

Supplementary Materials

Shape-memory Nanofiber Meshes with Programmable Cell Orientation

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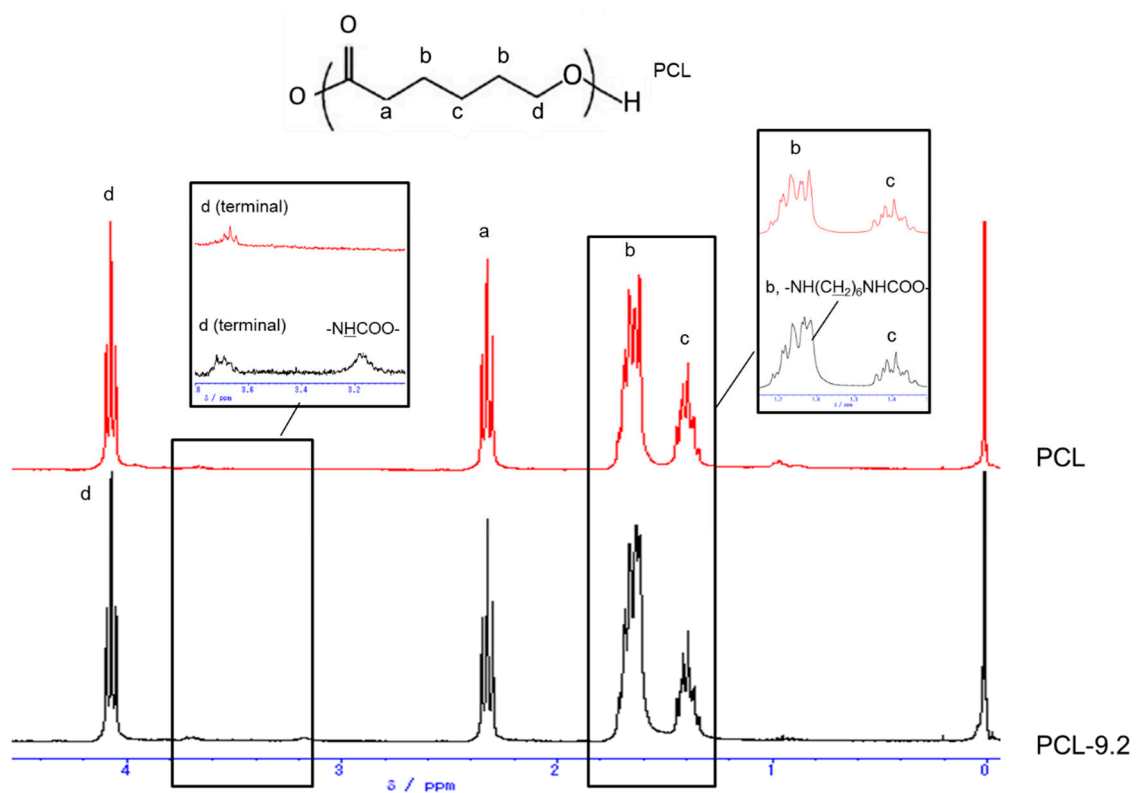


Figure S1. ¹H-NMR spectrum of PCL and PCL-9.2.

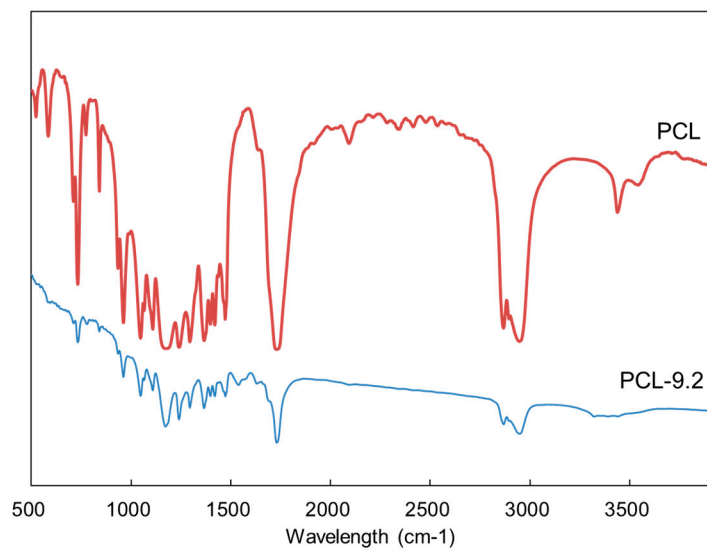


Figure S2. FT-IR spectrum of PCL and PCL-9.2.

