

Supporting Information

Aerosol synthesized $\text{CeO}_2:\text{Eu}^{3+}/\text{Na}^+$ red nanophosphor with enhanced photoluminescence

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Fig. S1. Schematic diagram of the spray pyrolysis system

Fig. S2. Lattice constants and crystallite size as a function of Eu^{3+} content for $\text{CeO}_2:\text{Eu}$ particles prepared by spray pyrolysis.

Fig. S3. Comparison of (a) lattice constants and (b) R/O ratio

Fig. S4. PL spectra (a) and relative emission intensity of $\text{CeO}_2:\text{Eu}^{3+}$ particles prepared with changing the ethylene glycol.

Fig. S5. SEM photos of $\text{CeO}_2:\text{Eu}^{3+}$ particles prepared from the solution containing 0.1 M EG

Fig. S6. Emission (a) and excitation (b) spectra of $\text{CeO}_2:\text{Eu}^{3+}$ particles prepared from the solution containing 0.1 M EG.

Fig. S7. Excitation (a) and emission (b) spectra of $\text{CeO}_2:\text{Eu}^{3+}/\text{Na}^+$ particles prepared from the solution containing 0.1 M EG.

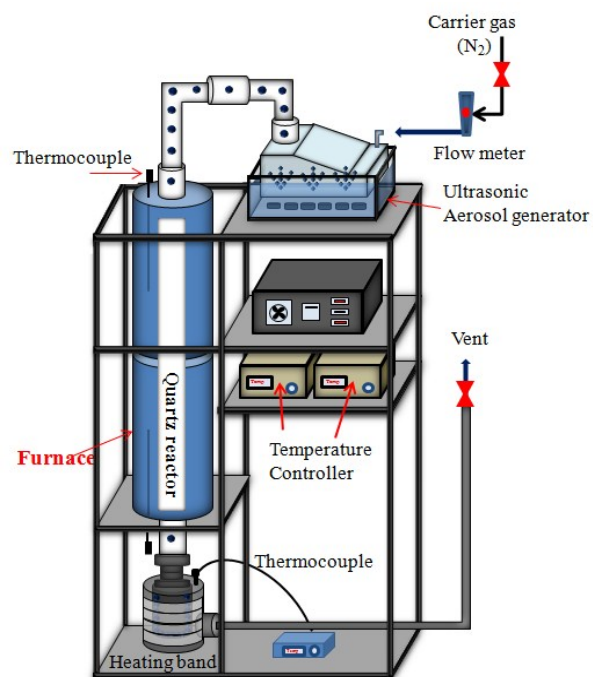


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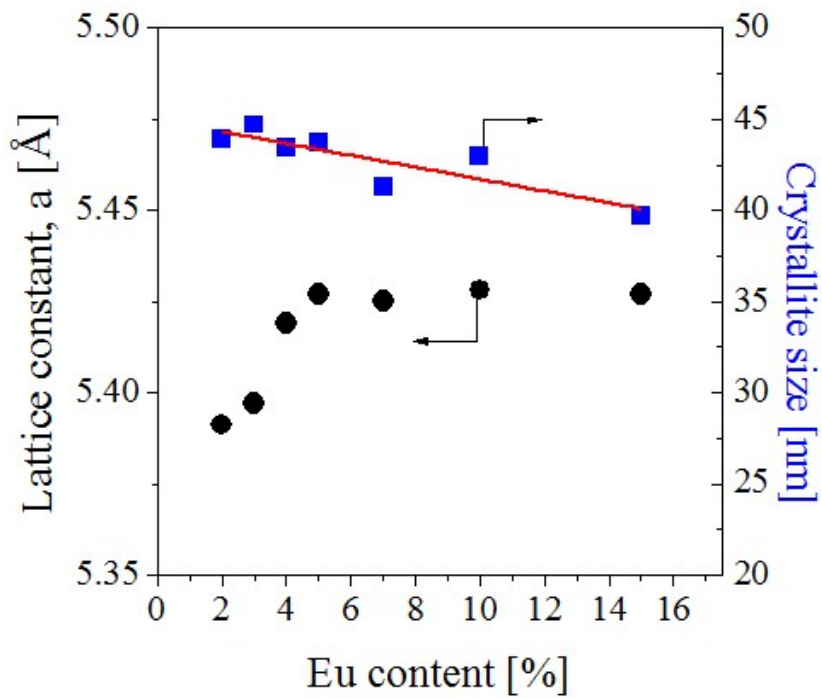


Fig. S2. Lattice constants and crystallite size as a function of Eu^{3+} content for $\text{CeO}_2:\text{Eu}$ particles prepared by spray pyrolysis.

