

Human Insulin Sample Protein Data (12)

Summary Report

Individual Codon Fitness (Max)	-0.1903
Codon Context Fitness (Max)	-0.11596

Input Sequence As Protein

MALWMRLLPLLALLALWGPDPAAAFVNQHLCGSHLVEALYLVCGERGFFYTPKTRREAEDLQVGQV
ELGGGPGAGSLQPLALEGSLQKRGIVEQCCTSICSLYQLENYCN*

Optimized Nucleotide Sequence

ATGGCTTTATGGATGAGATTATTACCATTATTGGCATTGTTGGCTTTGTGGGGTCCTGATCCAGCT
GCTGCATTTGTTAATCAACATTTATGCGGTAGTCACTTAGTAGAAGCATTATACTTGGTTTGTGGT
GAAAGAGGATTTTTTTTATACTCCAAAAACAAGAAGAGAAGCTGAAGATTTACAAGTTGGTCAAGTG
GAATTGGGTGGTGGACCTGGTGCTGGTTCATTGCAACCATTGGCCTTAGAAGGTTCCCTACAAAAA
AGAGGTATTGTTGAACAATGTTGTACTTCTATTTGTTCTTTATATCAATTGGAAAATTATTGTAAC
TAA

Output Sequence Relative Frequency Distribution

Note: Colour of codons indicates the frequency for that codon, with respect to the host.
Block colour between codons indicates the frequency of the adjacent codon pairs (i.e. the
codons to the left and right), with respect to the host.

Rarely Used (0)

Frequently Used (1)

Number	1	2	3	4	5	6	7	8	9	10
1	ATG	GCT	TTA	TGG	ATG	AGA	TTA	TTA	CCA	TTA
11	TTG	GCA	TTG	TTG	GCT	TTG	TGG	GGT	CCT	GAT
21	CCA	GCT	GCT	GCA	TTT	GTT	AAT	CAA	CAT	TTA
31	TGC	GGT	AGT	CAC	TTA	GTA	GAA	GCA	TTA	TAC
41	TTG	GTT	TGT	GGT	GAA	AGA	GGA	TTT	TTT	TAT
51	ACT	CCA	AAA	ACA	AGA	AGA	GAA	GCT	GAA	GAT
61	TTA	CAA	GTT	GGT	CAA	GTG	GAA	TTG	GGT	GGT
71	GGA	CCT	GGT	GCT	GGT	TCA	TTG	CAA	CCA	TTG
81	GCC	TTA	GAA	GGT	TCC	CTA	CAA	AAA	AGA	GGT
91	ATT	GTT	GAA	CAA	TGT	TGT	ACT	TCT	ATT	TGT
101	TCT	TTA	TAT	CAA	TTG	GAA	AAT	TAT	TGT	AAC
111	TAA									

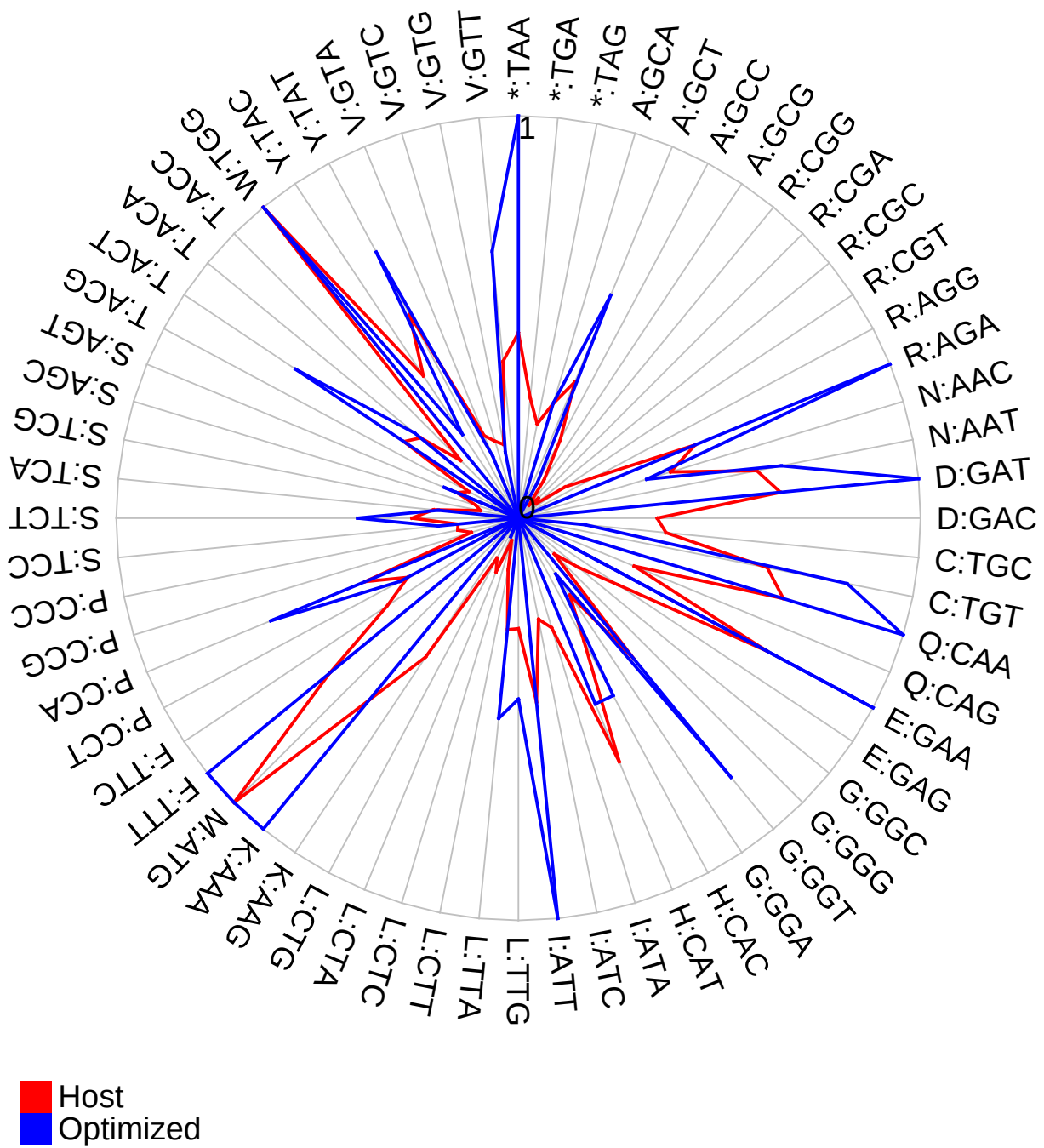
Consecutive Repeat Fitness as Constraint (Total Consecutive Repeat Bases: 0)

