



Figure S1. Experimental and modeling frameworks underlying apical hook maintenance and growth parameterization. (A) Representative live confocal micrographs of dark-grown *Arabidopsis* apical hooks expressing *p35S::PIP2A-GFP* at approximately 24–32 hours after germination (T0) and 8 hours later (T8), illustrating hook maintenance during this developmental window. Selected cells are highlighted to visualize cell flow over time. Scale bars represent 50 μ m. (B) Correspondence matrices used to conduct simulations lacking an apical growth gradient, shown for two growth scenarios: low and high growth. (C) Correspondence matrices used to conduct simulations lacking a basal growth gradient, shown for two growth scenarios: low and high growth. Panels (B) and (C) illustrate the growth properties used in Fig. 1F. (D) n for discrete positional bins represented in Figure 1C.