

SUPPORTING INFORMATION

Self-assembly of highly luminescent lanthanide complexes promoted by pyridine-tetrazolate ligands

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Figure S1. ORTEP diagram of the coordination sphere in the $[\text{Eu}(\text{pytz})_3](\text{NH}_4\text{Et}_3)_3$ complex: view along the c axis, with thermal ellipsoids at the 50% probability level (hydrogen atoms were omitted for clarity). Symmetry transformation used to generate equivalent atoms noted by «'» $2-x, y, 1.5-z$.

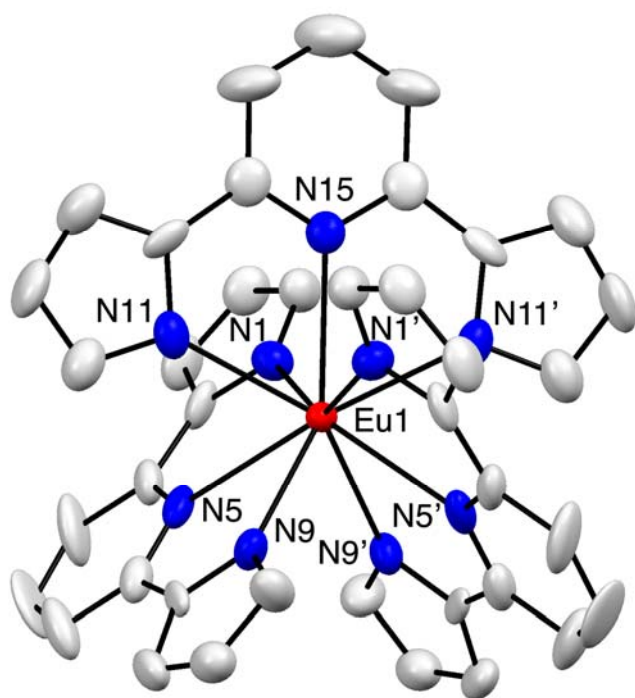


Figure S2. ^1H NMR spectra of the $[\text{Eu}(\text{pytz})_3](\text{NH}_4\text{Et}_3)_3$ complex in water solutions at 298K.