- Remove Consecutive Repeats with motif length of 3 repeated 3 or more times

Output Sequence with Consecutive Repeat Highlight

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1      a t g g c t t t a t g g a t g a g a t t a t t a c c a t t a
31     t t g g c a t t g t t g g c t t t g t g g g g t c c t g a t
61     c c a g c t g c t g c a t t t g t t a a t c a a c a t t t a
91     t g c g g t a g t c a c t t a g t a g a a g c a t t a t a c
121    t t g g t t t g t g g t g a a a g a g g a t t t t t t t a t
151    a c t c c a a a a a c a a g a a g a g a a g c t g a a g a t
181    t t a c a a g t t g g t c a a g t g g a a t t g g g t g g t
211    g g a c c t g g t g c t g g t t c a t t g c a a c c a t t g
241    g c c t t a g a a g g t t c c c t a c a a a a a a g a g g t
271    a t t g t t g a a c a a t g t t g t a c t t c t a t t t g t
301    t c t t t a t a t c a a t t g g a a a a t t a t t g t a a c
331    t a a
```

Host vs Optimized Individual Codon Usage



Expression Host: *Saccharomyces cerevisiae*

Individual Codon Frequency and Colour Table

Amino Acid	Codon	Host Relative Frequency	Optimized Usage Count	Optimized Synonymous Total	Optimized Relative Frequency
*	TGA	0.3003	0	1	0
*	TAA	0.4608	1	1	1
*	TAG	0.2389	0	1	0
A	GCA	0.2976	3	10	0.3
A	GCC	0.221	1	10	0.1
A	GCT	0.3665	6	10	0.6
A	GCG	0.1149	0	10	0
C	TGC	0.3689	1	6	0.1667
C	TGT	0.6311	5	6	0.8333
D	GAC	0.345	0	2	0
D	GAT	0.655	2	2	1
E	GAA	0.7013	8	8	1
E	GAG	0.2987	0	8	0
F	TTT	0.6076	3	3	1
F	TTC	0.3924	0	3	0
G	GGA	0.2297	2	12	0.1667
G	GGG	0.1259	0	12	0
G	GGC	0.1928	0	12	0
G	GGT	0.4516	10	12	0.8333
H	CAT	0.6554	1	2	0.5
H	CAC	0.3446	1	2	0.5
I	ATA	0.2848	0	2	0
I	ATC	0.2563	0	2	0
I	ATT	0.4589	2	2	1
K	AAA	0.5848	2	2	1
K	AAG	0.4152	0	2	0
L	TTA	0.2787	10	20	0.5
L	CTG	0.1124	0	20	0
L	TTG	0.2747	9	20	0.45
L	CTT	0.1315	0	20	0
L	CTC	0.05795	0	20	0
L	CTA	0.1447	1	20	0.05
M	ATG	1	2	2	1
N	AAC	0.3955	1	3	0.3333
N	AAT	0.6045	2	3	0.6667
P	CCA	0.412	4	6	0.6667
P	CCC	0.1536	0	6	0
P	CCT	0.3121	2	6	0.3333
P	CCG	0.1222	0	6	0
Q	CAA	0.6884	7	7	1
Q	CAG	0.3116	0	7	0
R	CGT	0.1396	0	5	0
R	AGG	0.2166	0	5	0
R	CGC	0.05648	0	5	0

R	CGG	0.0414	0	5	0
R	CGA	0.07025	0	5	0
R	AGA	0.4757	5	5	1
S	TCG	0.09597	0	5	0
S	TCC	0.151	1	5	0.2
S	TCT	0.2648	2	5	0.4
S	TCA	0.2122	1	5	0.2
S	AGT	0.1653	1	5	0.2
S	AGC	0.1107	0	5	0
T	ACT	0.3427	2	3	0.6667
T	ACA	0.3147	1	3	0.3333
T	ACC	0.2027	0	3	0
T	ACG	0.1399	0	3	0
V	GTG	0.1867	1	6	0.1667
V	GTT	0.3914	4	6	0.6667
V	GTA	0.2219	1	6	0.1667
V	GTC	0.2	0	6	0
W	TGG	1	2	2	1
Y	TAC	0.4254	1	4	0.25
Y	TAT	0.5746	3	4	0.75

Codon Context Frequency and Colour Table

Amino Acid	Codon Pair	Host Relative Frequency	Optimized Usage Count	Optimized Synonymous Total	Optimized Relative Frequency
A*	GCATAA	0.1111	0	0	0
A*	GCTTGA	0.07407	0	0	0
A*	GCATAG	0.03704	0	0	0
A*	GCGTAA	0.1111	0	0	0
A*	GCGTAG	0.07407	0	0	0
A*	GCCTGA	0.1111	0	0	0
A*	GCTTAG	0.07407	0	0	0
A*	GCATGA	0.1481	0	0	0
A*	GCCTAG	0.07407	0	0	0
A*	GCCTAA	0.03704	0	0	0
A*	GCTTAA	0.1111	0	0	0
A*	GCGTGA	0.03704	0	0	0
AA	GCAGCA	0.08247	0	2	0
AA	GCAGCC	0.05928	0	2	0
AA	GCGGCT	0.04038	0	2	0
AA	GCGGCA	0.05326	0	2	0
AA	GCGGCC	0.02062	0	2	0
AA	GCGGCG	0.01031	0	2	0
AA	GCAGCT	0.0799	0	2	0
AA	GCAGCG	0.02663	0	2	0
AA	GCCGCT	0.0799	0	2	0
AA	GCCGCG	0.01031	0	2	0
AA	GCTGCA	0.1211	1	2	0.5
AA	GCTGCC	0.09966	0	2	0
AA	GCTGCT	0.1838	1	2	0.5

AA	GCTGCG	0.04124	0	2	0
AA	GCCGCA	0.04467	0	2	0
AA	GCCGCC	0.04639	0	2	0
AC	GCGTGT	0.05641	0	0	0
AC	GCGTGC	0.0359	0	0	0
AC	GCCTGT	0.1692	0	0	0
AC	GCATGC	0.1897	0	0	0
AC	GCTTGT	0.2051	0	0	0
AC	GCTTGC	0.04615	0	0	0
AC	GCATGT	0.2103	0	0	0
AC	GCCTGC	0.08718	0	0	0
AD	GCTGAT	0.2724	0	0	0
AD	GCAGAT	0.2171	0	0	0
AD	GCGGAC	0.04474	0	0	0
AD	GCTGAC	0.1145	0	0	0
AD	GCCGAC	0.04868	0	0	0
AD	GCCGAT	0.1184	0	0	0
AD	GCGGAT	0.06842	0	0	0
AD	GCAGAC	0.1158	0	0	0
AE	GCGGAG	0.02815	0	1	0
AE	GCGGAA	0.06982	0	1	0
AE	GCTGAG	0.09234	0	1	0
AE	GCCGAA	0.1182	0	1	0
AE	GCAGAA	0.2579	0	1	0
AE	GCCGAG	0.04167	0	1	0
AE	GCTGAA	0.2894	1	1	1
AE	GCAGAG	0.1025	0	1	0
AF	GCTTTT	0.1852	0	1	0
AF	GCTTTC	0.1536	0	1	0
AF	GCGTTC	0.0512	0	1	0
AF	GCATTT	0.2018	1	1	1
AF	GCATTC	0.1099	0	1	0
AF	GCCTTC	0.07982	0	1	0
AF	GCCTTT	0.1265	0	1	0
AF	GCGTTT	0.09187	0	1	0
AG	GCTGGT	0.2292	1	1	1
AG	GCGGGC	0.02602	0	1	0
AG	GCGGGG	0.01735	0	1	0
AG	GCTGGG	0.0347	0	1	0
AG	GCCGGG	0.007435	0	1	0
AG	GCTGGA	0.06196	0	1	0
AG	GCCGGT	0.1301	0	1	0
AG	GCGGGA	0.0347	0	1	0
AG	GCCGGC	0.03965	0	1	0
AG	GCCGGA	0.03965	0	1	0
AG	GCGGGT	0.04461	0	1	0
AG	GCAGGG	0.02478	0	1	0
AG	GCAGGA	0.06568	0	1	0
AG	GCAGGT	0.109	0	1	0
AG	GCAGGC	0.05948	0	1	0
AG	GCTGGC	0.07559	0	1	0

AH	GCTCAT	0.2434	0	0	0
AH	GCACAC	0.09384	0	0	0
AH	GCCCCAC	0.02639	0	0	0
AH	GCCCCAT	0.132	0	0	0
AH	GCTCAC	0.1554	0	0	0
AH	GCACAT	0.2229	0	0	0
AH	GCGCAT	0.08211	0	0	0
AH	GCGCAC	0.04399	0	0	0
AI	GCGATA	0.02072	0	0	0
AI	GCAATT	0.1036	0	0	0
AI	GCCATT	0.1488	0	0	0
AI	GCCATC	0.0838	0	0	0
AI	GCTATT	0.1977	0	0	0
AI	GCAATC	0.06874	0	0	0
AI	GCTATC	0.08475	0	0	0
AI	GCGATC	0.01789	0	0	0
AI	GCAATA	0.07345	0	0	0
AI	GCTATA	0.08569	0	0	0
AI	GCGATT	0.04143	0	0	0
AI	GCCATA	0.07345	0	0	0
AK	GCCAAA	0.1631	0	0	0
AK	GCCAAG	0.1515	0	0	0
AK	GCAAAG	0.1248	0	0	0
AK	GCAAAA	0.18	0	0	0
AK	GCGAAG	0.0508	0	0	0
AK	GCTAAG	0.1078	0	0	0
AK	GCTAAA	0.1515	0	0	0
AK	GCGAAA	0.07041	0	0	0
AL	GCTTTA	0.1135	1	5	0.2
AL	GCGCTT	0.0198	0	5	0
AL	GCGCTA	0.02376	0	5	0
AL	GCCTTA	0.0495	1	5	0.2
AL	GCCTTG	0.05611	0	5	0
AL	GCGCTC	0.01452	0	5	0
AL	GCGCTG	0.02508	0	5	0
AL	GCGTTG	0.03432	0	5	0
AL	GCGTTA	0.0429	0	5	0
AL	GCACTT	0.03366	0	5	0
AL	GCTTTG	0.1221	1	5	0.2
AL	GCACTG	0.02178	0	5	0
AL	GCTCTC	0.01452	0	5	0
AL	GCTCTG	0.02508	0	5	0
AL	GCTCTT	0.05215	0	5	0
AL	GCTCTA	0.04488	0	5	0
AL	GCCCTC	0.01188	0	5	0
AL	GCATTA	0.08185	1	5	0.2
AL	GCCCTA	0.03696	0	5	0
AL	GCCCTT	0.02508	0	5	0
AL	GCCCTG	0.02046	0	5	0
AL	GCACTC	0.01518	0	5	0
AL	GCACTA	0.0429	0	5	0

AL	GCATTG	0.07195	1	5	0.2
AM	GCAATG	0.3199	0	0	0
AM	GCGATG	0.1268	0	0	0
AM	GCCATG	0.2334	0	0	0
AM	GCTATG	0.3199	0	0	0
AN	GCGAAC	0.03596	0	0	0
AN	GCGAAT	0.05568	0	0	0
AN	GCTAAC	0.1334	0	0	0
AN	GCTAAT	0.1578	0	0	0
AN	GCAAAT	0.2158	0	0	0
AN	GCCAAT	0.1752	0	0	0
AN	GCAAAC	0.1381	0	0	0
AN	GCCAAC	0.08817	0	0	0
AP	GCCCCA	0.1041	0	0	0
AP	GCGCCT	0.05128	0	0	0
AP	GCGCCG	0.01207	0	0	0
AP	GCGCCA	0.04827	0	0	0
AP	GCGCCC	0.02866	0	0	0
AP	GCCCCC	0.02866	0	0	0
AP	GCACCC	0.04827	0	0	0
AP	GCTCCT	0.09351	0	0	0
AP	GCCCCT	0.04525	0	0	0
AP	GCACCT	0.1086	0	0	0
AP	GCACCA	0.1448	0	0	0
AP	GCTCCG	0.03318	0	0	0
AP	GCACCG	0.01659	0	0	0
AP	GCCCCG	0.01357	0	0	0
AP	GCTCCA	0.1538	0	0	0
AP	GCTCCC	0.06938	0	0	0
AQ	GCTCAA	0.3166	0	0	0
AQ	GCGCAA	0.08878	0	0	0
AQ	GCTCAG	0.0871	0	0	0
AQ	GCGCAG	0.05193	0	0	0
AQ	GCACAA	0.2027	0	0	0
AQ	GCCCAG	0.03853	0	0	0
AQ	GCCCAA	0.129	0	0	0
AQ	GCACAG	0.08543	0	0	0
AR	GCAAGA	0.2068	0	0	0
AR	GCCCGT	0.04898	0	0	0
AR	GCACGC	0.01905	0	0	0
AR	GCCCGA	0.005442	0	0	0
AR	GCGAGG	0.02177	0	0	0
AR	GCGAGA	0.02993	0	0	0
AR	GCCCCG	0.01224	0	0	0
AR	GCCCGG	0.001361	0	0	0
AR	GCCAGA	0.09932	0	0	0
AR	GCCAGG	0.04354	0	0	0
AR	GCACGA	0.01361	0	0	0
AR	GCGCGG	0.001361	0	0	0
AR	GCTCGA	0.02177	0	0	0
AR	GCAAGG	0.08435	0	0	0

AR	GCTAGG	0.0585	0	0	0
AR	GCTCGC	0.01769	0	0	0
AR	GCTCGG	0.02313	0	0	0
AR	GCACGT	0.03537	0	0	0
AR	GCACGG	0.008163	0	0	0
AR	GCTCGT	0.06803	0	0	0
AR	GCGCGA	0.008163	0	0	0
AR	GCTAGA	0.1551	0	0	0
AR	GCGCGT	0.009524	0	0	0
AR	GCGCGC	0.006803	0	0	0
AS	GCAAGT	0.05559	0	0	0
AS	GCGTCA	0.01985	0	0	0
AS	GCCAGC	0.02449	0	0	0
AS	GCCTCT	0.05758	0	0	0
AS	GCCTCG	0.02118	0	0	0
AS	GCGTCC	0.01191	0	0	0
AS	GCCTCC	0.03772	0	0	0
AS	GCGTCT	0.02581	0	0	0
AS	GCTTCG	0.03508	0	0	0
AS	GCTTCC	0.07809	0	0	0
AS	GCTTCT	0.1145	0	0	0
AS	GCTTCA	0.09332	0	0	0
AS	GCTAGT	0.05361	0	0	0
AS	GCAAGC	0.04169	0	0	0
AS	GCGTCG	0.01522	0	0	0
AS	GCCTCA	0.02515	0	0	0
AS	GCATCA	0.05692	0	0	0
AS	GCGAGT	0.01125	0	0	0
AS	GCCAGT	0.03375	0	0	0
AS	GCGAGC	0.01324	0	0	0
AS	GCATCC	0.04897	0	0	0
AS	GCATCT	0.0728	0	0	0
AS	GCATCG	0.02449	0	0	0
AS	GCTAGC	0.0278	0	0	0
AT	GCTACC	0.08132	0	0	0
AT	GCTACA	0.1099	0	0	0
AT	GCAACA	0.0967	0	0	0
AT	GCCACA	0.06593	0	0	0
AT	GCAACG	0.02637	0	0	0
AT	GCAACT	0.07143	0	0	0
AT	GCTACG	0.05165	0	0	0
AT	GCGACC	0.01099	0	0	0
AT	GCGACA	0.04176	0	0	0
AT	GCAACC	0.04286	0	0	0
AT	GCGACG	0.01429	0	0	0
AT	GCCACG	0.04396	0	0	0
AT	GCCACT	0.1176	0	0	0
AT	GCTACT	0.1242	0	0	0
AT	GCGACT	0.02747	0	0	0
AT	GCCACC	0.07363	0	0	0
AV	GCAGTT	0.1029	0	0	0

AV	GCTGTC	0.09172	0	0	0
AV	GCTGTT	0.1644	0	0	0
AV	GCGGTT	0.03691	0	0	0
AV	GCTGTA	0.07942	0	0	0
AV	GCCGTA	0.03915	0	0	0
AV	GCCGTT	0.08725	0	0	0
AV	GCCGTG	0.03915	0	0	0
AV	GCCGTC	0.03468	0	0	0
AV	GCGGTG	0.01566	0	0	0
AV	GCTGTG	0.08166	0	0	0
AV	GCGGTC	0.01342	0	0	0
AV	GCAGTA	0.08166	0	0	0
AV	GCAGTG	0.05928	0	0	0
AV	GCAGTC	0.04698	0	0	0
AV	GCGGTA	0.02573	0	0	0
AW	GCGTGG	0.1127	0	0	0
AW	GCATGG	0.2746	0	0	0
AW	GCCTGG	0.2324	0	0	0
AW	GCTTGG	0.3803	0	0	0
AY	GCGTAT	0.09485	0	0	0
AY	GCCTAC	0.1031	0	0	0
AY	GCGTAC	0.05361	0	0	0
AY	GCCTAT	0.1155	0	0	0
AY	GCTTAC	0.1485	0	0	0
AY	GCTTAT	0.1711	0	0	0
AY	GCATAT	0.2041	0	0	0
AY	GCATAC	0.1093	0	0	0
C*	TGCTAA	0.1111	0	0	0
C*	TGCTAG	0	0	0	0
C*	TGTTGA	0.2222	0	0	0
C*	TGTTAG	0.5556	0	0	0
C*	TGCTGA	0	0	0	0
C*	TGTTAA	0.1111	0	0	0
CA	TGCGCT	0.07429	0	0	0
CA	TGTGCT	0.2857	0	0	0
CA	TGCGCG	0.04	0	0	0
CA	TGTGCG	0.1029	0	0	0
CA	TGTGCC	0.1429	0	0	0
CA	TGTGCA	0.1886	0	0	0
CA	TGCGCA	0.08	0	0	0
CA	TGCGCC	0.08571	0	0	0
CC	TGCTGC	0.1446	0	1	0
CC	TGTTGC	0.2169	0	1	0
CC	TGTTGT	0.3133	1	1	1
CC	TGCTGT	0.3253	0	1	0
CD	TGCGAC	0.105	0	0	0
CD	TGTGAC	0.22	0	0	0
CD	TGCGAT	0.21	0	0	0
CD	TGTGAT	0.465	0	0	0
CE	TGCGAG	0.1338	0	0	0
CE	TGTGAG	0.2293	0	0	0

CE	TGTGAA	0.465	0	0	0
CE	TGCGAA	0.172	0	0	0
CF	TGTTTT	0.3693	0	0	0
CF	TGCTTT	0.2614	0	0	0
CF	TGCTTC	0.1193	0	0	0
CF	TGTTTC	0.25	0	0	0
CG	TGCGGC	0.03731	0	2	0
CG	TGCGGA	0.04478	0	2	0
CG	TGTGGC	0.1642	0	2	0
CG	TGCGGG	0.05224	0	2	0
CG	TGTGGG	0.1007	0	2	0
CG	TGTGGA	0.1045	0	2	0
CG	TGTGGT	0.3918	1	2	0.5
CG	TGCGGT	0.1045	1	2	0.5
CH	TGTCAC	0.2157	0	0	0
CH	TGTCAT	0.402	0	0	0
CH	TGCCAT	0.2451	0	0	0
CH	TGCCAC	0.1373	0	0	0
CI	TGTATC	0.1901	0	0	0
CI	TGTATA	0.1074	0	0	0
CI	TGCATA	0.1364	0	0	0
CI	TGTATT	0.2355	0	0	0
CI	TGCATT	0.2066	0	0	0
CI	TGCATC	0.124	0	0	0
CK	TGTAAG	0.3812	0	0	0
CK	TGTAAG	0.2063	0	0	0
CK	TGCAAG	0.1614	0	0	0
CK	TGCAAA	0.2511	0	0	0
CL	TGCCTT	0.06322	0	0	0
CL	TGCCTC	0.02011	0	0	0
CL	TGCCTA	0.0546	0	0	0
CL	TGTTTA	0.1925	0	0	0
CL	TGCTTA	0.08333	0	0	0
CL	TGCTTG	0.07759	0	0	0
CL	TGTCTA	0.1063	0	0	0
CL	TGTCTC	0.03736	0	0	0
CL	TGTCTG	0.07184	0	0	0
CL	TGTCTT	0.07184	0	0	0
CL	TGTTTG	0.1925	0	0	0
CL	TGCCTG	0.02874	0	0	0
CM	TGTATG	0.4571	0	0	0
CM	TGCATG	0.5429	0	0	0
CN	TGCAAC	0.1366	0	1	0
CN	TGCAAT	0.3005	0	1	0
CN	TGTAAC	0.2186	1	1	1
CN	TGTAAT	0.3443	0	1	0
CP	TGTCCC	0.1638	0	0	0
CP	TGTCCT	0.2712	0	0	0
CP	TGCCCG	0.0226	0	0	0
CP	TGTCCG	0.06215	0	0	0
CP	TGCCCA	0.1073	0	0	0

CP	TGCCCC	0.0565	0	0	0
CP	TGTCCA	0.2147	0	0	0
CP	TGCCCT	0.1017	0	0	0
CQ	TGTCAG	0.1511	0	0	0
CQ	TGCCAG	0.08633	0	0	0
CQ	TGTCAA	0.5108	0	0	0
CQ	TGCCAA	0.2518	0	0	0
CR	TGTAGG	0.1399	0	0	0
CR	TGCCGT	0.09091	0	0	0
CR	TGCCGC	0.006993	0	0	0
CR	TGCCGA	0.06294	0	0	0
CR	TGTCGG	0.02797	0	0	0
CR	TGTCGC	0.05594	0	0	0
CR	TGCAGA	0.1469	0	0	0
CR	TGCCGG	0.02797	0	0	0
CR	TGTCGT	0.1049	0	0	0
CR	TGCAGG	0.07692	0	0	0
CR	TGTAGA	0.2378	0	0	0
CR	TGTCGA	0.02098	0	0	0
CS	TGTAGC	0.04651	0	1	0
CS	TGCTCA	0.07309	0	1	0
CS	TGTTCC	0.1163	0	1	0
CS	TGTTCG	0.04651	0	1	0
CS	TGTTCT	0.1894	1	1	1
CS	TGCAGT	0.0598	0	1	0
CS	TGTTCA	0.1196	0	1	0
CS	TGCAGC	0.0299	0	1	0
CS	TGCTCT	0.1296	0	1	0
CS	TGCTCG	0.03987	0	1	0
CS	TGCTCC	0.0897	0	1	0
CS	TGTAGT	0.0598	0	1	0
CT	TGCACT	0.09626	0	1	0
CT	TGTACA	0.1551	0	1	0
CT	TGCACG	0.05882	0	1	0
CT	TGTACC	0.1123	0	1	0
CT	TGTACT	0.2674	1	1	1
CT	TGCACC	0.08021	0	1	0
CT	TGCACA	0.1444	0	1	0
CT	TGTACG	0.08556	0	1	0
CV	TGCGTA	0.09705	0	0	0
CV	TGCGTG	0.05485	0	0	0
CV	TGTGTA	0.08439	0	0	0
CV	TGTGTC	0.1814	0	0	0
CV	TGTGTT	0.2869	0	0	0
CV	TGTGTG	0.09283	0	0	0
CV	TGCGTT	0.1308	0	0	0
CV	TGCGTC	0.07173	0	0	0
CW	TGCTGG	0.439	0	0	0
CW	TGTTGG	0.561	0	0	0
CY	TGCTAT	0.2707	0	0	0
CY	TGCTAC	0.1955	0	0	0

CY	TGTTAT	0.3233	0	0	0
CY	TGTTAC	0.2105	0	0	0
D*	GACTAG	0	0	0	0
D*	GATTGA	0.2143	0	0	0
D*	GACTGA	0.03571	0	0	0
D*	GACTAA	0.1786	0	0	0
D*	GATTAG	0.2857	0	0	0
D*	GATTAA	0.2857	0	0	0
DA	GACGCT	0.09036	0	0	0
DA	GATGCT	0.312	0	0	0
DA	GATGCA	0.1867	0	0	0
DA	GATGCC	0.1554	0	0	0
DA	GACGCC	0.05783	0	0	0
DA	GACGCA	0.09157	0	0	0
DA	GATGCG	0.07831	0	0	0
DA	GACGCG	0.02771	0	0	0
DC	GATTGC	0.1919	0	0	0
DC	GATTGT	0.3953	0	0	0
DC	GACTGC	0.1686	0	0	0
DC	GACTGT	0.2442	0	0	0
DD	GATGAT	0.4394	0	0	0
DD	GATGAC	0.243	0	0	0
DD	GACGAT	0.1971	0	0	0
DD	GACGAC	0.1204	0	0	0
DE	GATGAG	0.2278	0	0	0
DE	GACGAA	0.2068	0	0	0
DE	GACGAG	0.08098	0	0	0
DE	GATGAA	0.4845	0	0	0
DF	GACTTT	0.1952	0	0	0
DF	GATTTT	0.4233	0	0	0
DF	GATTTT	0.256	0	0	0
DF	GACTTC	0.1255	0	0	0
DG	GATGGT	0.3074	0	0	0
DG	GATGGC	0.1324	0	0	0
DG	GACGGA	0.06561	0	0	0
DG	GATGGA	0.1422	0	0	0
DG	GACGGT	0.1434	0	0	0
DG	GATGGG	0.1033	0	0	0
DG	GACGGC	0.07412	0	0	0
DG	GACGGG	0.03159	0	0	0
DH	GATCAT	0.4286	0	0	0
DH	GATCAC	0.2056	0	0	0
DH	GACCAC	0.1429	0	0	0
DH	GACCAT	0.223	0	0	0
DI	GACATT	0.1537	0	0	0
DI	GACATA	0.08762	0	0	0
DI	GACATC	0.09685	0	0	0
DI	GATATA	0.1806	0	0	0
DI	GATATT	0.3059	0	0	0
DI	GATATC	0.1752	0	0	0
DK	GACAAG	0.1655	0	0	0

DK	GATAAG	0.2281	0	0	0
DK	GACAAA	0.2341	0	0	0
DK	GATAAA	0.3724	0	0	0
DL	GATCTT	0.07233	0	1	0
DL	GACTTA	0.09057	0	1	0
DL	GACTTG	0.09811	0	1	0
DL	GATTTA	0.2075	1	1	1
DL	GATTTG	0.2208	0	1	0
DL	GACCTT	0.04528	0	1	0
DL	GACCTG	0.0327	0	1	0
DL	GATCTG	0.04654	0	1	0
DL	GACCTA	0.04025	0	1	0
DL	GACCTC	0.0195	0	1	0
DL	GATCTA	0.0761	0	1	0
DL	GATCTC	0.05031	0	1	0
DM	GACATG	0.3795	0	0	0
DM	GATATG	0.6205	0	0	0
DN	GATAAC	0.2082	0	0	0
DN	GATAAT	0.3905	0	0	0
DN	GACAAT	0.2245	0	0	0
DN	GACAAC	0.1768	0	0	0
DP	GACCCA	0.1736	0	1	0
DP	GACCCG	0.02917	0	1	0
DP	GACCCT	0.1222	0	1	0
DP	GATCCG	0.08056	0	1	0
DP	GATCCT	0.1958	0	1	0
DP	GACCCC	0.06528	0	1	0
DP	GATCCC	0.1014	0	1	0
DP	GATCCA	0.2319	1	1	1
