

Progress report

Nguyen Thu Loan
2010/09/29

1. Purpose:

A deep understanding of electronic structures at the interface of organic/ organic, organic/ metal and organic/ insulator is essential for the improvement of the organic electronic devices. While the organic/ metal interfaces are well documented, the electrical properties at organic/ insulator and organic/ organic interfaces are still unclear. Although the interfacial dipole generated is known to shift the vacuum level (VL), the origin of the dipole is the subject that remains unsolved.

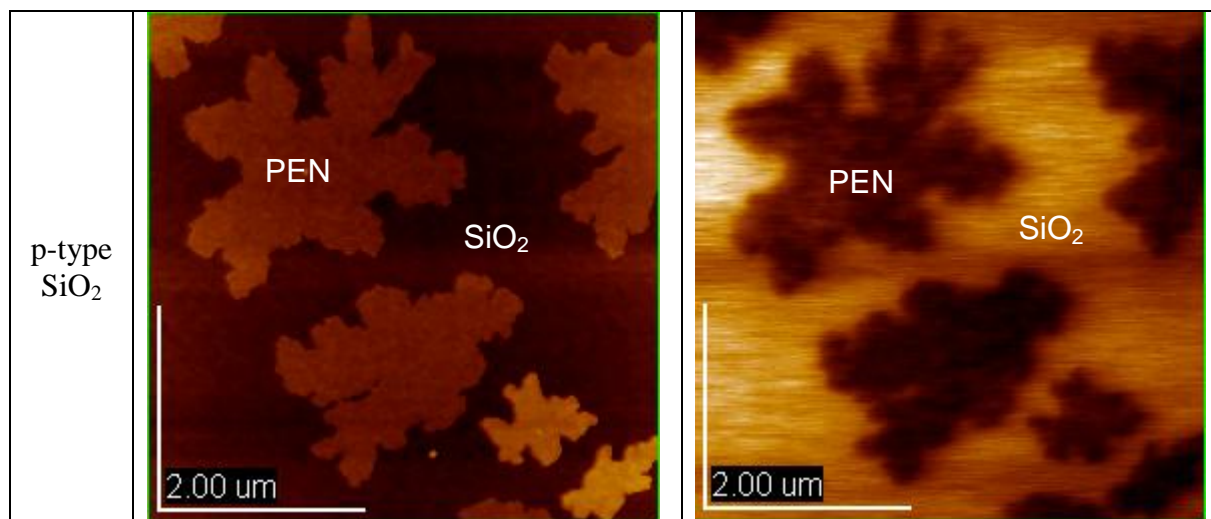
2. Previous work:

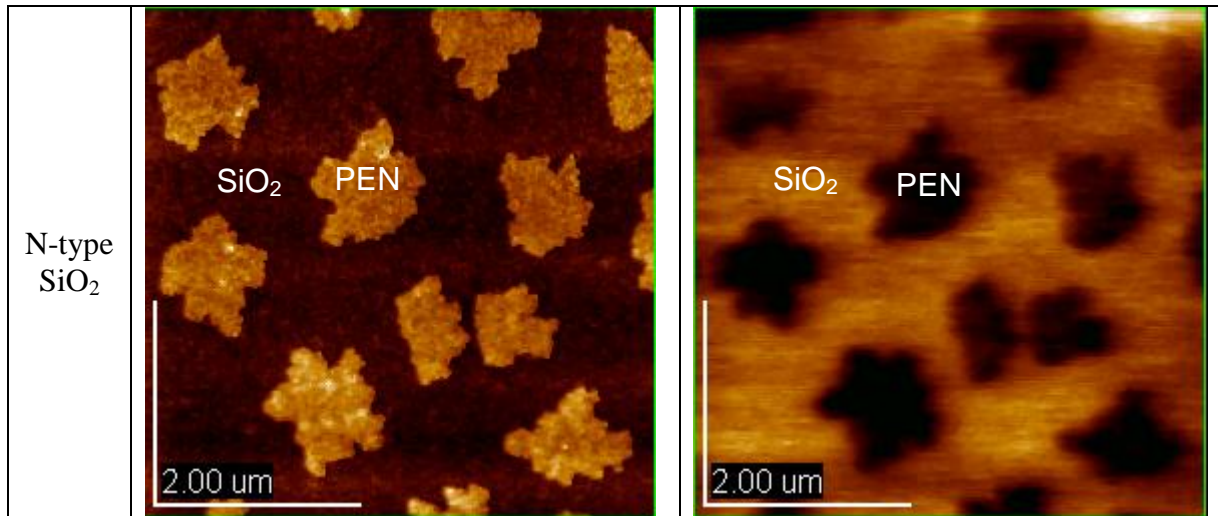
a. In the case of thin film of α -6T on N-type SiO_2 substrate, the potential drop at α -6T and PFP interface was observed. When α -6T coverage increases, the potential drop vanishes.

b. The change of dipole in first layer of α -6T with second heterolayer of α -6T and PFP was obtained. It could be due to the decrease of electrostatic potential induced by dipole of first layer.

3. What I did:

a. In order to continue the large coverage case in PEN/PFP experiment, firstly, we obtained the KPFM images of PEN molecules on 2 types of SiO_2 substrates.





Both of 2 cases have the same experimental condition, but show different size of molecular layers. I would like to consider this one more, but I had some problem with the evaporation system: the connection between the heater and its control machine is not good enough. Because we need to turn it around, it may be affected a lot and may not be kept stable. As the formation of the molecular layers may be much dependent on the substrate temperature, I am fixing it.

4. Future work:

After fixing the problem, I will continue consider the PFP on 2 types of substrates and finish the PEN/PFP experiment with the large coverage case.