

Supplementary Information

Re-dispersion and film formation of $\text{GdVO}_4:\text{Ln}^{3+}$ ($\text{Ln}^{3+} = \text{Dy}^{3+}, \text{Eu}^{3+}, \text{Sm}^{3+}, \text{Tm}^{3+}$)

nanoparticles: particle size and luminescence studies

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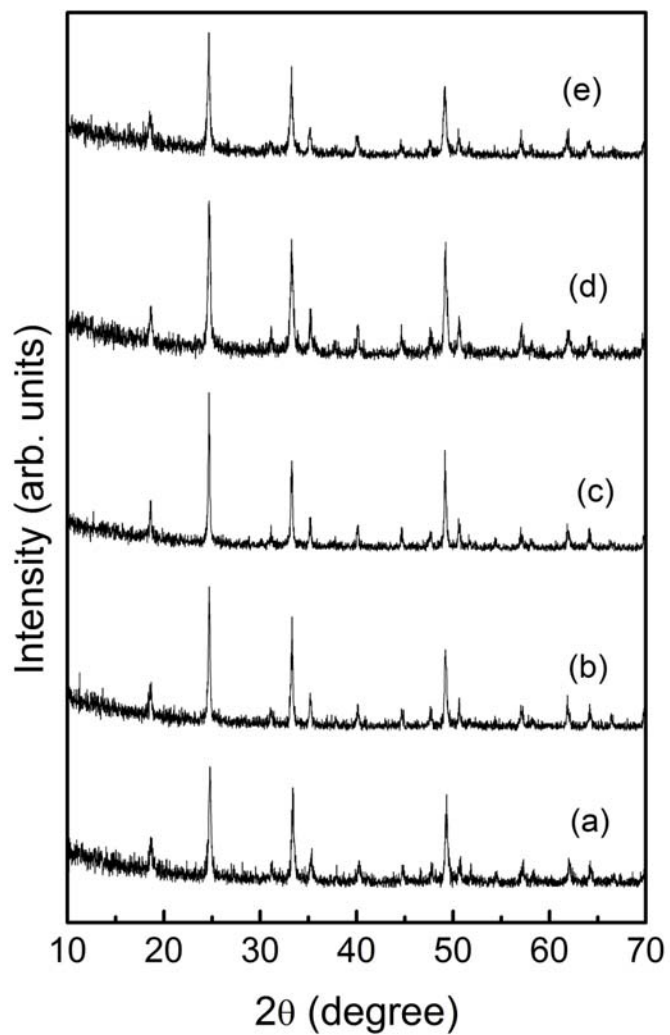


Figure S1 XRD patterns of as prepared GdVO₄ samples doped with (a) 1, (b) 5, (c) 7, (d) 10 and (e) 15 at.% Sm³⁺.