DQ	GATCAG	0.1737	0	0	0
DQ	GACCAG	0.1475	0	0	0
DQ	GACCAA	0.2869	0	0	0
DQ	GATCAA	0.3919	0	0	0
DR	GACCGG	0.01307	0	0	0
DR	GACCGT	0.07843	0	0	0
DR	GACAGA	0.1683	0	0	0
DR	GATAGA	0.2647	0	0	0
DR	GACCGC	0.03758	0	0	0
DR	GATCGG	0.01307	0	0	0
DR	GATCGC	0.03758	0	0	0
DR	GATCGA	0.04412	0	0	0
DR	GACCGA	0.01307	0	0	0
DR	GACAGG	0.08987	0	0	0
DR	GATCGT	0.1176	0	0	0
DR	GATAGG	0.1225	0	0	0
DS	GACAGC	0.04102	0	0	0
DS	GATTCT	0.05882	0	0	0
DS	GATAGC	0.07043	0	0	0
DS	GATAGT	0.09752	0	0	0
DS	GACTCT	0.1138	0	0	0
DS	GACTCG	0.02941	0	0	0

DS	GACAGT	0.05805	0	0	0
DS	GATTCA	0.1455	0	0	0
DS	GATTCT	0.1749	0	0	0
DS	GACTCA	0.05418	0	0	0
DS	GACTCC	0.05108	0	0	0
DS	GATTCC	0.1053	0	0	0
DT	GATACA	0.1953	0	0	0
DT	GACACC	0.1012	0	0	0
DT	GACACG	0.02588	0	0	0
DT	GACACT	0.14	0	0	0
DT	GATACG	0.08941	0	0	0
DT	GATACT	0.2153	0	0	0
DT	GATACC	0.1153	0	0	0
DT	GACACA	0.1176	0	0	0
DV	GATGTA	0.146	0	0	0
DV	GACGTT	0.1366	0	0	0
DV	GACGTA	0.07143	0	0	0
DV	GACGTC	0.04762	0	0	0
DV	GACGTG	0.04658	0	0	0
DV	GATGTG	0.1263	0	0	0
DV	GATGTC	0.1429	0	0	0
DV	GATGTT	0.2826	0	0	0
DW	GATTGG	0.604	0	0	0
DW	GACTGG	0.396	0	0	0
DY	GACTAC	0.1672	0	0	0
DY	GATTAT	0.3763	0	0	0
DY	GACTAT	0.2056	0	0	0
DY	GATTAC	0.2509	0	0	0
E*	GAGTAG	0.04167	0	0	0
E*	GAATAG	0.1875	0	0	0
E*	GAGTAA	0.1875	0	0	0
E*	GAGTGA	0.0625	0	0	0
E*	GAATAA	0.3333	0	0	0
E*	GAATGA	0.1875	0	0	0
EA	GAAGCA	0.1987	1	2	0.5
EA	GAGGCA	0.1009	0	2	0
EA	GAAGCC	0.1493	0	2	0
EA	GAGGCG	0.03575	0	2	0
EA	GAGGCC	0.07361	0	2	0
EA	GAGGCT	0.1062	0	2	0
EA	GAAGCG	0.0694	0	2	0
EA	GAAGCT	0.266	1	2	0.5
EC	GAATGT	0.4892	0	0	0
EC	GAGTGT	0.1183	0	0	0
EC	GAATGC	0.2527	0	0	0
EC	GAGTGC	0.1398	0	0	0
ED	GAGGAC	0.1132	0	1	0
ED	GAAGAC	0.2223	0	1	0
ED	GAAGAT	0.4678	1	1	1
ED	GAGGAT	0.1967	0	1	0
EE	GAGGAG	0.09137	0	0	0

EE	GAGGAA	0.1844	0	0	0
EE	GAAGAG	0.207	0	0	0
EE	GAAGAA	0.5172	0	0	0
EF	GAGTTT	0.2567	0	0	0
EF	GAGTTC	0.1052	0	0	0
EF	GAATTT	0.425	0	0	0
EF	GAATTC	0.2132	0	0	0
EG	GAGGGA	0.07602	0	1	0
EG	GAGGGG	0.03801	0	1	0
EG	GAAGGC	0.1376	0	1	0
EG	GAAGGG	0.09305	0	1	0
EG	GAGGGT	0.09567	0	1	0
EG	GAAGGA	0.1638	0	1	0
EG	GAAGGT	0.3316	1	1	1
EG	GAGGGC	0.06422	0	1	0
EH	GAGCAT	0.2704	0	0	0
EH	GAACAC	0.2	0	0	0
EH	GAGCAC	0.1437	0	0	0
EH	GAACAT	0.3859	0	0	0
EI	GAAATA	0.2061	0	0	0
EI	GAAATC	0.1778	0	0	0
EI	GAGATA	0.07761	0	0	0
EI	GAGATC	0.07033	0	0	0
EI	GAGATT	0.1124	0	0	0
EI	GAAATT	0.3557	0	0	0
EK	GAAAAA	0.3895	0	0	0
EK	GAGAAG	0.118	0	0	0
EK	GAGAAA	0.1851	0	0	0
EK	GAAAAG	0.3074	0	0	0
EL	GAGTTA	0.0776	0	1	0
EL	GAGTTG	0.07541	0	1	0
EL	GAATTG	0.1798	1	1	1
EL	GAATTA	0.1836	0	1	0
EL	GAACTA	0.1126	0	1	0
EL	GAACTC	0.0377	0	1	0
EL	GAGCTT	0.04426	0	1	0
EL	GAACTT	0.07596	0	1	0
EL	GAGCTC	0.0235	0	1	0
EL	GAGCTA	0.06175	0	1	0
EL	GAACTG	0.07923	0	1	0
EL	GAGCTG	0.04863	0	1	0
EM	GAGATG	0.2391	0	0	0
EM	GAAATG	0.7609	0	0	0
EN	GAAAAT	0.4459	1	1	1
EN	GAAAAC	0.2611	0	1	0
EN	GAGAAT	0.1744	0	1	0
EN	GAGAAC	0.1186	0	1	0
EP	GAACCG	0.08318	0	0	0
EP	GAGCCG	0.04521	0	0	0
EP	GAACCA	0.226	0	0	0
EP	GAACCC	0.09765	0	0	0

EP	GAGCCT	0.1465	0	0	0
EP	GAACCT	0.1899	0	0	0
EP	GAGCCA	0.1429	0	0	0
EP	GAGCCC	0.06872	0	0	0
EQ	GAACAA	0.4405	1	1	1
EQ	GAGCAG	0.119	0	1	0
EQ	GAACAG	0.2024	0	1	0
EQ	GAGCAA	0.2381	0	1	0
ER	GAACGG	0.04815	0	1	0
ER	GAACGA	0.06173	0	1	0
ER	GAAAGG	0.1556	0	1	0
ER	GAGAGG	0.0642	0	1	0
ER	GAAAGA	0.3753	1	1	1
ER	GAGCGA	0.01358	0	1	0
ER	GAGCGG	0.009877	0	1	0
ER	GAGCGT	0.03333	0	1	0
ER	GAGCGC	0.01358	0	1	0
ER	GAACGT	0.08642	0	1	0
ER	GAACGC	0.02716	0	1	0
ER	GAGAGA	0.1111	0	1	0
ES	GAGTCT	0.05997	0	0	0
ES	GAGTCA	0.053	0	0	0
ES	GAGTCG	0.03278	0	0	0
ES	GAATCG	0.05718	0	0	0
ES	GAGTCC	0.02929	0	0	0
ES	GAAAGT	0.1681	0	0	0
ES	GAATCT	0.1778	0	0	0
ES	GAGAGT	0.04812	0	0	0
ES	GAGAGC	0.03626	0	0	0
ES	GAATCC	0.1046	0	0	0
ES	GAATCA	0.1353	0	0	0
ES	GAAAGC	0.09763	0	0	0
ET	GAAACG	0.1312	0	0	0
ET	GAGACG	0.03748	0	0	0
ET	GAGACC	0.04339	0	0	0
ET	GAAACT	0.286	0	0	0
ET	GAGACA	0.08679	0	0	0
ET	GAAACC	0.1203	0	0	0
ET	GAGACT	0.07692	0	0	0
ET	GAAACA	0.2179	0	0	0
EV	GAAGTG	0.1398	0	0	0
EV	GAAGTT	0.2797	0	0	0
EV	GAAGTC	0.1459	0	0	0
EV	GAAGTA	0.1459	0	0	0
EV	GAGGTC	0.05734	0	0	0
EV	GAGGTT	0.1107	0	0	0
EV	GAGGTG	0.0493	0	0	0
EV	GAGGTA	0.07143	0	0	0
EW	GAATGG	0.6452	0	0	0
EW	GAGTGG	0.3548	0	0	0
EY	GAATAT	0.3866	0	0	0

EY	GAATAC	0.292	0	0	0
EY	GAGTAT	0.2055	0	0	0
EY	GAGTAC	0.1158	0	0	0
F*	TTTTGA	0.129	0	0	0
F*	TTCTAA	0.2258	0	0	0
F*	TTTTAA	0.2581	0	0	0
F*	TTCTAG	0.09677	0	0	0
F*	TTCTGA	0.03226	0	0	0
F*	TTTTAG	0.2581	0	0	0
FA	TTCGCT	0.07439	0	0	0
FA	TTTGCG	0.09585	0	0	0
FA	TTCGCG	0.01288	0	0	0
FA	TTCGCA	0.06581	0	0	0
FA	TTTGCT	0.2876	0	0	0
FA	TTTGCA	0.206	0	0	0
FA	TTTGCC	0.206	0	0	0
FA	TTCGCC	0.0515	0	0	0
FC	TTTTGT	0.3216	0	0	0
FC	TTTTGC	0.2281	0	0	0
FC	TTCTGC	0.2105	0	0	0
FC	TTCTGT	0.2398	0	0	0
FD	TTCGAT	0.1947	0	0	0
FD	TTCGAC	0.09597	0	0	0
FD	TTTGAC	0.2406	0	0	0
FD	TTTGAT	0.4687	0	0	0
FE	TTCGAG	0.1029	0	0	0
FE	TTCGAA	0.1966	0	0	0
FE	TTTGAG	0.1887	0	0	0
FE	TTTGAA	0.5119	0	0	0
FF	TTCTTT	0.1985	0	1	0
FF	TTTTTT	0.2987	1	1	1
FF	TTTTTC	0.3297	0	1	0
FF	TTCTTC	0.173	0	1	0
FG	TTTGGA	0.1706	0	0	0
FG	TTCGGA	0.03357	0	0	0
FG	TTCGGG	0.02797	0	0	0
FG	TTCGGC	0.05315	0	0	0
FG	TTTGGC	0.1343	0	0	0
FG	TTTGGG	0.07692	0	0	0
FG	TTTGGT	0.3259	0	0	0
FG	TTCGGT	0.1776	0	0	0
FH	TTCCAC	0.153	0	0	0
FH	TTTCAT	0.3488	0	0	0
FH	TTCCAT	0.3025	0	0	0
FH	TTTCAC	0.1957	0	0	0
FI	TTCATA	0.09797	0	0	0
FI	TTTATA	0.1266	0	0	0
FI	TTTATT	0.2748	0	0	0
FI	TTTATC	0.1458	0	0	0
FI	TTCATC	0.1338	0	0	0
FI	TTCATT	0.221	0	0	0

FK	TTTAAG	0.146	0	0	0
FK	TTCAAA	0.3759	0	0	0
FK	TTCAAG	0.2402	0	0	0
FK	TTTAAA	0.2379	0	0	0
FL	TTCTTG	0.113	0	0	0
FL	TTTCTA	0.06436	0	0	0
FL	TTTCTG	0.06023	0	0	0
FL	TTCCTC	0.01815	0	0	0
FL	TTCCTG	0.03548	0	0	0
FL	TTCCTT	0.0429	0	0	0
FL	TTTTTG	0.1922	0	0	0
FL	TTCCTA	0.05033	0	0	0
FL	TTCTTA	0.09983	0	0	0
FL	TTTTTA	0.2071	0	0	0
FL	TTTCTT	0.07756	0	0	0
FL	TTTCTC	0.03878	0	0	0
FM	TTTATG	0.5157	0	0	0
FM	TTCATG	0.4843	0	0	0
FN	TTCAAC	0.249	0	0	0
FN	TTTAAT	0.2337	0	0	0
FN	TTTAAC	0.1867	0	0	0
FN	TTCAAT	0.3306	0	0	0
FP	TTTCCA	0.2314	0	0	0
FP	TTTCCG	0.0742	0	0	0
FP	TTTCCC	0.1166	0	0	0
FP	TTTCCT	0.1643	0	0	0
FP	TTCCCG	0.0371	0	0	0
FP	TTCCCA	0.1625	0	0	0
FP	TTCCCC	0.08304	0	0	0
FP	TTCCCT	0.1307	0	0	0
FQ	TTCCAA	0.3055	0	0	0
FQ	TTCCAG	0.1618	0	0	0
FQ	TTTCAG	0.1564	0	0	0
FQ	TTTCAA	0.3764	0	0	0
FR	TTCCGA	0.0251	0	0	0
FR	TTTCGG	0.0251	0	0	0
FR	TTCCGT	0.07531	0	0	0
FR	TTCCGC	0.0251	0	0	0
FR	TTCCGG	0.008368	0	0	0
FR	TTTCGC	0.03766	0	0	0
FR	TTTCGT	0.05858	0	0	0
FR	TTCAGA	0.2469	0	0	0
FR	TTTAGA	0.2531	0	0	0
FR	TTTCGA	0.04184	0	0	0
FR	TTCAGG	0.09833	0	0	0
FR	TTTAGG	0.1046	0	0	0
FS	TTTAGC	0.05289	0	0	0
FS	TTCTCC	0.05389	0	0	0
FS	TTCTCT	0.07784	0	0	0
FS	TTCTCG	0.02894	0	0	0
FS	TTCTCA	0.05788	0	0	0

FS	TTTTCA	0.1417	0	0	0
FS	TTTTCT	0.2006	0	0	0
FS	TTCAGC	0.04491	0	0	0
FS	TTTTCC	0.1088	0	0	0
FS	TTTAGT	0.08683	0	0	0
FS	TTTTCG	0.06587	0	0	0
FS	TTCAGT	0.07984	0	0	0
FT	TTCACA	0.1097	0	0	0
FT	TTCACC	0.1255	0	0	0
FT	TTCACG	0.06638	0	0	0
FT	TTTACA	0.1299	0	0	0
FT	TTCACT	0.1602	0	0	0
FT	TTTACG	0.07792	0	0	0
FT	TTTACC	0.1255	0	0	0
FT	TTTACT	0.2049	0	0	0
FV	TTTGTC	0.1437	0	1	0
FV	TTCGTT	0.1178	0	1	0
FV	TTCGTG	0.04454	0	1	0
FV	TTCGTC	0.05747	0	1	0
FV	TTCGTA	0.04454	0	1	0
FV	TTTGTT	0.1193	0	1	0
FV	TTTGTA	0.1552	0	1	0
FV	TTTGTT	0.3175	1	1	1
FW	TTTTGG	0.625	0	0	0
FW	TTCTGG	0.375	0	0	0
FY	TTTTAT	0.3499	1	1	1
FY	TTTTAC	0.3251	0	1	0
FY	TTCTAC	0.1491	0	1	0
FY	TTCTAT	0.176	0	1	0
G*	GGGTAG	0	0	0	0
G*	GGGTAA	0	0	0	0
G*	GGCTAA	0.1176	0	0	0
G*	GGCTGA	0.1176	0	0	0
G*	GGCTAG	0	0	0	0
G*	GGGTGA	0.05882	0	0	0
G*	GGATAA	0.05882	0	0	0
G*	GGTTGA	0.2353	0	0	0
G*	GGTTAG	0	0	0	0
G*	GGTTAA	0.1765	0	0	0
G*	GGATAG	0.05882	0	0	0
G*	GGATGA	0.1765	0	0	0
GA	GGCGCG	0.0224	0	1	0
GA	GGCGCT	0.07378	0	1	0
GA	GGAGCT	0.04348	0	1	0
GA	GGTGCG	0.04611	0	1	0
GA	GGAGCC	0.0527	0	1	0
GA	GGCGCC	0.0448	0	1	0
GA	GGCGCA	0.04084	0	1	0
GA	GGTGCC	0.1542	0	1	0
GA	GGTGCA	0.1212	0	1	0
GA	GGTGCT	0.2134	1	1	1

GA	GGAGCA	0.06851	0	1	0
GA	GGAGCG	0.01449	0	1	0
GA	GGGGCC	0.02767	0	1	0
GA	GGGGCA	0.04348	0	1	0
GA	GGGGCT	0.02503	0	1	0
GA	GGGGCG	0.007905	0	1	0
GC	GGATGT	0.1745	0	0	0
GC	GGCTGC	0.06132	0	0	0
GC	GGGTGT	0.0566	0	0	0
GC	GGGTGC	0.0283	0	0	0
GC	GGCTGT	0.1698	0	0	0
GC	GGATGC	0.09906	0	0	0
GC	GGTTGC	0.1415	0	0	0
GC	GGTTGT	0.2689	0	0	0
GD	GGCGAT	0.13	0	0	0
GD	GGAGAT	0.1108	0	0	0
GD	GGCGAC	0.07934	0	0	0
GD	GGGGAC	0.03146	0	0	0
GD	GGTGAC	0.2052	0	0	0
GD	GGAGAC	0.07387	0	0	0
GD	GGGGAT	0.05198	0	0	0
GD	GGTGAT	0.3174	0	0	0
GE	GGGGAA	0.07627	0	1	0
GE	GGGGAG	0.03632	0	1	0
GE	GGTGAA	0.3632	1	1	1
GE	GGTGAG	0.1114	0	1	0
GE	GGCGAA	0.1199	0	1	0
GE	GGCGAG	0.04479	0	1	0
GE	GGAGAG	0.08959	0	1	0
GE	GGAGAA	0.1586	0	1	0
GF	GGCTTC	0.06122	0	1	0
GF	GGATTC	0.07692	0	1	0
GF	GGCTTT	0.09576	0	1	0
GF	GGATTT	0.2245	1	1	1
GF	GGGTTT	0.1507	0	1	0
GF	GGGTTC	0.08634	0	1	0
GF	GGTTTT	0.1429	0	1	0
GF	GGTTTC	0.1617	0	1	0
GG	GGAGGA	0.06805	0	2	0
GG	GGGGGT	0.02537	0	2	0
GG	GGGGGA	0.02537	0	2	0
GG	GGTGGT	0.323	1	2	0.5
GG	GGGGGC	0.02191	0	2	0
GG	GGGGGG	0.009227	0	2	0
GG	GGAGGC	0.02076	0	2	0
GG	GGTGGA	0.1073	1	2	0.5
GG	GGAGGG	0.03114	0	2	0
GG	GGTGGC	0.07497	0	2	0
GG	GGCGGC	0.03922	0	2	0
GG	GGCGGG	0.0173	0	2	0
GG	GGCGGT	0.06574	0	2	0

GG	GGTGGG	0.06805	0	2	0
GG	GGCGGA	0.04729	0	2	0
GG	GGAGGT	0.05536	0	2	0
GH	GGACAC	0.1233	0	0	0
GH	GGACAT	0.1133	0	0	0
GH	GGCCAC	0.1133	0	0	0
GH	GGGCAT	0.08333	0	0	0
GH	GGCCAT	0.1733	0	0	0
GH	GGTCAT	0.2333	0	0	0
GH	GGGCAC	0.03333	0	0	0
GH	GGTCAC	0.1267	0	0	0
GI	GGAATT	0.08465	0	1	0
GI	GGAATA	0.07185	0	1	0
GI	GGAATC	0.05512	0	1	0
GI	GGGATC	0.01673	0	1	0
GI	GGCATA	0.06102	0	1	0
GI	GGCATC	0.04823	0	1	0
GI	GGCATT	0.07579	0	1	0
GI	GGTATA	0.1152	0	1	0
GI	GGGATA	0.04429	0	1	0
GI	GGTATC	0.1398	0	1	0
GI	GGGATT	0.03839	0	1	0
GI	GGTATT	0.249	1	1	1
GK	GGTAAA	0.2114	0	0	0
GK	GGTAAG	0.1797	0	0	0
GK	GGGAAA	0.0971	0	0	0
GK	GGAAAA	0.1588	0	0	0
GK	GGGAAG	0.06171	0	0	0
GK	GGCAAA	0.108	0	0	0
GK	GGCAAG	0.08076	0	0	0
GK	GGAAAG	0.1025	0	0	0
GL	GGATTG	0.05856	0	0	0
GL	GGCCTA	0.02553	0	0	0
GL	GGATTA	0.06081	0	0	0
GL	GGACTG	0.03003	0	0	0
GL	GGACTA	0.02628	0	0	0
GL	GGTTTG	0.1119	0	0	0
GL	GGTTTA	0.1329	0	0	0
GL	GGACTC	0.01201	0	0	0
GL	GGCCTC	0.01201	0	0	0
GL	GGACTT	0.02853	0	0	0
GL	GGCCTT	0.02703	0	0	0
GL	GGGCTC	0.00976	0	0	0
GL	GGGCTA	0.03453	0	0	0
GL	GGGCTG	0.02553	0	0	0
GL	GGGCTT	0.03153	0	0	0
GL	GGGTTA	0.04354	0	0	0
GL	GGTCTA	0.07432	0	0	0
GL	GGTCTC	0.02102	0	0	0
GL	GGCTTA	0.0458	0	0	0
GL	GGGTTG	0.04354	0	0	0

GL	GGCTTG	0.03679	0	0	0
GL	GGTCTT	0.04955	0	0	0
GL	GGTCTG	0.03453	0	0	0
GL	GGCCTG	0.02402	0	0	0
GM	GGTATG	0.5	0	0	0
GM	GGAATG	0.2361	0	0	0
GM	GGGATG	0.125	0	0	0
GM	GGCATG	0.1389	0	0	0
GN	GGGAAT	0.07666	0	0	0
GN	GGCAAC	0.07201	0	0	0
GN	GGGAAC	0.04065	0	0	0
GN	GGTAAT	0.2265	0	0	0
GN	GGAAAC	0.09524	0	0	0
GN	GGCAAT	0.1196	0	0	0
GN	GGTAAC	0.1858	0	0	0
GN	GGAAAT	0.1835	0	0	0
GP	GGTCCC	0.05333	0	2	0
GP	GGGCCC	0.04	0	2	0
GP	GGTCCG	0.02476	0	2	0
GP	GGTCCT	0.1429	1	2	0.5
GP	GGTCCA	0.1657	0	2	0
GP	GGGCCT	0.0819	0	2	0
GP	GGCCCG	0.01714	0	2	0
GP	GGCCCC	0.04	0	2	0
GP	GGCCCA	0.0781	0	2	0
GP	GGGCCA	0.08952	0	2	0
GP	GGCCCT	0.06095	0	2	0
GP	GGGCCG	0.02667	0	2	0
GP	GGACCC	0.03048	0	2	0
GP	GGACCT	0.05714	1	2	0.5
GP	GGACCG	0.02857	0	2	0
GP	GGACCA	0.06286	0	2	0
GQ	GGCCAG	0.09595	0	1	0
GQ	GGTCAA	0.2836	1	1	1
GQ	GGTCAG	0.07676	0	1	0
GQ	GGACAA	0.1748	0	1	0
GQ	GGGCAA	0.08316	0	1	0
GQ	GGACAG	0.0597	0	1	0
GQ	GGCCAA	0.1962	0	1	0
GQ	GGGCAG	0.02985	0	1	0
GR	GGCCGT	0.03535	0	0	0
GR	GGGCGA	0.005051	0	0	0
GR	GGGAGG	0.02525	0	0	0
GR	GGGAGA	0.06734	0	0	0
GR	GGGCGT	0.01852	0	0	0
GR	GGCCGG	0.005051	0	0	0
GR	GGGCGC	0.005051	0	0	0
GR	GGTAGA	0.202	0	0	0
GR	GGTAGG	0.07071	0	0	0
GR	GGACGA	0.006734	0	0	0
GR	GGACGC	0.01515	0	0	0

GR	GGACGG	0.0101	0	0	0
GR	GGTCGG	0.008418	0	0	0
GR	GGAAGG	0.06734	0	0	0
GR	GGAAGA	0.1549	0	0	0
GR	GGTCGT	0.07071	0	0	0
GR	GGCCGC	0.01347	0	0	0
GR	GGACGT	0.03367	0	0	0
GR	GGTCGA	0.01852	0	0	0
GR	GGCAGA	0.07912	0	0	0
GR	GGCCGA	0.008418	0	0	0
GR	GGTCGC	0.02694	0	0	0
GR	GGGCGG	0.008418	0	0	0
GR	GGCAGG	0.04377	0	0	0
GS	GGTTCA	0.07961	1	3	0.3333
GS	GGTTCC	0.07143	1	3	0.3333
GS	GGTTCT	0.1287	0	3	0
GS	GGTTCG	0.03125	0	3	0
GS	GGTAGT	0.06027	1	3	0.3333
GS	GGGTCG	0.01042	0	3	0
GS	GGGTCC	0.01563	0	3	0
GS	GGGTCA	0.01786	0	3	0
GS	GGGTCT	0.03199	0	3	0
GS	GGTAGC	0.04836	0	3	0
GS	GGCTCT	0.0625	0	3	0
GS	GGATCT	0.05729	0	3	0
GS	GGGAGT	0.01786	0	3	0
GS	GGCAGT	0.04464	0	3	0
GS	GGCTCA	0.03497	0	3	0
GS	GGATCG	0.03274	0	3	0
GS	GGATCC	0.0253	0	3	0
GS	GGAAGC	0.03646	0	3	0
GS	GGAAGT	0.05952	0	3	0
GS	GGATCA	0.04613	0	3	0
GS	GGCTCC	0.03869	0	3	0
GS	GGCAGC	0.02232	0	3	0
GS	GGGAGC	0.0119	0	3	0
GS	GGCTCG	0.01414	0	3	0
GT	GGTACG	0.04704	0	0	0
GT	GGGACT	0.03619	0	0	0
GT	GGGACG	0.0193	0	0	0
GT	GGAACT	0.07961	0	0	0
GT	GGAACG	0.04584	0	0	0
GT	GGAACA	0.09168	0	0	0
GT	GGAACC	0.03016	0	0	0
GT	GGGACC	0.01689	0	0	0
GT	GGGACA	0.03619	0	0	0
GT	GGCACT	0.08685	0	0	0
GT	GGTACA	0.117	0	0	0
GT	GGCACG	0.0193	0	0	0
GT	GGCACC	0.04946	0	0	0
GT	GGTACT	0.1653	0	0	0

GT	GGCACA	0.06514	0	0	0
GT	GGTACC	0.09409	0	0	0
GV	GGCGTA	0.0315	0	0	0
GV	GGCGTT	0.06524	0	0	0
GV	GGGGTA	0.0225	0	0	0
GV	GGGGTC	0.01012	0	0	0
GV	GGGGTG	0.01912	0	0	0
GV	GGCGTG	0.01912	0	0	0
GV	GGCGTC	0.03262	0	0	0
GV	GGAGTA	0.03712	0	0	0
GV	GGAGTG	0.02812	0	0	0
GV	GGAGTT	0.06187	0	0	0
GV	GGGGTT	0.027	0	0	0
GV	GGAGTC	0.03037	0	0	0
GV	GGTGTC	0.1384	0	0	0
GV	GGTGTT	0.2621	0	0	0
GV	GGTGTA	0.1159	0	0	0
GV	GGTG TG	0.09899	0	0	0
GW	GGTTGG	0.4483	0	0	0
GW	GGATGG	0.202	0	0	0
GW	GGCTGG	0.2365	0	0	0
GW	GGGTGG	0.1133	0	0	0
GY	GGTTAC	0.1889	0	0	0
GY	GGTTAT	0.2462	0	0	0
GY	GGGTAC	0.03435	0	0	0
GY	GGATAC	0.07443	0	0	0
GY	GGATAT	0.1737	0	0	0
GY	GGGTAT	0.06298	0	0	0
GY	GGCTAC	0.09733	0	0	0
GY	GGCTAT	0.1221	0	0	0
H*	CACTAG	0	0	0	0
H*	CACTAA	0.09524	0	0	0
H*	CATTGA	0.09524	0	0	0
H*	CATTAG	0.4762	0	0	0
H*	CATTAA	0.2857	0	0	0
H*	CACTGA	0.04762	0	0	0
HA	CATGCC	0.1829	0	0	0
HA	CATGCA	0.1921	0	0	0
HA	CACGCG	0.03354	0	0	0
HA	CACGCT	0.1189	0	0	0
HA	CATGCG	0.06707	0	0	0
HA	CATGCT	0.2866	0	0	0
HA	CACGCA	0.04878	0	0	0
HA	CACGCC	0.07012	0	0	0
HC	CACTGT	0.2418	0	0	0