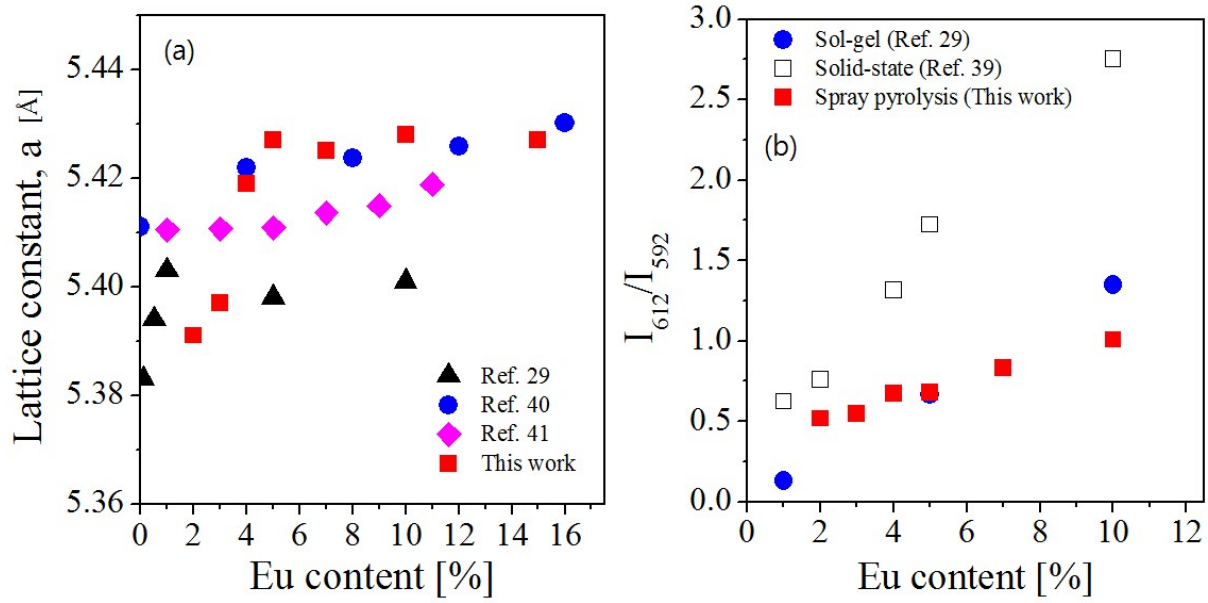
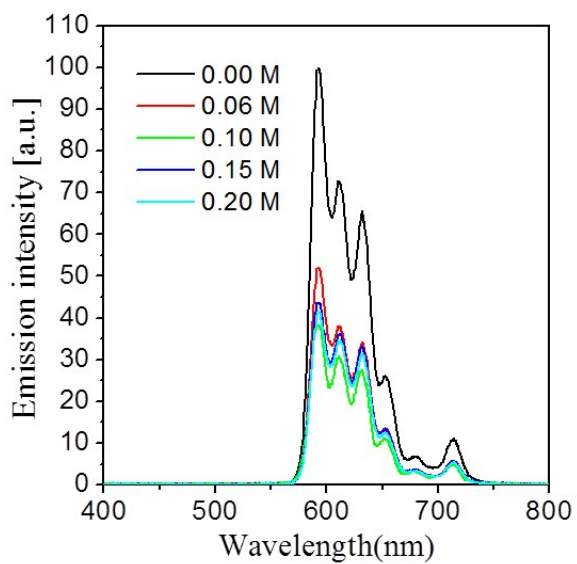
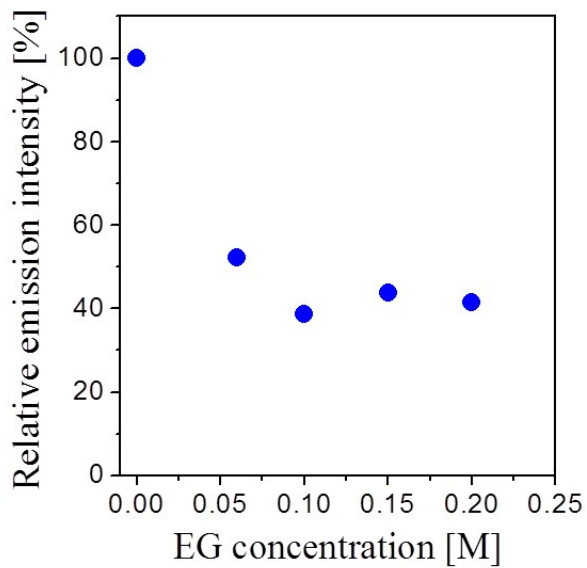


Fig. S3. Comparison of (a) lattice constants and (b) R/O ratio



(a)



(b)

Fig. S4. PL spectra (a) and relative emission intensity of CeO₂:Eu³⁺ particles prepared with changing the ethylene glycol.

