Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting Information

Color-Tunable Persistent Luminescence in New Oxyfluoride Glass and Glass Ceramic Containing Mn^{2+}: α-Zn_2SiO_4 Nanocrystals

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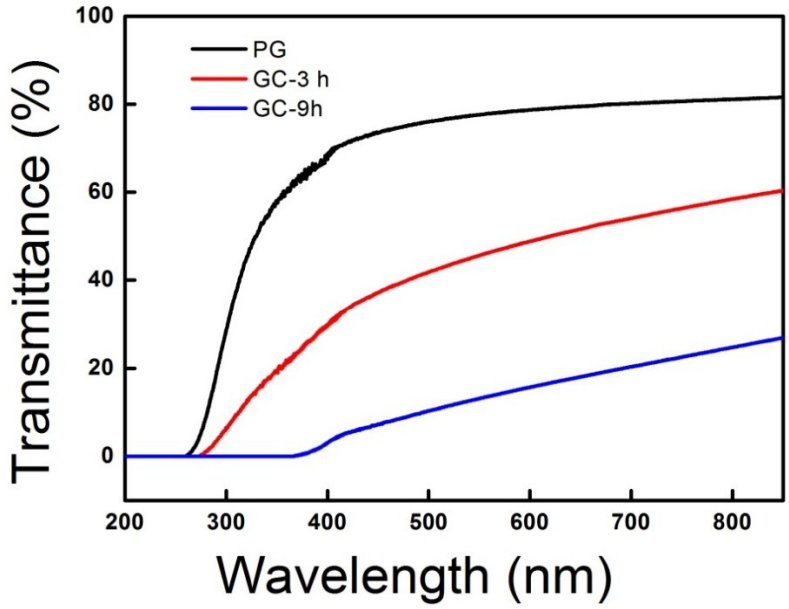

Figure S1. Transmittance spectra of the precursor glass (PG) and two representative glass ceramic (GC-3h, GC-9h) samples.

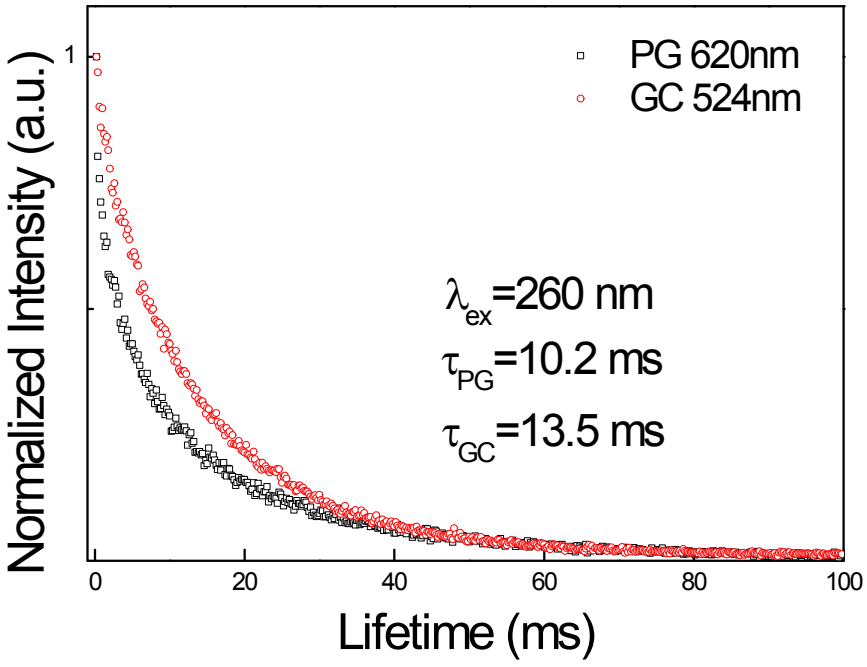

Figure S2. Luminescent decay curves of Mn^{2+}: $^4T_{1g}(G) \rightarrow {}^6A_{1g}(S)$ at 620 nm for PG and Mn^{2+}: $^4T_1(G) \rightarrow {}^6A_1(S)$ at 524 nm for GC-9h, under 260 nm excitation.

