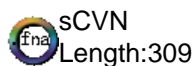


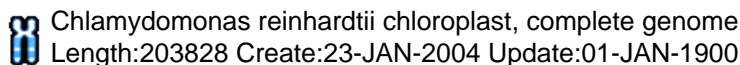
bbbb

CAI Analyzer: 16.12.2013

Target sequences:



Reference set:



Codon frequency of reference set:

[Chlamydomonas reinhardtii chloroplast, complete genome:](#)

Complete genome analysis...

Sequence length: 77235 Number of protein genes: 69 Total codons: 25745

Amino acid Codon Number Frequency per thousand															
Phe	UUU	869	33.8	Ser	UCU	489	19.0	Tyr	UAU	668	25.9	Cys	UGU	178	6.9
	UUC	450	17.5		UCC	57	2.2		UAC	247	9.6		UGC	21	0.8
Leu	UUA	2052	79.7		UCA	610	23.7	STOP	UAA	65	2.5	STOP	UGA	0	0.0
	UUG	99	3.8		UCG	98	3.8		UAG	4	0.2		Trp	UGG	336
Leu	CUU	385	15.0	Pro	CCU	384	14.9	His	CAU	272	10.6	Arg	CGU	877	34.1
	CUC	14	0.5		CCC	43	1.7		CAC	231	9.0		CGC	66	2.6
	CUA	182	7.1		CCA	584	22.7	Gln	CAA	1023	39.7		CGA	91	3.5
	CUG	47	1.8		CCG	55	2.1		CAG	81	3.1		CGG	6	0.2
ile	AUU	1345	52.2	Thr	ACU	663	25.8	Asn	AAU	1186	46.1	Ser	AGU	424	16.5
	AUC	227	8.8		ACC	86	3.3		AAC	492	19.1		AGC	119	4.6
	AUA	182	7.1		ACA	863	33.5	Lys	AAA	1940	75.4	Arg	AGA	141	5.5
Met	AUG	552	21.4		ACG	95	3.7		AAG	122	4.7		AGG	19	0.7
Val	GUU	704	27.3	Ala	GCU	898	34.9	Asp	GAU	647	25.1	Gly	GGU	1160	45.1
	GUC	19	0.7		GCC	100	3.9		GAC	208	8.1		GGC	116	4.5
	GUA	691	26.8		GCA	527	20.5	Glu	GAA	1077	41.8		GGA	202	7.8
	GUG	96	3.7		GCG	78	3.0		GAG	91	3.5		GGG	91	3.5

0 unidentified codons.

Nucleotide frequency: A=27040 U=25306 G=12422 C=12467 X=0

GC Content: 32.23% 1st letter GC: 42.91% 2nd letter GC: 36.81% 3rd letter GC: 16.96%

Weight table from reference set:

Amino acid Codon Weight											
Phe	UUU	1	Ser	UCU	0.802	Tyr	UAU	1	Cys	UGU	1
	UUC	0.518		UCC	0.093		UAC	0.37		UGC	0.118
Leu	UUA	1		UCA	1	STOP	UAA	---	STOP	UGA	---
	UUG	0.048		UCG	0.161		UAG	---	Trp	UGG	---
Leu	CUU	0.188	Pro	CCU	0.658	His	CAU	1	Arg	CGU	1
	CUC	0.007		CCC	0.074		CAC	0.849		CGC	0.075
	CUA	0.089		CCA	1	Gln	CAA	1		CGA	0.104
	CUG	0.023		CCG	0.094		CAG	0.079		CGG	0.007
ile	AUU	1	Thr	ACU	0.768	Asn	AAU	1	Ser	AGU	0.695
	AUC	0.169		ACC	0.1		AAC	0.415		AGC	0.195
	AUA	0.135		ACA	1	Lys	AAA	1	Arg	AGA	0.161
Met	AUG	---		ACG	0.11		AAG	0.063		AGG	0.022
Val	GUU	1	Ala	GCU	1	Asp	GAU	1	Gly	GGU	1
	GUC	0.027		GCC	0.111		GAC	0.321		GGC	0.1
	GUA	0.982		GCA	0.587	Glu	GAA	1		GGA	0.174
	GUG	0.136		GCG	0.087		GAG	0.084		GGG	0.078

Codon pair frequency of reference set:

First codon	Second codon	Number	Weight
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Phe:Phe

UUU	UUU	40	1
UUU	UUC	7	0.175

UUC	UUU	12	0.3
UUC	UUC	22	0.55

Phe:Leu

UUU	UUA	87	1
UUU	UUG	1	0.011
UUU	CUU	4	0.046
UUU	CUC	0	0
UUU	CUA	5	0.057
UUU	CUG	0	0

UUC	UUA	63	0.724
UUC	UUG	1	0.011
UUC	CUU	10	0.115
UUC	CUC	0	0
UUC	CUA	1	0.011
UUC	CUG	0	0

Phe:ile

UUU	AUU	50	1
UUU	AUC	7	0.14
UUU	AUA	8	0.16

UUC	AUU	11	0.22
UUC	AUC	5	0.1
UUC	AUA	1	0.02

Phe:Met

UUU	AUG	13	0.929
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UUC	AUG	14	1
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Phe:Val

UUU	GUU	35	1
UUU	GUC	2	0.057
UUU	GUA	28	0.8
UUU	GUG	4	0.114

UUC	GUU	11	0.314
UUC	GUC	0	0
UUC	GUA	13	0.371
UUC	GUG	1	0.029

Phe:Ser

UUU	UCU	11	0.44
UUU	UCC	0	0
UUU	UCA	25	1
UUU	UCG	4	0.16
UUU	AGU	18	0.72
UUU	AGC	5	0.2

UUC	UCU	8	0.32
UUC	UCC	0	0
UUC	UCA	13	0.52
UUC	UCG	3	0.12
UUC	AGU	2	0.08
UUC	AGC	1	0.04

Phe:Pro

UUU	CCU	7	0.636
UUU	CCC	0	0
UUU	CCA	6	0.545
UUU	CCG	1	0.091

UUC	CCU	11	1
UUC	CCC	1	0.091
UUC	CCA	8	0.727
UUC	CCG	1	0.091

Phe:Thr

UUU	ACU	29	1
UUU	ACC	4	0.138
UUU	ACA	29	1
UUU	ACG	1	0.034

UUC	ACU	9	0.31
UUC	ACC	0	0
UUC	ACA	10	0.345
UUC	ACG	2	0.069

Phe:Ala

UUU	GCU	37	1
UUU	GCC	5	0.135
UUU	GCA	17	0.459
UUU	GCG	1	0.027

UUC	GCU	11	0.297
UUC	GCC	0	0
UUC	GCA	3	0.081
UUC	GCG	0	0

Phe:Tyr

UUU	UAU	23	1
UUU	UAC	3	0.13

UUC	UAU	10	0.435
UUC	UAC	13	0.565

Phe:STOP

UUU	UAA	4	1
UUU	UAG	1	0.25
UUU	UGA	0	0

UUC	UAA	3	0.75
UUC	UAG	0	0
UUC	UGA	0	0

Phe:His

UUU	CAU	4	0.333
UUU	CAC	0	0

UUC	CAU	7	0.583
UUC	CAC	12	1

Phe:Gln

UUU	CAA	14	0.519
UUU	CAG	2	0.074

UUC	CAA	27	1
UUC	CAG	0	0

Phe:Asn

UUU	AAU	52	1
UUU	AAC	13	0.25

UUC	AAU	6	0.115
UUC	AAC	16	0.308

Phe:Lys

UUU	AAA	68	1
UUU	AAG	3	0.044

UUC	AAA	13	0.191
UUC	AAG	1	0.015

Phe:Asp

UUU	GAU	30	1
UUU	GAC	5	0.167

UUC	GAU	7	0.233
UUC	GAC	1	0.033

Phe:Glu

UUU	GAA	44	1
UUU	GAG	5	0.114

UUC	GAA	12	0.273
UUC	GAG	0	0

Phe:Cys

UUU	UGU	6	1
UUU	UGC	2	0.333

UUC	UGU	2	0.333
UUC	UGC	0	0

Phe:Trp

UUU	UGG	9	1
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UUC	UGG	8	0.889
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Phe:Arg

