

Electronic Supplementary information of

Thermal Treatment-Induced Structural Changes in Graphene Nanoribbons
Obtained from Partially Unzipped Double-Walled Carbon Nanotubes

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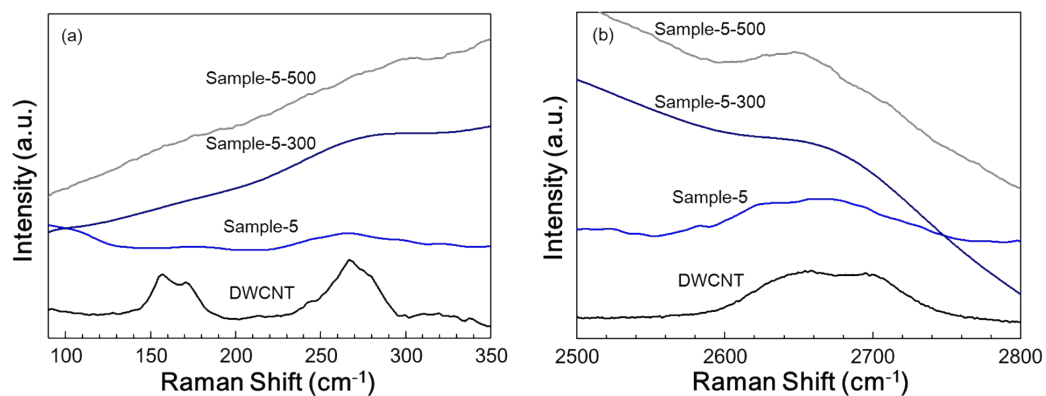
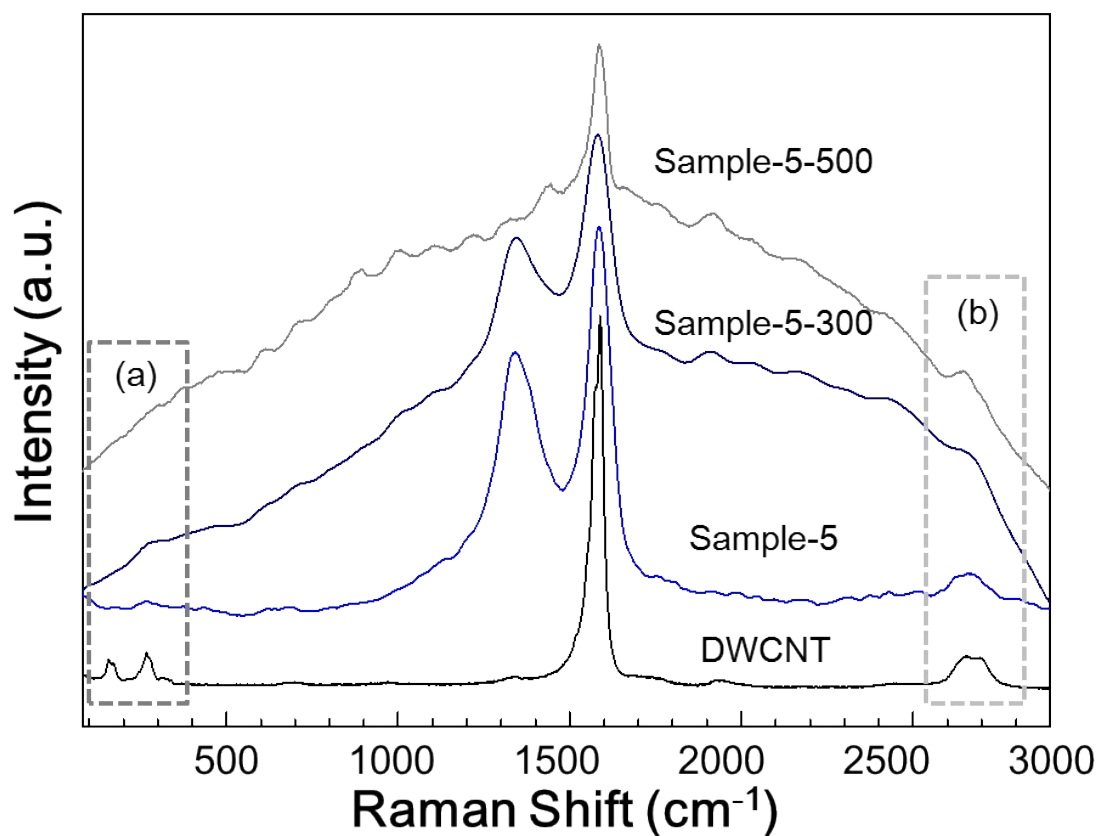


