Supporting Information

White light emission from fluorene-EDOT and phenothiazine-hydroquinone based D-π-A conjugated systems in the solution, gel and film forms

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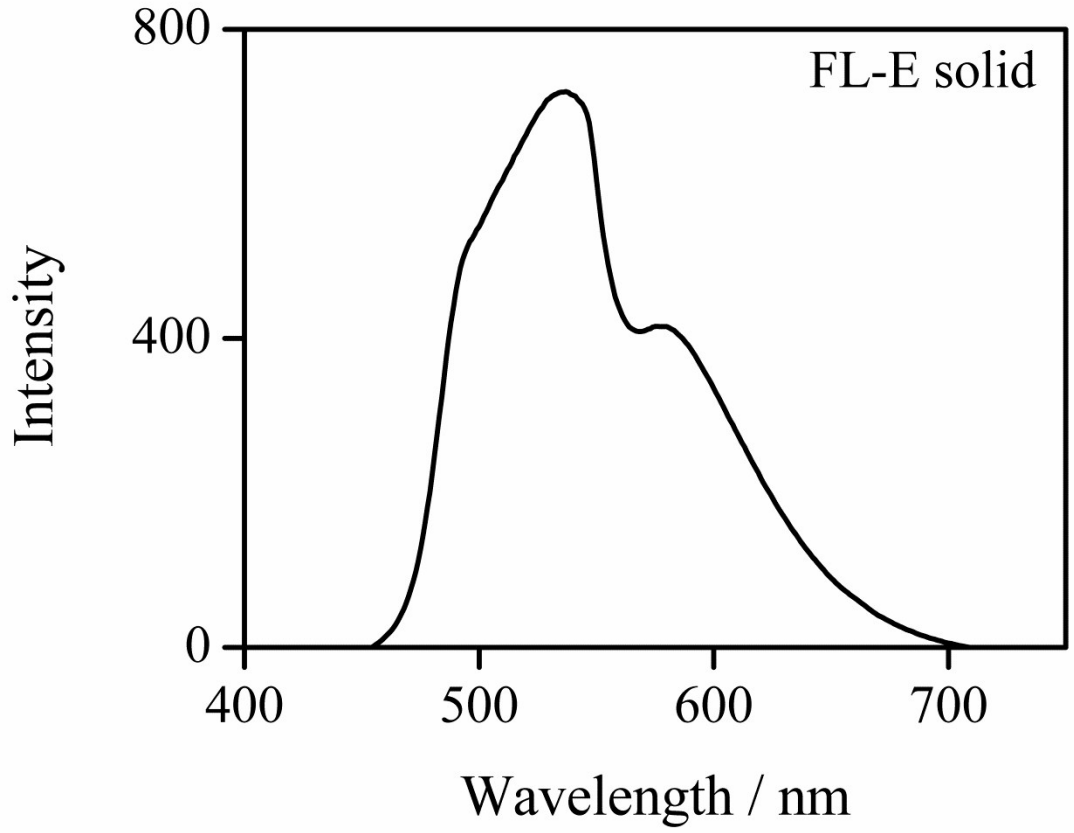
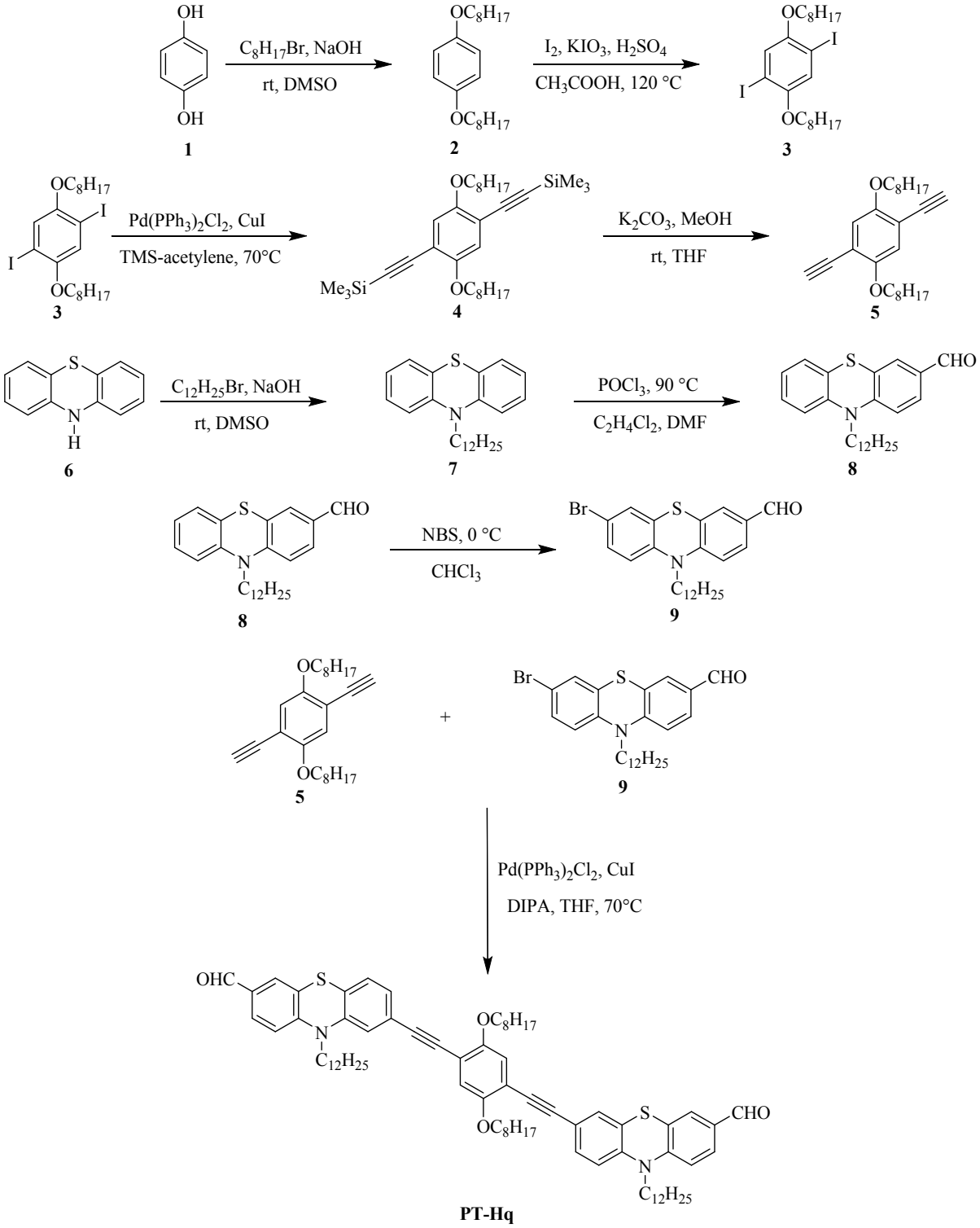


Figure S1: Emission spectrum of **FL-E** in solid state ($\lambda_{exc.} = \lambda_{max.}$)

