

Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Nucleation and post-growth relaxation of tetracene thin films on silicon oxide.¹ JUN SHI, X. R. QIN, University of Guelph — We demonstrate that layered morphology of tetracene films on silicon oxide can be achieved at room temperature via vacuum evaporation. Island size distribution analysis shows that tetracene nucleation in a high-flux growth regime is diffusion-mediated with a critical island size $i = 3$, similar to that in pentacene growth. A pronounced post-growth relaxation has been observed on a time scale of minutes. It is suggested that the high flux rate is crucial in the growth kinetics of forming the layered morphology and also important in overcoming the effect of post-growth relaxation which is sensitive to the film coverage and substrates.

¹Supported by Natural Science and Engineering Research Council of Canada (NSERC), and Canada Foundation for Innovation (CFI) and Ontario Innovation Trust (OIT).

Xiaorong Qin
University of Guelph

Date submitted: 18 Nov 2006

Electronic form version 1.4