

Electronic Supplementary Information

Luminescent biomimetic citrate-coated europium-doped carbonated apatite particles for use in bioimaging: physico-chemistry and cytocompatibility

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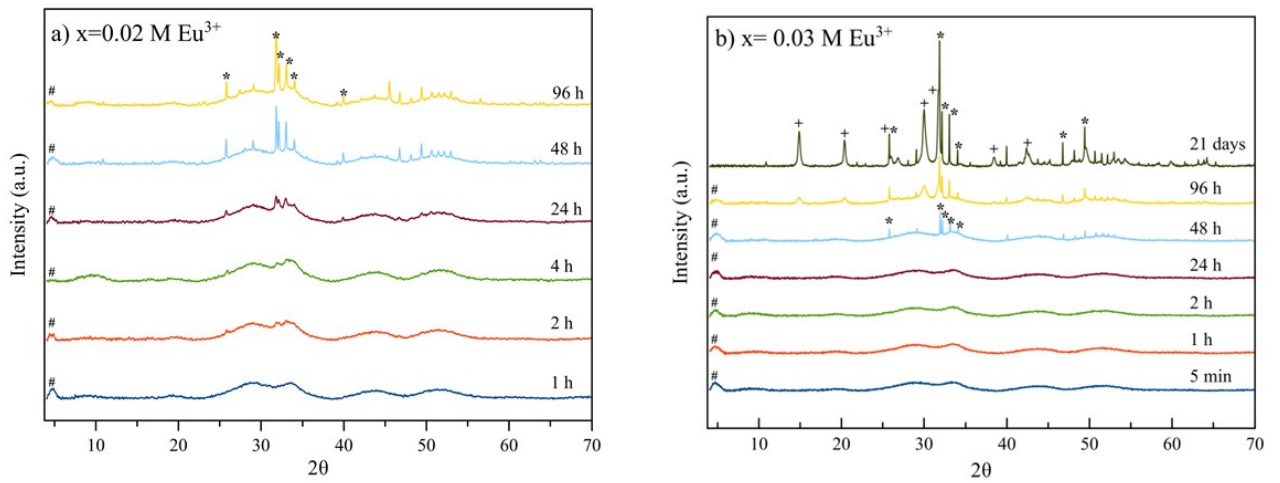


Figure S11. XRD patterns of samples precipitated at different maturation times in the presence of a) $x=0.02 \text{ M Eu}^{3+}$ and b) $x = 0.03 \text{ M Eu}^{3+}$. # (OCP, 100, PDF 44-0778), *(apatite phase, PDF 01-1008), +($\text{EuPO}_4 \cdot \text{H}_2\text{O}$ phase, PDF 20 1044)