Scheme S1: Synthetic route for **PT-Hq**



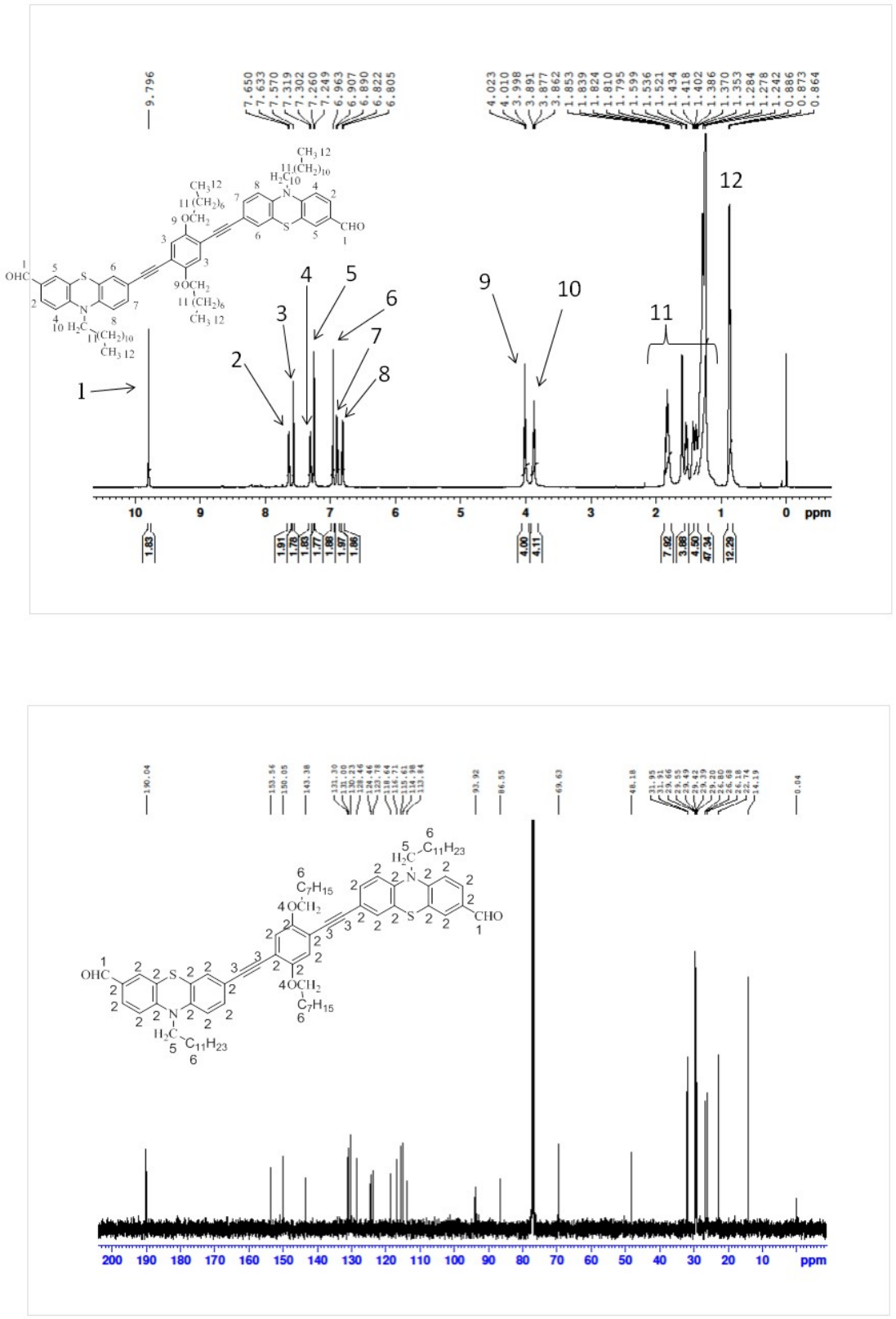
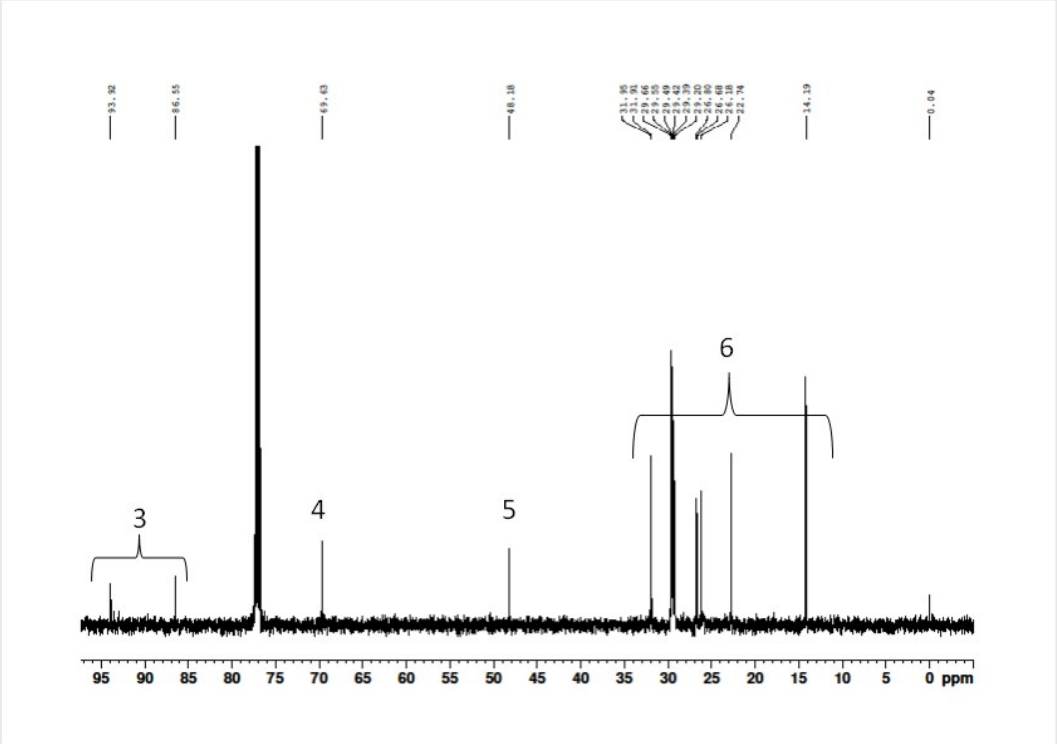


