Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information for:

Organogelation of Cyanovinylcarbazole with Terminal Benzimidazole: AIE and Response for Gaseous Acid

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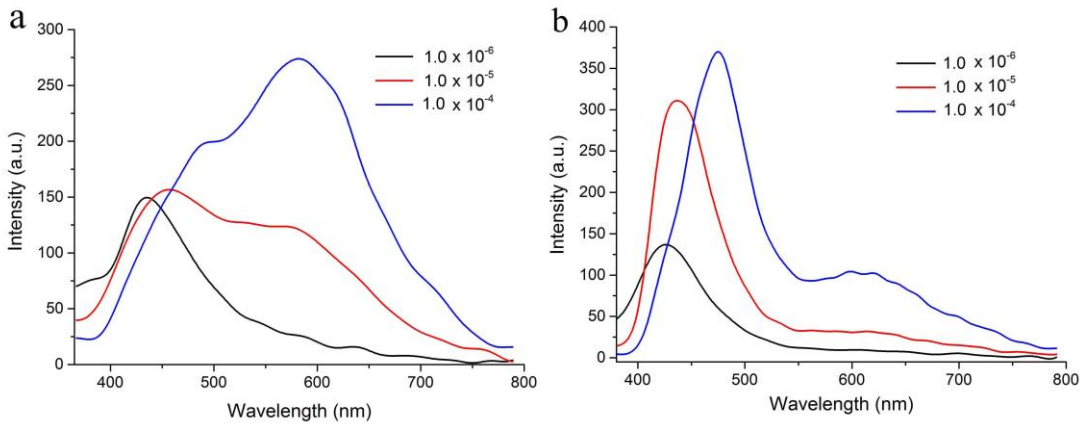

Figure S1 Concentration-dependent fluorescence emission spectra of (a) **CCBM** and (b) **TCBM** (λ_{ex} = 365 nm) in CH_2Cl_2 (mol/L).

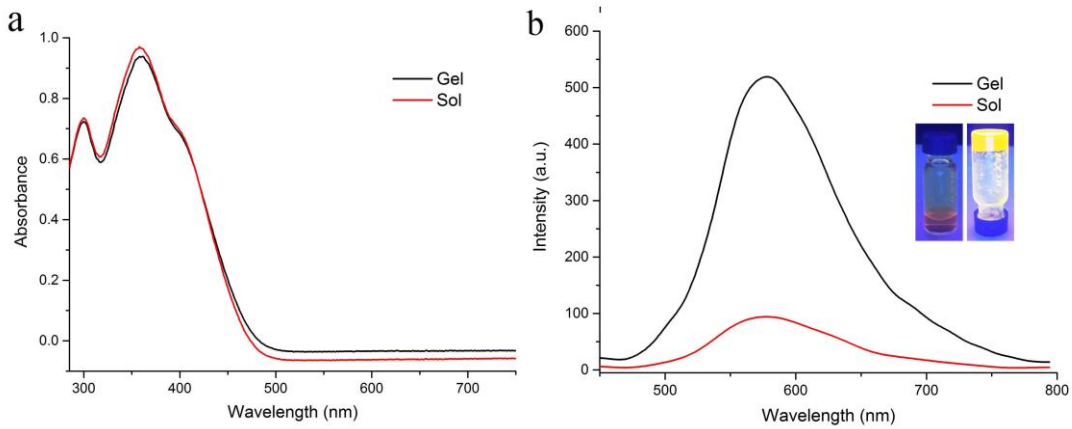

Figure S2 (a) UV-vis absorption and (b) fluorescence emission (λ_{ex} = 365 nm) spectra of **TCBM** in solution and in gel phase in toluene/*tert*-pentanol (v/v = 1/15, 5.0×10^{-3} M). Inset: Photos of **TCBM** in solution and in organogel irradiated at 365 nm.

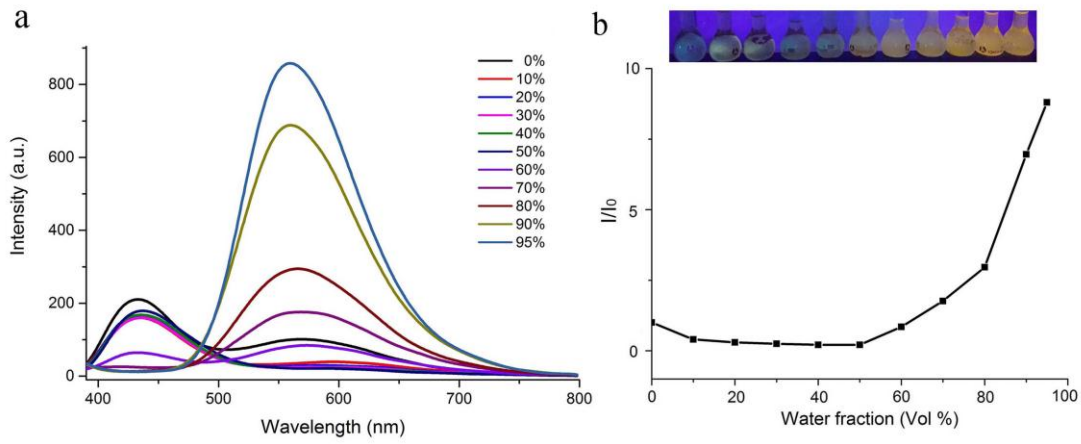

Figure S3 (a) Fluorescence emission spectra of **TCBM** (λ_{ex} = 365 nm); (b) plots of the intensity at 570 nm for **TCBM**, in THF/water with different f_w. The concentration of **TCBM** is maintained at 1.0 $\times 10^{-5}$ M. Inset: Photos of **TCBM** in THF containing different amounts of water under 365 nm light.

