TABLE 4. *"Energy-rich" compounds involved in SLP*

Type of compounds	Energy-rich compound	$-\Delta G'_{obs}$ of hydrolysis[a]		References
		kcal/mol	kJ/mol	
Acyl thioester	Acetyl CoA	8.5	35.7	203
	Propionyl CoA	8.5	35.6	
	Butyryl CoA	8.5	35.6	
	Succinyl CoA	8.4	35.1	209a
Phosphoacyl anhydride	Acetyl phosphate	10.7	44.8	620
	Bisphosphoglycerate	12.4	51.9	334, 584
	Carbamyl phosphate	9.4	39.3	517
Acyl anilide	N^{10}-formyltetrahydrofolate	5.6	23.4	242
Phosphosulfuryl anhydride	Adenylyl sulfate[b] (APS)	21	88	9, 141, 534
Phosphoenol-ester	Phosphoenol[c] pyruvate	12.3	51.6	66

[a] ΔG_{obs} is the free energy change at a free Mg^{2-} concentration of 10^{-3} M, an ionic strength of 0.25 and a pH of 7; $\Delta G'_{obs}$ has been approximated from $\Delta G'_{obs}$ for ATP hydrolysis to form ADP and P_i ($\Delta G'_{obs} = -7.6$ kcal/mol) and the free energy changes associated with the respective kinase reactions.

[b] ATP synthesis via APS occurs only in a few chemotrophic aerobes and in a few phototrophic anaerobes (481).

[c] Generally the formation of ATP from phosphoenolpyruvate via pyruvate kinase is considered as a site of SLP; however, the pyruvate kinase reaction does not lead to a de novo synthesis of ATP, rather, the phosphate needed for carbohydrate or glycerol activation and derived from ATP is transferred back to ADP; no orthophosphate is consumed in the pyruvate kinase reaction (305).