

Supplementary Information

Investigation of photoluminescence and novel thermoluminescence dosimetric properties of NaGdF_4 :

Tb^{3+} phosphors

Preeti Padhye Kulkarni^a, Kishor H. Gavhane^a, Mahesh S. Bhadane^b, Vasant N. Bhoraskar^a, Shailendra S. Dahiwale^a and Sanjay D. Dhole^{a*}

^a*Microtron Accelerator Laboratory, Department of Physics, Savitribai Phule Pune University, Pune, 411007, MH, India*

^b*Department of physics, Rayat Shikshan Sanstha's Dada Patil Mahavidyalaya, Karjat, 414402, MH, India*

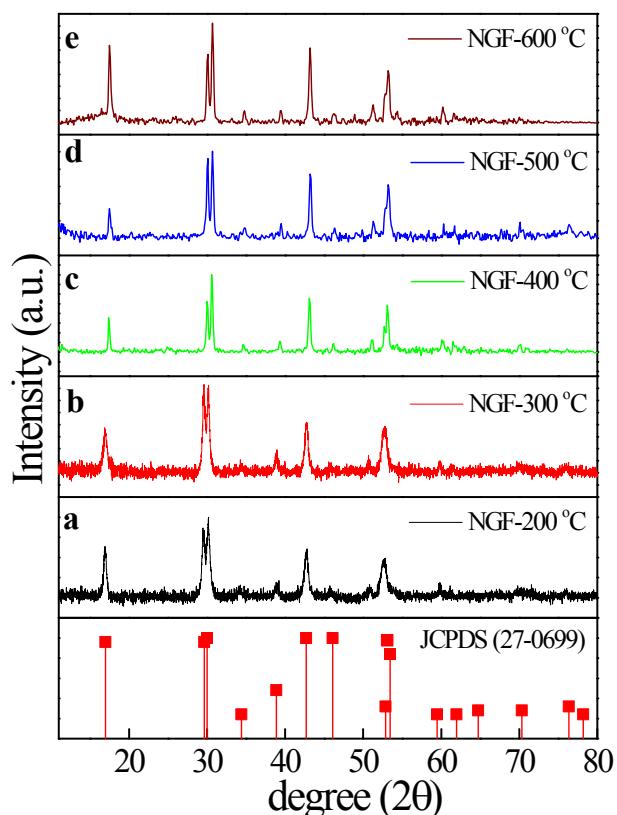


Figure S1: The XRD patterns of $\beta\text{-NaGdF}_4$: 3 % Tb^{3+} annealed at different temperatures for 2 h labelled as NGF-X (200, 300, 400, 500, 600°C ; a-e) and the standard data of hexagonal $\beta\text{-NaGdF}_4$ (JCPDS- 27-0699) as a reference.

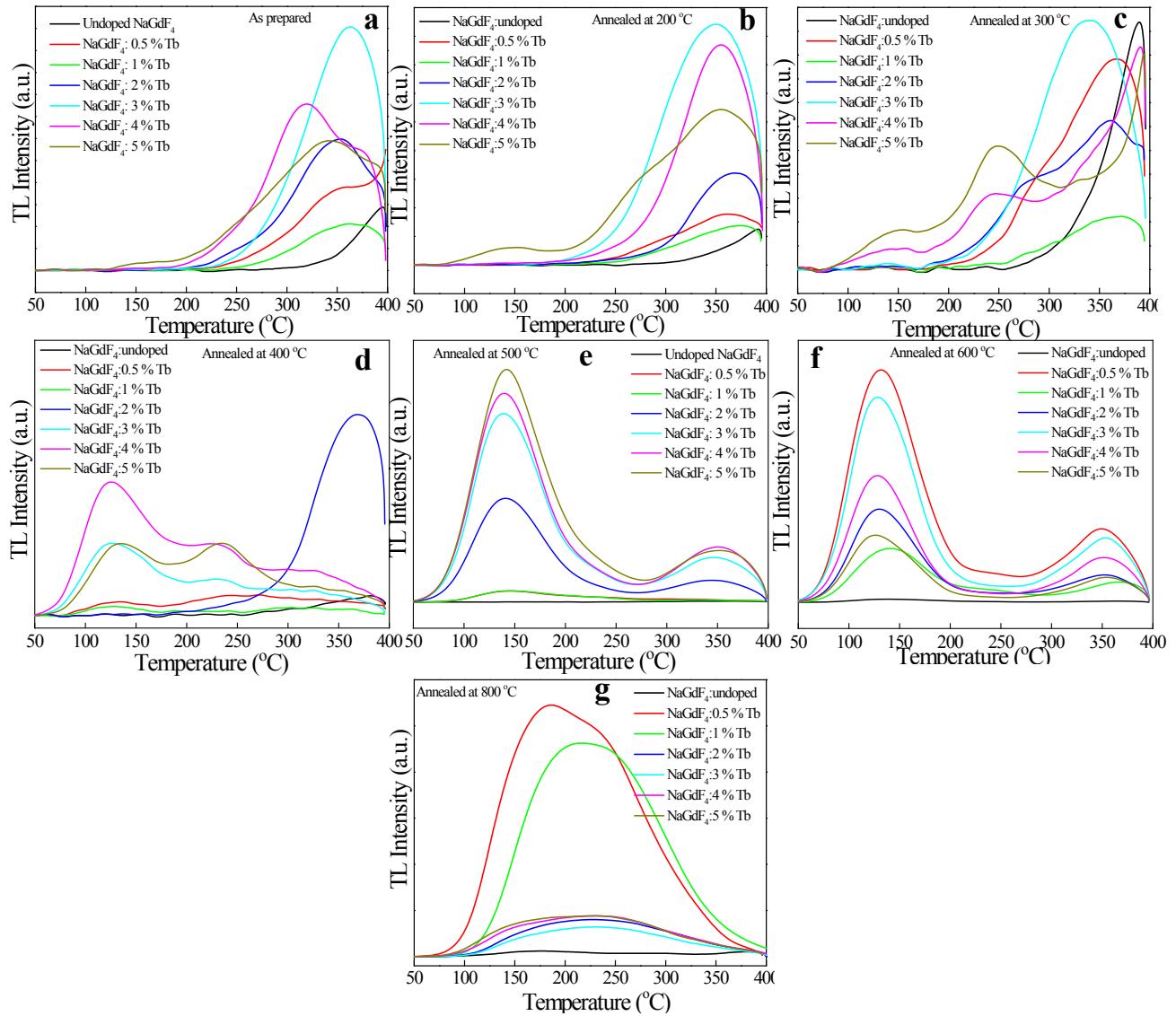


Figure S2: Thermoluminescence glow curve obtained for pristine NaGdF_4 : $x\%$ Tb^{3+} phosphors and NaGdF_4 : $x\%$ Tb^{3+} phosphors annealed at different annealing temperatures (200, 300, 400, 500, 600, and 800 °C) irradiated at 1 kGy gamma rays.