Support Information for:

Phenothiazine modified triphenylacrylonitrile derivates: AIE and mechanochromism tuned by molecular conformation

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Figure S2. ¹³C NMR (100 MHz) spectrum of PVTPAN in DMSO-d₆.



Figure S3. MALDI/TOF MS spectrum of PVTPAN.



Figure S4. ¹H NMR (400MHz) spectrum of P3TPAN in DMSO-*d*₆.



Figure S5. ¹³C NMR (100 MHz) spectrum of P3TPAN in DMSO- d_6 .



Figure S6. MALDI/TOF MS spectrum of P3TPAN.



Figure S7. ¹H NMR (400MHz) spectrum of P10TPAN in DMSO-d₆.



Figure S8. ¹³C NMR (100 MHz) spectrum of P10TPAN in DMSO-d₆.



Figure S9. MALDI/TOF MS spectrum of P10TPAN.



Figure S10. Normalized UV-vis absorption (a) and fluorescence emission (b, $\lambda_{ex} = 400 \text{ nm}$) spectra of **PVTPAN** in different solvents (4.0×10^{-5} M).



Figure S11. Normalized UV-vis absorption (a) and fluorescence emission (b, $\lambda_{ex} = 400 \text{ nm}$) spectra of **P3TPAN** in different solvents (4.0×10^{-5} M).



Figure S12. Optimized molecular structures of PVTPAN (a and d), P3TPAN (b and e) and P10TPAN (c and f) in two different views.



Figure S13. (a) Fluorescent emission spectra of **P3TPAN** in THF/water with different water fractions (f_w). (b) Normalized fluorescent emission intensities of **P3TPAN** in THF/water with different f_w . Concentration: 2.0 × 10-5 M; $\lambda_{ex} = 365$ nm. Photographs in (b) are **P3TPAN** in THF and THF/water ($f_w = 90\%$) under 365 nm illumination.



Figure S14. (a) Fluorescent emission spectra of **P10TPAN** in THF/water with different water fractions (f_w). (b) Normalized fluorescent emission intensities of **P10TPAN** in THF/water with different f_w . Concentration: 2.0 × 10-5 M; $\lambda_{ex} = 365$ nm. Photographs in (b) are **P10TPAN** in THF and THF/water ($f_w = 90\%$) under 365 nm illumination.



Figure S15. Maximum fluorescent emission of **PVTPAN** upon repeating treatment of grinding and fuming with DCM.



Figure S16. Maximum fluorescent emission of P3TPAN upon repeating treatment of grinding and fuming with DCM.



Figure S17. Maximum fluorescent emission of P10TPAN upon repeating treatment of grinding and fuming with DCM.



Figure S18. Reversible switching of the emission color of PVTPAN, P3TPAN and P10TPAN on filter paper.



Figure S19. DSC profile of PVTPAN with an exothermic peak in the first cycling.



Figure S20. DSC profile of P3TPAN with an exothermic peak in the first cycling.



Figure S21. DSC profile of P10TPAN with an exothermic peak in the first cycling.



Figure S22. The stucture of P3TPAN in single crystal.



Figure S23. The stucture of P3TPAN in single crystal.