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## Highly Emissive Dinuclear Europium(III) Complex with Heteroaryl $\beta$ -Diketone and Fluxidentate Pyrazine: Dual Role as UV Converters and Semiconductors

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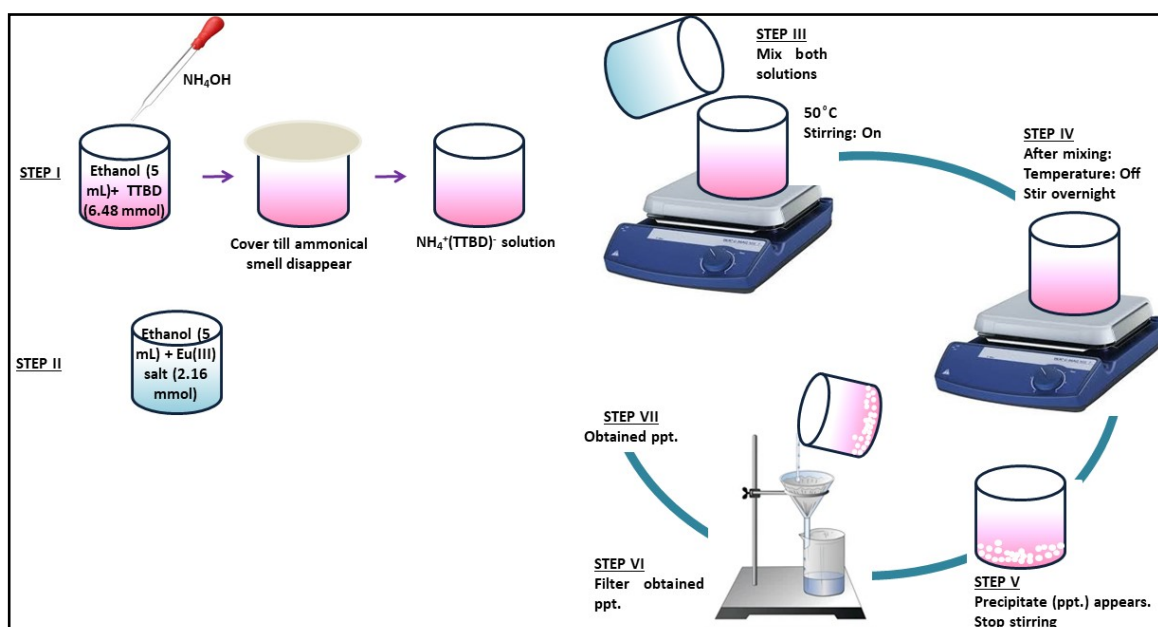
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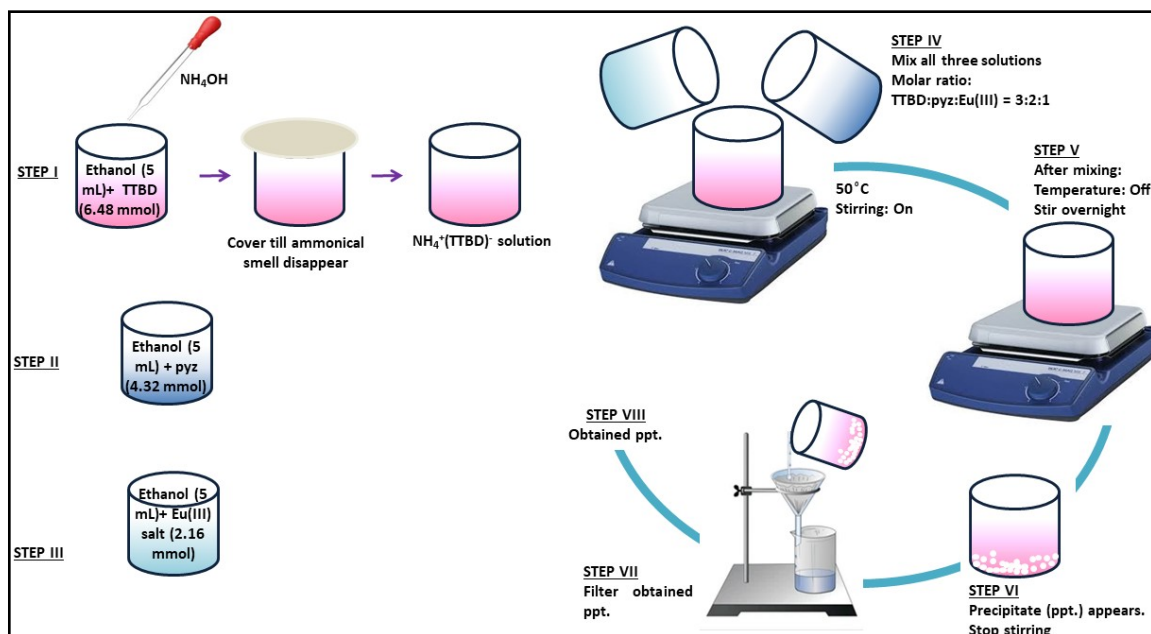
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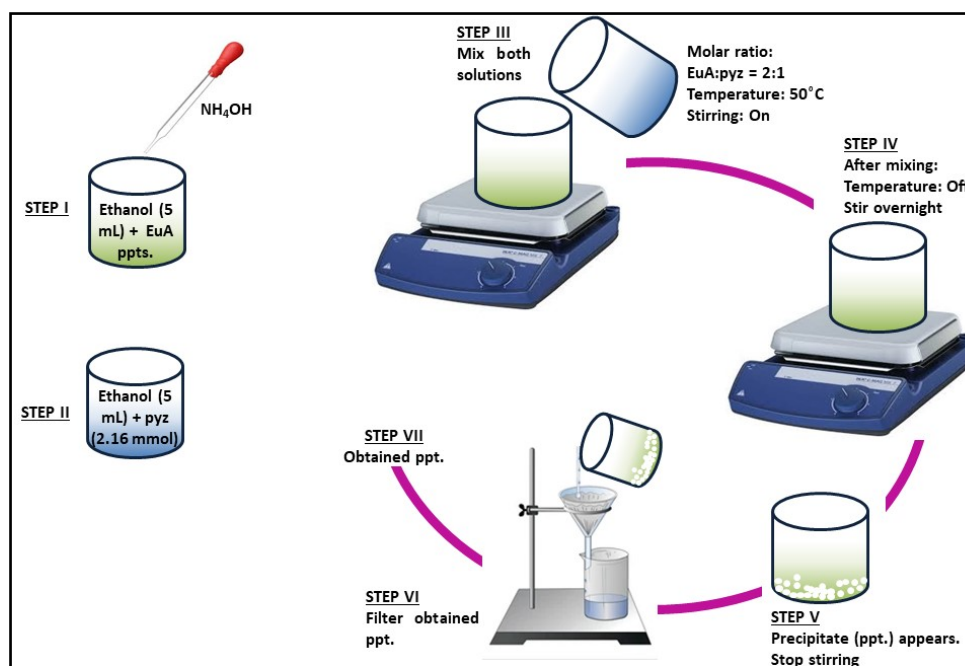
### SUPPLEMENTARY INFORMATION



