Electronic Supplementary Material (ESI) for Soft Matter.

Capillary flow and mechanical buckling in a growing annular bacterial colony

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Supplemental Figures

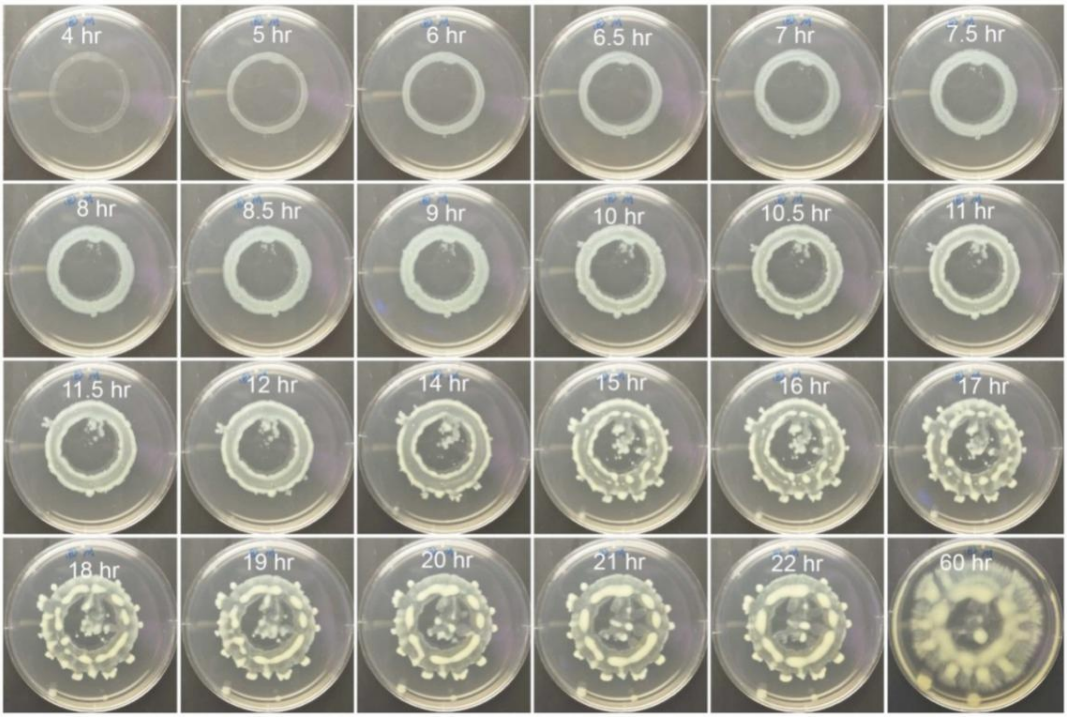

Figure. S1. The pattern evolution of a bacterial colony inoculated as a 4 cm diameter lus. Note regularly distributed buckles along the inner edge 9-12 hours after the inocu tion. The inward migrating inner ring suddenly reversed its movement to expand outv within the 14-15 hour window. At the same time, the continuous arc broke into isolat droplets. The diameter of the petri dish is 9 cm, as it holds for subsequent figures.

