

Supplementary information

**Connecting and disconnecting nematic disclination lines in
microfluidic channels**

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Movie S1: The movie shows the electric-field-induced and flow-assisted conjunction of two disclination lines in a microfluidic channel and the reconfiguration of the two lines in response to switching off the field. The distance between the two anchoring boundaries is $500\ \mu\text{m}$. In the “field on” state, an AC field with a frequency of 1 kHz and amplitude of $0.5\ \text{V}/\mu\text{m}$ is applied. The nematic liquid crystal is flowing from left to right, the flow velocity in the channel center is slowly decreasing from $45\ \mu\text{m}/\text{s}$ at the beginning of the movie to $35\ \mu\text{m}/\text{s}$ at the end. Therefore, the second connecting process proceeds slower than the first.