Table I. Thermodynamic analysis of central glycolysis in yeast.

	Strain and conditions			
	CBS 7336, aerobic, glucose-limited, $D = 0.1\ h^{-1}$ (Theobald et al., 1997)	CEN.PK 113-7D, aerobic, glucose-limited, $D = 0.05\ h^{-1}$ (Visser et al., 2004)	Compressed yeast (Koningsgist), anaerobic, glucose excess (Teusink et al., 2000)	X2180, glucose excess, oscillating (Hynne et al., 2001)
FBP (mM)	0.11	0.17	5.51	5.1
3PG (mM)	1.33	0.67[b]	0.9	0.3[d]
ATP (mM)	3.36[a]	2.65	2.52	2.1
ADP (mM)	0.47[a]	0.72[c]	1.32	1.5
Pi (mM)	9	43[c]	10	11
NAD (mM)	1.34[a]	1.81	1.2	0.65
NADH (mM)	1.09[a]	0.12	0.39	0.33
NAD/NADH	1	15	3	2
$\Delta_r G'$ (kJ/mol)	+38[a]	+10	+15	+10

Intracellular concentrations of glycolytic intermediates obtained from literature (Hynne et al., 2001; Teusink et al., 2000; Theobald et al., 1997; Visser et al., 2004). All datasets refer to *S. cerevisiae* using glucose as main carbon source. Concentrations reported in $\mu mol/g_{DW}$ were converted using the factor 2.38 mL_{cell}/g_{DW} (Theobald et al., 1997). Gibbs energies of formation of the metabolites at reference $pH' = 7.0$, $T = 25^{\circ}C$ and $I = 0.25$ M were obtained from (Alberty, 2003). The Gibbs energy of reaction was calculated for the overall reaction: FBP + 2 NAD + 2 ADP + 2 Pi → 2 3PG + 2 ATP + 2 NADH. A reaction is feasible if $\Delta_r G' \leq 0$.

[a]Estimated cytoplasmic concentrations for ATP, ADP, NAD, and NADH were also reported. If those concentrations are used instead, the $\Delta_r G'$ is +21 kJ/mol.

[b]Calculated from the concentration of 2PG + 3PG assuming equilibrium of phosphoglycerate mutase, with $\Delta_r G'^{\circ} = 5.9$ kJ/mol (Alberty, 2003).

[c]Not reported, taken from Wu et al. (2006).

[d]Not reported, taken from Richard et al. (1996).