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Electronic Supplementary Information

Twisted intramolecular charge transfer, aggregation-induced emission, supramolecular self-assembly and optical waveguide of barbituric acid-functionalized tetraphenylethene

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composition of the dichloromethane/hexane mixture solution of TPE-HPh-Bar. I_0 = emission intensity in pure dichloromethane.

Fig. S7 SEM images of aggregates formed by slow evaporation of TPE-HPh-Bar solution in acetonitrile with a concentration of 1 μM at room temperature.

Fig. S8 SEM images of micro and nano-structures formed by slow evaporation of TPE-HPh-Bar solutions (10 μM) in DMSO/ethanol mixture (1:4 v/v) at room temperature in the presence of 10 equivalent of melamine.

Fig. S9 Nanostructures of TPE-HPh-Bar prepared from (A) 1,4-dioxane solution (100 μM), (B) THF solution (100 μM), (C) CH_3CN/H_2O (1:1, v/v), and (4) CH_3CN/H_2O (1:1, v/v) with the presence of 1 equivalent of melamine.

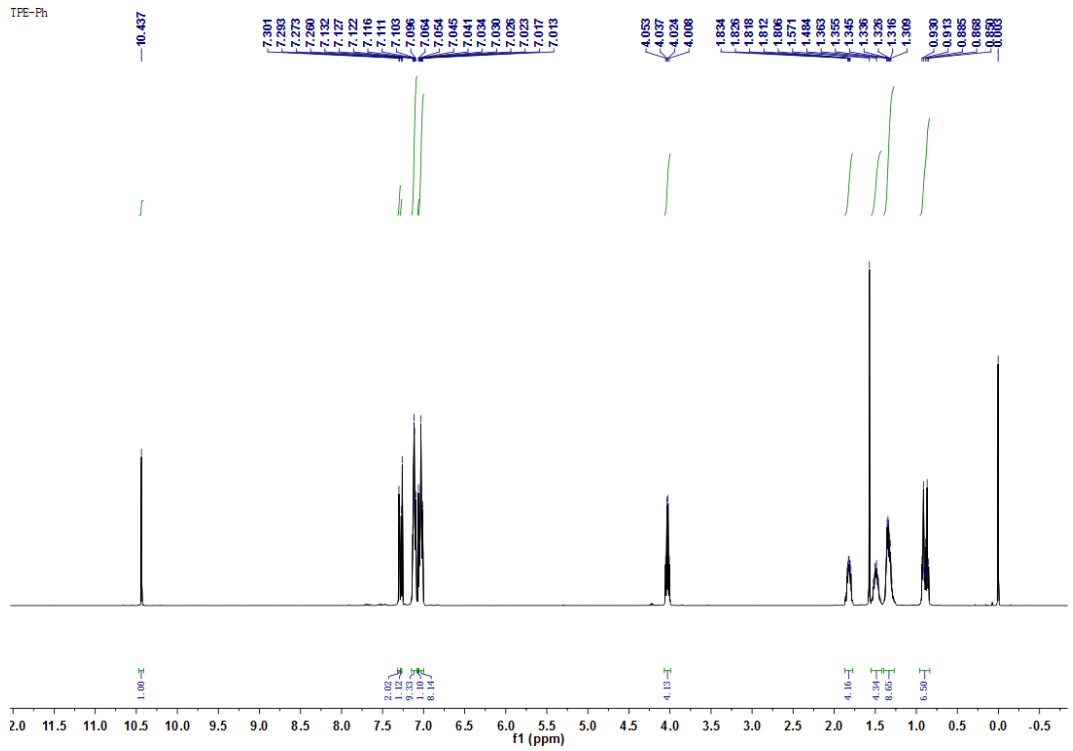

Fig. S1 ^{1}H NMR spectrum of TPE-HPh in $CDCl_3$.

