Codon usage tabulated from the GenBank Genetic Sequence Data

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In 1980 and 1981, Grantham and his colleague (1,2) reported the codon usages in a total of 161 protein genes in this journal, and in 1986 we reported those in 1638 genes (3). In the present work, the codon usages in 3681 genes are analyzed using the nucleotide sequence data obtained from the GenBank Genetic Sequence Data Bank (Release 50.0, 1987)(4). In selecting protein coding sequences we relied 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 analysis (see ref. 3 for details). Table 1 lists the codon use in each of the 3681 genes. The LOCUS names given in the GenBank were used for designating individual genes, and the SHORT DIRECTORY of the GenBank is presented after the table for defining each LOCUS name. In the GenBank, a group of consecutive genes whose entire region had been sequenced were registered under one LOCUS name. To distinguish the different genes belonging to a single LOCUS, symbol # followed by a number is added after the LOCUS name; the numbers represent the order of the peptides registered in the FEATURES of the GenBank. Thus the numbering system differs from the previous one (3) in the cases where incomplete peptides are registered in the FEATURES. When 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. The order of the codons in the table is the same as the previous compilation (1-3) . The amino acids based on the "universal genetic code" are specified using three letter abbreviations, except for the pages listing organella genes.

To reveal the characteristics of the codon use of individual organisms, as well as viruses and organella, the frequency (per one thousand) of codon use in each organism for which more than 20 genes are available in Table 1

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was calculated by adding for each codon (Table 2). The number of genes summed for each organisms is given in the row designated as No. GENES, and the total codon number thus summed is given at the bottom row. Since the codon usage of each organism thus summed has been expressed in frequency per one thousand in Table 2, it is easy to compare the codon-choice patterns among different organisms. In the previous work (3), we noted that the resultant codon-choice patterns among the vertebrates, or at least among the mammals, are very similar, although the codon-choices in individual genes of one mammal are often very different with each other (e.g., see ref. 5). We also mentioned that the codon-choice pattern, that are roughly common among the mammals, does not depend on the choice of genes; i.e., when the codon frequencies for ten or more genes with varying functions are summed up for each mammal, they usually result in a very similar pattern regardless of the genes compiled (6). Tables 1 and 2 confirmed the previous notion.

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* It is with great sorrow that we have to inform you of Dr. Maruyama's sudden death. He died of a heart attack on December 11 in 1987. Thus, this paper became his posthumous work. We express our condolences to his family.

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TABLE 1.

/ PRIMATES

1	CHP HBA 1M	CHP HBA 2M	GIB IL2	GIB IL2 LTR	GIB IL3	HUM A1A CM	HUM A1A TM	HUM A1A TP	HUM A1A TR	HUM A1A TZ	HUM A2M	HUM A2T PI	HUM ACC YBA	HUM ACC YBB	HUM ACH RA7 *	HUM ACH RG8 *	HUM ACT ASK	HUM ACT CA4 *	HUM ADA 11*	HUM ADA G	HUM ADA M2	HUM ADH IA	HUM ADH IAB	HUM ADH IB9 *	HUM ADH IBR	HUM ADH IG	HUM AFH	HUM AGG 1A	HUM AGP D	HUM ALA	HUM ALB A	HUM ALB AF1	HUM ALB AF4	HUM ALB G	HUM ALB GC	HUM ALD B	HUM ALD BX	HUM ALD OBR	HUM ALP L	HUM ALP PB	HUM AMY AP	HUM AMY AS	HUM ANF A	HUM ANG	HUM APO A2I	HUM APO AI1 #1	HUM APO AI1 #2	HUM APO AII
ARG CGA	0	0	0	0	2	1	0	0	0	0	8	5	0	0	1	6	1	0	1	1	1	1	0	0	0	0	0	2	1	2	1	1	3	2	0	3	2	2	2	2	4	5	7	1	1	0	1	1	0
CGC	0	0	0	0	0	1	1	1	1	1	7	1	7	7	4	9	12	6	1	1	1	1	0	0	3	3	3	4	1	1	6	2	2	1	1	2	1	4	3	4	4	12	3	3	0	4	0	12	0	0
CGG	1	1	0	0	1	2	0	0	0	0	5	1	3	4	3	8	0	3	7	7	7	7	1	1	2	2	2	1	2	1	9	0	0	2	0	0	2	3	3	3	5	8	2	1	4	4	1	1	1	1
CGU	1	1	0	0	1	1	2	2	1	2	7	0	4	4	2	1	1	8	1	1	1	1	3	3	1	1	2	0	2	0	0	1	1	3	2	1	3	2	3	2	2	0	4	5	0	1	0	0	0	0
AGA	0	0	2	2	0	4	3	3	3	3	7	4	1	1	2	0	1	1	1	1	1	2	2	2	0	5	2	2	1	1	9	1	0	2	0	1	13	12	1	13	1	1	3	0	9	11	3	1	2	1	1
AGG	1	1	3	3	2	9	1	1	1	1	12	6	2	2	0	3	3	0	6	6	6	6	3	3	3	3	2	1	2	2	4	0	0	5	3	0	5	2	2	2	5	7	3	3	3	6	0	1	1	0
LEU CUA	1	1	5	5	0	1	3	3	3	3	14	7	1	1	3	3	0	1	2	2	2	2	5	5	5	5	5	1	2	2	2	1	1	4	9	1	4	3	4	3	1	5	1	1	2	5	2	2	0	1
CUC	2	2	4	4	6	14	12	12	12	12	37	3	6	6	12	27	6	6	13	13	13	13	3	3	3	3	3	2	0	4	10	4	4	6	4	4	7	11	11	11	12	11	3	4	8	11	3	12	4	3
CUG	14	14	9	8	10	28	27	27	27	27	45	8	20	20	20	38	18	16	16	16	16	16	7	7	10	10	10	9	7	10	17	6	6	12	17	6	12	13	12	13	25	40	7	5	7	45	5	22	4	6
CUU	1	1	3	3	4	4	1	1	1	1	23	5	0	0	4	3	2	0	3	3	3	3	6	6	5	5	4	2	0	2	2	2	2	20	9	2	19	4	4	4	4	1	10	10	1	3	3	2	2	3
UUA	0	0	5	5	2	5	5	5	5	5	8	3	0	0	3	1	0	1	1	1	1	1	5	5	4	4	5	1	1	0	0	0	0	10	10	0	10	1	1	1	2	0	4	4	2	0	0	0	0	0
UUG	0	0	1	2	4	4	3	3	3	3	16	3	0	0	2	2	0	3	1	1	1	1	3	3	2	2	2	6	4	3	4	0	0	12	11	0	12	1	1	1	4	2	4	4	2	5	2	3	1	2
SER UCA	0	0	2	2	1	5	1	1	1	1	29	8	0	0	5	2	0	0	1	1	1	1	5	5	2	2	3	2	2	1	1	0	0	6	10	0	6	2	2	2	3	2	2	2	0	1	1	0	2	1
UCC	4	4	0	0	1	8	9	9	9	9	29	11	16	16	10	12	15	11	6	6	6	6	3	3	4	4	4	3	2	3	7	5	5	7	3	5	7	3	3	3	11	11	2	2	5	7	0	3	3	0
UCG	0	0	0	0	0	3	1	1	1	1	3	0	1	1	0	4	4	0	2	2	2	2	1	1	3	3	3	1	0	2	2	0	0	3	3	0	3	1	1	1	3	3	0	0	0	1	0	0	0	0
UCU	3	3	3	3	2	6	5	5	5	5	26	3	2	2	7	3	0	8	2	2	2	2	4	4	4	4	5	3	2	1	1	5	5	3	8	5	3	6	6	6	3	2	1	4	14	2	10	2	0	2
AGC	3	4	3	3	5	10	9	9	9	9	23	5	6	6	10	5	4	5	4	4	4	4	5	5	4	4	4	1	3	1	6	1	1	3	9	1	3	5	5	5	8	8	5	5	9	9	4	13	4	4
AGU	1	0	3	3	1	5	0	0	0	0	13	7	0	0	2	3	0	0	2	2	2	2	5	5	5	4	5	0	0	0	2	2	2	6	5	2	6	3	4	4	3	8	10	8	1	4	0	0	1	0
THR ACA	0	0	9	9	4	10	5	5	5	5	35	6	2	2	6	4	1	5	3	3	3	3	5	5	4	4	5	2	3	2	2	2	2	12	12	2	11	3	3	3	4	8	10	11	0	7	2	1	0	2
ACC	9	9	3	3	2	11	18	18	18	18	32	14	17	17	14	13	22	12	8	8	8	8	12	12	12	12	9	4	5	12	7	7	7	8	6	7	9	11	11	11	19	14	3	3	5	17	3	6	4	3
ACG	0	0	0	0	2	1	1	1	1	1	7	6	2	2	2	0	3	0	2	2	2	2	0	0	2	2	2	1	0	2	1	2	2	2	2	2	2	1	1	1	6	9	1	0	0	2	1	3	0	1
ACU	0	0	2	2	1	5	6	6	6	6	27	10	5	5	6	3	1	9	4	4	4	4	5	5	6	6	6	1	1	1	1	1	1	7	16	1	7	6	6	6	6	4	10	11	1	5	2	2	1	2
PRO CCA	0	0	0	0	4	4	3	3	3	3	27	10	1	1	9	9	1	1	7	7	7	7	5	5	3	3	3	2	3	3	4	2	2	7	8	3	7	5	5	5	3	6	11	11	2	5	2	1	1	2
CCC	4	3	3	3	7	7	11	11	11	11	22	5	12	12	14	8	9	9	6	6	6	6	3	3	5	5	5	2	2	3	9	3	3	6	4	3	6	2	2	2	15	12	0	1	5	11	1	7	1	1
CCG	1	2	0	0	0	0	2	2	2	2	1	0	1	0	1	9	5	3	4	4	4	4	1	1	2	2	2	0	2	1	3	0	0	1	0	0	1	0	0	0	2	5	1	1	1	2	0	1	0	0
CCU	2	2	2	2	1	8	3	3	3	3	28	7	6	6	4	7	4	6	4	4	4	4	11	11	10	10	10	1	3	1	6	3	3	10	9	3	10	6	6	6	5	7	9	8	4	7	1	1	1	1
ALA GCA	0	0	4	4	4	7	4	4	4	4	22	10	2	2	6	4	1	2	3	3	3	3	12	12	11	11	13	2	0	2	10	2	2	17	21	2	17	7	6	6	5	7	10	9	2	7	3	1	1	3
GCC	12	12	1	1	2	17	11	11	11	11	36	6	18	18	5	27	19	13	18	18	18	18	8	8	7	7	6	6	3	4	17	6	6	14	11	6	14	17	18	18	29	37	3	5	6	25	3	12	11	3
GCG	7	7	0	0	0	1	0	0	0	0	1	5	0	2	2	2	6	5	2	2	2	2	1	1	2	2	0	3	1	1	1	0	0	2	3	0	2	1	1	1	7	9	0	0	2	2	0	6	1	0
GCU	2	2	2	2	3	9	11	11	11	11	30	9	7	7	3	6	4	12	8	8	8	8	10	10	11	11	11	4	2	4	12	7	7	30	15	7	30	19	19	19	8	7	15	14	3	16	2	4	2	2
GLY GGA	0	0	2	2	1	4	3	3	3	3	32	3	0	0	5	2	0	2	5	5	5	5	10	10	10	10	13	1	2	2	10	2	2	6	13	2	6	10	10	10	4	6	25	22	3	4	3	1	0	3
GGC	4	5	0	0	0	5	11	11	11	11	25	8	23	23	11	13	20	15	10	10	10	10	12	12	13	13	12	2	6	2	6	5	5	3	5	5	3	5	5	5	21	19	9	9	3	15	1	9	3	1
GGG	0	0	0	0	1	7	8	8	8	8	22	5	3	3	3	10	4	3	8	8	8	8	8	7	8	8	8	1	1	3	3	3	3	1	4	3	1	7	7	7	14	16	8	7	4	5	0	1	0	0
GGU	3	2	0	0	1	1	2	2	2	2	12	4	2	2	3	1	4	8	1	1	1	1	6	7	7	7	4	2	3	0	4	1	1	3	4	1	3	7	7	7	9	10	12	2	4	0	0	0	0
VAL GUA	0	0	2	2	0	2	0	1	0	0	25	5	0	0	2	0	0	2	5	4	5	4	6	6	5	5	4	0	0	1	5	3	3	8	6	3	8	6	5	5	2	2	6	6	0	1	0	0	1	0
GUC	3	3	1	1	3	11	11	11	10	11	42	2	8	8	16	14	6	10	6	6	6	6	9	9	8	8	12	0	3	4	5	4	4	7	6	4	7	2	2	2	12	7	6	6	2	10	1	1	1	1
GUG	9	9	1	1	0	12	14	14	14	13	54	15	13	13	23	28	15	6	14	15	14	15	15	15	16	16	15	6	2	4	12	6	6	17	7	6	16	7	7	7	25	22	8	9	5	24	4	14	4	4
GUU	1	1	1	1	0	2	2	2	2	2	19	3	1	1	4	2	0	3	0	0	0	0	6	6	10	10	7	1	4	2	3	1	1	11	11	1	12	8	8	8	1	3	16	16	0	3	3	0	3	3
LYS AAA	1	1	5	5	2	8	12	12	12	12	13	34	17	3	3	12	1	5	3	11	10	10	10	20	20	20	19	20	9	2	2	2	4	41	20	4	40	4	4	4	10	5	12	13	1	4	0	3	1	0
AAG	10	10	6	6	7	19	22	22	22	22	55	16	16	16	14	12	14	16	12	14	14	14	12	12	13	13	13	6	5	12	10	4	4	20	14	2	20	20	20	20	18	15	10	10	3	17	10	19	5	10
ASN AAC	4	4	4	4	7	9	9	9	9	9	30	13	7	7	9	12	10	5	12	11	11	11	7	7	8	8	7	6	6	7	7	4	1	1	7	10	1	6	13	13	13	20	13	16	16	2	12	1	5	0
AAU	0	0	6	6	6	8	10	10	10	10	33	10	2	2	8	10	2	7	2	2	2	2	4	4	4	4	5	6	2	3	1	2	2	10	10	2	11	4	4	4	7	3	25	24	4	3	0	0	0	0
GLN CAA	0	0	4	4	5	4	4	4	4	4	22	9	1	1	3	2	0	3	0	0	0	0	2	2	1	1	1	2	0	3	0	0	0	10	23	0	11	3	3	3	2	1	9	6	1	8	0	5	0	0
CAG	1	1	3	3	4	14	14	14	14	14	51	13	11	11	11	29	11	8	15	15	15	15	5	5	5	5	5	8	6	9	10	0	0	10	17	0	9	19	19	19	13	18	6	5	4	22	7	14	6	7
HIS CAC	10	10	1	1	1	5	9	9	9	9	19	3	8	8	11	9	9	6	8	8	8	8	4	4	4	4	2	5	4	2	5	0	0	5	3	0	5	5	5	5	17	11	2	2	0	13	0	2	1	0
CAU	0	0	2	2	1	4	4	4	5	4	21	2	1	1	2	1	0	3	3	3	3	3	4	4	3	3	4	5	2	1	4	5	5	11	13	5	11	4	4	4	5	5	9	8	1	1	0	4	0	0
GLU GAA	0	0	9	9	4	4	13	12	13	13	51	15	2	2	9	8	3	7	9	9	9	9	9	9	9	9	11	6	4	4	6	5	5	37	40	5	38	12	12	12	5	3	13	16	6	4	4	4	0	4
GAG	4	4	3	3	5	22	19	19	19	18	53	17	24	24	14	19	25	21	21	21	21	21	11	11	10	10	10	10	0	16	14	8	8	24	19	8	24	11	11	11	23	27	7	5	3	18	6	26	5	6
ASP GAC	8	8	1	1	5	19	11	11	11	11	27	10	18	18	17	14	18	13	17	17	17	17	6	6	6	6	6	9	2	7	11	3	3	11	8	3	11	8	8	8	27	28	9	9	4	19	2	11	3	2
GAU	0	0	2	2	1	7	13	13	13	13	27	10	5	5	6	6	4	9	4	4	4	4	11	11	11	11	10	4	4	4	7	2	2	25	15	2	25	5	5	5	2	3	25	26	4	6	0	5	4	0
TYR UAC	2	2	3	3	0	7	5	5	5	5	27	9	12	12	12	11	14	10	10	10	10	10	3	3	3	3	3	8	3	8	9	4	4	6	8	4	6	6	6	6	16	13	11	9	2	2	2	2	6	2
UAU	1	1	1	1	2	1	1	1	1	1	29	6	3	3	3	1	2	6	6	6	6	6	1	1	3	3	3	1	1	1	3	3	1	1	13	5	5	5	5	5	3	8	10	0	6	2	1	0	2	2
CYS UGC	1	1	1	1	2	4	2	2	2	2	10	10	4	4	6	8	5	3	4	4	4	4	5	5	6	6	6	0	3	2	3	1	1	20	19	1	20	6	6	6	3	7	3	4	1	4	1	0	0	1
UGU	0	0	3	3	1	0	1	1	1	1	15	9	2	2	1	7	1	3	1	1	1	1	11	11	9	9	9	3	3	2	5	1	1	15	13	1	15	3	3	3	3	0	9	8	1	1	1	0	0	1
PHE UUC	7	7	1	1	4	18	19	19	19	19	35	10	12	12	13	21	11	8	6	6	6	6	3	3	4	4	3	3	5	4	6	3	3	10	15	3	10	6	6	6	13	14	14	12	6	17	3	7	4	3
UUU	0	0	5	5	0	7	8	8	8	8	27	9	1	1	10	1	1	4	4	4	4	4	12	12	11	12	14	4	1	5	6	3	3	25	17	3	25	4	4	4	2	3	16	17	0	5	1	1	0	1
ILE AUA	0	0	1	1	1	3	1	1	1	1	9	5	0	0	2	1	0	0	1	1	1	1	2	2	3	3	3	1	1	0	1	2	2	1	11	2	1	0	0	0	0	2	2	2	0	3	0	0	0	0
AUC	0	0	4	4	5	14	15	15	16	15	30	5	24	24	31	22	28	18	12	12	12	12	13	13	13	12	12	10	5	4	9	10	2	2	4	8	2	4	13	13	13	13	13	2	4	0	7	2	0	0
AUU	0	0	5	5	3	4	4	4	4	4	17	14	4	4	9	5	2	12	4	4	4	4	11	11	7	7	11	1	2	1	1	1	1	4	15	1	4	6	6	6	5	3	26	23	1	4	0	0	0	0
MET AUG	3	3	6	6	6	14	10	10	10	10	26	4	17	17	15	9	17	16	9	9	9	9	11	11	8	8	8	6	3	2	11	2	2	7	9	2	7	7	7	7	15	14	10	12	5	12	2	4	3	2
TRP UGG	1	1	1	1	2	4	3	3	3	3	11	3	4	4	10	12	4	4	4	4	4	4	2	2	2	2	2	1	1	4	3	2	2	2	2	2	2	3	3	3	5	4	19	20	2	7	0	5	3	0
TER UAA	1	1	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0
UAG	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0
UGA	0	0	1	1	1	0	0	0	0	0	1	1	0	0	1	1	0	0	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	0	0	1	0	0	0	0	1	1	0	0	1	1	1	1	1
TOTAL	143	143	154	154	153	434	419	419	419	419	1475	428	376	376	458	518	378	378	364	364	364	364	376	376	376	376	376	191	148	202	331	148	148	610	610	148	610	365	365	365	525	536	513	513	152	486	101	268	100	101

2		HUM APO B2*	HUM APO BA	HUM APO BB	HUM APO C2	HUM APO CI	HUM APO CII	HUM APO D	HUM APO E3	HUM APO E4	HUM ARG L	HUM AS6 *	HUM ASA	HUM ASG PR1	HUM ASG PR2	HUM ASL	HUM AT3 6*	HUM ATC CD2	HUM ATC T32	HUM ATC T4	HUM ATP C	HUM BCL 2A	HUM BCL 2B	HUM BHA	HUM BLY M1	HUM C1I NHA	HUM C1I NHB	HUM C3	HUM CAL	HUM CAL CBE	HUM CAL CR4 *	HUM CCK 2*	HUM CER P	HUM CG5 B	HUM CG6	HUM CGB	HUM CGB BA3 *	HUM CGB EL6 *	HUM CIN HP	HUM CKM	HUM CMD S	HUM CN2	HUM CPB 5*	HUM CPG 6*	HUM CPR 6*	HUM CRF	HUM CRP G	HUM CRY B6*	HUM CRY G02 *	HUM CRY G04 *	HUM CRY GX2 *
ARG	CGA	13	12	13	1	0	1	0	0	0	2	2	2	0	0	6	4	1	4	1	2	0	3	0	1	1	12	0	0	0	0	2	3	1	1	1	1	1	0	0	1	1	0	2	2	0	0	1	1	1	1
	CGC	13	13	14	0	1	0	1	22	23	0	6	6	5	4	7	6	0	1	2	6	6	6	5	0	3	3	18	2	2	2	1	0	8	8	8	8	8	5	8	11	2	6	3	3	7	0	5	4	10	5
	CGG	15	15	13	0	2	0	0	10	10	1	6	6	3	2	16	3	2	1	6	2	5	4	6	0	2	2	20	1	1	1	3	3	3	3	3	3	3	4	9	4	4	1	1	6	1	1	7	2	1
	CGU	16	16	16	0	0	0	0	1	1	0	2	2	1	1	6	3	3	0	0	4	0	0	5	0	1	1	8	0	0	0	2	4	0	0	0	0	0	3	0	2	1	0	0	0	0	1	2	2	0	1
	AGA	52	52	52	0	0	0	3	0	0	7	0	0	3	2	0	3	6	2	4	3	1	1	2	4	4	4	8	3	3	3	2	21	0	0	0	0	0	5	0	1	9	1	4	3	1	1	2	1	4	3
	AGG	42	42	42	1	1	1	0	1	1	3	5	5	3	5	6	4	6	3	6	1	4	4	5	2	4	3	16	2	2	2	3	9	0	0	0	0	0	9	1	3	7	1	2	3	5	3	1	5	4	8
LEU	CUA	53	52	52	0	0	0	2	1	1	7	0	0	1	1	3	1	3	0	3	1	0	0	0	1	5	5	14	0	0	0	0	10	0	0	0	0	0	1	0	6	4	0	0	1	0	1	0	0	0	1
	CUC	85	84	85	6	4	6	6	7	7	4	12	12	13	5	24	9	4	5	14	2	4	3	13	2	16	16	41	4	4	4	0	14	5	5	5	5	5	19	13	11	6	8	9	9	14	5	1	8	8	7
	CUG	163	165	165	4	5	5	8	31	31	10	16	16	18	21	24	21	9	10	30	11	17	10	25	2	29	29	80	10	10	10	11	15	10	10	10	10	10	19	20	16	12	15	15	14	13	7	3	8	7	4
	CUU	93	92	92	1	1	2	3	0	0	5	3	3	3	1	4	6	3	4	6	5	0	0	9	4	5	5	8	0	0	0	0	15	2	2	2	2	2	9	1	4	4	2	2	2	2	1	2	0	1	2
	UUA	67	66	66	0	0	0	1	0	0	1	2	2	0	0	1	1	1	0	1	0	0	0	3	2	0	0	1	0	0	0	0	15	0	0	0	0	0	0	0	2	2	1	0	0	1	2	0	0	0	0
	UUG	74	75	75	2	2	2	2	2	2	6	2	2	1	1	2	7	6	2	9	3	1	0	9	1	9	9	16	3	3	3	0	5	2	2	2	2	2	4	2	7	4	2	2	2	3	4	3	3	1	2
SER	UCA	76	76	76	1	2	1	1	0	0	3	1	1	1	0	2	6	4	1	3	1	0	0	3	0	8	8	9	0	0	0	0	12	1	1	1	1	1	2	2	2	0	4	2	2	0	2	1	0	0	1
	UCC	82	83	84	1	1	1	3	4	4	3	10	10	8	7	3	13	6	0	13	6	6	5	9	0	13	13	30	3	3	3	4	9	6	6	6	6	6	11	8	8	6	3	11	10	10	5	6	6	5	6	4
	UCG	9	9	10	0	2	0	2	1	1	0	1	1	1	2	3	3	1	1	2	1	3	3	2	0	0	0	11	0	0	0	1	1	1	1	1	1	1	3	2	6	0	2	3	3	4	4	2	0	3	0
	UCU	99	97	97	1	1	2	2	1	1	5	2	2	2	2	2	4	2	3	6	2	1	1	14	2	9	9	18	2	2	2	1	19	1	1	1	1	1	3	2	4	9	4	5	7	0	3	4	1	3	3
	AGC	56	55	55	4	1	4	0	8	8	5	9	9	9	9	15	4	6	5	8	2	5	3	8	1	15	15	29	8	8	8	2	7	4	4	5	4	4	13	8	7	5	6	12	11	6	4	2	6	5	5
	AGU	72	72	72	1	2	1	0	0	0	4	1	1	2	4	5	5	6	0	6	0	1	1	1	2	6	6	11	3	3	3	3	2	13	1	1	0	1	1	5	0	5	5	1	2	2	0	4	5	1	0	0
THR	ACA	95	96	95	4	2	5	4	3	3	12	1	1	2	2	2	3	7	5	7	4	0	0	12	0	16	16	16	1	1	1	0	31	1	1	1	1	1	3	3	2	6	5	3	3	0	4	0	1	0	1
	ACC	99	97	100	3	1	3	4	7	7	3	13	13	5	5	10	16	8	4	14	4	5	4	10	0	29	29	60	0	0	0	0	16	9	9	9	9	9	8	5	5	7	7	11	11	2	5	9	3	1	2
	ACG	17	17	17	0	0	0	1	1	1	0	1	1	5	3	6	1	1	2	1	2	4	4	2	0	2	2	16	3	3	3	2	3	0	0	0	0	0	6	3	3	3	3	2	2	0	2	1	0	1	0
	ACU	88	88	88	1	0	2	2	1	1	7	3	3	0	3	6	6	8	3	6	7	2	1	9	2	8	8	13	2	2	2	2	0	25	1	1	1	1	1	3	5	6	8	4	3	4	0	3	1	1	2
PRO	CCA	64	64	64	1	3	1	4	0	0	11	5	5	2	4	2	2	8	2	5	1	2	2	9	0	8	8	18	2	2	2	0	16	4	5	4	4	4	0	5	1	13	2	3	2	1	2	3	0	1	1
	CCC	37	37	37	2	0	2	2	4	4	4	7	7	4	5	10	10	7	2	7	4	8	7	11	1	18	18	36	4	4	4	5	12	10	10	10	10	9	12	11	10	5	6	8	8	7	5	2	7	4	6
	CCG	11	11	12	1	1	1	2	3	3	0	3	3	3	1	5	3	3	0	2	1	6	6	1	0	1	1	12	1	1	1	1	3	5	4	5	4	6	0	2	6	1	1	5	5	13	1	1	1	0	2
	CCU	59	60	60	1	0	1	4	1	1	8	6	6	5	3	3	6	15	1	7	1	3	2	12	0	5	5	16	2	2	2	2	19	3	3	3	3	3	2	3	7	11	7	4	4	3	2	0	0	0	0
ALA	GCA	71	70	71	2	0	2	5	4	4	5	4	4	0	5	14	9	7	0	3	11	2	3	7	1	3	3	14	7	7	7	3	15	2	2	2	2	2	5	0	4	4	4	8	8	2	4	0	1	0	0
	GCC	89	89	87	3	4	3	5	24	24	3	18	18	5	10	20	13	4	3	9	13	17	14	9	0	20	20	57	4	4	4	4	18	5	6	5	6	5	12	6	13	4	11	16	16	7	3	5	2	3	2
	GCG	14	15	15	0	0	0	1	9	9	0	2	2	4	1	4	1	0	0	5	2	6	6	5	0	2	2	8	1	1	1	5	2	0	0	0	0	0	2	3	9	3	1	3	3	6	0	0	0	1	0
	GCU	100	100	102	2	1	2	3	2	2	8	4	4	1	3	6	8	4	8	5	8	3	2	5	2	8	8	18	2	2	2	2	16	2	2	2	2	2	7	5	5	16	9	7	7	7	3	4	1	0	2
GLY	GGA	74	75	74	1	1	2	5	1	1	10	3	3	6	4	7	5	6	9	9	5	4	3	10	1	1	1	17	2	2	2	1	30	0	0	0	0	0	3	3	7	16	4	1	1	4	5	4	0	1	2
	GGC	64	63	65	1	1	2	1	13	13	8	17	17	12	8	9	12	5	2	10	7	8	8	11	0	2	2	43	4	4	4	7	15	5	5	5	5	5	10	17	8	7	11	13	12	5	3	5	6	10	7
	GGG	41	43	43	1	1	1	3	3	6	7	7	5	5	14	1	3	2	8	5	8	8	5	0	10	10	26	1	1	1	1	14	5	5	5	5	5	7	5	9	7	5	4	4	3	8	6	4	3	4	
	GGU	27	27	26	0	0	0	2	1	1	4	4	4	0	6	5	3	4	0	3	13	2	3	8	3	1	1	12	1	1	1	0	10	1	1	1	1	1	7	3	4	4	2	3	0	2	1	1	0	0	0
VAL	GUA	42	43	42	2	0	2	0	0	0	3	0	0	0	1	1	6	4	2	1	1	0	1	5	0	3	3	7	0	0	0	2	13	0	0	0	0	0	4	5	1	0	2	1	1	0	4	0	0	0	0
	GUC	72	71	73	2	3	2	2	2	2	4	11	11	7	7	5	5	7	4	7	6	4	4	15	0	9	9	47	1	1	1	0	8	3	3	3	3	3	5	3	5	5	7	14	13	12	4	3	3	2	3	1
	GUG	66	65	65	1	3	2	9	21	21	16	18	18	10	11	18	12	2	7	22	9	12	11	14	1	14	14	73	2	2	2	3	25	9	9	9	9	9	22	20	14	12	12	20	20	3	11	1	4	4	2
	GUU	72	72	71	0	1	1	2	1	1	2	1	1	1	1	4	9	5	1	3	5	0	0	4	0	7	7	18	2	2	2	1	17	0	0	0	0	0	0	2	2	10	6	4	3	0	1	1	0	0	2
LYS	AAA	207	205	207	2	3	2	3	1	1	8	11	11	3	6	5	9	28	2	12	7	0	0	5	4	11	11	31	1	1	1	1	41	0	0	0	0	0	9	5	4	19	6	3	3	2	4	2	1	0	1
	AAG	152	151	152	3	6	4	8	12	12	16	22	22	10	8	13	28	14	3	30	16	4	2	14	2	17	18	82	5	5	5	1	25	4	4	4	4	4	15	30	10	11	8	11	11	1	10	8	2	1	2
ASN	AAC	115	115	115	1	1	1	8	0	0	6	13	13	8	10	7	12	5	2	14	4	6	6	13	1	14	14	48	2	2	2	3	25	3	3	3	3	3	14	15	7	8	8	9	9	4	5	4	5	4	4
	AAU	129	129	131	0	0	0	8	1	1	3	3	3	3	6	5	12	7	4	4	3	0	0	9	0	8	8	13	2	2	2	0	28	1	1	1	1	1	7	2	1	14	4	3	3	1	3	4	0	2	2
GLN	CAA	101	101	101	2	0	3	3	2	2	4	5	5	3	7	4	3	8	3	6	2	1	1	3	1	6	6	18	3	3	3	0	18	2	2	2	3	3	4	0	4	13	2	2	2	2	1	2	5	7	1
	CAG	129	129	128	5	3	5	4	30	30	2	12	12	19	15	20	10	14	4	28	10	5	5	19	2	19	20	72	6	6	6	7	15	4	4	4	3	3	19	12	10	10	11	11	11	15	5	12	5	9	6
HIS	CAC	55	57	57	0	0	0	1	2	2	5	5	5	10	12	7	4	6	1	6	1	7	6	5	0	7	7	23	1	1	1	2	14	1	1	1	1	1	8	14	8	4	1	6	6	4	2	1	4	6	4
	CAU	58	58	56	0	0	0	1	0	0	3	4	4	2	3	5	1	6	3	1	1	2	2	4	0	3	3	6	3	3	3	0	27	0	0	0	0	0	0	2	3	0	12	3	1	1	0	1	7	0	0
GLU	GAA	164	165	163	1	3	1	6	6	6	14	10	10	2	4	6	16	8	3	9	5	1	0	9	1	9	9	38	1	1	1	0	52	0	0	0	0	0	1	8	2	17	4	4	4	4	7	6	3	2	3
	GAG	133	134	134	5	5	7	7	34	34	4	25	25	20	16	21	22	10	5	17	2	9	9	27	0	15	14	85	8	8	8	6	29	5	5	5	5	5	18	21	13	8	8	7	7	10	8	13	10	8	8
ASP	GAC	94	93	92	1	3	2	4	8	8	10	10	10	19	9	19	13	6	7	9	8	7	7	14	2	13	13	65	7	7	7	3	24	5	4	5	4	5	12	18	9	10	3	5	5	1	4	4	8	11	8
	GAU	140	142	142	2	1	2	3	3	3	9	6	6	1	8	8	11	12	6	4	9	5	4	13	0	11	11	25	1	1	1	3	43	2	2	2	2	2	6	7	5	23	2	2	2	2	5	3	2	1	3
TYR	UAC	65	65	65	4	0	5	3	4	4	6	12	12	5	4	7	5	1	2	1	11	6	5	13	2	5	5	47	1	1	1	3	33	3	3	3	3	3	7	10	8	17	14	12	14	1	4	4	10	9	11
	UAU	86	87	87	0	0	0	4	0	0	3	7	7	1	1	1	7	5	3	2	3	2	1	11	0	2	2	10	1	1	1	1	31	0	0	0	0	0	3	0	3	5	2	3	2	0	4	7	4	5	4
CYS	UGC	14	14	13	0	0	0	4	2	1	0	4	4	7	8	5	4	1	3	4	3	1	0	3	0	2	2	20	2	2	2	2	6	8	8	8	8	8	2	4	8	1	8	9	9	2	1	1	6	5	6
	UGU	11	11	11	0	0	0	1	0	0	3	1	1	3	3	4	7	2	7	1	1	1	1	5	1	2	2	7	0	0	0	0	9	4	4	4	4	4	0	0	2	2	7	2	2	0	2	4	2	1	1
PHE	UUC	108	109	108	1	1	1	1	3	3	5	10	10	6	12	8	19	6	2	11	10	8	7	21	1	18	18	47	6	6	6	0	20	3	3	3	3	3	19	13	6	19	10	14	11	5	9	5	4	6	5
	UUU	115	115	114	2	3	3	7	1	1	4	4	4	1	2	5	8	7	3	4	8	4	2	15	1	6	6	13	1	1	1	1	32	0	0	0	0	0	6	3	3	17	1	8	9	1	7	5	0	0	1
ILE	AUA	54	53	53	0	0	0	0	1	1	4	1	1	1	1	1	3	4	4	6	1	1	1	3	1	3	3	8	0	0	0	1	12	0	0	0	0	0	0	2	4	1	0	0	0	0	3	2	0	2	0
	AUC	109	110	108	0	3	0	9	1	1	7	18	18	1	6	8	11	8	3	8	14	5	4	9	0	14	14	62	1	1	2	2	16	5	5	5	5	5	11	13	8	6	11	8	20	1	4	7	6	4	7
	AUU	123	125	123	0	1	1	2	0	0	12	8	8	0	1	6	10	11	3	4	5	1	1	5	2	1	1	13	1	1	1	0	30	0	0	0	0	0	4	1	4	8	7	4	4	2	5	3	0	0	1
MET	AUG	79	79	80	3	2	3	5	8	8	4	9	9	4	3	14	13	5	2	7	8	7	6	7	2	14	14	36	5	5	4	5	25	4	4	4	5	4	14	11	3	10	12	11	11	4	3	8	6	4	7
TRP	UGG	37	37	37	1	1	1	4	8	8	2	4	4	11	11	9	5	4	2	10	5	6	5	16	1	3	3	17	0	0	0	1	19	1	1	1	1	1	2	4	5	8	7	14	14	0	6	9	4	4	4
TER	UAA	1	1	1	0	0	1	1	0	0	1	0	0	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	1	0	0	1	0	0
	UAG	0	0	0	1	0	0	0	0	0	1	1	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	1	0	0	0	0	0	0	0	1	0	0	0
	UGA	0	0	0	0	1	0	0	1	1	0	0	0	0	1	0	0	0	1	1	0	1	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	1	1	1	0	1	0	0	1
TOTAL		456	145	644	564	85	84	102	190	318	318	323	413	413	292	312	464	465	361	172	459	299	240	206	530	59	501	501	1664	142	142	142	116	1066	166	166	166	166	166	166	407	382	347	470	349	365	365	197	225	216	175	175	176

3	HUM CRY GX4 *	HUM CS1	HUM CSF 1M3	HUM CSF GM	HUM CTH GMA	HUM CTH D	HUM CYP 145	HUM CYP 450	HUM CYP 4A7 *	HUM CYP C17	HUM CYP HLP	HUM CYP NO	HUM CYP SCC	HUM DBP	HUM ECG	HUM EF1 FB	HUM EGF AR	HUM EGF RN	HUM EGF RS	HUM EIF 2A	HUM ENK 2*	HUM ENK B4*	HUM ENO A	HUM EPA R	HUM ERM CF	HUM ERP A	HUM ERP EST R	HUM FAB PL	HUM FBR AA	HUM FBR G01	HUM FBR G02	HUM FCE R	HUM FCE RA	HUM FCI	HUM FER G2*	HUM FER H	HUM FER HC2 *	HUM FER L	HUM FER LS	HUM FIX A	HUM FIX G	HUM FIX G6*	HUM FIX 5*	HUM FOL A5*	HUM FOL HE5	HUM FOL PD1	HUM FOS	HUM FTR RA	HUM FVI I#1
ARG	CGA	1	0	1	0	0	0	2	2	1	3	3	2	1	5	2	0	2	8	1	0	4	3	3	4	0	6	1	1	1	1	0	2	2	2	0	6	6	6	6	6	1	1	1	1	3	2	2
	CGC	4	5	2	2	2	6	6	6	7	5	2	1	7	1	1	3	14	6	1	4	6	5	2	9	3	3	9	0	4	1	1	2	2	2	4	4	4	5	5	1	1	1	1	0	0	0	0	4	1	7
	CGG	7	3	3	2	2	1	12	12	13	2	1	2	8	1	1	0	10	6	2	4	4	1	4	4	3	3	4	0	0	2	2	9	9	4	0	0	0	0	0	3	3	3	3	0	0	0	0	1	3	13
	CGU	2	0	0	1	1	1	1	1	0	5	1	1	3	0	0	8	5	2	3	1	1	1	2	2	0	0	2	0	6	0	0	2	2	2	0	0	0	0	3	3	1	1	1	1	0	0	0	0	8	1
	AGA	1	0	3	1	1	0	4	4	2	2	10	10	6	0	4	8	4	9	8	1	3	0	8	1	1	1	8	2	14	6	7	3	3	0	0	0	0	0	0	7	8	8	8	5	5	5	2	2	13	2
	AGG	5	4	5	0	0	4	5	5	8	5	5	6	6	5	4	0	15	8	8	2	4	6	3	8	3	3	8	0	12	1	1	6	6	3	1	1	1	2	2	1	1	1	1	2	2	2	5	9	6	6
LEU	CUA	0	3	0	1	1	0	6	6	1	3	6	5	4	10	0	2	2	1	4	3	0	1	0	6	0	0	6	0	3	2	2	2	2	0	1	1	1	1	1	2	2	2	2	3	3	3	1	3	6	1
	CUC	7	10	7	5	5	10	7	7	13	13	14	14	12	9	5	2	30	14	3	5	11	10	5	16	9	9	16	2	2	5	5	3	3	5	2	2	2	8	8	5	5	5	5	4	4	4	3	6	7	13
	CUG	9	16	17	10	10	30	31	31	35	34	12	12	26	16	7	12	46	23	3	16	16	20	10	35	18	18	35	4	10	8	8	20	20	7	10	10	10	13	13	3	3	3	3	3	3	3	1	20	24	26
	CUU	0	2	2	1	1	1	4	4	4	5	14	13	7	11	2	3	8	5	6	4	2	2	1	3	3	3	3	0	4	4	5	5	5	2	2	2	2	3	3	9	9	9	9	4	4	4	0	1	11	3
	UUA	0	1	0	0	0	0	1	2	0	1	8	8	0	5	1	0	7	5	3	1	0	0	4	1	0	0	1	0	7	8	8	0	0	4	1	1	1	0	0	6	6	6	6	4	4	4	2	1	8	0
	UUG	3	0	8	2	2	0	4	4	8	8	7	7	8	6	3	7	18	7	6	2	4	3	4	12	3	3	12	2	7	5	6	7	7	2	6	6	6	6	2	2	3	3	3	3	1	1	1	3	1	15	4
SER	UCA	0	2	0	1	1	3	6	6	3	5	8	7	1	12	1	1	5	4	2	1	3	3	0	4	1	1	4	0	12	7	8	4	4	0	2	2	2	0	0	6	6	6	6	1	1	1	1	5	9	5
	UCC	5	8	5	1	1	16	10	10	13	9	5	5	8	9	1	5	25	12	3	4	4	5	6	9	4	4	9	2	9	4	4	10	10	6	3	3	3	3	3	5	5	5	5	3	3	3	3	17	6	11
	UCG	0	3	2	1	1	6	1	1	1	0	0	0	3	0	0	1	2	2	0	1	2	2	0	3	2	2	3	1	1	1	1	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	0	5	4	1
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	AGC	6	4	9	6	6	9	12	12	14	9	7	7	5	5	4	6	33	16	3	8	7	3	4	12	3	3	12	2	20	2	2	12	12	5	2	2	2	3	3	3	3	3	3	1	1	1	0	14	15	7
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THR	ACA	1	3	4	1	1	4	8	8	8	5	10	13	5	9	4	6	17	9	6	2	3	4	2	4	3	3	4	5	13	9	10	3	3	2	1	1	1	0	0	10	10	10	10	2	2	2	1	5	15	3
	ACC	3	6	6	7	7	10	13	13	13	17	9	9	16	11	6	9	26	16	3	4	4	5	9	12	2	2	12	5	14	7	7	7	7	9	4	4	4	4	5	7	7	7	7	3	3	3	2	9	11	10
	ACG	0	3	1	1	1	4	2	2	3	0	2	2	4	2	0	3	12	8	1	1	0	0	2	4	2	2	4	1	3	1	1	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	0	4	3	10
	ACU	1	1	2	4	3	3	1	1	5	3	4	4	2	10	2	11	9	3	4	1	3	9	3	5	4	4	5	0	21	12	12	2	2	3	1	1	1	2	2	12	13	12	12	1	1	1	0	6	15	1
PRO	CCA	0	2	3	2	2	6	10	10	6	5	14	14	5	10	3	12	19	10	3	3	1	4	4	6	6	6	6	0	11	4	5	3	3	4	1	1	1	2	2	9	8	8	8	7	7	7	1	6	12	8
	CCC	7	4	5	6	6	14	12	12	15	12	9	9	17	7	2	5	31	12	2	4	9	8	9	16	1	1	16	0	6	1	1	4	4	8	2	2	2	1	1	3	3	3	3	1	1	1	1	15	4	9
	CCG	1	1	2	2	2	5	1	1	5	2	0	0	3	1	1	0	7	4	1	2	1	1	0	9	1	1	9	1	1	0	0	2	2	0	0	0	0	1	1	0	0	0	0	1	1	1	1	4	1	4
	CCU	0	0	3	1	1	1	7	7	10	8	12	12	5	8	2	8	18	7	4	3	1	3	1	4	3	3	4	0	20	7	9	4	4	2	0	0	0	0	0	5	4	4	4	3	3	3	3	10	14	3
ALA	GCA	1	1	1	2	2	2	2	2	4	3	2	3	7	7	2	4	20	10	6	1	2	4	0	7	0	0	7	1	6	8	8	1	1	0	2	2	2	1	1	9	8	8	8	1	1	1	0	8	20	3
	GCC	2	5	6	5	5	18	14	14	23	15	7	7	16	9	2	8	32	16	5	8	6	19	9	24	13	13	24	1	7	8	8	10	10	9	6	6	6	9	8	5	5	5	5	2	2	2	0	17	8	15
	GCG	0	1	3	0	0	5	0	0	1	5	0	0	2	2	1	1	8	4	1	3	1	5	0	7	1	1	7	0	1	0	1	2	2	0	3	3	3	0	0	0	0	0	0	0	0	0	0	5	3	6
	GCU	1	4	1	2	2	3	7	7	3	7	11	10	7	15	1	26	12	6	10	2	6	15	5	9	6	6	9	2	9	12	11	6	6	6	2	2	2	5	5	10	9	10	10	2	2	2	1	10	29	3
GLY	GGA	0	3	0	0	1	4	4	4	3	14	14	8	4	0	7	18	13	4	3	5	2	4	3	10	2	2	10	0	31	14	13	2	2	3	2	2	2	0	0	14	15	15	15	1	1	1	0	2	19	7
	GGC	6	5	5	4	4	22	15	15	13	14	6	6	14	5	6	15	34	19	4	10	5	11	6	19	6	6	19	2	15	11	11	9	9	5	2	2	2	7	7	9	9	9	9	5	5	5	2	11	9	24
	GGG	4	3	2	0	0	11	9	9	9	6	4	4	6	3	7	3	18	10	1	6	12	13	4	10	4	4	10	6	13	5	5	7	7	4	1	1	1	1	1	4	4	4	4	1	1	1	0	6	10	14
	GGU	1	1	0	0	0	5	3	3	3	6	2	2	3	1	1	19	14	11	5	3	4	10	0	7	0	0	7	3	13	5	5	4	4	0	2	2	2	4	4	8	8	8	8	6	6	6	2	0	14	0
VAL	GUA	0	0	2	1	1	0	5	5	2	2	3	3	2	6	0	4	2	1	4	2	1	2	0	1	1	1	1	0	5	4	4	0	0	0	0	0	0	0	0	5	5	5	5	3	3	3	2	0	8	1
	GUC	2	2	8	3	3	12	13	13	13	6	10	9	14	8	1	15	26	15	8	0	2	12	5	7	9	9	7	2	10	2	3	3	3	5	0	0	0	2	2	3	3	3	3	3	3	3	2	8	13	13
	GUG	4	4	6	2	2	21	19	19	17	17	19	19	16	7	3	10	37	18	10	3	3	12	3	17	2	2	17	7	9	4	4	9	9	4	5	5	5	4	4	7	7	7	7	3	3	3	3	8	17	17
	GUU	0	1	0	0	0	1	2	2	1	5	7	7	4	6	1	15	5	1	6	1	1	7	1	1	1	1	1	1	8	5	4	1	1	3	1	1	1	0	0	22	22	22	22	5	5	5	2	2	18	1
LYS	AAA	1	1	1	1	1	4	4	4	5	10	21	21	7	20	3	20	30	16	14	12	5	11	3	10	3	3	10	4	24	18	18	3	3	3	8	8	8	3	3	12	12	12	12	8	8	8	1	3	33	5
	AAG	2	8	10	5	5	19	20	20	21	27	18	17	18	23	9	27	37	20	7	9	15	27	5	19	5	5	19	11	16	15	15	10	10	5	5	5	5	9	9	17	16	16	16	9	9	9	6	11	17	14
ASN	AAC	4	6	4	2	2	9	12	12	13	12	9	9	16	6	3	9	43	30	4	2	3	14	3	19	1	1	19	4	16	8	8	10	10	3	6	6	6	4	4	17	17	17	17	3	3	3	4	5	16	9
	AAU	0	1	5	2	2	2	10	10	5	16	9	9	7	12	5	7	22	15	10	4	3	10	1	6	5	5	6	3	13	16	16	1	1	1	6	6	6	2	2	15	15	15	15	7	7	7	6	3	26	4
GLN	CAA	7	5	5	0	0	4	4	4	1	3	4	5	2	8	0	7	8	3	3	2	1	1	2	4	0	0	4	2	8	10	10	4	4	2	2	2	2	1	1	7	7	7	7	3	3	3	1	2	11	2
	CAG	5	8	14	9	9	17	18	18	23	17	10	10	21	4	6	8	41	21	4	5	9	10	10	21	8	7	21	5	10	14	14	17	17	10	8	8	8	6	6	7	7	7	7	4	4	4	3	7	12	21
HIS	CAC	4	4	3	2	2	6	11	11	8	9	4	4	12	3	3	5	20	11	1	2	0	3	5	14	2	2	14	1	8	4	5	7	7	5	5	5	5	5	5	4	4	4	4	1	1	1	2	5	4	13
	CAU	0	3	3	1	1	0	4	4	5	6	5	4	3	4	2	5	11	8	2	1	1	3	1	8	1	1	8	0	8	7	7	2	2	2	5	5	5	2	2	6	6	6	6	2	2	2	0	0	9	2
GLU	GAA	9	5	6	5	5	0	4	4	2	7	19	19	8	28	5	14	42	18	27	20	3	9	3	7	5	5	7	8	27	20	22	12	12	3	7	7	7	5	5	33	33	33	33	11	11	11	3	9	21	5
	GAG	10	9	15	8	8	17	23	22	24	19	13	12	22	16	7	13	35	22	11	14	20	20	7	29	7	8	29	5	17	2	4	17	17	6	9	9	9	11	11	10	10	10	10	5	5	5	3	22	25	25
ASP	GAC	8	14	7	4	4	18	17	18	19	17	10	10	14	8	4	12	41	17	4	7	8	14	3	16	4	4	16	3	12	14	14	14	14	4	10	10	10	8	8	7	7	7	7	4	4	4	2	14	23	17
	GAU	2	1	5	0	0	3	5	5	4	11	16	16	8	15	3	14	20	11	17	7	6	12	2	8	2	2	8	1	23	18	20	4	4	3	5	5	5	5	5	12	12	12	12	5	5	5	0	6	20	4
TYR	UAC	10	4	4	2	2	17	7	7	9	5	5	5	12	7	5	6	22	10	3	4	4	7	4	16	3	3	16	1	5	7	8	3	3	4	8	8	8	4	4	5	5	5	5	2	2	2	0	6	9	10
	UAU	4	4	2	0	0	2	6	6	1	4	11	11	7	9	3	6	14	8	9	7	4	4	2	7	1	1	7	0	4	15	16	2	2	2	1	1	1	3	3	11	11	11	11	4	4	4	1	1	19	2
CYS	UGC	6	4	7	4	4	7	3	3	4	2	2	2	2	0	14	1	4	44	39	0	0	6	6	6	9	8	2	2	8	0	7	4	4	8	8	9	0	0	0	0	5	5	5	5	1	1	1	2	6	16
	UGU	2	1	2	1	1	2	6	6	3	3	5	5	1	14	2	2	16	12	5	1	1	0	3	5	3	3	5	1	2	7	7	2	2	3	3	3	3	1	1	19	19	19	19	0	0	0	0	2	6	10
PHE	UUC	4	8	6	1	1	11	20	19	29	18	12	12	22	8	3	6	20	8	3	8	5	12	7	11	4	4	11	7	9	10	10	5	5	8	2	2	2	8	8	9	9	9	9	3	3	3	4	15	22	12
	UUU	0	4	5	4	4	3	11	11	4	6	19	20	9	11	3	8	16	12	4	3	7	5	4	4	0	0	4	1	11	10	10	2	2	3	4	4	4	0	0	12	12	12	12	6	6	6	0	1	24	2
ILE	AUA	0	0	1	0	0	0	1	1	1	7	4	3	2	2	2	1	14	11	1	0	0	0	2	2	0	0	2	1	5	6	6	0	0	1	0	0	0	0	0	1	1	1	1	1	1	1	0	0	6	1
	AUC	6	5	3	5	5	18	22	23	20	23	12	13	18	3	3	11	38	13	5	2	2	19	6	12	5	5	12	9	6	8	8	5	5	5	5	5	5	2	2	7	7	7	7	3	3	3	3	5	9	13
	AUU	0	2	5	0	1	5	9	9	5	6	13	13	6	3	1	18	17	10	16	1	2	8	1	5	0	0	5	2	8	13	13	2	2	1	1	1	1	1	1	17	17	17	17	5	5	5	3	3	17	3
MET	UAG	6	7	5	5	5	10	16	15	10	12	19	19	17	8	2	12	25	12	10	12	5	9	4	27	2	2	27	4	12	9	9	7	7	4	5	5	5	5	5	6	6	6	6	7	7	7	5	10	14	6
TRP	UGG	4	2	3	3	3	4	8	8	9	9	5	5	11	1	1	5	13	6	1	4	3	3	4	5	5	5	5	0	11	11	11	11	11	4	1	1	1	1	1	7	7	7	7	3	3	3	3	2	11	9
TER	UAA	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0
	UAG	0	1	1	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	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	UGA	0	0	0	1	1	0	0	0	1	0	1	1	1	0	0	1	1	1	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0
TOTAL		175	218	257	145	145	413	513	513	517	509	505	504	522	475	156	463	1211	658	316	268	255	435	208	596	194	194	596	128	645	438	454	322	322	207	184	184	184	176	176	463	462	462	462	188	188	188	98	381	761	467

4		HUM FVI I02	HUM FVI II	HUM FVI IIB	HUM FVI IIC	HUM FX0 *	HUM FXI	HUM FXI IIA	HUM G3P D	HUM G3P DA	HUM G3P DC	HUM G6P DR	HUM GAS T	HUM GAS T2	HUM GC	HUM GCB	HUM GCB L	HUM GCR A	HUM GCR B	HUM GCS FG	HUM GCS FR	HUM GCS FR1	HUM GFI 2	HUM GFI 24*	HUM GFI AB5 *	HUM GFI B	HUM GFI GG	HUM GH0 1	HUM GH0 2	HUM GHB	HUM GHV	HUM GLU TRN	HUM GLY CA4 *	HUM GLY PL	HUM GP3 A	HUM GRF P5*	HUM GRP 5E	HUM HBA 1	HUM HBA 4@1	HUM HBA 4@2	HUM HBB @1	HUM HBB @2	HUM HBB @3	HUM HBB @4	HUM HBB @5	HUM HIS 10G	HUM HLA DZA	HUM HLD @1 OBR	HUM HLD @2 OBR	HUM HLD PWB	HUM HLD QWB
ARG	CGA	2	12	12	12	0	3	5	1	1	1	1	2	2	2	4	4	5	5	0	0	0	0	0	0	0	2	0	0	0	0	1	0	6	8	1	1	0	0	0	0	0	0	0	0	0	1	1	3	1
	CGC	7	10	10	10	9	2	4	2	2	2	15	3	3	1	9	9	1	1	3	3	3	7	7	2	2	2	4	4	4	6	9	0	12	7	1	2	4	0	0	0	0	0	1	0	3	3	0	0	3	3
	CGG	12	6	6	6	5	1	9	0	0	0	4	0	0	1	3	3	2	2	1	1	1	2	2	2	2	0	2	2	2	2	9	0	8	11	4	1	0	1	1	0	0	0	0	0	2	0	1	1	7	10
	CGU	1	8	8	8	2	3	5	4	4	4	5	0	0	0	3	4	0	0	0	0	0	6	6	1	1	3	1	1	1	1	2	0	2	6	1	1	0	1	1	0	0	0	0	0	0	1	1	1	1	2
	AGA	1	37	37	37	2	12	15	0	0	0	3	0	0	5	2	2	11	11	0	0	0	1	1	1	4	3	0	0	0	0	0	2	7	2	0	4	0	0	0	2	1	1	1	0	0	2	8	8	2	4
	AGG	6	31	31	31	11	8	7	3	3	3	4	2	2	5	0	0	8	8	1	1	1	4	4	5	7	6	5	5	5	5	0	2	8	4	4	3	2	1	1	0	2	2	2	3	1	1	6	6	5	5
LEU	CUA	1	25	25	25	1	4	3	2	1	1	1	2	2	10	8	8	6	6	1	1	2	1	1	1	1	0	4	4	4	2	3	2	8	4	0	2	1	1	1	0	0	0	1	0	1	0	5	5	0	0
	CUC	13	30	30	30	15	4	10	9	9	9	12	1	1	9	11	11	11	10	6	7	7	6	6	4	4	1	10	10	10	10	13	1	19	20	5	4	3	2	2	4	3	3	2	3	1	5	3	3	2	3
	CUG	26	49	49	49	17	15	23	5	6	6	27	7	7	16	24	23	26	25	18	25	24	9	9	5	6	3	16	15	16	19	40	2	34	31	6	10	12	14	14	11	12	12	13	15	2	14	15	15	16	14
	CUU	3	39	39	39	2	6	5	1	1	1	1	0	0	11	8	9	13	11	2	2	2	2	2	2	2	4	2	2	2	2	1	8	2	1	0	0	1	1	0	0	0	0	0	0	0	4	4	2	5
	UUA	0	33	33	33	3	8	4	1	1	1	0	1	1	5	1	2	11	12	1	1	1	0	0	1	1	1	1	1	1	1	0	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
	UUG	4	46	46	46	1	9	4	1	1	1	2	0	0	6	6	7	14	13	3	3	3	1	1	2	1	3	0	0	0	0	0	2	10	7	2	2	1	0	0	1	2	2	1	0	1	0	3	3	2	2
SER	UCA	4	54	54	54	2	9	5	1	1	1	3	0	0	12	7	7	22	21	0	0	0	0	0	1	1	3	3	2	3	3	4	2	4	7	0	2	0	0	0	0	0	0	0	2	0	2	2	0	1
	UCC	11	29	29	29	8	6	13	10	10	10	9	2	2	9	7	7	13	13	3	3	3	2	2	3	3	4	7	7	7	8	14	4	12	20	4	0	7	4	4	1	5	5	2	2	12	3	4	4	3	4
	UCG	1	4	4	4	0	1	2	1	1	1	2	0	0	0	3	3	3	3	1	1	1	3	3	1	1	0	1	1	1	2	2	1	2	1	0	1	1	0	0	1	0	0	0	0	3	1	0	0	0	2
	UCU	3	52	52	52	2	17	10	5	5	5	1	3	3	10	4	4	24	25	1	2	2	0	0	2	4	3	3	3	3	3	3	2	8	10	0	6	2	3	3	3	3	2	2	1	0	2	7	7	5	5
	AGC	7	39	39	39	14	10	12	4	4	4	6	0	0	5	10	10	15	16	6	9	9	6	6	4	4	3	5	5	5	6	8	0	6	17	8	4	3	4	4	3	2	2	0	0	2	3	4	4	5	7
	AGU	4	41	41	41	3	8	4	0	0	0	1	1	1	6	8	8	8	7	2	2	1	1	1	4	4	4	3	3	2	1	4	1	4	8	0	1	0	0	0	1	2	2	2	2	1	1	2	2	2	2
THR	ACA	2	53	53	53	5	15	10	1	1	1	1	1	1	9	10	10	18	19	2	2	2	0	0	2	4	2	5	5	5	3	5	2	8	3	0	1	0	0	0	0	2	2	0	1	1	1	4	4	5	4
	ACC	10	36	36	36	22	16	19	13	13	13	15	0	0	11	17	17	15	13	6	7	7	9	9	6	7	6	4	4	4	3	12	1	16	26	3	2	8	9	9	2	5	5	2	3	7	6	6	6	7	8
	ACG	10	4	4	4	9	7	4	0	0	0	2	0	0	1	3	3	3	3	0	0	0	1	1	2	3	0	2	2	2	3	5	3	6	7	0	0	2	0	0	0	0	0	0	0	3	0	1	1	4	2
	ACU	1	62	62	62	0	15	12	7	7	7	2	0	0	10	2	2	13	13	0	0	0	0	0	0	0	1	1	1	1	1	4	3	9	11	0	0	2	0	0	4	3	3	3	3	1	0	5	5	1	2
PRO	CCA	8	57	57	57	3	9	9	0	0	0	2	4	4	10	4	4	16	16	0	0	0	2	2	1	4	2	2	1	2	2	3	4	11	11	2	1	0	0	0	0	1	1	1	2	3	3	6	6	2	2
	CCC	9	25	25	25	10	10	14	9	9	9	19	5	5	6	18	18	12	11	7	11	11	9	9	3	4	0	6	6	6	4	16	1	7	15	1	3	1	3	3	4	1	1	0	0	9	2	2	5	7
	CCG	2	3	3	3	2	1	1	0	0	0	2	1	1	1	1	1	1	1	1	1	1	2	2	1	1	0	1	1	1	0	1	1	3	1	0	3	4	2	2	0	0	0	0	0	2	2	0	1	1
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ALA	GCA	3	40	40	40	2	7	9	1	1	1	4	3	3	7	8	9	17	17	4	4	4	1	1	3	2	1	1	1	1	3	4	2	15	8	4	2	0	0	0	0	2	3	1	0	3	3	4	4	3	2
	GCC	14	26	26	26	22	10	16	16	16	16	22	5	5	9	20	19	4	4	14	16	16	11	11	3	3	6	6	5	6	5	18	1	24	21	3	1	12	13	13	9	6	6	6	9	20	13	2	2	3	5
	GCG	6	3	3	3	3	3	3	1	1	1	0	0	0	2	1	1	3	3	1	1	1	1	1	2	2	0	0	0	0	0	3	1	3	4	0	5	4	6	6	0	0	0	0	0	1	0	0	0	4	3
	GCU	2	41	41	41	2	10	9	13	13	13	3	3	3	15	13	13	13	12	2	3	3	4	4	4	5	6	3	3	3	3	9	3	14	5	0	2	0	2	2	8	3	3	8	6	5	1	7	7	3	2
GLY	GGA	5	49	49	49	5	17	15	5	5	5	1	3	3	5	10	11	29	28	3	4	4	1	1	4	7	2	0	0	0	0	4	0	15	7	3	2	0	0	0	3	6	5	0	0	0	1	4	4	7	3
	GGC	23	30	30	30	16	11	16	15	15	15	17	2	2	5	14	14	7	7	5	6	6	6	6	3	4	5	8	8	8	8	27	1	13	28	1	5	5	5	5	4	6	6	8	8	2	8	5	5	5	6
	GGG	12	24	24	24	16	10	10	9	9	9	9	1	1	3	9	9	6	6	3	3	3	4	4	3	4	1	3	3	3	2	7	1	13	16	0	6	1	0	0	0	0	0	1	1	3	4	10	10	8	8
	GGU	0	26	26	26	3	5	9	4	4	4	4	2	2	1	4	3	10	10	2	2	2	1	1	0	1	1	0	0	0	0	8	2	8	6	1	4	0	2	2	2	1	1	4	4	2	3	2	2	0	2
VAL	GUA	1	31	31	31	1	5	5	0	0	0	0	0	0	7	4	4	6	6	0	0	0	0	0	1	0	3	0	0	0	0	0	2	5	5	1	1	1	0	0	0	0	0	0	0	1	0	1	1	0	1
	GUC	12	31	31	31	8	10	22	15	15	16	8	0	0	8	5	5	5	5	2	2	2	1	1	1	1	1	3	3	3	3	9	4	13	17	0	3	4	3	3	3	3	2	2	2	2	5	4	8	8	7	4
	GUG	17	35	35	35	14	15	30	15	15	14	24	3	3	6	18	18	15	14	4	5	4	7	7	4	4	3	4	4	4	5	30	3	35	26	4	2	6	9	9	8	9	9	13	13	5	7	19	19	15	18
	GUU	1	29	28	28	0	8	14	2	2	2	1	0	0	6	4	4	16	16	2	2	2	1	1	0	0	1	0	0	0	0	5	1	3	5	0	2	0	1	1	2	2	2	2	3	0	0	2	2	4	3
LYS	AAA	5	95	95	95	8	23	15	8	7	7	3	0	0	20	6	6	34	32	0	0	0	1	1	1	6	5	1	1	1	3	3	4	25	11	0	4	0	1	1	1	2	2	1	3	12	2	2	2	1	2
	AAG	12	63	63	63	25	18	23	18	19	19	26	3	3	24	16	16	17	15	4	5	5	6	6	10	14	4	8	6	8	7	13	3	39	34	4	5	9	10	10	13	10	10	10	8	44	2	6	6	6	5
ASN	AAC	9	43	43	43	17	10	18	14	15	15	22	2	2	6	11	11	17	16	0	0	0	1	1	4	3	5	9	9	9	8	11	4	28	14	4	6	1	4	4	6	3	3	5	5	2	2	4	4	5	7
	AAU	4	82	82	82	4	11	22	4	4	4	3	0	0	12	8	8	23	20	0	0	0	1	1	0	1	3	0	0	0	1	3	0	23	20	0	2	0	0	0	1	2	2	3	1	1	0	5	5	5	1
GLN	CAA	2	54	54	54	1	15	15	1	1	1	0	0	0	8	2	2	18	16	2	2	2	2	2	1	1	5	3	3	3	2	3	1	7	4	3	3	0	0	0	0	0	0	1	0	0	0	2	2	3	1
	CAG	21	56	56	56	18	12	12	6	6	6	19	8	8	4	19	19	24	23	16	18	18	3	3	4	9	5	11	9	11	12	18	4	23	26	7	7	3	1	1	3	4	4	4	3	5	6	13	13	14	11
HIS	CAC	12	31	31	31	8	12	9	4	4	4	10	1	1	3	13	12	6	7	2	4	4	3	3	2	2	1	2	2	2	2	3	3	12	4	2	3	7	10	10	3	3	3	3	4	7	2	2	4	6	7
	CAU	2	44	44	44	1	10	5	6	6	6	1	2	2	4	6	6	5	4	2	2	2	0	0	2	2	3	1	1	1	0	2	2	7	5	0	0	0	0	0	4	4	4	3	2	0	2	2	2	0	0
GLU	GAA	4	90	90	90	14	18	28	3	3	3	2	5	5	27	8	8	29	27	4	4	4	0	0	1	3	7	6	3	6	4	4	2	34	16	2	4	0	0	0	3	4	4	1	2	2	2	5	5	3	3
	GAG	25	59	58	58	30	13	20	10	10	10	33	5	5	16	10	10	17	16	5	7	6	10	10	4	7	6	9	9	9	9	20	2	28	37	3	6	6	4	4	6	4	4	6	6	3	7	10	10	15	14
ASP	GAC	16	41	42	42	24	15	28	13	12	12	18	3	3	10	16	16	17	17	3	3	3	7	7	2	2	7	9	9	9	8	4	0	27	32	2	0	8	8	8	3	3	3	2	2	4	5	4	4	5	6
	GAU	4	78	79	79	3	13	19	8	8	8	9	2	2	16	9	10	22	21	1	1	1	0	0	4	4	9	2	2	2	2	3	3	26	21	1	3	0	0	0	2	5	5	5	5	0	2	8	8	5	4
TYR	UAC	10	29	29	29	12	14	12	5	5	5	14	0	0	7	14	14	6	6	2	3	3	4	4	2	1	2	5	5	5	4	7	2	20	15	1	2	3	2	2	2	2	2	1	1	3	4	4	8	8
	UAU	2	50	50	50	2	8	17	4	4	4	7	2	2	9	5	5	16	14	0	0	0	1	1	3	4	2	3	1	3	6	6	5	15	12	1	0	0	1	1	0	0	0	1	2	2	1	4	4	0	2
CYS	UGC	16	18	18	18	13	21	6	3	3	3	6	0	0	14	3	3	10	9	2	4	4	4	4	7	8	0	3	3	3	4	4	8	4	26	1	1	1	1	1	0	0	0	0	0	0	3	3	4	4
	UGU	10	8	8	8	11	15	3	0	0	0	1	1	1	14	4	4	10	10	0	1	1	4	4	3	3	0	2	2	2	1	2	2	3	30	0	0	0	0	0	1	1	1	2	2	0	1	2	2	1	0
PHE	UUC	12	47	47	47	19	14	17	8	7	8	20	2	2	8	18	17	10	8	5	5	5	10	10	6	6	5	10	9	10	8	30	4	21	11	3	1	7	7	7	2	5	5	3	3	2	5	8	8	10	7
	UUU	2	62	62	62	2	15	14	6	7	6	5	1	1	11	8	8	14	12	1	1	1	0	0	3	3	6	4	4	4	4	9	2	19	12	1	0	7	0	0	7	3	3	5	5	0	4	5	5	1	2
ILE	AUA	1	29	29	29	1	13	3	0	0	0	1	0	0	2	1	1	6	5	0	0	0	0	0	0	0	1	0	0	0	0	2	1	8	2	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0
	AUC	13	28	28	28	14	10	19	17	17	17	21	1	1	3	14	14	9	7	3	4	4	2	2	2	3	1	6	5	6	6	31	1	28	21	4	1	6	0	0	1	3	3	0	0	6	7	7	7	7	12
	AUU	3	53	53	53	3	15	16	5	5	5	4	0	0	3	6	6	19	18	0	0	0	2	2	0	1	6	2	2	2	2	4	0	20	10	0	0	1	0	0	4	0	0	0	0	1	1	2	2	1	1
MET	AUG	5	61	61	61	8	6	20	10	10	10	13	2	2	8	10	10	23	22	6	6	6	4	4	6	5	5	3	3	4	4	17	4	23	17	5	3	2	3	3	4	3	3	3	2	2	5	8	8	8	5
TRP	UGG	8	37	37	37	6	10	15	3	3	3	7	4	4	1	13	13	7	8	3	4	4	1	1	0	1	4	2	2	2	3	6	0	12	8	2	3	2	1	1	3	3	3	2	2	0	1	7	7	4	5
TER	UAA	0	0	0	0	0	0	0	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1	0	0	0	0	1	0	1	1	1	1	0
	UAG	1	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	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	UGA	0	1	1	1	1	1	1	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	1	1	1	1	0	0	0	0	0	1
TOTAL		445	235	223	232	352	489	626	733	336	336	336	480	102	102	475	516	517	778	743	172	208	205	181	181	154	196	180	218	203	218	218	493	117	848	789	109	149	143	143	143	148	148	148	148	148	195	157	274	274	259	262

5		HUM HLD R1B	HUM HMG 14	HUM HMG 17	HUM HMG COA	HUM HPA 1B	HUM HPA 1S	HUM HPA 2B	HUM HPA RS1	HUM HPR T	HUM IFN 15K	HUM IFN A01	HUM IFN A03	HUM IFN A04	HUM IFN A20	HUM IFN AA	HUM IFN AB	HUM IFN AC	HUM IFN AD	HUM IFN AF	HUM IFN AFH	HUM IFN AGS	HUM IFN AH	HUM IFN AH2	HUM IFN AI	HUM IFN AN	HUM IFN ATA	HUM IFN ATB	HUM IFN ATC	HUM IFN ATD	HUM IFN AMA	HUM IFN B1F	HUM IFN B2	HUM IFN G	HUM IGH *	HUM IL1 AE2	HUM IL1 BR	HUM IL1 P	HUM IL2 A	HUM IL2 B	HUM IL2 R8*	HUM IL2 RA	HUM IL2 RX6 *	HUM IL2 S3*	HUM IL3	HUM IL4	HUM INF AIP	HUM INH A	HUM INS 1	HUM INS PR
ARG	CGA	2	0	0	7	1	1	1	1	2	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	1	1	4	4	3	3	1	0	0	0	0	0	0	2	1	0	2	1	1
	CGC	1	0	0	4	2	2	4	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	7	0	0	0	0	0	0	1	1	1	0	2	1	0	6	2	2
	CGG	9	1	0	3	1	1	1	1	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	5	1	1	1	0	0	0	2	2	0	1	2	0	6	1	1
	CGU	1	0	0	11	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1
	AGA	3	1	3	12	1	1	1	1	3	0	6	6	6	6	6	6	6	6	6	6	6	6	6	5	6	6	8	7	6	6	5	4	2	6	0	0	2	2	2	2	7	7	7	2	0	1	5	6	0	0
	AGG	2	3	1	6	1	1	1	1	5	2	4	5	5	3	4	3	6	5	4	4	5	5	5	5	4	5	7	4	3	4	5	1	1	7	2	2	2	3	3	3	5	5	5	3	3	4	5	7	0	0
LEU	CUA	0	0	0	10	2	2	2	2	1	1	2	2	2	3	1	3	2	1	1	1	2	1	1	3	2	1	1	1	3	2	2	2	0	1	2	2	1	5	5	5	1	1	1	5	0	2	3	3	1	1
	CUC	5	0	0	12	7	7	7	7	3	2	4	5	6	4	8	4	7	9	5	5	5	5	6	6	4	6	6	4	4	4	9	5	2	11	6	6	5	4	4	4	9	9	9	4	7	5	6	6	4	4
	CUG	18	0	0	8	12	13	13	14	5	18	12	10	12	11	10	11	10	10	11	13	10	9	9	11	12	9	12	11	11	12	11	16	3	18	12	12	12	9	9	9	6	6	6	8	12	8	11	35	14	14
	CUU	3	0	0	29	3	3	4	4	4	1	2	2	2	2	1	2	3	0	2	2	2	2	2	3	2	2	3	2	2	2	4	3	4	1	0	0	1	3	3	3	1	1	1	4	3	1	3	4	0	0
	UUA	0	1	0	19	3	3	4	4	2	0	2	2	2	2	2	2	2	3	3	3	2	2	2	2	2	2	3	2	2	0	0	1	3	0	0	2	5	5	5	0	0	0	5	2	1	2	0	0	0
	UUG	3	1	1	14	1	0	1	0	6	0	2	3	2	5	5	5	2	4	2	1	3	3	3	2	1	3	2	3	5	2	4	2	4	6	4	4	4	1	1	1	1	1	1	1	4	5	2	5	1	1
SER	UCA	1	2	0	17	2	3	2	3	2	1	2	2	2	3	3	3	2	3	2	2	2	3	3	2	1	3	4	3	3	2	1	2	1	4	3	3	7	2	2	2	2	2	2	2	1	1	2	5	1	1
	UCC	4	1	1	12	4	3	4	3	2	2	5	5	6	4	2	3	6	4	6	6	5	3	3	5	5	3	3	2	4	5	2	5	2	21	6	6	5	0	0	0	3	3	3	0	1	3	6	7	2	2
	UCG	0	1	0	1	1	1	2	2	0	2	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7	0	0	0	0	0	0	1	1	1	0	0	1	0	1	0	0
	UCU	4	3	1	15	3	3	3	3	0	0	6	6	5	7	5	7	5	5	6	6	6	6	7	7	6	5	6	7	6	1	2	1	7	4	4	6	3	3	3	2	2	2	3	1	0	6	8	0	0	0
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	AGU	4	1	0	14	2	2	2	2	4	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	2	4	4	6	4	4	6	3	3	3	5	5	5	3	1	1	2	2	0	0
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	ACG	3	1	0	2	3	3	3	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	13	1	1	1	0	0	0	3	3	3	0	5	2	0	2	0	0
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PRO	CCA	5	1	3	12	2	1	2	1	5	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	7	2	4	3	3	5	0	0	0	8	8	8	0	4	0	0	10	1	1
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	CCG	0	1	0	1	3	3	4	4	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	13	0	0	0	0	0	0	1	1	1	0	0	0	0	3	0	0
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ALA	GCA	2	5	4	25	7	7	9	9	3	0	2	3	3	2	2	2	2	2	2	3	3	3	3	2	3	2	4	2	2	1	5	5	0	3	3	3	4	4	4	4	4	4	4	4	2	3	3	3	3	3
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GLY	GGA	7	3	6	18	6	6	9	9	8	0	3	2	2	0	1	0	2	2	2	2	2	0	0	2	3	0	1	3	0	3	2	3	1	2	3	3	0	2	2	2	4	4	4	2	1	1	2	5	1	1
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	GGG	9	2	2	13	7	7	7	7	2	3	2	1	1	1	2	1	1	0	1	1	1	1	1	1	2	1	1	0	1	2	2	1	1	15	1	1	3	0	0	0	4	4	4	0	1	0	1	12	4	4
	GGU	2	0	1	20	4	4	4	4	2	2	1	0	1	1	1	1	1	0	1	1	0	0	0	1	1	0	1	0	1	1	1	2	3	6	1	1	2	0	0	0	5	5	5	0	1	2	1	5	1	1
VAL	GUA	0	0	1	11	5	5	6	6	4	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	3	1	4	4	3	2	2	2	1	1	1	2	0	1	0	1	0
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	GUU	4	0	0	24	9	9	11	11	4	0	2	2	2	1	1	1	2	1	2	2	2	2	2	2	2	2	2	3	1	2	1	1	1	0	3	3	3	1	1	1	2	2	2	1	1	0	2	1	0	0
LYS	AAA	1	11	8	19	9	9	11	11	8	1	5	6	5	4	4	4	5	4	5	5	6	5	5	5	5	5	3	3	4	5	5	4	7	13	5	7	7	9	5	5	6	6	6	5	3	3	5	0	0	0
	AAG	7	10	13	22	19	19	24	24	8	7	5	4	4	7	7	7	3	5	6	6	4	6	6	4	5	6	6	6	7	5	8	7	8	16	14	13	12	6	6	6	5	5	5	6	4	9	4	3	2	2
ASN	AAC	5	2	1	20	6	6	7	7	0	2	2	1	1	3	2	3	2	4	2	2	1	4	4	3	2	4	2	4	3	2	9	8	3	13	6	6	7	4	4	4	4	4	4	8	6	3	4	3	3	3
	AAU	3	0	3	23	12	12	14	14	8	1	4	4	4	1	2	1	4	2	4	4	4	5	5	4	4	5	3	3	1	4	4	3	7	3	6	6	8	6	6	6	1	1	1	6	5	1	4	1	0	0
GLN	CAA	2	2	0	9	5	4	5	4	0	1	5	4	5	4	4	4	4	5	2	5	4	4	6	6	5	5	6	3	4	4	5	4	4	4	3	6	6	7	4	4	4	7	7	7	4	4	1	5	1	2	2
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HIS	CAC	5	0	0	5	6	6	7	7	1	3	1	2	2	1	1	1	1	1	1	2	1	1	1	1	1	2	1	1	1	2	1	0	13	4	4	1	1	1	1	5	5	5	1	1	5	1	12	2	2
	CAU	1	0	0	9	5	5	6	6	4	0	2	2	3	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	3	1	2	1	0	0	5	2	2	2	1	1	1	2	2	1	2	6	0	0
GLU	GAA	7	10	4	45	10	10	13	13	7	2	4	7	6	6	6	7	6	6	8	8	7	7	7	6	4	7	6	6	6	4	5	6	2	14	14	13	9	9	9	13	13	13	9	4	4	5	3	3	3
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TYR	UAC	6	0	0	9	6	6	10	10	3	2	4	4	4	5	4	5	4	3	3	3	4	3	3	4	4	3	4	4	5	4	6	3	2	10	5	5	5	3	3	3	4	4	4	3	0	1	4	5	4	4
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CYS	UGC	5	0	0	10	4	4	5	5	1	0	1	2	1	1	3	1	1	3	2	2	2	3	3	1	1	3	2	2	1	1	2	2	2	12	5	5	2	1	1	1	8	8	8	1	1	4	1	4	5	5
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PHE	UUC	13	0	0	16	2	2	2	2	2	4	10	9	7	9	6	9	6	4	7	7	9	8	7	5	10	7	7	6	9	10	6	8	4	16	13	12	7	1	1	1	5	5	5	1	4	7	5	12	2	2
	UUU	1	0	0	16	6	6	6	6	7	0	4	4	4	3	5	3	4	5	5	5	4	5	5	5	4	5	3	5	3	4	4	3	7	6	7	8	6	5	5	5	3	3	3	5	1	2	5	0	1	1
ILE	AUA	0	0	0	16	4	4	5	5	3	0	1	2	2	2	1	2	3	0	2	2	2	1	1	3	1	1	0	1	2	1	2	1	2	1	3	3	3	1	1	1	4	4	4	1	1	0	3	0	0	0
	AUC	3	0	0	14	7	7	7	7	2	2	7	7	7	8	6	8	8	7	7	7	7	5	5	7	7	5	5	7	8	7	4	5	5	15	6	6	11	4	4	4	4	4	4	4	4	6	7	6	1	1
	AUU	1	0	0	30	5	5	6	6	10	1	2	0	0	0	1	0	0	0	1	1	0	1	1	0	2	1	1	0	0	2	6	3	2	1	0	0	5	5	5	5	1	1	1	5	4	0	0	0	1	1
MET	AUG	5	1	1	33	5	5	5	5	7	3	7	7	6	6	6	6	6	8	7	6	7	12	12	7	7	12	8	10	6	7	5	6	5	9	12	12	7	6	6	6	13	13	13	6	4	2	7	5	2	2
TRP	UGG	5	0	0	7	7	7	8	8	0	2	2	2	2	1	2	1	2	2	2	2	2	2	2	2	3	2	3	2	1	2	3	1	1	17	2	2	2	1	1	1	5	5	5	1	2	1	2	6	2	2
TER	UAA	0	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	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	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1	1	0	1	0	0	0	1	1
	UGA	1	0	1	1	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	0	1	1	1	0	0	0	1	0	1	1	0	0	0
TOTAL		267	100	91	889	348	348	407	407	219	146	190	190	190	190	189	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	188	213	167	575	270	270	272	154	154	154	273	273	273	154	153	154	190	367	111	111

6		HUM INS R	HUM INS RA	HUM INT 1G	HUM I8G 2*	HUM KER EP	HUM KER EP9 *	HUM KIN 10*	HUM LAC TAL	HUM LAM C	HUM LCA T	HUM LDH A	HUM LDH A7*	HUM LDL R10 *	HUM LHB	HUM LER H	HUM LT	HUM MAS	HUM MET 2	HUM MET 2PS	HUM MET IA	HUM MET IE	HUM MET IF	HUM MET IF1	HUM MET MG3 *	HUM MH	HUM MHA 2	HUM MHA 3	HUM MHC P42	HUM MHC P52	HUM MHC W3	HUM MHD C1A	HUM MHD C3B	HUM MHD CAM	HUM MHD CB	HUM MHD R5B	HUM MHD RA	HUM MHD RAM	HUM MHD RBA	HUM MHD RBB	HUM MHD RBC	HUM MHD RC	HUM MHD RBA	HUM MHD RS2 *	HUM MHD SA	HUM MHD XA4 *	HUM MHG M	HUM MIS	HUM MYC BL4 *	HUM MYC C	HUM MYC DT
ARG	CGA	14	14	4	3	0	0	4	0	2	0	1	1	1	0	1	0	2	0	0	0	0	0	0	0	2	2	2	2	2	1	0	2	1	2	1	2	2	1	1	2	3	2	2	1	1	0	5	4	4	4
	CGC	13	13	27	1	19	9	2	0	29	13	0	0	8	5	2	0	2	0	0	0	0	0	0	0	7	8	9	7	8	7	1	3	1	3	1	4	4	2	1	1	1	4	4	1	0	5	24	5	5	5
	CGG	25	25	7	5	3	5	2	0	15	4	1	1	11	2	0	0	5	0	0	0	0	0	0	1	9	5	6	8	8	7	1	8	0	8	9	1	1	8	10	9	9	1	1	0	0	2	15	5	5	5
	CGU	5	5	1	5	4	3	2	0	9	2	6	6	1	2	1	3	0	0	0	0	0	0	0	0	2	0	0	2	2	1	1	2	1	2	1	0	0	2	1	1	1	0	0	1	1	0	1	1	1	1
	AGA	7	6	0	6	3	6	7	0	0	0	1	1	10	0	1	1	5	0	0	0	0	0	0	0	6	5	5	3	3	5	2	3	3	3	5	1	1	4	5	3	2	2	1	1	3	3	1	1	2	2	2
	AGG	18	18	1	4	3	12	4	2	5	1	2	2	15	1	0	1	3	0	0	0	0	0	0	1	4	7	6	8	8	7	1	5	1	4	4	3	3	4	3	3	3	3	3	3	1	0	1	6	9	9	9
LEU	CUA	6	6	0	7	0	3	6	0	2	3	2	2	5	0	2	3	1	0	0	0	0	0	0	0	1	1	1	1	1	2	1	0	2	0	0	1	1	0	0	0	1	1	1	2	1	0	0	6	2	2	2
	CUC	35	35	7	7	6	8	5	2	9	17	3	3	19	7	2	17	8	0	0	0	0	0	0	4	9	8	9	22	22	7	6	5	8	5	4	5	5	5	5	4	5	5	5	7	8	4	17	9	9	9
	CUG	67	67	28	19	35	37	9	10	48	31	9	9	25	10	6	12	15	0	0	0	0	0	0	10	13	15	17	46	45	19	12	15	12	13	18	10	9	18	18	19	17	9	10	13	12	24	68	16	16	16
	CUU	8	8	2	9	4	2	13	2	6	3	13	13	7	1	1	2	6	0	0	0	0	0	0	1	1	0	1	5	5	1	3	4	3	4	2	4	4	2	2	2	3	4	4	3	2	3	0	3	3	3
	UUA	3	3	0	6	0	1	3	0	0	0	3	3	1	0	0	0	3	0	0	0	0	0	0	1	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
	UUG	17	17	2	7	3	3	4	4	3	2	8	8	9	2	1	1	4	0	0	0	0	0	0	1	3	2	1	6	7	1	4	4	5	5	2	2	3	3	2	2	3	4	2	6	4	1	3	7	7	7
SER	UCA	15	14	2	4	2	2	12	1	5	2	3	3	5	1	0	2	7	0	0	1	0	1	1	1	2	2	2	1	1	1	3	0	3	1	1	4	4	1	1	0	0	4	4	3	3	1	0	4	4	4
	UCC	27	26	11	4	22	19	14	2	11	7	4	4	21	3	2	8	8	5	5	5	4	5	5	1	6	4	6	12	11	6	4	3	5	3	3	1	1	3	3	3	3	1	1	5	6	4	9	18	18	18
	UCG	12	12	6	0	2	1	0	0	4	0	0	0	5	0	1	1	2	1	1	0	1	0	0	0	2	0	2	2	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5	9	9	9
	UCU	22	21	1	6	3	4	8	0	5	4	4	4	10	1	2	3	6	0	0	0	1	0	0	1	7	9	6	3	4	7	7	4	8	4	6	0	0	4	6	4	5	0	0	8	6	2	2	8	8	8
	AGC	12	12	8	6	18	23	6	3	20	9	4	4	23	3	1	5	5	2	2	3	2	3	3	2	6	7	5	9	9	6	4	8	3	5	9	5	5	8	9	9	10	5	5	3	4	6	12	22	22	22
	AGU	17	17	5	6	4	11	10	2	3	1	9	9	6	0	1	2	4	0	1	0	0	0	0	0	2	2	3	1	1	2	2	2	4	2	3	1	1	3	3	2	4	1	1	2	4	0	2	2	2	2
THR	ACA	5	5	2	3	4	5	13	2	1	5	4	4	10	0	0	3	5	0	0	0	0	0	0	0	3	4	5	3	3	3	5	5	6	4	7	4	4	6	7	7	6	4	4	5	4	3	3	5	5	5
	ACC	39	38	5	3	16	15	17	2	17	11	3	3	28	7	2	7	7	2	2	1	1	2	2	2	17	16	16	13	13	13	8	9	7	10	6	4	4	6	5	6	5	4	4	10	8	8	16	9	9	9
	ACG	16	16	14	0	1	0	7	1	4	5	1	1	7	0	1	1	6	0	0	0	1	0	0	0	4	6	5	2	2	4	0	2	0	4	3	3	3	3	3	3	3	3	3	0	1	0	5	2	2	2
	ACU	10	9	1	2	1	6	15	2	8	2	6	6	5	0	2	2	4	0	0	2	1	0	0	2	2	3	3	2	2	3	3	2	5	5	2	2	2	1	5	5	2	4	2	3	1	1	1	1	1	1
PRO	CCA	15	15	1	8	0	0	17	0	2	5	5	5	3	1	2	4	1	0	0	0	0	0	0	2	2	0	0	7	5	2	2	3	1	2	5	5	5	5	5	5	4	5	5	1	1	3	9	1	1	1
	CCC	37	37	11	1	2	3	8	0	4	22	2	2	25	9	1	7	7	1	1	2	2	2	2	3	11	8	10	17	18	9	5	7	5	6	1	4	4	1	1	1	4	4	4	3	9	24	17	17	17
	CCG	14	14	4	0	0	2	0	0	2	4	1	1	4	3	0	0	0	0	0	0	0	0	0	0	3	4	3	7	7	6	1	0	1	3	0	1	1	1	0	0	0	1	1	1	1	6	20	9	9	9
	CCU	16	15	1	4	2	4	14	4	2	12	3	3	7	3	1	7	2	1	1	0	0	0	0	4	3	3	9	8	8	7	1	8	2	6	8	8	6	6	6	6	8	8	9	9	3	13	8	8	8
ALA	GCA	10	11	4	12	3	7	12	0	8	6	7	7	2	2	1	1	4	0	0	1	1	0	0	0	3	4	4	2	5	5	3	2	2	1	2	3	4	4	3	3	4	4	4	4	2	1	0	5	3	3	3
	GCC	28	27	10	14	20	25	7	6	25	12	4	4	25	2	1	9	5	6	6	4	5	2	2	7	10	13	14	20	20	14	5	5	5	5	2	6	6	3	2	3	2	6	6	4	7	7	35	15	15	15
	GCG	16	15	6	3	2	0	0	0	7	2	0	0	4	1	0	1	0	1	1	0	0	1	1	0	12	10	11	2	2	9	0	3	0	3	1	2	3	0	0	0	1	1	2	3	0	0	0	1	26	5	5	5
	GCU	11	11	6	10	6	11	10	1	13	3	7	7	12	2	2	5	5	0	0	0	0	2	2	2	9	11	8	4	4	11	8	4	7	3	2	6	6	2	2	3	3	6	6	7	6	3	9	4	4	4
GLY	GGA	17	17	1	10	6	13	11	3	3	1	10	10	5	1	4	3	1	0	0	0	0	0	0	4	5	5	3	3	8	3	3	3	3	7	6	6	7	7	7	7	7	6	6	2	3	2	4	5	5	5
	GGC	37	36	20	2	24	38	18	2	9	18	4	4	37	6	2	4	4	3	3	3	4	2	2	4	10	10	11	18	18	11	6	7	6	7	6	4	4	6	7	6	7	4	4	5	5	6	24	8	8	8
	GGG	28	28	12	5	9	11	9	0	11	10	7	7	14	3	1	6	5	1	1	1	1	1	1	7	10	10	11	7	7	11	4	6	4	6	9	2	2	9	9	9	9	2	2	5	4	4	19	2	2	2
	GGU	11	10	2	5	13	16	8	2	4	8	5	5	6	1	1	2	0	1	0	1	1	2	2	4	2	3	2	4	4	1	7	1	6	1	2	3	3	2	1	1	1	3	3	6	6	1	4	1	1	1
VAL	GUA	2	2	4	6	0	2	7	0	1	2	4	4	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	1	1	0	2	2	0	0	0	1	2	2	1	0	0	2	1	1	1
	GUC	28	27	6	7	6	10	2	2	4	8	7	7	25	3	1	6	15	0	0	0	1	1	1	2	5	5	1	5	5	5	5	3	8	4	4	7	7	4	4	4	4	7	7	6	6	3	5	12	12	12
	GUG	49	49	8	3	18	12	15	1	20	18	9	9	24	9	1	4	9	1	1	0	1	1	1	4	14	20	19	22	22	18	13	18	13	17	19	15	15	18	20	19	18	14	15	14	14	5	22	6	6	6
	GUU	8	8	1	3	0	5	5	1	1	1	14	14	7	0	1	2	6	0	0	0	0	1	1	1	2	1	1	2	2	2	4	1	4	4	1	1	4	1	4	4	2	1	1	4	4	0	0	5	5	5
LYS	AAA	21	20	3	25	3	1	29	4	4	2	9	9	10	1	3	2	3	5	4	4	3	3	3	0	1	5	2	5	5	2	5	4	4	2	1	4	4	1	1	2	1	4	4	4	5	2	0	12	12	12
	AAG	47	45	5	21	20	29	22	8	35	10	19	19	26	1	4	4	8	3	4	4	5	5	5	20	10	8	9	15	15	10	5	4	6	5	5	7	7	6	6	5	7	7	7	6	4	12	3	13	13	13
ASN	AAC	53	54	15	14	14	22	14	2	10	12	5	5	33	1	0	3	8	1	1	2	1	1	1	3	6	2	3	8	8	5	9	6	9	8	4	6	6	6	6	5	5	6	6	9	6	6	6	16	16	16
	AAU	19	19	2	13	7	2	16	2	7	4	10	10	8	1	1	1	6	0	0	0	0	0	0	0	0	0	1	2	2	1	2	2	2	1	4	5	5	3	4	3	4	5	5	2	3	3	2	2	2	2
GLN	CAA	5	4	2	13	1	5	18	2	1	1	4	4	5	1	4	0	2	0	0	0	0	0	0	1	0	0	0	0	5	5	1	2	1	3	0	2	2	2	3	1	2	1	2	2	2	1	2	2	4	4	4
	CAG	32	34	6	10	24	25	18	5	35	16	8	8	29	3	3	13	2	1	1	1	1	1	0	7	20	21	22	21	21	19	7	11	4	12	9	2	2	10	11	12	14	2	2	3	6	12	16	20	20	20
HIS	CAC	31	30	12	5	4	4	8	1	8	12	4	4	17	3	2	8	5	0	0	0	0	0	0	3	5	8	4	16	16	8	5	7	5	7	6	4	4	5	5	6	6	4	4	6	6	4	7	7	7	7
	CAU	7	7	1	8	0	1	23	1	4	1	3	3	2	0	0	3	4	0	0	0	0	0	0	6	4	5	5	1	1	3	2	1	3	1	2	2	2	2	4	2	3	2	2	3	3	2	0	2	2	2
GLU	GAA	29	29	4	27	4	6	25	5	7	4	9	9	15	0	7	2	4	0	0	0	0	0	0	3	2	1	0	5	5	2	3	3	3	3	6	9	9	6	5	5	5	5	9	9	3	4	2	5	10	10	10
	GAG	77	76	13	26	41	33	16	3	63	17	9	9	33	5	3	1	9	1	1	2	2	2	2	11	25	21	23	24	25	25	13	14	12	15	13	14	14	14	13	14	14	14	14	14	14	10	25	27	27	27
ASP	GAC	44	45	12	13	17	16	19	7	21	15	4	4	51	4	1	3	5	2	2	1	1	2	2	7	14	16	18	17	16	14	7	8	7	7	8	7	7	6	7	7	6	7	7	7	8	8	21	22	22	22
	GAU	26	25	1	9	7	8	22	5	12	6	14	14	24	1	2	2	3	1	1	0	0	0	0	1	6	5	6	4	4	5	5	2	3	2	1	5	5	1	1	1	1	5	5	4	3	2	4	5	5	5
TYR	UAC	29	30	4	8	9	9	8	1	6	16	5	5	13	2	0	6	11	0	0	0	0	0	0	2	11	12	11	9	9	10	6	5	5	7	8	1	1	8	8	8	7	1	1	4	3	4	5	9	9	9
	UAU	21	21	0	11	5	8	8	3	2	4	3	3	4	0	1	1	6	0	0	0	0	0	0	0	4	3	3	2	2	4	1	2	2	3	3	3	3	2	2	4	2	3	3	2	3	1	1	3	3	3
CYS	UGC	30	30	18	7	5	3	9	2	1	3	3	3	49	7	3	0	6	18	15	17	16	17	17	1	4	4	4	4	4	6	1	4	2	4	3	1	1	3	3	4	3	1	1	1	2	1	11	8	8	8
	UGU	17	17	5	5	0	3	10	6	0	3	2	2	14	5	0	1	3	2	5	3	4	3	3	0	0	1	1	3	3	2	4	0	3	0	3	2	2	3	3	2	2	2	2	3	2	0	1	2	2	2
PHE	UUC	39	39	12	8	8	8	12	6	4	14	4	4	21	3	2	10	14	0	0	0	0	0	0	4	8	8	8	13	13	6	7	8	5	7	16	10	10	11	14	16	15	10	10	7	8	2	9	11	11	11
	UUU	20	20	1	8	4	8	13	2	3	5	3	3	5	0	0	1	7	0	0	0	0	0	0	3	0	1	0	3	3	0	6	2	6	2	1	8	8	2	1	0	2	8	8	5	7	3	0	2	2	2
ILE	AUA	1	1	1	5	0	0	9	3	1	2	4	4	1	0	1	0	3	0	0	1	0	0	0	1	2	1	4	1	1	0	0	0	0	0	0	3	3	0	0	0	0	3	3	0	0	1	0	0	0	0
	AUC	41	42	5	4	11	22	8	0	12	12	9	9	30	5	0	2	20	1	1	0	0	0	0	7	9	7	10	15	15	11	7	11	9	9	9	12	12	2	2	2	2	12	12	9	7	7	2	5	12	12	12
	AUU	23	23	2	8	7	6	16	3	1	3	10	10	5	0	1	1	8	0	0	0	0	0	0	0	1	0	1	1	6	6	0	6	2	4	3	1	3	3	1	1	1	1	1	3	5	4	0	0	1	1	1
MET	AUG	30	30	5	11	15	8	8	3	9	10	9	9	11	5	1	4	10	1	1	2	1	1	1	4	9	8	7	13	13	5	6	7	4	7	5	5	5	6	5	5	4	5	5	4	7	14	4	4	4	4
TRP	UGG	20	20	10	6	2	2	7	3	4	14	6	6	20	2	1	2	6	0	0	0	0	0	0	2	11	12	11	11	11	11	5	5	4	5	4	5	5	4	4	4	4	5	5	4	4	3	8	2	2	2
TER	UAA	1	1	0	0	0	0	1	0	0	1	1	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	1	1	1
	UAG	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	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	1	1	1	1	0	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
TOTAL		1303	1371	371	473	473	564	645	143	573	441	333	333	861	142	93	206	326	62	62	62	62	62	62	155	360	366	363	495	495	367	256	262	255	262	267	255	255	267	267	267	267	255	255	255	256	217	561	440	440	440

7		HUM MYC E3*	HUM MYC F3*	HUM MYC G3*	HUM MYC M	HUM MYC POB	HUM MYC RT	HUM MYP	HUM NLK	HUM NPY	HUM NRA SR	HUM OAS 07*	HUM OAT	HUM OPS	HUM OTC	HUM OTN PI	HUM P33	HUM P53 11*	HUM P53 C	HUM P53 T	HUM P53 1	HUM P97 2	HUM PAI 2	HUM PAS 2	HUM PGK 2*	HUM PGK A11 *	HUM PHH	HUM PKB	HUM PLA	HUM PLB	HUM PNU	HUM PNU 4*	HUM POL B	HUM POM C	HUM POM C9*	HUM PRC 7*	HUM PRC A	HUM PRC M	HUM PRL 7*	HUM PRP A	HUM PRP B	HUM PRP C	HUM PRP D	HUM PRP E	HUM PRP F	HUM PRP H1	HUM PRP H2	HUM PS2	HUM PSP A
ARG	CGA	4	4	4	4	0	4	3	2	3	2	3	5	0	5	0	0	4	4	4	1	1	0	2	2	4	3	0	0	4	4	2	2	2	0	2	2	2	4	4	1	1	1	5	3	3	4	1	1	0	2
	CGC	5	5	5	5	4	5	22	11	0	1	5	1	4	0	5	5	9	8	8	12	2	1	1	1	5	11	5	5	0	0	0	12	12	1	10	10	10	3	3	3	1	1	1	1	1	1	1	1	0	2
	CGG	5	5	5	5	1	5	17	8	1	0	2	0	2	2	0	2	3	3	3	19	2	1	4	4	3	6	3	3	2	2	3	4	4	0	8	8	8	3	3	0	0	0	0	0	0	0	0	0	0	1
	CGU	1	1	1	1	0	1	5	2	0	0	1	2	0	2	0	0	5	5	4	1	2	0	0	0	3	3	0	0	4	4	4	1	1	1	3	3	3	1	1	3	2	2	0	0	0	2	2	2	2	0
	AGA	2	2	2	2	2	2	2	1	4	8	0	0	5	0	1	3	3	3	3	5	3	2	2	5	5	0	0	1	2	8	1	1	2	2	2	2	0	0	1	0	0	3	2	2	4	0	0	1	3
	AGG	9	9	9	9	1	9	17	3	1	3	5	5	1	2	1	1	3	3	3	7	3	0	2	2	4	5	4	4	6	6	2	2	2	3	3	3	3	1	1	3	2	2	0	0	0	1	2	2	0	5
LEU	CUA	2	2	2	2	0	2	3	0	1	2	2	6	2	5	0	0	3	3	3	2	5	1	3	3	0	3	3	3	2	2	2	0	0	1	1	1	1	3	3	0	0	0	1	1	1	1	0	0	0	1
	CUC	9	9	9	9	7	7	23	13	4	3	15	4	10	7	6	4	5	5	5	21	9	5	7	7	9	11	10	10	5	5	4	3	3	5	17	16	16	5	6	5	0	1	0	0	0	1	1	1	0	6
	CUG	16	16	16	16	12	16	47	31	9	5	19	10	15	14	7	24	15	15	15	42	8	2	15	15	18	21	16	16	11	11	6	15	15	10	24	24	24	17	16	5	5	5	5	5	5	6	5	5	4	9
	CUU	3	3	3	3	1	3	5	4	1	0	2	12	0	5	0	3	3	3	3	5	7	0	5	5	8	4	2	2	4	4	1	1	1	0	5	5	5	5	5	2	1	1	0	0	0	0	1	1	0	1
	UUA	0	0	0	0	0	0	2	0	0	0	2	7	0	5	0	0	0	0	0	0	5	0	1	1	4	3	1	1	3	3	6	0	0	2	0	0	0	0	0	0	1	1	1	1	1	0	1	1	0	0
	UUG	7	7	7	7	1	8	7	5	1	4	4	7	2	12	1	1	6	6	6	1	6	0	7	7	11	4	0	0	1	1	3	2	2	0	3	3	3	2	2	0	2	1	2	2	2	1	1	2	0	1
SER	UCA	4	4	4	4	2	4	7	2	1	2	1	1	1	5	0	1	6	6	6	3	4	0	1	1	7	5	3	1	1	1	4	1	1	0	2	2	2	3	3	0	3	3	2	2	2	4	3	3	0	1
	UCC	10	10	10	10	14	10	10	10	4	0	9	5	6	4	3	4	13	13	13	16	9	3	4	4	8	11	8	8	1	1	2	4	4	3	7	7	7	7	7	1	0	0	7	5	5	6	0	0	2	5
	UCG	9	9	9	9	8	10	1	4	1	1	1	0	1	0	1	0	0	0	0	7	3	1	2	2	0	1	2	4	0	0	0	4	4	1	1	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0
	UCU	8	8	8	8	3	8	5	8	0	1	2	11	3	5	0	2	7	7	7	5	5	2	7	7	6	5	2	2	3	3	3	0	0	0	2	2	1	3	3	3	4	4	2	2	2	4	4	0	1	1
	AGC	22	22	22	21	17	19	14	3	2	3	6	0	6	5	3	6	8	8	8	22	9	5	9	9	4	11	4	4	3	3	3	14	14	1	22	22	22	6	6	5	2	2	3	3	3	2	2	2	0	4
	AGU	2	2	2	2	1	1	2	2	0	3	0	6	0	3	0	0	4	4	4	2	3	1	1	1	3	5	1	1	6	6	0	0	0	0	2	2	2	0	0	5	0	0	0	4	2	2	3	0	0	0	1
THR	ACA	5	5	5	5	3	5	3	7	2	7	5	7	3	10	0	3	7	7	7	6	5	1	1	1	9	6	3	3	3	3	7	0	0	1	5	5	5	0	0	3	0	0	0	0	0	0	0	0	2	4
	ACC	9	9	9	9	7	9	17	19	2	4	7	9	15	6	3	8	9	9	9	18	10	7	4	4	7	16	6	6	5	5	4	3	3	2	10	10	10	6	6	8	0	0	0	0	0	1	0	0	4	3
	ACG	2	2	2	3	2	2	9	7	0	0	4	1	6	3	0	0	2	2	2	5	0	4	2	2	1	5	3	3	0	0	1	3	3	1	3	3	3	1	1	1	0	0	0	0	0	0	0	0	2	1
	ACU	1	1	1	1	0	1	9	4	1	2	2	5	0	5	0	2	4	4	4	2	6	1	10	10	7	3	1	1	7	7	5	2	2	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3
PRO	CCA	1	1	1	0	0	1	6	7	2	3	8	9	5	6	0	3	9	9	9	3	7	1	7	7	5	8	1	2	5	5	6	1	1	5	1	1	1	2	2	3	14	14	60	31	26	41	14	14	1	7
	CCC	17	17	17	18	14	17	29	10	2	1	5	3	10	1	6	9	14	15	15	24	5	2	2	2	9	17	3	3	4	4	5	10	10	1	11	11	11	4	4	4	11	11	31	16	14	19	11	11	3	4
	CCG	9	9	9	9	8	8	12	2	2	0	1	3	2	1	3	6	6	6	6	7	1	2	0	0	0	6	2	2	0	0	0	7	7	2	4	4	4	1	1	3	0	0	0	0	0	0	0	0	0	1
	CCU	8	8	8	8	2	8	8	3	1	1	11	8	3	7	1	3	15	15	15	3	4	4	8	8	9	8	0	0	6	6	2	4	4	1	4	4	4	3	3	7	16	16	30	17	15	22	16	16	3	15
ALA	GCA	3	3	3	3	0	3	6	2	2	2	2	10	3	11	0	0	4	5	5	9	12	4	2	2	5	4	2	1	10	10	8	2	2	2	5	5	5	0	0	3	0	0	4	4	4	1	0	0	1	5
	GCC	15	15	15	15	11	16	34	24	3	5	9	8	21	3	8	7	12	12	12	39	9	6	16	16	13	14	5	5	7	7	1	15	15	6	15	15	15	7	7	3	2	2	3	3	3	4	2	2	6	9
	GCG	5	5	5	5	3	5	6	5	4	1	2	2	3	2	6	1	1	1	1	13	2	1	0	0	2	1	1	1	0	0	0	2	2	0	3	3	3	0	0	1	0	0	0	0	0	0	0	0	0	1
	GCU	4	4	4	4	1	4	11	9	0	2	6	17	5	10	1	3	6	6	6	11	8	4	23	23	8	12	4	4	5	5	8	0	0	5	1	1	1	5	5	3	2	2	3	3	3	2	2	2	0	3
GLY	GGA	5	5	5	5	5	5	2	13	2	4	4	12	3	8	1	2	4	3	3	9	8	2	8	8	6	9	0	0	8	8	8	2	2	1	3	3	3	2	2	8	19	19	40	22	19	27	19	19	0	12
	GGC	8	8	8	8	6	8	21	12	1	2	7	10	11	4	12	6	6	6	6	34	9	3	11	11	7	19	4	5	8	8	2	23	23	0	20	20	20	3	3	16	6	6	11	8	7	6	6	6	2	11
	GGG	2	2	2	2	2	2	16	8	1	3	6	5	3	4	4	4	9	9	9	17	6	2	9	9	3	14	3	3	5	5	3	3	3	3	10	10	10	3	3	8	3	3	2	2	2	2	3	3	1	8
	GGU	1	1	1	1	1	1	6	7	2	5	6	9	5	6	0	1	5	5	5	8	4	2	12	12	9	4	2	1	6	6	7	2	2	1	2	2	2	1	1	13	3	3	10	3	2	6	3	3	2	7
VAL	GUA	1	1	1	1	0	1	0	1	0	5	2	7	1	4	0	0	0	0	0	2	5	0	5	5	3	6	1	0	2	2	2	0	0	0	1	1	1	2	2	0	1	1	0	0	0	0	1	1	0	3
	GUC	12	12	12	12	4	12	14	11	0	0	7	5	15	2	0	3	3	3	3	16	5	5	14	14	5	12	2	2	5	5	2	2	2	1	11	11	11	6	6	3	1	1	1	1	1	1	1	1	4	2
	GUG	6	6	6	6	5	7	27	10	1	7	9	12	13	6	2	5	10	10	10	41	9	2	12	12	8	20	3	4	10	10	4	6	6	2	16	16	16	3	3	8	1	1	1	1	1	1	1	1	3	3
	GUU	5	5	5	5	2	5	2	3	1	5	1	11	1	3	0	0	5	5	5	2	4	0	8	8	3	5	1	1	6	6	10	0	0	0	1	1	1	1	1	3	1	1	0	0	0	0	1	1	1	2
LYS	AAA	12	12	12	12	3	12	4	6	1	7	6	15	0	15	1	2	7	7	7	5	13	0	16	16	12	28	1	1	5	5	21	1	1	2	3	3	3	8	8	1	0	0	4	3	2	0	0	0	0	2
	AAG	13	13	13	13	4	14	18	29	2	5	19	13	11	11	3	12	13	13	13	21	15	3	26	26	18	30	8	8	7	7	14	18	18	0	21	21	21	4	4	9	2	2	16	8	7	12	2	2	2	5
ASN	AAC	16	16	16	16	9	16	33	22	3	4	6	8	13	5	2	6	10	10	10	18	8	1	12	12	8	14	6	6	8	8	3	6	6	1	8	8	8	8	8	11	1	1	10	5	4	8	1	1	1	5
	AAU	2	2	2	2	0	5	8	6	1	2	5	10	3	11	1	3	4	4	4	5	11	1	11	11	8	10	1	1	3	3	8	1	1	1	5	5	5	4	4	1	1	1	4	4	4	1	1	1	3	5
GLN	CAA	4	4	4	4	1	8	5	5	0	4	7	3	0	7	0	2	3	3	3	3	3	1	1	1	6	5	5	5	4	4	4	0	0	0	3	3	3	5	5	2	17	16	40	21	18	19	16	17	0	2
	CAG	20	20	20	20	13	16	29	24	1	6	14	6	12	9	5	12	12	12	12	24	14	1	5	5	14	20	8	8	9	9	8	8	8	4	12	12	12	5	5	13	18	19	12	8	8	15	19	18	3	6
HIS	CAC	7	7	7	7	1	7	7	16	1	2	1	4	3	5	1	4	7	7	7	16	1	2	3	3	4	15	4	4	4	4	3	4	4	1	16	16	16	4	4	5	0	0	0	0	0	1	0	0	0	2
	CAU	2	2	2	2	1	2	0	5	0	0	3	6	2	4	0	2	5	5	5	6	4	6	1	2	2	9	5	3	3	4	4	6	0	0	1	2	2	2	5	5	3	3	3	0	0	0	2	3	3	0	2
GLU	GAA	10	10	10	10	0	11	8	2	3	8	8	15	2	12	3	2	11	11	11	8	22	0	10	10	20	26	5	5	12	11	19	3	3	0	4	4	4	8	8	2	2	2	4	4	4	11	2	2	3	3
	GAG	27	27	27	27	15	25	27	30	4	4	13	12	14	8	3	10	19	19	19	35	11	7	17	17	16	25	9	9	6	6	7	22	22	5	30	30	30	10	10	7	3	3	0	0	0	1	3	3	5	15
ASP	GAC	22	22	22	22	17	23	29	20	5	3	13	8	3	5	5	8	9	9	9	32	7	2	13	13	12	25	13	14	6	6	4	12	12	3	25	25	25	5	5	5	3	1	3	1	1	1	1	3	3	7
	GAU	5	5	5	5	3	5	7	7	0	13	5	16	1	12	0	2	11	11	11	12	6	10	10	12	19	2	1	7	7	16	3	3	1	5	5	5	5	3	3	1	6	8	1	1	1	1	8	6	0	5
TYR	UAC	9	9	9	9	7	9	16	11	4	8	6	9	17	4	2	4	6	6	6	18	6	4	2	2	14	9	4	4	4	4	9	6	6	2	7	7	7	2	2	10	0	0	0	0	0	0	0	0	0	6
	UAU	3	3	3	3	2	3	3	3	1	1	1	7	9	2	7	0	1	3	3	10	8	0	2	2	8	9	4	4	5	5	4	0	0	2	1	1	1	5	5	3	0	0	0	0	0	0	0	0	1	2
CYS	UGC	8	8	8	8	6	5	15	2	1	0	5	2	8	1	17	1	6	6	6	20	2	0	3	3	8	13	4	4	0	0	1	6	6	2	17	17	17	6	6	3	0	0	0	0	0	0	0	0	3	3
	UGU	2	2	2	2	1	4	2	2	0	5	5	4	2	3	1	0	4	4	4	8	4	0	4	4	1	8	1	1	4	4	2	1	1	0	7	7	7	1	1	1	0	0	0	0	0	0	0	0	5	6
PHE	UUC	11	11	11	11	11	11	24	18	0	2	13	7	25	5	3	2	7	7	7	20	14	1	6	6	12	23	8	8	7	7	7	9	9	1	15	15	15	3	3	5	2	2	0	0	0	1	2	2	2	4
	UUU	2	2	2	2	0	2	7	10	0	4	6	9	5	11	0	3	4	4	4	5	11	2	10	10	15	22	4	4	8	8	7	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	2	2
ILE	AUA	0	0	0	0	0	0	0	3	0	4	1	2	0	2	0	1	0	0	0	1	4	1	4	4	4	1	0	0	1	1	3	0	0	0	2	2	2	3	3	2	2	2	1	1	1	1	2	2	0	1
	AUC	12	12	12	12	7	13	26	20	2	3	10	8	22	8	2	2	7	7	7	12	5	1	7	7	9	20	5	5	9	9	8	3	3	1	12	12	12	9	9	7	0	0	0	0	0	0	0	0	2	6
	AUU	1	1	1	1	0	1	4	9	1	4	6	17	2	5	0	0	1	1	1	3	9	5	8	8	15	11	2	2	2	2	11	0	0	0	4	4	4	2	2	0	1	1	1	1	1	1	1	1	0	3
MET	AUG	4	4	4	4	4	4	23	15	4	7	4	7	15	12	1	14	12	12	12	11	18	8	14	14	3	20	7	7	12	12	6	7	7	3	8	8	8	6	6	12	1	1	1	1	1	1	1	1	3	6
TRP	UGG	2	2	2	2	2	2	12	12	1	0	8	6	5	4	0	3	4	4	4	10	4	3	4	4	3	9	2	2	3	3	1	4	4	1	15	15	15	3	3	9	0	0	0	0	0	0	0	0	1	3
TER	UAA	1	1	1	1	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0
	UAG	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0
	UGA	0	0	0	0	1	0	0	0	1	0	1	1	0	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	1
TOTAL		440	440	440	440	258	441	746	559	98	190	365	440	349	355	125	217	394	394	394	739	416	129	418	418	453	674	218	218	290	290	319	268	268	96	463	462	462	228	228	254	167	167	332	199	179	248	167	167	85	249

8		HUM PSP B	HUM PSP BA	HUM PTH 2	HUM RAF R	HUM RAS H	HUM RAS K25 *	HUM RAS N04 *	HUM RAS N4*	HUM RBP	HUM REL H2	HUM REN 10*	HUM REN A5*	HUM RPL 32	HUM RPS 14	HUM RPS 17	HUM SB2 BR# 1	HUM SB2 BR# 2	HUM SB3 BR#	HUM SB4 B4*	HUM SI5 A6*	HUM SIS M	HUM SIS PDG	HUM SOD 1	HUM SOD GS*	HUM SOM I	HUM TBB 5	HUM TBB M40	HUM TBG	HUM TCA XB	HUM TCB XA	HUM TFR R	HUM TGF AM	HUM TGF B	HUM THY MA	HUM THY MAA	HUM THY S	HUM TIM PR	HUM TK	HUM TKR A	HUM TNF A	HUM TNF B	HUM TPA	HUM TPA 14*	HUM TPA R	HUM TPI	HUM TRO PA	HUM TSH 2*	HUM TUB AG	HUM TUB AK
ARG	CGA	2	1	1	7	1	1	2	2	3	1	3	3	1	2	1	4	4	3	3	4	4	4	0	0	0	1	0	3	0	2	1	2	1	4	0	0	3	0	1	1	2	0	3	3	3	1	3	0	2	2
	CGC	2	4	0	4	2	0	1	1	3	4	4	4	2	4	5	3	3	3	3	11	11	11	1	1	1	2	12	8	1	0	4	1	1	10	0	0	4	2	3	3	2	0	7	7	6	0	7	0	5	9
	CGG	1	4	0	8	7	0	0	0	2	0	2	2	3	2	2	6	6	7	7	7	7	7	0	0	0	0	7	3	1	2	1	3	2	10	1	1	2	4	4	4	4	0	7	7	6	2	2	1	1	1
	CGU	1	0	1	4	1	0	0	0	1	0	2	2	2	3	0	1	1	1	1	2	2	2	1	1	1	1	1	6	0	0	0	8	0	2	0	0	2	2	1	1	0	3	2	2	2	1	0	0	9	6
	AGA	4	1	3	7	0	8	4	4	2	6	3	3	7	1	4	2	2	2	2	2	2	2	1	1	1	2	1	1	2	3	5	13	1	0	1	1	9	0	1	1	2	1	11	11	9	1	2	2	3	3
	AGG	4	6	1	10	1	3	3	3	3	1	5	5	2	3	1	5	5	4	5	1	1	1	1	1	1	1	1	2	2	2	4	6	1	4	0	0	3	3	3	3	4	1	10	10	9	3	3	2	1	0
LEU	CUA	1	4	1	5	0	2	2	2	0	3	1	1	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	1	5	3	1	6	0	4	0	0	0	0	0	0	1	3	1	1	1	2	1	1	0	0
	CUC	5	16	0	11	2	2	3	3	4	2	14	14	1	3	1	2	2	3	2	4	4	4	1	1	1	2	5	15	9	11	5	7	4	9	0	0	5	5	5	5	15	17	8	8	7	5	3	2	9	6
	CUG	9	32	4	18	10	0	5	5	8	6	15	15	7	2	5	16	16	17	16	15	15	15	4	4	4	13	26	11	13	16	14	24	7	33	0	0	19	10	12	12	13	12	26	26	25	7	23	4	16	16
	CUU	1	3	4	8	0	2	0	0	2	3	2	2	1	2	2	2	1	2	2	2	2	0	0	0	1	1	3	8	2	3	11	1	2	0	0	3	1	0	0	0	0	2	2	2	2	1	1	3	2	6
	UUA	0	0	1	3	0	1	0	0	0	8	1	1	0	0	0	1	1	2	1	0	0	0	0	0	0	0	0	3	0	1	8	0	2	1	1	0	4	0	0	0	0	0	1	1	1	0	0	1	1	0
	UUG	1	3	2	9	2	5	4	4	4	3	4	4	1	1	2	2	2	1	2	2	2	2	3	3	3	1	1	2	11	0	2	15	4	2	0	0	6	4	1	1	1	1	5	5	5	0	4	0	4	4
SER	UCA	1	4	0	9	0	2	2	2	1	3	4	4	1	1	1	0	0	0	0	0	0	0	2	2	2	1	1	4	7	6	8	9	1	1	2	2	2	0	2	2	2	2	7	7	5	2	2	0	2	2
	UCC	5	8	2	16	2	1	0	0	4	3	15	15	2	2	2	3	3	3	3	6	6	6	1	1	1	5	4	2	9	5	7	6	4	10	1	1	5	6	2	2	5	8	9	9	9	3	4	3	8	10
	UCG	0	1	2	2	2	0	1	1	1	0	3	3	0	2	0	0	0	0	0	1	1	1	0	0	0	1	3	1	1	2	6	4	1	2	0	0	3	0	0	0	0	0	1	7	7	7	0	1	0	1
	UCU	1	1	2	15	2	2	1	1	1	4	4	4	1	2	0	5	5	5	5	2	2	2	2	2	2	2	4	7	8	9	1	16	1	1	0	0	1	2	0	0	5	3	4	4	4	2	2	3	6	5
	AGC	4	6	1	14	3	1	3	3	4	8	8	8	1	2	1	5	5	5	5	4	4	4	1	1	1	0	11	9	5	10	7	15	3	15	1	1	3	4	8	8	7	5	18	18	16	4	2	1	2	3
	AGU	1	0	2	10	2	3	3	3	0	4	3	3	2	0	1	2	2	2	2	1	1	1	4	4	4	0	3	2	3	7	2	7	1	2	0	0	1	3	0	0	1	2	5	5	4	1	1	1	2	2
THR	ACA	6	2	1	14	0	7	7	7	3	2	9	9	1	1	1	5	5	6	5	1	1	1	4	3	4	1	3	8	10	4	5	15	2	3	0	0	2	2	3	3	1	3	5	5	5	2	2	4	6	6
	ACC	4	8	0	10	6	1	4	4	5	4	19	19	2	5	2	7	7	6	7	8	8	8	1	1	1	1	16	19	9	8	13	10	3	9	5	5	6	9	5	5	7	6	9	10	9	3	7	4	16	16
	ACG	0	4	0	7	3	1	0	0	1	0	3	3	0	0	4	4	4	3	4	7	7	7	1	2	1	1	12	0	1	3	0	4	1	3	1	1	3	2	1	1	1	1	7	7	6	1	0	0	2	2
	ACU	3	2	1	10	2	4	2	2	0	1	4	4	0	4	2	1	1	1	1	1	1	1	2	2	2	1	0	4	9	1	2	15	1	2	0	0	2	3	2	2	1	2	4	4	4	8	1	4	6	6
PRO	CCA	7	7	0	12	0	1	3	3	1	5	2	2	0	1	1	2	2	2	2	1	1	1	3	3	3	0	1	4	10	6	3	12	2	1	0	0	7	4	5	5	2	4	4	4	4	0	0	3	3	3
	CCC	3	14	2	6	4	0	1	1	3	0	11	11	6	2	1	5	5	4	5	8	8	8	0	0	0	4	14	6	2	3	10	4	3	12	0	0	4	8	4	4	9	7	13	13	13	5	0	2	10	10
	CCG	1	2	0	4	0	0	0	0	0	0	2	2	0	0	0	1	1	1	1	3	3	3	0	0	0	1	4	1	0	1	2	1	2	14	0	0	5	0	3	3	1	0	6	6	6	1	0	0	1	1
	CCU	16	10	2	14	2	4	1	1	1	5	3	3	0	4	5	3	3	3	3	2	2	2	2	2	2	1	1	9	6	2	1	14	0	4	1	1	7	1	3	3	3	7	7	7	5	4	0	2	6	6
ALA	GCA	5	3	3	14	1	4	2	2	2	5	2	2	0	3	1	3	3	3	3	4	4	4	3	3	3	2	4	5	8	2	3	20	5	3	3	3	3	0	2	2	3	1	6	6	5	4	3	1	2	2
	GCC	9	15	1	11	7	2	5	5	9	2	13	13	7	8	3	3	3	4	3	8	8	8	3	3	3	4	21	17	11	8	12	8	9	16	2	2	7	10	17	17	12	9	21	21	21	12	23	1	20	19
	GCG	1	3	0	1	1	0	1	1	6	2	1	1	0	0	1	4	4	4	6	1	1	1	1	1	1	3	5	0	1	2	1	3	2	5	0	0	3	0	2	2	1	1	5	5	4	4	1	1	1	0
	GCU	3	6	6	8	2	3	2	2	2	4	1	1	2	4	0	3	3	3	4	3	3	3	3	3	3	9	1	7	10	5	6	29	1	0	6	6	4	5	4	4	4	3	5	4	4	4	8	7	6	13	15
GLY	GGA	11	3	3	12	1	4	4	4	1	8	11	11	1	5	1	7	7	6	7	5	5	5	10	10	10	0	4	2	6	4	3	19	3	3	2	2	8	3	3	3	2	3	9	9	9	7	2	3	7	7
	GGC	11	11	0	12	8	4	2	2	8	3	14	12	3	1	4	5	5	4	5	3	3	3	8	8	8	8	3	21	20	4	2	4	9	0	10	1	1	9	6	5	5	7	4	23	23	22	6	0	3	13	15
	GGG	9	7	1	4	3	1	3	3	1	0	7	9	0	5	1	8	8	7	8	3	3	3	2	2	2	1	8	5	5	3	7	10	1	6	3	3	5	4	9	9	7	6	12	12	12	9	1	1	7	5
	GGU	7	1	1	7	1	2	5	5	1	1	8	8	1	6	2	0	0	0	0	2	2	2	5	5	5	0	2	8	3	1	2	14	2	1	3	3	3	0	0	0	1	2	2	2	3	3	0	0	10	9
VAL	GUA	3	1	2	8	0	8	5	5	3	2	2	2	0	2	2	0	0	1	0	0	0	0	1	1	1	0	2	3	3	0	2	8	0	1	2	2	1	0	1	1	2	0	0	0	0	2	0	2	5	5
	GUC	4	8	2	9	1	1	0	0	5	2	8	8	5	5	4	7	7	7	7	3	3	3	1	1	1	2	7	14	4	6	9	13	6	3	1	1	1	5	3	3	6	6	10	10	9	6	2	1	4	5
	GUG	3	12	3	16	15	5	7	7	6	2	12	12	3	3	2	15	15	17	14	13	13	13	10	10	10	0	24	13	11	12	13	17	12	18	1	1	7	3	14	14	7	4	15	15	11	13	7	0	12	12
	GUU	2	1	4	10	0	2	5	5	0	4	2	2	2	0	4	4	4	4	4	0	0	0	2	2	2	0	1	3	10	3	3	18	1	1	1	1	5	1	0	0	1	2	3	3	3	4	1	3	13	12
LYS	AAA	2	2	10	19	1	11	7	7	1	9	5	5	7	2	3	1	1	1	1	2	2	2	5	5	5	1	1	3	8	7	2	33	1	2	0	0	9	3	3	3	0	2	7	7	5	4	6	3	6	6
	AAG	5	9	5	19	10	5	5	5	10	3	14	14	11	10	10	6	6	8	7	12	12	12	6	6	6	5	13	11	20	8	10	17	5	16	8	8	6	5	13	13	8	4	15	15	15	16	28	4	13	13
ASN	AAC	4	6	2	17	5	0	4	4	7	2	8	8	8	0	4	5	5	6	5	6	6	6	1	1	1	3	17	14	10	13	8	16	1	14	1	2	3	3	7	7	4	4	17	16	15	6	6	2	9	10
	AAU	6	0	3	11	0	4	2	2	2	4	4	4	3	3	2	5	5	4	5	1	1	1	6	6	6	2	4	7	11	3	4	26	1	1	5	4	5	1	0	0	3	1	5	5	5	2	0	2	7	6
GLN	CAA	2	7	0	8	0	4	4	4	0	5	4	5	1	0	0	3	3	3	3	2	2	2	1	1	1	0	2	1	8	5	4	11	0	2	0	0	3	2	1	1	2	0	3	3	2	2	1	1	2	0
	CAG	6	25	4	25	11	6	6	6	8	6	9	8	2	5	5	14	14	14	14	7	7	7	2	2	2	8	20	20	10	10	5	10	12	7	12	2	2	12	10	10	10	11	13	24	24	20	9	17	2	14	16
HIS	CAC	2	8	1	14	2	1	2	2	2	1	5	5	4	1	1	6	6	6	6	6	6	6	2	2	2	0	8	7	6	2	5	4	5	6	0	0	5	5	1	1	2	8	10	10	9	2	2	1	10	11
	CAU	2	2	3	9	1	2	0	0	0	3	1	1	0	2	1	0	0	0	0	1	1	1	6	6	6	0	2	3	8	1	2	9	4	4	0	0	4	1	1	1	1	2	3	7	7	6	2	0	2	4
GLU	GAA	3	3	4	12	3	9	8	8	2	10	8	8	4	6	4	3	3	3	3	2	2	2	7	7	7	6	2	9	15	7	3	21	1	6	17	17	9	3	2	2	2	2	8	8	6	4	12	3	12	13
	GAG	15	16	3	17	11	6	4	4	8	3	11	11	3	3	7	15	15	14	13	17	17	17	3	3	3	4	34	27	11	4	15	25	5	20	18	17	10	7	12	12	14	1	19	19	20	13	52	2	25	23
ASP	GAC	6	16	3	10	9	6	3	3	15	2	12	12	2	3	4	5	5	9	5	7	7	7	5	5	5	1	22	15	10	9	8	23	4	12	9	9	14	3	7	7	6	3	14	14	15	5	10	3	14	15
	GAU	5	4	4	19	6	8	13	13	3	4	8	8	0	4	2	5	5	3	4	3	3	3	6	6	6	3	2	12	7	7	6	20	1	2	10	10	7	2	1	1	1	2	15	15	13	7	8	2	12	13
TYR	UAC	6	3	0	4	8	4	8	8	7	2	11	11	1	0	3	8	8	9	8	1	1	1	0	0	0	1	14	11	5	5	7	9	1	13	0	0	8	4	4	4	4	6	22	22	21	1	0	2	11	13
	UAU	2	1	0	11	1	5	1	1	1	0	6	6	2	1	1	0	0	0	0	1	1	1	0	0	0	0	1	5	5	3	3	19	0	3	0	0	3	2	2	2	3	1	2	2	1	3	4	9	8	6
CYS	UGC	3	10	0	6	3	1	0	0	5	4	3	3	1	3	1	4	4	4	4	9	9	9	2	2	2	3	7	4	4	2	4	2	11	11	0	0	5	9	10	10	4	0	28	28	24	4	1	5	9	9
	UGU	5	7	1	8	3	4	5	5	1	3	4	4	1	0	0	1	1	1	1	2	2	2	2	2	2	2	1	5	2	3	6	6	4	1	0	0	0	3	1	1	0	1	10	10	10	1	0	8	3	3
PHE	UUC	5	6	0	16	2	0	2	2	7	2	13	13	4	1	3	10	10	9	10	4	4	4	2	2	2	4	20	16	12	9	14	22	3	8	0	0	9	8	8	8	7	10	11	11	11	6	0	1	12	12
	UUU	1	1	2	13	3	6	4	4	3	7	9	9	0	3	0	1	1	1	1	2	2	2	2	2	2	1	4	7	12	9	3	24	2	2	0	0	5	3	3	3	3	1	7	7	7	2	1	6	8	8
ILE	AUA	1	1	2	4	1	4	4	4	0	1	1	1	0	0	2	0	0	0	0	1	1	1	0	0	0	0	0	0	2	1	1	6	1	1	0	0	1	2	1	1	0	0	4	4	3	0	0	2	1	0
	AUC	5	9	0	16	9	2	3	3	3	1	17	17	6	7	5	7	7	7	7	5	5	5	5	5	5	1	15	16	5	6	7	9	5	9	1	1	10	6	5	5	11	2	12	12	11	10	7	6	15	16
	AUU	3	3	2	12	1	9	4	4	1	5	6	6	3	1	4	1	1	1	1	4	4	4	4	4	4	0	0	2	15	4	2	17	1	4	0	0	8	1	6	6	1	1	4	4	4	5	2	1	11	11
MET	AUG	5	12	6	20	5	5	7	7	5	6	13	13	4	4	4	8	8	6	8	4	4	4	1	1	1	3	19	17	15	5	8	14	1	7	1	1	9	4	7	7	2	4	7	7	6	3	9	6	10	10
TRP	UGG	3	8	1	9	0	0	0	0	7	2	7	7	1	0	0	4	4	4	4	2	2	2	1	1	1	1	4	4	3	3	7	11	1	7	0	0	5	4	0	0	2	2	13	13	11	5	0	0	4	4
TER	UAA	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	UAG	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	1	1	0	1	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	UGA	1	1	1	0	1	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1	1	0	0	0	1	1	1	1	0	0	0	1	1	1	0	0	0
TOTAL		249	382	116	649	190	190	190	190	200	186	407	407	136	152	136	259	259	259	259	242	242	242	155	155	155	117	445	445	416	278	313	761	161	392	112	111	314	208	235	235	234	206	563	563	517	250	285	139	452	452

/ RODENTS

9	HUM TUB BM	HUM UKM 1	HUM UKP PE	HUM UPA X	HUM URO D	HUM VIM	HUM VIP 6*	HUM VIP HM6 *	HUM VIP MR4 *	HUM VPN P	HUM VPN PA	HUM VTN SP	MAC INS	MNK MET I	MNK MET II	ORA HBA 01	ORA HBA 02	GPI CAS A	GPI INS	GPI LAC TAL	HAM DES 3*	HAM DHR 35	HAM DHR 97	HAM EF2	HAM GG	HAM GSR	HAM HMG 14*	HAM HMG C11 *	HAM HPR T	HAM MET I	HAM PRP II	HAM PRP 2	HAM PRP H29	HAM RPS 14	HAM RPS 17	HAM TK7 *	HAM TUB AA	HAM TUB AB	HAM TUB AC	HAM VIM 7*	MUS SA	MUS RAR	MUS RB	MUS RD	MUS M	MUS BR	MUS M	MUS R	MUS ALB
ARG	CGA	0	2	2	2	4	0	0	0	0	0	0	6	1	0	0	0	0	0	0	2	4	2	2	2	1	2	5	2	2	0	0	1	1	0	2	0	1	0	0	0	2	2	0	4	1	2	1	1	1	2
	CGC	7	5	5	5	6	18	1	0	1	7	7	13	3	0	0	0	0	0	1	0	19	0	0	19	4	10	3	3	1	0	0	3	3	5	2	5	3	9	7	7	17	5	3	7	11	5	3	4	1	1
	CGG	10	5	5	5	4	9	0	0	0	2	2	6	1	0	0	1	1	0	2	0	11	1	1	9	1	7	8	4	1	0	0	2	2	0	2	1	4	2	2	2	8	1	2	5	6	1	3	3	0	0
	CGU	0	2	2	2	5	6	2	2	2	0	0	2	0	0	0	1	1	1	2	0	3	0	0	9	0	2	9	2	0	0	0	2	2	0	4	1	0	6	7	8	5	8	3	1	2	8	7	1	1	0
	AGA	2	3	3	3	2	4	4	4	4	1	1	4	0	0	0	0	0	4	0	0	3	4	4	5	3	1	13	9	4	0	0	1	1	1	2	4	2	4	4	4	5	0	5	4	2	0	1	4	7	1
	AGG	3	7	7	7	2	6	4	4	4	2	2	5	0	0	0	1	1	0	0	1	4	3	3	1	5	2	5	4	4	0	0	2	2	0	3	2	3	0	1	0	6	2	5	6	4	2	3	2	9	0
LEU	CUA	2	3	3	3	3	2	0	0	0	1	1	0	1	0	0	0	0	2	3	0	2	0	0	4	0	1	5	3	1	0	0	0	0	2	0	1	1	2	3	2	3	0	4	5	0	1	2	9	0
	CUC	8	7	7	7	3	12	6	6	6	1	2	9	4	0	0	2	2	5	3	4	14	6	6	12	3	3	8	8	3	0	0	4	5	0	3	3	4	8	6	8	14	5	20	17	19	5	4	11	9	5
	CUG	21	16	16	16	20	29	2	2	2	12	12	14	13	0	0	15	15	2	9	10	22	2	2	47	5	8	24	14	8	0	0	3	5	2	3	3	12	16	16	16	29	19	33	26	29	19	20	11	21	6
	CUU	1	7	7	7	7	8	7	7	7	0	0	5	0	0	0	1	1	3	0	6	4	4	5	6	2	1	30	11	3	0	0	1	2	2	2	1	0	4	4	4	7	1	1	11	7	1	1	3	6	3
	UUA	0	2	2	2	2	0	3	4	3	0	0	0	0	0	0	0	0	0	1	0	0	3	3	0	0	2	12	4	2	0	0	0	0	0	0	0	1	0	0	0	0	0	2	4	0	0	0	2	9	0
	UUG	1	2	2	2	8	3	4	4	4	1	1	4	1	0	0	0	0	2	2	3	5	2	2	3	1	4	14	8	4	0	0	0	0	2	1	2	1	2	3	2	3	1	4	3	1	1	1	2	10	0
SER	UCA	2	4	4	4	2	2	5	4	5	0	0	4	0	0	0	0	0	2	1	1	2	1	1	4	2	1	7	11	2	0	0	0	0	5	2	1	2	0	0	0	5	2	5	3	5	2	1	2	8	0
	UCC	6	10	10	10	2	16	1	1	1	4	4	10	3	5	3	4	4	9	1	2	10	4	4	15	6	4	13	9	2	7	5	5	5	1	0	1	4	9	9	9	11	12	14	7	12	12	15	5	14	5
	UCG	3	2	2	2	0	5	1	1	1	1	1	1	0	1	1	0	0	0	0	0	7	0	0	2	0	1	3	2	0	1	1	0	0	0	0	0	2	0	0	0	5	1	2	2	2	1	0	1	3	1
	UCU	2	6	6	6	3	7	4	4	4	0	0	6	0	0	2	3	3	0	0	3	6	0	0	10	1	4	16	14	1	0	1	0	0	3	5	1	0	8	8	6	11	4	6	8	6	4	4	1	11	5
	AGC	10	9	9	9	4	11	2	2	2	5	5	7	2	1	1	4	4	5	2	2	10	0	0	11	4	5	17	4	4	2	2	4	5	0	2	1	6	4	2	3	10	4	3	13	8	4	5	5	14	4
	AGU	1	1	1	1	1	1	5	5	5	0	0	5	0	0	0	0	0	4	0	2	2	3	3	3	2	4	15	5	4	1	0	2	2	1	0	1	1	2	2	3	2	0	6	4	6	0	0	1	4	0
THR	ACA	4	4	4	4	5	1	1	1	1	0	0	3	1	0	0	0	0	4	3	1	3	1	1	9	2	5	18	18	2	0	1	2	2	1	0	2	2	7	7	8	2	2	6	3	8	2	5	5	6	3
	ACC	10	10	10	10	6	14	3	3	3	2	2	9	2	2	2	10	10	4	2	2	16	3	4	17	7	8	15	3	2	4	2	10	10	1	5	3	6	15	16	16	17	20	13	11	13	20	16	8	11	6
	ACG	8	4	4	4	2	4	0	0	0	2	2	2	0	0	0	0	0	1	0	1	3	1	1	5	2	1	7	1	0	1	0	1	1	0	1	2	1	0	0	0	1	1	3	5	1	1	0	2	6	1
	ACU	1	8	8	8	3	6	3	3	3	0	0	5	0	1	0	0	0	6	2	3	1	2	1	9	1	5	11	6	7	0	0	2	2	1	4	2	2	7	7	7	4	4	8	3	2	4	5	3	7	0
PRO	CCA	4	8	8	8	12	1	2	2	2	0	0	6	0	0	0	0	0	0	1	3	2	8	8	8	3	0	16	7	3	1	0	4	4	9	0	1	2	3	3	3	0	2	9	10	8	2	2	6	6	1
	CCC	12	11	11	11	5	2	3	3	3	10	10	15	3	2	1	3	3	5	3	3	2	1	1	23	0	14	7	2	2	1	1	6	6	6	2	1	5	9	9	9	6	9	8	10	14	10	6	8	6	3
	CCG	2	2	2	2	2	3	0	0	0	3	3	2	2	0	0	1	1	3	0	0	3	1	1	1	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	8	2	4	2	0	1	2	1
	CCU	2	2	2	2	7	3	4	4	4	2	1	14	3	0	1	3	3	1	0	6	2	3	3	14	1	8	18	10	2	0	0	7	19	5	4	4	8	8	8	2	6	3	16	6	7	5	11	3	8	2
ALA	GCA	0	1	1	1	9	3	5	5	5	0	0	7	2	0	0	0	0	2	3	2	6	1	1	12	1	6	28	15	2	1	0	1	2	3	0	4	1	2	4	0	3	3	6	5	11	6	17	1	1
	GCC	19	9	8	9	17	19	3	3	3	13	13	17	4	5	5	12	12	3	3	6	25	4	4	26	3	15	21	9	5	2	1	4	4	1	6	5	12	21	21	18	15	16	12	13	17	15	13	10	13	3
	GCG	2	3	3	3	2	3	0	0	0	5	5	1	2	1	1	7	6	0	0	1	7	0	0	3	1	0	5	2	1	0	1	2	3	2	0	1	1	0	0	0	3	2	2	4	0	2	2	3	2	3
	GCU	9	5	5	5	12	8	4	4	4	1	1	8	1	0	0	1	2	7	1	2	8	1	1	21	5	4	18	18	1	0	3	2	3	0	6	0	5	14	14	18	8	11	7	2	4	12	13	5	15	8
GLY	GGA	0	12	12	12	6	2	5	5	5	0	0	2	1	0	0	0	0	0	1	2	1	3	3	8	3	8	15	17	6	0	1	8	8	9	8	1	6	8	8	7	2	0	4	5	3	0	2	4	11	5
	GGC	17	15	14	15	11	10	0	1	0	12	11	19	7	2	3	4	4	1	6	2	11	7	7	28	5	9	14	7	3	4	2	15	15	10	2	5	6	14	14	14	9	13	5	10	10	13	16	15	9	4
	GGG	12	7	7	7	7	2	0	0	0	7	7	11	4	1	1	1	1	0	2	0	4	0	0	12	1	7	15	10	4	1	1	7	7	1	2	1	2	5	5	6	0	5	5	11	6	5	1	2	4	2
	GGU	6	2	2	2	5	0	2	2	2	0	0	5	0	1	1	1	1	0	1	1	4	1	1	18	0	10	17	5	2	0	0	13	13	4	5	1	2	9	10	8	3	10	2	4	3	10	9	1	4	1
VAL	GUA	1	0	0	0	4	1	3	3	3	0	0	0	0	0	0	0	0	4	0	1	0	0	0	4	0	3	9	5	1	0	0	0	0	0	2	0	1	5	5	5	1	1	4	3	5	1	2	2	1	5
	GUC	5	10	11	10	1	2	2	2	2	0	1	7	0	2	1	3	3	3	1	1	7	3	5	18	1	6	12	5	6	1	1	2	2	1	4	4	5	7	7	7	4	4	11	15	15	4	4	6	8	5
	GUG	23	10	10	10	17	16	2	2	2	3	3	13	6	1	1	9	9	3	5	3	17	6	4	45	7	6	32	14	6	1	1	10	11	1	2	4	16	13	13	11	16	16	22	14	26	16	13	17	13	5
	GUU	4	2	2	2	4	7	3	3	3	1	1	2	0	0	0	1	1	2	0	2	1	5	5	3	1	3	17	9	8	0	0	1	1	0	2	4	0	9	9	9	3	0	4	8	1	0	3	4	3	1
LYS	AAA	4	9	10	10	3	7	8	8	8	1	1	6	0	5	4	1	1	8	0	6	3	10	10	13	6	8	14	12	10	2	5	1	1	6	1	2	4	4	4	4	6	5	11	5	5	5	3	5	20	5
	AAG	11	19	18	18	9	15	4	4	4	2	2	14	2	3	4	10	10	14	2	5	18	8	8	51	5	12	26	15	7	5	3	10	10	0	11	11	11	15	15	15	16	14	18	12	18	14	16	23	21	4
ASN	AAC	17	13	13	13	4	15	3	3	3	4	4	11	3	2	2	4	4	4	3	2	15	4	4	21	7	11	19	10	1	1	1	13	14	5	2	3	7	9	8	10	16	9	15	8	20	9	7	10	14	2
	AAU	5	6	6	6	2	8	6	6	6	0	0	5	0	0	0	0	0	5	1	4	5	4	5	7	1	10	17	18	7	0	0	2	2	5	1	3	3	7	8	6	9	3	5	4	7	3	2	4	12	1
GLN	CAA	3	6	6	6	5	7	4	4	4	0	0	5	0	0	0	0	0	7	0	3	6	4	4	2	4	5	8	3	1	0	0	3	3	8	1	0	1	0	1	0	4	1	9	7	6	1	0	2	12	0
	CAG	18	14	14	14	17	26	2	2	2	8	8	20	7	1	1	1	1	10	9	4	26	4	4	26	6	6	23	15	1	1	1	13	13	32	4	5	11	16	15	16	30	10	6	11	12	10	12	7	24	1
HIS	CAC	9	13	13	13	2	4	1	1	1	1	1	5	2	0	0	9	9	3	1	3	6	0	0	10	2	9	4	6	2	0	0	4	4	3	1	1	2	8	8	8	2	7	4	6	4	7	7	8	8	2
	CAU	1	4	4	4	7	2	1	1	1	0	0	5	0	0	0	1	1	1	2	0	2	2	1	6	3	3	10	4	3	0	0	5	5	0	2	1	1	5	5	5	4	2	2	8	5	2	2	3	7	2
GLU	GAA	5	8	8	8	8	24	7	7	7	0	0	7	2	0	0	0	0	9	1	2	11	11	11	12	7	10	35	15	5	0	0	1	1	14	5	3	4	10	10	9	21	3	9	16	6	3	5	11	28	5
	GAG	33	12	12	12	18	31	4	4	4	11	11	22	6	2	1	3	3	9	5	4	46	7	7	50	7	17	28	11	4	0	2	6	6	6	4	8	9	27	27	25	34	25	16	17	27	25	21	24	29	5
ASP	GAC	17	13	13	13	10	21	9	9	9	7	7	22	2	2	2	10	10	7	2	11	15	4	5	35	10	12	10	13	9	3	2	4	4	3	3	4	7	14	14	14	19	18	14	16	19	18	19	12	9	3
	GAU	7	6	6	6	7	9	4	4	4	0	0	10	0	0	1	0	0	5	3	7	8	4	2	17	6	7	16	24	12	0	1	3	3	5	4	2	2	13	13	15	10	4	9	12	6	4	4	8	11	3
TYR	UAC	14	13	13	13	5	11	2	2	2	3	3	19	4	0	0	2	2	3	1	5	10	3	3	12	4	8	13	14	5	0	0	10	11	0	0	2	4	13	13	12	8	9	21	12	9	8	9	11	6	5
	UAU	2	5	5	5	6	2	4	4	4	0	0	4	0	0	0	1	1	5	2	1	3	3	3	9	0	6	6	11	6	0	0	2	2	1	1	2	2	6	6	7	5	7	1	4	6	8	6	4	6	0
CYS	UGC	6	13	13	13	2	0	0	0	0	17	17	10	6	15	18	1	1	2	4	3	1	1	1	10	0	5	12	7	0	17	18	1	1	0	3	1	5	8	8	8	1	5	8	3	6	5	4	4	21	1
	UGU	2	12	12	12	4	1	0	0	0	0	0	4	0	5	2	0	0	1	2	6	0	0	0	7	0	8	15	4	4	3	2	2	2	0	0	0	3	4	4	4	0	1	2	0	3	1	2	1	11	1
PHE	UUC	17	5	5	5	7	7	4	4	4	7	7	18	2	0	0	7	7	4	2	5	11	5	5	20	6	7	17	4	2	0	0	3	3	1	1	3	9	14	14	14	6	9	16	17	25	9	12	8	15	5
	UUU	6	7	7	7	10	4	2	2	2	1	1	5	1	0	0	0	0	6	1	4	2	5	4	15	5	12	16	14	7	0	0	3	4	0	3	0	2	6	6	6	4	3	8	11	2	3	1	5	12	3
ILE	AUA	0	2	2	2	0	0	1	1	1	0	0	2	0	0	0	0	0	1	1	5	0	2	2	1	1	3	12	5	2	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	2	0	0	0	8	0
	AUC	13	10	10	9	8	7	1	1	1	1	1	11	2	0	1	0	0	5	0	6	15	4	4	36	2	10	20	10	1	0	0	5	5	0	5	7	9	20	19	20	5	27	31	21	25	27	21	11	12	1
	AUU	3	7	7	7	3	8	2	2	2	0	0	1	0	0	0	0	0	8	1	4	4	5	5	17	7	4	24	9	13	0	0	1	1	1	3	3	2	7	7	7	10	3	9	11	5	3	7	5	16	1
MET	AUG	18	8	8	9	10	10	4	4	4	3	3	8	2	1	1	3	3	7	4	4	11	8	8	28	3	12	33	11	7	1	1	11	12	1	4	4	6	10	10	10	11	17	16	9	12	17	17	10	13	2
TRP	UGG	4	8	9	8	5	1	1	1	1	0	0	10	2	0	0	1	1	4	2	3	1	3	3	7	4	7	7	5	0	0	0	9	10	0	0	0	0	4	4	4	1	4	13	10	11	4	4	4	2	2
TER	UAA	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	1	1	0	1	1	0	1	1	1	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	1	0
	UAG	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	1	1	1	0	0	0
	UGA	0	1	1	1	1	0	1	1	1	1	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
	TOTAL	446	432	432	432	368	467	171	171	171	165	165	479	111	62	62	143	143	224	111	179	470	188	188	859	181	374	888	521	219	62	62	241	255	184	152	136	235	452	452	450	466	378	500	502	521	378	376	353	606	148

10		MUS ANY 1N	MUS ANY 2N	MUS ANF APO IVA	MUS ASP	MUS ASP ATC	MUS ASP ATH	MUS ATC L3T	MUS ATC T32 *	MUS BAN D3	MUS BFI GE	MUS C32 *	MUS C3B	MUS CAI IN	CAL P	CAS K	MUS A	MUS CCP	MUS CKM RG	MUS CMY BR	MUS CMY C2*	MUS CPR P	MUS CRI B2*	MUS CRY G1	MUS CRY G2	MUS CRY G42 *	MUS CSF GMA	MUS CSF GMA #1	MUS CSF GMB #2	MUS CTC 1MC	MUS CTP 145	MUS CTP 14X	MUS CYP 345	MUS CYP 34A	MUS EGF EGF BPB	MUS EIF 4AL	MUS EIF 4AS	MUS ERP 6*	MUS POL	MUS FOS	MUS GCS F	MUS GFA PD	MUS GH	MUS GI	MUS GPD	MUS GPD X	MUS GS	MUS H	MUS HBA
ARG	CGA	4	2	2	1	4	2	2	2	3	6	4	6	6	0	4	0	2	1	5	4	0	2	3	1	1	1	0	0	0	0	2	2	2	2	15	1	7	7	2	3	3	2	5	1	1	1	1	0	5	0
	CGC	2	2	1	5	4	5	3	2	0	11	2	18	18	0	3	1	1	12	1	6	2	0	2	7	9	10	2	2	2	0	5	5	8	7	3	2	1	1	1	0	2	3	12	5	7	4	4	15	4	0
	CGG	1	0	2	1	4	9	7	2	1	12	4	18	18	1	2	0	2	1	7	2	1	0	1	1	2	2	2	2	2	1	10	10	7	8	15	1	5	5	3	0	4	1	12	2	6	5	5	6	3	0
	CGU	4	6	0	2	0	1	3	1	2	5	7	4	4	3	0	1	3	4	4	2	0	1	3	1	1	3	0	0	0	0	2	2	1	1	5	0	4	4	2	0	0	0	3	3	3	0	0	4	6	2
	AGA	12	15	4	1	2	5	2	3	0	7	16	18	18	2	5	2	1	0	8	0	6	0	1	4	2	2	1	0	0	0	6	6	1	2	18	1	6	6	3	5	5	2	7	1	0	0	1	1	3	28	0
	AGG	5	6	4	4	3	2	5	8	1	5	14	9	9	1	6	3	5	0	6	13	3	0	1	5	6	4	2	0	0	1	5	5	6	5	21	0	4	4	3	3	5	2	7	1	2	0	0	1	11	1
LEU	CUA	0	0	3	4	3	4	3	3	2	14	6	14	14	2	2	1	3	0	3	1	2	1	0	1	0	0	2	2	2	1	1	1	3	3	12	3	1	1	3	1	1	5	3	0	1	3	3	0	13	0
	CUC	5	4	4	8	5	12	9	16	4	35	7	35	35	3	5	0	2	9	8	9	5	0	2	6	4	5	3	3	3	1	11	11	6	6	19	8	7	7	10	6	3	4	15	9	5	7	7	6	7	3
	CUG	7	8	8	30	9	11	17	30	11	70	6	74	74	7	23	5	9	24	22	17	7	2	2	4	5	5	7	6	6	2	29	29	27	28	42	11	8	8	14	1	20	25	25	18	15	12	12	23	7	11
	CUU	7	9	2	2	2	3	1	4	2	18	12	8	8	5	1	4	3	4	3	3	8	0	3	0	0	2	2	2	2	1	6	6	5	5	18	3	7	7	4	4	4	4	4	1	2	4	4	2	16	1
	UUA	3	3	0	1	0	1	1	2	0	0	11	2	2	0	1	1	2	0	7	2	2	0	0	0	0	1	1	1	0	2	2	3	3	3	6	1	5	5	2	2	0	0	1	0	2	0	0	0	11	0
	UUG	6	5	2	3	2	6	5	6	2	10	6	19	19	6	2	2	2	0	8	5	3	0	2	1	0	1	2	2	2	1	8	8	5	5	12	2	8	8	2	4	6	5	4	2	3	4	4	0	8	2
SER	UCA	5	7	0	0	2	3	2	4	0	7	6	15	15	2	4	4	2	3	7	4	3	1	2	0	0	0	2	2	2	0	6	6	5	4	25	3	2	2	2	1	5	1	2	2	4	1	1	0	37	0
	UCC	5	5	6	2	8	7	11	13	0	20	7	27	27	8	5	6	6	8	15	24	2	1	7	3	4	6	1	1	1	0	5	6	7	7	24	4	4	4	4	2	23	4	7	4	4	2	2	1	15	1
	UCG	0	0	0	3	1	1	2	4	1	4	4	4	4	0	1	0	2	0	5	7	2	0	0	0	0	0	0	0	0	0	3	3	3	3	11	0	0	0	1	0	2	3	3	2	0	1	1	1	1	0
	UCU	9	6	2	0	2	9	5	10	4	10	9	19	19	6	7	4	3	1	10	7	7	1	3	5	4	3	1	1	1	1	8	8	3	3	16	2	8	8	0	3	10	4	3	2	3	3	3	3	28	5
	AGC	7	5	6	9	5	4	7	6	4	11	4	28	28	4	6	1	2	8	12	19	7	1	4	2	3	5	3	3	3	0	13	13	13	13	32	7	4	4	1	0	13	6	4	7	9	5	5	8	9	7
	AGU	6	6	4	3	2	2	3	6	1	8	3	13	13	1	3	0	3	0	7	2	4	0	0	2	3	1	0	0	0	0	3	3	4	5	12	0	1	1	3	5	3	3	4	2	1	1	1	2	9	1
THR	ACA	6	10	1	1	4	6	1	7	2	16	11	33	33	3	5	5	4	3	12	3	3	1	0	0	2	0	5	5	5	3	11	11	9	10	24	10	6	6	3	2	6	2	4	2	5	4	4	0	41	0
	ACC	2	3	1	14	5	12	12	13	6	22	6	44	44	3	7	4	5	5	12	14	4	1	4	3	2	3	7	7	7	2	10	10	12	11	10	2	12	12	5	3	9	4	11	9	11	5	5	8	15	7
	ACG	0	0	0	7	4	0	2	3	1	4	4	7	7	1	1	0	1	5	3	3	2	1	0	1	0	0	1	1	1	0	2	2	3	3	8	1	1	1	2	1	3	1	2	0	4	2	2	1	2	0
	ACU	7	8	2	4	1	4	4	5	1	7	9	15	15	4	5	7	3	5	10	1	3	1	1	0	0	0	3	3	3	3	11	11	6	6	15	2	6	6	2	0	7	3	4	0	1	6	6	7	21	0
PRO	CCA	10	9	2	2	0	8	7	2	1	12	8	24	24	2	1	13	5	3	15	6	1	0	3	0	0	1	2	2	2	1	9	9	11	11	27	4	0	0	8	7	9	3	3	0	0	4	4	4	37	0
	CCC	2	2	5	9	7	9	9	6	3	22	7	29	29	3	4	4	5	10	15	16	3	5	1	5	5	3	4	4	4	1	10	10	15	15	23	7	6	6	4	1	14	5	1	6	1	8	8	3	16	4
	CCG	0	0	2	2	2	6	1	1	0	6	4	8	8	3	1	0	1	2	5	6	2	1	0	0	0	1	1	1	0	1	1	1	5	5	3	1	1	1	0	2	2	3	1	1	0	2	2	1	3	0
	CCU	9	9	4	3	5	2	3	4	2	24	7	18	18	8	2	7	4	5	17	6	4	0	3	1	2	2	2	2	2	1	9	10	2	2	18	9	4	4	3	3	8	3	5	1	3	0	0	5	41	2
ALA	GCA	11	10	3	1	7	3	9	6	5	9	17	25	25	4	4	4	2	1	17	3	4	0	0	1	0	0	1	1	1	1	2	2	4	4	18	2	4	4	2	1	7	2	9	0	4	5	5	0	19	1
	GCC	4	4	5	14	5	11	24	4	0	27	12	56	56	5	9	5	5	7	15	17	7	1	6	3	2	2	5	4	4	2	15	15	17	17	18	7	10	10	8	4	17	16	17	8	15	14	14	16	3	10
	GCG	0	0	1	3	1	6	1	1	0	4	9	2	2	4	1	0	2	3	4	4	4	0	0	0	0	0	1	1	1	0	0	0	2	2	3	1	0	0	0	0	6	0	8	2	4	3	3	5	1	2
	GCU	18	19	3	10	6	14	9	5	6	17	22	24	24	7	5	5	7	3	7	4	8	3	1	0	0	0	1	0	0	5	7	7	4	4	25	6	10	10	4	1	6	6	9	9	6	6	6	7	3	7
GLY	GGA	25	22	3	1	4	9	8	5	5	10	15	18	18	9	3	1	6	4	9	2	8	2	6	1	1	2	0	0	0	0	7	7	7	5	5	33	7	2	2	2	3	4	2	0	1	1	2	2	6	49	1
	GGC	11	11	6	5	11	7	16	5	4	30	9	33	33	7	7	0	4	22	5	6	11	3	2	9	8	9	3	3	3	4	15	15	12	12	26	7	5	5	2	5	8	4	6	4	8	18	19	7	17	4
	GGG	3	4	3	9	2	8	6	11	6	20	5	37	37	3	6	0	6	2	9	2	7	3	3	3	3	1	0	0	0	1	8	8	8	9	35	4	4	4	3	2	4	3	2	4	3	2	3	16	15	4	17	2
	GGU	12	10	1	1	8	5	6	10	1	8	12	13	13	0	3	1	2	5	7	3	5	2	4	1	1	1	1	1	1	2	4	4	3	4	21	6	11	11	3	2	3	3	3	0	5	5	2	2	1	16	4
VAL	GUA	3	5	1	3	3	3	1	3	1	4	6	14	14	0	0	3	2	0	3	2	0	0	0	0	0	0	2	2	2	0	4	4	0	0	16	1	3	3	1	1	1	0	2	2	0	0	3	3	0	14	2
	GUC	12	12	3	5	6	12	11	8	4	21	4	42	42	3	11	4	5	3	10	8	3	0	3	3	2	3	7	6	6	0	14	14	14	14	13	6	6	6	6	5	7	3	4	4	3	7	4	4	6	3
	GUG	12	11	3	20	20	9	13	17	7	43	8	79	79	7	8	6	7	24	12	8	12	2	1	5	5	3	2	2	2	1	17	17	24	25	33	5	14	14	3	4	10	5	11	3	12	21	21	18	27	5
	GUU	9	11	0	0	1	6	3	5	3	5	6	7	7	3	1	3	2	1	8	1	2	0	3	0	0	0	1	1	1	2	5	5	3	4	17	4	5	5	2	4	0	2	3	1	0	3	3	1	27	0
LYS	AAA	18	12	2	6	2	4	11	17	4	9	18	29	29	10	10	1	11	2	20	8	7	2	2	0	0	0	6	6	6	5	4	4	4	3	20	8	3	3	4	9	4	0	4	4	2	3	3	7	50	2
	AAG	7	11	2	28	3	16	19	26	5	24	16	91	91	9	23	1	15	31	26	19	16	8	5	2	1	2	7	5	5	13	24	24	27	26	26	9	17	17	4	7	10	5	16	7	25	21	21	17	35	9
ASN	AAC	18	18	4	15	6	14	9	14	4	13	3	53	53	11	9	5	4	16	22	17	11	1	5	4	4	4	3	3	3	2	9	9	21	21	21	7	12	12	2	3	6	2	15	3	11	8	8	19	7	2
	AAU	23	29	1	6	4	9	7	3	4	6	10	15	15	4	1	11	7	3	10	1	10	0	6	3	1	0	3	3	3	3	9	9	9	9	19	5	3	3	3	5	4	0	2	2	3	6	6	3	47	0
GLN	CAA	9	6	0	3	3	2	6	6	4	6	17	23	23	2	2	4	2	0	6	4	3	0	7	1	1	2	2	2	2	0	4	4	3	3	13	6	4	4	1	4	2	4	10	1	2	2	2	2	20	0
	CAG	7	7	3	40	6	14	12	27	5	27	25	55	56	9	11	2	6	13	28	17	14	0	8	8	8	5	4	4	4	3	19	19	20	19	29	6	16	16	6	4	8	17	18	13	14	13	13	17	17	1
HIS	CAC	5	5	1	5	6	3	8	3	1	10	3	24	24	11	3	1	4	13	16	10	8	1	4	7	9	4	1	0	0	2	8	8	9	8	21	4	2	2	0	1	3	5	6	3	5	8	8	4	9	8
	CAU	8	8	1	3	4	4	3	3	3	4	7	10	10	3	1	0	1	2	10	1	2	4	3	0	0	1	1	1	1	1	6	6	4	4	18	0	3	3	1	1	2	0	2	0	2	1	1	3	21	3
GLU	GAA	12	11	2	11	5	6	9	8	4	27	25	47	47	4	6	3	3	5	28	15	13	2	6	2	0	0	6	6	6	3	5	5	4	5	30	3	14	14	9	12	7	1	13	4	9	4	4	3	75	4
	GAG	8	8	7	28	5	18	13	22	6	34	23	67	66	8	18	5	8	21	20	20	10	4	9	9	9	8	5	4	4	4	20	20	22	20	29	6	15	15	6	5	24	6	44	11	19	19	19	25	20	0
ASP	GAC	17	15	4	12	11	12	9	8	4	27	7	52	52	11	18	2	4	20	14	23	10	2	3	10	12	11	3	3	3	1	21	21	18	18	40	7	14	14	3	5	12	1	13	10	19	12	12	17	22	4
	GAU	19	20	4	6	5	9	11	5	3	12	9	38	38	6	10	3	5	8	16	7	4	0	4	1	1	4	3	3	3	3	9	9	5	5	44	7	12	12	3	3	8	1	8	1	9	1	1	9	31	5
TYR	UAC	6	8	2	2	6	7	8	0	3	16	4	42	42	4	14	8	4	9	8	6	6	2	7	13	11	15	4	4	4	2	8	8	8	8	19	4	6	6	3	4	7	3	6	3	11	2	2	13	22	2
	UAU	14	10	0	2	2	5	4	2	3	9	11	17	17	4	5	2	4	1	6	5	9	1	5	3	5	4	1	1	1	2	8	8	4	5	12	2	6	6	1	2	1	0	4	4	1	2	2	1	41	1
CYS	UGC	3	4	2	0	6	2	5	10	3	3	8	17	17	1	4	1	2	3	5	7	3	6	2	7	6	8	2	2	2	1	5	5	3	4	31	3	1	1	3	1	3	6	6	6	6	6	6	29	1
	UGU	9	8	0	0	3	3	2	4	2	3	1	10	10	1	1	0	5	1	5	2	7	1	6	0	0	1	2	2	2	1	4	4	3	3	31	7	3	3	2	0	3	2	0	2	4	5	5	1	53	0
PHE	UUC	14	15	6	8	1	13	13	14	2	36	6	42	42	4	7	2	4	13	7	12	6	2	9	10	11	6	6	6	6	3	19	19	23	23	10	8	7	7	4	4	9	4	6	9	11	10	10	14	14	4
	UUU	13	10	1	5	1	10	8	7	3	12	13	18	18	8	0	3	3	3	6	2	7	2	2	0	0	0	2	2	2	1	12	12	11	12	15	1	7	7	0	5	6	1	3	4	8	5	5	6	19	3
ILE	AUA	5	1	0	0	0	0	2	2	3	5	7	8	8	1	0	3	3	6	0	4	0	2	0	3	1	0	1	2	2	2	1	4	4	2	1	16	1	1	3	3	2	2	0	0	0	1	2	2	0	25	0
	AUC	6	7	1	6	4	10	15	11	2	40	3	59	59	3	14	4	7	11	13	11	6	0	6	4	6	5	3	3	3	3	15	15	20	20	22	5	16	16	4	3	6	3	8	4	22	14	14	14	11	1
	AUU	16	16	3	0	3	9	4	2	3	8	11	30	30	6	8	5	2	3	12	3	2	0	6	0	0	1	1	1	1	2	7	7	7	6	14	6	15	15	2	6	2	2	3	3	1	12	12	10	37	1
MET	AUG	12	11	4	14	8	7	11	11	4	23	10	40	40	3	9	7	7	11	10	5	12	2	5	6	8	8	4	3	3	3	8	9	9	9	21	8	16	16	4	7	8	5	11	7	9	9	9	7	10	2
TRP	UGG	18	19	3	1	5	9	7	9	2	11	11	17	17	7	1	1	2	4	12	2	9	1	8	4	4	4	2	2	2	1	7	7	9	9	24	7	3	3	2	3	2	3	3	3	3	2	2	4	26	1
TER	UAA	1	1	1	0	0	0	1	0	1	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1
	UAG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
	UGA	0	0	0	1	1	1	0	1	0	1	1	1	1	0	1	0	0	0	1	0	1	0	0	1	1	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0	0	0
TOTAL		512	509	153	395	260	414	431	458	174	930	558	1664	1664	261	340	182	248	382	637	440	335	78	199	175	175	175	154	142	142	106	522	525	514	514	1218	262	391	391	193	188	381	209	419	217	356	350	350	370	1235	143

11	MUS HBB HO	MUS HBB H1	MUS HBB MAJ	MUS HBB NIH	MUS HBB Y2E	MUS HIS T4	MUS HPR T	MUS HPR T9*	MUS IFI GG	MUS IFN A1M	MUS IFN A2M	MUS IFN A7	MUS IFN B	MUS IFN G	MUS IGK AK	MUS IGK AF3	MUS IGK BE	MUS IGK BF1	MUS IGK AA2	MUS IGL AC2	MUS IL1	MUS IL2	MUS IL2 3*	MUS IL2 REC	MUS IL2 T	MUS IL3	MUS IL3 B	MUS IL3 C	MUS INT 1	MUS INT 1M	MUS KER 57R	MUS KTC EB	MUS KTE PIZ	MUS KTE PII	MUS LBP A	MUS LBP	MUS LDH A47	MUS MAL	MUS MBP 6*	MUS MBP 72N	MUS MBP A7*	MUS MCG F	MUS MDR	MUS MET I	MUS MGT II	MUS MGB 2	MUS MUS B3	MUS MHA B2Z	MUS MHC Q3*	MUS MHD D
ARG CGA	0	0	0	0	0	0	2	2	1	0	0	1	0	2	1	0	2	0	0	1	1	0	0	0	2	0	1	1	1	12	12	4	2	2	1	1	1	2	7	2	2	2	1	7	0	0	1	2	1	2
CGC	0	0	0	0	0	10	1	1	1	0	0	0	0	2	0	0	0	0	1	1	0	0	0	1	0	0	0	0	22	22	6	13	9	7	0	0	1	4	3	4	3	0	10	0	0	2	4	4	7	10
CGG	0	1	1	1	0	1	0	0	1	0	0	1	1	1	1	1	0	0	0	0	4	1	1	1	1	3	3	3	6	6	4	6	4	5	1	1	3	8	2	3	3	3	7	0	0	0	8	7	4	7
CGU	0	0	0	0	0	2	0	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	1	0	2	2	2	0	0	3	1	2	3	0	0	2	4	0	1	1	2	2	0	0	0	1	1	0	0
AGA	1	2	0	0	1	1	4	4	2	1	2	2	2	3	2	3	2	3	2	3	4	2	2	10	2	5	5	5	0	0	3	6	4	7	2	2	0	7	8	7	7	5	20	0	0	1	2	2	3	7
AGG	2	1	2	2	3	0	4	4	2	6	7	5	6	3	3	3	0	1	1	0	1	4	4	2	4	1	1	1	0	0	8	5	5	12	3	3	2	1	3	3	3	1	12	0	0	0	5	7	6	6
LEU CUA	0	0	1	2	2	1	1	1	2	2	2	2	1	1	1	1	0	0	3	4	2	3	3	3	3	1	1	1	3	3	2	2	5	3	1	1	0	3	0	1	1	1	6	0	0	1	0	0	0	0
CUC	5	5	4	4	4	3	3	3	7	8	9	8	12	7	3	5	1	3	7	9	6	5	5	9	5	6	6	6	7	7	10	9	5	13	0	0	9	16	2	2	2	6	21	0	0	0	6	8	8	7
CUG	8	8	9	11	6	3	7	7	5	17	15	16	6	4	2	5	2	3	7	5	13	7	7	6	7	11	11	11	25	25	22	21	27	22	3	3	17	16	4	5	6	11	43	0	0	5	13	12	23	21
CUU	2	2	1	0	2	0	3	3	1	0	1	2	3	0	1	2	1	1	1	1	1	4	4	2	4	4	4	4	2	2	4	5	6	4	1	1	7	10	2	1	2	4	19	0	0	1	5	4	2	4
UUA	0	0	0	0	0	0	1	1	1	0	0	1	0	0	3	2	0	1	1	1	1	0	0	2	0	1	1	1	0	0	2	0	0	1	0	0	1	3	0	0	0	1	10	0	0	0	0	0	1	0
UUG	3	4	2	0	5	1	6	6	3	1	3	1	2	5	3	5	1	1	1	1	1	4	6	6	3	6	1	1	2	2	2	7	2	3	1	1	3	13	0	0	0	1	26	0	0	1	1	1	2	1
SER UCA	0	0	0	0	0	0	2	2	2	3	5	4	1	2	1	4	1	2	6	6	9	4	4	1	4	1	1	1	0	0	7	1	6	4	1	1	1	4	3	3	3	1	20	0	0	3	2	2	3	2
UCC	2	2	2	1	3	1	2	2	3	3	2	5	4	1	3	3	2	3	6	4	2	2	5	2	3	3	3	3	14	14	12	12	23	12	3	3	7	4	7	5	7	3	12	7	8	1	5	6	5	3
UCG	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	1	1	2	0	0	1	0	0	0	0	3	3	1	0	1	1	1	1	1	1	2	1	2	0	4	0	0	1	1	1	0	2
UCU	4	3	3	4	3	1	1	1	4	4	3	2	0	2	8	8	1	3	4	5	7	2	2	4	2	8	8	8	3	3	11	9	9	9	0	0	2	8	3	4	4	8	14	0	0	1	2	1	4	4
AGC	1	1	3	2	1	0	5	5	4	2	2	2	3	7	2	10	0	1	7	3	5	10	10	9	10	5	5	5	7	7	14	13	40	28	2	2	6	5	4	7	6	5	20	2	2	1	9	10	4	3
AGU	1	1	1	1	3	0	4	4	2	1	1	2	1	5	5	6	0	2	4	6	8	0	0	4	0	1	1	1	7	7	8	2	9	10	2	2	8	5	1	1	1	1	23	0	0	1	1	1	1	1
THR ACA	4	3	0	0	1	0	1	1	4	2	1	1	3	2	1	2	1	3	9	9	6	6	6	12	6	2	2	2	4	4	6	7	3	5	3	3	4	5	3	3	3	2	21	0	0	2	3	4	4	6
ACC	1	2	3	3	2	7	2	2	3	4	4	5	3	1	1	10	1	3	8	8	9	1	1	8	1	7	7	7	5	5	12	15	10	18	6	6	5	9	3	3	3	6	23	3	0	5	8	8	13	13
ACG	0	0	0	0	0	0	1	1	3	0	0	0	3	0	0	2	0	0	1	0	2	0	5	2	0	1	1	1	13	13	3	1	0	0	0	0	0	2	3	2	3	1	4	1	0	0	4	3	6	5
ACU	3	3	3	3	3	0	7	7	1	2	3	2	4	1	2	5	0	2	12	12	5	5	5	3	5	1	1	1	2	2	4	8	5	3	2	2	3	10	1	1	1	1	20	1	1	3	3	3	2	2
PRO CCA	1	2	0	0	2	0	3	3	1	1	1	0	1	6	7	0	0	5	3	3	0	0	5	0	3	3	3	3	0	0	3	0	2	2	0	0	5	7	5	4	5	3	9	0	0	1	4	4	3	3
CCC	1	1	1	2	0	1	2	2	1	2	3	2	0	0	1	2	0	0	1	3	3	3	3	7	3	2	2	2	12	12	1	3	1	3	1	1	4	7	4	6	6	2	9	2	2	2	4	4	3	4
CCG	0	0	0	0	0	0	1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	1	0	0	0	0	2	2	2	0	0	1	0	0	0	4	0	0	0	0	1	0	0	3	2	2	6	6
CCU	1	1	2	3	1	0	3	3	0	3	4	3	1	0	1	2	0	0	5	5	3	2	2	3	2	5	5	5	3	3	4	1	0	0	0	0	2	11	2	4	4	5	11	0	0	3	4	4	8	7
ALA GCA	2	1	1	2	0	1	2	2	1	2	3	4	1	2	2	3	0	0	5	5	4	4	4	3	4	1	1	1	4	4	8	8	4	5	3	3	4	14	2	2	2	1	26	0	0	0	2	2	6	3
GCC	5	6	9	8	8	3	5	5	0	7	5	6	4	2	2	2	0	1	6	7	4	2	2	3	2	1	1	1	6	6	17	18	10	17	4	4	7	13	5	3	6	2	41	4	3	2	5	6	7	9
GCG	2	0	0	1	1	0	0	0	0	1	0	1	2	1	0	1	0	0	0	0	0	1	1	0	1	2	2	2	6	6	3	4	0	0	0	0	5	5	2	2	2	2	7	1	1	0	1	2	7	10
GCU	6	5	8	7	6	3	2	2	2	6	7	6	2	3	3	4	0	1	8	6	3	1	1	4	1	1	1	1	8	8	13	4	6	17	0	0	5	13	2	0	2	1	36	0	2	3	3	3	5	13
GLY GGA	4	6	3	2	2	3	8	8	2	3	2	2	1	0	2	5	0	2	3	4	4	1	1	4	1	4	4	4	2	2	12	5	40	18	3	3	7	14	6	3	4	4	32	0	1	0	3	3	2	5
GGC	3	3	7	7	4	7	2	2	1	0	0	1	0	3	3	3	1	0	2	3	1	1	1	1	1	2	2	2	20	20	24	8	54	29	5	5	9	13	10	7	10	2	32	5	3	1	8	8	8	12
GGG	1	1	0	0	2	1	2	2	2	1	1	1	1	0	2	4	0	0	3	3	1	0	0	4	0	2	2	2	11	11	6	6	14	7	2	2	4	6	6	4	7	2	20	0	0	2	10	9	10	11
GGU	2	0	3	3	3	6	3	3	1	1	0	0	0	1	4	3	0	2	10	10	1	0	0	3	0	0	0	0	1	1	22	4	34	17	1	0	5	6	2	2	2	0	13	0	0	0	0	0	3	4
VAL GUA	0	0	0	0	0	0	1	1	0	1	0	1	2	0	0	2	0	0	1	0	3	2	2	3	2	1	1	1	0	0	2	1	1	2	1	1	2	2	1	2	2	1	15	0	0	3	0	0	0	1
GUC	0	1	2	2	2	5	4	4	4	4	4	3	3	6	2	6	0	1	6	4	2	2	2	2	2	4	4	4	6	6	11	9	2	11	2	2	10	10	1	1	1	4	28	1	0	3	7	7	2	5
GUG	5	7	10	10	8	4	5	5	2	8	9	7	3	2	0	1	0	0	7	7	5	3	3	3	3	4	4	4	10	10	12	15	8	13	11	12	14	14	1	1	1	4	32	1	1	2	17	17	12	16
GUU	6	4	2	2	4	0	10	10	2	0	0	1	1	4	0	1	1	3	5	2	2	2	2	2	2	2	2	2	2	2	3	2	4	3	2	2	9	14	0	0	0	2	23	0	0	1	0	0	1	2
LYS AAA	5	3	1	2	3	1	9	9	4	3	2	3	2	4	4	5	0	2	3	3	10	5	5	5	5	4	4	4	3	3	8	4	7	7	6	6	7	14	2	0	2	4	35	2	5	4	2	2	2	3
AAG	9	10	10	10	9	10	8	8	6	8	8	8	9	6	0	10	0	0	6	7	10	2	2	11	2	5	5	5	5	5	20	19	14	23	8	8	20	23	11	9	13	5	44	5	3	5	3	4	7	10
ASN AAC	5	6	3	5	6	2	0	0	5	3	5	4	10	9	1	6	1	0	8	8	7	3	3	6	3	4	4	4	17	17	17	12	15	19	3	3	9	12	2	2	2	4	24	2	1	3	6	7	2	6
AAU	1	1	3	2	4	0	8	7	2	4	3	3	4	3	1	4	0	1	0	2	3	3	3	2	3	4	4	4	0	0	3	6	8	4	1	1	5	13	0	0	0	4	30	0	0	1	3	3	4	4
GLN CAA	1	0	0	0	0	0	1	1	1	3	2	3	5	2	1	2	0	0	1	2	6	5	5	8	5	2	2	2	2	2	3	4	10	8	0	0	2	10	2	2	2	2	12	0	1	3	0	0	1	0
CAG	3	3	3	3	3	2	2	2	2	12	13	11	8	7	1	6	0	1	7	8	6	9	17	17	8	17	2	2	2	6	6	27	21	20	22	2	2	10	17	6	5	7	2	45	1	1	2	11	12	13	13
HIS CAC	4	3	7	6	4	1	2	2	2	3	4	3	3	4	1	1	0	0	1	1	2	1	1	7	1	4	4	4	12	12	1	2	3	3	0	0	4	7	4	4	5	4	12	0	0	4	7	4	5	3
CAU	4	5	2	2	2	1	3	3	2	1	0	1	0	0	1	1	0	0	4	4	3	1	1	3	1	0	0	0	1	1	3	4	2	3	0	0	3	5	4	5	5	0	9	0	0	1	2	4	5	4
GLU GAA	4	3	1	1	5	0	6	6	3	4	4	3	4	7	4	3	1	0	6	5	10	5	5	10	5	6	6	6	3	3	8	17	21	15	6	6	5	18	1	1	1	6	43	0	0	2	2	2	5	5
GAG	5	6	4	5	5	4	3	3	7	5	5	7	10	2	2	8	0	0	6	5	7	6	6	11	6	3	3	3	14	14	30	26	23	25	2	2	14	20	1	0	1	3	35	0	1	4	20	20	23	25
ASP GAC	3	4	3	3	3	2	8	8	2	7	6	8	1	2	4	6	0	2	3	4	13	3	3	4	3	3	3	3	11	11	13	17	14	13	3	3	11	12	8	6	7	3	28	2	2	3	6	5	11	12
GAU	2	2	6	5	1	1	12	13	3	2	3	1	1	4	3	7	0	2	4	3	8	6	6	2	6	7	7	7	2	2	10	9	5	9	8	8	6	18	1	1	1	7	24	0	1	3	1	1	5	6
TYR UAC	3	2	3	3	2	4	6	6	1	3	2	2	6	2	1	2	0	3	5	0	7	3	3	3	3	2	2	2	4	4	8	6	21	9	1	1	6	10	3	2	4	2	18	0	0	4	10	11	12	11
UAU	0	0	0	0	0	0	5	5	1	0	2	0	2	1	5	9	1	0	2	2	7	0	0	4	0	0	0	0	0	0	5	4	5	8	1	1	1	9	2	1	2	0	20	0	0	2	1	0	5	4
CYS UGC	0	0	1	1	0	0	0	0	5	3	3	2	1	3	1	2	0	1	1	1	1	2	2	8	2	2	2	2	19	19	5	0	3	3	0	0	2	7	0	1	1	2	6	16	16	2	4	4	2	4
UGU	1	1	1	1	1	0	4	4	2	4	4	6	1	1	2	4	1	2	4	5	1	2	2	6	2	2	2	2	4	4	1	0	0	3	2	2	4	4	0	0	0	2	4	4	4	0	1	1	2	2
PHE UUC	4	4	3	3	4	2	2	2	2	5	5	4	7	7	2	7	1	1	5	7	10	4	4	5	4	4	4	4	11	11	5	8	10	3	3	3	6	12	5	4	5	4	23	0	0	4	8	7	8	8
UUU	4	4	4	4	4	0	7	7	4	2	2	2	4	3	1	4	0	3	1	4	5	4	4	3	4	2	2	2	2	2	9	1	9	6	3	3	1	12	4	2	4	2	41	0	0	1	0	0	0	1
ILE AUA	0	0	1	1	0	3	3	2	0	1	0	0	0	2	0	0	0	0	3	2	3	1	1	2	1	1	1	1	1	1	0	1	0	1	2	2	1	8	0	0	0	1	21	0	0	1	1	1	0	1
AUC	4	3	2	2	1	6	1	1	5	5	4	6	7	6	3	7	0	3	2	4	4	4	4	6	4	3	3	3	8	8	20	16	9	21	5	5	13	12	3	2	3	3	35	0	1	3	9	9	4	5
AUU	2	4	1	1	2	0	11	11	1	0	0	0	3	5	3	4	0	1	3	2	4	0	0	2	0	3	3	3	0	0	7	4	6	7	1	1	11	15	1	1	1	3	47	0	0	3	1	1	5	1
MET AUG	4	4	3	2	3	2	7	7	6	5	5	5	8	4	3	5	2	3	3	3	6	5	5	8	5	4	4	4	5	5	13	9	8	17	5	5	9	13	3	4	4	4	30	1	1	6	6	5	7	9
TRP UGG	3	3	2	2	3	0	0	0	0	4	4	4	5	2	2	4	0	1	6	5	2	1	1	5	1	0	0	0	10	10	3	3	2	1	2	2	6	3	1	2	2	0	11	0	0	2	5	4	13	11
TER UAA	0	1	1	1	0	0	1	1	0	0	0	0	0	0	1	0	0	1	0	1	1	1	1	0	1	1	1	1	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0
UAG	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	1	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	0	0	0	0	0	0
UGA	1	0	0	0	1	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL	148	148	148	148	149	104	219	219	141	190	191	191	183	156	128	235	24	74	235	234	271	170	170	269	170	167	167	167	371	371	525	424	571	554	133	133	333	573	170	155	190	1671	277	62	62	120	266	266	323	366

