

Luminescent Coordination Nanoparticles

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Supplementary Materials

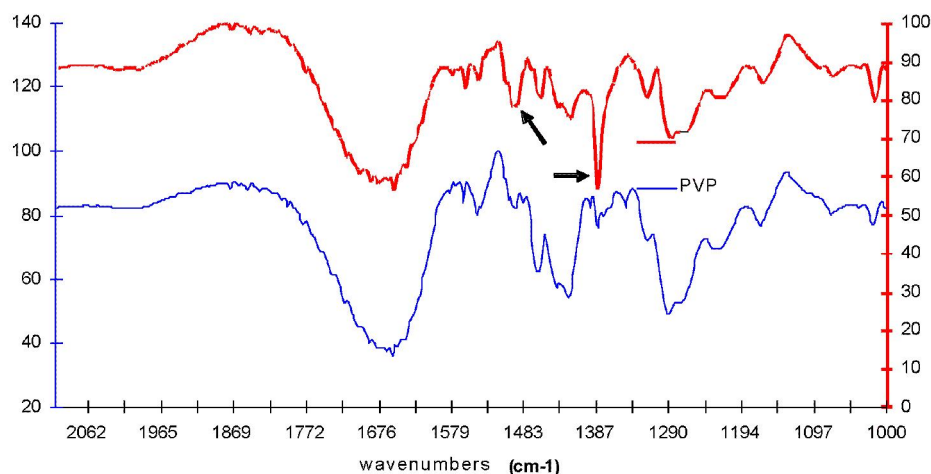


Figure S1 : Infra-red spectra of PVP (in blue) and the nanoparticles embedded in PVP (in red). The arrows indicate the vibrations corresponding to the bands characteristic of the COO⁻ group.

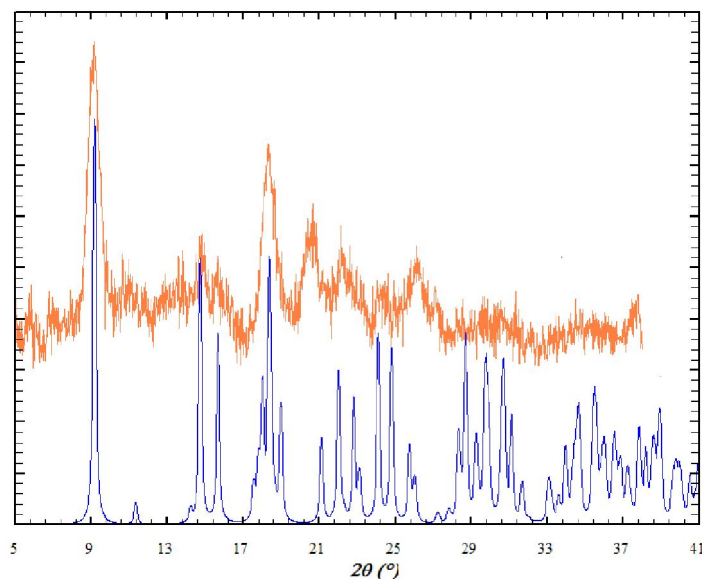


Figure S2. X-ray powder diffraction pattern of the nanoparticles (red) corrected from the PVP contribution[‡] and the bulk Tb₂(bdc)₃(H₂O)₄ compound (blue).

[‡] The presence of a relatively large amount of PVP in the sample and the relatively small size of the particles (4-5 nm) preclude obtaining well defined peaks for the XRPD. The diagram is clearly not a definitive proof of the presence of the particles but is only one element among others.

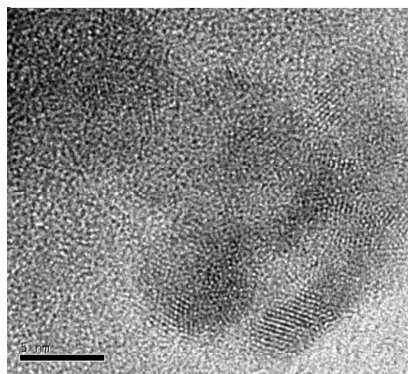


Figure S3a. High Resolution Transmission Electron micrograph of the Tb-nanoparticles at T = 77 K (scale bar 5 nm). Fringes with 2.8-3 Å spacing can be observed.

