

Supporting Information

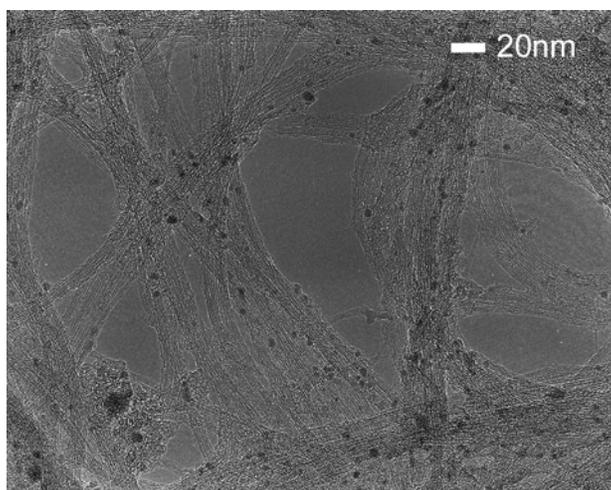
Choking Effect of Single-Wall Carbon Nanotubes on Solvent Adsorption in Radial Breathing Mode

Hiroaki Honda[†], Cheol-Min Yang[‡], Hirofumi Kanoh^{†,‡}, Hideki Tanaka[§],
Tomonori Ohba^{†,‡}, Yoshiyuki Hattori^{||}, Shigenori Utsumi[‡], and Katsumi Kaneko^{†,‡,*}

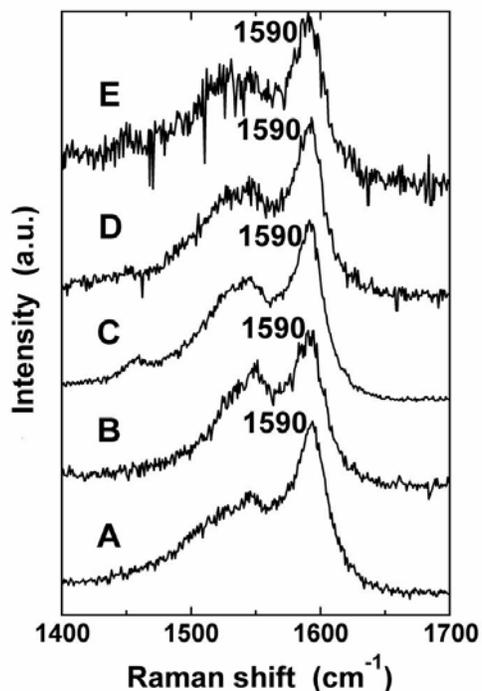
Graduate School of Science and Technology, Chiba University, 1-33 Yayoi, Inage, Chiba 263-8522, Japan, Department of Chemistry, Faculty of Science, Chiba University, 1-33 Yayoi, Inage, Chiba 263-8522, Japan, Department of Chemical Engineering, Kyoto University, Nishikyo, Kyoto 615-8510, Japan, and Faculty of Textile Science and Technology, Shinshu University, 3-15-1 Tokida, Ueda 386-8567, Japan

