

Electronic Supporting Information

Photoinduced charge separation in three-layer supramolecular nanohybrids: Fullerene-porphyrin-SWCNT

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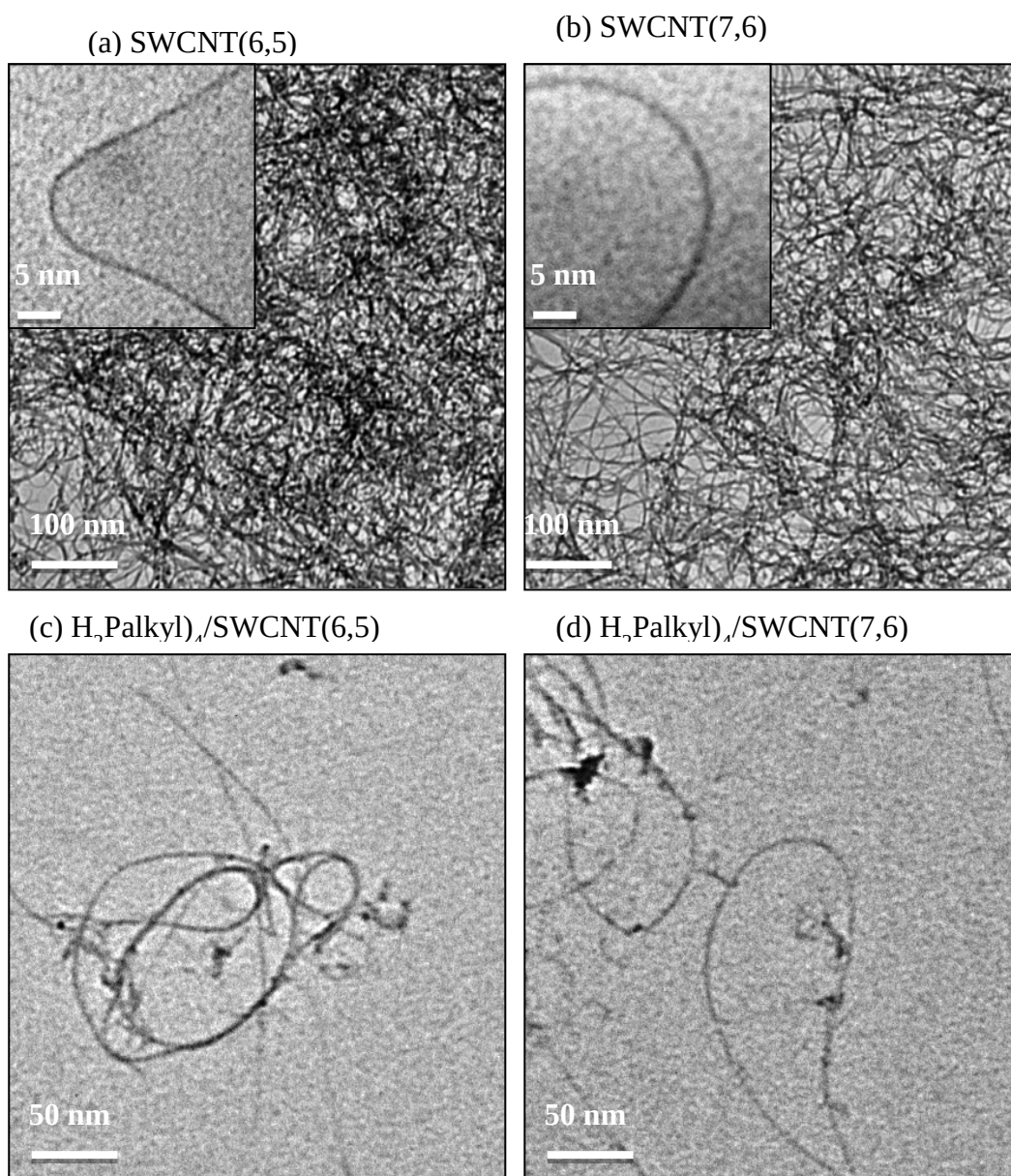


Fig. S1 TEM images of (a) SWCNT(6,5), (b) SWCNT(7,6), (c) $H_2P(alkyl)_4/SWCNT(6,5)$, (d) $H_2P(alkyl)_4/SWCNT(7,6)$.

