

Supplementary Information

Luminescent nucleotide/Tb<sup>3+</sup> coordination polymer for Fe(II) detection in  
human serum

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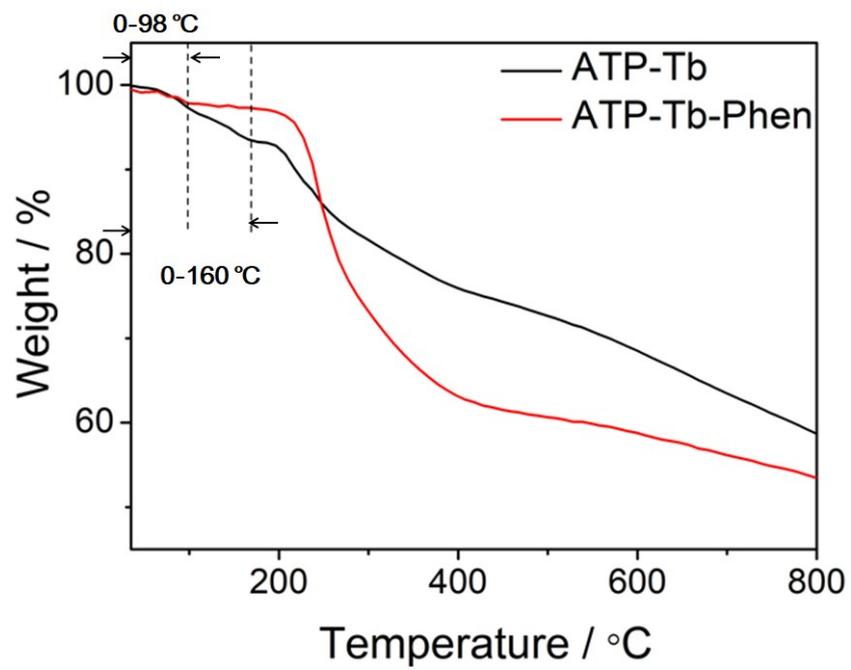


Figure S1. TGA curves of ATP-Tb CP and ATP-Tb-Phen CP.