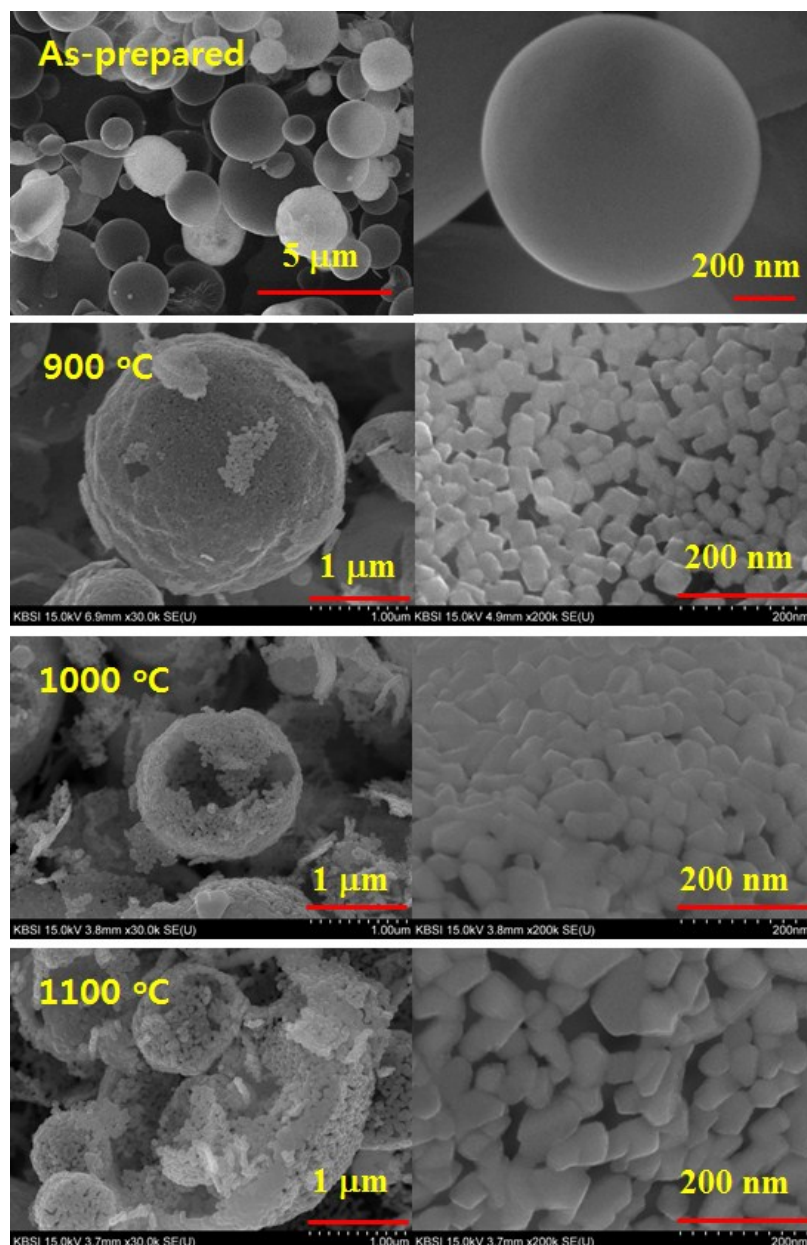


Fig. S5. SEM photos of $\text{CeO}_2:\text{Eu}^{3+}$ particles prepared from the solution containing 0.1 M EG.

