Supporting Materials

Preparation of Cyano-Substituted Tetraphenylethylene Derivatives and Their Applications in Solution-Processable OLEDs

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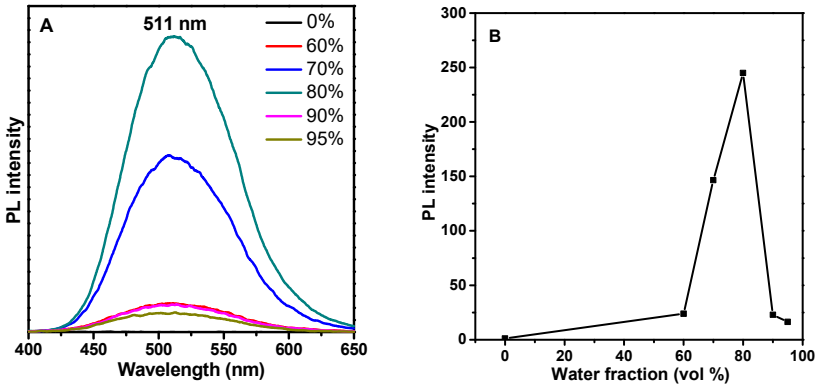

Figure S1. (A) PL spectra of SFC in THF-water mixtures with different water fractions (f_w). (B) Plot of the relative PL intensity versus the compositions of THF-water mixtures of SFC.

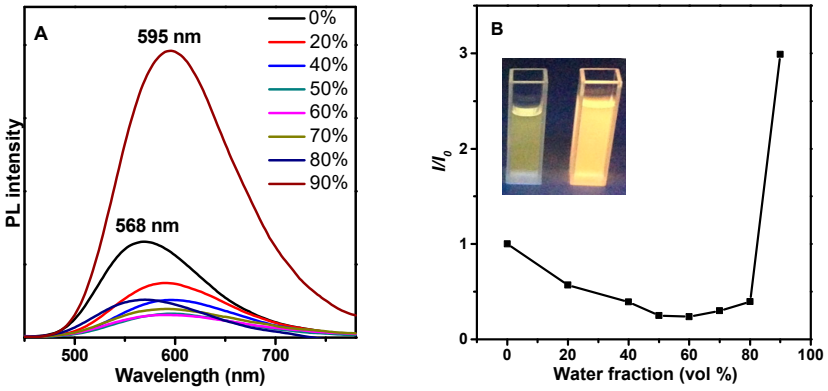

Figure S2. (A) PL spectra of cis-DFC in THF-water mixtures with different water fractions (f_w). (B) Plot of the relative PL intensity (I/I_0) versus the compositions of THF-water mixtures of cis-DFC. I_0 = emission intensity in pure THF solution. Inset in (B) are the fluorescent photographs at f_w = 0 and 95% taken under a 365 nm UV lamp.

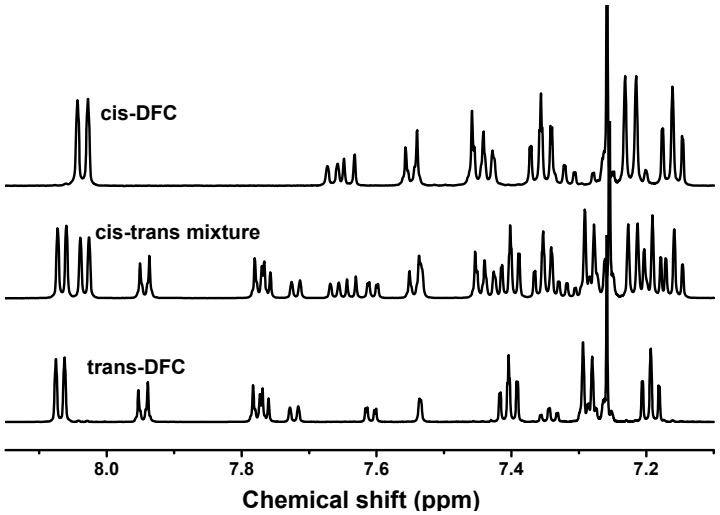

Figure S3. ^{1}H NMR spectra of trans-DFC and cis-DFC in $CDCl_3$ (500 M Hz, 298 K).

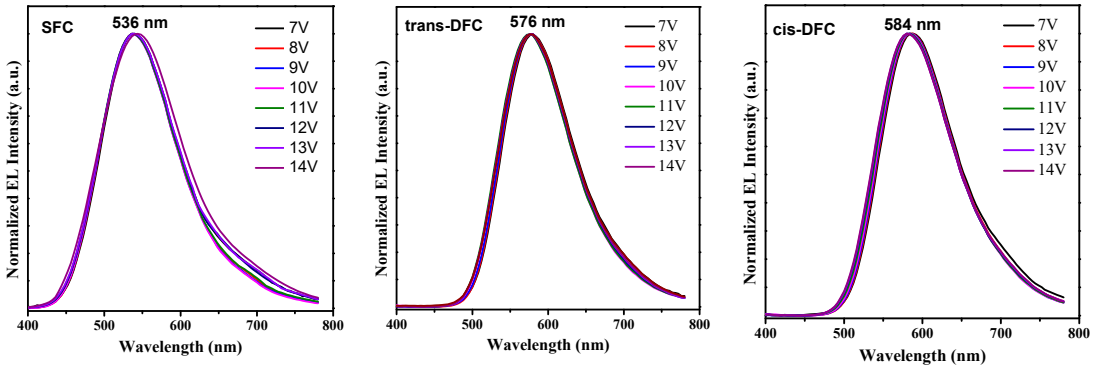

Figure S4.The EL spectra of devices of SFC, trans-DFC and cis-DFC under the different operating voltages

