Supporting Information:

Scalable and selective dispersion of semiconducting arc-discharged carbon nanotubes by dithiafulvalene/thiophene copolymers for thin film transistors

Huiliang Wang[†], Jianguo Mei[‡], Peng Liu[§], Kristin Schmidt[&], Gonzalo Jiménez-Osés[§], Sílvia Osuna[§], Lei Fang[‡], Christopher J. Tassone[&], Arjan Pieter Zoombelt[‡], Anatoliy N. Sokolov[‡], K. N. Houk[§], Michael F. Toney[&], Zhenan Bao*[,]

[†]Department of Materials Science and Engineering, [‡]Department of Chemical Engineering, Stanford University, California 94305, United States

[§]Department of Chemistry and Biochemistry, University of California, Los Angeles, California 90095, United States

[&]Stanford Synchrotron Radiation Lightsource, SLAC National Accelerator Laboratory, Menlo Park, California 94025, United States

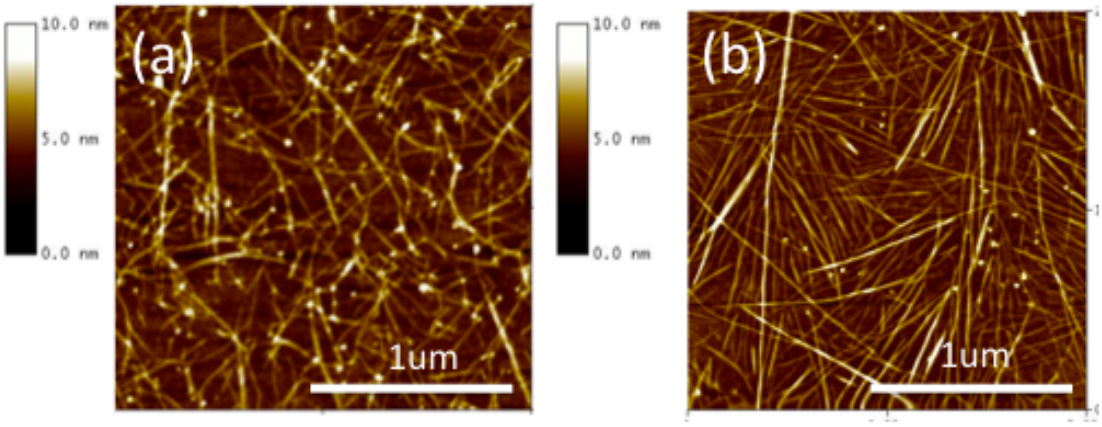

Figure S1. AFM images of the morphology of (a) small-diameter (0.7nm~1.1nm) Hipco SWNTs and large-diameter(~1.4nm) Arc-discharge SWNTs.

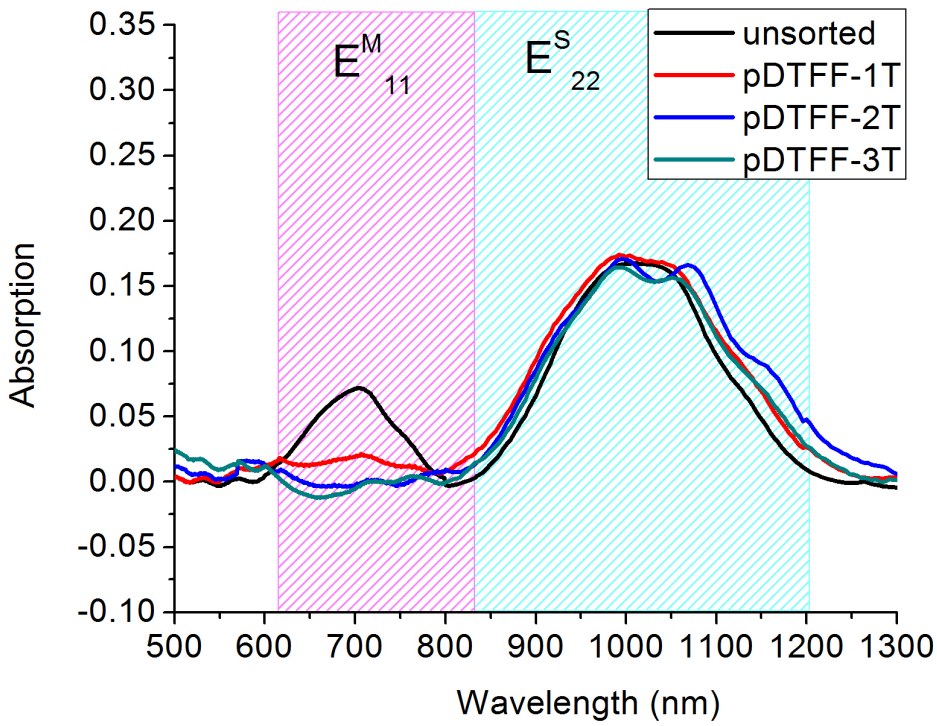

Figure S2. Absorption spectrums of the SWNTs dispersed by pDTFF-*m*T on films after polymer burning process.

