

Supporting information for:

Significant Role of Thorny Surface Morphology of Polyaniline on Adsorption of Triiodide Ions towards Counter Electrode in Dye-Sensitized Solar Cells

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Additional Figures

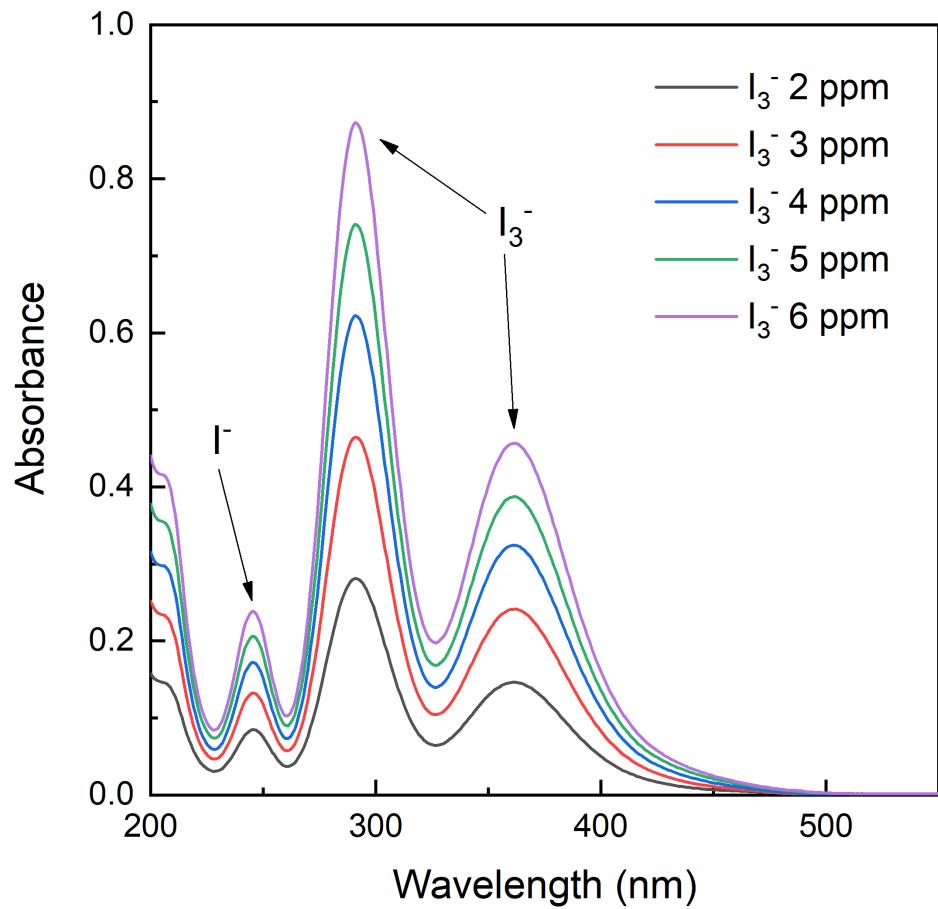


Fig. S1. UV-vis spectra of the redox pair electrolyte used in this study. Triiodide ion (I_3^-) has two strong absorption bands at 289 and 366 nm.