HC	CATTGT	0.4286	0	0	0
HC	CATTGC	0.2747	0	0	0
HC	CACTGC	0.05495	0	0	0
HD	CATGAT	0.368	0	0	0
HD	CATGAC	0.2344	0	0	0
HD	CACGAC	0.1662	0	0	0

HD	CACGAT	0.2315	0	0	0
HE	CACGAG	0.07507	0	0	0
HE	CACGAA	0.2413	0	0	0
HE	CATGAA	0.4879	0	0	0
HE	CATGAG	0.1957	0	0	0
HF	CACTTC	0.1316	0	0	0
HF	CATTTT	0.3647	0	0	0
HF	CATTTTC	0.3045	0	0	0
HF	CACTTT	0.1992	0	0	0
HG	CATGGT	0.3187	0	0	0
HG	CACGGT	0.1462	0	0	0
HG	CATGGG	0.08772	0	0	0
HG	CATGGA	0.1462	0	0	0
HG	CACGGC	0.06725	0	0	0
HG	CATGGC	0.1374	0	0	0
HG	CACGGG	0.02632	0	0	0
HG	CACGGA	0.07018	0	0	0
HH	CATCAC	0.234	0	0	0
HH	CATCAT	0.5053	0	0	0
HH	CACCAC	0.09574	0	0	0
HH	CACCAT	0.1649	0	0	0
HI	CACATA	0.07436	0	0	0
HI	CATATA	0.1974	0	0	0
HI	CACATT	0.1744	0	0	0
HI	CACATC	0.07436	0	0	0
HI	CATATC	0.1846	0	0	0
HI	CATATT	0.2949	0	0	0
HK	CACAAA	0.2582	0	0	0
HK	CATAAA	0.3424	0	0	0
HK	CACAAG	0.2092	0	0	0
HK	CATAAG	0.1902	0	0	0
HL	CACCTT	0.05431	0	2	0
HL	CATTTA	0.2316	1	2	0.5
HL	CACCTC	0.02556	0	2	0
HL	CACCTA	0.03994	0	2	0
HL	CATTTG	0.2109	0	2	0
HL	CACCTG	0.03355	0	2	0
HL	CACTTA	0.07508	1	2	0.5
HL	CATCTG	0.03994	0	2	0
HL	CATCTC	0.04473	0	2	0
HL	CATCTA	0.07987	0	2	0
HL	CATCTT	0.09425	0	2	0
HL	CACTTG	0.07029	0	2	0
HM	CACATG	0.3922	0	0	0
HM	CATATG	0.6078	0	0	0
HN	CATAAC	0.2132	0	0	0
HN	CATAAT	0.3423	0	0	0
HN	CACAAC	0.1742	0	0	0
HN	CACAAT	0.2703	0	0	0
HP	CACCCG	0.02989	0	0	0
HP	CACCCC	0.02989	0	0	0

HP	CACCCT	0.0625	0	0	0
HP	CATCCG	0.1332	0	0	0
HP	CATCCC	0.09783	0	0	0
HP	CATCCT	0.2473	0	0	0
HP	CATCCA	0.2418	0	0	0
HP	CACCCA	0.1576	0	0	0
HQ	CATCAG	0.1841	0	0	0
HQ	CATCAA	0.4603	0	0	0
HQ	CACCAG	0.08368	0	0	0
HQ	CACCAA	0.272	0	0	0
HR	CATCGA	0.1	0	0	0
HR	CACCGT	0.06333	0	0	0
HR	CATCGG	0.01667	0	0	0
HR	CACAGA	0.1767	0	0	0
HR	CATAGA	0.2633	0	0	0
HR	CACCGG	0.02333	0	0	0
HR	CATAGG	0.1	0	0	0
HR	CACCGC	0.006667	0	0	0
HR	CATCGC	0.05	0	0	0
HR	CACAGG	0.06	0	0	0
HR	CATCGT	0.1267	0	0	0
HR	CACCGA	0.01333	0	0	0
HS	CATAGT	0.06998	0	0	0
HS	CATTCT	0.1786	0	0	0
HS	CATAGC	0.05341	0	0	0
HS	CATTCT	0.08656	0	0	0
HS	CATTCC	0.1013	0	0	0
HS	CACAGC	0.05157	0	0	0
HS	CACAGT	0.05157	0	0	0
HS	CACTCG	0.0221	0	0	0
HS	CACTCA	0.08471	0	0	0
HS	CACTCT	0.09576	0	0	0
HS	CATTCA	0.1547	0	0	0
HS	CACTCC	0.04972	0	0	0
HT	CACACC	0.07099	0	0	0
HT	CACACG	0.03086	0	0	0
HT	CATACA	0.216	0	0	0
HT	CATACG	0.0679	0	0	0
HT	CACACT	0.1728	0	0	0
HT	CACACA	0.1512	0	0	0
HT	CATACT	0.2068	0	0	0
HT	CATACC	0.08333	0	0	0
HV	CATGTA	0.1656	0	0	0
HV	CATGTG	0.1401	0	0	0
HV	CATGTT	0.2166	0	0	0
HV	CATGTC	0.1338	0	0	0
HV	CACGTA	0.09236	0	0	0
HV	CACGTC	0.07962	0	0	0
HV	CACGTG	0.05414	0	0	0
HV	CACGTT	0.1178	0	0	0
HW	CACTGG	0.3368	0	0	0

HW	CATTGG	0.6632	0	0	0
HY	CATTAC	0.2488	0	0	0
HY	CACTAC	0.1596	0	0	0
HY	CACTAT	0.1878	0	0	0
HY	CATTAT	0.4038	0	0	0
I*	ATTTAG	0.1081	0	0	0
I*	ATTTAA	0.2703	0	0	0
I*	ATCTGA	0.02703	0	0	0
I*	ATCTAG	0.02703	0	0	0
I*	ATTTGA	0.1351	0	0	0
I*	ATCTAA	0.08108	0	0	0
I*	ATATAA	0.1892	0	0	0
I*	ATATAG	0.1081	0	0	0
I*	ATATGA	0.05405	0	0	0
IA	ATTGCC	0.1384	0	0	0
IA	ATAGCA	0.06591	0	0	0
IA	ATTGCA	0.1638	0	0	0
IA	ATTGCG	0.07533	0	0	0
IA	ATTGCT	0.209	0	0	0
IA	ATAGCC	0.04331	0	0	0
IA	ATCGCT	0.06591	0	0	0
IA	ATCGCA	0.04049	0	0	0
IA	ATAGCG	0.0452	0	0	0
IA	ATCGCC	0.0452	0	0	0
IA	ATCGCG	0.02919	0	0	0
IA	ATAGCT	0.07815	0	0	0
IC	ATATGT	0.1626	0	1	0
IC	ATTTGC	0.1903	0	1	0
IC	ATATGC	0.1073	0	1	0
IC	ATTTGT	0.3149	1	1	1
IC	ATCTGC	0.1003	0	1	0
IC	ATCTGT	0.1246	0	1	0
ID	ATTGAC	0.1769	0	0	0
ID	ATTGAT	0.3123	0	0	0
ID	ATAGAT	0.1599	0	0	0
ID	ATCGAC	0.09407	0	0	0
ID	ATCGAT	0.1627	0	0	0
ID	ATAGAC	0.09407	0	0	0
IE	ATCGAG	0.07253	0	0	0
IE	ATCGAA	0.1496	0	0	0
IE	ATTGAG	0.1342	0	0	0
IE	ATTGAA	0.3898	0	0	0
IE	ATAGAG	0.08885	0	0	0
IE	ATAGAA	0.165	0	0	0
IF	ATATTT	0.2067	0	0	0
IF	ATCTTC	0.09797	0	0	0
IF	ATATTC	0.1099	0	0	0
IF	ATTTTT	0.2581	0	0	0
IF	ATCTTT	0.1219	0	0	0
IF	ATTTTC	0.2055	0	0	0
IG	ATCGGC	0.04091	0	0	0

IG	ATCGGA	0.05	0	0	0
IG	ATTGGA	0.1068	0	0	0
IG	ATTGGC	0.09205	0	0	0
IG	ATCGGG	0.02159	0	0	0
IG	ATAGGT	0.07159	0	0	0
IG	ATAGGC	0.04205	0	0	0
IG	ATAGGA	0.06477	0	0	0
IG	ATTGGG	0.07955	0	0	0
IG	ATAGGG	0.03068	0	0	0
IG	ATCGGT	0.1136	0	0	0
IG	ATTGGT	0.2864	0	0	0
IH	ATTCAT	0.3411	0	0	0
IH	ATTCAC	0.1833	0	0	0
IH	ATCCAC	0.058	0	0	0
IH	ATACAC	0.09977	0	0	0
IH	ATCCAT	0.1392	0	0	0
IH	ATACAT	0.1787	0	0	0
II	ATTATA	0.114	0	0	0
II	ATTATC	0.1148	0	0	0
II	ATTATT	0.2108	0	0	0
II	ATAATA	0.1037	0	0	0
II	ATAATT	0.102	0	0	0
II	ATAATC	0.06255	0	0	0
II	ATCATC	0.09597	0	0	0
II	ATCATT	0.1285	0	0	0
II	ATCATA	0.06769	0	0	0
IK	ATCAAG	0.1673	0	0	0
IK	ATCAAA	0.2411	0	0	0
IK	ATAAAA	0.1629	0	0	0
IK	ATAAAG	0.1183	0	0	0
IK	ATTAAA	0.1885	0	0	0
IK	ATTAAG	0.122	0	0	0
IL	ATCCTA	0.03985	0	0	0
IL	ATCCTT	0.03439	0	0	0
IL	ATCTTG	0.06114	0	0	0
IL	ATATTG	0.07151	0	0	0
IL	ATCTTA	0.05622	0	0	0
IL	ATCCTC	0.01528	0	0	0
IL	ATATTA	0.07806	0	0	0
IL	ATCCTG	0.02293	0	0	0
IL	ATACTC	0.0131	0	0	0
IL	ATTCTT	0.07751	0	0	0
IL	ATTCTG	0.04148	0	0	0
IL	ATTCTC	0.02511	0	0	0
IL	ATACTA	0.04913	0	0	0
IL	ATTTTA	0.1605	0	0	0
IL	ATACTT	0.0393	0	0	0
IL	ATTTTG	0.1157	0	0	0
IL	ATACTG	0.03603	0	0	0
IL	ATTCTA	0.06277	0	0	0
IM	ATAATG	0.2627	0	0	0

IM	ATCATG	0.3731	0	0	0
IM	ATTATG	0.3642	0	0	0
IN	ATTAAC	0.1354	0	0	0
IN	ATAAAC	0.1371	0	0	0
IN	ATAAAT	0.1939	0	0	0
IN	ATCAAC	0.138	0	0	0
IN	ATTAAT	0.193	0	0	0
IN	ATCAAT	0.2026	0	0	0
IP	ATCCCG	0.01668	0	0	0
IP	ATCCCT	0.06569	0	0	0
IP	ATCCCC	0.01773	0	0	0
IP	ATCCCA	0.08446	0	0	0
IP	ATTCCA	0.2013	0	0	0
IP	ATACCG	0.05527	0	0	0
IP	ATACCA	0.1147	0	0	0
IP	ATTCCT	0.1564	0	0	0
IP	ATTCCG	0.08446	0	0	0
IP	ATACCT	0.08968	0	0	0
IP	ATTCCC	0.07091	0	0	0
IP	ATACCC	0.04275	0	0	0
IQ	ATCCAA	0.1615	0	0	0
IQ	ATACAA	0.1572	0	0	0
IQ	ATCCAG	0.08499	0	0	0
IQ	ATACAG	0.08074	0	0	0
IQ	ATTCAG	0.1487	0	0	0
IQ	ATTCAA	0.3669	0	0	0
IR	ATTCGG	0.01381	0	0	0
IR	ATCAGA	0.1496	0	0	0
IR	ATTCGT	0.05754	0	0	0
IR	ATTCGC	0.02301	0	0	0
IR	ATTCGA	0.03222	0	0	0
IR	ATACGG	0.02417	0	0	0
IR	ATACGC	0.02071	0	0	0
IR	ATACGA	0.02992	0	0	0
IR	ATAAGG	0.07135	0	0	0
IR	ATCAGG	0.06559	0	0	0
IR	ATTAGA	0.1807	0	0	0
IR	ATCCGA	0.01151	0	0	0
IR	ATCCGT	0.03797	0	0	0
IR	ATACGT	0.03567	0	0	0
IR	ATTAGG	0.06789	0	0	0
IR	ATCCGC	0.01726	0	0	0
IR	ATAAGA	0.1507	0	0	0
IR	ATCCGG	0.01036	0	0	0
IS	ATTAGC	0.02796	0	0	0
IS	ATTAGT	0.04316	0	0	0
IS	ATAAGT	0.04681	0	0	0
IS	ATTTCT	0.1271	0	0	0
IS	ATTTCCG	0.03951	0	0	0
IS	ATTTCC	0.08936	0	0	0
IS	ATAAGC	0.02371	0	0	0

IS	ATATCA	0.08511	0	0	0
IS	ATTTCA	0.09848	0	0	0
IS	ATCAGT	0.04681	0	0	0
IS	ATCTCT	0.05106	0	0	0
IS	ATCTCG	0.01945	0	0	0
IS	ATCTCC	0.03404	0	0	0
IS	ATCTCA	0.04802	0	0	0
IS	ATATCT	0.0924	0	0	0
IS	ATATCG	0.0462	0	0	0
IS	ATCAGC	0.03222	0	0	0
IS	ATATCC	0.04863	0	0	0
IT	ATAACG	0.03886	0	0	0
IT	ATAACT	0.09479	0	0	0
IT	ATCACT	0.1422	0	0	0
IT	ATCACC	0.06445	0	0	0
IT	ATAACA	0.11	0	0	0
IT	ATTACA	0.1128	0	0	0
IT	ATTACT	0.1403	0	0	0
IT	ATTACG	0.04645	0	0	0
IT	ATCACA	0.09005	0	0	0
IT	ATAACC	0.04645	0	0	0
IT	ATCACG	0.03602	0	0	0
IT	ATTACC	0.07773	0	0	0
IV	ATTGTG	0.1382	0	1	0
IV	ATTGTT	0.2265	1	1	1
IV	ATTGTA	0.1147	0	1	0
IV	ATTGTC	0.1127	0	1	0
IV	ATCGTT	0.06667	0	1	0
IV	ATAGTT	0.07745	0	1	0
IV	ATCGTA	0.04314	0	1	0
IV	ATAGTG	0.05	0	1	0
IV	ATAGTC	0.03824	0	1	0
IV	ATCGTC	0.05098	0	1	0
IV	ATAGTA	0.05392	0	1	0
IV	ATCGTG	0.02745	0	1	0
IW	ATTTGG	0.4115	0	0	0
IW	ATCTGG	0.1483	0	0	0
IW	ATATGG	0.4402	0	0	0
IY	ATCTAC	0.1119	0	0	0
IY	ATATAC	0.1463	0	0	0
IY	ATATAT	0.222	0	0	0
IY	ATTTAT	0.2565	0	0	0
IY	ATCTAT	0.09811	0	0	0
IY	ATTTAC	0.1652	0	0	0
K*	AAGTAA	0.08974	0	0	0
K*	AAGTGA	0.05128	0	0	0
K*	AAATAA	0.359	0	0	0
K*	AAATGA	0.1923	0	0	0
K*	AAGTAG	0.05128	0	0	0
K*	AAATAG	0.2564	0	0	0
KA	AAAGCG	0.05421	0	0	0

KA	AAAGCA	0.1551	0	0	0
KA	AAAGCC	0.1037	0	0	0
KA	AAAGCT	0.1654	0	0	0
KA	AAGGCT	0.2056	0	0	0
KA	AAGGCC	0.1262	0	0	0
KA	AAGGCG	0.06168	0	0	0
KA	AAGGCA	0.128	0	0	0
KC	AAATGT	0.4286	0	0	0
KC	AAGTGT	0.2166	0	0	0
KC	AAGTGC	0.1244	0	0	0
KC	AAATGC	0.2304	0	0	0
KD	AAGGAT	0.2695	0	0	0
KD	AAAGAT	0.3704	0	0	0
KD	AAAGAC	0.1883	0	0	0
KD	AAGGAC	0.1718	0	0	0
KE	AAGGAG	0.1435	0	0	0
KE	AAAGAG	0.1879	0	0	0
KE	AAGGAA	0.3164	0	0	0
KE	AAAGAA	0.3523	0	0	0
KF	AAATTC	0.245	0	0	0
KF	AAGTTC	0.1564	0	0	0
KF	AAATTT	0.3755	0	0	0
KF	AAGTTT	0.2231	0	0	0
KG	AAGGGA	0.1095	0	0	0
KG	AAAGGG	0.07267	0	0	0
KG	AAAGGC	0.09978	0	0	0
KG	AAGGGG	0.04772	0	0	0
KG	AAGGGT	0.2137	0	0	0
KG	AAAGGT	0.2332	0	0	0
KG	AAAGGA	0.1226	0	0	0
KG	AAGGGC	0.1009	0	0	0
KH	AAGCAC	0.1995	0	0	0
KH	AAACAC	0.1731	0	0	0
KH	AAGCAT	0.3173	0	0	0
KH	AAACAT	0.3101	0	0	0
KI	AAGATT	0.1613	0	0	0
KI	AAGATA	0.09921	0	0	0
KI	AAGATC	0.08922	0	0	0
KI	AAAATA	0.2084	0	0	0
KI	AAAATC	0.1627	0	0	0
KI	AAAATT	0.2791	0	0	0
KK	AAAAAG	0.2182	0	0	0
KK	AAAAAA	0.2634	0	0	0
KK	AAGAAG	0.2265	0	0	0
KK	AAGAAA	0.2919	0	0	0
KL	AAGTTA	0.08243	0	0	0
KL	AAATTG	0.1421	0	0	0
KL	AAATTA	0.1691	0	0	0
KL	AAACTA	0.1137	0	0	0
KL	AAGCTC	0.01611	0	0	0
KL	AAGCTA	0.07106	0	0	0

KL	AAGTTG	0.09948	0	0	0
KL	AAACTT	0.08243	0	0	0
KL	AAGCTG	0.0559	0	0	0
KL	AAGCTT	0.05353	0	0	0
KL	AAACTC	0.02984	0	0	0
KL	AAACTG	0.08432	0	0	0
KM	AAAATG	0.6243	0	0	0
KM	AAGATG	0.3757	0	0	0
KN	AAAAAC	0.2231	0	0	0
KN	AAGAAT	0.2633	0	0	0
KN	AAAAAT	0.3536	0	0	0
KN	AAGAAC	0.1601	0	0	0
KP	AAGCCA	0.164	0	0	0
KP	AAGCCG	0.0485	0	0	0
KP	AAGCCT	0.1305	0	0	0
KP	AAGCCC	0.0485	0	0	0
KP	AAACCT	0.1882	0	0	0
KP	AAACCG	0.08661	0	0	0
KP	AAACCA	0.246	0	0	0
KP	AAACCC	0.08776	0	0	0
KQ	AAACAA	0.3606	0	0	0
KQ	AAGCAG	0.1445	0	0	0
KQ	AAACAG	0.196	0	0	0
KQ	AAGCAA	0.299	0	0	0
KR	AAACGC	0.02172	0	1	0
KR	AAACGG	0.02423	0	1	0
KR	AAGCGT	0.03843	0	1	0
KR	AAGCGC	0.02005	0	1	0
KR	AAAAGA	0.3016	1	1	1
KR	AAGAGG	0.1078	0	1	0
KR	AAAAGG	0.1546	0	1	0
KR	AAGCGA	0.02005	0	1	0
KR	AAACGT	0.04845	0	1	0
KR	AAGCGG	0.0117	0	1	0
KR	AAACGA	0.04595	0	1	0
KR	AAGAGA	0.2055	0	1	0
KS	AAGAGC	0.05109	0	0	0
KS	AAAAGT	0.1405	0	0	0
KS	AAGTCT	0.07786	0	0	0
KS	AAGTCG	0.02251	0	0	0
KS	AAAAGC	0.09063	0	0	0
KS	AAATCG	0.06326	0	0	0
KS	AAATCT	0.1569	0	0	0
KS	AAGTCA	0.06387	0	0	0
KS	AAATCA	0.1381	0	0	0
KS	AAGAGT	0.06022	0	0	0
KS	AAGTCC	0.05049	0	0	0
KS	AAATCC	0.08455	0	0	0
KT	AAGACC	0.07192	0	1	0
KT	AAAACG	0.08818	0	1	0
KT	AAAACC	0.1096	0	1	0

KT	AAAAC	0.1832	0	1	0
KT	AAAACA	0.2295	1	1	1
KT	AAGACT	0.1241	0	1	0
KT	AAGACG	0.07363	0	1	0
KT	AAGACA	0.1199	0	1	0
KV	AAAGTC	0.1238	0	0	0
KV	AAAGTG	0.1103	0	0	0
KV	AAAGTT	0.2409	0	0	0
KV	AAAGTA	0.1349	0	0	0
KV	AAGGTC	0.09754	0	0	0
KV	AAGGTA	0.08058	0	0	0
KV	AAGGTT	0.1535	0	0	0
KV	AAGGTG	0.05852	0	0	0
KW	AAGTGG	0.2767	0	0	0
KW	AAATGG	0.7233	0	0	0
KY	AAATAT	0.3462	0	0	0
KY	AAATAC	0.2777	0	0	0
KY	AAGTAT	0.1968	0	0	0
KY	AAGTAC	0.1793	0	0	0
L*	CTCTAA	0.03226	0	0	0
L*	CTTTAA	0.01613	0	0	0
L*	CTATAG	0.03226	0	0	0
L*	CTCTGA	0	0	0	0
L*	TTATGA	0.08065	0	0	0
L*	TTATAA	0.129	0	0	0
L*	CTATGA	0	0	0	0
L*	TTATAG	0.1129	0	0	0
L*	CTTTGA	0.09677	0	0	0
L*	CTATAA	0.06452	0	0	0
L*	CTTTAG	0.01613	0	0	0
L*	CTCTAG	0	0	0	0
L*	CTGTAA	0.06452	0	0	0
L*	CTGTAG	0	0	0	0
L*	TTGTGA	0.03226	0	0	0
L*	TTGTAG	0.03226	0	0	0
L*	TTGTAA	0.2419	0	0	0
L*	CTGTGA	0.04839	0	0	0
LA	TTAGCC	0.04394	0	3	0
LA	TTAGCG	0.02929	0	3	0
LA	TTAGCA	0.08256	0	3	0
LA	CTTGCT	0.04794	0	3	0
LA	CTTGCG	0.01931	0	3	0
LA	TTAGCT	0.0719	0	3	0
LA	CTGGCT	0.03462	0	3	0
LA	CTGGCC	0.03662	0	3	0
LA	TTGGCG	0.03395	0	3	0
LA	CTGGCA	0.03262	0	3	0
LA	CTGGCG	0.01864	0	3	0
LA	CTCGCA	0.01465	0	3	0
LA	CTTGCC	0.02597	0	3	0
LA	CTTGCA	0.04527	0	3	0

LA	TTGGCA	0.09454	1	3	0.3333
LA	TTGGCC	0.07257	1	3	0.3333
LA	TTGGCT	0.1305	1	3	0.3333
LA	CTCGCG	0.00466	0	3	0
LA	CTCGCT	0.01132	0	3	0
LA	CTAGCC	0.02597	0	3	0
LA	CTAGCG	0.01598	0	3	0
LA	CTAGCT	0.05459	0	3	0
LA	CTCGCC	0.01065	0	3	0
LA	CTAGCA	0.04194	0	3	0
LC	CTCTGC	0.03409	0	1	0
LC	CTCTGT	0.06818	0	1	0
LC	CTGTGT	0.0483	0	1	0
LC	CTGTGC	0.03977	0	1	0
LC	CTTTGT	0.1335	0	1	0
LC	CTTTGC	0.06534	0	1	0
LC	CTATGT	0.09659	0	1	0
LC	CTATGC	0.04261	0	1	0
LC	TTGTGC	0.08807	0	1	0
LC	TTGTGT	0.1222	0	1	0
LC	TTATGC	0.1023	1	1	1
LC	TTATGT	0.1591	0	1	0
LD	CTCGAC	0.0143	0	0	0
LD	CTCGAT	0.04616	0	0	0
LD	CTAGAT	0.08973	0	0	0
LD	CTTGAC	0.03576	0	0	0
LD	CTTGAT	0.08257	0	0	0
LD	CTAGAC	0.05007	0	0	0
LD	TTGGAC	0.08843	0	0	0
LD	CTGGAT	0.08192	0	0	0
LD	CTGGAC	0.04616	0	0	0
LD	TTAGAT	0.1853	0	0	0
LD	TTAGAC	0.09363	0	0	0
LD	TTGGAT	0.186	0	0	0
LE	CTGGAA	0.08381	0	2	0
LE	TTAGAG	0.09644	0	2	0
LE	CTTGAG	0.0287	0	2	0
LE	CTAGAG	0.03961	0	2	0
LE	TTGGAA	0.2101	1	2	0.5
LE	CTAGAA	0.09931	0	2	0
LE	CTGGAG	0.03904	0	2	0
LE	TTGGAG	0.08324	0	2	0
LE	CTTGAA	0.08266	0	2	0
LE	TTAGAA	0.1935	1	2	0.5
LE	CTCGAG	0.01493	0	2	0
LE	CTCGAA	0.0287	0	2	0
LF	CTATTT	0.07968	0	0	0
LF	CTGTTC	0.05551	0	0	0
LF	TTATTT	0.1638	0	0	0
LF	CTATTC	0.04834	0	0	0
LF	CTCTTT	0.04476	0	0	0

LF	TTGTTT	0.1218	0	0	0
LF	CTCTTC	0.03133	0	0	0
LF	TTGTTC	0.08953	0	0	0
LF	CTTTTT	0.1056	0	0	0
LF	CTGTTT	0.05461	0	0	0
LF	CTTTTC	0.09042	0	0	0
LF	TTATTC	0.1146	0	0	0
LG	CTGGGC	0.03369	0	1	0
LG	CTGGGG	0.01914	0	1	0
LG	CTAGGT	0.0536	0	1	0
LG	CTGGGA	0.0291	0	1	0
LG	CTGGGT	0.04441	0	1	0
LG	CTTGGG	0.01685	0	1	0
LG	TTAGGC	0.04441	0	1	0
LG	CTTGGA	0.03828	0	1	0
LG	CTAGGC	0.0268	0	1	0
LG	CTAGGA	0.0245	0	1	0
LG	TTGGGT	0.134	1	1	1
LG	CTTGGT	0.06432	0	1	0
LG	TTGGGG	0.03599	0	1	0
LG	TTAGGG	0.04441	0	1	0
LG	CTCGGT	0.03369	0	1	0
LG	CTCGGG	0.002297	0	1	0
LG	CTCGGC	0.01302	0	1	0
LG	TTAGGA	0.06815	0	1	0
LG	CTAGGG	0.01531	0	1	0
LG	TTGGGA	0.05819	0	1	0
LG	TTGGGC	0.04364	0	1	0
LG	TTAGGT	0.1095	0	1	0
LG	CTTGGC	0.03522	0	1	0
LG	CTCGGA	0.01149	0	1	0
LH	CTGCAC	0.04674	0	0	0
LH	CTCCAC	0.01503	0	0	0
LH	CTCCAT	0.03339	0	0	0
LH	CTACAT	0.1102	0	0	0
LH	CTACAC	0.04174	0	0	0
LH	CTGCAT	0.05676	0	0	0
LH	CTTCAC	0.05008	0	0	0
LH	TTGCAC	0.1135	0	0	0
LH	TTACAT	0.1619	0	0	0
LH	TTACAC	0.1052	0	0	0
LH	TTGCAT	0.1736	0	0	0
LH	CTTCAT	0.09182	0	0	0
LI	CTCATA	0.02654	0	0	0
LI	CTCATC	0.01481	0	0	0
LI	TTAATT	0.1142	0	0	0
LI	TTAATA	0.07346	0	0	0
LI	TTAATC	0.06728	0	0	0
LI	TTGATA	0.07963	0	0	0
LI	CTAATC	0.03704	0	0	0
LI	CTAATA	0.04444	0	0	0

LI	CTAATT	0.05247	0	0	0
LI	TTGATT	0.1599	0	0	0
LI	TTGATC	0.07654	0	0	0
LI	CTTATT	0.04753	0	0	0
LI	CTCATT	0.02901	0	0	0
LI	CTTATC	0.03025	0	0	0
LI	CTTATA	0.0284	0	0	0
LI	CTGATC	0.02778	0	0	0
LI	CTGATT	0.05432	0	0	0
LI	CTGATA	0.03642	0	0	0
