



#### Additional File 6

Frequency distribution of morphometric and motion parameters (Area, Perimeter, Mean speed) characterizing isolated *E. aerogenes* bacteria. Over three different technical replicates (427 total frames), 748020 total spots were detected and associated to bacterial cells. In line with the analysis of bacteria population within mixed-suspension, majority of bacteria cells displayed area and perimeter values below  $4 \mu m^2$  and  $10 \mu m$ , respectively. Over 69314 tracks, around 90% of bacteria displayed mean speed values below  $10 \mu m/s$ . A 30% of *E. aerogenes* cells resulted to be non-motile with mean speed values equal to  $0 \mu m/s$ . On the y axis the relative frequency in percentage (%), on the x axis the area, perimeter and mean speed measurements ( $\mu m^2$ ,  $\mu m$  and  $\mu m/s$ ).