

Figure S1. FTIR spectra of initial crosslinked films Ln AEG and SC-impregnated films Ln AEG + Acac.

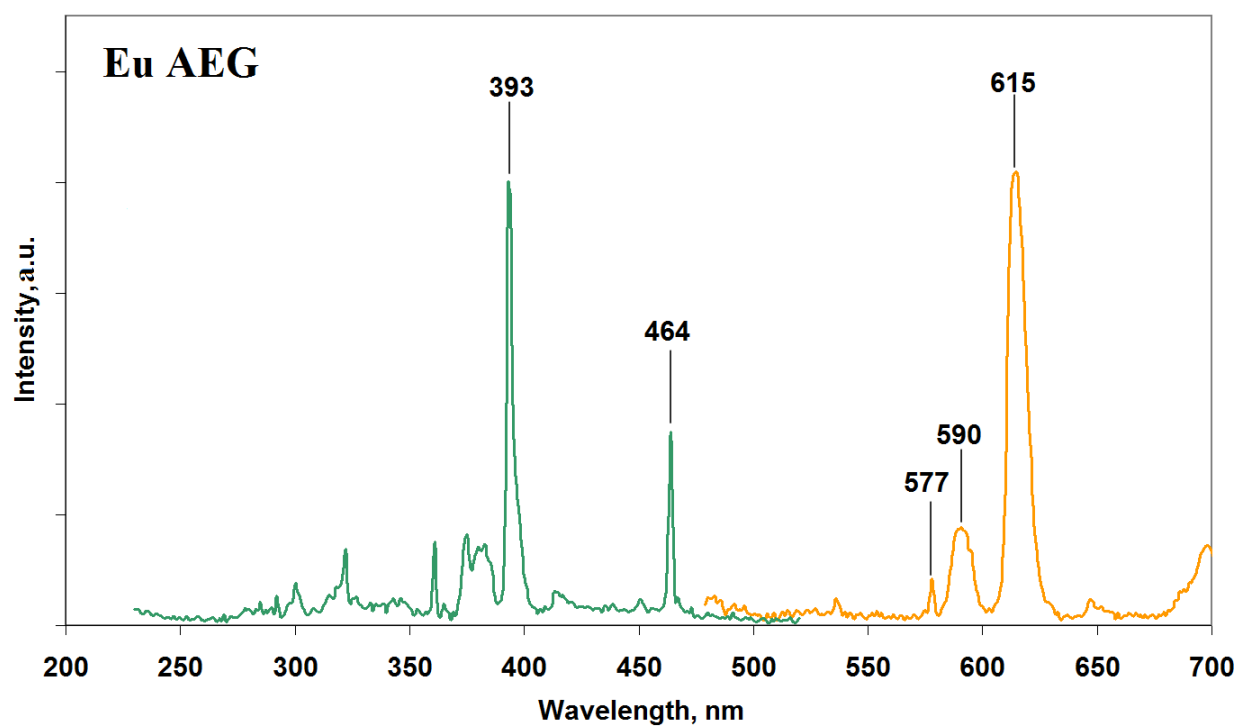


Figure S2. Luminescence spectra (orange curve) and luminescence excitation spectra (green curve) of alginate aerogels crosslinked with Eu³⁺.

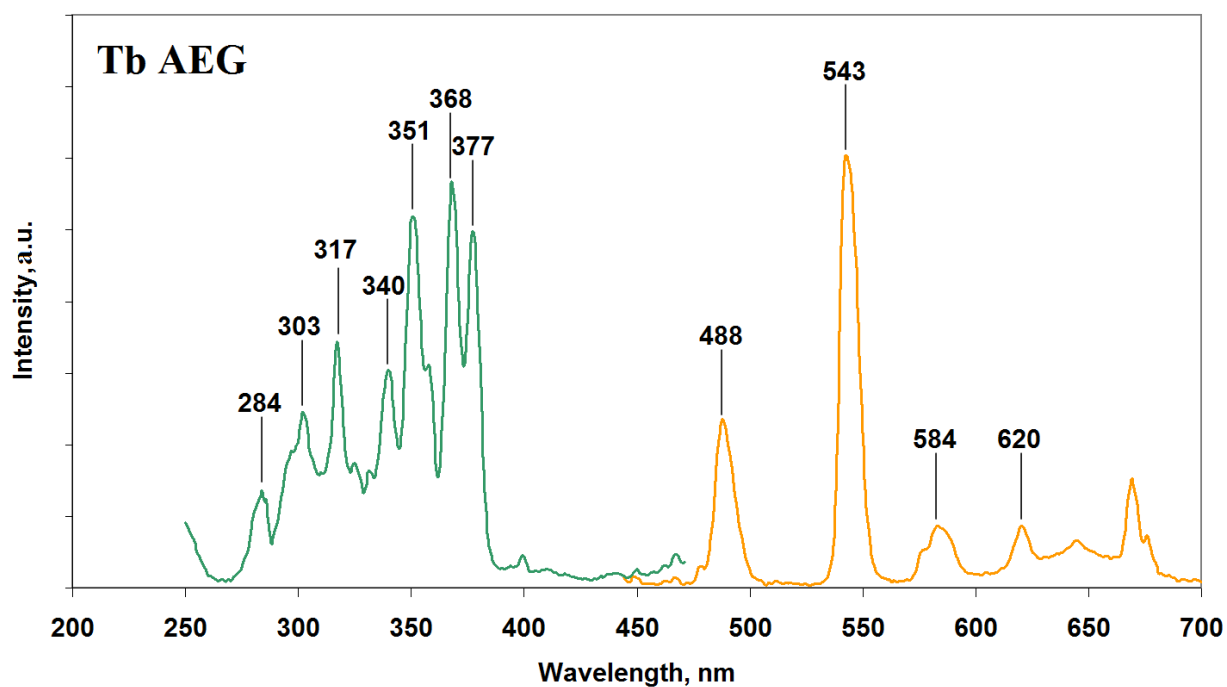


Figure S3. Luminescence spectra (orange curve) and luminescence excitation spectra (green curve) of alginate aerogels crosslinked with Tb³⁺.

