

**Fig. S1.** Elemental weight composition for pristine CNC and grafted CNC.

**Fig. S2.** X-Ray diffraction patterns of pristine CNC and mCNC.

**Fig. S3.** GPC traces of PLA grades with Y-axes ( *left*:  $d(\text{wt})/d(\log \text{Mw})$ , *right*: cumulative (%)), and X-axis (Slice Log Mw).

**Fig. S4.** Effects of CNCs and mCNCs on tensile properties (a: strength, and b: elongation modulus) of amorphous PLA nanocomposites<sup>35</sup>.

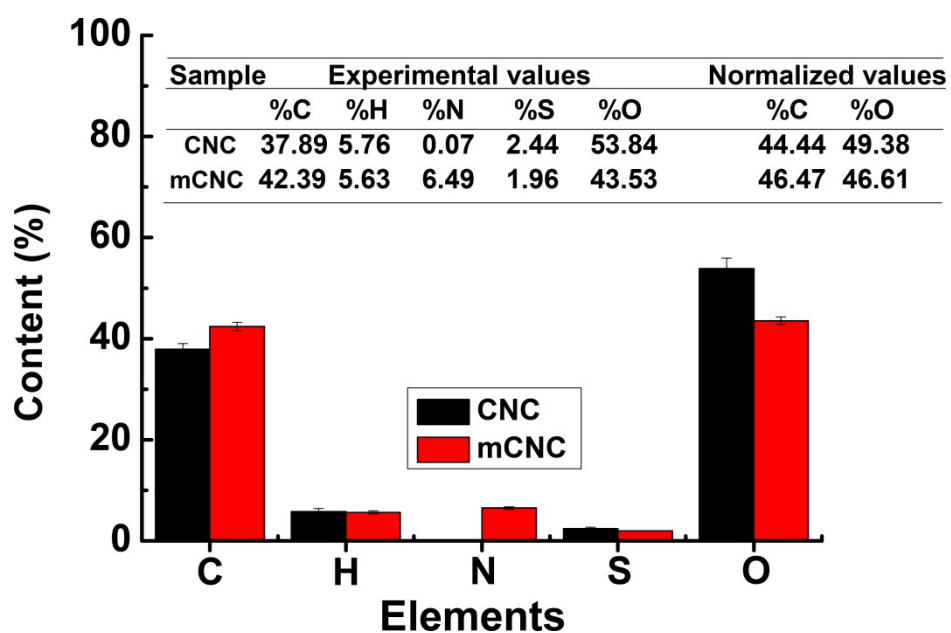


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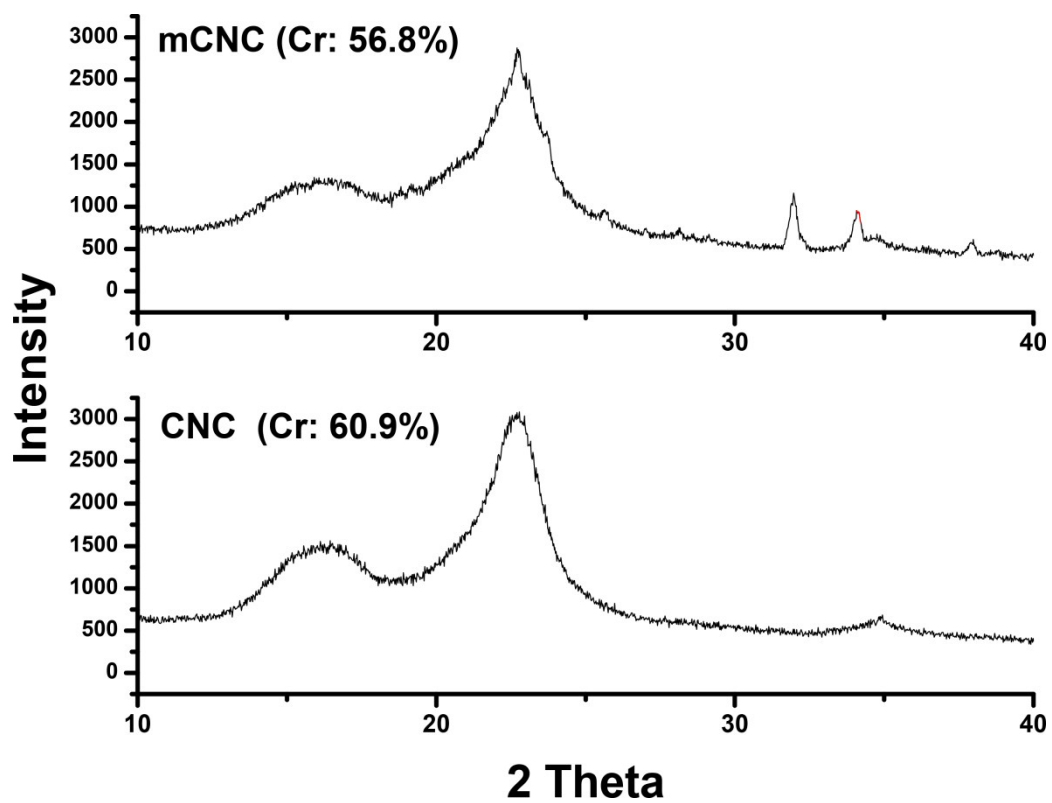


