Supporting Information

Electrochemical Synthesis of CdTe/SWNT Hybrid Nanostructures and Their Tunable Electrical and Optoelectrical Properties

Chong Hyun Chang[a], Hyunsung Jung[a], Youngwoo Rheem[a], Kyu-Hwan Lee[b], Dong-Chan Lim[b], Yongsoo Jeong[b], Jae-Hong Lim*[b], and Nosang V. Myung*[a]

[a] *Department of Chemical and Environmental Engineering,*

University of California-Riverside, Riverside, CA 92521, USA.

[b] *Electrochemistry Department, Korea Institute of Materials Science, Changwon 641-831, Korea.*

§ The first two authors contributed equally to this work.

*Jae-Hong Lim; Tel: 82-55-280-3523, Fax: 82-55-280-3570, e-mail: lim@kims.re.kr and Nosang V. Myung; Tel: 951-827-7710, Fax: 951-827-5696, e-mail: myung@engr.ucr.edu

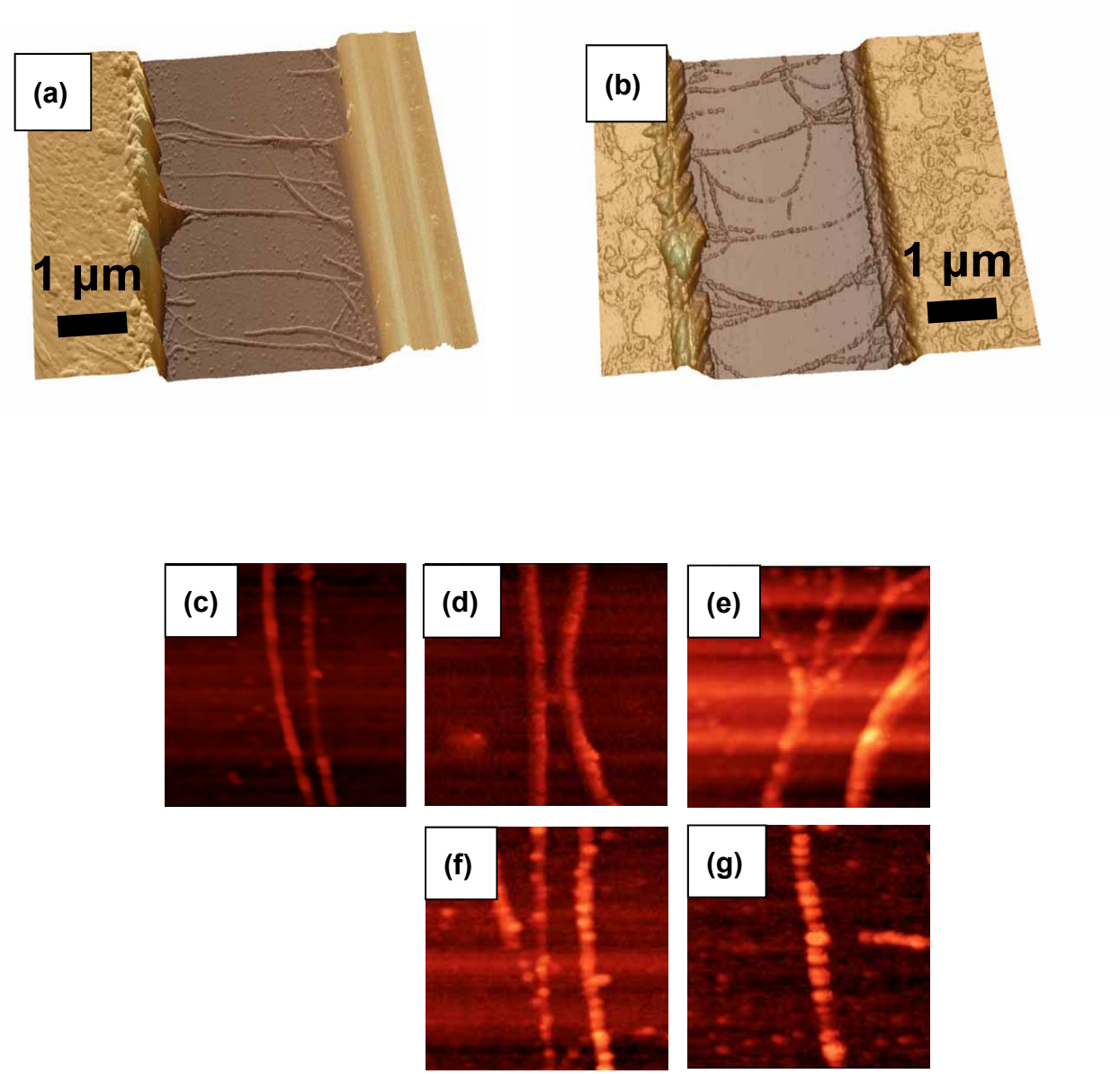

Fig. S1. AFM images of (a) undeposited and (b) deposited SWNTs between gold electrodes with CdTe (30 mC/cm^2). The topography of (c) bare and (d–g) CdTe/SWNT hybrid nanostructures. The CdTe was electrodeposited at fixed −0.50 V vs. Ag/AgCl with varying charge densities: (d) 5, (e) 10, (f) 20, and (g) 30 mC/cm^2.

