Codon usage tabulated from the GenBank genetic sequence data

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In their pioneering work on the codon usage reported in 1980 and 1981 in this Journal, Grantham and his colleague (1,2) analysed a total of 161 protein genes including all the data then available. In the present work, we have analysed 1638 genes ranging a wide spectrum of genes and organisms. The codon usages in 1152 genes which include all the nuclear genes available are separately presented in Table 1, and those in the remaing 486 genes are listed in Table 2 after summing up over all genes for each virus, phage, plasmid or mitochondria. The nucleotide sequence data used in the present study were obtained from the GenBank Genetic Sequence Data Bank (3), Release 38.0 (Nov. 1985). In selecting protein coding sequences we relied mainly on the FEATURES tables of the GenBank Database, and only complete genes, starting with an initiation codon and ending with one of stop codons, were used in the present work. Therefore a gene was not included if its sequence data had any one of the following deficiencies: the coding region had not been completely sequenced; the sequence does not end with a termination codon; the length of the sequence is not a multiple of three; it has been putatively assigned. When an identical gene had been filed in more than one entries in the GenBank (e.g., one for the cDNA sequence and another for the genome sequence), only one of them was used. However, if there was any difference among these coding sequences (though small), they were analysed separately. Table 1 lists the codon use in each of the 1152 genes thus chosen. The abbreviated LOCUS names given in the GenBank were used here for designating individual genes in Tables 1 and 2. A short definition adapted from the SHORT DIRECTORY of the GenBank is given in Table 3 for each of the abbreviated names of the genes. In the GenBank, a group of consecutive genes whose entire region had been sequenced were registered using one LOCUS name. To distinguish the different protein genes belonging to a single LOCUS, symbol # followed by a number are added

after the LOCUS name in Tables 1 and 3 and after the gene name in Table 3. In cases where introns of a gene have not been completely sequenced, some of its exons are registered in separate entries (LOCUS) in the GenBank. These exons belonging to the same gene but having different LOCUS names were combined, and the LOCUS name of the last exon followed by symbol * was given to the gene thus combined in Tables 1 and 3.

The order of the codons in Tables 1 and 2 is the same as the previous compilation (1,2). Although in the previous work the codon use in each gene was expressed in frequency per one thousand, we presented here actual numbers of codons including terminator and the total number. To reveal the characteristics of the codon use of individual organisms the frequency of codons in each organism for which more than five genes are available in Table 1 was calculated by adding for each codon. Table 2 presents the frequency of the codon usages thus summed for each organism. Since the codon usage of each organism thus summed has been expressed in frequency per one thousand in this table, it is easy to compare the codon-choice patterns among different organisms. Examining Table 2, it is remarkable to note that the synonymous codon-choice patterns among the vertabrates, or at least among the mammals, are very similar, but clearly different from the pattern of a taxonomically distant organism such as yeast (S. cerevisiae) or of E. coli. It has been pointed out that the codon-choice pattern, known to be roughly common among the mammals, does not depend on the choice of genes; when approximately ten or more genes with varying functions are summed up for each mammal, they usually results in a pattern very similar to the ones given in Table 2, regardless of the genes compiled (4).

The finding that among taxonomically related organisms the codon-choice patterns resemble each other but otherwise not is consistent with the "genome hypothesis" of Grantham et al. (1,2). It should be noted, however, that the pattern characteristic for the mammals such as presented in Table 2 is obtained only after summing up over many genes with varying functions. When synonymous codon-choices in individual genes of one organism are compared with each other, they are often very different (Table 1). The diverse codon-choice patterns apparently found among genes of a higher eukaryote have been previously pointed out in connection with the evident diversity of the G+C content at the third positions of codons among the genes (4). It has been found that synonymous codon-choice patterns in different genes of an unicellular organism are usually similar with each other (dialectal codon-choice pattern found for individual

unicellular organisms; see ref. 4), although the stringency of the patterns appears to be related with the protein-production levels of individual genes (1,2,4,5). Table 1 confirms the previous finding.

For such virus, phage, plasmid and mitochondrial genomes of which all or more than three genes had been sequenced, all the available genes were combined and the normalized codon usages (expressed in frequency per one thousand) were calculated. They are presented in Table 2. Although individual genes have been separately analysed, only the normalized codon usages are presented for the viruses and phages, because it is necessary to save the page space and many of these genes are functionally not known.

REFFERENCES

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Table 1. Codon usage in individual genes (actual number of codons). Abbreviations for genes are defined in Table 3. Except mitochondrial genes, the amino acids based on the "universal genetic code" are specified using three letter abbreviations.

	APE HBA1 H	APE HBA2 H	HUM A1AC H	HUM A1AT H	HUM A1AT P	HUM A2TP I	HUM ACTA SK	HUM ACTB	HUM ACTC A4=	HUM ADA 2	HUM ADAN	HUM AFN	HUM ALB	HUM ALBA	HUM ALDB	HUM ANYA X	HUM ANYA P	HUM ANYA S	HUM AHF	HUM ANG	HUM APO2 A	HUM APOA 1	HUM APOA 2	HUM APOA 12	HUM APOA 1A	HUM APOA II	HUM APOC 1	HUM APOC 2A	HUM APOC 3	HUM APOE	HUM AS8= 1	HUM BLYH	HUM CAL	HUM CFOS	HUM CG5B	HUM CG6B	HUM CGB	HUM CHOS
ARG	CGA	0	0	1	0	0	5	1	0	0	1	1	2	3	1	2	2	5	7	1	1	0	1	0	1	1	0	0	1	1	0	2	0	0	3	1	1	1	1
	CGC	0	0	1	1	1	1	12	7	6	1	1	1	1	2	4	3	3	3	0	4	0	12	0	0	12	0	1	0	0	22	6	0	2	4	8	8	8	11
	CGG	1	1	2	0	0	1	0	4	3	7	7	1	2	0	3	3	2	1	4	4	1	1	1	1	1	1	2	0	1	10	6	0	1	1	3	3	3	9
	CGU	1	1	1	2	2	0	1	4	8	1	1	0	3	1	2	3	4	5	0	1	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0
	AGA	0	0	4	3	3	4	1	1	1	1	1	0	13	1	1	1	9	11	3	1	1	2	1	1	2	1	0	0	1	0	0	4	3	2	0	0	0	1
	AGG	1	1	9	1	1	6	3	2	0	6	6	1	5	0	2	2	3	3	3	6	0	1	0	1	1	0	1	1	1	1	5	2	2	9	0	0	0	3
LEU	CUA	1	1	1	3	3	7	0	1	1	2	2	1	4	1	3	4	1	1	2	5	2	2	1	0	2	1	0	0	0	1	0	1	0	3	0	0	0	6
	CUC	2	2	14	12	12	3	6	6	6	13	13	2	6	4	11	11	3	4	8	11	3	12	3	4	12	3	4	6	4	7	12	2	4	6	5	5	5	11
	CUG	14	14	28	27	27	8	18	20	16	16	16	9	12	6	13	12	7	5	7	45	5	22	6	4	22	6	5	5	4	31	16	2	10	20	10	10	10	16
	CUU	1	1	4	1	1	5	2	0	0	3	3	2	20	2	4	4	10	10	1	3	3	2	3	2	2	3	1	2	2	0	3	4	0	1	2	2	2	4
	UUA	0	0	5	5	5	3	0	0	1	1	1	1	10	0	1	1	4	4	2	0	0	0	0	0	0	0	0	0	0	0	2	2	0	1	0	0	0	2
	UUG	0	0	4	3	3	3	0	0	0	3	1	1	6	12	0	1	1	4	2	5	2	3	2	1	3	2	2	2	1	2	2	1	3	1	2	2	2	7
SER	UCA	0	0	5	1	1	8	0	0	0	1	1	2	6	0	2	2	2	2	0	1	1	0	1	2	0	1	2	1	2	0	1	0	0	5	1	1	1	2
	UCC	4	4	8	9	9	11	15	16	11	6	6	3	7	5	3	3	2	2	5	7	0	3	0	3	3	0	1	1	3	4	10	0	3	17	6	6	6	6
	UCG	0	0	3	1	1	0	4	1	0	2	2	1	3	0	1	1	0	0	0	1	0	0	0	0	0	0	2	0	0	1	1	0	0	5	1	1	1	6
	UCU	3	3	6	5	5	3	0	2	8	2	2	3	3	5	6	6	14	14	2	10	2	0	2	2	0	2	1	2	2	1	2	2	2	10	1	1	1	4
	AGC	3	4	10	9	9	5	4	6	5	4	4	1	3	1	5	5	5	5	9	9	4	13	4	4	13	4	1	4	4	8	9	1	8	14	4	4	5	7
	AGU	1	0	5	0	0	7	0	0	0	2	2	0	6	2	3	4	10	9	1	4	0	0	0	1	0	0	2	1	1	0	1	1	2	3	4	1	1	0	5
THR	ACA	0	0	10	5	5	6	1	2	5	3	3	2	12	2	3	3	10	11	0	7	2	1	2	0	1	2	2	5	0	3	1	0	1	5	1	1	1	2
	ACC	9	9	11	18	18	14	22	17	12	8	8	4	8	7	11	11	3	3	5	17	3	6	3	4	7	3	1	3	4	7	13	0	0	9	9	9	9	5
	ACG	0	0	1	1	1	6	3	2	0	2	2	1	2	2	1	1	1	0	0	2	1	3	1	0	2	1	0	0	0	1	1	0	3	4	0	0	0	3
	ACU	0	0	5	6	6	10	1	5	9	4	4	1	7	1	6	6	10	11	1	5	2	2	2	1	2	2	0	2	1	1	3	2	2	6	1	1	1	6
PRO	CCA	0	0	4	3	3	10	1	1	1	7	7	2	7	2	5	5	11	11	2	5	2	1	2	1	1	2	3	1	1	0	5	0	2	6	4	5	4	1
	CCC	4	3	7	11	11	5	9	12	9	6	6	2	6	3	2	2	0	1	5	11	1	7	1	1	7	1	0	2	1	4	7	1	4	15	10	10	10	10
	CCG	1	2	0	2	2	0	5	0	3	4	4	0	1	0	0	0	1	1	1	2	0	1	0	0	1	0	1	1	0	3	3	0	0	1	4	5	4	5	6
	CCU	2	2	8	3	3	7	4	6	6	4	4	1	10	3	6	6	9	8	4	7	1	1	1	1	1	1	0	1	1	1	6	0	2	10	2	3	3	7
ALA	GCA	0	0	7	4	4	10	1	2	2	3	3	2	17	2	7	6	10	9	2	7	3	1	3	1	1	3	0	2	1	1	4	1	1	7	0	2	2	4
	GCC	12	12	17	11	11	6	19	18	13	18	18	6	14	6	17	18	3	5	6	25	3	12	3	11	12	3	4	3	11	24	18	0	4	17	5	6	5	13
	GCG	7	7	1	0	0	0	5	2	2	2	2	3	2	0	1	1	0	0	2	2	0	6	0	1	6	0	0	0	1	9	2	0	1	5	0	0	0	9
	GCU	2	2	9	11	11	9	4	7	12	8	8	4	30	7	19	19	15	14	3	16	2	4	2	2	4	2	1	2	2	2	4	2	2	10	2	2	2	5
GLY	GGA	0	0	4	3	3	3	0	2	5	5	1	6	2	10	10	25	22	3	4	3	1	3	0	1	3	1	2	0	1	3	1	2	2	0	0	0	0	7
	GGC	4	5	5	11	11	8	20	23	15	10	10	2	3	5	5	5	9	9	3	15	1	9	1	2	9	1	1	2	2	13	17	0	4	13	5	5	5	8
	GGG	0	0	7	8	8	5	4	3	3	4	8	1	1	3	7	7	8	7	4	5	0	1	0	0	1	0	1	1	0	3	7	0	1	6	5	5	5	9
	GGU	3	2	1	2	2	4	4	2	8	1	1	2	3	1	7	7	10	12	2	4	0	0	0	1	0	0	0	0	1	1	4	3	1	0	1	1	1	3
VAL	GUA	0	0	2	0	1	5	0	0	2	5	4	0	8	3	6	5	6	6	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	GUC	3	3	11	11	11	2	6	8	10	6	6	0	7	4	2	2	6	6	2	10	1	1	1	1	1	1	3	2	1	2	11	0	0	1	8	3	3	3	5
	GUG	9	9	12	14	14	15	15	13	6	14	15	6	17	6	7	7	8	9	5	24	4	14	4	4	14	4	3	2	4	21	18	1	2	8	9	9	9	14
	GUU	1	1	0	2	2	3	0	1	3	0	0	1	11	1	8	8	16	16	0	3	3	0	3	3	0	3	1	1	3	1	1	0	2	2	0	0	0	2
LYS	AAA	1	1	8	12	12	17	5	3	3	11	10	9	41	4	4	4	12	13	1	4	0	3	0	1	3	0	3	2	1	1	11	4	1	3	0	0	0	4
	AAG	10	10	19	22	22	16	14	16	16	12	14	6	20	4	20	20	10	10	3	17	10	19	10	5	19	10	6	4	5	12	22	2	5	11	4	4	4	10
ASN	AAC	4	4	9	9	9	13	10	7	5	12	11	6	7	1	13	16	16	16	2	12	1	5	1	0	5	1	1	1	0	0	13	1	2	5	3	3	3	7
	AAU	0	0	8	10	10	10	2	2	7	2	2	6	10	2	4	4	25	24	4	3	0	0	0	0	0	0	0	0	0	1	3	0	2	3	1	1	1	1
GLN	CAA	0	0	4	4	4	9	0	1	3	0	0	2	10	0	3	3	9	6	1	8	0	5	0	0	4	0	0	3	0	2	5	1	3	2	2	2	2	4
	CAG	1	1	14	14	14	13	11	11	8	15	15	8	10	0	19	19	6	5	4	22	7	14	7	6	15	7	3	5	6	30	12	2	6	7	4	4	4	10
HIS	CAC	10	10	5	9	9	3	9	8	6	8	8	5	5	0	5	5	2	2	0	13	0	2	0	1	2	0	0	0	1	2	5	0	1	5	1	1	1	8
	CAU	0	0	4	4	4	2	0	1	3	3	3	5	11	5	4	4	9	8	1	1	0	4	0	0	4	0	0	0	0	0	4	0	3	0	0	0	0	0
GLU	GAA	0	0	4	13	12	15	3	2	7	9	9	1	6	37	5	12	12	13	16	6	4	4	4	4	0	4	4	3	1	0	6	10	1	1	9	0	0	0	2
	GAG	4	4	22	19	19	17	25	24	21	21	21	10	24	8	11	11	7	5	3	18	6	26	6	5	26	6	5	7	5	34	25	0	8	22	5	5	5	13
ASP	GAC	8	8	19	11	11	10	18	18	13	17	17	9	11	3	8	8	9	9	4	19	2	11	2	3	11	2	3	2	3	8	10	2	7	14	5	4	5	9
	GAU	0	0	7	13	13	10	4	5	9	4	4	4	25	2	5	5	25	26	4	6	0	5	0	4	5	0	1	2	4	3	6	0	1	6	2	2	2	5
TYR	UAC	2	2	7	5	5	9	14	12	10	10	10	8	6	4	6	6	11	9	2	2	2	2	2	2	6	2	0	5	2	4	12	2	1	6	3	3	3	8
	UAU	1	1	2	1	1	6	2	3	6	6	6	1	13	1	5	5	8	10	0	6	2	1	2	0	1	2	0	0	0	0	7	0	1	1	0	0	0	3
CYS	UGC	1	1	4	2	2	10	5	4	3	4	4	0	20	1	6	6	3	4	1	4	1	0	1	0	0	1	0	0	0	2	4	0	2	6	8	8	8	8
	UGU	0	0	0	1	1	9	1	2	3	1	1	3	15	1	3	3	9	8	1	1	1	0	1	0	0	1	0	0	0	0	1	1	0	2	4	4	4	2
PHE	UUC	7	7	18	19	19	10	11	12	8	6	6	3	10	3	6	6	14	12	6	17	3	7	3	4	7	3	1	1	4	3	10	1	6	15	3	3	3	6
	UUU	0	0	7	8	8	9	1	1	4	4	4	4	25	3	4	4	16	17	0	5	1	1	1	0	1	1	3	3	0	1	4	1	1	1	1	0	0	3
ILE	AUA	0	0	3	1	1	5	0	0	0	1	1	1	1	2	0	0	2	2	0	3	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2
	AUC	0	0	14	15	15	5	28	24	18	12	12	5	4	2	13	13	2	4	0	7	2	0	2	0	0	2	3	0	0	1	18	0	1	5	5	5	5	8
	AUU	0	0	4	4	4	14	2	4	12	4	4	1	4	1	6	6	26	23	1	4	0	0	0	0	0	0	1	1	0	0	8	2	1	3	0	0	0	4
MET	AUG	3	3	14	10	10	4	17	17	16	9	9	6	7	2	7	7	10	12	5	12	2	4	2	3	4	2	2	3	3	8	9	2	5	10	4	4	4	3
TRP	UGG	1	1	4	3	3	3	3	4	4	4	4	2	2	2	3	3	19	20	2	7	0	5	0	3	5	0	1	1	3	8	4	1	0	2	1	1	1	5
TER	UAA	1	1	1	1	1	0	0	0	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	UAG	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	UGA	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	1	1	1	1	1	1	1	0	1	1	0	0	0	0	1	0	0	1	0	0	0	1
	TOTAL	143	143	434	419	419	428	378	376	378	364	364	191	610	148	365	365	513	513	152	486	101	268	101	100	268	101	84	102	100	318	413	59	142	381	166	166	166	347

		NUM CRF	NUM CS1	NUM EGFG	NUM EHK2	NUM EHKB	NUM FBRG	NUM FII	NUM FIXA	NUM FIXG	NUM FOLN	NUM FOL5	NUM FVII	NUM FVII	NUM GAST	NUM GF12	NUM GG	NUM GH	NUM GHV	NUM GLYC	NUM GRP5	NUM HBA1	NUM HBA6	NUM HBA4	NUM HBB2	NUM HBB3	NUM HBB3	NUM HBB5	NUM HBB5	NUM HPA1	NUM HPA2	NUM HPR1	NUM IFNA	NUM IFNA	NUM IFNA	NUM IFNA	NUM IFNA	NUM IFNA	NUM IFNA
					=	4=					ES	=	I	1B						A4=	E		#1	#2		#1	#2	#1	#2	B	B		20	A	B	C	D	F	GS
ARG	CGA	0	0	8	2	0	1	6	6	6	1	1	12	12	2	0	2	0	0	0	1	0	0	0	0	0	0	0	1	1	2	1	0	1	1	1	0	0
	CGC	7	5	14	4	6	1	1	1	1	0	0	10	10	3	7	2	4	6	0	2	4	0	0	0	0	0	1	0	2	4	1	0	0	0	0	0	0	0
	CGG	6	3	10	4	4	2	3	3	3	0	0	6	6	0	2	0	2	2	0	1	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
	CGU	0	0	5	1	1	0	1	1	1	0	0	8	8	0	6	3	1	1	0	1	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1
	AGA	1	0	8	8	1	6	7	8	8	5	5	37	37	0	1	3	0	0	2	4	0	0	0	2	1	1	1	0	1	1	3	6	6	6	6	6	6	6
	AGG	5	4	15	2	4	1	1	1	1	2	2	31	31	2	4	6	4	5	2	3	2	1	1	0	2	2	2	3	1	1	5	3	4	3	6	5	4	5
LEU	CUA	0	3	2	3	0	2	2	2	2	3	3	25	25	2	1	0	4	2	2	2	1	1	1	0	0	0	1	0	2	2	1	3	1	3	2	1	1	2
	CUC	14	10	30	5	11	5	5	5	5	4	4	30	30	1	6	1	9	10	1	4	3	2	2	4	3	3	2	3	7	7	3	4	8	4	7	9	5	5
	CUG	13	16	46	16	16	8	3	3	3	3	3	49	49	7	9	3	16	19	2	10	12	14	14	11	12	12	13	15	12	13	5	11	10	11	10	10	11	10
	CUU	2	2	8	4	2	4	9	9	9	4	4	39	39	0	2	4	2	2	1	0	0	1	1	0	0	0	0	0	3	4	4	2	1	2	3	0	2	2
	UUA	1	1	7	1	0	8	6	6	6	4	4	33	33	1	0	1	1	1	0	1	0	0	0	0	0	0	1	0	3	4	2	2	2	2	2	3	3	2
	UUG	3	0	18	2	4	5	3	3	3	1	1	46	46	0	1	3	0	0	2	2	1	0	0	1	2	2	1	0	1	1	6	5	5	5	4	2	3	
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LYS	AAA	2	1	30	12	5	18	12	12	12	8	8	95	95	0	1	5	0	3	4	4	0	1	1	1	2	2	1	3	9	11	8	4	4	4	5	4	5	6
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ASN	AAC	4	6	43	2	3	8	17	17	17	3	3	43	43	2	1	5	7	8	4	6	1	4	4	6	3	3	5	5	6	7	0	3	2	3	2	4	2	1
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ILE	AUA	0	0	14	0	0	6	1	1	1	1	1	29	29	0	0	1	0	0	1	1	0	0	0	0	1	1	0	0	4	5	3	2	1	2	3	0	2	2
	AUC	1	5	38	2	2	8	7	7	7	3	3	28	28	1	2	1	6	6	1	1	6	0	0	1	3	3	0	0	7	7	2	8	6	8	8	7	7	7
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MET	AUG	4	7	29	12	5	9	6	6	6	7	7	61	61	2	4	5	3	4	4	3	2	3	3	4	3	3	2	2	5	7	6	6	6	6	8	7	7	
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	UGA	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0	1	1	0	0	0	0	1	1	1	0	0	0	0	1	1	1	
TOTAL		197	218	1211	268	255	436	463	462	462	188	188	2352	2352	102	181	180	193	218	117	149	143	143	143	148	148	148	148	148	348	407	219	190	189	190	190	190	190	190

		NUM IFNA N	NUM IFNA M2	NUM IFNA J	NUM IFNA VA	NUM IFNB 1F	NUM IFNG	NUM IGHA E2=	NUM IL2	NUM INS1	NUM LACT AL	NUM LDLR	NUM LNB	NUM MET2	NUM METI A	NUM MG3=	NUM MN	NUM NHA3	NUM NHCV 3	NUM NHDC 1A	NUM NHDC 3B	NUM NHDC AM	NUM NHDC B	NUM NHDR A	NUM NHDR AM	NUM NHDR C	NUM NHDR HA	NUM NHDR S2=	NUM NHDS A	NUM NHDX A4=	NUM NHGM	NUM NYCC	NUM NYCN T	NUM NYCR	NUM NPY	NUM OPS	NUM OTC	NUM P33	NUM PAT
ARG	CGA	0	0	0	0	1	4	4	0	1	0	1	0	0	0	0	2	2	1	0	2	1	2	2	2	3	2	2	1	1	0	4	4	4	3	0	5	0	3
	CGC	0	0	0	0	0	1	7	0	2	0	8	5	0	0	0	7	9	7	1	3	1	3	4	4	1	4	4	1	0	5	5	5	5	0	4	0	5	7
	CGG	0	0	0	0	0	0	5	0	1	0	11	2	0	0	0	1	9	6	7	1	8	0	8	1	1	9	1	1	0	0	2	5	5	5	1	2	2	2	7
	CGU	0	0	0	0	0	0	3	0	1	0	1	2	0	0	0	2	0	1	1	2	1	2	0	0	1	0	0	1	1	0	1	1	1	0	0	2	0	2
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LEU	CUA	1	1	3	2	2	0	1	5	1	0	5	0	0	0	0	1	1	2	1	0	2	0	1	1	1	1	1	2	1	0	2	2	2	1	2	5	0	1
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	CUU	2	2	3	2	4	4	1	3	0	2	7	1	0	0	1	1	1	1	1	3	4	3	4	4	4	3	4	4	3	2	3	3	3	3	1	0	5	3	2
	UUA	2	2	2	2	0	1	3	5	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5	0	1
	UUG	3	3	2	2	4	4	6	1	1	4	9	2	0	0	1	3	1	1	4	4	5	5	2	3	3	4	2	6	4	1	7	7	8	1	2	12	1	5
SER	UCA	3	3	2	2	1	1	4	2	1	1	5	1	0	1	1	2	2	1	1	3	0	3	1	4	4	0	4	4	3	3	1	4	4	4	1	1	5	1	7
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	UCG	0	0	0	0	0	2	7	0	0	0	5	0	1	0	2	0	2	1	0	2	0	0	0	0	0	0	0	0	0	0	9	9	10	1	1	0	0	7
	UCU	6	6	7	6	1	1	7	3	0	0	10	1	0	0	1	7	6	7	7	4	8	4	0	0	5	0	0	8	6	2	8	8	8	0	3	5	2	4
	AGC	5	5	5	4	5	3	15	3	2	3	23	3	2	3	2	6	5	6	4	8	3	5	5	5	10	5	5	3	4	6	22	21	19	2	6	5	6	18
	AGU	0	0	0	0	2	4	6	2	0	2	6	0	0	0	0	2	3	3	2	2	4	2	1	1	4	1	1	2	4	0	2	2	1	0	0	3	0	5
THR	ACA	2	3	3	3	3	2	7	0	1	2	10	0	0	0	0	3	5	3	3	5	5	6	4	4	4	6	4	4	5	4	3	5	5	5	2	3	10	3	6
	ACC	3	3	2	2	4	1	1	44	3	2	2	28	7	2	1	2	17	16	13	8	9	7	10	4	4	5	4	4	10	8	8	9	9	9	2	15	6	8	8
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PRO	CCA	0	0	0	0	0	2	4	0	1	0	3	1	0	0	2	2	0	2	2	3	1	2	5	5	4	5	5	1	1	3	1	0	1	2	5	6	3	4
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ALA	GCA	3	3	3	2	1	5	8	4	3	0	2	2	0	1	3	4	2	3	2	2	1	2	4	4	4	4	2	1	0	3	3	3	2	3	11	0	6	
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GLY	GGA	0	0	2	3	2	1	2	2	1	3	5	1	0	0	0	4	5	8	3	3	3	3	6	6	7	6	6	2	3	2	5	5	5	2	3	8	2	9
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LYS	AAA	5	5	5	5	4	13	5	5	0	4	10	1	5	4	0	1	2	2	5	4	4	2	4	4	1	4	4	4	5	2	12	12	12	1	0	15	2	7
	AAG	6	6	4	5	8	8	16	6	2	8	26	1	3	4	20	10	9	10	5	4	6	5	7	7	7	7	7	6	4	12	13	13	14	2	11	11	12	15
ASN	AAC	4	4	3	2	9	3	13	4	3	2	33	1	1	2	3	6	3	5	9	6	9	8	6	6	5	6	6	9	6	6	16	16	16	3	13	5	6	17
	AAU	5	5	4	4	4	7	3	6	0	2	8	1	0	0	0	0	1	1	2	2	2	1	5	5	4	5	5	2	3	3	2	2	5	1	3	11	3	5
GLN	CAA	6	6	5	5	4	4	3	4	2	2	5	1	0	0	0	0	0	1	2	1	3	0	2	2	1	2	2	2	1	2	4	4	8	0	0	7	2	3
	CAG	7	7	9	8	8	6	22	3	5	5	29	3	1	1	7	20	22	19	7	11	4	12	2	2	14	2	2	3	6	12	20	20	16	1	12	9	12	24
HIS	CAC	1	1	1	1	2	0	13	1	2	1	17	3	0	0	3	5	4	8	5	7	5	7	4	4	6	4	4	6	6	4	7	7	7	1	3	5	4	10
	CAU	2	2	1	2	3	2	1	2	0	1	2	0	0	0	6	4	5	3	2	1	3	1	2	2	3	2	2	3	3	2	2	2	2	0	2	4	2	7
GLU	GAA	7	7	6	4	5	3	6	2	9	3	5	15	0	0	0	3	2	0	2	3	3	3	3	9	9	5	9	9	3	4	2	10	10	11	3	2	12	2	8
	GAG	8	8	9	7	8	3	19	3	5	3	33	5	1	2	11	25	23	25	13	14	12	15	14	14	14	14	14	14	14	10	27	27	25	4	14	8	10	19
ASP	GAC	4	4	4	4	3	6	25	1	2	7	51	4	2	1	7	14	18	14	7	8	7	7	7	7	6	7	7	7	8	8	22	22	23	5	3	5	8	15
	GAU	3	3	3	6	2	4	3	2	0	5	24	1	1	0	1	6	5	5	2	3	2	5	5	1	5	5	4	3	2	5	5	5	5	0	1	12	2	14
TYR	UAC	3	3	4	4	6	2	10	3	4	1	13	2	0	0	2	11	11	10	6	5	5	7	1	1	7	1	1	4	3	3	4	9	9	9	4	17	4	4	22
	UAU	1	1	1	2	4	5	7	1	0	3	4	0	0	0	0	4	3	4	1	2	2	3	3	3	2	3	3	2	3	1	3	3	3	1	2	7	1	2	
CYS	UGC	3	3	1	1	2	2	12	1	1	5	2	49	7	18	17	1	4	4	6	1	4	2	4	1	1	3	1	1	1	2	1	8	8	5	1	8	1	1	28
	UGU	3	3	4	4	2	1	3	3	1	6	14	5	2	3	0	0	1	2	4	0	3	0	2	2	2	2	2	3	2	1	2	2	4	0	2	3	0	10
PHE	UUC	8	7	5	10	6	4	16	1	2	6	21	3	0	0	4	8	8	6	7	8	5	7	10	10	15	10	10	7	8	2	11	11	11	0	25	5	2	11
	UUU	5	5	5	4	4	7	6	5	1	2	5	0	0	0	3	0	0	0	6	2	6	2	8	8	2	8	8	5	7	3	2	2	2	0	5	11	3	7
ILE	AUA	1	1	3	1	2	2	1	1	0	3	1	0	0	1	0	0	2	0	0	0	0	3	3	0	3	3	0	1	1	0	0	0	0	0	0	2	1	4
	AUC	5	5	7	7	4	5	15	4	1	8	30	5	1	0	7	9	10	11	7	11	9	9	12	12	2	12	12	9	7	2	12	12	13	2	22	8	2	12
	AUU	1	1	0	2	6	2	1	5	1	3	5	0	0	0	1	0	1	0	6	2	4	3	3	3	1	3	3	5	4	0	1	1	1	1	2	5	0	4
MET	AUG	12	12	7	7	5	5	9	6	2	3	11	5	1	2	4	9	7	5	6	7	4	7	5	5	4	5	5	4	7	14	4	4	4	4	15	12	14	7
TRP	UGG	2	2	2	2	3	1	17	1	2	3	20	2	0	0	2	11	11	11	5	5	4	5	5	5	4	5	5	4	4	3	2	2	2	1	5	4	3	13
TER	UAA	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	1	1	1	0	1	0	0	0
	UAG	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	UGA	1	1	1	1	1	0	1	1	0	1	1	0	1	1	0	1	1	1	1	1	1	1	0	0	1	0	0	1	1	1	0	0	0	1	0	1	1	1
TOTAL		190	190	190	190	188	167	575	154	111	143	861	142	62	62	155	360	363	367	256	262	255	262	255	255	267	255	255	255	256	217	440	440	441	98	349	355	217	563

		HUM PGK	HUM PLA	HUM PLB	HUM PNU	HUM PONC	HUM PPP	HUM PRL	HUM PS2	HUM PTH2	HUM RASH	HUM RASK 25=	HUM RASH 04=	HUM RBP	HUM RELH 2	HUM REN1 0=	HUM REN2 9=	HUM SISA 6=	HUM SONI	HUM TBBS	HUM TBBM 40	HUM TCBX A	HUM TK	HUM TUBA K	HUM IRS	HUM METI	HUM METI 1	GPI CASA	GPI IKS	GPI LACT AL	HAM DHR3 5	HAM DHR9 7	HAM GG	HAM HHOC 0A	HAM HPRT	HAM METI	HAM METI I	HAM PRP	HAM VIM7 =
ARG	CGA	2	0	0	4	2	0	4	0	1	1	2	3	1	3	3	4	1	0	3	1	1	2	1	0	0	0	2	2	2	1	5	2	0	0	1	2
	CGC	1	5	5	0	12	1	3	0	0	2	0	1	3	4	4	4	11	2	12	8	4	3	9	3	0	0	0	0	1	0	0	0	4	3	1	0	0	3	17
	CGG	4	3	3	2	4	0	3	0	0	2	0	0	2	0	2	2	7	0	7	3	1	4	1	1	0	0	0	2	0	1	1	1	8	1	0	0	0	2	8
	CGU	0	0	0	4	1	1	1	2	1	1	0	0	1	0	2	2	2	1	1	6	0	1	6	0	0	0	0	1	2	0	0	0	9	0	0	0	0	2	5
	AGA	2	0	0	1	1	2	0	1	3	0	0	4	2	6	3	2	2	2	1	1	5	1	3	0	0	0	0	4	0	0	4	3	13	4	0	0	0	1	5
	AGG	2	4	4	6	2	3	1	0	1	1	3	3	3	1	5	6	1	1	1	2	4	3	8	0	0	0	0	0	0	1	3	3	5	5	4	0	0	2	6
LEU	CUA	3	3	3	2	0	1	3	0	1	0	1	2	0	3	1	1	0	0	0	1	1	0	0	1	0	0	0	2	3	0	0	0	0	5	1	0	0	0	3
	CUC	7	10	10	5	3	5	5	1	0	2	2	3	4	2	14	14	4	2	5	15	5	5	6	4	0	0	5	3	4	6	6	3	8	3	0	0	4	14
	CUG	15	16	16	11	13	10	17	4	4	10	0	5	8	6	15	15	15	13	26	11	14	12	16	13	0	0	2	9	10	2	2	4	24	8	0	0	3	29
	CUU	5	2	2	4	1	0	5	0	4	0	2	0	2	3	2	2	2	1	1	3	3	0	6	0	0	0	3	0	6	4	5	2	30	3	0	0	1	7
	UUA	1	1	1	3	0	2	0	0	1	0	1	0	0	8	1	1	0	0	0	0	1	0	0	0	0	0	0	1	0	3	3	0	12	2	0	0	0	0
	UUG	7	0	0	1	2	0	2	0	2	2	5	4	4	3	4	4	2	1	1	2	2	1	4	1	0	0	2	2	3	2	2	1	14	4	0	0	0	3
SER	UCA	1	3	1	1	1	0	3	0	0	0	2	2	1	3	4	4	0	1	1	4	0	2	2	0	0	0	0	1	1	1	1	2	7	2	0	0	0	5
	UCC	4	0	0	1	4	3	7	2	2	2	1	0	4	3	15	14	6	5	4	2	7	2	10	3	5	3	9	1	2	4	4	6	13	2	7	5	5	11
	UCG	2	2	4	0	4	1	2	0	2	2	2	0	1	1	0	3	3	1	1	3	1	1	0	0	0	1	1	0	0	0	0	0	3	0	1	1	0	5
	UCU	7	2	2	3	0	0	3	0	2	2	2	1	1	4	4	4	2	2	4	7	1	0	5	0	0	2	7	0	3	0	0	1	16	1	0	1	0	11
	AGC	9	4	4	3	14	1	6	0	1	3	1	3	4	4	8	8	4	0	11	9	7	8	3	2	1	1	5	2	2	0	0	4	17	4	2	2	4	10
	AGU	1	1	1	6	0	0	0	0	2	2	3	3	0	4	3	3	1	0	3	2	2	0	2	0	0	0	4	0	2	0	3	2	15	4	1	0	2	2
THR	ACA	1	3	3	3	0	1	0	2	1	0	7	7	3	2	9	9	1	1	3	0	5	3	6	1	0	0	4	3	1	1	1	2	18	2	0	1	2	2
	ACC	4	6	6	5	3	2	6	4	0	6	1	4	5	4	19	19	8	1	16	19	13	5	16	2	2	2	4	2	2	3	4	7	15	2	4	2	10	17
	ACG	2	3	3	0	3	1	1	2	0	3	1	0	1	0	3	3	7	1	12	0	0	1	2	0	0	0	1	0	1	1	1	2	7	0	1	0	1	1
	ACU	10	1	1	7	2	0	1	0	1	2	4	2	0	1	4	4	1	1	0	4	2	2	6	0	1	0	6	2	3	2	1	1	11	7	0	0	2	4
PRO	CCA	7	1	2	5	1	5	2	1	0	0	1	3	1	5	2	2	1	0	1	4	3	5	3	0	0	0	0	1	3	0	0	3	16	3	1	0	4	0
	CCC	2	3	3	4	10	1	4	3	2	4	0	1	3	0	11	11	8	4	14	6	10	4	10	3	2	1	5	3	3	1	1	0	7	2	1	1	6	6
	CCG	0	2	2	0	7	2	1	0	0	0	0	0	0	0	2	2	3	1	4	1	2	3	1	2	0	0	3	0	0	1	1	0	0	0	0	1	1	0
	CCU	8	0	0	6	4	1	3	3	2	2	4	1	1	5	3	3	2	1	1	9	1	3	6	3	0	1	1	0	6	3	3	1	18	2	0	0	7	2
ALA	GCA	2	2	1	10	2	2	0	1	3	1	4	2	2	5	2	2	4	2	4	5	3	2	2	2	0	0	2	3	2	1	1	1	28	2	1	0	1	4
	GCC	14	3	5	7	15	4	7	6	1	7	2	5	9	2	13	13	8	4	21	17	12	17	19	4	5	5	3	3	6	4	4	3	21	5	2	1	4	15
	GCG	0	1	1	0	2	0	0	0	0	1	0	1	1	6	2	1	1	1	5	0	1	2	0	2	1	1	0	0	1	0	0	1	5	1	0	1	2	3
	GCU	23	4	4	5	0	5	5	0	6	2	3	2	2	4	1	1	3	0	1	7	6	4	15	1	0	0	7	1	2	1	1	6	18	1	0	3	2	8
GLY	GGA	8	0	0	8	2	1	2	0	3	1	4	4	1	1	11	11	5	0	4	2	3	3	7	1	0	0	0	1	2	3	3	3	15	6	0	1	8	2
	GGC	11	4	5	8	23	0	3	2	0	8	4	2	8	3	14	14	3	3	21	20	4	5	15	7	2	3	1	6	2	7	7	5	14	3	4	2	15	9
	GGG	9	3	3	5	3	3	3	1	1	3	1	3	1	0	7	7	3	1	8	5	7	9	5	4	1	1	0	2	0	0	0	1	15	4	1	1	7	0
	GGU	12	2	1	6	2	1	1	2	1	1	2	5	1	1	8	8	2	0	2	8	2	0	9	0	1	1	0	1	1	1	1	2	17	2	0	0	13	3
VAL	GUA	5	1	0	2	0	0	2	0	2	0	6	5	3	2	2	2	0	0	2	3	2	1	5	0	0	0	4	0	1	0	0	0	9	1	0	0	0	1
	GUC	14	2	2	3	2	1	6	4	2	1	1	0	5	2	8	8	3	2	7	14	9	3	5	0	2	1	3	1	1	3	5	1	12	6	1	1	2	4
	GUG	12	3	4	10	6	2	3	3	3	15	5	7	6	2	12	12	13	0	24	13	13	14	12	6	1	1	3	5	3	6	4	4	32	6	1	1	10	16
	GUU	8	1	1	6	0	0	1	1	1	4	0	2	5	0	4	2	2	0	0	1	3	2	0	12	0	0	0	2	0	2	5	1	17	8	0	0	1	3
LYS	AAA	16	1	1	5	1	2	8	0	10	1	11	7	1	0	5	5	2	1	1	3	2	3	6	0	5	4	8	0	6	10	10	6	14	10	2	5	1	6
	AAG	26	6	8	7	18	0	4	2	5	10	5	5	10	3	14	14	12	5	13	11	10	13	13	2	3	4	14	2	5	8	8	5	26	7	5	5	10	16
ASN	AAC	18	6	6	8	6	1	8	1	2	5	0	4	7	2	8	8	6	3	17	14	8	7	10	3	2	2	4	3	3	4	4	7	19	1	1	1	13	16
	AAU	11	1	1	3	1	1	4	3	3	8	4	2	2	4	4	4	1	2	4	7	4	0	6	9	0	0	5	1	4	4	5	1	17	7	0	0	2	9
GLN	CAA	1	5	5	4	0	0	5	0	0	4	4	0	5	4	4	2	0	2	1	4	1	0	0	0	0	0	7	0	3	4	4	4	8	1	0	0	3	4
	CAG	5	8	8	9	8	4	5	3	4	11	6	6	8	6	9	9	7	8	20	20	10	10	16	7	1	1	10	9	4	4	4	6	23	1	1	1	13	30
HIS	CAC	3	4	4	4	4	1	4	0	1	2	2	2	1	5	5	6	0	0	8	7	5	1	11	2	0	0	3	1	3	0	0	2	4	2	0	0	4	2
	CAU	2	3	3	4	0	1	5	0	3	1	2	0	0	3	1	1	1	0	2	3	2	1	2	0	0	0	1	2	3	2	2	3	10	3	0	0	5	4
GLU	GAA	10	5	5	12	3	0	8	3	4	3	9	8	2	10	6	8	2	6	2	9	3	2	13	2	0	0	9	1	2	11	11	7	35	5	0	0	1	21
	GAG	17	9	9	6	22	5	10	5	3	11	6	4	8	3	11	10	17	4	34	27	15	12	23	6	2	1	9	5	4	7	7	7	28	4	0	2	6	34
ASP	GAC	13	13	14	6	12	3	5	2	3	9	6	3	15	2	12	12	7	1	22	15	8	7	15	2	2	2	7	2	11	4	5	10	18	9	3	2	4	19
	GAU	10	2	1	7	3	1	3	0	4	6	8	13	3	4	8	7	3	3	2	12	6	1	13	0	0	1	5	3	7	4	2	6	16	12	0	1	3	10
TYR	UAC	2	4	4	4	6	2	2	0	0	2	4	0	7	2	11	11	1	1	14	11	7	4	13	4	0	0	3	1	5	3	3	4	13	5	0	0	10	8
	UAU	2	4	4	5	0	2	3	1	0	1	5	1	1	0	6	6	1	0	1	5	3	2	6	0	0	0	5	2	1	3	3	0	6	6	0	0	2	5
CYS	UGC	3	4	4	0	6	2	6	3	0	3	1	0	5	4	3	3	9	3	7	4	4	10	9	6	15	18	2	4	3	1	1	9	12	0	17	18	1	1
	UGU	4	1	1	4	1	0	1	5	1	3	4	5	1	3	4	4	2	2	1	5	6	1	3	0	5	2	1	2	6	0	0	1	15	4	3	2	2	0
PHE	UUC	4	0	0	7	9	1	3	2	0	2	0	2	7	2	13	13	4	4	20	16	14	8	12	2	0	0	4	2	5	5	5	6	17	2	0	0	3	6
	UUU	10	4	4	8	0	0	2	2	2	3	6	4	3	7	9	9	2	1	4	7	3	3	8	1	0	0	6	1	4	5	4	5	16	7	0	0	3	4
ILE	AUA	4	0	0	1	0	0	3	0	2	1	4	4	0	1	1	1	1	0	0	0	1	1	0	0	0	0	1	1	2	2	1	1	12	2	0	0	1	0
	AUC	7	5	5	9	3	1	9	2	0	9	2	3	3	1	17	17	5	1	15	16	7	5	16	2	0	1	5	0	6	4	4	2	20	1	0	0	5	5
	AUU	8	2	2	2	0	0	2	0	2	1	9	4	1	5	6	6	4	0	0	2	2	6	11	0	0	0	8	1	4	5	5	7	24	13	0	0	1	10
MET	AUG	14	7	7	11	7	3	6	3	6	5	5	7	5	6	13	13	4	3	19	17	8	7	10	2	1	1	7	4	4	8	6	3	33	7	1	1	11	11
TRP	UGG	4	2	2	3	6	1	3	1	1	0	0	0	0	7	2	7	7	2	1	4	4	7	0	4	2	3	0	3	3	3	4	7	0	0	0	0	1	0
TER	UAA	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	1	1	1	0	1	1	0	0	1
	UAG	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	UGA	0	0	0	1	1	0	0	0	1	1	0	0	0	0	1	1	1	0	0	0	1	1	0	0	0	1	1	0	0	0	0	1	0	0	0	1	1	0
TOTAL		618	218	218	290	560	86	288	85	116	190	190	190	200	186	487	484	242	117	445	445	313	235	492	111	62	62	294	111	179	186	188	181	868	219	62	62	241	466

		NUS ACHR 0	NUS AFP	NUS AMY1 M	NUS AMY2 M	NUS CA11 M	NUS CMYC 2≠	NUS CRYB 2≠	NUS CRYG 1	NUS CRYG 2	NUS CRYG 42≠	NUS CYP1 45	NUS CYP3 45	NUS CYP3 4A	NUS EGF	NUS EGFB PB	NUS FOL6 ≠	NUS FOS	NUS HBA	NUS HBBH 0	NUS HBBH 1	NUS HBBH AJ	NUS HBBH IN	NUS HBBY 2E	NUS HIST 4	NUS HPRT 1N	NUS IFNA 2N	NUS IFNB	NUS IFNG	NUS IGHA K3≠	NUS IGKA E	NUS IGKA F3≠	NUS IGLA A2≠	NUS IGLA C2≠	NUS IL2T	NUS IL3	NUS INT1	NUS KTEP I
ARG	CGA	1	1	4	2	0	4	3	1	1	1	2	2	2	15	1	3	3	0	0	0	0	0	0	2	0	1	2	1	0	0	2	1	1	0	1	12	4
	CGC	11	1	2	2	0	6	2	7	9	10	5	8	7	3	2	0	2	0	0	0	0	0	0	10	1	0	0	0	2	1	0	0	1	1	0	0	22	12
	CGG	6	0	1	0	1	2	1	1	2	2	10	7	8	15	1	0	4	0	0	1	1	1	0	1	0	0	0	1	1	3	1	1	0	0	1	3	6	6
	CGU	2	1	4	6	3	2	3	1	1	3	2	1	1	5	0	0	0	2	0	0	0	0	0	2	0	0	0	0	1	0	0	1	1	0	0	2	0	1
	AGA	2	7	12	15	2	0	1	4	2	2	6	1	2	18	1	5	5	0	1	2	0	0	1	1	4	7	5	4	1	11	2	2	2	3	2	5	0	4
	AGG	4	9	5	6	1	13	1	5	6	4	5	6	5	21	0	3	5	1	2	1	2	2	3	0	4	6	7	6	3	1	3	3	1	0	4	1	0	6
LEU	CUA	5	9	0	0	2	1	0	1	0	0	1	3	3	12	3	1	1	0	0	0	1	2	2	1	1	2	2	1	1	2	1	1	3	4	3	1	3	5
	CUC	19	9	5	4	3	9	2	6	4	5	11	6	6	19	8	6	3	3	5	5	4	4	4	3	3	8	9	12	7	10	3	5	7	9	5	6	7	7
	CUG	29	21	7	8	7	17	2	4	5	5	29	27	28	42	11	1	20	11	8	8	9	11	6	3	7	17	15	6	4	11	2	5	7	5	7	11	25	26
	CUU	7	6	7	9	5	3	3	0	0	2	6	5	5	18	3	4	4	1	2	2	1	0	2	0	3	0	1	3	0	5	1	2	1	1	4	4	2	7
	UBA	0	9	3	3	0	2	0	0	0	0	2	3	3	6	1	2	0	0	0	0	0	0	0	1	0	0	0	0	0	2	3	2	1	1	0	1	0	1
	UUG	1	10	6	5	6	5	2	1	0	1	8	5	5	12	2	4	6	2	3	4	2	0	5	1	6	1	3	2	5	3	3	5	1	1	6	1	2	5
SER	UCA	5	8	5	7	2	4	2	0	0	0	6	5	4	25	3	1	5	0	0	0	0	0	0	2	3	5	1	2	7	1	4	6	6	4	1	0	5
	UCC	12	14	5	5	8	24	7	3	4	6	5	7	7	24	4	2	23	1	2	2	2	1	3	1	2	3	2	4	1	14	3	3	6	6	2	3	14	21
	UCG	2	3	0	0	0	7	0	0	0	0	3	3	3	11	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	3	2
	UCU	6	11	9	6	6	7	3	5	4	3	8	3	3	16	2	3	10	5	4	3	3	4	3	1	1	4	3	0	2	10	8	8	4	5	2	8	3	8
	AGC	8	14	7	5	4	19	4	2	3	5	13	13	13	32	7	0	13	7	1	1	3	2	1	0	5	2	2	3	7	15	2	10	7	3	10	5	7	36
	AGU	6	4	6	6	1	2	0	2	3	1	3	4	5	12	0	5	3	1	1	1	1	1	3	0	4	1	1	1	5	11	5	6	4	6	0	1	7	6
THR	ACA	8	6	6	10	3	3	0	0	2	0	11	9	10	24	10	2	6	0	4	3	0	0	1	0	1	2	1	3	2	14	1	2	9	9	6	2	4	3
	ACC	13	11	2	3	3	14	4	3	2	3	10	12	11	10	2	3	9	7	1	2	3	3	2	7	2	4	4	3	1	15	1	10	8	8	1	7	5	10
	ACG	1	6	0	0	1	3	0	1	0	0	2	3	3	8	1	1	3	0	0	0	0	0	0	1	0	0	3	0	3	0	2	1	0	0	1	13	0	
	ACU	2	7	7	8	4	1	1	0	0	0	11	6	6	15	2	0	7	0	3	3	3	3	3	0	7	2	3	4	1	12	2	5	12	12	5	1	2	6
PRO	CCA	8	6	10	9	2	6	3	0	0	1	9	11	11	27	4	7	9	0	1	2	0	0	2	0	3	1	1	0	1	17	6	7	5	3	0	3	0	2
	CCC	14	6	2	2	3	16	1	5	5	3	10	15	15	23	7	1	14	4	1	1	1	2	0	1	2	2	3	0	0	8	1	2	1	3	3	2	12	1
	CCG	4	2	0	0	3	6	0	0	0	0	1	5	5	3	1	2	3	0	0	0	0	0	0	1	1	0	0	1	2	0	1	0	1	0	0	2	1	1
	CCU	7	8	9	9	8	6	3	1	2	2	9	2	2	18	9	3	8	2	1	1	2	3	1	0	3	3	4	1	0	7	1	2	5	5	2	5	3	0
ALA	GCA	6	17	11	10	4	3	0	1	0	0	2	4	4	18	2	1	7	1	2	1	1	2	0	1	2	2	3	1	2	6	2	3	5	5	4	1	4	5
	GCC	17	13	4	4	5	17	6	3	2	2	15	17	17	18	7	4	17	10	5	6	9	8	8	3	5	7	5	4	2	5	2	2	6	7	2	1	6	10
	GCG	0	2	0	0	4	4	0	0	0	0	0	2	2	3	1	0	6	2	2	0	0	1	1	0	0	1	0	2	1	1	0	1	0	0	1	2	6	0
	GCU	4	15	18	19	7	4	1	0	0	0	7	4	4	25	6	1	6	7	6	5	8	7	6	3	2	6	7	2	3	8	3	4	8	6	1	1	8	6
GLY	GGA	3	11	25	22	9	2	6	1	1	2	7	5	5	33	7	3	4	1	4	6	3	2	2	3	8	3	2	1	0	7	2	5	3	4	1	4	2	35
	GGC	10	9	11	11	7	6	2	9	8	9	15	12	12	26	7	5	8	4	3	3	7	7	4	7	2	0	0	3	4	3	3	2	3	1	2	20	55
	GGG	6	4	3	4	3	2	3	3	3	1	8	8	9	35	4	2	4	2	1	1	0	0	2	1	2	1	1	1	0	11	2	4	3	3	0	2	11	19
	GGU	3	4	12	10	0	3	4	1	1	1	4	3	4	21	6	2	3	4	2	0	3	3	3	6	3	1	0	0	1	9	4	3	10	10	0	0	1	37
VAL	GUA	5	1	3	5	0	2	0	0	0	0	4	0	0	16	1	1	1	2	0	0	0	0	0	0	1	1	0	2	0	4	0	2	1	0	2	1	0	3
	GUC	15	8	12	12	3	8	3	3	2	3	14	14	14	13	6	5	7	3	0	1	2	2	2	5	4	4	4	3	6	17	2	6	6	4	2	4	6	5
	GUG	26	13	12	11	7	8	1	5	5	3	17	24	25	33	5	4	10	5	5	7	10	10	8	4	5	8	9	3	2	21	0	1	7	7	3	4	10	7
	GUU	1	3	9	11	3	1	3	0	0	0	5	3	4	17	4	4	0	0	6	4	2	2	4	0	10	0	0	1	1	3	1	0	3	5	2	2	2	3
LYS	AAA	5	20	18	12	10	8	2	0	0	0	4	4	3	20	8	9	4	2	5	3	1	2	3	1	9	3	2	2	4	14	4	5	3	3	5	4	3	7
	AAG	18	21	7	11	9	19	5	2	1	2	24	27	26	26	9	7	10	9	9	10	10	10	9	10	8	8	8	9	6	15	0	10	6	7	2	5	5	12
ASN	AAC	20	14	18	18	11	17	5	4	4	4	9	21	21	21	7	3	6	2	5	6	3	5	6	2	0	3	5	10	9	12	1	6	8	8	3	4	17	15
	AAU	7	12	23	29	4	1	6	3	1	0	9	9	9	19	5	5	4	0	1	1	3	2	4	0	8	4	3	4	3	6	1	4	0	2	3	4	0	7
GLN	CAA	6	12	9	6	2	4	7	1	1	2	4	3	3	13	6	4	2	0	1	0	0	0	0	0	1	3	2	5	2	3	1	2	1	2	5	2	2	11
	CAG	12	24	7	7	9	17	8	8	8	5	19	20	19	29	6	4	8	1	3	3	3	3	2	2	12	13	8	7	11	6	8	8	6	17	2	6	18	
HIS	CAC	4	8	5	5	11	10	4	7	9	4	8	9	8	21	4	1	3	8	4	3	7	6	4	1	2	3	4	3	4	6	1	1	1	1	1	4	12	0
	CAU	5	7	8	8	3	1	3	0	0	1	6	4	4	18	0	1	2	3	4	5	2	2	2	1	3	1	0	0	0	4	1	1	4	4	1	0	1	1
GLU	GAA	6	28	12	11	4	15	6	2	0	0	5	4	5	30	3	12	7	4	4	3	1	1	5	0	6	4	4	4	7	3	4	3	6	5	5	6	3	21
	GAG	27	29	8	8	8	20	9	9	9	8	20	22	20	29	6	5	24	0	5	6	4	5	5	4	3	5	5	10	2	18	2	8	6	5	6	3	14	21
ASP	GAC	19	8	17	15	11	23	3	10	12	11	21	18	18	40	7	5	12	4	3	4	3	3	3	2	8	7	6	1	2	12	4	6	3	4	3	3	11	12
	GAU	8	11	19	20	6	7	4	1	1	4	9	5	5	44	7	3	8	5	2	2	6	5	1	1	12	2	3	1	4	11	3	7	4	3	6	7	2	6
TYR	UAC	9	6	6	8	4	6	7	13	11	15	8	8	7	19	4	4	7	2	3	2	3	3	2	4	6	3	2	6	2	15	1	2	5	0	3	2	4	19
	UAU	6	6	14	10	4	5	5	3	5	4	8	4	5	12	2	2	1	1	0	0	0	0	0	0	5	0	2	2	1	4	5	9	2	2	0	0	0	3
CYS	UGC	6	21	3	4	1	7	2	7	6	8	5	3	4	31	3	1	5	1	0	0	1	1	0	0	0	3	3	1	3	7	1	2	1	1	2	2	19	4
	UGU	3	11	9	6	1	2	6	0	0	1	4	3	3	31	7	0	3	0	1	1	1	1	1	0	4	4	4	1	1	7	2	4	4	5	2	2	4	1
PHE	UUC	25	15	14	15	4	12	9	10	11	6	19	23	23	10	8	4	9	4	4	4	3	3	4	2	2	5	5	7	7	13	2	7	5	7	4	4	11	9
	UUU	2	12	13	10	8	2	2	0	0	0	12	11	12	15	1	5	6	3	4	4	4	4	4	0	7	2	2	4	3	3	4	4	1	1	4	4	2	10
ILE	AUA	2	8	5	1	1	0	3	1	0	1	4	2	1	16	1	2	0	0	0	0	1	1	1	0	3	0	1	0	2	1	0	0	3	2	1	1	1	0
	AUC	25	12	6	7	3	11	6	4	6	5	15	20	20	22	5	3	6	1	4	3	2	2	1	6	1	5	4	7	6	13	3	7	2	4	4	3	8	9
	AUU	5	16	16	16	6	3	6	0	0	1	7	7	6	14	6	6	2	1	2	4	1	1	2	0	11	0	0	3	5	3	3	4	3	2	0	3	0	6
MET	AUG	12	13	12	11	3	5	5	6	8	8	8	9	9	21	8	7	8	2	4	4	3	2	3	2	7	5	5	8	4	8	3	5	3	3	5	4	5	7
TRP	UGG	11	2	18	19	7	2	8	4	4	4	7	9	9	24	7	3	2	1	3	3	2	2	3	0	0	4	4	5	2	11	2	4	6	5	1	0	10	1
TER	UAA	0	1	1	1	1	1	0	0	0	0	1	0	0	0	0	1	0	1	0	1	1	1	0	0	0	1	0	0	0	0	0	1	1	1	0	1	1	0
	UAG	1	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
	UGA	0	0	0	0	0	0	0	1	1	0	0	1	1	0	1	0	1	0	1	0	0	0	1	0	0	1	1	1	1	0	0	0	0	0	1	0	0	0
TOTAL		521	606	512	509	261	440	199	175	175	175	522	514	514	1218	262	188	381	143	148	148	148	148	149	104	219	190	191	183	156	481	128	235	235	234	170	167	371	571

