

Fig. S1. ^1H NMR spectra (400 MHz) of **10** measured in $\text{DMSO-}d_6$.

Fig. S2. ^{13}C NMR spectra (100 MHz) of **10** measured in $\text{DMSO-}d_6$.

Fig. S3. (A) Job's plot showing the 1:1 complex between Al^{3+} and **10**; (B) Job's plot showing the 1:1 complex between Zn^{2+} and **10**.

Fig. S4. The limit of detection (LOD) and Hildebrand-Benesi plot for **10** in methanol (2.0×10^{-5} mol L^{-1}): (A) Hildebrand-Benesi plot based on the 1:1 for **10**, the association constant of **10** with Al^{3+} was calculated to be 2.7×10^4 $\text{L}\cdot\text{mol}^{-1}$; (B) Hildebrand-Benesi plot based on the 1:1 for **10**, the association constant of **10** with Zn^{2+} was calculated to be 1.98×10^5 $\text{L}\cdot\text{mol}^{-1}$; (C) LOD for Al^{3+} was 6.7×10^{-9} mol L^{-1} . (D) LOD for Zn^{2+} was 3.7×10^{-8} mol L^{-1} .

Fig. S5 (A) Mass spectra showing the 1:1 complex of **10** and $\text{Al}^{3+}/\text{Zn}^{2+}$: the mass spectra of **10'** and **10''**.

