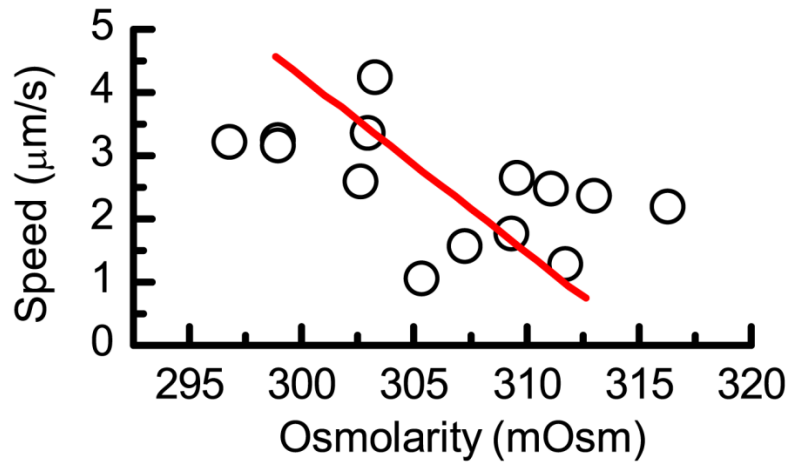**Fig. S1.** Dependence of initial swarm speed on agar osmolarity, with a linear fit.
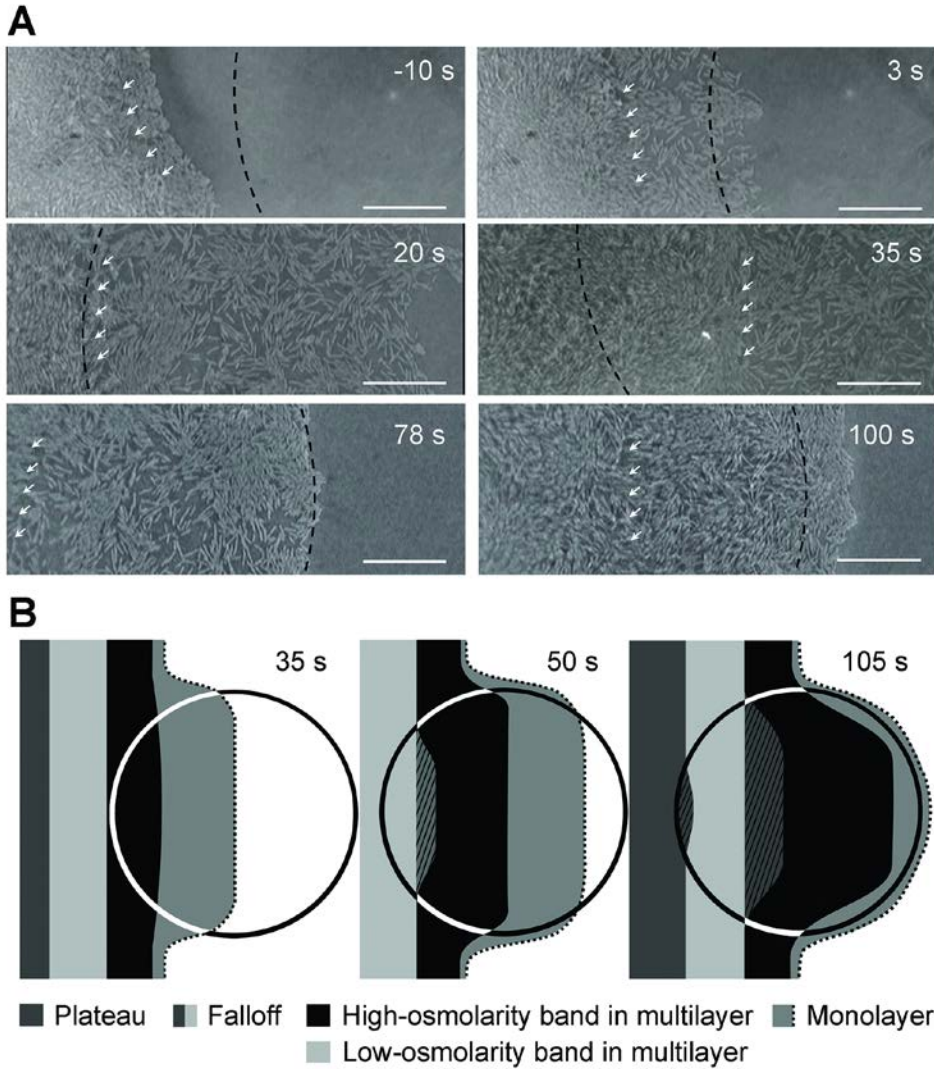
Fig. S2. Interaction between bacteria and a fixed liposome spot. **A**, Snapshots of swarms running over liposome spots taken from three different movie clips. Broken arches depict the proximal or distal edges of the liposome spots. The chiral flow in front of the swarm appears as slightly dark shade. Scale bars equal 50 μm. Approximate times relative to the initial time of invasion are shown on the top-right corner. White arrows highlight the monolayer/multilayer interfaces. **B.** Diagrams showing the movement of a swarm on liposome spots at different times. Grey levels correspond to cell densities and osmolarities of different regions of the swarm, as indicated in the bottom legend. The black dotted line is the swarm front. Shading indicates the minimal area where cells from swarm regions might have mixed.