LK	CTTAAA	0.04096	0	0	0
LK	CTCAAG	0.02485	0	0	0
LK	CTCAAA	0.03682	0	0	0
LK	CTGAAG	0.04234	0	0	0
LK	TTGAAG	0.1643	0	0	0
LK	CTGAAA	0.07317	0	0	0
LK	TTGAAA	0.2025	0	0	0
LK	CTAAAA	0.07639	0	0	0
LK	CTTAAG	0.02301	0	0	0
LK	TTAAAG	0.1137	0	0	0
LK	TTAAAA	0.1454	0	0	0
LK	CTAAAG	0.0566	0	0	0
LL	TTGTTA	0.05614	0	3	0
LL	TTGTTG	0.0547	1	3	0.3333
LL	CTGCTG	0.01691	0	3	0
LL	CTCTTG	0.01151	0	3	0
LL	CTGCTC	0.006477	0	3	0
LL	TTGCTA	0.03598	0	3	0
LL	TTGCTT	0.02195	0	3	0
LL	CTACTG	0.02087	0	3	0
LL	TTGCTG	0.02555	0	3	0
LL	TTGCTC	0.01475	0	3	0
LL	CTACTA	0.02375	0	3	0
LL	CTACTC	0.009356	0	3	0
LL	CTACTT	0.01691	0	3	0
LL	TTACTA	0.04822	0	3	0
LL	CTTTTG	0.05182	0	3	0
LL	CTCCTT	0.007557	0	3	0
LL	CTCCTG	0.006117	0	3	0
LL	CTCCTC	0.002159	0	3	0
LL	CTTTTA	0.06081	0	3	0
LL	CTTCTT	0.02159	0	3	0
LL	CTTCTA	0.02015	0	3	0
LL	CTTCTC	0.01187	0	3	0
LL	CTTCTG	0.01511	0	3	0
LL	CTCCTA	0.008996	0	3	0
LL	CTGCTA	0.01799	0	3	0
LL	TTACTC	0.01655	0	3	0
LL	TTACTG	0.0439	0	3	0
LL	TTACTT	0.04282	0	3	0
LL	TTATTA	0.07413	1	3	0.3333

LL	CTATTA	0.03958	0	3	0
LL	CTATTG	0.03742	0	3	0
LL	CTGTTG	0.02591	0	3	0
LL	CTGTTA	0.02411	0	3	0
LL	CTCTTA	0.01367	0	3	0
LL	TTATTG	0.07593	1	3	0.3333
LL	CTGCTT	0.01871	0	3	0
LM	CTCATG	0.04475	0	0	0
LM	CTTATG	0.07393	0	0	0
LM	CTGATG	0.09728	0	0	0
LM	CTAATG	0.1556	0	0	0
LM	TTGATG	0.3171	0	0	0
LM	TTAATG	0.3113	0	0	0
LN	TTGAAC	0.1361	0	0	0
LN	CTTAAC	0.02943	0	0	0
LN	CTGAAC	0.05089	0	0	0
LN	CTGAAT	0.07174	0	0	0
LN	CTTAAT	0.04537	0	0	0
LN	TTGAAT	0.1901	0	0	0
LN	CTCAAC	0.02514	0	0	0
LN	CTAAAC	0.06193	0	0	0
LN	CTCAAT	0.04108	0	0	0
LN	CTAAAT	0.09442	0	0	0
LN	TTAAAT	0.1441	0	0	0
LN	TTAAAC	0.1097	0	0	0
LP	CTACCG	0.01309	0	1	0
LP	TTGCCT	0.06255	0	1	0
LP	CTACCC	0.02836	0	1	0
LP	CTTCCT	0.04364	0	1	0
LP	CTCCCA	0.02618	0	1	0
LP	TTGCCC	0.04582	0	1	0
LP	CTACCT	0.05164	0	1	0
LP	CTTCCC	0.02182	0	1	0
LP	TTGCCG	0.02836	0	1	0
LP	CTTCCG	0.01673	0	1	0
LP	CTCCCT	0.01891	0	1	0
LP	CTGCCA	0.03345	0	1	0
LP	TTACCT	0.08291	0	1	0
LP	TTACCG	0.04436	0	1	0
LP	TTACCA	0.1236	1	1	1
LP	TTACCC	0.04	0	1	0
LP	CTGCCC	0.02545	0	1	0
LP	CTGCCG	0.01527	0	1	0
LP	CTCCCC	0.01091	0	1	0
LP	CTTCCA	0.06909	0	1	0
LP	CTCCCG	0.003636	0	1	0
LP	CTGCCT	0.02618	0	1	0
LP	TTGCCA	0.09745	0	1	0
LP	CTACCA	0.07055	0	1	0
LQ	CTTCAG	0.0392	0	3	0
LQ	TTGCAG	0.07533	0	3	0

LQ	CTTCAA	0.08148	0	3	0
LQ	CTCCAG	0.0123	0	3	0
LQ	TTGCAA	0.1845	1	3	0.3333
LQ	TTACAG	0.09915	0	3	0
LQ	TTACAA	0.2175	1	3	0.3333
LQ	CTGCAA	0.08301	0	3	0
LQ	CTACAA	0.1015	1	3	0.3333
LQ	CTGCAG	0.04074	0	3	0
LQ	CTCCAA	0.01614	0	3	0
LQ	CTACAG	0.04919	0	3	0
LR	CTGAGG	0.01779	0	0	0
LR	CTTCGT	0.02243	0	0	0
LR	CTTCGG	0.003094	0	0	0
LR	CTGAGA	0.0464	0	0	0
LR	CTAAGA	0.07193	0	0	0
LR	CTACGC	0.007734	0	0	0
LR	CTACGA	0.009281	0	0	0
LR	CTTCGC	0.008507	0	0	0
LR	CTTCGA	0.0232	0	0	0
LR	CTGCGA	0.007734	0	0	0
LR	CTGCGC	0.01005	0	0	0
LR	CTGCGG	0.006187	0	0	0
LR	CTTAGA	0.02552	0	0	0
LR	CTAAGG	0.03326	0	0	0
LR	CTTAGG	0.01624	0	0	0
LR	CTACGG	0.007734	0	0	0
LR	CTGCGT	0.01547	0	0	0
LR	CTCCGT	0.003094	0	0	0
LR	CTCAGG	0.01315	0	0	0
LR	CTCCGA	0.003867	0	0	0
LR	TTACGT	0.03326	0	0	0
LR	TTACGG	0.0116	0	0	0
LR	TTGCGT	0.03558	0	0	0
LR	TTGCGG	0.009281	0	0	0
LR	TTGAGA	0.1562	0	0	0
LR	TTGAGG	0.06961	0	0	0
LR	TTGCGA	0.01701	0	0	0
LR	TTGCGC	0.01315	0	0	0
LR	TTACGC	0.02398	0	0	0
LR	CTCAGA	0.01547	0	0	0
LR	CTCCGC	0.00232	0	0	0
LR	TTAAGG	0.0611	0	0	0
LR	CTACGT	0.02862	0	0	0
LR	TTAAGA	0.1469	0	0	0
LR	CTCCGG	0.001547	0	0	0
LR	TTACGA	0.02166	0	0	0
LS	CTAAGT	0.02362	0	0	0
LS	TTATCG	0.03821	0	0	0
LS	CTGTCC	0.01116	0	0	0
LS	CTGTCA	0.02233	0	0	0
LS	TTATCC	0.04294	0	0	0

LS	CTAAGC	0.02147	0	0	0
LS	CTCAGT	0.01374	0	0	0
LS	TTAAGT	0.04723	0	0	0
LS	CTGTCTG	0.009446	0	0	0
LS	CTCAGC	0.008158	0	0	0
LS	CTGAGT	0.01632	0	0	0
LS	TTATCA	0.06183	0	0	0
LS	TTAAGC	0.03006	0	0	0
LS	CTGAGC	0.01546	0	0	0
LS	CTATCT	0.04165	0	0	0
LS	TTGTCT	0.0438	0	0	0
LS	CTCTCA	0.009875	0	0	0
LS	TTGTCTG	0.01288	0	0	0
LS	CTGTCT	0.02147	0	0	0
LS	TTGTCA	0.04122	0	0	0
LS	CTCTCC	0.0103	0	0	0
LS	CTCTCG	0.01202	0	0	0
LS	CTTTCTG	0.01589	0	0	0
LS	CTTTCC	0.03564	0	0	0
LS	CTTTCA	0.04422	0	0	0
LS	CTCTCT	0.01675	0	0	0
LS	CTATCA	0.0365	0	0	0
LS	TTGTCC	0.03006	0	0	0
LS	CTATCC	0.02877	0	0	0
LS	CTATCG	0.01245	0	0	0
LS	CTTTCT	0.05453	0	0	0
LS	TTATCT	0.07471	0	0	0
LS	TTGAGC	0.03349	0	0	0
LS	CTTAGT	0.008158	0	0	0
LS	CTTAGC	0.009446	0	0	0
LS	TTGAGT	0.04422	0	0	0
LT	CTCACC	0.01761	0	0	0
LT	CTCACA	0.02013	0	0	0
LT	CTAACT	0.03836	0	0	0
LT	CTGACC	0.02201	0	0	0
LT	CTAACG	0.01761	0	0	0
LT	CTGACG	0.01824	0	0	0
LT	CTGACA	0.03333	0	0	0
LT	CTCACT	0.02516	0	0	0
LT	CTTACG	0.01698	0	0	0
LT	CTTACT	0.04151	0	0	0
LT	CTCACG	0.007547	0	0	0
LT	CTTACC	0.02201	0	0	0
LT	TTGACA	0.08868	0	0	0
LT	TTGACC	0.07421	0	0	0
LT	TTGACT	0.09371	0	0	0
LT	TTGACG	0.04025	0	0	0
LT	CTAACC	0.02516	0	0	0
LT	CTTACA	0.02704	0	0	0
LT	CTAACA	0.0478	0	0	0
LT	TTAACC	0.06918	0	0	0

LT	TTAACA	0.09748	0	0	0
LT	TTAACG	0.0434	0	0	0
LT	TTAACT	0.09057	0	0	0
LT	CTGACT	0.02201	0	0	0
LV	CTAGTT	0.04106	0	2	0
LV	CTAGTG	0.0341	0	2	0
LV	CTAGTC	0.02644	0	2	0
LV	TTGGTT	0.1232	1	2	0.5
LV	CTCGTC	0.007655	0	2	0
LV	CTAGTA	0.03619	0	2	0
LV	TTAGTT	0.09534	0	2	0
LV	TTAGTC	0.05289	0	2	0
LV	TTAGTA	0.05567	1	2	0.5
LV	TTAGTG	0.05567	0	2	0
LV	CTCGTG	0.01044	0	2	0
LV	TTGGTC	0.05985	0	2	0
LV	TTGGTA	0.05637	0	2	0
LV	TTGGTG	0.05846	0	2	0
LV	CTCGTA	0.009047	0	2	0
LV	CTTGTT	0.02644	0	2	0
LV	CTCGTT	0.02157	0	2	0
LV	CTTGTC	0.02714	0	2	0
LV	CTTGTT	0.05498	0	2	0
LV	CTGGTT	0.03619	0	2	0
LV	CTTGTA	0.02436	0	2	0
LV	CTGGTG	0.02436	0	2	0
LV	CTGGTC	0.02436	0	2	0
LV	CTGGTA	0.03827	0	2	0
LW	CTATGG	0.1868	0	2	0
LW	CTTTGG	0.1946	0	2	0
LW	CTCTGG	0.07004	0	2	0
LW	TTATGG	0.2957	1	2	0.5
LW	TTGTGG	0.1479	1	2	0.5
LW	CTGTGG	0.1051	0	2	0
LY	CTGTAT	0.0555	0	2	0
LY	TTATAC	0.1001	1	2	0.5
LY	TTATAT	0.161	1	2	0.5
LY	CTGTAC	0.04026	0	2	0
LY	CTTTAT	0.1121	0	2	0
LY	TTGTAC	0.09249	0	2	0
LY	CTTTAC	0.07291	0	2	0
LY	TTGTAT	0.1251	0	2	0
LY	CTCTAC	0.03264	0	2	0
LY	CTATAT	0.09249	0	2	0
LY	CTATAC	0.06638	0	2	0
LY	CTCTAT	0.04897	0	2	0
M*	ATGTAA	0.3333	0	0	0
M*	ATGTGA	0.3333	0	0	0
M*	ATGTAG	0.3333	0	0	0
MA	ATGGCC	0.212	0	1	0
MA	ATGGCG	0.1172	0	1	0

MA	ATGGCA	0.3217	0	1	0
MA	ATGGCT	0.3491	1	1	1
MC	ATGTGT	0.6032	0	0	0
MC	ATGTGC	0.3968	0	0	0
MD	ATGGAC	0.3978	0	0	0
MD	ATGGAT	0.6022	0	0	0
ME	ATGGAA	0.735	0	0	0
ME	ATGGAG	0.265	0	0	0
MF	ATGTTT	0.6531	0	0	0
MF	ATGTTC	0.3469	0	0	0
MG	ATGGGA	0.217	0	0	0
MG	ATGGGG	0.1466	0	0	0
MG	ATGGGT	0.4223	0	0	0
MG	ATGGGC	0.2141	0	0	0
MH	ATGCAC	0.3039	0	0	0
MH	ATGCAT	0.6961	0	0	0
MI	ATGATC	0.2109	0	0	0
MI	ATGATT	0.5208	0	0	0
MI	ATGATA	0.2682	0	0	0
MK	ATGAAG	0.4093	0	0	0
MK	ATGAAA	0.5907	0	0	0
ML	ATGCTC	0.06654	0	0	0
ML	ATGCTG	0.1616	0	0	0
ML	ATGTTG	0.1844	0	0	0
ML	ATGTTA	0.2224	0	0	0
ML	ATGCTT	0.1958	0	0	0
ML	ATGCTA	0.1692	0	0	0
MM	ATGATG	1	0	0	0
MN	ATGAAT	0.5829	0	0	0
MN	ATGAAC	0.4171	0	0	0
MP	ATGCCG	0.09955	0	0	0
MP	ATGCCC	0.1719	0	0	0
MP	ATGCCT	0.371	0	0	0
MP	ATGCCA	0.3575	0	0	0
MQ	ATGCAA	0.7228	0	0	0
MQ	ATGCAG	0.2772	0	0	0
MR	ATGCGC	0.04693	0	1	0
MR	ATGCGA	0.05776	0	1	0
MR	ATGCGT	0.13	0	1	0
MR	ATGAGA	0.5271	1	1	1
MR	ATGCGG	0.04332	0	1	0
MR	ATGAGG	0.1949	0	1	0
MS	ATGAGC	0.1264	0	0	0
MS	ATGTCT	0.2599	0	0	0
MS	ATGTCA	0.1895	0	0	0
MS	ATGTCC	0.1137	0	0	0
MS	ATGAGT	0.1679	0	0	0
MS	ATGTCC	0.1426	0	0	0
MT	ATGACG	0.1055	0	0	0
MT	ATGACA	0.397	0	0	0
MT	ATGACT	0.3065	0	0	0

MT	ATGACC	0.191	0	0	0
MV	ATGGTC	0.1943	0	0	0
MV	ATGGTA	0.2357	0	0	0
MV	ATGGTT	0.3662	0	0	0
MV	ATGGTG	0.2038	0	0	0
MW	ATGTGG	1	0	0	0
MY	ATGTAC	0.5146	0	0	0
MY	ATGTAT	0.4854	0	0	0
N*	AATTAA	0.1892	0	1	0
N*	AATTAG	0.1081	0	1	0
N*	AACTAA	0.2162	1	1	1
N*	AACTAG	0.1081	0	1	0
N*	AATTGA	0.2162	0	1	0
N*	AACTGA	0.1622	0	1	0
NA	AACGCT	0.1143	0	0	0
NA	AATGCC	0.1547	0	0	0
NA	AACGCG	0.02803	0	0	0
NA	AATGCA	0.2096	0	0	0
NA	AATGCG	0.1031	0	0	0
NA	AATGCT	0.2298	0	0	0
NA	AACGCA	0.09865	0	0	0
NA	AACGCC	0.06166	0	0	0
NC	AATTGT	0.3676	0	0	0
NC	AACTGT	0.299	0	0	0
NC	AATTGC	0.1814	0	0	0
NC	AACTGC	0.152	0	0	0
ND	AACGAC	0.1156	0	0	0
ND	AATGAT	0.4138	0	0	0
ND	AATGAC	0.2339	0	0	0
ND	AACGAT	0.2367	0	0	0
NE	AACGAG	0.09524	0	0	0
NE	AATGAG	0.1977	0	0	0
NE	AATGAA	0.4778	0	0	0
NE	AACGAA	0.2292	0	0	0
NF	AATTTTC	0.2651	0	0	0
NF	AATTTT	0.3501	0	0	0
NF	AACTTC	0.1513	0	0	0
NF	AACTTT	0.2334	0	0	0
NG	AATGGG	0.09921	0	0	0
NG	AATGGA	0.1582	0	0	0
NG	AATGGC	0.1493	0	0	0
NG	AACGGT	0.1493	0	0	0
NG	AACGGA	0.07367	0	0	0
NG	AATGGT	0.2593	0	0	0
NG	AACGGC	0.0668	0	0	0
NG	AACGGG	0.0442	0	0	0
NH	AACCAC	0.1243	0	0	0
NH	AACCAT	0.2655	0	0	0
NH	AATCAT	0.4266	0	0	0
NH	AATCAC	0.1836	0	0	0
NI	AACATT	0.19	0	0	0

NI	AACATA	0.1062	0	0	0
NI	AATATT	0.2913	0	0	0
NI	AATATA	0.1627	0	0	0
NI	AACATC	0.09793	0	0	0
NI	AATATC	0.1519	0	0	0
NK	AACAAA	0.25	0	0	0
NK	AACAAG	0.2154	0	0	0
NK	AATAAG	0.2066	0	0	0
NK	AATAAA	0.328	0	0	0
NL	AACTTG	0.1213	0	0	0
NL	AACTTA	0.08681	0	0	0
NL	AATCTA	0.07952	0	0	0
NL	AATTTA	0.1789	0	0	0
NL	AACCTC	0.02319	0	0	0
NL	AACCTG	0.03777	0	0	0
NL	AACCTT	0.06097	0	0	0
NL	AACCTA	0.05434	0	0	0
NL	AATCTG	0.05036	0	0	0
NL	AATTTG	0.1915	0	0	0
NL	AATCTC	0.03777	0	0	0
NL	AATCTT	0.07753	0	0	0
NM	AACATG	0.3754	0	0	0
NM	AATATG	0.6246	0	0	0
NN	AATAAT	0.3444	0	0	0
NN	AATAAC	0.2445	0	0	0
NN	AACAAC	0.1559	0	0	0
NN	AACAAT	0.2551	0	0	0
NP	AATCCA	0.2221	0	0	0
NP	AATCCG	0.09885	0	0	0
NP	AATCCT	0.2221	0	0	0
NP	AACCCG	0.03295	0	0	0
NP	AATCCC	0.08309	0	0	0
NP	AACCCT	0.1232	0	0	0
NP	AACCCC	0.06877	0	0	0
NP	AACCCA	0.149	0	0	0
NQ	AATCAG	0.1339	0	1	0
NQ	AACCAA	0.3193	0	1	0
NQ	AACCAG	0.1633	0	1	0
NQ	AATCAA	0.3835	1	1	1
NR	AACCGA	0.01943	0	0	0
NR	AACCGG	0.01196	0	0	0
NR	AACCGC	0.01943	0	0	0
NR	AATAGG	0.142	0	0	0
NR	AATAGA	0.2212	0	0	0
NR	AACCGT	0.07623	0	0	0
NR	AATCGT	0.06428	0	0	0
NR	AACAGG	0.09268	0	0	0
NR	AACAGA	0.2377	0	0	0
NR	AATCGG	0.01794	0	0	0
NR	AATCGC	0.04634	0	0	0
NR	AATCGA	0.05082	0	0	0

NS	AACAGC	0.06146	0	0	0
NS	AATAGC	0.07122	0	0	0
NS	AACTCT	0.1034	0	0	0
NS	AACAGT	0.08788	0	0	0
NS	AACTCG	0.03331	0	0	0
NS	AATTCA	0.1298	0	0	0
NS	AATTCT	0.06146	0	0	0
NS	AATTCT	0.1327	0	0	0
NS	AACTCA	0.0741	0	0	0
NS	AATAGT	0.1022	0	0	0
NS	AACTCC	0.07007	0	0	0
NS	AATTCC	0.07237	0	0	0
NT	AACACC	0.08977	0	0	0
NT	AACACA	0.1326	0	0	0
NT	AACACT	0.1639	0	0	0
NT	AACACG	0.05428	0	0	0
NT	AATACC	0.1075	0	0	0
NT	AATACT	0.1816	0	0	0
NT	AATACG	0.07307	0	0	0
NT	AATACA	0.1973	0	0	0
NV	AACGTT	0.1821	0	0	0
NV	AATGTA	0.1429	0	0	0
NV	AACGTG	0.05231	0	0	0
NV	AACGTC	0.09557	0	0	0
NV	AACGTA	0.07143	0	0	0
NV	AATGTG	0.1046	0	0	0
NV	AATGTC	0.1268	0	0	0
NV	AATGTT	0.2243	0	0	0
NW	AATTGG	0.5668	0	0	0
NW	AACTGG	0.4332	0	0	0
NY	AATTAT	0.3502	1	1	1
NY	AATTAC	0.2526	0	1	0
NY	AACTAC	0.1812	0	1	0
NY	AACTAT	0.216	0	1	0
P*	CCCTAA	0.125	0	0	0
P*	CCCTAG	0	0	0	0
P*	CCGTAA	0	0	0	0
P*	CCGTAG	0	0	0	0
P*	CCCTGA	0	0	0	0
P*	CCTTAA	0	0	0	0
P*	CCTTAG	0.125	0	0	0
P*	CCATAA	0.125	0	0	0
P*	CCATGA	0.375	0	0	0
P*	CCGTGA	0.25	0	0	0
P*	CCATAG	0	0	0	0
P*	CCTTGA	0	0	0	0
PA	CCCGCC	0.01274	0	1	0
PA	CCTGCA	0.1369	0	1	0
PA	CCTGCC	0.05096	0	1	0
PA	CCTGCG	0.03981	0	1	0
PA	CCCGCA	0.04936	0	1	0

PA	CCCGCT	0.05732	0	1	0
PA	CCTGCT	0.1608	0	1	0
PA	CCCGCG	0.01274	0	1	0
PA	CCAGCC	0.07166	0	1	0
PA	CCAGCG	0.03981	0	1	0
PA	CCAGCA	0.1162	0	1	0
PA	CCAGCT	0.1401	1	1	1
PA	CCGGCA	0.03822	0	1	0
PA	CCGGCT	0.03662	0	1	0
PA	CCGGCC	0.01911	0	1	0
PA	CCGGCG	0.01752	0	1	0
PC	CCTTGT	0.1622	0	0	0
PC	CCTTGC	0.1081	0	0	0
PC	CCGTGC	0.02703	0	0	0
PC	CCCTGT	0.06306	0	0	0
PC	CCATGT	0.3063	0	0	0
PC	CCATGC	0.2252	0	0	0
PC	CCGTGT	0.05405	0	0	0
PC	CCCTGC	0.05405	0	0	0
PD	CCCGAC	0.02932	0	1	0
PD	CCGGAT	0.07655	0	1	0
PD	CCGGAC	0.04397	0	1	0
PD	CCTGAC	0.1156	0	1	0
PD	CCTGAT	0.2638	1	1	1
PD	CCCGAT	0.08143	0	1	0
PD	CCAGAT	0.2704	0	1	0
PD	CCAGAC	0.1189	0	1	0
PE	CCGGAA	0.07446	0	0	0
PE	CCTGAG	0.1306	0	0	0
PE	CCCGAG	0.03666	0	0	0
PE	CCCGAA	0.07331	0	0	0
PE	CCAGAG	0.1226	0	0	0
PE	CCGGAG	0.03436	0	0	0
PE	CCAGAA	0.3162	0	0	0
PE	CCTGAA	0.2119	0	0	0
PF	CCCTTT	0.1183	0	0	0
PF	CCATTC	0.1452	0	0	0
PF	CCTTTT	0.1577	0	0	0
PF	CCCTTC	0.06989	0	0	0
PF	CCGTTC	0.04122	0	0	0
PF	CCATTT	0.2903	0	0	0
PF	CCGTTT	0.05914	0	0	0
PF	CCTTTC	0.1183	0	0	0
PG	CCGGGT	0.01898	0	1	0
PG	CCGGGG	0.02657	0	1	0
PG	CCGGGC	0.03605	0	1	0
PG	CCCGGA	0.03226	0	1	0
PG	CCTGGT	0.1727	1	1	1
PG	CCTGGG	0.06452	0	1	0
PG	CCTGGC	0.074	0	1	0
PG	CCCGGC	0.01328	0	1	0

PG	CCCGGG	0.001898	0	1	0
PG	CCGGGA	0.04744	0	1	0
PG	CCCGGT	0.05693	0	1	0
PG	CCAGGT	0.2049	0	1	0
PG	CCTGGA	0.06452	0	1	0
PG	CCAGGA	0.07021	0	1	0
PG	CCAGGC	0.08918	0	1	0
PG	CCAGGG	0.02657	0	1	0
PH	CCGCAT	0.09278	0	0	0
PH	CCACAT	0.2371	0	0	0
PH	CCACAC	0.1168	0	0	0
PH	CCCCAT	0.1134	0	0	0
PH	CCGCAC	0.05155	0	0	0
PH	CCTCAT	0.244	0	0	0
PH	CCCCAC	0.03436	0	0	0
PH	CCTCAC	0.11	0	0	0
PI	CCGATA	0.0461	0	0	0
PI	CCGATT	0.06265	0	0	0
PI	CCGATC	0.0331	0	0	0
PI	CCAATT	0.1891	0	0	0
PI	CCTATC	0.0721	0	0	0
PI	CCTATT	0.1135	0	0	0
PI	CCAATC	0.09338	0	0	0
PI	CCAATA	0.1348	0	0	0
PI	CCCATA	0.05792	0	0	0
PI	CCTATA	0.06738	0	0	0
PI	CCCATT	0.07447	0	0	0
PI	CCCATC	0.05556	0	0	0
PK	CCTAAA	0.1464	0	1	0
PK	CCTAAG	0.08452	0	1	0
PK	CCCAAG	0.07738	0	1	0
PK	CCAAAA	0.2369	1	1	1
PK	CCAAAG	0.2107	0	1	0
PK	CCCAAA	0.1226	0	1	0
PK	CCGAAG	0.04762	0	1	0
PK	CCGAAA	0.07381	0	1	0
PL	CCACTC	0.02183	0	2	0
PL	CCCTTA	0.05255	0	2	0
PL	CCACTG	0.03557	0	2	0
PL	CCTCTT	0.03961	0	2	0
PL	CCCTTG	0.03638	0	2	0
PL	CCACTA	0.0485	0	2	0
PL	CCCCTA	0.02344	0	2	0
PL	CCTTTG	0.1027	0	2	0
PL	CCTTTA	0.07599	0	2	0
PL	CCTCTG	0.03557	0	2	0
PL	CCACTT	0.04446	0	2	0
PL	CCCCTG	0.01213	0	2	0
PL	CCCCTT	0.01213	0	2	0
PL	CCGCTA	0.0291	0	2	0
PL	CCGCTC	0.008892	0	2	0

PL	CCGCTT	0.0194	0	2	0
PL	CCGCTG	0.02183	0	2	0
PL	CCGTTA	0.04608	0	2	0
PL	CCGTTG	0.02991	0	2	0
PL	CCTCTA	0.03314	0	2	0
PL	CCCCTC	0.01132	0	2	0
PL	CCATTA	0.1229	1	2	0.5
PL	CCTCTC	0.02183	0	2	0
PL	CCATTG	0.1148	1	2	0.5
PM	CCCATG	0.1796	0	0	0
PM	CCAATG	0.4327	0	0	0
PM	CCTATG	0.249	0	0	0
PM	CCGATG	0.1388	0	0	0
PN	CCCAAC	0.07873	0	0	0
PN	CCAAAT	0.2666	0	0	0
PN	CCTAAC	0.1064	0	0	0
PN	CCAAAC	0.1436	0	0	0
PN	CCTAAT	0.1602	0	0	0
PN	CCGAAT	0.06906	0	0	0
PN	CCCAAT	0.1064	0	0	0
PN	CCGAAC	0.06906	0	0	0
PP	CCGCCC	0.01828	0	0	0
