Electronic Supplementary Material (ESI) for Nanoscale.

Supplementary Information

Grafting of terbium (III) complexes on layered rare-earth hydroxide nanosheets to fabricate novel optical fiber temperature sensors

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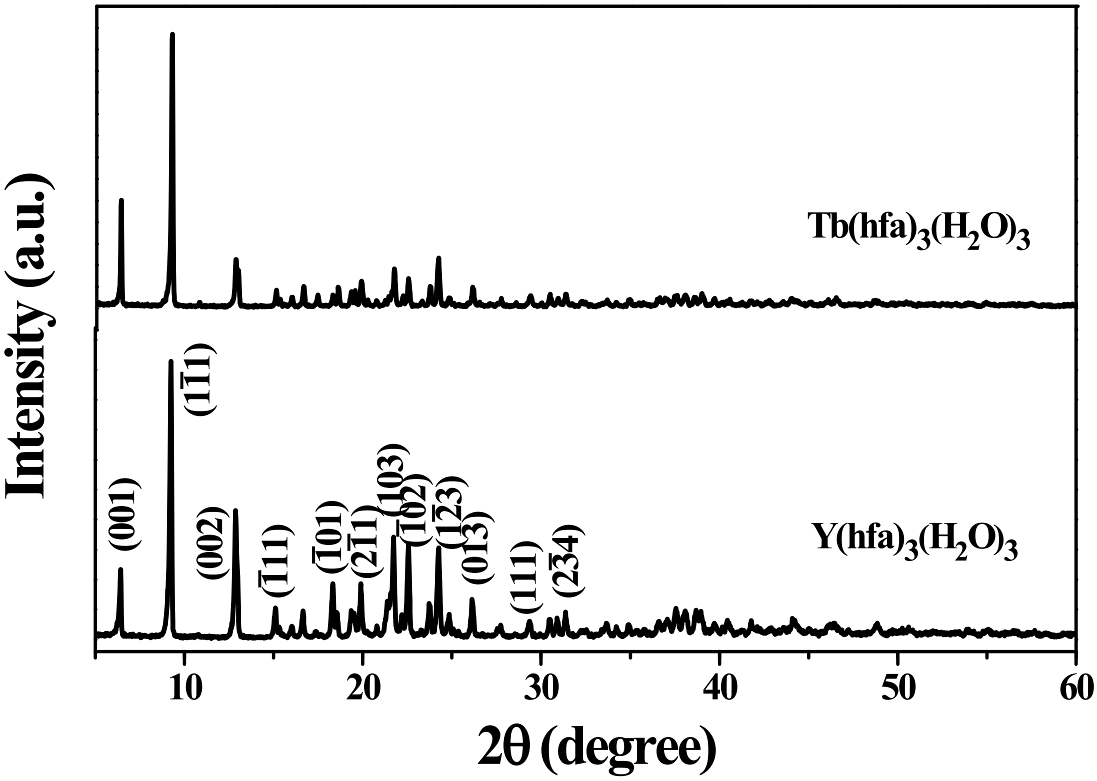

Figure S1. XRD patterns of $Y(hfa)_3(H_2O)_3$ and $Tb(hfa)_3(H_2O)_3$.

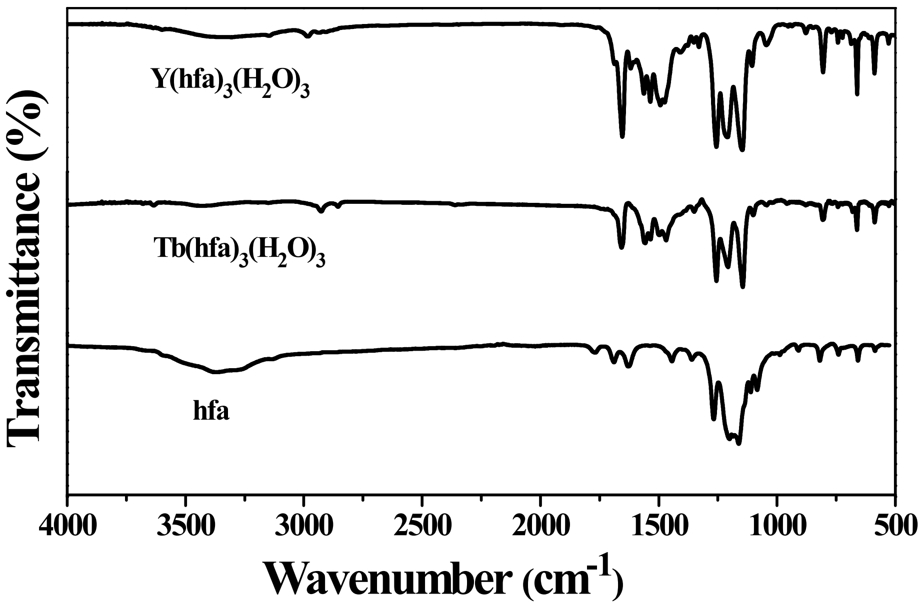

Figure S2. FT-IR spectra of $Y(hfa)_3(H_2O)_3$, $Tb(hfa)_3(H_2O)_3$ and hfa.

