

Supplementary Information

Single Step Aqueous Synthesis of Pure Rare Earth Nanoparticles in Biocompatible Polymer Matrices

*Sayantani Chall,^a Abhijit Saha^b, Sampad K. Biswas^c Aparna Datta^b and
Subhash Chandra Bhattacharya^{*a}*

^aDepartment of Chemistry, Jadavpur University, Kolkata 700032, India.

*e-mail: sbjuchem@yahoo.com, scbhattacharyya@chemistry.jdvu.ac.in

Phone No: 033 2414 6223 / Fax: 91(033) 24146584

^bUGC - DAE Consortium for Scientific Research, Kolkata Centre,
111/LB-8, Bidhanagar, Kolkata 700098, India

^cNon-Oxide Ceramic and Composite Division, Central Glass and Ceramic
Research Institute, Council of Scientific and Industrial Research, Kolkata
700032, India

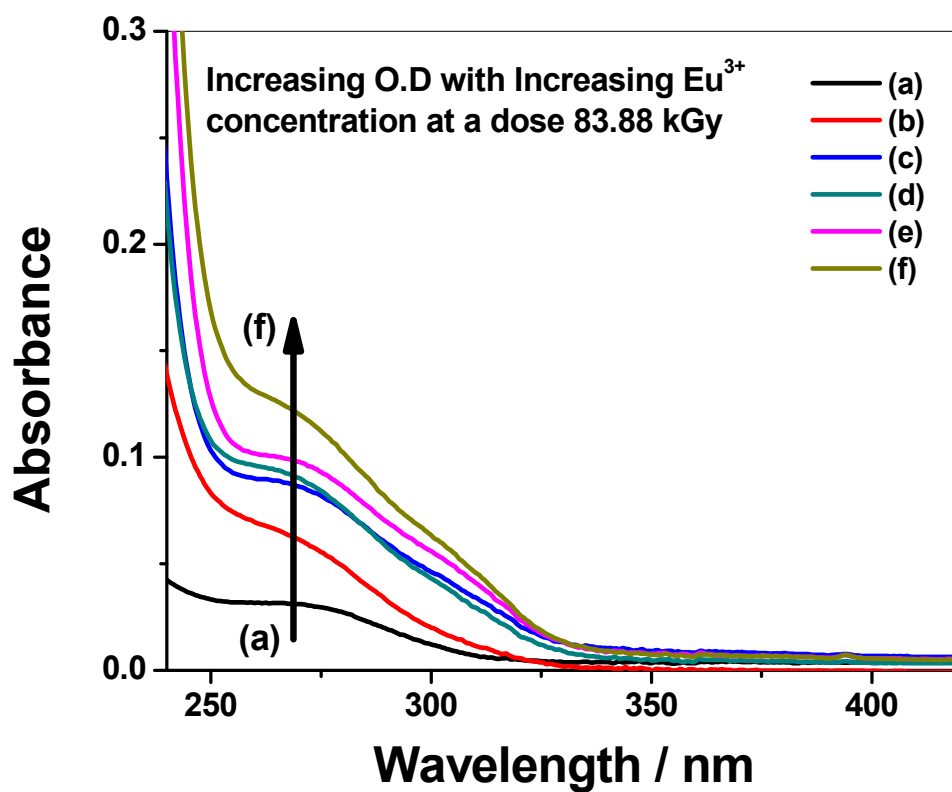


Figure S1. Variation of the absorbance of Eu⁰ MNPs synthesized at different concentration of precursor Eu³⁺ ions; [Eu³⁺] = (a) 0.1×10^{-3} mol dm⁻³, (b) 1.0×10^{-3} mol dm⁻³, (c) 4.0×10^{-3} mol dm⁻³, (d) 5.0×10^{-3} mol dm⁻³, (e) 8.0×10^{-3} mol dm⁻³, (f) 10.0×10^{-3} mol dm⁻³; γ -dose rate is 4.66 kGy h⁻¹; [PVA]= 1.0%, [2-propanol]= 0.6 mol dm⁻³.

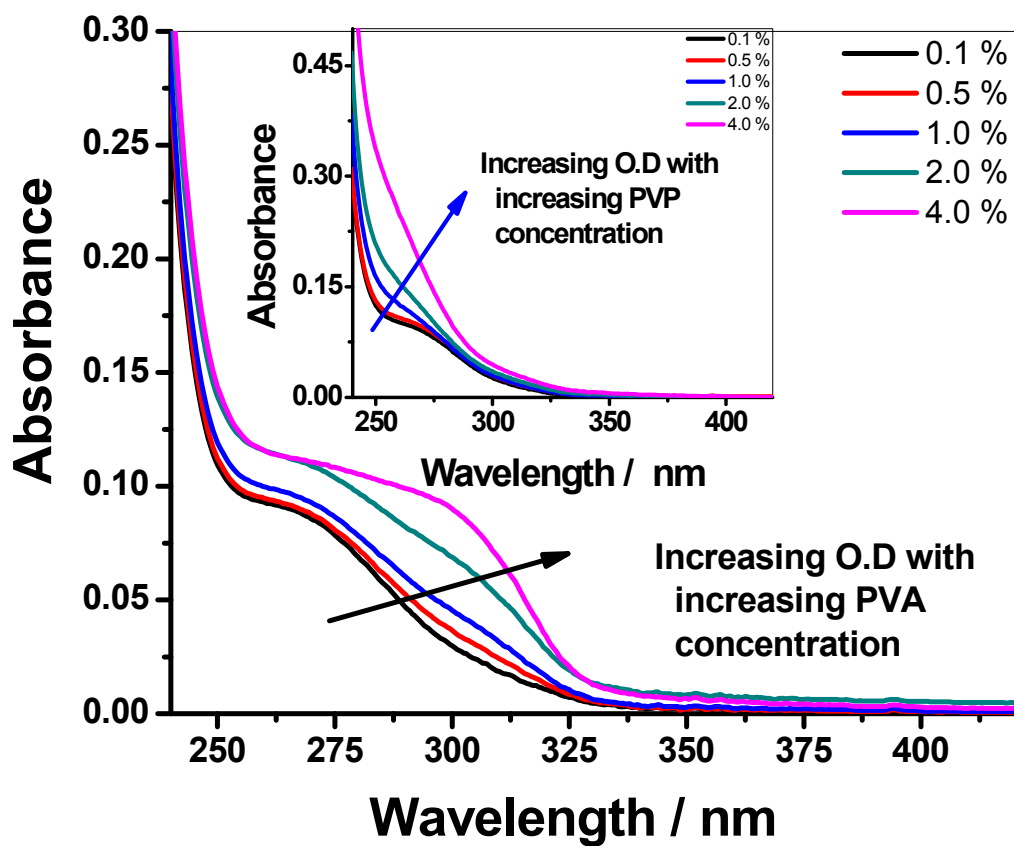


Figure S2. Variation of the absorbance of Eu⁰ MNPs synthesized at different concentration of stabilising polymers, PVA and PVP (inset figure); [PVA] or [PVP]= 0.1%, 0.5%, 1.0%, 2.0%, 4.0%; [Eu³⁺] = 5×10^{-3} mol dm⁻³; γ -dose rate is 4.66 kGy h⁻¹; [2-propanol]= 0.6 mol dm⁻³.