

Supporting Information

Electrically Controlled Rapid Release of Actives Encapsulated in Double-emulsion Droplets

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Supporting Figures

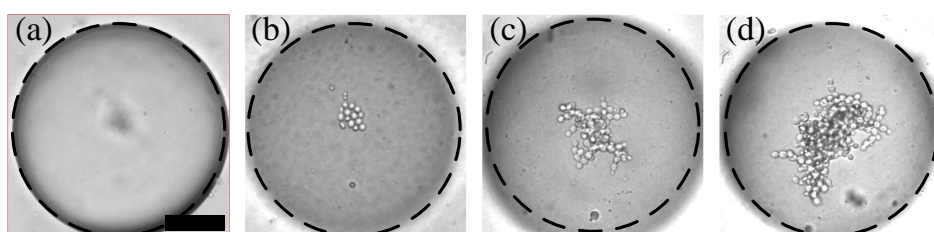


Figure S1 Proliferation of yeast cell in double-emulsion droplets. (a) Outline of the droplet. The yeast cells are out of focus, scale bar 50 μm ; (b) Yeast cells inside the droplet upon encapsulation; (c) 3 hours after the encapsulation of the yeast cells; (d) 6 hours after the encapsulation of the yeast cells.

Movie Description

Supplementary Movie 1

Release of reagent by single-core droplet. The diameter of the droplet is 260 μm . The core of the droplet is of potassium chloride solution with a conductivity of 40 mS/m (supplemented with 0.5 % PVA). The suspending medium is 0.5% aqueous solution (with a conductivity of 8 mS/m). The voltage of the applied electric signal is 30 V with a frequency of 50 KHz. Methylene blue is added in the core as a dye for better visualization. The video is in real time.

Supplementary Movie 2

Release of reagents by double-core droplet. The droplet adopts an ellipse shape with major axis of 350 μm and minor axis of 330 μm . The cores of the droplet are of potassium chloride solution with a conductivity of 40 mS/m (supplemented with 0.5 % PVA). The suspending medium is 0.5%

aqueous solution (with a conductivity of 8 mS/m). The voltage of the applied electric signal is 25 V with a frequency of 10 KHz. Methylene blue is added in one of the cores as a dye to one of the two cores for better visualization. The video is in real time.

Supplementary Movie 3

Release of fluorescent nanoparticles by single-core droplet. The diameter of the polystyrene is 500 nm. The core of the droplet is of potassium chloride solution with a conductivity of 40 mS/m (supplemented with 0.5 % PVA). The suspending medium is 0.5% aqueous solution (with a conductivity of 8 mS/m). The voltage of the applied electric signal is 30 V with a frequency of 50 KHz. The video is in real time.

Supplementary Movie 4

Release of fluorescent nanoparticles by double-core droplet. The diameter of the polystyrene is 500 nm. The cores of the droplet are of potassium chloride solution with a conductivity of 40 mS/m (supplemented with 0.5 % PVA). The suspending medium is 0.5% aqueous solution (with a conductivity of 8 mS/m). The voltage of the applied electric signal is 25 V with a frequency of 10 KHz. The video is in real time.