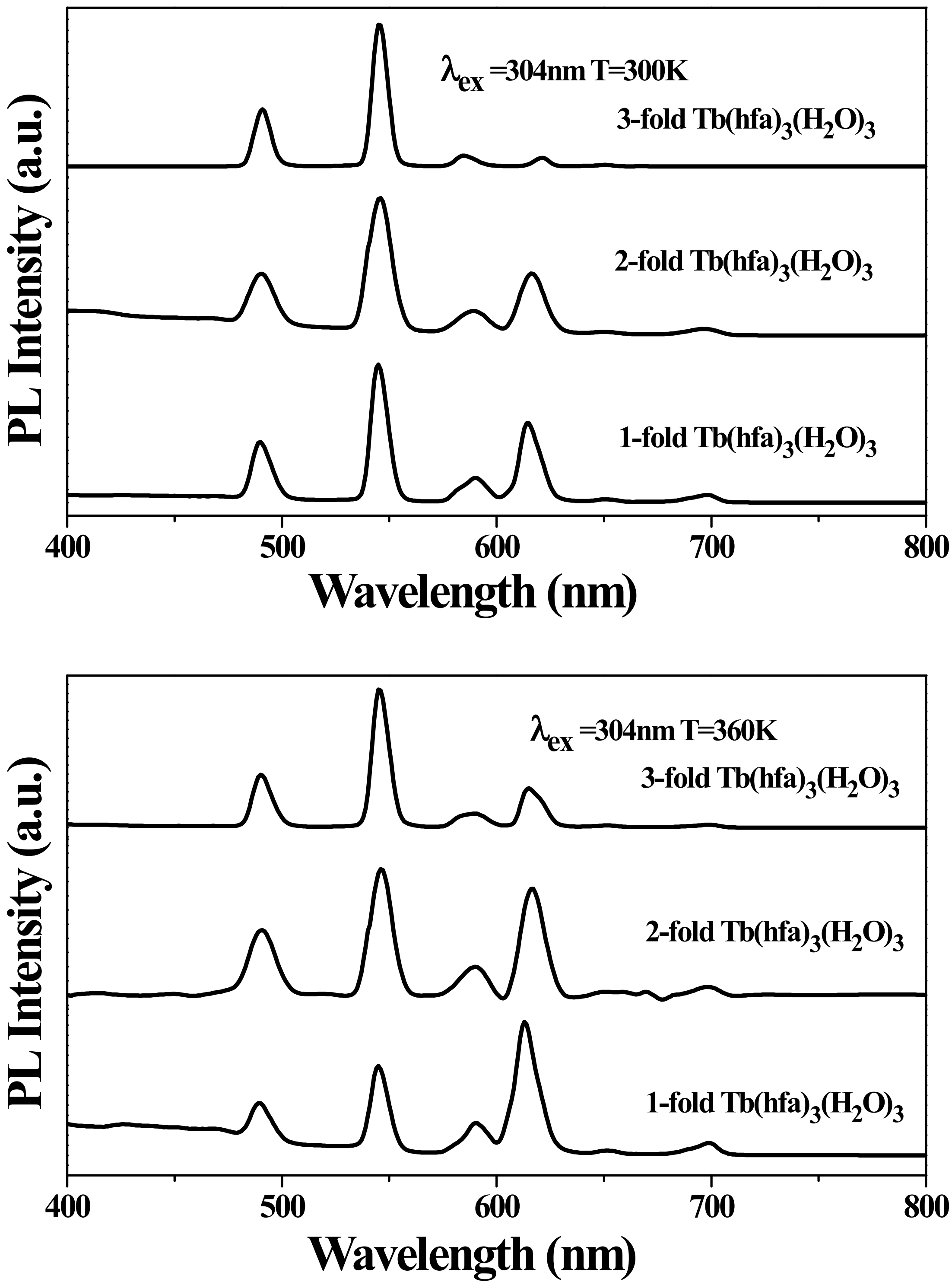

Figure S3. PL spectra of the films at the heating temperatures of 300 K and 360 K, as a function of grafting content of Tb complex.

