

# Supporting Information

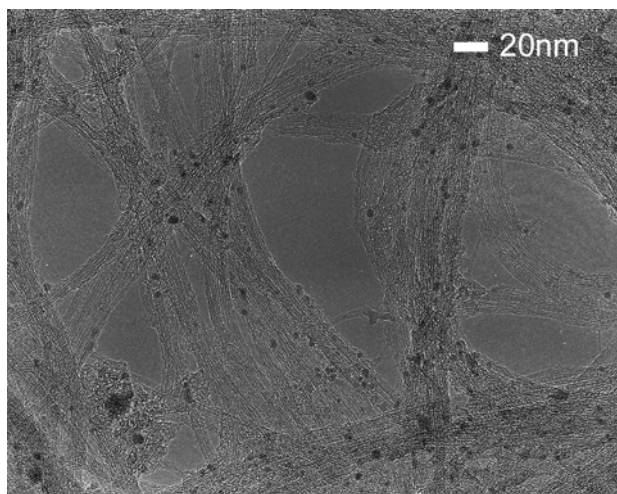
## Choking Effect of Single-Wall Carbon Nanotubes on Solvent Adsorption in Radial Breathing Mode

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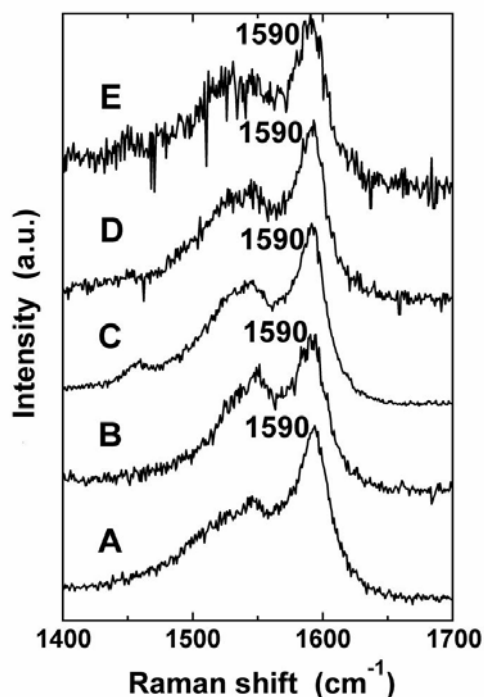
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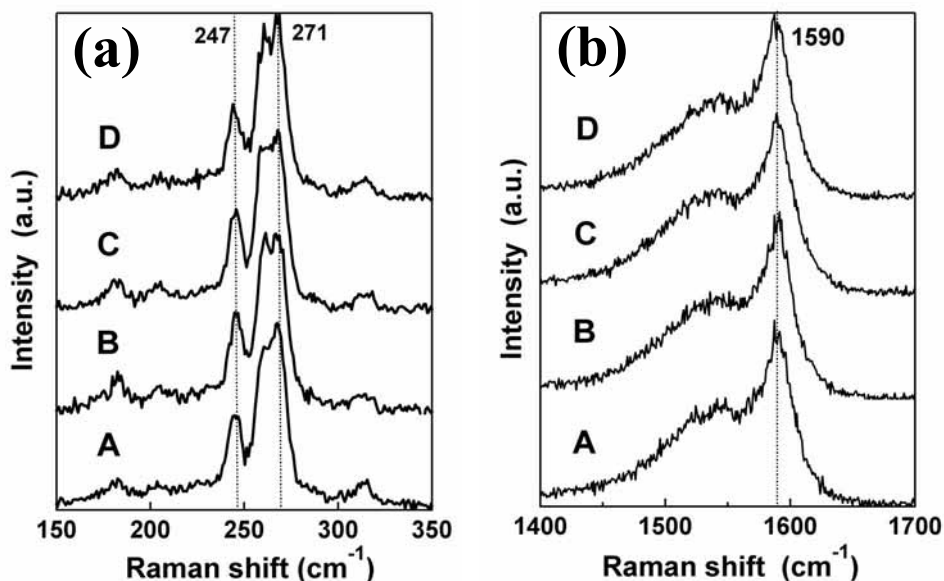
## RESULTS



