

Abstract Submitted
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Epitaxial Growth of Quinacridone Derivative on Ag(110) XIAOBO HE, Institute of Physics, Chinese Academy of Sciences, Beijing 100080, China & University of Tennessee, Knoxville, TN 37996, JINMING CAI, DONDXIA SHI, Institute of Physics, Chinese Academy of Sciences, Beijing 100080, China, WERNER A. HOFER, Department of Chemistry, The University of Liverpool, Liverpool L69 3BX, UK, E. WARD PLUUMER, Oak Ridge National Lab, Oak Ridge, TN 37831 and Univ of Tennessee, Knoxville, TN 37996, HONGJUN GAO, Institute of Physics, Chinese Academy of Sciences, Beijing 100080, China — The growth behavior of quinacridone derivative (QA16C) molecules on Ag(110) surface is studied using low-temperature scanning tunneling microscopy and low energy electron diffraction. At low coverage two distinct molecular orientations can be observed on silver terraces. At higher coverage up to 1 monolayer, depending on the growth temperature we observe two different structures on Ag(110) surface. At 100K the molecules organize in a complete monolayer on the surface, with a network-like structure. At 300K, the molecular orientation on the surface gives rise to row-like ordering, with a substantially higher molecular density. A theoretical analysis reveals that the structure of the molecular layer is controlled by the competition between molecular deposition rates and molecular diffusion along the surface.

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