Supporting Information

Size-Dependent Polarized Photoluminescence from $Y_3Al_5O_{12}$: Eu^{3+} Single Crystalline Nanofiber Prepared by Electrospinning

Guoping Dong, Xiudi Xiao, Yingzhi Chi, Bin Qian, Xiaofeng Liu, Zhijun Ma, E Wu, Heping Zeng, Danping Chen, and Jianrong Qiu

1. Preparation of Electrospun Nanofibers

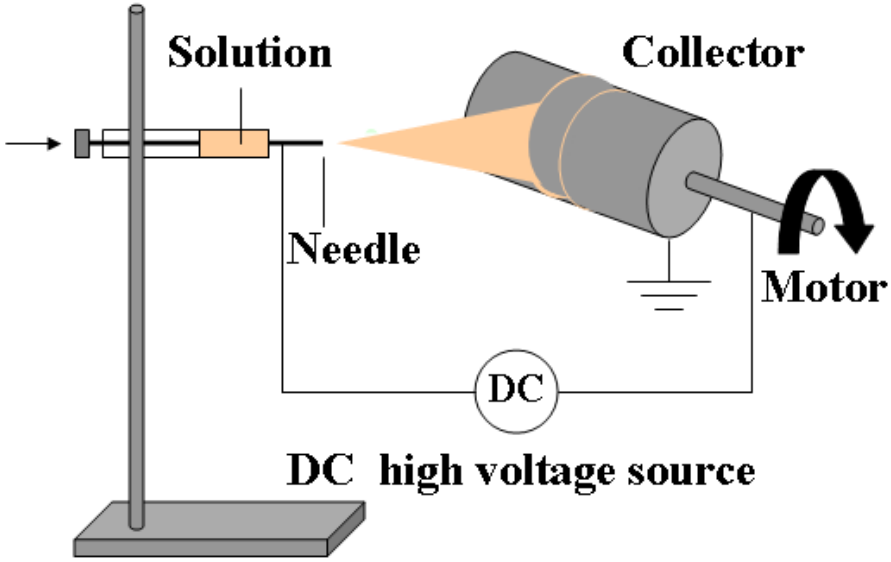

Figure S1. Schematic diagram of electrospinning equipment.

