

A highly zinc-selective ratiometric fluorescent probe based on AIE luminogen functionalized coordination polymer nanoparticles

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Substrate	Φ	$\langle \tau \rangle$ (ns)	k_r (10^6 s^{-1})	k_{nr} (10^8 s^{-1})
HDBB	5.32 %	1.97	27.0	4.80
Tb-HDBB-CPNs	14.27 %	2.92	48.86	2.94
Zn-HDBB-CPNs	17.25 %	1.01	172.5	8.19

Table S1. Properties of HDBB and HDBB-CPNs. Rate constants were calculated with Φ and τ according to the formula of $k_r = \Phi / \tau$ and $k_{nr} = (1 - \Phi) / \tau$

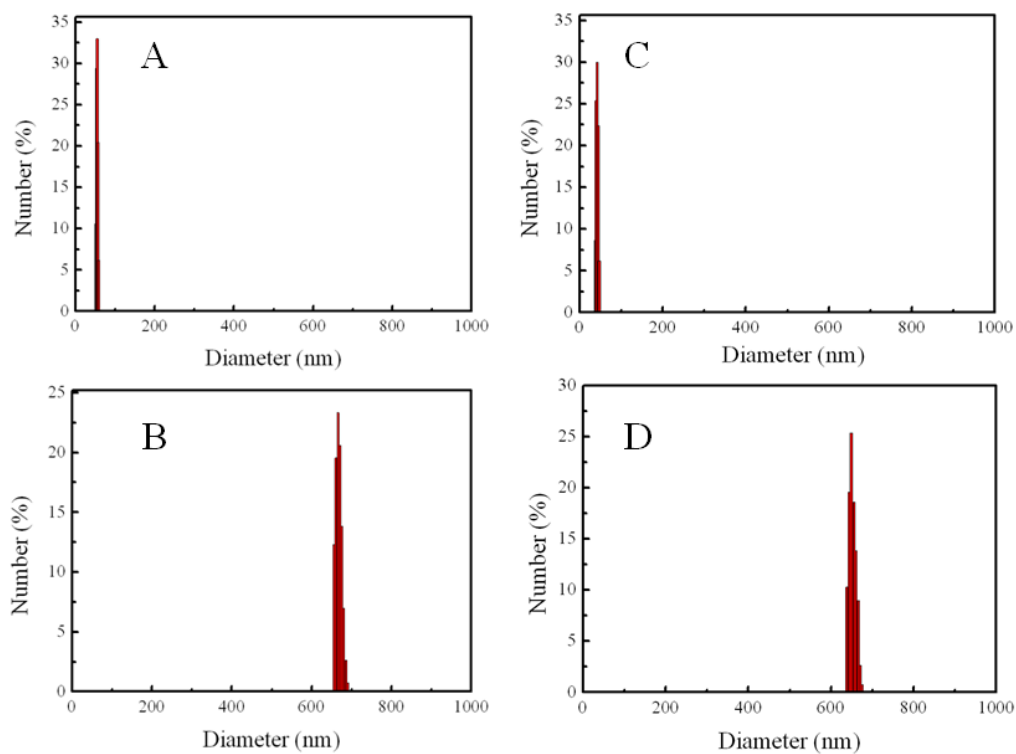


Figure S1. Particle size distribution of Tb-HDBB-CPNs (A, B) and Zn-HDBB-CPNs (C, D) stored for one month (A, C) and three months (B, D).

