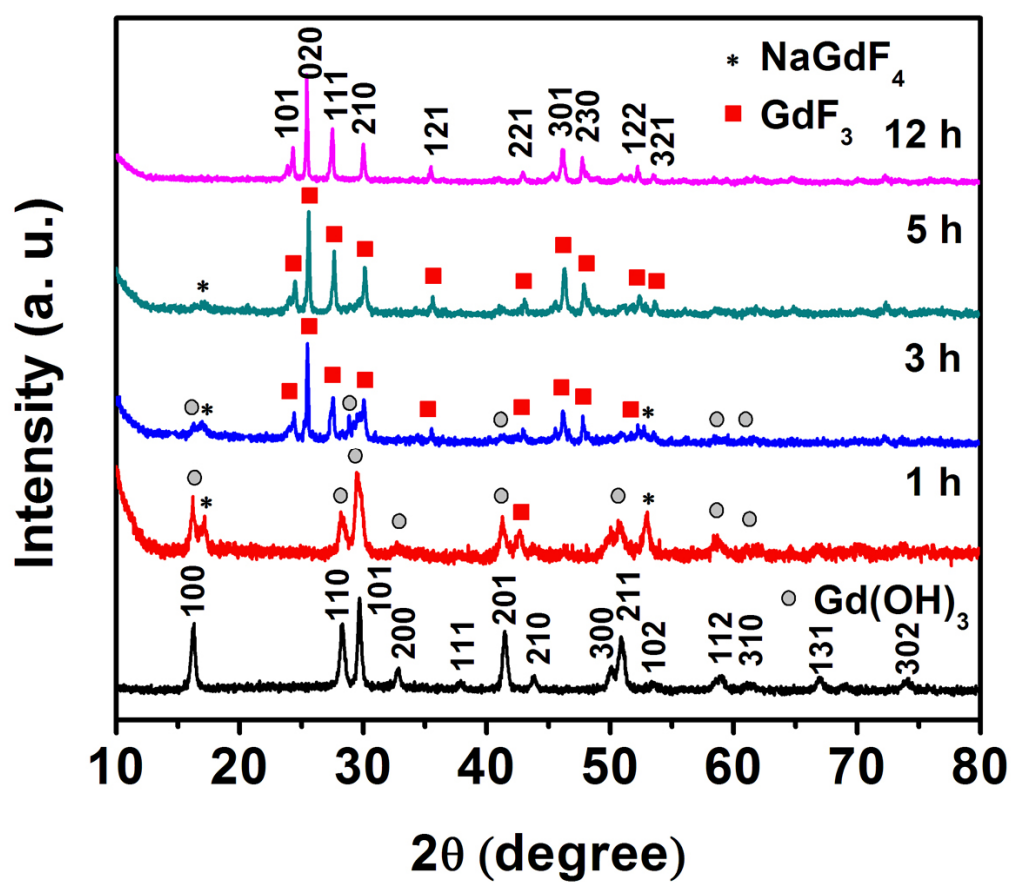


## **Electronic supplementary information**

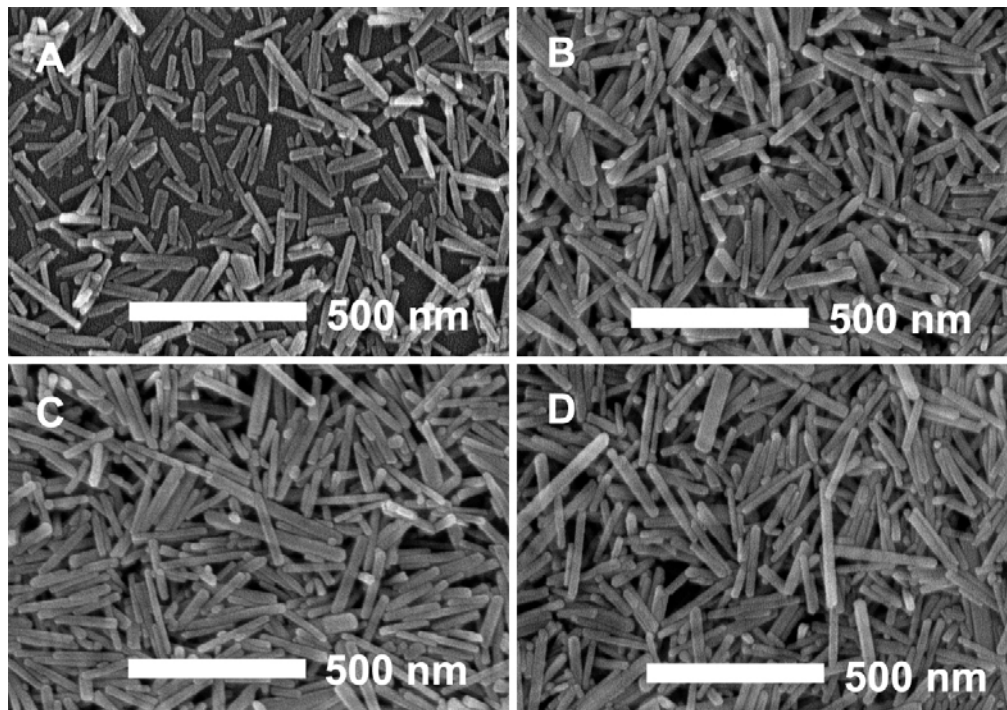
### **Self-Templated and Self-Assembled Synthesis of Nano/ Microstructures of Gd-Based Rare-Earth Compounds: Morphology Control, Magnetic and Luminescence Properties**

