

Supporting Information

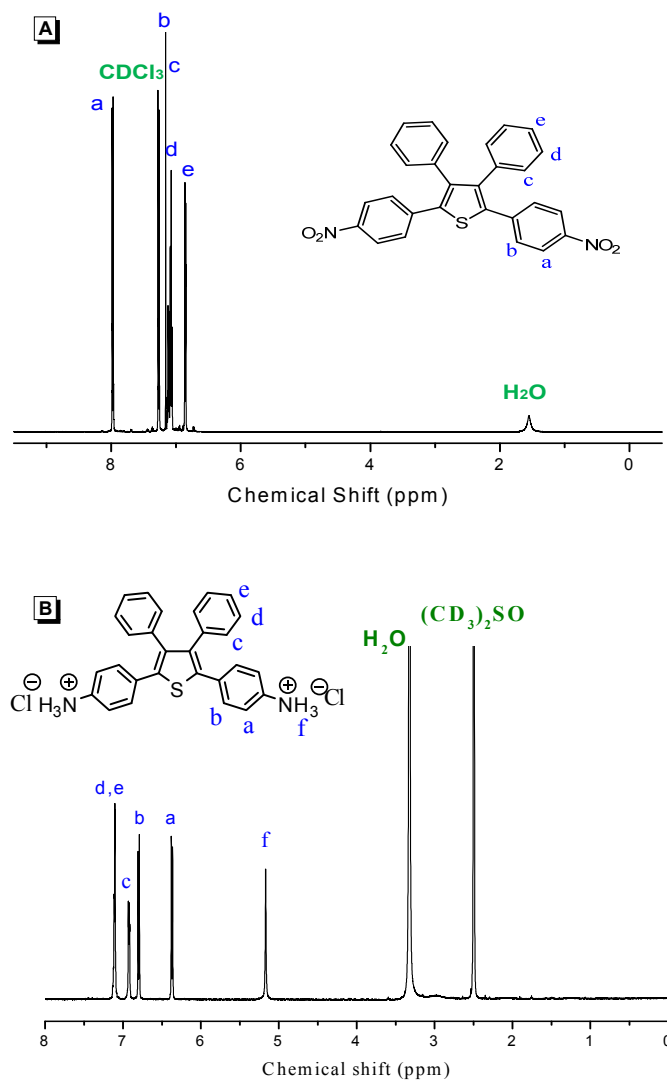
**Complexing AIEE-active tetraphenylthiophene fluorophore to  
poly(*N*-isopropyl acrylamide): fluorescence responses toward acid,  
base and metal ions**

