

Supporting Information

**Electron Transport Characteristics of Organic Molecule
Encapsulated Carbon Nanotubes**

*Sang Uck Lee**, *Rodion V. Belosludov*, *Hiroshi Mizuseki*, and *Yoshiyuki Kawazoe*

Institute for Materials Research, Tohoku University, Sendai, 980-8577, Japan

E-mail: sulee@imr.edu

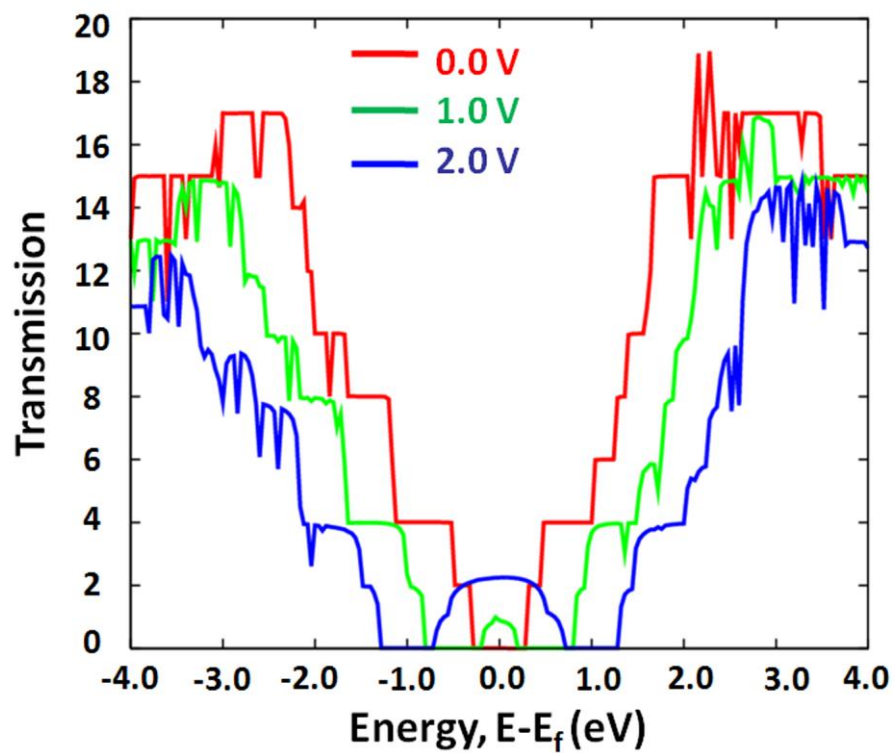


Figure S1. The transmission curves of CNT(17,0) under 0.0, 1.0 and 2.0 V.

