

Table 2. Products formed from glucose catabolism by *E. coli* strains used in this study

Strain	Condition	Replicates	Cell mass, g/liter	Carbon balance, %	Pyruvate yield, % theoretical [†]	Product concentrations, mM*				
						Pyruvate	Acetate	2-oxoglutarate	Succinate	Fumarate
W3110	3% glucose	2	4.13	80.6	5.9	20.8	180.0	8.3	13.7	0.9
TC36	3% glucose	3	3.47 ± 0.23	89.0 ± 2.7	10.5 ± 7.9	38.1 ± 27.2 [‡]	197.7 ± 21.1	16.6 ± 16.2	13.7 ± 13.2	1.4 ± 0.2
TC38	3% glucose	3	2.21 ± 0.09	84.3 ± 5.2	57.5 ± 2.6	194.5 ± 9.1	28.9 ± 16.7	10.5 ± 1.9	8.1 ± 9.1	0.8 ± 0.7
TC38	3% glucose [§]	2	2.40	84.7	68.8	241.9	7.0	7.9	<2.0	<0.2
TC42	3% glucose	2	3.40	86.8	29.1	79.0	178.4	76.2	24.3	1.7
TC44	3% glucose	3	2.36 ± 0.10	88.5 ± 0.6	69.3 ± 1.5	252.5 ± 6.2	11.6 ± 1.2	3.6 ± 1.2	16.8 ± 0.7	1.1 ± 0.2
TC44	3% glucose, ½ nitrogen	2	2.02	73.6	38.8	125.2	50.3	30.0	7.7	2.9
TC44	3% + 3% glucose [¶]	2	2.63	86.7	72.3	479.8	39.8	31.7	10.9	0.7
TC44	6% glucose	2	1.95	94.8	—	588.9	46.0	26.1	<2.0	0.7
TC44	Excess glucose	2	2.51	—	—	749.0	62.4	45.3	14.7	3.3

*Unless stated otherwise the concentrations represent measurements at the time of glucose exhaustion.

[†]Maximum theoretical yield is 2 mol of pyruvate per mol of glucose (0.978 g of pyruvate per g of glucose).

[‡]Pyruvate concentration during glucose fermentations ranged from 14.88 to 111.89 mM and was very sensitive to small differences in dissolved oxygen.

[§]Dissolved oxygen allowed to fall from 100% to 50% of air saturation.

[¶]Three percent initial glucose followed by the addition of 3% glucose after 15 h.

^{||}Three percent initial glucose with the addition of 590 ml of 4 M glucose over a period of 20 h.