TABLE 5. *Molecular ratios of synthetases to ribosomes and to EF-Tu in different media*

Synthetases	No. of synthetase molecules in medium per:							
	70S ribosome[a] (×10²)				EF-Tu[b] (×10³)			
	Acetate	Glycerol	Glucose	Rich	Acetate	Glycerol	Glucose	Rich
ArgRS	5.9	5.9	5.8	5.1	8.3	9.0	9.8	11.2
GlnRS	9.2	8.6	7.7	5.1	12.8	13.2	13.0	11.1
GluRS	9.5	7.4	6.1	5.2	13.2	11.4	10.3	11.4
GlyRS	6.8	5.8	4.6	4.0	9.5	8.9	7.9	8.8
IleRS	13.1	10.4	10.0	6.2	18.2	16.0	17.0	13.7
LeuRS	7.3	7.5	6.8	6.0	10.2	11.4	11.5	13.2
LysRS	4.0	3.6	3.7	2.9	5.7	5.5	6.4	6.3
PheRS	7.0	8.4	7.4	4.4	10.0	12.9	12.5	9.7
ThrRS	5.7	4.5	3.9	3.9	7.9	6.9	6.6	8.5
ValRS	4.7	4.6	4.8	3.7	6.7	7.0	8.2	8.2
Total	73.2	66.7	60.8	46.5	102.5	102.2	103.2	102.1

[a] The number of synthetase molecules per genome in each medium (Table 3) was divided by the number of 70S ribosomes per genome (acetate, 3,230; glycerol, 6,520; glucose, 8,815; rich, 16,800) at the appropriate growth rates as calculated from the data of Dennis and Bremer (5).

[b] The number of synthetase molecules per genome in each medium (Table 3) was divided by the number of EF-Tu molecules per genome (acetate, 23,300; glycerol, 42,600; glucose, 52,100; rich, 76,800). The weight fraction of EF-Tu to total protein (0.0521) was determined in glucose-grown cells in the same manner as that for synthetases (see Table 3). Similarly, the molecular weight (44,000) was used to calculate the number of molecules per genome (52,100). From the gels described in Fig. 2 the variation in amount of EF-Tu in the various media was measured.