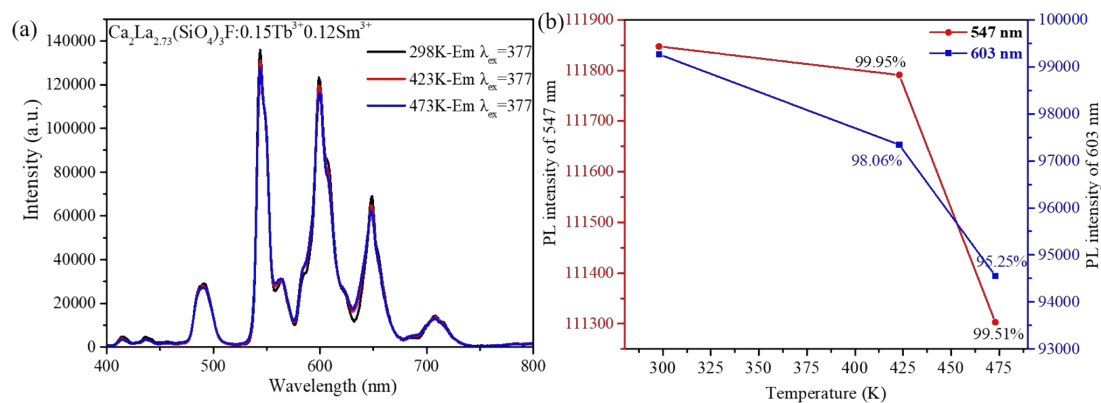


**Fig. S1** The simplified energy level transitions for PLE and PL of Tb<sup>3+</sup> and Sm<sup>3+</sup> and the corresponding energy level scheme of energy transfer from to Tb<sup>3+</sup> to Sm<sup>3+</sup>.



**Fig. S2** PL of Tb<sup>3+</sup> and Sm<sup>3+</sup> co-doped CLSOF:0.15Tb<sup>3+</sup>, 0.12Sm<sup>3+</sup> phosphor at 298K, 423K, 473K. (a) shows the temperature-dependent emission spectra for the phosphor and (b) shows the intensity - concentration relationship of Tb<sup>3+</sup> (<sup>5</sup>D<sub>4</sub> / <sup>7</sup>F<sub>5</sub>) at 547 nm and 603nm. It can be seen that the luminescence intensity of 547nm at 423K remains 99.95%, at 473K remains 99.51%. The luminescence intensity of 603nm at 423K

remains 98.06%, at 473K remains 95.29%.