

Lehmann rotation of cholesteric droplets driven by Marangoni convection

Supplementary Video Captions

Video S1

Reversal of the sense of rotation of a "large" spiraling droplet ($R = 15.5 \mu\text{m}$) when ΔT passes from -5°C to 5°C at $T_{\text{ave}} = 27.5^\circ\text{C}$. Note that the winding direction of the spiral also changes during the reversal, which means that the droplet turns back on itself.

Video S2

Reversal of the sense of rotation of a "small" spiraling droplet ($R = 12.5 \mu\text{m}$) followed by its transformation into a banded droplet when ΔT passes from 5°C to -5°C at an average temperature of 27.5°C .

Video S3

Quadrupolar droplet of radius $R = 11.1 \mu\text{m}$ changing sense of rotation when ΔT passes from 5°C to -5°C . In this case the texture remains unchanged.

Video S4

Big spiraling droplet ($R = 21 \mu\text{m}$) destabilizing periodically when $\Delta T = -5^\circ\text{C}$ at $T_{\text{ave}} = 27.5^\circ\text{C}$.

Video S5

Marangoni convection rolls visualized with two $1.7 \mu\text{m}$ tracer particles in the vicinity of a cholesteric spiraling droplet ($R = 11.5 \mu\text{m}$) with $T_{\text{ave}} = 32.5^\circ\text{C}$ and $\Delta T = 5^\circ\text{C}$.

Video S6

Marangoni convection rolls visualized by multiple $1.7 \mu\text{m}$ tracer particles in the vicinity of a nematic droplet ($R = 14.3 \mu\text{m}$) with $T_{\text{ave}} = 32.5^\circ\text{C}$ and $\Delta T = 5^\circ\text{C}$.

Video S7

Marangoni convection rolls visualized around the same droplet as in Video S6, but after inverting the sign of the temperature gradient, $T_{\text{ave}} = 32.5^\circ\text{C}$ and $\Delta T = -5^\circ\text{C}$.