

## Supporting Information

### Investigating Energy Transfer in Lanthanide-Doped Double Perovskites Exhibiting Visible and Near-Infrared Emission

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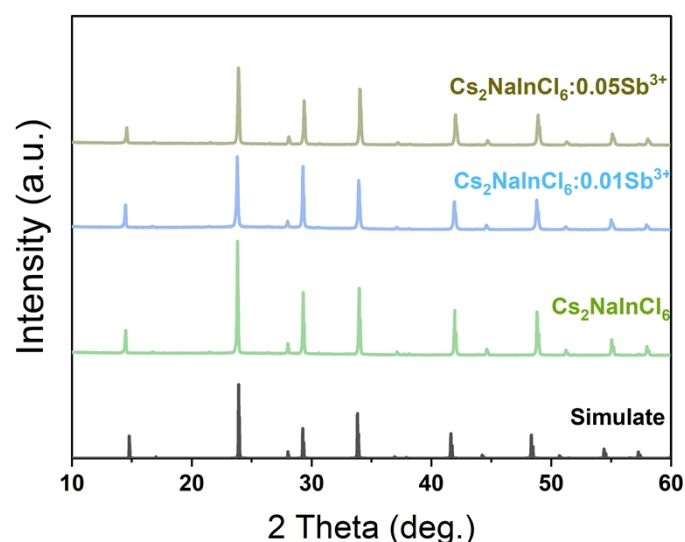
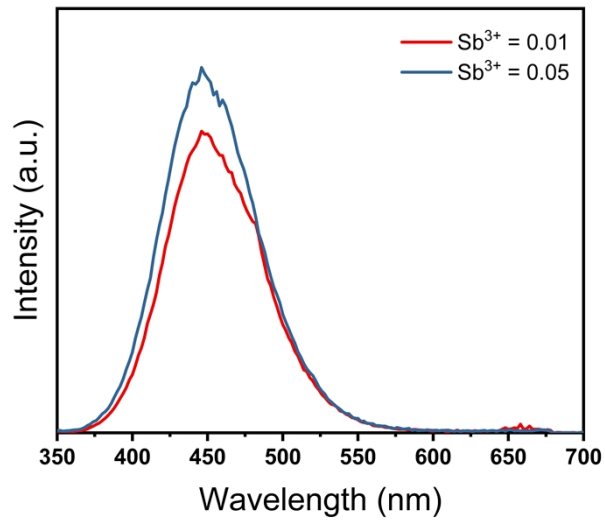
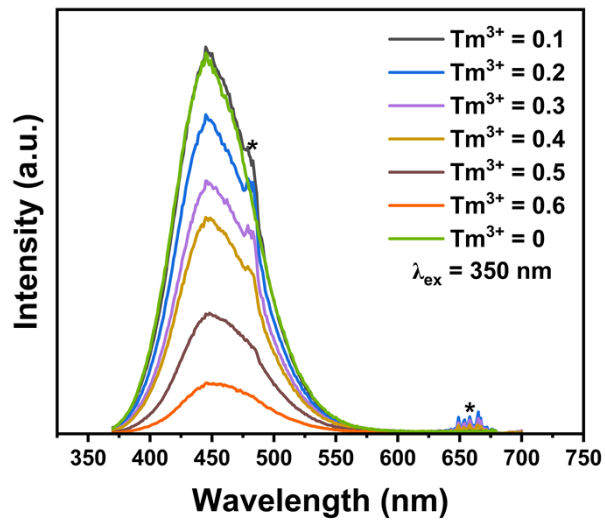