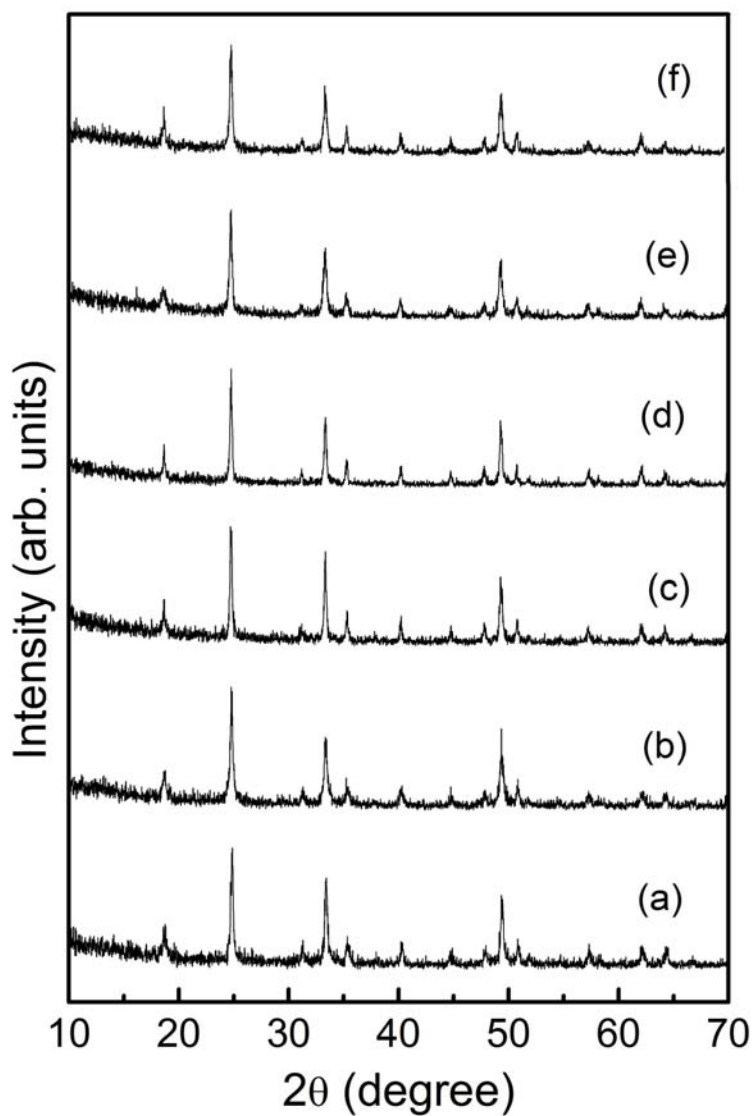


Figure S2 XRD patterns of 500 °C annealed GdVO₄ samples doped with (a) 1, (b) 3, (c) 5, (d) 7, (e) 10 and (f) 15 at.% Sm³⁺.

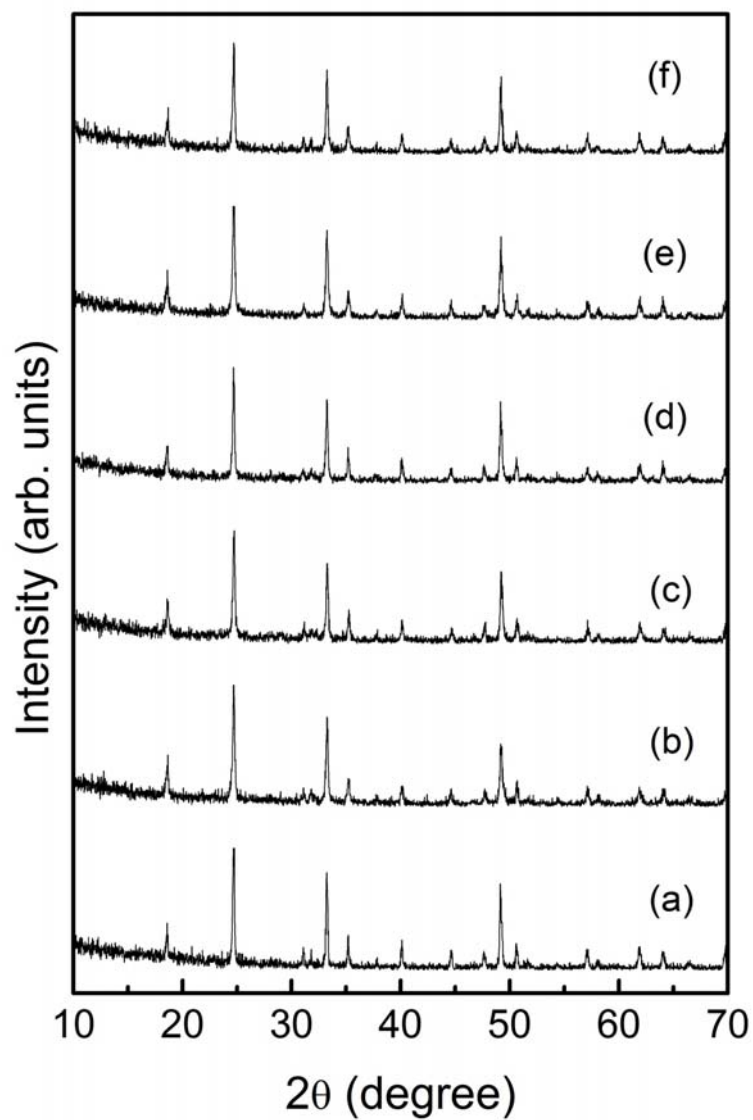


Figure S3 XRD patterns of 900 °C annealed GdVO₄ samples doped with (a) 1, (b) 3, (c) 5, (d) 7, (e) 10 and (f) 15 at.% Sm³⁺.

