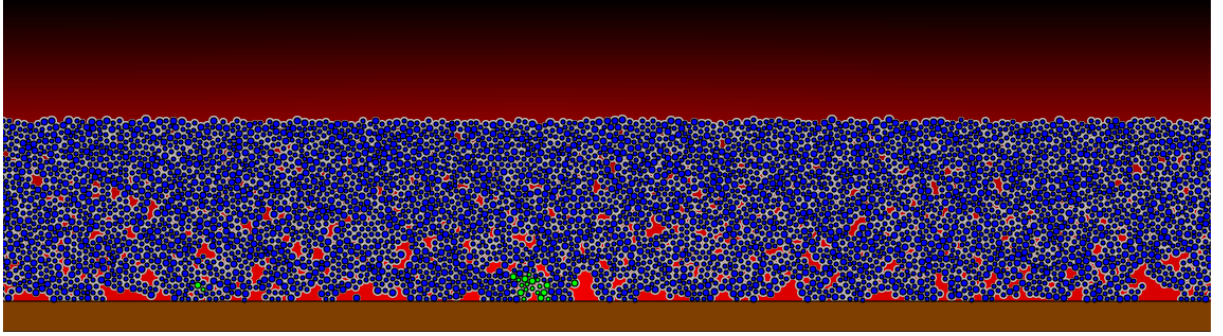
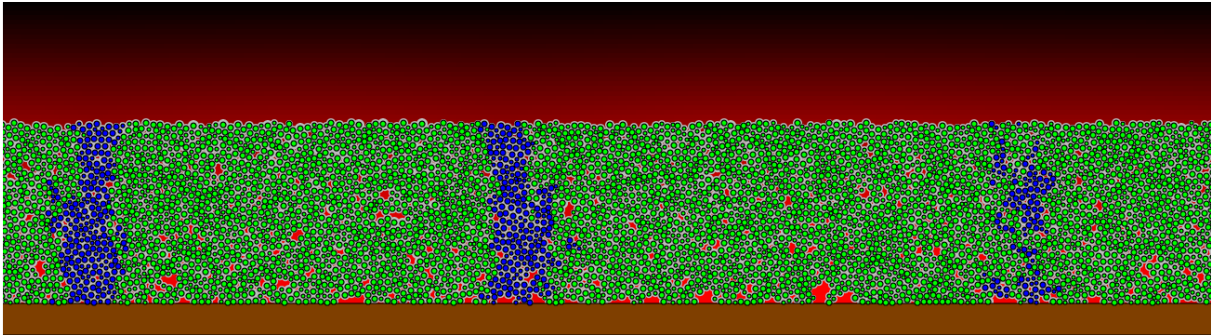


(a)



(b)



(c)

Figure S1: **Snapshots of examples biofilms.** (a)  $t^{\text{durn}} = 8h$  at a time point of 10 days, (b) the same after 200 days, and (c)  $t^{\text{durn}} = 4h$  after 200 days. Green (blue) discs correspond to populations of A (NA), respectively. The red in the background corresponds to the lactic acid, with red (black) corresponding to high (low) concentrations respectively. All other parameters are the same as Fig. 1 in the main article.