Supporting Information for "Unprecedented colorimetric responses of polydiacetylenes driven by plasma induced polymerization and their patterning applications"

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Experiment

Methods

Materials and instruments. 10, 12-Pentacosadiynoic acid (PCDA) and Hexaethylene glycol were purchased from Sigma Aldrich Korea. General methods used unless otherwise noted, materials were obtained from commercial suppliers and were used without further purification. Flash chromatography was carried out on silica gel (230-400 mesh). ^{1}H NMR and ^{13}C NMR spectra were recorded using 300 MHz and 75 MHz. Chemical shifts were expressed in ppm and coupling constants (*J*) in Hz. Scanning Electron Microscopy (SEM) images were acquired on a JMS-6700F, JEOL operating at an acceleration voltage of 10.0 kV.

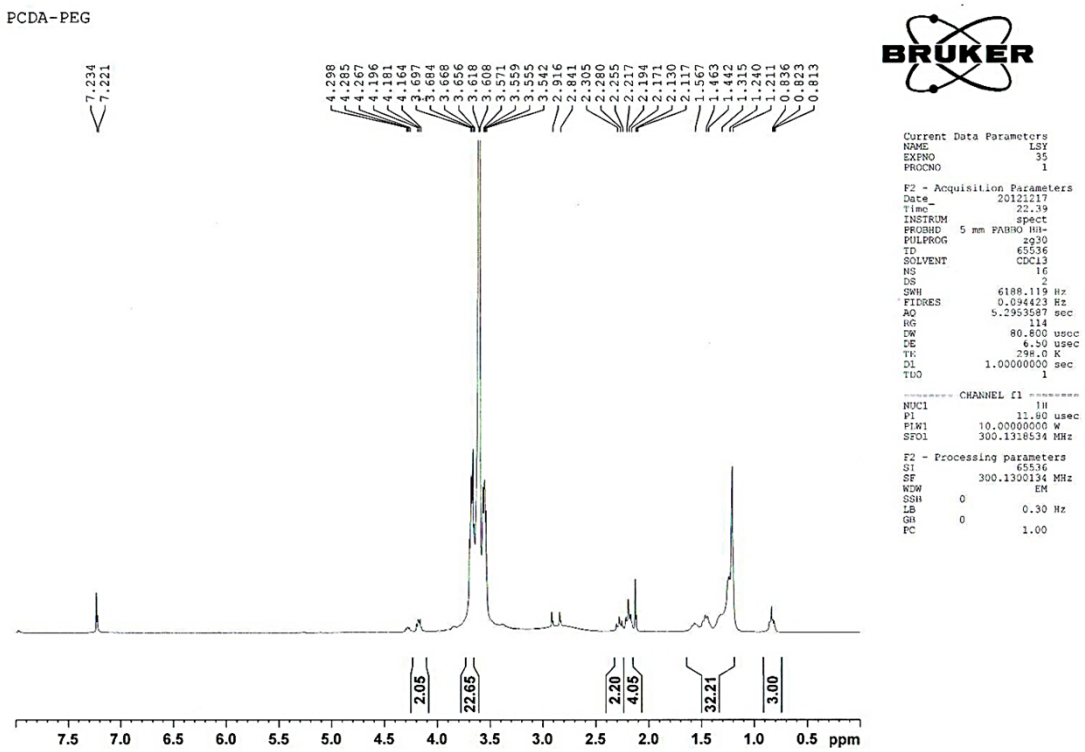

Figure S1. ^{1}H NMR (300 MHz) of compound PCDA-HEG in $CDCl_3$

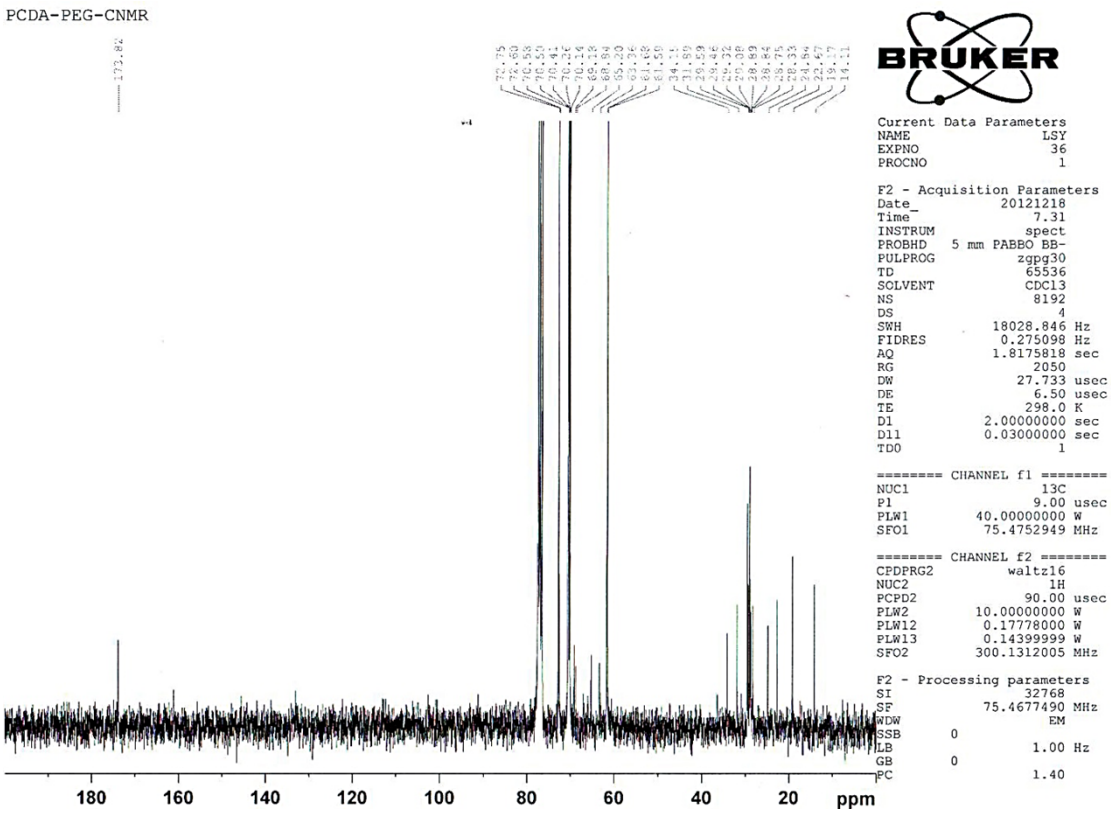

Figure S2. ^{13}C NMR (75 MHz) of compound PCDA-HEG in $CDCl_3$

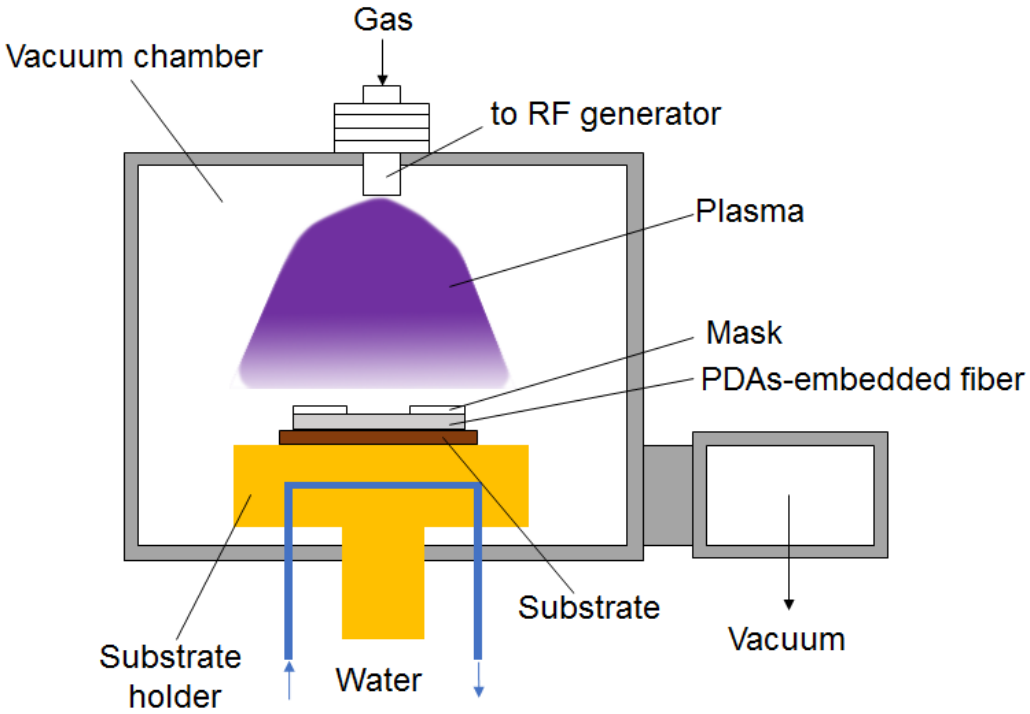

Figure S3. Schematic representation of plasma induced polymerization.

