Supporting Information

Rotation of Liquid Metal Droplets Solely Driven by the Action of Magnetic Fields

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Supporting Information S1: Self-rotation of EGaIn droplets in different diameter tubes

In order to investigate the mechanism of the self-rotational speed partially decreasing as the droplet volume increases, we repeated the experiment using a larger diameter tube (diameter: 10 mm). As shown in Figure S1, at the beginning, the self-rotational speed of the droplet increases with the increase of the droplet volume, which is consistent with the performance in the 8 mm diameter tube. However, when the volume of EGaIn droplets is larger than 0.08 mL, the rotational speed decreases a little with the volume increase and eventually remains stable. Compared with the 8 mm diameter tube, the 10 mm tube has a larger threshold of 0.08 mL (the threshold for the 8 mm diameter tube is ~0.06 mL). These demonstrate that the diameter of the tube affects the self-rotational speed; that is to say, the friction between the droplets and the sidewall of the tube might have a negative influence on the self-rotational speed.

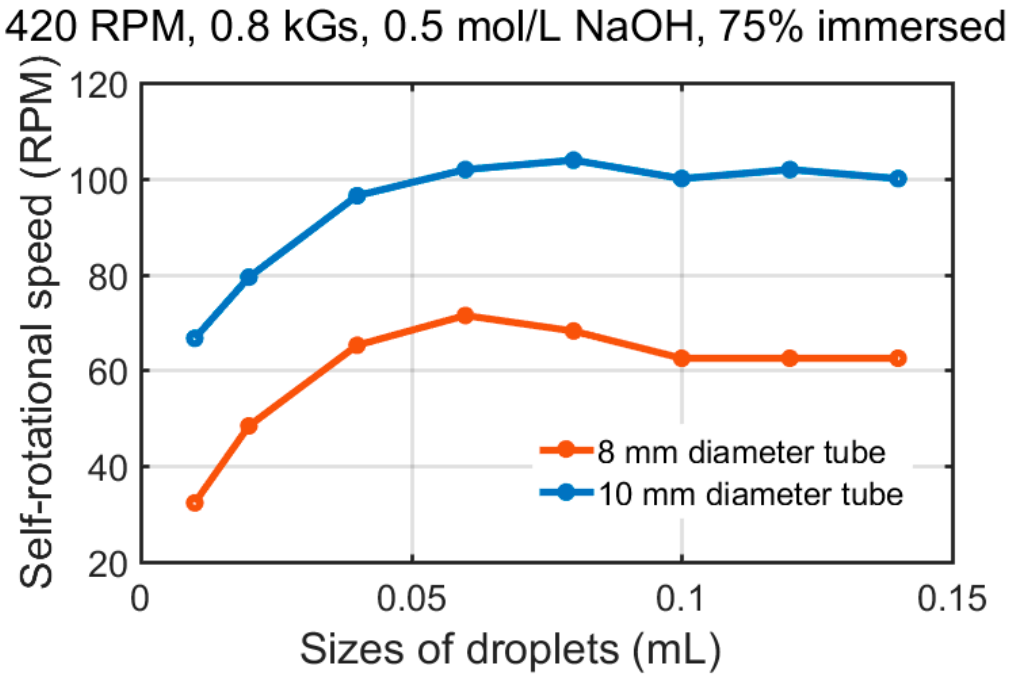

Figure S1. Plots of self-rotational speed vs. sizes of droplets.

Video S1: Self-rotation of liquid metal droplet.

Video S2: Mixer based on self-rotation of liquid metal droplet.

Figure S1. Plots of self-rotational speed vs. sizes of droplets.