Electronic Supporting Information for

Poly(phenylene-ethynylene-*alt*-tetraphenylethene) Copolymers: Aggregation Enhanced Emission, Induced Circular Dichromism, Tunable Surface Wettability and Sensitive Explosive Detection

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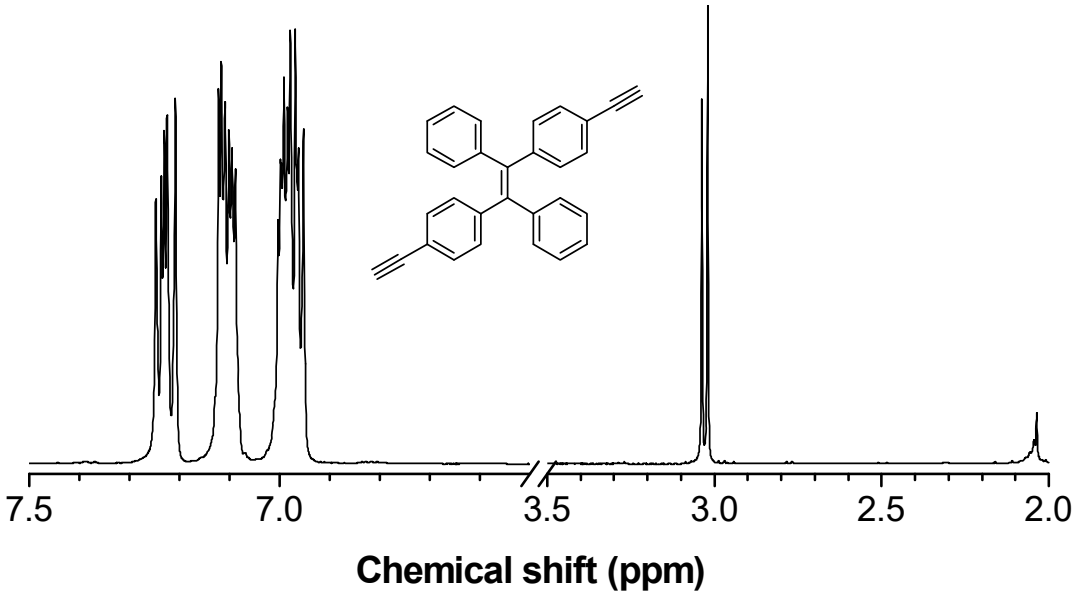

Figure S1. ^{1}H NMR spectrum of **BETPE** in $CDCl_3$.

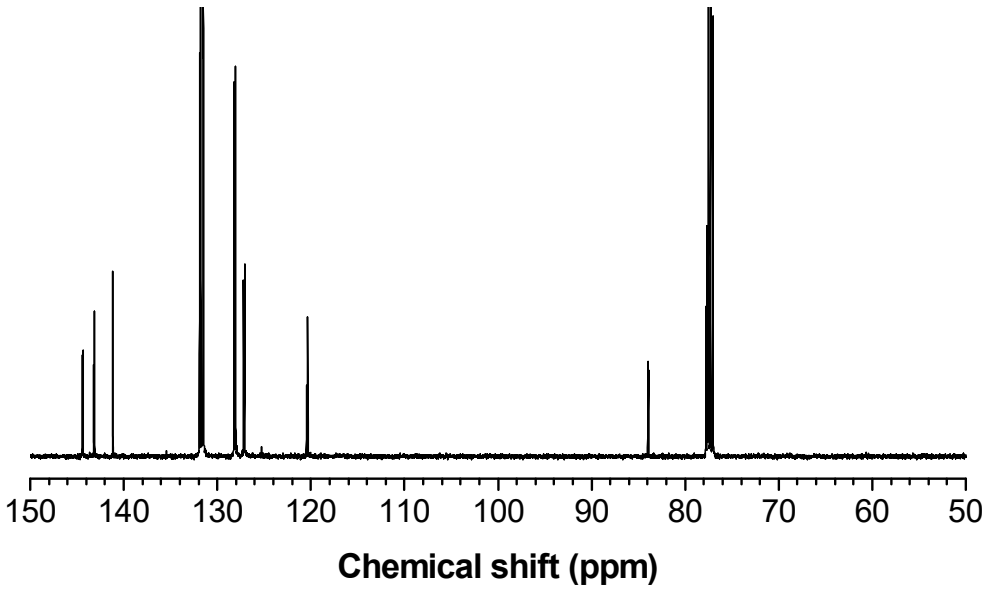

Figure S2. ^{13}C NMR spectrum of **BETPE** in $CDCl_3$.

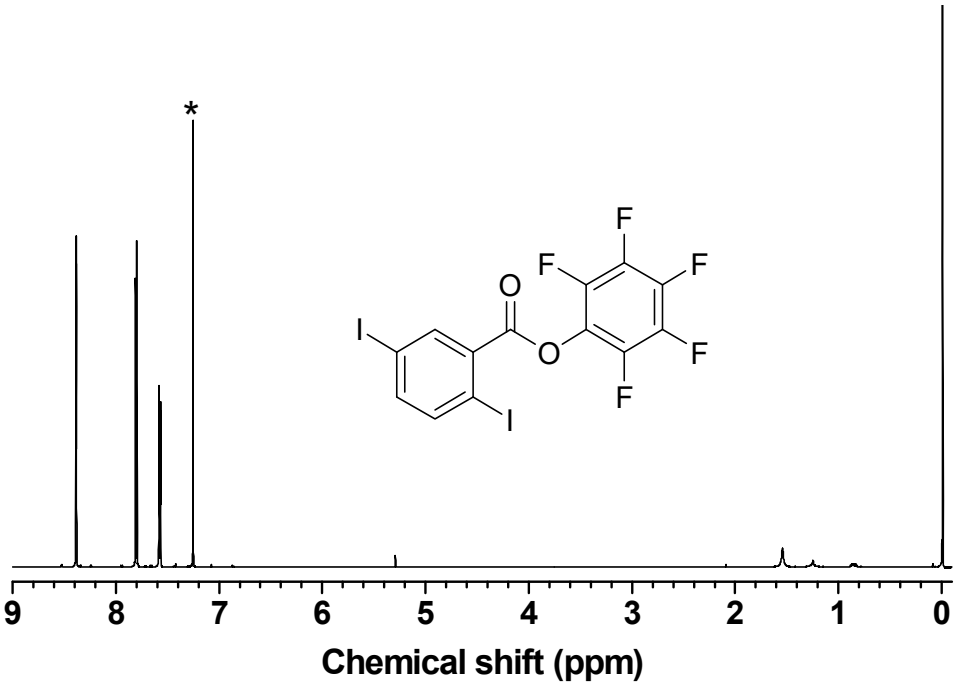

Figure S3. ^{1}H NMR spectrum of **PFDI** in $CDCl_3$. The solvent peak was marked with asterisks.

