Supporting Information for "Wet chemical needlelike assemblies of single-walled carbon nanotubes on silicon surface"

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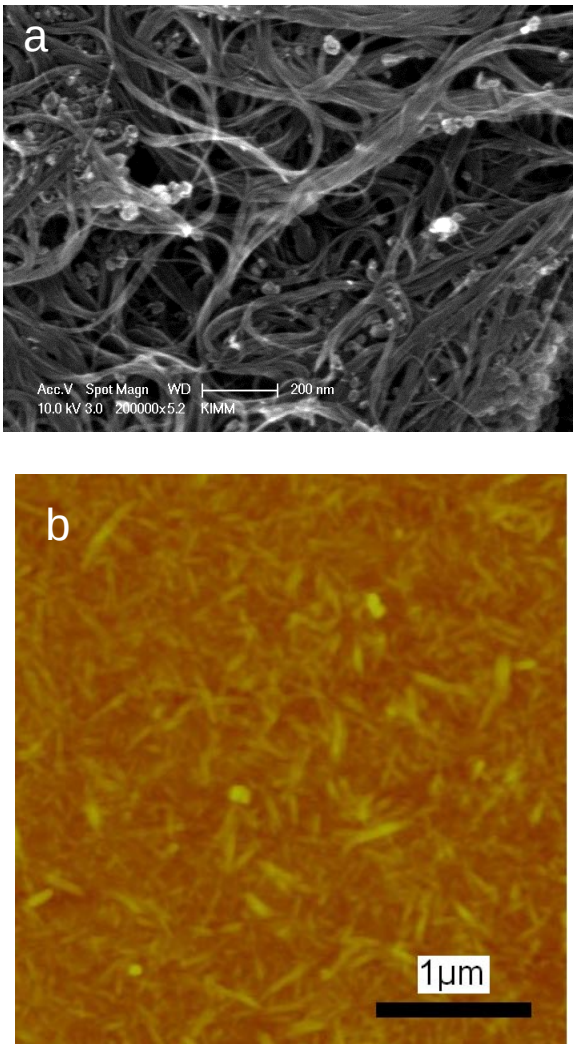

Figure S1. The morphology of single-walled carbon nanotubes before (a) and after (b) chemical cutting.

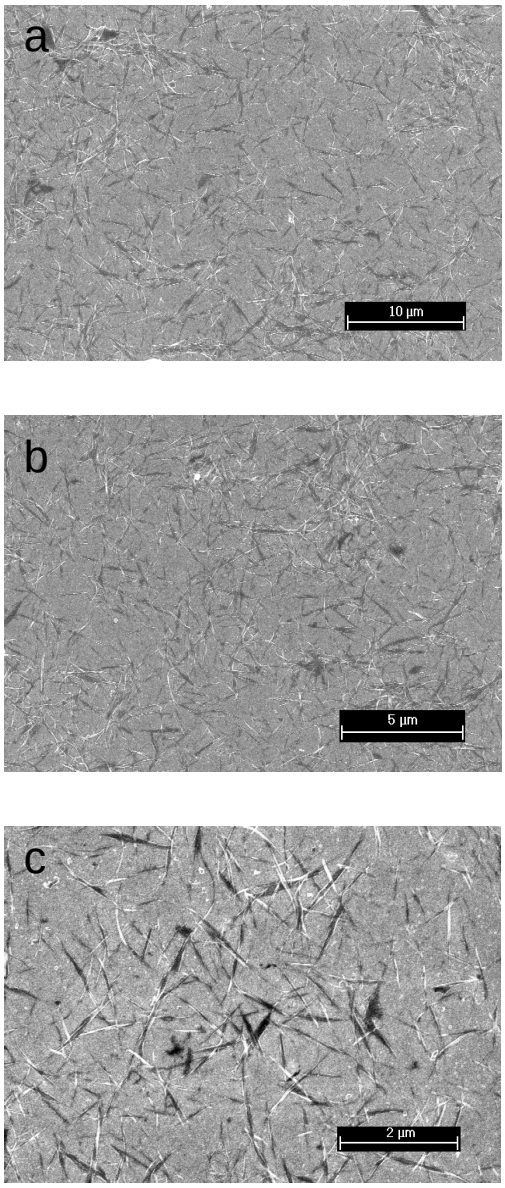

Figure S2. The morphology of shortened single-walled carbon nanotubes under different cutting time at about 50 ^{o}C. **a)** 3 hrs; **b)** 5 hrs; **c)** 7 hrs.

