

Supplementary Information

As supplementary information, we added 7 videos that show simultaneously the director field and optical signal. The first two videos are for Cholesterics while the last 5 videos were made using a nematic sample. Parameters used for the videos:

helix_unwinding_slip_stick.avi:

$q=2\pi$
 $v_{\{+\}}=1.0$
 $v_{\{-\}}=1.0$
 $u_{\{-\}}=50$
 $u_{\{+\}}=10$

complete_helix_unwind.avi:

$q=2\pi$
 $v_{\{+\}}=1.0$
 $v_{\{-\}}=1.0$
 $u_{\{-\}}=50$
 $u_{\{+\}}=50$

constrained_twist.avi:

$q=0$
 $v_{\{+\}}=1.0$
 $v_{\{-\}}=1.0$
 $u_{\{-\}}=50$
 $u_{\{+\}}=50$

free_twist.avi:

$q=0$
 $v_{\{+\}}=1.0$
 $v_{\{-\}}=1.0$
 $u_{\{-\}}=50$
 $u_{\{+\}}=0$

free_twist_svis.avi:

$q=0$
 $v_{\{+\}}=10.0$
 $v_{\{-\}}=10.0$
 $u_{\{-\}}=50$
 $u_{\{+\}}=0$

top_surf_slip_stick.avi:

$q=0$
 $v_{\{+\}}=1.0$
 $v_{\{-\}}=1.0$
 $u_{\{-\}}=50$
 $u_{\{+\}}=10$

bottom_surf_slip_stick.avi:

$q=0$
 $v_{\{+\}}=1.0$
 $v_{\{-\}}=1.0$
 $u_{\{-\}}=10$
 $u_{\{+\}}=50$