Figure S2: ^{1}H and ^{13}C NMR spectra of **PT-Hq**



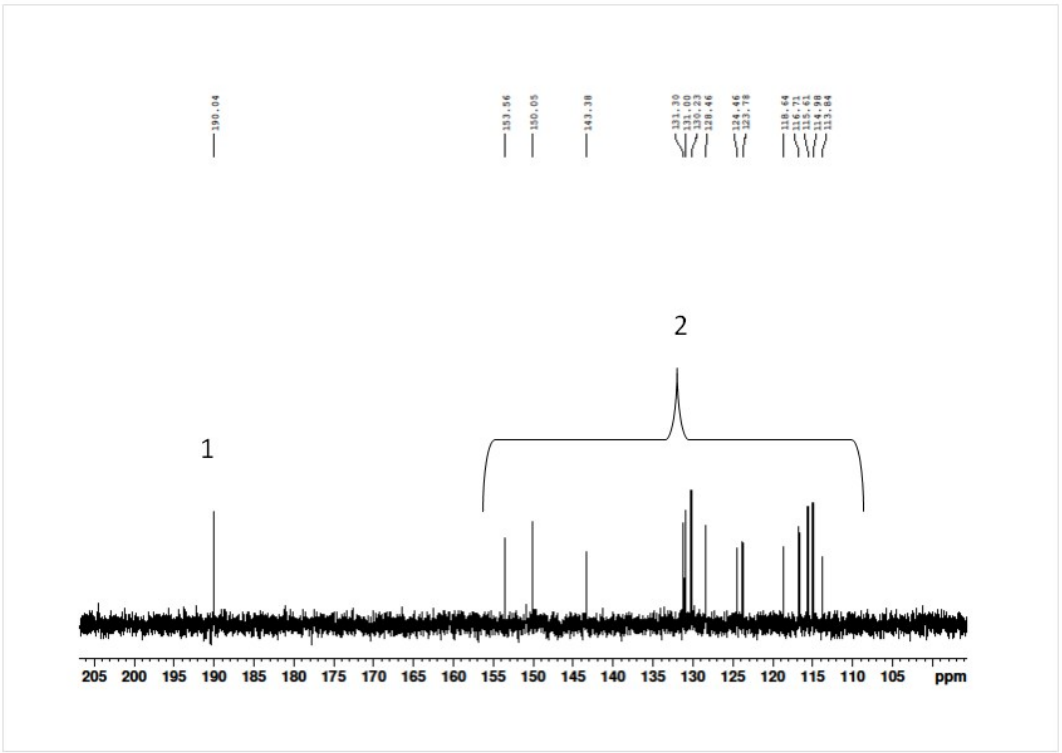


Figure S3: Expansion of ^{13}C NMR spectrum of **PT-Hq**

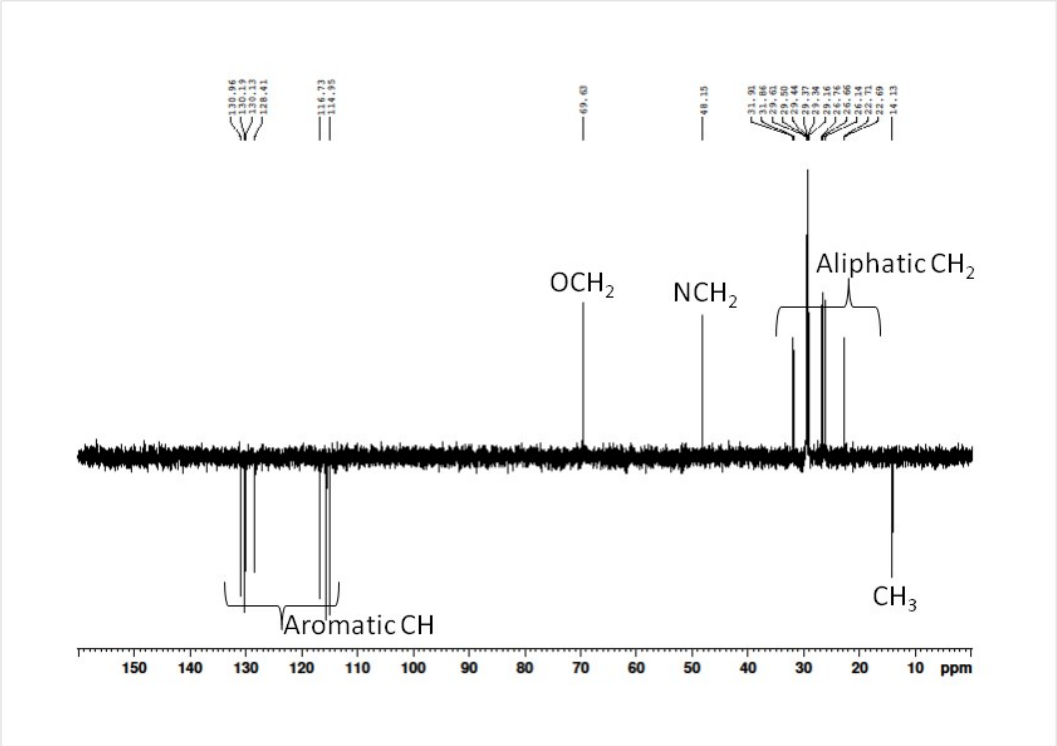


Figure S4: DEPT NMR spectrum of **PT-Hq**

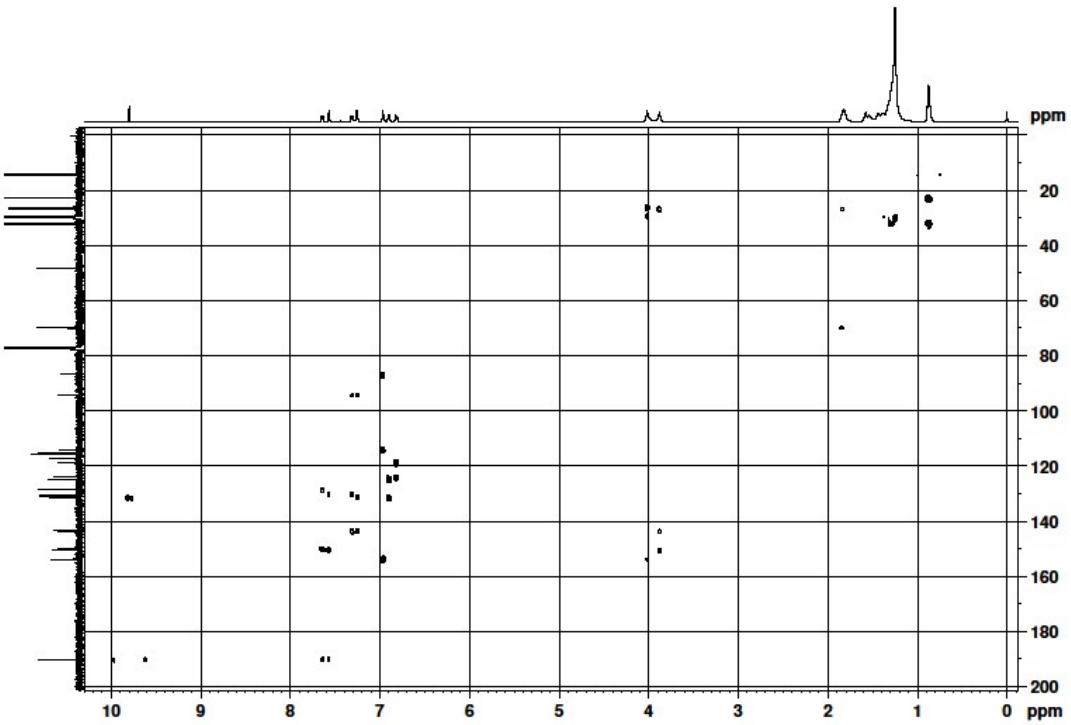