Fig. S1 Raman spectra of starting DWCNT and chemically treated DWCNTs by 5 times of KMnO_4 with and without heating treatments at 300°C (Sample-5-300) and 500°C (Sample-5-500), respectively.

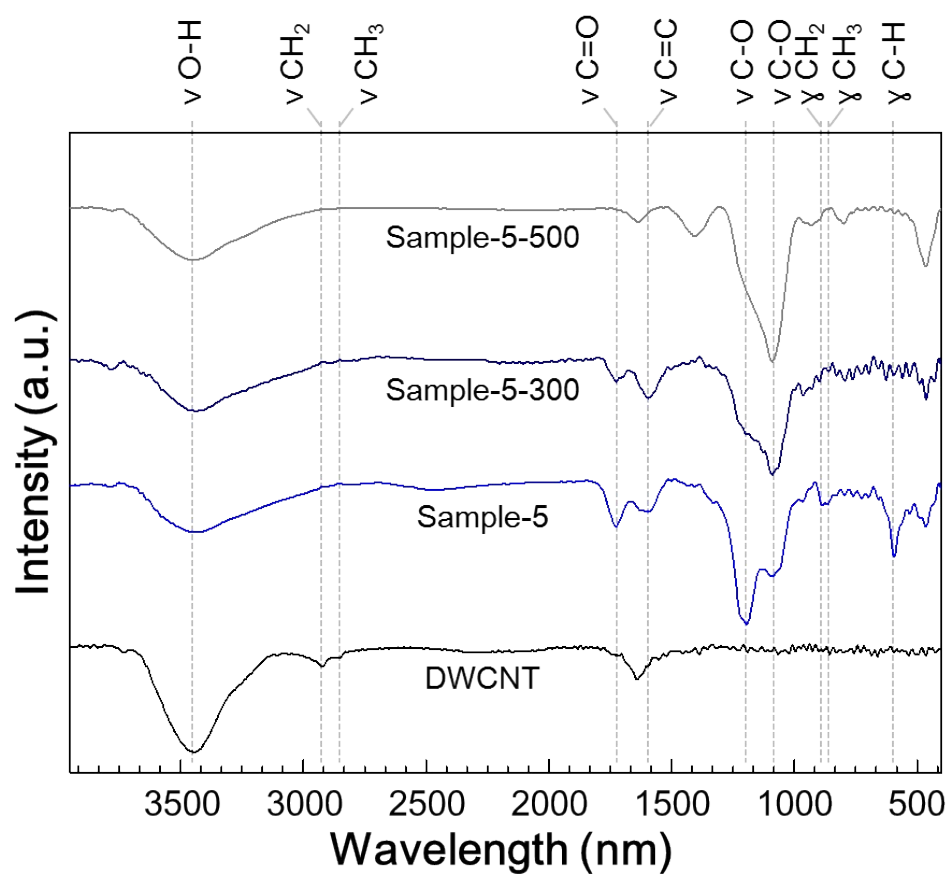


Fig. S2 FT-IR spectra of starting DWCNTs and chemically treated DWCNTs by 5 times of KMnO_4 with and without heating treatments at 300°C (Sample-5-300) and 500°C (Sample-5-500), respectively.

