

Longitudinal unzipped carbon nanotubes with high specific surface area and trimodal pore structure

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Results of characterization.

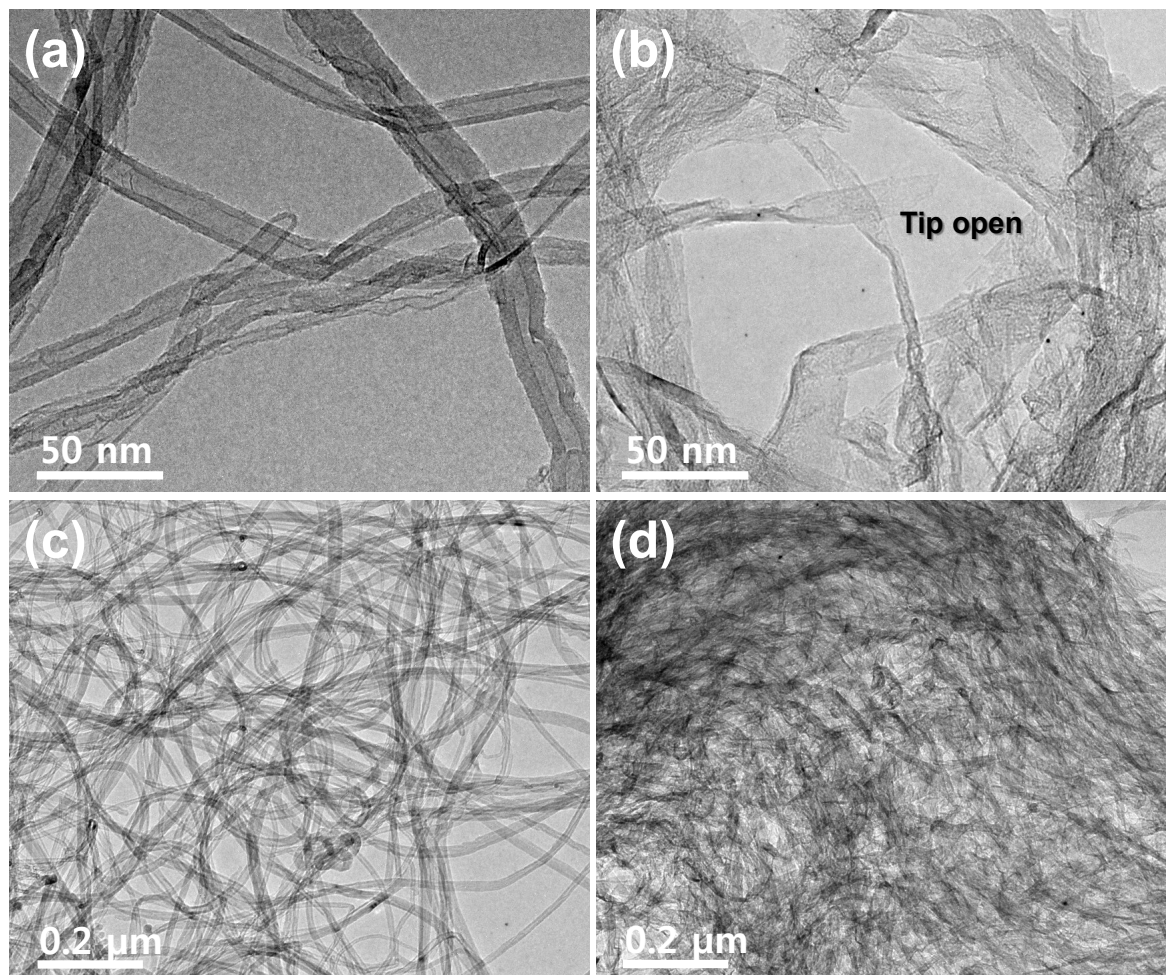


Figure S1. High resolution TEM images of (a) pristine MWCNTs with graphitic walls before the alkali activation and (b) tip opening of the MWCNTs after the activation, and low resolution TEM images of (c) the entangled MWCNTs before the activation and (d) aggregated MWCNTs after unzipping via the activation.