Fig. S2 X-Ray diffraction patterns of pristine CNC and mCNC.

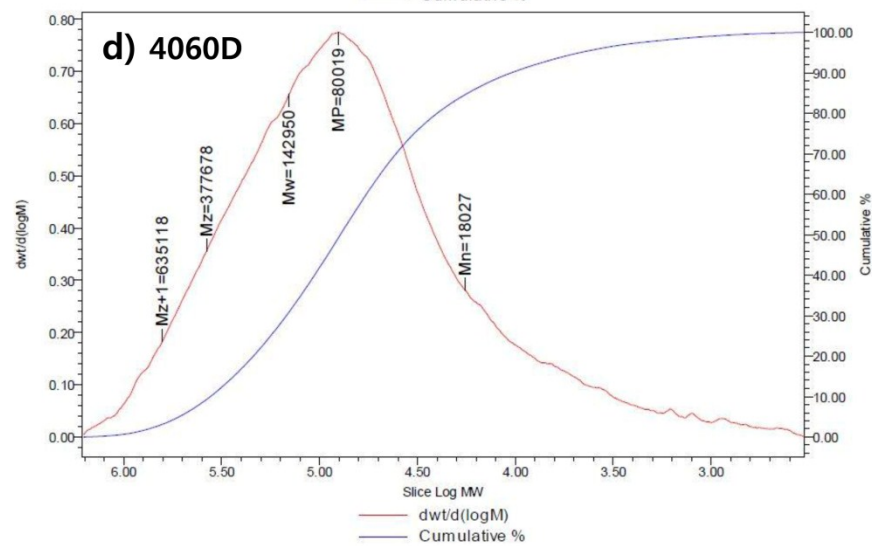
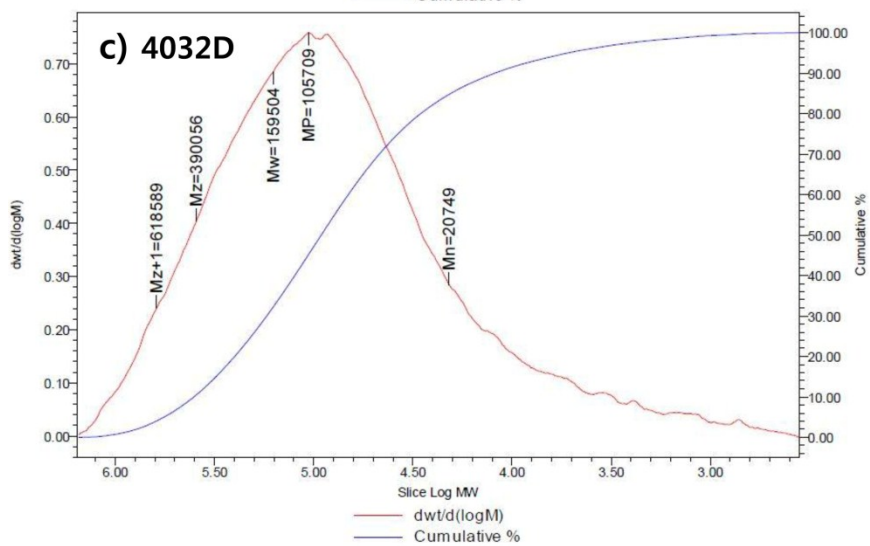
