

A robust, multifunctional optical sensing platform operating under practical conditions

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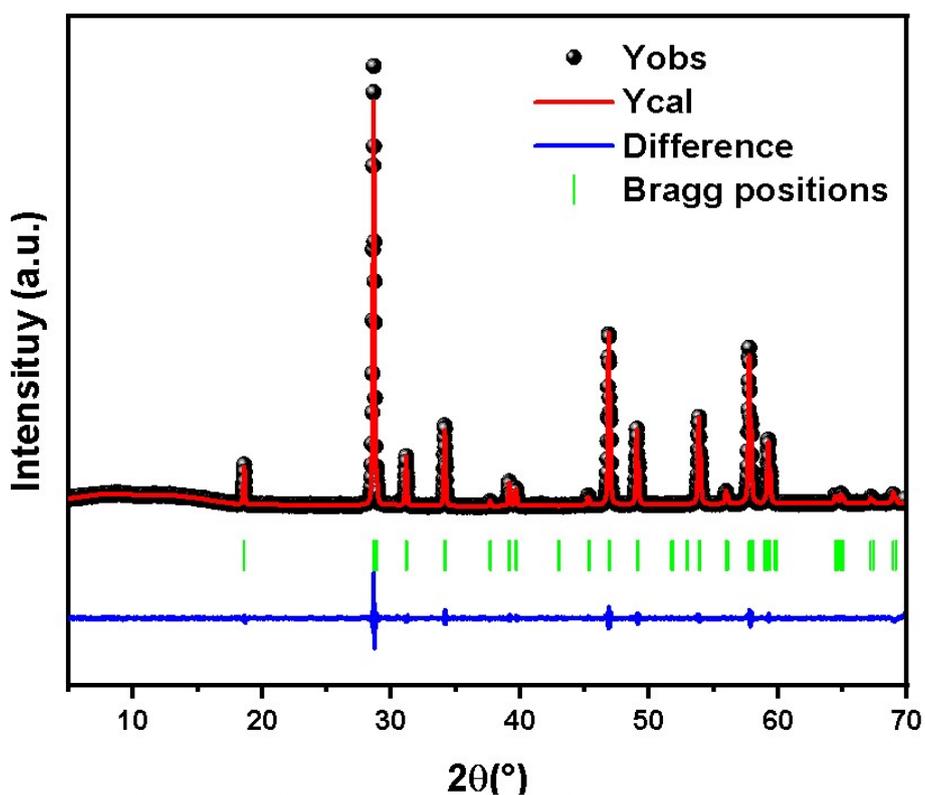


Figure S1. Rietveld refinement of XRD data for LCLMO:Ho³⁺/Tm³⁺/Yb³⁺

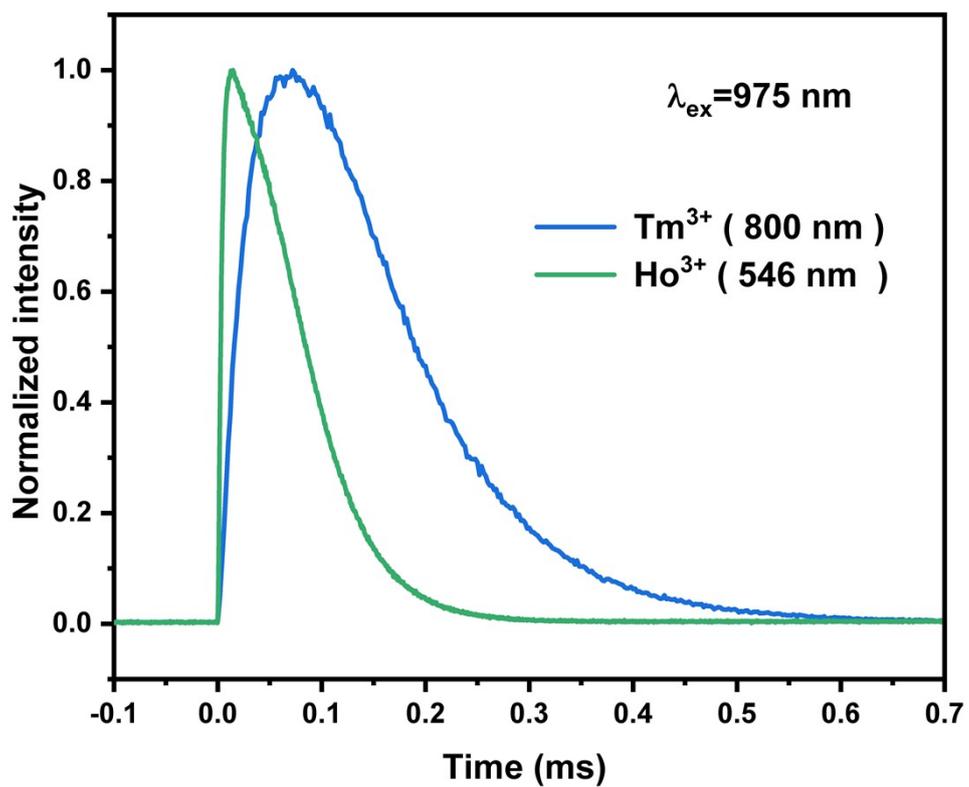


Figure S2. Temporal dependence of the upconversion emissions of LCLMO: $\text{Ho}^{3+}/\text{Tm}^{3+}/\text{Yb}^{3+}$ under pulse excitation at 975 nm.