

Fig. S3 PL emission spectra of $\text{Na}_3[\text{Tb}(4\text{-VDPA})_3]$ ($\lambda_{\text{ex}} = 315 \text{ nm}$) and $\text{Na}_3[\text{Tb}(\text{DPA})_3]$ ($\lambda_{\text{ex}} = 286 \text{ nm}$) in aqueous solution (0.1mmol/L)

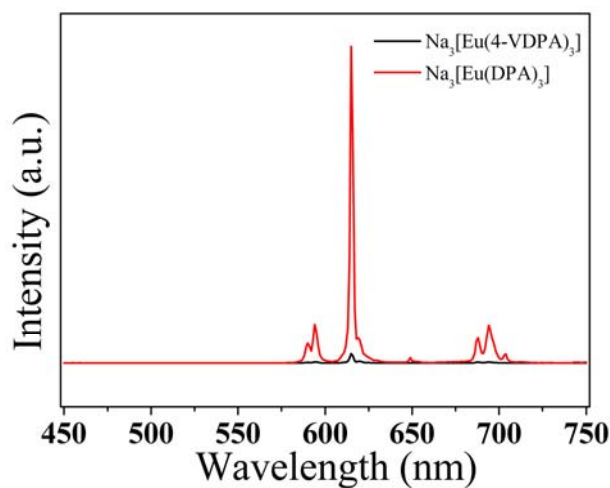


Fig. S4 PL emission spectra of $\text{Na}_3[\text{Eu}(4\text{-VDPA})_3]$ ($\lambda_{\text{ex}} = 315 \text{ nm}$) and $\text{Na}_3[\text{Eu}(\text{DPA})_3]$ ($\lambda_{\text{ex}} = 286 \text{ nm}$) in aqueous solution (0.1mmol/L)

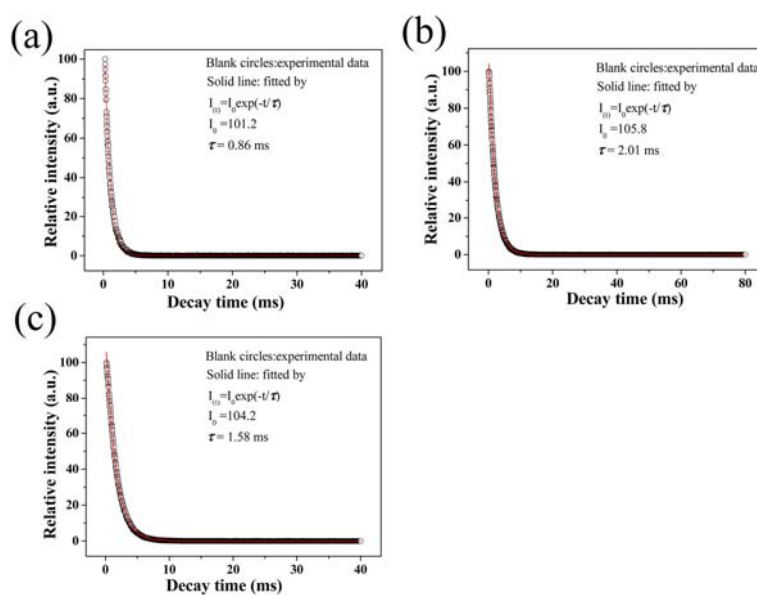


Fig. S5 Luminescence decay curves of $\text{Na}_3[\text{Eu}(4\text{-VDPA})_3]$ (a), $\text{Na}_3[\text{Tb}(\text{DPA})_3]$ (b) and $\text{Na}_3[\text{Eu}(\text{DPA})_3]$ (c)

