Electronic Supplementary Material (ESI) for Dalton Transactions.

Supporting information

New Eu^{3+}-Activated Perovskite $La_{0.5}Na_{0.5}TiO_3$ Phosphors in Glass for Warm White Light Emitting Diodes

Jiasong Zhong[1], Daqin Chen[1, 2, *], Yang Zhou[1], Zhongyi Wan[1], Mingye Ding[1], Wangfeng Bai[1], Zhengguo Ji[1]

[1]College of Materials and Environmental Engineering, Hangzhou Dianzi University, Hangzhou 310018, China

[2]State Key Laboratory of Structural Chemistry, Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fuzhou, Fujian 350002, PR China

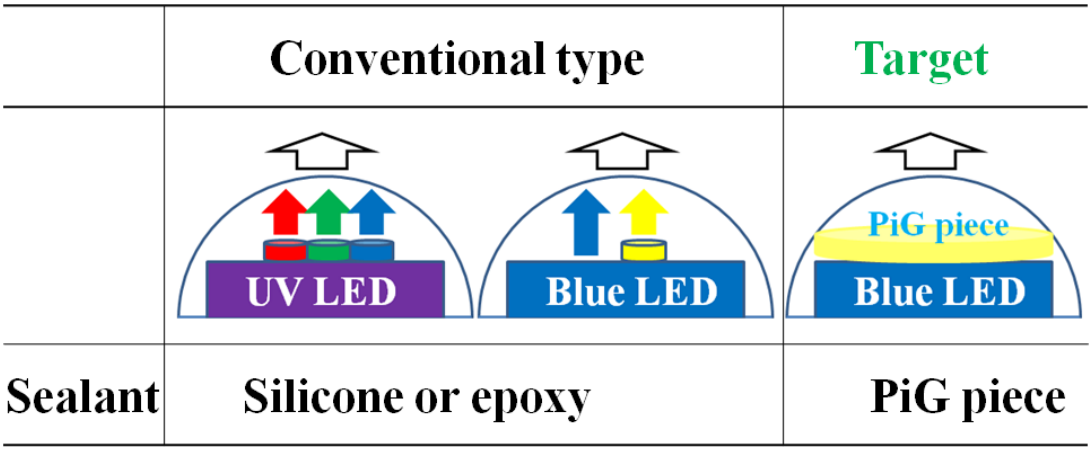

Fig. S1 Different approaches for obtaining white light from LEDs: conventional type and the target of our study.

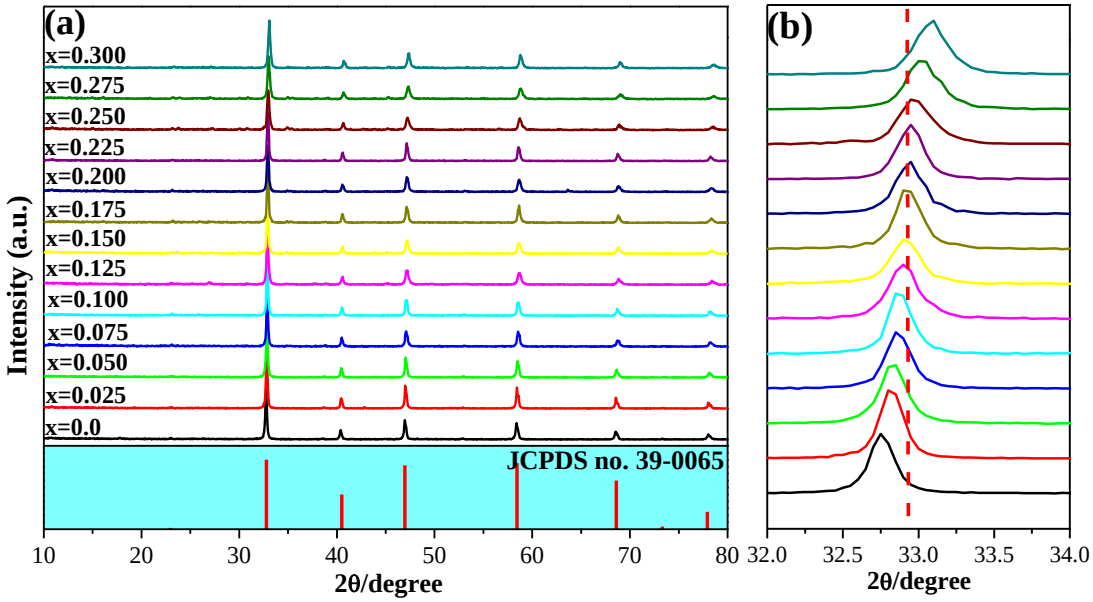

Fig. S2 (a) XRD patterns of LNT:xEu^{3+} ($0 \leq x \leq 0.3$). (b) Enlarge patterns of 2θ from 32^{o} to 34^{o}. Simulated XRD pattern of cubic $La_{0.5}Na_{0.5}TiO_3$ according to JCPDS no.39-0065 is presented by tick marks at the bottom of the figure as reference.