12	MUS MHE A2*	MUS MHE B4*	MUS MHI AAD	MUS MHI AAK	MUS MHI EAD	MUS MHK B2*	MUS MHK D	MUS MHK DA	MUS MHK DM	MUS MHK K	MUS MUS DA3 *	MUS MHQ 7G2 *	MUS MHQ 8G2 *	MUS MHT LAC	MUS MLC 135 *	MUS MX	MUS MYB M	MUS MYC NA	MUS NGF AG2 *	MUS NGF AG4 *	MUS NGF B	MUS NGF G	MUS NLK	MUS ODC	MUS ODC AB	MUS P2A D4*	MUS P53 G11 *	MUS P53 M	MUS P53 MR	MUS PC1 B	MUS PHK G	MUS PIM 1	MUS PKC D	MUS PKI CB	MUS PLF 2	MUS PLF M	MUS POM C3*	MUS PRL M	MUS PRL RF	MUS PRO 18	MUS PRP	MUS PSP MPB	MUS REN 19*	MUS REN IN	MUS RNR M1	MUS RPL 30	MUS RPL 3A	MUS RPO II2 *	MUS RPS 16
ARG CGA	1	1	1	1	1	2	1	1	1	1	3	2	1	1	0	3	5	3	4	0	2	4	0	0	0	1	2	2	3	2	4	4	1	1	0	0	0	1	1	4	0	0	1	1	9	0	3	20	3
CGC	3	2	0	1	3	5	8	8	9	7	6	8	6	3	1	2	1	10	1	3	5	1	6	4	4	0	10	10	10	8	2	7	2	0	1	1	8	3	1	7	3	0	0	5	5	7	0	2	23	3
CGG	3	8	0	0	3	5	4	4	3	7	5	4	7	0	1	7	6	2	0	1	4	0	9	4	4	1	3	3	3	9	10	4	6	3	1	1	5	0	0	3	2	1	0	3	3	5	0	3	32	3
CGU	2	0	1	1	2	0	0	0	0	1	2	0	0	2	1	1	4	6	0	0	2	0	2	1	1	0	4	4	4	0	2	0	3	2	1	1	2	2	1	2	2	1	0	0	0	1	0	0	12	3
AGA	3	7	3	5	3	7	8	8	8	6	6	3	4	7	1	13	8	1	0	1	6	0	1	5	5	2	3	3	3	8	3	2	2	8	2	2	1	1	1	6	2	11	1	4	3	7	3	4	6	0
AGG	1	1	2	1	1	6	6	6	7	6	5	7	5	7	0	10	6	2	1	0	3	1	2	5	5	3	2	2	2	12	4	4	1	4	2	2	3	2	1	6	2	3	0	7	8	6	2	5	6	0
LEU CUA	0	0	0	0	0	1	2	3	2	1	0	1	2	1	0	1	3	4	4	3	1	4	2	5	5	1	2	2	2	10	1	1	4	2	4	4	1	3	7	0	0	0	3	5	5	3	0	1	7	0
CUC	8	4	7	5	8	9	8	8	7	8	9	7	8	8	4	7	8	10	8	8	5	8	14	5	5	0	5	5	5	16	10	7	5	7	6	6	5	5	6	0	6	0	9	15	16	13	1	1	25	2
CUG	10	10	12	13	10	23	21	20	21	22	20	19	21	15	7	38	22	19	12	13	7	12	28	9	9	3	16	16	16	31	16	22	14	14	6	6	11	14	9	0	4	7	12	14	14	26	5	8	54	3
CUU	3	2	3	3	3	3	4	4	4	3	3	4	3	2	1	8	3	3	2	2	2	2	4	9	9	1	6	6	6	18	3	3	4	4	3	3	1	5	6	0	3	1	12	2	3	8	2	0	24	2
UUA	2	0	1	1	2	0	0	0	0	0	0	0	0	1	1	6	7	0	1	0	1	1	1	0	0	0	3	3	3	9	1	1	1	3	5	5	1	0	1	0	0	0	4	0	0	11	0	0	6	1
UUG	2	4	6	5	2	2	2	2	2	2	1	2	4	6	1	8	8	4	1	2	4	1	8	4	4	1	3	3	3	18	7	3	4	2	3	5	2	4	7	0	0	0	14	5	5	13	3	0	23	0
SER UCA	3	0	4	4	3	0	0	0	0	0	1	0	1	2	0	6	7	5	3	4	6	3	1	6	6	1	7	7	7	18	2	3	1	2	2	4	1	4	7	1	0	1	4	3	3	7	0	1	35	0
UCC	5	2	3	4	5	6	5	5	3	5	3	3	4	2	6	15	7	3	3	6	3	15	3	3	3	5	5	5	5	12	5	7	6	3	3	3	5	6	4	0	5	0	7	14	14	6	0	1	47	5
UCG	0	2	0	0	0	1	2	2	3	2	3	2	2	2	0	0	5	9	0	0	0	0	2	1	1	1	1	1	1	3	3	6	0	0	4	1	2	1	1	0	0	0	0	2	2	0	1	0	6	1
UCU	0	4	4	5	0	6	5	5	6	6	6	4	3	2	3	7	10	4	2	2	3	2	8	9	9	0	9	9	9	13	3	3	3	3	5	8	8	0	4	8	0	0	1	6	5	6	14	4	2	58	2
AGC	3	5	4	4	3	3	4	4	4	3	3	4	3	7	1	13	13	19	6	7	5	6	6	11	11	2	11	11	11	20	5	4	5	5	5	5	9	2	1	3	9	2	5	10	12	11	1	3	53	0
AGU	0	3	0	0	0	1	0	0	0	0	0	0	1	1	4	1	8	7	4	0	1	6	0	2	5	5	2	2	2	21	2	3	2	3	3	3	4	2	4	0	1	1	5	4	4	9	2	0	22	0
THR ACA	3	8	5	5	3	4	4	4	5	3	4	5	5	11	1	4	12	0	7	6	11	7	5	5	5	3	8	8	8	14	4	1	2	7	3	3	0	3	4	0	0	7	7	6	6	12	2	0	38	2
ACC	6	4	8	9	7	13	13	13	12	13	11	13	13	15	4	17	12	14	6	3	9	6	18	7	7	7	8	8	8	14	9	4	6	4	2	2	3	2	2	1	13	0	4	18	15	14	0	3	56	1
ACG	0	7	0	0	0	6	8	8	6	8	5	5	3	2	0	2	3	4	0	0	1	0	4	2	2	0	3	3	3	4	1	1	2	1	0	0	4	0	2	0	1	0	3	4	4	5	1	0	9	3
ACU	3	1	5	5	3	4	3	3	3	3	2	2	2	5	1	8	10	7	4	5	9	4	5	8	8	2	5	5	5	9	7	1	4	4	2	3	1	3	4	0	2	2	1	5	6	15	3	0	42	1
PRO CCA	5	4	4	3	5	5	5	6	5	3	2	4	4	3	5	15	6	4	5	5	4	4	8	8	0	10	10	9	20	2	1	3	6	3	3	3	2	1	0	4	68	3	4	5	12	3	0	63	2
CCC	2	5	4	4	2	4	5	6	5	5	2	5	4	2	4	4	15	20	7	7	5	7	10	5	5	1	10	10	10	20	7	8	6	2	2	2	9	2	2	0	6	19	3	9	10	6	0	5	64	1
CCG	1	1	2	2	1	4	4	3	6	4	10	3	3	1	2	0	4	14	0	0	1	0	5	2	2	0	1	1	1	6	4	8	1	4	0	0	5	1	2	0	0	9	0	2	1	2	0	0	12	4
CCU	4	5	8	9	4	8	7	7	7	8	6	6	7	11	3	12	17	6	7	9	5	7	5	6	6	0	17	17	17	14	6	1	3	3	4	4	1	5	5	0	7	18	4	8	6	14	0	1	52	3
ALA GCA	2	3	1	0	2	4	6	6	7	6	4	6	6	10	4	8	17	5	3	3	4	3	6	13	13	3	3	3	3	4	4	2	0	2	3	2	0	1	3	0	3	2	1	1	1	14	1	2	23	3
GCC	6	2	4	4	6	9	10	10	12	10	8	8	7	5	7	10	15	20	7	5	12	7	21	12	12	4	14	14	13	10	9	8	14	11	8	8	4	7	5	1	3	2	5	10	10	19	3	4	29	5
GCG	1	3	1	1	1	11	9	9	10	10	10	7	7	3	2	0	3	8	0	1	2	0	5	2	2	0	1	2	2	7	1	2	2	2	0	0	7	0	0	0	2	0	1	1	0	2	2	0	2	2
GCU	7	2	4	5	7	9	10	10	9	8	10	9	9	9	8	16	8	15	5	4	7	5	10	13	13	0	5	5	5	14	4	2	7	6	2	2	4	2	5	0	2	2	4	6	4	20	3	3	35	5
GLY GGA	5	8	4	4	5	5	5	5	5	5	5	3	3	5	9	2	6	4	6	6	9	9	9	9	9	3	5	5	5	17	6	5	3	5	2	2	2	4	1	0	9	15	3	8	9	12	1	0	27	5
GGC	4	6	10	9	4	12	10	10	8	11	12	10	10	9	5	7	5	11	8	6	6	8	12	8	8	5	9	9	10	16	8	11	10	8	2	2	11	0	0	0	11	28	8	10	12	12	4	3	42	3
GGG	2	4	3	3	2	11	9	9	9	9	11	12	7	9	1	11	9	10	3	3	6	3	11	5	5	2	9	9	8	12	6	5	6	6	2	2	2	3	1	0	11	3	2	9	9	7	2	1	23	3
GGU	3	0	6	6	3	2	3	3	4	2	4	2	2	4	4	7	7	6	5	4	4	5	8	7	7	1	1	1	1	8	0	2	3	3	1	1	2	3	1	0	10	0	4	9	6	13	2	1	29	6
VAL GUA	3	0	1	2	3	1	2	2	2	1	0	0	2	0	1	6	2	2	0	0	4	0	2	3	3	1	1	1	1	5	7	0	1	0	0	0	0	1	2	0	1	0	1	2	2	5	1	1	15	3
GUC	5	6	4	4	5	6	6	6	4	5	3	3	4	3	7	14	10	6	4	4	6	4	7	10	10	2	7	7	7	12	7	8	8	6	3	3	2	5	3	0	5	1	7	9	11	10	1	4	30	2
GUG	13	17	12	12	12	17	16	16	14	18	16	16	14	11	2	18	14	15	5	6	13	5	17	15	15	11	9	8	7	18	14	12	11	11	3	3	8	3	3	0	12	2	4	18	19	14	2	5	56	1
GUU	3	6	3	2	3	4	4	4	4	3	2	2	1	2	2	2	6	4	4	3	3	4	3	7	7	2	4	4	4	11	1	1	0	4	4	4	1	6	6	0	0	1	4	4	3	10	2	0	8	1
LYS AAA	9	3	3	2	9	6	3	3	3	5	4	2	2	4	5	21	20	6	9	6	5	9	11	10	10	6	9	9	9	31	6	3	9	9	7	7	2	6	9	3	3	0	7	3	4	23	7	6	32	6
AAG	6	3	7	7	6	8	9	9	9	7	8	7	7	6	15	33	24	20	11	8	12	11	30	19	19	8	15	15	15	21	19	11	26	24	9	9	14	6	10	0	8	0	3	12	11	35	7	12	73	4
ASN AAC	6	10	7	6	6	6	5	5	5	7	7	4	5	6	4	11	21	13	7	8	6	7	26	8	8	2	3	3	3	23	7	6	10	7	8	8	9	7	4	0	12	1	7	7	6	26	3	7	40	1
AAU	5	2	3	3	5	3	4	4	4	3	3	4	3	7	6	14	10	2	4	5	3	4	3	7	7	1	5	5	5	20	2	1	5	5	10	9	0	4	8	0	2	3	14	4	3	21	2	4	40	1
GLN CAA	1	0	5	5	1	0	1	1	1	1	0	2	0	5	2	11	5	0	4	6	0	4	4	5	5	0	2	2	2	11	3	3	1	1	3	3	0	9	2	0	4	21	5	2	2	5	2	0	12	7
CAG	3	11	3	3	3	15	16	16	16	15	15	17	15	15	5	27	30	14	2	3	9	2	20	11	11	2	12	12	12	20	14	7	14	10	1	1	8	9	0	0	12	21	6	10	9	25	2	3	48	1
HIS CAC	5	4	6	6	4	4	3	3	4	4	4	4	5	5	1	5	16	12	5	4	8	5	14	2	2	0	7	7	7	15	7	9	7	5	1	1	4	2	2	0	3	0	0	5	5	9	1	4	16	0
CAU	1	2	2	0	1	6	7	6	6	6	3	5	5	5	1	2	10	2	2	3	5	2	7	8	8	0	4	4	4	18	3	4	1	3	3	3	0	2	2	0	6	0	0	3	4	6	1	0	26	3
GLU GAA	8	4	5	5	8	5	1	1	1	2	3	3	3	6	10	22	28	8	2	4	3	2	8	12	12	6	11	11	11	26	8	8	5	11	13	13	4	10	11	0	1	2	4	8	6	23	3	3	38	5
GAG	16	17	11	12	16	21	20	21	19	20	24	21	24	24	13	37	23	31	7	11	8	7	27	14	14	2	21	21	21	30	23	14	21	18	0	0	19	6	10	0	6	0	3	11	13	37	3	4	76	1
ASP GAC	8	8	10	11	8	13	12	12	9	13	14	11	11	6	7	19	14	17	10	12	10	10	18	16	16	3	9	9	9	30	20	16	17	10	7	7	7	7	5	0	4	0	3	16	16	16	1	2	41	1
GAU	7	2	5	4	7	6	10	10	10	7	4	4	3	9	2	19	16	8	9	8	4	9	7	20	20	8	8	8	8	21	4	6	4	8	7	7	3	4	9	0	3	0	5	1	4	21	2	0	51	5
TYR UAC	0	9	1	1	0	13	11	11	10	13	14	10	9	12	0	10	8	2	6	5	4	6	9	6	6	1	6	6	6	25	12	6	8	11	1	1	6	3	3	12	0	1	10	10	17	6	1	52	4
UAU	3	1	6	7	3	5	5	5	4	5	6	5	5	7	2	5	6	1	3	3	1	3	4	10	10	1	6	6	6	18	5	1	6	5	4	4	0	3	3	0	2	0	0	6	6	23	1	2	32	3
CYS UGC	0	3	4	3	0	5	4	4	4	5	3	3	4	4	2	8	5	6	5	3	4	5	2	2	2	0	10	10	10	14	5	5	0	0	5	5	5	6	5	7	3	0	1	3	3	4	1	1	11	3
UGU	3	2	1	1	3	2	1	1	1	2	2	1	1	2	0	3	5	2	5	7	4	5	2	10	10	2	2	2	2	22	3	1	2	3	2	2	0	1	0	2	0	0	2	4	4	11	2	1	13	5
PHE UUC	10	11	9	8	10	6	10	10	6	8	7	8	8	9	4	11	7	9	7	6	10	7	16	10	10	3	7	7	7	21	13	10	15	14	3	3	8	3	7	0	5	1	3	10	11	12	0	4	33	0
UUU	10	2	4	5	10	1	2	2	2	1	1	1	0	2	5	13	6	2	3	1	5	3	12	12	12	3	6	6	6	18	6	4	10	10	6	6	2	5	9	0	2	1	2	10	8	12	0	0	22	2
ILE AUA	1	0	2	2	1	1	1	1	1	1	0	0	0	0	0	9	4	0	2	1	2	2	3	3	3	2	0	0	0	7	3	0	1	4	6	6	1	4	6	1	0	0	2	1	0	7	1	0	7	0
AUC	9	5	9	9	9	5	5	5	4	6	8	7	5	10	7	19	13	11	7	7	7	7	21	13	13	5	9	9	9	14	17	14	16	10	5	5	3	7	6	0	7	2	4	13	13	19	4	5	57	3
AUU	7	2	6	6	7	1	1	1	1	2	1	3	4	1	1	16	12	0	3	3	3	1	3	10	10	10	1	0	0	0	20	3	6	4	7	4	4	0	6	3	0	0	0	9	5	3	30	4	4	33	1
MET AUG	5	3	3	4	6	9	7	7	7	9	10	11	8	11	7	13	10	5	8	7	4	8	15	15	15	5	11	11	11	15	11	4	7	7	10	10	4	3	9	1	8	1	1	10	11	24	5	4	53	1
TRP UGG	5	5	4	4	5	9	11	11	11	10	12	11	13	10	0	3	12	4	7	7	5	7	12	5	5	2	3	3	4	12	4	7	6	6	4	4	6	1	3	0	10	0	1	6	6	12	0	1	12	4
TER UAA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	1	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	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0
UGA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	0	1	0	0	0	0	1	1	1	1	1	1	0	0	0	1	1	1	0	1	0	1	0	1	0	1	0	0	1	0
TOTAL	256	265	257	257	256	370	369	369	357	370	358	335	327	362	189	632	637	463	262	257	308	262	559	462	462	133	391	391	390	906	389	314	352	352	225	225	236	227	245	52	255	262	236	403	402	793	116	1361	933	146

13		MUS RSR P2	MUS SAA 3G4 *	MUS SMG GP	MUS SMG PP	MUS SPT CS	MUS TCB XH	MUS TCG XA	MUS TCG XC	MUS TCG XE	MUS THS M	MUS THY 1G	MUS THY S7*	MUS TNF	MUS TSH A	MUS TUB A1M	MUS TUB A2M	MUS TUB A3M	MUS TUB A4M	MUS TUB A6M	MUS TUB A7M	MUS TYR R01	MUS TYR R02	MUS UPA	MUS WAP	MUS WAP 4*	RAT A2M	RAT ABP	RAT ACC YB	RAT ACO A1	RAT ACS KA	RAT AGP A1	RAT AGP A1G	RAT AGP A1H	RAT ALA C	RAT ALA D	RAT ALB	RAT ALB M	RAT ALD A	RAT ALO BG9 *	RAT AMF	RAT ANG 5*	RAT ANP G	RAT APO A01	RAT APO A02	RAT APO AI	RAT APO AIV	RAT APO EA	RAT ATC OX8	RAT ATP A1
ARG	CGA	3	2	0	3	3	2	1	1	2	6	2	6	1	0	0	0	3	2	0	1	5	5	4	0	0	5	5	1	6	2	1	1	1	0	4	1	2	4	3	2	3	2	1	2	0	3	4	9
	CGC	12	0	0	1	1	3	0	0	1	2	4	2	2	0	6	9	5	7	8	6	3	3	3	1	1	4	1	3	6	6	0	0	0	1	3	2	1	6	4	1	5	1	6	1	3	6	3	20	0	6
	CGG	7	3	0	1	1	0	1	1	2	1	0	1	1	0	2	2	6	4	2	8	0	0	1	0	0	8	5	3	6	2	3	3	3	0	4	0	2	0	1	2	5	2	0	0	2	0	2	4	6	7
	CGU	2	0	1	0	2	1	0	0	1	0	0	0	0	0	8	6	4	7	7	3	5	5	1	3	1	9	1	7	5	6	0	0	0	1	2	0	4	4	2	0	1	0	1	0	2	1	2	4	1	6
	AGA	4	5	0	3	9	4	5	5	8	5	1	5	2	2	3	3	1	0	3	1	11	11	2	0	0	20	7	1	2	0	1	1	1	1	3	0	12	0	3	3	3	3	2	0	1	2	0	1	0	5
	AGG	1	2	0	0	0	3	3	4	1	3	1	3	2	2	2	1	2	1	1	2	11	11	8	1	1	11	1	3	7	2	0	0	0	0	4	2	6	1	5	4	2	4	2	1	5	2	5	1	4	14
LEU	CUA	3	0	2	0	6	4	1	1	2	1	1	1	3	2	3	3	0	3	2	1	3	3	3	2	1	14	7	1	2	0	2	2	2	1	4	0	1	2	5	2	5	2	3	2	6	3	6	5	3	5
	CUC	6	0	1	1	4	7	9	9	6	5	7	5	17	0	8	8	3	5	8	4	10	10	5	3	4	41	17	6	13	5	2	2	2	1	9	5	11	5	12	6	15	6	2	5	9	2	9	3	6	27
	CUG	20	2	1	0	3	10	8	8	8	18	14	18	10	4	17	16	26	17	17	23	16	16	13	3	3	67	26	19	26	17	9	9	9	4	17	7	27	23	6	8	35	8	22	4	30	22	30	27	14	35
	CUU	6	1	3	2	5	6	8	8	6	3	5	3	2	2	2	4	2	3	4	3	8	8	5	3	2	11	14	0	11	2	4	4	4	4	3	2	11	2	7	1	4	1	2	1	1	2	1	1	2	12
	UUA	1	0	2	0	0	1	2	2	2	0	0	0	1	0	0	0	1	0	0	1	3	3	0	0	0	8	3	0	1	0	1	1	1	1	1	0	3	0	0	0	1	0	0	0	0	0	0	0	1	3
	UUG	4	1	1	1	5	5	3	3	5	7	1	7	1	0	2	1	1	3	1	1	7	7	3	0	0	16	6	1	15	2	6	6	6	1	3	0	7	2	4	1	6	1	2	1	3	2	3	3	3	13
SER	UCA	6	2	1	1	5	7	2	3	7	3	2	3	3	0	0	0	4	3	0	4	5	5	4	1	2	19	2	1	3	2	2	2	2	3	3	1	2	0	4	1	4	1	1	0	0	1	0	0	6	6
	UCC	2	1	3	0	2	4	7	7	4	5	8	5	3	4	9	9	7	9	9	7	9	9	9	3	3	29	10	14	9	11	3	3	3	2	7	4	10	7	5	5	7	5	4	3	6	4	6	5	5	21
	UCG	5	0	0	0	0	0	2	2	1	2	1	2	1	2	0	0	2	0	0	1	0	0	2	0	0	5	0	0	2	1	0	0	0	0	1	0	0	1	1	2	0	2	0	0	0	1	0	1	1	3
	UCU	5	2	6	1	6	4	5	5	4	2	1	2	4	1	8	8	3	6	6	4	13	13	9	1	1	26	13	5	6	5	0	0	0	1	2	4	6	6	4	3	6	3	0	4	1	0	1	2	4	12
	AGC	6	1	1	1	2	11	4	4	1	4	5	4	7	1	2	3	3	5	3	3	8	8	8	3	3	24	9	5	10	4	1	1	1	3	5	4	5	3	6	7	13	7	3	3	10	3	10	3	5	8
	AGU	3	1	5	1	2	4	6	3	5	0	2	0	2	0	2	2	2	1	0	3	1	3	3	7	2	3	8	4	0	9	0	1	1	1	3	4	5	1	6	1	1	0	1	1	1	2	2	2	7
THR	ACA	0	0	1	7	2	6	10	11	7	4	2	4	2	3	4	4	7	5	6	6	13	13	1	3	3	34	5	4	9	2	4	4	4	4	0	2	12	4	4	1	5	1	3	2	4	3	4	8	4	13
	ACC	7	0	4	1	3	6	7	7	11	5	8	5	5	1	17	17	13	16	18	15	7	7	4	4	4	31	12	15	16	20	9	9	9	2	8	5	14	8	9	2	19	2	4	0	13	4	13	4	4	24
	ACG	2	1	1	0	1	2	2	0	1	2	1	2	1	1	2	3	4	2	1	3	2	2	2	1	1	11	2	0	3	1	2	2	2	0	2	1	3	0	4	0	4	0	0	0	1	3	0	3	3	8
	ACU	7	0	12	4	5	3	7	7	8	2	0	2	0	3	7	6	5	4	6	5	13	13	5	1	1	30	6	7	17	4	1	1	1	0	2	2	5	9	3	1	8	1	5	3	2	5	2	1	4	16
PRO	CCA	7	0	0	3	3	7	1	1	2	8	1	8	2	2	4	4	6	7	4	7	13	13	7	4	3	20	5	2	8	2	3	3	3	0	4	1	10	4	3	1	7	1	1	1	1	1	1	4	3	8
	CCC	11	2	0	1	2	3	5	6	6	2	3	2	8	3	9	9	6	8	9	5	7	7	9	3	3	27	8	6	8	10	3	3	3	3	10	1	9	10	1	4	16	4	3	1	10	3	10	3	9	22
	CCG	11	0	1	0	1	1	0	0	0	1	0	1	0	0	0	0	2	0	0	1	3	3	2	2	2	5	2	0	6	2	0	0	0	1	2	2	2	2	1	3	4	3	1	1	2	1	2	1	3	3
	CCU	6	3	0	2	5	5	3	2	4	5	0	5	3	1	7	7	6	7	7	7	16	16	8	2	2	21	13	11	9	5	3	3	3	5	6	3	9	5	8	3	6	3	2	1	2	2	2	0	5	13
ALA	GCA	5	1	3	5	4	7	7	6	5	5	0	5	4	3	2	2	12	6	3	10	5	5	5	0	0	16	5	1	7	0	4	4	4	0	9	3	15	9	7	2	4	2	4	1	1	4	1	4	1	12
	GCC	11	6	1	1	1	7	3	3	4	6	4	6	8	6	20	21	21	19	21	21	9	9	10	5	5	40	7	17	22	15	3	3	3	6	21	5	25	19	12	4	20	4	10	5	16	10	16	16	4	29
	GCG	12	0	0	0	0	0	0	0	2	1	1	1	1	0	0	0	3	0	0	4	3	3	3	0	0	7	1	3	1	2	1	1	1	2	0	1	1	0	1	3	5	2	3	3	0	1	3	1	4	2
	GCU	3	9	2	2	7	7	3	3	7	4	1	4	4	1	14	13	4	11	14	5	15	15	6	2	2	38	7	9	15	12	4	4	4	4	10	8	21	13	23	3	8	3	5	3	7	5	7	7	3	35
GLY	GGA	2	4	2	0	11	3	4	4	4	10	0	10	3	3	6	6	9	8	6	7	17	17	13	0	0	28	14	1	8	0	3	3	3	2	10	4	7	7	11	4	6	4	0	2	2	0	2	3	5	14
	GGC	13	3	2	0	5	4	4	3	1	8	5	8	4	1	18	17	14	12	15	12	3	3	12	4	4	28	7	15	17	13	2	2	2	4	9	3	6	11	11	6	13	6	6	6	3	6	3	7	4	28
	GGG	3	3	2	1	5	6	6	5	5	3	2	3	7	0	4	4	9	9	4	10	9	9	5	1	1	14	10	2	15	5	3	3	3	1	1	4	2	8	3	4	7	4	1	0	8	1	8	5	2	17
	GGU	0	2	2	1	5	1	0	1	2	4	0	4	1	1	9	9	3	5	10	6	4	4	9	2	2	13	0	9	4	10	0	0	0	0	3	2	4	4	3	2	8	2	4	0	1	4	1	2	0	16
VAL	GUA	2	0	0	3	3	1	2	3	3	1	0	1	2	1	5	6	1	5	5	3	5	5	4	0	0	18	4	2	5	0	1	1	1	1	5	1	4	6	3	2	2	2	0	0	0	0	0	3	1	8
	GUC	2	2	2	1	3	10	6	5	8	1	6	1	9	2	5	5	9	5	5	8	14	14	7	3	4	29	2	5	9	5	5	5	5	2	8	6	8	6	4	2	11	2	3	1	5	3	5	3	2	21
	GUG	15	0	2	6	5	11	5	4	2	9	5	9	7	2	15	14	23	20	13	21	9	9	9	4	3	65	8	13	18	16	4	4	4	2	9	5	17	7	13	2	22	2	11	4	22	11	22	13	12	41
	GUU	1	2	5	4	4	2	4	5	7	6	1	6	1	1	9	9	2	2	9	3	8	8	3	3	4	20	4	2	10	0	3	3	3	4	5	1	8	3	7	0	5	0	2	0	2	2	2	0	4	7
LYS	AAA	5	7	5	1	10	9	13	13	18	11	1	11	3	4	4	4	6	6	4	5	7	7	15	4	4	34	8	3	14	5	7	7	7	2	2	4	21	1	3	2	2	2	9	2	7	9	8	2	6	11
	AAG	5	3	3	2	14	9	15	14	12	6	8	6	8	7	15	15	13	13	15	14	3	3	17	0	1	49	5	16	27	14	12	12	12	9	10	4	33	25	20	3	14	3	15	3	23	15	22	10	7	45
ASN	AAC	4	4	7	2	6	5	4	4	7	3	8	3	7	0	9	8	8	11	9	9	19	19	12	6	6	30	3	6	16	9	7	7	7	3	3	2	17	8	11	4	14	4	10	0	19	10	19	8	9	31
	AAU	3	1	7	8	9	9	9	9	8	5	3	5	3	4	7	8	8	5	7	7	14	14	7	2	2	34	5	3	14	3	2	2	2	3	1	1	3	7	5	1	2	1	3	1	7	3	7	1	1	11
GLN	CAA	2	2	3	3	2	5	7	7	7	3	3	3	7	0	3	0	0	3	0	0	7	7	6	3	4	25	9	1	9	1	1	1	1	3	2	0	4	4	5	0	3	0	4	2	8	4	8	4	2	6
	CAG	7	3	3	3	1	6	5	5	4	15	5	15	8	2	15	16	15	13	16	15	13	13	16	5	4	46	13	11	24	10	12	12	12	2	11	1	21	12	17	4	26	4	14	4	41	14	40	28	6	26
HIS	CAC	9	1	0	0	6	4	3	3	2	2	2	2	3	2	9	8	9	7	8	7	13	13	8	0	0	19	10	7	13	8	1	1	1	3	7	2	8	4	4	1	5	1	4	0	2	4	2	1	1	10
	CAU	1	2	0	1	1	5	3	3	4	7	2	7	0	3	4	5	4	6	5	6	4	4	4	0	0	12	4	2	5	1	3	3	3	0	2	2	7	5	5	1	3	1	2	0	3	2	4	0	0	6
GLU	GAA	12	1	14	9	9	5	11	10	15	10	0	10	4	2	8	7	12	10	6	12	15	15	12	2	2	43	5	5	20	3	6	6	6	4	6	5	25	6	6	3	2	3	5	1	16	5	16	6	5	33
	GAG	10	3	5	1	4	16	8	8	4	8	6	8	11	3	29	30	24	25	28	24	14	14	13	7	7	57	10	21	23	25	10	10	10	9	12	5	32	18	16	5	23	5	20	6	18	20	18	31	3	38
ASP	GAC	17	7	4	0	4	6	3	4	5	7	4	7	7	1	12	13	16	16	14	17	14	14	9	2	2	32	15	18	17	18	7	7	7	6	8	3	19	8	8	3	14	3	10	2	15	10	15	7	2	33
	GAU	4	2	10	7	9	2	9	9	11	14	2	14	3	2	15	14	11	13	15	10	16	16	8	0	0	30	12	5	7	4	5	5	5	4	9	3	13	6	5	6	6	6	8	4	6	8	6	7	4	24
TYR	UAC	5	4	0	2	0	4	11	11	9	7	2	7	7	6	13	13	16	10	12	14	7	7	13	0	0	33	1	10	14	10	2	2	2	1	5	1	6	8	8	10	2	8	2	2	2	2	2	4	4	15
	UAU	6	1	1	4	6	8	6	6	5	4	2	4	1	2	6	6	3	9	7	5	14	14	7	0	0	18	1	5	16	6	3	3	3	3	6	0	13	4	2	0	0	0	3	0	2	3	2	0	2	9
CYS	UGC	4	1	1	4	5	3	4	4	3	2	3	3	5	9	9	8	8	9	9	7	7	14	8	8	8	13	4	4	5	4	1	1	1	2	2	1	17	4	6	2	4	2	1	0	0	1	0	1	10	14
	UGU	4	0	0	3	6	4	5	5	6	2	2	2	5	3	3	4	5	3	3	9	9	11	7	7	12	2	2	2	2	2	2	2	2	7	6	1	18	4	2	0	0	0	0	0	0	0	0	1	9
PHE	UUC	14	4	2	2	2	6	8	7	11	8	3	8	8	3	14	14	10	13	14	12	12	12	9	3	3	46	5	12	11	9	6	6	6	5	6	5	18	6	5	7	17	7	5	3	10	5	10	3	8	31
	UUU	2	1	0	2	4	5	8	8	8	7	1	7	3	2	6	6	10	7	6	8	18	18	7	0	0	17	8	1	13	3	6	6	6	3	7	2	12	2	5	1	7	1	3	0	3	3	3	0	2	15
ILE	AUA	3	0	0	3	4	2	8	8	9	1	2	1	1	0	1	0	1	1	0	0	2	2	3	2	2	10	2	0	3	0	5	5	5	1	1	1	2	0	1	0	1	0	0	1	1	0	1	2	1	6
	AUC	9	4	1	6	8	4	4	5	1	8	4	8	4	1	16	16	16	17	16	16	4	4	7	4	4	34	5	20	20	25	3	3	3	8	6	1	8	10	10	1	9	1	4	1	6	4	6	4	11	44
	AUU	0	2	1	5	7	4	6	6	7	8	1	8	1	5	10	11	9	9	11	10	11	11	10	2	2	15	5	8	14	5	2	2	2	2	4	1	4	10	6	3	3	3	0	0	1	0	1	1	3	30
MET	AUG	5	4	2	5	5	6	4	4	7	9	3	9	5	6	10	10	10	11	10	10	9	9	6	6	6	30	6	17	20	17	5	5	5	4	9	2	7	4	6	4	9	4	9	6	14	9	14	11	3	26
TRP	UGG	10	5	0	1	5	6	7	6	6	5	1	5	2	0	4	4	4	4	4	4	10	10	8	1	1	13	12	4	8	4	3	3	3	4	3	2	2	3	3	3	5	3	8	3	1	8	1	6	2	12
TER	UAA	1	0	0	1	1	0	1	1	1	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	0	0	1	0
	UAG	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1
	UGA	0	1	1	0	0	1	0	0	0	0	1	0	1	0	0	0	1	0	0	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	1	0	1	1	0
TOTAL		358	124	139	130	258	304	305	302	326	308	163	308	236	121	452	452	451	449	450	451	538	538	434	135	135	1473	404	376	662	378	206	206	206	160	331	148	609	365	371	153	478	153	260	101	392	260	392	313	237	1024

14		RAT ATP A2	RAT ATP A3	RAT ATP AST	RAT BIP	RAT CAL 4*	RAT CAS B	RAT CAS B5*	RAT CAS K	RAT CAT L	RAT CBX PA	RAT CCK	RAT CCK 3*	RAT CCK R	RAT CKM	RAT CMO S	RAT CPS I13 *	RAT CRF	RAT CRY G	RAT CRY GA	RAT CTR PB	RAT CYC	RAT CYP 45C	RAT CYP 45D	RAT CYP 45M	RAT CYP 45P	RAT CYP B9*	RAT CYP CN2	RAT CYP D45	RAT CYP E9*	RAT CYP M1	RAT CYP OXM	RAT DBP	RAT EIF 2A	RAT ELA I6*	RAT ELA I17 *	RAT ENK 3*	RAT ESP	RAT FAB PI	RAT FAB PL	RAT FAB PLG	RAT FER L	RAT GAP DHB	RAT GCR	RAT GFI 2	RAT GH1	RAT GH2	RAT GHR F5*	RAT GLC B	RAT GLT PG	RAT GLU 6*
ARG	CGA	7	4	7	3	0	0	0	0	5	3	4	4	4	2	1	9	0	1	1	1	0	3	1	3	1	5	2	1	4	0	5	2	3	3	1	0	0	2	0	0	0	1	5	0	1	1	0	7	2	2
	CGC	9	17	20	7	1	1	1	1	7	4	4	4	4	12	7	10	7	9	9	1	0	3	7	3	3	7	0	7	8	2	12	1	1	5	1	4	0	1	0	0	5	2	1	9	6	6	2	2	4	3
	CGG	14	11	15	5	1	0	0	1	5	2	3	3	3	1	7	7	5	2	2	0	1	7	6	7	3	8	3	6	6	3	9	1	1	7	1	2	3	1	0	0	2	0	4	1	1	1	3	11	10	1
	CGU	5	2	4	4	0	0	0	1	3	0	0	0	0	3	1	6	0	1	1	0	0	3	0	3	1	2	1	0	3	4	2	0	3	0	2	2	0	1	0	0	4	4	1	5	2	2	0	7	5	2
	AGA	4	1	0	4	1	0	0	1	6	3	0	0	0	0	2	15	1	3	3	0	0	6	4	6	9	4	11	4	4	9	2	8	11	2	0	6	1	0	2	2	0	0	11	4	1	1	3	10	3	3
	AGG	11	9	5	5	3	1	1	2	4	4	3	3	3	0	6	13	7	5	5	1	1	6	5	6	4	6	3	5	6	8	6	9	6	2	4	3	1	1	0	0	1	3	7	2	1	1	5	4	3	3
LEU	CUA	4	5	5	1	1	2	2	5	0	3	1	1	1	0	3	12	0	0	0	1	1	3	5	3	3	3	3	5	2	5	7	10	4	1	1	3	2	2	0	0	0	1	5	0	0	0	0	3	5	1
	CUC	24	23	18	9	4	7	7	1	6	5	1	1	1	7	7	14	6	3	3	5	1	12	8	12	11	21	12	8	23	8	8	11	3	4	4	5	1	2	2	2	10	7	13	4	8	8	4	11	12	1
	CUG	53	51	54	25	8	5	5	3	12	17	8	8	9	26	23	54	19	5	5	10	2	31	28	31	18	17	19	28	17	19	32	17	4	11	18	12	9	2	3	3	12	9	21	6	19	19	5	29	17	3
	CUU	10	8	14	8	0	17	17	3	8	4	1	1	1	4	4	19	1	1	1	2	1	4	4	4	9	10	8	4	9	10	7	5	5	0	2	4	2	2	0	0	0	0	17	5	1	1	1	8	8	3
	UUA	3	1	0	0	1	0	0	0	1	2	0	0	0	0	0	9	1	0	0	0	0	3	3	3	4	3	3	3	4	2	0	6	3	0	0	0	2	0	0	0	0	1	11	1	0	0	1	1	1	0
	UUG	4	3	11	7	4	0	0	1	4	8	0	0	0	0	5	24	4	0	0	1	1	6	5	6	9	8	12	5	8	9	5	3	7	4	1	2	5	2	1	1	7	0	15	4	2	2	2	6	7	3
SER	UCA	7	5	9	2	2	1	1	3	3	1	0	0	0	2	2	17	0	0	0	0	0	7	4	7	7	6	6	4	4	5	9	9	2	1	1	0	3	1	1	1	0	0	18	1	2	2	3	3	9	2
	UCC	22	28	14	6	1	8	8	3	5	6	1	1	1	9	9	29	5	3	3	15	0	6	7	6	6	9	5	7	10	6	12	14	3	10	13	4	1	0	3	3	1	11	19	3	3	3	2	6	8	3
	UCG	6	3	6	1	0	0	0	0	1	2	1	1	1	1	5	6	2	0	0	1	0	0	1	0	0	1	0	1	1	1	3	0	0	0	2	1	2	0	0	0	0	0	6	3	2	2	0	5	3	0
	UCU	15	7	8	13	2	10	10	4	3	9	1	1	1	1	2	24	2	5	5	3	1	9	5	9	6	5	5	4	6	7	7	8	5	7	5	3	1	1	0	0	6	5	18	4	1	1	0	8	9	2
	AGC	9	10	12	3	5	0	0	3	9	10	2	2	2	8	7	13	5	4	4	2	0	10	11	10	7	6	6	10	4	8	11	10	3	8	12	10	2	1	2	2	1	3	17	6	7	7	3	11	8	2
	AGU	3	4	10	1	2	5	5	1	3	4	2	2	2	0	3	16	1	2	2	1	0	7	6	7	1	7	3	7	6	5	1	7	3	4	1	1	2	1	0	0	0	0	10	0	1	1	1	6	5	3
THR	ACA	11	10	17	13	2	0	0	6	3	5	0	0	0	4	0	35	0	3	3	1	3	14	14	14	12	8	8	14	10	9	4	7	7	3	2	3	3	4	3	3	0	3	18	1	0	0	0	9	10	2
	ACC	22	32	23	17	3	3	3	7	10	12	0	0	0	7	8	29	2	1	1	9	2	10	10	10	11	11	11	10	13	9	13	9	4	11	11	3	10	3	6	6	5	10	14	3	8	8	3	25	14	7
	ACG	16	6	9	3	1	0	0	0	1	6	0	0	0	1	7	5	2	0	0	0	0	1	3	1	2	2	3	3	2	2	11	4	1	3	1	1	1	1	0	0	0	0	3	1	0	0	0	3	5	2
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PRO	CCA	6	7	12	9	1	4	4	11	14	3	1	1	1	2	3	20	0	0	0	0	1	10	11	10	13	14	13	11	15	8	9	12	4	1	5	1	0	0	0	0	3	2	17	2	1	1	2	8	12	2
	CCC	18	18	20	6	3	10	10	5	9	10	3	3	3	9	2	20	7	5	5	8	1	9	16	9	10	10	7	16	11	8	12	9	3	6	6	7	1	0	1	1	0	7	12	7	6	6	3	8	13	0
	CCG	4	4	5	4	0	0	0	1	2	0	2	2	2	3	5	6	7	0	0	0	0	1	4	1	1	1	0	2	4	0	2	3	2	1	1	0	0	1	0	0	0	0	2	1	0	0	0	8	3	1
	CCU	14	13	11	9	3	8	8	7	14	4	3	3	3	5	10	22	3	2	2	6	1	9	2	9	11	7	12	2	5	13	6	4	2	0	1	2	2	0	1	1	1	4	15	2	2	2	1	15	3	2
ALA	GCA	12	7	12	7	4	4	5	4	12	7	4	4	4	0	5	29	1	0	0	4	1	2	1	2	2	3	5	1	4	3	3	6	8	1	2	4	4	2	1	1	3	3	20	0	2	2	2	7	10	2
	GCC	40	45	43	12	2	7	6	6	12	17	2	2	2	7	14	40	5	2	2	12	2	16	17	15	6	8	8	17	10	3	32	15	6	6	8	4	7	2	0	0	10	16	6	13	8	8	3	15	27	5
	GCG	6	6	12	8	0	1	1	1	4	1	4	4	4	4	3	8	6	0	0	0	0	1	1	1	1	0	1	1	0	0	3	2	0	1	0	3	1	0	1	1	2	1	2	2	2	2	1	3	7	0
	GCU	23	20	23	17	3	5	5	3	14	6	4	4	4	4	4	41	7	0	0	6	5	6	5	7	9	10	8	5	11	11	13	7	8	8	10	3	6	2	0	0	3	12	14	2	10	10	1	4	12	7
GLY	GGA	12	2	11	16	1	1	1	1	11	4	0	0	0	4	4	33	2	1	1	4	7	7	6	7	11	11	11	6	10	10	6	5	5	11	6	8	3	7	1	1	0	3	21	3	1	1	1	8	5	3
	GGC	34	37	35	11	7	1	1	0	13	10	7	7	7	22	8	35	4	8	8	15	3	14	12	14	5	9	5	12	11	10	21	3	3	6	11	10	4	3	2	2	10	14	13	4	3	3	2	12	17	4
	GGG	20	13	15	7	2	1	1	0	7	7	0	0	0	2	7	22	3	3	3	3	1	8	8	8	7	8	7	8	7	5	13	5	1	6	4	6	4	1	6	6	1	8	16	4	3	3	1	15	13	2
	GGU	13	23	14	17	0	2	2	1	4	5	0	0	0	5	6	23	3	1	1	3	3	5	3	5	5	5	4	3	5	5	5	2	4	2	5	1	3	1	3	3	1	6	7	1	2	2	0	6	8	0
VAL	GUA	5	6	7	8	0	0	0	4	2	0	2	2	2	2	2	4	0	1	1	1	0	1	1	1	5	2	7	1	1	8	6	1	7	0	1	2	1	2	0	0	1	1	5	1	0	0	0	3	6	2
	GUC	13	25	13	14	2	3	3	5	11	8	3	3	3	3	2	30	2	2	2	12	0	10	13	10	10	6	9	13	6	8	12	4	7	11	9	1	3	3	4	4	1	13	6	1	2	2	0	15	7	1
	GUG	49	44	48	22	1	11	11	9	11	14	5	5	5	21	11	59	3	4	4	15	1	17	23	17	18	14	15	23	15	12	28	5	7	16	13	3	7	4	7	7	6	15	17	6	2	2	4	36	27	4
	GUU	6	2	6	9	3	3	4	4	9	3	1	1	1	2	4	30	0	0	0	1	2	6	2	6	3	3	5	2	0	4	2	10	7	2	4	1	4	2	1	1	0	5	11	1	0	0	0	2	8	1
LYS	AAA	8	14	8	25	2	7	5	2	9	7	1	1	1	6	3	28	2	0	0	3	6	7	6	8	23	9	20	6	9	14	6	16	13	0	1	10	3	8	5	5	1	6	34	3	3	3	1	6	7	5
	AAG	47	43	40	36	5	5	4	2	21	13	2	2	2	27	12	71	0	1	1	11	12	21	29	20	20	15	24	29	14	18	32	20	8	3	8	14	11	7	12	12	10	21	17	4	8	8	2	18	23	5
ASN	AAC	29	32	21	15	4	4	4	6	20	9	1	1	1	16	7	41	5	4	4	5	3	8	18	8	8	9	8	19	8	12	14	6	3	12	14	5	1	6	2	2	7	15	17	2	3	3	3	16	11	9
	AAU	9	10	12	13	1	3	3	8	13	4	0	0	0	3	4	34	1	1	1	3	2	10	8	10	10	4	10	7	4	11	9	4	11	8	4	2	2	4	4	4	1	5	18	0	2	2	0	11	6	0
GLN	CAA	6	2	7	7	2	10	10	4	2	2	0	0	0	0	6	6	3	0	0	1	1	3	1	3	5	4	6	1	4	6	5	7	2	0	2	1	1	1	2	2	2	0	18	0	2	2	3	3	6	4
	CAG	32	34	39	17	6	20	21	1	24	18	6	6	5	13	11	46	12	9	9	11	2	21	22	21	10	12	8	22	13	11	19	15	5	16	11	10	1	1	2	2	10	6	44	4	13	13	4	22	15	6
HIS	CAC	7	11	8	3	3	3	3	1	13	9	1	1	1	13	10	14	4	9	9	1	1	11	9	11	3	11	4	10	10	5	19	4	1	6	4	2	2	1	1	1	7	3	5	2	3	3	2	8	9	0
	CAU	5	4	5	3	0	3	3	3	8	5	0	0	0	2	1	14	0	0	0	1	2	5	4	5	6	8	9	4	7	7	2	2	2	1	3	0	3	1	1	1	0	3	4	1	0	0	2	11	5	5
GLU	GAA	13	16	16	34	5	6	8	4	7	9	2	2	2	4	3	44	5	1	1	2	5	5	6	5	16	13	16	6	11	15	17	22	26	2	1	13	5	8	5	5	6	2	24	2	4	4	4	2	8	9
	GAG	55	49	44	30	7	5	5	4	18	17	5	5	5	22	10	52	9	8	8	7	2	21	21	21	15	19	14	21	20	15	43	19	12	2	3	13	9	6	8	8	10	11	19	8	11	11	4	28	19	6
ASP	GAC	39	42	38	22	3	1	1	1	24	16	6	6	6	22	8	32	2	12	12	8	1	20	18	20	6	16	8	18	14	14	29	12	3	6	6	11	9	3	5	5	4	13	15	8	10	10	3	24	13	8
	GAU	17	19	16	25	1	5	4	2	12	9	1	1	1	6	2	41	2	1	1	6	3	9	5	9	20	8	18	5	11	13	12	11	18	1	1	9	2	3	0	0	6	8	24	0	1	1	0	12	12	7
TYR	UAC	16	18	18	4	2	2	2	6	16	9	4	4	4	8	10	23	1	10	10	1	2	8	6	8	6	11	7	6	10	6	19	7	2	9	7	6	5	2	2	2	2	5	9	4	3	3	1	20	9	4
	UAU	6	5	11	8	2	1	1	2	5	8	0	0	0	1	1	13	0	6	6	1	2	7	5	7	11	3	11	5	4	8	13	9	10	4	2	6	3	3	1	1	2	6	13	0	4	4	1	16	6	0
CYS	UGC	16	16	19	1	2	2	2	1	3	1	2	2	2	3	9	7	1	6	6	8	1	4	4	4	4	3	5	4	3	5	5	14	1	4	9	7	0	0	1	1	0	3	11	6	3	3	1	2	6	0
	UGU	7	8	11	2	1	0	0	0	3	2	1	1	1	1	2	14	1	0	0	3	1	4	3	4	2	3	1	2	3	4	2	14	4	4	1	1	3	0	0	0	1	2	9	2	2	2	0	5	2	0
PHE	UUC	27	36	31	16	3	6	6	2	18	13	1	1	1	14	6	28	4	11	11	7	2	23	26	23	12	29	10	26	28	15	22	7	3	4	1	10	4	4	5	5	6	8	7	9	8	8	5	25	14	6
	UUU	16	10	19	9	3	3	3	3	13	7	0	0	0	3	4	33	1	0	0	4	2	12	10	12	24	10	25	11	11	25	8	13	4	2	1	3	4	4	1	1	3	4	17	1	5	6	1	6	8	4
ILE	AUA	4	2	1	2	0	0	0	0	4	0	1	1	1	0	4	11	0	0	0	0	1	6	2	5	5	2	9	2	2	10	1	2	3	0	0	0	3	0	1	1	0	0	5	0	0	0	0	3	3	2
	AUC	57	60	47	19	1	6	6	4	6	24	1	1	1	11	10	40	3	6	6	9	3	16	19	16	10	16	8	19	15	7	20	6	7	6	4	5	2	3	7	7	1	16	8	5	5	5	4	16	24	3
	AUU	16	17	21	21	1	7	7	6	10	5	0	0	0	3	4	46	2	0	0	2	2	9	9	9	12	11	15	9	13	15	6	4	12	3	5	0	2	4	1	1	1	1	6	20	0	3	3	0	12	8	4
MET	AUG	28	26	30	10	6	4	4	4	13	7	6	6	6	11	3	40	6	8	8	5	3	8	8	9	22	11	17	8	12	12	19	16	9	6	2	11	5	4	7	7	3	10	23	4	7	7	4	14	11	4
TRP	UGG	11	11	11	2	0	0	0	1	6	8	1	1	1	4	6	15	0	4	4	9	1	7	8	7	5	1	4	8	1	3	9	0	1	7	10	5	1	1	0	0	2	3	7	1	3	3	2	17	9	4
TER	UAA	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0
	UAG	0	0	1	1	1	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	0	0	0
	UGA	1	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	1	0	0	1	0	1	1	1	1	1	1	0	0	0	0	1	1	0	0	1	1	0	0	0	1	1	0	0	0	1	0	1
TOTAL		1021	1101	4103	4	655	137	232	232	179	528	420	116	116	116	382	3401	501	188	175	175	264	106	525	514	525	505	492	505	514	493	501	679	477	316	267	272	270	185	133	128	128	184	334	796	181	217	217	105	649	569	181

15		RAT GLU TRN	RAT GNP AI	RAT GNP AS	RAT GST 1YA	RAT GST 2YA	RAT GST P	RAT GST PA	RAT GST YB	RAT GST YC	RAT HDP	RAT HOX	RAT IFN A1	RAT IFN G3*	RAT IFN H	RAT IGE	RAT IGF I15	RAT IGF PII	RAT ING I	RAT INS	RAT INS II	RAT KIN KH	RAT KIN T1L	RAT KPC OAT	RAT LDH	RAT LEC H	RAT LHB	RAT LL	RAT MAB PA2 *	RAT MAB FC	RAT MBP M	RAT MEH 8*	RAT MEI I	RAT MLC 138 *	RAT MLC 2	RAT MT1 1	RAT MT1 2C# 2	RAT MYL 2G	RAT NEU R	RAT NWO R	RAT NNE	RAT OM	RAT OSP	RAT OTC A	RAT OTC C	RAT OTC NF	RAT OXT B	RAT PAL B	RAT PDI	RAT PEC G6*	RAT PRC OA	RAT PGH A
ARG	CGA	4	1	0	0	0	2	2	0	0	4	0	0	5	0	0	0	0	1	2	1	1	1	1	1	1	1	1	1	1	2	0	0	0	2	0	0	1	20	0	3	0	1	3	3	2	0	0	4	1	2	4	0
	CGC	7	5	14	0	0	5	5	6	0	4	0	2	4	9	9	1	5	2	0	6	1	3	3	0	1	6	4	0	1	0	0	0	0	1	0	0	0	32	3	4	0	2	0	0	0	6	0	5	4	7	9	0
	CGG	7	7	4	4	4	0	0	2	2	1	0	1	2	5	1	1	1	1	1	1	6	3	2	2	1	0	0	2	4	0	1	0	0	0	0	0	1	44	0	3	1	1	2	2	2	0	0	6	2	6	4	0
	CGU	3	3	6	0	0	1	1	2	1	3	3	0	0	3	5	5	4	1	2	2	2	2	1	2	1	1	1	0	2	0	1	0	0	0	0	0	1	16	1	2	0	1	4	4	4	0	0	4	2	1	2	0
	AGA	0	0	3	6	5	0	0	4	5	11	0	9	2	8	4	4	0	0	10	5	5	1	1	0	3	3	6	0	2	0	1	1	0	0	0	1	0	22	5	2	1	1	5	5	6	0	1	8	1	6	8	3
	AGG	1	2	2	3	2	1	1	2	7	5	5	3	3	3	1	2	0	0	8	5	4	2	6	3	1	3	4	5	7	0	0	6	0	0	0	2	20	1	3	0	4	3	3	3	1	0	7	2	7	12	2
LEU	CUA	2	0	1	1	1	0	0	1	2	1	1	3	2	5	0	0	0	0	4	4	0	1	0	0	5	2	0	1	3	0	0	2	0	0	0	0	22	1	1	1	3	2	2	2	2	0	0	6	0	6	1
	CUC	12	5	6	6	7	7	6	6	3	8	2	9	8	9	9	4	4	3	4	10	12	5	7	9	7	4	6	6	5	6	0	6	3	0	0	2	56	4	9	2	2	10	10	11	1	1	7	3	11	11	0
	CUG	33	15	20	11	10	16	16	19	10	4	17	14	3	18	6	6	12	10	8	8	26	16	20	10	11	9	6	14	18	0	6	0	0	0	0	4	130	13	21	4	9	16	16	16	8	6	24	29	32	23	4
	CUU	5	2	3	5	5	4	4	4	3	0	1	0	1	4	4	5	2	2	11	5	4	8	1	3	8	2	3	0	5	0	0	3	0	0	0	2	18	3	2	0	4	6	6	5	2	0	3	2	2	11	3
	UUA	1	2	0	1	1	1	1	1	1	1	0	0	0	1	1	1	0	0	2	2	0	1	0	0	6	0	2	0	6	0	1	1	0	0	0	0	10	2	0	0	1	7	7	7	0	0	1	2	2	3	0
	UUG	5	3	0	6	6	4	4	0	3	0	5	3	4	9	4	4	1	2	8	5	2	4	2	1	3	2	4	4	3	0	1	1	0	0	0	1	30	5	2	1	2	6	6	6	0	2	4	6	4	18	1
SER	UCA	4	4	0	1	0	0	0	1	0	5	3	6	2	9	1	1	0	0	8	10	3	2	2	0	7	5	1	3	7	0	0	1	0	0	0	0	24	3	1	1	5	5	5	5	0	1	6	4	5	17	1
	UCC	13	2	1	0	0	5	5	3	0	5	6	5	0	15	2	3	2	1	9	8	11	7	7	2	4	5	4	7	14	8	2	3	7	8	3	34	4	12	2	10	5	5	5	2	4	8	5	5	11	4
	UCG	3	1	1	0	0	1	1	1	0	0	0	0	1	2	3	3	0	0	1	0	5	1	0	0	0	0	1	1	3	1	0	0	1	1	0	16	1	0	1	3	0	0	0	1	1	0	0	2	2	2
	UCU	5	3	3	2	2	3	3	0	1	4	3	3	3	14	4	4	0	2	9	2	6	1	5	2	5	4	5	8	1	0	3	0	0	0	0	22	4	9	2	12	7	7	7	2	1	4	4	4	9	1
	AGC	7	9	10	5	5	1	1	5	5	11	5	3	8	10	6	6	1	1	6	5	4	7	5	5	4	3	2	5	4	2	1	1	2	2	1	38	5	4	3	18	3	3	3	3	2	9	8	13	10	1
	AGU	2	1	3	2	2	1	1	0	3	8	3	1	6	10	0	0	0	0	10	4	4	8	3	2	5	2	5	4	3	0	1	0	0	0	0	36	1	0	2	8	4	4	5	1	2	5	3	3	4	0
THR	ACA	6	7	0	0	0	0	0	4	1	3	7	2	2	10	1	1	1	1	10	11	1	4	2	0	9	1	3	1	3	0	1	1	1	0	1	34	2	4	1	4	14	14	14	0	2	10	14	4	6	2
	ACC	15	11	11	6	7	5	5	3	3	4	8	3	0	26	3	3	2	2	9	7	14	4	11	6	5	7	3	5	8	3	4	7	1	3	4	56	5	6	2	2	5	5	5	4	0	8	4	14	10	1
	ACG	4	2	1	0	0	1	1	1	0	0	2	0	1	4	1	1	0	0	2	2	2	1	2	0	2	2	3	4	0	1	0	2	0	1	1	10	1	0	1	1	1	1	1	1	0	1	3	2	1	5	2
	ACU	1	1	5	1	1	2	2	0	1	5	4	3	1	12	1	1	0	0	14	12	3	2	2	1	6	4	5	2	5	0	1	2	0	0	0	30	1	9	1	5	5	5	5	0	2	6	4	4	6	3
PRO	CCA	3	0	5	4	3	1	2	4	2	4	4	0	2	7	2	2	1	1	16	5	2	6	3	7	7	6	3	3	8	0	3	4	0	0	2	40	6	3	2	6	8	8	8	0	0	3	9	6	18	2
	CCC	11	2	4	3	4	4	4	4	5	1	5	2	0	14	7	7	3	3	6	5	8	3	3	7	5	4	4	3	12	2	3	1	2	2	2	74	3	7	0	3	0	0	1	7	0	7	5	22	17	2
	CCG	0	1	1	0	0	2	1	0	1	2	3	0	0	3	1	1	2	1	2	3	1	1	0	0	0	0	2	1	0	0	2	1	0	0	0	32	2	1	0	2	1	1	1	2	0	3	3	6	3	1
	CCU	9	2	4	3	3	4	4	3	5	2	4	4	0	6	2	2	2	1	15	8	12	2	2	7	9	3	6	5	7	0	5	1	0	0	2	66	3	5	0	4	6	6	6	2	0	12	3	10	11	1
ALA	GCA	3	5	1	6	6	1	1	1	5	1	5	3	2	7	0	0	1	2	11	9	13	6	1	2	11	2	4	0	2	0	4	2	0	0	5	22	4	10	1	5	10	10	10	0	0	1	11	13	6	17	2
	GCC	20	14	15	10	9	8	8	3	8	3	14	5	3	12	12	13	5	5	8	6	27	8	3	5	10	8	9	9	9	3	8	7	2	3	6	68	8	22	3	10	1	1	1	6	3	25	15	30	19	5
	GCG	1	5	2	0	0	0	0	4	1	1	2	0	0	0	2	2	0	0	1	2	6	1	2	0	0	0	1	0	1	0	1	0	1	0	0	2	12	2	3	4	3	1	1	1	4	2	6	5	3	6	1
	GCU	11	6	8	1	1	4	4	3	4	6	5	6	3	4	2	2	2	2	15	12	8	5	6	2	6	5	4	6	6	0	10	4	2	0	2	44	8	12	1	5	13	13	13	3	5	14	17	9	23	1
GLY	GGA	5	1	7	1	1	2	2	2	3	19	3	2	1	5	2	3	1	2	10	4	11	10	5	0	8	6	11	2	4	0	2	5	1	0	1	34	3	3	3	2	8	8	8	3	2	15	5	9	20	2
	GGC	25	9	7	3	4	5	5	5	3	17	2	1	2	12	4	4	2	2	12	13	23	7	7	4	7	8	8	5	17	5	7	4	3	5	5	66	10	14	1	3	5	5	4	11	4	16	13	20	19	1
	GGG	8	2	2	4	4	6	6	5	6	5	3	2	0	5	4	4	2	2	7	2	11	3	3	3	3	12	6	9	8	0	1	0	0	0	4	58	5	9	2	1	5	5	5	2	3	8	4	16	16	0
	GGU	9	5	2	2	1	5	5	1	0	24	4	1	1	8	1	1	3	3	21	6	4	5	3	2	7	3	3	3	2	1	3	1	0	1	2	38	2	10	0	1	4	4	3	0	0	9	7	10	10	2
VAL	GUA	3	0	0	3	3	0	0	0	2	2	1	1	0	5	1	1	0	0	6	7	1	0	1	2	2	3	3	1	0	0	1	0	0	0	1	24	3	0	0	1	4	4	4	0	0	0	0	1	8	0
	GUC	8	9	6	0	0	3	3	0	2	2	4	5	4	14	1	1	2	2	4	4	9	11	2	4	2	4	1	7	6	1	6	2	0	1	3	44	6	7	0	5	4	4	4	0	0	0	17	7	13	15	3
	GUG	31	9	18	6	6	8	8	4	7	10	8	8	2	15	6	6	5	6	19	14	24	16	6	5	11	9	9	12	14	1	3	5	1	1	4	82	9	20	2	7	8	8	8	1	4	20	18	16	16	3
	GUU	4	1	2	2	1	2	2	1	6	3	1	0	1	5	1	1	1	0	5	3	1	10	3	1	10	0	6	1	2	0	2	1	0	0	1	18	2	6	0	4	2	2	2	0	1	10	4	3	17	1
LYS	AAA	5	3	6	5	6	5	5	1	6	9	3	2	6	11	3	3	1	1	21	10	3	6	5	0	12	9	5	7	6	3	6	6	5	3	1	26	8	9	0	4	11	11	11	1	4	6	14	15	19	3
	AAG	10	24	19	17	18	8	8	14	12	9	1	2	6	25	3	4	3	1	27	23	14	22	10	0	10	12	7	11	26	4	14	8	3	4	15	56	14	27	7	14	15	15	15	3	12	17	37	27	29	7
ASN	AAC	10	8	23	3	3	3	7	7	5	5	8	6	3	11	12	2	2	2	2	14	14	7	9	11	1	13	6	8	3	6	2	4	8	1	2	4	58	9	11	2	3	4	4	4	2	0	11	11	24	13	3
	AAU	5	6	2	3	3	4	4	4	2	10	1	3	1	11	0	0	0	0	17	8	7	5	6	1	14	4	9	0	3	0	6	2	0	0	4	22	1	10	0	4	9	9	9	0	0	0	11	6	3	6	1
GLN	CAA	4	3	2	5	6	3	3	2	4	3	1	3	2	9	0	0	3	3	13	7	1	2	5	1	7	7	2	1	3	0	2	2	1	0	1	16	2	1	3	2	8	8	8	0	0	0	1	3	6	0
	CAG	17	13	19	4	3	8	8	3	4	7	17	12	6	13	4	4	5	5	17	13	18	12	15	2	7	1	4	7	8	1	5	5	1	1	7	94	11	12	6	13	9	9	9	4	1	15	12	15	20	3
HIS	CAC	3	5	4	2	2	2	2	1	4	8	2	3	8	2	2	2	2	2	11	6	3	2	6	1	5	1	1	5	10	0	1	2	0	0	1	46	3	3	1	7	6	6	6	0	2	6	9	9	11	3
	CAU	1	2	3	1	1	2	2	1	3	4	2	3	0	6	1	1	0	0	25	8	1	4	4	0	6	3	0	0	3	0	1	0	0	0	0	22	2	3	0	8	2	2	2	0	0	7	2	4	4	2
GLU	GAA	2	5	4	10	10	1	1	2	7	12	5	6	7	14	2	2	2	2	22	16	4	5	12	0	10	6	11	4	10	0	11	3	0	0	5	48	6	7	5	13	10	10	10	0	4	9	20	19	20	2
	GAG	22	23	29	7	6	7	7	13	9	6	24	6	2	18	6	8	7	6	19	16	17	11	12	4	5	12	7	5	21	0	13	14	1	0	10	118	14	22	4	20	9	9	9	6	4	18	31	33	22	1
ASP	GAC	5	20	18	11	11	8	8	12	5	7	5	5	2	13	8	8	1	2	18	10	11	7	11	3	9	7	6	8	10	2	6	7	2	2	10	86	8	18	11	18	7	7	7	4	10	22	29	19	13	2
	GAU	2	8	10	3	4	6	6	4	9	10	2	2	3	12	0	0	2	1	25	11	6	12	9	0	10	3	5	6	6	0	2	2	1	0	5	48	2	9	4	24	11	11	11	2	4	8	14	7	13	2
TYR	UAC	7	9	13	4	5	5	5	8	8	4	5	4	2	13	4	4	4	4	5	4	3	5	3	2	9	1	2	6	17	0	0	0	0	0	1	50	5	11	1	2	5	5	5	2	0	3	7	9	11	5
	UAU	6	3	1	4	3	6	6	3	3	8	6	6	0	1	11	0	0	0	0	9	8	3	2	1	0	10	1	1	5	5	0	2	1	0	0	1	22	6	1	1	3	7	7	7	0	0	9	5	5	12	2
CYS	UGC	2	6	7	1	1	2	2	2	2	0	1	0	2	3	9	6	6	4	4	11	9	5	2	6	7	2	5	5	2	1	17	2	0	17	17	2	64	0	5	1	2	1	1	1	17	0	7	4	9	5	4
	UGU	4	4	1	1	1	2	2	1	1	2	0	6	1	5	2	2	2	2	8	10	4	3	4	5	2	3	2	1	2	3	0	1	3	3	0	52	1	1	0	1	0	0	0	2	0	4	3	4	5	7
PHE	UUC	30	10	14	5	5	3	3	8	4	5	8	6	5	15	9	9	3	3	14	9	6	7	13	4	12	5	6	6	17	0	5	9	0	0	8	36	8	12	7	4	7	7	7	3	7	15	19	18	12	2
	UUU	8	9	6	5	6	4	4	6	5	17	5	1	2	5	1	1	1	1	12	6	4	0	5	1	14	2	3	3	10	0	4	5	0	0	4	34	8	4	1	3	5	5	5	0	1	13	14	10	15	1
ILE	AUA	0	1	0	2	2	1	1	1	1	0	1	0	2	5	0	0	0	0	10	4	3	2	3	1	6	3	1	2	1	0	0	0	0	0	0	4	1	0	1	0	3	3	3	0	1	4	2	2	4	0
	AUC	27	23	18	6	5	4	4	6	4	1	5	4	8	19	5	5	1	4	9	4	15	13	5	2	5	4	1	8	17	0	7	6	1	0	7	70	3	18	3	6	9	9	9	3	1	24	15	26	23	1
	AUU	7	0	6	5	6	3	3	5	4	7	3	0	3	6	0	0	1	0	11	11	5	9	3	0	11	1	3	3	4	0	1	3	0	0	3	26	9	9	2	1	5	5	5	0	4	10	6	11	13	5
MET	AUG	17	10	7	9	10	3	3	9	7	6	9	5	5	9	4	4	2	2	6	6	9	8	4	3	14	5	5	3	11	1	7	7	1	1	7	48	6	9	4	3	13	13	13	2	4	12	5	19	13	6
TRP	UGG	6	3	4	1	1	2	2	4	1	1	3	4	2	14	1	1	2	2	4	2	0	6	13	2	10	2	4	6	10	0	0	0	0	0	1	32	6	3	0	1	5	5	5	0	0	2	6	16	7	0
TER	UAA	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	0	0	0	1	0	0	1	0
	UAG	0	0	0	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1
	UGA	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	0	0	0	1	0	0	1	1	1	0	0	0	1	1	1	1	0	1	0	0	1	0	0	0	0	1	0	1	0	0	1	0
TOTAL		493	356	395	223	223	211	211	219	222	321	290	193	157	572	173	181	111	111	640	431	425	333	302	142	396	239	245	249	414	62	192	166	62	62	1702	521	275	435	110	318	355	355	355	126	111	542	509	623	723	121

16		RAT PHH I	RAT PKC II	RAT PKC PKL	RAT PLP	RAT PLP X	RAT POL B	RAT POM C3*	RAT PPT AG	RAT PRL HR5 *	RAT PRL SD4 *	RAT PRL SDM	RAT PRL 33	RAT PSB C1	RAT PSB C12 *	RAT PSB C22 *	RAT PSB C3P	RAT PSB PA3 *	RAT PSB PB3 *	RAT PTH 3	RAT PTR 1	RAT PTR Y25 *	RAT PTR YI	RAT RBP 3*	RAT RBP CII	RAT REL AX	RAT RHL 1	RAT RPL 19	RAT RPL 30	RAT RPS 35A	RAT RPS 11	RAT RPS 17	RAT RPS 26	RAT S10 O	RAT SBP	RAT SCD	RAT SOM 141	RAT SOM AT	RAT SOM G	RAT SPG C	RAT SVF	RAT SVF G2*	RAT SVS	RAT TAT R	RAT TGF A	RAT THY 1G	RAT THY 1GA	RAT THY B4	RAT TNT #1	RAT TNT #2
ARG	CGA	6	5	2	8	1	1	3	0	1	0	0	0	0	0	0	1	0	0	0	3	1	1	3	1	2	2	4	0	3	3	0	4	0	1	1	0	1	0	0	2	2	0	6	0	4	4	0	0	0
	CGC	5	14	11	7	0	0	2	8	0	1	1	1	0	0	0	0	0	0	0	0	1	1	2	2	1	1	6	0	0	2	4	2	0	0	6	1	6	1	1	1	1	0	2	2	3	3	0	5	5
	CGG	3	9	7	11	1	1	1	5	1	3	3	3	0	0	0	0	0	0	0	2	0	0	1	1	2	3	9	0	3	3	3	3	0	3	4	1	1	1	3	2	2	1	4	0	0	0	0	3	3
	CGU	3	7	3	7	0	0	6	2	1	2	2	2	1	0	0	0	0	0	0	1	0	0	3	2	1	1	2	0	2	3	1	2	0	1	2	2	2	2	0	0	0	0	0	1	1	1	0	3	3
	AGA	3	6	5	1	3	3	5	3	5	2	1	1	5	2	2	1	1	1	1	3	4	2	1	4	0	4	6	1	3	3	0	3	2	1	6	3	1	1	1	2	2	2	3	5	1	1	1	0	8	8
	AGG	6	4	5	3	2	2	5	2	2	1	2	2	0	0	0	2	0	0	0	2	6	1	0	4	0	3	6	9	2	2	3	2	3	0	1	6	2	1	2	3	4	4	3	5	2	1	1	0	6	6
LEU	CUA	2	3	4	3	2	2	0	1	2	3	3	3	0	0	0	2	3	3	3	0	3	1	1	1	3	2	3	2	0	0	1	1	0	0	2	0	0	0	0	2	1	1	1	4	1	1	1	0	1	1
	CUC	8	13	12	8	8	8	4	5	2	6	6	7	2	0	0	0	0	0	0	2	8	7	7	4	0	6	6	4	2	1	3	2	1	3	6	9	3	8	3	2	3	3	4	10	5	4	4	0	4	4
	CUG	19	27	22	22	10	11	9	10	1	11	11	11	5	7	7	5	2	2	1	5	14	11	10	10	6	7	12	8	4	2	4	4	1	5	9	25	11	19	11	2	2	2	1	19	10	15	15	1	8	8
	CUU	5	5	2	4	3	3	4	1	2	5	5	4	0	3	3	4	0	0	0	5	6	3	3	1	0	1	3	3	1	3	0	2	1	0	2	2	0	1	0	1	2	2	1	4	0	6	6	0	4	4
	UUA	6	2	2	2	2	2	4	0	2	0	0	0	1	1	1	1	2	2	2	1	3	0	0	0	0	1	3	0	0	1	0	0	0	0	1	1	0	1	0	0	0	0	0	1	2	0	0	0	0	0
	UUG	9	8	3	7	5	4	5	2	0	4	4	4	1	2	2	3	2	2	2	0	9	1	1	2	0	6	5	2	4	0	1	1	0	0	2	3	3	2	3	1	0	0	1	6	1	2	2	1	2	2
SER	UCA	7	5	7	3	0	0	4	2	0	4	4	4	5	0	0	2	1	1	1	5	0	0	1	0	2	1	0	1	0	0	1	0	2	3	0	0	2	0	3	4	4	1	3	1	2	2	1	0	0
	UCC	5	13	9	11	6	6	2	4	4	5	5	5	2	0	0	0	1	1	1	0	12	8	6	3	0	5	5	2	1	1	2	2	0	1	3	8	3	3	2	9	0	0	4	10	2	6	6	1	1	1
	UCG	3	0	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	3	0	2	2	2	2	1	1	5	2	0	1	1	2	0	0
	UCU	7	6	5	5	5	5	2	0	2	3	3	3	0	0	0	1	1	1	1	3	11	6	7	3	0	3	5	4	3	1	2	0	2	2	5	6	2	1	3	14	3	3	6	7	3	1	1	0	2	2
	AGC	6	12	12	10	2	2	4	7	1	2	2	1	3	5	5	1	1	1	1	3	7	2	4	7	1	5	7	2	1	1	1	3	0	5	5	7	0	7	0	1	6	6	5	7	3	5	5	0	4	4
	AGU	3	5	2	5	2	2	6	3	1	1	1	1	2	1	1	0	3	3	3	4	4	1	2	1	1	1	0	1	2	2	1	0	1	0	0	6	4	0	1	0	0	10	10	4	4	1	1	1	0	1
THR	ACA	10	10	7	6	4	4	7	0	1	3	3	3	2	2	2	0	1	1	1	0	8	1	0	4	3	0	5	0	2	1	1	1	1	1	2	5	3	0	3	1	1	1	1	5	1	2	2	3	1	1
	ACC	3	16	16	10	13	13	2	4	0	2	2	2	1	2	2	3	2	2	2	3	10	3	6	3	7	1	5	5	0	1	4	3	1	1	3	8	2	8	2	3	6	6	2	6	2	5	5	0	1	1
	ACG	3	3	2	2	1	1	1	5	0	0	0	0	0	0	0	0	0	0	1	0	2	1	0	1	3	1	1	0	1	1	3	3	1	1	0	2	0	0	0	0	1	1	0	3	1	1	1	0	1	1
	ACU	8	5	4	9	5	5	6	1	1	3	3	3	0	0	0	3	4	4	4	0	5	3	1	1	1	2	4	3	3	3	4	2	0	0	5	5	0	2	0	0	1	1	0	2	3	5	5	0	3	3
PRO	CCA	5	13	10	9	1	1	6	3	0	2	2	2	21	1	1	1	2	2	2	0	12	3	3	0	0	5	4	0	3	2	0	1	6	0	1	0	1	1	1	4	1	1	1	6	2	1	1	0	2	2
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ALA	GCA	4	7	5	16	4	4	9	0	3	1	1	1	0	2	4	4	2	1	1	2	3	7	4	5	2	1	8	1	2	1	2	0	0	3	0	5	0	3	2	3	2	2	2	0	3	4	0	0	0	2	2
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GLY	GGA	8	14	7	11	7	7	7	2	2	4	4	4	14	1	1	2	0	0	0	1	9	8	7	3	3	3	6	0	2	5	3	4	1	0	0	5	5	0	1	5	4	4	1	7	2	1	1	0	1	1
	GGC	5	23	22	15	14	13	4	14	2	1	1	2	9	0	0	2	2	2	2	4	8	12	10	5	3	4	9	3	3	5	5	4	3	0	7	8	2	3	2	22	0	0	5	9	0	4	4	1	3	3
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LYS	AAA	8	8	24	5	4	4	14	0	6	7	7	7	4	3	3	3	1	1	1	6	16	1	3	1	1	3	6	2	6	8	7	4	2	3	2	11	5	2	3	2	2	7	7	4	7	1	1	1	4	12	12
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ASN	AAC	8	10	16	9	3	3	6	7	2	8	8	8	5	1	1	2	2	2	2	1	9	9	10	5	6	1	6	5	4	5	4	4	4	4	2	4	11	5	3	5	5	3	3	2	9	2	8	8	0	5	5
	AAU	8	8	7	3	3	3	7	2	2	5	5	5	2	3	3	2	1	1	3	3	6	9	7	3	3	2	7	3	1	1	2	3	1	0	12	1	0	2	0	2	3	3	0	12	0	4	4	1	0	0
GLN	CAA	3	8	6	6	3	3	2	1	2	8	9	8	6	1	1	1	3	3	2	3	5	4	3	1	2	4	5	2	2	1	2	0	1	0	3	2	0	2	0	5	0	0	1	4	0	2	2	3	4	4
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HIS	CAC	6	17	15	5	1	1	5	4	1	3	3	3	5	0	0	0	0	0	0	3	8	3	4	2	1	3	7	3	1	2	2	1	1	2	6	17	0	3	0	0	0	0	0	1	6	7	2	2	0	1	1
	CAU	5	5	5	6	6	6	3	0	3	3	3	3	6	1	1	0	2	2	3	0	6	1	1	1	0	4	3	1	1	1	1	2	3	6	2	0	0	0	0	2	2	0	4	2	2	2	0	1	1
GLU	GAA	16	14	24	11	2	2	16	5	3	11	11	11	4	11	11	6	4	4	3	3	10	2	4	2	4	5	7	5	4	2	2	3	2	5	13	6	3	4	3	5	8	8	6	10	1	1	1	4	22	19
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ASP	GAC	13	23	28	15	3	3	7	6	3	7	7	7	4	2	2	1	2	2	1	1	11	9	8	11	6	1	11	4	1	0	5	3	3	4	23	9	2	10	2	3	1	1	2	18	1	5	5	1	9	9
	GAU	11	20	15	12	1	1	13	4	4	6	6	6	12	2	2	3	3	3	3	5	22	7	5	5	5	5	8	1	2	1	0	3	1	3	55	5	2	1	2	7	0	0	2	7	2	1	1	2	8	8
TYR	UAC	14	9	10	8	6	6	10	5	1	2	2	2	1	3	3	1	0	0	0	1	8	5	6	5	2	1	4	2	6	4	5	2	2	0	1	18	1	3	1	2	1	0	1	10	1	2	2	0	5	4
	UAU	8	11	8	1	8	8	2	1	2	5	5	5	1	4	4	3	3	3	3	0	7	3	2	2	1	1	3	1	1	2	2	2	1	1	5	4	0	4	0	4	1	1	2	5	1	0	0	0	0	0
CYS	UGC	7	11	12	3	6	6	2	5	0	6	6	6	0	1	2	2	3	3	3	0	1	6	7	3	1	6	7	1	1	1	2	1	4	0	4	3	4	3	4	1	0	0	0	5	8	2	2	0	0	0
	UGU	2	11	9	3	8	8	1	0	0	1	1	1	0	5	4	4	2	2	2	1	4	6	5	3	2	2	3	1	2	1	1	0	1	2	3	0	1	2	1	1	0	0	0	1	11	7	2	2	0	0
PHE	UUC	15	27	26	10	14	14	8	8	1	2	2	2	0	2	2	2	2	2	2	0	12	4	3	6	4	6	8	1	0	2	6	1	2	5	4	15	4	7	4	6	4	5	1	11	2	5	5	1	2	2
	UUU	12	17	19	7	9	9	5	2	6	6	6	6	1	1	1	1	4	4	4	1	20	2	2	5	3	1	1	0	0	1	2	2	1	2	4	2	1	6	1	3	3	3	3	4	1	1	1	0	3	3
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	AUC	7	17	19	24	5	5	12	3	5	6	6	7	1	3	3	0	1	1	1	1	8	10	12	6	2	3	4	9	4	2	7	8	0	2	1	16	1	5	1	0	2	2	1	14	4	7	7	1	3	3
	AUU	14	8	10	14	7	7	9	0	0	7	7	6	0	2	2	1	4	4	4	0	8	3	4	0	2	2	1	2	4	4	2	5	1	3	3	0	3	0	5	1	1	1	2	15	2	1	1	1	6	6
MET	AUG	2	16	20	13	5	5	6	4	5	5	5	5	1	6	6	4	4	4	3	8	12	3	3	4	3	3	4	8	5	3	4	4	2	5	4	10	3	7	3	5	5	5	2	11	1	3	3	2	6	6
TRP	UGG	3	9	9	3	4	4	1	5	2	2	2	2	1	1	1	0	0	0	0	1	9	4	5	7	4	3	11	2	0	2	0	0	0	0	6	9	1	3	1	3	0	0	0	5	1	1	1	0	2	2
TER	UAA	0	1	1	0	0	0	0	0	1	1	1	1	0	0	0	1	1	1	1	1	1	0	1	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	1	1	0	1	0	0	0	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	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
	UGA	1	0	0	1	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0
TOTAL		454	698	674	544	278	278	319	236	116	227	227	226	207	112	112	99	96	96	96	116	476	247	247	202	135	187	285	197	116	111	159	136	116	93	335	359	117	217	117	180	124	124	113	455	160	162	162	45	260	254

17		RAT TNT #3	RAT TNT #4	RAT TNT #5	RAT TNT #6	RAT TNT #7	RAT TNT #8	RAT TNT #9	RAT TNT #10	RAT TNT #11	RAT TNT #12	RAT TNT #13	RAT TNT #14	RAT TNT #15	RAT TNT #16	RAT TNT #17	RAT TNT #18	RAT TNT #19	RAT TNT #20	RAT TNT #21	RAT TNT #22	RAT TNT #23	RAT TNT #24	RAT TNT #25	RAT TNT #26	RAT TNT #27	RAT TNT #28	RAT TNT #29	RAT TNT #30	RAT TNT #31	RAT TNT #32	RAT TNT #33	RAT TNT #34	RAT TNT #35	RAT TNT #36	RAT TNT #37	RAT TNT #38	RAT TNT #39	RAT TNT #40	RAT TNT #41	RAT TNT #42	RAT TNT #43	RAT TNT #44	RAT THM THM	RAT TRO 10*	RAT TSH B	RAT TSH BM	RAT TUB ALZ	RAT TUB B15	RAT UCP	RAT UDP GTR
ARG	CGA	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	0	0	0	0	0	0	0	0	1	1	1
	CGC	5	5	5	5	5	5	6	6	6	6	6	6	6	6	5	5	5	5	6	6	6	6	5	5	6	6	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	2	5	0	0	7	11	2	1
	CGG	3	3	3	3	3	3	2	2	2	2	2	2	2	2	3	3	3	3	2	2	2	2	3	3	2	2	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	0	2	1	1	1	3	1	0
	CGU	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	7	1	0	0
	AGA	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	0	3	3	3	4	2	5	8
	AGG	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	1	1	1	1	2	4	3	4
LEU	CUA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	3	4
	CUC	4	4	4	4	4	4	5	5	5	5	5	5	5	5	4	4	4	4	5	5	5	5	4	4	5	5	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	4	2	2	8	6	5	10
	CUG	8	8	8	8	8	8	7	7	7	7	7	7	7	7	8	8	8	8	7	7	7	7	8	8	7	7	8	8	8	8	8	8	8	8	7	7	7	7	7	7	7	7	19	4	4	17	22	13	16
	CUU	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	1	3	3	2	1	3	17
	UUA	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	0	0	0	0	0	0	0	0	1	0	2	3
	UUG	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	0	0	3	2	4	12
SER	UCA	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	0	0	0	0	0	1	1	1	0	6	4	6
	UCC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	3	2	2	9	4	5	4
	UCG	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	0	0	0	0	1	0	1	1	0	3	2	3
	UCU	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	5	2	2	8	2	6	12
	AGC	4	4	4	4	4	4	5	5	5	5	5	5	5	5	4	4	4	4	5	5	5	5	4	4	5	5	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	4	2	2	2	3	11	6	4
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	ACC	1	1	1	1	1	1	3	3	3	3	3	3	3	3	1	1	1	1	3	3	3	3	1	1	3	3	1	1	1	1	1	1	1	1	3	3	3	3	3	3	3	3	5	5	6	6	16	18	12	7
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PRO	CCA	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	0	2	2	5	7	4	9
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ALA	GCA	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	6	1	1	1	4	5	9
	GCC	13	13	14	13	14	13	13	13	12	12	13	12	13	12	13	12	13	12	12	11	12	11	13	13	12	12	14	14	13	13	14	13	14	13	13	13	12	12	13	12	13	12	5	16	2	2	21	14	10	8
	GCG	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	0	0	1	2	2	0
	GCU	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	6	6	13	7	6	10
GLY	GGA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	2	2	3	7	4	5	13
	GGC	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	2	1	15	25	6	6
	GGG	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2	0	3	4	2	10	5
	GGU	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2	0	1	11	4	4	3
VAL	GUA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	3	3	3	8
	GUC	4	4	3	3	3	3	3	3	3	3	2	2	2	2	4	4	4	4	3	3	3	3	2	2	1	1	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	7	2	3	3	9	3	9	7
	GUG	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	3	7	4	4	14	23	11	10
	GUU	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	3	3	8	0	2	8
LYS	AAA	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	13	2	2	4	1	8	27
	AAG	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	5	26	4	4	15	14	8	18
ASN	AAC	5	5	5	5	5	5	4	4	4	4	4	4	4	4	5	5	5	5	4	4	4	4	5	5	4	4	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	2	4	3	3	8	17	4	4
	AAU	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	0	0	0	0	1	3	2	2	8	6	3	13
GLN	CAA	4	4	4	4	4	4	5	5	5	5	5	5	5	5	4	4	4	4	5	5	5	5	3	3	4	4	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	0	3	1	1	1	2	6	4
	CAG	10	9	10	9	9	9	8	12	11	11	10	11	10	10	9	11	10	10	9	12	11	11	10	10	9	11	10	10	11	10	9	10	9	9	8	11	12	11	10	11	10	10	9	1	13	2	2	15	20	7	9
HIS	CAC	1	1	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	2	2	10	7	3	13
	CAU	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	0	1	1	3	3	2	7
GLU	GAA	21	18	20	19	17	16	22	19	21	18	20	19	17	16	21	20	18	17	21	20	18	17	17	14	17	14	17	20	19	16	18	17	15	14	17	15	19	16	18	17	15	14	5	14	1	1	9	5	7	14
	GAG	24	23	26	23	25	22	26	25	23	22	25	22	24	21	27	24	26	23	26	23	25	22	25	24	24	23	25	26	23	22	25	22	24	21	24	25	22	21	24	21	23	20	5	45	4	3	28	32	4	11
ASP	GAC	9	9	9	9	9	9	10	10	10	10	10	10	9	9	9	9	10	10	10	10	9	9	10	10	9	9	9	9	9	9	9	9	9	9	10	10	10	10	10	10	10	10	3	13	4	4	14	18	5	11
	GAU	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	3	9	2	2	13	7	3	16
TYR	UAC	5	4	5	5	4	4	5	4	5	4	5	5	4	4	5	5	4	4	5	5	4	4	5	4	5	4	4	5	5	4	4	4	5	5	4	5	5	4	4	5	5	4	6	3	8	8	14	12	8	8
	UAU	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	0	0	0	0	0	3	4	4	5	4	2	12
CYS	UGC	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	0	0	0	0	1	1	5	5	7	5	5	1
	UGU	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	0	0	0	0	1	1	8	8	5	3	2	8
PHE	UUC	2	2	2	2	2	2	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	2	2	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	5	0	4	4	14	20	6	13
	UUU	3	3	3	3	3	3	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3	2	2	2	2	3	3	3	3	2	1	4	4	6	3	7	22
ILE	AUA	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	0	0	0	0	1	0	1	1	1	1	2	10
	AUC	3	3	3	3	3	3	2	2	2	2	2	2	3	3	3	3	2	2	2	2	3	3	2	2	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	1	8	3	3	15	16	13	7
	AUU	6	6	6	6	6	6	8	8	8	8	8	8	8	8	6	6	6	6	8	8	8	8	6	6	8	8	6	6	6	6	6	6	6	6	8	8	8	8	8	8	8	8	1	3	1	1	11	2	3	18
MET	AUG	6	6	6	6	6	6	4	4	4	4	4	4	4	4	6	6	6	6	4	4	4	4	6	6	4	4	6	6	6	6	6	6	6	6	4	4	4	4	4	4	4	4	2	8	4	4	10	19	10	19
TRP	UGG	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	4	4	2	13
TER	UAA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	0	0	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	0	0	0	0	0	0	0	0	0	0	1	1
	UGA	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	0	0	0	0	1	1	0	0	0	1	0	0
TOTAL		254	248	255	249	249	243	260	254	254	248	255	249	249	243	256	250	250	244	256	250	250	244	246	240	246	240	249	255	249	243	250	244	244	238	249	255	249	243	250	244	244	238	148	285	139	139	452	446	308	531

/ OTHER MAMMALS

18	RAT UDP GTS	RAT VPN PA	RAT WAP	RAT WAP 4*	RAT WAP 52	BOV ACH RA	BOV ACH RB	BOV ACH RD	BOV ACH RE	BOV CAL P	BOV CHY M09 *	BOV CHY MGA	BOV CHY MOB	BOV CNP	BOV CRY BB	BOV CRY BS	BOV CRY G	BOV CSA S1B	BOV CSK A	BOV CYP C21	BOV CYP M	BOV ELA	BOV ELB	BOV ELC	BOV ENK EPH	BOV FGF B	BOV FSH B	BOV FSH	BOV GG	BOV GH	BOV GLY A1	BOV GLY AA3 *	BOV GSA R	BOV HBB	BOV HBG	BOV IFN AA	BOV IFN AB	BOV IFN AC	BOV IFN AD	BOV IL2	BOV KER VIC	BOV KIN 1HW	BOV KIN 1LM	BOV KIN 2HW	BOV KIN 2LM	BOV LFM MIP	BOV LHB X	BOV LHB	BOV MIS	BOV OPS 5*
ARG	CGA	1	1	0	0	0	0	4	2	4	0	1	1	1	2	1	1	0	1	0	2	3	0	0	0	2	3	0	0	3	0	0	0	1	0	0	1	2	0	1	0	4	1	3	1	3	1	0	2	0
	CGC	1	5	2	2	2	4	9	9	11	4	1	1	1	6	6	5	7	0	1	15	8	0	0	0	3	2	0	0	3	5	0	0	14	1	2	1	0	2	1	0	9	2	1	2	1	3	2	2	19	4
	CGG	0	3	1	1	1	5	9	11	6	3	0	0	0	11	7	3	3	0	0	7	7	6	6	6	2	2	1	1	0	5	0	0	3	0	0	0	0	0	0	0	1	1	0	1	0	3	4	4	15	2
	CGU	0	0	0	0	0	2	3	3	0	0	0	0	0	4	0	0	1	1	0	1	0	0	0	1	1	0	0	3	1	0	0	6	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	3	0
	AGA	7	2	0	0	0	1	1	1	1	1	1	1	2	0	1	6	2	1	4	6	2	2	2	8	2	3	3	3	2	2	2	3	1	7	6	6	8	3	7	6	6	5	2	1	1	0	0
	AGG	4	2	1	1	1	1	5	1	5	5	6	6	6	2	1	3	4	2	2	8	7	0	0	0	2	1	3	3	3	1	2	2	2	2	3	5	7	7	6	1	3	5	4	4	3	3	1	1	6	1
LEU	CUA	3	0	1	1	1	1	5	1	1	1	1	1	2	1	0	1	0	1	3	2	2	1	1	1	4	2	0	0	0	0	1	1	0	2	1	2	1	0	0	5	5	6	3	6	3	1	0	0	3	1
	CUC	9	6	1	1	16	22	23	28	5	7	8	7	7	4	2	4	5	1	19	14	7	7	7	9	0	0	0	3	9	1	1	7	3	2	10	11	9	11	5	6	4	2	4	2	12	6	6	13	7
	CUG	14	13	3	3	2	21	27	33	28	22	23	23	21	34	8	6	6	8	4	46	29	22	20	20	17	5	4	4	3	19	3	3	22	11	14	19	18	20	20	4	21	8	8	8	8	18	12	12	70	17
	CUU	17	1	2	2	3	2	4	1	2	1	2	2	2	1	0	1	2	7	1	6	6	17	17	17	4	5	1	1	4	2	0	0	1	0	1	0	0	1	1	4	7	16	8	15	7	5	0	0	3	1
	UUA	3	0	0	0	0	2	1	1	0	0	0	0	0	0	0	1	1	2	1	0	2	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	4	5	5	0	0	0	2	0
	UUG	11	0	0	0	0	3	4	2	7	5	0	0	1	2	1	0	0	0	2	6	5	1	1	1	0	1	1	1	4	3	2	2	0	1	2	3	3	2	2	6	6	6	5	6	5	2	1	1	7	2
SER	UCA	6	0	1	1	1	3	7	1	3	4	1	1	1	3	0	0	2	3	4	2	4	0	0	0	0	1	0	0	1	2	0	0	0	0	0	1	1	1	1	4	8	10	6	10	6	1	0	0	1	0
	UCC	4	2	5	5	12	8	17	9	5	10	9	10	8	8	5	5	0	1	6	8	3	3	2	4	1	2	2	3	5	4	4	1	3	5	7	5	6	8	1	21	12	10	12	10	8	3	4	5	6
	UCG	3	1	1	1	0	2	2	5	5	1	4	4	4	1	1	0	0	1	0	2	0	2	2	2	0	0	0	0	1	2	1	1	1	0	1	1	1	1	1	0	2	1	1	1	1	1	0	0	7	3
	UCU	11	4	2	3	2	4	5	7	3	7	4	4	4	5	0	3	1	4	1	5	1	3	3	3	1	4	1	1	3	1	2	2	3	0	1	3	4	3	3	3	10	12	8	12	8	2	0	0	4	3
	AGC	4	6	2	1	2	9	13	9	9	6	13	13	13	9	8	3	5	2	3	9	5	0	0	0	7	4	6	6	3	3	1	1	12	0	2	7	7	7	7	3	27	6	4	5	3	1	5	5	15	3
	AGU	6	0	4	5	4	1	4	5	1	9	4	4	4	1	0	1	1	6	5	2	6	1	1	1	3	1	0	0	5	1	0	0	1	2	2	1	0	1	0	0	10	13	9	13	9	6	0	0	4	0
THR	ACA	9	2	2	2	2	6	2	7	2	5	5	5	5	4	0	0	1	1	4	0	8	3	3	2	0	2	0	0	2	1	4	4	0	0	0	2	3	2	3	7	4	18	9	18	9	3	0	0	5	3
	ACC	7	3	2	2	2	16	13	13	17	9	13	13	13	10	4	3	1	1	6	14	9	1	1	1	6	1	6	6	6	9	4	3	10	3	1	3	3	4	2	1	9	13	11	13	11	6	5	5	16	17
	ACG	1	2	0	0	0	2	3	4	3	0	2	2	2	8	1	1	0	0	0	5	5	3	2	1	1	1	5	5	1	3	0	0	1	0	0	2	1	0	0	1	1	1	1	1	1	2	0	0	4	4
	ACU	4	1	1	1	1	3	4	0	7	4	5	4	4	1	0	1	2	4	7	4	3	2	2	2	3	2	2	2	2	1	2	2	6	3	2	2	3	2	3	3	7	13	9	13	9	2	2	2	3	3
PRO	CCA	9	2	6	6	6	9	9	7	8	1	1	1	1	2	6	1	2	5	14	2	9	33	33	32	2	3	2	3	1	2	3	3	0	0	1	1	1	2	1	2	13	9	12	8	2	4	4	14	2
	CCC	6	5	3	2	3	13	12	18	13	2	11	11	11	6	15	4	5	4	0	16	12	21	19	19	5	3	2	2	1	5	2	2	5	1	1	2	3	2	2	2	0	10	5	11	6	1	10	9	23	12
	CCG	3	1	0	0	0	1	4	5	5	0	3	3	3	4	4	0	1	0	0	8	4	4	4	4	2	3	0	0	1	2	0	0	2	1	1	0	0	0	0	0	0	1	2	1	2	1	3	3	22	4
	CCU	12	2	3	2	3	5	15	5	3	3	1	1	1	3	2	2	0	8	7	9	8	31	31	30	3	1	1	1	0	0	2	2	4	2	2	3	3	3	3	2	1	16	12	15	11	9	3	3	10	2
ALA	GCA	9	0	0	0	0	6	3	6	1	5	0	0	0	4	1	2	1	1	7	2	6	33	33	33	3	3	4	4	0	1	4	3	1	0	0	1	3	3	3	5	2	11	12	11	12	4	0	0	11	1
	GCC	8	10	3	3	4	8	15	21	7	14	15	15	20	18	1	1	1	7	6	18	15	57	57	57	5	3	1	1	5	10	2	3	13	7	10	9	9	9	9	0	12	12	9	10	7	22	7	7	34	18
	GCG	0	3	0	0	0	3	5	1	6	3	1	1	1	2	5	0	0	0	0	7	1	8	8	7	4	0	0	0	0	1	1	1	2	1	0	1	1	1	1	0	0	1	1	1	1	0	1	1	19	5
	GCU	8	4	4	4	4	4	5	5	7	6	2	3	3	3	0	6	0	4	3	4	4	57	56	54	3	5	1	1	5	7	3	3	9	8	5	5	4	3	5	3	5	8	7	8	7	6	2	2	12	5
GLY	GGA	13	3	1	1	1	6	7	0	3	2	1	1	1	3	4	3	2	4	1	4	8	78	77	75	5	4	0	0	2	1	2	2	7	0	1	0	0	2	0	1	33	17	7	16	7	7	3	3	6	0
	GGC	6	9	5	4	4	10	11	13	19	8	17	16	16	18	14	7	7	2	1	15	14	59	58	55	12	6	4	4	6	7	1	1	5	7	5	2	2	3	3	0	48	12	6	12	6	11	3	3	19	13
	GGG	3	4	0	0	0	2	8	8	8	4	13	13	13	10	8	2	3	1	0	11	6	47	46	43	9	6	1	1	1	3	1	1	3	1	1	2	2	0	2	1	10	3	2	4	3	6	3	3	21	8
	GGU	3	1	1	1	1	4	5	1	3	5	3	2	3	3	0	2	2	1	3	3	46	46	46	4	0	0	0	0	1	0	0	3	3	4	2	3	1	1	1	17	9	5	10	6	2	1	1	6	2
VAL	GUA	8	1	1	1	2	2	2	0	3	1	2	2	2	2	0	0	0	1	2	3	2	4	4	4	0	0	1	1	3	0	0	0	0	0	0	0	0	0	1	2	3	10	8	9	7	0	0	0	1	0
	GUC	7	1	2	2	2	16	17	13	14	9	8	8	8	4	7	3	1	2	2	10	11	38	38	38	2	1	2	2	1	3	3	3	6	2	2	4	5	4	4	0	1	4	5	5	6	8	3	3	9	18
	GUG	8	2	1	1	1	23	17	28	24	5	16	15	16	15	8	4	3	5	3	21	15	22	22	21	3	4	5	5	3	4	3	3	18	12	11	3	2	3	3	3	5	18	15	17	14	13	6	6	21	13
	GUU	8	0	3	3	3	4	5	1	3	4	3	3	3	0	1	1	2	5	6	3	4	28	28	28	1	2	0	0	2	1	0	0	2	4	3	1	1	1	1	4	5	7	5	8	6	4	1	1	0	0
LYS	AAA	26	1	3	3	2	13	6	3	5	10	6	6	6	6	2	3	4	1	7	6	2	10	22	20	20	7	9	4	4	5	3	5	5	8	1	1	1	2	1	1	7	10	24	14	25	15	6	0	0	1	0
	AAG	16	3	3	3	2	12	8	19	7	24	9	9	9	35	7	5	1	8	4	14	24	16	16	15	15	5	3	3	6	8	6	6	17	12	10	6	5	5	6	7	11	23	18	22	17	3	2	2	4	11
ASN	AAC	4	4	6	6	7	11	9	19	12	7	11	11	12	4	7	4	5	1	2	10	11	0	0	0	3	3	2	2	6	5	3	3	20	4	3	3	3	2	2	8	6	12	10	12	10	6	1	1	9	14
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GLN	CAA	4	1	2	2	2	3	5	1	1	1	1	1	1	3	1	0	1	3	8	10	3	4	2	2	2	0	2	0	0	3	0	1	1	3	0	1	5	4	6	6	2	15	19	13	18	12	2	1	2	1
	CAG	8	8	5	5	5	10	13	14	15	12	25	25	23	18	13	7	7	6	5	25	15	9	9	9	7	2	2	2	2	7	12	2	2	18	3	3	10	10	10	9	2	13	13	11	14	12	6	3	3	20	11
HIS	CAC	12	0	0	0	0	11	7	7	5	3	4	4	4	3	2	6	5	3	2	14	13	0	0	0	3	3	2	2	2	1	3	3	5	2	4	7	8	7	7	0	4	6	3	6	3	4	2	2	8	5
	CAU	7	0	1	1	1	2	4	1	0	1	2	2	2	2	1	1	0	2	1	2	4	0	0	0	0	0	1	1	2	2	1	1	2	4	1	0	0	0	0	2	1	26	6	26	6	2	1	1	1	1
GLU	GAA	14	0	2	3	4	12	11	8	7	10	2	2	2	1	4	0	16	6	4	7	0	0	0	17	3	4	4	9	3	3	3	8	2	2	2	1	0	0	9	21	16	11	17	12	3	0	0	4	1
	GAG	12	12	5	5	5	14	22	31	27	14	12	12	12	30	14	10	9	9	6	25	29	2	2	2	15	5	5	5	4	10	3	3	25	6	8	9	10	11	10	4	23	20	18	19	17	6	4	3	26	16
ASP	GAC	11	3	5	6	6	17	17	16	16	14	20	20	19	14	7	7	8	1	1	16	21	1	1	1	6	6	6	6	9	0	0	18	3	3	7	6	6	6	2	8	21	14	20	14	2	4	4	15	5
	GAU	15	2	3	2	2	6	12	4	4	15	2	3	2	9	3	3	5	6	3	3	3	2	2	2	6	1	0	0	9	1	3	3	12	6	5	1	1	3	2	4	10	19	9	20	9	0	0	0	1	0
TYR	UAC	7	3	0	0	0	11	10	14	16	13	17	17	17	12	7	7	10	7	3	9	13	3	2	2	8	5	7	7	3	4	4	4	12	1	1	1	1	1	1	3	14	6	7	6	7	2	2	5	18	8
	UAU	12	0	0	0	0	4	6	1	2	6	5	5	5	1	2	5	5	3	6	0	7	4	2	1	3	2	0	0	1	2	4	4	2	1	1	1	1	1	1	1	12	12	9	12	9	4	0	0	0	0
CYS	UGC	1	15	7	7	8	7	3	5	9	4	3	4	3	5	2	4	5	0	1	7	3	2	2	2	6	1	10	10	0	4	7	7	7	0	0	4	4	4	4	1	2	6	7	6	7	2	8	8	11	8
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PHE	UUC	11	5	1	2	2	15	14	22	16	3	14	14	14	14	11	5	7	4	3	13	20	15	15	15	8	5	6	6	6	10	2	2	13	3	4	8	7	8	6	1	7	8	8	8	8	11	5	5	10	27
	UUU	22	1	1	1	1	8	12	4	4	4	6	6	6	5	3	5	2	4	4	5	10	6	6	5	2	3	0	0	5	4	4	4	7	7	6	0	1	1	0	4	6	14	9	14	9	7	0	0	1	4
ILE	AUA	9	0	1	1	0	1	1	1	1	0	1	1	1	1	0	0	0	1	2	2	3	3	3	3	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	2	6	5	6	5	2	0	0	0	1
	AUC	8	2	6	6	6	31	24	30	20	11	19	19	19	9	3	5	6	4	5	12	22	6	6	6	0	4	6	6	2	7	2	2	15	0	0	2	2	2	2	4	9	11	9	11	9	4	5	5	4	18
	AUU	18	0	1	1	1	10	8	4	8	11	2	2	2	2	1	2	0	7	6	3	8	10	10	10	0	0	0	0	3	0	3	3	9	0	1	0	0	0	0	2	10	8	5	8	5	3	0	0	0	3
MET	AUG	18	4	7	7	7	15	10	11	6	9	9	9	9	4	6	7	8	6	4	12	15	1	1	1	10	3	1	1	4	6	5	5	7	3	1	3	2	4	2	5	6	8	5	9	6	5	5	4	5	16
TRP	UGG	11	0	1	1	1	10	11	11	9	1	4	4	4	8	4	4	2	1	12	10	0	0	0	0	4	1	2	2	4	2	0	0	4	2	1	3	3	3	3	1	2	7	3	7	3	5	2	2	11	5
TER	UAA	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	1	1	0	1	1	1	1	1	0	0	0	0	0	1	1	0	1	0	1	1	1	0	1
	UAG	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	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
	UGA	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	1	1	0	1
TOTAL		501	169	138	138	138	458	506	517	492	340	382	382	382	401	254	179	176	215	191	497	521	748	734	714	264	156	130	130	181	218	121	121	395	146	146	190	190	190	190	156	527	622	437	620	435	264	142	140	576	349

19	BOV OT	BOV PKC	BOV PKI C	BOV PKI CB	BOV POM C7*	BOV PPT 7*	BOV PRL	BOV PRO P1	BOV PTH	BOV PTH 2	BOV PTH G	BOV S	BOV TG	BOV THB NM	BOV TRA	BOV TRM A1	BOV TRM A2	BOV TRM AM	BOV TRM B	BOV TRM G	BOV TRM GM	BOV TSH B	BOV VF	BOV VPM PII	DOG CK	DOG CKB	DOG CTR P	DOG INS	GOT HBA I	GOT HBA II	GOT HBB EI	GOT HBB EII	HRS HBA 1	HRS IFM 1	HRS IFM 1A	HRS IFM 1O	HRS IFM 2	HRS IFM 3A	HRS IFM 4A	HRS IFM B	PIG CCK	PIG ENK B	PIG GAS TR	PIG INH A	PIG INH AR	PIG INH BAR	PIG POM C	PIG REL X	PIG UPA #1	PIG UPA #2
ARG	CGA	0	4	4	2	0	0	2	3	1	1	1	25	8	4	4	2	4	1	0	0	0	0	0	3	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	3	0	2	2	2	0	0	1	1	1
	CGC	5	10	7	0	10	0	3	8	0	0	0	3	29	16	9	9	0	9	4	0	0	1	6	6	7	9	1	3	0	0	0	0	1	2	0	1	0	0	0	1	1	5	2	10	9	10	13	1	4	4
	CGG	0	7	10	2	5	2	3	1	1	1	1	3	45	15	2	2	2	2	4	0	0	1	3	3	5	9	0	0	0	0	0	0	0	2	1	0	1	1	1	2	4	3	1	7	7	5	6	0	4	5
	CGU	0	3	1	1	4	1	1	1	0	0	0	5	9	2	1	1	1	1	5	0	0	0	0	0	3	2	1	0	2	2	0	0	1	0	0	1	0	0	0	3	0	2	1	1	7	1	3	0	2	3	3
	AGA	0	5	3	9	1	4	1	7	5	5	5	10	29	3	0	0	6	0	3	2	2	1	1	1	0	0	1	0	0	0	1	0	0	4	6	5	6	6	6	3	2	1	0	3	3	4	1	8	6	6
	AGG	0	4	8	3	2	1	2	6	0	0	0	5	44	7	1	1	2	1	5	1	1	1	2	2	0	0	1	2	1	1	3	4	1	5	3	6	3	3	3	3	1	6	2	8	9	2	1	4	4
LEU	CUA	0	1	1	7	0	0	3	0	1	1	1	5	9	1	1	1	4	1	1	0	0	1	0	0	1	0	2	0	0	0	0	3	1	0	1	0	2	1	2	1	0	0	0	2	2	0	0	2	2	2
	CUC	5	8	8	5	4	1	7	1	0	0	0	2	58	14	9	9	11	9	10	2	2	0	2	2	12	15	7	4	1	0	3	3	2	9	7	8	7	7	7	8	0	11	2	8	8	7	4	3	4	4
	CUG	7	24	30	5	13	3	12	0	4	4	4	13	132	35	16	16	12	16	11	3	3	3	13	13	23	23	14	16	17	17	11	5	15	15	15	15	14	15	14	10	10	16	8	32	32	18	10	10	20	20
	CUU	0	4	5	3	2	3	6	0	4	4	4	16	30	2	4	4	1	4	6	0	0	2	0	0	0	3	1	0	1	1	0	0	1	2	0	1	0	0	0	4	0	3	1	3	3	3	0	4	5	5
	UUA	0	2	2	9	0	1	0	0	1	1	1	6	12	2	0	0	2	0	1	1	1	0	0	0	0	0	1	0	0	0	0	1	0	2	1	1	1	1	1	0	0	1	0	0	0	1	0	7	0	0
	UUG	1	6	4	3	1	1	3	0	0	0	0	18	26	0	0	0	3	0	2	1	1	0	2	2	0	1	0	0	1	1	2	4	2	2	2	2	2	2	4	1	6	0	7	7	5	6	3	2	2
SER	UCA	0	4	1	4	0	1	3	0	1	1	1	11	20	3	6	6	4	6	3	1	1	0	0	0	3	2	1	0	0	0	0	0	0	3	1	4	1	1	1	1	0	1	1	4	4	0	0	2	1	1
	UCC	4	11	15	0	4	4	9	0	2	2	2	8	74	9	7	7	5	7	10	1	1	3	2	2	10	5	13	2	4	4	2	1	4	3	7	8	7	7	8	3	3	5	1	10	9	12	5	6	11	11
	UCG	1	2	4	0	3	0	4	0	0	0	0	4	13	4	1	1	1	1	2	0	0	0	1	1	0	4	0	0	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0	1	1	8	1	1	2	2
	UCU	0	5	3	5	1	2	1	0	3	3	3	10	37	3	2	2	3	2	4	1	1	3	1	1	0	0	1	0	2	2	3	2	1	5	4	5	3	4	3	1	2	5	3	4	5	1	1	2	7	7
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	AGU	0	2	1	3	3	1	0	0	3	3	3	7	39	6	2	3	4	2	3	0	0	1	0	0	0	0	2	0	1	2	1	2	3	1	1	1	1	1	1	0	2	2	1	2	2	4	2	2	2	3
THR	ACA	0	4	4	8	0	0	0	1	0	0	0	11	23	7	2	2	5	2	4	1	1	3	1	1	5	5	2	0	0	0	0	0	0	2	3	6	3	3	3	5	0	1	0	4	3	0	0	2	2	2
	ACC	1	18	12	3	3	0	6	2	0	0	0	8	59	13	10	10	4	10	14	0	0	5	3	3	11	8	16	2	8	8	3	6	8	2	1	2	1	1	1	6	2	4	0	9	9	11	3	2	13	13
	ACG	2	6	11	0	5	0	0	0	0	0	0	3	27	6	7	7	1	7	4	1	1	0	1	1	1	3	1	1	0	0	0	0	0	3	2	2	2	2	2	1	0	0	0	1	2	3	4	1	2	2
	ACU	0	2	1	5	1	1	3	0	0	0	0	11	19	3	1	1	4	1	6	0	0	5	0	0	2	1	3	0	1	1	4	1	1	1	2	2	2	2	3	1	0	1	0	2	3	1	0	2	8	8
PRO	CCA	0	6	3	6	0	0	1	0	0	0	0	11	45	4	0	0	2	0	0	3	3	3	1	1	4	1	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	4	5	5	2	1	4	7	7
	CCC	7	13	17	2	11	3	3	0	1	1	1	4	67	15	3	3	1	3	0	1	1	2	12	12	10	12	8	4	5	5	2	1	4	3	3	2	4	3	4	1	3	12	2	20	20	12	14	2	11	11
	CCG	2	11	13	1	7	0	2	0	0	0	0	2	35	11	2	2	0	2	2	0	0	1	3	3	1	6	2	0	1	1	0	2	0	0	1	0	0	1	1	0	1	0	0	7	7	8	2	1	1
	CCU	1	11	8	5	0	1	5	0	1	1	1	11	45	7	0	0	4	0	3	0	0	0	0	0	5	2	3	2	0	0	2	1	2	3	4	5	3	4	3	2	2	1	2	12	12	1	0	2	2	3
ALA	GCA	1	4	4	5	0	2	2	0	3	3	3	7	48	2	1	1	5	1	4	0	0	3	0	0	1	3	0	0	1	1	0	3	2	2	1	2	1	1	1	3	4	2	2	3	3	3	1	6	4	4
	GCC	9	13	16	7	16	4	6	1	2	2	2	12	112	25	12	12	11	12	16	0	0	2	11	11	9	12	16	8	11	11	8	5	12	8	6	6	5	5	6	5	1	5	1	5	6	21	21	13	17	0	10	10
	GCG	3	1	9	4	8	0	0	0	0	0	0	3	30	7	4	4	1	4	4	0	0	0	5	5	2	4	3	3	3	3	0	0	1	2	1	2	1	1	1	1	9	4	1	2	2	12	10	0	1	1
	GCU	0	12	2	8	3	3	2	0	5	5	5	18	52	7	6	6	7	6	6	0	0	4	1	1	2	2	5	1	3	3	9	8	1	2	3	2	4	4	2	3	1	8	3	15	14	1	0	2	5	6
GLY	GGA	0	7	6	7	1	3	3	0	2	2	2	18	54	8	1	1	5	1	8	1	1	4	0	0	3	0	1	0	1	1	3	2	0	6	3	6	4	4	4	4	0	0	4	6	6	3	2	2	9	9
	GGC	12	22	19	6	17	2	4	0	1	1	1	10	75	22	6	6	5	6	6	1	1	3	12	12	15	24	15	6	8	7	8	4	10	4	3	2	3	3	3	1	8	5	4	8	8	17	26	3	17	17
	GGG	5	13	22	4	5	0	4	1	1	1	1	4	61	14	8	8	7	8	10	1	1	0	8	8	5	2	7	3	0	0	0	0	0	1	2	1	1	1	1	0	1	12	3	13	13	10	5	0	10	10
	GGU	1	7	0	5	3	0	3	1	1	1	1	2	14	23	6	4	4	2	4	3	1	1	0	1	1	10	6	4	0	1	1	2	2	0	0	0	0	0	0	0	0	4	0	4	4	0	2	3	3	6
VAL	GUA	0	4	2	1	0	0	2	0	2	2	2	11	5	0	1	1	1	1	2	1	1	1	1	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	1	1	2	0	1	1
	GUC	0	12	17	3	2	0	5	1	2	2	2	9	53	12	6	6	9	6	7	1	1	4	2	2	5	4	10	0	4	4	3	5	5	2	3	4	3	3	3	4	2	2	1	6	6	9	4	3	13	13
	GUG	3	22	23	8	8	5	5	1	4	4	4	3	14	94	24	12	12	10	12	6	4	4	1	3	3	20	20	9	5	7	7	8	6	6	5	6	6	6	6	3	3	8	2	13	13	14	7	1	10	10
	GUU	0	4	3	9	1	0	1	0	4	4	4	13	15	2	0	0	2	0	1	1	1	1	1	1	0	0	2	1	1	1	2	1	1	1	1	1	0	1	0	1	0	1	0	1	1	0	0	1	5	5
LYS	AAA	2	25	18	19	1	4	8	0	8	8	8	23	23	4	5	5	10	5	5	5	5	4	1	1	7	2	1	0	2	2	2	1	1	3	2	1	1	1	1	1	1	5	1	0	0	4	2	8	13	13
	AAG	1	33	39	15	18	4	3	0	6	6	6	21	51	27	21	21	21	21	5	5	5	5	2	2	27	19	12	2	9	9	10	10	10	5	3	5	4	4	4	6	2	13	3	2	2	28	16	6	12	12
ASN	AAC	2	18	22	3	6	1	8	0	2	2	2	10	42	19	13	13	11	13	12	0	0	3	5	5	16	14	7	2	3	3	4	6	3	4	4	3	4	4	4	8	1	3	1	3	3	12	6	4	9	9
	AAU	0	6	2	11	1	1	4	0	1	1	1	35	15	4	1	1	7	1	5	2	2	1	0	0	1	3	2	1	2	1	3	3	1	0	1	0	1	1	1	4	1	2	0	1	1	1	1	3	9	9
GLN	CAA	1	6	4	3	1	2	3	0	0	0	0	15	33	3	1	1	4	1	2	0	0	1	1	1	0	0	1	0	0	0	0	0	0	2	5	1	5	5	6	5	1	0	1	0	0	2	1	6	7	7
	CAG	4	18	23	8	9	6	6	1	5	5	5	11	149	19	12	12	8	12	10	1	1	2	6	6	14	13	12	6	1	1	3	4	1	8	7	12	8	7	6	8	6	11	6	13	13	14	7	3	16	16
HIS	CAC	2	16	18	4	3	1	3	0	1	1	1	4	20	10	9	9	4	9	4	0	0	0	0	0	13	14	4	2	9	10	5	7	9	3	3	3	3	3	3	2	3	0	3	11	12	13	4	0	11	12
	CAU	0	4	3	4	1	2	4	1	3	3	3	5	11	4	0	0	3	0	4	0	0	3	0	0	3	0	0	0	0	0	2	1	1	2	1	2	2	2	2	1	0	1	2	2	2	1	0	1	10	10
GLU	GAA	0	24	7	20	7	6	9	0	5	5	5	46	55	10	7	7	12	7	4	0	0	3	1	1	5	5	1	0	0	0	3	1	0	5	3	3	3	3	4	1	9	5	2	2	7	3	12	8	8	8
	GAG	6	29	37	7	22	3	6	0	1	1	1	8	106	43	20	20	17	20	5	4	4	2	10	10	22	21	4	9	3	3	6	6	3	9	9	10	9	9	9	11	6	19	5	16	16	31	23	6	13	14
ASP	GAC	6	25	40	10	8	3	6	0	3	3	3	9	85	30	22	22	12	22	22	4	4	2	5	5	23	25	9	2	7	7	3	2	7	9	8	8	8	8	8	3	5	8	3	6	6	16	8	1	12	12
	GAU	0	17	10	9	2	5	6	0	5	5	5	24	51	6	4	4	15	4	8	2	2	3	1	1	4	5	3	0	2	2	2	4	2	2	0	3	0	0	0	2	1	6	2	4	4	3	2	5	4	5
TYR	UAC	2	9	16	6	4	0	4	2	1	1	1	11	52	14	9	9	7	9	6	0	0	5	3	3	8	7	1	4	2	2	2	2	2	4	3	3	3	3	3	6	2	4	0	3	3	6	4	1	14	14
	UAU	0	9	4	10	2	4	4	0	0	0	0	10	20	5	4	4	6	4	2	1	1	6	0	0	2	2	0	0	1	1	0	0	0	0	2	0	2	2	2	2	2	4	2	1	1	0	2	0	3	4
CYS	UGC	17	14	15	0	4	0	6	5	0	0	0	13	70	16	6	6	5	6	9	0	0	2	16	16	3	5	9	5	1	1	0	1	1	1	3	2	4	3	3	1	1	6	2	7	7	12	4	2	14	14
	UGU	1	7	5	3	1	0	1	2	1	1	1	22	53	9	2	2	5	2	5	3	3	11	1	1	1	0	2	1	0	0	1	1	0	5	3	2	3	3	3	3	1	1	0	5	5	2	1	4	12	12
PHE	UUC	3	25	33	8	8	3	2	0	0	0	0	9	88	10	13	13	6	13	8	2	2	3	6	6	15	15	12	3	6	6	4	3	7	8	7	7	7	7	7	6	0	4	2	11	11	9	8	2	5	5
	UUU	0	20	9	16	1	3	4	1	3	3	3	19	54	4	4	4	10	4	3	0	0	4	0	0	1	2	0	0	1	1	5	6	1	0	2	0	3	2	3	0	1	4	0	0	0	0	4	1	4	7
ILE	AUA	0	1	1	6	0	0	2	1	2	2	2	8	5	1	0	0	1	1	0	0	0	3	0	0	2	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	2	2
	AUC	2	23	27	6	3	5	4	0	1	1	1	8	46	17	23	23	15	23	14	2	2	3	2	2	13	14	9	2	0	0	1	1	0	6	8	5	7	7	7	4	1	1	1	5	5	19	2	5	9	9
	AUU	1	10	4	8	0	2	5	0	2	2	2	19	22	2	5	5	10	5	4	2	2	2	0	0	1	1	1	0	0	0	4	2	0	1	0	1	0	0	0	3	0	1	2	0	0	0	3	0	4	5
MET	AUG	1	19	20	7	6	5	8	1	7	7	7	12	25	7	12	12	9	12	8	3	3	9	2	2	11	10	4	2	2	2	2	5	2	8	6	7	6	6	6	8	5	5	3	5	5	10	6	5	6	6
TRP	UGG	0	9	8	6	4	2	2	0	1	1	1	6	40	14	2	2	2	2	8	0	0	0	0	0	4	4	9	2	1	1	3	3	1	3	2	2	2	2	2	5	1	3	3	3	7	7	6	4	3	7	7
TER	UAA	0	1	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	1	1	0	0	1	0	1	0	1	1	1	1	0	0	1	0	1	1	0	0	0	0
	UAG	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0
	UGA	1	0	1	0	1	0	0	0	1	1	1	1	0	1	0	1	1	0	1	0	0	0	0	1	1	0	1	1	0	0	0	1	0	0	1	0	1	0	0	0	0	1	0	0	0	0	1	1	1	1
TOTAL		126	674	673	352	266	113	230	52	116	116	116	6762	770	626	351	351	355	351	341	75	75	139	167	167	382	382	264	111	143	143	148	148	143	196	185	196	185	185	185	187	115	257	105	365	365	425	268	183	434	443

20		RAB ALD A	RAB ATP AC	RAB CDP SBU	RAB CPK	RAB CRP	RAB CY4 501	RAB EBA	RAB EBA PT	RAB EBB 1	RAB EBB 1A1	RAB EBB 1A2	RAB EBB CP	RAB IFN AB	RAB IGH P	RAB IL1	RAB MHI	RAB MHI 191	RAB MHI 3	RAB PFK M22 *	RAB PGR	RAB TCA XB	RAB TNF	RAB TNF N	RAB UG	RAB UG2 *	RAB UGM	SEA NG3 *	SHP ATP AA	SHP CAS S2R	SHP CRF	SHP KER B2A Ø1	SHP KER B2A Ø2	SHP KER B2A Ø3	SHP KER B2C	SHP KER B2C I	SHP MET	CHK ACA CA	CHK ACA CB	CHK ACA SK	CHK ACB	CHK ACC Y5	CHK ACH R1	CHK ACH R2	CHK AXH	CHK APO II	CHK ASP ATM	CHK CAM 6*	CHK CBP R	CHK CKB R	CHK CKM X	CHK CKM X 1	CHK CM1
ARG	CGA	0	3	4	0	0	3	0	0	0	0	0	2	4	0	0	0	1	7	5	1	0	0	0	0	0	0	0	10	0	4	0	0	0	1	0	0	0	0	0	2	0	1	0	0	2	0	1	2	1	1	0
	CGC	6	7	3	12	1	5	0	0	0	0	0	5	5	1	10	10	10	7	7	1	3	3	0	0	0	0	0	5	1	6	5	0	5	5	0	4	5	6	3	5	16	11	3	0	7	0	0	2	9	9	2
	CGG	3	14	3	4	0	4	1	1	0	0	0	9	3	0	6	6	7	15	9	2	4	4	0	0	0	1	6	0	4	0	0	0	0	0	0	0	0	1	0	1	6	8	7	0	10	0	1	2	6	6	2
	CGU	5	2	1	2	2	1	1	1	0	0	0	1	0	1	1	1	1	7	2	1	1	1	0	0	0	0	1	5	0	0	0	0	0	0	0	6	9	8	6	4	1	3	0	2	6	2	0	4	1	1	2
	AGA	0	10	1	0	1	6	0	0	0	0	0	7	2	6	3	3	3	6	10	4	1	1	2	2	2	0	8	4	1	0	1	0	0	1	1	1	1	1	6	0	2	2	0	3	0	3	1	2	1	1	0
	AGG	1	6	1	0	2	5	1	1	3	3	3	14	7	3	9	9	7	12	8	1	1	1	0	0	0	3	14	2	4	1	2	0	1	0	3	3	2	4	6	1	3	0	2	3	1	3	9	3	3	3
LEU	CUA	0	5	1	0	2	3	0	0	0	0	0	2	0	4	0	0	1	2	8	4	2	2	0	0	0	0	4	1	1	0	2	0	0	0	1	1	1	1	5	1	2	0	1	2	2	5	3	1	0	0	0
	CUC	7	14	4	11	6	11	2	2	2	2	2	18	11	4	7	7	10	10	26	9	17	17	7	7	7	6	21	3	13	1	2	1	1	0	5	5	5	7	3	22	27	5	3	9	0	5	10	14	14	1
	CUG	25	48	15	24	8	24	14	14	16	16	16	30	35	11	19	19	20	40	34	17	13	13	5	6	6	11	40	4	14	2	2	2	2	0	8	10	16	18	13	32	29	13	6	18	2	6	17	20	21	8
	CUU	0	14	2	0	1	8	0	0	0	0	0	5	2	3	2	2	3	2	17	3	1	1	0	0	0	0	12	4	1	0	0	0	0	0	3	3	1	0	2	3	1	0	1	3	3	7	8	0	0	1
	UUA	0	5	0	0	1	4	0	0	0	0	0	2	0	3	0	0	0	1	8	3	0	0	0	0	0	0	5	0	1	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	1	4	0	0	0	0
	UUG	2	8	1	2	3	8	1	1	0	0	0	11	2	2	1	1	0	5	10	3	1	1	2	1	1	2	10	2	2	0	3	0	0	0	5	7	3	1	3	4	2	2	2	5	1	6	5	1	1	0
SER	UCA	2	8	2	0	3	5	0	0	0	0	0	7	5	7	2	2	2	4	12	13	1	1	0	0	0	3	11	3	0	0	0	0	1	0	1	2	0	0	1	5	2	2	1	4	2	2	1	1	1	2
	UCC	9	19	2	11	6	7	4	4	3	3	3	21	23	1	5	5	6	12	27	12	6	6	3	3	3	0	17	5	4	10	2	11	10	4	7	10	16	9	12	4	11	3	3	8	0	1	8	8	8	1
	UCG	0	1	1	3	1	1	0	0	0	0	0	0	6	5	1	1	1	2	1	14	1	0	0	0	0	0	2	0	2	0	1	0	0	1	1	2	0	0	0	2	1	2	0	2	0	1	0	2	2	2
	UCU	3	10	1	0	4	4	3	3	3	3	3	3	8	6	5	5	6	7	11	4	3	3	1	1	1	1	10	3	2	0	3	1	0	1	5	5	3	9	6	5	3	0	1	7	0	2	5	0	0	0
	AGC	4	8	8	8	5	8	3	3	1	0	1	25	29	4	4	4	5	13	22	11	7	7	2	2	2	3	10	1	7	13	2	13	11	3	4	5	4	7	6	14	9	2	1	9	1	1	5	9	9	3
	AGU	3	4	1	0	4	5	1	1	3	4	3	11	3	7	0	0	0	6	10	1	2	2	1	1	1	0	3	3	2	2	2	1	2	0	0	0	0	0	0	2	1	0	0	2	1	4	2	0	0	0
THR	ACA	2	19	3	2	2	6	0	0	0	0	0	12	8	5	1	1	3	7	4	11	0	0	1	1	1	0	11	3	0	1	0	1	1	0	7	9	7	9	3	3	6	1	2	2	9	5	5	0	0	0
	ACC	16	15	5	11	3	6	10	10	2	2	2	23	42	7	17	17	17	32	15	6	4	4	4	4	4	2	30	5	4	15	0	17	12	1	12	13	16	12	10	11	20	5	1	5	0	0	5	8	8	4
	ACG	1	9	2	5	0	4	0	0	0	0	0	8	6	0	6	6	5	9	8	1	2	2	3	3	3	2	7	0	1	1	0	1	0	0	0	0	0	1	2	3	2	5	1	5	0	3	2	8	8	3
	ACU	3	19	1	0	5	8	2	2	2	2	2	8	5	5	3	3	1	8	3	5	3	3	0	0	0	1	13	7	0	1	2	3	4	1	4	4	4	4	3	7	2	2	3	6	3	2	6	0	0	1
PRO	CCA	1	10	1	1	4	7	0	0	1	1	1	14	10	6	0	0	0	2	16	0	1	1	1	1	1	0	8	4	4	5	2	6	4	0	3	4	4	4	3	8	7	0	0	3	1	1	6	3	3	0
	CCC	9	7	2	12	5	12	5	5	0	0	0	15	14	4	6	6	7	10	40	2	6	6	2	2	2	3	15	6	12	8	2	6	6	2	5	6	10	9	6	16	13	5	0	10	1	0	4	12	12	2
	CCG	5	8	3	5	0	0	1	1	0	0	0	0	1	0	6	7	8	6	28	0	4	4	1	1	1	0	6	0	6	3	0	3	1	1	0	1	0	0	3	3	4	0	0	0	1	0	1	1	5	5	0
	CCU	4	20	1	1	11	1	1	1	3	3	3	10	3	6	7	7	5	5	18	2	4	4	2	2	2	1	15	2	2	2	3	2	2	1	8	8	5	7	4	6	1	3	3	8	1	1	5	1	1	0
ALA	GCA	4	17	5	0	6	7	0	0	1	1	1	10	2	6	3	3	3	8	20	2	2	2	3	3	4	0	9	3	1	0	0	0	0	0	5	5	0	2	4	9	4	2	3	10	5	6	4	1	1	1
	GCC	27	32	11	10	3	4	10	10	6	6	6	28	22	6	11	11	13	35	38	6	12	12	3	3	2	9	33	5	11	4	0	0	4	4	5	3	5	18	19	13	18	16	5	0	20	0	6	3	11	11	1
	GCG	5	9	1	1	0	0	2	2	1	1	1	12	8	0	16	15	12	9	26	2	2	2	0	0	0	2	5	0	5	0	0	0	0	0	0	2	3	1	1	1	0	6	1	1	6	2	3	0	3	3	5
	GCU	6	27	2	2	1	10	1	1	7	7	7	12	4	2	9	9	7	13	12	3	3	3	1	1	1	3	37	4	6	1	1	1	2	1	14	16	10	7	12	5	3	2	6	7	4	4	8	0	0	3
GLY	GGA	4	11	8	0	5	12	0	0	0	0	0	12	3	1	6	6	6	9	18	6	1	1	0	0	0	1	18	0	0	3	1	3	3	0	1	2	1	2	3	2	4	2	0	8	0	5	8	3	3	1
	GGC	12	25	29	20	3	9	8	8	6	6	6	25	18	2	9	9	10	44	31	1	7	7	2	2	2	5	24	2	3	8	0	7	8	5	7	7	12	8	11	8	5	9	1	20	2	5	10	10	10	6
	GGG	10	8	10	9	5	4	0	0	1	1	1	18	12	3	14	14	15	19	21	2	6	6	1	1	1	6	17	0	3	1	0	1	1	1	2	2	5	1	6	6	10	6	1	7	2	3	7	15	15	2
	GGU	4	20	1	4	4	2	1	1	4	4	4	6	7	0	2	2	1	10	6	3	2	2	0	0	0	0	17	0	3	3	2	4	2	0	16	17	10	17	8	3	1	2	1	5	7	2	10	3	3	2
VAL	GUA	3	10	0	0	3	2	0	0	0	0	0	8	0	2	0	0	1	2	5	1	2	2	0	0	0	1	5	2	0	0	3	0	0	0	1	1	1	2	0	1	0	0	0	1	1	3	1	5	0	0	0
	GUC	6	23	4	5	2	4	0	0	2	2	2	18	17	3	2	2	2	17	19	5	9	9	3	2	2	3	18	1	2	0	0	1	1	1	8	8	8	5	8	17	15	4	2	3	0	1	3	12	12	4
	GUG	10	38	5	22	9	19	10	10	12	12	12	27	34	8	16	16	15	35	20	11	7	7	1	2	2	2	44	3	4	5	1	5	5	1	7	8	12	10	12	19	22	9	7	15	3	3	12	16	14	4
	GUU	3	15	3	1	1	10	0	0	5	4	5	11	0	4	4	4	4	7	7	2	1	1	0	0	0	0	12	7	1	0	1	0	0	0	2	4	0	5	2	7	3	2	2	5	1	1	7	0	0	0
LYS	AAA	1	21	4	5	3	14	2	2	3	3	3	9	8	7	3	3	4	9	17	6	0	0	2	2	2	2	19	8	3	0	1	0	0	1	5	8	3	5	2	6	6	1	3	5	3	12	8	9	9	0
	AAG	25	37	6	29	12	17	10	10	9	9	9	31	18	8	6	6	7	29	24	6	8	8	6	6	6	17	34	17	3	0	0	1	0	5	11	11	16	13	17	12	11	21	3	23	5	13	18	23	23	6
ASN	AAC	11	30	12	15	3	7	3	3	3	4	3	17	17	5	5	5	4	22	11	10	10	10	2	2	2	2	26	4	3	0	0	1	0	1	7	7	9	6	6	21	18	1	3	12	2	5	12	11	11	4
	AAU	3	13	2	1	5	16	1	1	4	4	4	7	4	11	0	0	0	8	7	4	0	0	0	0	0	1	18	8	1	0	1	0	0	0	3	5	3	3	3	6	7	1	1	5	4	9	6	3	3	2
GLN	CAA	3	2	1	0	3	2	0	0	0	0	0	10	0	5	0	0	0	4	12	8	2	2	0	0	0	0	8	2	1	1	1	4	1	0	2	3	4	0	2	1	4	2	1	3	2	2	0	1	1	0
	CAG	13	24	8	12	6	9	1	1	4	4	4	20	18	8	22	22	17	20	36	7	12	11	2	2	2	3	28	14	12	14	0	13	10	1	7	8	7	12	10	9	22	4	3	13	4	14	12	12	12	4
HIS	CAC	9	9	3	17	3	3	10	11	5	5	5	7	10	1	9	9	10	14	7	5	4	4	1	1	1	7	8	1	1	0	1	0	0	0	6	6	7	6	5	12	8	4	1	6	0	4	11	16	16	1
	CAU	2	4	1	0	0	7	1	0	5	4	5	3	1	3	1	1	0	5	7	2	1	1	0	0	0	6	8	4	2	0	3	0	0	0	3	3	2	3	4	3	0	0	0	3	1	0	2	1	1	0
GLU	GAA	4	36	4	1	3	11	3	3	4	4	4	22	2	13	0	0	1	11	23	6	1	1	4	4	4	3	27	17	5	0	1	0	0	0	11	16	7	7	3	7	4	3	6	3	16	14	11	2	2	2
	GAG	20	39	11	26	9	23	4	4	6	6	6	38	25	7	24	24	25	36	26	4	15	15	2	2	2	11	40	8	4	5	2	5	4	0	8	12	21	19	25	35	28	15	0	20	5	13	12	28	28	21
ASP	GAC	7	24	8	26	6	9	7	7	3	3	3	34	16	8	17	17	19	26	27	5	6	6	2	2	2	8	32	1	3	1	0	1	1	2	7	8	16	8	12	12	14	9	2	13	6	9	14	20	20	10
	GAU	7	22	7	2	7	16	0	0	1	1	1	14	7	10	5	5	4	13	13	6	0	0	2	2	2	0	25	5	3	0	1	0	0	0	12	14	6	15	9	6	8	2	2	7	11	12	18	7	7	5
TYR	UAC	10	11	5	10	5	7	1	1	2	2	2	16	8	7	14	14	13	14	13	6	8	8	1	1	1	2	13	4	1	2	0	2	2	0	5	5	8	10	5	22	13	7	5	12	1	5	8	7	7	2
	UAU	2	7	2	0	5	5	2	2	1	1	1	8	6	2	1	1	1	8	2	0	0	0	0	0	0	0	11	8	0	2	1	2	2	0	9	11	8	5	10	1	4	1	0	3	1	4	2	1	1	0
CYS	UGC	7	16	2	4	1	7	1	1	0	0	0	15	13	1	4	4	5	7	12	2	5	5	2	2	2	0	18	2	1	29	0	32	25	17	2	4	5	4	5	9	10	2	0	3	0	1	4	4	4	2
	UGU	1	10	1	0	2	5	0	0	1	1	1	5	2	1	0	0	0	8	9	4	0	0	1	1	1	0	5	1	0	10	3	9	9	3	2	2	1	2	1	0	3	0	1	2	0	3	1	0	0	0
PHE	UUC	7	19	8	15	7	17	8	8	5	5	5	18	22	7	10	10	8	20	18	7	7	7	0	0	0	5	29	4	5	1	3	1	1	0	5	7	8	12	10	19	18	3	2	11	3	9	9	17	17	5
	UUU	0	20	6	1	7	15	0	0	3	3	3	7	4	6	1	1	0	9	13	6	1	1	2	2	2	2	15	5	1	1	7	2	1	0	3	5	4	1	3	7	5	2	0	5	5	6	7	1	1	3
ILE	AUA	0	8	1	0	3	5	0	0	0	0	0	6	0	1	1	1	2	6	1	0	1	1	1	1	1	0	5	1	0	0	2	0	0	0	1	1	0	0	1	2	2	0	2	1	1	3	2	1	1	0
	AUC	14	32	11	11	3	13	3	3	0	0	0	13	17	10	6	7	4	34	14	3	6	6	3	3	3	8	48	5	1	6	0	4	3	0	13	15	22	18	20	27	30	6	5	16	1	5	5	12	12	5
	AUU	6	34	2	3	7	14	0	0	0	0	0	5	2	3	1	1	1	10	10	0	1	1	1	1	1	0	28	6	2	3	6	4	1	0	11	14	8	10	8	3	8	3	2	7	6	5	7	1	1	1
MET	AUG	4	30	10	11	6	13	2	2	2	2	2	3	11	8	8	7	6	23	16	6	5	5	6	6	6	3	27	5	2	1	2	1	1	1	15	16	17	17	17	12	15	5	2	14	10	9	12	12	12	10
TRP	UGG	3	13	3	4	7	3	1	1	2	2	2	8	12	1	10	10	9	10	6	3	2	2	0	0	0	2	12	3	0	1	2	1	1	0	4	4	4	4	4	11	11	0	1	7	0	2	4	4	4	0
TER	UAA	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0	1	0	1	1	1	0
	UAG	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0
	UGA	0	0	1	0	1	1	0	0	1	1	1	0	1	0	1	1	1	0	1	1	1	1	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0
TOTAL		365	990	267	382	226	400	143	143	140	140	140	774	595	260	362	362	359	781	931	272	236	235	92	92	92	1551	022	224	191	173	80	183	153	62	314	378	378	376	377	514	515	195	107	424	150	263	382	382	382	150

21		CHK CON MR	CHK CPS 1	CHK CRY D12 *	CHK CRY DM	CHK CRY 1	CHK CRY DS# 2	CHK CRY DS#	CHK CYC 10	CHK CYC 9	CHK CYP 450	CHK ERB BF	CHK GAP DHA	CHK GBL B	CHK H1G	CHK H23 4G# 1	CHK H23 4G# 2	CHK H23 4G# 3	CHK H23 4G# 4	CHK H23 4G# 5	CHK H23 4G#	CHK H2B A	CHK H5	CHK H5M A	CHK HBA DA1	CHK HBA DA2	CHK HBA M	CHK HBB M	CHK HBB R1	CHK HBB R2	CHK HBB HO2	CHK HSP 108	CHK HSP 3*	CHK INS C	CHK KER F	CHK KER 4*	CHK LSE 133 *	CHK MLC	CHK MNP 2SM	CHK MYA	CHK MYC E	CHK MYH C2F	CHK MYL L	CHK OVA	CHK OVA LM	CHK PEC M	CHK PKM	CHK PRO CA	CHK TK	CHK TKA C	CHK TNT NS	CHK TRA
ARG	CGA	3	0	0	0	0	0	0	0	0	7	4	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	3	3	0	0	1	0	7	0	4	10	0	0	0	1	2	3	3	3	1	1
	CGC	5	4	4	4	4	4	1	1	2	6	1	2	4	11	9	12	9	11	5	3	3	1	0	1	0	3	0	1	0	7	4	0	2	2	3	1	6	1	6	23	5	2	2	5	15	10	4	4	8	0
	CGG	6	4	1	1	1	1	0	0	2	3	0	2	1	1	3	3	3	1	2	7	7	0	0	0	0	0	0	0	0	1	0	1	2	1	2	1	5	8	1	0	0	3	5	10	4	4	9	0
	CGU	2	0	4	4	4	4	0	0	3	7	6	0	0	0	0	0	2	0	0	0	2	2	1	2	1	1	1	1	1	15	7	2	1	1	2	1	5	1	2	15	0	0	0	2	5	6	1	1	3	0
	AGA	5	0	8	8	8	7	1	1	8	5	2	0	0	1	0	0	0	1	0	1	1	0	1	0	0	0	0	0	0	1	17	0	0	0	1	0	5	0	2	16	0	10	10	12	2	5	1	1	1	5
	AGG	8	4	2	2	3	4	0	0	6	7	2	1	1	1	0	1	0	1	0	8	8	1	1	1	1	3	3	5	3	5	3	0	2	2	3	1	7	1	7	26	0	3	3	4	5	11	4	4	6	0
LEU	CUA	1	1	2	0	0	1	0	0	2	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	2	5	1	0	0	2	0	3	0	3	8	0	1	1	5	1	3	0	0	0	0
	CUC	13	3	12	12	12	13	1	1	8	11	1	4	6	5	1	3	1	5	0	3	3	5	2	5	5	6	4	3	4	12	6	5	1	2	0	4	9	3	10	33	3	6	6	2	9	15	3	3	5	2
	CUG	24	11	37	39	42	42	2	2	23	26	11	4	4	3	15	9	15	3	6	3	3	8	10	8	6	11	12	11	12	17	18	5	6	5	9	9	27	9	17	121	7	10	10	19	21	44	9	9	9	0
	CUU	7	0	6	6	6	5	1	1	6	14	4	3	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	8	19	2	0	0	2	0	5	0	1	13	0	8	8	6	1	0	3	3	2	2
	UUA	1	1	1	1	1	1	1	1	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	1	0	1	6	0	3	3	7	2	1	0	0	0	0
	UUG	7	1	8	7	7	5	1	1	8	13	2	1	0	0	0	0	0	0	0	1	1	2	2	2	3	0	0	1	0	5	14	2	0	0	2	0	8	0	4	15	1	4	4	8	2	3	0	0	1	0
SER	UCA	6	0	1	1	1	0	1	1	2	7	2	3	0	0	0	0	0	0	0	1	1	1	0	1	1	0	0	0	0	2	11	1	0	0	2	0	5	1	3	16	0	7	7	6	1	6	2	2	2	1
	UCC	10	5	5	5	5	6	1	1	4	10	7	0	5	0	0	1	0	0	5	9	9	4	1	4	4	5	3	5	3	10	9	3	5	5	1	2	11	2	13	27	3	5	5	3	7	8	2	2	1	2
	UCG	3	0	0	0	0	1	0	0	1	1	1	0	1	1	4	2	4	1	6	9	9	0	2	0	0	0	1	1	1	2	2	0	0	0	0	0	3	0	8	6	0	1	1	3	2	4	1	1	2	0
	UCU	7	0	10	11	11	10	2	2	7	9	5	3	0	1	0	0	1	0	2	2	2	0	3	0	0	0	0	0	0	5	17	1	5	4	1	1	12	1	3	22	1	10	10	5	6	4	4	4	2	0
	AGC	18	0	22	22	25	23	0	0	7	11	4	4	7	0	1	3	1	0	3	5	5	1	2	1	1	2	5	4	5	7	6	2	4	5	5	3	10	2	14	18	2	9	9	14	5	14	3	3	4	2
	AGU	4	0	6	6	5	6	0	0	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	9	1	2	1	2	0	11	0	4	17	0	6	6	3	4	5	0	0	1	1
THR	ACA	9	2	1	1	1	3	3	3	11	18	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	14	19	0	0	0	2	4	13	4	3	35	1	7	8	10	4	11	2	2	2	2
	ACC	19	6	14	14	13	8	0	0	14	5	9	3	8	4	2	4	2	4	6	3	3	9	5	9	10	4	7	4	6	24	8	1	4	4	5	2	7	2	4	32	7	4	4	7	16	16	5	5	3	1
	ACG	2	4	0	0	0	1	1	1	3	2	1	3	1	3	2	6	2	3	2	2	2	0	0	0	0	0	0	0	0	2	2	1	0	0	0	0	2	0	7	9	1	0	0	1	2	3	1	1	2	0
	ACU	7	2	21	19	22	15	4	4	2	11	6	3	1	0	0	0	0	0	0	1	1	1	2	1	1	3	0	1	1	9	17	0	0	0	0	2	7	2	0	14	0	4	4	10	3	6	3	3	0	1
PRO	CCA	7	0	3	3	3	3	2	2	11	21	3	4	0	0	0	0	0	0	3	3	3	1	0	1	1	0	0	0	0	4	13	0	1	2	1	5	10	0	1	5	0	7	7	22	5	5	2	2	1	0
	CCC	10	5	3	3	3	3	1	1	9	13	8	2	14	0	7	4	4	4	0	4	9	9	2	3	2	2	4	4	4	11	3	3	3	7	1	6	5	3	21	15	7	1	1	7	5	11	5	5	5	1
	CCG	4	0	0	0	0	0	0	0	1	2	0	1	6	1	1	2	1	1	1	1	1	1	0	1	1	0	1	0	1	3	0	0	1	1	1	0	3	0	13	2	0	0	0	4	4	1	1	1	0	0
	CCU	7	0	5	5	5	5	0	0	12	16	1	2	1	0	0	0	0	0	1	0	0	2	2	2	2	1	0	1	0	2	5	3	1	1	0	3	14	1	5	10	0	6	6	12	6	4	3	3	4	1
ALA	GCA	11	0	4	4	3	3	1	1	7	19	6	1	2	0	0	1	0	0	1	4	4	0	0	0	0	0	0	0	0	9	16	2	0	0	2	13	9	3	3	45	1	16	15	14	18	10	2	2	5	0
	GCC	19	6	13	13	14	12	2	2	7	10	9	2	30	5	11	7	11	5	6	20	20	10	9	10	10	11	11	13	11	15	5	2	1	1	3	4	23	3	30	71	8	9	9	16	19	18	7	7	5	2
	GCG	5	1	1	1	0	0	1	1	1	1	2	0	19	2	6	10	6	2	5	4	4	0	0	0	0	1	1	0	1	1	5	0	1	0	5	2	8	0	6	4	4	0	0	1	2	2	2	2	0	0
	GCU	21	1	19	19	19	23	1	1	5	14	17	1	8	0	1	0	1	0	0	1	1	8	8	8	8	4	2	3	2	23	24	4	3	3	4	6	22	5	4	50	1	10	10	17	19	16	8	8	7	1
GLY	GGA	16	1	11	12	12	11	6	6	11	12	6	3	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	11	8	3	2	2	6	1	13	1	1	15	1	6	6	18	9	5	3	3	2	1
	GGC	20	8	6	6	6	8	4	4	7	11	8	3	11	12	7	4	8	12	6	6	6	8	5	8	9	4	1	1	1	20	8	4	7	8	5	5	10	5	8	25	5	8	9	14	21	26	6	6	5	0
	GGG	10	5	3	3	3	3	0	0	9	13	8	2	2	3	5	3	5	3	0	3	3	1	0	1	1	3	3	3	3	10	3	1	0	0	2	1	9	1	5	18	6	2	2	9	5	14	8	8	4	1
	GGU	7	0	4	4	4	5	3	3	2	9	9	4	1	1	1	0	0	1	1	0	0	0	1	0	1	1	2	2	2	14	10	0	2	1	0	5	7	5	0	17	0	3	2	10	7	9	1	1	5	0
VAL	GUA	3	0	1	1	1	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	5	7	0	0	0	0	4	3	0	5	0	5	5	5	1	2	0	0	0	3	0
	GUC	14	3	9	9	9	8	1	1	3	16	16	5	2	6	0	2	0	6	4	4	4	3	2	3	3	5	6	6	6	7	4	3	0	2	4	3	11	3	10	22	4	7	7	4	9	9	6	6	4	0
	GUG	28	8	11	12	13	15	0	0	7	14	12	4	6	3	8	4	8	3	4	3	3	8	8	8	7	7	8	6	8	28	17	4	7	5	3	0	24	0	7	43	4	10	10	27	25	12	12	3	0
	GUU	6	0	9	9	10	12	1	1	7	16	8	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	1	0	3	23	1	1	2	0	4	5	3	3	13	0	9	9	5	7	4	2	2	1	0
LYS	AAA	30	6	10	10	10	11	5	5	15	16	9	2	3	0	0	0	0	0	0	4	4	2	1	2	2	1	3	2	3	16	36	2	0	0	2	5	24	2	8	57	3	11	11	25	11	6	2	2	12	6
	AAG	29	7	19	19	22	23	13	13	18	30	17	5	57	11	14	13	14	11	21	40	40	10	10	10	10	9	9	8	9	39	45	1	0	0	4	15	21	9	15	160	13	9	9	16	25	27	11	11	28	2
ASN	AAC	23	6	6	6	6	9	2	2	12	19	9	6	3	1	6	1	6	2	3	1	1	4	5	4	5	6	9	8	9	22	14	4	3	2	14	9	11	9	14	47	7	7	7	21	10	22	6	6	4	1
	AAU	10	2	3	3	3	3	2	2	7	13	8	2	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	10	18	0	0	1	0	1	7	2	1	27	1	10	10	12	8	4	1	1	2	2
GLN	CAA	9	0	4	3	3	2	1	1	5	6	1	2	0	0	0	0	0	0	0	0	0	1	0	1	2	1	0	1	0	7	8	2	0	0	0	1	7	1	4	25	0	8	7	7	1	3	1	1	3	5
	CAG	13	7	13	14	18	16	2	2	7	17	4	3	1	2	5	8	5	2	3	4	4	1	8	1	0	4	4	3	4	20	17	4	4	5	3	6	21	4	13	105	5	7	8	8	12	25	11	11	14	0
HIS	CAC	8	3	3	4	4	7	1	1	6	12	4	5	0	2	3	2	3	2	3	3	3	7	3	7	7	4	6	5	6	4	3	2	0	0	1	1	15	1	10	22	1	3	3	5	15	11	2	2	4	1
	CAU	4	0	2	2	1	1	2	2	5	6	1	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	2	1	2	1	8	1	0	0	0	1	11	1	0	16	0	4	4	6	3	4	1	1	1	2
GLU	GAA	19	2	15	14	14	13	2	2	16	19	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1	4	3	3	3	10	61	1	0	0	0	11	18	11	12	89	2	10	10	24	7	12	3	3	23	2
	GAG	26	6	20	20	23	22	5	5	18	29	12	5	6	4	6	7	6	4	3	7	2	2	5	7	5	4	3	6	5	6	39	44	8	3	2	2	11	20	8	30	170	14	15	15	29	29	51	11	11	45	1
ASP	GAC	23	9	6	6	6	6	1	1	18	20	11	3	1	3	3	4	3	3	3	1	1	5	7	5	4	5	3	4	3	23	18	0	1	1	3	7	9	7	19	60	11	6	6	8	19	29	4	4	14	0
	GAU	23	4	17	17	17	19	4	4	12	15	11	4	1	0	0	0	0	0	0	1	1	2	0	2	2	1	1	1	1	23	42	1	1	1	4	3	22	2	3	40	4	8	8	13	13	24	4	4	5	1
TYR	UAC	12	6	4	4	4	4	2	2	7	12	4	1	1	4	3	3	3	4	5	3	3	3	4	3	3	2	4	3	4	7	8	5	0	0	2	1	7	1	12	26	1	7	7	6	6	10	8	8	3	1
	UAU	9	1	1	1	1	2	2	2	5	15	5	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	9	15	1	0	1	1	0	6	0	0	16	1	3	3	7	2	4	0	0	1	1
CYS	UGC	22	1	0	0	0	0	1	1	5	11	3	2	0	0	0	1	0	0	0	0	0	2	1	2	2	1	3	3	3	3	2	3	5	5	7	1	10	1	5	8	2	1	1	9	7	13	5	5	0	1
	UGU	10	1	0	0	0	1	1	1	2	7	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	2	3	3	4	2	0	5	0	2	9	0	5	5	4	1	0	4	4	0	0
PHE	UUC	13	5	4	4	4	5	1	1	22	5	8	7	0	2	1	4	1	2	2	1	1	7	6	7	6	5	5	2	5	12	14	3	3	2	3	5	13	5	9	35	10	9	9	10	10	34	6	6	4	1
	UUU	15	0	7	6	6	8	3	3	14	11	5	4	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	6	2	10	17	1	1	1	1	5	13	5	2	21	1	11	11	20	7	9	4	4	3	0
ILE	AUA	4	0	4	4	4	1	1	1	8	6	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	9	0	0	0	0	0	5	0	1	8	0	3	3	7	2	2	0	0	0	3
	AUC	13	13	21	23	24	18	3	3	20	16	15	3	2	6	6	7	6	6	7	6	6	6	2	6	6	6	7	7	7	26	13	1	5	4	6	9	15	8	12	49	9	16	16	21	22	26	5	5	9	1
	AUU	12	1	10	9	9	10	3	3	20	17	4	1	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	1	14	18	1	0	1	0	1	5	1	0	39	2	6	6	22	13	3	4	4	1	1
MET	AUG	12	5	10	10	10	11	3	3	11	17	10	3	1	2	1	3	1	2	3	2	2	2	4	2	2	2	1	2	1	14	20	1	1	1	3	7	23	6	4	52	7	17	17	22	22	21	8	8	7	4
TRP	UGG	11	4	1	1	1	3	1	1	3	8	3	2	0	0	0	0	0	0	0	0	0	0	1	0	0	4	4	4	4	1	9	1	0	0	6	0	2	0	2	9	1	3	3	16	3	16	0	0	3	2
TER	UAA	1	1	0	0	0	0	1	1	0	0	0	0	1	1	1	0	1	0	0	0	0	1	1	1	1	1	1	0	0	0	1	1	0	1	1	0	1	0	1	0	0	0	1	1	0	0	0	0	0	1
	UAG	0	0	0	0	1	1	0	0	1	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0	1	0	1	0	0
	UGA	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	0	1	0	0	0	1	0	0	1	0	1	1	0	0
TOTAL		706	176	448	448	467	467	106	106	492	699	334	136	220	104	130	137	130	104	127	191	191	143	142	143	143	140	140	140	140	635	796	108	99	99	148	193	636	151	4171	941	169	387	387	623	531	706	225	225	303	66

22		CHK TRO A	CHK TUB 4B	CHK TUB B	CHK TUB Y CB3 *	CHK HB5	DUK HBA D	DUK HBA DA2	DUK HBA DWP	DUK SFA ST	DUK INS HF	FSA AFG I	FSB AFG II	FSB AFP A2*	FSB AFZ B	FSB G	FSB GHS AL	FSB HIS 1	FSB HIS 42B #1	FSB HIS 42B #2	FSB HMG T3	FSB INS AF	FSB INS C	FSB INS SAL	FSB PRC PC2	FSB PRC PC6	FSB PRO TP4	FSB PRO TA	FSB PRO TB1	FSB PRO TC	FSB PRO TD	FSB PRO TE	FSB SCP EEL	FSB SOM 14	FSB SOM 22	FSB SOM I	FSB SOM II	FSB UI	FSB UII A	FSB UII G	FSC ACH RA	FSC ACH RGS	FSC ATP A	FSC ATP BR	FSC ATP CK	LSE ERA AR	SMR HBA A	SNK BTX	SRA AFP	XEL ACA CR
ARG	CGA	2	0	3	3	0	2	0	0	0	1	0	0	1	0	0	2	0	0	0	1	1	1	0	0	0	0	0	1	2	2	2	2	4	1	0	0	0	2	1	0	2	1	4	1	1	0	0	0	0	0
	CGC	7	17	11	2	1	3	0	0	0	1	3	1	1	0	0	13	1	0	7	3	1	0	0	0	7	7	8	7	7	8	8	7	15	5	2	4	0	2	1	2	3	0	5	3	6	0	1	1	1	2
	CGG	3	2	2	2	2	6	0	0	0	0	1	2	1	0	0	3	2	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	5	1	1	3	5	1	0	0	0	2	5	0	4	0	0	1	1	0
	CGU	1	2	3	3	1	0	2	2	2	3	1	1	0	0	0	1	1	1	5	2	1	0	0	0	4	4	4	3	3	3	3	3	14	0	1	0	4	0	0	0	0	6	0	11	1	5	1	1	3	1	11
	AGA	2	0	0	5	4	1	1	0	1	2	0	4	7	2	2	0	2	0	1	0	3	3	2	2	4	4	3	5	5	4	3	3	23	0	2	2	2	2	3	3	1	9	8	5	1	0	2	4	2	3
	AGG	2	2	3	6	4	9	1	1	1	3	1	3	0	0	0	4	3	1	1	2	6	0	1	1	5	5	5	5	5	5	5	5	16	2	3	0	0	1	3	3	2	6	8	2	3	2	1	2	2	2
LEU	CUA	1	0	0	0	1	0	0	1	1	0	0	0	0	1	1	2	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	17	0	0	1	2	2	0	0	0	4	4	9	1	0	0	0	2	2
	CUC	5	10	6	12	8	4	4	4	4	1	3	2	4	2	0	14	6	4	2	1	0	2	1	5	0	0	0	0	0	0	0	0	37	7	8	8	3	8	6	4	4	12	16	4	11	1	3	2	2	5
	CUG	22	20	22	12	12	3	13	8	12	4	2	5	6	0	0	13	20	3	5	4	5	8	5	7	0	0	0	0	0	0	0	0	64	7	4	13	11	10	9	7	18	23	22	6	21	4	5	7	5	15
	CUU	2	0	2	2	5	0	0	0	0	7	4	4	3	2	0	2	0	0	1	0	0	1	2	1	0	0	0	0	0	0	0	0	28	1	2	0	0	1	1	3	6	9	18	6	2	0	2	4	2	2
	UUA	1	0	0	1	4	0	0	0	0	6	0	1	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	4	2	3	7	4	7	1	1	1	0	2	0
	UUG	1	3	2	6	6	0	1	0	1	6	5	1	1	1	0	3	4	0	0	1	0	1	2	1	0	0	0	0	0	0	0	0	25	0	1	1	2	2	0	0	7	10	25	7	1	1	2	5	3	3
SER	UCA	2	1	1	5	7	2	0	0	0	3	1	2	2	1	0	2	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	19	1	2	0	0	1	1	1	6	9	15	3	0	3	1	1	2	1
	UCC	3	7	5	4	4	11	1	3	1	2	2	3	4	0	0	5	3	7	1	7	6	1	1	1	1	1	1	3	3	2	3	3	22	2	1	9	6	3	2	3	4	7	11	3	5	0	4	1	4	13
	UCG	0	10	7	2	1	5	0	0	0	0	1	1	0	0	0	9	0	0	0	3	1	1	0	0	0	0	0	0	0	0	0	0	8	3	3	2	0	0	0	0	1	1	5	2	2	1	0	0	0	0
	UCU	3	1	2	7	8	0	2	2	2	6	0	0	2	1	1	3	4	1	1	2	3	4	2	3	0	0	0	0	0	1	0	0	19	3	1	0	2	1	3	3	8	6	16	2	3	1	0	7	6	5
	AGC	3	11	14	4	11	5	4	0	4	2	1	8	3	1	1	5	6	5	0	2	2	0	0	0	1	1	1	0	0	1	1	1	21	2	2	2	2	4	4	2	4	3	7	3	8	2	2	2	1	5
	AGU	2	2	0	6	3	0	1	1	1	6	2	1	3	0	0	1	4	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	23	0	1	0	2	0	1	2	10	3	15	5	1	1	3	4	1	0
THR	ACA	1	1	1	9	10	1	0	0	0	3	1	1	2	1	0	2	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	30	0	1	0	1	0	1	2	14	11	15	1	3	2	2	3	8	5
	ACC	6	14	15	9	5	1	3	5	3	3	4	2	3	3	9	8	4	5	6	9	2	0	0	1	0	0	0	0	0	0	0	0	26	1	0	3	1	4	0	0	4	4	14	5	7	3	2	2	5	15
	ACG	1	11	13	5	0	2	0	0	1	1	0	0	0	0	0	17	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	7	3	3	0	1	2	1	0	2	4	6	2	1	0	0	2	2	0
	ACU	0	1	1	6	6	1	0	1	0	4	0	1	1	3	1	1	2	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	29	1	1	1	1	1	2	1	10	8	29	4	6	4	3	5	5	6
PRO	CCA	0	0	0	11	4	2	0	1	0	5	5	0	1	2	1	1	2	2	0	1	4	2	2	2	0	0	0	1	0	0	0	0	21	0	3	0	2	0	1	2	9	7	17	6	5	0	1	1	2	4
	CCC	0	14	16	4	3	9	4	3	5	1	0	1	2	2	2	6	2	16	1	4	6	3	2	3	2	2	2	2	1	2	2	2	26	3	1	2	2	3	1	1	2	6	8	3	6	2	0	7	1	10
	CCG	0	4	3	0	1	5	0	0	0	1	0	1	0	0	0	4	0	1	0	0	3	1	1	0	0	0	0	0	0	0	0	0	4	0	2	1	1	0	3	2	1	2	5	2	1	1	1	2	3	2	0
	CCU	0	1	1	6	4	1	1	1	0	7	0	0	1	1	1	1	2	0	0	0	1	0	3	1	0	0	0	1	1	1	1	1	23	0	3	2	1	3	5	5	8	9	18	8	5	1	2	7	4	5
ALA	GCA	3	0	1	9	10	1	2	0	2	5	6	4	4	7	14	0	2	14	0	4	1	2	3	3	0	0	0	0	0	0	0	0	29	3	1	0	1	2	3	4	4	9	26	7	0	0	2	8	5	1
	GCC	17	23	20	10	6	23	10	9	10	3	2	0	1	25	40	11	3	31	5	7	8	4	5	3	1	1	1	0	0	1	0	0	39	8	3	11	4	1	1	1	2	4	14	1	5	0	9	3	4	16
	GCG	7	2	2	3	1	6	1	3	1	0	2	0	0	0	0	8	2	9	0	1	4	3	0	1	0	0	0	0	0	0	0	0	4	5	0	0	4	4	1	1	0	4	3	0	4	0	1	3	2	0
	GCU	5	4	4	7	7	3	6	9	6	4	2	4	1	5	0	0	1	4	2	0	3	4	4	3	0	0	0	0	0	0	0	0	32	2	3	1	3	0	3	2	8	7	38	2	5	0	3	3	13	12
GLY	GGA	1	2	2	11	8	0	1	0	1	8	5	2	2	1	0	8	2	1	6	3	2	2	1	2	1	1	1	1	1	1	1	1	25	0	1	3	2	3	1	2	9	7	27	9	3	3	1	8	3	2
	GGC	3	20	25	11	4	5	6	5	6	2	2	0	3	0	0	20	3	7	6	5	2	4	1	1	1	1	1	1	0	0	1	0	28	3	1	2	3	3	5	4	3	4	12	7	19	0	2	4	2	3
	GGG	2	8	5	6	4	4	0	0	0	2	0	1	0	0	0	9	4	0	1	1	3	0	1	2	0	0	0	0	0	0	0	0	20	0	0	3	0	2	1	2	3	4	7	1	3	1	1	3	1	3
	GGU	0	4	3	6	4	1	0	4	0	2	0	3	1	1	1	3	1	1	4	0	2	3	4	1	0	0	0	0	0	0	0	0	15	1	1	0	0	1	2	2	6	5	25	12	11	2	1	5	6	20
VAL	GUA	0	0	0	3	3	0	0	0	0	5	0	0	0	0	0	0	1	2	0	0	1	1	1	3	0	0	0	0	0	0	0	0	20	1	1	0	0	0	2	0	10	6	10	6	2	0	2	2	2	1
	GUC	5	8	7	7	7	2	2	5	2	2	0	2	1	0	1	5	9	7	3	3	3	5	3	0	1	1	0	1	1	1	1	1	39	3	4	1	0	4	4	4	5	15	14	2	11	1	3	6	3	8
	GUG	8	23	21	13	7	4	9	7	7	2	5	3	2	0	0	17	4	6	4	5	4	4	3	4	1	1	1	1	1	1	1	1	56	2	4	1	2	2	2	2	15	5	25	3	10	5	5	6	1	9
	GUU	0	0	1	8	6	1	1	2	1	5	1	2	0	1	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	20	0	2	0	2	1	2	1	14	9	20	7	4	0	2	2	2	3
LYS	AAA	9	0	0	6	14	9	2	2	2	12	1	4	3	2	2	4	2	6	3	4	3	0	3	3	0	0	0	0	0	0	0	0	29	4	1	3	2	3	4	3	12	17	28	14	6	3	6	6	5	4
	AAG	25	16	15	9	11	37	9	10	9	3	5	6	3	0	0	18	10	57	8	15	31	4	2	3	0	0	0	0	0	0	0	0	66	1	1	3	2	3	1	2	11	12	28	12	25	2	7	7	0	15
ASN	AAC	5	19	21	9	11	0	4	3	4	4	4	4	5	2	2	16	13	3	2	3	5	4	4	4	0	0	0	0	0	0	0	0	62	1	6	3	5	8	1	1	2	15	18	5	14	3	2	7	2	7
	AAU	1	2	2	14	13	0	1	0	1	6	1	0	2	0	0	3	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	29	1	1	0	0	1	2	3	13	13	28	11	3	1	2	9	3	5
GLN	CAA	1	3	1	5	1	0	0	1	0	3	2	1	2	1	0	3	4	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	18	1	0	0	0	2	0	1	10	7	12	5	0	3	0	3	4	3
	CAG	17	18	21	17	4	5	8	3	8	1	0	4	5	0	0	25	9	1	2	2	2	6	4	4	0	0	0	0	0	0	0	0	36	4	2	4	8	5	3	3	3	10	24	9	11	1	0	4	7	9
HIS	CAC	2	8	10	7	1	3	3	8	4	6	1	3	2	0	0	11	4	0	2	3	2	2	2	3	0	0	0	0	0	0	0	0	7	0	0	2	1	5	0	1	7	5	6	1	13	1	0	5	3	3	6
	CAU	0	3	0	3	6	0	4	2	3	5	1	0	1	0	0	2	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	10	0	1	0	0	0	1	2	2	7	3	9	3	1	1	6	3	1	3
GLU	GAA	9	1	5	21	17	1	4	1	4	16	3	1	2	2	1	4	3	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	53	2	4	1	:	3	3	3	3	14	25	41	14	8	2	6	8	2	13
	GAG	56	36	31	15	16	1	5	5	5	5	3	8	4	0	0	18	6	4	4	7	18	4	4	5	0	0	0	0	0	0	0	0	73	9	6	9	11	6	4	4	9	15	22	6	18	2	1	2	5	15
ASP	GAC	10	20	19	10	7	3	6	6	6	3	3	7	8	4	2	27	10	1	2	1	18	7	2	4	0	0	0	0	0	0	0	0	50	2	1	5	6	7	2	2	4	13	18	4	20	1	4	6	5	12
	GAU	5	6	7	15	9	0	0	1	0	8	5	3	1	0	1	10	3	0	1	1	11	0	3	2	0	0	0	0	0	0	0	0	44	1	0	0	0	2	6	5	22	10	39	10	10	1	5	6	6	10
TYR	UAC	2	16	16	6	6	4	5	3	5	5	4	3	3	0	0	16	6	1	4	5	4	3	2	3	0	0	0	0	0	0	0	0	34	1	1	1	0	1	2	2	6	12	10	8	7	1	3	6	0	11
	UAU	2	1	0	9	7	0	0	1	0	5	1	0	1	0	0	3	0	0	0	0	3	0	1	1	0	0	0	0	0	0	0	0	27	0	0	0	1	2	2	2	11	6	16	11	2	1	3	4	2	5
CYS	UGC	1	7	8	6	1	0	1	2	1	3	5	1	0	0	0	10	3	0	0	0	2	4	2	3	0	0	0	0	0	0	0	0	19	3	4	1	0	1	3	3	5	12	4	6	5	0	2	5	5
	UGU	0	1	0	2	4	0	0	0	0	5	1	0	0	0	0	0	2	0	0	0	0	2	4	3	0	0	0	0	0	0	0	0	17	1	0	0	4	1	3	2	7	4	11	3	1	4	2	10	7	1
PHE	UUC	0	21	18	13	13	0	7	7	7	6	3	2	0	2	0	16	7	1	2	2	7	6	4	4	0	0	0	0	0	0	0	0	70	4	1	5	3	2	4	4	5	20	22	7	15	1	5	7	3	9
	UUU	1	1	5	11	10	0	1	1	1	11	1	2	4	1	0	3	2	0	0	0	2	1	3	1	0	0	0	0	0	0	0	0	57	0	1	0	0	1	0	0	17	6	20	9	1	1	1	2	1	3
ILE	AUA	2	1	0	4	4	0	0	0	0	8	3	0	0	0	0	1	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	31	0	1	0	0	0	0	0	6	6	18	5	2	2	1	6	1	0
	AUC	4	17	19	10	10	6	1	5	1	1	3	4	3	1	1	18	7	2	5	6	3	2	2	1	0	0	0	0	0	0	0	0	70	1	0	1	2	4	1	1	13	19	29	7	13	1	2	7	7	22
	AUU	3	1	0	5	10	0	0	1	0	7	0	0	0	1	0	2	2	0	1	1	1	0	1	1	0	0	0	0	0	0	0	0	47	1	0	0	0	0	2	3	29	21	41	8	3	2	4	8	2	8
MET	AUG	8	19	18	19	19	2	3	3	4	5	2	4	6	2	1	8	5	1	2	3	5	4	1	3	1	1	1	1	1	1	1	1	71	3	4	3	4	5	3	3	16	9	21	3	11	1	4	6	10	15
TRP	UGG	0	4	4	4	4	0	1	0	1	4	0	1	3	1	0	10	1	0	0	0	2	2	1	1	0	0	0	0	0	0	0	0	31	1	2	1	3	0	2	2	11	11	12	4	5	1	1	4	7	4
TER	UAA	0	0	0	1	1	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	1
	UAG	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	1	0	1	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	1	0	1	1	0	0	0
	UGA	1	1	1	0	0	1	1	0	1	1	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0
TOTAL		285	450	446	447	389	195	142	143	142	252	116	125	123	83	86	433	211	208	104	125	205	117	109	106	32	32	32	34	34	34	34	34	1021	115	106	122	126	146	126	126	462	507	1023	306	382	84	143	256	196	378

/ INVERTEBRATES

23	XEL BGL 2R	XEL CAM A	XEL CAM B	XEL CRL C	XEL CRL E	XEL CRL F	XEL CRL G	XEL HBA 2M	XEL HBA T3X	XEL HBA T4X	XEL HBA T5X	XEL HBB C	XEL HBB I	XEL HBB 4	XEL HIS 70B	XEL HSP MYC	XEL PYL A	XEL PYL AB	XEL SRB P	XEL TFI IIA	XEN XER 2C	AGA ACT I	AME MEL	AME SEC	APL NP	APL NPL 11	APL NPR 3	APL RHO A	APO CHR E1	BMO CHR HCA #1	BMO CHR HCA #2	BMO CHR HCP #2	CEL COL 1G	CEL COL 2G	CEL HSP 16C #1	CEL HSP 16C #2	CEL HSP 16C #3	CEL HSP 16C #4	CEL HSP 16D #1	CEL HSP 16D #2	CEL HSP 10B	CEL HSP 3L4	CEL MTU NC	CEL VIT 5	CHI VIT V	CLM CTC A	CRB CRP A	DRO ACT 79B
ARG	CGA	0	0	1	8	5	8	4	0	0	0	0	0	0	0	3	2	1	1	2	3	2	0	0	1	2	1	2	2	1	0	1	1	1	1	0	1	1	0	0	0	0	2	3	0	5	1	0
	CGC	0	0	0	7	7	8	4	0	0	0	0	2	2	0	6	5	4	0	0	1	4	2	13	14	0	0	3	1	2	2	1	1	0	0	2	2	0	0	0	0	1	1	1	1	48	34	0	0	0	12
	CGG	0	1	0	1	1	1	3	0	0	0	0	0	0	0	3	1	7	0	0	0	2	0	0	0	0	1	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
	CGU	1	2	2	7	3	6	6	1	0	0	1	2	2	2	1	1	0	3	3	3	2	0	7	3	1	0	4	1	4	2	0	2	1	1	4	4	4	2	2	4	2	4	6	6	50	45	2	2	0	6
	AGA	1	2	1	0	0	0	0	1	3	3	1	1	1	0	1	12	2	0	0	8	6	1	7	0	0	4	1	1	1	3	2	1	1	1	2	0	3	2	2	3	2	3	1	1	25	14	0	9	1	0
	AGG	1	1	2	0	0	0	0	1	0	0	1	0	0	1	0	2	3	7	9	0	0	4	3	0	6	1	1	1	0	7	0	2	1	0	1	1	1	0	0	0	0	0	1	0	1	0	0	1	0	0
LEU	CUA	0	0	0	3	2	3	3	0	0	0	1	3	3	1	0	5	1	1	1	3	3	1	3	0	0	1	1	1	1	2	0	0	1	1	0	0	1	2	2	1	1	2	0	0	0	0	0	2	4	3
	CUC	3	0	1	1	1	1	1	2	2	2	4	1	1	2	5	4	8	2	2	1	3	1	6	18	1	0	4	7	4	2	3	3	2	2	4	0	2	4	4	2	6	1	1	1	101	44	4	5	2	3
	CUG	6	2	1	3	2	3	3	5	11	9	7	4	4	8	3	18	16	1	1	1	6	1	30	8	1	0	5	5	5	5	2	2	0	0	0	0	0	0	0	0	0	1	0	0	3	2	0	4	6	18
	CUU	2	3	3	2	2	2	2	2	3	4	0	3	3	2	0	9	3	1	1	6	3	2	5	3	1	2	0	4	0	5	2	2	1	1	3	1	4	3	3	4	3	5	4	4	67	76	3	10	7	2
	UUA	0	3	3	8	6	8	8	0	0	0	0	0	0	1	0	5	3	1	0	3	5	3	2	0	2	3	0	0	0	0	6	0	0	0	0	0	2	1	1	2	2	0	0	0	0	1	0	6	4	0
	UUG	2	1	1	2	2	2	2	6	2	2	3	4	4	2	0	7	6	0	0	5	5	1	5	0	1	1	1	3	0	1	1	1	1	1	2	2	2	2	2	3	0	0	37	18	3	18	3	2
SER	UCA	2	1	1	3	1	2	2	2	0	0	0	1	1	2	0	4	2	1	0	1	6	1	6	0	0	3	3	1	3	0	2	0	0	0	1	3	7	6	6	7	6	7	2	1	5	13	9	6	3	1
	UCC	2	0	0	0	0	0	0	2	3	4	5	0	0	3	0	9	12	0	0	1	3	0	14	6	0	0	4	3	4	0	4	0	3	3	4	2	0	1	1	0	2	1	1	2	50	38	0	3	0	16
	UCG	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	7	1	2	0	3	0	3	17	0	0	0	1	0	0	1	0	2	2	2	1	2	2	1	3	2	1	1	1	3	3	0	1	3	4
	UCU	2	0	0	4	3	4	4	2	3	4	4	3	3	3	2	8	13	1	1	2	5	1	9	1	1	2	0	2	0	4	3	1	0	0	2	3	8	10	10	8	7	6	0	0	35	51	0	11	4	2
	AGC	2	1	2	0	0	0	0	3	1	1	3	2	2	5	0	9	21	0	0	0	4	2	20	0	0	2	0	3	0	1	2	0	2	2	0	0	0	0	0	0	0	0	0	0	10	9	2	2	3	2
	AGU	3	1	0	0	0	0	0	1	2	3	2	2	2	0	0	4	10	0	0	2	1	1	7	0	1	0	0	5	0	3	6	1	1	1	0	1	0	0	0	0	0	0	0	0	3	4	0	4	5	0
THR	ACA	1	8	6	5	4	5	2	0	1	2	0	3	3	0	0	21	2	0	0	4	7	0	7	0	1	1	2	3	2	5	2	0	0	0	0	1	1	0	0	1	2	0	0	0	1	5	5	18	3	0
	ACC	1	2	2	0	0	0	0	4	6	5	3	3	3	2	5	12	4	1	1	4	3	0	14	22	1	0	2	0	2	3	6	2	2	2	10	4	0	0	0	0	0	0	0	8	7	47	49	2	3	5	20
	ACG	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0	0	1	0	1	0	1	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	4	4	1
	ACU	4	2	2	0	0	1	0	3	3	3	3	2	2	1	2	7	1	0	0	2	11	1	4	3	0	1	1	2	1	0	10	0	2	2	4	4	3	3	3	3	3	1	1	1	1	18	43	2	2	5	2
PRO	CCA	0	1	1	2	2	2	2	1	0	0	0	1	1	0	0	6	5	0	0	2	5	3	1	0	2	3	1	1	1	5	3	0	0	0	72	55	6	5	5	6	4	6	9	9	28	61	2	11	1	3
	CCC	1	0	0	0	0	0	0	0	2	2	2	1	1	1	0	5	16	0	0	0	4	0	3	15	1	0	0	7	0	0	0	2	0	0	0	2	2	1	1	2	0	0	0	0	3	0	1	5	2	12
	CCG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8	0	0	1	1	0	0	3	3	1	0	2	0	2	4	0	0	0	2	1	0	0	0	0	2	0	1	1	0	2	0	2	2	4
	CCU	2	1	1	3	2	3	3	5	1	2	2	1	1	2	1	11	4	0	0	0	8	2	0	1	1	1	4	0	2	0	4	0	1	2	2	2	1	0	0	0	0	1	1	0	0	7	5	2	7	5	0
ALA	GCA	1	6	5	6	6	7	8	2	2	2	1	1	1	0	1	15	2	9	9	3	8	5	8	0	4	2	1	4	1	2	2	0	0	0	4	5	2	2	2	1	1	2	1	0	7	5	1	12	1	2
	GCC	9	0	1	3	2	3	3	4	7	6	8	9	9	4	16	9	0	0	0	5	2	1	13	23	3	1	4	6	4	2	7	1	3	3	16	12	1	0	0	1	1	1	3	4	102	28	11	2	2	21
	GCG	0	0	0	2	1	2	1	0	0	0	1	0	0	0	0	0	7	1	0	1	2	0	3	2	4	0	4	3	4	4	5	0	0	0	0	0	2	0	0	2	0	2	2	1	2	1	1	0	2	3
	GCU	7	5	5	12	8	12	12	9	14	13	11	7	7	10	2	21	4	5	6	6	3	3	9	4	0	1	2	1	2	5	3	2	5	5	11	17	3	2	2	3	4	5	5	5	73	46	13	16	6	4
GLY	GGA	4	3	2	13	9	13	10	2	5	5	5	4	4	3	7	15	3	4	4	3	7	3	13	1	3	0	0	3	0	3	2	14	8	8	57	71	5	6	6	5	4	3	6	7	64	41	11	7	8	2
	GGC	5	5	5	7	5	7	2	3	2	2	2	3	3	4	7	15	0	0	0	4	10	2	18	16	0	0	4	1	4	2	1	10	10	10	0	5	1	0	0	1	0	0	1	1	3	0	0	2	2	17
	GGG	0	2	3	1	1	1	1	0	0	0	0	1	1	1	3	8	3	0	0	5	1	1	5	0	0	0	0	0	0	1	2	1	1	1	1	0	0	0	0	0	2	0	0	0	0	1	0	2	4	0
	GGU	3	1	1	12	9	11	10	1	0	0	1	4	4	0	0	16	1	0	0	1	0	0	8	13	1	1	4	0	4	4	13	14	13	13	2	2	2	0	0	2	0	4	2	1	21	2	2	4	7	10
VAL	GUA	2	3	2	2	1	2	2	1	0	0	0	0	0	2	0	8	3	0	0	1	2	1	2	0	1	0	0	2	0	2	4	0	1	1	0	0	0	1	1	0	1	1	0	0	5	1	0	5	3	4
	GUC	4	0	2	3	2	3	3	2	1	1	1	1	1	4	4	7	7	1	1	6	2	1	8	15	2	2	4	3	4	3	2	3	6	6	6	4	1	1	1	1	2	3	2	2	51	46	5	6	1	8
	GUG	3	1	0	2	2	2	2	2	3	3	4	4	4	7	3	27	7	0	0	5	8	1	10	6	1	1	3	2	3	6	2	4	2	2	3	2	0	0	0	0	0	2	2	6	2	0	8	3	10
	GUU	8	3	3	0	0	0	0	4	4	3	4	0	0	3	2	7	6	1	1	2	5	2	6	2	3	5	2	1	2	8	7	2	1	1	3	10	8	6	6	8	3	6	5	5	27	68	5	8	9	1
LYS	AAA	3	3	2	7	5	7	7	6	2	2	4	2	2	3	3	25	11	4	6	7	23	4	8	0	2	3	2	3	2	10	9	0	1	1	2	5	4	11	11	4	9	7	1	1	6	16	4	17	10	0
	AAG	8	5	6	3	2	3	3	8	7	7	7	6	6	7	8	26	16	2	0	6	20	3	23	19	2	2	0	2	0	9	0	1	1	1	9	9	6	2	2	6	4	3	7	7	189	108	6	13	4	19
ASN	AAC	4	3	4	2	1	2	3	4	3	4	1	4	4	5	1	9	15	0	0	8	7	1	19	9	1	2	4	4	4	0	1	3	3	6	5	1	2	2	1	2	2	7	7	84	56	4	8	5	8
	AAU	4	3	2	6	5	6	6	3	2	0	2	1	1	3	1	23	2	0	0	4	6	1	7	0	0	2	0	0	0	2	5	2	2	2	1	7	5	7	7	5	8	4	2	2	7	17	0	7	7	1
GLN	CAA	3	4	4	14	10	14	8	0	1	1	2	2	2	1	0	10	5	1	1	0	3	3	5	1	1	1	2	3	2	2	3	1	0	0	4	4	8	4	4	8	4	7	5	5	103	90	5	17	8	3
	CAG	4	2	2	1	1	1	1	2	3	3	1	2	2	2	2	22	20	0	0	3	7	0	23	10	1	0	2	5	2	3	0	2	1	1	2	1	3	0	0	3	0	2	1	1	39	10	0	9	4	10
HIS	CAC	0	0	1	0	0	0	0	4	5	6	3	5	5	4	2	5	7	0	0	1	9	0	0	10	0	1	5	5	5	1	0	0	0	0	3	1	1	1	1	1	1	1	2	2	25	25	2	4	6	9
	CAU	6	1	0	2	1	2	1	6	3	2	6	6	6	4	0	2	3	0	0	2	16	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	2	4	4	2	4	1	0	0	13	8	2	6	8	1
GLU	GAA	3	17	16	15	10	14	13	2	2	1	3	4	4	4	1	27	17	0	0	6	12	4	20	0	3	3	4	2	4	5	13	1	2	2	3	2	12	9	9	12	8	10	2	2	87	66	1	19	12	4
	GAG	3	4	5	0	0	0	0	3	4	4	2	5	5	3	3	22	22	1	2	6	10	2	26	28	4	0	3	3	3	11	1	2	1	1	10	6	1	3	3	1	3	3	3	3	156	106	0	9	5	24
ASP	GAC	2	6	10	8	6	8	4	5	4	4	4	2	7	1	2	22	15	3	3	8	6	0	14	18	1	0	5	7	5	8	1	1	1	1	7	7	0	2	2	0	1	0	5	5	67	31	5	8	3	16
	GAU	3	11	7	21	14	21	17	6	7	7	5	5	5	7	1	23	9	4	3	7	10	4	11	3	1	3	3	2	3	7	3	0	2	2	2	5	8	9	9	8	9	9	5	5	57	27	7	19	4	4
TYR	UAC	2	0	2	4	3	4	1	2	3	3	3	3	3	1	3	6	9	2	2	6	5	1	13	14	2	1	2	1	2	3	1	1	2	2	4	0	1	1	1	1	1	1	3	3	27	45	1	7	4	10
	UAU	1	2	0	0	0	0	0	2	1	1	0	5	5	1	1	7	2	0	0	4	6	1	7	1	1	1	0	0	0	3	3	1	0	0	3	6	2	1	1	2	2	2	1	1	4	8	1	8	1	6
CYS	UGC	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	4	5	0	0	4	12	0	0	4	0	0	3	0	1	0	25	16	16	7	6	1	0	0	1	0	1	1	1	1	13	19	1	0	2	6
	UGU	0	0	0	1	1	1	1	0	0	0	0	1	1	0	0	3	5	2	2	3	11	2	0	0	0	3	1	1	1	5	4	10	16	16	2	3	0	0	0	0	0	0	1	1	4	1	0	5	4	1
PHE	UUC	3	4	4	2	1	2	4	5	5	5	7	4	4	6	2	13	6	1	1	4	7	0	13	11	1	2	3	2	3	3	0	2	3	3	4	4	2	4	4	2	3	1	4	4	54	59	14	7	6	11
	UUU	4	4	4	13	10	13	8	4	2	2	2	3	3	2	0	13	9	0	1	4	10	1	4	2	1	1	4	1	3	1	1	0	0	1	2	4	5	5	4	5	5	1	1	0	11	1	9	5	1
ILE	AUA	0	1	1	1	1	1	1	1	0	1	1	1	1	0	0	4	2	1	1	2	3	4	1	0	1	2	0	2	0	6	4	0	1	1	0	0	1	0	0	1	0	0	0	0	0	1	0	8	5	0
	AUC	2	4	4	0	0	0	0	2	4	4	2	2	2	3	5	19	7	1	1	3	3	1	8	24	1	0	1	1	1	2	0	3	3	3	2	6	0	1	1	0	1	4	5	5	64	51	6	7	3	25
	AUU	5	3	3	3	2	3	3	2	1	2	4	4	4	3	1	18	5	4	4	4	0	1	10	3	3	0	1	1	1	2	3	0	1	1	2	2	8	10	10	8	9	6	2	2	17	40	3	5	4	2
MET	AUG	1	10	10	5	4	5	3	5	1	1	2	2	1	2	11	4	3	3	4	3	2	13	16	2	1	3	1	3	5	3	1	2	2	4	2	4	3	3	3	4	3	4	3	3	36	35	4	12	4	16
TRP	UGG	4	0	0	4	3	4	1	0	2	2	2	3	3	3	0	2	2	0	0	2	2	2	1	4	1	0	2	2	2	2	1	0	0	0	0	1	0	1	1	1	0	1	0	2	2	16	14	1	3	6	4
TER	UAA	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	0	0	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	1	1	0	1
	UAG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	.	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	1	0
	UGA	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		148	150	150	235	170	234	189	143	143	143	143	147	147	148	104	648	420	65	65	198	345	82	503	376	71	78	109	152	109	193	170	125	132	132	297	302	146	144	144	146	144	146	128	128	1967	1604	152	423	243	377