PP	CCGCCA	0.05222	0	0	0
PP	CCCCCA	0.03786	0	0	0
PP	CCCCCT	0.03003	0	0	0
PP	CCGCCG	0.005222	0	0	0
PP	CCCCCG	0.009138	0	0	0
PP	CCACCT	0.1358	0	0	0
PP	CCGCCT	0.03264	0	0	0
PP	CCACCG	0.06789	0	0	0
PP	CCACCC	0.04439	0	0	0
PP	CCTCCC	0.047	0	0	0
PP	CCACCA	0.2389	0	0	0
PP	CCCCCC	0.003916	0	0	0
PP	CCTCCT	0.09399	0	0	0
PP	CCTCCA	0.1423	0	0	0
PP	CCTCCG	0.04047	0	0	0
PQ	CCCCAA	0.07325	0	0	0
PQ	CCACAG	0.1533	0	0	0
PQ	CCCCAG	0.02896	0	0	0
PQ	CCTCAG	0.09199	0	0	0
PQ	CCTCAA	0.2879	0	0	0
PQ	CCGCAG	0.08688	0	0	0
PQ	CCACAA	0.1993	0	0	0
PQ	CCGCAA	0.07836	0	0	0
PR	CCAAGA	0.2588	0	0	0
PR	CCTAGA	0.0689	0	0	0
PR	CCCAGG	0.02607	0	0	0
PR	CCACGT	0.05959	0	0	0
PR	CCAAGG	0.1099	0	0	0
PR	CCCAGA	0.0838	0	0	0

PR	CCGCGC	0.01117	0	0	0
PR	CCTCGG	0.0149	0	0	0
PR	CCTCGC	0.01862	0	0	0
PR	CCTCGA	0.04469	0	0	0
PR	CCTCGT	0.04842	0	0	0
PR	CCACGA	0.03352	0	0	0
PR	CCACGG	0.03166	0	0	0
PR	CCACGC	0.0149	0	0	0
PR	CCCCGA	0.007449	0	0	0
PR	CCGAGA	0.05773	0	0	0
PR	CCCCGT	0.02048	0	0	0
PR	CCCCGG	0.007449	0	0	0
PR	CCCCGC	0.005587	0	0	0
PR	CCGAGG	0.01676	0	0	0
PR	CCTAGG	0.03724	0	0	0
PR	CCGCGA	0.001862	0	0	0
PR	CCGCGT	0.01304	0	0	0
PR	CCGCGG	0.007449	0	0	0
PS	CCATCG	0.03495	0	0	0
PS	CCATCT	0.1193	0	0	0
PS	CCTAGT	0.03799	0	0	0
PS	CCTTCA	0.08587	0	0	0
PS	CCTAGC	0.01672	0	0	0
PS	CCATCA	0.09726	0	0	0
PS	CCATCC	0.05395	0	0	0
PS	CCGTCA	0.02128	0	0	0
PS	CCGAGC	0.007599	0	0	0
PS	CCGAGT	0.01748	0	0	0
PS	CCAAGT	0.05623	0	0	0
PS	CCGTCC	0.01216	0	0	0
PS	CCTTCG	0.03419	0	0	0
PS	CCTTCT	0.08891	0	0	0
PS	CCCTCT	0.06155	0	0	0
PS	CCCTCG	0.01748	0	0	0
PS	CCCTCC	0.02584	0	0	0
PS	CCCTCA	0.03495	0	0	0
PS	CCCAGT	0.0266	0	0	0
PS	CCAAGC	0.04711	0	0	0
PS	CCTTCC	0.04711	0	0	0
PS	CCGTCT	0.01976	0	0	0
PS	CCCAGC	0.02204	0	0	0
PS	CCGTCC	0.01368	0	0	0
PT	CCTACT	0.09657	0	0	0
PT	CCTACG	0.03558	0	0	0
PT	CCGACA	0.03685	0	0	0
PT	CCGACC	0.01652	0	0	0
PT	CCGACG	0.01017	0	0	0
PT	CCTACA	0.08005	0	0	0
PT	CCGACT	0.0305	0	0	0
PT	CCAACA	0.1258	0	0	0
PT	CCTACC	0.07497	0	0	0

PT	CCCACG	0.02287	0	0	0
PT	CCCACT	0.06226	0	0	0
PT	CCAACT	0.1817	0	0	0
PT	CCAACG	0.05718	0	0	0
PT	CCCACA	0.0521	0	0	0
PT	CCCACC	0.05083	0	0	0
PT	CCAACC	0.06607	0	0	0
PV	CCTGTT	0.1578	0	0	0
PV	CCCGTG	0.02993	0	0	0
PV	CCCGTT	0.06395	0	0	0
PV	CCCGTC	0.03129	0	0	0
PV	CCCGTA	0.04354	0	0	0
PV	CCGGTG	0.01769	0	0	0
PV	CCGGTT	0.03946	0	0	0
PV	CCGGTC	0.01361	0	0	0
PV	CCGGTA	0.04082	0	0	0
PV	CCTGTA	0.07891	0	0	0
PV	CCAGTA	0.09524	0	0	0
PV	CCTGTC	0.07483	0	0	0
PV	CCAGTG	0.0517	0	0	0
PV	CCTGTG	0.07347	0	0	0
PV	CCAGTT	0.1374	0	0	0
PV	CCAGTC	0.05034	0	0	0
PW	CCATGG	0.4365	0	0	0
PW	CCTTGG	0.2937	0	0	0
PW	CCCTGG	0.1667	0	0	0
PW	CCGTGG	0.1032	0	0	0
PY	CCCTAT	0.08874	0	0	0
PY	CCCTAC	0.06926	0	0	0
PY	CCTTAC	0.132	0	0	0
PY	CCATAC	0.1537	0	0	0
PY	CCGTAC	0.08009	0	0	0
PY	CCATAT	0.2143	0	0	0
PY	CCGTAT	0.08225	0	0	0
PY	CCTTAT	0.1797	0	0	0
Q*	CAGTAG	0.1364	0	0	0
Q*	CAGTAA	0.04545	0	0	0
Q*	CAATAG	0.1818	0	0	0
Q*	CAATGA	0.2727	0	0	0
Q*	CAGTGA	0.1364	0	0	0
Q*	CAATAA	0.2273	0	0	0
QA	CAAGCG	0.07207	0	0	0
QA	CAGGCG	0.05045	0	0	0
QA	CAGGCC	0.06486	0	0	0
QA	CAAGCT	0.2523	0	0	0
QA	CAGGCT	0.09369	0	0	0
QA	CAAGCC	0.1694	0	0	0
QA	CAGGCA	0.1045	0	0	0
QA	CAAGCA	0.1928	0	0	0
QC	CAATGT	0.5106	1	1	1
QC	CAGTGC	0.1915	0	1	0

QC	CAATGC	0.1206	0	1	0
QC	CAGTGT	0.1773	0	1	0
QD	CAGGAT	0.2084	0	0	0
QD	CAAGAT	0.4538	0	0	0
QD	CAGGAC	0.1227	0	0	0
QD	CAAGAC	0.2151	0	0	0
QE	CAAGAG	0.2018	0	0	0
QE	CAAGAA	0.5089	0	0	0
QE	CAGGAA	0.1878	0	0	0
QE	CAGGAG	0.1015	0	0	0
QF	CAGTTC	0.1115	0	0	0
QF	CAATTC	0.2382	0	0	0
QF	CAGTTT	0.259	0	0	0
QF	CAATTT	0.3913	0	0	0
QG	CAAGGT	0.3243	0	0	0
QG	CAAGGG	0.104	0	0	0
QG	CAAGGA	0.1455	0	0	0
QG	CAGGGT	0.106	0	0	0
QG	CAGGGA	0.106	0	0	0
QG	CAAGGC	0.1227	0	0	0
QG	CAGGGC	0.05821	0	0	0
QG	CAGGGG	0.03326	0	0	0
QH	CAGCAT	0.2731	0	1	0
QH	CAGCAC	0.1218	0	1	0
QH	CAACAC	0.1639	0	1	0
QH	CAACAT	0.4412	1	1	1
QI	CAAATT	0.3381	0	0	0
QI	CAAATC	0.1534	0	0	0
QI	CAAATA	0.223	0	0	0
QI	CAGATT	0.1094	0	0	0
QI	CAGATC	0.06676	0	0	0
QI	CAGATA	0.1094	0	0	0
QK	CAAAAA	0.3851	1	1	1
QK	CAGAAG	0.1086	0	1	0
QK	CAGAAA	0.2045	0	1	0
QK	CAAAAG	0.3018	0	1	0
QL	CAACTC	0.03015	0	1	0
QL	CAATTA	0.1826	0	1	0
QL	CAATTG	0.1947	1	1	1
QL	CAACTA	0.1068	0	1	0
QL	CAACTT	0.08096	0	1	0
QL	CAGCTC	0.01809	0	1	0
QL	CAGCTA	0.04651	0	1	0
QL	CAGCTG	0.04048	0	1	0
QL	CAGCTT	0.03618	0	1	0
QL	CAGTTG	0.09475	0	1	0
QL	CAACTG	0.09044	0	1	0
QL	CAGTTA	0.07838	0	1	0
QM	CAAATG	0.7761	0	0	0
QM	CAGATG	0.2239	0	0	0
QN	CAAAAT	0.4429	0	0	0

QN	CAGAAT	0.1943	0	0	0
QN	CAAAAC	0.2743	0	0	0
QN	CAGAAC	0.08857	0	0	0
QP	CAACCG	0.1092	0	1	0
QP	CAGCCG	0.05782	0	1	0
QP	CAGCCT	0.1113	0	1	0
QP	CAACCA	0.2827	1	1	1
QP	CAACCT	0.2163	0	1	0
QP	CAGCCC	0.04283	0	1	0
QP	CAACCC	0.06424	0	1	0
QP	CAGCCA	0.1156	0	1	0
QQ	CAACAA	0.3851	0	0	0
QQ	CAACAG	0.2213	0	0	0
QQ	CAGCAA	0.2262	0	0	0
QQ	CAGCAG	0.1675	0	0	0
QR	CAACGC	0.03087	0	0	0
QR	CAACGA	0.05146	0	0	0
QR	CAACGG	0.01887	0	0	0
QR	CAACGT	0.09605	0	0	0
QR	CAAAGG	0.1887	0	0	0
QR	CAAAGA	0.3242	0	0	0
QR	CAGCGG	0.0223	0	0	0
QR	CAGCGC	0.02916	0	0	0
QR	CAGCGA	0.02573	0	0	0
QR	CAGAGG	0.0566	0	0	0
QR	CAGAGA	0.08919	0	0	0
QR	CAGCGT	0.0669	0	0	0
QS	CAGTCG	0.03476	0	0	0
QS	CAGAGC	0.03129	0	0	0
QS	CAGAGT	0.04635	0	0	0
QS	CAGTCC	0.02202	0	0	0
QS	CAAAGC	0.09154	0	0	0
QS	CAGTCA	0.06721	0	0	0
QS	CAAAGT	0.1587	0	0	0
QS	CAGTCT	0.07416	0	0	0
QS	CAATCC	0.08343	0	0	0
QS	CAATCA	0.1286	0	0	0
QS	CAATCT	0.1866	0	0	0
QS	CAATCG	0.07532	0	0	0
QT	CAAAC	0.2958	0	0	0
QT	CAAACA	0.2377	0	0	0
QT	CAGACT	0.07985	0	0	0
QT	CAAACC	0.1071	0	0	0
QT	CAGACG	0.02722	0	0	0
QT	CAAACG	0.1089	0	0	0
QT	CAGACC	0.0363	0	0	0
QT	CAGACA	0.1071	0	0	0
QV	CAAGTT	0.2301	1	2	0.5
QV	CAAGTG	0.1558	1	2	0.5
QV	CAGGTA	0.05978	0	2	0
QV	CAAGTA	0.183	0	2	0

QV	CAGGTC	0.0471	0	2	0
QV	CAGGTG	0.07971	0	2	0
QV	CAGGTT	0.09964	0	2	0
QV	CAAGTC	0.1449	0	2	0
QW	CAGTGG	0.2137	0	0	0
QW	CAATGG	0.7863	0	0	0
QY	CAGTAC	0.1799	0	0	0
QY	CAGTAT	0.2126	0	0	0
QY	CAATAC	0.2523	0	0	0
QY	CAATAT	0.3551	0	0	0
R*	CGTTAA	0.1786	0	0	0
R*	CGGTGA	0	0	0	0
R*	AGGTAA	0.1071	0	0	0
R*	CGTTGA	0.1429	0	0	0
R*	AGGTGA	0.1071	0	0	0
R*	AGGTAG	0	0	0	0
R*	CGCTGA	0	0	0	0
R*	CGATAA	0.07143	0	0	0
R*	CGTTAG	0.07143	0	0	0
R*	AGATGA	0.1071	0	0	0
R*	CGATGA	0	0	0	0
R*	CGGTAA	0.03571	0	0	0
R*	AGATAG	0.07143	0	0	0
R*	AGATAA	0.03571	0	0	0
R*	CGATAG	0	0	0	0
R*	CGGTAG	0	0	0	0
R*	CGCTAG	0	0	0	0
R*	CGCTAA	0.07143	0	0	0
RA	CGTGCC	0.03614	0	0	0
RA	CGTGCG	0.02108	0	0	0
RA	CGCGCC	0.006024	0	0	0
RA	CGAGCA	0.0241	0	0	0
RA	CGCGCT	0.01506	0	0	0
RA	CGCGCG	0.003012	0	0	0
RA	CGCGCA	0.01355	0	0	0
RA	CGTGCA	0.04819	0	0	0
RA	AGAGCG	0.0497	0	0	0
RA	AGGGCA	0.07982	0	0	0
RA	AGAGCA	0.1566	0	0	0
RA	AGAGCC	0.08735	0	0	0
RA	AGAGCT	0.1657	0	0	0
RA	AGGGCC	0.04066	0	0	0
RA	AGGGCG	0.02259	0	0	0
RA	CGAGCC	0.01205	0	0	0
RA	CGAGCT	0.01657	0	0	0
RA	AGGGCT	0.113	0	0	0
RA	CGTGCT	0.06024	0	0	0
RA	CGAGCG	0.00753	0	0	0
RA	CGGGCT	0.009036	0	0	0
RA	CGGGCG	0.003012	0	0	0
RA	CGGGCC	0.006024	0	0	0

RA	CGGGCA	0.003012	0	0	0
RC	AGGTGC	0.1034	0	0	0
RC	CGGTGC	0.005747	0	0	0
RC	CGCTGT	0.02874	0	0	0
RC	CGGTGT	0.005747	0	0	0
RC	CGTTGC	0.08621	0	0	0
RC	CGATGT	0.05172	0	0	0
RC	AGATGT	0.2184	0	0	0
RC	AGATGC	0.1264	0	0	0
RC	AGGTGT	0.1264	0	0	0
RC	CGCTGC	0.05172	0	0	0
RC	CGTTGT	0.1379	0	0	0
RC	CGATGC	0.05747	0	0	0
RD	AGAGAT	0.3414	0	0	0
RD	AGAGAC	0.1431	0	0	0
RD	CGAGAC	0.0255	0	0	0
RD	CGTGAT	0.0864	0	0	0
RD	CGTGAC	0.04533	0	0	0
RD	CGAGAT	0.04108	0	0	0
RD	CGCGAC	0.01983	0	0	0
RD	AGGGAT	0.1289	0	0	0
RD	AGGGAC	0.07649	0	0	0
RD	CGCGAT	0.04391	0	0	0
RD	CGGGAT	0.02833	0	0	0
RD	CGGGAC	0.01983	0	0	0
RE	CGAGAG	0.02275	0	1	0
RE	CGTGAA	0.09461	0	1	0
RE	CGGGAG	0.009581	0	1	0
RE	CGAGAA	0.03713	0	1	0
RE	CGTGAG	0.03832	0	1	0
RE	CGCGAG	0.02635	0	1	0
RE	AGGGAG	0.07305	0	1	0
RE	CGGGAA	0.03473	0	1	0
RE	CGCGAA	0.02156	0	1	0
RE	AGAGAG	0.1437	0	1	0
RE	AGGGAA	0.1425	0	1	0
RE	AGAGAA	0.3557	1	1	1
RF	CGCTTT	0.02627	0	0	0
RF	AGGTTC	0.09457	0	0	0
RF	CGTTTT	0.04553	0	0	0
RF	CGATTC	0.02102	0	0	0
RF	CGCTTC	0.01926	0	0	0
RF	CGTTTC	0.03853	0	0	0
RF	AGGTTT	0.1786	0	0	0
RF	CGATTT	0.04553	0	0	0
RF	CGGTTC	0.01751	0	0	0
RF	CGGTTT	0.03152	0	0	0
RF	AGATTT	0.3327	0	0	0
RF	AGATTC	0.1489	0	0	0
RG	CGAGGT	0.0254	0	2	0
RG	AGGGGT	0.0619	0	2	0

RG	CGAGGG	0.006349	0	2	0
RG	CGGGGT	0.0127	0	2	0
RG	CGAGGC	0.009524	0	2	0
RG	AGAGGA	0.1238	1	2	0.5
RG	AGAGGG	0.03175	0	2	0
RG	CGGGGC	0.004762	0	2	0
RG	AGGGGA	0.03333	0	2	0
RG	CGGGGA	0.004762	0	2	0
RG	AGGGGG	0.01746	0	2	0
RG	CGAGGA	0.01429	0	2	0
RG	AGAGGT	0.2476	1	2	0.5
RG	AGAGGC	0.1	0	2	0
RG	CGTGGT	0.1111	0	2	0
RG	CGCGGG	0.004762	0	2	0
RG	CGGGGG	0.003175	0	2	0
RG	CGCGGC	0.0127	0	2	0
RG	CGCGGT	0.0127	0	2	0
RG	CGTGGA	0.04286	0	2	0
RG	AGGGGC	0.0381	0	2	0
RG	CGTGGG	0.03175	0	2	0
RG	CGTGGC	0.03333	0	2	0
RG	CGCGGA	0.01587	0	2	0
RH	CGGCAC	0.03106	0	0	0
RH	CGACAT	0.06832	0	0	0
RH	CGGCAT	0.03727	0	0	0
RH	CGACAC	0.01553	0	0	0
RH	CGCCAT	0.04969	0	0	0
RH	CGTCAT	0.1056	0	0	0
RH	AGGCAT	0.1335	0	0	0
RH	CGCCAC	0.01553	0	0	0
RH	AGACAC	0.1708	0	0	0
RH	AGGCAC	0.06832	0	0	0
RH	AGACAT	0.2702	0	0	0
RH	CGTCAC	0.03416	0	0	0
RI	AGGATT	0.0757	0	0	0
RI	AGGATC	0.04518	0	0	0
RI	AGGATA	0.07692	0	0	0
RI	CGGATC	0.003663	0	0	0
RI	AGAATA	0.1709	0	0	0
RI	AGAATC	0.1319	0	0	0
RI	AGAATT	0.2137	0	0	0
RI	CGGATA	0.01099	0	0	0
RI	CGGATT	0.01221	0	0	0
RI	CGTATA	0.03663	0	0	0
RI	CGAATC	0.01832	0	0	0
RI	CGTATT	0.0757	0	0	0
RI	CGCATC	0.009768	0	0	0
RI	CGCATT	0.01709	0	0	0
RI	CGTATC	0.0232	0	0	0
RI	CGAATT	0.02808	0	0	0
RI	CGCATA	0.01832	0	0	0

RI	CGAATA	0.03175	0	0	0
RK	CGTAAA	0.05545	0	0	0
RK	CGTAAG	0.04545	0	0	0
RK	AGGAAA	0.1673	0	0	0
RK	AGAAAG	0.2218	0	0	0
RK	CGAAAA	0.03818	0	0	0
RK	AGAAAA	0.2609	0	0	0
RK	CGGAAG	0.01091	0	0	0
RK	AGGAAG	0.09455	0	0	0
RK	CGCAAA	0.03273	0	0	0
RK	CGCAAG	0.02545	0	0	0
RK	CGAAAG	0.02	0	0	0
RK	CGGAAA	0.02727	0	0	0
RL	CGACTT	0.01194	0	1	0
RL	AGACTA	0.07006	0	1	0
RL	CGACTA	0.01433	0	1	0
RL	CGTTTG	0.03583	0	1	0
RL	CGATTG	0.01672	0	1	0
RL	CGACTG	0.009554	0	1	0
RL	CGACTC	0.01115	0	1	0
RL	AGGTTA	0.06688	0	1	0
RL	CGCCTG	0.004777	0	1	0
RL	CGTCTT	0.01911	0	1	0
RL	CGTTTA	0.04299	0	1	0
RL	AGGTTG	0.06131	0	1	0
RL	CGATTA	0.02787	0	1	0
RL	CGGTTA	0.009554	0	1	0
RL	AGACTG	0.04936	0	1	0
RL	CGTCTG	0.01115	0	1	0
RL	CGGTTG	0.01115	0	1	0
RL	CGTCTC	0.007962	0	1	0
RL	AGACTC	0.01513	0	1	0
RL	AGATTA	0.1393	1	1	1
RL	CGCTTA	0.01592	0	1	0
RL	CGCTTG	0.01354	0	1	0
RL	CGGCTT	0.001592	0	1	0
RL	AGGCTA	0.03503	0	1	0
RL	AGGCTG	0.02866	0	1	0
RL	AGGCTC	0.01911	0	1	0
RL	AGATTG	0.1146	0	1	0
RL	CGCCTA	0.007962	0	1	0
RL	CGTCTA	0.01911	0	1	0
RL	CGGCTA	0.01035	0	1	0
RL	AGACTT	0.03901	0	1	0
RL	CGCCTT	0.002389	0	1	0
RL	CGGCTC	0.004777	0	1	0
RL	CGGCTG	0.01513	0	1	0
RL	CGCCTC	0.004777	0	1	0
RL	AGGCTT	0.03185	0	1	0
RM	CGTATG	0.1369	0	0	0
RM	AGGATG	0.1867	0	0	0

RM	CGGATG	0.04564	0	0	0
RM	CGCATG	0.06224	0	0	0
RM	AGAATG	0.5021	0	0	0
RM	CGAATG	0.06639	0	0	0
RN	AGAAAT	0.3197	0	0	0
RN	CGGAAT	0.04092	0	0	0
RN	CGCAAC	0.0179	0	0	0
RN	AGAAAC	0.2136	0	0	0
RN	CGTAAT	0.06266	0	0	0
RN	CGTAAC	0.0422	0	0	0
RN	CGCAAT	0.04476	0	0	0
RN	CGAAAT	0.04476	0	0	0
RN	AGGAAT	0.09591	0	0	0
RN	AGGAAC	0.07928	0	0	0
RN	CGGAAC	0.01407	0	0	0
RN	CGAAAC	0.0243	0	0	0
RP	CGACCC	0.01207	0	0	0
RP	CGACCG	0.004024	0	0	0
RP	AGGCCG	0.03018	0	0	0
RP	CGACCT	0.02213	0	0	0
RP	CGCCCT	0.01207	0	0	0
RP	CGCCCC	0.01006	0	0	0
RP	CGGCCG	0.004024	0	0	0
RP	CGCCCG	0.006036	0	0	0
RP	AGGCCC	0.06439	0	0	0
RP	CGCCCA	0.01408	0	0	0
RP	CGACCA	0.01811	0	0	0
RP	AGGCCT	0.06841	0	0	0
RP	AGGCCA	0.1247	0	0	0
RP	AGACCG	0.06237	0	0	0
RP	AGACCC	0.0503	0	0	0
RP	AGACCA	0.2173	0	0	0
RP	CGGCCT	0.01006	0	0	0
RP	CGTCCA	0.04024	0	0	0
RP	AGACCT	0.1348	0	0	0
RP	CGTCCC	0.01207	0	0	0
RP	CGTCCG	0.01811	0	0	0
RP	CGTCCT	0.03622	0	0	0
RP	CGGCCC	0.006036	0	0	0
RP	CGGCCA	0.02213	0	0	0
RQ	AGACAA	0.2986	0	0	0
RQ	CGGCAA	0.01403	0	0	0
RQ	CGGCAG	0.03006	0	0	0
RQ	AGACAG	0.1623	0	0	0
RQ	CGCCAG	0.02405	0	0	0
RQ	AGGCAA	0.1283	0	0	0
RQ	AGGCAG	0.07415	0	0	0
RQ	CGTCAA	0.1242	0	0	0
RQ	CGCCAA	0.04208	0	0	0
RQ	CGACAA	0.03206	0	0	0
RQ	CGTCAG	0.04208	0	0	0

RQ	CGACAG	0.02806	0	0	0
RR	CGAAGA	0.02469	0	1	0
RR	AGAAGA	0.3173	1	1	1
RR	CGTCGA	0.008642	0	1	0
RR	CGACGA	0.003704	0	1	0
RR	CGTAGG	0.01358	0	1	0
RR	CGAAGG	0.01358	0	1	0
RR	CGCAGA	0.009877	0	1	0
RR	AGACGT	0.04321	0	1	0
RR	CGCCGA	0.007407	0	1	0
RR	CGCCGT	0.01728	0	1	0
RR	CGCCGC	0.001235	0	1	0
RR	AGACGG	0.01358	0	1	0
RR	CGCAGG	0.006173	0	1	0
RR	AGACGA	0.02346	0	1	0
RR	CGCCGG	0.001235	0	1	0
RR	AGACGC	0.01728	0	1	0
RR	CGTAGA	0.03951	0	1	0
RR	CGTCGC	0.01358	0	1	0
RR	AGGCGG	0.01358	0	1	0
RR	CGGCGA	0.002469	0	1	0
RR	CGACGC	0	0	1	0
RR	CGGCGC	0.002469	0	1	0
RR	AGGCGC	0.009877	0	1	0
RR	AGGCGA	0.01975	0	1	0
RR	CGGAGG	0.008642	0	1	0
RR	AGGAGG	0.04691	0	1	0
RR	CGGAGA	0.01235	0	1	0
RR	CGGCGG	0.001235	0	1	0
RR	CGGCGT	0.003704	0	1	0
RR	CGTCGT	0.03333	0	1	0
RR	CGACGG	0.002469	0	1	0
RR	CGTCGG	0.01235	0	1	0
RR	CGACGT	0.006173	0	1	0
RR	AGGAGA	0.1099	0	1	0
RR	AGGCGT	0.02222	0	1	0
RR	AGAAGG	0.1173	0	1	0
RS	AGGAGC	0.01644	0	0	0
RS	CGGTCG	0.009132	0	0	0
RS	AGGTCT	0.04292	0	0	0
RS	AGGTCC	0.02374	0	0	0
RS	AGGTCA	0.06393	0	0	0
RS	AGGTCG	0.02922	0	0	0
RS	AGGAGT	0.03379	0	0	0
RS	CGTAGT	0.01644	0	0	0
RS	CGTTTCG	0.01279	0	0	0
RS	CGTTCC	0.02192	0	0	0
RS	CGTTCA	0.03014	0	0	0
RS	CGATCT	0.02283	0	0	0
RS	CGTTCT	0.04566	0	0	0
RS	CGGAGT	0.009132	0	0	0

RS	CGCTCG	0.007306	0	0	0
RS	CGCTCT	0.02009	0	0	0
RS	CGGAGC	0.006393	0	0	0
RS	CGATCG	0.008219	0	0	0
RS	CGATCC	0.006393	0	0	0
RS	CGCAGC	0.01553	0	0	0
RS	CGCAGT	0.006393	0	0	0
RS	CGCTCC	0.009132	0	0	0
RS	CGGTCA	0.009132	0	0	0
RS	CGCTCA	0.01553	0	0	0
RS	CGTAGC	0.001826	0	0	0
RS	CGATCA	0.01553	0	0	0
RS	CGAAGT	0.02192	0	0	0
RS	CGAAGC	0.008219	0	0	0
RS	CGGTCC	0.003653	0	0	0
RS	CGGTCT	0.01553	0	0	0
RS	AGATCT	0.1041	0	0	0
RS	AGATCG	0.0411	0	0	0
RS	AGATCC	0.05662	0	0	0
RS	AGATCA	0.1114	0	0	0
RS	AGAAGC	0.05114	0	0	0
RS	AGAAGT	0.08676	0	0	0
RT	CGAACT	0.01556	0	0	0
RT	CGAACG	0.01132	0	0	0
RT	AGAACG	0.06082	0	0	0
RT	CGGACC	0.004243	0	0	0
RT	CGCACG	0.007072	0	0	0
RT	AGAACA	0.1556	0	0	0
RT	CGAACC	0.02122	0	0	0
RT	CGTACT	0.04809	0	0	0
RT	CGTACC	0.03112	0	0	0
RT	CGTACA	0.0297	0	0	0
