

Scanning Tunneling Microscopy of Guanine/GNRheterostructure

Abstract

Understanding electronic structure of DNA Nucleobases to find a unique finger print of each of them is crucial to make a tool for DNA sequencing. Among all the efforts have been made so far, Graphene Nanoribbons (GNR) is a good candidate to reduce noises and make a distinguished peak position for each nucleobase. We made a heterostructure of 7AGNR and Guanine and we measured Scanning Tunneling Spectroscopy of the GNR and compared with STS of bared GNR. STS is a function of Local Density of States LDOS and work function of tip. DFT calculations have been used to compare experimental and theoretical results.