

Supplementary Information

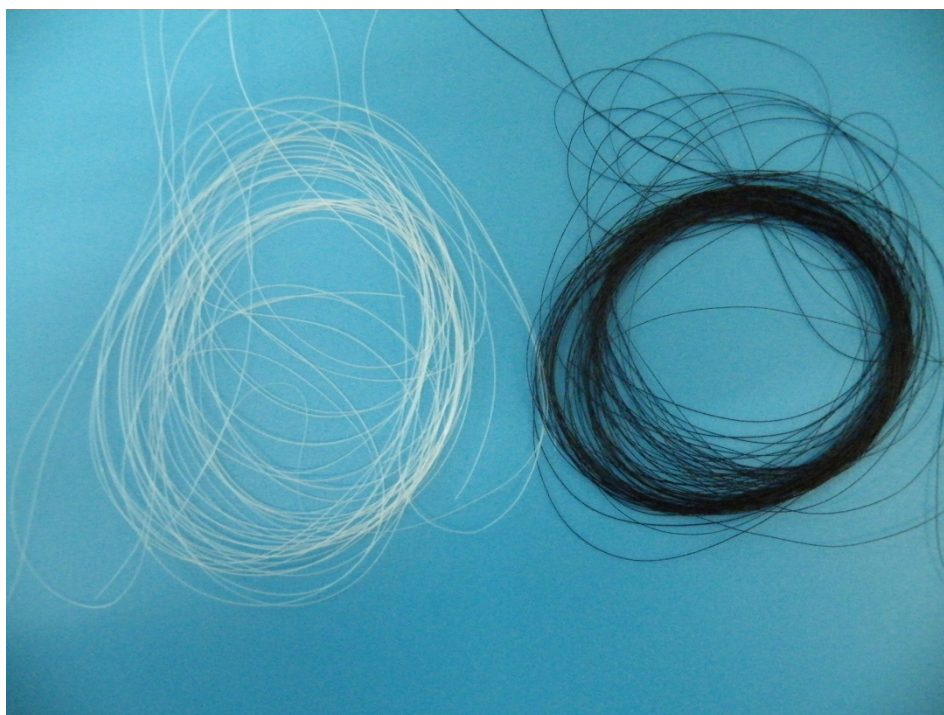


Figure S1: samples of neat PA12 (left) and CNT-PA12 fibers used in the work.



Figure S2: pellets of PA12-CNT master batch from Arkema. The diameter of the pellets is 2.7 mm. The pellets contain a weight fraction of CNTs of 20%. They are diluted with pure PA12 before processing in the melt fiber spinning line shown in Figure S4.

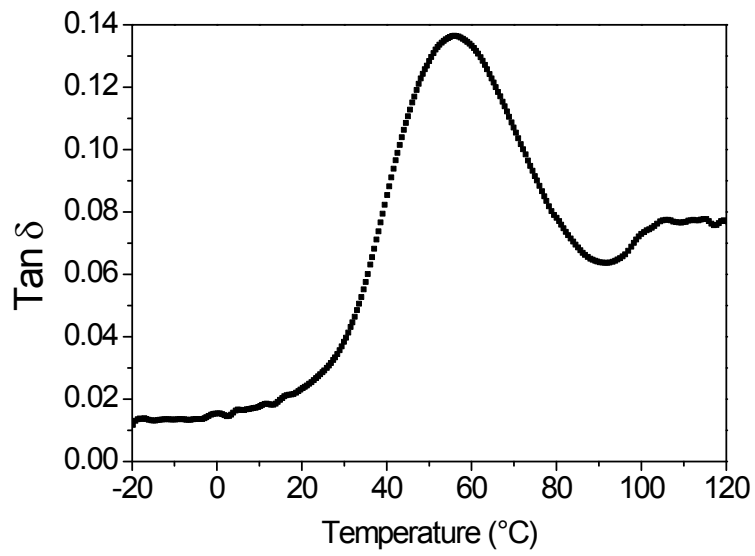


Figure S3: The glass transition of the used PA12 is characterized by Dynamical Mechanical Analysis (DMA) measurements. The peak of the loss tangent (Tan δ) is relatively large; reflecting the broadness of the glass transition. The measurements have been performed using a Mettler Toledo Dynamical Mechanical Analyzer.



Figure S4: Fiber melt-spinning line used to produce PA12 and PA12-CNT fibers used in the present study. From right to left, the line includes an extruder, a spinneret, a first winder, an oven, a second winder and a take-up roll unit.

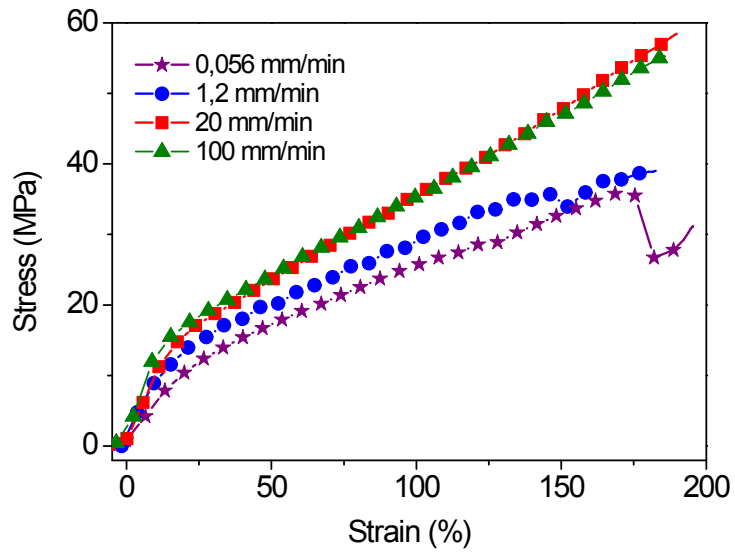


Figure S5: True-stress vs strain curves of CNT-PA12 fibers stretched at 100°C at different velocities as indicated in the graph.