

A highly thermally stable $\text{Y}_3\text{AlGa}_4\text{O}_{12}:\text{Cr}^{3+}$ phosphor for near-infrared pc-LEDs

Zhihang Yue,^{a, b} Dashuai Sun,^{b*} Zeyu Lyu,^b Sida Shen,^b Chengliang Lyu,^{a, b} Pengcheng Luo^b and Hongpeng You^{a, b, c*}

^a School of Rare Earths University of Science and Technology of China Hefei 230026, P. R. China.

E-mail : hpyou@ciac.ac.cn

^b Key Laboratory of Rare Earths, Chinese Academy of Sciences; Ganjiang Innovation Academy, Chinese Academy of Sciences, Ganzhou 341000, P. R. China. E-mail : dssun@gia.cas.cn

^c State Key Laboratory of Rare Earth Resource Utilization, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, P. R. China

* Corresponding author. Fax: +86 431 8

Figures and Figure Captions

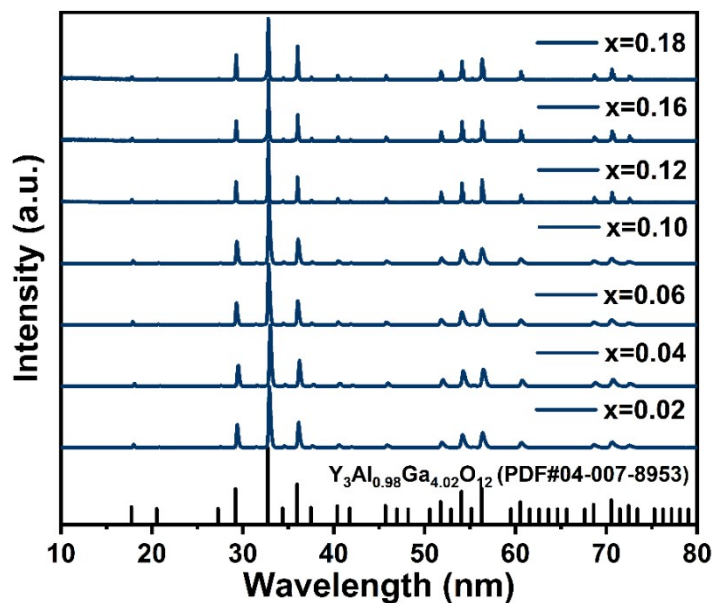


Figure S1 XRD patterns of $Y_3AlGa_{4-x}O_{12}:xCr^{3+}$ ($x = 0-0.06, 0.10, 0.12, 0.16, 0.18$) samples, compared with the simulated XRD pattern of $Y_3Al_{0.98}Ga_{4.02}O_{12}$ (PDF#04-007-8953).

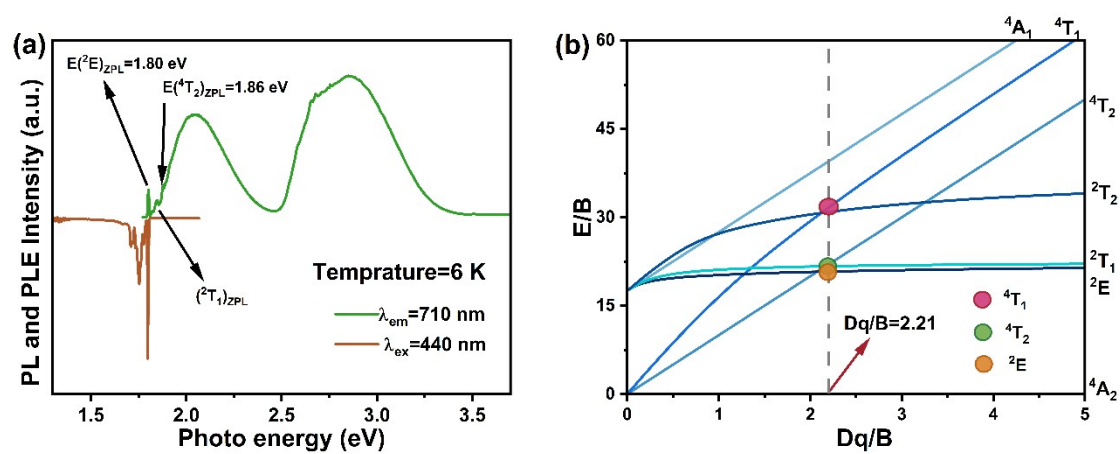


Figure. S2 (a) PL and PLE spectra of YAGG:0.1Cr³⁺ when T= 6 K; (b) Tanabe–Sugano energy-level diagram for a 3d³ system in an octahedral crystal field.