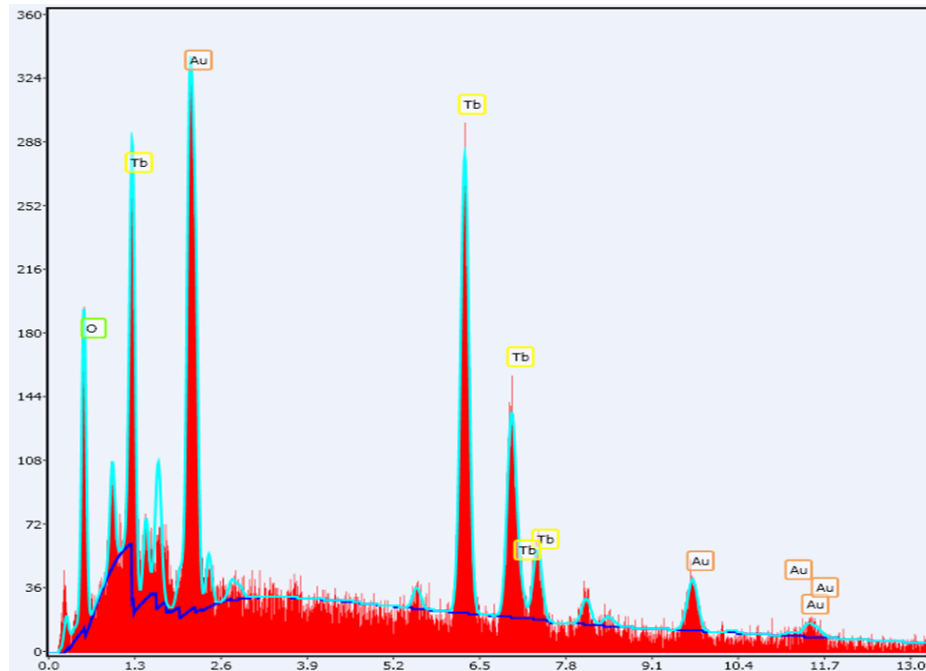


Figure S2. The EDX spectrum of Tb-HDBB-CPNs during SEM measurement.

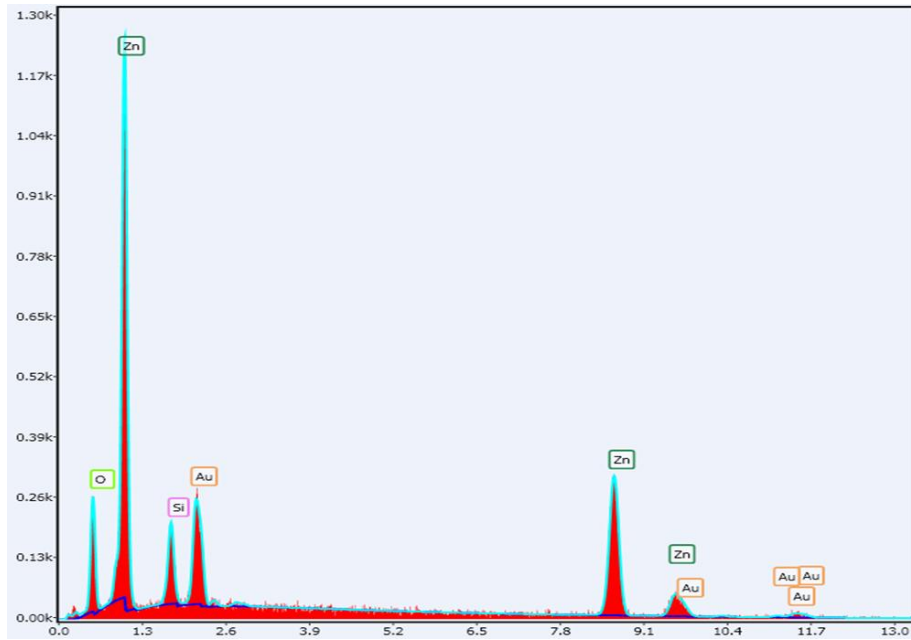


Figure S3. The EDX spectrum of Zn-HDBB-CPNs during SEM measurement.

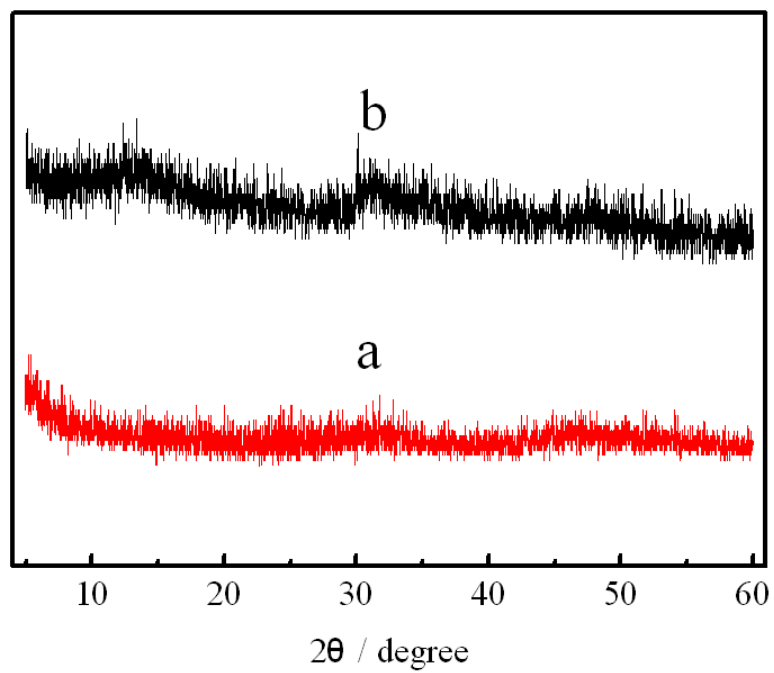


Figure S4. The XRD spectra of Tb-HDBB-CPNs (a) and Zn-HDBB-CPNs (b).