E-mail: kaneko@pchem2.s.chiba-u.ac.jp

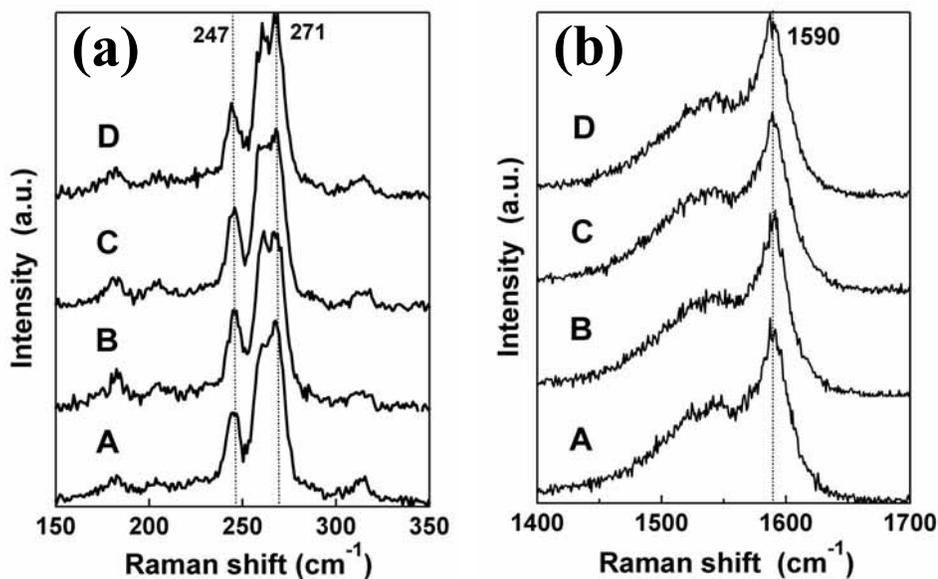
RESULTS



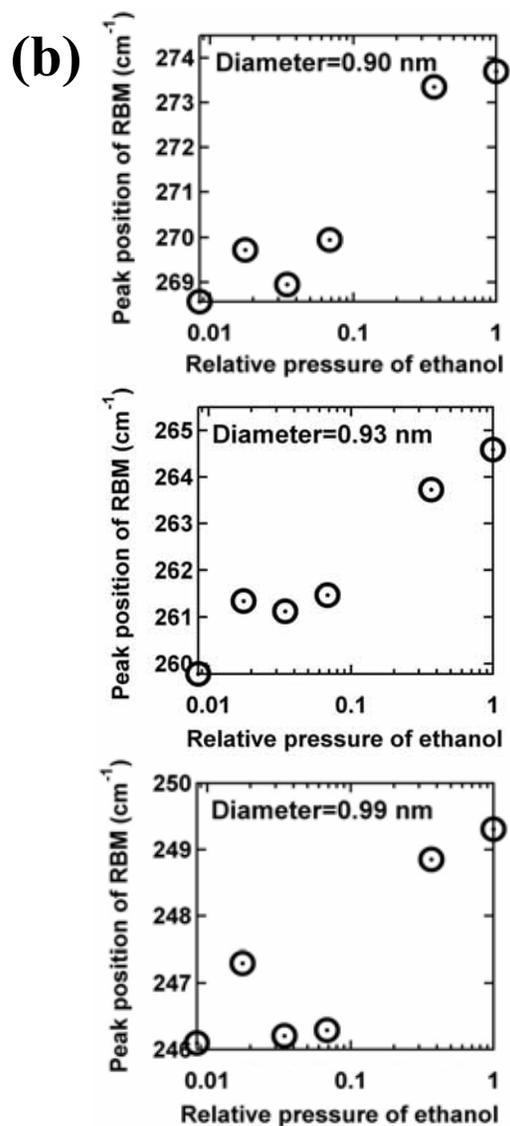
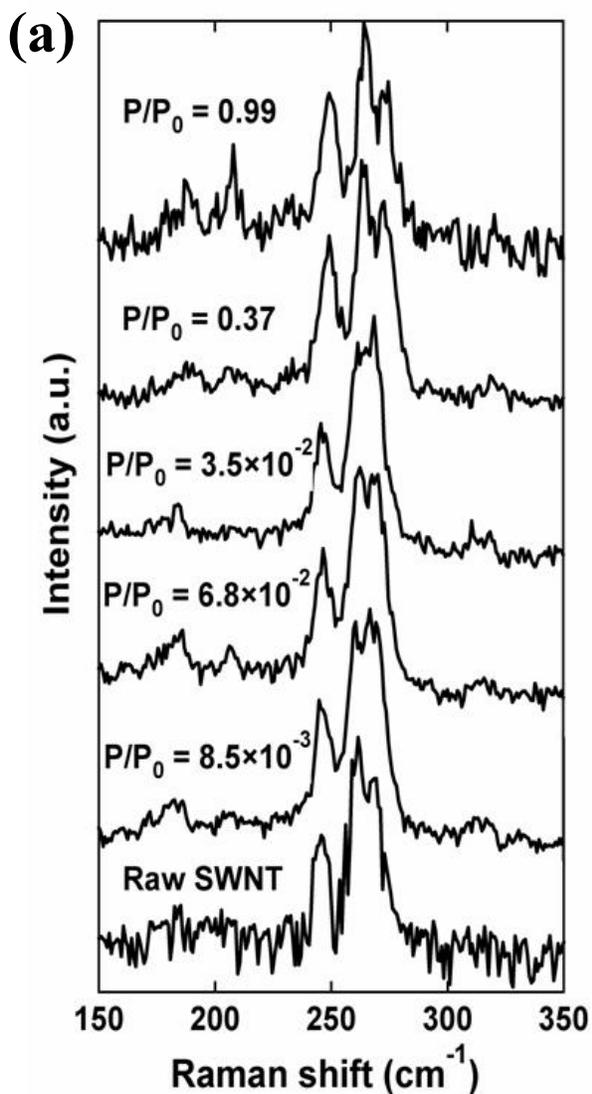
Supporting Information, FIGURE S1: Transmission electron microscopy (TEM) image of raw SWNTs.



