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Self-Assembly of Metal Phthalocyanine on Silicon Studied by Scanning Probe Microscopy[1] SEAN WAGNER, PENGPENG ZHANG, Michigan State University — Integration of molecular electronics into modern electronics requires an improved understanding and control of hetero-interfaces between organic molecules and semiconductor surfaces. Supramolecular assembly provides flexibility in building up complex and functional materials with nanometer scale precision over large surface areas. To study behavior at the hetero-interface, we perform supramolecular assembly of Zinc Phthalocyanine (ZnPc) on deactivated Si(111)B $\sqrt{3}$x$\sqrt{3}$ and on Si(111) 7x7. Using scanning tunneling microscopy (STM) and scanning tunneling spectroscopy (STS) methods both the morphology and electronic structures of the self-assembled monolayer are investigated. Molecule-molecule and molecule-substrate interactions will be discussed.

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