Bundle Size Engineering of Single-Walled Carbon Nanotubes on Silica Nanoparticles

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Supporting Information

1. D and G band Raman spectra recorded from the SWCNTs:

The Raman spectra recorded from SWCNTs bundles grown on 50 and 200 nm silica nanoparticles with two different concentration of Co-acetate solutions show D and G band spectra of SWCNTs as shown in Figure S1. The peak area ratio of the D and G bands indicates the degree of disorder on SWCNTs. Showing in Figure S1, the degree of disorder on SWCNTs grown with higher concentrated Co-acetate solution is slightly higher than SWCNTs synthesized with lower concentrated Co-acetate solution. In other words, small-bundled SWNCTs have relatively high quality graphitic structures than large-bundled SWCNTs.

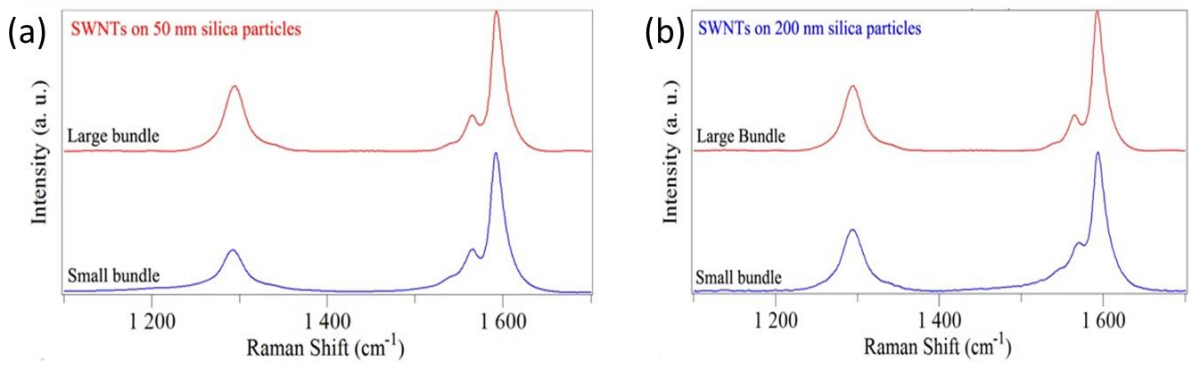

Figure S1. Raman spectra from SWCNT bundles from on 50nm silica particles and 200nm silica particles recorded with 785 nm wavelength laser. a) D and G band spectra recorded from SWCNTs grown on small-diametered Co clusters (red) and large-diametered Co clusters (blue) on 50 nm silica nanoparticles b) D and G band spectra recorded from SWCNTs grown on small-diametered Co clusters (red) and large-diametered Co clusters (blue) on 200 nm silica nanoparticles.