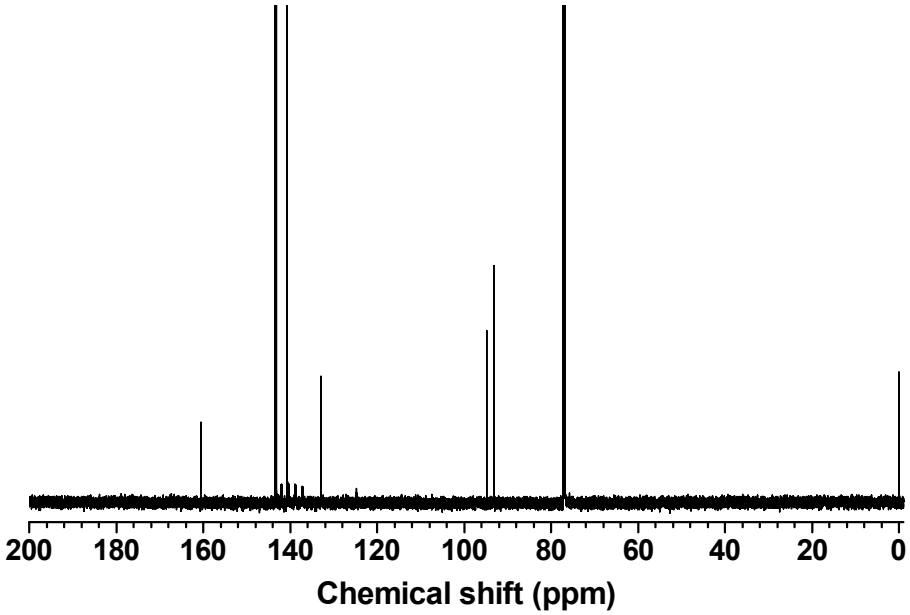

Figure S4. ^{13}C NMR spectrum of **PFDI** in $CDCl_3$.

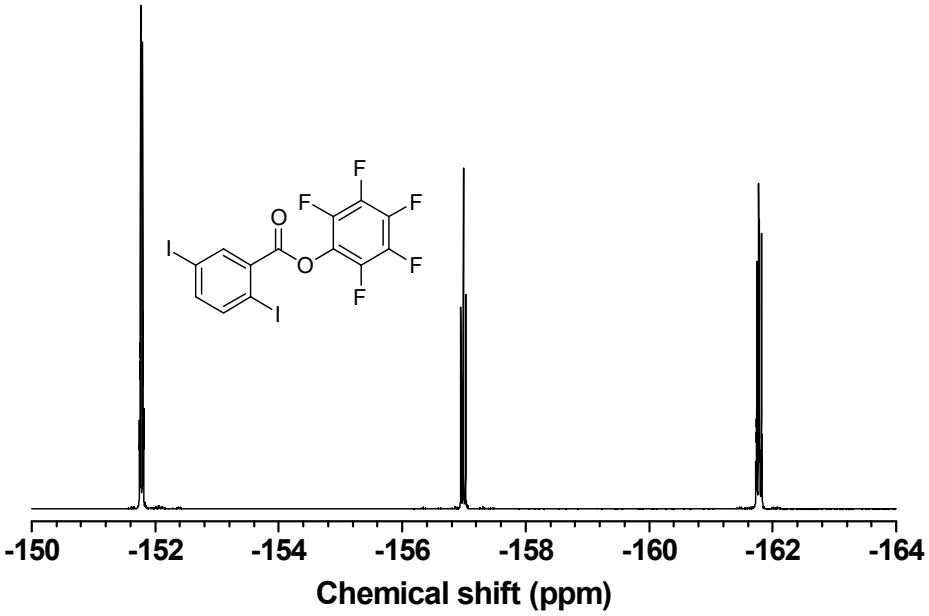

Figure S5. ^{19}F NMR spectrum of **PFDI** in $CDCl_3$.

