

## Supporting Information

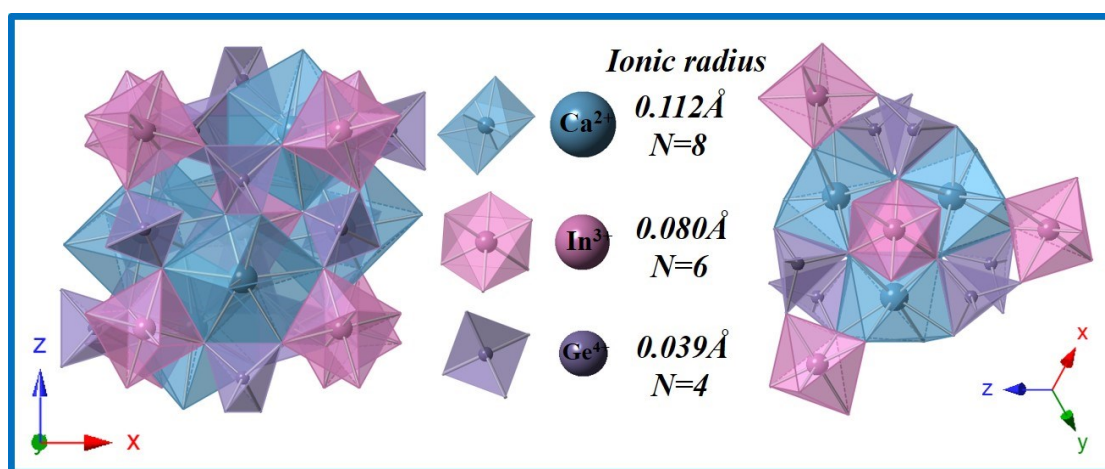


Fig. S1 Crystal structure and ionic oxygen coordination environment of  $\text{Ca}_3\text{In}_2\text{Ge}_3\text{O}_{12}$ .

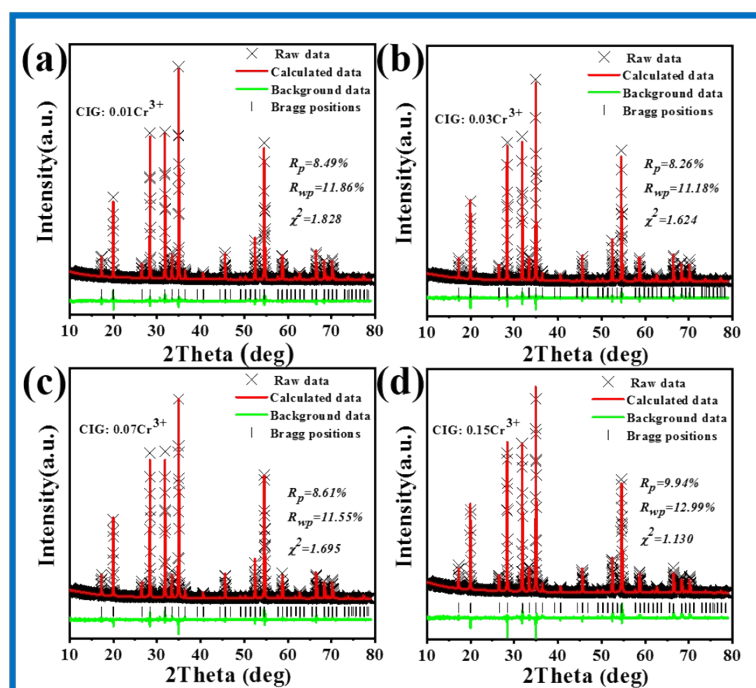


Fig. S2 (a-d) Rietveld refinement X-ray diffraction of  $\text{CIG}:x\text{Cr}^{3+}$  ( $x = 0.01, 0.03, 0.07, 0.15$ ).

