

Supporting Information

Dinuclear triple stranded phenyl-spaced 1,3-*bis*- β -diketonato lanthanide(III) complexes: synthesis, structures and spectroscopy

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Spectra

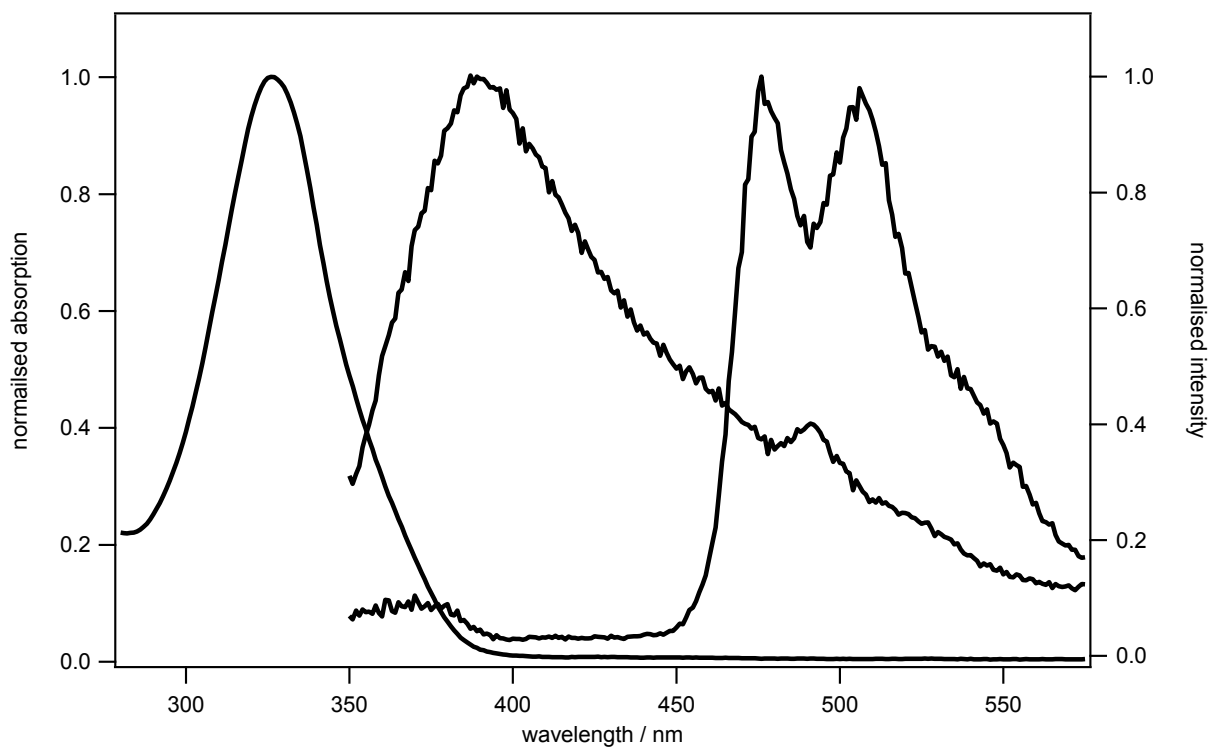


Figure S1. Spectroscopic measurements of $[Gd_2L^{13}]$ complex. Left axis: UV-Vis (dash) in DMF. Right axis: normalised emission at 298K (solid) in DMF and at 77 K in DMF:MeOH, 1:4 (dot) ($\lambda_{exc} = 325$ nm).

