Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics

Supporting information

Synthesis and Photoluminescence Properties of Ce^{3+} and Eu^{2+} -activated $Ca_7Mg(SiO_4)_4$ Phosphors for Solid State Lighting

Yongchao Jia[a,b], Hui Qiao[a,b], Yuhua Zheng[a,b], Ning Guo[a,b], Hongpeng You[a,]*

[a]State key Laboratory of Rare Earth Resource Utilization, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, P. R. China.

[b]Graduate University of the Chinese Academy of Sciences, Beijing 100049, P. R. China.

*Corresponding author: E-mail address: hpyou@ciac.jl.cn

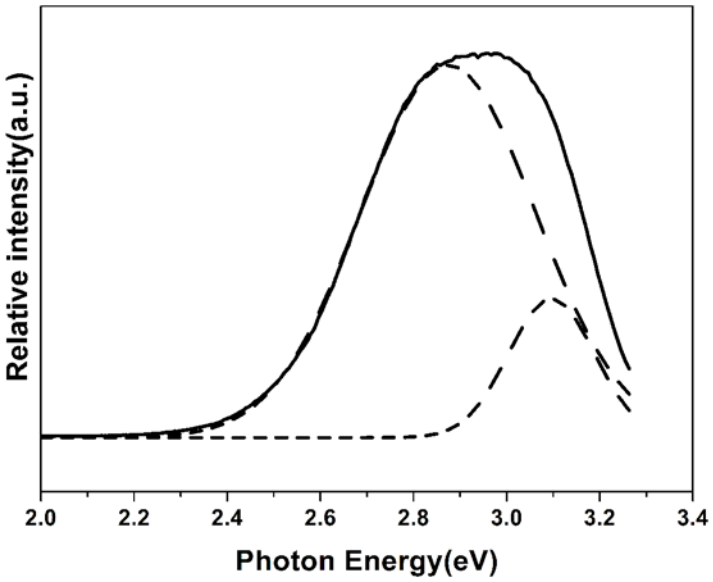

Figure S1. Deconvoluted emission spectrum of $Ca_7Mg(SiO_4)_4:Ce^{3+}$ as a sum of two Gaussian bands.

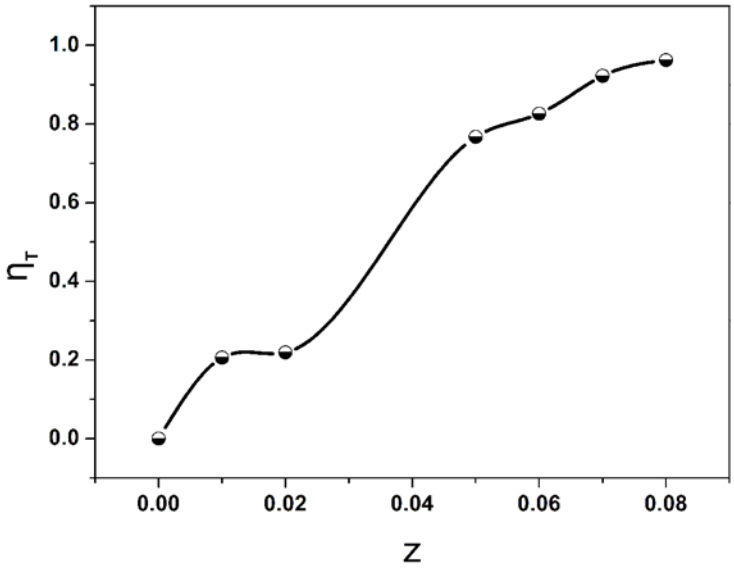

Figure S2. Dependence of the energy transfer efficiency η_T on Eu^{2+} content (z).

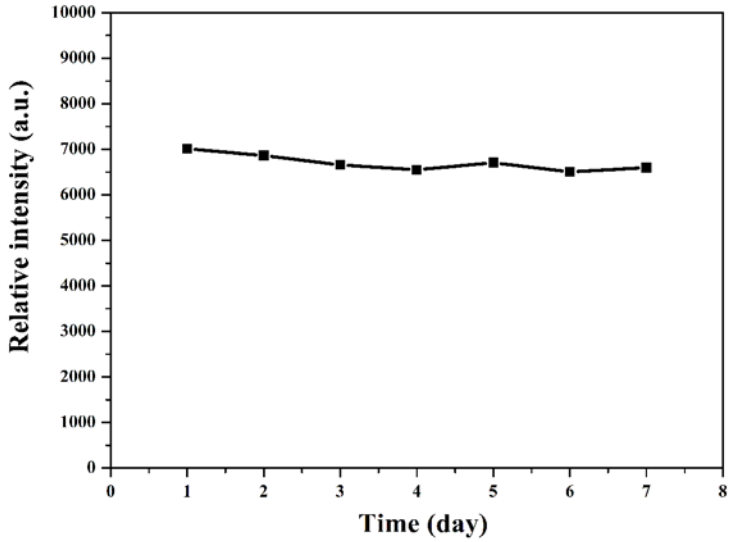

Figure S3. Variation of the emission intensity of CMSO: $0.04Eu^{2+}$ phosphor on the time espousing in the air.

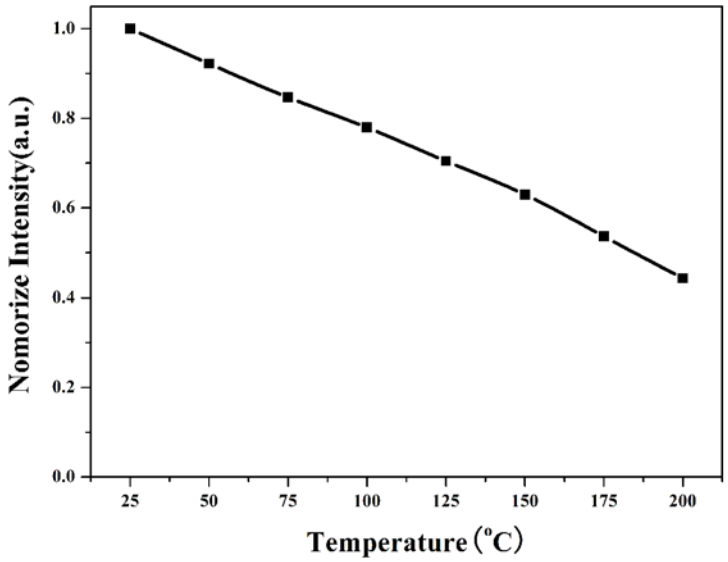

Figure S4. Temperature dependence of the emission intensities of CMSO:0.04Eu^{2+} phosphor between 25℃ and 200℃.