

Supporting Information

Carbon fibers/ZnO nanowires hybrid nanogenerator based on
insulating interface barrier

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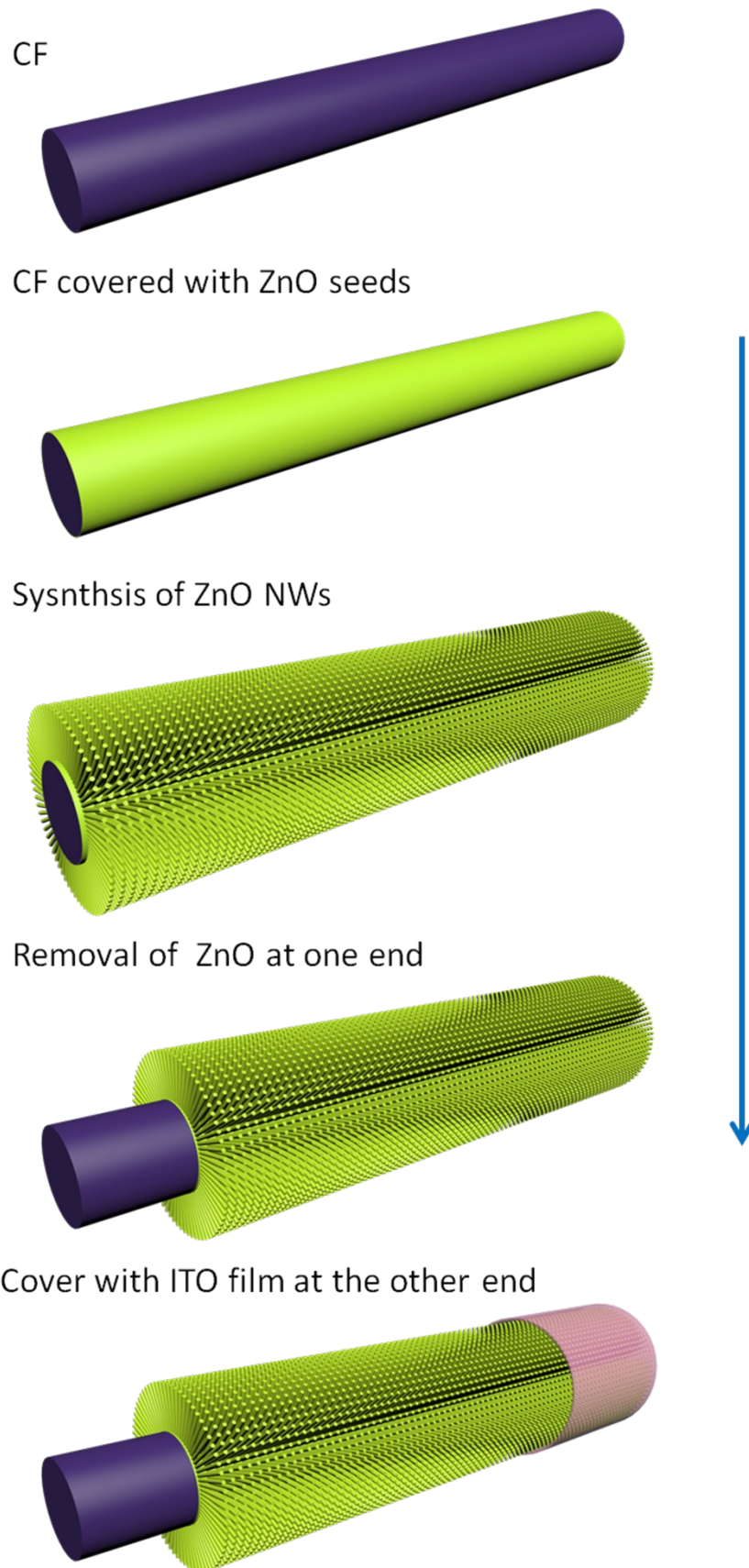


Fig. S1 schematic presents fabrication process of as designed CFs/ZnO NWs hybrid NG.

X-ray diffraction (XRD) measurement demonstrated the crystalline structures of CFs and ZnO NWs. The broad peak at around 25° was attributed to the CFs (002) planes. And the rest peaks could be indexed to hexagonal wurtzite structure of ZnO NWs. Three peaks at 31.8° , 34.4° and 36.3° corresponded to the (100), (002) and (101) planes of ZnO NWs respectively.