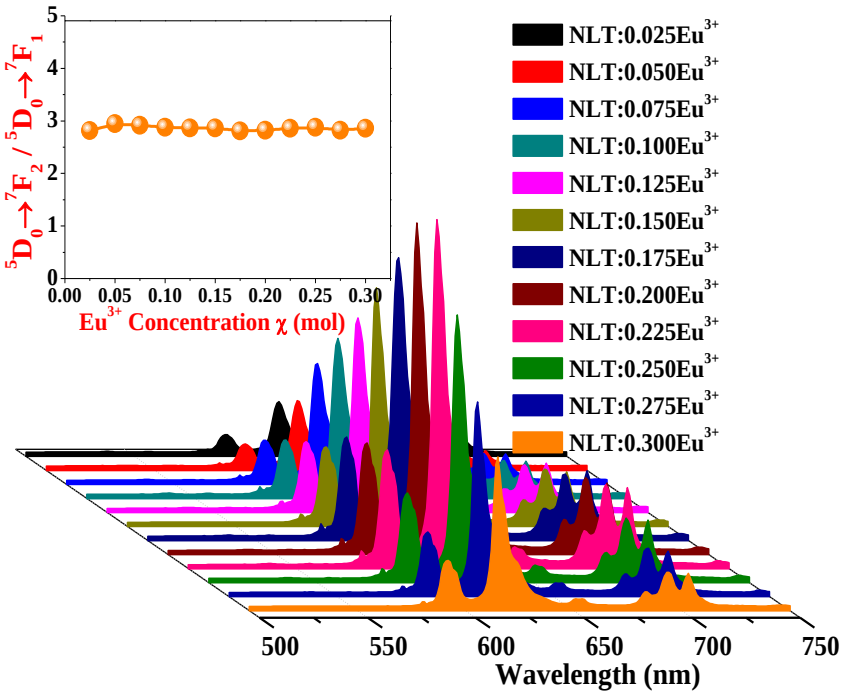

Fig. S3 PL spectra of LNT:xEu^{3+} (0.025≤x≤0.3) phosphors with different amounts of Eu^{3+}. Inset show the asymmetry ratios as a function of Eu^{3+} concentration of the LNT:xEu^{3+} phosphors.

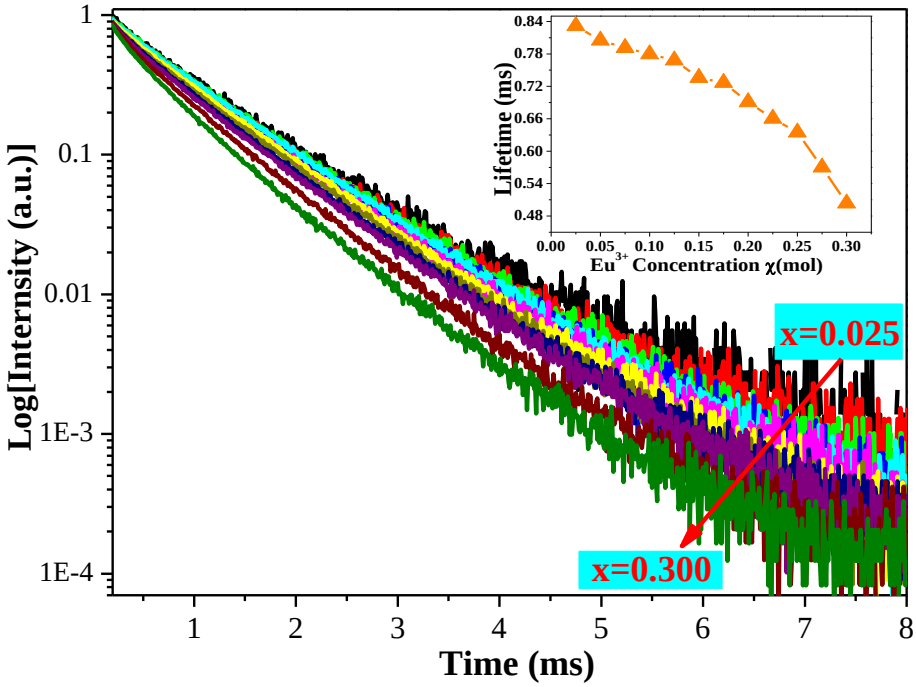

Fig. S4 The luminescence decay curves of LNT:xEu^{3+} (0.025≤x≤0.3) phosphors (excited at 465 nm, monitored at 615 nm). Inset is the dependence of the luminescence lifetime on Eu^{3+} doping concentration.