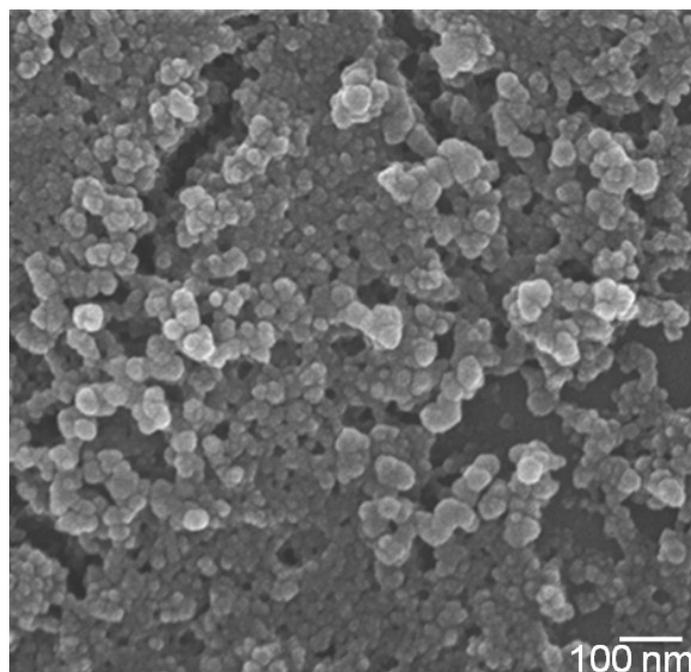
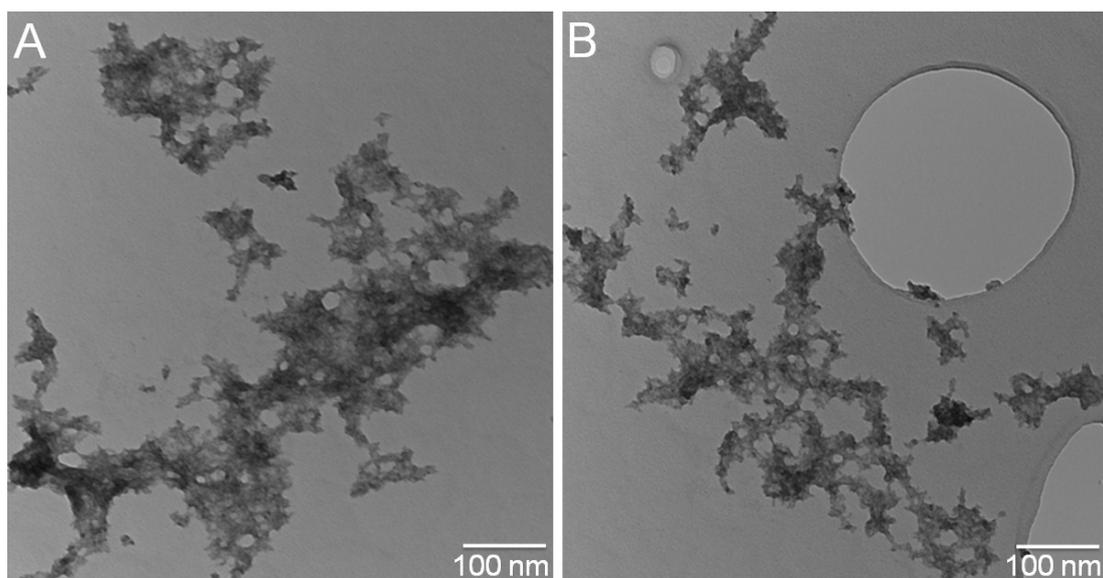
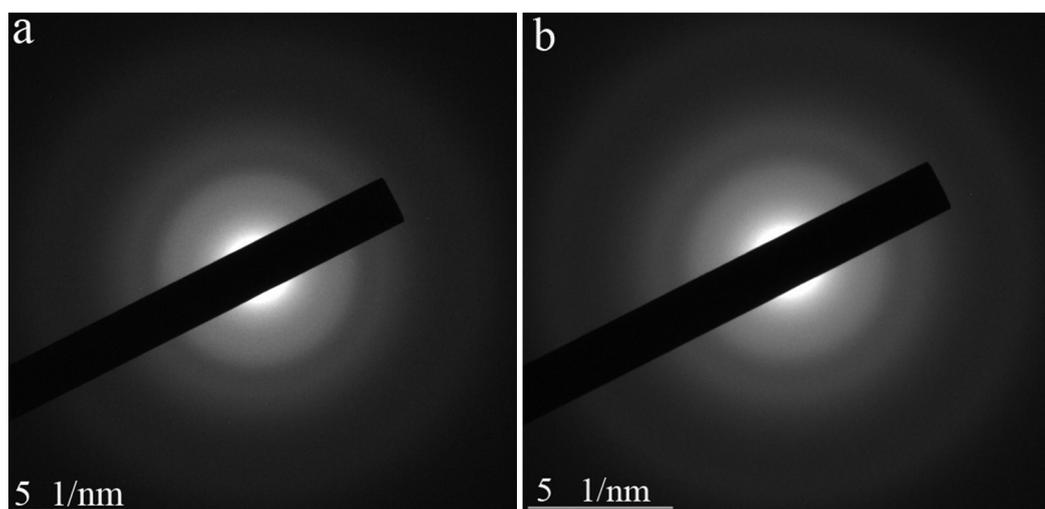


Figure S2. SEM image of ATP-Tb CP.



