# Supporting Information

for *Plasma Process. Polym.*

## Plasma-Treated Organic Solutions for Enhanced Electrospun Nanofibers

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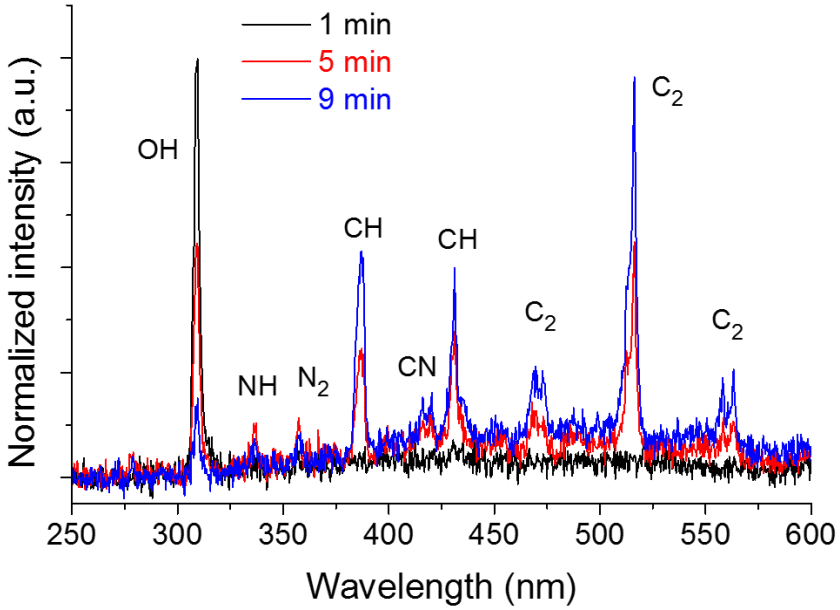


*Figure S1.* Effect of plasma treatment time on the optical emission spectrum of the plasma jet afterglow sustained in a 6% w/v PLA solution (PEPT parameters: 0.5 L/min, 2 kV).

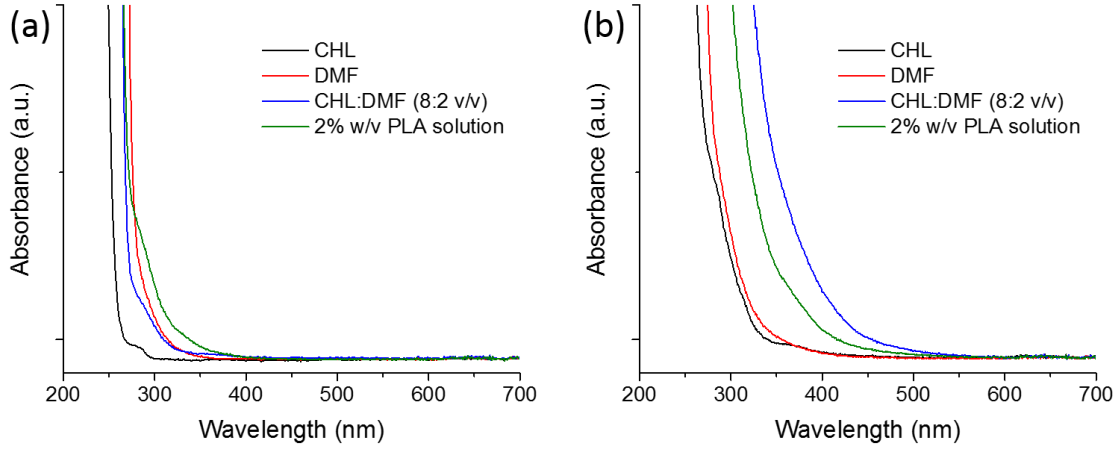


*Figure S2.* UV-vis absorbance spectra of (a) untreated solvents and a 2% w/v PLA solution, (b) plasma-treated solvents and a plasma treated 2% w/v PLA solution (PEPT parameters: 5 min, 0.5 L/min, 2 kV).