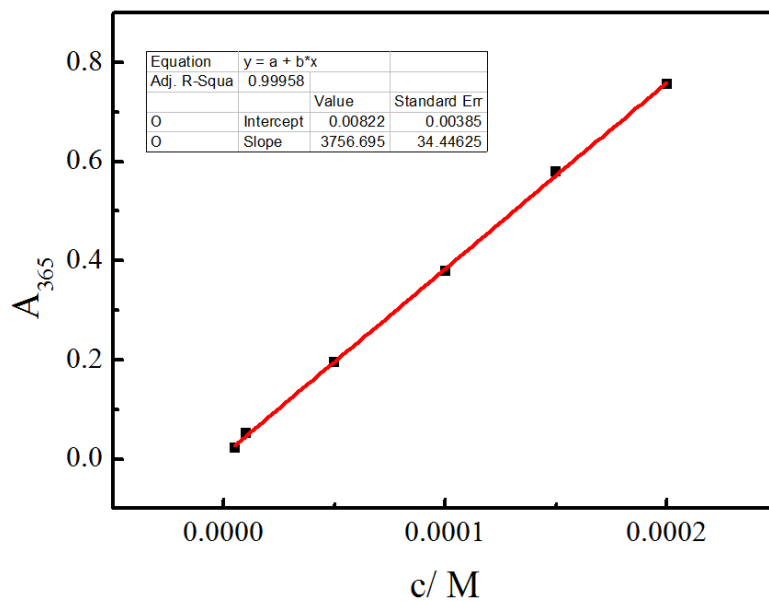


Figure S5. Standard curve of HDBB in pH 11.0 phosphate buffer solution by UV-Vis measurement.

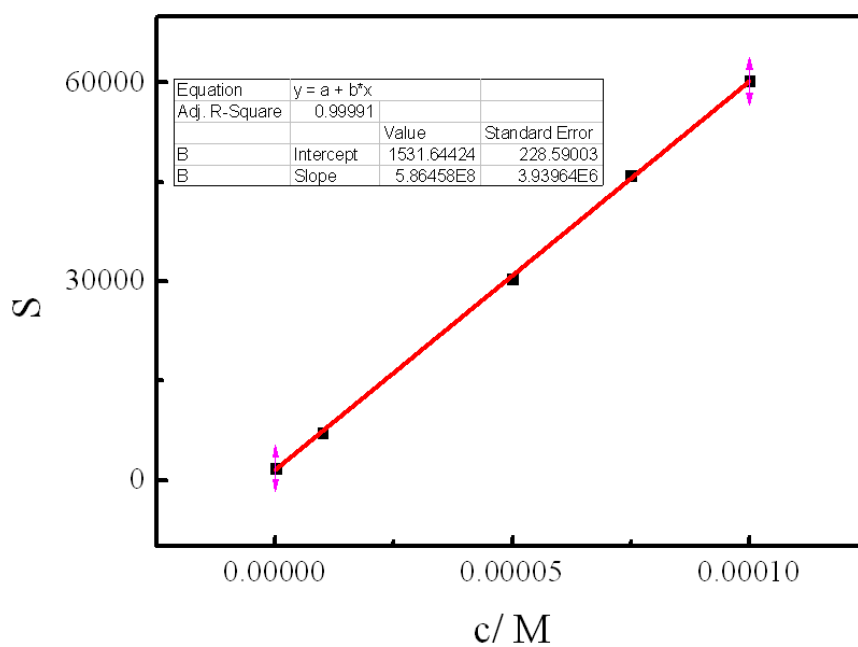


Figure S6. Standard curve of Tb^{3+} in pH 11.0 phosphate buffer solution by ICP measurement.