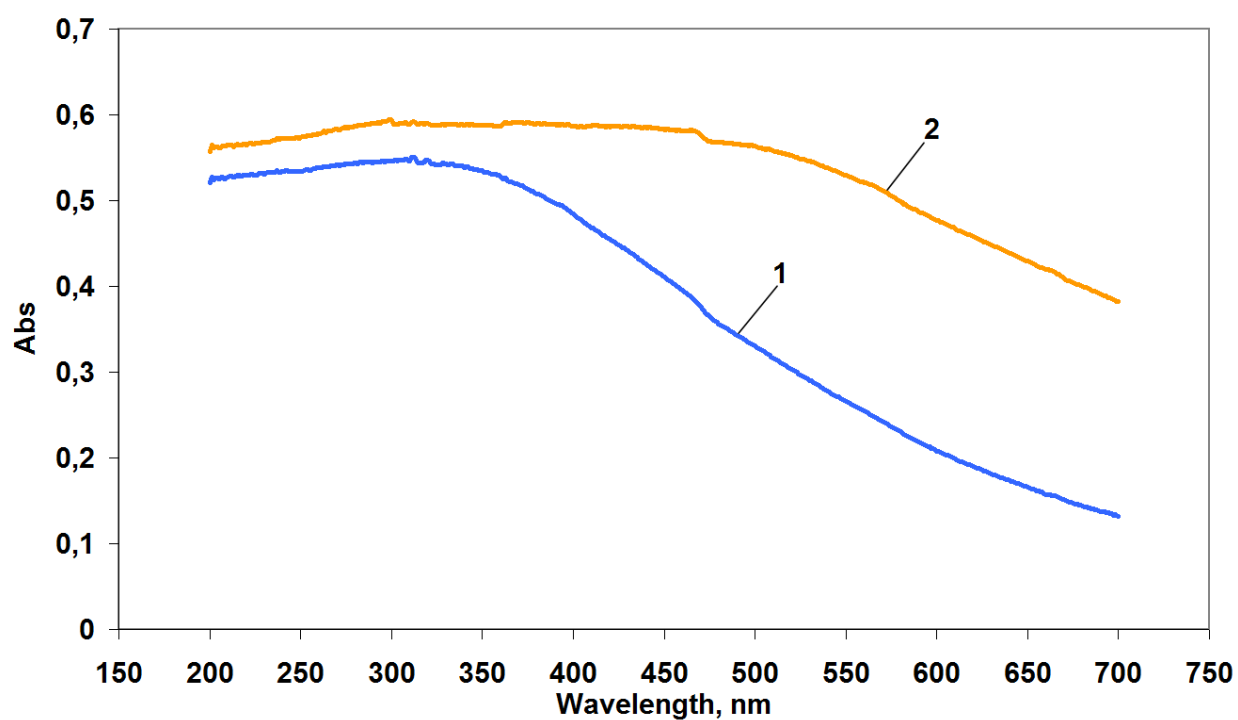


Figure S4. Spectra of Eu AEG (curve 1) and Eu AEG film after SC-impregnation of Phen (curve 2). Film thickness approximately 0,3 mm.

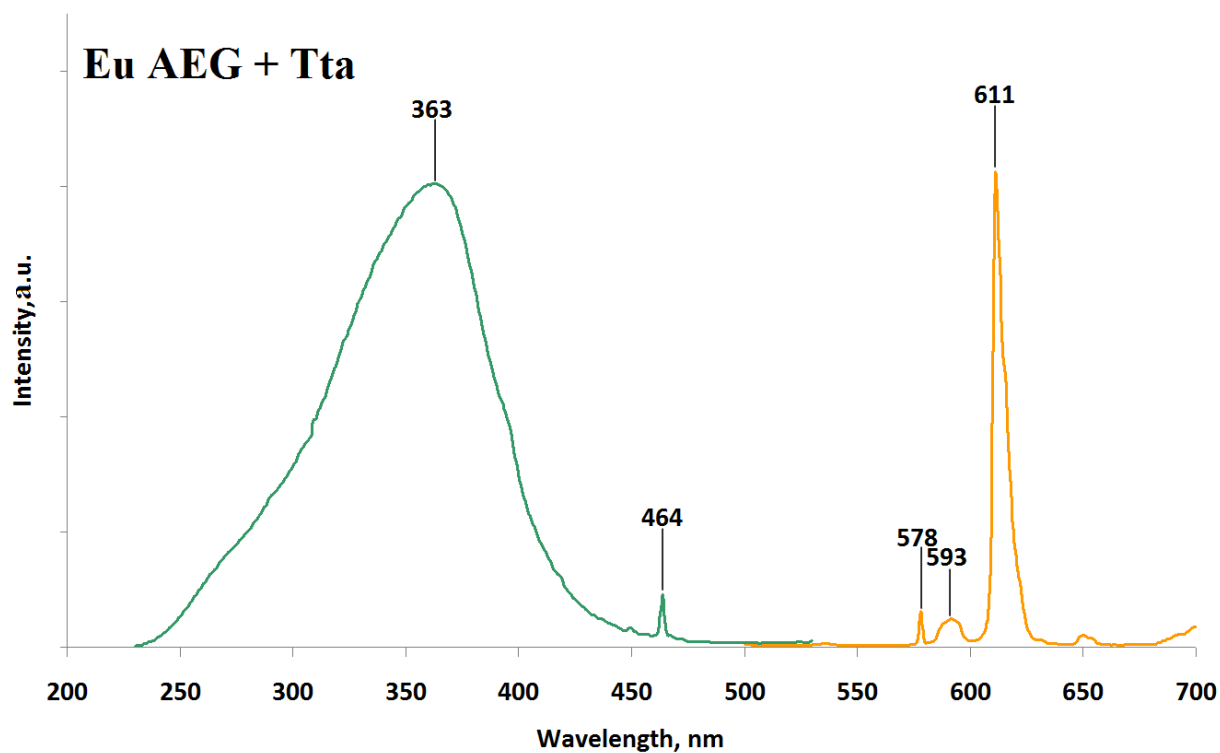


Figure S5. Luminescence (orange curve) and luminescence excitation (green curve) spectra of alginate aerogels crosslinked with Eu^{3+} ions, SC-impregnated with Tta ligands.