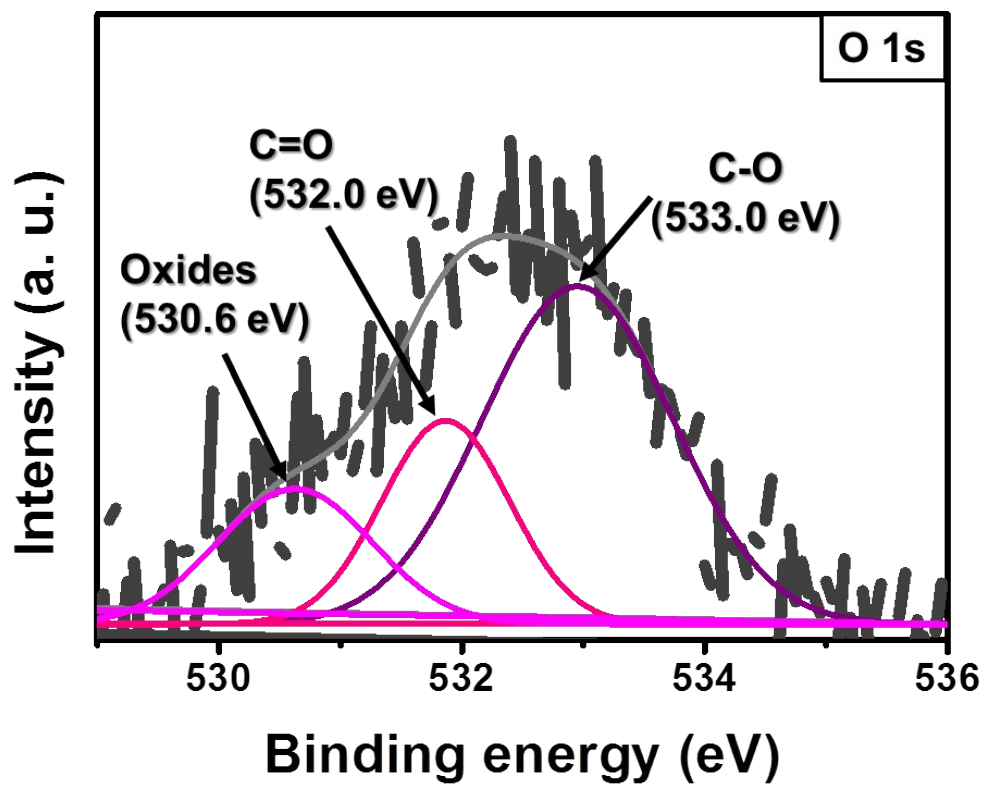


Figure S2. XPS O 1s spectra corresponding to the deconvolution of the C 1s spectra in Figure 4 (d) of the unzipped MWCNTs after the activation.