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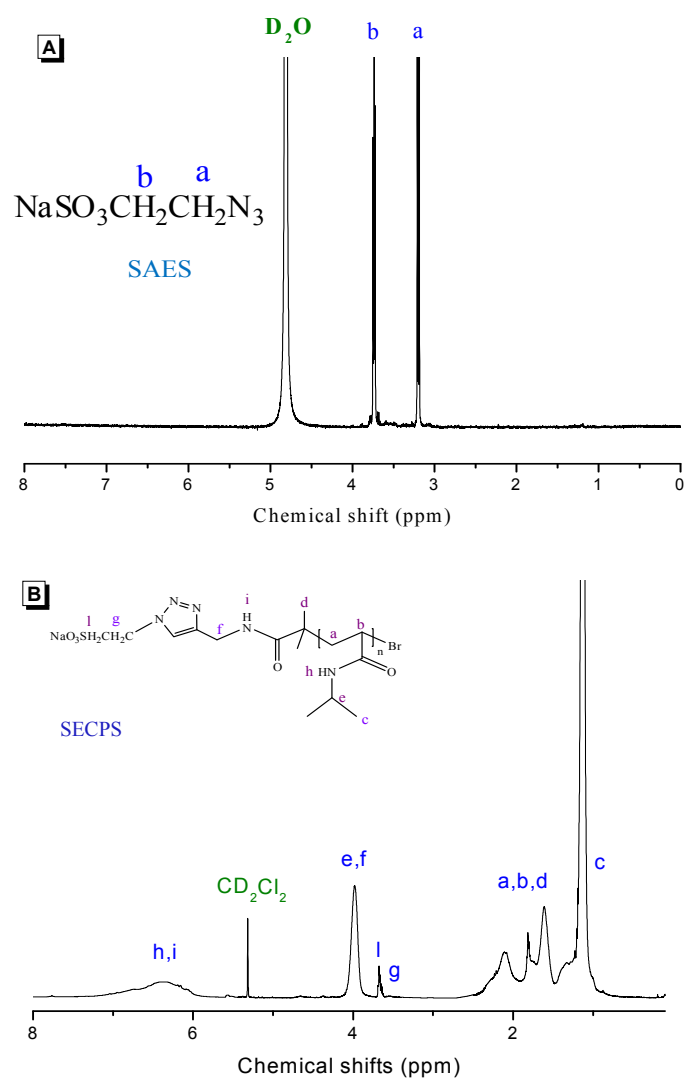
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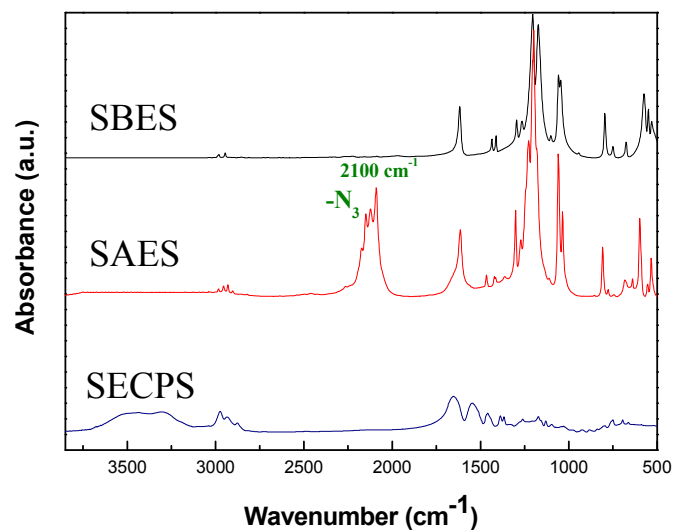
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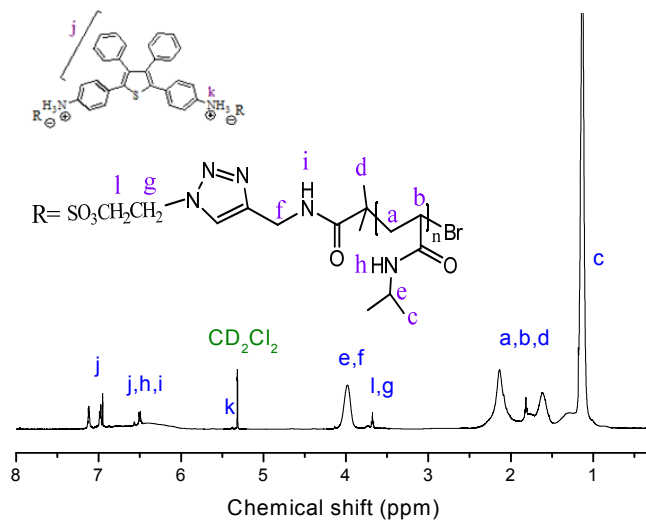
**Fig. S1**  $^1\text{H}$  NMR spectrum of (A) TP2NO<sub>2</sub> (CDCl<sub>3</sub>) and (B) TP2NH<sub>3</sub><sup>+</sup> (DMSO-d<sub>6</sub>).