Figure S5: HMBC spectrum of **PT-Hq**

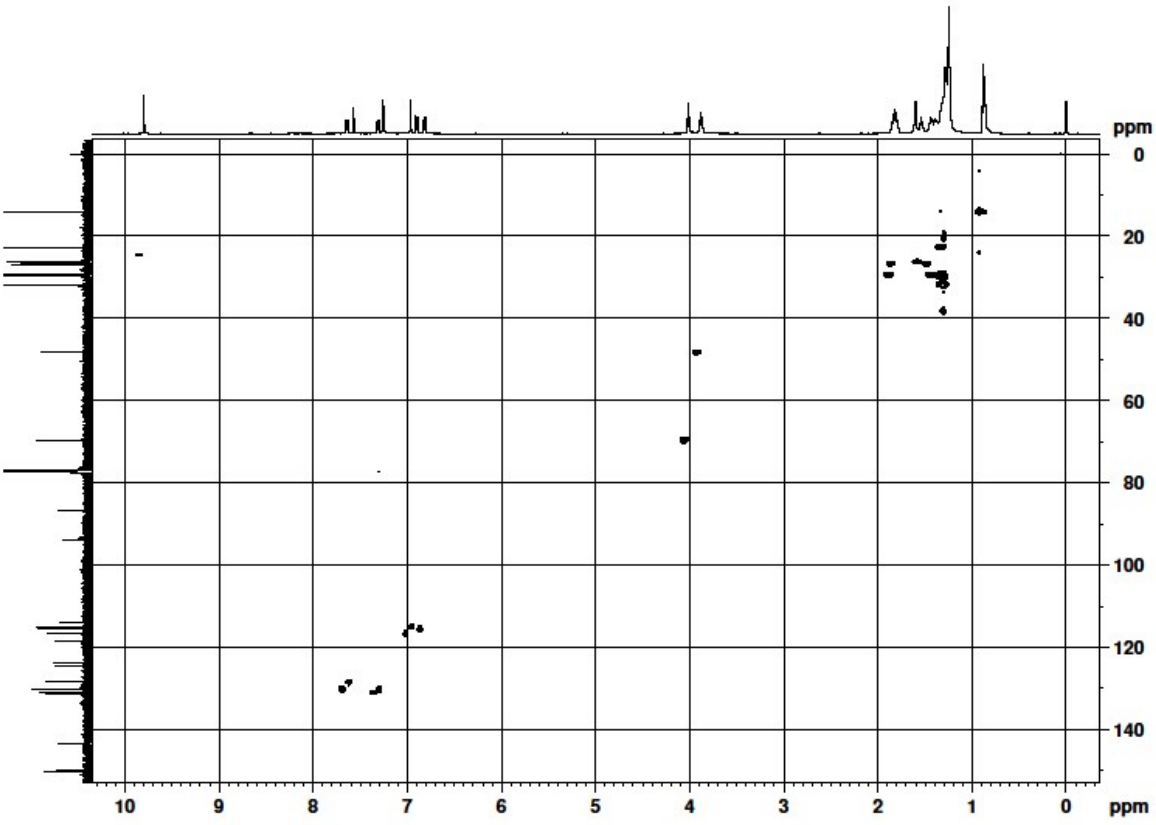


Figure S6: HSQC spectrum of **PT-Hq**

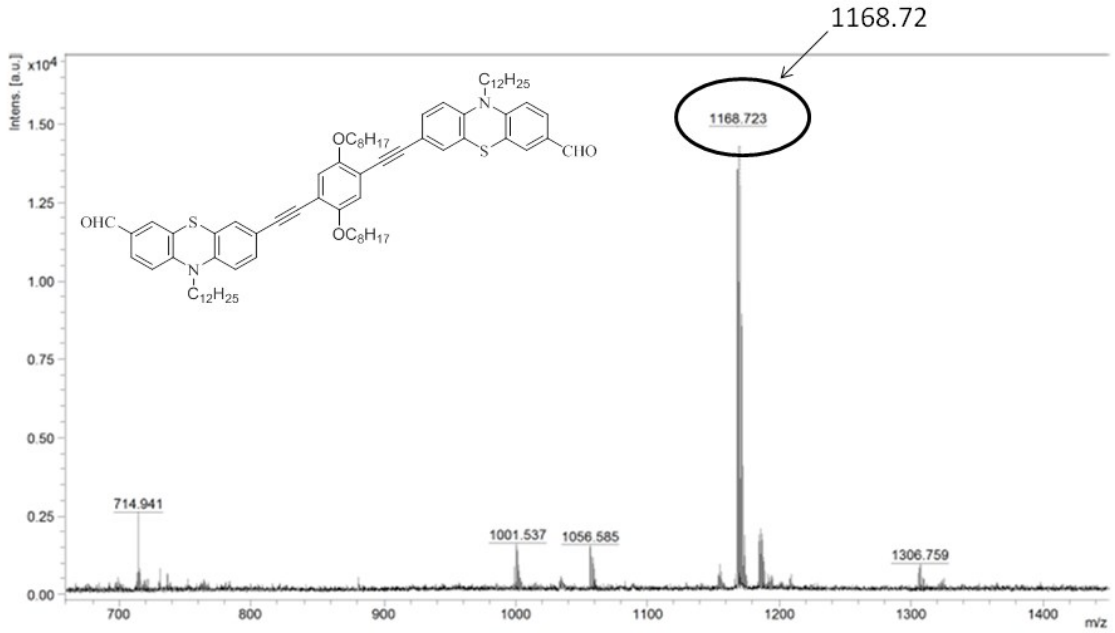


Figure S7: MALDI mass spectrum of **PT-Hq**

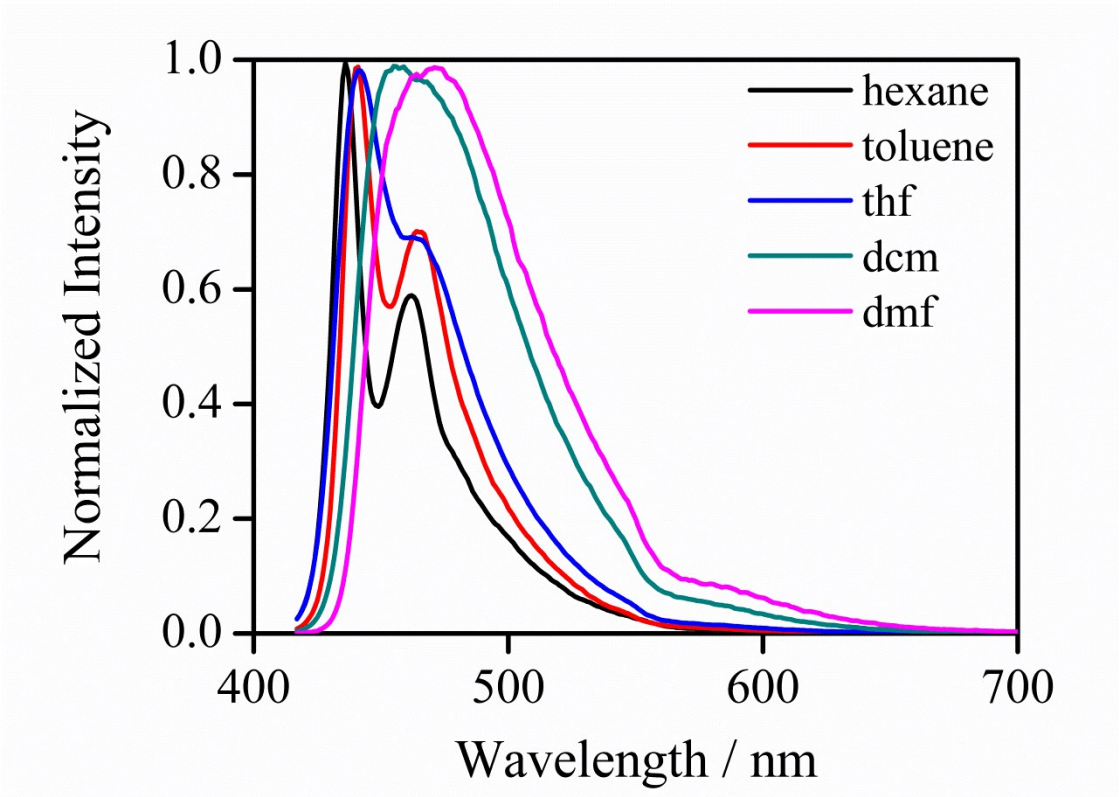


Figure S8: ICT studies of **FL-E** in different solvents