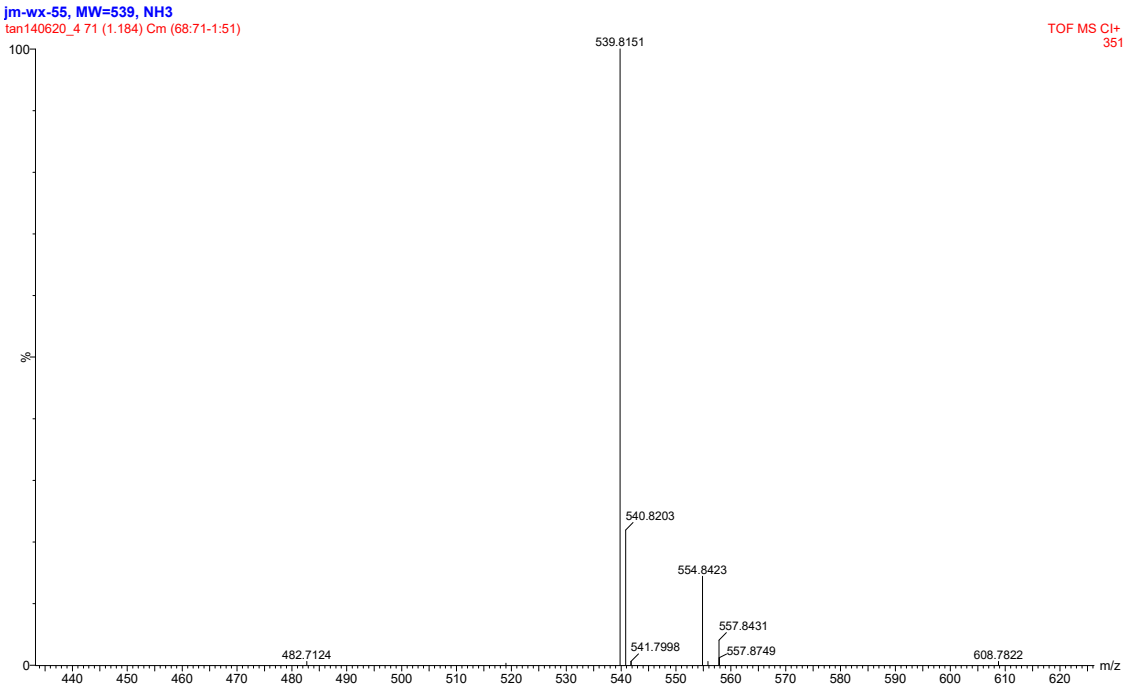

Figure S6. HRMS of the **PFDI**. Calculated: 539.8143. Found: 539.8151

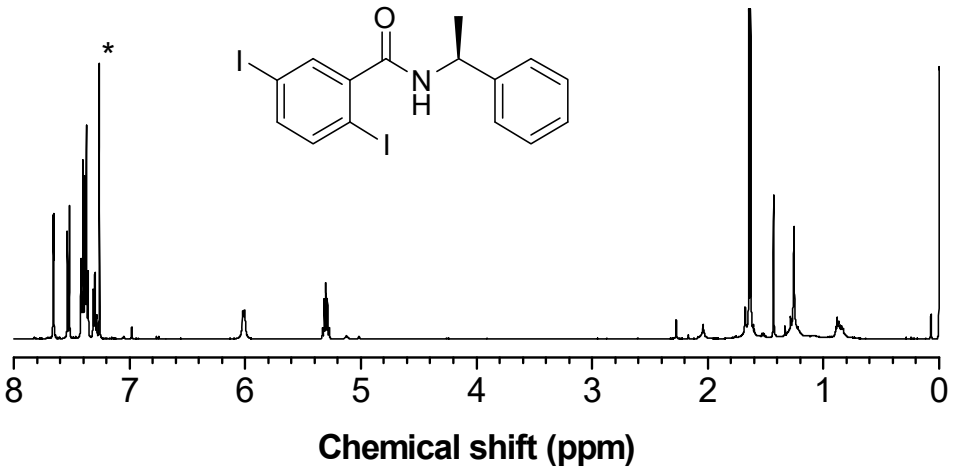

Figure S7. ^{1}H NMR spectrum of the model compound in $CDCl_3$. The solvent peak was marked with asterisks.

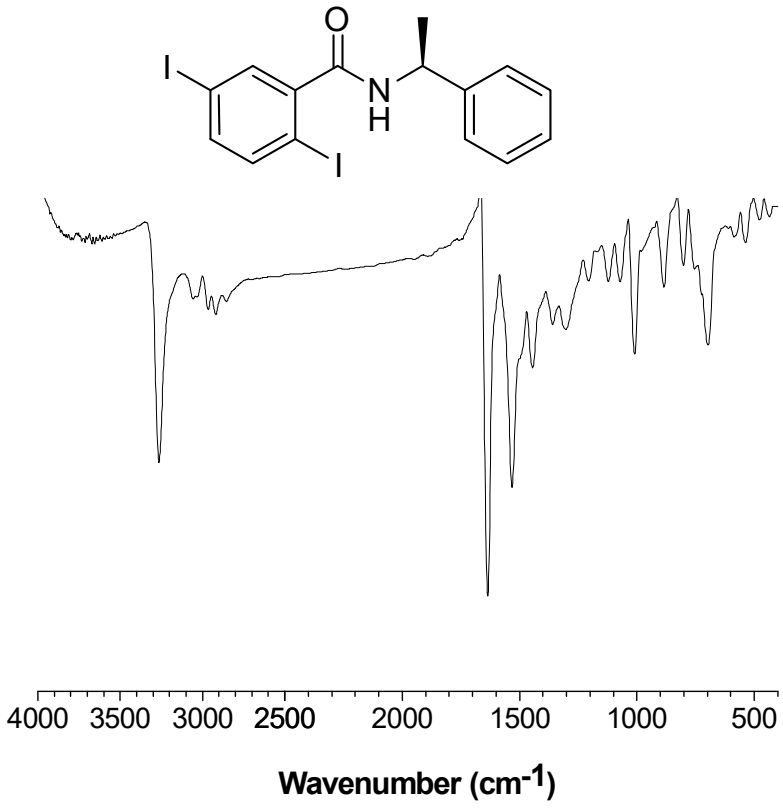

Figure S8. FTIR spectrum of the model compound.

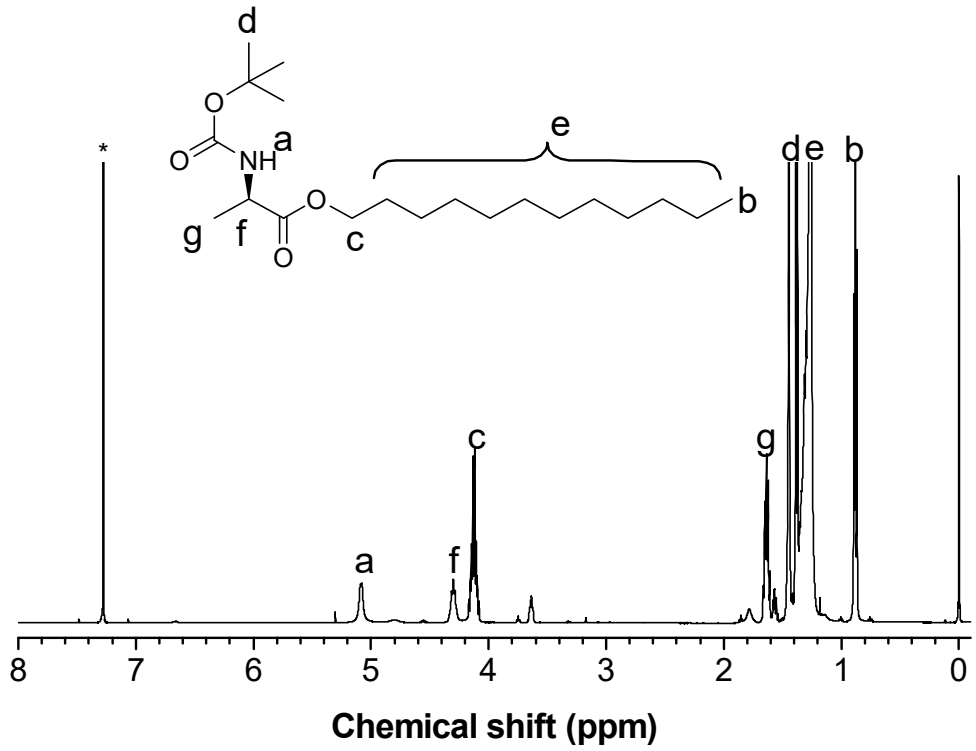

Figure S9. ^{1}H NMR spectrum of intermediate in $CDCl_3$. The solvent peak was marked with asterisks.