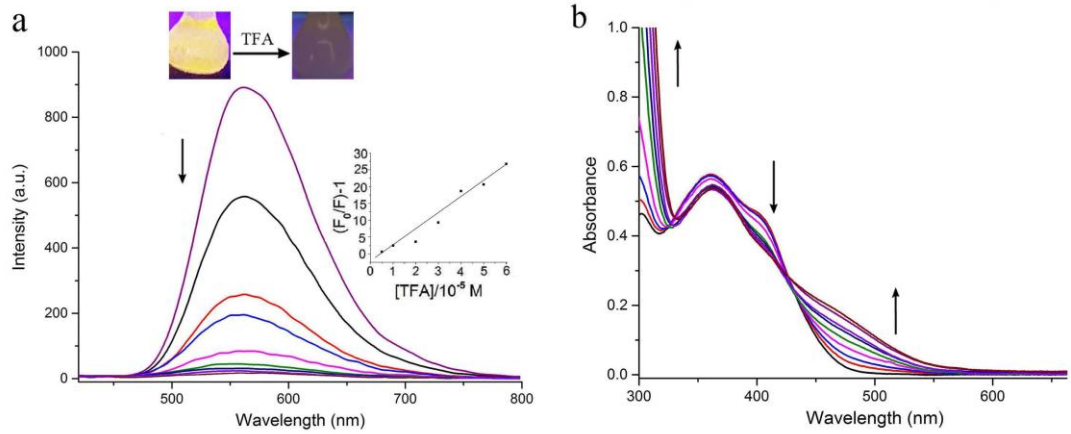

Figure S4 (a) Fluorescence emission spectra of **TCBM** (1.0 $\times$ 10^{-5} M) in THF/water with f_w of 95% (λ_{ex} = 365 nm); (b) UV-vis absorption of **TCBM** in THF upon adding different amount of TFA. Insert: Stern-Volmer plot for **TCBM** towards TFA and photos of **TCBM** in THF/water with f_w of 95% under 365 nm light before and after adding 8 equiv. of TFA.

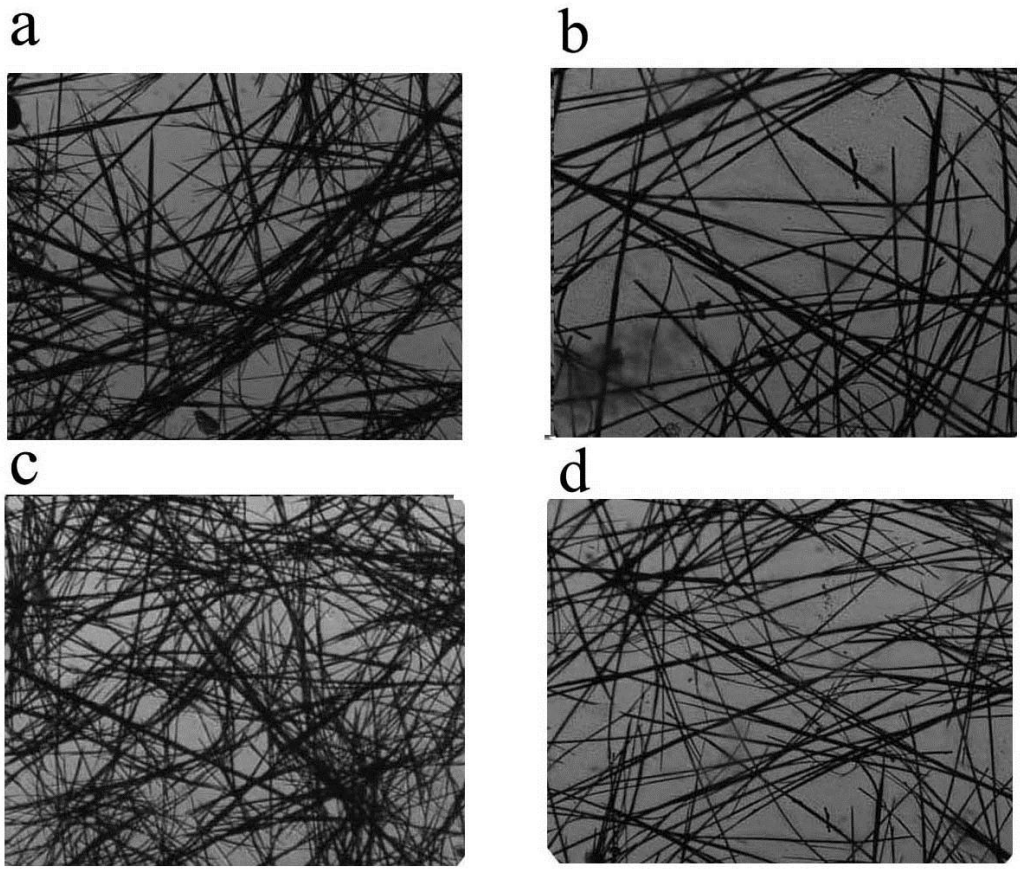

Figure S5 Optical microscope images of **CCBM** in the nanofibers-based films with thickness of 1.73 μm (a) and 0.21 μm (b); and optical microscope images of **TCBM** in the nanofibers-based films with thickness of 1.12 μm (c) and 0.32 μm (d), respectively.