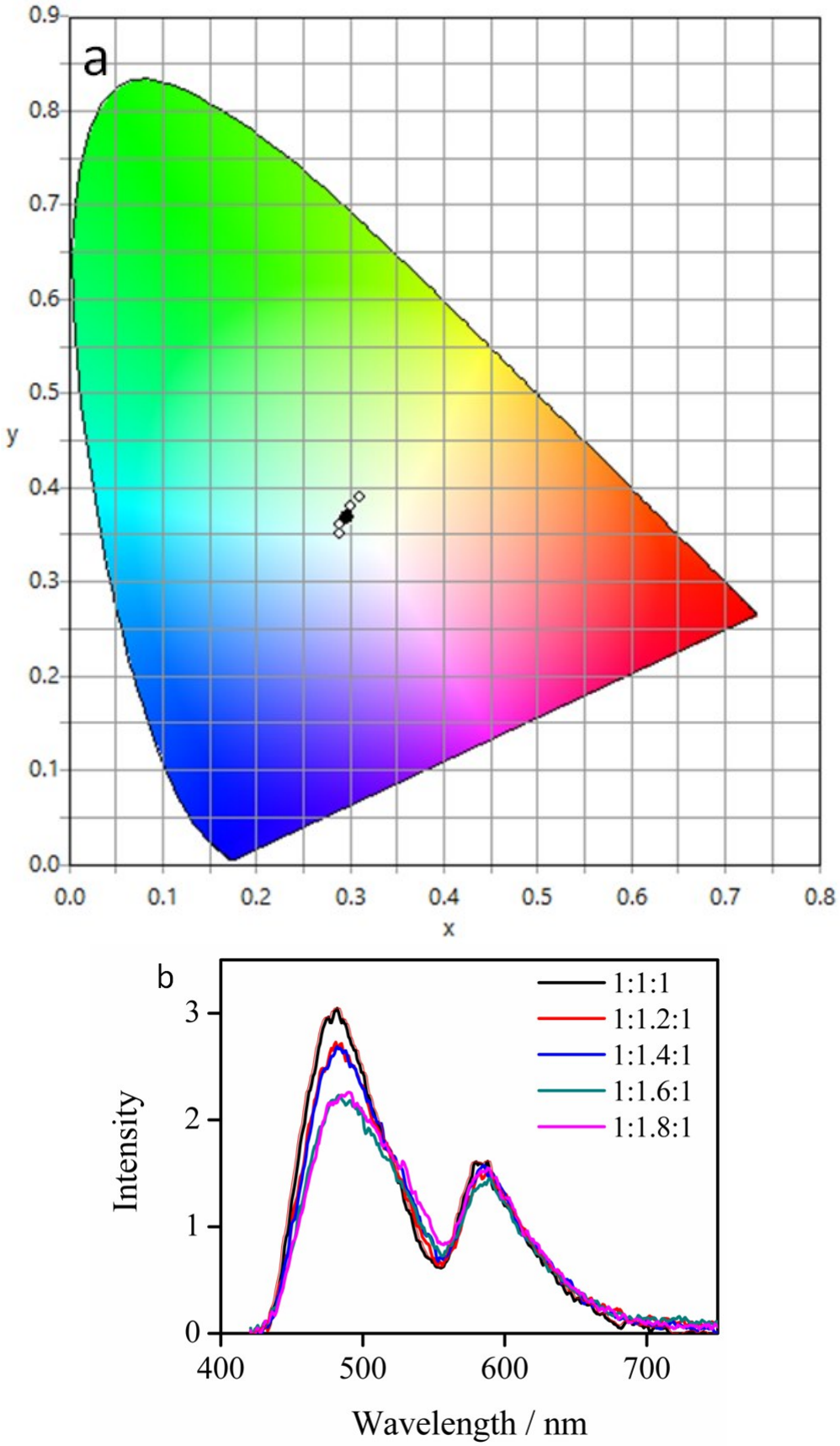


Figure S9. (a) CIE chromaticity diagram obtained on changing the volume of **PT-Hq** from 1 mL to 1.8 mL, while keeping the volume of **FL-E** and **Rh-B** at 1mL each. *(b)* The corresponding fluorescence titration spectra.

