Supplementary Materials for

Spatiotemporal evaporating droplet dynamics on fomites enhances long term bacterial pathogenesis

Sreeparna Majee¹, Atish Roy Chowdhury², Roven Pinto¹⁺, Ankur Chattopadhyay¹⁺, Amey Nitin Agharkar³, Dipshikha Chakravortty²*, Saptarshi Basu^{1,3}**

**To whom correspondence should be addressed; E-mail: <u>sbasu@iisc.ac.in</u>.
*Co-Corresponding author; E-mail: <u>dipa@iisc.ac.in</u>.
+These authors contributed equally to the work.



Supplementary Figure 1.

Schematic diagram. Contamination through droplets produced during irrigation.



Supplementary Figure 2.

Fluorescence image (measured at 50X): Dried precipitate of 0.6 wt% mucin containing STM (WT) on tomato skin.



Supplementary Figure 3.

Contact angle vs. time. Variation in normalized contact angle with time for four mediums (a) Saline (0.9wt%), (b) Milli-Q, (c) Dextrose (5wt%), (d) Mucin (0.6wt%)



Supplementary Figure 4.

•

Normalized distribution of folds with time. Fold generation of bacteria (1-5 folds) given in Model B in the control volume mentioned in the main text. The time is normalized with τ which is the characteristic time of aggregation.

Supplementary Table 1.

Viscosity of different mediums in mPa.s.

Fluid Mediums (w/o bacteria)	Viscosity (mPa.s)
Milli-Q	1.1
Saline (0.9wt%)	1.2
Dextrose (5wt%)	1.3
Dextrose (0.9wt%)	1.2
Mucin (0.6wt%)	1.7
Mucin (0.1wt%)	1.3

Supplementary Table 2.

Surface tension of different mediums in mN/m.

Fluid Medium	w/o bacteria	PFA fixed dead	STM (WT)	STM (\[]fliC)
Saline (0.9wt%)	70.9 ± 2.7	70.7 ± 3.2	70.4 ± 3.1	70.6 ± 1.8
Milli-Q	70.7 ± 1.8	71.7 ± 2.7	70.4 ± 1.8	70.8 ± 2.5
Dextrose (5wt%)	71.6 ± 1.9	70.8 ± 1.9	71.3 ± 2.4	71.7 ± 3.3
Mucin (0.6wt%)	71.8 ± 2.8	70.6 ± 2.7	70.4 ± 3.2	70.7 ± 2.8