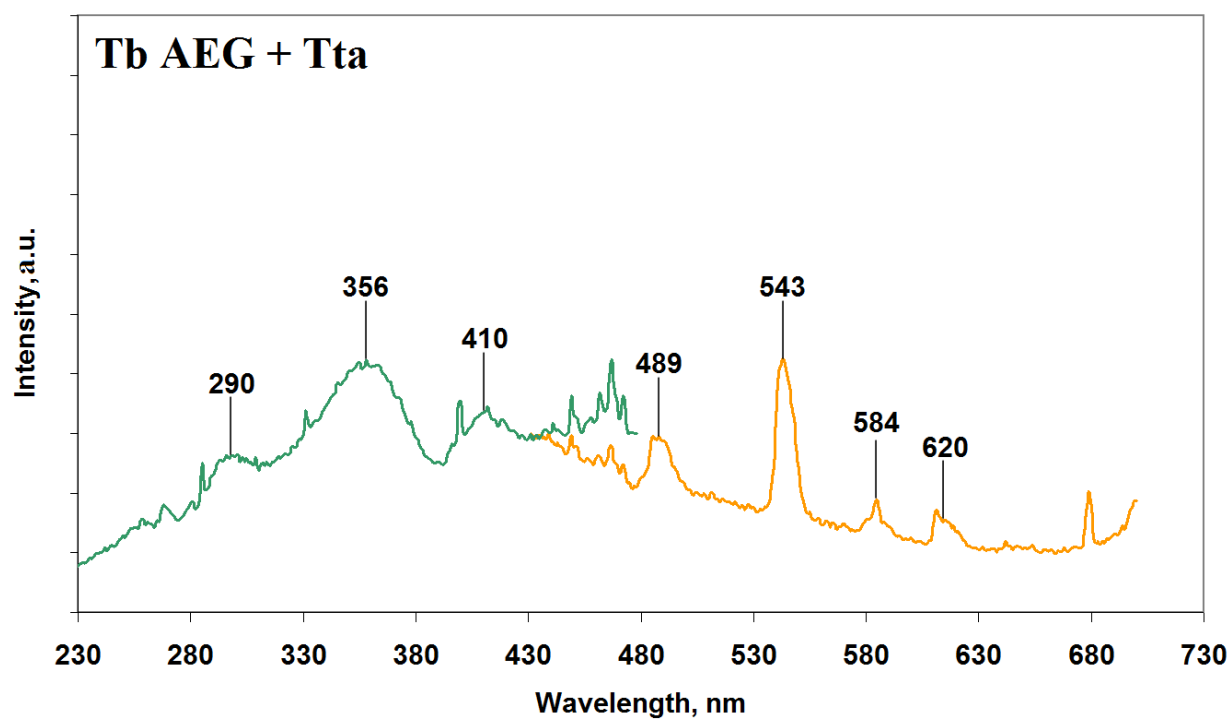


Figure S6. Luminescence (orange curve) and luminescence excitation (green curve) spectra of alginate aerogels crosslinked with Tb^{3+} ions, SC-impregnated with Tta ligands.

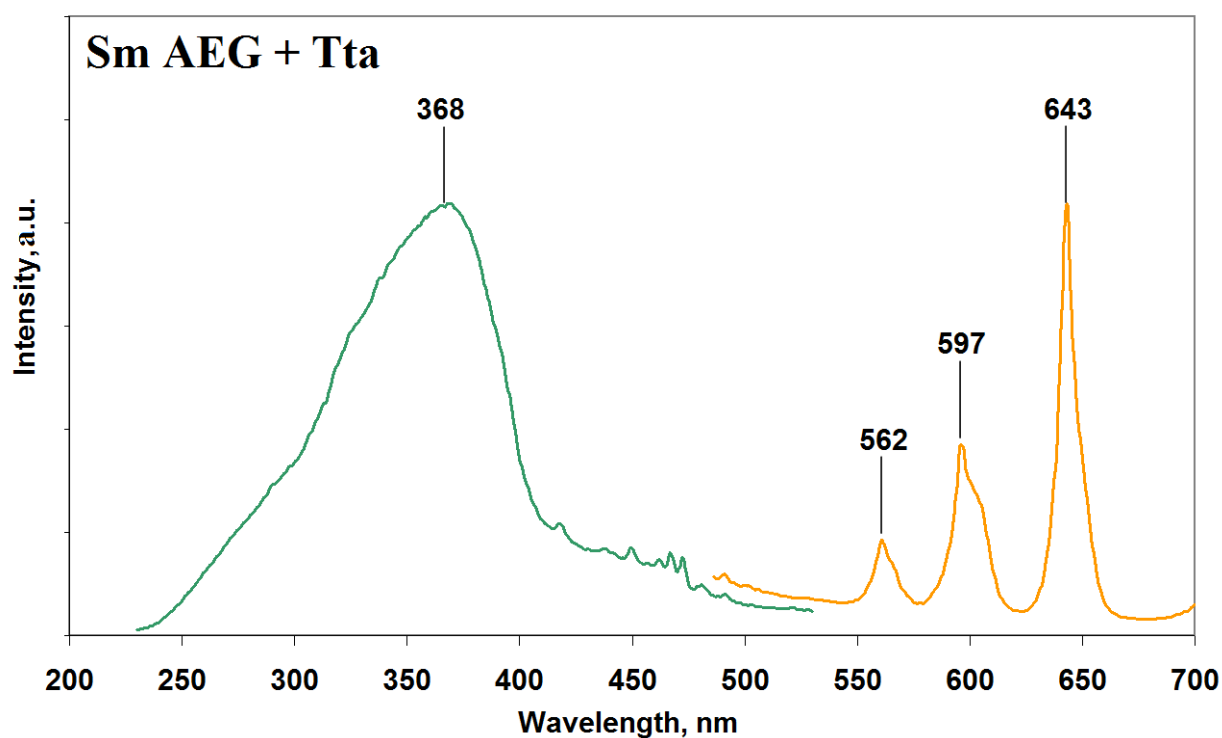


Figure S7. Luminescence (orange curve) and luminescence excitation (green curve) spectra of alginate aerogels crosslinked with Sm^{3+} ions, SC-impregnated with Tta ligands.