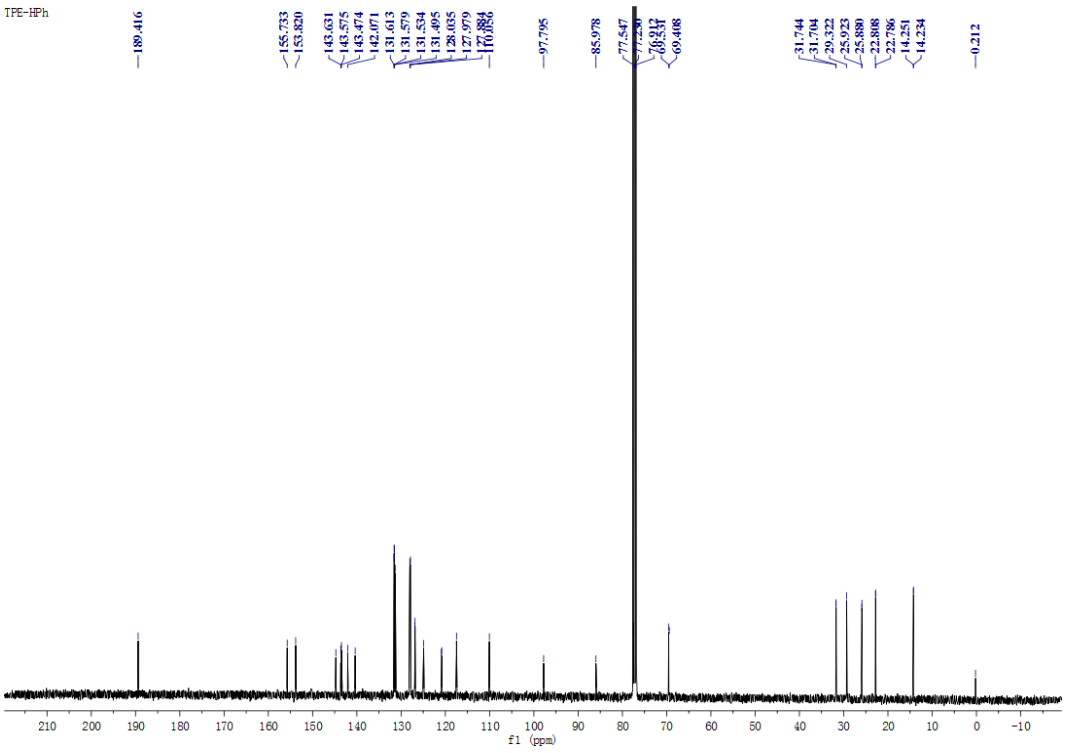

Fig. S2 ^{13}C NMR spectrum of TPE-HPh in $CDCl_3$.

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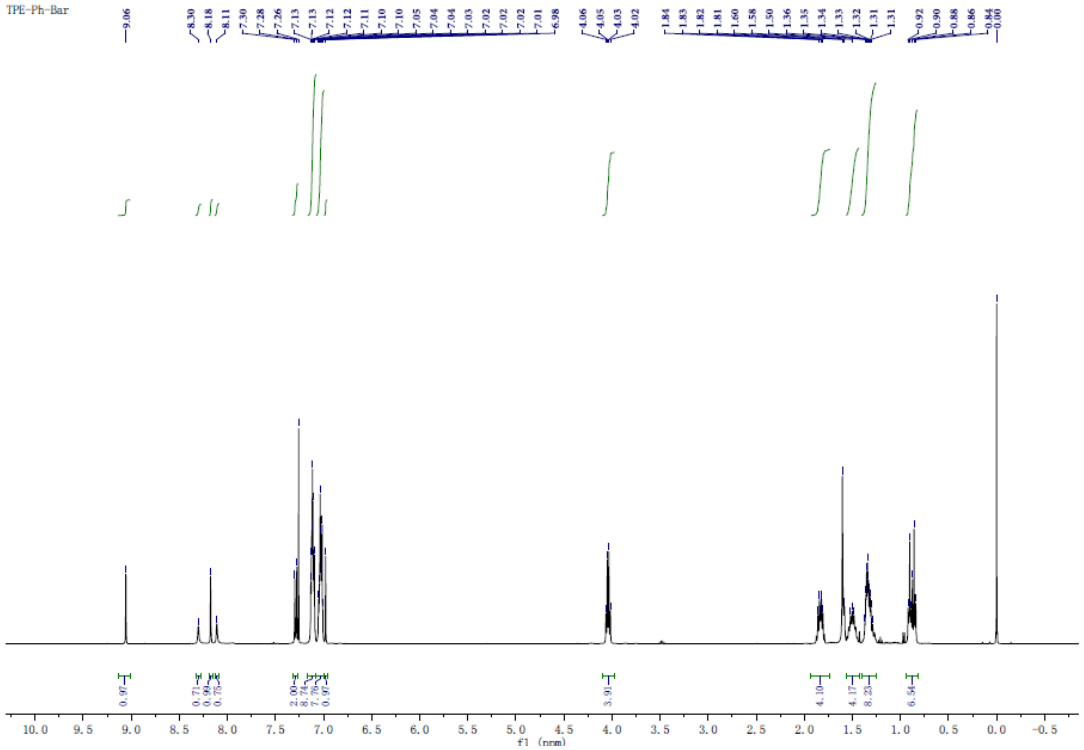

Fig. S3 ^{1}H NMR spectrum of TPE-HPh-Bar in $CDCl_3$.