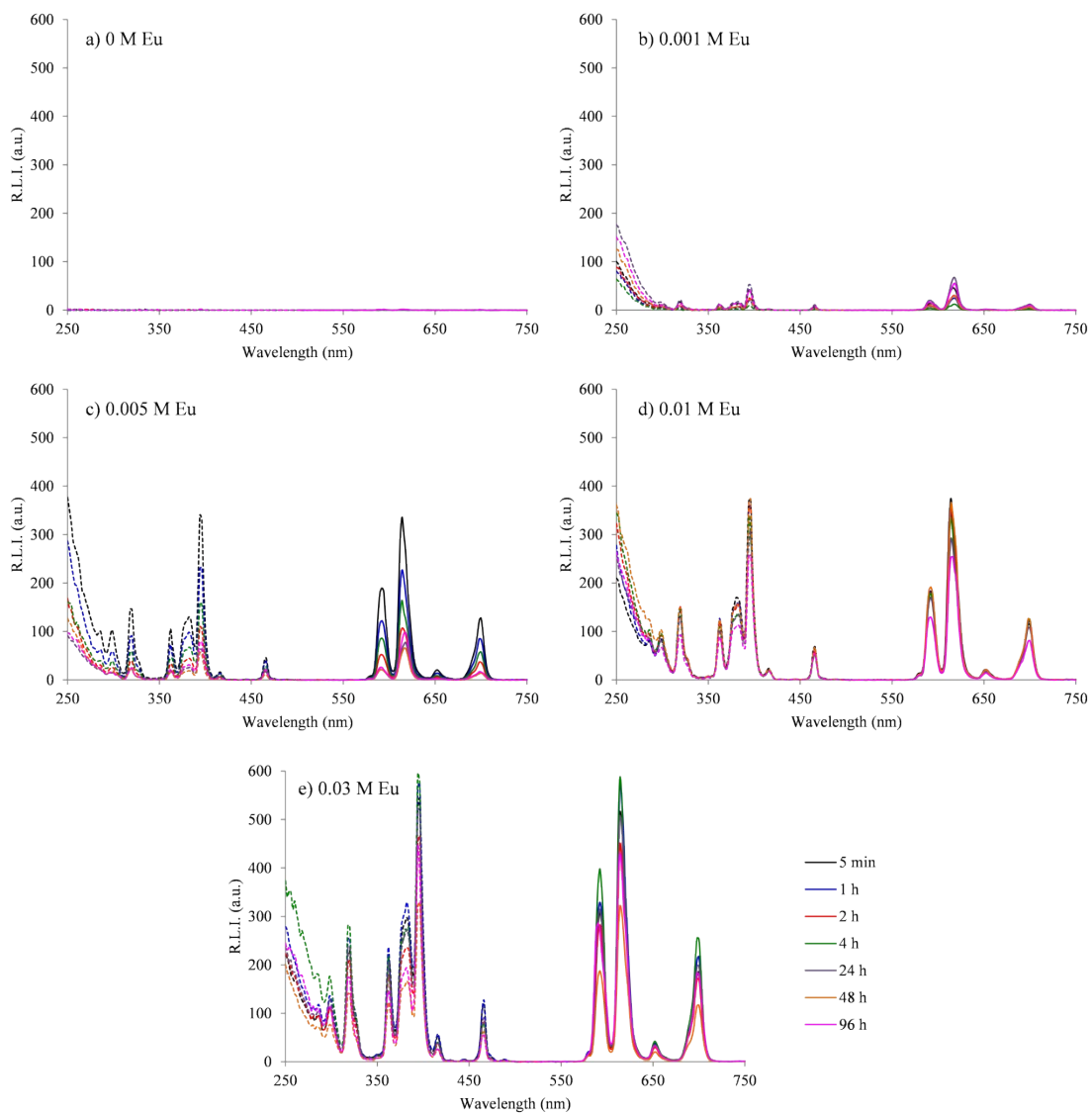


Figure S12. Excitation (dashed line) and emission (solid line) spectra of Eu³⁺-cit-cAp prepared with different Eu³⁺ doping concentration at precipitation times of 5 min, 1h, 2h, 4h, 24h, 48h and 96h.

