

Supporting information

Factors governing the growth mode of carbon nanotubes on carbon-based substrates

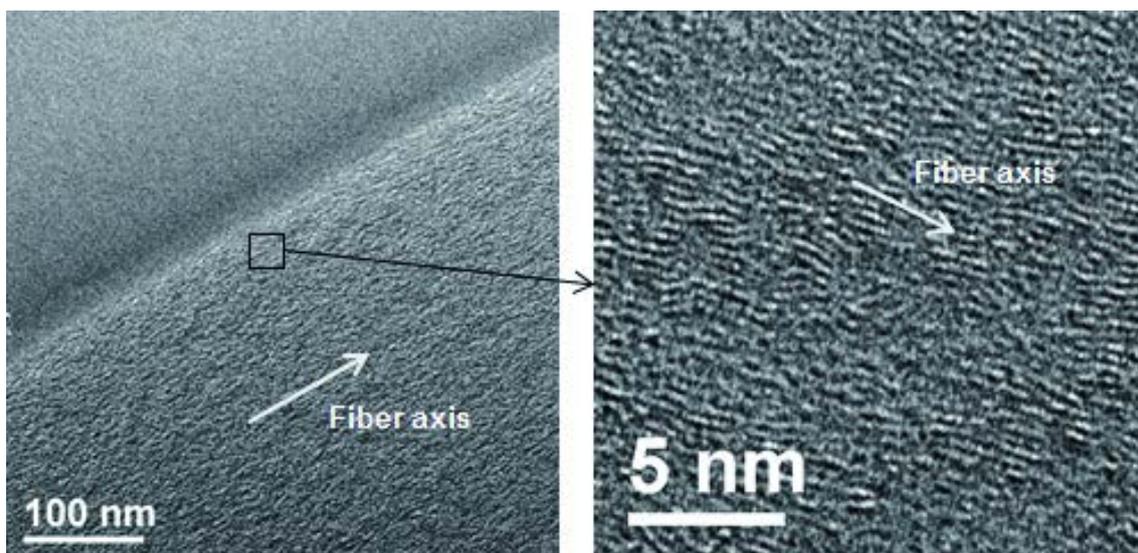
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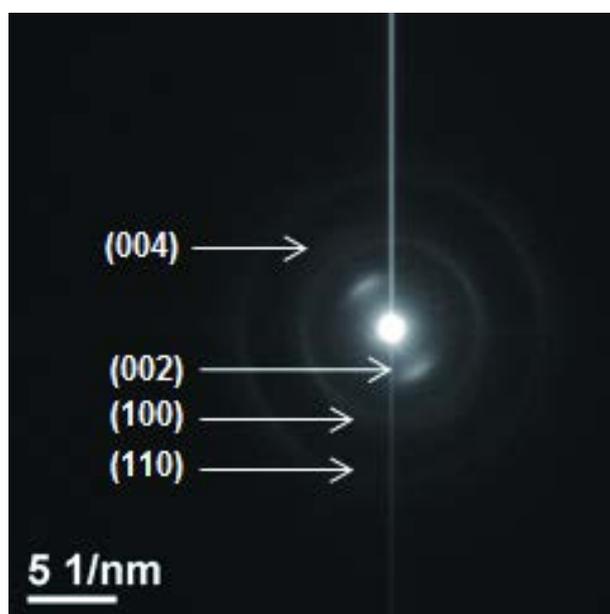
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(a)



(b)

Fig. S1 The microstructure of the desized CF surface
(a) HR-TEM image and (b) electron diffraction pattern.

