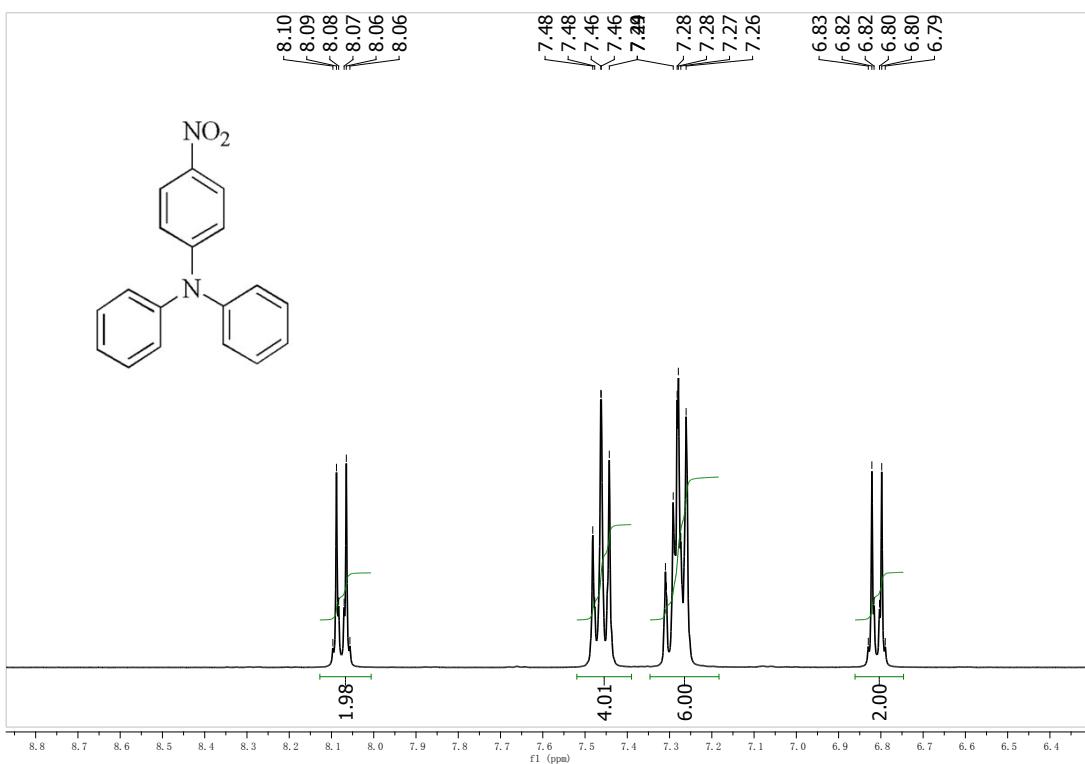


## Supporting Information

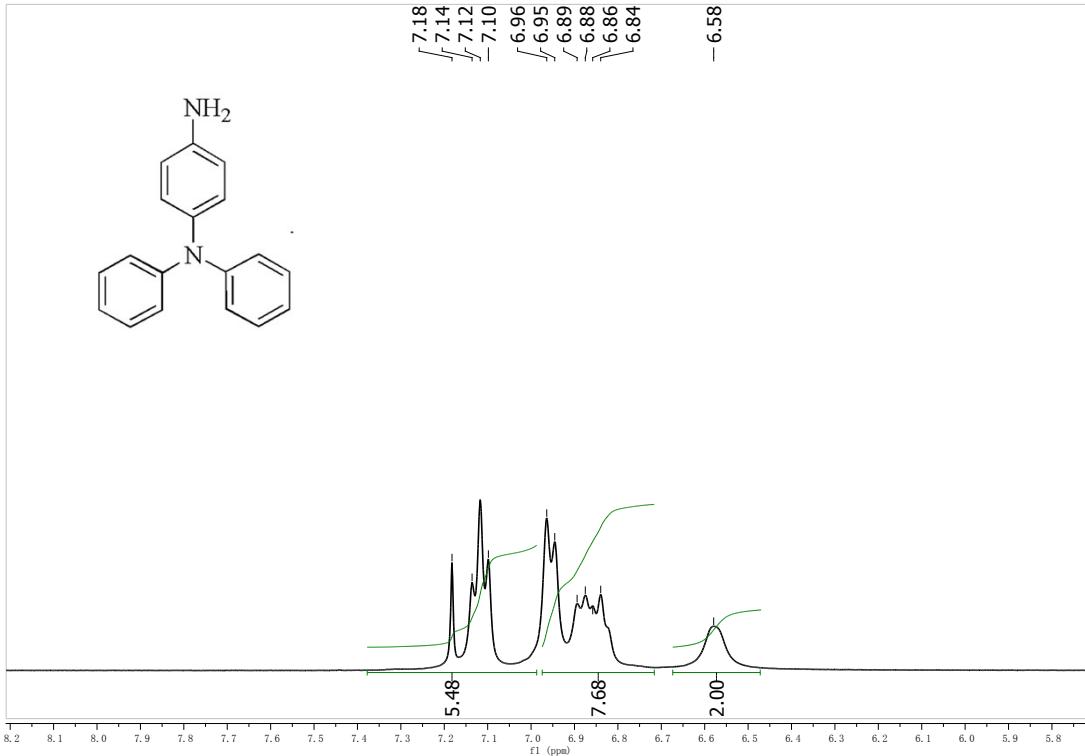
### **New conjugated poly(pyridinium salt) derivative: AIE characteristics, the interaction with DNA and selective fluorescence enhancement induced by dsDNA**