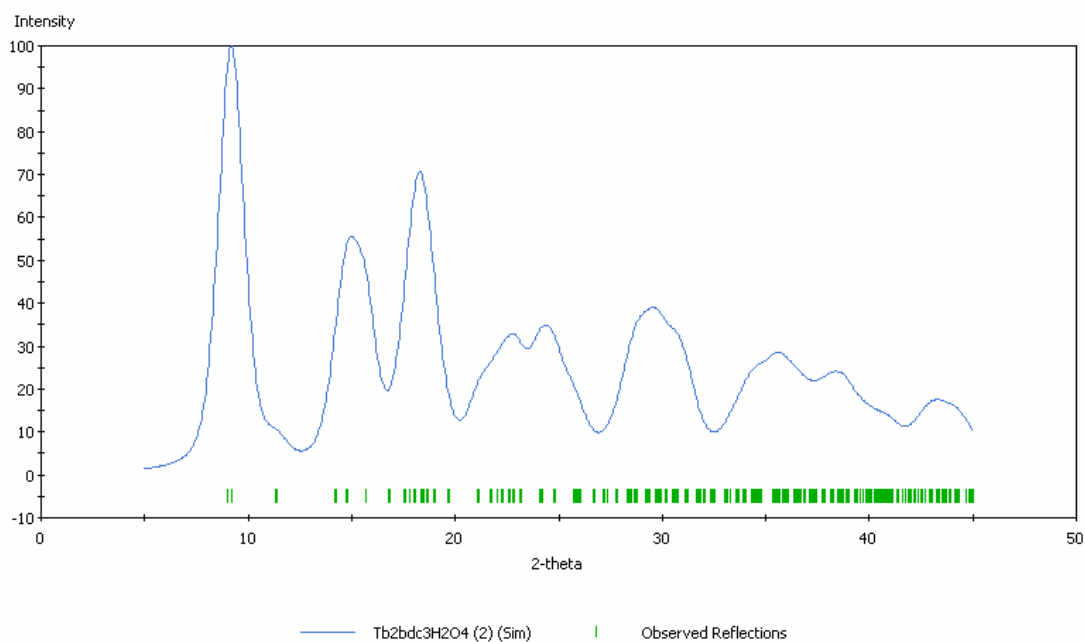


Figure S3b. Calculated X-ray diffraction diagram of a 5x5x5 nm particles. The position of the peaks is in very good agreement with the experimental spectrum in Fig. S2.

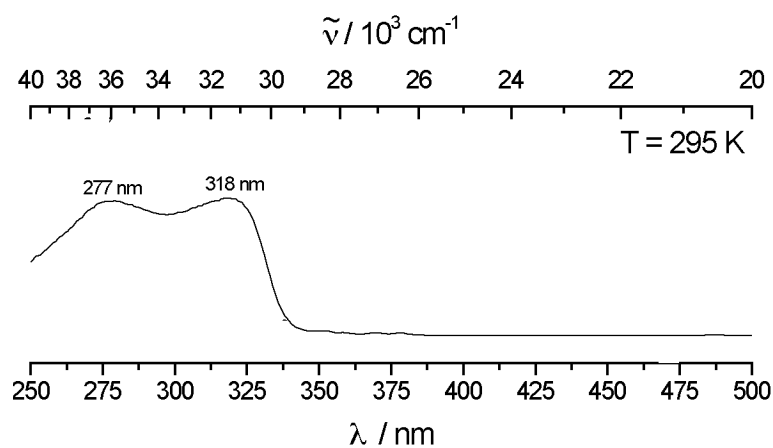


Figure S4. Excitation spectrum of the Tb-nanoparticles

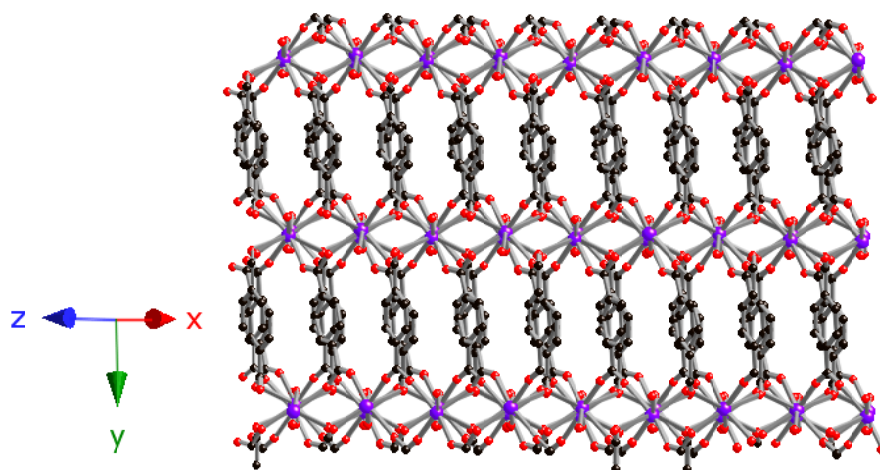


Figure S5. schematic view of the structure; the interplanar Tb-Tb distance along b is equal to 10 Å; oxygen atoms (red), Tb atoms (blue), carbon atoms (black).

