

## Supplementary Information

### White-Light-Emitting Properties of SrTiO<sub>3</sub>:Pr<sup>3+</sup> Nanoparticles

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Table S1 Structural parameters of SrTiO<sub>3</sub>:*m*Pr<sup>3+</sup> at room temperature refined with Pm3m space group.

<i>m</i>	0	0.01	0.03	0.05	0.06	0.07	0.08	0.1
<i>a</i> (Å)	3.9186(7)	3.914(1)	3.9112(6)	3.9121(4)	3.9132(6)	3.9137(5)	3.915(1)	3.9164(9)
<i>V</i> (Å <sup>3</sup> )	60.2	60.0	59.8	59.9	59.9	60.0	60.0	60.1

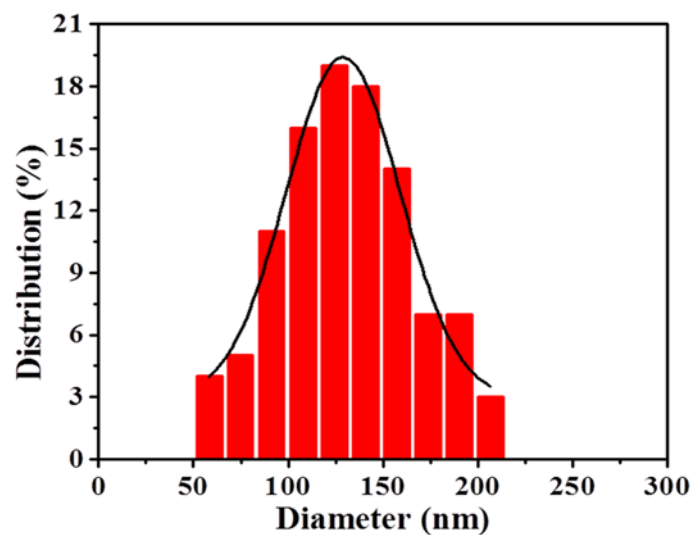


Fig. S1 Size distribution of the SrTiO<sub>3</sub>:0.06Pr<sup>3+</sup> nanoparticles.

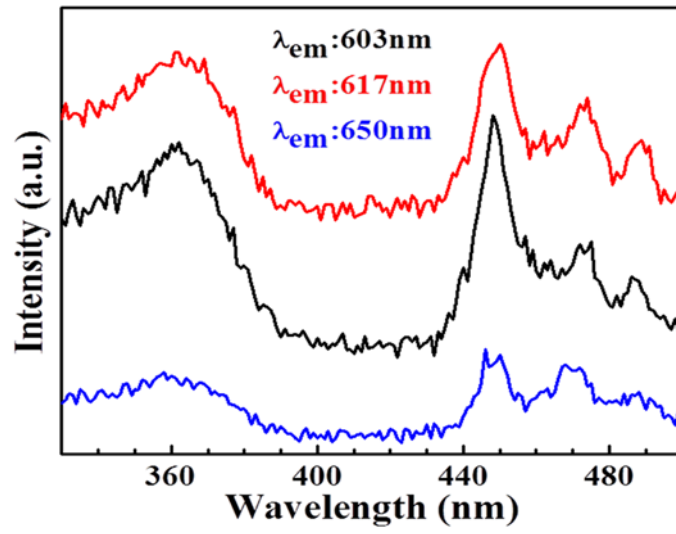


Fig. S2 PLE spectra of the SrTiO<sub>3</sub>:0.06Pr<sup>3+</sup> monitored at 603 nm, 617 nm and 650 nm.

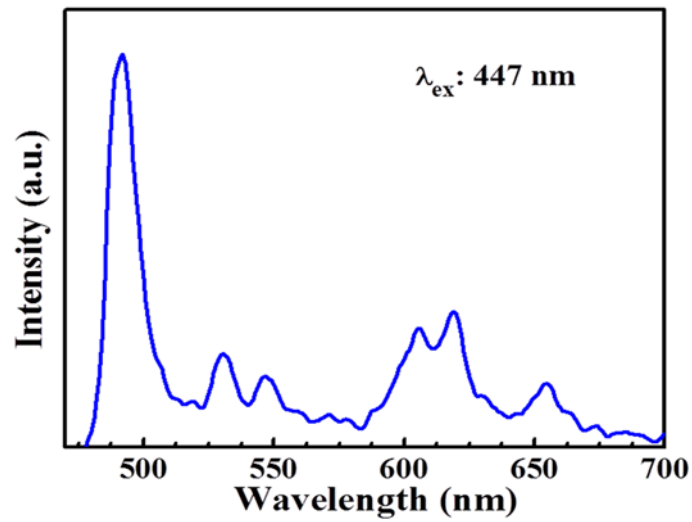


Fig. S3 PL of the as-grown SrTiO<sub>3</sub>:0.06Pr<sup>3+</sup> sample under 447 nm excitation.