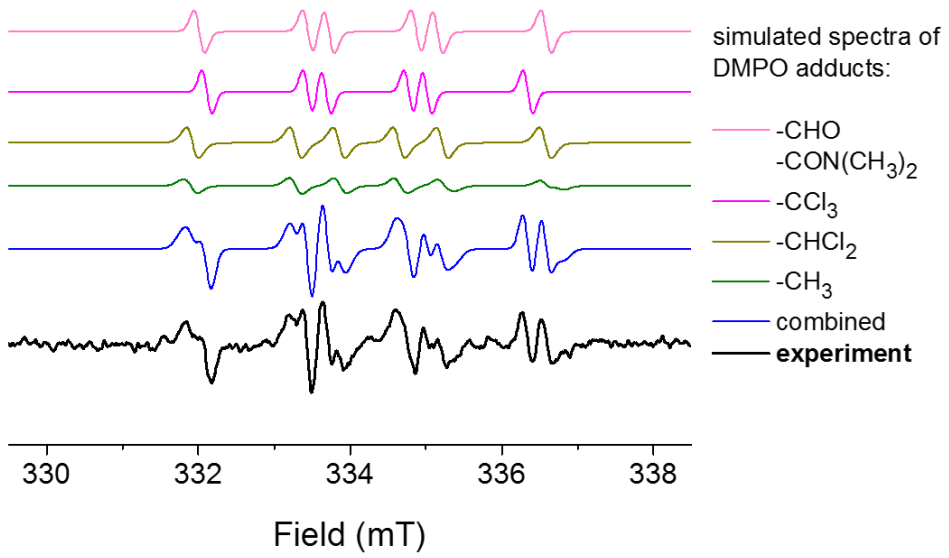


*Figure S3.* DMPO adducts in a 2% w/v plasma-treated PLA solution. Adducts: DMPO-CHO/-$CON(CH_3)_2$ ($a_N$ = 1.41 mT, $a_H$ = 1.81 mT); DMPO-$CCl_3$ ($a_N$ = 1.33 mT, $a_H$ = 1.59 mT); DMPO-$CHCl_2$ ($a_N$ = 1.36 mT, $a_H$ = 1.93 mT); DMPO-$CH_3$ ($a_N$ = 1.52 mT, $a_H$ = 2.04 mT).

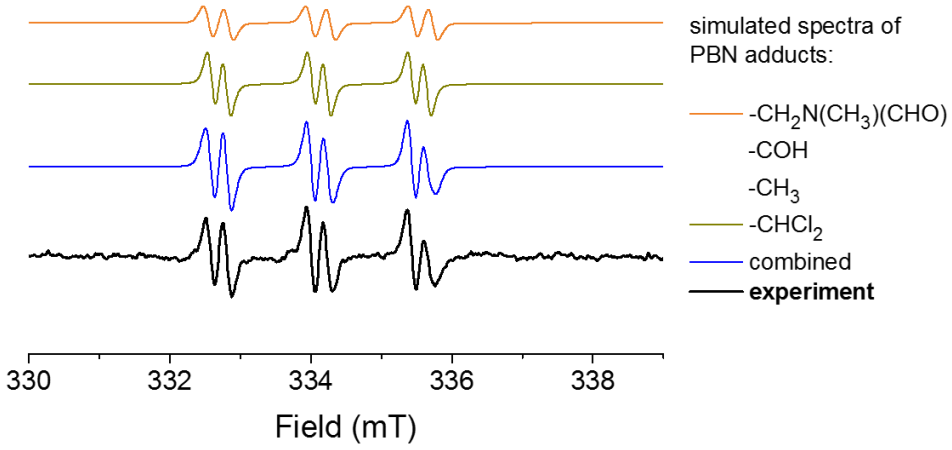


*Figure S4.* PBN adducts in a 2% w/v plasma-treated PLA solution. Adducts: PBN-$CHCl_2$ ($a_N$ = 1.42 mT, $a_H$ = 0.21 mT); PBN-$CH_2N(CH_3)(CHO)$/-COH/-$CH_3$ ($a_N$ = 1.45 mT, $a_H$ = 0.28 mT).

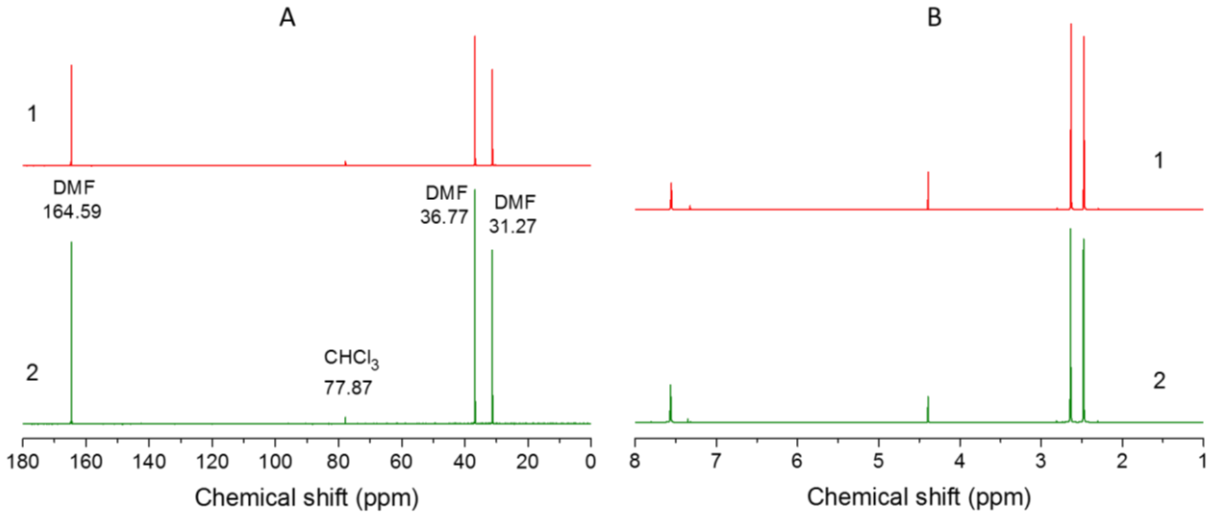


*Figure S5.* $^{13}C$ (A) and $^{1}H$ (B) NMR spectra of the aqueous extract from (1) an untreated and (2) a plasma-treated 2% w/v PLA solution.