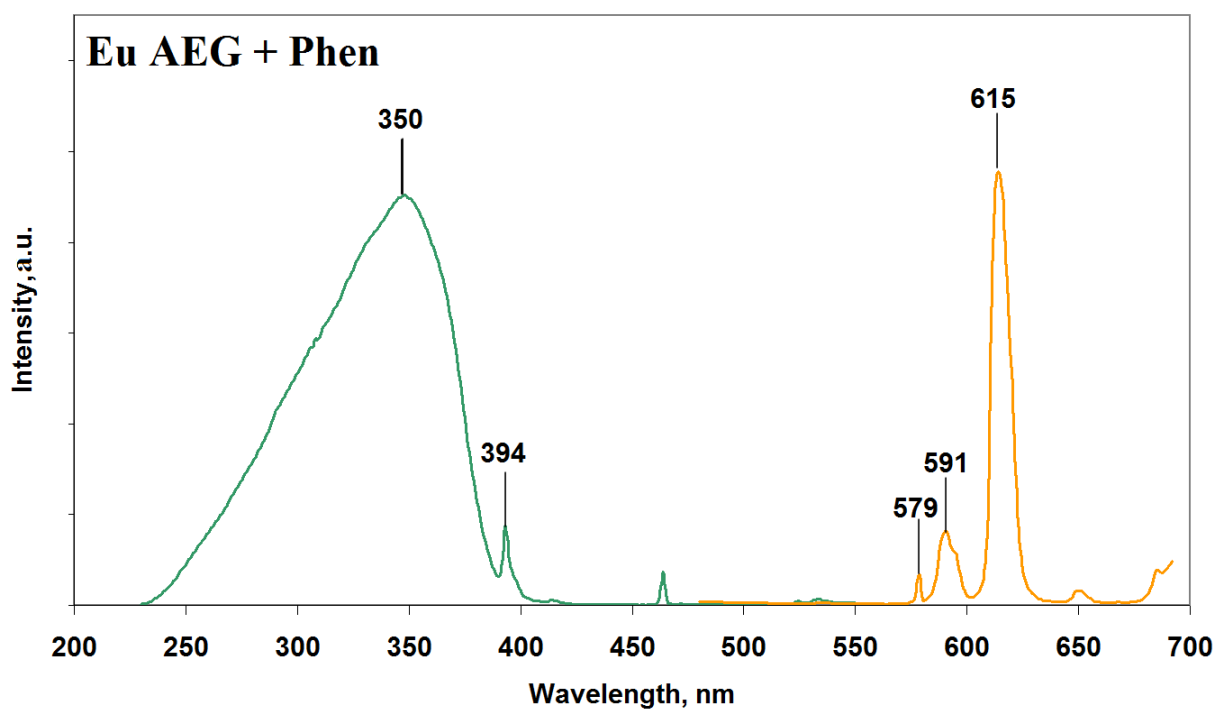


Figure S8. Luminescence (orange curve) and luminescence excitation (green curve) spectra of alginate aerogels crosslinked with Eu^{3+} ions, SC-impregnated with Phen ligands.

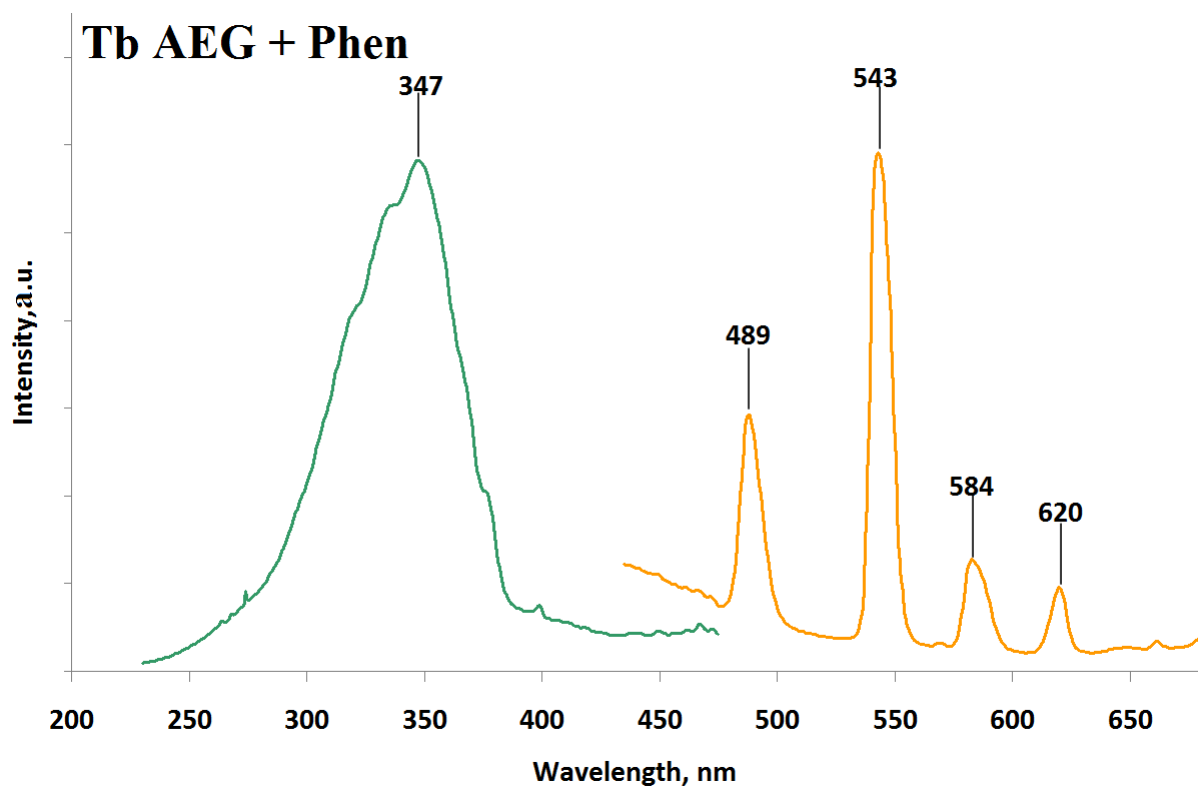


Figure S9. Luminescence (orange curve) and luminescence excitation (green curve) spectra of alginate aerogels crosslinked with Tb^{3+} ions, SC-impregnated with Phen ligands.