2. Characterization of Polarized PL from Individual YAG: Eu^{3+} Nanofiber

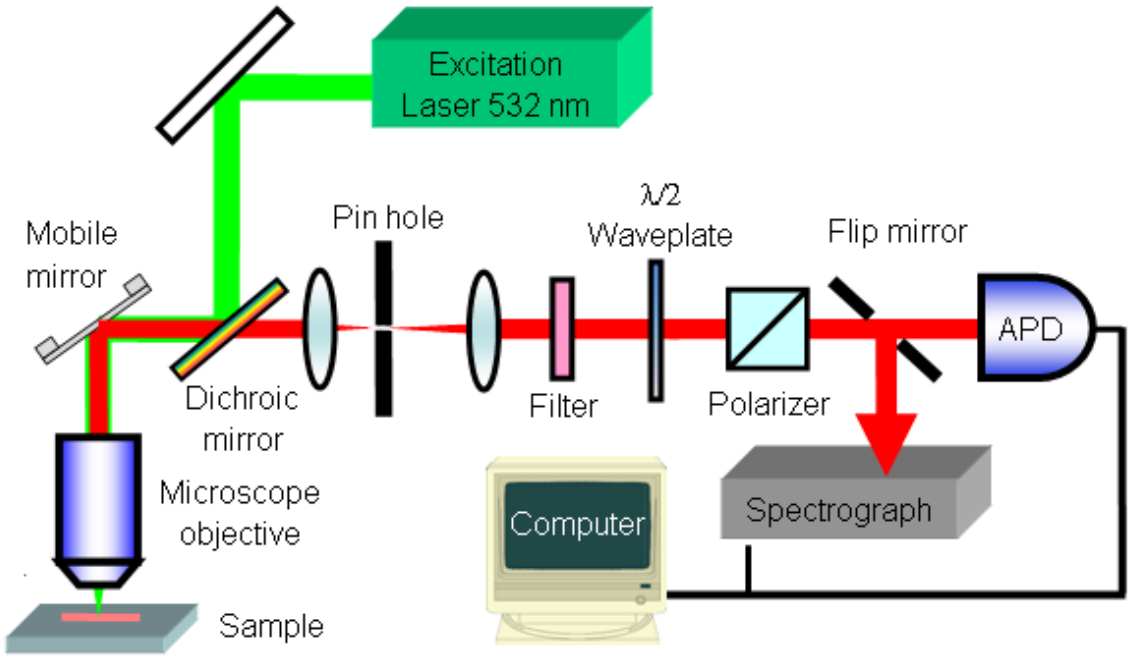

Figure S2. Experimental setup for characterization of the polarized PL property of individual nanofiber.

3. Results

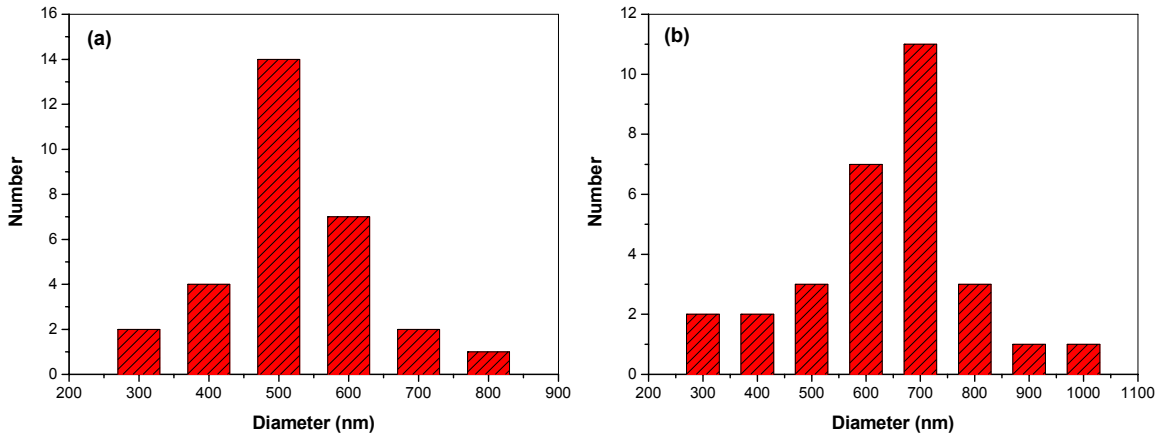

Figure S3. The diametrical distribution spectra of (a) YAG(2) and (b) YAG(3) nanofibers in Fig.2(c) and (d), a total number of thirty nanofibers are taken to evaluate the diametrical distribution.

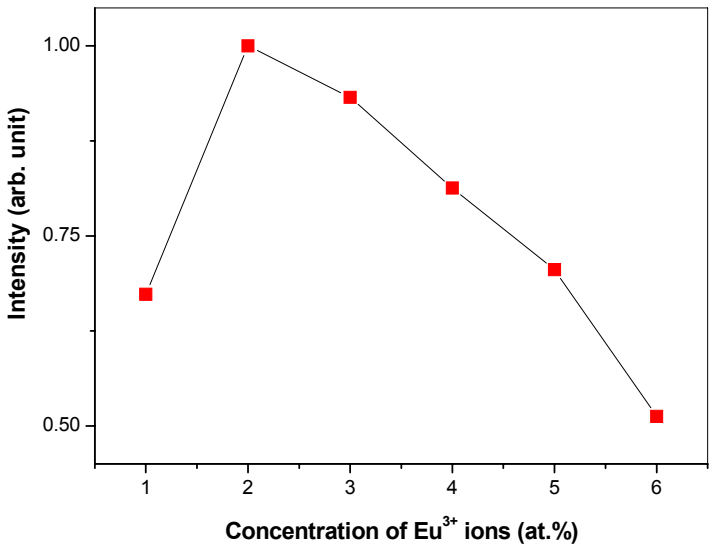

Figure S4. Normalized integrated PL intensity versus the doping concentrations of Eu^{3+} ions of YAG: xEu^{3+} nanofibers calcined at 1000 °C for 5 h.