24		DRO ACT 88F	DRO ADH C	DRO ADH G	DRO ADH GK	DRO ADH CF	DRO ANT PG5	DRO C1A 9	DRO GAR T81	DRO GAR T82	DRO GAR T83	DRO ESP 671	DRO HSP 672	DRO HSP 673	DRO HSP 674	DRO HSP 7A2	DRO HSP 7D1	DRO IS2 97	DRO MET	DRO MET G	DRO MYL	DRO MYL ALK	DRO MYL ALK	DRO NOT CH	DRO NOT CH3	DRO OPS A	DRO OPS B5*	DRO PER	DRO PRD	DRO RAS 1	DRO RAS 22*	DRO RP4 9	DRO SRY GI6	DRO SRY GI8	DRO SRY GI9	DRO TRO 10*	DRO TRO 15*	DRO TRO PI2	DRO TRO PI2	DRO TRY A	DRO WL	DRO YP1 2@1	DRO YP1 2@2	DRR ADH G	HCE DHF RTS	LEI TSD HFR	LEI CRP B	LPO C	LPO CRP	OFA ACT IN
							*									#1						#1	#2		*				1			1	2	3			#1	#2											
ARG	CGA	1	0	0	0	0	3	2	2	2	11	3	1	0	1	0	4	4	6	0	0	0	0	0	18	19	0	0	5	2	1	0	1	0	4	1	0	0	0	0	0	10	2	0	0	1	2	2	1	1	0
	CGC	10	5	5	5	5	6	8	4	5	17	5	2	10	6	6	21	20	0	0	0	3	3	2	24	23	7	7	18	16	4	6	12	9	6	12	11	12	12	12	4	5	12	8	4	1	26	26	0	1	1
	CGG	0	0	0	0	0	1	3	1	4	14	2	2	1	0	1	3	2	2	0	0	0	0	0	17	17	1	1	8	2	3	1	0	6	7	3	2	0	0	0	0	11	0	0	0	0	5	5	0	0	0
	CGU	6	0	0	0	0	3	1	1	3	14	0	2	1	1	6	2	2	3	0	0	1	1	1	19	18	0	0	6	6	1	1	1	1	1	0	11	4	3	4	2	2	10	9	1	0	1	1	1	1	0
	AGA	0	0	0	0	0	1	0	1	1	3	1	0	0	0	0	4	4	11	0	0	0	0	2	10	7	0	0	2	3	2	0	4	0	1	2	0	0	0	0	0	3	0	1	0	0	0	0	1	1	20
	AGG	1	0	0	0	0	2	2	1	1	4	1	2	0	1	1	2	2	4	0	0	0	0	0	10	11	1	0	5	4	2	3	2	5	10	3	1	0	2	1	0	9	7	4	0	1	2	3	0	0	0
LEU	CUA	0	0	0	0	0	0	2	1	3	11	0	1	1	0	1	3	3	8	0	0	1	1	2	16	15	0	0	3	4	1	1	0	0	6	3	2	1	1	1	0	8	0	0	0	1	3	3	4	4	3
	CUC	2	3	3	2	3	5	1	1	4	19	1	4	4	1	1	14	13	2	0	0	2	2	3	16	16	4	3	14	2	2	3	2	8	11	8	6	2	1	2	4	20	2	5	2	0	18	18	3	2	13
	CUG	24	21	20	21	21	14	8	1	26	75	8	7	4	7	13	24	21	5	0	0	11	11	10	67	68	25	23	32	14	9	7	8	14	43	19	16	22	22	21	10	38	23	21	21	1	25	23	5	5	1
	CUU	0	0	0	0	0	0	0	1	3	14	2	0	4	1	0	2	2	7	0	0	1	1	1	7	6	0	1	4	4	0	0	0	1	5	0	5	2	1	2	0	10	3	1	0	0	5	5	7	7	8
	UUA	2	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	6	0	0	0	0	0	3	3	0	0	0	0	0	1	1	0	2	0	1	0	0	0	0	3	0	0	0	1	1	1	5	5	1
	UUG	1	3	4	3	3	2	4	0	10	40	2	1	4	6	4	6	8	2	0	0	5	5	5	40	41	1	2	3	6	0	4	0	3	11	2	5	2	3	2	3	12	4	5	3	2	4	6	4	4	6
SER	UCA	1	0	0	2	0	3	1	3	0	8	2	0	0	0	3	1	1	3	0	0	1	1	1	17	17	2	2	3	5	0	0	2	0	6	0	0	0	0	0	2	5	0	0	0	0	2	0	0	3	11
	UCC	11	5	5	4	5	4	6	3	2	11	5	5	4	4	2	16	15	2	3	3	1	1	1	30	30	11	11	44	26	3	2	0	4	16	17	5	12	14	12	20	16	13	8	3	0	8	7	1	1	5
	UCG	11	2	2	0	1	10	6	2	4	15	3	4	8	7	4	3	4	5	0	0	0	0	0	69	69	7	6	25	20	2	2	4	7	4	8	0	2	2	2	1	16	2	3	1	1	6	7	3	3	0
	UCU	0	0	0	0	0	2	1	3	2	9	0	0	1	0	0	3	5	6	1	1	1	1	1	6	6	2	2	2	7	1	0	1	0	0	1	4	0	0	0	0	7	3	3	1	2	0	1	1	3	3	4
	AGC	1	2	2	3	2	19	5	7	11	23	1	3	2	2	5	11	9	5	2	2	2	2	1	45	47	9	7	39	15	0	3	1	6	12	7	1	0	0	0	16	10	9	14	4	0	6	6	2	2	7
	AGU	0	0	0	0	0	3	3	1	5	17	3	4	2	0	0	1	3	2	0	0	0	0	0	41	41	0	0	15	14	1	2	0	0	8	0	0	0	0	0	1	6	1	0	0	0	1	1	5	5	1
THR	ACA	0	0	0	0	0	5	5	4	5	11	3	1	0	0	0	8	8	13	0	0	0	0	0	25	26	2	2	18	6	3	1	0	1	0	2	0	1	1	1	0	8	0	0	0	1	3	4	5	4	2
	ACC	22	22	22	22	22	28	6	3	9	22	8	5	2	2	6	19	19	4	1	1	4	4	4	44	45	10	9	33	18	4	2	5	13	12	13	8	13	12	12	9	16	25	22	21	0	8	8	3	4	11
	ACG	3	2	2	2	2	6	7	2	2	17	6	0	0	0	1	9	10	2	0	0	0	0	0	60	60	4	4	36	7	2	3	3	3	6	9	0	0	0	0	0	13	2	0	3	0	16	16	5	5	0
	ACU	1	3	3	3	3	3	1	2	1	5	0	1	2	1	2	5	4	6	0	0	0	0	0	9	9	0	1	13	4	1	0	0	0	6	2	0	1	0	1	2	4	3	0	2	0	2	2	4	4	10
PRO	CCA	4	2	2	1	1	6	6	1	5	14	0	3	1	3	2	5	5	12	1	1	1	1	3	20	20	5	4	7	11	1	1	4	1	4	1	0	0	0	0	2	13	1	1	1	1	2	2	2	2	9
	CCC	11	8	8	9	9	20	13	4	9	27	7	3	9	8	7	9	10	7	0	0	5	5	5	37	37	8	7	33	19	2	5	5	6	7	8	0	0	0	0	3	9	10	18	8	0	3	3	2	2	5
	CCG	1	1	1	0	0	11	13	2	7	20	5	7	4	2	6	4	4	4	0	0	0	0	0	82	82	6	7	40	22	1	0	1	7	2	4	0	0	0	0	0	18	1	1	1	2	22	22	1	1	1
	CCU	3	0	0	1	1	2	6	2	1	11	1	1	1	0	1	6	6	6	1	1	1	1	0	6	6	1	1	2	4	1	0	1	0	1	0	0	0	0	0	2	1	2	2	0	0	3	3	5	5	0
ALA	GCA	1	1	1	1	1	2	0	2	5	22	3	3	4	2	2	13	11	4	0	0	0	0	0	32	33	3	3	15	13	2	1	1	2	7	0	1	1	0	1	0	3	0	2	2	1	5	4	1	1	0
	GCC	18	15	15	16	16	20	8	10	23	62	7	7	5	6	7	26	25	5	3	3	3	3	4	89	90	28	26	36	30	7	6	2	11	19	10	24	21	22	21	12	36	20	26	16	1	14	14	2	2	14
	GCG	3	1	1	2	2	1	6	3	10	20	1	2	1	1	1	9	8	4	0	0	2	2	2	46	44	3	2	35	7	3	2	1	5	6	3	2	0	1	1	0	9	1	3	2	3	26	26	4	4	0
	GCU	7	6	6	5	5	8	0	0	17	40	1	1	2	2	2	13	14	0	0	0	4	3	3	23	23	5	5	4	12	0	2	1	0	10	2	14	3	3	2	14	4	5	7	4	4	3	3	6	6	9
GLY	GGA	1	5	5	4	5	1	9	4	13	41	1	1	6	5	3	20	19	6	4	4	1	1	1	72	73	7	6	39	13	4	1	3	1	5	0	1	1	0	1	11	11	10	7	3	2	3	3	7	7	9
	GGC	12	8	8	7	7	7	13	4	20	52	9	6	8	7	9	24	24	0	3	3	6	6	6	138	138	13	14	57	20	9	3	0	8	10	13	3	2	4	2	9	27	18	15	10	1	17	17	2	2	1
	GGG	0	0	0	0	0	2	6	0	1	8	1	0	0	0	0	4	1	2	1	0	0	0	0	8	9	1	1	17	4	1	0	0	1	2	2	0	0	0	0	0	6	1	0	0	0	5	5	4	4	0
	GGU	16	6	6	7	7	2	8	0	11	31	1	1	1	2	4	10	9	3	0	0	3	3	3	69	68	3	2	16	9	0	2	3	0	1	0	1	0	0	0	9	7	7	11	6	2	7	7	8	8	15
VAL	GUA	2	0	0	1	0	2	0	0	1	5	2	0	0	0	2	3	6	2	0	0	0	0	0	7	6	2	2	4	6	1	0	0	1	3	0	0	0	0	0	5	0	0	1	0	2	2	3	3	3
	GUC	5	9	9	10	9	5	6	0	3	26	0	4	5	5	5	10	10	3	0	0	7	8	5	26	26	9	9	27	9	3	5	4	6	10	8	5	5	5	5	15	13	8	9	10	2	11	11	1	1	8
	GUG	13	10	10	9	10	10	6	4	23	55	11	8	12	12	10	24	21	1	0	0	1	1	1	49	49	9	9	23	14	7	6	3	13	17	19	2	10	9	9	8	28	13	14	11	1	18	17	4	4	0
	GUU	1	3	3	3	3	0	6	2	5	25	1	3	3	2	0	3	3	0	0	0	3	3	3	18	18	0	0	3	2	2	0	0	1	6	2	7	3	3	3	5	4	7	8	1	3	3	3	8	8	12
LYS	AAA	2	2	2	2	2	3	1	4	6	16	0	4	0	3	3	4	6	17	2	2	1	1	2	28	29	4	4	3	4	6	2	1	5	4	1	7	4	2	4	0	10	1	0	2	5	1	1	9	9	4
	AAG	17	16	16	16	17	16	9	14	24	58	4	8	14	9	10	42	40	2	3	3	11	11	11	70	69	16	16	62	8	10	11	13	28	16	29	19	31	32	31	5	14	20	26	17	2	26	24	7	7	15
ASN	AAC	8	14	14	14	14	7	16	3	4	17	5	2	7	4	5	25	26	17	1	1	4	4	4	75	75	8	7	24	18	8	6	5	8	15	13	15	12	13	12	12	17	23	25	13	2	16	15	5	5	12
	AAU	1	2	2	2	2	12	3	2	7	19	2	1	1	5	2	7	8	27	0	0	1	1	1	128	128	5	6	8	12	1	0	0	1	6	3	1	1	0	1	0	11	5	5	3	1	1	1	5	5	1
GLN	CAA	1	0	0	0	0	7	12	1	8	20	2	1	3	0	2	3	3	41	0	0	0	0	0	43	44	3	3	4	5	2	0	0	2	6	4	2	5	5	5	0	9	2	2	0	0	1	2	8	8	13
	CAG	10	7	7	7	6	26	57	4	12	42	9	8	10	12	6	22	22	7	1	1	6	6	5	125	124	3	3	38	24	6	12	4	18	17	14	17	13	13	14	12	22	37	33	4	0	16	15	3	3	0
HIS	CAC	7	3	3	3	3	13	14	0	3	20	2	3	4	2	6	8	8	5	0	0	1	1	1	39	39	3	3	27	13	1	2	4	12	17	18	0	1	1	1	3	7	5	10	2	0	10	10	5	5	5
	CAU	2	1	1	1	1	4	8	0	3	13	5	1	5	3	7	3	3	5	0	0	0	1	0	36	37	1	1	4	14	1	2	0	3	6	2	1	0	0	0	0	6	3	1	1	0	0	0	6	6	8
GLU	GAA	0	1	0	0	0	3	2	7	7	24	1	1	3	2	2	7	7	22	0	0	5	5	5	31	31	2	1	10	8	3	1	0	7	14	3	22	3	2	3	0	7	3	3	0	2	3	6	11	11	14
	GAG	26	9	10	10	10	17	11	15	18	49	8	18	11	12	13	39	42	5	1	1	15	15	15	86	86	11	12	59	20	12	12	5	35	27	48	37	48	49	48	2	24	29	21	11	1	36	35	3	3	13
ASP	GAC	16	7	7	8	8	9	9	4	7	26	3	7	8	4	7	40	34	7	2	2	6	6	6	64	66	8	8	34	8	8	8	2	16	16	27	7	13	12	11	2	13	9	13	6	0	22	22	5	5	10
	GAU	8	5	5	4	4	10	1	6	13	40	6	2	4	8	6	8	9	6	0	0	9	8	9	108	107	4	4	12	11	6	7	1	3	17	9	10	10	10	11	3	7	10	11	6	0	4	3	5	5	9
TYR	UAC	12	5	5	5	5	31	14	3	6	14	10	4	4	3	2	12	13	10	0	0	4	4	4	46	45	15	14	24	14	8	6	2	9	6	10	2	1	2	1	10	10	15	12	5	0	16	16	3	3	10
	UAU	3	1	1	1	1	6	2	2	3	14	5	1	0	3	2	3	4	12	0	0	0	0	0	33	34	4	4	4	7	1	1	2	0	1	2	0	1	0	1	1	11	2	5	2	0	1	1	2	2	3
CYS	UGC	6	2	2	2	2	3	3	1	8	19	0	0	4	2	1	7	5	1	10	10	3	3	3	171	171	12	11	14	4	1	5	1	18	12	19	1	3	2	3	5	11	2	1	2	0	8	9	6	5	5
	UGU	1	0	0	0	0	1	1	0	2	4	0	0	0	0	0	0	2	0	0	0	0	0	1	72	72	1	1	2	2	3	1	0	1	1	1	0	0	0	0	2	3	0	0	0	0	2	2	3	3	1
PHE	UUC	12	8	8	8	8	5	3	2	6	20	2	3	2	4	4	15	16	12	0	0	7	7	6	35	34	13	11	27	13	4	10	4	15	13	14	2	4	4	4	3	21	13	9	8	5	16	17	5	5	15
	UUU	1	1	1	1	1	1	3	0	6	18	1	2	1	1	3	6	6	12	0	0	1	1	1	27	27	5	5	6	3	3	3	0	4	8	2	0	1	0	1	0	17	1	1	1	1	7	6	6	6	0
ILE	AUA	0	0	0	0	0	0	2	1	4	12	3	0	1	0	1	1	2	6	0	0	0	0	0	22	20	2	2	8	3	0	3	0	4	5	4	2	0	0	0	0	5	0	0	0	1	0	0	2	2	0
	AUC	24	14	14	14	15	10	2	4	13	39	3	2	5	6	2	28	26	3	0	0	4	4	4	54	54	21	20	22	15	8	8	6	6	15	10	4	5	5	5	14	20	13	12	14	1	19	19	4	5	20
	AUU	5	9	9	9	8	1	1	1	6	19	5	1	4	1	2	8	8	26	0	0	2	2	2	28	28	10	8	9	6	3	4	1	1	12	2	2	1	2	2	3	13	6	8	10	3	5	5	5	5	7
MET	AUG	15	1	1	1	1	7	23	2	7	15	1	5	4	5	5	12	13	4	1	1	5	5	5	50	50	20	20	34	17	7	7	5	9	7	9	8	7	9	8	3	16	8	12	1	2	15	16	3	3	5
TRP	UGG	4	5	5	5	5	2	3	3	4	10	0	4	1	0	1	2	2	2	0	0	0	0	0	17	17	13	10	6	4	1	0	1	2	2	2	0	0	0	0	5	10	2	3	5	1	8	8	6	6	3
TER	UAA	1	1	1	1	1	0	0	0	1	1	0	0	1	0	1	1	1	1	0	0	0	1	1	0	0	0	1	1	0	0	1	0	1	0	0	0	1	1	1	1	0	0	0	1	1	1	0	0	0	0
	UAG	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	1	1	1	1	0
	UGA	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
TOTAL		377	257	257	257	257	414	379	162	435	1354	185	175	209	187	214	644	642	415	41	41	156	156	156	2562	7042	704	374	354	1128	614	190	188	134	352	531	431	298	285	285	285	257	707	443	440	257	63	521	521	243	243	358

25		ONO C2A 1Z	ONO C2A 3Z	ONO C2I 3Z	PFA 195 M	PFA AG5 1EA	PFA CRA	PFA CS	PFA GP1 85	PFA HRP A2*	PFA P19 0	PFA SA2 7	PFA SA7	PFA SHA RPR	PFA CS	PKN CSN URI	PKN PLO HRP	PPY LUC	PYO CSP	SHR EF1 A5*	SHR EF1 AB	SLE TUB A	SPE DEV G	SPE LEC	SUP HIS 2A1	SUP HIS 2A2	SUP HIS 2A3	SUP HIS 2B1	SUP HIS 2B3	SUP HIS P4	SUP HIS P5	SUP HIS P6	SUP HIS PA# 3	SUP HIS PA# 4	SUS AC1 51	SUS AC1 52	SUS ACT IN	SUS BMD	SUS HIS ES4	SUS MET A	SUY E3	SUY L34 #1	SUY L34 #2	SUY L3A #1	SUY L3A #2	TET ACT A	TET H4I	TET HIS H1	TRB ALD R	TRB CMR SG# 1	TRB CMR SG# 2
ARG	CGA	0	0	0	2	0	0	1	1	0	2	0	11	0	2	2	0	4	2	1	1	0	0	0	0	0	0	4	0	0	3	1	3	1	1	1	1	2	1	0	2	1	0	0	0	0	0	0	0	0
	CGC	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	3	1	1	1	1	2	1	3	3	3	6	3	1	6	4	6	4	0	0	1	4	4	0	6	3	7	2	6	4	0	0	12	2	2
	CGG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	2	0	0	2	0	0	0	1	0	3	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	2	1	1
	CGU	0	0	0	5	0	0	1	2	0	6	0	0	0	0	0	0	2	0	11	11	0	0	1	6	6	7	7	3	2	5	4	5	4	10	10	9	7	3	0	3	9	10	10	11	0	0	0	10	2	2
	AGA	2	2	2	14	2	2	4	4	1	13	2	2	2	7	9	1	10	4	4	4	20	0	3	0	0	0	2	2	0	3	1	3	1	1	1	2	9	1	0	2	0	0	0	0	0	17	13	3	0	0	0
	AGG	0	0	0	3	0	0	2	0	0	3	0	0	0	1	3	0	0	0	0	0	0	0	0	1	1	1	0	2	3	1	2	1	2	6	6	5	4	2	0	5	1	2	2	1	0	0	0	0	0	0
LEU	CUA	0	0	0	5	0	0	1	1	1	4	0	9	0	2	2	2	5	3	0	0	0	0	3	0	0	0	1	0	0	2	1	2	1	2	0	0	6	1	0	2	0	0	0	0	0	0	0	1	2	2
	CUC	2	2	2	6	1	1	0	2	0	5	0	0	0	3	3	1	5	2	1	1	22	0	1	10	9	6	1	1	3	2	6	2	6	12	12	11	9	7	0	2	4	6	4	6	8	2	1	19	5	5
	CUG	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	9	0	5	5	0	0	2	0	0	0	0	0	1	0	5	2	5	2	3	3	4	2	2	0	5	1	1	1	2	2	0	0	9	1	1
	CUU	0	0	0	31	5	5	3	5	2	31	0	1	6	4	4	2	8	6	12	12	8	1	4	3	4	4	2	3	2	2	3	2	3	3	9	10	10	4	2	0	2	2	3	2	3	8	0	0	4	1	1
	UUA	0	0	0	122	10	10	13	17	5	124	17	6	12	4	4	3	11	10	0	0	1	6	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	4	2	0	1	0	0
	UUG	0	0	0	17	0	0	1	3	2	17	2	2	4	3	3	0	14	3	7	7	2	3	4	2	2	5	2	1	1	1	2	1	2	1	2	2	2	2	0	0	1	1	1	1	1	6	1	0	0	1	1
SER	UCA	1	1	1	56	4	4	4	14	1	43	5	5	3	2	2	4	2	3	5	5	10	3	5	2	1	2	1	0	1	0	2	0	2	3	3	3	1	2	1	0	0	0	0	0	0	0	0	3	1	1
	UCC	1	1	1	9	4	4	4	0	5	9	0	2	9	3	3	2	7	0	8	8	3	1	3	3	1	3	4	6	3	1	1	1	1	9	11	13	8	1	0	1	0	2	0	2	13	4	3	6	4	4
	UCG	0	0	0	3	0	0	1	0	0	2	0	0	0	0	0	0	5	1	1	1	1	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4	1	1
	UCU	3	3	3	27	2	2	4	1	1	29	1	0	2	1	1	2	9	4	8	8	1	2	2	1	2	1	2	1	0	1	3	1	3	9	7	5	5	2	0	1	1	1	1	1	11	3	3	5	1	1
	AGC	4	4	4	8	3	3	0	0	1	10	1	0	2	3	3	2	1	2	0	0	1	2	0	1	3	1	5	2	5	3	1	3	1	5	5	4	9	1	1	2	1	2	0	3	1	0	3	3	2	2
	AGU	1	1	1	32	2	2	7	5	0	36	13	25	2	4	4	0	5	5	1	2	3	3	6	0	0	0	2	2	2	1	1	1	1	0	0	1	7	1	0	2	0	0	1	0	1	0	1	1	0	0
THR	ACA	0	0	0	51	3	3	1	8	1	51	4	4	0	1	1	2	9	1	11	11	0	2	9	0	0	0	2	0	2	2	1	2	1	1	1	2	5	0	1	2	0	0	0	0	0	0	0	3	1	1
	ACC	0	0	0	4	1	1	0	0	6	4	0	0	0	4	4	0	7	3	6	6	14	2	1	3	3	2	7	7	7	7	1	7	1	16	16	16	3	2	1	6	6	9	6	9	11	1	14	10	2	2
	ACG	0	0	0	2	0	0	0	0	0	2	0	0	2	0	0	1	6	0	0	0	0	0	2	1	0	0	1	0	0	1	1	1	1	0	0	1	7	2	1	1	0	0	0	0	0	0	0	2	4	4
	ACU	2	2	2	30	3	3	3	4	2	31	0	3	4	2	2	2	7	1	11	11	12	5	1	1	0	1	1	1	1	0	1	0	1	4	5	3	5	1	2	1	0	1	0	1	9	5	3	5	2	2
PRO	CCA	0	0	0	30	8	8	33	1	0	35	0	5	0	19	24	9	7	56	13	12	15	3	0	2	1	2	0	1	3	1	2	1	2	9	10	10	15	2	0	3	1	2	1	3	0	0	0	3	1	1
	CCC	2	2	2	5	0	0	6	0	0	5	1	0	0	1	1	1	7	4	3	3	2	1	6	3	3	3	3	2	0	3	3	3	3	10	9	9	4	2	0	1	0	2	0	3	10	1	8	5	1	1
	CCG	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	7	0	1	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	1	0	0	2	0	0
	CCU	0	0	0	14	1	1	12	4	0	15	13	0	0	0	0	6	8	1	7	7	4	1	0	0	1	0	1	2	2	2	0	2	0	2	1	1	12	1	1	1	0	2	0	0	0	12	0	4	6	0	0
ALA	GCA	2	2	2	28	2	2	35	3	41	31	22	42	46	41	55	16	8	16	2	2	0	3	7	2	4	4	2	1	2	4	3	4	3	0	0	1	9	3	2	2	0	1	0	1	0	0	0	4	0	0
	GCC	3	3	3	4	2	2	5	0	35	4	0	0	10	4	2	0	13	1	14	15	18	4	7	7	5	7	4	9	7	9	6	9	6	20	20	19	16	5	1	11	7	10	6	10	9	3	7	12	1	1
	GCG	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	13	2	1	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	8	1	0	1	0	0	0	0	0	0	0	6	4	4
	GCU	1	1	1	18	5	5	4	8	48	14	7	1	66	5	4	6	8	2	24	23	14	3	2	6	7	6	4	5	3	5	5	5	5	10	11	10	4	6	2	4	0	7	1	7	17	6	19	13	3	3
GLY	GGA	3	3	3	27	6	7	8	5	1	25	29	18	14	39	36	3	19	26	7	7	6	2	1	7	6	6	8	4	1	4	4	4	4	12	12	13	22	4	4	4	10	4	8	4	0	1	0	2	2	2
	GGC	4	3	3	4	1	1	2	2	0	0	0	0	0	4	18	0	9	2	10	10	1	6	6	4	5	4	3	2	3	0	4	0	4	6	6	5	16	4	3	0	2	2	2	2	0	1	1	15	5	5
	GGG	0	0	0	0	0	0	2	0	0	0	0	0	0	4	1	1	9	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	2	1	3	0	0	0	0	0	0	0	0	0	0
	GGU	1	2	2	27	7	7	6	11	0	25	8	5	2	12	6	3	8	8	24	22	29	12	3	4	4	5	1	1	4	3	5	3	5	10	10	10	15	4	1	0	5	1	7	1	26	12	2	16	4	4
VAL	GUA	0	0	0	39	8	8	9	7	4	37	0	1	4	8	8	2	7	10	5	5	0	5	4	1	0	0	2	0	0	3	0	3	0	2	2	1	3	0	1	0	0	0	0	0	0	0	0	1	0	0
	GUC	0	0	0	4	0	0	1	1	0	4	0	0	0	3	5	1	9	4	19	19	28	7	2	6	6	5	4	6	5	2	4	2	4	10	9	10	10	3	2	2	8	6	8	6	11	5	4	6	1	1
	GUG	1	1	1	3	0	0	1	1	0	4	0	0	0	5	4	0	11	1	1	1	0	1	3	2	2	0	3	1	3	0	4	0	4	3	3	3	2	4	0	2	0	0	0	0	0	0	0	11	3	3
	GUU	1	1	1	40	6	6	4	4	2	33	2	2	3	3	3	3	17	4	13	12	11	11	3	0	1	3	3	1	1	1	1	1	1	8	9	9	10	2	0	2	1	0	1	0	13	4	2	11	2	2
LYS	AAA	0	0	0	185	17	17	21	19	4	186	22	33	8	14	13	2	26	24	20	20	3	5	12	2	1	1	3	2	6	2	5	2	5	1	1	1	4	3	0	5	1	2	2	3	3	4	6	7	4	4
	AAG	4	4	4	30	0	0	4	3	1	29	6	1	2	8	8	1	14	4	27	27	16	8	11	12	12	12	11	16	11	11	7	11	7	18	18	18	8	9	5	8	10	11	9	10	21	7	49	17	5	5
ASN	AAC	0	0	0	34	5	5	34	1	2	35	1	2	12	4	4	1	10	10	13	13	16	2	3	6	7	7	4	3	3	0	6	0	6	9	9	9	12	5	2	1	1	1	1	1	10	2	2	12	5	5
	AAU	1	1	1	120	6	6	86	15	8	119	13	12	43	30	15	1	9	23	3	3	0	7	20	0	0	0	0	0	0	0	1	0	0	0	0	0	2	1	1	0	1	0	1	0	0	2	0	1	0	2	2
GLN	CAA	6	6	6	45	4	4	5	5	1	44	15	3	2	34	19	2	9	30	4	4	11	5	20	0	0	0	1	1	0	2	3	2	3	2	3	1	24	3	1	1	1	1	1	0	6	2	0	4	2	2
	CAG	6	6	6	4	0	0	3	0	0	3	0	0	0	11	3	0	7	11	6	6	2	1	4	4	4	3	2	4	6	1	6	1	11	10	12	11	1	0	7	1	7	1	8	0	0	0	0	10	5	5
HIS	CAC	0	0	0	5	3	3	2	1	29	5	1	0	50	2	2	116	6	1	6	7	10	2	0	1	1	2	1	3	2	1	1	1	1	8	8	7	2	1	0	0	1	1	1	1	7	2	3	6	1	1
	CAU	0	0	0	17	0	0	1	3	83	20	2	3	70	2	2	110	8	0	5	4	1	5	11	1	1	1	0	1	0	1	1	1	1	1	1	2	10	1	0	2	1	1	1	1	1	0	1	2	0	0
GLU	GAA	2	2	2	141	12	11	18	12	2	145	28	16	4	12	28	13	23	16	22	22	17	5	19	0	0	1	3	3	1	2	3	2	3	5	7	6	13	4	1	4	1	1	1	2	30	3	7	11	9	9
	GAG	3	3	3	10	1	1	2	0	0	10	2	43	0	5	4	5	10	4	10	10	20	0	3	5	5	4	3	3	5	6	2	6	2	21	19	20	11	1	3	4	3	7	3	6	2	0	0	17	11	11
ASP	GAC	0	0	0	13	4	4	3	2	0	13	1	1	4	4	4	0	14	0	11	11	6	1	2	2	2	2	2	1	1	2	1	2	2	16	16	15	21	1	0	2	1	3	1	3	4	4	2	5	6	6
	GAU	1	1	1	82	7	7	17	13	33	81	18	26	28	17	6	12	17	22	12	13	20	6	16	0	0	0	0	1	1	2	0	2	0	7	7	8	18	1	3	1	2	0	2	0	15	0	7	5	11	11
TYR	UAC	1	1	1	15	1	1	1	3	0	16	0	0	0	1	1	0	11	2	9	9	10	1	3	3	3	2	5	5	5	3	2	3	2	14	14	15	7	2	0	2	3	3	4	3	14	3	0	15	1	1
	UAU	0	0	0	64	1	1	8	9	3	63	9	9	0	0	0	2	8	3	2	2	5	6	6	0	0	1	0	0	0	0	0	1	0	1	1	1	0	4	1	0	1	1	0	0	0	3	1	0	2	0	0
CYS	UGC	3	3	3	1	0	0	1	0	1	1	0	0	0	2	2	0	2	0	2	2	10	3	1	0	0	0	0	0	0	1	0	1	0	5	4	5	6	0	13	1	1	1	1	1	0	8	0	0	9	0	0
	UGU	1	1	1	18	0	0	4	5	1	17	1	0	2	2	2	1	2	6	4	4	2	1	5	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0	7	0	0	0	0	0	1	1	0	0	0	0	0
PHE	UUC	4	4	4	19	3	3	3	4	1	20	1	1	1	4	4	0	12	1	10	10	19	3	4	2	2	2	1	2	1	4	1	4	1	13	13	13	7	0	0	3	2	5	2	4	14	3	0	6	5	5
	UUU	0	0	0	38	3	3	3	8	2	39	5	3	12	1	1	5	18	4	8	8	0	4	7	0	0	0	1	0	1	0	1	0	1	1	1	1	3	2	1	1	0	0	0	0	0	0	0	2	4	4
ILE	AUA	0	0	0	43	3	3	5	3	0	43	4	6	2	3	4	1	9	6	3	3	1	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0
	AUC	3	3	3	7	3	3	0	2	0	8	1	1	0	1	1	1	11	0	13	13	14	3	3	5	5	6	2	5	6	6	3	6	3	27	27	26	8	5	0	5	6	7	5	7	16	1	4	8	6	6
	AUU	2	2	2	54	1	1	5	7	0	57	4	1	0	3	2	0	18	4	20	20	11	6	9	0	0	0	2	1	1	1	2	1	2	1	1	2	6	0	0	2	0	0	1	0	12	4	0	4	2	2
MET	AUG	10	10	10	22	2	2	6	4	1	20	4	4	1	3	3	1	14	2	9	9	12	16	5	1	1	1	3	3	3	3	2	3	2	16	16	16	23	2	1	3	2	3	2	3	13	3	2	11	10	10
TRP	UGG	0	0	0	1	0	0	2	0	0	1	0	0	0	1	1	2	2	1	5	5	3	1	8	0	0	0	0	0	0	0	0	0	0	4	4	4	3	0	0	0	0	0	0	0	3	0	0	5	0	0
TER	UAA	0	0	0	1	1	1	0	1	1	1	0	0	1	1	1	1	1	1	0	0	1	0	1	1	1	1	1	1	1	0	1	0	1	1	1	1	0	0	0	0	1	1	1	1	1	0	1	1	0	0
	UAG	0	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	1	0	1	0	0	0	1	1	1	1	0	0	0	0	1	0	0	0	1	1
	UGA	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	0	0	0
TOTAL		83	83	83	1641	163	163	413	234	33	1632	266	310	435	364	352	352	551	368	464	463	446	185	284	126	125	127	138	124	124	137	125	137	125	377	377	377	482	125	65	137	104	137	104	137	377	104	165	373	150	150

/ PLANTS

26	TRB CMR SG# 3	TRB PGK BC# 1	TRB PGK BC# 2	TRB TUB AB# 1	TRB TUB AB# 2	TRB VS1 7H	TRB 11E 13	TRB VSG I	TRB VSG N	TRB 1F8 F	UCA HBF A	ANF ARO PET	ANI ANI TPI	ASA GIG 1I# 1	ASA GIG 1I# 2	ASG GIG II# 1	ASG GIG II# 2	ASM ADH TRP 3	ASN CA	AST TRP AP3 R	AST AP4 R	ATH ADH	BLY ALR	BLY AMY AA	BLY AMY ABD	BLY AMY G	BLY HOR B	BLY PAP I	BNA NAP	BNA SSP B	CAC IPS G	CEN COM A#1	CEM COM A#2	CPA PAP	CRE TBB A	CRE TBB B	DAR EXT	DBI LEC S	FSO CUT	LGI AB1 9	MRA TEF 1A	MZE ACT 1G	MZE ADH 11F	MZE ADH 1F	MZE ADH 1S	MZE ADH 2N	MZE ADH 2NR	MZE ANT R	MZE EG2 R	MZE H3C 2
ARG	CGA	0	4	4	0	0	3	4	2	1	1	13	0	0	4	3	4	3	1	6	5	4	2	0	0	0	1	1	0	0	0	2	0	0	1	0	0	0	0	3	0	0	1	0	0	0	0	0	0	0
	CGC	2	3	3	15	15	0	2	3	7	0	27	0	8	7	7	7	7	4	8	1	1	0	10	7	8	6	0	4	0	0	9	1	1	1	20	20	0	5	4	6	0	1	6	6	6	5	5	2	0	13
	CGG	1	1	3	0	0	2	0	2	0	0	17	0	1	3	2	3	2	0	6	8	9	0	6	4	7	3	0	0	1	1	4	1	1	0	0	0	0	0	1	3	0	1	2	2	2	0	0	0	3	1
	CGU	2	4	4	7	6	0	0	1	3	0	25	1	2	4	4	4	4	2	7	6	6	4	1	0	0	1	4	0	1	1	2	0	0	2	2	2	0	1	4	0	17	4	0	0	0	0	1	1	6	0	1
	AGA	0	1	0	0	0	1	2	5	0	0	7	0	0	1	1	1	1	1	7	14	14	3	0	0	1	0	0	0	2	2	0	4	4	9	0	0	2	3	1	1	0	6	1	1	1	2	2	2	0	0
	AGG	0	2	2	0	0	1	1	2	1	0	8	0	0	1	1	1	1	1	4	19	20	4	4	4	2	3	2	2	2	0	2	2	1	0	0	0	1	2	0	0	5	5	5	5	4	4	7	3	2
LEU	CUA	2	1	1	1	0	16	17	12	0	1	6	0	1	2	2	2	2	3	7	19	20	0	0	1	0	0	6	0	2	2	2	2	2	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	1	0
	CUC	5	9	10	10	13	6	8	9	4	2	33	2	8	17	16	17	16	5	10	17	18	3	15	16	22	18	5	6	8	8	11	7	7	2	0	0	2	11	9	11	11	8	3	3	3	10	10	6	7	8
	CUG	1	11	10	15	12	10	11	5	11	4	45	2	4	20	16	20	16	5	19	25	24	4	5	14	9	9	5	4	0	0	9	1	1	1	34	34	0	5	3	13	0	5	10	10	9	12	12	7	12	4
	CUU	1	9	12	4	7	7	3	6	1	2	26	0	4	3	3	3	3	5	21	33	30	7	3	2	2	3	2	0	2	2	0	5	5	10	0	0	1	5	6	0	6	6	6	6	6	3	3	8	0	0
	UUA	0	2	1	0	0	3	8	5	0	1	4	0	0	0	0	0	0	4	6	7	7	2	0	0	0	0	0	0	1	1	0	0	0	5	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	0
	UUG	1	8	8	4	5	6	2	3	2	5	24	3	0	6	6	6	6	6	13	23	21	5	3	1	4	2	7	1	1	1	2	6	6	4	0	0	3	4	4	0	5	5	0	0	1	0	0	6	5	0
SER	UCA	1	5	4	1	2	7	7	8	0	0	14	0	1	4	3	4	3	1	7	14	15	1	1	0	1	0	0	0	1	1	1	9	9	10	0	1	3	3	1	0	0	2	3	3	3	1	1	3	0	0
	UCC	4	3	2	14	10	2	5	1	3	2	29	3	4	19	16	19	16	8	10	18	16	2	12	10	8	8	2	4	3	3	9	5	5	2	12	12	5	21	4	8	16	6	1	1	1	4	4	8	2	2
	UCG	1	2	3	5	4	1	2	1	2	3	27	2	0	14	11	14	11	2	5	6	7	2	4	6	5	6	2	1	1	1	6	0	0	1	10	10	0	1	2	2	0	3	5	5	5	4	4	0	2	2
	UCU	1	6	8	8	7	7	2	5	1	0	23	1	3	16	16	16	16	3	16	19	20	7	2	1	1	1	3	0	1	1	0	10	10	4	3	2	27	7	3	0	9	3	1	1	1	0	0	8	0	0
	AGC	2	12	12	2	2	14	14	8	5	0	23	0	3	23	20	23	20	1	8	16	16	2	8	7	3	2	2	3	3	2	4	4	4	4	4	0	7	5	4	1	11	5	5	6	9	9	1	6	1
	AGU	0	5	5	1	0	2	6	6	0	1	13	0	2	12	9	12	9	1	6	16	16	6	1	0	0	2	5	0	0	0	0	9	9	3	0	0	1	0	0	0	0	3	2	2	1	0	0	1	0	0
THR	ACA	1	7	7	5	8	24	20	23	0	3	29	0	1	5	4	5	4	3	6	15	14	3	1	3	1	0	3	0	1	1	1	7	7	6	0	0	7	3	4	0	1	4	1	1	1	3	3	3	1	0
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ALA	GCA	0	8	10	6	7	27	34	29	2	4	23	3	0	10	10	10	10	10	15	29	28	5	5	4	0	3	4	0	4	4	1	4	4	8	0	0	4	4	4	0	1	1	7	7	7	3	3	2	1	1
	GCC	1	8	8	3	13	16	22	14	7	7	49	3	19	19	18	19	18	15	15	18	17	5	25	25	26	20	1	9	4	4	17	7	7	1	20	22	0	14	17	26	9	10	9	9	8	10	10	4	3	8
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	GCU	3	15	14	6	9	5	14	7	3	7	41	6	8	25	20	25	20	9	25	42	42	16	5	4	2	2	3	3	2	2	3	11	11	9	6	4	3	6	11	0	27	10	13	13	12	7	7	25	5	2
GLY	GGA	2	7	7	4	0	18	9	7	0	3	27	0	3	7	5	7	5	10	18	21	21	13	4	9	2	1	2	0	3	3	2	7	7	15	0	0	1	0	4	0	1	4	5	6	5	5	5	8	1	0
	GGC	5	9	9	17	14	17	19	9	9	4	43	4	7	22	20	22	20	18	23	11	14	4	17	31	30	28	2	8	2	2	12	3	3	1	30	31	1	8	9	20	2	8	8	9	9	18	18	8	10	5
	GGG	0	4	4	0	0	6	5	6	4	2	15	0	0	4	4	4	4	4	3	13	14	6	4	10	13	12	1	1	1	1	3	2	2	7	0	0	0	5	1	12	1	6	8	7	8	6	6	3	1	1
	GGU	4	24	25	16	21	2	2	6	1	4	29	2	7	14	13	14	13	7	15	24	21	17	6	3	1	5	3	0	4	4	4	4	4	12	7	6	0	4	11	0	37	12	15	15	15	7	7	19	1	1
VAL	GUA	0	5	5	1	1	5	5	6	0	0	10	0	1	2	2	2	2	1	5	15	13	0	1	0	1	0	2	1	0	0	1	2	2	5	0	0	3	2	0	0	0	3	3	3	3	2	2	0	0	0
	GUC	1	4	3	6	7	7	4	4	3	3	39	6	13	15	13	15	13	21	20	16	17	4	16	12	13	13	6	3	3	3	12	3	3	4	13	15	3	10	4	11	26	12	8	8	9	15	15	5	7	4
	GUG	3	3	5	17	24	5	4	6	7	5	20	2	2	19	14	19	14	4	16	23	24	17	8	16	11	14	4	2	1	1	7	7	7	8	16	15	3	7	0	5	0	5	19	19	18	19	19	3	5	2
	GUU	2	16	18	4	7	5	2	6	1	2	33	1	6	6	5	6	5	7	22	29	30	12	5	0	1	0	5	3	5	5	2	11	11	7	1	0	6	5	5	1	15	11	9	9	9	1	1	7	5	0
LYS	AAA	4	13	14	2	1	47	32	30	2	4	21	2	2	0	0	0	0	9	16	17	11	3	2	3	2	1	1	5	5	2	5	5	13	0	0	12	2	1	0	3	2	5	5	5	6	6	2	0	0	0
	AAG	5	23	28	12	18	13	14	22	22	7	59	1	18	13	11	13	11	17	32	48	47	14	10	21	22	20	2	3	5	5	18	10	10	8	15	15	21	7	6	12	46	17	21	21	21	20	20	24	0	14
ASN	AAC	5	8	10	19	14	12	17	19	5	3	41	1	12	19	17	19	17	3	9	24	22	7	14	16	15	17	1	8	4	7	10	7	7	6	21	21	0	14	8	9	15	8	13	13	14	12	12	8	0	1
	AAU	2	3	3	2	2	6	7	12	0	1	13	1	3	6	6	6	6	2	8	21	21	5	5	2	2	1	1	2	1	0	2	11	11	19	0	0	0	1	1	3	0	1	1	4	4	4	1	1	6	0	0
GLN	CAA	2	3	4	5	2	14	20	15	0	3	15	4	1	4	4	3	3	3	10	15	18	14	5	1	2	3	2	65	2	11	12	0	3	3	10	0	0	0	5	0	0	8	2	1	1	1	3	3	1	4	0
	CAG	5	5	5	20	11	9	8	11	2	3	23	0	8	13	11	14	12	6	22	31	35	7	9	10	10	8	18	4	15	14	12	2	2	2	21	21	0	1	7	10	0	7	4	4	4	3	3	9	26	8
HIS	CAC	1	4	4	8	13	8	6	4	1	2	21	1	2	4	4	4	4	4	13	12	12	6	4	12	15	11	1	1	4	4	9	4	4	2	9	9	3	1	3	10	6	7	7	6	10	10	0	7	2
	CAU	0	4	4	0	0	2	3	3	0	2	6	0	0	0	0	0	0	2	6	22	23	6	3	1	2	2	3	1	0	0	1	2	2	1	1	1	17	0	0	0	1	4	4	4	5	1	1	0	9	0
GLU	GAA	9	16	14	4	7	26	20	22	2	1	42	5	2	9	7	9	7	6	23	38	42	15	3	2	0	2	3	1	3	3	1	5	5	14	0	0	5	7	0	0	17	8	7	6	7	4	4	3	0	0
	GAG	11	14	11	30	28	15	9	5	21	1	48	1	21	17	11	17	11	12	22	39	36	13	17	11	16	12	2	0	6	6	19	3	3	6	37	37	3	4	8	15	12	20	23	23	23	26	26	5	2	7
ASP	GAC	6	7	9	15	16	19	19	23	17	3	36	8	3	23	17	23	17	10	20	24	20	7	13	33	34	35	0	4	6	5	24	8	8	3	21	22	0	10	8	13	7	7	9	9	8	16	16	7	0	3
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TYR	UAC	1	6	6	13	15	8	3	7	3	3	26	4	2	21	16	21	16	6	5	8	8	6	12	16	12	15	4	3	3	3	16	3	3	8	14	14	24	6	4	6	7	10	4	4	4	6	6	12	4	2
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CYS	UGC	0	3	4	12	11	14	12	10	3	0	13	3	2	7	6	7	6	7	4	10	10	4	6	5	3	6	5	8	5	5	2	0	0	3	10	10	0	0	3	1	0	3	8	8	9	11	11	1	14	1
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PHE	UUC	5	5	5	22	16	8	7	8	9	4	30	1	8	18	17	18	17	7	14	19	20	14	11	14	15	13	8	0	6	6	14	10	10	4	23	23	0	13	8	18	16	7	15	15	15	17	17	15	2	5
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	AUU	2	16	14	6	8	2	5	5	3	0	42	2	7	12	11	12	11	7	24	20	19	12	2	0	3	1	6	1	2	2	0	10	10	12	3	2	2	5	4	0	15	12	5	6	5	2	2	1	0	1
MET	AUG	10	16	15	19	11	9	6	7	4	4	36	1	2	3	4	3	4	10	12	35	35	9	6	13	7	13	4	4	5	5	4	5	5	5	20	20	5	2	2	6	11	18	11	11	11	12	12	8	2	2
TRP	UGG	0	1	2	4	3	6	3	6	3	2	17	0	4	19	15	19	15	3	5	10	10	3	6	16	16	15	2	0	2	2	9	4	4	7	5	5	0	4	1	6	6	4	3	3	3	3	3	4	0	0
TER	UAA	0	1	1	0	0	1	1	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	1	1	1	0	0	0	1	1	0	0	0	0	0	1	0	0
	UAG	1	0	0	1	1	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	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	0	0	0
	UGA	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1
TOTAL		150	422	441	443	452	527	504	504	212	1431	515	160	250	641	535	641	535	353	769	1130	1130	380	363	439	428	422	294	118	179	179	339	291	291	346	444	444	307	276	231	265	459	376	380	380	380	380	380	319	224	137

27		MSE H3C 4	MSE H4C 14	MSE H4C 7	MSE SUS YSG	MSE TPI 2*	MSE SE1 9A	MSE SE2 2A	MSE SE2 2B	MSE SEA 20M	MSE SEA 30M	MSE SEF CM1	MSE SEE 4G	NEU AMG	NEU ATP ASE	NEU ATP C	NEU ATP PN	NEU ATP PRO	NEU H34 1	NEU H34 2	NEU MET C	NEU PYR	NEU QA4	NEU TUB B	NEU UCY CR	PEA ABN 1	PEA ABN 1M	PEA CAB 2	PEA CAB 80	PEA LEG A	PEA RUB PS	PEC IPS	PET CAB 13	PET CAB 22L	PET CAB 22R	PET CAB 25	PET CAB 91R	PHO CHL	PHV CHM	PHV DLE CA	PHV DLE CB	PHV LBA	PHV LEC T	POT PAT	POT PII IR1	RCC PPR ICR	RCC RIC IN	SCO 1G2	SIP FDX	SIP PCY	SLM CMP
ARG	CGA	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	0	0	3	0	2	0	0	0	0	0	3	2	1	1	1	0	3	0	6	5	1	0	0	0
	CGC	12	10	8	13	2	0	0	0	0	0	0	0	9	14	5	14	8	10	6	0	10	9	11	3	0	0	1	1	7	0	6	0	0	0	0	0	2	4	1	2	0	2	0	1	3	3	1	0	0	0
	CGG	1	2	2	3	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	0	0	2	1	0	0	1	0	1	2	0	1	0	1	0	0	3	3	0	1	0	0
	CGU	2	0	2	10	0	0	0	0	1	0	0	0	8	17	14	17	2	7	8	0	3	5	10	6	0	0	6	3	6	4	2	3	4	4	3	4	7	0	2	1	1	2	2	2	6	6	3	1	0	3
	AGA	0	0	1	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	1	2	19	4	0	3	3	3	2	3	3	1	0	0	0	1	1	0	14	14	0	1	0	9
	AGG	2	3	2	10	4	2	1	2	2	2	1	3	0	0	0	0	0	0	0	0	4	7	1	1	2	2	2	2	13	1	1	1	1	0	1	0	3	8	1	3	0	1	3	0	4	4	0	0	2	1
LEU	CUA	0	0	0	2	3	11	11	12	8	10	12	13	1	0	0	0	0	0	0	0	5	0	0	1	1	1	0	0	8	0	1	1	0	1	1	0	4	1	3	2	1	2	2	4	4	4	0	2	1	0
	CUC	7	6	6	17	1	7	4	3	6	6	4	8	22	55	21	55	10	12	7	0	10	7	25	9	1	1	1	5	10	2	8	5	4	4	4	2	12	8	12	11	3	8	5	0	5	5	7	2	5	10
	CUG	3	2	2	34	6	5	10	8	6	3	10	5	1	3	1	3	1	1	0	0	11	8	1	1	2	1	0	1	4	0	13	1	0	1	0	0	5	3	6	4	3	2	1	0	5	5	4	2	0	0
	CUU	1	0	0	22	5	8	11	11	12	11	11	9	13	24	3	24	4	1	1	0	3	13	6	2	0	0	5	7	14	4	0	7	11	9	7	12	10	4	7	7	5	6	10	3	16	16	4	3	2	4
	UUA	0	0	0	0	5	5	3	3	7	3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3	3	0	0	1	1	0	0	2	0	4	1	2	1	1	2	13	2	11	11	0	0	0	21
	UUG	1	0	0	14	1	12	10	11	12	11	10	14	1	6	3	6	0	0	0	0	3	7	2	2	4	5	2	12	7	7	2	7	10	8	7	9	7	4	3	3	4	0	9	1	9	9	0	4	3	8
SER	UCA	1	0	0	2	2	6	5	3	5	5	3	6	0	0	0	0	0	0	0	0	3	0	0	1	1	3	7	7	1	1	4	3	2	2	1	5	1	3	2	3	5	9	3	7	8	1	4	1	15
	UCC	2	0	0	17	2	1	2	5	4	1	2	1	21	25	12	25	10	6	1	3	4	4	24	7	2	2	1	6	3	7	5	2	5	4	3	5	8	11	12	12	0	13	3	0	5	4	1	0	6	3
	UCG	0	1	2	6	0	0	0	2	1	1	2	0	1	8	1	8	0	1	0	0	9	4	0	4	0	0	0	0	2	0	8	0	0	1	0	2	0	1	0	1	1	0	1	2	2	1	2	1	5	1
	UCU	1	1	0	6	6	5	3	3	6	6	3	6	3	16	5	16	2	3	1	3	0	5	6	2	7	8	3	8	7	4	2	7	6	8	7	8	7	8	9	10	3	9	8	1	11	11	1	5	2	11
	AGC	1	0	0	13	4	4	4	4	3	3	5	4	4	5	0	5	1	2	0	1	9	5	1	4	1	1	4	5	9	2	3	4	4	5	4	4	1	8	6	7	3	10	2	1	5	5	2	2	3	0
	AGU	0	0	0	8	1	1	1	2	2	0	1	2	1	0	0	0	0	0	0	0	2	4	0	0	2	2	2	1	3	1	2	1	2	2	2	2	0	0	0	7	3	13	13	0	1	1	11	1	1	11
THR	ACA	0	0	0	6	2	2	1	3	4	2	2	2	0	1	1	1	0	0	0	0	7	3	0	0	2	2	2	5	1	4	5	2	2	1	3	2	3	3	1	4	5	1	2	11	2	15	16	0	3	1	7
	ACC	5	7	5	14	7	1	5	2	3	3	3	1	8	28	10	28	7	6	8	0	16	3	17	11	1	1	4	5	5	2	8	4	4	3	2	3	7	10	12	10	1	11	2	3	9	9	3	5	8	10
	ACG	4	0	2	6	0	1	2	1	0	1	1	1	0	0	0	0	0	0	0	0	10	1	0	0	1	1	2	0	0	0	1	0	0	0	0	0	0	4	6	5	1	3	2	0	2	1	0	0	1	0
	ACU	1	0	0	14	4	1	2	3	1	0	3	1	8	21	2	21	3	2	1	0	0	0	6	1	2	1	5	4	6	5	2	5	7	5	6	4	11	7	4	3	4	3	20	1	15	16	2	5	3	12
PRO	CCA	0	0	0	6	2	9	14	14	9	8	14	9	0	0	0	0	0	0	0	0	5	4	0	0	5	4	5	14	8	7	2	10	9	8	10	9	3	4	1	0	2	0	8	4	14	14	1	3	1	24
	CCC	5	0	0	8	2	5	1	1	7	5	1	5	10	27	4	27	2	5	1	0	5	8	17	11	0	0	0	2	5	1	10	1	1	2	2	4	5	9	8	8	1	3	1	4	3	3	5	0	4	0
	CCG	1	1	1	4	0	2	1	1	0	3	0	2	0	0	1	0	0	0	0	0	6	5	0	0	0	0	0	0	4	0	6	1	2	0	0	0	4	2	1	0	0	0	2	1	2	3	0	3	1	0
	CCU	0	0	0	17	7	5	6	6	6	7	7	6	3	7	2	7	1	0	0	0	3	7	2	6	4	4	5	2	7	3	3	6	6	7	6	6	7	5	1	1	1	2	5	1	11	11	0	0	2	1
ALA	GCA	0	0	0	10	5	12	8	10	10	11	10	15	0	0	0	0	0	0	0	0	2	5	0	0	3	3	4	7	12	1	1	4	2	4	4	6	11	4	1	1	2	12	2	16	5	19	20	0	2	3	10
	GCC	9	2	2	15	6	6	13	12	5	5	11	7	36	46	25	46	20	8	5	0	23	16	16	22	3	4	0	7	6	3	11	9	10	7	13	10	10	18	13	10	1	9	2	1	6	5	3	6	18	3
	GCG	10	4	4	14	3	4	8	9	4	4	7	3	1	4	2	5	0	0	0	0	13	2	1	3	0	0	2	0	1	1	8	1	0	0	1	2	2	1	0	0	2	3	2	3	4	3	1	1	0	0
	GCU	1	1	1	12	15	15	11	9	16	15	11	16	15	39	12	39	6	5	2	1	3	9	13	4	4	3	10	14	18	6	4	17	18	20	14	14	11	2	6	5	12	2	16	3	12	12	3	7	6	5
GLY	GGA	1	1	2	9	10	0	1	1	0	0	1	0	0	2	0	2	0	0	2	0	3	2	0	1	4	4	8	13	13	7	3	12	11	12	12	10	2	19	3	4	6	2	11	6	14	15	1	3	9	3
	GGC	5	11	11	22	3	2	1	0	0	2	1	2	23	15	7	14	2	3	6	5	19	10	16	12	1	1	3	5	12	2	10	3	6	2	3	2	13	9	8	9	0	5	5	1	4	4	5	2	1	1
	GGG	1	3	4	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	1	0	1	1	1	1	4	1	1	0	1	2	2	1	7	8	3	4	0	2	0	4	5	6	2	1	3	1
	GGU	0	2	0	10	8	3	2	1	2	4	2	3	31	63	30	63	10	4	9	1	1	5	21	6	5	5	5	12	10	3	2	16	13	14	15	18	11	5	2	3	2	0	7	5	16	16	2	4	2	21
VAL	GUA	0	0	0	2	2	2	2	2	3	1	2	2	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	2	5	1	0	3	4	2	2	2	4	1	0	0	3	1	4	3	4	5	0	0	2	4
	GUC	4	4	6	13	13	0	3	4	1	0	3	0	19	60	21	60	7	6	6	0	17	14	23	11	1	1	0	5	2	3	8	6	9	5	5	6	8	6	3	6	0	8	1	0	3	4	4	1	11	6
	GUG	2	4	2	17	4	3	9	6	3	4	9	6	0	1	1	1	0	0	0	0	4	8	3	0	0	0	3	3	8	5	10	3	4	3	4	3	9	4	9	11	6	6	4	0	14	15	2	5	0	0
	GUU	0	0	0	15	16	1	2	5	1	0	2	1	14	28	1	28	5	0	1	0	4	4	10	6	7	7	8	6	10	7	4	9	3	8	8	9	5	3	9	6	2	6	13	5	14	12	3	6	5	13
LYS	AAA	0	0	0	5	5	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	2	0	2	5	5	11	3	10	3	2	4	2	3	2	1	13	3	9	6	6	5	17	6	4	5	0	1	1	22
	AAG	14	10	10	43	12	0	1	1	1	0	1	0	29	51	23	51	6	14	11	1	23	8	14	14	3	3	5	11	13	10	21	11	13	12	12	14	11	7	4	4	6	6	10	6	5	5	3	5	9	4
ASN	AAC	1	2	1	21	6	8	10	10	11	10	10	10	22	25	11	25	4	2	1	2	9	10	24	7	3	3	6	9	22	3	15	5	5	6	6	7	7	11	16	17	3	17	3	1	14	14	5	1	5	3
	AAU	0	0	1	9	4	1	3	4	0	0	3	1	1	0	0	0	0	0	0	0	0	2	1	0	4	3	9	1	16	1	5	6	5	4	5	3	6	2	6	8	4	4	15	8	28	29	0	0	1	30
GLN	CAA	0	0	0	9	2	30	33	34	27	28	36	35	0	1	1	1	0	0	0	0	2	6	3	0	0	1	2	5	25	5	2	4	4	3	5	3	5	3	5	3	4	7	11	1	22	22	1	3	0	18
	CAG	8	2	2	21	9	9	17	16	16	13	17	12	15	31	8	31	9	9	2	0	17	6	19	2	0	0	2	1	12	2	10	0	0	1	0	1	8	14	2	4	1	1	2	0	7	7	3	4	0	0
HIS	CAC	2	2	2	12	2	1	1	2	1	1	1	1	9	14	0	14	0	2	1	0	9	5	6	4	1	1	1	1	5	2	8	3	3	3	2	3	4	2	2	1	1	4	0	1	1	1	0	1	2	4
	CAU	0	0	0	11	1	2	2	1	0	1	1	4	0	2	0	2	0	0	1	0	1	4	4	0	1	2	1	2	5	0	2	0	0	0	1	0	7	1	2	2	1	0	6	2	5	5	1	0	0	6
GLU	GAA	0	0	0	11	8	1	1	2	1	1	2	1	0	4	0	4	0	0	0	0	9	7	1	1	4	4	9	7	27	5	5	3	5	5	4	5	18	1	5	5	6	5	17	7	10	11	0	2	1	13
	GAG	7	4	4	45	11	0	0	0	0	0	0	0	36	57	7	57	3	7	4	0	24	21	38	14	2	2	2	8	25	5	18	11	10	11	10	11	8	4	3	4	4	4	5	3	10	10	0	7	8	5
ASP	GAC	3	3	3	30	3	1	0	0	1	0	0	1	12	27	11	27	1	4	2	1	17	14	12	6	2	2	8	5	11	2	18	6	5	5	6	8	10	13	12	11	1	11	4	1	4	4	5	6	5	2
	GAU	1	0	0	18	6	0	0	0	0	0	1	0	3	26	6	26	0	0	1	0	8	5	8	2	4	4	12	6	13	4	6	5	5	5	5	3	12	4	4	5	6	5	16	4	23	22	1	5	3	24
TYR	UAC	2	4	4	34	1	6	8	6	5	6	8	7	15	22	14	22	2	3	4	0	11	6	13	5	1	1	7	9	6	16	5	4	4	5	7	7	15	5	4	3	4	7	5	9	9	0	4	3	4	4
	UAU	0	0	0	5	3	2	0	1	3	2	0	2	0	0	0	0	0	0	0	0	1	6	1	0	2	2	9	1	4	2	2	2	2	4	2	1	3	1	1	1	1	1	4	10	5	15	15	0	0	0	12
CYS	UGC	1	0	0	6	3	2	1	1	1	2	1	2	5	8	2	8	0	1	0	7	3	6	7	4	3	3	0	0	3	3	2	2	3	1	3	2	4	13	0	0	0	0	0	9	6	6	4	2	0	0
	UGU	0	0	0	1	1	1	0	0	2	1	0	1	1	0	0	0	0	0	0	0	1	2	0	0	7	7	3	1	4	0	0	1	0	2	0	1	3	3	0	0	0	0	2	7	6	6	0	3	1	5
PHE	UUC	4	1	1	31	6	10	6	6	5	10	7	10	17	42	18	42	6	4	2	0	7	8	25	9	3	3	8	11	13	5	14	9	8	9	8	8	7	12	12	15	4	11	3	3	9	9	1	2	4	18
	UUU	1	1	1	9	2	4	3	3	8	4	3	4	1	1	0	1	0	0	0	0	2	5	0	0	5	5	11	4	9	4	3	8	7	7	9	8	8	1	3	4	3	2	16	2	12	12	0	1	2	7
ILE	AUA	0	0	0	3	0	2	1	2	5	2	3	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	5	1	6	1	0	2	0	0	1	1	7	3	0	1	1	0	6	2	16	17	0	0	1	5
	AUC	5	7	5	32	6	5	2	3	4	5	3	6	12	46	12	45	6	5	6	0	15	9	9	12	1	1	6	4	5	3	10	5	5	4	4	5	6	7	12	10	1	13	3	0	12	12	2	0	3	16
	AUU	2	0	2	14	5	4	6	7	2	3	4	6	18	3	18	2	2	1	0	5	8	4	1	3	2	4	2	10	4	6	1	2	5	4	1	10	2	2	2	2	1	9	4	14	15	0	4	2	19
MET	AUG	2	2	2	20	3	3	6	6	3	2	4	3	10	17	10	18	7	1	2	1	9	8	20	9	3	4	4	7	5	6	5	7	7	7	7	7	11	8	1	1	1	4	11	4	7	8	1	4	5	9
TRP	UGG	0	0	0	9	6	0	0	0	0	0	1	0	8	13	4	13	0	0	0	0	6	7	4	3	1	1	1	6	3	4	6	6	6	6	6	6	4	9	5	5	2	4	2	0	12	12	2	1	0	8
TER	UAA	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	UAG	0	1	0	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		137	104	104	803	254	236	264	267	241	235	267	268	455	921	314	921	148	137	104	27	398	360	448	232	131	131	232	270	518	101	332	267	268	268	267	268	399	329	276	273	147	247	387	155	566	577	95	147	166	453

20	SLM CPR O2R	SLM CYS PRO	SLM D11	SLM DIS IA	SLM DIS IC1	SLM DOD	SLM RAS	SLM CII PI	SOY A1A	SOY GLY AAB	SOY GLY R	SOY GLY 175	SOY HSP	SOY HSP 176	SOY HSP 2	SOY GM	SOY GM 2	SOY LBC I	SOY LEA	SOY WOD 23G	SOY WOD 24H	SOY WOD 35G	SOY WOD 35M	SOY PRP 1	TDA THA U2	TOB ATF 21	TOB PRP R	TOB RBP CO	TOB CS	TOM RBC SA	TOM RBC SB	TOM RBC SC	TOM RBC SD	TOM RBC SE	TOM WIP I	TOM WIP IG	TOM WIP II	VFA LEB 4	WHT CAB B	WHT GLG GLI A	WHT GLI AA	WHT GLI ABA	WHT GLI ABB	WHT GLI ABC	WHT GLI ABD	WHT GLI ABE	WHT GLI ABF	WHT GLI ABG	WHT GLI ABH	WHT GLI GBA
ARG CGA	0	0	1	0	0	0	0	0	1	4	2	0	0	3	1	0	0	0	6	0	0	0	0	0	0	4	0	0	0	0	0	0	1	0	2	2	0	0	2	1	0	1	1	1	0	1	1	1	1	0	0
CGC	0	0	0	0	0	0	0	2	5	10	6	1	1	1	1	0	0	0	1	0	1	5	5	0	0	9	5	0	1	1	2	1	1	2	1	0	0	5	4	0	0	0	0	0	0	0	0	0	0	0	1
CGG	0	0	1	0	0	1	0	0	2	2	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	0	0	1	1	1	0
CGU	2	1	3	7	8	2	3	1	3	5	3	2	2	0	2	1	1	0	2	0	0	2	2	0	0	14	3	3	3	3	2	3	3	2	1	1	2	8	2	0	0	0	0	0	0	0	0	1	0	3	3
AGA	12	6	4	5	5	3	8	1	14	9	11	1	2	2	2	0	0	2	3	2	3	3	3	0	0	4	0	2	2	2	2	2	2	2	0	0	2	7	0	0	1	2	1	3	1	1	2	1	1	1	1
AGG	0	0	0	0	0	0	0	0	2	6	6	6	4	4	4	0	0	0	2	3	1	4	4	1	2	4	1	1	1	0	1	1	0	1	0	0	1	5	0	2	2	1	2	2	2	3	1	2	2	2	1
LEU CUA	1	1	6	0	0	0	2	0	4	2	4	0	0	0	0	1	1	2	2	1	1	1	1	2	0	3	2	1	1	0	0	1	0	0	2	2	4	1	0	3	7	7	6	4	7	6	7	4	6	4	5
CUC	1	1	5	5	3	3	0	2	10	17	7	2	3	2	2	1	1	9	5	1	5	4	1	10	9	3	1	1	1	2	2	1	2	1	1	0	7	16	6	2	3	1	2	2	2	2	2	2	2	5	5
CUG	0	0	0	0	0	0	0	1	7	3	4	2	1	3	2	3	3	2	0	2	6	7	1	4	1	0	0	0	0	0	1	0	0	0	0	0	3	1	4	6	7	7	4	6	7	7	8	5	5	2	2
CUU	2	6	6	1	1	2	1	3	7	13	13	3	1	2	1	3	3	8	4	1	6	8	2	3	21	2	6	6	4	4	2	4	4	6	6	2	10	7	2	3	3	2	3	3	2	3	2	2	3	3	3
UUA	17	10	8	8	9	19	10	1	1	0	0	0	0	0	0	0	0	2	8	5	1	0	2	0	2	2	0	0	1	0	0	1	0	2	2	1	7	0	1	0	1	0	0	0	0	0	1	1	0	2	3
UUG	3	2	2	1	0	8	4	2	8	9	10	1	2	2	1	5	5	9	3	3	6	6	0	0	16	2	5	5	6	6	6	5	6	3	3	0	5	4	8	9	7	7	9	9	9	7	7	6	5	4	6
SER UCA	15	11	3	11	12	11	9	5	6	6	5	0	2	1	1	2	3	3	3	2	9	6	1	0	5	4	6	6	3	4	4	3	4	1	1	4	2	0	4	4	4	3	5	4	5	4	4	4	4	8
UCC	5	2	3	1	0	0	1	1	4	5	4	1	0	2	0	0	0	8	2	1	0	0	4	6	9	0	3	3	5	3	4	5	2	2	2	0	3	4	6	2	2	1	1	2	2	2	1	2	1	2	6
UCG	0	0	0	0	0	1	0	2	1	4	2	0	0	0	0	2	1	3	1	2	2	4	0	3	5	1	0	0	1	0	1	1	0	0	0	1	0	6	1	4	3	3	3	4	3	3	3	3	4	5	5
UCU	12	4	3	2	2	6	2	1	5	11	4	6	6	4	7	2	1	12	3	1	7	8	0	0	13	7	1	1	1	3	2	1	4	2	2	2	6	4	2	4	3	3	3	4	3	3	3	3	4	3	2
AGC	2	1	0	1	1	0	0	0	15	11	13	4	3	4	4	3	2	8	2	0	4	3	1	4	3	0	3	3	5	4	3	5	4	0	0	0	4	7	5	3	1	2	2	3	3	1	1	3	2	4	4
AGU	8	7	3	0	0	15	6	3	5	11	4	1	2	4	1	4	5	1	7	1	1	2	0	1	5	2	2	2	1	2	2	1	2	1	1	2	10	0	0	1	1	1	0	1	1	1	1	1	3	4	4
THR ACA	5	7	9	1	1	8	4	2	5	6	5	1	1	2	0	2	3	3	5	3	9	8	1	0	9	2	0	0	2	4	0	2	4	2	2	1	8	0	2	1	1	1	2	1	1	1	1	1	1	1	1
ACC	5	0	6	13	11	6	0	2	9	9	9	2	1	0	1	0	1	12	1	3	4	5	0	14	12	0	3	3	5	2	5	5	2	0	0	3	4	6	5	6	6	4	3	4	5	6	4	3	4	5	6
ACG	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	1	1	3	1	1	2	2	0	6	2	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	1	1	1	0	1	2	1	1
ACU	14	11	8	12	15	5	3	1	5	5	4	2	3	2	4	3	3	5	12	0	5	6	0	3	11	3	5	5	2	5	4	2	5	4	4	1	1	2	2	2	3	3	3	2	2	3	2	2	2	2	2
PRO CCA	11	10	10	7	7	10	2	3	9	13	10	3	6	4	4	0	0	8	13	2	7	7	59	1	11	3	5	5	4	4	4	4	5	6	6	4	6	3	20	29	31	28	36	29	30	31	29	29	29	22
CCC	0	0	1	0	0	0	0	0	5	8	3	3	2	2	2	1	1	3	2	0	0	0	7	4	2	1	0	0	2	1	3	2	0	0	0	4	0	8	13	1	1	3	2	1	1	1	1	2	2	2
CCG	0	0	0	0	0	0	0	0	2	0	2	1	0	1	1	0	0	1	2	1	0	1	3	7	2	0	0	0	0	0	0	0	0	0	0	1	1	3	3	8	4	7	8	8	7	4	3	9	9	2
CCU	0	2	4	2	0	2	0	2	12	17	11	2	1	3	2	4	4	6	0	7	6	23	1	12	1	5	5	4	5	3	4	5	1	1	1	7	3	8	6	5	4	4	6	5	5	3	3	3	7	7
ALA GCA	8	7	2	2	1	13	7	2	10	9	9	2	3	1	3	13	12	4	5	5	7	6	1	0	9	5	4	4	3	5	6	3	5	2	2	1	9	2	4	5	2	2	3	5	4	2	1	3	4	4
GCC	2	2	1	3	2	1	0	1	11	7	14	1	0	1	1	3	3	10	4	3	1	2	0	12	14	4	6	6	4	3	1	4	3	0	0	2	3	10	5	3	3	4	4	3	4	3	4	4	4	6
GCG	0	0	0	0	0	0	0	1	2	2	3	0	0	1	0	0	0	1	2	0	1	2	0	6	2	0	1	1	2	0	0	2	0	0	0	0	1	6	1	4	4	3	4	4	5	4	2	2	4	2
GCU	7	11	3	13	15	11	2	1	6	6	7	4	3	4	3	7	6	8	5	9	9	8	3	1	29	6	5	5	8	6	8	8	6	2	2	4	7	5	2	4	2	3	2	4	1	2	2	3	2	2
GLY GGA	0	8	0	0	0	5	1	0	13	17	10	1	2	1	1	3	3	4	5	3	2	2	0	1	13	7	6	6	7	6	7	7	6	1	1	8	10	0	0	0	0	1	1	0	0	1	1	1	1	0	2
GGC	1	0	1	1	2	1	1	7	6	5	2	1	3	1	1	1	1	0	4	2	2	1	15	9	5	4	4	0	1	2	0	1	1	1	1	1	3	15	3	2	4	1	3	2	3	4	3	4	3	2
GGG	0	1	0	0	0	0	0	1	5	6	5	1	2	2	2	1	1	3	1	2	6	7	0	5	5	1	0	0	1	1	1	1	1	1	1	3	2	5	0	1	1	1	2	1	1	1	1	1	1	0
GGU	30	18	15	15	13	22	10	0	13	9	16	3	2	2	4	3	3	5	8	13	7	6	0	3	29	1	0	0	2	2	2	2	2	2	2	4	7	11	5	1	1	1	2	1	1	1	0	1	1	7
VAL GUA	5	7	3	3	3	7	3	0	0	4	2	0	1	1	0	3	4	3	3	1	4	6	2	1	3	3	0	1	0	0	1	0	1	2	2	2	4	0	1	2	2	2	1	2	1	2	2	3	1	3
GUC	0	0	2	4	4	4	0	0	1	5	1	0	0	0	3	0	0	5	1	0	5	5	0	4	14	5	1	1	3	3	3	3	3	1	1	1	1	6	4	5	4	1	4	5	4	4	2	3	6	4
GUG	0	0	1	0	0	0	0	4	16	13	16	10	7	9	6	6	6	8	2	5	15	14	14	5	14	3	6	5	3	4	4	3	4	2	2	0	11	7	10	2	2	4	2	2	2	2	3	2	2	6
GUU	19	13	11	15	16	9	9	2	7	13	8	6	9	6	9	3	3	7	6	10	5	4	23	0	13	6	7	7	8	7	5	8	7	3	3	4	9	4	0	5	6	7	7	5	7	6	7	8	5	7
LYS AAA	19	14	20	6	7	23	13	3	11	10	9	3	2	2	2	6	7	6	4	7	7	8	15	3	10	1	1	2	3	3	1	3	3	2	2	4	3	2	1	1	2	0	0	1	1	1	4	0	0	1
AAG	5	6	2	1	1	4	2	2	14	18	10	10	13	13	13	8	7	9	4	1	17	15	30	8	14	2	10	9	7	8	9	7	8	5	5	6	8	11	3	1	1	1	1	2	1	0	2	1	1	1
ASN AAC	8	5	8	7	9	1	0	0	30	24	28	5	4	0	3	1	1	11	2	0	6	6	1	8	6	8	7	7	7	4	4	7	4	2	2	0	15	8	2	4	4	4	4	4	4	3	3	4	1	1
AAU	25	24	4	14	12	20	4	2	7	9	12	3	3	5	4	3	2	7	4	7	5	4	1	0	10	4	2	2	3	4	3	3	4	2	2	10	6	2	2	3	2	3	3	3	2	3	3	3	1	1
GLN CAA	11	12	13	14	14	11	12	1	26	33	24	1	2	2	0	4	5	5	8	4	4	4	1	0	16	9	6	6	5	7	4	5	7	2	2	1	13	2	68	90	58	63	72	91	88	58	62	68	63	61
CAG	0	1	3	0	0	0	0	1	22	15	27	2	2	1	2	1	0	2	2	2	10	11	0	5	11	4	4	4	3	2	5	3	2	0	0	0	13	4	20	29	33	33	25	29	27	33	30	34	25	36
HIS CAC	1	1	0	3	3	1	0	3	5	11	3	1	1	1	1	0	0	3	0	0	3	3	0	0	5	2	1	1	0	1	1	0	1	1	1	1	5	3	1	1	2	6	2	1	1	3	3	2	2	2
CAU	5	4	2	2	3	8	3	1	3	4	1	2	2	1	2	2	2	3	3	1	5	5	0	0	4	5	0	0	0	0	1	0	0	0	0	0	2	0	3	5	3	3	3	3	5	5	3	3	3	6
GLU GAA	16	20	12	8	7	12	13	2	18	31	15	9	7	7	9	6	5	5	7	5	12	14	4	3	17	2	5	5	3	3	3	3	3	9	9	7	19	0	2	2	2	3	1	2	2	2	2	1	3	3
GAG	4	5	3	0	0	6	3	1	22	24	22	8	8	7	7	4	4	4	5	7	8	8	5	6	17	2	7	7	8	8	8	8	8	2	2	1	18	13	1	2	3	3	2	2	2	3	3	3	2	3
ASP GAC	2	2	0	0	0	3	1	4	12	15	7	3	3	5	3	3	4	8	1	0	8	5	1	13	5	5	2	2	3	3	3	3	3	1	1	0	5	11	1	0	0	0	0	0	0	0	0	0	0	0
GAU	20	15	9	14	15	20	14	9	4	15	10	8	9	7	8	5	5	9	4	4	8	9	0	1	24	5	3	3	3	3	3	3	3	4	4	5	2	1	1	1	1	1	1	1	1	1	1	1	1	0
TYR UAC	1	4	1	9	7	1	1	1	7	10	6	0	0	0	0	2	2	2	0	0	5	6	26	6	5	3	9	8	8	9	10	8	9	0	0	3	3	6	1	2	2	1	1	2	2	2	1	1	3	3
UAU	18	12	7	2	4	11	7	0	4	5	5	0	0	0	0	1	1	3	5	4	8	7	11	2	7	7	1	2	1	1	0	1	1	1	1	8	5	1	2	6	7	8	8	6	6	7	7	6	9	7	1
CYS UGC	1	0	7	1	0	1	0	8	8	7	7	0	0	0	0	0	0	0	3	3	2	2	0	17	1	3	4	4	4	3	4	4	3	1	1	6	0	1	5	4	4	4	4	4	4	2	5	4	6	6
UGU	6	9	36	7	8	4	3	7	3	1	3	0	1	0	0	0	0	4	2	0	0	0	0	1	3	0	0	0	1	0	0	1	1	1	10	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2
PHE UUC	6	6	2	4	5	3	0	4	15	12	16	7	6	6	9	6	4	10	3	0	7	6	0	16	10	1	6	6	5	4	6	6	4	1	1	2	5	9	7	3	4	5	4	3	3	4	3	3	3	4
UUU	9	16	1	8	6	8	5	0	8	4	6	3	2	4	1	3	5	4	6	1	10	10	0	0	8	6	1	1	3	3	1	3	3	6	6	6	7	5	6	8	8	8	8	8	9	8	6	8	8	9
ILE AUA	2	4	2	0	0	3	0	0	10	3	7	1	1	2	0	2	2	2	5	1	4	5	1	0	1	3	0	0	0	0	0	0	0	4	4	2	3	1	3	2	2	2	2	2	2	2	2	2	2	1
AUC	5	3	1	4	5	7	0	0	8	8	7	1	1	1	2	2	7	2	2	3	3	0	8	14	0	4	5	3	3	4	3	3	2	2	1	5	4	13	6	7	6	7	6	7	6	7	5	6	6	9
AUU	14	20	7	9	10	19	14	1	8	10	9	5	6	4	5	2	3	6	7	1	8	7	6	0	24	0	4	3	5	6	4	5	5	6	6	4	4	5	4	7	6	7	6	7	6	6	6	8	6	4
MET AUG	4	5	8	2	2	13	3	5	7	3	8	3	4	2	3	1	1	2	6	4	4	4	2	2	10	4	5	5	6	6	7	6	6	5	5	4	1	7	6	3	3	2	2	3	3	3	2	3	3	6
TRP UGG	7	6	1	5	5	6	0	0	4	6	4	3	3	3	3	2	2	6	0	2	5	5	0	3	0	3	5	5	5	5	5	5	5	1	1	0	1	6	2	0	1	1	1	0	0	1	1	1	0	2
TER UAA	0	1	1	1	1	1	1	0	0	1	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
UAG	1	0	0	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	0	0	1	1	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
UGA	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	0	0	0	0	0	1	1	0	1	1	0	1	1	1	1	1	1	0	1	1	1	1
TOTAL	377	344	283	254	254	370	187	104	496	563	486	154	155	154	155	146	146	206	224	140	310	310	257	236	561	169	181	181	182	181	181	182	181	112	112	149	324	267	292	319	287	292	297	320	314	287	263	298	283	305

29	WHT GLU T1	WHT H3	WHT H4	WHT H40 91	YSB POX 4	YSB POX 5	YSC ACT #2	YSC ADE 3	YSC ADE 4	YSC ADE 3	YSC ADR I	YSC ADH 2	YSC ADH G	YSC APS 3	YSC ARG 0	YSC ARG 4	YSC ATP ANT 1	YSC CAM 0	YSC CAN 1G 1	YSC CAR 0	YSC CBP 3	YSC CBP 6	YSC CDC 25G	YSC CDC 28 4	YSC CDC 35# 0	YSC CDC 7 5	YSC CDC 8 2	YSC CDC 90I 1	YSC CDC 90# 0	YSC CEN 3 1	YSC CIT 3	YSC CHD 2	YSC COX 1	YSC COX 5	YSC CPA 6	YSC CPA 1	YSC CPA X 0	YSC CS 1	YSC CUP 1	YSC CYC 17	YSC CYC 1X	YSC CYC 4	YSC CYC 7	YSC CYC R	YSC CYR 1	YSC CYT B2	YSC EF1 A	YSC EF1 AA	YSC EF1 AB
ARG	CGA	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0	4	0	5	2	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	11	1	0	0	0
	CGC	2	13	10	9	0	0	0	1	5	0	0	0	0	1	0	1	0	1	1	1	2	0	3	2	2	0	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	5	3	0	0	0
	CGG	5	0	5	3	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4	1	0	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
	CGU	1	1	0	0	0	5	5	7	5	9	1	0	0	10	2	5	9	6	6	0	2	3	9	3	8	6	1	4	1	1	6	1	3	0	3	6	3	5	0	3	0	0	2	0	0	12	5	0	0	0
	AGA	0	0	0	0	34	29	13	18	25	16	9	8	7	19	9	16	25	13	13	6	18	5	31	13	24	9	3	23	5	0	7	1	5	11	7	28	7	10	0	12	3	3	4	2	6	44	15	18	18	18
	AGG	1	3	0	3	0	0	0	2	5	6	0	0	1	6	0	2	1	2	2	1	9	2	20	1	11	5	3	9	4	0	5	1	1	3	3	6	3	5	0	1	0	0	2	1	1	25	2	0	0	0
LEU	CUA	11	1	1	0	0	0	2	8	10	6	6	3	2	7	3	8	6	6	6	2	6	0	17	7	20	9	3	8	5	1	14	4	4	1	7	8	7	6	0	4	3	1	3	0	0	34	15	0	0	0
	CUC	10	8	6	5	5	0	6	0	0	0	0	1	2	0	2	1	1	1	1	5	1	6	3	12	6	2	3	5	1	1	2	0	1	1	3	1	1	0	2	0	0	0	0	0	4	17	1	0	0	0
	CUG	11	3	1	2	0	1	0	4	8	3	2	0	0	2	4	4	2	5	5	4	10	3	18	3	13	5	2	7	0	1	4	1	1	0	4	6	4	2	0	0	0	0	0	1	0	2	23	8	0	0	0
	CUU	0	0	0	0	1	3	2	10	9	4	2	0	0	3	5	7	6	7	7	4	15	0	19	3	19	4	2	18	3	1	7	2	3	0	3	16	3	7	0	2	2	1	2	0	0	38	5	0	0	0
	UUA	1	0	0	0	0	1	2	16	16	16	10	2	7	6	9	11	7	15	15	5	24	8	43	11	38	12	5	14	6	2	14	2	2	5	8	31	8	22	1	5	2	1	7	2	7	64	13	3	3	3
	UUG	8	0	0	0	56	48	19	25	34	12	13	19	15	36	5	25	41	12	12	19	19	2	42	9	22	14	11	32	4	3	13	7	3	8	11	38	11	19	0	12	4	5	3	3	3	35	17	21	21	21
SER	UCA	13	0	0	0	3	1	3	12	4	9	5	0	1	2	7	3	4	9	9	4	7	2	55	4	22	7	2	16	5	1	17	5	2	1	3	17	3	8	2	3	0	1	2	1	1	66	8	0	0	0
	UCC	0	4	1	1	28	25	12	10	20	4	5	7	7	10	8	5	23	9	9	8	8	2	30	1	5	3	0	17	5	0	6	4	4	1	9	15	9	8	0	4	0	0	1	1	2	26	8	6	6	6
	UCG	6	1	1	0	1	3	0	3	2	2	0	0	1	1	1	2	1	1	1	2	3	0	22	0	7	5	2	6	3	0	2	1	1	0	2	4	2	3	0	2	0	1	1	0	0	20	5	0	0	0
	UCU	23	0	0	1	13	4	14	18	16	6	13	14	13	7	10	11	15	18	18	4	13	4	51	1	25	6	4	15	0	0	8	4	3	3	13	35	13	8	2	11	0	2	5	2	3	56	11	14	14	14
	AGC	6	1	0	0	3	3	0	3	2	1	2	0	1	3	0	4	1	1	1	4	6	3	21	3	7	5	1	5	1	1	7	0	0	1	0	2	0	5	4	0	0	0	1	0	0	27	1	0	0	0
	AGU	1	0	0	0	3	4	2	2	1	4	1	0	1	5	3	2	2	3	3	0	6	1	36	6	18	7	1	6	2	1	2	4	4	1	3	10	3	4	0	2	0	0	0	2	0	46	3	1	1	1
THR	ACA	2	0	0	0	3	0	0	12	12	7	4	0	0	6	4	9	3	15	15	5	13	0	41	5	20	11	2	11	4	0	2	1	2	0	7	19	7	6	0	4	0	2	2	3	0	42	10	0	0	0
	ACC	2	8	7	7	26	32	8	23	21	6	6	9	9	13	7	9	12	7	7	7	7	1	17	0	10	4	2	8	3	0	3	1	1	3	7	10	7	4	1	10	1	3	3	1	2	17	3	14	14	14
	ACG	1	2	0	0	0	0	0	3	5	1	3	0	0	1	3	2	0	6	6	1	4	1	18	1	10	4	4	8	2	0	2	0	0	1	2	4	2	2	1	2	2	0	1	4	1	22	1	0	0	0
	ACU	20	0	0	0	15	8	13	12	26	9	6	5	5	5	5	12	12	10	10	3	9	4	31	1	19	5	6	19	4	0	11	2	4	3	10	29	10	14	0	4	2	3	6	1	1	52	16	14	14	14
PRO	CCA	79	0	0	0	18	23	13	20	20	8	9	10	12	14	2	7	7	15	15	7	6	3	25	6	8	6	1	13	5	0	14	0	2	2	6	25	6	15	1	11	0	3	6	2	4	32	11	23	23	23
	CCC	4	4	0	0	0	0	0	11	15	1	2	1	1	5	2	0	1	3	3	7	4	2	13	2	3	2	2	10	1	0	3	1	1	1	6	5	6	2	1	1	1	0	2	0	2	11	10	0	0	0
	CCG	23	2	1	1	0	0	0	0	1	4	0	0	0	0	2	1	1	2	2	0	2	0	11	5	4	5	1	2	3	0	0	0	0	0	1	2	1	0	0	0	0	0	1	0	0	14	1	0	0	0
	CCU	1	0	0	0	5	3	6	9	18	9	5	2	2	7	2	4	11	5	5	4	4	1	14	4	9	10	1	10	3	0	5	0	3	4	10	15	10	6	0	10	2	1	2	3	2	31	12	0	0	0
ALA	GCA	15	0	0	0	0	1	0	13	18	11	7	0	3	8	9	8	10	13	13	5	15	3	23	5	25	9	3	12	1	0	9	1	3	4	7	25	7	6	0	11	3	0	1	2	4	37	8	0	0	0
	GCC	4	14	4	5	28	27	11	19	30	6	9	16	12	14	9	3	16	13	13	10	10	3	12	4	5	4	2	6	2	0	5	5	1	5	7	20	7	12	0	10	4	4	3	2	3	13	8	7	7	7
	GCG	5	4	3	2	0	1	0	4	4	4	2	0	4	0	2	3	1	3	3	4	6	1	11	3	4	2	1	3	2	0	1	0	1	0	0	7	0	3	0	1	2	0	0	1	1	15	10	0	0	0
	GCU	5	1	0	0	32	23	15	32	39	16	13	19	18	21	5	17	35	21	21	7	8	0	28	5	15	7	1	16	2	0	17	6	9	6	17	39	17	20	0	14	1	3	3	3	5	28	19	30	30	30
GLY	GGA	67	0	1	1	0	2	0	6	10	5	1	0	1	0	2	5	3	4	4	7	3	0	3	13	11	6	10	2	0	4	1	3	0	1	6	1	0	0	0	1	1	0	0	2	0	17	4	0	0	0
	GGC	7	7	14	13	5	1	0	5	14	5	5	3	8	1	8	7	1	11	11	6	3	1	11	4	11	3	4	8	1	0	7	2	3	1	9	10	9	5	0	2	1	2	0	1	0	15	2	0	0	0
	GGG	75	0	2	2	0	0	0	8	6	0	2	0	1	4	0	1	0	4	4	3	1	0	8	1	5	6	2	8	0	0	3	0	0	0	2	8	2	2	2	1	1	2	0	1	1	11	3	0	0	0
	GGU	15	0	0	0	43	46	29	57	49	33	31	41	32	27	12	26	42	30	30	22	4	4	22	13	23	10	3	19	4	1	18	5	6	1	17	42	17	28	3	18	2	8	13	8	2	40	29	42	42	42
VAL	GUA	3	0	0	0	1	0	0	11	0	0	7	0	3	4	5	6	0	6	6	2	6	5	19	4	11	3	2	8	4	3	11	3	3	1	3	8	3	3	0	0	0	0	0	1	0	22	9	0	0	0
	GUC	9	2	6	7	26	25	12	23	23	8	10	17	12	11	7	6	18	6	6	6	11	3	18	5	9	5	2	9	2	0	5	0	4	2	9	17	9	1	0	1	2	0	2	1	2	17	9	19	19	19
	GUG	7	4	2	1	1	1	0	18	21	6	2	0	1	7	2	1	1	2	3	8	6	0	13	1	12	5	2	5	2	1	4	2	2	3	5	18	5	6	0	4	4	2	2	0	0	23	9	1	1	1
	GUU	2	0	0	0	23	16	14	27	26	17	17	19	16	11	7	9	23	27	27	10	11	2	25	8	21	12	7	16	1	2	12	2	1	4	14	44	14	17	0	11	3	1	7	1	3	38	19	26	26	26
LYS	AAA	2	0	0	1	5	6	6	15	24	13	19	4	4	16	17	12	10	20	20	12	33	16	72	13	30	20	12	40	5	4	20	7	3	3	16	45	16	23	4	10	2	6	8	8	3	83	33	3	3	3
	AAG	5	14	10	9	40	37	12	23	35	16	13	20	20	32	9	15	19	9	9	10	27	5	42	9	24	17	9	25	5	4	12	1	9	6	7	30	7	16	3	9	7	10	2	9	6	52	22	46	46	46
ASN	AAC	0	1	2	2	28	26	9	14	32	18	7	11	12	12	7	4	9	10	10	11	24	3	45	4	25	9	4	10	1	1	6	5	2	2	5	3	6	3	6	0	13	16	16	16	16	60	13	16	16	16
	AAU	0	0	0	0	3	2	0	19	11	13	6	0	1	4	16	10	8	10	10	2	25	8	91	4	45	20	5	23	4	0	12	4	4	5	12	29	12	8	3	6	1	2	2	1	2	95	14	0	0	0
GLN	CAA	200	0	0	0	20	18	14	25	27	11	9	9	6	18	9	12	24	10	10	2	22	5	29	8	24	16	8	16	8	2	15	6	6	4	16	25	16	16	5	5	4	2	4	0	3	41	16	12	12	12
	CAG	92	8	2	2	2	5	0	8	8	1	1	0	0	5	2	4	2	2	2	2	4	1	16	2	10	2	2	10	2	0	2	0	0	0	5	8	5	0	0	2	4	0	1	3	3	22	2	0	0	0
HIS	CAC	2	2	2	2	9	12	7	7	10	3	2	10	9	8	2	5	2	4	4	4	5	2	13	5	6	3	1	4	3	0	3	1	0	0	6	5	6	3	0	4	4	2	2	0	1	20	1	6	6	6
	CAU	2	0	0	0	1	1	3	10	12	6	7	1	4	7	8	4	4	4	6	14	0	18	2	13	9	2	6	1	2	10	1	1	2	6	11	5	10	1	4	3	2	2	3	2	3	36	8	5	5	5
GLU	GAA	3	0	0	0	34	34	26	32	39	28	15	20	18	43	18	22	29	16	16	14	16	5	63	9	37	24	11	38	11	4	23	15	4	11	17	64	17	30	5	16	23	5	7	3	5	78	32	30	30	30
	GAG	13	7	4	4	3	9	1	6	16	7	5	0	3	14	3	11	7	12	12	6	7	4	30	7	24	12	3	18	2	0	7	3	4	5	3	18	3	9	1	2	12	2	2	3	6	40	7	1	1	1
ASP	GAC	4	4	1	4	39	36	9	19	32	10	7	14	9	23	4	11	8	9	9	9	12	2	27	8	22	7	5	14	5	0	10	1	2	3	9	19	9	5	2	7	10	3	3	1	5	40	9	16	16	16
	GAU	0	0	2	0	11	5	11	36	20	21	11	2	6	10	18	22	12	10	10	12	28	8	66	15	39	28	14	31	7	0	18	11	3	6	9	46	9	14	0	8	14	1	7	4	2	84	27	8	8	8
TYR	UAC	44	2	4	4	26	22	14	11	16	9	5	13	12	12	2	8	9	12	12	9	13	1	16	7	16	7	2	12	1	1	4	0	2	4	9	19	9	7	0	9	3	3	1	2	3	24	9	8	8	8
	UAU	2	0	0	0	2	3	0	7	5	15	7	0	1	6	2	8	5	9	9	2	15	5	34	6	17	18	4	11	6	4	18	0	2	4	9	25	10	13	0	5	1	2	4	3	3	31	10	0	0	0
CYS	UGC	3	1	0	0	0	1	0	1	3	4	1	0	2	0	2	1	0	2	2	2	3	0	4	1	8	4	1	8	2	0	0	0	0	0	3	2	3	0	9	1	0	1	1	0	0	10	1	1	1	1
	UGU	1	0	0	0	8	8	4	5	4	11	6	8	6	3	5	3	1	3	3	4	8	0	9	3	6	5	2	8	0	0	0	0	0	1	5	9	5	1	3	3	2	2	3	2	1	9	7	6	6	6
PHE	UUC	1	5	2	2	16	24	12	18	21	8	7	8	6	16	10	10	6	25	25	4	12	3	22	6	16	9	4	11	6	0	7	3	2	2	10	18	10	7	2	6	2	2	2	1	1	27	6	16	15	15
	UUU	2	0	0	0	12	9	2	12	11	12	5	0	2	12	14	10	9	25	25	2	10	3	51	6	28	15	6	18	8	2	9	5	4	7	8	27	8	11	0	6	2	2	1	3	2	48	8	1	2	2
ILE	AUA	2	0	0	0	1	1	0	7	3	4	1	0	1	0	10	6	0	9	9	6	19	7	38	4	16	12	6	16	0	3	1	1	0	2	7	12	7	2	0	1	2	0	1	1	3	36	4	0	0	0
	AUC	1	7	7	7	25	19	16	18	36	6	11	12	12	12	8	6	7	20	20	7	12	1	13	6	9	7	3	8	2	0	6	4	0	0	5	22	6	6	0	6	0	2	3	1	3	18	13	14	13	13
	AUU	1	0	0	0	19	17	14	28	33	22	10	9	9	16	10	12	23	28	27	8	23	4	51	13	35	13	7	18	4	1	14	3	4	3	13	50	12	17	1	3	0	2	3	3	5	59	17	16	17	17
MET	AUG	3	2	2	2	16	17	16	17	19	10	5	7	5	11	9	13	5	13	13	10	14	5	32	5	30	13	5	22	6	4	8	5	5	1	5	19	5	5	1	6	2	3	3	4	2	51	10	8	8	8
TRP	UGG	9	0	0	0	8	9	4	6	2	0	5	5	5	1	1	5	3	16	16	3	10	0	12	4	11	7	3	3	4	0	6	0	6	0	3	8	3	6	0	6	1	1	2	1	1	12	6	6	6	6
TER	UAA	0	0	1	0	1	1	1	1	1	0	1	1	1	0	1	0	1	0	0	0	0	1	1	1	1	0	0	0	1	0	0	0	0	1	1	0	1	1	0	0	0	0	1	1	0	0	0	0	1	1
	UAG	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	1	1	1	0	0	1	1	1	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0
	UGA	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	1	1	0	0	0
TOTAL		839	137	104	104	710	663	376	803	947	511	376	349	349	558	339	464	545	591	591	334	655	163	1589	299	990	508	217	756	192	53	461	148	154	149	412	1119	412	481	62	310	148	110	156	114	1282	027	592	459	459	459

30		YSC ENO A	YSC ENO B	YSC GAL 4	YSC GAL 7	YSC GAL 80G	YSC GCN 4B	YSC GCN N	YSC GDH GDH	YSC H2B 1	YSC H2B 2	YSC H34 CI1 1	YSC H34 CI1 2	YSC H34 CII 01	YSC H34 CII 02	YSC HIP 1	YSC HIS 4	YSC HKA	YSC HKB	YSC HML ALG1 1	YSC HML ALG1 2	YSC HSP 90	YSC HTS 101	YSC HTS 102	YSC HXK 1	YSC HXK 2	YSC ILV 2	YSC LEU 2	YSC LEU 401	YSC LEU 402	YSC MIP 1	YSC MIP PT	YSC MAT A	YSC MAT ALG1 1	YSC MAT ALG1 2	YSC MEL 1	YSC MFA 1G	YSC MFA 2G	YSC MRN P	YSC MSS 51	YSC MSW	YSC ODC D	YSC ODC F	YSC PAB PG	YSC PDE 2	YSC PEP 4	YSC PET 494	YSC PET 9	YSC PHO 530 1	YSC PHO 530 2
ARG	CGA	0	0	7	0	4	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3	0	1	1	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	4	0	7	0	0	0
	CGC	0	0	3	0	0	2	1	1	1	0	0	0	0	0	0	3	1	0	0	2	0	0	0	0	0	4	0	0	0	0	0	0	2	0	1	0	0	0	0	3	0	0	0	2	0	3	1	0	0
	CGG	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	2	4	0	0
	CGU	1	1	4	2	4	4	2	4	4	0	0	1	2	1	2	4	10	3	4	1	2	3	4	4	2	4	10	2	12	12	6	6	1	1	2	3	0	0	8	6	3	3	3	9	4	3	5	1	5	6
	AGA	13	13	14	14	4	6	3	14	14	6	5	15	12	16	11	7	10	16	14	5	2	21	11	10	16	14	14	9	17	15	2	2	5	5	2	10	5	3	14	11	8	10	10	14	6	2	7	7	9	8
	AGG	0	0	8	1	3	1	0	0	0	0	1	1	0	0	1	6	3	0	1	2	2	3	6	5	0	1	2	0	3	3	1	1	1	2	2	0	0	0	0	7	3	1	1	1	0	3	1	8	5	0	1
LEU	CUA	0	0	17	8	4	5	5	5	5	0	0	0	2	1	2	8	12	5	4	5	1	4	6	5	5	4	9	4	10	9	6	6	1	6	1	6	3	1	1	10	3	5	5	1	9	4	7	4	4	4
	CUC	0	0	8	2	3	0	1	0	0	0	0	0	0	0	1	1	0	0	4	2	1	1	1	0	0	2	0	1	1	2	1	1	4	2	4	0	2	0	3	0	1	1	0	4	0	5	2	0	1
	CUG	0	0	19	3	6	4	4	1	2	0	0	1	0	2	0	5	9	1	0	1	2	1	1	1	1	0	3	1	2	2	4	5	1	1	2	7	2	0	1	8	6	1	1	1	7	1	14	8	2	2
	CUU	0	0	12	3	5	5	3	3	1	0	0	0	0	0	0	8	13	2	0	2	0	0	4	3	3	0	4	5	4	3	3	3	3	2	0	9	0	0	1	3	7	1	1	1	8	2	8	5	0	1
	UUA	3	2	17	12	14	5	3	3	3	1	1	4	2	3	2	19	16	10	6	9	3	12	14	14	10	6	16	9	7	7	7	7	3	9	3	3	6	3	8	8	12	8	8	8	15	7	5	2	8	9
	UUG	37	36	22	9	8	8	5	18	18	5	5	8	5	7	5	14	30	29	25	4	3	48	18	18	29	25	18	21	17	17	3	3	1	4	3	9	5	5	27	7	8	10	10	27	18	27	12	16	21	22
SER	UCA	0	0	20	9	10	8	8	2	2	0	1	1	0	1	0	10	6	3	1	0	5	3	9	8	2	1	7	2	6	5	6	6	3	0	5	5	1	0	6	6	3	2	2	6	14	6	2	4	6	5
	UCC	16	17	15	6	5	6	6	13	14	6	9	2	3	4	3	14	12	10	10	1	3	14	8	8	10	10	7	9	13	12	2	2	1	1	3	2	3	1	7	3	4	3	3	7	5	4	4	4	5	5
	UCG	0	0	9	3	5	6	5	0	0	0	0	0	0	0	0	3	6	1	0	2	1	2	2	0	1	0	1	0	2	2	4	4	0	0	1	4	0	0	0	2	8	1	1	0	1	0	2	7	2	2
	UCU	15	13	20	5	7	8	7	15	15	11	9	7	3	5	3	13	17	5	15	4	6	25	21	19	6	14	15	11	20	20	2	2	2	4	6	20	1	2	19	10	7	4	3	19	16	10	13	6	10	6
	AGC	0	0	11	4	3	1	1	4	3	1	0	0	0	0	0	3	6	4	0	3	1	1	1	1	4	0	2	1	1	1	2	3	2	2	3	1	5	2	0	3	2	3	2	2	3	4	5	9	0	3	2
	AGU	0	0	16	4	7	2	3	3	3	0	0	0	0	0	0	10	10	1	0	6	1	4	5	4	1	0	10	3	5	4	8	8	2	6	1	7	0	3	1	2	8	1	1	1	1	1	4	1	11	10
THR	ACA	0	0	24	2	9	3	3	2	2	1	2	2	0	1	0	7	7	3	0	9	2	2	7	6	3	0	11	4	9	9	10	9	1	9	2	8	3	0	2	10	8	8	8	2	8	3	12	4	2	4
	ACC	11	12	13	3	8	4	4	8	8	2	3	4	2	2	1	10	10	12	11	3	0	13	5	5	13	11	6	8	7	7	7	7	0	3	0	5	0	4	3	4	1	3	3	3	2	7	7	4	17	18
	ACG	0	0	9	2	0	1	1	0	1	0	0	0	0	0	0	1	1	1	0	0	1	1	2	2	1	1	8	0	3	3	5	5	0	0	1	4	1	0	0	6	4	1	1	0	5	1	6	6	0	0
	ACU	9	8	20	7	6	12	12	12	11	9	6	3	4	6	5	17	15	13	18	5	2	24	16	16	13	18	18	4	11	11	3	3	5	5	2	7	4	4	17	10	5	5	5	17	10	17	9	5	18	15
PRO	CCA	14	13	13	11	6	13	14	14	14	4	4	3	1	3	1	9	23	21	27	4	2	25	7	7	21	26	32	16	15	14	5	5	2	4	2	8	6	6	21	11	6	1	1	21	9	11	7	0	7	10
	CCC	0	0	9	3	5	2	2	0	0	0	0	0	0	0	0	5	1	2	0	1	0	0	1	1	2	0	1	0	3	3	0	0	1	1	0	3	1	0	1	6	0	2	2	1	1	1	4	4	1	1
	CCG	0	0	11	0	4	1	1	0	0	0	0	0	0	0	0	2	3	0	0	0	0	1	0	0	0	0	1	0	2	2	2	2	0	0	0	2	1	0	1	7	3	1	1	1	2	1	3	0	0	0
	CCU	1	0	13	9	6	4	4	1	1	1	1	2	0	2	2	6	6	8	2	2	3	1	7	7	2	5	10	8	7	6	5	5	0	3	4	3	4	0	6	8	9	3	3	6	6	5	5	1	5	3
ALA	GCA	0	0	15	2	10	3	3	2	2	1	0	1	0	1	0	15	12	7	1	2	2	4	10	10	6	1	18	5	9	9	8	9	3	2	12	5	0	5	6	7	11	10	3	7	12	6	8	3	2	4
	GCC	7	10	12	6	11	5	2	11	10	4	7	9	2	7	3	13	22	8	11	1	1	12	10	10	8	11	15	17	21	18	8	8	0	1	1	9	4	6	21	6	3	2	2	21	4	13	1	7	14	13
	GCG	0	0	6	2	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	2	4	1	3	3	0	0	3	2	2	1	4	4	1	2	4	1	0	3	0	0	4	3	4	0	1	1	6	7	0	2
	GCU	48	48	10	12	9	10	10	22	21	12	10	6	4	8	3	20	29	17	22	1	5	26	27	27	18	21	29	13	24	22	5	5	0	1	5	12	15	10	28	10	8	8	9	27	8	12	1	10	15	16
GLY	GGA	0	0	5	0	7	1	1	2	1	0	0	0	0	0	0	4	3	2	1	1	3	0	2	2	2	1	3	1	1	1	3	3	1	1	3	6	0	2	3	4	4	7	7	3	4	2	5	5	1	3
	GGC	0	0	7	2	11	2	2	1	1	0	0	0	0	0	0	5	7	4	3	1	1	1	7	7	4	3	4	0	5	5	8	8	1	1	1	6	4	2	5	4	7	7	7	5	2	10	2	8	4	9
	GGG	0	0	6	0	3	0	0	1	0	0	0	0	0	0	0	5	5	0	0	1	0	0	1	1	0	0	4	0	1	1	1	1	0	1	0	5	3	1	2	4	2	0	0	2	3	3	2	5	1	2
	GGU	37	35	11	10	11	3	3	45	45	4	4	7	16	7	16	26	37	35	36	1	4	23	30	30	36	37	43	28	31	31	11	11	1	1	32	9	3	13	13	32	5	23	7	16	22	17
VAL	GUA	0	0	10	1	6	3	3	1	1	0	0	0	0	0	0	3	6	1	0	5	4	4	2	1	1	0	2	0	9	9	8	8	2	4	4	2	1	0	1	5	9	3	3	1	8	0	8	2	2	3
	GUC	17	20	9	5	6	2	2	17	16	1	2	4	4	3	4	5	6	13	5	1	1	8	10	9	12	5	17	7	14	14	5	5	0	1	1	4	2	1	5	7	4	2	2	5	6	5	8	4	14	11
	GUG	0	0	10	3	5	2	3	3	5	0	0	0	0	0	0	9	17	4	1	1	2	2	4	4	4	1	7	4	9	8	8	8	0	0	1	2	3	0	1	3	2	4	6	5	3	5	1	7	6	1
	GUU	17	15	10	10	8	14	12	15	15	4	5	2	4	3	4	23	44	11	20	2	2	28	19	19	12	20	28	18	18	16	4	4	3	2	2	11	3	2	21	7	12	8	8	21	7	12	4	5	10	11
LYS	AAA	7	3	33	14	17	12	10	4	4	7	8	2	4	7	4	13	27	10	15	15	12	24	26	25	9	13	25	10	13	11	3	3	9	15	12	5	6	3	11	7	11	24	11	19	8	7	10	8	7	10
	AAG	30	32	14	9	7	11	8	24	24	13	11	14	7	9	7	8	36	30	20	10	6	53	29	28	30	22	20	18	24	23	10	10	5	11	6	14	3	2	36	12	10	15	15	36	9	13	18	13	16	12
ASN	AAC	17	21	25	6	9	6	6	15	15	3	3	1	1	0	1	14	17	13	11	7	4	17	5	5	12	10	18	8	15	15	8	9	4	7	4	10	3	4	24	11	7	2	2	24	16	11	15	2	24	21
	AAU	2	0	37	17	18	7	5	5	5	0	0	0	0	1	0	12	18	5	7	11	8	9	11	10	5	9	12	5	19	18	11	10	10	11	8	25	2	1	10	6	11	4	4	10	21	7	21	5	7	9
GLN	CAA	9	9	28	15	16	5	3	21	22	4	3	8	2	8	2	6	30	13	22	6	4	20	12	12	13	22	28	9	18	18	4	4	4	6	4	8	8	4	40	22	12	11	3	15	12	11	3	15	12
	CAG	0	0	18	4	2	3	3	0	0	0	1	0	0	0	0	3	6	2	0	1	6	2	4	4	2	0	4	0	4	4	3	3	1	1	6	6	1	1	1	7	6	4	4	1	2	0	11	10	1	4
HIS	CAC	11	10	4	3	4	1	0	3	3	1	1	2	2	2	2	2	7	4	3	1	3	1	4	4	4	2	6	3	4	4	4	4	3	1	3	3	0	2	5	9	7	2	2	5	8	3	3	2	3	2
	CAU	0	0	13	10	6	3	3	1	1	1	1	0	0	0	0	4	5	4	2	0	2	3	2	2	5	4	10	3	8	7	7	7	1	0	2	4	1	1	4	8	4	2	2	4	17	6	6	1	6	4
GLU	GAA	25	28	25	17	13	20	17	33	32	8	7	7	4	7	4	15	50	26	26	11	5	76	30	30	24	26	26	20	29	29	8	8	8	11	5	10	14	2	42	14	19	14	14	42	19	17	17	4	19	20
	GAG	0	0	15	7	7	4	3	3	3	0	1	0	0	0	0	5	17	10	6	7	2	19	9	9	10	6	13	3	15	13	6	6	3	7	2	7	1	5	7	12	4	3	3	7	12	10	13	4	3	4
ASP	GAC	24	23	11	2	7	7	6	13	14	1	1	1	1	2	1	9	16	13	17	3	3	24	11	11	14	16	14	7	17	17	10	10	0	3	3	15	2	2	15	8	4	9	9	15	8	9	13	8	22	19
	GAU	7	7	34	16	11	15	15	3	4	2	2	3	2	2	2	10	28	22	17	7	2	23	24	24	22	18	18	17	20	20	11	11	3	7	2	22	5	5	14	14	17	10	10	14	24	17	15	7	19	21
TYR	UAC	9	9	9	6	10	1	1	14	14	4	2	1	3	1	2	4	9	10	16	1	3	16	7	7	10	15	9	4	13	13	3	3	1	1	3	16	5	3	12	9	4	5	5	12	4	15	10	9	25	22
	UAU	0	1	18	9	12	3	2	5	5	1	3	1	1	1	2	8	14	6	0	2	5	4	10	10	6	0	5	0	7	6	8	8	1	2	5	9	0	0	11	14	8	4	4	11	9	6	12	6	6	8
CYS	UGC	0	0	8	2	1	0	1	0	0	0	0	0	0	0	0	2	4	1	0	1	1	0	0	0	1	0	1	1	3	3	3	3	0	1	1	4	0	0	1	2	0	2	2	1	3	0	2	1	0	1
	UGU	1	1	10	4	1	0	0	6	6	0	0	0	0	0	0	5	7	4	4	1	0	0	5	5	3	4	2	1	6	6	3	3	2	1	0	6	0	0	2	2	2	2	2	8	4	3	2	10	7
PHE	UUC	14	14	14	6	12	4	4	13	13	1	1	3	2	3	2	9	16	9	17	1	4	23	10	10	10	17	16	5	13	13	2	2	1	1	4	9	2	3	13	19	5	1	1	13	8	14	14	11	19	20
	UUU	2	1	24	12	8	7	7	5	5	1	1	2	0	2	0	24	13	8	7	5	10	10	10	10	8	7	11	5	10	10	9	9	4	5	10	12	4	4	14	11	11	7	7	14	23	10	8	9	8	8
ILE	AUA	0	0	13	2	9	0	0	1	1	0	0	0	0	0	0	5	2	0	1	8	4	3	4	2	0	1	10	1	1	1	5	5	5	8	4	2	1	1	0	2	5	1	1	0	9	0	10	2	1	2
	AUC	9	9	18	4	15	2	2	18	17	5	4	6	4	5	4	10	18	8	18	4	2	21	15	14	8	18	8	16	13	13	7	6	1	4	2	9	1	2	10	4	6	3	3	10	10	6	8	3	7	7
	AUU	13	11	25	11	14	7	7	10	11	3	4	1	3	2	3	20	23	24	22	5	5	25	20	20	24	19	19	8	21	18	8	8	6	5	5	12	4	5	15	10	10	10	15	23	18	12	8	13	10
MET	AUG	6	10	19	6	10	5	4	8	8	2	2	1	1	1	1	11	14	14	13	4	3	13	12	11	13	13	21	8	9	8	6	6	4	4	3	13	5	3	16	14	9	6	6	16	10	4	11	9	7	11
TRP	UGG	5	5	13	7	3	1	1	6	6	0	0	0	0	0	0	11	3	4	4	2	4	5	4	4	4	4	7	4	7	7	9	9	1	2	4	12	8	4	1	6	4	3	3	1	8	4	8	3	7	7
TER	UAA	1	1	1	1	1	0	0	1	1	1	1	0	1	0	1	0	0	1	1	0	0	0	1	1	1	1	0	1	1	1	0	0	1	0	0	0	1	0	1	0	1	1	1	1	0	0	1	0	0	1
	UAG	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
	UGA	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	0	1	0	1	0	0
TOTAL		438	438	802	366	436	202	250	455	454	132	132	137	104	137	104	533	800	487	487	211	176	710	547	527	486	487	688	369	620	590	317	317	127	212	176	472	166	121	578	437	375	268	268	578	527	406	490	310	468	468

31	YSC PHR	YSC PHR 1	YSC PIS	YSC PK2 5	YSC PLA SM0 1	YSC PLA SM0 2	YSC PLA SM0 3	YSC PLA SM0 4	YSC POR IN	YSC PPR 1	YSC PPR 2	YSC PRT 1	YSC PRT 2	YSC RAD 1	YSC RAD 10# 2	YSC RAD 10# 3	YSC RAD 2G	YSC RAD 3	YSC RAD 3G	YSC RAD 52	YSC RAD 6	YSC RAD 1	YSC RAS 2	YSC RAS H1R	YSC RAS H2R	YSC RP2 9	YSC RP5 1A	YSC RP5 1B	YSC RPL 17A	YSC RPL 25	YSC RPL 29	YSC RPL 46	YSC RPO 21	YSC RPO 31	YSC RPS 24	YSC RPS 33	YSC SEC 53	YSC SIR 2G	YSC SIR 3G	YSC SNF 1	YSC SOD MNG	YSC SPT 2	YSC STE 2G	YSC STE 3	YSC STE 3G	YSC STE 7	YSC SUC 2#1	YSC SUC 2#2	YSC THS 1	YSC THC DC8
ARG	CGA	2	2	0	1	3	2	1	2	0	7	0	0	1	6	2	0	3	4	4	3	0	2	0	2	0	0	0	0	0	0	0	0	1	5	0	0	0	2	4	1	0	1	0	1	1	4	0	0	0	1
	CGC	1	1	0	0	2	2	0	1	0	5	0	3	0	1	1	0	1	2	2	1	0	1	2	1	2	0	0	0	0	0	0	0	0	1	0	0	0	1	2	1	0	3	0	3	3	0	1	1	0	0
	CGG	2	2	0	1	0	2	1	1	0	2	0	0	1	2	1	0	2	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4	0	0	3	0	0	0	0	0	0	0	0
	CGU	4	4	1	0	3	2	5	2	1	5	1	6	3	4	1	0	4	9	9	3	1	3	2	3	2	2	4	4	1	0	1	1	45	25	1	6	0	3	3	2	0	5	0	2	2	4	3	3	10	1
	AGA	14	14	5	13	5	5	9	7	4	16	3	22	13	20	7	0	24	29	29	11	5	9	4	10	4	14	0	13	13	9	7	11	8	27	39	8	4	13	10	25	13	4	9	12	5	5	9	8	27	3
	AGG	7	6	1	5	7	3	9	7	0	10	2	7	4	16	2	0	17	4	4	9	2	2	5	2	5	0	0	0	0	0	0	0	9	14	0	0	0	3	3	5	1	7	4	5	5	7	1	1	2	3
LEU	CUA	4	4	4	3	6	5	4	9	5	10	0	5	4	15	2	0	10	13	13	3	0	4	3	4	3	0	0	0	2	1	0	0	16	18	0	1	2	6	15	8	4	1	2	7	7	8	6	6	5	3
	CUC	2	2	0	0	2	4	5	2	0	3	1	2	2	10	1	2	6	2	2	3	0	1	0	1	1	0	0	0	0	0	0	0	5	2	0	0	1	8	7	1	3	2	6	2	2	2	0	0	0	2
	CUG	9	9	7	3	3	5	4	3	2	11	1	7	5	7	3	0	13	6	6	4	0	4	0	3	1	0	0	0	0	0	0	0	11	13	0	0	0	5	11	9	6	2	5	6	6	9	2	2	3	2
	CUU	5	5	2	3	2	6	2	6	0	10	0	2	4	16	1	1	9	16	16	4	0	2	2	2	1	0	1	1	0	0	0	0	20	14	0	0	0	6	11	6	1	4	5	12	12	2	5	2	2	2
	UUA	17	17	4	9	7	5	8	11	6	16	3	15	15	37	7	0	21	26	26	3	4	4	2	4	2	1	1	1	2	1	0	0	50	60	2	2	9	11	17	18	1	7	12	13	13	12	5	5	22	5
	UUG	14	14	8	14	4	3	5	8	18	21	2	21	15	24	3	1	24	18	18	13	7	5	11	6	10	6	13	13	5	8	9	2	41	34	8	3	13	17	19	13	8	6	14	12	12	17	21	19	30	11
SER	UCA	7	8	3	3	5	3	2	12	2	19	3	7	10	19	7	2	14	20	20	2	2	6	2	6	2	1	0	0	1	1	1	0	36	16	0	0	1	14	27	10	2	11	12	18	18	15	7	6	3	2
	UCC	5	5	3	1	2	3	3	1	10	12	0	11	4	12	0	3	13	4	4	6	3	5	4	5	4	3	1	3	4	2	2	0	26	19	4	1	4	5	6	7	4	4	5	5	5	10	12	12	7	0
	UCG	5	5	1	1	2	0	1	5	0	7	0	0	1	10	1	0	10	4	4	2	1	2	4	2	4	0	0	0	0	0	0	0	19	9	0	0	0	4	6	4	1	2	5	0	0	8	1	1	2	2
	UCU	16	16	3	8	7	2	9	6	9	26	3	27	12	20	6	2	21	18	18	8	2	13	10	13	10	9	9	7	4	3	2	1	50	41	4	2	8	10	31	15	2	6	11	11	11	15	19	18	20	4
	AGC	3	3	0	2	2	0	4	10	2	14	0	3	4	8	2	1	11	3	3	12	0	3	7	3	8	0	0	0	0	0	0	0	9	4	0	0	1	4	4	13	0	3	6	6	6	2	3	3	1	1
	AGU	10	9	9	8	6	3	6	7	1	14	0	8	11	7	4	0	17	5	5	6	2	6	5	6	5	1	0	0	1	0	0	0	18	11	0	0	1	5	17	10	1	4	10	6	6	4	6	6	6	2
THR	ACA	10	9	4	11	8	3	7	13	7	10	5	7	9	13	4	2	16	17	17	10	4	2	7	2	7	0	0	0	0	0	0	0	49	29	0	0	1	11	21	8	5	2	15	9	9	7	6	6	2	2
	ACC	5	6	6	4	2	0	4	3	7	13	4	13	4	7	5	1	8	7	7	9	0	4	5	4	5	4	5	4	1	4	0	2	18	13	4	3	5	7	10	5	9	1	5	9	9	4	9	9	8	2
	ACG	3	3	2	4	5	1	4	3	1	11	0	2	4	11	0	1	9	3	3	10	1	2	4	2	4	0	0	0	0	0	0	0	19	6	0	0	0	2	6	5	0	1	7	6	6	6	3	3	0	4
	ACU	12	12	6	6	4	7	4	9	10	20	1	23	11	15	9	0	18	15	15	12	3	8	7	8	7	3	3	4	2	5	4	1	27	19	1	3	8	10	10	12	2	2	18	5	5	9	21	21	19	5
PRO	CCA	13	13	1	7	4	5	6	7	5	14	3	26	15	12	1	0	14	14	14	12	10	1	1	1	1	4	4	4	6	6	6	2	73	26	3	2	6	15	16	14	4	7	5	6	6	9	15	15	22	1
	CCC	2	2	2	5	0	0	4	1	0	8	1	1	6	4	2	0	9	5	5	5	2	1	2	1	2	0	0	0	0	0	0	0	8	9	0	0	1	12	6	4	3	8	3	2	2	4	4	4	0	2
	CCG	1	1	0	6	2	3	2	1	0	4	0	1	2	7	3	0	10	5	5	6	2	0	0	0	1	0	0	0	0	0	0	0	2	7	0	0	0	4	5	1	0	0	2	2	2	3	0	0	2	1
	CCU	6	6	2	1	8	4	3	6	8	16	1	10	6	11	1	1	8	8	8	8	1	2	3	2	3	0	0	0	1	0	1	0	28	25	0	0	1	4	11	11	2	5	5	7	7	7	7	4	1	1
ALA	GCA	11	10	6	3	7	2	7	11	4	18	3	5	14	16	2	0	19	13	13	11	5	2	7	2	7	0	0	1	1	0	1	0	28	24	0	0	0	13	20	12	9	8	10	8	8	5	5	3	3	3
	GCC	5	5	8	5	5	1	2	4	12	5	6	9	12	13	2	0	5	10	10	7	3	6	6	6	6	4	2	1	8	2	3	0	22	14	4	1	5	4	8	11	7	1	4	2	2	4	11	10	17	1
	GCG	2	2	2	2	5	0	3	1	0	9	2	2	4	5	0	1	9	4	4	4	0	3	2	3	2	0	0	0	0	0	0	0	9	13	0	0	0	5	4	3	1	2	1	3	3	3	2	2	2	1
	GCU	8	8	3	4	1	4	11	8	11	13	2	25	17	9	2	2	16	11	11	16	4	5	11	5	11	14	4	4	6	17	8	5	39	45	4	1	6	7	8	7	7	5	15	7	7	4	16	14	18	2
GLY	GGA	7	8	2	5	7	1	5	8	0	16	0	2	8	10	4	1	13	7	7	8	1	5	2	5	2	0	0	0	0	0	0	0	13	6	0	1	1	4	19	5	3	7	5	6	6	11	3	3	6	6
	GGC	5	5	3	1	4	0	2	3	7	8	0	3	8	8	0	1	11	4	4	3	0	4	8	4	8	1	0	0	1	0	0	0	10	13	0	1	2	7	7	6	9	6	2	6	6	8	6	6	5	2
	GGG	3	3	0	4	2	0	0	1	0	2	0	0	4	6	0	2	13	7	7	8	1	4	4	4	4	0	0	0	0	0	0	0	5	10	0	0	0	8	6	5	0	0	2	2	2	6	2	2	5	3
	GGU	8	8	6	17	5	0	4	4	14	16	4	24	20	9	2	0	14	15	15	10	2	10	14	10	14	7	6	6	16	5	18	0	86	76	11	3	17	8	11	13	8	6	9	8	8	5	20	19	31	3
VAL	GUA	5	5	1	4	10	3	9	5	0	17	1	10	5	12	5	2	13	15	15	9	3	8	2	8	2	0	0	0	0	0	0	0	16	13	0	0	1	8	22	4	0	5	3	8	8	5	4	4	4	2
	GUC	4	5	1	6	7	1	4	4	9	9	2	10	5	12	2	0	10	5	5	1	5	6	5	6	5	2	3	4	6	5	4	0	20	28	2	6	5	6	6	5	3	1	6	7	7	3	12	12	18	3
	GUG	5	5	3	2	4	2	1	5	3	7	0	10	4	16	2	1	16	5	5	6	0	2	8	2	8	0	0	0	1	0	0	0	12	21	0	1	0	6	18	4	4	1	4	4	4	6	6	6	0	2
	GUU	11	11	10	8	6	2	6	5	6	19	1	31	14	18	1	4	12	21	21	13	2	5	10	5	9	5	8	6	7	7	6	0	70	45	9	3	9	17	14	16	5	2	14	10	10	15	15	15	31	9
LYS	AAA	39	38	3	19	12	2	11	22	5	48	7	35	23	46	6	2	52	35	35	21	6	13	7	13	7	6	2	4	1	4	6	1	63	58	1	2	7	33	61	30	6	28	14	19	19	27	11	10	32	12
	AAG	11	11	9	15	5	11	14	14	16	7	24	19	27	5	2	5	45	15	15	19	3	6	15	6	15	24	12	10	10	17	12	7	30	45	10	2	12	16	36	18	13	22	3	10	10	15	15	15	31	9
ASN	AAC	13	13	5	9	4	2	3	3	15	20	9	20	9	15	9	1	29	10	10	11	5	11	16	11	16	4	6	7	6	6	2	6	31	25	6	3	7	14	20	19	12	3	9	10	10	15	30	30	22	4
	AAU	23	23	6	8	14	4	11	19	5	38	2	25	21	51	9	2	37	17	17	23	4	21	16	21	16	0	0	0	2	1	1	0	40	54	1	0	4	21	45	21	3	12	14	13	13	23	14	14	11	5
GLN	CAA	17	17	2	15	7	5	6	8	8	12	4	18	16	18	5	0	23	15	15	19	1	12	14	12	14	7	7	7	2	3	4	4	53	41	5	1	6	14	23	17	7	6	7	7	7	14	19	18	23	8
	CAG	4	4	5	8	9	5	4	9	2	12	1	4	7	22	6	2	22	12	12	5	2	5	8	5	7	0	0	0	0	0	0	0	13	6	0	0	1	3	11	7	6	4	7	3	3	11	0	0	4	2
HIS	CAC	6	6	3	1	4	0	0	4	2	3	0	7	3	9	2	2	4	4	4	1	0	0	2	0	1	1	0	0	0	1	7	0	8	6	2	0	2	5	3	17	3	2	0	3	3	3	1	1	6	1
	CAU	7	7	3	7	8	1	1	5	1	8	1	8	6	12	1	0	6	10	10	6	3	1	0	1	0	1	1	1	0	0	3	0	27	24	2	0	2	12	10	14	3	3	4	9	8	12	3	3	13	2
GLU	GAA	25	25	3	25	21	5	15	15	6	36	7	51	21	55	9	1	67	51	51	20	8	15	12	15	12	10	7	7	4	4	5	0	84	74	6	6	23	17	58	31	7	25	6	13	13	20	22	22	57	11
	GAG	6	6	3	11	13	5	7	11	8	18	1	11	9	27	1	1	33	20	20	11	4	6	6	6	6	0	0	0	0	1	0	0	33	13	0	0	2	9	29	11	4	14	6	3	3	6	8	8	8	3
ASP	GAC	9	9	3	12	5	2	6	1	8	17	1	22	14	23	3	0	22	14	14	9	10	10	6	10	6	2	5	4	3	3	4	0	22	29	3	2	7	10	13	14	8	7	5	11	11	6	11	11	14	7
	GAU	19	20	3	12	15	12	14	14	7	38	6	27	19	41	6	1	61	34	34	26	18	11	10	11	11	1	2	3	2	2	1	0	80	60	2	1	9	24	43	27	3	19	17	17	17	20	21	21	30	13
TYR	UAC	12	12	7	12	6	4	1	11	4	18	3	10	14	12	3	1	9	11	11	4	1	7	10	7	10	1	4	4	2	7	4	1	30	14	4	0	7	9	12	8	6	5	7	8	8	4	21	21	16	2
	UAU	19	19	6	10	8	3	4	10	4	18	3	13	15	19	7	4	14	22	22	7	4	9	2	9	2	0	1	1	0	1	1	0	27	26	0	0	2	13	12	15	2	3	12	14	14	10	10	10	8	4
CYS	UGC	4	4	1	1	2	2	0	1	6	1	2	2	2	0	1	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	2	6	6	1	0	0	0	2	2	1	1	1	3	1
	UGU	5	5	4	1	5	4	2	5	1	10	6	4	3	8	1	1	4	7	7	2	1	3	2	3	2	0	1	1	2	0	0	0	18	21	1	0	1	5	1	3	1	0	2	8	8	6	1	1	9	2
PHE	UUC	10	10	8	9	7	3	3	9	11	8	3	27	14	8	4	3	13	6	6	3	2	2	2	2	2	6	2	2	1	2	5	1	20	23	2	1	15	10	16	7	10	2	12	11	11	11	3	20	18	21	4
	UUU	15	15	5	11	13	6	3	12	6	45	1	20	20	29	2	3	35	27	27	18	5	4	2	4	2	2	0	0	2	0	0	0	38	27	3	0	5	12	22	13	1	6	15	15	15	9	19	18	18	6
ILE	AUA	19	19	1	5	11	8	8	17	1	26	5	6	11	19	8	3	19	13	13	4	1	5	8	4	8	0	0	0	0	0	0	0	11	20	0	0	0	7	29	6	0	6	11	13	13	20	3	2	1	6
	AUC	6	6	4	7	4	1	2	9	5	11	0	13	7	12	1	4	13	12	12	8	1	3	1	3	1	6	5	3	5	3	6	4	26	17	5	1	6	15	15	20	6	2	6	10	10	12	4	4	13	3
	AUU	8	8	3	12	15	5	7	10	4	21	3	21	16	37	3	3	25	32	32	10	4	9	5	9	5	1	2	4	2	5	3	0	60	58	8	2	8	19	42	21	5	3	16	19	19	15	12	12	21	7
MET	AUG	18	18	8	8	5	2	10	7	4	22	1	18	12	18	4	3	25	26	26	12	8	4	7	4	7	1	2	2	6	3	4	3	45	37	3	2	3	13	22	19	2	9	11	10	10	7	11	10	22	5
TRP	UGG	16	16	4	5	6	1	1	6	2	10	1	17	6	10	2	1	10	4	4	2	3	0	0	0	0	1	0	0	2	0	2	2	13	10	1	0	2	3	9	7	6	2	3	12	12	3	16	16	13	3
TER	UAA	0	0	0	1	0	1	0	1	0	0	0	1	1	0	1	1	1	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	0	0	1	1	0	0	1	0	0	0	1	0	1	1	0	0	1	0
	UAG	0	0	0	0	1	0	0	0	0	1	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	1	1	0	0	0	0	0	0	0	0	1	1	0	1
	UGA	1	1	1	0	0	0	1	0	1	0	0	0	1	0	0	0	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0
TOTAL		566	566	221	390	374	102	297	424	284	905	129	764	576	973	196	731	032	779	779	505	173	310	323	310	323	156	137	137	138	138	150	52	17	271	461	131	68	255	563	979	634	234	334	432	471	471	516	533	513	735	217

32	YSC TOP 2	YSC TRP 1	YSC TRP 2	YSC TRP 3	YSC TUB	YSC TY1 170 1	YSC TY1 170 2	YSC URA 301	YSC YP2 OHC 1	YSD STA 82	YSE GLU B	YSG ACT 2	YSG GAL 2826	YSG H4 2	YSG NAL 682	YSG NEL 6ST 1	YSG RPL 16	YSK K1C G01	YSK K1C G02	YSK K1C G03	YSK K1C G04	YSK LAC 9	YSK DAS 1	YSH CDC 10	YSP CDC 2	YSP CYC	YSP HIS AB	YSP HIS ABA 61	YSP HIS ABA 62	YSP HIS PRO 1	YSP RAS	YSP RAS X	YSP TUB A1	YSP TUB A2	YSP TUB B	YSP TUB GLN	YSP TUB NIF	YSP TUB PET	YSP TUB RUB P01	YSP TUB RUB P02	YSP TRX A	YSP TRX PCP	YSI PSB A	YSI PL	YSI PS	AQU CPC AB0 1	AQU CPC AB0 2	AQU PCA B01	AQU PCA B02	BAM APR
ARG CGA	5	0	4	0	1	0	12	0	0	2	0	0	0	0	0	0	0	2	1	0	1	1	2	11	6	0	0	0	0	0	0	0	3	0	2	0	0	0	0	0	0	16	0	0	0	1	0	1	0	0
CGC	2	0	2	0	1	1	4	0	0	1	0	0	1	0	0	1	0	0	0	1	0	1	3	3	4	1	1	0	0	4	3	2	5	5	6	3	5	0	9	0	1	45	7	11	3	4	2	4	2	1
CGG	2	0	0	2	0	0	0	0	1	4	0	0	1	0	1	1	1	0	0	0	0	7	4	3	1	0	0	0	0	0	2	2	0	0	0	2	0	1	1	0	0	15	1	3	0	1	0	1	0	0
CGU	7	1	9	4	3	4	14	0	4	4	9	5	2	2	6	3	1	2	1	3	1	10	5	3	8	9	4	7	4	3	12	15	9	8	11	0	10	5	0	0	6	13	5	6	5	6	5	0	0
AGA	35	4	14	6	12	8	30	0	1	6	12	13	9	11	16	10	15	31	24	8	12	8	21	10	5	0	0	0	1	3	5	5	3	4	2	1	1	0	2	1	1	1	0	0	0	0	0	0	2	2
AGG	10	2	7	7	1	3	2	0	1	3	1	0	5	1	4	2	0	0	0	2	0	10	4	4	1	0	0	0	2	0	2	1	2	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
LEU CUA	15	2	5	10	2	5	24	0	2	6	6	2	7	2	4	6	0	4	10	1	4	17	0	5	2	0	1	0	0	0	2	1	0	0	0	6	4	2	11	1	1	8	0	0	0	0	1	0	1	0
CUC	3	3	3	2	0	1	9	0	0	6	3	0	3	0	4	4	0	1	0	1	0	8	10	3	1	1	2	2	0	4	0	0	5	6	3	6	2	1	2	1	1	40	5	10	3	10	9	10	9	2
CUG	12	4	7	3	2	1	9	1	7	14	3	0	4	0	4	7	0	3	4	0	1	7	33	7	0	1	0	1	0	0	0	0	3	3	0	7	2	0	8	3	1	61	15	22	3	0	0	0	0	3
CUU	17	3	5	6	7	9	20	1	1	5	4	2	5	0	4	9	0	9	6	9	4	17	5	20	10	1	3	4	2	14	3	4	10	10	11	2	2	0	1	2	1	8	1	1	0	2	4	2	4	6
UUA	42	3	14	12	4	11	45	0	5	6	28	2	10	8	2	8	3	3	42	53	29	13	23	0	36	8	0	1	1	1	5	8	7	7	4	7	8	7	1	4	2	1	1	1	0	0	0	0	0	7
UUG	27	8	17	14	18	4	16	1	5	19	30	19	14	5	13	9	8	11	6	2	0	24	8	17	13	2	9	8	3	12	3	4	6	8	13	10	7	3	15	2	1	24	9	10	1	0	2	0	2	3
SER UCA	17	4	7	8	3	14	32	0	2	19	26	3	4	0	4	5	0	20	16	6	2	36	0	26	6	0	0	0	1	4	5	5	2	5	8	2	1	2	0	0	1	6	1	0	0	0	0	0	0	9
UCC	13	1	3	9	6	8	14	0	6	16	8	12	7	3	9	2	4	3	4	1	1	14	6	16	2	1	1	1	7	11	2	2	3	7	2	5	5	1	4	1	0	7	3	5	0	3	0	3	0	5
UCG	14	3	5	5	3	1	16	0	2	9	0	0	5	0	8	4	0	1	0	0	0	9	21	5	1	0	0	0	0	2	2	2	3	1	0	0	0	0	0	0	16	11	10	2	0	0	0	0	0	0
UCU	26	4	10	10	20	13	28	0	1	29	26	14	19	3	10	20	6	32	50	9	4	21	5	30	4	2	5	5	7	10	4	3	16	8	18	14	4	3	9	4	2	6	1	2	0	6	2	6	2	15
AGC	14	4	3	3	3	4	7	1	1	10	2	0	7	0	4	5	0	0	0	0	1	8	2	6	2	0	1	0	0	7	2	2	6	3	3	5	2	0	0	3	2	19	11	2	5	3	5	3	5	16
AGU	10	4	6	4	2	7	20	1	3	7	8	2	4	0	9	7	0	22	26	9	7	15	5	13	3	0	0	1	0	7	3	3	4	5	2	2	0	0	0	0	1	9	1	0	0	0	0	0	0	2
THR ACA	30	5	9	6	7	17	44	0	3	33	7	0	8	0	7	8	1	18	24	8	5	23	3	6	2	0	0	0	0	2	4	4	3	2	3	13	1	2	10	2	3	5	0	0	0	0	0	0	0	8
ACC	11	0	9	10	5	4	18	0	7	27	2	8	6	1	10	5	5	2	3	0	0	12	8	8	3	4	0	1	4	6	5	3	9	6	4	8	14	4	17	4	2	26	13	24	1	7	6	7	6	1
ACG	6	1	5	2	4	5	14	1	0	19	1	0	4	0	5	4	0	0	2	0	0	11	12	4	2	1	0	0	0	0	1	2	1	6	1	2	0	0	2	0	0	24	1	4	1	0	1	0	1	4
ACU	36	1	11	5	9	8	29	1	8	48	25	13	8	5	10	7	5	16	27	10	4	21	2	10	4	4	2	3	5	17	3	4	12	12	13	3	1	2	4	0	2	9	3	1	2	4	8	4	8	5
PRO CCA	20	4	14	10	8	19	26	1	0	21	29	13	10	1	14	8	4	7	13	4	1	21	10	9	3	0	0	0	0	5	2	2	5	5	0	13	3	1	4	2	1	7	1	1	0	0	0	0	0	1
CCC	6	3	2	4	3	0	11	1	0	5	0	0	2	0	4	3	0	3	1	1	1	3	3	8	2	3	3	5	3	5	0	0	3	2	5	6	2	1	5	3	1	19	5	7	5	4	3	4	3	0
CCG	6	2	3	3	1	6	7	0	1	3	1	0	6	0	2	2	0	0	1	0	0	9	11	0	1	1	0	0	0	0	0	0	1	2	2	1	0	0	0	0	1	24	5	9	1	0	0	0	0	3
CCU	23	2	10	7	6	7	23	0	0	15	7	6	9	0	8	3	1	18	31	8	2	12	10	14	6	2	3	1	3	13	1	1	12	11	11	12	4	1	11	3	4	7	5	5	2	0	2	0	2	11
ALA GCA	17	6	15	6	7	5	25	1	3	7	8	0	8	0	4	12	0	20	17	5	2	19	9	18	3	0	1	0	0	1	1	1	4	6	6	10	8	2	13	1	3	6	11	7	1	3	5	3	5	14
GCC	13	1	6	9	8	6	8	0	0	14	9	11	13	3	8	9	3	2	5	1	1	12	35	13	3	6	7	7	5	10	2	3	5	9	10	7	2	2	4	1	2	23	7	8	0	3	2	3	2	8
GCG	9	1	3	1	1	2	2	0	3	7	0	0	5	0	1	1	0	0	1	0	1	12	16	1	1	0	0	0	0	1	3	2	0	1	1	2	1	0	6	0	1	20	4	10	0	4	2	4	2	14
GCU	26	6	10	16	16	12	19	0	2	16	51	15	20	3	12	12	6	15	36	6	6	13	16	19	7	5	12	13	11	26	9	10	17	14	26	17	16	5	25	1	2	17	8	19	2	17	14	17	14	16
GLY GGA	12	4	2	9	2	2	14	0	2	11	4	0	5	1	6	6	0	20	30	4	8	7	9	12	6	1	2	3	0	13	1	2	9	6	10	3	0	2	3	1	0	6	0	0	0	1	0	1	0	9
GGC	10	5	5	5	6	1	9	0	3	19	2	0	9	0	6	6	0	1	3	0	1	5	32	4	2	4	1	1	0	4	0	1	3	9	3	9	3	0	6	1	1	27	15	18	3	1	4	1	4	16
GGG	11	1	3	2	4	1	0	0	5	6	4	0	2	0	2	5	0	3	2	0	0	2	3	7	4	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	1	7	0	4	0	0	0	0	0	6
GGU	45	11	16	16	21	5	28	0	5	13	69	29	12	15	23	29	15	15	51	6	7	12	12	8	5	7	12	12	5	12	9	8	21	15	22	24	26	4	31	2	4	11	19	23	1	10	9	10	9	9
VAL GUA	11	4	5	9	4	3	15	0	3	11	4	0	6	0	1	2	0	26	15	6	7	10	0	8	3	1	1	0	1	3	6	6	9	5	4	6	11	3	15	2	3	4	1	0	0	6	1	6	1	14
GUC	12	3	8	9	11	5	13	1	5	19	10	12	12	4	5	4	8	5	3	1	0	4	16	7	4	2	3	1	1	9	1	2	5	4	7	3	0	1	3	1	6	21	4	13	2	0	1	0	0	8
GUG	10	4	6	11	9	3	6	0	6	7	4	0	8	0	3	3	0	5	3	3	0	6	22	5	3	0	0	0	1	2	1	1	3	2	3	1	0	0	1	0	3	26	14	10	2	0	0	0	0	4
GUU	28	10	11	12	9	9	20	0	0	19	34	14	19	4	15	11	7	23	32	10	4	15	7	20	12	1	5	8	3	14	13	12	20	22	19	11	6	4	11	6	6	10	7	4	1	10	5	10	6	14
LYS AAA	109	12	19	19	5	18	75	2	2	11	27	6	19	4	27	5	3	89	78	34	23	20	8	30	16	2	3	4	3	3	10	10	8	7	7	23	6	3	18	3	6	10	2	17	2	4	4	4	4	22
AAG	50	3	13	14	11	6	34	1	16	11	10	12	18	7	19	14	14	15	21	2	2	19	29	12	3	12	8	6	13	6	5	5	6	8	9	8	8	1	7	3	2	16	0	9	3	2	3	2	3	6
ASN AAC	30	3	6	14	15	14	47	3	9	27	19	9	12	1	11	10	7	10	14	5	6	37	29	24	3	4	3	7	5	13	2	2	13	6	8	20	14	1	18	1	1	19	19	13	2	4	8	4	8	16
AAU	51	10	17	9	12	24	50	1	3	14	30	0	17	0	18	25	0	63	84	33	12	34	5	36	10	2	4	0	0	26	5	5	13	13	13	1	2	0	0	1	1	12	2	1	1	3	1	3	1	4
GLN CAA	39	5	18	8	19	25	40	0	7	13	32	14	8	2	12	8	7	19	17	6	6	29	4	25	7	2	6	4	2	10	8	8	14	16	15	11	9	4	12	7	6	29	9	8	5	3	4	3	4	9
CAG	11	2	4	6	4	9	12	2	3	9	2	0	2	0	5	6	0	2	0	0	1	17	23	12	1	0	0	1	2	6	3	3	3	3	3	4	1	1	3	2	2	50	1	4	2	3	2	3	2	5
HIS CAC	7	0	1	6	6	7	18	0	0	7	4	7	3	2	6	3	3	3	0	1	0	8	18	7	0	1	0	1	2	2	0	0	4	4	3	7	7	1	12	2	0	15	10	15	2	0	1	0	1	6
CAU	16	3	8	9	5	9	28	1	1	6	12	3	6	0	8	4	0	15	13	8	2	13	0	11	9	1	4	3	0	8	3	2	8	7	7	3	0	1	1	0	1	9	1	1	1	0	1	0	1	2
GLU GAA	91	6	21	23	25	18	52	2	7	20	37	26	22	4	31	10	8	61	42	26	17	29	9	34	16	6	4	4	4	11	17	17	24	25	18	24	22	9	23	7	4	39	4	24	3	8	5	8	5	9
GAG	42	6	5	10	11	4	14	0	4	11	3	1	9	0	12	7	1	8	11	1	4	13	36	9	7	2	2	2	3	11	3	4	12	12	18	8	3	1	8	2	1	52	12	5	8	1	2	1	2	2
ASP GAC	24	5	11	12	12	9	36	0	12	19	10	9	9	1	17	15	7	9	12	3	2	11	27	14	7	1	1	1	0	10	3	4	8	8	9	11	16	6	16	2	1	18	6	25	2	5	6	5	6	7
GAU	67	10	23	11	17	10	59	0	5	16	42	11	14	2	28	22	4	54	79	31	15	26	3	37	11	3	1	1	4	13	9	8	17	19	17	17	1	5	12	0	6	27	4	6	3	5	4	5	4	7
TYR UAC	24	3	6	13	7	9	23	1	5	14	10	14	6	2	12	16	3	5	14	2	1	9	31	6	3	3	1	1	2	14	3	2	9	9	5	13	7	2	16	6	2	23	12	12	6	4	9	4	9	11
UAU	36	1	14	3	8	12	38	0	4	12	32	0	13	2	14	9	2	50	57	39	12	18	6	13	9	2	2	2	3	14	8	8	13	13	10	9	2	3	4	2	0	13	2	2	0	1	2	1	2	3
CYS UGC	2	2	3	4	1	0	8	0	1	5	2	0	3	0	1	4	0	1	5	1	0	8	9	2	1	1	0	0	0	3	1	1	4	3	2	2	4	2	3	2	1	6	2	5	4	2	1	2	1	0
UGU	7	2	5	5	4	3	5	0	3	4	10	4	10	0	4	6	1	19	18	13	6	8	7	6	2	1	0	0	0	6	5	5	8	9	2	4	2	2	4	0	1	4	2	2	0	1	1	1	1	0
PHE UUC	21	3	9	6	17	4	15	0	5	14	14	12	9	2	18	9	7	11	15	0	2	14	21	4	0	4	1	1	1	14	1	0	5	9	10	14	6	1	12	2	0	25	23	19	7	4	5	4	5	5
UUU	31	5	12	11	8	7	23	0	3	17	17	2	17	0	24	12	0	57	47	24	8	14	7	21	12	2	0	0	1	23	7	7	16	11	13	11	0	2	8	2	3	18	5	5	1	2	0	2	0	3
ILE AUA	33	3	7	3	0	4	46	2	0	8	3	0	5	0	5	2	0	59	32	23	15	23	1	11	1	0	0	0	0	1	1	1	2	0	1	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0
AUC	22	1	11	11	11	10	19	0	6	13	13	16	7	4	13	9	4	3	3	1	0	13	25	9	2	1	3	3	2	5	3	3	8	8	5	18	15	3	19	4	2	23	18	21	7	5	5	5	5	10
AUU	61	10	27	19	9	8	40	1	5	22	34	14	16	3	17	12	6	30	43	11	8	8	15	20	16	2	3	3	6	10	6	5	11	17	14	13	6	2	6	3	1	28	6	1	0	3	1	3	1	7
MET AUG	28	2	12	8	15	10	21	1	5	8	18	16	12	1	8	13	4	17	26	11	6	18	17	14	7	2	1	1	3	7	4	4	13	11	18	12	15	1	8	1	1	4	16	14	12	4	6	3	6	3	8
TRP UGG	14	3	2	3	6	4	11	0	2	11	7	4	4	0	20	12	1	13	14	2	1	18	6	4	1	0	0	0	0	4	0	0	4	4	4	8	0	0	9	2	2	13	10	9	2	0	1	0	1	4
TER UAA	0	0	1	1	1	1	0	1	0	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	0	1	0	0	0	1	1	1	1	1	1	1
UAG	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	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
UGA	1	0	0	0	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	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0
TOTAL	1430	225	529	485	450	439	1348	29	207	779	826	376	529	104	585	472	175	996	1147	429	250	866	703	768	298	110	132	133	127	454	220	215	456	450	449	475	300	100	477	110	108	1054	361	473	112	173	163	173	163	383

33		BAM NPR	BAM SAC Q	BAM SUB	BCE BLM II	BCE PPC 5B	BCE PPC 5H	BCE SAS PA	BCE SAS PB	BCI APH	BJP NIF B	BLI BLI #2	BLI PEM P	BLI PEM	BLI SPO OH	BLI SUB TCA	BMA CDG	BME C	BME C4P	BME C5P	BME CA	BME CB	BNO PIL	BNO PIL 2S	BPE TOX #1	BPE TOX #2	BPE TOX #3	BPE TOX #4	BPE TOX #5	BPE TOX S#1	BPE TOX S#2	BPE TOX S#3	BPE TOX S#4	BPE TOX S#5	BPU CAT 06	BPU XYN A	BSP CEL	BSP CEL A	BST CEL L	BST LDH L	BST SAS PA	BST THT 15# 1	BST THT 15# 2	BST TRP S	BSU AMY EN	BSU AMY L	BSU CIT G#2	BSU DNA E	BSU GLU CB	BSU GNT #1	BSU GNT #2	BSU GNT #3
ARG	CGA	0	2	0	2	2	2	1	0	1	3	0	4	2	0	4	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	2	0	3	2	5	3	0	0	1	2	3	4	4	5	1	2	0	0
	CGC	7	0	1	1	1	1	1	1	3	12	1	1	4	1	7	0	0	3	2	0	1	3	12	7	4	0	9	13	7	6	0	9	0	0	0	0	10	11	1	0	1	7	2	2	4	4	1	2	8	3
	CGG	1	0	0	0	1	1	0	0	6	4	2	3	1	0	5	0	0	0	0	0	0	0	5	3	2	2	1	5	3	4	3	1	1	0	0	0	6	3	0	0	0	0	11	1	1	0	6	1	5	4	0
	CGU	2	0	0	0	4	3	3	2	3	5	0	3	0	1	4	2	3	0	0	0	1	1	3	2	1	0	0	3	2	1	0	0	0	0	4	1	1	2	1	1	0	1	0	4	6	4	3	2	2	0	0
	AGA	2	1	2	2	3	3	1	0	2	1	1	2	3	3	0	1	0	1	0	1	0	0	1	1	1	0	1	1	1	1	1	1	1	6	3	5	2	0	0	0	2	0	3	4	2	10	1	1	9	2
	AGG	0	0	0	0	2	2	0	0	1	7	0	2	1	1	3	0	0	0	0	0	0	0	0	3	1	0	0	3	3	1	0	0	3	1	0	1	1	2	0	0	1	6	0	6	8	0	8	0	2	2	0
LEU	CUA	0	0	0	4	4	4	0	2	3	6	0	0	2	1	0	1	0	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	4	1	4	3	3	2	1	1	5	1	1	2	1	2	2	5	1	5
	CUC	6	1	2	0	0	0	0	0	10	7	1	3	4	3	10	0	0	0	0	0	1	1	4	7	3	4	5	4	7	3	4	5	1	1	2	1	7	5	0	0	3	5	2	2	6	6	1	4	5	10
	CUG	11	0	3	1	1	2	0	0	15	11	3	3	3	4	19	0	0	0	0	0	0	0	5	9	9	10	14	5	9	10	11	14	3	4	2	0	7	3	0	0	0	5	9	10	13	12	15	2	6	12	18
	CUU	6	1	6	4	6	6	3	1	6	4	1	15	3	6	6	0	2	3	2	0	2	3	1	2	1	1	2	1	2	1	1	2	3	2	2	2	7	3	2	0	14	6	5	7	11	17	5	5	1	5
	UUA	7	4	7	17	10	10	2	3	0	0	6	8	5	1	1	4	4	1	2	0	8	7	0	1	0	0	0	0	1	0	0	0	5	5	10	16	6	4	1	2	25	0	9	13	7	12	3	9	9	19
	UUG	7	0	3	4	2	1	0	0	4	5	2	4	2	7	10	0	0	0	0	0	4	1	1	2	2	3	3	1	2	2	4	3	7	2	2	2	9	6	0	0	6	7	5	7	5	7	5	1	8	7
SER	UCA	8	2	9	2	4	8	1	3	0	1	1	2	4	10	3	3	1	3	1	0	3	3	0	2	0	0	0	0	2	0	0	0	4	2	4	6	1	1	2	1	10	1	5	6	5	6	4	9	8	8
	UCC	9	0	5	1	0	0	0	0	2	7	1	1	6	5	16	0	0	0	0	0	1	7	6	2	4	3	7	6	2	4	3	0	5	2	1	6	2	0	0	6	3	8	8	0	4	2	2	6	4
	UCG	0	0	0	2	0	1	0	0	2	7	2	3	2	0	14	0	0	0	0	0	0	0	5	0	0	2	2	5	0	1	2	2	0	1	1	0	7	3	0	0	3	7	9	12	2	7	3	2	4	6
	UCU	15	1	15	9	4	4	1	1	0	1	2	1	2	7	1	1	0	1	2	4	3	1	0	1	0	0	0	0	1	0	0	0	2	1	7	11	3	1	5	0	8	0	11	14	4	14	2	1	3	4
	AGC	9	1	16	1	1	1	0	1	4	6	1	2	4	14	15	0	3	4	0	4	1	3	12	10	5	3	5	11	10	5	3	5	5	7	3	4	9	5	0	1	6	5	4	8	13	12	1	4	11	3
	AGU	3	0	2	1	5	5	2	0	3	1	4	5	3	3	3	1	0	0	0	1	1	2	0	0	1	0	0	0	0	1	0	0	3	4	9	10	4	1	1	0	8	0	7	10	2	3	1	0	4	3
THR	ACA	14	1	8	10	11	12	3	2	0	2	2	8	3	8	6	2	1	2	2	6	2	7	3	1	0	0	1	3	1	0	0	1	3	7	13	9	10	1	1	0	17	1	16	21	10	6	12	4	20	15
	ACC	9	1	1	2	1	0	0	0	3	12	4	3	3	4	20	0	0	0	0	0	1	3	10	9	3	4	8	10	9	5	4	8	2	5	0	1	18	2	0	1	4	6	4	10	5	3	0	2	5	3
	ACG	9	0	4	7	3	4	0	0	6	8	0	7	1	7	39	0	0	0	0	0	0	0	6	9	2	2	7	6	9	2	2	7	6	6	6	8	11	8	0	0	0	10	7	13	8	10	5	1	11	3
	ACU	6	0	5	2	11	8	0	1	0	2	1	5	3	4	3	0	2	2	1	2	4	8	4	2	1	2	1	4	2	2	2	1	1	3	6	4	6	1	2	0	4	0	2	3	5	2	6	1	2	5
PRO	CCA	0	0	1	1	4	5	0	0	0	3	1	3	0	3	2	1	0	0	1	0	1	3	0	1	0	0	2	0	1	0	0	2	1	5	21	35	5	0	1	0	4	3	1	5	4	3	4	0	3	2
	CCC	0	0	0	0	0	0	0	0	4	6	0	1	1	0	6	0	0	0	0	0	0	5	3	6	1	2	5	3	7	3	2	1	0	0	1	3	0	0	0	2	1	0	2	1	1	0	2	2	1	
	CCG	10	0	3	2	3	1	0	0	7	7	0	5	1	4	15	0	0	0	0	0	1	0	4	6	5	5	7	5	6	6	5	7	2	0	9	11	13	9	0	0	1	9	9	9	9	9	3	2	1	10	11
	CCU	10	0	11	2	2	3	0	1	0	5	2	3	2	5	2	1	0	1	1	0	1	1	1	1	1	0	0	1	1	0	0	0	6	1	3	7	4	0	1	0	9	1	5	9	5	8	3	1	2	2
ALA	GCA	10	1	14	6	9	10	4	2	1	7	0	13	1	12	4	3	4	5	3	9	4	6	5	3	1	1	2	5	3	1	2	2	2	7	16	17	5	2	1	0	7	4	14	18	10	10	6	4	11	21
	GCC	16	0	8	0	1	2	0	0	3	15	0	8	1	6	20	0	0	0	0	0	0	2	17	7	9	4	14	16	7	11	4	14	3	1	0	1	18	18	0	0	4	10	8	11	6	12	3	3	14	9
	GCG	7	0	14	4	8	6	0	1	10	19	1	5	2	18	29	2	0	0	0	1	3	0	9	5	5	5	8	10	5	5	6	8	0	3	4	10	3	8	0	0	3	10	11	15	22	7	1	6	8	14
	GCU	14	0	16	2	13	12	4	6	2	12	1	8	4	18	8	6	4	3	7	5	10	11	3	0	0	1	1	3	0	0	1	1	4	3	8	9	11	6	5	0	7	4	12	13	11	17	6	2	4	5
GLY	GGA	8	0	9	11	11	13	3	1	6	8	2	7	4	19	4	2	5	1	3	0	2	3	3	4	0	2	3	3	4	1	3	3	1	8	10	21	13	5	4	1	18	3	13	17	11	13	8	3	8	19
	GGC	20	0	16	3	2	2	1	1	7	18	1	3	0	15	43	3	4	6	0	0	3	1	15	16	7	7	13	15	16	9	7	13	2	8	5	1	19	12	4	0	4	11	12	18	9	12	4	0	20	18
	GGG	1	0	6	5	6	4	0	0	8	6	0	1	0	3	22	0	0	0	0	0	0	0	0	1	0	0	3	0	1	0	0	3	0	7	4	6	13	9	0	0	8	5	7	7	3	5	4	0	4	7
	GGU	10	0	9	4	5	6	6	6	1	8	1	5	0	3	11	3	0	2	5	6	12	10	1	1	1	0	2	0	1	1	0	2	2	1	13	11	4	2	2	0	13	1	5	11	6	5	8	3	6	6
VAL	GUA	10	1	14	14	6	6	3	0	2	5	2	5	1	10	7	3	4	3	2	1	2	1	3	1	1	0	2	3	1	1	0	2	4	3	9	12	3	3	3	1	16	0	4	8	4	9	2	4	3	5
	GUC	10	0	8	2	1	2	0	0	4	21	1	3	0	12	13	0	0	0	0	0	0	0	10	7	6	3	6	10	7	6	3	6	0	4	4	3	13	13	1	0	5	12	4	5	8	11	5	6	10	17
	GUG	10	1	4	4	3	2	0	0	5	13	1	6	5	9	23	0	0	1	0	3	0	0	4	5	5	2	2	5	5	5	2	2	5	2	5	4	9	10	1	0	4	3	11	13	7	5	2	3	9	5
	GUU	9	0	14	7	8	8	2	4	2	2	3	3	2	10	6	1	0	0	2	0	7	4	2	1	1	0	1	2	1	1	0	1	3	1	7	8	7	4	1	1	10	4	4	7	11	10	4	4	12	
LYS	AAA	35	4	22	17	24	25	3	4	9	9	9	19	7	17	15	1	3	3	4	8	12	9	0	2	1	1	0	0	2	1	1	0	13	7	10	11	26	11	2	1	14	17	14	26	22	35	9	13	19	13
	AAG	8	2	6	9	6	3	0	0	7	21	5	10	4	8	13	3	0	1	0	2	5	2	0	5	7	4	7	0	5	7	5	7	5	3	3	3	7	3	0	1	3	5	7	7	12	13	4	6	9	4
ASN	AAC	29	2	16	3	6	4	2	1	4	11	4	7	1	13	31	6	3	3	3	9	3	4	9	3	0	2	6	9	3	0	3	6	5	8	8	12	17	8	4	1	6	7	13	14	18	8	12	4	8	10
	AAU	14	1	4	14	9	13	3	1	2	9	7	10	5	8	21	2	4	1	1	4	6	3	4	2	1	1	0	4	2	1	1	0	6	11	15	19	7	8	1	1	10	2	26	42	12	11	8	3	8	3
GLN	CAA	11	1	9	5	7	6	6	6	0	7	3	5	3	6	10	5	5	5	4	18	4	6	1	2	3	0	3	1	2	3	1	3	6	4	11	20	12	6	7	1	6	12	12	17	9	16	6	5	8	5
	CAG	11	1	5	2	2	2	0	0	3	11	1	4	2	3	12	0	0	1	0	0	0	1	7	5	1	3	7	7	5	2	4	7	1	3	4	4	3	1	1	0	4	6	9	12	9	14	1	3	6	1
HIS	CAC	2	0	6	1	0	1	0	0	6	8	2	1	0	1	2	0	0	1	0	1	1	0	3	2	1	2	3	3	2	1	2	3	2	1	2	2	8	2	0	0	2	4	3	3	3	4	0	2	5	4
	CAU	8	0	2	6	5	3	0	0	1	8	3	0	5	6	6	0	0	0	0	0	1	3	4	1	2	1	2	4	1	2	1	8	4	7	9	7	6	0	0	6	3	8	14	8	14	4	2	9	1
GLU	GAA	16	5	9	12	12	12	5	3	13	18	13	9	7	11	2	4	4	4	6	7	9	10	5	5	3	5	10	5	5	3	5	12	7	21	21	17	9	4	1	8	15	13	13	23	30	5	16	27	10
	GAG	6	0	2	4	7	9	1	2	12	24	4	9	4	4	8	2	2	1	1	0	2	0	7	3	0	3	2	7	3	0	3	2	4	0	11	16	1	10	0	1	1	14	8	12	12	18	2	6	10	2
ASP	GAC	12	1	7	2	3	5	0	1	12	9	1	5	7	10	29	0	1	1	1	0	2	1	8	6	2	5	7	8	6	2	5	7	3	1	7	11	18	7	0	0	0	13	6	12	10	14	5	7	13	3
	GAU	19	3	7	9	17	11	2	1	11	13	3	19	2	7	20	2	1	1	0	0	10	4	2	3	2	1	1	1	3	2	1	1	8	5	30	26	21	14	1	0	11	3	25	32	14	25	8	10	14	6
TYR	UAC	19	0	11	1	3	2	0	2	11	8	2	1	1	7	18	1	1	0	1	1	3	3	11	10	0	2	11	11	10	0	2	11	1	5	5	5	14	7	0	0	2	6	4	9	5	6	3	3	9	3
	UAU	10	1	3	4	6	6	1	0	4	7	2	5	3	8	17	1	1	1	0	0	4	0	8	6	2	3	8	8	6	2	3	8	11	11	13	17	19	5	0	0	10	8	15	19	2	17	14	5	10	2
CYS	UGC	0	0	0	0	0	1	0	0	1	11	0	2	2	0	0	0	0	0	0	0	0	3	3	7	4	4	6	3	7	4	4	6	1	0	0	0	3	2	0	0	1	3	0	0	1	4	2	0	5	0
	UGU	0	0	0	2	1	0	0	0	2	2	0	0	2	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	2	2	0	2	1	2	1	0	0	1	1
PHE	UUC	8	2	5	0	1	2	0	0	1	10	1	3	1	4	19	1	2	0	1	2	2	3	7	4	4	4	5	7	4	5	4	5	1	1	3	4	12	6	3	0	8	3	8	9	6	9	4	2	10	14
	UUU	6	0	3	5	7	6	1	1	6	2	3	6	2	6	13	1	0	1	0	2	2	1	0	1	1	1	0	0	1	1	1	0	13	9	9	9	16	8	0	0	29	5	14	16	8	24	10	7	8	14
ILE	AUA	0	0	0	5	4	6	0	0	2	3	4	2	3	0	4	0	0	0	0	0	0	0	1	0	2	4	1	1	0	2	4	5	2	11	5	0	1	0	0	0	14	0	6	6	0	8	0	2	2	1
	AUC	11	1	10	0	4	4	0	2	9	26	4	4	4	11	13	3	3	3	3	0	7	6	7	8	2	4	9	7	8	2	4	9	3	4	2	2	14	10	3	0	9	16	9	15	14	11	4	8	31	26
	AUU	12	3	7	10	15	15	2	0	3	4	3	8	9	4	20	0	0	0	0	0	6	6	3	3	0	0	3	3	0	0	3	11	6	13	20	9	17	0	0	0	31	11	10	14	13	12	3	13	20	29
MET	AUG	4	1	8	3	6	5	3	2	3	14	4	6	4	10	14	2	2	3	3	1	2	4	5	4	9	3	5	6	4	10	4	5	4	8	9	7	11	6	3	1	18	10	9	11	18	14	8	10	14	15
TRP	UGG	4	0	4	4	3	3	0	0	4	4	2	4	3	2	14	0	0	0	0	0	0	3	5	2	1	1	1	5	2	1	1	1	5	6	16	21	22	3	0	0	5	3	12	14	4	2	8	3	8	4
TER	UAA	1	1	1	1	1	0	1	1	0	1	0	1	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	1	1	0	0	1	1	1	0	0
	UAG	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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	1	1	0
	UGA	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL		522	47	383	250	307	305	71	66	263	499	129	308	169	380	715	73	70	74	63	90	159	157	269	227	132	121	228	270	227	153	134	220	221	229	410	489	549	318	71	21	459	329	478	661	463	604	243	244	514	449

34	BSU WPR E	BSU ORI C01	BSU ORI C02	BSU ORI C03	BSU ORI C04	BSU ORI C05	BSU PUR C06	BSU PUR F01	BSU PUR F02	BSU PUR F03	BSU PUR F04	BSU PUR F05	BSU PUR F06	BSU PUR F07	BSU PUR F08	BSU PUR F09	BSU PUR F10	BSU PUR F11	BSU PUR F01	BSU PYR B 1	BSU PYR 0 1 2	BSU RIB A02	BSU RPO D	BSU RPO F	BSU SAC Q	BSU SAS P1	BSU SBT L	BSU SIG B	BSU SIN	BSU SPO 0AA	BSU SPO OB	BSU SPO 0B1	BSU SPO 0B2	BSU SPO 0FG	BSU SPO IIG	BSU SPO R	BSU SSP A	BSU SSP B	BSU SSP D	BSU TRP #1	BSU TRP #2	BSU TRP #3	BSU TRP #4	BSU TRP #5	BSU TRP #6	BTH CP2 8	BTH CRS B	BTH CRS G	BTT SAS PA	CB2 PIL
ARG	CGA	3	0	3	0	1	1	5	0	1	2	0	1	2	1	3	1	1	1	1	1	1	2	2	2	2	0	0	2	1	1	0	0	0	0	0	0	0	3	1	2	2	2	0	0	9	10	0	0
	CGC	3	4	8	1	4	12	6	0	2	15	4	2	11	4	2	0	5	4	1	1	2	3	5	3	0	1	0	3	1	4	0	3	0	0	2	1	1	1	1	2	2	1	2	5	1	1	4	3	2	2
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	AGA	2	3	13	1	5	11	17	4	4	4	4	2	7	1	1	3	4	7	10	13	2	8	5	0	2	3	5	1	2	3	1	3	1	5	1	0	1	1	6	4	4	1	1	2	0	35	31	0	0
	AGG	0	0	2	0	1	1	3	0	1	0	0	1	0	0	1	1	0	0	2	5	6	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	3	0	0	2	0	0	1	6	10	0	0
LEU	CUA	2	1	4	0	2	6	6	1	2	0	0	0	2	2	1	1	2	1	1	7	6	2	3	2	0	1	0	2	3	1	0	1	0	1	2	0	0	1	1	2	5	2	1	1	0	1	15	17	1	0
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	CUU	11	0	18	1	13	17	16	5	16	14	8	6	20	10	11	7	12	12	9	9	6	2	11	7	2	1	8	7	0	2	5	3	5	2	10	1	3	2	1	10	11	10	6	5	6	3	18	15	0	1
	UUA	9	2	23	3	5	10	12	2	2	10	6	7	6	3	5	2	4	7	6	25	9	1	12	2	2	4	7	2	3	5	4	2	4	2	5	0	2	2	1	8	7	8	4	10	7	14	44	40	0	1
	UUG	6	0	12	0	5	5	8	1	5	4	3	2	9	2	4	3	1	3	4	9	5	0	6	4	1	0	5	3	3	2	3	0	3	3	6	1	0	0	0	3	2	6	1	8	6	2	9	8	1	0
SER	UCA	12	2	14	2	5	6	12	2	2	7	1	0	13	5	5	3	4	3	5	12	6	3	2	4	1	4	5	4	3	3	3	0	3	0	1	1	1	1	1	4	7	7	4	5	5	3	20	18	0	1
	UCC	7	0	11	0	3	3	6	5	2	6	3	2	1	9	3	1	5	4	4	1	0	0	1	1	0	0	7	1	4	3	1	0	1	0	2	0	0	0	0	5	2	1	2	2	1	0	14	14	2	1
	UCG	2	0	1	0	2	3	3	0	3	0	1	1	2	4	1	1	4	3	1	3	1	0	1	5	1	0	0	5	2	3	2	0	2	1	1	0	0	0	0	7	3	2	1	1	1	0	7	12	1	0
	UCU	15	0	14	1	4	7	10	0	2	6	1	3	17	6	4	1	5	3	2	14	13	6	5	2	0	2	15	2	1	1	1	4	1	1	4	0	4	5	2	12	9	4	3	4	4	5	21	16	1	3
	AGC	15	2	10	1	4	7	4	2	5	1	5	3	8	8	6	0	5	7	10	7	8	0	2	8	1	0	20	8	1	12	3	1	3	0	1	0	1	0	1	9	11	4	2	3	8	3	8	6	2	1
	AGU	2	1	8	0	1	5	6	1	1	1	0	1	6	4	1	1	1	1	3	13	3	1	5	0	0	1	4	0	1	4	2	0	2	0	2	0	0	0	0	1	1	0	1	1	3	5	24	25	0	2
THR	ACA	20	1	20	2	6	20	23	7	10	13	4	5	20	9	8	3	13	5	8	22	4	1	10	6	1	1	13	6	1	5	2	3	2	1	1	1	2	2	3	19	8	7	3	10	2	10	23	26	0	0
	ACC	3	0	9	0	4	6	5	0	2	1	3	1	1	5	0	1	3	3	4	2	0	0	2	1	0	0	0	1	1	2	1	0	1	0	3	0	0	0	0	4	5	1	0	3	2	2	13	11	3	3
	ACG	9	0	10	0	8	16	12	2	2	7	5	1	9	7	5	2	6	8	9	1	3	3	6	5	1	0	5	5	1	2	6	0	6	3	2	0	0	0	0	6	8	3	1	1	4	2	16	15	1	1
	ACU	5	0	11	0	1	4	15	2	1	4	2	3	5	6	1	0	7	4	1	8	7	8	2	5	0	2	6	5	1	1	0	2	0	0	2	0	1	1	1	3	5	1	3	7	2	8	21	15	1	1
PRO	CCA	8	0	8	0	0	3	4	2	1	3	1	2	6	2	2	2	6	1	1	5	12	2	2	2	0	0	2	2	0	3	1	1	1	0	3	0	1	0	1	2	1	0	0	1	3	7	23	26	0	0
	CCC	0	0	4	0	4	1	0	0	1	0	0	1	1	0	0	0	0	1	0	1	2	0	1	1	0	0	0	1	1	1	0	0	0	3	0	0	0	0	0	3	2	1	0	2	0	1	2	2	0	1
	CCG	3	1	16	2	2	10	9	3	12	8	3	3	16	11	10	5	8	12	3	2	3	0	3	3	0	0	3	3	0	4	1	0	1	1	2	0	0	0	0	10	6	4	5	8	8	2	11	11	0	2
	CCU	9	0	10	0	2	7	10	3	1	2	2	3	8	1	1	1	5	2	2	7	3	4	6	1	0	1	9	1	0	2	1	1	1	0	1	0	0	1	0	6	3	5	1	6	2	1	15	14	0	0
ALA	GCA	11	1	20	1	5	7	17	3	10	10	5	2	16	9	8	7	16	18	8	11	10	3	4	1	1	2	16	1	0	5	3	0	3	1	0	0	1	1	3	11	11	7	7	12	6	14	20	17	3	4
	GCC	15	0	9	1	1	13	3	3	2	2	2	5	8	5	5	4	5	8	2	1	3	1	8	3	0	0	11	3	0	5	2	0	2	2	4	3	0	0	0	7	4	1	4	9	2	2	9	8	1	3
	GCG	8	0	13	1	8	14	17	8	9	15	4	4	27	9	9	8	23	13	4	2	1	1	5	5	0	0	11	1	2	1	2	6	2	1	2	2	4	0	1	1	4	8	5	4	11	7	1	11	15	1	2
	GCU	16	1	14	0	2	5	17	5	9	11	1	5	18	13	9	3	9	15	3	1	9	14	6	2	0	6	10	2	3	4	2	5	2	2	3	3	6	6	2	11	13	5	4	5	3	22	26	4	8
GLY	GGA	9	0	13	3	8	16	18	7	8	3	5	7	20	13	9	7	10	10	6	13	12	6	3	3	0	1	14	3	0	5	3	5	3	2	1	2	6	3	1	4	10	3	4	15	4	3	38	33	2	0
	GGC	15	2	7	2	4	18	15	4	11	12	5	11	30	23	22	1	23	16	9	6	10	1	6	5	0	2	14	5	2	6	2	4	2	5	4	2	1	4	3	10	4	2	6	13	4	2	14	8	1	2
	GGG	1	0	6	0	4	4	7	1	9	2	2	2	6	8	3	1	3	6	2	3	4	0	0	2	0	0	1	2	2	1	1	0	1	0	4	0	0	0	1	7	7	4	3	3	2	0	13	18	0	0
	GGU	13	1	6	2	4	15	21	2	1	3	2	3	12	6	11	5	3	7	2	6	5	5	10	3	0	4	8	3	1	1	0	5	0	0	3	3	3	1	2	7	9	3	2	11	7	5	16	23	7	5
VAL	GUA	4	1	16	1	6	13	14	1	5	4	5	2	14	8	2	1	5	6	4	8	5	1	7	0	1	0	9	0	2	4	0	4	0	0	2	1	3	1	2	5	3	6	2	6	4	9	32	34	1	1
	GUC	12	0	16	2	7	8	12	4	8	6	3	7	18	10	9	4	13	12	10	5	1	1	3	9	0	0	6	9	2	8	2	0	2	3	4	0	0	1	1	8	3	3	3	6	5	2	8	8	0	5
	GUG	7	0	8	4	7	5	7	4	8	7	7	7	12	10	12	4	12	15	9	7	4	2	2	5	0	0	5	5	0	5	0	2	0	3	2	1	0	0	3	7	3	7	6	6	8	2	15	17	0	2
	GUU	14	2	14	1	5	15	25	5	7	11	1	4	17	8	8	2	14	10	2	8	11	4	9	7	0	3	13	7	3	5	5	1	5	1	3	1	1	3	2	13	8	3	5	10	7	12	23	25	3	11
LYS	AAA	32	6	53	1	16	33	38	5	22	20	12	7	29	18	17	6	30	18	10	50	23	8	21	18	6	2	18	18	12	15	5	9	5	7	19	3	2	2	3	30	10	16	10	20	10	7	27	23	2	4
	AAG	9	0	9	2	8	10	9	4	8	9	9	4	11	5	6	8	10	12	6	16	14	1	3	4	1	0	7	4	1	5	8	1	8	4	7	1	0	0	1	8	8	5	4	9	6	3	7	11	0	5
ASN	AAC	24	2	15	2	3	20	19	2	6	12	4	5	19	9	3	6	12	3	5	10	7	3	3	2	2	4	16	2	1	5	3	2	3	3	4	2	8	4	2	7	3	5	3	4	4	4	24	24	3	2
	AAU	13	1	21	2	5	13	16	2	8	5	9	8	6	10	3	1	9	7	9	31	18	3	6	1	1	2	2	1	1	5	6	0	6	3	10	3	1	1	2	10	9	2	4	7	9	23	52	61	0	2
GLN	CAA	12	1	21	2	11	11	21	2	9	7	2	2	21	8	4	3	14	5	7	11	12	2	11	13	2	8	11	13	7	1	4	3	4	1	2	1	5	4	5	9	2	7	4	7	6	15	39	39	8	1
	CAG	11	0	15	1	15	10	7	4	11	4	3	4	12	12	3	5	8	8	7	6	6	0	6	5	0	0	3	5	1	6	4	1	4	4	4	3	0	3	2	6	7	3	9	7	4	1	7	6	1	3
HIS	CAC	6	0	5	0	3	8	6	2	4	2	1	1	3	8	3	4	7	2	2	3	1	0	3	3	0	0	4	3	0	0	3	0	3	1	1	0	0	0	0	6	2	1	2	2	0	0	2	4	0	0
	CAU	4	1	12	1	8	8	9	1	7	9	6	5	11	6	5	3	7	5	7	10	6	4	3	2	0	1	4	2	2	7	8	0	8	0	0	0	0	0	0	10	4	5	2	10	2	1	21	18	0	0
GLU	GAA	19	0	56	2	15	42	55	8	20	33	17	12	35	24	13	33	33	19	31	20	4	14	15	3	10	16	9	16	14	2	14	9	14	3	2	3	3	25	14	21	11	20	16	10	66	72	2	1
	GAG	3	0	13	4	4	14	28	2	17	12	9	6	19	11	8	5	12	8	10	13	6	2	12	8	0	2	2	8	4	4	2	1	2	1	9	2	1	0	1	21	16	7	4	11	8	1	24	19	1	0
ASP	GAC	15	0	13	1	6	18	19	4	8	10	7	6	14	9	10	2	12	9	6	8	2	11	7	0	0	5	7	1	5	6	5	6	9	4	2	2	2	1	12	5	4	8	4	5	0	15	15	1	2
	GAU	16	0	39	4	17	23	28	5	10	11	10	7	23	9	10	6	17	15	8	16	20	0	15	12	4	1	8	12	5	11	12	2	12	2	11	2	0	1	1	18	8	7	11	18	5	9	46	46	1	0
TYR	UAC	13	0	4	0	3	17	14	1	3	8	5	6	10	9	3	0	3	5	1	9	4	0	2	3	1	0	6	3	3	2	1	2	1	3	1	0	0	0	0	9	2	0	2	5	5	3	12	11	0	1
	UAU	15	0	13	1	7	11	11	1	8	6	2	1	12	7	7	5	7	5	7	16	11	0	8	4	1	0	10	4	2	6	5	1	5	1	6	2	0	0	0	11	4	3	4	12	4	4	43	46	0	0
CYS	UGC	0	0	1	0	0	1	1	1	5	1	1	2	7	6	0	1	1	1	2	3	3	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2	0	1	0	0	0	4	6	0	0
	UGU	0	0	0	0	0	1	0	0	1	2	1	3	3	1	2	0	0	0	1	2	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	4	0	0	4	4	2	2	9	10	0	0
PHE	UUC	7	2	10	1	3	6	14	1	2	7	6	7	8	4	5	4	12	10	5	8	8	2	6	3	1	0	4	3	0	1	0	4	0	1	1	0	2	2	1	6	3	2	0	4	5	2	13	11	1	5
	UUU	8	0	25	3	5	9	2	2	6	8	3	3	11	9	10	5	5	12	6	24	18	1	5	2	0	2	4	2	3	6	10	2	10	3	4	2	1	0	1	15	10	9	7	10	7	8	39	43	2	4
ILE	AUA	1	0	6	0	3	2	2	1	2	1	3	0	3	0	0	0	0	1	2	15	14	0	0	3	0	1	0	3	1	2	2	0	2	0	5	0	0	0	0	8	2	4	6	3	3	3	20	18	0	0
	AUC	10	0	26	0	9	19	44	5	14	12	6	4	24	20	8	11	22	5	9	5	9	5	11	8	0	1	8	7	0	9	2	2	2	8	11	1	3	3	0	12	4	7	2	9	6	4	16	17	2	3
	AUU	10	0	47	5	6	24	30	4	12	16	14	10	23	14	11	8	18	13	6	26	13	4	13	9	4	2	13	9	3	13	8	1	8	7	7	2	0	0	0	21	12	8	6	12	10	11	37	39	1	1
MET	AUG	3	2	12	3	7	16	23	7	11	16	1	5	23	14	11	3	10	9	10	10	7	2	9	10	2	3	8	10	1	7	7	1	7	7	8	3	3	3	2	19	12	3	5	12	5	6	11	10	2	10
TRP	UGG	4	0	5	1	2	2	1	1	4	7	2	2	4	1	2	2	2	2	1	4	4	1	2	1	0	0	4	1	2	1	2	0	2	0	2	1	0	0	0	2	1	0	3	1	0	3	17	18	0	1
TER	UAA	1	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	1	1	1	1	1	1	0	0	1	1	0	1	0	0	1	0	0	1	1	1	1	0	0	0	0	1	0	1	1	0	1	0
	UAG	0	1	0	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	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	UGA	0	0	0	0	1	0	1	0	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	1
TOTAL		522	45	825	72	324	639	822	163	380	432	242	228	743	477	347	196	513	423	305	577	437	132	372	265	47	73	382	263	112	268	193	95	193	125	240	62	70	68	65	516	338	251	216	401	268	250	1156	1179	72	120

35		CE1 CAI	CE1 CEA #2	CE1 CEA #3	CE1 CG# 1	CE1 CG# 2	CE1 CG# 3	CE1 CG# 4	CE1 CG# 5	CE1 CG# 6	CE1 CG# 7	CE1 COL 1	CE1 COL #2	CE2 INM	CE2 LYS	CE2 P9I M#2	CE3 38P #2	CE3 38P #3	CE3 38P #4	CE3 INM #2	CE3 LYS	CHT ONP 1L2	CIA IAI MM# 1	CIA IAI MM# 2	CIB COL I	CIB IBI MM# 1	CIB IBI MM# 2	CLA COL A	CLK PIL #1	CLO CEL A	CLO CEL B#1	CLO FDR	CLV PIL #1	COR DRG R	DVU HYD G#1	DVU HYD G#2	EAM LPP	ECH ASN L	ECH PEL B	ECH PEL E	ECO ACE #1	ECO ACE #2	ECO ACE #3	ECO ACE #4	ECO ADA A#1	ECO ADA B#2	ECO ADK	ECO ALA S	ECO ALK A	ECO AMP CFR #2	ECO AMP CFR #3
ARG	CGA	1	0	0	0	0	1	0	1	1	4	4	2	0	2	0	1	0	0	0	2	2	0	3	3	0	4	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	1	1	1	0	0	1	0	0
	CGC	0	0	0	0	0	2	2	5	3	3	1	0	1	0	0	1	0	0	2	3	0	5	5	0	4	2	0	1	0	2	11	9	4	1	10	5	4	11	10	8	4	15	15	5	4	24	6	16	6
	CGG	0	0	0	0	0	0	0	4	6	4	4	0	1	0	0	0	1	0	1	0	12	1	8	8	0	8	0	0	0	0	1	2	1	0	2	0	0	0	1	0	0	6	7	3	0	1	5	0	0
	CGU	1	0	1	0	0	1	1	1	3	12	12	0	0	0	1	0	1	1	0	5	14	0	14	14	0	12	1	4	2	0	1	4	1	4	5	5	6	7	39	12	11	10	9	4	9	31	6	22	4
	AGA	4	3	1	3	1	0	1	2	2	3	3	2	0	2	0	0	2	0	0	4	12	3	10	10	1	4	0	12	12	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	1	0	0
	AGG	3	0	1	0	1	0	0	1	4	1	1	1	0	1	0	0	1	0	0	0	4	1	6	6	2	1	0	2	3	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	1	1	0	0
LEU	CUA	5	0	0	0	0	0	0	2	4	4	0	0	0	2	1	1	2	0	1	0	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0	1	0	0	2	0	0	0	2	1	0	0	2	0	0	0
	CUC	1	0	1	0	1	2	3	3	3	4	4	0	0	0	0	1	0	0	0	4	8	1	7	7	2	7	1	3	3	0	1	16	10	5	0	1	2	1	10	6	2	1	2	2	3	1	4	1	5	0
	CUG	1	1	1	1	1	1	3	2	7	8	8	3	1	3	0	1	3	0	1	3	23	4	23	23	4	16	8	6	4	0	8	5	11	2	9	21	17	21	13	59	28	30	18	18	11	13	53	16	36	12
	CUU	3	5	1	5	1	1	3	3	2	12	12	0	2	0	1	0	2	1	2	5	15	3	14	14	2	7	1	9	13	0	1	1	2	2	0	5	0	0	2	4	2	2	2	2	1	1	6	1	1	1
	UUA	15	3	0	3	0	0	1	1	1	8	8	2	2	2	1	0	2	1	2	8	7	3	4	4	4	5	1	5	7	0	1	0	0	0	0	1	0	1	0	0	0	1	4	5	3	0	5	8	1	2
	UUG	4	2	0	2	0	0	0	0	1	8	8	0	1	0	2	0	3	2	1	10	3	2	3	3	0	2	0	13	24	0	0	0	1	1	0	2	2	0	7	1	1	0	6	6	5	1	8	7	2	2
SER	UCA	3	3	0	3	0	1	0	2	1	5	5	2	2	2	1	3	2	2	3	8	1	7	7	3	5	0	8	8	2	0	0	0	0	2	2	3	4	2	2	1	1	0	1	0	0	0	3	0	1	1
	UCC	2	0	2	0	2	0	0	2	1	3	3	0	0	0	1	0	2	1	0	5	5	0	6	6	0	6	2	7	2	0	2	1	7	2	0	2	9	6	4	10	5	4	2	1	0	3	8	0	8	5
	UCG	0	0	0	0	0	0	1	0	1	2	2	0	0	0	1	0	2	1	0	1	6	0	5	5	0	4	1	3	4	0	1	4	5	2	0	2	1	1	3	6	0	0	2	3	5	0	4	1	0	1
	UCU	1	0	2	0	2	0	0	2	0	10	10	0	2	0	0	1	3	0	2	9	10	4	11	11	1	7	2	4	2	1	2	0	0	0	3	8	4	8	1	13	12	5	3	3	2	2	12	1	4	0
	AGC	1	3	0	3	0	0	2	3	0	4	4	0	0	0	0	1	0	0	0	4	6	1	4	4	2	9	2	6	9	1	2	5	6	2	2	2	12	20	5	5	12	4	3	8	6	1	0	19	3	7	5
	AGU	1	0	0	0	0	0	1	3	8	8	3	0	3	2	2	1	2	0	0	6	7	1	8	8	1	8	3	6	4	1	3	0	0	0	4	2	4	3	0	1	1	3	5	1	0	4	4	0	2	2
THR	ACA	9	2	0	2	0	1	1	7	4	10	10	0	2	0	1	0	4	1	2	13	16	2	12	12	3	5	0	12	12	0	0	1	0	0	0	3	1	3	1	2	0	0	4	3	2	1	3	2	2	0
	ACC	4	0	1	0	1	1	1	5	2	2	2	1	2	1	0	1	2	0	2	4	10	1	10	10	0	8	3	6	11	0	3	8	24	3	1	12	21	22	3	26	17	19	4	4	5	7	18	3	22	8
	ACG	3	0	1	0	1	1	1	1	1	4	4	0	1	0	0	0	1	0	1	1	10	2	10	10	0	6	1	1	4	0	1	3	3	5	0	8	5	5	0	2	1	1	10	10	2	0	10	5	6	1
	ACU	3	1	0	1	0	0	1	2	0	10	10	2	0	2	1	2	1	1	0	14	3	1	2	2	2	5	1	11	10	1	1	1	1	0	4	3	4	7	2	12	9	6	3	3	0	3	12	3	6	3
PRO	CCA	5	2	1	2	1	0	0	1	2	2	2	1	0	1	1	1	2	1	0	4	2	0	3	3	2	4	0	1	1	3	0	0	0	0	0	2	0	1	2	2	3	2	2	2	6	0	4	3	6	3
	CCC	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0	2	2	0	2	1	3	4	0	1	7	19	3	0	1	0	0	1	1	0	2	4	5	4	0	1	3	0	0
	CCG	1	0	0	0	0	0	0	1	0	1	1	0	1	0	0	0	2	0	1	1	4	2	4	4	0	6	2	7	19	0	2	9	6	2	0	8	10	8	6	31	28	16	5	5	7	10	14	12	17	10
	CCU	2	0	0	0	1	0	0	1	0	4	4	2	0	2	2	0	2	0	0	9	6	2	6	6	2	8	0	10	6	0	0	0	1	1	0	1	1	0	1	1	6	1	4	4	1	0	3	2	0	1
ALA	GCA	5	3	1	3	1	1	2	1	7	27	26	0	4	0	0	0	4	0	0	4	15	23	1	20	20	2	27	2	22	15	2	2	4	8	2	4	8	2	13	2	17	30	15	4	5	1	4	19	11	17	5
	GCC	4	1	0	1	0	0	4	3	1	10	10	0	0	0	0	1	0	0	0	1	23	0	20	20	3	17	5	4	5	1	5	18	24	8	1	8	20	8	11	5	9	8	22	23	3	0	16	7	14	3
	GCG	1	0	2	0	2	1	0	3	0	9	9	0	0	0	0	0	0	0	0	1	11	1	11	11	1	11	3	9	3	0	3	16	8	1	0	11	5	3	8	21	29	13	11	10	11	8	35	19	19	12
	GCU	2	2	1	2	1	1	0	4	0	35	35	5	1	5	1	1	1	1	1	28	20	2	24	24	0	33	8	7	6	5	8	2	2	2	5	6	10	6	2	29	28	14	11	10	7	7	21	3	11	4
GLY	GGA	2	1	3	2	3	0	0	3	4	9	9	1	1	1	2	1	2	2	1	15	9	4	9	9	4	13	0	17	17	2	0	1	0	1	0	0	0	0	2	0	0	0	0	2	3	1	0	4	3	2	0
	GGC	0	1	0	1	0	2	0	4	4	5	5	1	1	1	0	1	1	0	1	6	7	0	3	3	1	11	2	6	12	1	2	13	29	6	1	15	22	20	6	32	30	18	10	9	8	11	32	12	35	7
	GGG	0	1	2	1	2	0	1	0	0	5	5	1	2	1	0	0	4	0	2	2	8	2	5	5	1	13	0	3	4	0	0	2	3	1	0	2	3	3	0	1	1	2	2	2	3	2	6	1	1	0
	GGU	1	0	0	0	0	0	1	2	1	10	10	3	0	3	5	7	0	5	0	7	12	2	13	13	0	17	7	17	10	1	7	5	7	2	2	15	12	10	3	46	20	31	5	5	5	5	7	38	4	28	7
VAL	GUA	1	1	0	1	0	1	0	2	0	4	4	1	1	1	1	0	1	1	1	6	3	1	7	7	2	4	1	11	6	2	1	0	0	2	0	3	3	2	9	1	8	6	8	2	4	2	3	13	0	6	2
	GUC	3	1	0	1	0	3	0	0	1	2	2	1	1	1	0	0	2	0	1	2	6	0	8	8	0	6	5	0	2	0	5	12	17	6	0	5	11	5	4	7	8	8	5	4	1	3	11	1	10	4
	GUG	0	2	1	2	1	3	1	3	0	8	8	1	1	1	2	1	1	1	0	6	8	1	8	8	1	10	2	8	11	0	2	12	10	0	1	22	10	6	4	15	27	13	9	8	3	1	19	10	10	6
	GUU	4	0	3	0	3	2	0	1	0	11	11	0	0	0	4	2	1	4	1	12	9	5	9	9	5	19	10	15	15	4	10	1	0	2	2	8	1	9	1	21	27	16	2	3	3	12	24	4	16	2
LYS	AAA	8	6	2	6	2	0	2	8	4	39	39	6	2	6	3	9	6	3	2	13	34	6	32	32	8	23	4	12	23	1	4	0	2	0	4	9	21	25	4	39	40	31	13	13	8	17	33	7	18	10
	AAG	2	3	0	3	0	2	1	1	2	21	21	2	0	2	2	2	1	2	0	7	16	0	18	18	1	13	5	14	8	0	5	9	34	13	1	9	3	6	4	9	13	8	1	1	0	1	14	1	9	4
ASN	AAC	6	5	2	5	2	0	3	3	0	3	3	1	1	1	1	2	3	1	1	6	16	2	15	15	1	14	2	23	19	2	2	7	5	3	5	8	28	22	2	33	15	13	5	5	4	0	21	3	17	13
	AAU	5	5	0	5	0	1	0	0	4	23	23	1	0	1	4	4	0	4	0	12	27	2	28	28	2	34	2	13	22	1	2	1	0	0	1	6	4	3	2	5	2	1	6	6	4	4	12	3	6	0
GLN	CAA	0	0	0	0	0	0	0	6	2	6	6	0	0	0	2	0	1	2	0	11	5	0	9	9	1	3	0	5	3	2	0	0	0	0	0	3	1	2	4	6	0	2	11	13	7	2	7	6	7	0
	CAG	1	0	3	0	3	3	3	4	10	18	18	1	3	1	0	2	2	0	3	3	17	0	17	17	2	23	3	7	7	0	3	9	10	4	6	5	6	5	12	35	15	6	11	8	6	6	25	8	15	9
HIS	CAC	1	0	0	0	0	0	2	1	2	1	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	4	3	0	0	11	8	4	1	1	4	7	5	18	4	12	2	2	1	1	14	1	15	4
	CAU	0	0	0	0	0	0	2	2	6	6	6	1	0	1	1	1	1	1	0	3	5	0	7	7	0	6	0	4	9	0	0	0	1	0	0	5	2	1	4	5	1	1	6	6	2	8	3	6	2	2
GLU	GAA	1	4	0	3	0	1	5	2	12	34	34	8	1	8	3	8	3	3	1	8	29	1	28	28	3	22	1	10	18	2	1	6	15	3	0	9	8	8	10	51	47	33	14	13	5	14	45	6	34	9
	GAG	2	0	0	0	0	3	2	1	6	12	12	6	0	6	3	4	0	3	0	8	21	1	18	18	0	20	0	4	13	0	0	13	13	2	0	6	2	2	8	20	11	6	7	7	2	1	19	7	10	4
ASP	GAC	4	0	0	0	0	3	5	2	3	4	2	0	2	1	1	0	1	0	0	6	14	0	12	12	1	4	2	20	20	1	2	18	20	5	7	10	15	13	5	29	22	19	9	9	9	3	11	28	4	15	6
	GAU	2	2	1	2	1	0	4	6	5	23	23	6	1	6	12	6	2	12	1	20	25	4	31	31	2	22	0	13	25	4	0	5	3	1	1	11	9	13	5	23	11	6	8	9	10	6	31	9	20	8
TYR	UAC	5	5	0	5	0	0	1	3	3	3	3	0	0	0	1	2	0	1	0	8	4	1	4	4	1	2	1	19	8	0	1	7	12	6	1	6	13	11	2	28	2	5	4	5	2	5	10	0	10	6
	UAU	6	7	1	7	1	0	0	2	0	10	10	3	1	3	3	2	1	3	1	4	10	9	9	9	3	7	0	15	22	1	0	0	4	0	0	7	6	6	4	14	1	3	2	1	5	2	9	12	7	5
CYS	UGC	2	1	0	1	0	2	1	0	1	1	1	0	0	0	1	0	1	1	0	4	0	1	0	0	2	0	0	2	3	0	0	0	16	1	1	0	3	0	0	2	1	3	3	7	7	1	1	3	1	6	7
	UGU	2	2	1	2	1	0	1	2	0	0	0	1	1	1	0	1	2	0	1	5	0	1	0	0	1	0	0	3	1	0	0	0	2	0	0	0	1	2	1	4	0	2	5	5	3	0	3	3	4	4
PHE	UUC	5	3	1	3	1	4	1	1	2	1	1	0	0	0	0	1	1	0	0	11	9	3	8	8	5	0	5	3	6	1	5	7	14	4	0	4	9	11	2	33	14	12	5	5	2	5	25	2	17	7
	UUU	7	6	2	6	2	0	1	7	2	10	10	4	0	4	8	3	5	8	0	8	6	5	12	12	8	10	4	9	11	0	4	0	0	0	0	7	1	1	6	1	5	2	7	7	9	0	11	7	3	2
ILE	AUA	7	10	3	10	3	0	0	1	1	3	3	1	1	1	1	1	1	1	0	8	3	9	9	8	4	0	9	23	3	0	0	1	1	0	0	0	0	2	0	0	0	4	3	0	0	1	3	0	0
	AUC	5	1	2	1	2	4	1	1	1	7	7	0	1	0	0	2	1	0	1	5	12	0	11	11	3	11	3	1	5	2	3	15	17	4	3	11	21	17	5	45	35	30	6	6	3	9	24	4	14	9
	AUU	6	3	0	3	0	0	1	2	1	18	18	4	4	4	2	5	5	2	4	9	18	4	19	19	6	14	1	9	11	0	1	1	1	0	9	5	7	4	11	10	9	3	3	6	5	17	5	8	5
MET	AUG	5	3	1	3	1	0	1	5	5	5	5	1	1	1	1	2	0	3	2	1	12	6	7	9	9	4	17	10	9	11	1	10	3	19	3	1	10	4	3	5	22	17	10	6	6	5	6	21	8	20	9
TRP	UGG	0	0	0	0	0	0	1	2	4	4	4	0	1	0	1	3	1	1	3	0	7	7	6	6	2	7	1	10	20	0	1	6	5	1	0	1	7	4	1	11	3	4	5	5	4	0	8	9	7	2
TER	UAA	1	1	0	1	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	1	0	1	1	1	1	1	1	1	1	0	0	1
	UAG	0	0	1	0	1	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	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	UGA	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
TOTAL		179	114	46	114	46	46	64	140	140	523	523	87	48	87	86	88	90	86	48	395	627	112	627	627	116	593	122	478	564	57	122	279	422	124	79	349	376	386	237	887	631	475	355	355	217	215	877	283	603	245