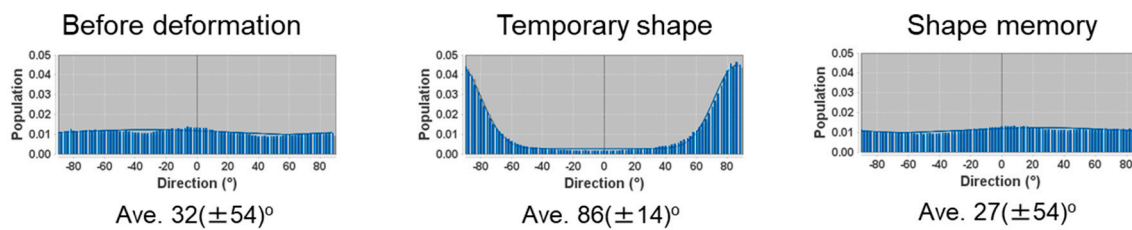


Figure S3. Orientation analysis of PCL-9.2 nanofibers from SEM images shown in Figure 4(a) before deformation, after deformation, and after shape memory recovery.

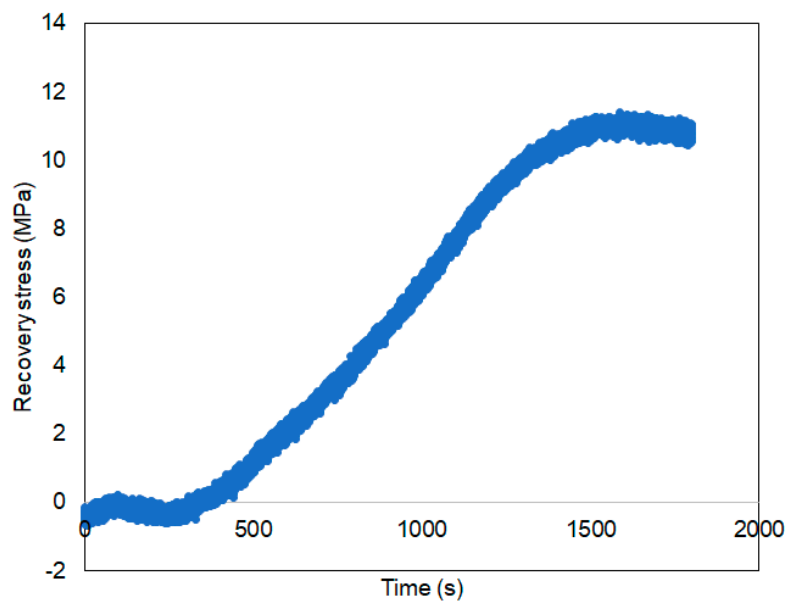


Figure S4. Recovery stress of electrospun PCL-9.2 nanofiber mesh.

