

Supporting Information

Residual Molecular Groups Adsorption in Tuning the Transport

Properties of Carbon Nanotubes

Xiaoling Li^a, Juexian Cao^{*a}, Yanning Zhang^{*a,b}

a: Hunan Institute of Advanced Sensing and Information Technology, Xiangtan University, Xiangtan 411105, PR China

b: Institute of Fundamental and Frontier Sciences, University of Electronic Science and Technology of China, Chengdu 610054, China

***Corresponding Authors:** jxcao@xtu.edu.cn; yanningz@uestc.edu.cn

Supplementary Figures

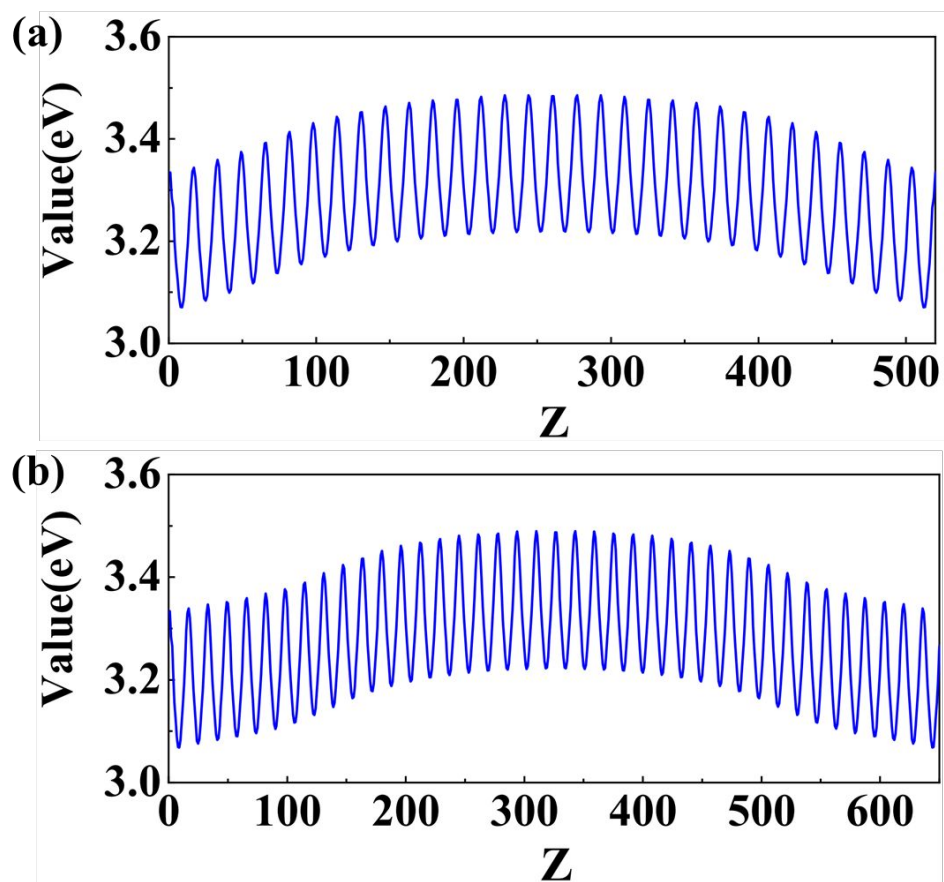


Fig.S1. Buffer layer test: (a) 1 unit cell and (b) 4 unit cells.

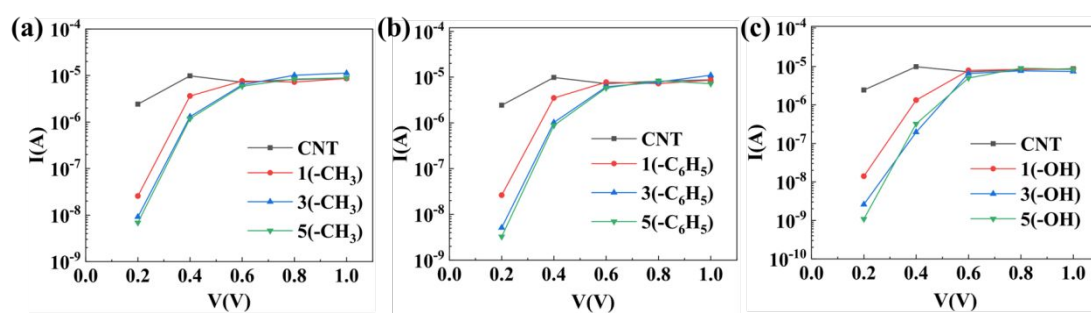


Fig.S2. I-V curves of (a) CNT-nCH₃ (b) CNT-nC₆H₅ (c) CNT-nOH devices.

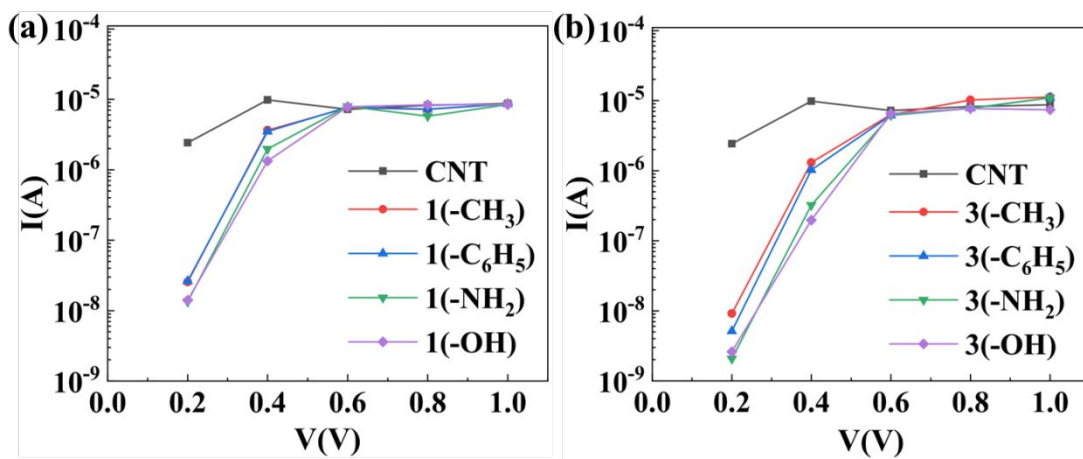


Fig.S3. I-V curve of (a) CNT-1R and (b) CNT-3R devices.