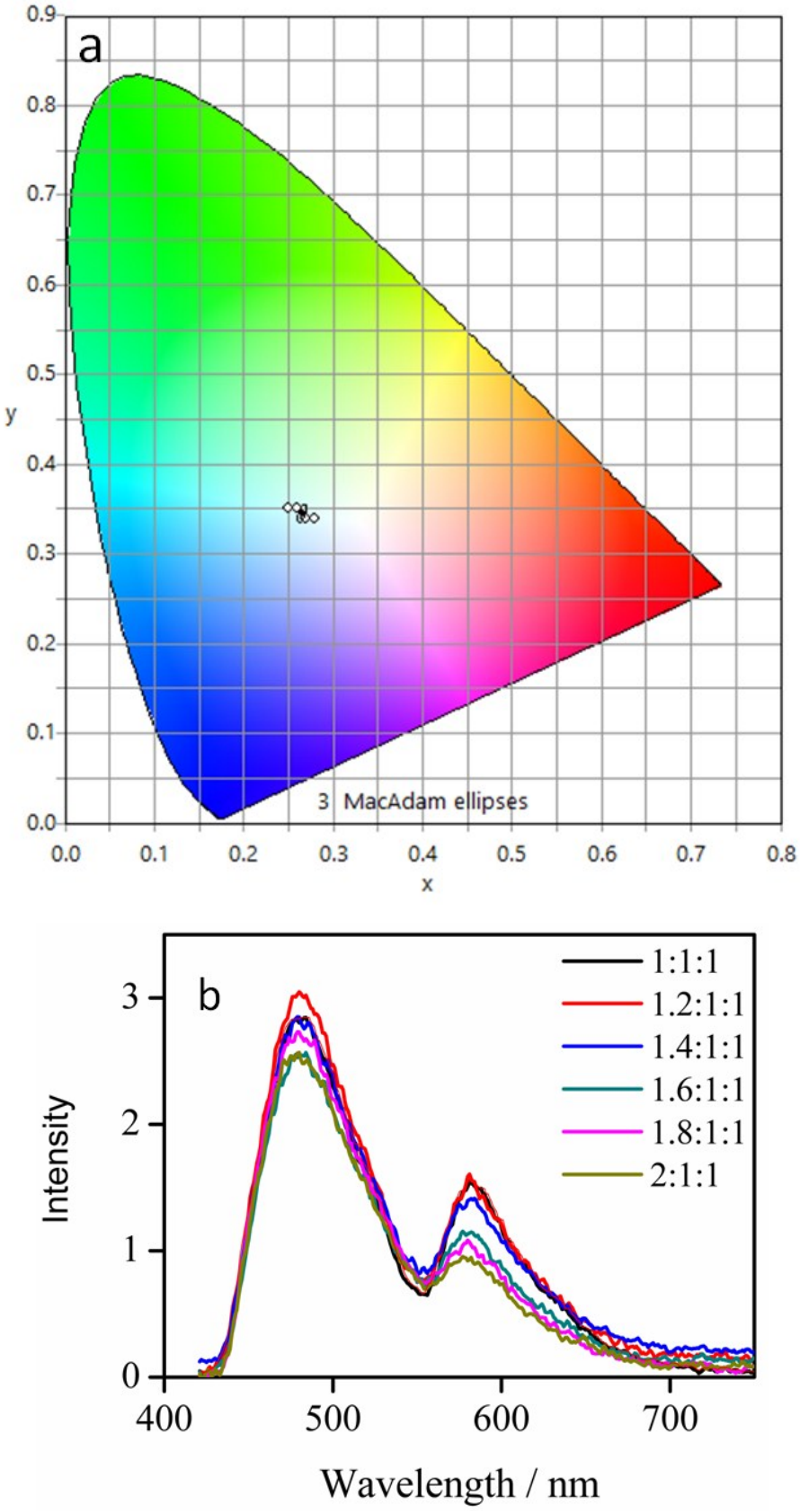


Figure S10. (a) CIE chromaticity diagram obtained on changing the volume of **FL-E** from 1 mL to 1.8 mL, while keeping the volume of **PT-Hq** and **Rh-B** at 1mL each. *(b)* The corresponding fluorescence titration spectra.

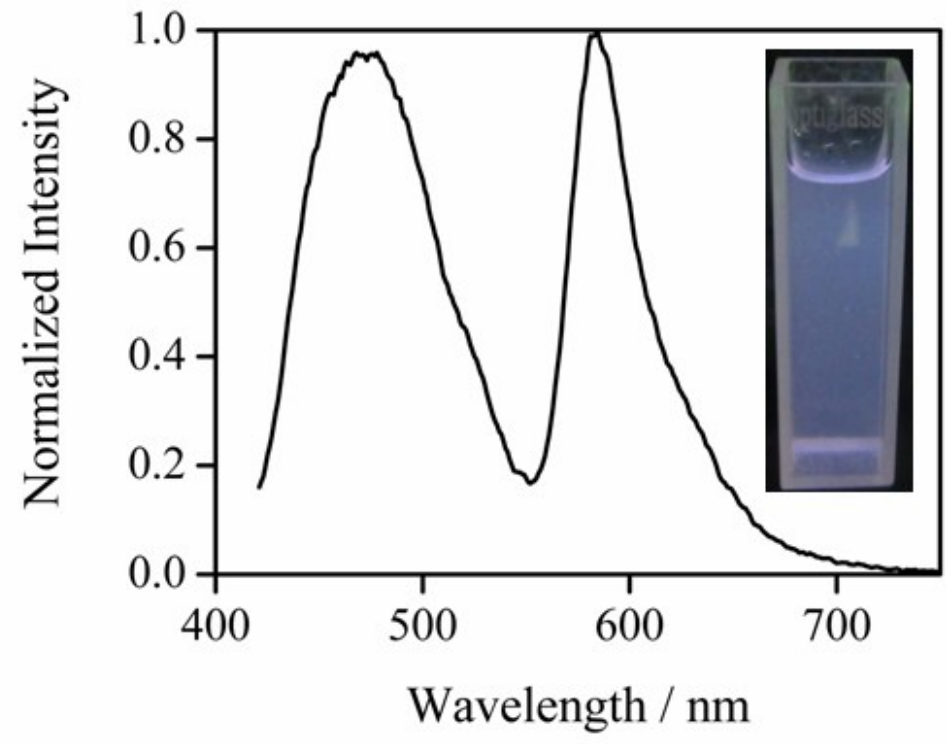


Figure S11: Emission spectrum of mixture of **FL-E** (10^{-5} M, in THF) and **Rh-B** (10^{-5} M, in water) in solution state, excited at 411 nm. Inset shows the photograph of corresponding white light under UV excitation.

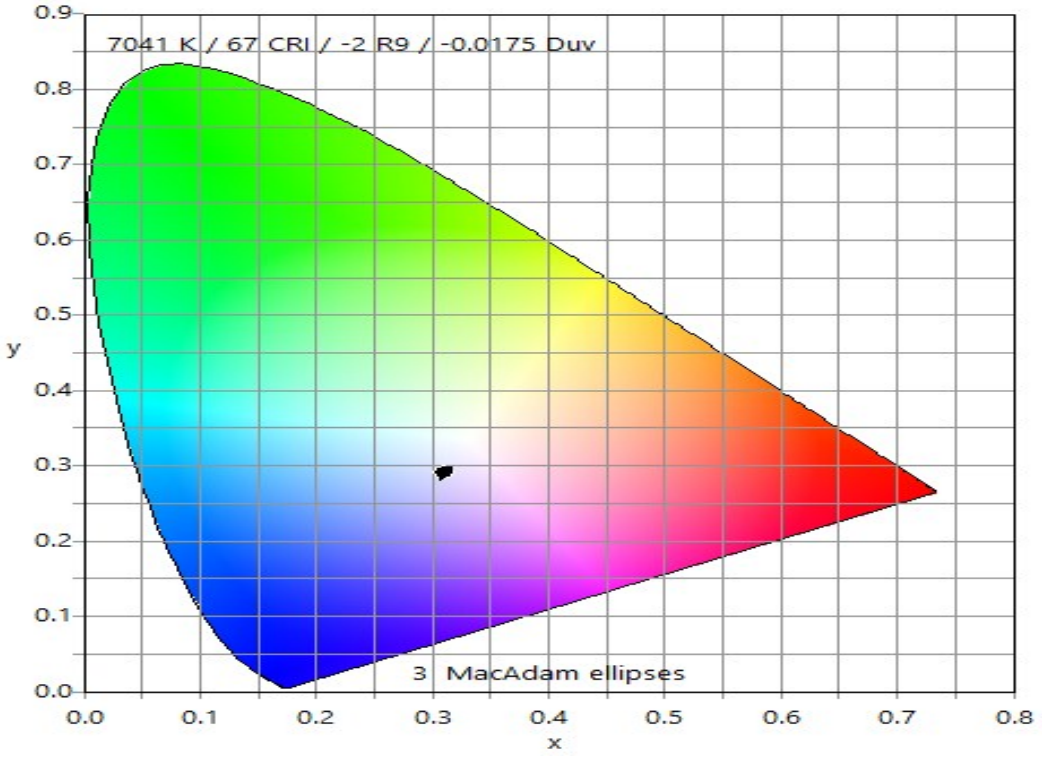


Figure S12: CIE diagram of the corresponding white light emission obtained by the combination of **FL-E** and **Rh-B** in solution state