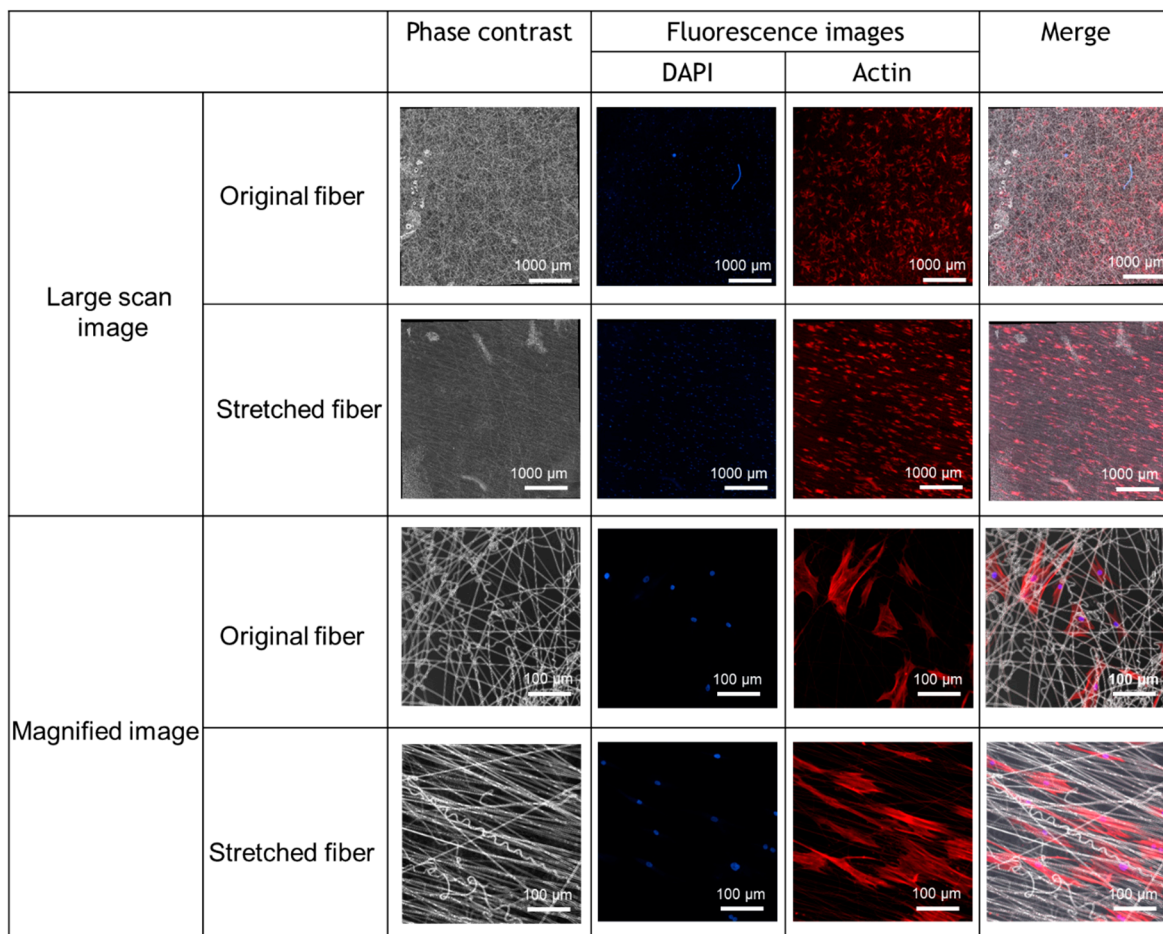


Figure S5. Phase contrast images of original and stretched fibers, and fluorescence images of human mesenchymal stem cells on the original and stretched fibers.

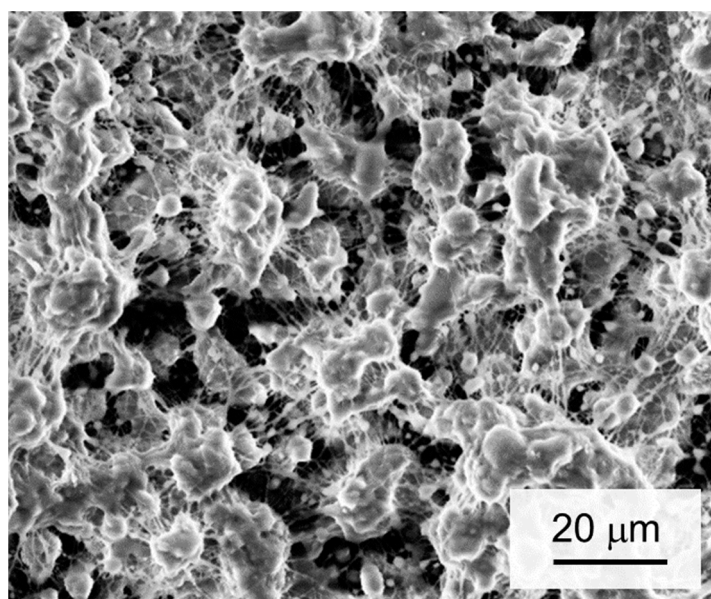


Figure S6. SEM image of electrospun fiber with the molecular weight of 5000.

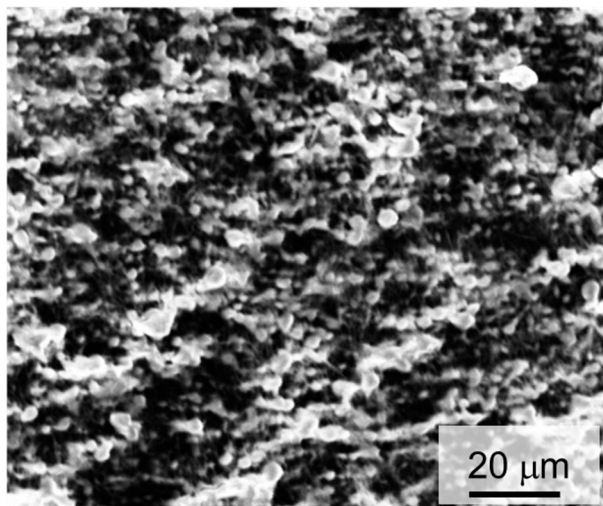


Figure S7. SEM image of electrospun fibers of PCL-21.3 (400× magnification).