Ying Chang, Lu Jin, Jingjing Duan, Qiang Zhang, Jing Wang and Yan Lu\*

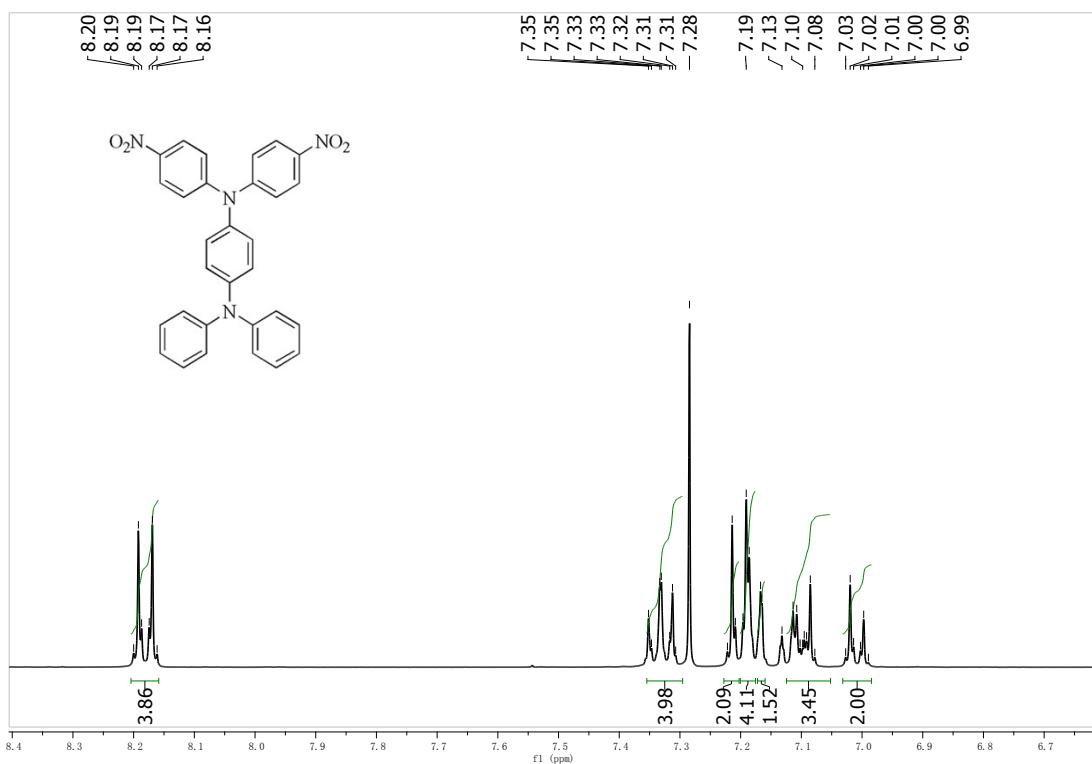
Tianjin Key Laboratory for Photoelectric Materials and Devices, School of Materials Science & Engineering, Tianjin University of Technology, Tianjin, 300384, China. E-mail: luyan@tjut.edu.cn



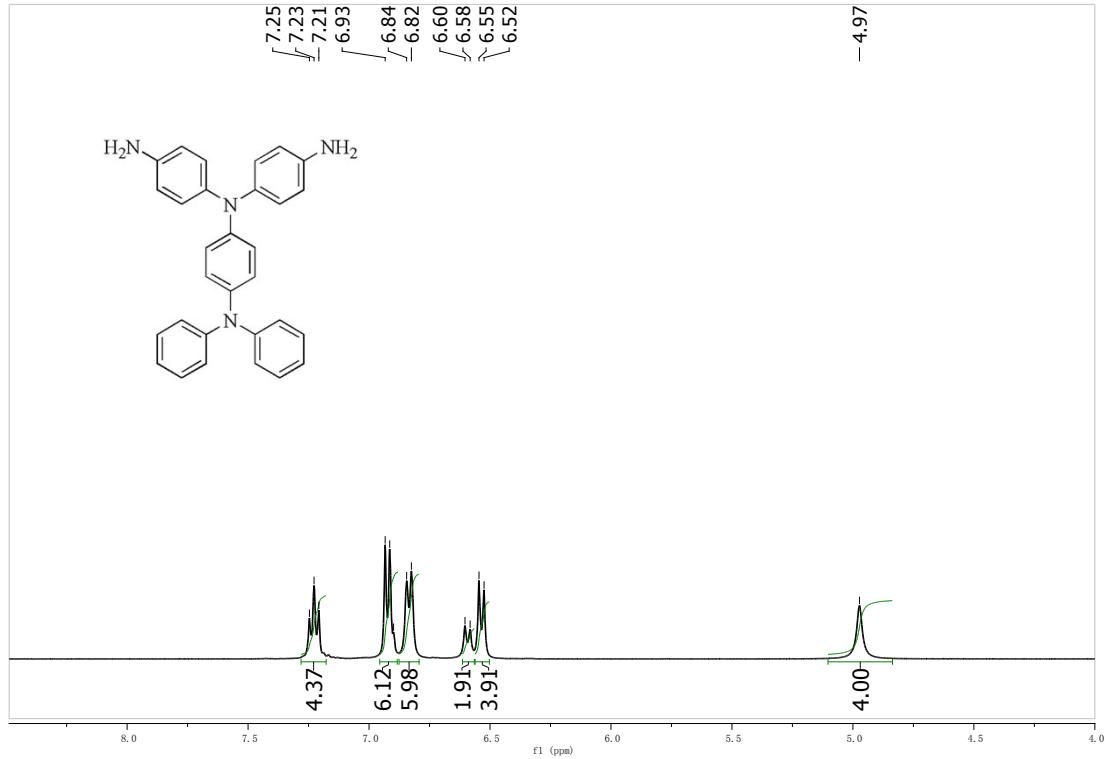
**Fig. S1:** <sup>1</sup>H NMR of compound 1.



