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**Controlled Growth of Ultrathin Copper Phthalocyanine Films Adsorbed onto Glass Substrates** JESSE FINLEY, EDWARD KINTZEL, NOVA Center, Western Kentucky University, DETLEF-M SMILGIES, 2Cornell High Energy Synchrotron Source, Cornell University, Ithaca, NY — Considerable technological interest in solar energy and other applications have been directed toward understanding the structural properties of single-crystalline organic materials as the performance of molecular electronics devices is pushed to new limits. Initial investigations of the growth of ultrathin copper phthalocyanine (CuPc) films vapor deposited onto glass substrates have been carried out. Individual glass substrates were maintained at discrete temperatures in the range 25 - 200 °C, in 25 °C increments. At each temperature, film thickness was varied in the range 0.5 – 20 Å. Previous x-ray diffraction (XRD) studies indicated substrate temperature was not factor in the molecular orientations within adsorbed film. In the current investigation, we will build on these initial results to include film thickness at each temperature, as indicated. Real-space imaging using atomic force microscopy will be used to compared to the XRD results.

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