

Figure S1. DLS measurements on the size of (a) Tm,Yb:GdVO<sub>4</sub> and (b) Tm,Yb:GdVO<sub>4</sub>@SiO<sub>2</sub> nanoparticles

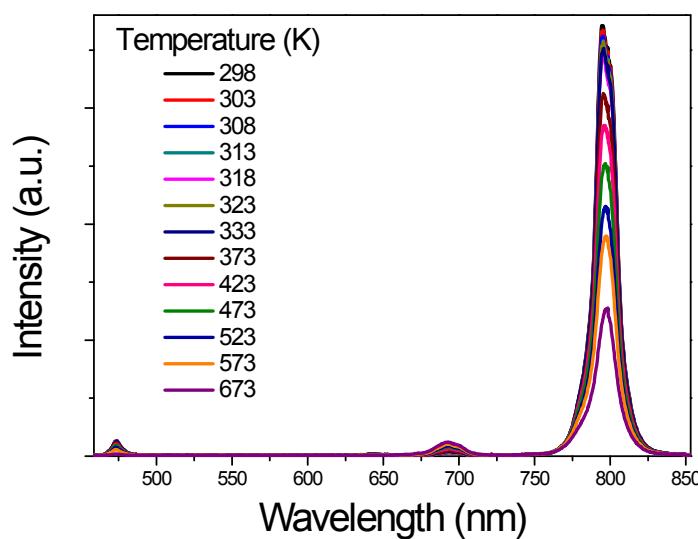


Figure S2. Evolution from room temperature up to 673 K of upconversion spectra under 980 nm excitation for 1 % Tm<sup>3+</sup>, 15 % Yb<sup>3+</sup>:GdVO<sub>4</sub> core-shell nanoparticles covering the spectral range from 460 nm to 850 nm.

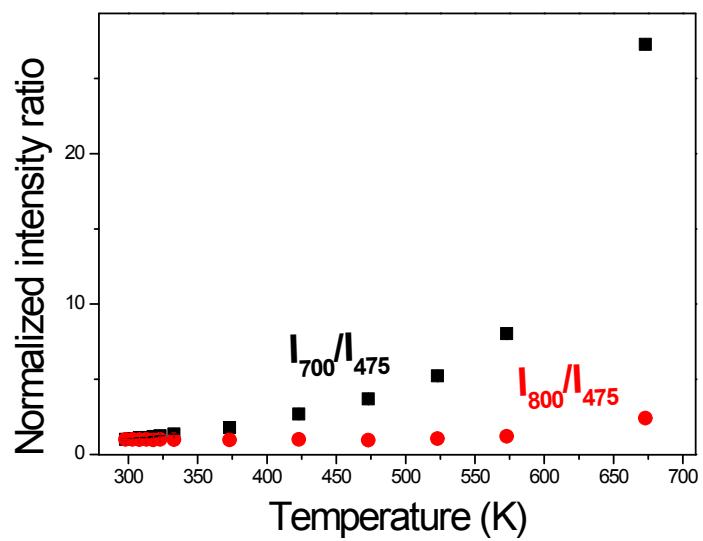


Figure S3. Calibration curves of the intensity ratios between the emission peaks located at 475 and 700 nm ( $I_{700}/I_{475}$ ) and 475 and 800 nm ( $I_{800}/I_{475}$ ) as a function of temperature.