

## Supporting Information

### Large Electrostrain and High Optical Temperature Sensitivity in BaTiO<sub>3</sub>- (Na<sub>0.5</sub>Ho<sub>0.5</sub>)TiO<sub>3</sub> Multifunctional Ferroelectric Ceramics

*Jun Li, Xiaona Chai, Xusheng Wang,\* Chao-Nan Xu, Yihao Gu, Haifeng Zhao, and Xi Yao*

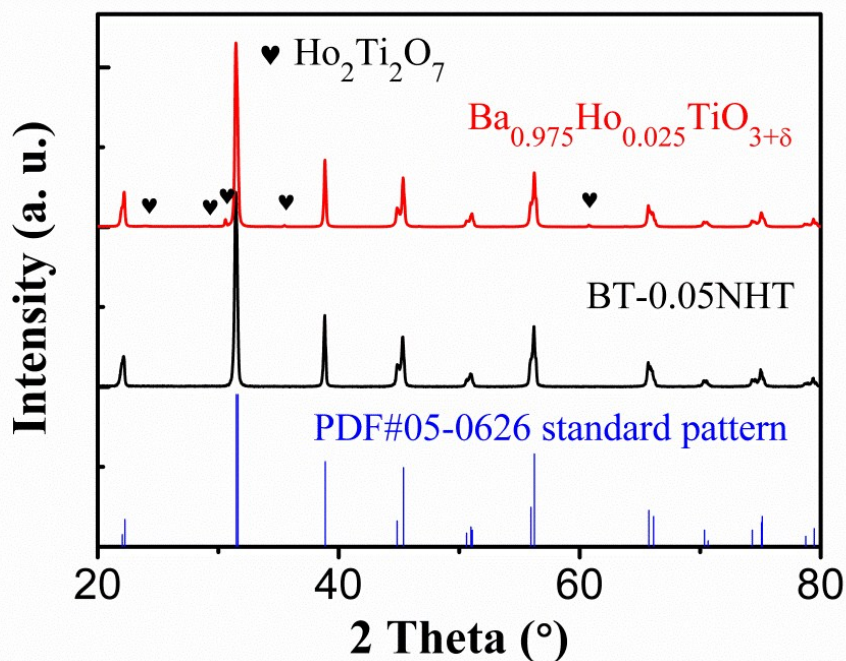


Figure S1. XRD patterns of the obtained BaTiO<sub>3</sub>-0.05Na<sub>0.5</sub>Ho<sub>0.5</sub>TiO<sub>3</sub> and 2.5 mol% Ho<sup>3+</sup>-doped BaTiO<sub>3</sub>.

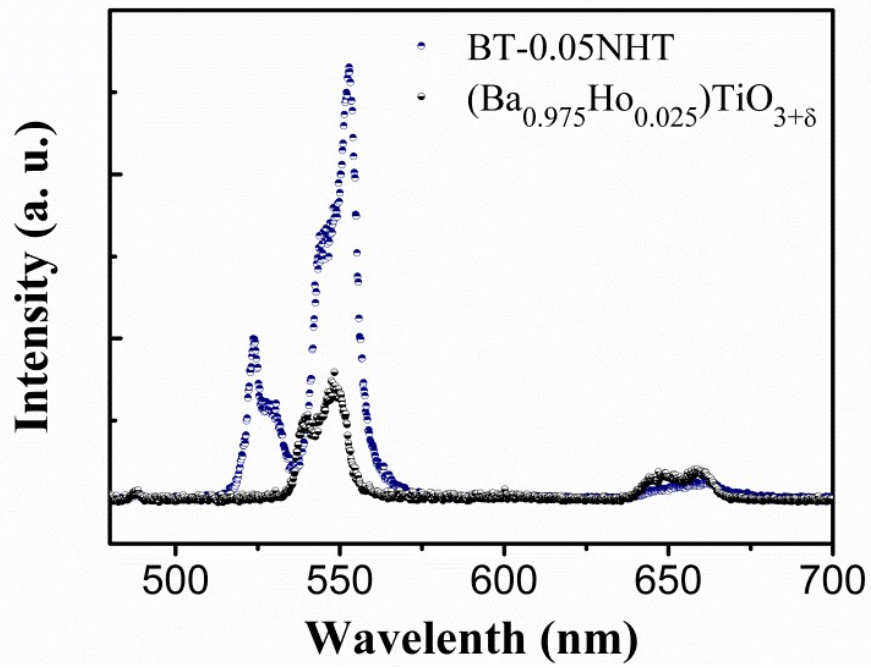


Figure S2. Upconversion emission of the obtained  $\text{BaTiO}_3\text{-}0.05\text{Na}_{0.5}\text{Ho}_{0.5}\text{TiO}_3$  and 2.5 mol%  $\text{Ho}^{3+}$ -doped  $\text{BaTiO}_3$  under the 980 nm laser excitation with the same power at room temperature.