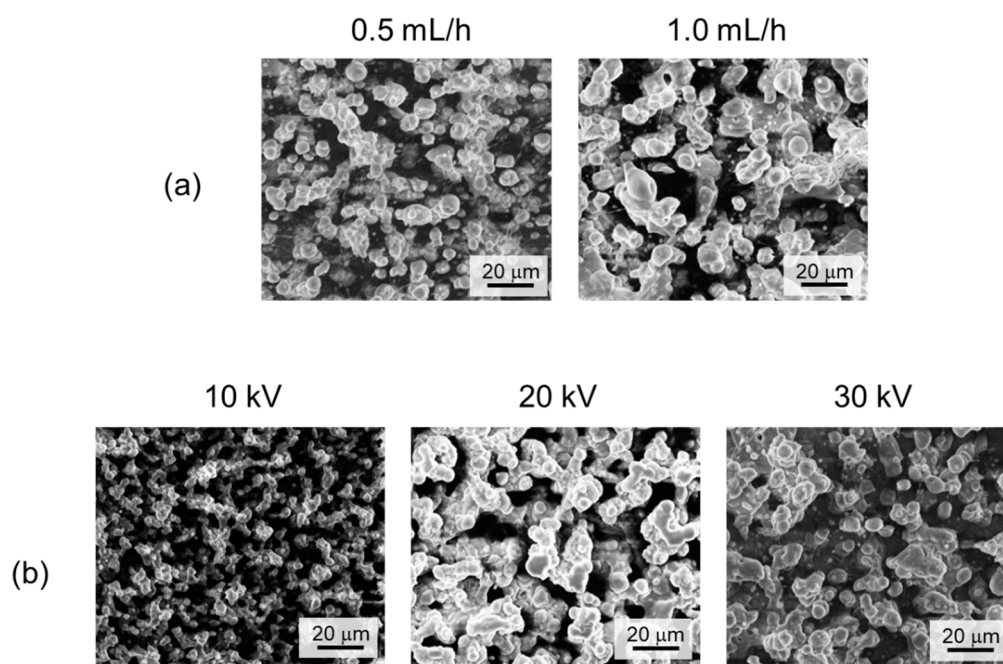


Figure S8. SEM images of electrospun fibers of four-branched PCL by different flow rates (0.5 mL and 1.0 mL) and voltages (10, 20, and 30 kV).