	MUS KTEP II	MUS LBP	MUS MCGF	MUS METI	MUS METI I	MUS MHAB 22=	MUS MHAB 3	MUS MHCG 3=	MUS MHEA 2=	MUS MHEB 4=	MUS MHIA AD	MUS MHIA AK	MUS MHIE AD	MUS MHKB 2=	MUS MHKD	MUS MHKD M	MUS MHLD A3=	MUS NGFB	MUS NGFG	MUS P53M	MUS PLFM	MUS POMC 3=	MUS REN1 N	MUS REN1 9=	MUS RPL3 A	MUS TCAL	MUS TSHA	MUS WAP	RAT ACTS K	RAT AGPA 1	RAT ALAC	RAT ALBM	RAT ANFA	RAT ANFB	RAT ANG5 =	RAT APOA I	RAT APOA IV	RAT CASB
ARG CGA	1	1	1	0	0	2	3	1	1	1	1	1	1	2	1	1	3	2	4	2	0	0	1	1	3	1	0	0	2	1	0	2	2	2	3	1	0	0
CGC	7	0	0	0	0	4	4	7	3	2	0	1	3	5	8	9	6	5	1	10	1	8	5	5	2	0	0	1	6	0	1	1	1	5	6	3	1
CGG	5	1	3	0	0	7	8	4	3	8	0	0	3	5	4	3	5	4	0	3	1	5	3	3	3	1	0	0	2	3	0	2	2	2	5	0	2	0
CGU	3	0	2	0	0	1	1	0	2	0	1	1	2	0	0	0	2	2	0	4	1	2	0	0	0	0	3	6	0	1	4	0	0	1	1	2	0
AGA	7	2	5	0	0	2	2	3	3	7	3	5	3	7	8	8	6	6	0	3	2	1	3	4	4	5	2	0	0	1	1	12	3	3	3	2	1	0
AGG	12	3	1	0	0	7	5	6	1	1	2	1	1	6	6	7	5	3	1	2	2	3	8	7	5	3	2	1	2	0	0	6	4	2	2	5	1
LEU CUA	3	1	1	0	0	0	0	0	0	0	0	0	0	1	2	2	0	1	4	2	4	1	5	5	1	1	2	2	0	2	1	1	2	2	5	3	6	2
CUC	13	0	6	0	0	8	6	8	8	4	7	5	8	9	8	7	9	5	8	5	6	5	16	15	1	9	0	3	5	2	1	11	6	6	15	2	9	7
CUG	22	3	11	0	0	12	13	23	10	18	12	13	10	23	21	21	20	7	12	16	6	11	14	14	8	8	4	3	17	9	4	27	8	8	35	22	30	5
CUU	4	1	4	0	0	4	5	2	3	2	3	3	3	3	4	4	3	2	2	6	3	1	3	2	0	8	2	3	2	4	4	11	1	1	4	2	1	17
UUA	1	0	1	0	0	0	0	1	2	0	1	1	2	0	0	0	0	1	1	3	5	1	0	0	0	2	0	0	0	1	1	3	0	0	1	0	0	0
UUG	3	1	1	0	0	1	1	2	2	4	6	5	2	2	2	2	1	4	1	3	5	2	5	5	0	3	0	0	2	6	1	7	1	1	6	2	3	0
SER UCA	4	1	1	0	0	2	2	3	3	0	4	4	3	0	0	0	1	6	3	7	4	1	3	3	1	2	0	1	2	2	3	2	1	1	4	1	0	1
UCC	12	3	3	7	8	6	5	5	5	2	3	4	5	6	5	3	3	6	3	5	3	5	14	14	1	7	4	3	11	3	2	10	5	5	7	4	6	8
UCG	1	1	0	0	0	1	1	0	0	2	0	0	0	1	2	3	3	0	0	1	1	2	2	2	0	2	2	0	1	0	1	1	0	0	2	0	1	0
UCU	9	0	8	0	0	1	2	4	0	4	4	5	0	6	5	6	6	3	2	9	8	0	6	5	2	5	1	1	5	0	1	6	3	3	6	0	1	10
AGC	28	2	5	2	2	10	9	4	3	5	4	4	3	3	4	4	3	5	6	11	5	9	12	10	3	4	1	3	4	1	3	5	7	7	13	3	10	0
AGU	10	2	1	0	0	1	1	1	0	3	0	0	0	1	0	0	0	6	0	2	3	4	4	4	0	4	0	2	0	1	3	3	1	1	6	1	1	5
THR ACA	5	3	2	0	0	4	3	4	3	8	5	5	3	4	4	5	4	11	7	8	3	0	6	6	0	10	3	3	2	4	4	12	1	1	5	3	4	0
ACC	18	6	6	3	0	8	8	13	6	4	8	9	7	13	13	12	11	9	6	8	2	3	15	18	3	7	1	4	20	9	2	14	2	2	19	4	13	3
ACG	0	0	1	1	0	3	4	6	0	7	0	0	0	6	8	6	5	1	0	3	0	4	4	4	0	2	1	1	1	2	0	3	0	0	4	0	3	0
ACU	3	2	1	1	1	3	3	2	3	1	5	5	3	4	3	3	2	9	4	5	3	1	6	5	0	7	3	1	4	1	0	5	1	1	8	5	2	7
PRO CCA	2	0	3	0	0	4	4	3	5	4	4	3	5	5	5	6	3	5	4	10	3	3	5	4	0	1	2	4	2	3	0	10	1	1	7	1	1	4
CCC	3	1	2	2	2	4	4	3	2	5	4	4	2	4	5	5	2	5	7	10	2	9	10	9	5	5	3	3	10	3	3	9	4	4	16	3	10	10
CCG	1	0	0	0	0	2	2	6	1	1	2	2	1	4	4	6	10	1	0	1	0	5	1	2	0	0	0	2	2	0	1	2	3	3	4	1	2	0
CCU	0	0	5	0	0	4	4	8	4	5	8	9	4	8	7	7	6	5	7	17	4	1	6	8	1	3	1	2	5	3	5	9	3	3	6	2	2	8
ALA GCA	5	3	1	0	0	2	2	6	2	3	1	0	2	4	6	7	4	4	3	3	2	0	1	1	2	7	3	0	0	4	0	15	2	2	4	4	1	4
GCC	17	4	2	4	3	6	5	7	6	2	4	4	6	9	10	12	8	12	7	14	8	4	10	10	4	3	6	5	15	3	6	25	4	4	20	10	16	7
GCG	0	0	2	1	1	2	1	7	1	3	1	1	1	11	9	10	10	2	0	2	0	7	0	1	0	0	0	0	2	1	2	1	3	3	2	3	1	1
GCU	17	0	1	0	2	3	3	5	7	2	4	5	7	9	10	9	10	7	5	5	2	4	4	6	3	3	1	2	12	4	4	21	3	3	8	5	7	5
GLY GGA	18	3	4	0	1	3	3	2	5	8	4	4	5	5	5	5	6	6	6	5	2	2	9	8	0	4	3	0	0	3	2	7	4	4	6	0	2	1
GGC	29	5	2	5	3	8	8	8	4	6	10	9	4	12	10	8	12	6	8	9	2	11	12	10	3	4	1	4	13	2	4	6	6	6	13	6	3	1
GGG	7	2	2	0	0	9	10	10	2	4	3	3	2	11	9	9	11	6	3	9	2	2	9	9	1	6	0	1	5	3	1	2	4	4	7	1	8	1
GGU	17	1	0	0	0	0	0	3	3	0	6	6	3	2	3	4	4	4	5	1	1	2	6	9	1	0	1	2	10	0	0	4	2	2	8	4	1	2
VAL GUA	2	1	1	0	0	0	0	0	3	0	1	2	3	1	2	2	0	4	0	1	0	0	2	2	1	2	1	0	0	1	1	4	2	2	2	0	0	0
GUC	11	2	4	1	0	7	7	2	5	6	4	4	5	6	6	4	3	6	4	7	3	2	11	9	4	6	2	3	5	5	2	8	2	2	11	3	5	3
GUG	13	11	4	1	1	17	17	12	13	17	12	12	12	17	16	14	16	13	5	8	3	8	19	18	5	5	2	4	16	4	2	17	2	2	22	11	22	11
GUU	3	2	2	0	0	0	0	1	3	6	3	2	3	4	4	4	2	3	4	4	4	1	3	4	0	4	1	3	0	3	4	8	0	0	5	2	2	3
LYS AAA	7	6	4	2	5	2	2	2	9	3	3	2	9	6	3	3	4	5	9	9	7	2	4	3	6	13	4	4	5	7	2	21	2	2	2	9	8	7
AAG	23	8	5	5	3	4	3	7	6	3	7	7	6	8	9	9	8	12	11	15	9	14	11	12	12	15	7	0	14	12	9	33	3	3	14	15	22	5
ASN AAC	19	3	4	2	1	7	6	2	6	10	7	6	6	6	5	5	7	6	7	3	8	9	6	7	7	4	0	6	9	7	3	17	4	4	14	10	19	4
AAU	4	1	4	0	0	3	3	3	5	2	3	3	5	3	4	4	3	3	4	5	9	0	3	4	4	9	4	2	3	2	3	3	1	1	2	3	7	3
GLN CAA	8	0	2	0	1	0	0	1	1	0	5	5	1	0	1	1	0	0	4	2	3	0	2	2	0	7	0	3	1	1	3	4	0	0	3	4	8	10
CAG	22	2	2	1	1	12	11	13	3	11	3	3	3	15	16	16	15	9	2	12	1	8	9	10	3	5	2	5	10	12	2	21	4	4	26	14	40	20
HIS CAC	3	0	4	0	0	4	7	5	5	4	6	6	4	4	3	4	4	8	5	7	1	4	5	5	4	3	2	0	8	1	1	3	8	1	1	5	4	2	3
CAU	1	0	0	0	0	2	2	5	1	2	2	0	1	6	7	6	3	5	2	4	3	0	4	3	0	3	3	0	3	0	1	1	3	2	4	3	3
GLU GAA	15	6	6	0	0	2	2	5	8	4	5	5	8	5	1	1	3	3	2	11	13	4	6	8	3	11	2	2	3	6	4	25	3	3	2	5	16	6
GAG	25	2	3	0	1	20	20	23	16	17	11	12	16	21	20	19	24	8	7	21	0	19	13	11	4	8	3	7	25	10	9	32	5	5	23	20	18	5
ASP GAC	13	3	3	2	2	5	6	11	8	8	10	11	8	13	12	9	14	10	10	9	7	7	16	16	2	3	1	2	18	7	6	19	3	3	14	10	15	1
GAU	9	8	7	0	1	1	1	5	7	2	5	4	7	6	10	10	4	4	9	8	7	3	4	1	0	9	2	0	4	5	4	13	6	6	6	8	6	5
TYR UAC	9	1	2	0	0	11	10	12	0	9	1	1	0	13	11	10	14	4	6	6	1	6	10	10	1	11	6	0	10	2	1	8	2	2	8	2	2	2
UAU	8	1	0	0	0	0	1	5	3	1	6	7	3	5	5	4	6	1	3	6	4	0	6	6	2	6	2	0	6	3	3	13	0	0	0	3	2	1
CYS UGC	3	0	2	16	16	4	4	2	0	3	4	3	0	5	4	4	3	4	5	10	5	5	3	3	1	3	5	8	4	1	2	17	2	2	4	1	0	2
UGU	3	2	2	4	4	1	1	2	3	2	1	1	3	2	1	1	2	4	5	2	2	0	4	4	1	5	5	7	2	2	7	18	0	0	0	0	0	0
PHE UUC	10	3	4	0	0	7	8	8	10	11	9	8	10	6	10	6	7	10	7	7	3	8	11	10	4	8	3	3	9	6	5	18	7	7	17	5	10	6
UUU	6	3	2	0	0	0	0	0	10	2	4	5	10	1	2	2	1	5	3	6	6	2	8	10	0	8	2	0	3	6	3	12	1	1	7	3	3	3
ILE AUA	1	2	1	0	0	1	1	0	1	0	2	2	1	1	1	1	0	2	2	0	6	1	0	1	0	8	0	2	0	5	1	2	0	0	1	0	1	0
AUC	21	5	3	0	1	9	9	4	9	5	9	9	9	5	5	4	8	7	7	9	5	3	13	13	5	4	1	4	25	3	8	8	1	1	9	4	6	6
AUU	7	1	3	0	0	1	1	5	7	2	6	6	7	1	1	1	1	3	0	4	0	3	5	4	6	5	2	2	5	2	2	4	3	3	3	0	1	7
MET AUG	17	5	4	1	1	5	6	7	5	3	3	4	6	9	7	7	10	4	8	11	10	4	11	10	4	4	6	6	17	5	4	7	4	4	9	9	14	4
TRP UGG	1	2	0	0	0	4	5	13	5	5	4	4	5	9	11	11	12	5	7	3	4	6	6	6	1	7	0	1	4	3	4	2	3	3	5	8	1	0
TER UAA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	1	0	0	0	0	1	1	1	0	0	0	1
UAG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	0	0	1	0	0
UGA	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0
TOTAL	554	133	167	62	62	266	266	323	256	265	257	257	256	370	369	357	358	308	262	391	225	236	402	403	136	305	121	135	378	206	160	609	153	153	478	260	392	232

		RAT CASK	RAT CBXP A	RAT CCK	RAT CMOS	RAT CRYG	RAT CTRP B	RAT CYC	RAT CYP4 5C	RAT CYP4 5D	RAT CYP4 5N	RAT CYP4 59=	RAT CYP4 6=	RAT ELAI 17=	RAT ELAI I	RAT FABP L	RAT FABP	RAT FERL	RAT GH2	RAT GST1 YA	RAT GST2 YA	RAI IFNA 1	RAT IGEN	RAT INS1	RAT INS1 I	RAT METI	RAI MYL2 G	RAT OXTN P	RAT PGNA	RAT POMC 3=	RAT PRLH R5=	RAI PRLS DM	RAT PRLS D4=	RAT PRP3 3	RAT PSBC 1	RAT PSBC 12=	RAT PSBC 22=	RAT PSBP A3=	RAI PSBP B3=
ARG	CGA	0	3	4	1	1	1	0	3	1	3	4	3	1	2	0	0	1	0	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
	CGC	1	4	4	7	9	1	0	3	7	3	8	5	1	1	0	5	6	0	0	0	4	1	5	0	0	0	6	0	8	1	1	1	0	0	0	0	0
	CGG	1	2	3	7	2	0	1	7	6	7	6	1	1	1	0	2	1	4	4	1	5	1	1	0	1	0	0	5	3	3	3	0	0	0	0	0	0
	CGU	1	0	0	1	1	0	0	3	0	3	3	0	2	1	0	4	2	0	0	0	3	4	1	0	1	0	0	2	2	2	2	1	0	0	0	0	0
	AGA	1	3	0	2	3	0	0	6	4	6	4	2	0	0	2	0	1	6	5	9	8	0	0	0	1	0	3	3	2	1	1	2	1	1	1	1	1
	AGG	2	4	3	6	5	1	1	6	5	6	6	2	4	1	0	1	1	3	2	3	3	0	0	0	2	1	2	2	1	2	2	0	0	0	2	0	0
LEU	CUA	5	3	1	3	0	1	1	3	5	3	2	1	3	2	0	0	0	1	1	3	5	0	0	0	0	0	2	1	1	3	3	3	0	0	2	3	3
	CUC	1	5	1	7	3	5	1	12	8	12	23	4	4	2	2	10	8	6	7	8	9	3	4	0	2	1	0	5	6	7	6	2	0	0	0	0	0
	CUG	3	17	8	23	5	10	2	31	28	31	17	11	18	2	3	12	19	11	10	14	18	12	10	0	4	8	4	10	11	11	11	5	7	2	7	5	2	1
	CUU	3	4	1	4	1	2	1	4	4	4	9	0	2	2	0	0	1	5	5	0	4	2	2	0	2	2	3	1	5	4	5	0	3	0	3	4	0	0
	UUA	0	2	0	0	0	0	0	3	3	3	4	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	2	2
	UUG	1	8	0	5	0	1	1	6	5	6	8	4	1	2	1	7	2	6	6	3	9	1	2	0	1	0	1	2	4	4	4	1	2	2	2	3	2	2
SER	UCA	3	1	0	2	0	0	0	7	4	7	4	1	1	1	1	1	0	2	1	0	6	9	0	0	0	0	0	1	2	4	4	4	5	0	1	0	2	1	1
	UCC	3	6	1	9	3	15	0	6	7	6	10	10	13	0	3	1	3	0	0	5	15	2	1	8	3	2	4	4	5	5	5	2	0	1	0	0	1	1
	UCG	0	2	1	5	0	1	0	0	1	0	1	0	2	0	0	0	2	0	0	0	2	0	0	1	0	1	1	2	2	0	0	0	0	0	0	0	0	0
	UCU	4	9	1	2	5	3	1	9	5	9	6	7	5	1	0	6	1	2	2	3	14	0	2	0	0	2	1	0	3	3	3	3	0	1	0	0	1	1
	AGC	3	10	2	7	4	2	0	10	11	10	4	8	12	1	2	1	7	5	5	3	10	1	1	2	1	1	3	1	7	2	1	2	3	5	1	5	1	1
	AGU	1	4	2	3	2	1	0	7	6	7	6	4	1	1	0	0	1	2	2	1	10	0	0	0	1	1	0	3	1	1	1	2	1	3	1	0	3	3
THR	ACA	6	5	0	0	3	1	3	14	14	14	10	3	2	4	3	0	0	0	0	2	10	1	1	0	1	0	2	0	3	3	3	2	2	1	2	0	1	1
	ACC	7	12	0	8	1	9	2	10	10	10	13	11	11	3	6	5	8	6	7	3	26	2	2	3	4	4	1	4	2	2	2	1	2	2	2	3	2	2
	ACG	0	6	0	7	0	0	0	1	3	1	2	3	1	1	0	0	0	0	0	0	4	0	0	1	1	0	2	5	0	0	0	0	0	0	0	0	0	1
	ACU	3	8	0	4	0	11	3	6	4	6	4	2	3	2	3	2	2	1	1	3	12	0	0	0	4	0	3	1	3	3	3	0	0	4	0	3	4	4
PRO	CCA	11	3	1	3	0	0	1	10	11	10	15	1	5	0	0	3	1	4	3	0	7	1	1	1	0	2	0	2	3	2	2	2	21	1	2	1	1	2
	CCC	5	10	3	2	5	8	1	9	16	9	11	6	6	0	1	0	6	3	4	2	14	3	3	2	2	7	2	8	1	1	1	9	0	0	0	0	1	1
	CCG	1	0	2	5	0	0	0	1	4	1	0	1	0	0	0	0	0	0	0	0	3	2	1	0	0	2	1	6	2	2	2	0	0	0	0	0	0	0
	CCU	7	4	3	10	2	6	1	9	2	9	5	0	1	0	1	1	2	3	3	4	6	2	1	0	2	2	1	2	6	6	6	19	2	1	2	2	0	0
ALA	GCA	4	7	4	5	0	4	1	2	1	2	3	1	2	2	1	3	2	6	6	3	7	1	2	0	5	0	2	0	1	0	1	2	4	1	4	2	1	2
	GCC	6	17	2	14	2	12	2	16	17	15	10	6	8	2	0	12	8	10	9	5	12	5	5	3	6	6	5	8	7	7	7	2	1	1	0	0	1	1
	GCG	1	1	4	3	0	0	0	1	1	1	0	1	0	0	0	1	2	2	0	0	0	0	0	0	2	4	1	4	0	0	0	0	0	0	1	0	0	0
	GCU	3	6	4	4	0	6	5	6	5	7	11	8	10	2	0	3	10	1	1	1	6	4	2	2	0	2	3	1	2	4	4	4	2	4	1	1	5	3	3	1
GLY	GGA	1	4	0	4	1	4	7	7	6	7	10	11	6	7	1	0	1	1	1	2	5	1	2	0	1	3	2	2	4	4	4	14	1	0	1	2	0	0
	GGC	0	10	7	8	8	15	3	14	12	14	11	6	11	3	2	10	3	3	4	1	12	2	2	5	5	11	1	14	1	2	1	9	0	2	0	2	2	2
	GGG	0	7	0	7	3	3	1	8	8	8	7	6	4	1	6	1	3	4	4	2	5	2	2	0	4	2	0	3	2	2	2	1	0	0	0	0	0	0
	GGU	1	5	0	6	1	3	3	5	3	5	5	2	5	1	3	1	2	2	1	1	8	3	3	1	2	0	2	1	2	2	2	8	1	2	1	1	2	2
VAL	GUA	4	0	2	2	1	1	0	1	1	1	1	0	1	2	0	1	0	3	3	1	5	0	0	0	1	0	0	0	0	0	0	1	5	1	5	2	1	1
	GUC	5	8	3	2	2	12	0	10	13	10	6	1	9	3	4	1	2	0	0	5	14	2	1	1	3	0	3	3	5	5	5	2	0	1	0	1	1	1
	GUG	9	14	5	11	4	15	1	17	23	17	15	16	13	4	7	6	2	6	6	8	15	5	6	1	4	1	3	8	4	4	4	1	2	4	2	2	4	4
	GUU	4	3	1	4	0	1	2	6	2	6	0	2	4	2	1	0	0	2	1	0	5	1	0	0	1	0	1	0	4	4	4	1	3	3	3	3	3	4
LYS	AAA	2	7	1	3	0	3	6	7	6	8	9	0	1	8	5	1	3	5	6	2	11	1	1	3	1	1	3	0	7	7	7	4	3	1	3	3	1	1
	AAG	2	13	2	12	1	11	12	21	29	20	14	3	8	7	12	10	8	17	18	6	25	3	1	4	15	3	7	15	6	6	6	0	4	6	3	4	6	5
ASN	AAC	6	9	1	7	4	5	3	8	18	8	8	12	14	6	2	7	3	3	3	3	12	2	2	2	4	2	3	7	8	8	8	5	1	2	1	2	2	2
	AAU	8	4	0	4	1	3	2	10	8	10	4	8	4	4	1	2	3	3	3	1	11	0	0	0	4	0	1	2	5	5	5	2	3	1	3	2	1	3
GLN	CAA	4	2	0	6	0	1	1	3	1	3	4	0	2	1	2	2	2	5	6	3	9	3	3	0	1	0	0	1	8	8	8	6	1	3	1	1	3	2
	CAG	1	18	6	11	9	11	1	21	22	21	13	16	11	1	2	10	13	4	3	12	13	5	5	1	7	4	3	8	6	6	6	24	2	3	2	2	3	3
HIS	CAC	1	9	1	10	9	1	1	11	9	11	10	6	4	0	1	7	3	2	2	2	8	2	2	0	1	0	3	4	3	3	3	5	0	0	0	0	0	0
	CAU	3	5	0	1	0	1	2	5	4	5	7	1	3	1	1	0	0	1	1	3	6	0	0	0	0	0	2	0	3	3	3	6	1	2	1	0	2	3
GLU	GAA	4	9	2	3	1	2	5	5	6	5	11	2	1	8	5	6	4	10	10	6	14	2	2	0	5	0	2	5	11	11	11	4	11	4	11	6	4	3
	GAG	4	17	5	10	8	7	3	21	21	21	20	2	3	6	8	10	11	7	6	6	18	7	6	0	10	6	1	18	5	5	5	3	3	1	4	3	1	1
ASP	GAC	1	16	6	8	12	8	1	20	18	20	14	6	6	3	5	4	10	11	11	5	13	1	2	2	10	4	2	6	7	7	7	4	2	2	2	1	2	1
	GAU	2	9	1	2	1	6	3	9	5	9	11	1	1	3	0	6	1	3	4	2	12	2	1	0	5	2	2	4	6	6	6	12	2	3	2	3	3	3
TYR	UAC	6	9	4	10	10	1	2	8	6	8	10	9	7	2	2	2	3	4	5	4	13	4	4	0	1	2	5	5	2	2	2	1	3	0	3	1	0	0
	UAU	2	8	0	1	6	1	2	7	5	7	4	4	2	3	1	2	4	4	3	0	11	0	0	0	1	0	2	1	5	5	5	1	4	3	4	3	3	3
CYS	UGC	1	1	2	9	6	8	1	4	4	4	3	4	9	0	1	0	3	1	1	2	9	4	4	17	2	17	4	5	6	6	6	0	1	3	2	2	3	3
	UGU	0	2	1	2	0	3	1	4	3	4	3	4	1	0	0	1	2	1	1	1	6	5	2	2	3	0	2	7	0	1	1	1	0	5	2	4	4	2
PHE	UUC	2	13	1	6	11	7	2	23	26	23	28	4	1	4	5	6	8	5	5	6	15	3	3	0	8	3	2	8	2	2	2	0	2	2	2	2	2	2
	UUU	3	7	0	4	0	4	2	12	10	12	11	2	1	4	1	3	6	5	6	1	5	1	1	0	4	0	1	2	6	6	6	1	1	4	1	1	4	4
ILE	AUA	0	0	1	4	0	0	1	6	2	5	2	0	0	1	0	0	2	2	0	5	0	0	0	0	0	0	1	3	3	3	3	0	1	1	1	3	1	1
	AUC	4	24	1	10	6	9	3	16	19	16	15	6	4	3	7	1	5	6	5	4	19	1	4	0	7	3	1	3	6	7	6	1	3	1	1	1	1	1
	AUU	6	5	0	4	0	2	2	9	9	9	13	3	5	4	1	1	3	5	6	0	6	1	0	0	3	0	5	0	7	6	7	0	2	4	2	1	4	4
MET	AUG	4	7	6	3	8	5	3	8	8	9	12	6	2	4	7	3	7	9	10	5	9	2	2	1	7	2	6	4	5	5	5	1	6	4	6	4	4	3
TRP	UGG	1	8	1	6	4	9	1	7	8	7	1	7	10	1	0	2	3	1	1	1	4	14	2	2	0	1	0	0	5	2	2	2	1	1	0	0	0	0
TER	UAA	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	1	1
	UAG	0	0	1	0	0	0	0	0	1	0	1	0	0	0	1	1	1	1	1	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0
	UGA	0	1	0	1	1	1	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	1	0	0	0	1	1	0	1	0	0	0
	TOTAL	179	420	116	340	175	264	106	525	514	525	492	267	272	133	128	184	217	223	223	193	572	111	111	62	170	126	121	236	227	226	227	207	112	96	112	99	96	96

	RAT PTH3	RAT RELA	RAT S100	RAT SOM1	RAT SOMA	RAT SOMG	RAT THYB	RAT TSHB	RAT TUBA	RAT VPNP	RAT VAP	RAT WAP3	BOV CHYM	BOV CHYM	BOV CRYG	BOV CYPH	BOV ENKE	BOV GG	BOV GH	BOV GLYA	BOV HBB	BOV HBG	BOV KIN1	BOV KIN1	BOV KIN2	BOV KIN2	BOV OPS5	BOV OT	BOV POMC	BOV PRL	BOV PTH	BOV PTHG	BOV TCKM	BOV TCKM	BOV THBN	BOV TRNG	BOV TSHB	BOV VP
		I		4M	I		4		L2α	A		2	OA	OB			PH			1			HW	LM	HW	LM	α		7α				A	B	M			
ARG	CGA	0	2	0	0	1	0	0	0	0	1	0	0	1	1	0	3	2	3	0	0	0	0	1	3	1	3	0	0	0	2	1	1	0	0	8	0	0	0
	CGC	0	1	0	1	6	1	0	0	7	5	2	2	1	1	7	8	3	3	5	0	1	2	2	1	2	1	4	5	10	3	0	0	0	0	16	0	1	6
	CGG	0	2	0	1	1	1	0	1	1	3	1	1	0	0	3	7	2	0	5	0	0	0	1	0	1	0	2	0	5	3	1	1	2	2	15	0	1	3
	CGU	0	1	0	2	2	2	0	0	7	0	0	0	0	0	0	1	1	3	1	0	0	0	0	0	0	0	0	0	4	1	0	0	1	1	2	0	0	0
	AGA	3	4	1	1	1	0	0	3	4	2	0	0	1	1	6	6	8	3	2	2	1	1	6	6	6	5	0	0	1	1	5	5	4	5	3	2	1	1
	AGG	2	3	0	2	1	2	0	1	2	2	1	1	6	6	4	7	2	3	1	2	2	3	5	4	4	3	1	0	2	2	0	0	1	2	7	1	1	2
LEU	CUA	0	2	0	0	0	0	0	0	1	0	1	1	1	2	0	2	4	0	0	1	2	1	6	3	6	3	1	0	0	3	1	1	0	1	1	0	1	0
	CUC	2	6	3	3	8	3	0	2	8	6	1	1	8	7	4	14	9	3	9	1	3	2	4	2	4	2	7	5	4	7	0	0	1	1	14	2	0	2
	CUG	5	7	5	11	19	11	1	4	17	13	3	2	23	21	6	29	17	3	19	3	11	14	8	8	8	8	17	7	13	12	4	4	3	3	35	3	3	13
	CUU	5	1	0	0	1	0	0	3	2	1	2	3	2	2	2	6	4	4	2	0	0	1	16	8	15	7	1	0	2	6	4	4	3	3	2	0	2	0
	UUA	1	1	0	0	1	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	4	4	5	5	0	0	0	0	1	1	1	2	2	1	0	0
	UUG	0	6	0	3	2	3	1	0	3	0	0	0	0	1	0	5	0	4	3	2	1	2	6	5	6	5	2	1	1	3	0	0	1	1	0	1	0	2
SER	UCA	1	2	2	0	2	0	1	1	0	0	1	1	1	1	2	4	0	1	2	0	0	0	10	6	10	6	0	0	0	3	1	1	1	3	1	0	0	
	UCC	0	5	1	3	3	2	1	2	9	2	5	5	9	10	5	8	4	3	5	4	3	5	12	10	12	10	6	4	4	9	2	2	4	5	9	1	3	2
	UCG	0	1	0	2	2	2	2	1	0	1	1	0	4	4	0	0	0	1	2	1	0	1	1	1	1	1	3	1	3	4	0	0	0	0	4	0	0	1
	UCU	3	3	2	2	1	3	0	2	8	4	2	2	4	4	1	1	1	3	1	2	0	1	12	8	12	8	3	0	1	1	3	3	2	3	3	1	3	1
	AGC	1	5	0	0	7	0	0	2	3	6	2	2	13	13	5	5	7	3	3	1	0	2	6	4	5	3	3	4	9	4	2	2	1	1	14	0	1	6
	AGU	4	1	0	0	1	0	0	0	1	0	4	4	4	4	1	6	3	5	1	0	2	2	13	9	13	9	0	0	3	0	3	3	1	1	6	0	1	0
THR	ACA	0	0	1	3	0	3	3	4	5	2	2	2	5	5	1	8	0	2	1	4	0	0	18	9	18	9	3	0	0	0	0	0	0	1	7	1	3	1
	ACC	3	1	1	2	8	2	0	6	16	3	2	2	13	13	1	9	6	6	9	4	3	1	13	11	13	11	17	1	3	6	0	0	0	0	13	0	5	3
	ACG	0	1	1	0	0	0	0	1	1	2	0	0	2	2	0	5	1	1	3	0	0	0	1	1	1	1	4	2	5	0	0	0	0	0	6	1	0	1
	ACU	0	2	0	0	2	0	0	2	8	1	1	1	4	4	2	3	3	2	1	2	3	2	13	9	13	9	3	0	1	3	0	0	1	1	3	0	5	0
PRO	CCA	0	5	0	1	1	1	0	2	5	2	6	6	1	1	2	9	2	3	1	2	0	0	13	9	12	8	2	0	0	1	0	0	0	0	4	3	3	1
	CCC	2	1	0	5	6	5	1	3	8	5	3	3	11	11	5	12	5	1	5	2	1	1	10	5	11	6	12	7	11	3	1	1	3	3	15	1	2	12
	CCG	0	2	0	0	0	0	0	1	0	1	0	0	3	3	1	4	2	1	2	0	1	1	1	2	1	2	4	2	7	2	0	0	0	0	11	0	1	3
	CCU	0	3	0	1	2	1	2	1	7	2	3	3	1	1	0	8	3	0	0	2	2	2	16	12	15	11	2	1	0	5	1	1	1	1	7	0	1	0
ALA	GCA	3	8	0	3	2	3	0	1	1	0	0	0	0	0	1	6	3	0	1	4	0	0	11	12	11	12	1	1	0	2	3	3	2	2	2	0	3	0
	GCC	2	4	4	6	8	6	0	2	21	10	3	3	15	15	1	15	5	5	10	2	7	10	12	9	10	7	18	9	16	6	2	2	4	4	25	0	2	11
	GCG	0	3	0	4	2	4	0	0	1	3	0	0	1	1	0	1	4	0	1	1	1	0	1	1	1	1	5	3	8	0	0	0	0	0	7	0	0	5
	GCU	5	4	0	4	10	4	1	6	13	4	4	4	3	3	0	4	3	5	7	3	8	5	8	7	8	7	5	0	3	2	5	5	3	4	7	0	4	1
GLY	GGA	1	3	0	0	1	0	0	2	7	3	1	1	1	1	2	8	5	2	1	2	0	1	17	7	16	7	0	0	1	3	2	2	3	4	8	1	4	0
	GGC	4	4	0	2	3	2	1	2	15	9	5	4	16	16	7	14	12	6	7	1	7	5	12	6	12	6	13	12	17	4	1	1	2	3	22	1	3	12
	GGG	2	3	3	2	3	2	0	2	4	4	0	0	13	13	3	6	9	1	3	1	1	1	3	2	4	3	8	5	5	4	1	1	0	0	14	1	0	8
	GGU	0	3	1	1	2	1	0	1	11	1	1	1	2	3	2	3	4	0	1	0	3	4	9	5	10	6	2	1	3	3	1	2	0	0	6	1	0	1
VAL	GUA	2	0	0	0	0	0	0	0	3	1	1	2	2	2	0	2	0	3	0	0	0	0	10	8	9	7	0	0	0	2	2	2	0	0	0	1	1	0
	GUC	3	3	2	2	2	2	1	3	9	1	2	2	8	8	1	11	2	1	3	3	2	2	4	5	5	6	18	0	2	5	2	2	0	0	12	1	4	2
	GUG	3	3	4	0	2	0	0	4	14	2	1	1	15	16	3	15	3	3	4	3	12	11	18	15	17	14	13	3	8	5	4	3	5	6	24	4	1	3
	GUU	5	3	1	0	0	0	0	3	8	0	3	3	3	3	2	4	1	2	1	0	4	3	7	5	8	6	0	0	1	1	4	4	0	1	2	1	1	1
LYS	AAA	6	6	2	2	3	2	4	2	4	1	3	2	6	6	1	10	7	5	3	5	1	1	24	14	25	15	0	2	1	8	8	8	4	6	4	5	4	1
	AAG	7	3	6	4	8	4	5	4	15	3	3	2	9	9	1	24	15	6	8	6	12	10	23	18	22	17	11	1	18	3	6	6	4	4	27	5	5	2
ASN	AAC	1	1	2	5	3	5	0	3	8	4	6	7	11	12	5	11	3	6	5	3	4	3	12	10	12	10	14	2	6	8	2	2	1	1	19	0	3	5
	AAU	3	2	0	0	2	0	1	2	8	0	3	3	4	4	1	9	1	3	1	1	3	1	13	8	14	9	1	0	1	4	1	1	1	2	4	2	1	0
GLN	CAA	3	4	0	0	2	0	3	1	1	1	2	2	1	3	3	4	0	3	0	1	0	1	19	13	18	12	1	1	1	3	0	0	2	2	3	0	1	1
	CAG	4	8	3	8	13	8	0	2	15	8	5	5	25	23	7	15	7	7	12	2	3	3	13	11	14	12	11	4	9	6	5	5	6	6	19	1	2	6
HIS	CAC	3	3	2	0	3	0	0	2	10	0	0	0	4	4	5	13	3	2	1	3	2	4	6	3	6	3	5	2	3	3	1	1	1	1	10	0	0	0
	CAU	0	0	3	0	0	0	0	1	3	0	1	1	2	2	0	4	0	2	2	1	4	1	26	6	26	6	1	0	1	4	3	3	2	3	4	0	3	0
GLU	GAA	3	5	5	3	4	3	4	1	9	0	2	4	2	2	0	7	17	9	3	3	2	2	16	11	17	12	1	0	7	9	5	5	6	6	10	8	3	1
	GAG	3	11	12	7	11	7	4	4	28	12	5	5	12	12	9	29	15	4	10	3	6	8	20	18	19	17	16	6	22	6	1	1	3	3	43	4	2	10
ASP	GAC	1	1	4	2	10	2	1	4	14	3	5	6	20	19	8	21	6	6	9	0	3	3	21	14	20	14	5	6	8	6	3	3	3	3	30	4	2	5
	GAU	5	5	3	2	1	2	2	2	13	2	3	2	3	2	5	3	6	9	1	3	6	5	19	9	20	9	0	0	2	6	5	5	5	6	6	2	2	1
TYR	UAC	1	1	0	1	3	1	0	8	14	3	0	0	17	17	10	13	8	3	4	4	1	1	6	7	6	7	18	2	4	4	1	1	0	0	14	0	5	3
	UAU	0	1	1	0	4	0	0	4	5	0	0	0	5	5	5	7	3	1	2	4	1	1	12	9	12	9	0	0	2	4	0	0	4	4	5	1	6	0
CYS	UGC	0	6	0	4	3	4	0	5	7	15	7	8	4	3	5	3	6	0	4	7	0	0	6	7	6	7	8	17	4	6	0	0	0	0	16	0	2	16
	UGU	1	2	2	1	2	1	0	8	5	2	10	9	4	4	2	0	1	0	1	3	1	2	13	12	13	12	2	1	1	1	1	1	0	0	9	3	11	1
PHE	UUC	0	6	5	4	7	4	1	4	14	5	1	2	14	14	7	20	8	6	10	2	3	4	8	8	8	8	27	3	8	2	2	0	0	3	3	18	2	3	6
	UUU	1	1	2	1	6	1	0	4	6	1	1	1	6	6	2	10	2	5	4	4	7	6	14	9	14	9	4	0	1	4	3	3	3	4	4	0	4	0
ILE	AUA	1	0	0	0	0	0	0	1	1	0	1	0	1	1	0	3	0	1	0	0	0	0	6	5	6	5	1	0	0	2	2	2	0	0	1	0	3	0
	AUC	1	3	2	1	5	1	1	3	15	2	6	6	19	19	6	22	0	2	7	2	0	0	11	9	11	9	18	2	3	4	1	1	5	5	17	2	3	2
	AUU	0	2	1	0	3	0	1	1	11	0	1	1	2	2	0	8	0	3	0	3	0	1	8	5	8	5	3	1	0	5	2	2	2	2	2	2	2	0
MET	AUG	8	3	5	3	7	3	2	4	10	4	7	7	9	9	8	15	10	4	6	5	3	1	8	5	9	6	16	1	6	8	7	7	5	5	7	3	9	2
TRP	UGG	1	3	0	1	3	1	0	0	4	0	1	1	4	4	4	10	4	4	2	0	2	1	7	3	7	3	5	0	4	2	1	1	2	2	14	0	0	0
TER	UAA	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	0	1	1	1	1	0	1	0	1	0	0	1	0	0	0	0	0	1	1	0
	UAG	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	1	0	0	0
	UGA	0	1	1	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	1
TOTAL		116	187	93	117	217	117	45	139	452	169	138	138	382	382	176	521	264	181	218	121	146	146	622	437	620	435	349	126	266	230	116	116	113	131	626	75	139	167

		BOG CTRP	BOG INS	GOT HBA1	GOT HBAI I	GOT HBBE I	GOT HBBE II	MRS HBA1	PIG CCK	PIG EMKB	PIG GAST R	PIG PONC	PIG RELX	RAB ALBA	RAB HBA	RAB HBB1 A1	RAB HBB1 A2	RAB IFRC P	RAB IGHA B	RAB MNI	RAB MNI3	RAB UGM	RAB UG2=	SEA MG3=	SHP CRF	SHP MET1	CHK ACB	CHK ACTA	CHK APOL 2M	CHK CKM	CHK CRYD M	CHK CRYD R	CHK CYC1 O	CHK CYC9	CHK GAPD HA	CHK H2BA	CHK H5	CHK HBAA	CHK HBAD A1
ARG	CGA	0	2	0	0	0	0	0	3	0	2	0	1	0	0	0	0	2	4	0	1	0	0	0	4	0	0	0	0	1	0	0	0	0	1	0	0
	CGC	1	3	0	0	0	0	1	1	5	2	13	1	6	0	0	0	5	5	10	10	0	0	0	6	0	3	6	0	9	4	4	1	1	1	5	3	1	0
	CGG	0	0	0	0	0	0	0	4	3	1	6	0	3	1	0	0	9	3	6	7	0	0	1	4	0	0	1	0	6	1	1	0	0	0	2	7	0	0
	CGU	1	0	2	2	0	0	1	0	2	1	0	2	5	1	0	0	1	0	1	1	0	0	1	0	0	6	8	2	1	4	4	0	0	6	0	2	1	2
	AGA	1	0	0	0	1	0	0	2	1	0	1	0	0	0	0	0	7	2	3	2	2	0	1	1	1	6	1	3	1	8	8	1	1	2	0	1	0	1
	AGG	1	2	1	1	3	4	1	1	6	2	2	1	1	1	3	3	14	7	9	7	0	0	3	4	0	4	2	2	3	2	2	0	0	2	0	8	1	1
LEU	CUA	2	0	0	0	0	3	1	0	0	0	0	2	0	0	0	0	2	0	8	1	0	0	0	1	0	1	1	1	1	0	2	0	0	1	0	1	0	0
	CUC	7	4	1	0	3	3	2	0	11	2	4	3	7	2	2	2	18	11	7	10	7	7	6	13	0	7	5	3	14	12	12	1	1	1	0	3	5	2
	CUG	14	16	17	17	11	5	15	10	16	8	10	10	25	14	16	16	30	35	19	20	6	6	11	14	0	18	16	6	20	39	37	2	2	11	6	3	8	10
	CUU	1	0	1	1	0	0	1	0	3	1	0	4	0	0	0	0	5	2	2	3	0	0	0	1	0	0	1	1	0	6	6	1	1	4	0	0	0	1
	UUA	1	0	0	0	0	1	0	0	1	0	0	7	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0
	UUG	0	0	1	1	2	4	2	1	6	0	6	3	2	1	0	0	11	2	1	0	1	1	2	2	0	1	3	2	1	7	8	1	1	2	0	1	2	2
SER	UCA	1	0	0	0	0	0	0	0	1	1	0	2	2	0	0	0	7	5	2	2	0	0	3	0	0	0	0	1	1	1	1	1	1	2	0	1	1	0
	UCC	13	2	4	4	2	1	4	3	5	1	5	6	9	4	3	3	21	23	5	6	3	3	0	4	4	9	16	3	8	5	5	1	1	7	5	9	4	1
	UCG	0	0	1	1	0	0	1	0	0	0	1	1	0	0	0	0	6	5	1	2	0	0	0	2	1	0	0	0	2	0	0	0	0	1	6	9	0	2
	UCU	1	0	2	2	3	2	1	2	5	3	1	2	3	3	3	3	3	8	5	6	1	1	1	2	1	9	3	1	0	11	10	2	2	5	0	2	0	3
	AGC	5	1	4	5	1	3	4	2	7	0	7	3	4	3	0	1	25	29	4	5	2	2	3	7	3	7	4	1	9	22	22	0	0	4	3	5	1	2
	AGU	2	0	1	2	1	2	3	2	2	1	2	2	3	1	1	1	13	3	0	0	1	1	0	2	0	0	0	0	0	6	6	0	0	0	0	0	0	0
THR	ACA	2	0	0	0	0	0	0	1	0	0	2	2	0	0	0	0	12	8	1	3	1	1	0	0	0	9	7	2	0	1	1	3	3	4	1	0	0	0
	ACC	16	2	8	8	3	6	8	2	4	0	3	2	16	10	2	2	23	42	17	17	4	4	2	4	1	12	16	1	8	14	14	0	0	9	6	3	9	5
	ACG	1	1	0	0	0	0	0	0	0	0	4	1	1	0	0	0	8	6	6	5	3	3	2	1	0	1	0	1	1	8	9	0	1	1	1	2	2	0
	ACU	3	0	1	1	4	1	1	0	1	0	0	2	3	2	2	2	8	5	3	1	0	0	1	0	1	4	4	3	0	19	21	4	4	6	0	1	1	2
PRO	CCA	0	0	0	0	0	1	0	0	1	4	1	4	1	0	1	1	14	10	0	0	1	1	0	4	0	4	4	0	3	3	3	2	2	3	0	3	1	0
	CCC	8	4	5	5	2	1	4	3	12	2	14	2	9	5	0	0	15	14	6	7	2	2	3	12	2	9	10	0	12	3	3	1	1	8	4	9	2	3
	CCG	2	0	1	1	0	2	0	1	0	0	8	2	5	1	0	0	1	8	6	8	1	1	0	6	1	0	0	0	5	0	0	0	0	0	1	1	1	0
	CCU	3	2	0	0	2	1	2	2	1	2	0	2	4	1	3	3	10	3	7	5	2	2	1	2	1	6	5	3	1	5	5	0	0	1	1	0	2	2
ALA	GCA	0	0	1	1	0	3	2	4	2	2	1	6	4	0	1	1	10	2	3	3	4	3	0	1	0	2	0	3	1	4	4	1	1	6	1	4	0	0
	GCC	16	8	11	11	8	5	12	1	5	6	17	0	27	10	6	6	28	22	11	13	2	3	9	11	5	19	18	0	11	13	13	2	2	9	6	20	10	9
	GCG	3	3	3	3	0	0	1	9	4	1	10	0	5	2	1	1	12	8	16	12	0	0	2	5	0	1	1	1	3	1	1	1	1	2	5	4	0	0
	GCU	5	1	3	3	9	8	1	1	8	3	0	2	6	1	7	7	12	4	9	7	1	1	3	6	1	7	10	6	0	19	19	1	1	17	0	1	8	8
GLY	GGA	1	0	1	1	3	2	0	0	0	4	2	2	4	0	0	0	12	3	6	6	0	0	1	0	0	2	1	0	3	12	11	6	6	6	0	0	0	1
	GGC	14	6	8	7	8	4	10	8	5	4	26	3	12	8	6	6	25	18	9	10	2	2	5	3	5	8	12	1	10	6	6	4	4	8	6	6	8	5
	GGG	7	3	0	0	0	0	0	1	12	3	5	0	10	0	1	1	18	12	14	15	1	1	6	3	1	1	5	1	15	3	3	0	0	8	0	3	1	0
	GGU	4	0	1	1	2	2	0	0	4	0	2	3	4	1	4	4	6	7	2	1	0	0	0	3	0	17	10	1	3	4	4	3	3	9	1	0	0	1
VAL	GUA	2	1	0	0	0	0	0	2	0	0	0	1	3	0	0	0	8	0	0	1	0	0	1	0	0	2	1	1	0	1	1	1	1	1	0	0	1	1
	GUC	10	0	4	4	3	5	5	2	2	1	4	3	6	0	2	2	18	17	2	2	2	2	3	2	1	5	8	2	12	9	9	1	1	16	4	4	3	2
	GUG	9	5	7	7	8	6	6	3	8	2	7	1	10	10	12	12	27	34	16	15	2	2	2	4	1	10	12	7	16	12	11	0	0	12	4	3	8	8
	GUU	2	1	1	1	2	1	1	0	1	0	0	1	3	0	4	5	11	0	4	4	0	0	0	1	0	5	0	2	0	9	9	1	1	8	0	1	0	1
LYS	AAA	1	0	2	2	2	1	1	1	5	1	2	8	1	2	3	3	9	8	3	4	2	2	2	3	1	5	3	3	9	10	10	5	5	9	0	4	2	1
	AAG	12	2	9	9	10	10	10	2	13	3	16	6	25	10	9	9	31	18	6	7	6	6	17	3	5	13	16	3	23	19	19	13	13	17	21	40	10	10
ASN	AAC	7	2	3	3	4	6	3	1	3	1	6	4	11	3	4	3	17	17	5	4	2	2	2	3	1	6	9	3	11	6	6	2	2	9	3	1	4	5
	AAU	2	1	2	1	3	3	1	1	2	0	1	3	3	1	4	4	7	4	0	0	0	0	1	1	0	3	3	1	3	3	3	2	2	8	0	0	0	1
GLN	CAA	1	0	0	0	0	0	0	1	0	1	1	6	3	0	0	0	10	6	0	0	0	0	0	1	0	0	4	1	1	3	4	1	1	1	0	0	1	0
	CAG	12	6	1	1	3	4	1	6	11	6	7	3	13	1	4	4	20	18	22	17	2	2	3	12	1	12	7	3	12	14	13	2	2	4	3	4	1	8
HIS	CAC	4	2	9	10	5	7	9	3	0	3	4	0	9	10	5	5	7	10	9	10	1	1	7	1	0	6	7	1	16	4	3	1	1	4	3	3	7	3
	CAU	0	0	0	0	2	1	1	0	1	2	0	1	2	1	4	5	3	1	1	0	0	0	6	2	0	3	2	0	1	2	2	2	2	6	0	0	3	3
GLU	GAA	1	0	0	0	3	1	0	1	9	5	3	12	4	3	4	4	22	2	0	1	4	4	3	5	0	7	7	6	2	14	15	2	2	0	0	1	1	1
	GAG	4	9	3	3	6	6	3	6	19	5	23	6	20	4	6	6	38	29	24	25	2	2	11	4	0	19	21	0	28	20	20	5	5	12	7	2	5	7
ASP	GAC	9	2	7	7	3	2	7	5	8	3	8	1	7	7	3	3	34	16	17	19	2	2	8	3	2	8	16	2	20	6	6	1	1	11	3	1	5	7
	GAU	3	0	2	2	2	4	2	1	6	2	2	5	7	0	1	1	14	7	5	4	2	2	0	3	0	15	6	2	7	17	17	4	4	11	0	1	2	0
TYR	UAC	1	4	2	2	2	2	2	4	0	4	1	10	1	2	2	16	8	14	13	1	1	2	1	0	10	8	5	7	4	4	2	2	4	5	3	3	4	
	UAU	0	0	1	1	0	0	0	2	4	2	2	0	2	2	1	1	8	6	1	1	0	0	0	0	0	5	8	0	1	1	1	2	2	5	0	0	1	1
CYS	UGC	9	5	1	1	0	1	1	1	6	2	4	2	7	1	0	0	15	13	4	5	2	2	0	1	17	4	5	0	4	0	0	1	1	3	0	0	2	1
	UGU	2	1	0	0	1	1	0	1	1	0	1	4	1	0	1	1	5	2	0	0	1	1	0	0	3	2	1	1	0	0	0	1	1	1	0	0	0	0
PHE	UUC	12	3	6	6	4	3	7	0	4	2	8	2	7	8	5	5	18	22	10	8	0	0	5	5	0	12	8	2	17	4	4	1	1	8	2	1	7	6
	UUU	0	0	1	1	5	6	1	1	4	0	1	4	0	0	3	3	7	4	1	0	2	2	2	1	0	1	4	0	1	6	7	3	3	5	0	0	0	1
ILE	AUA	1	0	0	0	1	2	0	1	0	0	0	0	0	0	0	0	6	0	1	1	1	1	0	0	0	0	0	2	1	4	4	1	1	0	0	0	0	0
	AUC	9	2	0	0	1	1	0	1	1	1	2	5	14	3	0	0	13	17	6	4	3	3	8	1	0	18	22	5	12	23	21	3	3	15	7	6	6	2
	AUU	1	0	0	0	4	2	0	1	2	0	0	4	6	0	1	0	5	2	1	1	1	1	0	2	0	10	8	2	1	9	10	3	3	4	0	0	1	0
MET	AUG	4	2	2	2	2	5	2	5	5	3	6	5	4	2	2	2	3	11	8	6	6	6	3	2	1	17	17	2	12	10	10	3	3	10	3	2	2	4
TRP	UGG	9	2	1	1	3	3	1	1	3	3	4	3	3	1	2	2	8	12	10	9	0	0	2	0	0	4	4	1	4	1	1	1	1	3	0	0	0	1
TER	UAA	0	0	1	1	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	1	1	1	0	0	0	1
	UAG	0	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
	UGA	1	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	1	0	1	1	1	0	0	0	1	1	0	0	0	1	1	0	0	1	0	1	0	0
TOTAL		264	111	143	143	148	148	143	115	257	105	268	183	365	143	148	148	774	595	362	359	92	92	155	191	62	376	378	107	382	448	448	106	106	334	127	191	143	142

	CHK HBAD A2	CHK HBAM	CHK HBBH	CHK HBBR 1	CHK HBBR 2	CHK HBRH 02	CHK INS3 *	CHK KERC	CHK KERF	CHK LS24 *	CHK MYA2 SM	CHK MYC	CHK OVAL	CHK OVAL M	CHK PKM	CHK TK	CHK TRAN S	CHK TROA	CHK TUBB	CHK Y	DUK H5	DUK HBAD A2	DUK HBAD WP	FSA INSH F	FSB AFGI	FSB AFGI I	FSB AFPA 2*	FSB AFZB	FSB INSA F	FSB INSC	FSB INSS AL	FSB SCPE EL	FSB SOM1 4	FSB SOM2 2	FSB SOM3	FSB SOM1 I	FSC ACHR A	FSC ACHR GS
ARG CGA	0	0	0	0	0	0	3	0	0	1	0	4	0	0	2	3	1	2	3	0	2	0	0	0	0	1	0	0	1	0	0	4	1	0	0	2	1
CGC	1	0	3	0	1	0	0	2	2	3	1	6	2	2	15	4	0	7	11	1	3	0	0	3	1	1	0	0	0	0	0	15	5	2	4	0	3	0
CGG	0	0	0	0	0	0	1	1	1	2	1	2	1	0	3	4	0	3	2	2	6	0	0	1	2	1	0	0	0	0	0	5	1	1	3	5	0	2
CGU	1	1	0	1	1	1	2	1	1	2	1	2	0	0	5	1	0	1	3	1	0	2	2	1	1	0	0	0	0	0	0	14	0	1	0	4	6	0
AGA	0	0	0	0	0	0	0	0	0	1	0	2	10	10	2	1	5	2	0	4	1	0	1	0	4	7	2	2	3	2	2	23	2	2	2	2	1	9
AGG	1	1	3	3	5	3	0	2	2	3	1	7	3	3	5	4	0	2	3	4	9	1	1	1	3	0	0	0	0	1	1	16	2	3	0	0	2	6
LEU CUA	0	1	0	0	0	0	1	0	0	2	0	3	1	1	1	0	0	1	0	1	0	1	1	0	0	0	0	1	1	1	0	17	0	0	1	2	4	4
CUC	5	5	6	4	3	4	5	1	2	0	3	10	6	6	9	3	2	5	6	8	4	4	4	3	2	4	2	0	2	1	5	37	7	8	8	3	4	12
CUG	8	6	11	12	11	12	5	6	5	9	9	17	10	10	21	9	0	22	22	12	3	8	12	2	5	6	0	0	8	5	7	64	7	4	13	11	18	23
CUU	0	0	1	0	1	0	2	0	0	2	0	1	8	8	1	3	2	2	2	5	0	0	0	4	4	3	2	0	1	2	1	28	1	2	0	0	6	9
UUA	0	0	0	0	0	0	0	0	0	0	0	1	3	3	2	0	0	1	0	4	0	0	0	0	1	1	1	0	1	0	0	16	0	0	0	0	7	4
UUG	2	3	0	0	1	0	2	0	0	2	0	4	4	4	2	0	0	1	2	6	0	0	1	5	1	1	1	0	1	2	1	25	0	1	1	2	7	10
SER UCA	1	1	0	0	0	0	1	0	0	2	1	3	7	7	1	2	1	2	1	7	2	0	0	1	2	2	1	0	0	0	1	19	1	2	0	0	6	9
UCC	4	4	5	3	5	3	3	5	5	1	2	13	5	5	7	2	2	3	5	4	11	3	1	2	3	4	0	0	1	1	1	22	2	1	9	6	4	7
UCG	0	0	0	1	1	1	0	0	0	0	0	8	1	1	2	1	0	0	7	1	5	0	0	1	1	0	0	0	1	0	0	8	3	3	2	0	1	1
UCU	0	0	0	0	0	0	1	5	4	1	1	3	10	10	6	4	0	3	2	8	0	2	2	0	0	2	1	1	4	2	3	19	3	1	0	2	8	6
AGC	1	1	2	5	4	5	2	4	5	5	2	14	9	9	5	3	2	3	14	11	5	0	4	1	8	3	1	1	0	0	0	21	2	2	2	2	4	3
AGU	0	0	0	0	0	0	1	2	1	2	0	4	6	6	4	0	1	2	0	3	0	1	1	2	1	3	0	0	0	2	0	23	0	1	0	2	10	3
THR ACA	0	0	0	0	0	0	0	0	0	2	4	3	7	8	4	2	2	1	1	18	1	0	0	1	1	2	1	0	0	0	1	30	0	1	0	1	14	11
ACC	9	10	4	7	4	6	1	4	4	5	2	4	4	4	16	5	1	6	15	5	1	5	3	4	2	3	3	9	0	0	1	26	1	0	3	1	4	4
ACG	0	0	0	0	0	0	1	0	0	0	0	7	0	0	2	1	0	1	13	0	2	0	1	0	0	0	0	0	0	0	1	7	3	3	0	1	2	4
ACU	1	1	3	0	1	1	0	0	0	0	2	0	4	4	3	3	1	0	1	6	1	1	0	0	1	1	3	1	0	1	0	29	1	1	1	1	10	8
PRO CCA	1	1	0	0	0	0	0	1	2	1	0	1	7	7	5	2	0	0	0	4	2	1	0	5	0	1	2	1	2	2	2	21	0	3	0	2	9	7
CCC	2	2	4	4	4	4	3	8	7	1	3	21	1	1	5	5	1	0	16	3	9	3	5	1	1	2	2	3	2	3	6	26	3	1	2	2	2	6
CCG	1	1	0	1	0	1	0	1	1	1	1	13	0	0	4	1	0	0	3	1	5	0	0	0	1	0	0	0	1	1	0	4	2	1	1	0	2	5
CCU	2	2	1	1	0	1	0	3	1	1	0	1	5	6	6	3	1	0	1	4	1	1	0	0	0	1	1	1	0	3	1	23	0	3	2	1	8	9
ALA GCA	0	0	0	0	0	0	2	0	0	2	3	3	16	15	18	2	0	3	1	10	1	0	2	6	4	4	7	14	2	3	3	29	3	1	0	1	4	9
GCC	10	10	11	11	13	11	2	1	1	3	3	30	9	9	19	7	2	17	20	6	23	9	10	2	0	1	25	40	4	5	3	39	8	3	11	4	2	4
GCG	0	0	1	1	0	1	0	1	0	5	0	6	0	0	2	2	0	7	2	1	6	3	1	2	0	0	0	0	3	0	1	4	5	0	0	4	0	4
GCU	8	8	4	2	3	2	4	3	4	5	4	10	10	10	19	8	1	5	4	7	3	9	6	2	4	1	5	0	4	4	3	32	2	3	1	3	8	7
GLY GGA	0	0	0	0	0	0	3	2	2	6	1	1	6	6	9	3	1	1	2	8	0	0	1	5	2	2	1	0	2	1	2	25	0	1	3	2	9	7
GGC	8	9	4	1	1	1	4	7	8	5	5	8	8	9	21	6	0	3	25	4	5	5	6	2	0	3	0	0	4	1	1	28	3	1	2	3	3	4
GGG	1	1	3	3	3	3	1	0	0	2	1	5	2	2	5	8	1	2	5	4	4	0	0	0	1	0	0	0	0	1	?	20	0	0	3	0	3	4
GGU	0	1	1	2	2	2	0	2	1	0	0	5	0	3	2	7	1	0	0	3	4	1	4	0	0	3	1	1	1	3	4	1	15	1	1	0	0	6	5
VAL GUA	1	1	0	0	0	0	0	0	0	0	3	0	5	5	1	0	0	0	0	3	0	0	0	0	0	0	0	0	1	1	3	20	1	1	0	0	10	6
GUC	3	3	5	6	6	6	3	0	2	4	3	10	7	7	9	6	0	5	7	7	2	5	2	0	2	1	0	1	5	3	0	39	3	4	1	0	5	15
GUG	8	7	7	8	6	8	4	7	5	3	0	7	10	10	27	12	0	8	21	7	4	7	7	5	3	2	0	0	4	3	4	56	2	4	1	2	15	5
GUU	0	0	0	0	1	0	1	1	2	0	3	3	9	9	7	2	0	0	1	6	1	2	1	1	2	0	1	0	0	2	0	20	0	2	0	2	14	9
LYS AAA	2	2	1	3	2	3	2	0	0	2	2	8	11	11	11	2	6	9	0	14	9	2	2	1	4	3	2	2	0	3	3	29	4	1	3	2	12	17
AAG	10	10	9	9	8	9	1	0	0	4	2	9	25	11	2	25	15	11	37	10	9	5	6	3	0	0	4	2	3	66	1	1	3	2	11	12
ASN AAC	4	5	6	9	8	9	4	3	2	14	9	14	7	7	10	6	1	5	21	11	0	3	4	4	4	5	2	2	4	4	4	62	1	6	3	5	2	15
AAU	0	0	1	0	0	0	0	0	0	1	0	2	1	10	10	8	1	2	1	2	13	0	0	1	1	0	2	0	0	1	1	0	29	1	1	0	0	13	13
GLN CAA	1	2	1	0	1	0	2	0	0	0	1	4	8	7	1	1	5	1	1	1	0	1	0	2	1	2	1	0	1	1	1	18	1	0	0	0	10	7
CAG	1	0	4	4	3	4	4	4	5	3	4	13	7	8	12	11	0	17	21	4	5	3	8	0	4	5	0	0	6	4	4	36	4	2	4	8	3	10
HIS CAC	7	7	4	6	5	6	2	0	0	1	1	10	3	3	15	2	1	2	10	1	3	8	4	1	3	2	0	0	2	2	2	7	0	0	2	1	7	5
CAU	3	3	3	1	2	1	1	0	0	0	1	0	4	4	3	1	2	0	0	6	0	2	3	1	0	1	0	0	1	2	0	10	0	1	0	0	7	3
GLU GAA	1	1	4	3	3	3	1	0	0	0	11	12	18	18	7	3	2	9	5	17	1	1	4	3	1	2	2	1	0	1	1	53	2	4	1	1	14	25
GAG	5	4	3	6	5	6	8	3	2	2	5	8	30	15	15	29	11	1	56	31	16	1	5	5	3	8	4	0	0	4	4	5	73	9	6	9	11	9	15
ASP GAC	5	4	5	3	4	3	0	1	1	3	7	19	6	6	19	4	0	10	19	7	3	6	6	3	7	8	4	2	7	2	4	50	2	1	5	6	4	13
GAU	2	2	1	1	1	1	1	1	1	1	4	2	3	8	8	13	4	1	5	7	9	0	1	0	5	3	1	0	1	0	3	2	44	1	0	0	0	22	10
TYR UAC	3	3	2	4	3	4	5	0	0	2	1	12	7	7	6	8	1	2	16	6	4	3	5	4	3	3	0	0	3	2	3	34	1	1	1	0	6	12
UAU	1	1	0	0	0	0	1	0	1	1	1	0	0	3	3	2	0	1	2	0	7	0	1	0	1	1	0	0	0	0	1	27	0	0	0	1	11	6
CYS UGC	2	2	1	3	3	3	3	5	5	7	1	5	1	1	7	5	1	1	8	1	0	2	1	5	1	0	0	0	4	2	3	19	3	4	4	1	3	5
UGU	0	0	2	0	0	0	3	3	4	2	0	2	5	5	1	4	0	0	0	4	0	0	0	1	0	0	0	0	2	4	3	17	1	0	0	4	7	4
PHE UUC	7	6	5	5	2	5	3	3	2	3	5	9	9	9	10	6	1	0	18	13	0	7	7	3	2	0	2	0	6	4	4	70	4	1	5	3	5	20
UUU	0	1	3	2	6	2	1	1	1	1	5	2	11	11	7	4	0	1	5	10	0	1	1	1	2	4	1	0	1	3	2	57	0	1	0	0	17	6
ILE AUA	0	0	0	0	0	0	0	0	0	1	0	1	3	3	2	0	3	2	0	4	0	0	0	3	0	0	0	0	0	1	1	31	0	1	0	0	6	6
AUC	6	6	6	7	7	7	1	5	4	6	8	12	16	16	22	5	1	4	19	10	6	5	1	3	4	3	1	1	2	2	1	70	1	0	1	2	13	19
AUU	1	1	1	1	0	1	1	0	1	0	1	0	6	6	13	4	1	3	0	10	0	1	0	0	0	0	1	0	0	1	1	47	1	0	0	0	29	21
MET AUG	2	2	2	1	2	1	1	1	1	3	6	4	17	17	22	8	4	8	19	19	2	3	4	2	4	6	2	1	4	1	3	71	3	4	3	4	16	9
TRP UGG	0	0	4	4	4	4	1	0	0	6	0	2	3	3	3	0	2	0	4	4	0	0	1	0	1	3	1	0	2	1	1	31	1	2	1	3	11	11
TER UAA	1	1	1	0	0	0	0	1	1	0	1	0	1	1	0	0	1	0	0	1	0	0	0	0	0	1	1	1	0	1	1	1	1	0	0	1	1	1
UAG	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
UGA	0	0	0	1	1	1	0	0	0	1	0	0	0	0	1	1	0	1	1	0	1	0	1	1	0	0	0	0	1	0	0	0	0	1	1	0	0	0
TOTAL	143	143	148	148	148	148	108	99	99	148	151	417	387	387	531	225	66	285	446	389	195	143	142	116	125	123	83	86	117	109	106	1821	115	106	122	126	462	507

