Electronic Supplementary Material (ESI) for Lab on a Chip
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Electronic Supplementary Information for

A miniature capillary breakup extensional rheometer by electrostatically assisted generation of liquid filaments

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Contents:

Video S.1. High speed video of GLY 50: capture rate: 30,000 fps; playback: 5 fps

Video S.2. High speed video of PEO 9: capture rate: 30,000 fps; playback: 80 fps

Figure S.1. Optical micrographs of etched defect patterns on chip arms

Figure S.2. Minimum radii time histories of GLY 99 tested at voltages from 0 to 200 V

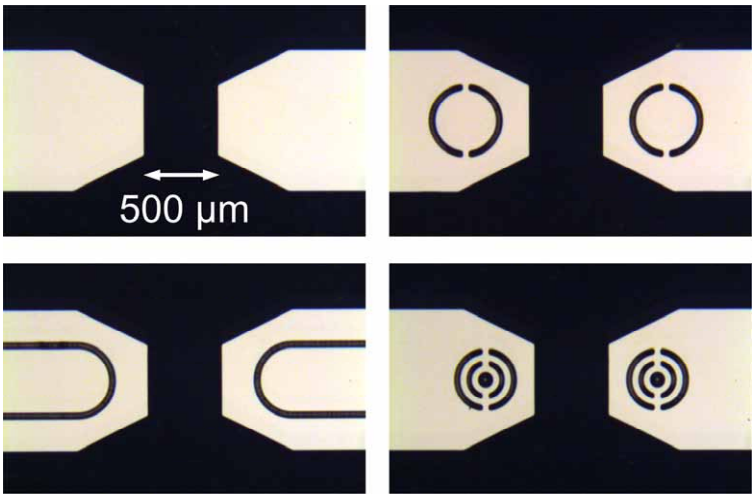

Figure S.1. Arm structures with various defect patterns, which promote retention of the sample liquid during loading by increasing contact line pinning on the inner surface of the gap between the plates.

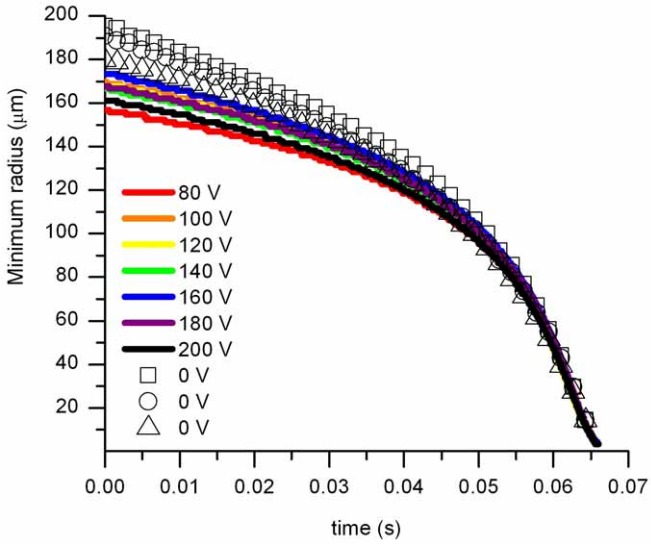

Figure S.2: Minimum radii of GLY 99 filaments at applied voltages from 0 to 200 V. Data corresponding to repeated experiments in which breakup was initiated without voltage was achieved by placing a hydrophilic wire within each chip arm upon sample loading. For all cases, after the initial stages (t < 55 ms), R_{min} follows the same linear variation for all cases, showing that the breakup process is insensitive to voltage.