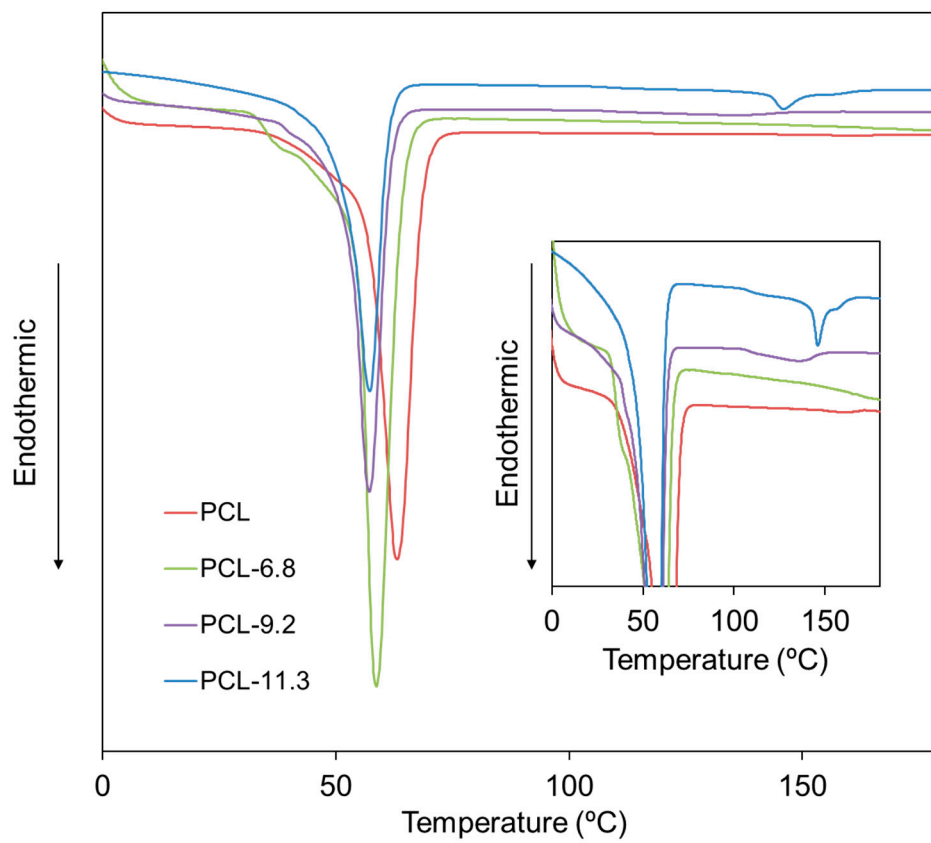


Figure S9. Second heating scans of electrospun fiber of pure PCL, PCL-6.8, PCL-9.2 and PCL-11.3.

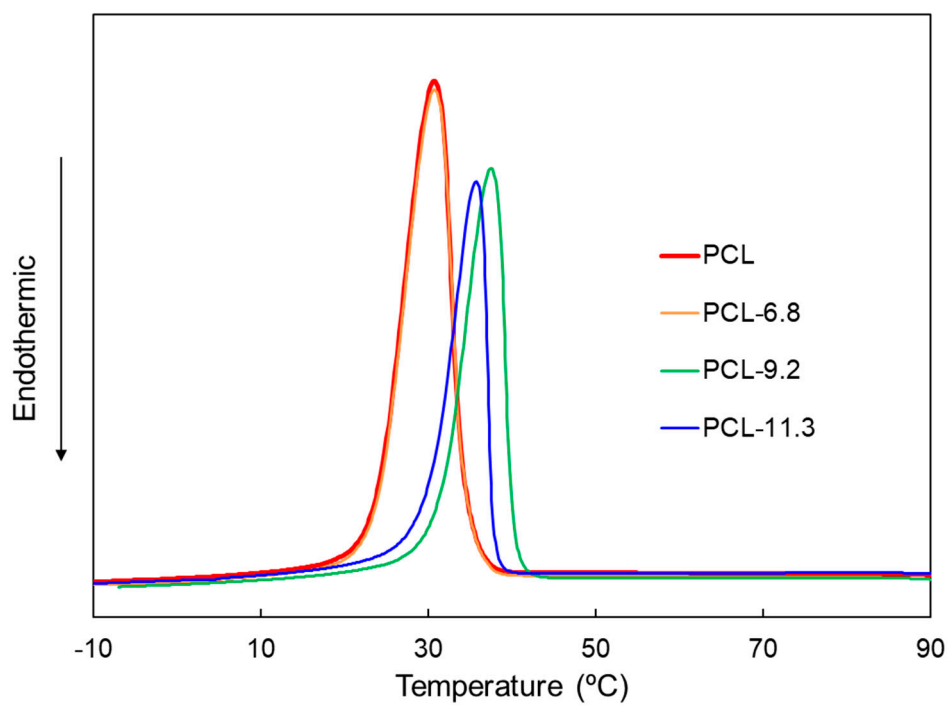


Figure S10. DSC curves (cooling scans) of electrospun fibers of pure PCL, PCL-6.8, 9.2, and 11.3.