UUU	CGU	0	0
UUU	CGC	1	0.03
UUU	CGA	1	0.03
UUU	CGG	0	0
UUU	AGA	16	0.485
UUU	AGG	2	0.061

UUC	CGU	33	1
UUC	CGC	2	0.061
UUC	CGA	2	0.061
UUC	CGG	0	0
UUC	AGA	2	0.061
UUC	AGG	0	0

Phe:Gly

UUU	GGU	56	1
UUU	GGC	3	0.054
UUU	GGA	7	0.125
UUU	GGG	4	0.071

UUC	GGU	22	0.393
UUC	GGC	0	0
UUC	GGA	1	0.018
UUC	GGG	2	0.036

Leu:Phe

UUA	UUU	77	1
UUA	UUC	24	0.312

UUG	UUU	5	0.065
UUG	UUC	2	0.026

CUU	UUU	14	0.182
CUU	UUC	6	0.078

CUC	UUU	0	0
CUC	UUC	0	0

CUA	UUU	2	0.026
CUA	UUC	3	0.039

CUG	UUU	1	0.013
CUG	UUC	0	0

Leu:Leu

UUA	UUA	142	1
UUA	UUG	7	0.049
UUA	CUU	26	0.183
UUA	CUC	2	0.014
UUA	CUA	10	0.07
UUA	CUG	1	0.007

UUG	UUA	9	0.063
UUG	UUG	0	0
UUG	CUU	0	0
UUG	CUC	0	0
UUG	CUA	2	0.014
UUG	CUG	2	0.014

CUU	UUA	44	0.31
CUU	UUG	1	0.007
CUU	CUU	11	0.077
CUU	CUC	1	0.007
CUU	CUA	7	0.049
CUU	CUG	2	0.014

CUC	UUA	1	0.007
CUC	UUG	0	0
CUC	CUU	1	0.007
CUC	CUC	0	0
CUC	CUA	0	0
CUC	CUG	1	0.007

CUA	UUA	10	0.07
CUA	UUG	1	0.007
CUA	CUU	3	0.021
CUA	CUC	0	0
CUA	CUA	0	0
CUA	CUG	0	0

CUG	UUA	3	0.021
CUG	UUG	2	0.014
CUG	CUU	1	0.007
CUG	CUC	0	0
CUG	CUA	1	0.007
CUG	CUG	0	0

Leu:ile

UUA	AUU	113	1
UUA	AUC	12	0.106
UUA	AUA	8	0.071

UUG	AUU	5	0.044
UUG	AUC	0	0
UUG	AUA	0	0

CUU	AUU	13	0.115
CUU	AUC	8	0.071
CUU	AUA	3	0.027

CUC	AUU	2	0.018
CUC	AUC	0	0
CUC	AUA	0	0

CUA	AUU	9	0.08
CUA	AUC	3	0.027
CUA	AUA	1	0.009

CUG	AUU	0	0
CUG	AUC	2	0.018
CUG	AUA	1	0.009

Leu:Met

UUA	AUG	38	1
CUC	AUG	0	0

UUG	AUG	1	0.026
CUA	AUG	4	0.105

CUU	AUG	3	0.079
CUG	AUG	0	0

Leu:Val

UUA	GUU	49	0.942
UUA	GUC	1	0.019
UUA	GUA	52	1
UUA	GUG	7	0.135

UUG	GUU	2	0.038
UUG	GUC	0	0
UUG	GUA	3	0.058
UUG	GUG	0	0

CUU	GUU	19	0.365
CUU	GUC	0	0
CUU	GUA	14	0.269
CUU	GUG	2	0.038

CUC	GUU	0	0
CUC	GUC	0	0
CUC	GUA	0	0
CUC	GUG	0	0

CUA	GUU	6	0.115
CUA	GUC	0	0
CUA	GUA	3	0.058
CUA	GUG	0	0

CUG	GUU	1	0.019
CUG	GUC	0	0
CUG	GUA	2	0.038
CUG	GUG	0	0

Leu:Ser

UUA	UCU	51	1
UUA	UCC	4	0.078
UUA	UCA	43	0.843
UUA	UCG	4	0.078
UUA	AGU	39	0.765
UUA	AGC	9	0.176

UUG	UCU	0	0
UUG	UCC	2	0.039
UUG	UCA	5	0.098
UUG	UCG	2	0.039
UUG	AGU	1	0.02
UUG	AGC	1	0.02

CUU	UCU	10	0.196
CUU	UCC	3	0.059
CUU	UCA	13	0.255
CUU	UCG	2	0.039
CUU	AGU	3	0.059
CUU	AGC	2	0.039

CUC	UCU	0	0
CUC	UCC	0	0
CUC	UCA	1	0.02
CUC	UCG	0	0
CUC	AGU	0	0
CUC	AGC	0	0

CUA	UCU	2	0.039
CUA	UCC	0	0
CUA	UCA	0	0
CUA	UCG	0	0
CUA	AGU	2	0.039
CUA	AGC	0	0

CUG	UCU	1	0.02
CUG	UCC	0	0
CUG	UCA	2	0.039
CUG	UCG	0	0
CUG	AGU	0	0
CUG	AGC	0	0

Leu:Pro

UUA	CCU	39	0.886
UUA	CCC	3	0.068
UUA	CCA	44	1
UUA	CCG	7	0.159

UUG	CCU	2	0.045
UUG	CCC	0	0
UUG	CCA	3	0.068
UUG	CCG	0	0

CUU	CCU	6	0.136
CUU	CCC	0	0
CUU	CCA	9	0.205
CUU	CCG	0	0

CUC	CCU	0	0
CUC	CCC	0	0
CUC	CCA	1	0.023
CUC	CCG	0	0

CUA	CCU	3	0.068
CUA	CCC	0	0
CUA	CCA	2	0.045
CUA	CCG	1	0.023

CUG	CCU	1	0.023
CUG	CCC	0	0
CUG	CCA	2	0.045
CUG	CCG	0	0

Leu:Thr

UUA	ACU	61	0.685
UUA	ACC	9	0.101
UUA	ACA	89	1
UUA	ACG	6	0.067

UUG	ACU	1	0.011
UUG	ACC	1	0.011
UUG	ACA	4	0.045
UUG	ACG	1	0.011

CUU	ACU	14	0.157
CUU	ACC	0	0
CUU	ACA	8	0.09
CUU	ACG	0	0

CUC	ACU	0	0
CUC	ACC	0	0
CUC	ACA	1	0.011
CUC	ACG	0	0

CUA	ACU	5	0.056
CUA	ACC	2	0.022
CUA	ACA	10	0.112
CUA	ACG	1	0.011

CUG	ACU	1	0.011
CUG	ACC	0	0
CUG	ACA	1	0.011
CUG	ACG	0	0

Leu:Ala

UUA	GCU	90	1
UUA	GCC	7	0.078
UUA	GCA	51	0.567
UUA	GCG	9	0.1

UUG	GCU	3	0.033
UUG	GCC	0	0
UUG	GCA	2	0.022
UUG	GCG	0	0

CUU	GCU	8	0.089
CUU	GCC	1	0.011
CUU	GCA	7	0.078
CUU	GCG	0	0

CUC	GCU	0	0
CUC	GCC	0	0
CUC	GCA	0	0
CUC	GCG	0	0

CUA	GCU	4	0.044
CUA	GCC	0	0
CUA	GCA	3	0.033
CUA	GCG	0	0

CUG	GCU	1	0.011
CUG	GCC	0	0
CUG	GCA	0	0
CUG	GCG	0	0

Leu:Tyr

UUA	UAU	39	1
UUA	UAC	17	0.436

UUG	UAU	4	0.103
UUG	UAC	0	0

CUU	UAU	11	0.282
CUU	UAC	8	0.205

CUC	UAU	0	0
CUC	UAC	0	0

CUA	UAU	0	0
CUA	UAC	0	0

CUG	UAU	2	0.051
CUG	UAC	0	0

Leu:STOP

UUA	UAA	2	1
UUA	UAG	0	0
UUA	UGA	0	0

CUC	UAA	0	0
CUC	UAG	0	0
CUC	UGA	0	0

Leu:His

UUA	CAU	13	1
UUA	CAC	13	1

CUC	CAU	0	0
CUC	CAC	0	0

UUG	UAA	0	0
UUG	UAG	0	0
UUG	UGA	0	0

CUA	UAA	2	1
CUA	UAG	0	0
CUA	UGA	0	0

UUG	CAU	3	0.231
UUG	CAC	1	0.077

CUA	CAU	2	0.154
CUA	CAC	3	0.231

CUU	UAA	1	0.5
CUU	UAG	0	0
CUU	UGA	0	0

CUG	UAA	0	0
CUG	UAG	0	0
CUG	UGA	0	0

CUU	CAU	0	0
CUU	CAC	7	0.538

CUG	CAU	1	0.077
CUG	CAC	0	0

Leu:Gln

UUA	CAA	72	1
UUA	CAG	7	0.097

CUC	CAA	0	0
CUC	CAG	0	0

UUG	CAA	3	0.042
UUG	CAG	0	0

CUA	CAA	8	0.111
CUA	CAG	1	0.014

CUU	CAA	14	0.194
CUU	CAG	3	0.042

CUG	CAA	3	0.042
CUG	CAG	1	0.014

Leu:Asn

UUA	AAU	118	1
UUA	AAC	47	0.398

CUC	AAU	3	0.025
CUC	AAC	0	0

UUG	AAU	3	0.025
UUG	AAC	0	0

CUA	AAU	5	0.042
CUA	AAC	8	0.068

CUU	AAU	6	0.051
CUU	AAC	10	0.085

CUG	AAU	0	0
CUG	AAC	0	0

Leu:Lys

UUA	AAA	160	1
UUA	AAG	9	0.056

CUC	AAA	0	0
CUC	AAG	0	0

UUG	AAA	8	0.05
UUG	AAG	0	0

CUA	AAA	15	0.094
CUA	AAG	2	0.013

CUU	AAA	22	0.138
CUU	AAG	4	0.025

CUG	AAA	4	0.025
CUG	AAG	1	0.006

Leu:Asp

UUA	GAU	58	1
UUA	GAC	15	0.259

CUC	GAU	1	0.017
CUC	GAC	0	0

UUG	GAU	3	0.052
UUG	GAC	0	0

CUA	GAU	8	0.138
CUA	GAC	5	0.086

CUU	GAU	9	0.155
CUU	GAC	3	0.052

CUG	GAU	1	0.017
CUG	GAC	0	0

Leu:Glu

UUA	GAA	79	1
UUA	GAG	6	0.076

CUC	GAA	1	0.013
CUC	GAG	0	0

UUG	GAA	3	0.038
UUG	GAG	1	0.013

CUA	GAA	9	0.114
CUA	GAG	1	0.013

CUU	GAA	14	0.177
CUU	GAG	0	0

CUG	GAA	3	0.038
CUG	GAG	0	0

Leu:Cys

UUA	UGU	8	1
UUA	UGC	3	0.375

CUC	UGU	0	0
CUC	UGC	0	0

UUG	UGU	1	0.125
UUG	UGC	0	0

CUA	UGU	2	0.25
CUA	UGC	0	0

CUU	UGU	3	0.375
CUU	UGC	1	0.125

CUG	UGU	2	0.25
CUG	UGC	0	0

Leu:Trp

UUA	UGG	16	1
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CUC	UGG	0	0
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UUG	UGG	1	0.063
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CUA	UGG	4	0.25
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CUU	UGG	4	0.25
-----	-----	---	------

CUG	UGG	0	0
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Leu:Arg

UUA	CGU	68	1
UUA	CGC	6	0.088
UUA	CGA	3	0.044
UUA	CGG	0	0
UUA	AGA	20	0.294
UUA	AGG	0	0

UUG	CGU	4	0.059
UUG	CGC	0	0
UUG	CGA	1	0.015
UUG	CGG	0	0
UUG	AGA	1	0.015
UUG	AGG	0	0

CUU	CGU	13	0.191
CUU	CGC	0	0
CUU	CGA	1	0.015
CUU	CGG	1	0.015
CUU	AGA	2	0.029
CUU	AGG	0	0

CUC	CGU	0	0
CUC	CGC	0	0
CUC	CGA	0	0
CUC	CGG	0	0
CUC	AGA	0	0
CUC	AGG	0	0

CUA	CGU	4	0.059
CUA	CGC	1	0.015
CUA	CGA	1	0.015
CUA	CGG	0	0
CUA	AGA	1	0.015
CUA	AGG	1	0.015

CUG	CGU	5	0.074
CUG	CGC	0	0
CUG	CGA	1	0.015
CUG	CGG	0	0
CUG	AGA	0	0
CUG	AGG	0	0

Leu:Gly

UUA	GGU	112	1
UUA	GGC	7	0.063
UUA	GGA	16	0.143
UUA	GGG	4	0.036

UUG	GGU	2	0.018
UUG	GGC	0	0
UUG	GGA	1	0.009
UUG	GGG	0	0

CUU	GGU	12	0.107
CUU	GGC	0	0
CUU	GGA	2	0.018
CUU	GGG	0	0

CUC	GGU	0	0
CUC	GGC	0	0
CUC	GGA	0	0
CUC	GGG	1	0.009

CUA	GGU	12	0.107
CUA	GGC	0	0
CUA	GGA	7	0.063
CUA	GGG	0	0

CUG	GGU	0	0
CUG	GGC	0	0
CUG	GGA	0	0
CUG	GGG	0	0

ile:Phe

AUU	UUU	44	1
AUU	UUC	30	0.682

AUC	UUU	6	0.136
AUC	UUC	8	0.182

AUA	UUU	8	0.182
AUA	UUC	0	0

ile:Leu

AUU	UUA	109	1
AUU	UUG	0	0
AUU	CUU	16	0.147
AUU	CUC	1	0.009
AUU	CUA	6	0.055
AUU	CUG	0	0

AUC	UUA	9	0.083
AUC	UUG	0	0
AUC	CUU	9	0.083
AUC	CUC	0	0
AUC	CUA	0	0
AUC	CUG	0	0

AUA	UUA	7	0.064
AUA	UUG	0	0
AUA	CUU	0	0
AUA	CUC	0	0
AUA	CUA	2	0.018
AUA	CUG	2	0.018

ile:ile

AUU	AUU	66	1
AUU	AUC	6	0.091
AUU	AUA	5	0.076

AUC	AUU	11	0.167
AUC	AUC	4	0.061
AUC	AUA	3	0.045

AUA	AUU	6	0.091
AUA	AUC	4	0.061
AUA	AUA	3	0.045

ile:Met

AUU	AUG	17	1
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AUC	AUG	5	0.294
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AUA	AUG	5	0.294
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ile:Val

AUU	GUU	38	0.905
AUU	GUC	1	0.024
AUU	GUA	42	1
AUU	GUG	9	0.214

AUC	GUU	5	0.119
AUC	GUC	0	0
AUC	GUA	9	0.214
AUC	GUG	0	0

AUA	GUU	4	0.095
AUA	GUC	1	0.024
AUA	GUA	3	0.071
AUA	GUG	0	0

ile:Ser

AUU	UCU	29	0.829
AUU	UCC	6	0.171
AUU	UCA	35	1
AUU	UCG	3	0.086
AUU	AGU	16	0.457
AUU	AGC	8	0.229

AUC	UCU	6	0.171
AUC	UCC	0	0
AUC	UCA	1	0.029
AUC	UCG	1	0.029
AUC	AGU	1	0.029
AUC	AGC	0	0

AUA	UCU	3	0.086
AUA	UCC	0	0
AUA	UCA	6	0.171
AUA	UCG	1	0.029
AUA	AGU	5	0.143
AUA	AGC	2	0.057

ile:Pro

AUU	CCU	17	0.436
AUU	CCC	7	0.179
AUU	CCA	39	1
AUU	CCG	2	0.051

AUC	CCU	3	0.077
AUC	CCC	0	0
AUC	CCA	17	0.436
AUC	CCG	0	0

AUA	CCU	3	0.077
AUA	CCC	4	0.103
AUA	CCA	4	0.103
AUA	CCG	0	0

ile:Thr

AUU	ACU	36	0.667
AUU	ACC	6	0.111
AUU	ACA	54	1
AUU	ACG	2	0.037

AUC	ACU	3	0.056
AUC	ACC	0	0
AUC	ACA	8	0.148
AUC	ACG	1	0.019

AUA	ACU	3	0.056
AUA	ACC	0	0
AUA	ACA	11	0.204
AUA	ACG	0	0

ile:Ala

AUU	GCU	45	1
AUU	GCC	5	0.111
AUU	GCA	24	0.533
AUU	GCG	4	0.089

AUC	GCU	11	0.244
AUC	GCC	1	0.022
AUC	GCA	2	0.044
AUC	GCG	0	0

AUA	GCU	1	0.022
AUA	GCC	1	0.022
AUA	GCA	4	0.089
AUA	GCG	1	0.022

ile:Tyr

AUU	UAU	51	1
AUU	UAC	18	0.353

AUC	UAU	6	0.118
AUC	UAC	2	0.039

AUA	UAU	1	0.02
AUA	UAC	1	0.02

ile:STOP

AUU	UAA	5	1
AUU	UAG	0	0
AUU	UGA	0	0

AUC	UAA	1	0.2
AUC	UAG	0	0
AUC	UGA	0	0

AUA	UAA	0	0
AUA	UAG	0	0
AUA	UGA	0	0

ile:His

AUU	CAU	18	1
AUU	CAC	14	0.778

AUC	CAU	6	0.333
AUC	CAC	4	0.222

AUA	CAU	2	0.111
AUA	CAC	2	0.111

ile:Gln

AUU	CAA	54	1
AUU	CAG	3	0.056

AUC	CAA	8	0.148
AUC	CAG	0	0

AUA	CAA	4	0.074
AUA	CAG	1	0.019

ile:Asn

AUU	AAU	52	1
AUU	AAC	18	0.346

AUC	AAU	10	0.192
AUC	AAC	5	0.096

AUA	AAU	24	0.462
AUA	AAC	4	0.077

ile:Lys

AUU	AAA	96	1
AUU	AAG	3	0.031

AUC	AAA	15	0.156
AUC	AAG	0	0

AUA	AAA	15	0.156
AUA	AAG	2	0.021

ile:Asp

AUU	GAU	30	1
AUU	GAC	5	0.167

AUC	GAU	7	0.233
AUC	GAC	2	0.067

AUA	GAU	8	0.267
AUA	GAC	0	0

ile:Glu

AUU	GAA	61	1
AUU	GAG	3	0.049

AUC	GAA	5	0.082
AUC	GAG	0	0

AUA	GAA	5	0.082
AUA	GAG	0	0

ile:Cys

AUU	UGU	21	1
AUU	UGC	0	0

AUC	UGU	0	0
AUC	UGC	0	0

AUA	UGU	0	0
AUA	UGC	0	0

ile:Trp

AUU	UGG	21	1
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AUC	UGG	1	0.048
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AUA	UGG	0	0
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ile:Arg