36		ECO AMP CTR #4	ECO AMP CTR #5	ECO AMP CTR #6	ECO AMS	ECO ARA BOP #1	ECO ARA CB	ECO ARA CK	ECO ARG F	ECO ARG I	ECO ARO A	ECO ARO B	ECO ARO F	ECO ARO G	ECO ARO LMB 1	ECO ARO LMB 2	ECO ASD	ECO ASP AW	ECO ASP C	ECO BIR A#1	ECO BIR A#2	ECO BTU B	ECO BTU CED #2	ECO BTU CED #3	ECO BTU CED #4	ECO CAL	ECO CAR AB# 2	ECO CAR AB# 3	ECO CCA	ECO CDH	ECO CDH A#1	ECO CDH A#3	ECO CDS	ECO CHE Y#2	ECO CPD B	ECO CRP	ECO CYA #1	ECO CYA G	ECO CYS B#2	ECO CYT R	ECO DAM	ECO DAP A	ECO DAP B	ECO DAP D	ECO DBO C	ECO DBO R	ECO DLD	ECO DLD H	ECO DNA AOP #1	ECO DNA AOP #2	ECO DNA AOP #3
ARG	CGA	0	0	1	1	3	3	4	0	1	0	0	0	0	1	1	1	0	0	1	1	0	0	1	1	1	0	0	0	1	1	0	3	2	1	3	0	0	1	1	1	0	0	0	0	0	1	1	0	0	4	0
	CGC	2	2	7	4	10	10	10	5	5	7	8	9	7	4	3	9	6	10	6	7	14	5	1	5	0	7	31	15	7	5	4	1	1	7	3	24	24	8	7	10	4	3	8	5	10	12	12	3	13	12
	CGG	1	0	0	0	4	4	3	4	1	2	2	0	0	3	1	2	0	0	1	3	3	4	0	2	0	2	1	5	3	0	2	1	0	0	0	2	2	2	5	2	1	0	0	0	1	5	5	0	2	1
	CGU	1	2	2	5	5	5	5	2	5	12	9	10	7	2	5	8	8	12	5	10	14	7	3	5	0	6	37	12	8	15	7	4	2	7	8	29	29	8	7	6	7	9	9	7	4	16	16	8	16	11
	AGA	0	0	1	3	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	3	0	2	2	0	0	1	0	1	1	1	0	0	1	2	0	0	0	0	0	0	1	1
	AGG	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0	1	1	1	1	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
LEU	CUA	0	0	2	1	0	0	0	0	1	0	0	1	0	1	0	2	0	1	2	1	0	4	0	2	0	1	0	2	1	1	1	2	0	1	0	4	4	1	0	0	1	0	0	0	1	3	3	0	2	2
	CUC	1	1	4	1	5	5	5	5	9	3	8	1	3	1	4	6	2	4	3	3	7	3	0	4	0	5	5	7	0	1	0	5	2	7	3	13	13	0	2	2	1	3	2	1	2	6	6	0	3	7
	CUG	11	15	10	8	13	13	13	25	15	26	17	22	21	8	14	17	36	29	12	18	19	21	9	18	2	21	68	23	11	20	6	14	7	25	14	55	55	12	17	13	19	10	11	20	14	32	32	3	25	26
	CUU	0	0	6	0	4	4	4	3	3	4	8	3	3	3	1	6	2	1	4	6	6	10	0	8	1	1	2	1	5	1	5	5	1	5	2	11	11	3	6	3	2	4	1	0	4	4	4	0	7	1
	UUA	1	1	7	0	4	4	4	2	2	10	10	3	3	2	9	6	0	2	9	8	5	11	2	3	1	5	3	8	3	1	3	8	1	6	0	9	9	7	6	2	3	2	1	0	3	8	8	0	2	5
	UUG	1	1	5	1	5	5	5	1	4	2	6	4	4	2	6	4	4	1	1	7	8	11	4	4	0	4	5	11	2	9	9	4	5	3	13	13	4	4	6	4	5	1	1	3	5	5	0	9	2
SER	UCA	0	0	2	1	3	3	3	1	0	2	3	3	2	2	2	1	1	0	6	1	7	2	1	1	2	2	1	3	3	0	4	3	0	5	1	6	6	5	2	1	1	1	2	0	0	4	4	0	4	1
	UCC	1	0	3	0	0	0	0	1	1	5	3	7	2	1	2	5	6	3	1	2	7	3	2	2	0	3	18	4	1	3	1	2	2	5	3	8	8	1	4	2	3	1	4	2	1	3	3	0	5	3
	UCG	0	0	3	1	6	6	6	4	4	2	5	2	3	1	3	2	0	0	0	4	4	3	0	1	0	1	9	0	2	1	3	2	1	3	1	15	15	3	0	1	2	1	0	0	3	7	7	0	4	4
	UCU	0	1	3	1	0	0	0	2	2	6	2	3	1	1	2	7	8	5	2	1	8	1	0	3	2	6	10	0	2	6	2	3	0	3	4	5	5	3	3	3	1	2	5	2	1	5	5	3	5	4
	AGC	1	3	6	0	10	10	10	5	7	5	3	9	10	3	1	6	3	10	2	2	13	4	4	5	0	6	5	3	5	5	1	3	0	13	2	24	24	3	4	5	5	6	3	8	5	6	6	0	3	9
	AGU	1	0	3	0	0	0	0	0	1	1	4	3	0	0	5	0	3	3	3	4	9	2	1	5	2	0	3	2	2	0	3	2	1	5	0	5	5	4	1	3	3	2	0	0	4	1	1	0	3	2
THR	ACA	0	2	9	0	0	0	0	1	7	0	2	0	4	2	3	1	3	6	1	7	1	1	4	0	3	1	1	2	2	5	1	1	3	1	5	5	6	4	3	2	2	0	0	1	3	3	0	2	0
	ACC	4	0	8	7	5	5	4	12	6	10	8	5	8	3	2	16	12	9	3	2	25	4	5	6	1	14	40	12	3	7	4	5	2	13	4	13	13	7	9	2	6	9	11	10	6	15	15	1	9	13
	ACG	3	1	6	2	2	2	2	7	8	10	7	3	4	6	2	2	1	4	4	4	14	2	5	4	0	4	7	8	5	2	5	2	1	16	3	9	9	7	2	4	9	2	2	2	5	8	8	0	11	4
	ACU	3	0	4	2	0	0	1	4	7	7	3	5	2	1	1	5	10	6	3	2	10	3	1	0	1	6	12	3	1	6	3	2	1	3	5	6	6	4	2	1	7	1	1	4	0	2	2	2	3	1
PRO	CCA	3	3	6	0	2	2	1	0	3	2	2	2	4	3	2	3	4	5	5	3	3	2	0	3	1	4	8	7	6	1	3	2	2	10	2	8	8	2	1	2	4	0	4	1	0	1	1	0	6	6
	CCC	0	0	7	0	1	1	1	0	3	3	2	2	1	1	2	1	0	1	3	1	3	5	1	1	0	1	0	1	3	0	4	2	1	3	0	2	2	2	3	5	1	0	0	0	4	3	3	0	0	0
	CCG	6	4	6	0	13	13	14	9	3	9	9	10	5	2	4	11	13	6	0	2	10	2	11	7	1	10	35	15	2	6	2	5	0	17	4	24	24	10	13	5	7	2	5	6	6	17	17	1	12	12
	CCU	0	1	7	0	1	1	1	1	0	4	3	4	4	2	3	1	2	3	0	5	2	3	0	0	0	5	1	4	5	2	4	0	0	2	0	5	5	1	1	2	1	1	0	1	1	3	3	0	3	2
ALA	GCA	2	0	12	6	2	2	2	6	5	15	5	6	9	3	4	6	13	10	10	7	7	8	4	5	1	8	13	6	1	4	1	9	3	16	6	7	7	8	8	7	6	8	5	8	1	7	7	1	5	3
	GCC	5	2	9	1	10	10	10	6	8	7	6	12	12	4	2	9	8	11	7	4	10	4	5	5	1	13	21	12	4	6	5	2	2	23	1	16	16	9	9	8	7	14	5	7	8	17	17	0	15	4
	GCG	5	6	9	5	6	6	6	25	17	18	20	10	10	9	7	10	7	8	7	11	15	14	3	14	1	16	63	16	10	12	10	9	9	21	4	18	18	5	12	8	10	13	12	17	11	15	15	0	27	17
	GCU	2	2	10	7	3	3	3	0	6	6	8	9	7	2	2	5	14	17	6	6	7	6	0	3	0	2	15	5	3	7	5	6	2	10	2	6	6	8	2	3	7	5	2	8	3	5	5	4	3	4
GLY	GGA	2	0	3	0	4	4	4	0	1	2	2	2	0	3	1	4	1	1	4	7	10	1	4	6	2	1	2	1	2	1	3	4	2	6	1	1	1	3	3	1	2	4	0	0	0	4	4	0	4	1
	GGC	2	2	11	5	0	0	0	15	9	18	14	9	13	4	2	16	12	17	7	12	21	15	5	4	0	14	51	11	2	14	4	9	6	16	9	23	23	7	9	6	8	13	13	8	6	26	26	2	9	10
	GGG	1	2	5	0	8	8	7	9	3	4	7	7	6	2	4	3	0	3	2	4	11	6	1	6	2	4	2	2	3	1	2	1	1	8	0	6	6	6	4	2	4	5	3	0	2	4	4	0	1	1
	GGU	0	8	10	6	9	9	10	2	14	13	11	8	10	1	3	12	21	9	15	12	22	8	3	5	3	14	28	14	7	22	8	10	1	14	6	18	18	2	6	4	8	10	9	10	3	9	9	1	9	13
VAL	GUA	4	3	6	4	3	3	3	1	1	4	3	8	3	2	3	4	11	4	14	2	2	5	1	1	0	3	14	5	5	6	2	5	0	5	2	13	13	3	1	3	4	3	3	3	2	1	1	1	4	5
	GUC	1	2	5	2	4	4	5	2	8	4	15	3	4	5	3	7	7	3	3	3	15	3	6	2	4	5	13	9	2	0	2	6	1	12	3	10	10	15	7	5	7	3	5	1	3	10	10	0	8	6
	GUG	3	2	10	6	4	4	4	13	6	9	5	5	10	3	6	9	7	9	7	6	13	6	6	6	1	9	47	13	4	11	5	4	6	24	7	24	24	5	5	5	6	7	11	8	7	10	10	0	14	9
	GUU	4	5	1	8	4	4	3	4	5	7	8	6	5	5	10	8	18	10	8	7	11	5	2	3	2	6	20	6	5	9	6	3	3	10	2	9	9	6	7	6	8	6	12	4	5	5	5	2	5	11
LYS	AAA	10	2	15	9	5	5	5	12	17	14	8	12	18	2	7	9	24	15	15	14	16	0	9	6	2	15	47	9	8	12	8	4	8	40	12	19	19	14	10	12	11	4	9	12	18	12	27	3	15	9
	AAG	0	1	7	3	2	2	2	11	6	3	5	1	6	0	1	4	3	3	1	4	5	0	3	2	0	5	9	6	1	2	2	4	3	8	3	10	10	1	5	6	2	3	1	1	5	10	10	2	8	3
ASN	AAC	2	0	8	2	4	4	5	10	8	9	6	7	8	4	4	7	33	15	5	4	14	2	1	2	1	9	32	3	8	8	7	1	5	19	3	25	25	2	3	9	5	4	6	5	3	14	14	1	20	11
	AAU	2	2	8	0	10	10	9	2	5	9	5	9	10	4	4	7	3	8	12	9	14	4	5	6	2	7	4	4	7	2	7	3	3	19	2	17	17	6	8	6	8	3	6	3	5	8	8	1	9	3
GLN	CAA	1	0	14	1	6	6	6	0	4	5	4	10	3	4	6	3	3	6	9	3	14	8	4	11	1	5	6	6	6	0	5	2	1	4	5	13	13	8	9	2	3	2	2	0	0	4	2	2	1	7	2
	CAG	0	1	11	5	9	9	9	15	12	7	8	12	8	5	7	12	16	10	13	13	20	4	4	7	0	9	29	10	8	4	10	2	1	18	9	27	27	4	13	5	5	4	12	4	5	17	17	1	16	14
HIS	CAC	1	5	0	2	4	4	4	7	1	5	2	4	3	1	1	2	7	2	3	2	3	0	0	6	0	8	11	5	0	6	1	3	0	5	4	12	12	7	3	3	1	2	2	3	4	11	11	1	7	3
	CAU	0	0	5	0	8	8	8	3	8	3	5	5	8	1	6	3	1	4	8	0	8	3	1	4	0	7	4	9	6	2	5	4	0	6	2	13	13	5	4	4	8	8	1	1	5	13	13	0	2	4
GLU	GAA	5	1	9	13	9	9	9	9	20	16	16	17	14	15	12	10	34	20	18	15	12	4	10	6	0	15	66	20	11	22	6	4	6	16	13	38	38	12	15	8	9	9	10	12	12	26	26	0	17	23
	GAG	1	1	6	2	9	9	9	15	7	6	8	5	8	2	5	8	4	7	5	6	6	1	5	4	0	5	25	11	5	2	5	2	5	11	3	22	22	5	5	11	6	7	1	4	5	11	11	0	14	6
ASP	GAC	2	1	7	4	5	5	5	14	8	3	6	5	6	1	5	9	11	9	6	4	13	2	2	2	0	11	42	7	0	20	0	4	3	14	6	17	17	3	7	3	5	5	8	14	4	13	13	0	9	9
	GAU	0	2	7	2	9	9	9	5	6	23	9	16	16	5	9	14	8	11	9	12	36	3	8	8	2	14	22	19	9	6	9	3	5	39	2	26	26	16	13	10	12	16	7	6	10	30	30	0	15	10
TYR	UAC	2	2	5	1	5	5	5	2	1	4	4	2	2	0	2	2	11	6	3	3	11	2	2	1	0	3	22	4	5	7	4	2	0	8	5	21	21	4	3	9	2	2	8	4	2	6	6	0	6	1
	UAU	2	0	10	1	5	5	5	6	10	9	5	5	4	2	1	3	5	5	7	3	30	0	3	2	0	5	9	4	2	4	3	5	2	19	1	19	19	8	5	11	3	0	1	2	5	17	17	0	5	6
CYS	UGC	0	0	2	3	3	3	3	3	4	4	0	2	5	0	0	1	7	4	3	1	0	5	1	0	0	2	8	5	0	2	4	3	0	3	1	8	8	1	4	2	3	1	1	1	4	3	3	0	2	3
	UGU	0	1	0	0	2	2	2	1	0	2	5	3	2	3	1	3	4	1	3	0	1	5	2	1	2	2	6	0	4	6	4	0	0	1	2	7	7	0	4	3	2	1	2	3	4	3	3	0	1	1
PHE	UUC	3	7	4	0	6	6	5	8	8	4	4	0	6	1	0	5	11	10	3	2	7	3	6	1	0	11	26	5	1	10	1	3	1	8	2	22	22	6	4	7	4	0	6	5	1	17	17	1	9	6
	UUU	6	1	7	0	11	11	12	6	5	9	6	7	2	4	3	7	2	10	8	6	11	5	4	2	0	5	8	11	6	0	5	9	5	12	3	15	15	7	7	10	3	11	2	3	12	9	9	1	12	8
ILE	AUA	0	0	2	0	2	2	2	0	0	0	1	0	1	0	1	0	0	0	1	0	2	3	0	0	0	1	1	0	1	0	2	1	1	2	0	2	2	3	2	1	0	0	0	0	3	3	0	1	0
	AUC	7	6	9	7	6	6	6	4	5	9	3	6	12	7	6	10	21	6	6	8	9	11	2	4	2	12	39	5	4	21	4	5	3	12	6	16	16	7	13	5	8	8	9	17	4	11	11	0	15	6
	AUU	5	5	12	1	8	8	8	6	7	17	12	13	12	5	11	10	11	11	11	11	14	6	9	5	4	10	31	9	7	8	8	10	2	25	11	21	21	14	9	3	10	8	12	2	8	11	11	0	7	9
MET	AUG	4	6	7	2	5	5	5	15	13	14	10	13	8	4	7	12	16	8	4	8	3	11	6	9	3	6	31	7	8	13	7	7	7	15	7	15	15	7	13	4	9	9	6	6	6	14	14	2	7	15
TRP	UGG	7	4	13	3	6	6	6	4	4	2	2	3	4	2	2	8	0	5	7	7	14	14	3	4	0	2	4	8	4	1	4	14	1	8	2	16	16	2	0	2	1	1	3	1	2	5	5	0	5	1
TER	UAA	1	1	1	0	1	1	1	0	1	0	1	1	1	0	1	1	1	1	0	1	0	0	1	0	0	1	1	1	0	1	0	1	1	0	0	1	1	1	1	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	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	0	0
	UGA	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		132	120	378	150	293	293	293	335	335	428	363	357	351	175	226	368	479	397	343	322	615	293	184	250	52	3031	1074	413	252	341	251	250	130	647	211	849	849	325	342	279	293	274	275	260	253	572	572	47	468	367

37	ECO DNA B	ECO DNA K	ECO DYE	ECO ERA #2	ECO FDH F	ECO FHU A	ECO FIM A	ECO FIM KS7	ECO FLA A01	ECO FLA A02	ECO FOL A	ECO FTS QA6 1	ECO FTS QA8 2	ECO FTS QAB #2	ECO FTS QAE #1	ECO FTS QAZ #2	ECO FUM A02	ECO FUR	ECO GAL K02	ECO GAL LYS #1	ECO GAL LYS #2	ECO GAL LYS #3	ECO GAP A	ECO GDH GDH AK	ECO GLG GLN C01	ECO GLY S	ECO GLY A01	ECO GLY A02	ECO GLY A03	ECO GLY A04	ECO GLY A05	ECO GLY A06	ECO GLY A07	ECO GLY A08	ECO GLY A09	ECO GLY X	ECO GLY A02	ECO GLY S02	ECO GLY WA0 2	ECO GND	ECO GOR	ECO GPT	ECO GPT A01	ECO GPT A02	ECO GRX	ECO GSH II	ECO GUA GUA 1	ECO GUA BA0 2	ECO GUT B01
ARG	CGA	0	0	0	0	0	2	0	0	2	1	0	1	2	0	1	2	0	0	2	0	3	0	1	1	2	1	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	1	0	0	1
	CGC	16	10	7	10	14	7	0	0	5	14	6	8	7	9	8	7	12	4	8	7	11	10	4	12	12	16	15	8	3	3	13	11	23	7	7	1	11	6	14	6	3	11	3	3	13	1	8	10	17	5
	CGG	0	0	0	0	2	1	0	1	1	3	2	5	3	2	2	0	0	2	4	3	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	2
	CGU	21	15	13	8	22	24	2	0	2	7	1	5	9	9	5	9	9	4	10	11	10	7	8	9	9	12	25	16	0	0	25	5	31	19	10	4	21	8	31	4	18	7	6	6	12	3	11	22	15	8
	AGA	0	0	0	0	0	0	1	0	0	0	0	2	1	0	2	1	0	0	0	1	0	0	0	0	0	1	0	0	2	0	1	1	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
	AGG	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1
LEU	CUA	1	2	1	1	1	1	0	0	0	2	0	0	0	0	0	1	1	1	1	0	4	0	3	3	1	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	1	1	1	1	1	1	0	2
	CUC	6	1	3	5	4	2	1	0	1	1	2	2	3	0	2	3	5	2	3	2	2	6	0	6	6	3	5	4	4	2	5	5	15	2	4	2	0	2	4	2	6	3	1	1	2	0	3	4	6	5
	CUG	22	45	14	15	31	29	12	4	11	25	5	13	18	24	13	18	29	8	19	18	24	17	19	18	18	21	30	30	6	10	40	11	53	36	28	11	30	27	62	8	28	19	7	7	18	2	23	31	36	32
	CUU	4	0	3	1	0	6	0	2	4	3	0	4	6	2	4	6	8	3	2	3	3	4	0	6	6	2	1	0	4	0	3	1	6	1	3	0	5	0	2	4	3	1	1	1	4	0	2	1	3	9
	UUA	2	0	1	0	3	2	2	0	1	3	2	2	3	0	2	3	3	2	1	5	7	12	1	1	1	6	2	0	0	1	0	3	4	1	2	1	1	1	1	1	1	1	1	1	7	0	3	0	0	6
	UUG	9	0	4	4	4	6	0	3	3	6	2	10	6	3	10	6	5	0	4	4	8	3	0	1	1	4	2	1	0	3	3	6	5	1	1	0	2	1	4	7	2	3	1	1	14	1	1	0	1	3
SER	UCA	2	0	0	1	5	3	2	4	1	2	1	1	3	0	1	3	1	0	3	7	3	6	0	5	5	6	1	3	1	0	0	2	3	1	1	1	0	0	0	3	1	0	0	0	8	0	0	1	1	2
	UCC	8	6	2	6	3	10	1	1	1	0	0	1	2	3	1	2	5	2	4	3	3	2	9	5	5	10	5	7	6	1	10	2	11	7	2	4	5	7	4	0	4	4	2	2	2	0	1	12	7	6
	UCG	11	0	1	1	10	8	2	2	4	5	2	2	7	0	2	7	5	0	0	2	3	4	0	1	1	4	6	4	0	0	7	3	9	0	1	1	0	0	4	2	1	1	0	0	5	1	3	0	0	3
	UCU	5	14	2	4	3	14	4	4	0	2	1	4	3	7	4	3	6	0	4	4	6	4	4	5	5	7	1	2	6	2	21	7	1	2	5	4	5	2	13	3	1	1	2	0	1	7	7	6
	AGC	4	5	5	4	9	15	1	0	4	5	3	7	5	2	7	5	5	0	4	4	6	9	0	6	6	3	9	3	2	1	6	5	14	7	2	3	7	6	7	4	5	7	4	4	6	1	3	6	7	9
	AGU	4	0	1	2	2	4	4	3	2	5	2	0	4	0	0	4	3	3	4	4	3	3	0	1	1	2	2	1	0	1	0	2	0	2	1	0	2	0	0	4	1	1	0	0	3	0	2	1	2	2
THR	ACA	2	0	2	3	1	3	4	4	2	1	0	2	4	3	2	4	2	1	2	1	1	2	0	4	4	0	1	3	1	1	0	0	1	1	1	1	1	0	0	2	0	3	0	0	2	0	0	2	1	3
	ACC	9	22	5	5	20	33	11	1	8	12	3	8	7	10	8	7	10	2	12	10	11	8	15	11	11	9	14	16	4	5	24	4	26	11	7	15	11	12	23	4	16	13	5	5	9	3	9	15	12	17
	ACG	5	4	5	3	10	8	5	0	1	1	3	6	7	3	6	7	11	2	0	4	4	4	0	1	1	2	6	4	1	1	4	1	11	8	3	2	4	0	3	2	4	10	0	0	8	0	7	6	2	7
	ACU	3	18	3	5	6	14	1	10	1	1	0	2	1	8	2	1	4	2	4	4	5	12	6	6	6	2	6	5	1	0	5	1	4	4	4	8	7	6	8	3	2	6	1	1	3	1	3	10	6	5
PRO	CCA	7	2	1	1	4	5	0	0	0	1	3	3	2	5	3	2	7	0	3	2	4	1	1	1	2	5	1	3	0	0	4	3	3	0	1	4	6	1	4	1	5	2	2	2	4	0	4	1	4	6
	CCC	2	0	0	0	2	0	0	0	1	3	1	1	1	0	1	1	3	0	3	2	3	4	0	0	0	1	0	0	1	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	3	1	1	0	0	5
	CCG	10	19	8	7	22	25	2	2	5	19	5	8	9	8	8	9	15	1	5	8	9	10	8	12	12	14	25	14	0	1	20	11	37	18	12	10	14	14	27	3	5	16	6	6	16	1	11	12	18	15
	CCU	2	2	1	3	3	8	0	2	0	0	1	1	2	2	1	2	2	1	3	2	2	3	0	2	2	1	2	2	2	0	0	1	4	2	1	1	0	4	0	3	5	2	1	1	5	1	1	3	1	6
ALA	GCA	7	19	2	5	13	19	9	10	1	0	1	5	10	11	5	10	5	1	10	7	9	7	4	10	9	6	6	7	2	2	13	5	14	10	15	7	6	4	11	5	13	5	4	4	5	3	4	13	12	7
	GCC	10	7	2	6	21	11	7	3	6	9	4	1	7	0	1	7	12	3	10	14	10	7	1	16	16	9	10	8	1	3	11	2	24	9	10	7	8	10	13	7	11	17	1	1	14	1	10	8	5	11
	GCG	20	15	6	14	34	25	9	3	6	5	7	10	12	20	10	13	29	3	11	13	14	12	2	13	13	11	15	13	5	2	25	5	27	17	12	7	16	16	39	9	13	19	5	5	12	1	6	13	14	18
	GCU	6	29	1	1	8	12	11	6	4	1	1	3	6	16	3	6	6	3	8	9	4	2	25	8	8	3	7	9	2	4	7	2	12	8	10	8	11	17	24	4	14	3	1	1	6	2	2	18	9	5
GLY	GGA	1	0	0	3	1	2	3	5	0	1	1	3	5	2	0	3	5	7	0	4	2	3	6	0	2	2	2	0	2	1	2	2	2	2	0	1	0	0	0	0	0	2	1	0	0	4	0	1	0	1	5
	GGC	10	14	8	8	26	28	1	3	3	11	5	9	10	18	9	10	15	6	18	8	12	2	14	22	22	10	12	8	4	3	26	5	27	12	23	19	12	17	21	1	15	26	6	6	14	2	12	24	25	29
	GGG	9	1	0	6	5	5	3	4	1	3	0	2	7	2	2	7	6	0	3	1	7	5	0	4	4	4	3	1	0	0	5	2	8	0	1	3	2	0	3	1	1	1	0	0	1	1	4	0	0	3
	GGU	10	32	8	4	22	27	9	8	1	3	4	3	18	20	3	18	23	5	8	13	16	4	19	21	21	11	18	17	5	3	26	7	30	15	18	19	14	24	15	4	23	16	7	7	8	3	8	28	17	21
VAL	GUA	6	13	2	2	6	9	0	3	3	0	4	3	11	6	3	11	3	4	5	4	4	7	8	4	4	8	5	1	2	2	4	3	8	8	7	2	4	6	6	5	4	4	3	3	5	2	1	6	13	8
	GUC	6	3	2	6	13	14	1	0	5	6	0	3	10	8	3	10	6	2	9	8	9	7	1	8	8	5	3	3	5	4	8	1	10	8	3	1	4	5	9	5	4	7	5	5	5	1	2	4	9	11
	GUG	11	7	2	11	12	13	1	6	2	14	5	9	19	12	9	19	11	0	14	11	14	9	4	9	9	16	14	7	4	8	15	4	26	14	10	9	8	6	19	11	8	19	2	2	11	3	9	16	13	10
	GUU	5	24	4	7	20	24	15	8	2	6	2	5	10	12	5	10	9	2	8	5	11	5	21	16	16	10	12	8	4	5	14	1	25	7	18	12	14	19	17	3	13	10	6	6	4	1	3	22	18	10
LYS	AAA	17	42	7	16	33	30	4	10	6	8	5	2	13	10	2	13	34	7	15	5	6	4	26	18	18	13	23	18	5	2	21	4	33	20	22	19	19	26	32	7	20	20	7	7	15	5	13	24	17	13
	AAG	1	8	4	6	6	10	1	4	3	1	1	8	7	8	8	4	2	1	1	2	2	1	4	4	7	9	5	0	0	1	7	11	5	2	3	5	3	9	0	8	4	0	0	5	1	5	0	7	6
ASN	AAC	17	26	8	12	26	25	5	1	1	18	4	4	8	8	4	8	11	4	14	8	3	3	17	9	9	14	21	11	0	1	20	6	30	11	14	4	16	17	20	2	16	15	1	1	10	0	8	9	13	7
	AAU	4	0	4	1	9	18	6	12	1	8	2	9	5	9	9	5	10	2	3	8	10	1	1	8	8	5	6	6	2	1	5	6	6	2	2	0	4	1	4	2	4	8	0	0	5	2	4	2	2	6
GLN	CAA	6	2	0	5	8	2	6	2	2	2	9	8	6	9	8	9	1	10	5	9	5	0	8	8	3	1	1	2	1	5	4	13	3	3	0	1	2	7	3	3	2	2	2	2	7	4	1	3	2	8
	CAG	17	35	5	9	22	25	8	5	4	12	2	16	11	8	16	11	20	4	13	7	18	10	5	15	15	10	14	7	1	1	16	5	41	6	14	7	17	12	19	4	18	7	3	3	13	4	10	12	12	9
HIS	CAC	5	5	4	5	9	5	1	0	0	0	2	0	7	2	0	7	7	8	2	4	9	4	5	4	4	8	11	10	2	0	12	1	25	5	3	6	12	10	6	2	2	7	2	2	6	0	2	10	11	3
	CAU	1	3	2	4	6	3	1	1	2	8	3	3	6	2	3	6	5	4	7	8	11	8	1	6	6	2	5	5	1	2	7	2	9	2	2	0	7	3	3	1	2	7	2	2	8	1	2	0	4	6
GLU	GAA	28	43	20	20	26	26	3	5	4	19	9	16	22	18	16	22	30	13	19	12	22	14	13	23	23	22	32	22	4	1	29	5	44	24	24	15	23	21	37	3	25	19	7	7	11	5	17	33	34	14
	GAG	9	7	5	4	22	9	0	3	2	7	3	3	11	8	3	11	8	1	7	6	4	6	2	8	8	7	13	4	1	1	14	6	22	8	4	3	16	8	17	3	9	11	1	1	7	1	10	7	9	5
ASP	GAC	16	33	7	8	13	19	1	3	3	7	5	4	7	13	4	7	8	4	10	5	2	2	18	5	5	9	15	12	1	1	11	6	28	11	14	4	12	8	25	3	9	7	4	4	10	1	9	17	19	10
	GAU	21	22	9	8	26	30	7	8	7	10	8	9	11	14	9	11	21	8	10	14	21	8	7	14	14	20	22	15	1	1	21	12	24	16	7	7	22	13	27	3	18	17	9	9	15	7	11	6	15	4
TYR	UAC	3	4	3	4	21	18	0	0	4	4	3	1	2	1	1	2	1	10	2	5	4	6	2	6	5	5	9	12	10	0	3	3	2	19	6	1	5	8	15	5	1	11	7	2	2	6	1	6	9	5
	UAU	7	3	3	2	10	24	2	1	3	3	3	5	11	1	5	11	16	2	5	6	6	3	2	5	5	6	10	6	2	3	11	6	12	1	6	1	10	5	8	3	14	9	2	2	10	3	3	4	5	8
CYS	UGC	0	0	1	2	12	3	2	0	0	1	1	0	4	0	0	4	3	3	5	1	1	2	3	3	3	5	8	3	0	0	4	4	5	0	2	4	5	2	2	2	2	4	0	0	2	1	2	1	5	6
	UGU	0	1	1	1	3	1	0	2	1	0	1	0	5	0	0	5	6	1	4	3	3	1	0	2	1	1	4	2	4	0	0	7	7	4	0	3	1	2	1	1	0	0	2	1	4	1	2	4	2	2
PHE	UUC	3	10	9	6	13	18	2	3	3	5	4	2	0	7	2	0	10	0	7	2	4	2	10	11	11	10	14	14	5	7	14	6	31	6	8	6	9	8	20	8	12	10	3	3	6	0	4	4	16	8
	UUU	9	5	0	4	7	18	5	7	2	9	2	3	4	6	3	4	6	4	6	6	8	11	1	11	11	5	10	9	4	2	5	2	8	2	3	2	6	3	10	7	5	5	1	1	10	4	7	5	7	16
ILE	AUA	0	1	0	0	0	0	0	2	3	0	1	2	0	1	2	1	0	1	1	2	0	0	1	0	1	1	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	AUC	24	31	12	18	23	7	2	2	2	11	7	5	16	18	6	12	6	6	5	18	12	12	14	23	13	7	7	14	6	23	14	18	23	16	17	15	8	21	16	6	6	6	2	16	20	17	22	
	AUU	10	12	7	10	21	10	4	9	5	11	5	5	10	5	5	10	12	3	9	11	13	7	1	4	4	9	12	15	4	3	12	8	9	5	5	7	10	4	17	9	14	17	7	7	9	3	10	12	14	24
MET	AUG	14	15	7	10	18	12	1	3	1	5	5	9	8	16	9	8	11	2	9	11	9	4	9	10	10	14	12	19	6	4	16	9	25	13	8	7	12	12	16	7	7	12	5	5	15	1	10	13	15	13
TRP	UGG	3	1	1	3	13	9	0	0	2	2	5	7	2	0	7	2	3	0	1	1	4	2	3	5	5	6	7	3	3	4	7	2	14	1	3	0	8	3	7	11	4	3	4	4	10	1	4	0	8	6
TER	UAA	1	1	1	0	1	1	1	1	0	1	0	1	0	1	1	0	1	1	0	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0	0	0
	UAG	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	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
	UGA	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	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	1	1	0	0
TOTAL		472	639	239	317	716	740	102	108	155	335	160	277	421	384	277	421	549	149	303	344	421	312	332	448	448	432	552	428	130	116	589	239	934	406	389	290	472	418	690	217	469	451	153	153	434	86	317	489	526	507

30		ECO GUT #2	ECO GUT #3	ECO HAG	ECO HIM A01	ECO HIM A02	ECO HIM A03	ECO HIM A04	ECO HIM A05	ECO HIM A06	ECO HIS B02	ECO HIS C	ECO HIS OP6	ECO HIS S	ECO HIS T1#	ECO HIS T1#	ECO HLY #1	ECO HLY #2	ECO HLY #3	ECO HLY #4	ECO HLY X01	ECO HLY X03	ECO HLY X04	ECO HSD SB	ECO HSD SD	ECO HSD SK	ECO HTP R	ECO ILE RR	ECO ILE R01	ECO ILE R02	ECO ILV A02	ECO ILV BPR	ECO ILV E02	ECO ILV E03	ECO ILV GE6	ECO ILV GE8	ECO ILV GEB	ECO ILV IH0	ECO ILV IH8	ECO ILV YC0	ECO ILV YC8	ECO KOB A	ECO KOB AB6	ECO KDP ABC	ECO KDP ABC	ECO KDP ABC B	ECO KDS KSG A	ECO LAC #1	ECO LAC #2	ECO LAC #3
													1		1	2															#1															1	#1	#2	#3
ARG	CGA	0	0	0	1	0	0	0	1	0	0	1	0	0	0	2	1	2	3	3	1	3	4	2	2	5	0	0	0	2	0	0	0	0	2	4	2	5	0	1	0	1	0	0	1	0	0	3	4	3	0
	CGC	3	5	1	0	2	1	6	11	3	1	11	1	16	3	6	0	3	8	1	0	8	1	5	6	7	6	6	1	4	21	0	3	10	0	4	0	9	6	16	7	2	3	9	11	4	9	4	10	36	4
	CGG	0	0	0	0	0	0	0	1	3	0	1	0	0	2	5	2	5	4	6	1	4	4	1	2	2	3	3	0	2	4	0	1	0	0	3	0	1	2	3	0	0	2	1	3	1	0	0	2	7	2
	CGU	2	4	10	5	13	1	17	39	3	0	8	0	16	10	5	1	8	14	9	1	15	10	11	10	10	14	14	1	6	6	1	3	8	0	8	0	8	5	2	14	1	6	6	17	3	12	9	2	20	5
	AGA	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	3	5	7	3	3	7	4	6	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	1	0	1
	AGG	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	6	4	4	1	4	4	3	0	0	0	0	1	1	1	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0
LEU	CUA	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	2	1	3	3	3	3	2	7	0	0	0	1	3	2	0	0	1	1	1	1	0	2	0	1	0	2	3	1	0	0	2	3	1	0	0	6	3
	CUC	5	4	2	4	0	0	2	9	1	0	3	0	5	3	1	1	11	5	2	0	5	0	4	4	2	1	1	0	0	10	1	0	3	0	4	0	4	1	4	2	3	1	8	6	3	2	2	3	9	4
	CUG	2	18	22	6	5	1	21	59	5	0	23	0	26	24	13	1	26	23	23	1	18	19	7	7	6	21	22	4	2	33	0	2	17	1	25	1	17	3	18	39	8	6	47	48	12	6	15	25	54	32
	CUU	1	0	7	2	0	0	2	5	3	0	2	0	6	2	1	2	21	14	10	2	16	10	10	9	10	1	0	3	1	4	0	0	0	2	4	2	7	5	1	2	3	1	8	4	1	5	1	2	9	5
	UUA	1	1	3	2	0	0	2	7	1	0	8	0	5	4	1	11	33	36	22	10	32	25	19	12	14	2	2	1	2	4	0	4	1	0	16	0	7	7	3	0	1	2	10	6	5	2	4	5	7	9
	UUG	3	3	3	1	1	1	4	3	0	0	1	0	6	2	3	1	8	11	5	1	12	6	5	6	10	4	4	0	1	6	0	1	0	0	9	0	13	2	6	2	6	0	9	7	2	1	5	5	11	1
SER	UCA	1	3	2	0	0	2	3	2	1	0	0	0	0	2	3	0	4	23	9	6	5	10	10	9	8	11	2	2	0	1	3	0	2	1	0	4	0	2	2	2	1	2	0	2	1	1	2	1	4	8	4
	UCC	0	1	12	2	0	0	1	4	0	0	2	0	2	2	1	3	2	10	4	2	1	4	2	7	3	6	6	6	2	3	4	2	0	8	0	5	0	7	2	1	6	0	4	4	5	0	1	2	6	6	3
	UCG	1	6	3	0	0	0	0	1	1	0	4	0	1	3	1	0	2	3	5	0	2	2	5	3	0	1	1	1	0	5	0	2	5	0	3	0	8	4	6	2	3	1	5	7	4	0	0	5	9	7
	UCU	1	2	19	2	3	0	4	10	1	0	3	0	5	3	0	2	23	18	6	2	18	5	4	6	10	2	3	0	1	5	0	0	2	0	2	0	7	1	1	10	8	3	6	5	1	1	2	7	3	7
	AGC	1	7	4	3	1	1	3	14	2	1	8	0	4	8	3	0	9	4	8	0	5	4	5	6	6	3	3	3	0	7	0	3	4	2	5	2	4	3	6	2	2	1	18	12	6	1	6	6	25	6
	AGU	2	2	3	1	0	0	2	1	0	0	1	0	2	3	3	3	21	11	6	3	10	10	3	8	7	1	1	1	4	0	0	1	0	0	3	0	4	2	1	0	5	2	2	8	2	2	2	5	9	2
THR	ACA	0	0	12	2	0	0	0	4	2	0	2	1	4	2	1	1	20	8	12	0	10	14	10	7	4	0	0	1	2	0	0	2	0	1	2	1	0	2	0	2	2	0	2	4	1	3	1	1	8	2
	ACC	7	4	19	0	1	0	14	17	1	1	8	0	7	5	7	1	11	8	2	2	9	2	4	8	4	6	6	2	1	10	0	3	9	0	20	0	11	6	4	17	5	4	13	23	4	4	5	11	24	7
	ACG	0	1	4	3	0	1	4	5	1	0	7	0	4	3	4	0	14	4	5	0	4	4	3	6	5	2	2	0	1	5	0	0	4	0	2	0	11	1	7	2	4	5	13	9	4	3	6	4	20	8
	ACU	1	2	30	0	0	0	4	10	0	0	3	0	5	2	2	4	11	10	8	4	11	8	4	10	5	1	1	0	3	1	3	0	2	0	5	0	9	0	4	1	19	4	2	5	1	1	1	3	4	2
PRO	CCA	0	1	3	1	0	0	3	6	0	0	2	0	0	3	3	3	6	2	1	3	2	3	3	11	10	2	2	0	2	4	2	2	4	1	5	1	8	1	1	4	2	0	5	2	2	3	3	2	6	4
	CCC	2	0	0	0	0	0	0	1	3	0	5	0	0	1	1	2	6	2	2	4	1	1	4	1	1	0	0	2	3	2	0	0	0	0	2	0	7	1	1	1	0	0	2	6	2	3	2	6	9	2
	CCG	3	3	2	2	0	1	10	27	2	0	14	0	11	11	0	4	10	27	6	0	6	3	3	2	4	3	4	1	2	15	1	0	9	1	18	1	11	1	16	12	2	6	10	15	8	3	11	6	36	6
	CCU	2	1	1	4	0	1	4	3	0	0	0	0	1	3	0	4	4	2	7	6	3	8	6	5	6	6	0	0	1	0	0	0	0	0	5	0	2	0	0	0	1	0	8	2	1	4	4	0	11	0
ALA	GCA	2	5	15	2	8	1	5	19	1	0	5	0	9	11	6	4	42	22	9	3	20	11	9	11	12	6	6	2	2	3	2	2	6	1	19	1	11	3	6	8	19	4	9	15	9	5	4	5	12	5
	GCC	2	8	10	4	3	2	5	10	1	0	13	0	11	10	4	3	13	7	5	3	6	5	14	12	12	5	5	1	0	14	1	6	5	1	14	1	9	1	5	8	4	7	21	30	5	6	8	14	28	12
	GCG	6	10	18	2	4	1	14	33	1	0	15	0	9	11	16	1	7	9	2	2	10	2	5	8	6	13	12	3	3	35	2	0	13	0	17	0	23	4	14	25	4	6	26	42	7	10	12	22	28	12
	GCU	1	2	16	2	8	0	5	8	3	2	5	0	12	9	5	4	26	10	10	3	10	8	8	10	8	11	10	0	1	6	0	1	4	2	9	2	7	1	1	9	9	7	6	10	3	7	0	3	9	6
GLY	GGA	1	2	4	2	0	0	0	0	1	0	3	0	0	1	0	1	31	10	5	1	11	4	5	4	6	0	0	0	0	2	0	0	5	2	1	2	7	1	0	0	7	3	3	2	1	1	2	1	4	2
	GGC	6	9	13	6	2	0	8	35	2	0	11	0	18	13	7	0	22	4	1	0	4	1	0	4	4	9	9	0	3	27	1	0	12	0	19	0	15	7	8	27	2	6	23	30	6	8	7	11	34	18
	GGG	1	6	1	0	0	0	5	5	2	0	2	0	4	4	5	2	15	12	8	2	13	8	3	4	6	0	0	2	0	5	0	0	2	1	6	1	15	3	3	2	5	6	10	6	4	1	2	4	8	3
	GGU	4	12	26	6	4	1	10	22	2	0	4	0	19	9	4	5	45	17	7	5	15	6	13	8	12	3	3	1	1	10	0	1	11	0	16	0	13	2	1	17	23	5	20	18	1	7	4	6	24	13
VAL	GUA	0	2	8	2	4	1	1	12	0	0	4	0	8	8	7	4	13	9	12	5	12	13	10	3	10	3	1	1	1	6	0	1	4	0	3	0	11	2	4	8	7	2	4	7	1	1	2	3	10	8
	GUC	3	7	3	2	0	2	4	9	1	0	9	0	3	8	7	3	10	11	7	1	8	6	5	8	4	3	3	2	2	10	4	4	1	1	8	1	17	5	1	4	2	4	11	16	2	3	8	9	19	4
	GUG	3	8	9	5	0	0	6	28	3	0	8	0	16	10	8	1	8	9	4	1	12	5	4	1	1	5	5	2	0	19	5	3	11	5	14	5	17	8	18	13	3	12	27	24	4	9	9	15	23	8
	GUU	4	3	13	5	5	1	9	30	1	0	6	1	7	7	4	4	23	24	10	4	27	17	13	5	13	7	7	0	3	5	0	3	9	0	14	0	11	4	3	6	9	6	7	12	7	15	5	8	12	9
LYS	AAA	1	10	20	12	11	3	10	27	6	0	10	1	13	8	7	12	62	28	28	13	28	27	27	32	36	12	12	3	2	16	1	1	10	0	14	0	16	6	7	28	11	4	5	27	5	5	8	10	15	10
	AAG	2	2	5	9	3	1	1	8	4	0	2	0	3	1	4	1	21	8	10	1	7	10	9	3	5	4	4	0	0	5	0	0	2	1	3	1	7	2	4	6	2	3	3	4	0	0	1	1	5	2
ASN	AAC	2	4	27	2	2	0	12	24	4	0	11	0	12	10	4	6	15	12	3	4	12	5	12	10	12	12	12	4	1	12	1	0	7	0	10	0	7	1	5	13	4	3	15	17	4	5	12	5	30	8
	AAU	0	5	21	2	1	1	3	7	1	1	4	0	5	2	7	8	50	16	18	7	17	18	18	17	15	1	1	2	0	2	1	6	3	0	5	0	10	2	3	3	12	0	9	7	8	3	5	7	17	8
GLN	CAA	1	7	4	4	3	0	0	5	1	0	7	1	5	3	4	2	18	12	10	2	11	12	14	14	15	1	1	2	1	6	0	4	3	0	13	0	12	3	2	3	1	1	10	6	6	0	6	13	15	4
	CAG	3	10	22	8	4	0	13	19	2	0	14	0	14	15	8	1	25	22	13	2	22	13	6	5	6	12	13	4	2	13	0	2	7	0	19	0	19	5	11	18	6	8	11	17	5	8	10	15	43	7
HIS	CAC	1	2	0	1	1	0	6	9	0	0	1	0	3	3	0	3	4	7	3	1	4	3	1	2	1	1	4	3	0	3	9	0	2	0	8	0	4	1	4	5	0	1	2	2	0	2	4	4	15	0
	CAU	5	1	8	0	0	0	5	8	0	0	0	0	4	5	2	8	2	10	14	5	3	13	4	4	4	7	3	3	0	4	7	0	2	4	0	9	0	14	1	6	2	1	2	4	3	1	5	3	3	19	4
GLU	GAA	7	5	10	15	2	0	10	47	8	0	10	0	19	26	8	6	34	19	35	6	19	36	23	23	24	16	16	4	3	33	0	3	16	0	17	0	13	8	15	28	5	0	11	19	6	19	8	10	47	9
	GAG	3	4	4	6	0	2	6	18	3	0	8	0	15	4	5	2	22	12	19	2	13	16	8	5	5	6	6	2	0	5	0	0	6	0	8	0	9	4	9	13	5	2	4	10	1	4	5	5	15	2
ASP	GAC	5	6	9	3	3	1	11	23	1	0	9	1	9	8	9	1	24	12	5	2	10	4	7	3	3	15	15	2	0	16	0	2	6	0	15	0	9	2	1	9	6	4	5	11	1	3	5	7	22	3
	GAU	2	8	30	4	1	0	8	28	5	0	6	0	13	10	6	8	52	21	11	9	23	11	20	16	14	8	8	2	3	13	0	1	10	0	18	0	18	5	11	17	8	9	4	23	5	11	6	10	42	3
TYR	UAC	0	8	4	1	5	0	4	7	0	1	9	0	11	4	6	2	7	7	1	2	7	0	4	7	1	4	4	1	1	9	0	0	5	0	7	0	7	2	2	11	3	1	2	2	2	5	1	3	18	7
	UAU	3	5	6	2	1	0	3	7	1	0	5	0	4	2	6	5	33	15	12	5	14	13	8	6	7	3	3	0	4	5	0	0	6	0	5	0	11	1	1	6	7	5	7	4	3	2	7	5	13	7
CYS	UGC	2	3	0	0	0	0	1	10	0	0	8	0	3	2	3	0	0	0	0	0	0	0	1	1	2	0	0	0	1	7	0	2	1	1	4	1	8	0	2	3	0	1	3	3	0	1	2	1	11	3
	UGU	0	2	0	1	0	0	0	3	0	0	1	0	2	0	0	1	0	5	0	1	3	1	3	2	3	0	0	1	2	1	0	0	2	0	5	0	2	0	2	3	0	2	3	3	0	1	0	2	5	5
PHE	UUC	2	6	3	3	5	0	14	16	3	2	1	0	6	8	4	5	10	5	5	4	3	4	5	5	4	4	4	0	1	17	0	2	10	0	9	0	7	1	5	12	2	4	10	9	0	3	5	1	19	24
	UUU	4	6	2	1	0	0	6	3	3	3	8	1	6	8	5	4	20	29	8	5	32	9	9	14	17	4	4	0	1	8	0	1	3	0	8	0	6	2	6	4	9	9	25	14	5	4	8	3	19	32
ILE	AUA	0	1	0	1	0	0	0	1	0	0	0	0	1	0	1	3	12	13	8	4	13	7	12	11	8	0	0	2	0	0	0	1	0	0	1	0	2	2	0	0	1	1	0	0	1	0	0	1	0	0
	AUC	4	8	14	7	6	0	9	25	1	0	8	0	7	8	4	1	14	13	6	1	13	6	16	12	15	8	8	2	2	13	0	3	13	1	19	1	12	4	3	16	3	0	12	25	6	9	8	7	17	10
	AUU	3	6	14	5	4	2	7	24	2	1	16	0	7	7	5	5	38	43	20	6	46	21	17	10	11	4	4	3	1	7	0	0	7	4	0	4	16	6	11	12	11	1	15	27	3	7	5	10	22	23
MET	AUG	2	7	4	5	1	1	10	14	2	1	4	1	8	6	6	2	5	12	6	2	11	6	5	6	4	11	11	4	4	12	2	3	8	1	19	1	23	3	8	21	5	1	29	19	2	7	12	9	24	14
TRP	UGG	0	0	0	0	1	0	2	8	0	0	4	0	6	4	5	7	4	11	4	7	9	4	7	10	3	6	6	3	3	2	0	0	6	0	6	0	12	0	3	5	4	0	9	8	4	3	0	2	39	6
TER	UAA	1	0	1	1	1	1	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	0	0	0	0	1	0	0	0	1	1	0	1	1	0	0	0	1	1	1	0	1	1
	UAG	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	0	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	UGA	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0
TOTAL		124	260	499	181	119	32	320	796	100	15	357	17	425	330	271	171	1024	700	479	171	708	479	475	445	465	205	205	84	101	515	33	87	310	33	522	33	567	161	298	492	286	182	558	683	191	249	274	361	1025	418

39	ECO LAC #4	ECO LEP #1	ECO LEP #2	ECO LEU A61	ECO LEX A	ECO LP2 B	ECO LPP	ECO LSP #2	ECO LSP A62	ECO LYS C	ECO MAL B62	ECO MAL B63	ECO MAL B64	ECO MAL B65	ECO MAL B66	ECO MAL G82	ECO MAL T	ECO MEL B82	ECO MEL C	ECO MET G	ECO MET K	ECO MET L	ECO MET LB1 #2	ECO MET AB0 1	ECO MOT AB0 2	ECO MTL A	ECO NDH	ECO NIR R81	ECO NPL	ECO NRD A81	ECO NRD A82	ECO NRD A83	ECO NUS A61	ECO NUS A62	ECO NUS A63	ECO NUS A64	ECO NUS B	ECO OMP A81	ECO OMP A82	ECO OMP B81	ECO OMP B82	ECO OMP C	ECO OMP F	ECO ORI #2	ECO ORI #3	ECO ORI ABM	ECO ORI ABM	ECO ORI #4	ECO ORI #1	ECO P1P #2	ECO P1P ABA	ECO ABA #2
ARG	CGA	0	4	0	1	0	1	0	0	0	0	2	1	0	0	0	2	3	3	1	2	1	1	1	0	2	0	2	1	0	4	4	0	0	0	2	3	0	0	0	0	0	1	0	2	9
	CGC	2	12	7	2	5	2	1	3	3	12	10	2	10	6	0	4	25	8	8	19	4	32	9	4	11	7	9	5	5	15	15	9	4	8	18	11	5	4	3	8	13	1	2	0	7	1	1	7	6	4
	CGG	2	1	4	0	0	2	0	0	0	2	0	0	3	0	0	0	11	1	2	0	1	3	2	2	5	0	0	2	1	7	7	0	0	2	1	0	0	1	0	0	4	0	0	1	1	0	0	1	1	3
	CGU	1	21	6	0	9	1	3	2	2	13	5	5	12	11	0	5	23	3	5	12	14	22	10	7	5	16	11	9	6	25	25	8	4	18	47	40	4	2	10	16	13	12	10	0	11	1	4	11	3	5
	AGA	5	1	0	1	0	0	0	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	2	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	4	5
	AGG	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	0	1	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	1
LEU	CUA	1	1	0	4	0	3	0	2	1	1	3	0	4	0	0	2	6	4	3	1	1	2	1	0	1	1	2	0	0	2	2	1	0	2	0	0	0	3	0	0	1	0	0	0	0	0	0	0	3	1
	CUC	0	8	0	0	1	3	0	1	1	7	8	4	8	3	3	2	13	11	3	5	1	6	0	5	2	11	2	1	5	6	6	5	2	4	7	7	3	3	0	4	6	1	0	5	0	4	2	0	4	3
	CUG	2	40	16	0	12	11	9	15	15	30	39	25	22	11	8	31	80	21	22	45	21	65	29	18	14	51	35	17	18	53	53	26	9	26	42	38	13	2	21	17	28	24	18	8	28	7	7	28	13	3
	CUU	2	3	2	0	2	5	0	3	3	5	4	0	2	2	2	3	10	5	3	2	4	8	2	7	2	1	3	6	4	5	5	1	0	3	2	0	0	4	0	4	4	4	1	3	3	7	4	2	7	11	7
	UUA	3	2	4	0	2	4	0	0	0	6	5	3	1	4	2	4	6	11	4	0	1	6	9	6	3	2	2	1	3	1	1	0	0	1	0	0	0	4	1	2	3	1	2	3	2	3	2	2	3	12
	UUG	2	5	2	1	5	5	0	1	1	6	8	3	2	2	0	4	17	6	5	4	0	15	9	4	5	1	8	2	3	5	5	4	0	7	3	1	1	5	1	1	10	0	0	2	3	1	1	3	7	5
SER	UCA	2	4	5	0	1	1	0	1	1	3	4	0	2	1	2	2	8	6	2	3	1	2	3	2	2	2	2	0	0	5	5	2	1	0	4	3	0	3	0	1	1	0	1	2	2	1	0	2	6	7
	UCC	2	9	2	0	3	1	2	0	0	6	4	6	5	7	0	3	4	2	4	7	8	10	4	3	4	9	4	4	2	15	15	7	2	3	11	10	3	4	8	3	3	8	5	2	2	2	2	2	4	5
	UCG	2	5	2	0	1	2	0	3	3	3	2	2	3	4	0	6	10	4	4	3	2	6	3	4	1	3	5	4	3	7	7	2	0	4	4	2	1	3	0	2	6	0	0	2	3	1	1	3	5	4
	UCU	3	7	1	2	0	2	3	1	1	7	2	2	7	2	1	3	5	2	13	7	7	1	1	2	12	2	1	3	13	13	5	0	4	15	12	1	5	4	2	2	6	6	1	6	2	0	6	8	7
	AGC	1	8	5	1	4	5	2	3	3	10	11	4	4	7	7	3	19	4	10	14	3	31	7	9	13	12	5	7	3	14	14	8	1	8	10	8	2	2	4	4	9	2	3	4	9	3	4	9	6	7
	AGU	2	2	2	0	0	1	0	2	2	1	2	1	1	2	3	1	9	5	6	1	1	7	4	1	4	2	2	1	3	3	3	2	3	0	0	0	0	4	0	1	5	1	1	0	0	1	1	0	5	4
THR	ACA	2	0	3	0	1	5	0	1	1	3	1	2	2	2	1	1	0	2	4	1	0	1	1	2	1	2	2	1	2	8	8	0	3	2	2	0	0	2	1	0	1	0	1	4	0	2	3	0	2	6
	ACC	4	16	6	0	2	7	0	1	1	12	22	13	4	15	11	7	21	6	9	14	12	18	9	5	3	15	9	4	6	18	18	13	2	15	22	18	1	0	11	3	9	12	11	4	6	5	5	6	0	3
	ACG	5	9	6	0	2	1	0	2	2	8	13	3	4	1	1	3	10	10	2	6	3	6	9	4	2	5	9	6	4	19	19	4	1	3	6	3	0	5	1	2	12	0	3	2	4	1	1	6	3	5
	ACU	1	2	3	1	1	2	4	1	1	7	3	5	4	7	0	2	1	0	4	0	6	2	2	3	2	9	6	3	0	8	7	3	2	5	12	11	1	4	10	1	2	12	7	1	2	1	1	2	6	4
PRO	CCA	5	3	2	0	4	0	0	0	0	4	2	4	6	2	3	4	6	4	4	1	5	1	5	2	6	7	5	0	2	7	7	0	2	1	1	1	2	1	3	3	2	3	1	0	1	0	0	1	2	3
	CCC	1	0	0	0	0	4	0	0	0	2	4	0	1	0	2	0	1	4	1	1	1	3	1	2	6	0	0	0	0	1	1	0	2	0	0	0	0	2	0	0	3	0	0	1	1	1	1	1	0	0
	CCG	3	15	17	0	4	5	0	2	2	8	14	16	12	4	5	12	14	7	5	27	8	18	10	6	5	19	11	5	5	22	22	12	1	9	18	16	0	2	15	11	16	1	2	5	10	4	3	10	4	3
	CCU	2	3	4	0	1	4	0	1	1	1	1	1	2	3	1	0	3	2	2	3	5	6	1	2	3	0	1	2	4	2	2	1	0	1	2	1	3	1	1	1	2	0	2	2	2	2	1	2	10	4
ALA	GCA	3	9	5	1	4	9	3	2	2	17	6	9	6	12	3	5	21	7	6	16	10	10	15	7	5	18	5	3	5	9	9	5	0	14	25	19	5	7	11	5	5	8	11	6	3	8	2	3	13	7
	GCC	2	13	2	0	2	2	0	6	6	10	18	14	9	10	3	9	37	8	20	16	7	29	9	7	14	8	7	6	9	23	23	4	2	16	14	11	3	2	1	2	11	0	2	2	5	3	3	5	7	8
	GCG	2	23	12	0	7	14	1	8	8	16	17	16	8	6	6	14	31	11	12	12	8	33	15	13	8	22	19	3	8	23	23	9	5	21	42	35	5	2	3	7	18	3	5	2	14	1	5	14	11	4
	GCU	1	4	6	0	3	2	8	2	2	8	3	11	3	12	2	9	6	12	5	13	12	8	4	5	1	16	8	4	3	8	8	4	4	10	29	20	5	3	22	3	5	18	16	3	5	2	2	5	10	5
GLY	GGA	2	2	4	0	0	4	0	0	0	3	3	1	2	0	1	2	6	8	4	0	0	5	2	3	4	0	4	1	1	3	3	0	1	1	2	1	2	0	0	3	0	0	1	2	2	0	0	2	1	2
	GGC	8	24	11	1	5	7	1	9	10	14	26	13	13	22	4	8	18	9	14	26	15	24	16	5	6	20	17	11	13	12	12	4	3	12	30	29	2	2	14	7	16	19	15	3	14	5	6	14	4	4
	GGG	3	2	3	0	6	4	0	2	1	0	4	1	2	1	1	3	7	3	5	2	0	15	8	6	3	4	5	0	3	7	7	2	0	3	1	1	1	4	0	1	9	0	1	2	7	2	3	7	2	7
	GGU	3	15	9	2	6	6	2	4	4	11	13	15	10	26	1	9	9	16	7	18	17	22	9	11	7	35	16	10	11	16	16	7	5	10	35	32	0	3	24	6	5	29	33	4	6	6	1	6	9	5
VAL	GUA	5	14	3	0	2	5	2	1	2	7	0	5	8	1	1	7	3	10	5	5	6	10	5	1	3	7	7	2	7	12	12	0	3	8	17	14	4	2	7	5	4	9	4	2	8	1	3	8	6	5
	GUC	6	8	5	0	6	5	0	5	5	8	10	3	9	7	3	10	8	10	4	8	3	12	5	8	9	10	9	1	8	6	6	8	3	3	10	9	3	2	1	5	9	2	1	1	4	1	4	4	4	4
	GUG	2	12	11	1	3	9	1	5	5	13	16	6	19	6	2	5	16	17	12	20	7	34	16	5	3	17	7	1	5	20	20	8	4	18	21	10	5	3	2	6	16	2	5	3	7	0	1	7	6	2
	GUU	9	11	4	1	8	4	3	1	1	10	5	6	7	10	4	2	8	14	8	9	11	10	5	7	3	16	4	1	4	12	12	9	9	15	35	35	2	4	17	1	5	12	16	2	5	2	1	5	15	9
LYS	AAA	8	23	13	0	8	16	6	3	3	11	18	30	14	12	4	7	17	10	14	30	19	17	12	10	13	23	19	9	13	27	27	12	3	19	52	38	8	4	15	4	10	17	16	4	12	4	4	12	14	18
	AAG	2	13	6	0	2	5	1	2	2	0	5	9	1	8	0	1	5	4	0	2	3	1	1	3	8	6	5	3	16	16	4	1	6	14	11	3	0	4	4	2	0	3	3	3	3	6	3	9	10
ASN	AAC	9	17	6	1	3	5	6	5	5	8	16	17	7	27	7	6	27	6	6	21	6	16	7	3	7	19	18	5	4	23	23	12	3	16	25	24	4	2	18	6	9	32	20	2	3	2	2	3	11	8
	AAU	7	6	4	0	3	10	0	2	2	10	8	4	5	4	1	1	19	8	10	8	1	5	8	5	6	4	5	4	3	8	8	5	2	3	4	2	1	3	1	2	7	0	4	3	0	2	3	0	7	6
GLN	CAA	0	3	5	0	3	6	0	2	2	2	9	3	9	6	8	6	28	3	8	4	4	15	4	3	4	2	3	3	8	5	5	2	1	2	16	5	0	7	2	2	5	1	6	1	7	0	3	7	4	3
	CAG	0	21	10	1	10	7	5	3	3	7	14	6	13	16	2	5	41	8	6	24	14	32	10	4	10	13	11	12	14	22	22	21	3	17	30	25	6	6	15	7	15	20	7	2	13	3	4	13	8	16
HIS	CAC	4	10	1	1	1	2	0	2	2	3	0	2	2	3	0	3	13	2	4	11	8	9	5	3	1	10	10	1	3	8	8	4	3	3	13	12	0	3	3	0	-5	1	0	3	7	4	2	7	6	2
	CAU	4	1	2	1	4	6	0	1	1	5	1	1	7	3	0	1	25	5	9	5	3	11	6	2	5	3	7	5	2	8	8	4	0	1	2	2	1	4	2	3	4	0	1	1	6	0	1	6	8	2
GLU	GAA	12	30	14	0	13	13	0	1	1	21	13	19	15	18	2	5	52	7	16	33	17	32	18	13	11	23	18	11	12	24	24	10	46	79	65	9	8	9	16	16	11	13	11	13	14	7	13	13	18
	GAG	2	11	4	0	3	4	0	0	0	14	2	8	11	3	0	2	19	2	4	11	7	12	3	9	9	11	5	5	5	16	16	8	2	6	20	12	2	2	4	6	18	0	1	3	10	2	2	10	11	7
ASP	GAC	3	23	4	0	4	3	6	3	3	7	11	12	6	19	1	3	9	2	7	17	17	25	9	1	3	14	5	5	3	25	25	13	1	14	27	22	5	0	16	8	7	23	14	1	9	3	5	9	11	7
	GAU	6	18	13	0	8	13	2	5	5	15	10	12	11	14	3	4	26	15	16	28	10	32	12	7	15	13	13	8	13	16	16	12	9	26	21	18	4	4	6	6	8	9	13	5	15	7	3	15	17	14
TYR	UAC	3	10	7	0	0	1	1	3	3	2	15	7	3	15	3	5	9	8	2	18	5	8	3	5	3	7	6	2	5	16	16	7	1	1	8	8	7	2	15	4	5	24	20	0	2	0	4	2	0	4
	UAU	6	9	4	0	1	5	0	3	3	2	8	8	2	7	1	3	10	10	7	6	4	9	7	6	3	4	6	3	8	17	17	9	2	4	3	3	0	3	2	2	7	5	9	1	3	3	3	3	9	2
CYS	UGC	1	4	2	0	0	1	1	0	0	4	2	0	2	0	0	1	7	2	4	7	3	6	5	1	0	2	4	2	4	19	19	3	0	4	0	0	0	1	1	1	1	0	0	1	0	0	2	0	5	0
	UGU	1	6	1	0	0	0	0	2	2	2	1	0	2	2	1	0	2	2	2	1	2	3	4	0	0	2	0	2	0	3	3	2	1	3	3	1	0	1	1	0	0	0	0	2	1	0	2	0	2	2
PHE	UUC	3	14	8	0	4	2	0	8	8	7	10	12	5	16	3	11	15	13	6	23	8	16	4	4	2	21	8	8	6	18	18	10	2	15	10	10	4	1	7	5	9	17	12	1	7	1	0	7	6	3
	UUU	5	5	9	1	2	6	0	4	4	11	16	4	5	4	1	8	15	21	12	14	5	12	8	8	4	8	3	3	4	9	9	7	4	3	5	3	0	1	2	3	6	2	7	4	3	3	3	3	12	11
ILE	AUA	4	2	0	0	0	3	0	0	0	1	2	1	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	4	4	1	0	0	0	0	0	1	0	0	1	0	0	1	1	0	2	1	2	9
	AUC	5	24	8	3	4	3	2	7	7	13	9	14	14	13	2	10	22	18	11	20	19	21	6	9	7	34	8	17	11	30	30	14	7	22	36	34	2	2	15	4	12	10	13	7	7	7	11	7	6	5
	AUU	8	14	14	0	9	9	0	7	7	10	20	10	7	7	4	13	25	22	12	16	8	13	8	11	13	20	18	5	6	14	14	13	3	13	11	8	3	4	1	7	15	0	1	2	6	4	6	6	15	9
MET	AUG	6	13	8	1	5	3	3	4	4	8	16	9	10	16	3	9	19	16	9	21	9	9	6	13	12	25	14	9	7	18	18	9	3	9	21	20	1	6	6	12	15	4	5	3	6	1	5	6	12	6
TRP	UGG	2	3	6	0	1	1	0	6	6	2	12	8	2	19	1	8	22	8	6	11	4	12	2	0	3	4	2	0	1	9	9	7	1	5	2	2	1	4	5	1	8	4	2	3	8	3	0	8	1	1
TER	UAA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	0	0	1	1	0	0	0	0	0	1	1	1	1	0	1	1	0	1	1	1	1	1	1	0	1	0	1
	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	0	0	0	0	1	1	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	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
TOTAL		204	599	324	29	203	273	79	165	165	450	515	397	371	447	132	297	902	470	396	678	385	811	387	296	309	638	435	251	298	777	777	377	141	495	891	734	140	170	347	240	451	368	363	148	331	148	153	331	399	344

40	ECO P1P ARA #3	ECO PAB A	ECO PAB B	ECO PAP A	ECO PBP B	ECO PFK BK	ECO PHE A#1	ECO PHE AB#	ECO PHE 1	ECO PHE AB#	ECO PHE 2	ECO PHE AB#	ECO PHE 3	ECO PHE AB#	ECO PHE 4	ECO PHE AB#	ECO PHE 5	ECO PHE IS1	ECO PHO E	ECO PHO EA# 2	ECO PHO 3	ECO PHO EA#	ECO PHO H#1	ECO PHO M#2	ECO PHO M#3	ECO PHO S#1	ECO PHO S#2	ECO PHO S#3	ECO PHO S#4	ECO PHO S#5	ECO PHO WTU #1	ECO PHO WTU #2	ECO PHO WTU #3	ECO PHO WTU #4	ECO PHO WTU #1	ECO PHR ORF #2	ECO PHR ORF	ECO PIN F	ECO PIN AA	ECO PLD B	ECO PLD	ECO PLS B#1	ECO PLS B#2	ECO POL A#1	ECO POL A#2	ECO PON A	ECO PON B#1	ECO PON B#2	ECO POX B	ECO PRO C	ECO PRS	ECO PTS G	ECO PTS	ECO PUR PUR	ECO PUR F#2	ECO PYR BI# 1	ECO PYR BIA #1
ARG	CGA	0	1	1	0	2	0	0	0	0	3	2	1	0	0	2	1	0	2	3	0	0	0	0	1	0	0	0	1	2	2	4	4	0	2	2	2	0	0	0	2	2	0	0	0	0	1	0	0	0
	CGC	3	8	14	0	19	6	0	1	0	8	9	9	1	4	11	8	3	10	14	3	4	8	2	4	4	8	2	4	10	11	4	4	5	17	3	30	14	4	23	14	12	17	5	6	4	1	2	23	8	9
	CGG	0	1	3	0	2	3	0	1	0	1	3	0	0	1	1	1	2	3	4	0	0	0	0	1	0	0	0	1	0	6	2	2	1	3	0	1	3	1	3	0	0	0	1	0	0	0	1	1	0	0
	CGU	6	0	10	0	15	4	0	3	0	8	13	10	0	7	12	15	1	3	13	2	2	5	11	11	2	5	11	11	5	12	7	7	7	11	1	30	28	7	19	43	39	7	1	19	8	0	1	16	6	6
	AGA	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	1	1	1	0	0	0	0	0	2	0	0	0
	AGG	1	0	0	0	1	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	3	2	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
LEU	CUA	0	0	3	1	2	0	0	0	0	0	1	1	0	0	1	0	0	0	5	0	2	0	0	0	2	0	0	0	2	3	1	1	1	1	0	3	1	2	1	5	5	5	0	1	0	0	0	0	1	2
	CUC	1	2	5	0	5	4	0	2	0	6	2	1	0	1	4	4	1	3	5	1	5	4	4	1	5	4	4	1	2	1	1	1	6	5	1	8	10	2	6	8	8	4	3	2	3	1	2	4	4	4
	CUG	7	10	20	4	24	16	0	6	0	18	26	22	0	14	23	25	7	15	21	23	27	30	17	16	27	30	17	16	5	19	12	12	9	9	5	62	62	15	41	50	50	25	12	21	38	7	10	19	24	23
	CUU	2	6	6	2	3	6	0	0	0	3	5	3	0	0	4	4	0	2	5	0	2	0	1	3	2	0	1	3	10	4	3	3	3	2	2	7	14	1	4	8	8	5	3	1	2	0	0	3	4	4
	UUA	4	1	9	1	10	4	0	0	0	10	8	3	0	3	2	6	2	7	8	1	0	2	0	0	0	2	0	0	3	6	2	2	3	5	2	8	4	0	4	3	3	10	0	1	1	0	1	3	3	3
	UUG	3	2	4	1	5	4	0	1	0	13	5	4	0	5	5	4	3	6	17	0	3	5	5	1	3	5	5	1	3	10	2	2	7	4	2	16	15	4	7	9	9	5	0	0	0	0	5	6	3	2
SER	UCA	1	2	3	4	5	1	0	0	0	5	3	3	0	3	1	1	0	3	1	1	0	0	0	0	0	0	0	0	2	1	3	3	1	3	0	5	7	1	4	3	3	2	2	4	0	0	4	0	2	1
	UCC	4	1	4	2	8	5	0	1	0	5	1	7	0	1	2	3	3	1	1	4	3	5	4	2	3	5	4	2	1	1	1	1	4	2	4	9	4	3	6	4	4	5	5	4	9	2	2	8	6	6
	UCG	1	2	3	2	4	4	0	1	0	3	4	2	0	3	6	3	4	1	4	1	5	4	2	2	5	4	2	2	0	8	1	1	2	1	1	7	5	1	14	8	8	7	2	1	5	0	3	7	0	1
	UCU	7	1	4	4	8	2	0	0	0	3	3	3	0	4	1	1	2	1	4	7	3	3	4	2	3	3	4	2	2	2	0	0	3	1	1	9	10	1	4	7	7	2	3	4	9	1	1	4	4	4
	AGC	3	2	13	2	9	6	0	1	0	6	5	9	1	5	7	10	3	4	11	5	3	4	2	4	3	4	2	4	2	7	2	2	5	3	2	12	9	6	9	21	20	13	5	6	5	3	4	9	5	6
	AGU	3	1	4	0	7	6	0	1	0	3	4	3	0	5	5	2	0	1	5	4	3	0	2	4	3	0	2	4	1	4	2	2	4	1	0	5	4	1	9	7	7	4	0	0	0	0	3	0	3	2
THR	ACA	2	2	2	3	7	0	5	0	1	1	2	0	6	1	6	0	0	1	2	0	1	1	0	0	1	1	0	1	3	7	7	0	3	0	3	5	3	2	0	5	3	3	5	0	0	1	0	1	2	3
	ACC	4	4	9	1	16	6	1	2	1	11	2	5	1	7	9	5	4	4	6	18	11	9	10	6	11	9	10	6	2	7	1	1	10	5	4	14	29	6	22	18	18	9	7	5	11	4	3	8	8	7
	ACG	2	3	7	1	4	2	0	0	0	5	0	3	0	6	5	7	1	7	12	1	1	9	5	2	1	9	5	2	1	9	1	2	4	3	0	19	13	3	16	14	13	7	4	1	2	0	2	7	4	5
	ACU	4	0	8	9	7	1	0	1	0	6	2	5	0	5	4	3	0	2	6	4	2	3	1	2	2	3	1	2	0	3	4	4	4	3	1	5	6	1	6	5	5	2	1	7	6	6	1	3	3	3
PRO	CCA	0	5	8	4	4	5	0	2	0	4	3	2	0	2	1	1	1	1	2	2	2	0	1	0	2	0	1	0	1	5	2	2	1	5	0	8	14	1	11	10	9	12	5	2	5	0	0	2	2	2
	CCC	1	1	3	0	2	3	1	0	1	1	0	2	0	0	0	2	1	5	7	0	1	1	0	0	1	1	0	0	1	3	1	1	1	0	2	0	2	4	0	0	0	0	3	2	1	1	1	0	0	0
	CCG	4	2	9	1	21	6	1	1	1	9	12	10	0	1	10	7	4	7	9	10	13	11	8	3	13	11	8	3	6	13	1	1	10	9	0	28	29	2	32	36	33	10	6	8	13	1	1	15	10	10
	CCU	2	2	3	0	5	1	0	1	0	1	2	4	0	0	0	2	1	1	4	3	2	0	1	0	2	0	1	0	1	5	2	2	2	1	0	8	3	4	5	5	5	2	1	2	4	1	0	0	0	0
ALA	GCA	13	4	8	4	5	9	1	4	1	7	9	6	0	11	6	11	1	0	13	11	8	1	3	1	7	1	3	1	0	9	7	7	6	7	4	12	23	4	24	13	13	8	6	5	19	1	0	3	6	6
	GCC	6	5	14	6	9	10	0	6	0	12	6	12	0	10	17	15	3	6	13	7	10	7	5	4	10	7	5	4	3	13	1	1	3	8	5	20	16	1	16	14	13	27	16	8	10	2	4	20	12	12
	GCG	7	5	10	2	33	12	0	0	0	14	12	10	0	6	17	19	6	6	22	11	16	25	8	12	16	25	8	12	5	20	2	2	9	11	5	29	47	8	37	36	36	21	10	8	20	3	5	11	12	14
	GCU	7	1	6	10	8	6	0	1	0	5	8	9	2	4	6	8	4	3	6	11	4	5	3	0	4	5	3	0	2	8	4	4	4	7	4	6	13	4	11	6	6	9	6	12	12	3	5	14	3	2
GLY	GGA	1	1	2	4	4	6	0	0	0	2	5	2	0	0	5	0	1	2	3	1	0	0	0	0	1	1	0	0	0	1	5	8	8	1	5	4	0	9	1	5	6	5	5	3	1	0	1	0	0	3
	GGC	1	5	13	4	28	12	0	2	0	8	8	9	0	17	18	18	3	5	12	11	15	4	6	8	14	4	6	8	3	9	3	3	10	5	3	21	19	6	27	26	26	25	10	7	17	4	5	18	6	7
	GGG	2	5	2	3	9	2	0	1	0	2	4	7	0	5	4	3	3	2	7	3	3	4	2	2	4	4	2	2	2	8	2	2	4	7	0	11	11	2	9	13	11	6	4	0	2	0	3	3	4	4
	GGU	3	4	8	13	14	7	0	1	0	6	7	8	0	15	10	10	5	3	10	20	13	13	8	2	13	13	8	2	1	8	4	4	8	9	1	13	18	4	29	21	21	13	7	13	30	2	4	9	5	4
VAL	GUA	0	1	6	5	9	5	0	0	0	7	1	8	0	1	4	7	4	3	4	5	2	3	1	3	2	3	1	3	1	2	2	2	3	6	2	9	10	3	5	10	9	4	8	8	10	1	1	3	4	4
	GUC	2	3	6	1	10	7	0	2	0	4	7	3	0	6	6	5	6	9	11	3	4	0	1	4	4	0	1	4	1	7	2	2	1	6	2	9	12	1	16	11	10	10	5	7	6	0	3	9	3	2
	GUG	4	7	9	3	21	5	0	1	0	6	13	5	0	4	6	15	4	6	15	4	6	10	9	6	8	10	9	6	8	2	16	5	5	12	7	9	23	22	8	32	26	26	21	9	8	9	2	8	13	9	8
	GUU	5	3	6	13	14	11	0	4	0	7	11	6	0	5	9	8	3	1	12	11	7	6	3	2	7	6	3	2	5	5	3	3	2	5	1	7	13	3	12	10	10	10	3	12	16	4	6	11	7	8
LYS	AAA	8	4	10	9	25	9	1	8	1	14	9	12	0	21	9	16	13	3	12	25	7	6	12	10	7	6	12	10	4	14	5	5	7	4	3	21	42	11	20	29	26	25	14	6	17	6	3	15	13	12
	AAG	2	2	3	4	7	4	0	1	0	3	6	1	0	4	2	3	2	6	4	7	4	4	4	3	4	4	4	3	0	3	5	5	3	1	0	7	17	4	12	11	10	4	2	2	4	1	0	2	2	3
ASN	AAC	4	4	5	4	20	7	0	5	0	6	1	7	0	16	9	10	3	1	9	12	5	7	11	4	5	7	11	4	3	9	3	3	14	8	0	1	24	22	5	27	23	23	13	3	14	13	2	1	18	7	7
	AAU	5	2	10	8	7	7	0	3	0	10	7	9	1	11	4	6	1	2	11	5	4	2	1	3	4	2	1	3	3	11	2	2	6	2	3	11	10	2	13	12	11	4	4	3	3	0	1	12	8	8
GLN	CAA	3	3	8	0	7	6	0	4	0	9	7	10	0	9	5	7	2	3	5	2	1	2	2	1	1	2	2	1	4	7	3	3	5	2	0	8	17	3	18	14	13	9	3	2	1	2	2	2	7	5
	CAG	5	5	22	7	12	9	0	2	0	13	15	12	0	8	8	11	3	7	14	12	3	6	12	13	3	6	12	13	7	21	3	3	7	12	1	21	22	10	40	49	49	8	5	6	8	4	2	17	8	8
HIS	CAC	1	2	5	0	3	3	1	1	1	6	6	4	0	0	6	4	1	1	3	1	1	2	3	2	1	2	3	2	6	6	0	0	2	3	0	14	10	1	8	0	0	13	1	3	8	1	0	6	7	7
	CAU	1	7	7	2	4	3	0	4	0	9	3	5	0	1	4	3	2	3	5	0	0	0	1	4	0	0	1	4	6	9	2	2	3	13	2	10	11	1	2	5	5	7	3	1	2	1	1	4	4	4
GLU	GAA	7	7	25	4	19	16	0	10	0	21	11	17	0	11	15	19	5	10	18	14	7	9	11	11	7	9	11	11	3	19	8	8	9	12	5	23	57	11	23	19	16	28	15	14	10	7	4	25	8	8
	GAG	2	2	6	2	9	6	0	2	0	8	17	5	0	3	2	4	2	5	11	1	6	2	5	7	6	2	5	7	3	14	4	4	6	6	1	26	23	3	19	19	17	11	2	0	5	2	1	8	5	7
ASP	GAC	5	4	6	1	14	4	0	3	0	4	6	5	0	10	9	10	2	6	7	9	2	3	9	12	2	3	9	12	4	4	3	3	8	10	2	17	17	6	12	21	17	11	6	12	6	1	3	13	10	10
	GAU	7	7	23	10	11	6	0	1	0	11	16	16	0	21	15	18	8	10	12	11	3	0	6	10	3	0	6	10	6	16	6	6	8	13	2	21	34	7	29	31	25	17	4	14	8	0	3	20	11	11
TYR	UAC	2	4	3	0	11	2	0	1	0	5	6	2	1	2	4	4	2	3	12	3	9	7	2	9	4	7	2	9	4	3	3	0	0	11	3	1	17	14	2	19	13	11	4	2	3	10	0	4	10	6	6
	UAU	1	1	8	2	10	3	0	0	0	6	4	5	0	20	3	3	3	2	9	3	1	3	0	1	1	3	0	1	8	11	3	3	12	7	1	14	18	1	17	17	15	10	1	1	4	0	1	7	2	2
CYS	UGC	4	2	5	1	1	2	0	0	0	2	0	2	0	0	3	5	0	2	1	0	1	1	1	4	1	1	1	4	0	5	1	1	0	1	2	3	0	0	3	2	2	7	3	2	1	0	0	5	0	0
	UGU	2	2	1	1	1	2	0	0	0	2	3	3	0	0	0	2	2	0	0	0	0	0	3	1	0	0	3	1	0	2	1	1	0	2	0	2	2	0	1	0	0	3	1	2	2	0	3	3	1	1
PHE	UUC	7	2	8	4	5	1	4	1	4	6	5	0	2	9	4	1	1	2	5	12	9	7	6	6	9	7	6	6	2	4	1	1	3	6	2	19	8	0	22	10	10	10	3	6	20	2	6	11	8	9
	UUU	3	5	13	5	10	3	3	1	3	5	9	7	3	12	1	4	4	7	9	2	11	6	6	1	11	6	6	1	4	15	5	5	7	15	1	8	16	5	7	15	15	10	6	5	12	2	11	9	4	3
ILE	AUA	1	1	2	1	1	1	1	0	1	1	0	0	0	2	1	1	1	1	0	0	1	0	0	0	1	0	0	0	0	5	1	1	0	2	0	0	0	0	1	0	0	0	0	1	0	0	2	2	2	2
	AUC	7	4	7	1	13	6	0	4	0	6	4	6	0	5	9	16	2	3	7	9	25	9	12	10	25	9	12	10	4	6	2	2	5	9	7	22	24	2	20	20	20	17	11	17	25	1	9	21	5	4
	AUU	4	7	16	7	21	8	0	5	0	15	15	13	1	7	21	10	7	6	16	8	14	18	6	10	14	18	6	10	3	8	7	7	4	7	8	23	29	4	27	18	17	15	10	8	19	2	5	21	8	9
MET	AUG	7	4	8	3	15	4	1	4	1	8	11	13	1	9	6	9	4	5	9	3	14	17	8	13	14	17	8	13	4	9	5	5	8	8	4	27	25	6	21	27	26	20	14	9	14	2	1	12	9	9
TRP	UGG	4	3	7	0	6	1	0	1	0	2	5	3	0	3	2	1	1	4	6	8	7	9	2	0	7	9	2	0	3	15	2	2	10	7	5	8	7	3	14	13	13	5	1	0	6	0	4	2	2	2
TER	UAA	0	0	1	1	1	0	0	0	0	1	1	0	1	1	1	1	1	1	0	1	1	1	0	0	1	1	0	0	1	0	1	1	0	1	1	1	1	1	0	1	1	1	0	1	1	1	0	0	1	1
	UAG	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	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	0	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	1	1	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
TOTAL		209	188	454	186	589	309	16	114	16	387	374	357	15	352	368	408	158	230	475	347	320	297	258	242	320	297	258	242	170	473	185	185	290	341	123	808	929	199	851	845	800	573	270	316	478	86	163	505	312	312

41		ECO PYR BIA #2	ECO PYR BIB #1	ECO PYR D	ECO PYR EA# 1	ECO PYR G01	ECO PYR #1	ECO RBS #2	ECO RBS #3	ECO RBS #4	ECO RBS #5	ECO RBS P	ECO RBS A	ECO REC F#2	ECO REC X	ECO REC FA# 2	ECO REC B	ECO REL X	ECO RF1 X	ECO RF2 X	ECO RHO #1	ECO RHO #2	ECO RHO A	ECO RHO B#1	ECO RHO B#2	ECO RNC	ECO RNC 101	ECO RNH	ECO RNH Q#1	ECO RNH Q#2	ECO RNP A#1	ECO RNP A#2	ECO RPA #1	ECO RPA #2	ECO RPA #3	ECO RPL N#2	ECO RPL N#3	ECO RPL N#4	ECO RPL N#5	ECO RPL N#6	ECO RPL N#7	ECO RPL N#8	ECO RPL N#9	ECO RPL N#1	ECO RPL N#1	ECO RPL N#1	ECO RPL #1	ECO RPL #2	ECO RPL #3	ECO RPL #4	ECO RPL #5	ECO RPL #6	ECO RPM BG#	ECO 1
ANG	CGA	1	2	0	0	1	0	0	0	0	0	0	0	2	2	0	1	1	1	3	0	0	1	3	0	0	0	2	0	0	1	0	1	0	2	0	0	1	0	0	0	0	0	0	0	0	1	0	1
	CGC	6	0	7	4	12	1	19	4	4	3	4	2	19	19	1	13	9	0	13	0	0	0	0	4	4	6	8	6	3	9	12	7	6	4	1	6	4	3	2	5	5	3	5	2	5	5	0	28	24	2
	CGG	0	0	1	0	0	0	0	0	0	1	0	0	3	3	1	1	0	0	0	0	0	0	0	3	3	0	1	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CGU	1	1	9	3	20	3	9	6	2	9	2	12	6	6	5	14	11	1	17	1	1	1	12	12	4	3	4	8	5	37	14	12	6	4	8	9	5	8	8	5	3	12	12	2	6	7	1	61	75	8
	AGA	0	1	0	0	0	0	0	0	0	0	0	0	2	2	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	AGG	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	1	0	0	1	1	0	2	0	1	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
LEU	CUA	0	0	0	0	0	0	1	0	2	0	2	0	2	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CUC	1	1	5	2	8	3	5	4	0	4	0	2	11	11	4	3	5	1	9	3	3	1	3	3	1	7	1	0	5	2	3	0	1	0	1	2	0	1	1	1	0	1	4	0	1	0	0	15	7	0
	CUG	10	2	11	9	29	4	26	23	18	9	18	24	13	13	3	14	12	0	28	9	9	0	12	9	4	5	4	3	5	21	23	10	4	1	10	4	7	11	6	8	4	9	28	7	16	13	7	99	125	6
	CUU	0	0	7	2	3	2	10	6	4	6	4	3	3	3	5	1	6	0	2	0	1	0	3	3	2	3	2	3	2	0	1	3	6	1	2	0	0	0	2	0	1	0	1	0	4	0	0	1	0	6	3	0
	UUA	0	1	9	0	2	2	7	7	1	5	1	0	8	8	0	6	1	0	3	0	2	0	8	10	2	3	2	0	3	2	2	0	0	1	0	1	0	0	0	0	1	5	0	0	1	0	1	1	1	3	0
	UUG	4	1	4	3	6	1	7	5	3	2	2	2	6	6	1	2	1	0	2	1	1	0	5	5	3	3	3	0	2	5	2	0	0	2	2	1	1	0	0	0	0	0	1	7	0	0	0	1	6	1	0
SER	UCA	1	0	3	1	3	1	4	1	0	3	0	2	1	1	0	4	0	1	3	0	0	1	2	3	0	0	0	0	0	0	1	2	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	UCC	2	1	0	2	7	1	7	4	5	2	5	6	1	1	0	1	10	0	4	0	0	0	0	1	0	0	0	0	0	1	3	1	0	1	2	2	2	2	0	2	4	1	1	3	5	2	1	1	31	27	2
	UCG	1	0	3	0	0	1	7	5	2	0	2	1	3	3	0	4	4	1	0	0	0	1	0	1	1	2	1	0	2	1	3	0	1	0	0	0	0	0	0	0	0	0	0	0	4	0	0	1	0	3	5	0
	UCU	1	0	3	4	8	3	3	5	1	1	1	6	4	4	2	4	4	4	9	1	1	4	1	3	0	1	0	3	0	12	7	0	2	2	4	2	2	3	3	3	0	6	6	2	3	3	4	23	24	2
	AGC	3	0	1	1	8	1	7	2	3	7	3	5	8	8	1	6	4	0	4	1	1	0	7	6	2	3	2	0	1	5	4	4	1	1	1	2	3	0	0	0	0	0	3	0	3	3	1	1	15	14	1
	AGU	3	0	2	0	2	2	2	1	1	2	1	0	3	3	1	2	0	3	1	1	1	3	4	5	1	3	1	0	1	2	1	1	1	0	0	0	0	0	0	0	1	0	4	1	0	0	0	2	0	0	0
THR	ACA	1	0	2	0	3	2	3	1	3	2	3	0	4	4	1	0	3	0	1	0	0	0	1	1	2	4	2	0	2	1	2	0	0	0	0	1	0	0	0	1	0	0	1	5	0	1	0	0	3	1	1
	ACC	3	1	8	4	11	6	16	8	7	5	7	9	12	12	0	10	7	1	13	2	2	1	2	2	8	6	8	1	1	9	11	0	2	2	4	0	4	5	3	3	2	1	10	4	7	4	0	34	46	2
	ACG	3	0	5	1	6	5	2	11	2	4	2	5	4	4	1	1	5	0	3	1	1	0	3	5	0	4	0	0	2	2	1	1	0	0	0	1	0	2	1	1	2	5	0	0	0	0	0	6	7	0
	ACU	0	0	1	2	7	1	5	3	3	6	3	3	2	2	1	5	2	0	6	3	3	0	5	4	0	2	0	2	1	9	4	5	2	1	5	1	2	6	2	3	3	5	5	5	5	5	3	17	23	2
PRO	CCA	1	1	6	0	4	0	2	2	1	5	1	1	2	2	1	3	0	0	0	0	0	0	2	4	2	0	2	0	1	3	3	0	1	0	1	1	1	0	0	2	0	0	0	1	1	1	0	0	10	9	0
	CCC	1	1	1	0	0	2	1	1	1	0	1	0	3	3	0	0	2	0	1	0	0	0	1	1	1	3	1	0	3	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CCG	4	3	10	7	17	2	9	4	7	5	7	9	4	4	1	4	9	1	12	4	4	1	4	2	1	1	1	1	2	11	6	3	3	3	3	3	1	3	2	2	1	3	14	8	6	5	2	38	45	2
	CCU	1	0	2	2	3	1	2	0	0	4	0	0	1	1	2	5	0	1	4	1	2	1	1	1	1	0	1	0	0	4	7	1	1	0	2	0	2	5	0	1	1	1	3	0	0	0	0	8	3	0
ALA	GCA	1	0	4	1	11	2	7	7	9	9	9	11	1	1	0	8	6	0	8	4	4	0	2	2	2	7	2	1	1	18	7	6	4	3	7	1	3	6	7	3	3	0	12	5	10	8	8	22	33	1
	GCC	6	0	8	7	8	1	12	5	5	10	5	4	10	10	1	10	8	0	7	1	2	0	6	9	3	7	3	0	3	9	3	3	1	2	1	1	3	4	1	5	0	2	6	3	1	3	0	9	11	1
	GCG	2	0	10	2	14	4	9	17	10	17	17	19	17	17	3	11	10	1	8	5	5	1	5	4	4	11	4	0	2	6	6	3	1	2	3	2	5	4	2	5	1	4	13	4	4	8	0	29	52	1
	GCU	1	2	3	2	6	2	6	9	12	13	13	4	3	3	2	7	5	0	8	2	2	0	2	3	5	3	5	4	4	13	7	5	1	2	5	7	3	6	12	7	1	9	10	8	18	14	20	19	28	2
GLY	GGA	0	0	6	4	0	3	2	2	1	3	1	1	3	3	0	1	0	0	1	0	0	0	1	1	3	2	3	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
	GGC	3	2	11	5	20	3	26	14	13	10	13	16	11	11	0	6	8	1	7	3	3	1	10	9	6	6	6	2	2	12	9	3	3	4	6	1	4	5	3	4	1	10	12	2	11	5	6	35	28	4
	GGG	1	1	1	2	7	0	8	7	1	1	1	1	6	6	0	3	3	0	1	1	1	0	1	1	2	1	2	0	3	0	1	0	2	0	0	1	0	1	1	2	0	0	6	0	0	0	0	2	2	0
	GGU	2	0	14	7	18	2	13	13	9	13	9	17	7	7	2	13	8	0	20	5	5	0	5	7	3	8	3	1	1	26	9	4	7	6	7	4	7	12	4	15	4	16	20	10	9	4	2	69	85	1
VAL	GUA	2	0	3	4	9	2	4	5	4	6	4	5	1	1	2	2	3	0	4	1	1	0	4	2	2	3	2	1	0	6	4	1	5	2	3	2	1	2	5	4	1	6	10	6	9	6	7	31	32	2
	GUC	1	2	2	0	10	3	11	12	5	3	5	3	5	5	0	1	2	0	1	1	1	0	5	4	4	1	4	0	2	4	5	0	3	3	5	1	2	3	2	3	0	0	4	1	0	2	0	13	7	2
	GUG	6	0	6	3	12	5	18	13	11	8	11	10	5	5	3	2	6	1	6	2	3	1	2	2	0	6	0	0	4	8	11	1	3	1	0	1	2	3	2	1	0	1	11	2	4	0	1	24	17	1
	GUU	3	2	10	4	18	1	6	6	12	8	12	4	2	2	0	11	10	0	14	1	1	0	2	2	3	8	3	2	3	16	10	4	3	7	4	1	7	14	1	11	3	2	10	4	16	7	8	41	53	3
LYS	AAA	9	2	16	2	20	6	28	8	21	6	21	21	10	10	4	11	11	1	19	10	10	1	8	8	11	4	11	3	5	19	13	4	4	9	13	6	8	9	6	10	3	11	10	10	20	12	13	56	62	4
	AAG	2	0	5	3	6	0	4	1	5	3	5	6	7	7	1	1	6	0	9	0	0	0	2	3	0	8	0	2	2	21	3	4	7	7	3	5	4	7	3	2	2	2	7	5	3	0	0	24	25	3
ASN	AAC	5	0	6	3	17	0	8	8	13	7	13	14	5	5	1	7	9	0	16	4	5	0	3	3	4	6	4	1	2	15	6	5	5	4	4	3	3	5	1	7	1	8	4	12	1	1	4	48	47	4
	AAU	6	1	12	1	7	5	7	8	5	10	5	1	4	4	2	0	4	1	5	0	0	1	4	5	3	2	3	1	2	2	2	2	1	2	1	0	0	2	1	4	0	2	2	0	0	2	0	3	1	0
GLN	CAA	3	0	6	1	2	5	6	2	4	5	4	1	1	4	4	0	7	1	0	1	1	4	0	5	5	4	4	3	1	4	4	2	1	1	1	2	2	2	0	2	2	1	0	12	1	1	2	1	8	3	1
	CAG	3	2	8	6	16	6	14	6	13	9	13	12	12	12	1	14	13	2	10	2	2	2	9	6	4	7	5	1	2	10	8	1	2	2	2	2	4	7	4	3	0	3	9	6	8	1	0	50	47	0
HIS	CAC	1	0	1	2	10	4	2	1	2	2	2	2	6	6	0	3	5	0	7	1	3	0	3	1	1	3	1	1	1	2	5	0	1	0	0	0	0	0	1	3	2	1	2	0	2	1	0	18	17	3
	CAU	3	2	5	2	4	3	5	1	1	4	1	0	3	3	0	6	0	0	1	0	0	0	4	3	4	4	4	0	3	7	3	3	0	1	1	1	0	3	2	1	0	0	2	0	0	0	1	4	0
GLU	GAA	6	0	11	6	31	7	26	3	7	18	7	21	15	15	8	27	28	1	27	3	3	1	14	12	9	11	9	0	5	18	19	3	3	6	6	5	8	3	6	11	0	6	5	5	9	11	16	89	83	2
	GAG	4	0	6	0	12	3	11	3	4	5	4	9	14	14	2	4	6	0	9	2	3	0	7	7	3	6	3	0	1	9	17	6	3	0	5	0	0	5	1	0	4	3	9	1	2	4	0	33	26	2
ASP	GAC	3	1	6	9	12	0	7	2	7	6	7	11	9	9	2	9	15	1	11	6	6	1	4	5	2	2	2	0	1	9	8	1	3	3	10	1	1	5	2	0	0	2	2	5	11	3	5	62	47	0
	GAU	6	0	14	3	17	4	22	2	14	7	14	9	12	12	4	12	10	0	12	5	5	0	6	5	5	13	5	0	2	9	13	3	2	2	3	4	5	5	3	2	1	0	5	1	3	3	1	30	34	2
TYR	UAC	1	0	2	0	10	1	3	4	1	0	1	7	4	4	1	2	4	1	6	0	0	1	2	2	3	2	3	0	0	5	3	2	1	0	5	1	1	4	2	1	0	1	7	1	3	3	0	29	27	1
	UAU	2	0	8	2	6	1	7	5	2	1	2	0	3	3	1	4	6	0	1	2	3	0	4	3	2	3	2	0	0	6	2	0	0	0	1	0	2	1	1	1	0	0	8	1	0	0	0	14	7	0
CYS	UGC	2	1	3	0	4	0	2	0	0	0	0	1	2	2	0	0	4	0	0	2	2	0	2	1	1	1	1	0	0	2	4	0	0	0	0	1	1	0	0	0	0	0	1	1	0	1	0	2	8	1
	UGU	2	1	1	4	3	0	1	0	1	0	2	2	2	2	0	3	0	1	1	0	0	1	0	0	2	2	2	0	1	2	0	1	2	0	1	2	0	1	0	0	0	0	1	0	0	0	0	5	7	0
PHE	UUC	1	2	2	2	11	2	7	5	2	1	2	6	6	6	1	5	5	1	8	3	3	1	2	2	1	4	1	1	5	6	2	4	2	4	7	2	1	2	2	3	1	4	20	4	1	3	2	33	26	2
	UUU	4	4	9	4	7	1	10	5	5	7	5	4	13	13	0	3	4	0	8	1	1	0	5	4	1	8	1	1	1	3	2	1	1	1	3	1	2	1	1	1	0	0	12	0	3	3	0	11	9	1
ILE	AUA	0	0	0	0	0	0	0	0	0	0	0	4	4	1	0	1	0	1	0	0	0	0	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
	AUC	9	1	16	4	21	6	17	16	8	8	8	25	7	7	1	9	9	0	20	6	6	0	4	4	3	5	3	0	1	18	14	4	8	6	11	3	6	6	3	6	2	7	22	6	10	2	4	66	75	2
	AUU	3	0	14	6	20	6	17	13	5	16	5	2	5	5	2	6	7	1	10	3	4	1	6	6	4	10	4	0	3	10	10	2	4	2	3	1	3	2	2	4	4	3	22	3	1	3	2	18	17	0
MET	AUG	2	1	7	5	12	4	20	10	7	3	7	10	7	7	3	9	10	2	16	2	3	2	3	3	4	8	4	2	1	8	5	4	4	1	6	3	6	2	1	7	3	2	16	6	7	6	4	37	35	2
TRP	UGG	0	0	0	1	3	0	2	4	0	2	0	2	5	5	0	2	6	0	1	2	2	0	1	2	6	1	6	0	1	2	1	0	0	0	1	1	0	1	0	0	0	0	4	0	0	0	0	4	9	1
TER	UAA	1	1	1	1	1	0	1	1	0	0	0	1	1	1	0	0	0	0	1	1	1	0	0	0	0	1	1	1	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UAG	0	0	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	UGA	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	1	0	1	0	0	0	1	1	1	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
TOTAL		154	45	337	152	546	140	502	322	297	310	297	354	358	358	80	324	340	34	420	110	128	34	227	228	156	244	156	47	120	454	330	128	124	105	180	100	131	178	118	168	60	145	444	143	235	166	1221	3431	408	79

42		ECO RPN BG# 2	ECO RPO A#2	ECO RPO A#3	ECO RPS A	ECO RPS BTS #1	ECO RPS BTS #2	ECO RPS I#1	ECO RPS I#2	ECO RPS J#1	ECO RPS O#1	ECO RPS OP# 1	ECO RPS OP# 2	ECO RPS OX	ECO RPS RPO #1	ECO RPS RPO #2	ECO RPS RPO #3	ECO RPS RPO T	ECO RPS TAP 1	ECO RPS TAP 2	ECO RPS SBC B	ECO SER A	ECO SER B	ECO SGK	ECO SPP A	ECO SSB	ECO SSR	ECO STR 1#1	ECO STR 3#2	ECO TAG	ECO TAR TAP #1	ECO TAR TAP #2	ECO TGE RO	ECO TGT UFB	ECO TGT 1	ECO TGY	ECO THR #1	ECO THR #2	ECO THR #3	ECO THR #4	ECO THR INF #1	ECO THR INF #2	ECO THR INF #3	ECO THR INF #4	ECO THR INF #5	ECO THR INF #6	ECO THR INF #7	ECO THY INF A	ECO THY A#1	ECO TOL C	ECO TON B#1
ARG	CGA	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	1	1	0	1	2	0	1	0	0	0	1	3	4	8	0	0	3	0	3	3	1	0	1	0	0	0	0	2	0	0	0	2	1
	CGC	1	7	6	7	5	4	4	5	5	3	3	13	3	5	22	18	2	2	14	15	7	7	1	11	4	3	2	2	3	13	7	4	2	3	2	1	19	4	7	16	8	2	1	6	11	3	5	10	11	8
	CGG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	3	3	0	2	2	4	0	3	0	0	1	3	2	3	0	0	1	0	5	7	0	1	0	0	0	0	0	1	3	0	0	0	0
	CGU	2	14	12	22	8	5	7	14	6	8	8	32	8	9	10	28	5	6	8	11	7	7	2	10	5	4	13	21	2	13	13	0	4	20	1	0	18	6	9	26	5	13	0	17	39	3	8	13	10	4
	AGA	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	4	0	0	2	0	0	0	0	1	1	0	0	0	0	1	0	1	1	1
	AGG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	1	0	0	0	1	1	1	4	0	0	2	0	2	0	0	0	0	0	0	1	1	0	0	0	2	0
LEU	CUA	0	2	0	0	0	0	0	0	0	1	1	1	1	0	4	1	0	0	1	2	3	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	3	0	1	2	0	0	0	0	1	0	1	1	1	1
	CUC	0	3	0	3	1	0	0	0	0	2	2	0	2	0	6	3	0	0	2	2	1	5	0	3	1	5	1	0	1	6	4	6	2	0	0	0	13	5	6	4	4	0	0	2	9	1	4	2	3	3
	CUG	3	23	10	39	18	16	7	9	9	9	9	45	9	4	30	42	3	3	21	21	38	33	0	37	7	6	6	27	5	25	22	3	29	27	0	0	42	13	29	30	6	5	0	21	57	5	16	21	22	3
	CUU	0	6	1	1	2	0	1	0	0	0	0	3	0	0	14	5	0	0	7	5	3	1	1	5	0	3	1	1	2	5	7	1	1	1	0	0	8	2	1	8	2	0	0	2	6	3	2	3	6	2
	UUA	0	2	0	1	0	0	0	0	0	0	0	0	0	0	12	1	0	0	8	9	1	3	0	4	0	3	0	0	1	6	4	0	1	0	0	0	10	4	5	3	2	0	0	2	7	1	3	7	8	3
	UUG	0	2	0	1	0	0	1	0	1	0	0	2	0	0	9	2	1	1	4	7	3	1	1	4	0	5	0	0	1	7	6	2	2	0	0	0	16	7	12	6	1	1	0	4	3	0	2	2	9	1
SER	UCA	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3	2	1	1	2	1	3	3	2	4	1	0	0	0	0	6	3	1	2	0	0	0	6	1	3	4	0	0	0	3	2	1	1	2	2	5
	UCC	0	1	0	12	3	4	0	3	1	0	0	6	0	1	3	7	0	0	2	1	4	2	1	3	3	1	5	3	3	12	1	2	2	3	0	0	11	6	2	3	1	0	0	1	4	0	4	3	6	0
	UCG	0	3	0	0	0	0	0	0	0	0	0	1	0	0	5	2	0	0	2	3	6	0	1	7	0	1	0	0	2	7	13	1	3	0	1	0	9	3	5	3	0	0	0	0	1	1	1	0	7	3
	UCU	2	7	0	9	4	4	0	3	0	4	4	17	4	1	3	9	2	2	1	1	6	1	0	12	3	1	0	7	2	2	2	0	5	7	0	0	10	1	0	8	2	3	0	4	10	1	1	3	5	1
	AGC	0	4	4	4	2	0	0	1	1	1	1	8	1	0	6	8	1	1	2	6	4	5	2	8	4	1	1	0	1	12	13	3	8	1	2	1	12	4	6	11	3	1	1	3	14	2	3	9	12	2
	AGU	0	1	1	0	0	0	0	1	0	1	1	0	1	0	4	1	0	0	0	1	1	1	1	0	13	0	1	0	0	2	11	15	0	2	0	0	3	4	3	1	1	0	0	2	1	0	0	2	7	3
THR	ACA	0	2	0	0	0	0	1	0	1	1	1	0	1	0	4	0	0	0	2	2	1	1	0	0	1	2	1	1	4	6	2	2	1	2	0	1	3	2	2	2	2	0	0	0	4	2	2	4	6	2
	ACC	1	11	0	12	6	4	6	2	3	3	3	25	3	1	13	29	0	0	4	12	6	10	1	21	5	3	2	16	2	12	14	2	10	15	0	7	18	3	11	12	0	1	1	15	17	1	4	17	19	6
	ACG	1	2	1	1	5	0	0	0	0	0	0	3	0	0	12	7	0	0	2	5	5	5	0	7	1	3	0	0	2	17	14	2	7	1	0	0	6	2	6	4	3	0	0	4	6	1	4	7	6	3
	ACU	3	4	5	12	7	7	5	3	4	2	2	13	2	2	3	2	2	2	2	3	6	3	0	7	2	1	5	13	1	11	7	1	1	12	0	0	4	1	4	6	0	0	0	4	10	0	4	3	5	1
PRO	CCA	1	3	0	1	0	2	0	1	0	0	3	0	0	0	9	1	0	0	3	4	4	3	2	4	1	3	1	1	2	6	1	2	1	1	1	0	2	3	9	3	1	0	0	3	6	0	3	2	5	8
	CCC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	1	5	1	0	0	2	0	4	0	0	1	0	0	2	0	0	1	0	5	1	3	1	0	0	0	0	1	3	1	0	3	3
	CCG	1	6	3	9	7	3	3	3	4	0	0	26	0	3	7	17	1	1	10	14	12	7	2	13	10	6	3	19	4	4	3	0	2	19	0	0	18	8	11	16	2	0	0	10	25	2	10	17	10	22
	CCU	0	7	1	0	0	0	1	0	0	0	0	2	0	0	7	1	0	0	2	5	0	3	2	4	1	2	3	0	1	2	0	1	2	0	0	0	4	2	0	3	4	0	0	4	3	0	0	1	3	7
ALA	GCA	0	7	6	17	5	14	1	2	1	6	6	16	6	3	10	8	6	6	10	15	7	4	0	22	4	1	2	5	5	14	17	2	4	6	0	0	15	5	5	11	2	8	0	5	18	1	3	11	17	10
	GCC	0	3	3	5	0	0	0	1	2	0	0	9	0	0	7	10	1	1	7	18	10	15	5	19	2	4	0	1	6	29	24	3	5	1	0	0	36	8	8	7	4	3	0	5	12	1	3	10	10	2
	GCG	1	6	3	3	4	8	6	1	4	0	0	23	0	2	20	20	0	0	13	13	22	14	4	16	4	3	4	8	2	24	33	0	7	9	3	1	27	16	24	14	2	4	0	14	30	1	5	17	22	5
	GCU	2	7	5	23	16	17	7	6	2	1	1	25	1	4	6	11	12	11	4	4	6	4	4	11	3	2	3	13	1	10	5	1	4	11	0	0	14	4	10	9	2	8	2	5	9	3	2	5	11	4
GLY	GGA	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	1	7	2	2	1	1	0	1	0	0	2	2	6	0	3	0	1	0	9	3	2	3	2	0	0	0	0	0	1	3	2	3	1
	GGC	0	9	3	32	5	15	5	3	0	1	1	29	1	0	22	12	1	1	6	18	12	5	20	11	2	4	21	5	13	8	5	5	20	0	1	22	14	11	13	6	2	0	8	36	2	9	23	9	2
	GGG	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	3	0	0	7	1	3	5	0	7	0	0	0	1	4	3	6	3	1	1	1	0	10	4	4	6	0	0	0	5	5	2	1	1	2	2
	GGU	3	9	4	16	12	9	7	10	4	4	4	33	4	1	11	9	1	1	8	5	11	8	1	23	17	7	7	19	2	9	9	0	10	19	1	2	22	9	11	21	6	4	0	10	23	2	5	12	8	4
VAL	GUA	0	4	1	13	5	5	3	2	1	2	2	13	2	3	2	3	1	1	7	5	6	4	1	6	2	2	5	10	2	6	8	2	1	11	0	0	5	3	2	9	2	4	0	1	12	0	2	7	3	5
	GUC	0	5	0	1	0	0	0	2	3	0	0	7	0	0	9	7	0	0	4	3	4	3	3	13	1	3	0	0	6	12	8	2	2	1	0	0	18	4	5	11	2	0	0	4	9	1	3	4	7	4
	GUG	1	11	1	5	3	4	2	0	1	0	0	16	0	1	10	10	1	1	14	12	12	14	3	13	4	9	4	4	6	14	14	0	8	3	0	0	26	6	15	4	5	0	0	6	29	3	7	12	9	9
	GUU	3	10	4	48	9	20	7	6	4	3	3	34	3	2	7	14	0	0	5	6	6	1	4	16	6	3	6	24	1	9	6	2	4	22	0	0	19	8	5	17	5	5	0	9	29	1	1	8	10	8
LYS	AAA	9	13	4	34	14	23	12	9	4	6	6	29	6	6	14	21	8	8	9	13	15	11	6	28	5	4	9	18	8	15	10	2	2	17	0	1	22	2	17	31	12	11	0	11	27	6	11	26	15	10
	AAG	3	3	4	9	5	8	2	1	1	0	0	5	0	3	8	13	6	6	6	6	8	5	5	6	1	2	4	5	3	3	4	1	2	6	0	0	12	9	5	9	9	3	0	1	8	4	1	3	3	8
ASN	AAC	1	7	5	24	12	8	4	2	2	2	2	16	2	2	16	18	5	5	2	11	11	1	0	14	4	2	5	7	2	12	13	1	4	7	0	1	18	6	11	19	2	2	0	12	24	4	10	11	28	3
	AAU	0	2	2	0	0	0	0	1	0	0	0	4	0	0	15	2	1	1	7	13	10	7	2	12	4	2	0	0	5	12	16	1	2	0	0	0	22	6	8	6	2	1	1	3	8	1	1	4	12	4
GLN	CAA	0	2	1	1	0	0	3	2	2	0	0	7	0	0	12	7	1	1	4	6	5	4	1	7	1	8	1	0	2	16	14	2	0	0	2	0	11	3	5	11	4	3	0	4	1	4	4	14	2	2
	CAG	1	8	1	13	7	10	1	5	4	5	5	25	5	0	19	23	4	4	9	13	8	9	0	17	17	6	3	8	11	23	34	3	1	8	1	0	18	15	16	12	8	4	0	13	19	2	12	15	24	10
HIS	CAC	2	5	0	7	5	3	7	1	2	5	5	7	5	1	8	5	2	2	2	7	8	4	0	2	1	1	3	10	0	3	4	2	0	9	0	0	6	3	5	13	1	1	0	6	9	0	2	3	1	0
	CAU	0	3	3	1	1	1	0	0	1	0	0	4	0	0	4	4	1	1	6	6	5	1	0	4	0	5	0	1	5	5	5	3	4	2	0	0	8	3	5	9	0	0	0	5	8	0	9	5	1	2
GLU	GAA	3	19	3	50	12	24	5	7	2	2	2	47	2	6	26	58	3	3	13	22	16	6	17	8	7	3	30	10	27	17	0	1	30	1	0	38	14	19	39	15	2	0	18	47	8	12	22	12	10
	GAG	1	17	6	9	4	8	3	2	4	3	3	13	3	2	16	13	0	0	4	9	5	3	7	9	2	4	1	7	2	6	16	5	1	7	1	0	15	4	10	18	6	0	0	6	18	3	1	12	4	8
ASP	GAC	0	8	1	32	13	12	5	4	3	4	4	24	4	1	16	24	2	2	5	10	8	9	4	14	3	3	3	20	5	9	8	2	2	20	1	0	13	5	4	25	3	3	0	11	24	1	12	12	8	1
	GAU	1	13	3	11	4	2	2	0	5	1	1	18	1	0	18	29	0	0	9	27	11	10	6	28	5	6	0	4	4	19	9	0	3	4	0	0	29	7	20	18	4	1	0	8	28	5	9	13	15	5
TYR	UAC	1	3	2	5	2	2	4	5	1	2	2	11	2	1	9	9	1	1	2	7	4	5	1	9	2	2	2	8	3	4	1	0	1	9	0	0	8	3	5	15	1	5	1	4	7	0	4	10	10	0
	UAU	1	2	0	1	0	1	2	0	0	0	0	2	0	1	7	4	0	0	2	10	5	3	3	11	2	5	2	2	3	8	1	2	8	1	0	0	12	5	4	9	2	1	0	3	7	1	5	15	10	3
CYS	UGC	0	4	0	2	1	2	0	0	0	0	0	1	0	1	2	3	0	0	2	2	0	3	1	2	0	0	3	2	5	0	2	2	2	2	1	0	9	7	1	8	0	0	0	1	10	0	4	6	2	1
	UGU	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	3	3	4	1	0	0	0	1	1	1	3	0	0	2	0	1	0	0	3	4	3	5	1	0	0	0	3	0	1	1	2	0
PHE	UUC	2	2	4	14	10	9	1	4	1	0	0	17	0	3	12	11	1	1	6	9	7	2	2	13	3	2	1	13	2	5	2	0	9	13	1	0	19	4	11	17	4	5	2	14	16	3	8	14	7	1
	UUU	0	2	1	3	2	1	2	0	1	2	2	2	2	0	14	4	1	1	8	15	6	4	6	13	1	4	0	1	7	7	14	2	5	1	0	0	11	5	13	8	1	0	3	6	3	3	5	9	6	4
ILE	AUA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	6	2	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	0	0	1	1	0	0	0	1	0	0	0	1	0
	AUC	3	14	4	29	11	14	6	7	9	3	3	39	3	0	7	32	6	6	2	3	14	9	3	14	2	3	3	26	4	12	15	2	9	26	0	1	16	10	9	16	7	6	0	9	25	1	7	13	8	3
	AUU	1	10	2	1	3	5	2	0	0	0	0	13	0	1	9	11	1	1	4	16	14	10	2	18	3	1	0	3	6	19	24	2	11	3	0	3	29	5	8	20	5	4	1	7	24	2	9	16	13	9
MET	AUG	1	5	4	6	8	10	4	4	2	2	2	20	2	1	16	25	3	3	4	10	9	11	8	16	6	7	1	10	5	18	16	5	10	11	2	1	22	11	8	23	5	1	1	11	14	2	7	16	7	6
TRP	UGG	0	1	0	7	3	0	1	0	0	0	0	2	0	0	4	4	0	0	1	9	1	5	2	11	4	5	0	1	4	4	6	1	0	1	0	0	4	2	3	11	0	1	0	2	8	0	7	2	3	2
TER	UAA	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	0	1	1	1	0	0	0	1	1	1	0	0	1	1	1	1	1	1	0	1	0	1	1	1	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	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	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	1	0	0
TOTAL		56	330	120	557	242	284	143	131	104	90	90	712	90	72	502	614	88	88	313	467	411	323	118	619	179	103	125	395	188	554	536	116	220	395	34	22	821	310	429	643	181	119	15	332	796	100	265	472	490	245

43	ECO TON B02	ECO TOK A	ECO TPI A	ECO TRG	ECO TRM D01	ECO TRM D02	ECO TRM D03	ECO TRM D04	ECO TRP #1	ECO TRP #2	ECO TRP #3	ECO TRP #4	ECO TRP #5	ECO TRP #6	ECO TRP R	ECO TRP S	ECO TRX A01	ECO TSR	ECO TTR B	ECO TTR R	ECO TYR S	ECO TYR CD# 1	ECO UMU CD# 2	ECO UMU	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 UNC A01	ECO UNC A02	ECO UNC A03	ECO UNC B	ECO UNC E	ECO UNC F	ECO UVR CA	ECO UVR D	ECO XSE A02	ECO XYL ABA	ECO XYL ABA	ECO XYL ABA	ECO XYL ABA	ENT DF1 3#2	ENT DF1 3#3	ENT DF1 3#4	ENT DF1 3#5	ENT DF1 3#6
ARG CGA	0	1	1	6	0	0	0	0	0	1	1	1	1	1	0	0	0	1	1	4	1	0	4	1	1	0	1	1	0	1	0	0	1	1	0	1	2	2	2	1	0	4	0	1	2	3	0	0			
CGC	4	0	2	8	6	0	6	1	1	21	16	13	9	8	4	8	0	14	17	9	5	4	11	0	0	0	2	5	5	2	5	3	4	5	2	0	0	2	16	29	21	3	6	5	0	0	0	4	0	0			
CGG	2	2	0	6	0	0	5	0	0	0	0	1	2	0	0	0	0	3	0	5	1	0	8	2	0	0	0	1	0	1	0	0	0	0	1	0	0	0	6	7	6	0	0	3	1	0	0	5	5	1			
CGU	1	4	5	12	4	4	5	12	0	17	7	8	5	2	5	8	1	12	5	14	13	0	8	1	3	2	7	4	25	8	21	1	9	21	1	3	2	7	17	23	13	8	13	12	1	0	1	8	0	0			
AGA	0	12	0	2	0	1	2	0	0	1	1	0	1	0	0	0	0	0	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0			
AGG	0	3	0	2	0	0	1	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	2	0	0			
LEU CUA	0	0	0	3	0	0	0	0	0	4	2	2	1	0	2	0	0	1	4	0	2	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	2	2	0	0	4	1	5	0	0	0	0					
CUC	0	1	0	4	0	7	1	0	0	10	8	2	2	2	2	1	3	3	4	8	3	1	7	3	1	1	1	4	4	1	3	2	2	3	2	1	1	1	8	12	6	2	2	5	2	0	0	2	0	0			
CUG	1	2	16	15	3	7	15	4	1	35	37	21	24	16	8	22	9	27	16	28	28	4	15	10	35	11	7	8	37	18	35	8	19	35	8	35	10	7	28	43	21	14	25	21	7	1	1	12	1	2			
CUU	1	3	0	2	0	1	3	2	0	6	4	6	4	0	1	1	0	1	9	4	1	2	6	1	2	0	5	5	3	4	3	1	2	3	1	2	0	5	9	6	5	2	2	3	0	2	0	5	1	2			
UUA	6	11	1	10	1	0	4	0	0	7	9	10	2	2	4	1	0	8	7	7	4	1	5	3	3	0	1	0	0	1	0	0	1	0	1	3	0	1	4	6	8	3	5	13	7	6	1	8	3	0			
UUG	0	1	0	7	0	1	5	0	0	5	6	8	5	6	4	4	1	7	6	11	8	3	3	6	4	0	0	1	2	4	1	1	5	1	0	4	1	0	11	8	4	7	8	12	1	1	0	2	0	1			
SER UCA	1	6	0	9	0	2	2	0	0	4	2	4	0	2	2	3	0	3	1	3	0	1	3	0	3	0	0	1	0	2	2	0	1	2	0	3	0	0	5	1	2	3	3	4	3	1	7	1	1					
UCC	0	3	2	3	0	1	3	3	1	5	5	1	7	3	0	5	0	3	3	1	5	0	2	0	2	0	2	1	15	4	14	0	5	14	0	3	0	2	5	3	3	4	3	1	1	2	0	7	1	2			
UCG	1	0	6	0	2	3	0	0	5	3	8	3	2	0	2	0	2	0	7	3	2	1	1	6	1	3	0	1	1	1	5	0	4	5	0	1	3	0	1	5	9	3	2	1	9	0	3	0	4	1	1			
UCU	2	5	7	6	1	3	0	3	0	6	4	1	3	3	1	3	1	8	1	2	5	1	3	2	3	0	0	5	12	2	7	4	2	7	4	3	0	0	2	2	4	2	3	4	3	3	1	6	1	1			
AGC	1	2	2	9	2	3	4	2	0	13	10	7	3	0	3	4	1	10	8	9	7	5	8	2	6	0	2	1	2	6	2	4	7	2	4	6	0	2	12	16	10	3	3	8	3	2	4	6	0	0			
AGU	0	2	0	12	0	0	2	0	0	4	7	3	2	1	0	2	1	7	5	4	3	4	5	2	0	0	0	3	2	1	0	0	1	0	1	0	0	0	7	3	4	4	3	5	1	2	3	7	2	0			
THR ACA	4	5	0	6	0	0	0	0	0	4	5	1	3	0	0	0	0	3	3	3	0	0	5	2	2	0	1	0	2	0	0	0	0	0	0	2	0	1	3	2	4	3	2	0	2	7	3	5	0	0			
ACC	1	2	2	8	0	4	4	1	0	14	15	5	13	3	0	5	2	14	4	4	11	2	3	0	3	0	1	2	17	9	18	4	10	18	3	3	0	0	16	16	12	10	8	6	6	2	2	4	1	0			
ACG	1	0	1	10	0	1	6	0	0	3	4	7	4	4	3	5	1	9	4	8	2	3	14	1	7	0	0	2	0	2	1	1	1	1	1	7	0	0	8	13	10	6	8	8	0	3	1	12	0	2			
ACU	3	5	6	8	3	3	2	3	1	4	1	2	3	2	1	4	3	3	4	4	8	2	3	0	0	1	1	0	4	3	5	1	2	5	1	0	1	1	2	3	3	1	1	5	2	4	1	6	0	0			
PRO CCA	1	7	1	1	1	0	3	0	0	5	2	2	4	5	1	1	0	2	5	3	1	0	2	1	4	0	1	1	3	2	0	0	0	0	0	4	0	1	3	4	7	1	2	11	2	2	1	5	2	1			
CCC	1	3	0	1	0	2	1	0	0	5	3	2	1	4	2	2	0	1	2	2	0	3	6	1	1	0	0	1	0	1	0	0	1	0	0	1	0	0	2	1	1	1	1	4	0	0	0	1	2	0	0			
CCG	1	2	4	4	1	1	4	2	0	15	23	9	9	7	1	10	4	4	7	15	9	3	4	2	7	1	1	1	14	5	16	1	5	16	1	7	1	1	16	14	8	6	7	9	2	0	3	24	0	0			
CCU	4	1	2	2	0	3	5	1	0	3	1	1	4	2	0	1	0	4	5	3	2	2	1	3	2	0	0	1	2	4	3	3	4	2	3	2	0	2	1	5	4	4	4	4	0	4	0	11	1	0			
ALA GCA	3	7	13	7	4	2	10	2	1	6	10	14	3	11	3	5	4	9	9	4	9	3	7	5	2	2	6	6	20	5	8	4	6	8	4	2	2	6	4	7	5	10	12	18	3	1	2	9	0	4			
GCC	5	0	1	30	0	1	4	0	0	19	19	18	17	13	3	7	1	28	18	14	9	1	10	2	6	1	8	7	8	13	6	4	12	6	4	6	1	8	11	23	14	7	10	8	3	5	0	17	0	0			
GCG	4	3	12	27	1	5	5	0	0	16	31	16	15	13	4	14	5	26	14	18	15	4	11	6	5	4	8	7	12	8	13	7	7	13	6	5	4	8	23	29	14	15	20	20	4	0	1	16	0	1			
GCU	1	4	19	14	6	0	2	5	0	12	6	10	6	3	0	4	2	13	10	6	3	3	7	3	4	6	9	7	17	3	7	2	2	7	2	4	6	9	8	5	5	2	2	14	2	2	1	15	0	1			
GLY GGA	2	9	0	1	0	2	5	0	0	3	5	3	2	2	1	0	0	2	5	2	1	1	3	1	1	0	0	0	1	1	2	0	0	2	0	1	0	0	6	1	2	2	1	3	4	2	3	12	0	1			
GGC	4	3	11	13	4	3	10	3	0	12	18	12	17	9	3	10	3	14	11	8	14	2	9	4	6	2	3	3	16	11	14	6	12	14	6	6	2	3	23	25	7	11	19	16	1	1	2	12	1	1			
GGG	2	1	0	8	0	3	4	0	0	2	8	6	6	0	1	0	1	5	5	5	3	0	8	2	1	1	0	0	1	2	0	0	2	0	1	1	1	0	3	8	6	3	2	12	1	2	0	12	2	1			
GGU	4	7	11	8	2	6	8	3	1	11	15	10	10	8	0	10	5	13	9	11	16	5	6	0	9	7	0	5	29	6	29	5	6	29	5	9	7	0	14	17	8	13	16	11	5	2	1	38	5	1			
VAL GUA	2	2	4	6	2	4	2	3	1	8	3	5	0	2	0	6	1	6	7	2	4	1	3	2	6	1	2	6	9	2	19	2	2	19	2	6	1	2	5	7	9	1	2	3	4	4	0	4	2	0			
GUC	5	1	0	7	1	7	1	2	0	6	8	7	3	4	3	5	1	9	5	14	2	5	5	2	3	1	2	4	2	7	6	3	6	6	3	3	1	2	11	5	5	3	5	6	7	1	1	3	4	1	1			
GUG	6	1	4	10	0	3	7	3	0	14	15	15	10	5	2	13	2	22	15	15	7	4	14	12	9	3	4	1	6	9	10	3	9	10	3	9	3	4	15	25	9	7	9	10	2	1	0	14	0	4	1			
GUU	5	7	11	10	5	5	4	7	0	5	7	11	6	6	0	6	1	8	4	7	10	4	6	8	5	1	3	5	24	9	12	2	8	12	1	5	1	3	11	5	13	4	6	13	5	4	1	11	3	3			
LYS AAA	6	5	15	14	4	7	6	8	2	12	11	14	16	11	3	15	10	14	11	12	20	3	17	5	7	1	10	6	19	16	17	6	17	17	4	7	1	10	30	16	13	11	19	10	5	21	4	40	7	1			
AAG	1	1	1	4	1	6	2	3	0	3	3	4	2	2	1	0	0	3	2	6	8	2	5	2	3	0	5	2	5	7	3	2	6	3	2	3	0	5	8	8	7	4	5	4	2	4	2	18	2	2			
ASN AAC	1	2	9	7	3	2	2	4	0	7	15	9	12	5	3	9	4	12	6	9	15	1	4	5	6	1	3	4	14	9	9	1	9	9	1	6	1	4	6	22	4	9	12	3	2	5	3	10	1	1			
AAU	3	14	1	15	1	3	2	0	0	10	8	9	2	4	2	2	3	0	16	11	11	5	1	12	0	6	1	1	2	2	3	2	0	3	2	0	6	1	1	12	11	11	6	8	7	4	3	14	4	0			
GLN CAA	2	5	2	15	0	3	7	2	0	8	12	10	4	4	3	4	1	12	8	8	5	2	9	0	2	1	2	4	4	3	2	2	2	2	2	2	1	2	13	5	22	5	12	12	1	5	6	4	0	0			
CAG	2	6	9	22	2	10	4	4	0	13	14	18	12	8	4	16	2	24	7	15	22	4	12	3	5	1	8	5	24	13	18	6	12	18	6	5	1	8	19	42	25	10	13	21	4	2	2	18	1	3			
HIS CAC	1	4	7	2	2	2	3	2	0	4	11	6	8	2	1	5	1	1	2	1	3	1	0	1	4	0	0	2	7	3	7	6	3	7	6	4	0	0	7	7	3	6	7	2	0	0	2	2	1	0			
CAU	1	4	1	10	0	0	6	0	0	7	12	5	6	2	1	3	0	4	4	9	2	5	1	3	0	1	0	0	2	0	0	1	0	0	3	0	1	8	11	10	8	12	10	0	0	2	8	2	0			
GLU GAA	6	7	18	26	4	9	16	4	0	30	22	12	24	8	6	14	3	17	10	19	22	3	11	1	5	2	13	9	27	9	27	8	10	27	8	5	2	13	27	35	17	17	22	15	7	9	1	17	4	1			
GAG	1	6	3	14	1	1	6	5	0	5	7	11	6	9	6	6	2	20	8	13	9	1	11	0	3	0	5	8	4	5	12	5	5	12	4	3	0	5	9	24	9	9	11	10	1	2	1	17	1	0			
ASP GAC	1	6	7	2	1	7	6	2	0	14	9	11	5	4	1	8	6	7	10	10	13	2	6	1	5	0	6	5	16	9	21	4	8	21	4	5	0	6	9	24	8	5	7	10	2	9	4	3	1	0			
GAU	5	10	2	17	3	11	8	1	0	21	12	18	12	9	3	13	5	17	9	18	11	11	20	0	3	3	2	4	12	7	6	2	9	6	2	3	3	2	22	13	9	6	17	16	1	9	1	32	8	1			
TYR UAC	0	6	4	0	1	4	4	2	0	5	5	5	4	4	1	6	0	5	8	3	7	3	5	0	4	2	1	1	11	7	11	3	7	11	3	4	2	1	5	17	7	8	7	4	1	7	0	1	3	0			
UAU	3	17	1	7	0	1	2	0	0	9	8	11	8	3	1	8	2	3	7	8	4	0	7	0	2	0	0	0	4	3	4	1	4	4	1	2	0	0	16	6	3	6	11	7	9	1	3	12	0	1			
CYS UGC	2	0	2	1	0	1	2	0	0	7	1	5	3	2	0	2	2	0	2	2	4	0	3	0	0	0	1	1	1	1	0	0	2	0	0	0	0	1	3	3	3	5	4	4	1	1	1	0	0	0			
UGU	1	2	1	0	0	1	0	0	0	5	4	2	2	1	0	2	0	0	3	4	3	1	8	0	0	0	0	1	2	0	1	0	0	1	0	0	0	0	4	3	0	1	0	2	0	2	1	0	0	1			
PHE UUC	1	3	5	5	4	1	3	4	1	12	7	7	6	5	0	5	3	7	9	8	18	1	5	5	17	3	2	0	13	3	11	1	3	11	1	16	3	2	14	12	5	9	13	4	2	4	2	4	1	0			
UUU	2	6	1	8	0	5	3	0	0	8	8	9	7	7	1	7	1	3	8	10	7	6	14	4	3	1	1	6	1	1	3	1	1	3	1	3	1	1	8	10	7	11	12	6	6	2	1	7	7	3			
ILE AUA	0	11	0	3	0	0	3	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	4	1	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	2	1	1	2	4	5	0	0	1	2			
AUC	1	0	18	19	4	7	3	2	0	5	6	12	14	6	1	11	6	15	2	3	11	6	12	1	13	7	10	4	30	6	23	6	6	23	5	13	7	10	12	16	7	3	6	5	2	6	3	1	1	2			
AUU	6	7	1	18	2	4	8	5	1	12	20	13	9	13	2	6	3	21	14	13	9	8	8	1	11	1	3	6	10	5	4	5	6	4	5	11	1	3	16	15	12	5	6	8	4	4	2	15	4	1			
MET AUG	5	4	7	19	1	7	8	2	1	12	13	5	13	5	4	10	2	16	10	15	7	4	12	2	11	8	2	7	11	11	15	6	13	15	5	11	8	2	10	24	9	11	12	18	4	4	1	8	2	1			
TRP UGG	2	3	2	2	1	6	5	1	2	0	1	3	1	0	2	2	2	4	3	5	6	0	6	4	7	0	1	1	3	1	0	2	1	0	2	7	0	1	2	13	4	7	8	12	3	1	3	6	4	0			
TER UAA	1	0	1	0	1	1	1	1	0	0	1	1	0	1	0	1	1	0	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	0	1	0	1	0	1	1	0	1	1	1	1	0	1	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	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1			
UGA	0	1	0	1	0	0	0	0	1	1	0	0	1	0	0	1	0	0	1	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			
TOTAL	133	259	256	536	83	186	256	116	15	521	532	453	390	269	109	335	110	537	390	473	425	140	423	131	272	80	157	170	514	280	461	140	200	461	134	272	80	157	589	721	457	334	441	485	146	189	88	562	86	50			

44		EMT LPA RB	EMT OMP A	ETA ILV GED	FDI GVP A	FDI PSB A	FPL 420 401	FPL 420 402	FPL MCG 01	FPL MCG 02	FPL MCG 03	FPL MCG 04	FPL MCG 05	FPL MCG 06	FPL MCG 07	FPL ORI NC	FPL TRA M01	FPL TRA M02	FPL TRA M03	FPL TRA M04	FPL TRA M05	FPL TRA M06	HAL BO	HAL BO5 F02	HEN NT5	INS 186 ECO	INS 186 LAC #1	INS 186 LAC #2	INS 1IS OSD #1	INS 1IS OSD #2	INS 1SD #1	INS 1SD #2	INS 26R PVU #1	INS 30E CO	INS 5LA 401	INS 5LA 402	JD1 CG0 1	JD1 CG0 2	JD1 CG0 3	JD1 CG0 4	KAE ILV GED	KAE PAB A	KAE RBT #2	KAE TRP A02	KPN HIS G01	KPN MIF #2	KPN NIF HD0	KPN NTR A01	KPN NTR BG0 1	KPN NTR C 2
ARG	CGA	2	0	1	0	0	0	1	0	1	0	1	0	1	0	2	1	2	0	1	0	1	0	2	2	8	0	2	0	0	0	2	2	9	2	1	1	3	2	2	4	0	0	1	2	0	2	1	2
	CGC	0	4	0	0	5	1	2	12	1	2	5	7	3	5	7	0	0	1	2	2	3	3	6	2	10	3	4	5	4	3	4	10	6	12	1	4	6	4	3	0	5	16	12	0	53	25	9	18	10	21
	CGG	0	0	0	1	2	1	1	6	1	1	7	4	4	4	4	0	0	0	0	1	1	1	9	1	7	2	4	1	4	2	4	8	5	4	2	3	4	2	6	0	1	2	0	0	16	9	0	1	3	4
	CGU	1	9	0	2	7	4	4	4	4	4	2	7	9	9	7	3	4	2	1	2	6	3	0	3	11	3	1	3	3	3	1	7	10	3	0	2	4	0	0	0	1	2	0	0	11	7	4	6	7	11
	AGA	1	0	0	0	0	0	1	1	0	1	2	3	6	3	3	0	7	4	0	0	0	0	0	6	2	0	0	1	0	0	1	1	11	4	0	7	3	1	1	0	0	3	0	0	1	2	0	0	1	0
	AGG	0	0	0	0	0	1	0	2	1	0	3	0	1	1	0	2	2	2	0	0	0	0	1	1	0	0	1	1	0	0	2	0	6	1	0	3	2	1	1	0	1	5	0	0	1	0	0	1	0	1
LEU	CUA	0	0	2	2	3	0	0	2	0	0	0	1	3	2	1	0	0	3	0	0	0	2	0	0	8	0	0	0	1	0	0	1	7	1	0	2	0	2	4	1	0	1	0	0	4	3	0	3	4	5
	CUC	0	2	0	0	0	1	1	6	1	1	2	4	5	3	4	1	1	1	1	0	4	12	17	3	7	2	1	1	2	2	1	3	2	1	5	1	2	0	0	0	5	5	2	0	14	9	7	7	5	7
	CUG	1	21	0	0	3	2	5	36	2	5	22	6	13	7	6	2	7	3	8	10	6	15	19	0	16	1	14	2	6	1	14	11	16	21	4	5	9	3	6	1	10	9	22	0	66	43	11	31	34	34
	CUU	0	0	2	1	0	0	1	2	0	1	3	2	9	12	2	5	5	3	1	1	5	2	4	5	5	0	1	0	3	0	1	2	6	1	5	3	7	0	0	2	4	2	2	0	9	0	1	8	3	5
	UUA	1	0	0	2	9	0	0	1	0	0	1	2	2	6	2	0	5	2	1	1	2	2	0	14	6	2	0	1	0	2	0	0	6	2	0	3	3	0	8	0	2	2	1	0	1	2	0	5	7	4
	UUG	0	0	0	2	17	1	0	1	1	0	0	2	4	5	2	2	1	1	0	0	0	6	6	3	5	0	0	0	1	0	0	0	3	6	4	3	8	3	11	0	1	5	0	0	7	0	0	4	1	3
SER	UCA	1	0	0	2	1	0	1	1	0	1	1	3	3	7	3	6	5	0	0	1	8	0	1	4	7	2	2	1	1	2	2	1	10	1	0	0	1	1	1	0	1	1	0	0	3	0	1	5	0	3
	UCC	0	6	0	1	8	1	2	3	1	2	4	5	3	1	5	1	2	0	2	1	0	3	2	0	1	1	1	0	0	1	1	5	1	3	0	0	2	0	1	0	4	5	5	0	8	5	6	5	3	3
	UCG	0	0	0	0	0	0	0	2	0	0	3	0	0	3	0	0	1	3	1	2	0	5	12	1	2	0	4	0	1	0	4	0	2	1	0	0	3	0	1	0	2	4	3	0	11	6	2	4	4	3
	UCU	1	6	0	3	12	1	0	2	1	0	4	4	6	10	4	3	7	0	2	0	2	0	0	5	2	4	0	1	0	4	0	1	6	1	0	0	2	0	0	0	1	1	1	0	1	1	0	4	3	1
	AGC	4	7	3	1	4	3	3	2	3	3	2	2	4	2	2	1	1	1	2	1	1	5	6	4	4	2	2	2	2	3	1	3	4	6	0	11	4	2	11	2	3	8	3	1	32	19	1	13	8	8
	AGU	3	0	0	0	1	0	3	0	0	3	2	7	1	5	7	2	5	4	3	1	5	1	0	2	3	1	1	0	2	1	0	1	4	4	1	1	1	0	1	0	1	1	0	0	3	2	0	4	3	2
THR	ACA	3	1	0	1	3	3	0	3	3	0	4	3	3	5	3	2	4	4	0	4	2	2	0	8	5	2	0	1	2	1	0	0	15	0	0	1	2	2	2	1	0	1	0	0	1	0	0	0	3	1
	ACC	2	17	0	0	13	1	3	5	1	3	4	3	5	4	3	0	1	0	3	1	5	7	4	5	6	2	0	2	7	1	0	2	3	14	1	4	2	3	7	0	4	5	8	0	34	15	12	15	7	12
	ACG	1	0	0	0	0	0	0	1	12	1	9	3	5	2	3	0	5	0	1	0	1	10	8	2	3	2	4	0	3	2	4	4	7	2	0	2	6	0	5	0	6	6	2	0	15	7	4	10	5	12
	ACU	1	4	0	2	2	0	0	2	0	0	1	4	7	10	4	1	1	1	0	0	2	0	2	1	7	2	1	4	1	4	1	1	5	1	0	0	0	1	0	0	0	3	0	0	5	0	0	3	1	3
PRO	CCA	1	3	0	0	1	0	0	0	0	0	2	3	4	5	3	1	2	0	0	2	1	3	3	4	1	0	0	0	1	0	0	1	5	4	2	1	2	0	2	1	1	2	1	0	7	1	1	6	3	1
	CCC	1	0	0	0	5	0	2	5	0	2	2	1	4	2	1	0	0	0	1	1	1	3	5	1	7	2	1	0	1	2	1	2	2	3	0	4	3	2	1	0	2	2	2	0	18	5	3	4	5	1
	CCG	3	14	2	0	0	0	2	12	0	2	10	3	6	3	3	0	1	1	2	1	1	6	8	2	2	0	1	1	1	0	1	3	4	4	0	4	3	1	0	1	6	7	16	0	41	15	4	9	11	20
	CCU	0	1	0	1	10	0	0	1	0	0	3	4	6	5	4	1	0	2	0	0	1	0	0	6	3	0	0	2	0	0	0	2	5	1	0	2	6	0	0	0	1	0	1	1	7	2	0	1	3	3
ALA	GCA	2	8	1	3	13	1	1	4	1	1	7	2	6	8	2	3	4	6	2	3	1	5	5	7	16	1	1	1	1	2	1	3	2	2	0	3	8	6	11	1	1	1	1	0	3	0	1	3	2	7
	GCC	0	2	0	2	1	3	3	17	3	3	10	3	8	7	3	2	1	1	5	1	12	8	27	0	9	3	0	5	2	2	0	6	6	19	5	12	5	5	8	1	5	8	24	0	39	18	14	14	5	17
	GCG	1	4	0	0	2	1	0	7	1	0	11	6	3	6	6	2	0	0	3	1	3	16	24	1	5	0	3	0	2	0	3	4	4	5	5	0	11	4	8	0	7	20	18	0	39	25	13	11	16	17
	GCU	1	25	2	6	22	2	1	2	2	1	7	2	13	12	2	3	6	1	8	0	1	1	1	8	16	3	1	0	1	3	1	4	9	2	3	3	6	1	0	2	1	5	1	0	0	1	1	5	4	5
GLY	GGA	3	0	1	0	1	0	1	3	0	1	3	2	4	3	2	1	3	2	0	1	0	4	3	8	10	2	2	0	1	2	3	2	6	1	1	5	1	0	0	2	2	2	4	0	2	2	1	4	7	4
	GGC	2	20	0	0	4	1	0	11	1	0	0	6	4	2	6	0	0	0	2	3	1	10	22	6	7	5	2	4	4	4	1	9	9	10	7	6	8	1	1	0	8	10	12	0	44	19	20	10	13	14
	GGG	0	0	1	0	0	1	3	6	1	1	3	4	3	7	2	3	2	0	1	0	2	3	8	10	5	6	1	3	1	3	1	3	0	2	2	1	3	4	3	2	1	4	3	2	0	14	6	1	0	3	8
	GGU	1	17	0	3	28	1	0	4	1	0	3	1	11	11	1	1	0	1	6	4	3	4	7	9	7	1	1	1	1	1	1	4	5	3	10	2	3	1	2	0	1	4	3	0	13	5	5	5	4	6
VAL	GUA	0	9	0	4	14	1	1	0	1	1	1	2	5	6	2	4	3	3	1	0	1	3	0	9	4	0	2	0	2	0	2	2	3	1	0	1	2	2	3	0	1	1	1	0	0	5	3	0	3	3	5
	GUC	3	2	2	1	3	2	2	7	2	2	6	3	4	1	3	2	4	0	5	0	3	8	26	2	3	0	2	2	1	0	2	4	3	6	1	0	3	0	3	1	2	4	7	0	24	9	8	11	5	8
	GUG	0	2	5	0	3	1	6	9	1	6	8	1	4	6	1	1	0	1	2	0	8	9	16	4	4	3	3	0	2	3	3	5	1	5	4	3	12	0	0	5	6	5	8	0	31	12	12	9	10	8
	GUU	1	17	0	6	5	1	2	4	1	2	7	5	17	9	5	2	4	2	11	2	5	3	2	7	4	3	2	3	1	3	2	3	8	0	2	0	2	1	0	0	4	3	0	1	6	3	2	10	2	4
LYS	AAA	4	15	0	3	0	1	3	6	1	3	7	11	12	11	11	7	8	6	4	7	8	3	1	22	8	4	4	4	6	4	4	12	21	8	1	10	14	3	8	0	3	6	5	1	6	9	11	10	5	11
	AAG	2	4	1	0	1	2	1	1	2	1	3	6	5	8	6	4	3	4	5	1	2	4	1	3	6	0	5	1	3	0	5	5	7	11	0	3	5	3	8	1	0	9	3	0	5	1	5	10	4	3
ASN	AAC	3	19	0	0	20	2	2	6	2	2	2	4	5	4	4	1	0	4	2	1	7	3	2	4	2	3	2	4	3	3	2	8	10	9	0	8	6	2	5	0	4	5	2	2	31	12	11	9	8	7
	AAU	1	2	0	1	0	3	1	2	2	3	1	1	4	8	6	4	7	16	3	2	1	5	0	1	16	7	1	1	1	1	1	2	10	6	2	1	9	1	4	0	3	3	3	0	5	7	1	5	4	6
GLN	CAA	6	0	1	0	9	0	0	0	0	0	4	2	4	3	2	1	7	0	3	0	2	0	0	12	4	2	1	1	3	2	1	0	5	10	3	3	6	2	5	0	2	0	1	1	8	3	2	12	5	7
	CAG	2	17	0	1	2	4	2	11	4	2	8	11	9	9	11	3	4	1	3	1	8	4	8	2	3	3	4	4	0	3	4	6	7	12	7	7	4	0	11	0	6	5	12	0	46	23	8	26	17	20
HIS	CAC	2	2	0	0	10	0	1	9	0	1	4	2	4	1	2	0	2	1	0	0	1	0	0	3	4	3	3	4	1	3	3	4	3	4	7	0	4	3	0	2	0	4	1	4	2	24	7	2	3	9	5
	CAU	2	1	0	0	0	0	1	3	0	1	5	4	7	3	4	2	7	2	0	0	2	0	2	2	6	1	3	3	1	1	3	2	9	7	5	1	5	0	0	0	4	1	2	4	11	7	0	3	3	10
GLU	GAA	1	8	0	6	12	5	5	13	5	5	6	11	18	15	11	9	5	3	1	2	6	4	0	13	22	0	3	2	5	0	3	9	13	7	2	11	13	6	9	0	4	5	8	0	24	14	18	28	12	13
	GAG	1	3	0	0	4	2	1	12	2	1	4	6	8	10	6	8	6	6	0	1	2	7	5	9	4	0	2	2	4	0	2	3	11	16	0	3	2	2	15	0	8	7	8	0	33	23	11	16	8	19
ASP	GAC	4	19	0	1	2	4	2	11	4	2	3	5	9	3	5	0	3	1	2	2	3	8	15	5	11	1	4	2	2	1	4	3	3	5	4	14	5	3	5	0	2	3	7	1	37	13	11	11	11	8
	GAU	1	5	0	2	6	1	6	4	1	6	6	7	20	15	7	5	13	9	0	1	6	2	0	12	11	1	1	1	3	1	1	7	9	9	3	1	8	0	2	0	5	3	7	0	31	13	5	25	9	20
TYR	UAC	0	13	0	0	14	0	2	4	0	2	3	5	3	0	5	0	4	0	1	2	8	12	1	3	1	1	2	3	1	2	10	4	6	0	7	10	1	0	0	0	3	4	1	0	16	6	8	7	3	1
	UAU	3	2	0	2	0	2	2	3	2	2	6	8	5	5	8	3	9	4	0	4	2	3	1	14	3	1	6	1	2	1	5	6	4	1	0	1	5	1	1	0	1	4	6	0	11	1	1	3	5	4
CYS	UGC	1	1	0	5	0	0	0	0	0	0	0	1	3	0	1	1	2	0	0	0	1	0	0	3	1	3	0	2	3	3	0	4	2	1	2	2	0	2	1	3	5	3	0	1	5	3	7	1	0	0
	UGU	1	1	0	0	0	0	0	1	0	0	0	2	2	3	2	0	3	1	0	1	0	0	0	3	5	2	0	2	0	2	0	0	1	2	0	0	1	2	0	0	1	3	0	0	5	2	2	1	0	2
PHE	UUC	2	10	0	0	21	0	1	10	0	1	2	7	5	1	7	0	2	1	5	3	3	13	18	4	2	1	2	1	5	1	2	2	5	8	1	3	5	0	3	0	6	2	8	0	18	6	4	5	4	4
	UUU	1	0	0	0	5	2	2	5	2	2	4	7	7	7	7	6	10	5	4	2	7	0	1	16	10	0	2	2	2	0	2	6	4	6	2	4	7	0	0	0	3	2	4	1	13	11	2	6	3	10
ILE	AUA	0	0	1	0	0	0	1	0	0	1	2	3	5	3	3	1	8	3	0	0	1	0	0	1	5	0	2	0	1	0	2	1	10	1	0	3	0	1	9	0	1	3	0	0	1	3	0	0	1	3
	AUC	3	11	0	4	19	1	4	6	1	4	2	15	5	3	15	2	8	2	3	3	4	15	12	2	6	2	2	2	5	2	2	7	6	11	4	4	11	1	3	1	8	10	15	0	26	15	17	14	12	11
	AUU	2	1	5	3	8	2	3	5	2	3	3	3	2	19	10	2	4	9	3	1	5	7	0	1	20	8	3	1	4	3	3	1	5	7	5	3	2	2	2	1	4	6	8	4	0	12	10	7	12	8	12
MET	AUG	1	8	1	1	10	4	6	5	4	6	12	6	13	5	6	5	5	2	10	2	7	10	9	7	7	3	4	2	2	3	4	8	6	15	3	4	6	2	5	1	3	6	5	1	20	13	16	11	8	13
TRP	UGG	3	7	0	1	10	2	2	5	2	2	4	2	8	1	2	0	3	1	1	4	3	8	9	1	9	1	4	0	4	1	4	8	6	6	0	2	8	1	2	0	1	7	0	0	45	3	0	5	1	7
TER	UAA	0	1	0	1	1	0	1	0	0	1	0	0	1	0	0	1	1	0	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	UAG	0	0	1	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	1	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	1	1
	UGA	1	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	0	1	1	1	0	0
TOTAL		88	351	33	72	361	73	102	321	73	102	257	252	392	324	252	128	230	120	122	92	189	263	360	328	376	92	126	91	132	92	126	235	384	327	109	206	290	85	214	33	188	271	270	171	035	485	294	478	350	470

45	LB3 HDC	LCA DHF R	MBF FDR AB# 1	MBF FDR AB# 2	MBH ISM 1#1	MBH ISM 1#2	MBH ORF AB# 1	MBH ORF AB# 2	MBH H	MVO NIF	MXA S#1	MXA S#2	MYC RPS ##1	MYC RPS ##2	NGO PIL 1	NR1 MER #1	NR1 MER #2	NR1 MER #3	NR1 MER #4	NR1 MER #5	NR1 MER #6	NR1 MER #7	PAE MER D#2	PAE PAR R7	PAM MLS R	PBO K	PB2 CAT #1	PB2 CAT #2	PBF 4ER NF	PC1	PC1 CAT	PC2 CG# 1	PC2 CG# 2	PDU MER #2	PDU MER #3	PE1 #1	PE1 #2	PI2 5ME R#1	PI2 5ME R#2	PI2 5ME R#3	PI2 5ME R#4	PIP 404 BCN	PJH APH	PJR HPH	PLB ECO RV# 1	PLB ECO RV# 2	PMO HDC P	PMO RLP P	PNE CG# 1	PNE CG# 2	PO2 RSA
ARG	CGA	0	1	11	4	1	0	1	0	0	0	0	0	1	0	0	1	1	1	1	0	0	2	0	6	1	2	0	0	2	1	1	0	0	4	1	0	0	0	0	3	0	1	0	3	2	0	0	0	0	0	1
	CGC	0	3	0	2	1	1	1	0	0	0	0	0	0	3	3	4	6	2	1	5	23	2	25	1	2	0	0	0	0	0	0	0	0	3	4	2	0	0	2	3	3	0	3	6	0	0	8	3	2	0	15
	CGG	1	2	3	0	0	0	0	0	0	2	3	0	0	0	1	0	4	2	0	1	3	2	19	0	0	0	0	0	0	0	1	0	0	6	0	0	2	1	3	3	0	4	6	0	0	0	0	0	0	0	11
	CGU	10	2	1	1	3	0	1	4	1	0	0	0	1	1	0	0	0	0	0	1	2	0	14	4	3	0	0	1	0	0	7	0	6	1	0	0	1	0	4	3	0	0	7	1	4	8	2	0	1	3
	AGA	0	0	15	5	13	4	7	8	6	1	1	6	5	0	1	1	0	0	0	0	1	0	1	0	2	0	2	2	2	2	6	2	0	0	6	0	0	4	2	0	25	2	1	8	4	1	0	6	4	0
	AGG	0	0	0	1	0	0	2	2	5	2	2	0	0	1	1	1	1	0	0	0	1	0	6	2	0	0	0	0	2	2	2	0	1	0	1	0	1	0	0	0	1	3	3	0	8	0	0	1	2	1
LEU	CUA	0	0	2	3	2	3	3	3	2	1	1	3	1	0	0	0	1	2	1	0	1	0	1	5	4	0	0	1	2	2	1	0	1	0	0	0	0	0	1	4	9	3	0	2	1	0	0	0	4	0
	CUC	1	0	7	6	2	3	1	1	2	1	1	0	0	1	7	0	3	1	2	5	10	2	10	3	5	0	0	0	1	0	1	0	8	1	0	0	1	3	8	2	0	2	9	1	1	0	0	0	3	22
	CUG	0	3	21	7	2	1	3	3	0	10	8	0	0	4	2	3	8	10	2	14	35	9	47	5	4	0	0	5	0	0	1	0	5	10	0	0	2	1	4	3	0	13	9	0	1	20	3	0	1	14
	CUU	4	0	3	3	6	6	13	7	3	0	0	0	0	5	6	0	0	0	2	1	0	1	1	9	2	6	0	1	6	5	5	4	2	1	2	5	0	1	3	11	5	4	3	5	3	1	1	0	4	4	0
	UUA	7	7	7	8	14	9	9	13	7	0	0	0	8	16	0	0	0	0	0	0	0	0	1	11	2	0	7	15	10	10	14	6	1	0	15	0	1	5	12	1	40	7	0	6	12	3	5	15	8	0
	UUG	7	3	1	0	2	3	3	5	3	0	2	0	0	2	0	2	5	1	0	3	5	2	18	6	4	0	5	6	4	4	7	6	9	6	2	0	6	6	11	4	1	3	3	2	6	0	0	1	0	0
SER	UCA	9	0	3	3	5	5	6	6	0	0	0	4	4	3	0	0	2	0	0	0	5	1	2	3	6	1	3	3	4	4	1	3	5	0	6	0	1	0	3	5	30	1	0	3	5	7	0	6	1	0
	UCC	2	1	9	5	0	1	2	4	1	6	6	0	0	4	0	0	5	1	1	3	1	5	1	5	0	2	2	0	3	0	0	0	0	3	1	2	0	1	0	4	2	1	2	6	0	2	6	0	2	0	10
	UCG	0	0	1	0	0	0	0	0	0	2	2	0	0	1	0	0	8	1	1	0	2	2	0	17	1	4	0	0	4	1	1	1	0	3	0	0	2	1	8	5	0	3	3	0	2	1	0	0	0	9
	UCU	5	0	5	1	4	4	4	6	4	0	0	2	3	2	0	0	1	1	0	0	0	0	3	5	5	0	3	3	8	8	5	3	2	0	2	0	4	1	6	1	12	1	2	4	6	5	5	2	2	0
	AGC	2	1	3	0	3	4	2	2	0	5	4	1	0	1	0	4	3	0	2	4	13	0	9	2	3	0	3	0	1	1	1	1	2	1	1	3	1	2	3	6	2	2	7	11	5	0	2	1	3	0	7
	AGU	4	2	1	3	2	3	6	6	5	0	0	1	2	0	0	0	1	0	0	2	1	0	3	6	0	0	3	5	3	3	7	3	2	1	5	1	4	0	5	3	27	2	2	3	4	1	0	4	5	0
THR	ACA	3	2	4	3	11	7	4	11	8	0	0	0	3	3	1	0	0	1	0	1	1	2	0	8	3	6	0	2	4	7	7	8	2	3	0	4	1	3	4	13	4	26	0	3	11	6	1	0	4	10	1
	ACC	1	7	27	10	4	3	2	5	3	7	7	0	0	9	0	2	3	2	5	1	16	3	15	6	1	0	1	1	1	1	3	1	7	2	1	0	2	1	14	3	0	2	5	2	1	10	0	1	0	18
	ACG	0	4	0	1	2	1	0	0	0	1	1	0	0	1	0	0	3	0	1	2	2	21	3	13	5	3	0	2	2	1	1	3	2	3	2	1	0	3	2	9	2	2	4	5	0	3	1	1	1	9
	ACU	12	1	10	2	6	4	9	12	4	1	0	6	9	1	1	0	0	0	2	0	8	0	2	4	5	0	8	5	5	5	4	8	3	1	3	0	0	0	7	7	17	4	1	4	2	3	7	0	3	2	0
PRO	CCA	14	2	11	9	8	2	7	6	5	0	0	2	3	0	0	2	0	3	0	1	1	0	5	3	3	0	1	4	2	2	6	1	1	2	1	1	2	1	2	3	22	2	1	6	2	5	0	1	0	0
	CCC	0	1	9	7	1	2	1	1	1	3	3	0	0	3	3	1	0	3	1	1	6	3	8	0	1	0	0	1	2	2	1	0	3	0	0	0	2	0	4	4	0	2	4	0	0	0	0	0	0	16
	CCG	0	2	2	0	0	2	2	3	1	4	5	1	0	3	4	0	2	3	3	4	15	2	19	0	3	0	2	2	1	1	0	2	6	2	0	0	1	1	9	3	1	2	8	0	5	3	0	0	0	5
	CCU	4	3	17	6	2	4	8	9	5	4	4	0	4	0	0	0	2	0	0	0	1	1	7	3	1	0	6	7	5	5	1	6	1	0	4	0	2	4	2	6	10	4	2	3	6	4	1	0	4	0
ALA	GCA	9	3	26	11	4	8	8	14	10	1	1	4	7	3	3	1	4	2	1	0	11	0	15	1	6	0	1	5	3	3	5	1	4	2	3	0	9	4	15	3	45	0	6	5	4	9	5	3	4	5
	GCC	0	1	31	14	2	2	1	4	0	6	7	0	0	12	4	6	7	7	12	12	38	10	34	1	3	0	1	4	0	0	1	0	10	12	1	0	5	3	17	8	2	4	10	3	2	2	1	1	0	15
	GCG	1	5	3	0	0	0	0	0	2	2	4	0	0	2	6	0	4	6	2	9	30	3	20	2	1	0	0	0	0	0	0	0	6	9	0	0	1	1	12	4	2	2	14	0	2	8	0	0	0	18
	GCU	17	6	8	6	0	4	13	11	5	1	1	5	3	1	4	0	1	1	2	0	7	0	23	1	3	0	2	4	2	2	5	3	5	1	2	0	6	2	10	1	9	2	7	1	2	11	6	2	2	1
GLY	GGA	0	0	31	16	9	7	20	14	5	0	0	6	7	1	0	0	0	1	0	3	4	1	4	2	4	0	2	2	4	4	1	2	3	1	2	0	1	4	15	2	59	4	7	10	4	0	0	2	6	2
	GGC	3	5	2	4	2	2	0	2	4	9	11	0	0	9	7	0	6	4	4	10	40	4	31	0	2	0	1	2	0	0	2	0	6	5	2	1	2	2	13	5	5	6	6	1	1	6	0	1	3	27
	GGG	0	0	3	1	1	0	2	1	2	1	0	0	3	0	0	0	4	3	0	2	4	1	12	4	3	0	0	2	2	2	1	0	3	1	1	0	3	1	8	4	5	4	6	2	7	0	0	2	1	7
	GGU	25	5	13	13	1	3	6	7	19	2	2	5	9	2	3	0	0	3	0	1	5	3	14	1	9	0	3	5	7	7	5	4	1	1	1	0	3	5	15	3	33	0	5	2	4	18	3	1	1	3
VAL	GUA	2	1	14	4	5	2	16	14	7	0	0	4	3	2	1	0	0	1	1	0	2	1	1	5	5	0	3	2	4	4	3	3	3	3	0	2	1	7	0	8	1	40	3	4	5	4	3	2	2	4	2
	GUC	0	5	8	9	2	1	3	0	2	5	5	0	0	4	6	0	1	5	7	3	16	0	18	4	2	0	0	6	0	0	0	0	8	2	0	0	3	0	11	10	2	5	14	0	2	2	0	0	3	18
	GUG	1	2	13	11	0	0	0	0	1	1	10	10	0	1	2	2	1	7	6	3	27	3	21	1	8	0	1	3	2	2	1	0	1	2	7	2	0	2	3	12	2	1	4	4	0	0	4	0	2	12
	GUU	14	8	12	9	3	9	15	14	14	1	1	7	9	7	2	0	3	1	2	1	2	3	7	7	4	0	3	12	2	2	9	3	4	0	7	1	2	5	10	10	27	1	3	5	15	12	6	7	1	0
LYS	AAA	3	5	29	29	51	21	26	33	19	2	2	12	22	14	1	0	2	0	2	1	5	1	5	24	6	2	17	20	11	11	26	17	1	0	26	2	14	7	21	2	41	12	2	21	17	20	5	26	13	0
	AAG	17	4	10	2	4	1	2	2	4	11	5	1	0	2	0	1	7	3	9	1	16	0	22	4	5	0	4	6	3	3	9	4	3	0	5	0	1	2	8	4	13	10	4	3	7	2	2	4	2	3
ASN	AAC	8	1	24	13	8	4	6	5	4	16	16	1	3	5	2	2	2	2	0	3	10	1	12	8	0	0	7	5	6	6	3	8	1	2	8	1	4	3	14	3	8	4	3	6	6	16	6	8	5	8
	AAU	4	2	6	1	22	12	20	14	9	1	2	5	8	2	2	1	3	0	0	0	4	0	8	7	5	0	17	9	16	16	16	16	3	1	18	0	9	5	14	2	59	4	4	14	17	3	1	18	5	0
GLN	CAA	9	3	5	1	22	4	3	7	3	1	0	6	9	4	4	0	0	1	0	1	5	1	7	11	6	6	0	3	6	3	3	12	3	1	0	6	1	3	1	27	7	23	1	7	6	3	3	2	5	7	0
	CAG	0	6	9	3	1	1	3	3	2	5	10	0	0	1	7	1	3	2	3	1	15	0	13	5	5	0	2	3	2	2	1	2	6	5	1	0	1	0	4	2	0	1	9	0	1	7	4	3	1	13
HIS	CAC	1	1	17	4	6	1	1	3	1	0	0	0	1	2	7	0	2	0	0	0	6	0	12	4	2	0	1	2	0	0	1	1	1	0	3	0	1	0	3	4	2	3	4	1	1	8	0	3	1	7
	CAU	1	6	0	0	7	4	5	6	0	0	0	0	0	2	0	3	0	1	0	0	2	5	2	5	7	6	0	3	4	4	4	4	5	2	6	1	6	1	1	2	9	1	2	4	6	4	0	6	0	0
GLU	GAA	22	5	54	39	28	16	18	24	16	3	2	7	14	7	3	0	7	2	1	1	18	0	17	10	15	0	13	8	4	4	24	13	8	4	10	0	8	2	36	8	38	23	11	13	13	18	1	10	11	3
	GAG	0	2	5	3	1	2	3	4	5	9	7	0	0	3	3	0	7	1	2	1	11	2	31	1	10	1	2	3	5	5	2	2	6	2	2	0	4	3	9	11	9	9	11	3	6	3	0	2	3	20
ASP	GAC	10	1	34	22	4	8	4	15	7	7	7	1	0	8	1	0	6	0	3	2	21	1	21	2	2	0	1	1	4	4	5	1	7	2	2	0	4	0	6	5	2	10	12	7	1	15	6	2	4	24
	GAU	15	14	12	8	13	11	8	21	11	5	3	3	2	2	2	1	1	0	1	1	8	0	24	5	12	1	11	10	8	8	24	11	2	4	10	0	6	3	21	7	42	17	14	7	17	18	2	11	2	9
TYR	UAC	8	0	20	9	9	3	2	2	9	6	6	2	1	3	0	0	1	2	0	2	6	1	16	4	1	0	1	2	5	5	7	1	1	3	2	0	0	2	3	0	2	2	4	5	2	7	1	2	2	10
	UAU	7	5	4	1	13	3	7	9	4	0	0	1	4	2	0	0	2	3	1	0	3	0	10	8	10	1	13	5	8	8	7	13	4	0	8	1	5	0	15	3	44	12	7	15	12	10	0	7	5	2
CYS	UGC	0	0	8	9	3	3	1	3	0	0	0	0	0	2	1	0	0	4	2	4	7	2	5	1	1	0	0	0	0	0	1	0	3	4	1	0	0	2	2	1	0	5	5	1	1	7	0	1	0	5
	UGU	2	0	10	9	5	4	1	2	7	0	0	0	0	0	1	2	0	0	0	0	1	0	1	0	1	0	1	3	1	1	0	1	1	0	1	0	0	2	4	4	8	1	2	0	5	0	1	1	0	0
PHE	UUC	1	1	17	9	9	1	1	3	2	8	8	2	0	1	6	3	3	7	1	6	13	3	31	3	5	0	1	6	4	4	0	1	3	4	5	0	0	4	7	10	1	14	3	2	15	0	6	1	9
	UUU	7	7	6	2	15	7	4	9	4	0	0	1	3	1	2	0	1	2	2	3	1	0	2	9	5	0	16	19	13	13	17	15	4	0	12	2	7	5	12	3	29	10	2	7	19	3	1	14	2	0
ILE	AUA	0	0	22	6	24	17	11	9	7	0	1	2	2	0	2	0	0	0	0	0	1	0	1	5	5	0	7	3	6	6	3	6	2	0	15	0	2	2	5	0	47	3	2	16	8	0	0	15	9	0
	AUC	5	2	11	15	8	2	3	6	5	9	9	2	3	7	2	2	3	3	1	5	25	0	26	1	2	0	1	2	1	1	3	1	4	2	4	1	1	1	16	3	2	8	7	4	0	30	1	4	3	10
	AUU	15	3	12	4	11	12	22	31	13	1	1	10	11	2	2	0	2	4	0	2	5	1	10	13	11	0	18	12	12	12	9	18	3	0	7	2	10	5	13	3	20	4	5	6	15	4	1	7	5	0
MET	AUG	12	3	26	17	5	4	7	7	9	3	2	3	2	3	1	1	4	1	2	6	11	0	11	2	8	1	5	3	2	2	11	6	3	2	5	1	5	4	9	5	9	7	8	1	5	9	1	5	6	6
TRP	UGG	6	4	6	5	2	0	0	1	0	0	0	0	0	3	0	1	0	3	1	6	1	2	14	2	6	0	5	1	5	5	9	5	3	0	1	0	1	4	0	3	12	5	8	4	4	7	0	1	0	11
TER	UAA	1	1	0	1	1	1	1	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1	1	1	0	0	0	1	1	1	1	1	1	0	0	1	0	1	1	1	1	0
	UAG	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	UGA	0	0	1	0	0	0	0	0	0	1	1	1	0	1	1	0	0	0	1	1	1	1	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
TOTAL		312	164	685	400	402	252	340	419	279	176	174	130	181	167	121	61	145	117	92	141	565	79	778	246	254	10	216	267	217	217	312	216	213	122	245	20	181	129	548	217	891	265	342	246	299	379	79	245	163	393

46		PO2 RSB #1	PR1 TRA #2	PR1 TRA 90I	PR2 L01	PRI ECO R01	PRI ECO R02	PRO IRN #1	PRO IRN #2	PSC 101 ORI	PSC REP 101 2	PSE CPG	PSE ETA	PSE IAA MH# 1	PSE IAA MH# 2	PSE INA E	PSE LIP	PSE MPC	PSE PIL PAK	PSE PIL PAO	PSE PLC #1	PSE NOD #1	PSE NOD #2	PSM NOD 203	PSM NOD 203	PSN	PT1	PTB K	PWP AAC 3IV #1	PWP ANI FR	R10 OTR AN# 1	R10 201	R10 202	R10 203	R10 401	R10 402	R10 403	R10 404	R10 405	R10 406	R10 407	R10 PIL #1	R36 PIL #1	R38 DHF R	R46 OXA 2LB	R53 AAD A	R65 COP A	R65 REP CTR	R67 DHF #1	R77 ARO #2	R77 ARO #3
ARG	CGA	1	0	1	0	2	1	5	4	2	2	1	0	6	7	1	1	2	0	0	1	3	4	4	0	2	2	3	1	1	1	2	2	0	2	1	1	0	2	0	0	0	0	5	3	2	2	1	1	1	1
	CGC	19	0	0	2	0	1	1	0	2	2	18	31	9	6	8	2	10	0	0	33	5	2	14	0	1	2	5	5	0	0	1	11	4	4	4	2	1	23	5	1	2	2	6	9	1	0	3	7	5	1
	CGG	5	0	1	0	0	0	0	0	1	1	0	9	7	1	3	3	3	0	0	10	6	2	4	0	1	0	2	4	0	0	1	5	2	4	0	2	0	3	6	0	0	0	4	3	1	0	0	7	0	1
	CGU	2	3	6	1	1	0	6	8	0	1	0	3	11	4	6	3	4	3	3	4	3	6	4	1	5	3	2	0	5	1	0	21	2	1	0	0	0	2	1	2	1	1	6	2	0	1	0	13	3	4
	AGA	0	2	6	0	6	10	6	6	4	4	0	0	3	6	7	0	0	0	0	0	2	1	1	5	10	2	3	1	2	4	0	0	0	0	1	0	0	1	0	0	0	0	1	2	0	3	0	1	1	1
	AGG	0	2	2	0	5	1	3	1	6	6	0	1	2	2	6	1	0	1	0	4	0	0	1	1	0	0	2	0	0	0	1	1	0	2	1	0	0	1	0	0	0	0	4	2	1	0	0	3	0	1
LEU	CUA	0	1	1	0	4	5	6	4	9	9	0	0	2	3	2	0	2	0	0	2	2	0	3	4	0	4	0	1	1	0	0	0	0	0	0	2	1	1	0	0	0	0	2	4	0	0	0	0	1	1
	CUC	21	1	1	0	3	1	0	1	5	5	10	21	10	10	15	2	8	2	0	26	4	3	13	5	1	0	8	6	0	1	0	3	2	1	0	1	2	10	1	1	1	1	3	3	0	1	0	6	7	1
	CUG	12	0	4	9	0	3	0	0	3	3	30	48	23	16	43	6	18	4	6	28	3	9	16	0	0	4	7	14	1	4	0	21	1	14	3	10	2	35	8	7	8	1	3	7	0	3	0	36	39	10
	CUU	1	4	7	1	6	5	13	7	5	5	0	0	6	5	6	2	1	2	0	2	2	4	6	1	7	6	7	2	6	3	4	3	0	1	0	2	1	1	1	1	1	2	7	7	4	2	1	18	7	4
	UUA	0	2	6	1	11	9	24	20	12	12	0	0	5	1	3	1	0	0	0	1	2	0	0	7	11	2	1	1	0	2	0	0	1	0	0	0	0	1	2	1	1	1	3	0	1	0	7	3	0
	UUG	0	0	2	0	2	5	7	4	6	6	0	2	6	16	16	3	5	4	2	4	6	1	10	0	7	4	6	2	2	1	2	0	0	0	2	1	0	5	5	1	0	0	4	11	1	0	1	7	10	1
SER	UCA	0	5	3	0	7	3	12	4	3	3	1	0	5	4	12	2	0	0	0	1	1	1	1	1	1	6	6	2	4	2	0	3	2	2	0	0	0	5	0	0	0	1	1	2	0	2	1	6	4	1
	UCC	6	2	2	1	1	0	0	1	1	1	4	5	4	7	13	2	5	0	0	6	3	1	6	0	0	2	6	5	1	1	1	5	1	1	5	1	0	5	1	1	2	2	2	4	1	1	1	7	1	0
	UCG	12	0	1	1	2	4	3	1	2	2	7	7	10	3	33	3	1	2	4	13	4	4	9	0	2	4	8	5	1	2	0	1	0	4	8	1	0	2	1	1	1	0	6	4	0	2	1	4	3	2
	UCU	0	1	9	3	8	8	12	4	3	3	0	0	5	3	2	0	1	3	3	0	0	1	3	3	7	5	2	3	3	2	1	2	4	0	0	1	0	0	0	3	2	1	4	1	1	2	1	7	6	1
	AGC	7	2	0	1	4	4	3	4	3	3	3	6	27	6	6	76	2	1	2	1	23	3	4	11	1	2	3	6	3	0	0	4	2	2	2	4	0	3	13	2	1	2	1	2	5	4	0	1	11	6	2
	AGU	0	3	5	2	2	4	8	5	7	7	0	2	12	9	60	1	2	1	2	3	1	2	0	3	7	0	2	0	3	3	1	1	1	0	0	0	0	1	0	2	3	2	1	2	1	1	2	2	2	0
THR	ACA	0	3	4	0	4	5	10	8	7	7	1	0	3	7	21	1	1	2	1	0	3	3	5	5	5	6	3	0	3	2	0	4	1	0	0	0	1	2	0	0	0	1	3	4	0	1	1	10	7	0
	ACC	19	0	0	3	0	0	3	2	6	6	15	20	11	5	59	1	13	4	7	28	1	3	6	1	1	1	2	5	0	1	0	7	3	0	2	2	5	16	1	2	3	1	0	5	0	1	1	14	9	4
	ACG	12	0	1	1	1	1	0	0	6	6	9	5	11	9	67	1	1	0	1	6	2	6	8	3	2	2	5	5	0	0	0	8	2	4	3	1	1	21	2	1	1	0	4	8	0	0	1	12	10	2
	ACU	0	1	1	2	5	3	13	4	6	6	0	2	5	5	19	0	2	9	9	2	3	1	4	2	5	5	1	2	0	2	1	3	2	1	0	0	2	8	0	2	1	1	3	2	1	2	0	6	4	3
PRO	CCA	0	2	4	0	1	5	7	9	2	2	2	0	5	3	2	1	1	0	0	1	5	3	12	1	5	3	6	0	2	1	1	2	0	0	2	3	0	1	1	0	0	1	1	4	1	1	3	6	0	2
	CCC	16	0	2	1	0	0	1	4	1	1	4	13	11	7	5	2	3	1	2	21	2	2	2	0	1	1	6	2	1	0	1	2	2	1	0	3	1	7	0	1	1	2	2	2	1	0	1	7	3	0
	CCG	5	0	2	1	0	0	3	3	1	1	6	27	7	9	6	2	8	3	4	21	4	9	5	0	0	3	11	5	0	1	2	5	0	1	0	3	3	15	2	1	2	0	3	6	2	1	0	10	8	4
	CCU	0	1	1	1	5	6	7	5	3	3	0	0	6	5	2	2	0	3	0	2	1	5	6	0	0	1	7	2	0	0	0	0	0	0	0	0	0	1	0	1	0	2	4	4	0	0	1	10	5	3
ALA	GCA	4	1	3	4	4	3	10	4	6	6	2	1	8	11	32	2	4	7	2	2	4	8	9	3	9	6	6	4	1	6	1	3	1	1	1	2	1	11	4	1	2	2	15	7	1	5	0	10	14	2
	GCC	17	0	2	3	1	1	2	4	1	1	37	43	8	17	58	10	10	1	2	42	4	4	9	0	2	3	10	11	2	2	0	14	3	0	6	7	12	38	11	1	5	4	5	8	0	2	4	17	16	2
	GCG	17	4	2	3	1	2	7	3	1	1	14	27	13	6	35	3	3	3	8	12	4	7	13	1	2	1	8	13	3	1	1	10	0	3	0	6	2	30	11	3	3	2	7	7	1	1	2	20	17	2
	GCU	2	5	2	7	9	4	20	9	5	4	4	1	13	12	18	0	4	9	7	4	5	5	8	1	3	3	4	3	1	2	3	1	4	3	1	0	1	2	6	1	8	8	3	3	9	1	2	2	17	8	1
GLY	GGA	3	1	4	0	5	3	5	2	2	2	0	0	9	11	26	2	2	1	1	5	3	2	4	5	2	4	9	3	1	0	0	5	2	3	0	1	0	4	0	0	0	0	1	3	0	0	1	8	6	2
	GGC	23	0	2	2	1	3	3	4	2	2	4	11	43	52	22	16	107	8	13	3	2	53	5	4	7	3	2	2	6	21	0	1	1	2	5	1	0	4	4	40	6	3	2	3	12	9	1	1	4	16	10	1
	GGG	6	2	2	0	6	5	3	0	0	0	0	4	10	11	14	0	2	2	1	3	4	3	3	1	0	3	9	0	3	2	1	4	1	3	0	3	0	4	1	0	0	2	0	1	1	1	1	4	11	1
	GGU	6	1	4	6	9	6	11	10	3	3	2	3	12	9	50	3	7	9	9	1	6	5	10	2	3	9	2	6	1	1	0	2	1	1	0	3	0	5	5	1	6	7	4	3	3	0	1	2	10	10	4
VAL	GUA	3	4	1	1	5	3	9	2	3	3	0	0	1	8	6	5	2	2	1	2	4	4	0	3	6	2	5	4	0	5	2	1	4	0	2	0	1	2	2	1	1	1	4	3	11	1	2	2	4	5	1
	GUC	18	3	1	6	2	1	1	2	2	0	0	10	19	12	8	16	4	4	1	3	23	4	7	14	1	1	2	6	7	2	0	0	2	0	2	0	5	7	17	2	5	5	3	2	6	0	0	3	10	8	1
	GUG	12	3	1	2	1	2	4	3	3	3	0	20	18	4	9	10	2	13	3	1	20	7	5	11	0	4	8	4	11	1	2	0	9	3	3	1	6	3	26	7	3	2	3	5	8	0	2	1	10	17	2
	GUU	0	2	12	9	8	13	21	11	8	9	0	0	10	7	6	1	2	3	4	0	5	2	6	2	5	4	6	2	4	3	1	2	3	2	0	1	2	2	0	11	10	1	6	7	1	1	2	13	10	5
LYS	AAA	0	6	10	6	17	22	27	22	22	22	1	3	13	5	8	1	4	8	7	3	3	1	4	10	26	6	0	4	7	5	4	7	4	4	0	0	2	5	0	6	4	2	4	5	4	6	1	18	13	7
	AAG	4	4	1	4	5	13	3	3	8	8	31	12	8	7	6	2	10	5	3	18	2	1	6	5	6	6	6	13	2	5	2	7	0	5	1	3	9	16	0	4	5	1	9	6	2	4	1	4	1	1
ASN	AAC	9	0	4	2	3	9	8	3	13	13	17	21	7	6	15	4	6	1	5	30	5	3	4	4	5	0	1	7	0	1	1	4	3	2	2	2	0	10	1	2	2	1	7	4	1	0	2	7	10	6
	AAU	1	6	12	2	17	19	31	14	9	9	1	0	5	8	11	3	3	3	1	5	1	1	5	7	17	5	5	6	7	2	1	3	1	1	1	0	0	4	0	2	2	0	4	3	1	2	4	9	3	1
GLN	CAA	0	0	2	1	7	4	16	8	8	8	0	0	4	6	2	14	2	1	1	1	1	1	9	7	12	6	1	1	0	3	3	2	2	1	0	1	0	5	4	0	0	3	6	4	3	3	1	7	0	2
	CAG	12	4	5	3	2	1	8	3	5	5	7	23	13	10	41	4	7	4	4	34	3	2	6	1	0	5	5	9	5	3	1	8	3	4	1	2	3	15	2	1	3	2	3	11	1	2	2	24	3	3
HIS	CAC	11	0	2	0	2	2	1	1	2	2	4	11	5	5	7	5	10	0	0	15	6	8	1	0	2	2	4	3	0	0	0	2	2	4	0	0	0	6	1	0	0	0	1	3	3	0	0	1	6	2	1
	CAU	1	1	2	0	4	5	6	10	4	4	1	6	7	10	6	2	5	0	0	4	0	4	3	1	7	6	4	2	1	1	0	2	2	3	0	0	0	5	3	0	0	0	3	3	3	0	1	0	7	3	1
GLU	GAA	5	9	12	1	10	10	26	15	17	17	10	15	10	7	20	2	12	3	5	17	7	10	6	10	20	15	5	6	7	6	1	10	0	3	0	2	1	10	0	1	1	4	10	17	1	6	4	26	3	7
	GAG	15	8	4	0	7	10	9	9	10	10	16	28	8	15	16	2	9	4	2	23	9	6	9	6	1	10	8	18	9	1	0	10	0	2	0	1	2	11	5	2	0	1	6	10	0	1	2	11	5	4
ASP	GAC	26	1	2	2	3	2	4	2	3	3	24	33	20	6	34	3	19	1	0	37	3	6	15	4	7	2	7	11	0	0	0	3	1	4	0	0	3	21	5	2	2	0	7	7	0	0	0	10	1	3
	GAU	4	4	8	0	15	21	18	18	9	9	1	3	15	18	11	3	8	7	6	7	3	8	9	4	24	12	10	4	6	5	2	9	1	1	1	0	1	8	2	1	0	2	12	12	2	2	1	20	12	7
TYR	UAC	12	0	2	1	2	5	5	2	6	6	13	13	9	3	32	1	5	0	0	31	2	4	4	2	4	1	0	4	0	1	2	4	1	2	0	2	0	6	3	1	1	0	2	4	2	1	2	4	2	2
	UAU	1	4	8	0	6	16	12	8	8	7	0	5	15	2	36	2	7	2	3	8	2	2	7	6	8	10	2	7	4	1	2	4	1	5	0	3	1	3	0	0	0	3	4	3	2	1	1	4	7	1
CYS	UGC	4	0	1	0	0	4	2	1	1	1	0	8	5	5	2	2	1	2	0	6	2	3	7	0	2	1	7	5	0	0	2	4	3	0	0	4	2	7	3	0	0	1	0	0	2	1	1	3	1	2
	UGU	0	1	4	0	1	3	5	1	1	1	0	0	6	4	2	0	2	0	0	2	0	0	2	4	0	0	3	1	2	1	2	1	2	0	2	0	0	1	0	0	0	0	0	2	1	1	0	1	0	0
PHE	UUC	9	3	2	5	1	7	4	5	9	9	12	13	9	10	5	2	12	1	2	26	4	2	9	1	0	5	3	3	0	2	4	7	2	2	3	7	1	13	3	4	5	0	9	1	4	1	1	4	11	1
	UUU	0	3	13	4	10	16	18	5	7	7	0	1	18	10	5	2	4	2	2	1	4	2	7	3	16	5	3	1	5	1	0	5	0	2	0	2	2	1	0	4	4	2	10	7	0	1	2	11	11	2
ILE	AUA	0	2	6	0	12	7	19	4	7	7	0	1	7	6	7	1	0	0	0	0	2	4	6	7	6	5	0	0	2	1	2	0	2	0	0	0	1	0	0	0	0	0	5	1	2	1	0	3	1	0
	AUC	10	1	5	3	4	2	4	6	3	3	21	25	10	9	21	7	6	7	8	17	2	6	6	3	5	2	3	18	1	1	0	5	2	2	2	3	1	25	2	4	3	0	6	10	0	0	1	9	21	5
	AUU	0	4	7	1	7	14	19	10	9	9	2	2	12	12	16	1	2	5	7	1	4	5	10	2	8	11	1	4	4	1	1	7	3	1	0	4	0	5	0	1	1	1	7	7	1	0	2	21	19	7
MET	AUG	8	5	3	10	7	2	10	6	11	11	7	7	11	8	8	1	11	3	3	11	5	4	8	6	11	8	6	13	5	4	1	4	3	4	1	1	2	11	2	10	10	1	6	5	1	5	2	13	12	4
TRP	UGG	11	0	3	1	2	2	3	7	4	4	1	12	10	5	7	2	5	2	1	24	4	3	6	0	9	6	3	0	0	0	1	2	1	4	1	3	1	1	0	1	1	2	10	9	2	0	2	4	11	0
TER	UAA	0	1	1	1	0	1	1	1	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	1	1	0	0	0	0	0	1	1	1	1	1	0	0	1	1	1	1
	UAG	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	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	0	0	0	0	0	0	0
	UGA	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	1	1	0	0	1	1	1	1	0	0	1	1	0	0	0	0	1	0	0	0	0	1	1	1	1	1	0	0	0	0	1	1	0	0
TOTAL		393	128	229	121	278	327	506	327	317	317	416	639	558	456	1201	136	308	151	150	731	197	218	403	159	315	254	278	295	128	104	62	286	92	126	61	117	92	565	121	120	122	79	276	323	62	85	79	584	430	142