**Figure S3.** TEM images of ATP-Tb-Phen CP (A) and ATP-Tb CP (B).



**Figure S4.** Selected area electron diffraction (SAED) images of ATP-Tb CP (a) and ATP-Tb-Phen CP (b).

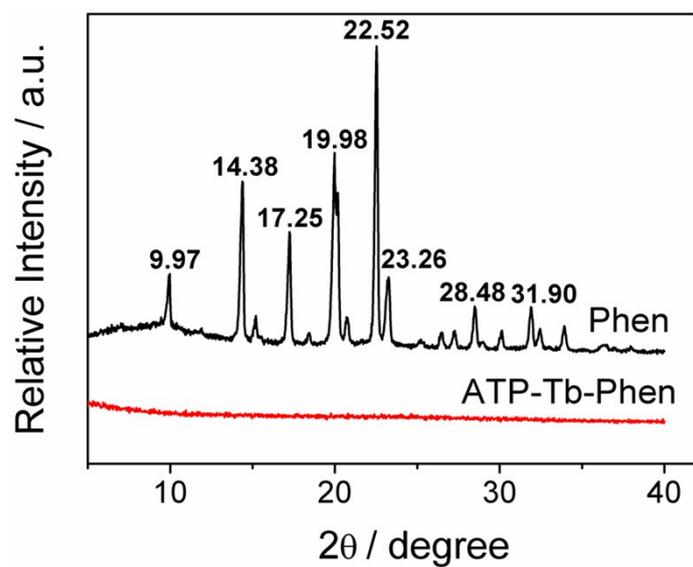


Figure S5. XRD spectra of Phen and ATP-Tb-Phen CP.

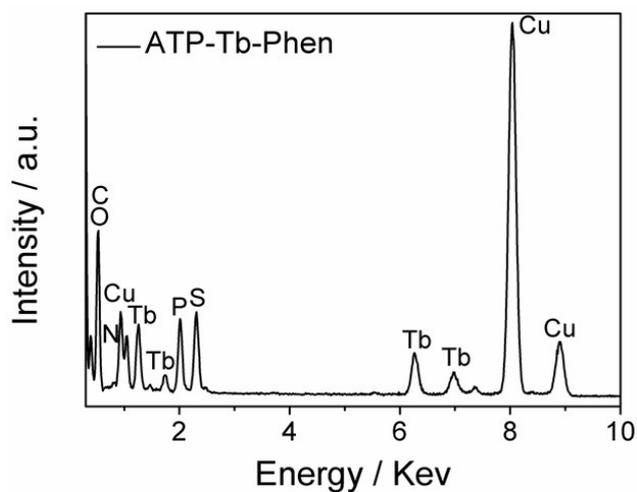


Figure S6. EDX spectra of ATP-Tb-Phen CP.

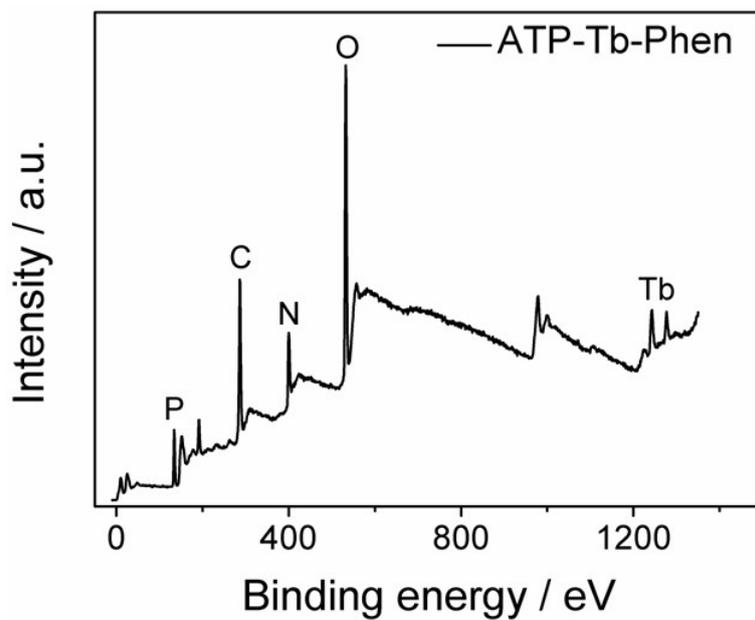


Figure S7. XPS survey scan of ATP-Tb-Phen CP.