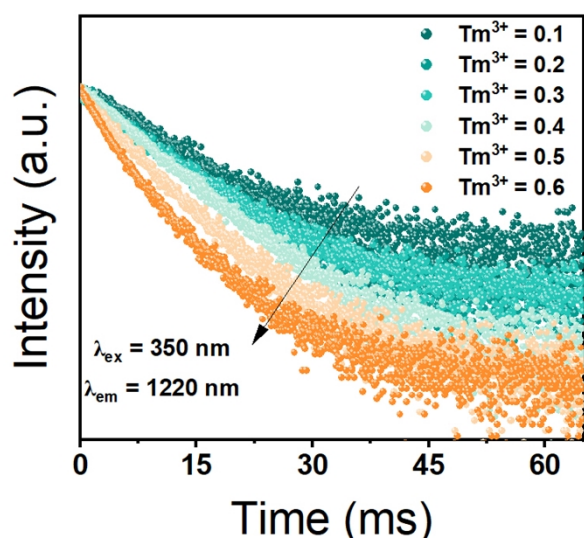
Fig. S1 XRD patterns of the  $\text{Cs}_2\text{NaInCl}_6:x\text{Sb}^{3+}$  ( $x = 0, 0.01, 0.05$ ).



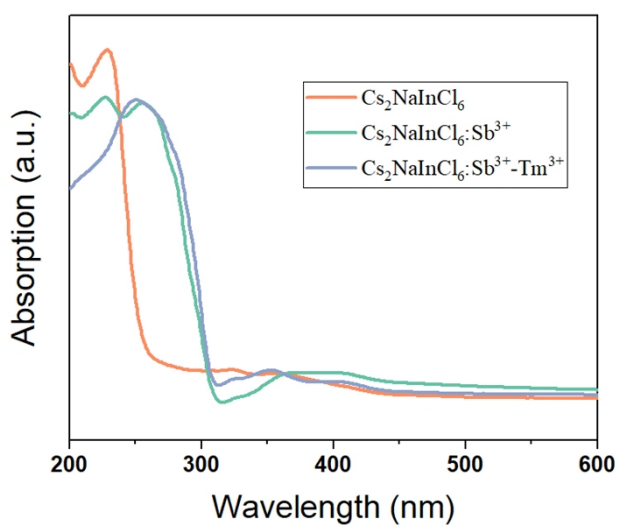
**Fig. S2** Visible emission spectra ( $\lambda_{\text{ex}}=350$  nm) of  $\text{Cs}_2\text{NaInCl}_6: \text{Sb}^{3+}-0.1\text{Tm}^{3+}$  DPs at different  $\text{Sb}^{3+}$  concentrations.



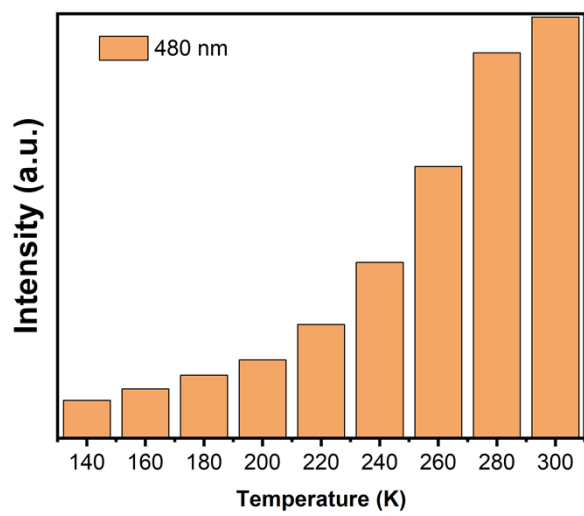
**Fig. S3** Visible emission spectra ( $\lambda_{\text{ex}}=350$  nm) of  $\text{Cs}_2\text{NaInCl}_6:5\%\text{Sb}^{3+}-\text{Tm}^{3+}$  DPs at different  $\text{Tm}^{3+}$  concentrations.



**Fig. S4** Concentration dependent photoluminescence decay curve of  $\text{Cs}_2\text{NaInCl}_6: \text{Sb}^{3+}, \text{Tm}^{3+}$  DPs monitored at 1220 nm.



**Fig. S5** Absorption spectra of undoped,  $\text{Sb}^{3+}$ -doped, and  $\text{Sb}^{3+}-\text{Tm}^{3+}$  co-doped  $\text{Cs}_2\text{NaInCl}_6$ .



**Fig. S6** Integrated PL intensity at 480 nm as a function of temperature for Sb<sup>3+</sup>-Tm<sup>3+</sup> codoped Cs<sub>2</sub>NaInCl<sub>6</sub>