AUU	CGU	45	1
AUU	CGC	1	0.022
AUU	CGA	9	0.2
AUU	CGG	0	0
AUU	AGA	5	0.111
AUU	AGG	0	0

AUC	CGU	11	0.244
AUC	CGC	0	0
AUC	CGA	0	0
AUC	CGG	0	0
AUC	AGA	0	0
AUC	AGG	0	0

AUA	CGU	6	0.133
AUA	CGC	2	0.044
AUA	CGA	1	0.022
AUA	CGG	0	0
AUA	AGA	2	0.044
AUA	AGG	1	0.022

ile:Gly

AUU	GGU	62	1
AUU	GGC	8	0.129
AUU	GGA	11	0.177
AUU	GGG	3	0.048

AUC	GGU	12	0.194
AUC	GGC	3	0.048
AUC	GGA	5	0.081
AUC	GGG	0	0

AUA	GGU	3	0.048
AUA	GGC	1	0.016
AUA	GGA	1	0.016
AUA	GGG	2	0.032

Met:Phe

AUG	UUU	6	0.545
AUG	UUC	11	1

Met:Leu

AUG	UUA	26	1
AUG	UUG	1	0.038
AUG	CUU	11	0.423
AUG	CUC	0	0
AUG	CUA	2	0.077
AUG	CUG	1	0.038

Met:ile

AUG	AUU	26	1
AUG	AUC	5	0.192
AUG	AUA	5	0.192

Met:Met

AUG	AUG	10	1
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Met:Val

AUG	GUU	19	1
AUG	GUC	1	0.053
AUG	GUA	9	0.474
AUG	GUG	1	0.053

Met:Ser

AUG	UCU	12	0.923
AUG	UCC	2	0.154
AUG	UCA	13	1
AUG	UCG	1	0.077
AUG	AGU	9	0.692
AUG	AGC	0	0

Met:Pro

AUG	CCU	16	0.762
AUG	CCC	4	0.19
AUG	CCA	21	1
AUG	CCG	3	0.143

Met:Thr

AUG	ACU	14	0.538
AUG	ACC	0	0
AUG	ACA	26	1
AUG	ACG	3	0.115

Met:Ala

AUG	GCU	23	1
AUG	GCC	5	0.217
AUG	GCA	16	0.696
AUG	GCG	2	0.087

Met:Tyr

AUG	UAU	19	1
AUG	UAC	8	0.421

Met:STOP

AUG	UAA	0	0
AUG	UAG	0	0
AUG	UGA	0	0

Met:His

AUG	CAU	10	0.769
AUG	CAC	13	1

Met:Gln

AUG	CAA	27	1
AUG	CAG	0	0

Met:Asn

AUG	AAU	21	1
AUG	AAC	9	0.429

Met:Lys

AUG	AAA	29	1
AUG	AAG	1	0.034

Met:Asp

AUG	GAU	15	1
AUG	GAC	2	0.133

Met:Glu

AUG	GAA	22	1
AUG	GAG	0	0

Met:Cys

AUG	UGU	4	1
AUG	UGC	0	0

Met:Trp

AUG	UGG	4	1
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Met:Arg

AUG	CGU	25	1
AUG	CGC	2	0.08
AUG	CGA	3	0.12
AUG	CGG	1	0.04
AUG	AGA	0	0
AUG	AGG	0	0

Met:Gly

AUG	GGU	21	1
AUG	GGC	5	0.238
AUG	GGA	4	0.19
AUG	GGG	3	0.143

Val:Phe

GUU	UUU	28	1
GUU	UUC	11	0.393
GUG	UUU	0	0
GUG	UUC	2	0.071

GUC	UUU	1	0.036
GUC	UUC	0	0

GUA	UUU	23	0.821
GUA	UUC	28	1

Val:Leu

GUU	UUA	70	1
GUU	UUG	1	0.014
GUU	CUU	12	0.171
GUU	CUC	0	0
GUU	CUA	4	0.057
GUU	CUG	1	0.014

GUC	UUA	1	0.014
GUC	UUG	0	0
GUC	CUU	0	0
GUC	CUC	0	0
GUC	CUA	0	0
GUC	CUG	0	0

GUA	UUA	37	0.529
GUA	UUG	3	0.043
GUA	CUU	6	0.086
GUA	CUC	0	0
GUA	CUA	6	0.086
GUA	CUG	0	0

GUG	UUA	6	0.086
GUG	UUG	3	0.043
GUG	CUU	0	0
GUG	CUC	0	0
GUG	CUA	1	0.014
GUG	CUG	0	0

Val:ile

GUU	AUU	45	1
GUU	AUC	2	0.044
GUU	AUA	4	0.089
GUG	AUU	1	0.022
GUG	AUC	0	0
GUG	AUA	0	0

GUC	AUU	0	0
GUC	AUC	0	0
GUC	AUA	1	0.022

GUA	AUU	20	0.444
GUA	AUC	11	0.244
GUA	AUA	3	0.067

Val:Met

GUU	AUG	7	0.438
GUG	AUG	1	0.063

GUC	AUG	0	0
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GUA	AUG	16	1
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Val:Val

GUU	GUU	24	1
GUU	GUC	0	0
GUU	GUA	24	1
GUU	GUG	0	0
GUG	GUU	1	0.042
GUG	GUC	0	0
GUG	GUA	5	0.208
GUG	GUG	1	0.042

GUC	GUU	0	0
GUC	GUC	0	0
GUC	GUA	1	0.042
GUC	GUG	0	0

GUA	GUU	13	0.542
GUA	GUC	0	0
GUA	GUA	16	0.667
GUA	GUG	2	0.083

Val:Ser

GUU	UCU	32	1
GUU	UCC	1	0.031
GUU	UCA	26	0.813
GUU	UCG	1	0.031
GUU	AGU	11	0.344
GUU	AGC	2	0.063

GUG	UCU	3	0.094
GUG	UCC	0	0
GUG	UCA	2	0.063
GUG	UCG	0	0
GUG	AGU	4	0.125
GUG	AGC	0	0

Val:Pro

GUU	CCU	10	0.625
GUU	CCC	1	0.063
GUU	CCA	16	1
GUU	CCG	3	0.188

GUG	CCU	1	0.063
GUG	CCC	2	0.125
GUG	CCA	3	0.188
GUG	CCG	0	0

Val:Thr

GUU	ACU	17	0.5
GUU	ACC	1	0.029
GUU	ACA	19	0.559
GUU	ACG	1	0.029

GUG	ACU	0	0
GUG	ACC	0	0
GUG	ACA	2	0.059
GUG	ACG	0	0

Val:Ala

GUU	GCU	20	0.455
GUU	GCC	4	0.091
GUU	GCA	6	0.136
GUU	GCG	2	0.045

GUG	GCU	4	0.091
GUG	GCC	0	0
GUG	GCA	2	0.045
GUG	GCG	0	0

Val:Tyr

GUU	UAU	23	1
GUU	UAC	7	0.304

GUG	UAU	3	0.13
GUG	UAC	0	0

Val:STOP

GUC	UCU	0	0
GUC	UCC	0	0
GUC	UCA	1	0.031
GUC	UCG	0	0
GUC	AGU	0	0
GUC	AGC	0	0

GUA	UCU	13	0.406
GUA	UCC	2	0.063
GUA	UCA	13	0.406
GUA	UCG	4	0.125
GUA	AGU	8	0.25
GUA	AGC	2	0.063

GUC	CCU	0	0
GUC	CCC	0	0
GUC	CCA	1	0.063
GUC	CCG	0	0

GUA	CCU	11	0.688
GUA	CCC	1	0.063
GUA	CCA	14	0.875
GUA	CCG	2	0.125

GUC	ACU	0	0
GUC	ACC	0	0
GUC	ACA	0	0
GUC	ACG	0	0

GUA	ACU	18	0.529
GUA	ACC	4	0.118
GUA	ACA	34	1
GUA	ACG	2	0.059

GUC	GCU	0	0
GUC	GCC	0	0
GUC	GCA	1	0.023
GUC	GCG	1	0.023

GUA	GCU	44	1
GUA	GCC	3	0.068
GUA	GCA	22	0.5
GUA	GCG	0	0

GUC	UAU	0	0
GUC	UAC	1	0.043

GUA	UAU	10	0.435
GUA	UAC	8	0.348

GUU	UAA	2	1
GUU	UAG	1	0.5
GUU	UGA	0	0

GUG	UAA	1	0.5
GUG	UAG	0	0
GUG	UGA	0	0

Val:His

GUU	CAU	4	0.364
GUU	CAC	2	0.182

GUG	CAU	3	0.273
GUG	CAC	1	0.091

GUC	UAA	0	0
GUC	UAG	0	0
GUC	UGA	0	0

GUC	CAU	0	0
GUC	CAC	0	0

GUA	UAA	0	0
GUA	UAG	0	0
GUA	UGA	0	0

GUA	CAU	11	1
GUA	CAC	3	0.273

Val:Gln

GUU	CAA	16	0.889
GUU	CAG	0	0

GUG	CAA	5	0.278
GUG	CAG	1	0.056

GUC	CAA	1	0.056
GUC	CAG	0	0

GUA	CAA	18	1
GUA	CAG	2	0.111

Val:Asn

GUU	AAU	19	0.514
GUU	AAC	11	0.297

GUG	AAU	4	0.108
GUG	AAC	2	0.054

GUC	AAU	1	0.027
GUC	AAC	1	0.027

GUA	AAU	37	1
GUA	AAC	14	0.378

Val:Lys

GUU	AAA	53	1
GUU	AAG	1	0.019

GUG	AAA	3	0.057
GUG	AAG	1	0.019

GUC	AAA	0	0
GUC	AAG	1	0.019

GUA	AAA	37	0.698
GUA	AAG	1	0.019

Val:Asp

GUU	GAU	12	0.522
GUU	GAC	10	0.435

GUG	GAU	6	0.261
GUG	GAC	1	0.043

GUC	GAU	0	0
GUC	GAC	1	0.043

GUA	GAU	23	1
GUA	GAC	10	0.435

Val:Glu

GUU	GAA	44	1
GUU	GAG	2	0.045

GUG	GAA	4	0.091
GUG	GAG	0	0

GUC	GAA	2	0.045
GUC	GAG	0	0

GUA	GAA	26	0.591
GUA	GAG	1	0.023

Val:Cys

GUU	UGU	8	1
GUU	UGC	2	0.25

GUG	UGU	1	0.125
GUG	UGC	0	0

GUC	UGU	0	0
GUC	UGC	0	0

GUA	UGU	5	0.625
GUA	UGC	0	0

Val:Trp

GUU	UGG	18	1
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GUG	UGG	3	0.167
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GUC	UGG	0	0
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GUA	UGG	11	0.611
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Val:Arg