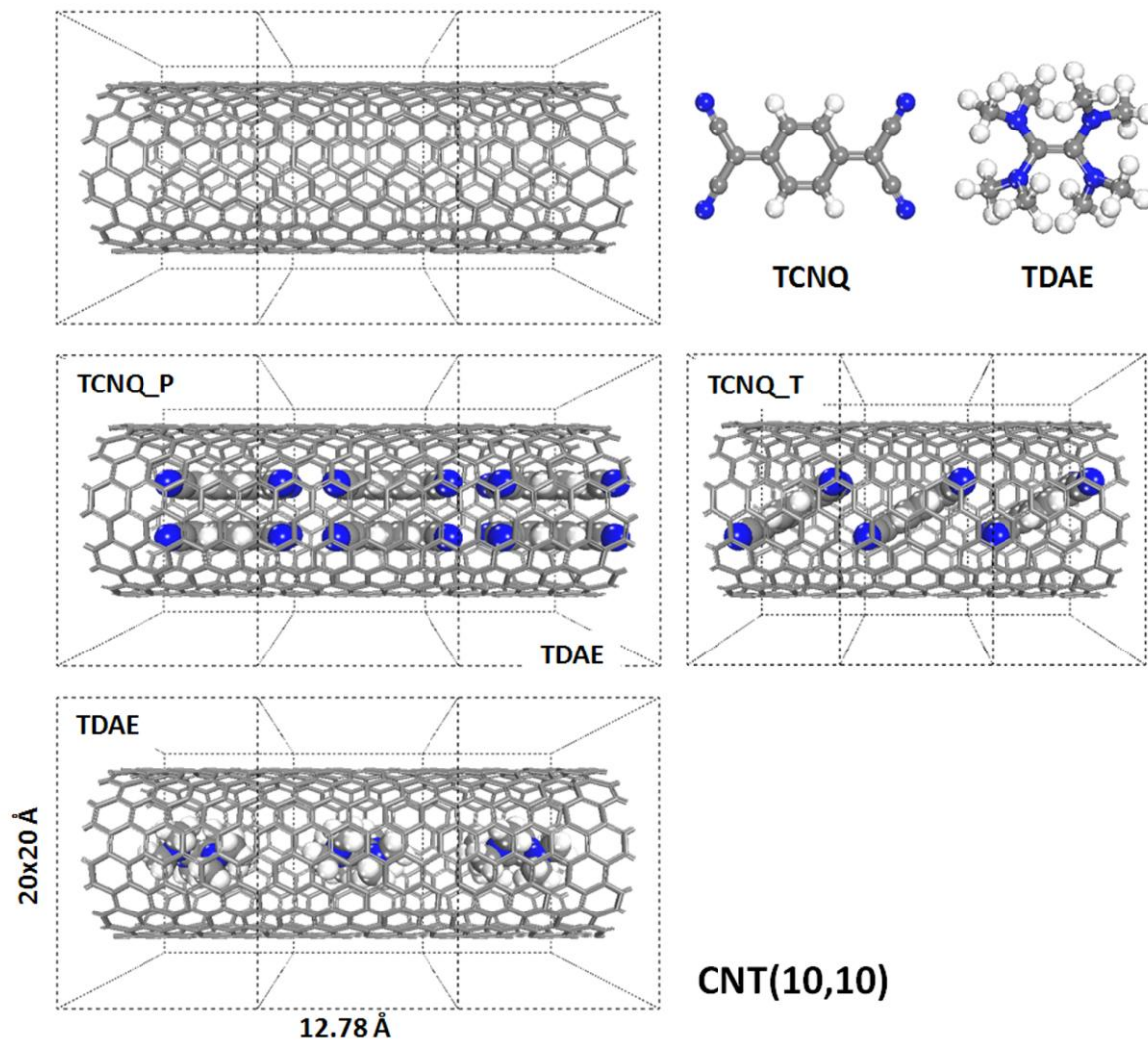


Figure S2. Schematic of (a) TCNQ or (b) TDAE encapsulated carbon nanotubes (10,10). In the case of TCNQ molecule, parallel(P) and tilted(T) stacking patterns are considered.

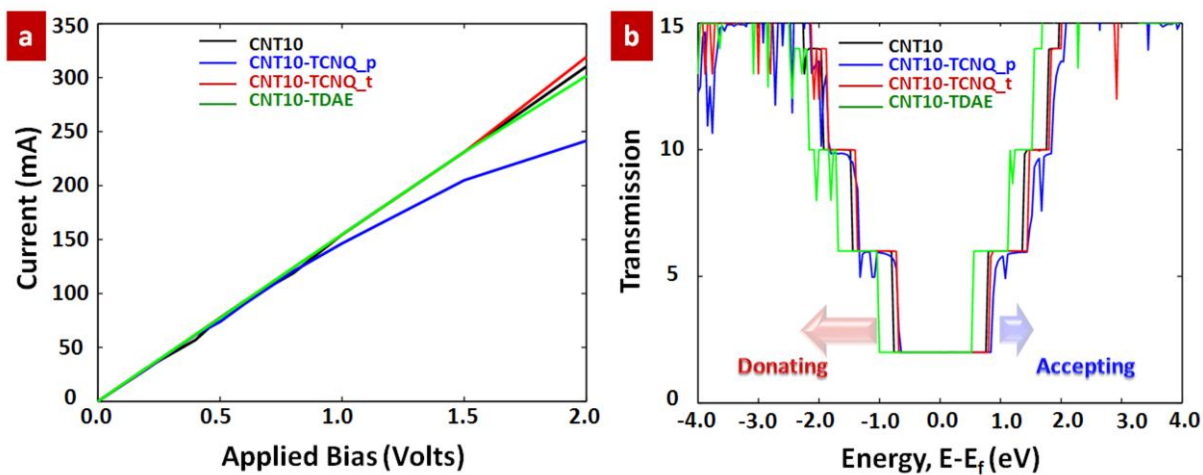


Figure S3. (a) I - V curves and (b) the transmission curves, $T(E, V=0)$, of TCNQ or TDAE encapsulated CNT(10,10)s, “CNT a - b _ c ”, where “ a ”, “ b ”, and “ c ” respectively mean the size of CNT, encapsulated organic molecule, and stacking pattern.

