Polar Pattern Formation: Hydrodynamic coupling of driven filaments
- Supplemental Material -
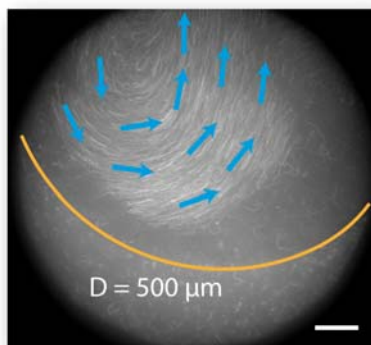
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1. Supplemental Figure

Figure S1: Guidance of molecular motion by micro-patterned surfaces. With circular boundaries (yellow line) persistent swirling motions can be induced as exemplified with a time overlay of 10 consecutive images. The blue arrows mark the margin of the active region and the scale bar is 50 µm and the density is set to $\rho = 18 \ \mu m^{-2}$.

2. Video Captions

Video1: Emergence of ordered structures in the high density motility assay. The filament density is set to $\rho = 21 \ \mu m^{-2}$, labeling ratio 1:200, 100x objective).

Video2: Cluster of coherently moving filaments subjected to fluid flow. ($\rho = 8 \ \mu m^{-2}$, labeling ratio 1:200, 40x objective).

Video3: Scattering events of colliding clusters. ($\rho = 14 \ \mu m^{-2}$, labeling ratio 1:200, 40x objective).

Video4: Coherently moving cluster of filaments confined to a circular active region with a diameter D = 600µm ($\rho = 16 \ \mu m^{-2}$, labeling ratio 1:320, 40x objective).

Video5: Cluster wall interactions for an intersection angle close to 90° (D = 600µm, $\rho = 20\ \mu m^{-2}$, labeling ratio 1:320, 40x objective).