## Electronic Supplementary Information (ESI) for

## Tetraphenylethenyl-Modified Perylene Bisimide: Aggregation-Induced Red Emission, Electrochemical Property and Ordered Microstructures

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**Figure S2**. <sup>13</sup>C NMR NMR (500 MHZ, CDCl<sub>3</sub>) spectra of regioisomers of 1,6-BTPEPBI (A) <sup>(4)</sup> and 1,7-BTPEPBI (B).

**Figure S3**. (A) Fluoresce nee spe ctra of 1, 7-BTPEPBI in m ethanol/DCM m ixtures with different methanol fractions ( $f_m$ , % by volume). Excitation wavelength: 455 nm. (B) Quantum yield ( $\Phi_F$ ) of 1, 7-BTPEPBI in methanol/DCM m ixtures with different  $f_m$  values.  $\Phi_F$  was estimated by using Rhodamine B as s tandard ( $\Phi_F = 70\%$  in ethanol). Excitation wavelength: 478 nm. (C) The fl uorescence images for the corresponding solutions were taken under UV illumination. Excitation wavelength = 365 nm. [1,7-BTPEPBI] = 10<sup>-5</sup> M.

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**Figure S14.** A typical optical image (A) and a confocal fluorescence image (B) of 1,7-DBrPBI (10) microstructures. For both images, the microstructures were derived from water/THF mixture with  $f_w$  of 80% and the concentration of 1,7-DBrPBI was  $10^{-5}$  M.

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(6)



i) a) *n*-BuLi, THF, 0 °C, N<sub>2</sub>, 0.5h; b) 4-bromobenzophenone, room temperature, 6h;
ii) *p*-toluenesulfonic acid, toluene, reflux, N<sub>2</sub>, 4h;
iii) a) n-BuLi, THF, -78°C, N<sub>2</sub>, 3h; b) B(OCH<sub>3</sub>)<sub>3</sub>, -78 °C, N<sub>2</sub>, 2h; c) HCl/H<sub>2</sub>O, room temperature, N<sub>2</sub>, 3h;

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**Fig. S5.** Absorption s pectra of 1,7-BTPEPBI in methanol/dichloromethane m ixtures w ith d ifferent methanol contents (V:V). [1,7-BTPEPBI] =10<sup>-5</sup> M.



**Fig. S6.** (A) Em ission spectra of 1,6-BTPEPBI in hexane/DCM mixtures with different hexane fractions ( $f_h$ , by volume). Excitation wavelength = 455 nm. (B) Q uantum yield of 1,6-BTPEPBI in hexane/DCM mixtures with different  $f_h$ . Excitation wavelength: 478 nm. Inset: Fl uorescence images of 1, 6-BTPEPBI in DCM ( $f_h = 0\%$ ) and in a hexane/DCM mixture with  $f_h = 90\%$ . Exc itation wavelength = 365 nm. [1,6-BTPEPBI] =  $10^{-5}$  M.



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