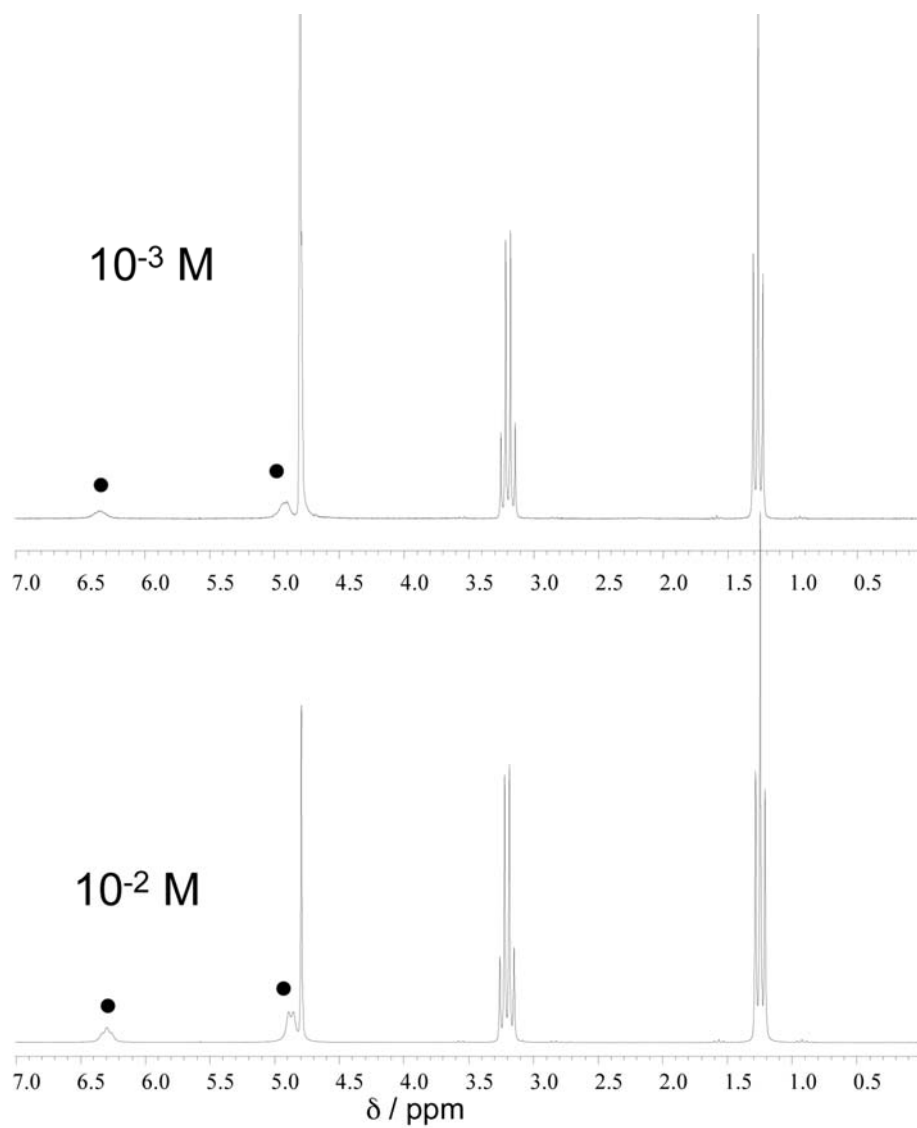
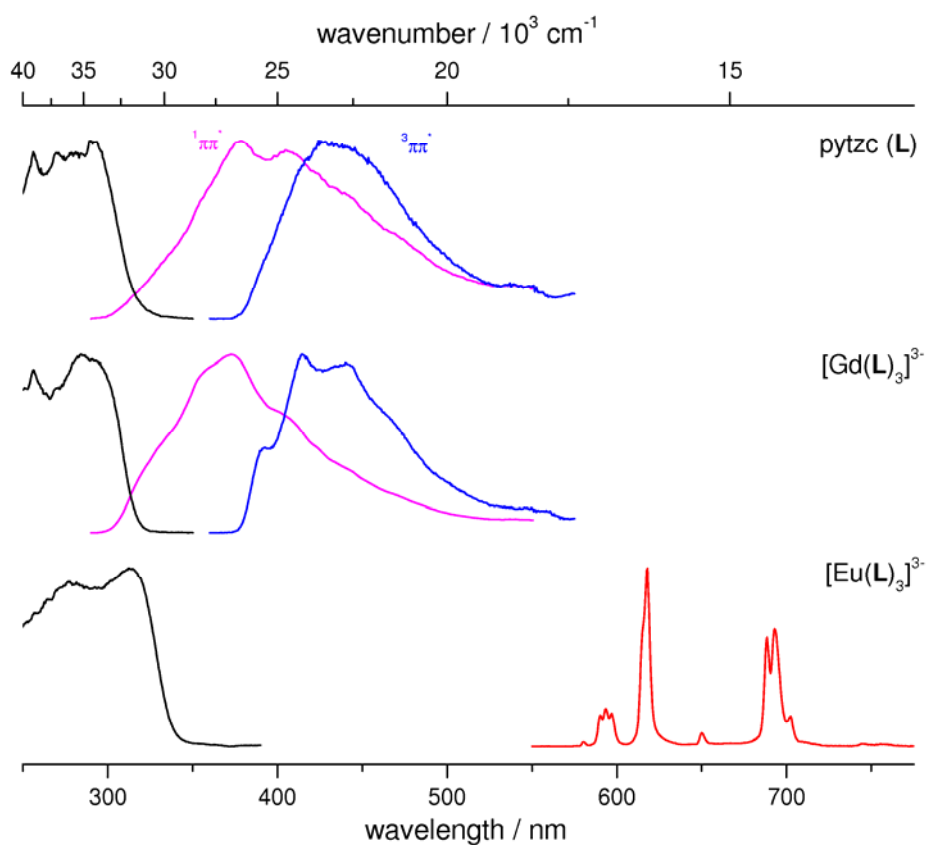