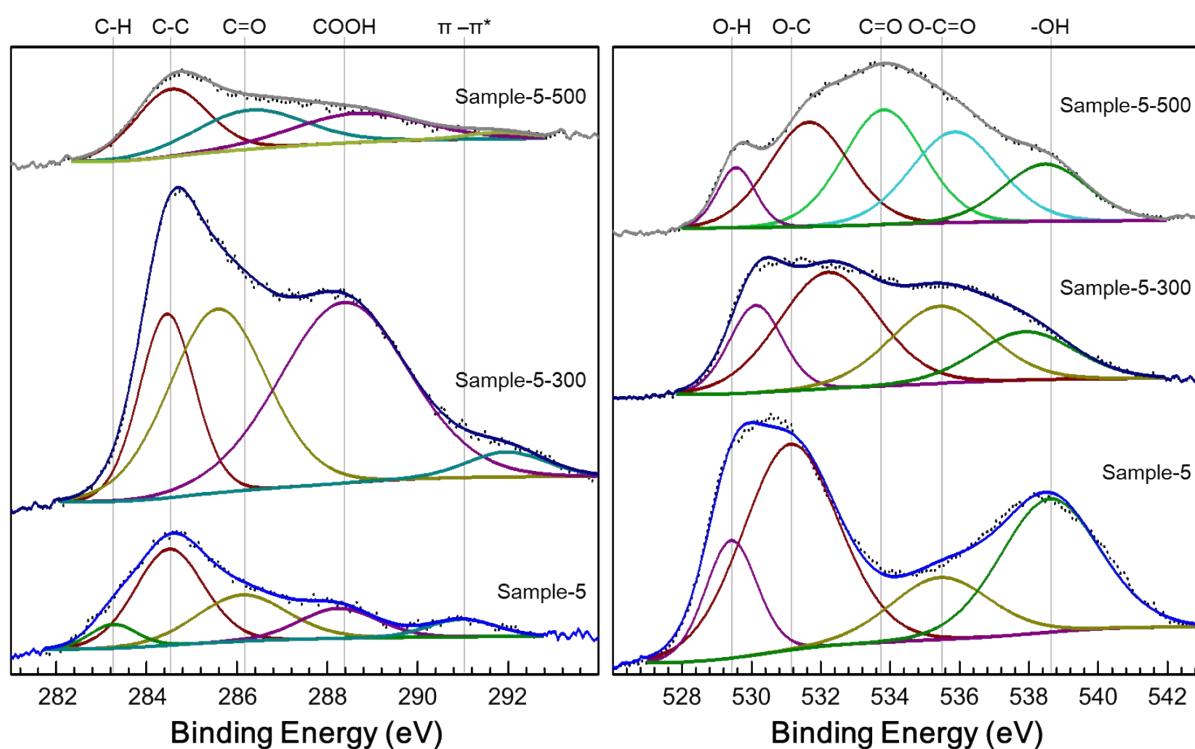


Fig. S3 C1s and O1s spectra from XPS analysis of chemically treated DWCNTs by 5 times of KMnO_4 with and without heating treatment at 300°C (Sample-5-300) and 500°C (Sample-5-500), respectively.