GUU	CGU	16	0.571
GUU	CGC	0	0
GUU	CGA	3	0.107
GUU	CGG	0	0
GUU	AGA	2	0.071
GUU	AGG	1	0.036

GUG	CGU	2	0.071
GUG	CGC	0	0
GUG	CGA	3	0.107
GUG	CGG	0	0
GUG	AGA	1	0.036
GUG	AGG	0	0

Val:Gly

GUU	GGU	30	0.545
GUU	GGC	6	0.109
GUU	GGA	2	0.036
GUU	GGG	3	0.055

GUG	GGU	4	0.073
GUG	GGC	0	0
GUG	GGA	2	0.036
GUG	GGG	1	0.018

Ser:Phe

UCU	UUU	14	0.5
UCU	UUC	10	0.357

UCG	UUU	3	0.107
UCG	UUC	1	0.036

Ser:Leu

UCU	UUA	62	1
UCU	UUG	2	0.032
UCU	CUU	9	0.145
UCU	CUC	0	0
UCU	CUA	8	0.129
UCU	CUG	2	0.032

UCG	UUA	9	0.145
UCG	UUG	2	0.032
UCG	CUU	4	0.065
UCG	CUC	0	0
UCG	CUA	1	0.016
UCG	CUG	0	0

Ser:ile

UCU	AUU	20	0.741
UCU	AUC	5	0.185
UCU	AUA	4	0.148

UCG	AUU	6	0.222
UCG	AUC	1	0.037
UCG	AUA	2	0.074

Ser:Met

UCU	AUG	7	0.636
UCG	AUG	1	0.091

GUC	CGU	1	0.036
GUC	CGC	0	0
GUC	CGA	1	0.036
GUC	CGG	0	0
GUC	AGA	0	0
GUC	AGG	0	0

GUG	CGU	2	0.071
GUG	CGC	0	0
GUG	CGA	3	0.107
GUG	CGG	0	0
GUG	AGA	1	0.036
GUG	AGG	0	0

Ser:Met

GUC	GGU	1	0.018
GUC	GGC	0	0
GUC	GGA	0	0
GUC	GGG	0	0

GUG	GGU	4	0.073
GUG	GGC	0	0
GUG	GGA	2	0.036
GUG	GGG	1	0.018

Ser:Met

UCC	UUU	1	0.036
UCC	UUC	1	0.036

AGU	UUU	28	1
AGU	UUC	6	0.214

Ser:Met

UCC	UUA	5	0.081
UCC	UUG	1	0.016
UCC	CUU	4	0.065
UCC	CUC	0	0
UCC	CUA	0	0
UCC	CUG	0	0

AGU	UUA	46	0.742
AGU	UUG	1	0.016
AGU	CUU	5	0.081
AGU	CUC	0	0
AGU	CUA	1	0.016
AGU	CUG	3	0.048

Ser:Met

UCC	AUU	4	0.148
UCC	AUC	0	0
UCC	AUA	1	0.037

AGU	AUU	23	0.852
AGU	AUC	1	0.037
AGU	AUA	3	0.111

Ser:Met

UCC	AUG	1	0.091
AGU	AUG	8	0.727

GUA	CGU	28	1
GUA	CGC	1	0.036
GUA	CGA	1	0.036
GUA	CGG	0	0
GUA	AGA	3	0.107
GUA	AGG	0	0

GUG	CGU	2	0.071
GUG	CGC	0	0
GUG	CGA	3	0.107
GUG	CGG	0	0
GUG	AGA	1	0.036
GUG	AGG	0	0

Ser:Met

GUA	GGU	55	1
GUA	GGC	1	0.018
GUA	GGA	2	0.036
GUA	GGG	2	0.036

GUG	GGU	4	0.073
GUG	GGC	0	0
GUG	GGA	2	0.036
GUG	GGG	1	0.018

Ser:Met

UCA	UUU	18	0.643
UCA	UUC	4	0.143

AGC	UUU	6	0.214
AGC	UUC	2	0.071

Ser:Met

UCA	UUA	45	0.726
UCA	UUG	3	0.048
UCA	CUU	10	0.161
UCA	CUC	0	0
UCA	CUA	4	0.065
UCA	CUG	0	0

AGC	UUA	8	0.129
AGC	UUG	1	0.016
AGC	CUU	2	0.032
AGC	CUC	0	0
AGC	CUA	3	0.048
AGC	CUG	0	0

Ser:Met

UCA	AUU	27	1
UCA	AUC	6	0.222
UCA	AUA	7	0.259

AGC	AUU	7	0.259
AGC	AUC	1	0.037
AGC	AUA	0	0

Ser:Met

UCA	AUG	11	1
AGC	AUG	1	0.091

Ser:Val

UCU	GUU	14	0.778
UCU	GUC	0	0
UCU	GUA	13	0.722
UCU	GUG	4	0.222

UCG	GUU	4	0.222
UCG	GUC	0	0
UCG	GUA	3	0.167
UCG	GUG	1	0.056

UCC	GUU	1	0.056
UCC	GUC	0	0
UCC	GUA	1	0.056
UCC	GUG	0	0

AGU	GUU	10	0.556
AGU	GUC	0	0
AGU	GUA	12	0.667
AGU	GUG	4	0.222

UCA	GUU	15	0.833
UCA	GUC	0	0
UCA	GUA	18	1
UCA	GUG	0	0

AGC	GUU	2	0.111
AGC	GUC	0	0
AGC	GUA	3	0.167
AGC	GUG	0	0

Ser:Ser

UCU	UCU	13	0.813
UCU	UCC	0	0
UCU	UCA	13	0.813
UCU	UCG	3	0.188
UCU	AGU	12	0.75
UCU	AGC	5	0.313

UCG	UCU	7	0.438
UCG	UCC	1	0.063
UCG	UCA	1	0.063
UCG	UCG	1	0.063
UCG	AGU	3	0.188
UCG	AGC	0	0

UCC	UCU	4	0.25
UCC	UCC	0	0
UCC	UCA	0	0
UCC	UCG	0	0
UCC	AGU	0	0
UCC	AGC	0	0

AGU	UCU	7	0.438
AGU	UCC	0	0
AGU	UCA	10	0.625
AGU	UCG	3	0.188
AGU	AGU	6	0.375
AGU	AGC	3	0.188

UCA	UCU	5	0.313
UCA	UCC	0	0
UCA	UCA	7	0.438
UCA	UCG	2	0.125
UCA	AGU	16	1
UCA	AGC	8	0.5

AGC	UCU	5	0.313
AGC	UCC	0	0
AGC	UCA	7	0.438
AGC	UCG	0	0
AGC	AGU	3	0.188
AGC	AGC	1	0.063

Ser:Pro

UCU	CCU	1	0.059
UCU	CCC	0	0
UCU	CCA	17	1
UCU	CCG	2	0.118

UCG	CCU	2	0.118
UCG	CCC	0	0
UCG	CCA	4	0.235
UCG	CCG	0	0

UCC	CCU	2	0.118
UCC	CCC	0	0
UCC	CCA	1	0.059
UCC	CCG	0	0

AGU	CCU	3	0.176
AGU	CCC	1	0.059
AGU	CCA	11	0.647
AGU	CCG	0	0

UCA	CCU	5	0.294
UCA	CCC	0	0
UCA	CCA	9	0.529
UCA	CCG	0	0

AGC	CCU	3	0.176
AGC	CCC	0	0
AGC	CCA	1	0.059
AGC	CCG	1	0.059

Ser:Thr

UCU	ACU	7	0.212
UCU	ACC	2	0.061
UCU	ACA	14	0.424
UCU	ACG	0	0

UCG	ACU	2	0.061
UCG	ACC	0	0
UCG	ACA	3	0.091
UCG	ACG	1	0.03

UCC	ACU	0	0
UCC	ACC	0	0
UCC	ACA	3	0.091
UCC	ACG	0	0

AGU	ACU	8	0.242
AGU	ACC	0	0
AGU	ACA	9	0.273
AGU	ACG	5	0.152

UCA	ACU	21	0.636
UCA	ACC	0	0
UCA	ACA	33	1
UCA	ACG	6	0.182

AGC	ACU	1	0.03
AGC	ACC	0	0
AGC	ACA	4	0.121
AGC	ACG	0	0

Ser:Ala

UCU	GCU	21	0.875
UCU	GCC	0	0
UCU	GCA	12	0.5
UCU	GCG	2	0.083

UCG	GCU	3	0.125
UCG	GCC	0	0
UCG	GCA	2	0.083
UCG	GCG	0	0

UCC	GCU	2	0.083
UCC	GCC	0	0
UCC	GCA	1	0.042
UCC	GCG	0	0

AGU	GCU	10	0.417
AGU	GCC	2	0.083
AGU	GCA	9	0.375
AGU	GCG	0	0

UCA	GCU	24	1
UCA	GCC	4	0.167
UCA	GCA	16	0.667
UCA	GCG	0	0

AGC	GCU	1	0.042
AGC	GCC	0	0
AGC	GCA	1	0.042
AGC	GCG	0	0

Ser:Tyr

UCU	UAU	14	0.583
UCU	UAC	5	0.208

UCG	UAU	3	0.125
UCG	UAC	0	0

UCC	UAU	0	0
UCC	UAC	0	0

AGU	UAU	24	1
AGU	UAC	2	0.083

UCA	UAU	10	0.417
UCA	UAC	4	0.167

AGC	UAU	2	0.083
AGC	UAC	3	0.125

Ser:STOP

UCU	UAA	2	1
UCU	UAG	0	0
UCU	UGA	0	0

UCG	UAA	0	0
UCG	UAG	0	0
UCG	UGA	0	0

UCC	UAA	0	0
UCC	UAG	0	0
UCC	UGA	0	0

AGU	UAA	0	0
AGU	UAG	1	0.5
AGU	UGA	0	0

UCA	UAA	1	0.5
UCA	UAG	0	0
UCA	UGA	0	0

AGC	UAA	0	0
AGC	UAG	0	0
AGC	UGA	0	0

Ser:His

UCU	CAU	0	0
UCU	CAC	3	0.273

UCG	CAU	1	0.091
UCG	CAC	1	0.091

UCC	CAU	1	0.091
UCC	CAC	0	0

AGU	CAU	4	0.364
AGU	CAC	1	0.091

UCA	CAU	11	1
UCA	CAC	7	0.636

AGC	CAU	3	0.273
AGC	CAC	1	0.091

Ser:Gln

UCU	CAA	17	0.708
UCU	CAG	1	0.042

UCG	CAA	5	0.208
UCG	CAG	0	0

UCC	CAA	6	0.25
UCC	CAG	0	0

AGU	CAA	17	0.708
AGU	CAG	3	0.125

UCA	CAA	24	1
UCA	CAG	6	0.25

AGC	CAA	5	0.208
AGC	CAG	0	0

Ser:Asn

UCU	AAU	13	0.565
UCU	AAC	11	0.478

UCG	AAU	3	0.13
UCG	AAC	2	0.087

UCC	AAU	7	0.304
UCC	AAC	1	0.043

AGU	AAU	23	1
AGU	AAC	5	0.217

UCA	AAU	23	1
UCA	AAC	13	0.565

AGC	AAU	11	0.478
AGC	AAC	0	0

Ser:Lys

UCU	AAA	36	0.554
UCU	AAG	2	0.031

UCG	AAA	1	0.015
UCG	AAG	1	0.015

UCC	AAA	4	0.062
UCC	AAG	0	0

AGU	AAA	31	0.477
AGU	AAG	4	0.062

UCA	AAA	65	1
UCA	AAG	1	0.015

AGC	AAA	8	0.123
AGC	AAG	1	0.015

Ser:Asp

UCU	GAU	14	0.737
UCU	GAC	6	0.316

UCG	GAU	3	0.158
UCG	GAC	0	0

UCC	GAU	1	0.053
UCC	GAC	0	0

AGU	GAU	12	0.632
AGU	GAC	3	0.158

UCA	GAU	19	1
UCA	GAC	3	0.158

AGC	GAU	1	0.053
AGC	GAC	0	0

Ser:Glu

UCU	GAA	14	0.875
UCU	GAG	1	0.063

UCG	GAA	5	0.313
UCG	GAG	0	0

UCC	GAA	1	0.063
UCC	GAG	1	0.063

AGU	GAA	15	0.938
AGU	GAG	3	0.188

UCA	GAA	16	1
UCA	GAG	4	0.25

AGC	GAA	3	0.188
AGC	GAG	0	0

Ser:Cys

UCU	UGU	2	1
UCU	UGC	1	0.5
UCG	UGU	2	1
UCG	UGC	0	0

Ser:Trp

UCU	UGG	6	0.75
UCG	UGG	1	0.125

Ser:Arg

UCU	CGU	12	0.4
UCU	CGC	0	0
UCU	CGA	0	0
UCU	CGG	0	0
UCU	AGA	3	0.1
UCU	AGG	0	0
UCG	CGU	0	0
UCG	CGC	0	0
UCG	CGA	0	0
UCG	CGG	0	0
UCG	AGA	0	0
UCG	AGG	0	0

UCC	UGU	0	0
UCC	UGC	0	0
AGU	UGU	2	1
AGU	UGC	1	0.5

UCC	UGG	0	0
AGU	UGG	4	0.5

UCC	CGU	0	0
UCC	CGC	0	0
UCC	CGA	0	0
UCC	CGG	0	0
UCC	AGA	0	0
UCC	AGG	0	0
AGU	CGU	5	0.167
AGU	CGC	2	0.067
AGU	CGA	3	0.1
AGU	CGG	0	0
AGU	AGA	3	0.1
AGU	AGG	0	0

UCA	UGU	0	0
UCA	UGC	1	0.5
AGC	UGU	2	1
AGC	UGC	0	0

UCA	UGG	8	1
AGC	UGG	3	0.375

UCA	CGU	30	1
UCA	CGC	2	0.067
UCA	CGA	1	0.033
UCA	CGG	0	0
UCA	AGA	1	0.033
UCA	AGG	0	0
AGC	CGU	7	0.233
AGC	CGC	0	0
AGC	CGA	0	0
AGC	CGG	0	0
AGC	AGA	0	0
AGC	AGG	0	0

Ser:Gly

UCU	GGU	20	0.69
UCU	GGC	3	0.103
UCU	GGA	3	0.103
UCU	GGG	2	0.069
UCG	GGU	1	0.034
UCG	GGC	0	0
UCG	GGA	1	0.034
UCG	GGG	0	0

UCC	GGU	0	0
UCC	GGC	0	0
UCC	GGA	2	0.069
UCC	GGG	0	0
AGU	GGU	11	0.379
AGU	GGC	3	0.103
AGU	GGA	2	0.069
AGU	GGG	2	0.069

UCA	GGU	29	1
UCA	GGC	4	0.138
UCA	GGA	3	0.103
UCA	GGG	0	0
AGC	GGU	2	0.069
AGC	GGC	1	0.034
AGC	GGA	2	0.069
AGC	GGG	0	0

Pro:Phe

CCU	UUU	18	0.783
CCU	UUC	7	0.304
CCG	UUU	4	0.174
CCG	UUC	2	0.087

CCC	UUU	4	0.174
CCC	UUC	0	0

CCA	UUU	23	1
CCA	UUC	10	0.435

Pro:Leu

CCU	UUA	27	0.73
CCU	UUG	1	0.027
CCU	CUU	7	0.189
CCU	CUC	1	0.027
CCU	CUA	11	0.297
CCU	CUG	0	0
CCG	UUA	7	0.189
CCG	UUG	0	0
CCG	CUU	2	0.054
CCG	CUC	1	0.027
CCG	CUA	0	0
CCG	CUG	0	0

CCC	UUA	2	0.054
CCC	UUG	0	0
CCC	CUU	1	0.027
CCC	CUC	0	0
CCC	CUA	0	0
CCC	CUG	0	0

CCA	UUA	37	1
CCA	UUG	3	0.081
CCA	CUU	12	0.324
CCA	CUC	2	0.054
CCA	CUA	2	0.054
CCA	CUG	1	0.027

Pro:ile

CCU	AUU	23	1
CCU	AUC	6	0.261
CCU	AUA	4	0.174

CCG	AUU	5	0.217
CCG	AUC	0	0
CCG	AUA	0	0

Pro:Met

CCU	AUG	8	1
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CCG	AUG	0	0
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Pro:Val

CCU	GUU	8	0.348
CCU	GUC	1	0.043
CCU	GUA	19	0.826
CCU	GUG	3	0.13

CCG	GUU	1	0.043
CCG	GUC	0	0
CCG	GUA	3	0.13
CCG	GUG	0	0

Pro:Ser

CCU	UCU	8	0.727
CCU	UCC	2	0.182
CCU	UCA	7	0.636
CCU	UCG	1	0.091
CCU	AGU	7	0.636
CCU	AGC	2	0.182

CCG	UCU	2	0.182
CCG	UCC	0	0
CCG	UCA	1	0.091
CCG	UCG	0	0
CCG	AGU	0	0
CCG	AGC	0	0

Pro:Pro

CCU	CCU	1	0.063
CCU	CCC	0	0
CCU	CCA	5	0.313
CCU	CCG	0	0

CCG	CCU	0	0
CCG	CCC	0	0
CCG	CCA	3	0.188
CCG	CCG	0	0

Pro:Thr

CCU	ACU	11	0.478
CCU	ACC	1	0.043
CCU	ACA	14	0.609
CCU	ACG	0	0

CCG	ACU	0	0
CCG	ACC	0	0
CCG	ACA	1	0.043
CCG	ACG	0	0

CCC	AUU	3	0.13
CCC	AUC	0	0
CCC	AUA	0	0

CCC	AUG	1	0.125
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CCC	GUU	1	0.043
CCC	GUC	0	0
CCC	GUA	3	0.13
CCC	GUG	2	0.087

CCC	UCU	1	0.091
CCC	UCC	0	0
CCC	UCA	0	0
CCC	UCG	0	0
CCC	AGU	0	0
CCC	AGC	1	0.091

CCC	CCU	1	0.063
CCC	CCC	0	0
CCC	CCA	0	0
CCC	CCG	0	0

CCC	ACU	1	0.043
CCC	ACC	0	0
CCC	ACA	0	0
CCC	ACG	0	0

CCA	AUU	21	0.913
CCA	AUC	2	0.087
CCA	AUA	6	0.261

CCA	AUG	5	0.625
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CCA	GUU	17	0.739
CCA	GUC	0	0
CCA	GUA	23	1
CCA	GUG	3	0.13

CCA	UCU	11	1
CCA	UCC	1	0.091
CCA	UCA	11	1
CCA	UCG	1	0.091
CCA	AGU	9	0.818
CCA	AGC	4	0.364

CCA	CCU	8	0.5
CCA	CCC	1	0.063
CCA	CCA	16	1
CCA	CCG	1	0.063

CCA	ACU	16	0.696
CCA	ACC	3	0.13
CCA	ACA	23	1
CCA	ACG	0	0

Pro:Ala

CCU	GCU	16	0.762
CCU	GCC	2	0.095
CCU	GCA	10	0.476
CCU	GCG	1	0.048

CCC	GCU	1	0.048
CCC	GCC	0	0
CCC	GCA	0	0
CCC	GCG	0	0

CCA	GCU	21	1
CCA	GCC	1	0.048
CCA	GCA	6	0.286
CCA	GCG	4	0.19

CCG	GCU	0	0
CCG	GCC	1	0.048
CCG	GCA	2	0.095
CCG	GCG	0	0

Pro:Tyr

CCU	UAU	8	0.727
CCU	UAC	5	0.455

CCC	UAU	0	0
CCC	UAC	1	0.091

CCA	UAU	11	1
CCA	UAC	8	0.727

CCG	UAU	1	0.091
CCG	UAC	1	0.091

Pro:STOP

CCU	UAA	0	0
CCU	UAG	0	0
CCU	UGA	0	0

CCC	UAA	0	0
CCC	UAG	0	0
CCC	UGA	0	0

CCA	UAA	0	0
CCA	UAG	0	0
CCA	UGA	0	0

CCG	UAA	0	0
CCG	UAG	0	0
CCG	UGA	0	0

Pro:His

CCU	CAU	1	0.125
CCU	CAC	2	0.25

CCC	CAU	0	0
CCC	CAC	0	0

CCA	CAU	2	0.25
CCA	CAC	8	1

CCG	CAU	0	0
CCG	CAC	1	0.125

Pro:Gln

CCU	CAA	7	0.292
CCU	CAG	0	0

CCC	CAA	1	0.042
CCC	CAG	0	0

CCA	CAA	24	1
CCA	CAG	4	0.167

CCG	CAA	2	0.083
CCG	CAG	0	0

Pro:Asn

CCU	AAU	15	0.652
CCU	AAC	8	0.348

CCC	AAU	3	0.13
CCC	AAC	0	0

CCA	AAU	23	1
CCA	AAC	10	0.435

CCG	AAU	3	0.13
CCG	AAC	0	0

Pro:Lys

CCU	AAA	16	0.356
CCU	AAG	2	0.044

CCC	AAA	3	0.067
CCC	AAG	0	0

CCA	AAA	45	1
CCA	AAG	4	0.089

CCG	AAA	4	0.089
CCG	AAG	1	0.022

Pro:Asp

CCU	GAU	12	0.571
CCU	GAC	2	0.095

CCC	GAU	1	0.048
CCC	GAC	0	0

CCA	GAU	21	1
CCA	GAC	2	0.095

CCG	GAU	0	0
CCG	GAC	0	0

Pro:Glu

CCU	GAA	26	0.929
CCU	GAG	1	0.036

CCC	GAA	11	0.393
CCC	GAG	0	0

CCA	GAA	28	1
CCA	GAG	2	0.071

CCG	GAA	0	0
CCG	GAG	0	0

Pro:Cys

CCU	UGU	6	1
CCU	UGC	0	0

CCC	UGU	0	0
CCC	UGC	0	0

CCA	UGU	4	0.667
CCA	UGC	0	0

CCG	UGU	0	0
CCG	UGC	0	0

Pro:Trp

CCU	UGG	4	0.333
CCG	UGG	2	0.167

CCC	UGG	1	0.083
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CCA	UGG	12	1
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Pro:Arg

