

Supporting information

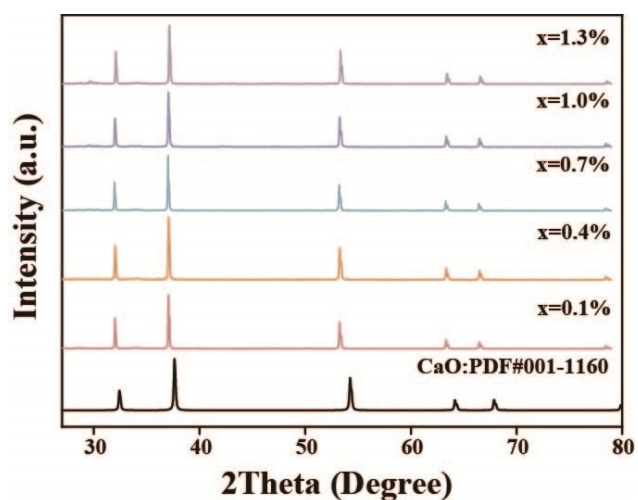


Figure S1 XRD patterns of $\text{Ca}_{0.8}\text{Sr}_{0.2-x}\text{O}:\text{xCe}^{3+}$ ($x = 0.1\%-1.3\%$).

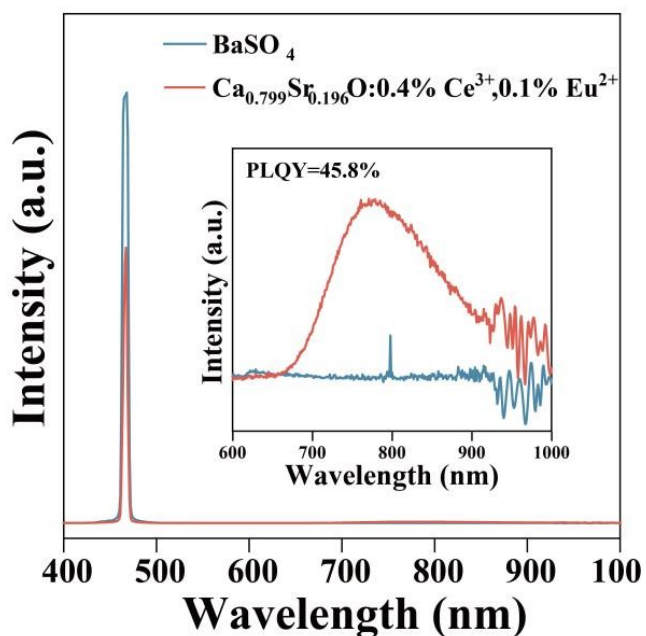


Figure S2 Quantum efficiency of $\text{Ca}_{0.799}\text{Sr}_{0.196}\text{O}:\text{0.4\%Ce}^{3+}, \text{0.1\%Eu}^{2+}$ (inset: magnification of 600-1000 nm).