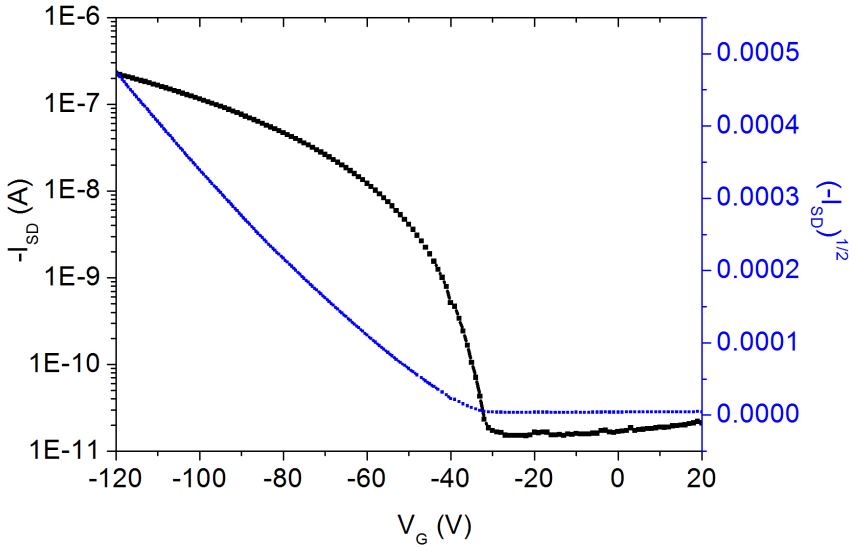

Figure S3. Transfer curve of a pDTFF-3T device (without SWNTs) in the saturation regime (I_{SD} = -120V).

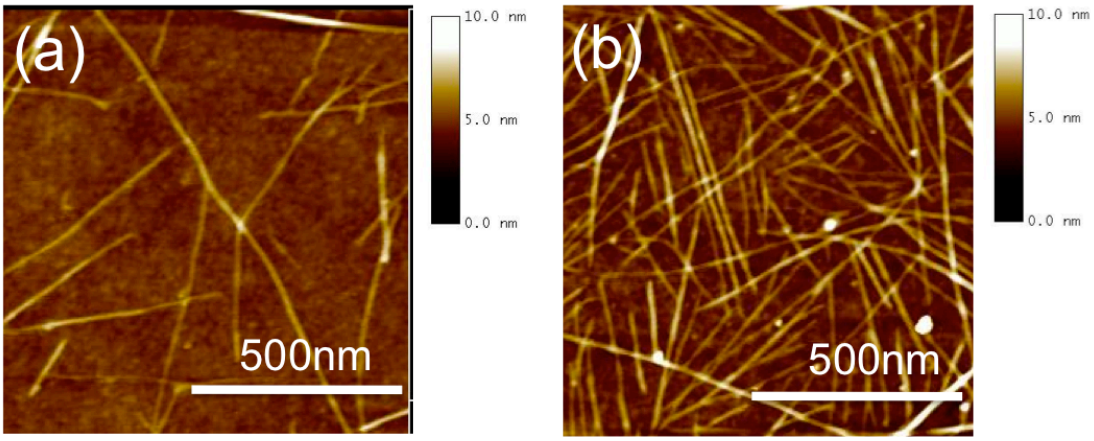

Figure S4. AFM images of the device made from large-diameter SWNTs with a density of (a) ~15 SWNTs/μm^2 (b) ~50 SWNTs/μm^2 dispersed by pDTFF-3T in toluene.

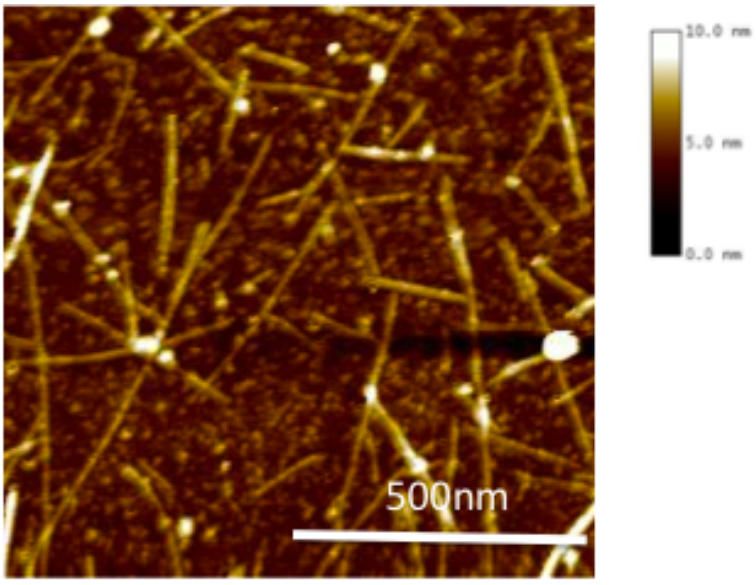

Figure S5. AFM images of the device made from large-diameter SWNTs with a density of ~30 SWNTs/μm^2 dispersed by pDTFF-3T in chloroform.