CCU	CGU	7	0.212
CCU	CGC	0	0
CCU	CGA	0	0
CCU	CGG	1	0.03
CCU	AGA	1	0.03
CCU	AGG	1	0.03

CCC	CGU	0	0
CCC	CGC	0	0
CCC	CGA	0	0
CCC	CGG	0	0
CCC	AGA	0	0
CCC	AGG	0	0

CCA	CGU	33	1
CCA	CGC	2	0.061
CCA	CGA	4	0.121
CCA	CGG	0	0
CCA	AGA	4	0.121
CCA	AGG	0	0

CCG	CGU	1	0.03
CCG	CGC	1	0.03
CCG	CGA	0	0
CCG	CGG	0	0
CCG	AGA	0	0
CCG	AGG	0	0

Pro:Gly

CCU	GGU	18	0.783
CCU	GGC	2	0.087
CCU	GGA	6	0.261
CCU	GGG	1	0.043

CCC	GGU	0	0
CCC	GGC	0	0
CCC	GGA	0	0
CCC	GGG	0	0

CCA	GGU	23	1
CCA	GGC	2	0.087
CCA	GGA	4	0.174
CCA	GGG	0	0

CCG	GGU	3	0.13
CCG	GGC	0	0
CCG	GGA	0	0
CCG	GGG	0	0

Thr:Phe

ACU	UUU	26	1
ACU	UUC	17	0.654

ACC	UUU	3	0.115
ACC	UUC	1	0.038

ACA	UUU	14	0.538
ACA	UUC	14	0.538

ACG	UUU	2	0.077
ACG	UUC	1	0.038

Thr:Leu

ACU	UUA	71	1
ACU	UUG	2	0.028
ACU	CUU	11	0.155
ACU	CUC	1	0.014
ACU	CUA	6	0.085
ACU	CUG	4	0.056

ACG	UUA	12	0.169
ACG	UUG	1	0.014
ACG	CUU	1	0.014
ACG	CUC	0	0
ACG	CUA	0	0
ACG	CUG	0	0

Thr:Ile

ACU	AUU	36	1
ACU	AUC	3	0.083
ACU	AUA	4	0.111

ACG	AUU	7	0.194
ACG	AUC	1	0.028
ACG	AUA	0	0

Thr:Met

ACU	AUG	14	1
ACG	AUG	0	0

Thr:Val

ACU	GUU	12	0.571
ACU	GUC	1	0.048
ACU	GUA	14	0.667
ACU	GUG	3	0.143

ACG	GUU	4	0.19
ACG	GUC	0	0
ACG	GUA	4	0.19
ACG	GUG	0	0

Thr:Ser

ACU	UCU	18	0.818
ACU	UCC	4	0.182
ACU	UCA	19	0.864
ACU	UCG	3	0.136
ACU	AGU	11	0.5
ACU	AGC	2	0.091

ACG	UCU	7	0.318
ACG	UCC	0	0
ACG	UCA	5	0.227
ACG	UCG	0	0
ACG	AGU	0	0
ACG	AGC	0	0

Thr:Pro

ACC	UUA	3	0.042
ACC	UUG	0	0
ACC	CUU	4	0.056
ACC	CUC	0	0
ACC	CUA	1	0.014
ACC	CUG	0	0

ACA	UUA	53	0.746
ACA	UUG	4	0.056
ACA	CUU	10	0.141
ACA	CUC	0	0
ACA	CUA	5	0.07
ACA	CUG	1	0.014

ACC	AUU	8	0.222
ACC	AUC	0	0
ACC	AUA	2	0.056

ACA	AUU	35	0.972
ACA	AUC	9	0.25
ACA	AUA	6	0.167

ACC	AUG	3	0.214
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ACA	AUG	12	0.857
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ACC	GUU	2	0.095
ACC	GUC	0	0
ACC	GUA	1	0.048
ACC	GUG	1	0.048

ACA	GUU	12	0.571
ACA	GUC	0	0
ACA	GUA	21	1
ACA	GUG	2	0.095

ACC	UCU	5	0.227
ACC	UCC	0	0
ACC	UCA	1	0.045
ACC	UCG	0	0
ACC	AGU	0	0
ACC	AGC	0	0

ACA	UCU	8	0.364
ACA	UCC	1	0.045
ACA	UCA	20	0.909
ACA	UCG	2	0.091
ACA	AGU	22	1
ACA	AGC	4	0.182

ACU	CCU	7	0.304
ACU	CCC	0	0
ACU	CCA	13	0.565
ACU	CCG	1	0.043

ACG	CCU	1	0.043
ACG	CCC	0	0
ACG	CCA	2	0.087
ACG	CCG	0	0

Thr:Thr

ACU	ACU	14	0.359
ACU	ACC	0	0
ACU	ACA	16	0.41
ACU	ACG	2	0.051

ACG	ACU	2	0.051
ACG	ACC	0	0
ACG	ACA	2	0.051
ACG	ACG	1	0.026

Thr:Ala

ACU	GCU	19	0.655
ACU	GCC	4	0.138
ACU	GCA	9	0.31
ACU	GCG	3	0.103

ACG	GCU	3	0.103
ACG	GCC	1	0.034
ACG	GCA	1	0.034
ACG	GCG	0	0

Thr:Tyr

ACU	UAU	17	1
ACU	UAC	9	0.529

ACG	UAU	4	0.235
ACG	UAC	1	0.059

Thr:STOP

ACU	UAA	1	1
ACU	UAG	0	0
ACU	UGA	0	0

ACG	UAA	1	1
ACG	UAG	0	0
ACG	UGA	0	0

Thr:His

ACU	CAU	4	0.308
ACU	CAC	3	0.231

ACG	CAU	5	0.385
ACG	CAC	0	0

Thr:Gln

ACU	CAA	36	0.9
ACU	CAG	2	0.05

ACG	CAA	5	0.125
ACG	CAG	1	0.025

ACC	CCU	1	0.043
ACC	CCC	0	0
ACC	CCA	1	0.043
ACC	CCG	0	0

ACC	ACU	2	0.051
ACC	ACC	0	0
ACC	ACA	2	0.051
ACC	ACG	1	0.026

ACC	GCU	1	0.034
ACC	GCC	0	0
ACC	GCA	2	0.069
ACC	GCG	0	0

ACC	UAU	2	0.118
ACC	UAC	0	0

ACC	UAA	0	0
ACC	UAG	0	0
ACC	UGA	0	0

ACC	CAU	5	0.385
ACC	CAC	1	0.077

ACC	CAA	3	0.075
ACC	CAG	0	0

ACA	CCU	11	0.478
ACA	CCC	1	0.043
ACA	CCA	23	1
ACA	CCG	1	0.043

ACA	ACU	28	0.718
ACA	ACC	2	0.051
ACA	ACA	39	1
ACA	ACG	6	0.154

ACA	GCU	29	1
ACA	GCC	3	0.103
ACA	GCA	28	0.966
ACA	GCG	2	0.069

ACA	UAU	15	0.882
ACA	UAC	4	0.235

ACA	UAA	0	0
ACA	UAG	0	0
ACA	UGA	0	0

ACA	CAU	13	1
ACA	CAC	3	0.231

ACA	CAA	40	1
ACA	CAG	5	0.125

Thr:Asn

ACU	AAU	28	0.459
ACU	AAC	13	0.213

ACG	AAU	5	0.082
ACG	AAC	1	0.016

ACC	AAU	9	0.148
ACC	AAC	1	0.016

ACA	AAU	61	1
ACA	AAC	19	0.311

Thr:Lys

ACU	AAA	59	0.641
ACU	AAG	2	0.022

ACG	AAA	3	0.033
ACG	AAG	0	0

ACC	AAA	5	0.054
ACC	AAG	0	0

ACA	AAA	92	1
ACA	AAG	6	0.065

Thr:Asp

ACU	GAU	18	0.947
ACU	GAC	10	0.526

ACG	GAU	0	0
ACG	GAC	0	0

ACC	GAU	2	0.105
ACC	GAC	2	0.105

ACA	GAU	19	1
ACA	GAC	3	0.158

Thr:Glu

ACU	GAA	24	0.828
ACU	GAG	0	0

ACG	GAA	4	0.138
ACG	GAG	0	0

ACC	GAA	6	0.207
ACC	GAG	0	0

ACA	GAA	29	1
ACA	GAG	3	0.103

Thr:Cys

ACU	UGU	10	1
ACU	UGC	1	0.1

ACG	UGU	1	0.1
ACG	UGC	0	0

ACC	UGU	0	0
ACC	UGC	0	0

ACA	UGU	4	0.4
ACA	UGC	0	0

Thr:Trp

ACU	UGG	7	0.583
ACG	UGG	1	0.083

ACC	UGG	0	0
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ACA	UGG	12	1
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Thr:Arg

ACU	CGU	9	0.273
ACU	CGC	1	0.03
ACU	CGA	1	0.03
ACU	CGG	0	0
ACU	AGA	3	0.091
ACU	AGG	0	0

ACG	CGU	2	0.061
ACG	CGC	0	0
ACG	CGA	2	0.061
ACG	CGG	0	0
ACG	AGA	0	0
ACG	AGG	0	0

ACC	CGU	2	0.061
ACC	CGC	0	0
ACC	CGA	0	0
ACC	CGG	0	0
ACC	AGA	0	0
ACC	AGG	0	0

ACA	CGU	33	1
ACA	CGC	2	0.061
ACA	CGA	4	0.121
ACA	CGG	0	0
ACA	AGA	6	0.182
ACA	AGG	0	0

Thr:Gly

ACU	GGU	24	0.545
ACU	GGC	5	0.114
ACU	GGA	5	0.114
ACU	GGG	1	0.023

ACG	GGU	0	0
ACG	GGC	1	0.023
ACG	GGA	0	0
ACG	GGG	0	0

Ala:Phe

GCU	UUU	21	1
GCU	UUC	16	0.762

GCG	UUU	2	0.095
GCG	UUC	1	0.048

ACC	GGU	3	0.068
ACC	GGC	0	0
ACC	GGA	0	0
ACC	GGG	0	0

GCC	UUU	0	0
GCC	UUC	2	0.095

ACA	GGU	44	1
ACA	GGC	5	0.114
ACA	GGA	9	0.205
ACA	GGG	4	0.091

GCA	UUU	21	1
GCA	UUC	15	0.714

Ala:Leu

GCU	UUA	81	1
GCU	UUG	1	0.012
GCU	CUU	18	0.222
GCU	CUC	0	0
GCU	CUA	7	0.086
GCU	CUG	2	0.025

GCG	UUA	8	0.099
GCG	UUG	1	0.012
GCG	CUU	4	0.049
GCG	CUC	0	0
GCG	CUA	0	0
GCG	CUG	0	0

GCC	UUA	8	0.099
GCC	UUG	0	0
GCC	CUU	1	0.012
GCC	CUC	0	0
GCC	CUA	3	0.037
GCC	CUG	0	0

GCA	UUA	26	0.321
GCA	UUG	0	0
GCA	CUU	9	0.111
GCA	CUC	0	0
GCA	CUA	3	0.037
GCA	CUG	1	0.012

Ala:ile

GCU	AUU	68	1
GCU	AUC	5	0.074
GCU	AUA	3	0.044

GCG	AUU	4	0.059
GCG	AUC	2	0.029
GCG	AUA	0	0

GCC	AUU	10	0.147
GCC	AUC	0	0
GCC	AUA	0	0

GCA	AUU	21	0.309
GCA	AUC	7	0.103
GCA	AUA	2	0.029

Ala:Met

GCU	AUG	20	1
GCG	AUG	0	0

GCC	AUG	7	0.35
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GCA	AUG	12	0.6
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Ala:Val

