Supplemental Material

Fig. S1. RNA and metabolite levels for TCA and glyoxylate cycle genes. The metabolite and RNA levels for *snf1*Δ (A), *adr1*Δ (B), *cat8*Δ (C), and *adr1*Δ*cat8*Δ (D) were normalized to those observed in wildtype and incorporated with RNA data, also normalized to wildtype. The RNA levels were derived from previously published work [27].

Fig. S2. RNA and metabolite levels for gluconeogenesis. The metabolite and RNA levels for *snf1*Δ (A), *adr1*Δ (B), *cat8*Δ (C), and *adr1*Δ*cat8*Δ (D) were normalized to those observed in wildtype and incorporated with RNA data, also normalized to wildtype. The RNA levels were derived from previously published work [27].

FIGURE S1A

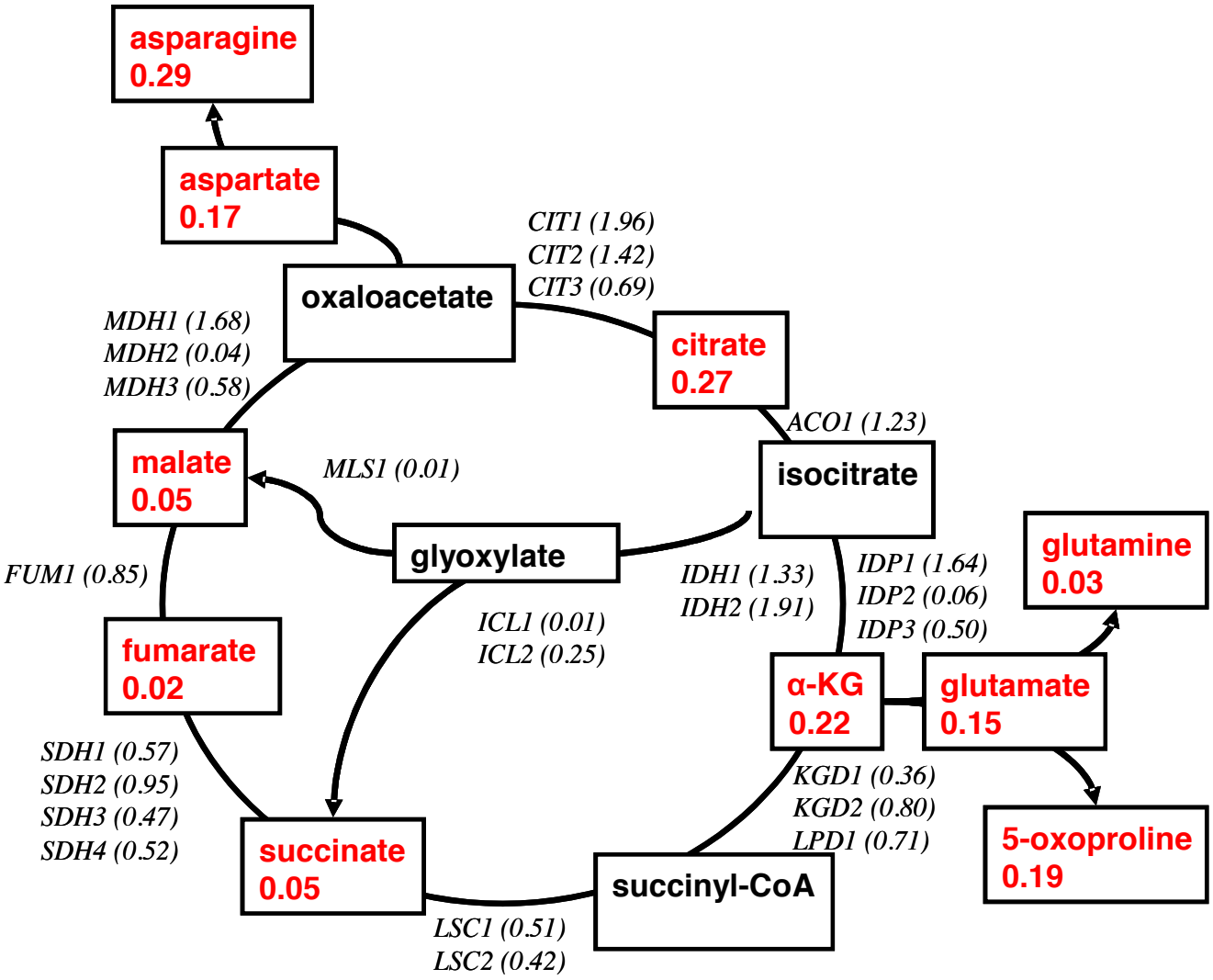

asparagine
0.29
aspartate
0.17
oxaloacetate
CIT1 (1.96)
CIT2 (1.42)
CIT3 (0.69)
citrate
0.27
MDH1 (1.68)
MDH2 (0.04)
MDH3 (0.58)
ACO1 (1.23)
malate
0.05
MLS1 (0.01)
isocitrate
glyoxylate
glutamine
0.03
FUM1 (0.85)
IDH1 (1.33)
IDH2 (1.91)
IDP1 (1.64)
IDP2 (0.06)
IDP3 (0.50)
ICL1 (0.01)
ICL2 (0.25)
fumarate
0.02
α-KG
0.22
glutamate
0.15
SDH1 (0.57)
SDH2 (0.95)
SDH3 (0.47)
SDH4 (0.52)
KGD1 (0.36)
KGD2 (0.80)
LPD1 (0.71)
succinate
0.05
succinyl-CoA
5-oxoproline
0.19
LSC1 (0.51)
LSC2 (0.42)