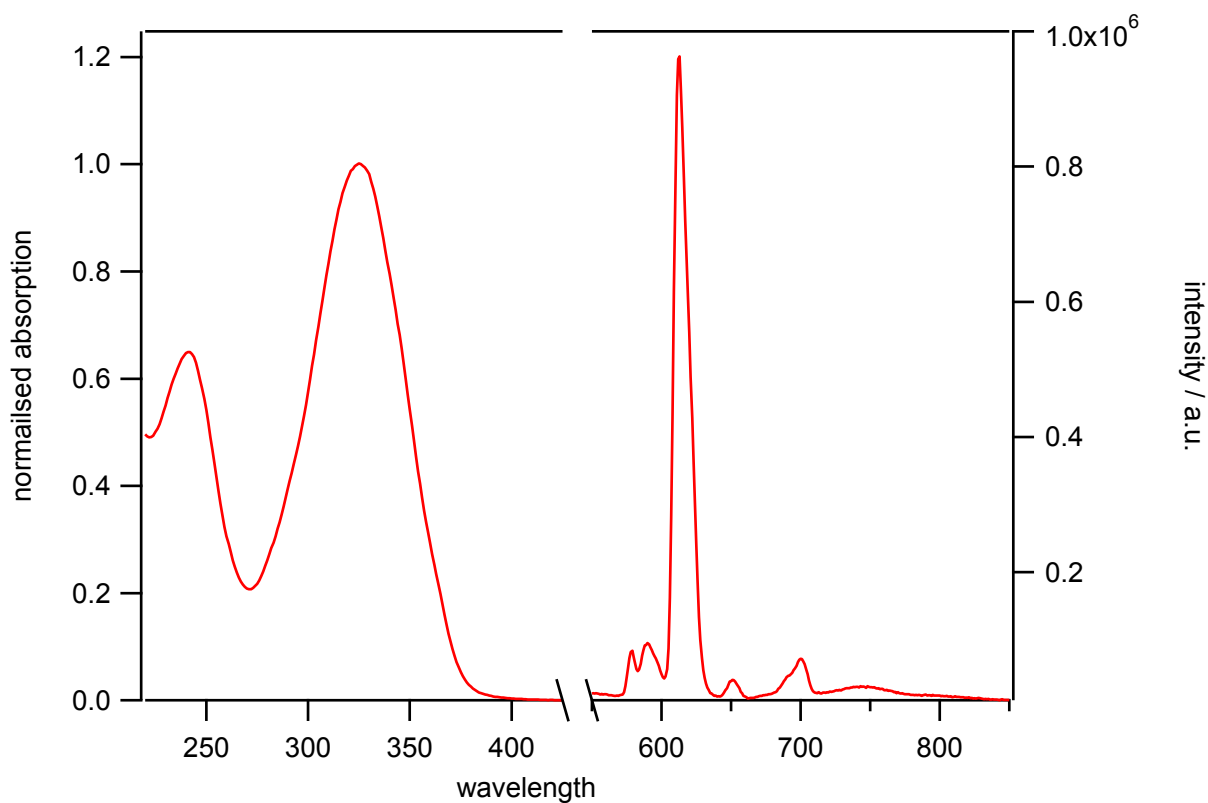


Figure S2. Spectroscopic measurements of $[Eu_2L^{13}]$ complex. Left axis: UV-Vis (dash) in DMF. Right axis: normalised emission at 298K (solid) in DMF and at 77 K in DMF:MeOH, 1:4 (dot) ($\lambda_{exc} = 325$ nm).