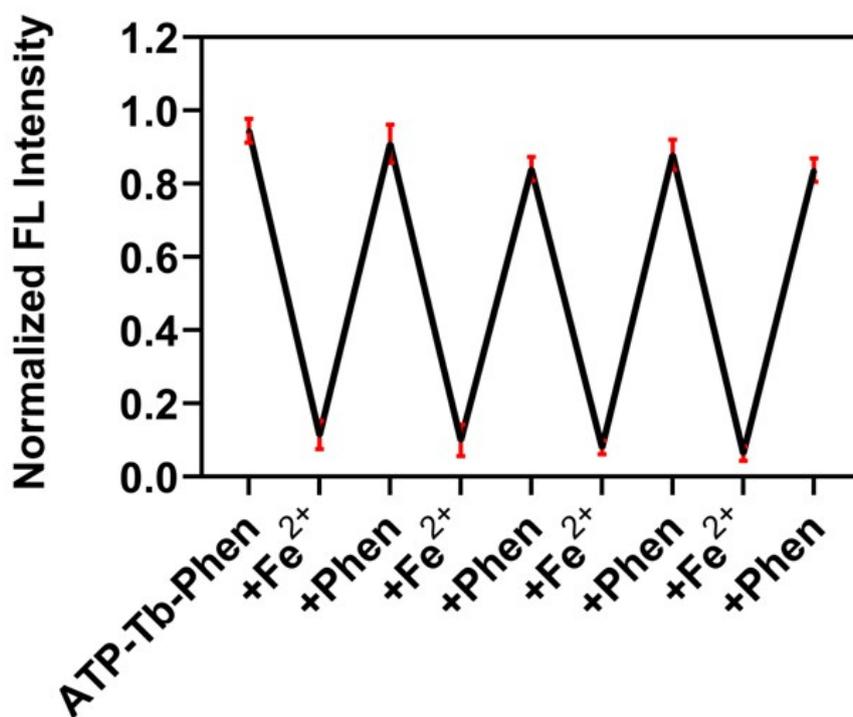
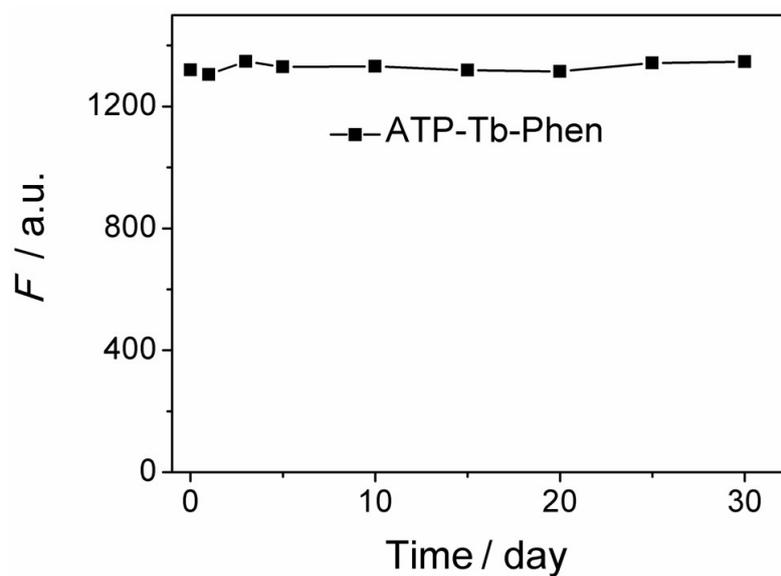
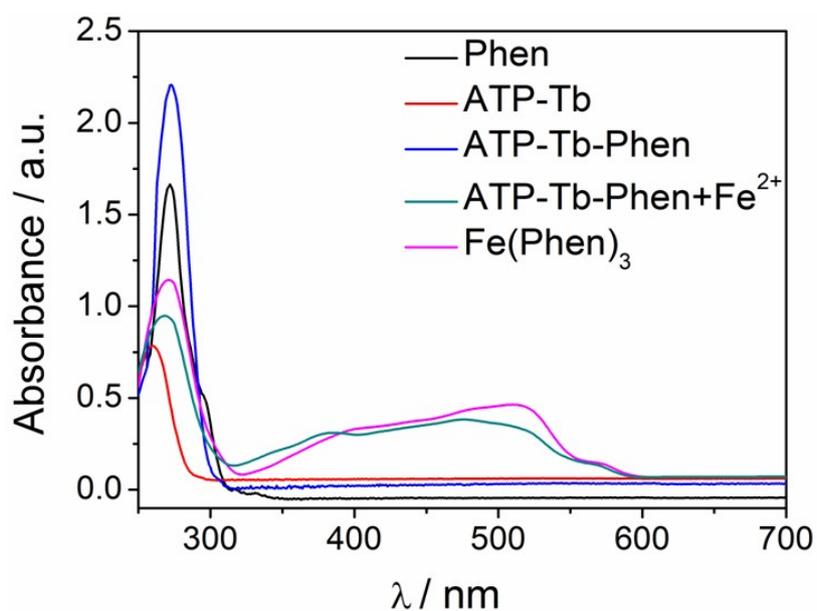