47	RA1 TRT #2	RCA CTC A	RCA LEU I01	RCA LEU I02	RCA RC1	RCA RC2 #1	RCA RC2 #2	RCA RC2 #3	RCA NIF #4	RHI NIF DK#	RHI NIF DK#	RHJ NIF DKO	RHJ NIF H	RHL FIK S	RHL GMO D01	RHL GMO D02	RHL GMO D03	RHL DFE #2	RHL WOD I J0	RHL WOD I J0	RHM HSN AD#	RHM HSN AD#	RHM HSN AD#	RHM HSN AD#	RHM NIF A	RHM WOD #1	RHM WOD #2	RHM WOD #3	RHM WOD #4	RK2 KOR A	RK2 TRF A01	RK2 TRF A02	RK2 TRF A03	RP1 TET #1	RP1 TET #2	RRU ATF #1	RRU ATF #2	RRU ATF #3	RRU ATF #4	RRU ATF #5	RRU HOC #1	RRU HOC #2	RRU RUB PL	RSS CTC 2	RSS FBC #1	RSS FBC #2	RSS RCM	RTS REP A	RVI FBC H	SAU VIS PA
ARG CGA	0	0	0	0	0	0	0	1	0	1	4	2	0	6	4	2	1	6	7	2	3	3	3	3	4	2	3	2	1	0	5	4	1	7	1	0	0	1	0	0	0	0	0	0	0	6	4	0	0	4	0	0
CGC	7	1	0	0	0	0	1	2	7	12	10	11	5	13	9	3	15	21	11	4	8	10	0	6	30	12	5	0	14	1	3	16	13	7	8	8	21	11	16	5	0	2	15	2	7	16	9	3	9	2
CGG	5	0	0	0	2	0	0	1	2	3	5	5	3	2	3	4	7	6	3	3	2	3	1	4	22	4	6	3	4	4	1	6	4	3	11	3	1	8	0	3	0	0	6	1	2	3	1	0	0	0
CGU	3	0	1	0	4	1	1	4	2	5	5	6	2	4	4	4	1	7	5	0	1	4	2	5	12	5	3	7	4	0	2	6	2	1	2	5	6	3	7	2	1	1	5	0	2	5	2	5	9	2
AGA	1	0	0	0	0	0	0	0	0	2	0	3	1	3	1	1	1	5	0	1	3	0	0	2	4	0	2	1	1	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0
AGG	0	0	0	0	0	0	0	0	0	1	0	5	0	2	1	1	2	7	2	0	2	3	1	5	14	4	0	1	2	1	0	1	0	5	2	0	0	0	0	0	0	0	1	0	1	0	0	3	0	0
LEU CUA	1	0	0	0	0	0	0	0	0	1	0	2	3	5	2	1	5	12	5	4	1	3	0	3	6	6	2	0	2	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	6	0	1	1	0	1
CUC	1	7	2	1	8	1	3	10	13	9	14	11	3	4	1	5	12	27	6	9	4	7	2	5	34	9	4	4	14	0	0	3	2	6	17	8	14	6	10	2	2	2	3	5	3	20	19	2	10	0
CUG	22	2	3	4	11	4	6	12	12	14	15	12	10	7	4	2	11	19	12	5	5	9	0	4	27	9	3	9	17	4	2	21	10	10	24	6	26	16	23	9	5	7	22	3	6	39	19	8	18	0
CUU	4	0	1	0	1	1	0	5	2	3	6	4	6	6	2	7	14	10	8	6	0	7	2	8	24	9	1	5	9	1	1	2	2	3	8	4	4	3	5	0	1	1	2	0	2	6	0	8	1	5
UUA	3	0	0	0	0	0	0	0	0	0	1	0	0	0	2	1	1	4	2	2	0	0	2	3	0	3	2	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	1	10
UUG	3	0	0	0	0	0	0	0	0	2	6	1	4	8	4	3	8	15	12	11	6	2	2	7	12	8	6	1	11	1	1	5	4	5	6	3	6	0	2	1	0	1	6	0	1	2	0	2	1	4
SER UCA	4	0	0	0	0	0	0	0	0	3	2	10	4	4	0	3	3	5	2	1	4	0	0	2	11	0	1	1	2	0	1	0	0	1	2	1	1	0	0	0	0	0	1	0	1	0	0	5	0	1
UCC	0	0	0	0	1	0	1	1	1	10	6	7	4	5	1	0	5	12	1	1	7	11	0	1	9	2	3	2	6	0	0	6	4	1	2	4	7	3	5	1	2	0	4	1	1	5	6	0	1	0
UCG	1	4	2	1	11	1	1	7	11	12	10	8	4	4	3	4	6	7	8	4	4	6	1	3	12	9	4	4	8	2	1	11	7	3	7	4	14	11	14	2	1	4	7	0	8	16	13	3	7	0
UCU	1	0	0	0	0	0	0	0	0	0	3	0	2	2	0	2	4	6	2	0	0	2	2	0	18	1	0	1	3	0	2	1	1	0	1	0	0	0	0	0	1	0	1	0	1	1	0	8	0	4
AGC	1	1	2	0	0	2	0	4	1	3	7	5	2	3	3	3	8	11	4	2	2	6	2	4	11	3	3	4	13	1	1	5	3	4	5	4	3	6	3	4	2	1	5	0	0	8	0	3	2	6
AGU	3	0	0	0	1	0	0	1	1	2	3	2	1	2	0	0	3	3	2	1	0	2	1	2	6	1	1	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	6	0	4
THR ACA	3	0	0	0	0	1	0	0	0	1	3	2	0	1	1	2	9	3	1	5	2	3	0	2	18	2	3	4	6	0	0	0	0	4	4	2	0	0	0	0	0	0	0	0	0	0	0	3	0	2
ACC	5	8	1	5	11	1	3	11	11	8	8	6	5	7	2	2	11	15	7	6	13	13	2	6	14	6	1	3	9	4	6	13	9	1	7	3	20	18	21	6	3	3	20	8	11	28	9	3	7	0
ACG	3	8	1	1	0	0	0	7	4	7	13	7	3	6	3	4	8	8	7	3	3	4	1	6	16	2	2	5	8	3	1	15	12	3	4	7	4	3	11	1	1	1	5	1	1	7	4	1	8	0
ACU	1	2	1	0	0	0	0	0	0	1	6	3	3	4	4	1	5	12	3	4	2	4	1	0	10	4	2	1	4	0	0	1	0	3	4	0	1	0	0	1	2	0	5	0	0	2	0	5	0	2
PRO CCA	0	0	0	0	0	0	0	0	5	7	7	2	6	4	1	6	13	7	1	2	3	1	4	6	8	5	3	3	12	1	1	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	6	0	4
CCC	1	2	0	1	8	0	2	2	4	5	4	2	1	2	2	7	5	6	1	6	1	3	0	2	18	7	2	2	2	1	0	3	0	0	4	2	6	6	6	5	1	1	13	1	2	7	4	1	2	0
CCG	4	3	2	3	13	1	0	11	9	12	11	11	4	7	4	5	3	13	7	4	3	9	1	5	18	6	4	10	5	1	1	7	7	9	10	1	11	2	16	1	2	2	9	4	7	38	8	2	16	1
CCU	3	8	0	0	0	0	0	0	1	2	4	3	1	3	0	5	4	7	2	0	0	1	0	9	4	2	1	4	6	0	0	2	1	0	4	0	0	0	0	0	0	0	0	0	0	1	0	2	0	4
ALA GCA	7	0	0	0	1	0	0	2	0	7	6	8	6	7	3	5	10	16	6	13	4	10	1	4	20	6	4	8	9	2	2	4	1	3	9	4	0	1	0	1	0	0	0	0	1	3	2	2	7	1	4
GCC	4	14	2	4	8	3	4	11	19	11	18	9	13	10	4	7	16	38	5	11	11	24	2	7	37	11	4	2	11	2	4	16	10	16	23	16	37	21	38	20	4	2	48	16	7	39	13	5	10	1
GCG	12	9	3	4	6	4	1	7	11	9	16	11	10	7	2	4	17	23	9	10	5	17	2	2	36	7	5	8	15	9	1	12	7	13	22	8	12	14	7	1	0	0	10	8	12	27	13	3	9	2
GCU	0	1	2	3	1	1	3	4	5	5	3	5	3	6	5	8	10	22	2	6	5	11	2	7	15	4	5	4	9	0	0	3	1	1	7	1	6	1	3	1	2	3	4	0	1	3	3	2	6	14
GLY GGA	1	0	0	0	1	0	0	3	0	6	7	5	2	7	4	4	5	12	8	6	5	9	3	2	24	2	3	2	4	1	0	2	1	3	6	3	1	1	0	0	1	0	2	0	0	2	1	1	0	0
GGC	3	13	2	3	11	0	2	18	21	35	30	30	17	8	5	3	9	30	11	10	12	24	7	1	20	6	5	4	7	2	8	12	11	8	26	5	36	17	33	7	3	1	41	13	15	49	24	5	16	1
GGG	6	1	3	0	3	1	0	7	6	4	3	7	4	5	1	3	4	9	1	4	3	5	1	0	18	3	4	3	3	4	3	2	1	4	11	5	2	4	4	1	1	0	4	2	2	7	6	3	0	0
GGU	4	0	0	0	1	1	0	4	6	4	5	8	7	7	4	2	6	9	7	4	3	4	1	4	16	2	6	5	10	0	1	1	0	4	3	3	7	2	10	1	0	1	3	0	2	6	5	4	3	9
VAL GUA	1	0	0	0	0	0	0	0	0	3	6	4	2	0	1	1	5	8	3	6	0	5	1	2	12	1	0	0	3	1	2	0	0	1	3	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3
GUC	2	6	0	5	13	3	0	11	10	13	6	10	2	8	5	6	9	18	6	9	11	13	4	3	18	6	4	7	15	3	1	12	9	4	13	9	27	8	22	3	1	3	17	6	7	27	13	2	15	0
GUG	5	4	1	1	8	1	5	8	5	14	13	16	9	5	4	8	6	17	5	3	3	12	2	8	14	6	7	6	9	4	2	10	8	4	8	6	18	2	17	5	2	0	9	2	11	26	3	6	7	1
GUU	1	0	1	2	3	0	2	0	5	7	7	5	6	6	3	6	10	10	2	4	1	4	0	2	10	4	5	2	6	1	1	1	1	5	3	3	4	4	8	4	2	2	2	1	0	5	1	7	6	2
LYS AAA	5	8	2	1	1	0	1	2	1	11	8	12	4	8	1	1	8	7	4	2	3	3	0	1	19	3	2	1	4	4	0	7	7	2	2	5	0	3	0	0	0	0	1	2	1	5	0	19	0	13
AAG	2	10	0	1	15	1	2	3	2	29	20	23	14	11	1	3	5	19	6	1	9	11	1	6	32	4	3	1	6	5	10	20	17	3	0	5	33	14	20	5	3	1	17	13	7	21	2	9	9	2
ASN AAC	3	2	0	6	9	1	1	8	9	9	15	14	7	10	0	0	6	17	3	2	5	9	1	8	14	8	5	3	4	1	2	4	4	3	5	0	10	10	11	1	1	1	9	4	8	19	13	4	1	16
AAU	4	0	0	0	1	0	0	2	0	5	8	3	5	7	3	3	5	10	6	2	6	4	0	2	26	1	1	1	5	0	6	3	2	4	1	3	4	1	1	1	0	0	0	6	0	1	0	6	1	10
GLN CAA	1	0	0	0	1	2	0	1	1	5	4	6	3	9	0	4	6	10	1	4	2	2	1	3	14	4	1	1	9	1	1	4	1	0	5	1	0	1	1	1	1	0	3	1	1	2	0	7	2	22
CAG	10	0	0	1	4	0	2	2	10	10	6	10	7	6	0	2	9	12	7	4	5	5	2	6	27	6	3	1	6	8	7	14	11	9	5	3	24	14	21	2	1	3	10	8	1	14	8	2	7	0
HIS CAC	1	1	2	1	2	0	1	7	7	8	10	7	3	7	4	6	2	7	2	1	7	6	2	4	14	3	6	8	1	0	1	7	7	1	6	0	4	1	7	1	2	1	6	2	4	11	7	1	3	1
CAU	6	0	0	0	1	2	1	0	0	5	11	7	2	5	2	5	2	11	2	2	1	5	2	4	12	3	0	4	3	2	2	1	1	2	1	3	0	0	2	0	0	0	6	1	1	5	0	3	1	0
GLU GAA	9	5	3	0	10	1	0	4	0	18	13	11	9	9	4	6	5	14	12	2	3	10	7	5	37	5	7	11	6	5	2	13	9	6	3	6	16	5	18	7	5	1	4	8	6	13	5	15	10	11
GAG	7	3	0	0	7	1	0	1	3	19	19	23	14	9	5	6	9	34	14	1	6	8	2	12	54	13	8	6	9	4	5	17	13	8	5	2	15	11	19	9	1	1	23	1	3	13	6	5	9	1
ASP GAC	6	8	1	0	14	2	0	8	7	24	16	24	9	11	5	10	14	23	8	2	3	12	2	6	25	6	3	7	16	2	6	17	13	13	5	7	22	10	17	4	0	1	23	5	10	34	6	6	16	4
GAU	8	0	2	0	6	1	1	1	2	6	15	10	7	9	3	7	10	21	5	4	3	8	6	7	24	11	3	8	9	1	4	5	4	3	8	3	12	4	8	3	0	1	6	2	4	4	0	11	1	8
TYR UAC	2	3	1	1	4	1	2	8	6	13	8	10	7	4	2	3	4	5	3	8	1	2	1	5	5	0	2	5	7	2	2	8	7	3	3	1	6	2	6	0	2	0	3	2	1	25	5	5	8	0
UAU	3	2	0	0	6	0	0	4	5	12	7	15	4	4	1	1	11	4	3	3	2	3	1	1	8	3	2	2	7	0	2	2	2	0	5	1	7	3	7	1	0	0	14	3	1	9	4	4	4	4
CYS UGC	1	2	0	0	0	0	0	5	0	5	6	6	5	9	2	5	5	9	3	2	2	7	0	4	12	2	2	4	7	0	0	6	6	1	2	0	3	2	0	1	0	0	3	2	4	4	0	0	1	0
UGU	0	0	0	0	0	0	0	0	0	2	1	1	0	5	0	2	4	2	2	0	1	3	0	0	6	1	0	0	4	0	1	0	0	0	2	0	0	1	0	0	0	0	2	0	0	0	0	1	0	0
PHE UUC	1	6	1	1	8	3	6	20	23	15	19	14	2	4	4	3	5	17	5	7	4	8	0	7	32	12	4	2	9	3	6	12	11	6	18	2	16	10	15	5	3	4	21	7	7	42	26	6	6	6
UUU	7	0	0	0	1	0	0	0	3	1	4	9	5	2	4	2	2	7	6	3	5	1	0	0	8	12	7	4	2	7	0	2	3	1	2	3	2	2	0	0	1	2	1	2	0	0	3	0	10	0
ILE AUA	2	0	0	0	0	0	0	0	0	0	1	0	3	1	4	1	2	1	6	0	5	2	3	1	1	11	5	2	3	6	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	8	0	1
AUC	4	6	4	4	11	2	3	14	19	28	21	25	15	14	3	4	11	33	17	11	16	13	5	4	28	10	2	6	8	3	2	12	8	3	16	6	30	20	27	3	2	1	21	4	6	44	16	12	8	4
AUU	4	0	0	0	0	0	0	2	1	8	8	12	8	5	1	5	11	11	5	2	3	3	1	2	19	5	5	5	10	0	3	2	2	1	9	0	3	3	2	0	2	2	0	0	1	2	0	5	0	4
MET AUG	4	2	2	2	10	3	1	13	14	12	12	12	9	7	3	13	30	7	12	11	15	1	3	17	9	5	3	10	11	3	1	1	11	7	4	15	5	8	11	10	3	1	3	14	3	4	26	12	5	1	3
TRP UGG	2	1	1	3	5	2	2	16	19	9	4	9	0	4	1	3	6	10	1	6	6	5	1	4	8	4	4	3	6	2	1	6	6	2	9	0	0	0	0	0	3	3	6	2	4	23	20	2	4	0
TER UAA	0	1	1	1	0	0	1	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	1	1	0	0	0	1	0	1
UAG	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	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UGA	1	0	0	0	1	1	0	1	1	0	1	1	0	0	1	1	1	1	1	0	1	1	0	0	1	0	0	0	1	1	1	1	1	0	0	0	1	1	1	1	0	0	0	1	1	1	1	0	1	0
TOTAL	219	130	50	61	255	50	59	283	300	501	514	516	295	360	150	217	425	799	312	260	245	402	91	240	1065	309	197	218	427	102	117	383	286	217	400	187	511	300	475	135	70	63	467	146	192	718	309	289	259	202

48		SHD OMP A#2	SHF CRP	SMA CHI A	SMA ILV GE	SMA OMP A	SMA PAB A	SMA RCL PP1	SMA TRP G#2	STA EMT B	STA GEH	STA LIN AH	STA LIP	STA SPA	STN END H	STN MEB 2	STN TRS	STR ASD M#1	STR ASD M#2	STR ATP K	STR HYG	STR LYT PN	STR MG	STR MAL MXP #1	STR MAL MXP #2	STR SKC	STR SPG IGP	STR STR AVG	STY ALR	STY ARA BAD #1	STY ARA BAD #2	STY ARA BAD #3	STY ARA LC	STY ARO APM	STY CHE W#2	STY CHE Y#2	STY CRP	STY CYS B#2	STY DAD B	STY FLG H1I	STY FLG H2C 1	STY H2R INB 1	STY HIS OP# 1	STY HIS TO# 2	STY HIS TO# 3	STY HIS TO# 4	STY HIS TO# 5	STY HIS PA	STY ILV D	STY LEU	STY MET J#2
ARG	CGA	0	0	1	1	0	0	0	0	2	3	1	2	0	0	5	0	0	0	4	1	0	2	0	1	4	0	0	4	0	0	0	1	0	0	0	0	1	0	5	5	0	0	0	0	0	0	2	0	1
	CGC	3	3	11	0	5	9	1	8	0	6	0	1	4	6	24	15	0	0	0	12	3	3	0	2	2	0	3	7	20	10	9	9	10	4	2	5	5	8	1	3	3	1	4	5	3	8	12	0	4	2
	CGG	0	0	4	0	0	1	0	0	1	0	0	0	0	5	22	9	0	2	2	13	1	0	0	0	1	0	0	1	1	2	1	5	1	0	0	0	3	6	0	5	5	0	0	0	0	3	2	1	0	2	0
	CGU	10	8	2	0	9	3	3	4	1	7	1	13	5	1	5	0	0	12	4	1	1	6	3	22	9	5	1	12	9	11	1	4	11	3	2	6	11	4	13	4	4	0	4	4	2	3	2	0	1	4
	AGA	0	0	0	1	0	0	0	0	2	10	2	2	0	1	0	1	0	0	3	0	1	6	0	0	3	1	0	0	0	0	0	1	0	0	0	0	0	1	0	3	3	0	0	0	0	0	1	0	0	0	0
	AGG	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	1	0	0	0	1	3	2	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	1	3	0	0	0	0	0	0	1	0	0	0	0	0
LEU	CUA	0	0	0	1	0	0	0	0	2	2	1	3	6	0	0	0	0	1	9	0	1	2	3	2	10	3	0	1	2	2	0	2	3	0	0	0	0	2	1	1	1	0	2	1	0	2	1	1	0	0
	CUC	0	3	1	0	1	2	0	3	1	0	0	0	0	13	7	6	0	0	3	15	2	1	1	2	4	0	3	3	7	5	1	2	5	1	3	2	1	2	2	0	0	0	4	0	4	1	5	0	0	1
	CUG	21	15	32	0	26	18	6	18	1	1	0	0	0	9	16	15	1	1	3	33	2	0	1	0	7	3	6	22	29	34	8	13	27	14	6	12	11	16	27	6	6	0	11	15	15	16	14	1	14	5
	CUU	0	2	0	1	0	2	1	1	1	7	3	4	7	1	2	1	3	9	6	1	4	17	18	16	3	9	0	4	5	3	2	3	1	1	2	4	5	4	2	3	3	0	3	3	8	4	0	2	0	0
	UUA	1	0	4	0	1	0	0	0	11	21	9	18	26	0	0	0	1	3	33	1	5	20	2	5	13	12	0	2	3	2	1	3	7	1	2	2	4	3	5	10	10	0	2	3	3	4	4	0	0	1
	UUG	2	2	7	0	0	3	0	0	5	5	0	5	4	1	1	1	2	7	10	0	4	9	6	17	6	6	0	4	3	2	2	7	4	3	2	2	7	6	3	0	0	0	2	1	3	6	6	0	5	3
SER	UCA	0	1	1	0	1	0	0	0	2	21	5	17	3	4	0	0	0	12	4	0	9	8	5	8	4	9	0	1	2	2	0	2	4	3	0	1	0	4	0	3	3	0	5	0	1	3	1	0	1	0
	UCC	7	3	10	0	5	3	1	2	0	3	0	0	0	4	2	3	0	1	1	6	0	0	0	1	1	1	7	4	6	4	3	1	5	0	1	5	5	0	14	1	1	0	4	7	3	3	3	0	0	1
	UCG	0	1	6	0	0	2	0	4	3	7	0	9	1	8	7	9	0	4	4	4	1	1	0	0	1	1	6	1	2	3	3	3	2	1	2	0	6	4	2	0	0	0	2	2	3	6	5	0	2	0
	UCU	5	4	2	0	8	0	5	1	7	5	1	9	5	0	0	0	0	5	6	0	1	1	12	9	7	2	0	3	3	2	2	1	2	1	0	4	3	2	13	1	1	0	3	4	0	2	2	0	0	0
	AGC	4	2	13	2	7	4	2	2	1	1	0	6	12	5	5	4	0	0	5	5	2	4	7	6	8	1	5	1	18	6	5	12	4	2	2	2	5	5	7	3	3	0	2	2	0	3	6	2	4	4
	AGU	0	0	2	0	0	0	0	0	3	15	0	7	3	1	1	0	2	2	4	0	3	7	0	5	6	4	0	4	1	1	2	1	3	1	0	0	2	2	4	6	6	0	1	0	2	1	0	0	1	1
THR	ACA	3	1	0	0	2	0	0	0	2	27	4	39	4	0	1	0	1	4	7	1	10	18	11	11	9	16	0	3	0	0	1	2	1	3	0	1	1	3	7	1	1	1	1	1	2	0	0	1	1	0	0
	ACC	13	4	22	0	14	6	0	6	0	2	1	4	0	12	13	15	0	5	5	19	3	11	0	1	10	3	17	7	16	23	9	4	16	2	3	5	8	10	19	4	4	0	8	6	11	7	1	0	7	3
	ACG	0	3	6	0	0	1	0	0	3	11	0	17	0	7	6	4	0	3	7	2	5	2	0	2	3	2	5	7	6	4	6	3	17	4	1	5	11	9	8	0	0	0	5	4	5	9	4	0	2	3
	ACU	9	5	0	0	6	1	2	0	9	14	4	4	7	1	0	0	1	7	13	0	4	11	16	10	10	26	0	0	5	4	4	1	0	1	1	2	6	2	21	3	3	0	2	2	0	1	1	0	0	0
PRO	CCA	3	2	0	1	9	0	0	2	3	16	2	12	10	0	1	0	0	8	10	0	8	6	7	14	8	10	0	4	8	2	3	1	3	1	0	0	5	2	1	0	0	0	1	1	0	0	0	1	3	1
	CCC	0	0	2	0	0	2	0	1	1	2	0	0	0	8	8	9	0	2	3	10	0	0	0	0	3	0	1	3	5	1	3	1	2	1	1	1	1	1	1	1	1	0	2	1	0	1	2	0	0	1
	CCG	15	4	16	1	3	6	0	5	0	5	0	7	2	10	15	6	0	0	1	16	2	1	0	0	2	1	3	13	20	15	6	12	8	3	2	5	7	11	2	1	1	0	2	6	5	5	5	1	6	3
	CCU	1	0	6	0	3	0	0	2	3	9	2	11	21	0	0	0	1	6	5	0	3	3	6	5	8	6	0	3	1	0	1	3	7	0	0	0	2	4	0	2	2	1	2	1	1	1	2	0	1	1
ALA	GCA	11	6	1	1	16	0	3	0	4	26	1	20	15	2	0	1	1	10	30	0	6	27	7	18	5	27	2	1	9	5	3	1	4	2	2	3	5	4	16	4	4	0	2	5	0	2	0	1	6	2
	GCC	3	1	23	2	4	9	0	10	0	5	0	5	2	20	12	23	1	3	8	14	4	3	5	3	1	7	23	9	32	16	8	10	12	4	7	3	8	9	10	4	4	0	14	6	9	7	2	1	8	3
	GCG	2	4	22	0	3	6	1	9	0	10	0	12	5	21	14	5	0	2	8	14	3	3	1	4	2	11	5	24	30	20	8	7	23	5	6	3	16	24	16	6	6	0	14	13	12	14	11	0	6	1
	GCU	21	2	6	2	18	1	8	1	3	11	2	7	28	4	0	0	0	24	16	0	6	20	24	19	16	30	1	8	7	3	3	1	7	0	1	3	2	4	19	4	4	0	3	6	0	0	2	2	0	2
GLY	GGA	0	1	3	1	0	0	0	0	4	15	3	10	3	1	6	2	0	3	19	2	4	5	11	11	7	4	1	1	0	0	1	8	4	2	1	0	2	4	4	4	4	0	2	2	2	1	2	2	0	0
	GGC	13	9	48	0	22	13	2	19	0	7	1	10	15	21	24	18	0	1	5	7	16	16	0	2	5	5	4	15	14	30	28	10	6	22	8	6	7	8	15	11	6	6	0	8	9	9	8	12	0	10	1
	GGG	0	0	4	1	0	2	0	0	1	2	2	8	0	3	13	5	0	1	7	7	4	3	0	2	4	3	0	5	3	3	3	6	5	3	0	3	5	6	1	3	3	0	5	4	7	2	4	1	1	2
	GGU	25	6	7	0	19	1	1	1	4	28	4	16	21	2	2	1	0	12	12	1	6	12	24	14	6	13	2	12	7	10	7	1	8	2	2	6	3	9	23	1	1	0	6	6	7	2	4	0	2	1
VAL	GUA	7	2	1	0	7	0	2	0	6	13	4	8	6	1	0	0	0	3	10	1	7	10	10	5	3	10	0	7	4	4	3	3	2	5	1	2	2	5	4	3	3	0	0	1	3	4	3	0	1	0
	GUC	0	3	8	1	2	1	0	6	1	2	0	9	2	16	12	10	0	7	14	8	2	1	6	4	10	3	8	7	17	14	8	5	7	5	3	7	7	10	7	3	3	0	3	6	6	2	4	1	3	1
	GUG	4	7	17	5	3	16	1	8	4	7	0	6	1	10	7	10	1	2	11	15	2	2	3	7	2	4	3	15	15	16	7	1	7	11	4	3	13	10	5	3	3	0	6	6	14	10	12	5	7	2
	GUU	17	2	7	0	17	0	3	0	8	16	3	15	5	1	0	0	0	28	15	0	5	10	10	11	10	15	3	3	4	0	4	3	5	1	1	2	5	2	13	0	0	1	5	1	1	1	4	0	2	1
LYS	AAA	15	12	20	1	19	3	5	1	26	43	12	43	50	0	0	0	1	15	43	0	12	65	36	19	26	39	0	6	11	19	7	3	16	5	9	12	7	7	24	8	8	1	19	16	4	6	14	0	9	5
	AAG	4	3	21	1	3	1	1	1	8	13	1	7	15	9	7	5	3	6	3	2	9	14	6	6	7	11	9	3	4	4	3	1	2	0	2	3	5	1	5	2	2	0	7	9	2	0	2	1	2	3
ASN	AAC	17	4	18	0	15	5	6	3	6	8	1	8	47	18	9	12	2	3	6	6	8	19	15	12	17	10	9	5	10	14	6	1	6	2	6	3	4	6	32	2	2	0	2	6	3	4	4	0	6	3
	AAU	2	1	14	0	0	1	1	3	15	44	9	26	21	1	1	0	3	12	17	0	10	18	4	7	10	10	1	5	10	7	6	9	10	6	2	2	3	4	8	6	6	0	3	2	2	2	5	0	5	0
GLN	CAA	1	5	7	1	4	0	3	2	8	44	8	24	37	1	2	0	1	12	15	2	4	17	15	15	15	5	0	4	8	7	3	2	7	1	0	4	0	5	7	3	3	1	4	2	3	0	5	0	4	2
	CAG	16	9	19	0	18	8	3	10	0	4	0	3	0	12	16	4	2	1	1	3	5	5	2	1	2	0	6	10	25	19	4	14	5	4	2	10	13	13	24	4	4	0	7	10	4	4	12	0	7	1
HIS	CAC	4	4	7	0	1	4	2	7	2	1	3	8	1	3	6	10	0	0	0	6	8	1	0	7	4	1	2	6	7	14	6	3	7	1	0	3	5	2	0	1	1	3	0	1	1	3	6	0	3	3
	CAU	2	2	3	0	2	5	0	1	4	25	5	26	4	0	0	0	0	9	9	2	4	0	0	2	5	0	0	5	8	7	6	8	3	0	0	3	7	6	1	5	5	4	1	0	1	0	5	0	2	0
GLU	GAA	12	13	8	0	6	5	0	7	8	27	13	41	41	1	9	2	1	22	35	8	14	41	17	28	18	37	0	11	15	15	13	6	11	8	4	15	10	10	12	6	6	0	6	9	4	5	15	0	8	8
	GAG	3	3	13	0	2	7	0	4	4	5	0	9	1	7	20	9	1	1	5	20	7	20	5	13	10	3	5	12	10	10	4	10	8	6	7	1	6	8	4	4	4	0	4	8	3	3	4	0	3	6
ASP	GAC	17	5	24	0	17	4	6	4	7	7	3	11	19	18	16	23	0	2	9	21	17	10	16	16	16	14	8	6	20	13	3	5	6	5	3	2	2	4	15	4	4	1	5	6	1	0	3	0	8	0
	GAU	6	3	12	0	9	6	2	4	17	34	13	28	21	1	7	0	0	19	23	5	8	15	14	24	24	21	0	11	14	21	7	9	21	4	5	6	17	11	24	4	4	0	20	12	6	4	8	0	7	6
TYR	UAC	14	5	10	0	18	3	1	3	5	3	2	4	0	15	6	8	0	2	1	5	12	0	11	19	10	7	6	4	7	4	3	1	5	2	0	5	2	3	6	2	2	0	7	5	6	5	1	0	4	2
	UAU	1	1	9	0	1	2	0	1	17	20	6	18	6	1	0	0	1	8	13	1	10	2	8	7	13	5	0	4	4	7	4	9	7	2	1	1	10	9	7	2	2	0	4	3	3	8	2	0	1	1
CYS	UGC	1	1	5	1	1	3	1	2	0	0	0	0	0	0	2	0	1	1	1	1	2	0	1	1	0	0	0	2	12	3	5	3	2	1	0	2	1	2	0	0	0	0	0	1	0	2	0	1	2	0
	UGU	1	2	1	0	1	1	0	1	2	0	1	1	0	0	0	0	2	2	1	2	0	0	0	1	0	0	0	3	3	3	0	2	4	0	0	1	2	0	1	1	0	2	1	1	1	1	0	0	1
PHE	UUC	7	2	23	0	10	6	0	3	2	6	1	2	13	11	11	10	2	2	4	14	5	2	7	16	4	7	2	3	9	11	2	6	5	2	1	2	4	2	3	2	2	0	3	6	4	6	6	0	6	0
	UUU	2	3	3	1	0	2	0	1	12	12	6	15	3	0	0	0	4	9	8	0	5	1	5	13	15	5	0	7	10	12	3	11	8	3	6	3	9	4	3	5	5	1	8	8	10	9	3	0	11	2
ILE	AUA	0	0	0	0	0	0	0	0	6	8	9	8	1	1	0	0	0	0	3	0	0	1	0	0	4	2	0	0	0	1	1	2	5	2	0	0	2	2	2	2	2	0	1	0	3	2	0	0	1	0
	AUC	14	7	20	1	9	6	2	11	0	12	0	9	9	8	10	3	1	5	24	4	5	2	12	19	9	6	6	8	11	14	6	9	7	8	4	10	6	6	15	4	4	0	3	7	9	5	5	1	4	4
	AUU	1	10	5	4	1	3	0	2	8	12	4	16	8	0	0	0	1	20	27	1	8	9	3	7	10	7	1	8	18	13	7	6	14	3	3	7	16	11	10	10	10	0	8	8	6	15	9	4	4	3
MET	AUG	5	7	11	1	6	3	2	8	9	13	4	11	4	3	4	6	1	9	20	3	7	4	7	15	6	3	1	9	8	14	6	5	15	4	7	7	7	12	4	5	5	1	4	4	7	4	9	1	3	2
TRP	UGG	6	2	13	0	5	1	0	1	1	7	4	7	0	2	5	12	1	3	6	9	15	0	6	15	1	3	6	6	15	11	5	6	2	0	1	2	2	9	0	1	1	0	2	1	2	5	1	0	2	2
TER	UAA	1	1	1	0	1	1	1	1	0	1	1	1	0	0	0	0	0	1	1	0	1	0	1	1	1	0	1	0	1	1	0	1	1	0	1	1	1	1	1	1	1	0	0	1	0	1	1	0	1	0
	UAG	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	1	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	1	0	0	0	0	0	1	0
	UGA	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	1
TOTAL		352	211	562	33	360	192	78	194	267	691	162	642	525	314	371	275	45	358	584	333	319	484	402	506	441	449	184	360	570	501	249	282	428	168	130	211	325	357	491	191	191	17	261	261	229	236	259	33	202	106

49	STY ONE A	STY PAB A	STY POT A01	STY POT A02	STY TRP BA0 1	STY TRP BA0 2	STY TRP 37T MR	TIP 58V IR0 1	TIP 58V IR0 2	TIP 58V IR0 3	TIP C7T L	TIP CT0 1	TIP CT0 2	TIP CT0 3	TIP CT0 4	TIP CT0 5	TIP CT7 KB8	TIP CTT MR	TIP MR	TIP HS1	TIP HS2	TIP OST 37	TIP TS8	TIP VIR C01	TIP VIR C02	TIP VIR D01	TIP VIR D02	TIP VIR G	TRP 10T ETR #1	TRP 10T ETR #2	TRP 10T ETR #3	TRP 10T ETR #4	TRP 16T 1ST	TRP 17Z 1RE	TRP 21T NPM #1	TRP 21T NPM #2	TRP 21T NPR #1	TRP 34T	TRP 36T	TRP 50T #1	TRP 50T #2	TRP 50T #3	TRP 50T B02	TRP 50T MER	TRP 50T TMP #1	TRP 55T #2	TRP 55T #3	TRN 55T #4
ARG	CGA	0	0	7	2	1	0	4	1	4	5	0	0	6	7	3	4	0	0	3	3	6	7	4	4	3	5	6	7	2	1	1	1	1	0	1	0	0	0	7	2	2	0	1	1	0	0	0	3
	CGC	2	4	11	3	12	7	3	4	2	10	1	7	6	2	4	3	1	2	2	7	6	5	6	7	4	4	15	11	1	2	1	1	0	13	1	13	13	15	6	7	6	3	1	50	18	13	1	2	0	1
	CGG	0	4	7	1	1	2	3	1	2	11	1	5	7	3	1	3	1	3	3	5	7	2	6	2	3	2	8	3	2	1	0	2	0	6	2	2	2	20	4	1	0	2	0	29	6	6	0	3	0	1
	CGU	10	3	7	5	5	5	3	1	1	5	0	3	6	2	2	2	0	2	2	3	6	4	4	1	1	3	15	4	2	5	0	5	0	3	0	6	6	23	2	7	0	0	0	5	5	3	0	7	4	1
	AGA	0	0	0	2	0	0	1	1	0	4	1	7	5	1	5	3	1	1	1	7	5	4	3	2	1	1	1	4	2	1	0	1	0	0	0	1	1	14	1	2	1	0	0	1	0	0	16	19	4	6
	AGG	0	0	0	1	0	1	2	2	2	3	0	1	13	2	2	6	0	2	2	1	13	2	0	2	2	0	3	3	2	0	0	1	0	0	2	2	2	10	5	0	2	0	0	2	0	0	6	5	2	2
LEU	CUA	0	1	2	0	3	1	3	2	1	0	1	0	5	3	1	4	1	3	3	8	5	7	1	4	2	3	0	4	3	4	1	1	1	0	0	0	0	1	1	5	0	0	0	3	2	0	5	8	0	8
	CUC	0	3	2	1	6	4	3	2	1	5	3	6	16	2	1	9	3	2	2	6	16	7	11	6	5	4	2	8	4	2	2	0	0	4	1	4	4	16	4	2	0	5	2	18	6	4	1	1	0	3
	CUG	21	10	20	6	21	13	7	2	3	0	5	15	22	6	5	4	5	6	6	15	22	4	1	5	4	5	8	3	1	7	1	3	0	13	2	10	10	75	7	8	3	4	3	105	30	13	1	3	1	1
	CUU	0	1	10	2	3	3	9	1	3	7	0	7	11	9	3	11	0	9	9	7	11	5	6	8	7	3	6	10	3	11	7	2	2	1	1	1	1	21	3	9	0	1	0	3	3	1	11	9	3	3
	UUA	1	1	8	4	2	4	2	1	0	1	2	9	4	1	1	1	2	1	1	9	4	4	0	2	2	0	3	2	18	23	6	6	2	0	0	0	0	7	0	5	0	0	0	1	0	0	20	24	4	9
	UUG	1	3	7	4	3	3	5	2	2	6	3	7	13	6	4	7	3	6	6	7	13	7	8	9	5	3	4	5	4	13	5	4	1	2	1	2	2	10	1	4	2	5	0	15	9	2	7	12	1	4
SER	UCA	0	2	0	6	1	3	1	2	3	6	3	5	9	1	0	5	3	1	1	5	9	5	1	2	2	2	6	4	1	9	3	0	4	0	1	0	0	15	2	2	2	0	0	1	1	0	8	3	4	5
	UCC	6	1	1	3	9	5	1	2	1	1	2	6	11	1	4	5	2	1	1	6	11	10	2	2	3	7	9	3	0	0	0	1	0	1	0	2	2	8	3	3	6	0	5	13	4	1	1	3	1	1
	UCG	0	2	3	4	1	4	3	2	2	4	1	3	7	2	0	4	1	2	2	3	6	4	7	2	7	5	4	2	0	7	1	0	0	3	1	2	2	5	2	1	5	1	0	11	5	3	1	1	2	1
	UCU	9	1	2	7	2	3	2	2	0	4	1	3	13	1	2	6	1	1	1	3	13	7	0	4	0	1	4	3	2	4	1	3	4	0	0	2	2	9	0	3	0	1	0	0	1	0	0	1	5	3	6
	AGC	2	3	5	6	5	1	4	4	4	8	2	12	6	3	2	7	2	3	3	12	6	4	3	5	3	0	9	3	3	2	3	1	0	6	3	4	4	14	1	2	5	1	3	21	12	6	0	6	0	3
	AGU	0	1	2	4	1	0	2	4	1	0	8	1	1	2	1	1	1	1	1	0	8	1	2	2	4	4	3	5	5	9	4	1	2	0	1	2	2	14	3	5	0	0	0	4	2	0	5	14	1	5
THR	ACA	1	1	2	4	3	1	3	2	1	2	3	9	14	3	2	2	3	3	3	9	14	1	1	5	3	0	6	3	5	6	3	5	2	1	1	1	1	9	1	4	1	0	1	1	5	2	8	13	4	4
	ACC	15	3	5	7	11	5	3	2	4	6	1	8	9	4	2	5	1	4	4	8	9	8	3	5	4	3	9	2	1	9	2	2	0	5	5	5	5	24	6	3	1	1	7	37	22	5	2	5	1	2
	ACG	0	6	6	7	7	1	2	0	1	8	0	4	2	5	3	7	0	5	5	4	2	4	4	5	0	1	1	5	0	6	0	3	0	2	2	2	2	13	4	7	2	0	1	13	12	2	4	4	0	2
	ACU	7	0	2	1	0	0	2	1	2	2	4	4	6	1	3	6	4	1	1	4	6	8	1	1	2	1	5	1	5	5	2	1	2	2	1	2	2	12	1	6	0	2	2	4	5	2	4	14	0	6
PRO	CCA	2	0	3	1	1	1	4	0	3	3	4	11	10	3	2	7	4	3	3	11	10	7	2	2	2	0	7	1	2	5	0	1	0	0	0	0	0	8	0	6	2	2	0	2	2	0	3	14	0	5
	CCC	0	2	2	2	4	4	1	1	3	6	2	8	3	4	1	3	2	4	4	8	3	5	2	3	7	0	4	2	0	3	0	0	1	2	1	0	0	11	0	3	1	4	1	12	4	2	0	2	1	0
	CCG	17	5	12	2	10	9	0	2	2	7	0	8	10	1	3	4	0	1	1	8	11	5	5	3	7	0	9	3	1	1	0	0	0	2	8	3	3	14	0	3	0	2	3	30	19	2	1	1	0	0
	CCU	3	4	2	3	3	3	5	0	0	3	0	7	13	3	1	3	0	3	3	7	13	3	5	3	5	1	2	2	4	5	2	0	1	0	0	0	0	8	0	2	0	0	0	1	1	0	3	8	0	8
ALA	GCA	7	1	6	2	2	5	6	2	2	6	3	13	18	6	4	14	3	6	6	13	18	16	5	6	3	2	12	7	5	13	2	2	1	1	0	1	1	26	5	9	0	1	2	4	5	1	6	7	2	6
	GCC	3	3	11	5	14	15	7	7	5	14	3	19	14	7	1	5	3	7	7	19	14	11	7	7	5	9	12	6	5	5	6	0	1	9	8	5	5	32	3	8	4	7	9	62	40	8	1	5	0	0
	GCG	3	9	13	6	21	14	3	2	4	3	1	8	11	4	4	10	1	4	4	8	11	9	6	4	7	2	4	6	0	9	2	3	0	4	6	5	5	12	3	4	1	8	3	25	40	4	1	1	2	1
	GCU	22	3	4	4	6	6	6	0	2	4	1	13	18	6	1	10	1	6	6	13	18	6	4	5	6	3	9	4	6	13	3	4	1	3	1	4	4	17	5	8	2	3	0	5	2	3	2	11	1	5
GLY	GGA	0	4	5	2	5	0	9	1	1	4	2	13	16	9	3	6	2	9	9	13	16	7	4	2	1	2	9	1	3	7	1	0	1	0	2	2	3	1	4	0	2	0	3	4	0	5	11	1	8
	GGC	22	7	10	10	19	15	2	4	5	8	2	13	14	2	3	8	2	2	2	13	14	7	4	6	1	2	6	2	1	9	4	0	0	10	1	8	8	21	5	4	0	4	3	48	29	10	1	1	0	1
	GGG	0	0	7	4	7	2	4	0	3	4	1	6	14	3	2	5	1	3	3	6	14	2	4	1	1	2	10	3	3	9	0	1	0	2	2	2	2	15	4	5	0	4	0	7	5	2	1	6	0	1
	GGU	16	3	3	10	12	3	3	1	2	3	2	9	19	4	3	6	2	4	4	9	19	7	3	2	0	3	9	6	6	13	4	1	0	0	4	1	1	16	5	8	0	1	0	4	11	0	8	6	1	8
VAL	GUA	10	1	4	5	2	1	1	0	2	1	2	11	3	0	3	3	2	0	0	11	3	3	1	1	0	2	4	4	4	6	1	1	2	1	1	0	0	2	2	5	0	0	1	1	3	1	5	12	4	7
	GUC	2	3	2	4	8	8	2	3	0	3	1	2	13	2	2	6	1	2	2	2	13	9	2	6	2	2	7	5	2	4	1	1	0	2	3	5	5	12	4	2	0	3	8	17	21	3	2	3	1	5
	GUG	3	6	10	4	2	5	4	2	0	5	0	8	18	3	0	12	0	3	3	8	18	6	3	2	3	3	5	6	2	8	3	1	0	9	5	6	6	18	6	2	1	5	2	31	24	9	5	6	0	3
	GUU	12	3	6	3	7	3	3	2	2	4	1	9	14	3	3	8	1	3	3	9	14	8	3	2	8	2	4	13	0	7	3	4	1	1	0	1	1	22	2	6	1	2	3	2	3	0	16	15	3	8
LYS	AAA	15	4	13	12	17	6	4	0	0	4	4	12	17	4	0	6	4	4	4	12	17	6	3	6	6	2	9	9	10	6	19	10	7	1	1	1	1	30	6	6	0	2	2	6	4	1	20	46	17	12
	AAG	5	0	2	4	2	2	7	2	2	5	4	4	17	6	2	4	1	6	6	4	17	12	3	0	6	2	9	3	2	3	3	3	2	8	1	9	9	9	6	5	2	1	7	37	15	8	17	10	5	6
ASN	AAC	16	3	3	3	8	5	3	2	2	7	2	12	12	5	7	12	2	5	5	12	12	15	1	6	2	2	3	2	2	1	6	1	4	4	3	2	2	16	2	5	0	1	0	23	11	4	1	10	1	2
	AAU	2	4	7	12	3	6	1	1	1	4	4	8	12	4	5	8	4	4	4	8	12	8	3	4	1	1	6	5	5	9	9	5	2	0	1	1	1	22	1	3	1	0	0	2	4	0	16	27	7	11
GLN	CAA	2	2	12	1	7	1	5	2	6	6	5	5	13	7	4	6	5	7	7	5	13	4	7	4	5	1	14	3	9	8	10	5	0	1	1	8	8	5	2	5	1	1	1	6	7	1	7	19	5	7
	CAG	16	7	18	6	10	9	9	2	5	7	1	3	10	9	5	8	1	9	9	3	10	3	4	0	5	2	11	2	3	5	1	4	1	14	4	4	4	32	8	4	0	1	3	41	16	14	7	8	2	1
HIS	CAC	3	6	1	1	7	1	2	0	4	2	1	6	4	2	1	3	1	1	2	2	6	4	5	2	0	4	2	7	3	3	2	1	1	0	2	0	1	1	6	0	3	0	0	0	21	9	2	3	3	1	0
	CAU	2	3	12	5	7	4	5	2	2	8	3	3	14	8	1	2	3	8	8	3	13	12	4	2	2	1	8	2	6	3	5	3	0	0	1	2	2	20	2	4	0	0	0	6	4	0	11	11	0	2
GLU	GAA	9	6	13	11	13	12	6	5	3	6	4	13	23	6	6	10	4	6	6	13	23	16	12	10	5	7	14	4	14	8	9	4	4	5	5	9	9	45	7	11	0	2	1	17	15	5	17	33	11	11
	GAG	3	4	18	7	15	4	10	3	7	12	5	3	15	9	5	15	5	9	9	3	15	10	8	10	7	4	18	13	7	4	3	3	2	10	5	7	7	17	4	9	0	1	2	47	17	10	10	21	2	6
ASP	GAC	16	3	5	11	5	4	3	3	3	6	3	12	23	4	2	6	3	4	4	12	23	10	5	4	5	2	17	11	1	1	0	0	1	7	3	4	4	19	9	5	0	0	3	44	23	8	2	4	1	0
	GAU	9	4	11	10	13	9	10	1	4	7	2	16	23	6	5	6	2	6	6	16	23	13	10	7	5	5	17	10	7	9	9	7	1	4	2	6	6	41	7	11	1	0	1	15	5	3	16	29	3	14
TYR	UAC	10	2	5	5	4	6	2	0	1	0	1	4	11	1	6	4	1	1	1	4	11	3	2	2	2	1	3	1	0	3	3	1	1	4	1	2	2	12	0	3	0	4	0	22	6	4	8	4	0	1
	UAU	5	3	8	10	8	1	7	2	4	0	6	8	11	7	2	5	6	7	7	8	12	4	3	3	2	2	7	2	3	4	7	8	1	0	1	2	2	15	2	1	0	1	1	7	2	0	13	23	3	6
CYS	UGC	1	1	3	1	4	1	2	1	1	0	3	4	13	3	3	4	3	3	3	4	13	7	5	2	0	1	0	0	4	0	0	0	1	0	0	0	0	4	0	2	1	4	2	3	7	0	1	3	0	0
	UGU	1	3	2	2	1	2	2	0	1	0	1	0	8	1	0	0	0	0	1	3	8	5	1	1	0	0	0	1	2	1	1	0	1	6	0	1	0	0	0	4	0	1	0	0	0	0	1	7	0	1
PHE	UUC	8	2	4	3	8	8	5	1	2	2	3	6	21	7	4	8	3	7	7	6	22	13	1	2	3	1	6	6	2	6	0	1	0	1	7	6	6	10	0	1	2	6	2	30	13	8	4	8	0	0
	UUU	3	5	9	8	5	4	2	3	2	0	5	11	22	2	5	8	5	2	2	11	21	8	6	3	5	4	3	7	7	22	8	6	3	1	0	2	2	27	5	9	0	3	1	2	1	0	10	26	2	5
ILE	AUA	0	0	3	2	1	1	1	3	0	2	2	11	9	1	2	5	2	1	1	11	9	3	5	1	0	3	4	3	1	5	4	0	0	0	0	1	1	8	1	5	0	0	0	0	0	0	8	17	2	10
	AUC	14	6	8	3	14	7	8	1	6	4	2	9	18	7	3	9	2	7	7	9	18	13	8	7	2	4	8	6	3	10	7	4	0	5	1	5	5	27	7	7	1	7	1	39	21	5	2	3	2	1
	AUU	3	7	10	8	9	10	6	3	6	4	2	14	19	8	3	8	2	8	8	14	19	16	6	3	3	3	11	8	2	22	10	4	3	0	0	3	3	21	7	5	1	2	1	2	6	0	14	20	7	12
MET	AUG	5	5	9	8	15	5	9	4	4	4	3	5	17	8	6	5	3	8	8	5	17	6	4	13	4	4	5	4	3	13	4	2	3	4	3	5	5	17	5	10	1	2	2	9	12	4	8	16	2	4
TRP	UGG	5	3	6	8	1	0	3	0	2	4	1	2	14	3	2	4	1	3	3	2	14	3	6	2	1	0	3	1	2	12	3	3	0	0	2	0	0	17	0	4	2	3	1	16	2	0	3	12	1	5
TER	UAA	1	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
	UAG	0	0	0	1	0	0	1	0	1	1	0	0	1	1	0	0	0	1	1	0	1	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
	UGA	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0
TOTAL		351	188	393	297	390	269	241	110	144	276	127	468	756	241	168	359	127	241	241	468	756	414	244	232	203	148	425	268	208	402	198	139	73	187	117	187	187	1016	186	287	61	117	92	989	562	187	362	631	126	261

/ VIRUSES

50		TRN 554 #5	TRN 554 #6	TRN 554 #7	TRN 5IR 181	TRN 5IR 2	TRN DA	TRN 7AA L	TRN 7FO	TRN 903 RS#	TRN 903 RS# 2	TRN 917 #1	TRN 917 #2	TRN 917 #3	TRN 9CA T	TRN CAM 204	TTR LEU B	VCH CTX	VCH CTX	VCH TOX	VCH TOX	VIB #1	VIB #2	VIB SOD PL	VIB TDR	AC2 E21 CG	ACB ERB BH# 2	ACF	ACH	ACR POL ENV #2	ACR REL	ACT	ADB CG# 1	ADB CG# 2	ADB CG# 3	ADB CG# 4	ADB CG# 5	ADB CG# 6	ADB CG# 7	ADB CG# 8	ADB CG# 9	ADB CG# 10	ADB CG# 11	ADB CG# 12	ADB CG# 13	ADB CG# 14	ADB CG# 15	ADB CG# 16	ADB CG# 17	ADB CG# 18	ADB CG# 19	ADB CG# 20	ADB CG# 21	ADB CG# 22
ARG	CGA	5	0	0	3	3	2	1	4	1	0	2	7	0	0	2	2	0	0	0	0	1	4	4	4	9	5	3	5	0	0	0	0	1	1	1	0	6	4	8	4	3	1	1	5	7	4	2	1	3	10
	CGC	0	0	0	21	21	8	1	7	2	0	1	0	1	1	7	0	0	0	0	0	0	5	6	20	8	3	4	2	0	3	3	3	7	0	2	5	10	1	43	46	22	24	19	23	23	6	18	8	16	34
	CGG	0	0	0	3	3	1	0	7	2	0	0	1	1	1	11	1	0	0	0	0	0	6	4	28	14	5	1	13	1	2	3	5	4	2	2	1	3	6	6	4	14	14	5	5	6	2	6	0	12	5
	CGU	2	1	0	3	3	1	1	9	2	1	3	3	2	2	1	1	0	0	0	2	1	1	7	6	3	3	3	3	0	2	2	1	2	1	1	2	3	0	13	8	1	6	3	3	5	4	5	2	2	5
	AGA	2	0	0	3	3	1	0	2	1	1	0	2	1	1	0	10	1	2	1	0	1	3	4	2	5	8	9	11	1	6	6	4	5	1	2	0	5	0	3	4	1	3	3	1	3	0	11	0	1	5
	AGG	0	0	0	4	4	3	1	3	1	0	2	0	0	0	6	3	2	0	2	0	0	8	6	12	12	8	7	11	0	1	4	2	10	0	4	0	7	1	8	9	5	5	2	5	4	2	4	1	3	4
LEU	CUA	5	0	0	4	4	4	4	0	0	0	5	3	1	1	1	1	3	1	3	4	0	2	1	1	3	13	3	5	3	0	0	1	5	0	0	0	4	0	14	4	2	10	5	0	5	1	10	1	9	16
	CUC	1	0	0	7	7	3	1	4	0	0	2	0	1	1	15	0	0	0	0	2	0	10	9	18	16	16	9	10	0	0	0	0	0	0	0	0	11	7	35	26	4	2	3	0	2	0	9	6	1	11
	CUG	1	0	0	21	24	7	3	16	3	0	5	1	6	6	10	0	1	0	1	3	0	18	22	84	25	15	11	13	7	5	5	12	17	0	5	5	20	10	31	14	24	38	19	4	14	15	21	5	23	30
	CUU	4	0	0	2	3	6	0	3	4	0	2	7	2	2	4	4	1	1	1	0	2	1	14	8	7	14	3	16	1	7	8	2	6	0	0	3	10	1	16	6	3	4	7	2	3	1	21	3	2	21
	UUA	3	0	1	3	3	1	2	0	0	1	11	11	3	3	0	8	3	1	3	9	1	1	3	6	13	6	3	14	0	2	3	1	2	1	0	0	0	0	1	3	0	1	1	0	0	0	0	0	1	1
	UUG	7	0	0	13	13	10	2	1	0	2	6	1	0	0	4	3	1	0	1	1	5	4	10	19	14	11	10	10	1	7	7	7	7	0	1	8	5	2	7	8	7	12	9	0	5	1	14	2	7	11
SER	UCA	3	0	1	3	3	1	5	4	0	0	0	2	4	3	3	0	7	3	1	2	2	4	3	6	4	6	5	11	11	0	1	1	0	1	1	0	3	0	0	7	2	1	2	2	0	1	0	7	2	2	6
	UCC	1	0	0	4	4	3	0	4	0	0	0	0	0	1	1	8	2	0	0	0	0	4	15	11	16	24	11	9	19	1	2	2	5	5	0	1	6	9	1	23	11	4	8	8	4	8	4	19	4	9	14
	UCG	1	0	0	4	4	4	1	4	1	0	2	0	2	2	1	1	1	0	1	0	1	8	1	12	12	6	1	4	0	1	2	0	3	2	2	1	2	2	11	6	0	5	7	2	1	4	8	2	9	5
	UCU	5	1	1	8	8	0	3	2	1	1	4	7	0	0	2	6	2	2	2	2	8	3	9	9	9	5	4	11	0	7	8	5	9	3	4	5	6	0	3	3	2	2	2	0	2	3	15	4	5	0
	AGC	1	0	0	11	11	3	2	4	1	0	2	1	0	0	4	0	0	0	0	0	2	1	12	8	40	14	3	13	8	4	3	3	4	13	3	5	6	5	0	19	7	14	22	20	3	4	12	12	5	15	14
	AGU	6	0	1	4	5	1	3	3	1	2	5	5	4	4	0	7	3	2	2	1	3	3	8	7	5	4	9	6	1	4	5	2	1	0	0	1	2	2	2	0	2	9	3	1	2	2	3	3	4	3
THR	ACA	0	0	0	2	2	2	4	5	1	1	4	0	0	0	0	1	4	1	4	4	6	3	14	14	13	4	12	24	0	2	2	1	4	2	3	1	0	1	5	2	2	6	5	2	5	4	18	1	1	3
	ACC	2	0	1	11	11	5	3	8	2	1	6	0	8	8	6	2	1	1	1	2	1	3	5	24	12	12	3	12	1	4	5	2	16	2	6	5	12	2	44	21	5	15	28	5	19	7	27	5	12	24
	ACG	4	0	0	4	4	6	1	5	2	0	5	2	3	3	6	1	2	0	2	4	1	5	0	9	12	5	4	6	0	2	3	1	2	0	0	3	3	3	6	6	4	8	5	2	5	2	8	2	7	6
	ACU	5	1	1	3	3	2	1	3	2	2	4	5	2	2	0	6	3	1	3	2	4	0	11	8	7	18	8	12	0	1	1	1	6	1	1	3	4	0	6	3	0	4	5	4	4	1	14	3	2	2
PRO	CCA	5	1	0	2	2	4	3	0	2	0	3	1	0	0	0	1	5	1	0	3	1	4	3	2	16	11	12	7	10	19	0	7	8	1	5	2	1	4	3	14	4	4	7	4	3	3	15	3	11	8
	CCC	1	0	0	3	3	2	2	1	0	0	0	2	3	18	1	0	0	0	0	1	19	12	29	28	21	11	13	1	9	10	0	9	4	7	4	14	1	30	16	10	15	8	17	10	24	10	12	21
	CCG	0	0	0	9	9	6	1	3	2	0	0	2	3	3	7	4	0	0	0	1	2	12	0	19	23	3	5	10	1	11	11	4	2	1	1	2	12	2	17	20	4	19	10	2	9	6	4	1	14	17
	CCU	3	0	0	2	2	2	2	4	2	2	4	1	2	1	4	4	2	0	2	4	2	5	13	15	19	10	10	22	0	16	16	1	6	4	4	1	9	1	8	6	7	3	9	0	4	7	16	0	6	8
ALA	GCA	1	0	1	8	8	6	1	9	1	1	1	3	2	2	1	9	7	0	7	9	4	5	12	18	16	10	10	21	0	1	1	2	7	5	5	6	6	4	9	4	8	9	11	5	6	2	10	0	5	10
	GCC	0	0	0	20	23	7	2	6	4	0	1	2	8	8	28	2	1	0	1	0	1	30	9	45	47	11	4	16	2	5	5	3	10	0	1	10	15	4	48	47	12	13	13	13	12	10	27	12	9	38
	GCG	2	0	0	14	15	5	1	10	6	0	2	1	3	3	11	0	2	0	2	3	1	9	1	24	27	5	4	13	0	3	3	3	5	4	4	1	8	6	22	8	19	25	16	12	11	3	8	1	26	13
	GCU	4	0	0	8	8	9	3	6	2	0	1	3	2	2	2	4	3	0	3	6	5	4	13	18	13	8	10	19	0	4	4	6	11	2	3	6	4	3	3	1	7	4	5	3	2	2	24	1	6	8
GLY	GGA	5	0	0	6	6	3	3	0	2	0	2	4	1	1	7	6	2	0	2	2	0	1	12	13	14	15	14	27	1	1	1	0	8	0	0	2	5	4	17	13	5	4	3	1	4	2	15	1	4	17
	GGC	1	0	0	12	13	8	1	6	2	0	0	2	5	5	10	2	0	1	0	6	1	15	10	22	15	8	11	11	1	1	2	2	8	2	4	1	10	2	21	12	14	10	18	9	11	13	27	5	10	19
	GGG	0	0	0	4	5	0	2	4	0	0	4	1	2	2	19	4	0	0	0	1	0	5	10	39	24	17	5	24	0	3	5	3	14	2	2	2	6	2	11	8	6	11	11	3	2	4	11	4	6	6
	GGU	2	1	0	8	9	2	5	9	3	0	1	3	2	2	2	1	10	2	1	3	14	9	0	7	8	8	10	4	16	1	6	7	2	10	3	3	1	5	2	10	3	1	5	5	2	3	4	11	2	5	11
VAL	GUA	7	0	2	3	3	9	4	3	1	2	5	2	1	1	0	3	3	1	3	2	8	0	1	3	2	9	3	9	0	2	2	0	8	2	2	0	6	3	9	5	4	3	3	1	4	5	9	3	2	5
	GUC	3	0	0	8	8	5	2	4	2	0	4	3	3	2	12	0	1	0	1	0	3	13	13	14	16	11	10	5	2	1	2	3	1	1	1	2	4	6	22	20	1	5	10	2	4	0	4	2	0	13
	GUG	3	0	0	8	8	6	1	6	0	0	1	1	5	5	20	3	0	0	0	3	3	8	14	39	19	4	9	17	0	10	12	3	25	1	7	5	6	6	25	18	17	15	24	13	18	11	25	1	30	20
	GUU	5	2	0	5	5	6	5	4	0	2	7	2	7	8	0	7	2	1	2	5	5	3	12	10	12	7	5	11	1	5	5	1	6	3	2	3	3	5	7	5	2	1	3	1	6	2	17	2	1	5
LYS	AAA	22	1	0	14	15	4	6	14	3	4	23	12	7	7	0	4	7	4	7	10	12	8	14	14	15	11	15	27	0	3	3	2	5	0	1	0	12	2	21	1	1	0	8	2	8	3	20	4	4	11
	AAG	10	0	0	15	17	4	5	7	1	0	4	3	5	5	15	4	4	1	4	2	2	15	20	51	27	9	13	25	0	0	0	7	16	0	3	2	8	1	26	3	10	7	12	4	17	9	19	4	31	16
ASN	AAC	8	0	0	7	7	2	5	7	3	1	9	5	4	4	6	4	1	0	1	2	4	14	16	14	19	8	18	8	2	4	4	3	13	1	4	2	15	1	29	24	13	31	28	5	2	8	47	9	19	28
	AAU	10	3	0	4	4	3	5	5	4	1	8	2	6	6	0	7	6	2	6	6	7	1	11	5	4	9	7	9	1	2	3	2	16	3	3	3	3	0	2	2	1	2	6	1	0	4	28	1	4	3
GLN	CAA	9	2	0	8	9	3	5	1	1	1	11	7	6	6	1	9	5	4	5	6	8	3	6	4	8	12	11	8	1	1	1	2	2	2	1	1	6	1	8	7	5	6	4	2	2	9	17	3	4	25
	CAG	3	0	0	12	13	6	1	8	7	1	5	0	7	7	2	3	0	0	0	0	0	12	17	75	32	20	18	16	2	7	7	7	10	2	3	5	19	3	32	24	13	32	19	2	13	5	23	4	17	25
HIS	CAC	2	0	0	4	4	3	0	2	2	0	4	0	5	5	5	2	1	0	1	2	5	1	10	11	31	13	8	5	7	1	5	8	2	9	1	1	0	15	5	22	11	8	7	7	4	2	2	11	7	13	15
	CAU	6	0	1	7	7	3	2	4	1	0	7	2	7	7	0	9	3	1	3	6	3	0	6	7	2	5	6	6	1	2	4	3	3	0	2	0	5	1	5	2	4	3	3	0	2	0	4	0	3	4
GLU	GAA	8	0	1	13	15	16	4	10	3	0	10	11	6	6	3	8	6	3	6	4	8	12	14	17	26	16	19	38	3	12	12	8	7	2	3	1	14	5	24	23	2	5	7	0	10	4	31	3	19	21
	GAG	4	0	0	22	22	10	3	2	1	0	1	6	6	28	3	1	0	1	1	3	30	25	84	46	12	10	21	1	18	21	10	29	8	12	2	5	7	45	31	40	27	25	2	18	8	18	6	25	48
ASP	GAC	4	0	0	10	10	7	3	8	4	1	2	2	4	4	15	2	0	1	0	1	2	16	17	30	28	20	10	16	2	8	9	1	6	1	2	2	20	3	59	25	19	28	28	5	9	6	39	3	15	31
	GAU	4	0	0	9	11	11	6	8	4	3	5	11	8	8	1	17	4	4	4	9	6	3	15	9	11	5	12	17	0	6	8	6	15	0	6	5	8	5	11	9	7	8	8	1	9	4	26	2	9	12
TYR	UAC	2	0	0	3	3	3	3	7	1	2	4	1	4	4	5	6	0	1	1	2	2	11	9	21	12	7	8	14	0	0	1	2	6	0	1	1	11	3	35	18	11	10	20	3	8	1	40	5	3	19
	UAU	9	1	0	7	7	3	3	3	0	0	8	4	7	7	1	12	4	1	4	0	8	0	14	8	6	10	7	13	0	1	4	0	3	0	0	1	3	1	6	3	3	5	3	1	4	1	17	2	3	2
CYS	UGC	0	0	1	0	0	0	0	2	1	0	1	0	1	1	0	1	0	1	0	0	0	7	11	16	11	13	4	8	2	4	6	1	13	0	3	0	6	2	20	4	1	0	4	0	0	1	4	4	11	18
	UGU	1	0	0	2	2	0	0	2	2	0	0	4	4	4	0	1	2	0	2	2	2	2	6	4	4	11	6	8	1	3	6	2	12	0	1	0	1	0	3	2	0	0	0	0	0	0	3	4	2	5
PHE	UUC	4	0	0	5	5	1	1	7	4	1	3	2	10	9	10	3	0	1	0	3	3	8	6	13	10	4	9	11	0	1	1	1	5	1	1	1	5	2	29	15	4	10	12	1	0	5	20	3	11	11
	UUU	9	2	0	4	5	4	7	3	5	0	9	5	10	11	3	9	6	1	6	3	12	2	10	6	6	7	13	15	0	4	6	9	14	2	3	2	6	2	21	13	7	10	12	1	0	1	25	11	8	16
ILE	AUA	7	1	0	3	3	1	6	1	1	0	5	1	3	3	1	8	3	1	3	0	4	2	5	3	6	12	5	10	0	1	1	3	5	0	0	0	6	0	8	2	7	5	3	1	1	7	2	4	4	4
	AUC	4	0	1	9	11	9	6	12	3	0	1	1	1	1	7	2	1	0	1	2	0	11	15	33	17	16	11	10	2	5	5	1	4	0	1	0	11	2	23	15	2	7	14	1	6	4	8	0	8	14
	AUU	11	1	1	8	8	7	4	6	2	1	13	13	5	5	0	7	8	2	8	3	2	0	15	10	9	10	8	13	2	5	6	1	11	0	1	3	5	0	3	5	4	2	6	4	2	4	20	4	3	12
MET	AUG	5	1	1	11	12	2	2	6	4	2	2	5	9	9	6	4	4	1	4	5	6	5	16	26	16	10	10	20	2	4	7	2	15	4	7	3	16	2	19	19	9	13	12	5	7	6	29	7	15	10
TRP	UGG	1	0	0	12	13	6	3	8	0	0	2	0	5	5	1	3	1	0	1	1	2	2	7	23	10	11	4	13	1	0	0	0	8	6	0	1	1	5	4	21	8	3	6	5	3	2	5	13	3	6	6
TER	UAA	1	1	1	1	0	1	1	0	0	1	1	1	1	1	1	0	1	0	1	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0	1	1	0	0	0	1	1	0	0	1	1	1	1	0
	UAG	0	0	0	0	0	0	0	0	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	1	1	1	1	0	0	0	0	1	0	0	0	0	1
	UGA	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	1	1	1	0	0	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0
TOTAL		244	20	16	451	477	263	158	308	115	37	246	180	220	220	340	259	125	47	125	174	190	424	605	1183	676	583	504	813	56	244	290	176	496	93	156	141	450	150	1057	654	416	586	572	199	370	251	969	205	530	806

51	ADB CG# 23	ADB CG# 24	ADB CG# 25	ADB CG# 26	ADB CG# 27	ADB CG# 28	ADC FIB #2	ADD DBP E	ADE A10 1	ADE A10 2	ADE A10 3	ADE A10 4	ADE A10 5	ADE A10 6	ADE A10 7	ADE A10 8	ADE A10 9	ADE A20 2	ADE A20 3	ADE A20 4	ADE E3G P	ADE HDB P	ADG L#1	ADG L#2	ADG L#3	ADG L#4	ADG L#5	ADG L#6	ADG L#7	ADG L#8	ADL L#1	ADL L#2	ADL L#3	ADL L#4	ADL L#5	ADT A#2	ADT A#3	ADT A#4	AEB HEX	AES L## 1	AES L## 2	AKV #1	AKV #2	AKV #3	ALM CG1 Z	ALM CG2 Z	ALM CG3 Z	ALM L#1	ALM L#2	ALM PRO 3EH #2	ALR CG# 1
ARG	CGA	2	4	0	0	0	1	1	0	0	0	0	0	1	0	7	8	4	2	1	3	0	1	0	0	0	0	1	0	9	1	1	2	1	5	2	1	5	0	5	1	1	7	15	7	9	5	0	2	1	10
	CGC	5	3	2	3	2	2	2	22	1	4	4	3	7	5	10	43	47	18	7	15	2	13	2	2	2	2	5	1	9	3	1	1	1	2	2	3	5	7	17	3	2	3	1	2	1	5
	CGG	1	2	0	0	0	1	1	8	1	1	2	4	4	1	3	6	4	4	0	12	0	3	1	1	0	0	2	0	6	5	1	2	2	3	0	0	1	1	8	1	3	7	25	8	6	3	1	1	2	10
	CGU	2	5	1	0	2	0	0	1	0	2	2	1	2	2	3	13	8	5	2	3	0	3	1	1	0	0	2	2	2	1	2	2	0	5	1	2	3	2	8	0	1	4	6	2	14	8	3	2	0	4
	AGA	2	2	1	3	6	1	2	2	1	6	6	4	5	0	5	3	4	9	0	1	1	7	3	2	1	6	10	1	3	1	4	4	2	11	0	0	1	2	9	1	1	15	38	10	22	12	2	2	1	7
	AGG	5	1	1	1	0	3	0	1	0	1	4	2	18	0	7	8	9	6	1	3	1	10	2	1	1	6	17	1	5	2	2	2	5	5	1	1	1	0	8	2	3	8	19	2	12	7	4	2	2	10
LEU	CUA	1	2	0	3	14	0	8	2	3	0	0	1	5	0	4	15	6	13	1	8	3	1	3	2	1	5	5	1	8	0	1	1	1	3	2	0	2	2	10	1	1	5	41	16	14	9	4	0	2	5
	CUC	2	4	2	1	3	0	3	2	0	1	1	0	1	0	10	37	26	7	7	0	3	0	0	0	2	1	0	3	17	10	0	0	1	1	0	0	1	1	16	2	2	12	47	19	7	16	4	8	3	9
	CUG	12	3	1	1	8	2	2	34	7	5	5	12	17	5	20	29	13	21	5	22	1	19	9	9	9	4	8	4	14	4	4	5	8	6	2	1	7	7	27	9	12	9	46	11	8	9	4	8	7	12
	CUU	3	5	6	5	20	7	11	0	1	7	8	2	6	3	11	15	6	23	2	2	3	1	4	3	1	4	8	2	7	6	5	5	2	7	3	6	3	2	9	4	4	8	19	9	17	9	7	1	1	7
	UUA	0	0	3	2	2	1	8	1	0	2	3	1	1	0	0	1	3	1	0	0	1	1	1	1	0	4	3	2	1	0	4	5	2	17	3	8	8	0	3	1	2	9	25	9	21	20	8	1	6	14
	UUG	2	0	3	2	9	9	3	0	1	6	6	7	7	8	5	7	8	9	2	7	2	8	8	7	0	6	6	4	4	5	9	10	9	10	3	4	10	1	10	5	5	7	22	15	30	19	6	3	2	16
SER	UCA	2	3	1	1	15	0	4	0	0	1	1	1	1	3	0	7	1	9	2	4	1	3	3	3	0	1	7	3	4	0	2	2	4	4	2	1	6	1	3	1	1	3	13	10	21	14	6	1	2	6
	UCC	4	4	1	1	13	0	10	7	1	2	2	4	5	6	9	23	11	16	4	7	0	7	2	2	1	0	3	4	11	3	2	3	2	2	2	0	6	2	20	3	4	16	31	21	16	12	3	3	7	14
	UCG	3	6	0	0	0	0	0	6	0	1	2	0	3	1	2	11	7	7	2	7	0	1	1	0	0	1	2	1	5	1	3	3	1	0	3	2	1	3	9	1	3	1	4	4	9	8	5	0	3	9
	UCU	1	3	0	2	12	1	5	3	0	6	7	5	8	2	6	3	3	13	4	5	0	12	4	3	0	2	6	5	6	0	4	5	4	8	2	0	10	3	6	7	7	16	25	9	22	17	7	4	2	11
	AGC	7	3	3	1	11	1	6	15	4	3	3	4	13	6	5	19	7	11	5	14	3	15	2	2	1	1	10	3	2	1	3	3	3	5	2	2	6	1	11	3	7	2	10	7	13	4	4	2	4	1
	AGU	1	3	1	0	11	0	7	2	1	4	5	2	1	1	2	2	0	4	3	4	1	4	4	3	2	0	10	3	2	3	3	5	2	10	1	2	3	0	6	2	3	3	11	5	14	8	6	4	3	4
THR	ACA	6	2	4	2	19	2	9	0	0	2	2	1	5	1	0	5	2	12	1	2	5	2	0	0	0	2	6	1	0	0	1	1	0	3	3	0	7	2	9	3	4	1	8	13	9	10	6	2	4	13
	ACC	6	5	5	4	23	1	7	20	1	4	5	2	15	6	13	42	21	28	5	12	7	16	7	7	1	1	8	4	10	1	0	0	4	7	6	1	4	2	22	5	5	23	65	29	21	9	7	3	8	11
	ACG	2	2	0	1	2	0	1	7	0	2	3	1	2	3	2	6	6	9	2	5	0	0	1	1	1	0	2	2	2	3	0	0	2	0	1	1	2	1	15	0	0	1	12	6	13	5	2	3	2	7
	ACU	5	5	5	1	24	0	12	1	0	1	1	1	5	3	4	7	3	17	3	2	7	4	4	3	0	5	10	4	6	1	4	6	2	10	8	4	13	4	18	0	1	9	38	15	27	13	2	5	5	12
PRO	CCA	1	1	4	2	14	0	13	1	0	7	8	1	5	1	4	13	4	12	3	10	4	13	5	5	2	4	4	3	5	3	3	3	1	4	2	3	9	1	6	6	6	11	35	15	12	14	7	1	11	14
	CCC	11	13	1	4	8	0	1	22	1	9	10	0	9	4	14	30	15	22	10	14	1	16	3	3	0	0	3	2	10	8	2	7	7	0	2	1	0	1	2	28	3	3	22	61	23	6	9	5	3	4	14
	CCG	9	3	0	0	2	0	2	13	1	11	11	4	2	2	12	17	21	4	1	14	0	6	5	5	1	3	2	0	7	0	3	3	3	1	0	2	2	1	20	5	5	7	21	5	9	11	2	6	4	17
	CCU	3	3	1	1	10	1	4	4	0	17	17	1	6	1	8	8	6	18	0	7	1	9	19	19	1	3	8	2	4	3	12	12	2	6	5	1	2	2	10	8	11	17	41	12	18	15	4	7	8	17
ALA	GCA	14	0	1	0	11	1	5	1	1	1	1	1	10	6	6	9	3	7	3	1	2	4	4	4	1	3	14	4	5	5	2	2	2	6	6	1	5	0	8	0	2	1	42	4	21	8	5	1	10	11
	GCC	3	5	2	3	12	4	5	20	3	5	5	3	10	9	15	48	46	27	12	9	2	15	2	2	0	2	8	11	8	4	3	4	1	7	7	2	7	2	27	2	3	12	63	21	28	12	3	5	5	19
	GCG	12	8	2	3	2	0	2	11	0	4	4	4	4	1	8	23	8	9	1	29	1	3	1	1	0	1	1	0	5	6	3	3	2	2	2	2	5	1	13	6	13	3	9	2	10	8	4	7	2	26
	GCU	5	6	7	1	12	3	4	6	0	4	4	6	12	6	4	3	2	19	1	6	6	13	5	5	0	10	10	7	10	4	7	7	3	10	11	5	12	5	18	1	2	9	26	7	33	17	12	7	5	15
GLY	GGA	4	7	0	1	15	3	9	4	1	1	1	0	8	2	5	17	13	13	1	5	0	8	7	7	0	4	17	6	9	4	4	5	1	12	5	0	9	3	5	4	4	14	46	24	23	8	7	3	1	21
	GGC	1	8	3	1	13	2	1	16	0	1	2	2	9	1	9	21	13	25	5	10	2	12	2	2	0	3	6	3	9	4	3	3	1	8	0	1	7	2	32	5	8	5	18	9	3	4	0	4	8	11
	GGG	0	4	0	0	6	2	3	11	0	3	5	3	14	2	6	11	8	6	4	5	0	6	9	8	1	1	10	2	7	5	3	3	1	6	1	3	3	1	13	2	2	7	37	14	6	5	5	6	3	32
	GGU	0	3	2	1	12	1	10	1	1	6	7	2	8	1	6	10	2	17	2	5	4	1	3	3	0	3	12	0	3	5	1	1	1	12	1	3	3	0	9	3	4	11	21	6	28	13	8	4	4	11
VAL	GUA	1	1	2	0	10	1	4	2	0	3	3	0	10	0	6	10	5	9	4	2	0	4	5	5	0	2	6	1	5	4	3	3	1	13	3	0	4	1	8	3	4	6	21	7	11	4	1	2	1	3
	GUC	2	1	3	1	3	1	2	4	2	1	2	3	1	2	4	24	19	7	2	0	1	3	1	1	1	1	2	2	5	3	2	2	1	2	0	0	1	1	7	0	0	9	26	15	18	12	5	3	3	10
	GUG	1	6	0	1	6	3	3	22	0	8	10	2	23	5	6	24	18	24	0	31	3	21	8	8	1	3	16	2	7	4	8	8	8	11	4	10	14	2	29	4	5	6	41	31	10	17	15	6	5	2	14
	GUU	3	2	2	2	14	4	8	1	1	5	5	2	5	3	3	5	5	13	2	1	4	4	2	2	0	5	7	4	4	8	5	5	3	12	4	1	11	2	9	5	5	6	14	7	29	22	10	3	6	12
LYS	AAA	7	2	11	2	30	0	16	5	1	3	3	2	5	0	12	21	1	16	4	5	9	2	6	5	1	2	6	1	12	2	3	3	5	13	0	4	15	3	6	0	2	10	52	20	40	22	10	8	4	16
	AAG	7	1	7	1	4	1	3	25	0	0	0	7	16	2	8	26	3	25	4	29	6	27	6	5	0	5	15	3	9	0	0	1	4	9	2	5	4	2	13	3	3	12	45	6	33	21	12	6	7	15
ASN	AAC	3	8	2	2	28	0	12	22	2	4	4	3	13	2	15	27	24	46	9	19	2	16	3	2	0	2	5	1	16	0	3	4	3	8	3	0	7	6	52	3	4	5	22	13	12	14	3	3	7.	9
	AAU	1	2	4	3	19	4	15	2	0	2	2	3	2	14	3	3	5	2	27	1	4	4	13	5	4	0	1	20	5	5	1	7	9	1	12	4	2	9	4	22	3	3	11	19	13	33	26	11	6	10	7
GLN	CAA	5	3	2	1	14	1	8	7	1	1	1	1	3	1	5	8	7	19	2	4	2	7	1	1	2	1	7	2	9	0	4	4	2	5	3	3	9	3	18	1	2	9	38	14	21	10	1	6	1	7
	CAG	6	12	2	1	4	1	1	21	2	7	7	10	9	5	19	33	24	22	10	17	3	21	4	4	1	7	9	5	12	9	4	4	5	8	3	1	4	2	29	2	3	20	59	12	10	7	4	3	13	27
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	CAU	0	0	1	2	4	2	3	6	1	2	3	2	5	0	4	5	3	3	0	3	2	6	2	2	0	2	14	0	8	3	3	3	0	17	1	0	9	0	7	3	6	1	14	8	29	12	3	5	4	7
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ASP	GAC	10	9	3	4	14	3	7	18	2	9	10	1	6	2	20	57	24	37	4	16	2	15	8	8	0	7	6	1	14	5	6	7	3	8	2	4	8	3	39	9	12	15	48	12	27	17	4	5	7	14
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TYR	UAC	2	8	4	0	10	1	7	7	0	0	1	2	6	1	11	36	19	43	5	3	3	9	1	0	0	3	2	1	6	4	2	4	4	4	1	2	1	0	34	2	3	6	23	10	18	10	4	3	6	1
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CYS	UGC	2	0	5	2	2	2	3	14	1	4	6	1	13	0	6	21	4	5	4	11	5	9	4	1	0	0	12	0	4	2	1	3	1	5	0	2	10	1	7	2	4	3	11	11	13	5	1	1	2	8
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PHE	UUC	2	2	1	0	4	0	3	13	0	0	0	1	5	1	5	27	14	19	3	10	3	11	1	1	3	4	3	0	3	5	0	1	0	2	2	1	4	0	18	2	2	7	28	7	15	19	1	8	4	1
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ILE	AUA	2	3	1	1	13	4	7	1	0	1	1	3	5	0	6	7	2	11	2	3	2	3	2	2	1	4	10	0	4	0	2	2	2	5	0	2	1	0	10	2	2	3	17	7	11	22	5	2	3	10
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MET	AUG	3	6	7	4	12	4	5	20	2	5	8	2	15	3	16	19	19	30	7	17	7	21	7	4	3	3	18	3	16	8	6	8	5	16	3	1	8	4	25	7	9	3	19	6	18	16	8	4	6	21
TRP	UGG	3	2	2	4	4	1	2	6	1	0	0	8	6	1	5	21	8	13	3	6	2	6	0	0	0	7	9	1	5	3	0	0	5	6	1	3	3	1	14	1	1	12	38	21	9	7	1	2	1	11
TER	UAA	0	0	0	1	1	1	0	1	0	1	1	0	0	1	1	0	0	1	1	1	1	0	0	0	1	0	1	1	1	0	1	1	1	0	1	0	1	1	1	0	0	0	1	1	0	0	0	0	0	0
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	UGA	0	1	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0
TOTAL		229	220	160	102	503	117	320	513	56	244	290	177	497	141	4501057	654	953	205	530	161	510	262	231	58	179	493	139	449	199	236	267	164	403	145	138	392	123	912	194	267	5381735	6701127	791	301	222	266	702

52	ALR CG# 2	ALR CG# 4	ALR CG# 5	ALR D2# 2	ALR DRN 144 #2	ALR 01K L#1	APH 01K L#2	APH RNA #1	APH RNA #2	APH NPV P	AUC 1G# 1	BBV 1G# 2	BBV 1G# 3	BBV 1G#	BBV 2G	BLC NCN P#1	BLC NCN P#2	BLC SRN A#1	BLC SRN A#2	BLV #1	BLV #3	BLV #2	BTV ENV	BUN L3	CPM M	CPM CGB	CPM CGM	EIA ENV	EIA ENV #2	EHC GP	FCS PP	FCS FGR	FCS GAO NC	FCS SMO NC	FCS VFG R	FCV B	FCV ENV C	FCV ENV	FCV GAE NV	FCV GLE NV	FCV GP# 1	FCV GP# 2	FK5 NA	FL2 HA	FL3 NS# 1	FL3 NS# 2	FL6 NS# 1	FL6 NS# 2	FLA NS# NA	FLB M#1	FLB M#2	FLB NA	FLL NS# 1	FLL NS# 2
ARG	CGA	1	6	1	1	1	1	2	5	5	0	11	4	1	5	0	0	0	0	5	6	6	10	3	5	6	3	0	5	5	10	15	5	6	8	6	7	8	7	1	1	6	1	2	1	4	3	2	3	3	1
	CGC	1	2	8	9	9	0	29	28	28	3	9	3	3	3	1	1	1	1	4	6	7	11	0	12	5	2	0	11	6	19	16	6	0	0	0	0	10	9	1	2	1	0	1	0	0	1	0	0	3	0
	CGG	11	3	15	17	17	0	12	12	12	0	8	1	1	1	0	0	0	0	4	10	8	4	0	9	8	2	0	17	12	21	13	12	6	4	6	4	5	5	0	3	2	0	1	0	1	0	2	2	0
	CGU	0	4	2	2	2	1	18	17	16	7	19	2	0	8	1	0	1	0	1	1	0	5	1	7	10	5	0	16	9	3	7	9	1	2	1	2	1	0	0	0	0	0	1	1	2	1	1	0	1	0
	AGA	2	9	2	1	1	1	27	30	28	1	10	3	0	3	4	1	4	1	3	8	8	23	24	24	15	19	18	51	3	4	15	3	12	12	12	10	9	9	9	10	6	7	9	5	10	8	3	10	3	7
	AGG	5	3	2	3	3	2	18	15	15	2	5	0	1	7	5	5	5	5	5	2	3	16	15	24	7	7	5	14	4	13	25	4	5	4	5	4	11	10	6	11	4	1	4	2	8	5	1	10	3	1
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	CUC	7	14	12	13	12	2	64	52	52	4	7	0	5	1	4	1	4	1	10	20	18	6	11	25	6	5	4	35	13	25	40	13	11	12	11	10	10	10	2	3	2	3	8	3	6	7	0	4	3	2
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	UUA	0	11	0	0	0	1	3	3	3	1	9	1	0	5	3	4	3	4	7	10	11	33	36	18	11	25	14	14	3	9	13	3	18	21	18	21	11	10	2	1	1	2	2	2	5	0	0	1	1	2
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SER	UCA	0	9	2	2	2	0	20	21	20	2	11	1	1	6	4	3	4	3	6	3	4	12	26	19	14	9	6	35	2	6	13	2	7	6	7	6	6	3	9	10	4	4	3	2	16	3	1	14	3	4
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	CCC	3	6	22	21	21	1	38	38	38	9	5	1	5	6	0	0	0	0	24	23	26	4	4	14	14	2	3	42	20	45	54	20	17	17	17	19	29	27	4	4	1	0	4	0	5	2	0	4	2	1
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ALA	GCA	2	11	9	7	7	1	52	55	55	2	14	1	6	10	9	0	9	0	10	6	6	19	33	38	15	15	14	35	4	14	16	4	3	8	3	6	12	10	4	11	5	1	5	2	9	8	0	6	6	1
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	GCU	2	6	10	10	10	1	42	44	43	6	15	4	1	10	8	0	7	0	7	7	5	18	22	66	39	21	11	53	7	14	24	7	7	6	7	6	8	7	11	10	5	0	6	1	7	10	3	5	3	0
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LYS	AAA	3	11	2	3	3	4	64	63	62	7	27	5	5	6	7	1	7	1	15	7	9	16	83	52	27	24	22	47	6	8	18	6	15	23	15	22	16	16	7	19	10	4	6	3	10	6	3	16	7	4
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ASN	AAC	2	13	15	16	15	2	84	87	87	12	15	7	4	16	9	0	9	0	11	9	9	20	18	19	16	23	9	42	15	20	42	15	15	12	15	15	10	10	11	20	3	3	2	4	17	4	2	9	3	3
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	GAG	4	10	30	31	31	3	90	87	86	11	23	1	5	5	9	1	9	1	3	7	5	30	18	63	20	22	13	67	39	48	60	39	5	4	5	3	17	16	12	14	8	6	7	6	10	9	4	13	6	6
ASP	GAC	0	11	19	17	18	4	111	108	108	11	25	0	5	5	3	0	3	0	8	10	10	13	28	25	24	10	8	44	23	31	44	23	12	14	12	15	13	12	11	19	6	3	5	4	10	2	3	12	4	3
	GAU	0	14	4	4	4	2	29	41	41	4	32	2	0	9	11	2	11	2	6	12	12	46	50	68	39	18	17	59	8	10	20	8	13	13	13	10	13	13	9	12	10	2	14	1	13	5	3	12	9	2
TYR	UAC	0	5	19	17	17	1	67	76	75	12	12	0	2	3	2	0	2	0	1	5	4	13	25	24	10	6	3	35	19	15	34	19	10	11	10	12	6	5	9	9	1	1	3	1	8	2	0	2	1	1
	UAU	0	8	4	4	4	0	13	10	10	3	17	0	0	3	6	1	6	1	5	9	10	26	36	46	21	28	6	36	3	9	16	3	12	11	12	9	8	7	6	9	0	0	1	0	12	3	2	15	0	0
CYS	UGC	1	10	9	9	10	2	24	18	18	2	6	0	1	0	0	0	0	0	5	8	8	1	36	13	7	8	2	17	8	9	14	8	9	10	9	9	2	2	10	12	2	0	1	1	13	1	3	10	1	0
	UGU	1	12	1	1	1	1	11	16	15	1	13	0	0	5	1	0	1	0	4	7	7	4	34	38	21	18	8	14	3	2	11	3	13	10	13	11	5	3	9	6	0	0	1	0	8	2	0	12	1	0
PHE	UUC	0	11	15	15	13	0	58	63	62	13	18	0	0	8	7	1	7	1	2	11	14	22	18	26	17	7	4	66	17	17	34	17	12	11	12	9	7	6	9	13	7	5	4	3	6	3	3	6	5	4
	UUU	0	10	4	4	6	5	51	46	45	1	16	0	0	16	7	0	7	0	4	8	7	17	51	64	43	21	12	62	5	7	12	5	9	7	9	9	7	4	8	9	2	3	2	4	3	4	2	7	3	4
ILE	AUA	1	9	1	1	1	0	5	5	5	1	11	1	0	5	0	2	0	2	4	5	5	20	58	16	14	37	10	24	1	1	6	1	16	14	16	12	3	3	18	14	3	5	8	6	22	4	2	18	3	6
	AUC	2	8	13	13	13	0	65	56	54	10	20	1	1	8	7	3	7	3	7	17	17	17	21	25	10	13	2	17	23	24	35	23	8	7	8	8	4	3	11	18	6	0	4	1	7	3	4	7	5	0
	AUU	2	19	3	4	2	0	38	45	44	3	26	0	1	7	6	2	6	2	5	9	9	28	50	51	37	24	11	51	7	9	13	7	13	9	13	10	11	8	10	15	6	2	9	3	8	3	2	14	6	2
MET	AUG	4	8	12	12	12	1	60	57	56	6	21	1	4	10	6	6	6	6	6	3	3	37	25	59	28	19	12	56	23	14	24	23	13	14	13	13	6	5	6	9	11	7	12	6	6	14	2	7	9	7
TRP	UGG	5	13	11	10	9	1	24	26	26	4	18	0	0	5	5	2	5	2	9	19	19	10	15	30	18	22	9	35	16	20	29	16	17	17	17	16	13	12	16	12	4	2	4	2	14	1	2	12	3	2
TER	UAA	0	0	1	0	0	0	1	1	1	1	1	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0	0	1	1	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	1	1
	UAG	0	1	0	1	1	1	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0
	UGA	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0	1	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	0	1	1	0	1	0	0	1	0	0	1	0
TOTAL		125	602	527	527	527	93	2333	2334	2306	246	898	103	107	408	236	93	236	93	393	516	516	9021	4341	8671	047	860	4872	291	664	958	1512	664	663	640	663	643	581	507	470	567	238	122	231	122	471	253	98	470	203	122

53	FLM N8Ø 1	FLM N8Ø 2	FLF HA	FLY HA	FM4 HA	FM4 NA	FM4 NP	FM4 P1	FM4 P2	FM4 P3	FM7 HA	FMG HA	FMG N01	FMG N02	FMG NA	FMG NP	FMG N8Ø 1	FMG N8Ø 2	FMG P1	FMG P2	FMG P3	FMJ NA	FMK HA	FMK N8Ø 1	FMK N8Ø 2	FMO NA	FMQ N01	FMQ N02	FMQ NA	FMQ N8Ø 1	FMQ N8Ø 2	FMS HA	FMT NC	FMT N8Ø 1	FMT N8Ø 2	FMU HA	FMU NA	FMY HA	FMY NA	FMY P1	FMY P3	FOO HB	FO1 HA	FO1 HAZ	M	FO1 NA01	FO1 NA02	FO1 NP	FO1 N8Ø 1	FO1 N8Ø 2
ARG CGA	4	1	0	1	1	1	4	2	2	7	0	0	2	1	1	3	4	0	8	3	4	2	4	4	1	2	3	2	2	5	1	1	2	4	1	1	2	0	1	8	3	1	1	1	1	0	2	3	4	0
CGC	2	0	0	2	2	1	3	3	2	3	0	0	1	1	0	3	2	0	0	2	3	1	0	3	0	1	1	0	1	1	0	1	0	2	0	2	2	0	1	0	3	0	0	0	0	1	0	0	1	0
CGG	3	0	2	4	3	2	5	5	1	4	0	0	2	0	1	6	3	1	5	1	5	1	3	3	0	2	0	0	2	3	0	3	0	3	0	3	2	0	1	5	3	0	0	0	0	0	0	0	2	1
CGU	1	0	0	0	0	0	1	1	2	0	0	0	1	1	2	0	1	2	0	3	2	1	0	1	1	0	0	1	1	0	0	0	3	0	0	0	0	0	2	2	3	1	0	0	0	0	1	1	3	0
AGA	7	7	12	11	10	15	18	30	24	29	18	11	6	2	6	22	5	6	27	18	33	12	14	5	7	14	8	3	9	6	7	11	14	7	7	9	9	11	7	25	31	12	15	14	9	3	16	19	6	2
AGG	5	1	8	10	11	8	15	10	12	18	5	10	5	1	10	14	4	1	11	14	15	9	8	3	1	7	5	1	11	4	1	13	4	5	1	9	11	9	9	13	17	4	3	3	4	1	2	7	4	3
LEU CUA	6	3	11	7	7	3	2	13	8	10	12	9	3	1	5	4	6	1	6	8	9	3	4	2	2	3	3	0	3	8	5	8	5	6	3	6	3	10	6	7	7	10	12	12	13	0	9	14	2	0
CUC	4	3	6	3	3	4	8	6	7	8	4	4	7	1	0	9	3	3	6	6	8	4	4	4	2	4	7	0	5	2	3	3	0	4	3	2	5	4	0	6	9	13	10	10	1	2	2	2	3	1
CUG	4	2	11	10	10	2	9	11	11	8	10	17	6	2	5	7	4	4	11	11	12	1	8	5	2	1	7	3	1	1	2	13	2	4	1	10	2	14	3	11	13	7	5	5	4	0	3	9	2	4
CUU	7	2	8	8	8	3	7	14	22	11	4	4	7	3	1	6	9	3	12	22	12	3	9	9	3	3	7	4	3	7	2	9	1	7	2	8	3	3	1	12	11	7	9	9	3	2	6	8	7	1
UUA	1	2	3	1	1	3	3	9	7	13	6	6	2	0	5	1	0	2	9	7	6	2	6	2	2	3	0	0	1	1	2	3	6	1	2	1	1	8	5	9	7	8	9	9	5	0	9	5	5	3
UUG	1	4	11	7	7	5	3	4	9	11	13	11	1	3	5	5	2	4	13	11	12	6	9	1	4	7	2	3	8	3	3	7	6	1	4	6	8	12	5	11	13	10	8	8	2	1	9	1	5	5
SER UCA	4	4	9	10	10	14	5	13	14	17	15	17	3	1	14	3	4	5	11	11	14	14	13	4	4	3	13	3	1	15	4	3	10	13	4	4	11	16	10	14	10	14	8	11	11	6	1	17	8	7	3
UCC	3	1	5	3	4	6	5	5	11	3	2	6	2	0	4	7	3	1	10	9	5	6	4	4	3	6	2	0	6	3	2	5	4	3	1	5	6	7	5	10	6	6	7	6	0	1	5	3	3	2
UCG	0	3	3	2	2	2	2	3	2	4	3	0	1	0	3	2	1	2	1	3	5	2	1	0	3	2	0	0	1	1	3	0	3	1	3	2	1	0	3	1	5	3	1	1	4	1	1	1	0	1
UCU	3	1	8	7	6	9	12	8	5	9	9	8	3	2	8	11	3	1	7	10	7	10	4	3	1	9	3	2	9	3	1	6	8	2	1	5	9	8	9	8	7	13	12	12	5	0	6	8	2	2
AGC	3	1	8	15	14	10	6	15	8	12	10	7	2	1	11	8	3	1	11	9	13	9	7	3	2	9	3	2	9	2	0	11	11	3	1	14	10	6	9	10	13	5	6	6	4	1	4	10	1	5
AGU	4	1	4	3	3	6	9	7	7	11	5	8	7	3	11	8	2	1	11	10	8	6	11	2	2	7	6	4	6	3	2	5	10	2	1	5	6	10	10	10	9	5	5	5	1	1	5	10	1	2
THR ACA	2	3	22	15	14	11	10	37	19	27	23	14	5	0	7	9	4	3	26	21	24	13	15	4	3	12	5	0	11	4	3	16	11	3	3	11	11	15	5	24	25	22	25	25	7	1	21	11	4	5
ACC	3	0	8	6	6	11	5	10	8	8	2	5	7	1	10	6	3	0	18	7	10	8	12	2	0	9	5	1	11	4	0	8	11	3	0	4	11	7	12	17	11	15	10	10	0	3	4	18	5	2
ACG	0	0	1	3	4	2	0	4	1	7	4	3	2	2	0	3	0	0	3	0	6	1	1	0	0	2	2	2	0	0	0	3	0	0	0	6	2	2	0	3	5	2	1	1	1	0	1	2	0	1
ACU	9	2	6	16	16	8	10	10	9	12	8	6	4	0	12	11	7	2	14	9	11	11	13	8	2	11	4	0	10	7	2	12	9	8	2	15	10	7	10	18	12	8	10	10	1	3	14	7	7	1
PRO CCA	5	0	8	7	7	4	6	14	11	14	12	10	3	1	6	5	6	1	14	15	14	7	6	5	0	4	3	0	4	5	0	6	7	5	0	7	6	11	6	14	16	10	9	9	0	3	7	10	7	0
CCC	2	1	5	6	4	2	5	6	5	4	4	6	2	0	3	2	1	0	5	6	3	4	4	1	0	3	2	0	4	1	0	4	4	2	1	4	3	5	2	5	4	6	4	5	2	2	4	6	2	1
CCG	0	0	2	2	3	2	2	4	9	1	1	3	1	0	5	1	0	0	4	6	0	1	3	0	1	2	1	0	2	0	0	3	4	0	0	3	1	2	4	4	0	0	1	1	0	0	3	3	2	0
CCU	4	0	4	5	6	11	5	8	6	9	3	1	2	3	7	9	4	0	9	4	12	10	3	4	0	11	2	4	10	4	0	8	8	4	0	6	10	1	9	9	9	12	12	12	2	2	8	7	4	0
ALA GCA	6	1	11	13	11	6	20	15	18	20	18	15	8	1	6	18	5	1	21	17	17	7	16	6	1	7	8	0	5	5	1	14	7	6	1	11	6	12	7	20	17	22	20	20	12	0	14	17	6	0
GCC	3	1	7	5	5	3	6	11	10	11	9	8	7	1	4	7	3	1	9	11	12	3	3	2	1	3	10	0	2	3	1	6	4	3	1	6	2	5	3	10	11	8	5	5	4	1	6	9	2	2
GCG	3	0	1	1	2	2	3	4	3	2	2	4	1	0	1	4	4	0	2	1	4	3	1	2	0	2	1	1	2	2	0	1	0	3	0	2	2	6	0	2	6	0	0	0	0	0	0	2	2	1
GCU	4	0	5	9	10	5	12	11	7	8	4	6	9	3	5	10	4	0	10	8	11	3	12	4	0	4	10	3	5	5	0	10	6	4	0	9	6	6	7	9	11	15	15	15	6	2	10	13	4	2
GLY GGA	6	4	25	12	13	11	21	32	16	20	16	22	3	3	15	22	8	3	17	18	26	11	20	7	3	11	4	1	11	8	3	14	18	6	4	13	10	19	16	19	27	28	22	24	14	2	22	24	10	1
GGC	3	0	2	7	7	9	4	2	7	9	2	5	3	0	8	2	3	0	6	5	7	9	10	3	0	8	3	0	8	2	0	8	9	3	0	8	7	3	10	6	7	6	9	9	3	1	6	2	1	0
GGG	2	1	13	12	14	10	11	7	9	13	12	10	8	3	10	11	1	0	14	8	8	10	15	3	2	10	7	3	11	2	2	12	9	2	1	15	11	14	12	13	9	9	13	12	1	2	7	11	4	0
GGU	2	1	11	12	11	9	6	5	2	6	13	5	2	2	11	6	2	1	9	4	8	9	5	2	0	9	2	1	10	2	1	9	9	2	1	10	10	6	9	8	7	9	7	7	2	0	6	7	3	0
VAL GUA	1	1	6	8	9	9	6	5	11	12	11	8	1	0	6	4	2	2	7	11	12	9	5	2	1	11	1	1	9	3	1	7	6	1	1	7	9	10	5	5	9	12	12	12	5	1	7	8	4	2
GUC	4	0	8	4	4	6	5	8	6	9	8	7	3	2	3	6	4	0	9	3	9	6	6	5	0	7	3	2	6	4	0	4	2	4	0	5	6	7	3	9	8	6	6	6	2	3	6	8	2	1
GUG	4	5	11	6	6	12	8	12	10	23	8	12	7	2	9	9	4	3	7	9	28	11	10	4	3	10	6	1	11	3	3	8	7	4	3	6	11	9	9	10	26	9	10	10	3	2	5	9	8	2
GUU	5	0	7	12	11	7	3	11	3	17	8	6	5	0	10	5	5	0	10	7	12	8	9	2	0	7	6	2	8	5	0	10	11	5	0	12	8	7	10	10	14	11	10	10	1	0	4	7	2	2
LYS AAA	9	3	24	19	19	12	17	19	28	31	20	25	6	3	14	13	10	4	29	31	25	13	24	8	4	12	7	2	15	10	3	17	11	9	3	25	17	23	12	26	28	26	26	26	17	5	19	28	14	4
AAG	6	2	13	11	11	6	7	31	22	14	16	13	7	2	9	8	2	2	20	22	20	4	7	4	1	6	5	1	5	7	2	12	10	6	2	10	4	13	9	22	17	13	13	13	5	0	9	24	8	5
ASN AAC	4	3	16	21	21	9	10	20	12	11	16	23	6	2	8	6	4	3	20	12	10	11	14	4	2	9	4	2	10	4	3	18	9	4	3	21	10	22	8	24	12	14	17	17	6	10	8	9	7	2
AAU	5	2	24	22	22	23	17	28	23	21	27	26	5	1	17	19	4	2	29	22	24	23	23	4	2	23	6	0	21	5	2	26	21	7	2	25	18	26	16	27	23	20	21	21	3	3	7	16	11	1
GLN CAA	3	6	9	16	17	10	13	23	11	20	9	10	7	0	10	15	1	5	19	11	18	8	14	1	7	10	5	0	9	3	5	12	10	3	6	17	9	9	9	19	15	12	13	13	7	0	4	15	6	3
CAG	4	4	6	7	6	6	8	8	8	16	7	7	8	2	1	6	7	5	12	8	18	7	11	7	4	6	10	2	6	5	6	12	3	6	5	6	6	8	2	12	21	4	3	3	2	0	4	4	2	3
HIS CAC	0	2	5	3	3	1	3	5	9	2	6	6	0	1	3	3	0	2	2	11	1	2	4	0	1	3	1	2	2	0	2	5	2	0	2	3	3	5	4	3	2	6	6	6	3	2	5	2	5	3
CAU	2	0	9	8	8	9	2	5	3	9	8	7	5	1	7	3	2	1	9	2	9	8	7	2	1	7	4	1	8	3	0	6	5	2	0	8	7	9	6	9	8	9	9	9	3	0	8	2	3	0
GLU GAA	9	8	26	17	16	9	23	26	36	32	25	24	7	6	9	23	11	7	30	42	29	10	28	8	8	8	7	7	9	9	7	15	10	9	8	16	11	24	7	28	27	23	23	23	17	2	16	24	13	5
GAG	7	5	17	13	13	12	12	25	41	19	10	14	10	3	8	13	8	8	19	35	23	12	10	8	5	13	10	4	13	7	6	15	7	7	5	12	11	13	11	20	25	6	7	7	4	0	9	6	13	4
ASP GAC	5	3	11	18	20	16	10	13	15	14	8	10	2	1	10	12	5	3	12	13	16	15	9	9	3	14	2	3	13	6	3	16	11	5	3	19	12	10	13	11	15	10	12	12	4	3	11	13	8	3
GAU	10	2	14	13	12	12	14	19	23	19	15	11	4	4	15	11	9	2	19	23	15	12	17	9	2	13	5	3	14	10	2	15	18	10	2	12	13	12	14	21	14	15	14	14	4	1	14	21	13	4
TYR UAC	1	1	5	9	9	2	9	11	9	10	10	9	2	2	6	9	1	1	14	7	9	3	8	1	1	2	1	0	2	1	1	11	10	1	1	11	2	9	7	15	9	9	10	10	3	0	7	6	4	1
UAU	0	0	17	9	9	12	6	14	13	6	16	16	3	1	8	6	0	0	11	13	7	10	7	0	0	11	4	2	14	0	0	7	5	0	0	8	14	18	5	9	7	6	6	6	2	0	13	8	3	4
CYS UGC	1	0	9	10	12	11	4	5	11	4	5	6	0	3	6	5	1	0	5	9	4	11	9	2	0	11	1	3	10	2	0	11	6	1	0	12	9	6	6	5	4	11	12	12	3	3	11	4	1	1
UGU	1	0	6	8	6	11	2	5	5	1	11	10	3	0	13	1	1	0	5	6	1	11	7	0	0	11	2	0	12	0	0	7	14	2	0	6	13	9	13	5	1	5	4	4	4	4	7	1	2	0
PHE UUC	6	3	8	13	13	6	10	23	17	9	10	10	3	1	7	11	4	2	17	20	12	6	12	5	2	5	3	2	6	6	4	15	5	6	3	14	7	12	7	18	11	9	9	9	2	4	5	13	3	2
UUU	2	5	11	9	9	8	7	10	20	15	10	9	4	3	9	7	3	5	15	16	13	8	14	3	5	9	4	3	7	3	4	6	10	2	5	8	6	9	10	15	13	6	7	7	5	1	8	8	6	0
ILE AUA	4	6	11	14	14	16	8	15	14	21	15	14	2	2	20	8	4	5	16	13	21	15	16	4	6	15	4	2	18	4	5	16	21	4	6	16	17	15	21	18	24	21	20	20	5	3	13	11	6	4
AUC	4	0	9	17	18	11	14	13	10	9	4	11	6	3	9	13	5	0	12	12	11	9	9	5	0	11	3	4	7	6	0	16	11	4	0	16	7	10	9	14	10	5	7	7	1	5	6	14	1	1
AUU	7	2	12	15	14	13	5	18	24	19	16	11	3	4	12	5	5	2	17	23	20	15	15	8	2	14	3	2	15	6	2	15	12	7	2	14	16	8	12	18	19	11	12	12	5	10	7	13	6	5
MET AUG	11	6	17	9	9	8	26	37	26	37	8	10	14	2	7	25	9	7	40	25	37	8	11	10	8	8	14	2	7	10	7	9	10	11	8	9	7	10	8	36	36	12	12	12	13	1	14	27	7	7
TRP UGG	4	2	11	12	12	12	6	9	12	10	10	10	1	2	16	6	4	2	9	12	10	13	8	4	2	12	1	2	12	4	2	12	15	4	2	12	12	11	14	9	10	6	6	6	2	0	9	1	2	2
TER UAA	0	1	0	0	0	1	1	0	0	1	1	0	0	1	0	1	0	0	1	0	0	1	1	0	1	1	0	1	1	0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	1	0	1	1	0	0
UAG	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0
UGA	1	0	1	1	1	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	1	0	0	1	0	0	1	1	0	1	0	1	0	1	0	1	0	0	0	0	1	1	0	0	0	0	1
TOTAL	238	122	563	567	567	470	499	758	717	760	567	567	253	98	455	499	231	122	758	717	760	470	564	231	122	470	253	98	470	238	122	567	471	238	122	568	470	566	454	758	760	583	585	585	249	101	467	561	282	123

54	FO3 HA	FO4 WP	FO5 HA	FO5 HS	FV3 IEV 3	FV3 BGV 1	GSH Ø1	GSH Ø2	GSH Ø3	GSH Ø4	GVT GG	HAM M	HAM SHC	HBO G01	HBO G02	HBO G03	HIV ARV 2CG Ø1	HIV ARV 2CG Ø3	HIV ARV 2CG Ø4	HIV ARV 2CG Ø5	HIV BRU CG Ø 1	HIV BRU CG Ø 3	HIV BRU CG Ø 4	HIV BRU CG Ø 5	HIV BRU CG Ø 6	HIV CDC 41	HIV CDC 42Ø	HIV CDC 42Ø	HIV DSM Ø1	HIV DSM Ø2	HIV DSM Ø3	HIV ELI Ø4	HIV ELI CG Ø	HIV ELI CG Ø	HIV ELI CG Ø	HIV ELI CG Ø	HIV ELI CG Ø	HIV H3B H5Ø	HIV H3B H5Ø	HIV H3B R0	HIV H3C G01	HIV H3C G03	HIV H3C G04	HIV H3C G05	HIV H3C G06	HIV H3C G07	HIV H3D CG Ø	HIV H3D CG Ø	HIV H3D CG Ø
																										1	2																			1	3	4
ARG CGA	1	3	0	0	0	1	1	3	0	2	0	2	3	7	0	0	1	0	1	4	2	0	3	1	4	2	2	1	0	3	3	4	1	0	1	0	1	2	2	0	1	2	0	3	3	1	4	2	0	3
CGC	0	0	0	1	1	3	4	4	1	3	4	0	1	3	0	0	0	3	0	0	0	3	1	0	0	1	0	2	0	0	0	1	0	0	0	0	2	0	0	0	3	0	0	0	3	1	0	0	0
CGG	0	1	0	0	0	0	0	5	1	1	2	2	6	8	1	0	2	0	1	0	2	0	1	2	0	2	1	2	0	1	1	0	3	0	0	0	0	2	0	2	0	1	2	0	1	1	1	0	2	0	1
CGU	1	1	1	2	0	5	1	0	2	1	5	3	2	8	6	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0
AGA	12	23	19	10	2	5	13	18	2	1	3	13	5	19	18	0	10	8	36	7	19	10	3	33	6	21	3	36	10	3	9	6	17	9	8	5	37	10	19	10	35	19	10	3	9	36	6	19	10	3
AGG	5	3	4	1	4	1	5	16	0	2	2	14	11	18	5	3	10	4	15	2	9	5	1	11	2	9	1	14	5	1	2	2	6	7	2	2	16	1	8	6	11	9	5	1	2	10	2	8	5	1
LEU CUA	10	11	9	1	1	1	0	8	6	0	0	20	4	13	1	6	6	5	9	4	5	5	2	9	4	5	2	16	5	2	1	5	9	5	0	1	14	6	5	5	8	5	5	2	1	8	5	6	5	2
CUC	13	5	4	4	3	2	1	18	8	2	2	5	6	20	4	6	3	0	14	0	3	0	0	13	0	3	0	14	0	0	4	0	4	0	1	0	13	1	3	0	13	3	0	0	4	13	0	1	0	0
CUG	6	6	11	6	6	3	2	15	9	5	9	8	8	1	3	7	4	3	15	6	5	4	0	15	6	3	0	15	3	0	1	5	2	4	2	2	17	2	5	3	16	5	3	0	1	16	5	5	4	0
CUU	7	6	12	5	0	4	9	21	7	1	6	16	8	11	3	6	4	0	8	1	5	0	0	6	2	6	0	8	0	0	5	2	4	0	2	1	12	2	5	0	6	5	0	0	5	6	2	4	0	0
UUA	8	7	11	5	0	4	7	18	9	6	1	22	10	18	7	6	15	3	18	5	15	4	1	18	4	16	1	17	4	1	0	5	13	3	4	3	17	4	15	4	21	15	4	1	0	20	5	14	4	1
UUG	11	3	19	7	1	5	5	22	10	2	3	15	7	17	9	3	5	4	20	1	4	3	0	20	1	5	0	18	4	0	2	1	6	2	0	1	15	1	4	4	19	4	4	0	2	19	1	4	3	0
SER UCA	9	8	16	6	0	1	4	19	5	0	3	27	9	14	6	3	9	3	10	1	11	3	1	10	1	10	1	10	3	1	1	1	9	3	0	1	14	1	11	1	8	10	3	1	1	10	1	9	3	1
UCC	5	4	3	3	1	1	3	27	2	4	0	12	5	23	3	4	3	0	2	1	3	1	2	6	1	3	1	3	1	3	0	1	2	2	2	0	4	1	3	1	6	3	1	3	0	6	1	1	1	2
UCG	2	1	1	0	0	0	0	3	1	5	0	1	1	4	3	2	2	0	1	0	1	0	0	2	0	1	0	2	0	0	1	0	1	0	0	0	3	0	1	0	2	1	0	0	1	2	0	0	0	0
UCU	14	8	15	6	4	2	7	16	6	5	3	22	3	15	5	10	1	2	7	2	2	2	1	7	1	1	1	7	2	1	3	1	1	1	0	0	8	1	1	2	7	1	2	1	3	7	1	0	2	1
AGC	5	9	14	3	1	3	0	6	3	1	2	12	6	16	2	1	11	2	8	5	12	4	0	13	5	11	0	9	4	0	5	5	11	3	2	1	9	5	10	4	12	11	4	0	5	13	5	10	4	0
AGU	5	8	8	2	0	1	2	8	3	0	0	24	4	4	2	2	3	5	16	2	3	3	2	22	3	3	2	12	3	2	1	3	4	4	2	1	20	4	5	3	19	4	3	2	1	21	3	4	3	2
THR ACA	24	11	11	14	2	2	6	15	10	0	1	55	10	8	6	0	12	9	29	4	14	8	3	28	5	13	0	26	8	2	1	5	13	7	0	1	30	4	14	8	27	16	8	2	1	27	5	13	8	2
ACC	13	18	7	1	7	8	0	20	8	3	6	8	2	10	3	4	7	1	16	1	9	1	2	14	3	9	1	18	1	2	1	2	8	1	1	1	16	2	9	1	13	9	1	2	1	13	2	9	1	2
ACG	2	1	1	3	1	0	0	3	3	0	3	2	0	6	3	5	0	0	4	0	0	1	0	6	0	1	1	4	1	0	1	0	0	0	0	0	5	0	0	1	7	0	1	0	1	6	0	0	1	0
ACU	7	5	14	5	4	4	10	24	7	3	5	15	4	22	12	3	10	1	16	2	8	0	3	12	2	7	1	22	0	2	3	1	8	0	1	0	9	4	8	0	11	8	0	2	3	12	1	6	0	2
PRO CCA	11	11	13	6	0	5	4	11	7	0	4	20	10	25	5	3	18	3	14	9	21	4	2	14	8	18	2	14	4	2	2	8	17	4	3	0	13	8	21	4	14	21	4	2	2	14	8	12	4	2
CCC	7	6	5	1	9	8	4	13	6	4	7	7	0	11	5	1	5	2	8	0	5	1	3	8	0	5	1	8	1	2	2	0	4	2	0	0	9	1	5	1	8	4	1	2	2	8	5	5	1	3
CCG	0	2	0	0	0	2	2	9	2	2	0	2	1	4	3	2	1	0	2	1	1	0	2	2	1	1	0	2	0	2	1	2	1	0	0	0	1	1	1	0	2	1	0	2	1	2	2	0	0	2
CCU	10	6	13	4	0	2	7	22	9	1	5	22	8	20	10	10	8	4	4	4	9	5	4	5	6	8	2	4	5	3	5	5	10	4	1	2	6	4	10	5	5	11	5	4	5	5	5	8	5	4
ALA GCA	20	20	13	10	1	2	2	10	5	1	2	23	25	10	3	2	19	5	22	8	18	5	0	19	9	19	1	23	5	0	2	9	23	5	3	6	26	7	18	5	20	17	5	0	2	19	9	20	5	0
GCC	7	8	7	4	5	3	3	15	3	4	4	9	3	8	5	4	8	2	7	3	8	1	1	11	3	5	1	6	1	1	1	3	6	1	1	0	8	2	7	1	10	8	1	1	1	9	3	6	1	1
GCG	0	3	1	0	2	0	0	5	0	2	1	1	0	0	1	1	2	0	3	1	3	0	0	2	0	3	0	4	0	0	1	0	2	0	0	0	3	0	4	0	2	4	0	0	1	3	0	3	0	0
GCU	16	15	19	2	0	5	8	25	5	5	4	19	6	19	13	4	10	3	16	6	9	3	1	16	5	12	2	16	3	2	1	6	9	3	2	1	14	3	8	3	14	9	3	1	1	15	5	10	3	1
GLY GGA	28	20	36	9	3	2	5	15	9	3	3	21	5	17	5	9	19	7	30	6	20	7	1	30	7	19	1	30	7	1	6	8	18	6	3	0	26	6	20	8	29	20	7	1	6	30	7	20	7	1
GGC	6	5	8	0	2	0	0	9	3	5	5	6	4	7	3	2	9	3	6	2	8	1	4	6	2	9	2	8	1	4	0	2	8	2	1	1	11	3	8	1	7	8	1	4	0	6	2	8	1	4
GGG	10	14	8	2	5	0	0	7	3	1	0	26	9	13	1	2	10	2	13	6	9	3	1	15	5	10	0	11	3	1	3	4	12	2	3	3	11	6	9	2	13	9	3	1	3	13	5	8	3	1
GGU	9	6	4	1	1	8	3	17	3	3	3	27	8	11	4	1	1	1	7	3	1	2	0	8	2	1	0	10	2	0	0	2	1	2	0	0	7	1	1	2	8	1	2	0	0	8	2	2	2	0
VAL GUA	11	5	6	3	2	5	2	5	5	2	2	30	2	14	3	3	15	7	25	4	13	6	1	29	5	12	1	29	6	1	0	4	13	6	1	3	18	5	14	7	28	16	6	1	1	30	4	11	6	1
GUC	7	7	7	3	10	4	2	8	8	2	2	4	15	5	13	1	3	1	8	1	2	1	0	5	2	3	0	8	1	0	1	1	3	1	0	0	6	6	2	1	6	2	1	0	1	5	1	2	1	0
GUG	10	10	9	1	6	3	2	13	3	2	7	18	9	12	4	0	5	2	15	4	7	2	0	13	6	5	0	14	2	0	3	6	5	2	0	2	15	3	6	2	13	4	2	0	3	13	5	7	2	0
GUU	10	11	8	3	0	4	7	17	3	0	2	25	7	14	8	0	2	2	9	1	3	3	2	7	2	3	1	11	3	2	0	2	2	3	2	1	5	1	3	3	7	3	3	2	0	7	2	3	3	2
LYS AAA	26	29	34	16	0	7	2	31	5	2	5	40	12	40	13	3	21	10	27	6	21	6	3	29	4	20	4	24	6	3	1	4	27	9	0	3	23	8	21	6	31	21	6	3	1	29	4	21	6	3
AAG	14	21	9	7	8	8	1	12	0	2	9	27	17	19	2	3	16	9	13	5	15	8	6	14	6	15	5	17	8	6	2	7	14	5	1	1	14	3	16	7	15	15	8	6	2	15	6	13	8	6
ASN AAC	16	11	10	8	4	6	1	19	1	1	10	11	7	14	4	1	9	3	21	2	7	3	0	18	3	8	0	21	3	0	2	6	11	4	0	0	22	5	7	3	18	7	3	0	2	18	6	6	3	0
AAU	19	16	20	7	2	5	6	27	5	0	2	30	6	25	2	0	16	2	43	4	16	1	0	45	3	15	2	42	1	1	2	1	12	1	2	1	42	3	16	1	42	16	1	1	2	43	1	15	1	1
GLN CAA	12	11	23	7	1	8	5	26	5	5	4	22	9	17	5	6	18	5	19	4	19	5	5	19	4	19	3	24	5	5	2	4	17	4	5	2	25	5	19	5	17	18	5	5	2	18	4	19	5	5
CAG	3	7	3	3	3	1	3	9	5	1	6	12	14	10	5	0	16	3	23	2	16	3	3	24	2	16	4	23	3	3	5	2	17	6	3	0	17	3	16	3	25	17	3	3	5	25	2	19	3	3
HIS CAC	6	3	2	1	3	4	2	19	3	1	5	12	1	13	4	0	2	5	5	4	3	6	0	5	5	3	0	3	7	0	0	5	3	5	0	0	3	3	3	7	6	3	7	0	0	6	5	5	7	0
CAU	9	2	6	3	0	2	6	16	1	2	1	24	5	15	6	1	7	9	9	4	7	8	3	9	4	7	4	8	7	3	1	4	7	8	5	2	8	3	7	7	7	7	7	3	1	7	4	8	7	3
GLU GAA	23	22	33	11	5	17	11	15	1	0	13	38	12	24	12	1	28	8	40	9	26	7	1	37	7	25	0	35	7	1	4	8	27	9	5	4	34	10	27	7	35	26	7	1	4	34	8	25	7	1
GAG	5	7	7	4	7	3	1	13	4	2	7	20	18	10	5	0	12	1	8	14	15	1	2	12	12	13	2	9	1	2	7	11	11	1	4	3	15	11	14	1	13	15	1	2	6	14	12	10	1	2
ASP GAC	10	17	14	3	6	8	4	16	3	3	5	17	8	15	3	1	6	3	13	4	9	6	1	12	3	10	1	11	6	1	2	3	7	3	1	3	13	5	9	5	13	9	6	1	3	12	3	9	6	1
GAU	15	17	19	9	1	7	3	13	3	5	9	33	20	20	13	3	8	3	17	5	5	2	1	14	7	5	1	17	2	1	2	6	8	3	1	4	13	5	5	3	16	5	2	1	2	16	7	5	2	1
TYR UAC	9	6	10	1	4	12	0	10	4	2	11	20	4	8	1	2	2	1	6	6	2	2	0	4	6	1	0	6	2	0	0	6	0	0	1	0	5	5	2	2	4	2	2	0	0	4	6	1	2	0
UAU	6	7	12	6	0	2	5	24	3	1	1	23	6	18	10	2	8	8	15	1	8	7	2	15	1	8	2	15	7	2	2	1	10	9	2	1	16	1	8	6	15	8	7	2	2	16	1	7	7	2
CYS UGC	12	4	11	7	4	4	3	11	7	2	1	19	1	8	2	3	3	0	5	2	1	0	3	6	2	1	3	5	0	3	0	2	3	0	0	0	7	2	1	0	6	1	0	3	0	6	2	2	0	3
UGU	4	1	8	5	0	1	5	12	5	5	3	42	4	9	3	0	7	2	17	1	9	2	4	17	1	9	4	18	2	4	2	1	7	2	1	1	17	1	9	2	16	9	2	4	2	16	1	9	2	4
PHE UUC	9	14	10	3	0	11	0	13	6	2	11	22	3	10	4	5	5	0	10	2	5	0	1	9	2	5	1	10	0	1	0	2	4	0	1	1	9	2	5	0	9	5	0	1	0	9	2	8	0	1
UUU	6	8	18	7	11	5	10	31	10	4	5	36	8	26	4	5	7	3	14	5	7	3	1	17	5	7	1	15	3	1	1	5	7	3	2	0	13	5	7	3	16	7	3	1	1	16	5	4	3	1
ILE AUA	21	12	14	10	1	1	1	10	5	1	0	29	6	17	6	4	15	5	34	1	16	7	0	31	0	15	0	29	7	1	2	0	15	8	5	11	39	4	16	6	29	15	7	1	1	29	0	14	7	1
AUC	6	11	13	6	5	6	0	6	5	3	9	8	9	10	7	4	6	5	1	8	4	5	1	12	3	5	1	10	1	1	3	4	4	1	0	0	9	4	6	1	12	5	1	1	3	13	4	5	1	1
AUU	12	15	19	11	0	8	7	22	6	0	7	38	14	15	10	3	4	4	24	2	6	3	0	22	1	4	0	19	3	0	1	1	8	3	5	1	22	1	5	3	23	5	3	0	1	23	1	6	3	0
MET AUG	12	27	14	13	6	8	3	9	7	5	7	23	14	17	3	3	16	5	13	5	16	5	1	18	4	16	1	19	5	1	1	4	16	6	1	2	16	4	16	5	18	17	5	1	1	18	5	17	5	1
TRP UGG	6	1	8	4	2	4	7	21	17	3	4	19	5	16	7	7	9	8	30	8	9	8	1	31	7	9	1	31	8	1	1	7	9	8	3	2	28	8	9	8	30	9	8	1	1	31	7	8	8	1
TER UAA	1	1	0	1	0	1	0	0	1	0	1	0	1	1	1	0	1	0	1	0	1	0	0	1	0	1	1	1	0	0	0	0	1	0	1	0	1	0	1	0	1	1	0	0	0	1	0	0	0	0
UAG	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0	0	1	1	1	0	0	1	0	1	0	0	1	0	0	1	1	1	1	0	1	1	1
UGA	0	0	1	0	0	0	1	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	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
TOTAL	584	561	655	287	150	240	210	082	283	139	2491	136	430	837	306	160	503	193	856	211	513	193	87	862	207	501	73	869	193	87	117	207	501	193	97	82	854	207	513	193	852	513	193	87	117	857	207	479	193	87

55	HIV H3D CG@ 5	HIV H3D CG@ 6	HIV HXB 2CG #1	HIV HXB 2CG #2	HIV HXB 2CG #3	HIV HXB 2CG #4	HIV HXB 2CG #5	HIV HXB 2CG #6	HIV MAL CG@ 1	HIV MAL CG@ 2	HIV MAL CG@ 3	HIV MAL CG@ 4	HIV MAL CG@ 5	HIV MAL CG@ 6	HIV RFE NV 7	HIV RFE WNJ 2	HIV I&6@ 2	HIV I&6@ 3	HIV I&6@ 4	HIV I&6@ 5	HL1 PRO P#1	HL1 PRO P#3	HL1 PX 1	HL2 CG@ 3	HL2 CG@ ENV	HL2 ENV ACG	HPA ADR #1	HPB ADR #2	HPB ADR CG@ 1	HPB ADR CG@ 2	HPB ADM #1	HPB ADM #2	HPB ADY W#1	HPB ADY W#2	HPB ATY #1	HPB ATY #2	HPB AGW AG	HPB SAG	HRS 1CE #1	HRS 1CE #2	HRS 1CE #3	HRS 1CE #4	HRS 1CE #5	HRS 1CE #6	HRS 1CE #7	HRS 1CE #8	HRS 1CE #9	HRV CG	HRV 65	HS1 65
ARG CGA	1	4	2	0	3	1	2	0	0	1	3	1	1	0	1	0	2	3	2	5	6	4	1	7	7	2	0	4	0	4	0	4	4	0	0	4	0	0	0	0	0	0	1	0	2	2	4	4	2
CGC	3	1	0	0	0	3	0	0	0	0	0	2	0	2	2	0	0	0	2	0	4	4	3	6	4	4	2	1	3	1	3	1	4	3	1	1	3	1	1	0	0	0	0	0	3	0	0	3	4	19
CGG	1	0	2	0	1	1	0	1	0	0	1	1	0	0	1	0	1	0	1	2	1	7	0	1	5	3	3	0	1	2	1	2	1	2	2	1	2	2	1	0	0	2	1	0	0	0	0	0	4	11
CGU	1	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	1	0	0	0	5	3	1	3	2	2	3	2	1	2	1	2	1	1	2	2	1	2	2	0	0	2	0	0	0	0	2	0	8	10	6
AGA	36	6	17	10	3	37	5	16	9	8	2	32	9	34	40	8	3	35	13	0	3	1	2	4	4	64	2	10	2	10	1	11	11	2	1	10	2	1	1	4	8	7	5	1	1	0	8	43	47	1
AGG	10	2	10	5	1	10	1	10	7	2	2	16	1	13	12	6	2	15	2	1	0	1	7	0	0	19	0	4	0	4	0	3	3	0	0	4	0	0	0	0	4	3	0	0	1	3	4	23	17	1
LEU CUA	9	5	5	2	11	2	3	5	0	1	16	3	12	11	3	0	13	5	10	15	10	11	17	17	9	8	2	8	3	7	4	6	7	7	7	7	7	4	2	7	6	10	3	2	13	2	38	34	8
CUC	13	0	3	0	0	13	0	5	0	1	0	15	1	11	13	0	0	15	0	15	20	18	10	22	22	8	6	3	6	4	7	4	3	6	6	5	6	7	0	1	3	2	2	0	5	8	3	17	12	16
CUG	15	5	5	3	0	13	3	5	3	3	0	18	4	14	16	4	0	16	3	5	11	5	5	4	5	22	6	3	6	3	7	1	1	7	6	2	7	7	0	2	1	0	1	0	2	4	3	28	13	25
CUU	6	2	4	0	0	7	3	4	0	2	0	10	1	14	7	0	0	13	3	7	16	10	14	12	13	34	5	3	5	3	4	3	3	5	6	6	5	4	2	2	5	2	5	1	3	2	3	27	30	3
UUA	20	4	15	4	1	19	2	15	5	3	2	16	6	15	17	5	2	17	4	10	9	3	8	7	7	47	4	5	4	4	4	4	5	4	4	2	4	4	7	2	18	6	5	1	6	24	4	42	38	1
UUG	20	1	4	4	0	20	0	6	3	0	0	14	0	18	16	2	0	15	1	1	2	1	2	4	4	78	6	5	6	4	4	5	3	6	6	4	6	4	5	2	7	2	2	1	0	8	4	43	36	12
SER UCA	10	1	11	3	1	10	1	10	3	0	0	14	1	10	9	3	0	15	2	2	12	4	4	3	4	60	6	2	6	2	7	3	2	7	6	5	6	6	2	2	3	9	7	1	10	11	7	64	41	1
UCC	6	1	3	1	3	6	1	2	1	2	3	1	1	4	3	2	3	3	0	12	20	10	12	32	31	19	5	3	5	3	5	3	2	7	7	2	7	5	2	0	3	1	4	2	7	9	0	17	15	6
UCG	2	0	1	0	0	2	0	0	0	0	0	2	0	1	2	0	0	1	0	0	3	1	1	2	2	1	3	2	3	2	3	3	3	3	3	3	3	3	0	0	0	0	0	0	2	0	0	3	1	6
UCU	7	1	1	2	1	7	1	1	2	0	0	7	2	7	8	0	1	9	1	2	10	7	3	4	4	65	4	11	4	11	3	8	9	3	3	10	3	4	2	0	7	4	1	1	6	10	1	29	47	3
AGC	13	5	10	4	0	14	2	12	3	1	0	7	7	10	13	4	0	5	4	6	8	0	5	7	7	4	1	1	1	1	1	0	0	2	2	0	2	1	1	1	5	2	2	1	6	13	3	13	16	10
AGU	19	3	3	3	2	20	3	5	4	3	1	22	4	17	15	4	1	18	3	3	1	3	1	4	4	22	4	1	4	1	5	0	1	4	4	1	4	5	4	0	5	7	5	0	2	15	6	32	42	0
THR ACA	28	5	14	8	2	27	4	12	8	1	1	29	4	30	25	6	1	37	4	2	2	5	6	10	11	54	6	2	6	2	6	1	0	4	4	2	3	6	7	9	10	12	19	6	27	28	3	79	74	0
ACC	13	2	9	1	2	13	1	7	1	1	0	12	1	12	11	1	0	14	2	7	13	20	13	16	16	13	6	2	5	2	5	2	2	6	8	2	8	5	1	3	3	3	4	1	23	7	4	28	23	17
ACG	6	0	0	1	0	7	0	0	0	0	2	7	0	6	5	0	1	5	1	2	1	2	2	6	5	2	3	0	3	0	3	0	2	2	1	0	2	3	0	0	0	0	0	0	0	0	0	9	4	10
ACU	12	1	8	0	2	12	2	7	0	2	0	14	2	19	12	0	2	6	5	5	10	2	7	5	5	61	3	6	4	6	3	10	10	4	6	10	6	3	2	4	5	4	4	0	8	14	6	57	45	0
PRO CCA	14	8	17	4	2	14	3	16	4	3	3	13	12	14	14	3	3	13	9	17	11	9	10	12	13	41	10	3	10	3	9	4	4	8	9	4	9	9	2	3	3	3	3	1	15	9	3	54	44	4
CCC	8	0	5	1	2	8	0	5	1	0	2	8	1	7	8	2	3	10	0	26	25	25	35	17	17	8	7	2	7	1	7	1	1	6	6	1	6	7	0	1	2	4	5	0	10	3	2	30	18	21
CCG	2	2	1	0	2	2	0	0	0	2	1	1	2	2	1	2	1	2	1	1	10	2	2	3	1	0	1	0	5	0	4	2	2	2	2	2	2	2	0	1	1	0	0	0	1	0	0	5	4	13
CCU	5	5	10	5	2	4	3	9	4	1	6	7	5	6	5	3	4	5	5	11	9	5	15	14	14	46	7	6	7	8	5	9	9	5	4	10	5	5	2	2	3	5	4	1	4	4	1	33	34	2
ALA GCA	19	9	17	5	0	19	8	22	5	2	0	23	7	23	20	5	0	23	8	4	4	2	2	6	4	37	2	3	2	2	1	2	4	1	0	2	0	1	2	0	17	8	9	1	6	12	4	57	55	1
GCC	9	3	7	1	1	10	1	7	2	1	0	6	3	6	8	3	0	8	3	20	16	9	13	11	11	25	1	4	1	4	1	5	3	2	2	4	2	1	0	1	4	1	0	0	2	5	2	21	14	26
GCG	3	0	4	0	0	2	0	4	0	0	0	2	0	2	3	0	0	5	0	3	5	0	4	3	3	1	1	0	1	0	1	0	0	1	1	1	1	1	0	0	2	0	0	0	0	0	0	1	6	26
GCU	15	6	9	3	3	14	5	12	2	2	1	15	3	14	12	3	1	14	2	9	5	2	10	5	5	57	2	3	2	4	3	3	4	2	2	4	2	3	2	0	9	4	8	1	3	10	2	30	44	5
GLY GGA	30	8	20	6	1	30	4	19	5	3	0	29	9	33	31	7	1	27	6	4	12	8	6	6	6	67	6	4	7	4	6	3	4	8	8	3	8	6	2	1	11	3	4	0	4	8	3	44	37	7
GGC	6	2	8	1	3	6	2	6	1	1	5	10	3	9	8	2	5	9	3	5	8	10	7	9	9	17	2	2	2	2	2	1	2	1	1	3	1	2	2	2	6	1	1	0	1	3	0	19	17	8
GGG	13	4	9	3	1	13	3	12	3	3	2	14	4	12	12	0	1	12	6	8	2	8	8	2	2	21	5	0	5	0	4	1	0	4	6	2	4	4	0	1	5	2	0	0	0	4	0	26	23	13
GGU	7	2	1	2	0	8	2	2	2	0	0	10	1	9	9	2	1	8	1	5	3	0	2	5	5	32	1	1	1	1	2	2	1	2	2	2	2	2	0	0	9	2	0	0	0	11	3	57	47	3
VAL GUA	30	5	14	6	1	29	3	11	6	0	1	22	8	26	27	7	1	22	5	1	2	2	5	6	6	12	2	2	2	1	2	3	2	1	2	2	2	2	4	1	9	3	3	1	3	19	3	34	34	0
GUC	5	1	2	1	0	6	1	3	2	1	0	6	2	9	8	2	0	6	2	5	15	5	5	10	10	11	1	2	1	2	1	2	2	0	0	2	0	1	0	1	3	1	6	1	4	7	1	31	14	8
GUG	12	6	6	2	0	13	3	5	3	0	0	16	1	18	15	1	0	15	3	4	3	2	4	3	3	44	2	3	2	4	4	3	5	3	3	4	3	4	3	1	7	2	6	0	1	7	2	36	28	8
GUU	7	1	3	3	1	7	0	2	2	1	0	4	1	7	7	2	1	4	2	3	6	3	3	3	5	90	5	4	5	4	4	3	3	5	5	5	5	4	2	0	7	0	3	0	0	13	3	54	55	1
LYS AAA	28	4	20	6	3	29	3	27	7	0	2	25	7	29	25	9	2	27	6	17	10	6	12	7	7	84	1	2	1	2	3	1	1	2	2	1	2	3	8	9	25	14	17	3	18	31	12	85	84	3
AAG	15	7	16	8	6	15	3	14	6	1	5	12	5	14	17	8	6	10	4	3	6	4	6	5	5	51	1	0	1	0	1	1	1	0	0	2	0	0	1	3	4	5	6	0	12	14	6	52	49	1
ASN AAC	19	6	7	3	1	16	1	6	3	0	2	17	2	17	12	1	4	20	5	8	9	5	10	14	14	11	3	0	3	0	2	1	1	2	1	1	1	2	1	2	6	9	7	4	12	19	8	44	45	11
AAU	44	1	17	1	1	43	1	16	2	2	2	47	4	49	46	0	0	45	1	6	11	3	6	7	7	92	3	5	3	5	4	5	3	3	4	3	4	4	14	5	16	12	9	1	9	30	12	71	75	1
GLN CAA	20	4	18	5	4	19	4	19	5	7	7	20	6	22	20	5	4	21	3	17	11	5	11	16	17	48	3	5	3	5	3	6	5	3	3	7	3	3	4	1	12	1	6	0	13	16	3	53	39	1
CAG	23	2	16	3	4	23	1	18	6	2	4	20	2	21	19	3	4	17	3	17	12	12	21	16	15	45	4	0	4	0	4	0	0	4	0	4	4	0	1	2	1	0	0	4	4	0	28	38	9
HIS CAC	6	5	3	7	0	7	3	4	6	2	2	4	4	6	6	5	0	2	3	10	8	9	7	4	5	14	1	2	1	1	1	2	1	1	1	0	3	1	1	0	3	3	1	2	1	3	2	0	24	21	10
CAU	7	4	7	7	4	7	1	6	9	4	3	7	2	8	10	8	4	8	3	5	7	7	4	11	11	39	0	2	0	3	0	3	2	0	0	2	0	0	4	3	9	1	1	1	1	1	1	7	30	39	3
GLU GAA	35	7	26	8	1	35	5	21	7	7	1	44	12	35	38	6	1	39	10	11	4	10	6	8	8	67	0	7	0	7	0	6	4	0	0	6	0	0	5	5	20	26	13	3	8	20	8	78	67	6
GAG	14	11	14	1	2	13	5	14	0	3	2	8	9	13	8	1	1	14	12	7	6	4	14	2	2	51	2	5	2	5	2	4	5	2	2	5	2	2	0	1	6	3	0	1	2	5	4	25	35	23
ASP GAC	12	3	9	6	1	13	1	11	4	1	1	12	3	14	12	5	0	13	5	14	8	7	10	8	7	17	3	5	3	5	1	5	5	2	3	4	3	1	2	3	6	4	3	0	2	7	4	26	31	30
GAU	17	7	5	2	1	16	5	6	5	1	3	18	7	13	17	2	3	17	7	6	6	4	4	6	6	115	0	1	0	1	2	3	4	1	0	3	0	2	6	4	14	18	9	0	3	13	7	90	83	11
TYR UAC	4	6	2	2	0	4	3	1	1	0	0	6	5	6	7	0	0	6	4	7	10	11	7	11	11	17	3	1	3	1	3	0	0	2	2	0	2	3	0	3	7	2	7	1	2	4	1	34	36	15
UAU	16	1	8	7	2	15	0	7	8	2	3	16	1	15	13	9	2	15	1	3	9	1	2	4	4	61	2	4	2	4	3	5	5	4	4	5	4	3	3	5	9	2	3	1	1	15	4	51	57	3
CYS UGC	6	2	1	0	3	6	0	3	0	0	4	7	2	7	6	0	3	7	4	7	13	4	9	13	14	9	5	1	5	0	5	3	1	5	5	3	5	5	3	2	0	0	2	0	5	5	2	14	18	3
UGU	16	1	9	2	4	17	1	7	2	1	3	16	3	16	18	2	4	16	1	3	5	4	3	3	3	34	9	3	9	4	9	1	3	9	9	5	9	9	1	0	3	0	3	1	0	11	2	29	30	3
PHE UUC	9	2	5	0	1	10	1	7	0	1	1	10	3	10	10	0	1	10	3	6	8	10	6	11	10	30	10	1	10	1	9	2	2	10	10	3	11	9	2	4	4	5	4	3	4	6	0	33	33	11
UUU	16	5	6	3	1	15	2	6	3	2	0	13	5	14	15	3	0	11	5	4	9	12	4	6	6	92	7	6	7	6	7	5	6	6	6	6	5	7	3	2	8	3	3	2	3	12	4	53	56	12
ILE AUA	30	0	15	7	1	30	0	17	5	4	1	36	2	31	36	8	2	37	3	5	5	5	2	8	8	31	3	0	3	0	4	1	0	2	2	1	2	4	5	9	13	11	13	6	10	24	9	56	84	0
AUC	12	4	5	1	1	14	3	4	1	1	1	7	1	8	11	0	1	12	4	10	8	8	10	14	14	13	6	2	6	2	7	2	1	10	8	4	8	7	1	3	5	3	7	5	10	12	5	30	24	5
AUU	22	2	6	3	0	22	2	7	3	3	0	26	3	21	26	4	0	23	1	5	9	7	4	5	4	96	5	5	5	5	5	3	4	5	4	3	4	5	5	2	8	3	2	1	3	11	2	57	73	4
MET AUG	18	4	16	5	1	17	3	18	5	1	2	18	4	20	16	4	1	16	4	5	3	5	7	4	4	73	6	3	6	3	5	3	2	6	7	4	6	6	7	5	14	7	8	3	3	11	4	53	49	16
TRP UGG	31	7	9	8	1	31	4	9	8	3	1	28	7	29	30	7	1	28	8	7	13	6	8	13	13	37	13	4	12	4	13	4	4	13	13	6	13	13	1	0	1	0	2	1	2	3	1	24	29	4
TER UAA	1	0	1	0	0	1	0	1	0	1	0	1	0	1	1	0	0	1	0	1	1	0	1	1	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	0	0	1	0	1
UAG	0	0	0	1	1	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	1
UGA	0	1	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	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
TOTAL	857	207	501	193	87	857	124	506	193	97	88	860	210	866	848	182	87	856	213	430	489	354	434	487	487	2228	227	184	227	184	227	186	184	227	227	213	227	227	140	125	392	242	257	65	299	575	195	2180	2151	491

56	HS1 732	HS1 ATI F	HS1 ØØ2	HS1 EXO	HS1 GB	HS1 GBI CPØ 1	HS1 GBI CPØ 2	HS1 GCØ 1	HS1 GCØ 2	HS1 GCØ 3	HS1 GCM Ø1	HS1 GCM ØØ	HS1 GD	HS1 GDB	HS1 IEM 5G	HS1 POL	HS1 POL 17Ø 1	HS1 POL 17Ø 2	HS1 POL	HS1 TK3 KB	HS1 USØ 1	HS1 USØ 2	HS1 USØ 3	HS1 USØ 4	HS1 USØ 5	HS1 USØ 6	HS1 USØ 7	HS1 USØ 8	HS1 USØ 9	HS1 USØ 10	HS1 USØ 11	HS1 USØ 12	HS1 USØ 13	HS1 USØ 14	HS2 EXO ØØ2	HS2 GC1 ØKØ 1	HS2 GC1 ØKØ 2	HS2 GD	HS2 GDB	HS2 GF	HS2 MRT 2ØØ	HS2 RR3 ØKD ØØ1	HS2 RR3 ØKD ØØ2	HS2 TK	HS4 ØØ1	HS4 ØØ2	HS4 ØØ3	HS4 ØØ4	HS4 ØØ5	HS4 ØØ6	HS4 ØØ7	HS4 ØØ8
ARG	CGA	4	2	4	2	8	2	2	1	0	1	0	2	2	1	9	6	9	3	6	1	7	4	2	3	3	2	0	3	8	4	5	6	6	4	1	3	3	5	2	7	2	1	9	1	0	1	2	3	0	21
	CGC	9	19	26	37	27	38	12	7	6	1	6	15	17	2	47	47	44	14	78	2	4	11	6	15	13	15	2	6	17	8	10	78	31	17	3	14	14	17	13	45	13	19	20	2	14	2	8	2	7	64
	CGG	6	11	14	22	25	24	16	11	7	1	7	6	6	2	24	18	23	7	49	2	9	12	1	7	5	5	1	0	4	9	21	49	15	19	3	3	4	19	6	24	6	7	12	1	59	1	2	2	8	44
	CGU	3	6	6	1	6	0	3	2	0	0	0	0	1	4	3	4	5	3	2	4	3	0	1	5	4	0	3	5	1	3	5	2	4	2	4	4	4	2	0	5	0	4	12	1	2	4	1	0	2	8	
	AGA	0	1	0	0	0	0	0	0	1	0	1	0	0	2	2	0	2	1	1	2	3	0	1	3	1	0	0	1	0	1	1	1	0	0	2	0	0	0	0	2	0	1	6	1	1	5	5	8	3	21	
	AGG	2	1	3	2	5	1	1	1	0	0	0	1	2	2	9	2	11	0	3	2	5	0	1	5	1	1	0	0	6	2	3	3	4	0	0	0	0	0	0	6	0	1	28	5	16	3	4	8	9	47	
LEU	CUA	2	7	6	3	5	2	2	2	2	0	0	0	2	2	0	5	4	5	1	1	0	2	3	0	3	1	1	2	0	1	1	1	2	0	5	5	2	1	4	1	2	4	1	2	6	2	8	2	2	28	
	CUC	10	15	16	12	24	12	6	4	4	1	4	11	11	0	31	29	30	6	13	0	2	7	6	6	6	11	3	4	6	5	8	13	16	3	6	7	7	3	14	32	14	6	33	2	2	1	8	19	8	87	
	CUG	19	24	24	39	40	41	15	13	7	2	7	16	16	6	74	71	75	21	84	6	0	13	3	22	17	16	7	6	23	16	17	84	30	19	4	17	17	18	18	62	18	25	74	10	14	9	15	26	19	147	
	CUU	2	3	4	2	3	1	1	0	2	1	2	1	1	0	2	8	3	6	0	0	0	1	1	2	5	1	3	4	5	6	3	0	4	2	1	2	2	2	2	4	2	4	11	3	1	4	4	10	2	32	
	UUA	0	2	1	0	1	0	0	0	0	0	0	0	0	0	2	1	2	1	0	0	1	0	1	3	1	0	1	1	0	1	0	0	2	1	0	4	4	1	0	0	0	0	1	1	0	6	1	4	0	8	
	UUG	7	11	4	5	8	5	5	3	1	1	1	7	6	1	7	5	7	6	2	1	0	4	0	5	4	7	1	4	2	5	3	2	2	0	2	4	4	1	0	2	0	6	20	3	0	6	3	4	2	30	
SER	UCA	1	1	4	0	3	0	3	2	0	1	0	0	1	0	0	1	0	1	1	0	0	1	1	2	4	1	0	1	1	1	1	4	0	0	0	1	0	0	3	0	0	13	1	0	4	6	2	5	29	
	UCC	5	6	17	18	7	18	10	4	3	3	3	6	5	1	22	19	22	3	24	1	2	3	5	16	7	6	1	8	9	4	17	24	14	17	2	3	3	15	9	34	9	7	25	0	3	2	9	13	7	92	
	UCG	5	6	10	14	14	12	10	5	6	2	6	4	4	1	12	16	11	6	29	1	2	6	5	12	10	4	0	5	5	1	9	29	12	11	6	9	9	12	8	17	8	2	14	0	3	1	2	3	7	35	
	UCU	0	3	7	0	3	1	3	3	0	0	0	2	2	1	0	2	0	2	1	1	5	2	0	7	2	2	1	1	1	0	8	1	4	1	0	1	1	1	1	4	1	2	11	2	0	2	6	5	7	44	
	AGC	1	10	14	14	16	15	7	3	3	4	3	8	8	0	18	30	19	4	20	0	1	8	1	11	8	9	2	3	12	6	8	20	8	6	4	11	10	6	8	34	8	5	20	0	29	3	8	11	5	44	
	AGU	2	0	1	0	0	1	1	1	1	0	1	1	1	1	1	2	1	1	1	0	0	0	4	1	1	0	2	2	0	2	1	1	1	1	1	1	1	1	1	2	1	0	8	3	0	3	2	1	2	17	
THR	ACA	3	0	3	0	1	0	6	2	1	5	1	1	1	0	3	2	3	5	0	0	2	3	0	2	1	1	1	4	2	2	3	0	2	3	1	1	1	3	1	4	1	2	12	3	0	7	1	5	3	35	
	ACC	15	16	14	45	21	45	29	16	4	10	4	8	9	6	29	33	29	13	15	7	3	13	1	16	20	8	1	21	19	13	14	15	8	22	3	12	12	23	11	28	11	12	30	2	34	2	11	18	6	84	
	ACG	5	10	18	24	21	23	19	15	0	3	0	10	10	1	24	27	24	9	20	1	2	4	2	12	13	10	3	3	6	3	12	20	13	20	0	9	9	20	3	28	3	11	22	0	1	0	2	7	8	42	
	ACU	0	0	1	3	2	2	2	0	1	1	1	2	1	0	4	0	4	1	0	0	1	0	0	2	2	1	0	2	2	4	0	0	0	0	1	1	2	0	0	5	0	1	5	1	0	5	2	4	1	27	
PRO	CCA	1	4	4	7	5	5	7	4	1	2	1	5	5	0	5	3	5	2	3	0	8	11	1	11	8	5	2	4	6	5	6	3	4	1	1	3	4	1	0	4	0	1	20	1	33	2	3	13	1	70	
	CCC	10	20	39	24	28	24	39	19	11	16	11	21	22	6	41	38	41	15	84	6	19	22	2	28	30	21	5	21	23	18	20	84	46	21	8	28	27	22	11	50	11	13	37	1	79	0	10	14	8	152	
	CCG	6	14	23	23	17	25	17	15	3	4	3	15	15	2	30	27	30	9	74	2	10	7	1	23	10	15	0	7	17	14	7	74	25	24	5	12	12	23	6	15	6	11	24	1	26	0	3	5	3	60	
	CCU	0	2	8	3	2	3	2	1	1	0	1	2	2	0	2	0	4	4	0	0	2	1	0	3	3	2	2	2	3	3	4	0	4	2	1	0	0	2	0	6	0	6	10	2	8	4	1	4	5	56	
ALA	GCA	5	1	7	1	3	1	1	1	1	0	4	2	2	2	7	7	6	0	8	2	1	1	0	1	4	2	2	1	4	2	4	8	4	2	0	3	3	1	0	0	0	0	25	2	17	2	4	5	2	54	
	GCC	19	26	42	56	47	56	25	15	11	8	11	29	27	5	84	90	85	27	161	5	3	10	5	30	24	29	6	8	27	10	20	161	47	28	12	25	26	27	23	70	23	30	63	6	37	6	11	27	11	221	
	GCG	6	26	18	36	46	37	12	8	6	4	6	6	6	2	44	58	48	12	100	2	3	11	3	23	11	5	2	3	15	8	9	100	30	19	12	10	10	18	12	40	12	17	25	0	44	1	1	5	5	91	
	GCU	1	5	6	1	8	2	5	5	2	0	2	2	3	0	3	3	4	7	2	0	2	4	0	6	4	3	1	1	1	2	4	2	3	1	4	4	3	1	0	3	0	5	15	2	8	1	3	3	4	46	
GLY	GGA	0	7	5	1	8	2	5	4	3	2	3	2	2	0	9	14	9	1	2	0	3	4	1	5	3	2	2	3	8	2	2	2	4	6	5	3	3	6	0	8	0	3	26	3	26	5	6	6	4	40	
	GGC	10	9	21	37	31	37	15	10	9	3	8	11	11	1	43	50	40	11	84	1	3	4	3	12	8	10	1	5	12	8	11	84	28	22	7	7	7	22	7	50	8	9	53	1	43	3	6	16	7	72	
	GGG	9	12	14	21	32	21	21	13	6	7	6	13	13	4	43	40	43	14	55	4	3	14	1	18	12	13	7	8	10	2	9	55	19	11	3	9	9	11	7	29	7	18	32	0	29	2	5	8	7	61	
	GGU	4	4	4	4	4	3	2	2	1	0	2	0	0	1	7	5	7	4	1	1	4	5	0	3	1	0	1	4	4	2	3	1	3	3	1	2	2	3	0	2	0	2	15	2	6	2	1	4	7	25	
VAL	GUA	6	0	2	3	4	3	1	1	1	0	1	1	1	2	3	3	2	2	1	2	3	1	2	2	6	1	3	2	1	4	3	1	0	3	2	1	1	3	0	2	0	1	3	1	0	2	4	2	1	7	
	GUC	16	7	13	27	24	25	17	14	6	5	6	11	11	0	27	28	29	7	14	0	2	6	2	17	11	11	5	7	13	7	5	14	13	12	10	10	10	13	11	24	10	11	20	3	1	0	7	10	8	60	
	GUG	16	8	17	36	21	36	21	15	3	4	4	12	12	3	46	52	47	10	47	3	1	8	3	24	14	13	2	2	6	10	8	47	15	29	2	9	10	29	13	27	13	8	54	3	6	5	8	14	15	63	
	GUU	2	1	3	3	3	4	3	3	4	0	1	1	1	1	6	2	4	3	1	1	5	1	2	7	1	1	2	2	5	4	5	2	1	5	2	2	5	5	2	0	11	0	5	15	1	0	4	2	2	2	14
LYS	AAA	2	3	3	7	0	7	4	0	1	2	1	4	4	1	6	10	6	4	0	1	1	0	0	3	5	4	0	1	4	3	2	0	2	2	0	2	2	2	1	6	1	0	3	7	0	0	5	10	3	30	
	AAG	4	1	9	32	7	32	5	2	0	1	0	8	7	0	46	23	45	0	8	0	1	3	0	3	0	8	0	3	9	1	6	8	7	6	1	10	10	6	5	25	5	1	20	6	0	0	8	11	9	63	
ASN	AAC	10	10	10	39	11	39	10	4	2	4	2	12	13	2	28	46	28	7	10	1	0	7	2	5	6	12	1	5	7	7	3	10	12	9	3	9	9	9	15	33	15	5	30	5	7	4	7	11	8	55	
	AAU	2	1	1	2	0	2	3	1	0	1	0	1	1	2	1	1	1	1	2	1	1	0	3	2	1	0	0	2	0	3	1	1	2	0	2	2	2	0	2	0	2	0	1	12	4	0	2	6	7	1	18
GLN	CAA	2	1	2	2	3	2	1	0	0	5	0	2	2	0	5	4	4	6	0	0	5	6	1	4	5	3	0	3	2	4	0	0	5	3	0	3	3	3	0	4	0	3	13	3	3	1	2	4	3	30	
	CAG	8	9	12	23	18	22	16	14	5	0	5	14	14	0	26	33	27	13	19	0	1	1	1	12	8	14	0	4	13	3	10	19	10	13	4	11	10	13	8	28	8	10	46	7	34	2	8	15	7	115	
HIS	CAC	9	10	15	21	18	20	9	9	3	5	3	8	7	1	28	22	28	6	17	1	3	17	0	12	6	8	2	4	9	6	4	17	11	10	2	10	10	10	8	27	8	7	24	1	15	3	8	14	9	39	
	CAU	1	3	4	1	2	1	3	3	0	0	0	2	2	1	5	5	4	6	0	1	0	3	0	4	2	2	3	3	5	1	1	0	3	1	0	1	1	1	2	2	2	3	10	1	1	6	7	3	2	14	
GLU	GAA	0	6	5	5	10	4	3	1	1	3	1	5	5	2	14	7	14	2	4	2	4	0	3	8	5	5	0	4	5	6	12	4	4	1	1	5	5	1	4	14	4	2	15	9	4	7	5	7	8	61	
	GAG	8	22	24	48	40	49	20	17	5	2	5	12	12	4	65	60	65	12	53	4	4	9	1	18	7	12	1	10	23	9	17	52	21	20	6	11	11	20	18	47	18	15	56	7	11	7	11	11	13	136	
ASP	GAC	4	28	32	45	36	45	19	16	4	0	4	14	13	6	59	51	59	16	97	6	4	10	3	21	10	14	2	7	29	9	20	97	33	13	5	15	15	13	16	63	15	17	34	8	12	5	7	21	9	107	
	GAU	1	11	8	4	6	4	0	0	1	0	1	3	3	1	10	6	10	3	3	1	5	3	1	9	2	3	0	2	5	2	15	3	5	1	0	4	4	1	5	9	5	4	21	2	2	3	5	8	7	47	
TYR	UAC	12	15	8	37	14	37	11	9	3	0	3	15	14	1	43	26	43	8	17	1	1	8	2	11	9	15	2	1	13	5	4	17	9	11	4	14	14	11	13	24	13	9	21	6	1	1	5	14	5	48	
	UAU	3	3	2	0	6	0	3	3	1	0	1	2	2	0	5	1	5	4	2	0	0	2	1	3	3	2	0	0	6	1	2	2	1	3	0	2	2	3	2	6	2	2	11	0	0	4	3	3	2	30	
CYS	UGC	3	3	5	9	10	10	7	5	4	0	4	4	4	0	17	17	17	4	15	0	0	4	1	4	6	4	2	1	5	4	6	15	10	7	5	7	7	7	7	23	7	1	18	3	17	2	6	15	6	14	
	UGU	9	3	5	1	7	1	1	1	1	0	1	3	3	0	4	5	4	0	0	0	1	4	1	9	4	3	1	2	7	6	6	0	0	1	1	0	0	1	0	3	0	1	7	3	0	4	6	5	2	3	
PHE	UUC	7	11	11	26	16	26	8	7	1	0	1	4	4	1	31	30	30	3	16	1	0	5	1	5	2	4	0	5	5	3	2	16	14	7	3	3	3	7	11	30	11	4	27	4	1	0	8	13	5	40	
	UUU	7	11	9	14	13	14	5	4	3	0	3	6	6	0	29	33	29	5	6	0	0	4	1	4	5	6	1	1	11	4	8	6	6	5	3	6	6	5	7	16	7	4	26	6	0	8	6	11	9	42	
ILE	AUA	2	0	1	3	3	3	1	0	2	0	2	3	3	0	6	3	5	4	0	0	0	0	0	2	5	4	0	0	3	0	2	0	0	2	2	1	1	2	0	2	0	4	3	2	0	6	6	3	1	16	
	AUC	16	5	13	25	16	25	12	10	4	1	5	16	16	2	41	23	42	11	10	2	3	4	1	5	7	15	0	4	15	6	3	10	16	11	6	20	19	11	18	28	19	7	20	1	0	1	11	17	3	73	
	AUU	3	4	5	0	3	0	4	4	3	0	2	5	5	0	7	6	7	1	1	0	0	2	0	4	3	5	0	4	8	2	4	1	1	2	0	2	2	2	3	4	3	2	15	4	0	4	1	8	5	19	
MET	AUG	7	15	9	24	10	24	9	7	3	1	2	8	8	3	22	29	21	13	11	3	3	7	5	10	6	8	2	5	6	6	8	11	8	4	1	7	6	4	4	35	4	11	31	6	1	4	5	10	6	8	42
TRP	UGG	6	4	10	10	7	9	11	7	6	2	6	6	6	1	9	8	8	5	21	1	0	4	1	15	3	6	2	1	3	7	6	21	10	10	6	6	6	10	2	13	2	4	18	0	7	6	0	5	7	29	
TER	UAA	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	
	UAG	0	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	1	1	0	1	0	1	0	1	0	0	0	0	1	1	0	0	0	0	1	0	0	1	0	1	0	0	
	UGA	1	0	1	1	0	1	0	0	1	0	1	0	0	1	1	1	1	1	0	1	0	0	0	0	0	0	1	0	1	0	1	0	1	0	1	0	0	0	0	1	0	1	0	1	0	1	0	1	1	0	
TOTAL		339	480	627	905	781	904	512	350	173	120	173	395	394	89	1236	1197	1236	377	1299	89	162	313	91	551	391	395	93	239	482	292	421	1299	621	481	173	394	394	480	338	1145	338	376	1319	171	661	192	319	526	337	3150

57		HS4 #9	HS4 #10	HS4 #11	HS4 #12	HS4 #13	HS4 #14	HS4 #16	HS4 #17	HS4 #18	HS4 #19	HS4 #20	HS4 #21	HS4 #22	HS4 #23	HS4 #24	HS4 #25	HS4 #26	HS4 #27	HS4 #28	HS4 #30	HS4 #31	HS4 #32	HS4 #33	HS4 #34	HS4 #35	HS4 #36	HS4 #37	HS4 #38	HS4 #39	HS4 #40	HS4 #41	HS4 #42	HS4 #43	HS4 #44	HS4 #45	HS4 #46	HS4 #47	HS4 #48	HS4 #49	HS4 #50	HS4 #51	HS4 #52	HS4 #53	HS4 #54	HS4 #55	HS4 #56	HS4 #57	HS4 #58	HS4 #59	HS4 #60
ARG	CGA	1	5	4	2	0	0	3	1	0	0	5	3	3	3	2	0	1	0	1	1	3	5	7	1	6	5	1	3	2	1	1	1	2	2	1	2	7	6	6	6	2	3	0	2	2	3	4	1	1	0
	CGC	10	37	17	5	5	2	25	4	6	0	7	5	2	2	1	1	1	0	1	5	5	5	3	3	10	15	7	0	7	6	2	1	5	3	0	3	15	8	4	7	14	9	2	3	25	19	16	2	3	0
	CGG	9	35	13	2	4	4	17	2	5	0	2	5	4	4	1	0	4	1	2	1	10	4	7	0	6	10	2	0	7	0	4	4	7	2	0	10	22	5	5	11	12	5	5	0	20	10	16	0	4	0
	CGU	4	8	7	3	0	2	8	1	2	0	3	3	3	3	0	0	0	0	0	1	2	3	8	2	6	5	0	0	6	3	5	3	4	0	1	3	6	1	2	1	4	2	2	0	5	7	5	0	1	1
	AGA	1	10	1	0	2	3	5	3	3	1	2	1	4	3	2	4	7	4	1	5	5	3	13	1	1	2	2	0	2	4	1	2	5	2	1	5	7	3	6	2	0	3	2	6	5	9	1	1	3	2
	AGG	2	21	16	4	10	4	15	1	5	0	0	3	2	2	2	0	5	3	6	4	14	4	12	0	9	15	7	1	5	4	6	2	13	3	2	6	25	5	2	10	11	3	3	3	13	9	22	5	8	1
LEU	CUA	4	9	5	3	3	1	11	1	3	1	0	3	7	6	2	1	1	3	2	4	8	2	3	0	8	8	3	1	3	5	5	2	5	1	2	4	8	7	3	7	7	5	3	4	7	9	8	1	0	3
	CUC	5	47	23	8	10	16	33	8	12	2	2	1	10	9	4	2	0	1	0	17	11	9	2	6	15	35	10	2	13	3	11	6	15	6	4	6	36	19	8	7	18	14	5	17	39	13	23	5	8	4
	CUG	22	63	39	15	18	27	45	9	12	8	4	1	19	18	2	0	0	4	6	16	24	17	1	7	25	28	26	3	13	11	16	20	15	11	8	4	57	48	12	18	42	24	9	27	52	34	66	9	19	5
	CUU	1	7	9	3	4	5	8	2	4	3	1	2	8	8	2	0	1	3	0	3	4	11	4	3	4	5	5	1	5	7	2	3	8	1	4	5	12	10	5	7	7	5	4	3	2	5	8	3	0	1
	UUA	1	2	3	2	1	1	3	1	0	1	0	3	3	1	1	1	2	2	0	4	2	11	2	3	3	1	1	0	1	4	1	1	0	2	1	2	1	3	0	5	3	2	2	0	0	4	4	1	0	1
	UUG	0	6	7	5	4	7	4	2	3	1	4	0	8	5	0	2	4	2	3	2	6	11	3	2	3	1	4	2	4	4	7	2	6	2	2	5	7	12	4	11	3	5	3	10	5	7	3	3	2	1
SER	UCA	1	14	7	0	4	2	8	4	1	1	2	2	23	13	3	1	4	6	3	0	3	7	5	3	5	6	5	0	6	4	0	5	3	2	1	4	10	2	0	5	10	6	1	0	5	7	5	1	0	0
	UCC	10	28	15	5	8	8	17	1	4	4	2	1	14	10	0	2	2	1	1	8	17	23	5	4	14	16	14	1	13	6	7	1	8	8	10	4	28	13	6	8	14	15	6	9	19	23	18	4	2	1
	UCG	3	13	7	0	7	5	11	4	3	1	1	0	7	7	2	0	0	0	4	1	4	5	0	0	9	7	9	0	5	2	2	1	4	1	5	2	6	5	1	4	6	5	1	1	9	8	19	1	3	0
	UCU	4	10	11	0	5	7	4	2	4	1	9	2	15	14	1	4	2	1	3	4	6	10	3	0	7	6	5	2	8	4	1	4	7	1	4	4	12	11	3	13	5	9	5	3	4	4	6	5	5	3
	AGC	9	30	16	6	8	8	16	5	6	1	2	3	27	17	3	1	1	2	2	6	16	8	2	7	14	16	4	0	5	10	5	5	6	4	5	7	23	17	4	11	7	7	4	8	18	19	31	4	6	2
	AGU	4	4	7	2	6	0	3	0	4	1	0	0	17	10	0	1	2	2	0	4	9	5	12	0	5	2	0	0	3	5	0	1	7	2	3	2	8	6	2	8	0	3	2	0	2	3	4	1	0	0
THR	ACA	1	7	4	2	4	3	7	0	3	3	2	3	45	37	1	1	2	7	3	3	10	6	5	2	3	5	3	0	2	3	1	7	6	4	16	4	11	7	2	8	5	5	3	6	8	10	3	1	3	0
	ACC	7	32	18	10	8	10	27	5	12	3	4	1	77	40	1	1	3	7	3	5	15	9	4	3	18	35	9	1	11	14	4	17	10	5	18	18	42	23	7	17	9	20	13	13	21	44	39	9	3	1
	ACG	6	25	12	3	6	3	16	5	3	3	2	1	19	18	2	1	1	2	0	4	3	7	0	1	16	16	11	0	7	5	5	5	7	1	10	3	14	9	5	7	9	6	2	3	20	16	15	1	2	1
	ACU	3	5	6	5	7	2	5	0	1	1	1	0	22	14	0	1	2	3	6	1	8	4	6	2	3	4	2	2	6	1	5	3	6	2	13	4	16	10	4	7	1	2	9	3	0	12	6	2	2	0
PRO	CCA	2	15	3	2	9	2	10	1	4	1	3	20	46	26	4	5	5	9	10	4	7	11	15	2	2	3	2	2	9	5	4	8	9	0	5	10	13	6	2	7	8	14	3	1	7	8	8	5	6	1
	CCC	8	53	18	3	10	7	28	8	12	1	2	9	33	22	3	2	2	5	1	5	24	12	11	0	15	23	12	0	13	7	12	9	13	2	3	6	34	12	12	15	23	30	8	6	28	22	37	6	3	3
	CCG	7	23	12	2	7	4	13	4	4	2	2	2	8	8	4	0	2	3	3	1	9	4	5	0	8	11	5	0	5	1	2	2	5	5	2	8	18	4	4	8	7	20	1	2	8	7	20	0	3	0
	CCU	5	16	5	1	11	1	5	5	2	1	5	4	12	9	2	5	5	2	12	3	13	12	10	1	6	2	3	0	3	7	7	6	5	3	8	7	8	2	11	5	15	4	2	9	5	4	2	3	1	1
ALA	GCA	3	21	5	1	5	5	7	1	0	2	2	2	23	16	2	3	1	4	9	2	7	11	85	3	8	5	4	0	3	3	6	5	9	0	5	6	14	4	6	5	8	6	14	4	3	7	8	7	3	2	0
	GCC	19	109	50	20	28	22	46	16	9	7	7	5	25	17	7	4	3	6	4	15	32	21	8	4	28	44	21	3	12	15	12	15	24	8	11	16	87	30	8	26	37	36	7	14	69	37	64	7	13	1
	GCG	9	50	12	5	7	3	14	3	2	4	1	1	7	7	3	2	0	1	0	2	7	2	4	1	8	11	3	1	7	2	5	2	5	2	2	8	13	8	7	6	19	12	2	3	10	14	30	1	7	0
	GCU	4	13	7	6	7	5	11	3	2	3	7	1	10	8	2	3	4	1	10	4	6	12	6	2	2	9	1	0	4	4	5	4	17	1	7	10	19	10	6	10	7	9	4	2	5	3	8	5	2	1
GLY	GGA	3	18	7	1	4	6	6	1	1	0	2	2	20	14	2	2	2	4	6	3	7	8	144	1	6	12	1	1	4	1	4	4	8	2	3	7	15	5	5	11	7	16	3	4	8	7	12	2	0	1
	GGC	11	32	16	5	11	4	20	5	8	1	2	1	18	16	0	3	3	1	8	3	14	6	19	4	14	24	6	1	9	7	6	3	15	6	3	5	18	10	10	10	13	18	4	10	32	22	34	7	4	2
	GGG	20	32	25	4	8	6	15	4	10	2	1	1	7	7	2	3	7	8	4	6	7	20	63	2	9	19	5	4	10	2	2	8	24	7	5	13	36	18	0	8	11	9	7	4	28	17	35	4	2	0
	GGU	6	10	6	2	1	2	8	2	6	0	4	0	17	16	3	3	1	0	1	1	5	14	25	3	5	4	1	1	7	3	5	6	5	0	3	8	8	7	4	13	5	9	3	3	2	8	10	3	0	0
VAL	GUA	3	5	2	2	3	4	4	1	1	0	3	1	9	8	1	1	3	6	3	3	3	4	4	1	1	4	1	0	1	6	1	5	1	2	0	3	9	1	4	6	3	1	2	3	3	1	2	1	1	2
	GUC	15	26	17	6	6	13	23	5	6	4	2	0	13	13	3	3	1	5	2	8	9	9	4	5	10	29	22	1	14	6	1	8	10	7	5	14	25	17	4	7	8	11	5	8	26	19	26	9	4	3
	GUG	13	37	27	8	16	14	31	11	8	3	2	4	25	18	2	6	2	7	6	6	18	5	5	3	24	26	20	1	18	8	12	14	15	8	7	17	65	21	5	16	17	15	11	7	46	32	50	9	13	1
	GUU	3	5	3	1	7	4	4	3	2	0	5	2	11	9	1	0	0	6	3	1	3	17	2	1	5	3	5	0	2	2	5	5	11	2	3	5	20	15	2	9	2	0	5	3	3	5	4	6	0	0
LYS	AAA	1	5	4	0	3	2	8	1	1	0	4	2	11	7	0	1	0	8	2	5	5	4	5	0	4	5	3	2	8	5	6	7	6	2	2	2	8	8	3	8	2	4	2	7	5	6	3	3	3	0
	AAG	5	10	24	13	18	7	15	5	8	4	7	3	14	13	5	1	1	5	0	10	26	12	7	2	27	20	9	1	14	11	4	7	6	7	5	11	33	22	9	27	10	21	3	4	43	27	39	6	7	0
ASN	AAC	5	8	15	8	8	4	12	1	5	3	2	2	19	16	1	1	1	6	3	6	12	7	4	6	22	24	10	5	7	5	7	10	5	2	7	8	40	13	4	7	16	8	5	6	22	34	40	3	3	0
	AAU	6	2	6	4	2	1	8	5	2	1	4	0	33	24	1	3	4	5	3	4	7	8	2	4	3	9	3	3	10	6	3	5	5	4	4	9	25	7	1	11	5	5	9	3	4	8	7	3	0	0
GLN	CAA	2	4	3	3	6	1	8	2	1	0	5	8	14	12	1	4	2	4	13	3	3	7	7	1	4	5	1	0	5	5	5	3	6	4	0	4	9	5	5	5	2	3	2	1	8	11	2	1	0	0
	CAG	8	22	29	4	15	3	24	7	12	2	4	9	11	10	4	5	6	3	10	12	13	16	4	3	19	20	6	0	7	9	9	6	12	5	3	7	44	15	10	16	25	25	1	4	30	34	45	6	1	2
HIS	CAC	7	16	16	6	7	5	22	2	9	0	0	2	6	4	1	2	1	3	2	10	9	11	4	2	6	16	7	0	3	9	5	4	12	5	1	7	34	11	4	9	9	22	4	4	19	9	17	8	5	2
	CAU	1	3	4	1	3	6	12	0	3	0	0	1	11	9	1	1	2	3	3	1	4	8	5	4	2	8	6	0	0	1	2	1	3	6	4	0	6	13	8	1	11	1	2	8	1	8	5	3	2	1
GLU	GAA	3	16	16	3	5	3	10	0	1	1	6	3	14	13	9	4	6	2	3	6	22	14	14	2	10	8	1	6	3	7	10	5	8	1	1	9	17	13	3	12	6	11	4	3	7	11	7	4	0	0
	GAG	11	71	44	20	16	6	34	19	9	0	5	1	16	15	2	9	5	7	2	7	24	18	11	2	31	36	13	5	22	11	14	8	25	15	4	19	62	29	3	24	23	16	2	4	53	34	54	11	5	4
ASP	GAC	12	49	23	10	7	0	23	7	9	2	5	2	14	12	3	2	6	1	7	13	21	16	9	3	21	30	8	4	28	10	13	5	9	4	3	6	43	15	3	19	20	24	3	2	43	33	43	4	11	2
	GAU	3	12	20	9	5	2	13	3	2	1	1	2	17	17	8	10	6	3	1	5	11	17	14	0	9	8	1	2	7	1	9	7	7	5	1	10	24	10	4	14	5	7	3	3	15	7	7	3	4	0
TYR	UAC	3	25	22	10	6	9	18	1	7	4	0	1	14	14	0	0	1	4	1	10	9	3	2	4	18	22	16	0	15	4	5	8	5	6	2	4	34	22	1	8	10	21	6	7	32	26	42	3	9	0
	UAU	6	7	12	2	5	3	8	2	2	0	0	0	6	6	0	2	1	9	4	4	1	3	3	0	6	12	3	3	4	4	9	5	7	3	0	10	22	11	2	5	4	1	1	0	7	5	7	1	3	0
CYS	UGC	2	5	17	4	5	10	19	3	2	1	0	3	7	7	0	0	1	3	1	7	7	6	4	2	7	19	8	2	9	5	8	7	8	6	0	8	11	8	3	5	1	8	6	9	21	10	24	3	3	3
	UGU	2	1	9	1	1	8	8	1	2	1	1	1	4	4	0	0	0	8	1	1	5	5	2	3	4	2	1	0	4	2	4	5	1	3	1	3	7	5	5	9	1	2	4	2	8	1	5	1	0	1
PHE	UUC	13	22	19	10	2	14	17	2	7	3	0	1	7	7	0	0	2	3	1	4	9	4	3	3	13	25	16	0	8	8	5	5	7	3	1	9	31	7	1	10	14	5	1	10	25	23	22	7	5	0
	UUU	9	14	25	8	8	16	24	4	4	4	0	0	17	17	1	2	1	11	6	3	11	12	9	4	9	13	14	2	18	10	6	8	9	6	3	13	40	26	9	17	8	12	3	6	23	16	24	5	4	1
ILE	AUA	3	2	1	3	1	1	4	1	1	1	1	0	8	7	1	0	0	0	1	5	9	5	2	0	8	8	3	3	5	2	5	2	5	0	3	0	5	5	0	4	3	4	4	4	4	7	6	1	1	0
	AUC	8	28	12	7	3	11	19	6	8	2	0	1	8	8	1	1	4	2	0	8	8	8	1	4	27	14	18	1	8	10	2	6	8	6	3	4	35	14	1	4	13	7	8	9	32	23	25	4	5	1
	AUU	4	2	11	9	5	8	8	0	1	1	4	3	12	12	2	2	3	4	1	4	7	8	5	3	3	7	3	0	13	6	3	2	12	2	4	3	22	13	1	9	3	4	1	6	11	11	6	2	2	0
MET	AUG	5	13	20	10	6	9	13	7	6	2	8	5	13	10	4	2	5	1	2	8	17	7	5	1	8	19	11	1	10	9	11	13	7	6	6	15	44	22	2	13	16	4	2	16	15	19	19	5	5	1
TRP	UGG	6	19	12	3	3	6	12	5	3	2	0	0	8	8	1	1	3	6	6	5	5	4	3	3	5	9	8	1	5	2	8	4	6	4	2	2	4	5	2	9	6	2	7	6	9	7	8	5	5	0
TER	UAA	0	1	1	0	1	1	0	0	0	0	1	0	1	1	1	0	1	1	0	1	0	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1
	UAG	1	0	0	0	0	0	1	1	0	1	0	1	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	1	1	1	0	1	0	1	1	0	1	1	1	0	0	0	0	0	0	1	0	0	0
	UGA	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		365	1240	827	303	405	358	875	219	279	103	163	149	908	711	120	124	149	224	201	311	606	538	642	138	614	810	406	76	471	326	333	337	508	226	235	421	1382	707	249	608	571	606	249	313	1016	858	1129	222	221	61

50		H84 #61	H84 EDL I01	H84 EDL I02	H84 EDL I03	H84 ENV GP0	H84 ENV GP0	H84 MP	H84 NA2 I01	H84 NA2	H84 WAI	H84 U2I R2	H84 U2I R2A	H85 U2I 201	H85 IER 202	H85 IER 12K	H85 IRL 4*	H85 MIE	H88 GGI II	H88 TS	H88 TK	H8T D5	IBA	IBB SPI	LSV NG	MAA RNA 3A0 1	MAA RNA 3A0 2	MAA RNA 4	MAA RNA	MBG CG1 I01	MBG CG1 I02	MBG CG1 I03	MBG CG1	MBG CG2 I01	MBG CG2 I02	MBG CG2 I03	MBR CG2 Z	MBR CG2 I	MBR CG3 X01	MBR CG3 I02	MBR CG3 I03	MCA 184 I01	MCA 184 I02	MCA CGD H01	MCA CGD H02	MCA STR A50 1	MCA STR A50 2	MCC STR A50 3	MCF ENV A02	MCV RNA 1C	MCV RNA 2C	MCV RNA 3C1	MCV RNA 3C2	MHV RNA 7M	MHV E1N 01	MHV E1N 02	MLA PRO
ARG	CGA	4	4	2	0	3	3	4	8	0	1	1	1	8	2	0	1	14	1	2	1	0	2	2	1	0	2	2	1	0	0	3	7	3	4	6	2	1	8	1	5	1	7	1	1	4	6	5	1	1	3	1	2	7
	CGC	0	0	0	0	2	1	0	2	0	5	5	12	8	5	2	32	1	23	0	0	1	1	2	2	0	1	1	1	2	1	15	9	2	2	1	0	2	0	2	0	0	0	4	7	6	3	3	5	1	6	11
	CGG	1	1	0	0	4	4	1	11	1	3	4	4	3	0	7	11	0	9	0	0	1	1	1	2	2	2	1	2	1	4	3	0	0	2	0	3	0	1	0	1	4	4	6	2	3	1	0	1	1	1	11
	CGU	0	0	0	1	3	3	0	5	0	1	1	0	0	5	2	1	0	7	0	15	0	3	1	2	4	9	0	2	7	0	19	8	2	3	1	2	0	2	0	2	3	2	20	17	3	7	3	2	4	4
	AGA	3	3	1	2	4	3	3	10	2	8	4	0	0	9	6	0	11	3	5	16	10	2	2	2	6	2	3	2	1	5	11	16	6	1	9	9	9	9	10	8	2	10	10	8	5	4	11	2	12	10
	AGG	1	1	0	1	2	2	1	11	1	9	14	0	1	5	3	1	3	2	0	2	9	4	2	2	2	4	4	4	2	4	11	7	2	5	3	9	3	9	2	8	2	5	5	5	2	2	6	2	6	13
LEU	CUA	9	9	6	3	7	6	9	6	1	7	10	0	0	1	2	0	2	2	7	13	8	5	0	0	1	0	0	0	1	3	8	5	0	1	6	6	8	7	8	6	1	17	9	3	2	2	3	5	2	3
	CUC	23	23	10	4	10	9	23	12	1	4	7	3	2	5	5	22	1	11	2	2	10	3	8	7	5	0	3	0	1	2	9	12	9	3	6	19	4	20	7	18	4	17	13	6	2	3	2	2	2	19
	CUG	12	12	7	5	19	18	12	1	3	4	4	5	8	3	16	15	3	8	1	8	12	3	7	8	2	0	2	1	0	3	17	17	5	4	2	1	5	1	3	1	0	18	14	11	2	4	3	2	3	34
	CUU	15	15	5	1	8	8	15	1	2	12	9	2	1	6	1	0	8	4	8	29	12	8	1	1	6	1	2	2	2	1	10	17	4	5	7	5	9	3	5	4	3	6	17	16	6	5	5	4	4	11
	UUA	4	4	1	1	3	1	4	0	0	9	5	1	0	3	4	0	10	2	11	23	10	9	1	1	4	2	5	2	6	11	12	13	4	0	8	4	5	4	6	4	5	10	16	15	12	2	6	2	6	4
	UUG	10	10	5	1	8	5	10	0	0	3	5	2	2	7	8	0	4	3	2	19	15	4	4	3	7	5	1	2	8	4	23	7	5	3	5	4	4	6	4	3	8	9	20	24	11	6	6	8	7	9
SER	UCA	0	0	0	0	23	12	0	8	1	6	15	1	0	1	4	0	8	0	3	24	19	8	2	2	10	2	2	6	5	17	9	6	4	2	13	5	14	5	13	7	1	8	14	9	5	4	3	2	3	9
	UCC	7	7	4	1	14	7	7	0	0	6	6	12	12	4	9	9	1	2	1	5	7	1	4	3	6	4	1	4	2	3	11	12	9	1	4	2	3	2	4	4	3	10	19	22	6	7	5	2	5	23
	UCG	0	0	0	0	7	6	0	4	0	0	2	5	5	11	0	15	0	9	1	1	2	6	0	0	2	1	1	2	2	5	9	6	2	3	3	3	2	4	2	3	4	1	7	8	5	6	2	1	1	7
	UCU	8	8	7	3	15	13	8	2	0	10	4	8	7	5	9	1	4	7	1	38	6	7	3	4	4	6	1	3	11	7	22	20	14	4	7	6	7	7	8	7	4	6	29	19	9	9	11	3	14	21
	AGC	3	3	3	2	27	16	3	4	4	4	6	11	10	2	5	15	2	9	0	5	2	4	2	2	2	2	0	5	1	2	9	6	7	2	5	8	4	9	4	8	2	4	3	8	6	1	9	6	9	24
	AGU	4	4	3	0	17	7	4	8	1	14	6	6	4	5	11	0	3	2	7	33	14	8	4	4	3	3	0	1	3	4	11	12	3	1	3	7	3	5	4	6	3	4	8	14	5	2	8	3	9	12
THR	ACA	1	1	1	0	45	32	1	1	1	15	11	2	1	7	3	0	8	1	5	22	8	5	2	2	9	3	6	2	4	7	12	6	6	1	9	12	11	18	13	13	4	10	13	8	4	2	5	4	3	10
	ACC	3	3	2	1	77	36	3	10	1	6	10	14	13	4	11	11	0	10	1	6	7	7	3	3	4	4	0	1	0	1	11	15	3	3	11	8	12	4	12	4	4	27	15	14	5	4	4	6	3	7	33
	ACG	2	2	2	1	19	18	2	0	0	6	5	3	4	3	4	11	1	6	1	5	0	2	4	3	2	2	2	2	4	3	10	6	3	2	3	7	3	7	2	7	3	2	12	9	3	3	1	2	2	5
	ACU	6	6	5	0	22	14	6	0	1	10	6	1	1	2	11	0	9	4	1	50	13	2	5	5	3	2	2	3	4	1	16	22	3	5	2	10	6	10	5	10	7	17	28	18	5	4	11	8	10	18
PRO	CCA	11	11	9	1	46	23	11	11	1	41	69	2	0	3	5	0	4	4	2	10	5	7	1	1	9	5	2	6	1	6	2	9	3	2	6	18	7	17	8	19	0	7	5	13	1	1	9	2	11	22
	CCC	5	5	2	3	33	21	5	27	0	26	31	13	12	2	6	24	0	7	2	1	3	4	3	3	2	1	1	3	0	2	7	8	4	1	5	8	5	7	4	10	3	21	8	14	5	2	10	5	12	33
	CCG	6	6	4	0	8	7	6	0	2	8	8	3	2	3	1	20	2	8	1	4	2	2	6	6	8	0	0	0	0	3	9	5	2	1	1	4	0	4	1	3	1	5	7	7	4	7	0	1	0	16
	CCU	14	14	13	1	12	8	14	16	1	27	30	4	5	4	15	0	6	7	2	27	8	5	7	7	4	4	0	3	7	3	10	13	6	3	5	6	4	6	4	6	3	14	13	16	7	4	15	0	10	33
ALA	GCA	2	2	1	0	22	15	2	0	2	11	8	1	2	6	3	0	3	2	6	26	16	6	2	1	7	5	5	4	4	9	6	11	3	5	6	13	6	15	5	13	3	4	9	10	1	1	9	3	8	14
	GCC	6	6	4	1	25	16	6	0	1	5	5	4	7	5	20	33	0	9	1	10	9	3	4	5	3	3	0	2	0	2	21	9	4	8	5	12	7	12	4	11	6	21	16	9	5	5	11	3	9	36
	GCG	2	2	1	0	7	6	2	0	1	3	1	4	3	1	2	36	1	27	2	3	0	3	6	7	3	3	1	1	0	4	16	12	4	9	3	4	3	3	2	4	3	5	6	8	8	7	2	1	2	2	4
	GCU	6	6	3	1	10	8	6	1	1	1	4	2	2	1	11	1	9	14	5	34	10	12	8	7	5	1	2	0	4	2	29	19	14	11	3	11	3	10	5	11	12	10	39	22	14	7	14	3	14	24
GLY	GGA	15	15	9	1	20	13	15	12	2	7	8	3	3	2	4	1	15	9	4	12	16	7	3	3	9	2	1	6	4	5	13	12	7	3	17	12	18	12	20	12	1	21	13	7	0	2	15	2	15	17
	GGC	20	20	17	2	18	13	20	8	5	14	10	11	9	1	6	18	1	11	0	16	5	1	4	4	2	2	1	2	1	1	8	7	3	3	5	5	6	5	3	4	4	12	12	3	1	3	10	4	11	23
	GGG	1	1	0	0	7	6	1	16	5	9	9	2	4	4	4	10	4	6	0	4	10	4	6	6	1	0	2	0	1	2	6	4	3	3	1	2	1	2	1	0	2	22	8	7	5	1	7	0	7	20
	GGU	10	10	9	0	17	15	10	12	0	1	3	5	6	1	4	1	3	4	7	53	12	7	4	4	8	9	0	2	9	2	26	14	11	1	4	9	2	7	3	9	3	5	25	21	12	8	13	7	11	6
VAL	GUA	0	0	0	2	9	8	0	5	0	3	4	0	0	6	5	0	4	1	9	18	5	1	1	2	1	2	4	0	2	6	13	8	4	4	3	8	3	9	1	8	4	11	9	7	5	2	8	2	8	7
	GUC	2	2	0	3	13	12	2	13	0	7	6	2	3	5	7	32	2	8	2	5	10	5	2	4	10	7	2	0	1	1	13	13	2	5	3	5	2	7	2	7	5	9	15	25	5	4	4	2	4	11
	GUG	2	2	1	1	25	16	2	4	2	2	4	11	7	1	15	22	5	6	1	14	11	6	5	5	3	4	1	1	4	3	18	13	8	3	1	6	1	5	1	6	6	11	19	9	4	3	9	8	10	29
	GUU	4	4	3	0	11	8	4	0	0	3	4	0	0	0	5	0	7	9	2	54	14	9	4	2	6	8	3	3	10	5	26	20	10	6	5	11	4	10	5	10	6	8	33	26	11	8	8	10	8	9
LYS	AAA	1	1	1	0	11	5	1	0	2	3	1	6	4	9	8	0	11	2	5	26	25	11	9	8	16	5	5	7	7	11	31	25	7	4	17	25	19	22	18	25	4	21	34	18	5	9	13	3	14	15
	AAG	0	0	0	0	14	13	0	0	1	1	5	11	10	1	28	3	2	2	4	23	19	12	5	6	10	12	1	5	11	9	32	27	12	8	10	12	8	38	25	39	27	39	27	8	12	30	28	8	6	19	46
ASN	AAC	9	9	9	0	19	15	9	0	1	5	6	9	7	5	8	12	4	6	6	10	14	3	3	2	10	10	5	2	4	8	15	7	7	0	12	11	10	14	10	11	4	9	11	12	9	6	6	5	7	25
	AAU	7	7	6	0	33	22	7	0	0	8	6	3	1	6	6	0	7	0	11	73	13	9	6	7	11	10	7	1	12	8	17	16	5	5	4	8	8	7	7	8	10	1	11	18	15	10	5	18	5	18	2
GLN	CAA	7	7	7	0	14	11	7	9	1	19	19	0	0	3	6	0	4	2	10	34	15	1	6	6	13	6	3	5	6	10	18	14	5	3	12	17	13	18	13	16	4	16	18	18	7	2	17	3	15	5
	CAG	8	8	7	2	11	9	8	9	1	13	9	9	11	7	16	5	8	5	3	25	13	4	3	3	6	1	2	6	1	5	11	13	5	4	7	7	7	7	7	7	3	16	11	10	7	4	23	2	21	26
HIS	CAC	11	11	9	2	6	4	11	5	0	3	2	4	3	4	4	9	7	7	1	5	2	3	1	1	3	1	3	4	2	2	16	5	1	1	2	7	1	7	3	6	0	5	14	10	2	2	1	2	1	17
	CAU	8	8	8	0	11	7	8	0	2	10	12	3	2	3	3	0	6	3	1	9	5	3	5	6	8	8	3	7	7	9	19	15	3	2	3	7	4	7	2	8	2	6	11	8	8	0	2	1	3	5
GLU	GAA	5	5	4	0	15	12	5	16	2	14	9	7	8	5	14	1	11	5	10	24	10	11	4	4	17	5	1	6	6	6	22	22	6	4	48	16	52	19	50	20	4	13	30	19	5	2	11	2	14	16
	GAG	4	4	2	4	16	14	4	15	3	7	6	13	13	2	49	26	2	11	5	13	13	6	6	6	4	2	4	1	1	5	39	28	9	7	12	17	11	18	12	16	6	9	23	24	9	5	11	3	9	48
ASP	GAC	28	28	25	2	14	12	28	6	1	7	12	5	8	7	9	24	7	11	4	16	15	3	5	4	13	2	0	6	5	11	35	30	3	4	17	15	16	15	17	15	4	17	26	28	7	6	4	5	5	30
	GAU	14	14	14	0	17	17	14	1	1	8	11	8	6	4	19	0	14	6	5	28	25	12	5	7	7	9	4	4	12	8	40	47	12	2	15	15	15	13	13	15	2	11	38	37	8	8	18	2	17	7
TYR	UAC	4	4	2	0	14	14	4	1	2	4	2	3	3	3	6	14	1	8	3	17	6	4	3	2	4	2	2	3	1	5	10	12	0	1	13	11	12	8	12	9	4	10	14	7	9	5	4	4	3	22
	UAU	4	4	3	0	6	6	4	0	0	4	7	0	0	6	5	0	10	1	7	45	6	3	2	2	9	13	6	1	13	4	18	14	9	4	10	2	11	4	11	3	1	8	15	19	7	4	8	9	8	9
CYS	UGC	2	2	1	3	7	7	2	0	1	1	1	7	4	2	7	9	2	4	0	8	7	1	1	1	4	1	0	4	1	1	9	3	1	0	8	4	9	3	8	4	0	10	10	5	2	2	1	2	1	8
	UGU	2	2	0	1	4	4	2	0	2	2	1	2	1	1	4	7	0	4	4	7	30	4	1	2	2	2	4	0	2	4	4	20	14	5	1	4	2	5	3	6	2	2	10	17	13	9	2	1	2	1	4
PHE	UUC	8	8	4	0	7	7	8	0	0	2	2	3	3	3	6	16	1	2	2	10	9	1	8	10	13	1	5	5	2	7	14	19	4	3	11	10	10	11	10	11	1	10	22	21	7	3	4	7	5	16
	UUU	4	4	1	1	17	17	4	1	1	2	3	2	3	10	7	1	15	5	15	54	6	10	7	7	3	7	3	4	10	5	26	25	3	2	4	8	4	7	4	7	3	9	28	36	3	4	10	3	7	13
ILE	AUA	3	3	0	0	8	6	3	1	1	5	2	0	0	4	5	0	4	2	5	29	5	6	2	2	4	5	4	6	5	10	10	10	6	1	10	10	7	7	6	10	2	8	10	7	4	0	0	7	0	2
	AUC	12	12	3	1	8	7	12	4	3	2	4	11	12	6	8	8	3	5	2	8	10	3	1	1	10	3	4	4	2	8	19	12	2	1	20	10	21	16	16	15	4	9	13	9	4	4	5	4	27
	AUU	6	6	3	0	12	12	6	1	0	8	9	4	2	4	11	0	11	0	11	39	13	10	2	2	10	4	3	4	8	6	16	19	7	6	6	10	7	14	13	12	2	8	27	17	4	6	7	11	8	4
MET	AUG	7	7	3	1	13	10	7	1	4	9	10	8	6	3	26	4	9	9	4	18	10	7	4	4	3	11	2	2	10	3	19	26	5	4	13	10	12	11	12	11	2	8	31	19	5	6	4	8	4	20
TRP	UGG	10	10	6	0	8	8	10	1	1	6	7	2	0	4	1	5	5	6	5	9	6	1	2	2	7	4	2	1	2	4	19	11	3	3	4	3	4	3	4	3	3	14	12	4	2	2	5	7	5	15
TER	UAA	1	1	1	1	1	1	1	1	0	1	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	1	0
	UAG	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
	UGA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	1	0	0	0	0	1	0	0	1	1	0	0	0	1	1	1	1	0	0	1	0	0	1	0	0	0	0
TOTAL		387	387	259	61	908	659	387	309	73	455	491	281	256	255	492	480	295	377	2311	1163	571	301	219	222	354	242	133	173	257	294	962	823	304	190	489	521	491	523	490	521	191	641	982	840	334	237	456	229	455	982