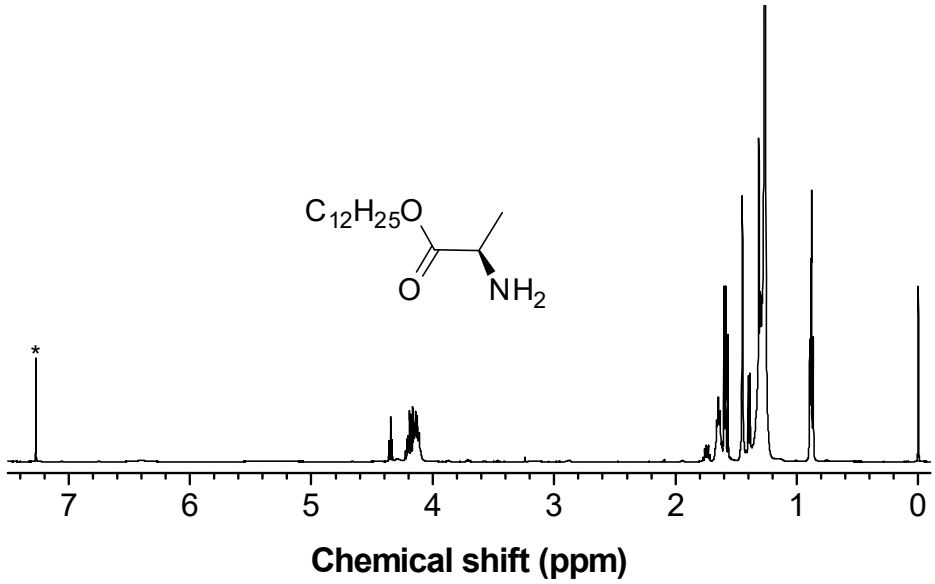

Figure S10. ^{1}H NMR spectrum of **M1** in $CDCl_3$. The solvent peak was marked with asterisks.

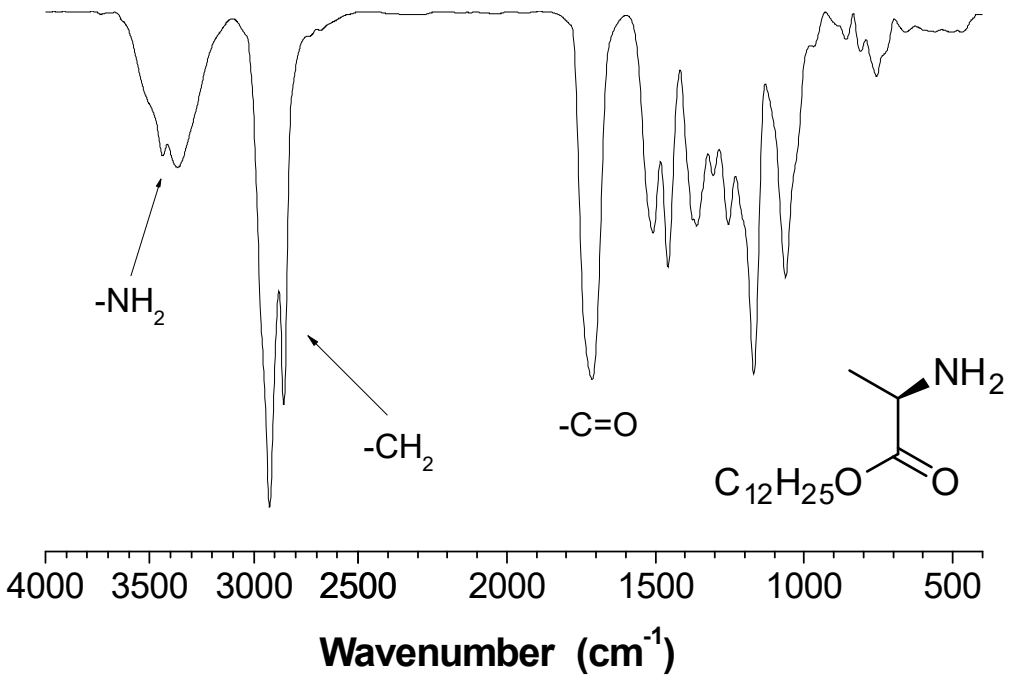

Figure S11. FTIR spectrum of **M1** in thin film.

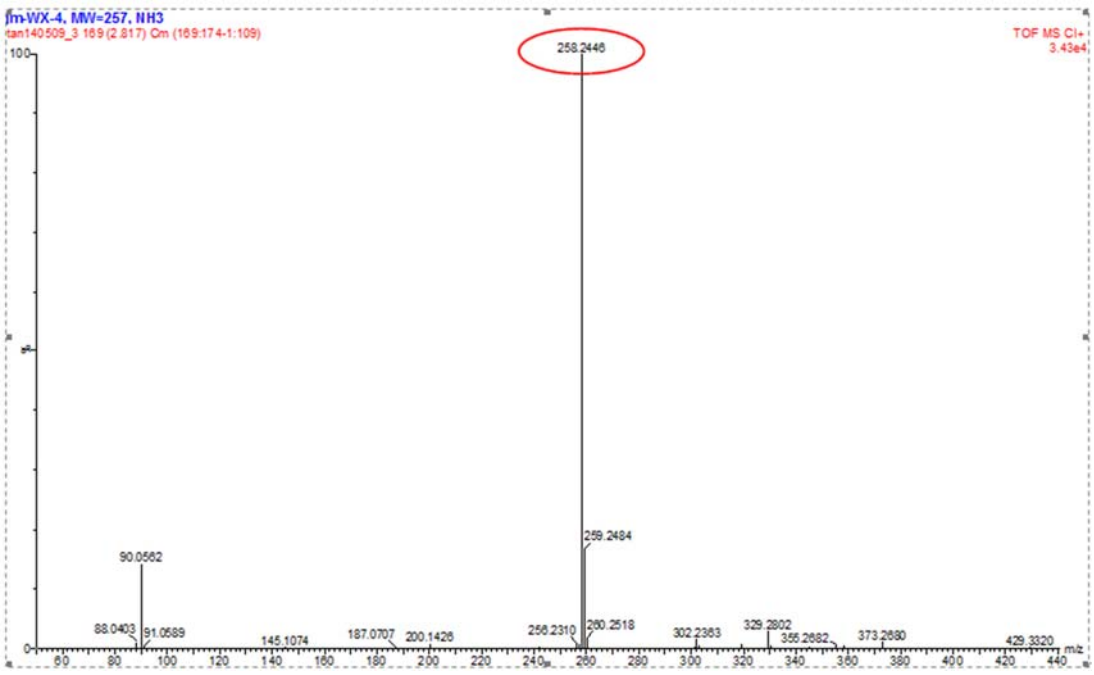

Figure S12. HRMS of **M1**. Calculated: 257.2355. Found: 258.2446.