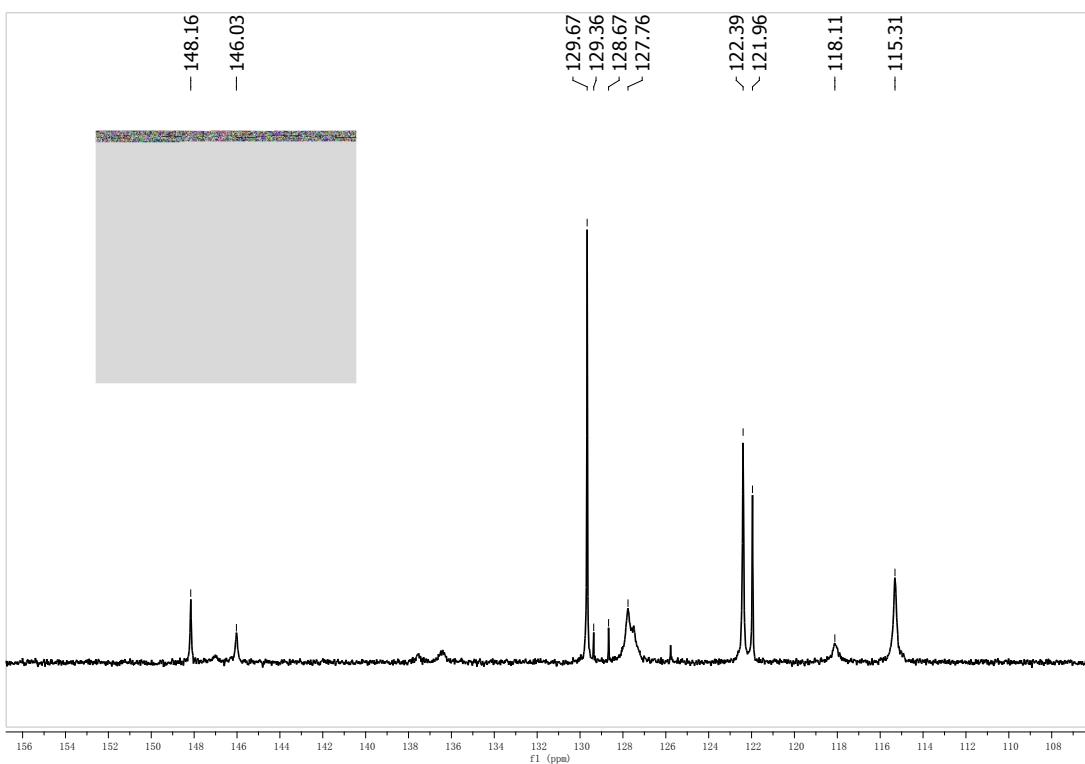
**Fig. S2:** <sup>1</sup>H NMR of compound 2.