GCU	GUU	33	1
GCU	GUC	0	0
GCU	GUA	22	0.667
GCU	GUG	1	0.03

GCG	GUU	8	0.242
GCG	GUC	0	0
GCG	GUA	4	0.121
GCG	GUG	0	0

GCC	GUU	1	0.03
GCC	GUC	0	0
GCC	GUA	3	0.091
GCC	GUG	1	0.03

GCA	GUU	13	0.394
GCA	GUC	0	0
GCA	GUA	9	0.273
GCA	GUG	6	0.182

Ala:Ser

GCU	UCU	16	0.552
GCU	UCC	0	0
GCU	UCA	29	1
GCU	UCG	5	0.172
GCU	AGU	10	0.345
GCU	AGC	3	0.103

GCG	UCU	0	0
GCG	UCC	0	0
GCG	UCA	1	0.034
GCG	UCG	1	0.034
GCG	AGU	0	0
GCG	AGC	0	0

Ala:Pro

GCU	CCU	12	0.706
GCU	CCC	0	0
GCU	CCA	17	1
GCU	CCG	3	0.176

GCG	CCU	0	0
GCG	CCC	0	0
GCG	CCA	3	0.176
GCG	CCG	0	0

Ala:Thr

GCU	ACU	26	1
GCU	ACC	2	0.077
GCU	ACA	17	0.654
GCU	ACG	3	0.115

GCG	ACU	1	0.038
GCG	ACC	0	0
GCG	ACA	0	0
GCG	ACG	2	0.077

Ala:Ala

GCU	GCU	46	1
GCU	GCC	3	0.065
GCU	GCA	17	0.37
GCU	GCG	0	0

GCG	GCU	1	0.022
GCG	GCC	0	0
GCG	GCA	3	0.065
GCG	GCG	1	0.022

Ala:Tyr

GCU	UAU	18	1
GCU	UAC	18	1

GCG	UAU	1	0.056
GCG	UAC	0	0

Ala:STOP

GCC	UCU	0	0
GCC	UCC	0	0
GCC	UCA	0	0
GCC	UCG	0	0
GCC	AGU	2	0.069
GCC	AGC	0	0

GCA	UCU	5	0.172
GCA	UCC	3	0.103
GCA	UCA	13	0.448
GCA	UCG	4	0.138
GCA	AGU	6	0.207
GCA	AGC	1	0.034

GCC	CCU	2	0.118
GCC	CCC	0	0
GCC	CCA	1	0.059
GCC	CCG	0	0

GCA	CCU	12	0.706
GCA	CCC	1	0.059
GCA	CCA	9	0.529
GCA	CCG	1	0.059

GCC	ACU	3	0.115
GCC	ACC	0	0
GCC	ACA	6	0.231
GCC	ACG	1	0.038

GCA	ACU	11	0.423
GCA	ACC	1	0.038
GCA	ACA	19	0.731
GCA	ACG	2	0.077

GCC	GCU	3	0.065
GCC	GCC	0	0
GCC	GCA	1	0.022
GCC	GCG	0	0

GCA	GCU	30	0.652
GCA	GCC	3	0.065
GCA	GCA	11	0.239
GCA	GCG	1	0.022

GCC	UAU	0	0
GCC	UAC	1	0.056

GCA	UAU	10	0.556
GCA	UAC	4	0.222

GCU	UAA	4	1
GCU	UAG	0	0
GCU	UGA	0	0

GCG	UAA	0	0
GCG	UAG	0	0
GCG	UGA	0	0

Ala:His

GCU	CAU	10	0.476
GCU	CAC	21	1

GCG	CAU	0	0
GCG	CAC	0	0

Ala:Gln

GCU	CAA	22	0.688
GCU	CAG	0	0

GCG	CAA	8	0.25
GCG	CAG	0	0

Ala:Asn

GCU	AAU	27	1
GCU	AAC	25	0.926

GCG	AAU	3	0.111
GCG	AAC	1	0.037

Ala:Lys

GCU	AAA	49	1
GCU	AAG	3	0.061

GCG	AAA	3	0.061
GCG	AAG	0	0

Ala:Asp

GCU	GAU	17	0.944
GCU	GAC	6	0.333

GCG	GAU	1	0.056
GCG	GAC	1	0.056

Ala:Glu

GCU	GAA	39	1
GCU	GAG	3	0.077

GCG	GAA	3	0.077
GCG	GAG	0	0

Ala:Cys

GCU	UGU	10	1
GCU	UGC	0	0

GCG	UGU	0	0
GCG	UGC	0	0

Ala:Trp

GCU	UGG	14	1
GCG	UGG	1	0.071

Ala:Arg

GCC	UAA	1	0.25
GCC	UAG	0	0
GCC	UGA	0	0

GCC	CAU	2	0.095
GCC	CAC	0	0

GCC	CAA	4	0.125
GCC	CAG	0	0

GCC	AAU	9	0.333
GCC	AAC	1	0.037

GCC	AAA	7	0.143
GCC	AAG	0	0

GCC	GAU	3	0.167
GCC	GAC	0	0

GCC	GAA	5	0.128
GCC	GAG	0	0

GCC	UGU	2	0.2
GCC	UGC	0	0

GCC	UGG	1	0.071
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GCA	UAA	0	0
GCA	UAG	0	0
GCA	UGA	0	0

GCA	CAU	4	0.19
GCA	CAC	4	0.19

GCA	CAA	32	1
GCA	CAG	2	0.063

GCA	AAU	18	0.667
GCA	AAC	10	0.37

GCA	AAA	37	0.755
GCA	AAG	3	0.061

GCA	GAU	18	1
GCA	GAC	5	0.278

GCA	GAA	20	0.513
GCA	GAG	3	0.077

GCA	UGU	3	0.3
GCA	UGC	1	0.1

GCA	UGG	6	0.429
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GCU	CGU	37	1
GCU	CGC	2	0.054
GCU	CGA	4	0.108
GCU	CGG	0	0
GCU	AGA	7	0.189
GCU	AGG	1	0.027

GCC	CGU	1	0.027
GCC	CGC	0	0
GCC	CGA	0	0
GCC	CGG	0	0
GCC	AGA	1	0.027
GCC	AGG	1	0.027

GCA	CGU	28	0.757
GCA	CGC	3	0.081
GCA	CGA	2	0.054
GCA	CGG	0	0
GCA	AGA	3	0.081
GCA	AGG	0	0

GCG	CGU	0	0
GCG	CGC	1	0.027
GCG	CGA	0	0
GCG	CGG	0	0
GCG	AGA	0	0
GCG	AGG	0	0

Ala:Gly

GCU	GGU	46	1
GCU	GGC	2	0.043
GCU	GGA	5	0.109
GCU	GGG	1	0.022

GCC	GGU	3	0.065
GCC	GGC	0	0
GCC	GGA	3	0.065
GCC	GGG	0	0

GCA	GGU	24	0.522
GCA	GGC	4	0.087
GCA	GGA	3	0.065
GCA	GGG	2	0.043

GCG	GGU	7	0.152
GCG	GGC	0	0
GCG	GGA	0	0
GCG	GGG	1	0.022

Tyr:Phe

UAU	UUU	32	1
UAU	UUC	9	0.281

UAC	UUU	10	0.313
UAC	UUC	7	0.219

Tyr:Leu

UAU	UUA	76	1
UAU	UUG	5	0.066
UAU	CUU	3	0.039
UAU	CUC	0	0
UAU	CUA	7	0.092
UAU	CUG	1	0.013

UAC	UUA	17	0.224
UAC	UUG	1	0.013
UAC	CUU	3	0.039
UAC	CUC	0	0
UAC	CUA	3	0.039
UAC	CUG	1	0.013

Tyr:ile

UAU	AUU	32	1
UAU	AUC	8	0.25
UAU	AUA	1	0.031

UAC	AUU	6	0.188
UAC	AUC	4	0.125
UAC	AUA	2	0.063

Tyr:Met

UAU	AUG	12	1
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UAC	AUG	4	0.333
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Tyr:Val

UAU	GUU	14	0.875
UAU	GUC	0	0
UAU	GUA	16	1
UAU	GUG	1	0.063

UAC	GUU	7	0.438
UAC	GUC	1	0.063
UAC	GUA	7	0.438
UAC	GUG	0	0

Tyr:Ser

UAU	UCU	10	0.385
UAU	UCC	2	0.077
UAU	UCA	26	1
UAU	UCG	3	0.115
UAU	AGU	11	0.423
UAU	AGC	1	0.038

UAC	UCU	3	0.115
UAC	UCC	0	0
UAC	UCA	4	0.154
UAC	UCG	0	0
UAC	AGU	8	0.308
UAC	AGC	1	0.038

Tyr:Pro

UAU	CCU	6	0.667
UAU	CCC	0	0
UAU	CCA	7	0.778
UAU	CCG	1	0.111

UAC	CCU	9	1
UAC	CCC	0	0
UAC	CCA	8	0.889
UAC	CCG	2	0.222

Tyr:Thr

UAU	ACU	14	0.778
UAU	ACC	2	0.111
UAU	ACA	18	1
UAU	ACG	4	0.222

UAC	ACU	4	0.222
UAC	ACC	0	0
UAC	ACA	5	0.278
UAC	ACG	0	0

Tyr:Ala

UAU	GCU	19	1
UAU	GCC	4	0.211
UAU	GCA	14	0.737
UAU	GCG	3	0.158

UAC	GCU	7	0.368
UAC	GCC	0	0
UAC	GCA	5	0.263
UAC	GCG	0	0

Tyr:Tyr

UAU	UAU	32	1
UAU	UAC	3	0.094

UAC	UAU	3	0.094
UAC	UAC	4	0.125

Tyr:STOP

UAU	UAA	1	1
UAU	UAG	0	0
UAU	UGA	0	0

UAC	UAA	1	1
UAC	UAG	0	0
UAC	UGA	0	0

Tyr:His

UAU	CAU	8	1
UAU	CAC	6	0.75

UAC	CAU	3	0.375
UAC	CAC	2	0.25

Tyr:Gln

UAU	CAA	25	1
UAU	CAG	1	0.04

UAC	CAA	11	0.44
UAC	CAG	1	0.04

Tyr:Asn

UAU	AAU	47	1
UAU	AAC	9	0.191

UAC	AAU	4	0.085
UAC	AAC	13	0.277

Tyr:Lys

UAU	AAA	44	1
UAU	AAG	6	0.136

UAC	AAA	10	0.227
UAC	AAG	1	0.023

Tyr:Asp

UAU	GAU	17	1
UAU	GAC	2	0.118

UAC	GAU	11	0.647
UAC	GAC	1	0.059

Tyr:Glu

UAU	GAA	30	1
UAU	GAG	0	0

UAC	GAA	3	0.1
UAC	GAG	0	0

Tyr:Cys

UAU	UGU	4	1
UAU	UGC	1	0.25

UAC	UGU	2	0.5
UAC	UGC	2	0.5

Tyr:Trp

UAU	UGG	9	0.9
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UAC	UGG	10	1
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Tyr:Arg

UAU	CGU	18	1
UAU	CGC	3	0.167
UAU	CGA	5	0.278
UAU	CGG	0	0
UAU	AGA	6	0.333
UAU	AGG	0	0

UAC	CGU	11	0.611
UAC	CGC	1	0.056
UAC	CGA	1	0.056
UAC	CGG	0	0
UAC	AGA	0	0
UAC	AGG	0	0

Tyr:Gly

UAU	GGU	19	1
UAU	GGC	2	0.105
UAU	GGA	4	0.211
UAU	GGG	4	0.211

UAC	GGU	16	0.842
UAC	GGC	0	0
UAC	GGA	5	0.263
UAC	GGG	2	0.105

STOP:Phe

UAA	UUU	0	0
UAA	UUC	0	0

UAG	UUU	0	0
UAG	UUC	0	0

UGA	UUU	0	0
UGA	UUC	0	0

STOP:Leu

UAA	UUA	0	0
UAA	UUG	0	0
UAA	CUU	0	0
UAA	CUC	0	0
UAA	CUA	0	0
UAA	CUG	0	0

UAG	UUA	0	0
UAG	UUG	0	0
UAG	CUU	0	0
UAG	CUC	0	0
UAG	CUA	0	0
UAG	CUG	0	0

UGA	UUA	0	0
UGA	UUG	0	0
UGA	CUU	0	0
UGA	CUC	0	0
UGA	CUA	0	0
UGA	CUG	0	0

STOP:ile

UAA	AUU	0	0
UAA	AUC	0	0
UAA	AUA	0	0

UAG	AUU	0	0
UAG	AUC	0	0
UAG	AUA	0	0

UGA	AUU	0	0
UGA	AUC	0	0
UGA	AUA	0	0

STOP:Met

UAA	AUG	0	0
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UAG	AUG	0	0
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UGA	AUG	0	0
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STOP:Val

UAA	GUU	0	0
UAA	GUC	0	0
UAA	GUA	0	0
UAA	GUG	0	0

UAG	GUU	0	0
UAG	GUC	0	0
UAG	GUA	0	0
UAG	GUG	0	0

UGA	GUU	0	0
UGA	GUC	0	0
UGA	GUA	0	0
UGA	GUG	0	0

STOP:Ser

UAA	UCU	0	0
UAA	UCC	0	0
UAA	UCA	0	0
UAA	UCG	0	0
UAA	AGU	0	0
UAA	AGC	0	0

UAG	UCU	0	0
UAG	UCC	0	0
UAG	UCA	0	0
UAG	UCG	0	0
UAG	AGU	0	0
UAG	AGC	0	0

UGA	UCU	0	0
UGA	UCC	0	0
UGA	UCA	0	0
UGA	UCG	0	0
UGA	AGU	0	0
UGA	AGC	0	0

STOP:Pro

UAA	CCU	0	0
UAA	CCC	0	0
UAA	CCA	0	0
UAA	CCG	0	0

UAG	CCU	0	0
UAG	CCC	0	0
UAG	CCA	0	0
UAG	CCG	0	0

UGA	CCU	0	0
UGA	CCC	0	0
UGA	CCA	0	0
UGA	CCG	0	0

STOP:Thr

UAA	ACU	0	0
UAA	ACC	0	0
UAA	ACA	0	0
UAA	ACG	0	0

UAG	ACU	0	0
UAG	ACC	0	0
UAG	ACA	0	0
UAG	ACG	0	0

UGA	ACU	0	0
UGA	ACC	0	0
UGA	ACA	0	0
UGA	ACG	0	0

STOP:Ala

UAA	GCU	0	0
UAA	GCC	0	0
UAA	GCA	0	0
UAA	GCG	0	0

UAG	GCU	0	0
UAG	GCC	0	0
UAG	GCA	0	0
UAG	GCG	0	0

UGA	GCU	0	0
UGA	GCC	0	0
UGA	GCA	0	0
UGA	GCG	0	0

STOP:Tyr

UAA	UAU	0	0
UAA	UAC	0	0

UAG	UAU	0	0
UAG	UAC	0	0

UGA	UAU	0	0
UGA	UAC	0	0

STOP:STOP

UAA	UAA	0	0
UAA	UAG	0	0
UAA	UGA	0	0

UAG	UAA	0	0
UAG	UAG	0	0
UAG	UGA	0	0

UGA	UAA	0	0
UGA	UAG	0	0
UGA	UGA	0	0

STOP:His

UAA	CAU	0	0
UAA	CAC	0	0

UAG	CAU	0	0
UAG	CAC	0	0

UGA	CAU	0	0
UGA	CAC	0	0

STOP:Gln

UAA	CAA	0	0
UAA	CAG	0	0

UAG	CAA	0	0
UAG	CAG	0	0

UGA	CAA	0	0
UGA	CAG	0	0

STOP:Asn

UAA	AAU	0	0
UAA	AAC	0	0

UAG	AAU	0	0
UAG	AAC	0	0

UGA	AAU	0	0
UGA	AAC	0	0

STOP:Lys

UAA	AAA	0	0
UAA	AAG	0	0

UAG	AAA	0	0
UAG	AAG	0	0

UGA	AAA	0	0
UGA	AAG	0	0

STOP:Asp

UAA	GAU	0	0
UAA	GAC	0	0

UAG	GAU	0	0
UAG	GAC	0	0

UGA	GAU	0	0
UGA	GAC	0	0

STOP:Glu

UAA	GAA	0	0
UAA	GAG	0	0

UAG	GAA	0	0
UAG	GAG	0	0

UGA	GAA	0	0
UGA	GAG	0	0

STOP:Cys

UAA	UGU	0	0
UAA	UGC	0	0

UAG	UGU	0	0
UAG	UGC	0	0

UGA	UGU	0	0
UGA	UGC	0	0

STOP:Trp

UAA	UGG	0	0
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UAG	UGG	0	0
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UGA	UGG	0	0
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STOP:Arg