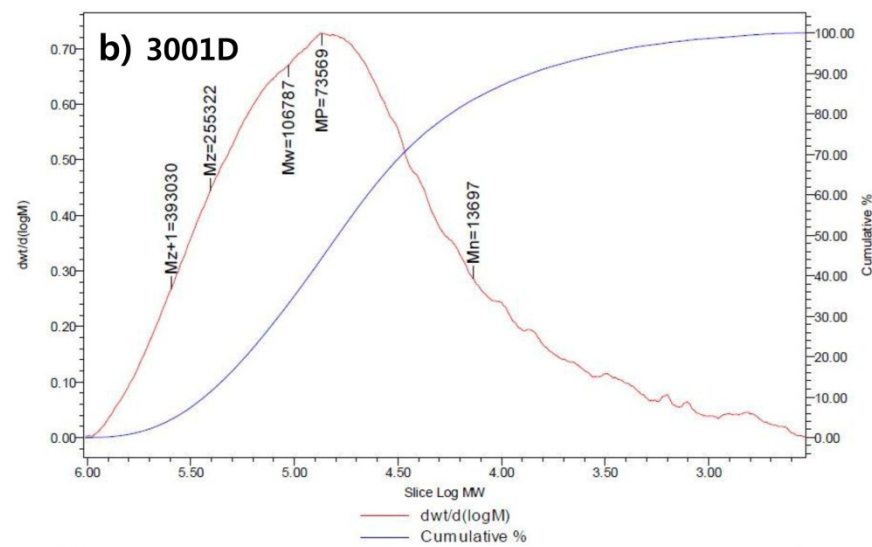
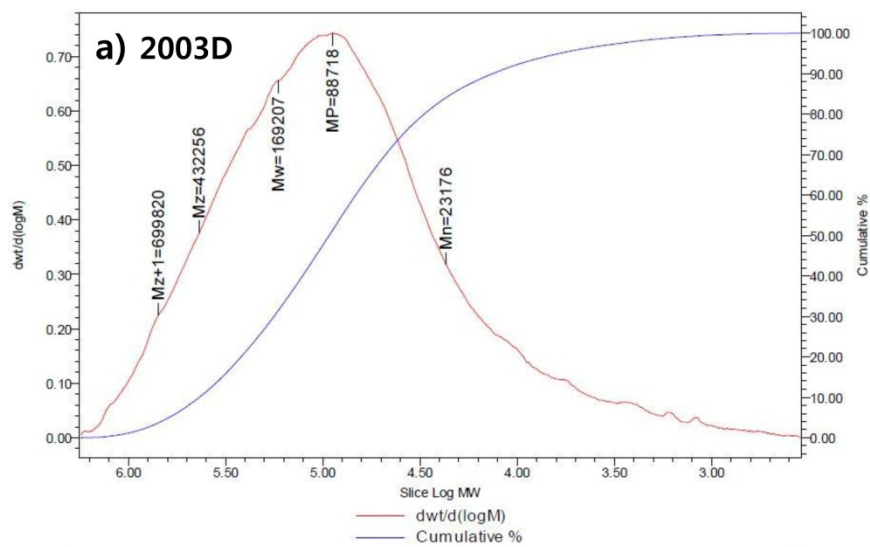
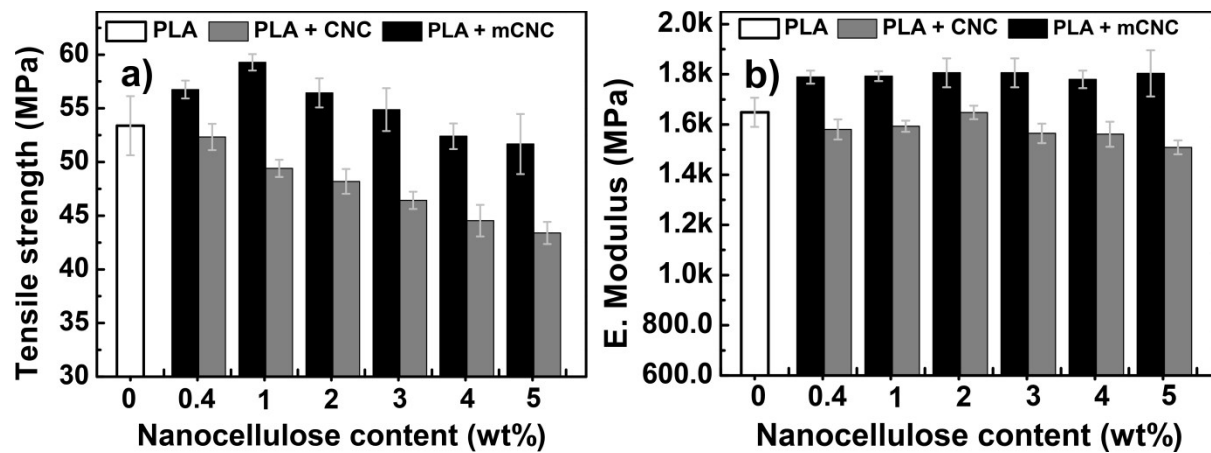


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