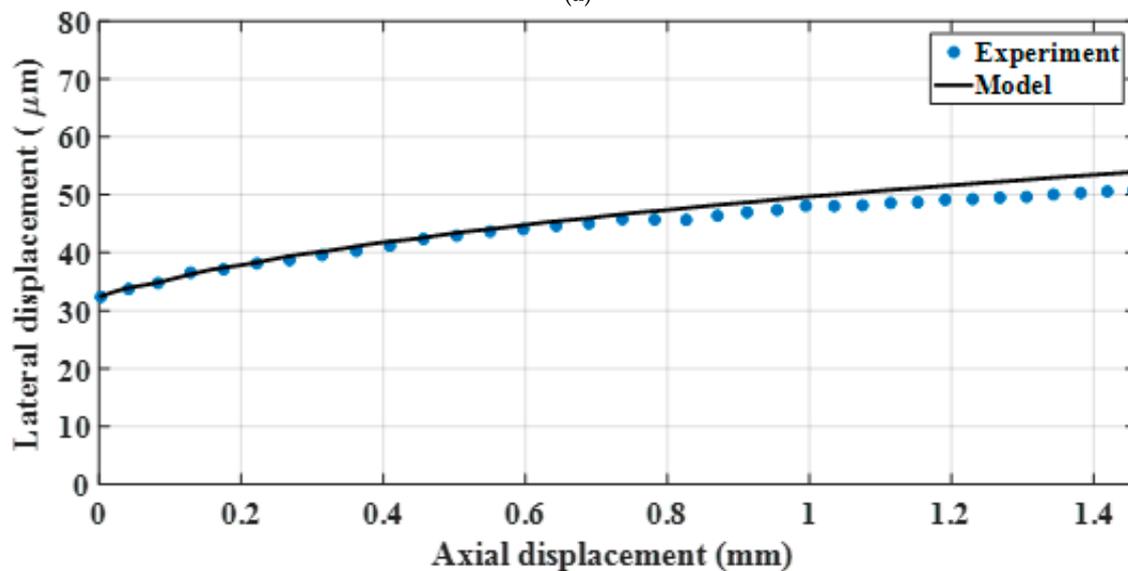




(a)



(b)

**Figure S1.** (a) Experimental trajectory of single RBC using interdigitated electrodes. The dark rectangles represent the electrodes; (b) comparison between the experimental actual path of RBC and the model result (Experiment: electrode width:  $\sim 60 \mu\text{m}$ , electrode gap:  $\sim 60 \mu\text{m}$ , channel width:  $\sim 80 \mu\text{m}$ , channel height:  $\sim 30 \mu\text{m}$ , flow rate:  $5 \mu\text{L/hr}$ , applied voltage and frequency:  $10 V_{pp}$  @  $10\text{KHz}$ ; Model: same operational and geometrical conditions as experiment, particle diameter:  $5.6 \mu\text{m}$ ).