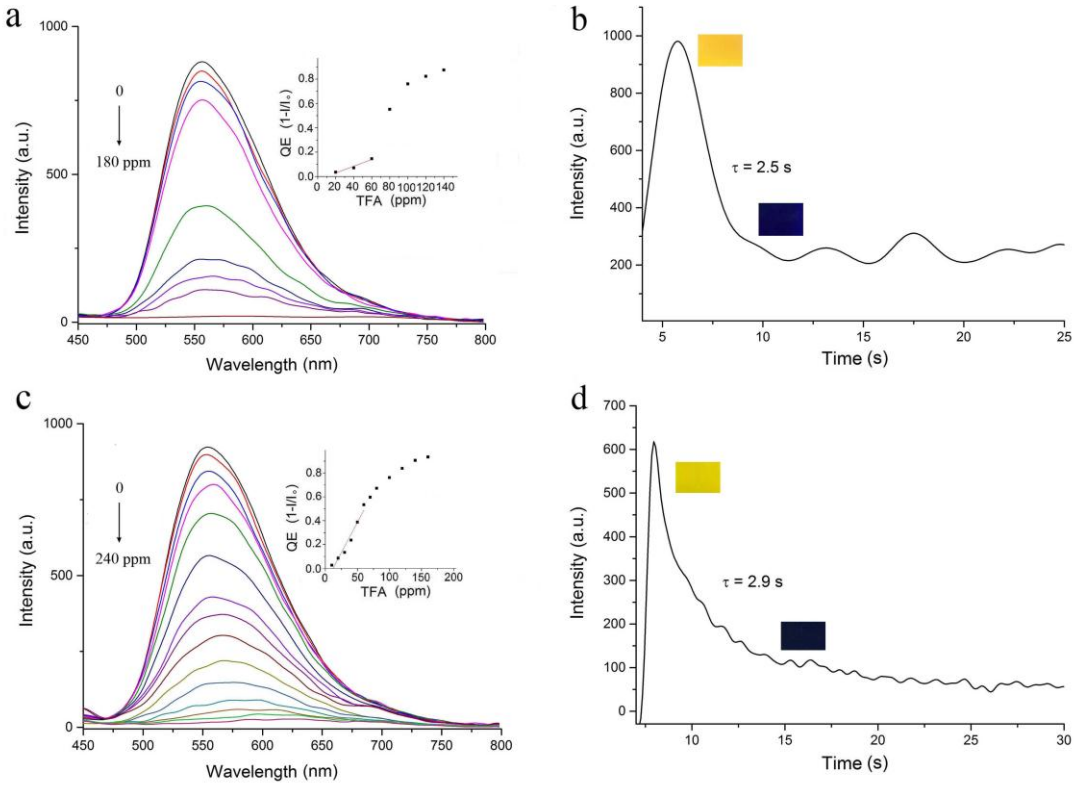

Figure S6 Time-dependent fluorescence emission spectra of **CCBM** (a) and **TCBM** (c) in the nanofibers-based films with thickness of 1.73 μm and 1.12 μm, respectively, upon exposed to saturated vapor of TFA (λ_{ex} = 365 nm); Time-course of fluorescence quenching at 560 nm for **CCBM** (b), and at 550 nm for **TCBM** (d) in the nanofibers-based films with thickness of 1.73 μm and 1.12 μm, respectively. Insert: Photos of the films based on **CCBM** and **TCBM** before and after exposed to TFA (180 ppm for inset of 5b and 240 ppm for inset of 5d), respectively.

