Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting Information for

Powerful White Emission from a Single Upconversion Nanoparticle and Tunable Emission Color with Laser Power

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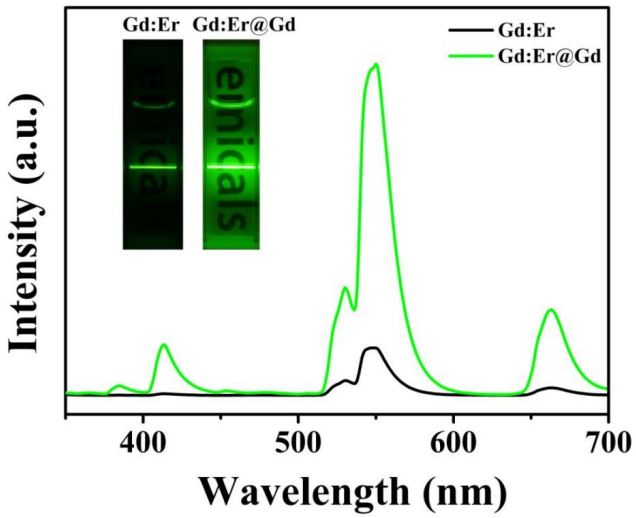

Fig. S1 Room-temperature luminescence spectra of Gd:Er and Gd:Er@Gd nanoparticles under the 980 nm laser excitation. Inset is the respective luminescence photographs of these two nanoparticles. Concentration of the samples is 1mg.ml^{-1}; laser power is 300 mW.

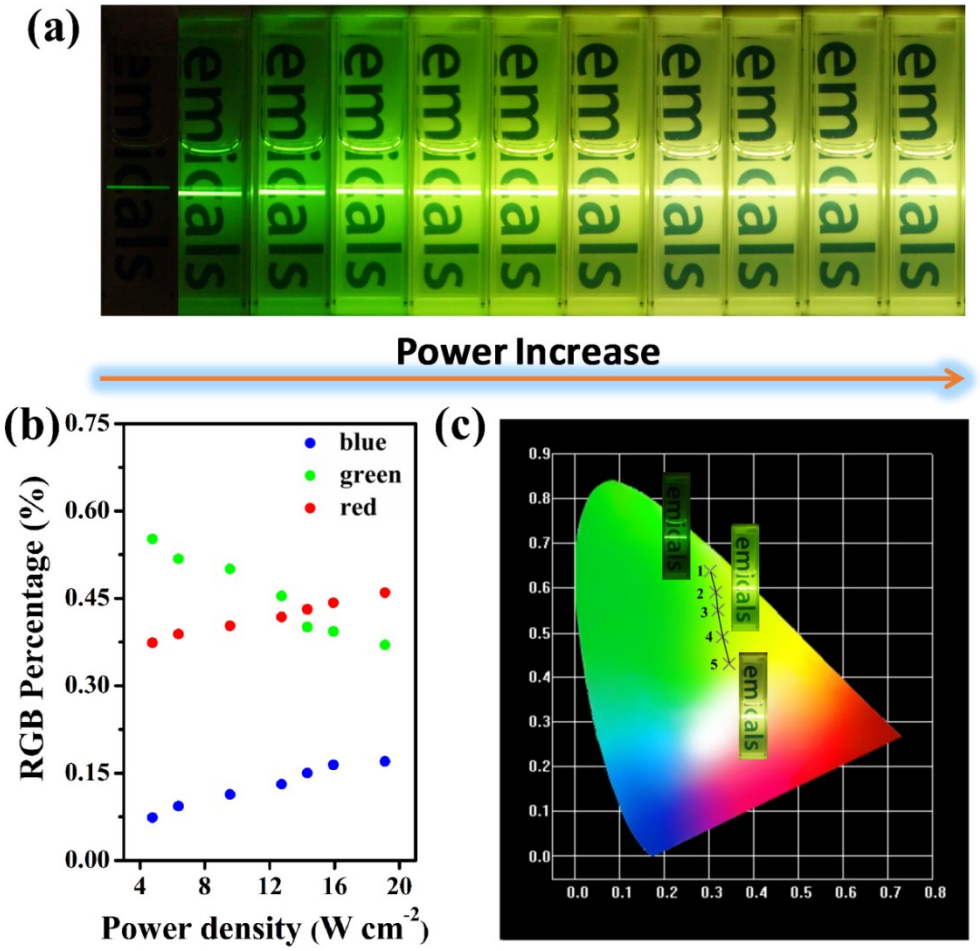

Fig. S2 Power dependent measurement of color-tunable Gd:Er@Gd@Gd:Tm nanoparticles. (a) Luminescence photographs of Gd:Er@Gd@Gd:Tm nanoparticles in n-hexane under increasing the excitation power from 150 mW to 600 mW. (b) Corresponding emission intensity ratio of RGB measured as a function of power density (5 W·cm^2 to 19 W·cm^2). (c) Color gamut of the emission colors in the CIE 1931 chromaticity diagram and corresponding luminescence photographs at low, medium and high power.

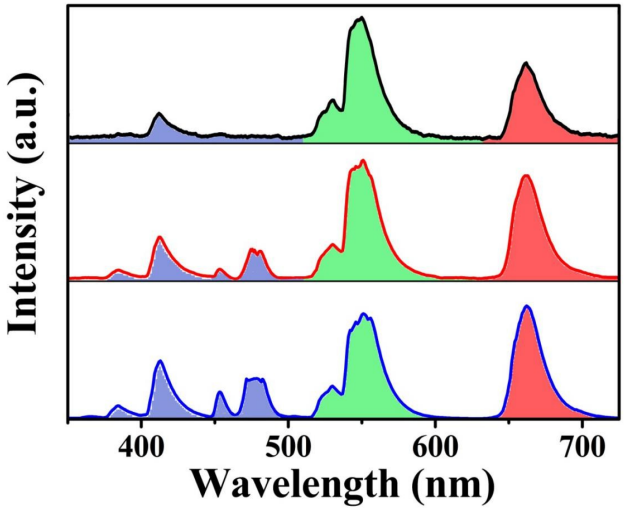

Fig. S3 (a) Room-temperature luminescence spectra of C/2S nanoparticles under the excitation of 980 nm laser with powers of 100 (black line), 350 (red line) and 600 mW (blue line).