Table 1. Physical parameters

Parameter	Name	Typical value	Source
v	Velocity of bacteria	0.045 μm/sec	Experiment
D_x	x diffusion	0.04 μm^2/sec	Experiment
D_y	y diffusion	0.25 μm^2/sec	Experiment
D_ϕ	Phase diffusion	$<10^{-5}$ sec^{-1}	Must be small to produce the waves
ρ	Average 2D density of bacteria	0.25 μm^{-2}	Experiment
τ_v, τ_θ	Correlation time	100 sec	Not important, can vary over a wide range
$K_1,\ldots,K_6$	Michaelis–Menten parameters	0.005	Determined by fitting the experimental data
V_1		0.0015	
V_{m2}		0.015	
V_{m3}, V_{m5}		0.06	
V_4, V_6		0.03	
ω	Phase velocity (simple clock model)	0.0018 rad/sec	Selected to fit Frizilator frequency
ϕ_R	Length of the refractory period (simple clock model)	$0.2 \cdot \pi$ rad	Must be (0.1-0.5)π to produce the waves
p	Sensitivity to signaling (simple clock and Frizilator models)	0.06 sec^{-1}	To produce waves, must be (0.03–0.1)
R	Interaction cross-section (windshield model)	1 μm	≈2d, d = diameter of bacterial body
R_x, R_y	Interaction distances (box model)	0.75 μm	$\approx R$