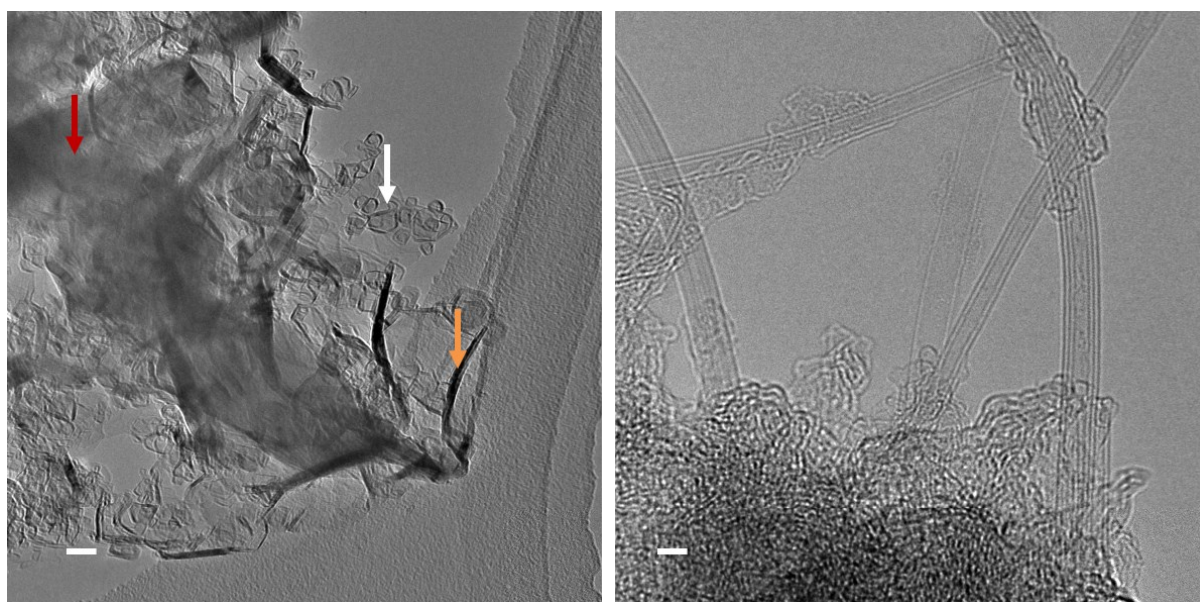


Fig. S4 HR-TEM images of chemically treated DWCNTs by 5 times of KMnO_4 heated at 300°C , scale = 2 nm

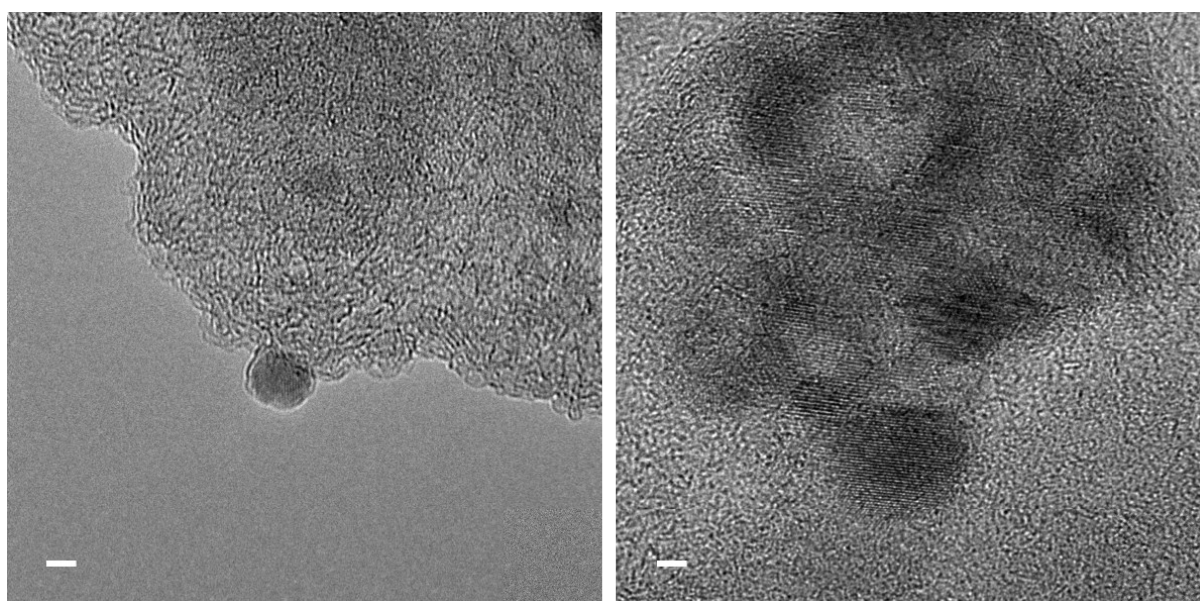


Fig. S5 HR-TEM images of chemically treated DWCNTs by 5 times of KMnO_4 heated at 500°C , scale = 2 nm