		XEN CANA	XEN CAMB	XEN HBB	XEN HBB1	XEN HIS4	XEN XEN	ACA ACT1	APL NP	APL MPL1 1	APL NPR3	CEL COL1	CEL COL2	CEL MSP1 OB	CEL MSP3 L4	CEL MYUN C	CNI NBIV	DRO ACT7 98	DRO ACT8 8F	DRO ADH	DRO ADHC	DRO MSP6 71	DRO MSP6 72	DRO MSP6 73	DRO MSP6 74	DRO MSP7 A2	DRO MSP7 D1	DRO MET	DRO MYL	DRO OPSA	DRO OPSB 5=	DRO RAS1 \2=	DRO RAS2	DRO RP49	OFA ACT1 N	ONO C2A1 Z	ONO C2A3 Z	ONO C2I3 Z	PFA CS
ARG	CGA	0	1	0	0	0	2	0	2	1	2	1	1	0	0	2	0	0	1	0	0	1	0	1	0	4	4	0	0	0	0	1	0	1	0	0	0	0	1
	CGC	0	0	2	0	6	2	14	3	1	2	2	2	1	1	48	0	12	10	5	5	2	10	6	6	21	20	0	3	7	7	4	6	12	1	1	1	1	0
	CGG	1	0	0	0	3	0	0	1	5	2	0	0	0	0	1	0	0	0	0	0	2	1	0	1	3	2	0	0	1	1	3	1	0	0	1	0	0	0
	CGU	2	2	2	2	1	0	3	4	1	4	4	4	6	6	50	2	6	6	0	0	2	1	1	6	2	2	0	1	0	0	1	1	1	0	0	0	0	1
	AGA	2	1	1	0	1	1	0	1	1	1	2	0	1	1	25	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	2	0	4	20	2	2	2	4
	AGG	1	2	0	2	3	0	1	0	7	0	1	0	0	0	0	0	0	1	0	0	2	0	1	1	2	2	0	0	1	0	2	3	2	0	0	0	0	2
LEU	CUA	0	0	3	1	0	1	0	1	1	1	0	0	0	0	0	0	3	0	0	0	1	1	0	1	3	3	0	1	0	0	1	1	0	3	0	0	0	1
	CUC	0	1	1	2	5	1	18	4	7	4	4	0	1	1	101	4	3	2	3	3	4	4	1	1	14	13	0	2	4	3	2	3	2	13	2	2	2	0
	CUG	2	1	4	8	3	1	8	5	5	5	0	0	0	0	3	0	18	24	21	20	7	4	7	13	24	21	0	11	25	23	9	7	8	1	0	0	0	0
	CUU	3	3	3	2	0	2	3	0	4	0	3	1	4	4	67	3	2	0	0	0	4	1	0	2	2	0	1	0	1	0	0	0	8	0	0	0	0	3
	UUA	3	3	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	13
	UUG	1	1	4	2	0	1	0	1	3	1	1	1	0	0	37	3	2	1	3	4	1	4	6	4	6	8	0	5	1	2	0	4	0	6	0	0	0	1
SER	UCA	1	1	1	2	0	1	0	3	1	3	1	3	2	1	5	9	1	1	0	0	0	0	0	3	1	1	0	1	2	2	0	0	2	11	1	1	1	4
	UCC	0	0	0	3	0	0	6	4	3	4	4	2	1	2	50	0	16	11	5	5	5	4	4	2	16	15	3	1	11	11	3	2	0	5	1	1	1	4
	UCG	1	1	0	0	0	0	17	0	1	0	2	2	1	1	3	0	4	11	2	2	4	8	7	4	3	4	0	0	7	6	2	2	4	0	0	0	0	1
	UCU	0	0	3	3	2	1	1	0	2	0	2	3	0	0	35	0	2	0	0	0	0	1	0	0	3	5	1	1	2	2	1	0	1	4	3	3	3	4
	AGC	1	2	2	5	0	2	0	0	3	0	0	0	0	0	10	2	2	1	2	2	3	2	2	5	11	9	2	2	9	7	0	3	1	7	4	4	4	0
	AGU	1	0	2	0	0	1	0	0	5	0	0	1	0	0	3	0	0	0	0	0	4	2	0	0	1	3	0	0	0	0	1	2	0	1	1	1	1	7
THR	ACA	8	6	3	0	0	0	0	2	3	2	0	1	0	0	1	5	0	0	0	0	1	0	0	0	8	8	0	0	2	2	3	1	0	2	0	0	0	1
	ACC	2	2	3	2	5	0	22	2	0	2	10	4	8	7	47	2	20	22	22	22	5	2	2	6	19	19	1	4	10	9	4	2	5	11	0	0	0	0
	ACG	0	2	0	1	0	1	1	0	2	0	0	0	0	0	1	0	1	3	2	2	0	0	0	1	9	10	0	0	4	4	2	3	3	0	0	0	0	0
	ACU	2	2	2	1	2	1	3	1	2	1	4	4	1	1	18	2	2	1	3	3	1	2	1	2	5	4	0	0	0	1	1	0	0	10	2	2	2	3
PRO	CCA	1	1	1	0	0	3	0	1	1	1	1	72	55	9	9	28	2	3	4	2	2	3	1	3	2	5	5	1	1	5	4	1	1	4	9	0	0	0	33
	CCC	0	0	1	1	0	0	15	0	7	0	0	2	0	0	3	1	12	11	8	8	3	9	8	7	9	10	0	5	8	7	2	5	5	5	2	2	2	6
	CCG	0	0	0	0	0	0	3	0	2	0	2	1	1	1	0	0	4	1	1	1	7	4	2	6	4	4	0	0	6	7	1	0	1	1	0	0	0	0
	CCU	1	1	1	2	1	0	1	0	3	0	0	1	0	0	1	0	0	3	0	0	1	1	0	1	6	6	1	1	1	1	1	0	1	0	0	0	0	12
ALA	GCA	6	5	1	0	1	5	0	1	4	1	4	5	1	0	7	1	2	1	1	1	3	4	2	2	13	11	0	0	3	3	2	1	1	1	0	2	2	2	35
	GCC	0	1	9	9	4	1	23	4	6	4	16	12	3	4	102	11	21	18	15	15	7	5	6	7	26	25	3	3	28	26	7	6	2	14	3	3	3	5
	GCG	0	0	0	0	0	0	2	4	3	4	0	0	1	2	1	0	3	3	1	1	2	1	1	1	9	8	0	2	3	2	3	2	1	0	0	0	0	0
	GCU	5	5	7	10	2	3	4	2	1	2	11	17	5	5	73	13	4	7	6	6	1	2	2	2	13	14	0	4	5	5	0	2	1	9	1	1	1	4
GLY	GGA	3	2	4	3	7	3	1	0	3	0	57	71	6	7	64	11	2	1	5	5	1	6	5	3	20	19	4	1	7	6	4	1	3	9	3	3	3	8
	GGC	5	5	3	4	7	2	16	4	1	4	0	5	1	1	3	0	17	12	8	8	6	8	7	9	24	24	3	6	13	14	9	3	0	1	4	3	3	2
	GGG	2	3	1	1	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	2	0	0	1	1	1	0	0	0	0	0	2
	GGU	1	1	4	0	0	0	13	4	0	4	2	2	2	1	21	2	10	16	6	6	1	1	2	4	10	9	0	3	3	2	0	2	5	15	1	2	2	6
VAL	GUA	3	2	0	2	0	1	0	0	2	0	0	0	0	0	5	0	4	2	0	0	0	0	0	0	2	3	6	0	0	2	2	1	0	0	3	0	0	0	9
	GUC	0	2	1	4	4	1	15	4	3	4	6	4	2	2	51	5	8	5	9	9	4	5	5	5	10	10	0	7	9	9	3	5	4	8	0	0	0	1
	GUG	1	0	4	7	3	1	6	3	2	3	3	2	2	2	6	0	10	13	10	10	8	12	12	10	24	21	0	1	9	9	7	6	3	0	1	1	1	1
	GUU	3	3	0	3	2	2	2	2	1	2	3	10	5	5	27	5	1	1	3	3	3	3	2	0	3	3	0	3	0	0	2	0	0	12	1	1	1	4
LYS	AAA	3	2	2	3	3	4	0	2	3	2	2	5	1	1	6	4	0	2	2	2	4	0	3	3	4	6	2	1	4	4	6	2	1	4	0	0	0	21
	AAG	5	6	6	7	8	3	19	0	2	0	9	9	7	7	188	6	19	17	16	16	8	14	9	10	42	40	3	11	16	16	10	11	13	15	4	4	4	4
ASN	AAC	3	4	4	5	1	1	9	4	4	4	6	5	7	7	84	4	8	8	14	14	2	7	4	5	25	26	1	4	8	7	8	6	5	12	0	0	0	34
	AAU	3	2	1	3	1	1	0	0	0	0	1	7	2	2	7	0	1	1	2	2	1	1	5	2	7	8	0	1	5	6	1	0	0	1	1	1	1	86
GLN	CAA	4	4	2	1	0	3	1	2	3	2	4	4	5	5	103	5	3	1	0	0	1	3	0	2	3	3	0	0	3	3	2	0	0	13	6	6	6	5
	CAG	2	2	2	2	2	0	10	2	5	2	2	1	1	1	39	0	10	10	7	7	8	10	12	6	22	22	1	6	3	3	6	12	4	0	6	6	6	3
HIS	CAC	0	1	5	4	2	0	10	5	5	5	3	1	2	2	25	2	9	7	3	3	3	4	2	6	8	8	0	1	3	3	1	2	4	5	0	0	0	2
	CAU	1	0	6	4	0	0	0	1	0	1	0	1	0	0	13	2	1	2	1	1	1	5	3	7	3	3	0	0	1	1	1	2	0	2	0	0	0	1
GLU	GAA	17	16	4	4	1	4	0	4	2	4	3	2	2	2	87	1	4	0	1	0	1	3	2	2	7	7	0	5	2	1	3	1	0	14	2	2	2	18
	GAG	4	5	5	3	3	2	28	3	3	3	10	6	3	3	156	0	24	26	9	10	18	11	12	13	39	42	1	15	11	12	12	12	5	13	3	3	3	2
ASP	GAC	6	10	2	1	2	0	18	5	7	5	7	7	5	5	67	5	16	16	7	7	7	8	4	7	40	34	2	6	8	8	8	2	10	0	0	0	0	3
	GAU	11	7	5	7	1	4	3	3	2	3	2	5	5	5	57	7	4	8	5	5	2	4	8	6	8	9	0	9	4	4	6	7	1	9	1	1	1	17
TYR	UAC	0	2	3	1	3	1	14	2	1	2	4	0	3	3	27	1	10	12	5	5	4	4	3	2	12	13	0	4	15	14	8	6	2	10	1	1	1	1
	UAU	2	0	5	1	1	1	1	0	0	0	3	6	1	1	4	1	6	3	1	1	1	0	3	2	3	4	0	0	4	4	1	1	2	3	0	0	0	8
CYS	UGC	0	0	1	0	0	0	4	0	3	0	7	6	1	1	13	1	6	6	2	2	0	4	2	1	7	5	10	3	12	11	1	5	1	5	3	3	3	1
	UGU	0	0	1	0	0	2	0	1	1	1	2	3	1	1	4	0	1	1	0	0	0	0	0	0	0	2	0	0	1	1	3	1	0	1	1	1	1	4
PHE	UUC	4	4	4	6	2	0	11	3	2	3	4	4	4	4	54	14	11	12	8	8	8	3	2	4	4	15	16	0	7	13	11	4	10	4	15	4	4	3
	UUU	4	4	3	2	0	1	2	1	4	1	2	1	1	0	1	1	1	1	1	1	2	1	1	3	6	6	0	1	5	5	3	3	0	0	0	0	0	3
ILE	AUA	1	1	1	0	0	4	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	2	0	0	2	2	0	3	0	0	0	0	0	5
	AUC	4	4	2	3	5	1	24	1	1	1	2	6	5	5	64	6	25	24	14	14	2	5	6	2	28	26	0	4	21	20	8	8	6	20	3	3	3	0
	AUU	3	3	4	3	1	1	3	1	1	1	2	2	2	2	17	3	2	5	9	9	1	4	1	2	8	8	0	2	10	8	3	4	1	7	2	2	2	5
MET	AUG	10	10	2	1	2	2	16	3	1	3	4	2	3	3	36	4	16	15	1	1	5	4	5	5	12	13	1	5	20	20	7	7	5	5	10	10	10	6
TRP	UGG	0	0	3	3	0	2	4	2	2	2	0	1	2	2	16	1	4	4	5	5	4	1	0	1	2	2	0	0	13	10	1	0	1	3	0	0	0	2
TER	UAA	0	0	1	1	1	1	0	1	0	1	1	1	0	0	1	1	1	1	1	1	0	1	0	1	1	1	0	1	1	1	1	0	1	0	0	0	0	0
	UAG	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	UGA	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0
TOTAL		150	150	147	148	104	82	376	109	152	109	297	302	128	128	1967	152	377	377	257	257	175	209	187	214	644	642	41	156	374	354	190	188	134	358	83	83	83	413

		PKN CS	SHR EF1A B	SUR ACT1 N	SUR HISE 3	SUR HISE S4	SUR HISL 34#1	SUR HISL 34#2	SUR HISL 3A#1	SUR HISL 3A#2	SUR HISP 6	SUR HISP 7	SUR HISP A#3	SUR HISP A#4	SUR META	TRY VS17 M	TRY VSG1 3	TTH HA1	AAW GIG1 1#1	AAW GIG1 1#2	AMG GIG1 1#1	AMG GIG1 1#2	BLY AMYA A	BLY AMYA BD	BNA SSPB	FSO CUT	HZE ACT1 G	HZE ZE19 A	HZE ZE22 A	HZE ZE22 B	HZE ZEA2 OM	HZE ZEA3 OM	HZE ZEPC M1	HZE ZE24 G	MEU AMG	MEU ATPC	MEU ATPP RO	PEA CAB8 O	PEA RUBP S
ARG	CGA	2	1	1	2	1	1	0	0	0	3	1	3	1	0	3	2	0	4	3	4	3	0	0	0	3	1	0	1	1	0	0	1	0	0	0	0	0
	CGC	0	1	1	6	4	3	7	2	6	6	4	6	4	0	0	3	0	7	7	7	7	8	0	4	1	0	0	0	0	0	0	9	5	8	1	0
	CGG	0	2	0	0	1	0	0	0	0	0	0	0	0	0	2	2	0	3	2	3	2	4	7	1	1	1	1	0	1	0	0	0	1	0	0	0	0
	CGU	0	11	9	3	3	9	10	10	11	5	4	5	4	0	0	1	0	4	4	4	4	0	0	1	4	4	0	0	0	1	0	0	0	8	14	2	3	4
	AGA	7	4	2	2	1	0	0	0	0	3	1	3	1	0	1	5	13	1	1	1	1	0	1	2	1	6	0	0	0	0	0	0	0	0	0	2	4
	AGG	1	0	5	5	2	1	2	2	1	1	2	1	2	0	1	2	0	1	1	1	1	4	2	2	2	5	2	1	2	2	2	1	3	0	0	2	1
LEU	CUA	2	0	0	2	1	0	0	0	0	2	1	2	1	0	16	12	0	2	2	2	2	1	0	2	1	2	11	11	12	8	10	12	13	1	0	0	0	0
	CUC	3	1	11	2	7	4	6	4	6	2	6	2	6	0	6	9	2	17	16	17	16	22	8	9	8	7	4	3	6	6	4	8	22	21	10	5	2
	CUG	3	5	4	5	2	1	1	1	2	5	2	5	2	0	10	5	0	20	16	20	16	14	9	0	3	5	5	10	8	6	3	10	5	1	1	1	1	0
	CUU	4	12	10	2	2	2	3	2	3	2	3	2	3	0	7	6	0	3	3	3	3	2	2	2	6	6	8	11	11	12	11	11	9	13	3	4	7	4
	AUA	4	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	2	0	0	0	0	0	1	0	0	5	5	3	3	3	7	3	7	0	0	0	3	0
	AUG	3	7	2	1	2	1	1	1	1	1	2	1	2	0	6	3	1	6	6	6	6	1	4	1	4	5	12	10	11	12	11	10	14	1	3	0	12	7
SER	UCA	2	5	3	0	2	0	0	0	0	0	2	0	2	1	7	8	0	4	3	4	3	0	1	1	1	2	6	5	3	5	5	3	6	0	0	0	7	1
	UCC	3	8	13	1	1	0	2	0	2	1	1	1	1	0	2	1	4	19	16	19	16	10	8	3	4	6	1	2	5	4	1	2	1	21	12	10	6	7
	UCG	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	14	11	14	11	6	5	1	2	3	0	0	2	1	1	2	0	1	1	0	0	0
	UCU	1	8	5	1	2	1	1	1	1	1	3	1	3	0	7	5	3	16	16	16	16	1	1	1	3	3	5	3	3	6	6	3	6	3	5	2	8	4
	AGC	3	0	4	2	1	1	2	0	3	3	1	3	1	1	14	8	0	23	20	23	20	7	3	2	5	11	4	4	4	3	3	5	4	4	0	1	5	2
	AGU	4	2	1	2	1	0	0	1	0	1	1	1	1	0	2	6	0	12	9	12	9	0	0	0	0	3	1	3	2	0	1	2	1	0	0	0	1	1
THR	ACA	1	11	2	2	0	0	0	0	0	2	1	2	1	1	24	23	0	5	4	5	4	3	1	1	4	4	2	1	3	4	2	2	2	0	0	0	1	5
	ACC	4	6	16	6	2	6	9	6	9	7	1	7	1	1	10	9	1	39	30	39	30	10	9	5	5	7	1	5	2	3	3	1	8	10	7	5	2
	ACG	0	0	1	1	2	0	0	0	0	1	1	1	1	1	12	11	0	10	8	10	8	4	7	2	2	5	1	2	1	0	1	1	1	0	0	0	0	0
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PRO	CCA	19	12	10	3	2	1	2	1	3	1	2	1	2	0	5	5	0	0	0	0	0	3	4	4	0	6	9	14	14	9	8	14	9	0	0	0	14	7
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ALA	GCA	41	2	1	2	3	0	1	0	1	4	3	4	3	2	27	29	0	10	10	10	10	4	0	4	4	1	12	8	10	10	11	10	15	0	0	0	7	1
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GLY	GGA	39	7	13	4	4	10	4	8	4	4	4	4	4	4	18	7	1	7	5	7	5	4	2	3	4	4	0	1	1	0	0	1	0	0	0	0	13	7
	GGC	4	10	5	0	4	7	2	2	2	0	4	0	4	3	17	9	1	22	20	22	20	31	30	2	9	8	2	1	0	0	2	1	2	23	7	2	5	2
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VAL	GUA	8	5	1	0	0	0	0	0	0	3	0	3	0	1	5	6	0	2	2	2	2	0	1	0	0	3	2	2	2	3	1	2	2	0	0	2	1	
	GUC	3	19	10	2	3	8	6	8	6	2	4	2	4	2	7	4	5	15	13	15	13	12	13	3	4	12	0	3	4	1	0	3	0	19	21	7	5	3
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LYS	AAA	14	20	1	5	3	1	2	2	3	2	5	2	5	0	47	30	4	0	0	0	0	2	3	5	1	2	1	0	0	0	1	0	1	0	0	0	3	3
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ASN	AAC	4	13	9	1	5	1	1	1	1	1	0	6	0	6	2	12	19	2	19	17	19	17	16	15	7	8	8	8	10	10	11	10	10	10	22	11	4	9
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GLN	CAA	34	4	1	1	3	1	1	1	1	0	2	3	2	3	1	14	15	2	4	4	3	3	2	3	12	0	2	30	33	34	27	28	36	35	0	1	0	5
	CAG	11	6	12	7	1	1	7	1	8	6	1	6	1	0	9	11	0	13	11	14	12	10	10	14	7	7	9	17	16	16	13	17	12	15	8	9	1	2
HIS	CAC	2	7	7	0	1	1	1	1	1	1	1	1	1	0	8	4	2	4	4	4	4	12	15	4	1	6	1	1	2	1	1	1	1	9	0	0	1	2
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GLU	GAA	12	22	6	4	4	1	1	1	2	2	3	2	3	1	26	22	3	9	7	9	7	2	0	3	0	8	1	1	2	1	1	2	1	0	0	0	7	5
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TYR	UAC	1	9	15	2	2	3	3	4	3	3	2	3	2	0	8	7	3	21	16	21	16	16	12	3	4	10	6	8	8	6	5	8	7	15	14	2	7	6
	UAU	0	2	0	1	1	1	0	0	0	0	1	0	1	0	3	2	1	6	5	6	5	0	3	0	2	5	2	0	1	3	2	0	2	0	0	0	1	2
CYS	UGC	2	2	5	1	0	1	1	1	1	0	1	0	1	0	13	14	10	0	7	6	7	6	5	3	5	3	3	2	1	1	1	2	1	2	5	2	0	0	3
	UGU	2	4	1	0	0	0	0	0	1	1	0	0	0	0	7	0	3	0	3	2	3	2	1	0	3	1	2	1	0	0	2	1	0	1	1	0	0	1	0
PHE	UUC	4	10	13	3	0	2	5	2	4	4	1	4	1	0	8	8	3	18	17	18	17	14	15	6	8	7	10	6	6	5	10	7	10	17	18	6	11	5
	UUU	1	8	1	1	2	0	0	0	0	0	1	0	1	1	3	8	0	4	2	4	2	2	2	4	0	4	4	3	3	8	4	3	4	1	0	0	4	4
ILE	AUA	3	3	0	0	0	0	0	0	0	0	0	0	0	1	9	6	0	1	0	1	0	2	4	0	0	1	2	1	2	5	2	3	2	0	0	0	1	1
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	AUU	3	20	2	2	0	0	0	1	0	1	2	1	2	0	2	5	4	12	11	12	11	0	3	2	4	12	4	6	7	2	3	5	4	6	3	2	2	4
MET	AUG	3	9	16	3	2	2	3	2	3	3	2	3	2	1	9	7	3	3	4	3	4	13	7	5	2	18	3	6	6	3	2	4	3	10	10	7	7	6
TRP	UGG	1	5	4	0	0	0	0	0	0	0	0	0	0	0	6	6	0	19	15	19	15	16	16	2	1	4	0	0	0	0	0	1	0	8	4	0	6	4
TER	UAA	1	0	1	0	0	1	1	1	1	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	1	1	0
	UAG	0	0	0	1	1	0	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	0	0	1	0	0	1	1	1	1	1	1	1	0	0	0	0	0
	UGA	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL		364	463	377	137	125	104	137	104	137	137	125	137	125	65	527	504	104	641	535	641	535	439	428	179	231	376	236	264	267	241	235	267	268	455	314	148	270	181

		PHO CHL	POT PA1	SCO 1G2	SLN DIS3 A	SLN DIS1 C1	SLN RAS	SOY BBI	SOY LBC2	SOY LBG1	SOY LEA	SOY TRAU 2	TOA GLIA	WHI H3	WHT H4	YSC ACT	YSC ABE4	YSC ADH1	YSC ADR2	YSC ARG4	YSC CBP1	YSC CDC2 8A	YSC CDC8	YSC CPA1	YSC CPA2	YSC CS	YSC CBP1	YSC CYC	YSC CYC1 7	YSC CYC1	YSC CYC7	YSC CYCB	YSC EF1A A	YSC EF1A	YSC EMDA	YSC EMDB	YSC GAL4	YSC GCN4 B	YSC GCN4
ARG	CGA	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	1	0	1	0	0	0	0	0	0	0	0	0	0	7	0	1
	CGC	2	0	1	0	0	0	0	0	0	1	9	0	13	10	0	0	0	0	1	2	2	0	1	0	1	0	0	0	0	0	0	0	0	0	3	2	1
	CGG	1	0	0	0	0	0	0	0	0	1	3	0	0	5	0	1	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CGU	7	2	3	7	8	3	0	1	1	0	0	0	1	0	5	9	0	0	5	2	3	1	3	6	5	0	3	0	0	0	0	0	0	1	1	4	4	2
	AGA	3	1	0	5	5	8	1	0	0	2	0	1	0	0	13	16	8	7	16	18	13	3	7	28	10	0	12	3	3	2	6	18	18	13	13	14	6	3
	AGG	3	3	0	0	0	0	0	0	0	2	2	2	3	0	0	6	0	1	2	9	1	3	3	6	5	0	1	0	0	1	1	0	0	0	3	0	8	1	0
LEU	CUA	4	2	0	0	0	2	0	1	1	2	0	7	1	1	2	6	3	2	8	6	7	3	7	8	6	0	4	1	3	0	0	0	0	0	0	17	5	5
	CUC	12	5	7	5	3	0	2	1	1	9	10	2	8	6	0	0	0	1	2	5	3	2	1	3	1	0	2	0	0	0	4	0	0	0	0	8	0	1
	CUG	5	1	4	0	0	0	0	3	3	2	4	6	3	1	0	3	0	0	4	10	3	2	4	6	2	0	0	0	0	0	2	0	0	0	0	19	4	4
	CUU	10	10	4	1	1	1	0	3	3	8	3	3	0	0	2	4	0	0	7	15	3	2	3	16	7	0	2	1	2	0	0	0	0	0	0	12	5	3
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	UUG	7	9	0	1	0	4	1	5	5	9	0	9	0	0	19	12	19	15	25	19	9	11	11	38	19	0	12	5	4	3	3	23	21	37	36	22	8	5
SER	UCA	5	9	1	11	12	9	6	2	3	3	0	4	0	0	3	9	0	1	3	7	4	2	3	17	8	2	3	1	0	1	1	0	0	0	0	20	8	8
	UCC	8	3	1	1	0	1	0	0	0	8	6	2	4	1	12	4	7	7	5	8	1	0	9	15	8	0	4	0	0	1	2	6	6	16	17	15	6	6
	UCG	2	0	1	0	0	0	3	2	1	3	3	4	1	1	0	2	0	1	2	3	0	2	2	4	3	0	2	1	0	0	0	0	0	0	0	9	4	5
	UCU	7	8	1	2	2	2	3	2	1	12	0	4	0	0	14	6	14	13	11	13	1	4	13	35	8	2	11	2	0	2	3	14	14	15	13	28	8	7
	AGC	1	2	2	1	1	0	0	3	2	8	4	3	1	0	0	1	0	1	4	6	3	1	0	2	5	4	0	0	0	0	0	0	0	0	0	11	1	1
	AGU	2	7	0	0	0	6	3	4	5	1	1	1	0	0	2	4	0	1	2	6	6	1	3	10	4	0	2	0	0	2	0	1	1	0	0	16	2	3
THR	ACA	3	51	0	1	1	4	2	2	3	3	0	1	0	0	0	7	0	0	9	13	5	2	7	19	6	0	4	2	0	3	0	0	0	0	0	24	3	3
	ACC	7	2	3	13	11	0	2	0	1	12	14	6	8	7	8	6	9	9	9	7	0	2	7	10	4	1	10	3	1	1	2	14	14	17	12	13	4	4
	ACG	0	2	0	0	0	0	0	1	1	3	6	1	2	0	0	1	0	0	2	4	1	4	2	4	2	1	2	0	2	4	1	0	0	0	0	9	1	1
	ACU	11	20	2	17	15	3	0	3	3	5	3	2	0	0	13	9	5	5	12	9	1	6	10	29	14	0	4	3	2	1	1	14	14	9	8	20	12	12
PRO	CCA	3	8	1	7	7	2	3	0	0	8	1	29	0	0	13	8	10	12	7	6	6	1	6	25	15	1	11	3	0	2	4	23	23	14	13	13	13	14
	CCC	5	1	5	0	0	0	1	1	1	3	4	1	4	0	0	1	1	1	0	4	2	2	6	5	2	1	1	0	1	0	2	0	0	0	0	9	2	2
	CCG	4	2	0	0	0	0	0	0	0	1	7	8	2	1	0	4	0	0	1	2	5	1	1	2	0	0	0	0	0	0	0	0	0	0	0	11	1	1
	CCU	7	5	0	2	0	0	0	2	4	4	4	1	6	0	0	6	9	2	2	4	4	4	1	10	15	6	0	10	1	2	3	2	0	0	0	13	3	4
ALA	GCA	11	16	0	2	1	7	4	13	12	4	0	5	0	0	0	11	0	3	8	15	5	3	7	25	6	0	11	0	3	2	4	0	0	0	0	15	3	3
	GCC	10	2	3	3	2	0	3	3	3	10	12	3	14	4	11	6	16	12	3	10	4	2	7	20	12	0	10	4	4	2	3	7	7	7	10	12	5	2
	GCG	2	3	3	0	0	0	1	0	0	1	6	4	4	3	0	4	0	0	4	3	6	3	1	0	7	3	0	1	0	2	1	1	0	0	0	6	1	1
	GCU	11	16	3	13	15	2	0	7	6	8	1	4	1	0	15	16	19	18	17	8	5	1	17	39	20	0	14	3	1	3	5	30	30	48	48	18	10	10
GLY	GGA	2	11	1	0	0	1	0	3	3	4	1	0	0	3	0	5	0	1	5	7	3	6	1	8	0	0	1	0	1	2	0	0	0	0	0	5	1	1
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	GGU	11	7	2	15	13	10	0	3	3	5	3	1	0	0	29	33	41	32	26	4	13	3	17	42	28	3	18	8	2	8	2	42	42	37	35	11	3	3
VAL	GUA	4	4	0	3	3	3	0	3	4	3	1	2	0	0	0	7	0	3	6	6	4	2	3	8	3	0	0	0	0	1	0	0	0	0	0	10	3	3
	GUC	8	1	4	4	4	0	0	0	0	5	4	5	2	6	12	8	17	12	6	11	5	2	9	17	1	0	1	0	2	1	2	19	19	17	20	9	2	2
	GUG	9	4	2	0	0	0	1	6	6	8	5	2	4	2	0	6	0	1	1	6	1	2	5	18	6	0	4	2	4	0	0	1	1	0	0	10	2	3
	GUU	5	13	3	15	16	9	1	3	3	7	0	5	0	0	14	17	19	16	9	11	8	7	14	44	17	0	11	1	3	1	3	26	26	17	15	16	14	12
LYS	AAA	13	17	0	6	7	13	3	6	7	6	3	1	0	0	6	13	4	4	12	33	13	12	16	45	23	4	10	6	2	8	3	3	3	7	3	33	12	10
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ASN	AAC	7	3	5	7	9	0	3	1	1	11	8	4	1	2	9	18	11	12	4	24	4	4	10	28	5	3	5	5	2	6	3	16	16	17	21	25	6	6
	AAU	6	15	0	14	12	4	1	3	2	7	0	3	0	0	0	13	0	1	10	25	4	5	12	29	8	3	6	2	1	1	2	0	0	2	0	37	7	5
GLN	CAA	5	11	1	14	14	12	2	4	5	5	0	90	0	0	14	11	9	6	12	22	8	8	16	25	16	5	5	2	4	0	3	12	12	9	9	28	5	3
	CAG	8	2	3	0	0	0	1	1	0	2	5	29	8	2	0	1	0	0	4	4	2	2	5	8	0	0	2	0	4	3	3	0	0	0	0	18	3	3
HIS	CAC	4	0	0	3	3	0	1	0	0	3	0	1	2	2	7	3	10	9	5	5	5	1	6	5	3	0	4	2	4	0	1	6	6	11	10	4	1	0
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GLU	GAA	18	17	0	8	7	13	2	6	5	5	3	2	0	0	26	28	20	18	22	16	9	11	17	64	30	5	16	5	23	3	5	30	30	25	28	25	20	17
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ASP	GAC	10	4	5	0	0	1	3	3	4	8	13	0	4	1	9	10	14	9	11	12	8	5	9	19	5	2	7	3	10	1	5	16	16	24	23	11	7	6
	GAU	12	16	1	14	15	14	6	5	5	9	1	1	0	2	11	21	2	6	22	28	15	14	9	46	14	0	8	1	14	4	2	8	8	7	7	34	15	15
TYR	UAC	7	7	0	9	7	1	1	2	2	2	6	2	2	4	14	9	13	12	8	13	7	2	9	19	7	0	9	3	3	2	3	8	8	9	9	9	1	1
	UAU	3	10	0	2	4	7	1	1	1	3	2	6	0	0	0	15	0	1	8	15	6	4	9	25	13	0	5	2	1	3	3	0	0	0	1	18	3	2
CYS	UGC	4	0	4	1	0	0	7	0	0	0	17	4	1	0	0	4	0	2	1	3	1	1	3	2	0	0	1	1	0	0	0	1	1	0	0	8	0	1
	UGU	3	2	0	7	8	3	6	0	0	0	0	2	0	0	4	11	8	6	3	9	3	2	5	9	1	1	2	3	2	2	2	1	1	6	6	1	1	0
PHE	UUC	7	3	1	4	5	0	1	6	4	10	16	3	5	2	12	8	8	6	10	12	6	4	10	18	7	2	6	2	2	1	1	16	15	14	14	14	4	4
	UUU	8	16	0	8	6	5	1	2	5	4	0	8	0	0	2	12	0	2	10	10	6	6	8	27	11	8	6	2	2	3	2	1	2	2	1	24	7	7
ILE	AUA	7	6	0	0	0	0	0	2	2	2	0	2	0	0	0	4	0	1	6	19	4	6	7	12	2	0	1	0	2	1	1	3	0	0	0	0	0	0
	AUC	6	3	2	4	5	0	2	2	2	7	8	6	7	7	16	6	12	12	6	12	6	3	5	22	6	0	6	2	0	1	3	14	13	9	9	18	7	2
	AUU	10	9	0	9	10	14	0	2	3	6	0	7	0	0	14	22	9	9	12	23	13	7	13	50	17	1	3	2	0	3	5	16	17	13	11	25	7	7
MET	AUG	11	11	1	2	2	3	2	1	1	2	2	3	2	2	16	10	7	5	13	14	5	5	5	19	5	1	6	3	2	4	2	1	0	0	0	19	5	4
TRP	UGG	4	2	2	5	5	0	2	2	2	6	3	0	0	0	4	0	5	5	5	10	4	3	3	8	6	0	6	1	1	1	1	6	6	5	5	13	1	1
TER	UAA	0	1	1	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	0	1	0	1	0	0	1	0	0	0	0	1	1	1	1	0	0	0
	UAG	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0
	UGA	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	1
TOTAL		399	387	95	254	254	187	88	146	146	286	236	319	137	104	376	511	349	349	464	655	299	217	412	1119	481	62	310	110	148	114	128	459	459	438	438	882	282	250

		YSC H2B1	YSC H2B2	YSC H3C1 I#1	YSC H3C2 I#2	YSC H3C4 I#1	YSC H3C5 I#2	YSC H3S4	YSC H4A1 L#1	YSC H4A2 L#2	YSC HSP9 O	YSC LEU2	YSC M1P1	YSC M1PP T	YSC MATA	YSC MATA L#1	YSC MATA L#2	YSC ODC1	YSC ODC2	YSC PHO5 3#1	YSC PHO5 3#2	YSC PPR2	YSC RAD1	YSC RAS1	YSC RAS2	YSC RASH 1R	YSC RASH 2R	YSC RP29 A	YSC RP51 B	YSC RPS1 7A	YSC RPL1 5	YSC RPL2	YSC RPL2 9	YSC RPS3 3	YSC SUC2 C8	YSC TKC0	YSC TRP1	YSC TRP2	YSC TRP3
ARG	CGA	0	0	0	0	0	0	0	1	3	0	0	0	0	0	1	3	0	0	0	0	0	6	2	0	2	0	0	0	0	0	0	0	0	1	0	4	0
	CGC	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2	0	0	0	0	0	0	1	1	2	1	2	0	0	0	0	0	0	1	0	0	2	0
	CGG	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	CGU	0	0	1	2	1	2	10	1	2	3	2	6	6	1	1	2	3	3	5	6	1	4	3	2	3	2	2	4	4	1	0	1	6	3	1	1	9	4
	AGA	6	5	15	12	16	11	10	5	2	21	9	2	2	5	5	2	10	10	9	8	3	20	9	4	10	4	14	13	13	9	7	11	4	8	3	4	14	6
	AGG	0	1	1	0	0	1	3	2	2	3	0	1	1	1	2	1	1	0	1	2	1	16	2	5	2	5	0	0	0	0	0	0	0	1	3	2	7	7
LEU	CUA	0	0	0	2	1	2	12	5	1	4	4	6	6	1	6	1	5	5	4	4	0	15	4	3	4	3	0	0	0	2	1	0	1	6	3	2	5	10
	CUC	0	0	0	0	0	0	1	4	2	1	0	2	1	1	4	2	1	1	0	1	1	10	1	0	1	1	0	0	0	0	0	0	0	2	3	3	2	
	CUG	0	0	1	0	2	0	9	1	2	1	1	4	5	1	1	2	1	1	2	2	1	7	4	0	3	1	0	0	0	0	0	0	0	2	2	4	7	3
	CUU	0	0	0	0	0	0	13	2	0	0	5	3	3	3	2	0	1	1	0	1	0	16	2	2	2	1	0	1	1	0	0	0	0	5	2	3	5	6
	UUA	1	1	4	2	3	2	16	9	3	12	9	7	7	3	9	3	8	8	8	9	3	37	4	2	4	2	1	1	1	2	1	0	2	5	5	3	14	12
	UUG	5	5	8	5	7	5	30	4	3	48	21	3	3	1	4	3	10	10	21	22	2	24	5	11	6	10	6	13	13	5	8	9	3	21	11	8	17	14
SER	UCA	0	1	1	0	1	0	6	0	5	3	2	6	6	3	0	5	2	2	6	5	3	19	6	2	6	2	1	0	0	1	1	1	0	7	2	4	7	8
	UCC	6	9	2	3	4	3	12	1	3	14	9	2	2	1	1	3	3	3	5	5	0	12	5	4	5	4	3	1	3	4	2	2	1	12	0	1	3	9
	UCG	0	0	0	0	0	0	6	2	1	2	0	4	4	0	2	1	1	1	2	2	0	10	2	4	2	4	0	0	0	0	0	0	0	1	2	3	5	5
	UCU	11	9	7	3	5	3	17	4	6	25	11	2	2	2	4	6	4	3	10	6	3	20	13	10	13	10	9	9	7	4	3	2	2	19	4	4	10	10
	AGC	1	0	0	0	0	0	6	3	1	1	1	2	3	2	3	1	2	2	3	2	0	8	3	7	3	8	0	0	0	0	0	0	0	3	1	4	3	3
	AGU	0	0	0	0	0	0	10	6	1	4	3	8	8	2	6	1	1	1	11	10	0	7	6	5	6	5	1	0	0	1	0	0	0	6	2	4	6	4
THR	ACA	1	2	2	0	1	0	7	9	2	2	4	10	9	1	9	2	8	8	2	4	5	13	2	7	2	7	0	0	0	0	0	1	0	6	2	5	9	6
	ACC	2	3	4	2	2	1	10	3	0	13	8	7	7	0	3	0	3	3	17	18	4	7	4	5	4	5	4	5	4	1	4	0	3	9	2	0	9	10
	ACG	0	0	0	0	0	0	1	0	1	1	0	1	5	0	0	1	1	1	0	0	0	11	2	4	2	4	0	0	0	0	0	0	0	3	4	1	5	2
	ACU	9	6	3	4	6	5	15	5	2	24	4	3	3	5	5	2	5	5	18	15	1	15	8	7	8	7	3	3	4	2	5	4	3	21	5	1	11	5
PRO	CCA	4	4	3	1	3	1	23	4	2	25	16	5	5	2	4	2	1	1	7	10	3	12	1	1	1	1	1	4	4	4	6	6	6	2	15	1	4	14	10
	CCC	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	2	2	1	1	1	4	1	2	1	2	0	0	0	0	0	1	0	4	2	3	2	4
	CCG	0	0	0	0	0	0	3	0	0	1	0	2	2	0	0	0	1	1	0	0	0	7	0	0	0	1	0	0	0	0	0	0	0	1	2	3	3	
	CCU	1	1	2	0	2	0	8	3	4	1	8	5	5	0	3	4	3	3	5	3	1	11	2	3	2	3	0	0	0	1	0	1	0	7	1	2	10	7
ALA	GCA	1	0	1	0	1	0	12	2	2	4	5	8	9	3	2	2	11	10	2	4	3	16	2	7	2	7	0	0	0	1	1	0	1	0	5	3	6	15	6
	GCC	4	7	9	2	7	3	22	1	1	12	17	8	8	0	1	1	2	2	14	13	6	13	6	6	6	6	4	2	1	8	2	3	1	11	1	1	6	9
	GCG	1	0	0	0	0	0	0	2	4	1	2	4	4	1	2	4	3	4	0	2	2	5	3	2	3	2	0	0	0	0	0	0	0	2	1	1	3	1
	GCU	12	10	6	4	8	3	29	1	5	26	13	5	5	0	1	5	8	9	15	16	2	9	5	11	5	11	14	4	4	6	17	8	1	16	2	6	10	16
GLY	GGA	0	0	0	0	0	0	3	1	3	0	1	3	3	1	1	3	7	7	1	3	0	10	5	2	5	2	0	0	0	0	0	0	1	4	2	9		
	GGC	0	0	0	0	0	0	7	1	1	1	0	8	8	1	1	1	7	7	4	9	0	8	4	8	4	8	1	0	0	1	0	0	1	6	2	5	5	5
	GGG	0	0	0	0	0	0	5	1	0	0	0	1	1	0	1	0	0	0	1	2	0	6	4	4	4	4	0	0	0	0	0	0	0	2	3	1	3	2
	GGU	4	4	7	16	7	16	37	1	4	23	28	11	11	1	1	4	13	13	22	17	4	9	10	14	10	14	7	6	6	16	5	18	3	20	3	11	16	16
VAL	GUA	0	0	0	0	0	0	6	5	4	4	0	8	8	2	4	4	3	3	2	3	1	12	8	2	8	2	0	0	0	0	0	0	0	4	2	4	5	9
	GUC	1	2	4	4	3	4	6	1	1	8	7	5	5	0	1	1	2	2	14	11	2	16	6	5	6	5	2	3	4	6	5	4	6	12	3	3	8	9
	GUG	0	0	0	0	0	0	17	1	2	2	4	8	8	0	1	2	6	6	1	0	0	16	2	8	2	8	0	0	0	1	0	0	1	6	2	4	6	11
	GUU	4	5	2	4	3	4	44	2	2	28	18	4	4	3	2	2	8	8	10	11	1	18	5	10	5	9	5	8	6	7	7	6	3	7	6	10	11	12
LYS	AAA	7	8	2	4	7	4	27	15	12	24	10	3	3	9	15	12	7	7	7	10	7	46	13	7	13	7	6	2	4	1	4	6	2	11	12	12	19	19
	AAG	13	11	14	7	9	7	36	10	6	53	18	10	10	5	11	6	15	15	16	12	7	27	6	15	6	15	24	12	10	10	17	12	2	15	9	3	13	14
ASN	AAC	3	3	1	1	0	1	17	7	4	17	8	8	9	4	7	4	2	2	24	21	9	15	11	16	11	16	4	6	7	6	6	2	3	30	4	3	6	14
	AAU	0	0	0	0	1	0	18	11	8	9	5	11	10	10	11	8	4	4	7	9	2	51	21	16	21	16	0	0	0	2	1	1	0	14	5	10	17	9
GLN	CAA	4	3	8	2	8	2	30	6	4	20	9	4	4	6	4	4	4	4	15	12	4	18	12	14	12	14	7	7	7	2	3	4	1	19	8	5	18	8
	CAG	0	1	0	0	0	0	6	1	6	2	0	3	3	1	1	6	4	4	1	4	1	22	5	8	5	7	0	0	0	0	0	0	0	0	2	2	4	6
HIS	CAC	1	1	2	2	2	2	7	1	3	1	3	4	4	3	1	3	2	2	3	2	0	9	0	2	0	1	1	0	0	0	1	7	0	1	1	0	1	6
	CAU	1	1	0	0	0	0	5	0	2	3	3	7	7	1	0	2	2	2	6	4	1	12	1	0	1	0	1	1	1	0	0	3	0	3	2	3	8	9
GLU	GAA	8	7	7	4	7	4	50	11	5	76	20	8	8	8	11	5	14	14	19	20	7	55	15	12	15	12	10	7	7	4	4	5	6	22	11	6	21	23
	GAG	0	1	0	0	0	0	17	7	2	19	3	6	6	3	7	2	3	3	3	4	1	27	6	6	6	6	0	0	0	0	1	0	0	8	3	6	5	10
ASP	GAC	1	1	1	1	2	1	16	3	3	24	7	10	10	0	3	3	9	9	22	19	1	23	10	6	10	6	2	5	4	3	3	4	2	11	7	5	11	12
	GAU	2	2	3	2	2	2	28	7	2	23	17	11	11	3	7	2	10	10	19	21	6	41	11	10	11	11	1	2	3	2	2	1	1	21	13	10	23	11
TYR	UAC	4	2	1	3	1	2	9	1	3	16	4	3	3	1	1	3	5	5	25	22	3	12	7	10	7	10	1	4	4	2	7	4	0	21	2	3	6	13
	UAU	1	3	1	1	1	2	14	2	5	4	0	8	8	1	2	5	4	4	6	8	3	19	9	2	9	2	0	1	1	0	1	1	0	10	4	1	14	3
CYS	UGC	0	0	0	0	0	0	4	1	1	0	1	3	3	0	1	1	2	2	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	4
	UGU	0	0	0	0	0	0	7	1	0	0	1	3	3	2	1	0	2	2	10	7	6	8	3	2	3	2	0	1	1	2	0	0	0	1	2	2	5	5
PHE	UUC	1	1	3	2	3	2	16	1	4	23	5	2	2	1	1	4	1	1	19	20	3	8	2	2	2	2	6	2	2	1	2	5	1	20	4	3	9	6
	UUU	1	1	2	0	2	0	13	5	10	10	5	9	9	4	5	10	7	7	8	8	1	29	4	2	4	2	2	0	0	2	0	0	0	19	6	5	12	11
ILE	AUA	0	0	0	0	0	0	2	8	4	3	1	5	5	5	8	4	1	1	1	2	5	19	5	8	4	8	0	0	0	0	0	0	0	3	6	3	7	3
	AUC	5	4	6	4	5	4	18	4	2	21	16	7	6	1	4	2	3	3	7	7	0	12	3	1	3	1	6	5	3	5	3	6	1	4	3	1	11	11
	AUU	3	4	1	3	2	3	23	5	5	25	8	8	8	6	5	5	10	10	13	10	3	37	9	5	9	5	1	2	4	2	5	3	2	12	7	10	27	19
MET	AUG	2	2	1	1	1	1	14	4	3	13	8	6	6	4	4	3	6	6	7	11	1	18	4	7	4	7	1	2	2	6	3	4	2	11	5	2	12	8
TRP	UGG	0	0	0	0	0	0	3	2	4	5	4	9	9	1	2	4	3	3	7	7	1	10	0	0	0	0	1	0	0	2	0	2	0	16	3	3	2	3
TER	UAA	1	1	0	1	0	1	0	0	0	0	1	0	0	1	0	0	1	1	0	1	0	0	0	1	0	1	1	1	1	1	1	1	0	0	0	1	1	
	UAG	0	0	1	0	0	0	1	0	1	1	0	1	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
	UGA	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		132	132	137	104	137	104	800	211	176	710	369	317	317	127	212	176	268	268	468	468	129	973	310	323	310	323	156	137	137	138	138	150	68	533	217	225	529	485

	YSC TUBB	YSC YP20 HC	YSG ACT	YSG GAL8 2	YSG RPL1 6	YSP CYC	ACY RUBP L	ACY RUBP S	ANA GLNA	AHA HIFH	ANA RUBP #1	ANA RUBP #2	AQU CPCA B#1	AQU CPCA B#2	AQU PCAB #1	AQU PCAB #2	BAM APR	BAM HPR	BAM SUB	BLI PENP	BLI SPOO H	BNE C	BNO PIL	BPU CAT8 6	BSU MPRE	BSU SBTL	BSU SPOO B	BSU SPOO B1	BSU SPOR	BSU TRPE DC#1	BSU TRPE DC#2	CLO DF13 #1	CLO DF13 #2	CLO DF13 B#1	CLO DF13 B#2	CLO DF13 B#3	CLO LPAR B	COL ACOL A
ARG	CGA	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	4	2	0	0	2	3	0	0	0	1	2	1	1	2	3	0	0	2	4
	CGC	1	0	0	1	0	1	11	3	3	5	9	0	4	2	4	2	1	7	1	1	4	0	1	0	3	0	0	3	1	2	2	0	0	4	0	0	0	4
	CGG	0	1	0	1	0	0	3	0	2	0	1	0	1	0	1	0	0	1	0	3	1	0	0	1	1	0	2	0	1	2	3	0	0	5	1	1	0	8
	CGU	3	4	5	2	1	3	13	5	8	11	18	5	6	5	6	5	0	2	0	3	0	2	1	0	4	2	2	6	3	3	1	0	1	8	0	0	1	12
	AGA	12	1	13	9	15	0	0	0	1	1	2	1	0	0	0	0	2	2	2	2	3	1	0	1	2	3	3	1	1	6	4	2	1	3	0	0	1	4
	AGG	1	1	0	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0	0	0	0	6	0	1	0	2	0	0	0	1
LEU	CUA	2	2	2	7	0	0	0	6	4	11	1	0	1	0	1	0	0	0	0	2	1	0	4	2	0	0	1	0	2	5	5	0	0	0	0	0	0	1
	CUC	0	0	0	3	0	1	10	3	6	2	2	1	10	9	10	9	2	6	2	3	4	0	1	1	7	0	2	0	0	6	2	0	0	2	0	0	0	7
	CUG	2	7	0	4	0	1	22	3	7	2	8	3	0	0	0	0	3	11	3	3	3	0	0	3	3	2	12	0	1	11	5	1	1	12	1	2	1	16
	CUU	7	1	2	5	0	1	1	0	2	2	1	2	2	4	2	4	6	6	6	15	3	0	2	3	11	8	5	3	1	10	11	2	0	5	1	2	0	7
	AUA	4	5	2	18	3	0	0	0	8	7	4	2	0	0	0	0	7	7	7	8	5	4	8	5	9	7	4	2	0	8	7	6	1	8	3	0	1	5
	AUG	18	5	19	14	8	2	10	1	10	7	15	2	0	2	0	2	3	7	3	4	2	0	4	7	6	5	3	0	1	4	2	1	0	2	0	1	0	2
SER	UCA	3	2	3	4	0	0	0	0	2	1	0	0	0	0	0	0	9	8	9	2	4	3	3	4	12	5	3	0	1	4	7	4	1	7	1	1	1	5
	UCC	6	6	12	7	4	1	5	0	5	5	4	1	3	0	3	0	5	9	5	1	6	0	0	0	7	1	1	0	0	5	2	2	0	7	1	2	0	6
	UCG	3	2	0	5	0	0	10	2	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	2	0	2	0	0	8	3	3	0	4	1	1	0	4
	UCU	20	1	14	19	6	2	2	0	14	4	9	4	6	2	6	2	15	15	15	1	2	1	3	2	15	15	1	4	0	9	9	3	1	6	1	1	1	7
	AGC	3	1	0	7	0	0	2	5	5	2	0	3	3	5	3	5	16	9	16	2	4	0	1	5	15	20	3	1	0	10	11	2	4	6	0	0	4	9
	AGU	2	3	2	4	0	0	0	0	2	0	0	0	0	0	0	0	2	3	2	5	3	1	1	3	2	4	2	0	0	3	1	2	3	7	2	0	3	8
THR	ACA	7	3	0	8	1	0	0	0	13	1	10	2	0	0	0	0	8	14	8	8	3	2	2	3	20	13	2	3	1	19	8	7	3	5	0	0	3	5
	ACC	5	7	8	6	5	4	24	1	8	14	17	4	7	6	7	6	1	9	1	3	3	0	1	2	3	0	1	0	0	4	5	2	2	4	1	0	2	8
	ACG	4	0	0	4	0	1	4	1	2	0	2	0	0	1	0	1	4	9	4	7	1	0	0	6	9	5	6	0	0	7	8	3	1	12	0	2	1	6
	ACU	9	8	13	8	5	4	1	2	3	1	4	0	4	8	4	8	5	6	5	5	3	0	4	1	5	6	0	2	0	4	5	4	1	6	0	0	1	5
PRO	CCA	8	0	13	10	4	0	1	0	13	3	4	2	0	0	0	0	1	0	1	3	0	1	1	1	8	2	1	1	0	2	1	2	1	5	2	1	1	4
	CCC	3	0	0	2	0	3	7	5	6	2	5	3	4	3	4	3	0	0	0	1	1	0	0	1	0	0	0	0	0	4	2	0	1	2	0	0	1	2
	CCG	1	1	0	6	0	1	9	1	1	0	0	0	0	0	0	0	3	10	3	5	1	0	1	2	3	3	1	0	0	11	6	0	3	24	0	0	3	6
	CCU	6	0	6	9	1	2	5	2	12	4	11	3	0	2	0	2	11	10	11	3	2	1	1	6	9	9	1	1	0	5	3	4	0	11	1	0	0	8
ALA	GCA	7	3	0	8	0	0	7	1	10	8	13	1	3	5	3	5	14	10	14	13	1	3	4	2	11	16	3	0	0	10	11	1	2	9	0	4	2	27
	GCC	8	0	11	13	3	6	8	0	7	2	4	1	3	2	3	2	8	16	8	8	1	0	0	3	15	11	2	0	3	6	4	5	0	17	0	0	0	17
	GCG	1	3	0	5	0	0	10	0	2	1	6	0	4	2	4	2	14	7	14	5	2	2	3	0	8	11	2	1	0	4	8	0	1	16	0	1	1	11
	GCU	16	2	15	20	6	5	19	2	17	16	25	1	17	14	17	14	16	14	16	8	4	6	10	4	16	10	2	5	3	9	13	2	1	15	0	1	1	33
GLY	GGA	2	2	0	5	0	1	0	0	3	0	3	1	1	0	1	0	9	8	9	7	4	2	2	1	9	14	3	5	2	4	10	2	3	12	0	1	3	13
	GGC	6	3	0	9	0	4	18	3	9	3	6	1	1	4	1	4	16	20	16	3	0	3	3	2	15	14	2	4	2	9	4	1	2	12	1	1	2	11
	GGG	4	5	0	2	0	0	4	0	0	0	2	0	0	0	0	0	6	1	6	1	0	0	0	0	1	1	1	0	0	6	7	2	0	12	2	1	0	15
	GGU	21	5	29	12	15	7	23	1	24	26	31	2	10	9	10	9	9	10	9	5	0	3	12	2	13	8	0	5	3	9	9	2	1	38	5	1	1	17
VAL	GUA	4	3	0	6	0	1	0	0	6	11	15	2	6	1	6	1	14	10	14	5	1	3	2	4	4	9	0	4	1	5	3	4	0	4	2	0	0	4
	GUC	11	5	12	12	8	2	13	2	3	0	3	1	0	1	0	0	8	10	8	3	0	0	0	0	12	6	2	0	0	7	3	1	0	3	4	1	1	3
	GUG	9	6	0	8	0	0	10	2	1	0	1	0	0	0	0	0	4	10	4	6	5	0	0	5	7	5	0	2	1	5	3	1	0	14	0	1	0	10
	GUU	9	0	14	19	7	1	4	1	11	6	11	6	10	5	10	6	14	9	14	3	2	1	7	3	14	13	5	1	1	9	8	4	1	11	3	3	1	19
LYS	AAA	5	2	6	19	3	2	17	2	23	6	18	3	4	4	4	4	22	35	22	19	7	1	12	13	32	18	5	9	3	29	10	21	4	40	7	1	4	23
	AAG	11	16	12	18	14	12	9	3	8	8	7	3	2	3	2	3	6	8	6	10	4	3	5	3	9	7	8	1	1	8	8	4	2	18	2	2	2	13
ASN	AAC	15	9	9	12	7	4	13	2	20	14	18	1	4	8	4	8	16	29	16	7	1	6	3	5	24	16	3	2	2	6	3	5	3	10	1	1	3	14
	AAU	12	3	0	17	0	2	1	1	1	2	0	1	3	1	3	1	4	14	4	10	5	2	6	6	13	2	6	0	3	11	9	3	1	14	4	0	1	34
GLN	CAA	19	7	14	8	7	2	8	5	11	9	12	7	3	4	3	4	9	11	9	5	3	5	4	6	12	11	4	3	1	9	2	5	6	4	0	0	6	3
	CAG	4	3	0	2	0	0	4	2	4	1	3	2	3	2	3	2	5	11	5	4	2	0	0	1	11	3	4	1	3	7	7	2	2	18	1	3	2	23
HIS	CAC	6	0	7	3	3	1	15	2	7	7	12	2	0	1	0	1	6	2	6	1	0	0	1	2	6	4	3	0	0	6	2	0	2	2	1	0	2	1
	CAU	5	1	3	6	0	1	1	1	3	0	1	0	0	1	0	1	2	8	2	0	5	0	0	9	4	4	8	0	0	9	4	0	2	8	2	0	2	6
GLU	GAA	25	7	26	22	8	6	24	3	24	22	23	7	8	5	8	5	9	16	9	13	9	2	7	12	19	10	14	2	3	27	14	9	1	17	4	1	1	22
	GAG	11	4	1	9	1	2	5	8	8	3	8	2	1	2	1	2	2	6	2	9	4	2	2	4	3	2	2	1	2	18	16	2	1	17	1	0	1	20
ASP	GAC	12	12	9	9	7	1	25	2	11	16	16	2	5	6	5	6	7	12	7	5	7	0	2	3	15	5	6	5	2	13	5	9	4	3	1	0	4	4
	GAU	17	5	11	14	4	3	6	3	17	1	12	0	5	4	5	4	7	19	7	19	2	2	10	8	16	8	12	2	2	16	8	9	1	32	8	1	1	22
TYR	UAC	7	5	14	6	3	3	12	6	13	7	16	6	4	9	4	9	11	19	11	1	1	1	3	1	13	6	1	2	0	9	2	7	0	1	3	0	0	2
	UAU	8	4	0	13	2	2	2	0	9	2	4	2	1	2	1	2	3	10	3	5	3	1	4	11	15	10	5	1	2	11	4	1	3	12	0	1	3	7
CYS	UGC	1	1	0	3	0	1	5	4	2	4	3	2	2	1	2	1	0	0	0	2	2	0	0	1	0	0	0	0	0	4	2	1	1	0	0	0	1	0
	UGU	4	3	4	10	1	1	2	0	4	2	4	0	1	1	1	1	0	0	0	0	2	0	2	3	0	0	1	0	0	9	0	2	1	0	0	1	1	0
PHE	UUC	17	5	12	9	7	4	19	7	14	6	12	2	4	5	4	5	5	8	5	3	1	1	2	1	7	4	0	4	0	8	3	4	2	4	1	0	2	0
	UUU	8	3	2	17	0	2	5	1	11	0	8	2	2	0	2	0	3	6	3	6	2	1	2	13	8	4	10	2	2	15	10	2	1	7	7	3	1	10
ILE	AUA	0	0	0	5	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	2	3	0	0	5	1	0	2	0	0	9	2	5	0	0	1	2	0	4
	AUC	11	6	16	7	4	1	21	7	18	15	19	4	5	5	5	5	10	11	10	4	4	3	7	3	10	8	2	2	1	11	4	6	3	1	1	2	3	11
	AUU	9	5	14	16	6	2	1	0	13	6	6	3	3	1	3	1	7	12	7	8	9	0	6	11	10	13	8	1	2	21	12	4	2	15	4	1	2	14
MET	AUG	15	5	16	12	4	2	12	4	12	15	8	1	6	3	6	3	8	4	8	6	4	2	2	4	3	8	7	1	3	16	12	4	1	8	2	1	1	17
TRP	UGG	6	2	4	4	1	1	9	2	8	0	9	2	0	1	0	1	4	4	4	3	3	0	0	5	4	4	2	0	1	3	1	1	3	6	4	0	3	7
TER	UAA	1	0	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	0	1	1	0	0	1	1	0	1	1	0	0	1
	UAG	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
	UGA	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	1	0	1	0	0	0	1	0
TOTAL		458	207	376	529	175	110	473	112	475	300	477	110	173	163	173	163	383	522	383	308	169	73	159	221	522	382	193	95	62	516	338	189	88	562	86	50	88	593