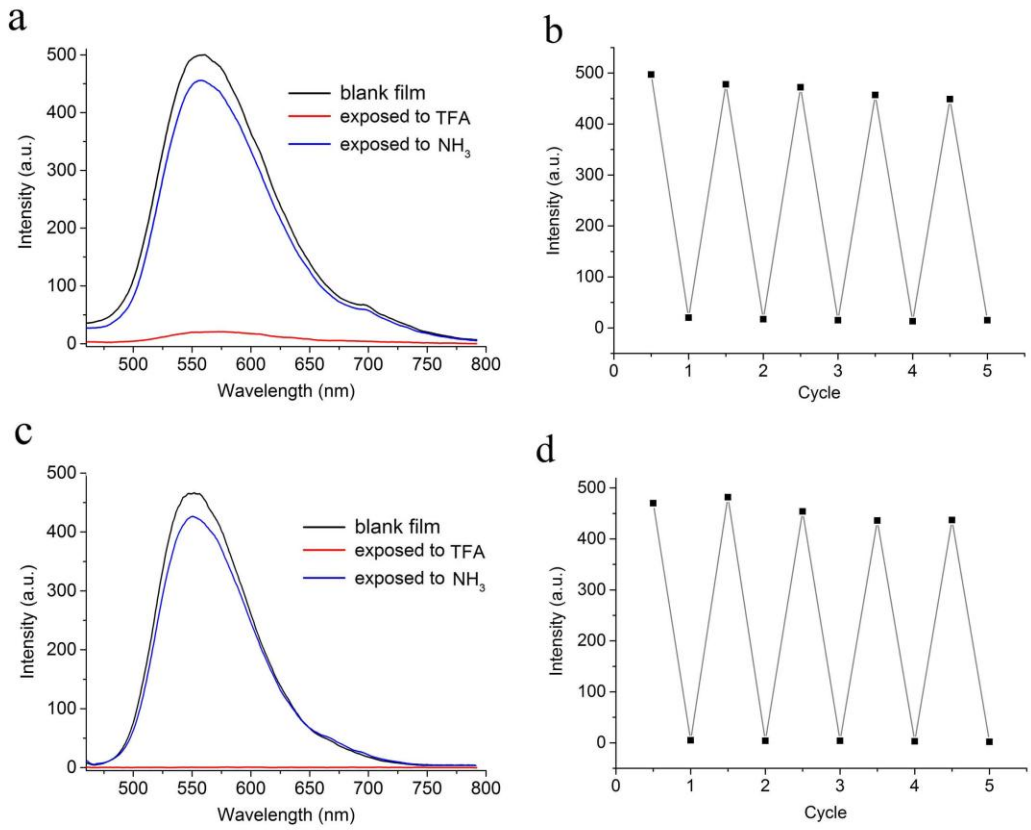

Figure S7 Fluorescence emission spectra of **CCBM** (a) and **TCBM** (c) in nanofibers-based films upon exposed to saturated TFA and NH_3 vapors; Cycles of the fluorescence quenching and recovery of **CCBM** at 560 nm (b) and **TCBM** at 550 nm (d) in nanofibers-based films exposed to the vapors of TFA and NH_3, repeatedly (λ_{ex} = 365 nm).

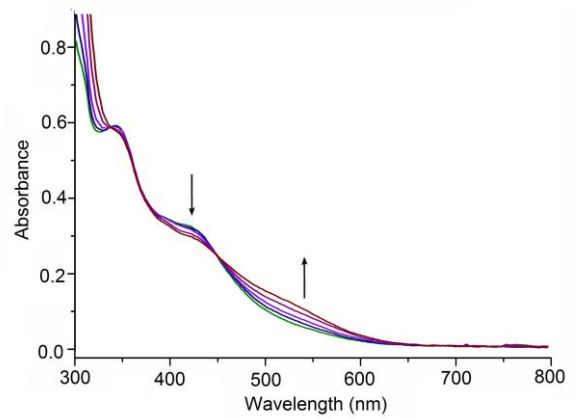

Figure S8 UV-vis absorption spectra of **CCBM** in nanofibers-based film upon exposed to different amount of TFA vapors (0 to 120 ppm).

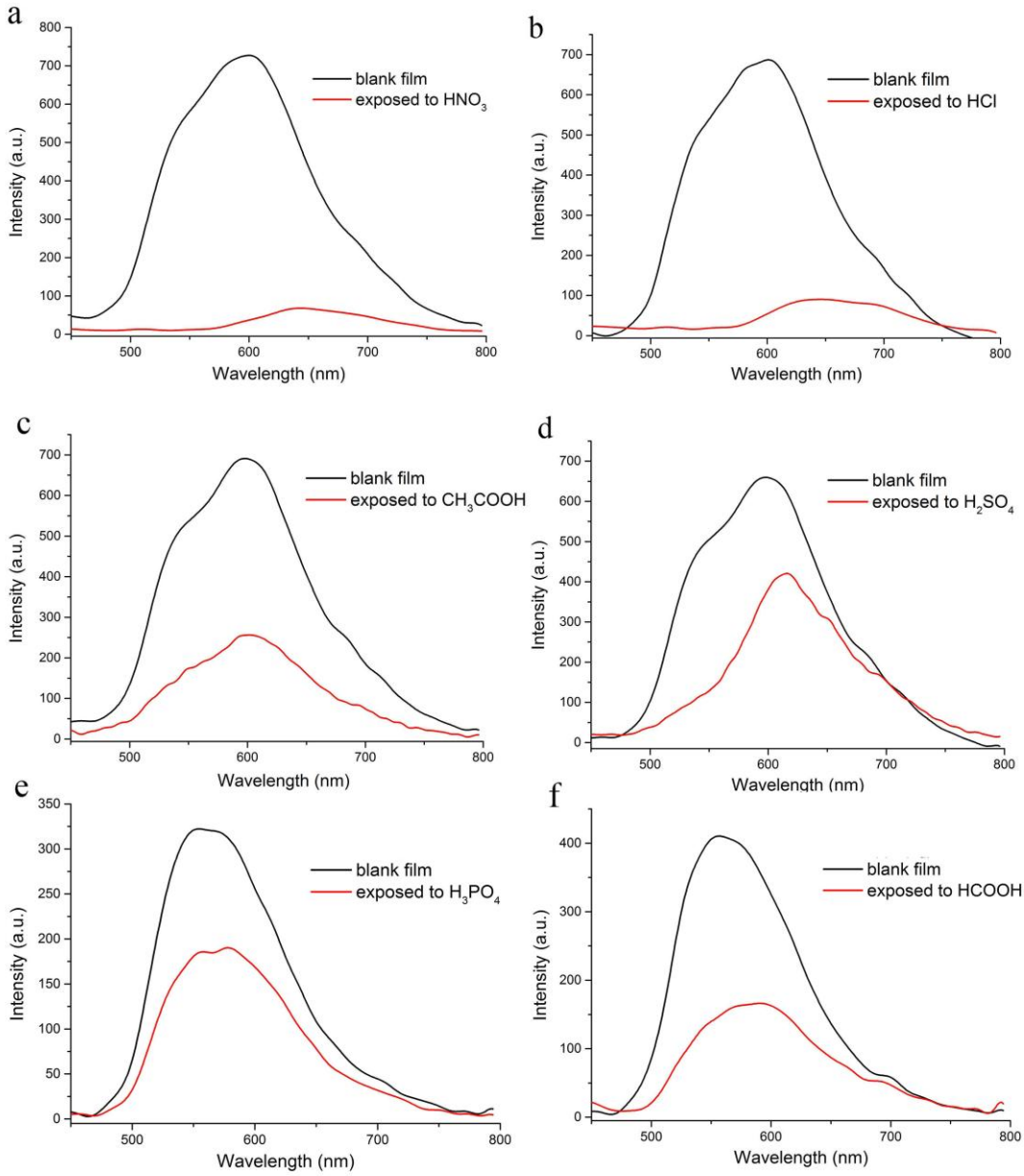

Figure S9 Fluorescence emission spectra of **CCBM** in the nanofibers-based films with the thickness of 0.21 μm before and after exposed to saturated vapors of (a) HNO_3, (b) HCl, (c) CH_3COOH, (d) H_2SO_4, (e) H_3PO_4 and (f) HCOOH at room temperature (λ_{ex} = 365 nm).