**Fig. S1** Synthetic route followed for preparing EuA



**Fig. S2** Synthetic route followed for preparing EuM

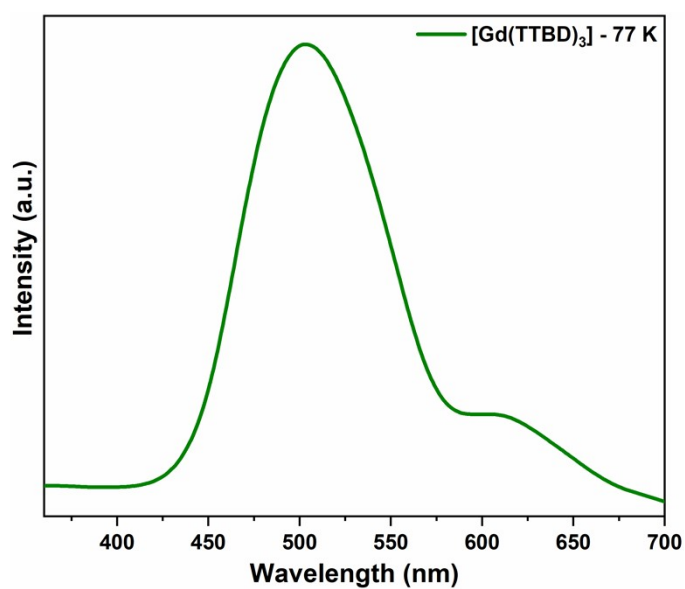


**Fig. S3** Synthetic route followed for preparing EuD

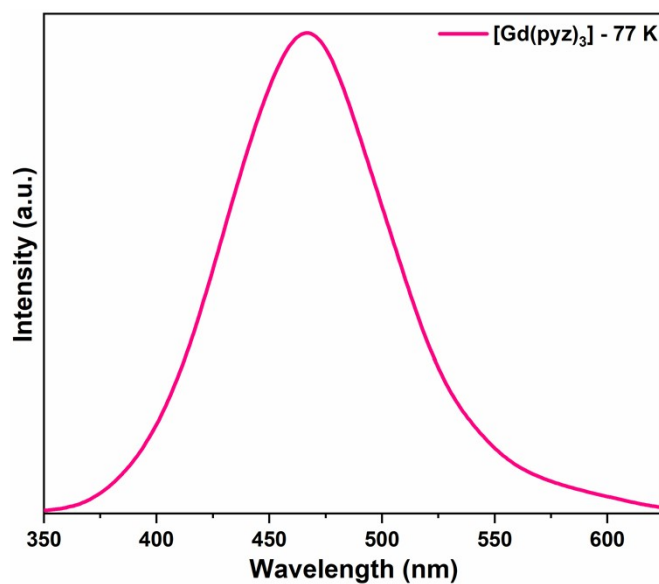
The phosphorescence spectra of  $[\text{Gd}(\text{TTBD})_3]$  and  $[\text{Gd}(\text{pyz})_3]$  complexes at 77 K (Fig. S4 and Fig. S5, respectively) contain bands at  $\lambda_{\text{max}} = 501$  and 467 nm, respectively. This band is not

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observed on the emission spectrum of  $\text{Eu}(\text{TTBD})_3 \cdot 2\text{H}_2\text{O}$  indicating the energy transfer from both (TTBD and pyz) ligands to the  $\text{Eu}(\text{III})$  ion is considerably efficient.

