Electronic Supplementary Material (ESI) for Lab on a Chip. This journal is © The Royal Society of Chemistry 2014

Video1

<u>Title:</u> Moving bacteria suspended in liquid microdroplets (DIC imaging)

<u>Caption:</u> Diffusive motion of *E. Coli* bacteria suspended in water-glycerol liquid microdroplet deposited on a superhydrophobic surface (DIC imaging). Image acquisition time: 70 ms. Video frame rate: 12.5 frames per second.

<u>Keywords:</u> bacteria lasing, biological gain medium, yellow fluorescent protein, optofluidics, droplet-based microcavities, superhydrophobic surfaces

Video2

<u>Title:</u> Moving bacteria suspended in liquid microdroplets (fluorescence imaging)

<u>Caption</u>: Diffusive motion of *E. Coli* bacteria suspended in water-glycerol liquid microdroplet deposited on a superhydrophobic surface (fluorescence imaging). Image acquisition time: 70 ms. Video frame rate: 12.5 frames per second.

<u>Keywords:</u> bacteria lasing, biological gain medium, yellow fluorescent protein, optofluidics, droplet-based microcavities, superhydrophobic surfaces