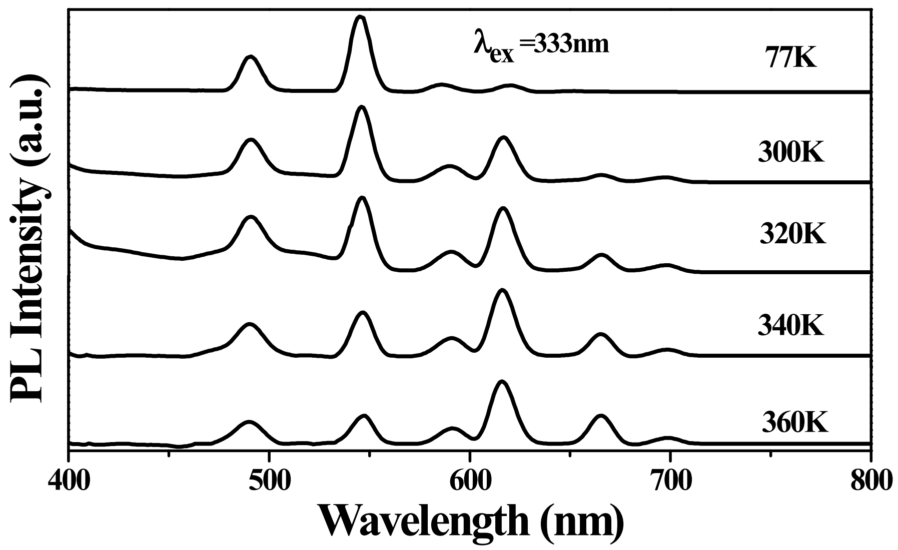

Figure S4. PL spectra of the two-layer film excited by 333 nm, as a function of heating temperature from 77 K to 360 K.

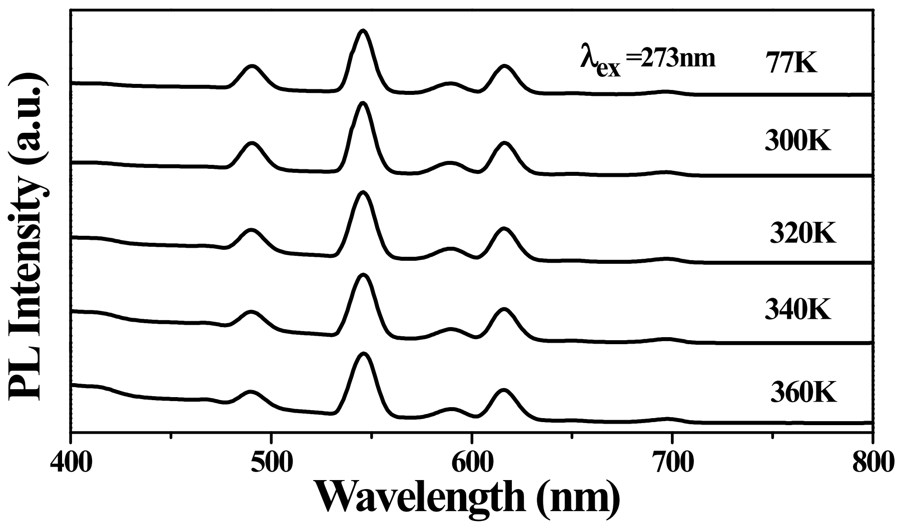

Figure S5. PL spectra of the two-layer film excited by 273 nm, as a function of heating temperature from 77K to 360 K.

