Supporting Information (SI)

Effect of Cellulose Nanowhiskers on Surface Morphology, Mechanical Properties and Cell Adhesion of Melt Drawn Polylactic Acid Fibers

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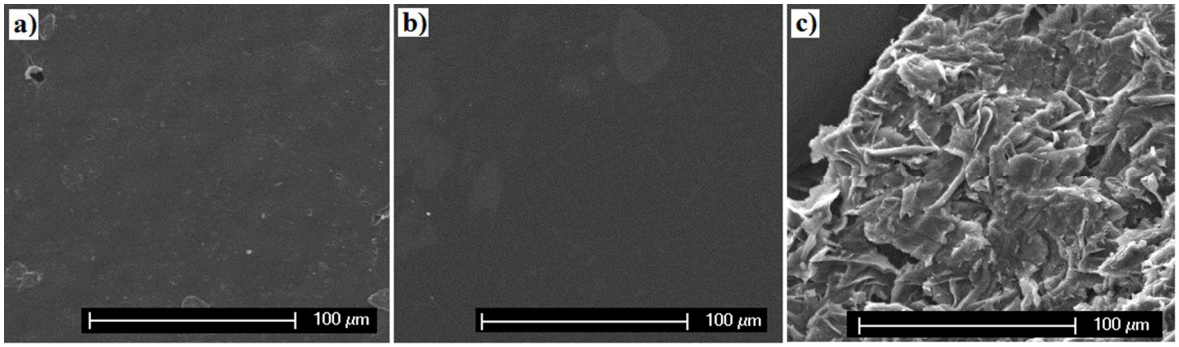
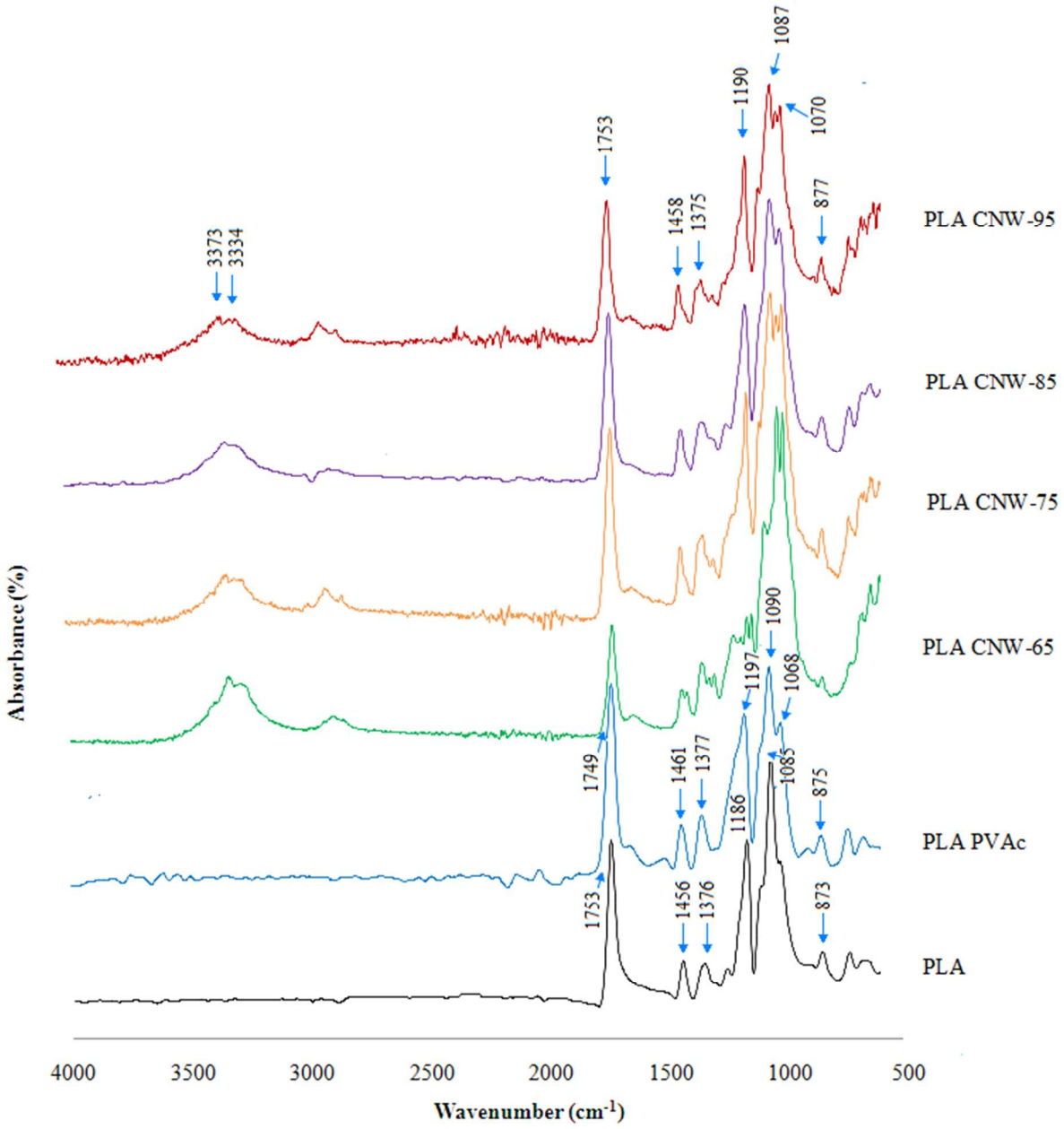
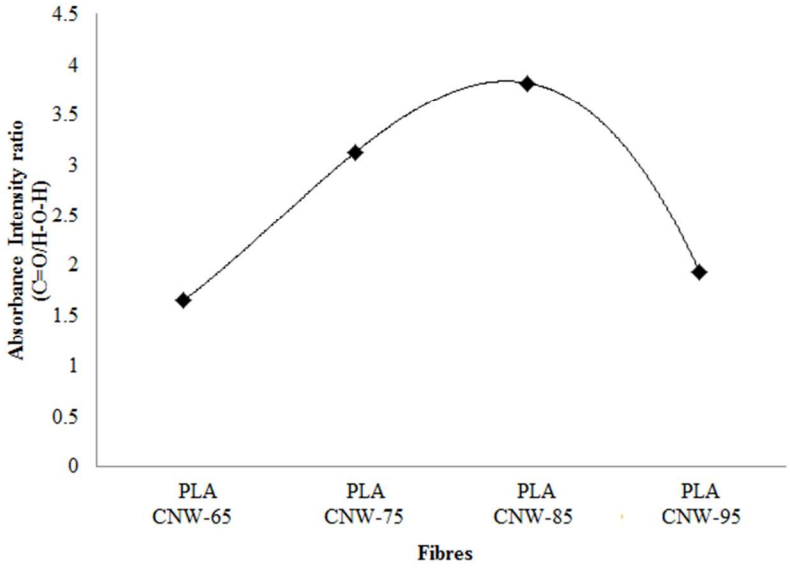


