

Supporting Information for

Cooperative Fabrication of Ternary Nanofibers with Remarkable Solvent and Temperature Resistance by Electrospinning

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Table. S1 Solvents and temperatures used for stability tests.

Temperature	Solvents
60°C	H ₂ O, DMF, EtOH, n-hexane
80°C	H ₂ O, DMF, EtOH, n-hexane
100°C	H ₂ O, DMF, EtOH
120°C	H ₂ O, EtOH
150°C	DMF
200°C	DMF

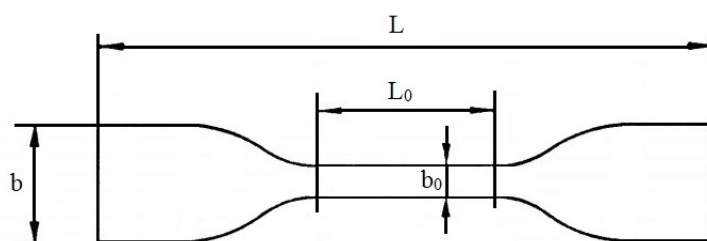


Fig. S1 Size of the dumbbell-shape sample in the mechanical property tests:

$$L = 115 \text{ mm}, L_0 = 33 \text{ mm}, b = 25 \text{ mm}, b_0 = 6 \text{ mm}$$

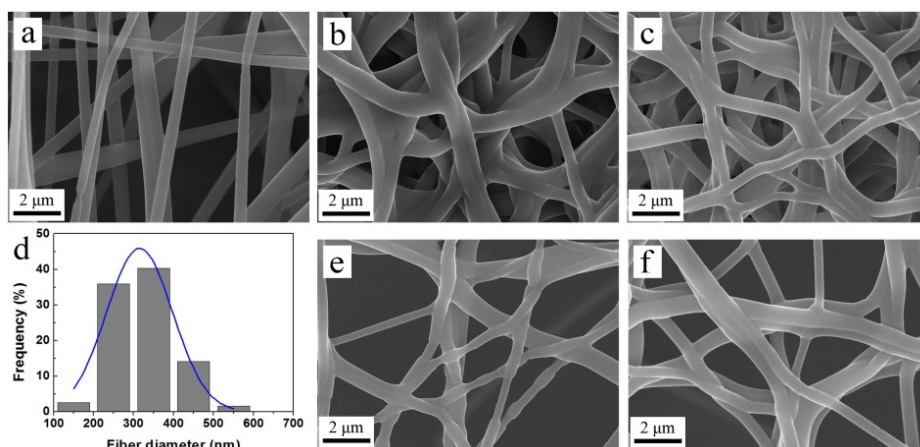


Fig. S2 SEM images of (a) the as prepared N-0 nanofibers and after immersed in (b) H₂O, (c) DMF, (e) EtOH, (f) MeOH for 24 h at room temperature. (d) The diameter distribution of the as prepared N-0 nanofibers and the Gauss fitting curve.

Study of the electrospinning parameters:

In order to find out the optimal electrospinning parameters, different voltage (16, 18, 20, 22 kV) and the distance from needle to collector (13, 14, 15, 16 cm) were tried. Fig. S3 shows the typical SEM images of the nanofibers prepared under different parameters.