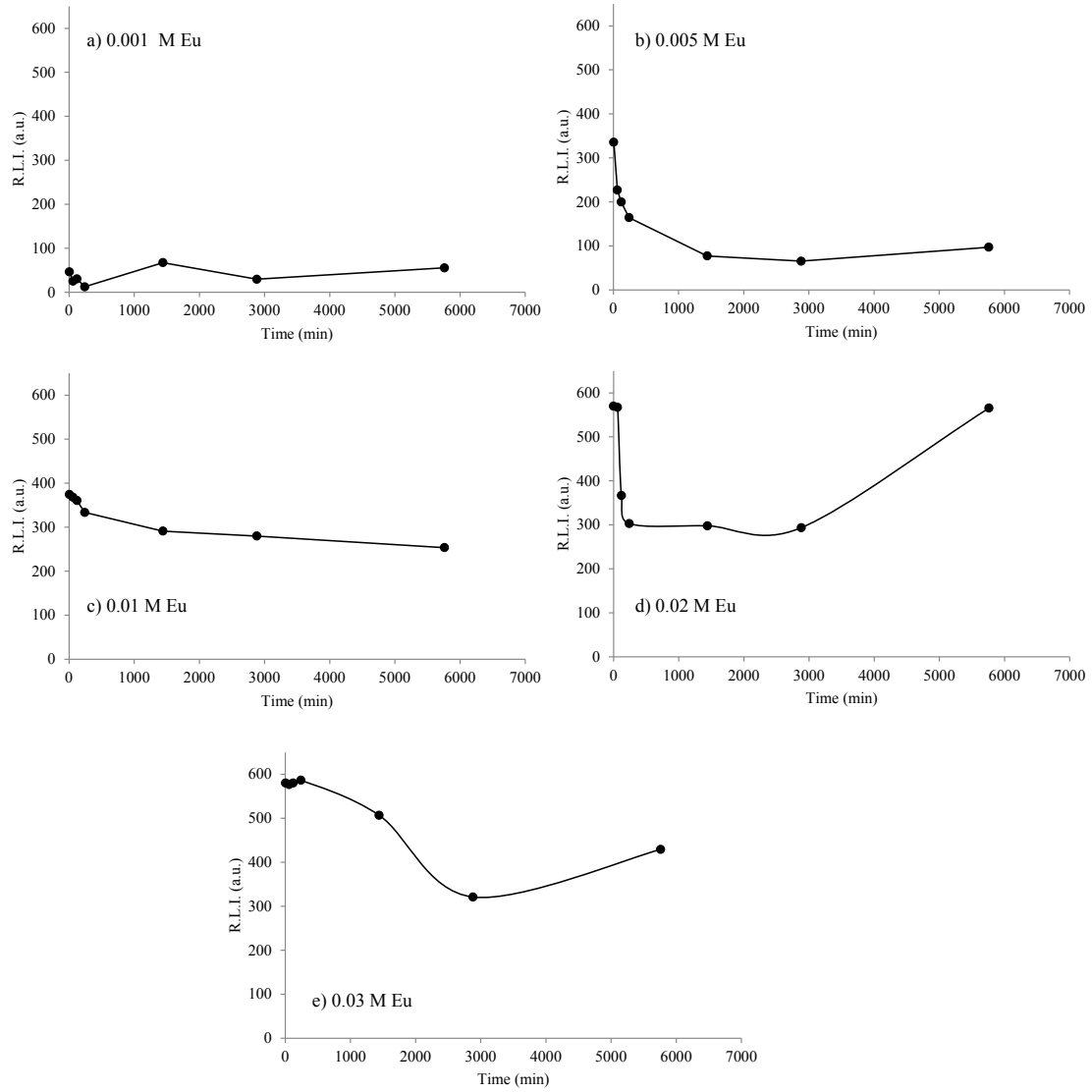


Figure SI3. Effect of the precipitation time over the R.L.I. of the different Eu^{3+} doping concentrations. $\lambda_{\text{exc/em}} = 394/614$ nm, slit-widths $_{\text{exc/em}} = 5/5$ nm, $t_d = 0.120$ μs , $t_g = 5$ ms and detector voltage = 500 v.