FIGURE S1B

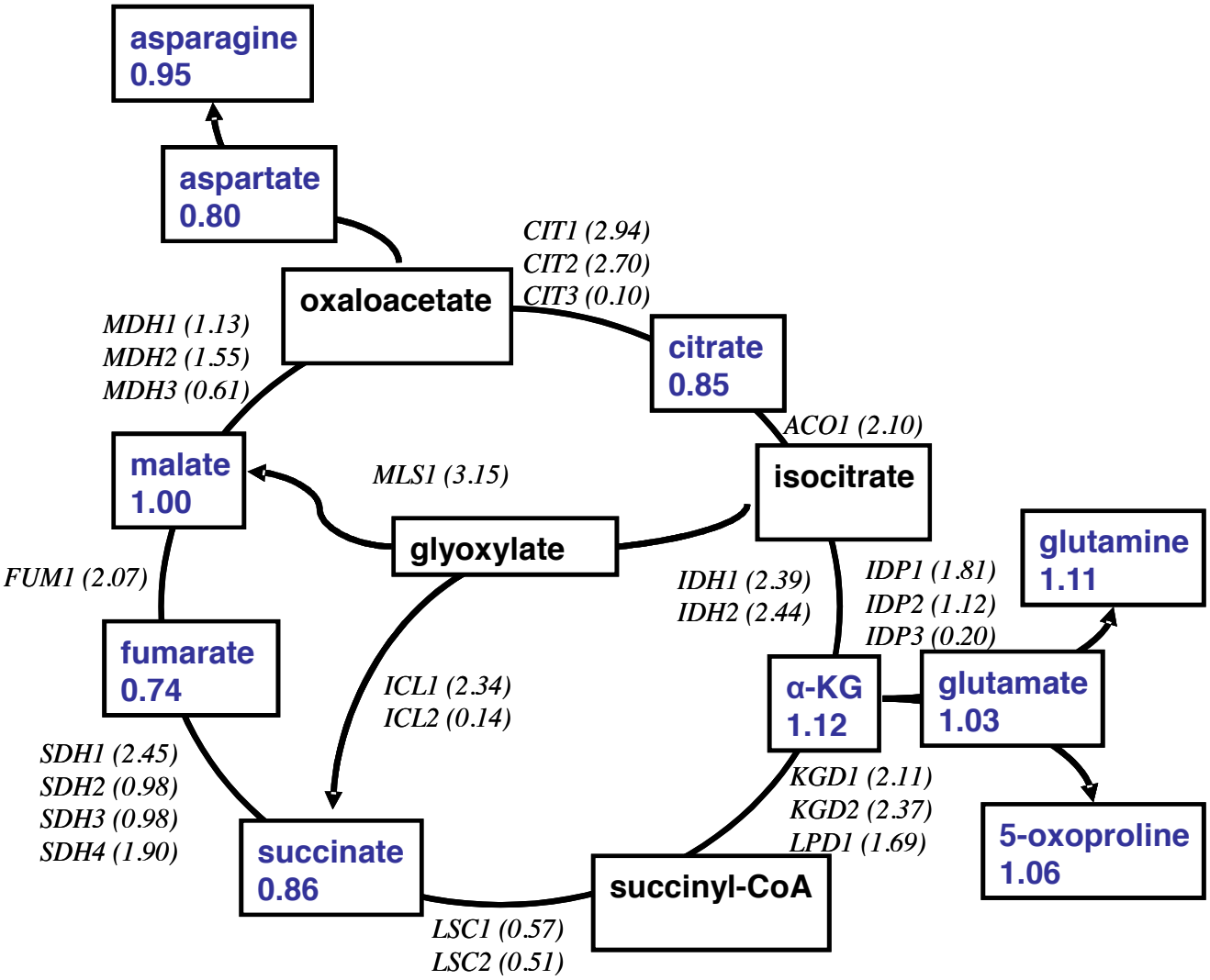

asparagine
0.95
aspartate
0.80
oxaloacetate
CIT1 (2.94)
CIT2 (2.70)
CIT3 (0.10)
citrate
0.85
MDH1 (1.13)
MDH2 (1.55)
MDH3 (0.61)
ACO1 (2.10)
malate
1.00
MLS1 (3.15)
isocitrate
glyoxylate
glutamine
1.11
FUM1 (2.07)
IDH1 (2.39)
IDH2 (2.44)
IDP1 (1.81)
IDP2 (1.12)
IDP3 (0.20)
fumarate
0.74
ICL1 (2.34)
ICL2 (0.14)
α-KG
1.12
glutamate
1.03
SDH1 (2.45)
SDH2 (0.98)
SDH3 (0.98)
SDH4 (1.90)
KGD1 (2.11)
KGD2 (2.37)
LPD1 (1.69)
5-oxoproline
1.06
succinate
0.86
succinyl-CoA
LSC1 (0.57)
LSC2 (0.51)