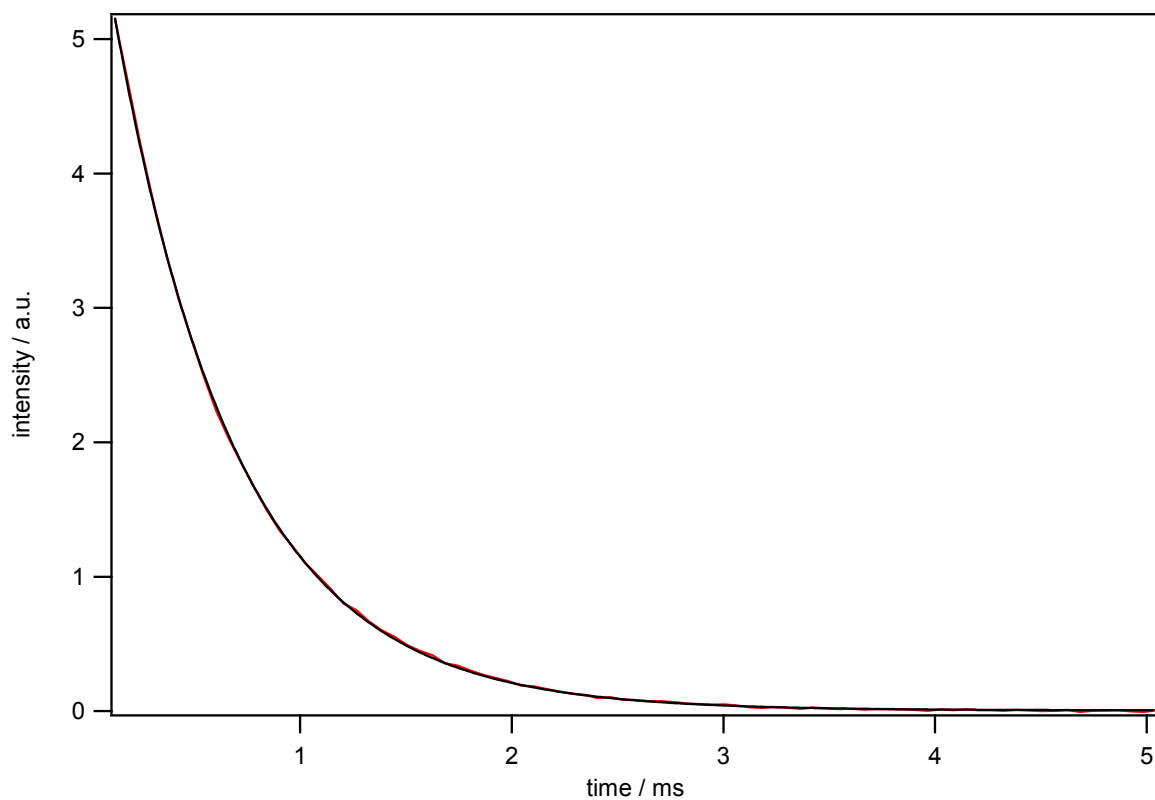


Figure S3. Emission decay ($\lambda_{\text{exc}} = 320 \text{ nm}$, $\lambda_{\text{em}} = 612 \text{ nm}$) of of $[\text{Eu}_2\text{L}^1_3]$ in DMF fitted to a mono exponential with a lifetime of $581 \pm 0.01 \mu\text{s}$.

