Supporting Information

Understanding the broadband near-infrared luminescence in a highly distorted garnet Ca$_4$HfGe$_3$O$_{12}$:Cr$^{3+}$ phosphor

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Fig. S1. Electronic band structure of Ca₄HfGe₃O₁₂ calculated with DFT-PBE functional.

Fig. S2. PLE spectra of Ca₄Hf₁₋ₓGe₃O₁₂: xCr³⁺ (x = 0.01, 0.02, 0.04, 0.06, 0.08, and 0.10) monitored at 840 nm.
Fig. S3. EPR spectra of Ca$_4$Hf$_{1-x}$Ge$_3$O$_{12}$:Cr$^{3+}$ ($x = 0.01, 0.04$, and $0.10$).

Fig. S4. Decay curves fitted by single-exponential function of Ca$_4$Hf$_{1-x}$Ge$_3$O$_{12}$:Cr$^{3+}$ ($x = 0.01, 0.02, 0.04$, $0.06, 0.08$, and $0.10$).