	COL B2P1 L	COL E1CA I	COL E1CO L1	COL E33B P#1	COL E33B P#2	COL E33B P#3	COL IBCO L1	EAE ONPA	EAM LPP	ECO ACE #1	ECO ACE #2	ECO ACE #3	ECO ACE #4	ECO ALKA	ECO AMPC FR#1	ECO AMPC FR#2	ECO AMPC FR#3	ECO AMPC FR#4	ECO AMPC FR#5	ECO ARAC B	ECO ARAC K	ECO ARGF C	ECO ARGI	ECO ARGA	ECO AROF	ECO ARDG	ECO ASD	ECO CARA B#1	ECO CARA B#2	ECO CHEY	ECO CRP	ECO CYA	ECO DAM	ECO DEOC	ECO DNAA OP#1	ECO DNAA OP#2	ECO DNAA OP#3	ECO DNAB
ARG CGA	0	1	4	0	1	0	3	0	0	2	0	0	0	1	0	0	0	0	1	3	4	0	1	0	1	1	0	0	1	0	0	4	0	0
CGC	2	0	3	0	0	1	5	4	1	11	10	8	4	6	16	6	2	2	7	10	10	5	5	7	9	7	9	7	31	1	3	24	10	5	3	13	12	16
CGG	0	0	4	0	0	1	8	0	0	0	1	0	0	5	0	0	1	0	0	4	3	4	1	2	0	0	2	2	1	0	0	2	2	0	2	1	0
CGU	1	1	12	1	0	1	14	9	4	7	39	12	11	6	22	4	1	2	2	5	5	2	5	12	10	7	8	6	37	2	8	29	6	7	8	16	11	21
AGA	0	4	3	0	0	2	10	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	1	0
AGG	0	3	1	0	0	1	6	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
LEU CUA	0	5	4	2	1	1	0	0	0	2	0	0	0	0	2	0	0	0	2	0	0	0	1	0	1	0	2	1	0	0	0	4	0	0	2	2	1
CUC	1	1	4	0	1	0	7	2	0	10	6	2	1	1	5	0	1	1	4	5	5	5	9	3	1	3	6	5	5	2	3	13	2	1	0	3	7	6
CUG	8	1	8	0	1	3	23	21	9	13	59	28	30	16	36	12	11	15	10	13	13	25	15	26	22	21	17	21	68	7	14	55	13	20	3	25	26	22
CUU	1	3	12	1	0	2	14	0	0	2	4	2	2	1	1	1	0	0	6	4	4	3	3	4	3	3	6	1	2	1	2	11	3	0	0	7	1	4
UUA	1	15	8	1	0	2	4	0	0	0	0	0	1	8	1	2	1	1	7	4	4	2	2	10	3	3	6	5	3	1	0	9	2	0	0	2	5	2
UUG	0	4	8	2	0	3	3	0	0	7	1	1	0	7	2	2	1	1	5	5	5	1	4	5	4	4	4	5	4	3	13	6	1	0	9	2	9
SER UCA	1	3	5	2	1	3	7	0	2	2	7	1	1	0	1	1	0	0	2	3	3	1	0	2	3	2	1	2	1	0	1	6	1	0	0	5	4	1	2
UCC	1	2	3	1	0	2	6	6	0	4	10	5	4	0	8	5	1	0	3	0	0	1	1	5	7	2	5	3	18	2	3	8	2	2	0	5	3	8
UCG	0	0	2	1	0	2	5	0	0	3	6	6	0	1	0	1	0	0	3	6	6	4	4	2	2	3	2	1	9	1	1	15	1	0	0	4	4	11
UCU	3	1	10	0	1	3	11	6	3	1	13	12	5	1	4	0	0	1	3	0	0	2	2	6	3	1	7	6	10	0	4	5	3	2	3	5	4	5
AGC	1	1	4	0	1	0	4	7	2	5	12	4	3	3	7	5	1	3	6	10	10	5	7	5	9	10	6	6	5	0	2	24	5	8	0	3	9	4
AGU	2	1	8	2	2	1	8	0	0	3	0	1	1	4	0	2	1	0	3	0	0	0	1	1	3	0	0	0	3	1	0	5	3	0	0	3	2	4
THR ACA	0	9	10	1	0	4	12	1	0	1	2	0	0	2	2	0	0	2	9	0	0	0	1	7	2	0	3	3	1	1	1	5	3	0	0	2	0	2
ACC	3	4	2	0	1	2	10	17	1	3	26	17	19	3	22	8	4	0	8	5	4	12	6	10	5	8	16	14	40	2	4	13	2	10	1	9	13	9
ACG	1	3	4	0	0	1	10	0	0	0	2	1	1	5	6	1	3	1	6	2	2	7	8	10	3	4	2	4	7	1	3	9	4	2	0	11	4	5
ACU	1	3	10	1	2	1	2	4	4	2	12	9	6	3	6	3	3	0	4	0	1	4	7	7	5	2	5	6	12	1	5	6	1	4	2	3	1	3
PRO CCA	0	5	2	1	1	2	3	3	0	2	2	3	2	3	6	3	3	3	6	2	1	0	3	2	2	4	3	4	8	2	2	8	2	1	0	6	6	7
CCC	1	0	0	0	0	2	0	0	1	1	1	0	2	3	0	0	0	0	7	1	1	0	3	3	2	1	1	1	0	1	0	2	5	0	0	0	0	2
CCG	2	1	1	0	0	2	4	14	0	6	31	28	16	12	17	10	6	4	6	13	14	9	3	9	10	5	11	10	35	0	4	24	5	6	1	12	12	10
CCU	0	2	4	2	2	0	6	1	0	1	1	6	1	2	0	1	0	1	7	1	1	0	4	4	4	1	5	1	0	0	5	2	1	0	3	2	2
ALA GCA	4	5	26	0	0	4	20	8	4	2	17	30	15	11	17	5	2	0	12	2	2	6	5	15	6	9	6	8	13	3	6	7	7	8	1	5	3	7
GCC	3	4	10	0	1	0	20	2	1	11	5	9	8	7	14	3	5	2	9	10	10	6	8	7	12	12	9	13	21	2	1	16	8	7	0	15	4	10
GCG	2	1	9	0	0	0	11	4	1	8	21	29	13	19	19	12	5	6	9	6	6	25	17	18	10	10	10	16	63	9	4	18	8	17	0	27	17	20
GCU	9	2	35	1	1	1	24	25	3	2	29	28	14	3	11	4	2	2	10	3	3	0	6	6	9	7	5	2	15	2	2	6	3	8	4	3	4	6
GLY GGA	0	2	9	2	1	2	9	0	0	0	0	0	0	3	2	0	2	0	3	4	4	0	1	2	2	0	4	1	2	2	1	1	1	0	0	4	1	1
GGC	2	0	5	0	1	1	3	20	1	6	32	30	18	12	35	7	2	2	11	0	0	15	9	18	9	13	16	14	51	6	9	23	6	8	2	9	10	10
GGG	0	0	5	0	0	4	5	0	0	0	1	1	2	1	1	0	1	2	5	8	7	9	3	4	7	6	3	4	2	1	0	6	2	0	0	1	1	9
GGU	5	1	10	5	7	0	13	17	2	3	46	20	31	4	28	7	0	8	10	9	10	2	14	13	8	10	12	14	28	1	6	18	4	10	1	9	13	10
VAL GUA	1	1	4	1	0	1	7	9	3	1	8	6	8	0	6	2	4	3	6	3	3	1	1	4	8	3	4	3	14	0	2	13	3	3	1	4	5	6
GUC	5	3	2	0	0	2	8	2	0	4	7	8	8	1	10	4	1	2	5	4	5	2	8	4	3	4	7	5	13	1	3	10	5	1	0	8	6	6
GUG	2	0	8	1	2	1	8	2	1	4	15	27	13	10	10	6	3	2	10	4	4	13	6	9	5	10	9	9	47	6	7	24	5	8	0	14	9	11
GUU	11	4	11	4	2	1	9	17	2	1	21	27	16	4	16	2	4	5	1	4	3	4	5	7	6	5	8	6	20	3	2	9	6	4	2	5	11	5
LYS AAA	4	8	39	3	9	6	32	15	4	4	39	40	31	7	18	10	10	2	15	5	5	12	17	14	12	18	9	15	47	8	12	19	12	18	3	15	9	17
AAG	5	2	21	2	2	1	18	4	1	4	9	13	8	1	9	4	0	1	7	2	2	11	6	3	1	6	4	5	9	3	3	10	6	1	2	8	3	1
ASN AAC	2	6	3	1	2	3	15	19	5	2	33	15	13	3	17	13	2	0	8	4	5	10	8	9	7	8	7	9	32	5	3	25	9	5	1	20	11	17
AAU	2	5	23	4	4	0	28	2	1	2	5	2	1	3	6	0	2	2	8	10	9	2	5	9	9	10	7	7	4	3	2	17	6	3	1	9	3	4
GLN CAA	1	0	6	2	0	1	9	0	0	4	6	0	2	6	7	0	1	0	14	6	6	0	4	5	10	3	3	5	6	1	5	13	2	0	1	7	2	6
CAG	3	1	18	0	2	2	17	17	6	12	35	15	6	8	15	9	0	1	11	9	9	15	12	7	12	8	12	9	29	1	9	27	5	4	1	16	14	17
HIS CAC	0	1	1	0	0	0	0	2	1	5	18	4	12	1	15	4	1	5	0	4	4	7	1	5	4	3	2	8	11	0	4	12	3	3	1	7	3	5
CAU	0	0	6	1	1	1	7	1	0	4	5	1	1	3	6	2	0	0	5	8	8	3	8	3	5	8	3	7	4	0	2	13	4	1	0	2	4	1
GLU GAA	1	1	34	3	8	3	28	8	0	18	51	47	33	6	34	9	5	1	9	9	9	9	20	16	17	14	10	15	66	6	13	38	8	12	0	17	23	28
GAG	0	2	12	3	4	0	18	3	0	8	20	11	6	7	10	4	1	1	6	9	9	15	7	6	5	8	8	5	25	5	3	22	11	4	0	14	6	9
ASP GAC	2	4	4	1	1	0	12	19	7	5	29	22	19	4	15	6	2	1	7	5	5	14	8	3	5	6	9	11	42	3	6	17	3	14	0	9	9	16
GAU	0	2	23	12	6	2	31	5	1	5	23	11	6	9	20	8	0	2	7	9	9	5	6	23	16	16	14	14	22	5	2	26	10	6	0	15	10	21
TYR UAC	1	5	3	1	2	0	4	13	1	2	28	2	5	0	10	6	2	2	5	5	5	2	1	4	2	2	2	3	22	0	5	23	9	4	0	6	1	3
UAU	0	6	10	3	2	1	9	2	0	4	14	1	3	12	7	5	2	0	10	5	5	6	10	9	5	4	3	5	9	2	1	19	11	2	0	5	6	7
CYS UGC	0	2	1	1	0	1	0	1	1	0	2	1	3	1	6	7	0	0	2	3	3	3	4	4	2	5	1	2	8	0	1	8	2	1	0	2	3	0
UGU	0	2	0	0	1	2	0	1	0	1	4	0	2	3	4	4	0	1	0	2	2	1	0	2	3	2	3	2	6	0	2	7	3	3	0	1	1	0
PHE UUC	5	5	1	0	1	1	8	10	0	2	33	14	12	2	17	7	3	7	4	6	5	8	8	4	0	6	5	11	26	1	2	22	7	5	1	9	6	3
UUU	4	7	10	8	3	5	12	0	0	6	1	5	2	7	3	2	6	1	7	11	12	6	5	9	7	2	7	5	8	5	3	15	10	3	1	12	8	9
ILE AUA	0	7	3	1	1	1	9	0	0	2	0	0	0	3	0	0	0	0	2	2	2	0	0	0	0	1	0	1	1	1	0	2	1	0	0	1	0	0
AUC	3	5	7	0	2	1	11	11	3	5	45	35	30	4	14	9	7	6	9	6	6	4	5	9	6	12	10	12	39	3	6	16	5	17	0	15	6	24
AUU	1	6	18	2	5	5	19	1	0	4	11	10	9	5	9	5	5	5	12	8	8	6	7	17	13	12	10	10	31	2	11	21	3	2	0	7	9	10
MET AUG	10	5	5	2	0	3	9	8	1	5	22	17	10	8	20	9	4	6	7	5	5	15	13	14	13	8	12	6	31	7	7	15	4	6	2	7	15	14
TRP UGG	1	0	4	3	1	1	6	7	0	1	11	3	4	9	7	2	7	4	13	6	6	4	4	2	3	4	8	2	4	1	2	16	2	1	0	5	1	3
TER UAA	0	1	1	0	0	0	0	1	1	0	1	1	1	0	0	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	1
UAG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UGA	1	0	0	1	1	1	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0
TOTAL	120	179	523	86	88	98	627	351	79	237	887	631	475	283	603	245	132	120	378	293	293	335	335	428	357	351	368	383	1074	130	211	849	279	260	47	468	367	472

	ECO BNAK	ECO ENV2	ECO FIMA	ECO FNR	ECO FOL	ECO FTSQ A#1	ECO FTSQ A#2	ECO FUMA	ECO GALL YS#1	ECO GALL YS#2	ECO GALL YS#3	ECO GBHA	ECO GLGC	ECO GLNS	ECO GLTA #1	ECO GLTA #2	ECO GLTA #3	ECO GLTA #4	ECO GLTA #5	ECO GLTA #6	ECO GLTA #7	ECO GLYA	ECO GLYS	ECO GND	ECO GPTA	ECO GSHI I	ECO HISO P	ECO HSDS B	ECO HSDS D	ECO HSDS K	ECO HTPR	ECO HTPR R	ECO ILVB PR	ECO ILVG E#1	ECO ILVG E#2	ECO K88A B	ECO K88A	ECO KDPA BC#1
ARG CGA	0	1	0	1	0	1	2	0	2	0	3	1	2	1	0	0	0	1	0	0	0	1	0	1	0	0	2	2	5	0	0	0	2	4	1	0	0
CGC	10	12	0	5	6	8	7	12	7	11	10	12	16	15	8	3	3	13	11	23	6	6	14	3	3	8	1	5	6	7	6	6	0	0	4	2	3	9
CGG	0	4	0	2	2	5	3	2	2	4	3	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	2	2	3	3	0	0	3	0	2	1
CGU	15	11	2	9	1	5	9	9	11	10	7	9	12	25	16	0	0	25	5	31	19	8	31	18	6	11	0	11	10	10	14	14	1	0	8	1	6	6
AGA	0	0	1	0	0	2	1	0	1	0	0	0	1	0	0	2	0	1	1	1	0	0	0	0	0	0	0	6	0	0	0	0	0	0	3	0	3	0
AGG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0
LEU CBA	2	1	0	0	0	0	0	1	0	0	4	3	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	3	2	7	0	1	2	1	1	0	2
CUC	1	3	1	1	2	2	3	5	2	2	6	6	3	5	4	4	2	5	5	15	2	2	4	6	1	3	0	4	4	2	1	1	1	0	4	3	1	8
CUG	45	24	12	17	5	13	18	29	18	24	17	18	21	30	30	6	10	40	11	53	36	27	62	28	7	23	0	7	7	6	21	21	0	1	25	8	6	47
CUU	0	4	0	6	0	4	6	8	3	3	4	6	2	1	0	4	0	3	1	6	1	0	2	3	1	2	0	10	9	10	1	0	0	2	4	3	1	8
UUA	0	2	2	1	2	2	3	3	5	7	12	1	6	2	0	0	1	0	3	4	1	1	1	1	1	3	0	19	12	14	2	0	0	0	16	1	2	10
UUG	0	6	0	2	2	10	6	5	4	8	3	1	4	2	1	0	3	3	6	5	1	1	4	2	1	1	0	5	6	10	4	6	0	0	9	6	0	9
SER UCA	0	0	2	0	1	1	3	1	7	3	6	5	6	1	3	1	0	0	2	3	1	0	0	1	0	0	0	9	8	11	2	2	0	0	4	2	0	2
UCC	6	3	1	4	0	1	2	5	3	3	2	5	10	5	7	6	1	10	2	11	7	7	4	4	2	1	0	7	3	6	6	6	2	0	5	0	4	4
UCG	0	5	2	4	2	2	7	5	2	3	4	1	4	6	4	0	0	7	3	9	0	0	4	1	0	3	0	5	3	0	1	1	0	0	3	3	1	5
UCU	14	2	4	1	1	4	3	6	4	6	4	4	5	5	7	1	2	6	2	21	7	4	5	13	1	1	0	4	6	10	2	3	0	0	2	8	3	6
AGC	5	7	1	7	3	7	5	5	4	6	9	6	3	9	3	2	1	6	5	14	7	6	7	5	4	3	0	5	6	6	3	3	0	2	5	2	1	18
AGU	0	4	4	1	2	0	4	3	4	3	3	1	2	2	1	0	1	0	2	0	2	0	0	1	0	2	0	3	8	7	1	1	0	0	3	5	2	2
THR ACA	0	1	4	1	0	2	4	2	1	1	2	4	0	1	3	1	1	0	0	1	1	0	0	0	0	0	1	10	7	4	0	0	0	1	2	2	0	2
ACC	22	8	11	4	3	8	7	10	10	11	8	11	9	14	16	4	5	24	4	26	11	12	23	16	5	9	0	4	8	4	6	6	0	0	20	5	4	13
ACG	4	10	5	6	3	6	7	11	4	4	4	1	2	6	4	1	1	4	1	11	8	0	3	4	0	7	0	3	6	5	2	2	0	0	2	4	5	13
ACU	18	1	1	3	0	2	1	4	4	1	5	6	2	6	5	1	0	5	1	4	4	6	8	2	1	3	0	4	10	5	1	0	3	0	5	19	4	2
PRO CCA	2	1	0	0	3	3	2	7	2	4	1	1	5	1	3	0	0	4	3	3	0	1	4	5	2	4	0	9	11	10	2	2	2	1	5	2	0	5
CCC	0	3	0	0	1	1	1	3	2	3	1	0	1	0	0	1	0	0	2	0	1	0	0	0	0	1	0	1	4	1	0	0	0	0	2	0	0	2
CCG	19	15	2	5	5	8	9	15	8	9	10	12	14	25	14	0	1	20	11	37	18	14	27	5	6	11	0	3	2	4	3	4	1	1	18	2	6	10
CCU	2	2	0	2	1	1	2	2	2	2	3	2	1	2	2	0	0	1	4	2	4	0	5	1	1	1	5	6	6	0	0	0	0	5	1	0	0	8
ALA GCA	19	5	9	3	1	5	10	5	7	9	7	10	6	6	7	2	2	13	5	14	12	4	11	13	4	4	0	9	11	12	6	6	2	1	19	19	4	9
GCC	7	9	7	6	4	1	7	12	14	10	7	16	9	10	8	1	3	11	2	24	9	10	13	11	1	10	0	14	12	12	5	5	1	1	14	4	7	21
GCG	15	16	9	3	7	10	12	29	13	14	12	13	11	15	13	5	2	25	5	27	17	16	39	13	5	6	0	5	8	6	13	12	2	0	17	4	6	26
GCU	29	5	11	4	1	3	6	6	9	4	2	8	3	7	9	2	4	7	2	12	8	17	24	14	1	2	0	8	10	8	11	11	0	2	9	9	7	6
GLY GGA	0	3	3	1	1	3	5	7	2	3	6	2	2	0	2	1	2	2	2	2	0	0	0	2	0	1	0	5	4	6	0	1	0	2	1	7	3	3
GGC	14	16	1	11	5	9	10	15	8	12	0	22	10	12	8	4	3	26	5	27	12	17	21	15	6	12	0	0	4	4	9	9	1	0	19	2	6	23
GGG	1	9	3	0	0	2	7	6	1	7	5	4	4	3	1	0	0	5	2	8	0	0	3	1	0	4	0	3	4	6	0	0	0	1	6	5	6	10
GGU	32	5	9	10	4	3	18	23	13	16	4	21	11	18	17	5	3	26	7	30	15	24	15	23	7	8	0	13	9	12	3	3	0	0	16	23	5	20
VAL GUA	13	4	0	2	4	3	11	3	4	4	7	4	8	5	1	2	2	4	3	8	8	6	6	4	3	1	0	10	3	10	3	3	0	0	3	7	2	4
GUC	3	7	1	1	0	3	10	6	8	9	7	8	5	3	3	5	4	8	1	10	8	5	9	4	5	2	0	5	8	4	3	3	4	1	8	2	4	11
GUG	7	12	1	1	5	9	19	11	11	14	9	9	16	14	7	4	8	15	4	26	14	6	19	8	2	9	0	4	1	1	5	5	5	14	3	12	27
GUU	24	5	15	1	2	5	10	9	5	11	5	16	10	12	8	4	5	14	1	25	7	19	17	13	6	3	1	13	5	13	7	7	0	0	14	9	6	7
LYS AAA	42	9	4	9	5	2	13	34	5	6	4	18	13	23	18	5	2	21	4	33	20	26	32	20	7	13	1	27	32	36	12	12	1	0	14	11	4	5
AAG	8	2	1	5	1	8	8	4	1	2	2	4	7	9	5	0	0	1	7	11	5	3	9	8	0	5	0	9	3	5	4	4	0	1	3	2	3	3
ASN AAC	26	8	5	5	4	4	8	11	8	3	3	9	14	21	11	0	1	20	6	30	11	17	20	16	1	8	0	12	10	12	12	11	1	0	10	4	3	15
AAU	0	6	6	4	2	9	5	10	9	10	1	8	5	6	6	2	1	5	6	6	2	1	4	4	0	4	0	18	17	15	1	1	1	0	5	12	0	9
GLN CAA	2	5	2	3	2	9	8	9	5	9	5	8	3	1	1	2	1	5	4	13	3	2	7	3	2	1	1	14	14	15	1	1	0	0	13	1	1	10
CAG	35	13	8	12	2	16	11	20	7	18	10	15	10	14	7	1	1	16	5	41	4	12	19	18	3	10	0	6	5	6	12	13	0	0	19	6	8	11
HIS CAC	5	5	1	1	2	0	7	7	4	9	4	4	8	11	10	2	0	12	1	25	5	10	6	2	2	2	3	2	1	1	4	3	0	0	8	0	1	2
CAU	3	4	1	5	3	3	6	5	8	11	8	6	2	5	5	1	2	7	2	9	2	3	3	2	2	2	4	4	4	7	3	3	0	0	9	1	2	4
GLU GAA	43	15	3	11	9	16	22	30	12	22	14	23	22	32	22	4	1	29	5	44	24	21	37	25	7	17	0	23	23	24	16	16	0	0	17	5	0	11
GAG	7	18	0	5	3	3	11	8	6	4	6	8	7	13	4	1	1	14	6	22	8	8	17	9	1	10	0	8	5	5	6	6	0	0	8	5	2	4
ASP GAC	33	7	1	5	5	4	7	8	5	2	2	5	9	15	12	1	1	11	6	28	11	8	25	9	4	9	1	7	3	3	15	15	0	0	15	6	4	5
GAU	22	8	7	8	8	9	11	21	14	21	8	14	20	22	15	1	1	21	12	24	16	13	27	18	9	11	0	20	16	14	8	8	0	0	18	8	9	4
TYR UAC	4	4	0	2	1	2	1	10	4	6	2	5	9	12	10	0	3	3	2	19	6	15	5	11	2	6	0	4	7	1	4	4	0	0	7	3	1	2
UAU	3	6	2	3	3	5	11	16	6	6	3	5	6	10	6	2	3	11	6	12	1	5	8	14	2	3	0	8	6	7	3	3	0	0	5	7	5	7
CYS UGC	0	1	2	2	1	0	4	3	1	1	2	3	5	8	3	0	0	4	4	5	0	2	2	2	0	2	0	1	1	2	0	0	0	1	4	0	1	3
UGU	1	0	0	2	1	0	5	6	3	3	1	1	4	2	4	0	0	7	7	4	0	1	1	0	1	2	0	3	2	3	0	0	0	0	5	0	2	3
PHE UUC	10	6	2	8	4	2	0	10	2	4	2	11	10	14	14	5	7	14	6	31	6	8	20	12	3	4	0	5	5	4	4	4	0	0	9	2	4	10
UUU	5	4	5	3	2	3	4	6	6	8	11	11	5	10	9	4	2	5	2	8	2	3	10	5	1	7	1	9	14	17	4	4	0	0	8	9	9	25
ILE AUA	1	1	0	1	0	1	1	1	2	0	1	1	1	0	2	0	0	0	1	1	0	0	0	0	0	0	0	12	11	8	0	0	0	0	1	1	1	0
AUC	31	11	2	17	7	5	16	18	6	6	5	12	14	23	13	7	7	14	6	23	14	17	15	21	6	16	0	16	12	15	8	8	0	1	19	3	0	12
AUU	12	14	4	5	5	5	10	12	11	13	7	4	9	12	15	4	3	12	8	9	5	4	17	14	7	10	0	17	10	11	4	4	0	4	0	11	1	15
MET AUG	15	14	1	9	5	9	8	11	11	9	4	18	14	12	19	6	4	16	9	25	13	12	16	7	5	10	1	5	6	4	11	11	2	1	19	5	1	29
TRP UGG	1	8	0	0	5	7	2	3	1	4	2	5	6	7	3	3	4	7	2	14	1	3	7	4	4	4	0	7	10	3	6	6	0	0	6	4	0	9
TER UAA	1	1	1	0	1	0	1	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1	1	1	1	1	0	0	0	0	1	1	0	0	0	1	0	0
UAG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	0
UGA	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	1
TOTAL	639	396	182	251	160	277	421	549	344	421	312	448	432	552	428	130	116	589	239	934	405	418	690	469	153	317	17	475	445	465	285	285	33	33	522	286	182	558

	ECO KDPA BC#2	ECO KDPA BC#3	ECO LAC #1	ECO LAC #2	ECO LAC #3	ECO LEP	ECO LEUA	ECO LEXA	ECO LPP	ECO LSP	ECO LSPA	ECO MALB #1	ECO MALB #2	ECO MALB #3	ECO MALB #4	ECO MALF	ECO MELB	ECO METG A	ECO METK	ECO METL	ECO METL B1	ECO NOTA B#1	ECO NOTA B#2	ECO NTLA	ECO NDH	ECO NRDA #1	ECO NRDA #2	ECO NUSA #1	ECO NUSA #2	ECO NUSA #3	ECO NUSA #4	ECO OMPA #1	ECO OMPA #2	ECO OMPB	ECO OMPC	ECO OMPF	ECO ORIA SN#1	ECO ORIA SN#2
ARG CGA	1	0	4	3	0	0	1	0	0	0	0	0	1	0	0	1	3	1	2	1	1	0	2	0	2	4	0	0	1	1	0	0	0	2	0	0	0	1
CGC	11	4	10	36	4	7	2	5	1	3	3	2	10	6	0	10	8	20	4	32	9	4	11	7	9	15	9	4	8	18	11	4	3	12	1	2	1	1
CGG	3	1	2	7	2	4	0	0	0	0	0	0	3	0	0	0	1	0	1	3	2	2	5	0	0	7	0	0	2	1	0	1	0	1	0	0	0	0
CGU	17	3	2	20	5	6	0	9	3	2	2	5	12	11	0	5	3	11	14	22	10	7	5	16	11	25	8	4	18	47	40	2	10	16	12	10	1	4
AGA	0	0	1	0	1	0	1	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	1	0	1	0	0	0	0
AGG	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1	0	0	1	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
LEU CUA	3	1	0	6	3	0	4	0	0	2	1	0	4	0	0	3	4	1	1	2	1	0	1	1	2	2	1	0	2	0	0	3	0	1	0	0	0	0
CUC	6	3	3	9	4	0	0	1	0	1	1	4	8	3	3	8	11	6	1	6	0	5	2	11	2	6	5	2	4	7	7	3	0	5	1	0	4	2
CUG	48	12	25	54	32	16	0	12	9	15	15	25	22	11	8	39	21	44	21	65	29	18	14	51	35	53	26	9	26	42	38	2	21	16	24	18	7	7
CUU	4	1	2	9	5	2	0	2	0	3	3	0	2	2	2	4	5	2	4	8	2	7	2	1	3	5	1	0	3	2	0	4	0	7	1	3	4	2
UUA	6	5	5	7	9	4	0	2	0	0	0	3	1	4	2	5	11	0	1	6	9	6	3	2	2	1	0	0	1	0	0	4	1	3	1	2	3	2
UUG	7	2	5	11	1	2	1	5	0	1	1	2	3	2	0	9	6	4	0	15	9	4	5	1	8	5	4	0	7	3	1	5	1	2	0	0	1	1
SER UCA	1	1	4	8	4	5	0	1	0	1	1	0	2	1	2	4	6	3	1	2	3	2	2	2	2	5	2	1	0	4	3	3	0	1	0	1	1	0
UCC	5	0	6	6	3	2	0	3	2	0	0	6	5	7	0	4	2	7	8	10	4	3	4	9	4	15	7	2	3	11	10	4	8	3	8	5	2	2
UCG	7	4	5	9	7	2	0	1	0	3	3	2	3	4	0	2	4	3	2	6	3	4	1	3	5	7	2	0	4	4	2	3	0	2	0	0	1	1
UCU	5	1	7	3	7	1	2	0	3	1	1	2	2	7	2	1	5	13	7	7	1	1	2	12	2	13	5	0	4	15	12	5	4	4	6	6	2	0
AGC	12	6	6	25	6	5	1	4	2	3	3	4	4	7	7	11	4	14	3	31	7	9	13	12	5	14	8	1	8	10	8	2	4	4	2	3	3	4
AGU	8	2	5	9	2	2	0	0	0	2	2	1	1	2	3	2	5	1	1	7	4	1	4	2	2	3	2	3	0	0	0	4	0	1	1	1	1	1
THR ACA	4	1	1	8	2	3	0	1	0	1	1	1	2	2	2	1	1	2	1	0	1	1	2	1	2	2	8	0	3	2	2	0	2	1	1	0	1	2	3
ACC	23	4	11	24	7	6	0	2	0	1	1	13	4	15	11	22	6	15	12	18	9	5	3	15	9	18	13	2	15	22	18	0	11	2	12	11	5	5
ACG	9	4	4	20	8	6	0	2	0	2	2	3	4	1	1	13	10	5	3	6	9	4	2	5	9	19	4	1	3	6	3	5	1	5	0	3	1	1
ACU	5	1	3	4	2	3	1	1	4	1	1	5	4	7	0	3	9	7	8	4	2	3	3	8	6	8	3	2	5	12	11	4	10	1	12	7	1	1
PRO CCA	2	2	2	6	4	2	0	4	0	0	0	4	6	2	3	2	4	1	5	1	5	2	6	7	5	7	0	2	1	1	1	1	3	3	3	1	0	0
CCC	6	2	6	9	2	0	0	0	0	0	0	0	1	0	2	4	4	1	1	3	1	2	6	0	0	1	0	2	0	0	0	2	0	0	0	0	1	1
CCG	15	8	6	36	6	17	0	4	0	2	2	16	12	4	5	14	7	27	8	18	10	6	5	19	11	22	12	1	9	18	16	2	15	11	1	2	4	3
CCU	2	1	0	11	0	4	0	1	0	1	1	1	2	3	1	1	2	4	5	6	1	2	3	0	1	2	1	0	1	2	1	1	1	3	0	2	2	1
ALA GCA	15	9	5	12	5	5	1	4	3	2	2	9	6	12	3	6	7	16	10	10	15	7	5	18	5	9	5	0	14	25	19	7	11	5	8	11	8	2
GCC	30	5	14	28	12	2	0	2	0	6	6	14	9	10	3	18	8	16	7	29	9	7	14	8	7	23	4	2	16	14	11	2	1	4	0	2	3	3
GCG	42	7	22	28	12	12	0	7	1	8	8	16	8	6	6	17	11	12	8	33	15	13	8	22	19	23	9	5	21	41	35	2	3	8	3	5	1	5
GCU	10	3	3	9	6	6	0	3	8	2	2	11	5	12	2	3	12	15	12	8	4	5	1	16	8	8	4	4	10	29	20	3	22	8	18	16	2	2
GLY GGA	2	1	1	4	2	4	0	0	0	0	0	1	2	0	1	3	8	0	0	5	2	3	4	0	4	3	0	1	1	2	1	0	0	0	0	0	2	0
GGC	30	6	11	34	18	11	1	5	1	9	10	13	13	22	4	26	9	26	15	24	16	5	6	28	17	12	4	3	12	30	29	2	14	5	19	15	5	6
GGG	6	4	4	9	3	3	0	6	0	2	1	1	2	1	1	4	3	1	0	15	8	6	3	4	5	7	2	0	3	1	1	4	0	2	0	1	2	3
GGU	18	4	6	24	13	9	2	6	2	4	4	15	10	26	1	13	16	18	17	22	9	11	7	35	16	16	7	5	10	35	32	3	24	8	29	33	6	1
VAL GUA	7	1	3	10	8	3	0	2	2	1	2	5	8	1	1	0	10	5	6	10	5	1	3	7	7	12	0	3	8	17	14	2	7	4	9	4	1	3
GUC	16	2	9	19	4	5	0	6	0	5	5	3	9	7	3	10	10	8	3	12	5	8	9	10	9	6	8	3	3	10	9	2	1	4	2	1	1	4
GUG	24	4	15	23	8	11	1	3	1	5	5	6	19	6	2	16	17	20	7	34	16	5	3	17	7	20	8	4	18	21	18	3	2	5	2	5	0	1
GUU	12	7	8	12	9	4	1	8	3	1	1	6	7	10	4	5	14	9	11	10	5	7	3	16	4	12	9	9	15	35	35	4	17	5	12	16	2	1
LYS AAA	27	5	10	15	10	13	0	8	6	3	3	10	14	12	4	18	10	30	19	17	12	10	13	23	19	27	12	3	19	52	38	4	15	3	17	16	4	4
AAG	4	0	1	5	2	6	0	3	1	2	2	9	1	8	0	5	3	10	2	3	1	1	3	8	6	16	4	1	6	14	11	0	4	8	0	3	3	6
ASN AAC	17	4	5	30	8	6	1	3	6	5	5	17	7	27	7	16	6	21	6	16	7	3	7	19	18	23	12	3	16	25	24	2	18	6	32	28	2	2
AAU	7	8	7	17	8	4	0	3	0	2	2	4	5	4	1	8	8	8	1	5	8	5	6	4	5	8	5	2	3	4	2	3	1	2	0	4	2	3
GLN CAA	6	6	13	15	4	5	0	3	0	2	2	3	9	6	8	8	3	4	4	15	4	3	4	2	3	5	2	1	2	16	5	7	2	2	1	6	0	3
CAG	17	5	15	43	7	10	1	10	5	3	3	6	13	16	2	14	8	24	14	32	10	4	10	13	11	22	21	3	17	30	25	6	15	8	20	7	3	4
HIS CAC	2	0	4	15	0	1	1	1	0	2	2	2	2	3	0	0	2	11	8	9	5	3	1	10	10	8	4	3	3	13	12	3	3	1	1	0	4	2
CAU	3	1	3	19	4	2	1	4	0	1	1	1	7	3	0	1	5	5	3	11	6	2	5	3	7	8	4	0	1	2	2	4	2	4	0	1	0	1
GLU GAA	19	6	10	47	9	14	0	13	0	1	1	19	15	18	2	13	7	33	17	32	18	13	11	23	18	24	24	10	46	79	65	8	9	15	11	13	14	7
GAG	10	1	5	15	2	4	0	3	0	0	0	8	11	3	0	2	2	11	7	12	3	9	9	11	5	16	8	2	6	20	12	2	4	8	0	1	2	2
ASP GAC	11	1	7	22	3	4	0	4	6	3	3	12	6	19	1	11	2	17	17	25	9	1	3	14	5	25	13	1	14	27	22	0	16	9	23	14	3	5
GAU	23	5	10	42	3	13	0	8	2	5	5	12	11	14	3	10	15	28	10	32	12	7	15	13	13	16	12	9	26	21	18	4	6	9	13	7	3	3
TYR UAC	2	2	3	18	7	7	0	0	1	3	3	7	3	15	3	15	8	18	5	8	3	5	3	7	6	16	7	1	1	8	8	2	15	4	24	20	0	4
UAU	4	3	5	13	7	4	0	1	0	3	3	8	2	7	1	8	18	6	4	9	7	6	3	4	6	17	9	2	4	3	3	3	2	2	5	9	3	3
CYS UGC	3	0	1	11	3	2	0	0	1	0	0	0	2	0	0	2	2	7	3	6	5	1	0	2	4	19	3	0	4	0	0	1	1	2	0	0	0	2
UGU	3	0	2	5	5	1	0	0	0	2	2	0	2	2	0	1	2	1	2	3	0	0	0	2	0	3	2	1	1	3	3	0	1	0	0	0	1	0
PHE UUC	9	0	1	19	24	8	0	4	0	8	8	12	5	16	3	18	13	23	8	16	4	4	2	21	8	18	10	2	15	10	10	1	7	7	17	12	1	0
UUU	14	5	3	19	32	9	1	2	0	4	4	4	5	4	1	16	21	14	5	12	8	8	4	8	3	9	7	4	3	5	3	1	2	3	2	7	3	3
ILE AUA	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	1	0	0	4	1	0	0	0	0	1	0	0	0	0	0	2
AUC	25	6	7	17	10	8	3	4	2	7	7	14	14	13	2	9	18	20	19	21	6	9	7	34	8	30	14	7	22	36	34	2	15	6	10	13	7	11
AUU	27	3	10	22	23	14	0	9	0	7	7	10	7	7	4	20	22	16	8	13	8	11	13	20	18	14	13	3	13	11	8	4	1	9	0	1	4	6
MET AUG	19	2	9	24	14	8	1	5	3	4	4	9	10	16	3	16	16	21	9	9	6	13	12	25	14	18	9	3	9	21	20	6	6	11	4	5	1	5
TRP UGG	8	4	2	39	6	6	0	1	0	6	6	8	2	19	1	12	8	11	4	12	2	0	3	4	2	9	7	1	5	2	2	4	5	3	4	2	3	0
TER UAA	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0
UAG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
UGA	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
TOTAL	683	191	361	1025	418	324	29	203	79	165	165	397	371	447	132	515	470	678	385	811	387	296	309	638	435	777	377	141	495	891	734	170	347	285	368	363	148	153

	ECO ORIA	ECO PABA	ECO PABB	ECO PAPA	ECO PBPB	ECO PFKB	ECO PNEA	ECO PNOE	ECO PNOS	ECO PNRO	ECO PIN	ECO PLSB	ECO PLSB	ECO POLA	ECO PROB	ECO PROB	ECO PROC	ECO PURF	ECO PYRB	ECO PYRB	ECO PYRB	ECO QRNH	ECO QRNH	ECO RBSP	ECO RECA	ECO RECF	ECO RHO	ECO RHO	ECO RNH	ECO RPLR	ECO RPLR	ECO RPLR	ECO RPLR	ECO RPLR	ECO RPLR	ECO RPMB	ECO RPOA
	SN#3				K					RF		#1	#2		A#1	A#2			I	[A#1	[A#2	#1	#2			A	#1	#2		PO#1	PO#2	PO#3	PO#4	PO#5	PO#6	G#1	G#2	#1
ARG	CGA	0	1	1	0	2	0	0	0	0	2	4	2	2	0	2	1	0	0	0	0	1	2	0	0	0	2	3	0	0	0	0	0	0	1	0	1	0	1
	CGC	7	8	14	0	19	6	0	4	3	11	4	3	30	14	11	8	5	23	8	9	6	8	6	4	2	19	0	13	6	2	5	5	0	28	24	2	1	7
	CGG	1	1	3	0	2	3	0	1	0	6	2	0	1	3	1	1	1	1	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
	CGU	11	0	10	0	15	4	0	7	2	12	7	1	30	28	12	15	1	16	6	6	1	3	4	2	12	6	1	17	4	2	6	7	1	61	75	8	2	14
	AGA	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
	AGC	0	0	0	0	1	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
LEU	CUA	0	0	3	1	2	0	0	0	0	3	1	0	3	1	1	0	0	0	1	2	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
	CUC	0	2	5	0	5	4	0	1	1	1	1	1	8	10	4	4	3	4	4	4	1	7	1	0	2	11	1	9	1	0	1	1	0	0	15	7	0	0	3
	CUG	28	10	20	4	24	16	0	14	23	19	12	5	62	62	23	25	12	19	24	23	10	5	4	18	24	13	0	28	4	7	16	13	7	99	125	6	3	23
	CUU	7	6	6	2	3	6	0	0	0	4	3	2	7	14	4	4	3	3	4	4	0	3	2	4	3	3	0	2	2	0	0	1	0	6	3	0	0	6
	UUA	2	1	9	1	10	4	0	3	1	6	2	2	8	4	2	6	0	3	3	3	0	3	2	1	0	8	0	3	2	0	0	1	0	1	3	0	0	2
	UUG	3	2	4	1	5	4	0	5	0	10	2	2	16	15	5	4	0	6	3	2	4	3	3	3	2	6	0	2	3	0	0	0	1	6	1	0	0	2
SER	UCA	2	2	3	4	5	1	0	3	1	1	3	0	5	7	1	1	2	0	2	1	1	0	0	0	2	1	1	3	0	0	0	0	0	0	1	0	0	1
	UCC	2	1	4	2	8	5	0	1	4	1	1	4	9	4	2	3	5	8	6	6	2	0	0	5	6	1	0	4	0	5	2	1	1	31	27	2	0	1
	UCG	3	2	3	2	4	4	0	3	1	8	1	1	7	5	6	3	2	7	0	1	1	2	1	2	1	3	1	0	1	0	0	0	1	0	3	5	0	0	3
	UCU	6	1	4	4	8	2	0	4	7	2	0	1	9	10	1	1	3	4	4	4	1	1	0	1	6	4	4	9	0	2	3	3	4	23	24	2	2	7
	AGC	9	2	13	2	9	6	0	5	5	7	2	2	12	9	7	10	5	9	5	6	3	3	2	3	5	8	0	4	2	0	3	1	1	15	14	1	0	4
	AGU	0	1	4	0	7	6	0	5	4	4	2	0	5	4	5	2	0	0	3	2	3	3	1	1	0	3	3	1	1	1	0	0	0	2	0	0	0	1
THR	ACA	0	2	2	2	3	7	0	6	2	3	7	0	3	2	1	6	0	2	3	3	1	4	2	3	0	4	0	1	2	0	1	0	0	3	1	1	0	2
	ACC	6	4	9	1	16	6	1	7	18	7	1	4	14	29	9	5	7	8	8	7	3	6	8	7	9	12	1	13	8	4	7	4	0	34	46	2	1	11
	ACG	4	3	7	1	4	2	0	6	1	9	1	0	19	13	5	7	4	7	4	5	3	4	0	2	5	4	0	3	0	0	0	0	0	6	7	0	1	2
	ACU	2	0	8	9	7	1	0	5	4	3	4	1	5	6	4	3	1	3	3	3	0	2	0	3	3	2	0	6	0	5	5	5	3	17	23	2	3	4
PRO	CCA	1	5	8	4	4	5	0	2	2	5	2	0	8	14	1	1	5	2	2	2	1	0	2	1	1	2	0	0	2	1	1	0	0	10	9	0	1	3
	CCC	1	1	3	0	2	3	1	0	0	3	1	0	2	4	0	2	2	1	0	0	1	3	1	1	0	3	0	1	1	0	0	0	0	0	0	0	0	0
	CCG	10	2	9	1	21	6	1	1	10	13	1	0	28	29	10	7	6	15	10	10	4	1	1	7	9	4	1	12	1	8	6	5	2	38	45	2	1	6
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ALA	GCA	3	4	8	4	5	9	1	11	11	9	7	4	12	23	6	11	6	3	6	6	1	7	2	9	11	1	0	8	2	5	10	8	8	22	33	1	0	7
	GCC	5	5	14	6	9	10	0	10	7	13	1	5	20	16	17	15	16	20	12	12	6	7	3	5	4	10	0	7	3	3	1	3	0	9	11	1	0	3
	GCG	14	5	10	2	33	12	0	6	11	20	2	5	29	47	17	19	10	11	12	14	2	11	4	17	19	17	1	8	4	4	4	8	0	29	52	1	1	6
	GCU	5	1	6	10	8	6	0	4	11	8	4	4	6	13	6	8	6	14	3	2	1	3	5	13	4	3	0	8	5	8	18	14	20	19	28	2	2	7
GLY	GGA	2	1	2	4	4	6	0	0	0	5	8	4	0	9	5	0	3	3	0	0	0	2	3	1	1	3	0	1	3	0	0	0	0	0	0	0	0	1
	GGC	14	5	13	4	28	12	0	17	11	9	3	3	21	19	18	18	10	18	6	7	3	6	6	13	16	11	1	7	6	2	11	5	6	35	28	4	0	9
	GGG	7	5	2	3	9	2	0	5	3	6	2	0	11	11	4	3	4	3	4	4	1	1	2	1	1	6	0	1	2	0	0	0	0	2	2	0	0	1
	GGU	6	4	8	13	14	7	0	15	20	8	4	1	13	18	10	10	7	9	5	4	2	8	3	9	17	7	0	20	3	10	9	4	2	69	85	1	1	9
VAL	GUA	8	1	6	3	9	5	0	1	5	2	2	2	9	10	4	7	8	3	4	4	2	3	2	4	5	1	0	4	2	6	9	6	7	31	32	2	0	4
	GUC	4	3	6	1	10	7	0	6	3	7	2	2	9	12	6	5	5	9	3	2	1	1	4	5	3	5	0	1	4	1	0	2	0	13	7	2	0	5
	GUG	7	7	9	3	21	5	0	4	8	16	5	9	23	22	6	15	9	13	9	8	6	6	0	11	10	5	1	6	0	2	4	0	1	24	17	1	1	11
	GUU	5	3	6	13	14	11	0	5	11	5	3	1	7	13	9	8	3	11	7	8	3	8	3	12	4	2	0	14	3	4	16	7	8	41	53	3	3	10
LYS	AAA	12	4	10	9	25	9	1	21	25	14	5	3	21	42	9	16	14	15	13	12	9	4	11	21	21	10	1	19	11	10	20	12	13	56	62	4	9	13
	AAG	3	2	3	4	7	4	0	4	7	3	5	0	7	17	2	3	2	2	2	3	2	8	0	5	6	7	0	9	0	5	3	0	0	24	25	3	3	3
ASN	AAC	3	4	5	4	20	7	0	16	12	9	3	1	24	22	9	10	3	18	7	7	5	6	4	13	14	5	0	16	4	4	12	1	1	48	47	4	1	7
	AAU	0	2	10	8	7	7	0	11	5	11	2	3	11	10	4	6	4	12	8	8	6	2	3	5	1	4	1	5	3	0	0	2	0	3	1	0	0	2
GLN	CAA	7	3	8	0	7	6	0	9	2	7	3	0	8	17	5	7	3	2	7	5	3	4	3	4	1	4	0	1	4	1	1	2	1	8	3	1	0	2
	CAG	13	5	22	7	12	9	0	8	12	21	3	1	21	22	8	11	5	17	8	8	3	7	5	13	12	12	2	10	4	6	8	1	0	50	47	0	1	8
HIS	CAC	7	2	5	0	3	3	1	0	1	6	0	0	14	10	6	4	1	6	7	7	1	3	1	2	2	6	0	7	1	0	2	1	0	18	17	3	2	5
	CAU	6	7	7	2	4	3	0	1	0	9	2	2	10	11	4	3	3	4	4	4	3	4	4	1	0	3	0	1	4	0	0	0	0	1	4	0	0	3
GLU	GAA	13	7	25	4	19	16	0	11	14	19	8	5	23	57	15	19	15	25	8	8	6	11	9	7	21	15	1	27	9	5	9	11	16	89	83	2	3	19
	GAG	10	2	6	2	9	6	0	3	1	14	4	1	26	23	2	4	2	8	5	7	4	6	3	4	9	14	0	9	3	1	2	4	0	33	26	2	1	17
ASP	GAC	9	4	6	1	14	4	0	10	9	4	3	2	17	17	9	10	6	13	10	10	3	2	2	7	11	9	1	11	2	5	11	3	5	62	47	0	0	8
	GAU	15	7	23	10	11	6	0	21	11	16	6	2	21	34	15	18	4	20	11	11	6	13	5	14	9	12	0	12	5	1	3	3	1	30	34	2	1	13
TYR	UAC	2	4	3	0	11	2	0	2	9	3	0	1	17	14	4	4	2	10	6	6	1	2	3	1	7	4	1	6	3	1	3	3	0	29	27	1	1	3
	UAU	3	1	8	2	10	3	0	20	3	11	3	1	14	18	3	3	1	7	2	2	2	3	2	2	0	3	0	1	2	1	0	0	0	14	7	0	1	2
CYS	UGC	0	2	5	1	1	2	0	0	0	5	1	2	3	0	3	5	3	5	0	0	2	1	1	0	1	2	0	0	1	1	0	1	0	2	8	1	0	4
	UGU	2	2	1	1	1	2	0	0	0	2	1	0	2	2	0	2	1	3	1	1	2	2	2	0	2	2	1	1	2	0	0	0	0	5	7	0	0	0
PHE	UUC	7	2	8	4	5	1	4	9	12	4	1	2	19	8	4	1	3	11	8	9	1	4	1	2	6	6	1	8	1	4	1	3	2	33	26	2	2	2
	UUU	3	5	13	5	10	3	3	12	2	15	5	1	8	16	1	4	6	9	4	3	4	8	1	5	4	13	0	8	1	0	3	3	0	11	9	1	0	2
ILE	AUA	1	1	2	1	1	1	1	2	0	5	1	0	0	0	1	1	0	2	2	2	0	1	0	0	0	4	0	1	0	0	0	0	0	0	0	0	0	0
	AUC	7	4	7	1	13	6	0	5	9	6	2	7	22	24	9	16	11	21	5	4	9	5	3	8	29	7	0	20	3	6	10	2	4	66	75	2	3	14
	AUU	6	7	16	7	21	8	0	7	8	8	7	8	23	29	21	10	10	21	8	9	3	10	4	5	2	5	1	10	4	3	1	3	2	18	17	0	1	10
MET	AUG	6	4	8	3	15	4	1	9	3	9	5	4	27	25	6	9	14	12	9	9	2	8	4	7	10	7	2	16	4	6	7	6	4	37	35	2	1	5
TRP	UGG	8	3	7	0	6	1	0	3	8	15	2	5	8	7	2	1	1	2	2	2	0	1	6	0	2	5	0	1	6	0	0	0	0	4	9	1	0	1
TER	UAA	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1
	UAG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	UGA	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		331	188	454	186	589	309	16	352	347	473	185	123	808	929	368	408	270	505	312	312	154	244	156	297	354	358	34	420	156	143	235	166	122	1343	1408	79	56	330

	ECO RPOA #2	ECO RPSA	ECO RPSB	ECO RPSB TS#1	ECO RPSB TS#2	ECO RPSJ	ECO RPSO	ECO RPSQ X	ECO RPSR	ECO RPSR POR1	ECO RPSR POR2	ECO RPSR POR3	ECO RPST	ECO SSB	ECO STR1	ECO STR3	ECO TARI AP#1	ECO TART AP#2	ECO TGS	ECO TGTU FB	ECO THRA B#1	ECO THRA B#2	ECO THRA B#3	ECO THRI HF#1	ECO THRI HF#2	ECO THYA	ECO TMAA	ECO TOLC	ECO TONB	ECO TOXA	ECO TRG	ECO TRP #1	ECO TRP #2	ECO TRP #3	ECO TRP #4	ECO TRP #5	ECO TRP #6	ECO TRPR	ECO TRPS	ECO TSR
ANG	CGA	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	3	4	0	0	0	3	3	0	1	0	0	2	1	1	1	1	1	0	0	1
	CGC	6	7	5	4	5	3	3	5	22	18	2	4	2	2	13	7	2	3	1	19	4	16	8	5	10	11	8	0	8	1	21	16	13	9	8	4	8	14
	CGG	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	3	2	0	0	0	5	7	1	0	0	0	0	2	6	0	0	1	0	2	0	0	0	3
	CGU	12	22	8	5	6	8	8	9	10	28	5	5	13	21	13	13	4	20	0	18	6	26	5	8	13	10	4	4	12	0	17	7	8	5	2	5	8	12
	AGA	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	2	0	1	1	0	1	0	0	0	0	0
	AGG	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	2	0	3	2	0	0	0	1	0	0	0	0	2
LEU	CUA	0	0	0	0	1	1	0	4	1	0	0	0	0	0	1	0	0	0	0	3	0	2	0	1	1	1	1	0	3	0	4	2	2	2	1	0	2	0
	CUC	0	3	1	0	0	2	2	0	6	3	0	1	1	1	0	6	4	2	0	0	13	5	4	4	4	2	3	3	1	4	0	10	8	2	2	2	2	1	3
	CUG	10	39	18	16	9	9	9	4	30	42	3	7	6	27	25	22	29	27	0	42	13	30	6	16	21	22	3	2	15	1	35	37	21	24	16	8	22	27
	CUU	1	1	2	0	0	0	0	0	14	5	0	0	1	1	5	7	1	1	0	8	2	8	2	2	3	6	2	3	2	0	6	4	6	4	0	1	1	1
	UUA	0	1	0	0	0	0	0	0	12	1	0	0	0	0	6	4	1	0	0	10	4	3	2	3	7	8	3	11	10	0	7	9	10	2	2	4	1	8
	UUG	0	1	0	0	1	0	0	0	9	2	1	0	0	0	7	6	2	0	0	16	7	6	1	2	2	9	1	1	7	0	5	6	8	5	6	4	4	7
SER	UCA	2	0	0	0	0	0	0	0	3	2	1	1	0	0	6	3	2	0	0	6	1	4	0	1	2	2	5	6	9	0	4	2	4	0	2	2	3	3
	UCC	0	12	3	4	1	0	0	1	3	7	0	3	5	3	12	1	2	3	0	11	6	3	1	4	3	6	0	3	3	1	5	5	1	7	3	0	5	3
	UCG	0	0	0	0	0	0	0	0	5	2	0	0	0	0	7	13	3	0	0	9	3	3	0	1	0	7	3	1	6	0	5	3	8	3	2	0	2	7
	UCU	0	9	4	4	0	4	4	1	3	9	2	3	0	7	2	2	5	7	0	10	1	8	2	1	3	5	1	5	6	0	6	4	1	3	3	1	3	8
	AGC	4	4	4	2	1	1	1	0	6	8	1	4	1	0	12	13	8	1	1	12	4	11	3	3	9	12	2	2	9	0	13	10	7	3	0	3	4	18
	AGU	1	0	0	0	0	1	1	0	4	1	0	0	0	0	11	15	2	0	0	3	4	1	1	0	2	7	3	2	12	0	4	7	3	2	1	0	2	7
THR	ACA	0	0	0	0	1	1	1	0	4	0	0	1	1	1	6	2	1	2	1	3	2	2	2	2	4	6	2	5	6	0	4	5	1	3	0	0	0	3
	ACC	0	12	6	4	3	3	3	1	13	29	0	5	2	16	12	14	10	15	7	18	3	12	0	4	17	19	6	2	8	0	14	15	5	13	3	0	5	14
	ACG	1	1	0	0	0	0	0	0	12	7	0	1	0	0	7	14	5	1	0	6	2	4	3	4	4	7	6	0	10	0	3	4	7	4	4	3	5	9
	ACU	5	12	7	7	4	2	2	2	3	2	2	2	5	13	11	7	1	12	0	4	1	6	0	4	3	5	1	5	8	1	4	1	2	3	2	1	4	3
PRO	CCA	0	1	0	2	1	0	0	0	0	9	1	0	1	1	1	6	1	1	1	0	2	3	3	1	3	2	5	8	7	1	0	5	2	2	4	5	1	1	2
	CCC	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	5	1	0	1	0	0	3	3	3	1	0	5	3	2	1	4	2	2	1
	CCG	3	9	7	3	4	0	0	3	7	17	1	10	3	19	4	3	2	19	0	18	8	16	2	10	17	10	22	2	4	0	15	23	9	9	7	1	10	4
	CCU	1	0	0	0	0	0	0	0	7	1	0	1	3	0	2	0	2	0	0	4	2	3	4	0	1	3	7	1	3	0	3	1	1	4	3	0	1	0
ALA	GCA	6	17	5	14	1	6	6	3	10	8	6	4	2	5	14	17	4	6	0	15	5	11	2	3	11	17	10	7	7	1	6	10	14	3	11	3	5	9
	GCC	3	5	0	0	2	0	0	0	7	10	1	2	0	1	29	24	5	1	0	36	8	7	4	3	10	10	2	0	30	0	19	19	18	17	13	3	7	28
	GCG	3	3	4	8	4	0	0	2	20	20	0	4	4	8	24	33	7	9	1	27	16	14	2	5	17	22	5	3	27	0	16	31	16	15	13	4	14	26
	GCU	5	23	16	17	2	1	1	4	6	11	12	3	3	13	10	5	4	11	0	14	4	9	2	2	5	11	4	4	14	0	12	6	10	6	3	0	4	13
GLY	GGA	0	0	0	0	0	0	0	0	5	0	0	0	0	0	2	6	3	0	0	9	3	3	2	3	2	3	1	9	1	0	3	5	3	2	2	1	0	2
	GGC	3	32	5	15	0	1	1	0	22	12	1	11	4	21	13	8	5	20	1	22	14	13	6	9	23	9	2	3	13	0	12	18	12	17	9	3	10	14
	GGG	0	0	0	0	0	0	0	0	5	3	0	0	0	1	3	6	1	1	0	10	4	6	0	1	1	2	2	1	8	0	2	8	6	6	0	1	0	5
	GGU	4	16	12	9	4	4	4	1	11	9	1	17	7	19	9	9	10	19	2	22	9	21	6	5	12	8	4	7	8	1	11	15	10	18	8	0	10	13
VAL	GUA	1	13	5	5	1	2	2	3	2	3	1	2	5	10	6	8	1	11	0	5	3	9	2	2	7	3	5	2	6	1	8	3	5	0	2	0	6	6
	GUC	0	1	0	0	3	0	0	0	9	7	0	1	0	0	12	8	2	1	0	18	4	11	2	3	4	7	4	1	7	0	6	8	7	3	4	3	0	9
	GUG	1	5	3	4	1	0	0	1	10	10	1	4	4	4	14	14	8	3	0	26	6	4	5	7	12	9	9	1	10	0	14	15	15	10	5	2	13	22
	GUU	4	48	9	20	4	3	3	2	7	14	0	6	6	24	9	6	4	22	0	19	8	17	5	1	8	10	8	7	10	0	5	7	11	6	6	0	6	8
LYS	AAA	4	34	14	23	4	6	6	6	14	21	8	5	9	18	15	10	2	17	1	22	2	31	12	11	26	15	10	5	14	2	12	11	14	16	11	3	15	14
	AAG	4	9	5	5	1	0	0	3	8	13	6	1	4	5	3	4	2	6	0	12	9	9	9	1	3	3	8	1	4	0	3	3	4	2	2	1	10	3
ASN	AAC	5	24	12	8	2	2	2	2	16	18	5	4	5	7	12	13	4	7	1	18	6	19	2	10	11	28	3	2	7	0	7	15	9	12	5	3	9	12
	AAU	2	0	0	0	0	0	0	0	15	2	1	4	1	0	0	12	16	3	0	0	22	6	6	2	1	4	12	4	14	15	0	10	8	9	2	4	2	3	16
GLN	CAA	1	1	0	0	2	0	0	0	12	7	1	1	1	0	16	14	0	0	0	11	3	11	4	4	4	14	2	5	15	0	8	12	10	4	4	3	4	12
	CAG	1	13	7	10	4	5	5	0	19	23	4	17	3	8	23	34	1	8	0	18	15	12	8	12	15	24	10	6	22	0	13	14	18	12	8	4	16	24
HIS	CAC	0	7	5	3	2	5	5	1	8	5	2	1	3	10	3	4	0	9	0	6	3	13	1	2	3	1	0	4	2	0	4	11	6	8	2	1	5	1
	CAU	3	1	1	1	1	0	0	0	4	4	1	0	0	1	5	5	4	2	0	8	3	10	0	9	5	1	2	4	10	0	7	12	5	6	2	1	3	4
GLU	GAA	3	50	12	24	2	2	2	2	6	26	58	3	8	3	30	27	17	1	30	0	36	14	39	15	12	22	12	10	7	26	0	30	22	12	24	8	6	14	17
	GAG	6	9	4	8	4	3	3	2	16	13	0	2	1	7	6	16	1	7	0	15	4	18	6	1	12	4	8	6	14	0	5	7	11	6	9	6	6	20
ASP	GAC	1	32	13	12	3	4	4	1	16	24	2	3	3	20	9	8	2	20	0	13	5	25	3	12	12	8	1	6	2	0	14	9	11	5	4	1	8	7
	GAU	3	11	4	2	5	4	1	1	0	18	29	0	5	0	4	19	9	3	4	0	29	7	17	4	9	13	15	5	10	17	0	21	12	18	12	9	3	13	17
TYR	UAC	2	5	2	2	1	2	2	1	9	9	1	2	2	8	4	1	1	9	0	8	3	15	1	4	10	10	0	6	0	0	5	5	5	4	4	1	6	5
	UAU	0	1	0	1	0	0	0	1	7	4	0	2	2	2	8	3	8	1	0	12	5	9	2	5	15	10	3	17	7	0	9	8	11	8	3	1	8	3
CYS	UGC	0	2	1	2	0	0	0	1	2	3	0	0	3	2	0	2	2	2	0	9	7	8	0	4	6	2	1	0	1	0	7	1	5	3	2	0	2	0
	UGU	1	0	0	0	0	0	0	0	5	0	0	0	1	1	0	0	0	1	0	3	4	5	1	1	1	2	0	2	0	0	5	4	2	2	1	0	2	0
PHE	UUC	4	14	10	9	1	0	0	3	12	11	1	3	1	13	5	2	9	13	0	19	4	17	4	8	14	7	1	3	5	1	12	7	7	6	5	0	5	7
	UUU	1	3	2	1	1	2	2	0	14	4	1	1	0	1	7	14	5	1	0	11	5	8	1	5	9	6	4	6	8	0	8	8	9	7	7	1	7	3
ILE	AUA	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	2	0	1	1	0	0	1	0	11	3	0	0	1	0	0	1	0	0	0
	AUC	4	29	11	14	9	3	3	0	7	32	6	2	3	26	12	15	9	26	1	16	10	16	7	7	13	8	3	9	19	0	5	6	12	14	6	1	11	15
	AUU	2	1	3	5	0	0	0	1	9	11	1	3	0	3	19	24	11	3	3	29	5	20	5	9	16	13	9	7	19	1	12	20	13	9	13	2	6	21
MET	AUG	4	6	8	10	2	2	2	1	16	25	3	6	1	10	18	16	10	13	1	22	11	23	5	7	16	7	6	4	19	1	12	13	5	15	5	4	10	16
TRP	UGG	9	7	3	0	0	0	0	0	4	4	0	4	0	1	4	6	0	1	0	4	2	11	0	7	2	3	2	3	2	2	0	1	3	1	0	2	2	4
TER	UAA	1	1	1	1	1	1	1	1	0	1	1	0	1	1	0	0	1	1	0	0	1	1	1	1	1	0	1	0	0	0	0	1	1	0	1	0	1	0
	UAG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	UGA	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	0	0	1	1	0	0	0	0	0	1	0	1	1	1	1	0	0	1	0	1	0	1
TOTAL		128	557	242	284	104	90	90	72	582	614	88	179	125	395	554	536	220	395	22	821	310	643	181	265	472	490	245	259	536	15	521	532	453	398	269	109	335	537

