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Scanning Probe Microscopy on DNA-CNT Conjugated Structures DANDA P. ACHARYA, Ohio University, Department of Physics and Astronomy, WEI LU, LIWEI CHEN, SAW W. HLA, Ohio University, OHIO UNIVERSITY COLLABORATION¹ — Single stranded DNA (ssDNA) interacts strongly with carbon nanotubes (CNTs) to form a stable DNA-CNT hybrid that effectively disperses CNTs in aqueous solution. In our experiment, ss-DNA oligonucleotide with a repeating G-T sequence was used. Atomic Force Microscopy and Low Temperature Scanning Tunneling Microscopy are used to image the structures of DNA-CNT on gold substrate. Our experimental result shows an entangled DNA with CNT. The Voltage dependent LT-STM images demonstrate that DNA molecules become transparent at low bias voltages at constant current mode. This work is financially supported by Ohio University Biomimetic Nanoscience and NanoTechnology (BNNT) and the US Department of Energy Basic Energy Sciences grant no. DE-FG02-02ER46012 .

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