FIGURE S1C

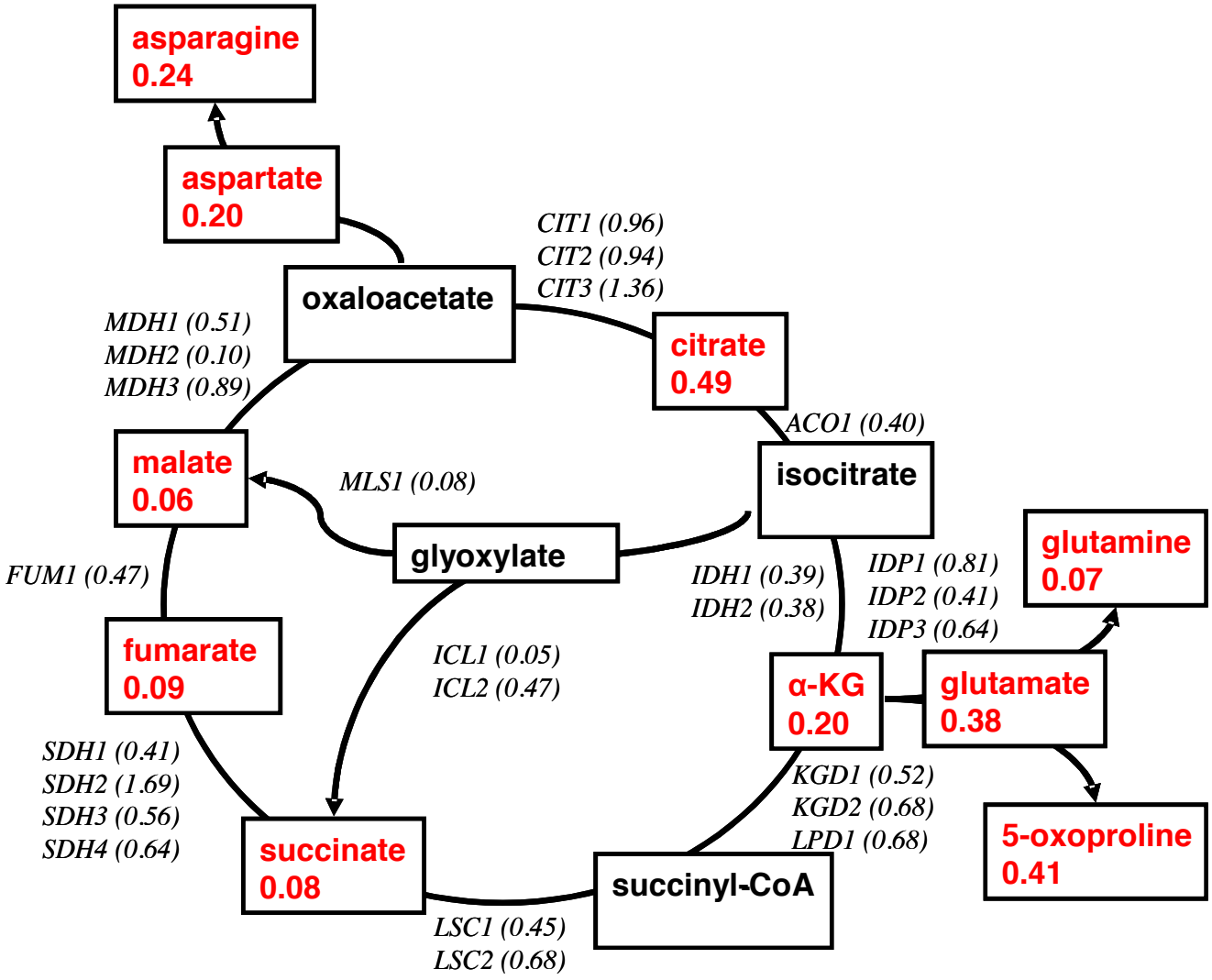

asparagine
0.24
aspartate
0.20
oxaloacetate
CIT1 (0.96)
CIT2 (0.94)
CIT3 (1.36)
citrate
0.49
MDH1 (0.51)
MDH2 (0.10)
MDH3 (0.89)
ACO1 (0.40)
malate
0.06
MLS1 (0.08)
isocitrate
glyoxylate
glutamine
0.07
FUM1 (0.47)
IDH1 (0.39)
IDH2 (0.38)
IDP1 (0.81)
IDP2 (0.41)
IDP3 (0.64)
fumarate
0.09
ICL1 (0.05)
ICL2 (0.47)
α-KG
0.20
glutamate
0.38
SDH1 (0.41)
SDH2 (1.69)
SDH3 (0.56)
SDH4 (0.64)
KGD1 (0.52)
KGD2 (0.68)
LPD1 (0.68)
5-oxoproline
0.41
succinate
0.08
succinyl-CoA
LSC1 (0.45)
LSC2 (0.68)