RT	AGAACT	0.1711	0	0	0
RT	CGTACG	0.02122	0	0	0
RT	CGAACA	0.02546	0	0	0
RT	CGCACT	0.01414	0	0	0
RT	CGGACA	0.01273	0	0	0
RT	AGAACC	0.1061	0	0	0
RT	AGGACA	0.06931	0	0	0
RT	CGCACC	0.01414	0	0	0
RT	CGGACT	0.004243	0	0	0
RT	AGGACC	0.03253	0	0	0
RT	AGGACG	0.03819	0	0	0
RT	CGCACA	0.0198	0	0	0
RT	AGGACT	0.07921	0	0	0
RT	CGGACG	0.007072	0	0	0
RV	CGCGTT	0.02336	0	0	0
RV	CGGGTG	0.0109	0	0	0
RV	CGCGTC	0.01713	0	0	0
RV	CGGGTT	0.01246	0	0	0
RV	CGAGTT	0.02181	0	0	0

RV	CGGGTC	0.004673	0	0	0
RV	CGGGTA	0.01402	0	0	0
RV	CGAGTA	0.01558	0	0	0
RV	AGAGTG	0.06854	0	0	0
RV	AGAGTT	0.176	0	0	0
RV	CGCGTA	0.004673	0	0	0
RV	CGTGTA	0.03427	0	0	0
RV	CGTGTG	0.03894	0	0	0
RV	AGAGTC	0.09657	0	0	0
RV	CGAGTC	0.01402	0	0	0
RV	CGTGTC	0.0405	0	0	0
RV	CGTGTT	0.08411	0	0	0
RV	AGAGTA	0.1184	0	0	0
RV	CGAGTG	0.01713	0	0	0
RV	CGCGTG	0.007788	0	0	0
RV	AGGGTA	0.05452	0	0	0
RV	AGGGTC	0.02336	0	0	0
RV	AGGGTT	0.06386	0	0	0
RV	AGGGTG	0.03738	0	0	0
RW	AGATGG	0.5185	0	0	0
RW	AGGTGG	0.1259	0	0	0
RW	CGCTGG	0.07407	0	0	0
RW	CGATGG	0.06667	0	0	0
RW	CGTTGG	0.2	0	0	0
RW	CGGTGG	0.01481	0	0	0
RY	CGGTAC	0.02484	0	0	0
RY	CGGTAT	0.02692	0	0	0
RY	AGGTAT	0.08075	0	0	0
RY	AGGTAC	0.08489	0	0	0
RY	CGCTAT	0.04762	0	0	0
RY	CGATAT	0.04969	0	0	0
RY	CGTTAT	0.1139	0	0	0
RY	CGATAC	0.04762	0	0	0
RY	CGTTAC	0.07246	0	0	0
RY	AGATAT	0.234	0	0	0
RY	CGCTAC	0.06004	0	0	0
RY	AGATAC	0.1573	0	0	0
S*	AGTTGA	0.05128	0	0	0
S*	TCATAA	0.2051	0	0	0
S*	AGTTAG	0.07692	0	0	0
S*	AGTTAA	0.1026	0	0	0
S*	TCGTAG	0	0	0	0
S*	TCGTAA	0.1026	0	0	0
S*	TCATGA	0.02564	0	0	0
S*	TCCTAA	0	0	0	0
S*	AGCTAG	0	0	0	0
S*	AGCTAA	0.05128	0	0	0
S*	TCCTGA	0.05128	0	0	0
S*	TCCTAG	0	0	0	0
S*	TCATAG	0.02564	0	0	0
S*	TCGTGA	0	0	0	0

S*	AGCTGA	0.02564	0	0	0
S*	TCTTAG	0.05128	0	0	0
S*	TCTTGA	0.05128	0	0	0
S*	TCTTAA	0.1795	0	0	0
SA	TCTGCT	0.1228	0	0	0
SA	TCGGCA	0.02312	0	0	0
SA	TCTGCG	0.03685	0	0	0
SA	TCCGCG	0.01084	0	0	0
SA	AGCGCA	0.02673	0	0	0
SA	AGTGCG	0.02601	0	0	0
SA	AGCGCG	0.01012	0	0	0
SA	TCCGCA	0.02601	0	0	0
SA	AGCGCC	0.03685	0	0	0
SA	TCGGCC	0.01662	0	0	0
SA	TCCGCC	0.03324	0	0	0
SA	TCAGCT	0.06647	0	0	0
SA	AGTGCA	0.05853	0	0	0
SA	TCGGCT	0.0224	0	0	0
SA	AGTGCC	0.04118	0	0	0
SA	TCTGCC	0.06936	0	0	0
SA	AGTGCT	0.07587	0	0	0
SA	AGCGCT	0.03902	0	0	0
SA	TCTGCA	0.09032	0	0	0
SA	TCGGCG	0.01012	0	0	0
SA	TCCGCT	0.03613	0	0	0
SA	TCAGCC	0.03179	0	0	0
SA	TCAGCA	0.06431	0	0	0
SA	TCAGCG	0.02529	0	0	0
SC	TCATGT	0.131	0	0	0
SC	TCATGC	0.1111	0	0	0
SC	TCTTGT	0.1746	0	0	0
SC	TCGTGC	0.01587	0	0	0
SC	AGCTGC	0.05159	0	0	0
SC	TCCTGT	0.09524	0	0	0
SC	AGTTGC	0.06349	0	0	0
SC	TCTTGC	0.06746	0	0	0
SC	AGCTGT	0.06349	0	0	0
SC	TCGTGT	0.05159	0	0	0
SC	TCCTGC	0.04762	0	0	0
SC	AGTTGT	0.127	0	0	0
SD	TCTGAT	0.1772	0	0	0
SD	AGCGAC	0.03132	0	0	0
SD	TCAGAC	0.07487	0	0	0
SD	TCTGAC	0.09778	0	0	0
SD	TCGGAC	0.02521	0	0	0
SD	TCCGAC	0.02827	0	0	0
SD	TCGGAT	0.05118	0	0	0
SD	AGTGAC	0.0741	0	0	0
SD	TCCGAT	0.07487	0	0	0
SD	AGTGAT	0.1566	0	0	0
SD	TCAGAT	0.1314	0	0	0

SD	AGCGAT	0.07716	0	0	0
SE	TCTGAG	0.06772	0	0	0
SE	TCGGAG	0.02935	0	0	0
SE	TCGGAA	0.05568	0	0	0
SE	TCTGAA	0.2002	0	0	0
SE	TCCGAA	0.06998	0	0	0
SE	AGTGAG	0.06922	0	0	0
SE	TCAGAG	0.06095	0	0	0
SE	TCCGAG	0.02935	0	0	0
SE	AGCGAG	0.04289	0	0	0
SE	AGCGAA	0.09105	0	0	0
SE	AGTGAA	0.1505	0	0	0
SE	TCAGAA	0.1332	0	0	0
SF	AGTTTC	0.06403	0	0	0
SF	AGTTTT	0.1149	0	0	0
SF	TCATTT	0.1478	0	0	0
SF	AGCTTT	0.07156	0	0	0
SF	TCTTTT	0.1347	0	0	0
SF	TCCTTC	0.06591	0	0	0
SF	TCCTTT	0.09605	0	0	0
SF	TCATTC	0.07815	0	0	0
SF	TCGTTT	0.06403	0	0	0
SF	TCGTTC	0.03955	0	0	0
SF	TCTTTC	0.09134	0	0	0
SF	AGCTTC	0.03202	0	0	0
SG	TCAGGT	0.08436	0	0	0
SG	TCCGGA	0.02621	0	0	0
SG	TCCGGG	0.01229	0	0	0
SG	TCCGGT	0.05405	0	0	0
SG	TCAGGG	0.01556	0	0	0
SG	TCCGGC	0.02375	0	0	0
SG	AGCGGT	0.04095	0	0	0
SG	AGCGGA	0.03767	0	0	0
SG	TCGGGA	0.01392	0	0	0
SG	AGTGGC	0.03276	0	0	0
SG	AGTGGG	0.02948	0	0	0
SG	AGTGGA	0.06061	0	0	0
SG	TCTGGG	0.0303	0	0	0
SG	TCTGGT	0.1548	0	0	0
SG	AGTGGT	0.09091	0	0	0
SG	TCGGGT	0.02867	0	0	0
SG	TCAGGA	0.05569	0	0	0
SG	AGCGGC	0.02867	0	0	0
SG	TCGGGC	0.01147	0	0	0
SG	TCGGGG	0.007371	0	0	0
SG	TCAGGC	0.03522	0	0	0
SG	AGCGGG	0.01802	0	0	0
SG	TCTGGC	0.04668	0	0	0
SG	TCTGGA	0.06061	0	0	0
SH	TCACAT	0.1507	0	1	0
SH	AGTCAT	0.07537	0	1	0

SH	TCACAC	0.05882	0	1	0
SH	TCTCAT	0.1599	0	1	0
SH	AGCCAT	0.07353	0	1	0
SH	TCCCAC	0.05515	0	1	0
SH	TCCCAT	0.09743	0	1	0
SH	TCTCAC	0.1029	0	1	0
SH	AGTCAC	0.05882	1	1	1
SH	AGCCAC	0.02941	0	1	0
SH	TCGCAC	0.06801	0	1	0
SH	TCGCAT	0.06985	0	1	0
SI	TCCATA	0.05714	0	1	0
SI	AGCATT	0.05079	0	1	0
SI	TCAATT	0.08571	0	1	0
SI	AGCATA	0.0419	0	1	0
SI	TCTATC	0.06159	0	1	0
SI	AGCATC	0.02794	0	1	0
SI	TCTATA	0.06413	0	1	0
SI	AGTATC	0.03556	0	1	0
SI	TCCATT	0.09714	0	1	0
SI	TCAATA	0.06159	0	1	0
SI	AGTATT	0.06603	0	1	0
SI	TCTATT	0.1029	1	1	1
SI	AGTATA	0.0546	0	1	0
SI	TCGATT	0.03746	0	1	0
SI	TCAATC	0.04889	0	1	0
SI	TCCATC	0.06349	0	1	0
SI	TCGATA	0.02603	0	1	0
SI	TCGATC	0.01714	0	1	0
SK	TCAAAG	0.08836	0	0	0
SK	TCCAAG	0.07831	0	0	0
SK	TCGAAA	0.07037	0	0	0
SK	TCCAAA	0.1217	0	0	0
SK	AGTAAA	0.1079	0	0	0
SK	TCTAAG	0.07566	0	0	0
SK	TCAAAA	0.1254	0	0	0
SK	AGCAAA	0.08095	0	0	0
SK	AGTAAG	0.04339	0	0	0
SK	AGCAAG	0.04127	0	0	0
SK	TCGAAG	0.04868	0	0	0
SK	TCTAAA	0.118	0	0	0
SL	TCACTG	0.02916	0	3	0
SL	AGTCTA	0.009863	0	3	0
SL	TCTCTT	0.03259	0	3	0
SL	TCTCTC	0.01329	0	3	0
SL	AGCCTA	0.01072	0	3	0
SL	TCTTTA	0.08491	1	3	0.3333
SL	TCGTTG	0.03173	0	3	0
SL	AGTCTT	0.02316	0	3	0
SL	TCTTTG	0.09134	0	3	0
SL	TCTCTA	0.03516	0	3	0
SL	TCTCTG	0.02959	0	3	0

SL	AGTCTG	0.01201	0	3	0
SL	TCACTT	0.03645	0	3	0
SL	AGTCTC	0.006432	0	3	0
SL	TCCCTG	0.01587	0	3	0
SL	AGCCTG	0.01072	0	3	0
SL	AGCCTC	0.004717	0	3	0
SL	AGCTTA	0.02101	0	3	0
SL	AGTTTG	0.04331	0	3	0
SL	TCCTTA	0.03774	0	3	0
SL	AGCCTT	0.01286	0	3	0
SL	TCGCTT	0.01372	0	3	0
SL	TCGCTA	0.02058	0	3	0
SL	AGCTTG	0.02015	0	3	0
SL	TCGCTC	0.005575	0	3	0
SL	TCGCTG	0.01458	0	3	0
SL	TCGTTA	0.03473	0	3	0
SL	AGTTTA	0.04545	0	3	0
SL	TCCTTG	0.03431	0	3	0
SL	TCATTA	0.06861	0	3	0
SL	TCACTA	0.02702	0	3	0
SL	TCCCTA	0.02058	1	3	0.3333
SL	TCATTG	0.06346	1	3	0.3333
SL	TCACTC	0.01715	0	3	0
SL	TCCCTT	0.01544	0	3	0
SL	TCCCTC	0.006003	0	3	0
SM	TCGATG	0.1201	0	0	0
SM	AGTATG	0.1339	0	0	0
SM	TCAATG	0.2697	0	0	0
SM	AGCATG	0.08268	0	0	0
SM	TCTATG	0.2205	0	0	0
SM	TCCATG	0.1732	0	0	0
SN	TCCAAC	0.0741	0	0	0
SN	TCAAAT	0.1278	0	0	0
SN	TCAAAC	0.07585	0	0	0
SN	TCGAAC	0.03092	0	0	0
SN	TCCAAT	0.1068	0	0	0
SN	TCTAAC	0.07818	0	0	0
SN	TCGAAT	0.06418	0	0	0
SN	TCTAAT	0.1319	0	0	0
SN	AGTAAT	0.1039	0	0	0
SN	AGTAAC	0.06359	0	0	0
SN	AGCAAC	0.06184	0	0	0
SN	AGCAAT	0.0811	0	0	0
SP	TCGCCG	0.0178	0	0	0
SP	TCGCCC	0.01695	0	0	0
SP	TCGCCA	0.04492	0	0	0
SP	TCGCCT	0.04746	0	0	0
SP	TCACCC	0.03814	0	0	0
SP	TCACCT	0.08136	0	0	0
SP	TCACCG	0.02542	0	0	0
SP	AGTCCA	0.03559	0	0	0

SP	AGTCCC	0.01864	0	0	0
SP	TCCCCG	0.01271	0	0	0
SP	AGCCCG	0.008475	0	0	0
SP	AGCCCC	0.01525	0	0	0
SP	AGCCCA	0.0339	0	0	0
SP	AGCCCT	0.02034	0	0	0
SP	AGTCCT	0.03305	0	0	0
SP	TCCCCC	0.02119	0	0	0
SP	TCCCCT	0.02797	0	0	0
SP	AGTCCG	0.01525	0	0	0
SP	TCCCCA	0.0322	0	0	0
SP	TCACCA	0.08983	0	0	0
SP	TCTCCA	0.161	0	0	0
SP	TCTCCC	0.06271	0	0	0
SP	TCTCCG	0.04237	0	0	0
SP	TCTCCT	0.09746	0	0	0
SQ	AGTCAG	0.02422	0	0	0
SQ	TCACAA	0.1604	0	0	0
SQ	TCACAG	0.07064	0	0	0
SQ	AGTCAA	0.08375	0	0	0
SQ	TCGCAG	0.04743	0	0	0
SQ	TCGCAA	0.07972	0	0	0
SQ	TCTCAG	0.09082	0	0	0
SQ	TCTCAA	0.2462	0	0	0
SQ	AGCCAG	0.01615	0	0	0
SQ	TCCCAA	0.09384	0	0	0
SQ	TCCCAG	0.03935	0	0	0
SQ	AGCCAA	0.04743	0	0	0
SR	AGCCGG	0.005952	0	0	0
SR	TCTCGA	0.02806	0	0	0
SR	AGCCGC	0.008503	0	0	0
SR	TCGCGA	0.008503	0	0	0
SR	TCGCGC	0.006803	0	0	0
SR	TCGCGT	0.006803	0	0	0
SR	AGTCGT	0.01786	0	0	0
SR	TCTCGC	0.02466	0	0	0
SR	TCCCGT	0.02296	0	0	0
SR	TCCCGG	0.005102	0	0	0
SR	TCCCGC	0.0119	0	0	0
SR	AGCCGA	0.005952	0	0	0
SR	TCAAGA	0.1131	0	0	0
SR	AGCAGA	0.04422	0	0	0
SR	AGCAGG	0.03231	0	0	0
SR	TCAAGG	0.05102	0	0	0
SR	TCTCGT	0.05357	0	0	0
SR	AGTCGA	0.008503	0	0	0
SR	TCTCGG	0.0102	0	0	0
SR	AGCCGT	0.0119	0	0	0
SR	TCGAGA	0.05867	0	0	0
SR	AGTAGG	0.03316	0	0	0
SR	TCCCGA	0.009354	0	0	0

SR	AGTCGC	0.0119	0	0	0
SR	AGTCGG	0.008503	0	0	0
SR	TCGAGG	0.03146	0	0	0
SR	TCGCGG	0.002551	0	0	0
SR	TCTAGA	0.08418	0	0	0
SR	TCCAGA	0.07823	0	0	0
SR	TCTAGG	0.04252	0	0	0
SR	AGTAGA	0.06378	0	0	0
SR	TCACGC	0.007653	0	0	0
SR	TCCAGG	0.02806	0	0	0
SR	TCACGT	0.01701	0	0	0
SR	TCACGG	0.007653	0	0	0
SR	TCACGA	0.03741	0	0	0
SS	TCAAGC	0.02052	0	0	0
SS	AGTTCT	0.03431	0	0	0
SS	AGCTCT	0.0222	0	0	0
SS	TCCAGT	0.02388	0	0	0
SS	TCATCT	0.05382	0	0	0
SS	TCATCG	0.02422	0	0	0
SS	TCCTCG	0.01413	0	0	0
SS	TCCTCC	0.02388	0	0	0
SS	TCCTCA	0.02893	0	0	0
SS	TCTTCA	0.05752	0	0	0
SS	TCCTCT	0.04205	0	0	0
SS	TCTTCC	0.05012	0	0	0
SS	TCGTCT	0.01884	0	0	0
SS	TCATCC	0.03565	0	0	0
SS	TCATCA	0.05886	0	0	0
SS	AGTAGT	0.02725	0	0	0
SS	TCGTCTG	0.007736	0	0	0
SS	AGTAGC	0.02052	0	0	0
SS	TCCAGC	0.0222	0	0	0
SS	TCTTCG	0.02825	0	0	0
SS	TCAAGT	0.03364	0	0	0
SS	AGCAGC	0.01715	0	0	0
SS	TCTTCT	0.08241	0	0	0
SS	AGTTCA	0.037	0	0	0
SS	AGTTCC	0.01884	0	0	0
SS	TCTAGT	0.0333	0	0	0
SS	TCGAGC	0.009418	0	0	0
SS	AGCAGT	0.02321	0	0	0
SS	TCGTCA	0.01951	0	0	0
SS	TCGTCC	0.01312	0	0	0
SS	TCGAGT	0.01379	0	0	0
SS	AGCTCG	0.01211	0	0	0
SS	AGTTTCG	0.01043	0	0	0
SS	AGCTCA	0.02455	0	0	0
SS	TCTAGC	0.02153	0	0	0
SS	AGCTCC	0.01514	0	0	0
ST	TCAACT	0.07628	0	0	0
ST	AGTACT	0.04431	0	0	0

ST	TCAACA	0.04936	0	0	0
ST	TCCACT	0.07403	0	0	0
ST	TCAACC	0.02019	0	0	0
ST	TCAACG	0.02524	0	0	0
ST	AGCACT	0.04319	0	0	0
ST	TCCACG	0.0286	0	0	0
ST	TCCACC	0.04655	0	0	0
ST	AGTACC	0.03926	0	0	0
ST	AGTACA	0.05216	0	0	0
ST	TCCACA	0.06282	0	0	0
ST	AGTACG	0.02075	0	0	0
ST	TCGACC	0.0101	0	0	0
ST	TCTACC	0.05384	0	0	0
ST	TCGACT	0.02468	0	0	0
ST	TCTACA	0.06842	0	0	0
ST	TCGACA	0.02468	0	0	0
ST	TCGACG	0.007291	0	0	0
ST	TCTACT	0.0903	0	0	0
ST	TCTACG	0.03814	0	0	0
ST	AGCACG	0.02748	0	0	0
ST	AGCACA	0.03982	0	0	0
ST	AGCACC	0.03253	0	0	0
SV	AGCGTT	0.03926	0	0	0
SV	TCGGTT	0.02848	0	0	0
SV	TCGGTG	0.01386	0	0	0
SV	AGCGTG	0.01694	0	0	0
SV	AGCGTC	0.01232	0	0	0
SV	TCGGTC	0.008468	0	0	0
SV	TCAGTG	0.04157	0	0	0
SV	TCTGTG	0.05235	0	0	0
SV	TCTGTC	0.05851	0	0	0
SV	TCTGTT	0.1209	0	0	0
SV	TCAGTT	0.06005	0	0	0
SV	TCAGTC	0.02386	0	0	0
SV	AGCGTA	0.02617	0	0	0
SV	TCAGTA	0.04927	0	0	0
SV	TCGGTA	0.02925	0	0	0
SV	AGTGTT	0.07698	0	0	0
SV	TCCGTT	0.05928	0	0	0
SV	TCTGTA	0.05851	0	0	0
SV	AGTGTA	0.04927	0	0	0
SV	TCCGTG	0.02617	0	0	0
SV	AGTGTG	0.03772	0	0	0
SV	TCCGTA	0.0331	0	0	0
SV	TCCGTC	0.03002	0	0	0
SV	AGTGTC	0.04773	0	0	0
SW	TCGTGG	0.1222	0	0	0
SW	TCCTGG	0.1403	0	0	0
SW	AGTTGG	0.1448	0	0	0
SW	TCTTGG	0.2443	0	0	0
SW	AGCTGG	0.1086	0	0	0

SW	TCATGG	0.2398	0	0	0
SY	TCATAC	0.1005	0	0	0
SY	TCCTAC	0.05094	0	0	0
SY	TCGTAT	0.07507	0	0	0
SY	TCTTAT	0.1582	0	0	0
SY	TCTTAC	0.08981	0	0	0
SY	AGTTAC	0.07105	0	0	0
SY	AGTTAT	0.1005	0	0	0
SY	TCCTAT	0.07641	0	0	0
SY	TCATAT	0.1247	0	0	0
SY	AGCTAC	0.04424	0	0	0
SY	AGCTAT	0.06032	0	0	0
SY	TCGTAC	0.04826	0	0	0
T*	ACCTAG	0	0	0	0
T*	ACCTGA	0	0	0	0
T*	ACCTAA	0.04167	0	0	0
T*	ACTTAA	0.1667	0	0	0
T*	ACTTAG	0.08333	0	0	0
T*	ACATGA	0.08333	0	0	0
T*	ACTTGA	0.2083	0	0	0
T*	ACGTAA	0.125	0	0	0
T*	ACATAA	0.125	0	0	0
T*	ACATAG	0.08333	0	0	0
T*	ACGTGA	0.04167	0	0	0
T*	ACGTAG	0.04167	0	0	0
TA	ACTGCT	0.143	0	0	0
TA	ACCGCT	0.06848	0	0	0
TA	ACCGCG	0.02115	0	0	0
TA	ACGGCA	0.03726	0	0	0
TA	ACGGCC	0.01913	0	0	0
TA	ACGGCT	0.04935	0	0	0
TA	ACGGCG	0.01913	0	0	0
TA	ACCGCC	0.03625	0	0	0
TA	ACCGCA	0.05337	0	0	0
TA	ACTGCA	0.1168	0	0	0
TA	ACTGCC	0.09466	0	0	0
TA	ACAGCA	0.1178	0	0	0
TA	ACAGCC	0.05035	0	0	0
TA	ACAGCT	0.08661	0	0	0
TA	ACAGCG	0.0433	0	0	0
TA	ACTGCG	0.0433	0	0	0
TC	ACTTGT	0.1837	0	0	0
TC	ACCTGT	0.1378	0	0	0
TC	ACCTGC	0.08163	0	0	0
TC	ACTTGC	0.1071	0	0	0
TC	ACATGT	0.2041	0	0	0
TC	ACGTGT	0.08163	0	0	0
TC	ACGTGC	0.06122	0	0	0
TC	ACATGC	0.1429	0	0	0
TD	ACCGAT	0.1088	0	0	0
TD	ACGGAC	0.05669	0	0	0

TD	ACGGAT	0.09637	0	0	0
TD	ACCGAC	0.06463	0	0	0
TD	ACAGAC	0.09524	0	0	0
TD	ACTGAC	0.11	0	0	0
TD	ACAGAT	0.2222	0	0	0
TD	ACTGAT	0.246	0	0	0
TE	ACAGAA	0.2061	0	0	0
TE	ACGGAG	0.04123	0	0	0
TE	ACGGAA	0.1004	0	0	0
TE	ACCGAA	0.1205	0	0	0
TE	ACAGAG	0.08879	0	0	0
TE	ACCGAG	0.05708	0	0	0
TE	ACTGAA	0.2928	0	0	0
TE	ACTGAG	0.09302	0	0	0
TF	ACCTTC	0.08022	0	0	0
TF	ACCTTT	0.0899	0	0	0
TF	ACATTC	0.08437	0	0	0
TF	ACGTTT	0.08852	0	0	0
TF	ACGTTC	0.05256	0	0	0
TF	ACATTT	0.2199	0	0	0
TF	ACTTTC	0.1701	0	0	0
TF	ACTTTT	0.2144	0	0	0
TG	ACAGGG	0.04242	0	0	0
TG	ACTGGA	0.08606	0	0	0
TG	ACGGGA	0.03879	0	0	0
TG	ACCGGC	0.03636	0	0	0
TG	ACGGGG	0.02061	0	0	0
TG	ACCGGA	0.04121	0	0	0
TG	ACTGGC	0.06061	0	0	0
TG	ACCGGG	0.01818	0	0	0
TG	ACAGGT	0.143	0	0	0
TG	ACGGGT	0.04485	0	0	0
TG	ACAGGA	0.06788	0	0	0
TG	ACTGGG	0.05697	0	0	0
TG	ACAGGC	0.0703	0	0	0
TG	ACTGGT	0.1782	0	0	0
TG	ACGGGC	0.01939	0	0	0
TG	ACCGGT	0.07515	0	0	0
TH	ACCCAT	0.113	0	0	0
TH	ACTCAC	0.09635	0	0	0
TH	ACCCAC	0.05648	0	0	0
TH	ACACAC	0.0897	0	0	0
TH	ACTCAT	0.1894	0	0	0
TH	ACGCAT	0.1528	0	0	0
TH	ACACAT	0.2658	0	0	0
TH	ACGCAC	0.03654	0	0	0
TI	ACAATA	0.09109	0	0	0
TI	ACAATC	0.06202	0	0	0
TI	ACTATA	0.07849	0	0	0
TI	ACGATT	0.04554	0	0	0
TI	ACGATA	0.05233	0	0	0

TI	ACGATC	0.01453	0	0	0
TI	ACAATT	0.1395	0	0	0
TI	ACTATC	0.1017	0	0	0
TI	ACCATA	0.08043	0	0	0
TI	ACCATC	0.07171	0	0	0
TI	ACCATT	0.1027	0	0	0
TI	ACTATT	0.1599	0	0	0
TK	ACTAAA	0.1438	0	0	0
TK	ACTAAG	0.09069	0	0	0
TK	ACAAAA	0.1855	0	0	0
TK	ACCAAG	0.125	0	0	0
TK	ACAAAG	0.143	0	0	0
TK	ACGAAA	0.09804	0	0	0
TK	ACCAA	0.152	0	0	0
TK	ACGAAG	0.06209	0	0	0
TL	ACCTTG	0.05143	0	0	0
TL	ACATTA	0.07682	0	0	0
TL	ACATTG	0.07943	0	0	0
TL	ACCCTC	0.005208	0	0	0
TL	ACCCTA	0.02018	0	0	0
TL	ACCTTA	0.05013	0	0	0
TL	ACACTG	0.0319	0	0	0
TL	ACGCTC	0.00651	0	0	0
TL	ACGCTA	0.02539	0	0	0
TL	ACGCTT	0.02344	0	0	0
TL	ACGCTG	0.02344	0	0	0
TL	ACTTTA	0.1322	0	0	0
TL	ACGTTG	0.04297	0	0	0
TL	ACCCTT	0.02214	0	0	0
TL	ACTCTA	0.04297	0	0	0
TL	ACTCTC	0.02474	0	0	0
TL	ACACTC	0.01758	0	0	0
TL	ACTTTG	0.1211	0	0	0
TL	ACACTT	0.04036	0	0	0
TL	ACACTA	0.04232	0	0	0
TL	ACGTTA	0.04036	0	0	0
TL	ACTCTG	0.02409	0	0	0
TL	ACCCTG	0.02279	0	0	0
TL	ACTCTT	0.03255	0	0	0
TM	ACCATG	0.2528	0	0	0