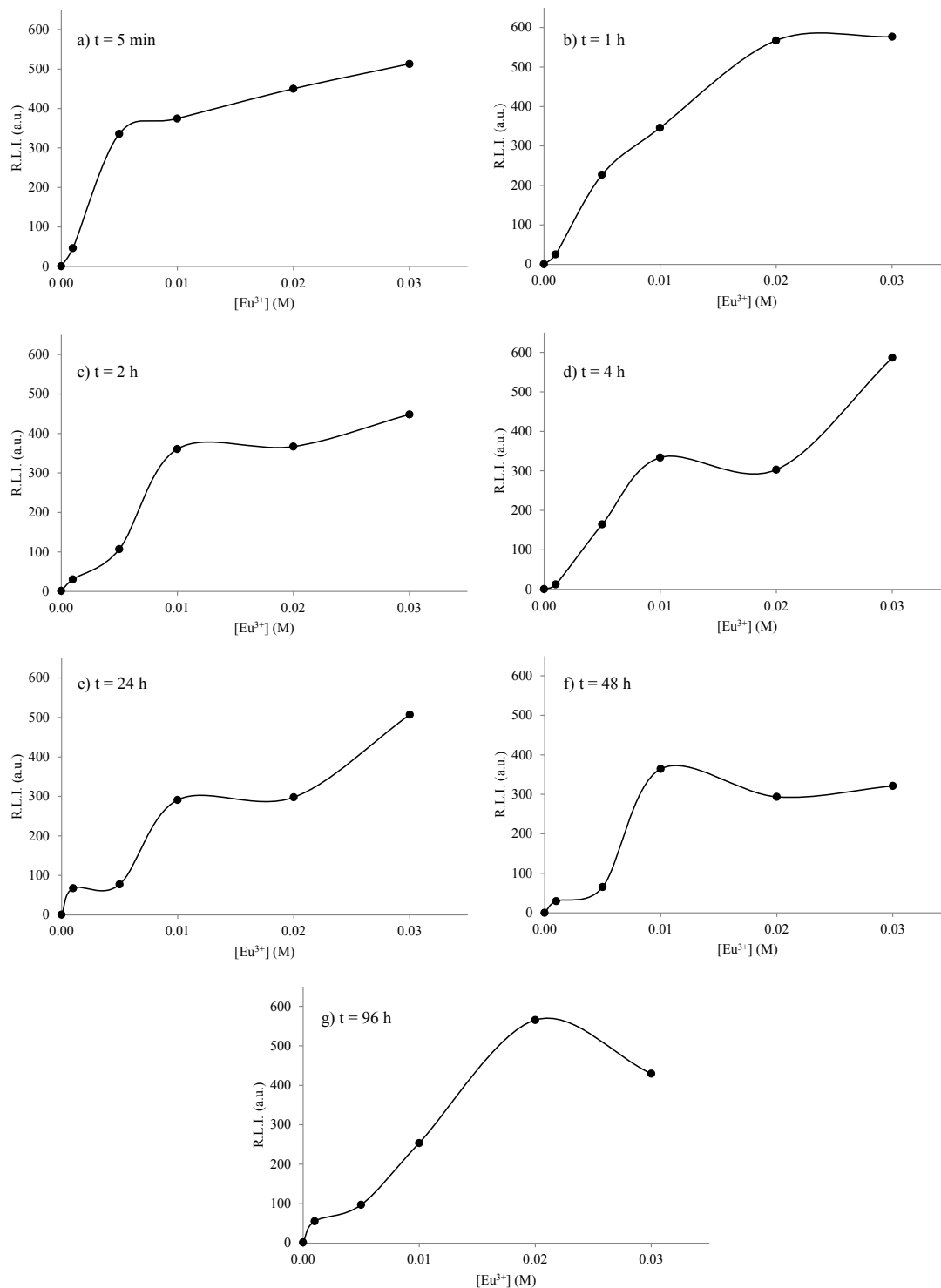


Figure SI4. Effect of the Eu^{3+} doping concentration over the R.L.I. of the different materials precipitated at different times. $\lambda_{\text{exc/em}} = 394/614$ nm, slit-widths $_{\text{exc/em}} = 5/5$ nm, $t_d = 0.120$ μs , $t_g = 5$ ms and detector voltage = 500 v.

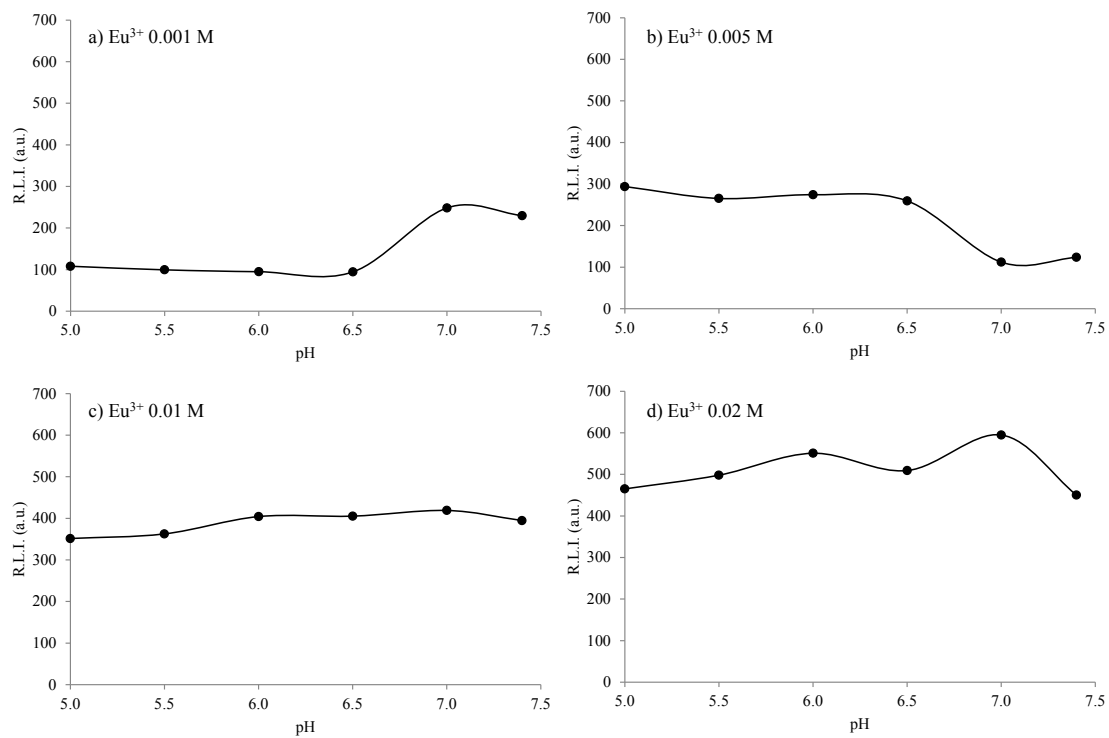


Figure SI5. Effect of the pH on the luminescence of the different Eu^{3+} doping concentrations dispersed in aqueous solution at 25°C. $\lambda_{\text{exc/em}} = 232/616$ nm, slit-widths $_{\text{exc/em}} = 10/10$ nm, $t_d = 0.120\mu\text{s}$, $t_g = 5$ ms and detector voltage = 600 v.

