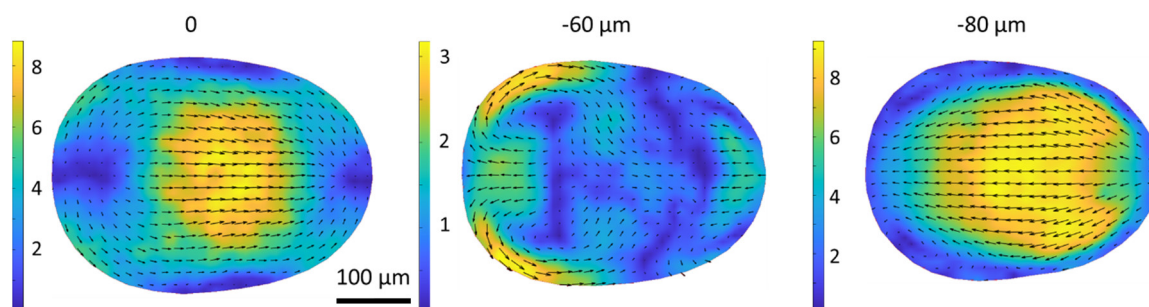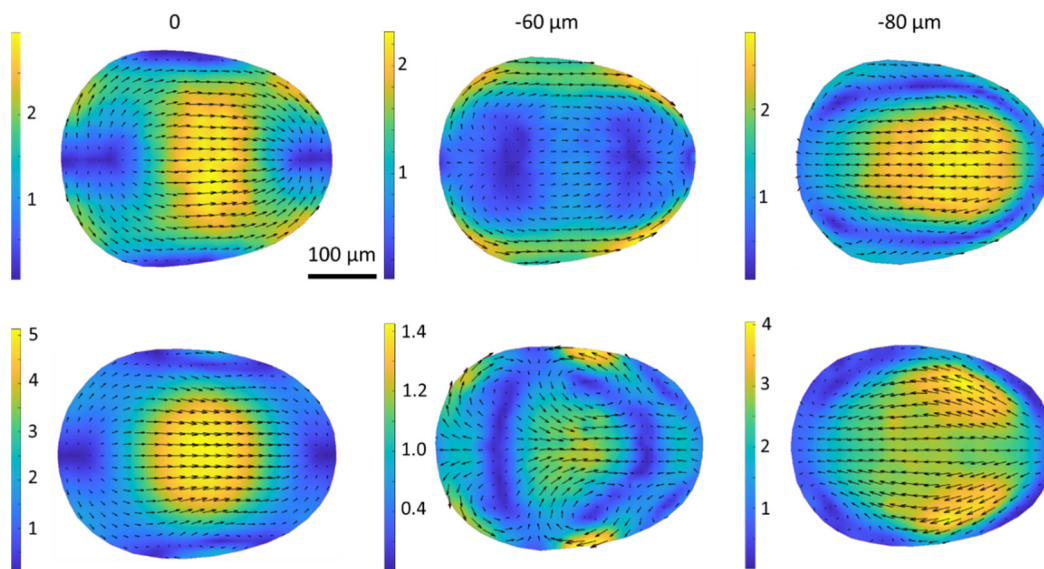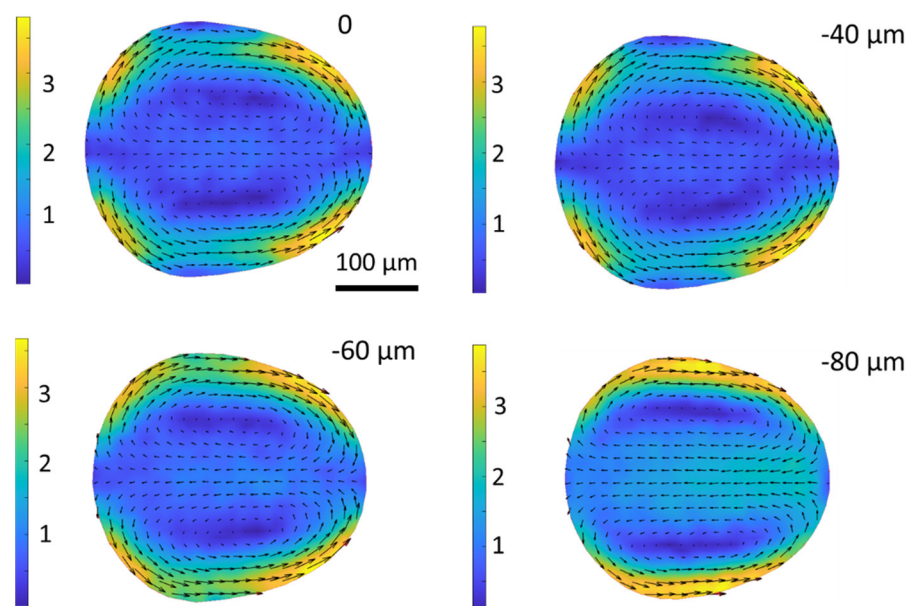**Figure S1.** Flow fields inside a surfactant-free drop in the co-ordinate frame of channel: a – drop cross-section corresponding to the middle plane of channel, b – cross-section at 40 µm from the middle plane, c –60 µm, d –80 µm. Drop length L = 396 ± 3 µm, drop velocity V = 10.7 ± 0.3 mm/s. The velocity on colour scales is given in mm/s.

Figure S2. Flow fields inside a surfactant-free drop in the co-ordinate frame of drop. Total flow rate Q = 64 µL/min. Drop length L = 434 ± 5 µm, drop velocity V = 21.9 ± 0.5 mm/s. The velocity on colour scales is given in mm/s.

Figure S3. Comparison of flow patterns inside the drops laden by C10TAB: top panel c = 80 mM, Ld = 391 µm, V = 10.6 mm/s; bottom panel c = 120 mM, Ld = 387 µm, V = 11.4 mm/s. The velocity on colour scales is given in mm/s.

Figure S4. Flow fields in various cross-sections of 10 cmc (0.6 mM) Tween 20 drop, Ld = 372 μm, V = 9.7 mm/s. The velocity on colour scales is given in mm/s.