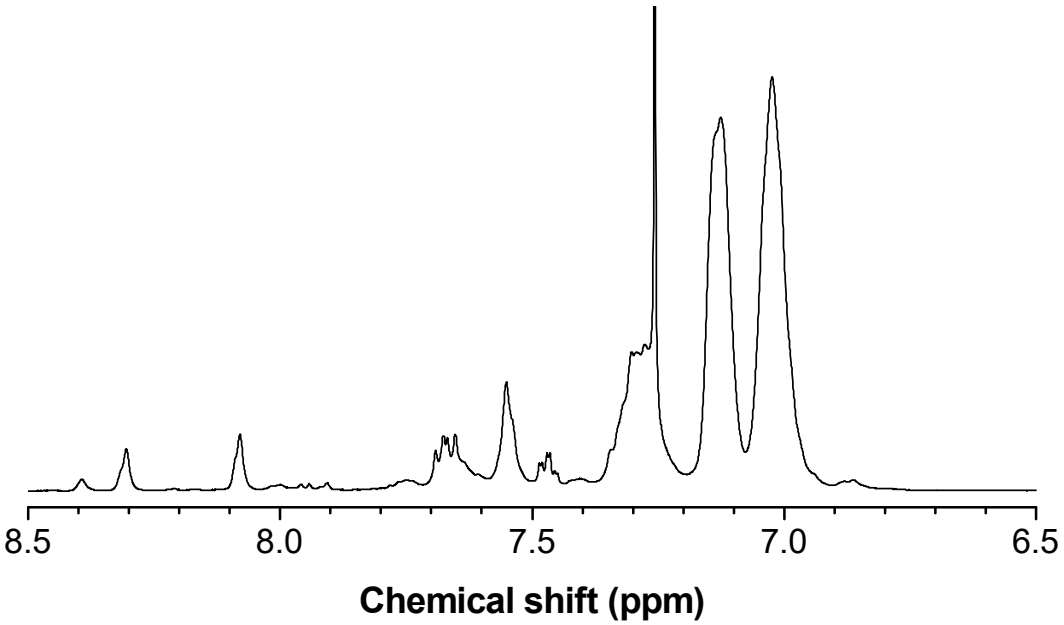

Figure S13. ^{1}H NMR spectrum of **P0** in $CDCl_3$.

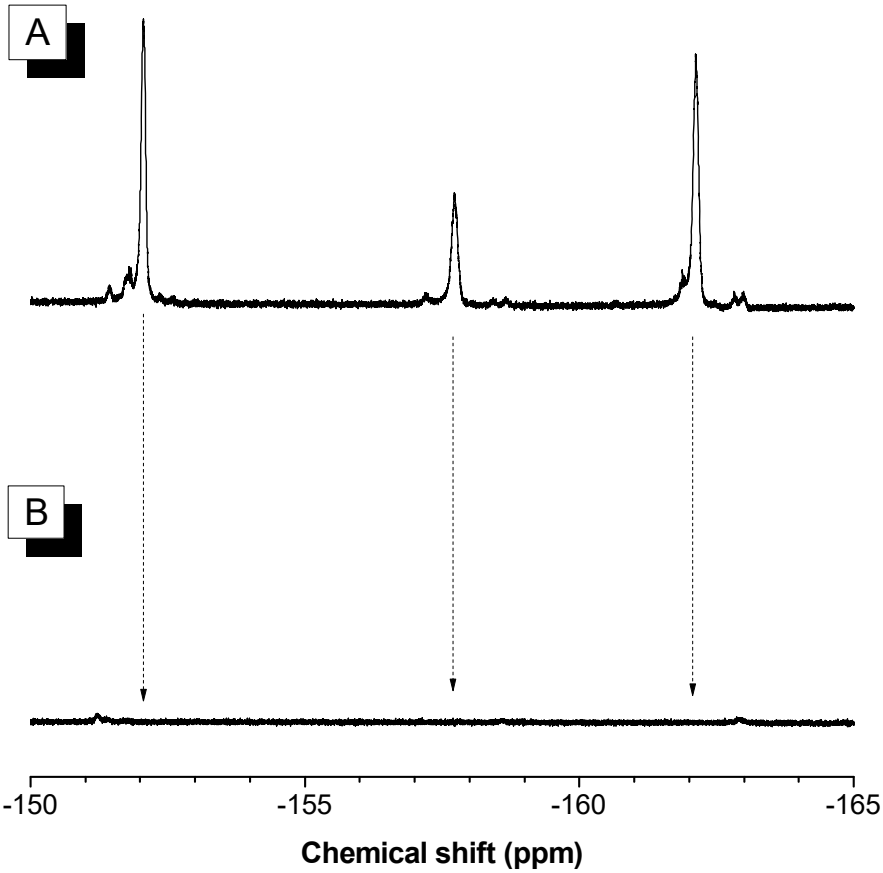

Figure S14. ^{19}F NMR spectra of (A) **P0** and (B) **P1** in $CDCl_3$.