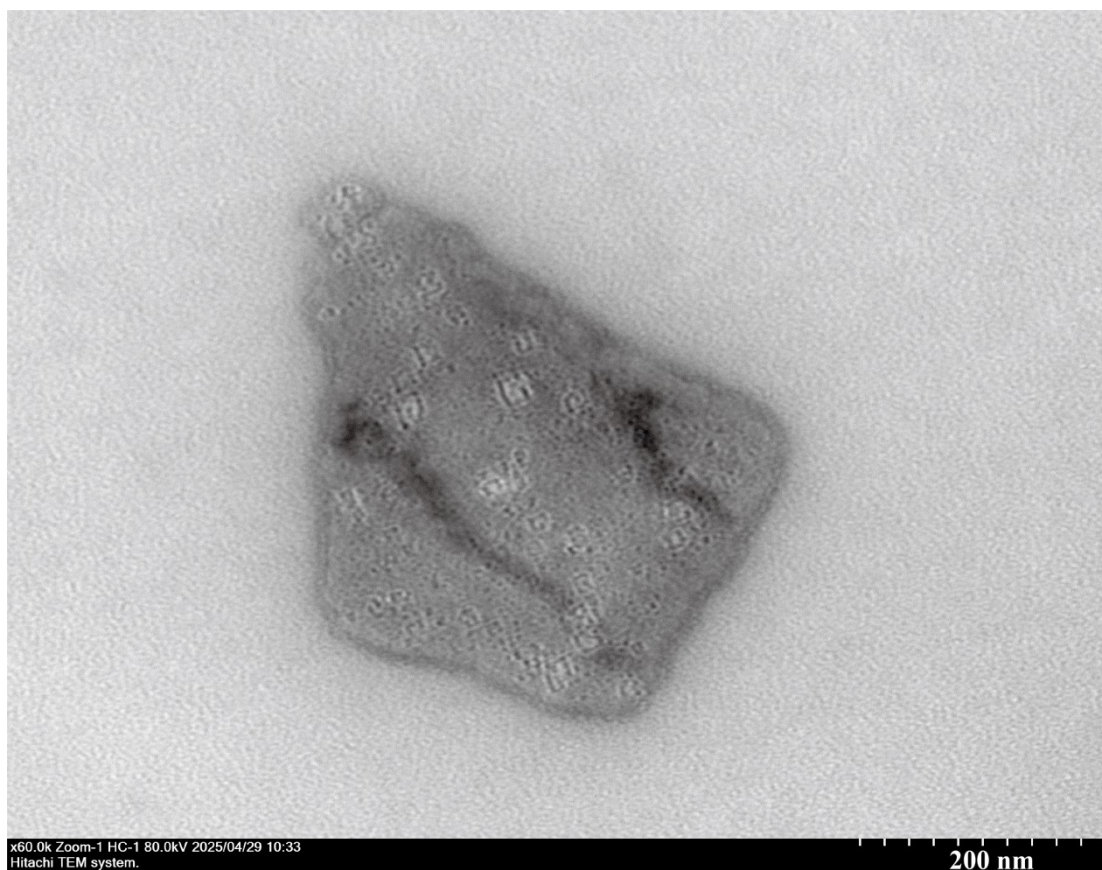


Figure S3 TEM image of CSO:0.4%Ce³⁺,0.1%Eu²⁺

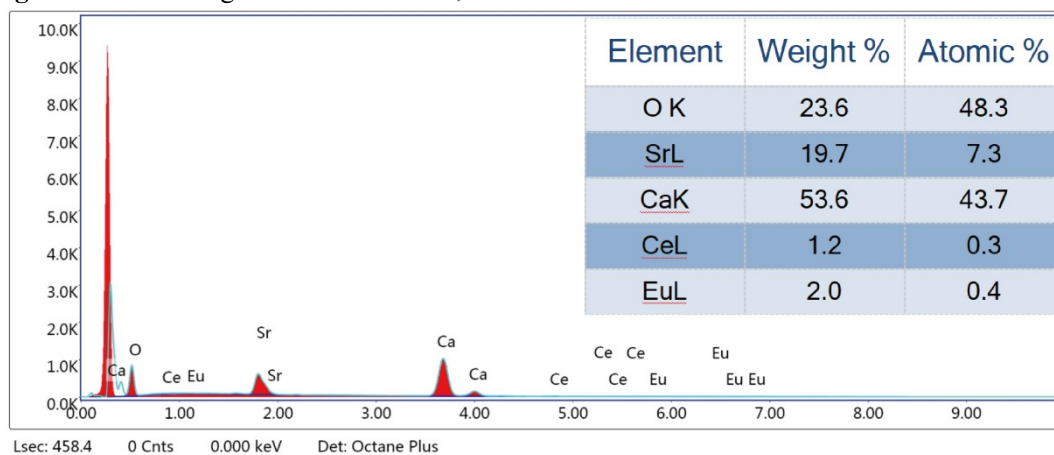


Figure S4 EDX pattern of CSO:0.4%Ce³⁺,0.1%Eu²⁺.

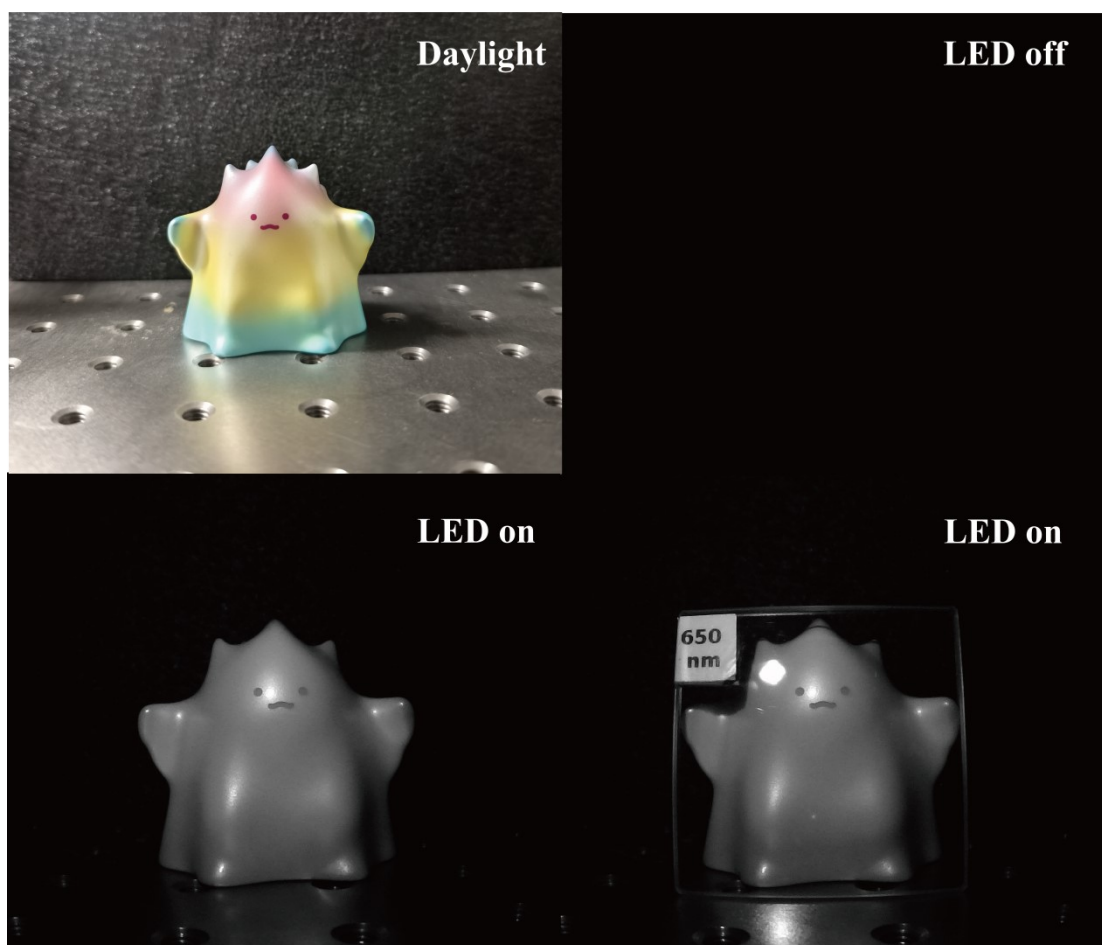


Figure S5 Synthesized LED as a light source under a near-infrared camera.