In the $^{13}C$ NMR spectra shown in Figure S5, only the chemical shifts of carbon atoms of DMF and residual $CHCl_3$ were detected, with chemical shifts of 31.27, 36.77, 164.59 ppm (DMF) and 77.87 ppm ($CHCl_3$). No differences in $^{13}C$ NMR spectra before and after plasma treatment can be revealed. $^{1}H$-NMR analysis demonstrated signals with chemical shifts at 2.47 ($NH_2$), 2.63 (OC=O), 4.39 ($H_2O$), 7.32 ($CHCl_3$), and 7.56 (DMF) ppm and the same signals were present in the $D_2O$ extract after PEPT (Figure S5B). In the extract of the PEPT solution, the $H_2O$ signals originated either from impurities in $D_2O$ or from generated HCl.

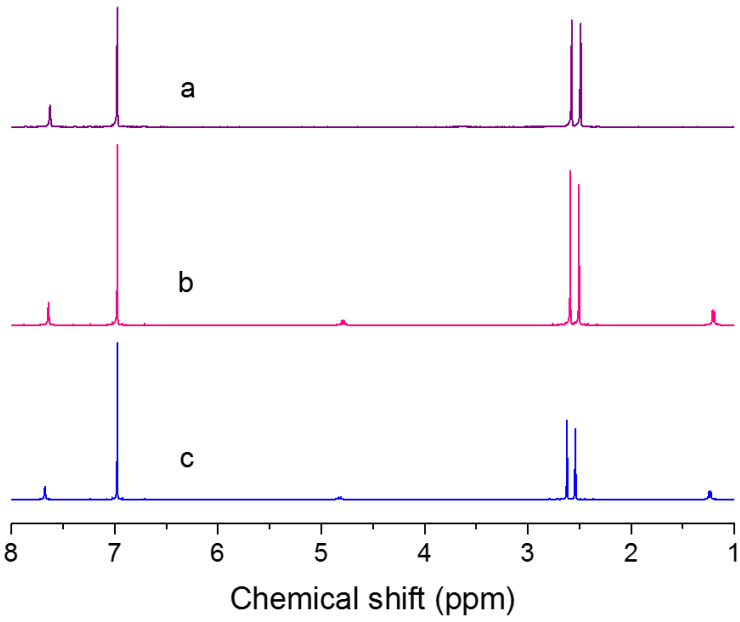


*Figure S6.* $^{1}$H-NMR spectra of (a) a plasma-treated mixture solvent, (b) a plasma-treated 2% w/v PLA solution, and (c) an untreated 2% w/v PLA solution in $CDCl_3$.

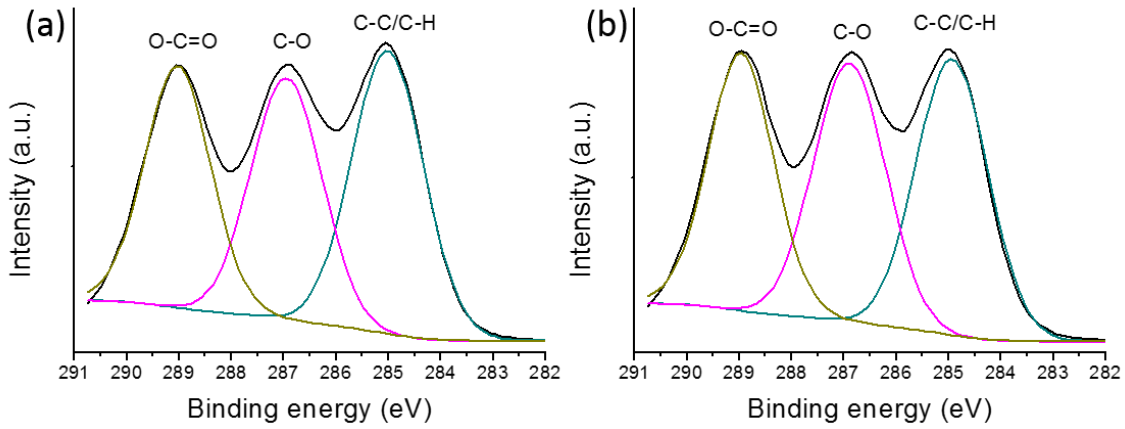


*Figure S7.* Fitted C1s peak of PLA nanofibers produced from (a) untreated and (b) plasma-treated (PEPT parameters: 5 min, 0.5 L/min, 2 kV) 6% w/v PLA polymer solutions.