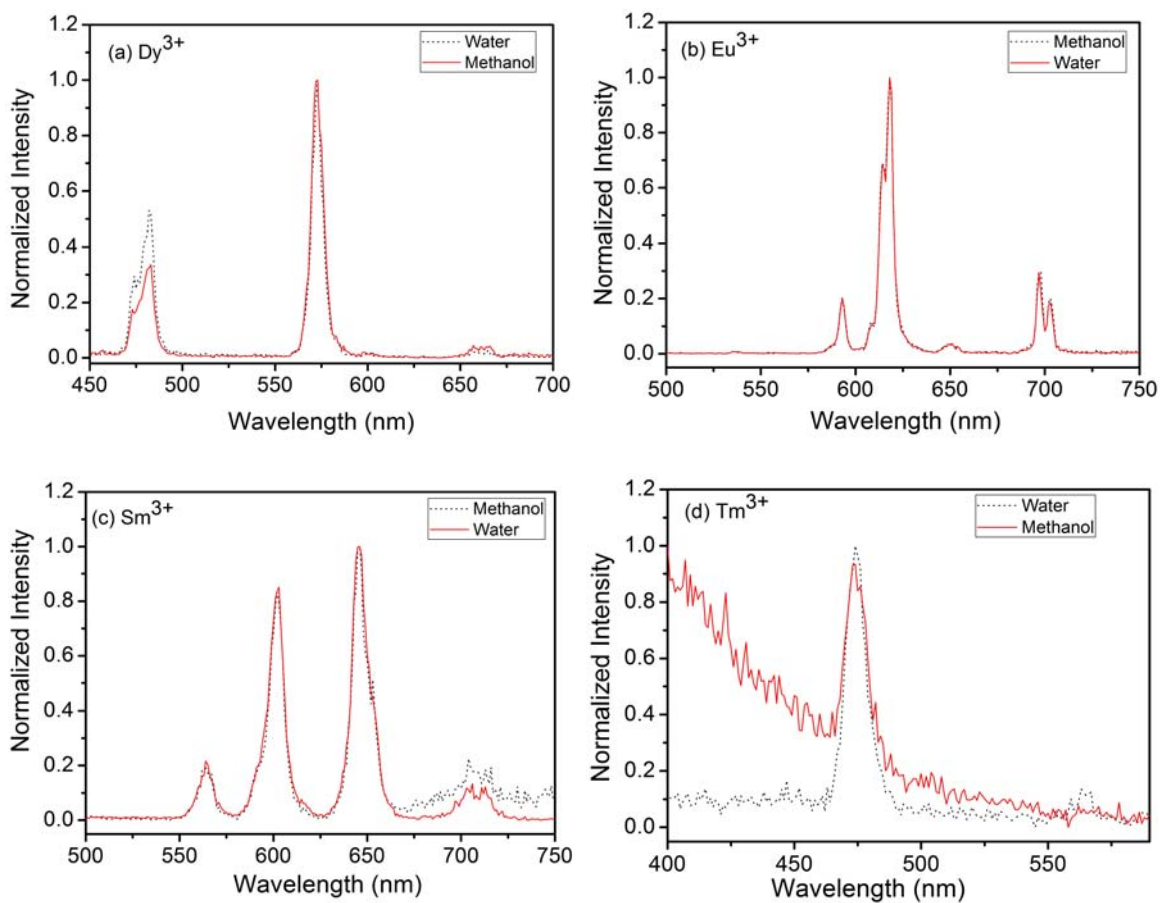


Figure S4 Normalized emission spectra of GdVO₄ doped with (a) Dy³⁺, (b) Eu³⁺, (c) Sm³⁺ and (d) Tm³⁺ after dispersion in methanol and water.