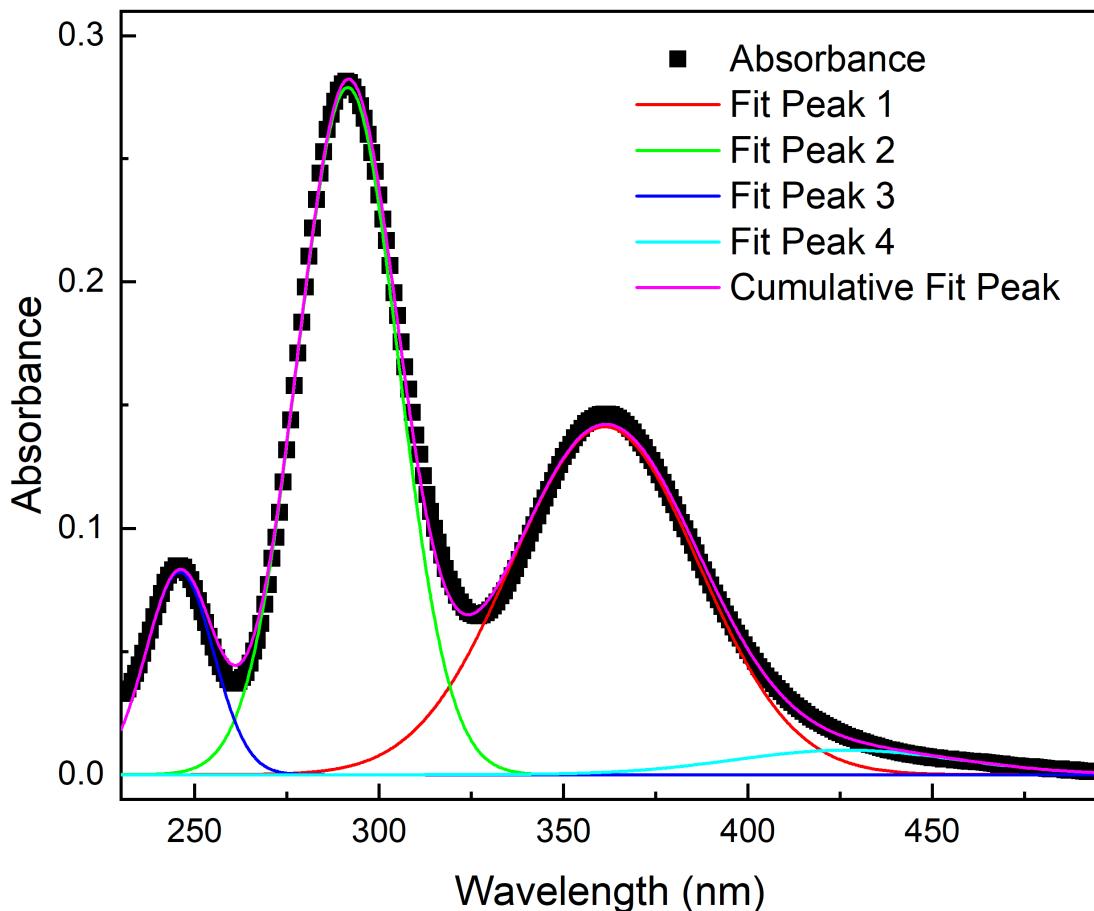


Fig. S2. An example of the fitted UV-vis spectra using the Gaussian function to obtain the corresponding absorption band area.

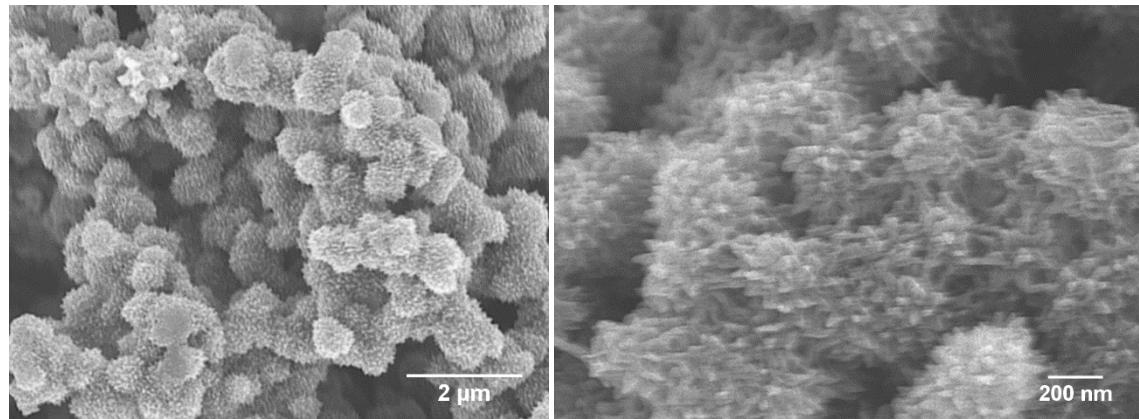


Fig. S3. SEM image of NPES at 10000 \times magnification (a) and the high-magnification SEM image of NPES at 50000 \times (b).

