Electronic Supplementary Material (ESI) for ChemComm.

Supplementary Information for

A Simple Synthesis of Nitrogen-Doped Carbon Micro- and Nanotubes

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This PDF file includes: Figs. S1 to S7

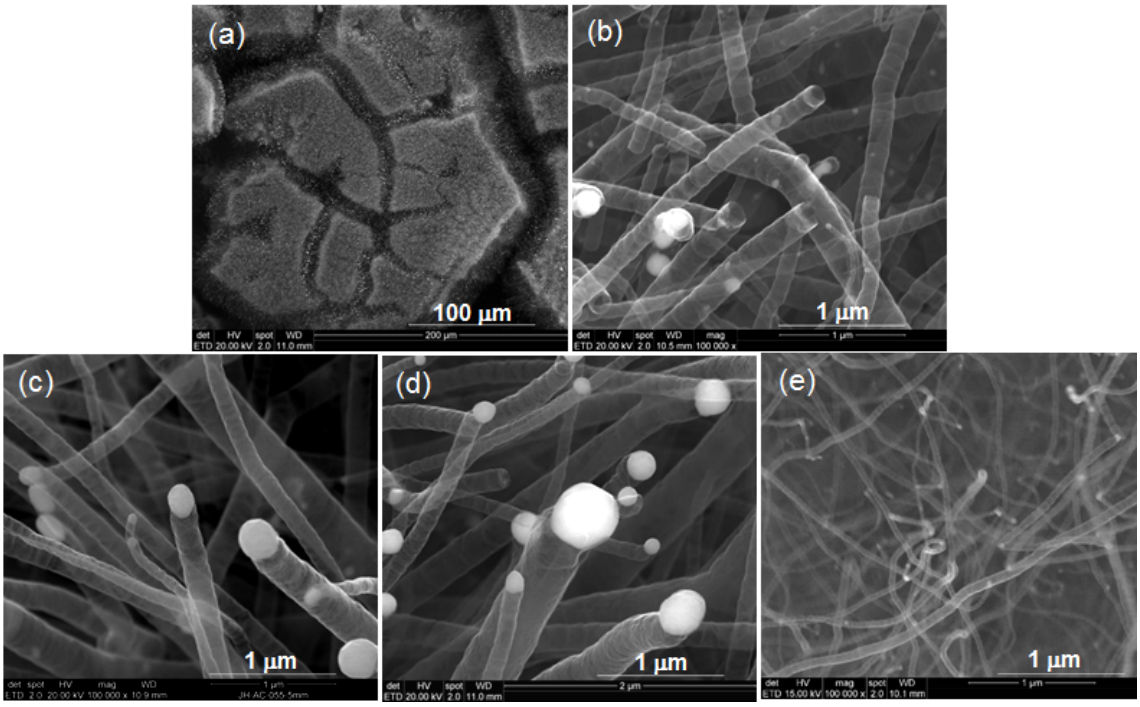

Fig. S1. SEM images of Ni-catalyzed N-CNTs: (a) heat-treated at 1050°C for 30 minutes, ×1,000 magnification; (b) heat-treated at 850°C for 30 minutes, ×100,000 magnification; (c) heat-treated at 950°C for 30 minutes, ×100,000 magnification; (d) heat-treated at 1050°C for 30 minutes, ×100,000 magnification; (e) heat-treated at 850°C for 3 minutes. 100,000 magnification.