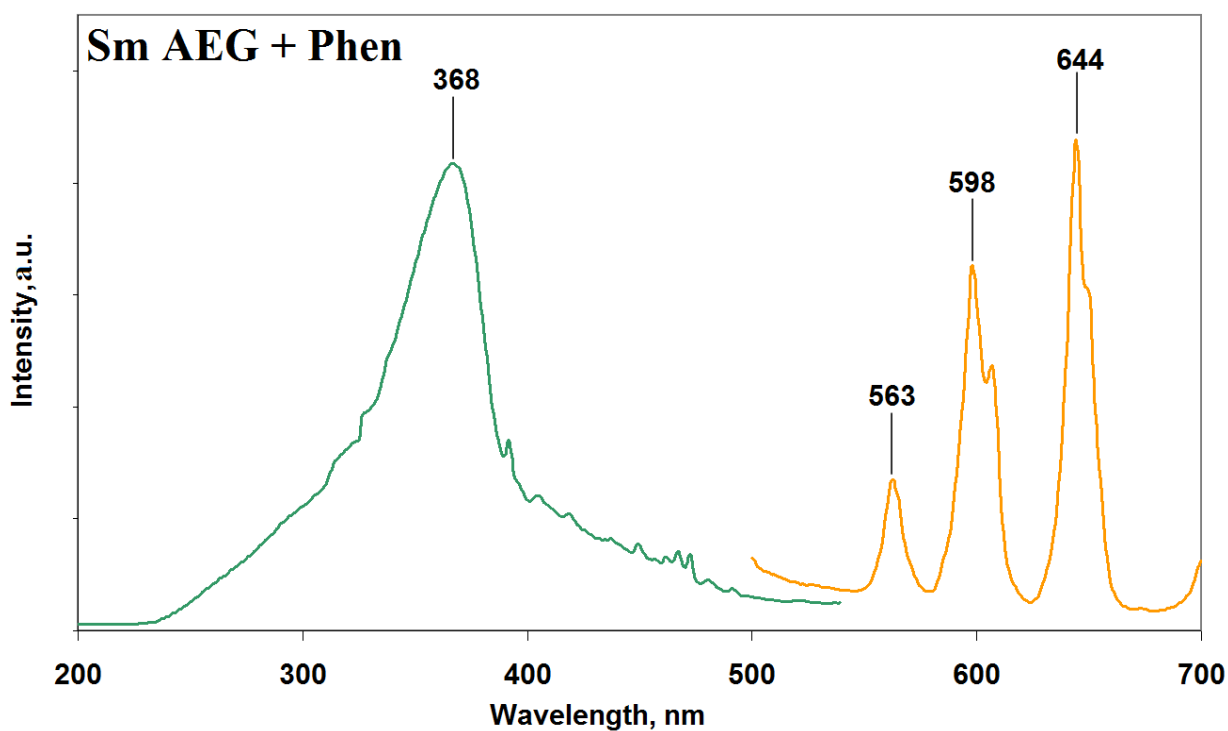


Figure S10. Luminescence (orange curve) and luminescence excitation (green curve) spectra of alginate aerogels crosslinked with Sm^{3+} ions, SC-impregnated with Phen ligands.

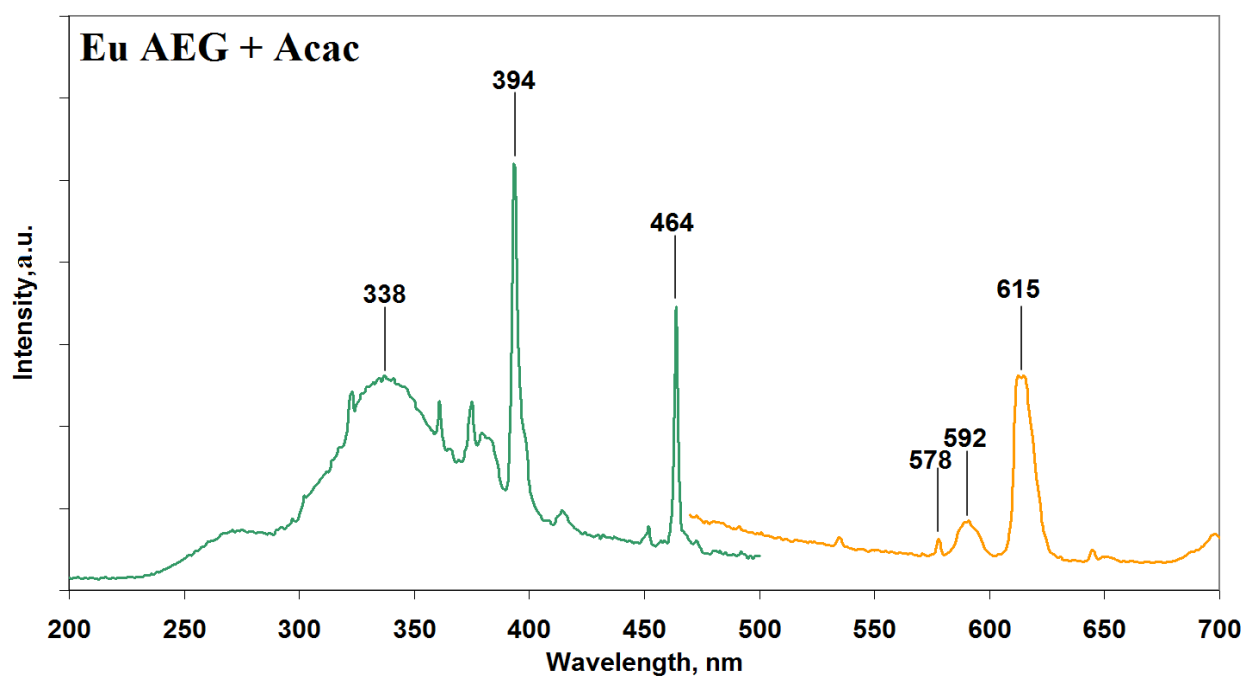


Figure S11. Luminescence (orange curve) and luminescence excitation (green curve) spectra of alginate aerogels crosslinked with Eu^{3+} ions, SC-impregnated with Acac ligands.