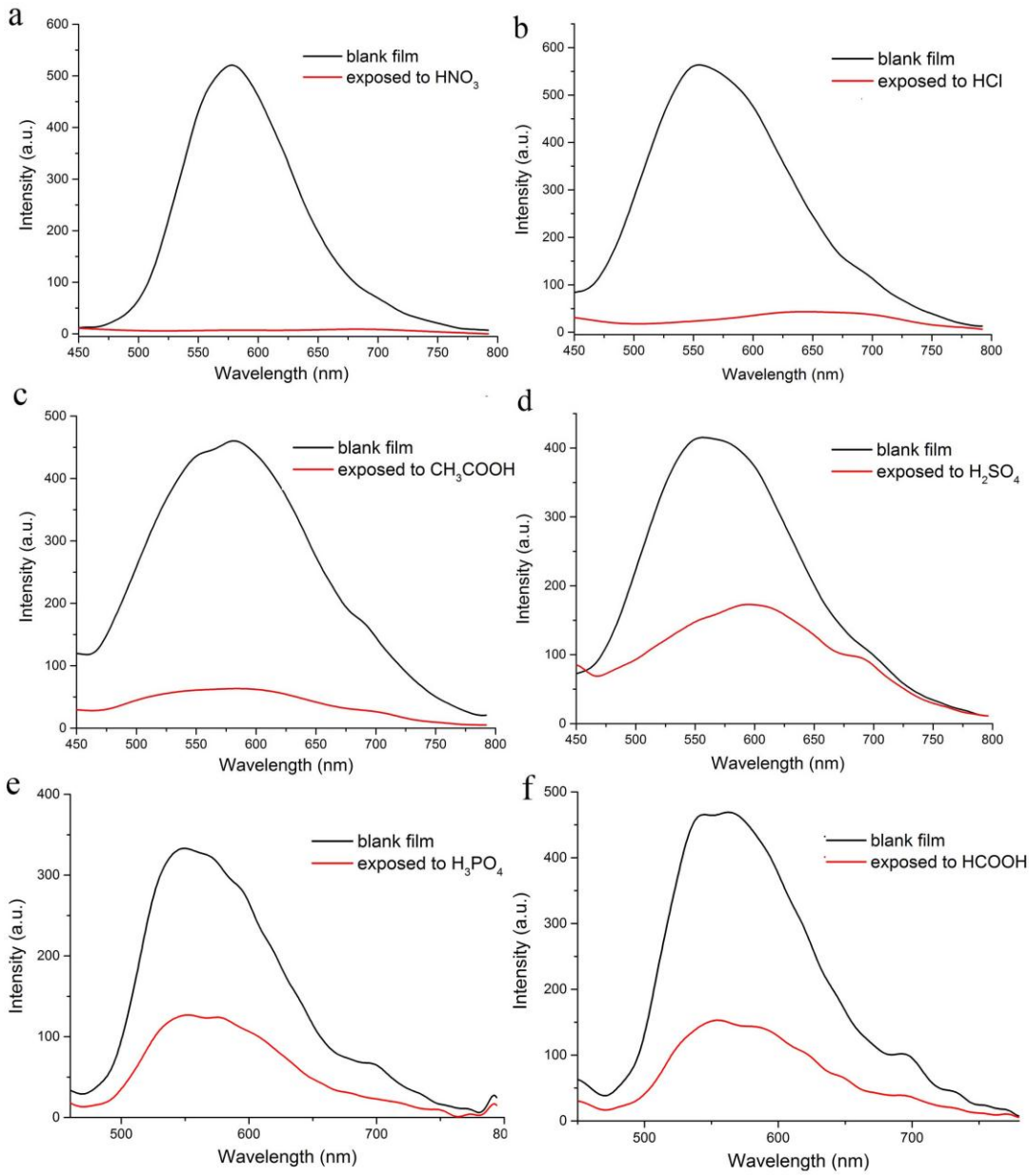

Figure S10 Fluorescence emission spectra of **TCBM** in the nanofibers-based films with the thickness of 0.32 μm before and after exposed to saturated vapors of (a) HNO_3, (b) HCl, (c)CH_3COOH, (d) H_2SO_4, (e) H_3PO_4 and (f) HCOOH in room temperature (λ_{ex} = 365 nm).