		ECO TYRS	ECO UNC #1	ECO UNC #2	ECO UNC #3	ECO UNC #4	ECO UNC #5	ECO UNC #6	ECO UNC #7	ECO UNC #8	ECO UNC #9	ECO UNCA #1	ECO UNCA #2	ECO UNCA #3	ECO UNCE	ECO UNCI M	ECO UNCI A	ECO UVRD	ECO XYLA	ECO XYLD	FDI PSBA	FPL ORIN C	FPL TRAM #1	FPL TRAM #2	FPL TRAM #3	FPL TRAM #4	FPL TRAM #5	FPL TRAM #6	HHA BO	HHA BOSF	IS1 ECLA CI#1	IS1 ECLA CI#2	IS1 ISOS D#1	IS1 ISOS D#2	IS1 SD #1	IS1 SD #2	IS5 LAM #1	IS5 LAM #2	KAE TRPA	KPN HISG
ARG	CGA	1	1	1	0	1	1	0	1	0	1	0	0	1	0	1	2	0	1	0	1	2	0	1	0	0	1	0	2	0	2	1	0	0	2	2	1	0	0
	CGC	5	0	0	0	2	5	5	2	5	3	4	5	2	0	0	29	6	3	5	7	0	0	1	2	2	3	3	6	3	4	5	4	3	4	12	1	12	0
	CGG	1	2	0	0	0	1	0	1	0	0	0	0	1	0	2	7	0	0	2	4	0	0	0	0	1	1	1	9	2	4	1	4	2	4	4	2	0	0
	CGU	13	1	3	2	7	4	25	8	21	1	9	21	1	2	1	23	13	8	7	7	3	4	2	1	2	6	3	0	3	1	3	3	3	1	3	0	0	0
	AGA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	7	4	0	0	0	0	0	0	1	0	0	1	4	0	0	0
	AGG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	0	0	0	1	0	1	1	0	0	2	1	0	0	0
LEU	CUA	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	3	1	0	0	3	0	0	0	2	0	0	0	0	1	0	0	1	0	0	0
	CUC	3	3	1	1	1	4	4	1	3	2	2	3	2	1	3	12	2	2	0	4	1	1	1	1	0	4	12	17	2	1	1	0	2	2	1	1	5	2	0
	CUG	28	10	35	11	7	8	37	18	35	8	19	35	8	10	10	43	25	14	3	6	2	7	3	8	10	6	15	19	1	14	2	6	1	14	21	4	22	0
	CUU	1	1	2	0	5	5	3	4	3	1	2	3	1	0	1	6	2	2	0	2	5	5	3	1	1	5	2	4	0	1	0	3	0	1	1	5	2	0
	UUA	4	3	3	0	1	0	0	1	0	0	1	0	1	0	3	6	5	3	9	2	0	5	2	1	1	2	2	0	2	0	1	0	2	0	2	0	1	0
	UUG	8	6	4	0	0	1	2	4	1	1	5	1	0	1	6	8	8	7	17	2	2	1	1	0	0	0	6	6	0	0	1	0	0	6	4	0	0	0
SER	UCA	0	0	3	0	0	1	0	2	2	0	1	2	0	0	0	1	3	3	1	3	6	5	0	0	1	8	0	1	2	2	1	1	2	2	1	0	0	0
	UCC	5	0	2	0	2	1	15	4	14	0	5	14	0	0	0	3	3	4	8	5	1	2	0	2	1	0	3	2	1	1	0	0	1	1	3	0	5	0
	UCG	1	1	3	0	1	1	1	5	0	0	5	0	1	0	1	9	1	2	0	0	0	1	3	1	2	0	5	12	0	4	0	1	0	4	1	0	3	0
	UCU	5	2	3	0	0	5	12	2	7	4	2	7	4	0	2	2	3	2	12	4	3	7	0	2	0	2	0	0	4	0	1	0	4	0	1	0	1	0
	AGC	7	2	6	0	2	1	2	6	2	4	7	2	4	0	2	16	3	3	4	2	1	1	1	2	1	1	5	6	2	2	2	2	3	1	6	0	3	1
	AGU	3	2	0	0	0	3	2	1	0	1	0	1	0	1	0	2	3	3	4	1	7	2	5	4	3	1	5	1	0	2	1	1	0	2	1	0	4	1	0
THR	ACA	0	2	2	0	1	0	2	0	0	0	0	0	0	0	0	2	2	2	3	3	3	2	4	4	0	4	2	2	0	2	0	1	2	1	0	0	0	0
	ACC	11	0	3	0	1	2	17	9	18	4	10	18	3	0	0	16	8	10	13	3	0	1	0	3	1	5	7	4	2	0	2	7	1	0	14	1	8	0
	ACG	2	1	7	0	0	2	0	2	1	1	1	1	1	0	1	13	8	6	0	3	0	5	0	1	0	1	10	8	2	4	0	3	2	4	2	0	2	0
	ACU	8	0	0	1	1	0	4	3	5	1	2	5	1	0	1	0	3	1	1	2	4	1	1	1	0	2	0	2	2	1	4	1	4	1	1	1	0	0
PRO	CCA	1	1	4	0	1	1	3	2	0	0	0	0	0	0	1	4	2	1	1	3	1	2	0	0	2	1	3	3	0	0	1	0	0	4	2	1	0	
	CCC	0	1	1	0	0	1	0	1	0	0	1	0	0	0	1	1	1	1	5	1	0	0	0	1	1	1	3	5	2	1	0	1	2	1	3	0	2	0
	CCG	9	2	7	1	1	1	14	5	16	1	5	16	1	1	2	14	7	6	0	3	0	1	1	2	1	1	6	8	0	1	1	1	0	1	4	0	16	0
	CCU	3	1	3	2	0	0	1	2	4	3	3	4	3	2	1	1	4	4	10	4	1	0	2	0	0	1	0	0	0	0	2	0	0	0	1	0	1	1
ALA	GCA	9	5	2	2	6	6	20	5	8	4	6	8	4	2	5	7	12	10	13	2	3	4	6	2	3	1	5	5	1	1	1	1	2	1	2	0	1	0
	GCC	9	2	6	1	8	7	8	13	6	4	12	6	4	1	2	23	10	7	1	3	2	1	1	5	1	12	8	27	3	0	5	2	2	0	19	5	24	0
	GCG	15	6	5	4	8	7	12	8	13	7	7	13	6	4	6	29	20	15	2	6	2	0	0	3	1	3	16	24	0	3	0	2	0	3	5	5	18	0
	GCU	3	3	4	6	9	7	17	3	7	2	2	7	2	6	3	5	2	2	22	2	3	6	1	8	0	1	1	1	1	3	1	0	1	3	2	3	1	0
GLY	GGA	1	1	1	0	0	0	0	1	1	2	0	0	2	0	0	1	1	1	2	1	2	1	3	2	0	1	0	4	3	2	2	0	1	2	3	1	1	0
	GGC	14	4	6	2	3	3	16	11	14	6	12	14	6	2	4	25	19	11	4	6	0	0	0	2	3	1	10	22	5	2	4	4	4	1	10	7	12	0
	GGG	3	2	1	1	0	0	1	2	0	1	2	0	1	1	2	8	2	3	0	3	2	0	1	0	2	3	8	10	1	3	1	3	1	3	2	1	2	0
	GGU	16	0	9	7	0	5	29	6	29	5	6	29	5	7	0	17	16	13	28	1	1	0	1	6	4	3	4	7	1	1	1	1	1	1	3	10	3	0
VAL	GUA	4	2	6	1	2	6	9	2	2	19	2	2	19	2	1	2	7	2	1	14	2	4	3	3	1	0	1	3	0	0	2	0	2	0	2	1	0	0
	GUC	2	2	3	1	2	4	2	7	6	3	6	6	3	1	2	5	6	5	3	3	2	4	0	5	0	3	8	26	0	2	2	1	0	2	6	1	7	0
	GUG	7	12	9	3	4	1	6	9	10	3	9	10	3	3	12	25	9	7	3	1	1	0	1	2	0	8	9	16	3	3	0	2	3	3	5	4	8	0
	GUU	10	8	5	1	3	5	24	9	12	2	8	12	1	1	8	5	6	4	5	5	2	4	2	11	2	5	3	2	3	2	3	1	3	2	0	2	0	1
LYS	AAA	20	5	7	1	10	6	19	16	17	4	11	17	4	1	5	16	19	11	0	11	7	8	6	4	7	8	3	1	4	4	4	6	4	4	8	1	5	1
	AAG	8	2	3	0	5	2	5	7	3	2	6	3	2	0	2	8	5	4	1	6	4	3	4	5	1	2	4	1	0	5	1	3	0	5	11	0	3	0
ASN	AAC	15	5	6	1	3	4	14	9	9	1	9	9	1	1	5	22	12	9	20	4	1	0	4	2	1	7	3	2	3	2	4	3	3	2	9	0	2	2
	AAU	5	0	6	1	1	2	2	3	2	0	3	2	0	1	0	11	8	6	0	4	7	16	3	2	1	5	0	1	1	1	1	1	1	1	6	2	3	0
GLN	CAA	5	0	2	1	2	4	4	3	2	2	2	2	2	1	0	5	12	5	9	2	1	7	0	0	0	2	0	0	2	1	1	3	2	1	10	3	1	1
	CAG	22	3	5	1	8	5	24	13	18	6	12	18	6	1	3	42	13	10	2	11	3	4	1	3	1	8	4	8	3	4	4	0	3	4	12	7	12	0
HIS	CAC	3	1	4	0	0	2	7	3	7	6	3	7	6	0	1	7	7	6	10	2	0	2	1	0	0	1	0	3	3	4	1	3	3	4	7	0	4	2
	CAU	3	1	3	0	1	0	0	2	0	0	1	0	0	0	1	11	12	8	0	4	2	7	2	0	0	2	0	2	1	3	3	1	1	3	7	5	2	4
GLU	GAA	22	1	5	2	13	9	27	9	27	8	10	27	8	2	1	35	22	17	12	11	9	5	3	1	2	6	4	0	0	3	2	5	0	3	7	2	8	0
	GAG	9	0	3	0	5	8	4	5	12	5	5	12	4	0	0	24	11	9	4	6	8	6	6	0	1	2	7	5	0	2	2	4	0	2	16	0	8	0
ASP	GAC	13	1	5	0	6	5	16	9	21	4	8	21	4	0	1	24	7	5	2	5	0	3	1	2	2	3	8	15	1	4	2	2	1	4	5	4	7	1
	GAU	11	0	3	3	2	4	12	7	6	2	9	6	2	3	0	13	17	6	6	7	5	13	9	0	1	6	2	0	1	1	1	3	1	1	9	3	7	0
TYR	UAC	7	0	4	2	1	1	11	7	11	3	7	11	3	2	0	17	7	8	14	5	0	4	0	1	1	2	8	12	1	1	2	3	1	2	6	0	1	0
	UAU	4	0	2	0	0	0	4	3	4	1	4	4	1	0	0	6	11	6	0	8	3	9	4	0	4	2	3	1	1	6	1	2	1	5	1	0	6	0
CYS	UGC	4	0	0	0	1	1	1	1	0	0	2	0	0	0	0	3	4	5	5	1	1	2	0	0	0	1	0	0	3	0	2	3	0	1	2	3	0	
	UGU	3	0	0	0	0	1	2	0	1	0	0	1	0	0	0	3	0	1	0	2	0	3	1	0	1	0	0	0	2	0	2	0	2	0	0	0	0	0
PHE	UUC	18	5	17	3	2	0	13	3	11	1	3	11	1	3	5	12	13	9	21	7	0	2	1	5	3	3	13	18	1	2	1	5	1	2	8	1	8	0
	UUU	7	4	3	1	1	6	1	1	3	1	1	3	1	1	4	10	12	11	5	7	6	10	5	4	2	7	0	1	0	2	2	2	0	2	6	2	4	1
ILE	AUA	0	4	1	0	0	0	0	1	0	0	1	0	0	0	4	0	1	1	0	3	1	8	3	0	0	1	0	0	2	0	1	0	2	1	0	0	0	
	AUC	11	1	13	7	10	4	30	6	23	6	6	23	5	7	1	16	6	3	19	15	2	8	2	3	3	4	15	12	2	2	2	5	2	2	11	4	15	0
	AUU	9	1	11	1	3	6	10	5	4	5	6	4	5	1	1	15	6	5	8	2	4	9	3	1	5	7	0	1	3	1	4	3	3	1	5	3	4	0
MET	AUG	7	3	11	8	2	7	11	11	15	6	13	15	5	8	3	24	12	11	10	6	5	5	2	10	2	7	10	9	3	4	2	2	3	4	15	3	5	1
TRP	UGG	6	4	7	0	1	1	1	3	1	0	2	1	0	0	4	13	8	7	10	2	0	3	1	1	4	3	8	9	1	4	0	4	1	4	6	0	0	0
TER	UAA	1	1	1	0	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	1	0	1	1	0	0	1	1	0	0	1	1	1	1	1	1	0	0	
	UAG	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	UGA	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	1	0	
TOTAL		425	131	272	80	157	178	514	288	461	140	288	461	134	80	131	721	441	334	361	252	128	230	120	122	92	189	263	360	92	126	91	132	92	126	327	109	270	17

		KPN NIFH B	MMO RLPP	MXA S #1	MXA S #2	NGO PIL1	PAE E1A	PAH 77NL SR	PC1 94CA T	PE1 94 #1	PE1 94 #2	PJH 1APH	PJR 225H PH	PLB ECOR V#1	PLB ECOR V#2	POA D2RS A	POA D2RS B	PRI 13EC OR#1	PRI 13EC OR#2	PSC 101R LP	PSC REP1 01	PSN 2	PST IRM #1	PST IRM #2	PT1 81	PTB 913K	PUB 110K	R38 8DHF R	R67 DHFR	RA1 TET	RCA LHI1 #1	RCA LHI1 #2	RCA RC1	RCA RC2 #1	RCA RC2 #2	RCA RC2 #3	RCA RC2 #4	RJA NIFD KO	RJA NIFH
ANG	CGA	0	0	0	0	0	0	1	1	0	0	0	3	2	0	1	1	2	1	2	2	0	5	4	2	2	2	0	1	0	0	0	0	0	1	0	2	0
	CGC	9	3	0	0	3	31	1	0	2	0	3	6	0	0	15	19	0	1	2	2	0	1	0	1	2	2	3	7	0	0	8	0	1	2	7	11	5
	CGG	0	0	2	3	0	9	0	0	0	0	4	6	0	0	11	5	0	0	1	1	0	0	0	1	0	0	0	5	0	0	2	0	0	1	2	5	3
	CGU	4	2	0	0	1	3	4	0	0	0	0	7	1	4	3	2	1	0	0	1	1	6	8	5	3	3	1	0	3	1	0	4	1	1	4	2	6	2
	AGA	0	0	1	1	0	0	0	2	6	0	2	1	8	4	0	0	6	10	4	4	5	6	6	10	2	2	0	0	1	0	0	0	0	0	0	3	1
	AGG	0	0	2	2	1	1	2	2	1	0	3	3	0	8	1	0	5	1	6	6	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0
LEU	CUA	0	0	1	1	0	0	5	2	0	0	3	0	2	1	0	0	4	5	9	9	4	6	4	0	4	4	0	0	1	0	0	0	0	0	0	2	3
	CUC	7	0	1	1	1	21	2	0	0	0	2	9	1	1	22	21	3	1	5	5	5	0	1	1	0	0	1	0	1	2	1	8	1	3	10	13	11	3
	CUG	11	3	10	8	4	48	5	0	0	0	13	9	0	1	14	12	0	3	3	3	0	0	0	0	4	4	1	0	22	3	4	11	4	6	12	12	12	10
	CUU	1	0	0	0	5	0	2	5	5	0	3	5	3	1	0	1	6	5	5	5	1	13	7	7	6	6	2	1	4	1	0	1	1	0	5	2	4	6
	UUA	0	5	0	0	0	0	11	10	15	0	7	0	6	12	0	0	11	9	12	12	7	24	20	11	2	2	1	0	3	0	0	0	0	0	0	0	0	0
	UUG	0	0	0	2	2	2	6	4	2	0	3	3	2	6	0	0	3	5	6	6	0	7	4	7	4	4	0	1	3	0	0	0	0	0	4	0	1	4
SER	UCA	1	0	0	0	3	0	3	4	6	0	1	0	3	5	0	0	7	3	3	3	1	12	4	1	6	6	1	1	4	0	0	0	0	0	0	10	4
	UCC	6	0	6	6	4	5	0	0	2	0	2	6	0	2	10	6	1	0	1	1	0	0	1	0	2	2	2	1	0	0	0	1	0	1	1	7	4
	UCG	2	0	2	2	1	7	1	1	0	0	3	3	0	2	9	12	2	4	2	2	0	3	1	2	4	4	0	1	1	2	1	11	1	1	7	11	8	4
	UCU	0	5	0	0	2	0	5	8	2	0	1	2	4	6	0	0	8	8	3	3	3	12	4	7	5	5	1	1	1	0	0	0	0	0	0	0	0	2
	AGC	1	1	5	4	1	27	2	1	3	1	7	11	5	0	7	7	4	4	3	3	1	3	4	2	3	3	1	1	1	2	0	0	2	0	4	1	5	2
	AGU	0	0	0	0	0	2	6	3	5	1	2	2	3	4	0	0	2	4	7	7	3	8	5	7	0	0	2	2	3	0	0	1	0	0	1	1	2	1
THR	ACA	0	0	0	0	1	0	3	7	4	1	0	3	11	6	1	0	4	5	7	7	5	10	8	5	6	6	1	1	3	0	0	0	1	0	0	0	2	0
	ACC	12	0	7	7	9	20	6	1	1	0	2	5	2	1	18	19	0	0	6	6	1	3	2	1	1	1	1	1	5	1	5	11	1	3	11	11	6	5
	ACG	4	1	1	1	1	5	5	1	1	0	4	5	0	3	9	12	1	1	6	6	3	0	0	2	2	3	0	1	3	1	1	0	0	0	7	4	7	3
	ACU	0	0	1	0	1	2	4	5	3	0	1	4	2	3	0	0	5	3	6	6	2	13	4	5	5	5	1	0	1	1	0	0	0	0	0	0	3	3
PRO	CCA	1	0	0	0	0	0	3	2	1	1	2	1	6	2	0	0	1	5	2	2	1	7	9	5	3	3	1	3	0	0	0	0	0	0	0	7	2
	CCC	3	0	3	3	3	13	0	2	0	0	2	4	0	0	16	16	0	0	1	1	0	1	4	1	1	1	2	1	1	0	1	8	0	2	2	4	2	1
	CCG	4	0	4	5	3	27	0	1	0	0	2	8	0	5	5	5	0	0	1	1	0	3	3	0	3	3	0	0	4	2	3	13	1	0	11	9	11	4
	CCU	0	0	4	4	0	0	3	5	4	0	4	2	3	6	0	0	5	6	3	3	0	7	5	0	1	1	2	1	3	0	0	0	0	0	0	1	3	1
ALA	GCA	1	5	1	1	3	1	1	3	3	0	0	6	5	4	5	4	4	3	6	6	3	10	4	9	6	6	2	0	7	0	0	0	1	0	0	2	0	8	6
	GCC	14	1	6	7	12	43	1	0	1	0	4	10	3	2	15	17	1	1	1	1	0	2	4	2	3	3	4	4	2	4	8	3	4	11	19	9	13	
	GCG	13	0	2	4	2	27	2	0	0	0	2	14	0	2	18	17	1	2	1	1	1	7	3	2	1	1	2	2	12	3	4	6	4	1	7	11	11	10
	GCU	1	6	1	1	1	1	1	2	2	0	2	7	1	2	1	2	9	4	5	4	1	20	9	3	3	3	3	2	0	2	3	1	1	3	4	5	5	3
GLY	GGA	1	0	0	0	1	0	2	4	2	0	4	7	10	4	2	3	5	3	2	2	5	5	2	2	4	4	0	1	1	0	0	1	0	0	3	0	5	2
	GGC	20	0	9	11	9	52	0	0	2	1	6	6	1	1	27	23	1	3	2	2	3	3	4	2	2	2	3	4	3	2	3	11	0	2	18	21	30	17
	GGG	1	0	1	0	0	4	4	2	1	0	4	6	2	7	7	6	6	5	3	0	1	3	0	0	3	3	2	1	6	3	0	3	1	0	7	6	7	4
	GGU	5	3	2	2	2	3	1	7	1	0	0	5	2	4	3	6	9	6	3	3	2	11	10	3	9	9	4	2	4	0	1	4	1	0	4	6	8	7
VAL	GUA	0	2	0	0	2	1	5	4	2	1	3	4	5	4	2	3	5	3	3	3	6	9	2	2	5	5	1	2	1	0	0	0	0	0	0	4	2	
	GUC	8	0	5	5	4	19	4	0	0	0	5	14	0	2	18	18	2	1	0	0	1	1	2	1	2	2	3	3	2	0	5	13	3	0	11	10	10	2
	GUG	12	0	10	10	2	18	1	2	2	0	4	4	0	0	12	12	1	2	3	3	0	4	3	4	8	8	3	1	5	1	1	8	1	5	8	5	16	9
	GUU	2	6	1	1	7	0	7	2	7	1	1	3	5	15	0	0	8	13	8	9	2	21	11	5	4	4	1	2	1	1	2	3	0	2	0	5	5	6
LYS	AAA	11	5	2	2	14	3	24	11	26	2	12	2	21	17	0	0	17	22	22	22	10	27	22	26	6	6	2	1	5	2	1	1	0	1	2	1	12	4
	AAG	5	2	11	5	2	12	4	3	5	0	10	4	3	7	3	4	5	13	8	8	5	3	3	6	6	5	1	1	2	0	1	15	1	2	3	2	23	14
ASN	AAC	11	6	16	16	5	21	8	6	8	1	4	3	6	6	8	9	3	9	13	13	4	8	3	5	0	0	1	2	3	0	6	9	1	1	8	9	14	7
	AAU	1	1	1	2	3	0	7	16	18	0	4	4	14	17	0	1	17	19	9	9	7	31	14	17	5	5	0	4	4	0	0	1	0	0	2	0	3	5
GLN	CAA	2	2	1	0	4	4	11	3	6	1	1	7	6	3	0	0	7	7	4	8	8	7	16	8	12	6	6	3	1	1	0	0	1	2	0	1	1	6	3
	CAG	8	4	5	10	1	23	5	2	1	0	1	9	0	1	13	12	2	1	5	5	1	8	3	0	5	5	2	2	10	0	0	1	4	0	2	2	10	10	7
HIS	CAC	2	0	0	0	2	11	4	0	3	0	3	4	1	1	7	11	2	2	2	2	0	1	1	2	2	2	1	1	1	2	1	2	0	1	7	7	7	3
	CAU	0	0	0	0	0	6	7	4	6	1	1	2	4	6	0	1	4	5	4	4	1	6	10	7	6	6	0	0	6	0	0	1	2	1	0	0	7	2
GLU	GAA	18	1	3	2	7	15	10	4	10	0	23	11	13	5	3	10	10	17	17	10	26	15	20	15	15	4	4	9	3	0	10	1	0	4	8	11	9	
	GAG	11	0	9	7	3	28	1	5	2	0	9	11	3	6	20	15	7	10	10	10	6	9	9	1	10	10	1	2	7	0	0	7	1	0	1	3	23	14
ASP	GAC	11	6	7	7	8	33	2	4	2	0	10	12	7	1	24	26	3	2	3	3	4	4	2	7	2	2	0	0	6	1	0	14	2	0	8	7	24	9
	GAU	5	2	5	3	2	3	5	8	10	0	17	14	7	17	9	4	15	21	9	9	4	18	18	24	12	12	2	1	8	2	0	6	1	1	1	2	10	7
TYR	UAC	8	1	6	6	3	13	4	5	2	0	2	4	5	2	10	12	2	5	6	6	2	5	2	4	1	1	0	2	2	1	1	4	1	2	8	6	10	7
	UAU	1	0	0	0	2	5	8	8	1	0	1	12	7	15	12	2	1	6	16	8	7	6	12	8	8	10	10	3	1	3	0	0	6	0	0	4	5	15	4
CYS	UGC	7	0	0	0	2	8	1	0	1	0	5	5	5	1	1	5	4	0	4	1	1	0	2	1	2	1	1	1	1	1	0	0	0	0	0	5	0	6	5
	UGU	2	1	0	0	0	0	0	1	1	0	1	2	0	5	0	0	1	3	1	1	0	5	1	0	3	3	0	0	0	0	0	0	0	0	0	0	1	0
PHE	UUC	4	0	8	8	1	13	3	4	5	0	1	14	3	2	9	9	1	7	9	9	3	4	5	0	5	5	0	1	1	1	1	8	3	6	20	23	14	2
	UUU	2	1	0	0	1	1	9	13	12	2	10	2	7	19	0	0	10	16	7	7	3	18	5	16	5	5	2	2	7	0	0	1	0	0	3	1	5	2
ILE	AUA	0	0	0	1	0	1	5	6	15	0	3	2	16	8	0	0	12	7	7	7	7	19	4	6	5	5	0	0	2	0	0	0	0	0	0	3	1	
	AUC	17	1	9	9	7	25	1	1	4	1	8	7	4	0	10	10	4	2	3	3	3	4	6	5	2	2	0	1	4	4	4	11	2	3	14	19	25	15
	AUU	7	1	1	1	2	2	13	12	7	2	4	5	6	15	0	0	7	14	9	9	2	19	10	8	11	11	1	2	4	0	0	0	0	0	2	1	12	8
MET	AUG	16	1	3	2	3	7	2	2	5	1	7	8	1	5	6	8	7	2	11	11	6	10	6	11	8	8	1	2	4	2	2	10	3	1	13	14	12	12
TRP	UGG	0	0	0	0	3	12	2	5	1	0	5	8	4	4	11	11	2	2	4	4	0	3	7	9	6	6	2	2	2	1	3	5	2	2	16	19	9	0
TER	UAA	0	1	0	0	0	1	1	1	1	0	0	1	0	0	0	0	1	0	0	0	1	1	1	0	0	0	1	0	0	1	1	0	0	1	0	1	0	1
	UAG	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	UGA	1	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	0	0	0	0	1	1	0	1	1	0	0	1	1	0	1	1	0	1
TOTAL		294	79	176	174	167	639	246	217	245	20	265	342	246	299	393	393	278	327	317	317	159	508	327	315	254	254	79	79	219	50	61	255	50	59	283	308	516	295

	RK2 KORA	RK2 TRFA #1	RK2 TRFA #2	RK2 TRFA #3	RLE FIX2	RLE GWOD #1	RLE GWOD #2	RP1 TET #1	RP1 TET #2	RPA HIFH	RRU RUBP	RSP RCH	RTS REPA	SAU SPA	SDY ONPA	SHA RCLP P1	SHA TRPG	SPL ENDH	STY ARAL C	STY DADB	STY FLGH 2C	STY HISO P	STY HIST 0#1	STY HIST 0#2	STY HIST 0#3	STY HIST 0#4	STY HIST 0#5	STY HIST TRPB A#1	STY TRPB A#2	THR LEUB	TH1 OTET A	TH1 OTET R	TH1 6B1S T1	TH2 1TNP	TH3 #1	TH3 #2	TH3 #3	TH5 01 #1
ARG	CGA	1	0	5	4	6	4	2	1	1	1	0	0	4	0	0	0	0	1	1	5	0	0	0	0	0	1	0	2	1	1	1	0	0	7	2	2	0
	CGC	1	3	16	13	13	9	3	7	8	5	15	9	3	4	3	1	8	6	9	8	3	1	4	5	3	8	12	12	7	7	2	1	0	13	15	6	7	6
	CGG	4	1	6	4	2	3	4	3	11	4	6	1	0	0	0	0	5	5	6	5	0	0	0	3	2	1	1	2	11	1	2	0	2	20	4	1	0
	CGU	0	2	6	2	4	4	4	1	2	0	5	2	5	5	10	3	4	1	4	4	4	0	4	4	2	3	2	5	5	1	5	2	0	6	23	2	7	0
	AGA	0	0	0	0	3	1	1	2	0	1	0	0	2	0	0	0	0	1	1	1	3	0	0	0	0	1	0	0	0	0	1	2	0	1	14	1	2	1
	AGG	1	0	1	0	2	1	1	5	2	0	1	0	3	0	0	0	0	2	1	3	0	0	0	0	1	0	0	0	1	6	0	2	0	2	10	5	0	2
LEU	CUA	0	0	1	1	5	2	1	1	0	1	0	0	6	6	0	0	0	0	2	2	1	0	2	1	0	2	1	3	1	1	4	3	1	0	1	1	5	0
	CUC	0	0	3	2	4	1	5	6	17	6	3	19	2	0	0	0	3	13	2	2	0	0	4	0	4	1	5	6	4	15	2	4	0	4	16	4	2	0
	CUG	4	2	21	18	7	4	2	10	24	14	22	19	8	0	21	6	18	9	13	16	6	0	11	15	15	16	14	21	13	10	7	1	0	10	75	7	8	3
	CUU	1	1	2	2	6	2	7	3	8	2	2	0	8	7	0	1	1	1	3	4	3	0	3	3	8	4	0	3	3	4	11	3	2	1	21	3	9	0
	UUA	1	0	0	0	0	2	1	0	1	1	0	0	5	26	1	0	0	0	3	3	10	0	2	3	3	4	4	2	4	0	23	18	2	0	7	0	5	0
	UUG	1	1	5	4	8	4	3	5	6	2	6	0	2	4	2	0	0	1	7	6	0	0	2	1	3	6	6	3	3	4	13	4	1	2	10	1	4	2
SER	UCA	0	1	0	0	4	0	3	1	2	2	1	0	5	3	0	0	0	4	2	4	3	0	5	0	1	3	1	1	3	0	9	1	4	0	15	2	2	2
	UCC	0	0	6	4	5	1	0	1	2	5	4	6	0	0	7	1	2	4	1	0	1	0	4	7	3	3	3	9	5	8	0	0	0	2	8	3	3	6
	UCG	2	1	11	7	4	3	4	3	7	5	7	13	3	1	0	0	4	8	3	4	0	0	2	2	3	6	5	1	4	1	7	0	0	2	5	2	1	5
	UCU	0	2	1	1	2	0	2	0	1	3	1	0	8	5	5	5	1	0	1	2	1	0	3	4	0	2	2	2	3	2	4	2	4	2	9	0	3	0
	AGC	1	1	5	3	3	3	3	4	5	3	5	0	3	12	4	2	2	5	12	5	3	0	2	2	0	3	6	5	1	4	2	3	0	4	14	1	2	5
	AGU	0	0	0	0	2	0	0	0	0	0	1	0	6	3	0	0	0	1	1	2	6	0	1	0	2	1	0	1	0	0	9	5	2	2	14	3	5	0
THR	ACA	0	0	0	0	1	1	2	4	4	0	0	0	3	4	3	0	0	0	2	3	1	1	1	2	0	0	1	3	1	0	6	5	2	1	9	1	4	1
	ACC	4	6	13	9	7	2	2	1	7	5	20	9	3	0	13	0	6	12	4	10	4	0	8	6	11	7	1	11	5	6	9	1	0	5	24	6	3	1
	ACG	3	1	15	12	6	3	4	3	4	5	5	4	1	0	0	0	0	7	3	9	0	0	5	4	5	9	4	7	1	6	6	0	0	2	13	4	7	2
	ACU	0	0	1	0	4	4	1	3	4	2	0	0	5	7	9	2	0	1	1	2	3	0	2	2	0	1	1	0	0	0	4	5	2	2	12	1	6	0
PRO	CCA	1	1	2	1	6	4	1	0	1	0	0	0	6	10	3	0	2	0	1	2	0	0	1	1	0	0	0	1	1	1	5	2	0	0	8	0	6	2
	CCC	1	0	3	0	2	2	7	0	4	2	13	4	1	0	0	0	1	8	1	1	1	0	2	1	0	1	2	4	4	18	3	0	1	0	11	0	3	1
	CCG	1	1	7	7	7	4	5	9	10	5	9	8	2	2	15	0	5	10	12	11	1	0	2	6	5	5	5	10	9	7	1	1	0	3	14	0	3	0
	CCU	0	0	2	1	3	0	5	0	4	2	0	0	2	21	1	0	2	0	3	4	2	1	2	1	1	2	3	3	4	5	4	1	0	8	0	2	0	
ALA	GCA	2	2	4	1	7	3	5	3	9	4	0	2	7	15	11	3	0	2	1	4	4	0	2	5	0	2	0	2	5	1	13	5	1	1	28	5	9	0
	GCC	2	4	16	10	10	4	7	16	23	11	48	13	5	2	3	0	10	20	10	9	4	0	14	6	9	7	2	14	15	28	5	5	1	5	32	3	8	4
	GCG	9	1	12	7	7	2	4	13	22	13	10	13	3	5	2	1	9	21	7	24	6	0	14	13	12	14	11	21	14	11	9	0	0	5	12	3	4	1
	GCU	0	0	3	1	6	5	8	1	7	1	4	3	2	28	21	8	1	4	1	4	4	0	3	6	0	0	2	6	6	2	14	6	1	4	17	5	8	2
GLY	GGA	1	0	2	1	7	4	4	3	6	3	2	1	1	3	0	0	0	1	8	4	4	0	2	2	2	1	2	5	0	7	8	3	1	2	13	1	4	0
	GGC	2	8	12	11	8	5	3	8	26	21	41	23	14	24	5	15	13	2	19	21	6	15	6	0	8	9	9	8	12	19	15	10	9	1	0	8	21	5
	GGG	4	3	2	1	5	1	3	4	11	0	4	6	3	0	0	0	0	3	6	6	3	0	5	4	7	2	4	7	2	19	9	3	0	2	15	4	5	0
	GGU	0	1	1	0	7	4	2	4	3	6	3	5	4	21	25	1	1	2	1	9	1	0	6	6	7	2	4	12	3	1	13	6	0	1	16	5	8	0
VAL	GUA	1	2	0	0	0	1	1	1	3	0	0	0	1	6	7	2	0	1	3	5	3	0	0	1	3	4	3	2	1	0	6	4	2	0	2	2	5	0
	GUC	3	1	12	9	8	5	6	4	13	7	17	13	2	2	0	0	6	16	5	10	3	0	3	6	6	2	4	8	8	12	4	2	0	5	12	4	2	0
	GUG	4	2	10	8	5	4	8	4	8	11	9	3	6	1	4	1	8	10	1	10	3	0	6	6	14	10	12	2	5	20	8	2	0	6	18	6	2	1
	GUU	1	1	1	1	6	3	6	5	3	2	2	1	7	5	17	3	0	1	3	2	0	1	5	1	1	1	4	7	3	0	8	0	1	1	22	2	6	1
LYS	AAA	4	0	7	7	8	1	1	2	2	4	1	0	19	50	15	5	1	0	3	7	8	1	19	16	4	6	14	17	6	0	6	10	7	1	30	6	6	0
	AAG	5	10	20	17	11	1	3	3	0	13	17	2	9	15	4	1	1	9	1	1	2	0	7	9	2	0	2	2	2	15	3	2	2	9	9	6	5	2
ASN	AAC	1	2	4	4	10	0	0	3	5	7	9	13	4	47	17	6	3	18	1	6	2	0	2	6	3	4	4	8	5	6	1	2	4	2	16	2	5	0
	AAU	0	6	3	2	7	3	3	4	1	6	6	0	6	21	2	1	3	1	9	4	6	0	3	2	2	2	5	3	6	0	9	5	2	1	22	1	3	0
GLN	CAA	1	1	4	1	9	0	4	0	5	1	3	0	7	37	1	3	2	1	2	5	3	1	4	2	3	0	5	7	1	1	8	9	0	8	5	2	5	1
	CAG	8	7	14	11	6	0	2	9	5	9	10	8	2	0	16	3	10	12	14	13	4	0	7	10	4	4	12	10	9	2	6	3	1	4	32	8	4	0
HIS	CAC	0	1	7	7	7	4	6	1	6	3	6	7	1	1	4	2	7	3	3	2	1	3	0	1	1	3	6	7	1	5	2	3	0	1	6	0	3	0
	CAU	2	2	1	1	5	2	5	2	1	2	6	0	3	4	2	0	1	0	8	6	5	4	1	0	1	0	5	7	4	0	3	6	0	2	20	2	4	0
GLU	GAA	5	2	13	9	9	4	6	6	3	6	4	5	15	41	12	0	7	1	6	10	6	0	6	9	4	5	15	13	12	3	7	14	4	9	45	7	11	0
	GAG	4	5	17	13	9	5	6	8	5	18	23	6	5	1	3	0	4	7	10	8	4	0	4	8	3	3	4	15	4	28	3	7	2	7	17	4	9	0
ASP	GAC	2	6	17	13	11	5	10	13	5	11	23	6	6	19	17	6	4	18	5	4	4	1	5	6	1	0	3	5	4	15	1	1	1	4	19	9	5	0
	GAU	1	4	5	4	9	3	7	3	8	4	6	0	11	21	6	2	4	1	9	11	4	0	20	12	6	4	8	13	9	1	8	7	1	6	41	7	11	1
TYR	UAC	2	2	8	7	4	2	3	3	3	4	3	5	5	0	14	1	3	15	1	3	2	0	7	5	6	5	1	4	6	5	3	0	1	2	12	0	3	0
	UAU	0	2	2	2	4	1	1	0	5	7	14	4	4	6	1	0	1	1	9	9	2	0	4	3	3	8	2	8	1	1	4	3	1	2	15	2	1	0
CYS	UGC	0	0	6	6	9	2	5	1	2	5	3	0	0	0	1	1	2	0	3	2	0	0	0	1	0	2	0	4	1	0	0	4	1	0	4	0	2	1
	UGU	0	1	0	0	5	0	2	0	2	0	2	0	1	0	1	0	1	0	2	2	1	0	2	1	1	1	1	2	0	1	2	6	0	4	0	1	0	
PHE	UUC	3	6	12	11	4	4	3	6	18	3	21	26	6	13	7	0	3	11	6	2	2	0	3	6	4	6	6	8	8	10	6	2	1	6	10	0	1	2
	UUU	0	2	3	1	4	2	2	2	3	1	2	0	10	3	2	0	1	0	11	4	5	1	8	8	10	9	3	5	4	3	22	7	3	2	27	5	9	0
ILE	AUA	1	1	1	1	4	1	2	1	2	0	0	0	8	1	0	0	0	1	2	2	2	0	1	0	3	2	0	1	1	1	5	1	0	1	8	1	5	0
	AUC	3	2	12	8	14	3	4	3	16	18	21	16	12	9	14	2	11	8	9	6	4	0	3	7	9	5	5	14	7	7	10	3	0	5	27	7	7	1
	AUU	0	3	2	2	5	1	5	1	9	4	0	0	5	8	1	0	2	0	6	11	10	0	8	8	6	15	9	9	10	0	22	2	3	3	21	7	5	1
MET	AUG	1	1	11	7	9	7	3	4	15	13	14	12	5	4	5	2	8	3	5	12	5	1	4	4	7	4	9	15	5	6	13	3	3	5	17	5	10	1
TRP	UGG	2	1	6	6	4	1	3	2	9	0	6	20	2	0	6	0	1	2	6	9	1	0	2	1	2	5	1	1	0	1	12	2	0	0	17	0	4	2
TER	UAA	0	1	0	0	1	0	0	0	0	1	1	0	1	1	1	1	1	0	1	1	1	0	0	1	0	1	1	0	0	1	1	0	1	1	1	1	0	1	0
	UAG	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	UGA	1	0	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
TOTAL		102	117	383	286	360	158	217	217	400	295	467	309	289	525	352	78	194	314	282	357	191	17	261	261	229	236	259	398	269	340	402	208	73	187	1016	186	287	61

		TNS 01 #2	TNS 01 #3	TNS 01ME RA	TNS 01TN PR	TN7 FOL	TN9 CAT	TNC AM20 4	TOL MPC	VCH CTX #1	VCH CTX #2	VCH TOX #1	VCH TOX #2	ACM NPVP	AD1 2L #1	AD1 2L #2	AD1 2L #3	AD1 2L #4	AD1 2L #5	AD3 BHEX	AEV ERBB H	AID HTLV 3A#1	AID NTLV 3A#2	AID HTLV 3B	AID HTLV 3C	ALM CG12	ALM CG22	ALM CG32 #1	ALM CG32 #2	ALM VRNA 3A#1	ALM VRNA 3A#2	ALM VRNA 4	AML VPRO EN	AMV PRO3	ASV SRCC	ASV Y73	BBV 1G #1	BBV 1G #2	BBV 1G #3
ARG	CGA	1	0	0	1	1	0	0	2	2	0	0	0	0	1	2	1	5	2	5	4	2	1	1	2	9	5	0	2	0	2	2	7	1	2	5	11	4	1
	CGC	3	1	18	13	1	1	1	10	0	0	0	0	3	1	1	1	2	2	16	6	0	3	3	0	2	3	1	2	1	2	1	11	1	12	2	9	3	3
	CGG	2	0	6	6	0	1	1	3	1	0	0	0	0	1	2	2	3	0	8	4	2	2	2	2	6	3	1	1	1	1	1	11	2	19	13	8	1	1
	CGU	0	0	5	3	1	2	2	4	1	0	0	0	7	2	2	0	5	1	8	7	0	1	1	0	14	8	3	2	3	1	2	4	0	1	3	19	2	0
	AGA	0	0	0	0	0	1	1	0	10	1	2	1	1	4	4	2	11	0	9	4	19	36	35	19	22	12	2	2	2	2	2	10	1	9	11	10	3	0
	AGG	0	0	0	0	1	0	0	0	3	2	0	2	2	2	2	2	5	1	8	6	9	10	11	8	12	7	4	2	4	2	2	13	2	5	11	5	0	1
LEU	CUA	0	0	2	0	4	1	1	2	1	3	1	3	2	1	1	1	3	2	10	1	5	8	8	5	14	9	4	0	5	0	0	3	2	1	5	6	1	4
	CUC	5	2	6	4	1	1	1	8	0	0	0	0	4	0	0	1	1	0	16	9	3	13	13	3	7	16	4	8	3	8	7	19	3	13	10	7	0	5
	CUG	4	3	30	13	3	6	6	18	0	1	0	1	6	4	5	8	6	2	27	22	5	16	16	5	8	9	4	8	3	7	8	34	7	26	13	12	0	5
	CUU	1	0	3	1	0	2	2	1	4	1	1	1	4	5	5	2	7	3	9	14	5	6	6	5	17	9	7	1	8	1	1	11	1	8	16	13	0	2
	UUA	0	0	0	0	2	3	3	0	8	3	1	3	1	4	5	2	17	3	3	3	15	20	21	15	21	20	8	1	9	1	1	4	6	1	14	9	1	0
	UUG	5	0	9	2	2	0	0	5	3	1	0	1	0	9	10	9	10	3	10	10	4	19	19	4	30	19	6	3	4	4	3	9	2	5	10	17	1	0
SER	UCA	0	0	1	0	5	3	3	0	7	3	1	2	2	2	2	4	4	2	3	6	10	10	10	11	21	14	6	2	8	2	2	9	0	7	11	11	1	1
	UCC	0	5	4	1	0	1	1	5	2	0	0	0	1	2	3	2	2	2	20	11	3	6	6	3	16	12	3	3	1	4	3	23	7	8	19	12	2	0
	UCG	1	0	5	3	1	2	2	1	1	1	0	1	1	3	3	1	0	3	9	1	1	2	2	1	9	8	5	0	6	0	0	7	3	8	4	5	1	0
	UCU	1	0	0	0	3	0	0	1	6	2	2	2	2	4	5	4	8	2	6	9	1	7	7	1	22	17	7	4	7	3	4	21	2	5	11	5	0	0
	AGC	1	3	12	6	2	0	0	1	0	0	0	0	3	3	3	3	5	2	11	8	11	13	12	10	13	4	4	2	4	2	2	24	4	12	8	13	2	5
	AGU	0	0	2	0	3	4	4	2	7	3	2	2	0	3	5	2	10	1	6	8	4	21	19	5	14	8	6	4	8	4	4	12	3	5	6	7	0	2
THR	ACA	0	1	5	2	4	0	0	1	1	4	1	4	0	1	1	0	3	3	9	14	16	27	27	14	9	10	6	2	5	2	2	10	4	11	24	14	0	3
	ACC	1	7	22	5	3	8	8	13	2	1	1	1	6	0	0	4	7	6	22	5	9	13	13	9	21	9	7	3	7	3	3	33	8	11	12	20	3	1
	ACG	0	1	12	2	1	3	3	1	1	2	0	2	1	0	0	2	0	1	15	0	0	6	7	0	13	5	2	3	2	4	3	5	2	4	6	11	1	2
	ACU	2	2	5	2	1	2	2	2	6	3	1	3	4	4	6	2	10	8	18	11	8	12	11	9	27	13	2	5	2	5	5	18	5	7	12	17	5	0
PRO	CCA	2	0	2	0	3	0	0	1	5	1	0	1	2	3	3	1	4	2	6	16	21	14	14	21	12	14	7	1	7	1	1	22	11	10	19	23	3	4
	CCC	4	1	4	2	2	2	3	3	1	0	0	0	9	7	7	0	2	1	28	12	4	8	8	5	6	8	5	3	4	3	3	33	4	15	13	5	1	5
	CCG	2	3	19	2	1	3	3	8	4	0	0	0	2	3	3	3	1	0	20	0	1	1	1	1	9	11	2	6	2	6	6	16	4	12	10	13	2	1
	CCU	0	0	1	0	2	2	1	0	4	2	0	2	4	12	12	2	6	5	10	13	11	5	5	10	18	15	4	7	5	7	7	33	8	9	22	13	6	0
ALA	GCA	1	2	5	1	1	2	2	4	9	7	0	7	2	2	2	2	6	6	8	12	17	19	20	18	21	8	5	1	6	2	1	14	10	7	21	14	1	6
	GCC	7	9	40	8	2	8	8	10	2	1	0	1	3	3	4	1	7	7	27	9	8	9	10	7	28	12	3	5	3	4	5	36	5	16	16	21	1	2
	GCG	8	3	40	4	1	3	3	3	0	2	0	2	1	3	3	2	2	2	13	1	4	3	2	4	10	8	4	7	3	6	7	4	2	5	13	10	1	2
	GCU	3	0	2	3	3	2	2	4	4	3	0	3	6	7	7	3	18	11	18	13	9	15	14	8	33	17	12	7	12	8	7	24	5	11	19	15	4	1
GLY	GGA	2	0	4	0	3	1	1	2	6	2	0	2	3	4	5	1	12	5	5	12	20	30	29	20	23	8	7	3	7	1	1	9	27	14	6	3	3	
	GGC	4	3	29	10	1	5	5	13	2	0	1	0	5	3	3	1	8	0	32	10	8	6	7	8	3	4	0	4	1	4	4	23	8	15	11	6	5	0
	GGG	4	0	5	2	2	2	2	2	4	0	0	0	1	3	3	1	6	1	13	10	9	13	13	9	6	5	5	6	4	6	6	20	3	16	24	11	2	0
	GGU	1	0	11	0	5	2	2	7	10	2	1	3	3	1	1	1	12	1	9	7	1	8	8	1	28	13	8	4	7	4	4	6	4	5	16	18	4	0
VAL	GUA	0	1	3	1	4	1	1	2	3	3	1	3	2	3	3	1	13	3	8	1	16	30	28	14	11	4	1	2	1	1	1	7	1	2	9	12	0	2
	GUC	3	8	21	3	2	3	2	4	0	1	0	1	4	2	2	1	2	0	7	13	2	5	6	2	18	12	5	3	5	2	4	11	3	7	5	20	0	0
	GUG	5	2	24	9	1	5	5	13	3	0	0	0	6	8	8	8	11	4	29	14	4	13	13	6	17	15	6	5	6	5	5	29	2	16	17	13	0	4
	GUU	2	3	3	0	5	7	8	2	7	2	1	2	8	5	5	3	12	4	9	12	3	7	7	3	29	22	10	3	9	4	2	9	6	4	11	23	0	0
LYS	AAA	2	2	4	1	6	7	7	4	4	7	4	7	7	3	3	5	13	0	6	14	21	29	31	21	40	22	10	8	11	9	8	15	4	4	27	27	5	5
	AAG	1	7	15	8	5	5	5	10	4	4	1	4	12	0	1	4	9	2	13	20	15	15	15	16	33	21	12	6	12	5	6	46	7	25	25	21	3	3
ASN	AAC	1	0	11	4	5	4	4	6	4	1	0	1	12	3	4	3	8	3	52	16	7	18	18	7	12	14	3	3	3	3	2	25	7	9	8	15	7	4
	AAU	0	0	4	0	5	6	6	3	7	6	2	6	2	7	9	1	12	4	22	11	16	43	42	16	33	26	11	6	9	6	7	2	10	1	9	16	2	0
GLN	CAA	1	1	7	1	5	6	6	1	9	5	4	5	3	4	4	2	5	3	18	6	18	18	17	19	21	10	1	6	1	6	8	20	4	2				
	CAG	1	3	16	14	1	7	7	7	3	0	0	0	1	4	4	5	8	3	29	17	17	25	25	16	10	7	4	3	4	3	3	26	13	16	16	9	4	1
HIS	CAC	0	0	9	2	0	5	5	10	2	1	0	1	3	2	4	2	4	1	16	11	3	6	6	3	7	8	3	1	3	1	1	17	12	8	7	7	0	2
	CAU	0	0	4	0	2	7	7	5	9	3	1	3	2	3	3	0	17	1	7	6	7	7	7	7	29	12	3	5	3	5	6	5	4	5	6	17	2	0
GLU	GAA	2	1	15	5	4	6	6	12	8	6	3	6	10	16	16	5	22	3	9	14	26	34	35	27	36	37	10	4	11	4	4	16	9	6	38	35	2	4
	GAG	1	2	17	10	3	6	6	9	3	1	0	1	11	16	17	9	16	3	24	25	15	14	13	14	20	22	6	6	6	6	6	48	9	19	21	23	1	5
ASP	GAC	0	3	23	8	3	4	4	19	2	0	1	0	11	6	7	3	8	2	39	17	9	12	13	9	27	17	4	5	3	5	4	30	7	14	16	25	0	5
	GAU	0	1	5	3	6	8	8	8	17	4	4	4	4	15	15	4	18	4	11	15	5	16	16	5	50	39	12	6	12	5	7	7	3	8	17	32	2	0
TYR	UAC	4	0	6	4	3	4	4	5	6	0	1	1	12	2	4	4	4	1	34	9	2	4	4	2	18	10	4	3	4	3	2	22	6	13	14	12	0	2
	UAU	1	1	2	0	3	7	7	7	12	4	1	4	3	3	4	3	5	3	15	14	8	16	15	8	24	15	3	3	3	2	2	9	2	2	13	17	0	0
CYS	UGC	4	2	7	0	0	1	1	1	1	0	1	0	2	1	3	1	5	0	7	11	1	6	6	1	13	5	1	1	1	1	1	8	2	11	8	6	0	1
	UGU	0	0	1	0	0	4	4	2	1	2	0	2	1	6	7	2	21	0	0	6	9	16	16	9	13	8	1	2	2	1	2	4	3	1	8	13	0	0
PHE	UUC	6	2	13	8	1	10	9	12	3	0	1	0	13	0	1	0	2	2	18	6	5	9	9	5	15	19	1	8	1	8	10	16	4	6	11	18	0	0
	UUU	3	1	1	0	7	10	11	4	9	6	1	6	1	7	7	7	18	2	29	10	7	16	16	7	32	28	8	7	10	7	7	10	2	3	15	16	0	0
ILE	AUA	0	0	0	0	6	3	3	0	8	3	1	3	1	2	2	2	5	0	10	5	15	29	29	16	11	22	5	2	6	2	2	2	3	0	10	11	1	0
	AUC	7	1	21	5	6	1	1	6	2	1	0	1	10	0	0	0	1	0	13	15	5	13	12	6	22	13	2	1	3	1	1	27	3	11	10	20	1	1
	AUU	2	1	6	0	4	5	5	2	7	8	2	8	3	4	5	2	13	2	10	15	5	23	23	5	34	16	11	2	10	2	2	4	4	3	13	26	0	1
MET	AUG	2	2	12	4	2	9	9	11	4	4	1	4	6	6	8	5	16	3	25	16	17	18	18	16	18	16	8	4	7	4	4	20	6	12	20	21	1	4
TRP	UGG	3	1	2	0	3	5	5	5	3	1	0	1	4	0	0	5	6	1	14	7	9	31	30	9	9	7	1	2	1	2	2	15	1	8	13	18	0	0
TER	UAA	0	0	0	0	1	1	1	0	0	1	0	1	1	1	1	1	0	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	
	UAG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1
	UGA	1	1	1	1	0	0	0	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	1	0	1	0	
TOTAL		117	92	562	187	158	220	220	308	259	125	47	125	246	236	267	164	483	145	912	605	513	857	852	513	1127	791	301	222	301	219	222	982	266	531	813	898	103	107

		BBV 2G	BKV ST	BLV #1	BLV #2	BLV ENV	BTV L3	CCN VRNA 3	CMV RNA3 #1	CMV RNA3 #2	CPN CGB	CPN CGH	CYV IE1	ENC PP	FBJ NUSV	FBR NUSV	FEL VENV B	FEL VGAE NV	FEL VGP #1	FEL VGP #2	FES VFGR	FES VGAO HC	FES VSNO NC	FES VVFG R	FLA 268H A	FLA L677 NS#1	FLA L677 NS#2	FLB K179 M#1	FLB K179 M#2	FLB K179 NA	FLB OBOH A	FLB S279 NP	FLC CL78 NA	FLD O76N S#1	FLD O76N S#2	FLD U63H A	FLF 47NS #1	FLF 47NS #2	FLF P34H A
ARG	CGA	5	0	5	6	6	10	1	1	1	5	6	2	5	3	3	6	6	8	7	5	10	15	5	1	6	1	3	2	3	1	3	0	2	1	1	3	1	4
	CGC	3	0	4	6	7	11	0	3	3	12	5	2	11	2	4	0	0	10	9	6	19	16	6	2	1	0	1	0	0	0	0	1	0	1	3	0	0
	CGG	1	0	4	10	8	4	1	2	3	9	8	7	17	5	8	6	6	5	5	12	21	13	12	3	2	0	0	0	2	0	1	0	1	0	3	2	0	3
	CGU	8	0	1	1	0	5	3	3	3	7	7	10	2	16	0	2	1	1	0	9	3	7	9	0	0	0	1	1	0	1	1	1	1	0	1	0	0	1
	AGA	3	7	3	8	8	23	2	5	4	24	15	6	51	8	11	12	12	9	9	3	4	15	3	10	6	7	8	3	10	12	23	19	9	5	11	3	7	14
	AGG	7	3	5	2	3	16	2	2	2	24	7	3	14	6	3	5	5	11	10	4	13	25	4	11	4	1	5	1	10	5	3	4	4	2	13	3	1	8
LEU	CUA	3	3	9	8	9	10	1	2	2	8	2	2	27	2	3	17	17	13	12	3	9	12	3	7	7	5	5	1	3	10	11	9	4	2	8	6	3	4
	CUC	1	1	10	20	18	6	4	2	3	25	6	5	35	7	12	11	11	10	10	13	25	40	13	3	2	3	7	0	4	13	5	4	8	3	3	3	2	4
	CUG	2	2	2	15	13	13	0	2	4	29	10	16	47	17	16	9	9	8	7	28	47	61	28	18	2	2	5	2	2	6	6	11	4	1	13	4	1	8
	CUU	9	7	8	6	8	7	3	6	5	31	25	1	30	4	7	5	5	12	7	5	10	16	5	8	8	2	8	4	4	7	6	12	2	3	9	7	3	9
	UUA	5	7	7	10	11	33	5	12	2	18	11	4	14	0	2	18	18	11	10	3	9	13	3	1	1	2	0	0	1	8	7	11	2	2	3	1	2	6
	UUG	4	2	4	11	11	13	3	11	6	67	29	8	48	6	10	5	5	8	7	5	12	24	5	7	3	3	2	3	8	11	3	19	0	5	7	1	5	9
SER	UCA	6	1	6	3	4	12	1	5	4	19	14	4	35	4	2	7	7	6	3	2	6	13	2	10	4	4	3	1	14	9	8	16	3	2	10	3	4	13
	UCC	9	2	8	18	18	4	3	6	7	9	16	9	40	17	20	16	16	11	11	15	18	32	15	4	3	2	2	0	9	5	4	3	2	4	5	2	1	4
	UCG	5	0	2	3	1	14	4	5	6	3	3	0	14	3	2	3	3	4	3	2	9	10	2	2	1	2	0	0	1	2	1	1	1	3	0	1	3	1
	UCU	5	1	4	15	13	5	4	9	9	40	27	9	45	9	22	9	9	11	6	3	9	22	3	6	3	1	3	2	7	14	8	15	5	1	6	3	1	4
	AGC	2	1	5	4	3	5	2	6	1	14	14	5	14	10	7	1	1	3	2	8	24	30	8	15	2	0	3	2	10	5	9	14	5	1	11	3	1	7
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THR	ACA	9	1	4	6	6	18	4	4	2	23	26	3	53	6	8	19	19	7	6	9	7	17	9	14	3	3	5	1	11	24	11	11	6	3	16	2	3	15
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TYR	UAC	3	2	1	5	4	13	4	9	5	24	10	6	35	6	7	10	10	6	5	19	15	34	19	9	1	1	2	0	2	9	6	10	3	1	11	1	1	8
	UAU	3	2	5	9	10	26	1	7	4	46	21	5	36	1	2	12	12	8	7	3	9	16	3	9	0	0	3	2	15	6	7	12	1	0	7	0	0	7
CYS	UGC	0	7	5	8	8	1	0	2	2	13	7	7	17	4	3	9	9	2	2	8	9	14	8	12	2	0	1	3	10	12	4	11	1	1	11	1	0	9
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PHE	UUC	8	2	2	11	14	22	1	7	3	26	17	6	66	10	8	12	12	7	6	17	17	34	17	13	7	5	3	3	6	9	14	10	4	3	15	5	4	12
	UUU	16	5	4	8	7	17	3	3	3	64	43	7	62	5	9	9	9	7	4	5	7	12	5	9	2	3	4	2	7	6	8	18	2	4	6	3	4	14
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	AUC	8	0	7	17	17	17	4	4	4	25	10	8	17	5	7	8	8	4	3	23	24	35	23	18	6	0	3	4	7	6	11	13	4	1	16	5	0	9
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MET	AUG	10	8	6	3	3	37	2	5	6	59	28	26	56	8	8	13	13	6	5	23	14	24	23	9	11	7	14	2	7	12	27	14	12	6	9	9	7	11
TRP	UGG	5	7	9	19	19	10	3	2	2	30	18	1	35	2	10	17	17	13	12	16	20	29	16	12	4	2	1	2	12	6	1	8	4	2	12	3	2	8
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	UAG	1	0	0	0	0	1	1	0	0	1	0	0	1	1	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	UGA	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	0	0	1	1	0	1	1	0	0
	TOTAL	408	173	393	516	516	902	191	334	237	1867	1047	492	2291	382	555	663	663	581	507	664	958	1512	664	567	238	122	253	98	470	584	561	655	231	122	567	203	122	564

		FLF P34N S#1	FLF P34N S#2	FLF W150 NS#1	FLF W150 NS#2	FLJ 357M A	FLN 171H A	FLN 1176 HA	FLN T68H A	FLN T68H A	FLN T68H P	FLN T68P 1	FLN T68P 2	FLN T68P 3	FLP U73N A	FLR I557 NA	FLT 0367 NA	FLU 9077 HC	FLU 9077 NS#1	FLU 9077 NS#2	FLU D72M #1	FLU D72M #2	FLU D72N A	FLU D72N S#1	FLU D72N S#2	FLV D72N A	FLV I75N A	FLW S33N A	FLW S33N A	FLW S33P 1	FLW S33P 3	FMC FXEN V	FND VRNA #1	FND VRNA #2	FSV	H1	HBV SAG	HMS VP21 #1	HMS VP21 #2
ARG	CGA	4	1	4	1	0	1	0	1	1	4	2	2	7	1	2	2	4	1	3	2	2	5	1	1	2	0	1	8	3	7	5	5	4	1	0	1	0
	CGC	3	0	2	0	0	2	0	2	1	3	3	2	3	1	1	1	0	2	0	1	0	1	1	0	2	2	0	1	0	3	4	28	28	20	4	1	6	3
	CGG	3	0	3	0	2	4	0	3	2	5	5	1	4	0	1	2	0	3	0	0	0	2	3	0	3	2	0	1	5	3	3	12	12	28	1	1	7	7
	CGU	1	0	1	0	0	0	0	0	0	1	1	2	0	0	0	0	3	0	0	1	1	0	0	0	0	0	2	2	3	0	17	16	6	1	2	1	1
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LEU	CUA	2	2	6	3	11	7	12	7	3	2	13	8	10	1	3	3	5	6	3	3	0	3	8	5	6	3	10	6	7	7	20	8	8	1	14	7	1	1
	CUC	4	2	4	3	6	3	4	3	4	8	6	7	8	2	4	4	0	4	3	7	0	5	2	3	2	5	4	0	6	9	13	52	52	18	5	7	1	1
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	CUU	9	3	7	2	8	8	4	9	3	7	14	22	11	0	3	3	1	7	2	7	4	3	7	2	8	3	3	1	12	11	8	49	47	8	7	4	2	2
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	UUG	1	4	1	4	11	7	13	7	5	3	4	9	11	10	6	7	6	1	4	2	3	8	3	3	6	8	12	5	11	13	7	42	41	19	15	4	1	0
SER	UCA	4	3	4	4	9	10	15	10	14	5	13	14	17	9	14	13	13	4	4	3	1	15	4	3	11	16	18	14	10	14	8	21	20	4	5	6	2	2
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	UCG	0	3	0	3	3	2	3	2	2	2	3	2	4	4	2	2	3	1	3	0	0	1	1	3	2	1	0	3	1	5	3	23	23	12	3	3	0	0
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THR	ACA	4	3	2	3	22	15	23	14	11	10	37	19	27	9	13	12	11	3	3	5	0	11	3	4	11	11	15	5	24	25	13	42	41	14	14	6	6	6
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LYS	AAA	8	4	9	3	24	19	20	19	12	17	19	28	31	7	13	12	11	9	3	7	2	15	10	3	25	17	23	12	26	28	18	63	62	14	28	3	4	4
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	GAG	8	5	7	5	17	13	10	13	12	12	25	41	19	12	12	13	7	7	5	10	4	13	7	6	12	11	13	11	20	25	9	87	86	84	28	2	11	10
ASP	GAC	9	3	5	3	11	18	8	20	16	10	13	15	14	11	15	14	11	5	3	2	3	13	6	3	19	12	10	13	11	15	13	108	108	30	24	1	10	8
	GAU	9	2	10	2	14	13	15	13	12	14	19	23	19	9	12	13	18	10	2	5	3	14	10	2	12	13	12	14	21	14	11	41	41	9	9	2	7	7
TYR	UAC	1	1	1	1	5	9	10	9	2	9	11	9	10	9	3	2	10	1	1	1	0	2	1	1	11	2	9	7	15	9	13	79	75	21	9	3	6	6
	UAU	0	0	0	0	17	9	16	9	12	6	14	13	6	6	10	11	5	0	0	4	2	14	0	0	8	14	18	5	9	7	7	10	10	8	6	3	3	3
CYS	UGC	2	0	1	0	9	10	5	12	11	4	5	11	4	10	11	11	6	1	0	1	3	10	2	0	12	9	6	6	5	4	10	18	18	16	3	5	2	2
	UGU	0	0	1	0	6	8	11	6	11	2	5	5	1	9	11	11	14	2	0	2	0	12	0	0	6	13	9	13	5	1	10	16	15	4	16	9	4	4
PHE	UUC	5	2	6	3	8	13	10	13	6	10	23	17	9	9	6	5	5	6	3	3	2	6	6	4	14	7	12	7	18	11	9	63	62	13	5	9	2	2
	UUU	3	5	2	5	11	9	10	9	8	7	10	20	15	8	8	9	10	2	5	4	3	7	3	4	8	6	9	10	15	13	9	46	45	6	18	7	3	3
ILE	AUA	4	6	4	6	11	14	15	14	16	8	15	14	21	18	15	15	21	4	6	4	2	18	4	5	16	17	15	21	18	24	7	5	5	3	7	4	1	1
	AUC	5	0	4	0	9	17	4	18	11	14	13	10	9	11	9	11	11	4	0	3	4	7	6	0	16	7	10	9	14	10	9	56	54	33	7	7	7	7
	AUU	8	2	7	2	12	15	16	14	13	5	18	24	19	10	15	14	12	7	2	3	2	15	6	2	14	16	8	12	18	19	7	45	44	10	18	5	3	3
MET	AUG	10	8	11	6	17	9	8	9	8	26	37	26	37	6	8	8	10	11	8	14	2	7	10	7	9	7	10	8	36	36	9	57	56	26	15	6	7	5
TRP	UGG	4	2	4	2	11	12	10	12	12	6	9	12	10	16	13	12	15	4	2	1	2	12	4	2	12	12	11	14	9	10	14	26	26	23	23	13	0	0
TER	UAA	0	1	0	1	0	0	1	0	1	1	0	0	1	0	1	1	0	0	1	0	1	1	0	1	0	1	0	0	0	0	1	1	1	0	1	1	0	0
	UAG	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0
	UGA	1	0	1	0	1	1	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	1	0	0	1	1	
	TOTAL	231	122	238	122	563	567	567	567	470	499	758	717	760	470	470	470	471	238	122	253	98	470	238	122	568	470	566	454	758	760	638	2334	2306	1183	673	227	242	190

