Table III. Metabolic networks for growth of *Candida utilis* (C1 to C9) and *Corynebacterium glutamicum* (CG)

	Network				
	C1	C2	C3	C4	C5
C-source	Glucose	Ethanol	Acetate	Citrate	Glycerol
Transport of C-source[a]	1	0	0	0	0
Conditions	Aerobic growth	Aerobic growth	Aerobic growth	Aerobic growth	Aerobic growth
Eff. P/O ratio	1.53	1.53	1.53	1.53	1.53
K	1.37	1.37	1.37	1.37	1.37
m_{ATP}	0	0	0	0	0
Biochemical reactions used to construct the network	1–3, 5–8, 10, 12, 15, 18–23, 26–31, 34–36, 44–49, 51, 58–64, 66–99	4–7, 13–16, 18–23, 26–30, 32–36, 43–49, 51, 58–64, 66–99	4–7, 15–23, 26–30 32–36, 44–49 51, 58–64, 66–99	4–8, 10, 12, 15, 17–23, 26–30 34, 35, 37, 44–49, 51, 54, 58–64, 66–99	2, 4, 6–8, 10, 12, 15, 18–23, 26–31, 34, 35, 37, 41, 44–49, 51 58–64, 66–99
No. of biochemical reactions	74	74	73	73	72
No. of biochemical species	86	86	86	85	84
Biochem. spec. with nonzero conversion rate	BIOM, CO_2, GLUC(E), H_2O H, NH_4O(E), O_2, Pi(E), SO_4	BIOM, CO_2, ETOH, H_2O, H, NH_4O(E), O_2, Pi(E), SO_4	AC, BIOM, CO_2, H_2O, H, NH_4(E), O_2, Pi(E), SO_4	BIOM, CIT, CO_2, H_2O, H, NH_4(E), O_2, Pi(E), SO_4	BIOM, CO_2, GOH, H_2O, H, NH_4(E), O_2, Pi(E), SO_4
Total no. of variables	83	83	82	82	81
Matrix rank	80	80	79	79	78
Rates specified	BIOM, r_{35}, r_{95}	BIOM, r_{35}, r_{95}	BIOM, r_{35}, r_{95}	BIOM, r_{35}, r_{95}	BIOM, r_{35}, r_{95}

[a] H^+/substrate stoichiometry in proton symport (moles H^+/mol substrate).

Table III. (*continued*) Metabolic networks for growth of *Candida utilis* (C1 to C9) and *Corynebacterium glutamicum* (CG)

	Network				
	C6	C7	C8	C9	CG
C-source	Lactate	Pyruvate	Succinate	Gluconate	Glucose
Transport of C-source[a]	0	0	0	0	0
Conditions	Aerobic growth	Aerobic growth	Aerobic growth	Aerobic growth	Aerobic growth
P/O ratio	1.53	1.53	1.53	1.53	2.13
K	1.37	1.37	1.37	1.37	0
m_{ATP}	0	0	0	0	0.43
Biochemical reactions used to construct the network	2, 4–7, 10–12 15, 18–23, 26–31, 34–37, 40, 44–49, 51, 53, 58–64, 66–99	4–7, 10, 12, 15, 17–23, 26–30, 34–37, 44–49, 51, 54, 58–64, 66–99	2, 4–8, 10, 15, 16, 18–23, 26–31 34–37, 44–49, 51, 56, 58–64, 66–99	2, 4–8, 10, 12, 15, 18–23, 26–31 34–37, 42, 44–49, 51, 55, 58–64, 66–99	1–3, 5–8, 10, 12, 15, 18–23, 26–31, 34–37, 44–49, 51, 58–63, 65–99
No. of biochemical reactions	74	72	73	74	73
No. of biochemical species	86	84	85	86	83
Biochem. spec. with nonzero conversion rate	BIOM, CO_2, H_2O, H, LAC, NH_4(E), O_2, Pi(E), SO_4	BIOM, CO_2, H_2O, H, NH_4(E), O_2, Pi(E), PYR, SO_4	BIOM, CO_2, H_2O, H, NH_4(E), O_2, Pi(E), SO_4, SUC	BIOM, CO_2, GLUCON, H_2O, H, NH_4(E), O_2, Pi(E), SO_4	BIOM, CO_2, GLUC, H_2O, H(E), NH_4(E), O_2, Pi(E), SO_4(E) THR
Total no. of variables	83	71	82	83	83
Matrix rank	80	78	79	80	79
Rates specified	BIOM, r_{35}, r_{95}	BIOM, r_{35}, r_{95}	BIOM, r_{35}, r_{95}	BIOM, r_{35}, r_{95}	BIOM, LYS, r_{35}, r_{95}

[a] H^+/substrate stoichiometry in proton symport (moles H^+/mol substrate).