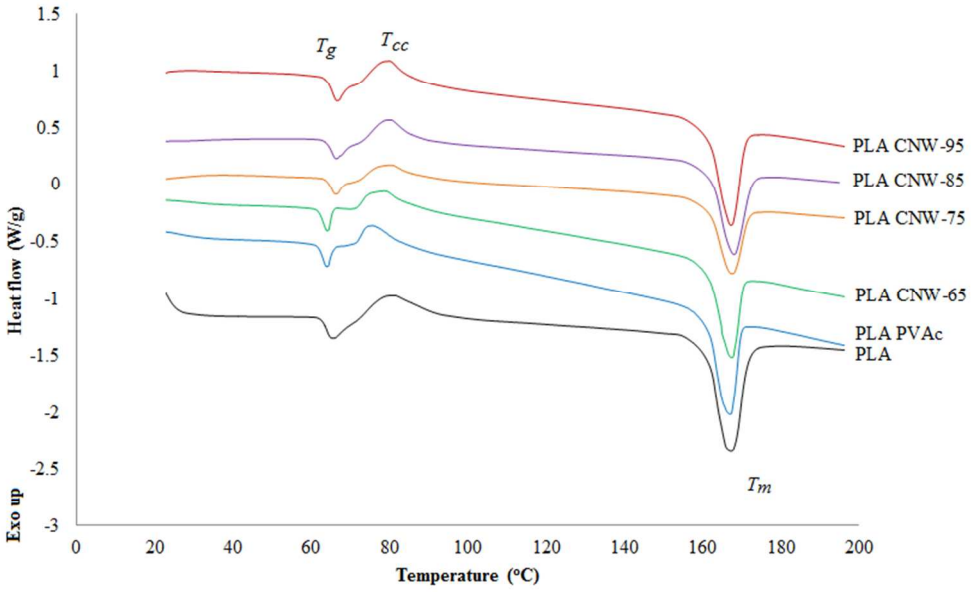
SI 1. SEM images showing the surfaces of coated PLA films: a) Solvent casted PLA films (control), b) PVAc coated PLA film, and c) CNWs (75 wt%)-PVAc coated PLA film.