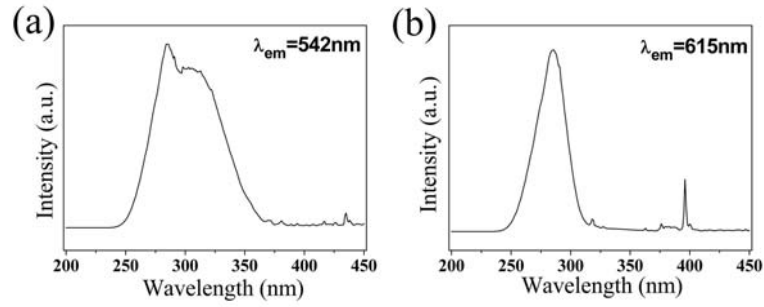


Fig. S6 Excitation spectra of $\text{Na}_3[\text{Tb}(\text{DPA})_3]$ (a) and $\text{Na}_3[(\text{Eu}(\text{DPA})_3]$ (b) dispersed in BaSO_4

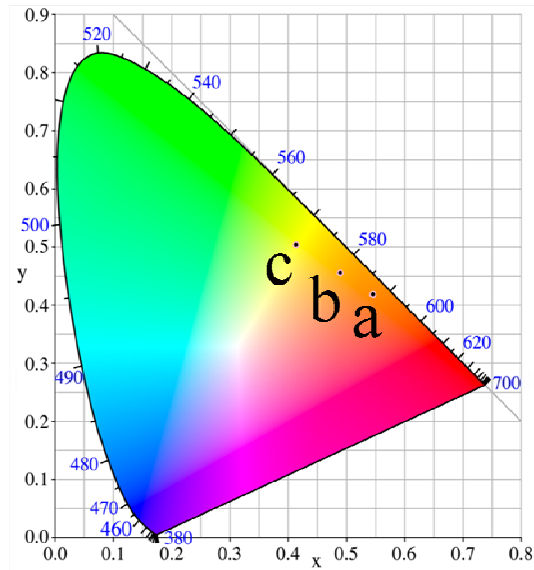


Fig. S7 The CIE chromaticity coordinates of PNIPAM- $\text{Eu}_2\text{Tb}_1(\text{DPA})_3$ (a), PNIPAM- $\text{Eu}_1\text{Tb}_1(\text{DPA})_3$ (b) and PNIPAM- $\text{Eu}_1\text{Tb}_3(\text{DPA})_3$ (c)

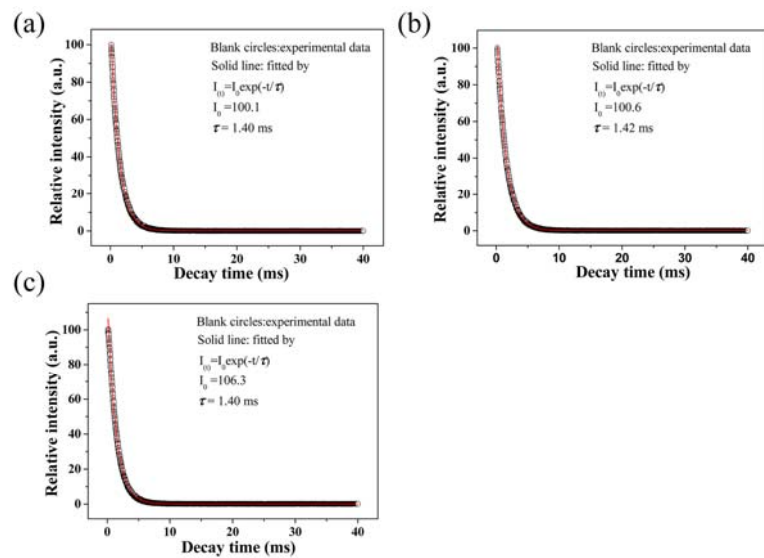


Fig. S8 Luminescence decay curves of PNIPAM- $\text{Eu}_2\text{Tb}_1(\text{DPA})_3$ (a), PNIPAM- $\text{Eu}_1\text{Tb}_1(\text{DPA})_3$ (b) and PNIPAM- $\text{Eu}_1\text{Tb}_3(\text{DPA})_3$ (c)