	HMS VP21 A	HRS VMPG	HRS VNC	HRS VP	HRV	HSV 2GD	HSV 2GDB	HSV 2GF	HSV 2P38 K	HSV 2TK	HSV MRT2	HTL V1PR OP#1	HTL V1PR OP#2	HTL V1PR OP#3	HTL V2EN V	HVM TK	KMS VP21	LAC VNCN P#1	LAC VNCN P#2	LAC VSRN A#1	LAC VSRN A#2	MC2 9	MCF ENVA	MCF ENVP RH	MHV A59E 1N#1	MHV A59E 1N#2	MHV JHM7 M	MMS VMOS M1	MMS VPRO	MNT VENV	MNT VENV GR	MPS VMOS A	MPV TK	MSV	MUL VENV XA	PIC VSRN A	PIC VSRN AB	POL 101
ARG CGA	0	1	0	0	4	3	3	5	2	1	2	5	7	6	7	14	1	0	0	0	0	9	4	9	1	2	3	0	0	3	3	1	2	2	3	1	0	3
CGC	3	0	1	0	3	14	14	17	13	19	13	4	14	4	4	23	0	1	1	1	1	8	4	3	1	6	5	7	6	5	5	8	0	5	4	0	4	7
CGG	7	0	2	1	0	3	4	19	6	7	6	7	9	0	3	9	0	0	0	0	0	14	4	2	0	1	1	7	8	3	3	7	0	4	2	0	0	7
CGU	1	0	2	0	8	4	4	2	0	4	0	5	5	3	2	7	0	1	0	1	0	3	2	0	2	4	3	3	3	1	1	3	1	2	1	1	1	7
AGA	1	5	8	7	43	0	0	0	0	1	0	0	8	3	4	3	8	4	1	4	1	5	10	12	2	12	11	2	4	13	14	2	5	2	12	13	17	48
AGG	1	0	4	3	23	0	0	0	0	1	0	1	3	0	0	2	3	5	5	5	5	12	5	8	2	6	6	6	5	8	8	5	0	3	6	8	10	24
LEW CUA	1	10	8	6	38	5	5	2	1	2	1	10	28	15	17	2	2	1	2	1	2	3	17	19	5	2	3	7	9	7	7	8	3	0	17	4	4	33
CUC	1	2	6	2	17	8	7	3	14	6	14	15	28	20	22	11	2	4	1	4	1	16	17	14	2	2	2	7	5	5	6	7	1	2	16	12	11	26
CUG	8	1	1	0	28	17	17	18	18	25	18	5	18	11	5	8	0	5	6	5	5	25	18	18	2	3	3	21	22	10	9	20	0	8	23	11	16	34
CUU	2	5	3	2	27	2	2	2	2	4	2	7	27	16	13	4	2	5	0	5	0	7	6	7	4	4	5	1	3	18	18	1	1	1	5	10	14	25
UUA	2	5	18	6	42	4	4	1	0	0	0	10	12	9	7	2	3	3	4	3	4	13	10	8	2	6	6	1	0	26	27	0	3	0	8	5	5	23
UUG	0	2	7	2	43	4	4	1	0	6	0	1	12	2	4	3	4	3	4	3	4	14	9	9	8	7	6	6	13	12	5	4	2	7	10	12	38	
SER UCA	2	7	7	9	64	0	1	0	0	0	0	2	14	12	4	0	2	4	3	4	3	6	8	9	2	3	3	4	4	7	7	3	2	1	11	5	12	48
UCC	3	4	7	1	17	3	3	15	9	7	9	12	24	20	31	2	1	0	2	0	2	24	18	17	2	5	5	13	12	11	11	9	2	5	14	5	7	32
UCG	0	0	0	0	3	9	9	12	8	2	8	0	3	3	2	9	0	2	1	2	1	12	1	1	1	1	2	5	6	2	2	5	0	3	5	1	2	10
UCU	1	1	10	4	29	1	1	1	1	2	1	2	11	10	4	7	2	3	4	3	4	9	6	8	3	14	11	4	5	20	19	2	4	2	7	7	7	20
AGC	2	2	6	2	13	11	10	6	8	5	8	6	12	8	7	9	1	2	1	2	1	14	4	5	6	9	9	7	8	4	4	6	0	3	4	7	4	20
AGU	3	5	6	7	32	1	1	1	1	0	1	3	7	1	4	2	4	1	1	1	1	5	4	4	3	9	8	4	4	4	6	4	1	4	3	6	6	21
THR ACA	6	19	19	12	79	1	1	3	1	2	1	2	14	2	11	1	5	5	4	5	4	13	10	12	4	3	5	1	0	12	10	2	5	2	9	22	13	50
ACC	3	4	14	3	28	12	12	23	11	13	11	7	34	13	16	10	2	2	3	2	3	12	27	25	3	7	6	8	9	12	9	8	1	10	25	8	12	53
ACG	1	0	0	0	9	9	9	20	3	10	3	2	3	1	5	6	3	0	1	0	1	12	2	1	2	2	1	6	7	4	4	5	1	7	5	2	1	14
ACU	2	4	8	4	57	1	2	0	0	1	0	5	17	10	5	4	4	4	1	4	1	7	17	17	8	10	11	6	11	13	17	4	3	6	15	9	9	53
PRO CCA	1	3	8	3	54	3	4	1	0	1	0	17	16	11	13	4	1	6	2	6	2	12	7	9	2	11	9	5	7	9	9	3	2	1	8	4	9	56
CCC	2	5	6	4	30	28	27	22	11	13	11	26	35	25	17	7	0	0	0	0	0	28	21	20	5	12	10	4	5	15	15	4	1	4	21	0	8	20
CCG	1	0	1	0	5	12	12	23	6	12	6	10	6	2	0	8	0	1	0	1	1	23	5	5	1	0	0	5	5	5	5	4	1	3	6	2	3	13
CCU	2	4	6	5	33	0	0	2	0	6	0	11	20	9	14	7	4	4	0	4	0	19	14	15	0	10	15	12	15	19	20	11	0	4	15	6	6	30
ALA GCA	0	9	17	8	57	3	3	1	0	0	0	4	7	4	4	2	2	9	0	9	0	16	4	5	3	8	9	6	6	9	9	6	5	2	6	6	14	59
GCC	7	0	4	1	21	25	26	27	23	30	23	20	41	16	11	9	2	3	0	4	0	47	21	16	3	9	11	11	10	17	19	11	1	10	20	3	8	35
GCG	0	0	2	0	1	10	10	18	12	17	12	3	1	5	3	27	1	0	0	0	0	27	6	6	2	2	1	4	4	5	5	2	1	3	3	0	0	17
GCU	3	8	8	4	30	4	3	1	0	5	0	9	20	5	5	14	3	8	0	7	0	13	10	9	3	14	14	8	8	18	17	6	2	4	9	8	14	50
GLY GGA	1	4	12	3	44	3	3	6	0	3	0	4	13	12	6	9	2	8	3	8	3	14	21	24	2	15	15	6	8	14	14	5	6	9	27	14	5	47
GGC	7	1	7	1	19	7	7	22	8	9	7	5	18	8	9	11	4	4	1	4	1	15	12	11	4	11	10	7	10	6	6	8	2	6	11	7	9	26
GGG	2	0	5	2	26	9	9	11	7	18	7	8	11	2	2	6	3	3	0	3	0	24	22	19	0	7	7	6	7	11	12	8	1	5	18	9	7	32
GGU	2	0	9	2	57	2	2	3	0	2	0	5	2	3	5	4	1	3	2	3	2	8	5	5	7	11	13	5	3	6	5	4	4	4	7	7	11	37
VAL GUA	4	3	9	3	34	1	1	3	0	1	0	1	8	2	6	1	9	1	2	1	2	2	11	9	2	8	8	4	5	8	9	3	3	3	19	2	4	28
GUC	1	6	4	1	31	9	10	13	10	11	11	5	11	15	10	8	1	3	0	3	0	16	9	11	2	4	4	2	2	8	7	1	1	2	11	7	9	29
GUG	10	6	7	2	36	9	10	29	13	8	13	4	8	3	3	6	5	3	2	3	2	19	11	8	8	10	9	12	11	11	10	10	5	6	8	5	13	59
GUU	1	3	7	0	54	5	5	2	0	5	0	3	5	6	6	9	2	4	0	4	0	12	8	13	10	8	8	7	7	15	15	6	4	3	9	12	7	22
LYS AAA	4	17	28	14	85	2	2	2	1	0	1	17	22	10	7	2	11	7	1	7	1	15	21	16	3	14	13	3	4	22	21	3	8	3	17	17	17	63
AAG	7	6	7	5	52	10	10	6	5	1	5	3	15	6	5	2	5	11	0	11	0	27	12	8	7	19	20	11	12	20	21	12	3	14	11	5	22	61
ASN AAC	5	7	10	9	44	9	9	9	15	5	15	8	17	9	14	6	0	9	0	9	0	19	9	12	5	7	6	8	8	7	8	9	3	6	14	19	20	70
AAU	8	9	16	12	71	2	2	2	0	1	0	6	19	11	7	0	4	7	2	7	2	4	11	10	5	19	19	2	3	24	23	1	7	4	5	24	9	47
GLN CAA	1	6	16	1	53	3	3	3	0	3	0	17	31	11	17	2	3	3	4	3	4	8	16	12	3	15	17	7	7	17	17	7	4	3	14	13	20	38
CAG	10	0	2	1	28	11	10	13	8	10	8	17	31	12	15	5	8	6	5	6	5	32	16	19	2	21	23	12	13	9	8	11	2	6	17	5	10	43
HIS CAC	0	2	4	1	24	10	10	10	8	7	8	10	22	9	5	7	2	3	1	3	1	13	5	4	2	1	1	8	7	4	5	8	0	4	5	8	5	33
CAU	3	1	8	1	30	1	1	1	2	3	2	5	20	7	11	3	1	1	1	1	1	2	6	6	1	3	2	3	5	11	12	1	2	2	5	12	6	18
GLU GAA	4	13	25	26	78	5	5	1	4	2	4	11	13	4	8	5	7	3	1	3	1	26	13	12	2	14	11	6	4	17	18	6	9	0	18	11	9	63
GAG	10	0	6	3	25	11	11	20	18	15	18	7	8	6	2	11	8	9	1	9	1	46	9	12	3	9	11	10	10	14	13	8	3	4	9	10	17	48
ASP GAC	8	3	6	4	26	15	15	13	15	17	16	14	19	8	7	11	6	3	0	3	0	28	17	15	5	5	4	11	10	12	12	10	2	8	16	9	15	63
GAU	7	9	13	18	90	4	4	1	5	4	5	6	8	6	6	7	11	2	11	2	11	11	11	10	2	17	18	2	5	26	25	2	7	4	12	9	26	54
TYR UAC	6	7	8	2	34	14	14	11	13	9	13	7	11	10	11	8	4	2	0	2	0	12	10	9	4	3	4	7	9	5	5	8	2	7	11	12	6	58
UAU	3	3	9	2	51	2	2	3	2	2	2	3	13	9	4	1	5	6	1	6	1	6	8	10	9	8	8	3	4	13	12	3	4	2	10	6	6	40
CYS UGC	2	2	0	0	14	7	7	7	7	1	7	7	10	13	14	4	1	0	0	0	0	11	10	9	2	1	1	9	8	6	5	7	1	2	10	12	1	19
UGU	4	3	3	0	29	0	0	1	0	1	0	3	5	5	3	4	4	1	0	1	0	4	10	11	2	1	1	3	5	5	6	3	6	2	10	9	6	23
PHE UUC	2	4	5	5	33	3	3	7	11	4	11	6	18	8	10	2	1	7	1	7	1	10	10	8	7	5	4	6	6	10	9	6	3	5	11	15	5	45
UUU	3	3	8	3	53	6	6	5	7	4	7	4	11	13	9	6	5	5	7	0	7	0	6	9	10	7	13	13	4	9	22	22	4	7	3	5	7	8	39
ILE AUA	1	13	14	11	56	1	1	2	0	4	0	5	11	5	8	2	4	0	2	0	2	6	8	10	7	0	0	4	4	12	11	4	9	2	7	7	4	33
AUC	7	7	6	3	30	20	-19	11	19	7	18	10	17	8	14	5	2	7	3	7	3	17	9	9	5	4	5	11	9	7	7	10	3	6	6	14	18	48
AUU	3	2	8	3	57	2	2	2	3	2	3	5	16	9	4	0	7	6	2	6	2	8	8	8	11	8	7	5	7	21	21	5	5	3	8	17	9	52
MET AUG	5	8	15	7	53	7	6	4	4	11	7	18	10	17	8	3	4	9	5	6	6	16	8	10	8	4	4	6	5	11	12	4	6	5	9	11	20	67
TRP UGG	0	2	1	0	24	6	6	10	2	4	2	7	19	13	13	6	0	5	2	5	2	10	14	13	7	5	5	5	5	16	16	5	1	7	13	12	8	28
TER UAA	0	1	0	0	0	0	0	1	0	0	0	1	1	1	1	0	1	1	0	1	0	0	1	0	1	1	1	0	1	0	0	0	1	1	1	1	0	0
UAG	0	0	1	0	1	1	1	0	0	1	0	0	0	0	0	1	0	0	1	0	1	1	0	1	0	0	0	1	0	1	1	0	0	0	0	0	0	1
UGA	1	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
TOTAL	190	257	468	242	2180	394	394	480	338	377	338	430	897	489	487	377	190	236	93	236	93	876	641	637	229	455	456	377	410	689	689	343	178	245	645	504	562	2210

	POL 103L 12	POL 103L 37	PTP SRNA #1	PTP SRNA #2	RAB ERAG P	RAS VRAS	REO VS3S 4	RSV SRCW T	RVA POLE NV	RVT REL	SA1 1G10	SA1 1G6	SA1 1G7	SA1 1G8	SA1 1VP7	SFF VPEN V	SFR ENV	SFV 2	SIN DBIS #1	SIN DBIS #3	SND M	SND V1 #1	SND V1 #2	SND V1 #3	SND V1 #4	SSH M	SSV 2	STN V	SVS PFC	SVC PM	TGM VA	TMV C30K CP#1	TMV C30K CP#2	TMV L30K CP#1	TMV L30K CP#2	TYM VCOA T	UKB RVG	UKB RVP9
ARG	CGA	6	6	2	0	2	3	1	1	5	3	0	1	0	1	1	5	4	2	7	4	1	1	5	3	1	3	4	2	2	1	3	1	0	1	0	1	0
	CGC	14	14	0	1	3	2	2	1	3	4	2	1	1	0	0	3	3	13	23	19	1	1	2	3	1	1	4	1	1	1	1	1	0	1	1	1	0
	CGG	3	3	0	0	0	7	2	0	5	1	0	0	0	1	1	2	7	9	4	1	4	5	1	1	3	7	1	3	0	3	1	1	1	1	0	1	0
	CGU	9	9	1	2	1	2	7	0	3	3	1	0	4	1	0	0	0	2	16	5	1	1	5	1	1	2	3	4	1	2	7	0	4	2	0	1	0	1
	AGA	48	48	7	8	18	1	6	3	8	9	4	17	10	8	8	11	10	17	28	17	10	14	17	5	10	24	1	3	4	5	3	4	1	4	4	0	6	12
	AGG	18	17	2	2	4	2	3	3	8	7	0	6	2	1	0	4	4	14	19	11	7	11	9	6	7	19	1	2	5	3	6	5	5	2	3	0	1	1
LEU	CUA	32	32	1	6	6	3	5	0	13	3	4	9	2	7	8	10	13	10	23	8	7	9	8	0	6	29	0	0	9	2	3	0	1	1	2	2	3	3
	CUC	27	26	3	2	10	3	1	1	16	9	1	4	1	1	2	10	7	13	15	16	10	8	9	4	11	9	5	2	12	5	0	4	0	3	0	11	0	1
	CUG	34	33	2	6	10	8	9	2	15	11	0	2	0	7	4	10	9	26	45	25	7	9	8	13	6	15	14	5	6	7	2	4	3	2	2	1	4	2
	CUU	18	19	7	5	11	2	5	0	14	3	3	4	6	3	9	5	4	8	28	8	4	6	10	0	4	14	0	3	7	2	0	5	2	4	0	2	5	5
	UUA	21	21	2	7	8	2	2	1	6	3	2	7	7	4	2	8	6	4	9	5	5	9	1	2	6	28	0	0	14	3	2	7	3	6	5	0	10	10
	UUG	45	46	5	4	11	2	9	2	11	10	9	9	10	6	8	4	4	14	26	22	5	8	3	5	5	23	2	5	17	6	6	10	6	5	4	1	10	5
SER	UCA	45	45	6	5	13	2	9	1	5	11	2	11	12	13	12	5	6	14	23	21	5	5	17	2	4	31	1	2	12	3	3	3	1	7	2	4	9	12
	UCC	38	38	4	3	7	3	4	2	11	9	1	2	2	1	3	10	7	10	17	13	3	2	12	4	3	8	6	5	2	2	5	1	2	0	4	1	0	
	UCG	7	7	0	0	2	3	4	1	6	1	0	4	2	1	2	3	1	21	32	17	2	4	4	3	2	5	2	2	4	4	1	4	6	5	2	4	3	2
	UCU	18	19	8	4	9	1	3	2	5	4	1	5	11	3	3	7	6	9	16	6	6	6	17	3	6	27	2	1	5	4	5	13	6	4	7	4	6	8
	AGC	22	22	4	2	4	3	1	1	3	13	0	1	0	3	0	5	3	15	27	23	4	11	9	2	4	15	4	2	5	0	1	0	0	0	2	1	0	0
	AGU	24	24	4	0	7	4	2	2	4	9	2	3	1	3	0	0	2	7	17	15	1	8	10	1	1	21	4	1	13	1	3	8	4	5	2	0	1	5
THR	ACA	46	46	2	6	8	7	5	1	4	12	9	13	1	6	11	8	8	28	40	23	9	17	17	6	9	52	1	7	18	5	2	5	5	3	4	1	18	3
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PRO	CCA	59	59	4	6	7	3	11	3	7	10	3	15	2	5	9	5	5	19	38	30	5	4	15	2	5	24	6	2	7	3	2	2	2	4	1	5	10	3
	CCC	21	21	3	1	9	3	3	1	21	11	0	1	0	1	0	17	16	15	28	14	6	5	8	3	6	7	3	2	3	3	3	3	0	1	0	10	0	0
	CCG	16	16	0	1	5	1	2	3	3	5	0	3	1	2	3	4	4	35	35	28	3	1	6	1	4	4	3	0	5	0	0	4	2	2	1	3	0	0
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ALA	GCA	59	59	5	4	8	5	3	0	10	10	6	15	7	7	8	4	5	25	47	33	10	16	13	3	10	36	8	8	29	2	3	3	3	2	5	1	7	5
	GCC	44	44	6	6	6	8	4	1	11	4	0	3	1	1	2	10	8	40	58	41	5	15	8	0	5	14	11	2	12	2	5	2	0	2	0	8	3	1
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GLY	GGA	36	36	4	2	10	3	9	2	15	14	2	11	6	4	3	12	12	24	46	38	5	10	20	1	5	26	4	3	8	6	3	8	0	3	1	2	5	2
	GGC	25	25	3	0	5	7	5	2	8	11	1	2	0	1	3	9	11	23	25	18	4	9	9	1	4	13	4	3	4	1	3	2	0	2	1	4	2	1
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	GUC	23	23	4	3	10	4	5	1	11	10	2	4	2	1	1	6	7	34	37	34	5	10	9	0	6	16	1	1	10	1	6	5	1	6	2	9	5	1
	GUG	67	67	8	3	10	11	14	1	4	9	5	9	6	4	4	5	4	41	41	24	14	13	7	5	14	18	10	5	18	6	4	9	5	6	3	0	8	3
	GUU	28	28	3	5	14	1	7	0	7	5	0	6	4	8	8	6	4	13	27	16	6	7	4	0	6	31	1	3	10	3	9	10	6	14	6	3	5	16
LYS	AAA	69	68	6	10	12	5	4	1	11	15	16	6	23	22	11	11	11	32	54	35	5	8	20	4	5	58	4	5	7	7	4	16	0	17	1	5	12	19
	AAG	55	57	12	8	16	9	12	1	9	13	2	2	3	8	3	6	5	48	76	42	19	18	14	15	19	54	13	3	7	8	13	10	1	11	1	2	2	8
ASN	AAC	61	61	5	7	11	5	7	0	8	18	2	13	5	6	6	8	7	37	49	28	6	10	20	2	5	22	1	12	6	5	11	6	4	2	3	3	9	3
	AAU	49	49	3	6	11	0	7	0	9	7	6	24	19	17	11	4	7	12	25	12	6	7	8	0	8	42	0	7	24	2	7	3	8	17	8	1	11	17
GLN	CAA	54	54	6	6	5	2	6	1	12	11	4	14	12	9	9	7	7	18	25	17	5	8	10	7	5	23	4	6	22	4	3	2	2	0	4	5	6	9
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HIS	CAC	31	31	1	1	12	1	6	0	8	5	1	0	1	2	0	0	0	27	26	21	1	3	6	3	2	9	5	2	3	3	5	1	0	0	0	1	0	0
	CAU	17	17	1	2	6	4	8	0	5	6	0	5	2	8	1	4	6	17	25	18	3	5	4	1	3	25	2	2	1	7	3	1	1	1	0	2	1	1
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	GAG	64	65	9	9	19	11	10	0	12	10	5	7	6	8	1	8	7	26	55	23	8	16	33	15	8	27	14	4	7	5	7	9	6	8	1	1	4	4
ASP	GAC	61	61	4	3	15	11	12	0	20	10	3	9	6	2	8	11	12	43	54	38	5	16	16	3	5	22	6	2	4	4	1	9	1	2	3	5	4	3
	GAU	58	58	11	10	10	8	15	0	5	12	4	10	18	11	12	10	10	11	37	15	12	15	19	4	12	58	2	7	13	9	11	9	5	11	4	2	13	21
TYR	UAC	66	66	3	4	10	6	6	0	7	8	1	4	1	6	3	6	6	35	36	31	10	9	3	3	9	31	0	1	3	6	3	3	4	3	4	2	7	3
	UAU	36	36	3	6	6	3	5	0	10	7	7	6	9	7	17	6	6	16	20	15	2	6	6	1	2	41	1	3	10	4	10	1	4	4	1	1	14	10
CYS	UGC	18	18	1	2	8	2	2	2	13	4	0	1	3	1	2	5	5	34	38	31	5	1	2	0	5	41	3	0	6	0	1	0	0	4	0	4	3	1
	UGU	23	23	1	3	9	4	4	0	11	6	2	2	1	4	6	7	7	14	7	12	0	1	1	1	0	30	1	1	6	5	4	6	0	1	1	0	5	3
PHE	UUC	42	42	4	5	12	2	8	0	4	9	0	8	3	4	1	5	8	29	34	24	10	13	6	2	9	29	2	1	8	6	7	4	0	2	2	4	3	1
	UUU	41	40	7	8	9	3	6	1	7	13	3	18	8	12	11	6	7	10	29	19	4	5	5	0	4	27	1	6	4	3	2	8	6	7	6	1	6	7
ILE	AUA	23	23	5	9	9	1	2	0	12	5	5	8	11	10	13	6	8	15	23	13	8	8	5	7	8	65	1	6	13	1	4	5	3	3	3	2	15	6
	AUC	43	43	5	3	7	8	6	0	16	11	2	4	1	1	2	3	6	28	38	27	14	10	13	4	13	19	4	6	16	3	4	4	4	1	2	12	4	1
	AUU	65	65	5	5	6	3	6	1	10	8	7	16	13	13	12	7	5	12	33	19	6	11	3	1	6	36	4	3	22	1	1	3	3	6	2	2	8	12
MET	AUG	65	65	11	9	14	6	21	2	10	10	9	11	14	10	10	7	5	28	41	29	9	18	11	9	10	28	5	6	13	10	9	4	2	10	2	4	11	14
TRP	UGG	28	28	3	5	9	1	7	1	11	4	1	5	4	4	7	12	12	17	19	15	3	5	1	3	3	14	1	2	1	4	5	2	1	2	3	2	7	4
TER	UAA	0	0	0	0	0	0	1	0	0	0	1	0	1	1	0	1	1	1	0	0	1	0	0	1	1	1	1	1	1	1	0	0	1	1	1	0	0	
	UAG	1	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
	UGA	0	0	1	0	1	1	0	1	1	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	2207	2207	244	251	525	249	366	64	583	504	176	398	316	318	327	410	409	1254	1897	1246	349	518	569	205	349	1442	226	197	530	224	248	284	165	265	160	190	327	311

		UKR MCP	VAC NLG	VAR TK	VRL IEV3	VSV IMS	VSV NWJ	VAR V10	WAR V9	WAR VSEG 6	WHV SAG	YFV	ALP J	BET ADI	BET AD12 28	F1G 57B #1	F1G 57B #2	LAM INH4 34#1	LAM INH4 34#2	MUG INHO MR1	MUG INHO MR2	MUI MM #1	MUI MM #2	P1R EP	P22 C2	P22 ERF	PF1	PF3 BPMC P#1	PF3 BPMC P#2	PF3 MCP	SP2 POLG L	SPC SAK	SPO 1MPG 27	SPO 1TF1	SPR NTAS E
ARG	CGA	1	0	2	0	18	6	0	1	0	0	12	0	2	3	0	0	2	3	10	3	2	2	2	2	1	0	0	0	1	0	0	0	5
	CGC	1	0	0	1	2	1	0	0	3	0	25	1	1	1	1	0	3	2	5	10	2	0	6	3	2	2	2	1	1	4	0	0	0	0
	CGG	0	0	0	0	11	1	0	0	0	1	11	0	1	1	0	0	0	0	0	5	0	1	1	0	0	1	0	0	0	4	0	0	0	0
	CGU	1	2	3	0	11	1	3	0	4	3	12	4	6	7	3	0	0	2	3	4	0	2	7	1	1	3	2	0	0	8	0	3	2	1
	AGA	19	5	4	2	55	11	3	8	16	1	67	0	3	3	0	0	0	0	1	3	0	1	0	4	3	0	0	0	0	6	2	3	0	15
	AGG	1	2	0	4	27	2	0	0	2	0	83	0	4	4	0	0	1	2	2	1	0	0	0	1	0	0	0	0	0	8	0	0	0	6
LEU	CUA	7	9	3	1	31	10	4	2	3	6	37	0	8	8	0	0	0	1	2	3	1	1	2	0	2	0	0	0	0	9	1	0	1	6
	CUC	2	1	1	3	17	8	1	0	0	8	49	1	4	4	1	2	1	1	2	1	0	1	3	2	0	2	1	0	0	0	1	0	0	0
	CUG	1	2	0	6	28	6	2	2	5	7	100	0	4	4	3	3	2	1	7	9	3	0	11	4	5	5	0	3	3	10	0	1	0	3
	CUU	9	4	1	0	21	7	3	4	7	3	46	0	10	10	4	0	2	4	4	3	3	2	7	6	5	0	0	0	0	23	1	2	4	12
	UUA	6	2	3	0	53	6	2	15	13	9	8	0	8	7	0	1	2	0	6	2	6	3	2	6	1	0	0	0	0	17	10	4	2	13
	UUG	9	8	4	1	69	2	6	5	8	7	72	0	6	7	1	0	1	2	2	1	5	0	9	3	2	0	3	0	0	17	3	1	1	9
SER	UCA	16	3	2	0	43	12	5	10	10	4	56	0	7	7	1	1	1	1	3	5	3	1	7	3	2	0	0	0	0	8	5	2	1	5
	UCC	3	4	2	1	27	4	1	1	1	2	42	0	4	5	2	1	0	0	0	3	1	2	3	1	2	1	2	1	1	2	1	0	0	1
	UCG	0	2	1	0	9	3	1	3	1	1	8	0	10	10	1	1	0	1	0	1	2	0	3	3	2	2	1	0	0	3	0	0	0	1
	UCU	3	6	3	4	48	3	2	6	6	3	44	2	15	15	3	3	1	1	2	2	2	1	2	2	2	1	1	0	0	6	2	2	4	10
	AGC	2	1	0	1	12	5	0	0	2	1	31	0	11	10	0	1	0	1	2	3	1	1	3	3	4	2	0	0	0	3	1	0	1	5
	AGU	2	5	1	0	38	3	2	2	1	2	34	1	7	8	0	0	0	0	1	2	2	3	0	3	2	3	0	0	0	3	4	3	0	8
TNR	ACA	14	6	5	2	44	11	6	12	9	6	73	0	7	8	0	0	0	1	5	2	2	1	2	4	5	0	0	2	2	11	6	9	2	11
	ACC	0	3	1	7	28	4	1	1	3	1	51	0	6	6	2	3	3	2	1	2	3	0	4	1	1	12	2	1	1	5	0	2	0	2
	ACG	7	2	1	1	12	1	2	3	1	2	21	0	5	4	0	0	1	0	2	4	2	0	1	0	2	0	1	0	0	4	1	0	0	2
	ACU	11	5	3	4	39	4	7	11	14	6	53	0	12	12	2	1	2	1	2	0	1	2	4	2	3	0	1	2	2	11	5	2	6	5
PRO	CCA	18	1	2	0	32	8	3	8	14	5	56	0	6	6	2	0	0	1	2	2	2	2	2	7	2	0	0	0	0	5	3	4	1	6
	CCC	0	1	1	9	25	3	0	0	0	5	28	0	3	2	0	1	0	0	2	2	1	0	2	1	0	0	1	0	0	5	0	0	0	2
	CCG	2	1	1	0	11	4	1	1	1	2	12	0	5	5	2	1	2	1	1	2	1	1	5	2	0	13	1	0	0	7	1	1	1	1
	CCU	1	9	0	0	30	5	1	0	5	6	40	1	9	8	2	0	0	0	1	2	4	1	2	3	4	0	4	0	0	8	5	8	2	2
ALA	GCA	8	3	6	1	35	14	3	4	12	4	58	1	9	9	0	3	1	3	3	3	4	1	3	9	8	2	0	0	0	19	4	3	4	6
	GCC	2	4	1	5	17	5	1	0	2	2	80	0	5	6	1	4	2	0	5	4	2	2	6	3	2	14	2	1	1	13	0	3	0	3
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	GCU	10	1	1	0	34	10	2	8	10	2	83	1	19	18	1	3	3	5	4	1	5	3	9	4	9	0	2	3	3	19	0	9	6	11
GLY	GGA	12	8	6	3	53	12	3	5	12	6	124	0	10	10	0	0	2	1	5	5	2	1	3	5	1	0	0	0	0	7	4	0	1	16
	GGC	2	1	2	2	19	3	0	0	2	3	68	1	6	6	1	1	0	1	2	7	1	0	6	3	2	9	0	1	1	17	2	1	2	1
	GGG	1	0	1	5	30	3	0	2	0	2	73	0	13	14	0	0	0	1	6	1	6	0	2	3	0	1	3	0	0	9	1	0	1	9
	GGU	4	2	4	1	25	6	0	6	5	1	36	2	17	15	6	3	2	0	3	4	4	3	6	4	7	1	2	3	3	11	2	2	2	8
VAL	GUA	9	1	2	2	23	6	1	12	8	2	16	1	15	15	0	1	1	0	3	2	5	1	3	4	2	0	0	0	0	10	3	2	6	11
	GUC	5	1	1	10	20	7	1	1	1	3	69	0	6	8	1	3	0	1	1	1	1	0	3	2	1	7	2	0	0	6	4	0	0	1
	GUG	5	1	5	6	31	5	3	6	4	3	132	0	9	9	2	0	0	1	2	7	1	1	2	2	2	4	2	4	4	5	1	1	0	1
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LYS	AAA	7	13	9	0	79	23	15	9	5	4	92	2	29	30	3	5	5	4	11	9	12	2	18	9	11	1	2	1	1	35	14	18	10	24
	AAG	1	7	4	8	50	11	2	4	3	0	101	1	11	11	3	3	3	4	2	6	5	4	11	6	9	7	2	0	0	24	7	11	3	12
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	AAU	25	18	6	2	65	14	4	17	29	7	56	0	24	22	2	0	0	1	5	5	4	1	3	4	6	1	2	0	0	12	4	6	1	23
GLN	CAA	12	4	4	1	49	7	2	12	13	6	42	0	14	14	3	1	4	2	4	1	5	1	4	6	2	6	2	4	4	10	0	2	4	13
	CAG	6	0	2	3	21	4	5	3	8	3	51	1	2	2	4	0	2	2	3	7	7	2	9	2	11	8	4	0	0	13	0	1	2	2
HIS	CAC	1	0	0	3	12	3	0	0	1	1	32	0	7	7	0	0	0	0	2	5	2	1	2	2	3	0	0	0	0	7	0	0	0	2
	CAU	4	1	2	0	52	2	3	1	4	0	50	0	10	10	1	0	0	0	2	1	1	1	2	2	2	0	1	0	0	5	2	1	0	4
GLU	GAA	13	13	10	5	65	15	8	8	16	1	108	0	22	21	2	1	3	3	8	6	13	5	10	9	9	5	3	0	0	29	11	9	7	24
	GAG	5	5	2	7	47	8	5	5	4	2	102	0	15	15	1	1	1	5	3	9	5	1	9	8	9	2	1	0	0	23	4	8	2	15
ASP	GAC	6	1	2	6	51	17	6	9	4	2	88	0	8	9	1	2	0	4	6	2	0	0	3	4	7	6	0	0	0	11	2	1	3	5
	GAU	14	10	8	1	69	20	5	9	13	1	70	0	20	20	2	1	1	1	6	5	6	2	13	6	6	1	3	2	2	22	6	4	0	17
TYR	UAC	8	1	2	4	28	10	1	4	4	4	44	0	5	5	2	0	1	0	1	5	2	0	5	1	7	2	1	0	0	9	1	1	1	9
	UAU	3	9	4	0	42	10	6	14	6	3	35	1	13	13	3	2	0	0	2	10	2	2	3	4	3	1	2	0	0	13	8	1	0	5
CYS	UGC	0	0	3	4	9	1	0	0	1	8	32	0	2	2	0	0	0	0	3	0	0	0	2	2	1	1	0	0	1	1	0	2	0	1
	UGU	3	2	4	0	25	3	2	8	2	5	32	0	2	2	1	0	1	0	2	0	0	1	2	1	1	0	0	0	0	6	0	2	0	2
PHE	UUC	5	4	3	0	51	11	2	0	5	5	52	0	4	3	3	2	1	2	2	4	0	0	8	1	2	4	3	1	1	7	4	1	4	3
	UUU	20	6	7	11	42	8	1	9	21	8	64	1	15	16	0	2	1	0	3	5	3	1	6	2	3	1	5	1	1	14	6	2	0	23
ILE	AUA	11	6	9	1	43	6	6	11	9	7	44	0	14	13	0	0	0	0	2	2	2	0	3	4	2	0	0	0	0	9	2	0	0	5
	AUC	2	6	3	5	45	8	3	1	3	6	69	0	9	9	0	3	0	4	4	4	1	1	11	3	4	7	0	2	2	8	1	3	5	3
	AUU	16	16	5	0	67	9	9	7	17	6	63	0	13	14	4	1	4	2	6	8	5	3	8	5	5	0	4	5	5	16	5	2	0	15
MET	AUG	12	10	6	6	60	8	9	11	12	4	129	1	8	8	2	3	3	5	5	5	8	1	3	8	3	3	2	1	1	9	2	6	2	3
TRP	UGG	5	0	1	2	42	7	1	7	5	17	85	1	5	5	0	1	1	3	2	5	1	3	2	5	1	1	0	1	1	11	1	1	0	3
TER	UAA	0	0	1	0	1	0	0	0	1	0	1	0	0	1	0	1	0	1	0	1	0	1	1	1	1	1	0	0	1	1	1	1	1	1
	UAG	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	UGA	1	1	0	0	0	1	1	0	1	0	1	0	1	1	0	1	0	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0
TOTAL		398	252	178	158	2110	423	176	298	398	223	3412	25	561	561	88	74	72	98	194	242	175	76	287	217	206	145	79	45	45	649	164	156	100	440

	AMY CPPS BA	ANI NTTG RN	ANI NTUR F#1	ANI NTUR F#2	BLY CPAT PB#1	BLY CPAT PB#2	CRE CPRU BP	EGR CPEF TU	EGR CPRP 7#1	EGR CPRP 7#2	HZE CPAT BE#1	HZE CPAT BE#2	HZE CPRU BP	HZE NTCO 8	HZE NTHO X1	NEU NTCO 3G	NEU NTCO 1J	NEU NTCO 11	NEU NTOL S2	NEU NTRG O2	OBE NTCY L	PAN NTCO F	PEA CPCY BT	RAT NTCY OR	RAT NTCY O2	RIC NTCY I1	SAL CPPS BA	SNI CPPS B1	SOY CPPS B1	SPI CPAP	SPI CPAT BE#1	SPI CPAT BE#2	SPI CPPS 8A	SPI CPRU BP	SPI CPTG H	SPI CPTG I#1	SPI CPTG I#2	TOB CPP3 2	TOB CPPS 8A
CGA	1	0	0	0	4	3	0	4	2	1	6	3	4	3	2	0	0	0	1	1	0	5	4	3	2	1	2	2	4	6	3	1	6	2	2	0	2	2
CGC	0	0	0	0	0	1	0	0	3	0	0	1	10	1	1	0	0	0	3	1	0	0	4	0	1	3	2	2	1	2	1	3	5	0	1	0	2	2
CGG	0	0	0	0	2	0	0	0	1	0	3	0	0	1	3	0	0	0	0	4	0	1	0	0	3	0	0	0	1	0	0	0	0	2	1	2	0	0
CGU	8	0	1	1	9	0	30	5	1	3	8	0	9	4	4	0	0	0	4	3	0	3	0	3	4	8	8	8	11	10	0	8	12	1	8	4	8	8
AGA	1	4	8	11	12	3	1	13	5	9	10	3	3	2	1	4	6	5	11	1	5	2	0	0	1	2	2	2	11	10	5	2	4	1	9	2	2	2
AGG	1	0	0	0	1	1	0	0	1	0	1	1	2	2	1	1	1	0	5	1	0	4	0	0	1	1	1	1	1	1	2	1	2	0	4	0	1	1
CUA	7	1	1	2	5	0	6	6	0	3	4	1	7	6	1	9	5	2	8	1	3	2	29	14	1	8	10	8	6	8	0	9	11	4	4	1	10	10
CUC	0	0	0	0	2	4	0	0	0	0	0	3	2	1	6	4	0	0	2	4	0	3	13	2	4	0	0	0	2	2	1	0	0	0	1	1	0	0
CUG	1	0	0	1	2	3	0	0	0	0	2	4	1	1	2	0	1	1	2	1	0	1	1	0	2	1	1	0	1	2	2	0	2	0	2	0	1	1
CUU	5	1	4	2	10	2	17	5	2	0	10	2	5	12	3	2	2	6	11	5	3	13	4	8	4	7	6	6	4	11	3	6	10	3	2	1	6	6
UUA	7	46	59	71	21	5	15	18	7	5	20	5	12	11	9	22	20	31	34	9	15	5	10	8	9	8	8	9	13	18	7	9	8	5	8	3	8	8
UUG	7	0	0	4	7	3	0	0	1	1	9	3	11	8	5	2	2	3	4	2	1	9	0	0	5	7	6	8	13	8	2	7	10	3	6	1	6	6
UCA	2	9	9	18	5	0	8	7	4	2	4	0	5	2	7	3	8	2	2	9	1	3	12	9	7	2	2	3	5	5	1	0	2	5	1	2	2	2
UCC	2	0	0	1	9	2	0	2	1	1	8	1	4	3	4	1	1	0	6	4	0	2	5	4	4	3	4	3	4	7	0	5	4	2	2	0	4	4
UCG	1	0	0	0	3	0	0	1	0	1	4	0	1	0	3	0	0	0	3	1	1	1	0	0	3	1	1	0	5	3	1	2	0	0	2	0	1	1
UCU	12	7	11	13	6	0	5	2	2	2	6	1	6	7	1	9	6	6	12	1	1	7	5	1	1	12	10	11	7	7	2	10	8	1	5	2	10	10
AGC	1	1	0	0	1	1	1	0	0	1	3	0	0	6	0	1	1	4	1	0	3	2	2	3	0	3	5	5	3	2	1	4	0	0	1	0	4	4
AGU	6	6	11	12	8	3	1	3	1	2	5	4	3	9	6	5	5	10	9	6	9	5	0	1	6	7	5	5	10	3	3	6	4	2	1	0	6	6
ACA	2	8	7	13	8	1	12	23	7	6	9	1	6	5	3	8	3	5	0	5	1	3	12	11	3	1	2	1	6	13	3	2	9	3	6	3	2	2
ACC	3	0	0	0	4	0	0	0	0	0	7	0	7	4	3	0	0	0	2	0	3	10	3	3	3	4	7	5	5	1	3	10	2	4	1	4	4	4
ACG	0	0	0	0	5	3	0	0	0	0	3	2	0	2	2	0	0	0	1	2	0	2	1	0	2	0	1	0	1	4	1	0	0	1	2	1	1	1
ACU	9	3	8	14	19	1	17	12	1	3	18	2	17	4	8	11	5	8	9	5	2	5	3	2	8	12	10	8	13	14	5	12	15	7	2	2	10	10
CCA	5	2	3	4	3	2	13	9	6	1	2	3	9	8	8	2	5	3	3	9	2	6	14	9	7	4	5	3	3	7	1	6	5	0	1	1	5	4
CCC	0	0	0	0	4	1	0	1	1	1	7	2	2	4	1	0	0	0	0	0	0	0	8	7	1	1	0	0	0	7	4	1	0	3	1	5	2	0	0
CCG	3	0	0	0	4	1	1	0	2	0	4	0	4	7	1	0	1	0	0	1	0	2	0	0	1	2	0	0	4	4	1	0	2	1	0	0	0	1
CCU	7	7	11	8	15	3	7	9	1	2	13	2	6	10	6	8	7	5	10	8	9	10	1	4	6	9	10	12	13	13	1	9	12	3	6	1	10	10
GCA	5	10	8	6	11	2	8	11	5	7	14	3	17	7	3	3	4	7	3	4	5	8	9	1	1	6	7	5	10	9	2	6	14	2	5	3	7	7
GCC	1	0	0	0	5	2	1	4	1	0	5	2	6	6	3	1	0	2	4	2	0	2	10	3	3	1	3	4	6	8	3	2	4	3	7	0	3	3
GCG	2	0	2	1	4	4	1	6	0	1	2	2	5	3	2	3	0	0	4	1	0	1	0	0	3	2	1	3	3	7	2	2	4	2	3	2	1	1
GCU	26	5	17	18	20	6	35	8	1	4	16	7	18	13	9	12	5	7	9	9	5	9	4	5	10	25	24	23	20	17	7	25	21	1	3	1	24	24
GGA	5	10	1	8	20	1	1	23	5	6	22	1	14	11	6	8	4	10	4	6	2	7	13	1	6	7	5	7	24	19	2	6	13	1	14	2	5	5
GGC	2	0	0	0	6	2	2	2	0	0	7	1	1	3	0	1	0	0	0	0	0	3	6	4	0	3	5	4	11	6	4	2	5	3	2	2	6	6
GGG	1	2	0	0	8	0	0	3	2	0	8	0	9	5	1	3	1	0	2	0	2	5	3	1	1	0	1	1	8	10	0	1	6	0	9	0	1	1
GGU	22	6	18	25	12	4	46	6	2	1	10	5	23	10	4	11	7	7	3	4	6	10	3	2	4	23	22	21	18	12	2	24	21	0	9	1	21	21
GUA	11	8	16	16	16	3	19	17	7	4	13	3	14	10	11	8	7	3	11	9	6	11	12	5	11	10	11	13	11	19	5	12	16	2	10	3	12	12
GUC	0	0	0	0	6	1	0	1	1	0	4	2	1	2	3	0	0	0	2	5	0	2	5	2	3	0	0	0	4	2	1	0	1	0	4	0	0	0
GUG	0	0	0	3	7	1	0	3	0	0	11	1	3	9	2	2	3	1	2	2	1	4	1	4	2	0	1	0	3	6	0	0	2	2	6	1	0	0
GUU	8	4	10	10	13	3	16	13	3	1	11	3	12	9	6	7	10	8	8	7	3	11	1	3	6	12	9	8	22	14	0	9	15	0	6	0	9	9
AAA	0	4	4	11	12	4	23	26	18	23	12	5	18	5	4	1	4	2	45	5	3	15	10	5	4	0	0	0	11	17	3	0	19	6	16	7	0	0
AAG	0	0	1	0	10	3	0	2	1	1	12	1	8	1	0	0	1	0	14	0	0	9	0	0	0	0	0	0	2	4	1	0	4	2	5	3	0	0
AAC	15	1	1	1	6	4	14	5	0	3	5	4	7	3	3	1	1	2	4	2	2	2	13	3	3	13	8	3	7	3	10	8	2	4	2	13	13
AAU	5	15	13	20	11	7	0	11	4	7	13	7	6	9	5	10	9	13	46	7	5	17	4	6	5	9	9	14	5	14	9	12	8	3	14	5	9	9
CAA	5	8	6	6	14	3	8	11	2	3	14	3	10	6	10	3	5	7	3	8	7	14	6	6	10	6	4	4	10	15	6	5	8	2	5	0	5	5
CAG	1	0	0	0	5	0	2	2	0	2	3	1	3	3	2	1	2	0	2	2	0	3	0	0	2	0	2	2	3	4	0	1	3	0	2	0	1	1
CAC	6	3	0	2	0	1	13	0	1	0	1	1	4	3	1	1	4	1	0	2	1	0	9	5	1	6	5	3	2	0	0	6	9	2	3	1	5	6
CAU	4	4	2	5	4	0	0	10	3	1	4	0	11	14	7	13	3	5	3	6	3	2	4	2	7	4	5	7	12	4	1	4	6	3	5	5	4	4
GAA	13	3	10	11	28	8	30	28	3	10	27	10	20	6	9	7	13	4	12	6	3	15	6	13	9	17	16	14	19	31	7	16	26	6	11	4	16	16
GAG	4	1	1	2	8	3	0	3	0	2	10	2	8	2	3	2	3	1	3	6	0	5	0	1	3	4	5	6	2	4	3	5	7	1	3	1	5	5
GAC	1	0	0	0	9	1	23	8	1	2	9	2	6	3	6	1	2	1	1	6	0	1	10	9	6	1	3	1	5	8	2	1	5	0	4	0	4	3
GAU	6	4	7	11	17	6	7	19	1	3	15	4	23	7	10	5	12	3	11	9	3	13	1	2	10	6	4	7	21	14	3	6	21	2	4	2	4	4
UAC	5	1	0	5	1	0	17	2	3	0	1	0	8	5	2	6	2	3	2	3	4	2	8	7	2	7	7	4	7	3	0	5	5	0	4	0	7	7
UAU	6	9	14	24	12	1	2	7	1	5	12	1	9	12	7	5	10	7	18	7	5	9	7	2	7	5	5	8	10	9	0	7	14	1	3	1	5	5
UGC	0	0	0	0	0	0	0	1	2	0	0	0	5	2	1	0	1	0	0	2	0	1	3	2	1	0	0	1	1	1	0	0	4	0	1	0	0	0
UGU	1	2	3	1	1	1	12	0	1	0	1	1	6	3	4	2	2	1	0	3	0	2	0	1	4	2	2	1	2	1	1	2	5	1	2	0	2	2
UUC	16	8	12	7	6	0	17	1	0	2	4	0	9	10	6	7	5	11	4	5	9	3	23	5	6	16	19	14	10	5	0	17	8	1	3	1	19	19
UUU	8	17	16	34	12	1	2	10	0	2	14	1	12	21	5	19	9	15	17	7	7	9	8	2	5	10	7	12	31	12	1	9	12	3	2	2	7	7
AUA	2	19	21	46	3	4	0	18	5	11	3	4	4	14	1	15	12	17	24	5	7	11	9	13	2	2	2	2	10	3	4	3	0	6	13	4	2	2
AUC	14	2	3	6	11	4	6	2	1	2	13	3	9	3	9	3	8	4	1	8	0	4	27	10	9	7	13	7	3	12	1	10	8	3	5	2	12	13
AUU	13	9	24	19	18	8	15	12	0	5	21	8	11	18	15	9	6	14	12	12	3	19	13	9	14	22	16	23	17	17	9	18	11	2	8	4	17	16
AUG	11	5	6	13	13	2	13	13	2	4	13	2	12	10	6	3	8	4	5	8	6	5	3	2	6	12	12	12	11	16	2	12	10	2	4	2	12	12
UGG	7	0	0	0	0	4	8	1	0	0	0	4	8	12	5	0	0	0	2	4	0	1	0	1	5	10	10	10	17	0	2	10	8	1	1	1	10	10
UAA	1	1	0	1	0	0	1	1	1	1	0	0	1	0	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1
UAG	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
UGA	0	1	3	2	1	1	0	0	0	0	1	1	0	0	0	8	6	1	4	0	7	0	12	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	318	257	353	489	499	138	476	410	126	157	499	138	476	389	261	270	251	253	427	259	162	343	381	228	261	354	354	354	509	499	135	354	476	115	287	93	354	354

	TOB CPRP $S	TOB CPRU BP 1	TOB CPTG 2	TOB CPTG C	TRY KPNI P	VHI CPAI F	WHI CPCV S1	YSC NTAP 91	YSC NTAT C2	YSC NTCO B$	YSC NTCV 01	YSC NTCV 02	YSC NTOO $A	YSC NTTG R1	YSC NTVA
CGA	0	6	0	3	0	1	5	0	0	0	0	0	0	0	0
CGC	0	5	0	1	0	0	1	0	0	0	0	0	0	0	0
CGG	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1
CGU	0	11	0	1	0	0	4	0	0	0	0	0	0	0	1
AGA	0	3	0	6	0	1	3	0	0	0	0	0	0	0	3
AGG	0	7	0	8	0	0	0	0	0	0	0	0	0	0	0
AGU	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
CUA	0	6	0	3	0	0	0	0	0	0	0	0	0	0	0
CUC	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
CUG	0	6	0	2	0	0	0	0	0	0	0	0	0	0	0
CUU	1	10	0	9	0	0	2	0	0	0	2	0	0	0	3
AUA	3	19	0	6	0	3	7	0	0	0	0	0	0	0	0
AUG	2	9	0	5	0	2	4	0	0	0	0	0	0	0	0
AUU	1	19	0	6	0	3	7	0	0	0	0	0	0	0	0
UCA	1	2	0	2	0	0	5	0	0	0	0	0	0	0	0
UCC	1	1	0	2	0	0	2	0	0	0	0	0	0	0	0
UCG	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
UCU	2	7	0	4	0	0	3	0	0	0	0	0	0	0	0
AGC	1	4	0	1	0	0	3	0	0	0	0	0	0	0	0
AGU	2	5	0	2	0	0	3	0	0	0	0	0	0	0	0
ACA	4	7	0	6	0	0	4	0	0	0	0	0	0	0	0
ACC	1	1	0	1	0	0	2	0	0	0	0	0	0	0	0
ACG	2	16	0	6	0	0	5	0	0	0	0	0	0	0	0
ACU	1	5	0	2	0	0	4	0	0	0	0	0	0	0	0
CCA	0	2	0	1	0	0	2	0	0	0	0	0	0	0	0
CCC	0	3	0	2	0	0	1	0	0	0	0	0	0	0	0
CCG	0	11	0	5	0	0	1	0	0	0	0	0	0	0	0
CCU	0	13	0	6	0	0	3	0	0	0	0	0	0	0	0
GCA	4	16	0	5	0	0	7	0	0	0	0	0	0	0	0
GCC	1	4	0	3	0	0	2	0	0	0	0	0	0	0	0
GCG	0	1	0	3	0	0	3	0	0	0	0	0	0	0	0
GCU	1	22	0	3	0	0	8	0	0	0	0	0	0	0	0
GGA	3	3	0	3	0	0	5	0	0	0	0	0	0	0	0
GGC	1	13	0	2	0	0	2	0	0	0	0	0	0	0	0
GGG	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0
GGU	1	8	0	1	0	0	2	0	0	0	0	0	0	0	0
GUA	3	23	0	9	0	0	6	0	0	0	0	0	0	0	0
GUC	1	17	0	6	0	0	7	0	0	0	0	0	0	0	0
GUG	0	1	0	2	0	0	4	0	0	0	0	0	0	0	0
GUU	0	16	0	5	0	0	5	0	0	0	0	0	0	0	0
AAA	1	21	0	5	0	0	5	0	0	0	0	0	0	0	0
AAG	0	4	0	2	0	0	3	0	0	0	0	0	0	0	0
AAC	1	6	0	4	0	0	4	0	0	0	0	0	0	0	0
AAU	1	5	0	1	0	0	1	0	0	0	0	0	0	0	0
CAA	0	5	0	1	0	0	2	0	0	0	0	0	0	0	0
CAG	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0
CAC	1	5	0	3	0	0	3	0	0	0	0	0	0	0	0
CAU	1	24	0	7	0	0	6	0	0	0	0	0	0	0	0
GAA	3	3	0	4	0	0	2	0	0	0	0	0	0	0	0
GAG	1	9	0	4	0	0	3	0	0	0	0	0	0	0	0
GAC	0	4	0	4	0	0	1	0	0	0	0	0	0	0	0
GAU	3	23	0	4	0	0	4	0	0	0	0	0	0	0	0
UAA	0	8	0	4	0	0	2	0	0	0	0	0	0	0	0
UAC	1	10	0	2	0	0	2	0	0	0	0	0	0	0	0
UAU	1	10	0	4	0	0	2	0	0	0	0	0	0	0	0
UGC	1	4	0	1	0	0	1	0	0	0	0	0	0	0	0
UGG	0	5	0	2	0	0	1	0	0	0	0	0	0	0	0
UUC	0	9	0	2	0	0	2	0	0	0	0	0	0	0	0
UUG	0	12	0	3	0	0	4	0	0	0	0	0	0	0	0
UUU	3	4	0	2	0	0	2	0	0	0	0	0	0	0	0
AUA	2	12	0	4	0	0	3	0	0	0	0	0	0	0	0
AUC	4	10	0	2	0	0	1	0	0	0	0	0	0	0	0
AUG	2	19	0	6	0	0	7	0	0	0	0	0	0	0	0
AUU	4	9	0	4	0	0	5	0	0	0	0	0	0	0	0
NAA	2	8	0	1	0	0	2	0	0	0	0	0	0	0	0
NAC	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
NAG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NAU	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
NCA	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
NCC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NCG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NCU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NGA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NGC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NGG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NGU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NUA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NUC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NUG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NUU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	93	478	28	267	351	82	321	260	77	252	386	513	252	49	77	397

Table 2. Frequency (per one thousand) of codon usage. The number of genes summed for each species is given in the row designated as No. GENES, and the total codon number thus summed is given at the bottom row.

SPECIES	HUM	HAM	MUS	RAT	BOV	RAB	CHK	FSB	XEN	DRO	SUR	MZE	YSC	BSU	ECO	STY	R100	TI	AD2	AD5	AD7	AID ARV2	AID LAV	AID LAVA	AKV	BGM	BKV DUN	BKV MM	BMV	CAMV 1841
NO. GENES	135	9	66	60	26	10	33	12	6	17	12	8	64	7	199	12	10	12	28	12	9	2	2	2	2	4	6	6	4	2
ARG CGA	5.2	6.0	5.6	3.9	4.2	2.3	2.7	2.3	3.8	2.7	7.6	1.9	1.8	3.3	2.2	4.4	6.8	9.8	6.7	4.9	4.7	1.5	2.2	2.2	11.6	4.4	0.5	0.6	5.7	8.9
CGC	11.1	11.2	11.7	10.6	11.5	11.7	12.5	9.2	12.8	28.5	28.7	0.5	1.4	5.2	21.5	25.4	33.8	10.5	32.4	31.2	15.4	2.2	2.2	2.2	8.3	3.3	1.1	1.1	12.3	1.0
CGG	7.7	8.8	8.9	8.1	7.6	9.4	5.4	5.9	5.1	3.1	0.6	1.9	0.7	4.3	2.9	10.2	14.1	9.4	10.9	8.0	7.1	2.2	2.9	2.2	12.4	7.8	0.0	0.0	3.1	2.0
CGU	3.6	6.4	3.8	5.1	2.1	2.9	7.7	6.6	11.5	6.3	42.7	2.3	8.1	10.0	28.5	13.9	17.2	7.3	7.9	8.2	4.7	0.7	0.7	0.7	5.0	16.6	2.1	2.2	14.0	3.0
AGA	10.8	13.6	12.7	9.8	11.5	6.2	8.9	16.8	7.7	2.9	7.6	2.8	28.0	9.5	1.0	3.0	3.7	9.4	7.8	8.4	13.4	39.7	37.4	41.2	20.7	14.4	35.0	34.8	14.9	17.8
AGG	11.4	11.2	13.3	9.1	10.0	14.6	10.4	8.6	10.2	3.6	14.0	8.4	6.0	2.8	0.6	2.0	3.7	10.1	9.7	11.2	17.8	18.4	14.7	13.5	8.3	15.5	18.6	19.3	11.0	11.9
LEU CUA	6.1	3.6	6.0	7.0	5.6	1.0	2.5	7.6	6.4	3.1	5.3	36.7	10.8	4.7	2.3	5.4	2.5	11.2	10.7	10.7	10.3	11.0	10.3	11.2	17.4	1.1	15.9	15.5	6.1	11.9
CUC	22.0	17.6	22.4	20.9	16.2	23.7	20.1	26.0	12.8	13.4	32.7	21.4	3.7	8.1	9.2	9.5	12.9	16.7	12.5	17.1	13.1	12.5	11.7	10.5	25.7	8.9	2.1	2.2	14.5	24.8
CUG	43.7	28.9	41.8	49.5	41.5	60.8	50.0	42.8	24.3	50.7	17.5	24.1	6.8	16.1	59.1	49.5	60.3	26.3	34.1	30.6	31.6	14.0	14.7	15.0	16.6	5.5	10.1	9.9	18.9	3.0
CUU	10.7	20.8	10.9	11.7	13.5	3.9	7.5	14.5	16.6	2.7	19.9	36.7	8.2	23.2	7.9	12.5	9.8	18.8	16.8	16.4	14.2	8.8	7.3	7.5	14.1	12.2	20.2	19.9	15.8	11.9
UUA	5.9	8.0	3.5	2.8	3.9	0.6	2.3	6.6	12.8	1.0	0.0	15.3	20.3	17.6	8.2	16.3	2.5	8.9	2.3	2.3	5.1	24.3	24.2	25.4	14.9	14.4	23.9	21.5	12.7	11.9
UUG	11.5	10.4	10.6	12.0	7.3	6.2	8.1	11.8	11.5	10.7	8.8	39.5	38.3	10.0	9.7	12.5	9.8	18.8	14.9	13.9	19.0	18.4	17.6	18.0	18.2	16.6	19.1	20.4	16.7	8.9
SER UCA	9.2	7.2	9.8	7.7	7.6	5.8	5.9	9.2	7.7	2.9	5.8	16.2	11.0	15.2	5.0	8.8	8.6	10.8	5.9	5.7	9.5	14.0	15.4	14.2	10.8	22.2	14.3	14.4	9.2	17.8
UCC	18.7	22.8	21.2	19.3	21.3	26.0	20.2	16.5	3.8	23.9	13.5	10.2	15.7	10.4	11.4	12.5	14.8	13.7	16.6	17.1	13.1	3.7	6.6	5.2	30.6	16.6	13.8	13.8	14.5	5.9
UCG	4.3	4.0	3.6	3.0	4.6	4.5	5.6	5.9	2.6	14.7	0.0	4.2	5.4	7.1	7.2	10.2	11.7	8.0	8.2	8.2	4.7	2.2	2.2	1.5	4.1	6.7	0.0	0.0	8.8	5.9
UCU	14.3	12.0	15.4	13.5	11.5	11.7	13.4	12.5	11.5	4.0	11.7	16.2	27.0	25.1	11.5	7.1	6.2	11.9	10.4	12.4	15.0	5.9	6.6	5.2	20.7	15.5	12.2	12.1	26.3	12.9
AGC	20.5	17.2	23.7	17.5	16.5	24.4	23.5	13.8	15.4	13.2	12.9	17.6	5.7	28.5	15.4	14.2	19.7	14.2	21.3	17.9	14.6	14.0	17.6	17.2	7.5	10.0	6.9	6.6	10.5	12.9
AGU	8.7	12.8	9.3	8.8	12.7	8.8	5.6	10.5	5.1	2.7	5.3	6.0	9.4	5.7	5.5	6.8	4.3	5.7	6.6	5.5	12.3	14.0	18.3	17.2	6.6	7.8	22.8	23.7	11.8	9.9
THR ACA	14.1	11.6	15.4	13.2	13.5	9.1	10.5	12.2	21.8	5.2	6.4	9.3	12.7	31.3	4.8	5.4	6.2	15.1	10.2	6.3	4.4	30.2	30.1	30.7	11.6	22.2	18.6	19.3	11.0	20.8
ACC	25.1	25.7	22.9	25.4	22.7	44.5	26.9	16.1	17.9	36.4	41.5	11.6	17.2	6.2	25.2	24.1	22.8	14.4	30.2	29.3	21.8	16.9	16.9	16.5	43.0	10.0	15.9	16.6	14.0	18.8
ACG	5.5	5.6	6.5	4.3	5.2	10.4	5.3	4.9	5.1	9.2	5.3	5.6	4.7	16.6	10.9	15.9	25.8	9.4	8.3	7.8	4.7	2.9	4.4	4.5	5.8	8.9	0.0	0.0	9.2	9.9
ACU	13.4	11.2	13.3	12.1	12.2	8.4	12.7	13.2	12.8	5.4	6.4	7.9	23.3	10.4	11.0	5.1	11.7	11.0	10.3	8.9	14.6	19.1	14.7	13.5	19.9	11.1	25.5	25.4	20.2	14.9
PRO CCA	11.8	17.2	14.3	14.3	10.8	9.4	7.6	11.8	7.7	9.8	16.4	38.5	22.4	7.1	7.2	2.4	6.8	17.2	13.0	12.9	17.4	23.5	22.7	19.5	21.5	24.4	14.3	14.9	7.0	23.8
CCC	18.5	10.0	16.4	20.5	22.1	19.5	20.2	16.1	2.6	24.5	17.0	13.0	3.9	2.8	3.0	6.1	11.1	10.8	27.6	26.3	18.6	9.6	9.5	9.7	37.3	7.8	12.2	11.6	8.8	12.9
CCG	6.0	1.2	5.2	4.3	7.6	10.1	4.7	3.6	0.0	10.3	0.6	5.1	2.8	11.4	25.5	22.7	19.7	11.9	17.9	19.0	11.5	2.2	2.2	1.5	9.9	8.9	0.0	0.0	7.5	5.0
CCU	14.3	14.4	15.2	15.2	13.1	13.0	9.5	11.8	7.7	5.0	5.8	24.6	10.6	13.3	5.1	8.5	0.6	12.8	14.7	17.3	27.3	9.6	10.3	9.7	24.0	12.2	24.9	24.8	14.0	10.9
ALA GCA	12.7	15.6	11.3	11.2	11.3	10.1	12.9	23.4	23.0	10.5	14.0	35.7	13.8	24.2	21.3	9.8	19.1	27.5	13.9	9.3	16.2	30.2	27.1	29.2	6.6	23.3	10.6	11.0	11.0	18.8
GCC	29.8	23.6	24.6	31.7	31.2	41.6	41.4	47.1	30.7	46.1	57.9	32.0	19.6	19.4	23.0	31.9	57.2	25.2	32.9	36.5	20.6	11.0	13.2	11.2	27.3	8.9	10.6	11.0	18.4	16.8
GCG	5.9	5.2	6.1	4.9	5.9	18.5	6.3	5.6	0.0	9.0	1.2	19.5	5.1	16.1	34.5	48.1	39.4	17.2	22.2	18.1	7.1	3.7	3.7	4.5	4.1	8.9	0.0	0.0	18.0	6.9
GCU	20.1	16.0	19.0	20.4	15.5	17.9	26.7	20.4	41.0	15.5	33.3	47.8	35.1	27.5	20.0	12.2	13.5	23.1	13.9	12.8	25.3	19.1	18.3	18.7	13.2	8.9	41.9	43.1	32.0	13.9
GLY GGA	14.6	16.4	19.2	13.0	13.8	10.1	12.5	13.5	28.2	19.5	39.2	3.2	6.5	22.3	4.7	11.5	9.2	24.0	15.0	12.8	24.5	36.1	36.7	37.4	31.5	24.4	19.1	19.3	15.4	28.7
GGC	24.3	26.5	26.7	24.5	30.7	31.8	28.0	15.1	33.3	35.8	16.4	7.4	9.5	23.7	31.2	38.3	39.4	18.8	22.7	18.7	16.2	11.0	10.3	10.5	11.6	7.8	13.3	13.3	9.2	9.9
GGG	13.7	11.6	16.2	12.6	15.5	23.7	11.6	8.9	14.1	2.1	5.8	2.8	4.1	7.6	7.6	16.6	11.7	13.7	13.0	12.8	19.4	16.9	17.6	15.7	17.4	3.3	12.7	13.3	7.0	3.0
GGU	10.3	15.6	13.9	11.4	10.1	9.4	11.6	10.2	7.7	16.3	26.3	13.5	44.8	22.3	32.5	17.6	8.6	20.2	11.8	12.8	11.9	5.9	6.6	6.7	14.1	21.1	13.3	13.3	22.8	12.9
VAL GUA	6.2	4.4	4.6	5.1	7.2	3.9	3.8	8.9	10.2	4.6	4.7	7.9	8.6	12.3	13.1	9.5	9.2	9.4	9.0	9.9	12.7	29.4	30.8	30.7	10.8	7.8	27.1	27.1	12.7	10.9
GUC	16.2	14.0	19.0	17.2	15.3	17.2	22.1	19.4	15.4	22.4	33.3	10.7	19.0	14.2	13.0	19.7	21.5	12.6	11.4	12.8	7.5	8.1	5.1	5.2	19.9	21.1	1.6	1.1	14.5	7.9
GUG	30.9	32.1	33.3	30.9	32.1	45.5	33.9	26.7	20.5	34.5	9.9	20.9	10.2	10.9	24.3	24.4	36.9	18.1	31.0	28.7	27.7	14.7	14.7	14.2	11.6	10.0	9.6	9.4	18.4	6.9
GUU	10.6	16.0	9.8	10.0	9.1	10.1	10.4	9.5	16.6	5.7	11.1	10.7	30.1	24.2	23.5	9.5	9.8	17.4	11.0	9.5	14.2	8.1	7.3	7.5	10.8	22.2	18.6	20.4	27.2	15.8
LYS AAA	22.0	25.7	18.2	18.1	24.5	12.0	19.9	18.4	21.8	9.6	18.1	2.3	32.4	50.3	38.7	36.9	19.1	20.6	15.8	13.9	14.6	35.3	36.7	36.7	31.5	36.6	46.7	47.5	29.4	41.6
AAG	35.8	35.3	32.9	40.1	38.3	41.3	51.6	29.9	44.8	56.7	67.8	9.7	45.0	19.9	12.2	10.2	29.5	19.7	21.0	22.8	27.7	21.3	21.3	21.0	14.9	31.0	18.6	17.7	34.7	62.4
ASN AAC	23.6	26.5	25.9	25.2	23.9	22.1	28.1	33.6	23.0	31.8	19.3	35.7	28.5	26.6	27.3	14.6	16.0	23.1	32.6	32.0	17.8	22.1	18.3	18.7	14.9	29.9	11.1	12.7	12.7	22.8
AAU	16.9	18.0	15.8	13.8	12.7	7.5	10.2	11.5	14.1	9.0	3.5	6.0	23.9	20.9	13.0	16.3	8.0	18.6	12.0	12.6	21.4	43.4	44.8	44.2	19.9	32.2	26.5	26.5	18.4	15.8
GLN CAA	11.5	11.2	9.2	11.8	13.1	4.2	6.8	8.6	17.9	5.0	11.1	104.5	28.1	19.9	12.5	12.2	12.9	18.5	13.2	10.1	11.9	27.2	27.9	29.2	19.0	29.9	30.3	29.8	17.6	28.7
CAG	32.7	33.3	29.5	40.2	32.9	33.5	27.1	25.3	12.8	31.2	29.8	49.7	8.3	17.1	31.6	30.8	25.8	16.3	29.7	31.4	28.5	28.7	28.6	31.4	26.5	16.6	16.5	16.0	14.5	13.9
HIS CAC	14.3	5.6	15.8	14.3	12.1	21.8	18.3	6.9	15.4	14.0	9.4	6.5	9.2	10.0	11.8	9.8	9.2	9.5	16.4	19.8	15.0	5.2	5.0	8.2	11.6	12.2	6.4	6.1	10.1	8.9
CAU	9.8	11.6	9.4	8.2	14.9	5.5	7.7	4.9	14.1	6.7	7.6	7.0	9.9	13.8	9.4	15.6	9.8	17.9	5.8	5.9	14.6	11.8	11.0	11.2	7.5	28.8	17.5	17.7	17.1	9.9
GLU GAA	26.8	36.5	20.3	24.3	23.1	15.6	22.3	22.7	58.9	8.2	17.5	7.9	51.4	42.2	47.4	31.2	25.2	29.8	25.0	29.7	28.5	50.0	46.2	44.9	35.6	32.2	46.2	45.8	23.7	63.4
GAG	41.6	38.1	39.0	41.2	42.1	50.7	51.5	43.8	28.2	57.0	36.8	9.3	14.6	20.9	19.0	22.7	19.7	23.6	42.4	40.0	40.3	14.7	19.1	18.0	24.8	12.2	23.4	23.7	36.4	28.7
ASP GAC	30.2	26.5	30.0	30.4	34.1	35.7	26.9	32.2	26.9	39.4	18.7	4.6	25.7	24.2	25.1	14.2	22.8	24.3	35.4	35.6	24.9	14.0	15.4	15.7	22.4	23.3	17.0	17.1	31.6	31.7
GAU	21.4	21.6	20.2	19.2	19.8	14.0	20.4	18.1	44.8	18.8	12.3	7.9	33.4	30.4	29.7	33.9	18.5	28.4	18.4	20.2	33.2	18.4	13.9	16.5	22.4	26.6	39.8	39.8	44.3	29.7
TYR UAC	18.4	18.4	20.6	17.2	22.0	22.1	19.4	16.8	12.8	24.9	24.6	26.0	20.1	15.7	14.7	14.2	12.9	11.0	21.7	24.2	10.3	5.9	4.4	3.7	13.2	12.2	9.0	8.8	10.1	23.8
UAU	12.4	10.0	11.6	12.1	14.4	7.1	6.3	10.2	12.8	7.5	2.9	7.0	14.6	22.8	13.4	17.3	12.3	19.0	8.0	7.2	10.3	16.9	16.9	17.2	13.2	32.2	22.8	21.5	19.7	11.9
CYS UGC	15.1	20.4	15.3	18.7	17.9	15.9	10.9	13.5	1.3	16.3	14.0	6.0	3.6	2.8	5.5	4.4	15.4	14.4	11.4	14.5	12.7	5.9	5.1	6.0	11.6	10.0	6.9	4.4	5.7	11.9
UGU	10.0	10.8	11.3	11.4	13.9	3.9	5.3	10.2	3.8	2.1	5.3	3.2	9.0	4.7	4.0	5.1	5.5	6.9	5.1	7.4	11.5	17.7	19.1	18.7	13.2	8.9	13.3	13.8	7.6	5.9
PHE UUC	35.7	17.6	27.1	28.9	27.4	27.0	24.5	33.2	25.6	27.6	22.8	28.3	19.6	12.3	20.1	18.0	27.1	24.5	14.4	16.2	12.3	11.0	10.3	12.7	11.6	26.6	6.4	5.5	17.6	20.8
UUU	17.3	17.6	14.8	15.5	18.0	7.1	13.3	23.4	17.9	8.4	4.1	15.3	18.1	24.2	15.6	24.7	8.0	23.4	20.7	23.6	22.5	15.5	16.9	15.0	13.2	18.8	38.2	38.7	24.6	11.9
ILE AUA	5.1	8.0	5.4	4.7	5.5	3.2	4.0	11.2	9.0	2.5	0.6	8.4	9.7	6.6	2.1	5.4	4.9	13.1	8.3	7.8	10.3	36.1	34.5	32.9	8.3	21.1	19.1	18.8	11.8	19.8
AUC	24.0	16.4	23.8	25.9	25.3	20.5	39.3	29.0	24.3	44.6	46.2	18.1	19.6	18.0	31.9	24.7	26.4	23.8	13.9	16.4	16.6	9.6	12.5	12.7	10.8	23.3	0.5	0.6	14.9	37.6
AUU	13.5	26.1	13.2	14.1	9.6	5.8	12.9	16.8	19.2	16.1	6.4	20.0	30.3	31.8	23.9	34.6	13.5	27.7	14.4	13.5	17.0	20.6	20.5	21.0	12.4	23.3	27.6	27.1	21.1	15.8
MET AUG	25.1	33.3	22.0	25.4	24.5	16.2	29.7	34.9	34.6	29.7	24.6	20.9	19.3	23.7	27.1	25.8	20.3	20.8	24.2	27.2	32.8	22.8	24.9	26.2	7.5	20.0	28.1	29.3	23.7	22.8
TRP UGG	14.2	10.8	18.0	12.1	12.1	15.3	8.2	15.5	10.2	11.1	2.3	2.3	10.2	7.1	10.7	9.8	8.6	11.9	12.0	13.7	12.3	28.7	29.3	29.2	27.3	15.5	16.5	14.9	15.8	6.9
TER UAA	1.1	2.4	1.1	1.4	1.5	0.6	2.2	2.6	5.1	2.7	4.1	0.5	1.5	1.9	2.0	2.7	3.1	1.1	1.5	1.3	1.6	1.5	1.5	0.7	0.8	3.3	2.7	2.8	0.0	0.0
UAG	0.5	0.0	0.5	1.4	0.8	1.0	0.5	0.3	0.0	0.6	2.9	3.2	0.9	0.5	0.2	0.3	0.6	1.1	0.6	0.4	0.8	0.0	0.0	0.7	0.8	1.1	0.5	0.6	0.9	0.0
UGA	1.7	1.2	1.8	1.6	1.3	1.6	1.5	1.0	2.6	0.2	0.0	0.0	0.7	0.9	0.6	1.0	2.5	0.5	0.7	0.6	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.0
TOTAL	40328	2495	19193	13452	7105	3078	7904	3039	781	4776	1710	2154	20891	2108	71736	2951	1626	4366	10286	5254	2528	1359	1363	1336	1208	902	1884	1811	2279	1010