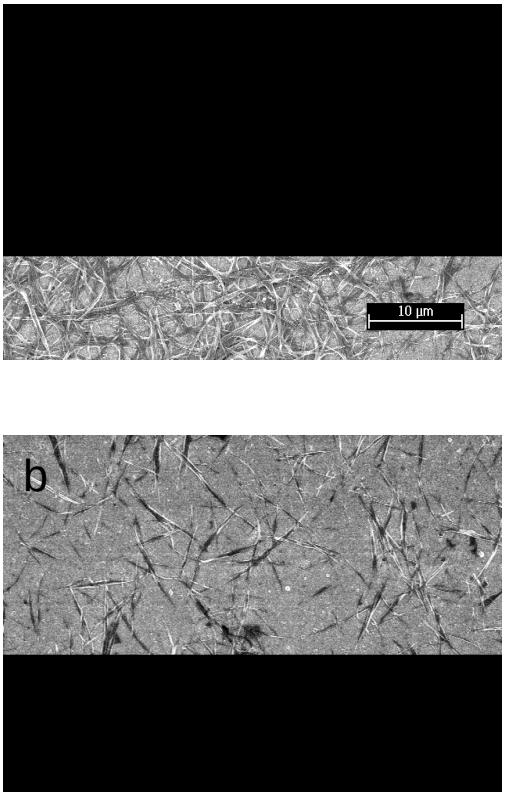

Figure S3. The morphology of shortened single-walled carbon nanotubes under different cutting temperature at cutting time of 6 hrs. **a)** 20 ^{o}C; **b)** 50 ^{o}C.

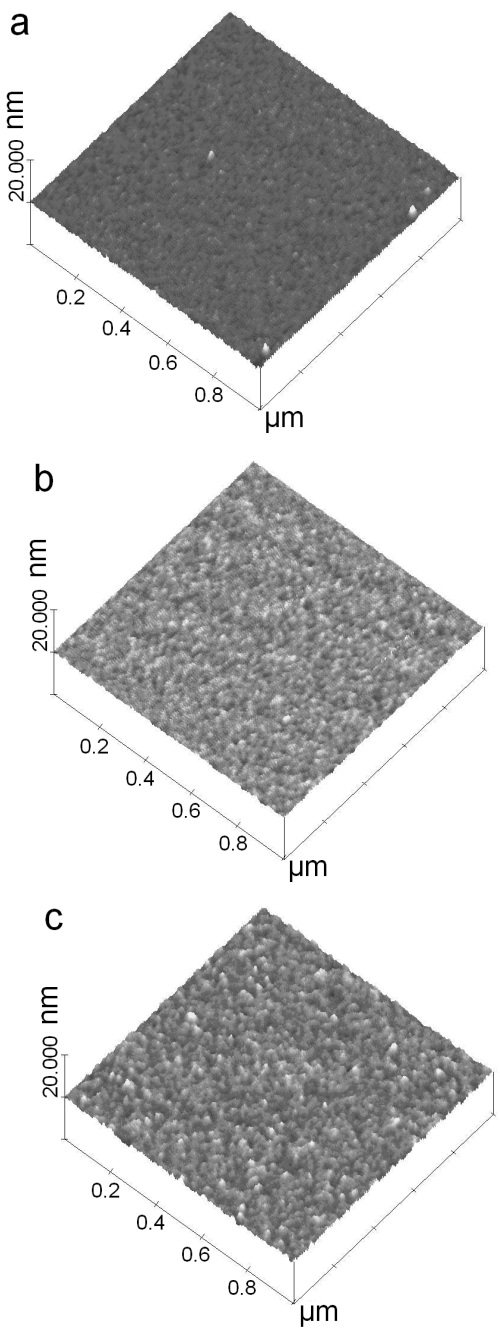

Figure S4. Typical tapping mode AFM height images of silicon surface. **a)** bare silicon wafer after washing in detergent solution for 30 min, then rewashing using acetone and DDW. **b)** H_2SO_4/H_2O_2 pretreated silicon wafer, sonication for 1h at 50 ^oC. **c)** after silanization of silicon wafer.

