

Supplementary information

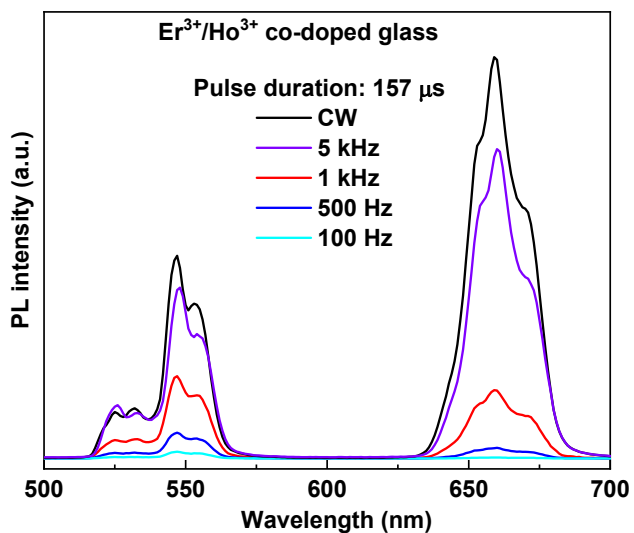


Figure S1. UC PL emission spectra of Er³⁺/Ho³⁺ co-doped glass obtained under different repetition frequency with a fixed pulse duration of 157 μs.

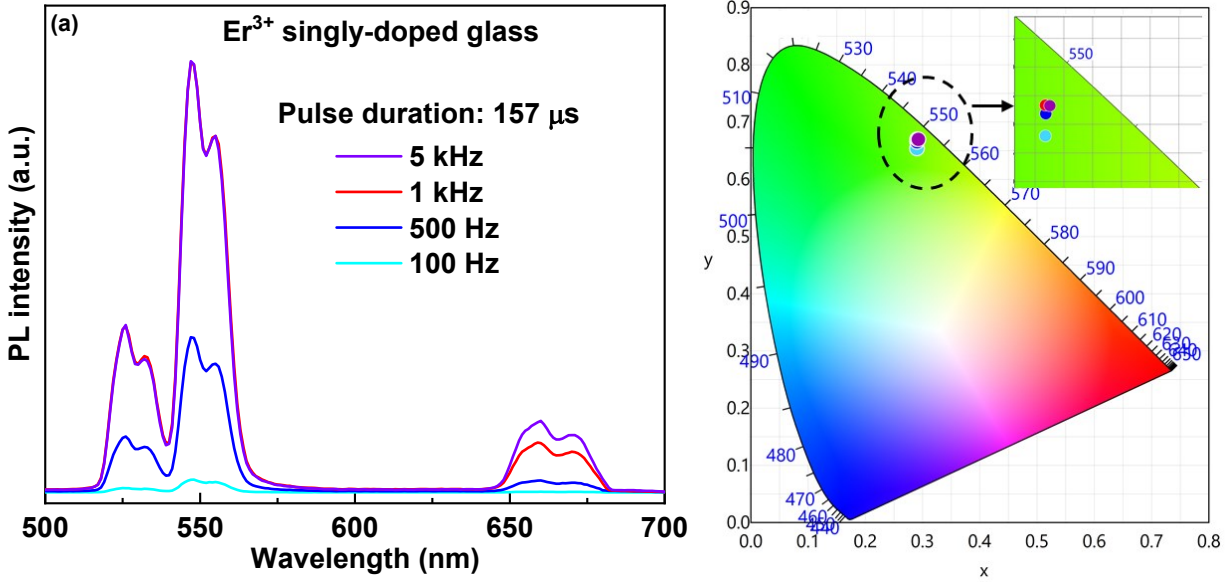


Figure S2. (a) UC PL emission spectra of Er³⁺ singly-doped glass obtained under different repetition frequency with a fixed pulse duration of 157 μs and (b) corresponding CIE chromaticity coordinates.

