

Supporting Information

Title: Red/near-infrared/short-wave infrared multi-bands persistent luminescence in Pr³⁺-doped persistent phosphors

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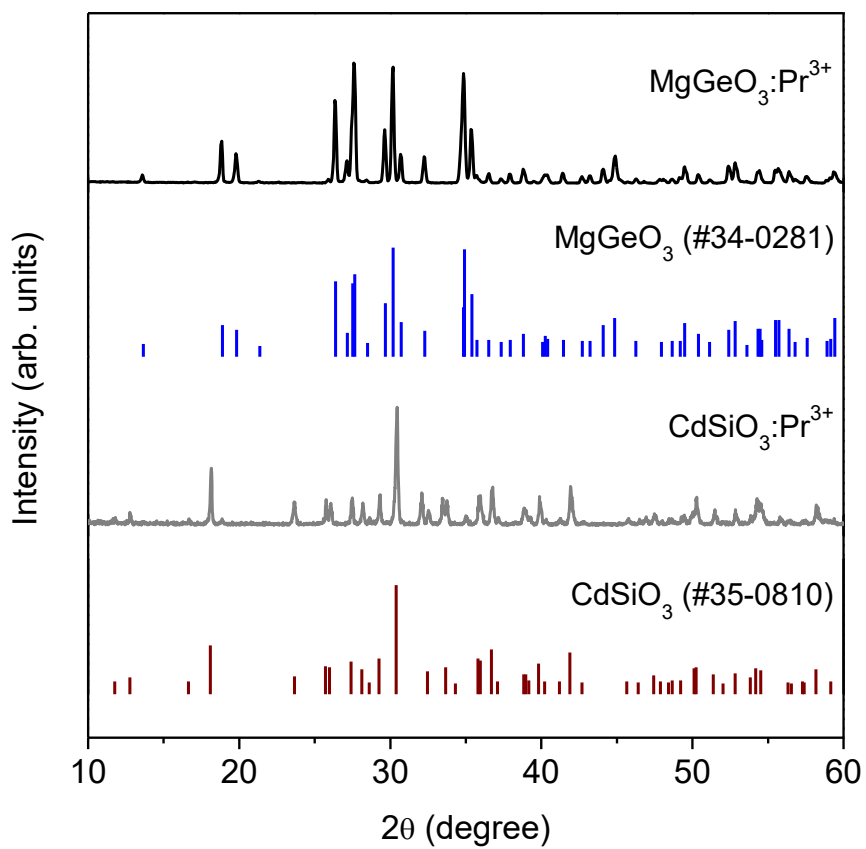


Figure S1. X-ray diffraction (XRD) patterns of MgGeO₃:Pr³⁺ and CdSiO₃:Pr³⁺ phosphors. The indexations of orthorhombic MgGeO₃ (#34-0281) and monoclinic CdSiO₃ (#35-0810) are also presented.

