Supporting Information

High-Power NIR-II LED of Nd^{3+} Doped Glass Ceramic toward Portable Imaging

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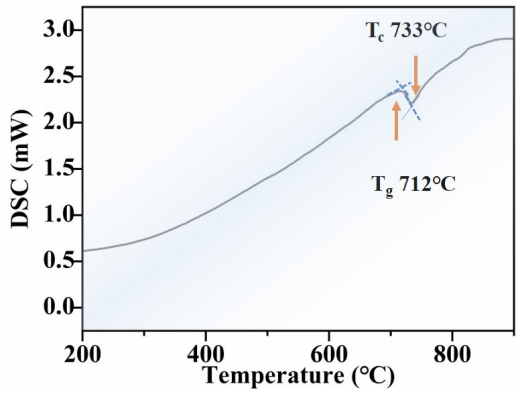

Figure S1 DSC curve of PG recorded at a heating rate of 10 K/min (T_g and T_c denotes the glass transition temperature and the onset crystallization temperature, respectively).

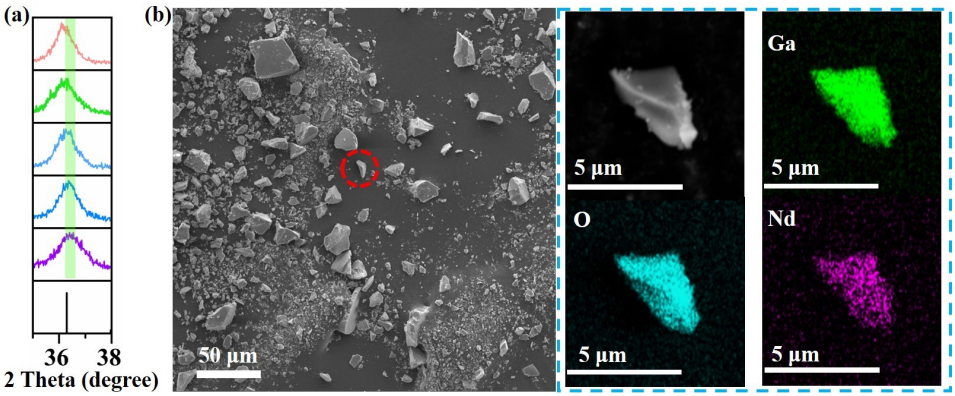

Figure S2 (a) XRD patterns of $LiGa_5O_8$: xNd^{3+} GCs (x = 0.1, 0.15, 0.20, 0.25, and 0.30) in the region of 35.5 - 38°. (b) SEM image and the corresponding elemental mapping of $LiGa_5O_8$: Nd^{3+} GC.

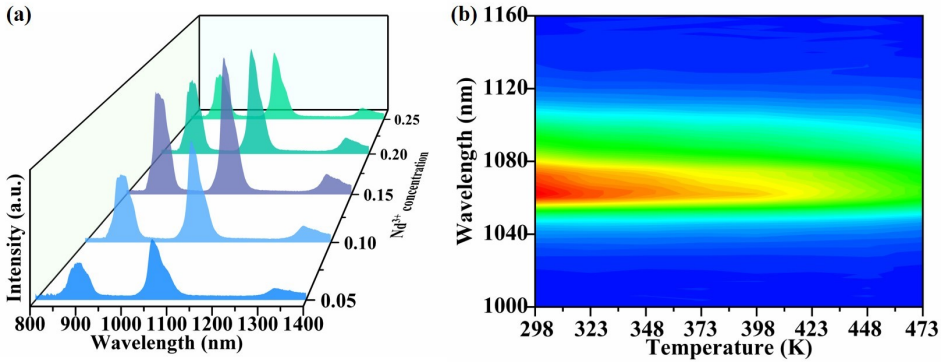

Figure S3 (a) PL spectra of $LiGa_5O_8$: xNd^{3+} GC (x = 0.1, 0.15, 0.20, 0.25, and 0.30) dependent on the concentration of Nd^{3+}ions. (b) Temperature-dependent PL spectra ranging from RT to 473 K.

