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

Epitaxial Growth via Anti-solvent-induced Deposition towards Highly Efficient and Stable Mn^{4+} Doped Fluoride Red Phosphor in Application of Warm WLED

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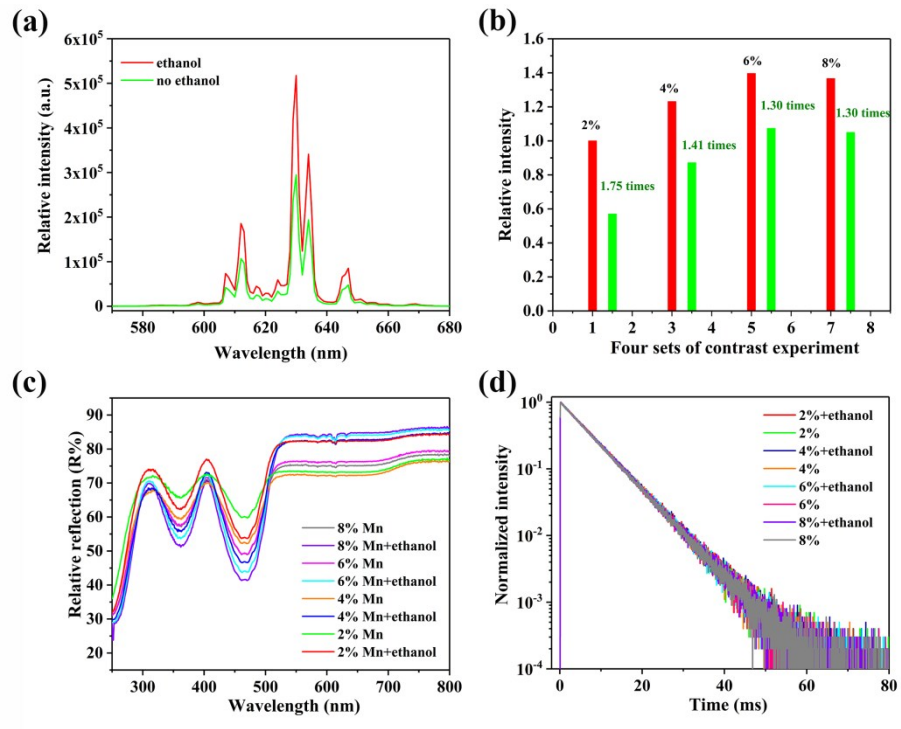

Figure S1 (a) The effect of ethanol addition on the photoluminescence emission spectra of K_2GeF_6:0.02Mn^{4+}. (b) Photoluminescence emission intensity, (c) time-resolved decay curve and (d) diffuse spectra changes (with and without ethanol addition) of K_2GeF_6 with different Mn^{4+} doping concentrations.

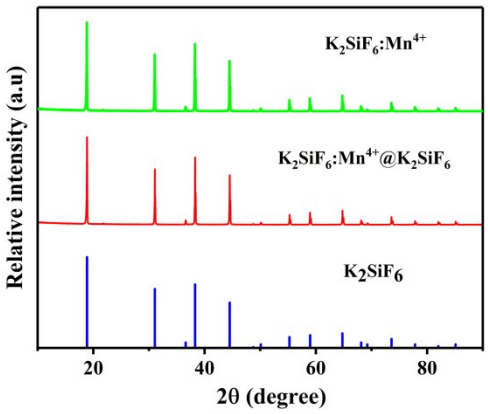

Figure S2 XRD patterns of K_2SiF_6:Mn^{4+} and K_2SiF_6:Mn^{4+}@K_2SiF_6.

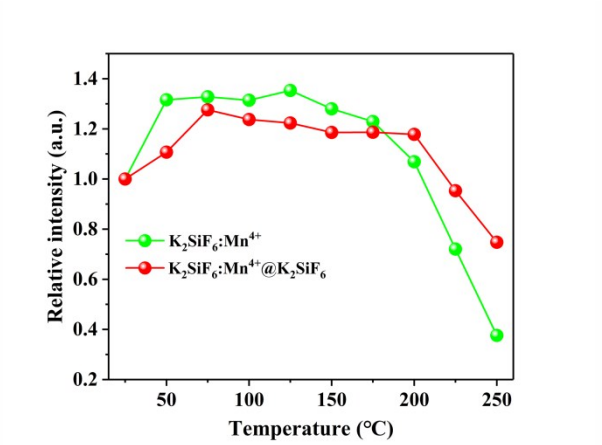

Figure S3 Temperature dependent integral intensity of $K_2SiF_6:Mn^{4+}$ and $K_2SiF_6:Mn^{4+}@K_2SiF_6$.

