



**Figure 1 – figure supplement 1: Method for phage pretreatment experiments.** (A) *E. coli* resident strain was inoculated into microfluidic devices at  $OD_{600} = 0.2$ . Cells were allotted an hour for surface attachment before a media flush was performed ( $40 \mu\text{L}/\text{min}$  for 40 seconds). Biofilms were then grown at room temperature for approximately 62 hours. (B) Inlet tubing was carefully removed from device and replaced with tubing containing phages. (C) Phages ( $2 \times 10^9$  PFU/mL) were flowed into the chamber for 1 hour ( $0.1 \mu\text{L}/\text{min}$  for 1 h). (D) Following phage pretreatment, isogenic *E. coli* invaders ( $OD_{600} 6.0$ ) were flowed into the chamber, again through a tubing swap. (E) Tubing was finally returned to sterile media and the device was allowed to incubate for ten hours prior to imaging.