

Table 1. Measured cell parameters on different growth conditions.

	growth condition	growth rate [h ⁻¹]	cell length [μm]	cell width [μm]	single cell volume [fl]	OD-specific cell concentration [10 ⁸ cells·ml ⁻¹ ·OD ⁻¹]	OD-specific total cell volume [μl·ml ⁻¹ ·OD ⁻¹]
complex medium	LB	1.61±0.05	3.9±0.9	1.3±0.2	4.4±1.1	7.8±0.8	3.4
	LB <i>MG1655</i>	1.62±0.04	3.5±0.9	1.4±0.1	3.9±1.2	7.5±0.8	2.9
	glucose+AA	1.49±0.05	3.5±1.0	1.5±0.1	4.0±1.3	5.9±0.6	2.4
	mannose+AA	1.28±0.07	3.7±0.9	1.5±0.2	4.1±1.2	6.3±0.6	2.5
	glycerol+AA	1.26±0.04	3.5±0.9	1.5±0.1	3.9±1.2	8.2±0.8	3.2
carbon sources	acetate	0.29±0.02	2.3±0.6	1.2±0.1	2.4±1.3	16.8±1.7	4.0
	fumarate	0.47±0.03	2.4±0.6	1.1±0.1	2.4±1.2	17.0±1.7	4.1
	galactose	0.17±0.02	2.0±0.5	1.1±0.1	1.9±1.2	19.9±2.0	3.8
	glucose	0.60±0.05	3.0±0.7	1.4±0.2	3.2±1.2	11.1±1.1	3.6
	glucose <i>MG1655</i>	0.67±0.05	2.8±0.7	1.4±0.2	3.0±1.3	11.0±1.1	3.3
	glucosamine	0.39±0.03	2.7±0.7	1.3±0.1	2.9±1.3	12.2±1.2	3.5
	glycerol	0.47±0.03	2.3±0.6	1.2±0.1	2.3±1.3	19.6±2.0	4.5
	pyruvate	0.40±0.03	2.2±0.6	1.0±0.1	2.1±1.2	21.0±2.1	4.5
	succinate	0.49±0.02	2.4±0.6	1.1±0.2	2.4±1.3	16.7±1.7	4.1
stress conditions on glucose	anaerobic	0.55±0.01	2.8±0.7	1.3±0.2	2.9±1.2	10.4±1.0	3.1
	50 mM NaCl	0.65±0.02	2.6±0.7	1.3±0.2	2.8±1.2	11.3±1.1	3.1
	pH 6	0.50±0.11	2.9±0.8	1.3±0.2	3.1±1.3	10.5±1.1	3.3
	42°C	0.65±0.02	2.7±0.7	1.3±0.2	2.8±1.2	11.0±1.1	3.1
fixed growth rate on glucose	chemostat μ = 0.5	0.50	2.5±1.2	1.2±0.2	2.6±1.9	13.4±1.3	3.5
	chemostat μ = 0.35	0.35	2.4±1.0	1.0±0.1	2.4±1.7	19.7±2.0	4.8
	chemostat μ = 0.20	0.20	2.2±1.0	1.0±0.1	2.2±1.8	20.6±2.1	4.5
	chemostat μ = 0.12	0.12	2.1±1.1	1.1±0.1	2.1±1.9	23.0±2.3	4.9
starved cells	stationary 1 day	0.00	1.6±0.4	1.1±0.2	1.5±1.2	21.9±2.2	3.3
	stationary 3 days	0.00	1.7±0.3	1.4±0.1	1.6±1.1	22.9±2.3	3.7

Unless indicated otherwise the data is for the *E. coli* strain BW25113. Errors are given as standard deviations.
doi:10.1371/journal.pone.0023126.t001