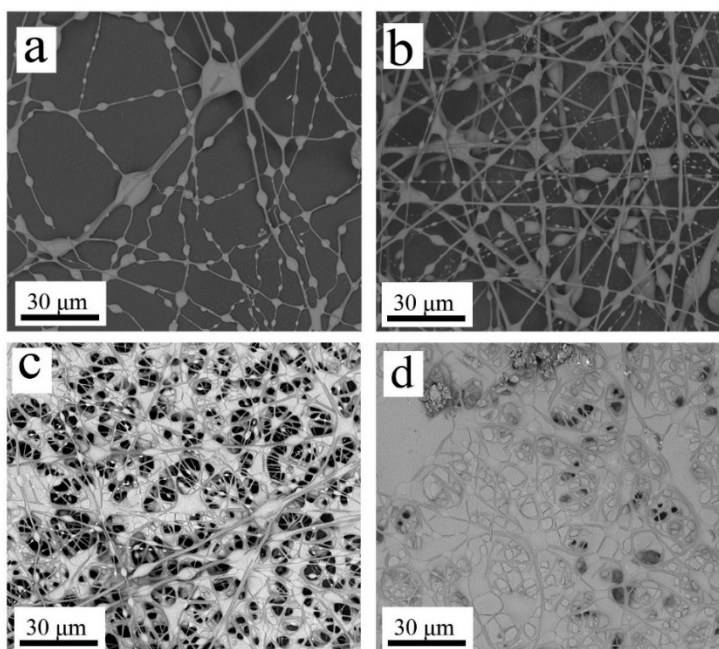


Fig. S3 The SEM images show morphology of the nanofibers prepared under different parameters: (a) 22 kV, 14 cm; (b) 16 kV, 14 cm; (c) 20 kV, 16 cm, (d) 20 kV, 13 cm.