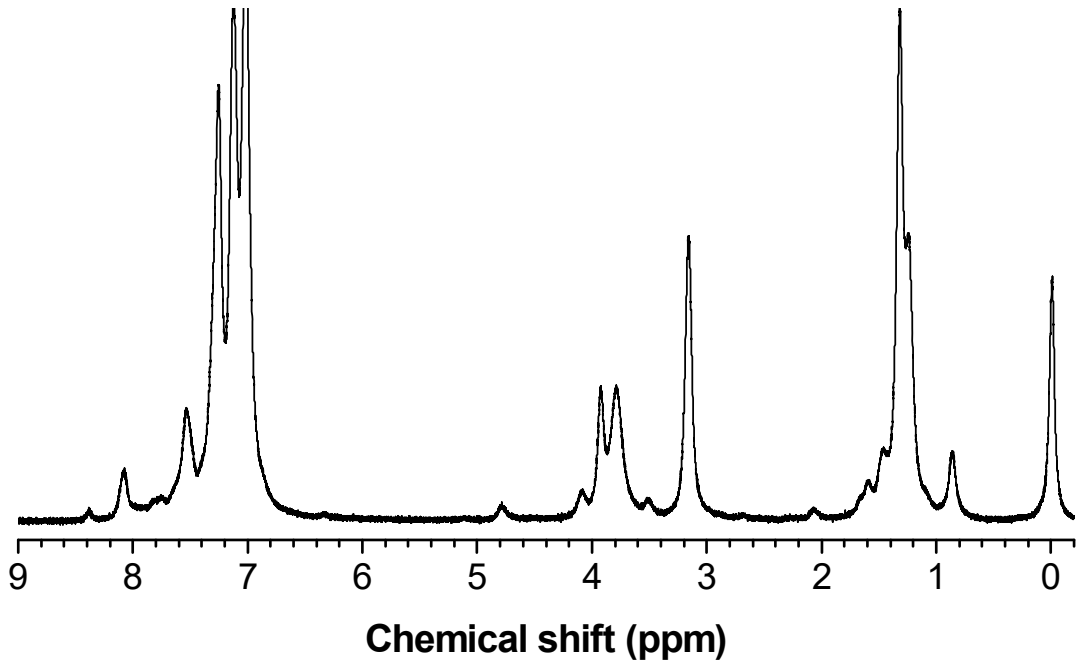

Figure S15. ^{1}H NMR spectrum of **P1** in $CDCl_3$.

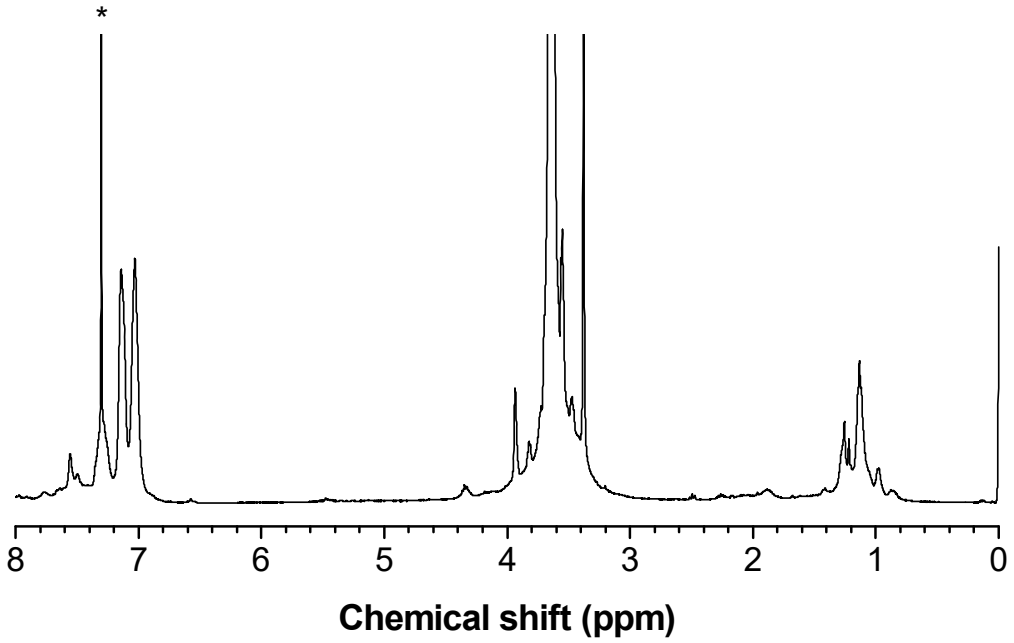

Figure S16. ^{1}H NMR spectrum of **P2** in $CDCl_3$. The solvent peak was marked with asterisks.

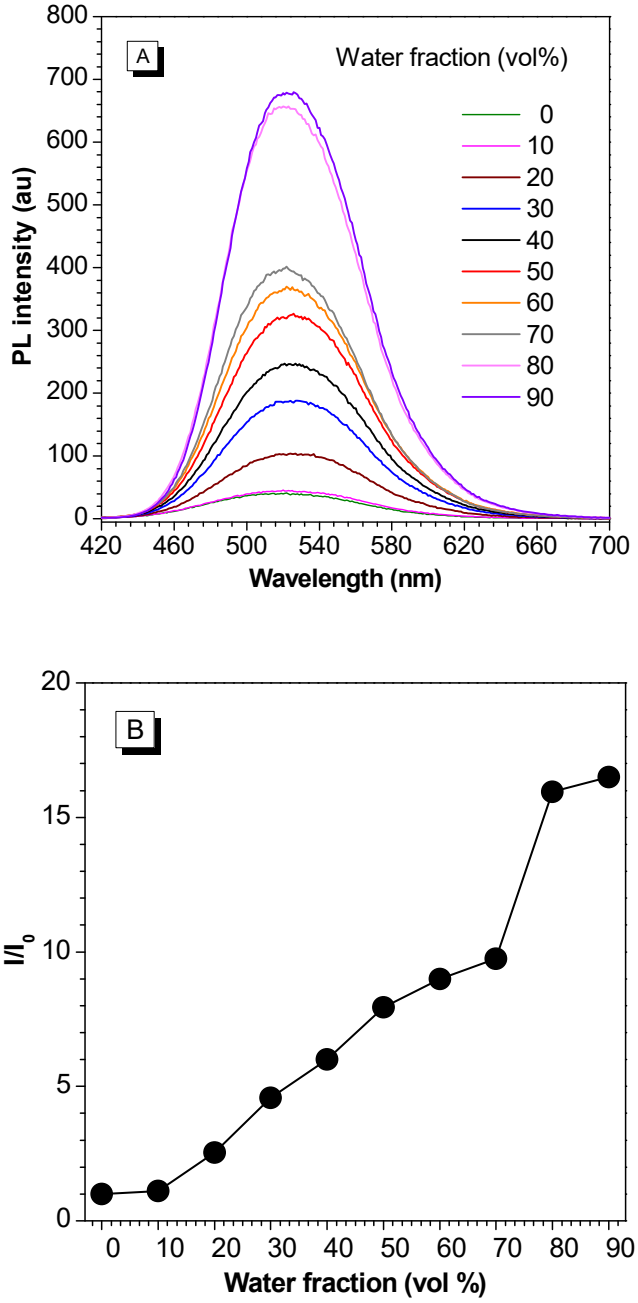

Figure S17. (A) PL spectra of **P1** in THF/water mixtures with different water fractions. Concentration: 10 μM, λ_{ex} = 382 nm. (B) Plot of peak PL intensity of **P1** in THF/water mixtures with different water fractions.