FIGURE S1D

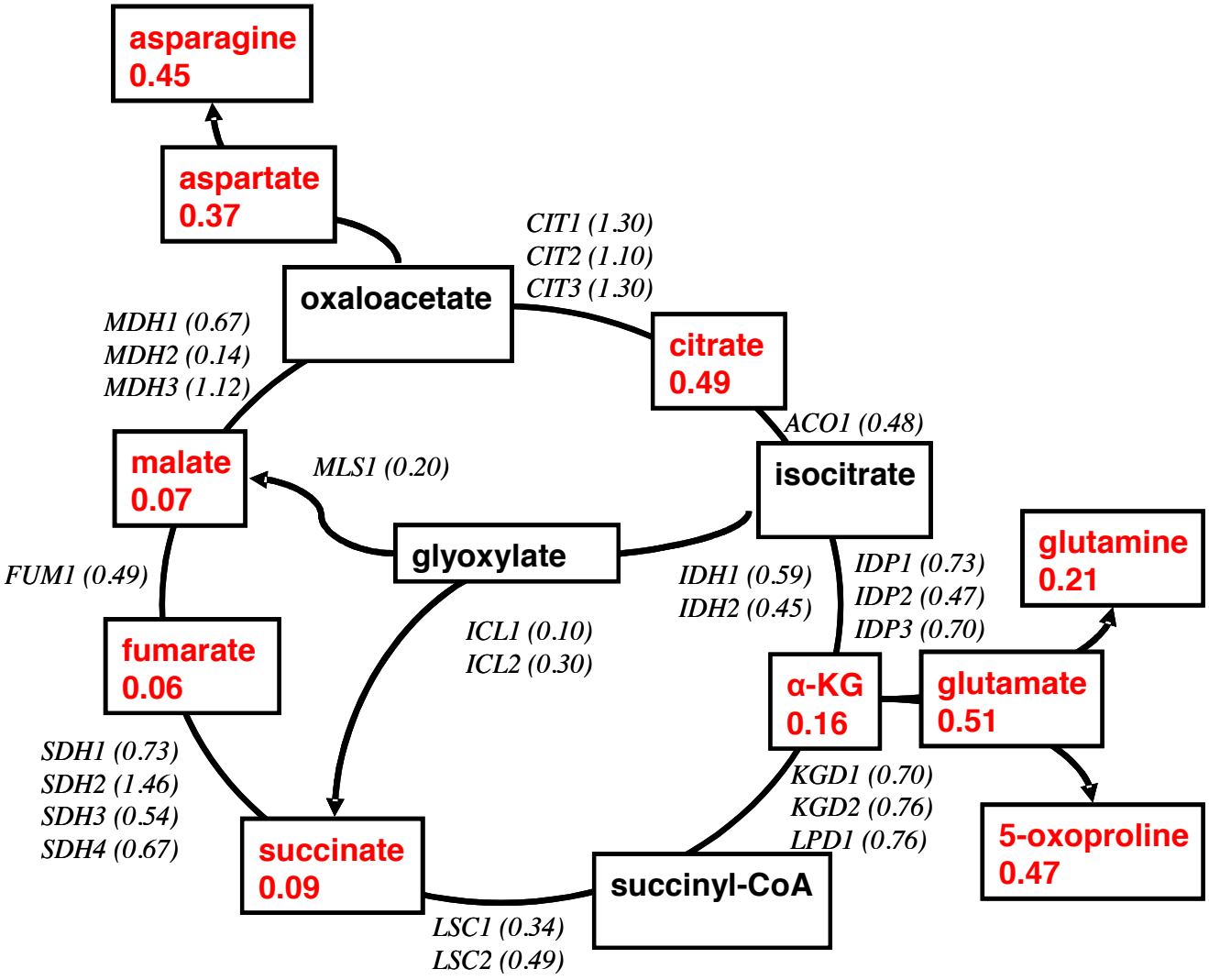

asparagine
0.45
aspartate
0.37
oxaloacetate
CIT1 (1.30)
CIT2 (1.10)
CIT3 (1.30)
citrate
0.49
MDH1 (0.67)
MDH2 (0.14)
MDH3 (1.12)
ACO1 (0.48)
malate
0.07
MLS1 (0.20)
isocitrate
glyoxylate
glutamine
0.21
FUM1 (0.49)
IDH1 (0.59)
IDH2 (0.45)
IDP1 (0.73)
IDP2 (0.47)
IDP3 (0.70)
ICL1 (0.10)
ICL2 (0.30)
fumarate
0.06
α-KG
0.16
glutamate
0.51
SDH1 (0.73)
SDH2 (1.46)
SDH3 (0.54)
SDH4 (0.67)
KGD1 (0.70)
KGD2 (0.76)
LPD1 (0.76)
succinate
0.09
succinyl-CoA
5-oxoproline
0.47
LSC1 (0.34)
LSC2 (0.49)

