

**TABLE 1** Parameters related to the growth and macromolecular composition of bacterial cells

Class	No.	Parameter	Symbol	Value	Reference
I	1	Deoxyribonucleotide residues per genome	kbp/genome	4,700	4
	2	Ribonucleotide residues per rRNA precursor	nucl./prib	6,000	104
	3	Ribonucleotide residues per 70S ribosome	nucl./rib	4,566	104
	4	Amino acid residues per 70S ribosome	aa/rib	7,336	140
	5	Ribonucleotide residues per tRNA	nucl./tRNA	80	64
	6	Amino acid residues per RNA polymerase core	aa/pol	3,407	107-109
II	7	Fraction of total RNA that is stable RNA	$f_s$	0.98	5, 80
	8	Fraction of stable RNA that is tRNA	$f_t$	0.14	37, 118
	9	Fraction of active ribosomes	$\beta_r$	0.8	57
III	10	Fraction of total protein that is r-protein	$\alpha_r$	0.09-0.22	Table 3
	11	Fraction of total protein that is RNA polymerase	$\alpha_p$	0.009-0.01	Table 3
	12	Fraction of active RNA polymerase synthesizing rRNA and tRNA	$\psi_s$	0.28-0.77	Table 3
	13	Fraction of active RNA polymerase	$\beta_p$	0.15-0.32	Table 3
IV	14	Peptide chain elongation rate	$c_p$	12-22 aa/s	Table 3
	15	Stable RNA chain elongation rate	$c_s$	85 nucl./s	Table 3
	16	mRNA chain elongation rate	$c_m$	40-55 nucl./s	Table 3
	17	DNA chain elongation rate	$c_d$	500-830 nucl. bp/s	Table 3
V	18	Time to replicate the chromosome	$C$	40-67 min	Table 3
	19	Time between termination of replication and division	$D$	22-30 min	Table 3
	20	Protein per replication origin	$P_O$	$2.5 \times 10^8 - 4 \times 10^8$ aa	Table 2