

TABLE 4 Thermodynamically feasible physiologically important concentration ratios

	Ratio reported in literature	Min ratio with no uncertainty	Max ratio with no uncertainty	Minimum ratio	Maximum ratio
ATP/ADP	3.2*	0.17	$2.0 \times 10^{3§}$	0.022	$2.0 \times 10^{3§}$
NAD/NADH	19 [†]	15	$2.0 \times 10^{3§}$	0.00050 [¶]	$2.0 \times 10^{3§}$
NADP/NADPH	1.2 [†]	0.0086	1.1	0.00050 [¶]	$2.0 \times 10^{3§}$
H_{int}^+/H_{ext}^+	0.025–6.3 [‡]	0.0010 [¶]	5.0	0.0010 [¶]	7.1

*From Albe et al. (49).

[†]From Andersen and Meyenburg (54).

[‡]From Neidhardt and Curtiss (47).

[¶]Equal to the minimum ratio possible given the bounds on the concentrations of these species.

[§]Equal to the maximum ratio possible given the bounds on the concentrations of these species.