Figure S3. Normalized excitation and emission spectra of the **pytzc**²⁻ ligand and its [Ln(**pytzc**)₃]³⁻ complexes (Ln=Gd and Eu)^a



^a Singlet and triplet state levels are measured in methanol solutions at 298K and 77K, respectively, upon excitation at $35\,700 \text{ cm}^{-1}$. Eu and Tb luminescence spectra are recorded in solid state at 298K. Excitation spectra are measured at the maximum of emission.

Figure S4. Linear relationships between the singlet (blue) and triplet (red) energy levels and the Hammet resonance parameters for the dianionic pyridine ligands **pytz**, **pytzc** and **dpa**.

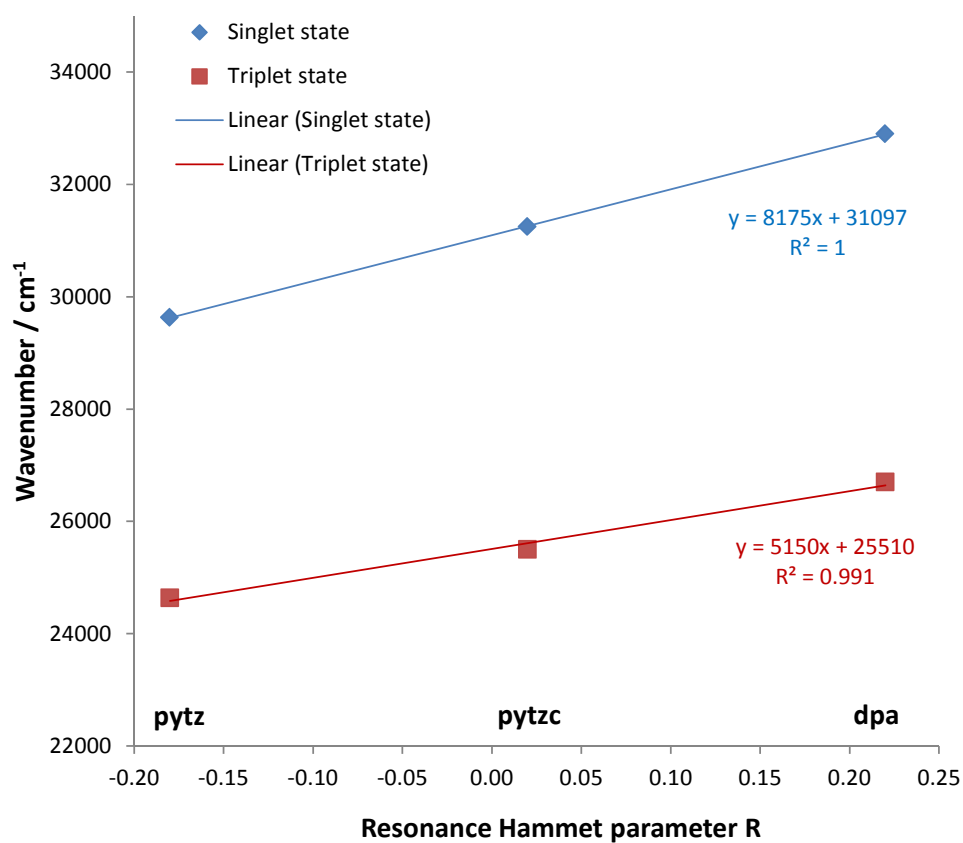


Figure S5. Excitation and Emission spectra of the Europium ($\lambda_{an} = 616$ nm) and Terbium ($\lambda_{an} = 545$ nm) complexes in water (10^{-3} M) and in solid state. Excitation at 321 and 350 nm in water and in solid state, respectively.