FIGURE S2A

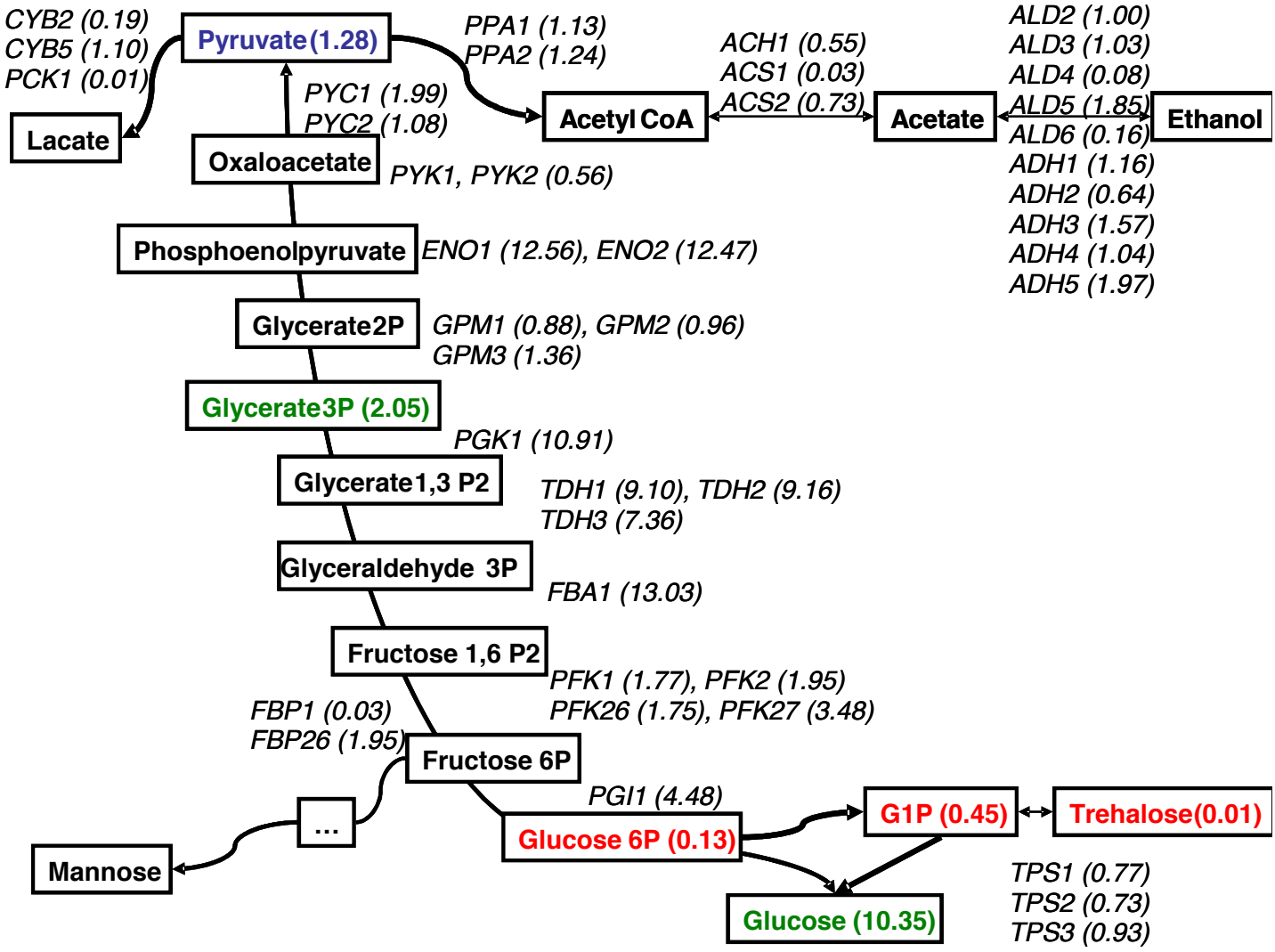

CYB2 (0.19)
CYB5 (1.10)
PCK1 (0.01)
Pyruvate(1.28)
PPA1 (1.13)
PPA2 (1.24)
ACH1 (0.55)
ACS1 (0.03)
ACS2 (0.73)
ALD2 (1.00)
ALD3 (1.03)
ALD4 (0.08)
ALD5 (1.85)
ALD6 (0.16)
ADH1 (1.16)
ADH2 (0.64)
ADH3 (1.57)
ADH4 (1.04)
ADH5 (1.97)
Lacate
PYC1 (1.99)
PYC2 (1.08)
Acetyl CoA
Acetate
Ethanol
Oxaloacetate
PYK1, PYK2 (0.56)
Phosphoenolpyruvate
ENO1 (12.56), ENO2 (12.47)
Glycerate2P
GPM1 (0.88), GPM2 (0.96)
GPM3 (1.36)
Glycerate3P (2.05)
PGK1 (10.91)
Glycerate1,3 P2
TDH1 (9.10), TDH2 (9.16)
TDH3 (7.36)
Glyceraldehyde 3P
FBA1 (13.03)
Fructose 1,6 P2
PFK1 (1.77), PFK2 (1.95)
PFK26 (1.75), PFK27 (3.48)
FBP1 (0.03)
FBP26 (1.95)
Fructose 6P
PGI1 (4.48)
...
Glucose 6P (0.13)
G1P (0.45)
Trehalose(0.01)
Mannose
Glucose (10.35)
TPS1 (0.77)
TPS2 (0.73)
TPS3 (0.93)