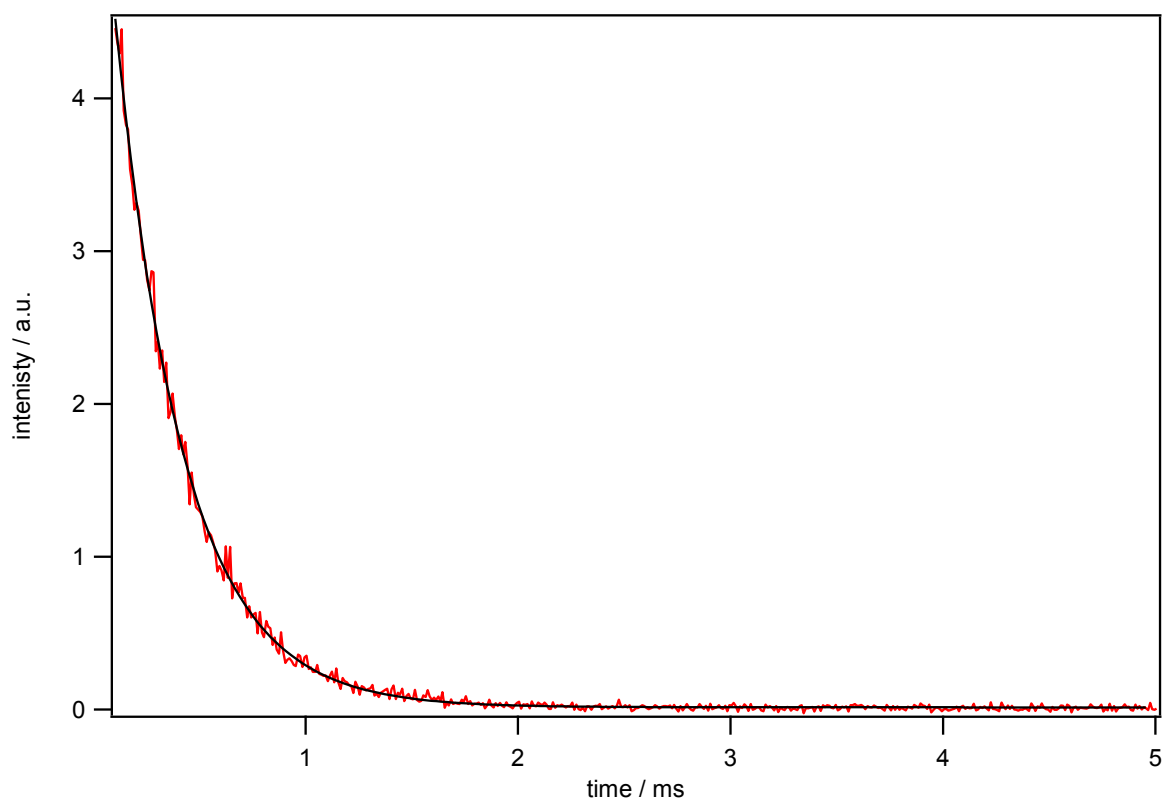


Figure S4. Emission decay ($\lambda_{\text{exc}} = 320 \text{ nm}$, $\lambda_{\text{em}} = 612 \text{ nm}$) of of $[\text{Eu}_2\text{L}^1_3]$ in MeOH fitted to a mono exponential with a lifetime of $320.38 \pm 0.04 \mu\text{s}$.