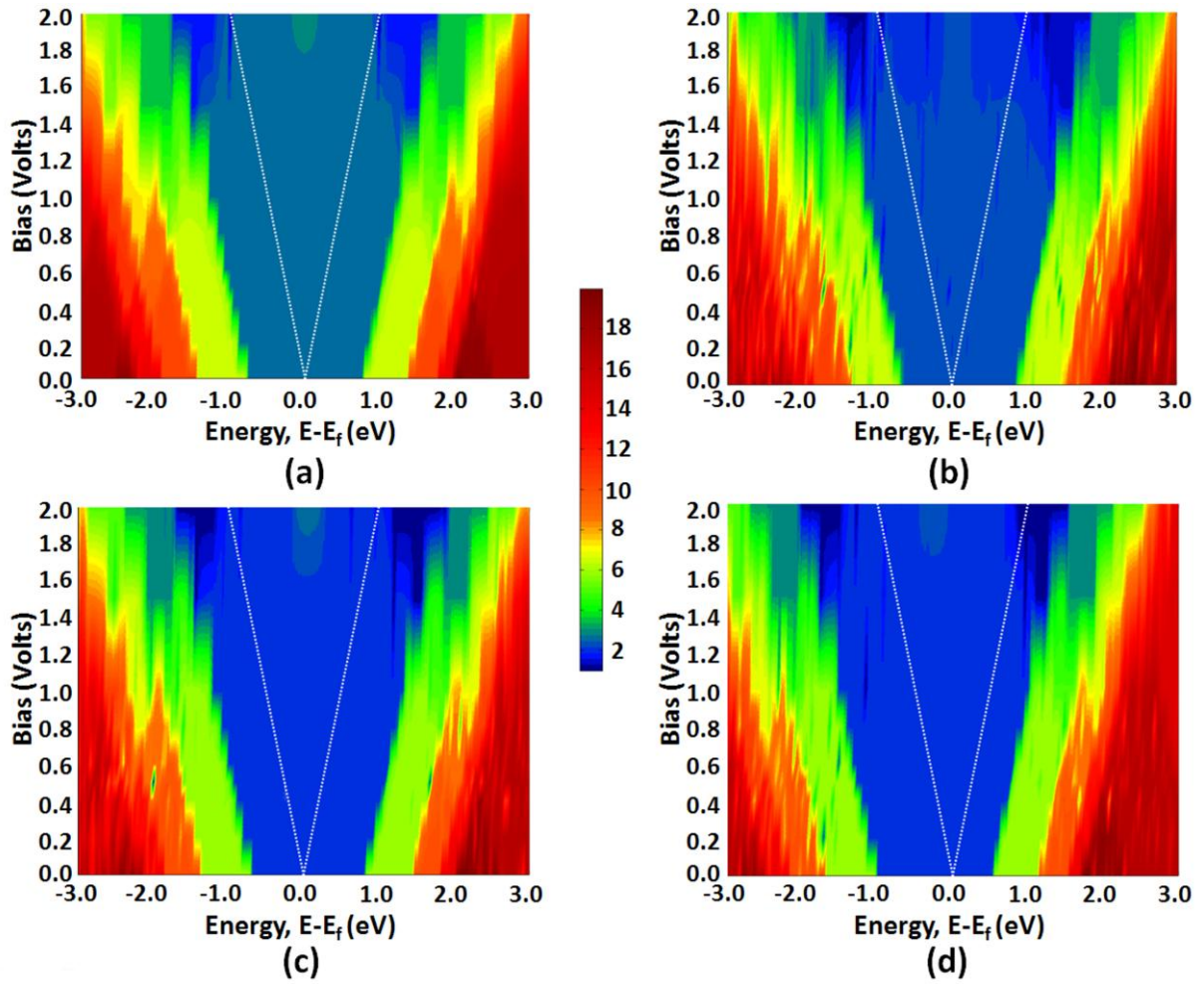


Figure S4. Bias dependence of the transmission curves, $T(E,V)$, calculated at every 0.2 bias voltage for the pure CNT(10,10) and TCNQ or TDAE encapsulated CNT10s, (a) CNT10, (b) CNT10–TCNQ_P, (c) CNT10–TCNQ_T, and (d) CNT10–TDAE. Dotted white lines indicate the range of current integration around the Fermi level.