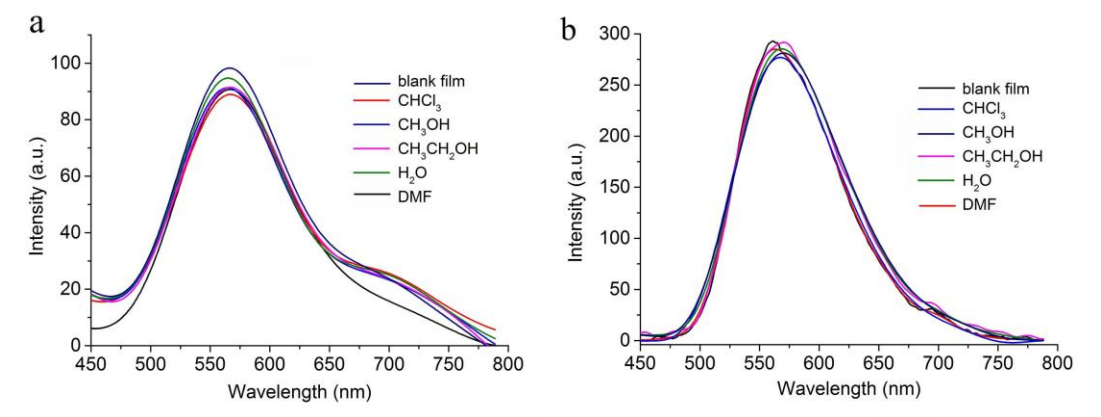

Figure S11 Fluorescence emission spectra of **CCBM** (a) and **TCBM** (b) in nanofibers-based films upon exposure to the saturated vapors of $CHCl_3$, CH_3OH, C_2H_5OH, H_2O and DMF for 30 s (λ_{ex} = 365 nm).

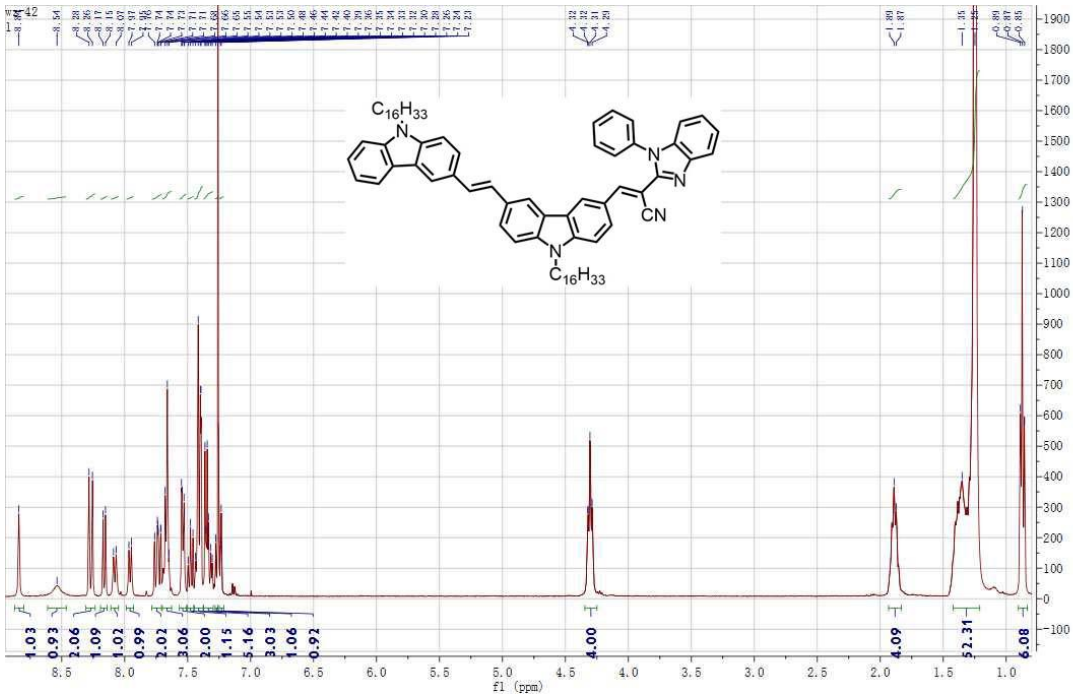

Figure S12 ^{1}H NMR (400 MHz) spectrum of **CCBM** in $CDCl_3$.