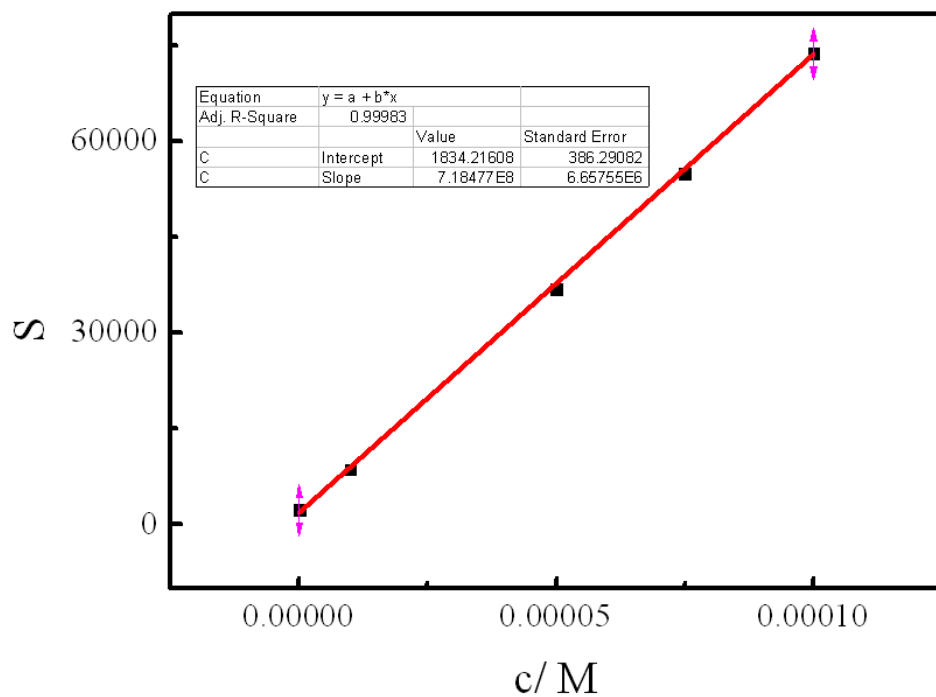


Figure S7. Standard curve of Zn^{2+} in pH 11.0 phosphate buffer solution by ICP measurement.

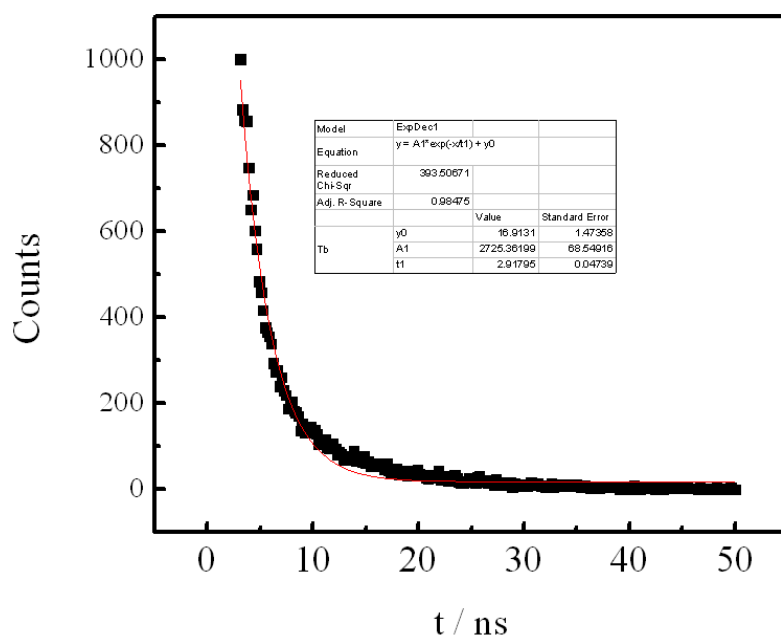


Figure S8. Emission lifetime spectrum of Tb-HDBB-CPNs in pH 7.0 Tri buffer solution.