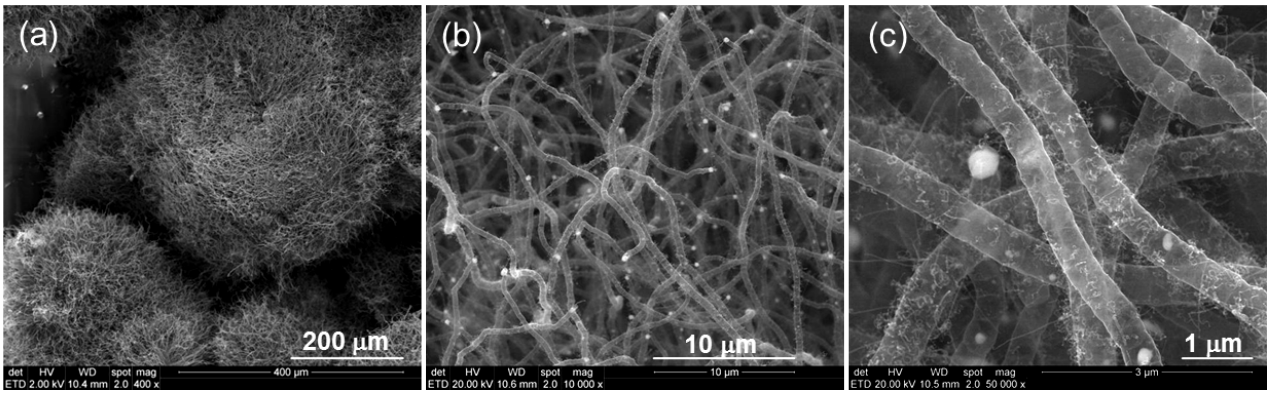

Fig. S2. SEM images of Co-catalyzed N-CNTs containing nano-tentacles: (A) ×400 magnification; (B) ×10,000 magnification (primary structure visible); (C) ×50,000 magnification (primary and secondary nano-tentacle structures visible).

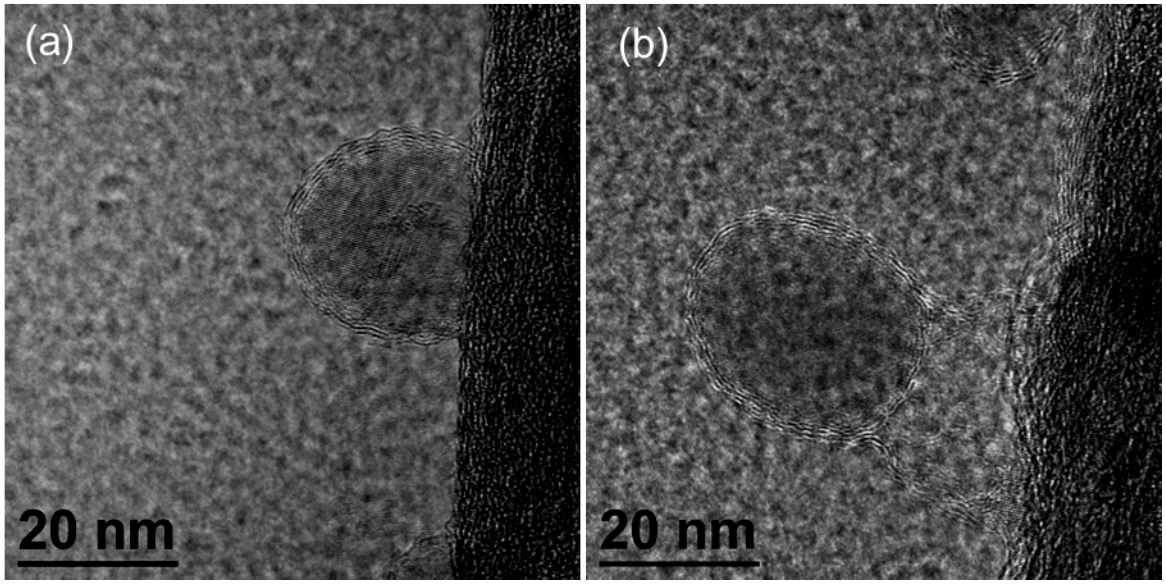

Fig. S3. TEM images of Co-catalyzed carbon nano-tentacle: (A) a Co nanoparticle encapsulated in several graphene layers, attached to the large-diameter carbon tube; (B) a small-diameter N-CNT that has grown away from the large-diameter carbon tube.