SPECIES		CANV DH	CANV STRA	DHBV	FLB L4O	FLP 834	GSHV	HBV ADR	HBV ADW	HBV ADYW	HBV AYW	HPV 16	HPV 1A	HSV 1	JCV	LPV	MHLV	PYA 2	PYA 3	RSV PRAG	SFFV	SSV	SV40	TMV V	VSV IN	VZV	WHV	F1	FD	G4	IKE
NO.	GENES	2	2	3	8	10	4	2	2	2	2	6	4	15	6	5	3	6	6	4	3	3	6	9	5	5	4	10	10	11	10
ARG	CGA	5.9	7.9	5.3	4.1	5.8	3.9	9.7	9.7	9.7	9.7	7.5	1.3	8.2	0.0	1.1	8.7	4.3	3.9	9.2	9.9	10.9	0.0	6.3	6.9	8.9	2.9	4.2	2.4	5.0	0.9
	CGC	2.0	2.0	2.3	0.7	2.7	7.9	9.7	12.1	9.7	9.7	5.8	7.7	38.1	0.5	2.2	9.1	4.8	4.3	8.2	8.9	18.8	2.6	4.2	1.1	4.2	7.0	8.9	8.2	19.7	12.6
	CGG	3.0	1.0	6.9	1.0	5.4	4.6	7.3	7.3	7.3	9.7	2.9	1.9	21.7	0.0	3.8	9.6	6.5	6.5	19.9	3.0	22.7	1.6	3.5	3.7	9.4	5.2	0.8	0.5	3.4	0.0
	CGU	2.0	2.0	10.7	1.7	3.1	7.9	7.3	7.3	7.3	7.3	8.7	8.4	5.9	1.6	2.7	5.0	1.7	1.7	5.1	2.0	5.9	2.6	4.9	4.6	12.6	9.3	16.5	18.4	19.3	15.4
	AGA	17.8	17.8	28.2	28.4	30.5	22.3	29.2	29.1	31.6	26.8	12.7	26.5	1.7	32.3	24.8	20.4	31.1	31.2	10.2	22.8	11.9	23.7	22.2	24.6	9.4	19.2	5.9	5.3	2.5	5.6
	AGG	11.8	9.9	19.8	9.1	19.1	15.1	9.7	7.3	7.3	9.7	6.4	12.3	3.2	21.5	17.3	9.1	13.0	13.4	10.2	10.9	16.8	21.6	14.8	9.4	4.2	11.1	1.7	2.4	1.7	1.4
LEU	CUA	14.8	13.8	15.3	21.0	11.7	9.2	24.3	26.6	31.6	31.6	9.2	11.0	6.1	10.2	14.6	24.9	31.6	31.6	9.2	25.8	8.9	10.0	6.0	11.7	5.1	11.1	4.7	2.9	6.7	2.8
	CUC	23.7	24.7	22.9	10.5	10.5	19.1	21.9	26.6	21.9	24.3	1.2	4.5	20.2	3.2	9.7	24.1	17.7	18.2	21.5	22.8	28.7	2.6	7.0	10.0	5.1	22.1	10.6	8.2	18.5	5.6
	CUG	5.9	4.0	8.4	10.8	17.7	20.4	21.9	19.4	19.5	17.0	7.5	8.4	45.7	7.0	13.5	27.9	29.8	29.4	31.2	23.8	35.6	13.2	12.0	12.3	6.1	18.6	14.8	13.1	18.1	10.3
	CUU	11.8	8.9	15.3	15.2	17.7	25.0	19.5	16.9	19.5	21.9	6.4	17.4	5.8	22.0	19.4	12.5	21.6	22.5	9.7	13.9	6.9	16.8	18.3	12.3	15.4	19.8	23.7	25.2	22.3	23.8
	UUA	8.9	9.9	23.6	15.2	8.5	26.3	21.9	19.4	21.9	14.6	37.5	37.4	2.2	32.3	17.8	13.7	8.2	8.2	12.8	13.9	5.9	26.3	21.8	20.0	24.8	25.0	33.0	32.4	15.5	29.5
	UUG	7.9	9.9	22.1	13.2	15.0	25.6	26.8	21.8	21.9	24.3	14.4	16.1	8.7	17.7	22.7	13.7	7.3	7.8	16.4	8.9	7.9	24.7	21.8	27.4	19.6	30.3	16.1	16.5	8.4	12.2
SER	UCA	18.7	19.8	17.5	21.7	18.6	18.4	19.5	24.2	21.9	24.3	15.6	13.5	0.9	14.5	9.2	9.1	16.9	16.0	8.7	10.9	4.9	10.5	16.5	18.3	10.8	18.0	17.4	16.9	16.8	13.6
	UCC	4.9	7.9	22.9	9.1	10.5	23.7	19.5	19.4	21.9	19.5	3.5	11.6	18.0	9.1	12.4	16.6	10.4	9.5	17.9	20.8	23.7	6.3	8.4	14.0	10.8	21.5	16.5	18.9	11.3	12.2
	UCG	5.9	4.9	6.9	3.4	4.0	5.9	12.2	14.5	14.6	14.6	1.7	3.9	16.7	0.0	1.1	3.3	1.7	1.7	10.2	6.9	4.9	0.0	18.3	4.6	9.8	6.4	5.5	4.4	8.8	8.9
	UCU	13.8	14.8	22.9	15.9	13.5	22.3	36.5	26.6	29.2	29.2	23.7	20.6	4.6	20.4	20.0	15.4	10.4	10.4	12.3	22.8	12.9	18.4	23.9	23.4	14.5	20.9	50.4	47.0	36.1	47.7
	AGC	12.8	11.9	14.5	12.5	14.8	6.6	4.9	2.4	4.9	4.9	5.8	10.3	18.6	6.5	5.9	7.1	18.2	18.6	12.8	8.9	10.9	7.4	7.4	7.4	10.3	5.2	5.5	5.3	2.5	8.4
	AGU	7.9	9.9	6.1	10.2	15.5	8.5	12.2	12.1	12.2	12.2	16.7	20.6	2.0	19.9	22.1	6.2	13.4	12.1	10.2	3.0	13.8	24.2	16.9	16.0	7.0	9.3	6.8	7.3	5.0	3.3
THR	ACA	28.6	25.7	10.7	33.5	25.3	19.1	19.5	16.9	9.7	14.6	50.2	32.9	3.9	20.4	10.8	12.1	22.9	24.2	17.9	18.8	7.9	15.8	17.6	20.6	23.9	20.9	6.4	7.7	16.0	10.3
	ACC	15.8	15.8	13.0	17.6	15.0	20.4	19.5	16.9	19.5	24.3	13.3	11.0	35.5	15.6	22.7	37.8	18.2	17.3	18.4	33.7	24.7	15.3	13.0	14.3	15.9	14.0	11.0	12.6	19.3	11.7
	ACG	9.9	8.9	10.7	2.4	4.3	3.9	7.3	7.3	9.7	2.4	2.9	4.5	22.1	0.0	2.2	6.2	3.0	2.6	11.2	6.0	15.8	0.0	10.6	5.4	26.2	8.7	5.9	5.3	8.0	7.0
	ACU	15.8	14.8	28.2	17.9	17.0	28.9	21.9	31.5	34.1	36.5	33.5	20.6	1.9	21.0	22.1	21.6	15.1	15.1	16.9	24.8	15.8	27.4	20.4	18.0	8.9	29.7	32.2	29.5	24.8	29.9
PRO	CCA	23.7	26.7	25.2	15.2	16.8	14.5	31.6	31.5	29.2	31.6	24.2	23.2	9.8	24.2	13.0	20.0	21.2	22.1	15.3	16.9	18.8	15.3	7.4	18.6	18.2	22.1	7.2	6.8	8.8	4.2
	CCC	11.8	13.8	13.0	8.8	6.3	17.7	21.9	19.4	17.0	17.0	10.4	5.2	47.4	7.5	13.5	34.1	19.0	19.5	23.0	43.7	25.7	10.0	6.7	9.1	18.7	16.3	4.7	4.8	0.0	1.9
	CCG	3.9	4.0	6.9	3.4	4.5	9.9	12.2	9.7	9.7	9.7	1.7	1.3	29.9	1.6	2.2	9.6	5.2	5.2	14.3	12.9	19.8	0.0	9.5	6.0	12.2	10.5	8.0	9.2	6.7	8.9
	CCU	9.9	9.9	23.6	15.9	11.4	26.9	31.6	33.9	34.1	31.6	28.3	20.0	4.8	19.9	27.0	26.2	16.4	16.4	15.8	35.7	20.8	25.8	11.3	15.4	11.2	34.9	22.9	23.7	20.2	18.7
ALA	GCA	20.7	17.8	11.4	30.1	24.4	11.8	12.2	7.3	12.2	4.9	25.4	25.8	4.5	18.3	12.4	13.3	19.9	19.9	16.9	9.9	24.7	14.2	19.0	19.7	22.0	12.2	16.5	15.5	14.3	12.2
	GCC	18.7	14.8	13.0	11.5	14.1	16.4	12.2	14.5	12.2	12.2	8.1	7.1	61.7	12.4	11.9	33.7	14.7	15.6	26.1	19.8	35.6	8.4	12.7	9.7	18.2	15.1	8.5	8.2	16.4	10.3
	GCG	4.9	6.9	1.5	1.7	4.7	4.6	2.4	2.4	2.4	4.9	1.7	1.9	30.8	0.5	2.2	5.8	5.6	4.3	19.4	7.9	10.9	0.0	14.4	3.1	15.9	3.5	6.4	8.2	6.7	7.5
	GCU	12.8	15.8	27.5	22.7	14.8	28.3	12.2	14.5	14.6	14.6	18.5	23.9	6.3	31.2	37.3	15.4	19.0	18.2	16.9	10.9	14.8	44.2	18.3	17.4	8.0	20.9	31.3	29.5	40.8	40.2
GLY	GGA	29.6	31.7	23.6	40.3	30.7	21.0	24.3	21.8	29.2	26.8	19.1	12.3	5.8	17.2	28.1	27.4	27.2	27.7	23.5	27.8	21.8	22.1	18.3	28.0	23.9	20.4	2.1	2.4	9.7	5.6
	GGC	10.8	6.9	9.2	10.5	8.7	11.2	9.7	7.3	7.3	7.3	8.7	14.2	27.7	10.2	7.6	13.3	14.3	13.8	22.5	18.8	14.8	9.5	5.6	9.7	9.8	10.5	24.6	25.2	20.2	22.9
	GGG	3.0	1.0	12.2	16.9	16.6	7.2	12.2	12.1	9.7	12.2	6.9	12.9	27.9	18.3	10.8	22.9	17.3	16.9	33.2	31.7	20.8	15.3	8.8	13.2	15.4	9.9	5.5	4.4	2.1	3.7
	GGU	8.9	11.9	12.2	10.8	11.2	17.1	4.9	9.7	7.3	7.3	22.5	12.9	5.4	16.1	14.6	7.9	12.5	15.8	13.8	11.9	10.9	13.2	15.8	12.6	18.2	10.5	43.2	48.4	26.5	51.0
VAL	GUA	11.8	8.9	15.3	17.3	11.9	9.2	9.7	12.1	7.3	9.7	25.4	14.8	4.1	14.0	16.7	11.2	17.3	18.2	5.1	15.9	3.0	14.7	10.6	10.9	25.3	9.9	15.2	13.6	10.9	18.7
	GUC	8.9	8.9	13.0	11.5	10.3	9.2	7.3	7.3	4.9	4.9	2.9	9.0	24.9	2.7	10.8	17.9	7.8	9.1	18.9	20.8	9.9	1.1	22.2	12.6	8.4	11.1	7.6	8.7	15.1	6.1
	GUG	5.9	6.9	12.2	16.6	20.2	13.1	12.2	16.9	19.5	17.0	15.0	13.5	32.9	16.1	15.7	12.1	20.8	19.9	21.0	9.9	34.6	18.4	29.2	14.9	22.9	16.9	3.4	5.3	12.6	10.3
	GUU	13.8	14.8	16.8	12.2	13.5	17.7	21.9	16.9	19.5	21.9	20.2	17.4	6.9	30.6	21.1	12.9	12.1	11.7	13.3	10.9	6.9	24.7	37.3	13.4	19.6	16.3	48.7	50.8	21.4	51.9
LYS	AAA	40.4	42.5	42.7	47.1	35.9	26.3	7.3	9.7	7.3	7.3	38.7	33.5	5.9	46.2	43.7	28.3	26.4	26.0	16.4	27.8	20.8	49.5	33.8	37.4	25.3	27.3	36.4	37.8	46.2	38.8
	AAG	65.1	65.3	18.3	26.1	23.5	9.9	2.4	4.8	2.4	2.4	13.3	16.8	17.3	17.7	17.8	26.2	20.8	20.3	33.7	16.9	37.6	22.1	32.7	26.6	11.2	5.8	16.9	16.5	18.5	18.2
ASN	AAC	23.7	20.8	14.5	25.7	21.1	14.5	7.3	7.3	7.3	4.9	13.3	11.6	28.0	15.1	9.7	17.5	12.1	12.5	19.9	16.9	16.8	15.3	17.9	13.7	22.0	16.9	9.7	11.6	33.6	14.0
	AAU	13.8	17.8	20.6	28.1	33.4	25.0	19.5	21.8	14.6	17.0	31.8	34.8	3.5	27.4	36.7	12.5	25.1	24.7	10.2	10.9	10.9	27.4	36.2	26.9	23.4	30.8	46.1	43.1	26.5	42.5
GLN	CAA	30.6	28.7	21.4	20.7	21.5	26.9	19.5	21.8	19.5	19.5	23.7	31.0	7.6	24.7	35.1	23.3	19.0	19.0	10.2	16.9	16.8	30.0	11.3	22.6	25.3	31.4	17.4	17.9	26.9	20.1
	CAG	13.8	13.8	11.4	7.1	16.6	11.8	9.7	9.7	9.7	9.7	17.3	21.9	24.7	20.4	16.2	28.7	28.1	27.7	32.7	22.8	30.7	20.0	16.5	11.4	11.2	12.8	21.6	21.3	14.7	17.8
HIS	CAC	7.9	8.9	13.0	10.8	6.5	16.4	7.3	4.8	7.3	7.3	7.5	7.1	23.8	8.1	6.5	15.0	10.4	10.0	9.2	5.0	17.8	6.3	3.9	7.4	11.7	11.6	3.4	2.9	9.7	1.9
	CAU	10.8	9.9	16.8	11.5	10.3	16.4	4.9	7.3	4.9	4.9	23.1	12.9	6.5	14.0	13.0	10.8	16.0	16.4	8.7	8.9	5.9	13.2	8.8	20.9	24.3	17.5	7.6	6.3	14.3	11.2
GLU	GAA	70.0	69.2	28.2	41.7	42.2	17.7	17.0	14.5	9.7	14.6	34.1	39.4	10.2	45.7	43.2	26.2	30.7	31.2	19.4	7.9	15.8	42.1	32.0	31.7	32.3	17.5	20.3	19.4	31.1	26.2
	GAG	28.6	27.7	11.4	16.9	31.6	13.1	17.0	14.5	17.0	17.0	12.7	26.5	39.0	19.4	22.7	24.5	27.7	28.1	35.8	20.8	55.4	25.3	31.3	24.0	22.9	8.1	17.4	16.5	13.0	10.3
ASP	GAC	30.6	31.7	14.5	22.4	18.8	17.1	19.5	14.5	17.0	17.0	21.9	23.9	40.9	23.1	11.9	27.9	22.5	23.4	22.5	23.8	25.7	20.5	22.9	24.6	19.2	15.7	19.9	19.8	34.0	12.6
	GAU	27.6	27.7	27.5	28.8	25.3	15.8	2.4	12.1	12.2	7.3	38.1	38.7	9.3	32.8	33.5	20.4	29.0	30.3	16.4	23.8	15.8	37.9	34.1	36.6	39.3	13.4	36.4	36.3	20.2	48.6
TYR	UAC	19.7	20.8	8.4	13.9	13.5	10.5	9.7	7.3	4.9	4.9	10.4	8.4	31.2	11.3	11.3	15.0	14.7	14.7	12.8	11.9	6.9	15.3	17.2	15.7	19.2	11.6	5.5	6.8	15.1	6.5
	UAU	14.8	13.8	22.9	14.2	14.6	21.7	14.6	19.4	21.9	21.9	37.5	27.1	4.3	24.2	27.0	14.6	18.2	18.2	10.7	11.9	6.9	21.1	14.8	21.7	28.1	18.6	33.9	34.4	20.6	28.5
CYS	UGC	11.8	11.9	9.9	15.9	8.7	15.1	14.6	19.4	14.6	14.6	8.1	3.9	12.3	11.3	5.9	8.7	9.1	8.7	14.3	10.9	12.9	10.0	5.3	6.9	4.2	16.3	5.1	3.9	3.8	3.7
	UGU	7.9	7.9	9.2	8.8	9.0	17.7	29.2	24.2	29.2	29.2	19.6	11.0	3.0	9.1	16.7	8.3	14.3	14.3	10.7	13.9	5.9	7.9	10.6	9.4	16.4	12.8	7.6	8.7	3.8	7.5
PHE	UUC	20.7	20.8	14.5	15.9	19.5	13.8	26.8	26.6	29.2	31.6	1.7	7.1	16.9	4.8	8.6	10.8	16.0	15.1	13.8	17.9	11.9	2.1	13.7	24.9	5.1	16.3	17.4	19.4	25.6	12.2
	UUU	10.8	10.9	26.7	14.2	18.8	36.1	31.6	29.1	29.2	26.8	32.9	40.0	14.3	41.9	32.9	15.0	20.3	19.9	9.7	12.9	8.9	38.4	28.5	20.0	35.1	32.0	38.5	35.3	13.9	35.1
ILE	AUA	13.8	15.8	20.6	27.8	23.5	11.2	7.3	12.1	4.9	7.3	25.4	13.5	3.9	12.4	12.4	10.0	16.4	16.0	10.7	13.9	3.0	11.6	12.3	17.2	20.1	18.0	10.6	9.7	4.2	9.4
	AUC	36.5	30.7	13.0	14.2	18.4	9.2	19.5	21.8	26.8	24.3	2.3	6.5	34.4	2.7	4.3	15.4	6.5	6.5	16.9	8.9	16.8	0.0	14.1	22.9	11.7	14.5	9.3	8.7	23.9	11.2
	AUU	20.7	24.7	21.4	23.7	22.9	23.0	24.3	19.4	21.9	17.0	32.3	25.8	5.6	23.7	23.8	6.2	10.8	10.8	20.4	16.9	14.8	27.9	18.6	27.2	26.2	21.5	34.3	36.8	21.4	40.2
MET	AUG	22.7	22.7	17.5	31.5	39.5	15.8	21.9	19.4	19.5	24.3	15.6	21.9	20.1	28.0	24.8	12.5	27.2	27.7	23.0	16.9	13.8	26.8	29.2	28.3	22.0	11.6	16.5	17.4	30.3	21.5
TRP	UGG	6.9	6.9	22.9	9.5	16.1	31.5	41.4	41.2	41.4	41.4	9.2	16.1	12.3	16.1	16.7	23.3	18.2	17.3	20.4	29.8	14.8	18.4	8.4	20.0	10.8	38.4	9.7	9.7	13.9	10.3
TER	UAA	0.0	0.0	1.5	1.0	0.7	0.7	2.4	2.4	2.4	2.4	1.7	1.3	0.2	2.7	1.1	0.4	1.3	1.3	0.5	2.0	2.0	2.6	1.8	0.6	0.9	1.2	2.5	2.9	2.1	2.3
	UAG	0.0	0.0	0.8	0.7	0.9	0.0	2.4	2.4	2.4	2.4	1.2	0.6	1.3	0.5	0.0	0.8	0.9	0.9	1.0	1.0	1.0	0.0	1.1	0.0	0.5	0.0	0.4	0.5	0.0	0.0
	UGA	2.0	2.0	0.0	1.0	0.7	2.0	0.0	0.0	0.0	0.0	0.6	0.6	1.3	0.0	1.6	0.0	0.4	0.4	0.5	0.0	0.0	0.5	0.4	0.9	0.9	1.2	1.3	1.5	2.5	2.3
TOTAL		1014	1011	1311	2953	4460	1522	411	413	411	411	1732	1550	5384	1860	1852	2405	2313	2311	1956	1008	1011	1900	2843	3498	2138	1719	2362	2066	2380	2139

SPECIES		LAMB DA	M13	MS2	PHIX 174	T7	T4	EBV
NO.	GENES	63	10	4	11	57	13	59
ARG	CGA	7.2	2.9	10.5	5.1	8.4	4.5	5.4
	CGC	16.1	8.2	19.2	19.2	14.2	5.6	15.2
	CGG	10.2	1.0	10.5	4.3	2.9	1.3	14.4
	CGU	16.9	17.9	18.3	24.0	22.7	23.4	5.5
	AGA	9.3	4.8	8.7	6.8	5.6	8.8	7.1
	AGG	4.8	1.9	5.2	1.3	3.4	1.6	15.0
LEU	CUA	3.1	3.9	13.9	4.7	10.7	6.4	9.1
	CUC	9.0	10.6	23.5	9.4	10.8	4.0	25.5
	CUG	36.5	14.0	9.6	15.0	21.0	7.2	43.5
	CUU	13.4	24.2	16.6	28.7	16.8	19.1	10.0
	UUA	8.8	31.9	15.7	13.7	12.1	23.4	4.0
	UUG	5.7	14.0	12.2	21.4	10.0	13.6	9.6
SER	UCA	13.4	16.0	14.8	9.8	9.3	17.5	9.0
	UCC	11.4	16.0	17.4	8.1	12.9	3.5	20.6
	UCG	8.7	3.9	21.8	10.7	4.5	3.5	8.9
	UCU	6.9	51.8	13.9	27.8	18.0	24.2	11.6
	AGC	16.9	6.3	13.9	4.3	6.9	5.6	18.9
	AGU	11.5	6.8	7.8	6.8	9.2	11.4	6.7
THR	ACA	13.0	5.3	12.2	9.0	10.2	16.8	11.8
	ACC	21.4	10.2	20.9	11.5	18.0	6.1	30.6
	ACG	19.4	5.8	13.1	15.0	8.0	5.1	14.1
	ACU	9.2	33.4	20.1	28.2	19.4	34.3	9.4
PRO	CCA	8.8	7.3	9.6	3.8	9.1	11.2	17.3
	CCC	4.8	4.8	8.7	4.7	1.7	1.3	31.3
	CCG	17.3	7.7	13.1	10.7	7.5	4.8	13.8
	CCU	7.3	24.7	15.7	19.7	15.3	12.5	12.5
ALA	GCA	28.5	16.0	19.2	8.6	16.7	25.0	15.8
	GCC	27.7	8.7	17.4	13.7	14.2	6.4	50.6
	GCG	25.6	6.3	21.8	11.1	14.2	4.8	17.0
	GCU	16.9	30.5	22.7	52.6	42.4	40.7	12.7
GLY	GGA	13.0	2.9	10.5	9.8	11.9	18.9	18.1
	GGC	21.3	25.7	13.9	19.2	14.3	13.3	24.5
	GGG	14.6	5.3	13.9	2.1	9.1	5.1	23.2
	GGU	19.7	46.0	32.3	32.1	38.3	44.4	11.0
VAL	GUA	9.8	16.0	14.6	6.4	17.2	20.5	5.3
	GUC	11.6	8.7	18.3	7.3	11.9	4.3	20.3
	GUG	24.3	2.9	18.3	8.6	15.2	4.5	30.9
	GUU	19.1	49.4	18.3	35.5	19.3	29.5	8.6
LYS	AAA	36.7	37.3	18.3	38.9	22.4	55.6	8.4
	AAG	20.0	17.4	22.7	24.0	44.7	14.4	23.5
ASN	AAC	21.5	11.6	24.4	18.4	32.9	19.4	20.2
	AAU	18.4	44.5	16.6	31.2	12.2	39.4	11.6
GLN	CAA	9.5	17.9	20.1	20.5	17.3	23.7	9.2
	CAG	33.4	21.3	21.8	26.5	19.7	10.6	28.0
HIS	CAC	6.9	2.4	7.8	4.7	13.4	6.9	16.8
	CAU	10.8	6.8	6.1	12.8	6.5	12.0	8.0
GLU	GAA	37.2	18.4	15.7	15.4	29.3	48.7	15.5
	GAG	27.8	16.9	25.3	27.8	42.1	7.2	37.9
ASP	GAC	24.8	18.4	19.2	26.5	37.7	11.2	29.8
	GAU	32.7	37.3	25.3	33.8	24.7	52.4	15.5
TYR	UAC	12.3	5.8	28.8	9.0	20.2	10.1	20.0
	UAU	17.7	34.8	8.7	25.7	12.2	30.6	9.3
CYS	UGC	8.5	3.9	5.2	6.4	6.1	2.9	13.4
	UGU	3.7	8.7	6.1	6.4	6.3	4.5	6.1
PHE	UUC	14.8	17.4	27.9	15.8	24.6	13.3	17.3
	UUU	19.3	37.8	18.3	30.4	10.5	31.9	20.9
ILE	AUA	8.6	10.2	16.6	3.0	4.8	7.4	6.3
	AUC	20.5	8.7	24.4	9.4	23.2	13.8	19.5
	AUU	22.7	36.8	10.5	32.1	24.8	53.2	11.0
MET	AUG	27.8	17.4	18.3	32.5	30.4	23.4	19.8
TRP	UGG	16.7	9.7	20.1	13.3	16.4	10.4	11.2
TER	UAA	1.7	2.9	1.7	1.3	2.3	2.4	0.8
	UAG	0.3	0.5	1.7	0.0	0.4	0.0	0.7
	UGA	2.5	1.5	0.0	3.4	1.7	1.1	0.5
TOTAL		13933	2066	1147	2338	13144	3761	29975

		HUM MT	MUS MT	RAT MT	BOV MT	DRO1 MT	DRO2 MT	ANI MT
		13	13	7	13	5	6	8
	CGA	7.6	9.2	11.4	11.0	15.6	17.4	0.0
	CGC	6.6	4.7	2.9	2.9	0.0	0.0	0.0
	CGG	0.5	0.8	0.0	0.8	0.0	0.0	0.0
	CGU	1.8	2.1	1.7	1.8	3.1	2.4	5.1
	AGA	0.3	0.0	0.0	0.3	14.8	12.6	22.6
	AGG	0.3	0.0	0.0	0.0	0.0	0.0	0.0
	CUA	72.6	70.0	67.5	74.9	7.8	7.1	4.4
	CUC	43.9	17.1	25.8	25.0	0.0	0.8	0.0
	CUG	11.8	6.8	5.2	7.6	0.0	0.0	0.7
	CUU	17.1	22.9	17.7	16.3	11.7	11.0	3.7
	UUA	19.5	34.2	36.1	28.9	113.8	124.6	127.1
	UUG	4.2	3.9	1.1	4.2	1.6	2.4	0.0
	UCA	22.1	38.7	29.8	26.3	33.5	33.1	33.6
	UCC	26.3	12.6	20.6	17.4	0.8	1.6	0.0
	UCG	1.8	1.1	1.1	1.3	0.8	0.8	0.7
	UCU	8.4	11.3	14.9	13.7	25.7	21.3	16.8
	AGC	10.3	9.2	12.6	11.3	0.0	0.8	1.5
	AGU	3.7	3.7	1.1	3.2	6.2	5.5	22.6
	ACA	35.0	41.3	46.4	40.2	31.2	30.0	34.3
	ACC	40.8	22.6	22.3	25.2	1.6	0.8	0.0
	ACG	2.6	1.6	2.3	3.9	0.8	0.0	0.0
	ACU	13.4	15.3	15.5	11.6	32.0	29.2	11.7
	CCA	13.7	34.5	21.8	22.3	15.6	19.7	11.7
	CCC	31.3	9.0	15.5	16.6	3.1	0.0	0.0
	CCG	1.8	0.5	1.1	0.8	3.1	0.8	2.2
	CCU	10.8	7.9	13.2	11.0	24.2	28.4	13.9
	GCA	21.0	25.3	25.2	27.1	12.5	13.4	27.0
	GCC	32.6	21.6	25.8	23.9	0.8	2.4	1.5
	GCG	2.1	1.8	0.6	0.5	0.8	0.0	0.0
	GCU	11.3	12.4	13.7	13.7	44.4	33.9	11.7
	GGA	17.6	28.7	28.0	25.5	55.3	36.3	31.4
	GGC	23.1	10.3	18.3	16.3	0.8	0.0	0.0
	GGG	8.9	7.6	6.3	8.1	1.6	3.9	2.2
	GGU	6.3	9.2	5.2	7.6	11.7	15.0	29.2
	GUA	18.4	19.5	29.8	22.9	33.5	30.8	48.2
	GUC	12.9	8.7	10.9	12.6	0.8	0.8	0.0
	GUG	4.7	2.6	2.9	3.9	3.9	0.0	0.7
	GUU	7.9	13.2	5.7	10.5	20.3	25.2	15.3
	AAA	22.4	26.3	22.3	23.7	11.7	15.8	65.0
	AAG	2.6	0.5	0.6	2.9	0.8	1.6	0.7
	AAC	34.5	28.4	25.2	26.8	3.9	6.3	8.0
	AAU	8.7	15.8	13.7	15.8	46.0	51.3	63.5
	CAA	21.3	20.5	20.0	20.8	22.6	22.1	27.8
	CAG	2.4	0.8	2.3	2.1	0.0	0.0	0.0
	CAC	20.8	16.6	18.3	16.6	6.2	6.3	4.4
	CAU	4.7	9.0	13.2	7.9	30.4	26.0	13.1
	GAA	16.8	21.1	21.8	20.5	23.4	22.1	18.3
	GAG	6.3	2.9	1.1	4.5	0.0	0.0	5.1
	GAC	13.4	11.3	8.6	12.1	3.1	4.7	0.0
	GAU	3.9	8.2	7.4	5.8	21.0	18.1	22.6
	UAC	23.4	15.5	16.0	19.5	7.8	10.3	8.0
	UAU	12.1	17.1	14.3	16.8	31.2	30.8	59.2
	UGC	4.5	5.0	4.0	4.2	0.0	1.6	0.0
	UGU	1.3	2.6	2.3	1.6	4.7	6.3	2.9
	UUC	37.1	34.5	36.6	35.0	5.5	4.7	19.7
	UUU	20.5	28.7	28.6	28.4	73.3	75.7	50.4
	AUA	43.9	57.1	52.1	57.3	42.9	29.2	73.8
	AUC	51.6	36.9	41.2	42.1	7.0	5.5	8.0
	AUU	32.9	61.6	49.2	43.4	86.5	104.9	33.6
	AUG	10.5	7.9	9.2	11.6	3.1	7.1	19.0
	UGG	3.2	1.8	0.0	3.2	0.0	0.0	0.7
	UAA	1.1	2.1	2.3	2.4	2.3	3.9	5.8
	UAG	0.5	0.0	0.0	0.0	0.8	0.0	0.0
	UGA	24.5	25.5	29.8	24.2	32.7	33.9	10.2
TOATL		3802	3798	1747	3804	1283	1268	1369

Table 3. Abbreviated LOCUS names and genes. To shorten the space for explanations, the following abbreviations are used, if neccessary. Pro., protein; Pept., peptide; Sub., subunit; CP, chloroplast; MT, mitochondria. When an enough space is not available even using these abbreviations, the organism's name is omitted; since the first three letter of LOCUS of the GenBank is used for the organism's name, the name omitted can be unambiguously known by referring to the neighbouring LOCUS.

LOCUS	SPECIES & GENE
********** FOR TABLE 1 **********	
******* PRIMATE	
APEHBA1M	APE (CHIMPANZEE) ALPHA-1-GLOBIN
APEHBA2M	APE (CHIMPANZEE) ALPHA-2-GLOBIN
HUMA1ACM	HUMAN ALPHA-1-ANTICHYMOTRYPSIN
HUMA1ATH	HUMAN ALPHA-1-ANTITRYPSIN
HUMA1ATP	ALPHA-1-ANTITRYPSIN (S VARIANT)
HUMA2TP1	ALPHA-2-THIOL PROTEINASE INHIBITOR
HUMACTASK	ADULT SKELETAL MUSCLE ALPHA-ACTIN
HUMACTB	HUMAN BETA-ACTIN
HUMACTCA4*	HUMAN ALPHA-CARDIAC ACTIN
HUMADA	HUMAN ADENOSINE DEAMINASE
HUMADAM2	HUMAN ADENOSINE DEAMINASE
HUMAFH	HUMAN APOFERRITIN (H CHAIN)
HUMALB	HUMAN SERUM ALBUMIN
HUMALBA	HUMAN ALBUMIN
HUMALDB	HUMAN ALDOLASE B
HUMALDBX	HUMAN ALDOLASE B
HUMAMYAP	HUMAN PANCREATIC ALPHA-AMYLASE
HUMAMYAS	SALIVARY GLAND ALPHA-AMYLASE
HUMANF	HUMAN ATRIAL NATRIURETIC FACTOR
HUMANG	HUMAN ANGIOTENSINOGEN
HUMAPO2A	HUMAN APOLIPOPROTEIN A-II(APOA-II)
HUMAPOA1	HUMAN LIPOPROTEIN APOAI
HUMAPOA2	HUMAN APOLIPOPROTEIN APOAII
HUMAPOAI2	HUMAN APOLIPOPROTEIN C-III
HUMAPOAIA	LIVER APOLIPOPROTEIN A-I (APOA-I)
HUMAPOAII	HUMAN APOLIPOPROTEIN (APO AII)
HUMAPOC1	HUMAN APOLIPOPROTEIN APOC1
HUMAPOC2A	HUMAN APOLIPOPROTEIN CII
HUMAPOC3	HUMAN APOLIPOPROTEIN APOCIII
HUMAPOE	HUMAN APOLIPOPROTEIN E
HUMAS8*	HUMAN ARGININOSUCCINATE SYNTHETASE
HUMBLYM1	HUMAN BLYM-1 TRANSFORMING GENE
HUMCAL	HUMAN CALCITONIN
HUMCFOS	HUMAN CELLULAR ONCOGENE C-FOS
HUMCG5B	CHORIONIC GONADOTROPIN GENE 5,BETA
HUMCG6B	CHORIONIC GONADOTROPIN GENE 6,BETA
HUMCGB	CHORIONIC GONADOTROPIN(HCG)BETA
HUMCMOS	HUMAN MUMOS HOMOLOGOUS TO MMSV
HUMCRF	CORTICOTROPIN-RELEASING FACTOR(CRF)
HUMCS1	CHORIONIC SOMATOMAMMOTROPIN(HCS-1)
HUMEGFG	HUMAN EPIDERMAL GROWTH FACTOR(EGF)
HUMENK2*	HUMAN ENKEPHALIN
HUMENKB4*	HUMAN PREPROENKEPHALIN B
HUMFBRG	HUMAN FIBRINOGEN GAMMA CHAIN
HUMFIX	HUMAN FACTOR IX (CHRISTMAS FACTOR)
HUMFIXA	HUMAN FACTOR IX (CHRISTMAS FACTOR)
HUMFIXG	HUMAN FACTOR IX
HUMFOLMES	HUMAN DIHYDROFOLATE REDUCTASE
HUMFOL5*	DIHYDROFOLATE REDUCTASE GENE(DHFR)
HUMFVIII	HUMAN COAGULATION FACTOR VIII:C
HUMFVIIIB	HUMAN FACTOR VIII
HUMGAST	HUMAN GASTRIN GENE
HUMGFI2	PREPROINSULIN-LIKE GROWTH FACTOR 2
HUMGG	HUMAN PREPROGLUCAGON
HUMGH	GROWTH HORMONE(HGH;SOMATOTROPIN)
HUMGHV	GROWTH HORMONE VARIANT(HGH-V)
HUMGLYCA4*	HUMAN GLYCOPROTEIN, ALPHA-SUBUNIT
HUMGRP5E	HUMAN GASTRIN-RELEASING PEPTIDE
HUMHBA1	ALPHA GLOBIN GENE CLUSTER,ZETA
HUMHBA4#	ALPHA GLOBIN ; ALPHA-1#2,-2#1
HUMHBB2	HUMAN EPSILON GLOBIN
HUMHBB3#	HUMAN GAMMA GLOBIN; G#1, A#2
HUMHBB5#	DELTA#1, BETA#2 GLOBIN
HUMHPA1B	HUMAN HAPTOGLOBIN ALPHA(1S)-BETA
HUMHPA2B	HUMAN HAPTOGLOBIN ALPHA(2FS)-BETA
HUMHPRT	HUMAN HPRT
HUMIFNA20	LYMPHOCYTE PREINTERFERON ALPHA 201
HUMIFNAA	LEUKOCYTE INTERFERON(LEIF)ALPHA-A
HUMIFNAB	HUMAN IFN-ALPHA, ALPHA-B
HUMIFNAC	HUMAN IFN-ALPHA, ALPHA-C
HUMIFNAD	HUMAN IFN-ALPHA, ALPHA-D
HUMIFNAF	HUMAN IFN-ALPHA, ALPHA-F
HUMIFNAGS	HUMAN IFN-ALPHA, J
HUMIFNAH	HUMAN IFN-ALPHA, ALPHA-H
HUMIFNAH2	HUMAN IFN-ALPHA, ALPHA-H2
HUMIFNAI	HUMAN IFN-ALPHA, ALPHA-I
HUMIFNAWA	HUMAN INTERFERON-ALPHA-WA
HUMIFNB1F	FIBROBLAST INTERFERON(IFN-BETA-1)
HUMIFNG	IMMUNE INTERFERON (IFN-GAMMA)
HUMIGHAE2*	HUMAN IG EPSILON-1 H CHAIN
HUMIL2	HUMAN INTERLEUKIN 2 (IL-2)
HUMINS1	HUMAN INSULIN
HUMLACTAL	HUMAN PRE-ALPHA-LACTALBUMIN
HUMLDLR	LOW DENSITY LIPOPROTEIN RECEPTOR
HUMLHB	HUMAN LUTEINIZING HORMONE (LH),BETA
HUMMET2	METALLOTHIONEIN-II GENE (MT-II)
HUMMETIA	HUMAN METALLOTHIONEIN-I-A
HUMMG3*	HUMAN MYOGLOBIN GENE
HUMMH	CLASS I TRANSPLANTATION ANTIGEN(HLA)
HUMMHA3	HUMAN MHC CLASS I HLA-A3
HUMMHCW3	HUMAN MHC CLASS I HLA-CW3
HUMMHDC1A	MHC CLASS II HLA-DC1-ALPHA(DRW6,W6)
HUMMHDC3B	MHC CLASS II HLA-DC-3-BETA(DR3,3)
HUMMHDCAM	HUMAN MHC ANTIGEN DC-ALPHA
HUMMHDCB	MHC CLASS II HLA-DC-BETA (DW4/DR4)
HUMMHDRA	HUMAN HLA-DR ANTIGEN ALPHA-CHAIN
HUMMHDRAM	HUMAN HLA-DR ALPHA-CHAIN
HUMMHDRC	HUMAN HLA-DR ANTIGEN BETA-I
HUMMHDRHA	MHC CLASS II ANTIGEN,HLA-DR ALPHA HEAVY
HUMMHDRS2*	HUMAN HLA-DR ALPHA-CHAIN (CHAIN-P34)
HUMMHDSA	HUMAN HLA-DS ALPHA-CHAIN
HUMMHDXA4*	MHC CLASS II HLA-DX-ALPHA(DR4,W6)
HUMMHGM	MAJOR HISTOCOMPATIBILITY 2 ANTIGEN GAMMA
HUMMYCC	HUMAN (LAWN) C-MYC PROTO-ONCOGENE
HUMMYCM	HUMAN (K562) C-MYC PROTO-ONCOGENE
HUMMYCRT	HUMAN (RAJI) TRANSLOCATED T(8;14) C-MYC
HUMNPY	HUMAN NEUROPEPTIDE Y (NPY)
HUMOPS	HUMAN OPSIN GENE
HUMOTC	HUMAN ORNITHINE TRANSCARBAMYLASE (OTC)
HUMP33	HLA-DR ANTIGEN-ASSOCIATED INVARIANT(P33)
HUMPAT	TISSUE TYPE PLASMINOGEN ACTIVATOR(T-PA)
HUMPGK	HUMAN PHOSPHOGLYCERATE KINASE (PGK)
HUMPLA	PLACENTAL LACTOGEN HORMONE;HPL-3
HUMPLB	HUMAN PLACENTAL LACTOGEN HORMONE;HPL-4
HUMPNU	PURINE NUCLEOSIDE PHOSPHORYLASE(PNP)
HUMPOMC	HUMAN PROOPIOMELANOCORTIN (POMC)
HUMPPP	HUMAN PANCREATIC POLYPEPTIDE (PP)
HUMPRL	HUMAN PREPROLACTIN (PRL)
HUMPS2	HUMAN PS2 MRNA FROM BREAST CANCER CELL
HUMPTH2	HUMAN PARATHYROID (PTH)
HUMRASH	HUMAN C-HA-RAS1 PROTO-ONCOGENE
HUMRASK25*	HUMAN PROTO-ONCOGENE C-KI-RAS2
HUMRASN04*	HUMAN N-RAS PROTO-ONCOGENE
HUMRBP	HUMAN RETINOL BINDING PROTEIN (RBP)
HUMRELH2	HUMAN PREPRORELAXIN H2
HUMREN10*	HUMAN RENIN GENE
HUMRENX9*	HUMAN RENIN GENE
HUMSISA6*	HUMAN C-SIS PROTO-ONCOGENE
HUMSOMI	HUMAN SOMATOSTATIN I GENE
HUMTBB5	HUMAN BETA-TUBULIN GENE (5-BETA)
HUMTBBM40	HUMAN BETA-TUBULIN,CLONE M40
HUMTCBXA	T-CELL RECEPTOR ACTIVE BETA-CHAIN
HUMTK	HUMAN THYMIDINE KINASE
HUMTUBAK	ALPHA-TUBULIN,FROM KERATINOCYTE CELL
MNKINS	MONKEY(M.FASCICULARIS) PREPROINSULIN
MNKMETI	MONKEY METALLOTHIONEIN I (MTI)
MNKMETII	MONKEY METALLOTHIONEIN II (MTII)
******* RODENT	
GPICASA	GUINEA-PIG CASEIN A
GPIINS	GUINEA PIG PREPROINSULIN
GPILACTAL	GUINEA PIG PRE-ALPHA-LACTALBUMIN
HAMDHR35	CHINESE HAMSTER DIHYDROFOLATE REDUCTASE
HAMDHR97	CHINESE HAMSTER DIHYDROFOLATE REDUCTASE
HAMGG	SYRIAN HAMSTER PREPROGLUCAGON
HAMHMGCOA	3-HYDROXY-3-METHYL-GLUTARYL COENZYME A
HAMHPRT	CHINESE HAMSTER HPRT
HAMMETI	CHINESE HAMSTER METALLOTHIONEIN I
HAMMETII	CHINESE HAMSTER METALLOTHIONEIN II
HAMPRP	SYRIAN GOLD HAMSTER PRION PRP27-30
HAMVIM7*	HAMSTER VIMENTIN(INTERMEDIATE FILAMENT)
MUSACHRD	MOUSE ACETYLCHOLINE RECEPTOR DELTA SUB.

MUSAFP	MOUSE ALPHA-FETOPROTEIN (AFP)
MUSANY1M	MOUSE ALPHA-AMYLASE-1
MUSANY2M	MOUSE ALPHA-AMYLASE-2,PANCREATIC
MUSCAIIN	MOUSE CARBONIC ANHYDRASE ISOZYME II
MUSCMYC2*	MOUSE C-MYC GENE
MUSCRYB2*	MOUSE LENS BETA-CRYSTALLIN
MUSCRYG1	MOUSE GAMMA-CRYSTALLIN-1
MUSCRYG2	MOUSE GAMMA-CRYSTALLIN-2
MUSCRYG42*	MOUSE GAMMA-CRYSTALLIN-4 GENE
MUSCYP145	MOUSE CYTOCHROME P1-450
MUSCYP345	MOUSE CYTOCHROME P-3-450
MUSCYP34A	MOUSE CYTOCHROME P3-450
MUSEGF	MOUSE EPIDERMAL GROWTH FACTOR (EGF)
MUSEGFBPB	EPIDERMAL GROWTH FACTOR-BINDING PROT.B
MUSFOL6*	MOUSE DIHYDROFOLATE REDUCTASE GENE
MUSFOS	C-FOS GENE; PROTO-ONCOGENE
MUSHBA	MOUSE ALPHA-GLOBIN GENE WITH 2 IVS
MUSHBBHO	EARLY EMBRYONIC BETA-GLOBIN, BETA-HO
MUSHBBH1	EARLY EMBRYONIC BETA-GLOBIN,BETA-H1
MUSHBBMAJ	MOUSE BETA-GLOBIN MAJOR GENE
MUSHBBMIN	MOUSE BETA-GLOBIN MINOR GENE
MUSHBBY2E	MOUSE EMBRYONIC Y2 BETA-GLOBIN GENE
MUSHIST4	MOUSE H4 STRUCTURAL HISTONE GENE
MUSHPRT	MOUSE HPRT
MUSIFNA1M	INTERFERON-ALPHA,CLONE MUIFN-ALPHA-1
MUSIFNA2M	INTERFERON-ALPHA,CLONE MUIFN-ALPHA-2
MUSIFNB	MOUSE INTERFERON-BETA
MUSIFNG	IMMUNE INTERFERON (IFN-GAMMA)
MUSIGHAK3*	MOUSE IG ACTIVE H-CHAIN FROM MPC11
MUSIGKAE	IG KAPPA REARRANGED,MOPC173B V-J
MUSIGKAF3*	MOUSE IG KAPPA ACTIVE GENE;V-T1
MUSIGLAA2*	MOUSE IG LAMBDA1 ACTIVE GENE
MUSIGLAC2*	MOUSE IG LAMBDA2 ACTIVE GENE
MUSIL2T	MOUSE INTERLEUKIN-2
MUSIL3	MOUSE INTERLEUKIN-3 GENE
MUSINT1	MOUSE INT-1 MAMMARY PROTO-ONCOGENE
MUSKTEPI	KERATIN INTERMEDIATE FILAMENT SUB.1
MUSKTEPII	KERATIN INTERMEDIATE FILAMENT SUB.2
MUSLBP	MOUSE 3T3-L1 LIPID BINDING PROTEIN
MUSMCGF	MOUSE MAST CELL GROWTH FACTOR(MCGF)
MUSMET1	MOUSE METALLOTHIONEIN-I (MT-I)
MUSMETII	MOUSE METALLOTHIONEIN II (MT-II)
MUSMHABZ2*	MHC CLASS II H2-IA-BETA(HAPLOTYPED)
MUSMHAB3	MHC CLASS II H2-IA-BETA,HAPLOTYPE B
MUSMHC03*	MAJOR HISTOCOMPATIBILITY CLASS I Q10
MUSMHEA2*	MOUSE MHC CLASS II H2-IE-ALPHA
MUSMHEB4*	MHC CLASS II H2-IE-BETA(HAPLOTYPE D)
MUSMHIAAD	MHC CLASS II H2-IA-ALPHA,D HAPLOTYPE
MUSMHIAAK	MHC CLASS II H2-I-A-ALPHA,K HAPLOTYPE
MUSMHIEAD	MHC CLASS II H2-IE-ALPHA(HAPLOTYPE D)
MUSMHK82*	MHC CLASS I H2-K GENE (HAPLOTYPE B)
MUSMHKD	MOUSE MHC CLASS I H2-K (HAPLOTYPE D)
MUSMHKDN	MOUSE MHC CLASS I H2-K (HAPLOTYPE D)
MUSMHLDA3*	MHC CLASS I H2-L GENE (HAPLOTYPE D)
MUSNGF8	BETA-NERVE GROWTH FACTOR(BETA-NGF)
MUSNGFG	NERVE GROWTH FACTOR GAMMA SUBUNIT
MUSP53M	MOUSE P53 CELLULAR TUMOR ANTIGEN
MUSPLFM	MOUSE PROLIFERIN
MUSPOMC3*	MOUSE PROOPIOMELANOCORTIN (POMC)
MUSRENIN	MOUSE RENIN
MUSREN19*	MOUSE RENIN (REN 1)
MUSRPL3A	MOUSE RIBOSOMAL PROTEIN L32,GENE 3A
MUSTCAL	T-CELL RECEPTOR ALPHA-CHAIN-LIKE PROT.
MUSTSHA	THYROTROPIN ALPHA SUB.(TSH-ALPHA)
MUSVAP	MOUSE WHEY ACIDIC PROTEIN
RATACTSK	RAT SKELETAL MUSCLE ACTIN
RATAGPA1	RAT ALPHA1-ACID GLYCOPROTEIN(AGP)
RATALAC	RAT ALPHA-LACTALBUMIN
RATALBM	RAT SERUM ALBUMIN
RATANFA	RAT PREPRONATRIURETIC PEPTIDE
RATANFB	RAT ATRIAL NATRIURETIC FACTOR
RATANG5*	RAT ANGIOTENSINOGEN
RATAPOAI	RAT APOLIPOPROTEIN A-I (APOA-I)
RATAPOAIV	RAT APOLIPOPROTEIN A-IV
RATCASB	RAT BETA-CASEIN
RATCASK	RAT KAPPA-CASEIN
RATCBXPA	RAT CARBOXYPEPTIDASE-A
RATCCK	RAT PREPROCHOLECYSTOKININ
RATCMOS	RAT C-MOS ONCOGENE
RATCRYG	RAT LENS GAMMA-CRYSTALLIN
RATCTRPB	RAT CHYMOTRYPSIN B
RATCYC	RAT (SPRAGUE-DAWLEY) CYTOCHROME C
RATCYP45C	CYTOCHROME P450C(METHYLCHOLANTHRENE)
RATCYP45D	CYTOCHROME P450D(METHYLCHOLANTHRENE)
RATCYP45M	RAT CYTOCHROME P-450MC
RATCYP459*	RAT CYTOCHROME P-450(PHENOBARBITAL)
RATELAI6*	RAT ELASTASE I GENE
RATELAII7*	RAT ELASTASE II GENE
RATFABPI	INTESTINAL FATTY ACID BINDING PROTEIN
RATFABPL	LIVER FATTY ACID BINDING PROTEIN
RATFERL	RAT FERRITIN LIGHT CHAIN SUBUNIT
RATGH2	RAT PRESOMATOTROPIN (GROWTH HORMONE)
RATGST1YA	LIVER GLUTATHIONE S-TRANSFERASE YA SUB.
RATGST2YA	LIVER GLUTATHIONE S-TRANSFERASE YA SUB.
RATIFNA1	RAT INTERFERON-ALPHA 1 (IFN-ALPHA1)
RATIGEM	RAT IG EPSILON HEAVY CHAIN
RATINSI	RAT INSULIN-I (INS-1)
RATINSII	RAT INSULIN GENE-II(INS-2)
RATMETI	RAT METALLOTHIONEIN-I (MT-1)
RATMYL2G	MLC2 FOR MUSCLE MYOSIN LIGHT CHAIN 2
RATOXTNP	RAT OXYTOCIN-NEUROPHYSIN PRECURSOR
RATPGHA	PITUITARY GLYCOPROTEIN HORMONE A SUB.
RATPOMC3*	RAT PROOPIOMELANOCORTIN (POMC)
RATPRLHR5*	RAT (HOODED) PROLACTIN
RATPRLSDH	RAT (SPRAGUE-DAWLEY) PROLACTIN
RATPRLSD4*	RAT(SPRAGUE-DAWLEY) PROLACTIN
RATPRP33	PAROTID GLAND ACIDIC PROLINE-RICH PROT.
RATPSBC1	PROSTATIC BINDING PROTEIN POLYPEPT.C1
RATPSBC3P	PROSTATIC STEROID-BINDING PROTEIN,C3
RATPSBC12*	PROSTATIC STEROID-BINDING PROTEIN C1
RATPSBC22*	PROSTATIC STEROID-BINDING PROTEIN C2
RATPSBPA3*	PROSTATIC STEROID-BINDING PROT.C3(1)
RATPSBPB3*	PROSTATIC STEROID-BINDING PROT.C3(2)
RATPTH3	RAT PARATHYROID HORMONE
RATRELAX	RAT PRERORELAXIN
RATS100	RAT BRAIN S-100 PROTEIN BETA SUB.
RATSOM14M	RAT SOMATOSTATIN-14 GENE
RATSOMAT	PRESOMATOTROPIN,GROWTH HORMONE
RATSOMG	RAT PREPROSOMATOSTATIN
RATTHYB4	RAT SPLEEN THYMOSIN BETA-4
RATTSHB	RAT THYROTROPIN-BETA (TSH)
RATTUBAL2*	RAT ALPHA-TUBULIN GENE
RATVPNPA	RAT VASOPRESSIN-NEUROPHYSIN
RATWAP	RAT WHEY ACIDIC PROTEIN
RATWAP52	RAT WHEY PHOSPHOPROTEIN
******* OTHER MAMMALS	
BOVCHYMOA	BOVINE CHYMOSIN A (RENNIN)
BOVCHYMOB	BOVINE CHYMOSIN B (RENNIN)
BOVCRYG	BOVINE GAMMA-CRYSTALLIN
BOVCYPM	BOVINE CYTOCHROME P-450(SCC)
BOVENKEPH	BOVINE ADRENAL PREPROENKEPHALIN
BOVGG	BOVINE PANCREAS PREPROGLUCAGON
BOVGH	GROWTH HORMONE(PRESOMATOTROPIN)
BOVGLYA1	PITUITARY GLYCOPROTEIN HORMONE A-SUB.
BOVHBB	BOVINE ADULT BETA-GLOBIN
BOVHBG	BOVINE FETAL GAMMA GLOBIN
BOVKIN1HW	HIGH MOLECULAR WEIGHT(HMW)KININOGEN1
BOVKIN1LM	LOW MOLECULAR WEIGHT PREKININOGEN 1
BOVKIN2HW	HIGH MOLECULAR WEIGHT(HMW)KININOGEN2
BOVKIN2LM	LOW MOLECULAR WEIGHT PREKININOGEN 2
BOVOPS5*	BOVINE OPSIN GENE
BOVOT	BOVINE PREPRO-OXYTOCIN-NEUROPHYSIN I
BOVPOMC7*	BOVINE PROOPIOMELANOCORTIN (POMC)
BOVPRL	BOVINE PROLACTIN (PRL)
BOVPTH	BOVINE PREPROPARATHYROID HORMONE
BOVPTHG	BOVINE PARATHYROID HORMONE
BOVTCKMA	ALPHA-PREPROTACHYKININ SUBSTANCE P
BOVTCKMB	BETA-PREPROTACHYKININ SUBSTANCE P
BOVTHBNM	BOVINE PROTHROMBIN
BOVTRNG	BOVINE TRANSDUCIN GAMMA SUBUNIT
BOVTSHB	BOVINE THYROTROPIN-BETA (TSH-B)
BOVVP	ARGININE VASOPRESSIN-NEUROPHYSIN II
DOGCTRP	DOG (CANINE) CHYMOTRYPSIN
DOGINS	DOG INSULIN
GOTHBAI	GOAT ADULT ALPHA-1-GLOBIN

