## Formation of luminescent terbium(III) self-assemblies from pyridyl bis-amidothioureas based ligands in MeOH and in water:DMSO solutions and their use in anion sensing application

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**Electronic Supplementary Information** 



Figure S1. UV-Vis absorption titration of 2 vs Tb perchlorate in MeOH

Figure S2. Luminescence titration of 2 vs Tb perchlorate in MeOH



Figure S3. The speciation distribution diagram obtained for the titration of 2 with Tb(III) in MeOH and the fit to the changes in the absorption data; in blue the ligand, in red the 1:1 complex, in purple the 1:3 complex and in green the 1:2 complex.



Figure S4. The luminescence titration of **2** with Tb(III) in 4:1 DMSO:Water and the changes observed at 545 nm.



Figure S5. The changes in the Tb(III) emission of  $2_3$ . Tb (prepared in situ) upon titration with TBA H<sub>2</sub>PO<sub>4</sub> in 4:1 DMSO:water solution.