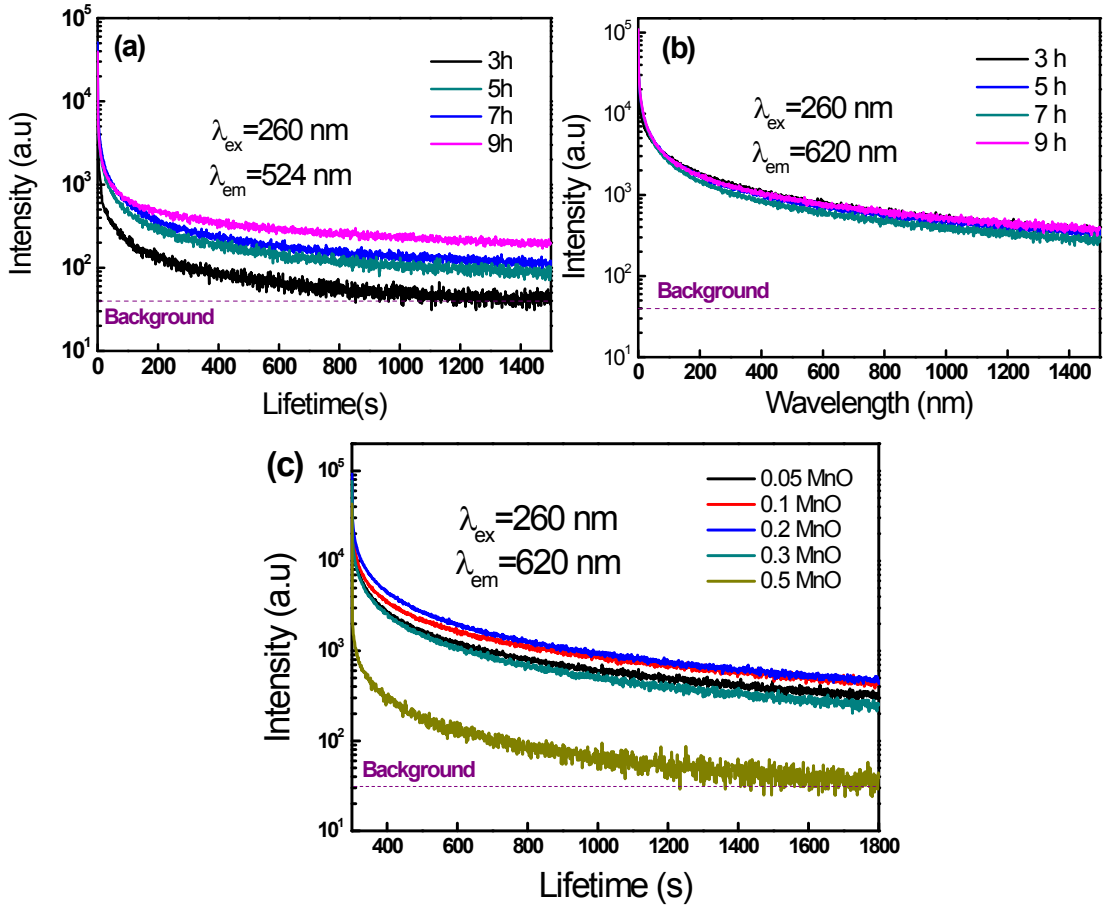

Figure S3. PersL decay curves by monitoring at (a) 524 nm and (b) 620 nm in the GC samples with different annealing durations. (c) Mn^{2+} doping concentration dependent persistent decay curves by monitoring at 620 nm in the PG samples.

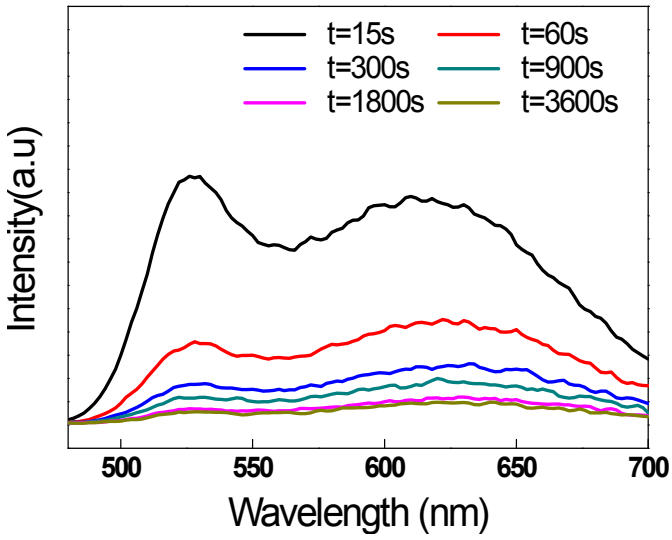

Figure S4. Persistent luminescence spectra of GC-7h sample at different time intervals (15-3600s) after ceasing the 260 nm excitation.