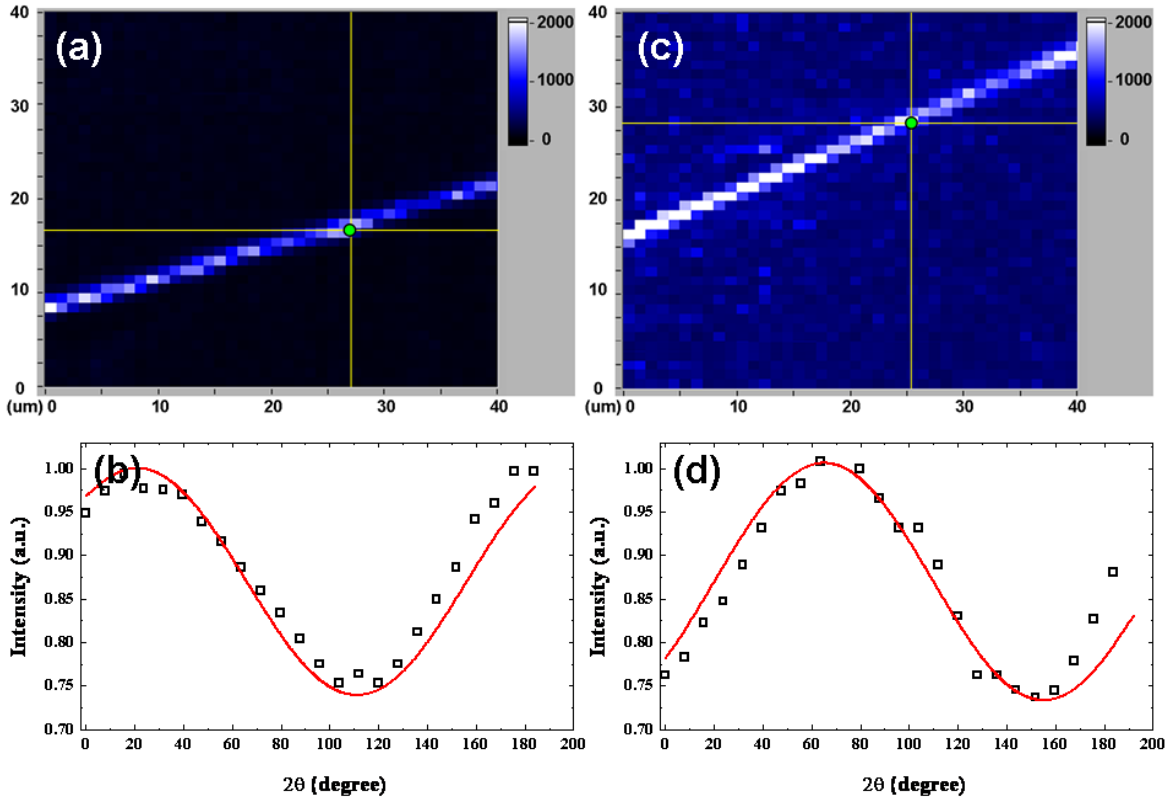

Figure S5. (a) and (c) PL images of individual YAG: 0.02Eu^{3+} nanofiber with the voltage of 20 kV. The green dots show the detecting points. (b) and (d) PL intensity versus collection polarization

angle corresponding to the nanofiber in Fig.S5(a) and (c). The polarization ratio (ρ) is calculated to be 0.153 and 0.156, respectively. The solid line is a fit to $\cos^2\theta$, showing a 180 ° periodicity.