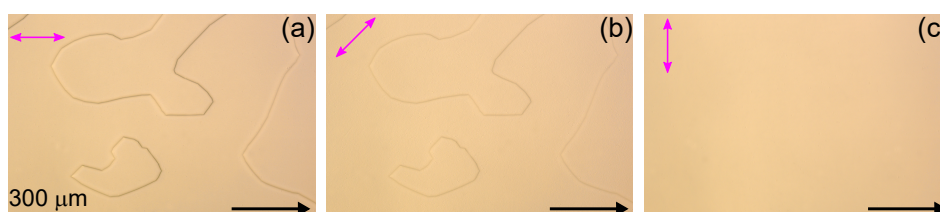
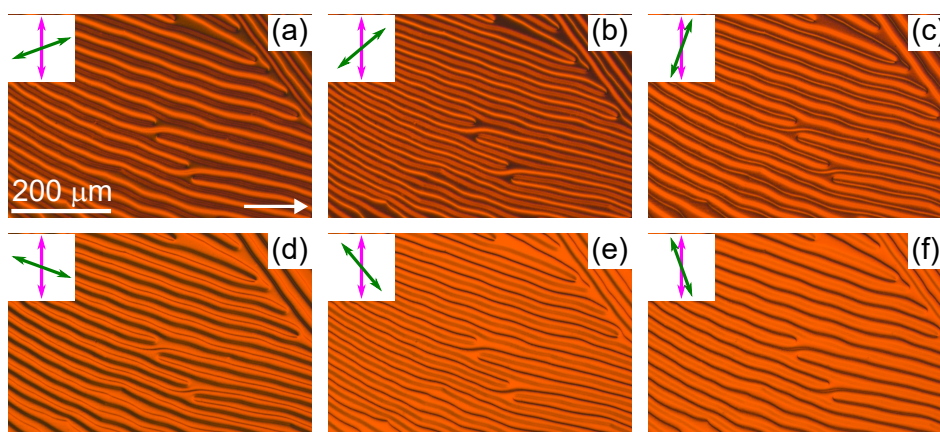


# Supplementary Materials: Structures of nematic and cholesteric layers with tangential-conical boundary conditions

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**Figure S1.** POM photos of nematic layer taken using polarized light. The angle between rubbing direction of PVA film and polarizer is  $0^\circ$  (a),  $45^\circ$  (b) and  $90^\circ$  (c). The polarizer direction is indicated by the double arrow and the single arrow is the rubbing direction of PVA film.



**Figure S2.** POM photos of cholesteric layer with confinement ratio  $d/p = 0.44$  are taken using the interference filter ( $\lambda = 602$  nm). The angle between analyzer and rubbing direction of PVA film is  $-10^\circ$  (a),  $-40^\circ$  (b),  $-70^\circ$  (c),  $20^\circ$  (d),  $50^\circ$  (e),  $70^\circ$  (f). Polarizer is perpendicular to the rubbing direction. LC layer thickness is  $6.5 \mu\text{m}$ .