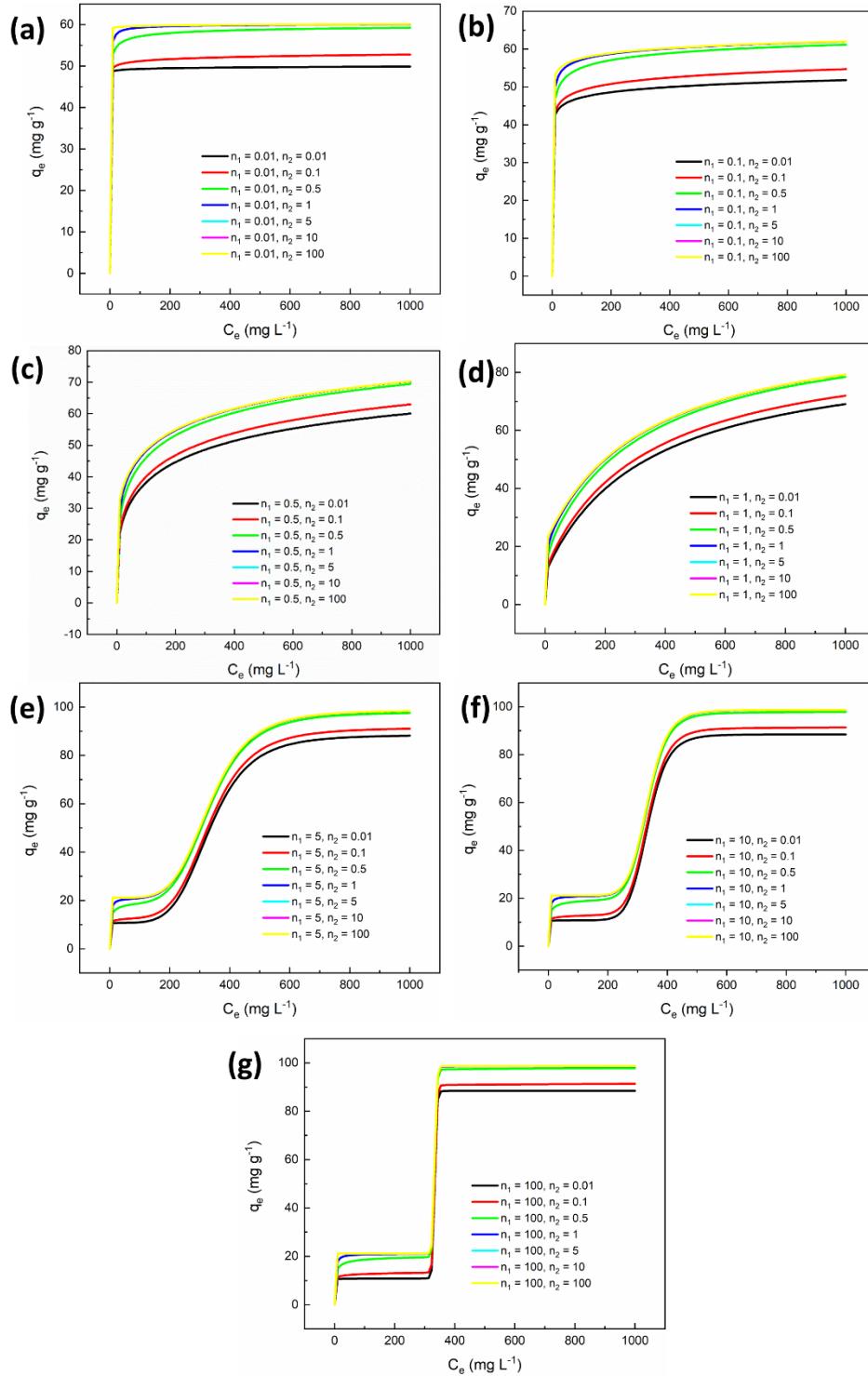


Fig. S4. The simulated dual-site Langmuir–Freundlich adsorption isotherms with various combinations of heterogeneity factors, where n_1 is the heterogeneity factor of type 1 site, while n_2 is the heterogeneity factor of type 2 site. Case 1: $k_{DSLF1} \ll k_{DSLF2}$.