UAA	CGU	0	0
UAA	CGC	0	0
UAA	CGA	0	0
UAA	CGG	0	0
UAA	AGA	0	0
UAA	AGG	0	0

UAG	CGU	0	0
UAG	CGC	0	0
UAG	CGA	0	0
UAG	CGG	0	0
UAG	AGA	0	0
UAG	AGG	0	0

UGA	CGU	0	0
UGA	CGC	0	0
UGA	CGA	0	0
UGA	CGG	0	0
UGA	AGA	0	0
UGA	AGG	0	0

STOP:Gly

UAA	GGU	0	0
UAA	GGC	0	0
UAA	GGA	0	0
UAA	GGG	0	0

UAG	GGU	0	0
UAG	GGC	0	0
UAG	GGA	0	0
UAG	GGG	0	0

UGA	GGU	0	0
UGA	GGC	0	0
UGA	GGA	0	0
UGA	GGG	0	0

His:Phe

CAU	UUU	12	0.706
CAU	UUC	2	0.118

CAC	UUU	4	0.235
CAC	UUC	17	1

His:Leu

CAU	UUA	20	1
CAU	UUG	1	0.05
CAU	CUU	1	0.05
CAU	CUC	0	0
CAU	CUA	1	0.05
CAU	CUG	0	0

CAC	UUA	18	0.9
CAC	UUG	1	0.05
CAC	CUU	5	0.25
CAC	CUC	0	0
CAC	CUA	0	0
CAC	CUG	1	0.05

His:ile

CAU	AUU	16	1
CAU	AUC	4	0.25
CAU	AUA	1	0.063

CAC	AUU	10	0.625
CAC	AUC	3	0.188
CAC	AUA	0	0

His:Met

CAU	AUG	9	1
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CAC	AUG	8	0.889
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His:Val

CAU	GUU	6	0.429
CAU	GUC	1	0.071
CAU	GUA	5	0.357
CAU	GUG	0	0

CAC	GUU	6	0.429
CAC	GUC	0	0
CAC	GUA	14	1
CAC	GUG	0	0

His:Ser

CAU	UCU	2	0.222
CAU	UCC	0	0
CAU	UCA	9	1
CAU	UCG	0	0
CAU	AGU	9	1
CAU	AGC	3	0.333

CAC	UCU	7	0.778
CAC	UCC	0	0
CAC	UCA	4	0.444
CAC	UCG	0	0
CAC	AGU	4	0.444
CAC	AGC	1	0.111

His:Pro

CAU	CCU	6	0.857
CAU	CCC	0	0
CAU	CCA	4	0.571
CAU	CCG	0	0

CAC	CCU	2	0.286
CAC	CCC	0	0
CAC	CCA	7	1
CAC	CCG	0	0

His:Thr

CAU	ACU	8	1
CAU	ACC	2	0.25
CAU	ACA	5	0.625
CAU	ACG	0	0

CAC	ACU	5	0.625
CAC	ACC	0	0
CAC	ACA	3	0.375
CAC	ACG	0	0

His:Ala

CAU	GCU	5	0.625
CAU	GCC	1	0.125
CAU	GCA	4	0.5
CAU	GCG	0	0

CAC	GCU	8	1
CAC	GCC	0	0
CAC	GCA	6	0.75
CAC	GCG	2	0.25

His:Tyr

CAU	UAU	17	1
CAU	UAC	0	0

CAC	UAU	7	0.412
CAC	UAC	4	0.235

His:STOP

CAU	UAA	0	0
CAU	UAG	0	0
CAU	UGA	0	0

CAC	UAA	1	1
CAC	UAG	0	0
CAC	UGA	0	0

His:His

CAU	CAU	1	0.077
CAU	CAC	1	0.077

CAC	CAU	2	0.154
CAC	CAC	13	1

His:Gln

CAU	CAA	9	1
CAU	CAG	1	0.111

CAC	CAA	6	0.667
CAC	CAG	0	0

His:Asn

CAU	AAU	19	1
CAU	AAC	2	0.105

CAC	AAU	3	0.158
CAC	AAC	11	0.579

His:Lys

CAU	AAA	28	1
CAU	AAG	0	0

CAC	AAA	9	0.321
CAC	AAG	2	0.071

His:Asp

CAU	GAU	10	1
CAU	GAC	3	0.3

CAC	GAU	3	0.3
CAC	GAC	1	0.1

His:Glu

CAU	GAA	6	1
CAU	GAG	1	0.167

CAC	GAA	4	0.667
CAC	GAG	2	0.333

His:Cys

CAU	UGU	1	1
CAU	UGC	0	0

CAC	UGU	0	0
CAC	UGC	1	1

His:Trp

CAU	UGG	2	1
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CAC	UGG	2	1
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His:Arg

CAU	CGU	5	0.556
CAU	CGC	0	0
CAU	CGA	2	0.222
CAU	CGG	0	0
CAU	AGA	6	0.667
CAU	AGG	0	0

CAC	CGU	9	1
CAC	CGC	0	0
CAC	CGA	0	0
CAC	CGG	0	0
CAC	AGA	1	0.111
CAC	AGG	1	0.111

His:Gly

CAU	GGU	11	0.846
CAU	GGC	2	0.154
CAU	GGA	7	0.538
CAU	GGG	1	0.077

CAC	GGU	13	1
CAC	GGC	0	0
CAC	GGA	0	0
CAC	GGG	0	0

Gln:Phe

CAA	UUU	21	1
CAA	UUC	10	0.476

CAG	UUU	6	0.286
CAG	UUC	1	0.048

Gln:Leu

CAA	UUA	73	1
CAA	UUG	3	0.041
CAA	CUU	22	0.301
CAA	CUC	0	0
CAA	CUA	7	0.096
CAA	CUG	1	0.014

CAG	UUA	4	0.055
CAG	UUG	1	0.014
CAG	CUU	2	0.027
CAG	CUC	0	0
CAG	CUA	0	0
CAG	CUG	0	0

Gln:ile

CAA	AUU	54	1
CAA	AUC	5	0.093
CAA	AUA	13	0.241

CAG	AUU	5	0.093
CAG	AUC	0	0
CAG	AUA	1	0.019

Gln:Met

CAA	AUG	26	1
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CAG	AUG	1	0.038
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Gln:Val

CAA	GUU	31	1
CAA	GUC	1	0.032
CAA	GUA	31	1
CAA	GUG	1	0.032

CAG	GUU	1	0.032
CAG	GUC	0	0
CAG	GUA	2	0.065
CAG	GUG	0	0

Gln:Ser

CAA	UCU	23	0.958
CAA	UCC	2	0.083
CAA	UCA	13	0.542
CAA	UCG	6	0.25
CAA	AGU	24	1
CAA	AGC	6	0.25

CAG	UCU	1	0.042
CAG	UCC	0	0
CAG	UCA	1	0.042
CAG	UCG	1	0.042
CAG	AGU	1	0.042
CAG	AGC	0	0

Gln:Pro

CAA	CCU	13	0.406
CAA	CCC	3	0.094
CAA	CCA	32	1
CAA	CCG	2	0.063

CAG	CCU	4	0.125
CAG	CCC	0	0
CAG	CCA	1	0.031
CAG	CCG	0	0

Gln:Thr

CAA	ACU	21	0.583
CAA	ACC	8	0.222
CAA	ACA	36	1
CAA	ACG	5	0.139

CAG	ACU	2	0.056
CAG	ACC	1	0.028
CAG	ACA	1	0.028
CAG	ACG	1	0.028

Gln:Ala

CAA	GCU	34	1
CAA	GCC	4	0.118
CAA	GCA	31	0.912
CAA	GCG	3	0.088

CAG	GCU	4	0.118
CAG	GCC	0	0
CAG	GCA	4	0.118
CAG	GCG	0	0

Gln:Tyr

CAA	UAU	26	1
CAA	UAC	7	0.269

CAG	UAU	0	0
CAG	UAC	1	0.038

Gln:STOP

CAA	UAA	2	1
CAA	UAG	0	0
CAA	UGA	0	0

CAG	UAA	0	0
CAG	UAG	0	0
CAG	UGA	0	0

Gln:His

CAA	CAU	8	1
CAA	CAC	6	0.75

CAG	CAU	2	0.25
CAG	CAC	2	0.25

Gln:Gln

CAA	CAA	35	1
CAA	CAG	3	0.086

CAG	CAA	2	0.057
CAG	CAG	1	0.029

Gln:Asn

CAA	AAU	57	1
CAA	AAC	20	0.351

CAG	AAU	5	0.088
CAG	AAC	1	0.018

Gln:Lys

CAA	AAA	89	1
CAA	AAG	8	0.09

CAG	AAA	4	0.045
CAG	AAG	1	0.011

Gln:Asp

CAA	GAU	12	1
CAA	GAC	11	0.917

CAG	GAU	1	0.083
CAG	GAC	0	0

Gln:Glu

CAA	GAA	57	1
CAA	GAG	3	0.053

CAG	GAA	1	0.018
CAG	GAG	1	0.018

Gln:Cys

CAA	UGU	2	1
CAA	UGC	0	0

CAG	UGU	0	0
CAG	UGC	0	0

Gln:Trp

CAA	UGG	8	1
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CAG	UGG	5	0.625
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Gln:Arg

CAA	CGU	31	1
CAA	CGC	2	0.065
CAA	CGA	7	0.226
CAA	CGG	2	0.065
CAA	AGA	6	0.194
CAA	AGG	2	0.065

CAG	CGU	4	0.129
CAG	CGC	1	0.032
CAG	CGA	0	0
CAG	CGG	0	0
CAG	AGA	2	0.065
CAG	AGG	0	0

Gln:Gly

CAA	GGU	42	1
CAA	GGC	2	0.048
CAA	GGA	3	0.071
CAA	GGG	7	0.167

CAG	GGU	1	0.024
CAG	GGC	0	0
CAG	GGA	0	0
CAG	GGG	0	0

Asn:Phe

AAU	UUU	47	1
AAU	UUC	12	0.255

AAC	UUU	15	0.319
AAC	UUC	13	0.277

Asn:Leu

AAU	UUA	132	1
AAU	UUG	6	0.045
AAU	CUU	16	0.121
AAU	CUC	2	0.015
AAU	CUA	15	0.114
AAU	CUG	1	0.008

AAC	UUA	30	0.227
AAC	UUG	6	0.045
AAC	CUU	6	0.045
AAC	CUC	0	0
AAC	CUA	2	0.015
AAC	CUG	0	0

Asn:ile

AAU	AUU	70	1
AAU	AUC	8	0.114
AAU	AUA	19	0.271

Asn:Met

AAU	AUG	21	1
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Asn:Val

AAU	GUU	24	0.828
AAU	GUC	1	0.034
AAU	GUA	29	1
AAU	GUG	7	0.241

AAC	AUU	22	0.314
AAC	AUC	8	0.114
AAC	AUA	3	0.043

AAC	AUG	8	0.381
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AAC	GUU	16	0.552
AAC	GUC	1	0.034
AAC	GUA	15	0.517
AAC	GUG	2	0.069

Asn:Ser

AAU	UCU	25	0.658
AAU	UCC	6	0.158
AAU	UCA	38	1
AAU	UCG	2	0.053
AAU	AGU	21	0.553
AAU	AGC	6	0.158

AAC	UCU	14	0.368
AAC	UCC	1	0.026
AAC	UCA	17	0.447
AAC	UCG	0	0
AAC	AGU	10	0.263
AAC	AGC	5	0.132

Asn:Pro

AAU	CCU	19	0.633
AAU	CCC	1	0.033
AAU	CCA	30	1
AAU	CCG	3	0.1

AAC	CCU	10	0.333
AAC	CCC	1	0.033
AAC	CCA	17	0.567
AAC	CCG	1	0.033

Asn:Thr

AAU	ACU	33	1
AAU	ACC	9	0.273
AAU	ACA	29	0.879
AAU	ACG	10	0.303

AAC	ACU	16	0.485
AAC	ACC	1	0.03
AAC	ACA	9	0.273
AAC	ACG	1	0.03

Asn:Ala

AAU	GCU	31	1
AAU	GCC	5	0.161
AAU	GCA	19	0.613
AAU	GCG	5	0.161

AAC	GCU	12	0.387
AAC	GCC	1	0.032
AAC	GCA	12	0.387
AAC	GCG	2	0.065

Asn:Tyr

AAU	UAU	40	1
AAU	UAC	9	0.225

AAC	UAU	11	0.275
AAC	UAC	6	0.15

Asn:STOP

AAU	UAA	2	0.667
AAU	UAG	0	0
AAU	UGA	0	0

AAC	UAA	3	1
AAC	UAG	1	0.333
AAC	UGA	0	0

Asn:His

AAU	CAU	11	1
AAU	CAC	7	0.636

AAC	CAU	5	0.455
AAC	CAC	5	0.455

Asn:Gln

AAU	CAA	63	1
AAU	CAG	7	0.111

AAC	CAA	27	0.429
AAC	CAG	1	0.016

Asn:Asn

AAU	AAU	66	1
AAU	AAC	21	0.318

AAC	AAU	18	0.273
AAC	AAC	19	0.288

Asn:Lys

AAU	AAA	107	1
AAU	AAG	11	0.103

AAC	AAA	39	0.364
AAC	AAG	1	0.009

Asn:Asp

AAU	GAU	13	1
AAU	GAC	8	0.615

AAC	GAU	8	0.615
AAC	GAC	2	0.154

Asn:Glu

AAU	GAA	22	1
AAU	GAG	0	0

AAC	GAA	14	0.636
AAC	GAG	0	0

Asn:Cys

AAU	UGU	7	1
AAU	UGC	1	0.143

AAC	UGU	3	0.429
AAC	UGC	1	0.143

Asn:Trp

AAU	UGG	5	0.455
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AAC	UGG	11	1
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Asn:Arg