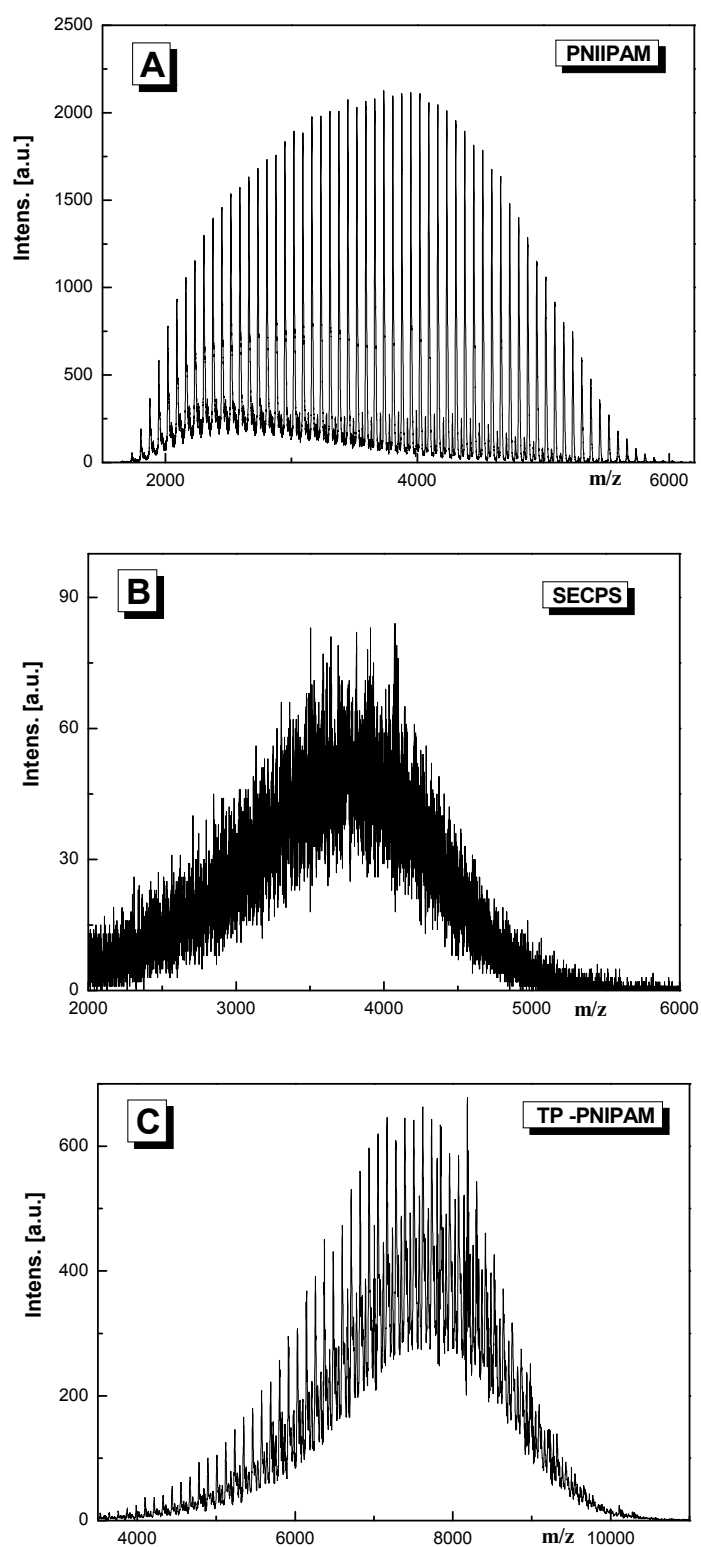
**Fig. S2**  $^1\text{H}$  NMR spectrum of (A) SAES ( $\text{D}_2\text{O}$ ) and (B) SECPS ( $\text{CD}_2\text{Cl}_2$ ).



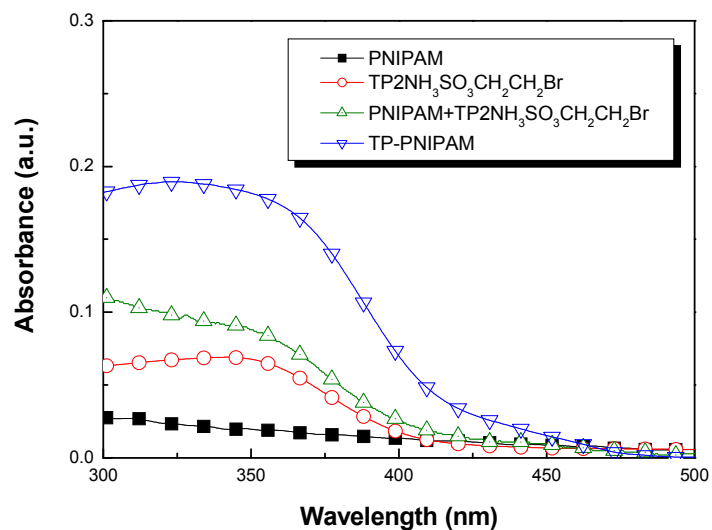
**Fig. S3** FT-IR spectra of SBES, SAES and SECPS.



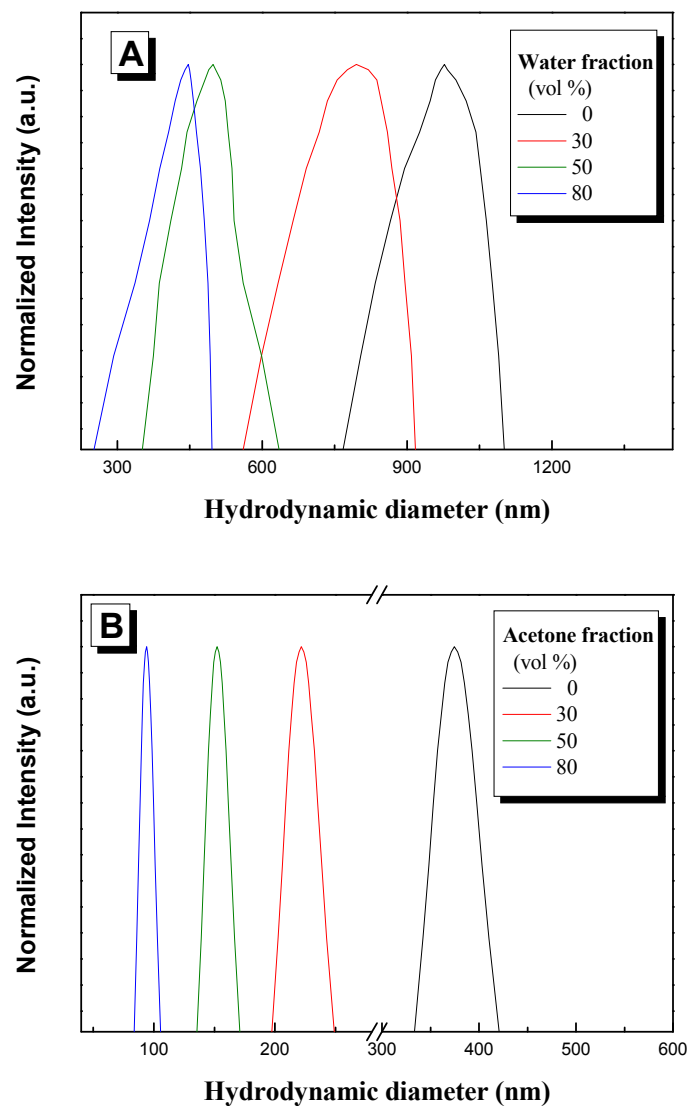
**Fig. S4** The <sup>1</sup>H NMR spectrum of TP-PNIPAM (CD<sub>2</sub>Cl<sub>2</sub>).