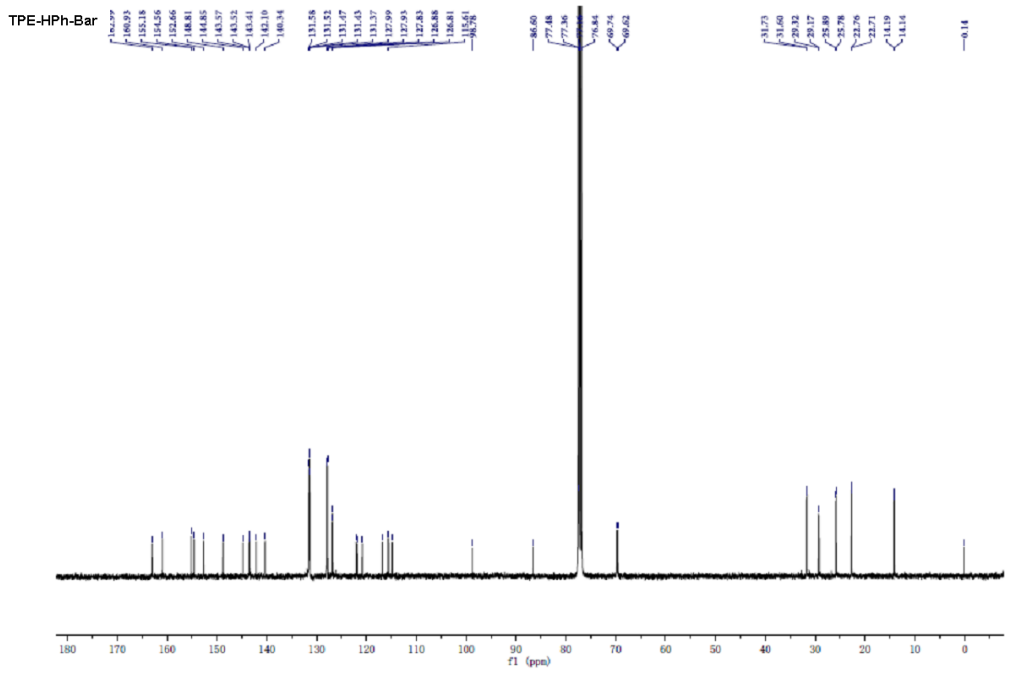

Fig. S4 ^{13}C NMR spectrum of TPE-HPh-Bar in $CDCl_3$.

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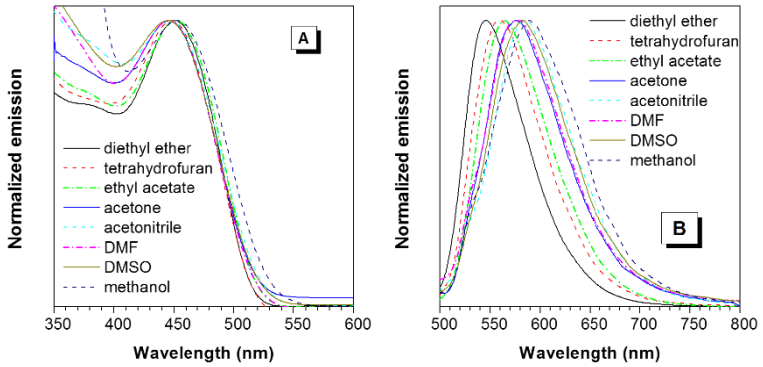


Fig. S5 (A) UV absorption and (B) PL emission spectra of TPE-HPh-Bar (10 μM) in different solvents. Excitation wavelength (450 nm).