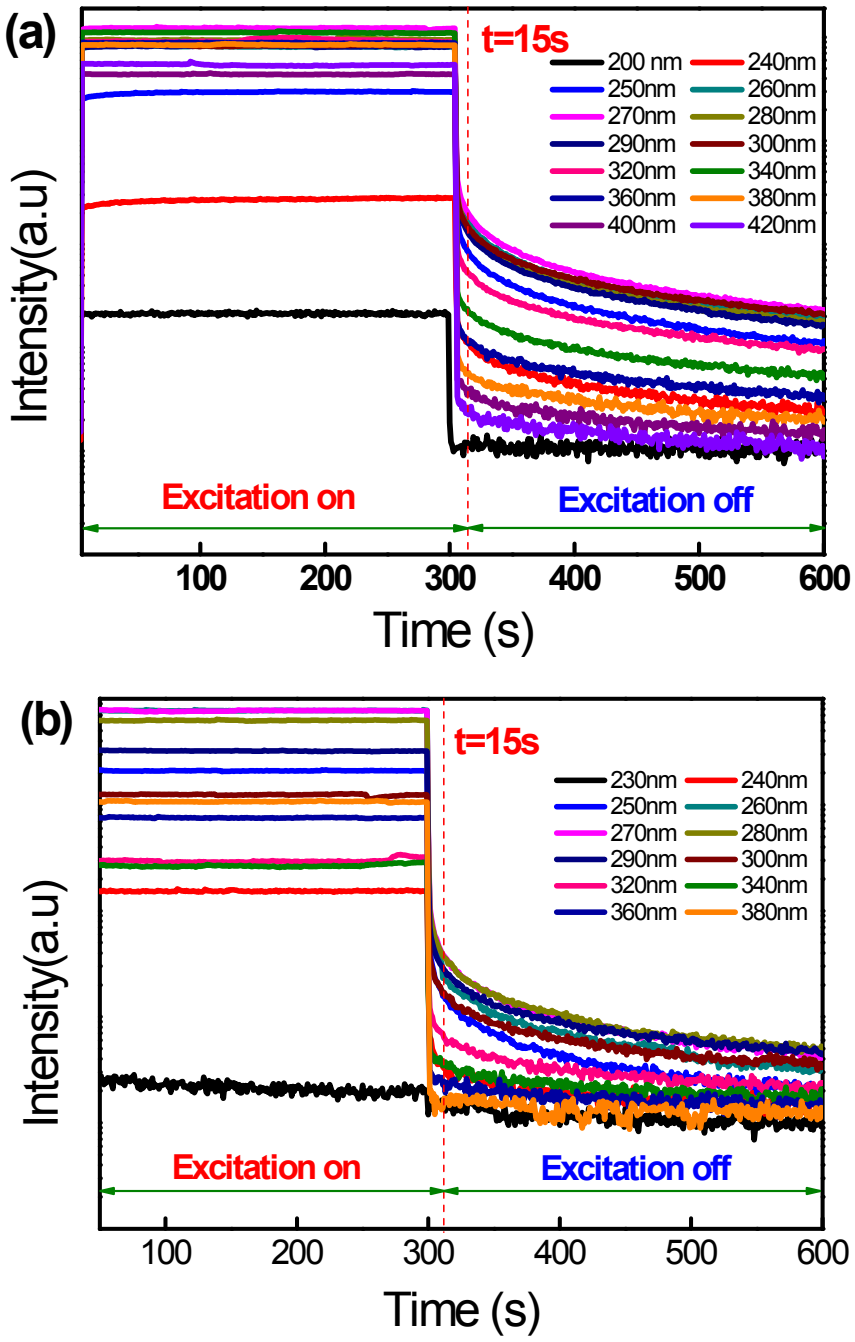

Figure S5. Persistent decay curves of the Mn^{2+} doped (a) PG and (b) GC samples excited at various wavelengths.