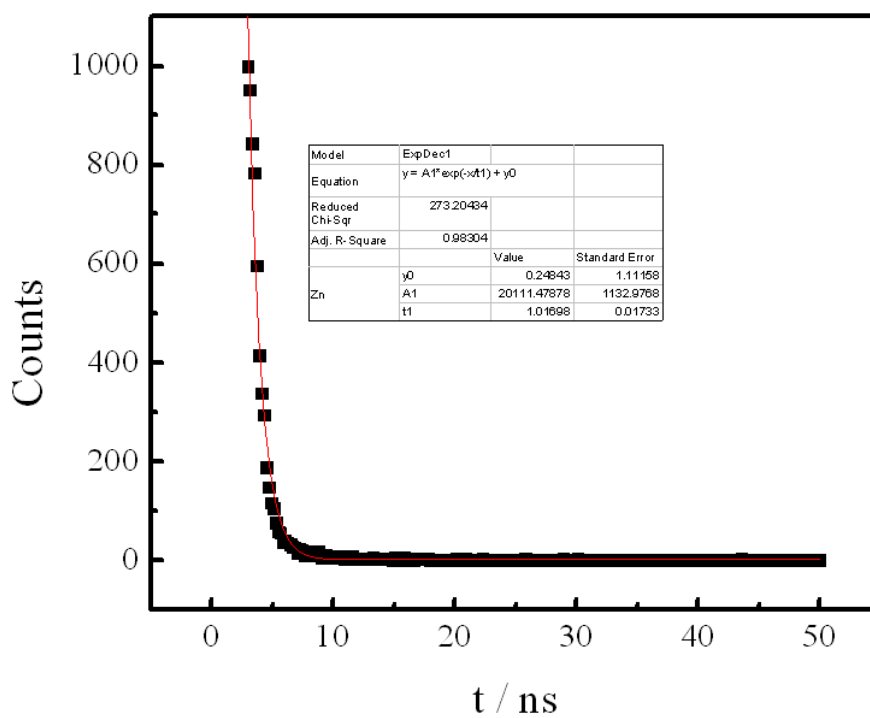


Figure S9. Emission lifetime spectrum of Zn-HDBB-CPNs in pH 7.0 Tri buffer solution.

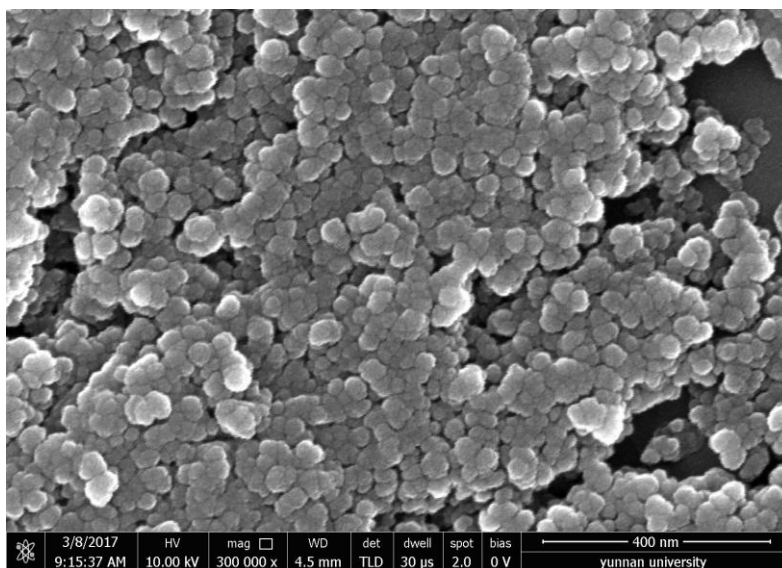


Figure S10. SEM image of Tb-HDBB-CPNs after cation exchanged by Zn^{2+} .

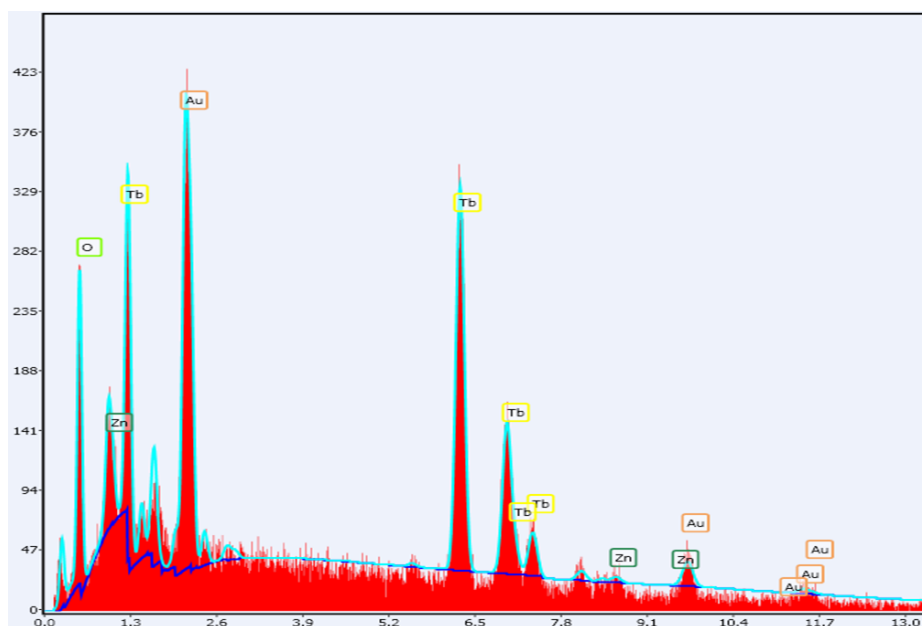


Figure S11. The EDX spectrum of Tb-HDBB-CPNs after cation exchanged by Zn^{2+} during SEM measurement.