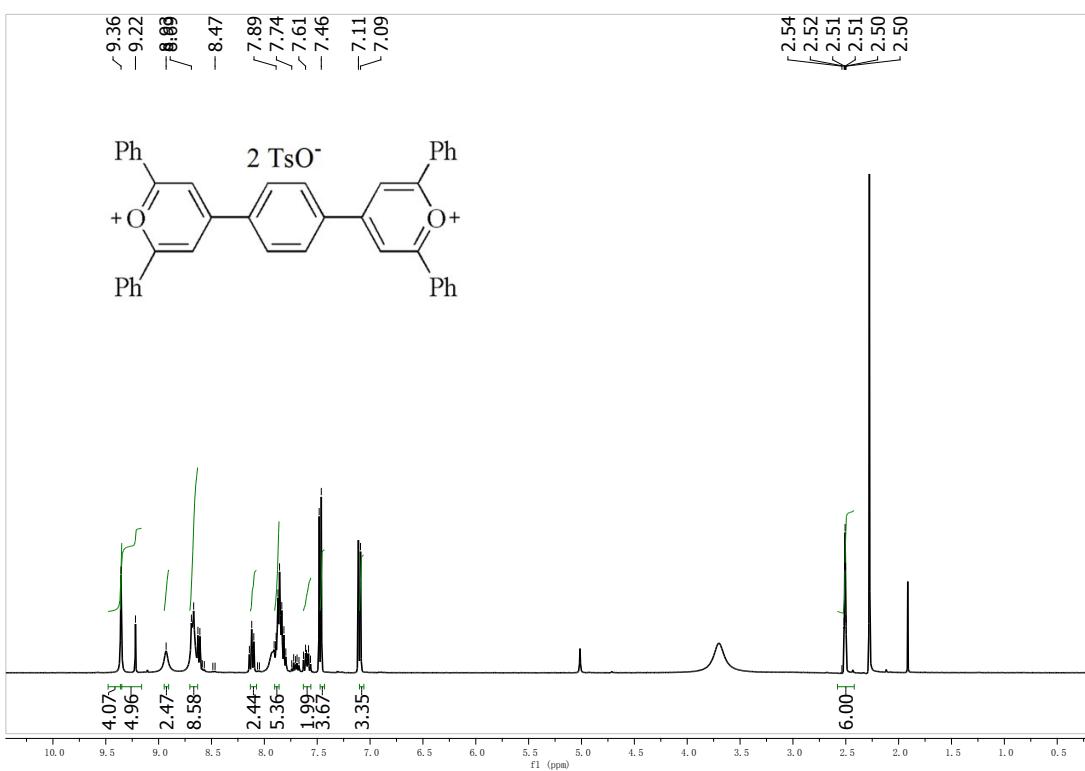
**Fig. S3:** <sup>1</sup>H NMR of compound 3.



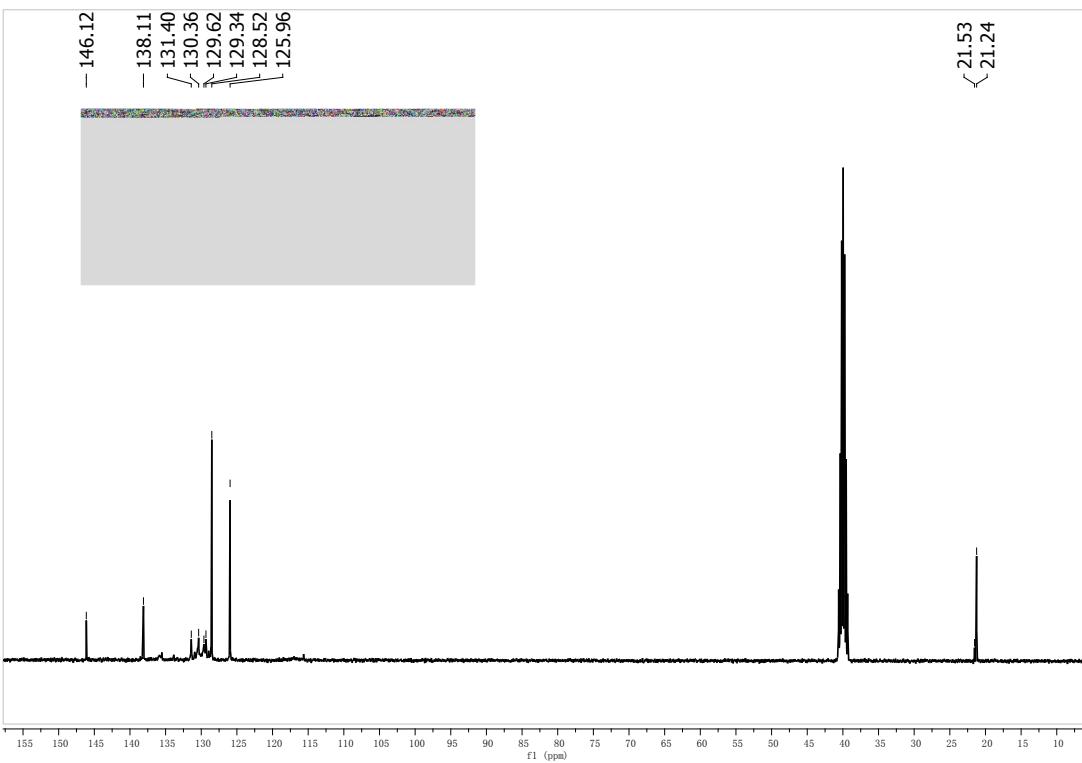
**Fig. S4:** <sup>1</sup>H NMR of compound 4.