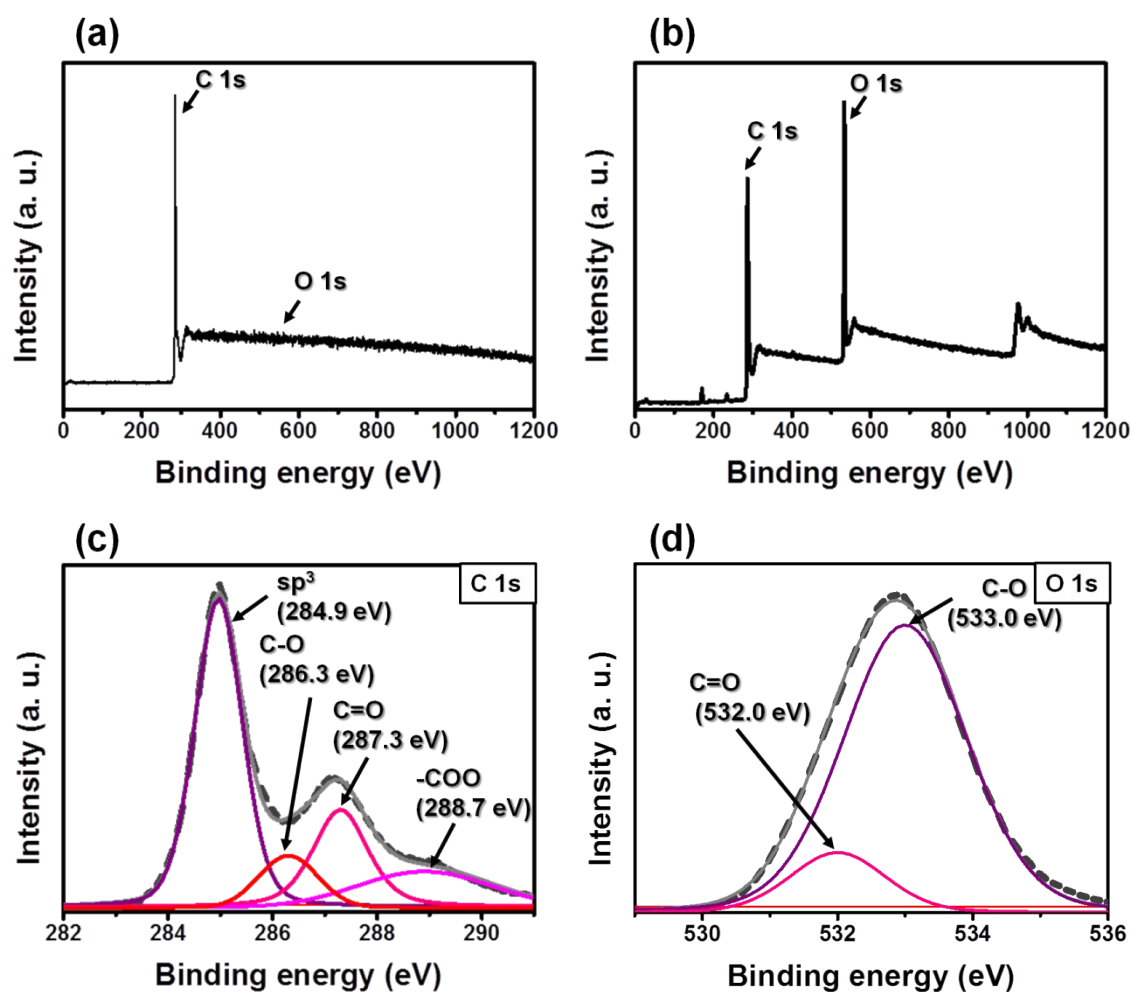


Figure S3. XPS survey spectra of (a) unzipped MWCNTs after alkali activation and (b) oxidized MWCNTs after acid treatment. (c) C1s spectra and (d) O 1s spectra of the oxidized MWCNTs after acid treatment.