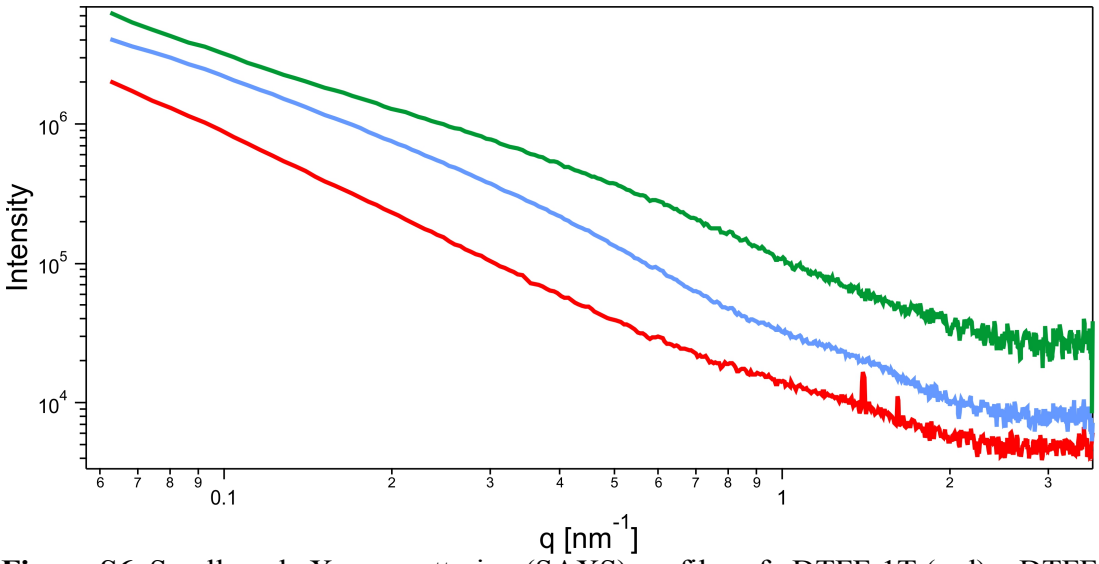

Figure S6. Small angle X-ray scattering (SAXS) profiles of pDTFF-1T (red), pDTFF-2T (blue) and pDTFF-3T (green).

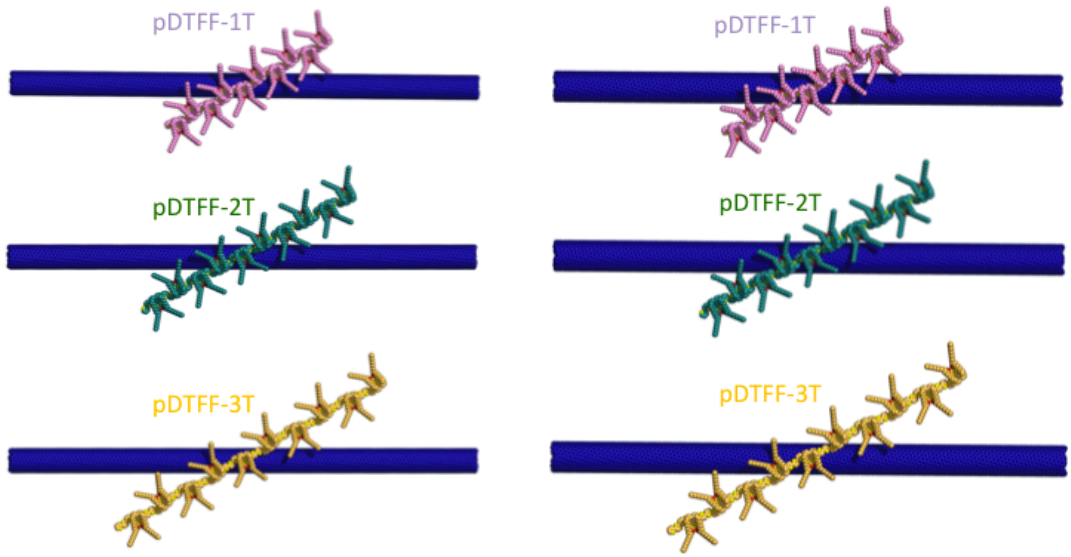

Figure S7. Starting structure of the MD simulation for (a) (11,8) m-SWNT and (b) (16,6) sc-SWNT.

	Mn (g/mol)	**PDI**
pDTFF-1T	3.2×10^4	1.2
pDTFF-2T	8.4×10^4	1.9
pDTFF-3T	5.0×10^4	2.1

Table S1. Molecular weight and polydispersity of polymers measured by Gel Permeation Chormatography (GPC).