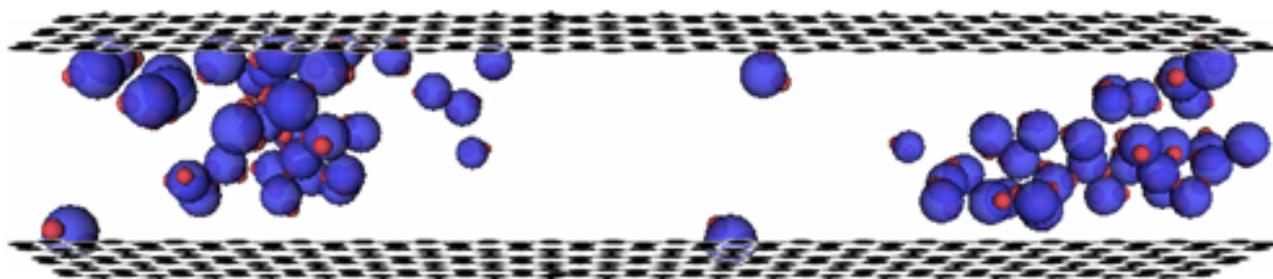
Supporting Information, FIGURE S2: Tangential mode (TM) region in Raman spectra (excitation laser with wavelength of 514.5 nm) of SWNTs immersed in various alcohols: (A) raw SWNT, (B) methanol-SWNT, (C) ethanol-SWNT, (D) hexanol-SWNT, (E) decanol-SWNT.



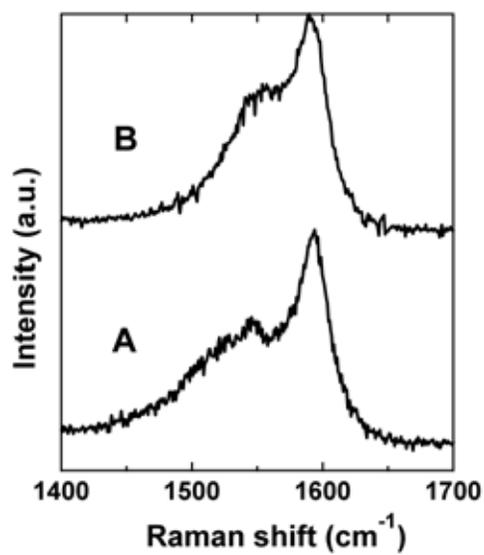
Supporting Information, FIGURE S3: (a) Radial breathing mode (RBM) and (b) TM regions in Raman spectra (excitation laser with wavelength of 514.5 nm) after desorption of the alcohols and water from SWNTs: (A) raw SWNT; (B) methanol-SWNT after methanol desorption; (C) ethanol-SWNT after ethanol desorption;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