

Supporting Information

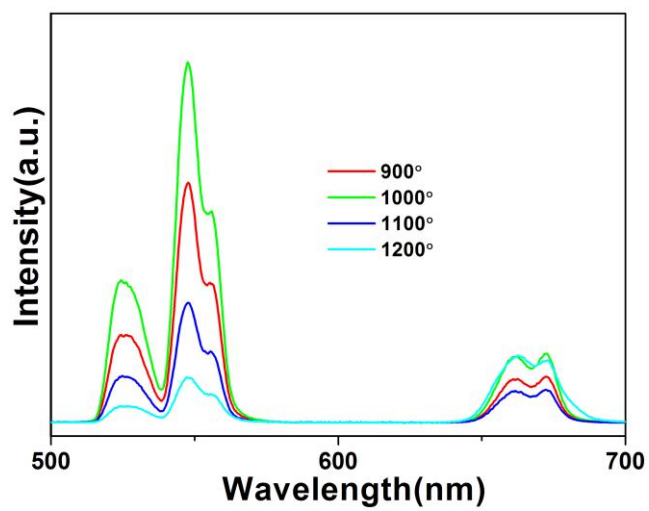


Fig. S1 UC luminescence of $\text{CaLa}_{1.93}\text{Yb}_{0.05}\text{Er}_{0.02}\text{ZnO}_5$ phosphors annealed at different temperature.

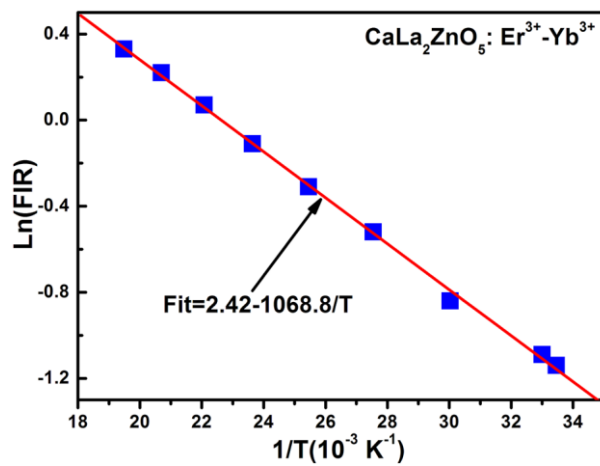


Fig. S2 Monolog plot of the FIR of green upconversion emissions for the ${}^2\text{H}_{11/2}$, ${}^4\text{S}_{3/2} \rightarrow {}^4\text{I}_{15/2}$ transitions as a function of inverse absolute temperature in the range of 298-513 k.