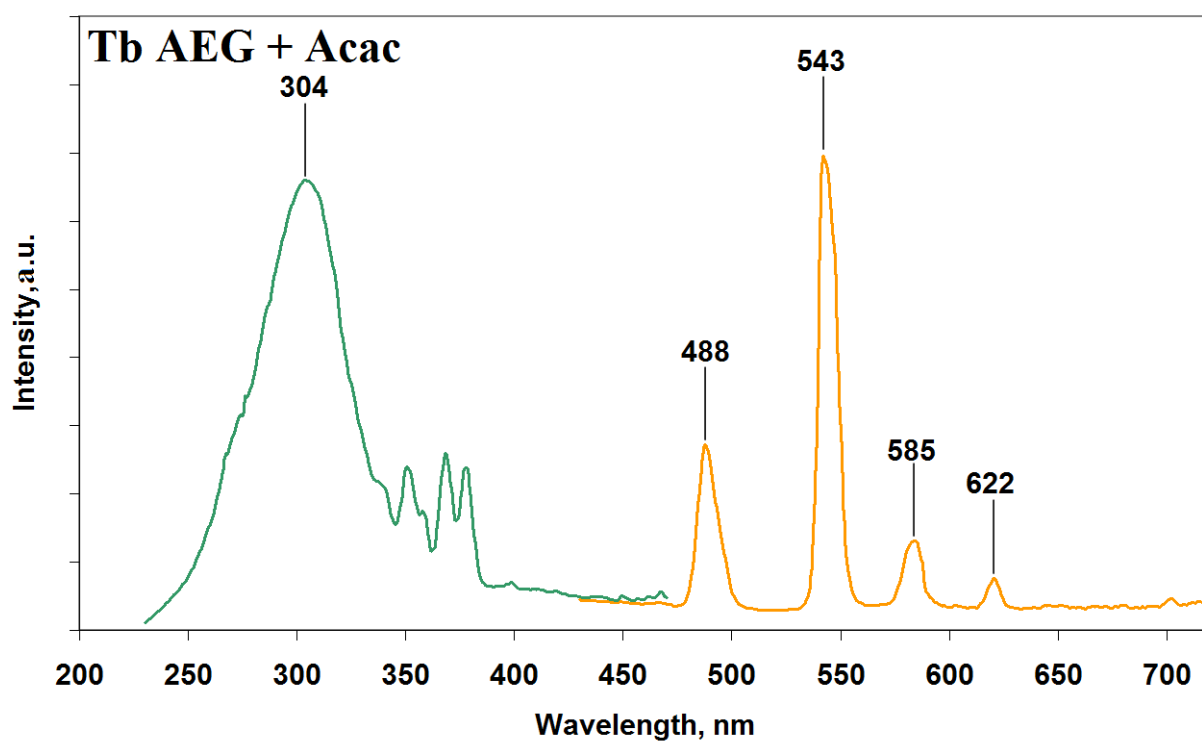


Figure S12. Luminescence (orange curve) and luminescence excitation (green curve) spectra of alginate aerogels crosslinked with Tb^{3+} ions, SC-impregnated with Acac ligands.

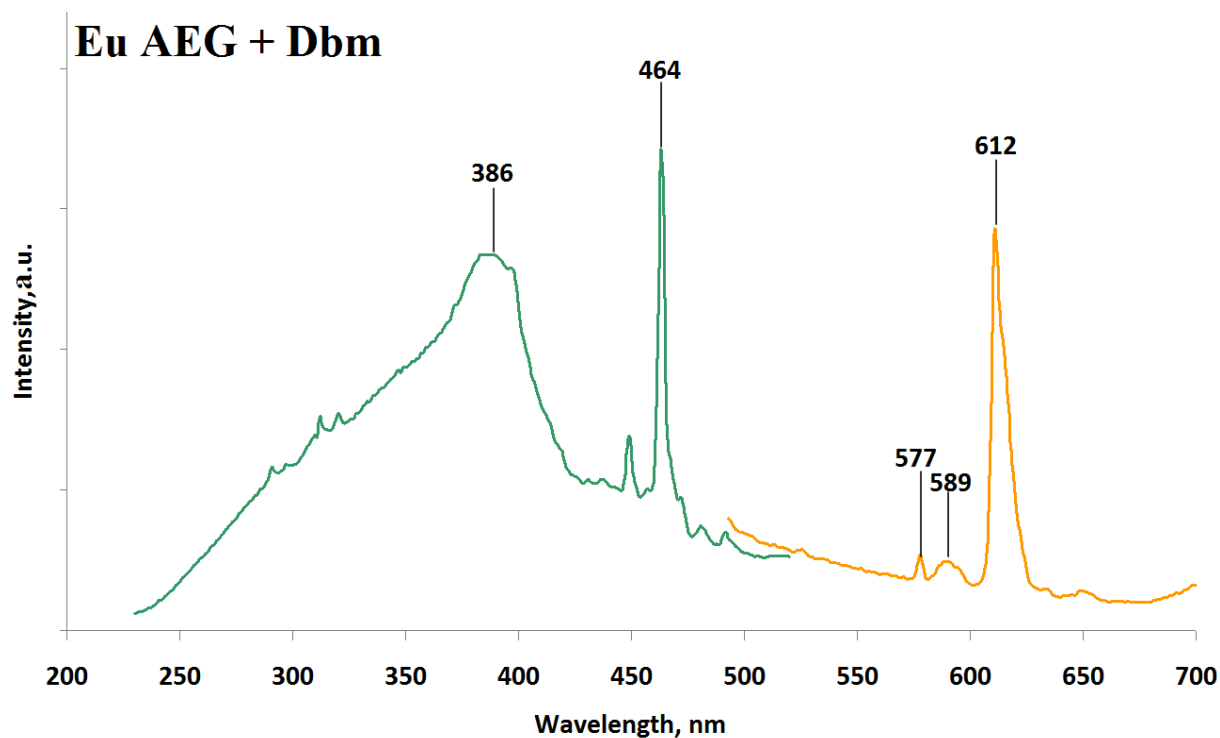


Figure S13. Luminescence (orange curve) and luminescence excitation (green curve) spectra of alginate aerogels crosslinked with Eu^{3+} ions, SC-impregnated with Dbm ligands.

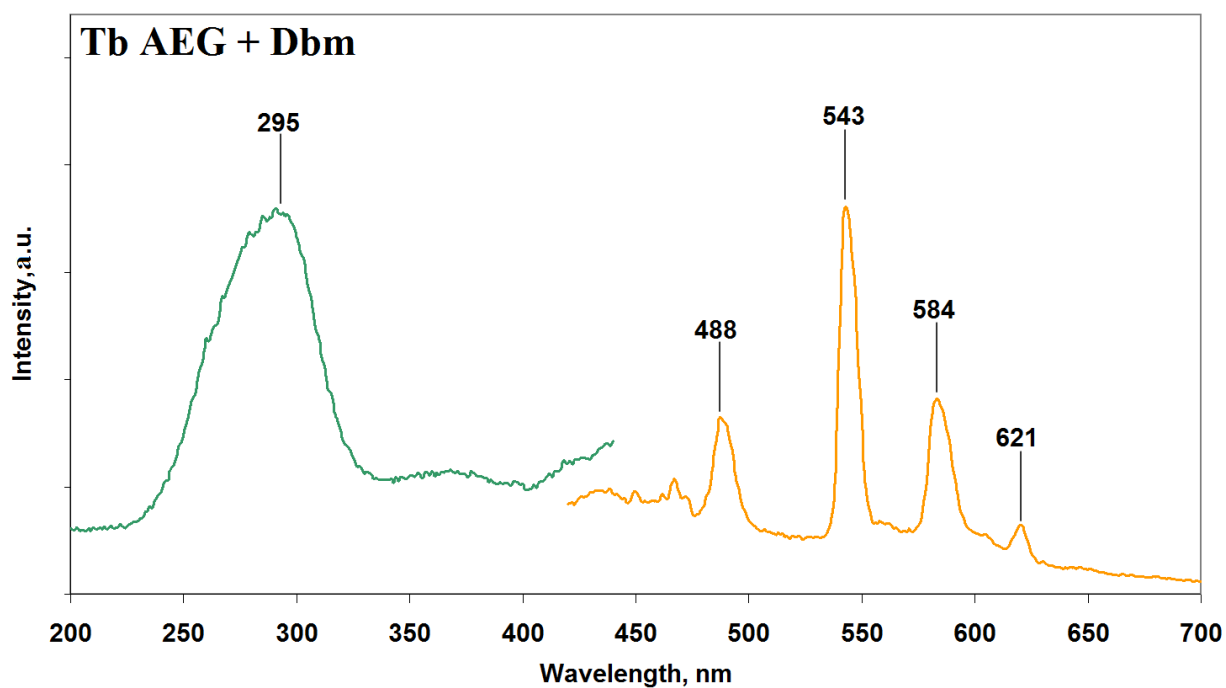


Figure S14. Luminescence (orange curve) and luminescence excitation (green curve) spectra of alginate aerogels crosslinked with Tb^{3+} ions, SC-impregnated with Dbm ligands.

