



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 $4 \mu\text{m}^2$ and $10 \mu\text{m}$, respectively. Over 69314 tracks, around 90% of bacteria displayed mean speed values below $10 \mu\text{m/s}$. A 30% of *E. aerogenes* cells resulted to be non-motile with mean speed values equal to 0 $\mu\text{m/s}$. On the y axis the relative frequency in percentage (%), on the x axis the area, perimeter and mean speed measurements (μm^2 , μm and $\mu\text{m/s}$).