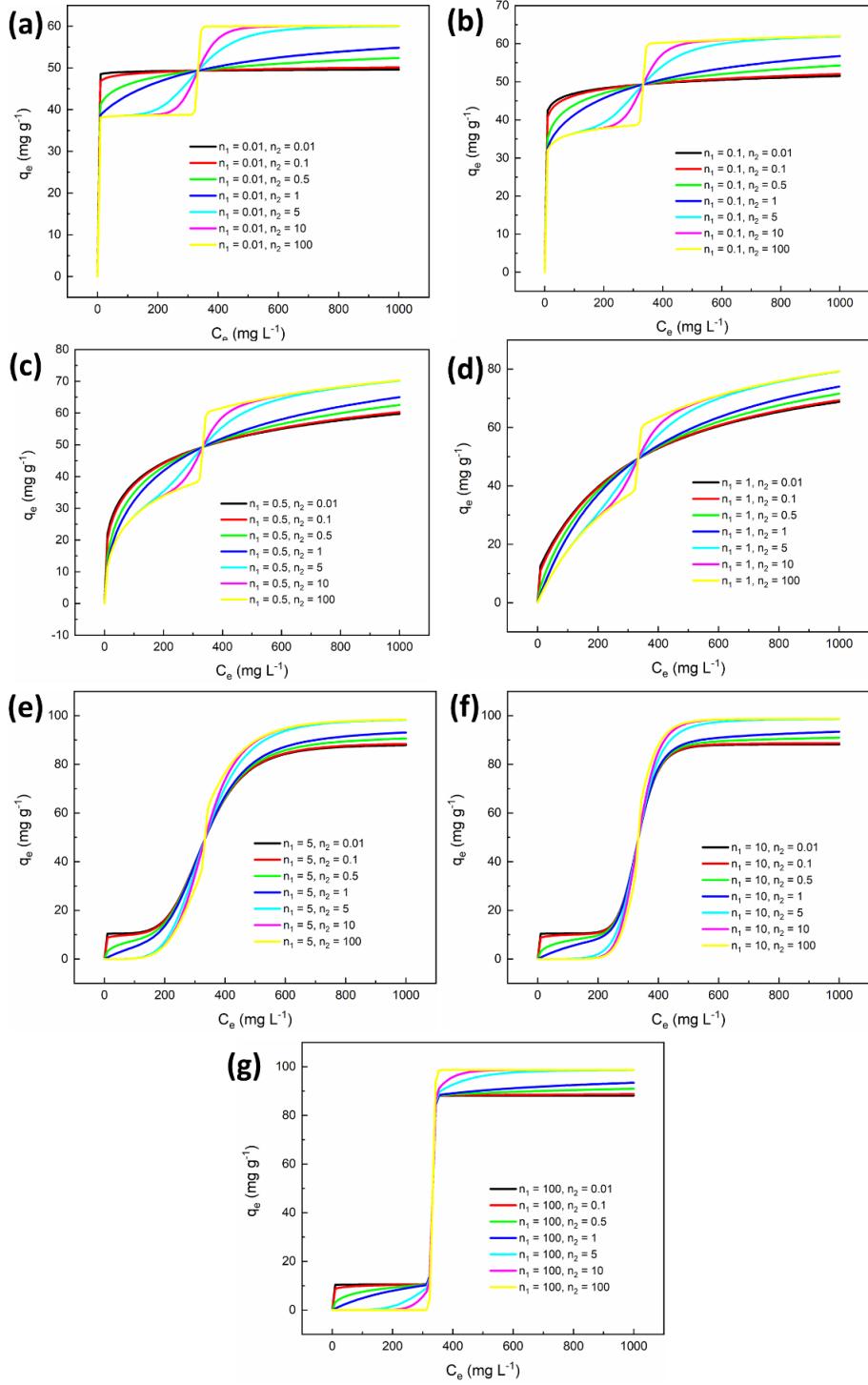


Fig. S5. The simulated dual-site Langmuir–Freundlich adsorption isotherms with various combinations of heterogeneity factors, where n_1 is the heterogeneity factor of type 1 site, while n_2 is the heterogeneity factor of type 2 site. Case 2: $k_{DSLF1} \sim k_{DSLF2}$.