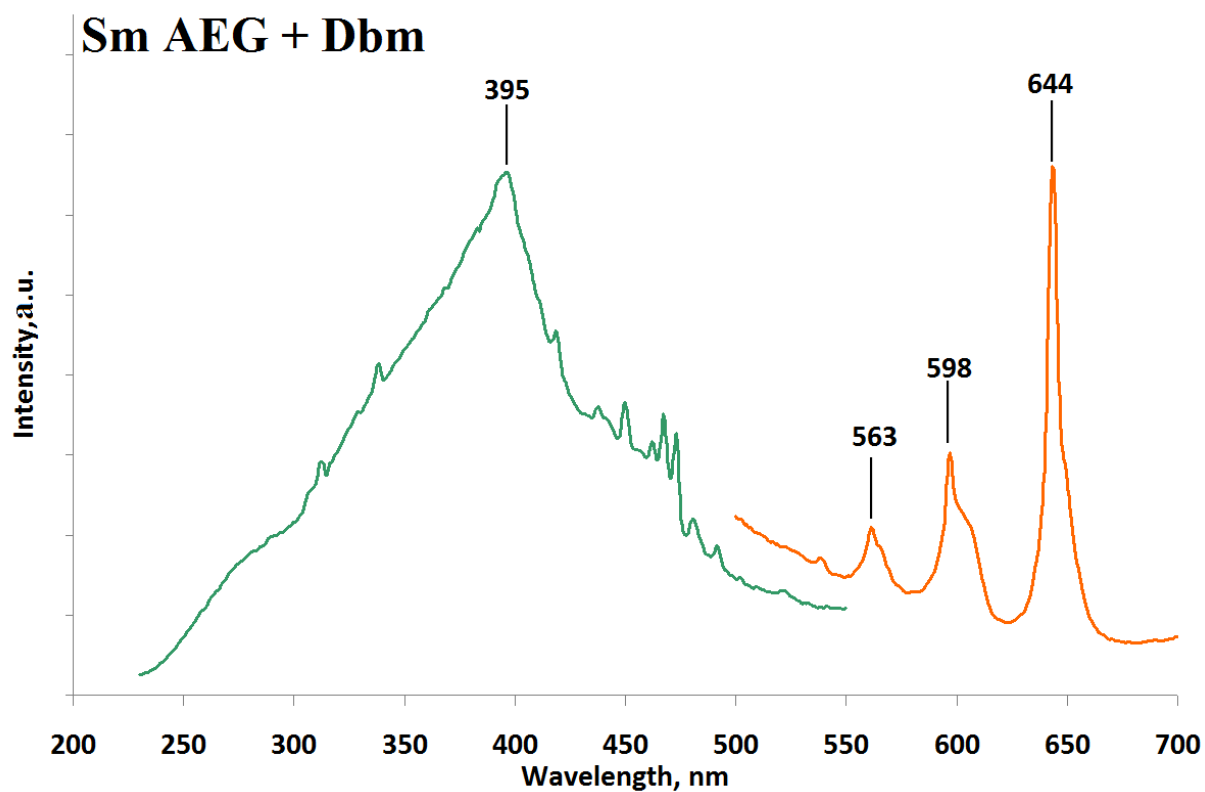


Figure S15. Luminescence (orange curve) and luminescence excitation (green curve) spectra of alginate aerogels crosslinked with Sm^{3+} ions, SC-impregnated with Dbm ligands.

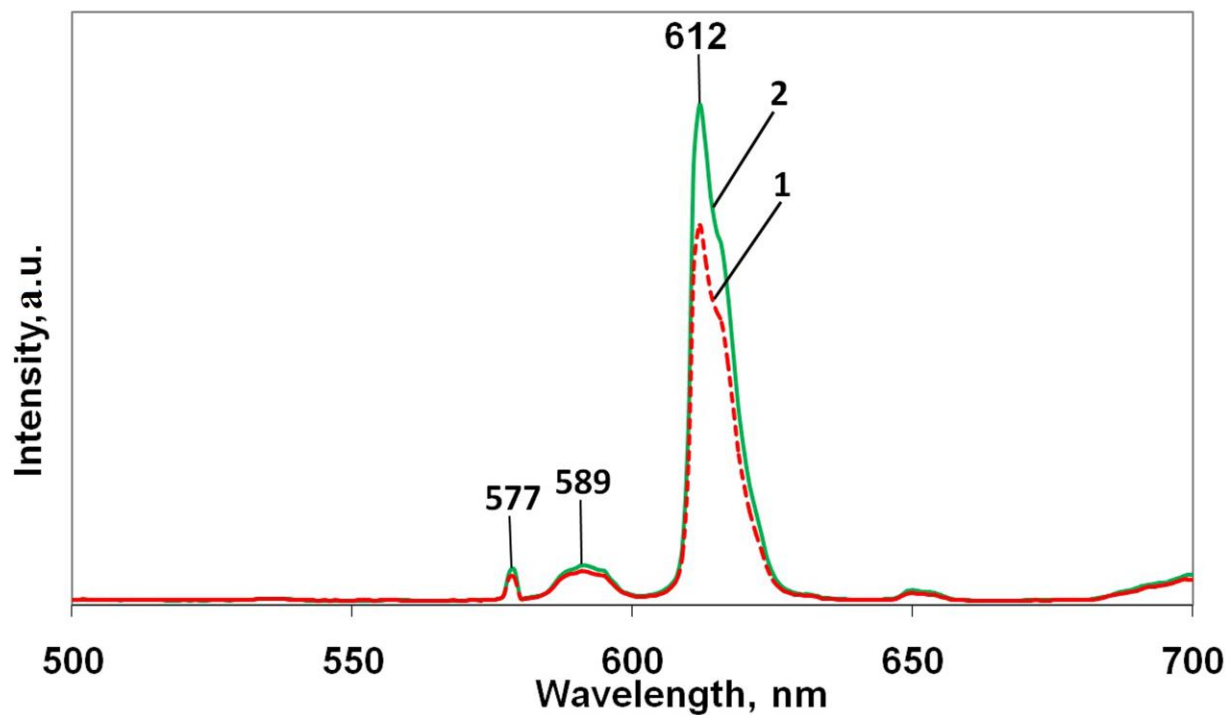


Figure S16. Luminescence spectra: 1 – AEG Eu SC-impregnated with Tta before and 2 – after exposure to acetone vapor.