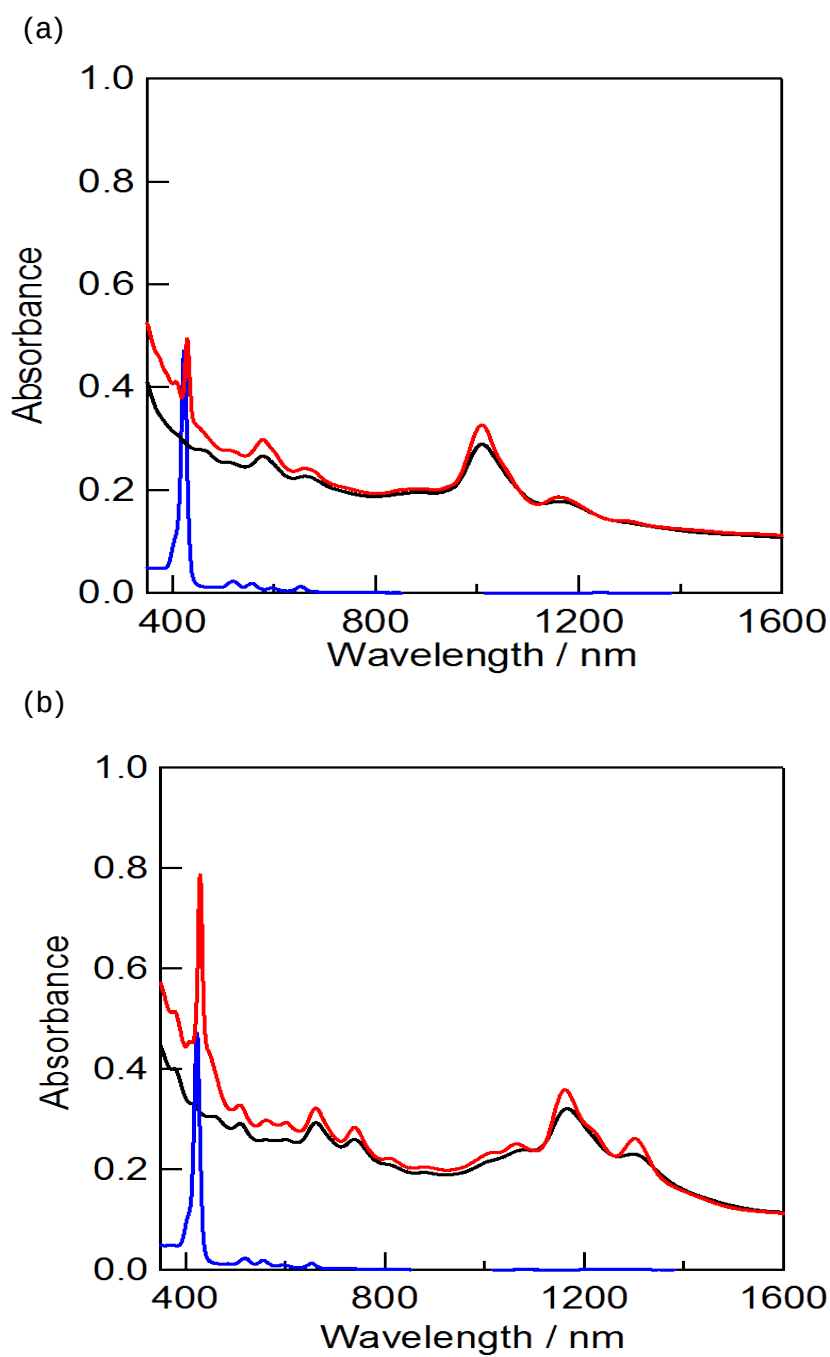