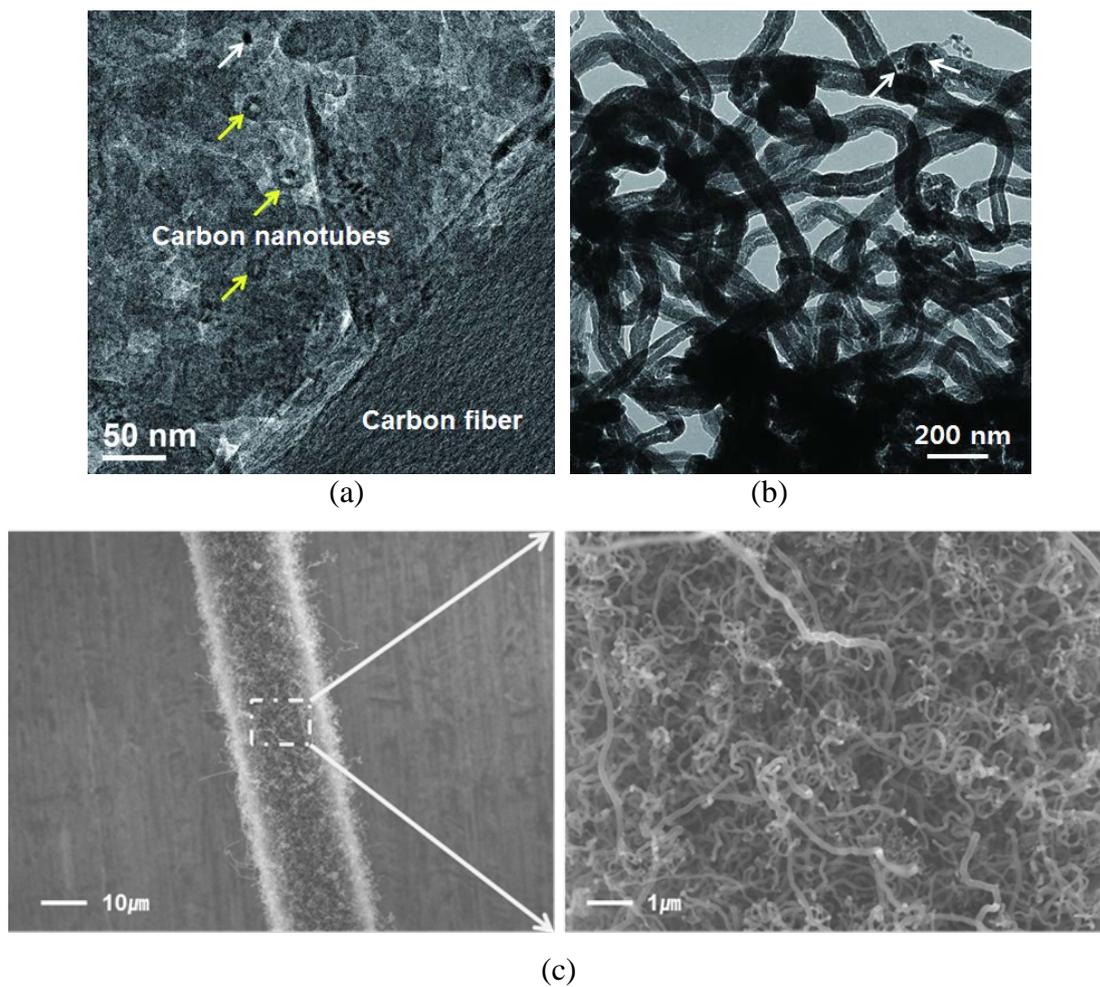
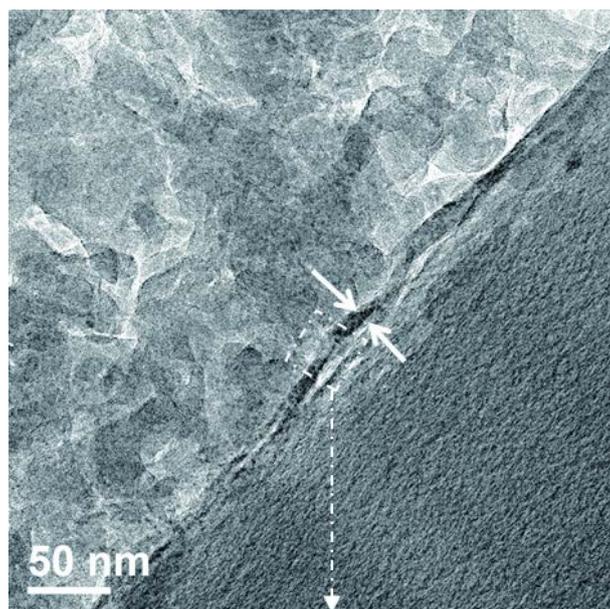
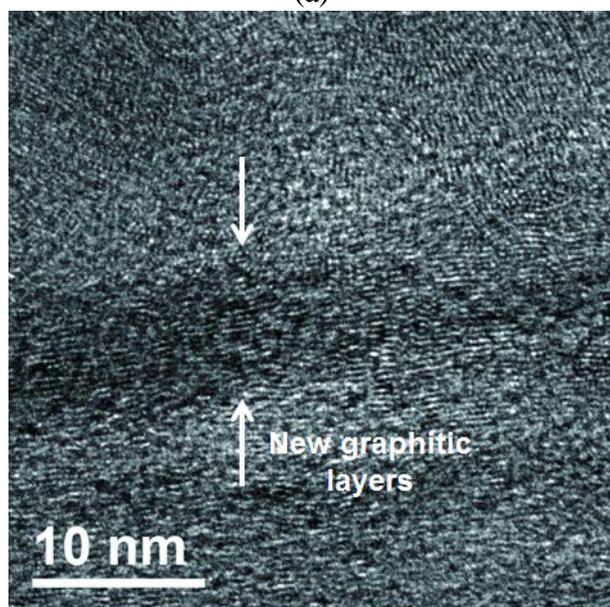