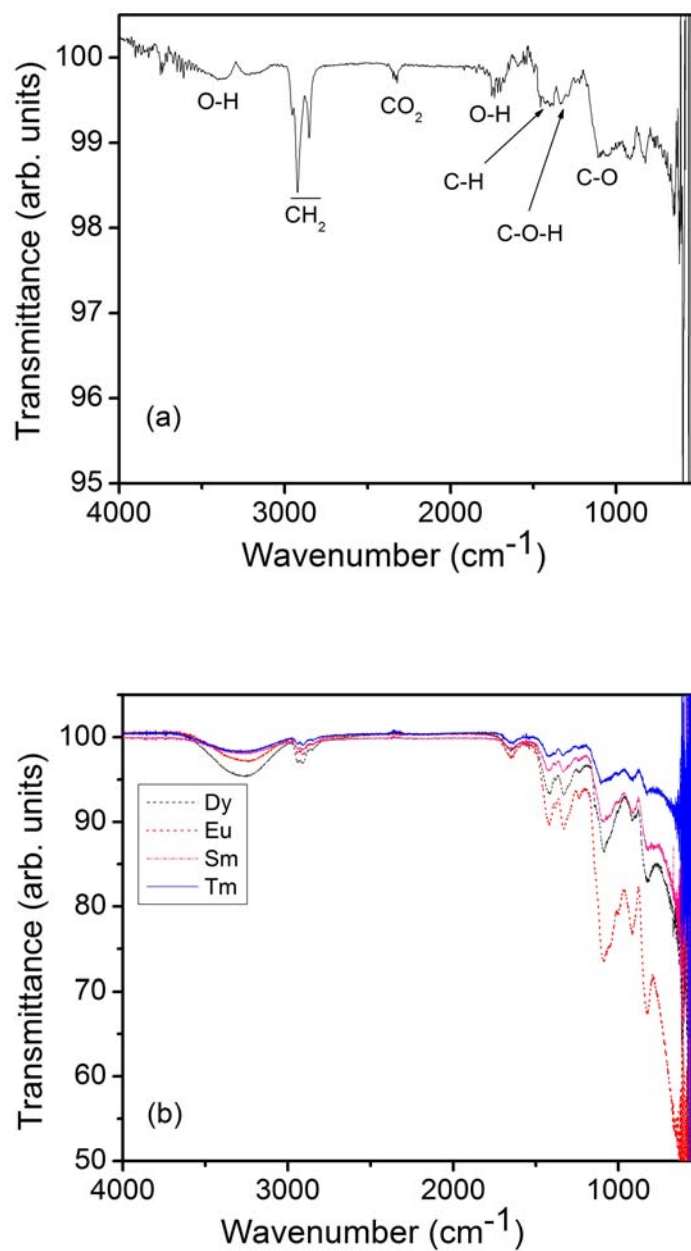


Figure S5 IR spectra of (a) PVA film and (b) PVA film dispersed with samples.

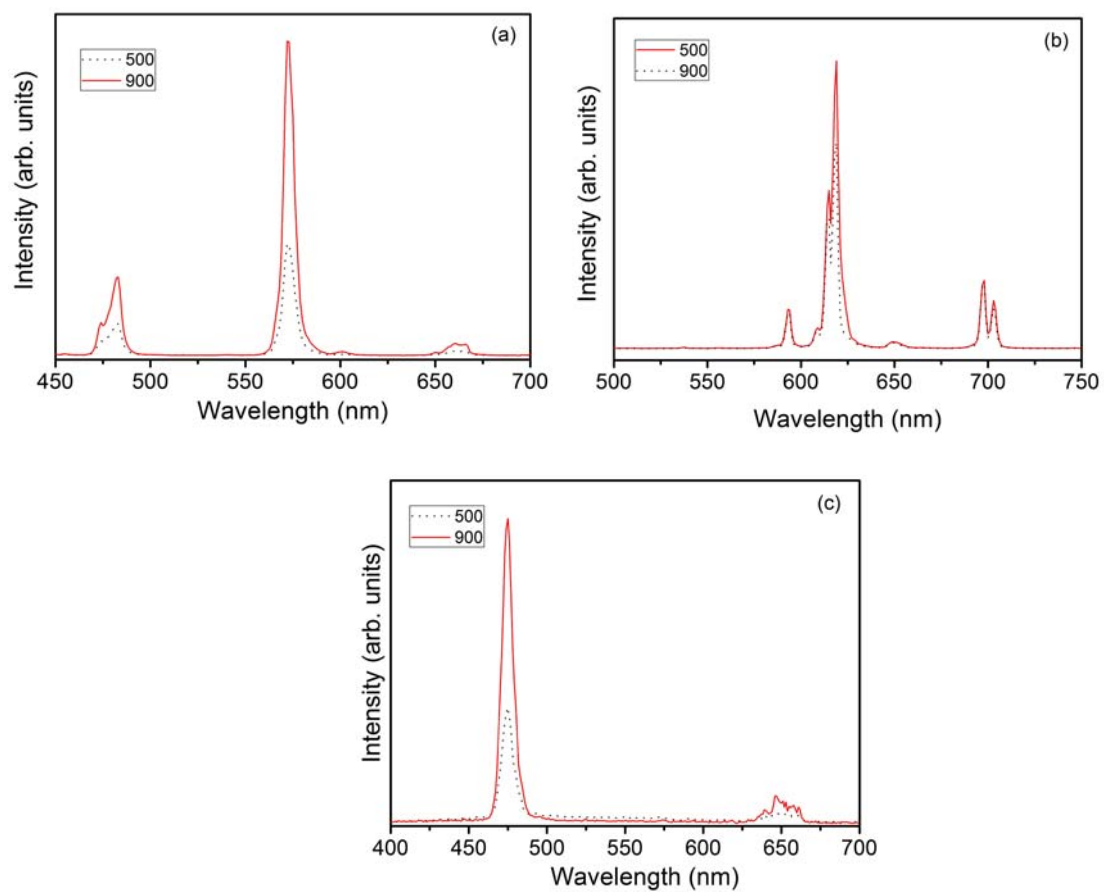


Figure S6 Emission spectra of 500 and 900 °C annealed GdVO₄ samples doped with (a) Dy³⁺ (2 at.%), (b) Eu³⁺ (5 at.%) and (c) Tm³⁺ (2 at.%).