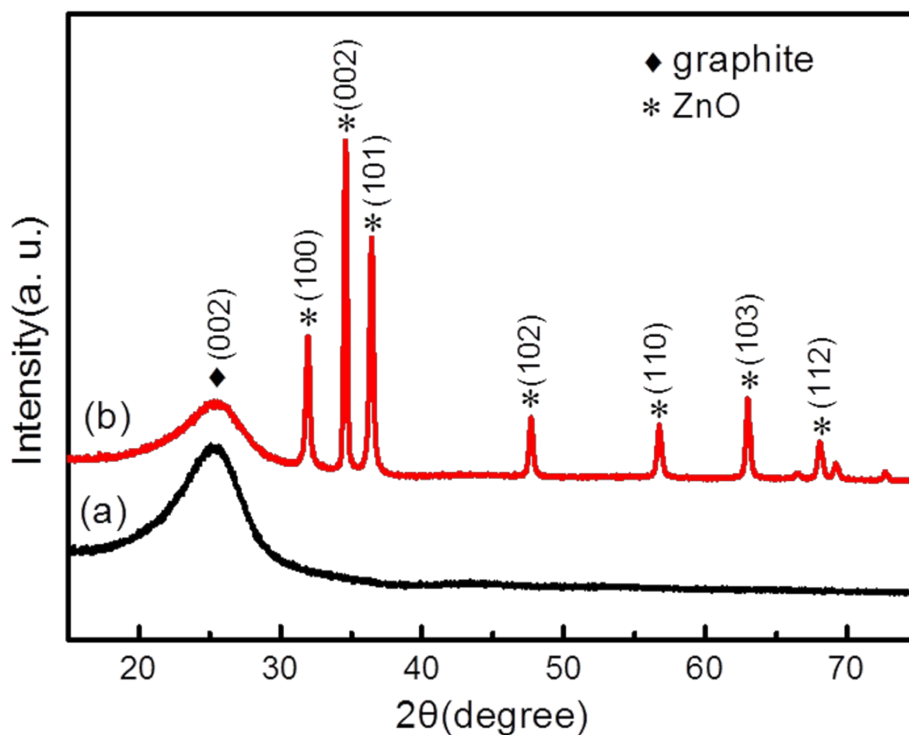


Fig. S2 XRD patterns of CFs (a) and CFs covered with ZnO NWs (b).

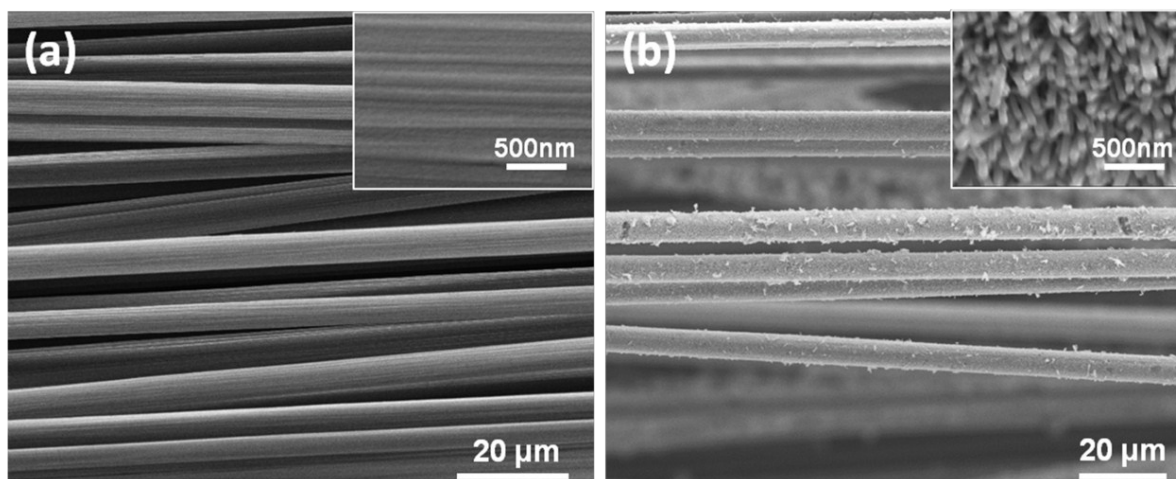


Fig. S3 SEM images of bare CFs (a) and CFs covered with ZnO NWs at different magnification.