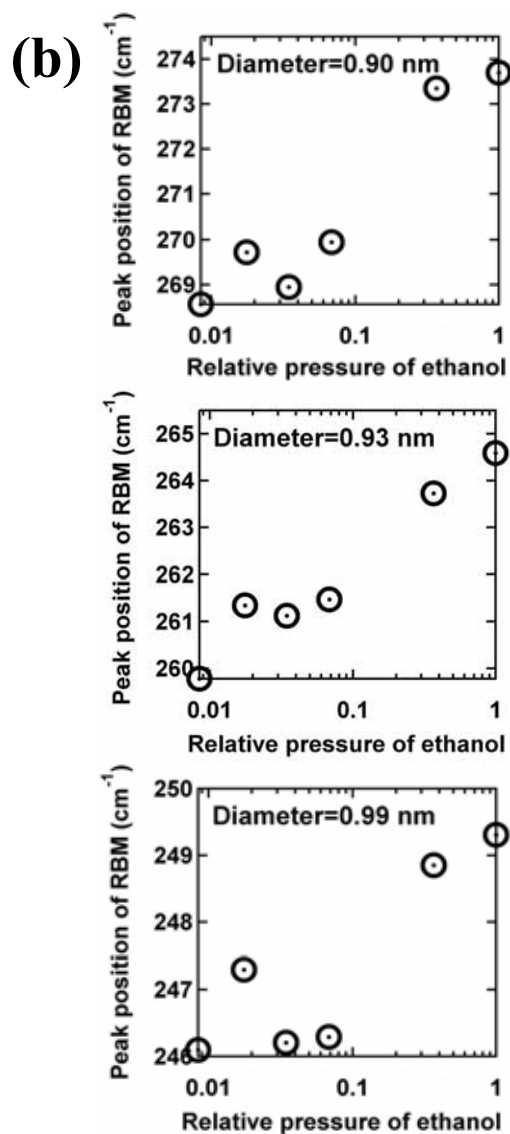
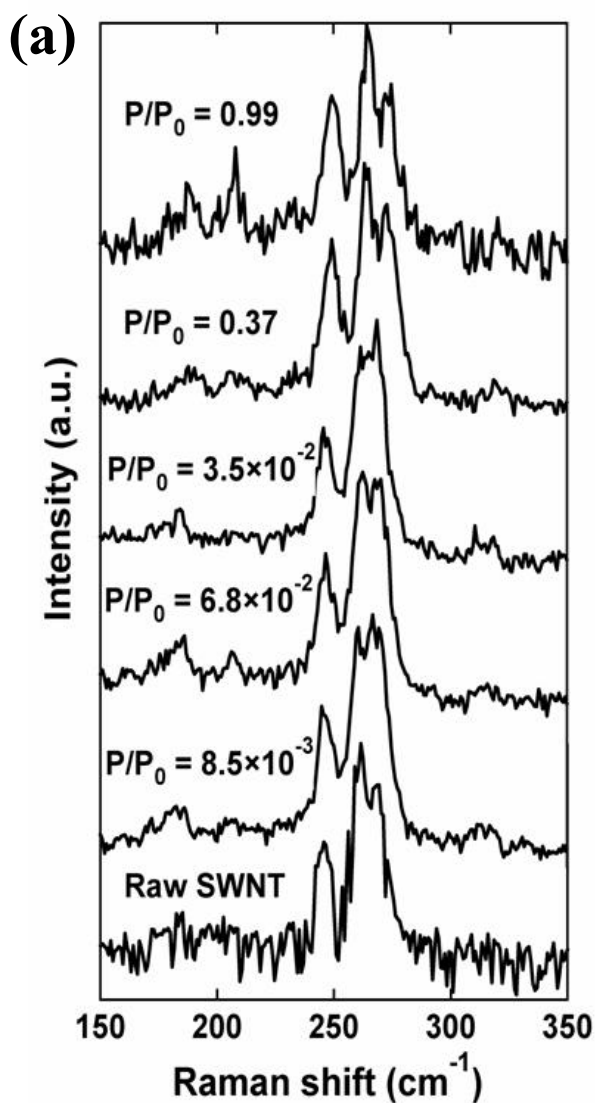
Supporting Information, FIGURE S1: Transmission electron microscopy (TEM) image of raw SWNTs.