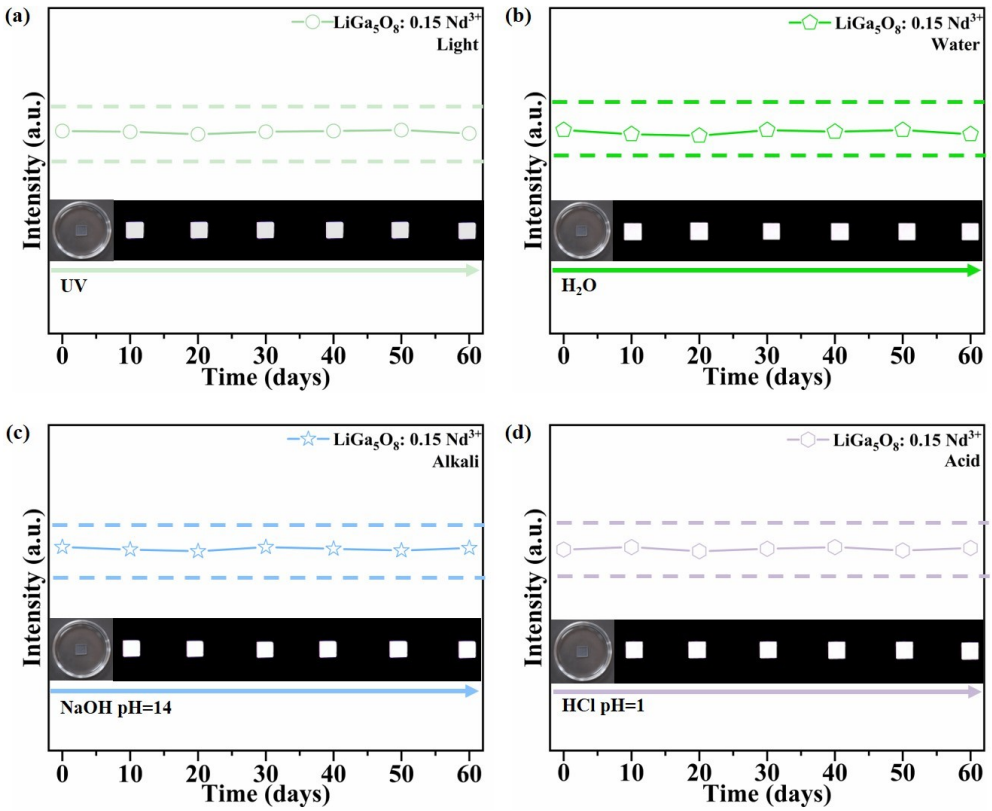

Figure S4 The integrated emission intensity of the $LiGa_5O_8$: 0.15Nd^{3+} GCs recorded at continuous illumination by a 365 nm UV lamp (a), immersed in water (b), NaOH solution (c), and HCl solution (d) for prolonged recorded time, respectively. The insets in (a), (b), (c) and (d) is the corresponding photographs of the samples.

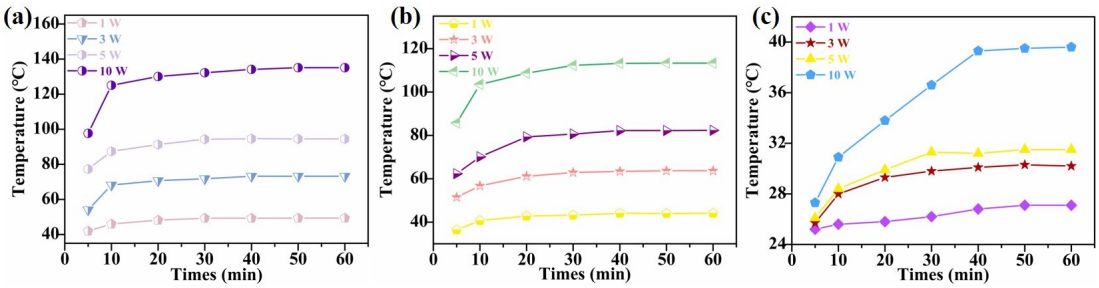

Figure S5 LED temperature recorded with the prolonged working time from 10 to 60 min with different driving current, (a) pc-LED, (b) GCs LED with contact packaging structure, (c) GCs LED with a hollow packaging structure.