Fig. S2 TEM images of (a) a cross-section of the CF-CNT interface and of (b) the CNTs. (c) FE-SEM images of CNTs grown on CF surface. The yellow arrows in (a) indicate the cross-section of the CNTs and the white arrows in (a) and (b) indicate the nanoparticles.

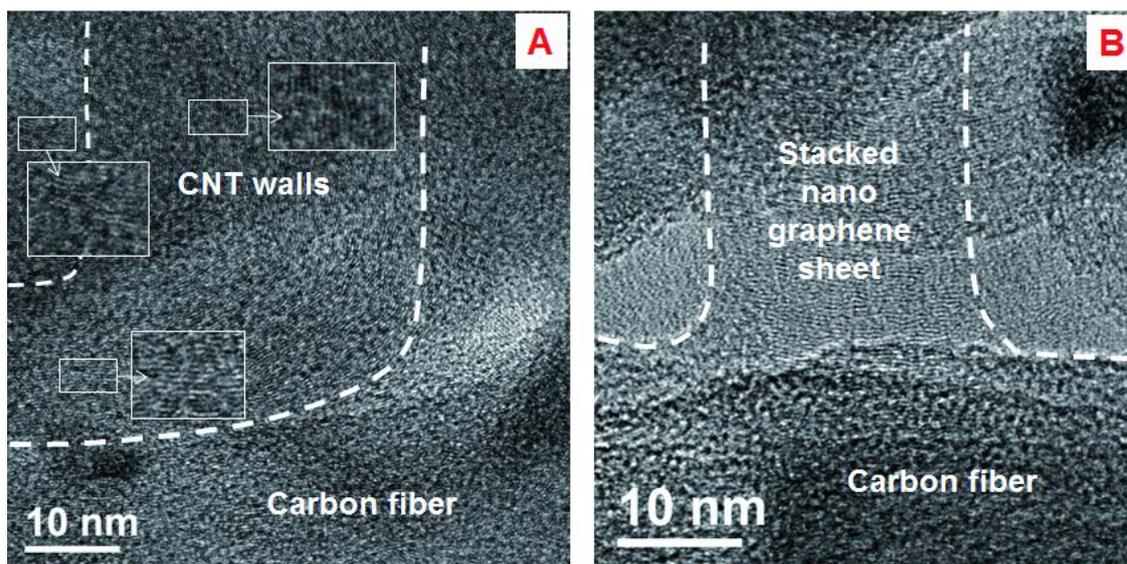


(a)

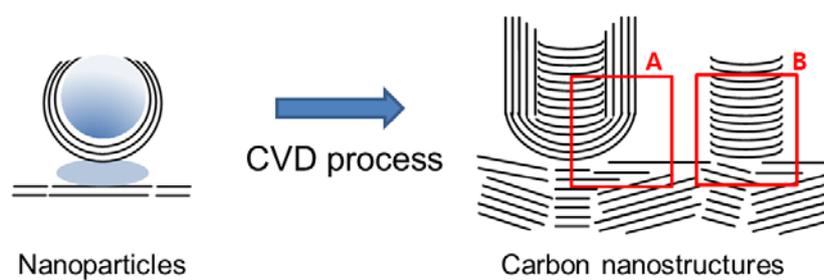


(b)

Fig S3 (a) The interface between a CNT and a CF surface with new graphitic layers, and (b) a magnified image of (a).



(a)



(b)

Fig. S4 (a) TEM images of CNTs cultivated from Type II nanoparticles and (b) schematic diagrams explain the CNT morphologies.