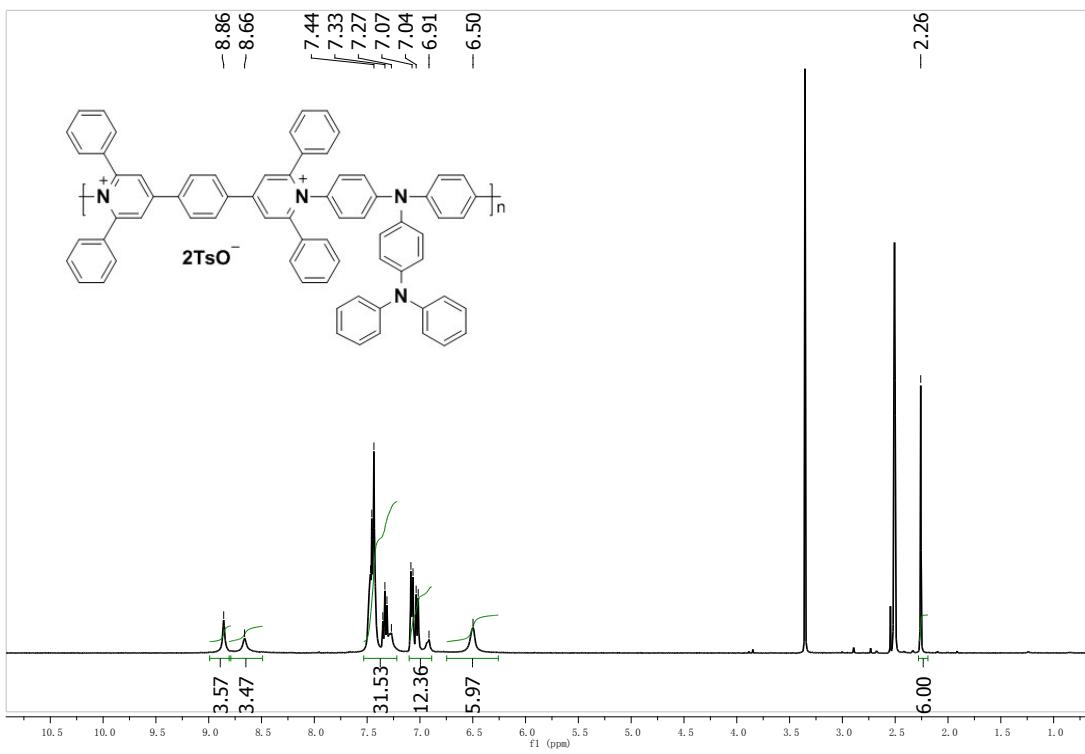
**Fig. S5:**  $^{13}\text{C}$  NMR of compound 4.



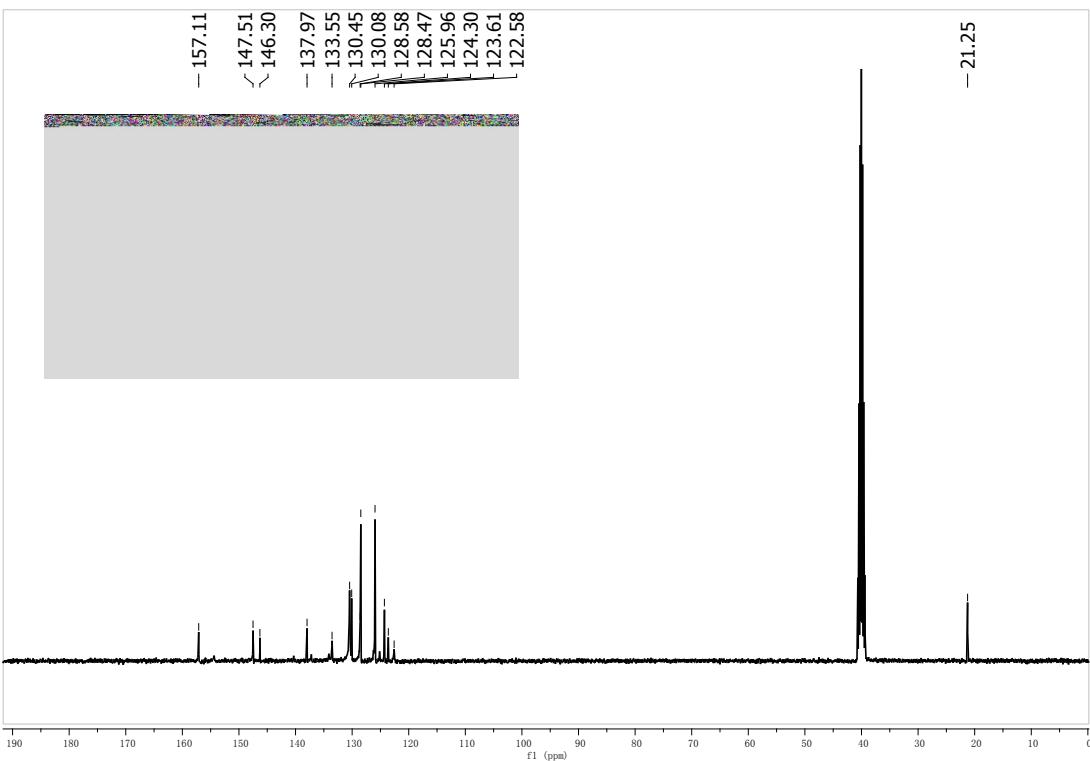
**Fig. S6:**  $^1\text{H}$  NMR of compound 5.