59		MLF FXE NV	MLF RO# 1	MLF RO# 2	MLF VPE NV	MLM #1	MLM #3	MLR ENV #2	MLV ENV #2	MLV ENV PRM R	MLV REN V#2	MLX ENV XA#	MNT ENV 2	MNT ENV GR#	MNT LTR	MPV TK	MSH P21 #1	MSH P21 #2	MSH P21 A	MSJ HUS V	MSK P21	MSH MOS H1	MSH PRO CG# 2	MSR NUS V	MSV RAS	MSV MOS	MTG A	MTR R2	MTV 30K CP# 2	MTV 30K CP# 3	MTV CG# 1	MTV CG# 2	MTV CG# 3	MTV CG# 4	MTV V#1	MTV V#2	MTV V#3	MTV V#4	MTV V#5	MTV V#6	MTY 2#3	MTY T	MTY B	MPA COA	MPB PH	PCS #1	PCS #2	PCS 2	PIC SRN A#1	PIC SRN A#2	PIC SRA AB
ARG	CGA	7	1	4	5	6	7	4	9	6	7	3	3	3	3	2	1	0	0	3	1	0	0	3	2	0	1	3	0	1	0	5	6	1	0	9	11	2	2	2	1	0	0	0	0	3	4	4	1	0	0
	CGC	4	3	3	8	2	3	3	5	4	4	5	3	0	6	3	3	2	0	7	4	5	3	8	1	2	1	1	5	6	0	1	6	7	1	1	1	1	1	1	1	4	7	8	4	0	4	4			
	CGG	3	0	2	1	5	4	2	2	4	2	2	3	3	1	0	7	7	7	5	0	7	8	8	4	7	7	3	0	1	1	5	5	1	1	2	2	1	1	1	1	1	1	0	0	6	10	7	0	0	0
	CGU	0	2	0	0	6	2	0	0	3	0	2	1	1	2	3	1	1	1	0	0	3	3	2	1	1	1	7	1	0	4	7	7	2	0	7	7	0	0	0	1	1	1	2	3	2	1	3	1	1	1
	AGA	13	2	10	11	15	13	10	12	12	12	12	13	14	10	5	2	1	1	8	8	2	4	11	2	0	2	3	4	4	1	25	37	4	4	22	35	8	8	7	5	0	0	0	2	10	1	1	13	17	17
	AGG	7	2	5	4	10	5	4	8	4	6	6	8	8	5	0	1	1	1	6	3	6	5	3	3	1	5	6	3	5	5	17	22	2	3	19	23	2	2	1	3	0	0	0	2	15	1	1	8	10	10
LEU	CUA	20	2	14	10	8	19	13	19	21	18	17	7	7	7	3	1	1	1	2	2	7	9	3	0	2	8	3	0	0	1	14	18	1	2	11	14	1	0	0	1	2	2	1	3	9	0	0	4	4	4
	CUC	13	5	8	10	12	18	7	14	22	13	16	5	6	6	1	1	1	1	7	2	7	5	12	2	1	7	0	1	4	0	11	14	3	0	10	15	1	1	1	0	11	11	1	5	17	7	5	12	10	11
	CUG	17	6	8	10	7	14	9	18	14	19	23	10	9	3	0	9	8	8	17	0	21	22	16	8	7	20	2	2	4	3	16	26	2	2	16	22	3	2	1	1	1	1	2	3	6	16	14	11	16	16
	CUU	8	3	6	5	9	10	4	7	6	7	5	18	18	5	1	2	2	2	4	2	1	3	7	1	2	1	0	3	5	2	23	33	4	0	26	34	6	6	3	0	2	2	3	4	6	1	0	10	14	14
	UUA	11	0	6	8	6	11	6	8	9	14	8	26	27	9	3	2	2	2	0	3	1	0	2	0	1	0	2	2	7	3	22	31	6	5	21	26	5	5	3	7	0	0	2	2	5	1	0	5	5	5
	UUG	7	1	4	4	7	9	4	9	10	6	7	13	12	5	4	1	0	0	6	4	6	6	10	2	1	5	6	5	10	6	23	42	5	4	25	47	4	4	1	3	1	1	5	1	5	1	2	10	12	12
SER	UCA	8	1	5	5	1	11	6	9	13	9	11	7	7	5	2	2	2	2	4	2	4	4	2	1	2	3	3	3	3	1	18	25	7	2	21	25	4	4	2	3	4	4	5	1	3	1	1	5	12	12
	UCC	15	4	7	10	9	21	7	17	22	12	14	11	11	3	2	3	3	3	17	1	13	12	20	5	3	9	2	3	5	1	15	17	2	0	14	16	1	1	0	0	4	4	2	1	11	7	6	5	7	7
	UCG	3	1	3	3	4	3	1	1	2	3	5	2	2	2	0	0	0	0	3	0	5	6	2	3	0	5	1	2	4	6	15	20	5	2	18	24	6	6	5	0	4	4	0	2	2	1	2	1	2	2
	UCU	9	9	7	7	14	10	6	8	8	9	7	20	19	7	4	1	1	1	9	2	4	5	22	2	1	2	5	16	13	6	28	37	4	7	22	33	3	3	3	7	4	4	0	2	10	1	2	7	7	7
	AGC	4	0	4	5	2	5	3	5	8	4	4	4	1	0	3	2	2	10	1	7	8	7	3	2	6	1	0	0	0	0	5	7	0	2	14	17	1	1	0	3	1	1	1	3	0	7	4	7	4	4
	AGU	4	1	2	0	3	6	2	4	3	4	6	3	1	3	3	3	3	4	4	4	4	3	4	3	4	3	7	8	4	7	17	27	5	2	10	19	6	6	4	3	0	0	2	1	6	4	4	6	6	6
THR	ACA	13	1	10	8	5	11	8	12	11	11	9	12	10	5	5	6	6	6	6	5	1	0	8	2	6	2	2	1	5	5	17	23	3	4	21	25	4	3	3	2	1	1	1	2	6	1	1	22	13	13
	ACC	20	11	11	12	19	30	14	25	28	22	25	12	9	6	1	3	3	3	11	2	8	9	18	10	3	8	2	1	3	3	10	14	1	3	14	20	4	4	3	2	16	16	2	5	5	11	9	8	12	12
	ACG	2	2	2	2	1	3	2	1	6	4	5	4	4	0	1	1	1	1	1	3	6	7	1	7	0	5	3	4	3	5	12	17	3	2	12	17	1	1	0	3	3	3	2	0	3	7	6	2	1	1
	ACU	20	3	10	12	9	14	11	17	16	19	15	13	17	7	3	2	2	2	5	4	6	11	11	6	2	4	5	8	7	7	27	35	1	7	21	29	2	2	2	9	6	6	3	3	13	1	2	9	9	9
PRO	CCA	10	8	4	5	13	14	5	9	18	11	8	9	9	7	2	3	1	1	10	1	5	7	11	1	2	3	2	6	2	2	12	20	4	1	9	18	0	0	0	3	5	5	1	3	10	3	6	4	9	9
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	CCG	4	4	5	4	10	4	4	5	5	4	6	5	5	3	1	2	1	1	3	0	5	5	8	3	0	4	0	3	4	2	8	13	2	1	9	14	3	3	2	1	3	3	1	3	15	2	3	2	3	3
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60		PIF NP	PIF NPA	PIF #1	PIF #2	PIF PCD	PLJ CG0 1	PLJ CG0 2	PLJ CG0 3	PLJ CG0 4	PLJ CG0 5	PLJ CG0 6	PLY 201	PLY 202	PLY 203	PLY 204	PLY 205	PLY 206	PLY 301	PLY 302	PLY 303	PLY 304	PLY 305	PLY 306	POL 1	POL 2LA N	POL 3L1 2	POL 3L3 7	PPH 160 1	PPH 160 2	PPH 160 3	PPH 160 4	PPH 160 5	PPH 160 6	PPH 1A0 1	PPH 1A0 2	PPH 1A0 3	PPH 1A0 4	PPL #1	PPL #2	PPL #3	PPL #4	PPL #5	PPM VP1 #2	PPM VP1 #3	PPM VP1 M02	PPM VP1 M03	PTP SRM A01	PTP SRM A02	PV1 DUN #1	PVB DUN #2
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	GGC	5	5	0	0	0	4	3	3	1	8	11	1	1	11	4	5	11	1	1	10	4	5	26	40	25	25	0	1	0	1	4	9	1	5	10	6	2	2	3	6	1	2	4	2	4	3	0	15	0	8
	GGG	6	6	8	1	1	7	2	11	3	10	10	6	2	12	4	6	9	5	2	13	4	6	32	35	38	38	1	0	2	0	6	3	5	3	7	5	4	2	7	7	0	2	10	2	10	1	1	2	1	6
	GGU	5	5	2	1	2	5	2	6	4	11	5	6	2	3	5	8	5	6	2	2	7	10	37	32	43	43	2	1	3	5	13	15	7	4	7	2	10	8	1	7	1	8	1	8	1	4	7	11	2	7
VAL	GUA	4	4	9	4	1	7	2	3	1	12	13	5	4	6	4	8	13	5	4	8	4	8	28	23	26	26	3	3	6	8	13	11	7	3	6	7	6	3	7	11	4	4	6	4	7	0	2	5	3	11
	GUC	3	3	4	1	0	0	0	2	1	2	5	1	0	6	2	4	7	1	0	7	2	4	29	27	23	23	0	0	1	1	1	2	2	3	8	1	3	3	6	5	3	3	7	3	6	4	3	5	0	0
	GUG	7	7	2	4	1	2	2	10	3	12	8	5	3	14	7	11	8	5	3	14	6	10	59	53	67	67	1	1	4	12	4	4	6	3	6	6	6	4	8	11	0	4	8	4	8	8	3	16	1	2
	GUU	7	7	9	0	2	13	7	17	3	15	9	4	2	6	3	4	8	4	2	6	3	4	22	30	28	28	0	0	1	6	9	19	9	5	8	5	6	1	14	16	2	1	13	1	13	3	5	12	2	8
LYS	AAA	14	14	36	13	7	6	5	11	12	45	22	10	8	19	1	1	22	10	8	18	1	1	63	56	69	68	4	1	4	19	12	27	31	3	10	8	6	5	16	41	13	5	16	5	16	6	10	28	8	7
	AAG	9	9	17	6	1	3	3	8	4	14	28	2	2	10	3	3	28	2	2	10	3	3	61	69	55	57	7	1	1	5	2	7	6	2	9	9	3	3	4	18	5	3	5	3	5	5	12	8	20	0	2
ASN	AAC	15	15	19	6	0	3	3	8	3	11	9	3	2	9	2	3	9	3	2	10	2	3	70	51	61	61	2	0	1	9	2	9	6	5	5	4	3	4	3	4	7	0	3	4	3	4	5	7	21	1	3
	AAU	15	16	24	4	0	8	8	11	5	19	22	6	5	11	6	8	21	6	5	10	6	9	47	63	49	49	2	2	5	9	16	21	15	4	25	10	9	6	17	26	10	6	17	6	18	3	6	15	0	8
GLN	CAA	21	21	22	13	1	11	10	5	3	16	16	16	8	3	6	5	6	16	8	3	6	5	6	38	44	54	54	7	4	1	10	8	11	12	6	19	11	13	11	9	28	4	11	9	11	9	6	6	24	1	16
	CAG	10	10	8	8	3	6	3	8	1	17	23	12	7	5	8	10	23	12	7	6	7	9	43	36	36	36	6	1	3	7	3	10	13	1	12	8	5	4	7	10	4	4	6	4	6	4	4	8	2	4
HIS	CAC	4	4	3	2	1	2	2	2	1	7	7	8	2	2	2	3	7	8	2	1	2	3	33	32	31	31	1	1	1	7	1	2	1	1	3	6	2	2	4	4	0	2	2	2	2	1	1	6	0	1
	CAU	4	4	4	1	0	2	1	4	4	15	12	7	3	3	6	6	12	7	3	4	6	6	18	19	17	17	4	3	2	14	7	10	8	3	6	3	4	4	1	13	2	4	1	4	1	1	2	7	0	5
GLU	GAA	20	20	39	12	3	15	11	11	6	39	22	15	6	11	6	11	22	15	6	12	6	11	63	55	46	45	5	4	6	18	11	15	19	13	18	11	18	14	12	31	5	14	12	14	12	2	7	21	2	13
	GAG	13	14	13	4	1	5	1	12	4	13	28	11	1	12	3	9	28	12	1	12	3	9	48	59	64	65	4	5	4	3	0	6	10	10	7	14	7	3	4	22	6	3	6	3	6	9	9	28	1	7
ASP	GAC	10	10	21	2	3	5	3	10	5	17	19	11	7	10	2	3	10	7	7	10	2	3	63	61	61	61	3	5	2	11	7	10	8	5	5	19	2	2	10	7	1	2	9	2	9	4	3	24	4	4
	GAU	23	22	25	3	0	9	8	11	9	24	23	11	7	9	8	9	23	11	7	12	8	9	54	51	58	58	5	5	10	6	22	18	20	9	23	8	8	6	10	32	6	6	10	6	10	11	10	9	0	12
TYR	UAC	2	2	1	2	1	3	3	7	1	6	10	7	5	5	3	4	10	7	5	5	3	4	58	62	66	66	2	2	0	1	3	10	2	1	3	7	4	3	2	8	4	3	2	3	3	3	4	9	0	3
	UAU	14	14	4	3	0	11	9	5	4	16	14	8	3	8	4	5	14	8	3	8	4	5	40	38	36	36	8	2	3	18	19	15	12	5	15	10	11	11	13	13	2	11	13	11	13	3	6	6	0	10
CYS	UGC	0	0	2	1	1	0	0	2	0	10	11	4	4	2	0	0	11	4	4	1	0	0	19	17	18	18	4	3	0	3	1	3	1	0	4	1	0	0	4	5	2	0	3	0	3	1	2	3	0	3
	UGU	2	2	3	0	0	0	0	4	4	9	15	7	6	5	0	0	15	7	6	5	0	0	23	25	23	23	10	4	1	8	1	10	13	0	4	0	0	0	6	18	7	0	6	0	6	1	3	16	1	0
PHE	UUC	9	9	3	1	0	1	1	1	1	5	16	6	3	6	3	3	16	6	3	4	3	3	45	33	42	42	1	0	0	0	1	1	1	2	4	4	1	1	5	7	2	1	5	1	4	4	5	5	0	1
	UUU	11	11	4	0	3	13	8	13	6	35	24	6	5	6	2	4	24	6	5	5	2	4	39	50	41	40	4	1	3	9	14	26	25	9	25	3	12	5	5	29	10	5	5	5	5	7	8	18	3	13
ILE	AUA	21	21	13	9	0	7	3	6	1	6	12	5	2	3	7	9	11	5	2	3	7	9	33	33	23	23	5	1	3	11	14	10	8	4	8	1	4	1	2	13	3	1	2	1	2	5	9	7	0	10
	AUC	12	12	16	4	0	1	1	0	0	3	1	5	0	4	2	3	1	5	0	4	2	3	48	41	43	43	0	1	0	2	0	1	1	2	5	2	3	1	2	2	0	1	1	1	1	5	3	7	0	0
	AUU	7	7	13	2	2	11	7	5	1	18	7	6	1	4	1	6	7	6	1	4	1	6	52	58	65	65	3	3	0	9	26	15	18	9	7	6	7	4	11	20	2	4	11	4	11	5	5	18	3	14
MET	AUG	16	16	16	6	1	4	3	12	9	23	15	17	7	12	4	8	15	17	7	13	4	8	67	67	65	65	3	3	1	5	4	11	13	1	15	5	6	5	9	17	9	5	10	5	10	11	9	15	1	5
TRP	UGG	4	4	3	4	1	5	4	3	6	11	11	6	5	7	6	7	10	6	5	6	6	7	28	28	28	28	1	0	1	7	0	7	13	0	7	5	6	5	2	10	8	6	3	6	3	3	5	23	1	5
TER	UAA	1	1	1	0	0	1	1	1	1	1	1	0	0	1	1	1	0	0	0	1	1	1	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
	UAG	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	1	1	1	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	UGA	0	0	0	1	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	1	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0
TOTAL		516	516	604	200	72	345	226	355	173	689	786	422	196	384	205	320	783	422	196	385	205	320	2210	2208	2207	2207	159	99	102	366	474	532	483	235	509	323	357	230	369	698	190	230	369	230	369	244	251	673	67	352

61	PVB DUN #3	PVB DUN #4	PVB DUN #5	PVB DUN #6	PVB MMØ 1	PVB MMØ 2	PVB MMØ 3	PVB MMØ 4	PVB MMØ 5	PVB MMØ 6	PVB MMØ 2	PVF VPØ 3	PVF VPØ 4	RAV GP	RAV MMG N#1	RAV MMG N#2	RAV MMG N#3	RAV MMG N#4	RBF TK	REO 381 C	REO S3C	REO S4	REU A57 7	RO2 10	RO2 9	RO2 SEG 6	ROB 10	ROB 11	ROB G	ROB MCP	ROB P9	ROT G10	ROT G6	ROT G7	ROT G8	ROT VP7	ROV VP7 NCD	ROV VP7 S2	RSV RAS	SFV 282	SIN #1	SIN #2	SIN #3	SIV MPC G#1	SIV MPC G#3	SIV RV1 CG# 1	SIV RV1 CG# 3	SND TK	SND HN	SND HMG	SND M
ARG CGA	0	0	0	0	0	0	0	1	0	0	0	0	0	2	3	4	0	2	1	5	2	1	3	0	1	0	1	1	1	1	0	0	1	0	1	1	1	1	3	2	7	10	4	1	2	1	1	1	0	0	1
CGC	0	1	0	0	1	0	0	1	0	0	2	0	3	0	1	0	2	0	3	2	2	1	0	0	0	0	1	0	0	1	0	2	1	1	0	0	1	0	2	13	23	27	19	2	3	3	4	1	1	1	1
CGG	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	2	1	0	4	3	2	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	2	7	7	9	13	4	2	0	1	1	2	3	4	1
CGU	2	0	0	0	0	2	2	0	0	0	1	1	1	3	2	1	1	6	6	9	7	0	3	0	4	2	0	0	1	1	1	0	4	1	0	0	1	2	2	16	20	5	4	2	3	2	2	2	2	1
AGA	12	12	21	7	12	12	12	2	22	3	26	20	18	13	6	5	17	2	4	6	6	4	3	8	16	3	5	6	20	12	4	17	10	8	8	6	5	1	17	28	45	17	11	7	9	6	15	9	8	10
AGG	8	5	10	3	5	9	8	1	10	2	1	0	4	2	2	7	3	0	7	6	3	2	0	0	2	0	3	1	1	1	0	6	2	1	0	1	1	2	14	19	25	11	2	1	6	0	10	11	11	7
LEU CUA	1	11	11	3	12	4	1	0	11	0	8	8	6	8	2	4	5	3	5	4	5	4	4	2	3	3	1	3	7	3	4	9	2	7	8	4	6	3	10	23	33	8	5	12	7	10	8	6	7	7
CUC	0	1	1	1	1	1	0	0	1	1	0	0	10	3	7	0	9	2	9	3	1	2	1	0	0	1	2	0	2	1	1	4	1	1	2	0	2	3	13	15	24	16	4	7	4	10	10	10	11	10
CUG	2	4	6	2	4	2	2	3	6	1	0	0	10	9	7	5	9	2	7	12	9	3	2	2	5	4	2	4	1	2	0	2	0	7	4	2	4	8	26	45	62	25	3	8	1	9	15	9	8	7
CUU	4	10	10	7	10	6	4	1	10	5	8	3	11	3	4	6	11	0	11	8	5	2	3	4	7	1	3	5	9	5	3	4	6	3	9	6	2	2	8	28	35	8	11	14	10	11	10	9	10	4
UUA	2	1	29	7	1	3	2	2	28	3	18	16	8	8	2	1	7	1	8	6	2	16	2	15	13	1	0	10	6	10	2	7	7	4	2	11	12	2	4	9	13	5	16	18	21	19	7	8	8	5
UUG	8	5	11	2	5	10	8	1	12	1	8	8	11	7	5	5	12	3	12	6	9	4	6	5	8	9	2	10	9	5	9	9	10	6	8	10	5	2	14	26	39	22	6	6	3	4	8	12	12	5
SER UCA	3	3	12	1	2	6	3	2	12	1	8	6	13	12	7	3	13	2	12	9	9	10	5	10	10	2	16	9	16	12	2	11	12	13	12	8	14	2	14	23	28	21	3	7	6	10	9	21	22	5
UCC	5	3	7	2	3	8	5	1	7	1	0	0	7	6	6	3	7	1	6	7	4	1	1	1	1	0	4	1	3	0	1	2	2	1	3	1	1	3	10	17	24	13	8	9	7	9	4	3	3	3
UCG	0	0	0	0	0	0	0	0	0	0	1	0	2	2	3	2	3	1	8	3	4	4	1	3	1	2	2	3	0	2	0	4	2	1	2	4	2	3	21	32	36	17	2	2	1	1	6	5	5	2
UCU	4	2	10	1	2	5	4	1	10	0	17	15	9	6	6	6	9	2	8	7	3	5	2	6	6	1	11	6	3	8	1	5	11	3	3	6	4	1	9	16	20	6	9	21	9	21	13	15	15	6
AGC	1	6	4	1	6	1	1	0	3	1	1	1	4	4	3	2	4	3	5	1	1	1	0	0	2	0	1	0	2	0	0	1	0	3	0	0	1	3	15	27	31	23	6	8	5	6	6	13	13	4
AGU	7	6	16	1	6	12	7	2	15	1	10	8	7	6	3	1	6	1	13	5	2	2	2	2	1	2	8	1	2	5	2	3	1	3	0	1	2	4	7	17	21	15	6	8	7	8	3	8	8	1
THR ACA	4	9	13	1	10	7	4	1	13	0	30	26	8	11	3	2	8	3	7	5	5	10	6	12	9	7	3	10	13	3	9	13	1	6	11	20	11	7	28	40	55	23	15	12	17	10	22	15	12	9
ACC	4	7	10	2	7	5	4	2	10	2	1	1	13	5	5	1	15	2	6	3	3	3	1	1	3	1	1	5	0	2	1	1	2	0	2	6	2	4	28	43	55	41	7	5	6	6	10	12	14	6
ACG	0	0	0	0	0	0	0	0	0	0	2	2	4	1	0	0	3	2	11	6	3	7	2	3	1	5	1	9	7	1	5	2	1	2	4	8	7	1	24	21	33	14	3	2	2	1	5	5	8	1
ACU	9	7	13	4	8	13	9	2	13	1	30	26	8	12	4	3	8	0	13	7	8	10	7	11	14	6	1	6	11	9	5	13	3	7	13	4	13	3	17	22	32	20	16	21	20	22	8	14	13	5
PRO CCA	2	13	9	1	13	2	2	0	9	1	44	32	7	4	3	2	8	1	4	5	11	10	3	8	14	3	5	10	18	3	3	15	2	5	9	10	8	3	19	38	50	30	24	7	21	6	5	8	8	5
CCC	2	8	8	3	7	2	2	0	8	2	0	0	9	3	6	3	9	2	3	2	3	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	3	15	28	32	14	14	15	14	18	7	2	2	6
CCG	0	0	0	0	0	0	0	0	0	0	1	0	5	2	0	2	5	2	4	4	2	1	1	1	1	0	0	0	2	0	0	3	1	2	3	0	2	1	35	35	45	28	3	2	4	1	3	6	6	3
CCU	9	7	13	6	7	11	9	1	13	4	16	13	11	10	8	7	4	10	0	3	4	3	1	1	0	5	2	2	1	1	0	2	2	3	0	0	1	5	20	21	28	20	11	14	13	13	4	11	10	7
ALA GCA	2	4	10	0	4	4	2	0	10	0	29	21	8	10	2	2	8	1	10	5	3	5	3	4	12	6	5	7	8	5	6	15	7	7	8	6	3	5	25	47	63	33	14	8	12	7	13	10	10	10
GCC	4	3	6	1	3	6	4	0	6	1	3	0	6	7	9	1	6	4	3	6	4	0	1	0	2	0	1	3	2	1	0	3	1	1	2	3	0	8	40	58	76	41	19	18	19	11	7	7	7	5
GCG	0	0	0	0	0	0	0	0	0	0	3	3	3	4	2	0	3	4	7	8	4	1	1	0	8	1	3	5	8	4	2	1	1	4	4	5	1	2	23	31	43	22	4	0	5	0	5	1	1	2
GCU	9	11	10	4	10	33	9	4	18	4	20	13	4	12	7	3	4	2	9	13	10	7	2	8	10	2	0	10	6	0	9	9	8	4	3	7	4	23	28	38	12	19	10	19	11	17	9	8	3
GLY GGA	3	12	13	3	12	4	3	1	13	2	24	20	10	10	7	4	11	6	20	4	9	8	3	5	12	1	3	5	12	2	2	11	6	4	3	5	9	3	24	46	51	38	10	13	21	13	6	9	8	5
GGC	4	5	5	3	5	8	4	0	5	2	3	3	5	4	3	3	5	0	3	2	5	1	0	0	2	0	2	2	1	1	1	2	0	1	3	3	1	3	23	25	32	18	8	5	7	7	4	8	8	4
GGG	1	9	6	1	9	6	1	1	6	1	11	7	17	9	4	5	18	4	5	2	3	1	0	2	0	1	1	0	1	0	0	2	0	2	1	0	0	4	26	15	22	16	12	6	11	5	16	8	9	12
GGU	4	5	7	0	5	7	4	2	6	0	25	22	7	7	3	2	8	4	10	5	11	3	0	6	5	2	1	5	4	7	2	3	4	4	4	4	3	5	8	16	25	7	8	15	7	13	13	13	13	6
VAL GUA	6	11	18	2	9	11	6	3	18	2	18	16	8	5	3	2	10	7	8	1	4	10	1	12	8	4	2	6	9	4	4	8	6	5	9	6	9	4	16	43	57	16	14	13	13	12	8	7	7	6
GUC	0	0	2	1	0	0	0	0	2	0	1	1	10	9	7	5	9	0	6	5	5	2	1	1	1	2	0	5	5	1	2	4	2	1	1	4	0	4	34	37	50	34	5	5	8	7	14	15	15	5
GUG	1	9	4	1	9	2	1	1	4	0	4	3	10	8	4	4	8	3	9	10	14	1	3	6	4	3	5	8	3	3	5	9	6	4	4	8	3	11	41	41	51	24	4	5	3	5	15	10	10	14
GUU	4	7	11	3	9	8	4	2	12	2	18	18	14	8	3	2	14	3	11	6	7	10	6	5	12	3	4	5	6	16	0	6	4	8	8	6	11	1	13	27	34	16	11	10	9	10	9	4	5	6
LYS AAA	6	15	43	9	15	7	6	8	44	6	35	21	12	14	11	7	12	12	2	5	4	12	15	9	5	13	12	12	7	19	16	6	23	22	11	12	13	5	32	54	78	35	48	17	44	17	12	16	17	5
AAG	1	7	18	7	7	1	0	18	5	3	1	16	12	10	4	16	3	5	9	12	0	2	4	3	6	6	2	1	8	2	2	3	8	3	2	0	9	48	76	88	42	10	6	13	9	12	9	8	19
ASN AAC	3	8	5	1	8	3	3	1	7	1	14	11	11	7	6	7	10	8	9	2	7	6	3	4	7	2	4	9	10	3	2	13	5	6	6	4	5	37	49	62	28	13	10	12	17	13	14	15	6
AAU	8	12	19	3	12	8	9	0	18	2	40	38	11	11	10	4	12	1	19	7	7	21	4	17	29	5	7	11	25	17	6	24	19	17	11	13	20	0	12	25	35	12	19	16	19	17	9	12	12	6
GLN CAA	11	7	20	2	7	16	11	1	19	0	31	26	5	6	7	4	5	2	9	3	6	12	2	12	13	2	5	6	12	9	4	14	12	9	9	6	11	2	18	25	37	17	28	23	27	28	7	11	11	5
CAG	3	9	9	4	9	4	3	2	9	2	2	2	4	8	4	3	3	11	9	10	0	5	3	8	3	0	7	6	9	2	4	5	3	4	7	7	1	10	31	42	53	25	14	7	13	6	13	14	13	4
HIS CAC	0	1	8	2	1	1	0	0	8	1	2	1	12	8	2	1	12	2	3	3	6	0	0	0	1	2	1	0	1	0	1	0	1	2	0	1	0	1	27	26	31	21	7	5	4	5	4	8	7	1
CAU	5	5	16	2	5	5	0	16	1	13	10	6	5	1	2	6	2	2	3	8	1	3	1	4	0	1	1	4	1	0	5	2	8	1	0	1	4	17	25	31	18	9	15	12	14	4	4	4	3
GLU GAA	11	15	38	8	14	13	11	2	38	5	22	19	12	14	13	6	12	9	7	4	3	9	8	8	16	12	7	11	13	18	12	11	17	13	14	10	10	5	25	68	88	30	26	13	27	13	11	7	6	3
GAG	3	9	19	5	9	7	3	1	19	4	4	4	19	18	15	8	19	1	9	12	10	4	5	5	4	5	1	4	5	4	5	7	6	8	1	5	3	11	26	55	75	23	13	4	15	5	17	19	19	8
ASP GAC	3	7	9	5	8	4	3	4	9	3	9	4	15	12	6	7	14	5	9	11	12	8	6	9	4	3	6	4	6	3	3	9	6	2	8	5	7	11	43	54	78	38	15	12	11	11	11	9	9	5
GAU	9	12	34	8	12	11	9	0	34	6	33	28	10	11	13	6	9	3	20	18	15	10	5	9	13	4	14	13	14	21	4	10	18	11	12	13	12	8	11	37	50	15	26	17	27	17	18	19	19	12
TYR UAC	3	4	5	2	4	3	3	0	5	1	3	1	10	5	1	4	11	6	3	4	6	4	1	4	4	2	3	7	8	3	1	4	1	6	3	6	4	6	35	36	47	31	4	4	3	5	9	9	10	5
UAU	7	7	17	2	7	9	6	0	16	1	26	21	6	16	5	1	6	2	5	6	5	17	6	14	6	6	5	14	3	10	7	6	9	7	17	15	17	3	16	20	32	15	14	16	15	14	7	16	16	2
CYS UGC	0	2	4	7	2	0	0	0	4	2	0	0	8	2	1	1	9	1	0	8	2	4	0	0	1	1	1	3	0	1	0	1	3	1	2	4	4	2	34	38	48	31	7	13	4	16	5	10	10	5
UGU	0	5	15	4	5	1	1	1	15	2	4	4	9	6	1	4	7	7	1	6	4	1	2	8	2	1	2	5	3	3	2	2	1	4	6	4	4	4	14	7	10	12	7	11	11	9	7	7	7	0
PHE UUC	0	4	5	2	4	1	0	0	5	0	3	1	12	15	3	4	12	3	4	3	8	1	2	0	5	1	2	3	5	1	0	8	3	4	1	3	1	2	28	34	46	24	6	9	5	11	8	3	4	10
UUU	10	8	33	5	8	13	10	3	33	3	30	27	9	12	6	2	9	6	8	8	6	9	1	9	21	2	2	6	20	7	3	18	8	12	11	5	9	3	10	29	42	19	19	12	21	13	4	4	4	4
ILE AUA	6	5	13	2	5	10	6	0	13	0	9	7	9	10	7	3	9	9	13	5	2	16	6	11	9	4	1	15	11	6	5	8	11	10	13	15	15	1	15	23	31	13	6	13	6	16	22	11	10	8
AUC	0	1	0	0	1	0	0	0	0	0	3	2	7	9	5	7	9	2	11	6	6	3	3	1	3	2	1	4	2	1	2	4	1	1	2	4	2	8	28	38	51	27	4	10	5	7	23	23	23	14
AUU	8	7	17	3	7	14	8	3	17	0	19	17	6	8	3	2	6	5	7	8	6	15	9	7	17	8	8	8	16	12	7	16	13	13	12	8	16	3	12	33	42	19	11	15	9	16	14	12	13	6
MET AUG	4	12	23	8	12	5	4	1	23	8	14	13	14	11	8	5	15	6	8	22	21	8	9	11	12	10	6	11	12	14	9	11	14	10	10	11	9	6	28	41	57	29	6	3	6	5	9	10	9	9
TRP UGG	4	3	11	7	3	5	4	1	11	3	15	14	9	3	3	6	10	0	5	2	7	7	1	7	5	1	0	7	5	4	1	5	4	4	7	7	7	1	17	19	22	15	15	6	14	6	3	9	9	3
TER UAA	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0	1	0	1	1	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	1
UAG	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	1	0	0	0	0	0
UGA	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	1	1	0	0	1	0	0	0	0	1	0	1	1	1	1	0	0	0	0	1	0	0
TOTAL	233	363	696	173	363	352	233	67	695	101	720	585	525	451	290	203	525	177	456	367	366	327	176	298	398	176	199	327	398	311	176	398	316	318	327	327	327	249	1254	1897	2514	1246	658	587	659	588	566	576	577	349

62		SHD V10 1	SHD V10 2	SHD V10 3	SHD V10 4	SSH N	SV4 C09 1	SV4 C09 2	SV4 C09 3	SV4 C09 4	SV4 C09 5	SV4 C09 6	SV4 C09 7	SV5 HMP	SV5 PFC	SVC PN	TEV C08 AT	THS	TOT RVR N10 2	TSV N01	TSV R8A	TSV J02	VAC ENV ANT	VAC HA	VAC HIN D3D 01	VAC HIN D3D 02	VAC HIN D3D 03	VAC MCP P4B	VAC NLG	VAC NTP	VAC POL D	VAC POL Q01	VAC POL Q02	VAC POL Q03	VAC POL R01	VAC POL R02	VAC POL R03	VAC POL R04	VAC POL R05	VAC POL R06	VAR TK	VAZ IRL S01	VAZ IRL S02	VAZ U50 1	VAZ U50 2	VAZ U50 3	VAZ U50 4	VAZ U50 5	VLV C09 1	VLV C09 3	VSV G1	VSV G2
ARG	CGA	1	5	3	1	3	0	0	0	0	0	0	0	6	2	1	21	2	1	1	3	1	2	6	1	2	4	0	3	7	0	2	0	0	7	1	1	6	1	2	19	8	2	8	1	4	1	1	2	2
	CGC	1	2	3	1	1	0	4	0	0	0	1	0	2	1	1	19	1	1	0	5	0	0	0	0	0	0	0	2	1	0	0	2	2	1	0	0	2	0	0	27	10	0	3	2	2	2	1	0	0	1
	CGG	4	5	1	1	3	1	1	0	0	1	1	0	0	3	0	7	1	0	0	2	0	0	2	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	30	10	0	1	4	8	7	1	0	1	1
	CGU	1	5	1	1	2	0	1	2	2	0	0	0	3	0	2	17	4	0	6	5	2	2	3	0	2	4	2	8	7	2	3	1	1	4	1	3	3	2	3	12	5	3	7	3	7	7	1	0	1	2
	AGA	14	17	5	10	24	1	0	8	7	7	18	5	5	4	5	50	3	10	3	5	10	1	20	6	9	20	5	19	33	5	4	7	7	26	3	9	11	5	4	17	8	0	2	6	7	5	12	9	15	3
	AGG	11	9	6	7	19	2	2	12	12	5	7	3	4	5	3	47	2	4	1	3	2	0	3	1	4	1	2	1	2	2	0	0	0	6	2	1	1	0	0	14	4	0	2	2	3	2	9	2	1	0
LEU	CUA	9	8	0	6	29	0	0	4	2	2	9	2	11	9	2	37	0	6	2	2	12	4	15	1	10	13	9	14	17	9	3	7	7	15	4	3	9	5	3	7	2	1	2	4	2	2	5	3	3	0
	CUC	8	9	4	11	9	0	0	2	1	1	0	1	8	12	5	43	2	2	1	5	2	0	2	1	1	5	1	5	8	1	1	1	1	13	0	1	2	1	1	19	7	0	1	2	4	4	4	0	5	5
	CUG	9	8	13	6	15	1	3	3	1	3	10	5	7	6	7	35	5	2	4	2	4	0	4	1	4	2	2	1	7	2	0	1	1	12	0	4	3	0	0	33	5	1	0	3	5	4	2	1	4	5
	CUU	6	10	0	4	14	0	2	5	4	5	10	6	11	7	2	49	3	1	5	1	4	3	9	4	6	11	4	4	4	4	1	3	3	19	0	5	9	2	1	12	5	0	7	10	8	8	1	2	9	3
	UUA	9	1	2	6	20	0	2	8	5	8	20	7	11	14	3	34	0	2	7	1	4	5	25	9	2	6	2	23	29	2	2	5	5	36	5	4	18	0	3	4	9	1	13	7	17	15	12	1	2	3
	UUG	8	3	5	5	23	1	1	7	6	9	22	2	4	17	6	84	5	6	8	6	8	5	14	2	9	16	8	9	25	8	5	0	0	26	8	4	11	0	4	22	8	2	8	6	13	13	10	0	15	6
SER	UCA	5	17	2	4	31	0	2	4	3	2	9	0	13	12	3	53	2	7	4	3	3	10	10	2	7	8	3	16	10	3	3	2	2	15	3	5	4	2	2	11	5	1	5	3	7	7	5	0	7	4
	UCC	2	12	4	3	8	1	1	2	2	2	4	1	4	5	2	17	5	1	7	2	2	3	9	1	5	9	4	6	10	4	2	1	1	11	0	0	11	0	2	27	8	0	2	9	6	6	4	0	7	6
	UCG	4	4	3	2	5	0	0	0	0	0	0	0	4	4	4	22	2	5	3	3	4	4	6	0	5	4	2	6	13	2	1	1	1	4	1	1	4	1	1	38	11	1	3	5	6	6	0	0	2	4
	UCU	6	17	3	6	27	0	0	11	6	5	10	3	18	5	4	25	1	5	3	3	10	9	26	1	21	26	6	16	18	6	3	3	3	31	6	4	12	9	3	15	5	0	10	5	8	8	1	1	8	10
	AGC	11	9	2	4	15	1	0	3	2	3	6	0	10	5	0	33	2	0	1	2	5	3	3	0	5	4	1	4	2	1	0	1	1	4	1	1	3	6	0	20	5	2	0	6	7	7	2	1	2	0
	AGU	8	10	1	1	21	2	2	10	9	6	18	1	9	13	1	38	1	5	3	1	7	7	9	4	11	10	5	7	20	5	1	1	1	22	2	0	14	2	1	9	1	1	4	1	5	4	5	1	4	3
THR	ACA	17	17	6	9	52	0	1	5	3	11	10	0	23	18	5	86	7	3	6	2	6	24	18	5	13	14	6	9	21	6	3	4	4	23	3	7	9	5	5	12	2	2	12	11	13	13	13	0	13	6
	ACC	8	12	4	6	11	0	0	7	6	8	6	2	12	13	1	29	4	2	3	3	4	7	8	0	6	6	3	5	9	3	1	2	2	10	3	3	2	4	1	26	10	2	4	6	11	11	3	0	5	2
	ACG	7	1	0	1	9	0	0	0	0	0	0	0	3	3	1	22	2	2	8	2	3	1	7	0	5	4	2	5	10	2	2	1	1	14	1	4	5	0	1	15	6	5	4	8	20	19	6	0	2	1
	ACU	6	7	2	4	27	0	2	13	6	12	15	3	14	15	6	63	5	8	9	5	10	19	20	3	16	13	5	15	15	5	3	8	8	23	3	8	10	11	3	8	3	0	3	2	7	7	6	1	6	5
PRO	CCA	4	15	2	5	24	0	2	4	2	11	9	1	12	7	3	68	2	1	3	8	3	8	12	4	13	5	1	4	13	1	2	2	2	11	2	6	4	3	2	26	7	1	12	6	10	10	5	2	8	5
	CCC	5	8	3	6	7	0	0	3	3	5	8	0	6	3	3	9	2	0	2	5	3	1	0	2	2	2	1	1	0	1	1	1	1	7	2	2	1	1	1	47	15	0	8	6	13	13	6	1	0	2
	CCG	1	6	1	4	4	2	0	0	0	0	0	0	2	5	0	10	0	2	2	2	3	2	6	1	5	4	1	3	7	1	1	2	2	10	1	3	1	1	1	57	13	2	1	4	10	9	5	0	3	2
	CCU	6	9	2	7	13	2	0	9	8	12	15	5	9	5	7	20	0	5	5	3	3	2	13	3	6	12	9	7	17	9	0	3	3	16	2	2	5	3	0	18	2	0	3	4	9	8	5	0	9	3
ALA	GCA	16	13	3	10	36	0	0	8	4	4	7	4	15	29	2	78	8	1	10	3	8	5	7	1	3	13	3	7	10	3	4	3	3	14	3	4	6	2	6	19	8	1	11	2	17	16	16	2	15	10
	GCC	15	8	0	5	14	1	1	5	3	1	5	1	8	12	2	28	2	1	6	7	5	2	5	1	5	3	4	3	8	4	1	1	1	14	2	6	3	2	1	64	13	6	8	6	11	8	3	0	6	2
	GCG	3	3	2	2	7	0	0	0	0	0	0	0	1	2	3	36	2	4	3	5	6	2	6	0	3	4	2	5	7	2	0	0	0	6	1	5	6	3	1	44	15	3	8	6	9	8	5	0	1	2
	GCU	13	11	3	3	29	1	1	32	9	13	26	3	10	13	1	65	3	4	8	9	4	5	14	3	6	14	1	13	14	1	3	1	1	26	3	2	6	10	1	16	4	2	4	5	3	3	8	2	6	2
GLY	GGA	10	20	1	5	26	0	0	7	3	12	13	7	12	8	6	60	3	1	5	3	12	3	19	1	14	20	8	11	20	8	6	2	2	28	3	9	8	2	6	35	12	5	14	6	13	13	10	4	16	8
	GGC	9	9	1	4	13	0	0	5	3	2	7	1	9	4	1	36	3	2	0	1	0	1	5	0	2	2	1	4	5	1	2	1	1	3	1	1	0	0	2	23	9	0	4	3	7	7	2	2	8	2
	GGG	13	8	5	12	23	0	2	5	2	10	9	1	8	4	5	36	3	3	2	3	2	0	1	1	4	2	0	3	1	0	1	0	0	7	1	2	0	1	1	39	13	0	3	4	13	13	12	0	4	2
	GGU	12	7	0	6	13	0	0	7	4	5	7	2	10	5	3	53	5	7	9	6	5	4	13	2	9	8	2	13	10	2	4	2	2	31	0	2	5	2	4	23	8	1	6	7	13	12	8	1	2	3
VAL	GUA	6	7	5	6	22	0	0	7	6	4	9	2	7	9	7	28	4	4	3	5	8	11	26	4	19	13	1	15	21	1	2	9	9	28	4	9	9	7	2	12	4	2	5	10	19	18	12	1	6	4
	GUC	10	9	0	6	16	0	0	0	0	1	1	0	6	10	1	36	1	4	3	7	3	6	12	0	4	2	1	8	7	1	1	2	2	16	0	2	0	2	1	23	2	1	1	2	8	6	2	0	9	5
	GUG	13	7	5	14	18	0	2	8	2	10	12	1	8	18	6	77	5	5	3	3	4	1	10	1	3	7	1	5	8	1	5	2	2	9	4	2	8	3	5	41	4	2	7	5	18	17	12	0	6	4
	GUU	7	4	0	6	21	0	4	9	4	15	12	3	9	10	3	60	3	10	10	6	10	3	17	1	23	16	4	10	14	4	3	8	8	24	4	16	18	8	4	14	6	1	9	13	10	9	2	2	5	4
LYS	AAA	8	20	4	5	50	0	6	9	8	19	40	12	2	7	7	88	5	8	16	4	19	14	39	9	21	19	13	36	38	13	9	9	9	65	12	14	30	19	9	12	3	4	10	10	15	15	18	1	20	9
	AAG	18	14	15	19	54	0	1	2	2	7	23	7	8	7	8	129	3	19	5	6	7	3	35	4	11	11	7	12	29	7	3	3	3	49	4	9	17	7	4	23	4	1	3	5	8	7	21	1	10	9
ASN	AAC	10	20	2	5	22	0	0	3	3	8	13	2	8	6	5	59	12	3	6	8	4	1	22	5	13	14	7	12	14	7	3	6	6	28	2	9	17	1	3	16	5	1	11	7	14	14	4	1	7	1
	AAU	7	8	0	8	42	0	0	8	8	11	21	4	20	24	2	90	7	5	3	10	20	16	37	6	30	29	18	29	46	18	7	8	8	52	11	13	25	6	6	5	3	3	11	10	14	12	13	4	9	5
GLN	CAA	8	10	7	5	23	0	2	17	12	9	14	3	16	22	4	66	6	5	2	5	3	0	7	1	11	15	4	12	11	3	4	3	3	28	1	0	6	4	4	14	4	5	8	11	15	15	23	5	10	7
	CAG	12	6	7	4	21	1	1	6	5	10	15	1	10	11	2	49	6	3	3	2	2	1	6	1	2	10	0	2	10	0	2	1	1	9	1	4	4	0	2	26	7	0	6	2	8	8	15	3	4	8
HIS	CAC	3	6	3	2	9	0	0	3	2	2	5	0	3	3	3	41	2	2	5	0	4	0	2	1	3	3	0	5	3	0	0	0	0	6	1	3	3	0	0	16	8	0	5	4	8	8	2	0	3	0
	CAU	5	4	1	3	25	0	0	2	2	4	14	2	1	1	7	46	2	2	3	2	6	3	13	0	5	17	1	10	8	1	2	2	2	15	3	6	6	3	2	9	5	2	5	8	19	18	8	1	2	4
GLU	GAA	14	24	9	3	47	0	6	12	8	10	37	7	9	4	7	105	0	11	13	5	11	12	49	6	18	14	13	27	42	14	10	5	5	66	3	15	23	12	10	26	19	5	13	8	22	21	17	8	13	15
	GAG	16	33	15	8	27	3	1	6	4	13	20	4	6	7	5	106	4	7	7	3	4	6	8	2	6	6	5	11	18	5	4	3	3	19	2	6	11	6	2	46	18	2	7	7	17	16	16	1	4	16
ASP	GAC	16	16	3	5	22	0	1	6	4	11	14	3	6	4	4	58	2	5	1	8	7	9	12	3	6	13	1	9	15	1	2	1	1	16	3	4	15	4	2	55	16	0	10	4	14	13	5	3	13	6
	GAU	18	19	4	12	58	0	1	9	8	9	34	11	11	13	9	89	7	12	13	8	21	23	37	6	33	33	10	27	42	10	7	12	12	57	9	18	23	12	8	32	19	2	14	12	28	28	9	0	22	13
TYR	UAC	9	3	3	9	31	0	0	4	4	5	11	5	9	3	6	49	1	7	2	1	4	9	14	0	4	8	1	6	14	1	2	3	3	22	2	2	11	0	2	16	6	0	3	5	17	16	2	0	12	3
	UAU	6	6	1	2	41	1	0	10	7	6	15	2	19	10	4	57	3	2	3	2	9	10	32	7	28	20	8	13	42	9	4	7	7	43	10	9	29	1	4	4	7	6	10	8	19	17	8	2	9	8
CYS	UGC	1	2	0	5	41	0	0	0	0	4	7	8	9	6	0	20	0	1	3	3	2	1	1	0	0	2	0	3	3	0	2	0	0	4	0	0	1	0	3	6	14	0	2	0	4	3	4	1	2	1
	UGU	1	1	1	0	30	0	1	0	0	3	8	3	8	6	5	21	1	3	1	1	9	3	5	0	4	10	2	6	18	2	5	1	1	15	2	2	5	1	4	6	7	2	9	5	10	9	9	3	3	0
PHE	UUC	15	6	2	9	29	0	0	0	0	1	1	2	6	8	6	67	1	7	3	3	4	3	6	1	10	7	4	14	12	4	3	1	1	27	1	6	9	2	3	8	3	1	3	3	2	2	3	0	9	4
	UUU	8	5	0	4	27	1	2	12	8	10	35	5	18	4	3	69	6	5	7	5	15	6	38	6	15	18	6	27	36	6	7	7	7	33	5	10	29	1	7	22	8	5	16	8	24	22	4	2	8	4
ILE	AUA	8	5	7	8	65	0	0	5	2	3	10	2	8	13	1	48	6	2	7	1	15	12	27	9	8	9	6	17	28	6	9	12	12	25	3	8	18	2	9	5	6	5	12	12	7	7	15	0	5	4
	AUC	10	13	4	13	19	0	0	0	0	0	0	0	10	16	3	45	6	2	6	5	3	2	15	6	15	12	6	16	13	6	3	1	1	37	1	6	16	4	3	17	5	0	2	5	9	9	0	1	9	3
	AUU	11	3	1	6	36	0	0	12	8	11	20	2	16	22	1	89	3	8	6	4	12	12	38	3	32	31	16	24	30	16	6	6	6	60	6	18	33	7	5	8	5	3	15	15	12	11	4	1	8	3
MET	AUG	18	11	9	10	28	1	1	4	3	10	23	10	15	13	10	99	6	4	10	5	3	3	13	3	9	32	10	17	28	10	6	4	4	29	9	11	10	4	6	14	8	4	10	8	13	12	10	3	14	5
TRP	UGG	5	1	3	3	14	0	1	7	6	3	12	6	9	1	4	33	2	2	3	4	6	1	3	0	2	3	0	6	5	0	1	0	0	10	0	4	3	1	1	18	5	0	3	2	9	9	7	6	7	4
TER	UAA	0	0	1	1	1	0	1	1	1	0	1	1	1	1	1	0	0	1	0	0	1	0	1	1	1	0	0	1	0	0	1	1	1	1	1	1	1	0	0	1	1	0	0	0	1	1	0	0	0	0
	UAG	1	1	0	0	0	1	0	0	0	0	0	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	1	0	0	0	0	0	0	0	0	0	0	0	1
	UGA	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	1	1	0
TOTAL		518	569	205	349	1442	24	63	353	235	368	709	175	566	530	224	3055	197	253	290	230	373	316	845	147	552	644	252	632	930	252	178	186	186	1280	172	325	576	204	178	1311	459	103	394	355	662	624	443	95	423	266

/ BACTERIOPHAGES

63	VSV #3	VSV #4	VSV #5	VSV GPO RS	VSV LMS	VSV MHJ	VSV MHJ	VSV HS	VSV #1	NHV #2	NHV #3	NHV CG# 1	NHV CG# 2	NHV CG# 3	NHV SAG	NHV CG	NHF	YFV	ALJ J#2	BET DT	BET DT2 28	IKE CG# 1	IKE CG# 2	IKE CG# 3	IKE CG# 4	IKE CG# 5	IKE CG# 6	IKE CG# 7	IKE CG# 8	IKE CG# 9	IKE CG# 10	IKE GVP	LAN #1	LAN #2	LAN #3	LAN #4	LAN #5	LAN #6	LAN #7	LAN #8	LAN #9	LAN #10	LAN #11	LAN #12	LAN #13	LAN #14	LAN #15	LAN #16	LAN #17	LAN #18	LAN #19
ARG CGA	0	3	10	3	10	2	6	2	0	4	1	3	2	0	0	20	12	0	2	3	1	0	0	1	0	0	0	0	0	0	0	0	3	2	3	3	2	1	0	0	0	0	0	1	3	1	1	2
CGC	0	1	2	1	2	1	1	0	4	7	1	1	8	4	0	30	25	1	1	1	5	3	2	0	0	1	2	1	6	7	2	2	14	1	16	8	7	0	8	2	5	4	2	3	1	3	13	2	5	4
CGG	0	0	11	0	11	0	1	1	0	6	2	2	7	0	1	23	11	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	7	1	13	7	0	1	0	2	5	6	2	0	3	2	14	2	2	6
CGU	2	0	11	0	11	1	1	1	1	8	4	4	6	1	3	20	12	4	6	7	8	3	2	0	1	1	6	2	6	4	2	3	19	1	8	9	4	2	13	4	3	11	1	5	0	2	16	2	5	3
AGA	6	8	55	8	55	3	11	4	12	15	5	4	16	13	1	68	67	0	3	3	4	0	0	0	0	0	1	1	5	1	0	1	1	0	1	0	0	0	0	1	0	1	0	0	1	0	3	1	0	0
AGG	2	2	27	3	27	1	2	2	5	13	1	1	13	3	0	41	83	0	4	4	1	0	0	0	0	0	0	2	0	0	1	3	2	1	0	0	0	0	0	0	5	0	0	0	0	0	3	0	0	1
LEU CUA	1	6	31	6	31	5	10	0	1	3	9	8	5	1	6	35	37	1	8	8	2	1	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CUC	3	7	17	8	17	1	8	8	2	10	10	10	18	2	8	65	49	1	4	4	2	0	1	0	2	3	0	2	0	2	1	3	8	0	2	5	2	1	2	3	1	1	2	0	1	1	2	0	1	3
CUG	4	5	28	3	28	2	6	3	0	17	8	10	15	0	7	92	100	0	4	4	6	0	2	0	0	2	3	0	4	5	2	12	28	4	26	24	10	4	22	13	4	9	8	8	7	12	55	6	11	16
CUU	1	9	21	9	21	3	7	3	4	24	3	5	25	4	3	40	46	0	10	10	12	1	2	2	0	2	5	2	6	19	2	2	6	1	4	7	1	1	1	2	1	4	0	1	2	2	10	1	2	0
UUA	4	8	53	10	53	5	6	6	4	18	12	12	16	4	9	12	8	0	8	7	10	4	2	1	0	1	10	8	18	9	2	0	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UUG	4	4	69	4	69	5	2	9	7	27	11	10	31	7	7	59	72	0	6	7	12	3	0	0	1	0	1	2	4	3	0	1	1	0	2	2	1	1	0	0	0	1	2	0	0	0	4	0	0	3
SER UCA	2	11	43	10	43	2	12	11	3	17	7	8	19	3	4	51	56	0	7	7	3	2	0	1	1	0	7	2	7	6	0	1	3	0	5	3	3	0	2	1	2	3	3	1	3	2	5	0	0	3
UCC	4	8	27	11	27	2	4	4	1	31	3	3	34	1	2	26	42	0	4	5	6	1	1	0	0	1	9	2	0	6	1	1	12	1	7	8	2	2	10	0	3	2	1	2	2	3	18	1	4	1
UCG	0	1	9	1	9	3	3	1	1	7	2	2	8	1	1	18	8	0	10	10	3	1	1	0	1	0	5	3	1	4	1	2	7	0	7	3	2	0	2	1	1	3	0	4	1	0	6	4	2	2
UCU	8	10	48	7	48	9	3	9	10	17	6	6	20	10	3	27	44	2	15	15	17	9	5	0	1	5	29	3	14	19	5	1	2	1	1	1	1	0	4	2	0	0	0	2	4	0	4	3	1	1
AGC	3	7	12	7	12	0	5	1	1	5	2	3	5	1	1	42	31	0	11	10	4	1	0	1	0	1	2	0	4	5	0	1	7	0	12	13	4	5	3	2	2	3	3	8	2	2	15	2	8	2
AGU	1	10	38	9	38	5	3	4	2	10	2	2	9	2	2	36	34	1	7	8	3	0	0	1	0	0	0	0	1	2	0	3	5	0	11	6	2	2	1	0	1	0	2	3	0	3	11	1	4	2
THR ACA	3	7	44	7	44	3	11	5	5	12	13	15	11	5	6	75	73	0	7	8	3	1	0	0	0	0	7	2	4	5	0	0	4	3	4	5	2	0	2	1	1	1	0	3	1	1	6	0	2	2
ACC	3	12	28	12	28	3	4	2	1	18	4	4	18	1	1	77	51	0	6	6	4	0	0	0	0	2	4	1	4	10	0	2	20	1	10	11	9	11	12	3	2	1	5	19	5	2	21	2	7	3
ACG	2	2	12	3	12	2	1	1	0	8	5	3	8	0	2	44	21	0	5	4	3	2	0	0	0	1	1	0	2	6	0	1	13	2	10	9	2	6	6	8	3	3	2	8	4	3	23	4	9	4
ACU	3	10	40	11	39	4	4	7	8	18	19	18	21	8	6	55	53	0	12	12	10	3	2	2	0	5	20	4	9	9	2	2	5	1	1	6	5	0	1	2	1	0	2	1	1	0	3	0	0	0
PRO CCA	7	12	32	11	32	9	8	6	3	15	15	14	14	3	5	57	56	0	6	6	0	0	0	0	0	0	4	1	3	1	0	1	5	0	2	4	3	0	0	0	0	0	0	1	0	0	1	0	1	0
CCC	3	3	25	4	25	1	3	1	3	12	8	10	10	4	5	36	28	0	3	2	0	0	1	0	0	0	2	1	0	0	1	2	5	0	7	4	1	1	1	0	0	3	1	2	2	2	1	2	2	2
CCG	3	2	11	2	11	2	4	3	3	9	4	3	6	3	2	14	12	0	5	5	5	2	0	0	0	0	0	1	2	9	0	2	20	0	9	11	4	4	16	2	3	4	4	6	2	4	9	1	6	7
CCU	3	10	30	10	30	5	5	5	6	26	22	22	28	5	6	34	40	1	9	8	7	1	4	0	0	2	10	1	7	8	4	0	2	1	2	0	0	1	1	2	2	1	1	4	2	1	2	3	0	1
ALA GCA	6	5	35	4	35	4	14	1	2	9	6	8	8	2	4	62	58	1	9	9	7	0	1	1	1	2	6	0	3	5	1	5	10	4	12	22	16	3	5	5	0	1	4	6	3	2	30	2	0	6
GCC	3	6	17	4	17	3	5	4	2	19	3	2	20	2	2	86	80	0	5	6	3	0	1	0	1	0	5	1	5	6	1	9	17	3	30	21	7	3	10	6	6	9	4	7	6	5	29	3	5	4
GCG	2	1	6	2	6	0	1	2	0	3	2	2	4	0	1	38	23	0	12	12	5	0	1	0	0	0	0	1	4	5	1	3	15	1	15	18	10	6	10	3	1	8	5	11	4	3	55	1	5	4
GCU	6	13	34	15	34	2	10	2	7	24	3	4	25	7	2	97	83	1	19	18	13	6	2	2	0	13	13	9	11	17	2	3	6	1	4	10	6	5	3	0	2	2	3	3	1	2	17	1	2	1
GLY GGA	4	19	53	19	53	7	12	6	4	14	11	10	13	3	6	151	124	0	10	10	2	0	0	1	1	0	5	1	1	1	0	2	4	3	5	4	3	2	3	3	5	0	0	3	1	3	7	0	4	0
GGC	2	4	19	3	19	2	3	1	0	10	5	5	10	0	3	58	68	1	6	6	8	1	4	1	1	0	17	3	3	11	4	2	15	1	14	13	2	5	14	1	4	5	4	8	1	2	27	2	7	4
GGG	4	6	30	6	30	4	3	3	0	9	6	6	9	0	2	52	73	0	13	14	1	0	0	1	0	0	1	3	1	1	0	2	12	0	11	7	3	0	2	1	1	3	1	6	1	6	25	2	3	5
GGU	5	9	25	9	25	0	6	1	3	12	2	2	12	3	1	37	36	2	17	15	11	3	4	1	3	3	38	5	19	22	4	5	14	1	14	8	3	1	4	3	4	5	1	6	2	2	15	2	8	5
VAL GUA	3	3	23	3	23	3	6	5	5	6	4	3	5	6	2	22	16	1	15	15	11	5	0	1	0	3	6	1	5	8	0	0	2	2	2	1	0	0	2	0	2	4	1	4	0	2	4	2	1	0
GUC	2	9	20	10	20	4	7	3	2	8	6	5	9	2	3	73	69	0	6	8	2	1	0	0	0	0	3	0	2	5	0	2	7	0	7	6	1	0	6	4	1	3	1	6	1	2	11	3	8	3
GUG	2	9	31	8	31	2	5	1	2	17	7	6	17	2	3	113	132	0	9	9	5	2	0	1	0	0	1	1	3	9	0	5	17	4	11	19	10	1	14	9	4	8	3	13	9	4	17	7	6	8
GUU	2	8	29	8	29	2	10	3	1	18	6	6	16	1	2	64	69	0	17	15	19	5	9	3	1	7	18	6	15	27	8	3	9	0	6	7	6	4	5	0	4	5	4	6	2	2	8	1	3	0
LYS AAA	11	15	79	14	79	9	23	11	2	29	12	12	30	2	4	90	92	2	29	30	17	3	2	0	1	4	19	1	26	10	2	5	28	4	11	5	3	4	9	3	0	13	1	9	3	2	28	5	5	2
AAG	10	16	50	17	50	12	11	11	1	8	1	1	7	1	0	106	101	1	11	11	10	2	4	0	0	2	6	2	4	8	4	4	12	0	4	2	1	2	10	1	0	5	1	5	3	0	25	3	3	1
ASN AAC	0	8	32	8	32	4	4	1	2	21	6	4	22	2	0	81	68	0	6	8	8	4	1	0	0	3	2	0	4	8	1	5	12	0	14	13	8	1	10	1	2	5	0	3	4	1	17	2	9	2
AAU	6	10	65	10	65	4	14	8	5	29	12	15	28	5	7	49	56	0	24	22	22	11	3	0	1	0	17	3	9	25	3	2	10	0	6	3	0	0	6	2	2	4	0	5	3	1	9	1	4	3
GLN CAA	3	11	49	9	49	7	7	7	7	25	16	17	25	7	6	38	42	0	14	14	8	4	3	0	0	0	8	0	11	9	3	0	0	0	1	2	1	0	3	2	0	3	0	0	0	0	5	0	0	1
CAG	0	7	21	8	21	3	4	4	1	9	9	8	11	1	3	46	51	1	2	2	5	1	3	0	0	2	9	1	5	12	3	10	20	4	27	21	11	3	12	2	3	8	2	7	8	1	62	3	13	8
HIS CAC	5	5	12	5	12	2	3	0	1	14	4	4	14	1	1	42	32	0	7	7	1	0	1	0	0	0	0	0	1	1	1	0	5	0	4	2	1	0	0	0	0	0	2	1	1	0	7	0	0	5
CAU	3	11	52	11	52	2	2	2	6	23	1	1	23	6	0	25	50	0	10	10	10	0	1	0	0	0	3	0	7	3	1	2	8	1	3	3	0	2	1	2	1	2	3	0	5	3	7	0	0	5
GLU GAA	3	16	65	16	65	5	15	20	9	16	4	4	16	8	1	110	108	0	22	21	15	5	3	0	0	2	21	0	5	5	3	17	27	3	18	7	5	1	9	10	4	3	5	6	9	4	24	2	10	3
GAG	10	9	47	9	47	4	8	8	0	9	3	3	8	1	2	103	102	0	15	15	8	0	3	0	0	0	6	0	3	2	3	5	24	2	22	12	7	3	15	5	3	4	6	4	7	6	30	7	8	8
ASP GAC	4	11	51	13	51	4	17	7	3	14	8	9	11	4	2	84	88	0	8	9	4	0	1	1	0	1	8	1	4	7	1	5	15	3	14	14	5	5	9	2	2	0	4	8	3	7	19	0	3	7
GAU	9	17	69	17	69	11	20	18	4	11	7	6	11	3	1	67	70	0	20	20	18	6	2	1	1	1	25	4	21	25	2	5	27	0	10	16	9	2	12	8	9	2	12	8	0	9	28	2	8	6
TYR UAC	5	9	28	8	28	4	10	3	0	9	7	6	11	0	4	53	44	0	5	5	2	0	2	0	0	0	6	1	1	2	2	1	11	0	8	6	1	2	7	0	1	1	2	1	1	2	5	1	3	4
UAU	7	11	42	12	42	7	10	9	4	19	6	8	19	4	3	32	35	1	12	13	15	6	3	1	1	1	8	0	20	4	3	3	13	2	11	3	1	1	8	0	1	1	5	4	1	3	15	2	6	3
CYS UGC	1	11	9	11	9	0	1	2	3	9	8	8	11	3	8	36	32	0	2	2	2	0	0	0	0	0	3	0	0	3	0	0	8	0	7	2	0	0	1	0	0	0	0	0	0	0	1	0	6	3
UGU	0	4	25	4	25	2	3	2	1	11	5	6	8	1	5	27	32	0	2	2	3	0	0	0	0	0	6	1	5	1	0	1	1	0	2	1	0	0	0	1	0	0	0	1	0	0	0	0	2	3
PHE UUC	9	16	51	14	51	8	11	4	2	13	8	7	16	2	5	56	52	0	4	3	5	1	1	1	3	2	3	0	3	7	1	4	10	0	7	1	0	2	9	0	3	0	1	4	1	3	14	2	4	3
UUU	5	10	42	13	42	7	8	2	6	29	12	13	23	6	8	50	64	1	15	16	21	5	3	2	3	1	10	7	9	14	3	1	14	2	16	4	1	2	5	2	2	2	4	3	4	6	10	4	6	4
ILE AUA	1	8	43	7	43	3	6	2	3	6	15	16	6	4	7	32	44	0	14	13	3	1	0	1	0	0	5	3	6	1	0	2	4	0	3	1	0	0	0	0	2	4	0	0	0	0	1	1	0	0
AUC	6	15	45	15	45	2	8	5	2	10	7	7	7	2	6	83	69	0	9	9	4	0	0	0	1	0	3	0	8	8	0	5	14	0	7	10	3	2	8	0	2	4	3	4	1	2	8	0	5	0
AUU	4	14	66	14	67	4	9	4	4	19	8	8	24	3	6	61	63	0	13	14	10	4	4	2	4	4	13	15	16	14	4	6	18	1	11	7	3	1	6	2	2	5	2	2	3	0	15	0	3	6
MET AUG	11	11	60	10	60	10	8	8	2	8	6	6	10	2	4	116	129	1	8	8	8	4	1	2	1	3	4	6	8	9	1	3	12	3	19	17	7	3	13	3	1	5	5	6	6	9	25	3	5	3
TRP UGG	3	15	42	15	42	3	7	5	5	23	21	20	21	5	17	83	85	1	5	5	4	2	0	0	0	1	7	0	5	3	0	2	20	0	13	1	0	2	3	0	2	1	3	6	2	2	12	5	4	9
TER UAA	0	1	1	1	1	0	0	1	0	0	0	0	0	0	1	1	0	1	0	0	0	1	1	0	0	1	1	0	0	0	0	1	0	0	1	1	1	1	1	1	0	0	0	0	1	0	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	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	0	0	0	1	1	0	1	0	1	1	1	0	0	1	0	1	1	0	0	1	1	0	0	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	1	1	1	0	1	1	1	0	1
TOTAL	230	5122	110	5122	110	230	423	275	189	880	427	432	884	188	223	3431	3412	25	561	561	422	122	89	33	34	83	435	117	366	438	89	182	642	69	534	440	202	111	342	133	118	193	132	247	141	145	854	110	233	200

64		LAM #20	LAM #21	LAM #22	LAM #23	LAM #24	LAM #25	LAM #26	LAM #27	LAM #28	LAM #29	LAM #30	LAM #31	LAM #32	LAM #33	LAM #34	LAM #35	LAM #36	LAM #37	LAM #38	LAM #39	LAM #40	LAM #41	LAM #42	LAM #43	LAM #44	LAM #45	LAM #46	LAM #47	LAM #48	LAM #49	LAM #50	LAM #51	LAM #52	LAM #53	LAM #54	LAM #55	LAM #56	LAM #57	LAM #58	LAM #59	LAM #60	LAM #61	LAM IMM #434 #1	LAM IMM #434 #2	M13 #1	M13 #2	M13 #3	M13 #4	M13 #5	M13 #6
ARG	CGA	1	3	0	1	1	0	1	1	6	5	3	1	0	2	0	1	0	1	1	2	1	1	1	0	1	3	1	2	1	1	5	4	2	2	10	1	2	0	3	0	0	1	2	3	0	0	0	0	0	1
	CGC	6	23	0	1	0	0	2	1	2	6	1	0	5	2	10	3	0	1	0	0	10	2	4	1	2	2	4	3	1	3	0	1	1	0	8	3	2	2	1	2	3	1	3	2	1	1	0	0	0	1
	CGG	3	12	2	3	0	5	0	0	2	1	1	0	2	4	2	1	0	0	0	0	1	1	1	0	0	0	1	6	4	0	4	2	1	0	2	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0
	CGU	3	19	7	8	1	1	3	2	4	2	2	0	5	4	6	4	1	2	0	0	2	0	0	1	0	2	6	8	0	3	2	0	2	0	0	0	3	4	0	1	7	7	0	2	6	3	0	2	0	4
	AGA	2	2	0	3	0	1	11	8	12	11	3	2	1	2	1	0	1	0	1	1	1	5	2	5	0	0	6	2	1	2	5	1	3	0	4	3	1	5	4	2	2	4	0	0	0	0	1	0	0	1
	AGG	0	6	1	2	3	0	1	4	0	9	2	0	0	0	1	0	0	0	0	0	1	0	3	1	0	2	1	0	1	3	3	0	2	0	0	0	0	1	1	0	0	1	1	2	0	0	0	0	0	2
LEU	CUA	0	0	0	0	0	0	3	4	5	0	0	0	1	0	0	3	0	0	0	0	2	2	2	1	0	1	2	1	1	3	2	1	1	0	0	1	1	1	1	1	1	2	0	0	1	0	0	0	0	1
	CUC	4	7	0	2	0	2	3	1	9	6	0	1	1	2	2	1	0	0	1	0	1	1	3	2	1	1	7	0	0	0	5	1	0	0	6	2	2	3	0	3	2	2	1	0	1	0	0	0	2	2
	CUG	10	62	4	6	7	8	1	2	3	6	1	0	9	7	10	3	2	0	2	1	4	2	10	1	1	1	9	11	3	3	4	0	1	3	2	1	8	5	0	1	4	8	2	1	2	4	0	0	3	3
	CUU	3	7	1	4	7	1	6	7	12	11	3	0	3	2	3	1	1	3	2	1	2	7	2	8	0	4	4	3	1	3	4	0	1	0	1	0	4	3	0	4	4	0	2	4	3	4	2	1	0	6
	UUA	3	1	1	0	4	3	20	6	25	6	1	2	2	2	3	0	1	2	3	0	0	1	5	6	1	0	2	2	0	4	1	1	0	1	2	1	3	0	0	0	1	1	2	0	2	0	0	3	1	10
	UUG	0	1	2	0	3	2	4	4	6	3	2	2	1	0	1	1	0	0	0	0	1	5	4	1	0	2	1	0	1	0	4	0	0	0	0	2	1	1	1	1	1	1	1	2	1	1	0	0	0	0
SER	UCA	5	4	1	23	5	1	12	4	13	13	2	1	1	2	1	3	1	1	6	0	1	3	9	4	0	1	5	2	0	2	5	1	0	0	1	1	2	5	0	0	2	2	1	1	0	1	0	1	1	4
	UCC	2	13	4	9	5	1	2	1	5	3	0	3	0	5	3	1	0	0	0	0	1	2	4	0	0	0	4	1	0	0	2	0	0	0	0	0	1	1	0	2	3	0	0	3	2	1	1	1	6
	UCG	0	16	3	5	7	3	3	5	3	1	0	1	2	0	2	1	0	0	0	1	3	2	0	0	0	1	2	0	0	0	1	0	0	1	0	1	2	3	2	1	0	0	1	0	0	0	0	0	1	2
	UCU	2	1	0	5	4	1	5	1	7	3	0	3	2	1	1	0	0	1	2	0	0	2	4	3	0	1	4	1	0	2	2	0	1	0	2	0	0	1	2	2	0	1	0	1	1	1	8	4	0	2	3	21
	AGC	3	32	4	7	5	1	4	2	10	5	1	0	2	1	1	4	2	0	2	0	4	4	4	6	2	1	5	3	3	3	0	1	0	3	3	0	3	5	0	2	2	1	0	1	0	0	0	0	1	1
	AGU	1	17	9	10	12	4	1	3	8	3	0	1	1	3	1	1	0	0	0	0	1	1	3	5	1	1	0	1	1	0	1	0	1	1	3	2	0	1	2	1	1	0	0	1	1	0	0	2	0	1
THR	ACA	3	11	4	6	13	3	13	6	8	10	3	1	3	1	3	0	1	0	2	0	5	2	6	4	3	1	10	0	2	1	2	3	1	0	1	1	2	4	0	2	1	0	0	1	0	0	1	0	0	4
	ACC	4	36	4	7	8	6	1	3	4	5	0	1	0	7	3	3	0	1	1	0	0	2	6	5	2	2	5	3	2	5	4	0	3	0	1	1	1	2	1	0	1	7	3	2	2	1	0	1	3	2
	ACG	6	51	6	21	8	2	3	1	2	3	0	0	1	1	4	0	0	0	0	3	0	2	1	1	0	0	1	1	4	0	7	0	2	1	2	2	4	3	1	2	2	1	1	0	0	0	0	1	0	2
	ACU	2	6	4	4	3	2	8	5	9	3	0	2	3	2	7	2	3	1	1	2	1	1	3	0	1	1	2	3	0	0	2	0	0	0	2	0	0	3	1	1	2	2	2	1	3	3	0	1	1	18
PRO	CCA	0	3	0	3	3	2	8	3	10	4	3	2	1	0	2	0	0	3	1	0	3	0	3	8	0	1	5	4	0	4	8	3	3	0	3	1	3	4	1	1	1	0	0	1	1	2	0	0	0	2
	CCC	2	1	1	0	1	0	0	4	2	1	0	0	0	2	1	2	0	0	0	0	1	1	0	0	1	0	1	1	0	0	1	0	1	0	1	0	2	1	0	0	0	1	0	0	1	0	0	0	1	3
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	CCU	3	3	0	0	1	5	4	7	8	4	1	1	2	1	1	1	0	2	1	2	2	3	3	6	0	0	3	3	0	1	2	1	0	0	2	0	0	0	0	0	2	0	0	0	0	2	0	0	0	20
ALA	GCA	7	15	4	33	9	9	9	7	13	16	1	1	6	3	11	7	0	1	3	2	6	3	5	6	3	3	9	9	4	7	4	0	0	1	8	2	5	10	3	4	3	5	1	3	4	0	0	0	3	4
	GCC	15	28	8	29	12	4	5	0	2	5	0	0	0	7	10	3	2	1	2	2	0	5	4	4	1	0	8	6	3	2	2	0	0	0	6	1	3	4	1	6	2	7	2	0	1	2	0	1	4	3
	GCG	6	37	6	32	14	3	0	3	1	4	2	1	2	2	1	2	0	0	1	0	0	1	2	2	2	5	0	9	5	3	2	0	2	0	4	1	1	5	0	4	3	4	2	5	0	1	3	0	4	2
	GCU	3	6	4	10	8	5	6	4	6	8	0	0	2	7	4	3	2	1	2	1	2	3	4	4	2	5	4	4	2	3	4	0	1	2	4	0	3	9	1	3	5	9	3	5	2	1	1	0	3	20
GLY	GGA	2	7	5	4	5	2	2	3	9	9	1	1	4	2	2	0	0	3	4	2	2	3	6	1	1	1	4	4	2	1	8	0	0	0	4	2	7	3	2	2	5	1	2	1	0	0	0	0	0	1
	GGC	6	39	6	4	7	3	5	0	3	7	1	0	1	5	7	1	1	2	1	0	2	2	6	5	2	1	7	2	2	4	6	0	0	1	0	0	9	3	3	4	6	1	0	1	1	1	0	1	1	25
	GGG	11	16	7	5	8	1	0	2	4	3	1	0	4	3	2	2	0	1	0	1	2	3	5	5	1	1	6	2	1	1	4	1	0	0	1	1	1	4	0	1	0	0	0	1	0	0	1	0	0	3
	GGU	11	26	6	4	17	5	4	7	17	4	1	1	4	4	5	2	0	0	0	3	1	0	3	2	6	0	0	3	2	3	6	1	0	1	0	1	3	5	1	4	4	1	2	0	3	6	2	1	3	38
VAL	GUA	3	12	0	4	1	1	4	5	12	4	2	1	3	1	1	1	0	0	3	1	2	3	2	1	2	0	0	5	3	5	4	1	1	0	2	2	4	3	3	2	3	0	1	0	4	0	1	0	1	3
	GUC	3	19	5	5	3	2	3	0	4	2	0	1	1	3	3	0	1	1	0	1	0	1	3	1	0	1	2	3	1	1	4	0	0	1	1	2	0	3	1	0	3	3	0	1	0	1	1	0	3	6
	GUG	7	56	13	15	3	4	1	2	5	0	0	2	2	8	3	0	0	0	1	0	1	1	0	2	2	0	1	9	2	1	2	3	2	1	3	2	0	5	5	0	1	1	2	0	1	0	0	0	1	1
	GUU	6	15	5	2	9	4	3	10	15	4	4	2	7	4	5	4	0	1	1	1	4	6	10	11	1	1	5	0	8	4	4	7	0	0	1	1	4	6	3	3	0	0	4	2	5	6	7	1	2	4	13
LYS	AAA	3	26	5	16	13	5	33	15	26	15	0	4	6	8	9	4	5	2	5	5	8	0	17	12	4	4	20	5	4	4	10	1	6	0	14	6	14	8	2	5	8	6	5	4	5	3	0	0	5	13
	AAG	2	23	4	7	3	5	6	5	4	10	6	2	3	6	5	2	1	1	1	3	4	1	13	5	4	4	8	5	3	4	11	1	1	1	7	0	2	7	0	2	4	3	3	4	0	3	0	0	3	3
ASN	AAC	3	32	1	8	8	4	10	6	8	5	1	1	6	5	4	1	0	1	1	2	3	1	4	2	3	3	12	15	1	4	2	1	2	1	5	1	11	4	1	0	2	2	1	3	2	0	0	0	1	9
	AAU	1	19	2	6	6	3	20	14	24	4	2	4	0	2	6	1	0	2	7	2	4	1	8	6	0	1	9	3	2	1	5	2	1	2	5	2	4	2	0	3	4	5	0	1	6	2	0	0	0	20
GLN	CAA	1	3	2	3	1	1	11	6	8	4	0	2	3	1	0	2	1	1	1	3	4	2	1	2	3	2	5	1	0	3	6	1	0	2	6	0	3	7	2	2	1	2	4	2	2	2	2	0	1	9
	CAG	11	45	2	10	9	3	2	9	6	4	2	0	8	5	16	7	1	1	2	1	6	0	4	9	0	2	8	15	2	8	6	1	1	1	7	1	4	1	2	0	8	6	2	2	1	4	2	0	0	6
HIS	CAC	1	3	2	3	9	0	2	5	3	3	1	2	1	3	0	7	1	0	2	0	2	1	1	0	0	0	1	1	0	1	0	0	1	3	3	1	3	3	1	0	1	1	0	0	0	0	0	0	0	1
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GLU	GAA	3	31	4	17	5	15	22	13	20	14	3	4	13	11	17	7	2	2	6	5	2	9	9	2	3	9	11	4	6	11	5	2	6	13	3	10	4	0	3	2	5	3	4	3	1	3	0	1	1	11
	GAG	2	28	4	11	1	5	5	5	11	11	2	5	9	8	4	7	0	0	2	0	2	2	6	13	1	5	6	6	2	4	8	1	0	3	7	0	4	4	1	0	5	3	1	5	2	1	1	0	1	15
ASP	GAC	5	37	4	6	2	4	11	7	7	8	1	1	10	8	9	3	1	3	6	0	3	0	6	4	0	4	12	3	1	5	8	3	2	1	4	3	5	5	1	5	5	3	0	4	3	1	1	0	1	12
	GAU	4	33	4	12	9	8	17	7	20	13	1	7	4	6	11	7	2	0	8	3	1	1	17	5	3	1	12	4	0	2	13	1	1	3	3	3	12	4	0	1	8	9	1	1	3	2	1	0	1	12
TYR	UAC	2	15	3	3	5	0	4	2	3	6	1	2	3	6	4	3	0	0	3	0	3	4	2	3	0	0	2	3	2	0	5	1	2	1	3	2	5	1	2	2	3	3	1	0	0	2	0	0	0	7
	UAU	2	19	7	1	5	5	16	12	13	8	1	5	3	3	1	3	1	3	1	1	0	6	5	4	3	0	4	4	2	0	8	1	0	0	1	0	4	6	0	2	2	2	0	0	6	3	1	2	2	14
CYS	UGC	1	5	0	1	0	0	3	5	2	3	1	4	1	4	3	1	0	1	0	3	3	3	1	2	0	0	4	2	0	1	5	2	2	4	6	0	4	7	2	1	1	3	0	0	0	0	0	1	0	1
	UGU	0	6	1	1	0	0	2	2	2	1	0	1	0	0	3	0	0	0	1	1	0	0	1	1	0	0	1	0	2	1	3	3	0	1	3	1	0	0	0	0	0	1	1	0	2	1	1	0	0	7
PHE	UUC	3	20	3	0	2	3	5	8	10	2	2	1	1	6	4	2	1	0	2	1	1	4	4	4	1	2	3	3	1	1	11	1	1	0	2	1	6	3	2	3	4	1	1	2	0	2	2	2	2	10
	UUU	4	20	4	2	5	4	10	11	24	5	0	0	3	6	6	6	2	0	1	1	0	4	13	8	2	0	5	4	2	4	5	0	0	0	2	0	5	2	2	3	1	0	1	0	7	1	0	1	2	13
ILE	AUA	1	10	1	3	0	1	16	6	6	10	1	3	0	2	1	0	2	1	4	1	2	5	8	1	2	0	1	0	1	2	5	0	1	0	1	0	0	0	3	1	0	0	0	0	0	0	2	0	0	2
	AUC	5	26	3	2	5	1	4	3	10	10	1	1	7	7	11	4	2	2	6	0	2	7	3	6	1	4	7	9	1	2	8	0	4	0	6	1	11	3	1	7	4	6	0	4	2	0	2	0	3	3
	AUU	7	20	4	2	8	9	26	9	20	9	0	0	6	3	6	5	2	1	5	2	5	9	9	3	2	2	6	1	2	3	4	0	0	1	4	1	6	2	0	4	5	4	4	2	4	4	1	4	1	5
MET	AUG	7	19	8	5	4	4	10	8	11	8	1	4	3	10	7	5	3	1	1	5	2	5	7	9	2	5	9	10	4	2	10	2	0	2	2	4	5	10	2	4	3	4	3	5	3	2	2	2	3	7
TRP	UGG	2	21	3	1	3	6	9	3	4	4	2	1	2	6	5	1	1	2	4	2	2	0	0	3	0	3	9	4	1	7	6	3	2	0	6	1	5	2	0	1	4	1	1	3	2	0	0	1	1	4
TER	UAA	0	0	0	0	1	1	0	0	0	1	0	1	0	0	0	1	1	1	0	0	0	1	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0	1	0	1	1	0	0	0	1
	UAG	0	0	0	0	0	1	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	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
	UGA	1	1	1	1	0	0	1	0	1	0	1	0	1	1	1	0	0	0	1	1	0	0	0	1	0	1	1	1	1	1	1	0	1	0	1	1	1	0	0	0	1	0	0	1	0	0	1	1	1	0
TOTAL		224	1133	207	402	315	195	411	297	526	357	73	94	183	227	262	139	48	55	123	67	134	145	280	230	67	90	300	234	97	147	291	50	61	57	205	69	222	208	65	108	159	154	72	90	112	88	34	33	74	425

65		M13 #7	M13 #8	M13 #9	M13 #10	M82 #1	M82 #2	M82 #3	M82 #4	P15 NC# 1	P15 NC# 2	P21 NR1	P22 C2	P22 ERF	P22 INM I#1	P22 INM I#2	P22 INM I#3	P22 PAC	P22 RTO P#2	P22 RTO P#3	P22 RTO P#4	P22 RTO P#5	P29 P#6 2	P80 CI	PA2 LC# 2	PF1 C#1	PF1 C#2	PF1 C#3	PF1 C#4	PF1 C#5	PF1 C#6	PF1 C#7	PF1 C#8	PF1 C#9	PF1 C#10	PF1 D 0	PF1 G57 ##1	PF1 G57 ##2	PF3 BPM CP# 1	PF3 BPM CP# 2	PF3 MCP	PFD #1	PFD #2	PFD #3	PFD #4	PFD #5	PFD #6	PFD #7	PFD #8	PFD #9	PFD #10
ARG	CGA	0	0	1	4	6	0	2	4	0	1	2	2	1	1	1	1	5	1	2	3	0	1	1	0	0	0	0	0	1	0	0	1	4	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4
	CGC	0	4	6	4	6	1	2	13	0	0	6	3	2	1	2	3	6	1	4	6	0	2	5	2	1	0	0	0	2	0	4	6	4	2	1	0	2	1	1	1	1	0	0	0	1	0	4	6	4
	CGG	0	1	1	0	3	0	1	8	0	1	0	0	0	0	0	0	0	1	2	10	0	1	2	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0
	CGU	1	7	6	8	7	3	0	11	4	1	2	1	1	1	0	6	3	2	3	9	0	4	2	6	3	0	2	0	4	1	7	6	8	8	3	3	0	2	0	0	6	3	0	2	0	4	1	7	7	8
	AGA	0	3	1	4	3	0	3	4	6	2	2	4	3	2	1	3	1	0	4	7	1	7	0	0	0	1	0	0	1	0	3	1	4	4	0	0	0	0	0	0	0	0	1	0	0	1	0	3	1	5
	AGG	0	2	0	0	4	0	0	2	1	1	0	1	0	2	0	2	0	0	0	5	0	1	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	0
LEU	CUA	0	2	3	2	5	2	1	8	0	4	1	0	2	1	0	0	2	0	4	3	0	9	1	0	0	0	0	0	1	1	2	3	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2
	CUC	4	4	5	4	8	2	2	15	1	1	2	2	0	1	0	2	3	1	4	5	0	2	0	1	1	0	0	0	2	1	4	4	5	4	4	2	1	2	1	0	0	0	2	0	0	2	1	4	2	4	2
	CUG	2	2	5	8	2	0	2	7	1	0	1	4	5	1	0	9	3	4	8	21	2	2	3	14	4	0	0	0	3	3	2	2	5	8	8	5	3	3	0	3	3	1	4	0	0	3	3	2	2	4	8
	CUU	9	11	5	9	7	2	3	7	5	5	3	6	5	1	0	11	2	1	5	5	1	2	2	5	4	2	1	0	7	8	11	5	9	9	0	4	0	0	0	0	3	3	2	1	0	6	9	13	5	10
	UUA	4	17	13	16	8	1	1	8	3	4	1	6	1	2	0	5	1	2	2	2	0	5	2	2	0	0	3	1	10	4	16	12	16	16	0	0	1	0	0	0	2	0	0	3	1	10	4	17	15	15
	UUG	5	4	10	8	6	0	3	5	1	2	0	3	2	2	3	0	1	2	1	5	1	3	0	0	1	0	0	0	0	5	5	11	8	8	0	1	0	3	0	0	2	1	0	0	0	1	5	4	11	10
SER	UCA	2	4	12	8	8	2	1	6	3	3	1	3	2	3	0	5	0	1	2	9	0	1	1	2	1	0	1	1	4	2	4	12	8	8	0	1	1	0	0	0	0	1	0	1	1	4	2	8	10	8
	UCC	0	3	7	9	6	2	0	12	1	2	1	1	2	1	0	1	0	0	1	6	0	1	0	5	2	1	1	1	7	0	4	5	9	9	1	2	1	2	1	1	6	1	1	1	2	6	0	3	6	13
	UCG	0	1	2	2	10	2	3	10	1	0	0	3	2	1	0	1	3	0	2	5	0	4	1	0	1	0	0	1	3	0	1	3	2	2	1	1	1	0	0	0	0	1	0	0	1	3	0	0	2	2
	UCU	5	15	26	23	5	3	1	7	3	0	1	2	2	0	2	6	4	1	4	2	0	6	1	9	3	0	2	3	19	5	14	27	23	23	1	3	3	1	0	0	5	4	0	2	2	20	5	12	28	19
	AGC	1	4	5	1	3	4	0	9	2	1	4	3	4	0	2	3	0	3	1	8	0	2	0	2	0	0	0	1	0	1	4	5	1	1	2	0	1	0	0	0	0	0	0	0	1	0	1	4	4	1
	AGU	0	2	5	3	4	0	1	4	1	1	2	2	3	0	0	2	2	1	1	6	0	5	3	1	0	0	2	0	1	0	2	5	3	3	0	0	0	0	0	0	1	0	0	2	0	1	0	2	2	2
THR	ACA	0	2	1	3	5	0	1	8	1	1	0	4	5	0	0	1	3	2	9	3	2	5	0	2	0	1	0	0	4	0	2	2	3	3	0	0	0	0	0	2	2	1	0	1	0	0	4	0	2	5	3
	ACC	0	3	3	6	6	4	2	12	1	3	1	1	1	2	0	4	1	1	10	5	0	1	0	11	2	0	1	3	2	0	3	3	6	6	12	2	3	2	1	1	3	2	0	1	3	2	0	4	3	8
	ACG	0	3	4	2	6	1	1	7	1	1	1	0	2	1	0	4	2	0	1	6	0	4	0	0	0	0	1	0	2	0	3	4	2	2	0	0	0	1	0	0	0	0	0	1	0	2	0	2	4	2
	ACU	2	12	18	11	10	4	5	4	3	4	1	2	3	1	0	0	3	1	4	3	2	3	1	14	2	0	1	1	18	2	12	18	11	11	0	2	1	1	2	2	1	2	0	1	1	18	2	12	15	9
PRO	CCA	1	1	5	3	4	2	2	3	2	3	2	7	2	1	0	5	1	0	3	7	0	1	1	1	2	0	0	0	2	1	1	5	3	3	0	2	0	0	0	0	1	1	0	0	0	2	1	1	4	4
	CCC	2	0	1	2	5	1	0	4	1	1	0	1	0	0	0	0	0	0	2	1	0	2	0	0	0	0	0	1	3	2	0	1	2	2	0	0	1	1	0	0	1	0	0	0	1	2	2	1	1	2
	CCG	2	4	2	2	3	1	1	10	0	0	0	2	0	1	1	4	1	1	3	4	0	2	1	2	2	0	0	1	2	2	4	2	3	3	13	2	1	1	0	0	1	3	0	0	1	2	2	4	3	3
	CCU	0	8	9	9	5	2	1	10	0	3	0	3	4	2	1	4	4	1	4	5	0	6	1	1	2	0	0	0	20	0	8	8	8	8	0	2	0	4	0	0	0	3	2	0	0	0	21	0	7	9	7
ALA	GCA	0	5	7	10	7	6	1	8	4	7	7	9	8	1	0	8	3	3	9	19	1	5	0	15	0	0	0	3	4	0	5	7	10	10	2	0	3	0	0	0	4	0	0	0	3	4	1	5	5	10
	GCC	0	0	3	4	12	2	0	6	4	1	1	3	2	0	0	3	4	2	3	10	0	3	1	4	1	0	1	4	3	0	0	3	4	4	14	1	4	2	1	1	1	0-	0	1	4	3	0	0	4	4
	GCG	1	2	0	0	10	1	2	12	2	1	2	1	3	2	2	3	4	3	2	11	0	1	2	3	2	3	0	4	2	1	2	1	0	0	2	2	4	1	2	2	0	3	3	0	4	2	1	2	2	0
	GCU	6	7	9	14	6	5	0	15	2	2	1	4	9	3	0	7	5	2	5	9	0	12	5	16	1	1	0	3	20	6	7	8	14	14	0	1	3	2	3	3	2	1	1	0	3	20	5	7	8	14
GLY	GGA	0	4	1	0	2	2	0	8	1	0	1	5	1	1	1	6	3	1	5	11	0	1	0	2	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0
	GGC	2	6	11	5	6	3	0	7	3	0	1	3	2	0	1	3	4	2	2	8	2	3	0	9	1	0	1	1	27	3	6	9	5	5	9	1	1	0	1	1	1	1	0	1	1	29	3	4	8	4
	GGG	1	3	1	2	5	1	0	10	1	3	0	3	0	1	1	1	1	2	4	6	2	2	2	3	0	1	0	0	3	1	3	1	2	2	1	0	0	3	0	0	0	0	1	0	0	2	1	2	1	2
	GGU	5	10	17	10	15	3	0	19	1	1	4	4	7	0	1	3	1	1	6	9	0	5	0	24	6	2	1	3	37	4	10	19	10	10	1	6	3	2	3	3	3	6	2	1	3	37	4	13	20	11
VAL	GUA	2	3	11	8	7	3	1	6	1	2	1	4	2	0	4	6	0	0	4	4	2	2	0	9	0	1	0	1	3	2	3	10	8	8	0	1	0	0	0	0	3	0	1	0	1	2	2	3	9	7
	GUC	0	3	3	1	7	4	0	10	1	1	3	2	1	2	0	3	2	2	3	3	0	3	0	1	1	1	0	3	5	0	3	3	1	1	7	1	3	2	0	0	0	1	1	0	3	6	0	3	3	1
	GUG	1	0	3	0	9	3	2	7	2	2	1	2	2	2	0	6	4	0	5	9	0	7	0	2	1	0	1	0	1	1	0	4	0	0	4	2	0	2	4	4	0	2	0	1	0	2	1	0	5	0
	GUU	6	19	27	17	8	4	0	9	4	6	1	8	3	1	1	8	2	2	7	15	0	10	1	13	6	1	2	4	14	6	19	29	17	17	0	6	4	1	2	2	7	5	1	2	4	13	6	20	29	18
LYS	AAA	4	21	10	16	5	5	2	9	9	9	10	9	11	5	2	14	3	5	18	10	0	10	2	21	3	0	0	5	13	4	21	10	15	15	1	3	5	2	1	1	5	3	0	0	5	14	4	21	11	15
	AAG	3	12	7	5	9	1	0	16	5	4	4	6	9	3	3	11	6	4	8	10	1	10	6	3	3	0	0	3	2	3	12	7	5	5	7	3	3	2	0	0	0	3	0	0	3	2	3	12	6	5
ASN	AAC	1	3	5	3	15	6	0	7	1	3	1	8	3	3	0	10	5	4	8	13	0	15	1	15	0	0	0	0	8	1	3	5	3	3	3	0	0	3	0	0	1	0	0	0	0	9	1	3	7	3
	AAU	1	13	29	21	2	4	2	11	4	11	1	4	6	1	3	7	1	0	12	4	0	13	3	9	2	0	0	0	22	1	14	28	21	21	1	2	0	2	0	0	7	2	0	0	0	20	1	13	25	21
GLN	CAA	2	5	8	6	9	1	6	7	7	2	0	6	2	2	0	3	2	2	3	2	0	11	3	9	2	2	0	1	9	2	5	8	6	6	6	3	1	2	4	4	2	2	2	0	1	8	2	5	9	6
	CAG	2	9	12	8	9	5	3	8	2	2	2	2	11	1	2	7	4	1	5	11	0	7	4	7	4	2	0	0	6	2	9	12	8	8	8	4	0	4	0	0	1	4	2	0	0	7	2	9	11	8
HIS	CAC	0	1	0	3	3	0	0	6	1	2	0	2	3	1	0	2	0	0	0	2	0	2	3	2	0	0	0	0	1	0	1	0	3	3	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3
	CAU	0	3	1	6	2	0	1	4	0	4	0	2	2	0	0	5	1	1	5	2	0	1	1	1	1	0	0	0	2	0	2	1	6	6	0	1	0	1	0	0	1	1	0	0	1	2	0	2	1	6
GLU	GAA	0	4	8	9	5	2	2	9	14	4	6	9	2	2	4	13	9	4	8	18	0	18	5	13	3	0	1	1	11	0	4	8	10	10	5	2	1	3	0	0	0	3	0	0	1	11	0	5	9	10
	GAG	0	3	4	8	12	3	1	13	6	7	2	8	9	5	2	7	7	5	7	16	1	11	3	0	1	1	0	1	15	0	3	4	8	8	2	1	1	0	0	0	3	1	1	0	1	15	0	2	3	8
ASP	GAC	2	4	4	10	5	3	0	14	4	1	0	4	7	0	0	6	3	1	6	20	0	9	8	12	1	1	0	2	13	2	4	5	10	9	6	1	2	0	0	0	3	2	1	0	2	12	1	6	3	11
	GAU	3	19	23	13	8	1	1	19	3	5	1	6	6	7	1	12	7	3	6	10	0	5	1	22	2	1	0	1	11	3	19	23	13	13	1	2	1	3	2	2	3	1	1	0	1	12	4	17	24	12
TYR	UAC	0	1	1	1	12	4	1	16	3	1	3	1	7	1	0	9	2	0	5	4	1	6	0	14	2	0	0	0	7	0	1	1	1	1	2	2	0	1	0	0	0	2	0	0	0	7	0	1	2	2
	UAU	4	20	6	14	4	0	1	5	2	8	0	4	3	1	1	7	2	0	3	6	0	11	1	11	3	1	2	2	14	4	20	6	14	14	1	3	2	2	0	0	6	3	1	2	2	15	4	20	5	13
CYS	UGC	0	2	0	4	3	1	0	2	0	1	2	2	2	0	0	3	0	1	1	3	0	0	0	0	0	0	1	0	1	0	2	0	4	4	1	0	0	1	0	0	0	0	0	1	0	1	0	2	0	4
	UGU	1	4	0	2	0	1	1	5	0	0	1	1	1	0	0	0	2	0	1	2	0	2	0	0	1	1	0	0	7	1	4	0	2	2	0	1	0	0	0	0	2	1	1	0	0	7	1	4	0	2
PHE	UUC	5	4	6	3	10	3	3	16	0	2	0	1	2	2	1	7	6	1	7	3	0	8	2	20	3	2	2	2	10	5	4	7	3	3	4	3	2	3	1	1	1	2	2	2	2	10	6	4	7	4
	UUU	5	10	17	22	6	1	2	12	1	5	0	2	3	2	1	1	1	1	2	4	1	6	1	6	0	0	1	2	13	5	10	16	22	22	1	0	2	5	1	1	6	1	0	1	2	12	4	10	16	21
ILE	AUA	1	5	6	5	7	0	0	12	4	5	0	4	2	0	0	3	1	1	5	2	0	5	2	0	0	2	0	0	2	1	5	5	5	5	0	0	0	0	0	0	2	0	0	2	1	5	6	4	5	6
	AUC	1	0	3	4	8	4	3	13	2	3	0	3	4	1	0	6	5	1	3	15	2	8	4	6	0	2	0	3	3	1	0	3	5	5	7	0	3	0	2	2	0	2	0	3	3	1	1	3	3	3
	AUU	11	16	20	13	1	4	0	7	6	2	6	5	5	0	2	10	2	5	6	15	2	5	2	3	4	1	1	1	5	11	16	19	12	11	0	4	1	4	5	5	4	4	1	1	1	5	11	15	19	15
MET	AUG	1	3	6	7	7	3	1	10	5	4	2	8	3	5	4	12	4	3	7	18	1	8	4	6	2	2	2	3	7	1	3	6	7	6	3	2	3	2	1	1	3	2	2	2	3	7	1	3	6	7
TRP	UGG	1	5	1	5	12	2	0	9	0	2	1	5	1	0	1	6	5	2	4	2	1	3	2	5	0	0	1	1	4	1	5	1	5	5	1	0	1	0	1	1	2	0	0	1	1	4	1	5	1	5
TER	UAA	1	1	0	1	0	1	1	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	0	1	1	1	1	0	1	0	0	0	1	1	0	0	0	1	1	0	1
	UAG	0	0	1	0	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	UGA	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		113	349	427	411	394	131	76	546	148	159	100	217	206	84	54	301	163	93	272	459	27	310	99	366	88	34	33	74	425	113	349	427	411	400	145	88	74	79	45	45	112	88	34	33	74	425	113	349	427	411

66		PG4 #1	PG4 #2	PG4 #3	PG4 #4	PG4 #5	PG4 #6	PG4 #7	PG4 #8	PG4 #9	PG4 #10	PG4 #11	PR3 THY P3	PNU A01	PNU B02	PNU GIN NON #1	PNU GIN NON #2	PNU INM 1	PNU INM CIN #1	PP1 1	PP1 REP	PP4 EL# 2	PP4 EL# 3	PP4 EL# 4	PP4 EL# 5	PT3 POL	PT3 RE# 1	PT3 RE# 2	PT3 RE# 3	PT3 RE# 4	PT4 BGT	PT4 DEN V	PT4 PEN A	PT4 REX #1	PT4 FRD TD1	PT4 FRD TO2	PT4 G1T RNA #	PT4 G1T RNA #2	PT4 G1T RNA #3	PT4 G1T RNA #4	PT4 G1T RNA #5	PT4 G22 RNA #2	PT4 G23	PT4 G30	PT4 G32 G37 #2	PT4 G36 G37 #3	PT4 G55 G43 #2	PT4 G55 G43 #3	PT4 G55 G43 #4	PT4 G55 G43 #5	PT4 G55 G43 #6
ARG	CGA	5	4	2	1	0	0	0	0	0	0	0	0	4	1	10	3	2	2	2	2	0	0	0	0	3	5	0	0	3	2	0	3	1	1	2	0	0	1	1	0	4	0	2	1	0	6	3	6	1	3
	CGC	11	7	3	0	1	7	0	2	7	3	6	2	18	13	5	10	2	0	6	6	6	6	4	2	19	5	0	1	8	2	0	1	4	1	2	1	1	2	0	5	3	1	1	11	0	1	1	3	2	1
	CGG	2	2	2	0	1	0	0	0	0	0	1	1	6	1	0	5	0	1	3	1	3	5	0	2	0	2	0	0	1	1	0	0	0	0	0	0	1	0	0	2	0	1	0	0	1	0	0	0	0	0
	CGU	9	6	2	1	1	4	0	1	17	2	3	1	16	12	3	4	0	2	9	7	3	2	9	4	14	14	2	2	23	6	12	7	4	6	6	8	2	2	0	12	12	3	0	18	5	13	5	7	3	10
	AGA	2	2	1	0	0	0	0	0	0	0	1	6	6	1	1	3	0	1	2	0	4	1	0	0	1	6	1	0	0	2	0	1	4	0	0	0	0	2	0	1	1	0	2	17	1	0	2	5	0	1
	AGG	1	1	0	0	2	0	0	0	0	0	0	0	1	0	2	1	0	0	0	0	1	0	0	1	0	4	0	0	2	0	0	0	0	1	1	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0
LEU	CUA	5	5	0	1	1	0	0	0	1	2	1	3	1	1	2	3	1	1	3	2	0	0	0	0	4	7	2	1	4	2	0	1	1	0	3	4	0	0	2	1	0	6	1	1	3	0	3	4	4	1	0
	CUC	14	4	0	1	4	1	4	1	6	2	7	2	2	2	2	1	0	1	2	3	0	4	2	5	21	4	0	1	11	1	1	0	1	1	0	0	1	1	2	2	2	1	2	0	4	1	1	1	3
	CUG	11	9	0	4	2	2	6	0	8	1	0	3	32	19	7	9	3	0	4	11	4	18	2	5	34	8	1	3	18	0	0	2	1	1	3	2	4	2	1	17	2	6	0	2	0	4	2	4	7	1
	CUU	11	6	1	4	2	5	2	0	10	2	10	5	8	10	4	3	3	2	6	7	3	3	4	0	9	9	0	3	13	4	3	9	6	5	8	5	2	6	2	2	16	8	1	7	3	8	7	20	7	8
	UUA	7	5	1	2	4	2	5	0	6	4	1	6	5	4	6	2	6	3	4	2	0	0	0	0	9	5	0	3	7	13	5	5	5	8	11	7	0	6	0	5	17	0	2	21	6	6	6	15	1	6
	UUG	6	4	0	3	0	1	5	0	0	1	0	5	4	0	2	1	5	0	1	9	0	0	0	1	7	5	2	3	10	5	2	2	2	2	5	3	1	1	2	3	8	2	1	13	1	6	3	7	3	5
SER	UCA	10	7	1	1	2	2	6	1	3	4	3	5	5	5	3	5	3	1	3	7	5	3	3	1	7	3	1	0	0	2	1	2	1	4	4	3	0	4	0	3	7	3	0	20	3	9	5	8	2	7
	UCC	5	3	0	0	1	0	2	0	9	0	7	0	6	4	0	3	1	2	4	3	1	0	6	2	5	11	0	0	6	3	0	2	0	0	0	1	1	0	0	4	0	0	0	5	0	3	0	2	2	1
	UCG	4	4	1	1	3	0	4	0	1	1	2	1	4	0	0	1	2	0	0	3	2	1	0	0	3	2	0	0	5	1	0	1	0	1	0	1	0	3	0	0	1	1	3	5	0	1	1	7	0	2
	UCU	14	10	1	2	1	7	0	2	21	9	19	1	2	1	2	2	2	1	0	2	3	0	0	0	13	11	0	0	9	13	2	4	3	4	4	5	6	14	10	15	6	20	4	11	10	10	9	7
	AGC	2	1	2	0	0	0	0	0	0	0	1	1	7	3	2	3	3	1	3	3	1	4	1	3	11	1	1	1	5	0	0	2	0	3	2	3	0	1	0	5	0	2	1	13	1	3	0	2	0	1
	AGU	2	2	2	1	0	0	3	0	0	1	1	3	2	4	2	2	3	0	2	3	2	1	2	0	2	2	1	0	5	3	2	2	2	2	1	1	0	2	1	0	4	5	1	21	3	4	1	8	1	5
THR	ACA	6	4	1	0	2	3	4	1	7	5	5	5	6	2	5	2	2	1	4	2	2	2	1	0	5	11	2	2	4	2	2	5	5	4	6	5	0	5	3	6	3	2	7	25	2	7	10	11	5	4
	ACC	10	9	2	0	1	3	0	0	6	7	8	3	7	8	1	2	3	0	2	4	5	7	4	1	21	12	0	1	8	6	0	0	1	1	1	1	0	0	3	8	5	1	1	9	2	1	3	5	2	1
	ACG	5	5	1	1	0	0	2	0	4	0	1	3	11	8	2	4	2	0	1	1	4	3	0	1	12	8	0	1	5	0	0	1	1	4	1	2	1	1	0	0	0	1	0	6	2	2	3	2	1	0
	ACU	15	5	3	2	2	3	1	0	14	6	8	4	5	4	2	0	1	2	2	4	0	0	0	0	5	21	0	0	10	6	5	5	4	6	4	7	6	2	6	16	12	10	7	49	4	11	12	10	7	11
PRO	CCA	4	1	1	2	0	0	0	0	7	4	2	2	5	3	2	2	2	2	1	2	0	0	0	1	7	3	0	1	5	4	0	6	1	3	4	2	0	3	1	10	4	6	0	8	2	2	5	4	3	6
	CCC	8	4	1	0	0	2	0	0	1	1	2	0	4	1	2	2	1	0	1	2	0	0	4	0	0	0	0	0	4	0	1	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	0	1
	CCG	1	1	1	0	0	0	6	0	6	1	0	3	10	2	1	2	1	1	1	5	5	4	4	0	22	5	1	1	9	2	1	0	1	0	2	0	0	2	1	10	2	2	0	6	1	5	0	2	2	1
	CCU	10	5	4	0	0	3	3	0	17	5	1	3	8	2	1	2	4	1	2	2	0	1	2	1	11	0	0	0	10	6	3	6	1	6	7	4	0	3	1	2	8	0	2	13	2	7	4	2	1	3
ALA	GCA	8	5	2	0	2	1	1	0	4	5	1	5	25	7	3	5	3	1	5	3	3	11	3	0	29	12	3	1	6	8	4	6	5	6	3	7	3	3	2	12	8	7	8	25	5	7	6	12	8	7
	GCC	9	6	0	0	1	6	1	1	2	5	8	3	18	9	5	4	2	2	0	6	2	10	7	6	12	8	1	0	9	1	0	0	0	0	1	1	0	0	1	5	0	1	10	1	0	1	4	2	3
	GCG	3	3	1	0	0	0	2	0	3	2	2	2	20	5	3	4	2	4	3	6	3	5	4	1	23	11	1	1	12	3	1	2	2	1	3	2	0	2	2	3	2	3	3	5	2	1	3	2	1
	GCU	16	12	3	1	1	12	1	0	16	10	25	1	13	6	4	1	5	3	6	9	1	2	7	1	31	24	1	6	14	9	7	6	8	4	6	7	7	3	6	53	17	15	10	42	5	9	6	11	12	14
GLY	GGA	5	4	4	1	1	2	0	1	1	1	3	5	6	4	5	5	2	1	2	3	3	3	0	1	3	14	0	0	3	1	0	5	3	1	6	5	1	3	1	1	13	2	4	32	2	3	7	6	2	2
	GGC	6	5	3	1	1	0	0	2	10	4	16	2	16	4	2	7	1	0	4	6	4	4	3	2	21	4	0	1	9	3	1	3	3	6	3	1	1	0	1	6	5	3	5	28	1	2	1	1	0	2
	GGG	1	1	1	0	0	0	0	0	1	0	1	4	7	5	6	1	6	0	5	2	0	2	1	1	9	3	1	0	5	0	0	0	1	1	1	0	0	1	1	0	1	0	2	11	2	0	3	4	0	2
	GGU	16	10	0	0	2	4	1	2	14	2	12	3	17	7	3	4	4	3	3	6	3	2	2	1	24	25	2	5	21	9	6	3	4	5	10	9	1	3	4	45	16	13	14	65	1	13	8	21	13	11
VAL	GUA	6	4	0	0	0	2	0	1	7	2	4	0	4	4	3	2	5	1	5	3	0	2	2	1	13	17	1	0	4	4	1	3	1	7	7	9	2	7	0	16	16	8	7	17	4	7	7	8	6	6
	GUC	5	3	3	2	0	5	2	0	4	8	4	0	4	1	1	1	1	0	1	3	3	5	6	1	10	7	0	2	3	3	1	1	1	1	2	1	1	1	0	0	2	0	2	5	2	0	2	2	0	1
	GUG	10	9	0	1	2	0	4	0	1	0	2	5	12	4	2	7	1	1	3	2	2	6	7	2	12	4	2	0	25	3	0	0	1	3	2	1	0	1	0	1	2	2	2	2	0	1	5	5	1	2
	GUU	10	6	3	0	0	7	7	0	11	8	6	5	24	8	9	6	9	3	2	6	1	2	2	0	18	8	3	1	8	12	5	6	6	7	7	6	7	3	5	5	14	8	9	8	32	5	14	8	21	6	9
LYS	AAA	32	18	2	5	7	4	4	3	16	5	14	13	37	12	11	9	12	2	3	18	7	7	0	5	22	6	1	3	6	20	6	12	13	10	19	13	6	6	10	25	39	30	8	31	14	28	17	46	16	20
	AAG	13	10	1	0	1	0	4	1	1	1	12	9	9	2	2	6	5	4	8	11	1	4	0	1	47	17	0	4	25	8	4	4	0	2	4	4	0	1	2	6	11	3	3	8	5	3	6	16	0	5
ASN	AAC	18	11	4	2	5	5	3	0	12	8	12	9	14	6	2	9	1	2	3	6	5	2	1	1	31	24	2	3	14	4	2	1	2	0	2	4	0	0	0	16	7	7	8	35	4	4	3	9	3	2
	AAU	17	10	7	2	2	1	0	0	9	5	10	11	12	12	5	5	4	1	1	3	1	5	0	3	6	18	1	1	8	24	1	8	10	5	13	11	1	3	2	5	15	14	11	43	9	17	14	25	13	11
GLN	CAA	13	6	12	3	1	4	1	1	6	1	16	8	7	4	4	1	5	1	5	4	0	1	0	0	15	12	0	3	8	8	4	4	4	3	10	6	4	2	0	8	8	8	7	29	5	6	7	16	5	5
	CAG	6	4	1	1	0	1	0	0	9	3	10	8	21	8	3	7	7	2	2	9	6	14	3	4	22	15	0	2	14	2	2	1	1	3	3	0	1	1	0	20	7	1	1	8	2	7	2	9	2	6
HIS	CAC	6	3	1	0	1	1	1	0	7	2	1	2	5	2	2	5	2	1	2	2	1	4	1	2	19	7	0	2	7	1	1	1	0	0	3	0	0	1	1	4	1	1	1	11	2	1	5	2	2	1
	CAU	9	4	3	0	4	1	0	0	7	4	2	7	8	3	2	1	1	1	0	2	2	5	2	5	3	5	0	0	6	4	3	3	1	4	4	3	0	4	1	0	4	1	1	13	2	9	9	7	0	7
GLU	GAA	17	6	9	4	3	7	2	0	11	3	12	10	34	23	8	6	13	5	9	10	4	10	3	3	19	9	2	1	17	17	7	13	7	9	11	10	13	9	8	31	35	17	1	25	12	27	20	37	11	17
	GAG	6	3	2	2	4	0	0	0	6	1	5	7	17	5	3	9	3	1	6	9	1	11	2	2	41	16	0	5	27	4	2	3	1	1	3	2	0	1	0	0	8	2	0	15	2	4	9	4	0	3
ASP	GAC	22	10	6	0	5	6	1	0	16	3	12	9	10	4	6	2	0	0	5	3	2	9	2	3	35	19	0	5	23	7	1	4	2	5	2	5	0	1	0	8	5	9	5	13	5	4	8	9	2	1
	GAU	13	8	1	0	0	2	0	0	12	4	8	13	26	8	6	5	6	2	3	13	4	2	3	4	11	22	2	5	21	15	7	19	8	8	15	17	5	11	3	18	27	21	11	42	11	22	18	30	15	20
TYR	UAC	11	7	1	1	3	1	1	1	8	1	1	4	10	1	1	5	2	0	1	5	4	2	0	3	16	11	1	1	12	3	4	1	1	1	3	2	0	2	1	7	3	7	0	9	4	4	1	4	1	1
	UAU	14	7	2	0	0	3	0	1	13	2	7	7	13	4	2	10	2	2	3	3	3	3	3	0	9	8	1	2	7	11	3	2	5	8	12	9	0	6	0	13	17	1	10	29	8	14	13	13	5	8
CYS	UGC	4	1	0	1	0	1	0	0	1	1	0	1	3	0	0	3	0	0	0	0	0	6	0	2	1	6	1	0	0	3	0	0	2	1	0	1	1	0	0	0	3	1	1	1	0	2	1	1	0	3
	UGU	1	1	2	0	0	1	2	0	2	0	0	1	5	3	2	0	0	1	1	2	6	2	3	0	3	2	0	0	2	0	1	3	1	1	4	1	0	2	0	1	3	3	0	1	1	4	2	2	0	4
PHE	UUC	15	11	3	0	3	3	4	0	16	3	3	5	7	1	2	4	0	0	2	8	3	1	0	1	23	10	3	2	26	3	3	2	1	5	5	2	0	0	0	18	4	9	3	12	3	4	4	4	3	4
	UUU	4	3	4	0	2	6	1	0	6	3	4	7	17	7	3	5	3	1	5	6	4	1	3	3	12	9	1	0	2	19	5	11	4	3	7	11	0	6	3	7	14	9	8	32	5	19	10	19	8	9
ILE	AUA	5	3	0	0	1	0	0	0	0	1	2	2	0	2	2	2	0	2	3	1	1	0	0	0	5	0	1	4	4	2	1	2	3	4	1	0	2	0	0	2	0	3	1	13	2	0	3	10	0	1
	AUC	16	6	3	0	0	8	3	0	8	6	7	7	6	6	4	4	1	1	5	11	1	1	5	0	27	9	1	3	15	0	4	6	2	1	2	4	4	0	3	18	5	3	3	13	2	3	3	9	3	4
	AUU	10	5	2	1	0	4	1	1	7	8	9	17	13	6	8	5	3	2	8	5	4	3	5	5	24	11	2	1	11	31	7	12	6	8	15	12	3	2	6	20	30	7	3	44	8	26	22	29	17	27
MET	AUG	17	14	1	1	3	3	2	1	17	3	10	9	14	8	5	5	8	1	7	3	7	5	4	0	25	8	1	4	15	11	2	7	5	5	6	7	2	2	2	15	10	9	3	16	5	11	7	14	6	10
TRP	UGG	10	6	0	0	1	1	2	1	9	2	1	9	16	4	2	5	1	3	2	2	1	3	3	0	18	12	1	0	9	5	1	5	3	3	7	3	0	2	1	4	5	5	2	10	2	7	9	2	2	2
TER	UAA	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	1	1	0	1	0	1	1	1	1	0	1	1	1	1	1	0	1	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	1	0	1	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	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1
TOTAL		555	342	121	57	85	153	97	26	420	178	330	280	663	313	194	242	175	76	107	207	156	215	138	96	885	550	49	90	587	352	139	228	165	194	207	242	81	152	96	522	488	302	222	1027	186	401	340	561	228	320

67	PT4 G55 G43 #7	PT4 G55 G43 #8	PT4 G55 G43 #9	PT4 G63 ALC #1	PT4 G63 ALC #2	PT4 G67 G21 #1	PT4 G67 G21 #2	PT4 PSE T	PT4 UV8 Y	PT4 UV8 #1	PT4 YSO #2	PT4 UV8 YSO #3	PT4 YSO #4	PT4 UV8 YSO #5	PT4 UV8 YSO #6	PT5 EXO G	PT5 TRD G#1	PT5 TRD G#2	PT7 #1	PT7 #2	PT7 #3	PT7 #4	PT7 #5	PT7 #6	PT7 #7	PT7 #8	PT7 #9	PT7 #10	PT7 #11	PT7 #12	PT7 #13	PT7 #14	PT7 #15	PT7 #16	PT7 #17	PT7 #18	PT7 #19	PT7 #20	PT7 #21	PT7 #22	PT7 #23	PT7 #24	PT7 #25	PT7 #26	PT7 #27	PT7 #28	PT7 #29	PT7 #30	PT7 #31	PT7 #32
ARG CGA	0	1	13	2	2	0	1	2	1	0	1	3	4	2	0	2	0	1	1	1	0	0	0	1	3	3	1	0	0	1	0	0	3	1	1	0	0	2	1	2	2	4	0	4	0	1	1	1	6	0	0	1
CGC	0	0	2	0	1	1	4	5	0	3	3	0	0	3	0	1	2	0	0	1	1	1	3	6	9	22	2	0	4	0	0	3	1	0	0	2	5	1	3	1	6	1	6	1	2	3	3	15	0	0	1
CGG	1	0	1	1	1	0	0	0	0	1	0	2	0	3	0	0	0	1	0	0	0	0	2	2	1	0	1	1	0	0	0	0	0	0	0	2	0	1	0	0	2	0	1	0	0	0	0	1	0	1	1
CGU	1	5	27	6	5	1	8	12	1	8	6	9	3	8	1	12	2	2	3	0	0	1	2	10	17	6	2	7	0	0	5	5	0	2	4	0	2	5	2	10	1	10	0	3	4	1	16	0	2	2
AGA	1	1	0	7	0	1	1	0	3	1	3	5	4	7	0	1	0	0	0	0	0	1	3	4	0	0	1	0	0	0	0	1	1	0	0	0	2	0	3	4	2	4	1	0	0	1	0	2	0	0
AGG	0	0	1	0	0	0	0	0	1	0	1	1	0	3	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	2	2	0	5	1	0	0	3	0	0	0	0	0	2	0	0
LEU CUA	3	4	6	4	0	0	0	2	3	3	3	3	2	2	0	7	2	2	0	0	4	0	1	5	5	0	0	5	1	0	0	2	1	1	0	1	2	0	2	11	1	11	3	0	1	0	5	3	1	0
CUC	1	1	7	0	0	1	1	1	1	1	5	0	2	2	0	1	2	0	2	2	1	1	2	5	12	0	0	5	0	2	1	3	0	0	0	0	0	1	3	4	0	4	0	0	1	0	14	0	0	1
CUG	1	1	10	5	0	0	2	3	1	1	4	1	0	3	0	7	0	1	4	2	0	0	0	4	27	0	4	12	1	0	1	3	1	1	10	2	2	4	2	8	3	7	7	6	2	3	9	1	2	4
CUU	3	3	16	8	7	0	4	3	4	6	11	5	9	10	1	4	4	3	1	1	1	1	1	9	13	0	0	5	3	1	3	0	1	1	0	2	1	5	0	12	1	11	1	1	1	1	15	2	0	0
UUA	9	2	9	11	5	4	7	3	9	12	14	12	12	10	1	5	0	7	1	1	1	1	0	2	4	4	0	4	4	1	2	1	6	0	1	0	3	5	0	1	6	0	6	3	1	0	1	3	1	1	0
UUG	3	1	10	6	1	0	1	2	5	8	4	0	4	3	1	4	0	0	2	0	0	0	1	1	6	1	2	2	1	0	1	2	0	0	0	0	1	0	2	3	0	3	4	0	1	2	15	1	1	0
SER UCA	5	0	15	9	0	1	0	4	3	8	12	7	7	8	1	2	0	0	0	1	0	0	0	4	3	0	0	0	0	0	1	2	2	2	1	2	4	1	2	14	0	12	1	1	0	4	2	0	2	0
UCC	2	1	0	0	0	0	0	0	0	0	2	0	1	1	0	5	1	0	0	0	2	2	1	0	5	0	0	1	0	0	0	3	0	2	2	8	0	1	0	12	0	11	1	3	2	1	6	2	1	3
UCG	0	1	7	1	1	0	0	1	3	1	1	0	1	2	0	1	0	0	0	0	0	0	1	3	2	0	0	1	0	0	0	0	1	1	0	0	0	2	0	6	0	4	2	0	0	0	2	0	1	1
UCU	2	1	17	9	4	1	6	4	0	15	14	5	4	7	4	5	0	2	2	2	0	0	0	1	19	2	0	9	0	0	0	0	2	0	6	3	3	4	1	6	2	5	1	0	3	0	11	1	3	1
AGC	1	0	4	2	1	0	1	1	2	1	3	1	0	1	0	0	1	0	1	1	0	0	0	4	8	1	1	2	0	1	3	0	1	0	3	2	3	0	2	0	0	0	2	0	0	0	2	0	0	1
AGU	1	0	16	4	2	1	0	3	3	9	4	2	3	1	1	3	1	0	1	0	0	0	0	1	4	0	2	3	1	0	1	0	0	1	0	0	0	1	2	8	1	5	3	1	0	2	2	2	0	2
THR ACA	2	1	8	2	1	0	1	2	2	8	9	4	3	4	3	5	0	2	0	0	0	1	3	0	3	0	2	4	0	0	1	2	2	1	0	0	1	1	1	4	2	4	4	1	3	4	4	6	5	0
ACC	1	0	3	0	1	0	2	4	1	3	2	4	0	0	0	2	0	0	1	2	2	1	1	6	19	2	1	3	0	0	2	4	1	2	6	3	0	1	1	7	0	7	2	1	1	3	17	2	1	0
ACG	1	1	1	4	2	1	2	1	0	0	2	1	0	1	0	3	0	1	1	0	0	2	1	4	5	0	0	4	1	0	1	0	0	0	1	1	1	1	0	4	0	5	1	0	1	0	5	1	0	0
ACU	3	5	16	7	6	0	5	10	1	13	11	3	6	6	3	6	1	4	2	2	1	0	2	3	17	1	2	6	0	0	0	3	0	1	3	4	3	3	3	13	1	11	4	1	3	5	6	2	0	5
PRO CCA	2	0	17	4	2	0	1	5	0	5	7	6	2	5	0	4	0	1	0	0	0	1	2	2	4	0	0	3	0	2	0	5	1	1	3	2	3	2	4	3	0	2	3	0	0	2	3	0	0	0
CCC	0	0	0	0	1	0	0	1	0	1	0	3	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	1	0	3	0	0	2	0	1	1	0	0	0	2	0	1	0
CCG	0	0	10	3	0	0	1	1	0	2	3	2	2	5	0	0	0	1	1	0	0	0	2	2	15	0	0	4	0	0	3	1	0	2	6	1	1	1	1	1	0	1	2	0	0	0	5	0	0	0
CCU	2	3	13	2	2	1	2	6	0	5	3	13	4	2	2	2	0	1	1	0	0	1	1	4	18	0	0	6	1	0	2	5	1	1	3	1	2	1	1	6	1	5	0	0	0	1	20	1	1	1
ALA GCA	6	1	12	9	4	1	7	4	2	7	13	8	0	5	3	8	1	1	3	3	2	2	3	14	20	1	4	2	3	0	3	4	0	1	1	1	2	2	7	0	7	0	2	2	3	13	0	4	1
GCC	0	0	1	1	1	2	2	1	0	0	2	2	1	2	0	2	0	4	1	0	0	0	0	4	10	0	1	5	0	0	0	1	1	1	4	0	0	2	2	8	0	8	3	3	1	1	5	3	1	1
GCG	0	0	2	0	1	0	1	1	1	0	5	1	1	4	0	1	1	0	1	0	0	0	0	3	20	0	1	2	4	1	1	3	1	0	4	0	2	1	1	4	1	4	2	1	2	0	10	1	1	2
GCU	11	1	32	13	3	6	6	8	3	15	22	9	2	9	4	7	2	1	5	3	5	0	2	15	50	1	0	9	4	1	2	6	0	4	12	3	3	8	3	18	1	16	2	5	6	5	32	3	1	3
GLY GGA	3	3	9	7	3	0	1	4	2	6	7	10	8	7	2	9	0	3	0	0	1	0	0	4	6	0	2	3	0	1	0	3	0	0	1	2	5	3	3	5	3	3	0	0	0	0	2	10	3	3
GGC	1	0	6	1	0	0	0	5	0	3	2	1	2	5	1	1	0	0	1	1	0	1	3	6	11	0	0	9	1	0	0	1	0	1	5	2	2	3	2	12	0	12	1	1	0	0	4	13	2	1
GGG	0	0	3	2	1	0	1	2	1	1	1	1	1	1	0	1	0	3	0	0	2	2	3	4	6	0	0	5	0	0	0	1	0	0	1	5	0	0	1	8	1	6	1	0	0	0	7	1	0	0
GGU	3	3	37	9	4	2	3	13	1	14	13	6	2	11	2	7	0	5	1	1	5	1	1	8	31	2	1	11	1	1	2	7	1	1	13	3	6	8	2	29	0	27	1	0	2	5	30	5	3	3
VAL GUA	4	1	14	3	2	1	0	7	0	8	5	3	7	8	3	4	2	3	2	1	3	1	1	7	17	0	0	9	4	1	1	2	0	3	2	4	1	2	1	11	2	9	3	0	1	0	13	3	3	2
GUC	2	0	3	1	3	0	2	2	0	3	3	2	1	3	0	1	0	0	1	0	0	0	0	6	10	0	1	3	0	1	2	2	0	0	3	3	2	4	1	9	0	9	2	0	3	1	5	2	3	1
GUG	1	0	4	2	1	0	0	2	3	2	2	1	2	1	0	2	1	0	0	2	0	0	1	3	15	0	0	5	2	0	3	1	0	2	3	3	1	3	1	11	0	11	2	2	1	2	7	2	2	1
GUU	5	7	28	8	7	0	4	17	4	13	22	11	6	9	2	9	2	2	2	0	0	1	2	1	16	0	1	5	3	0	4	1	0	3	10	1	3	3	1	7	0	7	2	2	2	14	19	7	2	0
LYS AAA	21	13	59	19	10	7	12	22	8	30	29	33	26	36	6	15	6	5	1	1	2	1	3	10	23	2	1	15	1	0	4	10	1	0	11	6	9	3	4	10	0	6	1	4	1	4	20	8	5	3
AAG	3	1	18	11	4	0	2	7	7	4	9	7	5	8	2	6	2	2	1	1	1	4	8	14	43	5	4	13	2	0	4	8	3	3	14	4	13	8	6	28	2	27	5	3	5	11	32	6	6	1
ASN AAC	3	1	14	6	1	1	0	2	0	5	6	2	5	4	0	5	1	2	4	4	0	3	7	12	34	2	3	15	1	0	2	5	1	1	6	3	1	4	4	18	3	16	2	4	5	2	19	3	0	3
AAU	9	4	27	15	9	1	9	7	6	9	20	15	19	15	4	7	5	6	2	0	0	0	2	8	6	2	2	3	0	0	1	6	0	2	2	6	1	1	4	7	0	5	1	0	3	0	3	0	1	1
GLN CAA	7	3	14	4	6	0	3	6	2	8	12	6	5	11	1	5	0	1	2	2	0	1	1	4	17	0	0	6	1	0	0	3	1	1	2	1	0	3	3	10	2	10	2	3	1	2	12	1	1	1
CAG	1	2	12	4	1	0	2	2	3	4	9	2	1	4	2	5	1	0	0	1	0	0	0	5	16	1	2	5	0	0	0	2	0	0	1	3	2	4	1	7	1	7	3	2	2	1	13	3	4	1
HIS CAC	0	0	2	2	0	0	0	1	1	0	1	1	5	3	1	1	0	0	4	0	0	3	4	6	15	1	2	7	0	2	1	3	0	0	2	3	3	5	1	13	0	10	2	0	2	3	14	1	2	1
CAU	2	3	13	5	4	0	2	3	2	3	6	4	4	9	1	6	2	0	0	0	0	0	0	5	7	0	1	2	0	0	1	2	1	1	0	2	1	2	3	2	0	2	1	0	1	2	10	0	1	0
GLU GAA	12	11	63	30	8	15	10	18	8	31	31	19	14	32	7	12	5	10	8	3	0	2	5	12	26	1	0	15	0	0	0	10	2	2	18	3	5	3	4	22	0	21	0	2	3	6	22	5	3	1
GAG	2	0	10	2	4	2	2	3	4	2	8	7	1	4	1	11	4	5	9	1	0	0	1	17	41	2	2	17	0	0	3	9	2	6	8	6	9	6	3	21	1	19	1	4	1	2	41	1	4	1
ASP GAC	0	0	21	6	1	9	3	7	1	4	8	4	3	2	1	2	0	2	12	1	0	1	2	16	28	2	7	9	0	0	3	8	3	2	17	3	3	6	4	25	1	21	4	1	3	4	25	5	4	1
GAU	10	7	38	25	10	9	4	15	11	21	18	16	15	16	2	22	2	7	5	0	0	1	2	12	15	0	5	13	0	4	0	8	2	0	3	2	4	3	1	16	0	13	2	1	3	3	15	4	2	0
TYR UAC	0	1	13	11	2	0	0	3	3	2	6	3	2	4	1	3	1	2	6	2	1	1	2	3	21	0	1	11	2	1	1	4	1	2	6	2	3	3	0	12	0	10	3	1	1	4	16	3	0	1
UAU	7	3	34	14	4	0	0	11	3	9	13	15	12	14	4	8	0	6	2	1	1	1	1	5	3	0	5	2	1	0	0	2	1	0	5	2	3	0	5	3	1	3	1	0	0	2	9	2	1	1
CYS UGC	1	0	7	1	3	0	0	2	1	1	1	1	1	3	0	0	0	1	0	1	1	0	0	4	9	0	1	2	1	1	0	6	2	0	2	1	1	3	0	5	0	3	1	0	0	0	7	1	0	2
UGU	1	1	8	4	1	0	0	2	1	2	3	5	2	2	0	2	0	1	0	0	1	1	1	4	3	0	1	4	2	1	1	3	0	1	1	6	0	0	0	8	1	6	0	0	0	0	3	2	1	1
PHE UUC	1	1	19	6	2	1	1	1	2	6	1	1	1	3	2	6	0	1	2	1	0	1	1	11	29	2	4	9	1	0	4	3	3	1	6	0	6	2	3	15	0	13	3	2	0	2	16	1	5	1
UUU	7	4	25	13	2	1	2	8	2	15	12	10	15	12	1	10	1	3	1	1	2	0	0	4	8	0	0	7	1	0	2	2	0	2	3	0	2	4	1	4	0	3	3	1	0	0	9	3	2	1
ILE AUA	1	0	2	1	0	0	1	0	3	0	2	9	7	9	0	3	1	1	0	1	1	1	3	0	0	0	1	1	1	0	2	3	0	0	0	2	3	0	2	1	0	1	3	0	0	0	2	1	0	0
AUC	0	2	15	9	4	3	2	6	0	4	5	5	2	2	1	2	2	1	6	0	5	2	2	15	30	0	0	10	1	1	4	5	1	1	4	3	2	5	1	10	0	10	1	0	3	6	14	0	1	3
AUU	9	8	54	15	10	4	6	13	3	21	24	15	7	13	4	16	3	3	3	0	0	2	2	6	22	0	3	9	1	1	2	4	0	0	3	1	5	1	2	16	0	15	1	2	2	2	20	2	3	0
MET AUG	5	6	36	15	6	2	3	12	6	16	14	8	3	11	1	6	1	1	7	3	2	4	6	14	26	2	3	14	1	4	1	6	2	1	5	4	1	3	3	17	2	16	1	2	4	4	14	4	8	2
TRP UGG	4	3	12	3	0	0	0	8	2	3	9	8	3	10	2	3	0	5	1	1	0	0	1	7	19	1	3	9	2	0	0	1	3	2	3	3	3	4	5	10	0	9	2	0	2	4	18	1	0	1
TER UAA	1	1	0	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	1
UAG	0	0	0	0	0	0	0	0	1	0	1	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	0	0	1	0	0	0	0	0	0	0	0	1	0	0
UGA	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	1	0
TOTAL	188	123	897	375	168	81	142	302	141	391	476	343	260	393	81	292	62	116	118	52	48	54	112	360	884	43	86	360	52	30	87	197	49	65	233	140	150	152	122	567	41	504	113	71	90	136	705	119	100	70

/ ORGANELLA

69	SP1 TF1	SP2 POL GL	SPB D	SPC SAK	SPR MTA SE	AMH CPP SBA	ASN MTC YB2 *	ASN MTD NA# 2	ASN MTD NA# 3	ASN MTD NA# 4	ASN MTD NA# 5	ASN MTD NA# 6	ASN MTD NA# 7	ASN MTD NA# 8	ASN MTD NA# 9	ASN MTT GRN	ASN MTU RF# 1	ASN MTU RF# 2	BLY CPA TPB #1	BLY CPA TPB #2	BOV MT# 1	BOV MT# 2	BOV MT# 3	BOV MT# 4	BOV MT# 5	BOV MT# 6	BOV MT# 7	BOV MT# 8	BOV MT# 9	BOV MT# 10	BOV MT# 11	BOV MT# 12	BOV MT# 13	CRE CPA TPB	CRE CPR UBF	CRE CPS BA5 *	CRE MTU RF5 #2	DRO MTM 1#2	DRO MTM 1#3	DRO MTM 1#4	DRO MTM 1#5	DRO MTM 1#6	DRY MTT GB	DRY MTT 2#1	DRY MTT 2#2	DRY MTT 2#3	DRY MTT 2#4	DRY MTT TGC #1	EGR CPE FTU	EGR CPP SB
CGA	0	1	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	4	3	7	3	5	4	0	1	3	0	1	7	3	0	8	0	0	0	1	8	6	0	2	4	7	7	0	2	3	3	4	1
CGC	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	2	1	1	0	1	3	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	2
CGG	0	4	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	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
CGU	2	8	0	0	1	8	1	2	0	0	1	4	0	0	0	0	1	1	9	0	0	0	0	2	0	0	1	0	0	1	2	1	0	22	30	15	10	2	1	0	1	0	1	0	0	1	1	0	5	7
AGA	0	6	0	2	15	1	9	1	4	3	3	18	0	1	1	4	8	11	12	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	5	4	1	6	3	3	2	1	5	4	1	13	3
AGG	0	8	0	0	6	1	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0
CUA	1	9	3	1	6	7	3	1	1	1	2	1	0	0	0	1	1	2	5	0	27	30	25	14	2	22	12	11	13	58	39	2	30	3	6	6	25	7	1	0	0	2	4	0	1	2	1	1	6	0
CUC	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	8	6	9	0	0	5	6	7	3	16	22	0	13	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
CUG	0	10	1	0	3	1	0	0	0	0	0	0	0	0	0	0	1	2	3	4	2	2	2	3	3	2	3	0	1	4	0	3	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CUU	4	23	5	1	12	5	1	0	1	1	1	1	0	1	0	1	4	2	10	2	5	6	5	6	2	6	3	3	2	9	9	1	5	11	17	8	9	4	4	0	5	2	3	4	0	4	2	1	5	9
UUA	2	17	5	10	13	7	45	6	46	29	29	47	3	11	3	46	59	71	21	5	10	7	16	12	5	8	6	2	3	8	14	10	9	32	15	18	0	53	25	6	37	25	49	26	5	36	27	15	18	14
UUG	1	17	1	3	9	7	0	0	0	0	0	0	0	0	0	0	0	4	7	3	1	2	2	0	1	0	2	0	0	0	2	6	0	0	0	0	41	1	1	0	0	0	2	0	0	1	0	0	0	7
UCA	1	8	3	5	5	2	6	1	9	10	13	10	0	2	1	9	9	10	5	0	10	14	13	8	3	6	4	2	2	10	17	1	9	10	8	16	0	18	4	2	6	13	9	6	2	7	12	6	7	12
UCC	0	2	3	1	1	2	0	0	0	0	0	0	0	0	0	0	0	1	9	2	9	5	6	3	0	0	6	0	4	12	13	1	7	0	0	0	8	1	0	0	0	0	1	0	0	1	0	0	2	0
UCG	0	3	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0	0	3	0	1	0	1	1	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1
UCU	4	6	5	2	10	12	8	0	7	3	3	9	0	1	0	7	11	13	6	0	1	5	7	5	0	3	5	2	3	5	7	4	4	11	5	12	9	11	7	4	10	1	3	5	4	8	2	5	2	10
AGC	1	3	1	1	5	1	0	0	1	0	0	1	0	0	0	1	0	0	1	1	1	1	3	4	0	6	3	2	1	9	10	1	2	1	1	2	8	0	0	0	0	0	0	0	0	0	1	0	0	0
AGU	0	3	0	4	8	6	8	1	6	7	4	10	1	1	1	6	11	12	8	3	1	1	0	1	0	1	1	0	0	1	3	3	0	3	1	0	20	4	2	0	0	2	1	4	0	1	1	0	3	3
ACA	2	11	3	6	11	2	10	1	8	10	13	13	0	2	0	8	7	13	8	1	13	15	17	10	5	16	10	5	4	14	25	3	16	17	12	4	0	13	6	1	9	11	10	5	1	10	10	2	23	4
ACC	0	5	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	4	0	3	12	13	4	2	5	10	4	0	17	17	1	8	0	0	0	12	2	0	0	0	0	0	0	0	1	0	0	0	0
ACG	0	4	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3	2	3	1	3	2	0	0	0	0	2	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
ACU	6	11	3	5	5	9	10	1	3	2	4	5	0	0	1	3	8	14	19	1	2	8	7	0	0	6	4	1	1	2	8	3	2	16	17	12	19	17	4	0	9	11	9	4	1	8	12	3	12	9
CCA	1	5	2	3	6	5	5	2	2	1	5	2	0	3	1	2	3	4	3	2	11	11	8	8	2	6	5	3	0	8	8	0	15	11	13	8	10	9	3	2	2	4	11	6	3	0	4	1	9	4
CCC	0	5	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	6	8	10	4	1	3	3	3	0	5	14	0	6	0	0	0	2	1	0	0	0	2	1	0	0	0	0	0	1	0
CCG	1	7	0	1	1	3	0	0	0	0	1	0	0	0	2	0	0	0	4	1	0	0	1	0	1	0	0	0	0	0	1	0	0	2	1	2	0	1	2	0	1	0	0	0	0	1	0	0	0	2
CCU	2	8	2	5	2	7	18	1	7	2	4	4	0	1	0	7	11	8	15	3	5	2	9	1	2	3	4	0	1	7	4	3	1	11	7	4	1	14	6	2	5	4	12	5	1	10	5	3	9	10
GCA	4	19	6	4	6	5	7	2	10	3	10	7	1	3	1	10	8	6	11	2	16	4	18	4	0	5	1	3	4	14	19	1	14	6	8	7	0	7	2	1	0	6	3	3	1	2	5	0	11	11
GCC	0	13	3	0	3	1	2	0	0	1	0	0	0	1	0	0	0	0	5	2	9	9	11	1	0	6	8	7	3	8	19	1	9	0	1	0	20	0	0	0	0	1	0	1	0	1	1	0	4	0
GCG	1	14	1	2	2	2	0	0	0	0	0	0	0	0	0	0	2	1	4	4	0	0	0	1	0	0	0	0	0	0	1	0	1	0	1	1	0	2	1	0	0	0	0	0	0	0	0	0	6	1
GCU	6	19	5	0	11	26	21	0	5	1	4	3	0	3	0	5	17	18	20	6	4	4	11	2	0	4	5	1	1	6	6	4	4	36	35	25	31	29	7	0	12	9	15	6	0	8	10	4	8	20
GGA	1	7	6	4	16	5	9	0	10	11	12	5	0	3	2	10	1	8	20	1	5	6	25	3	0	8	6	3	2	8	12	4	15	2	1	0	0	40	5	0	10	16	19	6	0	7	13	1	23	6
GGC	2	17	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	6	2	6	5	8	2	0	2	11	0	0	7	12	2	7	3	2	1	12	0	1	0	0	0	0	0	0	0	0	0	2	0
GGG	1	9	3	1	9	1	0	0	2	0	0	0	0	1	0	2	0	0	8	0	1	3	5	2	0	0	3	0	0	2	1	12	2	0	0	0	0	1	1	0	0	0	0	2	0	0	2	1	3	0
GGU	2	11	6	2	8	22	13	0	6	6	13	9	1	5	0	6	18	25	12	4	2	0	9	1	0	1	1	0	2	1	3	8	1	39	46	30	42	6	4	0	1	4	6	3	0	4	5	1	6	24
GUA	6	10	4	3	11	11	18	6	8	15	19	15	0	2	1	8	16	16	16	3	8	5	16	5	0	10	5	3	6	10	5	5	9	25	19	16	18	17	10	0	6	10	12	11	0	8	6	2	17	7
GUC	0	6	4	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	3	6	8	5	0	1	7	1	1	4	4	2	6	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0
GUG	0	5	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	3	7	1	1	1	2	1	0	1	0	0	0	0	1	6	2	0	0	0	2	1	1	0	1	2	0	0	0	0	0	0	3	1
GUU	2	24	4	6	18	8	14	0	4	4	6	5	0	2	0	4	10	10	13	3	1	1	12	1	1	0	4	0	1	4	4	10	1	20	16	5	23	15	5	0	2	4	11	3	1	3	12	2	13	18
AAA	10	35	16	14	24	0	10	2	4	4	3	68	3	1	4	4	4	11	12	4	7	13	8	3	6	4	2	3	0	11	23	2	8	24	23	0	8	5	3	3	2	2	6	2	3	2	2	5	26	2
AAG	3	24	5	7	12	0	0	0	0	0	0	0	0	0	0	0	1	0	10	3	0	0	1	3	0	0	1	0	0	0	2	2	2	1	0	0	1	1	0	0	0	0	1	1	0	0	0	0	2	3
AAC	2	12	1	2	8	15	4	0	1	4	2	2	0	1	1	1	1	1	6	4	6	13	12	3	2	6	5	1	4	15	23	0	12	16	14	24	12	0	3	2	0	0	6	1	1	0	0	0	5	2
AAU	1	12	12	4	23	5	16	2	15	16	6	43	1	2	2	15	13	20	11	7	6	5	7	2	1	4	1	4	1	9	11	4	5	2	0	1	2	18	14	5	13	9	18	17	5	13	8	4	11	19
CAA	4	10	6	0	13	5	8	2	8	5	8	13	0	2	0	8	6	6	14	3	7	8	6	5	3	9	7	3	2	8	15	0	6	15	8	7	5	10	7	1	4	7	8	7	1	4	7	1	11	7
CAG	2	13	2	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	1	0	1	0	0	0	0	0	3	2	1	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	2	0
CAC	0	7	1	0	2	6	3	0	3	0	3	0	0	0	0	3	0	2	0	1	4	4	10	4	2	3	9	0	1	8	8	0	10	4	13	9	9	2	0	0	0	6	5	0	0	1	2	0	0	2
CAU	0	5	3	2	4	4	6	0	4	0	11	1	1	1	0	4	2	5	4	0	0	1	7	3	0	3	8	0	1	3	2	0	2	0	0	1	6	16	6	0	7	10	6	6	0	6	14	1	10	8
GAA	7	29	13	11	24	13	7	0	3	4	7	8	1	1	1	3	10	11	28	8	9	4	9	10	2	2	8	4	2	8	10	5	5	33	30	15	0	9	9	1	4	7	3	9	1	4	7	4	29	12
GAG	2	23	1	4	15	4	2	0	1	2	0	3	1	0	0	0	1	2	8	3	2	1	0	5	0	1	0	2	0	0	1	4	1	0	0	4	10	0	0	0	0	0	0	0	0	0	0	0	3	2
GAC	3	11	4	2	5	1	0	0	0	0	0	0	0	0	0	0	0	0	9	1	1	0	10	5	1	1	3	2	0	4	9	0	10	7	23	6	6	1	1	0	1	1	2	2	0	1	0	1	8	0
GAU	0	22	6	6	17	6	8	0	4	7	4	11	2	2	1	4	7	11	17	6	2	0	6	5	0	0	1	0	1	0	2	4	1	18	7	1	11	14	9	0	0	4	8	8	0	0	5	2	19	7
UAC	1	9	2	1	9	5	4	0	1	2	5	3	0	0	0	1	0	5	1	0	6	2	11	6	0	0	6	2	2	10	15	2	12	8	17	13	11	5	2	0	1	2	5	1	0	2	4	1	2	1
UAU	0	13	6	8	5	6	14	4	9	11	12	34	6	2	3	9	14	24	12	1	5	6	8	5	2	2	5	1	2	7	9	8	4	4	2	0	7	13	7	3	6	10	13	7	3	5	9	1	7	13
UGC	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	2	0	2	2	1	3	0	4	0	0	1	6	0	0	0	0	0	0	1	1	0	0	0	1	1
UGU	0	6	0	0	2	1	1	0	2	1	1	0	0	0	0	2	3	1	1	1	0	0	0	0	0	0	0	1	1	2	1	1	0	2	12	3	3	0	2	1	2	1	2	1	1	2	1	1	0	2
UUC	4	7	2	4	3	16	13	1	8	2	14	0	0	2	0	8	12	7	6	0	8	4	28	4	1	7	12	5	3	9	33	3	16	14	17	24	16	3	0	0	2	2	3	0	0	0	3	0	1	10
UUU	0	14	5	6	23	8	20	5	17	11	12	14	2	5	3	17	16	34	12	1	10	12	14	2	3	6	12	4	1	12	11	12	8	5	2	2	19	36	15	4	16	23	28	15	4	18	21	10	10	18
AUA	0	9	6	2	5	2	24	5	19	33	13	20	0	6	5	19	21	46	3	4	19	42	27	14	2	10	8	5	11	28	36	4	12	1	0	0	0	22	9	3	15	6	10	5	3	11	4	4	18	2
AUC	5	8	4	1	3	14	0	1	2	1	3	3	0	0	1	2	3	6	11	4	18	19	16	7	3	10	7	4	2	15	32	0	27	3	6	23	12	1	2	1	0	5	2	0	0	0	1	4	2	5
AUU	0	16	14	5	15	13	15	0	9	8	6	12	2	1	8	9	24	19	18	8	11	16	21	11	1	12	7	2	2	26	32	14	10	30	15	5	18	49	20	7	18	17	43	24	7	18	19	22	12	20
AUG	2	9	3	2	3	11	16	1	5	4	3	4	1	6	2	5	6	13	13	2	3	1	7	2	2	2	3	1	2	8	3	7	3	16	13	12	28	1	1	0	1	1	1	4	0	1	3	0	13	12
UGG	0	11	1	1	3	7	0	0	0	0	0	0	0	1	0	0	0	0	4	2	0	3	0	0	0	0	0	0	0	0	1	3	0	2	8	10	13	0	0	0	0	0	0	0	0	0	0	0	1	10
UAA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	1	1	1	1	0	0	0	1	0	1	1	0	1	1	1	1	0	1	0	0	1	0	1	0	1	1	1	1
UAG	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	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
UGA	0	0	0	0	0	0	7	0	1	2	8	2	7	0	0	1	3	2	1	1	7	10	14	5	3	3	12	4	0	10	11	1	12	0	0	0	15	6	3	5	13	13	6	3	3	0	0	0	3	0
TOTAL	100	649	202	164	440	318	388	49	257	229	270	411	28	76	49	257	353	489	499	138	318	347	515	228	67	227	261	115	99	459	607	176	380	492	476	353	547	512	228	54	224	263	379	228	54	224	263	118	410	346

70	EGR CPP SBA	EGR CPR BCL	EGR CPR P7θ	EGR CPR P7θ	HUM MT θ 1	HUM MT θ 2	HUM MT θ 3	HUM MT θ 4	HUM MT θ 5	HUM MT θ 6	HUM MT θ 7	HUM MT θ 8	HUM MT θ 9	HUM MT θ 10	HUM MT θ 11	HUM MT θ 12	HUM MT θ 13	LEI KPM AXθ 2	LEI KPM AXθ 3	LEI KPM AXθ 4	LEI KPM AXθ 5	LEI KPM AXθ 6	LEI KPM AXθ 7	LEI KPM AXθ 8	MPO CPC G θ 1	MPO CPC G θ 2	MPO CPC G θ 3	MPO CPC G θ 4	MPO CPC G θ 5	MPO CPC G θ 6	MPO CPC G θ 7	MPO CPC G θ 8	MPO CPC G θ 9	MPO CPC G θ 0	MPO CPC G θ 1	MPO CPC G θ 1	MPO CPC G θ 1	MPO CPC G θ 1	MPO CPC G θ 1	MPO CPC G θ 1	MPO CPC G θ 1	MPO CPC G θ 1	MPO CPC G θ 2	MPO CPC G θ 2	MPO CPC G θ 2	MPO CPC G θ 2	MPO CPC G θ 2	MPO CPC G θ 2	MPO CPC G θ 2	MPO CPC G θ 2
CGA	1	1	2	1	5	0	4	3	0	2	4	0	0	4	3	0	4	1	0	0	1	0	0	0	2	2	2	19	15	14	2	3	1	4	2	0	10	1	1	0	5	4	3	1	2	1	2	4	3	0
CGC	2	4	3	0	2	3	2	1	0	2	2	1	1	5	3	0	3	0	0	1	0	1	0	0	0	2	0	2	2	0	0	0	0	1	0	2	0	0	0	1	1	1	0	0	0	1	1	1	0	0
CGG	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
CGU	7	20	1	3	0	1	2	2	0	0	0	0	0	0	1	1	0	2	0	2	3	2	0	0	3	6	2	14	6	7	2	2	0	6	12	10	3	9	11	6	7	13	11	3	0	1	7	16	3	0
AGA	3	5	5	9	0	0	1	0	0	0	0	0	0	0	0	0	0	5	6	0	5	1	5	5	5	9	3	3	22	18	12	5	1	1	2	10	2	7	4	5	4	9	3	3	5	0	2	10	9	3	3
AGG	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3	3	1	0	0	1	1	1	0	0	0	0	1	0	0	1	2	0	0	1	0	0	0	0	0	0	0	0
CUA	0	1	0	3	27	26	33	12	4	21	16	11	14	42	45	0	25	4	4	1	7	3	5	5	1	2	2	7	6	5	1	3	1	3	1	2	0	5	2	0	3	4	1	3	2	3	0	1	0	0
CUC	0	0	0	0	19	18	13	6	2	7	9	4	6	31	31	0	21	0	1	1	2	0	2	2	0	0	1	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1
CUG	0	0	0	0	5	4	4	3	0	6	3	2	1	4	8	3	2	0	0	0	1	0	0	0	1	0	0	0	1	1	0	0	0	2	0	0	1	0	0	0	2	0	1	0	0	0	0	1	0	0
CUU	8	11	2	0	6	7	5	7	2	5	3	1	1	10	11	0	7	5	8	2	20	2	7	7	1	2	11	18	24	32	4	7	2	3	13	8	11	8	12	3	17	22	1	6	2	2	10	10	8	0
UUA	14	18	7	5	5	8	7	4	1	4	3	10	1	8	7	8	7	48	31	27	53	65	64	64	3	9	59	88	45	98	17	20	8	18	32	15	33	26	34	9	58	57	17	13	8	10	35	27	15	3
UUG	7	8	1	1	1	1	0	1	1	1	0	0	0	1	2	6	2	5	2	4	1	8	7	7	2	0	5	6	3	8	0	2	1	1	3	5	5	1	4	2	1	3	5	2	1	0	2	1	1	0
UCA	12	3	4	2	8	7	7	4	2	4	8	1	3	10	13	2	14	4	2	9	12	7	10	10	3	4	10	14	6	24	5	3	0	2	6	4	6	2	2	2	10	6	4	4	3	8	3	6	1
UCC	0	1	1	1	8	11	10	4	1	2	7	4	4	17	20	0	11	0	0	0	0	0	1	1	0	1	4	4	1	6	0	0	0	1	0	0	1	2	2	0	4	3	1	2	0	0	0	0	1	0
UCG	1	1	0	1	0	1	2	0	1	0	0	0	1	1	1	0	0	0	2	0	0	0	1	1	0	0	2	5	0	1	0	0	0	0	1	0	1	0	1	0	3	0	0	0	0	0	1	2	1	0
UCU	10	12	2	2	2	4	9	1	0	4	2	0	0	5	2	3	0	3	4	3	11	10	4	4	3	1	15	20	17	38	3	6	3	3	17	12	11	12	14	4	20	21	6	10	3	1	12	10	6	0
AGC	0	0	0	1	2	4	4	0	0	3	3	0	0	8	10	2	3	0	5	0	5	3	0	0	0	0	1	0	0	2	0	1	0	0	2	7	0	1	0	0	3	3	0	1	0	0	1	0	0	0
AGU	3	3	1	2	1	1	0	1	0	0	1	1	0	2	3	3	1	9	6	6	8	15	12	12	0	2	16	22	10	21	2	5	1	5	5	3	6	4	6	3	9	18	1	4	3	2	5	3	5	0
ACA	4	11	7	6	14	11	16	8	2	10	11	2	1	22	22	1	13	7	11	2	9	5	14	13	4	3	17	22	11	35	12	5	0	4	13	1	9	6	9	0	14	10	5	9	2	1	15	6	5	1
ACC	0	1	0	0	20	24	11	8	4	12	10	4	3	17	29	0	13	1	1	0	0	0	1	1	1	0	1	2	0	4	0	1	1	1	1	2	1	2	2	2	3	5	1	1	0	0	1	1	0	1
ACG	1	3	0	0	0	3	2	0	1	0	1	0	0	1	1	0	1	0	0	0	0	2	1	1	0	0	2	2	0	4	0	0	0	0	0	0	0	0	1	1	2	1	0	0	0	1	0	2	0	0
ACU	9	18	1	3	1	5	5	5	1	4	2	1	1	8	13	2	3	6	7	6	10	2	5	5	4	3	14	19	13	40	4	10	2	6	12	14	6	12	11	2	22	28	3	12	0	4	22	22	3	2
CCA	4	7	6	1	2	4	6	3	3	3	3	3	0	6	9	1	9	3	2	1	3	3	3	3	4	3	5	20	12	21	3	5	1	0	10	3	7	7	12	1	12	10	4	4	0	0	5	6	12	1
CCC	0	0	1	1	17	12	18	9	7	8	6	2	1	14	16	0	9	1	0	0	0	0	0	0	1	0	1	3	2	1	0	0	1	0	1	0	0	1	2	0	2	1	0	0	0	0	1	0	2	0
CCG	2	1	2	0	1	2	0	2	0	0	1	0	0	0	0	0	1	0	1	0	0	2	0	0	0	0	0	3	2	2	0	0	0	0	1	0	0	0	2	1	3	2	1	1	1	0	2	1	1	0
CCU	10	12	1	2	2	5	5	1	1	3	2	3	1	3	7	4	4	2	2	0	11	0	0	0	3	2	11	22	19	16	5	8	2	0	6	12	9	7	9	2	13	19	2	7	3	2	15	15	7	1
GCA	10	7	5	7	10	8	13	4	0	3	3	0	2	8	20	1	8	5	5	2	5	3	9	9	1	7	4	19	14	19	6	7	6	4	15	6	8	12	12	3	20	24	2	4	3	6	11	18	6	2
GCC	0	3	1	0	14	7	15	5	0	12	11	7	5	12	19	0	17	0	0	1	3	3	2	2	2	3	0	4	2	4	1	2	0	1	2	0	2	3	1	1	0	3	0	0	0	0	2	0	2	1
GCG	1	2	0	1	0	1	1	1	0	1	0	0	1	0	0	3	0	1	0	0	2	0	0	0	0	0	2	3	1	3	1	0	0	0	1	0	1	2	0	0	4	0	0	1	0	0	4	2	0	0
GCU	21	32	1	4	3	4	11	4	0	3	1	1	1	6	5	4	0	4	7	3	11	1	5	5	2	7	15	30	16	15	10	12	10	8	34	32	5	19	29	1	44	44	3	5	4	9	24	22	10	1
GGA	6	11	5	6	1	5	19	3	0	3	4	1	2	4	10	6	9	3	5	7	10	5	8	8	8	5	21	41	26	37	4	6	4	5	15	3	9	9	24	2	27	24	4	3	3	2	28	12	8	1
GGC	0	2	0	0	8	7	17	4	0	5	10	2	2	9	12	0	12	1	6	0	3	0	1	1	1	0	2	7	2	7	0	1	2	2	2	1	0	4	1	0	3	5	0	1	0	0	1	1	0	0
GGG	0	1	2	0	3	0	3	2	0	0	4	0	0	3	1	1	15	3	1	2	1	3	2	1	1	1	0	3	1	0	5	2	1	0	2	0	0	0	2	5	0	1	5	1	1	0	1	3	3	3
GGU	24	36	2	1	0	1	7	2	0	0	1	0	0	1	4	8	0	11	7	4	25	7	12	12	2	1	7	27	16	21	6	7	5	0	22	29	9	18	32	1	37	34	5	5	3	3	13	31	15	1
GUA	7	10	7	4	3	3	17	5	1	4	6	1	2	8	5	9	6	16	9	9	13	9	28	27	6	2	4	18	8	26	2	9	2	2	16	13	2	10	14	1	10	17	3	4	4	0	22	13	9	2
GUC	0	0	1	0	5	2	12	7	0	1	4	1	2	4	4	4	3	1	1	2	3	0	0	0	1	2	2	5	0	3	0	2	0	0	1	0	1	1	0	0	2	1	0	1	0	1	0	0	1	0
GUG	1	3	0	0	1	0	3	0	0	1	1	0	2	1	0	9	0	5	0	3	6	5	4	4	1	0	0	2	4	4	0	0	1	2	0	0	2	0	2	0	2	2	1	1	0	0	1	0	2	0
GUU	18	15	3	1	1	3	4	1	0	2	2	1	0	0	6	9	1	9	10	8	28	6	7	7	3	5	10	26	18	29	4	9	3	2	22	11	11	11	13	0	17	24	7	3	2	4	21	17	14	2
AAA	2	21	18	23	6	10	9	4	6	5	3	3	0	10	20	1	8	8	7	4	4	8	7	6	11	20	22	77	52	154	22	5	1	10	21	0	28	4	14	14	20	16	19	19	5	9	23	21	24	0
AAG	3	0	1	1	1	2	1	0	1	1	0	0	0	1	1	1	1	1	1	0	1	0	1	4	1	1	0	1	2	2	1	0	0	2	3	1	1	1	1	1	1	5	1	1	0	1	0	2	2	0
AAC	2	4	0	3	13	14	13	5	3	9	5	4	4	21	27	1	12	0	0	0	2	0	2	2	1	1	3	6	3	12	1	0	1	2	2	14	3	4	2	0	1	5	0	3	0	2	4	6	5	0
AAU	19	10	4	7	0	6	4	2	2	2	1	0	2	2	6	3	3	5	3	9	10	18	9	7	3	9	14	46	33	113	12	11	1	13	16	7	17	11	13	4	32	18	14	11	2	11	15	11	17	0
CAA	7	13	2	3	6	7	5	6	3	7	9	3	1	9	17	0	8	2	2	3	2	1	2	2	7	6	9	53	42	63	12	9	2	10	35	6	15	10	8	4	29	26	11	6	3	6	20	11	14	1
CAG	0	0	0	2	0	3	1	1	0	0	0	0	0	1	3	0	0	0	1	0	1	2	1	1	0	0	1	1	2	2	0	0	1	1	2	0	3	1	1	0	1	2	2	0	0	0	1	1	1	1
CAC	2	1	1	0	2	3	14	4	1	6	12	0	2	12	13	0	10	3	2	0	3	0	0	0	0	0	0	5	3	4	1	1	0	0	0	5	0	2	1	0	5	4	1	0	0	0	0	3	0	1
CAU	8	12	3	1	0	1	4	2	1	0	5	0	1	1	1	0	2	5	0	4	11	6	6	6	3	2	1	17	14	27	5	5	0	2	3	5	6	6	12	3	36	38	3	1	0	1	4	10	3	0
GAA	12	27	3	10	8	5	7	8	1	3	5	3	2	9	8	1	4	4	6	4	6	2	3	3	3	6	13	71	44	68	11	13	4	14	36	17	13	12	22	6	21	18	6	12	7	11	32	26	16	0
GAG	2	5	0	2	3	1	3	3	0	0	2	2	0	0	1	9	0	4	1	1	2	1	1	0	0	0	0	5	2	6	1	0	0	2	0	2	0	4	0	0	0	3	1	1	0	0	2	5	3	0
GAC	0	2	1	2	4	0	13	8	0	1	1	2	1	3	8	0	10	2	4	2	7	2	5	5	0	1	0	7	1	3	2	1	0	0	4	4	2	2	1	0	4	5	0	1	0	1	0	5	0	0
GAU	7	24	1	3	0	0	2	3	0	0	2	1	0	0	3	3	1	9	5	5	9	12	14	14	3	3	13	37	19	33	11	3	0	9	17	4	14	8	12	2	21	23	6	9	2	5	22	25	13	1
UAC	1	7	3	0	9	8	18	8	1	2	7	2	2	11	10	0	11	2	5	2	11	2	6	6	0	0	4	4	4	3	0	2	0	0	4	11	0	1	4	1	3	6	0	0	0	0	0	2	3	0
UAU	13	13	1	5	5	2	4	1	1	1	4	1	2	2	6	11	6	17	8	6	17	29	43	40	4	5	22	31	22	51	6	7	1	4	14	2	15	7	12	1	21	14	9	7	8	1	10	16	10	1
UGC	1	3	2	0	0	0	1	2	0	0	1	1	3	2	5	0	2	5	2	0	5	0	4	4	1	0	3	1	4	4	1	0	0	0	0	2	0	1	0	0	0	2	0	0	0	0	0	3	0	0
UGU	2	9	1	0	0	0	0	1	1	0	0	0	0	1	1	1	0	13	11	11	14	11	44	43	1	0	10	11	7	9	5	0	0	0	1	0	3	3	3	2	2	1	1	5	1	0	1	6	2	0
UUC	10	3	0	2	12	7	29	7	1	5	10	6	1	11	33	2	17	2	6	2	10	2	3	3	0	0	3	2	1	6	0	0	0	0	2	17	1	3	5	0	2	3	0	4	2	0	1	8	0	1
UUU	18	16	0	2	4	8	12	3	0	4	13	2	2	9	5	8	7	50	39	19	69	66	123	123	1	4	42	42	29	77	6	20	3	5	13	8	23	35	30	3	50	48	4	15	15	3	19	13	16	3
AUA	2	2	5	11	13	23	25	8	5	8	8	7	9	24	23	2	12	25	16	12	26	46	44	41	1	2	18	40	15	58	5	7	0	2	6	0	14	2	2	0	10	12	9	8	6	4	6	1	7	2
AUC	5	1	1	2	13	24	26	15	2	16	7	4	2	23	36	0	28	1	6	0	2	3	1	1	1	1	1	3	2	5	0	1	0	2	3	12	1	0	4	0	3	4	0	1	0	3	1	2	1	0
AUU	21	17	0	5	10	8	12	7	1	13	7	5	5	16	18	12	11	12	29	6	23	28	19	19	7	8	52	64	41	84	19	12	7	10	37	17	23	12	23	3	36	36	13	10	11	8	24	21	26	2
AUG	12	12	2	4	3	1	7	2	1	4	3	1	1	3	3	8	3	11	11	5	28	15	23	23	1	5	10	15	11	18	7	7	2	4	9	12	7	9	8	2	13	15	4	7	4	6	17	9	6	2
UGG	10	9	0	0	0	1	0	1	1	0	3	0	0	1	1	2	1	1	0	0	1	1	1	1	0	1	6	7	9	16	5	5	0	1	0	10	4	13	17	2	33	28	1	2	4	2	1	8	2	1
UAA	1	1	1	1	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	0	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
UAG	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	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	0	0	0	0	9	10	16	3	2	3	9	4	0	12	11	3	11	15	3	7	13	8	15	15	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
TOTAL	346	476	126	157	318	347	514	228	69	226	261	115	99	459	604	175	380	363	314	209	550	438	603	591	124	156	5021	066	685	1387	236	249	82	185	508	354	371	354	474	101	735	751	203	244	121	136	493	476	321	40

71	MPO CPC G02 7	MPO CPC G02 8	MPO CPC G02 9	MPO CPC G03 0	MPO CPC G03 1	MPO CPC G03 2	MPO CPC G03 3	MPO CPC G03 4	MPO CPC G03 5	MPO CPC G03 6	MPO CPC G03 7	MPO CPC G03 8	MPO CPC G03 9	MPO CPC G04 0	MPO CPC G04 1	MPO CPC G04 2	MPO CPC G04 3	MPO CPC G04 4	MPO CPC G04 5	MPO CPC G04 6	MPO CPC G04 7	MPO CPC G04 8	MPO CPC G04 9	MPO CPC G05 0	MPO CPC G05 1	MPO CPC G05 2	MPO CPC G05 3	MPO CPC G05 4	MUS MTØ 1	MUS MTØ 2	MUS MTØ 3	MUS MTØ 4	MUS MTØ 5	MUS MTØ 6	MUS MTØ 7	MUS MTØ 8	MUS MTØ 9	MUS MTØ 10	MUS MTØ 11	MUS MTØ 12	MUS MTØ 13	MUZ CPA TBZ	MUZ CPA TBZ	MUZ CPP SIØ	MUZ CPR PS4	MUZ CPR UBP	MUZ MTC OB	MUZ MTC OXI	MUZ MTM OX1	NEU MTC O3G
CGA	1	2	2	3	2	1	1	2	1	5	4	4	5	5	5	2	3	8	1	4	5	5	1	2	2	1	1	3	3	2	5	4	0	2	4	0	0	3	5	1	6	6	3	6	6	4	3	4	2	0
CGC	0	0	0	1	3	3	0	0	0	2	0	0	0	2	1	0	0	1	0	1	0	1	0	0	0	0	1	0	3	1	2	1	0	1	0	0	1	4	3	0	2	0	1	6	2	10	1	1	1	0
CGG	0	0	1	1	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	1	0	0	0	3	0	0	0	0	1	1	3	0
CGU	3	1	5	3	10	4	3	6	5	0	2	0	1	4	3	4	4	8	3	4	3	2	3	1	6	1	2	3	1	0	1	1	0	1	1	1	0	1	1	0	0	8	0	6	10	9	4	6	4	0
AGA	1	3	4	8	12	0	0	3	5	2	2	4	3	3	8	3	0	10	0	4	2	4	2	2	1	5	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	10	3	6	4	3	2	4	1	4
AGG	0	0	1	0	0	0	0	0	1	0	0	0	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	1	1	2	1	2	2	0	1	1
CUA	1	0	0	1	0	1	0	1	0	0	0	1	1	0	0	0	0	3	0	6	0	4	1	1	1	5	0	2	27	30	22	17	4	21	17	12	10	42	40	0	24	4	1	11	3	7	6	10	1	9
CUC	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	2	0	0	0	1	0	0	4	8	8	3	0	4	6	1	2	8	16	0	5	3	2	5	2	1	6	6	4	0
CUG	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	3	3	2	1	0	0	2	1	4	7	0	1	2	1	4	2	1	1	7	2	0
CUU	0	0	1	5	9	3	5	8	1	0	2	3	0	3	4	3	1	4	3	13	1	13	0	3	1	13	1	5	5	13	11	4	0	7	9	2	2	13	10	3	8	10	2	19	4	5	12	10	3	2
UUA	3	2	7	6	30	18	18	22	4	1	6	7	4	3	13	5	5	14	3	66	8	51	3	8	13	40	10	22	20	8	13	5	3	7	2	4	4	18	16	15	14	20	5	25	9	12	11	21	9	22
UUG	1	1	2	0	5	1	2	2	0	0	0	0	0	0	0	0	0	1	1	6	0	7	0	2	0	2	1	0	0	0	0	0	1	0	0	1	0	1	2	8	2	9	3	17	7	11	8	5	5	2
UCA	0	0	2	1	2	4	1	8	1	0	3	1	0	0	3	1	1	2	2	13	3	8	0	3	2	8	2	4	13	10	19	5	8	6	12	2	4	21	27	2	18	4	0	3	3	5	2	8	7	3
UCC	1	0	0	1	2	0	0	0	0	0	0	1	2	0	0	0	1	0	0	3	0	2	0	0	0	1	1	0	4	6	5	3	0	3	2	1	6	6	8	0	3	8	1	12	4	4	3	5	4	1
UCG	1	0	0	2	2	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	1	0	4	0	6	0	1	0	3	3	0
UCU	2	1	4	2	10	4	1	10	3	2	1	3	1	6	3	4	2	3	2	26	3	12	2	1	6	13	4	3	5	3	5	5	0	1	3	3	2	3	9	2	1	6	1	13	2	6	7	5	1	9
AGC	2	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0	2	0	0	0	1	0	1	0	1	0	1	3	1	4	0	4	2	1	1	8	9	0	1	3	0	5	1	0	6	6	0
AGU	2	1	2	0	12	5	1	7	4	0	1	1	2	3	1	3	0	3	3	17	1	10	3	2	1	10	1	4	1	0	2	0	0	1	1	0	0	5	1	3	0	5	4	15	1	2	9	10	6	5
ACA	3	2	0	3	10	4	3	6	3	0	2	4	0	5	6	1	6	7	5	13	4	9	4	1	4	6	0	8	14	17	18	10	5	13	10	6	3	17	28	1	16	9	1	14	3	6	5	8	3	8
ACC	1	1	0	0	0	0	0	1	2	0	0	1	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	5	7	9	3	3	5	6	1	3	17	19	0	8	7	0	13	1	7	4	10	3	0
ACG	1	0	0	1	1	0	1	0	1	0	0	1	2	0	0	0	0	2	1	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	1	1	0	2	1	0	3	2	3	3	0	2	3	2	0
ACU	2	2	2	4	13	14	6	5	2	0	2	4	3	4	1	5	2	6	1	13	2	14	3	3	6	3	2	5	3	10	9	3	0	4	5	2	2	6	9	5	0	18	2	12	3	17	4	16	8	11
CCA	2	1	1	0	8	3	5	3	5	1	0	2	4	2	2	3	1	7	3	12	1	8	1	0	2	5	0	8	13	10	22	8	3	12	7	4	2	13	19	1	17	2	3	8	3	9	8	13	8	2
CCC	0	0	1	0	0	0	0	0	1	0	1	0	0	1	1	0	0	1	0	1	0	2	0	0	0	0	0	1	6	5	2	4	1	0	0	1	1	5	5	0	4	7	2	8	1	2	4	5	1	0
CCG	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	1	0	0	0	1	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	4	0	1	1	4	7	5	1	0
CCU	3	0	1	0	19	6	12	8	3	0	2	1	2	4	2	3	3	9	0	11	2	10	2	0	6	9	0	7	3	4	5	2	3	2	3	1	0	2	1	2	2	13	2	14	3	5	10	6	6	8
GCA	1	0	1	5	15	6	4	6	3	0	2	2	5	5	7	4	2	8	0	9	1	12	2	1	3	3	0	7	9	11	17	3	1	5	5	6	2	13	16	2	6	14	3	19	1	17	7	13	3	3
GCC	0	0	0	1	0	0	0	3	2	0	0	0	0	0	2	0	0	2	0	2	0	2	0	2	0	0	0	0	11	9	14	3	0	6	4	1	3	7	10	0	14	5	2	12	1	6	6	8	3	1
GCG	0	0	0	0	3	1	1	1	1	0	1	0	1	0	0	0	0	0	1	1	1	1	0	0	0	2	0	1	2	0	1	0	0	0	1	0	0	0	0	2	2	2	6	0	5	3	2	2	3
GCU	2	2	2	3	28	3	9	9	5	1	0	2	5	5	7	5	3	2	0	27	0	15	4	8	2	17	1	11	3	3	10	3	0	4	3	1	1	7	6	4	2	16	7	32	4	18	13	13	9	12
GGA	3	0	2	4	26	5	5	7	5	0	3	4	5	5	11	3	3	14	1	19	6	23	2	3	2	12	3	10	6	7	27	2	0	8	12	2	2	8	15	8	12	22	2	23	5	14	11	19	6	8
GGC	1	0	0	0	2	1	0	0	1	0	0	1	0	2	0	1	0	2	0	4	0	0	0	0	2	1	0	4	3	3	9	2	0	2	3	1	1	3	7	0	5	7	1	18	1	1	3	7	0	1
GGG	1	0	0	0	2	0	0	1	1	0	0	4	0	0	0	0	0	2	0	3	1	4	0	1	2	3	1	4	3	2	2	2	0	0	0	0	1	3	3	9	4	8	0	8	3	9	5	12	1	3
GGU	1	1	0	2	27	11	8	3	5	1	2	2	2	5	5	1	3	12	2	22	1	11	3	0	3	9	2	6	1	2	8	2	0	0	6	0	0	3	0	9	4	10	5	25	5	23	10	16	4	11
GUA	2	0	0	1	11	9	8	4	5	1	2	3	3	3	4	4	2	5	2	8	2	7	4	2	4	6	1	9	6	4	20	3	1	6	9	1	4	3	5	5	7	13	3	19	3	14	10	9	11	8
GUC	1	1	0	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	1	1	1	0	1	0	1	1	0	1	1	1	6	5	1	1	3	1	1	1	5	0	7	4	2	5	1	1	2	4	3	0
GUG	1	0	0	0	3	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	2	3	0	11	1	2	0	3	9	9	2
GUU	0	0	2	2	27	14	6	8	4	2	3	2	9	2	7	2	2	5	4	18	2	8	1	3	4	17	3	13	4	0	9	6	0	3	3	2	2	4	3	12	2	11	3	10	7	12	9	17	6	7
AAA	1	11	5	13	15	6	7	38	11	4	6	15	10	14	23	9	12	29	14	32	14	13	3	3	10	10	13	20	6	13	10	5	6	6	4	3	1	14	23	0	9	12	5	15	19	18	5	6	4	1
AAG	0	1	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	12	1	2	4	8	1	2	0	0
AAC	1	0	2	0	1	0	1	3	0	0	0	1	0	0	2	1	1	3	0	2	1	3	0	0	0	0	0	1	9	18	7	7	0	4	2	1	5	16	25	1	13	5	4	8	2	7	3	6	3	1
AAU	3	6	4	8	7	2	6	15	5	2	5	10	11	4	8	8	3	15	7	23	3	19	2	7	15	16	5	11	4	4	9	2	0	5	5	3	1	5	15	4	3	13	7	11	5	6	9	11	5	10
CAA	2	2	3	4	11	6	1	13	5	2	1	5	3	5	11	7	1	6	3	16	4	11	2	2	7	9	3	4	6	12	4	6	5	6	7	3	2	11	10	0	6	14	3	21	8	10	6	6	10	3
CAG	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	3	1	7	4	3	3	2	2	1
CAC	0	1	0	0	0	1	0	1	0	1	0	0	0	0	1	1	2	5	0	0	0	1	0	0	0	1	0	0	2	4	10	3	0	6	8	0	1	7	12	0	10	0	1	15	0	4	3	2	1	1
CAU	1	1	0	2	14	4	1	5	2	0	1	1	0	1	1	5	4	2	1	10	4	10	1	1	4	0	2	3	2	0	8	3	1	3	9	0	0	4	1	0	3	4	0	27	6	11	14	15	7	13
GAA	5	4	2	2	22	5	5	29	2	1	3	4	7	6	17	2	4	9	3	17	6	11	3	4	11	16	4	16	11	4	7	13	1	3	7	5	2	8	10	3	6	27	10	13	4	20	6	7	9	7
GAG	1	0	1	0	1	3	1	1	0	0	1	0	0	1	0	1	0	1	0	2	1	1	1	0	2	1	0	0	1	0	2	1	0	0	0	1	0	0	1	5	0	10	2	6	2	8	2	2	3	2
GAC	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	2	0	2	0	0	0	0	0	1	0	1	2	0	8	6	0	0	2	2	0	4	12	0	7	9	2	5	1	6	3	4	6	1
GAU	3	2	1	3	25	4	4	14	3	0	4	5	4	1	4	0	3	7	2	16	1	10	5	2	6	6	2	20	1	0	8	5	1	1	2	0	1	2	0	6	4	15	4	27	6	23	7	9	10	5
UAC	0	0	0	0	2	2	0	1	5	0	0	0	1	3	0	0	0	0	1	2	1	1	0	0	1	0	1	1	11	4	9	3	0	1	5	2	2	7	7	0	8	1	0	8	0	8	5	5	2	6
UAU	3	2	1	4	11	8	4	12	0	0	4	4	2	3	7	3	1	11	4	32	3	24	3	1	9	13	3	13	3	5	9	7	1	1	7	2	0	7	6	9	8	12	1	12	8	9	12	13	7	5
UGC	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	2	0	0	2	0	0	2	2	0	0	2	1	3	3	4	0	2	0	0	1	1	5	2	2	1	0
UGU	0	5	0	1	1	2	1	3	1	3	1	1	1	2	1	1	0	3	0	7	1	5	9	2	7	1	0	7	1	1	0	1	0	0	0	0	0	0	2	4	1	1	1	3	0	6	3	1	4	2
UUC	2	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	1	0	2	2	0	5	0	0	1	0	0	1	9	10	22	5	1	7	14	5	4	8	29	0	17	4	0	21	1	9	10	21	6	7
UUU	6	1	2	4	41	14	10	14	4	0	1	3	4	5	6	6	2	2	2	82	4	40	1	9	7	37	6	11	9	4	21	2	3	7	8	4	2	9	16	11	12	14	1	30	3	12	21	28	5	19
AUA	3	2	4	3	7	3	3	16	3	0	5	7	4	9	11	6	7	10	4	27	5	21	2	3	9	13	1	7	19	36	26	13	2	11	7	5	7	33	36	4	18	3	4	18	4	4	14	13	1	15
AUC	2	0	0	0	2	0	0	2	0	1	1	0	0	0	2	1	0	2	0	3	0	3	0	1	1	2	0	1	8	19	11	8	4	8	5	2	2	17	33	1	22	13	3	14	2	9	3	16	9	3
AUU	4	5	3	9	18	15	7	24	9	3	2	12	11	7	13	4	3	18	5	44	10	41	2	11	12	27	5	17	18	20	26	11	2	21	13	10	1	37	39	13	23	21	8	31	7	11	18	15	15	9
AUG	1	1	3	2	10	10	4	6	4	2	2	4	3	4	3	4	3	3	2	25	4	19	3	3	3	6	2	4	1	0	5	3	1	3	2	0	1	4	2	7	1	13	2	15	3	12	10	21	6	3
UGG	2	0	0	1	17	6	3	2	1	0	0	1	0	3	3	0	1	2	1	15	1	10	1	1	1	10	1	1	1	0	0	0	0	0	0	0	1	3	2	0	0	4	0	28	1	8	12	14	5	0
UAA	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	0	1	1	0	1	1	0	0	0	0	0	1	0	0	1	1
UAG	1	0	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0
UGA	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	8	8	17	5	3	3	12	4	0	12	10	3	11	1	1	0	1	0	0	0	0	8
TOTAL	84	66	76	117	509	216	161	341	131	38	79	133	123	144	218	120	93	278	92	693	117	500	82	101	184	369	89	290	315	345	515	228	68	227	261	115	98	459	608	173	381	499	138	752	202	476	389	529	261	270