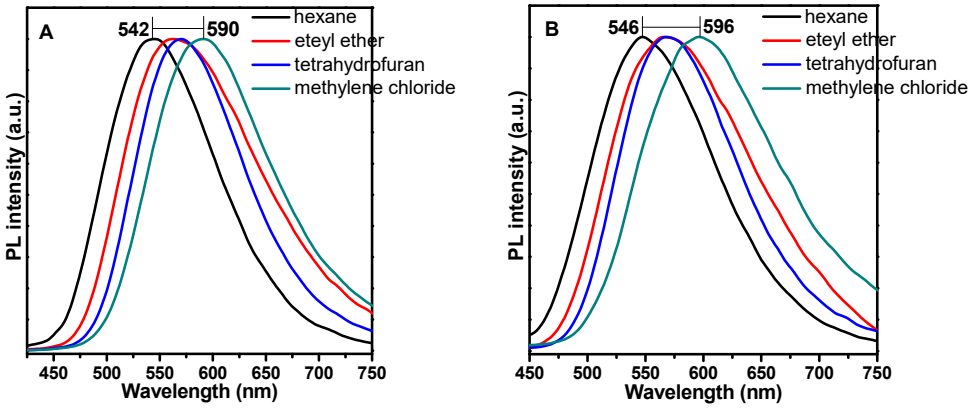

Figure S5. (A) PL spectra of trans-DFC in different solvents (10^{-5} M); (B) PL spectra of cis-DFC in different solvents (10^{-5} M).

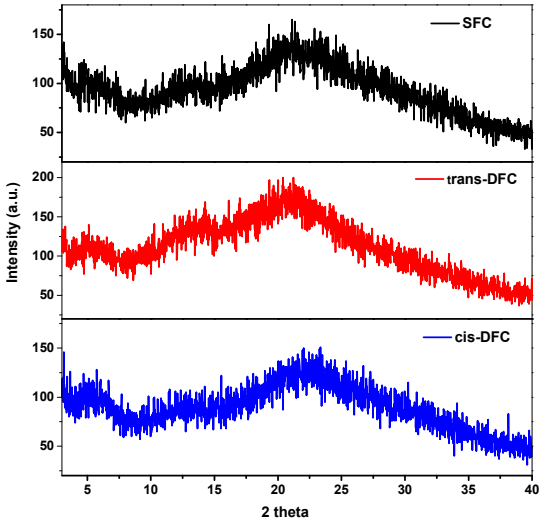

Figure S6. X-ray diffraction (XRD) patterns of SFC, trans-DFC and cis-DFC in powder state.

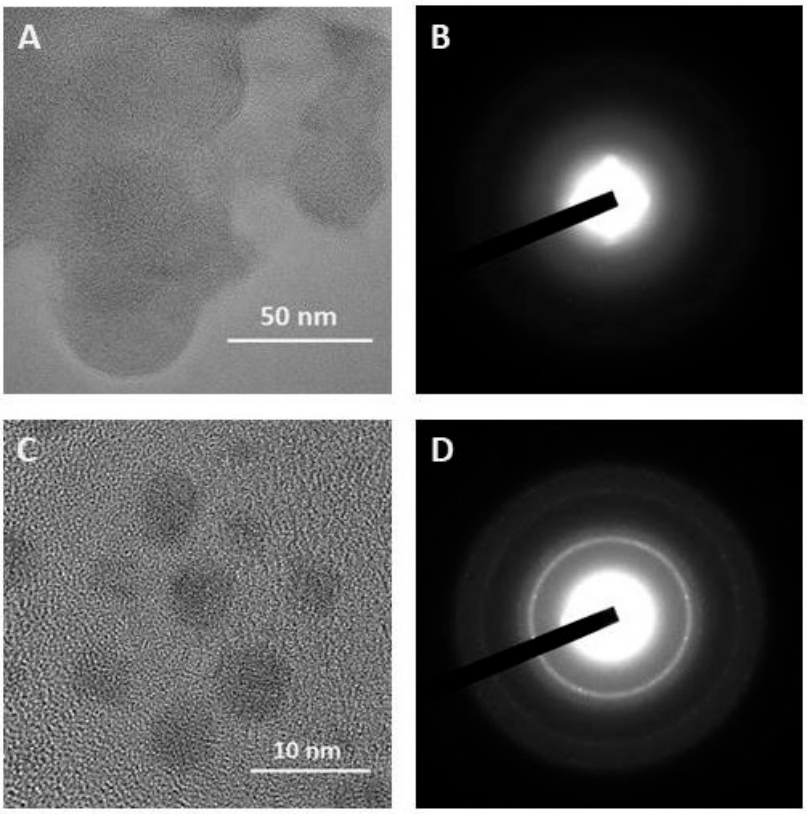

Figure S7. TEM images (left) and ED patterns (right) of (A and B) amorphous and (C and D) crystalline aggregates of trans-DFC formed in the acetonitrile/water mixtures with water contents of 0 and 90 vol %.