

## **Supplementary Information**

**Title:** Cation substitution induced novel gehlenite  $\text{Ca}_2\text{GaAlSiO}_7\text{:Eu}^{2+}/\text{Ce}^{3+}$  phosphor with green/blue emission for UV-WLEDs

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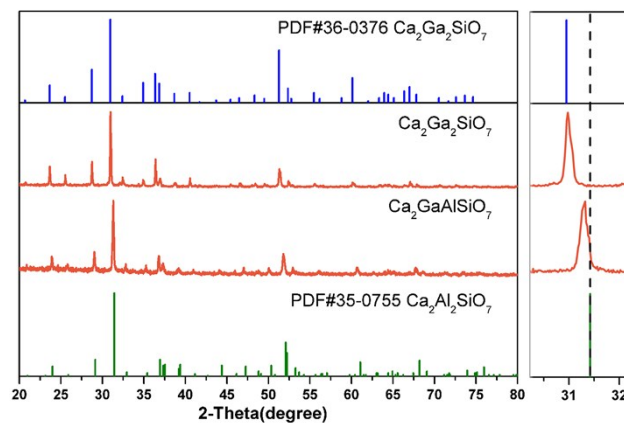


Figure S1. XRD patterns of prepared  $\text{Ca}_2\text{GaAlSiO}_7$  and  $\text{Ca}_2\text{Ga}_2\text{SiO}_7$  samples together with the standard data (PDF#35-0755, 36-0376) for reference.

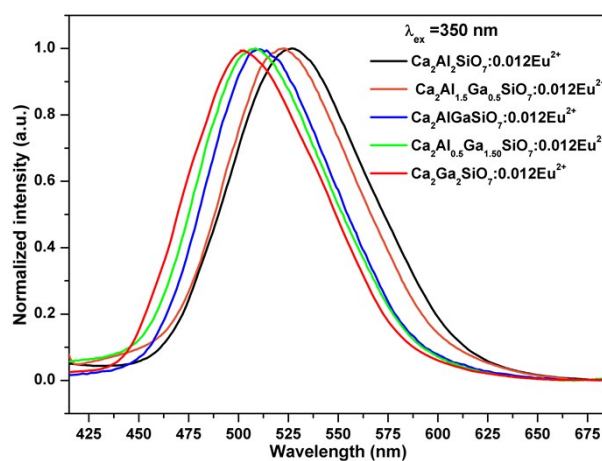


Figure S2. Emission spectra of  $\text{Ca}_2(\text{Al,Ga})_2\text{SiO}_7:0.012\text{Eu}^{2+}$  samples with different ratio of Al/Ga.

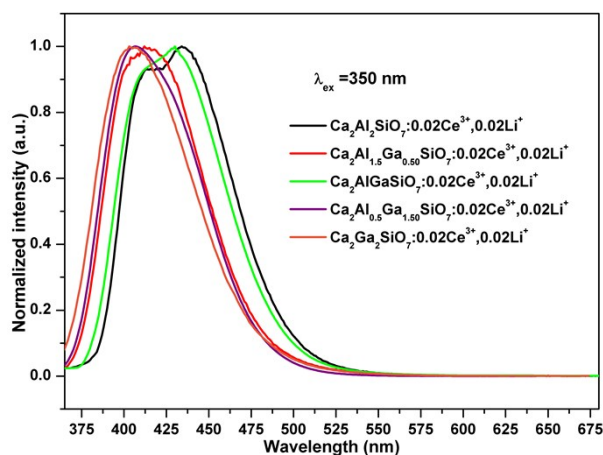


Figure S3. Emission spectra of  $\text{Ca}_2(\text{Al,Ga})_2\text{SiO}_7:0.02\text{Ce}^{3+},0.02\text{Li}^+$  samples with different Al/Ga ratio.