

Electronic Supplementary Information

Studies on phase stability, mechanical, optical and electronic properties of a new $\text{Gd}_2\text{CaZnO}_5$ phosphor system for LEDs

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Photoluminescence Studies:

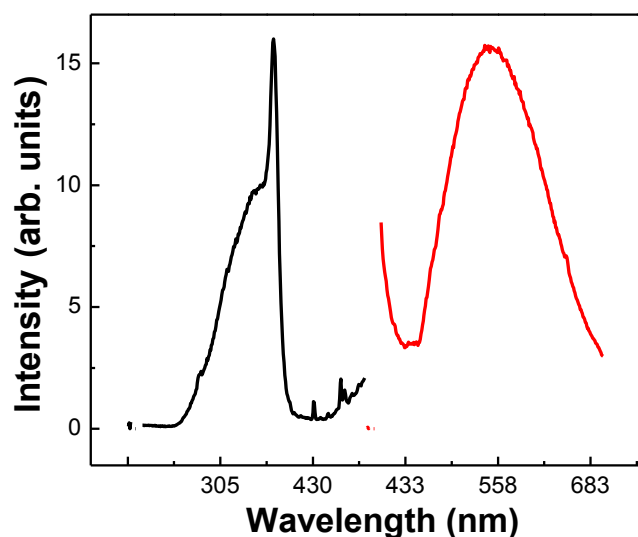


Figure S1. Photoluminescence excitation and emission spectra of $\text{Gd}_2\text{CaZnO}_5$ phosphor when monitored under UV (377 nm) excitation. (Color figure online)

The photoluminescence excitation and emission spectra are recorded at room temperature using Edinburgh Luminescence Spectrometer (Model: F900) equipped with a xenon lamp. Spectra are monitored in the range 200-800 nm. Figure S1 shows the broad band emission spectrum of $\text{Gd}_2\text{CaZnO}_5$ phosphor system with a maximum at ~560 nm upon UV (377 nm) excitation radiations. Broad emission of the undoped lattice could be attributed to the surface states and oxygen deficiency related defects.

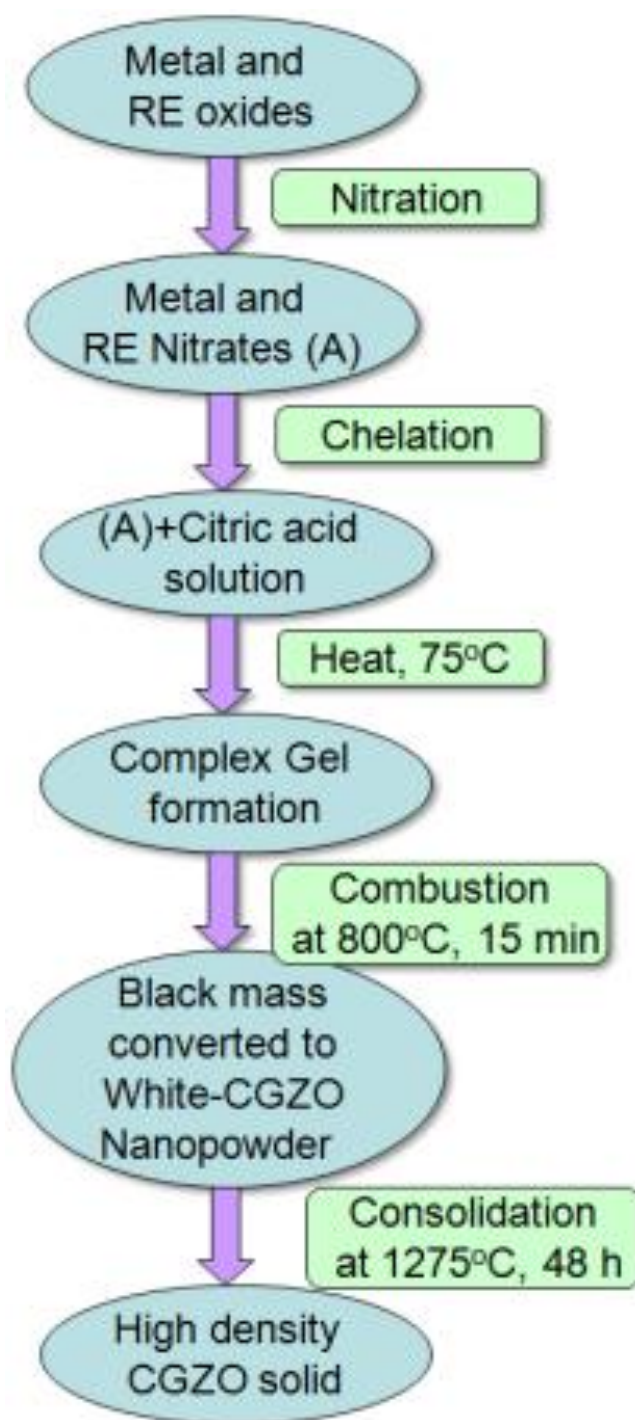


Figure S2. Flow chart depicting the step-by-step process of making $\text{Gd}_2\text{CaZnO}_5$ phosphor system. (Color figure online)