TM	ACAATG	0.3309	0	0	0
TM	ACTATG	0.2714	0	0	0
TM	ACGATG	0.145	0	0	0
TN	ACTAAC	0.09962	0	0	0
TN	ACAAAC	0.1357	0	0	0
TN	ACTAAT	0.167	0	0	0
TN	ACCAAT	0.1414	0	0	0
TN	ACGAAC	0.05693	0	0	0
TN	ACCAAC	0.1034	0	0	0
TN	ACGAAT	0.08918	0	0	0
TN	ACAAAT	0.2068	0	0	0

TP	ACACCT	0.1306	0	1	0
TP	ACGCCG	0.02567	0	1	0
TP	ACCCCC	0.0279	0	1	0
TP	ACGCCT	0.06362	0	1	0
TP	ACGCCC	0.0279	0	1	0
TP	ACACCG	0.0346	0	1	0
TP	ACCCCA	0.05692	0	1	0
TP	ACTCCA	0.1808	1	1	1
TP	ACGCCA	0.04911	0	1	0
TP	ACCCCG	0.01116	0	1	0
TP	ACTCCC	0.04129	0	1	0
TP	ACTCCG	0.03348	0	1	0
TP	ACCCCT	0.04018	0	1	0
TP	ACACCC	0.03795	0	1	0
TP	ACACCA	0.1462	0	1	0
TP	ACTCCT	0.09263	0	1	0
TQ	ACGCAG	0.06198	0	0	0
TQ	ACCCAG	0.05695	0	0	0
TQ	ACACAG	0.09715	0	0	0
TQ	ACGCAA	0.1005	0	0	0
TQ	ACCCAA	0.1625	0	0	0
TQ	ACTCAG	0.0871	0	0	0
TQ	ACTCAA	0.2546	0	0	0
TQ	ACACAA	0.1792	0	0	0
TR	ACCCGC	0.007289	0	1	0
TR	ACCCGT	0.02041	0	1	0
TR	ACCCGG	0.004373	0	1	0
TR	ACCCGA	0.007289	0	1	0
TR	ACGCGA	0.007289	0	1	0
TR	ACACGG	0.01458	0	1	0
TR	ACACGC	0.02041	0	1	0
TR	ACACGT	0.0379	0	1	0
TR	ACGCGT	0.01603	0	1	0
TR	ACACGA	0.01166	0	1	0
TR	ACTAGA	0.1312	0	1	0
TR	ACTAGG	0.04956	0	1	0
TR	ACTCGT	0.04082	0	1	0
TR	ACTCGG	0.01603	0	1	0
TR	ACTCGC	0.01749	0	1	0
TR	ACTCGA	0.01895	0	1	0
TR	ACGCGC	0.002915	0	1	0
TR	ACGCGG	0.01166	0	1	0
TR	ACCAGG	0.04519	0	1	0
TR	ACAAGA	0.2201	1	1	1
TR	ACGAGA	0.0656	0	1	0
TR	ACGAGG	0.04227	0	1	0
TR	ACCAGA	0.09913	0	1	0
TR	ACAAGG	0.09184	0	1	0
TS	ACGTCA	0.03595	0	1	0
TS	ACGTCT	0.0281	0	1	0
TS	ACGTCC	0.01176	0	1	0

TS	ACGTCC	0.01503	0	1	0
TS	ACCTCG	0.01373	0	1	0
TS	ACAAGC	0.0281	0	1	0
TS	ACAAGT	0.06209	0	1	0
TS	ACCTCT	0.05882	0	1	0
TS	ACCTCC	0.0268	0	1	0
TS	ACCTCA	0.05098	0	1	0
TS	ACGAGT	0.02222	0	1	0
TS	ACCAGT	0.03007	0	1	0
TS	ACATCA	0.07908	0	1	0
TS	ACATCC	0.04183	0	1	0
TS	ACATCT	0.07059	0	1	0
TS	ACATCG	0.02353	0	1	0
TS	ACCAGC	0.01765	0	1	0
TS	ACTAGC	0.02745	0	1	0
TS	ACTTCG	0.02484	0	1	0
TS	ACTTCT	0.1216	1	1	1
TS	ACTTCC	0.05882	0	1	0
TS	ACTTCA	0.0817	0	1	0
TS	ACTAGT	0.05163	0	1	0
TS	ACGAGC	0.01765	0	1	0
TT	ACGACG	0.01921	0	0	0
TT	ACGACT	0.0259	0	0	0
TT	ACGACC	0.01754	0	0	0
TT	ACGACA	0.04094	0	0	0
TT	ACAACC	0.0543	0	0	0
TT	ACTACG	0.04177	0	0	0
TT	ACTACT	0.1145	0	0	0
TT	ACTACC	0.08688	0	0	0
TT	ACTACA	0.1028	0	0	0
TT	ACCACA	0.07686	0	0	0
TT	ACAACA	0.1145	0	0	0
TT	ACAACT	0.07602	0	0	0
TT	ACAACG	0.04511	0	0	0
TT	ACCACT	0.08772	0	0	0
TT	ACCACG	0.04344	0	0	0
TT	ACCACC	0.05263	0	0	0
TV	ACTGTC	0.07871	0	0	0
TV	ACTGTG	0.07568	0	0	0
TV	ACAGTG	0.06458	0	0	0
TV	ACTGTA	0.07568	0	0	0
TV	ACTGTT	0.1584	0	0	0
TV	ACAGTC	0.04945	0	0	0
TV	ACAGTA	0.09788	0	0	0
TV	ACGGTG	0.02926	0	0	0
TV	ACCGTC	0.03229	0	0	0
TV	ACCGTG	0.03532	0	0	0
TV	ACGGTA	0.03128	0	0	0
TV	ACGGTC	0.02321	0	0	0
TV	ACAGTT	0.08981	0	0	0
TV	ACGGTT	0.03532	0	0	0

TV	ACCGTA	0.03633	0	0	0
TV	ACCGTT	0.08678	0	0	0
TW	ACCTGG	0.1989	0	0	0
TW	ACATGG	0.328	0	0	0
TW	ACGTGG	0.1398	0	0	0
TW	ACTTGG	0.3333	0	0	0
TY	ACTTAC	0.1471	0	0	0
TY	ACATAT	0.2157	0	0	0
TY	ACCTAT	0.09608	0	0	0
TY	ACTTAT	0.1863	0	0	0
TY	ACGTAC	0.0549	0	0	0
TY	ACATAC	0.1353	0	0	0
TY	ACGTAT	0.07647	0	0	0
TY	ACCTAC	0.08824	0	0	0
V*	GTGTAG	0.03448	0	0	0
V*	GTATAA	0.1379	0	0	0
V*	GTATAG	0.03448	0	0	0
V*	GTGTAA	0.1034	0	0	0
V*	GTGTGA	0	0	0	0
V*	GTCTAA	0.1034	0	0	0
V*	GTATGA	0.1034	0	0	0
V*	GTCTAG	0	0	0	0
V*	GTCTGA	0.03448	0	0	0
V*	GTTTAG	0.06897	0	0	0
V*	GTTTGA	0.2759	0	0	0
V*	GTTTAA	0.1034	0	0	0
VA	GTGGCG	0.02096	0	0	0
VA	GTGGCT	0.06986	0	0	0
VA	GTAGCC	0.03393	0	0	0
VA	GTCGCC	0.03293	0	0	0
VA	GTAGCG	0.02794	0	0	0
VA	GTAGCA	0.07585	0	0	0
VA	GTCGCA	0.06687	0	0	0
VA	GTCGCG	0.01397	0	0	0
VA	GTTGCA	0.1098	0	0	0
VA	GTGGCA	0.06387	0	0	0
VA	GTTGCC	0.07884	0	0	0
VA	GTAGCT	0.06387	0	0	0
VA	GTTGCT	0.1677	0	0	0
VA	GTTGCG	0.04391	0	0	0
VA	GTCGCT	0.07784	0	0	0
VA	GTGGCC	0.0519	0	0	0
VC	GTTTGC	0.1694	0	1	0
VC	GTGTGC	0.09917	0	1	0
VC	GTGTGT	0.08264	0	1	0
VC	GTTTGT	0.2727	1	1	1
VC	GTATGT	0.1033	0	1	0
VC	GTATGC	0.07025	0	1	0
VC	GTCTGC	0.05372	0	1	0
VC	GTCTGT	0.1488	0	1	0
VD	GTTGAT	0.2568	0	0	0

VD	GTCGAC	0.06394	0	0	0
VD	GTAGAT	0.1635	0	0	0
VD	GTTGAC	0.1289	0	0	0
VD	GTAGAC	0.08071	0	0	0
VD	GTGGAC	0.05975	0	0	0
VD	GTCGAT	0.09539	0	0	0
VD	GTGGAT	0.1509	0	0	0
VE	GTAGAA	0.145	1	3	0.3333
VE	GTTGAA	0.2752	1	3	0.3333
VE	GTCGAA	0.1224	0	3	0
VE	GTGGAA	0.1743	1	3	0.3333
VE	GTTGAG	0.08619	0	3	0
VE	GTAGAG	0.08815	0	3	0
VE	GTCGAG	0.03134	0	3	0
VE	GTGGAG	0.07738	0	3	0
VF	GTCTTC	0.07068	0	0	0
VF	GTCTTT	0.09173	0	0	0
VF	GTATTT	0.1684	0	0	0
VF	GTTTTTC	0.215	0	0	0
VF	GTGTTC	0.06165	0	0	0
VF	GTGTTT	0.1008	0	0	0
VF	GTTTTT	0.2376	0	0	0
VF	GTATTC	0.05414	0	0	0
VG	GTCGGC	0.04333	0	1	0
VG	GTCGGT	0.09464	0	1	0
VG	GTCGGA	0.04219	0	1	0
VG	GTCGGG	0.02281	0	1	0
VG	GTGGGC	0.04105	0	1	0
VG	GTAGGG	0.03193	0	1	0
VG	GTAGGC	0.03535	0	1	0
VG	GTAGGA	0.04903	0	1	0
VG	GTGGGT	0.05245	0	1	0
VG	GTAGGT	0.06157	0	1	0
VG	GTTGGA	0.1243	0	1	0
VG	GTTGGT	0.1995	1	1	1
VG	GTTGGG	0.04675	0	1	0
VG	GTTGGC	0.06842	0	1	0
VG	GTGGGG	0.03193	0	1	0
VG	GTGGGA	0.05473	0	1	0
VH	GTTCAT	0.2627	0	0	0
VH	GTGCAC	0.05898	0	0	0
VH	GTCCAT	0.1153	0	0	0
VH	GTCCAC	0.08311	0	0	0
VH	GTTCAC	0.1421	0	0	0
VH	GTGCAT	0.1233	0	0	0
VH	GTACAC	0.05362	0	0	0
VH	GTACAT	0.1609	0	0	0
VI	GTGATA	0.06035	0	0	0
VI	GTTATC	0.09469	0	0	0
VI	GTGATC	0.03122	0	0	0
VI	GTCATA	0.05931	0	0	0

VI	GTCATC	0.08533	0	0	0
VI	GTCATT	0.128	0	0	0
VI	GTTATA	0.09365	0	0	0
VI	GTAATA	0.0666	0	0	0
VI	GTAATC	0.04266	0	0	0
VI	GTTATT	0.1904	0	0	0
VI	GTGATT	0.06972	0	0	0
VI	GTAATT	0.07804	0	0	0
VK	GTAAAG	0.09171	0	0	0
VK	GTAAAA	0.1243	0	0	0
VK	GTAAAA	0.1817	0	0	0
VK	GTTAAG	0.1173	0	0	0
VK	GTCAAA	0.1464	0	0	0
VK	GTGAAA	0.09877	0	0	0
VK	GTCAAG	0.1464	0	0	0
VK	GTGAAG	0.09347	0	0	0
VL	GTTCTA	0.03823	0	0	0
VL	GTTCTC	0.02482	0	0	0
VL	GTTCTG	0.03823	0	0	0
VL	GTTCTT	0.06237	0	0	0
VL	GTA CTT	0.03018	0	0	0
VL	GTA C TC	0.0114	0	0	0
VL	GTA C TG	0.03756	0	0	0
VL	GTA C TA	0.02817	0	0	0
VL	GT C TTG	0.05835	0	0	0
VL	GT C TTA	0.04091	0	0	0
VL	GTATTA	0.05433	0	0	0
VL	GTATTG	0.06103	0	0	0
VL	GTGCTG	0.02616	0	0	0
VL	GTGCTC	0.0114	0	0	0
VL	GTGCTA	0.03219	0	0	0
VL	GTTTTG	0.1375	0	0	0
VL	GTGCTT	0.03219	0	0	0
VL	GTTTTA	0.1247	0	0	0
VL	GTCCTG	0.01677	0	0	0
VL	GTGTTA	0.03488	0	0	0
VL	GTGTTG	0.02951	0	0	0
VL	GTCCTC	0.008719	0	0	0
VL	GTCCTT	0.0389	0	0	0
VL	GTCCTA	0.02146	0	0	0
VM	GTTATG	0.3418	0	0	0
VM	GTAATG	0.2327	0	0	0
VM	GTCATG	0.2327	0	0	0
VM	GTGATG	0.1927	0	0	0
VN	GTAAAC	0.1189	0	1	0
VN	GTTAAT	0.1978	1	1	1
VN	GTAAAT	0.1529	0	1	0
VN	GTCAAT	0.1323	0	1	0
VN	GTGAAT	0.108	0	1	0
VN	GTGAAC	0.0716	0	1	0
VN	GTTAAC	0.1177	0	1	0

VN	GTCAAC	0.1007	0	1	0
VP	GTCCCT	0.02861	0	0	0
VP	GTGCCT	0.04172	0	0	0
VP	GTTCCG	0.05483	0	0	0
VP	GTCCCG	0.01073	0	0	0
VP	GTACCC	0.03695	0	0	0
VP	GTCCCC	0.02026	0	0	0
VP	GTGCCG	0.02145	0	0	0
VP	GTGCCC	0.03576	0	0	0
VP	GTACCT	0.07271	0	0	0
VP	GTACCG	0.03337	0	0	0
VP	GTTCCA	0.1943	0	0	0
VP	GTTCCC	0.05244	0	0	0
VP	GTGCCA	0.08224	0	0	0
VP	GTACCA	0.1037	0	0	0
VP	GTTCCT	0.1466	0	0	0
VP	GTCCCA	0.06436	0	0	0
VQ	GTACAG	0.06273	0	0	0
VQ	GTCCAA	0.1292	0	0	0
VQ	GTGCAG	0.0738	0	0	0
VQ	GTGCAA	0.1494	0	0	0
VQ	GTTCAA	0.2989	0	0	0
VQ	GTTCAG	0.09041	0	0	0
VQ	GTCCAG	0.04613	0	0	0
VQ	GTACAA	0.1494	0	0	0
VR	GTTCGG	0.01603	0	0	0
VR	GTAAGA	0.1108	0	0	0
VR	GTGCGG	0.01166	0	0	0
VR	GTTAGG	0.04665	0	0	0
VR	GTGAGA	0.1064	0	0	0
VR	GTTAGA	0.1676	0	0	0
VR	GTTCGT	0.08455	0	0	0
VR	GTCCGA	0.007289	0	0	0
VR	GTGCGA	0.007289	0	0	0
VR	GTCCGC	0.01312	0	0	0
VR	GTGCGC	0.01166	0	0	0
VR	GTGCGT	0.01749	0	0	0
VR	GTGAGG	0.03644	0	0	0
VR	GTCCGT	0.02187	0	0	0
VR	GTACGT	0.03936	0	0	0
VR	GTACGG	0.01458	0	0	0
VR	GTACGC	0.008746	0	0	0
VR	GTCAGA	0.09184	0	0	0
VR	GTTCGA	0.007289	0	0	0
VR	GTAAGG	0.04956	0	0	0
VR	GTCAGG	0.05685	0	0	0
VR	GTACGA	0.0379	0	0	0
VR	GTCCGG	0.01166	0	0	0
VR	GTTCGC	0.02332	0	0	0
VS	GTTTCT	0.1506	0	0	0
VS	GTTTCG	0.03255	0	0	0

VS	GTTAGC	0.04012	0	0	0
VS	GTGAGC	0.0212	0	0	0
VS	GTTAGT	0.04921	0	0	0
VS	GTCTCC	0.02195	0	0	0
VS	GTGAGT	0.03028	0	0	0
VS	GTCAGT	0.04012	0	0	0
VS	GTCTCA	0.03179	0	0	0
VS	GTAAGC	0.02347	0	0	0
VS	GTATCG	0.03028	0	0	0
VS	GTATCC	0.04164	0	0	0
VS	GTATCA	0.0545	0	0	0
VS	GTCTCG	0.01665	0	0	0
VS	GTGTCT	0.01665	0	0	0
VS	GTCAGC	0.01665	0	0	0
VS	GTAAGT	0.03407	0	0	0
VS	GTGTCT	0.03785	0	0	0
VS	GTTTCC	0.07343	0	0	0
VS	GTATCT	0.06056	0	0	0
VS	GTGTCA	0.02347	0	0	0
VS	GTGTCC	0.02877	0	0	0
VS	GTCTCT	0.04996	0	0	0
VS	GTTTCA	0.07419	0	0	0
VT	GTCACC	0.07267	0	0	0
VT	GTCACA	0.07158	0	0	0
VT	GTCACG	0.03579	0	0	0
VT	GTTACC	0.0987	0	0	0
VT	GTTACT	0.1356	0	0	0
VT	GTAACG	0.03145	0	0	0
VT	GTCACT	0.09219	0	0	0
VT	GTGACA	0.04555	0	0	0
VT	GTGACT	0.04664	0	0	0
VT	GTAACC	0.04013	0	0	0
VT	GTTACA	0.09111	0	0	0
VT	GTGACG	0.02928	0	0	0
VT	GTGACC	0.03579	0	0	0
VT	GTAACA	0.07484	0	0	0
VT	GTTACG	0.04013	0	0	0
VT	GTAACT	0.05857	0	0	0
VV	GTAGTT	0.06044	0	0	0
VV	GTCGTA	0.03077	0	0	0
VV	GTGGTA	0.06264	0	0	0
VV	GTTGTT	0.1945	0	0	0
VV	GTTGTG	0.05934	0	0	0
VV	GTTGTA	0.07582	0	0	0
VV	GTTGTC	0.08901	0	0	0
VV	GTCGTG	0.03516	0	0	0
VV	GTCGTC	0.04176	0	0	0
VV	GTCGTT	0.06923	0	0	0
VV	GTGGTT	0.07912	0	0	0
VV	GTGGTG	0.04615	0	0	0
VV	GTGGTC	0.04176	0	0	0

VV	GTAGTG	0.04176	0	0	0
VV	GTAGTA	0.04066	0	0	0
VV	GTAGTC	0.03187	0	0	0
VW	GTATGG	0.3291	0	0	0
VW	GTGTGG	0.1392	0	0	0
VW	GTTTGG	0.3544	0	0	0
VW	GTCTGG	0.1772	0	0	0
VY	GTCTAC	0.09946	0	0	0
VY	GTGTAC	0.05425	0	0	0
VY	GTCTAT	0.08861	0	0	0
VY	GTTTAC	0.1863	0	0	0
VY	GTTTAT	0.2405	0	0	0
VY	GTATAT	0.1338	0	0	0
VY	GTATAC	0.09222	0	0	0
VY	GTGTAT	0.1049	0	0	0
W*	TGGTGA	0.4545	0	0	0
W*	TGGTAA	0.3636	0	0	0
W*	TGGTAG	0.1818	0	0	0
WA	TGGGCC	0.1511	0	0	0
WA	TGGGCA	0.3453	0	0	0
WA	TGGGCG	0.1223	0	0	0
WA	TGGGCT	0.3813	0	0	0
WC	TGGTGC	0.3086	0	0	0
WC	TGGTGT	0.6914	0	0	0
WD	TGGGAC	0.3298	0	0	0
WD	TGGGAT	0.6702	0	0	0
WE	TGGGAA	0.7222	0	0	0
WE	TGGGAG	0.2778	0	0	0
WF	TGGTTT	0.6458	0	0	0
WF	TGGTTC	0.3542	0	0	0
WG	TGGGGT	0.4217	1	1	1
WG	TGGGGG	0.2048	0	1	0
WG	TGGGGA	0.1747	0	1	0
WG	TGGGGC	0.1988	0	1	0
WH	TGGCAT	0.6	0	0	0
WH	TGGCAC	0.4	0	0	0
WI	TGGATT	0.4845	0	0	0
WI	TGGATC	0.2629	0	0	0
WI	TGGATA	0.2526	0	0	0
WK	TGGAAA	0.6157	0	0	0
WK	TGGAAG	0.3843	0	0	0
WL	TGGCTT	0.1312	0	0	0
WL	TGGCTG	0.156	0	0	0
WL	TGGCTC	0.06028	0	0	0
WL	TGGCTA	0.1348	0	0	0
WL	TGGTTG	0.273	0	0	0
WL	TGGTTA	0.2447	0	0	0
WM	TGGATG	1	1	1	1
WN	TGGAAT	0.6243	0	0	0
WN	TGGAAC	0.3757	0	0	0
WP	TGGCCA	0.3976	0	0	0

WP	TGGCCC	0.2048	0	0	0
WP	TGGCCT	0.3012	0	0	0
WP	TGGCCG	0.09639	0	0	0
WQ	TGGCAG	0.3462	0	0	0
WQ	TGGCAA	0.6538	0	0	0
WR	TGGAGG	0.2015	0	0	0
WR	TGGAGA	0.6119	0	0	0
WR	TGGCGT	0.09701	0	0	0
WR	TGGCGA	0.04478	0	0	0
WR	TGGCGC	0.02985	0	0	0
WR	TGGCGG	0.01493	0	0	0
WS	TGGAGT	0.1608	0	0	0
WS	TGGAGC	0.07343	0	0	0
WS	TGGTCA	0.2168	0	0	0
WS	TGGTCC	0.1573	0	0	0
WS	TGGTCT	0.2937	0	0	0
WS	TGGTCG	0.0979	0	0	0
WT	TGGACA	0.3151	0	0	0
WT	TGGACG	0.1507	0	0	0
WT	TGGACT	0.3082	0	0	0
WT	TGGACC	0.226	0	0	0
WV	TGGGTT	0.4551	0	0	0
WV	TGGGTC	0.2079	0	0	0
WV	TGGGTA	0.2135	0	0	0
WV	TGGGTG	0.1236	0	0	0
WW	TGGTGG	1	0	0	0
WY	TGGTAT	0.5106	0	0	0
WY	TGGTAC	0.4894	0	0	0
Y*	TATTAA	0.2857	0	0	0
Y*	TACTAA	0.1429	0	0	0
Y*	TACTAG	0	0	0	0
Y*	TATTAG	0.09524	0	0	0
Y*	TATTGA	0.1429	0	0	0
Y*	TACTGA	0.3333	0	0	0
YA	TACGCT	0.14	0	0	0
YA	TACGCA	0.07505	0	0	0
YA	TACGCG	0.02637	0	0	0
YA	TATGCA	0.1968	0	0	0
YA	TATGCT	0.2231	0	0	0
YA	TATGCG	0.08722	0	0	0
YA	TATGCC	0.1724	0	0	0
YA	TACGCC	0.07911	0	0	0
YC	TATTGT	0.3457	1	1	1
YC	TACTGC	0.1173	0	1	0
YC	TACTGT	0.358	0	1	0
YC	TATTGC	0.179	0	1	0
YD	TACGAT	0.2575	0	0	0
YD	TATGAT	0.3829	0	0	0
YD	TATGAC	0.2174	0	0	0
YD	TACGAC	0.1421	0	0	0
YE	TACGAA	0.2557	0	0	0

YE	TATGAG	0.1896	0	0	0
YE	TATGAA	0.44	0	0	0
YE	TACGAG	0.1148	0	0	0
YF	TATTTT	0.3492	0	0	0
YF	TACTTT	0.2358	0	0	0
YF	TAT TTC	0.2585	0	0	0
YF	TACTTC	0.1565	0	0	0
YG	TACGGA	0.07509	0	0	0
YG	TATGGA	0.1575	0	0	0
YG	TATGGC	0.1044	0	0	0
YG	TATGGG	0.08242	0	0	0
YG	TACGGC	0.07692	0	0	0
YG	TATGGT	0.3077	0	0	0
YG	TACGGT	0.1484	0	0	0
YG	TACGGG	0.04762	0	0	0
YH	TACCAC	0.218	0	0	0
YH	TACCAT	0.2932	0	0	0
YH	TATCAC	0.1729	0	0	0
YH	TATCAT	0.3158	0	0	0
YI	TACATA	0.09318	0	0	0
YI	TATATT	0.2696	0	0	0
YI	TATATA	0.1231	0	0	0
YI	TATATC	0.1464	0	0	0
YI	TACATT	0.2146	0	0	0
YI	TACATC	0.1531	0	0	0
YK	TATAAA	0.318	0	0	0
YK	TACAAG	0.2078	0	0	0
YK	TATAAG	0.1674	0	0	0
YK	TACAAA	0.3068	0	0	0
YL	TACTTA	0.09882	0	1	0
YL	TACCTA	0.06337	0	1	0
YL	TACTTG	0.1224	1	1	1
YL	TACCTC	0.03115	0	1	0
YL	TATTTA	0.1643	0	1	0
YL	TATTTG	0.1837	0	1	0
YL	TACCTT	0.04189	0	1	0
YL	TATCTC	0.03545	0	1	0
YL	TATCTT	0.07841	0	1	0
YL	TATCTA	0.06337	0	1	0
YL	TACCTG	0.05693	0	1	0
YL	TATCTG	0.06015	0	1	0
YM	TATATG	0.5327	0	0	0
YM	TACATG	0.4673	0	0	0
YN	TATAAT	0.3328	0	0	0
YN	TACAAT	0.2662	0	0	0
YN	TACAAC	0.2031	0	0	0
YN	TATAAC	0.198	0	0	0
YP	TATCCA	0.2481	0	0	0
YP	TATCCT	0.2256	0	0	0
YP	TATCCC	0.08271	0	0	0
YP	TATCCG	0.08271	0	0	0

YP	TACCCT	0.09524	0	0	0
YP	TACCCG	0.0401	0	0	0
YP	TACCCA	0.1754	0	0	0
YP	TACCCC	0.05013	0	0	0
YQ	TATCAG	0.129	0	1	0
YQ	TACCAG	0.1095	0	1	0
YQ	TACCAA	0.3285	0	1	0
YQ	TATCAA	0.4331	1	1	1
YR	TATCGC	0.02457	0	0	0
YR	TACAGA	0.2088	0	0	0
YR	TATCGT	0.09091	0	0	0
YR	TATCGG	0.02457	0	0	0
YR	TACAGG	0.1081	0	0	0
YR	TATCGA	0.04177	0	0	0
YR	TACCGG	0.01474	0	0	0
YR	TACCGC	0.02211	0	0	0
YR	TACCGT	0.1007	0	0	0
YR	TACCGA	0.02948	0	0	0
YR	TATAGA	0.2064	0	0	0
YR	TATAGG	0.1278	0	0	0
YS	TATTCT	0.1642	0	0	0
YS	TATTCA	0.1455	0	0	0
YS	TACAGC	0.04229	0	0	0
YS	TATTCC	0.107	0	0	0
YS	TATTCG	0.07338	0	0	0
YS	TATAGT	0.07711	0	0	0
YS	TATAGC	0.05597	0	0	0
YS	TACAGT	0.06219	0	0	0
YS	TACTCT	0.1107	0	0	0
YS	TACTCG	0.03234	0	0	0
YS	TACTCA	0.07836	0	0	0
YS	TACTCC	0.051	0	0	0
YT	TATACC	0.1021	0	1	0
YT	TATACA	0.1758	0	1	0
YT	TATACG	0.0983	0	1	0
YT	TACACC	0.08318	0	1	0
YT	TACACG	0.06049	0	1	0
YT	TACACT	0.1569	0	1	0
YT	TATACT	0.1739	1	1	1
YT	TACACA	0.1493	0	1	0
YV	TACGTT	0.1691	0	0	0
YV	TACGTG	0.07807	0	0	0
YV	TACGTC	0.1022	0	0	0
YV	TACGTA	0.07435	0	0	0
YV	TATGTC	0.1152	0	0	0
YV	TATGTA	0.08736	0	0	0
YV	TATGTG	0.1264	0	0	0
YV	TATGTT	0.2472	0	0	0
YW	TACTGG	0.496	0	0	0
YW	TATTGG	0.504	0	0	0
YY	TACTAT	0.2764	0	0	0

YY	TATTAT	0.3467	0	0	0
YY	TACTAC	0.2211	0	0	0
YY	TATTAC	0.1558	0	0	0