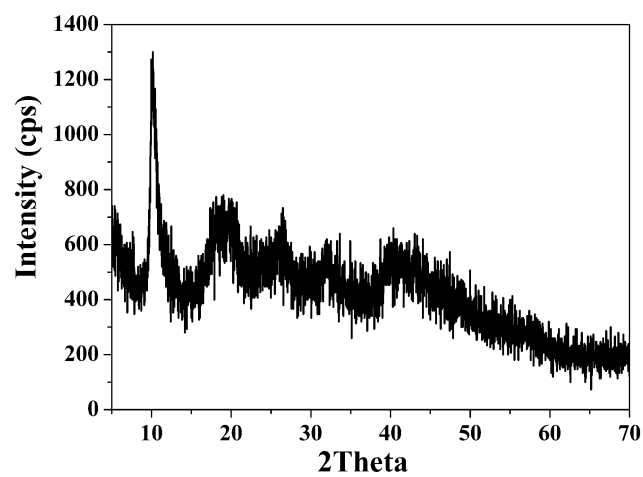


Fig. S7 XRD pattern of the flowerlike Gd-BTTA.

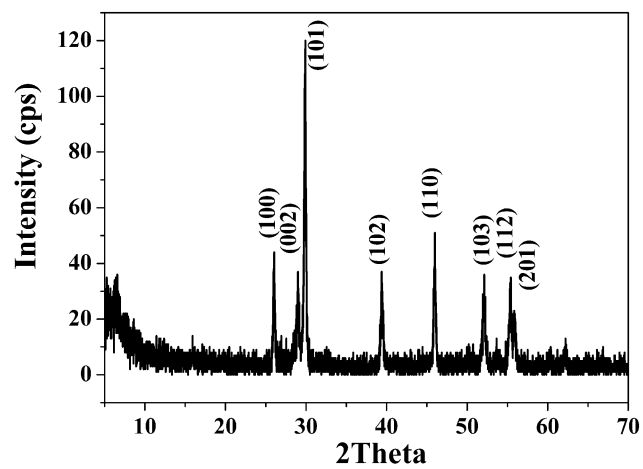


Fig. S8 XRD pattern of the product prepared after calcining the flowerlike La-BTTA at 600 °C for 4 h.

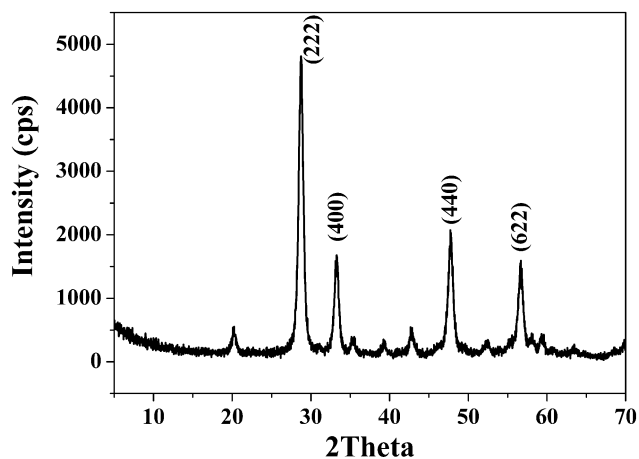


Fig. S9 XRD pattern of the product prepared after calcining the flowerlike Gd-BTTA at 600 °C for 4 h.

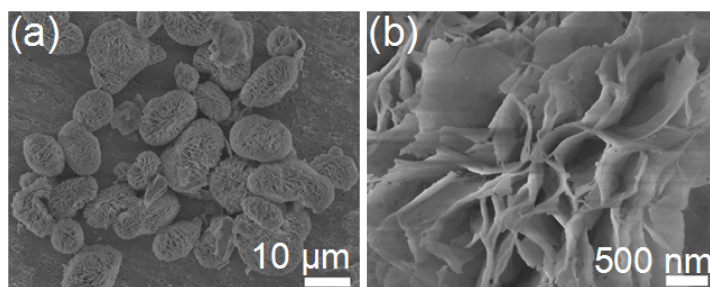


Fig. S10 SEM images of La_2O_3 obtained after calcinations of La-BTTA in air at 600 °C.

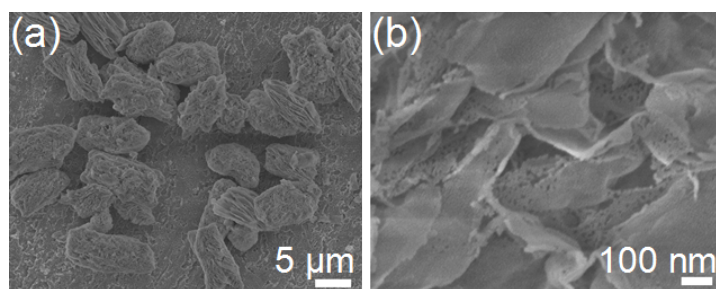


Fig. S11 SEM images of the Gd_2O_3 obtained after calcinations of Gd-BTTA in air at 600 °C.