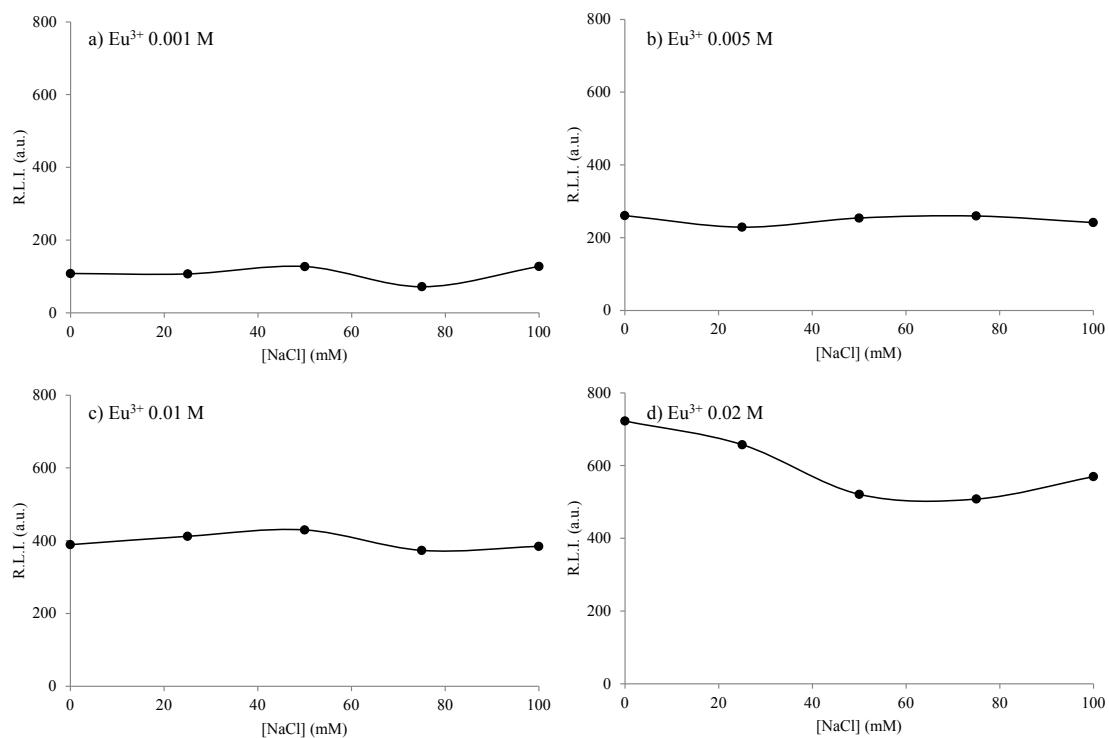


Figure SI6. Effect of the ionic strength on the luminescence of the different Eu³⁺ doping concentrations dispersed in aqueous solution at pH=7.0 and 25°C. $\lambda_{\text{exc/em}} = 232/616$ nm, slit-widths_{exc/em} = 10/10 nm, $t_d = 0.120$ μ s, $t_g = 5$ ms and detector voltage = 600 v.

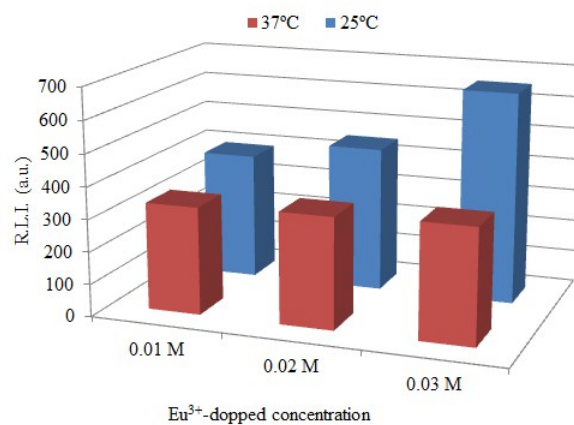


Figure SI7. Effect of the temperature on the luminescence of the different Eu³⁺ doping concentrations dispersed in aqueous solution at pH=7.0. $\lambda_{\text{exc/em}} = 232/616$ nm, slit-widths_{exc/em} = 10/10 nm, $t_d = 0.120\mu\text{s}$, $t_g = 5$ ms and detector voltage = 600 v.