72	NEU MTC OIJ	NEU MTO LI1	NEU MTO LI1	NEU MTR GS2	OBE MTC YO2	OHO CPC YTF	PAN MTC OL	PAR MTC OI1	PAR MTC Y2B	PAR MTP 1A0	PAR MTP 1A0	PAR MTP 1B	PAR MTP YF	PEA CPD 2#1	PEA MTC OII	PEA RAT YBT	RAT MTC YOR	RAT MTC YOS	RAT MTC YOS	RAT MTC YOS	RAT MTC YOS	RAT MTC YOS	RAT MTC YOS	RAT MTC YOS	RAT MTC YOS	RIC CPP YO2	SAL CPP SII	SNI CPP SBA	SOY CPP SBI	SPI CPA P	SPI CPA TBE	SPI CPA TBE	SPI CPD YTB	SPI CPD 2CB	SPI CPP 2CB	SPI CPP SBA	SPI CPR UBP	SPI CPT GH#	SPI CPT GI#	SPI CPT GI#	SRG MTC OXI	SRG MTC OXJ	TOB CPC G#1	TOB CPC G#2	TOB CPC G#3	TOB CPC G#4	TOB CPC G#5	TOB CPC G#6	TOB CPC G#7	TOB CPC G#8	TOB CPC G#9
		#1	#2							1	2							#1	#3	#4	#5	#6	#7	#8							#1	#2		#1				2	1	2											
CGA	0	0	0	1	1	8	0	1	1	0	0	0	5	1	1	4	3	5	0	4	4	0	1	7	2	1	2	2	4	6	3	3	1	2	1	6	2	2	0	4	5	2	5	6	6	1	2	2	17	2
CGC	0	0	0	3	1	2	0	1	0	5	3	3	0	3	1	4	0	0	0	1	0	1	1	2	1	3	2	2	1	2	1	0	2	4	3	5	0	1	0	1	1	2	0	3	1	0	0	1	6	3
CGG	0	0	0	0	4	2	0	0	0	1	1	2	1	3	4	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	2	3	0	0	0	2	1	2	1	4	0	1	0	2	0	1	1	8	1
CGU	0	2	0	4	3	8	0	1	0	0	0	0	3	7	2	0	3	2	0	0	1	0	0	0	4	8	8	8	11	10	0	8	8	6	8	12	1	8	4	6	6	8	2	11	3	0	0	4	11	7
AGA	6	1	5	11	1	2	5	5	5	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	1	2	2	2	11	10	5	1	0	5	2	4	1	9	2	4	4	2	2	9	0	1	0	9	21	1
AGG	1	0	0	5	1	6	0	16	4	1	1	1	4	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	1	1	4	1	2	0	4	0	0	2	1	0	2	3	0	0	4	13	1
CUA	5	0	2	8	1	2	3	14	3	1	1	4	2	6	3	29	14	23	2	26	18	7	9	33	1	8	10	8	6	8	0	4	6	9	9	11	4	1	1	10	13	10	0	5	2	2	2	0	14	7
CUC	0	0	0	2	4	0	0	11	5	16	15	12	3	3	3	13	2	12	0	0	6	2	3	22	4	0	0	0	2	2	1	0	3	1	0	0	0	1	1	6	9	0	0	3	1	0	2	3	6	4
CUG	1	0	1	2	1	4	0	2	3	3	3	2	1	4	1	1	0	4	0	1	2	0	0	2	2	1	1	0	1	2	2	6	2	0	2	0	2	0	2	0	6	7	1	0	3	2	2	0	2	10	4
CUU	2	2	6	11	5	20	3	24	5	3	3	3	13	7	2	4	8	11	1	9	3	3	1	3	4	7	6	6	4	11	3	9	5	14	6	10	3	2	1	12	16	6	4	12	1	3	10	4	19	5
UUA	20	5	31	34	9	12	15	9	2	3	3	1	5	14	11	10	8	13	3	5	7	6	6	23	9	8	8	9	13	18	7	22	14	20	9	8	5	8	3	21	21	8	3	19	9	3	18	9	37	11
UUG	2	0	3	4	2	12	1	12	3	1	1	2	9	8	3	0	0	0	0	0	0	1	0	1	5	7	6	8	13	8	2	8	7	11	7	10	3	6	1	5	7	6	1	8	8	2	1	4	26	10
UCA	8	2	2	2	9	10	1	5	2	0	0	0	3	2	6	12	9	11	4	6	11	2	3	15	7	2	2	3	5	5	1	2	2	1	0	2	5	1	2	8	8	2	0	5	2	0	5	4	13	2
UCC	1	0	0	6	4	6	0	7	2	7	7	6	2	5	3	5	4	10	3	1	5	1	5	11	4	3	4	3	4	7	0	3	3	2	5	4	2	2	0	5	6	4	2	9	1	1	3	2	11	3
UCG	0	0	0	3	1	2	1	3	0	4	4	1	1	0	1	0	0	0	0	0	0	0	0	2	3	1	1	0	5	3	1	4	0	5	2	0	0	2	0	3	6	1	0	4	0	0	0	0	6	1
UCU	6	3	6	12	1	12	1	17	4	1	1	3	7	6	2	5	1	10	1	3	2	2	3	4	1	12	10	11	7	7	2	4	8	12	10	8	1	5	2	4	8	10	0	11	5	2	3	3	25	7
AGC	1	0	4	1	0	4	3	10	4	8	6	10	2	0	1	2	3	2	0	5	3	1	0	11	0	3	5	5	3	2	1	0	0	0	4	0	0	1	0	6	7	4	0	0	1	0	0	1	5	0
AGU	5	0	10	9	6	8	9	5	1	0	0	0	5	5	5	0	1	1	0	0	0	1	0	0	6	7	5	5	10	3	3	5	5	7	6	4	2	1	0	9	9	6	0	6	4	1	3	1	13	4
ACA	3	0	5	0	5	6	1	10	2	0	0	1	3	3	3	12	11	18	5	9	11	7	5	26	3	1	2	1	6	13	3	7	2	3	2	9	3	6	3	8	9	2	1	7	2	1	4	8	17	3
ACC	0	0	0	0	2	8	0	12	1	4	4	3	3	8	1	10	3	8	1	10	6	3	3	8	3	3	4	7	5	5	1	4	9	8	3	10	2	4	1	10	11	4	0	10	3	0	3	3	5	7
ACG	0	0	0	1	2	4	0	8	3	5	5	5	2	0	2	1	0	1	2	0	1	0	0	0	2	0	1	0	1	4	1	1	2	1	0	0	1	2	1	3	3	1	0	4	1	1	1	2	5	1
ACU	5	4	8	9	5	12	2	11	4	1	1	1	5	11	7	3	2	9	1	2	3	2	4	6	8	12	10	8	13	14	5	15	7	13	12	15	7	2	2	17	19	10	2	10	5	1	8	5	18	10
CCA	5	1	3	3	9	6	2	7	0	0	0	0	6	6	7	14	9	9	2	6	4	3	1	13	7	4	5	3	3	7	1	6	5	6	6	5	0	1	1	12	13	5	0	1	2	1	3	2	13	6
CCC	0	0	0	0	0	30	0	12	4	5	3	8	8	0	0	7	1	7	3	6	3	2	0	6	1	0	0	0	7	4	1	2	1	5	0	3	1	5	2	5	6	0	0	3	0	1	3	2	9	0
CCG	1	0	0	0	1	6	0	0	0	0	0	0	2	0	2	0	0	0	0	2	0	0	0	0	1	2	0	0	4	4	1	2	0	2	0	2	1	0	0	5	9	0	1	2	0	0	1	1	5	0
CCU	7	2	5	10	8	6	9	6	4	1	1	0	10	8	9	1	4	11	4	1	3	2	0	2	6	9	10	12	13	13	1	15	8	12	9	12	3	6	1	7	11	10	3	9	0	2	7	3	20	8
GCA	4	0	7	3	4	10	5	10	1	1	1	1	8	11	3	9	1	13	1	5	6	4	2	13	1	6	7	5	10	9	2	5	9	10	6	14	2	5	3	14	18	7	1	12	1	3	3	8	14	8
GCC	0	0	2	4	2	8	0	8	3	9	8	9	2	5	3	10	3	16	2	6	6	3	3	9	3	1	3	4	6	8	3	2	7	6	2	4	3	7	0	8	10	3	1	12	3	2	3	3	9	9
GCG	0	0	0	4	1	6	0	2	0	2	2	3	1	4	1	0	0	0	0	0	0	1	0	0	3	2	1	3	3	7	2	6	2	1	2	4	2	3	2	2	3	1	1	3	1	4	2	2	7	3
GCU	5	0	7	9	9	12	5	23	3	2	2	3	9	16	10	4	5	12	0	2	1	2	1	6	10	25	24	23	20	17	7	7	21	23	25	21	1	3	1	12	12	24	2	24	3	7	8	6	25	17
GGA	4	0	10	4	6	8	2	16	4	0	0	2	7	6	5	13	1	23	0	5	11	1	2	7	6	7	5	7	24	19	2	7	4	19	6	13	1	14	2	19	21	5	2	12	7	5	4	3	43	6
GGC	0	0	0	0	0	12	0	11	2	7	6	6	3	4	0	6	4	11	0	3	9	2	0	7	0	3	5	4	11	6	4	8	3	10	2	5	3	2	2	7	8	6	0	5	2	0	5	2	7	4
GGG	1	0	0	2	0	20	2	8	0	9	7	5	5	3	3	3	1	8	0	1	0	0	0	2	1	0	1	1	8	10	0	4	5	12	1	6	0	9	0	12	13	1	1	4	3	2	6	3	19	4
GGU	7	0	7	3	4	12	6	7	1	0	0	0	10	19	6	3	2	4	0	1	1	0	2	1	4	23	22	21	18	12	2	10	19	18	24	21	0	9	1	17	17	21	2	18	1	4	8	6	23	18
GUA	7	1	3	11	9	14	6	10	2	1	1	2	11	8	11	12	5	29	0	8	8	1	4	2	11	10	11	13	11	19	5	20	8	13	12	16	2	10	3	9	11	12	1	18	3	3	7	4	25	10
GUC	0	0	0	2	5	4	0	10	0	9	9	8	2	2	2	5	2	7	0	1	4	1	1	5	3	0	0	0	4	2	1	4	2	7	0	1	0	4	0	4	5	0	1	2	2	0	1	0	6	2
GUG	3	0	1	2	2	8	1	6	2	2	2	2	4	2	2	1	4	3	0	1	0	0	0	1	2	0	1	0	3	6	0	4	0	6	0	2	2	6	1	9	10	0	1	5	3	0	3	0	9	0
GUU	10	4	8	8	7	28	3	18	3	2	1	4	11	10	6	1	3	2	0	1	3	0	1	3	6	12	9	8	22	14	0	12	12	6	9	15	0	6	0	17	18	9	5	10	2	4	12	5	24	10
AAA	4	4	2	45	5	30	3	11	7	4	1	1	15	4	7	10	5	10	5	5	3	3	1	12	4	0	0	0	11	17	3	7	5	10	0	19	6	16	7	7	7	0	5	16	7	1	6	12	38	3
AAG	1	0	0	14	0	14	0	18	9	12	9	16	9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	4	1	2	0	3	0	4	2	5	3	2	7	0	5	2	2	0	1	3	12	1
AAC	1	0	2	4	2	4	2	14	3	10	10	9	2	8	1	13	3	9	1	6	6	4	4	14	3	13	13	8	3	7	3	4	7	4	10	8	2	4	2	5	7	13	0	1	4	0	2	3	9	7
AAU	9	1	13	46	7	30	5	13	6	2	1	1	17	8	5	4	6	8	2	2	2	1	2	7	5	9	9	14	5	14	9	6	8	10	12	8	3	14	5	11	13	9	3	14	13	2	7	9	37	9
CAA	5	1	7	3	8	22	7	5	0	3	1	1	14	9	9	6	6	4	4	5	7	3	2	10	10	6	4	4	10	15	6	7	9	8	5	8	2	5	0	7	7	5	4	25	7	2	9	4	37	8
CAG	2	0	0	2	2	12	0	2	3	3	3	5	3	3	3	0	0	2	0	1	0	0	0	1	2	0	2	2	3	4	0	0	2	0	1	3	0	2	0	2	3	1	1	11	4	1	1	1	18	3
CAC	4	0	1	0	2	2	1	14	6	3	3	3	0	2	2	9	5	9	0	5	8	0	2	8	1	6	5	3	2	0	0	2	1	3	6	9	2	3	1	2	4	6	0	2	1	0	0	1	4	0
CAU	3	0	5	3	6	2	3	7	3	0	0	0	2	6	7	4	2	7	0	4	9	0	0	3	7	4	5	7	12	4	1	4	7	10	4	6	3	5	5	15	15	5	0	1	1	0	5	5	21	8
GAA	15	1	4	12	6	22	3	2	3	1	1	1	15	12	9	6	13	10	2	4	6	6	2	8	9	17	16	14	19	31	7	6	13	18	16	26	6	11	4	8	11	16	3	35	14	1	8	6	62	12
GAG	3	0	1	3	6	14	0	10	3	11	11	11	5	3	3	0	1	0	0	0	1	0	0	1	3	4	5	6	2	4	3	3	3	4	5	7	1	3	1	2	5	5	1	6	2	3	2	5	14	4
GAC	2	0	1	1	6	4	0	8	6	4	4	2	1	3	6	10	9	6	1	1	2	2	1	2	6	1	3	1	5	8	2	1	4	5	1	5	0	4	0	4	6	3	0	5	0	0	0	4	5	5
GAU	12	1	3	11	9	20	3	9	1	0	0	2	13	8	9	1	2	8	0	1	2	0	0	2	10	6	4	7	21	14	3	5	8	9	6	21	2	4	2	9	9	3	4	14	5	0	5	9	40	7
UAC	2	0	3	2	3	2	4	19	6	7	6	4	2	1	2	8	7	9	0	1	7	2	1	8	2	7	7	4	7	3	0	1	1	3	5	5	0	4	0	5	7	7	0	3	2	0	1	0	4	1
UAU	10	3	7	18	7	20	5	15	2	2	2	6	9	8	8	7	2	11	1	1	5	1	0	5	7	5	5	8	10	9	0	12	7	12	7	14	1	3	1	13	13	5	4	14	1	1	8	7	34	7
UGC	1	0	0	0	2	2	0	2	5	3	1	2	1	3	2	2	0	0	1	0	2	2	1	0	0	1	1	0	0	2	0	0	4	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4	2
UGU	2	0	1	0	3	2	0	4	2	0	0	1	2	2	3	0	1	0	0	0	1	1	1	1	4	2	2	1	2	1	1	3	2	4	2	5	1	2	0	1	3	2	1	1	1	0	1	6	8	2
UUC	5	1	11	4	5	8	9	36	4	13	11	13	3	12	6	23	5	26	1	6	14	4	1	11	6	16	19	14	10	5	0	2	13	12	17	8	1	3	1	20	25	19	1	4	3	0	8	3	7	14
UUU	9	6	15	17	7	18	7	40	8	9	8	11	9	26	6	8	2	16	4	7	7	5	5	6	5	10	7	12	31	12	1	22	26	21	9	12	3	2	2	29	35	7	2	9	5	3	8	3	32	25
AUA	12	5	17	24	5	24	7	12	3	2	1	1	11	4	4	9	13	26	2	10	7	4	8	34	2	2	2	2	10	3	4	9	4	8	3	0	6	13	4	14	16	2	1	11	3	1	7	4	29	4
AUC	8	0	4	1	8	6	0	15	6	1	0	2	4	3	9	27	10	15	3	13	9	5	2	25	9	7	13	7	3	12	1	1	4	5	10	8	3	5	2	15	15	12	1	9	1	1	6	3	11	3
AUU	6	2	14	12	12	28	3	18	7	1	1	0	19	6	13	13	9	20	2	16	9	9	3	27	14	22	16	23	17	17	9	12	5	13	18	11	2	8	4	15	16	17	3	26	9	4	11	13	52	7
AUG	8	2	4	5	8	8	6	19	1	2	2	2	5	9	6	3	2	4	1	4	1	0	1	5	6	12	12	12	11	16	2	14	9	8	12	10	2	4	2	21	25	12	1	11	3	2	4	8	19	9
UGG	0	0	0	2	4	2	0	7	2	2	2	1	1	13	5	0	1	0	0	0	0	0	0	0	5	10	10	10	17	0	2	8	13	17	10	8	1	1	1	14	16	10	0	0	1	0	5	5	10	13
UAA	1	1	0	1	1	0	1	1	0	0	0	1	0	1	1	1	1	1	1	0	0	1	1	0	1	1	1	1	1	1	0	1	1	1	0	1	0	1	1	1	1	0	1	1	1	0	1	0	1	1
UAG	0	0	1	0	0	1	0	0	1	1	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	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0
UGA	6	0	1	4	0	0	0	7	7	2	0	0	1	0	0	0	12	4	17	3	3	12	4	0	13	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
TOTAL	251	55	253	427	259	637	162	646	182	210	181	210	343	354	259	381	228	515	68	226	261	116	99	459	261	354	354	354	509	499	135	351	354	474	354	476	115	287	93	531	633	354	86	508	185	82	248	2371	071	354

73	TOB CPC G#1 0	TOB CPC G#1 1	TOB CPC G#1 2	TOB CPC G#1 3	TOB CPC G#1 4	TOB CPC G#1 5	TOB CPC G#1 6	TOB CPC G#1 7	TOB CPC G#1 8	TOB CPC G#1 9	TOB CPC G#2 0	TOB CPC G#2 1	TOB CPC G#2 2	TOB CPC G#2 3	TOB CPC G#2 4	TOB CPC G#2 5	TOB CPC G#2 6	TOB CPC G#2 7	TOB CPC G#2 8	TOB CPC G#2 9	TOB CPC G#3 0	TOB CPC G#3 1	TOB CPC G#3 2	TOB CPC G#3 3	TOB CPC G#3 4	TOB CPC G#3 5	TOB CPC G#3 6	TOB CPC G#3 7	TOB CPC G#3 8	TOB CPC G#3 9	TOB CPC G#4 0	TOB CPC G#4 1	TOB CPC G#4 2	TOB CPC G#4 3	TOB CPC G#4 4	TOB CPC G#4 5	TOB CPP 32	TOB CPP SBA	TOB CPR PSS	TOB CPR UBP	TOB CPS 16	TOB CPT G1#	TOB CPT G2	TRY MTC YTB #1	TRY MTC YTB #2	TRY MTC YTB #3	WHT CPA TP	WHT CPA TPS #2	WHT CPC YF #2	WHT CPC YTB #1
CGA	3	3	5	4	5	3	6	6	4	3	2	3	7	1	3	3	1	1	2	0	4	4	1	14	5	6	5	4	0	3	1	5	2	5	1	3	2	2	0	6	5	0	3	0	0	1	1	6	5	2
CGC	1	1	3	2	3	0	1	5	1	0	0	0	0	1	0	0	0	2	1	2	0	1	0	0	0	1	1	0	2	0	1	0	1	0	1	0	2	2	2	0	5	0	0	1	0	0	0	0	0	1	0
CGG	1	1	1	1	0	1	2	1	1	0	1	1	0	5	1	1	1	0	0	0	2	2	3	0	2	0	0	0	1	1	1	0	1	0	1	1	0	0	1	1	1	0	1	0	0	0	0	2	1	0
CGU	8	3	7	10	11	1	8	11	4	0	2	0	3	5	4	4	13	0	5	2	3	7	1	0	2	5	3	3	3	8	1	9	3	9	1	8	8	8	3	11	2	1	6	0	0	0	1	0	3	4	2
AGA	3	2	7	7	3	4	9	7	1	0	1	2	5	8	6	6	10	2	0	0	4	6	1	4	3	7	7	3	2	13	5	3	4	3	5	13	2	2	2	7	2	0	8	5	1	7	1	2	3	1	1
AGG	5	4	2	2	1	1	1	0	3	0	0	0	1	5	2	2	2	0	0	0	1	1	4	1	1	1	0	0	2	1	0	0	0	2	1	1	0	0	2	1	0	0	0	1	2	2	0	0	2	0	1
CUA	12	1	4	15	4	2	7	6	1	1	0	0	0	0	1	1	5	1	1	2	2	1	0	2	1	2	2	2	1	3	0	1	1	1	0	3	10	10	1	6	0	1	3	4	1	8	4	4	1	1
CUC	1	0	4	7	1	1	2	0	1	0	1	0	1	0	0	0	3	0	2	0	3	1	1	0	1	0	0	1	0	1	1	0	1	0	1	1	0	0	0	0	0	0	1	0	0	2	0	2	1	1
CUG	3	0	6	8	2	2	3	6	1	0	0	0	0	1	0	0	2	0	2	0	1	0	4	1	0	0	3	0	0	1	0	1	0	1	0	1	1	1	0	6	0	0	2	2	1	0	1	0	2	0	0
CUU	13	2	19	14	6	3	11	10	10	0	0	0	2	5	2	2	6	0	3	5	8	0	2	2	0	4	3	1	1	3	3	1	1	1	3	3	6	6	1	10	4	0	2	0	2	16	3	2	12	0	0
UUA	24	1	40	24	8	5	15	9	7	0	3	1	5	3	5	5	12	4	9	11	14	2	3	5	4	0	7	5	3	6	1	6	3	6	1	6	8	8	3	9	3	3	6	51	16	35	3	7	6	4	0
UUG	6	6	16	16	6	1	10	10	7	2	1	2	4	2	0	0	14	4	5	4	9	0	1	2	2	0	1	3	2	5	1	2	5	2	1	5	6	6	2	10	1	0	5	10	13	14	2	7	7	0	0
UCA	0	2	7	7	3	2	5	3	1	2	0	1	1	3	0	0	4	1	2	2	2	1	3	0	3	2	1	0	1	1	2	2	3	2	2	1	2	2	1	3	0	1	1	8	6	4	0	1	4	0	0
UCC	10	3	9	6	3	0	7	2	4	0	1	1	1	2	1	1	3	1	1	1	4	2	0	0	0	1	3	2	1	2	0	5	0	5	0	2	4	4	1	2	2	0	2	0	0	6	0	2	5	2	0
UCG	0	2	5	4	2	0	1	0	2	0	2	0	2	2	0	0	4	1	1	0	2	1	1	0	0	1	0	2	0	1	0	1	0	1	0	1	1	1	0	0	0	0	2	1	0	0	0	0	2	0	0
UCU	10	0	14	14	3	1	10	7	6	0	1	0	2	0	4	4	6	4	4	0	8	2	0	5	0	4	3	5	2	4	2	0	4	0	2	4	10	10	2	7	0	0	4	3	3	11	2	4	3	3	0
AGC	1	1	4	4	0	1	1	3	3	0	5	0	0	1	0	0	2	0	1	0	2	0	0	0	0	2	0	0	1	1	1	0	0	0	0	1	4	4	1	3	0	0	1	0	0	7	0	0	3	3	0
AGU	6	4	11	16	3	2	5	2	4	0	2	2	3	2	0	0	10	1	5	0	6	3	2	1	0	1	1	4	1	5	3	2	0	2	3	5	6	6	1	2	0	0	2	10	8	7	1	4	3	4	0
ACA	2	2	10	11	2	2	8	5	2	1	2	0	0	1	2	2	8	1	2	3	9	3	0	1	0	5	5	2	4	6	3	5	1	5	3	6	2	2	4	5	1	1	5	8	7	15	1	1	4	0	0
ACC	12	1	5	13	1	2	10	7	2	2	2	0	3	2	3	3	5	0	4	2	2	2	2	2	1	2	1	1	7	0	0	1	0	0	7	4	4	1	1	7	0	0	6	0	1	1	0	5	0	2	0
ACG	1	0	3	5	1	1	5	1	2	0	0	3	0	0	1	1	2	0	1	1	4	1	0	0	0	3	2	2	1	1	0	0	0	0	1	1	1	1	2	1	0	0	1	2	1	1	0	1	2	3	0
ACU	9	0	23	15	3	3	10	16	7	1	2	2	3	4	4	4	10	4	11	3	4	4	0	4	2	1	1	3	1	1	3	4	2	4	3	1	10	10	1	16	2	0	1	0	3	8	2	4	5	1	0
CCA	5	3	8	10	3	2	3	5	5	1	2	0	0	0	5	5	8	2	1	5	4	2	1	0	1	2	3	1	0	2	1	2	0	2	1	2	5	4	0	5	0	0	2	5	0	3	2	1	4	1	0
CCC	3	0	5	4	2	0	5	2	7	0	0	1	2	0	3	3	4	0	2	3	1	1	1	1	2	2	1	2	2	4	0	2	0	2	0	4	0	0	2	2	0	1	5	0	0	3	0	0	11	0	0
CCG	3	2	8	6	1	1	7	3	2	0	0	0	1	0	0	0	5	0	2	1	2	3	0	1	0	1	1	1	0	1	2	1	0	1	2	1	0	1	0	3	1	0	1	0	0	0	0	0	1	1	0
CCU	13	1	9	12	3	2	12	11	10	1	3	1	1	0	1	1	12	2	6	6	7	2	2	1	1	3	2	1	2	8	2	0	0	0	2	8	10	10	2	11	3	0	6	1	2	8	2	0	8	2	0
GCA	11	4	20	26	2	1	9	13	8	1	0	0	0	3	0	0	12	1	4	6	5	9	0	1	2	7	6	5	4	6	1	9	0	9	1	6	7	7	4	13	1	0	5	8	4	2	3	3	7	0	0
GCC	6	0	11	9	3	2	9	6	2	0	0	1	1	0	2	2	6	1	2	2	3	1	0	0	2	1	0	2	1	6	0	4	0	4	0	6	3	3	1	6	1	1	5	0	0	2	1	1	1	0	0
GCG	1	0	4	10	0	2	5	4	3	0	1	0	0	0	0	0	5	2	1	2	2	0	0	0	1	0	2	0	0	3	0	1	0	1	0	3	1	1	0	4	1	1	3	0	0	4	3	1	2	1	0
GCU	23	1	33	28	3	9	18	22	7	2	2	0	3	5	3	3	20	2	7	0	3	5	0	3	7	4	3	5	1	3	1	4	1	4	1	3	24	24	1	22	2	0	3	2	1	9	10	6	8	2	0
GGA	26	5	20	20	4	1	21	13	6	1	4	0	1	2	5	5	21	3	5	2	9	5	3	3	3	6	9	3	3	12	5	5	2	5	5	12	5	5	3	13	2	0	13	4	4	13	5	5	11	4	0
GGC	5	0	10	10	0	2	3	2	6	1	1	0	0	0	2	2	12	0	2	2	4	1	0	0	0	1	2	1	1	1	0	1	0	1	0	1	6	6	1	2	0	0	1	0	0	2	0	2	2	0	0
GGG	10	0	12	13	3	1	7	8	7	0	0	2	1	1	3	3	9	1	3	1	2	0	1	1	2	0	1	1	0	9	1	1	0	1	1	9	1	1	0	8	1	1	9	1	0	7	1	3	6	0	0
GGU	19	0	26	29	5	4	19	23	7	0	2	1	1	0	2	2	20	3	6	6	1	9	1	6	2	6	5	3	1	14	2	3	1	3	2	14	21	21	1	23	2	0	10	9	5	20	5	1	7	2	0
GUA	14	0	11	22	2	3	21	17	8	2	0	2	0	3	5	5	10	3	10	7	9	5	1	1	5	3	3	4	3	7	2	3	3	3	2	7	12	12	3	17	1	1	9	13	14	10	2	3	8	0	0
GUC	6	0	1	4	3	0	4	1	2	1	2	2	0	0	3	3	6	1	5	2	2	2	1	0	1	0	4	2	0	2	3	0	1	0	3	2	0	0	0	1	1	0	2	0	0	2	0	2	4	1	0
GUG	5	0	3	6	0	3	6	3	4	0	1	1	1	0	2	2	6	0	4	1	0	2	1	2	2	0	0	1	1	3	0	2	0	2	0	3	0	0	1	2	1	1	6	6	1	2	1	2	5	1	0
GUU	5	2	16	9	4	3	13	16	12	1	0	1	0	1	3	3	19	2	6	4	5	4	2	3	5	3	3	0	0	4	0	4	2	4	0	4	9	9	0	16	5	0	5	3	1	31	4	4	11	1	0
AAA	11	5	10	16	14	2	14	21	13	0	0	5	8	6	8	8	12	2	6	3	21	6	5	6	6	8	14	16	9	17	4	13	9	13	4	17	0	0	9	21	5	4	14	2	5	4	1	8	13	0	0
AAG	2	5	5	1	3	2	4	4	9	0	0	4	2	3	3	3	2	0	0	0	3	2	3	0	0	1	4	3	1	5	4	3	3	3	4	5	0	0	1	4	5	0	6	4	4	0	0	0	3	10	0
AAC	3	1	4	10	5	1	5	6	3	0	1	2	1	3	1	1	2	1	1	0	6	1	3	2	2	0	3	0	1	4	0	2	0	2	0	4	13	13	1	6	0	1	5	1	1	3	3	1	1	4	1
AAU	11	1	27	9	4	10	15	9	13	0	0	2	4	2	3	3	8	3	1	7	13	4	3	7	5	3	6	6	5	12	3	4	5	4	3	12	9	9	5	9	3	3	11	4	7	10	1	13	12	0	0
CAA	7	2	22	20	11	5	15	9	10	1	2	1	6	2	4	4	9	1	6	2	10	4	2	2	2	3	14	1	0	3	2	6	3	6	2	3	5	5	0	9	4	0	5	2	1	2	2	5	8	2	0
CAG	1	2	7	8	1	1	5	4	8	1	0	0	0	2	2	2	4	0	0	0	2	0	0	0	1	1	1	0	0	2	0	0	2	0	0	2	1	1	0	4	1	0	2	0	2	1	1	5	8	0	0
CAC	4	1	9	10	1	1	1	5	1	1	0	1	0	1	1	1	2	0	3	0	1	0	1	0	0	0	0	0	1	1	0	1	1	1	0	1	5	6	1	5	0	0	3	0	2	4	0	1	0	0	0
CAU	10	3	31	32	5	0	3	9	1	0	1	2	0	2	2	2	12	0	2	1	10	2	1	2	2	3	3	2	5	9	4	3	1	3	4	9	4	4	5	9	0	1	7	8	1	11	0	2	2	1	0
GAA	17	4	12	11	8	7	30	24	11	0	3	2	2	4	2	2	20	2	5	4	19	1	3	5	8	6	13	7	3	5	3	5	5	5	3	5	16	16	3	24	3	1	9	5	4	5	4	12	16	4	0
GAG	5	1	7	6	1	4	7	8	7	0	2	1	2	0	0	0	1	1	2	2	5	0	1	3	1	0	3	2	1	3	0	2	1	2	0	3	5	5	1	9	1	0	4	1	1	2	0	4	3	1	0
GAC	7	2	8	3	0	2	7	4	2	0	0	0	0	0	0	0	2	0	2	0	7	0	0	2	3	1	2	2	0	4	1	0	2	0	1	4	4	3	0	4	0	1	4	1	0	2	0	0	1	2	0
GAU	7	0	19	30	7	4	15	23	10	1	4	2	3	5	3	3	23	2	3	3	10	4	6	2	3	0	5	4	3	5	1	4	0	4	1	5	4	4	3	23	4	0	4	10	7	14	0	4	13	3	0
UAC	4	0	3	3	2	0	3	8	1	0	2	1	0	1	0	0	6	0	3	0	0	0	0	0	0	0	0	1	0	4	1	0	0	0	1	4	7	7	0	8	0	0	4	2	1	3	0	1	2	1	0
UAU	12	3	22	17	6	0	9	10	10	1	1	2	1	4	4	4	11	2	7	4	12	0	3	5	2	3	6	9	1	6	3	3	3	3	3	6	5	5	1	10	4	0	4	18	7	24	1	2	10	2	0
UGC	0	0	1	0	1	0	0	4	1	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	1	0	0	9	0	0	1	0	0
UGU	3	2	1	4	0	0	1	5	1	0	0	4	0	1	2	2	1	0	2	1	4	1	1	1	2	0	2	2	0	2	0	0	0	0	0	2	2	2	0	5	1	0	2	16	10	13	0	1	1	0	0
UUC	13	0	16	19	2	0	6	9	6	1	1	1	1	0	0	0	11	0	1	2	2	3	8	0	0	3	2	0	0	0	1	1	2	1	1	0	19	19	0	9	1	0	0	2	0	13	0	4	6	2	0
UUU	21	2	36	32	2	1	11	12	8	3	7	0	6	3	1	1	29	2	13	8	11	1	2	2	2	1	6	1	3	1	2	2	1	2	2	1	7	7	3	12	2	1	1	45	20	68	3	4	8	6	0
AUA	5	2	10	16	6	4	5	2	9	2	2	1	2	9	1	1	9	0	6	2	14	4	6	7	4	7	8	5	4	9	2	4	1	4	2	9	2	2	4	2	1	0	12	34	24	18	1	2	11	2	0
AUC	8	0	11	9	2	2	9	10	5	1	0	0	0	2	3	3	6	0	2	0	5	1	1	4	3	0	9	0	2	5	2	1	0	1	2	5	12	13	2	10	1	0	6	2	0	5	0	1	4	0	0
AUU	11	3	25	28	7	8	19	9	15	1	7	4	6	6	4	4	11	4	5	7	16	5	5	9	7	5	12	6	4	8	4	6	5	6	4	8	17	16	4	9	3	1	7	7	5	37	5	10	14	7	0
AUG	8	2	13	15	3	3	15	8	5	2	1	1	2	2	1	1	10	4	10	3	8	4	1	4	4	6	4	9	2	4	6	4	1	4	6	4	12	12	2	8	1	0	5	12	6	24	2	3	4	1	0
UGG	17	2	33	28	1	2	0	8	1	1	2	0	0	2	0	0	17	1	6	3	2	1	0	1	0	3	3	2	1	2	1	1	0	1	1	2	10	10	1	8	0	1	1	3	2	2	0	2	1	2	0
UAA	0	1	1	1	1	1	0	1	0	1	0	0	0	1	1	1	0	0	0	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	0	0	0	0	1	1	1	0	0	0
UAG	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0
UGA	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	0	0	0	0	0	0	0	0	0	0	0	0	1	14	5	12	0	0	0	0	0
TOTAL	474	101	735	751	202	134	499	478	321	40	84	67	102	129	124	124	509	74	216	140	338	139	97	135	124	135	219	156	93	275	94	156	88	156	94	275	354	354	93	478	86	28	267	351	210	550	82	184	321	84	

74	WHT CPC YTB	WHT MTC OII	WHT MTC YBB	XEL MTC G#1	XEL MTC G#2	XEL MTC G#3	XEL MTC G#4	XEL MTC G#5	XEL MTC G#6	XEL MTC G#7	XEL MTC G#8	XEL MTC G#9	XEL MTC 0	XEL MTC G#1	XEL MTC G#1	XEL MTC G#1	XEL MTC G#1	XEL MTD TG#	YSC MTA PS1	YSC MTA T91	YSC MTC O31	YSC MTC OC2	YSC MTC YBS	YSC MTC YO1	YSC MTC YO2	YSC MTO LI1	YSC MTO O#2	YSC MTR GF	YSC MTT GSA	YSC MTV AR1	YSL MTI G3#	YSP MTC YBB
CGA	3	2	3	6	3	6	3	0	3	5	2	0	8	9	0	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1
CGC	0	1	2	0	1	0	0	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CGG	0	3	2	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	1	0	0
CGU	0	5	4	2	0	2	2	0	0	0	0	0	2	0	1	1	2	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0
AGA	0	1	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	1	7	5	11	9	5	1	2	2	1	3	2	9
AGG	0	1	2	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
CUA	1	1	6	15	13	10	7	2	14	10	9	9	19	17	1	15	15	3	1	4	0	4	3	0	1	1	0	1	2	0	4
CUC	0	4	6	9	10	2	4	0	2	1	2	2	6	6	0	10	8	0	0	0	0	0	1	0	0	0	0	0	0	0	0
CUG	1	1	1	0	2	2	1	0	0	0	1	0	2	2	0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	0	1
CUU	0	5	12	10	19	21	8	2	14	12	9	4	22	23	1	14	15	2	0	0	0	0	0	0	0	0	0	2	0	3	0	5
UUA	0	9	10	19	27	26	5	3	20	9	4	8	37	28	11	20	18	47	11	36	27	43	66	27	12	12	22	11	41	13	43
UUG	1	5	9	1	1	3	1	0	2	0	1	0	3	1	6	1	1	0	0	0	2	0	0	2	0	0	0	0	0	0	2
UCA	2	8	2	14	19	13	6	0	5	10	1	2	20	18	4	11	11	11	5	7	7	16	26	7	5	1	3	5	3	2	13
UCC	0	4	4	7	5	3	2	1	2	0	2	1	9	9	0	3	3	0	0	0	0	0	1	0	0	0	1	0	0	0	0
UCG	0	3	1	0	2	0	1	0	1	1	0	1	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UCU	0	1	6	5	9	8	4	1	2	1	1	2	5	11	8	9	9	4	0	5	4	9	11	4	0	2	3	0	4	1	5
AGC	0	0	6	1	4	6	3	0	4	3	0	3	7	8	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
AGU	0	6	9	0	3	0	1	0	0	0	2	1	2	1	4	1	0	4	0	4	2	3	3	2	0	0	5	0	9	0	3
ACA	1	3	5	7	23	22	5	3	11	11	2	4	20	26	0	11	11	9	2	8	10	5	17	10	2	1	2	2	1	1	8
ACC	2	3	5	6	7	10	4	2	4	3	2	0	11	16	0	6	6	0	0	1	0	0	0	0	0	0	1	0	0	0	0
ACG	0	2	2	0	2	1	1	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ACU	1	8	5	11	9	9	8	1	6	6	4	3	11	10	0	5	5	6	0	8	6	7	7	6	0	0	5	0	7	1	8
CCA	0	9	8	10	14	11	10	7	9	8	2	1	16	17	0	16	17	4	1	4	6	9	11	6	1	2	1	1	0	2	13
CCC	0	1	4	4	1	3	1	0	2	2	2	0	2	2	0	1	1	0	0	1	0	0	1	0	0	0	0	0	2	0	0
CCG	0	0	7	2	0	3	2	0	0	0	0	0	2	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
CCU	2	5	12	4	4	9	1	2	4	2	4	3	5	5	4	5	5	4	1	4	7	10	13	7	1	1	8	1	4	1	10
GCA	1	3	7	14	12	17	8	1	7	10	3	3	8	22	3	6	6	2	4	9	6	11	22	6	4	0	3	4	0	0	5
GCC	0	3	7	7	7	10	4	0	5	6	4	2	10	13	3	12	13	0	1	1	0	0	3	0	1	0	0	1	1	0	2
GCG	0	2	3	1	0	1	0	0	0	0	1	0	0	1	2	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	1
GCU	2	9	11	4	7	15	3	0	5	4	2	1	10	10	5	7	7	11	5	12	9	10	20	9	5	0	4	5	0	0	20
GGA	2	6	13	14	6	19	5	0	5	13	2	5	10	11	7	16	15	2	2	3	3	5	13	3	2	0	3	2	0	0	4
GGC	0	0	3	2	3	8	1	1	2	5	3	0	4	7	0	4	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0
GGG	0	1	4	0	2	8	0	0	0	1	0	0	1	3	5	3	3	0	0	0	2	1	3	2	0	0	0	0	1	0	0
GGU	0	4	10	3	3	11	2	0	2	2	0	1	5	8	4	3	4	14	8	16	7	19	26	7	8	1	7	8	8	1	20
GUA	1	11	11	6	4	13	5	0	4	9	1	0	4	12	8	9	9	7	5	15	7	21	23	7	5	1	7	5	1	2	9
GUC	0	3	3	1	2	5	3	1	3	3	0	0	1	3	0	3	3	0	0	0	1	1	2	1	0	0	0	0	0	0	1
GUG	1	2	9	0	0	3	1	0	0	1	0	1	0	1	8	2	2	0	0	0	0	3	3	0	0	0	0	0	0	0	0
GUU	1	6	9	5	1	14	6	1	5	5	0	0	2	6	13	4	4	5	1	9	11	12	6	11	1	1	4	1	4	0	11
AAA	0	4	5	7	10	9	3	5	1	3	1	1	9	17	1	10	9	5	2	2	7	7	8	7	2	1	25	2	35	1	7
AAG	0	0	1	0	0	1	0	0	1	0	0	0	2	2	2	0	0	0	0	0	1	0	0	1	0	0	1	0	2	0	0
AAC	0	3	3	4	6	7	4	3	6	3	1	2	8	23	2	11	11	0	1	0	0	3	5	0	1	0	1	1	2	0	4
AAU	0	5	9	6	5	8	4	1	4	0	0	1	11	19	2	9	9	14	1	9	8	17	15	8	1	1	24	1	124	1	21
CAA	1	10	6	9	11	8	7	1	8	8	3	0	12	20	0	6	6	5	1	4	8	5	8	8	1	3	10	1	4	3	3
CAG	1	2	3	0	1	1	0	1	0	0	0	0	0	2	0	1	1	0	0	0	1	2	1	1	0	0	0	0	0	0	0
CAC	1	1	4	3	5	8	7	1	1	11	0	2	8	5	0	5	5	0	0	0	0	0	3	0	0	0	0	0	1	0	2
CAU	0	7	15	1	2	11	2	0	3	4	0	2	4	5	0	6	6	4	0	15	5	13	11	5	0	0	4	0	4	0	5
GAA	0	8	5	10	6	8	12	2	4	9	4	2	10	10	1	5	5	3	1	7	15	5	7	15	1	0	11	1	2	0	5
GAG	0	3	3	1	0	1	2	0	0	0	2	1	3	1	3	0	0	1	0	0	1	0	1	1	0	0	1	0	0	0	0
GAC	0	6	3	2	0	8	7	0	1	3	1	1	2	5	0	8	8	0	1	0	0	0	1	0	1	0	0	0	1	0	1
GAU	1	10	8	2	1	7	5	0	1	2	2	2	2	7	2	3	3	4	0	5	14	9	11	14	0	0	8	0	10	0	11
UAC	0	2	4	6	2	12	4	0	3	6	1	2	9	3	0	9	9	2	0	1	0	3	7	0	0	0	1	0	0	0	4
UAU	1	7	12	6	3	7	4	0	2	6	1	1	5	9	11	5	5	9	1	14	14	18	19	14	1	3	14	1	28	3	17
UGC	0	1	1	1	1	1	1	0	0	1	0	2	4	5	1	1	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0
UGU	0	3	3	0	1	0	1	0	0	0	1	1	1	2	3	2	1	1	1	2	4	3	2	4	1	0	3	1	1	0	4
UUC	2	6	9	8	7	18	2	1	6	11	4	0	4	22	0	20	20	6	6	7	4	16	23	4	6	3	0	6	0	1	22
UUU	2	5	22	7	7	20	7	3	7	11	4	5	12	22	8	12	11	15	1	9	8	20	18	8	0	4	11	1	5	5	16
AUA	2	2	14	18	9	25	13	0	6	7	5	6	24	29	6	13	12	1	0	1	3	1	1	3	0	0	0	0	31	1	10
AUC	1	9	3	10	11	15	5	3	9	3	4	5	15	17	0	13	13	5	2	5	2	7	6	2	2	1	0	2	2	0	10
AUU	2	14	18	21	19	26	13	0	13	13	7	2	28	53	11	22	25	30	7	13	24	33	42	24	7	3	18	7	40	5	24
AUG	2	6	10	3	2	6	2	1	3	2	2	1	5	4	3	1	1	10	3	12	5	16	20	5	3	4	9	3	2	2	13
UGG	1	5	12	2	1	1	0	0	0	1	0	0	1	1	9	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	7
UAA	1	1	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
UAG	0	0	1	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	0
UGA	0	0	0	6	10	16	5	5	4	11	5	0	16	11	2	10	12	5	0	9	5	7	10	5	0	0	0	0	3	0	0
TOTAL	40	261	399	323	345	518	229	56	226	260	114	99	461	605	171	379	381	260	77	270	252	388	513	252	77	49	236	77	397	49	388

TABLE 2.

		HUM	HAM	MUS	RAT	BOV	RAB	CHK	XEL	DRO	MZE	YSC	BSU	ECO	STY	TIP	ADB	HIV	HS1	HS4	LAM BDA	PT4	PT7	MPO CP	TOB CP
No.	GENES	407	21	184	230	69	25	71	23	44	21	153	53	407	29	22	28	53	33	59	61	36	58	54	45
ARG	CGA	5.0	4.1	6.1	4.8	4.8	3.4	3.4	8.7	5.0	0.8	2.3	4.0	2.6	3.9	12.6	6.7	4.3	6.7	5.4	6.9	6.4	8.2	11.6	15.5
	CGC	10.6	17.1	11.3	12.4	12.4	10.8	14.7	11.8	18.6	14.5	1.7	9.1	21.4	21.9	16.8	32.4	1.7	39.4	15.2	15.9	6.1	14.6	2.0	4.4
	CGG	8.7	9.7	9.3	8.8	10.2	10.7	7.2	4.4	5.6	3.6	1.0	5.1	3.6	6.7	12.3	10.9	2.2	24.6	14.4	10.3	1.5	3.0	1.1	4.4
	CGU	4.4	8.5	4.8	6.4	2.9	3.6	7.9	12.8	7.5	4.6	8.6	10.7	28.3	18.9	10.5	7.9	0.5	5.4	5.5	16.9	22.2	22.7	16.1	19.4
	AGA	10.0	10.5	11.6	13.0	9.8	7.9	7.8	10.2	3.1	3.6	25.3	12.2	1.4	1.4	8.9	7.8	41.4	1.5	7.1	9.4	6.7	5.5	16.0	19.2
	AGG	11.1	7.1	10.4	12.1	10.0	11.0	10.3	7.8	5.1	12.1	7.1	3.4	0.9	1.1	9.5	9.7	16.3	4.5	15.0	4.7	1.5	3.4	0.9	6.5
LEU	CUA	6.7	4.3	6.6	6.1	4.6	4.0	3.2	7.8	5.0	14.0	11.9	5.6	2.5	3.6	10.4	10.7	14.6	4.3	9.1	3.1	6.6	10.4	5.5	11.7
	CUC	21.3	16.8	20.5	19.9	20.7	24.7	20.1	11.5	11.0	21.7	4.0	10.4	9.3	8.2	18.0	12.5	10.1	19.5	25.5	8.9	4.5	10.7	0.9	5.0
	CUG	44.0	33.7	41.8	42.3	47.6	54.8	47.7	28.3	42.6	28.5	8.2	19.7	56.7	51.9	23.0	34.1	15.6	50.2	43.5	36.7	8.5	21.8	0.8	6.6
	CUU	11.2	13.2	11.4	12.4	11.6	7.4	8.3	13.1	4.5	22.7	9.9	22.8	9.0	10.2	21.3	16.8	9.0	4.5	10.0	13.2	20.8	16.3	21.6	19.4
	UUA	6.1	3.8	3.8	3.2	3.4	3.0	2.5	12.4	1.4	6.2	22.7	19.7	9.9	11.6	7.8	2.3	22.7	1.2	4.0	8.8	24.3	12.0	72.7	34.5
	UUG	11.5	8.4	10.9	11.0	7.7	7.5	9.1	13.5	13.2	18.4	32.2	11.6	10.7	11.6	19.7	14.9	15.3	8.4	9.6	5.5	11.6	10.0	6.2	20.3
SER	UCA	9.8	6.3	10.0	7.4	7.0	8.5	6.4	7.4	4.5	8.8	15.1	14.0	5.6	6.0	11.4	5.9	13.7	2.1	9.0	13.4	16.2	9.2	13.9	9.5
	UCC	18.9	18.9	18.1	15.8	19.3	22.9	16.1	12.4	20.9	10.8	14.5	8.3	10.1	12.1	13.7	16.6	5.9	18.1	20.6	11.6	2.8	12.8	3.0	10.9
	UCG	4.0	3.4	3.6	2.9	4.5	4.4	5.3	3.7	16.9	7.3	5.7	6.8	7.3	7.9	11.0	8.2	1.6	15.9	8.9	8.7	4.2	4.4	1.8	4.6
	UCU	14.5	13.5	15.1	12.7	10.5	12.2	11.9	16.8	4.2	9.8	26.0	15.7	11.3	9.2	10.8	10.4	7.0	3.8	11.6	6.8	24.3	18.0	25.4	18.3
	AGC	19.3	13.6	19.2	16.4	19.0	20.9	19.6	13.7	17.8	16.0	6.6	15.7	15.0	15.1	15.8	21.3	16.1	17.5	18.9	17.1	5.2	7.0	2.0	4.2
	AGU	9.4	8.2	8.5	8.3	8.9	8.3	6.1	7.4	8.5	4.6	10.4	6.8	6.3	5.9	8.4	6.6	17.2	1.8	6.7	11.6	10.9	9.2	16.5	14.1
THR	ACA	14.3	13.2	15.4	12.6	9.9	10.0	12.8	17.2	7.8	6.7	15.5	25.1	5.5	5.3	13.8	10.2	30.4	3.4	11.8	13.1	15.5	10.1	21.4	15.4
	ACC	23.8	25.6	23.7	20.3	21.1	31.2	23.4	16.5	29.4	21.8	14.2	6.8	23.8	27.5	15.6	30.2	14.3	31.3	30.6	21.3	6.6	18.5	2.7	13.1
	ACG	6.1	4.1	5.9	4.9	7.0	9.3	6.4	1.7	14.0	7.3	6.2	14.3	11.4	17.6	10.2	8.3	4.2	21.5	14.1	19.5	4.1	7.8	1.8	5.5
	ACU	12.5	11.5	13.3	12.4	9.3	10.4	12.0	12.2	5.1	11.1	22.1	9.8	11.2	8.7	9.9	10.3	13.8	2.3	9.4	9.1	27.1	19.8	26.5	21.9
PRO	CCA	13.8	12.1	15.1	12.7	14.8	9.0	9.9	8.3	8.8	20.7	22.6	6.8	7.4	5.7	14.9	13.0	23.6	8.5	17.3	8.9	12.7	9.1	16.3	11.8
	CCC	19.4	16.1	17.3	15.9	21.4	20.1	17.8	9.8	20.9	12.7	5.7	2.4	3.4	5.5	11.4	27.6	9.0	49.1	31.3	4.9	1.2	1.8	1.8	8.1
	CCG	5.5	1.3	5.2	5.2	8.5	11.0	4.2	2.8	18.1	13.2	3.6	15.3	24.5	24.4	13.5	17.9	2.9	32.7	13.8	17.3	6.3	7.7	1.9	6.3
	CCU	15.2	18.9	16.2	14.4	15.7	14.3	9.9	11.8	4.1	17.3	12.1	9.5	5.8	6.7	12.3	14.7	13.9	3.8	12.5	7.4	12.9	15.0	21.6	19.1
ALA	GCA	13.2	13.4	12.7	12.1	14.1	12.7	14.7	22.0	9.8	20.0	15.5	22.3	20.9	13.1	25.7	13.9	28.8	5.8	15.8	28.6	21.4	16.8	22.3	22.6
	GCC	28.6	31.6	26.2	33.0	37.0	36.7	34.1	27.4	42.2	26.7	16.7	13.5	22.5	29.8	28.4	32.9	10.5	70.3	50.6	27.9	4.2	14.0	3.3	12.7
	GCG	5.6	4.5	6.0	5.2	8.0	14.3	7.4	3.9	12.7	22.0	4.9	21.2	33.7	41.6	17.4	22.2	3.3	41.5	17.0	25.4	5.7	14.5	2.5	7.0
	GCU	18.7	21.3	19.1	23.6	21.2	17.0	24.5	42.2	13.8	35.4	29.2	20.8	19.3	15.8	21.6	13.9	17.8	5.7	12.7	16.6	36.8	43.9	37.3	32.3
GLY	GGA	16.8	18.5	16.9	13.9	22.2	12.2	12.7	28.3	20.9	10.6	8.0	22.4	5.5	7.8	20.9	15.0	34.6	7.3	18.1	12.9	15.8	11.7	32.7	31.1
	GGC	24.1	28.6	24.5	23.5	33.2	33.8	25.4	20.9	37.6	24.9	9.2	25.7	30.8	39.9	18.3	22.7	11.8	36.2	24.5	21.5	9.5	14.6	4.1	9.5
	GGG	15.3	12.9	15.9	13.8	22.1	20.4	14.0	7.8	3.9	9.9	4.9	8.7	8.6	11.9	13.8	13.0	16.7	32.9	23.2	14.7	4.1	9.0	4.4	14.3
	GGU	9.8	17.9	12.2	11.7	14.3	10.1	12.5	20.7	17.2	21.0	39.1	15.6	31.0	21.0	18.0	11.8	7.4	5.1	11.0	19.8	36.4	39.0	31.6	31.7
VAL	GUA	6.1	6.0	5.9	5.8	5.0	4.6	3.7	7.2	3.3	5.5	9.8	13.1	13.2	10.4	8.6	9.0	28.0	4.0	5.3	9.9	19.2	17.3	21.0	26.3
	GUC	16.9	15.4	17.9	15.9	21.2	18.0	18.3	14.1	17.6	21.8	15.8	17.9	13.9	19.6	13.1	11.4	6.5	23.4	20.3	11.6	4.9	11.8	2.3	7.5
	GUG	29.7	33.5	31.8	28.6	32.0	40.4	31.2	21.5	28.0	29.0	9.7	16.3	24.5	25.8	16.8	31.0	14.5	33.1	30.9	24.5	5.0	15.1	2.2	8.0
	GUU	10.6	12.8	10.0	9.1	10.7	10.3	10.2	13.3	8.4	15.5	27.4	20.7	23.4	11.9	17.9	11.0	8.1	5.1	8.6	18.8	31.4	19.8	29.0	22.2
LYS	AAA	23.8	17.9	19.9	24.5	20.6	14.9	22.0	30.9	10.0	7.2	37.4	49.8	38.4	35.6	20.0	15.8	34.0	5.4	8.4	36.5	66.8	22.2	61.5	38.2
	AAG	35.4	38.7	37.2	51.2	33.3	38.4	54.8	37.9	44.8	40.9	36.5	18.8	12.2	9.8	18.8	21.0	24.3	16.2	23.5	19.7	16.8	44.5	2.6	11.1
ASN	AAC	23.9	25.7	24.3	23.1	20.5	24.3	26.7	20.0	30.1	29.5	25.4	21.3	25.1	20.7	19.7	32.6	18.4	21.5	20.2	21.5	15.0	33.1	6.6	10.9
	AAU	17.2	17.1	16.0	12.4	10.4	10.7	11.8	18.7	21.1	7.7	28.1	23.3	14.8	17.2	16.2	12.0	36.3	2.3	11.6	18.6	38.9	12.2	43.3	30.0
GLN	CAA	12.9	8.2	10.4	11.0	10.4	6.1	7.4	20.0	12.4	40.7	28.0	22.8	13.1	12.6	20.1	13.2	27.9	4.4	9.2	9.2	21.8	17.0	35.9	27.5
	CAG	33.3	38.1	31.9	34.8	33.0	32.0	30.5	19.6	41.7	34.2	9.0	16.9	30.9	32.9	17.7	29.7	25.9	22.1	28.0	33.5	11.7	19.6	2.1	9.1
HIS	CAC	14.8	11.4	14.4	12.7	12.9	18.3	15.8	13.7	15.9	13.5	8.1	7.4	10.9	11.9	9.5	16.4	9.8	20.0	16.8	7.0	5.1	13.5	3.2	5.9
	CAU	9.7	9.4	9.6	8.0	7.1	6.1	6.6	15.7	9.1	8.3	11.8	15.2	10.5	13.8	17.1	5.8	15.4	4.3	8.0	11.0	12.9	6.3	18.2	20.6
GLU	GAA	26.6	27.7	24.4	31.9	20.8	19.0	27.0	40.9	12.8	10.9	48.7	55.0	45.5	32.8	30.3	25.0	43.2	9.2	15.5	37.3	59.3	29.0	45.7	38.4
	GAG	39.8	47.1	40.6	49.5	38.9	45.2	55.0	25.5	52.1	36.8	16.8	23.1	19.0	22.1	29.3	42.4	20.4	42.3	37.9	27.7	9.7	42.1	3.6	11.5
ASP	GAC	28.6	29.0	29.3	32.0	31.3	32.6	28.5	29.8	29.0	19.6	22.3	21.1	23.4	20.1	24.8	35.4	16.5	47.9	29.8	24.8	15.2	37.7	3.4	8.2
	GAU	21.4	23.7	21.7	23.5	16.5	16.5	24.5	45.0	26.2	11.2	36.3	34.9	30.8	34.8	30.0	18.4	17.6	8.1	15.5	32.9	51.4	24.4	29.9	28.3
TYR	UAC	18.4	20.6	20.4	17.7	20.4	20.2	17.7	17.2	21.1	23.3	18.1	12.1	13.9	13.6	9.3	21.7	6.9	24.9	20.0	12.4	10.1	20.1	4.4	6.0
	UAU	12.1	11.5	12.8	10.3	10.2	6.5	8.6	9.6	9.0	5.1	17.1	19.0	14.1	16.8	17.3	8.0	18.4	4.0	9.3	17.9	30.3	12.2	30.8	25.4
CYS	UGC	14.5	15.4	13.1	11.8	17.7	13.2	10.3	7.0	27.9	14.0	3.5	3.2	5.9	6.3	11.3	11.4	6.7	11.4	13.4	8.6	3.6	5.8	1.9	1.7
	UGU	9.4	8.8	10.0	8.3	11.6	6.1	4.6	7.6	8.6	4.9	8.0	2.5	4.3	4.9	5.4	5.1	17.4	5.7	6.1	3.7	6.1	6.3	8.9	6.3
PHE	UUC	25.4	20.6	24.4	24.0	28.5	26.7	24.1	21.5	20.6	33.4	19.6	14.0	19.1	14.8	20.4	14.4	9.8	17.3	17.3	14.7	12.6	24.4	4.9	15.6
	UUU	16.5	16.2	15.2	16.6	15.8	12.7	14.2	25.0	8.9	11.7	22.5	22.5	16.9	22.0	20.6	20.7	16.1	15.4	20.9	19.5	31.0	10.4	53.9	30.2
ILE	AUA	5.5	4.7	5.9	4.3	3.8	4.4	4.7	6.1	5.5	4.4	12.9	7.2	2.6	4.4	11.9	8.3	32.2	3.4	6.3	8.7	8.1	4.7	27.3	22.4
	AUC	24.4	28.0	26.7	25.2	26.7	24.6	35.3	19.8	28.3	32.4	18.3	28.9	30.2	25.4	23.7	13.9	11.5	22.1	19.5	20.4	14.0	23.0	4.7	14.6
	AUU	14.5	18.5	16.0	18.0	11.6	11.8	15.5	18.9	13.7	16.0	31.4	34.3	26.0	30.2	26.1	14.4	19.3	5.7	11.0	22.5	50.0	24.8	59.9	39.6
MET	AUG	23.5	28.7	23.8	24.5	19.6	22.5	29.4	21.3	22.5	23.3	22.0	25.9	26.2	23.9	21.9	24.2	23.4	19.1	19.8	27.5	27.4	30.4	22.2	22.6
TRP	UGG	13.2	9.8	14.9	11.3	12.0	12.8	9.2	9.8	7.7	6.4	10.9	7.7	11.1	12.4	11.1	12.0	30.3	12.8	11.2	16.6	13.5	15.7	16.6	17.2
TER	UAA	0.9	1.6	0.9	1.4	1.0	0.7	1.5	4.1	1.2	0.5	1.2	1.7	2.1	2.3	0.8	1.5	1.2	0.5	0.8	1.7	2.6	2.3	3.2	2.7
	UAG	0.4	0.4	0.5	0.7	0.4	0.6	0.6	0.4	0.5	2.3	0.5	0.4	0.2	0.4	1.5	0.6	1.0	0.7	0.7	0.3	0.2	0.4	0.3	0.9
	UGA	1.4	1.0	1.5	1.1	1.4	1.6	0.9	0.4	0.4	0.7	0.6	0.9	0.7	1.0	1.1	0.7	0.5	0.8	0.5	2.5	0.6	1.6	0.0	0.5
TOTAL		149782	7035	63417	71182	24403	8907	23231	4595	20451	6136	68255	17383	136691	7954	6657	10286	19729	16896	29975	13763	10894	13541	15798	11003

********** FOR TABLE 1 **********

******** PRIMATES

CHPHBA1M APE (CHIMPANZEE) ALPHA-1-GLOBIN MRNA, 561BP
CHPHBA2M APE (CHIMPANZEE) ALPHA-2-GLOBIN MRNA, 549BP
GIBIL2 APE (GIBBON) INTERLEUKIN 2 MRNA, 730BP
GIBIL2LTR APE (GIBBON) INTERLEUKIN 2 MRNA CONTAINING INSERTED LTR 1061BP
GIBIL3 GIBBON INTERLEUKIN 3 (IL-3) MRNA, COMPLETE CDS, 675BP
HUMA1ACM HUMAN ALPHA-1-ANTICHYMOTRYPSIN COMPLETE GENE, MRNA, 1520BP
HUMA1ATM HUMAN ALPHA-1-ANTITRYPSIN MRNA, COMPLETE CDS, 1362BP
HUMA1ATP HUMAN ALPHA-1-ANTITRYPSIN GENE (S VARIANT), COMPLETE CDS, 12222BP
HUMA1ATR HUMAN ALPHA-1-ANTITRYPSIN MRNA, COMPLETE CDS, 1346BP
HUMA1ATZ HUMAN Z TYPE ALPHA 1-ANTITRYPSIN GENE, COMPLETE CDS (EXONS 2-6).
HUMA2M HUMAN ALPHA-2-MACROGLOBULIN MRNA, COMPLETE CDS, 4577BP
HUMA2TPI HUMAN ALPHA-2-THIOL PROTEINASE INHIBITOR MRNA, COMPLETE CODING
HUMACCYBA HUMAN CYTOPLASMIC BETA-ACTIN GENE, COMPLETE CDS, 3657BP
HUMACCYBB HUMAN CYTOPLASMIC BETA-ACTIN GENE, COMPLETE CDS, 3646BP
HUMACHRA7 HUMAN ACETYLCHOLINE RECEPTOR ALPHA-SUBUNIT GENE, EXONS P8 AND P9.
HUMACHRG8 HUMAN ACETYLCHOLINE RECEPTOR GAMMA SUBUNIT GENE, EXON 12. 703BP
HUMACTASK HUMAN ADULT SKELETAL MUSCLE ALPHA-ACTIN MRNA, 1374BP
HUMACTCA4 HUMAN ALPHA-CARDIAC ACTIN GENE, EXON 6 AND 3' FLANK. 749BP
HUMADA HUMAN ADENOSINE DEAMINASE MRNA, COMPLETE CDS. 1478BP
HUMADA11 HUMAN ADENOSINE DEAMINASE GENE, EXON 12. 325BP
HUMADAG HUMAN ADENOSINE DEAMINASE GENE, COMPLETE CDS. 36741BP
HUMADAM2 HUMAN ADENOSINE DEAMINASE MRNA, COMPLETE CODING SEQUENCE. 1535BP
HUMADHIA HUMAN ADH1 MRNA ENCODING ALCOHOL DEHYDROGENASE CLASS I ALPHA 1419BP
HUMADHIAB HUMAN LIVER ALCOHOL DEHYDROGENASE (ADH) ALPHA SUBUNIT MRNA, 1450BP
HUMADHIB9 HUMAN ADH2 GENE ENCODING CLASS I ALCOHOL DEHYDROGENASE BETA-1 700BP
HUMADHIBR HUMAN MRNA FOR ALCOHOL DEHYDROGENASE BETA-1-SUBUNIT 2532BP
HUMADHIG HUMAN ADH3 MRNA ENCODING ALCOHOL DEHYDROGENASE CLASS I GAMMA 1486BP
HUMAFH HUMAN APOFERRITIN (H CHAIN) MRNA, 801BP
HUMAGG HUMAN ANGIOGENIN GENE, COMPLETE CDS, AND THREE ALU REPETITIVE
HUMAGP1A HUMAN ALPHA-1 ACID GLYCOPROTEIN MRNA, COMPLETE CDS. 737BP
HUMALAD HUMAN DELTA-AMINOLEVULINATE DEHYDRATASE MRNA, COMPLETE CDS. 1153BP
HUMALB HUMAN ALBUMIN MRNA, COMPLETE CDS. 614BP
HUMALBA HUMAN ALBUMIN MRNA, COMPLETE CDS. 615BP
HUMALBAF1 HUMAN SERUM ALBUMIN MRNA, COMPLETE CDS. 1929BP
HUMALBAF4 HUMAN ALPHA-FETOPROTEIN (AFP) MRNA, COMPLETE CDS. 2032BP
HUMALBG HUMAN SERUM PREALBUMIN GENE. 7919BP
HUMALBGC HUMAN SERUM ALBUMIN GENE, COMPLETE CDS. 19002BP
HUMALDB HUMAN ALDOLASE B COMPLETE CODING REGION, MRNA. 1491BP
HUMALDBX HUMAN ALDOLASE B MRNA, COMPLETE CDS. 1595BP
HUMALDOBR HUMAN MRNA FOR ALDOLASE B. 1662BP
HUMALPL HUMAN LIVER/BONE/KIDNEY-TYPE ALKALINE PHOSPHATASE MRNA, COMPLETE
HUMALPPB HUMAN PLACENTAL ALKALINE PHOSPHATASE TYPE 3 MRNA. 2708BP
HUMAMYAP HUMAN PANCREATIC ALPHA-AMYLASE MRNA. 1566BP
HUMAMYAS HUMAN SALIVARY GLAND ALPHA-AMYLASE MRNA. 1770BP
HUMANFA HUMAN PND GENE ENCODING ATRIAL NATRIURETIC FACTOR, COMPLETE CDS.
HUMANG HUMAN ANGIOTENSINOGEN MRNA, COMPLETE CDS. 2099BP
HUMAPOLPOA2I HUMAN APOLIPOPROTEIN AII GENE, COMPLETE CDS. 2928BP
HUMAPOAI HUMAN APOLIPOPROTEIN A-I AND C-III GENES, COMPLETE CDS. 8337BP
HUMAPOAII HUMAN APOLIPOPROTEIN GENE A-II ON CHROMOSOME 1. 2956BP
HUMAPOB2 HUMAN APOLIPOPROTEIN B-100 MRNA, STARTING AT EXON 3. 13872BP
HUMAPOBA HUMAN APOLIPOPROTEIN B-100 MRNA, COMPLETE CDS. 14070BP
HUMAPOBB HUMAN APOLIPOPROTEIN B-100 MRNA, COMPLETE CDS. 13993BP
HUMAPOC2 HUMAN APO CII GENE ENCODING APOLIPOPROTEIN CII, COMPLETE CDS.
HUMAPOCI HUMAN APOLIPOPROTEIN C-I MRNA. 419BP
HUMAPOCII HUMAN APOLIPOPROTEIN C-II GENE, COMPLETE CDS. 4340BP
HUMAPOD HUMAN APOLIPOPROTEIN D MRNA, COMPLETE CDS. 809BP
HUMAPOE3 HUMAN APOLIPOPROTEIN E (EPSILON 2 AND 3 ALLELES) MRNA. 1156BP
HUMAPOE4 HUMAN APOLIPOPROTEIN E (EPSILON-4 ALLELE) GENE, COMPLETE CDS.
HUMARGL HUMAN LIVER ARGINASE MRNA, COMPLETE CDS. 1445BP
HUMAS8 HUMAN ARGININOSUCCINATE SYNTHETASE GENE, EXONS 10, 11, 12 AND 13.
HUMASA HUMAN ARGININOSUCCINATE SYNTHETASE MRNA, COMPLETE CDS. 1547BP
HUMASGPR1 HUMAN ASIALOGLYCOPROTEIN RECEPTOR H1 MRNA, COMPLETE CDS. 1277BP
HUMASGPR2 HUMAN ASIALOGLYCOPROTEIN RECEPTOR H2 MRNA, COMPLETE CDS. 1309BP
HUMASL HUMAN ARGININOSUCCINATE LYASE MRNA, COMPLETE CDS. 1549BP
HUMATI36 HUMAN ANTITHROMBIN III GENE, EXON 6. 267BP
HUMATCCD2 HUMAN T-CELL SURFACE ANTIGEN CD2 (T11) MRNA, COMPLETE CDS. 1509BP
HUMATCT32 HUMAN T-CELL SURFACE ANTIGEN T3 DELTA-CHAIN GENE, EXONS 2,3,4 AND
HUMATCT4 HUMAN T-CELL SURFACE GLYCOPROTEIN T4 MRNA, COMPLETE CDS. 1742BP
HUMATPC HUMAN ADPATP CARRIER PROTEIN MRNA, COMPLETE CDS. 1228BP
HUMBCL2A HUMAN B-CELL LEUKEMIA/LYMPHOMA 2 (BCL-2) PROTO-ONCOGENE MRNA 5086BP
HUMBCL2B HUMAN B-CELL LEUKEMIA/LYMPHOMA 2 (BCL-2) PROTO-ONCOGENE MRNA 911BP
HUMBHA HUMAN BETA-HEXOSAMINIDASE ALPHA CHAIN MRNA, COMPLETE CDS. 2397BP
HUMBLYM1 HUMAN BLYM-1 TRANSFORMING GENE, COMPLETE CODING REGION. 1004BP
HUMC1PA HUMAN C(1)-INHIBITOR MRNA, COMPLETE CDS. 1801BP
HUMC1INHB HUMAN PLASMA PROTEASE (C1) INHIBITOR MRNA, COMPLETE CDS. 1801BP
HUMC3 HUMAN COMPLEMENT COMPONENT C3 MRNA, ALPHA AND BETA SUBUNITS, 5067BP
HUMCAL HUMAN CALCITONIN, MRNA, COMPLETE CODING SEQUENCE. 791BP
HUMCALCBE HUMAN BEN LUNG CARCINOMA CELL LINE MRNA FOR HIGH-M(R) CALCITONIN.
HUMCALCR4 HUMAN CALCITONIN/CALCITONIN GENE RELATED PEPTIDE GENE, EXON 4.
HUMCCK2 HUMAN CHOLECYSTOKININ GENE, EXON 2. 396BP
HUMCERP HUMAN CERULOPLASMIN (FERROXIDASE) MRNA, COMPLETE CDS. 3321BP
HUMCG6B HUMAN CHORIONIC GONADOTROPIN (HCG) GENE 6, BETA-SUBUNIT. 1665BP
HUMCG4B HUMAN CHORIONIC GONADOTROPIN (HCG) GENE 6, BETA-SUBUNIT. 1665BP
HUMCGB HUMAN CHORIONIC GONADOTROPIN (HCG) BETA SUBUNIT MRNA. 539BP
HUMCGBBA3 HUMAN CHORIONIC GONADOTROPIN BETA SUBUNIT GENE, EXON 3, CLONE 468BP
HUMCGBEL6 HUMAN CHORIONIC GONADOTROPIN BETA SUBUNIT GENE, EXON 3, 475BP
HUMCINHP HUMAN PLASMA SERINE PROTEASE (PROTEIN C) INHIBITOR MRNA, COMPLETE
HUMCKM HUMAN CREATINE KINASE M MRNA, COMPLETE CDS. 1542BP
HUMCMOS HUMAN HUMOS GENE HOMOLOGOUS TO TRANSFORMING GENE OF MMSV. 1303BP
HUMCN2 HUMAN SKIN COLLAGENASE MRNA, COMPLETE CDS. 1970BP
HUMCP86 HUMAN BLUE CONE PHOTORECEPTOR PIGMENT GENE, EXON 5. 377BP
HUMCPG4 HUMAN GREEN CONE PHOTORECEPTOR PIGMENT GENE 1, EXON 6. 206BP
HUMCPR4 HUMAN RED CONE PHOTORECEPTOR PIGMENT GENE, EXON 6. 384BP
HUMCRF HUMAN CORTICOTROPIN-RELEASING FACTOR (CRF) GENE. 2565BP
HUMCRPG HUMAN C-REACTIVE PROTEIN GENE, COMPLETE CDS. 2438BP
HUMCRYB4 HUMAN BETA-CRYSTALLIN GENE (HU-BETA-A3/A1), EXON 6. 467BP
HUMCRYG02 HUMAN GAMMA-CRYSTALLIN-3 GENE, EXON 3. 399BP
HUMCRYG04 HUMAN GAMMA-CRYSTALLIN-4 GENE, EXON 3. 432BP
HUMCRYG32 HUMAN GAMMA-CRYSTALLIN 1-2 GENE, EXON 3. 456BP
HUMCRYGX4 HUMAN GAMMA-CRYSTALLIN 2-1 GENE, EXON 3. 463BP
HUMCS1 HUMAN CHORIONIC SOMATOMAMMOTROPIN GENE HCS-1, COMPLETE CDS. 2301BP
HUMCSF1M3 HUMAN MACROPHAGE-SPECIFIC COLONY-STIMULATING FACTOR (CSF-1), 1239BP
HUMCSFGM HUMAN T-CELL GRANULOCYTE-MACROPHAGE COLONY STIMULATING FACTOR 756BP
HUMCSFGMA HUMAN GRANULOCYTE-MACROPHAGE COLONY-STIMULATING FACTOR (HGM-CSF)
HUMCTHD HUMAN CATHEPSIN D MRNA, COMPLETE CDS. 2036BP
HUMCYP1A6 HUMAN CYTOCHROME P-1-450 (TCDD-INDUCIBLE) MRNA, COMPLETE CDS.
HUMCYP450 HUMAN GENE FOR CYTOCHROME P(1)-450. 8028BP
HUMCYPA7 HUMAN CYTOCHROME P-450 4 GENE, EXON 7, AND THREE ALU REPEATS IN
HUMCYPC17 HUMAN CYTOCHROME P450C17 (STEROID 17-ALPHA-HYDROXYLASE/17,20 1736BP
HUMCYPHLP HUMAN LIVER GLUCOCORTICOID-INDUCIBLE CYTOCHROME P-450 (HLP) MRNA,
HUMCYPNO HUMAN CYTOCHROME P-450 NIFEDIPINE OXIDASE MRNA, COMPLET CDS. 2036BP
HUMCYPSCC HUMAN CHOLESTEROL SIDE-CHAIN CLEAVAGE ENZYME P450SCC MRNA, COMPLETE
HUMDBP HUMAN SERUM VITAMIN D-BINDING PROTEIN (HDBP) MRNA, COMPLETE CDS.
HUMECGFB HUMAN BETA-ENDOTHELIAL CELL GROWTH FACTOR (ECGF-BETA) MRNA, 638BP
HUMEF1AR HUMAN MRNA FOR ELONGATION FACTOR 1 ALPHA SUBUNIT (EF-1 ALPHA).
HUMEGFRN HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR MRNA, COMPLETE CDS. 5532BP
HUMEGFRS HUMAN ABERRANT (SHORT) EPIDERMAL GROWTH FACTOR RECEPTOR MRNA,
HUMEIF2A HUMAN TRANSLATIONAL INITIATION FACTOR (EIF-2), ALPHA SUBUNIT MRNA,
HUMENK2 HUMAN ENKEPHALIN GENE: EXON 3 AND 3' FLANK. 1064BP
HUMENKB4 HUMAN PREPROENKEPHALIN B, EXON 4. 2275BP
HUMENOA HUMAN ALPHA ENOLASE MRNA, COMPLETE CDS. 1756BP
HUMEPAR HUMAN MRNA FOR EPA GLYCOPROTEIN (ERYTHROID-POTENTIATING ACTIVITY).
HUMERMCF HUMAN ESTROGEN RECEPTOR MRNA, COMPLETE CDS. 2092BP
HUMERP HUMAN ERYTHROPOIETIN GENE, COMPLETE CDS. 3398BP
HUMERPA HUMAN ERYTHROPOIETIN GENE, COMPLETE CDS. 3802BP
HUMESTR HUMAN ESTROGEN RECEPTOR MRNA, COMPLETE CDS. 6450BP
HUMFABPL HUMAN LIVER FATTY ACID BINDING PROTEIN (FABP) MRNA, COMPLETE CDS.
HUMFBRAA HUMAN FIBRINOGEN A-ALPHA-CHAIN MRNA, COMPLETE CDS. 2223BP
HUMFBRG HUMAN FIBRINOGEN GAMMA CHAIN AND GAMMA-PRIME CHAIN GENES. 10564BP
HUMFCER HUMAN FC-EPSILON RECEPTOR (IGE RECEPTOR) MRNA, COMPLETE CDS (H107
HUMFCERA HUMAN FC-EPSILON RECEPTOR CD23 ANTIGEN (IGE RECEPTOR) MRNA 1503BP
HUMFCI HUMAN FIBROBLAST COLLAGENASE INHIBITOR MRNA, COMPLETE CDS. 766BP
HUMFERG2 HUMAN APOFERRITIN H GENE EXONS 2-4. 1132BP
HUMFERH HUMAN FERRITIN H CHAIN MRNA, COMPLETE CDS. 790BP
HUMFERHC2 HUMAN FERRITIN HEAVY-CHAIN GENE, EXONS 2, 3 AND 4. 996BP
HUMFERL HUMAN FERRITIN L CHAIN MRNA, COMPLETE CDS. 823BP
HUMFERLS HUMAN FERRITIN LIGHT SUBUNIT MRNA, COMPLETE CDS. 723BP
HUMFIX HUMAN FACTOR IX (CHRISTMAS FACTOR) MRNA, COMPLETE CODING SEQUENCE
HUMFIXA HUMAN FACTOR IX (CHRISTMAS FACTOR) MRNA, COMPLETE CODING SEQUENCE.
HUMFIXG HUMAN FACTOR IX GENE, COMPLETE CDS. 38059BP
HUMFIXG4 HUMAN FACTOR IX GENE, EXONS 7 AND 8. 3121BP
HUMFOL5 HUMAN DIHYDROFOLATE REDUCTASE GENE, EXON 6 AND 3' FLANK. 3464BP
HUMFOLA5 HUMAN DIHYDROFOLATE REDUCTASE GENE (DHFR), EXON 6. 372BP
HUMFOLMES HUMAN DIHYDROFOLATE REDUCTASE GENE. 979BP
HUMFOLPD1 HUMAN DIHYDROFOLATE REDUCTASE PSEUDOGENE (PSI-HD1). 964BP
HUMFOS HUMAN FOS PROTO-ONCOGENE (C-FOS), COMPLETE CDS. 4165BP
HUMFTRRA HUMAN TRANSFERRIN RECEPTOR MRNA, COMPLETE CDS. 5010BP
HUMFVII HUMAN FACTOR VII (PRECURSOR OF SERINE PROTEASE) MRNA, COMPLETE CDS.
HUMFVIII HUMAN COAGULATION FACTOR VIII:C (ANTI-HEMOPHILIC FACTOR) MRNA.
HUMFVIIIB HUMAN FACTOR VIII MRNA. 8967BP
HUMFVIIIC HUMAN COAGULATION FACTOR VIII:C MRNA, COMPLETE CDS. 9029BP
HUMFX8 HUMAN FACTOR X (BLOOD COAGULATION FACTOR) GENE, EXON 8. 624BP
HUMFXI HUMAN FACTOR XI (BLOOD COAGULATION FACTOR) MRNA, COMPLETE CDS.
HUMFXIIIA HUMAN PLACENTAL FXIIIA MRNA, COMPLETE CDS. 3816BP
HUMG3PD HUMAN GLYCERALDEHYDE-3-PHOSPHATE DEHYDROGENASE MRNA, COMPLETE CDS.
HUMG3PDA HUMAN GLYCERALDEHYDE-3-PHOSHATE DEHYDROGENASE MRNA, COMPLETE CDS.
HUMG3PDC HUMAN GLYCERALDEHYDE 3-PHOSPHATE DEHYDROGENASE MRNA. 1204BP
HUMG6PDR HUMAN MRNA FOR GLUCOSE-6-PHOSPHATE DEHYDROGENASE (G6PD). 2624BP
HUMGAST HUMAN GASTRIN GENE, COMPLETE CDS. 829BP
HUMGAST2 HUMAN GASTRIN GENE, COMPLETE CODING SEQUENCE. 1217BP
HUMGC HUMAN GROUP-SPECIFIC COMPONENT VITAMIN D-BINDING PROTEIN MRNA,
HUMGCB HUMAN GLUCOCEREBROSIDASE MRNA. 2227BP
HUMGCBL HUMAN LYSOSOMAL GLUCOCEREBROSIDASE MRNA, COMPLETE CDS. 1792BP
HUMGCRA HUMAN GLUCOCORTICOID RECEPTOR ALPHA MRNA, COMPLETE CDS. 4788BP
HUMGCRB HUMAN GLUCOCORTICOID RECEPTOR BETA MRNA, COMPLETE CDS. 3791BP
HUMGCSFG HUMAN GENE FOR GRANULOCYTE COLONY-STIMULATING FACTOR (G-CSF).
HUMGCSFR HUMAN MRNA FOR GRANULOCYTE COLONY-STIMULATING FACTOR (G-CSF)
HUMGCSFR1 HUMAN MRNA FOR GRANULOCYTE COLONY-STIMULATING FACTOR (G-CSF) 1498BP
HUMGF2 HUMAN PREPROINSULIN-LIKE GROWTH FACTOR II (IGF-II) MRNA, COMPLETE
HUMGF24 HUMAN INSULIN-LIKE GROWTH FACTOR (IGF-II) GENE, EXON 4 OF 4. 674BP
HUMGFIAB5 HUMAN INSULIN-LIKE GROWTH FACTOR (IGF-I) IA GENE, EXON 4. 989BP
HUMGFIB HUMAN INSULIN-LIKE GROWTH FACTOR IB (IGF-IB) CDNA TO MRNA. 1094BP
HUMGG HUMAN PREPROGLUCAGON GENE, COMPLETE CODING SEQUENCE. 8455BP
HUMGH HUMAN GROWTH HORMONE (HGH; SOMATOTROPIN) GENE, COMPLETE CDS. 1964BP
HUMGHN HUMAN GROWTH HORMONE GENE (HGH-N), COMPLETE CDS. 2657BP
HUMGHV HUMAN GROWTH HORMONE VARIANT (HGH-V) GENE AND FLANKS. 2660BP
HUMGLUTRN HUMAN (HEPG2) GLUCOSE TRANSPORTER GENE MRNA, COMPLETE CDS. 2856BP
HUMGLYCA4 HUMAN GLYCOPROTEIN, ALPHA-SUBUNIT GENE: EXON 4 AND FLANKS. 397BP
HUMGLYPL HUMAN LIVER GLYCOGEN PHOSPHORYLASE MRNA, COMPLETE CDS. 2828BP
HUMGP3A HUMAN ENDOTHELIAL MEMBRANE GLYCOPROTEIN IIIA (GPIIIA) MRNA, 3170BP
HUMGRFP5 HUMAN GROWTH HORMONE-RELEASING FACTOR (GRF) GENE, EXON 5. 296BP
HUMGRP5E HUMAN GASTRIN-RELEASING PEPTIDE PARTIAL 5' REGION. 797BP
HUMHBA1 HUMAN ALPHA GLOBIN GENE CLUSTER ON CHROMOSOME 16: ZETA GENE. 2585BP
HUMHBA2 HUMAN ALPHA GLOBIN REGION ON CHROMOSOME 16: PSI-ALPHA-1, ALPHA-2
HUMHBB HUMAN BETA GLOBIN REGION ON CHROMOSOME 11. 73360BP
HUMHIS10G HUMAN GENE FOR HISTONE H1(0). 1810BP
HUMHLADZA HUMAN HLA CLASS II ALPHA CHAIN GENE DZ-ALPHA. 5691BP
HUMHLDOBR HUMAN MRNA FOR HLA-D CLASS II ANTIGEN DO BETA CHAIN. 1322BP
HUMHLDPWB HUMAN MRNA FOR HLA-D CLASS II ANTIGEN DPW2 BETA CHAIN. 1081BP
HUMHLDOWB HUMAN MRNA FOR HLA-D CLASS II ANTIGEN DOW1.1 BETA CHAIN. 1216BP
HUMHLDR1B HUMAN MRNA FOR HLA-D CLASS II ANTIGEN DR1 BETA CHAIN. 1182BP
HUMHMG14 HUMAN NON-HISTONE CHROMOSOMAL PROTEIN HMG-14 MRNA, COMPLETE CDS.
HUMHMG17 HUMAN NON-HISTONE CHROMOSOMAL PROTEIN HMG-17 MRNA, COMPLETE CDS.
HUMHMGCOA HUMAN 3-HYDROXY-3-METHYLGLUTARYL COENZYME A REDUCTASE MRNA, 2904BP
HUMHPA1B HUMAN HAPTOGLOBIN ALPHA(1S)-BETA PRECURSOR, MRNA. 1234BP
HUMHPA1S HUMAN HAPTOGLOBIN ALPHA-1S (HPA-1S) MRNA, COMPLETE CDS. 1222BP
HUMHPA2B HUMAN HAPTOGLOBIN ALPHA(2FS)-BETA PRECURSOR, MRNA. 1411BP
HUMHPAR51 HUMAN HAPTOGLOBIN GENE (ALPHA-2 ALLELE), COMPLETE CDS AND 1156BP
HUMHPRT HUMAN HYPOXANTHINE PHOSPHORIBOSYLTRANSFERASE (HPRT) MRNA. 1331BP
HUMIFN15K HUMAN INTERFERON-INDUCED 15-KDA PROTEIN MRNA, COMPLETE CDS. 635BP
HUMIFNA01 HUMAN INTERFERON ALPHA GENE IFN-ALPHA 16, COMPLETE CDS. 1133BP
HUMIFNA03 HUMAN INTERFERON ALPHA GENE IFN-ALPHA 7. 1983BP
HUMIFNA04 HUMAN INTERFERON ALPHA GENE IFN-ALPHA 4B. 2022BP
HUMIFNA20 HUMAN LYMPHOCYTE PREINTERFERON ALPHA TYPE 201. 1238BP
HUMIFNA HUMAN LEUKOCYTE INTERFERON (LEIF) ALPHA-A GENE. 1733BP
HUMIFNAB HUMAN LEUKOCYTE INTERFERON (IFN-ALPHA) ALPHA-B MRNA. 1041BP
HUMIFNAC HUMAN LEUKOCYTE INTERFERON (IFN-ALPHA) ALPHA-C MRNA. 963BP
HUMIFNAD HUMAN LEUKOCYTE INTERFERON (IFN-ALPHA) ALPHA-D GENE. 1179BP
HUMIFNAF HUMAN LEUKOCYTE INTERFERON (IFN-ALPHA) ALPHA-F MRNA. 945BP
HUMIFNAFM HUMAN LEUKOCYTIC INTERFERON ALPHA-F (IFN-ALPHA-F) MRNA, COMPLETE
HUMIFNAG5 HUMAN LEUKOCYTE INTERFERON (IFN-ALPHA), J, L & M GENES. 9937BP
HUMIFNAH HUMAN LEUKOCYTE INTERFERON (IFN-ALPHA) ALPHA-H MRNA. 985BP
HUMIFNAH2 HUMAN LEUKOCYTE INTERFERON (IFN-ALPHA) ALPHA-H2 GENE. 1612BP
HUMIFNAI HUMAN LEUKOCYTE INTERFERON (IFN-ALPHA) ALPHA-I GENE. 1873BP
HUMIFNAN HUMAN LEUKOCYTIC INTERFERON ALPHA-N (IFN-ALPHA-N) MRNA, COMPLETE
HUMIFNATA HUMAN INTERFERON ALPHA GENE IFN-ALPHA 14, COMPLETE CDS. 1128BP
HUMIFNATB HUMAN INTERFERON ALPHA GENE IFN-ALPHA 6, COMPLETE CDS. 1544BP
HUMIFNATC HUMAN INTERFERON ALPHA GENE IFN-ALPHA 5, COMPLETE CDS. 1475BP
HUMIFNATD HUMAN INTERFERON ALPHA GENE IFN-ALPHA 8. 833BP
HUMIFNAWA HUMAN INTERFERON-ALPHA-WA GENE, COMPLETE CODING SEQUENCE. 585BP
HUMIFNB1F HUMAN FIBROBLAST INTERFERON (IFN-BETA-1) GENE AND FLANKS. 1835BP
HUMIFNB2 HUMAN BETA-2 INTERFERON MRNA, COMPLETE CDS. 1128BP
HUMIFNG HUMAN IMMUNE INTERFERON (IFN-GAMMA) GENE AND FLANKS. 8961BP
HUMIGHAE2 HUMAN IG ACTIVE HEAVY CHAIN EPSILON-1 GENE, CONSTANT REGION. 1920BP
HUMIL1 HUMAN MONOCYTE INTERLEUKIN 1 (IL-1) MRNA, COMPLETE CDS. 1496BP
HUMIL1BR HUMAN MRNA FOR INTERLEUKIN 1 BETA. 1124BP
HUMIL1P HUMAN INTERLEUKIN-1 (IL-1) MRNA, COMPLETE CDS. 2027BP
HUMIL2 HUMAN INTERLEUKIN 2 (IL-2) GENE, COMPLETE CODING SEQUENCE. 5737BP
HUMIL2A HUMAN INTERLEUKIN 2 (IL-2) GENE, COMPLETE CDS, AND FLANKING 8884BP
HUMIL2B HUMAN INTERLEUKIN-2 (IL-2) GENE, COMPLETE. 5661BP
HUMIL2R8 HUMAN INTERLEUKIN-2 RECEPTOR GENE, EXON 8 AND FLANKS. 1496BP
HUMIL2RA HUMAN INTERLEUKIN-2 RECEPTOR MRNA (LONG FORM), COMPLETE CDS. 2329BP
HUMIL2RX8 HUMAN INTERLEUKIN 2 RECEPTOR GENE, EXON 8. 584BP
HUMIL2S3 HUMAN INTERLEUKIN 2 (IL2) GENE, EXON 4. 656BP
HUMIL3 HUMAN INTERLEUKIN 3 (IL-3) MRNA, COMPLETE CDS. 674BP
HUMIL4 HUMAN INTERLEUKIN 4 (IL-4) MRNA, COMPLETE CDS. 614BP
HUMINFAIF HUMAN INTERFERON-ALPHA TYPE I MRNA, COMPLETE CDS. 980BP
HUMINHA HUMAN INHIBIN A-SUBUNIT MRNA, COMPLETE CDS. 1338BP

HUMINS1 HUMAN INSULIN GENE INCLUDING 5' AND 3' FLANKS. 4044BP
HUMINSPR HUMAN ALPHA-TYPE INSULIN GENE AND 5' FLANKING POLYMORPHIC REGION.
HUMINSR HUMAN INSULIN RECEPTOR MRNA, COMPLETE CDS. 4723BP
HUMINSRA HUMAN INSULIN RECEPTOR MRNA, COMPLETE CDS. 5179BP
HUMINT1G HUMAN INT-1 MAMMARY ONCOGENE. 4822BP
HUMISG2 HUMAN ISG-54K GENE (INTERFERON STIMULATED GENE) ENCODING A 54 KDA
HUMKEREP HUMAN 60 KD TYPE I EPIDERMAL KERATIN GENE, COMPLETE CDS. 5339BP
HUMKEREP9 HUMAN K9B (EPIDERMAL KERATIN, TYPE II) GENE, EXON 9. 806BP
HUMKININ10 HUMAN KININOGEN GENE, EXON 10, ENCODING BRADYKININ AND EXON 11.
HUMLACTAL HUMAN PRE-ALPHA-LACTALBUMIN MRNA. 701BP
HUMLAMC HUMAN LAMININ C MRNA, COMPLETE CDS. 1963BP
HUMLCAT HUMAN LECITHIN-CHOLESTEROL ACYLTRANSFERASE MRNA, COMPLETE CDS.
HUMLDHA HUMAN LACTATE DEHYDROGENASE-A ISOZYME MRNA, COMPLETE CDS. 1661BP
HUMLDHA7 HUMAN LACTATE DEHYDROGENASE-A GENE, EXON 7. 932BP
HUMLDLR18 HUMAN LOW DENSITY LIPOPROTEIN RECEPTOR GENE, EXON 18. 2560BP
HUMLHB HUMAN LUTEINIZING HORMONE (LH) GENE, BETA-SUBUNIT. 1662BP
HUMLHRH HUMAN LUTEINIZING HORMONE RELEASING HORMONE (LHRH) MRNA, COMPLETE
HUMLT HUMAN LYMPHOTOXIN MRNA, COMPLETE CDS. 1324BP
HUMMA5 HUMAN MAS PROTO-ONCOGENE MRNA, COMPLETE CDS. 1386BP
HUMMET2 HUMAN METALLOTHIONEIN-II GENE (MT-II) AND FLANKS. 1703BP
HUMMET2PS HUMAN METALLOTHIONEIN-II PSEUDOGENE (MT-IIPS). 807BP
HUMMETIA HUMAN METALLOTHIONEIN-I-A GENE, COMPLETE CODING SEQUENCE. 2941BP
HUMMETIE HUMAN METALLOTHIONEIN-IE GENE (HMT-IE). 1763BP
HUMMETIF HUMAN METALLOTHIONEIN-IF GENE (HMT-IF). 1935BP
HUMMETIFI HUMAN METALLOTHIONEIN (MTI)-F GENE, COMPLETE CDS. 2076BP
HUMMG3 HUMAN MYOGLOBIN GENE, COMPLETE CDS, EXON 3. 1226BP
HUMMH HUMAN CLASS I TRANSPLANTATION ANTIGEN (HLA) GENE. 4123BP
HUMMHA2 HUMAN MHC CLASS I HLA-A2 GENE. 4000BP
HUMMHA3 HUMAN MHC CLASS I HLA-A3 GENE. 3717BP
HUMMHCP42 HUMAN STEROID 21-HYDROXYLASE [P-450(C21)] B GENE, COMPLETE CDS.
HUMMHCP52 HUMAN STEROID 21-HYDROXYLASE B GENE, COMPLETE CDS. 3422BP
HUMMHCW3 HUMAN MHC CLASS I HLA-CW3 GENE. 3714BP
HUMMHDC1A HUMAN MHC CLASS II HLA-DC1-ALPHA GENE (DRW6,W8). 1116BP
HUMMHDC3B HUMAN MHC CLASS II HLA-DC-3-BETA GENE (DR3,3). 8090BP
HUMMHDCAM HUMAN CLASS II HISTOCOMPATIBILITY ANTIGEN DC-ALPHA CHAIN MRNA.
HUMMHDCB HUMAN MHC CLASS II HLA-DC-BETA GENE (DW4/DR4) AND FLANKS. 7272BP
HUMMHDR6B HUMAN MHC CLASS II HLA DR6 DR-BETA-CHAIN MRNA, COMPLETE CDS. 1097BP
HUMMHDRA HUMAN HLA-DR ANTIGEN ALPHA-CHAIN MRNA & IVS FRAGMENTS. 1199BP
HUMMHDRAM HUMAN HLA-DR ALPHA-CHAIN MRNA. 1183BP
HUMMHDRBA HUMAN MHC CLASS II DR-BETA-CHAIN MRNA (DR3,W8), CLONE BETA-4,
HUMMHDRBB HUMAN MHC CLASS II DR-BETA-CHAIN MRNA (DR3,W8), CLONE BETA-3,
HUMMHDRBC HUMAN MHC HLA CLASS II DR-BETA-1 (DW14) MRNA. 1181BP
HUMMHDRC HUMAN HLA-DR ANTIGEN BETA-1 MRNA. 1153BP
HUMMHDRHA HUMAN MHC CLASS II ANTIGEN, HLA-DR ALPHA HEAVY CHAIN, COMPLETE CDS.
HUMMHDRS2 HUMAN HLA-DR ALPHA,CHAIN-P34) GENE, EXONS 2, 3, 4 AND 5.
HUMMHDSA HUMAN HLA-DS ALPHA-CHAIN MRNA. 907BP
HUMMHDXA4 HUMAN MHC CLASS II HLA-DX-ALPHA GENE (DR4,W8), EXON 4. 232BP
HUMMHGM HUMAN MAJOR HISTOCOMPATIBILITY CLASS II ANTIGEN GAMMA CHAIN, MRNA.
HUMMIS HUMAN MULLERIAN INHIBITING SUBSTANCE GENE, COMPLETE CDS. 3100BP
HUMMYCBL4 HUMAN (BL22) TRANSLOCATED T(8;14) C-MYC ONCOGENE, EXON 3 AND 1601BP
HUMMYCC HUMAN (LAWN) C-MYC PROTO-ONCOGENE, COMPLETE CODING SEQUENCE 8082BP
HUMMYCDT HUMAN (DAUDI) TRANSLOCATED T(8;14) C-MYC ONCOGENE MRNA, COMPLETE
HUMMYCE3 HUMAN (ADAMS) C-MYC PROTO-ONCOGENE, EXON 3 AND FLANKS. 579BP
HUMMYCF2 HUMAN FETAL LIVER C-MYC PROTO-ONCOGENE, EXON 3 AND FLANKS. 1004BP
HUMMYCG3 HUMAN (GH) GERMLINE C-MYC PROTO-ONCOGENE, EXON 3 AND 3' FLANK.
HUMMYCM HUMAN (K562) C-MYC PROTO-ONCOGENE, MRNA. 2121BP
HUMMYCPOB HUMAN C-MYC-P64 MRNA, INITIATING FROM PROMOTER P0, (HLMYC3.1)
HUMMYCRT HUMAN (RAJI) TRANSLOCATED T(8;14) C-MYC ONCOGENE, COMPLETE CDS.
HUMMYP HUMAN MYELOPEROXIDASE MRNA, COMPLETE CDS. 2546BP
HUMMLX HUMAN NEUROLEUKIN MRNA, COMPLETE CDS. 1397BP
HUMNPY HUMAN NEUROPEPTIDE Y (NPY) PRECURSOR MRNA. 561BP
HUMNRASR HUMAN N-RAS MRNA AND FLANKING REGIONS. 2436BP
HUMOAS07 HUMAN (2'-5') OLIGO A SYNTHETASE E GENE, EXON 7 AND FLANKS. 430BP
HUMOAT HUMAN ORNITHINE AMINOTRANSFERASE MRNA, COMPLETE CDS. 2013BP
HUMOPS HUMAN OPSIN GENE, COMPLETE CDS. 9653BP
HUMOTC HUMAN ORNITHINE TRANSCARBAMYLASE (OTC) MRNA, COMPLETE CODING 1464BP
HUMOTNPI HUMAN PREPRO-OXYTOCIN-NEUROPHYSIN I GENE, COMPLETE CDS. 1338BP
HUMP33 HUMAN HLA-DR ANTIGEN-ASSOCIATED INVARIANT CHAIN (P33) MRNA 1306BP
HUMP5311 HUMAN CELLULAR PHOSPHOPROTEIN P53 GENE, EXON 11. 1298BP
HUMP53C HUMAN P53 CELLULAR TUMOR ANTIGEN MRNA, COMPLETE CDS. 1317BP
HUMP53T HUMAN P53 CELLULAR TUMOR ANTIGEN MRNA, COMPLETE CDS. 1790BP
HUMP971 HUMAN MELANOMA-ASSOCIATED ANTIGEN P97 (MELANOTRANSFERRIN) MRNA,
HUMPAI2 HUMAN PLACENTAL PLASMINOGEN ACTIVATOR INHIBITOR MRNA, COMPLETE CDS.
HUMPAB2 HUMAN GLYCOPHORIN C (PAS-2) MRNA, COMPLETE CDS. 363BP
HUMPGK2 HUMAN PHOSPHOGLYCERATE KINASE (PGK) MRNA, EXONS 2 TO LAST. 1623BP
HUMPGKXA11 HUMAN X-LINKED PHOSPHOGLYCERATE KINASE GENE, EXON 11. 805BP
HUMPHH HUMAN PHENYLALANINE HYDROXYLASE MRNA, COMPLETE CDS. 2429BP
HUMPKB HUMAN BETA TYPE PROTEIN KINASE C MRNA, COMPLETE CDS. 2965BP
HUMPLA HUMAN PLACENTAL LACTOGEN HORMONE: HPL-3 GENE AND FLANKS. 2967BP
HUMPLB HUMAN PLACENTAL LACTOGEN HORMONE: HPL-4 MRNA. 798BP
HUMPNU HUMAN PURINE NUCLEOSIDE PHOSPHORYLASE (PNP) MRNA, COMPLETE CDS.
HUMPNU4 HUMAN PURINE NUCLEOSIDE PHOSPHORYLASE GENE, EXON 6. 319BP
HUMPOLB HUMAN POLYMERASE BETA MRNA, COMPLETE CDS. 1258BP
HUMPOMC HUMAN PROOPIOMELANOCORTIN (POMC) GENE, COMPLETE CDS. 8654BP
HUMPOMC9 HUMAN PROOPIOMELANOCORTIN (POMC) GENE, EXON 3. 1230BP
HUMPPP HUMAN PANCREATIC POLYPEPTIDE (PP) AND ICOBAPEPTIDE PRECURSOR MRNA,
HUMPRC7 HUMAN PROTEIN C GENE, EXON 9 OF 9. 1259BP
HUMPRCA HUMAN PROTEIN C GENE, COMPLETE CDS. 1172SBP
HUMPRCM HUMAN PROTEIN C MRNA, COMPLETE CDS. 1843BP
HUMPRL HUMAN PREPROLACTIN (PRL) MRNA. 833BP
HUMPRL7 HUMAN PROLACTIN GENE, EXON 5. 776BP
HUMPRP HUMAN PRION PROTEIN (PRP) MRNA, COMPLETE CDS. 2415BP
HUMPRPA HUMAN PRH2 LOCUS SALIVARY PROLINE-RICH PROTEIN MRNA (PR1 ALLELE).
HUMPRPB HUMAN PRH1 LOCUS SALIVARY PROLINE-RICH PROTEIN MRNA (PIF ALLELE).
HUMPRPC HUMAN PRB1 LOCUS SALIVARY PROLINE-RICH PROTEIN MRNA, CLONE CP3,
HUMPRPD HUMAN PRB1 LOCUS SALIVARY PROLINE-RICH PROTEIN MRNA, CLONE CP4,
HUMPRPE HUMAN PRB1 LOCUS SALIVARY PROLINE-RICH PROTEIN MRNA, CLONE CP5,
HUMPRPF HUMAN PRB4 LOCUS SALIVARY PROLINE-RICH PROTEIN MRNA, COMPLETE CDS.
HUMPRPH1 HUMAN PRH1 GENE (HAEIII-TYPE SUBFAMILY; ALLELE PRH1-4) ENCODING
HUMPRPH2 HUMAN PRH2 GENE (HAEIII-TYPE SUBFAMILY; ALLELE PRH2-1) ENCODING
HUMPS2 HUMAN PS2 MRNA, COMPLETE CDS, FROM BREAST BREAST CANCER CELL LINE
HUMPSPA HUMAN PULMONARY SURFACTANT-ASSOCIATED PROTEIN MRNA, COMPLETE CDS.
HUMPSPB HUMAN PULMONARY SURFACTANT-ASSOCIATED PROTEIN MRNA, COMPLETE CDS.
HUMPSPBA HUMAN PULMONARY SURFACTANT ASSOCIATED PROTEIN PSP-B MRNA. 2026BP
HUMPTH2 HUMAN PARATHYROID (PTH) GENE: CODING REGION AND 3'FLANK. 1156BP
HUMRAFR HUMAN MRNA FOR RAF ONCOGENE. 2977BP
HUMRASH HUMAN C-H-RAS1 PROTO-ONCOGENE, COMPLETE CODING SEQUENCE. 6463BP
HUMRASK35 HUMAN CELLULAR PROTO-ONCOGENE C-KI-RAS2, EXON 4A AND FLANKS. 846BP
HUMRASN04 HUMAN N-RAS PROTO-ONCOGENE, EXON 4. 127BP
HUMRASN4 HUMAN CELLULAR N-RAS PROTO-ONCOGENE, EXON 4. 120BP
HUMRBP HUMAN RETINOL BINDING PROTEIN (RBP) MRNA, COMPLETE CDS. 882BP
HUMRELH2 HUMAN PREPRORELAXIN H2 MRNA, COMPLETE CDS. 566BP
HUMREN10 HUMAN RENIN GENE, EXON 10. 503BP
HUMRENAS HUMAN RENIN GENE, EXON 10. 763BP
HUMRPL32 HUMAN MRNA FOR RIBOSOMAL PROTEIN L32. 505BP
HUMRPS14 HUMAN RIBOSOMAL PROTEIN S14 GENE, COMPLETE CDS. 5995BP
HUMRPS17 HUMAN RIBOSOMAL PROTEIN S17 MRNA, COMPLETE CDS. 477BP
HUMSB2BR HUMAN MRNA FOR HLA CLASS II ANTIGEN SB 2-BETA CHAIN. 1079BP
HUMSB3B4 HUMAN GENE FOR HLA CLASS II SB-3 BETA CHAIN (EXON 4-6). 1152BP
HUMSB4B4 HUMAN GENE FOR HLA CLASS II SB-4 BETA CHAIN (EXON 4-6). 1152BP
HUMSI6A6 HUMAN C-SIS PROTO-ONCOGENE FOR PLATELET-DERIVED GROWTH FACTOR,
HUMSISM HUMAN C-SIS MRNA ENCODING PLATELET-DERIVED GROWTH FACTOR B CHAIN
HUMSISPDG HUMAN C-SIS/PLATELET-DERIVED GROWTH FACTOR 2 (SIS/PDGF2) MRNA,
HUMSOD HUMAN CU/ZN SUPEROXIDE DISMUTASE (SOD) MRNA, COMPLETE CDS. 874BP
HUMSOD1 HUMAN SUPEROXIDE DISMUTASE (SOD-1) MRNA, COMPLETE CDS. 590BP
HUMSOD5G HUMAN SUPEROXIDE DISMUTASE (SOD-1) GENE, EXON 5 AND FLANKS. 800BP
HUMSOM8 HUMAN SOMATOSTATIN I GENE AND FLANKS. 2867BP
HUMTB85 HUMAN BETA-TUBULIN GENE (6-BETA) WITH TEN ALU FAMILY MEMBERS.
HUMTBBM40 HUMAN BETA-TUBULIN GENE, CLONE M40. 5117BP
HUMTBG HUMAN THYROXINE-BINDING GLOBULIN MRNA, COMPLETE CDS. 1872BP
HUMTCAX3 HUMAN T-CELL RECEPTOR ACTIVE ALPHA-CHAIN MRNA FROM JM CELL LINE,
HUMTCBXA HUMAN T-CELL RECEPTOR ACTIVE BETA-CHAIN, MRNA FROM CELL LINE 1151BP
HUMTFRR HUMAN TRANSFERRIN RECEPTOR MRNA, COMPLETE CDS. 2826BP
HUMTGFAM HUMAN (CELL LINE 1027 F57) TRANSFORMING GROWTH FACTOR-ALPHA MRNA,
HUMTGFB HUMAN TRANSFORMING GROWTH FACTOR-BETA (TGF-BETA) MRNA, COMPLETE
HUMTHYMA HUMAN PROTHYMOSIN ALPHA MRNA, COMPLETE CDS. 1199BP
HUMTHYMAA HUMAN PROTHYMOSIN ALPHA MRNA, COMPLETE CDS. 490BP
HUMTHYS HUMAN THYMIDYLATE SYNTHASE MRNA. 1624BP
HUMTIMPR HUMAN MRNA FOR TISSUE INHIBITOR OF METALLOPROTEINASES (TIMP). 782BP
HUMTK HUMAN THYMIDINE KINASE MRNA, COMPLETE CDS. 1421BP
HUMTKRA HUMAN THYMIDINE KINASE GENE, COMPLETE CDS, WITH CLUSTERED ALU
HUMTNFA HUMAN TUMOR NECROSIS FACTOR GENE, COMPLETE CDS. 3633BP
HUMTNFB HUMAN LYMPHOTOXIN (TNF-BETA) GENE, COMPLETE CDS. 3037BP
HUMTPA HUMAN TISSUE PLASMINOGEN ACTIVATOR (T-PA) GENE, COMPLETE CDS.
HUMTPA14 HUMAN TISSUE-TYPE PLASMINOGEN ACTIVATOR (T-PA) GENE, EXON 14. 983BP
HUMTPAR HUMAN TISSUE-TYPE PLASMINOGEN ACTIVATOR (T-PA) MRNA LACKING FINGER
HUMTPI HUMAN TRIOSEPHOSPHATE ISOMERASE MRNA, COMPLETE CDS. 1835BP
HUMTROPA HUMAN FIBROBLAST MUSCLE-TYPE TROPOMYOSIN MRNA, COMPLETE CDS. 1044BP
HUMTSH2 HUMAN THYROTROPIN (THYROID STIMULATING HORMONE) BETA SUBUNIT GENE,
HUMTUBAG HUMAN ALPHA-TUBULIN GENE (6-ALPHA-1), COMPLETE CDS. 4067BP
HUMTUBAK HUMAN ALPHA-TUBULIN (FROM KERATINOCYTE CELLS) MRNA. 1594BP
HUMTUBBM HUMAN BETA-TUBULIN GENE, COMPLETE CDS. 3284BP
HUMUKM1 HUMAN PREPROUROKINASE MRNA, COMPLETE CDS. 1476BP
HUMUKPPE HUMAN PREPROUROKINASE MRNA. 1340BP
HUMUPAX HUMAN UPA GENE FOR UROKINASE-PLASMINOGEN ACTIVATOR. 7254BP
HUMUROD HUMAN UROPORPHYRINOGEN DECARBOXYLASE MRNA, COMPLETE CDS. 1197BP
HUMVIM HUMAN VIMENTIN GENE, COMPLETE CDS. 1749BP
HUMVIP6 HUMAN VASOACTIVE INTESTINAL POLYPEPTIDE (VIP) GENE, EXON 6. 123BP
HUMVIPHM6 HUMAN VASOACTIVE INTESTINAL PEPTIDE AND HISTIDINE-METHIONINE 106BP
HUMVIPMR4 HUMAN VASOACTIVE INTESTINAL POLYPEPTIDE (VIP) GENE, EXON 4. 114BP
HUMVPNP HUMAN PREPRO-8-ARGININE-VASOPRESSIN-NEUROPHYSIN II GENE, COMPLETE
HUMVPNPA HUMAN VASOPRESSIN-NEUROPHYSIN II MRNA, COMPLETE CDS. 592BP
HUMVTNSP HUMAN VITRONECTIN (S-PROTEIN) MRNA, COMPLETE CDS. 1582BP
MACINS MONKEY (M. FASCICULARIS) PREPROINSULIN MRNA. 392BP
MNKMETI MONKEY METALLOTHIONEIN I (MTI) MRNA. 333BP
MNKMETII MONKEY METALLOTHIONEIN II (MTII) MRNA. 323BP
ORANBA01 ORANGUTAN ADULT ALPHA-2-GLOBIN GENE. 956BP
ORANBA02 ORANGUTAN ADULT ALPHA-1-GLOBIN GENE. 946BP

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GPICASA GUINEA PIG CASEIN A MRNA, COMPLETE CDS. 1036BP
GPINB GUINEA PIG PREPROINSULIN GENE, 5' AND 3' FLANKS. 1472BP
GPILACTAL GUINEA PIG PRE-ALPHA-LACTALBUMIN MRNA. 766BP
HAMDES3 HAMSTER DESMIN GENE ENCODING THE INTERMEDIATE FILAMENT 1388BP
HAMDHR36 CHINESE HAMSTER DIHYDROFOLATE REDUCTASE GENE, CLONE A3-35. 1327BP
HAMDHR97 CHINESE HAMSTER DIHYDROFOLATE REDUCTASE GENE, CLONE MO19-97. 661BP
HAMEF2 HAMSTER ELONGATION FACTOR 2 MRNA, COMPLETE CDS. 2933BP
HAMGG SYRIAN HAMSTER PREPROGLUCAGON MRNA, COMPLETE CDS. 1118BP
HAMGSR CHINESE HAMSTER MRNA FOR GLUTAMINE SYNTHETASE 1421BP
HAMHMG14 HAMSTER 3-HYDROXY-3-METHYLGLUTARYL COENZYME A (HMG COA) 2483BP
HAMHMGC11 SYRIAN HAMSTER CYTOPLASMIC 3-HYDROXY-3-METHYLGLUTARYL COENZYME A
HAMHPRT CHINESE HAMSTER HPRT MRNA. 1302BP
HAMMETI CHINESE HAMSTER METALLOTHIONEIN I (MT-I) MRNA. 304BP
HAMMETII CHINESE HAMSTER METALLOTHIONEIN II (MT-II) MRNA. 349BP
HAMPRP SYRIAN GOLD HAMSTER SCRAPIE (PRION) PROTEIN PRP 27-30 MRNA. 1918BP
HAMPRP2 HAMSTER (SYRIAN GOLD) PRP GENE, COMPLETE CDS. 3002BP
HAMPRPH29 GOLDEN SYRIAN HAMSTER PRP GENE H29, ENCODING ACIDIC PROLINE-RICH
HAMRPS14 CHINESE HAMSTER OVARY (CHO) RIBOSOMAL PROTEIN S14 MRNA, COMPLETE
HAMRPS17 CHINESE HAMSTER (C.GRISEUS) RIBOSOMAL PROTEIN RPS17 MRNA, COMPLETE
HAMTK7 CHINESE HAMSTER THYMIDINE KINASE GENE, EXON 7. 996BP
HAMTUBAA CHINESE HAMSTER ALPHA-TUBULIN I MRNA, COMPLETE CDS. 1620BP
HAMTUBAAB CHINESE HAMSTER ALPHA-TUBULIN I MRNA, COMPLETE CDS. 1654BP
HAMTUBAC CHINESE HAMSTER ALPHA-TUBULIN III MRNA, COMPLETE CDS. 1578BP
HAMVIM7 HAMSTER VIMENTIN (INTERMEDIATE FILAMENT) GENE: EXON 9 AND FLANKS.
MUSACABA MOUSE SKELETAL ALPHA-ACTIN GENE, COMPLETE CDS. 4007BP
MUSACHRAR MOUSE MRNA FOR NEURAL NICOTINIC ACETYLCHOLINE RECEPTOR ALPHA 1932BP
MUSACHRB MOUSE ACETYLCHOLINE RECEPTOR BETA SUBUNIT MRNA, 2078BP
MUSACHRD MOUSE ACETYLCHOLINE RECEPTOR DELTA SUBUNIT MRNA, COMPLETE CDS.
MUSACSM MOUSE SKELETAL MUSCLE ACTIN MRNA, COMPLETE CDS. 1419BP
MUSACTBR MOUSE CYTOSKELETAL MRNA FOR BETA-ACTIN. 1992BP
MUSADAM MOUSE ADENOSINE DEAMINASE MRNA, COMPLETE CDS. 1379BP
MUSAFP MOUSE ALPHA-FETOPROTEIN (AFP) MRNA & GENE FLANKS. . 2076BP
MUSALBR MOUSE MRNA FOR PREALBUMIN. 614BP
MUSAMY1M MOUSE ALPHA-AMYLASE-1 MRNA WITHOUT LEADER. 1616BP
MUSAMY2M MOUSE ALPHA-AMYLASE-2 GENE: PANCREATIC MRNA. 1578BP
MUSANF MOUSE PND GENE ENCODING ATRIAL NATRIURETIC FACTOR, COMPLETE CDS.
MUSAPOVA MOUSE APOLIPOPROTEIN A-IV GENE, COMPLETE CDS. 3020BP
MUSASP MOUSE ADIPOCYTE SERINE PROTEASE GENE, COMPLETE CDS. 2749BP
MUSASPATC MOUSE CYTOSOLIC ASPARTATE AMINOTRANSFERASE ISOENZYME MRNA, 1965BP
MUSASPATM MOUSE MTOCHONDRIAL ASPARTATE AMINOTRANSFERASE ISOENZYME MRNA,
MUSATCL3T MOUSE T-CELL SURFACE ANTIGEN L3T4 MRNA, COMPLETE CDS. 1417BP
MUSATCT32 HUMAN T-CELL SURFACE ANTIGEN T3 DELTA-CHAIN GENE, EXONS 2,3,4 AND
MUSBANI23 MOUSE BAND 3 MRNA ENCODING AN ANION EXCHANGE INTEGRAL MEMBRANE
MUSBFIGE MOUSE IGE-BINDING FACTOR MRNA, COMPLETE CDS. 3305BP
MUSC32 MOUSE COMPLEMENT COMPONENT C3 GENE, 3' END. 300BP
MUSC3B MOUSE COMPLEMENT COMPONENT C3 MRNA, ALPHA AND BETA SUBUNITS, 5087BP
MUSCAIBM MOUSE CARBONIC ANHYDRASE ISOZYME II COMPLETE CODING AND 3' MRNA.
MUSCALP MOUSE CALPACTIN I HEAVY CHAIN (P36) MRNA, COMPLETE CDS. 1307BP
MUSCASK MOUSE KAPPA-CASEIN MRNA, COMPLETE CDS. 786BP
MUSCCPA MOUSE C11 MRNA ENCODING T-CELL SPECIFIC PROTEIN CCP1. 1334BP
MUSCKMRG MOUSE MUSCLE CREATINE KINASE MRNA (EC 2.7.3.2). 1415BP
MUSCMYBR MOUSE MYB PROTO-ONCOGENE MRNA FRAGMENT FOR C-MYB PROTEIN. 2785BP
MUSCMYC2 MOUSE C-MYC GENE EXON 3 AND 3' FLANK. 961BP
MUSCPR MOUSE CYSTEINE PROTEINASE MRNA, COMPLETE CDS. 1276BP
MUSCRIP MOUSE CYSTEINE-RICH INTESTINAL PROTEIN (CRIP) MRNA, COMPLETE CDS.
MUSCRYB2 MOUSE LENS BETA-CRYSTALLIN MRNA: EXONS 2,3 & 4. 580BP
MUSCRYG1 MOUSE GAMMA-CRYSTALLIN-1 MRNA, COMPLETE CDS. 999BP
MUSCRYG2 MOUSE GAMMA-CRYSTALLIN-2 MRNA, COMPLETE CDS. 904BP
MUSCRYG42 MOUSE GAMMA-CRYSTALLIN-4 GENE, EXON 3. 999BP
MUSCSFGMA MOUSE GRANULOCYTE-MACROPHAGE COLONY STIMULATING FACTOR (GM-CSF)
MUSCSFGMB MOUSE GRANULOCYTE-MACROPHAGE COLONY STIMULATING FACTOR (GM-CSF)
MUSCYC1MC MOUSE SOMATIC CYTOCHROME C GENE, COMPLETE CDS. 1995BP
MUSCYP1 45 MOUSE CYTOCHROME P1-450 MRNA, COMPLETE CODING SEQUENCE. 2819BP
MUSCYP14X MOUSE CYTOCHROME P-1-450 GENE, COMPLETE CDS. 8808BP
MUSCYP345 MOUSE CYTOCHROME P-3-450 GENE, COMPLETE CDS. 5885BP
MUSCYP34A MOUSE CYTOCHROME P3-450 MRNA, COMPLETE CODING SEQUENCE. 1893BP
MUSEGF MOUSE EPIDERMAL GROWTH FACTOR (EGF) MRNA. 4749BP
MUSEGFBPB MOUSE EPIDERMAL GROWTH FACTOR-BINDING PROTEIN TYPE B MRNA, 8398BP
MUSEIF4AL MOUSE INITIATION FACTOR EIF-4A LONG FORM MRNA, COMPLETE CDS. 1778BP
MUSEIF4AS MOUSE INITIATION FACTOR EIF-4A SHORT FORM MRNA, COMPLETE CDS.
MUSERP MOUSE ERYTHROPOIETIN GENE, COMPLETE. 3867BP
MUSFOL6 MOUSE DIHYDROFOLATE REDUCTASE GENE:EXON VI AND 3' END. 474BP

MUSFOS MOUSE C-FOS GENE; CELLULAR HOMOLOG TO VIRAL ONCOGENE. 3548BP
MUSGCSF MOUSE GRANULOCYTE COLONY-STIMULATING FACTOR (G-CSF) MRNA, COMPLETE
MUSGFAPD MOUSE GLIAL FIBRILLARY ACIDIC PROTEIN (GFAP) GENE. 9971BP
MUSGH MOUSE (BALB/C) GROWTH HORMONE (SOMATOTROPIN) MRNA, COMPLETE CDS.
MUSGI MOUSE INHIBITORY G PROTEIN OF ADENYLATE CYCLASE, ALPHA 1316BP
MUSGPD MOUSE GLYCEROL-3-PHOSPHATE DEHYDROGENASE GENE, COMPLETE CDS.
MUSGPDX MOUSE GLYCEROPHOSPHATE DEHYDROGENASE GENE, COMPLETE CDS. 6342BP
MUSGS MOUSE STIMULATORY G PROTEIN OF ADENYLATE CYCLASE, ALPHA 1493BP
MUSH MOUSE CRH LOCUS, PROTEIN H MRNA, COMPLETE CDS. 4300BP
MUSHBA MOUSE ALPHA-GLOBIN GENE WITH 2 IVS. 1441BP
MUSHBB0H0 MOUSE EARLY EMBRYONIC BETA-GLOBIN GENE BETA-H0,COMPL GENE & FLANKS.
MUSHBBH1 MOUSE EARLY EMBRYONIC BETA-GLOBIN GENE BETA-H1,COMPL GENE & FLANKS.
MUSHBBMAJ MOUSE BETA-GLOBIN MAJOR GENE. 1726BP
MUSHBBMIN MOUSE BETA-GLOBIN MINOR GENE. 1530BP
MUSHBBY2E MOUSE EMBRYONIC Y2 BETA-GLOBIN GENE AND FLANKS. 1671BP
MUSHIST4 MOUSE H4 STRUCTURAL HISTONE GENE AND FLANKS. 946BP
MUSHPTT MOUSE HYPOXANTHINE PHOSPHORIBOSYLTRANSFERASE(HPRT)MRNA. 1296BP
MUSHPRT9 MOUSE HYPOXANTHINE PHOSPHORIBOSYLTRANSFERASE GENE (EXON 9). 638BP
MUSIFIGG MOUSE MRNA FOR IGG1 INDUCTION FACTOR. 580BP
MUSIFNA1M MOUSE INTERFERON-ALPHA GENE, CLONE MUIFN-ALPHA-1. 1202BP
MUSIFNA2M MOUSE INTERFERON-ALPHA GENE, CLONE MUIFN-ALPHA-2. 901BP
MUSIFNA7 MOUSE INTERFERON ALPHA-7 GENE, COMPLETE CDS. 1187BP
MUSIFNB MOUSE INTERFERON-BETA MRNA. 776BP
MUSIFNG MOUSE IMMUNE INTERFERON (IFN-GAMMA) CDNA TO MRNA. 1192BP
MUSIGKAE MOUSE IG KAPPA UNPRODUCTIVELY REARRANGED GENE: MOPC173B V-J REGION.
MUSIGKAF3 MOUSE IG KAPPA ACTIVE GENE: V-T1 CONSTANT REGION. 3471BP
MUSIGKIBE MOUSE IG ABERRANTLY REARRANGED KAPPA-CHAIN V11-J1 GENE (V-KAPPA-21
MUSIGKIBF1 MOUSE IG ABERRANTLY REARRANGED KAPPA-CHAIN V10-J2 GENE (V-KAPPA-21
MUSIGLAA2 MOUSE IG LAMBDA1 ACTIVE GENE: CONSTANT REGION. 474BP
MUSIGLAC2 MOUSE IG LAMBDA2 ACTIVE GENE: CONSTANT REGION. 479BP
MUSIL1 MOUSE INTERLEUKIN-1 MRNA, COMPLETE CDS. 1974BP
MUSIL2 MOUSE (M. MUSCULUS) MURINE INTERLEUKIN-2 MRNA, COMPLETE. 939BP
MUSIL23 MOUSE INTERLEUKIN-2 GENE: EXON 4. 523BP
MUSIL2REC MOUSE INTERLEUKIN 2 RECEPTOR MRNA, COMPLETE CDS. 1300BP
MUSIL2T MOUSE INTERLEUKIN-2 MRNA, COMPLETE CDS. 825BP
MUSIL3 MOUSE INTERLEUKIN-3 GENE, COMPLETE CODING SEQUENCE. 629BP
MUSIL3B MOUSE INTERLEUKIN 3 GENE, COMPLETE CDS. 3140BP
MUSIL3C MOUSE INTERLEUKIN-3 GENE, COMPLETE CDS. 3450BP
MUSINT1 MOUSE INT-1 MAMMARY PROTO-ONCOGENE, COMPLETE CDS. 4511BP
MUSINT1M MOUSE INT-1 PROTO-ONCOGENE MRNA, COMPLETE CDS. 2230BP
MUSKER57R MOUSE MRNA FOR TYPE II 57 KD KERATIN. 2181BP
MUSKTCEB MOUSE ENDO B CYTOKERATIN MRNA, COMPLETE CDS. 1396BP
MUSKTEPI2 MOUSE KERATIN (EPIDERMAL) TYPE I INTERMEDIATE FILAMENT GENE, EXON5
MUSKTEPII MOUSE KERATIN (EPIDERMAL) TYPE II INTERMEDIATE FILAMENT SUBUNIT II, MRNA.
MUSLBP MOUSE ST3-L1 LIPID BINDING PROTEIN, COMPLETE MRNA. 614BP
MUSLBSPA MOUSE ADIPOCYTE LIPID BINDING PROTEIN GENE, COMPLETE CDS. 5212BP
MUSLDHA47 MOUSE LACTATE DEHYDROGENASE (LDH) A4 ISOZYME GENE, EXON 7. 863BP
MUSMAL MOUSE MALIC ENZYME (MALATE NADP OXIDOREDUCTASE) MRNA, COMPLETE CDS.
MUSMBP8 MOUSE MYELIN BASIC PROTEIN GENE, ENCODING 14 AND 18.5 KD PROTEINS,
MUSMBP72M MOUSE MYELIN BASIC PROTEIN MRNA, COMPLETE CDS, CLONE NK-M72. 199BP
MUSMBPA7 MOUSE MYELIN BASIC PROTEIN (MBP) GENE, EXON 7 (21.5 KD PROTEIN).
MUSMCGF MOUSE MAST CELL GROWTH FACTOR (MCGF) MRNA AND 5' FLANK (PARTIAL).
MUSMDR MOUSE MULTIDRUG RESISTANT PROTEIN MRNA, COMPLETE CDS. 4298BP
MUSMET1 MOUSE METALLOTHIONEIN-I GENE (MT-I). 1866BP
MUSMET2 MOUSE METALLOTHIONEIN II (MT-II) GENE. 1400BP
MUSMGB2 MOUSE BETA-2-MICROGLOBULIN MRNA, COMPLETE CDS. 647BP
MUSMHAB3 MOUSE MHC CLASS II H2-IA-BETA (HAPLOTYPE B) GENE, COMPLETE CDS.
MUSMHAB22 MOUSE MHC CLASS II H2-IA-BETA GENE (HAPLOTYPE D), EXONS 2-6. 4945BP
MUSMHCO3 MOUSE MAJOR HISTOCOMPATIBILITY CLASS I GENE O10: 3' END INTRON C.
MUSMHDD MOUSE MHC CLASS I H2-D TRANSPLANTATION ANTIGEN GENE (HAPLOTYPE D),
MUSMHEA2 MOUSE MHC CLASS II H2-IE-ALPHA GENE: EXONS 2-5. 3273BP
MUSMHEB4 MOUSE MHC CLASS II H2-IE-BETA GENE (HAPLOTYPE D), EXONS 4-6. 1321BP
MUSMHIAAD MOUSE MHC CLASS II H2-IA-ALPHA GENE (D HAPLOTYPE), MRNA. 978BP
MUSMHIAAK MOUSE MHC CLASS II H2-I-A-ALPHA GENE (K HAPLOTYPE), PARTIAL MRNA.
MUSMHIEAD MOUSE MHC CLASS II H2-IE-ALPHA GENE (HAPLOTYPE D). 5507BP
MUSMHKB2 MOUSE MHC CLASS I H2-K GENE (HAPLOTYPE B), EXONS 4-6. 1837BP
MUSMHKD MOUSE MHC CLASS I H2-K GENE (HAPLOTYPE D), MRNA COMPLETE CODING
MUSMHKDA MOUSE MHC CLASS I H2-K GENE (HAPLOTYPE D), COMPLETE CDS. 5141BP
MUSMHKDM MOUSE MHC CLASS I H2-K GENE (HAPLOTYPE D), MRNA, COMPLETE CODING
MUSMHKK MOUSE MHC CLASS I H2-K GENE (HAPLOTYPE K), COMPLETE CDS. 5478BP
MUSMHLDA3 MOUSE MHC CLASS I H2-L GENE (HAPLOTYPE D), CLONE 27.5, EXONS 4-8.
MUSMHO7G2 MOUSE MHC OA2 REGION O7 GENE FOR CLASS I ANTIGEN EXON 4-7. 1614BP
MUSMHO9G2 MOUSE MHC OA2 REGION O9 GENE FOR CLASS I ANTIGEN EXON 3-8. 1370BP
MUSMHTLAC MOUSE MHC CLASS I H2-TLA GENE 17.3.A (C HAPLOTYPE). 5360BP
MUSMLC135 MOUSE ALKALI MYOSIN LIGHT CHAINS, EXONS 6 AND 7 COMMON TO BOTH
MUSMK MOUSE FIN INDUCED MX PROTEIN MRNA, CONFERRING SELECTIVE RESISTANCE
MUSMYBM MOUSE MYB PROTO-ONCOGENE MRNA ENCODING 71 KD MYB PROTEIN, COMPLETE
MUSMYCNA MOUSE N-MYC PROTO-ONCOGENE, COMPLETE CDS. 7340BP
MUSNGFAG2 MOUSE GAMMA NERVE GROWTH FACTOR GENE, EXONS 2-5. 2560BP
MUSNGFAG4 MOUSE ALPHA-NERVE GROWTH FACTOR GENE, EXONS 2-5. 2508BP
MUSNGFB MOUSE BETA-NERVE GROWTH FACTOR (BETA-NGF) MRNA. 1164BP
MUSNGFG MOUSE NERVE GROWTH FACTOR GAMMA SUBUNIT MRNA, COMPLETE CDS. 849BP
MUSNLK MOUSE NEUROLEUKIN MRNA, COMPLETE CDS. 1996BP
MUSODC MOUSE ORNITHINE DECARBOXYLASE MRNA, COMPLETE CDS. 2450BP
MUSODCAB MOUSE ORNITHINE DECARBOXYLASE MRNA, COMPLETE CDS. 1936BP
MUSPP2AD4 MOUSE ADIPOCYTE P2 GENE, EXON 4. 298BP
MUSP53G11 MOUSE (BALB/C) CELLULAR TUMOR ANTIGEN P53 GENE, EXON 11. 562BP
MUSP53M MOUSE P53 CELLULAR TUMOR ANTIGEN, MRNA. 1772BP
MUSP53MR MOUSE P53 CELLULAR TUMOR ANTIGEN MRNA, COMPLETE CDS. 1377BP
MUSPC1B MOUSE PLASMA-CELL MEMBRANE GLYCOPROTEIN PC-1 MRNA, COMPLETE CDS.
MUSPHKG MOUSE SKELETAL MUSCLE PHOSPHORYLASE KINASE, GAMMA SUBUNIT MRNA.
MUSPIM1 MOUSE PIM-1 PROTO-ONCOGENE ENCODING PIM-1 PROTEIN KINASE, COMPLETE
MUSPKCD MOUSE CAMP-DEPENDENT PROTEIN KINASE CATALYTIC SUBUNIT MRNA, 2251BP
MUSPKICB MOUSE CAMP-DEPENDENT PROTEIN KINASE, BETA-CATALYTIC SUBUNIT 1272BP
MUSPLF2 MOUSE (BALB/C) PLACENTAL PROLIFERIN 2 MRNA, COMPLETE CDS. 856BP
MUSPLFM MOUSE PROLIFERIN MRNA, COMPLETE CDS. 796BP
MUSPOMC3 MOUSE PROOPIOMELANOCORTIN (POMC) GENE, EXON 3. 945BP
MUSPRLM MOUSE (BALB/C) PROLACTIN MRNA, COMPLETE CDS. 666BP
MUSPRLRP MOUSE PROLIFERIN-RELATED PROTEIN MRNA, COMPLETE CDS. 972BP
MUSPROHS MOUSE PROTAMINE 1 MRNA, COMPLETE CDS. 380BP
MUSPRP MOUSE PRION PROTEIN (PRP) MRNA, COMPLETE CDS. 2097BP
MUSPRPMPB MOUSE PRP GENE ENCODING PROLINE-RICH PROTEIN MP-2, COMPLETE CDS.
MUSPSP MOUSE PAROTID SECRETORY PROTEIN (PSP) MRNA, COMPLETE CDS. 867BP
MUSRENI19 MOUSE RENIN (REN 1) GENE COMPLETE CDS, EXON 9. 3969BP
MUSRENIN MOUSE RENIN MRNA. 1438BP
MUSRNR1M1 MOUSE RIBONUCLEOTIDE REDUCTASE SUBUNIT M1 MRNA, COMPLETE CDS.
MUSRPL30 MOUSE RIBOSOMAL PROTEIN L30 GENE, COMPLETE CDS. 3475BP
MUSRPL3A MOUSE RIBOSOMAL PROTEIN, GENE 3A CODING FOR L32. 3757BP
MUSRPOB2 MOUSE RNA POLYMERASE II LARGE SUBUNIT GENE, EXONS 2-28. 16416BP
MUSRPS16 MOUSE S16 RIBOSOMAL PROTEIN GENE, COMPLETE CDS. 2917BP
MUSRRP2 MOUSE ANDROGEN REGULATED GENE RP2, COMPLETE CDS, WITH A B1 2008BP
MUSSAA3G4 MOUSE GENE EXON 4 FOR SERUM AMYLOID A (SAA) 3 PROTEIN. 3108P
MUSSMGOP MOUSE INTRA-CELLULAR SUB-MAXILLARY GLAND GLYCOPROTEIN (PUTATIVE).
MUSSMGPP MOUSE SUB-MAXILLARY GLAND MRNA CODING FOR A PUTATIVE POLYPEPTIDE.
MUSSPTC5 MOUSE T CELL-SPECIFIC SERINE PROTEASE MRNA, COMPLETE CDS. 1939BP
MUSTCBXH MOUSE T-CELL RECEPTOR ACTIVE BETA-CHAIN MRNA (VDJ-BETA1.1-C) 1165BP
MUSTCGXA MOUSE T-CELL RECEPTOR ACTIVE GAMMA-CHAIN MRNA FROM CTL-2C CELL
MUSTCGXC MOUSE T-CELL RECEPTOR ACTIVE GAMMA-CHAIN MRNA FROM CTL-DR.12 CELL
MUSTCGXE MOUSE T-CELL RECEPTOR ACTIVE GAMMA-CHAIN V10.8B-J-C10.8 MRNA, FROM
MUSTHAEM MOUSE THYMIDYLATE SYNTHASE MRNA, COMPLETE CDS. 961BP
MUSTHY1G MOUSE GENE FOR THY-1 ANTIGEN. 2990BP
MUSTHYS7 MOUSE THYMIDYLATE SYNTHASE GENE, EXON 7. 474BP
MUSTNF MOUSE TUMOR NECROSIS FACTOR (TNF) MRNA, COMPLETE CDS. 1332BP
MUSTSHA MOUSE THYROTROPIN ALPHA SUBUNIT (TSH-ALPHA) MRNA. 840BP
MUSTUBA1M MOUSE ALPHA-TUBULIN ISOTYPE M-ALPHA-1 MRNA, COMPLETE CDS. 1593BP
MUSTUBA2M MOUSE ALPHA-TUBULIN ISOTYPE M-ALPHA-2 MRNA, COMPLETE CDS. 1574BP
MUSTUBA3M MOUSE ALPHA-TUBULIN ISOTYPE M-ALPHA-3 MRNA, COMPLETE CDS. 1462BP
MUSTUBA4M MOUSE ALPHA-TUBULIN ISOTYPE M-ALPHA-4 MRNA, COMPLETE CDS. 1442BP
MUSTUBA5M MOUSE ALPHA-TUBULIN ISOTYPE M-ALPHA-5 MRNA, COMPLETE CDS. 1495BP
MUSTUBA7M MOUSE ALPHA-TUBULIN ISOTYPE M-ALPHA-7 MRNA, COMPLETE CDS. 1434BP
MUSTYRR MOUSE MRNA FOR TYROSINASE (EC 1.14.18.1). 2823BP
MUSUPA MOUSE UROKINASE MRNA ENCODING UROKINASE-TYPE PLASMINOGEN ACTIVATOR.
MUSWAP MOUSE WHEY ACIDIC PROTEIN MRNA. 849BP
MUSWAF4 MOUSE WHEY ACIDIC PROTEIN GENE, EXON 4. 199BP
RATA2M RAT LIVER ALPHA-2-MACROGLOBULIN MRNA, COMPLETE CDS. 4696BP
RATABP RAT ANDROGEN BINDING PROTEIN MRNA. 1395BP
RATACCYB RAT CYTOPLASMIC BETA-ACTIN GENE, COMPLETE CDS. 4066BP
RATACOA1 RAT ACYL-COA OXIDASE MRNA, COMPLETE CDS. 3741BP
RATACSKA RAT SKELETAL MUSCLE ALPHA-ACTIN GENE, COMPLETE CDS. 3200BP
RATAGPA1 RAT ALPHA1-ACID GLYCOPROTEIN(AGP) GENE MRNA. 770BP
RATAGPA1G RAT (SPRAGUE-DAWLEY) ALPHA-1-ACID GLYCOPROTEIN (ALPHA-1-AGP) GENE,
RATAGPA1H RAT ALPHA-1-ACID GLYCOPROTEIN GENE, COMPLETE CDS. 4156BP
RATALAC RAT ALPHA-LACTALBUMIN MRNA, COMPLETE CDS. 3829BP
RATALAD RAT LIVER DELTA-AMINOLEVULINATE DEHYDRASE (ALAD) MRNA, COMPLETE
RATALB RAT ALBUMIN (TRANSTHYRETIN) MRNA, COMPLETE CDS. 596BP
RATALBM RAT SERUM ALBUMIN MRNA. 1966BP
RATALDA RAT ALDOLASE A MRNA, COMPLETE CDS. 1442BP
RATALDO9 RAT ALDOLASE B GENE EXON 9 AND 3' UNTRANSLATED REGION. 557BP
RATANF RAT PND GENE ENCODING ATRIAL NATRIURETIC FACTOR, COMPLETE CDS.
RATANG5 RAT ANGIOTENSINOGEN GENE, EXON 5. 617BP
RATANPG RAT GAMMA-ATRIAL NATRIURETIC PROTEIN MRNA, COMPLETE CDS. 782BP
RATAPOA01 RAT APOLIPOPROTEIN A-I GENE, COMPLETE CDS. 2424BP
RATAPOA02 RAT APOLIPOPROTEIN C-III GENE, COMPLETE CDS. 2509BP
RATAPOA03 RAT APOLIPOPROTEIN A-IV GENE, COMPLETE CDS. 2780BP
RATAPOAI RAT APOLIPOPROTEIN A-I (APOA-I) MRNA, COMPLETE CDS. 898BP
RATAPOAIV RAT APOLIPOPROTEIN A-IV MRNA, COMPLETE CDS. 1423BP
RATAPOEA RAT APOLIPOPROTEIN E GENE, COMPLETE CDS. 3030BP
RATATCOX8 RAT MRC OX-8 ANTIGEN MRNA (CYTOTOXIC T LYMPHOCYTE MARKER). 1010BP
RATATPA1 RAT Na+,K+-ATPASE ALPHA ISOFORM CATALYTIC SUBUNIT MRNA, COMPLETE
RATATPA2 RAT Na+,K+-ATPASE ALPHA(+) ISOFORM CATALYTIC SUBUNIT MRNA, 5105BP
RATATPA3 RAT Na+, K+-ATPASE ALPHA(III) ISOFORM CATALYTIC SUBUNIT MRNA,
RATATPAST RAT STOMACH (H+,K+)-ATPASE MRNA, COMPLETE CDS. 3615BP
RATBIP RAT IMMUNOGLOBULIN HEAVY CHAIN BINDING PROTEIN (BIP) MRNA, COMPLETE
RATCAL4 RAT CALCITONIN GENE, EXON 4 SPECIFIC FOR CALCITONIN. 534BP
RATCASB RAT BETA-CASEIN MRNA. 1114BP
RATCASB5 RAT BETA-CASEIN GENE, EXONS 7 AND 8. 1844BP
RATCASK RAT KAPPA-CASEIN MRNA, COMPLETE CDS. 795BP
RATCATL RAT LIVER CATALASE MRNA, COMPLETE CDS. 2495BP
RATCBXPA RAT CARBOXYPEPTIDASE-A: 5' GENE FLANK(DNA) AND MRNA. 1607BP
RATCCK RAT PREPROCHOLECYSTOKININ MRNA. 666BP
RATCCK3 RAT CHOLECYSTOKININ (CCK) GENE, EXON 3. 457BP
RATCCKR RAT BRAIN CHOLECYSTOKININ (CCK) MRNA. 709BP
RATCKM RAT SKELETAL MUSCLE CREATINE KINASE COMPOSITE MRNA, COMPLETE CDS.
RATCMOS RAT C-MOS ONCOGENE, COMPLETE. 1210BP
RATCPB13 RAT MITOCHONDRIAL CARBAMYL PHOSPHATE SYNTHETASE I GENE, EXON 13.
RATCPF RAT CORTICOTROPIN-RELEASING FACTOR (CRF) MRNA, COMPLETE CDS. 1196BP
RATCRYG RAT LENS GAMMA-CRYSTALLIN GENE, COMPLETE CDS. 3430BP
RATCRYGA RAT LENS GAMMA-CRYSTALLIN MRNA-A (PARTIAL), CLONE PRL-GAMMA-3.
RATCTRPB RAT CHYMOTRYPSIN B GENE, COMPLETE CODING SEQUENCE. 6906BP
RATCYC RAT (SPRAGUE-DAWLEY) CYTOCHROME C GENE AND FLANKS. 2311BP
RATCYP46C RAT CYTOCHROME P-450C (METHYLCHOLANTHRENE-INDUCIBLE) GENE, 6917BP
RATCYP46D RAT CYTOCHROME P-450D METHYLCHOLANTHRENE-INDUCIBLE GENE, COMPLETE
RATCYP46M RAT CYTOCHROME P-450MC MRNA, COMPLETE CDS. 2915BP
RATCYP46P RAT CYTOCHROME P-450PCN (PNCN INDUCIBLE) MRNA, COMPLETE CDS. 2040BP
RATCYP89 RAT CYTOCHROME P-450B (PHENOBARBITAL-INDUCIBLE) GENE, EXON 9. 695BP
RATCYPCN2 RAT PREGNENOLONE 16-ALPHA-CARBONITRILE-INDUCIBLE CYTOCHROME P450,
RATCYPD46 RAT CYTOCHROME P-450D GENE, COMPLETE CDS. 6896BP
RATCYPE9 RAT CYTOCHROME P-450E (PHENOBARBITAL-INDUCIBLE) GENE, EXON 9. 984BP
RATCYPM1 RAT CYTOCHROME P-450(M-1) MRNA, COMPLETE CDS. 1856BP
RATCYPOXM RAT NADPH-CYTOCHROME P-450 OXIDOREDUCTASE MRNA, COMPLETE CDS.
RATD9P RAT VITAMIN D BINDING PROTEIN (DBP) MRNA, COMPLETE CDS. 1620BP
RATEIF2A RAT TRANSLATIONAL INITIATION FACTOR (EIF-2) ALPHA SUBUNIT MRNA.
RATELA6 RAT ELASTASE I GENE, EXON 6. 561BP
RATELAI7 RAT ELASTASE II GENE, EXON 9. 396BP
RATENG RAT PREPROENKEPHALIN GENE, EXON 3 AND FLANKS. 1667BP
RATESP RAT EPIDIDYMAL MRNA ENCODING ANDROGEN-DEPENDENT SECRETORY PROTEIN.
RATFABP RAT INTESTINAL FATTY ACID BINDING PROTEIN (FABP) MRNA. 644BP
RATFABPL RAT LIVER FATTY ACID BINDING PROTEIN (FABP) MRNA. 491BP
RATFABPLG RAT L-FABP GENE ENCODING LIVER FATTY ACID-BINDING PROTEIN. 4637BP
RATFERL RAT FERRITIN LIGHT CHAIN SUBUNIT, MRNA. 629BP
RATGAPDHS RAT GLYCERALDEHYDE-3-PHOSPHATE-DEHYDROGENASE (GAPDH) MRNA, COMPLETE
RATGCR RAT GLUCOCORTICOID RECEPTOR MRNA, COMPLETE CDS. 6325BP
RATGFI2 RAT INSULIN-LIKE GROWTH FACTOR II (IGF-II) MRNA COMPLETE CDS.
RATGH1 RAT GROWTH HORMONE GENE, FLANKING REGIONS, & 4 INTRONS. 2557BP
RATGH2 RAT PRESOMATOTROPIN (GROWTH HORMONE) GENE. 2243BP
RATGHRF5 RAT HORMONE-RELEASING FACTOR GENE, EXON 5. 347BP
RATGLCB RAT BETA-GLUCURONIDASE MRNA, COMPLETE CDS. 2472BP
RATGLTPG RAT KIDNEY GAMMA-GLUTAMYL TRANSPEPTIDASE MRNA, COMPLETE CDS. 2072BP
RATGLU6 RAT GLUCAGON GENE, EXON 6. 606BP
RATGLUTRN RAT BRAIN GLUCOSE-TRANSPORTER PROTEIN MRNA, COMPLETE CDS. 2571BP
RATGNPAI RAT GUANINE NUCLEOTIDE-BINDING PROTEIN G-I, ALPHA SUBUNIT MRNA.
RATGNPAS RAT GUANINE NUCLEOTIDE-BINDING PROTEIN G-S, ALPHA SUBUNIT MRNA.
RATGST1YA RAT LIVER GLUTATHIONE S-TRANSFERASE YA SUBUNIT, CLONE8 PGTR1112 AND
RATGST2YA RAT LIVER GLUTATHIONE S-TRANSFERASE YA SUBUNIT, CLONE8 PGST94 AND
RATGST7P RAT LIVER GLUTATHIONE S-TRANSFERASE P SUBUNIT MRNA, COMPLETE CDS.
RATGST9PA RAT GST-P GENE ENCODING PLACENTAL-TYPE GLUTATHIONE S-TRANSFERASE.
RATGSTYB RAT Y-B3 GLUTATHIONE-S-TRANSFERASE MRNA, COMPLETE CDS. 1288BP
RATGSTYC RAT LIVER GLUTATHIONE S-TRANSFERASE YC SUBUNIT MRNA, CLOMPLETE CDS.
RATHDP RAT HELIX-DESTABILIZING PROTEIN MRNA, COMPLETE CDS. 1696BP
RATHOX RAT HEME OXYGENASE GENE, COMPLETE CDS. 8377BP
RATIFNA1 RAT INTERFERON-ALPHA 1 (IFN-ALPHA1) GENE, COMPLETE CDS. 729BP
RATIFNB RAT IFN-BETA MRNA, EXON 4. 841BP
RATIGEM RAT IG EPSILON HEAVY CHAIN, COMPLETE CODING REGION AND 3' UT, MRNA.
RATIGFIB RAT INSULIN-LIKE GROWTH FACTOR II (IGF-II) GENE, EXON 4. 751BP
RATINGFII RAT PREPROINSULIN-LIKE GROWTH FACTOR II MRNA. 1016BP
RATINSI RAT INSULIN-I (INS-I) GENE. 5425BP
RATINSII RAT INSULIN II GENE (INS-2) WITH TWO INTRONS. 2852BP
RATKINKH RAT HIGH MOLECULAR WEIGHT (HMW) K-KININOGEN MRNA, COMPLETE CDS.
RATKINTL RAT LOW MOLECULAR WEIGHT (LMW) T-KININOGEN I MRNA, COMPLETE CDS.
RATKPCOAT RAT PEROXISOMAL 3-KETOACYL-COA THIOLASE MRNA, COMPLETE CDS. 1546BP
RATLDH RAT LACTATE DEHYDROGENASE MRNA, COMPLETE CDS. 1656BP
RATLECH RAT ABNALOGLYCOPROTEIN RECEPTOR (HEPATIC LECTIN-3b) MRNA, COMPLETE
RATLHB RAT LUTROPIN (LH) BETA SUBUNIT GENE, COMPLETE CDS. 1795BP
RATLL RAT LINGUAL LIPASE MRNA, COMPLETE CDS. 1356BP
RATMABPA2 RAT MANNOSE-BINDING PROTEIN (SERUM) A GENE, EXONS 3 AND 4. 1913BP
RATMABPC RAT MANNOSE-BINDING PROTEIN C (LIVER) MRNA, COMPLETE CDS. 1057BP
RATMBPM RAT SCHWANN CELL PERIPHERAL MYELIN (P-0) MRNA, COMPLETE CDS. 1029BP
RATMEH6 RAT LIVER MICROSOMAL XENOBIOTIC EPOXIDE HYDROLASE GENE, EXON 6.
RATMET1 RAT METALLOTHIONEIN-I (MT-1) MRNA. 396BP
RATMLC136 RAT FAST MYOSIN ALKALI LIGHT CHAINS EXON 6, COMMON TO BOTH MLC1-F
RATMLC2 RAT HEART MYOSIN LIGHT CHAIN 2 (MLC2) MRNA, 3' END. 610BP
RATMT12C RAT METALLOTHIONEIN-2 AND METALLOTHIONEIN-1 GENES, COMPLETE CDS.

RATMYL2G RAT MLC2 GENE FOR MUSCLE MYOSIN LIGHT CHAIN 2. 3361BP
RATNEUR RAT MRNA FOR NEU ONCOGENE (P185) 3956BP
RATNMOR RAT NAD(P)H:MENADIONE OXIDOREDUCTASE MRNA, COMPLETE CDS. 1501BP
RATNNE RAT NON-NEURONAL ENOLASE (NNE) MRNA, COMPLETE CDS. 1717BP
RATOM RAT ONCOMODULIN MRNA, COMPLETE CDS. 669BP
RATOSP RAT OSTEOPONTIN MRNA, COMPLETE CDS. 1457BP
RATOTC RAT ORNITHINE TRANSCARBAMYLASE MRNA. 1519BP
RATOTCA RAT (WISTAR) ORNITHINE CARBAMOYLTRANSFERASE MRNA, COMPLETE CDS.
RATOTCC RAT ORNITHINE CARBAMOYLTRANSFERASE MRNA, COMPLETE CDS. 1506BP
RATOXTNP RAT OXYTOCIN-NEUROPHYSIN PRECURSOR, COMPLETE GENE AND FLANKS.
RATPARVALB RAT PARVALBUMIN MRNA, COMPLETE CDS. 561BP
RATPCCB RAT MITOCHONDRIAL PROPIONYL-COA CARBOXYLASE (PCCASE) BETA-SUBUNIT
RATPDI RAT PROTEIN DISULPHIDE ISOMERASE (PDI) MRNA, COMPLETE CDS. 2460BP
RATPECG6 RAT PHOSPHOENOLPYRUVATE CARBOXYKINASE (GTP) GENE, EXONS 9 AND 10.
RATPECOA RAT PEROXISOMAL ENOYL-COA: HYDROTASE-3-HYDROXYACYL-COA BIFUNCTIONAL
RATPGHA RAT PITUITARY GLYCOPROTEIN HORMONE ALPHA SUBUNIT. 610BP
RATPHH RAT PHENYLALANINE HYDROXYLASE MRNA, COMPLETE CDS. 1999BP
RATPKCI RAT PROTEIN KINASE C TYPE I MRNA, CLONE PKC-I. 3113BP
RATPKCII RAT PROTEIN KINASE C TYPE II MRNA, COMPLETE CDS, CLONE PKC-II.
RATPKL RAT L-TYPE PYRUVATE KINASE MRNA, COMPLETE CDS. 2926BP
RATPLP RAT MYELIN PROTEOLIPID APOPROTEIN (PLP) MRNA, COMPLETE CDS. 1334BP
RATPLPX RAT MYELIN PROTEOLIPID PROTEIN (PLP) MRNA, COMPLETE CDS.
RATPOLB RAT DNA POLYMERASE BETA MRNA, COMPLETE CDS. 1136BP
RATPOMC3 RAT PROOPIOMELANOCORTIN (POMC) GENE, EXON 3. 781BP
RATPPTAG RAT GAMMA-PREPROTACHYKININ A MRNA, COMPLETE CDS. 896BP
RATPRLHR5 RAT (HOODED) PROLACTIN GENE : EXON V AND FLANKS. 648BP
RATPRLSD4 RAT(SPRAGUE-DAWLEY) PROLACTIN GENE:EXONS IV,V AND FLANKS. 1885BP
RATPRLSDM RAT (SPRAGUE-DAWLEY) PROLACTIN MRNA, 623BP
RATPRP33 RAT PAROTID GLAND ACIDIC PROLINE-RICH PROTEIN MRNA, COMPLETE CDS.
RATPSBC1 RAT PROSTATIC BINDING PROTEIN POLYPEPTIDE C1, MRNA. 412BP
RATPSBC12 RAT PROSTATIC STEROID-BINDING PROTEIN C1, EXONS 2, 3 AND 3' FLANK.
RATPSBC22 RAT PROSTATIC STEROID-BINDING PROTEIN C2, EXONS 2, 3 AND 3' FLANK.
RATPSBC3P FAT PROSTATIC STEROID-BINDING PROTEIN, C3 PEPTIDE MRNA. 509BP
RATPSBPA3 RAT PROSTATIC STEROID-BINDING PROTEIN, GENE C3(1), EXON 3. 374BP
RATPSBPB3 RAT PROSTATIC STEROID-BINDING PROTEIN, GENE C3(2), EXON 3. 376BP
RATPTH3 RAT PARATHYROID HORMONE GENE, EXONS II AND III. 973BP
RATPTR1 RAT PTR1 MRNA ENCODING A 53 KD PROTEIN (TRANSCRITION INDUCED BY
RATPTRY25 RAT PANCREATIC TRYPSINOGEN II, EXONS 4 AND 5. 342BP
RATPTRY1 RAT PANCREATIC TRYPSIN I GENE, COMPLETE CDS. 6503BP
RATRBP3 RAT RETINOL-BINDING PROTEIN (RBP) GENE, EXON 6. 415BP
RATRBPCII RAT CELLULAR RETINOL BINDING PROTEIN II (CRBPII) MRNA, COMPLETE
RATRELAX RAT PREPRORELAXIN MRNA. 800BP
RATRHL1 RAT ASIALOGLYCOPROTEIN RECEPTOR (HEPATIC LECTIN) RHL-1 GENE, 4093BP
RATRPL19 RAT RIBOSOMAL PROTEIN L19 MRNA, COMPLETE CDS. 701BP
RATRPL30 RAT RIBOSOMAL PROTEIN L30 MRNA, COMPLETE CDS. 392BP
RATRPL36A RAT MRNA FOR RIBOSOMAL PROTEIN L36A. 348BP
RATRPS11 RAT RIBOSOMAL PROTEIN S11 MRNA, COMPLETE CDS. 534BP
RATRPS17 RAT RIBOSOMAL PROTEIN S17 MRNA, COMPLETE CDS. 466BP
RATRPS26 RAT RIBOSOMAL PROTEIN S26 MRNA, COMPLETE CDS. 438BP
RATS100 RAT BRAIN S-100 PROTEIN BETA SUBUNIT MRNA, COMPLETE CDS. 1488BP
RATSBP RAT PROSTATIC SPERMINE-BINDING PROTEIN (SBP) MRNA, COMPLETE CDS.
RATSCD RAT LIVER STEARYL-COA DESATURASE MRNA, COMPLETE CDS. 4469BP
RATSOM141 RAT SOMATOSTATIN-14 GENE, COMPLETE CDS. 2047BP
RATSOMAT RAT PITUITARY PRESOMATOTROPIN (GROWTH HORMONE) MRNA. 790BP
RATSOMG RAT PREPROSOMATOSTATIN COMPLETE GENE AND 5' FLANK. 1867BP
RATSPGC RAT CHONDROITIN SULFATE PROTEOGLYCAN CORE PROTEIN MRNA, COMPLETE
RATSVF RAT SEMINAL VESICLE F PROTEIN MRNA, COMPLETE CDS. 620BP
RATSVFG2 RAT SEMINAL VESICLE F GENE, EXON 2. 590BP
RATSVS RAT SEMINAL VESICLE S PROTEIN MRNA, COMPLETE CDS. 600BP
RATTATR RAT L-TYROSINE: 2-OXOGLUTARATE AMINOTRANSFERASE MRNA, COMPLETE CDS.
RATTGFA RAT TRANSFORMING GROWTH FACTOR-ALPHA MRNA. 660BP
RATTHY1G RAT THY-1 GENE ENCODING CELL-SURFACE ANTIGEN THY-1. 2863BP
RATTHY1GA RAT GENE FOR THY-1 ANTIGEN. 2863BP
RATTHYB4 RAT SPLEEN THYMOSIN BETA-4 MRNA. 297BP
RATTNT RAT FAST SKELETAL TNT GENE ENCODING TROPONIN T ISOFORMS, COMPLETE
RATTRNTHN RAT (SPRAGUE DAWLEY) TRANSTHYRETIN (PREALBUMIN) MRNA, COMPLETE CDS.
RATTRO10 RAT SKELETAL MUSCLE BETA-TROPOMYOSIN AND FIBROBLAST TROPOMYOSIN 1
RATTSHB RAT THYROTROPIN-BETA (TSH) COMPLETE CODING SEQUENCE, MRNA. 557BP
RATTSHBM RAT (SPRAGUE-DAWLEY) THYROTROPIN-BETA-SUBUNIT (TSH-BETA) MRNA,
RATTUBAL2 RAT ALPHA-TUBULIN GENE, EXONS 2,3 & 4 AND 3' FLANK. 2066BP
RATTUBB15 RAT MRNA FOR BETA-TUBULIN T BETA15. 1591BP
RATUCP RAT MITOCHONDRIAL BROWN FAT UNCOUPLING PROTEIN MRNA, COMPLETE CDS.
RATUDPGTR RAT UDP GLUCURONOSYLTRANSFERASE, COMPLETE CDS. 2634BP
RATUDPGTS RAT LIVER MRNA FOR ANDROSTERONE UDP-GLUCURONYLTRANSFERASE (UDPGT).
RATVPNPA RAT VASOPRESSIN-NEUROPHYSIN GENE & DIABETES INSIPIDUS MUTANT GENE.
RATWAP RAT WHEY ACIDIC PROTEIN MRNA. 548BP
RATWAP4 RAT WHEY ACIDIC PROTEIN GENE, EXON 4. 346BP
RATWAP52 RAT WHEY PHOSPHOPROTEIN MRNA CLONE. 548BP

******** OTHER MAMMALS
BOVACHRA BOVINE ACETYLCHOLINE RECEPTOR ALPHA-SUBUNIT MRNA, COMPLETE CDS.
BOVACHRB BOVINE ACETYLCHOLINE RECEPTOR BETA-SUBUNIT MRNA, COMPLETE CDS.
BOVACHRD CALF MRNA FOR DELTA SUBUNIT OF MUSCLE ACETYLCHOLINE RECEPTOR.
BOVACHRE CALF MUSCLE MRNA FOR ACETYLCHOLINE RECEPTOR EPSILON-SUBUNIT. 1621BP
BOVCALP BOVINE CALPACTIN I HEAVY CHAIN (P36) PROTEIN, MRNA, COMPLETE CDS.
BOVCHYM09 BOVINE CPC GENE ENCODING CHYMOSIN, EXON 9. 335BP
BOVCHYMOA BOVINE CHYMOSIN A (RENNIN) MRNA. 1275BP
BOVCHYMOB BOVINE CHYMOSIN B (RENNIN) MRNA. 1305BP
BOVCNP BOVINE 2'3'-CYCLIC NUCLEOTIDE 3'-PHOSPHODIESTERASE (CNP) MRNA,
BOVCRYBB BOVINE BETA-CRYSTALLIN SUBUNIT BETA-B1 MRNA. 890BP
BOVCRYBS BOVINE BETA-S-CRYSTALLIN MRNA, COMPLETE CDS. 620BP
BOVCRYG BOVINE GAMMA-CRYSTALLIN MRNA, COMPLETE CDS. 618BP
BOVCSAS1B BOVINE ALPHA-S1-CASEIN B MRNA, COMPLETE CDS. 1172BP
BOVCSKA BOVINE KAPPA-CASEIN A MRNA, COMPLETE CDS. 849BP
BOVCYPC21 BOVINE MICROSOMAL CYTOCHROME P-450(C21) MRNA, COMPLETE CDS. 2157BP
BOVCYPM BOVINE CYTOCHROME P-450(SCC) MRNA, COMPLETE CDS. 1854BP
BOVELA BOVINE ELASTIN A MRNA, COMPLETE CDS. 3242BP
BOVELB BOVINE ELASTIN B MRNA, COMPLETE CDS. 3200BP
BOVELC BOVINE ELASTIN C MRNA, COMPLETE CDS. 3140BP
BOVENKEPH BOVINE ADRENAL PREPROENKEPHALIN MRNA. 1222BP
BOVFGFB BOVINE BASIC FIBROBLAST GROWTH FACTOR (FGF) MRNA. 2122BP
BOVFSH BOVINE FOLLICLE STIMULATING HORMONE BETA CHAIN MRNA, COMPLETE CDS.
BOVFSHB BOVINE FOLLICLE STIMULATING HORMONE BETA-SUBUNIT (FSH-BETA) MRNA,
BOVGG BOVINE PANCREAS PREPROGLUCAGON MRNA. 1106BP
BOVGH BOVINE GROWTH HORMONE (PREBOMATOTROPIN) GENE AND FLANKS. 2206BP
BOVGLYA1 BOVINE PITUITARY GLYCOPROTEIN HORMONE ALPHA-SUBUNIT GENE, CDNA TO
BOVGLYAA3 BOVINE PITUITARY GLYCOPROTEIN HORMONE ALPHA-SUBUNIT GENE, EXONS 3
BOVGSAR BOVINE MRNA FOR ADENYLATE CYCLASE-STIMULATION G-PROTEIN ALPHA
BOVHBB BOVINE ADULT BETA-GLOBIN GENE. 2072BP
BOVHBG BOVINE FETAL GAMMA GLOBIN GENE. 2046BP
BOVIFNAA BOVINE INTERFERON ALPHA (BO-ALPHA-A) GENE, COMPLETE CDS. 694BP
BOVIFNAB BOVINE INTERFERON ALPHA (BO-ALPHA-B) GENE, COMPLETE CDS. 694BP
BOVIFNAC BOVINE INTERFERON ALPHA (BO-ALPHA-C) GENE, COMPLETE CDS. 1017BP
BOVIFNAD BOVINE INTERFERON ALPHA (BO-ALPHA-D) GENE, COMPLETE CDS. 861BP
BOVIL2 BOVINE INTERLEUKIN 2 (IL-2) MRNA, COMPLETE CDS. 764BP
BOVKERVIC BOVINE EPIDERMAL CYTOKERATIN VIB GENE, COMPLETE CDS. 5726BP
BOVKIN1HW BOVINE HIGH MOLECULAR WEIGHT (HMW) KININOGEN, TYPE I MRNA. 3094BP
BOVKIN1LM BOVINE LOW MOLECULAR WEIGHT PREKININOGEN MRNA, TYPE 1. 1530BP
BOVKIN2HW BOVINE HIGH MOLECULAR WEIGHT (HMW) KININOGEN, TYPE II MRNA. 3174BP
BOVKIN2LM BOVINE LOW MOLECULAR WEIGHT PREKININOGEN MRNA, TYPE 2. 1582BP
BOVLRMMIP BOVINE LENS FIBER MEMBRANE MAJOR INTRINSIC PROTEIN MRNA, COMPLETE.
BOVLHB BOVINE LUTEINIZING HORMONE BETA SUBUNIT GENE, COMPLETE CDS. 1864BP
BOVLHBX BOVINE LUTROPIN (LH) BETA SUBUNIT MRNA, COMPLETE CDS. 629BP
BOVMIS BOVINE MUELLERIAN INHIBITING SUBSTANCE MRNA, COMPLETE CDS. 2016BP
BOVOPS6 BOVINE OPSIN GENE EXON 5 AND 3' FLANK. 818BP
BOVOT BOVINE PREPRO-OXYTOCIN-NEUROPHYSIN I GENE. 1167BP
BOVPKC BOVINE BETA TYPE PROTEIN KINASE C MRNA, COMPLETE CDS. 2955BP
BOVPKIC BOVINE PROTEIN KINASE C MRNA, COMPLETE CDS. 2324BP
BOVPKICB BOVINE CAMP-DEPENDENT PROTEIN KINASE, BETA-CATALYTIC SUBUNIT 1750BP
BOVPOMC7 BOVINE PROOPIOMELANOCORTIN (POMC) GENE, EXON 3, CODING REGION.
BOVPPT7 BOVINE PPT GENE ENCODING BETA-PREPROTACHYKININ, EXON 7, 848BP
BOVPRL BOVINE PROLACTIN (PRL) MRNA. 907BP
BOVPROP1 BOVINE P1 PROTAMINE MRNA, COMPLETE CDS. 315BP
BOVPTH BOVINE PREPROPARATHYROID HORMONE MRNA. 470BP
BOVPTH2 BOVINE PARATHYROID HORMONE 5' END OF MRNA. 460BP
BOVPTHG BOVINE PARATHYROID HORMONE GENE, COMPLETE CODING REGION AND FLANKS.
BOVS BOVINE VITAMIN K-DEPENDENT PROTEIN S (BLOOD CLOTTING) MRNA, 2382BP
BOVTG BOVINE THYROGLOBULIN MRNA, COMPLETE CDS. 8431BP
BOVTHBNM BOVINE PROTHROMBIN MRNA WITH COMPLETE CODING REGION. 2005BP
BOVTRA BOVINE TRANSDUCIN ALPHA-SUBUNIT MRNA, COMPLETE CDS. 1212BP
BOVTRNA1 BOVINE TRANSDUCIN ALPHA-1 MRNA, COMPLETE CDS. 2444BP
BOVTRNA2 BOVINE TRANSDUCIN ALPHA-2 MRNA, COMPLETE CDS. 1666BP
BOVTRNAM BOVINE TRANSDUCIN ALPHA SUBUNIT MRNA, COMPLETE CDS. 1188BP
BOVTRNB BOVINE TRANSDUCIN BETA-SUBUNIT MRNA, COMPLETE CDS. 2822BP
BOVTRNG BOVINE TRANSDUCIN GAMMA SUBUNIT MRNA, COMPLETE CDS. 417BP
BOVTRNGM BOVINE TRANSDUCIN (GTPASE) GAMMA SUBUNIT MRNA, COMPLETE CDS. 434BP
BOVTSHB BOVINE THYROTROPIN-BETA (TSH-B), COMPLETE CODING SEQUENCE, MRNA.
BOVVP BOVINE PREPRO-ARGININE VASOPRESSIN-NEUROPHYSIN II GENE. 2427BP
BOVVPNPII BOVINE ARGININE VASOPRESSIN & NEUROPHYSIN II PRECURSOR, MRNA. 611BP
DOGCK DOG CARDIAC CREATINE KINASE M SUBUNIT MRNA, COMPLETE CDS. 1527BP
DOGCKB DOG BRAIN CREATINE KINASE B SUBUNIT MRNA, COMPLETE CDS. 1415BP
DOGCTRP DOG (CANINE) CHYMOTRYPSIN MRNA. 882BP
DOGINS DOG INSULIN GENE. 1303BP
GOTHBA1 GOAT ADULT ALPHA-I-GLOBIN GENE, COMPLETE SEQUENCE. 1894BP
GOTHBA# GOAT ADULT ALPHA-II-GLOBIN GENE, COMPLETE SEQUENCE. 1691BP
GOTHBBEI GOAT EMBRYONIC BETA-GLOBIN EPSILON-I, COMPLETE GENE AND FLANKS.
GOTHBBEII GOAT EMBRYONIC BETA-GLOBIN EPSILON-II COMPLETE GENE AND FLANKS.
HRSHBA1 HORSE (EQUINE) ALPHA-1 GLOBIN GENE (BII HAPLOTYPE). 1331BP
HRSIFN1 HORSE INTERFERON-OMEGA-2 GENE, COMPLETE CDS. 802BP
HRSIFN1A HORSE INTERFERON-ALPHA-1 GENE, COMPLETE CDS. 3243BP
HRSIFN1O HORSE INTERFERON-OMEGA-1 GENE, COMPLETE CDS. 2109BP
HRSIFN2 HORSE INTERFERON-ALPHA-2 GENE, COMPLETE CDS. 856BP
HRSIFN3A HORSE INTERFERON-ALPHA-3 GENE, COMPLETE CDS. 1048BP
HRSIFN4A HORSE INTERFERON-ALPHA-4 GENE, COMPLETE CDS. 861BP
HRSIFNB HORSE INTERFERON-BETA GENE, COMPLETE CDS. 2467BP
PIGCCK PIG CHOLECYSTOKININ (CCK) PRECURSOR MRNA, (COMPLETE) AND 3' END.
PIGENKB PIG PREPROENKEPHALIN B MRNA, COMPLETE CODING SEQUENCE. 2333BP
PIGGASTR PIG GASTRIN MRNA. 442BP
PIGINHA PIG INHIBIN A-SUBUNIT MRNA, COMPLETE CDS. 1272BP
PIGINHAR PORCINE MRNA FOR INHIBIN ALPHA-SUBUNIT. 1333BP
PIGINHBAR PORCINE MRNA FOR INHIBIN BETA (A)-SUBUNIT. 3672BP
PIGPOMC PIG PROOPIOMELANOCORTIN (POMC) MRNA, COMPLETE. 1092BP
PIGRELX PIG RELAXIN MRNA, COMPLETE CODING AND 3' UNTRANSLATED REGIONS.
PIGUPA PIG UPA (UROKINASE-TYPE PLASMINOGEN ACTIVATOR) GENE, COMPLETE CDS.
RABALDA RABBIT MUSCLE ALDOLASE A MRNA, COMPLETE CODING SEQUENCE. 1375BP
RABATPAC RABBIT CA - MG-DEPENDENT CA-ATPASE MRNA, COMPLETE CDS. 4243BP
RABCDPSSU RABBIT CALCIUM-DEPENDENT PROTEASE, SMALL SUBUNIT MRNA, COMPLETE
RABCPK RABBIT MUSCLE CREATINE PHOSPHOKINASE (M ISOENZYME) MRNA, COMPLETE
RABCRP RABBIT CRP GENE ENCODING C-REACTIVE PROTEIN, COMPLETE CDS. 1438BP
RABCY4501 RABBIT LIVER CYTOCHROME P-450 1 MRNA, COMPLETE CDS. 1871BP
RABHBLA RABBIT ALPHA-GLOBIN MRNA. 638BP
RABHBAPT RABBIT ALPHA-GLOBIN GENE, COMPLETE CDS AND A PSEUDO-THETA-1 GLOBIN
RABHBB1 RABBIT BETA1-GLOBIN GENE (ALLELE 2), COMPLETE CDS AND L1 7547BP
RABHBB1A1 RABBIT BETA1-GLOBIN WITH 2 IVS, TYPE 1 ALLELE. 1827BP
RABHBB1A2 RABBIT BETA1-GLOBIN WITH 2 IVS, TYPE 2 ALLELE. 1399BP
RABHFRCP RABBIT POLY-IG RECEPTOR, COMPLETE CODING SEQUENCE. 3517BP
RABIGHAB RABBIT IG MU CHAIN SECRETED FORM (ALLOTYPE VHA2) COMPL GENE, MRNA.
RABIL1P RABBIT INTERLEUKIN-1 (IL-1) MRNA, COMPLETE CDS. 1964BP
RABMHI RABBIT MHC CLASS I RLA (11/11) GENE, MRNA. 1468BP
RABMHII191 RABBIT MHC RLA REGION CLASS I 19-1 GENE. COMPLETE CDS. 3881BP
RABMHI3 RABBIT MHC CLASS I RLA (11/11) GENE, MRNA. 1310BP
RABPKMC2 RABBIT MUSCLE PHOSPHOFRUCTOKINASE GENE, EXON 22. 222BP
RABPGR RABBIT PROGESTERONE RECEPTOR MRNA, COMPLETE CDS. 2991BP
RABTCAXB RABBIT T-CELL RECEPTOR ACTIVE ALPHA-CHAIN (VJC) MRNA, FROM CELL
RABTNF RABBIT TUMOR NECROSIS FACTOR (TNF) GENE, COMPLETE CDS. 3200BP
RABTNFM RABBIT TUMOR NECROSIS FACTOR (TNF) MRNA, COMPLETE CDS. 1671BP
RABUC RABBIT UTEROGLOBIN GENE, COMPLETE CDS. 6648BP
RABUG2 RABBIT UTEROGLOBIN GENE, EXONS 2 AND 3. 1037BP
RABUGM RABBIT UTEROGLOBIN MRNA, COMPLETE SEQUENCE. 465BP
SEAMG3 SEAL MYOGLOBIN GENE, EXON 3, PARTIAL INTRON 2 AND 3' FLANK DNA.
SHPATPAA SHEEP (NA+ AND K+) ATPASE CATALYTIC SUBUNIT ALPHA MRNA, COMPLETE
SHPCAS2R SHEEP MRNA FOR ALPHA-S2-CASEIN. 1024BP
SHPCRF SHEEP CORTICOTROPIN-RELEASING FACTOR (CRF) PRECURSOR MRNA. 1225BP
SHPKERB2A SHEEP B2A AND B2D GENES FOR B2 HIGH-SULPHUR KERATINS. 4718BP
SHPKERB2C SHEEP B2C GENE ENCODING B2 HIGH-SULPHUR KERATIN. 1668BP
SHPMETI SHEEP METALLOTHIONEIN-I GENE, COMPLETE CODING SEQUENCE. 342BP

******** OTHER VERTEBRATES
CHKACACA CHICKEN CARDIAC ALPHA-ACTIN GENE, CLONE LAMBDA-ALPHA-40, COMPLETE
CHKACACB CHICKEN CARDIAC ALPHA-ACTIN GENE, CLONE LAMBDA-AC7, COMPLETE CDS.
CHKACASK CHICKEN SKELETAL MUSCLE ALPHA-ACTIN GENE, COMPLETE CDS. 2426BP
CHKACB CHICKEN CYTOPLASMIC BETA-ACTIN GENE. 5046BP
CHKACCYS CHICKEN TYPE 5 CYTOPLASMIC ACTIN GENE, COMPLETE CDS. 2820BP
CHKACHR1 CHICKEN NICOTINE ACETYLCHOLINE RECEPTOR DELTA SUBUNIT GENE, 3320BP
CHKACHR2 CHICKEN NICOTINE ACETYLCHOLINE RECEPTOR GAMMA SUBUNIT GENE, 4065BP
CHKAKM CHICKEN MUSCLE ADENYLATE KINASE MRNA, COMPLETE CDS. 802BP
CHKAPOII CHICKEN VERY LOW DENSITY APOLIPOPROTEIN II (APOVLDLII) GENE, 4961BP
CHKASPATM CHICKEN MITOCHONDRIAL ISOENZYME OF ASPARTATE AMINOTRANSFERASE MRNA,
CHKCAM4 CHICKEN CAM GENE ENCODING CALMODULIN, EXON 6. 890BP
CHKCBPR CHICKEN MRNA FOR CALCIUM-BINDING PROTEIN. 2136BP
CHKCKBR CHICKEN MRNA FOR CREATINE KINASE B (B-CK, EC 2.7.3.2). 1379BP
CHKCKM CHICKEN CREATINE KINASE-M (CK-M) MRNA, COMPLETE CDS. 1320BP
CHKCKMX CHICKEN CREATINE KINASE (MUSCLE ISOFORM) MRNA, COMPLETE CDS. 1310BP
CHKCM11 CHICKEN CCM1 GENE CODING FOR A CALMODULIN-LIKE PROTEIN. 460BP
CHKCONMR CHICKEN OVOTRANSFERRIN (CONALBUMIN) MRNA, COMPLETE CDS. 2376BP
CHKCPS1 CHICKEN PROCESSED PSEUDOGENE CPS1 RELATED TO THE RAS ONCOGENE 594BP
CHKCRYD12 CHICKEN DELTA-1 CRYSTALLIN MRNA, EXONS 3 TO END. 1476BP
CHKCRYD6 CHICKEN DELTA-6 CRYSTALLIN, COMPLETE MRNA. 1725BP
CHKCRYGDS CHICKEN (WHITE LEGHORN) DELTA-1 AND 2 CRYSTALLIN GENES, COMPLETE
CHKCYC10 CHICKEN CYTOCHROME C GENE, ALLELE CC10, COMPLETE CDS. 1620BP
CHKCYC9 CHICKEN CYTOCHROME C GENE, ALLELE CC9, COMPLETE CDS. 1616BP
CHKCYP450 CHICKEN CYTOCHROME P-450 (PHENOBARBITAL-INDUCIBLE) MRNA, COMPLETE
CHKASPATM CHICKEN MITOCHONDRIAL ISOENZYME OF ASPARTATE AMINOTRANSFERASE MRNA,
CHKGAPDHA CHICKEN GAPDH (GLYCERALDEHYDE-3-PHOSPHATE DEHYDROGENASE) MRNA,
CHKGBLB CHICKEN 14K BETA-GALACTOSIDE-BINDING LECTIN MRNA, COMPLETE CDS.
CHKH1G CHICKEN HISTONE H1 GENE, CLONE LAMBDA-CH01. 2201BP
CHKH234G CHICKEN HISTONE LH4, RH4, H3, LH2A AND RH2A GENES. 8384BP
CHKH28A CHICKEN HISTONE H28 GENE; COMPLETE SEQUENCE & FLANKS. 842BP
CHKH5 CHICKEN HISTONE H5 GENE. 1843BP
CHKH5M CHICKEN ERYTHROCYTE-SPECIFIC HISTONE H5 GENE, COMPLETE CDS. 3868BP
CHKHBAA CHICKEN HEMOGLOBIN ALPHA-A MRNA. 542BP
CHKHBADA1 CHICKEN ALPHA-GLOBIN GENES: D GENE AND FLANKS. 1468BP

CHKHBADA2 CHICKEN ALPHA-GLOBIN GENES: A GENE AND FLANKS. 1216BP
CHKHBAM CHICKEN ALPHA-GLOBIN MRNA 5 5' FLANK. 528BP
CHKHBBM CHICKEN HEMOGLOBIN BETA CHAIN MRNA. 601BP
CHKHBBR1 CHICKEN EMBRYONIC RHO (BETA-LIKE) GLOBIN GENE. 1554BP
CHKHBBR2 CHICKEN EMBRYONIC EPSILON (BETA-LIKE) GLOBIN GENE. 1966BP
CHKHBRHO2 CHICKEN EMBRYONIC RHO'-GLOBIN MRNA. 546BP
CHKHBP CHICKEN 70 KD HEAT SHOCK PROTEIN (HSP). COMPLETE CDS. 2092BP
CHKHSP108 CHICKEN HEAT SHOCK PROTEIN 108 MRNA, COMPLETE CDS. 2733BP
CHKHNS3 CHICKEN PREPROINSULIN GENE, FROM INTRON 2 TO 3' FLANK. 409BP
CHKKERC CHICKEN FEATHER KERATIN GENE C 5 FLANKS. 1200BP
CHKKERF CHICKEN FEATHER KERATIN GENE B, COMPLETE CDS. 297BP
CHKLSZ4 CHICKEN EGG WHITE LYSOZYME GENE: EXON-4 AND 3' FLANK. 197BP
CHKMLC133 CHICKEN FAST MYOSIN ALKALI LIGHT CHAINS, EXONS 3,4,5,AND 6 SPECIFIC
CHKMMP CHICKEN MITOCHONDRIAL MATRIX PROTEIN (5-AMINOAEVULINATE 2101BP
CHKMYA28M CHICKEN MYOSIN ALKALI L-CHAIN A2 MRNA. 818BP
CHKMYC CHICKEN CELLULAR MYC PROTO-ONCOGENE, COMPLETE CDS. 4994BP
CHKMYHE CHICKEN EMBRYONIC MYOSIN HEAVY CHAIN GENE, COMPLETE CDS. 31111BP
CHKMYLC2F CHICKEN MYOSIN LIGHT CHAIN 2 (LC2F) MRNA, COMPLETE CDS. 606BP
CHKOVAL CHICKEN OVALBUMIN GENE INCLUDING FLANKING SEQUENCES. 9204BP
CHKOVALM CHICKEN OVALBUMIN MESSENGER RNA. 1873BP
CHKPECM CHICKEN CYTOSOLIC PHOSPHOENOLPYRUVATE CARBOXYKINASE MRNA, COMPLETE
CHKPKM CHICKEN MUSCLE PYRUVATE KINASE (PK) MRNA, COMPLETE SEQUENCE. 2364BP
CHKPROCA CHICKEN CALCIUM PROTEASE MRNA, COMPLETE CDS. 3380BP
CHKTK CHICKEN CYTOPLASMIC THYMIDINE KINASE GENE, COMPLETE CODING 3008BP
CHKTKA CHICKEN THYMIDINE KINASE (TK) GENE, COMPLETE CODING SEQUENCE.
CHKTNTC CHICKEN CARDIAC TROPONIN T FORM I MRNA, COMPLETE CDS. 1310BP
CHKTRANS CHICKEN TRANSFORMING GENE HOMOLOGOUS TO TRANSFERRIN FAMILY. 590BP
CHKTROA CHICKEN SMOOTH-MUSCLE ALPHA-TROPOMYOSIN GENE, COMPLETE CDS. 1096BP
CHKTUB4B CHICKEN BETA-4-TUBULIN GENE, COMPLETE CDS. 3153BP
CHKTUBB CHICKEN BRAIN TUBULIN BETA CHAIN MRNA. 1652BP
CHKTUBCB3 CHICKEN C-BETA-5-TUBULIN GENE, EXON 4. 1800BP
CHKY CHICKEN Y GENE, INCLUDING FLANKING SEQUENCES. 6372BP
DUKH5 DUCK (CAIRINA MOSCHATA) H5 HISTONE GENE, COMPLETE CODING SEQUENCE.
DUKHBAD DUCK ALPHA-D GLOBIN GENE, COMPLETE CDS. 1108BP
DUKHBADA2 DUCK ALPHA-A-GLOBIN GENE AND 5' FLANK. 1146BP
DUKHBADWP DUCK (WHITE PEKIN) ALPHA II (MINOR) GLOBIN MRNA, COMPLETE CODING
DUKSFAST MALLARD DUCK (A.PLATYRHYNCHOS) S-ACYL FATTY ACID SYNTHASE 1098BP
FSAINSHF HAGFISH INSULIN MRNA. 916BP
FSBAFGI ANGLERFISH (L.AMERICANUS) GLUCAGON I (AFG I) MRNA. 636BP
FSBAFGII ANGLERFISH (L.AMERICANUS) GLUCAGON II (AFG II) MRNA. 493BP
FSBAFPA2 WINTER FLOUNDER ANTIFREEZE PROTEIN COMPONENT A VARIANT GENE, EXON
FSBAFZB WINTER FLOUNDER ANTIFREEZE PROTEIN MRNA. 305BP
FSBFBRG LAMPREY (PETROMYZON MARINUS) FIBRINOGEN GAMMA CHAIN MRNA, COMPLETE
FSBGHBAL SALMON GROWTH HORMONE MRNA, COMPLETE CDS. 1120BP
FSBHS51 RAINBOW TROUT HISTONE H1 GENE, COMPLETE CDS. 1714BP
FSBHS42B RAINBOW TROUT HISTONE H4 AND H2B GENES, COMPLETE CDS. 2930BP
FSBHMGT3 TROUT MRNA FOR HIGH MOBILITY GROUP PROTEIN HMG-T. 716BP
FSBINSAF ANGLERFISH INSULIN MRNA. 656BP
FSBINSC CARP INSULIN MRNA. 436BP
FSBINSSAL SALMON INSULIN MRNA, COMPLETE CDS. 434BP
FSBPRCPC2 RAINBOW TROUT PROTAMINE COMPONENT MRNA, COMPLETE CDS, CLONE PPC 2E.
FSBPRCPC6 RAINBOW TROUT PROTAMINE COMPONENT MRNA, COMPLETE CDS, CLONES 2369P
FSBPRCTP4 RAINBOW TROUT PROTAMINE COMPONENT MRNA, COMPLETE CDS. 219BP
FSBPROTA RAINBOW TROUT PROTAMINE GENE, CLONE TP 14. 694BP
FSBPROTB1 RAINBOW TROUT PROTAMINE GENE, CLONE TP 15. 718BP
FSBPROTC RAINBOW TROUT PROTAMINE GENE, CLONE TP 16. 602BP
FSBPROTD RAINBOW TROUT PROTAMINE GENE, CLONE TP 17. 728BP
FSBPROTE RAINBOW TROUT PROTAMINE GENE, CLONE TP 21. 609BP
FSBSCPEEL EEL (E. ELECTRICUS) SODIUM CHANNEL PROTEIN MRNA. 7230BP
FSBSCM14 CHANNEL CATFISH PANCREATIC PREPROSOMATOSTATIN-14 MRNA. 784BP
FSBSOM22 CHANNEL CATFISH PANCREATIC SOMATOSTATIN-22 MRNA. 620BP
FSBSOMI ANGLERFISH PANCREATIC PREPROSOMATOSTATIN-I MRNA. 561BP
FSBSOMII ANGLERFISH PANCREATIC PREPROSOMATOSTATIN-II MRNA. 604BP
FSBUI CARP (CYPRINUS CARPIO) UROTENSIN I MRNA, COMPLETE CDS. 1066BP
FSBUIIA CARP (CYPRINUS CARPIO) UROTENSIN II-ALPHA MRNA, COMPLETE CDS. 790BP
FSBUIIG CARP (CYPRINUS CARPIO) UROTENSIN II-GAMMA MRNA, COMPLETE CDS.
FSCACHRA RAY ACETYLCHOLINE RECEPTOR, ALPHA SUBUNIT, MRNA. 2046BP
FSCACHRGS RAY(T.CALIFORNICA) ACETYLCHOLINE RECEPTOR,GAMMA SUBUNIT MRNA.
FSCATPA RAY (T.CALIFORNICA) (NA+ AND K+)ATPASE ALPHA SUBUNIT MRNA. 3366BP
FSCATPBR TORPEDO CALIFORNICA MRNA FOR (NA+ AND K+) ATPASE BETA SUBUNIT.
FSCCK TORPEDO MARMORATA MUSCLE-SPECIFIC CREATINE KINASE (MU-2 PROTEIN)
LSEEERAAR LATEX(AUDA-ISOMERASE(SEA SNAKE) MRNA FOR ERABUTOXIN A 463BP
SMRHSAA SALAMANDER (P.WALTLI)) MAJOR ADULT ALPHA-GLOBIN CHAIN MRNA, 558BP
SNKBTX SNAKE (BOTHROPS ATROX) BATROXOBIN MRNA ENCODING A SERINE PROTEASE,
SRAAFP SEA RAVEN (HEMITRIPTERUS AMERICANUS) ANTIFREEZE POLYPEPTIDE (AFP)
XELACACR XENOPUS LAEVIS MRNA FOR ALPHA CARDIAC ACTIN (ALPHA 1). 1328BP
XELBGL2R XENOPUS LAEVIS MRNA FOR LARVAL BETA II GLOBIN. 663BP
XELCAMA X.LAEVIS CALMODULIN GENE, MRNA, CLONE 11G2. 812BP
XELCAMB X.LAEVIS CALMODULIN GENE, MRNA, CLONE 7I. 750BP
XELCRLC XENOPUS LAEVIS CAERULEIN PRECURSOR MRNA, CLONE PXC401. 921BP
XELCRLE X.LAEVIS PREPROCAERULEIN TYPE III MRNA, COMPLETE CDS. 643BP
XELCRLF X.LAEVIS PREPROCAERULEIN TYPE IV MRNA, COMPLETE CDS. 834BP
XELCRLG X.LAEVIS PREPROCAERULEIN TYPE I MRNA, COMPLETE CDS. 701BP
XELHBA2M X.LAEVIS ALPHA-2-GLOBIN MRNA, COMPLETE CDS. 576BP
XELHBAT3X X.LAEVIS (TADPOLE) ALPHA-GLOBIN (ALPHA-T3) MRNA. 752BP
XELHBAT4X X.LAEVIS (TADPOLE) ALPHA-GLOBIN (ALPHA T4) MRNA. 750BP
XELHBATSX X.LAEVIS (TADPOLE) ALPHA-GLOBIN (ALPHA-TS) MRNA. 542BP
XELHBB XENOPUS LAEVIS BETA-GLOBIN MRNA. 600BP
XELHBSC XENOPUS LAEVIS MAJOR BETA-GLOBIN GENE COMPLETE. 1996BP
XELHBSI X. LAEVIS LARVAL BETA-1-GLOBIN GENE. 2972BP
XELHIS4 X. LAEVIS HISTONE GENE H4, COMPLETE CDS. 616BP
XELHSP70B X.LAEVIS HEAT SHOCK PROTEIN GENE (HSP70B), COMPLETE CDS. 2574BP
XELMYC X.LAEVIS C-MYC MRNA, COMPLETE CDS. 2139BP
XELPYLA X.LAEVIS PYLA PRECURSOR MRNA, COMPLETE CDS. 411BP
XELPYLAB X.LAEVIS PYLA PRECURSOR MRNA, CLONE PUK36, COMPLETE CDS. 356BP
XELSRBP X.LAEVIS SERUM RATINOL BINDING PROTEIN MRNA, COMPLETE CDS. 996BP
XELTRNA X.LAEVIS 5S RNA GENE TRANSCRIPTION FACTOR (TFIIIA) MRNA, COMPLETE
XELXSH XENOPUS LAEVIS XENOPSIN MRNA. 428BP
XENKERSC X.LAEVIS CYTOKERATIN TYPE II MRNA, COMPLETE CDS. 2067BP