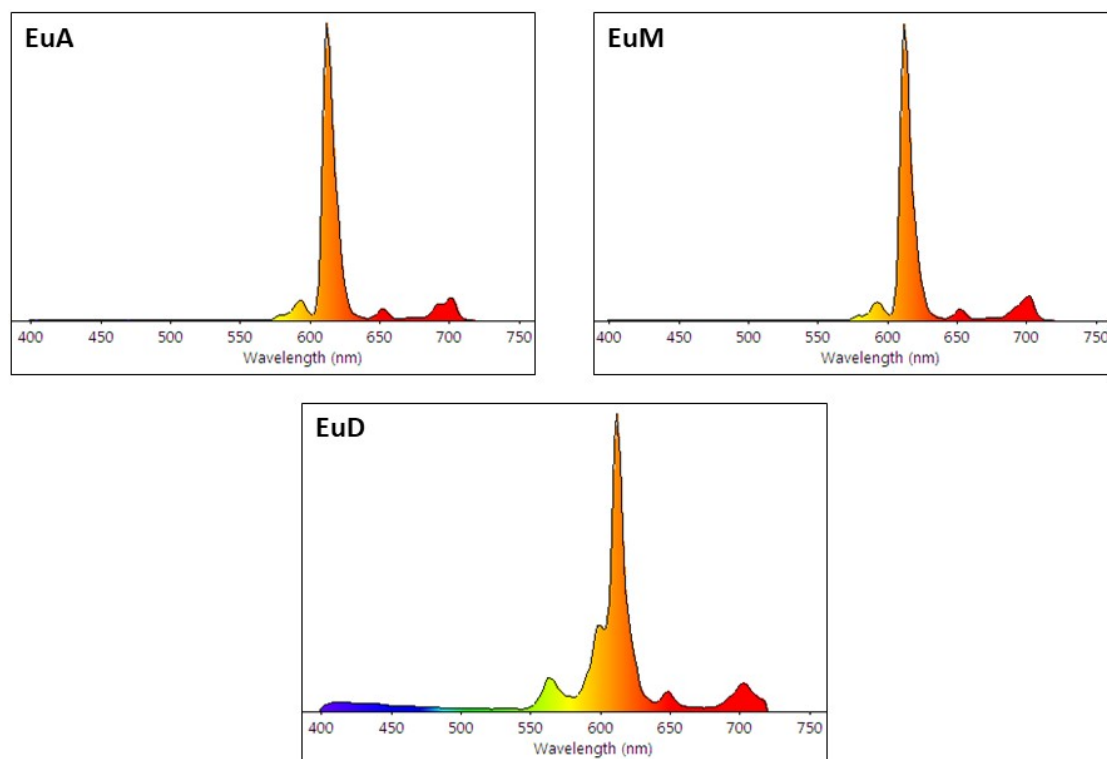


**Fig. S4** Phosphorescence measurements at 77K of  $[\text{Gd}(\text{TTBD})_3]$  complex

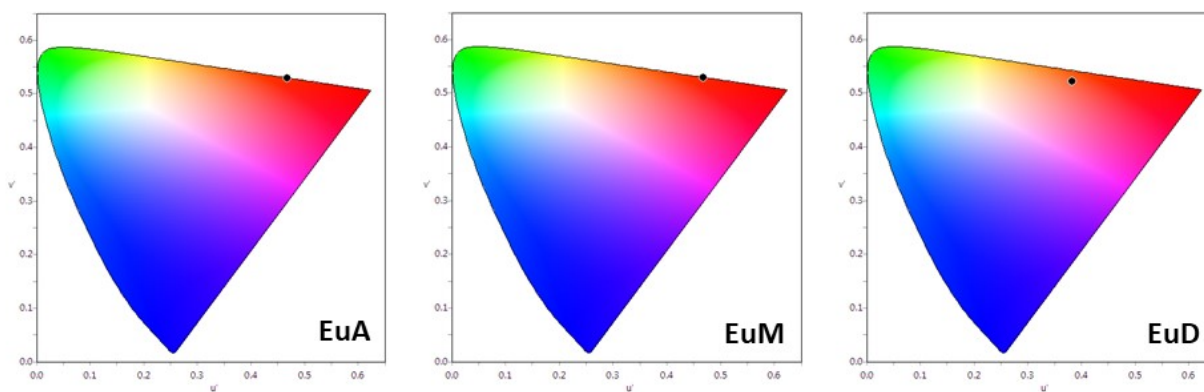


**Fig. S5** Phosphorescence measurements at 77K of  $[\text{Gd}(\text{pyz})_3]$  complex

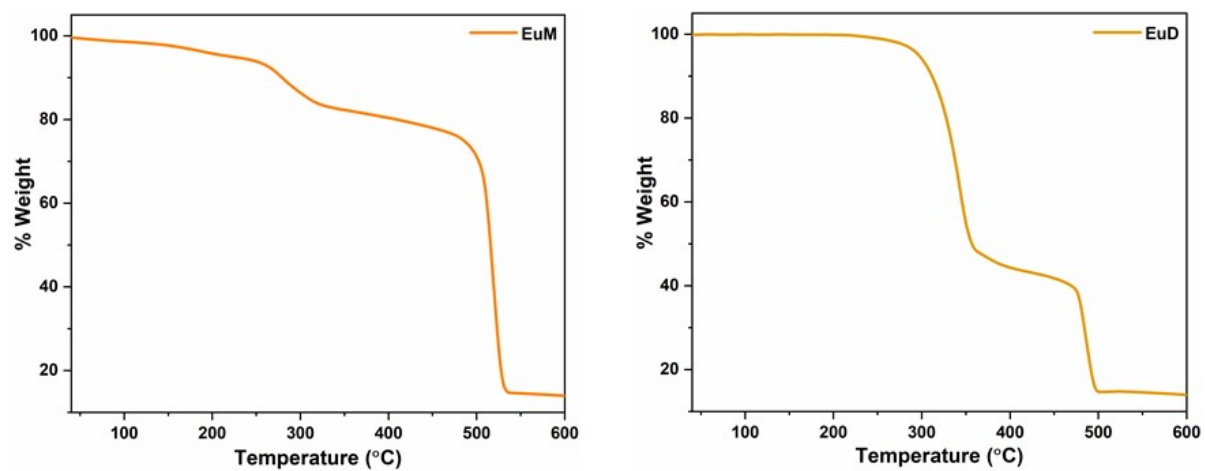
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**Fig. S6** Color contribution of each peak in formed complexes



**Fig. S7** (u', v') coordinates of EuA-EuD in solution form



**Fig. S8** TGA curves of EuM and EuD