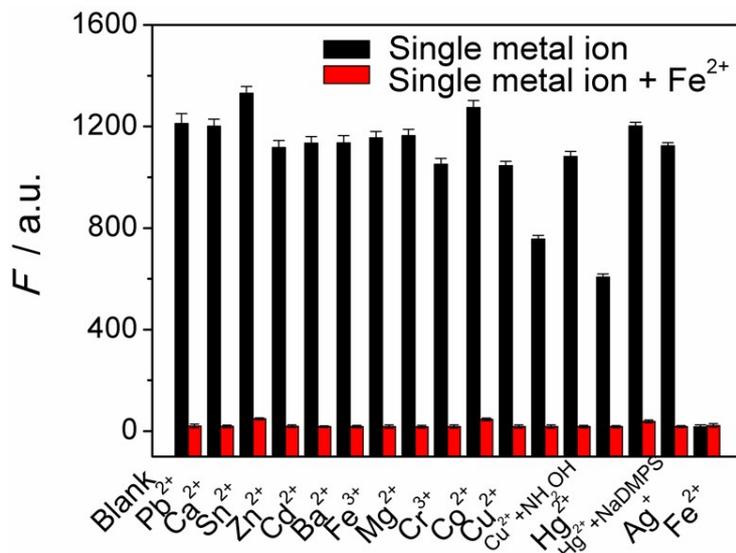
Figure S8. Fluorescence repeatability titrated by Phen and  $\text{Fe}^{2+}$  ions.



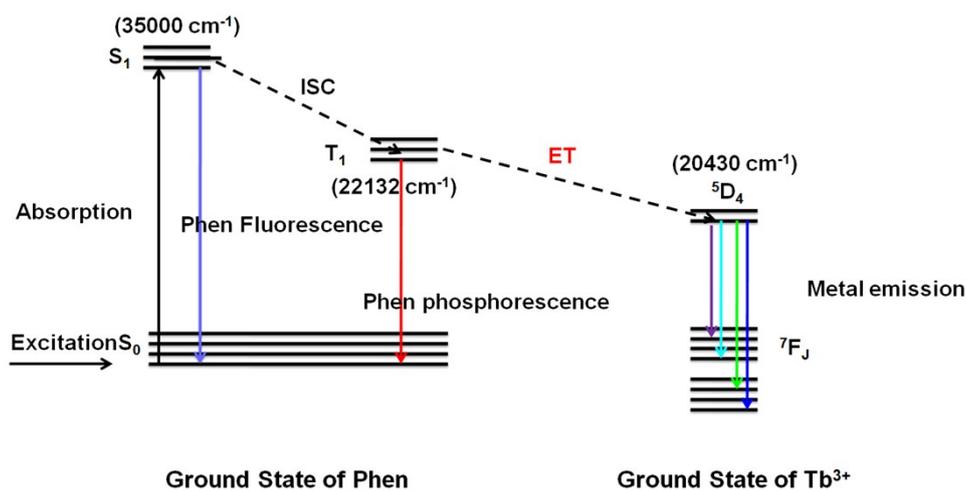
**Figure S9.** Effect of reaction time on luminescence intensity of ATP-Tb-Phen **CP**.



**Figure S10.** UV-vis spectra of ATP-Tb **CP**, ATP-Tb-Phen **CP**, ATP-Tb-Phen **CP** in the presence of  $\text{Fe}^{2+}$  ( $20 \mu\text{M}$ ), Phen ( $40 \mu\text{M}$ ) and  $\text{Fe}(\text{Phen})_3^{2+}$  complex ( $20 \mu\text{M}$ ).



**Figure S11.** Detection selectivity of ATP-Tb-Phen CP in the presence of 15  $\mu\text{M}$  various metal ions. Black bars represent the luminescence response after addition of single metal ion (15  $\mu\text{M}$ ); Red bars represent the luminescence response after addition of single metal ion (15  $\mu\text{M}$ ) and  $\text{Fe}^{2+}$  (15  $\mu\text{M}$ ) together.



**Scheme S1.** The probable mechanism of intramolecular energy transfer between the ligand (Phen) and the  $\text{Tb}^{3+}$ . ET = energy transfer, ISC = intersystem crossing.