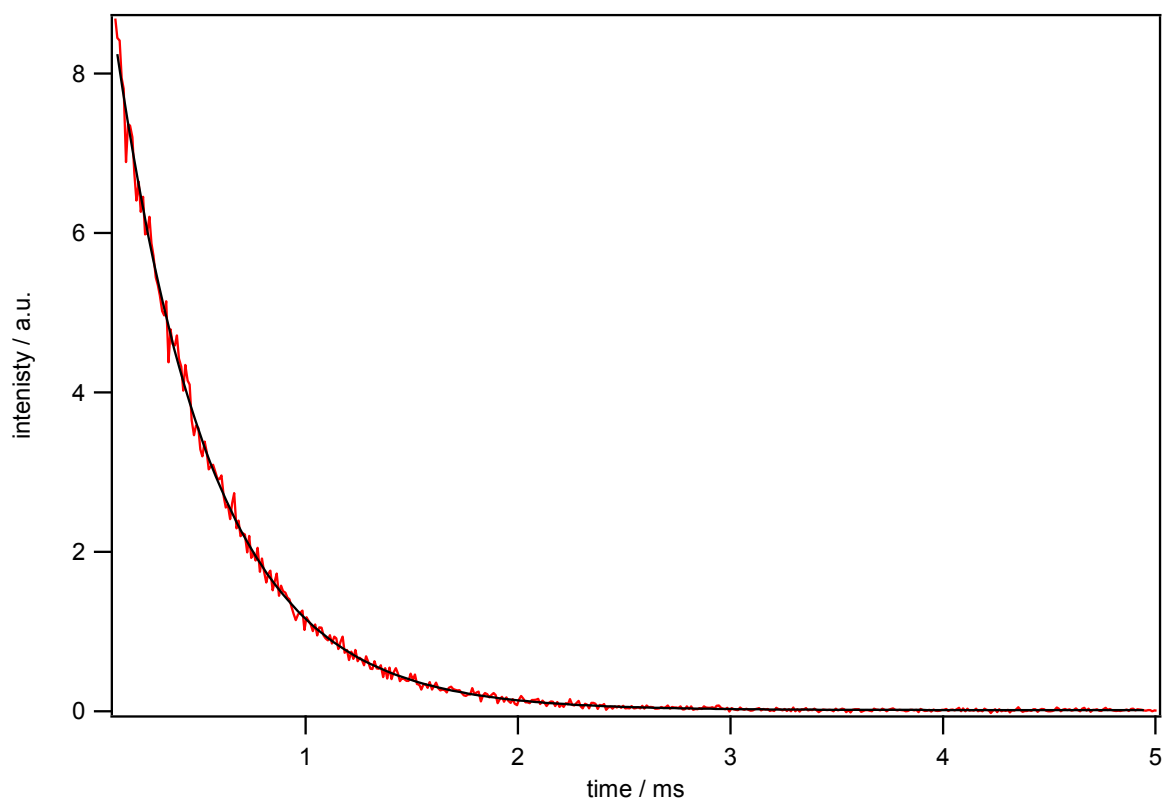


Figure S5. Emission decay ($\lambda_{\text{exc}} = 320 \text{ nm}$, $\lambda_{\text{em}} = 612 \text{ nm}$) of of $[\text{Eu}_2\text{L}^1_3]$ in MeOD fitted to a mono exponential with a lifetime of $447.42 \pm 0.04 \mu\text{s}$.