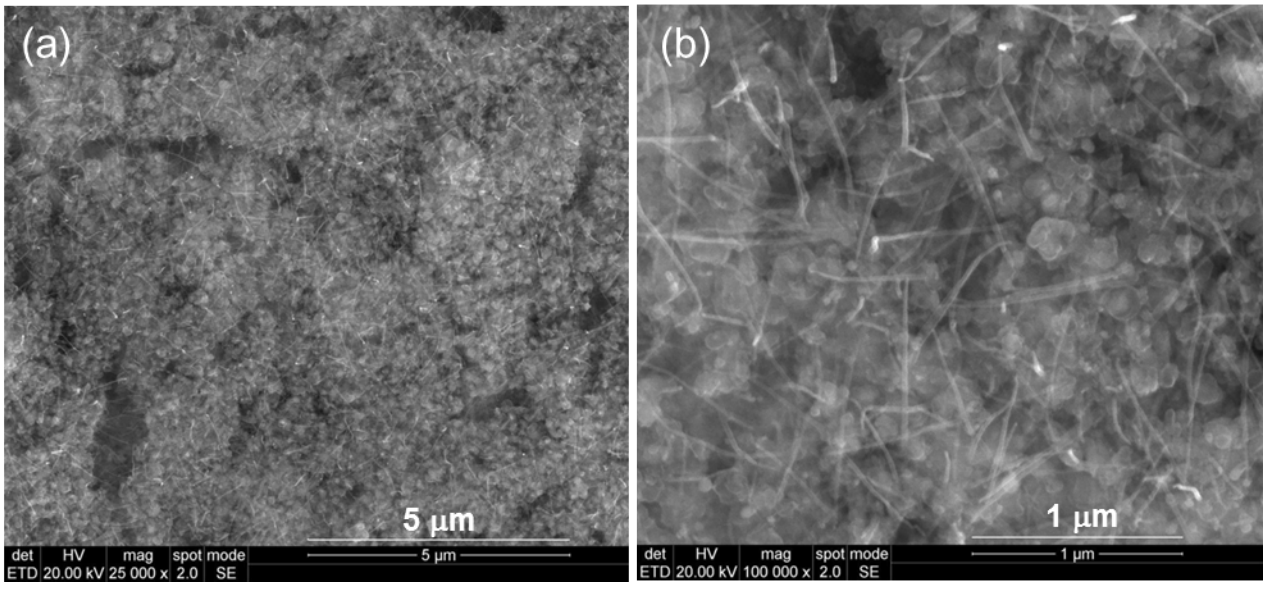

Fig. S4. SEM images of *ca.* 20 nm N-CNTs obtained using Fe as a growth catalyst in the presence of dispersed TiO_2: (A) N-CNTs uniformly scattered in the TiO_2 phase, ×25,000 magnification; (B) ×100,000 magnification.