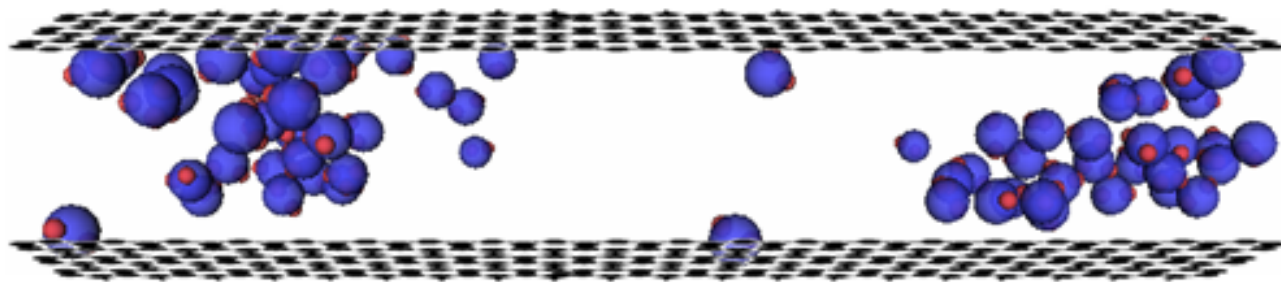
**Supporting Information, FIGURE S2:** Tangential mode (TM) region in Raman spectra (excitation laser with wavelength of 514.5 nm) of SWNTs immersed in various alcohols: (A) raw SWNT, (B) methanol-SWNT, (C) ethanol-SWNT, (D) hexanol-SWNT, (E) decanol-SWNT.



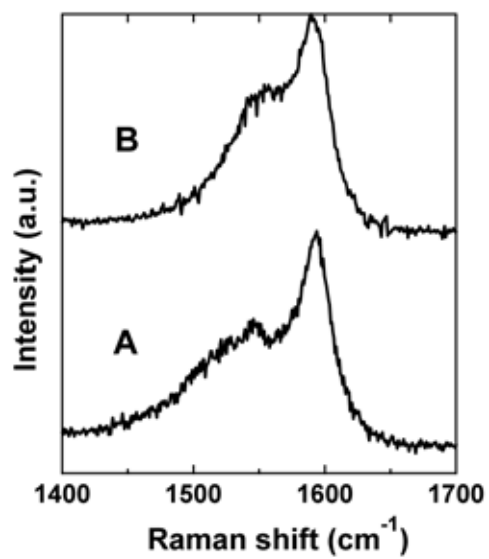
**Supporting Information, FIGURE S3:** (a) Radial breathing mode (RBM) and (b) TM regions in Raman spectra (excitation laser with wavelength of 514.5 nm) after desorption of the alcohols and water from SWNTs: (A) raw SWNT; (B) methanol-SWNT after methanol desorption; (C) ethanol-SWNT after ethanol desorption; (D) water-SWNT after water desorption



**Supporting Information, FIGURE S4:** (a) RBM region in Raman spectra (excitation laser with wavelength of 514.5 nm) of SWNTs adsorbed with ethanol vapor under various relative pressures ( $P/P_0$ ) at 298 K and (b) relation between RBM peak position and  $P/P_0$  of the ethanol vapor for SWNTs with different diameters.



**Supporting Information, FIGURE S5:** Snapshot of cluster structure of water molecules adsorbed within graphitic slit nanopore (pore width of 1.1 nm).



**Supporting Information, FIGURE S6:** Tangential mode (TM) region in Raman spectra (excitation laser with wavelength of 514.5 nm) of SWNTs immersed in water: (A) raw SWNT and (B) water-SWNT.