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Laser Induced Forward Transfer of Viscoplastic Fluids

Content of Supplementary Videos

Movie 1: Jetting for sample 5 at $z_f = 0.5$ mm and $E = 1.4$ mJ. The scale-bar corresponds to 2 mm.

Movie 2: Jetting for sample 5 at $z_f = 0.5$ mm and $E = 1.7$ mJ. The scale-bar corresponds to 2 mm.

Movie 3: Jetting for sample 5 at $z_f = 0.5$ mm and $E = 2.1$ mJ. The scale-bar corresponds to 2 mm.

Movie 4: Jetting for sample 5 at $z_f = 0.5$ mm and $E = 3.3$ mJ. The scale-bar corresponds to 2 mm.

Movie 5: Jetting for sample 5 at $z_f = 0.5$ mm and $E = 6.4$ mJ. The scale-bar corresponds to 2 mm.

Movie 6: Jetting for sample 5 at $E = 2.1$ mJ and $z_f = 0$ mm. The scale-bar corresponds to 2 mm.

Movie 7: Jetting for sample 5 at $E = 2.1$ mJ and $z_f = 0.5$ mm. The scale-bar corresponds to 2 mm.

Movie 8: Jetting for sample 5 at $E = 2.1$ mJ and $z_f = 0.75$ mm. The scale-bar corresponds to 2 mm.

Movie 9: Jetting for sample 5 at $E = 2.1$ mJ and $z_f = 1$ mm. The scale-bar corresponds to 2 mm.

Movie 10: Jetting for sample 7 at $E = 5.1$ mJ and $z_f = 0.5$ mm. The scale-bar corresponds to 2 mm.

Movie 11: Jetting for sample 6 at $E = 5.1$ mJ and $z_f = 0.5$ mm. The scale-bar corresponds to 2 mm.

Movie 12: Jetting for sample 3 at $E = 5.1$ mJ and $z_f = 0.5$ mm. The scale-bar corresponds to 2 mm.

Movie 13: Jetting for sample 1 at $E = 5.1$ mJ and $z_f = 0.5$ mm. The scale-bar corresponds to 2 mm.

Movie 14: Examples of the jetting regimes observed in the experiments. The experimental conditions from top to bottom: *bump*: $E = 2.1$ mJ, $z_f/H = 0.75$, Sample # = 2; *jet*: $E = 2.7$ mJ, $z_f/H = 0.5$, Sample # = 1; *jet with a crown*: $E = 2.6$ mJ, $z_f/H = 0.25$, Sample # = 5; *jet with an unstable crown*: $E = 6.3$ mJ, $z_f/H = 0.75$, Sample # = 6; *fragmented jet*: $E = 6.4$ mJ, $z_f/H = 0.25$, Sample # = 6; *spray*: $E = 6.3$ mJ, $z_f/H = 0$, Sample # = 5.

Movie 15: 3D animation of the three-dimensional phase space of the regimes for different laser energy, E , yield stress, τ_0 , and the focal height, z_f . Crosses denote the experiments in which no deformation was detected.