

Reversible Morphological Switching and Deformation Hysteresis in Electric Field Mediated Instability of Thin Elastic Films

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Supporting Online Information

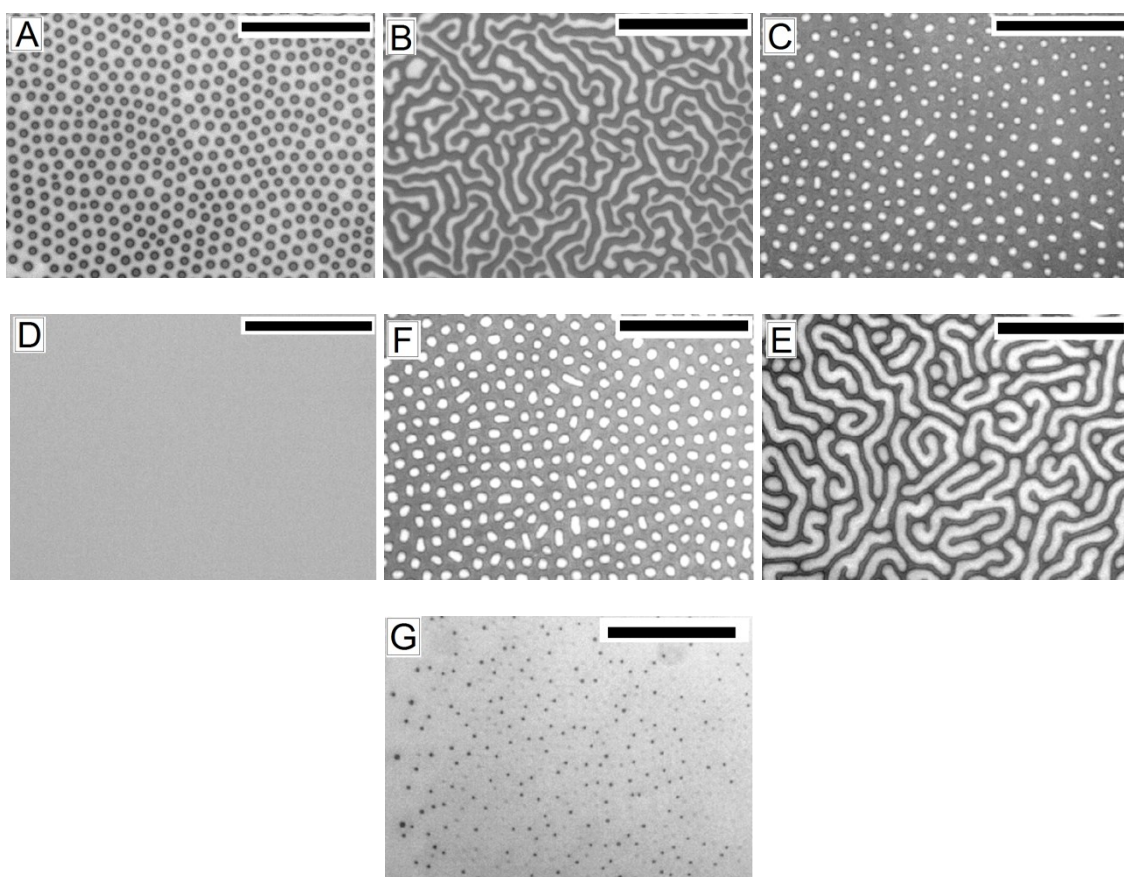


Figure S1: Morphological evolution in a thin Sylgard 184 film with $h_F = 3.91 \mu\text{m}$, $d_G = 800 \text{ nm}$ and $\mu = 0.12 \text{ MPa}$ when the applied electric field is suddenly increased to 160 V (frames A–D) and decreased (frames E–G) at a rate of 50 V / min . With gradual increase in applied field, (A) Onset of instability with hexagonally arranged columns; (B) transition to bi-continuous labyrinths; (C) transition to holes or pits and (D) complete conformal contact between the film and the contactor. With gradual reduction of applied voltage (E) appearance of holes; (F) transition of morphology to labyrinths; (G) tiny columns before complete detachment which leads to a flat film again. Scale bar in all frames is $100 \mu\text{m}$.