Electronic Supplementary Material (ESI) for Chemical Communications

Supporting Information

Single-Layer Graphene Oxide Sheet: A Novel Substrate for Dip-Pen Nanolithography

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In order to characterize the CNTs grown on GO, the following experiments were carried out. The GO substrate was prepared by adsorption of GO sheets on (3-aminopropyl) - triethoxysilane (APTES)-modified SiO_2 substrate. After 0.2 mM $CoCl_2$ methanolic solution was spin-coated on the prepared GO substrate at 2,000 rpm, the substrate was subjected to the same CVD conditions as mentioned in the main text. TEM sample was prepared by a polymer transfer technique.[1] By using this transfer technique, it is easy to distinguish the areas with or without rGO based on the typical selected area of electron diffraction (SAED) pattern of rGO in TEM.

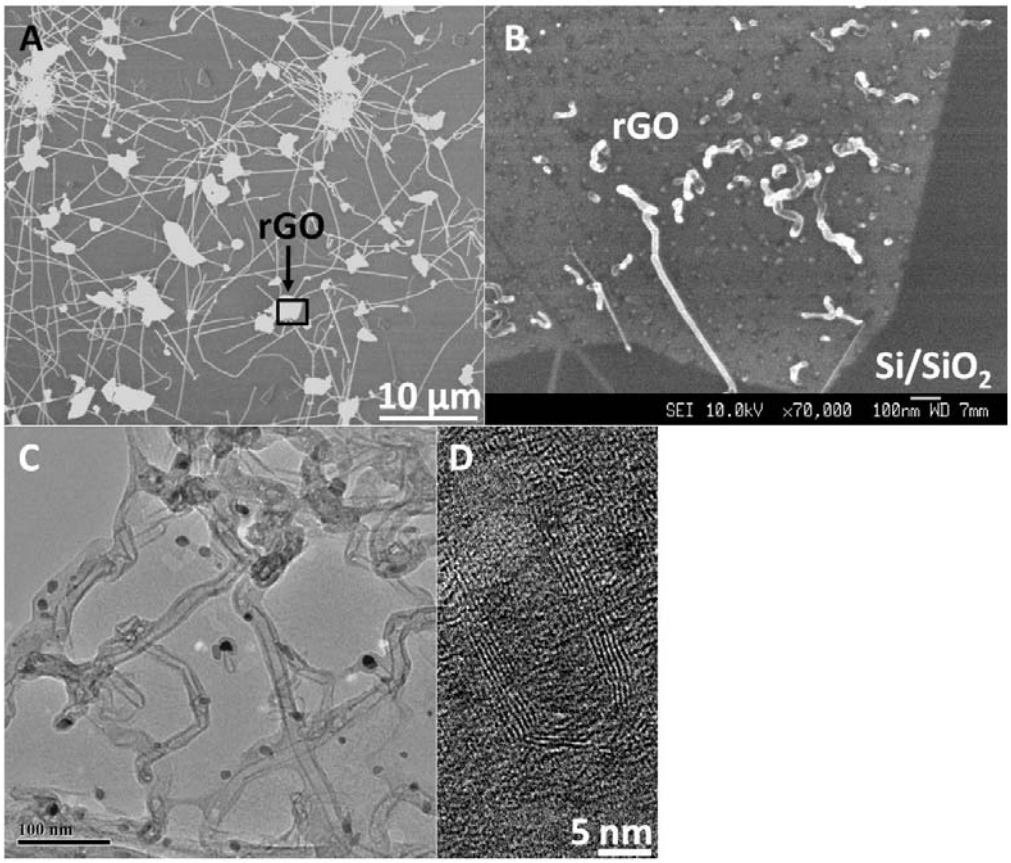

Figure S1. (A) SEM image shows lots of SWCNTs grew on SiO_2, which were catalyzed by Co NPs obtained by reduction of the spin-coated $CoCl_2$. (B) Magnified SEM image of the box shown in (A). Some fiber-like structures were observed on rGO. (C) TEM and

(D) HRTEM images of fiber-like structures, confirming that those fiber-like structures are MWCNTs with a diameter of ~ 15 nm.

Reference:

[1] A. Reina, H. Son, L. Jiao, B. Fan, M. S. Dresselhaus, Z. Liu, J. Kong, *J. Phys. Chem. C* **2008**, *112*, 17741.