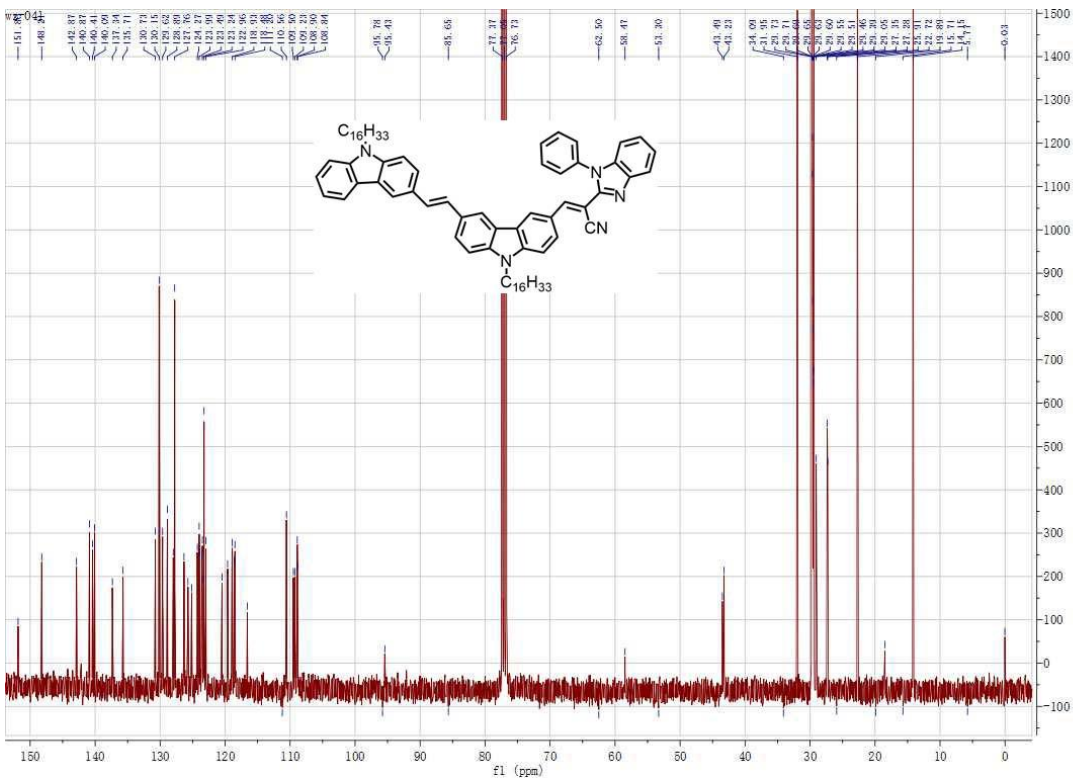

Figure S13 ^{13}C NMR (100 MHz) spectrum of **CCBM** in $CDCl_3$.

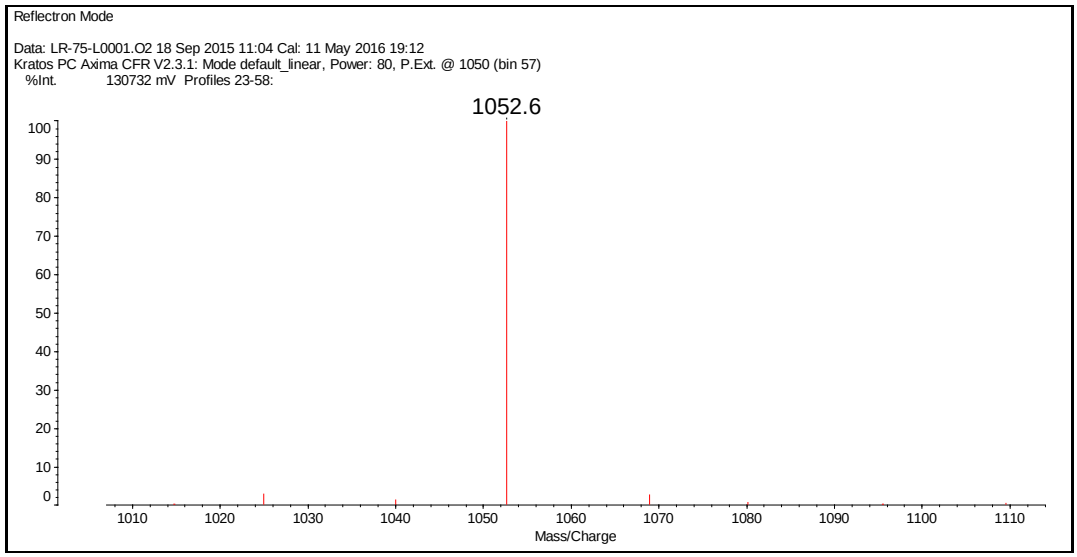

Figure S14 MALDI-TOF mass spectrum of **CCBM**.

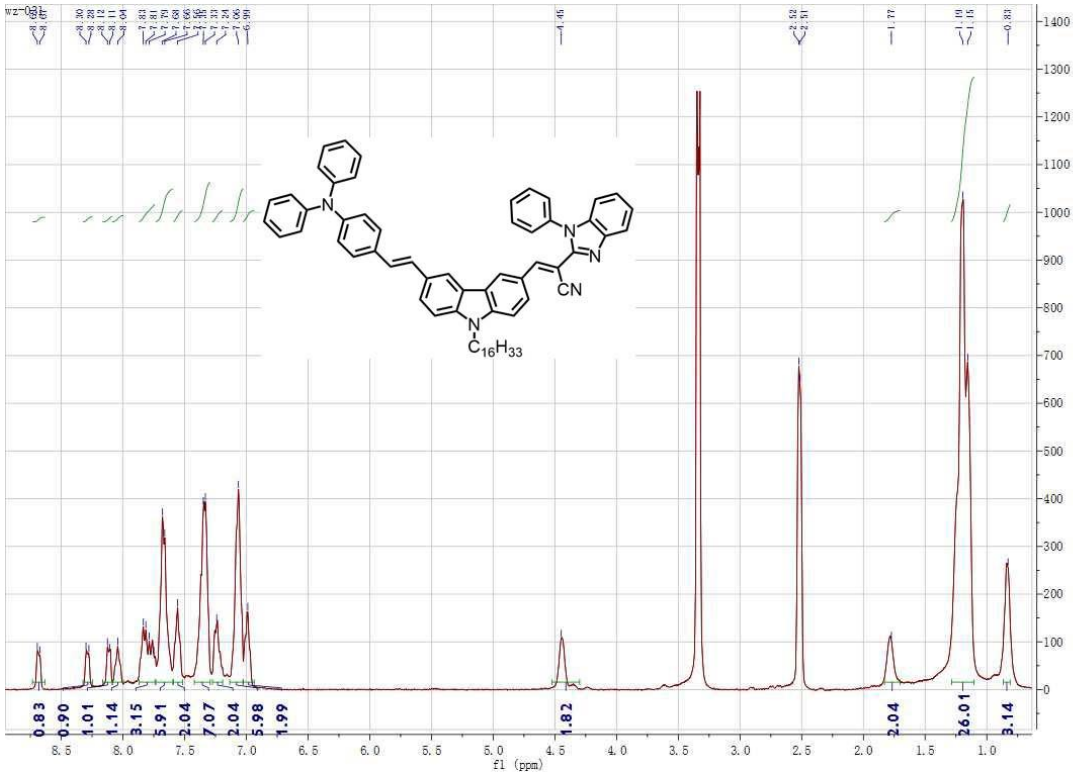

Figure S15 ^{1}H NMR (400 MHz) spectrum of **TCBM** in DMSO-d_6.

