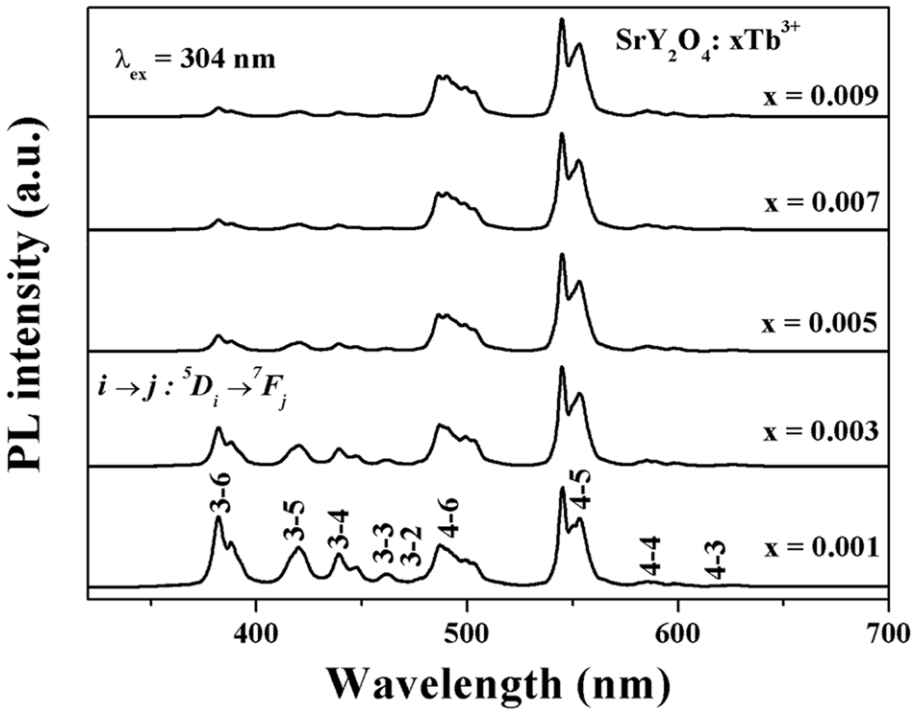
Electronic Supplementary Information (ESI)



5 **Fig. S1** Typical photoluminescence emission spectra of SrY_2O_4: xTb^{3+} with different Tb^{3+} ion concentrations.

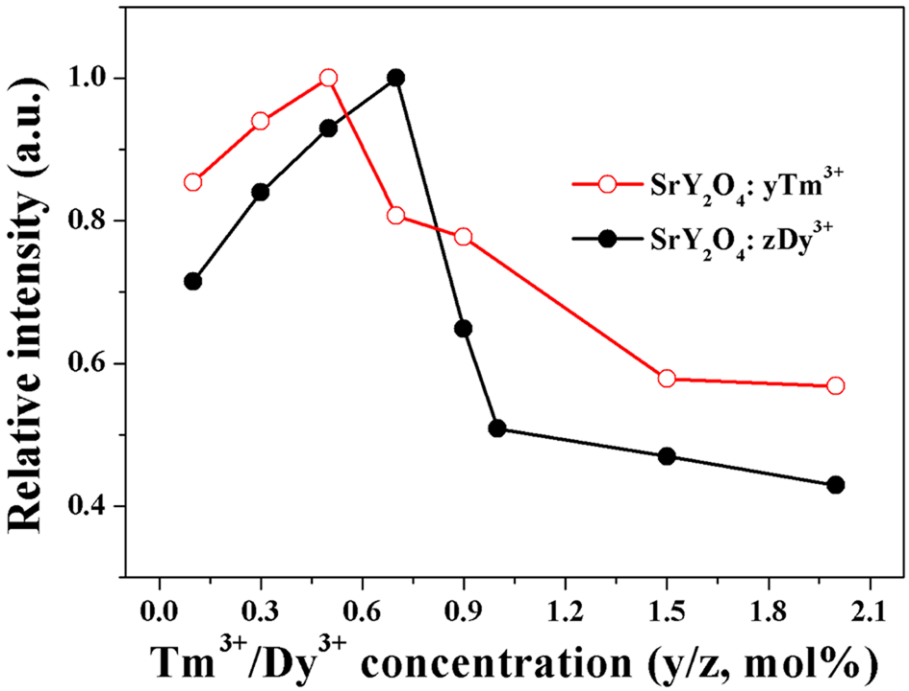


Fig. S2 The photoluminescence (PL) intensity of Tm^{3+} and Dy^{3+} ions as a function of concentration (y/z) in SrY_2O_4: Ln^{3+}, respectively.

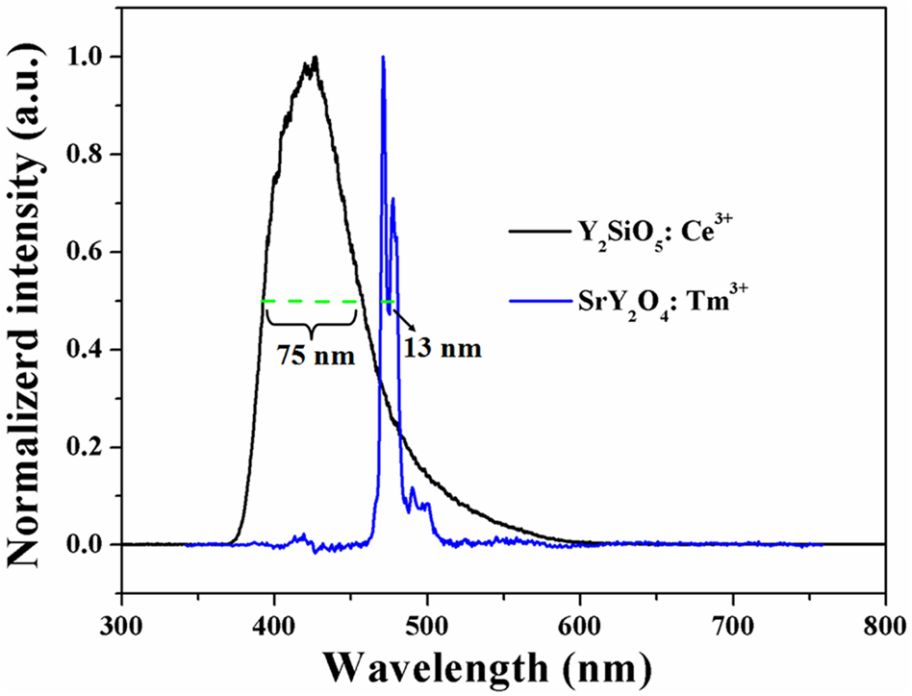


Fig. S3 The comparison of full width at half maxima (FWHM) of cathodoluminescence (CL) spectra of Y_2SiO_5: Ce^{3+} (black line) and SrY_2O_4: Tm^{3+} (blue line).