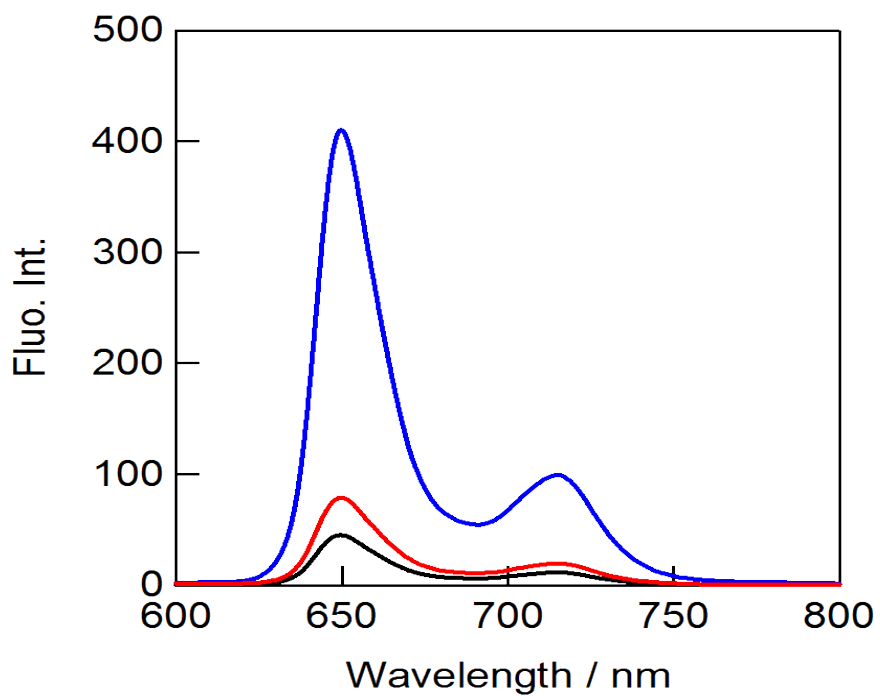