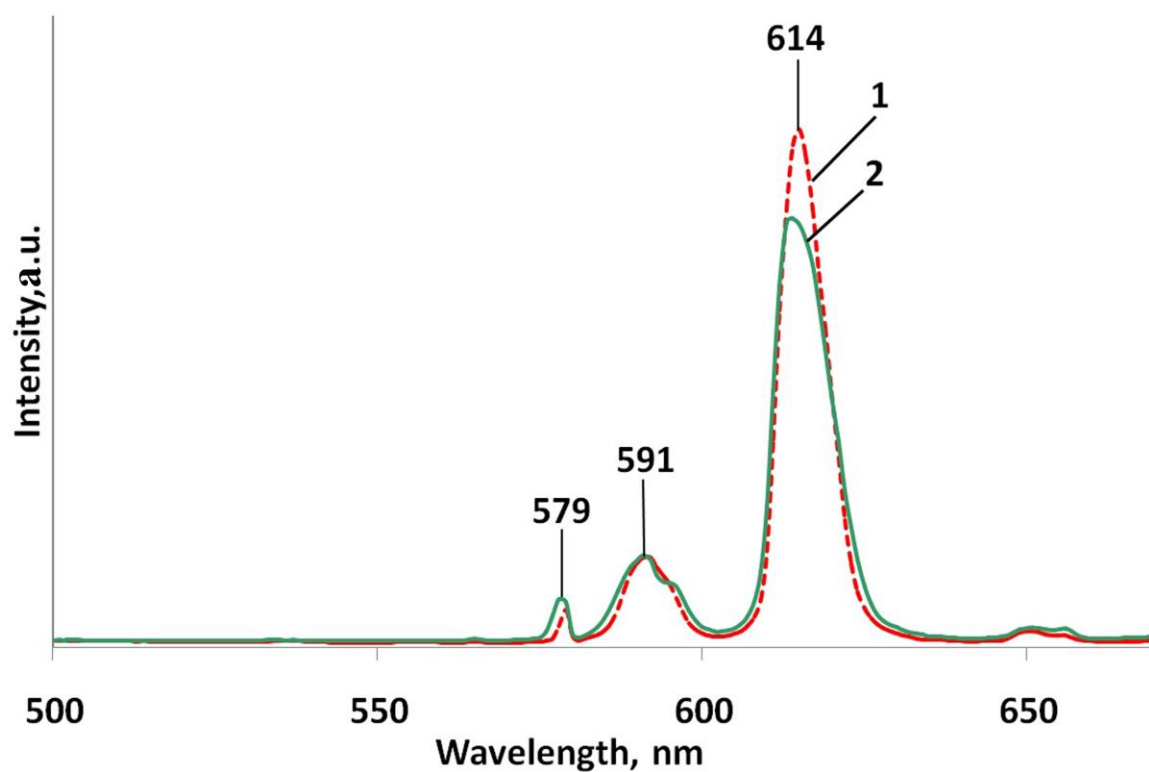


Figure S17. Luminescence spectra: 1 – AEG Eu SC-impregnated with Phen before and 2 – after exposure to ammonia vapor.

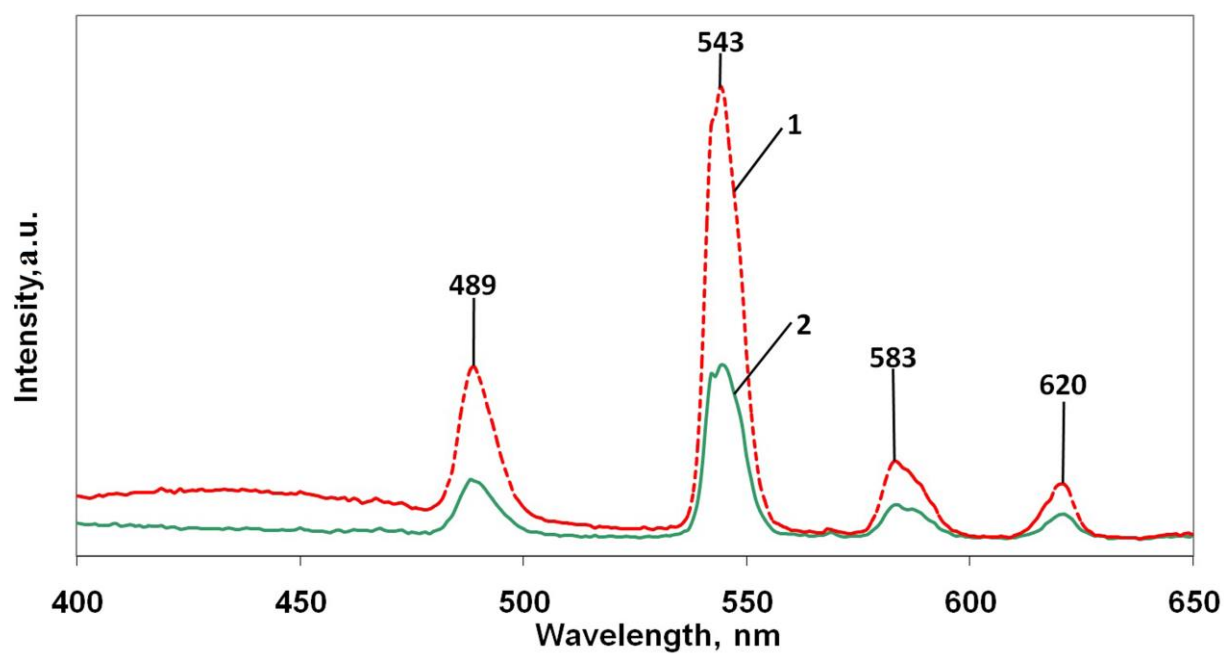


Figure S18. Luminescence spectra: 1 – AEG Tb SC-impregnated with Phen before and 2 – after exposure to ammonia vapor.