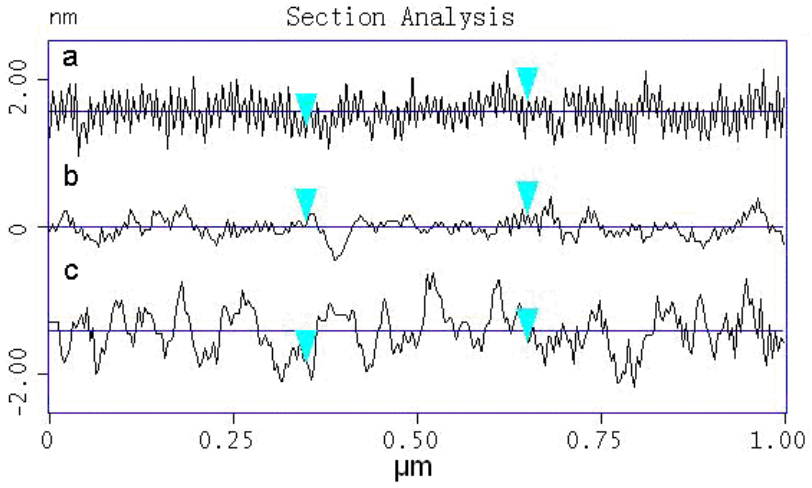

Figure S5. Typical cross section of the bare silicon (a), H_2SO_4/H_2O_2 mixture pretreated silicon (b), and silanization silicon (c) in AFM images

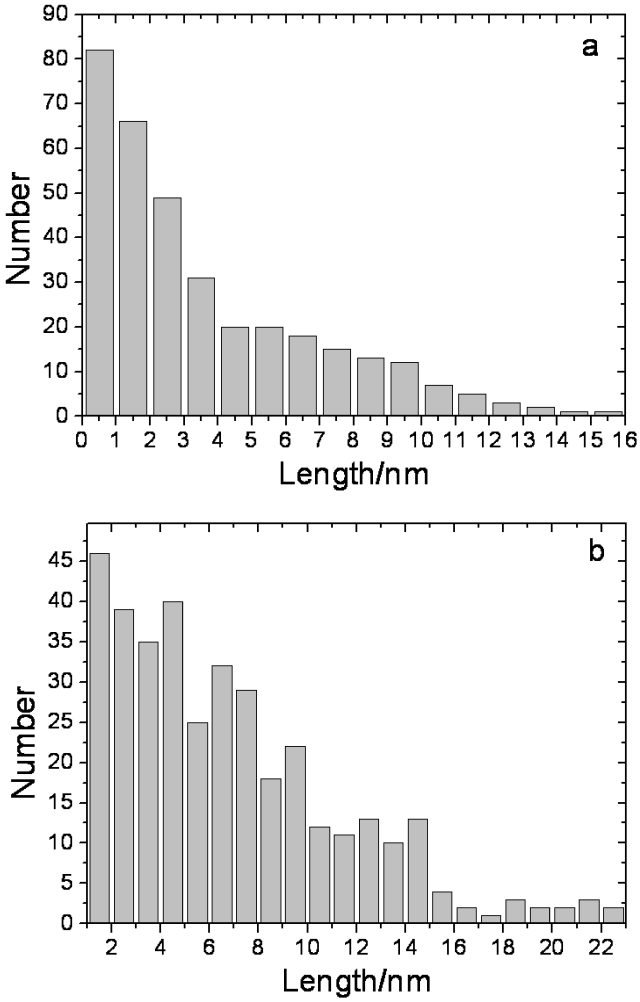

Figure S6. Histograms of the length (a, 1h; b, 6h) distributions of single-walled carbon nanotubes assembled on silicon obtained from AFM images at different assembling times.

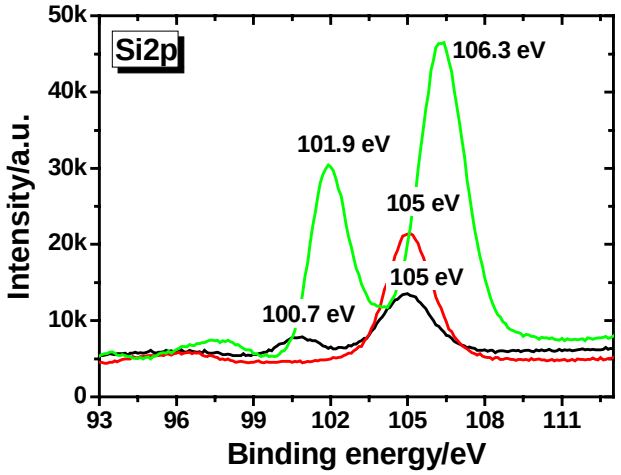

Figure S7. High-resolution Si2p spectra at each stage of the assembly. H_2SO_4/H_2O_2 pretreated silicon (bright green), silanization silicon (red), and single-walled carbon nanotube assembled silicon (black).