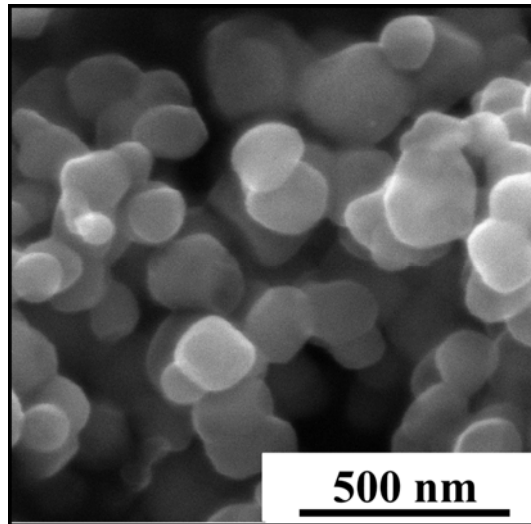


Fig. S4 SEM image of 1350 °C annealed SrTiO<sub>3</sub>:0.06Pr<sup>3+</sup> nanoparticles.

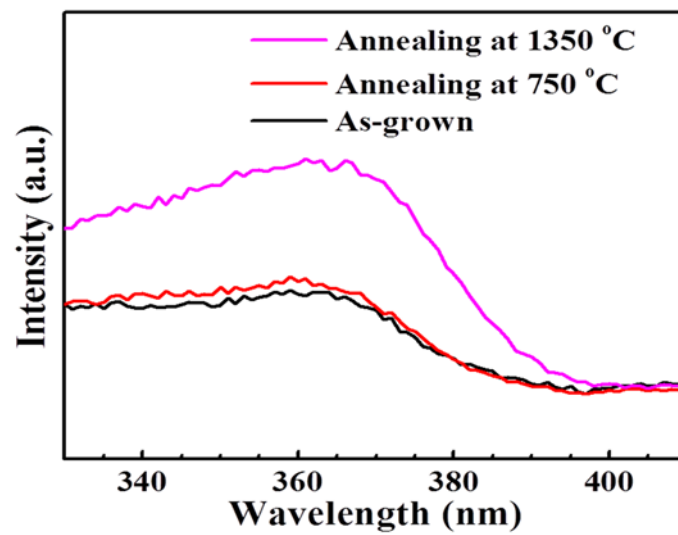


Fig. S5 PLE spectra of as-grown and annealed SrTiO<sub>3</sub>:0.06Pr<sup>3+</sup> samples monitored at 491 nm.

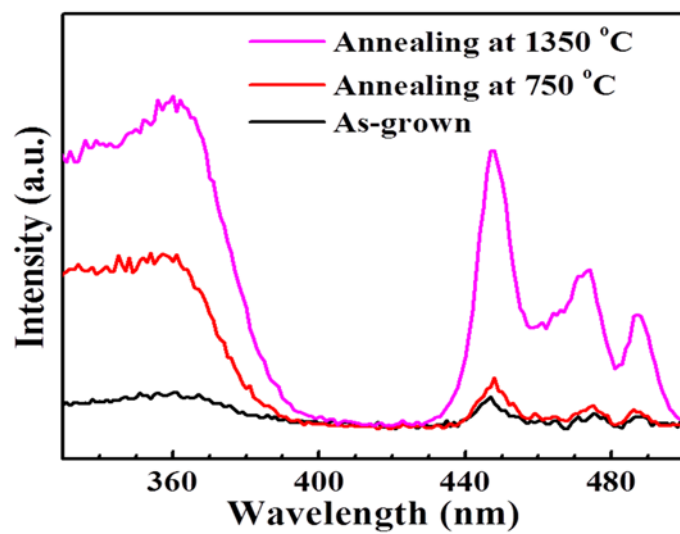


Fig. S6 PLE spectra of as-grown and annealed SrTiO<sub>3</sub>:0.06Pr<sup>3+</sup> samples monitored at 617 nm.

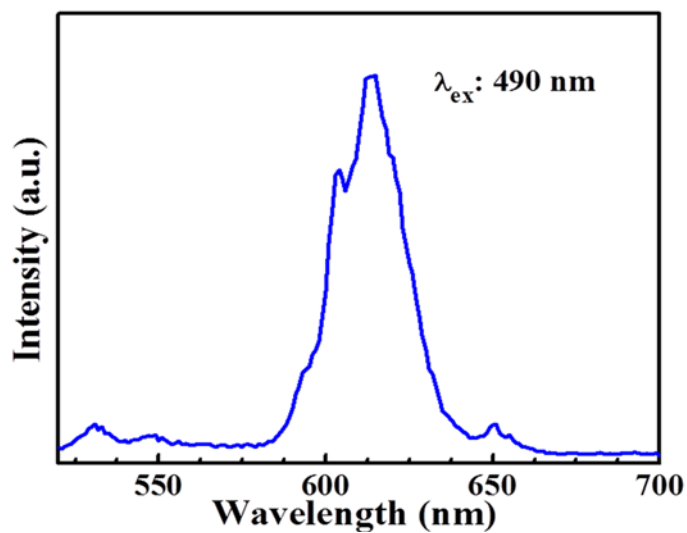


Fig. S7 PL of SrTiO<sub>3</sub>:0.06Pr<sup>3+</sup> annealed at 1350 °C (under 490 nm excitation).