FIGURE S2B

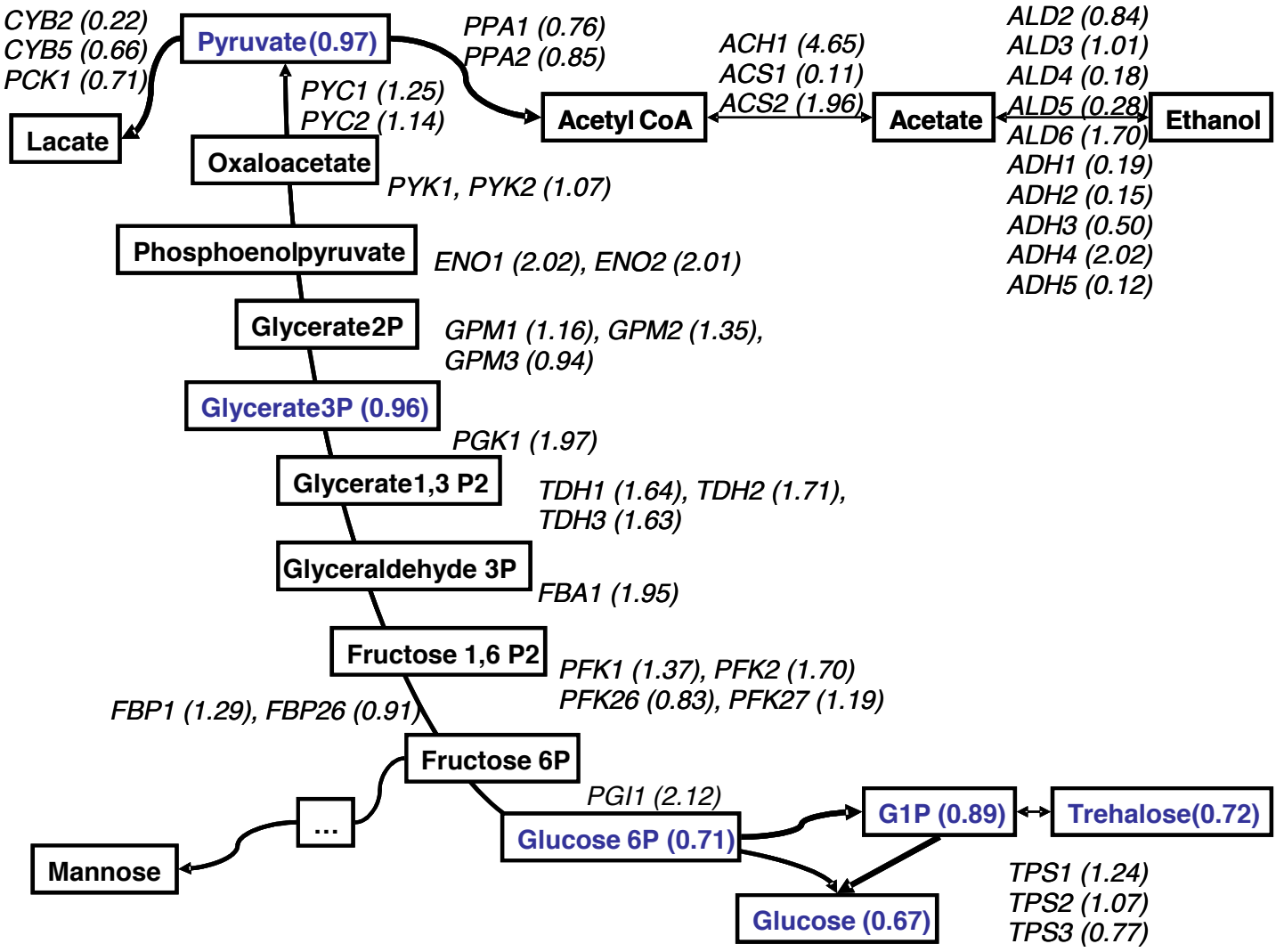

CYB2 (0.22)
CYB5 (0.66)
PCK1 (0.71)
Pyruvate(0.97)
PPA1 (0.76)
PPA2 (0.85)
ACH1 (4.65)
ACS1 (0.11)
ACS2 (1.96)
ALD2 (0.84)
ALD3 (1.01)
ALD4 (0.18)
ALD5 (0.28)
ALD6 (1.70)
ADH1 (0.19)
ADH2 (0.15)
ADH3 (0.50)
ADH4 (2.02)
ADH5 (0.12)
Lacate
PYC1 (1.25)
PYC2 (1.14)
Acetyl CoA
Acetate
Ethanol
Oxaloacetate
PYK1, PYK2 (1.07)
Phosphoenolpyruvate
ENO1 (2.02), ENO2 (2.01)
Glycerate2P
GPM1 (1.16), GPM2 (1.35),
GPM3 (0.94)
Glycerate3P (0.96)
PGK1 (1.97)
Glycerate1,3 P2
TDH1 (1.64), TDH2 (1.71),
TDH3 (1.63)
Glyceraldehyde 3P
FBA1 (1.95)
Fructose 1,6 P2
PFK1 (1.37), PFK2 (1.70)
PFK26 (0.83), PFK27 (1.19)
FBP1 (1.29), FBP26 (0.91)
Fructose 6P
PGI1 (2.12)
...
Glucose 6P (0.71)
G1P (0.89)
Trehalose(0.72)
Mannose
Glucose (0.67)
TPS1 (1.24)
TPS2 (1.07)
TPS3 (0.77)