GOTHBAII	GOAT ADULT ALPHA-II-GLOBIN
GOTHBBEI	EMBRYONIC BETA-GLOBIN EPSILON-I
GOTHBBEII	EMBRYONIC BETA-GLOBIN EPSILON-II
HRSHBA1	HORSE ALPHA-1 GLOBIN,BII HAPLOTYPE
PIGCCK	PIG CHOLECYSTOKININ (CCK)
PIGENKB	PIG PREPROENKEPHALIN B
PIGGASTR	PIG GASTRIN
PIGPOMC	PIG PROOPIOMELANOCORTIN (POMC)
PIGRELX	PIG RELAXIN
RABALDA	RABBIT MUSCLE ALDOLASE A
RABHBA	RABBIT ALPHA-GLOBIN
RABHBB1A1	BETA1-GLOBIN,TYPE 1 ALLELE
RABHBB1A2	BETA1-GLOBIN,TYPE 2 ALLELE
RABIFRCP	RABBIT POLY-IG RECEPTOR
RABIGHAB	IG MU CHAIN SECRETED FORM,VHA2
RABMHI	RABBIT MHC CLASS I RLA (11/11)
RABMHI3	RABBIT MHC CLASS I RLA (11/11)
RABUGN	RABBIT UTEROGLOBIN
RABUG2*	RABBIT UTEROGLOBIN
SEAMG3*	SEAL MYOGLOBIN GENE
SHPCRF	SHEEP CORTICOTROPIN-RELEASING FACTOR
SHPMETI	SHEEP METALLOTHIONEIN-I GENE
******* OTHER VERTEBRATES	
CHKACB	CHICKEN CYTOPLASMIC BETA-ACTIN
CHKACTA	CHICKEN ALPHA-ACTIN
CHKAPOL2M	VERY LOW DENSITY LIPOPROTEIN II
CHKCKM	CHICKEN CREATINE KINASE-M (CK-M)
CHKCRYDM	CHICKEN DELTA-CRYSTALLIN
CHKCRYDR	CHICKEN DELTA-CRYSTALLIN
CHKCYC10	CHICKEN CYTOCHROME C, ALLELE CC10
CHKCYC9	CHICKEN CYTOCHROME C, ALLELE CC9
CHKGAPDHA	CHICKEN GAPDH
CHKH2BA	CHICKEN HISTONE H2B
CHKH5	CHICKEN HISTONE H5
CHKHBAA	CHICKEN HEMOGLOBIN ALPHA-A
CHKHBADA1	CHICKEN ALPHA-GLOBIN D GENE
CHKHBADA2	CHICKEN ALPHA-GLOBIN A GENE
CHKHBAM	CHICKEN ALPHA-GLOBIN
CHKHBBM	CHICKEN HEMOGLOBIN BETA CHAIN
CHKHBBR1	CHICKEN EMBRYONIC RHO GLOBIN
CHKHBBR2	CHICKEN EMBRYONIC EPSILON GLOBIN
CHKHBRHO2	CHICKEN EMBRYONIC RHO'-GLOBIN
CHKINS3*	CHICKEN PREPROINSULIN
CHKKERC	CHICKEN FEATHER KERATIN GENE C
CHKKERF	CHICKEN FEATHER KERATIN GENE B
CHKLSZ4*	CHICKEN EGG WHITE LYSOZYME
CHKMYA2SM	CHICKEN MYOSIN ALKALI L-CHAIN A2
CHKMYC	CHICKEN CELLULAR MYC PROTO-ONCOGENE
CHKOVAL	CHICKEN OVALBUMIN
CHKOVALN	CHICKEN OVALBUMIN
CHKPKM	CHICKEN MUSCLE PYRUVATE KINASE (PK)
CHKTK	CHICKEN CYTOPLASMIC THYMIDINE KINASE
CHKTRANS	ONCOGENE HOMOLOGOUS TO TRANSFERRIN
CHKTROA	SMOOTH-MUSCLE ALPHA-TROPOMYOSIN
CHKTUBB	CHICKEN BRAIN TUBULIN BETA
CHKY	CHICKEN Y GENE
DUKH5	DUCK (CAIRINA MOSCHATA) H5 HISTONE
DUKHBADA2	DUCK ALPHA-A-GLOBIN
DUKHBADWP	DUCK ALPHA II, MINOR GLOBIN
FSAINSHF	HAGFISH INSULIN
FSBAFGI	ANGLERFISH GLUCAGON I
FSBAFGII	ANGLERFISH GLUCAGON II
FSBAFPA2*	WINTER FLOUNDER ANTIFREEZE PROT.COMP.A
FSBAFZB	WINTER FLOUNDER ANTIFREEZE PROT.
FSBINSAF	ANGLERFISH INSULIN
FSBINSC	CARP INSULIN
FSBINSSAL	SALMON INSULIN
FSBSCPEEL	EEL SODIUM CHANNEL PROTEIN
FSBSOM14	CHANNEL CATFISH SOMATOSTATIN-14
FSBSOM22	CHANNEL CATFISH SOMATOSTATIN-22
FSBSOMI	ANGLERFISH PREPROSOMATOSTATIN-I
FSBSOMII	ANGLERFISH PREPROSOMATOSTATIN-II
FSCACHRA	RAY ACETYLCHOLINE RECEPTOR,ALPHA SUB.
FSCACHRGS	RAY ACETYLCHOLINE RECEPTOR,GAMMA SUB.
XENCAMA	X.LAEVIS CALMODULIN,CLONE 11G2
XENCAMB	X.LAEVIS CALMODULIN,CLONE 71
XENHBB	XENOPUS LAEVIS BETA-GLOBIN
XENHBBI	X.LAEVIS LARVAL BETA-1-GLOBIN
XENHIS4	X.LAEVIS HISTONE GENE H4
XENXEN	XENOPUS LAEVIS XENOPSIN
******* INVERTEBRATE	
ACAACTI	AMOEBA(A.CASTELLANII) ACTIN GENE-I
APLNP	APLYSIA NEUROPEPTIDE
APLNPL11	CALIFORNICA NEURON L11 NEUROPEPTIDE
APLNPR3	APLYSIA CALIFORNICA NEUROPEPTIDE
CELCOL1	C.ELEGANS(NEMATODE) COLLAGEN(COL-1)
CELCOL2	C.ELEGANS(NEMATODE) COLLAGEN(COL-2)
CELMSP10B	C.ELEGANS VAR.BRISTOL,MAJOR SPERM PROT.
CELMSP3L4	C.ELEGANS VAR.BRISTOL,MAJOR SPERM PROT.
CELMYUNC	MAJOR MYOSIN H CHAIN ISOZYME UNC-54 I
CHIHBIV	CHIRONOMUS THUMMI GLOBIN IV
DROACT79B	D.MELANOGASTER ACTIN GENE AT LOCUS 79B
DROACT88F	D.MELANOGASTER ACTIN GENE AT LOCUS 88F
DROADH	DROSOPHILA ALCOHOL DEHYDROGENASE
DROADHC	D.MELANOGASTER ADH-S
DROHSP671	D.MELANOGASTER LOCUS 67B:HSP22
DROHSP672	D.MELANOGASTER LOCUS 67B:HSP26
DROHSP673	D.MELANOGASTER LOCUS 67B:HSP23
DROHSP674	D.MELANOGASTER LOCUS 67B:HSP27
DROHSP7A2	D.MELANOGASTER HSPT 70,LOCUS 87A7
DROHSP7D1	D.MELANOGASTER LOCUS 87C1: HSP70
DROMET	D. MELANOGASTER METALLOTHIONEIN
DROMYL	D.MELANOGASTER MYOSIN LIGHT CHAIN
DROOPSA	D.MELANOGASTER OPSIN (MINAE)
DROOPSB5*	D.MELANOGASTER OPSIN GENE
DRORAS1	D.MELANOGASTER CHROMOSOME 3 DRAS1
DRORAS22*	D.MELANOGASTER LOCUS 64B DRAS2 GENE
DRORP49	DROSOPHILA RIBOSOMAL PROTEIN 49
OFAACTIN	OXYTRICHA FALLAX MACRONUCLEAR ACTIN
ONOC2A1Z	OXYTRICHA NOVA MACRONUCLEAR C2 GENE
ONOC2A3Z	OXYTRICHA NOVA MACRONUCLEAR C2 GENE
ONOC213Z	OXYTRICHA NOVA MICRONUCLEAR C2 GENE
PFACS	P.FALCIPARUM CIRCUMSPOROZOITE PROTEIN
PKNCS	P.KNOWLESI CIRCUMSPOROZOITE PROTEIN
SHREF1AB	BRINE SHRIMP EF-1-ALPHA
SURACTIN	SEA URCHIN(S.PURPURATUS) ACTIN GENE
SURHISE3	SEA URCHIN(L.PICTUS) EARLY HISTONE H3
SURHISES4	S.PURPURATUS EARLY HISTONE H2A
SURHISL34#	L.PICTUS LATE HISTONE H3#2,H4#1
SURHISL3A#	L.PICTUS LATE HISTONE H3#2,H4#1
SURHISP6	P.MILIARIS HISTONE H3
SURHISP7	P.MILIARIS HISTONE H2A
SURHISPA#	P.MILIARIS HISTONE H3#3,H2A#4
SURMETA	SEA URCHIN METALLOTHIONEIN
TRYVS17M	T.BRUCEI VARIANT SURFACE GLYCOPROT.117
TRYVSG13	T.BRUCEI VARIANT SURFACE GLYCOPROTEIN
TTHH41	T.THERMOPHILA HISTONE H4-I GENE
******* PLANT	
AAVGIGII#	A.AWAMORI GLUCOAMYLASE GENE;G1#1,G2#2
ANGGIGII#	A.NIGER GLUCOAMYLASE GENE;G1#1,G2#2
BLYAMYAA	BARLEY ALPHA-AMYLASE TYPE A ISOZYME
BLYAMYABD	BARLEY ALPHA-AMYLASE TYPE B ISOZYME
BNASSPB	BRASSICA NAPUS NAPIN,SEED STORAGE PROT.
FSOCUT	F.SOLANI PISI (FUNGUS) CUTINASE
MZEACT1G	MAIZE ACTIN 1 GENE (MAC1)
MZEZE19A	MAIZE 19 KD ZEIN PROTEIN
MZEZE22A	22KD (MW=26.53 KD) ZEIN PROTEIN 1
MZEZE22B	22 KD (MW=26.99 KD) ZEIN PROTEIN 3
MZEZEA20M	MAIZE ZEIN MRNA (CLONE A20)
MZEZEA30M	MAIZE ZEIN MRNA (CLONE A30)
MZEZEPCM1	MAIZE ZEIN HEAVY CHAIN,CLONE PCM1
MZEZEZ4G	MAIZE ZEIN GENE (CLONE Z4)
NEUAMG	NADP-SPECIFIC GLUTAMATE DEHYDROGENASE
NEUATPC	N.CRASSA MITOCHONDRIAL ADP/ATP CARRIER
NEUATPPRO	MITOCHONDRIAL ATP SYNTHASE PROTEOLIPID
PEACAB80	PEA GENE AB80 MAJOR LIGHT-HARVESTING
PEARUBPS	PEA RBCS
PHOCHL	PARSLEY(P.HORTENSE) CHALCONE SYNTHASE
POTPAT	POTATO PATATIN
SCO1G2	SCHIZOPHYLLUM COMMUNE 1G2 GENE
SLMDISIA	D.DISCOIDEUM DISCOIDIN-IA
SLMDISIC1	D.DISCOIDEUM DISCOIDIN-IC
SLMRAS	D.DISCOIDEUM RAS-HOMOLOGOUS GENE

SOYBBI	BOWMAN-BIRK PROTEASE INHIBITOR
SOYL8C2	SOYBEAN LEGHEMOGLOBIN C-2 GENE
SOYLBGI	SOYBEAN LEGHEMOGLOBIN GENE I(LBGI)
SOYLEA	SOYBEAN LECTIN (LE1)
TDATHAU2	T.DANIELLII PREPROTHAUMATIN-2
WHTGLIA	T.AESTIVUM ALPHA-TYPE GLIADIN
WHTH3	WHEAT (T.AESTIVUM) HISTONE H3
WHTH4	WHEAT HISTONE 4 (H4) GENE
YSCACT	YEAST (S.CEREVISIAE) ACTIN GENE
YSCADE4	YEAST (S.CEREVISIAE) ADE4
YSCADH1	S.CEREVISIAE ALCOHOL DEHYDROGENASE 1
YSCADR2	S.CEREVISIAE ALCOHOL DEHYDROGENASE 2
YSCARG4	YEAST (S.CEREVISIAE) ARG4
YSCCBP1	YEAST (S.CEREVISIAE) CBP1
YSCCDC28A	S.CEREVISIAE CDC28,ROTEIN KINASE
YSCCDC8	S.CEREVISIAE CDC8,DNA REPLICATION
YSCCPA1	YEAST (S. CEREVISIAE) CPA1 GENE
YSCCPA2	YEAST (S.CEREVISIAE) CPA2 GENE
YSCCS	S.CEREVISIAE CITRATE SYNTHASE GENE
YSCCUP1	S.CEREVISIAE CUP1,COPPER CHELATIN
YSCCYC	YEAST (S.CEREVISIAE) CYTOCHROME C1
YSCCYC1	S.CEREVISIAE ISO-1-CYTOCHROME C,CYC1
YSCCYC17	17-KD UBIQUINOL-CYTOCHROME C SUB.
YSCCYC7	S.CEREVISIAE ISO-2-CYTOCHROME C(CYC7)
YSCCYCR	UBIQUINOL-CYTOCHROME C REDUC.14 KD
YSCEF1A	S.CEREVISIAE TEF1 ,FACTOR EF-1 ALPHA
YSCEF1AA	S.CEREVISIAE ELONGATION FACTOR 1-ALPHA
YSCENOA	S.CEREVISIAE ENOLASE,CLONE PEN046
YSCENOB	S.CEREVISIAE ENOLASE,CLONE PEN08
YSCGAL4	YEAST (S.CEREVISIAE) GAL4 GENE
YSCGCN4	YEAST (S.CEREVISIAE) GCN4 GENE
YSCGCN4B	YEAST (S.CEREVISIAE) GCN4 GENE
YSCH2B1	YEAST (S.CEREVISIAE) HISTONE H2B-1
YSCH2B2	YEAST (S.CEREVISIAE) HISTONE H2B-2
YSCH34C1#	HISTONE COPY-I H3#1 AND H4#2 GENE
YSCH34C11#	HISTONE COPY-II H3#1 AND H4#2 GENE
YSCHIS4	YEAST (S.CEREVISIAE) HIS4 GENE
YSCHMLAL#	MATING-TYPE HML-ALPHA-2#1,-1#2
YSCHSP90	HSP90 (HEAT SHOCK-INDUCIBLE)
YSCLEU2	YEAST (S.CEREVISIAE) LEU2 GENE
YSCM1P1	S.CEREVISIAE M1 PLASMID-P1 PREPROTOXIN
YSCM1PPT	S.CEREVISIAE M1 PLASMID PREPROTOXIN
YSCMATA	YEAST(S.CEREVISIAE) MATING-TYPE MATA
YSCMATAL#	YEAST(S.CEREVISIAE) MAT-ALPHA-2#1,-1#2
YSCODCD	YEAST (S.CEREVISIAE +D4) URA3
YSCODCF	YEAST (S.CEREVISIAE F100) URA3
YSCPHO53#	YEAST (S.CEREVISIAE) PHO5#1,PHO3#2
YSCPPR2	YEAST (S.CEREVISIAE) PPR2 GENE
YSCRAD1	S.CEREVISIAE RAD1 GENE
YSCRAS1	S.CEREVISIAE RAS1 GENE
YSCRAS2	S.CEREVISIAE RAS2 GENE
YSCRASH1R	S.CEREVISIAE RAS-H RELATED C-RAS-SC-1
YSCRASH2R	S.CEREVISIAE RAS-H RELATED C-RAS-SC-2
YSCRP29	S.CEREVISIAE RIBOSOME PROTEIN 29
YSCRP51A	S.CEREVISIAE RIBOSOME PROTEIN 51A
YSCRP51B	S.CEREVISIAE RIBOSOME PROTEIN 51B
YSCRPL17A	S.CEREVISIAE RIBOSOME ROTEIN L17A
YSCRPL25	S.CEREVISIAE RIBOSOME PROTEIN L25
YSCRPL29	S.CEREVISIAE RIBOSOME PROTEIN L29
YSCRPS33	S.CEREVISIAE RIBOSOME PROTEIN S33
YSCSUC2	YEAST (S.CEREVISIAE) SUC2 GENE
YSCTKCDC8	YEAST CDC8.THYMIDYLATE KINASE
YSCTRP1	YEAST (S.CEREVISIAE) TRP1 GENE
YSCTRP2	YEAST (S.CEREVISIAE) TRP2 GENE
YSCTRP3	YEAST (S.CEREVISIAE) TRP3 GENE
YSCTUB8	YEAST (S.CEREVISIAE) BETA-TUBULIN
YSCYP2ONC	S.CEREVISIAE YP2 PROTO-ONCOGENE
YSGACT	YEAST (S.CARLSBERGENSIS) ACTIN GENE
YSGGAL52	YEAST (S.CARLBERGENSIS) GAL1 GENE
YSGRPL16	S.CARLSBERGENSIS RIBOSOMAL PROTEIN L16
YSPCYC	YEAST (S. POMBE) CYTOCHROME C

******* BACTERIA & PLASMID

ACYRUBPL	A.NIDULANS 6301 RUBP CARBOXYLASE L SUB.
ACYRUBPS	A.NIDULANS RUBP CARBOXYLASE OXYGENASES
ANAGLNA	ANABAENA GLNA, GLUTAMINE-SYNTHETASE
ANANIFH	ANABAENA 7120,NITROGENASE REDUCTASE
ANARUBP#	ANABAENA 7120;RBCL#1,RBCS#2 GENES
AQUCPCAB#	A.QUADRUPLICATUM C-PHYCOCYANIN A#2,B#1
AQUPCAB#	A.QUADRUPLICATUM PHYCOCYANIN A#2,B#1
BAMAPR	B.AMYLOLIQUIFACIENS ALKALINE PROTEASE
BAMNPR	B.AMYLOLIQUEFACIENS NEUTRAL PROTEASE
BAMSUB	B.AMYLOLIQUEFACIENS SUBTILISIN GENE
BLIPENP	B.LICHENIFORMIS PENP,BETA-LACTAMASE
BLISPOOH	B.LICHENIFORMIS SPOOH GENE
BMEC	B.MEGATERIUM PROTEIN C GENE
BNOPIL	BACTEROIDES NODOSIS PILIN GENE
BPUCAT86	B.PUNILUS CAT86
BSUNPRE	B.SUBTILIS NPRE,NEUTRAL PROTEASE
BSUSBTL	B.SUBTILIS SUBTILISIN GENE
BSUSPOOB	B.SUBTILIS,EARLY SPORULATION SPOOB
BSUSPOOB1	B.SUBTILIS W168 RIBOSOMAL L27
BSUSPOR	BACILLUS SUBTILIS 0.3 KB GENE
BSUTRPEDC#	B.SUBTILIS TRPE#1,TRPD#2 GENES
CLODF13#	PLASMID CLO DF13; GENES K#1, L#2
CLODF13B#	CLO DF13;CLOACIN#1,IMMUNITY#2,H PRO.#3
CLOLPARB	PLASMID CLO DF13, L GENE
COLACOLA	COLICIN A PLASMID, COLICIN A GENE
COLB2PIL	COLB2 PLASMID TRANSFER TRAA(PILIN)
COLE1CAI	PLASMID COLE1 CAI,IMMUNITY PROTEIN
COLE1COL1	PLASMID COLE1 COLICIN E1
COLE338P#	COLE3-CA38;IMME3#1,IMME8#2,LYSIS#3
COLIBCOLI	PLASMID COLIB COLICIN IB GENE
EAEOMPA	ENTEROBACTER AEROGENES OMPA
EAMLPP	ERWINIA AMYLOVORA LIPOPROTEIN GENE
ECOACE#	E.COLI ACEE#2,ACEF#3,LPD#4,GENE A#1
ECOALKA	ALKA,3-METHYLADENINE DNA GLYCOSYLASE
ECOAMPCFR#	FRDA#1,FRDB#2,G15#3,G13#4 AND AMPC#5
ECOARACB	E.COLI ARAC
ECOARACK	E.COLI ARAC,ACTIVATOR AND REPRESSOR
ECOARGFC	ARGF,ORNITHINE CARBAMOYLTRANSFERASE
ECOARGI	ARGI,ORNITHINE TRANSCARBAMOYLASE
ECOAROA	E.COLI AROA
ECOAROF	E.COLI AROF,DAHP SYNTHASE(TYR)
ECOAROG	E.COLI AROG,DAHP SYNTHETASE(PHE)
ECOASD	ASD,ASPARTIC SEMIALDEHYDE DEHYDROGEN
ECOCARAB#	E.COLI CARA#1 AND CARB#2
ECOCHEY	E.COLI CHEY
ECOCRP	E.COLI CRP,CYCLIC AMP RECEPTOR PROTEIN
ECOCYA	E.COLI ADENYLATE CYCLASE OPERON,CYA
ECODAM	E.COLI DAM,DNA ADENINE METHYLASE
ECODEOC	E.COLI DEO,DEOXYRIBOALDOLASE
ECODNAAOP#	DNAA OPERON(DNAA#2,DNAN#3),RPMH(L34)#1
ECODNAB	E.COLI DNAB
ECODNAK	E.COLI DNAK,HEAT SHOCK 70 PROTEIN
ECOENVZ	E.COLI OMPB OPERON,ENVZ
ECOFIMA	E.COLI FIMA,TYPE 1 FIMBRIAL SUBUNIT
ECOFNR	FNR,REGULATE FUNARATE-NITRATE REDUCTION
ECOFOL	E.COLI DIHYDROFOLATE REDUCTASE
ECOFTSQA#	E.COLI FTSQ#1 AND FTSA#2
ECOFUMA	E.COLI FUMA,FUMARASE
ECOGALLYS#	E.COLI GALR#1, LYSA#2 & LYSR#3
ECOGDHA	NADP-SPECIFIC GLUTAMATE DEHYDROGENASE
ECOGLGC	E.COLI GLGC,ADP-GLUCOSE SYNTHETASE
ECOGLNS	E.COLI GLNS,GLUTAMINYL-TRNA SYNTHETASE
ECOGLTA#	GLTA#1,SDHC#2D#3A#4B#5,SUCA#6B#7
ECOGLYA	GLYA,SERINE HYDROXYMETHYLTRANSFERASE
ECOGLYS	GLYS,GLYCYL-TRNA SYNTHETASE BETA
ECOGND	GND, 6-PHOSPHOGLUCONATE DEHYDROGENASE
ECOGPTA	PHOSPHORIBOSYL TRANSFERASE (GPT)
ECOGSHII	E.COLI GLUTATHIONE SYNTHETASE,GSH-II
ECOH1SOP	E.COLI HISTIDINE OPERON LEADER PEPTIDE
ECOHSDSB	STRAIN B HSDS,ECOB SPECIFICITY SUBUNIT
ECOHSDSD	STRAIN D HSDS,ECOD SPECIFICITY SUBUNIT
ECOHSDSK	STRAIN K12 HSDS,ECOK SPECIFICITY SUBUNIT
ECOHTPR	E.COLI HTPR,HEAT SHOCK REGULATORY GENE
ECOHTPRR	E.COLI HTPR,HEAT SHOCK REGULATORY GENE
ECOILVBPR	E.COLI ILV OPERON LEADER PEPTIDE
ECOILVGE#	E.COLI ILVGEDA OPERON,ILVL#1,ILVG#2
ECOK88A	E.COLI ADHESION ANTIGEN SUBUNIT K88AB
ECOK88AB	E.COLI GENE A OF K88AB OPERON
ECOKDPABC#	E.COLI KDPA#1,-B#2,-C#3 (KDP-ATPASE)
ECOLAC#	E.COLI LACI#1,LACZ#2,LACY#3
ECOLEP	E.COLI LEP, LEADER PEPTIDASE
ECOLEUA	E.COLI LEU OPERON, LEADER PEPTIDE
ECOLEXA	LEXA,SOS FUNCTION REGULATORY PROTEIN

ECOLPP	E.COLI LPP,OUTER MEMBRANE LIPOPROTEIN
ECOLSP	LSP,PROLIPOPROTEIN SIGNAL PEPTIDASE
ECOLSPA	LSPA,LIPOPROTEIN SIGNAL PEPTIDASE
ECOMALB#	E.COLI MALE#1,-K#2, LAMB#3, MOLA#4
ECOMALF	E.COLI MALF
ECOMELB	E.COLI MELB,MELIBIOSE CARRIER
ECOMETGA	E.COLI METG,METHIONYL-TRNA SYNTHETASE
ECOMETK	METK,S-ADENOSYLMETHIONINE SYNTHETASE
ECOMETL	E.COLI METL
ECOMETLB1	METB,CYSTATHIONE GAMMA-SYNTHETASE
ECOMOTAB#	E.COLI MOTA#1, MOTB#2
ECOMTLA	E.COLI MTLA,MANNITOL-SPECIFIC ENZYME 2
ECONDH	E.COLI NDH,NADH DEHYDROGENASE
ECONRDA#	E.COLI NRDA#1, NRDB#2
ECONUSA#	NUSA#2, 15 KD PROT.#1, IF2-A#3,-B#4
ECOOMPA#	E.COLI SULA#1, OMPA#2
ECOOMPB	E.COLI OMPB OPERON,OMPR
ECOOMPC	OMPC,MAJOR OUTER MEMBRANE PROTEIN
ECOOMPF	OMPF,MAJOR OUTER MEMBRANE PROTEIN
ECOORIASN#	E.COLI 16K#1,17K#2 PROT. & ASNA#3
ECOPABA	E.COLI PABA,P-AMINOBENZOATE SYNTHETASE
ECOPABB	E.COLI PABB,P-AMINOBENZOATE SYNTHETASE
ECOPAPA	E.COLI PAPA, PAP PILI SUBUNIT
ECOPBPB	PBPB(FTSI),PENICILLIN-BINDING PROTEIN
ECOPFKBK	E.COLI PFKB,PHOSPHOFRUCTOKINASE-2
ECOPHEA	E.COLI PHE OPERON LEADER PEPTIDE
ECOPHOE	E.COLI PHOE,OUTER MEMBRANE PORE
ECOPHOS	E.COLI PHOS,PHOSPHATE BINDING PROTEIN
ECOPHRORF	PHR,DEOXYRIBOPYRIMIDINE PHOTOLYASE
ECOPIN	E.COLI PIN , DNA-INVERTASE
ECOPLSB#	E.COLI DGK#1, PLSB#2
ECOPOLA	E.COLI POLA, DNA POLYMERASE I
ECOPROBA#	E.COLI PROB#1, PROA#2
ECOPROC	PROC,PYRROLINE CARBOXYLATE REDUCTASE
ECOPURF	PURF,AMIDOPHOSPHORIBOSYLTRANSFERASE
ECOPYRBI	E.COLI PYRB
ECOPYRBIA#	E.COLI PYRB#1, PYRI#2
ECOQRNH#	E.COLI DNAQ(MUTD)#1, RNH#2
ECORBSP	E.COLI RBSP,D-RIBOSE-BINDING PROTEIN
ECORECA	E.COLI RECA
ECORECFA	E.COLI RECF
ECORHO#	E.COLI RHO#2, LEADER PEPTIDE#1
ECORNH	E.COLI RNH,RIBONUCLEASE H
ECORPLRPO#	RPLK#1,RPLA#2,RPLJ#3,RPLL#4,RPOB#5C#6
ECORPMBG#	E.COLI RPMB#1,RPMG#2(RIBOSOME L28,L33)
ECORPOA#	E.COLI RPOA#1,RPLQ(RIBOSOME L17)#2
ECORPSA	E.COLI RSPA, RIBOSOMAL PROTEIN S1
ECORPSBTS#	E.COLI RPSB#1 AND TSF#2
ECORPSJ	E.COLI RPSJ,RIBOSOMAL PROTEINS S10
ECORPSO	E.COLI RPSO,RIBOSOMAL PROTEIN S15
ECORPSOX	E.COLI RPSO,RIBOSOMAL PROTEIN S15
ECORPSRPO#	E.COLI RPSU#1, DNAG#2, RPOD#3
ECORPST	E.COLI RPST, RIBOSOMAL PROTEIN S20
ECOSSB	E.COLI SSB,SS DNA-BINDING PROTEIN
ECOSTR1	E.COLI RPSL, RIBOSOMAL PROTEIN S12
ECOSTR3	E.COLI TUFA, ELONGATION FACTOR TU
ECOTARTAP#	E.COLI TAR#1,TAP#2(SENSORY TRANSDUCER)
ECOTGS	E.COLI 23.6KD PROTEIN GENE
ECOTGTUFB	E.COLI TUFB, ELONGATION FACTOR TU
ECOTHRAB#	E.COLI THRA#2,THRB#3,LEADER PEPTIDE#1
ECOTHRINF#	E.COLI THRS#1, INFC(1F3)#2
ECOTHYA	E.COLI THYA,THYMIDYLATE SYNTHASE
ECOTNAA	E.COLI TNAA, TRYPTOPHANASE
ECOTOLC	E.COLI TOLC, OUTER MEMBRANE PROTEIN
ECOTONB	E.COLI TONB, MEMBRANE PROTEIN
ECOTOXA	TOXA,HEAT-LABILE ENTEROTOXIN SUBUNIT A
ECOTRG	E.COLI TRG, TRG CHEMOTAXIS PROTEIN
ECOTRP#	TRPE#2,D#3,C#4,B#5,A#6,LEADER#1
ECOTRPR	E.COLI TRPR,TRP OPERON REPRESSOR
ECOTRPS	TRYPTOPHANYL-TRNA SYNTHETASE
ECOTSR	E.COLI TSR,METHYL-ACCEPTING CHEMOTAXIS I
ECOTYRS	E.COLI TYRS,TYROSYL-TRNA SYNTHETASE
ECOUNC#	E.COLI ATP OPERON 1,2,3,4,5,6,7,8,9
ECOUNCA#	ATP-SYNTHASE GAMMA#1,BETA#2,EPSILON#3
ECOUNCE	E.COLI UNCE, F-1-F-O-ATPASE C-SUBUNIT
ECOUNCIM	E.COLI UNCI
ECOUVRDA	E.COLI UVRD, DNA HELICASE II
ECOXYLA	E.COLI XYLA, XYLOSE ISOMERASE
ECOXYLD	E.COLI DXI, D-XYLOSE ISOMERASE
FDIPSBA	F.DIPLOSIPHON,PHOTOSYSTEM II B PROTEIN
FPLORINC	F PLASMID REPLICATION ORIGIN,29K PROTEIN
FPLTRAM#	F PLASMID TRAM#1,J#2,Y#3,A#4,L#5,E#6
HHABO	HALOBACTERIUM HALOBIUM OPSIN (BO)
HHABO5F	HALOBACTERIUM HALOBIUM BRP
IS1ECLACI#	INSERTION ELEMENT IS1;INSA#1,INSB#2
IS1ISOSD#	ISO-IS1(NUXI),S.DYSENTERIAE;INSA#1,B#2
IS1SD#	IS1,FROM S.DYSENTERIAE;INSA#1,INSB#2
IS5LAM#	IS5,LAMBDA KH100;LARGE#1 & SMALL#2 GENES
KAETRPA	KLEBSIELLA AEROGENES TRPA GENE
KPNHISG	K.PNEUMONIAE HIS CONTROL LEADER PEPTIDE
KPNNIFHD	K.PNEUMONIAE NIFH
MMORLPP	M.MORGANII PROLIPOPROTEIN
MXAS#	MYXOCOCCUS XANTHUS,PROTEIN S,#1,#2
NGOPIL1	N.GONORRHEAE MS11,PILUS GENE (PILE1)
PAEETA	P.AERUGINOSA EXOTOXIN A (ETA)
PAM77MLSR	PLASMID PAM77 MLS RESIST.ADENINEMETHYLASE
PC194CAT	PLASMID PC194 (S.AUREUS) CAT
PE194#	PE194;ADENINE METHYLASE#1,LEADER#2
PJH1APH	PJH1 AMINOGLYCOSIDE PHOSPHOTRANSFERASE3
PJR225HPH	PLASMID PJR225 HPH
PLBECORV#	PLB ECORV;ENDONUCLEASE#1,METHYLASE#2
POAD2RSA	POAD2,FLAVOBACTERIUM SP. K172 NYLB
POAD2RSB	POAD2,FLAVOBACTERIUM SP. K172 NYLB'
PR113ECOR#	R113;ECORI ENDONUCLEASE#1,METHYLASE#2
PSC101RIP	PSC101 REPLICATION INITIATION PROTEIN
PSCREP101	PLASMID PSC101,REP101 GENE
PSN2	PLASMID PSN2,20KD PROTEIN GENE
PSTIRM#	P.STUARTII;PSTI RESTRICT#2, MODIFY#1
PT181	PLASMID PT181, REPC PROTEIN
PTB913K	PTB913 FROM THERMOPHILIC BACILLUS,KAN
PUB110K	PUB110 FROM S. AUREUS,KAN GENE
R388DHFR	PLASMID R388,DIHYDROFOLATE REDUCTASE
R67DHFR	R67 TYPE II DIHYDROFOLATE-REDUCTASE
RA1TET	RA1 TETRACYCLINE RESISTANCE REPRESSOR
RCALHII#	R.CAPSULATA LHII A#2,B#1
RCARC1	R.CAPSULATA PHOTOSYNTHETIC GENE H SUB.
RCARC2#	LH I B870-B#1,-A#2 & L#3,M#4 SUB.
RJANIFDKO	R.JAPONICUM NIFD,DINITROGENASE A
RJANIFH	RHIZOBIUM JAPONICUM NIFH,NITROGENASE FE
RK2KORA	PLASMID RK2 KORA GENE
RK2TRFA#	RK2;TRFA(P285#3,P382#2) & P116#1
RLEFIXZ	R.LEGUMINOSARUM FIXZ,NITROGEN FIXATION
RLEGNOD#	R.LEGUMINOSARUM NODULATION,NODA#1,NODB#2
RP1TET#	RP1 TETRACYCLINE RESIST.;TETR#1,TETA#2
RPANIFH	PARASPONIA RHIZOBIUM NITROGENASE (NIFH)
RRURUBPL	RHODOSPIRILLUM RUBRUM RUBP CARBOXYLASE
RSPRCM	R.SPHAEROIDES REACTION CENTER M SUBUNIT
RTSREPA	PLASMID RTS1 (COMPLETE MINI), REPA
SAUSPA	S.AUREUS SPA GENE,PROTEIN A
SDYOMPA	S.DYSENTERIAE OMPA,OUTER MEMBRANE PROT.
SMARCLPP1	S.MARCESCENS OUTER MEMBRANE LIPOPROTEIN
SMATRPG	S. MARCESCENS TRP OPERON,TRPG
SPLENDH	STREPTOMYCES PLICATUS, ENDO H
STYARALC	S.TYPHIMURIUM L-ARABINOSE OPERON,ARAC
STYDADB	S.TYPHIMURIUM DADB, ALANINE RACEMASE
STYFLGH2C	S.TYPHIMURIUM FLAGELLIN CONTROL (HIN)
STYHISOP	S.TYPHIMURIUM HIS OPERON LEADER PEPT.
STYHISTO#	ARGT#1, HISJ#2,-Q#3,-H#4,-P#5
STYTRPBA#	S.TYPHIMURIUM TRPB#1,TRPA#2
THRLEUB	T.THERMOPHILUS LEUB
TN10TETA	TN10 TETRACYCLINE RESISTANCE TETA
TN10TETR	TRANSPOSON TN10 TETR, REPRESSOR
TN1681ST1	TRANSPOSON TN1681 HEAT-STABLE TOXIN
TN21TNPR	TRANSPOSON TN21 TNPR GENE
TN3#	TN3;TNPA#1,TNPR#2,BLA#3
TN501#	TN501 MERCURY RESISTANCE;MERR#1,T#2,C#3
TN501MERA	TN501 MERA, MERCURIC REDUCTASE
TN501TNPR	TRANSPOSON TN501 TNPR GENE
TN7FOL	TN7 TYPE-1 DIHYDROFOLATE REDUCTASE
TN9CAT	TN9 CHLORAMPHENICOL ACETYL TRANSFERASE
TNCAN204	TNCAN204 CHLORAMPHENICOL TRANSACETYLASE
TOLMPC	TOL PLASMID XYLE, METAPYROCATECHASE
VCHCTX#	VIBRIO CHOLERA;TOXIN A#1, B#2
VCHTOX#	VIBRIO CHOLERAE;TOXIN,TOXA#1,TOXB#2

******* VIRUS	
ACMNPVP	AUTOGRAPHA CALIFORNICA MNPV POLYHEDRIN
AD12L#	ADENO12;E1AM2#1,M1#2,B19K#3,54K#4,IX#5
AD3BHEX	BOVINE ADENOVIRUS TYPE 3 HEXON
AEVERBBH	AEV-H, V-ERB-B ONCOGENE
AIDHTLV3A#	AIDS,PROVIRAL;GAG#1,ENV#2
AIDHTLV3B	AIDS, ENV
AIDHTLV3C	AIDS, GAG
ALMCG1Z	ALFALFA MOSAIC VIRUS(425)125.7KD PROTIN
ALMCG2Z	ALFALFA MOSAIC VIRUS(425)89.7KD PROTEIN
ALMCG3Z#	ALFALFA MOSAIC V(425)COAT#2,32.4K#1PROT.
ALMVRNA3A#	ALFALFA MOSAIC V(S);P3#1,P4#2 PROTEINS
ALMVRNA4	ALFALFA MOSAIC VIRUS, COAT PROTEIN
AMLVPRO	ABELSON MURINE LEUKEMIA V,P120-GAG-ABL
AMVPRO3EN	AVIAN MYELOBLASTOSIS V TRANSFOR. GENE
ASVSRCC	AVIAN SARCOMA VIRUS SRC GENE
ASVY73	AVIAN SARCOMA VIRUS Y73;P90 GAG-YES
BBV1G#	BLACK BEETLE VIRUS,PROT. A#1,B1#2,B2#3
BBV2G	BLACK BEETLE VIRUS(BBV),COAT PRECURSOR
BKVST	HUMAN BK VIRUS SMALL T ANTIGEN GENE
BLV#	BOVINE LEUKEMIA VIRUS;PR45-GAG#1,ENV#2
BLVENV	BOVINE LEUKEMIA VIRUS, ENV
BTVL3	BLUETONGUE VIRUS L3 GENE, P3 PROTEIN
CCMVRNA3	COWPEA CHLOROTIC MOTTLE VIRUS, COAT
CMVRNA3#	CUCUMBER MOSAIC VIRUS(Q),3A#1,COAT#2
CPMCGB	COWPEA MOSAIC VIRUS(B RNA),POLYPROTEIN
CPMCGM	COWPEA MOSAIC V (M RNA),105K POLYPROTEIN
CYVIE1	HUMAN CYTOMEGALOVIRUS MAJOR IE GENE
EMCPP	ENCEPHALOMYOCARDITIS VIRUS RNA POLYPROT.
FBJMUSV	FBJ MURINE OSTEOSARCOMA V,P55(V-FOS)
FBRMUSV	FBR MURINE OSTEOSARCOMA V,GAG-FOS-P75
FELVENVB	GARDNER-ARNSTEIN FELV SUBTYPE B, ENV
FELVGAENV	FELINE LEUKEMIA VIRUS(FELV-B-GA),ENV
FELVGP#	FELINE LEUKEMIA V, GAG-GPR80#1,-PR65#2
FESVFGR	GR-FESV, P70 GAG-FGR
FESVGAONC	FESV(GARDNER-ARNSTEIN),GAG POLYPROTEIN
FESVSMONC	FESV (MCDONOUGH), P160GAG-FMS
FESVVFGR	GR-FESV, P70-GAG-FGR POLYPROTEIN
FLA268HA	INFLUENZA A/AICHI/2/68, HEMAGGLUTININ
FLAL677NS#	INFLUENZA A/ALASKA/6/77, NS1,NS2
FLBK179M#	INFLUENZA A/BANGKOK/1/79, M1,M2
FLBK179NA	INFLUENZA A/BANGKOK/1/79, NEURAMINIDASE
FLBO80HA	INFLUENZA B/OREGON/5/80, HEMAGGLUTININ
FLBS279NP	INFLUENZA B/SINGA./222/79,NUCLEOPROTEIN
FLCCL78HA	INFLUENZA C/CALIFORNIA/78,HEMAGGLUTININ
FLDO76NS#	INFLUENZA A/DUCK/ALBERTA/60/76;NS1,NS2
FLDU63HA	A/DUCK/UKRAINE/1/63,HEMAGGLUTININ
FLF47NS#	INFLUENZA A/FORT MONMOUTH/1/47;NS1,NS2
FLFP34HA	A/FPV/ROSTOCK/34,HEMAGGLUTININ
FLFP34NS#	INFLUENZA A/FPV/ROSTOCK/34;NS1,NS2
FLFW15ONS#	INFLUENZA A/FORT WARREN/1/50;NS1,NS2
FLJ357HA	INFLUENZA A/JAPAN/305/57,HEMAGGLUTININ
FLM171HA	INFLUENZA A/MEMPHIS/1/71,HEMAGGLUTININ
FLN1176HA	A/SWINE/NEW JERSEY/11/76),HEMAGGLUTININ
FLNT68HA	INFLUENZA A/NT/60/68/29C,HEMAGGLUTININ
FLNT68NA	INFLUENZA A/NT/60/68,NEURAMINIDASE
FLNT68NP	INFLUENZA A/NT/60/68,NUCLEOPROTEIN
FLNT68P1	INFLUENZA A/NT/60/68,POLYMERASE 1
FLNT68P2	INFLUENZA A/NT/60/68,POLYMERASE 2
FLNT68P3	INFLUENZA A/NT/60/68,POLYMERASE 3
FLPU73NA	A/PARROT/ULSTER/73,NEURAMINIDASE
FLR1557NA	INFLUENZA A/R1/5-/57,NEURAMINIDASE
FLTO367NA	INFLUENZA A/TOKYO/3/67,NEURAMINIDASE
FLU9077NC	INFLUENZA A/USSR/90/77,NEURAMINIDASE
FLU9077NS#	INFLUENZA A/USSR/90/77,NS1,NS2
FLUD72M#	INFLUENZA A/UDORN/72;MATRIX1,2
FLUD72NA	INFLUENZA A/UDORN/72,NEURAMINIDASE
FLUD72NS#	INFLUENZA A/UDORN/72; NS1,NS2
FLVI75HA	A/VICTORIA/3/75,HEMAGGLUTININ
FLVI75NA	INFLUENZA A/VICTORIA/3/75,NEURAMINIDASE
FLWS33HA	INFLUENZA A/WSN/33,HEMAGGLUTININ
FLWS33NA	INFLUENZA A/WSN/33,NEURAMINIDASE
FLWS33P1	INFLUENZA A/WSN/33,POLYMERASE 1
FLWS33P3	INFLUENZA A/WSN/33,POLYMERASE 3
FMCFXENV	FRIEND MINK CELL FOCUS-INDUCING V,ENV
FMDVRNA#	FOOT & MOUTH DISEASE V;POLYPROTEIN 1,2
FSV	FUJINAMI SARCOMA VIRUS,P130 POLYPROTEIN
H1	PARVOVIRUS H-1, NON-CAPSID PROTEIN
HBVSAG	HEPATITIS B VIRUS SURFACE ANTIGEN
HMSVP21#	HARVEY MUSV;V-HAS P30#1;P21#2
HMSVP21A	HARVEY MURINE SARCOMA VIRUS,H-RAS
HRSVMPG	HUMAN RESPIRATORY SYNCYTIAL V,MATRIX
HRSVNC	HUM.RESPIRATORY SYNCYTIAL V,NUCLEOCAPSID
HRSVP	HUM.RESPIRATORY SYNCYTIAL V,PHOSPHOPROT.
HRV	HUMAN RHINOVIRUS 14, POLYPROTEIN
HSV2GD	HERPES SIMPLEX V-2,GLYCOPROTEIN D
HSV2GDB	HERPES SIMPLEX V-2,GLYCOPROTEIN D
HSV2GF	HSV2 (STRAIN G),GLYCOPROTEIN F
HSV2P38K	HERPES SIMPLEX VIRUS 2, 38 KD PROTEIN
HSV2TK	HERPES SIMPLEX V-2,THYMIDINE KINASE
HSVMRT2	HERPES SIMPLEX V-2,TRANSFORMING MRT-2
HTLV1PROP#	HTLV I, GAG#1,POL#2,ENV#3
HTLV2ENV	HTLV II, ENV
HVMTK	MARMOSET HERPESVIRUS,THYMIDINE KINASE
KMSVP21	KIRSTEN MURINE SARCOMA VIRUS P21 V-KIS
LACVNCNP#	LA CROSSE VIRUS;NUCLEOCAPSID#1,NS#2
LACVSRNA#	LA CROSSE VIRUS S RNA, N#1,NS-S#2
MC29	AVIAN MYELOCYTOMATOSIS VIRUS MC29; P96
MCFENVA	MINK CELL FOCUS-FORMING VIRUS, ENV
MCFENVPRM	MOLONEY MINK CELL FOCUS-FORMING V,ENV
MHVA59E1N#	MHV-A59, E1#1 AND N#2 PROTEIN
MHVJHM7M	MOUSE HEPATITIS VIRUS(JHM),NUCLEOCAPSID
MMSVMOSM1	MOLONEY MURINE SARCOMA VIRUS, MOS-M1
MMSVPRO	MOLONEY MURINE SARCOMA VIRUS,V-MOS
MMTVENV	MOUSE MAMMARY TUMOR VIRUS,ENV
MMTVENVGR	MOUSE MAMMARY TUMOR V,PROVIRAL ENV
MPSVMOS	MYELOPROLIFERATIVE SARCOMA V, V-MOS
MPVTK	MONKEYPOX VIRUS, THYMIDINE KINASE
MSV	MAIZE STREAK VIRUS, COAT PROTEIN
MULVENVXA	MURINE LEUKEMIA VIRUS NZB-9-1, ENV
PICVSRNA	PICHINDE ARENAVIRUS S RNA, GPC#1,N#2
PICVSRNAB	P.ARENAVIRUS S RNA, N PROTEIN
POLIO1	POLIOVIRUS TYPE 1(MAHONEY), POLYPROTEIN
POLIO3L12	POLIOVIRUS-3 LEON 12A-1-B,POLYPROTEIN
POLIO3L37	POLIOVIRUS P3/LEON/37 (3),POLYPROTEIN
PTPSRNA#	PUNTA TORO PHLEBOVIRUS S RNA;N#1,NS#2
RABERAGP	RABIES VIRUS(ERA), GLYCOPROTEIN
RASVRAS	RAT SARCOMA VIRUS, V-RAS ONCOGENE P29
REOVS3S4	REOVIRUS 3, MAJOR SURFACE PROTEIN SIGMA
RSVSRCWT	ROUS SARCOMA VIRUS (B77), 7KD PROTEIN
RVAPOLENV	RETICULOENDOTHELIOSIS VIRUS(A),ENV
RVTREL	RETICULOENDOTHELIOSIS VIRUS(T),V-REL
SA11G10	SIMIAN 11 ROTAVIRUS GENE 10, NCVP5
SA11G6	SIMIAN 11 ROTAVIRUS SEGMENT 6 RNA,VP6
SA11G7	SIMIAN 11 ROTAVIRUS,NONSTRUCTURAL NCVP4
SA11G8	SIMIAN 11 ROTAVIRUS,NONSTRUCTURAL NCVP3
SA11VP7	SIMIAN 11 ROTAVIRUS,MAJOR CAPSID VP7
SFFVPENV	FRIEND SPLEEN FOCUS-FORMING VIRUS,ENV
SFRENV	RAUSCHER SPLEEN FOCUS-FORMING V, ENV
SFV2	SEMLIKI FOREST VIRUS 26S RNA, POLYPROT.
SINDBIS#	SINDBIS VIRUS(HRSP&WILD);P230#1,P130#3
SNDM	SENDAI VIRUS M(MATRIX OR MEMBRANE)GENE
SNDV1#	SENDAI VIRUS MRNA; NP#1,P#2,C#3,M#4
SSHM	SNOWSHOE HARE VIRUS, G PROTEIN
SSV2	SIMIAN SARCOMA VIRUS (PROVIRAL),V-SIS
STMV	SATELLITE TOBACCO NECROSIS VIRUS, COAT
SV5PFC	SIMIAN VIRUS 5, FUSION GLYCOPROTEIN
SVCPM	SPRING VIREMIA OF CARP VIRUS,PROTEIN M
TGMVA	TOMATO GOLDEN MOSAIC VIRUS, COAT
TMVC30KCP#	TOBACCO MOSAIC V(COWPEA);30K#1,COAT#2
TMVL30KCP#	TOBACCO MOSAIC V;30K#1,COAT#2
TYMVCOAT	TURNIP YELLOW MOSAIC VIRUS,COAT
UKBRVG	UK BOVINE ROTAVIRUS, GLYCOPROTEIN
UKBRVP9	UK BOVINE ROTAVIRUS SEGMENT9,NS PROTEIN
UKRMCP	BOVINE ROTAVIRUS(RF), MAJOR CAPSID
VACNLG	VACCINIA VIRUS,MAJOR LATE 28K PROTEIN
VARTK	VARIOLA VIRUS,THYMIDINE KINASE
VRLIEV3	FROG VIRUS 3,IMMEDIATE-EARLY ICP-18
VSVLMS	VESICULAR STOMATITIS VIRUS,POLYMERASE
VSVNNJ	VESICULAR STOMATITIS V(NEW JERSEY),N PROT.
WARV10	HUMAN WA ROTAVIRUS,GLYCOPROTEIN NCVP5
WARV9	HUMAN WA ROTAVIRUS, ANTIGEN VP7
WARVSEG6	HUMAN WA ROTAVIRUS, VP6 GENE
WHVSAG	WOODCHUCK HEPATITIS V,SURFACE ANTIGEN
YFV	YELLOW FEVER VIRUS, POLYPROTEIN

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******* BACTERIOPHAGE
ALPJ        BACTERIOPHAGE ALPHA-3 J GENE
BETADT      CORYNEBACTERIOPHAGE BETA,DIPHT.TOXIN
BETADT228   CORYNEBACTERIOPHAGE BETA,TOX228
F1G578#     BACTERIOPHAGE F1;GENE V#1,COAT B#2
LAMIMM434#  PHAGE LAMBDA IMM434;CRO#1,CII#2
MUGINMOM#   BACTERIOPHAGE MU; MOM#2,GIN#1
MUIMM#      BACTERIOPHAGE MU; CI#1,CII#2
P1REP       BACTERIOPHAGE P1 PLASMID,REPA
P22C2       BACTERIOPHAGE P22,C2 REPRESSOR
P22ERF      PHAGE P22,RECOMBINATION FUNCTION(ERF)
PF1         BACTERIOPHAGE PF1,DNA BINDING PROTEIN
PF3BPMCP#   PHAGE PF3;DNA BINDING PROT.#1, MCP#2
PF3MCP      PHAGE PF3,MAJOR COAT PROTEIN (MPC)
SP2POLGL    PHAGE SPO2; GENE L (DNA POLYMERASE)
SPCSAK      PHAGE S-PHI-C;SAK GENE(STAPHYLOKINASE)
SPO1MPG27   BACTERIOPHAGE SPO1 (B.SUBTILIS),GENE 27
SPO1TF1     PHAGE SPO1;TRANSCRIPTION FACTOR 1(TF1)
SPRMTASE    BACTERIOPHAGE SPR,DNA METHYLTRANSFERASE

****** ORGANELLA
AHYCPPSBA   A.HYBRIDUS CP PSBA
ANIMTTGRN   A.NIDULANS MT ATPASE (SUBUNIT 6)
ANIMTURF#   A.NIDULANS MT URF1#1, URF4#2
BLYCPATPB#  BARLEY CP ATPASE SUB. B#1,E#2
CRECPRUBP   C.REINHARDII CP RUBP CARBOXYLASE L SUB.
EGRCPEFTU   EUGLENA GRACILIS CP TU FACTOR
EGRCPRP7#   E.GRACILIS CP RIBOSOMAL S7#2,S12#1
MZECPATBE#  MAIZE CP CF-1; BETA#1,EPSILON#2
MZECPRUBP   CP RUBP CARBOXYLASE L SUBUNIT
MZEMTCOB    MAIZE MT APOCYTOCHROME B (COB)
MZEMTMOX1   MAIZE (Z.MAYS) MT MOX1
NEUMTCO3G   N.CRASSA MT COIII
NEUMTCOIJ   N.CRASSA MT COX2
NEUMTOLI1   N.CRASSA MT OLI2,ATPASE SUB.6
NEUMTRGS2   N.CRASSA CYT-4 MUTANT MT RIBOSOME S2
OBEMTCYO2   OENOTHERA MT CYTOCHROME OXIDASE SUB.2
PANMTCOL    P.ANSERINA MT COL
PEACPCYF    PEA (P.SATIVUM) CP CYTOCHROME F
RATMTCYBT   RAT MT CYTOCHROME B
RATMTCYOR   R.RATTUS MT CYTOCHROME OXIDASE SUB.2
RICMTCYO2   RICE (ORYZA SATIVA) MT COII
SALCPPSII   SINAPIS CP PRE-MR 32000 PHOTO.2 MEMBR.
SNICPPSBA   SOLANUM NIGRUM CP PSBA FOR 32-KDA PROT.
SOYCPPSB1   SOYBEAN CP PSBA GENE
SPICPAP     SPINACH CP P-680 CHLOROPHYLL ALPHA A
SPICPATBE#  SPINACH CP COUPLING FACTOR B#1,E#2
SPICPPSBA   SPINACH CP THYLAKOID MEMBRANE PROTEIN
SPICPRUBP   CP RUBP CARBOXYLASE L SUBUNIT
SPICPTGH    SPINACH CHLOROPLAST RPS 19' GENE
SPICPTGI#   SPINACH CP RIBOSOMAL L2#1,S19#2
TOBCPP32    N.TABACUM THYLAKOID MEMBRANE (P32)
TOBCPPSBA   TOBACCO (N.DEBNEYI) PSBA
TOBCPRPSS   CP PUTATIVE RIBOSOME PROTEIN CS19
TOBCPRUBP   CP RUBP CARBOXYLASE L SUBUNIT
TOBCPTG1    TOBACCO(N.DEBNEYI) RPS 19' GENES
TOBCPTG2    TOBACCO(N.DEBNEYI) CP RIBOSOMAL L2
TRYKPMXC    T.BRUCEI KINETOPLAST APOCYTOCHROMEB
WHTCPATP    WHEAT CP APOCYTOCHROME B
WHTCPCYF    WHEAT CHLOROPLAST CYTOCHROME F GENE
YSCMTAPS1   YEAST(S.CEREVISIAE) MT ATPASE SUBUNIT
YSCMTAT91   S.CEREVISIAE MT ATPASE PROTEOLIPID
YSCMTCOC2   S.CEREVISIAE MT CYTOCHROME C OXIDASE
YSCMTCYBS   S.CEREVISIAE MT CYTOCHROME B
YSCMTCYO1   S.CEREVISIAE MT CYTOCHROME OXIDASE 1
YSCMTCYO2   S.CEREVISIAE MT CYTOCHROME OXIDASE 2
YSCMTOO     YEAST(S.CEREVISIAE) MT AAP1
YSCMTTGSA   S.CEREVISIAE MT ATPASE PROTEOLIPID
YSCMTVAR1   YEAST(S.CEREVISIAE) MT VAR1

**************  FOR TABLE 2  **************
******* ORGANISM
HUM    HUMAN
HAM    HAMSTER
MUS    MOUSE
RAT    RAT
BOV    BOVINE
RAB    RABBIT
CHK    CHICKEN
FSB    ANGLERFISH,FLOUNDER,EEL,TROUT,CARP,SALMON
XEN    XENOPUS
DRO    DROSOPHILA
SUR    SEA URCHIN
MZE    MAIZE
YSC    YEAST (S. CEREVISIAE)
BSU    BACILLUS SUBTILIS
ECO    E. COLI
STY    SALMONELLA TYPHIMURIUM
******* PLASMID
R100   PLASMID R100, 10 GENES
TI     PLASMID TI, 12 GENES
******* VIRUS
AD2        ADENOVIRUS TYPE 2, COMPLETE
AD5        ADENOVIRUS TYPE 5, 12 GENES
AD7        ADENOVIRUS TYPE 7, 9 GENES
AIDARV2    AIDS-ASSOCIATED RETROVIRUS, COMPLETE
AIDLAV     LYMPHADENOPATHY-ASSOCIATED V, COMPLETE
AIDLAVA    AIDS/LYMPHADENOPATHY RETROVIRUS,COMPLETE
AKV        AKV MURINE LEUKEMIA VIRUS, COMPLETE
BGM        BEAN GOLDEN MOSAIC VIRUS, 4 GENES
BKVDUN     HUMAN PAPOVAVIRUS BK(DUNLOP), COMPLETE
BKVMM      HUMAN PAPOVAVIRUS BK(MM), COMPLETE
BMV        BROME MOSAIC VIRUS, 4 GENES
CAMV1841   CAULIFLOWER MOSAIC V(CM1841), COMPLETE
CAMVDH     CAULIFLOWER MOSAIC V(D/H HUNG.),COMPLETE
CAMVSTRA   CAULIFLOWER MOSAIC V(STRAS.), COMPLETE
DHBV       DUCK HEPATITIS B VIRUS, COMPLETE
EBV        EPSTEIN-BARR VIRUS (SEE THE LAST LINE)
EBV; LISTED AS A SEPARATE ENTRY, SEE AFTER PHAGES
FLBL40     INFLUENZA B/LEE/40, 8 GENES
FLP834     INFLUENZA A/PUERTO RICO/8/34, 10 GENES
GSHV       GROUND SQUIRREL HEPATITIS V,COMPLETE
HBVADR     HEPATITIS B VIRUS (ADR),COMPLETE
HBVADW     HEPATITIS B VIRUS (ADW),COMPLETE
HBVADYW    HEPATITIS B VIRUS (ADYW),ANTIGEN
HBVAYW     HEPATITIS B VIRUS (AYW),COMPLETE
HPV16      HUMAN PAPILLOMAVIRUS 16,COMPLETE
HPV1A      HUMAN PAPILLOMA VIRUS 1A,COMPLETE
HSV1       HERPES SIMPLEX VIRUS TYPE 1, 15 GENES
JCV        JC POLYOMAVIRUS, COMPLETE
LPV        LYMPHOTROPIC PAPOVAVIRUS,COMPLETE
MMLV       MOLONEY MURINE LEUKEMIA VIRUS,COMPLETE
PYA2       POLYOMA VIRUS STRAIN A2, COMPLETE
PYA3       POLYOMA VIRUS STRAIN A3, COMPLETE
RSVPRAG    ROUS SARCOMA VIRUS(PRAGUE C), COMPLETE
SFFV       FRIEND SPLEEN FOCUS-FORMING V,COMPLETE
SSV        SIMIAN SARCOMA VIRUS(PROVIRAL),COMPLETE
SV40       SIMIAN VIRUS 40, COMPLETE
TMVV       TOBACCO MOSAIC VIRUS( VULGARE),COMPLETE
VSVIN      VESICULAR STOMATITIS V(INDIANA),COMPLETE
VZV        VARICELLA-ZOSTER V,US COMPONENT;5 GENES
WHV        WOODCHUCK HEPATITIS VIRUS, COMPLETE
******* BACTERIOPHAGE
F1         BACTERIOPHAGE F1, COMPLETE
FD         BACTERIOPHAGE FD(478), COMPLETE
G4         BACTERIOPHAGE G4, COMPLETE
IKE        BACTERIOPHAGE IKE, COMPLETE
LAMBDA     BACTERIOPHAGE LAMBDA, COMPLETE
M13        BACTERIOPHAGE M13, COMPLETE
MS2        BACTERIOPHAGE MS2, COMPLETE
PHIX174    BACTERIOPHAGE PHI-X174, COMPLETE
T7         BACTERIOPHAGE T7, COMPLETE
T4         BACTERIOPHAGE T4, 13 GENES
******* EPSTEIN-BARR VIRUS
EBV        EPSTEIN-BARR VIRUS(B95-8), COMPLETE
******* MITOCHONDRIA
HUMMT      HUMAN MITOCHONDRIA, COMPLETE
MUSMT      MOUSE MITOCHONDRIA, COMPLETE
RATMT      RAT(SPRAGUE-DAWLEY) MITOCHONDRIA,7 GENES
BOVMT      BOVINE MITOCHONDRIA, COMPLETE
DRO1MT     D.MELANOGASTER MITOCHONDRIA, 5 GENES
DRO2MT     DROSOPHILA YAKUBA MITOCHONDRIA, 6 GENES
ANIMT      A.NIDULANS MITOCHONDRIA, 8 GENES
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