Fig. S2 Steady-state absorption spectra: (a) (blue) 5.4 μM $H_2P(alkyl)_4$, (black) SWCNT(6,5), (red) 5.4 μM $H_2P(alkyl)_4/SWCNT(6,5)$. (b) (blue) 5.4 μM $H_2P(alkyl)_4$, (black) SWCNT(7,6), (red) 5.4 μM $H_2P(alkyl)_4/SWCNT(7,6)$ in DMF.

(a)



(b)

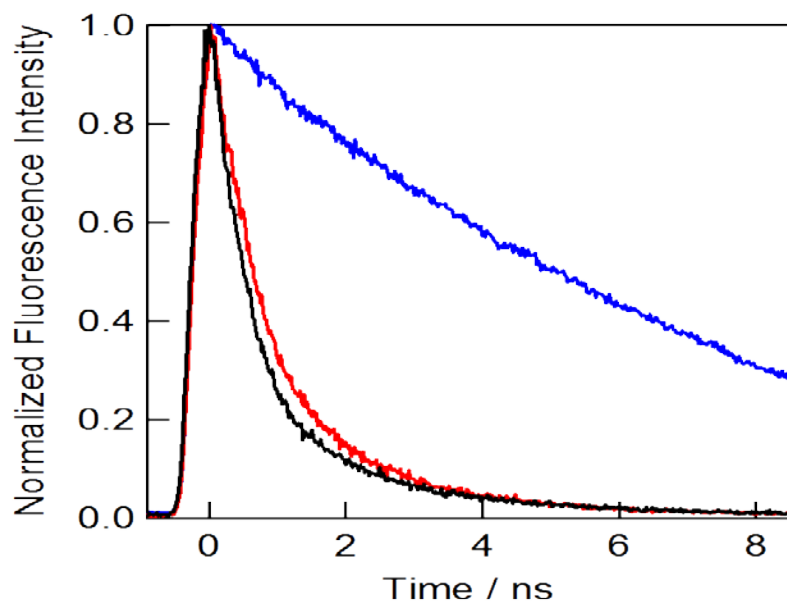


Fig. S3 (a) Steady-state fluorescence spectra ($\lambda_{\text{ex}} = 532$ nm) and (b) fluorescence decays ($\lambda_{\text{ex}} = 408$ nm). (blue) 5.4 μ M $H_2P(alkyl)_4$, (red) 5.4 μ M $H_2P(alkyl)_4/SWCNT(6,5)$, and (black) 5.4 μ M $H_2P(alkyl)_4/SWCNT(7,6)$ in DMF.

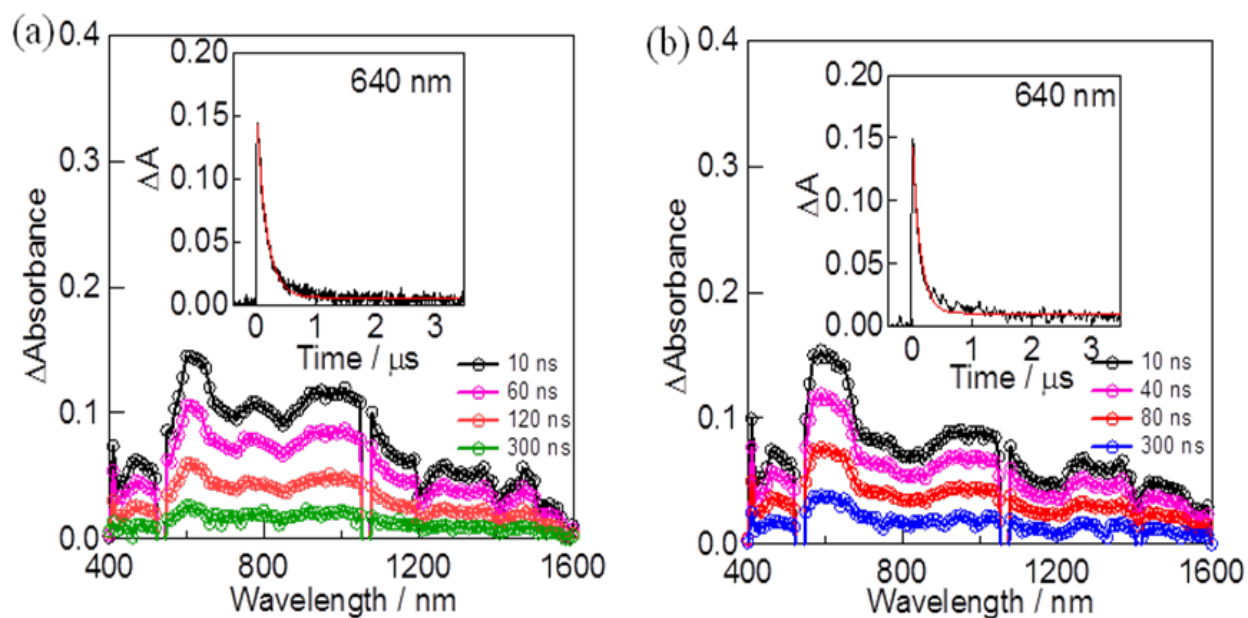


Fig. S4 Nanosecond transient absorption spectra observed by 532 nm laser pulse irradiation in DMF: Inset, Absorption-time profile. (a) $5.4 \mu\text{M}$ $\text{H}_2\text{P}(\text{alkyl})_4/\text{SWCNT}(6,5)$, (b) $5.4 \mu\text{M}$ $\text{H}_2\text{P}(\text{alkyl})_4/\text{SWCNT}(7,6)$ in Ar-saturated DMF.