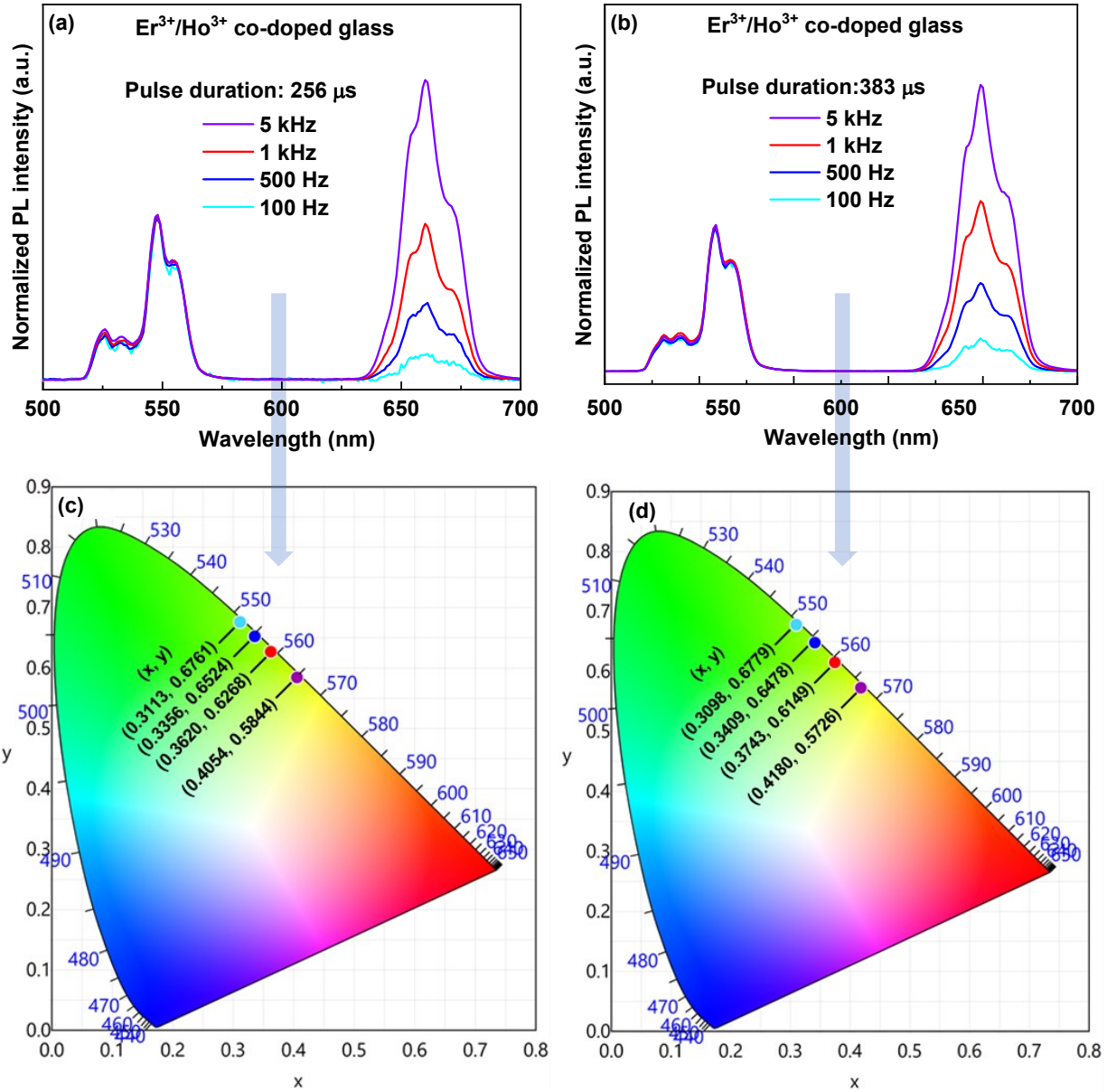


Figure S3. UC PL emission spectra of $\text{Er}^{3+}/\text{Ho}^{3+}$ co-doped glass obtained under different repetition frequency with a fixed pulse duration of (a) 256 μs and (b) 383 μs , (c) and (d) corresponding CIE chromaticity coordinates.

Table S1. Line strengths of the transitions used in Judd-Ofelt analysis.

Transition	λ (nm)	S_{exp}	S_{theo}
Er³⁺ → Ground state: $^4I_{15/2}$			
$^2H_{11/2}$	519	2.97	2.97
$^4I_{9/2}$	798	0.18	0.20
$^4I_{11/2}$	973	0.30	0.27
$^4I_{13/2}$	1530	1.31	1.32
δ_{rms}			0.0426
Ho³⁺ → Ground state: 5I_8			
5G_5	418	0.97	0.93
$^5F_1 + ^5G_6$	448	7.00	7.00
5F_5	644	0.92	0.97
5I_6	1152	0.41	0.37
5I_7	1947	0.93	0.93
δ_{rms}			0.0540