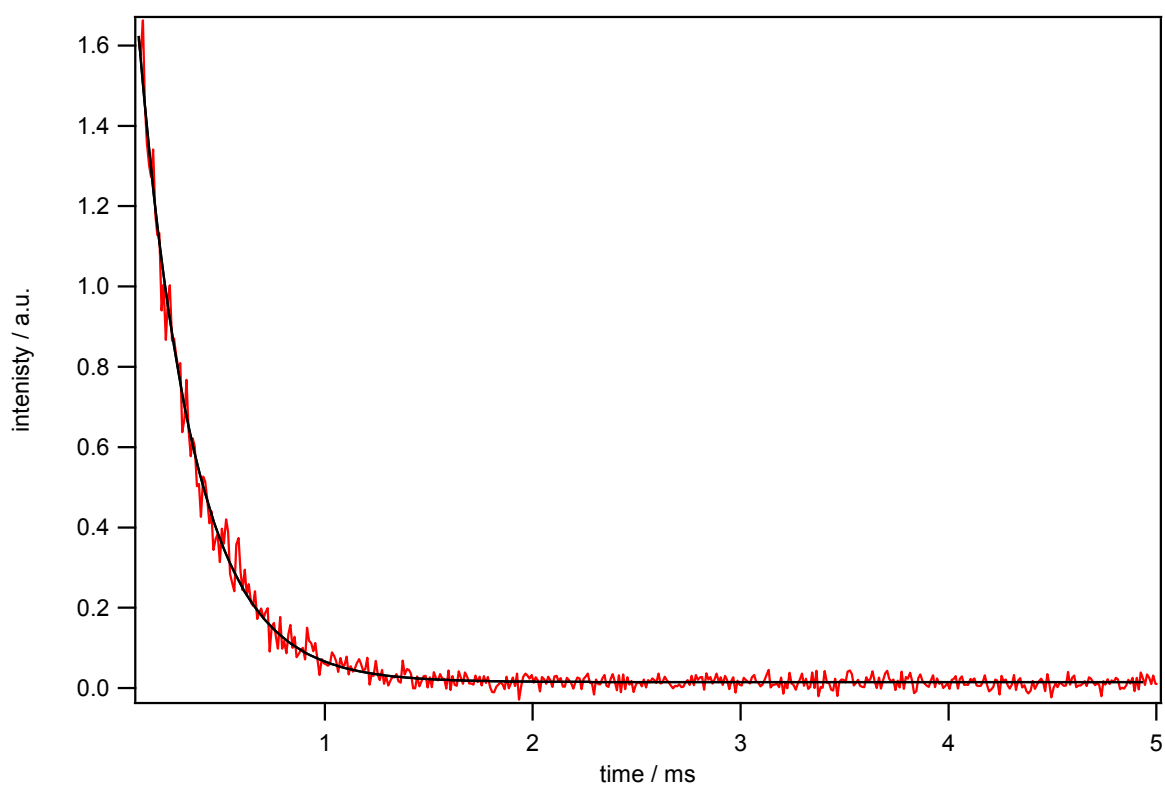


Figure S6. Emission decay ($\lambda_{\text{exc}} = 320 \text{ nm}$, $\lambda_{\text{em}} = 612 \text{ nm}$) of of $[\text{EuL}^2_3]$ in MeOH fitted to a mono exponential with a lifetime of $259.53 \pm 0.04 \mu\text{s}$.

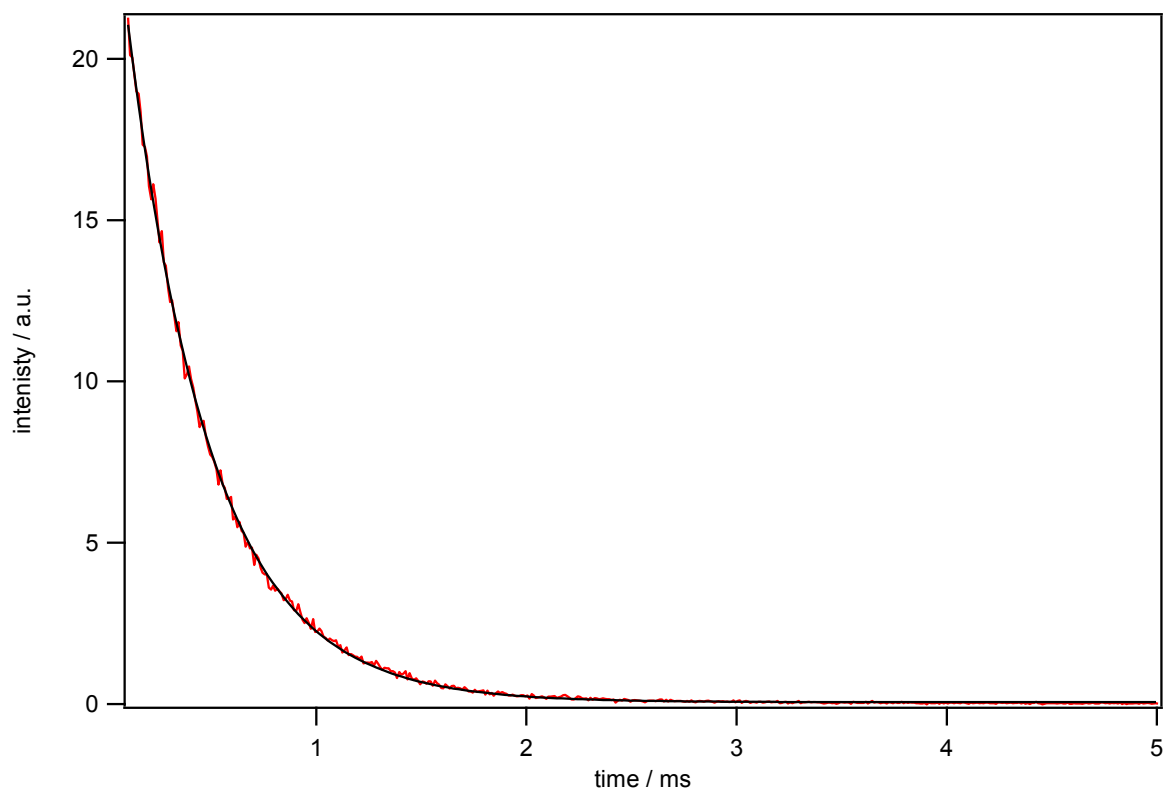


Figure S7. Emission decay ($\lambda_{\text{exc}} = 320 \text{ nm}$, $\lambda_{\text{em}} = 612 \text{ nm}$) of of $[\text{EuL}_2\text{L}_3]$ in MeOD fitted to a mono exponential with a lifetime of $396.98 \pm 0.04 \mu\text{s}$.

