1. At time t the system has some configuration of heights and total mass $M(t) = \sum_{i=0}^{N} h_i$ and roughness $R(t) = \frac{1}{N}\sum_{i=0}^{N-1} |h_i - h_{i-1}|$. Roughness could alternatively be characterized by the variance of the heights, the correlation length, ...

2. The following is performed N times:

   (a) Choose a random site, j.

   (b) choose a random number $u \in [0,1]$ and set $h_j \to h_j + 1$ if $u < \nu_{hit} dt$.

   (c) if the height is not increased, (this happens with probability $1 - \nu_{hit} dt = \nu_{evap} dt$), then remove a molecule, $h_j \to h_j - 1$ if site j is not part of a supercritical cluster.

3. Set $t \to t + dt$.

4. Return to step 1 until the desired number of cycles is completed.

As it stands, there are only two meaningful parameters: the ratio of the two rates, ν_{hit}/ν_{evap} and the size of the critical cluster, n_c. Since super-critical clusters are absolutely stable there is no equilibrium state: clusters form no matter what value the parameters are given, as in the simplified form of the mean-field model discussed above. The growth rate is calculated as $(M(t+dt) - M(t))/dt$ and is normalized to the number of sites to give the corresponding growth velocity. In the simulations, we also allow for the presence of "defects", localized regions in which the critical cluster size is smaller than elsewhere, to serve as sites for heterogeneous nucleation.

Simulations have been performed under three circumstances: no defects, a "wall" defect and a "spiral" defect. The "wall" refers to a set of sites, say sites $0, ..., n_c$ for which the evaporation rate is zero. These therefore grow very fast and serve as a source for heterogeneous nucleation. For the "spiral" defect, the critical nucleus for site 0 is set to one, for site 1 it is set to 1, and so forth up to site n_c. This is not meant to realistically model a spiral defect, but rather to test whether the results are sensitive to the shape and nature of the defect. The name indicates the similarity in shape of the resulting defect to a projection of a spiral defect onto two dimensions. In fact, we observe no qualitative difference in the results using the two different defects. The main effect is that at low supersaturation, $\nu_{hit}/\nu_{evap} << 1$, the rate of growth in the system with no defects is dominated by the time taken for nucleation to occur - by comparison, step growth happens relatively quickly. Thus, the measured