**Zhenhe Xu, Chunxia Li\*, Dongmei Yang, Wenxin Wang, Xiaojiao Kang,  
Mengmeng Shang, and Jun Lin\***

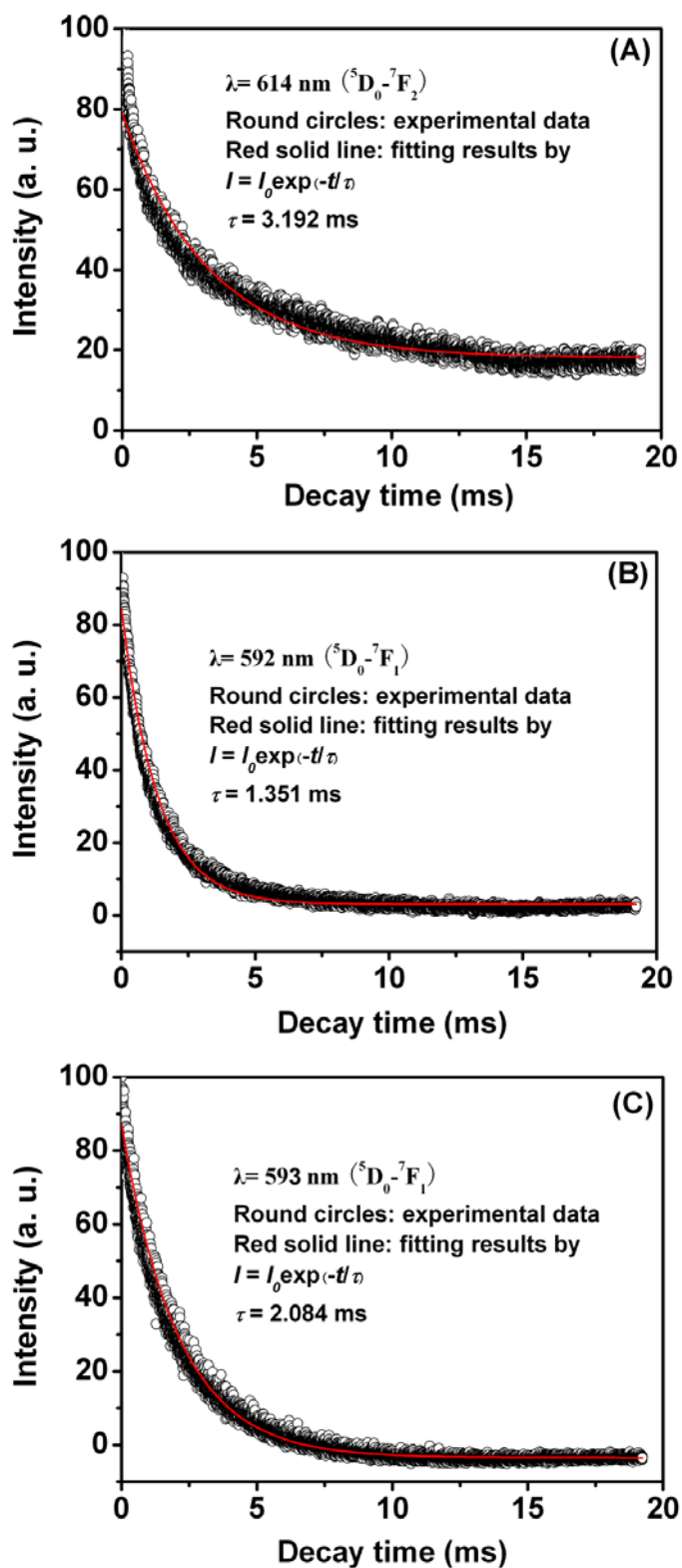
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**Figure S1.** XRD patterns of evolution for GdF<sub>3</sub> nanorods with different reaction times.



**Figure S2.** SEM images of evolution for  $\text{GdF}_3$  sample at different reaction times: (A) 1 h, (B) 3 h, (C) 5 h, (D) 12 h.



**Figure S3.** Decay curves for the as-prepared samples: (A) NaGdF<sub>4</sub>: 5 mol % Eu<sup>3+</sup>, (B) GdF<sub>3</sub>: 5 mol % Eu<sup>3+</sup>, and (C) GdBO<sub>3</sub>: 5 mol % Eu<sup>3+</sup>.