Supplementary Information

Enhancing near-infrared photoluminescence from single-walled carbon nanotubes by defect-engineering using benzoyl peroxide

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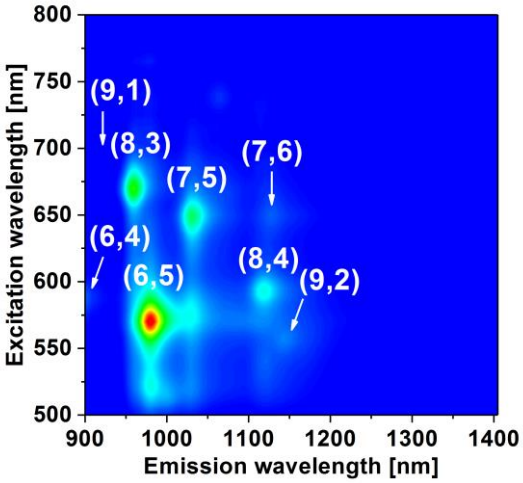

Figure S1 2D PLE map of (6,5)-enriched SWCNTs dispersed in 2% sodium cholate aqueous solution.

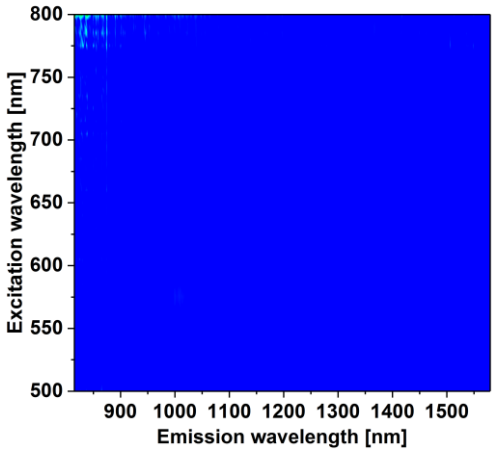

Figure S2 2D PLE map of (6,5)-enriched SWCNTs dispersed in 2% sodium cholate aqueous solution after treatment with BPO at 100°C for 1h in water.

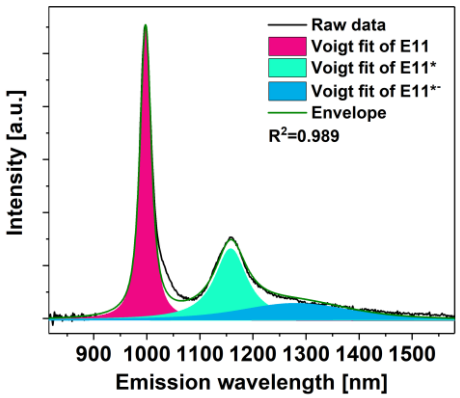

Figure S3 Deconvolution of an exemplary PL spectrum of (6,5) SWCNT dispersion in PFO-Bpy/toluene solution after the treatment with BPO at 60 µg/mL at 100°C for 1h. Voigt profile was utilized for the resolution of the E_{11}, E_{11}^{*}, and E_{11}^{*-} signatures. The integrated area under these curves was used for analysis in Figs. 5b, 6b-c.

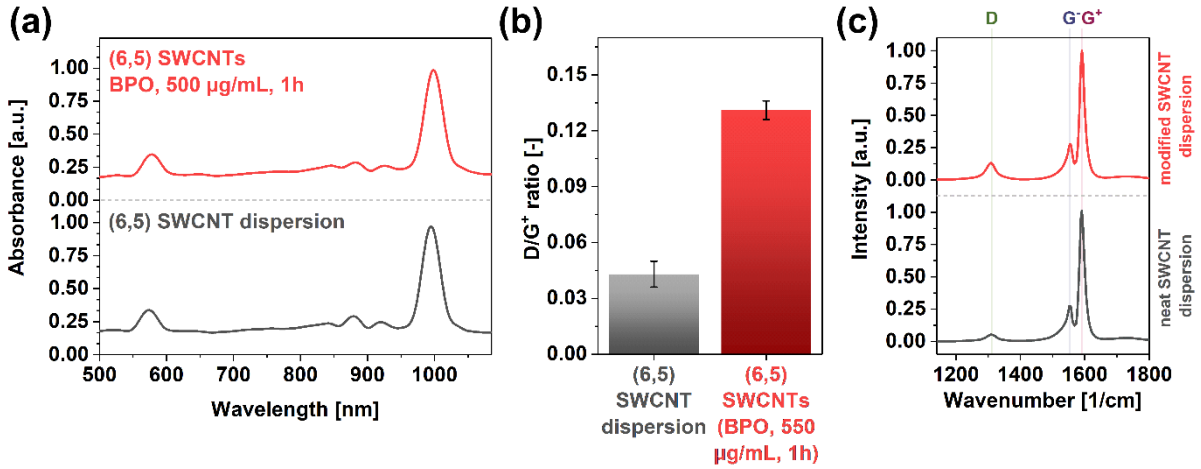

Figure S4 (a) Absorption spectra of (6,5) SWCNT dispersion in PFO-Bpy/toluene solution before (grey line) and after the treatment with BPO at 500 µg/mL at 100°C for 1h (red line). (b) D/G+ ratios measured by Raman spectroscopy and (c) corresponding Raman spectra.

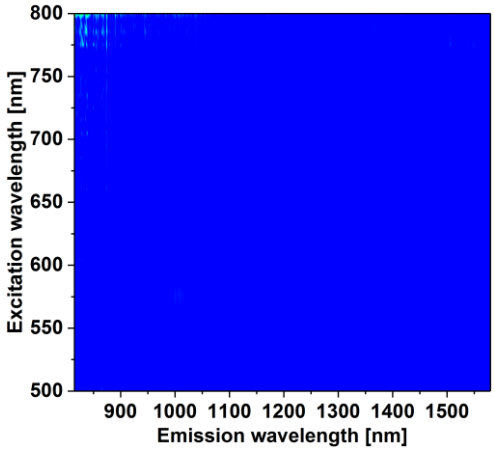

Figure S5 2D PLE map of BPO in PFO-Bpy and toluene mixture in the absence of SWCNTs.