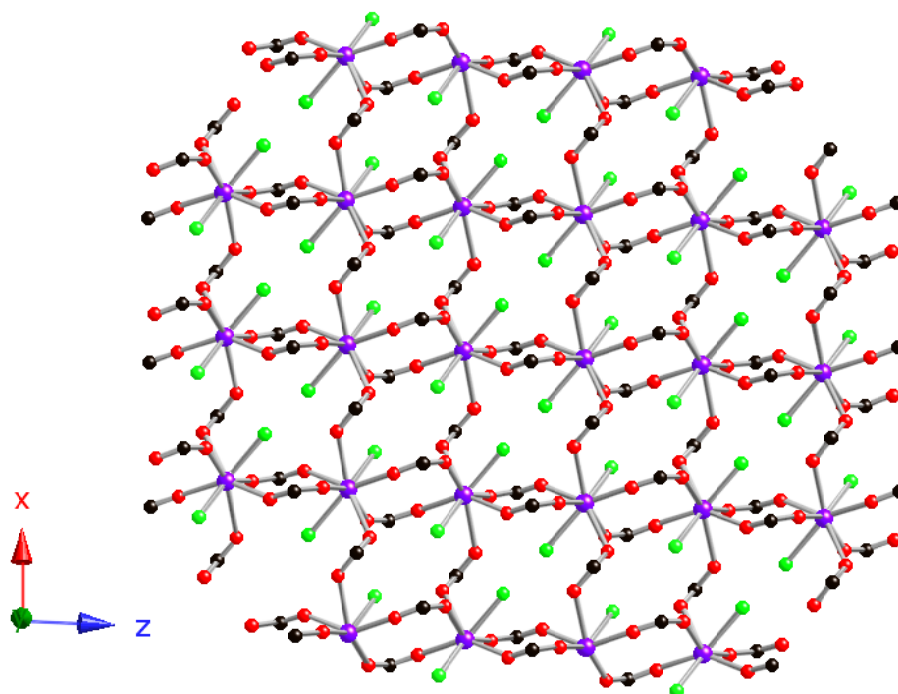


Figure S6. schematic view of the structure within the ac plane; the Tb-Tb distances along c and b are 5.1 and 6.1 Å respectively. For clarity, only part of the bdc²⁻ ligand is shown: water oxygen atoms (green), bdc²⁻ oxygen atoms (red), Tb atoms (blue), carbon atoms (black)



Figure S7. $\text{Eu}_2(\text{bdc})_3(\text{H}_2\text{O})_4$ nanoparticles in PVP re-dispersed in water after irradiation at $\lambda = 312$ nm.

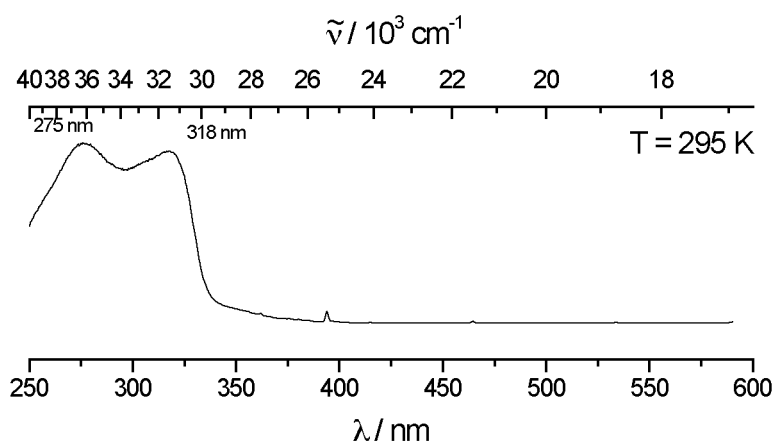


Figure S8. Excitation spectrum of the Eu-nanoparticles

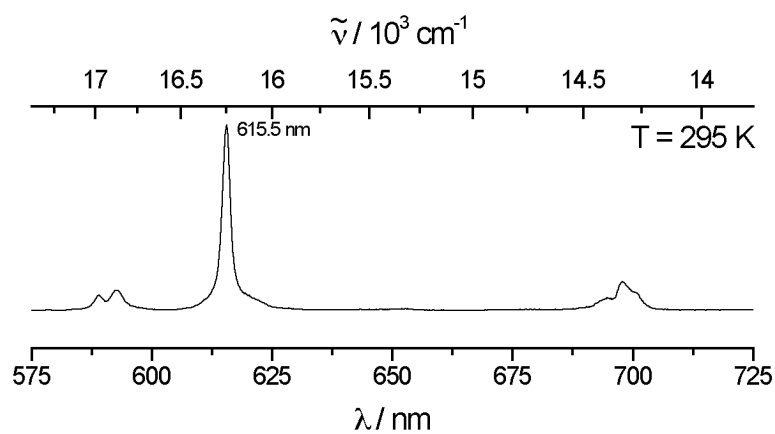


Figure S9. Emission spectrum of the Eu-nanoparticles