

Table S1

The initial population densities and competition coefficients estimated by the E-BR-GD model (Dataset 1, n = 21).

T (°C)	$N_{0_{SA}}$	$N_{0_{EC}}$	$N_{0_{LAB}}$	I_{SEL}	I_{ESL}	I_{LSE}
	(log ₁₀ CFU/ml)					
12	3.003	2.807	4.068	0.957	0.808	0.996
12	3.119	2.872	5.046	0.981	0.796	1.186
12	2.977	2.856	6.014	1.058	0.762	0.918
15	2.886	2.871	3.010	0.878	0.712	1.077
15	2.941	2.983	4.078	0.848	0.680	1.060
15	3.140	2.947	6.252	0.712	0.698	0.913
18	2.806	2.891	2.519	0.946	0.787	1.247
18	3.000	2.909	5.202	0.604	0.634	0.976
18	2.962	2.998	6.256	0.534	0.552	0.712
21	3.043	2.906	3.279	0.777	0.735	1.049
21	3.017	2.851	4.166	0.707	0.731	1.053
21	3.019	2.823	5.235	0.612	0.792	1.212
25	2.959	2.784	3.138	0.857	0.749	0.966
25	3.082	2.881	3.973	0.791	0.745	1.003
25	3.056	2.812	6.038	0.865	0.883	1.166
30	3.006	2.970	4.086	1.003	0.706	1.120
30	2.989	2.898	4.955	0.840	0.725	1.188
30	3.061	2.893	5.985	0.971	0.744	1.094
37	2.993	2.959	3.214	0.878	0.934	0.967
37	3.013	2.987	4.017	0.856	0.701	1.020
37	3.131	2.940	5.190	0.775	0.749	0.799

Growth parameters for co-culture were estimated for average values h_0 of 0.848, 2.628 and 1.348, MPD = 8.12 log₁₀ CFU/ml, 8.36 log₁₀ CFU/ml and 9.19 log₁₀ CFU/ml for *S. aureus*, *E. coli* and LAB, respectively. These data were obtained by fitting the individual growth of the populations in mono-culture. The mean value of I_{SEL} = 0.831±0.139, I_{ESL} = 0.744±0.080, and I_{LSE} = 1.034±0.134.