FIGURE S2C

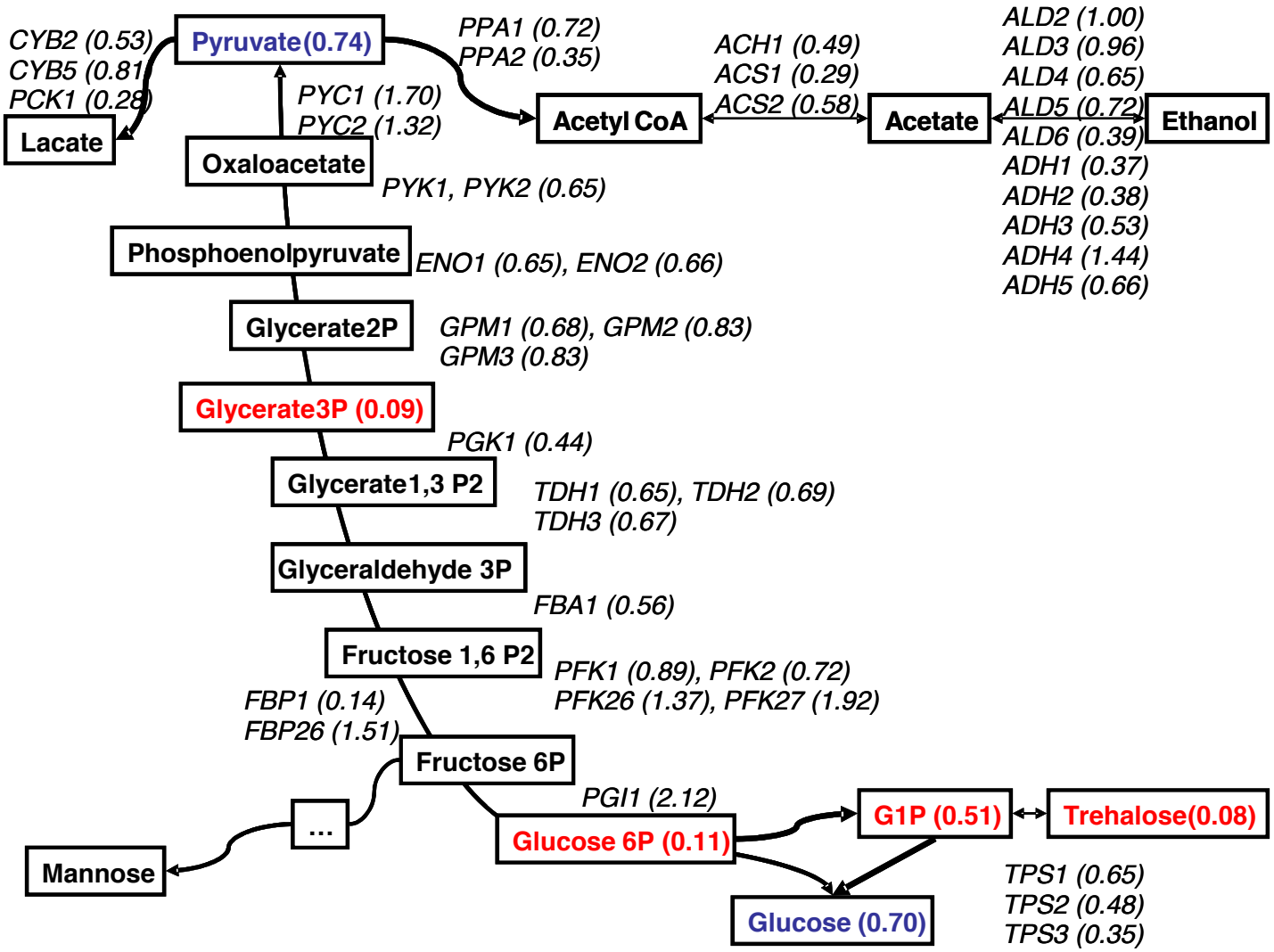
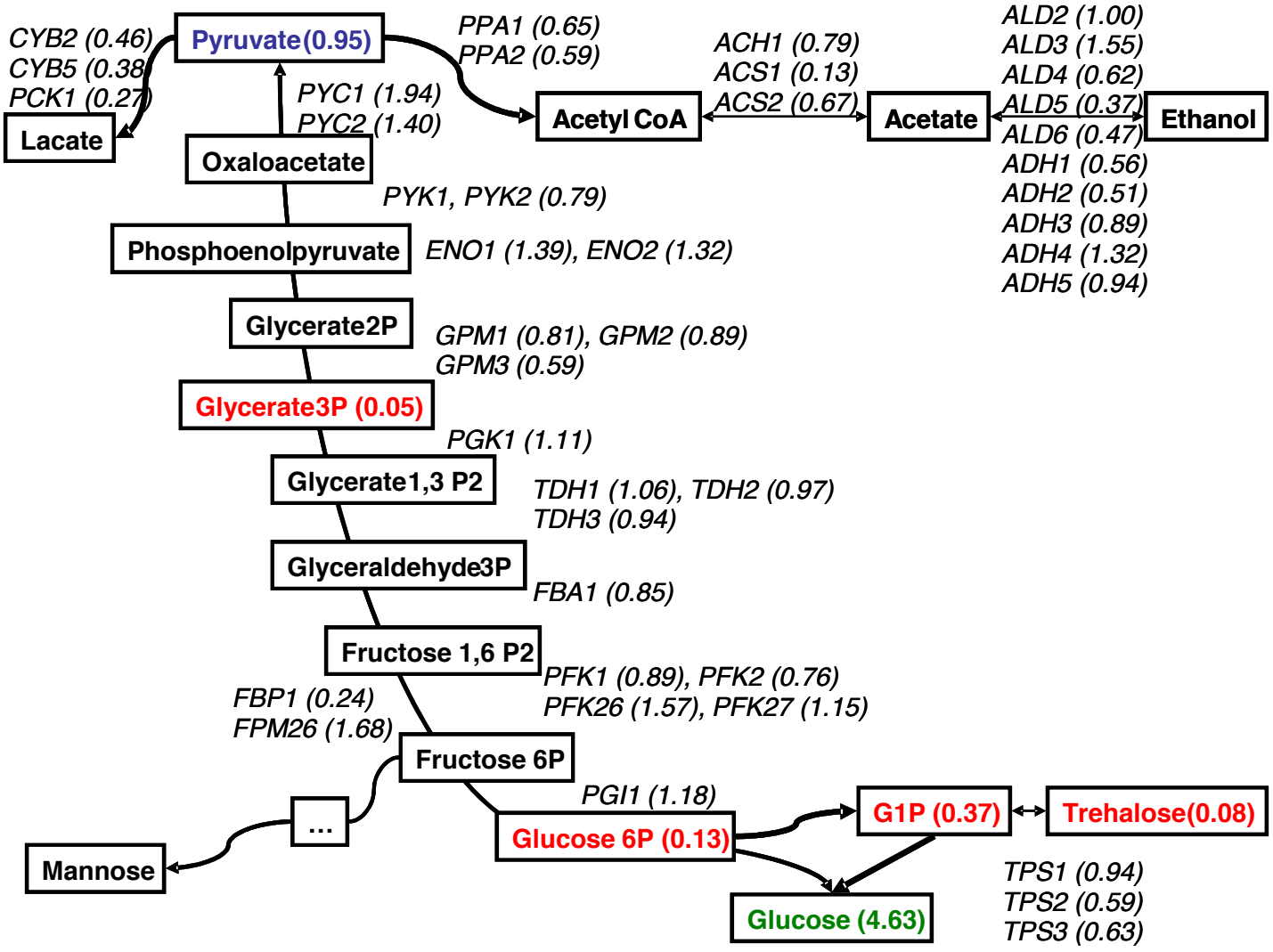