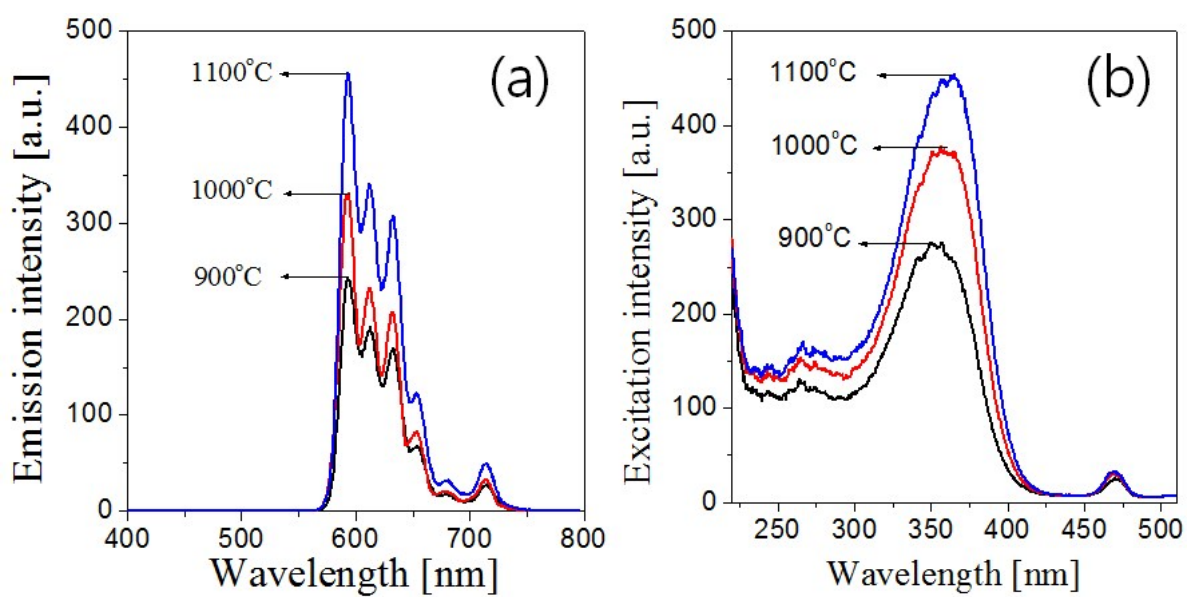


Fig. S6. Emission (a) and excitation (b) spectra of CeO₂:Eu³⁺ particles prepared from the solution containing 0.1 M EG.

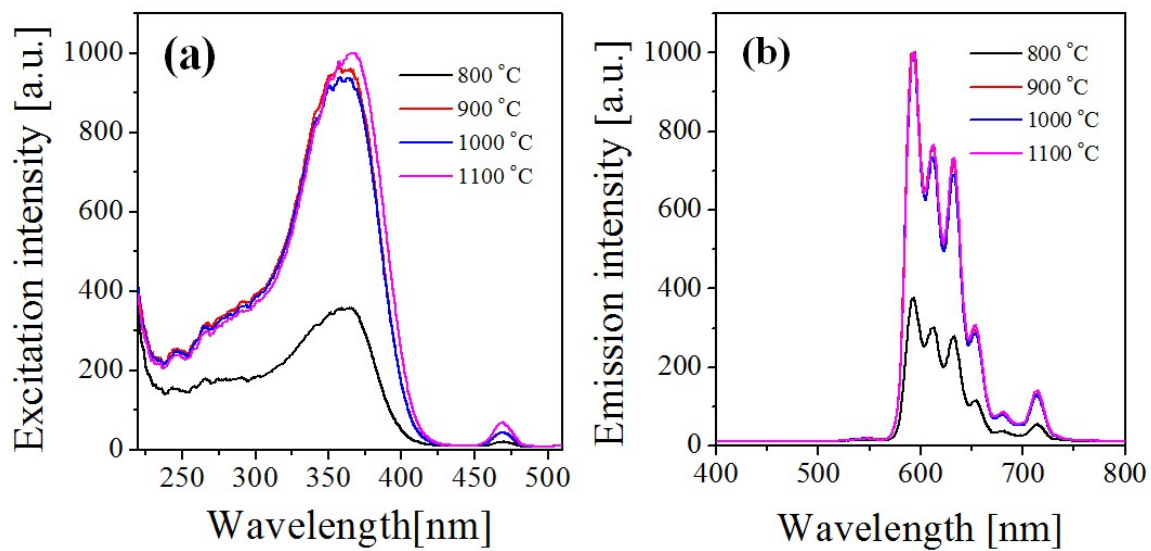


Fig. S7. Excitation (a) and emission (b) spectra of $\text{CeO}_2:\text{Eu}^{3+}/\text{Na}^+$ particles prepared from the solution containing 0.1 M EG.