Supplementary Information for

"A web of streamers: biofilm formation in a porous microfluidic device"

Amin Valiei⁺, Aloke Kumar^{*£}, Partha P. Mukherjee[¥], Yang Liu[€], and Thomas Thundat^{*+}

⁺Department of Chemical and Materials Engineering, University of Alberta, Edmonton, AB, Canada T6G 2V4

[£]Biosciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA 37831

[¥]Department of Mechanical Engineering, Texas A & M University, College Station, TX, USA 77843

^eDepartment of Civil and Environmental Engineering, University of Alberta, Edmonton, AB, Canada T6G 2W2

*Author email: kumara1@ornl.gov

*<u>Author email:</u> thundat@ualberta.ca

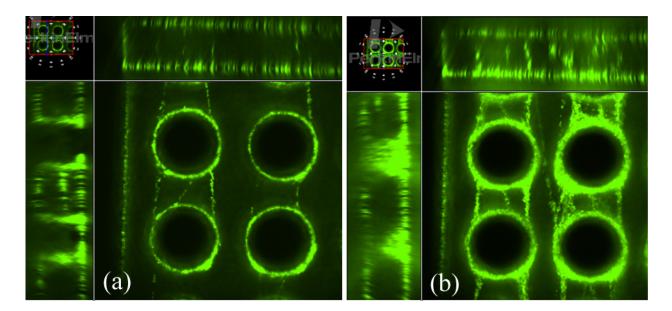


Fig. S1. Streamer formation for the mutant (Δ gacS mutant –WS) after 15 hour of experiment, (a) for row 25 (b) for row 7.

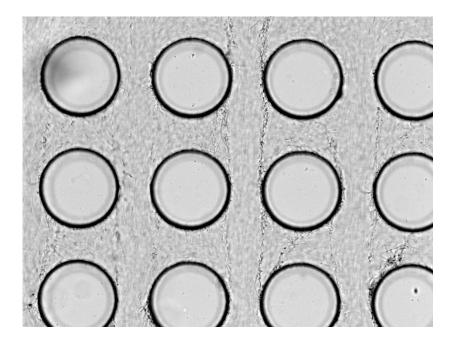


Fig. S2. Streamers can attach themselves to several posts.

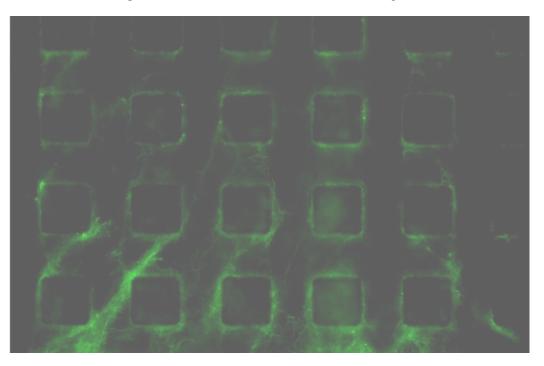


Fig. S3. Streamer formation between the square shaped microposts.

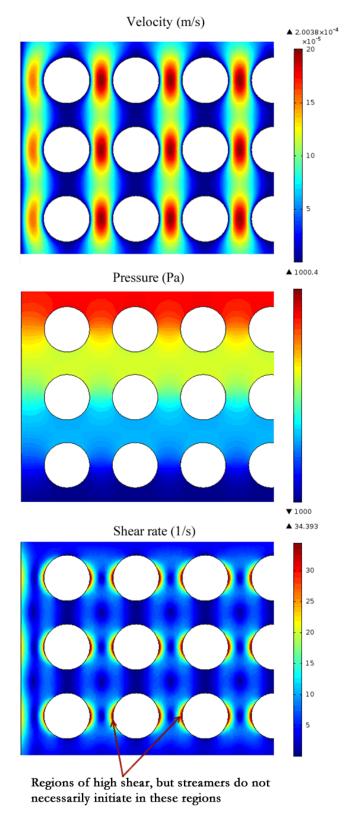


Fig. S4. Velocity, pressure and shear rate at the xy plane located in the middle of the device.