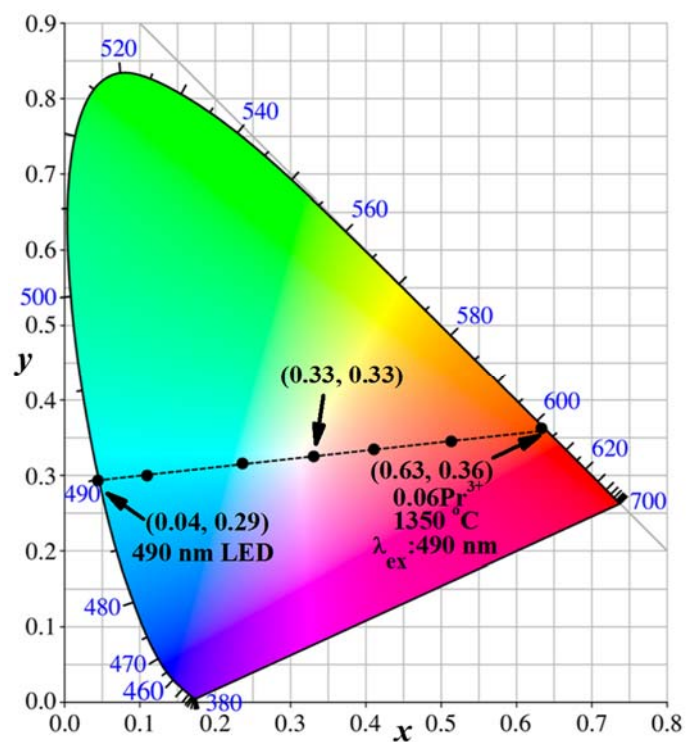


Fig. S8 CIE chromaticity diagram and chromaticity coordinates ( $x$ ,  $y$ ) of emission from  $\text{SrTiO}_3:0.06\text{Pr}^{3+}$  annealed at  $1350^\circ\text{C}$  (under  $490\text{ nm}$  excitation).

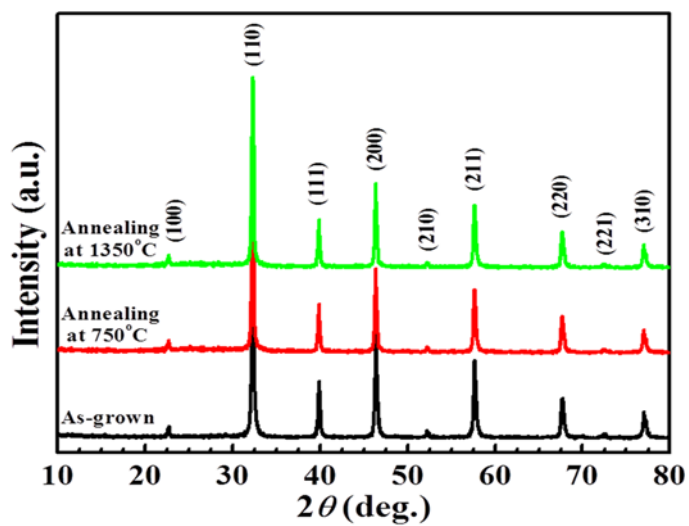


Fig. S9 XRD patterns of as-grown and annealed  $\text{SrTiO}_3:0.06\text{Pr}^{3+}$  samples.

Table S2 Structural parameters of as-grown and annealed SrTiO<sub>3</sub>:0.06Pr<sup>3+</sup> refined with Pm3m space group.

	As-grown	Annealing at 750 °C	Annealing at 1350 °C
a(Å)	3.9132(6)	3.9076(4)	3.9056(4)
V(Å <sup>3</sup> )	59.9	59.7	59.6

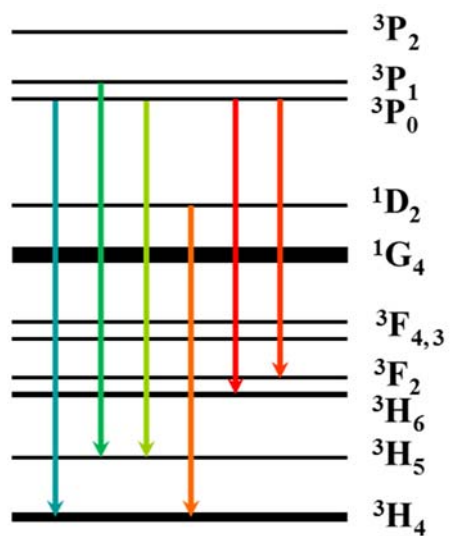


Fig. S10 The energy level diagram of Pr<sup>3+</sup> ions.