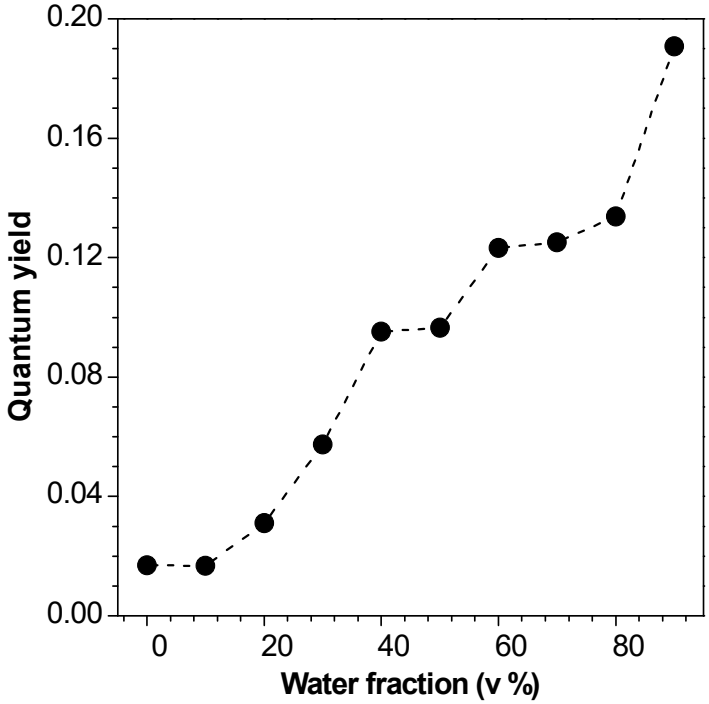

Figure S18. Quantum yield of P**1** in THF/water mixture with different water fractions. P**1** concentration: 10 μM, λ_{ex} = 382 nm. Aqueous solution of quinine sulfonate (Φ = 30%) was used as the standard of fluorescence quantum yield.

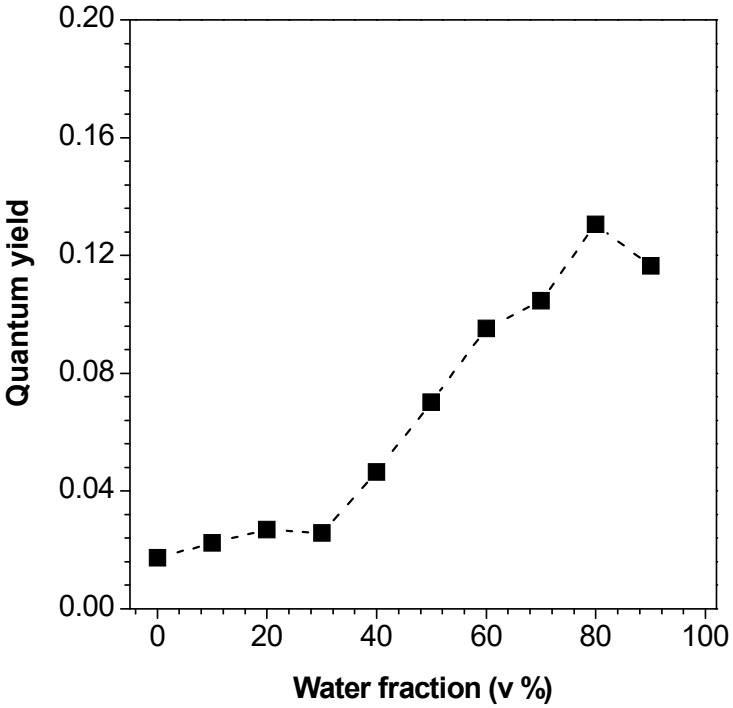

Figure S19. Quantum yield of P**2** in THF/water mixture with different water fractions. P**2** concentration: 10 μM, λ_{ex} = 377 nm. Aqueous solution of quinine sulfonate (Φ = 30%) was used as the standard of fluorescence quantum yield.

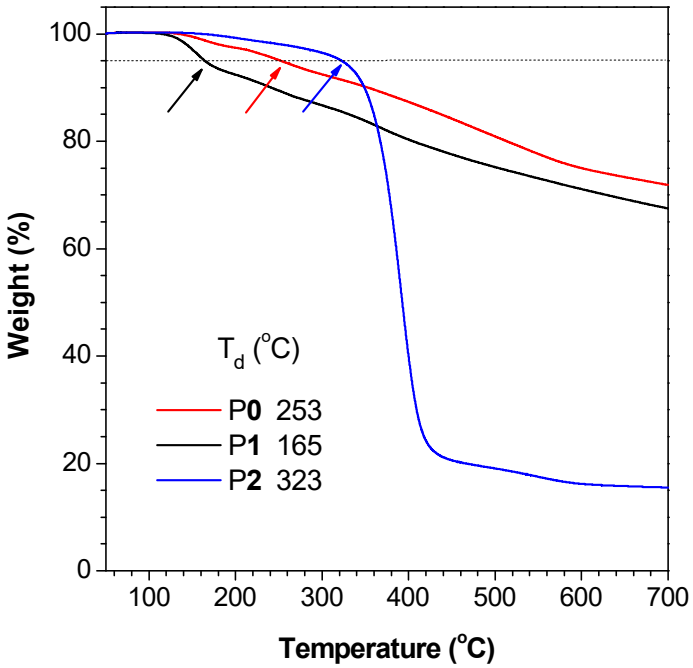

Figure S20. Thermal gravity analysis of P**0**, P**1** and P**2** under N_2 atmosphere with a heating rate of 10 °C/min.