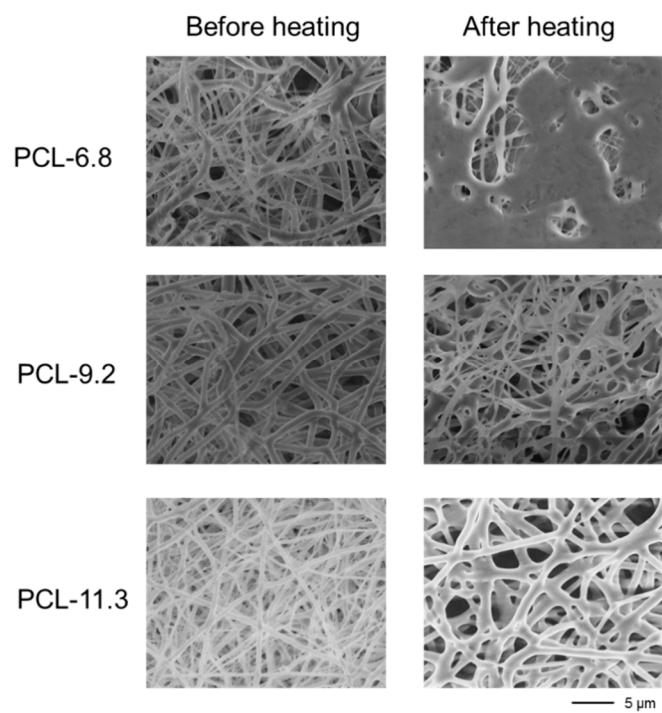


Figure S11. Magnified SEM micrographs of electrospun fibers of PCL-6.8, 9.2, and 11.3 before and after heating at 60°C for 24 h.

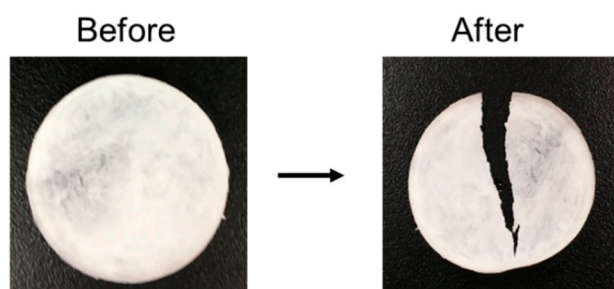


Figure S12. PCL-21.3 film before and after heating at 80 °C.

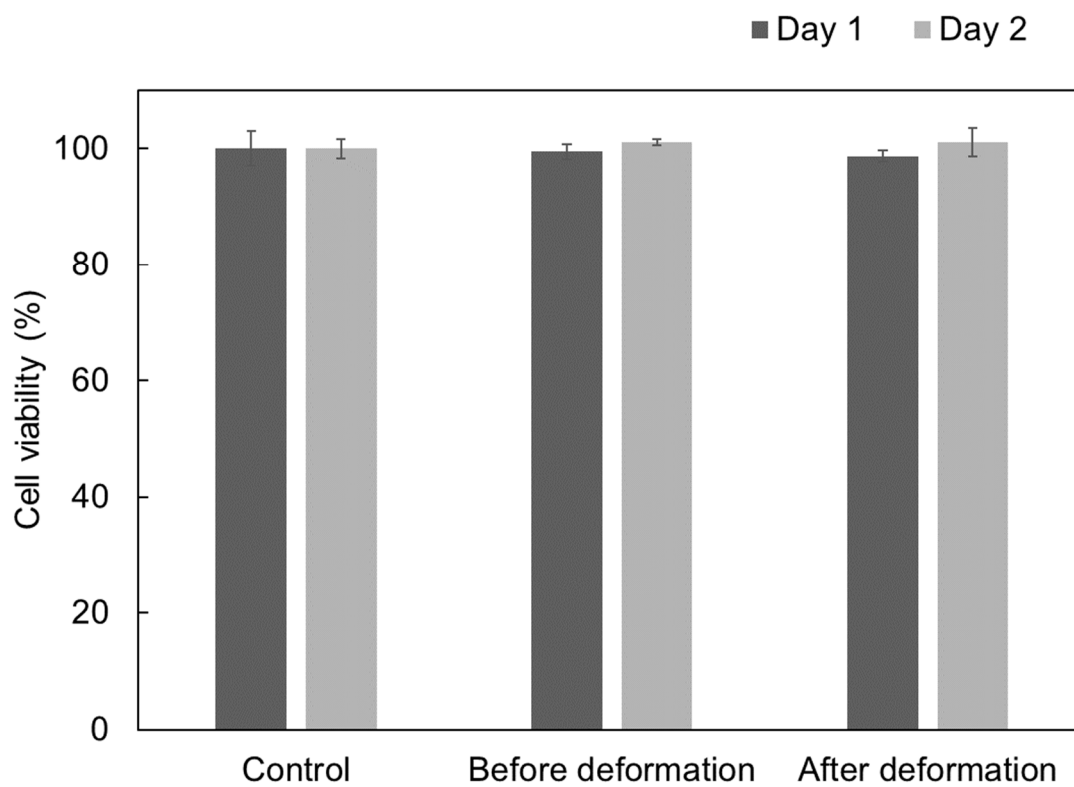


Figure S13. Cell viability study on random nanofiber before deformation or aligned nanofiber after deformation. The Control is cultured cells on glass substrate (n = 4).