Journal of **Physical** **Chemistry C**

Supporting Information

Growth Kinetics of Wall-Number Controlled Carbon Nanotube

Duck Hyun Lee, Sang Ouk Kim*, Won Jong Lee*

Department of Materials Science and Engineering, KAIST 373-1, Guseong-dong, Yuseong-gu, Daejeon 305-701, Republic of Korea

* E-mail: sangouk.kim@kaist.ac.kr, wjlee@kaist.ac.kr

Figure S1. (a) Experimental time-dependent length of 6-walled CNTs, and (b) Experimental (dotted) and exponentially fitted (line) time-dependent growth rate of CNTs. The parameters of k_c and S were determined by a fit to the experimental data of 6-walled CNT arrays with the equations (5)-(13):

$$\beta = \frac{F_{c,ads} \cdot A_0}{z} = \frac{S \cdot F_{c,i} \cdot A_0}{z} = \frac{S \cdot 1.16 \times 10^{12} \times 2.46 \times 10^{-4}}{1.4 \times 10^6} = 0.409 \Rightarrow S = 0.002$$

$$\tau_0 = \frac{\alpha \cdot n_m \cdot k_{sb}}{F_{c,ads} \cdot k_c} = \frac{5 \times 10^7 \times 588}{2.32 \times 10^9 \cdot k_c} = 250 \Rightarrow k_c = 0.05 \text{ s}^{-1}$$