******* INVERTEBRATES

ACAACTI AMOEBA (A. CASTELLANII) ACTIN GENE-I. 1571BP
AMBMEL HONEYBEE (APIS MELLIFICA) MELITTIN MRNA, COMPLETE CDS. 376BP
AMEBSEC BEE PREPROSECAPIN MRNA, COMPLETE CDS. 523BP
APLNP APLYSIA (MARINE GASTROPOD MOLLUSC) NEUROPEPTIDE MRNA. 122BP
APLNPL11 APLYSIA CALIFORNICA (MOLLUSC) NEURON L11 NEUROPEPTIDE MRNA. 1112BP
APLNPR3 APLYSIA CALIFORNICA (MOLLUSC) NEUROPEPTIDE PRECURSOR MRNA. 327BP
APLRHOA APLYSIA CALIFORNICA (MOLLUSC) RAS-RELATED RHO MRNA, COMPLETE CDS.
APOCHRE1 SILKMOTH (A.POLYPHEMUS) CHORION E1 GENE, COMPLETE CDS. 863BP
BMOCHRHCA B.MORI (SILKMOTH) HIGH-CYSTEINE CHORION GENE PAIR HC-A.1/HC-B.12,
BMOCHRHCP B.MORI (SILK MOTH) HIGH CYSTEINE CHORION GENE PAIR 2574 AND 2132.
CELCOL1G C.SLEGANS (NEMATODE) COLLAGEN 1 (COL-1) GENE, COMPLETE CDS. 1756BP
CELCOL2G C.ELEGANS (NEMATODE) COLLAGEN 2 (COL-2) GENE, COMPLETE CDS. 1796BP
CELHSP16C C.ELEGANS HEAT SHOCK PROTEIN GENES (HSP16-48 AND HSP16-1), 4412BP
CELHSP16D C.ELEGANS HEAT SHOCK PROTEIN GENES 16-41 AND 16-2, COMPLETE CDS.
CELMSP108 C. ELEGANS VAR. BRISTOL, MAJOR SPERM PROTEIN MRNA, COMPLETE CODING
CELMSP04 C. ELEGANS VAR. BRISTOL, MAJOR SPERM PROTEIN GENE, COMPLETE CODING
CELMYUNC C.ELEGANS MAJOR MYOSIN HEAVY CHAIN ISOZYME UNC-54 I GENE. 9000BP
CELVIT6 C.ELEGANS VITELLOGENIN 6 (YP170A) GENE. 5376BP
CHIMBIV CHIRONOMUS THUMMI THUMMI GLOBIN IV GENE, COMPLETE CDS. 946BP
CLMCYCA CLAM CYCLIN A MRNA, COMPLETE CDS. 2163BP
CRBCRPA HORSESHOE CRAB (L.POLYPHEMUS) CRP GENE 1.4, ENCODING C-REACTIVE
DROACT79B D.MELANOGASTER ACTIN GENE AT CYTOLOGICAL LOCUS 79B. 2172BP
DROACT88F D.MELANOGASTER ACTIN GENE AT CYTOLOGICAL LOCUS 88F. 2150BP
DROADH DROSOPHILA ALCOHOL DEHYDROGENASE GENE AND FLANKS. 2129BP
DROADHC D.MELANOGASTER ALCOHOL DEHYDROGENASE GENE (ALLELE ADH-S), CONSENSUS
DROADHG DROSOPHILA MAURITIANA ALCOHOL DEHYDROGENASE GENE AND 5' FLANKS.
DROADHGX DROSOPHILA SIMULANS ALCOHOL DEHYDROGENASE GENE. 2171BP
DROANTCF D.MELANOGASTER FUSHI TARAZU LOCUS (FTZ) IN THE ANTENNAPEDIA COMPLEX
DROANTPO6 D.MELANOGASTER ANTENNAPEDIA HOMEOTIC (ANTP) GENE, EXON 6. 3170BP
DROC1A9 D.MELANOGASTER NONHISTONE CHROMOSOMAL PROTEIN C1A9 ANTIGEN MRNA,
DROGART D.MELANOGASTER GART GENE ENCODING TWO POLYPEPTIDES WITH GAR 9423BP
DROHSP671 D.MELANOGASTER LOCUS 67B: HEAT SHOCK PROTEIN HSP22 GENE. 1560BP
DROHSP672 D.MELANOGASTER LOCUS 67B: HEAT SHOCK PROTEIN HSP26 GENE 2060BP
DROHSP673 D.MELANOGASTER LOCUS 67B: HEAT SHOCK PROTEIN HSP23 GENE. 1429BP
DROHSP674 D.MELANOGASTER LOCUS 67B: HEAT SHOCK PROTEIN HSP27 GENE. 1361BP
DROHSP7A2 D.MELANOGASTER HEAT SHOCK PROTEIN 70 GENES, LOCUS 87A7, SEQ. 2.
DROHSP7D1 D.MELANOGASTER HEAT SHOCK LOCUS 87C1: DISTAL HSP70 GENES. 5066BP
DROIS297 DROSOPHILA MELANOGASTER TRANSPOSABLE ELEMENT 297. 6996BP
DROMET D. MELANOGASTER METALLOTHIONEIN MRNA, COMPLETE CDS. 336BP
DROMETG DROSOPHILA MELANOGASTER MTN GENE ENCODING METALLOTHIONEIN, 1543BP
DROMYL D.MELANOGASTER MYOSIN LIGHT CHAIN, MRNA. 805BP
DROMYLALK D.MELANOGASTER MLC-ALK GENE ENCODING MYOSIN ALKALI LIGHT CHAIN,
DRONOTCH1 D.MELANOGASTER NOTCH LOCUS MRNA, COMPLETE CDS. 1014BP
DRONOTCH3 D.MELANOGASTER NOTCH LOCUS GENE (ESSENTIAL FOR PROPER 17137BP
DROOPSA D. MELANOGASTER OPSIN (NINAE) GENE, COMPLETE CDS. 2587BP
DROOPSB6 D. MELANOGASTER OPSIN GENE, EXON 5. 400BP
DROPER D.MELANOGASTER PERIOD (PER) GENE, COMPLETE CDS. 7487BP
DROPRD D.MELANOGASTER PAIRED GENE (PRD) ENCODING A SEGMENTATION PROTEIN,
DRORAS1 D.MELANOGASTER CHROMOSOME 3 LOCUS 86D DRAS1 GENE, COMPLETE. 1102BP
DRORAS22 D.MELANOGASTER CHROMOSOME 3 LOCUS 64B DRAS2 GENE, EXON 2 534BP
DRORP49 DROSOPHILA GENE FOR RIBOSOMAL PROTEIN 49 (RP 49), COMPLETE 1260BP
DROSRYG1 DROSOPHILA MELANOGASTER SERENDIPITY (SRY) LOCUS DNA SEQUENCE.
DROTRO10 D.MELANOGASTER TROPOMYOSIN GENE 1, ISOFORM 9A, EXON 10A. 95BP
DROTRO15 D.MELANOGASTER TROPOMYOSIN ISOFORM 127 GENE, EXON 3. 1069BP
DROTROPI2 D. MELANOGASTER TROPOMYOSIN I GENE, EXONS 2-5, COMPLETE CDS. 3599BP
DROTRYA D.MELANOGASTER ALPHA GENE ENCODING TRYPSIN-LIKE ENZYME. 885BP
DROWL D.MELANOGASTER WHITE LOCUS DNA ENCODING A POTENTIAL MEMBRANE
DROYP12 D.MELANOGASTER YP1 AND YP2 GENES, ENCODING YOLK PROTEINS 1 AND 2,
DRRADHG DROSOPHILA GRIMA ALCOHOL DEHYDROGENASE GENE AND FLANKING REGIONS.
HCECB MOTH (H.CECROPIA) CECROPIN B MRNA (IMMUNE PROTEIN P). 262BP
LEIDHFRTS LEISHMANIA MAJOR BIFUNCTIONAL DIHYDROFOLATE REDUCTASE-THYMIDYLATE
LEITSDHFR L.TROPICA BIFUNCTIONAL THYMIDYLATE SYNTHASE-DIHYDROFOLATE 1861BP
LPCCRPB HORSESHOE CRAB (L.POLYPHEMUS) CRP GENE 3.3, ENCODING C-REACTIVE
LPCCRPD HORSESHOE CRAB (L.POLYPHEMUS) CRP GENE 1.1, ENCODING C-REACTIVE
OFAACTIN OXYTRICHA FALLAX MACRONUCLEAR DNA FRAG. ACTIN GENE. 1507BP
ONOC2A1Z OXYTRICHA NOVA (HYPOTRICHOUS CILIATE) MACRONUCLEAR C2 GENE 776BP
ONOC2A3Z OXYTRICHA NOVA (HYPOTRICHOUS CILIATE) MACRONUCLEAR C2 GENE 737BP
ONOC2S2 OXYTRICHA NOVA (HYPOTRICHOUS CILIATE) MICRONUCLEAR DNA, C2 GENE
PFA198M PLASMODIUM FALCIPARUM (P198) MEROZOITE MAJOR SURFACE ANTIGENS
PFAAG361EA PLASMODIUM FALCIPARUM EXPORTED ANTIGEN GENE AG6.1, MRNA, COMPLETE
PFACRA PLASMODIUM FALCIPARUM CIRCUMSPOROZOITE-PROTEIN RELATED ANTIGEN
PFACS PLASMODIUM FALCIPARUM CIRCUMSPOROZOITE (CS) PROTEIN GENE. 2337BP
PFAGP195 PLASMODIUM FALCIPARUM GP195 MRNA ENCODING ANTIGENICALLY DIVERSE
PFAHRPA2 P.FALCIPARUM HISTIDINE-RICH PROTEIN GENE, EXON 2, CLONE PHRP-II.
PFAP190 PLASMODIUM FALCIPARUM (ISOLATE K1) P190 GENE MEROZOITE SURFACE
PFASA27 PLASMODIUM FALCIPARUM (ISOLATE FC27) S-ANTIGEN GENE. 3732BP
PFASA7 PLASMODIUM FALCIPARUM (ISOLATE NF7) S ANTIGEN GENE, COMPLETE CDS.
PFASHARPR PLASMODIUM FALCIPARUM MRNA FOR SMALL HISTIDINE-ALANINE-RICH PROTEN
PKNCS P.KNOWLESI SPOROZOITE SURFACE ANTIGEN (CS PROTEIN) GENE AND FLANKS.
PKNCSNUR1 PLASMODIUM KNOWLESI CIRCUMSPOROZOITE ANTIGEN (CS) GENE, COMPLETE
PLOHRP PLASMODIUM LOMPUBAE HISTIDINE-RICH PROTEIN GENE, COMPLETE CDS.
PPYLUC P.PYRALIS (FIREFLY) LUCIFERASE GENE, COMPLETE CDS. 2367BP
PYOCSP PLASMODIUM YOELII CIRCUMSPOROZOITE (CS) PROTEIN GENE, COMPLETE CDS.
SHREF1A5 ARTEMIA SALINA GENE FOR ELONGATION FACTOR EF-1 (ALPHA) EXON 5.
SHREF1AB BRINE SHRIMP (ARTEMIA) ELONGATION FACTOR EF-1-ALPHA MRNA, COMPLETE.
SLETUBA STYLONYCHIA LEMNAE ALPHA-TUBULIN GENE, COMPLETE CDS. 1829BP
SPEDEVG FLESH FLY GENE FOR 25-KDA PROTEIN. 2343BP
SPELEC FLESH FLY (SARCOPHAGA PEREGRINA) LECTIN (ALPHA SUBUNIT) MRNA,
SUPHIS2A1 SEA URCHIN (P.MILIARIS) LATE HISTONE H2A-1 LATE MRNA, COMPLETE CDS.
SUPHIS2A2 SEA URCHIN (P.MILIARIS) LATE HISTONE H2A-2 LATE MRNA, COMPLETE CDS.
SUPHIS2A3 SEA URCHIN (P.MILIARIS) LATE HISTONE H2A-3 MRNA, COMPLETE CDS.
SUPHIS2B1 SEA URCHIN (P.MILIARIS) SPERM HISTONE H2B-1 MRNA, COMPLETE CDS.
SUPHIS2B3 SEA URCHIN (P.MILIARIS) LATE HISTONE H2B-2 MRNA. 461BP
SUPHIS5P4 SEA URCHIN (P.MILIARIS) EARLY H2B GENE AND PARTIAL 5' SPACER. 791BP
SUPHIS5P5 SEA URCHIN (P.MILIARIS) HISTONE (H3) GENE, COMPLETE CDS. 418BP
SUPHIS5P6 SEA URCHIN (P.MILIARIS) H2A GENE, COMPLETE CDS. 780BP
SUPHIS5P7 SEA URCHIN (P.MILIARIS) HISTONE COMPLEX (H-3?); GENES H4, H2B,
SUSAC151 SEA URCHIN (S.FRANCISCANUS) ACTIN GENE, CLONE SFA-15, COMPLETE CDS.
SUSAC152 SEA URCHIN (S.FRANCISCANUS) ACTIN GENE, CLONE SFA-16, COMPLETE CDS.
SUSACTIN SEA URCHIN (S.PURPURATUS) ACTIN GENE, CLONE PSPG17. 2746BP
SUSBIND SEA URCHIN (S.PURPURATUS) BINDIN MRNA, COMPLETE CDS. 1873BP
SUSHIS2B4 SEA URCHIN (S.PURPURATUS) EARLY HISTONE GENES; H2A. 682BP
SUSMETA SEA URCHIN METALLOTHIONEIN (MTA) MRNA. 648BP
SUYHIS5 SEA URCHIN (L.PICTUS) EARLY-STAGE HISTONE H3 GENE. 1090BP
SUYHIS L34 SEA URCHIN (L.PICTUS) LATE-STAGE HISTONE H3 AND H4 GENES. 2133BP
SUYHIS L3A SEA URCHIN (L.PICTUS) LATE-STAGE HISTONE H3 AND H4 GENES. 2029BP
TETACTA T.THERMOPHILA MACRONUCLEAR ACTIN GENE, COMPLETE CDS. 1421BP
TETHAI T. THERMOPHILA HISTONE H4-I GENE AND FLANKING REGIONS. 2156BP
TETHSH1 T.THERMOPHILA HISTONE H1 GENE, COMPLETE CDS. 1146BP
TRBALDR TRYPANOSOMA BRUCEI MRNA FOR FRUCTOSE BIPHOSPHATE ALDOLASE. 1846BP
TRBCMRSG TRYPANOSOMA BRUCEI GAMBIENSE CALMODULIN GENES, TANDEMLY REPEATED,
TRBPGKBC TRYPANOSOMA BRUCEI GENES B AND C FOR PHOSPHOGLYCERATE KINASE (PGK)
TRBTUBAB T.BRUCEI RHODESIENSE ALPHA (COMPLETE) AND BETA TUBULIN GENES 3444BP
TRBVS17M T. BRUCEI VARIANT SURFACE GLYCOPROTEIN 117 COMPLETE MRNA. 1760BP
TRBVSG11Z T.BRUCEI VARIANT SURFACE GLYCOPROTEIN ANTAT 1.1, EXPRESSION-LINKED
TRBVSG13 T.BRUCEI (ILTAT 1.3) VARIANT SURFACE GLYCOPROTEIN MRNA. 1626BP
TRC1FS T.CRUZI 1FS GENE. 940BP
UCAHBFI URECHIS CAUPO F-I HEMOGLOBIN MRNA, COMPLETE CDS. 718BP

******* PLANTS

ANFAROM ASPERGILLUS NIDULANS AROM LOCUS DNA FOR PRE-CHORISMATE AROMATIC
ANIPETF A.NIDULANS PETF GENE ENCODING FERREDOXIN I, COMPLETE CDS. 1071BP
ANITPIA A.NIDULANS TRIOSEPHOSPHATE ISOMERASE GENE, COMPLETE CDS. 1900BP
ASAGIG1I A.AWAMORI GLUCOAMYLASE GENES, G1 AND G2. 3411BP
ASGGIG1I A.NIGER GLUCOAMYLASE GENES, G1 AND G2. 2602BP
ASNADH3 ASPERGILLUS NIDULANS ADH3 GENE ENCODING ALCOHOL DEHYDROGENASE 3,
ASNITRPCA ASPERGILLUS NIDULANS TRPC GENE, COMPLETE CDS. 4108BP
ASTAP3R AVENA SATIVA MRNA FOR PHYTOCHROME (AP3). 3099BP
ASTAP4R AVENA SATIVA MRNA FOR PHYTOCHROME (AP4). 3708BP
ATHADH A.THALIANA ALCOHOL DEGYDROGENASE GENE, COMPLETE CDS. 3196BP
BLYALR BARLEY ALEURAIN GENE, COMPLETE CDS. 877BP
BLYAMYAA BARLEY ALPHA-AMYLASE TYPE A ISOZYME MRNA, COMPLETE CDS. 1846BP
BLYAMYASD BARLEY ALPHA-AMYLASE TYPE B ISOZYME MRNA, COMPLETE CDS, CLONE PMC.
BLYAMYG BARLEY (TYPE A) HIGH PI ISOZYME OF ALPHA-AMYLASE GENE, COMPLETE
BLYHORB BARLEY B1 HORDEIN GENE, COMPLETE CDS. 2900BP
BLYPAPI BARLEY (H.VULGARE) PROBABLE AMYLASE/PROTEASE INHIBITOR (PAPI) 668BP
BNAHAP RAPESEED (B.NAPUS) HAPIN MRNA, COMPLETE CDS. 718BP
BNASSPB BRASSICA NAPUS (RAPESEED) GENE CODING FOR NAPIN (A SEED STORAGE
CACIPSG CEPHALOSPORIUM ACREMONIUM GENE FOR ISOPENICILLIN N SYNTHETASE
CENCONA C.ENSIFORMIS (JACK BEAN) CONCANAVALIN A MRNA, COMPLETE CDS. 1027BP
CPAPAP CARICA PAPAYA PAPAIN MRNA, COMPLETE CDS. 1292BP

CRETBGA CHLAMYDOMONAS REINHARDI BETA-1 TUBULIN GENE, COMPLETE CDS. 2044BP
CRETBBG CHLAMYDOMONAS REINHARDI BETA-2 TUBULIN GENE, COMPLETE CDS. 2481BP
DAREXT CARROT EXTENSIN GENE. 2230BP
DBLECS D.BIFLORUS SEED LECTIN SUBUNITS I AND II MRNA, COMPLETE CDS. 1008BP
FSOCUT F.SOLANI PIBI (FUNGUS) CUTINASE MRNA, COMPLETE CDS. 963BP
LGIAB19 LEMNA GIBBA CHLOROPHYLL A/B APOPROTEIN GENE, COMPLETE CDS. 1913BP
MRATEF1A MUCOR RACEMOSUS TEF-1 GENE ENCODING ELONGATION FACTOR 1-ALPHA
MZEACT1G MAIZE ACTIN 1 GENE (MAC1), COMPLETE CDS. 3434BP
MZEADH11F ZEA MAYS MRNA FOR ALCOHOL DEHYDROGENASE 1 ADH1-1F. 1611BP
MZEADH11F MAIZE ALCOHOL DEHYDROGENASE (ADH1-F) MRNA, COMPLETE CDS. 1590BP
MZEADH1S MAIZE ALCOHOL DEHYDROGENASE (ADH1-S) GENE, COMPLETE CDS. 3496BP
MZEADH2N ZEA MAYS ADH2-N GENE FOR ALCOHOL DEHYDROGENASE 2. 3536BP
MZEADH2NR MAIZE ADH2-N MRNA FOR ALCOHOL DEHYDROGENASE 2. 1600BP
MZEANT MAIZE ATP/ADP TRANSLOCATOR MRNA. 1136BP
MZEEG2R MAIZE ENDOSPERM GLUTELIN-2 PROTEIN MRNA, COMPLETE CDS. 837BP
MZEH3C2 MAIZE (ZEA MAYS) HISTONE H3 GENE (H3C2), COMPLETE CDS. 1001BP
MZEH3C4 MAIZE (ZEA MAYS) HISTONE H3 GENE (H3C4), COMPLETE CDS. 1264BP
MZEH4C14 MAIZE (ZEA MAYS) HISTONE H4 GENE (H4C14), COMPLETE CDS. 1136BP
MZEH4C7 MAIZE (ZEA MAYS) HISTONE H4 GENE (H4C7), COMPLETE CDS. 868BP
MZESUSYSG MAIZE SUCROSE SYNTHASE GENE (SHRUNKEN), COMPLETE CDS. 6922BP
MZETPI2 MAIZE TRIOSEPHOSPHATE ISOMERASE 1, EXONS 2-9. 2870BP
MZEZE19A MAIZE 19 KD ZEIN PROTEIN GENE AND FLANKS. 2036BP
MZEZE22A MAIZE 22KD (MW=26.53 KD) ZEIN PROTEIN 1, MRNA. 897BP
MZEZE22B MAIZE 22 KD (MW=26.99 KD) ZEIN PROTEIN 3, MRNA. 891BP
MZEZEA20M MAIZE ZEIN MRNA (CLONE A20). 921BP
MZEZEA30M MAIZE ZEIN MRNA (CLONE A30). 794BP
MZEZEPCM1 MAIZE ZEIN HEAVY CHAIN MRNA (CLONE PCM1). 943BP
MZEZEZ4G MAIZE ZEIN GENE (CLONE Z4). 1304BP
NEUAMG N.CRASSA AM (NADP-SPECIFIC GLUTAMATE DEHYDROGENASE) GENE & FLANKS.
NEUATPASE N.CRASSA PLASMA MEMBRANE ATPASE GENE, COMPLETE CDS. 5369BP
NEUATPC NEUROSPORA CRASSA MITOCHONDRIAL ADP/ATP CARRIER. 1937BP
NEUATPPM NEUROSPORA CRASSA PLASMA MEMBRANE H+-ATPASE GENE, COMPLETE CDS.
NEUATPPRO N.CRASSA MITOCHONDRIAL ATP SYNTHASE PROTEOLIPID SUBUNIT MRNA. 847BP
NEUH341 NEUROSPORA CRASSA HISTONE H3 GENE. 679BP
NEUH342 NEUROSPORA CRASSA HISTONE H4 GENE. 796BP
NEUMETC N.CRASSA COPPER METALLOTHIONEIN GENE, COMPLETE CDS. 1105BP
NEUPYR4 N.CRASSA PYR-4 GENE ENCODING OROTIDINE 5'-P DECARBOXYLASE, 1752BP
NEUQA4 N.CRASSA QA-4 GENE ENCODING 3-DEHYDROSHIKIMATE DEHYDRATASE, 2596BP
NEUTUBB N.CRASSA (BENOMYL RESISTANT MUTANT) BETA-TUBULIN GENE, 2546BP
NEUUCYCR N.CRASSA MITOCHONDRIAL IRON-SULFUR SUBUNIT OF UBIQUINOL-CYTOCHROME
PEAABIN1 PEA (P.SATIVUM) ALBUMIN 1 (PA1) GENE. 946BP
PEAABIN1M PEA (P.SATIVUM) ALBUMIN 1 (PA1) MRNA, COMPLETE CDS. 609BP
PEAABIN2 PEA (P.SATIVUM) ALBUMIN 2 (PA2) MRNA, COMPLETE CDS. 957BP
PEACAB80 PEA (P.SATIVUM) GENE AB80 ENCODING MAJOR LIGHT-HARVESTING 1166BP
PEALEGA PEA (P.SATIVUM L.) LEGA GENE ENCODING LEGUMIN, COMPLETE CDS. 2310BP
PEARUBPS PEA RBCS GENE FOR RIBULOSE BISPHOSPHATE CARBOXYLASE SMALL SUBUNIT,
PECIPS P.CHRYSOGENUM IPS GENE ENCODING ISOPENICILLIN N SYNTHETASE, 996BP
PETCAB13 PETUNIA GENE FOR CHLOROPHYLL A/B BINDING PROTEIN CAB 13. 1019BP
PETCAB22L PETUNIA GENE FOR CHLOROPHYLL A/B BINDING PROTEIN CAB 22L. 1187BP
PETCAB22R PETUNIA GENE FOR CHLOROPHYLL A/B BINDING PROTEIN CAB 22R. 1187BP
PETCAB25 PETUNIA GENE FOR CHLOROPHYLL A/B BINDING PROTEIN CAB 25. 1184BP
PETCAB91R PETUNIA GENE FOR CHLOROPHYLL A/B BINDING PROTEIN CAB 91R. 1173BP
PHOCHL PARSLEY (P.HORTENSE) CHALCONE SYNTHASE GENE, MRNA. 1431BP
PHVCHM P.VULGARIS CHITINASE MRNA, COMPLETE CDS. 1132BP
PHVDLECA P.VULGARIS PHYTOHEMAGGLUTININ GENE ENCODING ERYTHROAGGLUTINATING
PHVDLECB P.VULGARIS PHYTOHEMAGGLUTININ GENE ENCODING LEUCOAGGLUTINATING
PHVLBA PHASEOLUS VULGARIS (KIDNEY BEAN) LEGHEMOGLOBIN GENE, COMPLETE CDS.
PHVLECT P.VULGARIS LECTIN GENE, COMPLETE CDS. 1686BP
POTPATAT POTATO PATATIN MRNA. 1437BP
POTPINR1 POTATO (SOLANUM TUBEROSUM) MRNA 1 FOR PROTEINASE INHIBITOR II.
RCCPPRICR CASTOR BEAN MRNA FOR RICIN PRECURSOR. 1884BP
RCCRICN RICINUS COMMUNIS GENE FOR RICIN PRECURSOR. 2344BP
SCO1G2 SCHIZOPHYLLUM COMMUNE 1G2 GENE INVOLVED IN FRUITING, COMPLETE CDS.
SIPFDX WHITE CAMPION (SILENE PRATENSIS) FERREDOXIN PRECURSOR MRNA, 1054BP
SIPPCY SILENE PRATENSIS (WHITE CAMPION) PLASTOCYANIN PRECURSOR MRNA. 773BP
SLMCNP D.DISCOIDEUM CYCLIC NUCLEOTIDE PHOSPHODIESTERASE MRNA, COMPLETE
SLMCPROER DICTYOSTELIUM DISCOIDEUM MRNA FOR CYSTEINE PROTEINASE 2. 1282BP
SLMCYSPRO SLIME MOLD (D.DISCOIDEUM) CYSTEINE PROTEINASE 1 MRNA, COMPLETE CDS.
SLMD111 SLIME MOLD (D.DISCOIDEUM) PRESTALK D11 GENE, COMPLETE CDS. 2367BP
SLMDISIA SLIME MOLD (D.DISCOIDEUM) DISCOIDIN-IA GENE. 1223BP
SLMDISIC1 SLIME MOLD (D.DISCOIDEUM) DISCOIDIN-IC & ID GENES; IC. 1081BP
SLMDOD SLIME MOLD (D.DISCOIDEUM) DIHYDROOROTATE DEHYDROGENASE GENE, 1896BP
SLMRAS SLIME MOLD (D.DISCOIDEUM) RAS-HOMOLOGOUS GENE, COMPLETE CODING
SOYCIPI SOYBEAN CII PROTEASE INHIBITOR GENE, COMPLETE CDS. 646BP
SOYGLYA1A SOYBEAN GLYCININ SUBUNITS A-1A AND B1X PRECURSOR MRNA, COMPLETE CDS.
SOYGLYAAB SOYBEAN GLYCININ A5-A4-B3 SUBUNIT MRNA, COMPLETE CDS. 1899BP
SOYGLYR SOYBEAN GLYCININ SUBUNIT A-2-B-1A MRNA. 1709BP
SOYHSP175 SOYBEAN (GLYCINE MAX) LOW MW HEAT SHOCK PROTEIN GENE (GMHSP17.5-M).
SOYHSP176 SOYBEAN (GLYCINE MAX) LOW MW HEAT SHOCK PROTEIN GENE (GMHSP17.6-L).
SOYHSP2 SOYBEAN HEAT-SHOCK GENE HS6671. 1534BP
SOYHSP26M SOYBEAN (GLYCINE MAX) HEAT SHOCK PROTEIN (GMHSP17.5-E) GENE, 1683BP
SOYLBC2 SOYBEAN LEGHEMOGLOBIN C-2 GENE. 1292BP
SOYLBGI SOYBEAN LEGHEMOGLOBIN GENE I (LBGI). 1204BP
SOYLEA SOYBEAN LECTIN (LE1) GENE AND FLANKS. 2155BP
SOYNOD23G SOYBEAN NODULIN-23 GENE, COMPLETE CDS. 2223BP
SOYNOD24H SOYBEAN NODULIN-24 GENE ENCODING A PERIBACTEROID MEMBRANE PROTEIN,
SOYNOD35G SOYBEAN NODULIN-35 (N-35) GENE ENCODING A SUBUNIT OF URICASE II,
SOYNOD35M SOYBEAN NODULIN-35 MRNA ENCODING A SUBUNIT OF URICASE II. 1120BP
SOYPRP1 SOYBEAN SBPRP1 GENE ENCODING A PROLINE-RICH PROTEIN, COMPLETE CDS.
TDATHAU2 T.DANIELLI PREPROTHAUMATIN-2 MRNA EXPRESSED IN E.COLI. 931BP
TOBATP21 NICOTIANA PLUBAGINIFOLIA ATP2-1 GENE ENCODING BETA SUBUNIT OF
TOBPPRP NICOTIANA TABACUM MRNA FOR PATHOGENESIS-RELATED (PR) PROTEIN 1B
TOBRBPCO TOBACCO (N.TABACUM) S8 GENE ENCODING RIBULOSE BIS-PHOSPHATE 2362BP
TOBRBPCS NICOTIANA SYLVESTRIS RIBULOSE BISPHOSPHATE CARBOXYLASE SMALL 796BP
TOMRBCSA TOMATO (L.ESCULENTUM) RIBULOSE-1,5-BISPHOSPHATE 1032BP
TOMRBCSB TOMATO (L.ESCULENTUM) RIBULOSE-1,5-BISPHOSPHATE 599BP
TOMRBCSC TOMATO (L.ESCULENTUM) RIBULOSE-1,5-BISPHOSPHATE 1027BP
TOMRBCSD TOMATO RUBP CARBOXYLASE SMALL SUBUNIT LES817 MRNA. 776BP
TOMRBCSE TOMATO RUBP CARBOXYLASE SMALL SUBUNIT LES86 MRNA. 742BP
TOMWIPI TOMATO LEAF WOUND-INDUCED PROTEINASE INHIBITOR I MRNA, COMPLETE
TOMWIPIG TOMATO (L.ESCULENTUM) WOUND-INDUCIBLE PROTEINASE INHIBITOR I GENE,
TOMWIPII TOMATO LEAF WOUND-INDUCED PROTEINASE INHIBITOR II MRNA, COMPLETE
VFALEB4 VICIA FABA LEGUMIN B GENE LEB4. 2546BP
WHTCAB WHEAT MAJOR CHLOROPHYLL A/B-BINDING PROTEIN GENE, COMPLETE CDS.
WHTGLGB WHEAT (T.AESTIVUM) GAMMA GLIADIN GENE, COMPLETE CDS. 2450BP
WHTGLIA WHEAT (T. AESTIVUM) ALPHA-TYPE GLIADIN GENE, MRNA (CDNA CLONE
WHTGLIAA WHEAT STORAGE PROTEIN GLIADIN ALPHA-1Y GENE. 2347BP
WHTGLIABA WHEAT (T.AESTIVUM) ALPHA-/BETA-GLIADIN CLASS A-II MRNA, COMPLETE
WHTGLIABB WHEAT (T.AESTIVUM) ALPHA/BETA GLIADIN GENE, CLONE PW1215, COMPLETE
WHTGLIABC WHEAT (T.AESTIVUM) ALPHA-/BETA-GLIADIN CLASS A-V MRNA, COMPLETE
WHTGLIABD WHEAT (T.AESTIVUM) ALPHA/BETA GLIADIN GENE, CLONE PW8142, COMPLETE
WHTGLIABE WHEAT (T.AESTIVUM) ALPHA/BETA GLIADIN CLASS I GENE, CLONE PW8233,
WHTGLIABF WHEAT (T.AESTIVUM) ALPHA-/BETA-GLIADIN CLASS A-I MRNA, COMPLETE
WHTGLIABG WHEAT (T.AESTIVUM) ALPHA-/BETA-GLIADIN CLASS A-IV MRNA, COMPLETE
WHTGLIABH WHEAT (T.AESTIVUM) ALPHA-/BETA-GLIADIN CLASS A-III MRNA, COMPLETE
WHTGLIGBA WHEAT (T.AESTIVUM) GAMMA-GLIADIN CLASS B-I MRNA, COMPLETE CDS,
WHTGLUT1 WHEAT GENE FOR HMW GLUTENIN SUBUNIT. 3193BP
WHTH3 WHEAT (T. AESTIVUM) HISTONE H3 GENE, COMPLETE CDS. 811BP
WHTH4 WHEAT HISTONE 4 (H4) GENE. 1200BP
WHTTH091 WHEAT HISTONE H4 TH091 GENE, COMPLETE CDS. 727BP
YSBPOX4 YEAST (C.TROPICALIS) POX4 GENE ENCODING ACYL-COENZYME A OXIDASE II

YSBPOX5 YEAST (C.TROPICALIS) POX5 GENE ENCODING ACYL-COENZYME A OXIDASE I
YSCACT YEAST (S.CEREVISIAE) ACTIN GENE, COMPLETE CDS. 2509BP
YSCADE S.CEREVISIAE ADE5,7 GENE ENCODING GLYCINEAMIDE RIBOTIDE 3511BP
YSCADE3 YEAST (S.CEREVISIAE) ADE3 GENE ENCODING C-1-TETRAHYDROFOLATE 4483BP
YSCADE4 YEAST (S.CEREVISIAE) ADE4 GENE CODING FOR 1996BP
YSCADH3 S.CEREVISIAE ADH3 GENE ENCODING ALCOHOL DEHYDROGENASE III, 1609BP
YSCADH1 YEAST (S.CEREVISIAE) ALCOHOL DEHYDROGENASE I (ADH1) GENE. 2116BP
YSCADR2 YEAST (S.CEREVISIAE) ALCOHOL DEHYDROGENASE II GENE, ADR2 (GLUCOSE
YSCAPSG YEAST APS GENE FOR CYTOPLASMATIC ASPARTYL-TRNA SYNTHETASE (ASPRS).
YSCARG3 YEAST (S.CEREVISIAE) ARG3 GENE ENCODING ORNITHINE CARBAMOYL 1967BP
YSCARG4 YEAST (S.CEREVISIAE) ARGININOSUCCINATE LYASE (ARG4) GENE, 2296BP
YSCATPAMT YEAST (S.CEREVISIAE) MITOCHONDRIAL ATPASE 1 ALPHA SUBUNIT GENE,
YSCCAN1 YEAST (S.CEREVISIAE) CAN1 GENE ENCODING AN AMINO ACID PERMEASE,
YSCCAN1G YEAST CAN1 GENE FOR ARGININE PERMEASE. 2064BP
YSCCAR YEAST (S.CEREVISIAE) ARGINASE (CAR1) GENE, COMPLETE CDS. 1912BP
YSCCBP1 YEAST (S.CEREVISIAE) CBP1 GENE. 2464BP
YSCCBP6 YEAST (S.CEREVISIAE) NUCLEAR GENE CBP6 FOR CYTOCHROME B, COMPLETE
YSCCDC25G YEAST CELL DIVISION CYCLE GENE CDC25 5548BP
YSCCDC28 S.CEREVISIAE CELL DIVISION CONTROL GENE CDC28, COMPLETE CDS. 1721BP
YSCCDC35 YEAST DCD35 GENE REGION FOR ADENYLATE CYCLASE CATALYTIC CENTRE.
YSCCDC7 YEAST (S.CEREVISIAE) CELL CYCLE GENE (CDC7), COMPLETE CDS. 2100BP
YSCCDC8 YEAST (S.CEREVISIAE) CDC8 GENE (INVOLVED IN DNA REPLICATION).
YSCCDC9 YEAST CDC9 GENE FOR DNA LIGASE. 3848BP
YSCCEN3 YEAST (S.CEREVISIAE) CHROMOSOME III CENTROMERE (CEN3) REGION. 627BP
YSCCIT2 YEAST (S.CEREVISIAE) CIT2 GENE ENCODING THE CYTOPLASMIC FORM 1680BP
YSCCMD1 YEAST (S.CEREVISIAE) CMD1 GENE ENCODING CALMODULIN, COMPLETE CDS.
YSCCOX5 YEAST (S.CEREVISIAE) CYTOCHROME OXIDASE SUBUNIT V (COX5) GENE,
YSCCOX6 YEAST (S.CEREVISIAE) COX6 GENE ENCODING CYTOCHROME C OXIDASE 1105BP
YSCCPA1 YEAST (S. CEREVISIAE) CPA1 GENE ENCODING THE CARBAMYL PHOSPHATE
YSCCPA2 YEAST (S.CEREVISIAE) CPA2 GENE CODING FOR THE ARGININE-SPECIFIC
YSCCPAX S.CEREVISIAE CPA1 GENE ENCODING CARBAMOYL-PHOSPHATE SYNTHETASE
YSCCS YEAST (S. CEREVISIAE) CITRATE SYNTHASE GENE, COMPLETE CDS. 2427BP
YSCCUP1 YEAST (S.CEREVISIAE) CUP1 LOCUS ENCODING COPPER CHELATIN AND AN
YSCCYC YEAST (S.CEREVISIAE) NUCLEAR GENE FOR CYTOCHROME C1 PRECURSOR,
YSCCYC17 YEAST (S. CEREVISIAE) 17-KD SUBUNIT OF UBIQUINOL-CYTOCHROME C 797BP
YSCCYC1X YEAST (S.CEREVISIAE) ISO-1-CYTOCHROME C (CYC1) GENE. 857BP
YSCCYC4 YEAST (S.CEREVISIAE) CYTOCHROME C OXIDASE SUBUNIT IV GENE, 1581BP
YSCCYC7 YEAST (S. CEREVISIAE) ISO-2-CYTOCHROME C (CYC7) GENE, COMPLETE
YSCCYCR YEAST (S> CEREVISIAE) UBIQUINOL-CYTOCHROME C REDUCTASE 14 KD 1034BP
YSCCYR1 YEAST (S.CEREVISIAE) ADENYLATE CYCLASE GENE (CYR1), COMPLETE CDS.
YSCCYTB2 YEAST GENE FOR MITOCHONDRIAL L(+)-LACTATE CYTOCHROME C 2422BP
YSCEF1A YEAST (S. CEREVISIAE) TEF1 GENE FOR ELONGATION FACTOR EF-1 ALPHA,
YSCEF1AA YEAST (S. CEREVISIAE) GENE FOR ELONGATION FACTOR 1-ALPHA, COMPLETE.
YSCEF1AB YEAST (S.CEREVISIAE) EF-1-ALPHA* (ELONGATION FACTOR 1-ALPHA) GENE
YSCENOA YEAST (S. CEREVISIAE) ENOLASE GENE (CLONE PENO46) AND FLANKS.
YSCENOB YEAST (S. CEREVISIAE) ENOLASE GENE (CLONE PENO8) AND FLANKS. 1857BP
YSCGAL4 YEAST (S.CEREVISIAE) GAL4 GENE CODING FOR A POSITIVE REGULATOR OF
YSCGAL7 YEAST (S.CEREVISIAE) GAL7 GENE ENCODING 3460BP
YSCGAL80G YEAST (S.CEREVISIAE) GAL80 REGULATORY GENE, COMPLETE CDS. 2457BP
YSCGCN4 YEAST (S.CEREVISIAE) GCN4 GENE. 1824BP
YSCGCN4B YEAST (S. CEREVISIAE) GENERAL CONTROL REGULATORY GENE GCN4 AND
YSCGDHM YEAST (S. CEREVISIAE) GDH1 GENE ENCODING NADPH-DEPENDENT GLUTAMATE
YSCGDHN YEAST (S.CEREVISIAE) GDH1 GENE ENCODING NADPH-DEPENDENT GLUTAMATE
YSCHB91 YEAST (S.CEREVISIAE) HISTONE H2B-1 GENE. 807BP
YSCHB2 YEAST (S.CEREVISIAE) HISTONE H2B-2 GENE. 599BP
YSCH3CI YEAST (S. CEREVISIAE) HISTONE COPY-I H3 AND H4 GENES. 1800BP
YSCH3CII YEAST (S. CEREVISIAE) HISTONE COPY-II H3 AND H4 GENES. 1800BP
YSCHIP1 YEAST (S.CEREVISIAE) HISTIDINE PERMEASE GENE (HIP1), COMPLETE CDS.
YSCHM54 YEAST (S.CEREVISIAE) HM54 GENE, COMPLETE CDS. 476BP
YSCHKA YEAST HKA GENE FOR HEXOKINASE A MAPPING TO CHROMOSOME VI. 1716BP
YSCHKB YEAST HKB GENE FOR HEXOKINASE B MAPPING TO CHROMOSOME VII. 1587BP
YSCHMLAL YEAST (S.CEREVISIAE) MATING-TYPE LOCUS HML-ALPHA. 2543BP
YSCHSP90 YEAST (S.CEREVISIAE) HSP90 (HEAT SHOCK-INDUCIBLE) GENE, COMPLETE
YSCHTS1 YEAST (S.CEREVISIAE) HTS1 GENE ENCODING CYTOPLASMIC AND 2264BP
YSCHXK1 YEAST (S.CEREVISIAE) HXK1 GENE CODING FOR HEXOKINASE PI, COMPLETE
YSCHXK2 YEAST (S.CEREVISIAE) HXK2 GENE CODING FOR HEXOKINASE PII, COMPLETE
YSCILV2 YEAST GENE ILV2 FOR ACETOLACTATE SYNTHASE (EC 4.1.3.18). 3622BP
YSCLEU2 YEAST (S.CEREVISIAE) LEU2 GENE CODING FOR BETA-ISOPROPYLMALATE
YSCLEU4 YEAST (S.CEREVISIAE) LEU4 GENE CODING FOR ALPHA-ISOPROPYLMALATE
YSCM1-01 YEAST (S. CEREVISIAE) M1 PLASMID, M1-P1 PREPROTOXIN GENE. 1010BP
YSCM1PPT YEAST (S. CEREVISIAE) M1 PLASMID PREPROTOXIN GENE, COMPLETE CDS.
YSCMATA YEAST (S.CEREVISIAE) MATING-TYPE LOCUS MATA DNA. 2443BP
YSCMATAL YEAST (S.CEREVISIAE) MATING-TYPE LOCUS MAT-ALPHA. 1800BP
YSCMEL1 YEAST (S.CEREVISIAE) MEL1 GENE ENCODING ALPHA-GALACTOSIDASE, 2612BP
YSCMFA1G YEAST (S.CEREVISIAE) PHEROMONE GENE MF-ALPHA-1, COMPLETE CDS.
YSCMFA2G YEAST (S.CEREVISIAE) PHEROMONE GENE MF-ALPHA-2, COMPLETE CDS. 967BP
YSCMRNP YEAST (S.CEREVISIAE) POLY (A)-BINDING PROTEIN GENE, COMPLETE CDS.
YSCMSS51 YEAST (S.CEREVISIAE) MSS51 GENE, COMPLETE CDS. 2215BP
YSCMSW YEAST (S.CEREVISIAE) MSW GENE ENCODING MITOCHONDRIAL TRYPTOPHANYL-
YSCODCD YEAST (S.CEREVISIAE +D4) URA3 GENE CODING FOR CMP DECARBOXYLASE.
YSCOCF YEAST (S.CEREVISIAE F100) URA3 GENE CODING FOR CMP DECARBOXYLASE,
YSCPASPG YEAST (S.CEREVISIAE) POLYADENYLATE-BINDING PROTEIN GENE, COMPLETE
YSCPDE2 YEAST (S.CEREVISIAE) PDE2 GENE ENCODING A CAMP PHOSPHODIESTERASE
YSCPEP4 YEAST (S.CEREVISIAE) PEP4 GENE ENCODING ASPARTYL PROTEASE, COMPLETE
YSCPET494 YEAST (S.CEREVISIAE) PET494 GENE, COMPLETE CDS. 1879BP
YSCPET9 YEAST (S.CEREVISIAE) PET9 GENE ENCODING ADP/ATP TRANSLOCATOR 1739BP
YSCPHO83 YEAST (S. CEREVISIAE) PHO8 AND PHO83 GENES CODING FOR ACID 3913BP
YSCPHR YEAST (S.CEREVISIAE) PHR (PHOTORESACTIVATION) GENE ENCODING 2273BP
YSCPHR1 YEAST PHR1 GENE FOR PHOTOLYASE. 2301BP
YSCPI6 YEAST (S.CEREVISIAE) PI6 GENE ENCODING PHOSPHATIDYLINOSITOL 2129BP
YSCPK26 YEAST (S.CEREVISIAE) PROTEIN KINASE GENE. 1682BP
YSCPLASM YEAST (S.CEREVISIAE) 2 MICRON CIRCLE PLASMID, COMPLETE GENOME.
YSCPORIN YEAST (S.CEREVISIAE) PORIN MRNA, COMPLETE CDS. 946BP
YSCPPR1 YEAST (S.CEREVISIAE) PYRIMIDINE PATHWAY REGULATORY 1 (PPR1) GENE
YSCPPR2 YEAST (S. CEREVISIAE) PPR2 GENE, REGULATING DIHYDROORATASE 1132BP
YSCPRT1 YEAST (S.CEREVISIAE) PRT1 (CDC63) GENE ENCODING TRANSLATION 3019BP
YSCPUT2 YEAST (S.CEREVISIAE) PUT2 GENE ENCODING P5C DEHYDROGENASE, 2516BP
YSCRAD1 S. CEREVISIAE RAD1 GENE, COMPLETE CODING SEQUENCE. 3884BP
YSCRAD10 YEAST RAD10 GENE INVOLVED IN THE EXCISION REPAIR OF DNA. 2063BP
YSCRAD2G S.CEREVISIAE RAD2 GENE ENCODING RAD2 PROTEIN, COMPLETE CDS. 3919BP
YSCRAD3 YEAST (S.CEREVISIAE) RAD3 GENE, COMPLETE CDS. 3490BP
YSCRAD3G YEAST (S.CEREVISIAE) RAD3 GENE, COMPLETE CDS. 3383BP
YSCRAD52 YEAST (S.CEREVISIAE) RAD52 GENE, ENCODING AN UNIDENTIFIED PROTEIN
YSCRAD6 YEAST (S.CEREVISIAE) RAD6 GENE, COMPLETE CDS. 1432BP
YSCRAS1 S.CEREVISIAE RAS1 GENE, COMPLETE CODING SEQUENCE. 930BP
YSCRAS2 S.CEREVISIAE RAS2 GENE, COMPLETE CODING SEQUENCE. 969BP
YSCRASH1R YEAST (S. CEREVISIAE) RAS-H RELATED GENE C-RAS-SC-1. 1229BP
YSCRASH2R YEAST (S. CEREVISIAE) RAS-H RELATED GENE C-RAS-SC-2. 1242BP
YSCRP29 YEAST (S. CEREVISIAE) RIBOSOMAL PROTEIN 29, COMPLETE CDS. 1726BP
YSCRP51A YEAST (S.CEREVISIAE) RIBOSOMAL PROTEIN 51A GENE (RP51A). 1210BP
YSCRP51B YEAST (S.CEREVISIAE) RIBOSOMAL PROTEIN 51B GENE (RP51B). 1456BP
YSCRPL17A YEAST (S. CEREVISIAE) RIBOSOMAL PROTEIN L17A GENE, COMPLETE CDS.
YSCRPL25 YEAST (S.CEREVISIAE) RIBOSOMAL PROTEIN L25 GENE, COMPLETE CDS.
YSCRPL29 YEAST (S.CEREVISIAE) RIBOSOMAL PROTEIN L29, GENE CYH2. 1346BP
YSCRPL46 YEAST (S.CEREVISIAE) RIBOSOMAL PROTEIN L46 GENE, COMPLETE CDS.
YSCRPO21 YEAST (S.CEREVISIAE) RPO21 GENE ENCODING RNA POLYMERASE II LARGE
YSCRPO31 YEAST (S.CEREVISIAE) RPO31 GENE ENCODING RNA POLYMERASE III 5441BP
YSCRPS24 YEAST (S.CEREVISIAE) RIBOSOMAL PROTEIN S24 GENE, COMPLETE CDS.
YSCRPS33 YEAST (S. CEREVISIAE) RIBOSOMAL PROTEIN S33 GENE. 372BP
YSCSEC63 YEAST SEC63 GENE REQUIRED FOR PROTEIN ASSEMBLY 1297BP
YSCSIR2G YEAST (S.CEREVISIAE) SIR2 (SILENT INFORMATION REGULATOR) GENE

YSCSIR3G YEAST (S.CEREVISIAE) SIR3 (SILENT INFORMATION REGULATOR) GENE,
YSCSNF1 YEAST (S.CEREVISIAE) SNF1 GENE ENCODING A CARBON CATABOLITE 2587BP
YSCSODMNG YEAST GENE FOR MITOCHONDRIAL MANGANESE SUPEROXIDE DISMUTASE 2046BP
YSCSPT2 YEAST (S.CEREVISIAE) SPT2 GENE ENCODING REGULATORY PROTEIN, 2025BP
YSCSTE2G YEAST (S.CEREVISIAE) CELL TYPE-SPECIFIC STERILE STE2 GENE, 2008BP
YSCSTE3 YEAST (S.CEREVISIAE) STE3 GENE ENCODING RECEPTOR FOR PHEROMONE A
YSCSTE3G YEAST (S.CEREVISIAE) CELL TYPE-SPECIFIC STERILE STE3 GENE, 2048BP
YSCSTE7 YEAST (S.CEREVISIAE) REGULATORY GENE STE7, COMPLETE CDS. 2100BP
YSCSUC2 YEAST (S.CEREVISIAE) SUC2 GENE ENCODING AN INVERTASE, COMPLETE CDS.
YSCTHB1 YEAST (S.CEREVISIAE) THB1 GENE ENCODING THREONYL-TRNA 2479BP
YSCTKCDC4 YEAST CDC4 GENE ENCODING THYMIDYLATE KINASE (TK), 682BP
YSCTOP2 S.CEREVISIAE TOP2 GENE ENCODING TOPOISOMERASE II, COMPLETE CDS.
YSCTRP1 YEAST (S.CEREVISIAE) AUTONOMOUS REPLICATION SEQUENCE ARS1 AND TRP1
YSCTRP2 YEAST (S.CEREVISIAE) TRP2 GENE CODING FOR ANTHRANILATE SYNTHASE
YSCTRP3 YEAST (S.CEREVISIAE) TRP3 GENE CODING FOR ANTHRANILATE SYNTHASE
YSCTUB8 YEAST (S. CEREVISIAE) BETA-TUBULIN GENE. 1843BP
YSCTY1117 YEAST CLASS II TRANSPOSON TY 1-17 5962BP
YSCURA3 YEAST (S.CEREVISIAE) URA3 GENE ENCODING ORITIDINE-5'-PHOSPHATE
YSCYP2CNC YEAST (S.CEREVISIAE) YP2 PROTEIN PROTO-ONCOGENE (HUMAN C-HAS/BAS).
YSDSTA1 YEAST (S.DIASTATICUS) EXTRACELLULAR GLUCOAMYLASE GENE STA1, 2763BP
YSEGLUB YEAST (C.PELLICULOSA) BETA-GLUCOSIDASE GENE, COMPLETE CDS. 5327BP
YSGACT YEAST (S.CARLSBERGENSIS) ACTIN GENE. 1846BP
YSGGAL52 YEAST (S. CARLSBERGENSIS) GAL10-GAL1 REGION WITH BOTH MRNA STARTS,
YSGH4 YEAST (S.CARLSBERGENSIS) HISTONE H4 GENE. 628BP
YSGMAL65T YEAST (S.CARLSBERGENSIS) MAL65 AND MAL5T GENES ENCODING MALTASE,
YSGMEL1 YEAST (S.CARLSBERGENSIS) MEL1 (ALPHA-GALACTOSIDASE) GENE, 3793BP
YSGRP1.16 YEAST (S. CARLSBERGENSIS) RIBOSOMAL PROTEIN L16 GENE. 907BP
YSKK1CG PLASMID K1 FROM KILLER YEAST (K. LACTIS), COMPLETE GENOME. 8574BP
YSKLAC9 YEAST (K.LACTIS) LAC9 GENE ENCODING POSITIVE REGULATOR OF THE
YSMDAS HANSENULA POLYMORPHA DAS GENE FOR DIHYDROXY-ACETONE SYNTHASE 3278BP
YSPCDC10 SCHIZOSACCHAROMYCES POMBE CDC10 START GENE, COMPLETE CDS. 2606BP
YSPCDC2 YEAST (S.POMBE) CELL DIVISION GENE (CDC2), COMPLETE CDS. 1687BP
YSPCYC YEAST (S. POMBE) CYTOCHROME C GENE AND FLANKS. 846BP
YSPHISAB YEAST (S.POMBE) HISTONE H2A-BETA GENE, COMPLETE CDS. 941BP
YSPHISABA YEAST (S.POMBE) HISTONE H2A-ALPHA AND H2B-ALPHA GENES, COMPLETE
YSPPHO1 YEAST (S.POMBE) ACID PHOSPHATASE (PHO1) GENE, COMPLETE CDS. 1838BP
YSPRAS YEAST (S.POMBE) RAS GENE, COMPLETE CDS. 671BP
YSPRAS1X YEAST (SCHIZOSACCHAROMYCES POMBE) RAS GENE. 1224BP
YSPTUBA1 YEAST (S.POMBE) NDA2 GENE ENCODING ALPHA-TUBULIN 1, COMPLETE CDS.
YSPTUBA2 YEAST (S.POMBE) GENE ENCODING ALPHA-TUBULIN 2, COMPLETE CDS. 1739BP
YSPTUB8 S. POMBE NDA3 GENE ENCODING BETA-TUBULIN, COMPLETE CDS. 2029BP

******** BACTERIA & PLASMIDS

ANAGLNA ANABAENA GLNA GENE ENCODING FOR GLUTAMINE-SYNTHETASE, COMPLETE
ANANIFH CYANOBACT. ANABAENA 7120 NIFH(NITROGENASE REDUCTASE) GENE. 1271BP
ANAPETF ANABAENA SP. PETF GENE ENCODING FERREDOXIN I, COMPLETE CDS. 790BP
ANARUBP ANABAENA 7120 RBCL & RBCS GENES ENCODING BOTH RUBP CARBOXYLASE
ANATRXA ANABAENA SP. TRXA GENE ENCODING THIOREDOXIN, COMPLETE CDS. 653BP
ANIPCP AUAYCYSTIS NIDULANS PHOSPHOENOLPYRUVATE CARBOXYLASE (PPC) GENE,
ANIPSBA ANACYSTIS NIDULANS PSBA GENE ENCODING 1063BP
ANIRUSPL ANACYSTIS NIDULANS 6301 RUBP CARBOXYLASE LARGE SUBUNIT GENE. 1618BP
ANIRUSPS A. NIDULANS RIBULOSE-1,5-BISPHOSPHATE CARBOXYLASE OXYGENASE SMALL
AOUCPCAB A. QUADRUPLICATUM C-PHYCOCYANIN (C-PC) ALPHA AND BETA SUBUNIT
AOUPCAB AGMENELLUM QUADRUPLICATUM PHYCOCYANIN ALPHA AND BETA SUBUNIT 1696BP
BAMAPR1 B. AMYLOLIQUEFACIENS ALKALINE PROTEASE (APR) GENE, COMPLETE CDS.
BAMNPR B. AMYLOLIQUEFACIENS NEUTRAL PROTEASE (NPR) GENE, COMPLETE CDS.
BAMSACO B.AMYLOLIQUEFACIENS SACO GENE ENCODING A REGULATORY FACTOR 3048P
BAMSUB B. AMYLOLIQUEFACIENS SUBTILISIN GENE, COMPLETE CODING SEQUENCE.
BCEBLMII B.CEREUS BETA-LACTAMASE II (BLM) GENE, COMPLETE CDS. 1124BP
BCEPPCSB B.CEREUS (STRAIN 569) PBNPC GENE ENCODING BETA-LACTAMASE I, 1400BP
BCEPPCSH B.CEREUS (STRAIN 569/H) PBNPC GENE ENCODING BETA-LACTAMASE I,
BCESASPA B.CEREUS SASP-1 GENE ENCODING A SMALL ACID-SOLUBLE SPORE PROTEIN,
BCESASPB B.CEREUS SASP-2 GENE ENCODING A SMALL ACID-SOLUBLE SPORE PROTEIN,
BCIAPH B.CIRCULANS AMINOGLYCOSIDE PHOSPHOTRANSFERASE GENE, COMPLETE CDS.
BJPNSFB BACILLUS JAPONICUS NSFB GENE ENCODING NITROGENASE. 1719BP
BLIPEN B.LICHENIFORMIS PENICILLINASE GENE PENP, 5' END, AND PENICILLINASE
BLIPENP B.LICHENIFORMIS PENP (BETA-LACTAMASE) GENE, CODING FOR 1300BP
BLISPOOH B.LICHENIFORMIS SPOOH GENE, COMPLETE SEQUENCE. 1228BP
BLISUBTCA BACILLUS LICHENIFORMIS GENE FOR SUBTILISIN CARLSBERG. 1362BP
BMACDDG B.MACERANS CYCLODEXTRIN GLUCANOTRANSFERASE (CD) GENE, COMPLETE CDS.
BMEC B.MEGATERIUM PROTEIN C GENE, COMPLETE CODING SEQUENCE. 567BP
BMEC4P B.MEGATERIUM SASP-C4 GENE ENCODING SMALL, ACID-SOLUBLE SPORE 620BP
BMEC5P B.MEGATERIUM SASP-C5 GENE ENCODING SMALL, ACID-SOLUBLE SPORE 515BP
BMECA B.MEGATERIUM SASP-A GENE ENCODING SMALL, ACID-SOLUBLE SPORE PROTEIN
BMECB B.MEGATERIUM SASP B GENE ENCODING SMALL, ACID-SOLUBLE SPORE 634BP
BNCPIL BACTEROIDES NODOSUS PILIN GENE, COMPLETE CDS. 754BP
BNCPIL2S BACTEROIDES NODOSUS TWO-SUBUNIT PILIN GENE, COMPLETE CDS. 1033BP
BPETOX BORDETELLA PERTUSSIS TOXIN GENE, COMPLETE CDS. 4207BP
BPETOXS B.PERTUSSIS TOXIN GENE ENCODING SUBUNITS S1, S2, S3, S4, S5. 4496BP
BPUCAT86 B.PUMILUS CAT-86 (CHLORAMPHENICOL-ACETYLTRANSFERASE) GENE. 1286BP
BPUXYNA BACILLUS PUMILUS XYNA GENE CODING FOR XYLANASE. 1070BP
BSPCEL BACILLUS SP. CELLULASE GENE, COMPLETE CDS, CLONE PKK2. 1612BP
BSPCELA BACILLUS SP. CELLULASE GENE, COMPLETE CDS, CLONE PKH1. 2088BP
BSTAMYL BACILLUS STEAROTHERMOPHILUS LIQUEFYING ALPHA-AMYLASE GENE. 2189BP
BSTLDHL B.STEAROTHERMOPHILUS LCT GENE ENCODING L-LACTATE DEHYDROGENASE,
BSTSASPA B.STEAROTHERMOPHILUS SASP-1 GENE ENCODING A SMALL ACID-SOLUBLE
BSTTHT16 B.SUBTILIS THERMOPHILUS PLASMID PTHT16 TETRACYCLINE RESISTANCE GENE,
BSTTRP5 B.STEAROTHERMOPHILUS TRP5 GENE ENCODING TRYPTOPHANYL TRNA 1455BP
BSUAMYEN B.SUBTILIS AMYEN- GENE CODING FOR N-TYPE ALPHA-AMYLASE. 2374BP
BSUAMYL B.SUBTILIS AMYLASE GENE, COMPLETE CDS. 2566BP
BSUCITG B.SUBTILIS FUMARASE GENE (CITG), COMPLETE CDS. 2136BP
BSUDNAE B.SUBTILIS DNAE GENE ENCODING DNA PRIMASE, COMPLETE CDS. 2001BP
BSUGLUCB B.SUBTILIS BETA-GLUCANASE GENE ((1-3),(1-4)-BETA-D-GLUCAN 1408BP
BSUGNT B.SUBTILIS (GLUCONATE OPERON) GNTR, GNTK AND GNTP GENES ENCODING
BSUNPRE B.SUBTILIS NPRE GENE ENCODING NEUTRAL PROTEASE. 1914BP
BSUORIC BACILLUS SUBTILIS ORIC REGION. 1666BP
BSUPURF B.SUBTILIS PUR OPERON ENCODING PURINE BIOSYNTHESIS ENZYMES, 12
BSUPYRB B.SUBTILIS PYRB GENE ENCODING ASPARTATE TRANSCARBAMYLASE, COMPLETE
BSURI BACILLUS SUBTILIS BSURI RESTRICTION-MODIFICATION GENES, ENCODING
BSURPOA B.SUBTILIS DNA SEQUENCE OF THE RPSH-RPOA INTERVAL. 898BP
BSURPOD B.SUBTILIS RPOD GENE ENCODING RNA POLYMERASE SIGMA-43 FACTOR,
BSURPOF B.SUBTILIS RPOF GENE ENCODING MINOR SIGMA-37 FACTOR OF 1930BP
BSUSACO B.SUBTILIS SACO GENE ENCODING A REGULATORY FACTOR AFFECTING 1186BP
BSUSASP1 B.SUBTILIS SMALL, ACID-SOLUBLE SPORE PROTEIN (SASP1) GENE, 620BP
BSUSITL B.SUBTILIS SUBTILISIN GENE, COMPLETE CODING REGION. 1990BP
BSUSIGB B.SUBTILIS SIGB GENE ENCODING SIGMA-37 RNA POLYMERASE SIGMA FACTOR,
BSUSIN B.SUBTILIS SIN GENE CAUSING INHIBITION OF BOTH SPORULATION AND
BSUSPOAA B.SUBTILIS SPO0A (SPORULATION) GENE, COMPLETE CDS. 1363BP
BSUSPOB B. SUBTILIS, SPO0B LOCUS, EARLY SPORULATION GENE SPO0B, COMPLETE
BSUSPOB1 B. SUBTILIS W168 RIBOSOMAL PROTEIN L27 GENE, UPSTREAM OF SPO0B
BSUSPOBD B. SUBTILIS SPO0B LOCUS, EARLY SPORULATION GENE SPO0B, 912BP
BSUSPOOFG B.SUBTILIS SPO0F 2 GENE CODING FOR EARLY SPORULATION PROTEIN SPO0F.
BSUSPOXG B.SUBTILIS SPORULATION GENE, SPO0G, COMPLETE CDS. 1133BP
BSUSPOR BACILLUS SUBTILIS 0.3 KB GENE. 441BP
BSUSSPA BACILLUS SUBTILIS SSPA GENE CODING FOR SMALL, ACID-SOLUBLE SPORE
BSUSSPB BACILLUS SUBTILIS SSPB GENE CODING FOR SMALL, ACID-SOLUBLE SPORE
BSUSSPD BACILLUS SUBTILIS SSPD GENE CODING FOR SMALL, ACID-SOLUBLE SPORE
BSUTRP B.SUBTILIS TRYPTOPHAN (TRP) OPERON, COMPLETE CDS. 6992BP
BTHCP28 BACILLUS THURINGIENSIS GENE FOR CRYSTAL PROTEIN (MR 28 000). 1052BP
BTHCRBG B.THURINGIENSIS (BERLINER) CRYSTALINE ENTOMOCIDAL PROTOXIN GENE,
BTHCRBG B.THURINGIENSIS 75 KB PLASMID CRYSTAL PROTEIN GENE AND FLANKS.

BTTSASPA T.THALOPHILUS SASP-1 GENE ENCODING A SMALL ACID-SOLUBLE 476BP
CB2PIL COLB2 PLASMID TRANSFER (TRA) OPERON, TRAA (PILIN) GENE, COMPLETE
CE1CAI PLASMID COLE1 CAI, GENE CODING FOR THE IMMUNITY PROTEIN TO COLICIN
CE1CEA PLASMID COLE1 CEA (3' END), IMM AND LYS GENES (COMPLETE CDS). 63KBP
CE1CO PLASMID COLE1, COMPLETE GENOME. 6646BP
CE1COL1 PLASMID COLE1 COLICIN E1 GENE. 1809BP
CE2IMM PLASMID COLE2-P9 IMMUNITY PROTEIN, COMPLETE CDS, AND COLICIN E2
CE2LYS E. COLI LYSIS GENE FROM PLASMID COLE2-P9. 391BP
CE2PIMM PLASMID COLE2-P9 IMMUNITY GENE (IMM). 634BP
CE33IMP PLASMID COLE3-CA38 COLICINOGENIC REGION CONTAINING COLICIN E3
CE3IMM PLASMID COLE3-CA38 IMMUNITY PROTEIN, COMPLETE CDS AND COLICIN E3
CE3LYS E. COLI LYSIS GENE FROM PLASMID COLE3. 392BP
CHTOMP1L2 CHLAMYDIA TRACHOMATIS OMP1L2 GENE ENCODING MAJOR OUTER MEMBRANE
CIAIMMM PLASMID COLIA-CA53 COLICIN IA STRUCTURAL AND IMMUNITY GENES, 3727BP
CIBCOLI PLASMID COLIB COLICIN IB GENE. 2971BP
CIBIMMM PLASMID COLIB-P9 COLICIN IB STRUCTURAL AND IMMUNITY GENES, COMPLETE
CLACOLA COLICIN A PLASMID, COLICIN A GENE, COMPLETE CDS. 2122BP
CLKPIL E.COLI F-LIKE PLASMID COLV2-K94 (SUBGROUP IA) TRAA GENE, 441BP
CLOCELA CLOSTRIDIUM THERMOCELLUM CELA GENE ENCODING ENDOGLUCANASE A. 1934BP
CLOCELB CLOSTRIDIUM THERMOCELLUM CELB GENE FOR ENDOGLUCANASE B. 2155BP
CLOFDX C.PASTEURIANUM FERREDOXIN GENE, COMPLETE CDS. 604BP
CLVPIL E.COLI F-LIKE PLASMID COLVB7RP (SUBGROUP IA) TRAA GENE, 441BP
CORDXGR CORYNEBACTERIUM 2,5-DIKETO-D-GLUCONIC ACID (2,5-DKG) REDUCTASE
DVUHYDG D.VULGARIS 46-KDA HYDROGENASE AND 13.5-KDA PROTEIN GENES, COMPLETE
EAMLPP ERWINIA AMYLOVORA LIPOPROTEIN GENE. 772BP
ECHASNL E.CHRYSANTHEMI ASN GENE ENCODING L-ASPARAGINASE, COMPLETE CDS.
ECHPELB E.CHRYSANTHEMI PECTATE LYASE B (PELB) GENE, COMPLETE CDS. 2066BP
ECHPELE E.CHRYSANTHEMI PECTATE LYASE E (PELE) GENE, COMPLETE CDS. 2034BP
ECOACE E.COLI ACEE, ACEF, LPD AND A GENES (ACE OPERON) CODING FOR PYRUVATE
ECOADA E.COLI ADA GENE CODING FOR ADA PROTEIN, REGULATORY PROTEIN OF
ECOADAA E.COLI (STRAIN B) ADA GENE CODING FOR ADA POLYPROTEIN, REGULATORY
ECOADAB E.COLI ALKB GENE ENCODING THE ALKB PROTEIN, COMPLETE CDS, AND ADA
ECOADK E.COLI ADK GENE ENCODING ADENYLATE KINASE, COMPLETE CDS. 1056BP
ECOALAB E.COLI ALAB GENE CODING FOR ALANYL-TRNA SYNTHETASE. 2770BP
ECOALKA E. COLI ALKA GENE ENCODING 3-METHYLADENINE DNA GLYCOSBYLASE II,
ECOAMPCFR E.COLI FRD OPERON, FRDA AND FRDB GENES CODING FOR FUMARATE 5482BP
ECOAMS E.COLI AMS GENE CODING FOR A PRODUCT THAT AFFECTS MRNA STABILITY,
ECOARABOP E.COLI ARABAD PROMOTER REGION AND ARAC GENE CODING FOR ACTIVATOR
ECOARACB E.COLI L-ARABINOSE OPERON (ARABAD) AND ARAC GENE CODING FOR 1221BP
ECOARACK E.COLI ARAC GENE CODING FOR ACTIVATOR AND REPRESSOR PROTEINS.
ECOARGF E.COLI ARGF GENE CODING FOR ORNITHINE CARBAMOYLTRANSFERASE, 1405BP
ECOARGI E. COLI ARGI GENE ENCODING ORNITHINE TRANSCARBAMOYLASE, 1065BP
ECOAROA E.COLI AROA GENE FOR 5-ENOLPYRUVYLSHIKIMATE 3-PHOSPHATE SYNTHASE
ECOAROB E. COLI AROB GENE FOR 3-DEHYDROQUINATE SYNTHASE (EC 4.6.1.3).
ECOAROF E.COLI AROF GENE FOR DAHP SYNTHASE (TYR), COMPLETE CODING SEQUENCE.
ECOAROG E.COLI AROG GENE CODING FOR DAHP SYNTHETASE (PHENYLALANINE 2107BP
ECOAROLM E.COLI K12 AROL AND AROM GENES ENCODING SHIKIMATE KINASE II AND A
ECOASD E.COLI ASD GENE CODING FOR ASPARTIC SEMIALDEHYDE DEHYDROGENASE.
ECOASPAW E.COLI W ASPA GENE CODING FOR ASPARTATE AL-ASPARTATE 2901BP
ECOASPC E. COLI ASPC GENE FOR ASPARTATE AMINOTRANSFERASE. 1415BP
ECOBIRA E.COLI BIRA GENE CODING FOR BIRA, A BIFUNCTIONAL PROTEIN WITH
ECOBTUB E.COLI BTUB GENE FOR THE VITAMIN B12 RECEPTOR PROTEIN BTUB. 2220BP
ECOBTUCED E.COLI BTUCED GENES ENCODING VITAMIN B12 TRANSPORT MECHANISMS,
ECOCAL E. COLI CALA GENE FOR LYSIS PROTEIN ENCODED BY PLASMID COLA-CA31.
ECOCARAB E.COLI CARA AND CARB GENES FOR CARBAMOYL-PHOSPHATE SYNTHETASE,
ECOCCA E.COLI CCA GENE ENCODING TRNA NUCLEOTIDYLTRANSFERASE, COMPLETE CDS.
ECOCDH E.COLI CDH GENE CODING FOR CDP-DIGLYCERIDE HYDROLASE, COMPLETE CDS.
ECOCDHA E.COLI PRKA, SBP AND CDH GENES ENCODING PHOSPHOFRUCTOKINASE-1,
ECOCDS E.COLI CDS GENE ENCODING CDP-DIGLYCERIDE SYNTHETASE, COMPLETE CDS.
ECOCHEY E. COLI CHEY GENE WITH 3' END OF CHEB AND 5' END OF CHEZ GENES.
ECOCPDB E.COLI CPDB GENE ENCODING PERIPLASMIC 2',3'-CYCLIC 2196BP
ECOCRP E.COLI CRP GENE CODING FOR CYCLIC AMP RECEPTOR PROTEIN. 1127BP
ECOCYA E.COLI CYA GENE CODING FOR ADENYLATE CYCLASE AND CYAX GENE. 3697BP
ECOCYAG E.COLI ADENYLATE CYCLASE OPERON: CYA GENE, COMPLETE CDS. 3696BP
ECOCYTSB E.COLI CYTSB GENE ENCODING CYTSB REGULATORY PROTEIN, COMPLETE CDS.
ECOCYTR E. COLI CYTR GENE CODING FOR CYT REPRESSOR. 1384BP
ECODAM E.COLI DAM GENE CODING FOR DNA ADENINE METHYLASE. 1134BP
ECODAPA E.COLI DAPA GENE ENCODING DIHYDRODIPICOLINATE SYNTHETASE 1187BP
ECODAPB E.COLI DAPB GENE CODING FOR DIHYDRODIPICOLINATE REDUCTASE, 1261BP
ECODAPD E.COLI DAPD GENE CODING FOR TETRAHYDRODIPICOLINATE 1182BP
ECODEOC E.COLI DEO OPERON, PROMOTERS AND DEOC GENE CODING FOR 1539BP
ECODEOR E.COLI DEOR GENE CODING FOR THE DEOR REPRESSOR PROTEIN. 996BP
ECODLD E.COLI DLD GENE CODING FOR D-LACTATE DEHYDROGENASE, COMPLETE CDS.
ECODLDH E.COLI DLD GENE ENCODING D-LACTATE DEHYDROGENASE, COMPLETE CDS.
ECODNAAOP E.COLI DNAA OPERON: DNAA, DNAN, AND RPMH GENES CODING FOR DNAA
ECODNAB E.COLI DNAB GENE CODING FOR A REPLICATION PROTEIN. 1461BP
ECODNAK E.COLI DNAK GENE ENCODING THE HEAT SHOCK 70 PROTEIN. 1917BP
ECODYE E.COLI DYE GENE CODING FOR DYE PROTEIN, COMPLETE CDS. 1446BP
ECOERA E.COLI PNC (PARTIAL CDS) AND ERA GENES (COMPLETE CDS) ENCODING
ECOFDHF E.COLI FDHF GENE ENCODING THE SELENOPOLYPEPTIDE OF THE 2273BP
ECOFHUA E.COLI FHUA GENE ENCODING THE FERRICHROME IRON RECEPTOR, COMPLETE
ECOFIMA E. COLI FIMA GENE ENCODING THE TYPE 1 FIMBRIAL SUBUNIT. 1450BP
ECOFIMK57 E.COLI K571A FIMBRILLIN (P-FIMBRIAL ANTIGEN) GENE. 829BP
ECORLAA E.COLI FLAA GENE ENCODING A PROTEIN CONTROLLING THE ROTATIONAL
ECOFOLA E.COLI FOLA GENE CODING FOR DIHYDROFOLATE REDUCTASE. 1200BP
ECOFTSQA E. COLI FTSQ AND FTSA GENES, COMPLETE CDS, AND FTSZ GENE (PARTIAL).
ECOFTSQAB E.COLI FTSA, FTSZ, AND ENVA GENES CODING FOR FTSA PROTEIN, CELL
ECOFTSQAZ E.COLI FTSQ, FTSA AND FTSZ GENES ENCODING CELL DIVISION PROTEINS
ECOFUMA E.COLI FUMA AND MANA GENES CODING FOR FUMARASE AND MANNOSE 2409BP
ECOFUR E. COLI IRON REGULATORY GENE FUR. 666BP
ECOGALK E.COLI GALT GENE (5' END) AND GALK GENE CODING FOR GALACTOSE-1
ECOGALLYS E.COLI GALR, LYSA, & LYSR GENES CODING FOR GALETK OPERON REPRESSOR
ECOGAP E.COLI GAP GENE CODING FOR D-GLYCERALDEHYDE-3-PHOSPHATE 1523BP
ECOGDHA E.COLI GDHA GENE CODING FOR NADP-SPECIFIC GLUTAMATE DEHYDROGENASE.
ECOGDHAK E. COLI GDHA GENE CODING NADP-DEPENDENT GLUTAMATE DEHYDROGNASE,
ECOGLGC E.COLI GLGC AND GLGA GENES CODING FOR ADP-GLUCOSE SYNTHETASE AND
ECOGLNS E.COLI GLNS GENE CODING FOR GLUTAMINYL-TRNA SYNTHETASE. 1884BP
ECOGLTA E.COLI GLTA GENE, SDHCDAB OPERON AND SUCABCD OPERON ENCODING
ECOGLTX E.COLI GLTX GENE ENCODING GLUTAMYL-TRNA SYNTHETASE, COMPLETE CDS.
ECOGLYA E.COLI GLYA GENE CODING FOR SERINE HYDROXYMETHYLTRANSFERASE. 1902BP
ECOGLYS E.COLI GLYS GENE CODING FOR GLYCYL-TRNA SYNTHETASE ALPHA- AND
ECOGLYWA E.COLI PGSA AND GLYW GENES ENCODING PHOSPHATIDYLGLYCEROPHOSPHATE
ECOGND E.COLI GND GENE CODING FOR 6-PHOSPHOGLUCONATE DEHYDROGENASE, 1987BP
ECOGOR E.COLI GOR GENE ENCODING GLUTATHIONE REDUCTASE, COMPLETE CDS.
ECOGPT E.COLI GPT GENE, CODING FOR XANTHINE GUANINE PHOSPHORYBOSYL 1067BP
ECOGPTA E.COLI GPT GENE ENCODING XANTHINE-GUANINE PHOSPHORIBOSYL 2853BP
ECOGRX E. COLI GRX GENE ENCODING GLUTAREDOXIN. 1147BP
ECOGSHII E. COLI GLUTATHIONE SYNTHETASE GENE. (GSH-II-E.C. 6.3.2.3). 1477BP
ECOGUABA E.COLI GUABA OPERON: GUAB AND GUAA GENES CODING FOR IMP 3531BP
ECOGUT E.COLI GUT OPERON: GUTA, GUTB, AND GUTD GENES ENCODING 3625BP
ECOHAG E.COLI HAG GENE ENCODING FLAGELLIN, COMPLETE CDS. 1997BP
ECOHIMA E.COLI INFC, RPLT, PHES, PHET AND HIMA GENES ENCODING INITIATION
ECOHIMB E.COLI RPLT GENE (3' END) CODING FOR RIBOSOMAL PROTEIN L39 AND
ECOHISC E.COLI HISC GENE CODING FOR IMIDAZOLYLACETOLPHOSPHATE: L-GLUTAMATE
ECOHISOP E. COLI HISTIDINE OPERON CONTAINING HISG GENE CODING FOR 7248P
ECOHISS E.COLI HISS GENE CODING FOR HISTIDINE-TRNA SYNTHETASE, COMPLETE
ECOHIST1 E. COLI K12 HIST GENE FOR PSEUDOURIDINE SYNTHASE I AND GENE UBG.
ECOHLY E.COLI (J99) HLYC, HLYA, HLYB AND HLYD GENES CODING FOR CHROMOSOMAL
ECOHLYX PLASMID PHLY162 (FROM E.COLI HLYA, B, C AND D GENES ENCODING
ECOHSDSB E.COLI STRAIN B HSDS GENE CODING FOR SPECIFICITY SUBUNIT OF ECOB
ECOHSDSD E.COLI STRAIN D HSDS GENE CODING FOR SPECIFICITY SUBUNIT OF ECOD

ECOHSDSK E.COLI STRAIN K12 HSDS GENE CODING FOR A SPECIFICITY SUBUNIT OF
ECOHTPR E. COLI HTPR (HEAT SHOCK REGULATORY) GENE, COMPLETE CDS. 1060BP
ECOHTPRR E.COLI HTPR GENE CODING FOR HEAT SHOCK REGULATORY PROTEIN 1312BP
ECOILER E.COLI K12 ILER GENE ENCODING THE ILE REPRESSOR, AND ORF63 ENCODING
ECOILVA E.COLI ILVA GENE ENCODING THREONINE DEHYDRATASE, COMPLETE CDS, AND
ECOILVBPR E.COLI ILVB GENE CODING FOR ACETOHYDROXY ACID SYNTHASE I, 3708P
ECOILVE E. COLI ILVE GENE FOR BRANCHED-CHAIN AMINO ACID AMINOTRANSFERASE
ECOILVGE E.COLI ILVGEDA OPERON, LEADER (ATTENUATOR) PEPTIDE GENE (ILVL) AND
ECOILVGEB E.COLI B ILVGEDA OPERON LEADER PEPTIDE GENE, COMPLETE CDS. 3048P
ECOILVIH E.COLI ILVH OPERON ENCODING VALINE-SENSITIVE ACETOHYDROXY ACID
ECOILVYC E.COLI K12 ILVC AND ILVY GENES ENCODING ACETOHYDROXY ACID 2833BP
ECOK88A E.COLI ADHESION ANTIGEN SUBUNIT K88AB GENE. 961BP
ECOK88AB E. COLI GENE A (OF K88AB OPERON) ENCODING A FIMBRIA-LIKE PROTEIN.
ECOKDPABC E.COLI KDPABC OPERON CODING FOR KDP-ATPASE PROTEINS KDPA, B, C.
ECOKDSB E.COLI KDSB GENE ENCODING CTP:CMP-3-DEOXY-D-MANNO-OCTULOSONATE-
ECOKSGA E.COLI KSGA GENE CODING FOR METHYLTRANSFERASE (MET) CONFERRING
ECOLAC E.COLI LACTOSE OPERON WITH LACI, LACZ, LACY AND LACA GENES. 7477BP
ECOLEP E.COLI LEP OPERON: PROMOTER, LEPA AND LEP GENES, COMPLETE CDS,
ECOLEUA E.COLI LEU OPERON, LEADER PEPTIDE GENE AND LEUA GENE CODING FOR
ECOLEXA E.COLI LEXA GENE CODING FOR SOS FUNCTION REGULATORY PROTEIN. 952BP
ECOLP28 E.COLI NLPA GENE CODING FOR LIPOPROTEIN-28, COMPLETE CDS. 1489BP
ECOLPP E.COLI LPP STRUCTURAL GENE CODING FOR OUTER MEMBRANE LIPOPROTEIN.
ECOLSP E.COLI LSP GENE CODING FOR PROLIPOPROTEIN SIGNAL PEPTIDASE, 1135BP
ECOLSPA E.COLI LSPA GENE FOR LIPOPROTEIN SIGNAL PEPTIDASE AND ILES GENE
ECOLYSC E.COLI K12 LYSC GENE ENCODING ASPARTOKINASE III, COMPLETE CDS.
ECOMALB E.COLI MALB REGION PROMOTER, MALEGAMB AND MALEFG OPERONS: 6545BP
ECOMALG E.COLI MALF (3' END) AND MALG GENES CODING FOR MALTOSE TRANSPORT
ECOMALT E.COLI MALT GENE ENCODING THE MALT PROTEIN, COMPLETE CDS. 3508BP
ECOMELB E.COLI MELB GENE CODING FOR MELIBIOSE CARRIER. 1576BP
ECOMETC E.COLI METC GENE ENCODING BETA-CYSTATHIONASE, COMPLETE CDS. 1880BP
ECOMETG E.COLI METG GENE CODING FOR METHIONYL-TRNA SYNTHETASE, COMPLETE
ECOMETK E. COLI METK GENE CODING FOR S-ADENOSYLMETHIONINE SYNTHETASE.
ECOMETL E.COLI METL GENE CODING FOR ASPARTOKINASE II-HOMOSERINE 2433BP
ECOMETLB1 E.COLI METB AND METL (5' END) GENES CODING FOR CYSTATHIONE 1411BP
ECOMOTAB E. COLI MOCHA PROMOTER, MOTA AND MOTB GENES AND START OF CHEA GENE
ECOMTLA E.COLI MTLA GENE CODING FOR MANNITOL-SPECIFIC ENZYME II OF 2162BP
ECONDH E.COLI NDH GENE CODING FOR NADH DEHYDROGENASE. 2067BP
ECONIRR E.COLI NIRR GENE REGULATING FUMARATE AND NITRATE REDUCTION. 1641BP
ECONPL E.COLI NPL GENE FOR N-ACETYLNEURAMINATE LYASE (EC 4.1.3.3). 1243BP
ECONRDA E.COLI RIBONUCLEOSIDE DIPHOSPHATE REDUCTASE OPERON: NRDA AND NRDB
ECONUSA E.COLI NUSA OPERON INCLUDING GENES FOR MET-TRNA-F2 (METY), 15 KD
ECONUSB E.COLI NUSB GENE CODING FOR AN N UTILIZATION SUBSTANCE. 663BP
ECOOMPA E.COLI SULA AND OMPA GENES CODING FOR SULA PROTEIN (LON SUPPRESSOR)
ECOOMPB E.COLI OMPB OPERON: OMPR AND ENVZ GENES CODING FOR PROTEINS 2703BP
ECOOMPC E.COLI OMPC AND MICF GENES CODING FOR MAJOR OUTER MEMBRANE PROTEIN
ECOOMPF E.COLI OMPF GENE CODING FOR MAJOR OUTER MEMBRANE PROTEIN OMPF.
ECOORI E.COLI REPLICATION ORIGIN (CORIC) AND ASNA GENE CODING FOR 2676BP
ECOORIASN E.COLI REPLICATION ORIGIN (CORIC) AND ASNA GENE CODING FOR 4012BP
ECOP1PARA E. COLI P1 PAR REGION (PLASMID PARTITION) GENES PARA-B, INCB 3833BP
ECOPABA E.COLI PABA GENE CODING FOR P-AMINOBENZOATE SYNTHETASE. 660BP
ECOPABB E.COLI PABB GENE, CODING FOR P-AMINOBENZOATE SYNTHETASE, COMPLETE
ECOPAPA E.COLI PAPA GENE, CODING FOR THE PAP PILI SUBUNIT. 701BP
ECOPBPB E.COLI PBPB GENE (FTSI) CODING FOR PENICILLIN-BINDING PROTEIN 3.
ECOPFKBK E. COLI PFKB GENE CODING FOR PHOSPHOFRUCTOKINASE-2, COMPLETE CDS.
ECOPHEA E.COLI PHE OPERON, PHEA GENE CODING FOR CHORISMATE 1968P
ECOPHEAB E.COLI PHE AND TYR OPERONS: PHEA AND PHE GENES CODING FOR 4509BP
ECOPHEIS1 E.COLI PHES,T OPERON ATTENUATOR REGION FROM PLASMID PB15 WITH IS4
ECOPHOE E.COLI PHOE GENE CODING FOR PHOSPHATE LIMITATION INDUCIBLE OUTER
ECOPHOEA E.COLI GENES PROB, PROA, AND PHOE CODING FOR GAMMA-GLUTAMYL KINASE,
ECOPHOM E.COLI PHOM OPERON, CONTAINING PHOM GENE AND THREE UNIDENTIFIED
ECOPHOS E.COLI PHOSPHATE-SPECIFIC TRANSPORT REGION: PHOS STRUCTURAL GENE
ECOPHOWTU E.COLI PSTA (PHOT), PSTB, PHOW AND PHOU GENES ENCODING PHOSPHATE
ECOPHRORF E.COLI PHR GENE CODING FOR DEOXYRIBOPYRIMIDINE PHOTOLYASE. 2039BP
ECOPIN E.COLI PIN GENE CODING FOR DNA-INVERTASE, COMPLETE SEQUENCE. 810BP
ECOPINP E.COLI P INVERTIBLE ELEMENT AND PIN GENE ENCODING INVERTASE, 2614BP
ECOPLDAA E.COLI PLDA GENE CODING FOR DR-PHOSPHOLIPASE A, COMPLETE CDS.
ECOPLDB E. COLI PLDB GENE FOR INNER MEMBRANE LYSOPHOSPHOLIPASE L2. 1576BP
ECOPLSB E.COLI PLSB AND DGK GENES CODING FOR SN-GLYCEROL-3-PHOSPHATE 3865BP
ECOPOLA E.COLI POLA GENE CODING FOR DNA POLYMERASE I. 4127BP
ECOPONA E.COLI PONA GENE ENCODING PENICILLIN-BINDING PROTEIN 1A (PBP 1A),
ECOPONB E.COLI PONB GENE ENCODING PENICILLIN-BINDING PROTEIN 1B (PBP 1B),
ECOPOXB E.COLI POXB GENE ENCODING PYRUVATE OXIDASE, COMPLETE CDS. 1974BP
ECOPROC E.COLI PROC GENE CODING FOR PYRROLINE CARBOXYLATE REDUCTASE. 968BP
ECOPRS E.COLI PRS GENE ENCODING PHOSPHORIBOSYLPYROPHOSPHATE SYNTHETASE,
ECOPTSG E. COLI PTSG GENE ENCODING GLUCOSE-SPECIFIC ENZYME II OF 1523BP
ECOPTSH E.COLI PTSH GENE CODING FOR HISTIDINE-CONTAINING PROTEIN (HPR),
ECOPURF E.COLI PURF OPERON: GENE CODING FOR PROTEIN 17.9 OF UNKNOWN 2894BP
ECOPYRBI E.COLI PYRBI OPERON CODING FOR ASPARTATE TRANSCARBAMOYLASE 1563BP
ECOPYRBIA E.COLI PYRBI OPERON ENCODING ASPARTATE TRANSCARBAMOYLASE (ATCASE).
ECOPYRBIB E.COLI PYRBI OPERON PROMOTER-REGULATORY REGION INCLUDING LEADER
ECOPYRD E.COLI PYRD GENE CODING FOR DIHYDROOROTATE DEHYDROGENASE, COMPLETE
ECOPYREA E.COLI DUT GENE ENCODING DUTPASE, COMPLETE CDS AND PYRE GENE 1609BP
ECOPYRG E.COLI PYRG (COMPLETE CDS) AND ENO (PARTIAL CDS) MRNAS ENCODING
ECORBS E.COLI K12 RBSD, RBSA, RBSC, RBSB AND RBSK GENES ENCODING THE HIGH
ECORBSP E.COLI RBSP GENE CODING FOR D-RIBOSE-BINDING PROTEIN. 891BP
ECORECA E.COLI RECA GENE CODING FOR RECA PROTEIN. 1390BP
ECORECF ESCHERICHIA COLI RECF GENE WITH 3' END OF DNAN GENE AND 5' END OF
ECORECFA E.COLI RECF GENE, 3' END OF DNAN GENE AND 5' END OF GYRB GENE.
ECORELB E.COLI RELB GENE, COMPLETE CDS. 2142BP
ECORF1X E.COLI RF-1 GENE ENCODING PEPTIDE CHAIN RELEASE FACTOR 1, COMPLETE
ECORF2X E.COLI RF-2 GENE ENCODING PEPTIDE CHAIN RELEASE FACTOR 2, COMPLETE
ECORHO E.COLI RHO GENE CODING FOR TRANSCRIPTION TERMINATION FACTOR. 1880BP
ECORHOA E.COLI K12 TRXA GENE ENCODING THIOREDOXIN, COMPLETE CDS. 657BP
ECORHOB E.COLI TRXA GENE CODING FOR THIOREDOXIN (COMPLETE CDS) AND RHO
ECORNC E.COLI RNC GENE ENCODING RIBONUCLEASE III 907BP
ECORNC1 E. COLI K12 (STRAIN S8221) GENE RNC FOR RIBONUCLEASE III. 1078BP
ECORNH E.COLI RNH GENE CODING FOR RIBONUCLEASE H. 757BP
ECORNHO E.COLI DNAO (MUTD) GENE CODING FOR DNA POLYMERASE III EPSILON
ECORNPA E.COLI RNPA AND RPMH GENES CODING FOR THE PROTEIN COMPONENT OF
ECORPA E. COLI ALPHA RIBOSOMAL PROTEIN OPERON 3154BP
ECORPLN E.COLI PARTIAL S10 OPERON, COMPLETE SPC OPERON ENCODING RIBOSOMAL
ECORPLRPO E.COLI RPLK,RPLA,RPLJ,RPL,RPOB AND RPOC GENES CODING FOR SEVERAL
ECORPMBG E.COLI RPMB AND RPMG GENES CODING FOR RIBOSOMAL PROTEINS L28 & L33.
ECORPOA E.COLI ALPHA OPERON: RPOA, RPLO, AND RPSD GENES CODING FOR RNA
ECORPSA E.COLI RSPA GENE CODING FOR RIBOSOMAL PROTEIN S1. 2412BP
ECORPSBTS E.COLI RPSB AND TSF GENES CODING FOR RIBOSOMAL PROTEIN S2 AND
ECORPSI E.COLI RPSI AND RPLM GENES ENCODING RIBOSOMAL PROTEINS S9 AND
ECORPSJ E.COLI RPSJ AND RPLC GENES CODING FOR RIBOSOMAL PROTEINS S10 & L3.
ECORPSO E.COLI RPSO GENE FOR RIBOSOMAL PROTEIN S15 AND PNP GENE (5' END)
ECORPSOP E.COLI RPSO AND PNP GENES ENCODING RIBOSOMAL PROTEIN S15 AND 3030BP
ECORPSOX E.COLI RPSO GENE CODING FOR RIBOSOMAL PROTEIN S15, COMPLETE CDS.
ECORPSRPO E.COLI RPSU-DNAG-RPOD OPERON WITH GENES CODING FOR RIBOSOMAL 5069BP
ECORPST E.COLI RPST GENE CODING FOR RIBOSOMAL PROTEIN S20. 691BP
ECORPSTA E.COLI RPST GENE ENCODING RIBOSOMAL PROTEIN S20, X GENE CODING FOR
ECOSBCB E.COLI SBCB GENE ENCODING EXONUCLEASE I, COMPLETE CDS. 1927BP
ECOSERA E.COLI SERA GENE ENCODING D-3-PHOSPHOGLYCERATE DEHYDROGENASE.
ECOSERB E.COLI SERB GENE ENCODING PHOSPHOSERINE PHOSPHATASE (PSP). 1161BP
ECOSGK E. COLI 4.5S RNA GENE. 764BP
ECOSPPA E.COLI SPPA GENE ENCODING PROTEASE IV, COMPLETE CDS. 2252BP
ECOSSB E.COLI SSB GENE CODING FOR SINGLE-STRANDED DNA-BINDING PROTEIN.
ECOSSR E.COLI SSR GENE ENCODING 6S RNA. 954BP

ECOSTR1 E.COLI STR OPERON WITH RPSL AND RPSG GENES CODING FOR RIBOSOMAL
ECOSTR3 E.COLI STR OPERON WITH FUSA AND TUFA GENES CODING FOR ELONGATION
ECOTAG E.COLI TAG GENE CODING FOR 3-METHYLADENINE-DNA GLYCOSYLASE I, 869BP
ECOTARTAP E.COLI TAR AND TAP GENES CODING FOR SENSORY TRANSDUCER PROTEINS
ECOTGPRO E.COLI GENE FOR TRNA(1)-PRO. 1085BP
ECOTGS E. COLI TRNA-SER-1 AND 23.6KD PROTEIN GENES. 1344BP
ECOTGTUFB E.COLI TUFB GENE CODING FOR ELONGATION FACTOR TU & FOUR TRNAS.
ECOTGY1 E.COLI TYRT LOCUS CONTAINING TWO TYR-TRNA-1 GENES. 1949BP
ECOTHR E.COLI THREONINE OPERON WITH THRA, THRB AND THRC GENES CODING FOR
ECOTHRINF E.COLI THRS, INFC, RPLT, PHES, PHET AND HIMA GENES ENCODING 7794BP
ECOTHYA E.COLI THYA GENE CODING FOR THYMIDYLATE SYNTHASE. 1163BP
ECOTNAA E.COLI TNAA GENE CODING FOR TRYPTOPHANASE AND 5' FLANK. 2083BP
ECOTOLC E.COLI TOLC GENE ENCODING OUTER MEMBRANE PROTEIN TOLC, COMPLETE
ECOTONB E.COLI TONB AND P14 GENES, COMPLETE CDS. 1697BP
ECOTOXA E.COLI TOXA GENE ENCODING SUBUNIT A OF HEAT-LABILE ENTEROTOXIN.
ECOTPIA E.COLI TPIA GENE ENCODING TRIOSEPHOSPHATE ISOMERASE, COMPLETE CDS.
ECOTRG E.COLI TRG GENE CODING FOR TRG CHEMOTAXIS PROTEIN, COMPLETE CDS.
ECOTRMD E.COLI TRMD OPERON ENCODING TRNA(M1-G)METHYLTRANSFERASE, 4586BP
ECOTRP E.COLI TRYPTOPHAN OPERON: ENTIRE DNA SEQUENCE. 7335BP
ECOTRPR E.COLI TRPR GENE CODING FOR THE TRP OPERON REPRESSOR PROTEIN.
ECOTRPS E.COLI TRPS GENE CODING FOR TRYPTOPHANYL-TRNA SYNTHETASE. 1005BP
ECOTRXA E.COLI TRXA GENE ENCODING THIOREDOXIN, COMPLETE CDS AND RHO GENE,
ECOTSR E.COLI TSR GENE CODING FOR METHYL-ACCEPTING CHEMOTAXIS PROTEIN I,
ECOTYRB E. COLI TYR B GENE FOR AROMATIC AMINOTRANSFERASE. 1627BP
ECOTYRR E.COLI K12 TYRR REGULATORY GENE ENCODING TYRR PROTEIN, COMPLETE
ECOTYRS E.COLI TYRS GENE CODING FOR TYROSYL-TRNA SYNTHETASE. 1275BP
ECOUMUCD E.COLI UMU OPERON: UMUD AND UMUC GENES ENCODING RECA AND LEXA
ECOUNC E.COLI ATP (UNC) OPERON CONTAINING NINE GENES CODING FOR ATP 7540BP
ECOUNCA E.COLI ATP (UNC) OPERON ENCODING PARTIAL ATP-SYNTHASE COMPLEX;
ECOUNCB E.COLI UNCB GENE ENCODING THE A SUBUNIT OF F-1 F-0 ATPASE, 816BP
ECOUNCE E.COLI UNCE GENE FRAGMENT ENCODING F-1-F-0-ATPASE C-SUBUNIT FOR
ECOUNCF E.COLI UNCF GENE ENCODING THE B SUBUNIT OF THE 453BP
ECOUVRCA E.COLI UVRC GENE CODING FOR THE UV REPAIR PROTEIN UVRC. 2400BP
ECOUVRD E.COLI UVRD GENE FOR DNA HELICASE II, COMPLETE CDS. 2869BP
ECOXSEA E.COLI XSEA GENE CODING FOR THE LARGE SUBUNIT OF EXONUCLEASE VII.
ECOXYLAB E.COLI XYLA AND XYLB GENES FOR D-XYLULOKINASE (PARTIAL) AND 1616BP
ECOXYLABA E.COLI XYLA GENE CODING FOR XYLOSE ISOMERASE AND XYLB GENE CODING
ENTDF13 PLASMID CLO DF13, GENES K, L, COMPLETE CDS, AND CLOACIN GENE.
ENTDF13B PLASMID CLO DF13 (FROM E.CLOACAE) 94-33% OF MAP, BACTERIOCIN OPERON
ENTLPARB PLASMID CLO DF13, L GENE AND PARB REGION. 503BP
ENTOMPA ENTEROBACTER AEROGENES OMPA GENE CODING FOR OUTER MEMBRANE PROTEIN.
ETALVGED E.TARDA ILVGEDA OPERON LEADER PEPTIDE GENE, COMPLETE CDS. 306BP
FDIGVPA CYANOBACTERIUM (F.DIPLOSIPHON) GVPA GENE ENCODING GAS VESICLE 710BP
FDIPSBA CYANOBACTERIUM (F.DIPLOSIPHON) TRIAZINE HERBICIDE-BINDING PROTEIN
FPL4284 F PLASMID 42.84-43.6 F SEGMENT. 764BP
FPLMCG F PLASMID DNA COMPLETE MINI-F REGION (F COORDINATES 40.301 F TO
FPLORIINC F PLASMID REPLICATION ORIGIN AND INCOMPATIBILITY REGION (INCC).
FPLTRAM F PLASMID (E.COLI) TRANSFER OPERON, TRAM, FINP, TRAJ, TRAY, TRAA,
HALBO HALOBACTERIUM HALOBIUM BACTERIO-OPSIN (BO) GENE. 1229BP
HALBO5F HALOBACTERIUM HALOBIUM BRP GENE INVOLVED IN BOP GENE EXPRESSION.
HEHMTS H.HAEMOLYTICUS DNA METHYLASE GENE, COMPLETE CDS. 1476BP
INS1IMECO INSERTION ELEMENT IS1186 FROM E.COLI RR1. 1341BP
INS1ECLAC INSERTION ELEMENT IS1, FROM E.COLI LAC1 GENE. 1848P
INS1ISOSD INSERTION ELEMENT ISO-IS1 (INUXI), FROM S. DYSENTERIAE. 803BP
INS1SD INSERTION ELEMENT IS1, FROM S. DYSENTERIAE. 823BP
INS26RPVU INSERTION SEQUENCE IS26R FROM P. VULGARIS FLANKING TN2680. 859BP
INS30ECO INSERTION ELEMENT IS30, COMPLETE, FROM E.COLI K12. 1221BP
INS5LAM INSERTION ELEMENT IS5, FROM LAMBDA KH100. 1199BP
JD1CG PLASMID PJD1 FROM NEISSERIA GONORRHEAE DNA, COMPLETE GENOME. 4207BP
KAEILVGED K.AEROGENES ILVGEDA OPERON LEADER PEPTIDE GENE, COMPLETE CDS. 307BP
KAEPABA K.AEROGENES PABA GENE ENCODING PARA-AMINOBENZOATE SYNTHASE 564BP
KAERBT KLEBSIELLA AEROGENES RIBITOL (RBT) OPERON CONTROL REGION. 1361BP
KAETRPA KLEBSIELLA AEROGENES TRYPTOPHAN OPERON TRPA GENE. 869BP
KPNHISG K.PNEUMONIAE HISTIDINE CONTROL REGION (HISO) AND 5' HISG GENE.
KPNLAC K.PNEUMONIAE LAC OPERON. 4812BP
KPNNIFA KLEBSIELLA PNEUMONIAE NIFA GENE. 1575BP
KPNNIFHD K.PNEUMONIAE NIF H AND PARTIAL NIF D GENES, 5'FLANK. 1807BP
KPNNTRA KLEBSIELLA PNEUMONIAE NTRA GENE FOR NITROGEN REGULATION. 1935BP
KPNNTRBG KLEBSIELLA PNEUMONIAE NTRB GENE FOR NITROGEN REGULATION. 1408BP
KPNNTRC KLEBSIELLA PNEUMONIAE NTRC GENE. 1575BP
LB3HDC LACTOBACILLUS 30A HISTIDINE DECARBOXYLASE GENE AND MUTATION. 1385BP
LCADHFR LACTOBACILLUS CASEI DIHYDROFOLATE REDUCTASE GENE (DHFR), COMPLETE
MBFFDHAB METHANOBACTERIUM FORMICICUM FDHA AND FDHB GENES ENCODING THE 3597BP
MBHISM1 METHANOBREVIBACTER SMITHII DNA WITH INSERTION ELEMENT ISM1. 3003BP
MBHORFAB METHANOBREVIBACTER SMITHII DNA WITH TWO UNIDENTIFIED READING 2710BP
MVONIFH METHANOCOCCUS VOLTAE GENE HOMOLOGOUS TO NIFH 1472BP
MXAS MYXOCOCCUS XANTHUS GENES 1 AND 2 FOR PROTEIN S. 3992BP
MYCRPS8 MYCOPLASMA CAPRICOLUM RPSH, RPLF AND RPLR GENES CODING FOR 1250BP
NGONFL1 N.GONORRHEAE STRAIN MS11 PILUS GENE (PILE1), COMPLETE. 972BP
NR1MER PLASMID NR1 (MERCURY RESISTANCE) OPERON. 3763BP
PAEMERD PSEUDOMONAS AERUGINOSA PLASMID R100 MERCURIC RESISTANCE OPERON
PAEPAER7 P.AERUGINOSA PLASMID PMG7 GENES FOR ENDONUCLEASE AND METHYLASE
PAMMLSR PLASMID PAM77 MLS RESISTANCE DETERMINANT SEQUENCE, CODING FOR
PB0K PLASMID PUB110 (FROM S. AUREUS) KANAMYCIN NUCLEOTIDYLTRANSFERASE
PB2CAT PLASMID PUB112 (FROM S.AUREUS) CHLORAMPHENICOL 901BP
PBF4ERMF R PLASMID PBF4 (FROM B.FRAGILIS) ERMF GENE ENCODING MACROLIDE-
PC1 PLASMID PC194, COMPLETE GENOME. 2910BP
PC1CAT PLASMID PC194 (S.AUREUS) CHLORAMPHENICOL ACETYL TRANSFERASE (CAT).
PC2CG PLASMID PC221 (S.AUREUS) COMPLETE GENOME. 4566BP
PDUMER PLASMID PDU1354 (FROM S MARCESCENS) MERCURIAL RESISTANCE (MER)
PE1 PLASMID PE194, COMPLETE GENOME. 3728BP
PI25MER PLASMID PI258 (FROM S.AUREUS) MERCURY RESISTANCE (MER) OPERON
PIP404BCN PLASMID PIP404 (FROM CLOSTRIDIUM PERFRINGENS) BCN GENE ENCODING
PJHAPH PLASMID PJH1 (S.FAECALIS) AMINOGLYCOSIDE PHOSPHOTRANSFERASE TYPE
PJRHPH PLASMID PJR225 HPH GENE CODING FOR HYGROMYCIN B PHOSPHOTRANSFERASE
PLBECORV PLASMID PLB1 (E.COLI) ECORV GENES FOR ENDONUCLEASE & METHYLASE.
PMOHDC MORGANELLA MORGANII HISTIDINE DECARBOXYLASE GENE. 1299BP
PMORLPP M.MORGANII PROLIPOPROTEIN GENE AND 5' FLANK. 532BP
PNECG PLASMID PNE131 (FROM S EPIDERMIDIS), COMPLETE GENOME. 2356BP
PO2RSA PLASMID PO4A2 FROM FLAVOBACTERIUM SP. K172 NYLB GENE (RSIIA) 1457BP
PO2RSB PLASMID PO4A2 FROM FLAVOBACTERIUM SP. K172 NYLB' GENE (RSIIB)
PR1TRA PLASMID R1 (RESISTANCE PLASMID) TRAM, TRAJ PROTEINS, COMPLETE CDS,
PR29PL E.COLI F-LIKE PLASMID R1-19 (SUBGROUP II) TRAA ENCODING 428BP
PRIECOR PLASMID R113 FROM E.COLI, ECORI ENDONUCLEASE AND METHYLASE GENES.
PRIOMER PLASMID R1TUAR1 PST1 RESTRICTION AND MODIFICATION GENES, COMPLETE.
PSC1001ORI PLASMID PSC101 ORIGIN OF REPLICATION. 2101BP
PSCREP101 PLASMID PSC101 REP101 GENE, COMPLETE CDS. 2157BP
PSECPG2 PSEUDOMONAS SP. (STRAIN RS-16) CARBOXYPEPTIDASE G2 (CPG2) GENE.
PSEETA P.AERUGINOSA EXOTOXIN A STRUCTURAL GENE (ETA), COMPLETE SEQUENCE.
PSEIAAH1 PSEUDOMONAS SYRINGAE IAAM AND IAAH GENES ENCODING TRYPTOPHAN 3476BP
PSEINAZ PSEUDOMONAS SYRINGAE INAZ GENE ENCODING ICE NUCLEATION PROTEIN.
PSELIP PSEUDOMONAS FRAGI LIPASE GENE, COMPLETE CDS. 504BP
PSEMPC TOL PLASMID (FROM P.PUTIDA) XYLE GENE ENCODING METAPYROCATECHASE,
PSEPILPAK PSEUDOMONAS AEROGINOSA (PAK) PILIN GENE, COMPLETE CDS. 1226BP
PSEPILPAO PSEUDOMONAS AERUGINOSA (PAO) PILIN GENE, COMPLETE CDS. 1233BP
PSEPLC P.AERUGINOSA PHOSPHOLIPASE C (HEAT LABILE-HEMOLYSIN) GENE, 2826BP
PSMNOD2 SYM MEGAPLASMID (FROM R.MELILOTI) NODULATION GENES NODA, NODB AND
PSN PLASMID PSN2, COMPLETE GENOME. 1288BP
PT1 PLASMID PT181, COMPLETE GENOME. 4437BP
PTBK PLASMID PTB913 (FROM A THERMOPHILIC BACILLUS) KANAMYCIN 1200BP
PWPAAC3IV R PLASMID PWP7B (FROM SALMONELLA SP) AMINOGLYCOSIDE-(3) 1370BP

PWPANIFH PARASPONIA RHIZOBIUM NITROGENASE (NIFH) GENE, 2030BP
R100TRAM PLASMID R100 TRAM AND FINP GENES ENCODING TRANSFER AND FERTILITY
R102 PLASMID R100 (63.4-86.2 MIN), REPLICATION, INCOMPATIBILITY AND COPY
R104 PLASMID R100 (BEGINNING AT 88.6 MIN.) IS1R INSERTION ELEMENT,
R10PIL E.COLI F-LIKE PLASMID R100.1 (SUBGROUP IV) TRAA GENE, 435BP
R36PIL E.COLI F-LIKE PLASMID R386 (SUBGROUP IA) TRAA GENE, 441BP
R38DHFR PLASMID R388 TRIMETHOPRIM-RESISTANT DIHYDROFOLATE REDUCTASE (DHFR)
R46OXA2LB PLASMID R46 (FROM S.TYPHIMURIUM) OXA 2 BETA-LACTAMASE GENE, 1050BP
R53AADA R-PLASMID R538-1 AADA (STREPTOMYCIN/SPECTINOMYCIN 1440BP
R65COPA PLASMID R6-5 REPLICATION CONTROL RGN COPA GENE CODING FOR RNA IA.
R65REPCTR PLASMID R6-5 REPLICATION CONTROL SYSTEM FRAGMENT; COPB, COPA/INCA
R67DHFR PLASMID R67 TYPE II DIHYDROFOLATE-REDUCTASE (DHFR) GENE, COMPLETE.
R77ARO PLASMID R773 ARSENICAL RESISTANCE OPERON GENES, ARSA, ARSB AND
RA1TET PLASMID RA1 TETRACYCLINE RESISTANCE REPRESSOR (TETR) AND 7588P
RCACYCA RHODOPSEUDOMONAS CAPSULATA CYCA GENE ENCODING CYTOCHROME 1242BP
RCALHII RHODOPSEUDOMONAS CAPSULATA LIGHT-HARVESTING II (LHII) STRUCTURAL
RCARC1 RHODOPSEUDOMONAS CAPSULATA PHOTOSYNTHETIC GENE CLUSTER RXCB LOCI.
RCARC2 RHODOPSEUDOMONAS CAPSULATA PHOTOSYNTHETIC GENE CLUSTER RXCA LOCI.
RHNIFDK PARASPONIA RHIZOBIUM NIFD AND NIFK GENES CODING FOR THE ALPHA- AND
RHUNIFDKO RHIZOBIUM JAPONICUM NIFDK OPERON CODING FOR DINITROGENASE ALPHA
RHUNIFH RHIZOBIUM JAPONICUM NIFH GENE ENCODING NITROGENASE FE, 1280BP
RHLFIXZ RHIZOBIUM LEGUMINOSARUM FIXZ GENE FOR NITROGEN FIXATION, COMPLETE
RHLGNOD RHIZOBIUM LEGUMINOSARUM NODULATION GENES NODA, NODB AND NODC.
RHLNODDFE R. LEGUMINOSARUM PLASMID PRL1JI NODDFE REGION FOR NODULATION.
RHLNODIJ R.LEGUMINOSARUM NODULATION GENES NODI AND NODJ, COMPLETE CDS.
RHMHSNAD R.MELILOTI MEGAPLASMID PRM441B SYM HSN GENES A, B, C, AND D 4509BP
RHMNIFA RHIZOBIUM MELILOTI NIFA GENE, 1875BP
RHMNOD SYM MEGAPLASMID (FROM R.MELILOTI 1021) NODD, NODA, NODB AND NODC
RK2KORA PLASMID RK2 KORA GENE, COMPLETE CODING SEQUENCE. 510BP
RK2TRFA PLASMID RK2 TRFA GENE CODING FOR P286 AND P382, AND P116 GENE.
RP1TET PLASMID RP1 TETRACYCLINE RESISTANCE (TET) DETERMINANTS: REGULATORY
RRUATP RHODOSPIRILLUM RUBRUM ATP OPERON ENCODING F1-ATP SYNTHATAE SUBUNITS.
RRUHOC RHODOSPIRILLUM RUBRUM B880 HOLOCHROME GENE, COMPLETE CDS. 470BP
RRURUBPL RHODOSPIRILLUM RUBRUM RIBULOSE BISPHOSPHATE CARBOXYLASE, 1586BP
RSSCYC2 R.SPHAEROIDES CYCA GENE ENCODING CYTOCHROME C-2, COMPLETE CDS.
RSSFBC RHODOPSEUDOMONAS SPHAEROIDES FBC OPERON (FBCF, FBCB, FBCC). 3674BP
RSSRCM R.SPHAEROIDES REACTION CENTER PROTEIN M SUBUNIT GENE AND 5' FLANK.
RTSREPA PLASMID RTS1 FRAGMENT (COMPLETE MINI-RTS1) CODING FOR REPA PROTEIN.
RVIPRCH RHODOPSEUDOMONAS VIRIDIS PHOTOSYNTHETIC REACTION CENTER 831BP
SAUV1SPA STAPHYLOCOCCUS AREUS MUTANT STRAIN V1 SPA GENE FOR PROTEIN A. 606BP
SHDOMPA SHIGELLA DYSENTERIAE GENE OMPA ENCODING AN OUTER MEMBRANE PROTEIN.
SHFCRP SHIGELLA FLEXNERI 2B CRP GENE ENCODING CATABOLITE GENE ACTIVATOR
SMACHIA SERRATIA MARCESCENS GENE CHIA FOR CHITINASE A. 2322BP
SMAILVGE S.MARCESCENS ILVGEDA OPERON LEADER PEPTIDE GENE, COMPLETE CDS.
SMAOMPA S.MARCESCENS OMPA GENE CODING FOR MAJOR OUTER MEMBRANE PROTEIN
SMAPABA SERRATIA MARCESCENS PABA GENE ENCODING PARA-AMINOBENZOATE SYNTHASE
SMARCLPP1 S.MARCESCENS OUTER MEMBRANE LIPOPROTEIN GENE, 5' FLANK & CDS. 674BP
SMATRPG S. MARCESCENS TRP OPERON; TRPG GENE AND FLANKS. 744BP
STAENTB S.AUREUS ENTEROTOXIN B GENE, COMPLETE CDS. 1712BP
STAGEH S.AUREUS GEH GENE ENCODING LIPASE (GLYCEROL ESTER HYDROLASE).
STALINAH S.HAEMOLYTICUS LINA GENE ENCODING LINCOSAMIDE RESISTANCE. 1087BP
STALIP STAPHYLOCOCCUS HYICUS LIP GENE CODING FOR LIPASE. 2212BP
STASPA S.AUREUS SPA GENE CODING FOR PROTEIN A, COMPLETE CSD. 1921BP
STMENDH STREPTOMYCES PLICATUS ENDO-BETA-N-ACETYLGLUCOSAMINIDASE H GENE.
STMMIE STREPTOMYCES ERYTHRAEUS ERME2 GENE ENCODING RRNA N-6-AMINO 1690BP
STMTRS STREPTOMYCES GLAUCESCENS TYROSINASE GENE, COMPLETE CDS. 982BP
STRASDM S.MUTANS ASD GENE ENCODING ASPARTATE BETA-SEMIALDEHYDE 1400BP
STRATPK S.FAECALIS K+ ATPASE GENE, COMPLETE CDS. 2443BP
STRHYG STREPTOMYCES HYGROSCOPICUS HYG GENE. 1466BP
STRLYTPN S.PNEUMONIAE LYT GENE ENCODING AUTOLYSIN. 1213BP
STRM6 STREPTOCOCCUS PYOGENES EMM6 GENE CODING FOR M6 PROTEIN. 2111BP
STRMALMXP S.PNEUMONIAE MALX AND MALM GENES ENCODING MEMBRANE PROTEIN AND
STRSKC STREPTOCOCCUS EQUISIMILIS (H46A) STREPTOKINASE GENE, COMPLETE CDS.
STRSPGIGP STREPTOCOCCUS SP. (LANCEFIELD GROUP G) SPG GENE ENCODING AN 1950BP
STRSTRAVG STREPTOMYCES AVIDINII GENE FOR STREPTAVIDIN. 636BP
STYALR S.TYPHIMURIUM ALR GENE ENCODING ALANINE RACEMASE, COMPLETE CDS.
STYARABAD S.TYPHIMURIUM ARABAD OPERON: ARAB, ARAA, AND ARAD GENES CODING FOR
STYARALC S.TYPHIMURIUM L-ARABINOSE OPERON:REGULATORY REGION AND C GENE.
STYAROAPM S.TYPHIMURIUM AROA LOCUS 5-ENOLPYRUVYLSHIKIMATE-3-PHOSPHATE 1332BP
STYCHEW S.TYPHIMURIUM CHEW GENE ENCODING A PUTATIVE CHEMOTAXIS 770BP
STYCHEY S.TYPHIMURIUM MECHE OPERON (CHEMOTAXIS), CHEB GENE 3' END, CHEY
STYCRP S.TYPHIMURIUM CRP GENE ENCODING CATABOLITE GENE ACTIVATOR 959BP
STYCYSB S.TYPHIMURIUM CYSB GENE, COMPLETE CDS. 1764BP
STYDADB S.TYPHIMURIUM DADB GENE ENCODING ALANINE RACEMASE. 1140BP
STYFLAH1 SALMONELLA TYPHIMURIUM H-1-I GENE ENCODING PHASE 1 FLAGELLAR 1486BP
STYFLGH2C S.TYPHIMURIUM FLAGELLIN CONTROL ELEMENT (HIN) AND H2 GENE . 1094BP
STYH2HIN S.TYPHIMURIUM H2 FLAGELLIN AND HIN GENES, INCLUDING INVERSION
STYHISOP S.TYPHIMURIUM HIS OPERON CONTROL REGION PRECEDING HISG GENE. 294BP
STYHISTO S.TYPHIMURIUM ARGT GENE & HISTIDINE TRANSPORT OPERON. 4483BP
STYLVPA S.TYPHIMURIUM ILVGEDA OPERON LEADER PEPTIDE GENE, COMPLETE CDS.
STYLEUD SALMONELLA TYPHIMURIUM LEUD GENE ENCODING IPM ISOMERASE. 1074BP
STYMETJ S.TYPHIMURIUM METJ GENE, COMPLETE CDS, AND METB GENE, PARTIAL.
STYOMPA S.TYPHIMURIUM OUTER MEMBRANE PROTEIN (OMPA) GENE, COMPLETE CDS.
STYPABA S.TYPHIMURIUM PABA GENE ENCODING PARA-AMINOBENZOATE SYNTHASE 564BP
STYPGTA SALMONELLA TYPHIMURIUM PHOSPHOGLYCERATE TRANSPORT SYSTEM ACTIVATOR
STYTRPBA S.TYPHIMURIUM TRYPTOPHAN OPERON TRPB & TRPA GENES. 2000BP
TIP37TMR TI PLASMID (A.TUMEFACIENS), NOPALINE STRAIN T37, TMR GENE, COMPLETE
TIP54VIR TI PLASMID (A.TUMEFACIENS) NOPALINE STRAIN C58, HDV LOCUS IN VIR
TIPC7TL INTEGRATED TI PLASMID (A.TUMEFACIENS OCTOPINE STRAIN) TRANSCRIPT 7
TIPC7TNP TI PLASMID (OCTOPINE STRAIN) FROM AGROBACTERIUM TUMEFACIENS T-DNA
TIPC7TKB8 INTEGRATED TI PLASMID (A. TUMEFACIENS), T-REGION .7 KB TRANSCRIPT
TIPCTTMR TI PLASMID (OCTOPINE STRAIN PTIAC15 IN A. TUMEFACIENS) TMR GENE,
TIPMR TI PLASMID PTIA6NC OCTOPINE (A.TUMEFACIENS), TUMOR MORPHOLOGY GENE
TIPMS1 TI PLASMID PTIA6NC OCTOPINE (A. TUMEFACIENS) TMS2 GENE, COMPLETE
TIPMS2 TI PLASMID PTIA6NC OCTOPINE (A. TUMEFACIENS) TMS1 GENE, COMPLETE
TIPOST37 PLASMID TI STRAIN T37 NOPALINE SYNTHASE (NOS) GENE. 2521BP
TIPTZS TI PLASMID (A.TUMEFACIENS; NOPALINE T37) TRANS-ZEATIN SECRETION
TIPVIRC PLASMID PTIA6NC OCTOPINE (A.TUMEFACIENS) VIRC LOCUS ENCODING VIRC1
TIPVIRD TI PLASMID PTIA6NC (FROM A.TUMEFACIENS) VIRD OPERON ENCODING A
TIPVIRG PLASMID PTIA6 (A.TUMEFACIENS) VIRG GENE, COMPLETE CDS. 170BP
TRN10TETR TRANSPOSON TN10 TETRACYCLINE RESISTANCE AND REPRESSOR GENES TETA
TRN1681ST TRANSPOSON TN1681 ENCODING HEAT-STABLE (ST) TOXIN. 654BP
TRN1721RE TRANSPOSON TN1721 TNPR GENE FOR RESOLVASE. 761BP
TRN21TNPM TRANSPOSON TN21 MODULATOR PROTEIN (TNPM) GENE, RESOLVASE (TNPR)
TRN21TNPR TRANSPOSON TN21 TNPR GENE. 1115BP
TRN3 TRANSPOSON TN3 (TNPA, TNPR AND BETA-LACTAMASE GENES). 4957BP
TRN501 TRANSPOSON TN501 MERCURIC ION RESISTANCE OPERON. 1340BP
TRN501B PSEUDOMONAS AERUGINOSA TN501 GENE TNPA FOR TRANSPOSASE. 3055BP
TRN501MER TRANSPOSON TN501 MERA GENE ENCODING MERCURIC REDUCTASE. 1767BP
TRN501TNP TRANSPOSON TN501 TNPR GENE. 1146BP
TRN554 TRANSPOSON TN554 FROM S.AUREUS, COMPLETE, CONTAINING TRANSPOSITION
TRN5IR1 TRANSPOSON TN5 LEFT INVERTED REPEAT WITH GENES FOR TRANSPOSASE AND
TRN5IR2 TRANSPOSON TN5 RIGHT INVERTED REPEAT WITH GENE FOR TRANSPOSASE.
TRN7AADA TRANSPOSON TN7 AADA GENE ENCODING STREPTOMYCIN ADENYLYLTRANSFERASE,
TRN7FOL TRANSPOSON TN7 TYPE-1 DIHYDROFOLATE REDUCTASE GENE. 863BP
TRN903RS TRANSPOSON TN903 INVERTED REPEAT & KANAMY. RESIST. GENE 5' END.
TRN917 TRANSPOSON TN917 (COMPLETE), MACROLIDE-LINCOSAMIDE-STREPTOGRAMIN-B
TRN9CAT TRANSPOSON TN9 WITH CHLORAMPHENICOL ACETYL TRANSFERASE CDS. 1142BP
TRNCAM204 TRANSPOSON TNCAM204 CHLORAMPHENICOL TRANSACETYLASE GENE. 921BP
TTHLEUB T.THERMOPHILUS LEUB GENE CODING FOR 3-ISOPROPYLMALATE DEHYDROGENASE
VCHCTX VIBRIO CHOLERA TOXIN (CTX) OPERON GENE. 2020BP
VCHTOX VIBRIO CHOLERAE TOXA AND TOXB GENES FOR CHOLERA ENTEROTOXIN 512BP
VIBSODPL P.LEIOGNATHI BACTERIOCUPREIN SUPEROXIDE DISMUTASE GENE, COMPLETE
VIBTDH VIBRIO PARAHAEMOLYTICUS TDH GENE ENCODING THERMOSTABLE DIRECT

******** VIRUSES

AC2E21CG RECOMBINANT AVIAN RETROVIRUS MH2E21, COMPLETE GENOME. 2630BP
ACBERBBH AVIAN ERYTHROBLASTOSIS VIRUS (AEV-H) V-ERB-B ONCOGENE. 2091BP
ACF FUJINAMI SARCOMA VIRUS (UNINTEGRATED CIRCULAR), COMPLETE GENOME.
ACM AVIAN MYELOCYTOMATOSIS VIRUS MC29 (PROVIRAL), COMPLETE P96 3779BP
ACRPOLENV RETICULOENDOTHELIOSIS VIRUS STRAIN A, PROVIRAL, POL, ENV AND 3'LTR
ACRREL RETICULOENDOTHELIOSIS VIRUS STRAIN T, PROVIRAL, ONCOGENE (V-REL).
ACY AVIAN SARCOMA VIRUS Y73, COMPLETE GENOME. 3718BP
ADBCG ADENOVIRUS TYPE 2, COMPLETE GENOME. 35937BP
ADCFIB HUMAN ADENOVIRUS TYPE 3 FIBER GENE, COMPLETE CDS, AND PROTEINS
ADDOBPE HUMAN ADENOVIRUS SUBGROUP E (TYPE 4) DNA-BINDING PROTEIN, COMPLETE
ADEA1 ADENOVIRUS TYPE 5: LEFT 32% OF THE GENOME (COORDINATES 0% TO 32.29%
ADEA2 ADENOVIRUS TYPE 5: HEXON, 23K, DNA BINDING PROTEIN, 100K GENES
ADEE3GP ADENOVIRUS TYPE 5, REGION E3 19 KD GLYCOPROTEIN MRNA, COMPLETE CDS.
ADGHDBP ADENOVIRUS TYPE 7 S5-DNA-BINDING PROTEIN. 1657BP
ADGL ADENOVIRUS TYPE 7 LEFT END OF THE GENOME: MAP COORDINATES 0.00 TO
ADLL ADENOVIRUS TYPE 12 LEFT END OF THE GENOME, MAP COORDINATES 0.0 TO
ADTA TREE SHREW (TUPAIA) ADENOVIRUS EARLY REGION (E1B) ENCODING SMALL
AEBHEX BOVINE ADENOVIRUS TYPE 3 (BAV-3) HEXON GENE. 2849BP
AESLS ADENOVIRUS TYPE 7 (SIMIAN) LEFT END OF GENOME: 0.0-4.2 MAP UNITS.
AKV AKV MURINE LEUKEMIA VIRUS, COMPLETE PROVIRAL GENOME. 8374BP
ALMCG1Z ALFALFA MOSAIC VIRUS (STRAIN 425 LEIDEN) RNA 1 OF COMPLETE GENOME.
ALMCG2Z ALFALFA MOSAIC VIRUS (STRAIN 425 LEIDEN) RNA 2 OF COMPLETE GENOME.
ALMCG3Z ALFALFA MOSAIC VIRUS (STRAIN 425 MADISON) RNA 3 OF COMPLETE GENOME.
ALMPROGEN AVIAN MYELOBLASTOSIS VIRUS TRANSFORMING GENE & 3' END. 1928BP
ALRCG ROUS SARCOMA VIRUS (PRAGUE STRAIN, SUBGROUP C) COMPLETE GENOME.
ALRD2 ROUS SARCOMA VIRUS (SCHMIDT-RUPPIN A) ENV-SRC-3'LTR. 3256BP
ALRDRM144 ROUS SARCOMA VIRUS (RECOVERED TD MUTANT 1441) ENV-SRC-3'LTR REGION.
APH01KL FOOT AND MOUSE DISEASE VIRUS (FMDV, STRAIN O-1-K) L SEGMENT RNA
APHRNA FOOT AND MOUTH DISEASE VIRUS, COMPLETE POLYPROTEIN CODING SEQUENCE
AUCNPVP AUTOGRAPHA CALIFORNICA MNPV (ACMNPV) POLYHEDRIN GENE. 1143BP
BBV1G BLACK BEETLE VIRUS (BBV) RNA1 OF COMPLETE GENOME. 3106BP
BBV2G BLACK BEETLE VIRUS (BBV) RNA2 OF COMPLETE GENOME. 1399BP
BLCNCNP LA CROSSE VIRUS GENOME MOLECULE S CDNA TO GENOMIC RNA. 961BP
BLCSRNA LA CROSSE VIRUS S RNA, COMPLETE, CODING FOR THE N AND NS-S 964BP
BLV BOVINE LEUKEMIA VIRUS (PROVIRAL), COMPLETE GENOME. 8714BP
BLVENV BOVINE LEUKEMIA VIRUS (PROVIRAL) ENV GENE AND POST-ENV REGION.
BTVL3 BLUETONGUE VIRUS L3 GENE, COMPLETE CDS. 2772BP
BUNM BUNYAMWERA VIRUS RNA SEGMENT M, COMPLETE, CODING FOR A POLYPROTEIN
CPMCGB COWPEA MOSAIC VIRUS BOTTOM COMPONENT RNA (B RNA) OF COMPLETE 5889BP
CPMCGM COWPEA MOSAIC VIRUS MIDDLE COMPONENT (M RNA) OF COMPLETE GENOME.
EIAENV EQUINE INFECTIOUS ANEMIA VIRUS PROVIRAL POL (3' END) AND ENV GENES.
EIAGP EQUINE INFECTIOUS ANEMIA VIRUS (EIAV) PROVIRAL DNA, GAG AND POL
EMCPP ENCEPHALOMYOCARDITIS VIRUS (EMC) RNA POLYPROTEIN GENE. 7200BP
FCSFGR GARDNER-RASHEED FELINE SARCOMA VIRUS (PROVIRAL) P70 GAG-FGR 2025BP
FCSGAONC FELINE SARCOMA VIRUS (GARDNER-ARNSTEIN) TRANSFORMING GENE. 2946BP
FCSSMONC FELINE SARCOMA VIRUS (MCDONOUGH STRAIN) TRANSFORMING GENE, CODING
FCSVFGR GARDNER-RASHEED FELINE SARCOMA VIRUS (GR-FESV) V-FGR ONCOGENE
FCVEENVB GARDNER-ARNSTEIN FELV SUBTYPE B (GA-FELV B), PROVIRAL, ENVELOPE
FCVENVC FELINE LEUKEMIA VIRUS (SARMA) PROVIRAL ENV (GP70) GENE AND 3' LTR.
FCVGAENV FELINE LEUKEMIA VIRUS FELV-B, GA STRAIN, ENV GENE, 3' FLANK & LTR.
FCVGLENV FELV SUBTYPE A GLASGOW-1 PROVIRAL ENV GENE, COMPLETE CDS AND 3'
FCVGP FELINE LEUKEMIA VIRUS (FELV-B) GAG-POL JUNCTION, GAG GENE 2565BP
FK6NA INFLUENZA A/PARROT/ULSTER/73 (H7N1), NEURAMINIDASE (SEG 6), 1456BP
FL2HA INFLUENZA A/ACHR/2/68 (H3N2), HEMAGGLUTININ (SEG 4), CDNA. 1738BP
FL3NS INFLUENZA A/ALASKA/6/77 (H3N2), NONSTRUCTURAL PROTEIN (SEG 8, 890BP
FL6NS INFLUENZA A/DUCK/ALBERTA/60/76(H12N5),NONSTRUCTURAL PROTEIN 890BP
FLANA INFLUENZA A/TERN/AUSTALIA/G70C/75 (H11N9), NEURAMINIDASE (SEG 6)
FLBM INFLUENZA A/BANGKOK/1/79(H3N2), M1 AND M2 PROTEINS(RNA SEG 7),
FLBNA INFLUENZA A/PUERTO RICO/8/34(CK/1/79 (H3N2), NEURAMINIDASE (COMPLETE SEG 6).
FLLNS INFLUENZA A/FORT MONMOUTH/1/47 (H1N1), NONSTRUCTURAL PROTEIN (SEG
FLMNS INFLUENZA A/FORT WARREN/1/50 (H1N1), NONSTRUCTURAL PROTEIN (SEG 8).
FLPHA INFLUENZA A/JAPAN/305/57 (H2N2), HEMAGGLUTININ (SEG 4), CDNA.
FLYHA INFLUENZA A/MEMPHIS/1/71 (H3N2), HEMAGGLUTININ (SEG 4) RNA. 1765BP
FM4HA INFLUENZA A/ANT/60/68/29C (H3N2), HEMAGGLUTININ (SEG 4), COMPLETE
FM4NA INFLUENZA A/ANT/60/68 (H3N2), NEURAMINIDASE (SEG 6) RNA. 1467BP
FM4NP INFLUENZA A/ANT/60/68 (H3N2), NUCLEOPROTEIN (SEG 5), CDNA. 1565BP
FM4P1 INFLUENZA A/ANT/60/68 (H3N2), POLYMERASE 1 (SEG 2), CDNA. 2341BP
FM4P2 INFLUENZA A/ANT/60/68 (H3N2), POLYMERASE 2 (SEG 3) RNA. 2233BP
FM4P3 INFLUENZA A/ANT/60/68 (H3N2), POLYMERASE 3 (SEG 1), CDNA. 2341BP
FM7HA INFLUENZA A/SWINE/NEW JERSEY/11/76 (H1N1), HEMAGGLUTININ (SEG 4),
FMGHA INFLUENZA A/PUERTO RICO/8/34(CAMBRIDGE) (H1N1), HEMAGGLUTININ
FMGM INFLUENZA A/PUERTO RICO/8/34 (CAMBRIDGE)(H1N1), MATRIX PROTEINS,
FMGNA INFLUENZA A/PUERTO RICO/8/34(CAMBRIDGE) (H1N1), NEURAMINIDASE
FMGNP INFLUENZA A/PUERTO RICO/8/34(CAMBRIDGE) (H1N1), NUCLEOPROTEIN
FMGNS INFLUENZA A/PUERTO RICO/8/34(CAMBRIDGE) (H1N1), NONSTRUCTURAL 890BP
FMGP1 INFLUENZA A/PUERTO RICO/8/34(CAMBRIDGE) (H1N1), POLYMERASE 1 2341BP
FMGP2 INFLUENZA A/PUERTO RICO/8/34(CAMBRIDGE) (H1N1), POLYMERASE 2 2233BP
FMGP3 INFLUENZA A/PUERTO RICO/8/34(CAMBRIDGE) (H1N1), POLYMERASE 3 2341BP
FMJNA INFLUENZA A/R/5-/57 (H2N2), NEURAMINIDASE (SEG 6), CDNA. 1467BP
FMKHA INFLUENZA A/FPV/ROSTOCK/34 (H7N1), HEMAGGLUTININ (SEG 4), CDNA.
FMKNS INFLUENZA A/FPV/ROSTOCK/34 (H7N1), NONSTRUCTURAL PROTEIN 890BP
FMONA INFLUENZA A/TOKYO/3/67 (H2N2), NEURAMINIDASE (SEG 6), COMPLETE
FMQM INFLUENZA A/UDORN/72 (H3N2), MATRIX PROTEIN (SEG 7), CDNA. 1027BP
FMQNA INFLUENZA A/UDORN/72 (H3N2),NEURAMINIDASE(SEG 6) RNA. 1466BP
FMQNS INFLUENZA A/UDORN/72 (H3N2), NONSTRUCTURAL PROTEIN (SEG 8), CDNA.
FMSHA INFLUENZA A/DUCK/UKRAINE/1/63 (H3N8), HEMAGGLUTININ (SEG 4), CDNA.
FMTNC INFLUENZA A/USSR/90/77 (H1N1), NEURAMINIDASE (SEG 6), CDNA. 1413BP
FMTNS INFLUENZA A/USSR/90/77 (H1N1), NONSTRUCTURAL PROTEIN (SEG 8). 890BP
FMUHA INFLUENZA A/VICTORIA/3/75 (H3N2), HEMAGGLUTININ (SEG 4), CDNA.
FMUNA INFLUENZA A/VICTORIA/3/75 (H3N2), NEURAMINIDASE (SEG 6), CDNA.
FMYHA INFLUENZA A/WSN/33 (H1N1), HEMAGGLUTININ (SEG 4), CDNA. 1775BP
FMYNA INFLUENZA A/WSN/33 (H1N1), NEURAMINIDASE (SEG 7), CDNA. 1409BP
FMYP1 INFLUENZA A/WSN/33 (H1N1), POLYMERASE 1 (SEG 7), CDNA. 2341BP
FMYP3 INFLUENZA A/WSN/33 (H1N1), POLYMERASE 3 (SEG 1), CDNA. 2341BP
FOXHB INFLUENZA B/HONG KONG/8/73 HEMAGGLUTININ (HA) (SEG 4) RNA, COMPLETE
FO1HA INFLUENZA B/LEE/40, HEMAGGLUTININ (SEG 4) RNA. 1882BP
FO1HAZ INFLUENZA B/LEE/40, HEMAGGLUTININ (SEG 4), COMPLETE SEGMENT. 1882BP
FO1M INFLUENZA B/LEE/40, MATRIX PROTEIN (COMPLETE SEG 7) RNA. 1191BP
FO1NA INFLUENZA B/LEE/40, NEURAMINIDASE & NB (SEG 6) RNA. 1567BP
FO1NP INFLUENZA B/LEE/40, NUCLEOPROTEIN (SEG 5), COMPLETE SEGMENT. 1841BP
FO1NS INFLUENZA B/LEE/40, NONSTRUCTURAL PROTEIN (SEG 8), RNA. 1096BP
FO3HA INFLUENZA B/OREGON/5/80, HEMAGGLUTININ (HA) GENE (SEG 4), COMPLETE
FO4NP INFLUENZA B/SINGAPORE/222/79 NUCLEOPROTEIN GENE (RNA SEG 5). 1838BP
FV3HA INFLUENZA A/CALIFORNIA/78, HEMAGGLUTININ (SEG 4), CDNA. 2073BP
FO6NS INFLUENZA C/CALIFORNIA/78 NS PROTEIN (SEG 7), COMPLETE. 934BP
FV3EV3 FROG VIRUS 3 IMMEDIATE-EARLY ICP-18 GENE. 633BP
GPBGV1 PIERIS BRASSICAE GRANULOSIS VIRUS (PBGV) GRANULIN GENE. 999BP
GSH GROUND SQUIRREL HEPATITIS VIRUS (GSHV), COMPLETE GENOME. 3311BP
GVTGG TRICHOPLUSIA NI GRANULOSIS VIRUS (TNGV) GRANULIN GENE, COMPLETE
HANM HANTAAN VIRUS, COMPLETE M RNA SEGMENT CODING FOR G1 AND G2 3616BP
HANSNC HANTAAN VIRUS S SEGMENT ENCODING NUCLEOCAPSID PROTEIN. 1696BP
HBDG DUCK HEPATITIS B VIRUS, COMPLETE GENOME. 3021BP
HIVARV2CG HUMAN AIDS-ASSOCIATED RETROVIRUS (ARV-2), COMPLETE PROVIRAL GENOME
HIVBRUCG HUMAN LYMPHADENOPATHY-ASSOCIATED VIRUS (BRU ISOLATE), COMPLETE
HIVCDC41 HUMAN T-CELL LYMPHOTROPIC VIRUS TYPE III (CDC-451), 5'-LTR AND GAG
HIVCDC42 HUMAN T-CELL LYMPHOTROPIC VIRUS TYPE III (CDC-451), TAT GENE, ENV

HIVDSM HUMAN T-CELL LYMPHOTROPIC VIRUS TYPE III, SOR, TAT, ART, AND 27K
HIVELICG HUMAN LYMPHADENOPATHY VIRUS (ELI ISOLATE), COMPLETE GENOME. 9176BP
HIVH3BH5 HUMAN T-CELL LYMPHOTROPIC VIRUS TYPE III, ISOLATE BH5, GAG-POL
HIVH3BH8 HUMAN T-CELL LEUKEMIA VIRUS TYPE III (AIDS), ISOLATE BH8, ENV GENE
HIVH3CG HUMAN T-CELL LYMPHOTROPIC VIRUS TYPE III, COMPLETE REFERENCE 9749BP
HIVH3DCG HUMAN T-CELL LYMPHOTROPIC VIRUS TYPE III (H9), COMPLETE GENOME
HIVHXB2CG HUMAN T-CELL LYMPHOTROPIC VIRUS TYPE III (HXB2), COMPLETE GENOME.
HIVMALCG HUMAN LYMPHADENOPATHY VIRUS (MAL ISOLATE), COMPLETE GENOME. 9229BP
HIVRFENV HUMAN LYMPHOTROPIC VIRUS TYPE III (RF ISOLATE), ENV GENE, 2622BP
HIVWMJ2 HUMAN LYMPHOTROPIC VIRUS TYPE III, WMJ ISOLATE, ENV GENE. 2548BP
HIVZ6 HUMAN T-CELL LYMPHOTROPIC VIRUS TYPE III (ZAIRE 6 ISOLATE), SOR
HL1PROP HUMAN T-CELL LEUKEMIA VIRUS TYPE I (PROVIRAL), COMPLETE GENOME.
HL1PX HUMAN T-CELL LEUKEMIA VIRUS TYPE 1, PX GENE MRNA (2.1 KB), 1886BP
HL2CG HUMAN T-CELL LEUKEMIA VIRUS TYPE II, COMPLETE PROVIRAL GENOME.
HL2ENV HUMAN T LYMPHOTROPIC VIRUS TYPE II, ENV GENE. 1464BP
HPAACG HUMAN HEPATITIS A VIRUS, COMPLETE GENOME. 7478BP
HPBADR HEPATITIS B VIRUS (SUBTYPE ADR), COMPLETE GENOME. 3188BP
HPBADRCG HEPATITIS B VIRUS (SUBTYPE ADR), COMPLETE GENOME, CLONE ADR4.
HPBADW HEPATITIS B VIRUS (SUBTYPE ADW), COMPLETE GENOME. 3200BP
HPBADYW HUMAN HEPATITIS B VIRUS SUBTYPE ADYW ANTIGEN GENES 2743BP
HPBAYW HUMAN HEPATITIS B VIRUS (SUBTYPE AYW), COMPLETE GENOME. 3182BP
HPBHBSAG HEPATITIS B VIRUS (SUBTYPE AYW) SURFACE ANTIGEN HB-S AG GENE, 829BP
HPBSAG HEPATITIS B VIRUS SURFACE ANTIGEN MAJOR PROTEINS P1 AND P2. 892BP
HRS1CE HUMAN RESPIRATORY SYNCYTIAL VIRUS GENES 1C, 1B, N, P, M, 1A, G, F.
HRV HUMAN RHINOVIRUS TYPE 14 (HRV14), COMPLETE GENOME. 7212BP
HRVCG HUMAN RHINOVIRUS TYPE 2 (HRV2), COMPLETE GENOME. 7102BP
HS1I65 HERPES SIMPLEX VIRUS TYPE 1 GENE FOR VMW65 PROTEIN 2609BP
HS1I732 HSV-1 (KOS) 0.732-0.745 MAP UNITS ENCODING FUSION FUNCTION. 2041BP
HS1ATIF HSV1 (STRAIN F) ALPHA TRANS INDUCING FACTOR, COMPLETE CDS 2522BP
HS1EXO HSV1 (KOS) ALKALINE EXONUCLEASE GENE, 0.175-0.160 MAP UNITS. 2579BP
HS1GB HSV1 (KOS) GLYCOPROTEIN B GENE, COMPLETE CDS. 3758BP
HS1GBICP HSV1 (STRAIN F) GB AND ICP18.5 GENES ENCODING GLYCOPROTEIN B, AND A
HS1GC HSV-1 (KOS) GLYCOPROTEIN C GENE, MU 0.63-0.66. 2997BP
HS1GCM HSV-1 (STRAIN MP) DEFECTIVE GLYCOPROTEIN C GENE, MU 0.63-0.66.
HS1GD HSV1 GLYCOPROTEIN D GENE. 1608BP
HS1GDB HERPES SIMPLEX VIRUS TYPE 1 GLYCOPROTEIN-D GENE, COMPLETE CDS.
HS1IEM5G HERPES SIMPLEX VIRUS TYPE 1 IMMEDIATE-EARLY MRNA-5, COMPLETE GENE.
HS1POL HSV-1 (KOS) ORIL REGION AND POLYMERASE (POL) GENE, COMPLETE CDS.
HS1POL17 HSV1 (17) ORIL REGION, POLYMERASE AND DNA BINDING PROTEIN GENES,
HS1TK3KB HERPES SIMPLEX VIRUS TYPE 1 THYMIDINE KINASE AND 3KBL GENES. 2403BP
HS1US HSV1 (STRAIN 17) COMPLETE SHORT UNIQUE REGION WITH PARTIAL 262458P
HS2EXO HSV-2 (HG-52) ALKALINE EXONUCLEASE GENE, 0.177-0.160 MAP UNITS.
HS2GC18K HERPES SIMPLEX VIRUS TYPE 2 GLYCOPROTEIN C AND 18K PROTEIN GENES,
HS2GD HERPES SIMPLEX VIRUS TYPE 2 (HSV-2) GLYCOPROTEIN D (GD-2) GENE AND
HS2GDB HERPES SIMPLEX VIRUS TYPE 2 GLYCOPROTEIN-D GENE, COMPLETE CDS.
HS2GF HSV2 (STRAIN G) GLYCOPROTEIN F GENE, COMPLETE CDS. 2293BP
HS2MRT2 HERPES SIMPLEX VIRUS (HSV) TYPE 2 TRANSFORMING REGION MRT-2. 1624BP
HS2RR3KD HERPES SIMPLEX VIRUS TYPE 2 (HSV-2) RIBONUCLEOTIDE REDUCTASE AND
HS2TK HERPES SIMPLEX VIRUS TYPE 2 (STRAIN 333) THYMIDINE KINASE GENE,
HS4 EPSTEIN-BARR VIRUS (EBV) B95-8 STRAIN, COMPLETE GENOME. 172282BP
HS4EDL1 EPSTEIN-BARR VIRUS B95-8 ECORI DHET TRANSCRIPTS FROM ED-L1, 2640BP
HS4ENVGP EPSTEIN BARR VIRUS MAJOR OUTER ENVELOPE GLYCOPROTEIN GENES GP350
HS4MP EPSTEIN-BARR VIRUS, PUTATIVE LYDMA GENE. 3407BP
HS4NA21 EPSTEIN-BARR VIRUS LEADER PROTEIN (LP), COMPLETE CDS, AND NUCLEAR
HS4NAI EPSTEIN-BARR VIRUS NUCLEAR ANTIGEN I. 1131BP
HS4U2IR2 EPSTEIN-BARR VIRUS (AG876 ISOLATE) U2-IR2 DOMAIN ENCODING NUCLEAR
HS4U2IR2A EPSTEIN-BARR VIRUS (B95-8 ISOLATE) U2-IR2 DOMAIN ENCODING NUCLEAR (I
HS5IER2 HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE) REGION 2 IMMEDIATE EARLY (IE)
HS5IRL12K HUMAN CYTOMEGALOVIRUS IR-L REGION ENCODING A 30 KD PROTEIN, 1170BP
HS5MIE4 HUMAN CYTOMEGALOVIRUS (TOWNE) MAJOR IMMEDIATE EARLY (IE) GENE,
HSSGGIII PSEUDORABIES VIRUS (PRV) GLYCOPROTEIN GIII GENE, COMPLETE CDS.
HSST5 HERPES VIRUS SAIMIRI THYMIDYLATE SYNTHASE GENE, COMPLETE CDS. 3336BP
HSTTK MARMOSET HERPES VIRUS (MARHV) THYMIDINE KINASE GENE AND FLANKS.
IBAD6 AVIAN INFECTIOUS BRONCHITIS VIRUS VACCINE STRAIN M41 MRNA D 5'-END.
IBSSPI CORONAVIRUS IBV GENE FOR SPIKE PROTEIN PRECURSOR 3648BP
LSVNG LASSA VIRUS (STRAIN GA391) NUCLEOCAPSID GENE, COMPLETE CDS. 1530BP
MAARNA3A ALFALFA MOSAIC VIRUS (STRAIN S) RNA 3, P3 AND P4 PROTEINS, 2065BP
MAARNA4 ALFALFA MOSAIC VIRUS (STRAIN 425 LEIDEN) RNA 4 ENCODING VIRAL COAT
MBGCG1Z BEAN GOLDEN MOSAIC VIRUS, DNA 1 OF COMPLETE GENOME. 2646BP
MBGCG2Z BEAN GOLDEN MOSAIC VIRUS, DNA 2 OF COMPLETE GENOME. 2587BP
MBRCG1Z BROME MOSAIC VIRUS RNA 1 OF COMPLETE GENOME. 3234BP
MBRCG2Z BROME MOSAIC VIRUS RNA 2 OF COMPLETE GENOME. 2865BP
MBRCG3Z BROME MOSAIC VIRUS (RUSSIAN STRAIN) RNA 3 (AND RNA 4), OF 2111BP
MCA1841 CAULIFLOWER MOSAIC VIRUS (STRAIN CM1841), COMPLETE GENOME. 8031BP
MCACGDH CAULIFLOWER MOSAIC VIRUS (ALTERED VIRULENCE ISOLATE DH), COMPLETE
MCASTRAS CAULIFLOWER MOSAIC VIRUS (STRASBOURG STRAIN), COMPLETE GENOME.
MCCRNA3 COWPEA CHLOROTIC MOTTLE VIRUS RNA 3, COMPLETE COAT PROTEIN CDS
MCFENVA MINK CELL FOCUS-FORMING VIRUS (MCF-MULV, CI-3 ISOLATE), PROVIRAL
MCVRNA1C CUCUMBER MOSAIC VIRUS (O STRAIN) RNA 1, COMPLETE. 3389BP
MCVRNA2C CUCUMBER MOSAIC VIRUS (O STRAIN) RNA 2, COMPLETE. 3036BP
MCVRNA3 CUCUMBER MOSAIC VIRUS (O STRAIN) RNA 3, COMPLETE SEGMENT 2193BP
MHV7M MOUSE HEPATITIS VIRUS (STRAIN JHM) NUCLEOCAPSID PROTEIN GENE, MRNA
MHVE1N MOUSE HEPATITIS VIRUS MHV-A59, E1 AND N PROTEINS, 2441BP
MLAPRO ABELSON MURINE LEUKEMIA VIRUS (PROVIRAL), COMPLETE GENOME 5894BP
MLFFXENV FRIEND MINK CELL FOCUS-INDUCING VIRUS (FRIEND MCF, STRAIN FRNX)
MLFRO FRIEND SPLEEN FOCUS-FORMING VIRUS (PROVIRAL), COMPLETE GENOME.
MLFVPENV FRIEND SPLEEN FOCUS-FORMING VIRUS (SFFV-P) ENVELOPE GENE, 1738BP
MLM MOLONEY MURINE LEUKEMIA VIRUS COMPLETE GENOME. 8332BP
MLRENV RAUSCHER SPLEEN FOCUS-FORMING VIRUS (PROVIRAL) ENV GENE AND 3' LTR.
MLVENVPRM MOLONEY MINK CELL FOCUS-FORMING PROVIRAL ENV GENE AND LTR. 2882BP
MLVENVR MULV (STRAIN RADLVVL3/T-L-J) ENV GENE, COMPLETE CDS, AND 3' LTR.
MLVRENV RAUSCHER MINK CELL FOCUS FORMING VIRUS ENV GENE AND 3' LTR. 2887BP
MLXENVXA MURINE LEUKEMIA VIRUS NZB-9-1 XENOTROPIC PROVIRAL DNA, POL AND ENV
MMTENV MOUSE MAMMARY TUMOR VIRUS ENV MRNA. 3513BP
MMTENVGR MOUSE MAMMARY TUMOR VIRUS PROVIRAL ENVELOPE GENE REGION. 3012BP
MMTLTR MMTV (GR MOUSE MAMMARY TUMOR VIRUS) LONG TERMINAL REPEAT DNA.
MPVTK MONKEYPOX VIRUS THYMIDINE KINASE GENE. 1276BP
MSHP21 HARVEY MURINE SARCOMA VIRUS P21 V-HAS PROTEIN GENE. 997BP
MSHP21A MURINE SARCOMA VIRUS (HARVEY-STRAIN) H-RAS GENE FOR TRANSFORMING
MSJMUSV FBJ MURINE OSTEOSARCOMA VIRUS (PROVIRAL), COMPLETE GENOME. 4226BP
MSKP21 KIRSTEN MURINE SARCOMA VIRUS P21 V-KIS PROTEIN GENE. 604BP
MSMMOSM1 MOLONEY MURINE SARCOMA VIRUS (PROVIRAL) MOS-M1 GENE AND FLANKS.
MSMPROCG MOLONEY MURINE SARCOMA VIRUS (PROVIRAL), COMPLETE GENOME. 5826BP
MSRMUSV FBR MURINE OSTEOSARCOMA VIRUS (PROVIRAL), COMPLETE GENOME. 3611BP
MSV MAIZE STREAK VIRUS, COMPLETE GENOME. 2687BP
MSVRAS BALB/C MURINE SARCOMA VIRUS H-RAS RELATED ONCOGENE, COMPLETE CDS.
MSYMOS MYELOPROLIFERATIVE SARCOMA VIRUS PROVIRAL V-MOS GENE, 3' LTR.
MTGA TOMATO GOLDEN MOSAIC VIRUS, COMPONENT A OF COMPLETE GENOME. 2588BP
MTRR2 TOBACCO RATTLE VIRUS RNA-2 (CAM STRAIN) FOR CAPSID PROTEIN. 1799BP
MTV30KCP TOBACCO MOSAIC VIRUS(COWPEA STRAIN) 30K & COAT PROTEIN GENES.
MTVCG TOBACCO MOSAIC VIRUS, TOMATO STRAIN (L), COMPLETE GENOME. 6384BP
MTVV TOBACCO MOSAIC VIRUS (STRAIN VULGARE), COMPLETE GENOME. 6395BP
MTY2 TURNIP YELLOW MOSAIC VIRUS GENOMIC (HEAVY) RNA: 3' END. 694BP
MTYCOAT TURNIP YELLOW MOSAIC VIRUS COAT PROTEIN MRNA. 694BP
NPAP10B AUTOGRAPHA CALIFORNICA NUCLEAR POLYHYDROSIS VIRUS P10 GENE FOR
NPBPH NUCLEAR POLYHEDROSIS VIRUS (OF B.MORI) POLYHEDRIN GENE, 2060BP
PCS SIMIAN SARCOMA VIRUS (PROVIRAL), COMPLETE GENOME. 5779BP
PCS2 SIMIAN SARCOMA VIRUS (PROVIRAL), TRANSFORMING REGION, 2337BP
PICSRNA PICHINDE ARENAVIRUS SMALL (S) RNA, COMPLETE. 3419BP
PICSRNAB P. ARENAVIRUS S RNA 3' END, CODING FOR THE N PROTEIN. 2040BP
PIFNP HUMAN PARAINFLUENZA 3 VIRUS NUCLEOCAPSID PROTEIN (NP) GENE, 1690BP
PIFNPA HUMAN PARAINFLUENZA VIRUS TYPE 3 NUCLEOCAPSID PROTEIN, COMPLETE
PIFPCD HUMAN PARAINFLUENZA 3 VIRUS MRNA ENCODING P AND C PROTEINS, 2013BP
PLJCG JC POLYOMAVIRUS (JCV), COMPLETE GENOME. 5130BP
PLY2 POLYOMA VIRUS STRAIN A2 (AND A3) COMPLETE GENOME. 5297BP
PLY3 POLYOMA VIRUS STRAIN A3 COMPLETE GENOME. 5296BP
POL1 POLIOVIRUS TYPE 1 (MAHONEY STRAIN), COMPLETE GENOME. 7440BP
POL2LAN POLIOVIRUS TYPE 2 (LANSING STRAIN), COMPLETE GENOME. 7437BP
POL3L12 POLIOVIRUS TYPE 3 LEON 12A-1-B (SABIN VACCINE), COMPLETE GENOME.
POL3L37 POLIOVIRUS P3/LEON/37 (TYPE 3), COMPLETE GENOME. 7431BP
PPH16 HUMAN PAPILLOMAVIRUS TYPE 16 (HPV16), COMPLETE GENOME. 7904BP
PPH1A HUMAN PAPILLOMA VIRUS 1A, COMPLETE GENOME. 7811BP
PPL LYMPHOTROPIC PAPOVAVIRUS (LPV), COMPLETE GENOME. 5270BP
PPMVP1 MONKEY B-LYMPHOTROPIC PAPOVAVIRUS PSTI B FRAGMENT ENCODING VP1,
PPMVP1M MONKEY B-LYMPHOTROPIC PAPOVAVIRUS MUTANT (LPV-76) PSTI B 2354BP
PTPSRNA PUNTA TORO PHLEBOVIRUS S RNA, CODING FOR N AND NS PROTEINS, 1904BP
PV1 PARVOVIRUS H-1, COMPLETE GENOME 5176BP
PVBDUN HUMAN PAPOVAVIRUS BK, VARIANT DUNLOP, COMPLETE GENOME. 5153BP
PVBMM HUMAN PAPOVAVIRUS BK, VARIANT MM, COMPLETE GENOME. 4963BP
PVFVP FELINE PANLEUKOPENIA VIRUS STRUCTURAL PROTEIN GENES, VP1 AND VP2.
RAVGP RABIES VIRUS (ERA STRAIN), GLYCOPROTEIN MRNA. 1645BP
RAVMMGN RABIES VIRUS M2, M1, G AND N GENES, COMPLETE CDS, AND L GENE.
RBFTK SHOPE FIBROMA VIRUS THYMIDINE KINASE GENE, COMPLETE CDS. 1188BP
REO3S1C REOVIRUS SEROTYPE 3 S1 GENE ENCODING SIGMA 1 PROTEIN, COMPLETE CDS.
REO3C REOVIRUS SEROTYPE 3 S3 GENE, NON-STRUCTURAL PROTEIN SIGMA NS,
REO54 REOVIRUS SEROTYPE 3, SEGMENT 4, MAJOR SURFACE PROTEIN SIGMA-3 GENE,
RHUA577 HUMAN ROTAVIRUS (HUAUSTRALIA/577, SEROTYPE 2), COMPLETE SEG 8.
RO210 HUMAN WA ROTAVIRUS GENE 10 FOR NONSTRUCTURAL GLYCOPROTEIN NCVP5
RO29 HUMAN WA ROTAVIRUS GENE 9 FOR SEROTYPE-SPECIFIC ANTIGEN VP7. 1062BP
RO2SEG6 HUMAN WA ROTAVIRUS SEGMENT 6 RNA, VP6 GENE, COMPLETE. 1356BP
ROB10 UK BOVINE ROTAVIRUS RNA GENE SEGMENT 10, COMPLETE CDS. 751BP
ROB11 UK BOVINE ROTAVIRUS RNA GENE SEGMENT 11, COMPLETE CDS. 667BP
ROBG UK BOVINE ROTAVIRUS SEROTYPE-SPECIFIC GLYCOPROTEIN GENE. 1062BP
ROBMCP BOVINE ROTAVIRUS (RF STRAIN) SEGMENT 6, MAJOR CAPSID PROTEIN,
ROBP9 UK BOVINE ROTAVIRUS SEGMENT 9 CODING FOR NONSTRUCTURAL PROTEIN
ROTG10 SIMIAN 11 ROTAVIRUS GENE 10 FOR NONSTRUCTURAL GLYCOPROTEIN NCVP5
ROTG6 SIMIAN 11 ROTAVIRUS SEGMENT 6 RNA, VP6 GENE, COMPLETE. 1357BP
ROTG7 SIMIAN 11 ROTAVIRUS GENE 7 FOR NONSTRUCTURAL PROTEIN NCVP4. 1104BP
ROTG8 SIMIAN 11 ROTAVIRUS GENE 8 FOR NONSTRUCTURAL PROTEIN NCVP3. 1059BP
ROTVP7 SIMIAN 11 ROTAVIRUS MAJOR OUTER CAPSID PROTEIN VP7 (SEG 9), CDNA.
ROVVP7NCD BOVINE ROTAVIRUS (STRAIN NCDV) SURFACE ANTIGEN VP7 GENE. 1062BP
ROVVP7S2 ROTAVIRUS (HUMAN SEROTYPE 2, SEGMENT 9) VP7 SURFACE ANTIGEN, 1062BP
RSVRAS RAT SARCOMA VIRUS (RASV) V-RAS ONCOGENE, P29 TRANSFORMING PROTEIN,
SFV2 SEMLIKI FOREST VIRUS 26S RNA AND JUNCTION REGION. 4323BP
SIN SINDBIS VIRUS (HRSP AND WILD-TYPE STRAINS) COMPLETE GENOME. 11703BP
SIVMPCG SIMIAN MASON-PFIZER D-TYPE RETROVIRUS (MPMV/6A), COMPLETE GENOME.
SIVRV1CG SIMIAN SRV-1 TYPE D RETROVIRUS (L47.1), COMPLETE GENOME. 8173BP
SNDFZ SENDAI VIRUS (HVJ) F MRNA ENCODING FUSION GLYCOPROTEIN. 1813BP
SNDHN SENDAI VIRUS HEMAGGLUTININ-NEURAMINIDASE (HN) GLYCOPROTEIN MRNA.
SNDHNG SENDAI VIRUS HN GENE ENCODING HEMAGGLUTININ-NEURAMINIDASE, 1934BP
SNDM SENDAI VIRUS M (MATRIX OR MEMBRANE PROTEIN) GENE, COMPLETE CDS.
SNDV1 SENDAI VIRUS MRNA FOR PROTEINS NP, P, C, M AND N-TERM OF F. 5824BP
SSHM SNOWSHOE HARE VIRUS, COMPLETE M RNA SEGMENT CODING FOR G PROTEIN.
SV4CG SIMIAN VIRUS 40 COMPLETE GENOME. 5243BP
SV5HNP SIMIAN VIRUS 5 HEMAGGLUTININ-NEURAMINIDASE (HN) PROTEIN. 2123BP
SV5PFC SIMIAN VIRUS 5, PROTEIN F MRNA, COMPLETE CDS. 1873BP
SVCPM SPRING VIREMIA OF CARP VIRUS STRUCTURAL PROTEIN M, MRNA. 710BP
TEVCGHAT TOBACCO ETCH VIRUS (HIGHLY APHID TRANSMISSIBLE (HAT)) COMPLETE
TN8 SATELLITE TOBACCO NECROSIS VIRUS, COMPLETE GENOME. 1239BP
TOTRVRN1 TOBACCO RATTLE VIRUS (TRV) RNA1 3'-TERMINUS. 2229BP
TSVRNA3 TOBACCO STREAK VIRUS (STRAIN VIC) RNA 3, COMPLETE SEGMENT. 2205BP
VACENVANT VACCINIA VIRUS (HINDIII F FRAGMENT) P37K GENE, ENCODING AN ENVELOPE
VACHA VACCINIA VIRUS HEMAGGLUTININ GENE, COMPLETE CDS. 1802BP
VACHIND3D VACCINIA VIRUS (STRAIN WR) HINDIII D FRAGMENT DNA, COMPLETE.
VACMCPP4B VACCINIA VIRUS P4B (MAJOR CORE POLYPEPTIDE) GENE, COMPLETE CDS.
VACMLG VACCINIA VIRUS MAJOR LATE GENE ENCODING A 28K PROTEIN, COMPLETE
VACNTP VACCINIA VIRUS NUCLEIC ACID-DEPENDENT NUCLEOSIDE TRIPHOSPHATASE I
VACPOLD VACCINIA VIRUS DNA POLYMERASE GENE, COMPLETE CDS. 5399BP
VACPOLO VACCINIA VIRUS (STRAIN WR) HINDIII L AND J FRAGMENTS ENCODING
VACPOLR VACCINIA VIRUS (STRAIN WR) HINDIII J AND H FRAGMENTS ENCODING RNA
VARTK VARIOLA VIRUS THYMIDINE KINASE GENE. 1274BP
VAZIRLS VARICELLA-ZOSTER VIRUS GENOME FRAGMENT WITH MAJOR INVERTED REPEAT
VAZUS VARICELLA-ZOSTER VIRUS (VZV) UNIQUE SEQUENCE (US) COMPONENT. 6084BP
VLVCG VISNA LENTIVIRUS (PROVIRAL ICELANDIC STRAIN 1514) COMPLETE GENOME.
VSV VESICULAR STOMATITIS VIRUS (INDIANA SEROTYPE) COMPLETE GENOME.
VSVGPORS VESICULAR STOMATITIS VIRUS (ORSAY) G PROTEIN MRNA, COMPLETE CDS.
VSVLMS VESICULAR STOMATITIS VIRUS POLYMERASE (L) GENE, COMPLETE CDS.
VSVMNJ VESICULAR STOMATITIS VIRUS (VSV-NJ) MATRIX (M) PROTEIN, COMPLETE
VSVMNJ VESICULAR STOMATITIS VIRUS (NEW JERSEY) N PROTEIN MRNA, COMPLETE.
VSVNS VESICULAR STOMATITIS VIRUS (NEW JERSEY) NS PROTEIN MRNA. 856BP
WHV WOODCHUCK HEPATITIS VIRUS, COMPLETE GENOME. 3306BP
WHVCG WOODCHUCK HEPATITIS VIRUS 2, COMPLETE GENOME. 3320BP
WHVSAG WOODCHUCK HEPATITIS VIRUS SURFACE ANTIGEN GENE. 869BP
WNFCG WEST NILE VIRUS RNA, COMPLETE GENOME. 10960BP
YFV YELLOW FEVER VIRUS, COMPLETE GENOME. 10862BP

******* BACTERIOPHAGES

AL3J BACTERIOPHAGE ALPHA-3 J GENE. 261BP
BETDT CORYNEBACTERIOPHAGE BETA (C.DIPHTHERIAE) DIPHTHERIA TOXIN (DT) GENE
BETDT228 CORYNEBACTERIOPHAGE BETA (C.DIPHTHERIAE) TOX228 AND FLANKS, 2220BP
IKECG BACTERIOPHAGE IKE, COMPLETE GENOME. 6683BP
IKEGVP BACTERIOPHAGE IKE DNA BINDING PROTEIN (GVP) GENE, COMPLETE CDS.
LAM BACTERIOPHAGE LAMBDA, COMPLETE GENOME. 48502BP
LAMMM434 BACTERIOPHAGE LAMBDA MM434 ECORI-G FRAGMENT. 1287BP
M13 BACTERIOPHAGE M13, COMPLETE GENOME. 6407BP
MS2 BACTERIOPHAGE MS2, COMPLETE GENOME. 3569BP
P15NC BACILLUS SUBTILIS PHAGE PH 105 IMMUNITY REGION WITH REPRESSOR GENE
P21NR1 BACTERIOPHAGE PH6-21 N REGION ENCODING TRANSCRIPTION 828BP
P22C2 BACTERIOPHAGE P22 C2 REPRESSOR GENE. 651BP
P22ERF BACTERIOPHAGE P22 ESSENTIAL RECOMBINATION FUNCTION (ERF) GENE,
P22IMMI BACTERIOPHAGE P22 IMMUNITY REGION (IMMI): ANT GENE CODING FOR
P22PAC BACTERIOPHAGE P22 TERMINASE GENE (3 PROTEIN), COMPLETE CDS. 853BP
P22RTOP BACTERIOPHAGE P22 RIGHT OPERON GENE C1, REPLICATION GENES 18 AND
P29P9 BACTERIOPHAGE PH6-29 GENES 9, 10 AND 11 ENCODING P9 TAIL, 2205BP
P80CI BACTERIOPHAGE PH6-80 CI IMMUNITY REGION ENCODING THE N GENE. 1778BP
PA2LC BACTERIOPHAGE PA-2 LC GENE ENCODING OUTER MEMBRANE PORIN PROTEIN
PF1C BACTERIOPHAGE F1, COMPLETE GENOME. 6407BP
PF1D BACTERIOPHAGE PF1 GENE ENCODING DNA BINDING PROTEIN. 435BP
PF1G578 BACTERIOPHAGE F1 GENES V, VII AND VIII. 716BP
PF3BPMCP BACTERIOPHAGE PF3 (P.AERUGINOSA) DNA-BINDING PROTEIN AND MAJOR COAT
PF3MCP PHAGE PF3 MAJOR COAT PROTEIN GENE, COMPLETE CODING SEQUENCE. 415BP
PFD BACTERIOPHAGE FD, STRAIN 478, COMPLETE GENOME. 6408BP
PG4 BACTERIOPHAGE G4, COMPLETE GENOME. 5577BP
PH3THYP3 BACTERIOPHAGE PH1-3T THYP3 GENE ENCODING THYMIDYLATE SYNTHETASE,
PMUA BACTERIOPHAGE MU GENE A ENCODING TRANSPOSASE, COMPLETE CDS. 3240BP
PMUB BACTERIOPHAGE MU PROTEIN B GENE, COMPLETE CDS. 980BP
PMUGINMOM BACTERIOPHAGE MU BETA REGION MOM AND GIN GENES AND 3' FLANK. 1942BP
PMUIMM BACTERIOPHAGE MU IMMUNITY REGION (LEFT END OF GENOME). 1592BP
PP1CIN1 BACTERIOPHAGE P1 CIN GENE ENCODING RECOMBINASE, CIXL RECOMBINATION
PP1REP BACTERIOPHAGE P1 PLASMID REPLICON LAMBDA-P1:5R REPLICATION REGION
PP4EL COLIPHAGE P4 EARLY AND LATE REGIONS. 3618BP
PT3POL BACTERIOPHAGE T3 GENE 1 ENCODING RNA POLYMERASE, COMPLETE CDS.

PT3RE BACTERIOPHAGE T3 (MUTANT) RIGHT END DNA, ENCODING TAIL FIBER 5467BP
PT4BGT BACTERIOPHAGE T4 BETA-GT GENE ENCODING BETA-GLUCOSYLTRANSFERASE.
PT4DENV BACTERIOPHAGE T4 DENV GENE ENCODING ENDONUCLEASE V, COMPLETE CDS.
PT4DEXA BACTERIOPHAGE T4 DEXA GENE, COMPLETE CDS. 1334BP
PT4E BACTERIOPHAGE T4 E GENE ENCODING LYSOZYME, COMPLETE CDS. 998BP
PT4FRDTD1 BACTERIOPHAGE T4 FRD AND TD GENES ENCODING DIHYDROFOLATE REDUCTASE
PT4FRDTD2 BACTERIOPHAGE T4 TD GENE ENCODING THYMIDYLATE SYNTHASE, EXON 2.
PT4G11TRNA BACTERIOPHAGE T4 GENES 1, 57A, 57B, IP1, AND TRNA CLUSTERS. 5018BP
PT4G22G23 BACTERIOPHAGE T4 GENES 22 (PARTIAL) AND 23 (COMPLETE CDS). 2280BP
PT4G30 BACTERIOPHAGE T4 GENE 30 ENCODING DNA LIGASE, COMPLETE CDS. 1993BP
PT4G32 BACTERIOPHAGE T4 GENE 32 ENCODING SS-DNA BINDING PROTEIN. 1340BP
PT4G36G37 BACTERIOPHAGE T4 GENES 36 AND 37 (COMPLETE); 36 AND 38 (PARTIAL)
PT4G55G43 BACTERIOPHAGE T4 GENES 55, ALPHA-GT, 47, 46, 45, 44, 62, REGA,
PT4G63ALC BACTERIOPHAGE T4 GENES 63 (ENCODING RNA LIGASE) AND ALC, COMPLETE
PT4G67G21 BACTERIOPHAGE T4 GENES 67, 66 AND 21. 767BP
PT4PSET PHAGE T4 PSET GENE FOR POLYNUCLEOTIDE KINASE (PNK). 2393BP
PT4UVSY BACTERIOPHAGE T4 UVSY GENE INVOLVED IN THE RECOMBINATION PATHWAY.
PT4UVSYSO BACTERIOPHAGE T4 GENES UVSX, 41, 61/56, DAM, 69 AND SOC ENCODING
PT5EXOG BACTERIOPHAGE T5 D15 GENE FOR 5' EXONUCLEASE. 1347BP
PT5TRDG BACTERIOPHAGE T5 GENE FOR TRNA-ASP (GUC). 754BP
PT7 BACTERIOPHAGE T7, COMPLETE GENOME. 39936BP
PT71G BACTERIOPHAGE T7 GENES 1.1, 1.2, 1.3 (POSITIONS 14.45%-16.15%), AND
PX1 BACTERIOPHAGE PH-X174, COMPLETE GENOME. 5386BP
PZAMER BACTERIOPHAGE PZA (FROM B.SUBTILIS) MAJOR EARLY REGION. 5200BP
SP1MPG27 BACTERIOPHAGE SPO1 (B.SUBTILIS) GENE 27, MIDDLE PROMOTER, AND GENE
SP1SG BACTERIOPHAGE SPO1 (B.SUBTILIS) GENES 33 AND 34 ENCODING SIGMA
SP1TF1 BACTERIOPHAGE SP01 TRANSCRIPTION FACTOR 1 (TF1) GENE, COMPLETE CDS.
SP2POLGL BACTERIOPHAGE SPO2 (B.SUBTILIS) GENE L ENCODING DNA POLYMERASE.
SPBD BACTERIOPHAGE SP-BETA (B.SUBTILIS) D GENE, ENCODING IMMUNITY. 1033BP
SPCSAK BACTERIOPHAGE S-PHI-C (FROM S. AUREUS) SAK GENE CODING FOR 1377BP
SPRMTASE BACTERIOPHAGE SPR (B.SUBTILIS) DNA METHYLTRANSFERASE GENE. 2129BP

******** ORGANELLA
AMNCPPSBA A.HYBRIDUS CHLOROPLAST HERBICIDE BINDING PROTEIN PSBA,COMPLETE
ASNMITCYB2 A.NIDULANS MT APOCYTOCHROME B (COBA) GENE; EXON2. 1082BP
ASNMITDNA A.NIDULANS MT DNA BETWEEN H2/H5 & BH2/B2 JUNCTIONS. 14440BP
ASNMITGRN A.NIDULANS MT ARG-TRNA, ASP-TRNA AND ATPASE (SUBUNIT 6) GENES.
ASNMITURF A.NIDULANS MT UNIDENTIFIED READING FRAMES URF1 AND URF4. 2830BP
BLYCPATPB BARLEY CHLOROPLAST ATPASE SUBUNITS B & E AND 2 TRNA GENES: 3819BP
BOVMT BOVINE MITOCHONDRION, COMPLETE GENOME. 16338BP
CRECPATPB CHLAMYDAMONAS REINHARDTII CHLOROPLAST ATPB GENE ENCODONG CF-1
CRECPRUBP C.REINHARDII CP RIBULOSE BISPHOSPHATE CARBOXYLASE LARGE SUBUNIT
CRECPSBA5 C.REINHARDII CHLOROPLAST PSBA GENE, ENCODING 32-KD PROTEIN OF 417BP
CREMTURF5 CHLAMYDOMONAS REINHARDII MITOCHONDRIAL URF5 GENE. 2316BP
DROMTM1 D.MELANOGASTER MT CYTOCHROME C OXIDASE SUBUNITS, ATPASE6, 7 TRNA
DRYMTGB DROSOPHILA MITOCHONDRIAL CYTOCHROME B AND FIVE TRNA GENES. 6642BP
DRYMTY2 D.YAKUBA MT CYTOCHROME C OXIDASE II AND III, ATPASE6, 4 TRNA GENES,
DRYMTYTGC DROSOPHILA YAKUBA MITOCHONDRIAL TRNA GENE CLUSTER: SER-TRNA, 1629BP
EGRCPEFTU EUGLENA GRACILIS CHLOROPLAST ELONGATION FACTOR TU GENE. 2066BP
EGRCPPSB E.GRACILIS CHLOROPLAST PSBA GENE CODING FOR 32-KDA THYLAKOID 4904BP
EGRCPPSBA EUGLENA GRACILIS CHLOROPLAST PSBA GENE ENCODING 32-KD HERBICIDE
EGRCPRBCL EUGLENA GRACILIS CHLOROPLAST RIBULOSE-1,5-BISPHOSPHATE CARBOXYLASE
EGRCPRP7 E. GRACILIS CHLOROPLAST RIBOSOMAL PROTEINS S7 AND S12 GENES. 1356BP
HUMMT HUMAN MITOCHONDRION, COMPLETE GENOME. 16569BP
LEKPMAX LEISHMANIA TARENTOLAE KINETOPLAST MAXICIRCLE DNA COMPLETE 20991BP
MPOCPCG MARCHANTIA POLYMORPHA (LIVERWORT) CHLOROPLAST COMPLETE GENOME.
MUSMT MOUSE MITOCHONDRION, COMPLETE GENOME. 16295BP
MZECPATBE MAIZE (Z.MAYS) CP COUPLING FACTOR COMPLEX (CF-1) BETA & EPSILON
MZECPPS1 MAIZE CHLOROPLAST PHOTOSYSTEM I PS1A1 AND PS1A2 GENES, COMPLETE
MZECPRPS4 MAIZE CHLOROPLAST RIBOSOMAL PROTEIN S4 GENE. 1241BP
MZECPRUBP MAIZE CHLOROPLAST RIBULOSE BISPHOSPHATE CARBOXYLASE LARGE SUBUNIT
MZEMTCOB MAIZE MITOCHONDRIAL APOCYTOCHROME B GENE (COB), COMPLETE CDS.
MZEMTCOXI MAIZE MITOCHONDRIAL CYTOCHROME C OXIDASE SUBUNIT I (COX I) GENE,
MZEMTMOX1 MAIZE (Z.MAYS) MT CYTOCHROME OXIDASE SUBUNIT II GENE (MOX1), 1797BP
NEUMTCOG N.CRASSA MT CYTOCHROME OXIDASE SUBUNIT III (COIII) GENE, 1254BP
NEUMTCOJ N.CRASSA MT CYTOCHROME OXYDASE SUBUNIT 2 GENE (COX2) AND FLANKS.
NEUMTOLI1 N. CRASSA MITOCHONDRIAL OLI2 GENE, ATPASE SUBUNIT 9, COMPLETE CDS.
NEUMTRGS2 N. CRASSA CYT-4 MUTANT MITOCHONDRIAL 24S RRNA, EXONS 1 AND 2.
OBEMTCYO2 OENOTHERA BERTERIANA MITOCHONDRIAL CYTOCHROME OXIDASE SUBUNIT II
OHOCPCYTF OENOTHERA HOOKERII PLASTID GENE FOR PRE-APOCYTOCHROME F 1573BP
PANMTCOL P.ANSERINA MITOCHONDRIAL CYTOCHROME OXYDASE SUBUNIT 2 GENE (COL),
PARMTCO1 P.AURELIA (SPECIES 4 CYTOCHROME OXIDASE SUBUNIT I AND ND1 GENES.
PARMTCY2B P.AURELIA (SPECIES 4) MITOCHONDRIAL CYTOCHROME OXIDASE SUBUNIT II
PARMTP1A P.AURELIA SPECIES 4 MITOCHONDRIAL PROTEIN P1 GENE, ORFS 1 AND 2.
PARMTP1B P.AURELIA SPECIES 1 MITOCHONDRIAL PROTEIN P1 GENE. 712BP
PEACPCYF PEA (P.SATIVUM) CHLOROPLAST CYTOCHROME F GENE AND FLANKS. 1248BP
PEACPD2 PEA (P.SATIVUM) CHLOROPLAST PHOTOSYSTEM II D2 PROTEIN GENE, 1537BP
PEAMTCOII PEA (P.SATIVUM) MT COII GENE ENCODING CYTOCHROME OXIDASE II, 2036BP
RATMTCYBT RAT MT CYTOCHROME B GENE; PRO-, THR-, GLU-TRNA GENES; AND URF6.
RATMTCYOR RAT (R.RATTUS) MT CYTOCHROME OXIDASE SUBUNIT II GENE. 702BP
RATMTCYOS RAT (SPRAGUE-DAWLEY) MITOCHONDRIAL GENES FOR CYTOCHROME OXIDASE
RICMTCYO2 RICE (ORYZA SATIVA) MT CYTOCHROME OXIDASE SUBUNIT II (COII) GENE.
SALCPPS9 SINAPIS ALBA CP PRE-MR 32000 PHOTOSYSTEM II MEMBRANE PROTEIN GENE,
SNICPPSBA SOLANUM NIGRUM CHLOROPLAST PSBA GENE FOR 32-KDA PROTEIN OF 1501BP
SOYCPPSB1 SOYBEAN CP PSBA GENE (PHOTOSYSTEM II THYLAKOID MEMBRANE PROTEIN),
SPICPAP SPINACH (S. OLERACEA) CHLOROPLAST P-680 CHLOROPHYLL ALPHA 2217BP
SPICPATBE SPINACH (S.OLERACEA) CP COUPLING FACTOR COMPLEX (ATPASE); 2414BP
SPICPCYTB SPINACH PLASTID GENES FOR APOCYTOCHROME B6 AND CYTOCHROME B/F
SPICPD2CB SPINACH CHLOROPLAST PHOTOSYSTEM II PROTEIN D2, 44 KD REACTION-
SPICPPSBA SPINACH (S.OLERACEA) CHLOROPLAST THYLAKOID MEMBRANE PROTEIN GENE
SPICPRUBP SPINACH CHLOROPLAST RIBULOSE BISPHOSPHATE CARBOXYLASE LARGE SUBUNIT
SPICPTGH SPINACH CHLOROPLAST HIS-TRNA AND RPS 19' GENES. 3638BP
SPICPTGI SPINACH CHLOROPLAST ILE-TRNA AND RIBOSOMAL PROTEINS L2 AND S 19
SRGMTCOXI SORGHUM (BICOLOR MILO) MITOCHONDRIAL CYTOCHROME C OXIDASE SUBUNIT I
SRGMTCOXJ SORGHUM (MUTANT 9E) MITOCHONDRIAL CYTOCHROME C OXIDASE SUBUNIT I
TOBCPCG N.TABACUM (VAR. BRIGHT YELLOW 4) CHLOROPLAST, COMPLETE GENOME.
TOBCPP32 TOBACCO (N. TABACUM) THYLAKOID MEMBRANE PROTEIN GENE (P32) AND
TOBCPPSBA TOBACCO (N.DEBNEYI) CHLOROPLAST THYLAKOID MEMBRANE PROTEIN GENE
TOBCPRPS5 TOBACCO CP PUTATIVE RIBOSOMAL-PROTEIN CS19 (RPS5) AND FLANKS. 490BP
TOBCPRUBP TOBACCO CHLOROPLAST RIBULOSE BISPHOSPHATE CARBOXYLASE LARGE SUBUNIT
TOBCPS16 INTRON IN TOBACCO CHLOROPLAST GENE RPS16 FOR RIBOSOMAL PROTEIN S16.
TOBCPTG1 TOBACCO CP (N. DEBNEYI) CHLOROPLAST HIS-TRNA AND RPS 19' GENES. 5048P
TOBCPTG2 TOBACCO (N. DEBNEYI) CHLOROPLAST ILE-TRNA AND RIBOSOMAL PROTEIN L2
TRYMTCYTB T.BRUCEI MITOCHONDRIAL MAXICIRCLE DNA ENCODING APOCYTOCHROME B, AND
WHTCPATP WHEAT CHLOROPLAST ATP SYNTHASE PROTON-TRANSLOCATING SUBUNIT GENE.
WHTCPATPS WHEAT CHLOROPLAST ATP SYNTHETASE CF-0 SUBUNIT I GENE, COMPLETE.
WHTCPCYF WHEAT CHLOROPLAST CYTOCHROME F GENE. 1116BP
WHTCPCYTB WHEAT CHLOROPLAST GENE FOR CYTOCHROME B-559. 564BP
WHTMTCOII WHEAT MITOCHONDRIAL CYTOCHROME OXIDASE SUBUNIT II (COII) GENE.
WHTMTCYBB WHEAT MITOCHONDRIAL APOCYTOCHROME B GENE, COMPLETE CDS. 1943BP
XELMTCG X.LAEVIS MITOCHONDRION, COMPLETE GENOME. 17553BP
XELMTOTG X.LAEVIS MITOCHONDRIAL DNA CONTAINING THE D-LOOP, AND THE 12S RRNA,
YSCMTAPS1 YEAST (S.CEREVISIAE) MITOCHONDRIAL ATPASE SUBUNIT GENE. 1452BP
YSCMTAT91 YEAST (S.CEREVISIAE) MITOCHONDRIAL ATPASE PROTEOLIPID (SUBUNIT 9)
YSCMTCO31 YEAST (S.CEREVISIAE) MITOCHONDRIAL OXI2 GENE ENCODING CYTOCHROME C
YSCMTCOC2 YEAST (S.CEREVISIAE) MITOCHONDRIAL CYTOCHROME C OXIDASE SUBUNIT
YSCMTCYBS YEAST (S.CEREVISIAE) MITOCHONDRIAL CYTOCHROME B SHORT GENE. 829BP
YSCMTCYO1 YEAST (S.CEREVISIAE) MITOCHONDRIAL CYTOCHROME OXIDASE SUBUNIT 1
YSCMTCYO2 YEAST (S.CEREVISIAE) MITOCHONDRIAL CYTOCHROME OXIDASE SUBUNIT 2
YSCMTOLI1 YEAST (S.CEREVISIAE) MT OLI1 GENE ENCODING ATPASE SUBUNIT 9, 331BP
YSCMTOO YEAST (S.CEREVISIAE) MITOCHONDRIAL OXI3/OLI2 INTERCISTRONIC REGION:
YSCMTRGF YEAST (S.CEREVISIAE) MT 21S RRNA GENE INTRON R1 CONTAINING AN ORF.
YSCMTTGSA YEAST (S.CEREVISIAE) MITOCHONDRIAL SER-TRNA AND ATPASE PROTEOLIPID
YSCMTVAR1 YEAST (S.CEREVISIAE) MITOCHONDRIAL VAR1 GENE, 40.0 ALLELE. 1200BP
YSLMTG3 YEAST (T.GLABRATA) MITOCHONDRIAL DNA BETWEEN CYTOCHROME OXIDASE
YSPMTCYBB YEAST (S.POMBE) MITOCHONDRIAL COB GENE ENCODING APOCYTOCHROME B.

********** FOR TABLE 2 **********

HUM HUMAN
HAM HAMSTER
MUS MOUSE
RAT RAT
BOV BOVINE
RAB RABBIT
CHK CHICKEN
XEL XENOPUS LAEVIS
DRO DROSOPHILA MELANOGASTER
MZE MAIZE
YSC S. CEREVISIAE
BSU BACILLUS SUBTILIS
ECO E. COLI
STY SALMONELLA TYPHIMURIUM
TIP TI PLASMID
ADB ADENOVIRUS TYPE 2
HIV HIV-1
HS1 HERPES SIMPLEX VIRUS TYPE 1
HS4 EPSTEIN-BARR VIRUS
LAMBDA BACTERIOPHAGE LAMBDA
PT4 BACTERIOPHAGE T4
PT7 BACTERIOPHAGE T7
MPOCP M. POLYMORPHA CHLOROPLAST GENOME
TOBCP N. TABACUM CHLOROPLAST GENOME