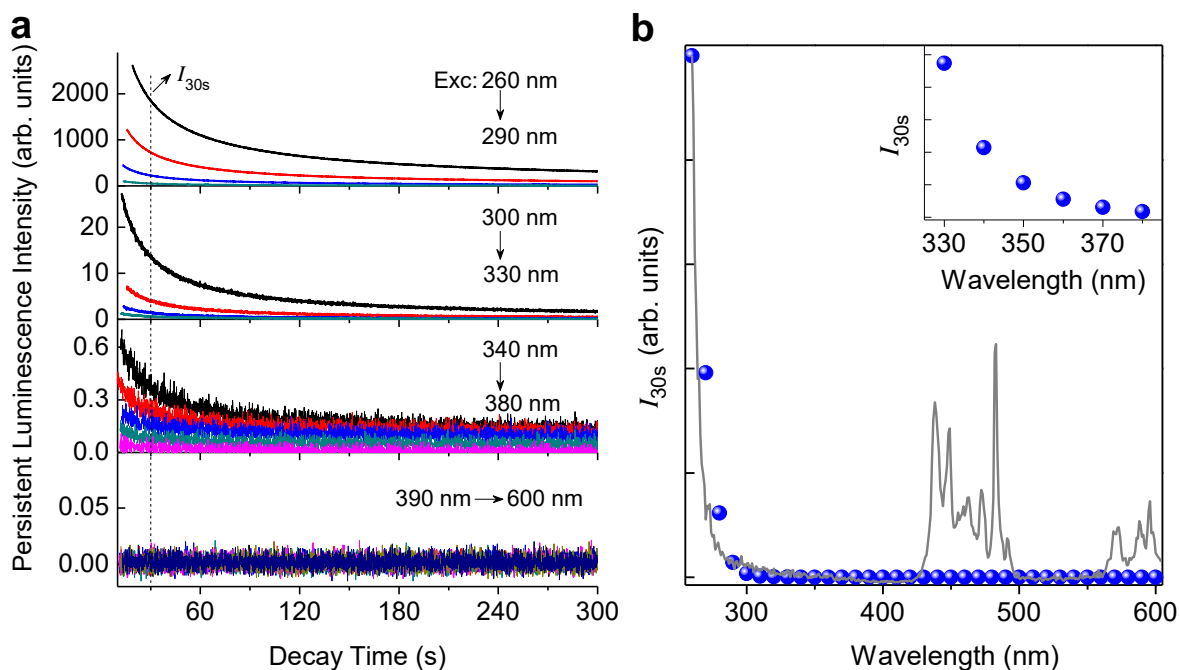


Figure S2. Persistent luminescence decay curves and persistent luminescence excitation spectrum of $\text{MgGeO}_3:\text{Pr}^{3+}$ persistent phosphor. (a) Decay curves obtained by monitoring at 625 nm after irradiation for 5 min with monochromatic light between 260–600 nm in 10 nm steps. The vertical dashed line is used to indicate the persistent luminescence intensity at 30 s after ceasing each excitation (I_{30s}). (b) Persistent luminescence excitation spectrum obtained by plotting the intensity I_{30s} as a function of the excitation wavelengths (260–600 nm). The inset shows an enlargement of the 320 to 380 nm spectral region. The gray curve shows the photoluminescence excitation spectrum monitored at 625 nm (the same spectrum as in Figure 2 of the main text).

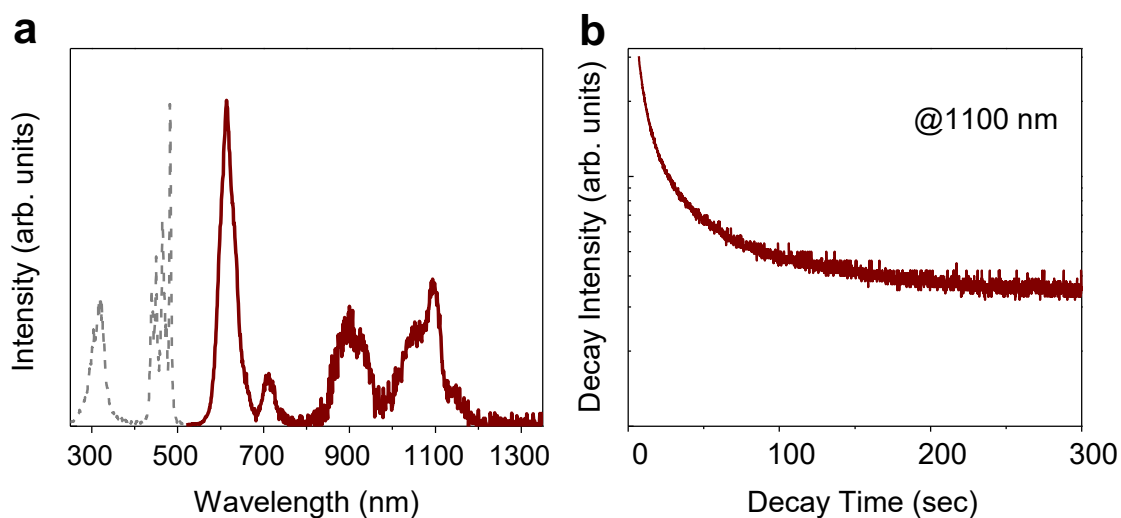


Figure S3. Persistent luminescence properties of $\text{CdSiO}_3:\text{Pr}^{3+}$ persistent phosphor. (a) Excitation spectrum (gray dash-line curve) and persistent luminescence emission spectrum (brown curve). The excitation spectrum was obtained by monitoring at 610 nm emission. The persistent luminescence emission spectrum was acquired at 1 min after the sample was irradiated by a 254 nm UV lamp for 10 min. (b) Persistent luminescence decay curve obtained by monitoring Pr^{3+} 1100 nm emission. The sample was irradiated by a 254 nm UV lamp for 10 min.