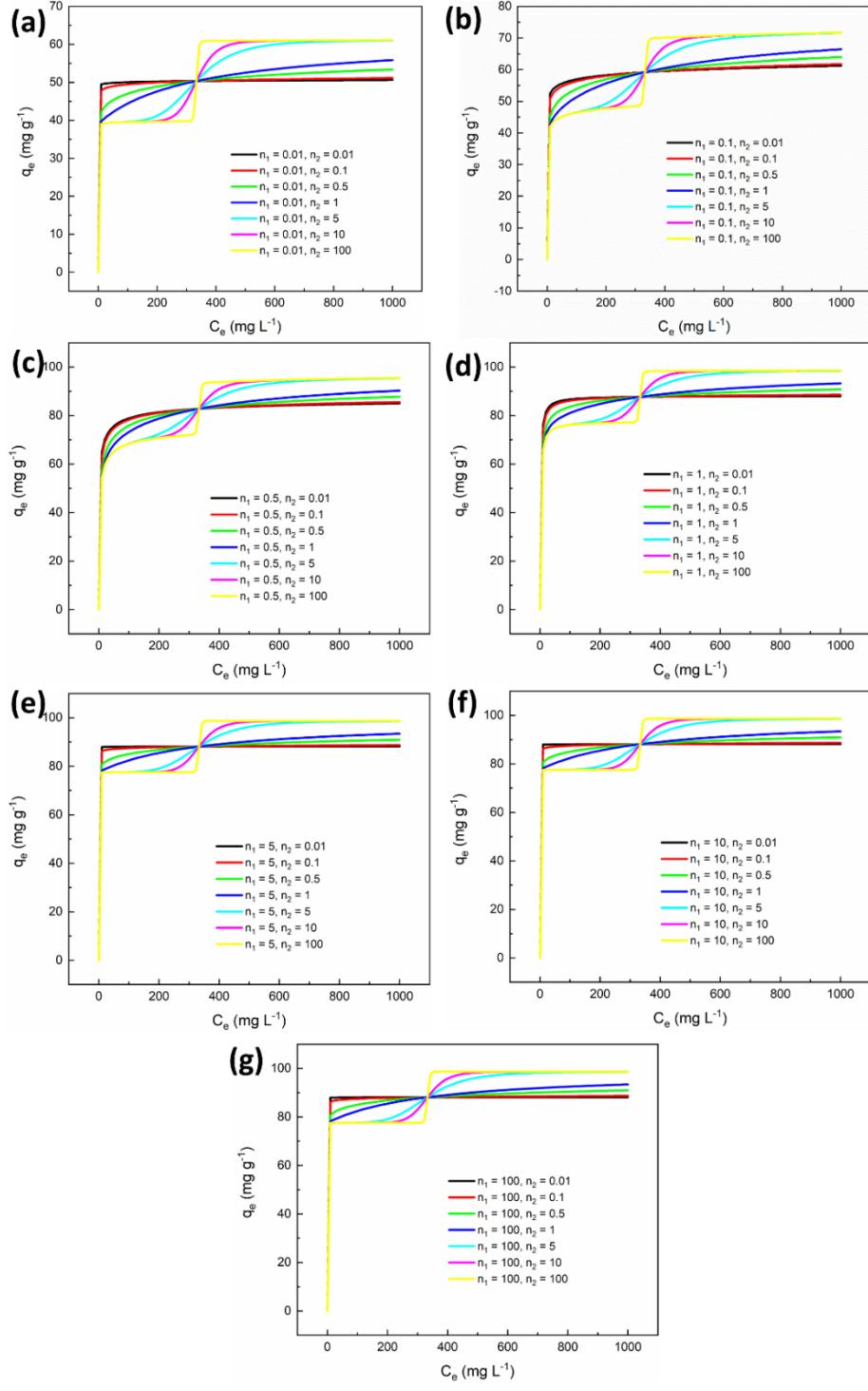


Fig. S6. The simulated dual-site Langmuir–Freundlich adsorption isotherms with various combinations of heterogeneity factors, where n_1 is the heterogeneity factor of type 1 site, while n_2 is the heterogeneity factor of type 2 site. Case 3: $k_{DSLF1} \gg k_{DSLF2}$.

Additional table**Table S1.** Parameters determined from EIS spectra of the fabricated DSSCs

CE	Parameters							
	R_s (Ω)	R_{ct} (Ω)	CPE 1 ($F s^{\alpha-1}$)	α 1	R_w (Ω)	CPE 2 ($F s^{\alpha-1}$)	α 2	Error (%)
PANI ES	0.25	44.50	4×10^{-6}	1	28.00	0.0044	0.75	< 1.0
NPES	0.30	27.05	9×10^{-6}	1	45.00	0.0049	0.60	< 1.5