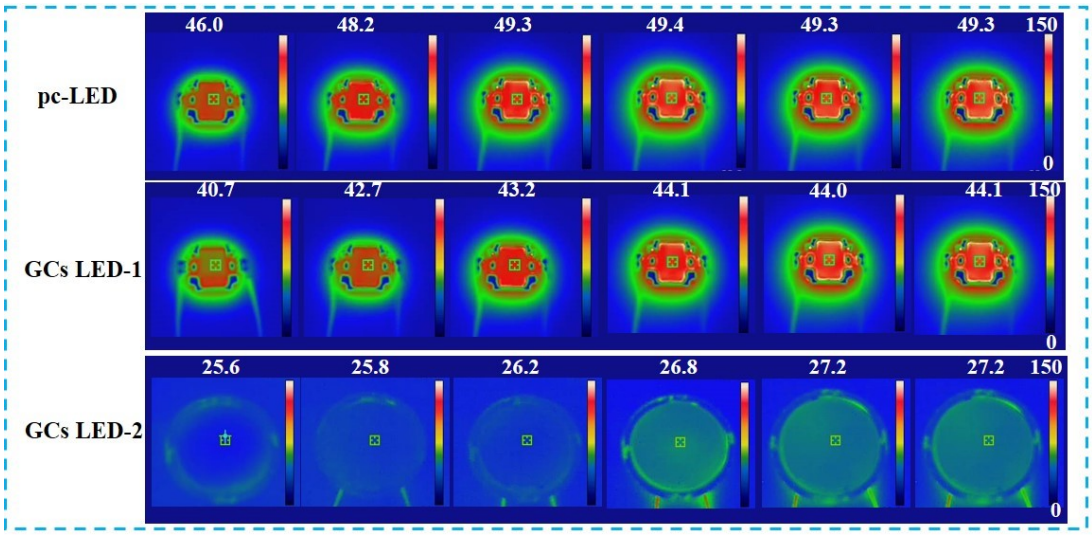

Figure S6 Thermal imaging of (a) pc-LED, (b) GCs LED-1, (c) GCs LED-2 recorded under the driving current of 0.3 A with the extension of the working time from 10 to 60 min.

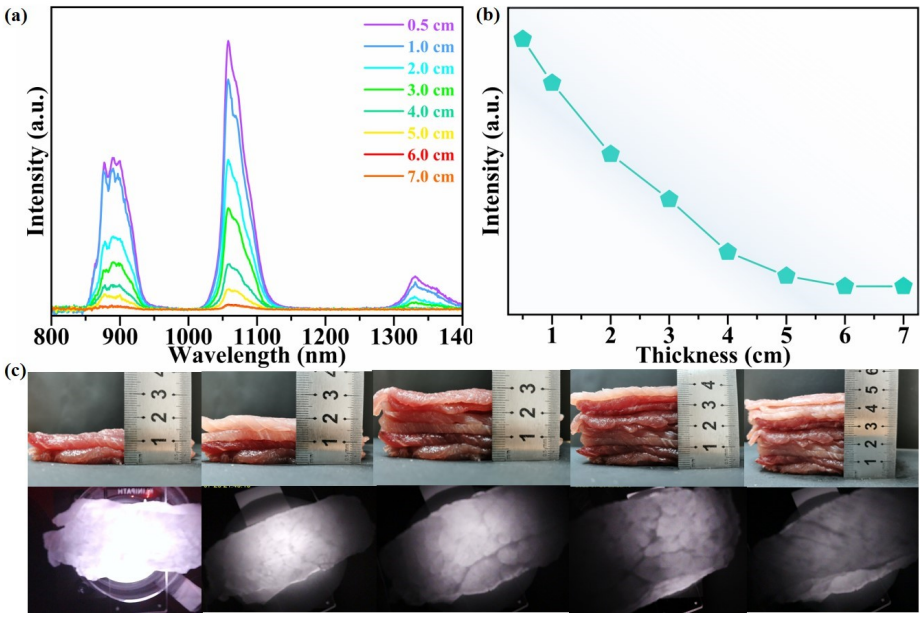

Figure S7 The luminescence spectra (a), and the corresponding plotted luminescence intensity (b) of the as-explored NIR LED recorded for the different penetration depth of pork tissue. (c) Photos of different pork tissue thickness under natural light and under the as-explored NIR light.