Growth simulations and comparison with experimental measurements

Experiment : C-limited Aerobic simulation

$Y_{X/S}$	$q_{glucose}$	$q_{glycerol}$	$q_{ethanol}$	q_{CO2}	q_{O2}	$q_{succinate}$	$q_{acetate}$	$D_{in\ vivo}$	$D_{in\ silico}$	%error	Reference
0.46	0.6	0	0	1.14	*nr*	0	0	0.0516	0.0545	5.62%	*
0.49	1.15	0	0	2.80	2.70	0	0	0.1	0.11	10.00%	1
0.48	1.17	0	0	2.50	2.50	0	0	0.1	0.11	10.00%	2
0.52	1.18	0	0	*nr*	*nr*	0	0	0.11	0.106	3.64%	3
0.5	1.69	0	0	4.10	4.00	0	0	0.15	0.16	6.67%	2
0.5	2.26	0	0	5.20	5.00	0	0	0.2	0.22	10.00%	2
0.49	2.88	0	0	6.60	6.50	0	0	0.25	0.25	0.00%	2
0.46	3.27	0	0	8.37	7.46	0	0	0.27	0.29	7.41%	5
0.48	3.29	0	0	8.10	7.80	0	0	0.28	0.3	7.14%	2
0.45	3.88	0	1.00	9.50	8.00	0	0	0.31	0.29	6.45%	2
0.3	6.20	0	5.00	12.00	7.00	0	0	0.33	0.34	3.03%	2
0.25	7.89	0	6.00	15.00	6.50	0	0	0.35	0.36	2.86%	2
0.16	13.39	0.65	18.00	22.00	3.00	0	0	0.38	0.37	2.63%	2

Experiment : C-limited Anaerobic simulation

$Y_{X/S}$	$q_{glucose}$	$q_{glycerol}$	$q_{ethanol}$	q_{CO2}	q_{O2}	$q_{succinate}$	$q_{acetate}$	$D_{in\ vivo}$	$D_{in\ silico}$	%error	Reference
0.07	2.3	0	3	3.8	0	0	0	0.03	0.029	3.33%	6
0.11	2.86	0.26	3.74	4.78	0	0.02	0	0.047	0.042	10.64%	4
0.1	5.88	1.01	8.77	9.60	0	0.03	0.04	0.101	0.1	0.99%	4
0.097	11.31	2.06	16.84	18.53	0	0.05	0.10	0.19	0.198	4.21%	4
0.096	16.75	3.18	24.82	26.83	0	0.05	0.30	0.281	0.291	3.56%	4
0.094	22.18	4.83	33.07	34.73	0	0.07	0.67	0.369	0.342	7.32%	4

nr = not reported

$Y_{X/S}$ (g/g) , q_x (mmolgDW^{-1}hr^{-1}), D_x (hr^{-1})

Experiment : N-limited Aerobic simulation

$Y_{X/S}$	$q_{glucose}$	$q_{glycerol}$	$q_{ethanol}$	q_{CO2}	q_{O2}	$q_{succinate}$	$q_{acetate}$	q_{NH3}	$D_{in\ vivo}$	$D_{in\ silico}$	%error	Reference
0.09	5.8	0	8	12.1	2.7	0	0	0.40	0.1	0.105	5.00%	6
0.11	4.83	0.04	6.56	12.11	4.42	0	0	0.42	0.1	0.105	5.00%	5
nr	3.5	0	3.4	*nr*	7.8	0	0	0.61	0.15	0.143	4.67%	8
nr	4.61	0	4.8	*nr*	9.2	0	0	0.74	0.18	0.169	6.11%	8
0.22	5.3	0	5.14	10	*nr*	0.02	0	0.85	0.2	0.197	1.50%	7
nr	5.67	0	5	*nr*	8.7	0	0	0.83	0.2	0.194	3.00%	8
nr	8	0	12.1	*nr*	8.8	0	0	0.96	0.25	0.225	10.00%	8
nr	9.45	0	14.9	*nr*	9.3	0	0	1.09	0.28	0.256	8.57%	8
nr	12.68	0	21	*nr*	8.2	0	0	1.33	0.34	0.312	8.24%	8

Experiment : N-limited Anaerobic simulation

$Y_{X/S}$	$q_{glucose}$	$q_{glycerol}$	$q_{ethanol}$	q_{CO2}	q_{O2}	$q_{succinate}$	$q_{acetate}$	q_{NH3}	$D_{in\ vivo}$	$D_{in\ silico}$	%error	Reference
0.027	4.15	0.025	6.23	*nr*	0	0.02	0.02	0.23	0.05	0.046	8.00%	10
0.07	8.4	0	13.5	14.8	0	0	0	0.48	0.1	0.094	6.00%	9
0.018	8.7	0.096	13.5	*nr*	0	0.044	0.08	0.55	0.1	0.087	13.00%	10
0.02	12.4	0.15	18.9	*nr*	0	0.045	0.11	0.92	0.16	0.144	10.00%	10
0.021	15.3	0.18	22.7	*nr*	0	0.06	0.17	1.33	0.2	0.194	3.00%	10
0.022	17.4	0.22	26.05	*nr*	0	0.08	0.18	1.62	0.24	0.241	0.42%	10

nr = not reported

$Y_{X/S}$ (g/g) , q_x (mmolgDW^{-1}hr^{-1}), D_x (hr^{-1})

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