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

Supplementary Information

Ratiometric Near-Infrared Fluorescence Nanothermometry in the OTN-NIR (NIR II/III) Biological Window Based on Rare-Earth Doped β-$NaYF_4$ Nanoparticles

Masao Kamimura,*[a,b] Taiki Matsumoto,[a] Satoru Suyari,[a] Masakazu Umezawa,[a,b] and Kohei Soga*[a,b]

[a] Department of Materials Science and Technology, Tokyo University of Science, 6-3-1 Niijuku, Katsushika-ku, Tokyo 125-8585 Japan.

[b] Imaging Frontier Center (IFC), Research Institute for Science and Technology (RIST), Tokyo University of Science, 6-3-1 Niijuku, Katsushika-ku, Tokyo 125-8585, Japan.

*Corresponding author: E-mail: masaokamimura@rs.tus.ac.jp; mail@ksoga.com

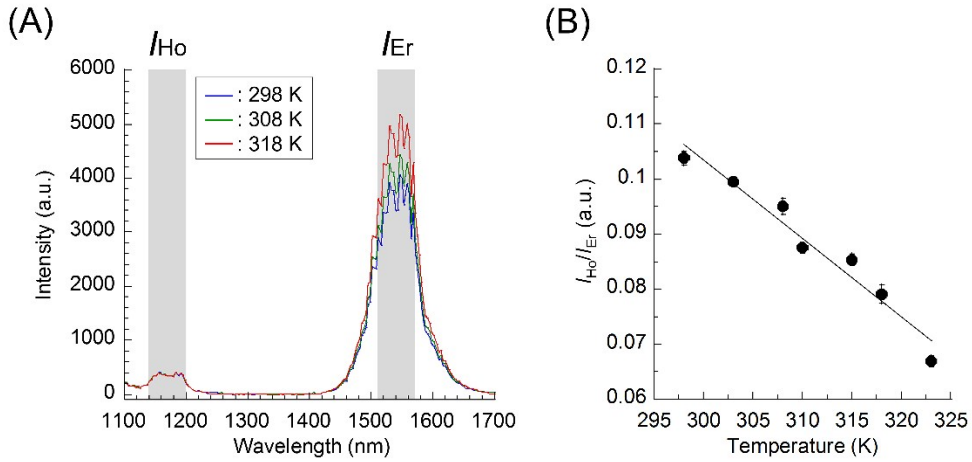

Fig. S1 Temperature dependence of the OTN-NIR emission of the PEGylated $NaYF_4$:Yb^{3+},Ho^{3+},Er^{3+} NPs in physiological saline. (A) Temperature dependence of the emission spectra. (B) Temperature dependence of the intensity ratio between the emission peaks, I_{Ho}/I_{Er}. The emission measurement was performed in physiological saline as the dispersion medium with a sample concentration of 40 mg/mL. The excitation wavelength was 980 nm. The laser power was 4.22 W.