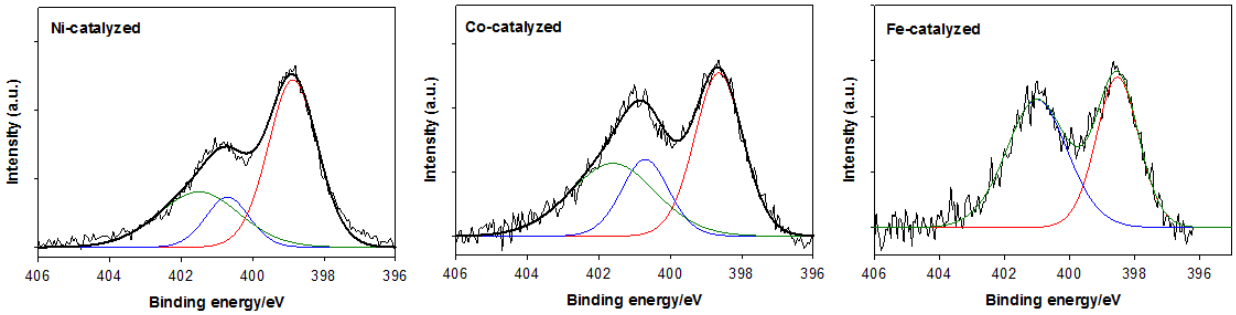

Fig. S5. N1s XPS spectra of Ni-, Co-, and Fe-catalyzed carbon tubes. Thin black line – measured data; thick dark-blue line – curve fit. Spectra deconvolution: red line – pyridinic nitrogen (398.7 ± 0.2 eV); blue line –pyrrolic nitrogen (400.7 ± 0.2 eV); green line – graphitic nitrogen (401.5 ± 0.2 eV).

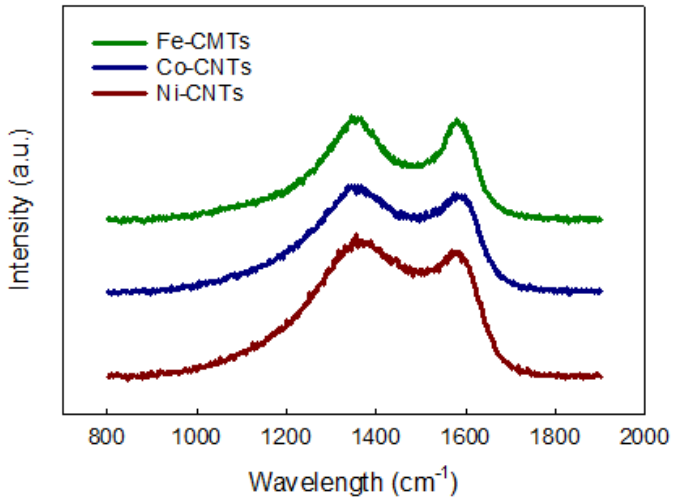

Fig. S6. Raman spectra of Ni-, Co-, and Fe-catalyzed carbon tubes.

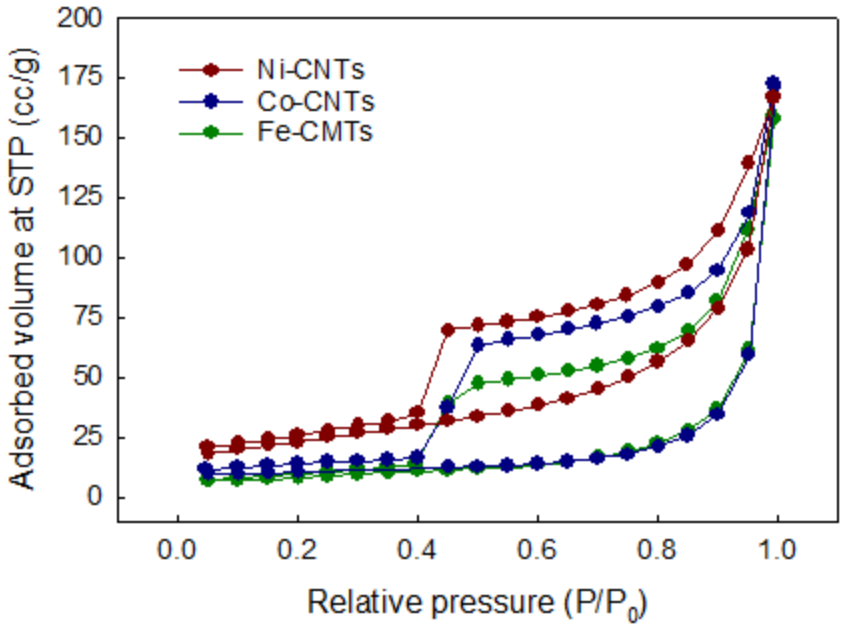

Fig. S7. Nitrogen sorption isotherms obtained with Ni-, Co-, and Fe-catalyzed carbon tubes.