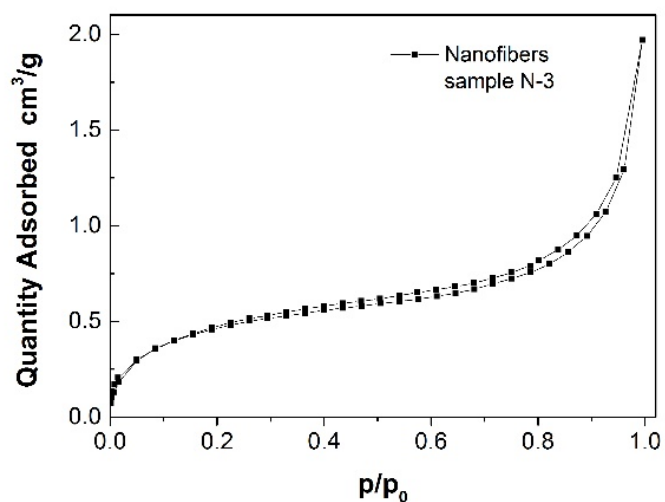


Fig. S4 N₂ adsorption–desorption analysis of the prepared composite nanofibers

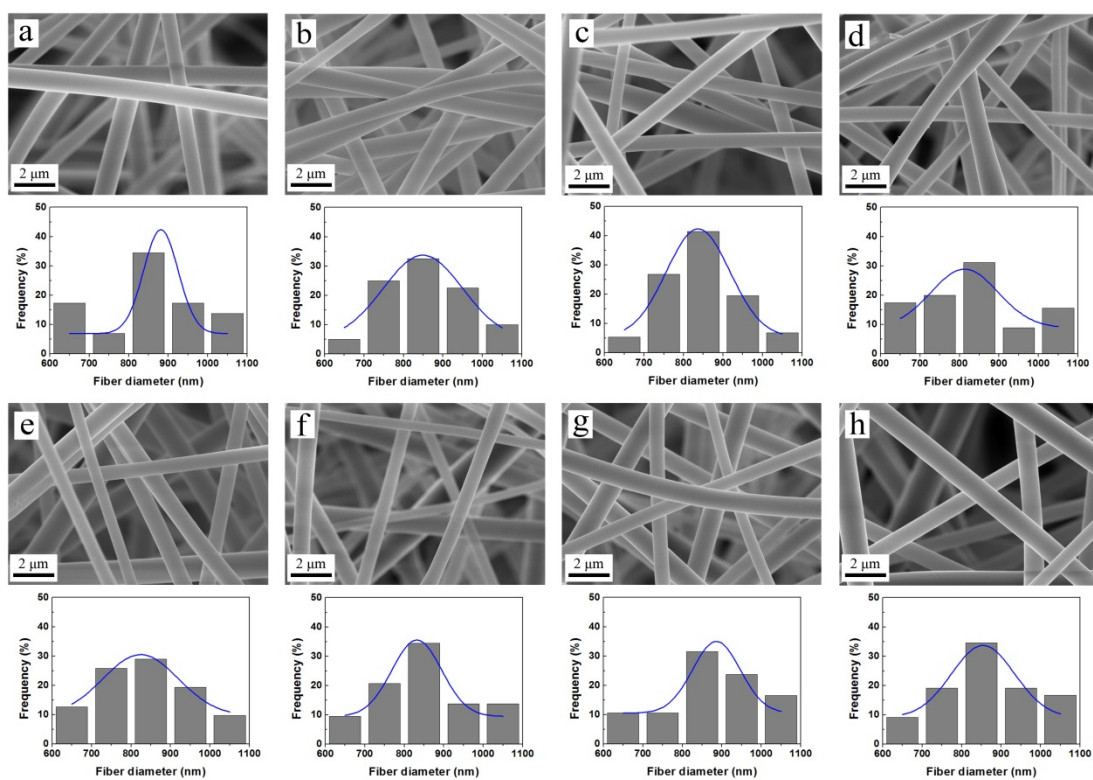


Fig. S5 SEM images of sample N-3 immersed in (a) H₂O, (b) DMF, (c) EtOH, (d) THF, (e) MeOH, (f) CHCl₃, (g) n-hexane, (h) acetone for 48 h at room temperature. The curve in diameter distribution is the Gauss fitting of the figure.

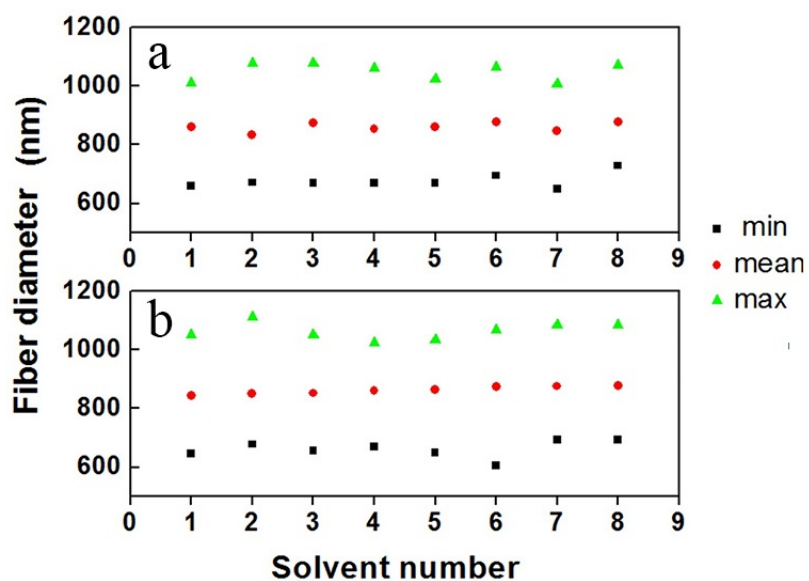


Fig. S6 The minimum, maximal and mean diameters of sample N-3 after immersed in different solvents for (a) 24 h and (b) 48 h at room temperature. Solvent number: (1) H₂O, (2) DMF, (3) EtOH, (4) THF, (5) MeOH, (6) CHCl₃, (7) n-hexane, (8) acetone.

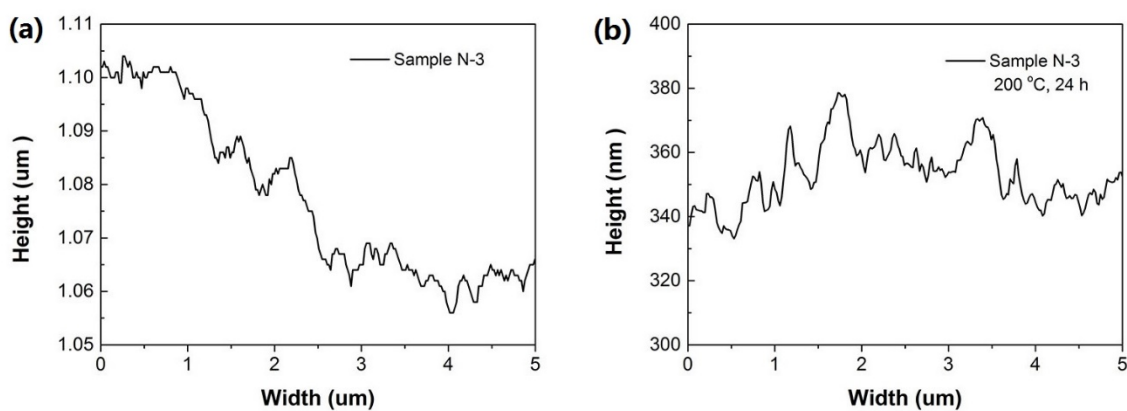


Fig. S7 The image profile (a) sample N-3, (b) sample N-3 immersed in DMF 200°C for 24 h.