

A549 vec. Pathway/Reaction	Flux (pmol/μg/min)	95% confidence interval	
		Lower bound	Upper bound
Glycolysis			
Glc.x -> Glc	40.45	39.99	40.91
Glc -> G6P	40.45	39.99	40.91
G6P <-> F6P	26.46	13.56	39.79
G6P <-> F6P	1.00E-07	0	Inf
F6P -> DHAP + GAP	35.7	31.92	37.66
DHAP <-> GAP	35.7	31.92	37.66
DHAP <-> GAP	1.00E-07	0	Inf
GAP <-> 3PG	76.03	71.81	80.07
GAP <-> 3PG	10.76	0	Inf
3PG -> Ser	0.2432	0.2316	0.2643
Ser <-> Gly + MEETHF	-1.11E-16	-1.11E-16	-1.11E-16
Ser <-> Gly + MEETHF	0.3308	0	Inf
3PG -> Pyr.c	75.78	70.27	79.6
Pyr.c <-> Lac	68.44	64.31	71.81
Pyr.c <-> Lac	1.61	0	Inf
Lac -> Lac.x	68.44	64.31	71.81
Pyr.c <-> Ala.c	0.3257	0.3102	0.354
Pyr.c <-> Ala.c	9.74E-05	0	Inf
Pyr.c -> Pyr.x	6.34	5.688	6.997
Pentose Phosphate Pathway			
G6P -> P5P + CO2	13.99	1.403	26.09
P5P + P5P <-> S7P + GAP	4.622	0.4215	8.568
P5P + P5P <-> S7P + GAP	1.00E-07	0	Inf
S7P + GAP <-> F6P + E4P	4.622	0.4215	8.568
S7P + GAP <-> F6P + E4P	1.00E-07	0	Inf
P5P + E4P <-> F6P + GAP	4.622	0.4215	8.568
P5P + E4P <-> F6P + GAP	37.91	0	Inf
Anaplerotic reactions			
Pyr.m <-> Ala.m	1.67E-16	1.67E-16	1.67E-16
Pyr.m <-> Ala.m	0.1312	0	Inf
Pyr.m + CO2 -> Oac.m	0.237	0.1821	0.2814
Mal.m -> Pyr.m + CO2	0.08862	0.0241	0.2148
Mal.c -> Pyr.c + CO2	1.006	0.512	1.269
Pyr.m -> AcCoA.m + CO2	1.531	1.389	1.729
Gln <-> Glu	3.23	2.912	3.438
Gln <-> Glu	1.00E-07	0	> 0.4144
Glu <-> Akg	0.9186	0.5037	1.144
Glu <-> Akg	1.00E+07	93.4	Inf
Pyr.c -> Pyr.m	1.68	1.5	1.986
Gln.x -> Gln	3.405	3.088	3.609
Glu -> Glu.x	2.102	2.005	2.199
TCA Cycle			
AcCoA.m + Oac.m -> Cit	1.767	1.646	2.024
Cit <-> Akg + CO2	1.544	1.385	1.79
Cit <-> Akg + CO2	0.1127	< 0.00104	0.1888
Akg -> Suc + CO2	2.463	2.139	3.116
Suc <-> Fum.m	2.463	2.139	3.116
Suc <-> Fum.m	1.00E-07	0	4.818
Fum.m <-> Mal.m	2.463	2.139	3.116
Fum.m <-> Mal.m	34.61	0	Inf
Mal.m <-> Oac.m	1.53	1.358	1.648
Mal.m <-> Oac.m	25.93	1.748	Inf
Oac.m <-> Asp.m	-3.65E-05	-0.6569	0.08871
Oac.m <-> Asp.m	1.00E-07	0	Inf
Biomass and Fatty acid synthesis and oxidation			
Cit -> AcCoA.c + Oac.c	0.2228	0.1996	0.258
AcCoA.c + AcCoA.c + AcCoA.c + AcCoA.c + AcCoA.c + AcCoA.c + AcCoA.c + AcCoA.c -> Palm.s	0.00586	0.003471	0.008739
Palm.d -> Palm.s	0.0127	0.008211	0.02227
Palm.x -> Palm.s	0.01095	0.008118	0.0147

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Biomass and Fatty acid synthesis and oxidation (cont.)			
Palm.s -> AcCoA.m + AcCoA.m + AcCoA.m + AcCoA.m + AcCoA.m + AcCoA.m + AcCoA.m + AcCoA.m	0.02945	0.02172	0.04529
0*Palm.s -> Palm.mnt	0.0177	0	Inf
0*Palm.s -> Palm.isa	0.4681	0.4498	0.4863
0*Palm.x -> Palm.isa	0.258	0	0.2763
0*Palm.d -> Palm.isa	0.2739	0	0.2921
Palm.isa -> Palm.fix	1	1	1
113*Asp.c + 386*Glu + 600*Ala.c + 448*Ser + 658*Gly + 322*Gln + 0.133*Palm.s + 324*AcCoA.c + 233*P5P -> Biomass	0.0005428	0.000517	0.00059
Cytosolic			
Oac.c <-> Mal.c	0.1541	-0.1872	0.2506
Oac.c <-> Mal.c	1.00E-07	0	Inf
Oac.c <-> Asp.c	0.06869	-0.02719	0.5797
Oac.c <-> Asp.c	0.08526	0	Inf
Asp.c -> Fum.c	0.007318	-5.55E-17	0.5157
Mal.c <-> Fum.c	-0.007318	-0.5157	0
Mal.c <-> Fum.c	1.00E-07	0	> 2.571e6
Mal.c <-> Mal.m	-0.8443	-1.366	-0.5872
Mal.c <-> Mal.m	1.00E-07	0	Inf
Asp.m <-> Asp.c	-3.65E-05	-0.6569	0.08871
Asp.m <-> Asp.c	1.00E-07	0	Inf
Dilution/Mixing			
Gly.d -> Gly	0.3572	0.3402	0.3882
0*Pyr.c -> Pyr.mnt	1.00E-07	5.00E-08	0.589
0*Pyr.m -> Pyr.mnt	1	0.411	1
0*Mal.c -> Mal.mnt	1	5.00E-08	1
0*Mal.m -> Mal.mnt	1.00E-07	0	1
0*Asp.c -> Asp.mnt	1	5.00E-08	1
0*Asp.m -> Asp.mnt	1.00E-07	0	1
0*Fum.m -> Fum.mnt	1.00E-07	5.00E-08	0.995
0*Fum.c -> Fum.mnt	1	0.004973	1
Suc.d -> Suc.mnt	0.01559	5.00E-08	0.1032
0*Suc -> Suc.mnt	0.9844	0.8968	1
0*Ala.c -> Ala.mnt	0.5612	0	Inf
0*Ala.m -> Ala.mnt	0.03792	0	Inf
SSE:	82.40	44.80	- 128.30