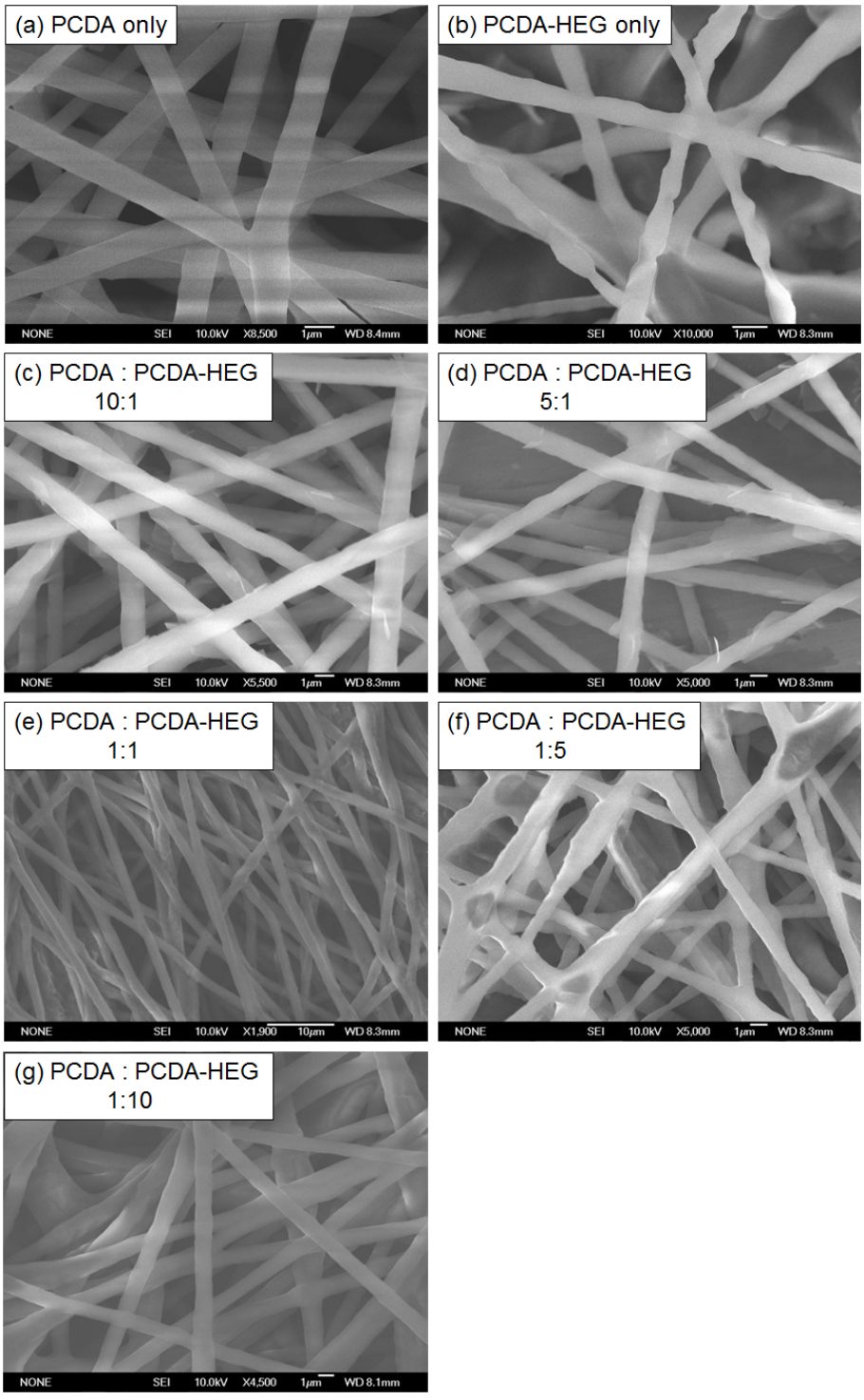

Figure S4. SEM images of PCDA, PCDA-HEG and their combinations embedded fibers.

Figure S5. Time-dependent color changes of spin coated PDA thin films in the presence of plasma (Radio frequency powers: 200W, Argon gas pressure: 21 mTorr)

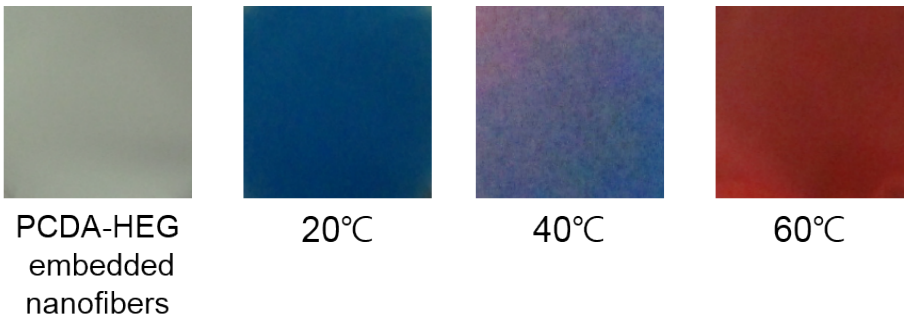

Figure S6. Temperature promoted color transitions of the PCDA-HEG based electrospun fibers.