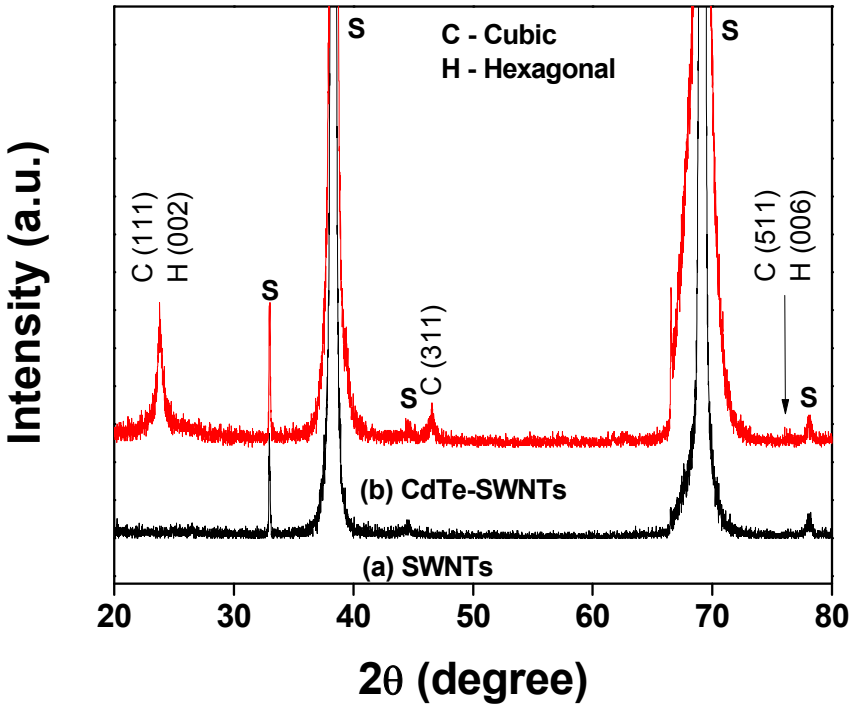

Fig. S2. XRD patterns of undeposited and CdTe-deposited SWNTs. The CdTe NPs were electrodeposited at −0.50 V vs. Ag/AgCl with a charge density of 2000 mC/cm^2. (S: SWNT/gold/Si substrate)

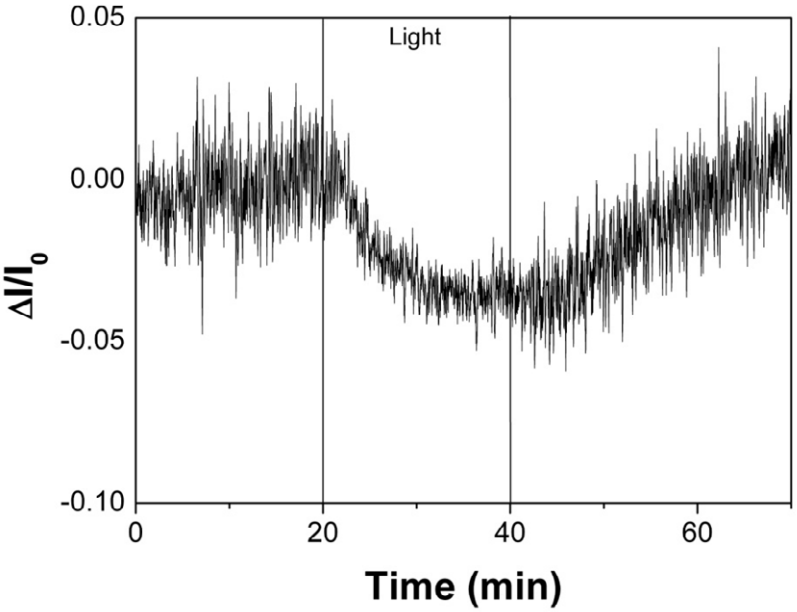

Fig. S3. Photoresponse of undeposited SWNTs between Cr/Au electrodes and at a bias of 1 V under UV illumination.