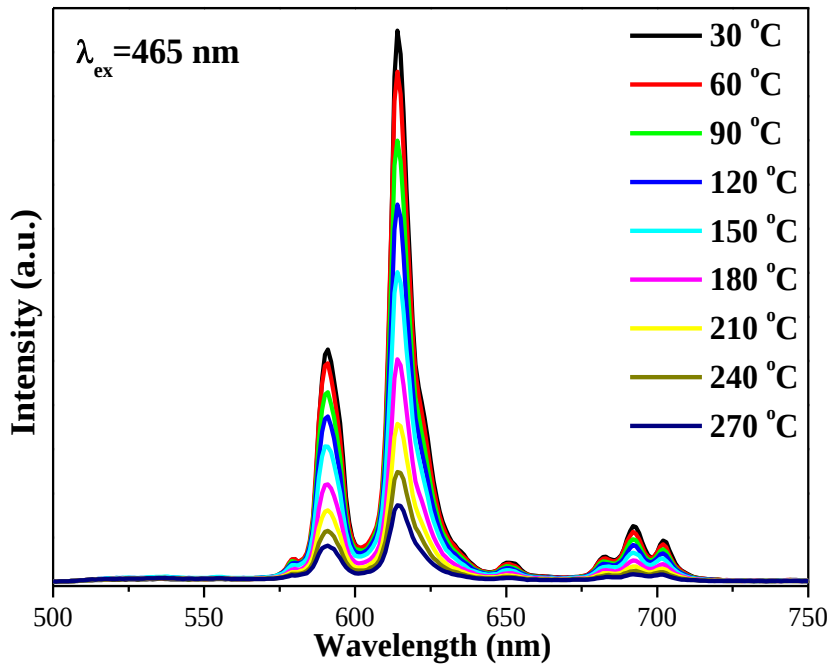

Fig. S5 Temperature-dependent PL spectra of LNT:0.225Eu^{3+} phosphor (λ_{ex}= 465 nm)

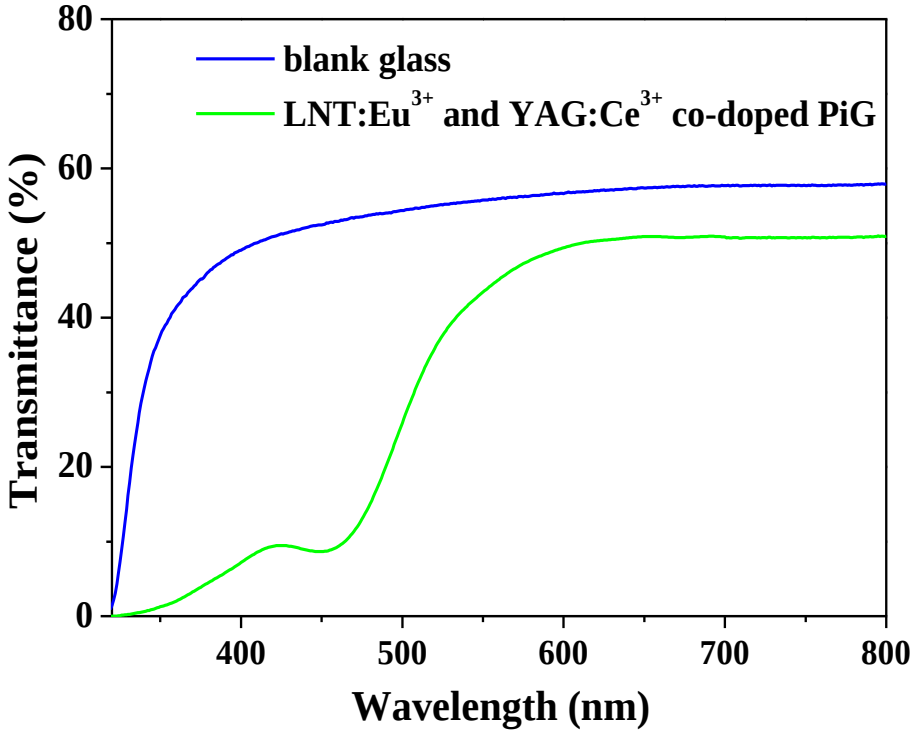

Fig. S6 Transmittance spectra of the blank glass and LNT:Eu^{3+} and YAG:Ce^{3+} co-doped PiG.