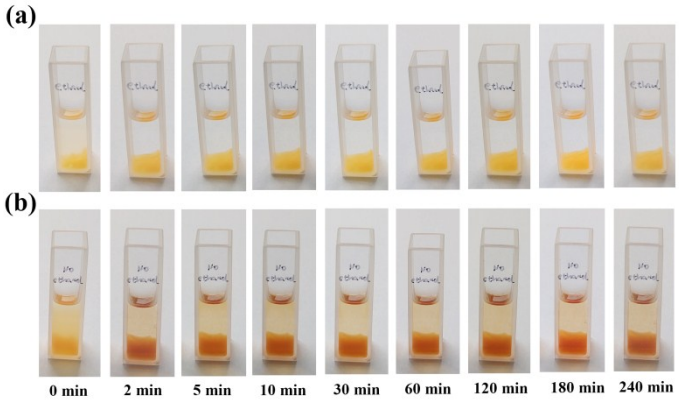

Figure S4 Photographs of water immersed $K_2SiF_6:Mn^{4+}$ after exposed to statured K_2SiF_6/HF solution (a) with ethanol and (b) without ethanol.

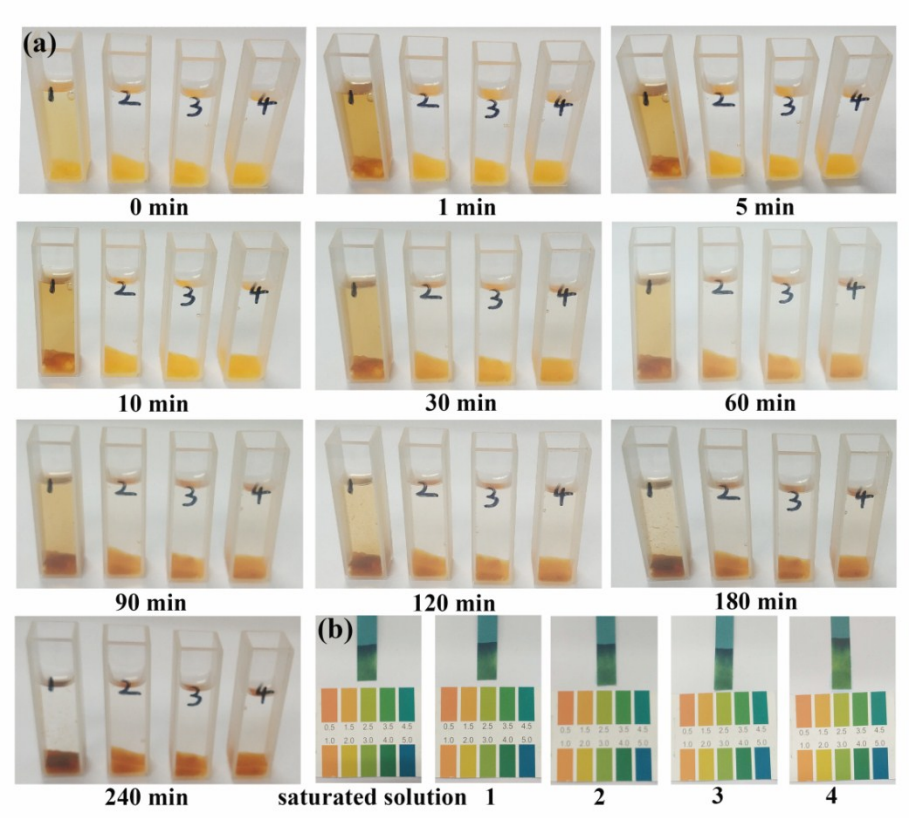

Figure S5 (a) Photographs of K_2SiF_6:Mn^{4+} immersed in (1) 0 g/3 mL (2) 0.012 g/3 mL (3) 0.024 g/3 mL (4) 0.036 g/3 mL statured K_2SiF_6/H_2O solutions for 0, 1, 5, 10, 30, 60, 90, 120, 180, 240 min. (b) pH test strip to illustrate the pH value of statured K_2SiF_6/H_2O solutions and K_2SiF_6:Mn^{4+} after immersed in the above 4 concentrations of K_2SiF_6/H_2O solution.