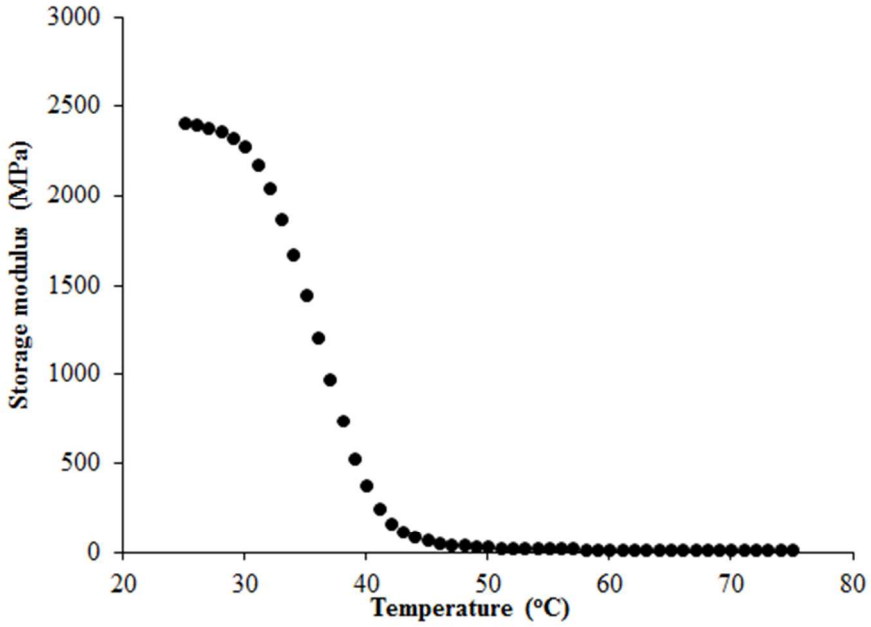
SI 2. FTIR-ATR spectrum for uncoated PLA and PVAc and CNWs-PVAc coated PLA fibers.



SI 3. FTIR-ATR absorbance intensity ratio of the C=O (of PLA) and H-O-H (of CNWs) of the CNWs-PVAc coated PLA fibers. The amount of coating substances on the PLA fibres were analyzed using the absorbance peak intensity of C=O group (at 1753 cm^{-1}) for the PLA and that of H-O-H group (at 3373 cm^{-1}) for the CNWs. The ratio of the peaks intensities increasing with the CNWs contents upto 85 wt%, which indicated that increasing amount of the CNWs attached on the fibre surface and further increase in CNWs reflects decreasing trend suggested the insufficient amount of coating substances on the fibre surface.



SI 4. DSC thermogram of uncoated and PVAc and CNWs-PVAc coated PLA fibers.



SI 5. Storage modulus curve of PVAc film obtained from dynamic mechanical analysis (DMA).