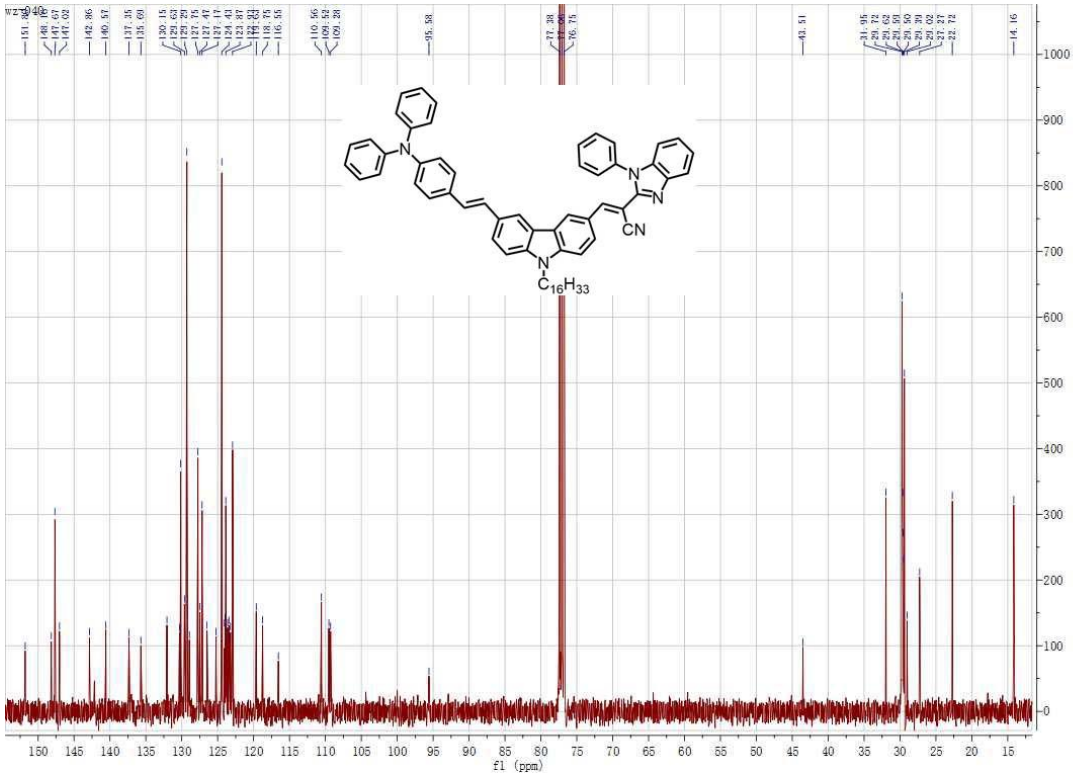

Figure S16 ^{13}C NMR (100 MHz) spectrum of **TCBM** in $CDCl_3$.

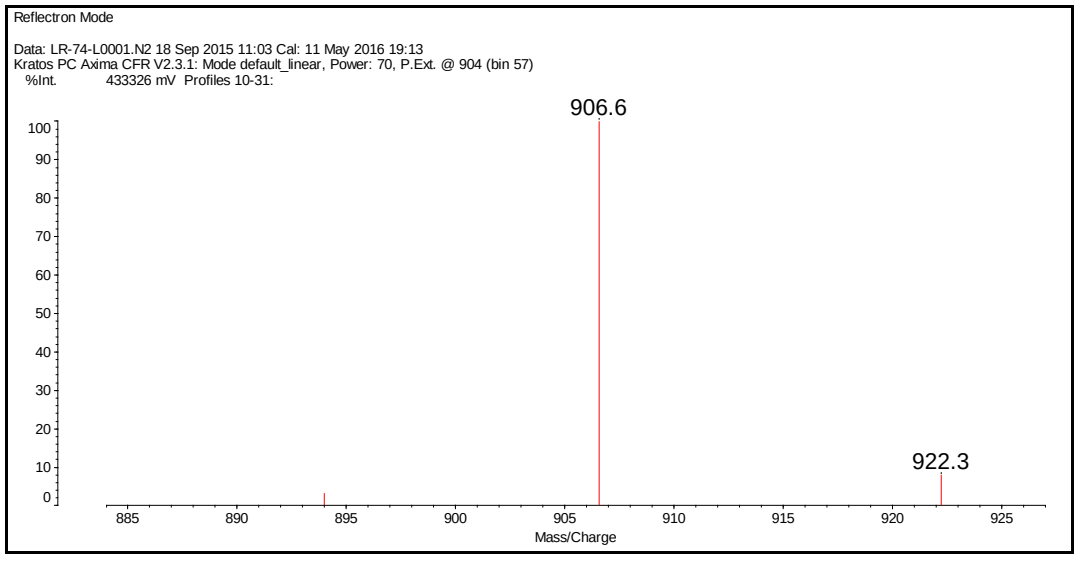

Figure S17 MALDI-TOF mass spectrum of **TCBM**.