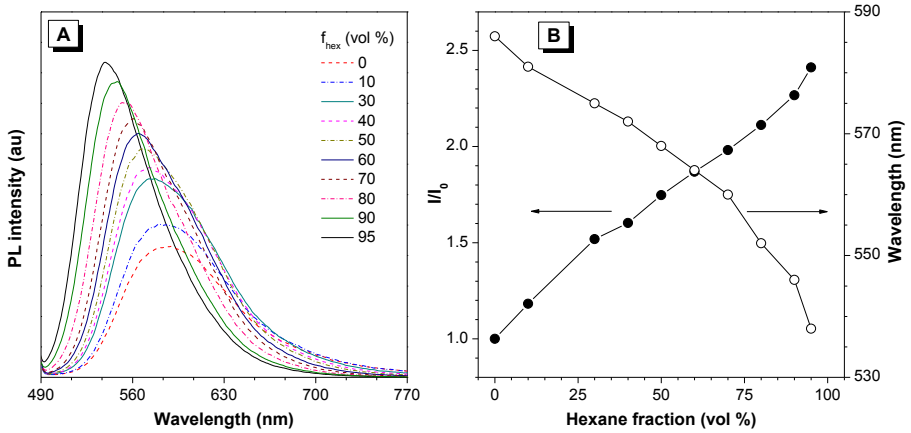
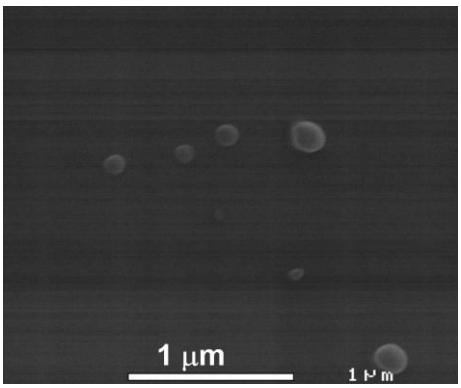


Fig. S6 (A) PL spectra of TPE-HPh-Bar in dichloromethane/hexane mixtures with different hexane fractions (f_{hex}). Concentration: 10 μM, excitation wavelength: 478 nm. (B) Plot of relative PL intensity (I/I_0) and emission maximum versus the composition of the dichloromethane/hexane mixture solution of TPE-HPh-Bar. I_0 = emission intensity in pure dichloromethane.



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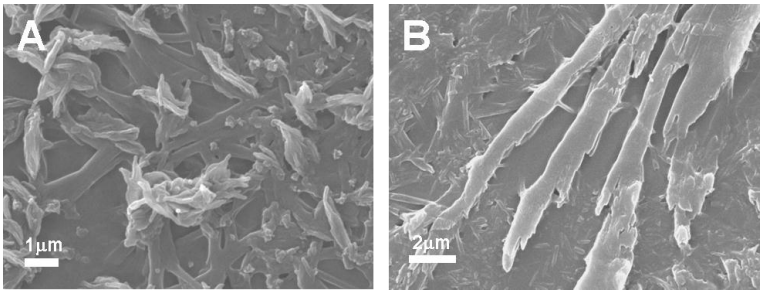

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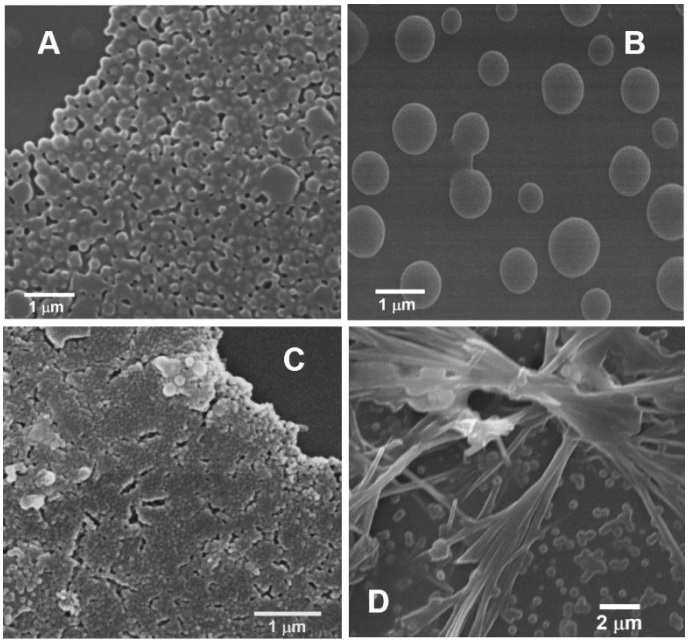

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