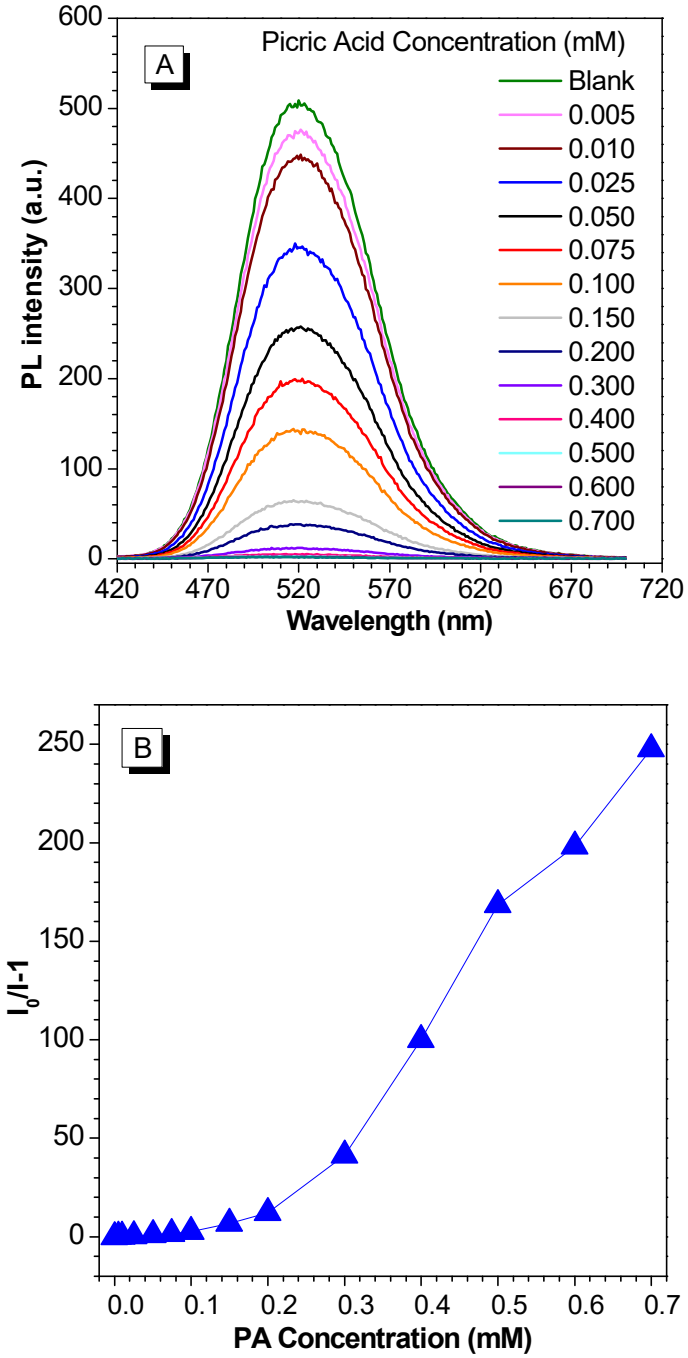

Figure S21. (A) PL spectra of P**1** in THF/water mixture (1:9 by volume) with different amount of PA. Polymer concentration: 10 μM. λ_{ex} = 382 nm. (B) Stern-Volmer plot of I_0/I -1 *versus* [PA] in THF/water mixture with f_w = 90%. I = peak intensity at [PA] ≠ 0 mM and I_0 = peak intensity at [PA] = 0 mM.

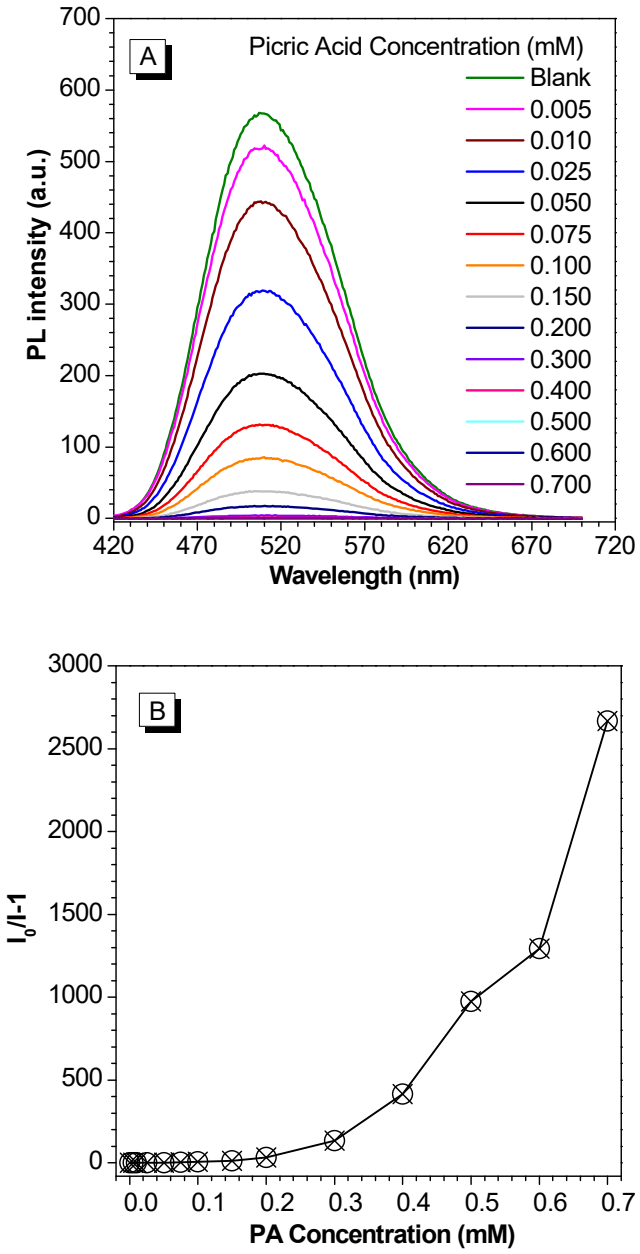

Figure S22. (A) PL spectra of P**2** in THF/water mixtures (1:9 by volume) with different amount of PA. Polymer concentration: 10 μM. Excitation wavelength: 377 nm. (B) Stern-Volmer plots of I_0/I -1 *versus* [PA] in THF/water mixtures with f_w = 90%. I = peak PL intensity at [PA] ≠ 0 mM, and I_0 = peak PL intensity at [PA] = 0 mM.