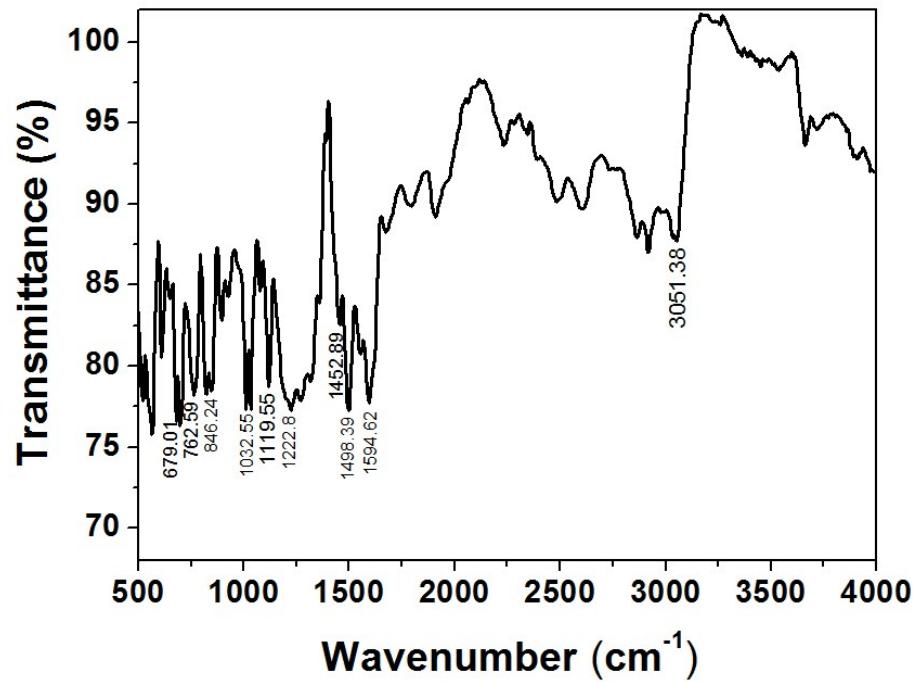
**Fig. S7:**  $^{13}\text{C}$  NMR of compound 5.



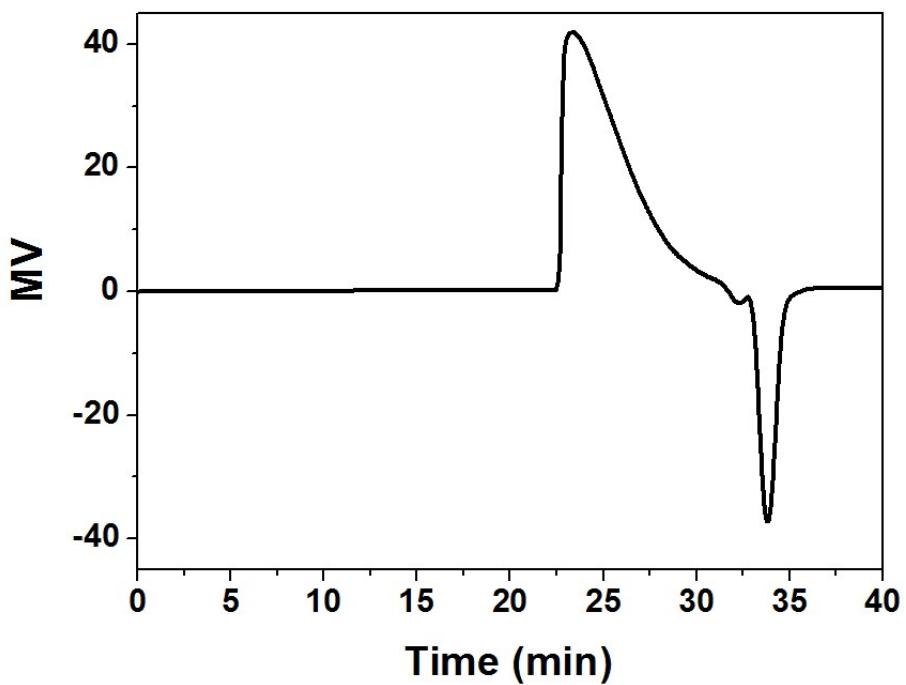
**Fig. S8:**  $^1\text{H}$  NMR of polymer L.



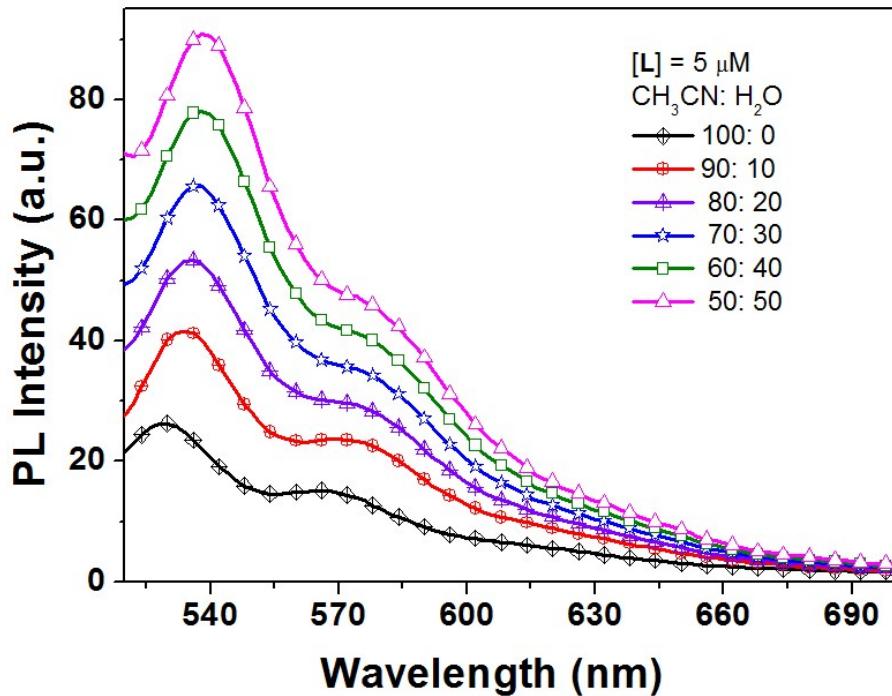
**Fig. S9:** <sup>13</sup>C NMR of polymer L.