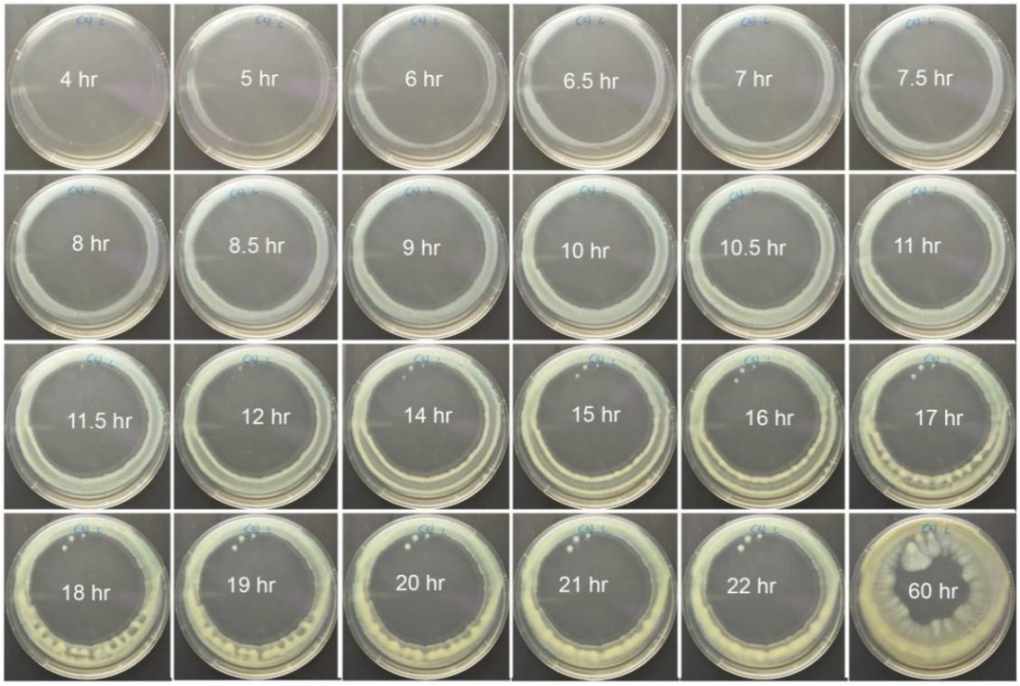

Figure. S2. The pattern evolution of a bacterial colony inoculated as a 7.5 cm eter annulus. Regularly distributed droplets occurred along the inner edge by 17 of growth. Small fingerlike protrusions grew out of the inner edge in the later sw ing process after 22 hours.

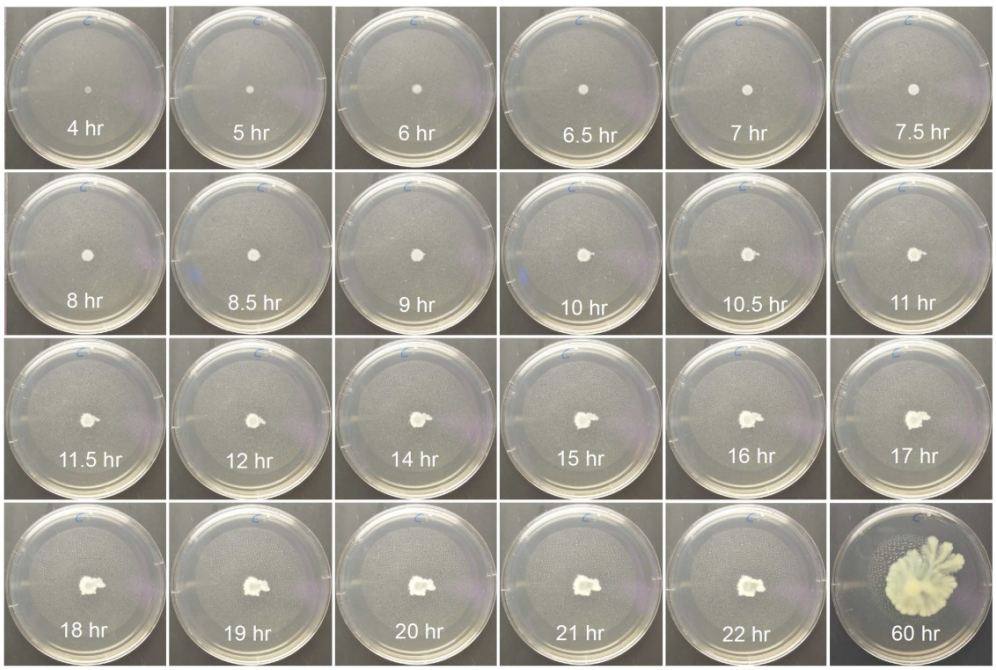

Figure S3. The pattern evolution of a *P. aeruginosa* colony inoculated as a point source the center of the plate. Note a layer of tiny water droplets condensed on the cover. The growth rate of this bacteria colony is rather slow compared with other published experir on bacterial swarming out of point inoculation [1, 2]. The annular colony growth experi in this report were performed at a slow growth condition.

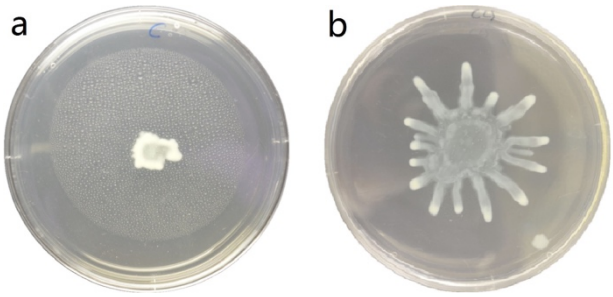

Figure S4. A slow-expanding colony and a faster-expanding colony, both originated
a point at the plate center. (a) A slowly growing bacterial colony photographed at 23 l
This plate was prepared under the same condition as for the annular swarm observatic
Note a layer of water droplets condensed on the cover. (b) A faster-growing bacterial
ony photographed at 23 hours in another experiment, with shorter time of drying to al
for agar gelation prior to inoculation (45 min vs 60 min).