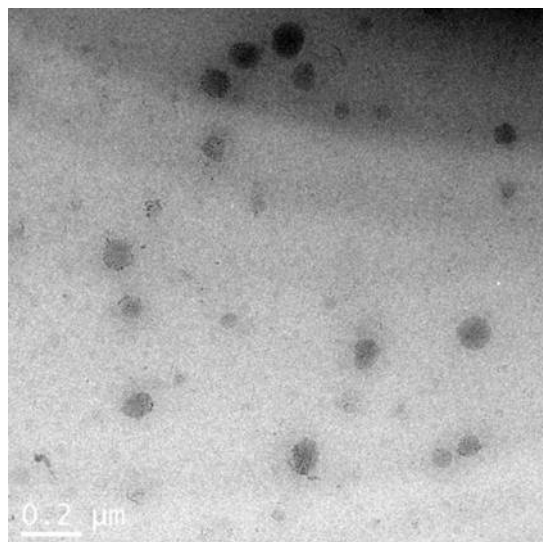
**Fig. S5** Mass spectra of (A) PNIPAM, (B) SECPS and (C) TP-PNIPAM.



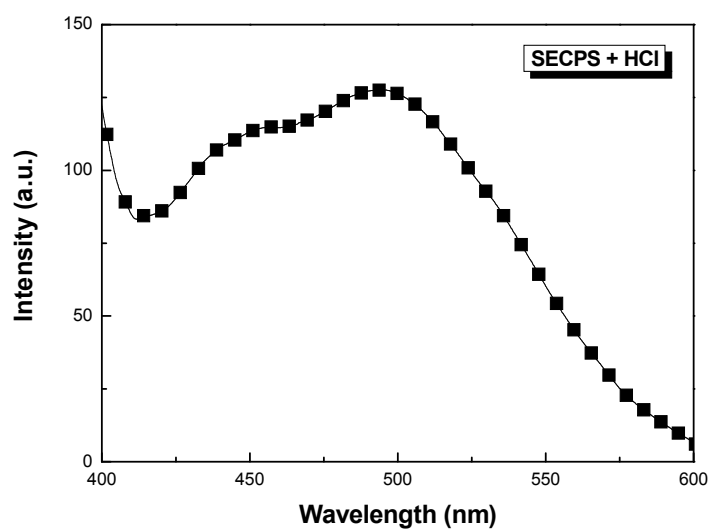
**Fig. S6** The UV-vis absorption spectra of aqueous PNIPAM solution ( $1.7 \times 10^{-4}$  M), solution of TP2NH<sub>3</sub>SO<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>Br ( $10^{-5}$  M) in DMF, TP2NH<sub>3</sub>SO<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>Br ( $10^{-5}$  M) in PNIPAM ( $1.7 \times 10^{-4}$  M), and DMSO solution of TP-PNIPAM ( $1.26 \times 10^{-4}$  M).



**Fig. S7** Histograms of (A) TP2NH<sub>3</sub><sup>+</sup> solutions in THF/water and (B) TP-PNIPAM (10<sup>-5</sup> M) in ethanol/acetone mixtures of different water and acetone contents.



**Fig. S8** TEM image of micelles cast from the dilute aqueous solution of TP-PNIPAM. ([TP-PNIPAM] =  $1.335 \times 10^{-4}$  M)



**Fig. S9** FL emission spectrum of the aqueous solution of SECPS at pH = 2. ([SECPS] =  $2.829 \times 10^{-4}$  M;  $\lambda_{\text{ex}} = 350$  nm).