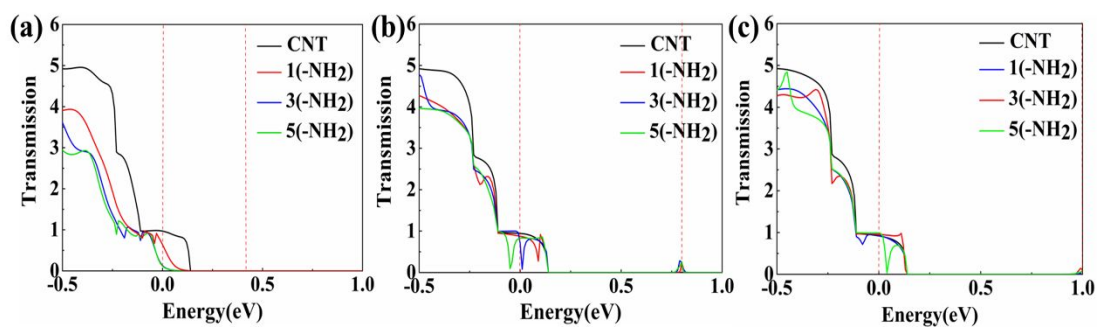


Fig.S4. Transmission spectra of CNT and CNT-nNH₂ in (a) 0.4V, (b) 0.8V, and (c) 1.0V bias window, respectively.

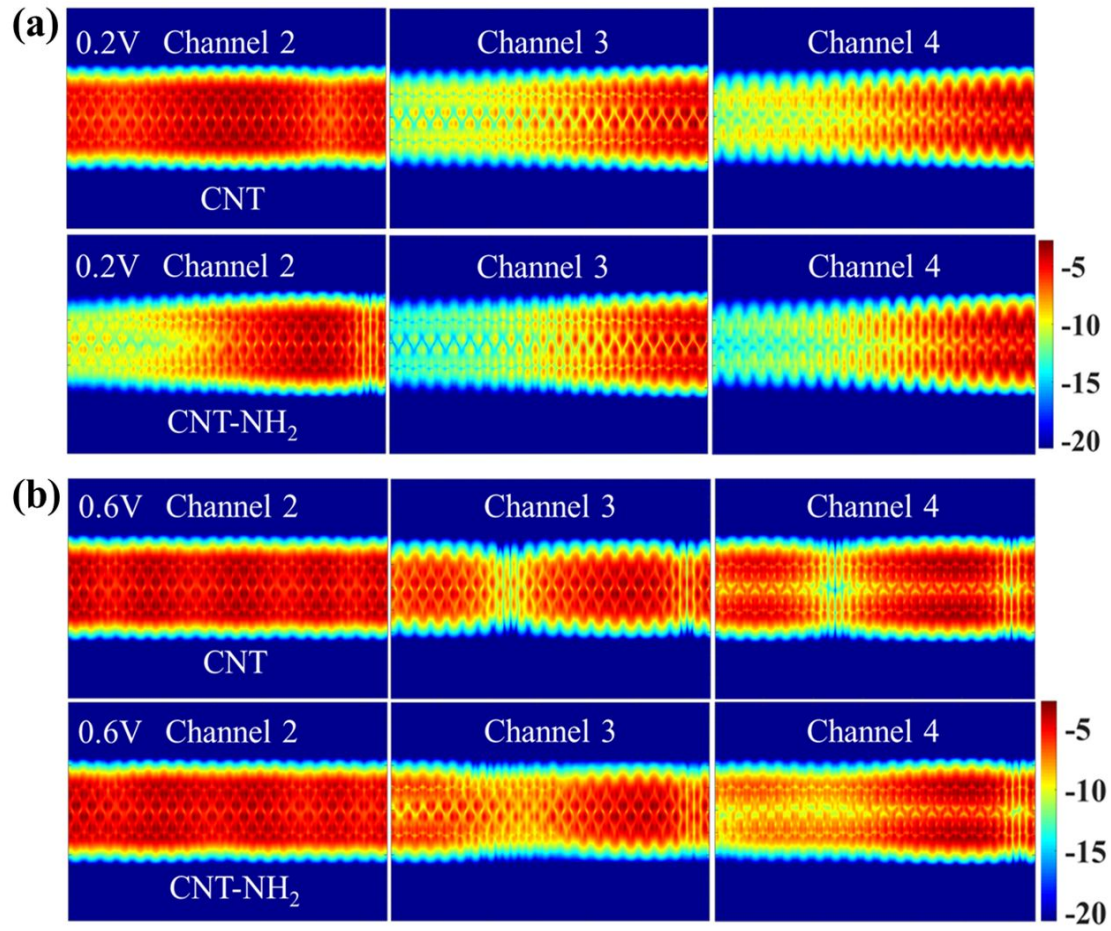


Fig.S5. Scattering states in different transmission channels of pure CNT and CNT-NH₂ at Fermi level under (a) 0.2 V and (b) 0.6V bias voltages.