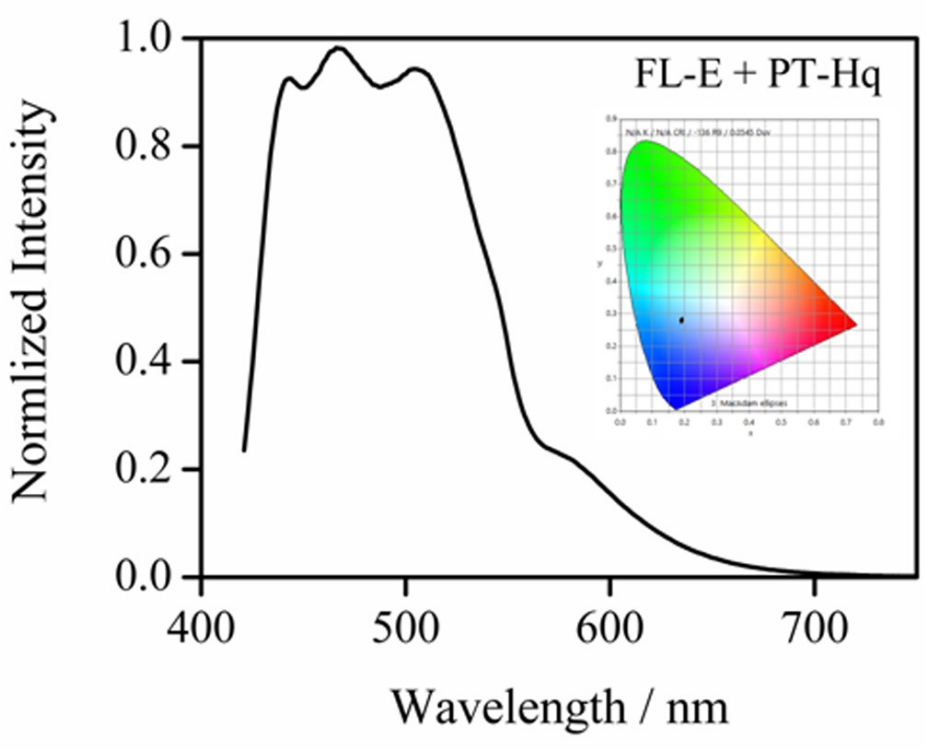


Figure S13: Emission spectrum of mixture of **FL-E** (10^{-5} M, in THF) and **PT-Hq** (10^{-5} M, in THF) in solution state, excited at 411 nm. Inset shows the CIE of corresponding light under UV excitation.

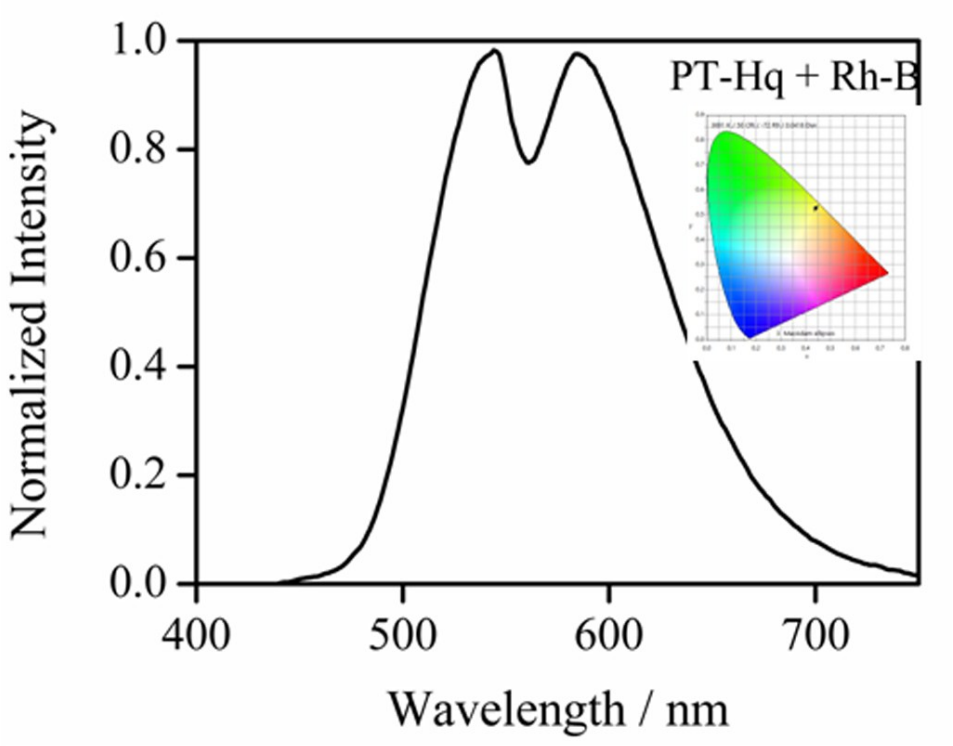


Figure S14 : Emission spectrum of mixture of **PT-Hq** (10^{-5} M, in THF) and **Rh-B** (10^{-5} M, in water) in solution state, excited at 411 nm. Inset shows the CIE of corresponding light under UV excitation.

The fluorescence quantum yields for **FL-E** and **PT-Hq** were calculated using fluorescein and anthracene, respectively, as the standards by using the steady-state comparative method:

$$\boldsymbol{\Phi_f = \Phi_{ST}} \times {}^{S_U}\!/_{S_{ST}} \times {}^{A_{ST}}\!/_{A_U} \times {}^{\eta_{Du}^2}\!/_{\eta_{ST}^2} \qquad \textbf{(S1)}$$

where, Φ_f is the emission quantum yield of the sample, Φ_{ST} is the emission quantum yield of the standard, and A_{ST} and A_U represent the absorbance of the standard and the sample at the excitation wavelength, respectively. S_{ST} and S_U are the integrated emission band areas of the standard and the sample, respectively, and η_{ST} and η_{Du} are the solvent refractive indices of the standard and the sample.