CYB2 (0.53)
CYB5 (0.81)
PCK1 (0.28)
Pyruvate(0.74)
PPA1 (0.72)
PPA2 (0.35)
ACH1 (0.49)
ACS1 (0.29)
ACS2 (0.58)
ALD2 (1.00)
ALD3 (0.96)
ALD4 (0.65)
ALD5 (0.72)
ALD6 (0.39)
ADH1 (0.37)
ADH2 (0.38)
ADH3 (0.53)
ADH4 (1.44)
ADH5 (0.66)
Ethanol
Acetate
Acetyl CoA
Lacate
PYC1 (1.70)
PYC2 (1.32)
Oxaloacetate
PYK1, PYK2 (0.65)
Phosphoenolpyruvate
ENO1 (0.65), ENO2 (0.66)
Glycerate2P
GPM1 (0.68), GPM2 (0.83)
GPM3 (0.83)
Glycerate3P (0.09)
PGK1 (0.44)
Glycerate1,3 P2
TDH1 (0.65), TDH2 (0.69)
TDH3 (0.67)
Glyceraldehyde 3P
FBA1 (0.56)
Fructose 1,6 P2
PFK1 (0.89), PFK2 (0.72)
PFK26 (1.37), PFK27 (1.92)
FBP1 (0.14)
FBP26 (1.51)
Fructose 6P
PGI1 (2.12)
...
Glucose 6P (0.11)
G1P (0.51)
Trehalose(0.08)
Mannose
TPS1 (0.65)
TPS2 (0.48)
TPS3 (0.35)
Glucose (0.70)

FIGURE S2D


CYB2 (0.46)
CYB5 (0.38)
PCK1 (0.27)
Pyruvate(0.95)
PPA1 (0.65)
PPA2 (0.59)
ACH1 (0.79)
ACS1 (0.13)
ACS2 (0.67)
ALD2 (1.00)
ALD3 (1.55)
ALD4 (0.62)
ALD5 (0.37)
ALD6 (0.47)
ADH1 (0.56)
ADH2 (0.51)
ADH3 (0.89)
ADH4 (1.32)
ADH5 (0.94)
Lacate
PYC1 (1.94)
PYC2 (1.40)
Acetyl CoA
Acetate
Ethanol
Oxaloacetate
PYK1, PYK2 (0.79)
Phosphoenolpyruvate
ENO1 (1.39), ENO2 (1.32)
Glycerate2P
GPM1 (0.81), GPM2 (0.89)
GPM3 (0.59)
Glycerate3P (0.05)
PGK1 (1.11)
Glycerate1,3 P2
TDH1 (1.06), TDH2 (0.97)
TDH3 (0.94)
Glyceraldehyde3P
FBA1 (0.85)
Fructose 1,6 P2
PFK1 (0.89), PFK2 (0.76)
PFK26 (1.57), PFK27 (1.15)
FBP1 (0.24)
FPM26 (1.68)
Fructose 6P
PGI1 (1.18)
...
Glucose 6P (0.13)
G1P (0.37)
Trehalose(0.08)
Mannose
Glucose (4.63)
TPS1 (0.94)
TPS2 (0.59)
TPS3 (0.63)