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**Tetracene thin film morphology on hydrogen-passivated Si(100)**[1]
JUN SHI, ANDREW TERSIGNI, XIAORONG QIN, Department of Physics, University of Guelph — Initial stage of vacuum evaporated tetracene films on hydrogen-passivated Si(100) substrates has been investigated by scanning probe microscopy. Three-dimensional crystalline islands and dendrites have been obtained at low deposition rates, exhibiting contributions of lateral and vertical edge-diffusions in growth and local surface effects. The absence of the 3D structures has been achieved at a proper range of deposition rates and a layer-by-layer thin film growth mode has been obtained. Results suggest that the obtained thin film phase defines a kinetic path for the formation of uniform films.

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