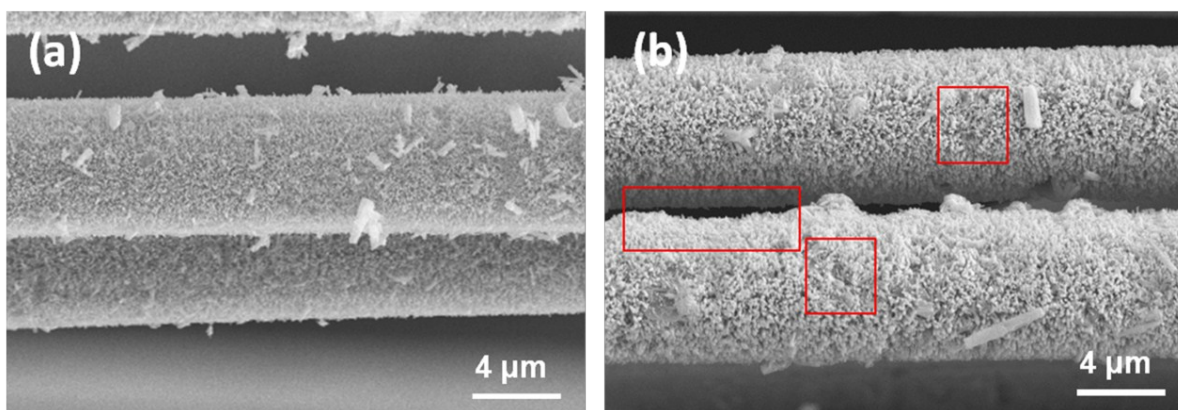


Fig. S4 SEM images of CFs covered with ZnO NWs before and after electrochemical tests of 20min.

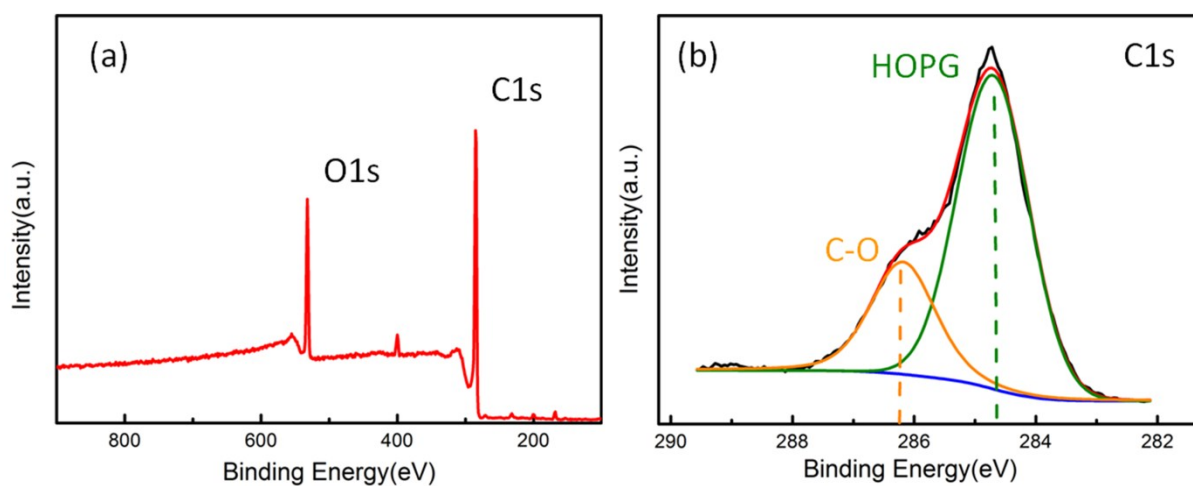


Fig. S5 XPS survey spectra and C1s high-resolution spectra of untreated CFs.

Table S1 Surface element analysis, and bonding states peaks locations and contents of the decomposed C1s energy states of untreated CFs.

Element	C	O	Functional Groups	C-O (286.5eV)	HOPG (284.6eV)
Atomic Ratio (%)	61.33	38.67	Content (%)	28.09	71.91