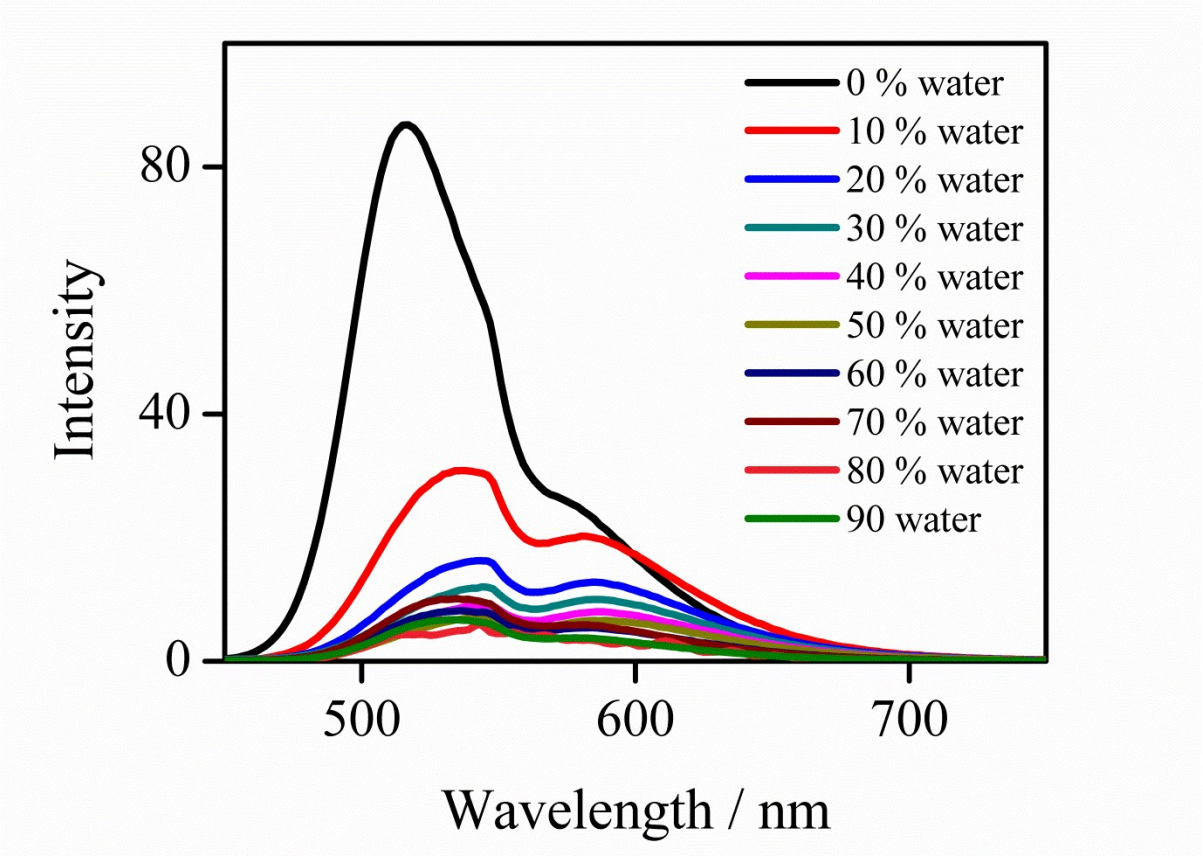


Figure S15: Emission spectral changes of **PT-Hq** in THF/water mixture with different water volume fractions 0-90 %.

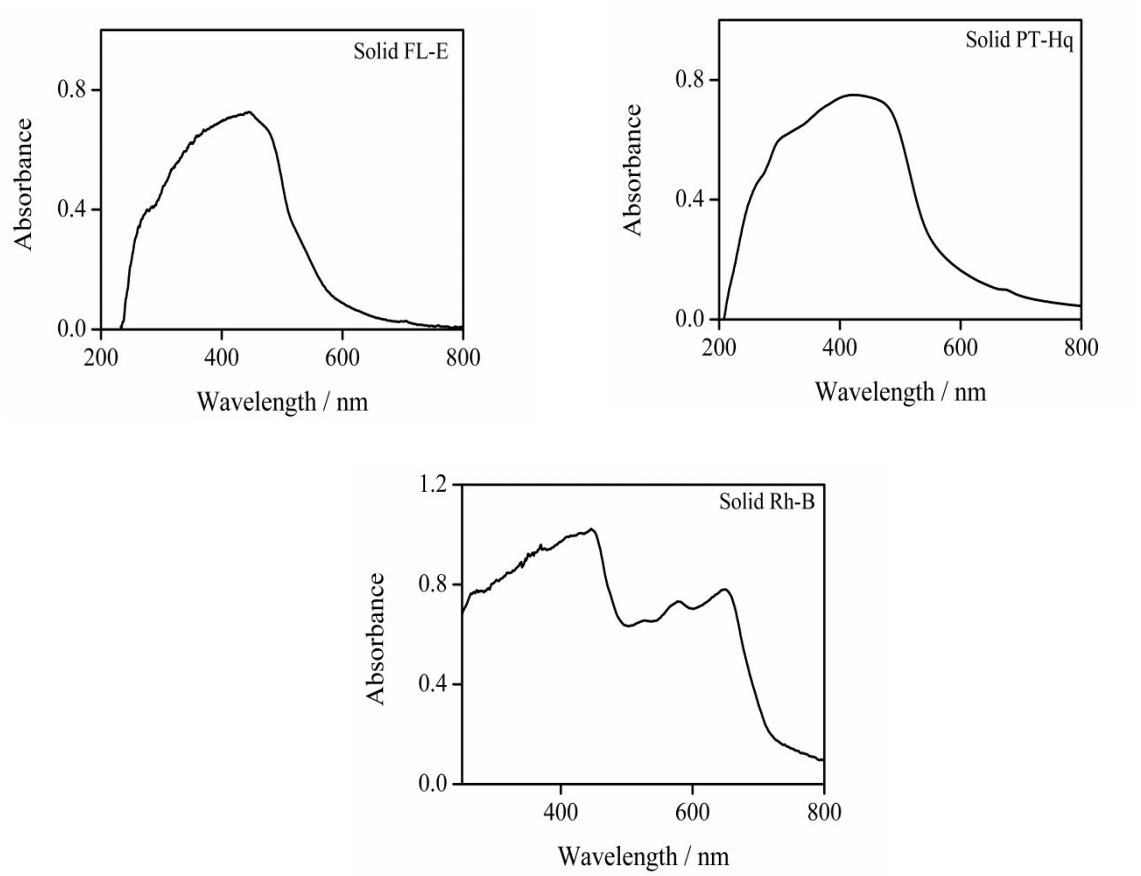


Figure S16: Solid state UV-Visible absorption spectra of compounds **FL-E**, **PT-Hq** and **Rh-B**

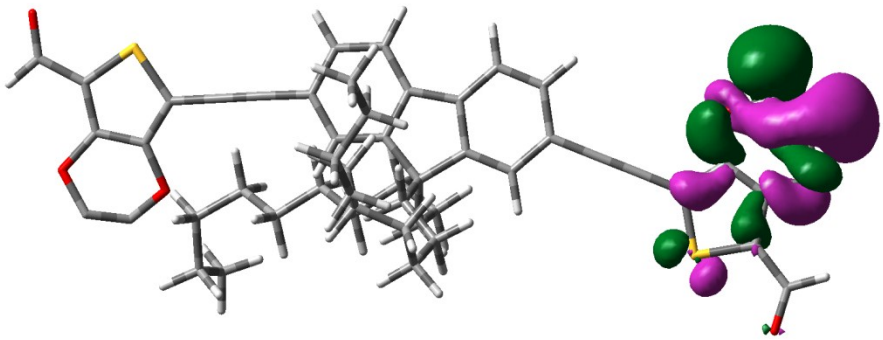


Figure S17: B3LYP/6-31G* DFT calculated LUMO +1 contour of **FL-E**