

Figure S1 (a) SEM image, and EDX elemental mappings of (b) Mg, (c) Al, (d) Si, (e) Ca, (f) Mn, and (g) Fe for the area of Fig. 3(b).

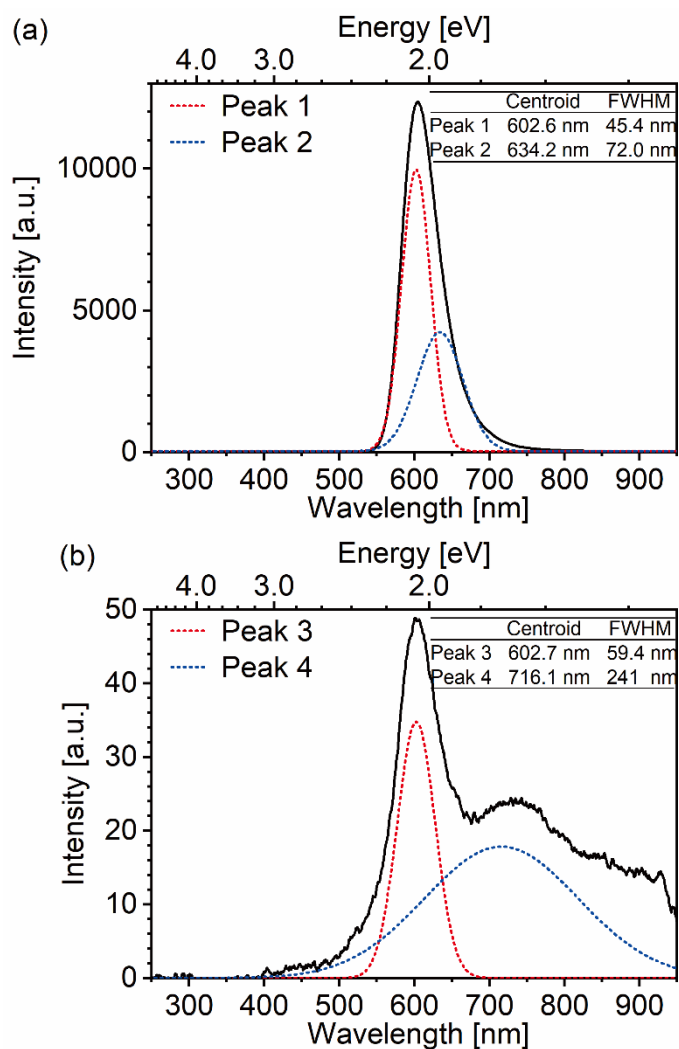


Figure S2 Results of peak fitting for the cathodoluminescence spectra of (a) area 3 and (b) area 5 in Fig. 3.

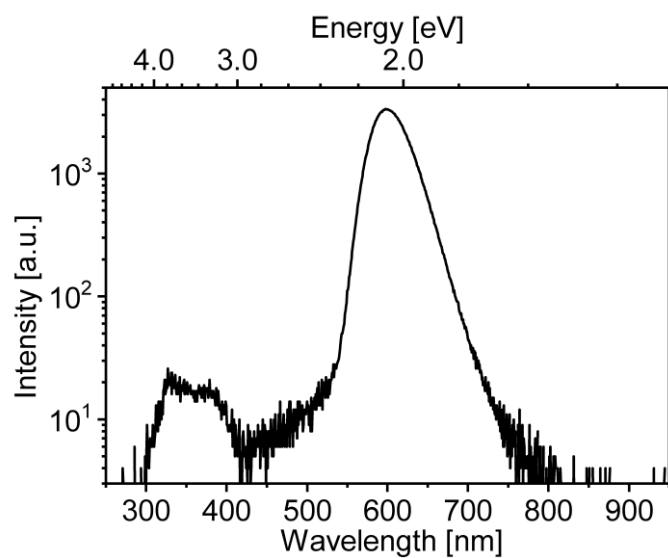


Figure S3 CL spectrum of CaO containing 0.01 mol% MnO that was heated at 1500 °C for 5 min and quenched to room temperature. The measurement time for the CL spectrum was 0.1 s.