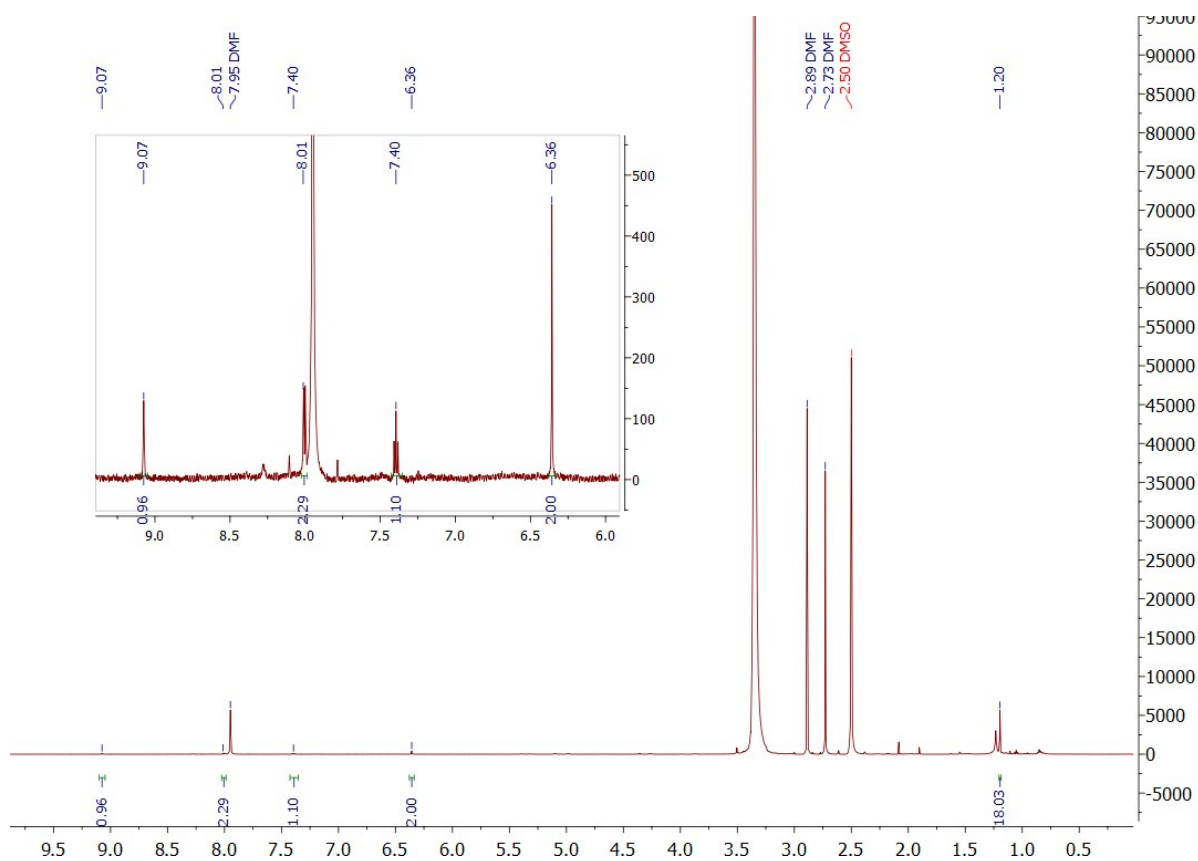


Figure S8. ^1H NMR spectrum (600 MHz, dms0-d_6) of $[\text{Y}_2\text{L}^{13}(\text{DMF})_2]$.