

TABLE 4 Theoretical ATP requirement of *E. coli* growing in a simple salts medium with different carbon and energy sources^a

Product or parameter	ATP requirement (mmol/g of cells) of cells growing on ^b :			
	Glucose	Malate	Lactate	Acetate
Protein	20.5	28.5	33.9	42.7
Polysaccharide	2.05	5.1	7.1	9.2
RNA	5.86	7.0	8.5	10.1
Lipid	0.15	2.5	2.7	5.0
DNA	1.05	1.3	1.6	1.9
Transport Y_{ATP}^{max}	5.21	20.0	20.0	30.6
Theoretical	28.8	15.4	13.4	10.0
Experimentally assessed Y_{ATP}^{maxc}	13.9		9.5	7.1

^aData of Stouthamer (49).

^bThe macromolecular composition of the cells was taken to be 52.4% protein, 16.6% polysaccharide, 15.7% RNA, 9.4% lipid, and 3.2% DNA.

^cReference 49.