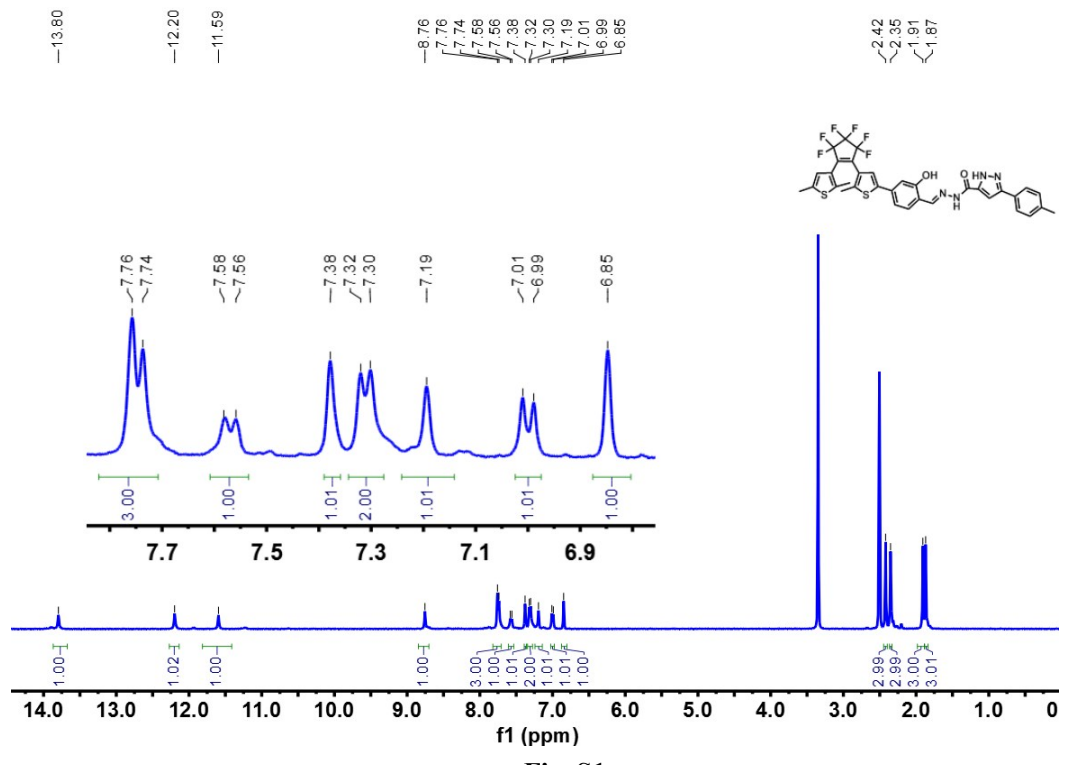


Fig. S1

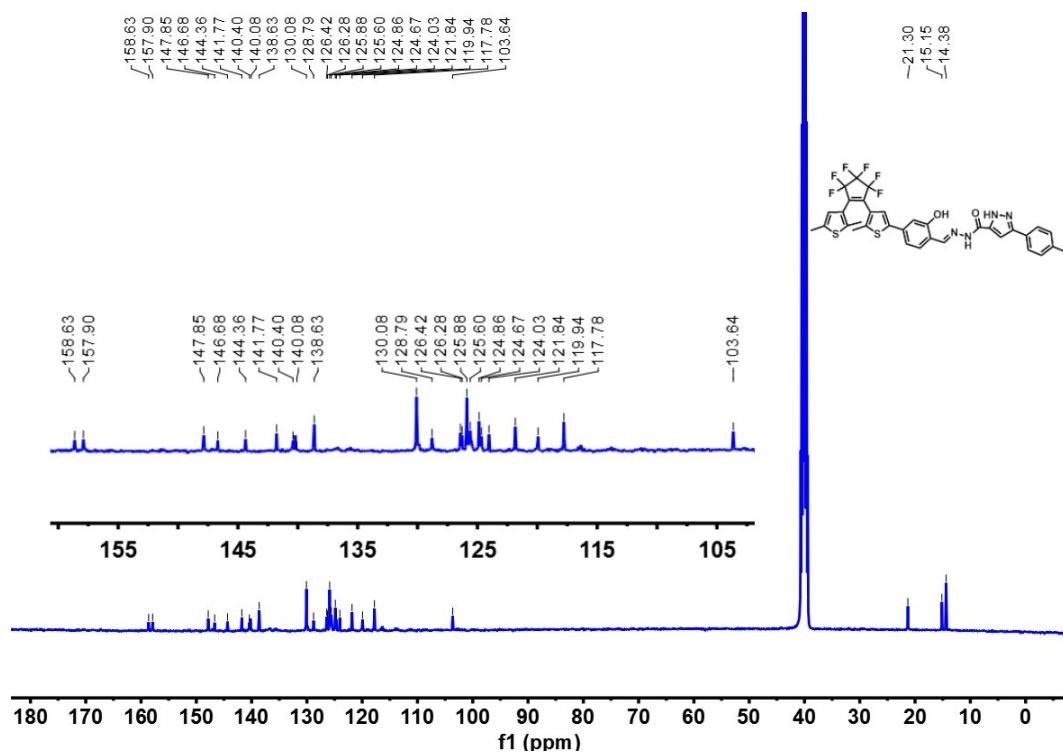
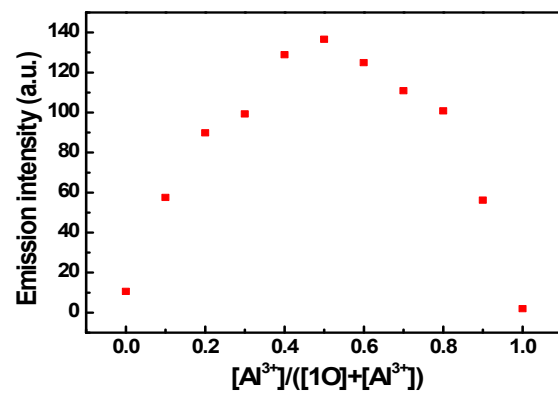
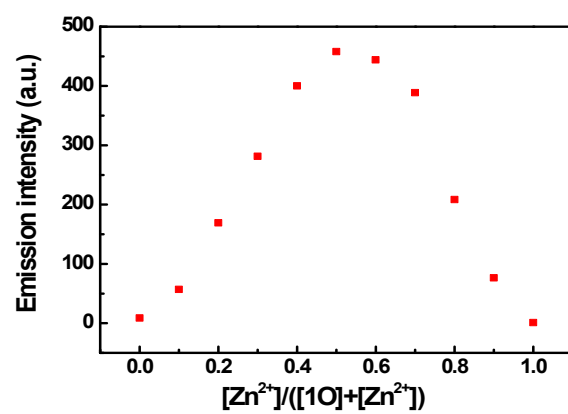


Fig. S2



(A)



(B)