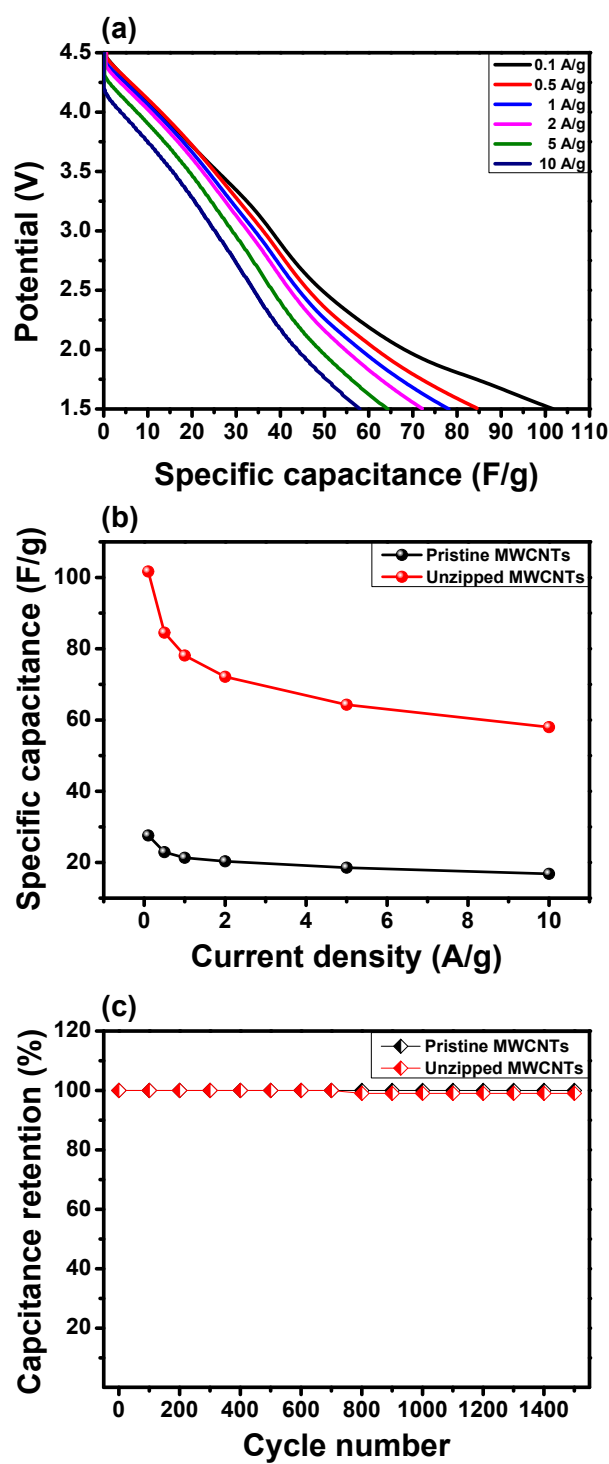


Figure S4. (a) Galvanostatic discharge curve at various current densities for unzipped MWCNTs, (b) rate capability at various current densities, and (c) capacitance retention during 1500 cycles for the pristine and unzipped MWCNTs.

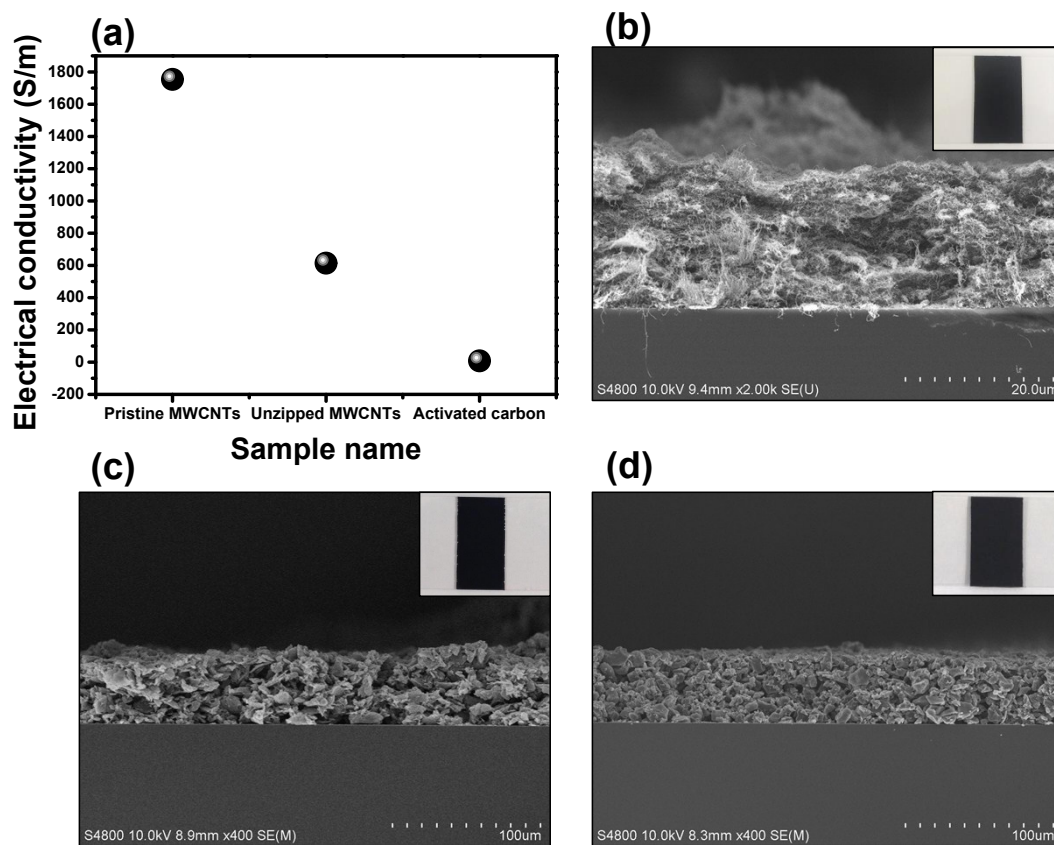


Figure S5. (a) Electrical conductivity of various samples and cross section SEM images of (b) pristine and (c) unzipped MWCNTs and (d) commercial activated carbon.