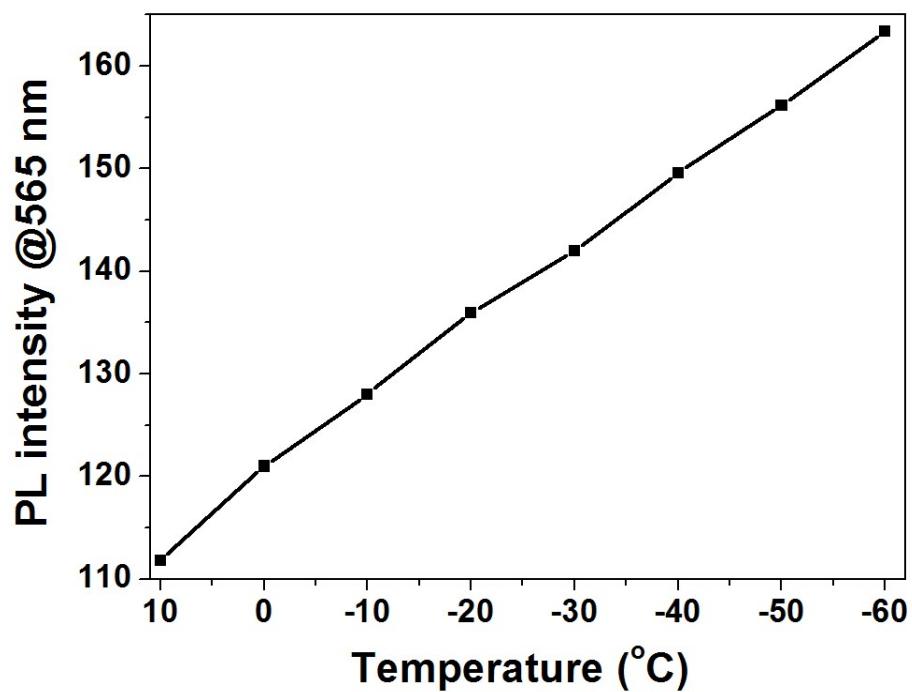
**Fig. S10:** FT-IR of polymer L.



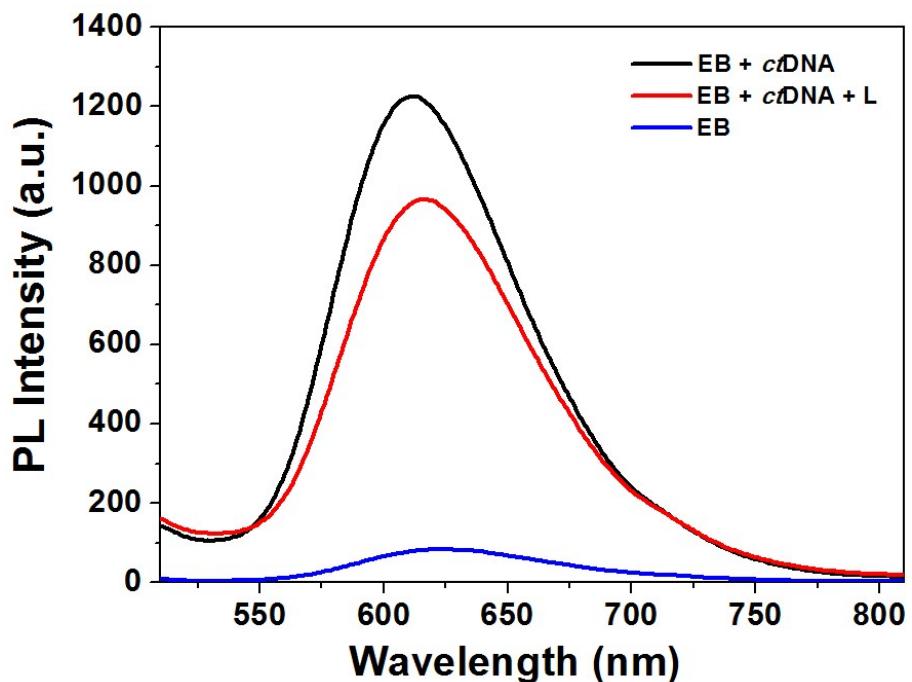
**Fig. S11:** GPC curve of polymer **L**.