Fig. S3

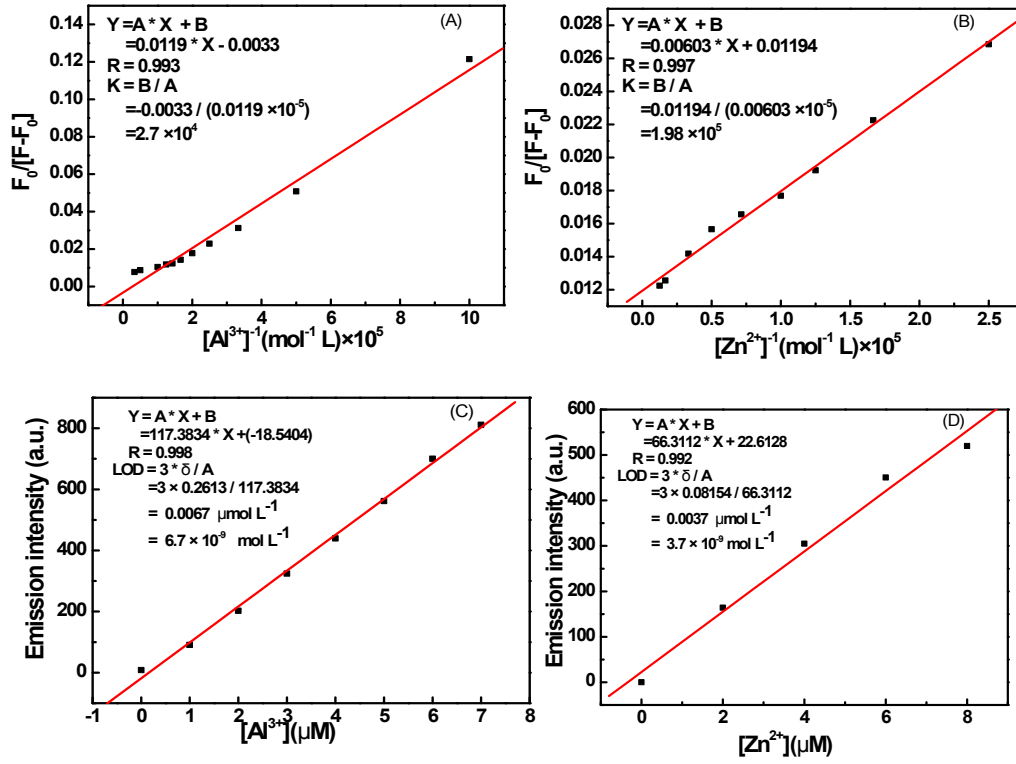


Fig. S4

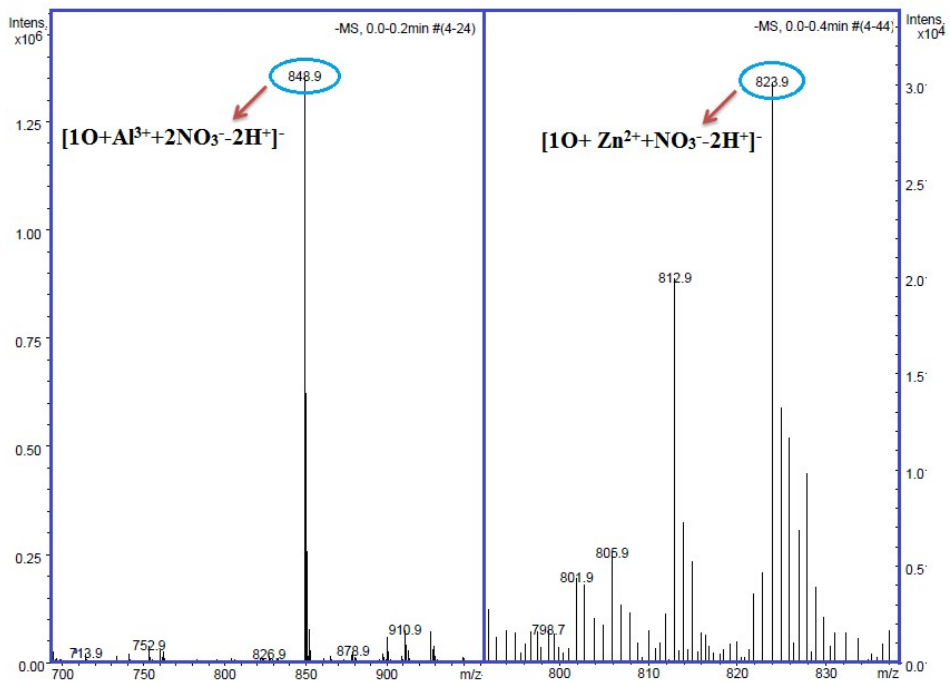


Fig. S5