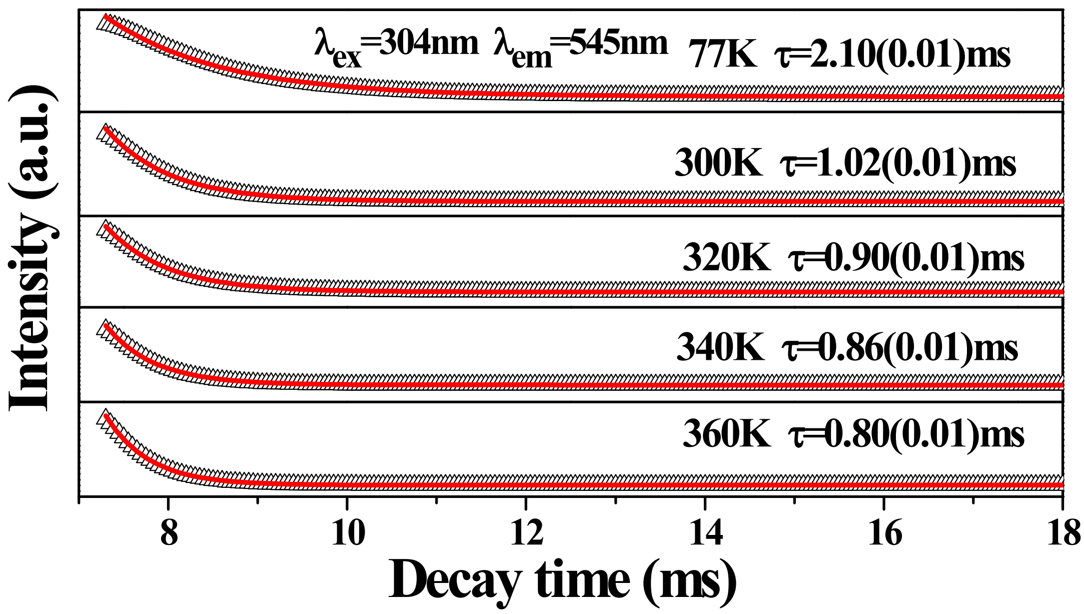

Figure S6. Fluorescence decay curves for the 546-nm emission of film at different heating temperatures. The scattered data points and the solid lines are the experimental and fitting results, respectively.

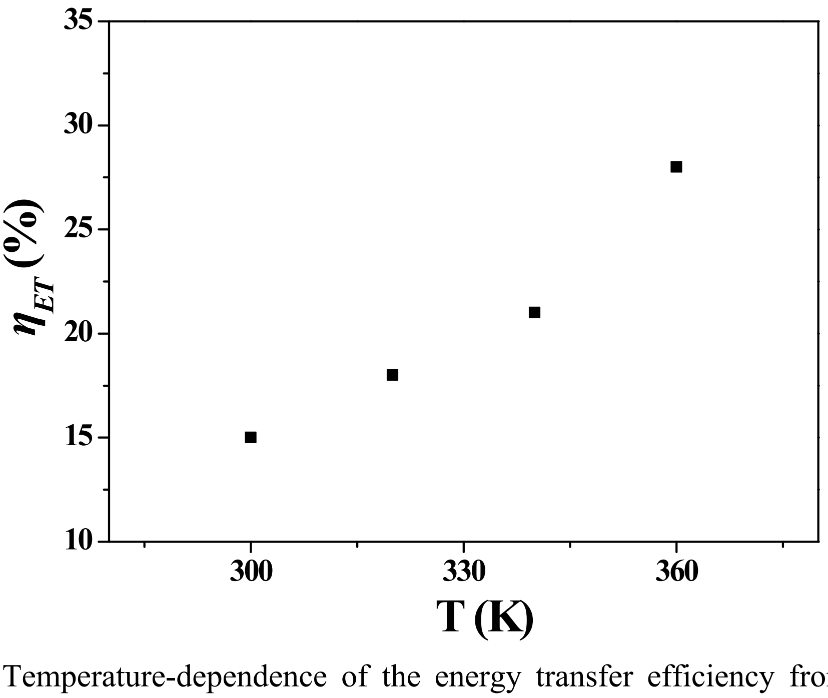

Figure S7. Temperature-dependence of the energy transfer efficiency from Tb^{3+} to Eu^{3+}.

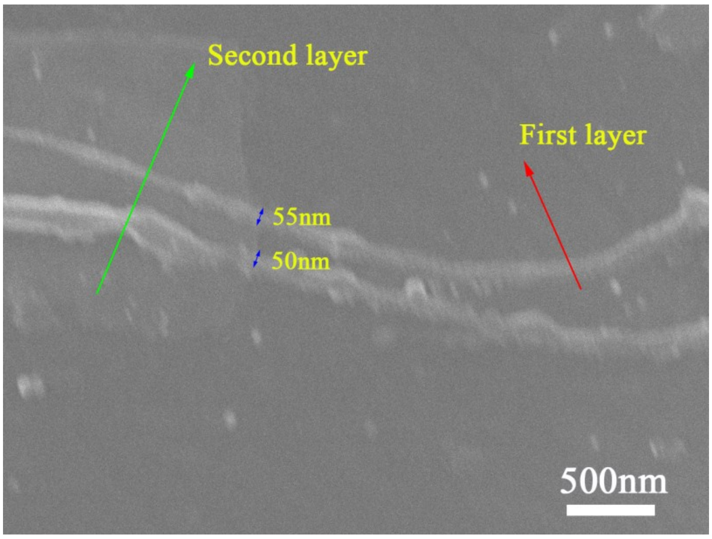

Figure S8. FE-SEM morphology of the two-layer film on optical fiber.