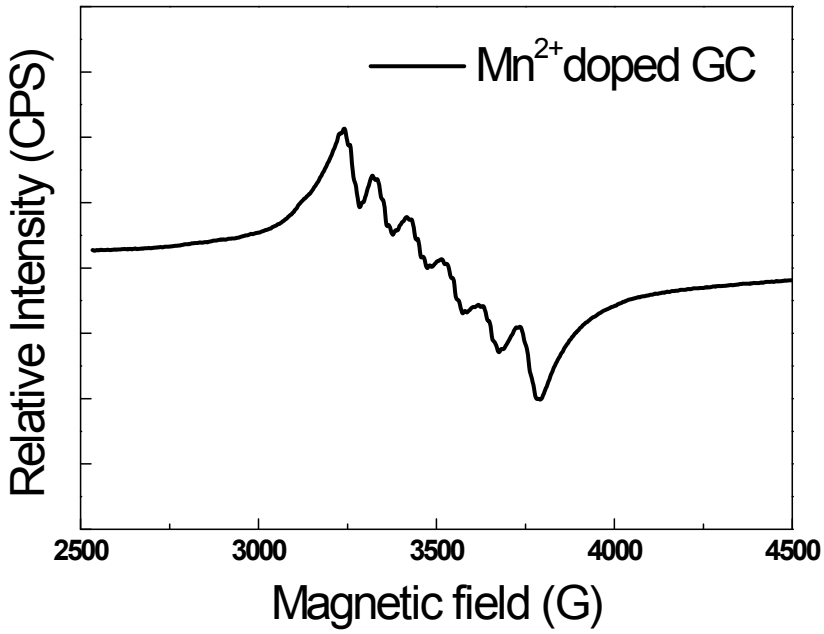

Figure S6. EPR spectrum of the Mn^{2+} doped glass ceramic.

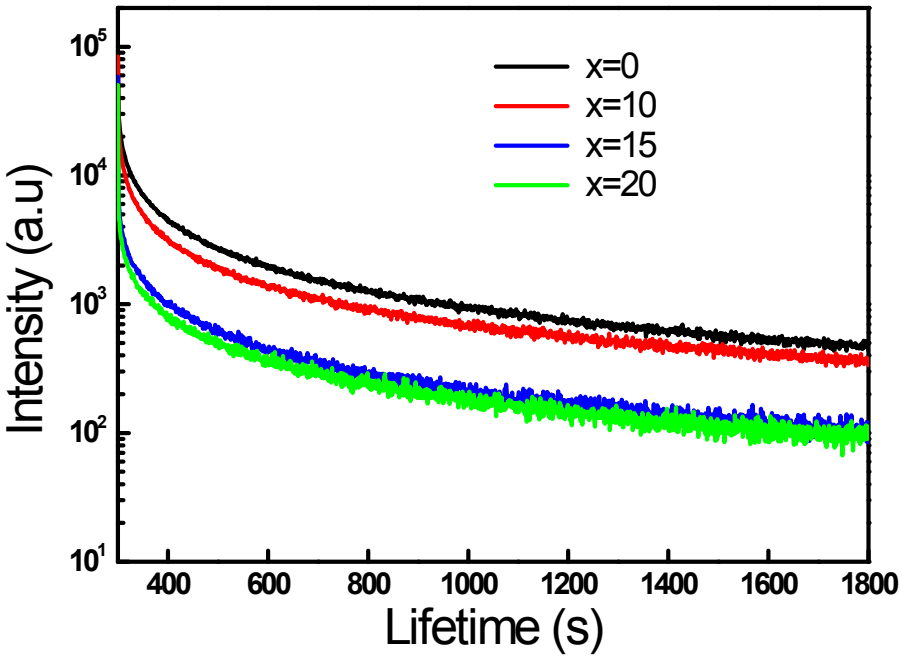

Figure S7. The composition dependent PersL decay curves in $55SiO_2$-20KF-(25-x)ZnF_2-xZnO glasses by monitoring at 620 nm upon 260 nm excitation for 5 min.