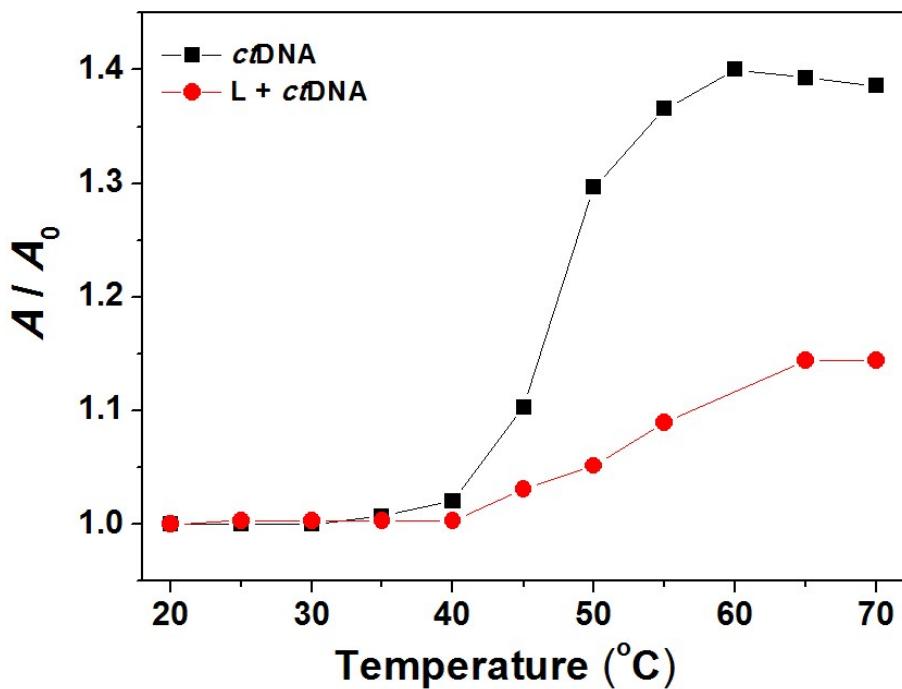
**Fig. S12:** Photoluminescent emission spectra of **L** (5  $\mu$ M) in CH<sub>3</sub>CN/water with different ratios (v/v %; excited at 430 nm).



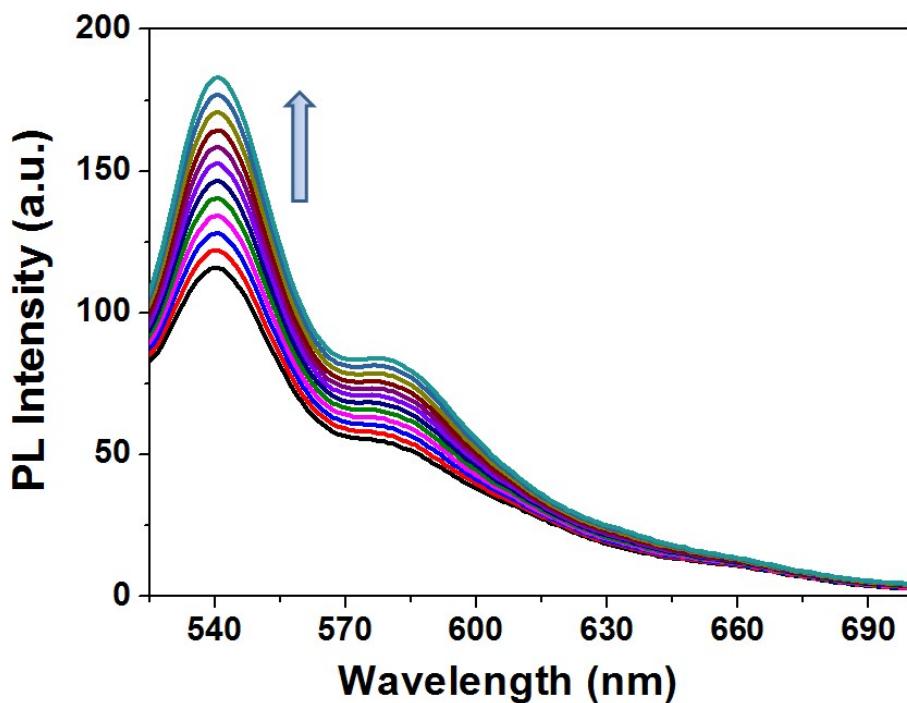
**Fig. 13:** Effect of temperature on PL intensity of **L** in DMF.  $[L] = 5 \mu\text{M}$ .



**Fig. 14:** Fluorescent spectra of EB, EB and 10 equiv of *ctDNA*, and EB, 10 equiv *ctDNA* and 10 equiv of **L** in  $\text{CH}_3\text{CN-H}_2\text{O}$  (v/v 1:1).  $\lambda_{\text{ex}} = 430 \text{ nm}$ .  $[\text{EB}] = 5 \mu\text{M}$ .



**Fig. S15:** *ctDNA* (25  $\mu\text{M}$ ) melting curves at 260 nm in the absence and presence of **L** (5  $\mu\text{M}$ ) in  $\text{CH}_3\text{CN}-\text{H}_2\text{O}$  (v/v 1:1).  $A_0$  and  $A$  denote the initial absorbance and the recorded absorbance at different temperatures, respectively.



**Fig. S16:** Fluorescent titration spectra of **L** (5  $\mu\text{M}$ ) in  $\text{CH}_3\text{CN}-\text{H}_2\text{O}$  (v/v 1:1) in the presence of ssDNA<sub>1</sub> at different concentrations ranging from 0 to 25  $\mu\text{M}$  ( $\lambda_{\text{ex}} = 430$  nm).