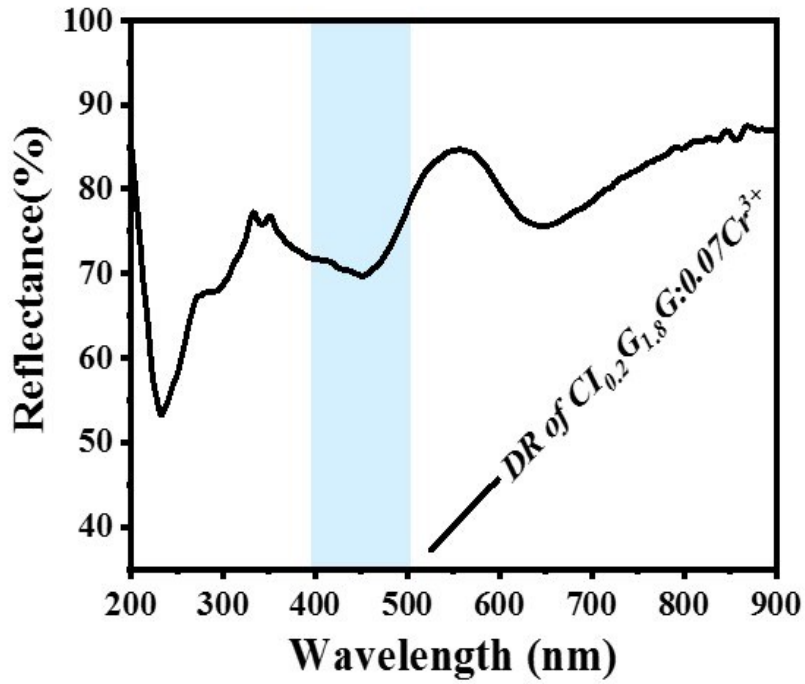


Fig. S3 Diffuse reflectance spectra (DR) of  $\text{Cl}_{0.2}\text{G}_{1.8}\text{G}:0.07\text{Cr}^{3+}$ .

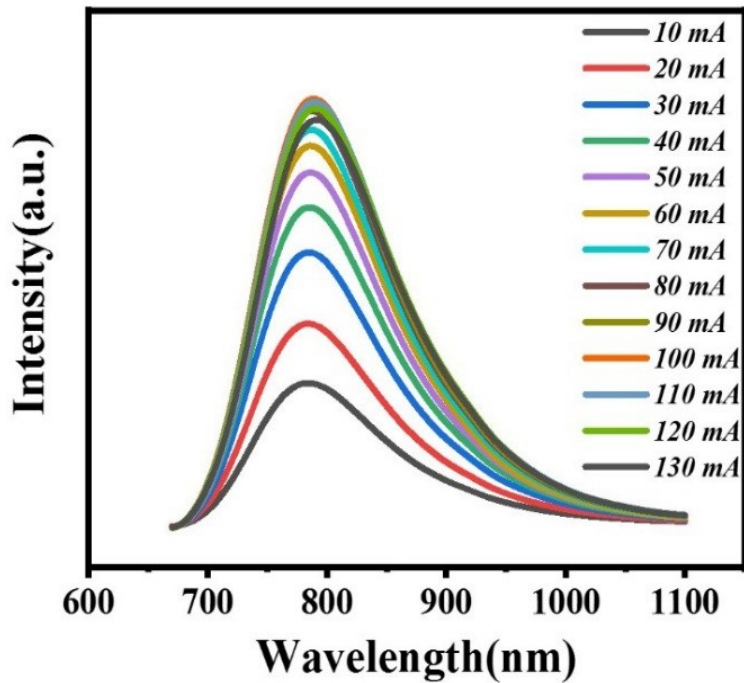


Fig. S4 Emission spectra of the  $\text{Cl}_{0.2}\text{G}_{1.8}\text{G}:0.07\text{Cr}^{3+}$  pc-LED under various drive currents.