AAU	CGU	20	1
AAU	CGC	0	0
AAU	CGA	5	0.25
AAU	CGG	0	0
AAU	AGA	5	0.25
AAU	AGG	2	0.1

AAC	CGU	18	0.9
AAC	CGC	1	0.05
AAC	CGA	0	0
AAC	CGG	0	0
AAC	AGA	1	0.05
AAC	AGG	1	0.05

Asn:Gly

AAU	GGU	28	1
AAU	GGC	3	0.107
AAU	GGA	14	0.5
AAU	GGG	7	0.25

AAC	GGU	11	0.393
AAC	GGC	2	0.071
AAC	GGA	4	0.143
AAC	GGG	2	0.071

Lys:Phe

AAA	UUU	44	1
AAA	UUC	15	0.341

AAG	UUU	9	0.205
AAG	UUC	1	0.023

Lys:Leu

AAA	UUA	108	1
AAA	UUG	12	0.111
AAA	CUU	28	0.259
AAA	CUC	0	0
AAA	CUA	16	0.148
AAA	CUG	7	0.065

AAG	UUA	5	0.046
AAG	UUG	3	0.028
AAG	CUU	4	0.037
AAG	CUC	0	0
AAG	CUA	1	0.009
AAG	CUG	0	0

Lys:ile

AAA	AUU	107	1
AAA	AUC	13	0.121
AAA	AUA	19	0.178

AAG	AUU	4	0.037
AAG	AUC	2	0.019
AAG	AUA	2	0.019

Lys:Met

AAA	AUG	33	1
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AAG	AUG	2	0.061
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Lys:Val

AAA	GUU	28	0.651
AAA	GUC	2	0.047
AAA	GUA	43	1
AAA	GUG	13	0.302

AAG	GUU	3	0.07
AAG	GUC	0	0
AAG	GUA	1	0.023
AAG	GUG	2	0.047

Lys:Ser

AAA	UCU	30	0.652
AAA	UCC	9	0.196
AAA	UCA	46	1
AAA	UCG	13	0.283
AAA	AGU	23	0.5
AAA	AGC	7	0.152

AAG	UCU	1	0.022
AAG	UCC	0	0
AAG	UCA	1	0.022
AAG	UCG	0	0
AAG	AGU	5	0.109
AAG	AGC	0	0

Lys:Pro

AAA	CCU	31	0.564
AAA	CCC	1	0.018
AAA	CCA	55	1
AAA	CCG	7	0.127

AAG	CCU	1	0.018
AAG	CCC	0	0
AAG	CCA	1	0.018
AAG	CCG	0	0

Lys:Thr

AAA	ACU	56	0.56
AAA	ACC	10	0.1
AAA	ACA	100	1
AAA	ACG	6	0.06

AAG	ACU	2	0.02
AAG	ACC	0	0
AAG	ACA	0	0
AAG	ACG	0	0

Lys:Ala

AAA	GCU	51	1
AAA	GCC	11	0.216
AAA	GCA	47	0.922
AAA	GCG	10	0.196

AAG	GCU	1	0.02
AAG	GCC	2	0.039
AAG	GCA	0	0
AAG	GCG	1	0.02

Lys:Tyr

AAA	UAU	52	1
AAA	UAC	9	0.173

AAG	UAU	5	0.096
AAG	UAC	0	0

Lys:STOP

AAA	UAA	7	1
AAA	UAG	0	0
AAA	UGA	0	0

AAG	UAA	0	0
AAG	UAG	0	0
AAG	UGA	0	0

Lys:His

AAA	CAU	23	1
AAA	CAC	7	0.304

AAG	CAU	0	0
AAG	CAC	0	0

Lys:Gln

AAA	CAA	104	1
AAA	CAG	5	0.048

AAG	CAA	13	0.125
AAG	CAG	2	0.019

Lys:Asn

AAA	AAU	108	1
AAA	AAC	28	0.259

AAG	AAU	6	0.056
AAG	AAC	2	0.019

Lys:Lys

AAA	AAA	192	1
AAA	AAG	15	0.078

AAG	AAA	22	0.115
AAG	AAG	1	0.005

Lys:Asp

AAA	GAU	51	1
AAA	GAC	14	0.275

AAG	GAU	0	0
AAG	GAC	0	0

Lys:Glu

AAA	GAA	90	1
AAA	GAG	10	0.111

AAG	GAA	2	0.022
AAG	GAG	1	0.011

Lys:Cys

AAA	UGU	4	1
AAA	UGC	0	0

AAG	UGU	0	0
AAG	UGC	1	0.25

Lys:Trp

AAA	UGG	16	1
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AAG	UGG	1	0.063
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Lys:Arg

AAA	CGU	86	1
AAA	CGC	9	0.105
AAA	CGA	4	0.047
AAA	CGG	0	0
AAA	AGA	9	0.105
AAA	AGG	3	0.035

AAG	CGU	5	0.058
AAG	CGC	2	0.023
AAG	CGA	0	0
AAG	CGG	0	0
AAG	AGA	1	0.012
AAG	AGG	0	0

Lys:Gly

AAA	GGU	63	1
AAA	GGC	8	0.127
AAA	GGA	16	0.254
AAA	GGG	6	0.095

AAG	GGU	3	0.048
AAG	GGC	0	0
AAG	GGA	1	0.016
AAG	GGG	0	0

Asp:Phe

GAU	UUU	38	1
GAU	UUC	10	0.263

GAC	UUU	9	0.237
GAC	UUC	7	0.184

Asp:Leu

GAU	UUA	65	1
GAU	UUG	2	0.031
GAU	CUU	0	0
GAU	CUC	0	0
GAU	CUA	2	0.031
GAU	CUG	0	0

GAC	UUA	13	0.2
GAC	UUG	0	0
GAC	CUU	6	0.092
GAC	CUC	0	0
GAC	CUA	0	0
GAC	CUG	0	0

Asp:ile

GAU	AUU	51	1
GAU	AUC	3	0.059
GAU	AUA	3	0.059

GAC	AUU	6	0.118
GAC	AUC	5	0.098
GAC	AUA	0	0

Asp:Met

GAU	AUG	13	1
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GAC	AUG	5	0.385
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Asp:Val

GAU	GUU	15	1
GAU	GUC	0	0
GAU	GUA	14	0.933
GAU	GUG	1	0.067

GAC	GUU	11	0.733
GAC	GUC	1	0.067
GAC	GUA	8	0.533
GAC	GUG	0	0

Asp:Ser

GAU	UCU	11	0.846
GAU	UCC	0	0
GAU	UCA	11	0.846
GAU	UCG	1	0.077
GAU	AGU	13	1
GAU	AGC	4	0.308

GAC	UCU	1	0.077
GAC	UCC	0	0
GAC	UCA	6	0.462
GAC	UCG	0	0
GAC	AGU	6	0.462
GAC	AGC	1	0.077

Asp:Pro

GAU	CCU	13	0.867
GAU	CCC	0	0
GAU	CCA	15	1
GAU	CCG	0	0

GAC	CCU	8	0.533
GAC	CCC	0	0
GAC	CCA	7	0.467
GAC	CCG	0	0

Asp:Thr

GAU	ACU	22	1
GAU	ACC	1	0.045
GAU	ACA	16	0.727
GAU	ACG	2	0.091

GAC	ACU	2	0.091
GAC	ACC	0	0
GAC	ACA	1	0.045
GAC	ACG	0	0

Asp:Ala

GAU	GCU	23	1
GAU	GCC	0	0
GAU	GCA	13	0.565
GAU	GCG	1	0.043

GAC	GCU	2	0.087
GAC	GCC	0	0
GAC	GCA	2	0.087
GAC	GCG	0	0

Asp:Tyr

GAU	UAU	28	1
GAU	UAC	4	0.143

GAC	UAU	1	0.036
GAC	UAC	8	0.286

Asp:STOP

GAU	UAA	2	0.667
GAU	UAG	0	0
GAU	UGA	0	0

GAC	UAA	3	1
GAC	UAG	0	0
GAC	UGA	0	0

Asp:His

GAU	CAU	7	1
GAU	CAC	4	0.571

GAC	CAU	2	0.286
GAC	CAC	3	0.429

Asp:Gln

GAU	CAA	20	1
GAU	CAG	1	0.05

GAC	CAA	11	0.55
GAC	CAG	0	0

Asp:Asn

GAU	AAU	33	1
GAU	AAC	14	0.424

GAC	AAU	8	0.242
GAC	AAC	3	0.091

Asp:Lys

GAU	AAA	50	1
GAU	AAG	3	0.06

GAC	AAA	15	0.3
GAC	AAG	1	0.02

Asp:Asp

GAU	GAU	17	1
GAU	GAC	8	0.471

GAC	GAU	3	0.176
GAC	GAC	1	0.059

Asp:Glu

GAU	GAA	21	1
GAU	GAG	0	0

GAC	GAA	4	0.19
GAC	GAG	2	0.095

Asp:Cys

GAU	UGU	5	1
GAU	UGC	0	0

GAC	UGU	3	0.6
GAC	UGC	0	0

Asp:Trp

GAU	UGG	5	1
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GAC	UGG	2	0.4
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Asp:Arg

GAU	CGU	15	1
GAU	CGC	4	0.267
GAU	CGA	2	0.133
GAU	CGG	1	0.067
GAU	AGA	2	0.133
GAU	AGG	0	0

GAC	CGU	12	0.8
GAC	CGC	0	0
GAC	CGA	0	0
GAC	CGG	0	0
GAC	AGA	2	0.133
GAC	AGG	0	0

Asp:Gly

GAU	GGU	28	1
GAU	GGC	4	0.143
GAU	GGA	5	0.179
GAU	GGG	1	0.036

GAC	GGU	13	0.464
GAC	GGC	1	0.036
GAC	GGA	2	0.071
GAC	GGG	1	0.036

Glu:Phe

GAA	UUU	18	1
GAA	UUC	11	0.611

GAG	UUU	9	0.5
GAG	UUC	3	0.167

Glu:Leu

GAA	UUA	68	1
GAA	UUG	2	0.029
GAA	CUU	17	0.25
GAA	CUC	2	0.029
GAA	CUA	7	0.103
GAA	CUG	4	0.059

GAG	UUA	5	0.074
GAG	UUG	2	0.029
GAG	CUU	0	0
GAG	CUC	0	0
GAG	CUA	3	0.044
GAG	CUG	0	0

Glu:ile

GAA	AUU	70	1
GAA	AUC	19	0.271
GAA	AUA	4	0.057

GAG	AUU	3	0.043
GAG	AUC	0	0
GAG	AUA	1	0.014

Glu:Met

GAA	AUG	36	1
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GAG	AUG	1	0.028
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Glu:Val

GAA	GUU	29	1
GAA	GUC	1	0.034
GAA	GUA	19	0.655
GAA	GUG	6	0.207

GAG	GUU	2	0.069
GAG	GUC	0	0
GAG	GUA	0	0
GAG	GUG	0	0

Glu:Ser

GAA	UCU	13	0.591
GAA	UCC	0	0
GAA	UCA	16	0.727
GAA	UCG	6	0.273
GAA	AGU	22	1
GAA	AGC	6	0.273

GAG	UCU	0	0
GAG	UCC	0	0
GAG	UCA	1	0.045
GAG	UCG	0	0
GAG	AGU	3	0.136
GAG	AGC	0	0

Glu:Pro

GAA	CCU	12	0.923
GAA	CCC	0	0
GAA	CCA	13	1
GAA	CCG	1	0.077

GAG	CCU	1	0.077
GAG	CCC	0	0
GAG	CCA	3	0.231
GAG	CCG	0	0

Glu:Thr

GAA	ACU	34	0.85
GAA	ACC	8	0.2
GAA	ACA	40	1
GAA	ACG	2	0.05

GAG	ACU	0	0
GAG	ACC	0	0
GAG	ACA	3	0.075
GAG	ACG	0	0

Glu:Ala

GAA	GCU	47	1
GAA	GCC	4	0.085
GAA	GCA	22	0.468
GAA	GCG	3	0.064

GAG	GCU	1	0.021
GAG	GCC	1	0.021
GAG	GCA	1	0.021
GAG	GCG	0	0

Glu:Tyr

GAA	UAU	17	1
GAA	UAC	7	0.412

GAG	UAU	1	0.059
GAG	UAC	1	0.059

Glu:STOP

GAA	UAA	1	1
GAA	UAG	0	0
GAA	UGA	0	0

GAG	UAA	0	0
GAG	UAG	0	0
GAG	UGA	0	0

Glu:His

GAA	CAU	11	1
GAA	CAC	7	0.636

GAG	CAU	1	0.091
GAG	CAC	0	0

Glu:Gln

GAA	CAA	37	1
GAA	CAG	1	0.027

GAG	CAA	6	0.162
GAG	CAG	3	0.081

Glu:Asn

GAA	AAU	47	1
GAA	AAC	15	0.319

GAG	AAU	1	0.021
GAG	AAC	1	0.021

Glu:Lys

GAA	AAA	99	1
GAA	AAG	4	0.04

GAG	AAA	6	0.061
GAG	AAG	1	0.01

Glu:Asp

GAA	GAU	31	1
GAA	GAC	11	0.355

GAG	GAU	2	0.065
GAG	GAC	1	0.032

Glu:Glu

GAA	GAA	63	1
GAA	GAG	9	0.143

GAG	GAA	7	0.111
GAG	GAG	1	0.016

Glu:Cys

GAA	UGU	11	1
GAA	UGC	0	0

GAG	UGU	0	0
GAG	UGC	0	0

Glu:Trp

GAA	UGG	6	1
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GAG	UGG	6	1
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Glu:Arg

GAA	CGU	36	1
GAA	CGC	4	0.111
GAA	CGA	2	0.056
GAA	CGG	0	0
GAA	AGA	2	0.056
GAA	AGG	1	0.028

GAG	CGU	5	0.139
GAG	CGC	1	0.028
GAG	CGA	0	0
GAG	CGG	0	0
GAG	AGA	1	0.028
GAG	AGG	0	0

Glu:Gly

GAA	GGU	53	1
GAA	GGC	9	0.17
GAA	GGA	14	0.264
GAA	GGG	17	0.321

GAG	GGU	2	0.038
GAG	GGC	0	0
GAG	GGA	1	0.019
GAG	GGG	0	0

Cys:Phe

UGU	UUU	7	1
UGU	UUC	2	0.286

UGC	UUU	0	0
UGC	UUC	0	0

Cys:Leu

UGU	UUA	16	1
UGU	UUG	1	0.063
UGU	CUU	4	0.25
UGU	CUC	0	0
UGU	CUA	0	0
UGU	CUG	0	0

UGC	UUA	2	0.125
UGC	UUG	0	0
UGC	CUU	0	0
UGC	CUC	0	0
UGC	CUA	1	0.063
UGC	CUG	0	0

Cys:ile

UGU	AUU	11	1
UGU	AUC	1	0.091
UGU	AUA	0	0

UGC	AUU	0	0
UGC	AUC	0	0
UGC	AUA	1	0.091

Cys:Met

UGU	AUG	2	1
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UGC	AUG	1	0.5
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Cys:Val

UGU	GUU	3	0.5
UGU	GUC	0	0
UGU	GUA	6	1
UGU	GUG	0	0

UGC	GUU	0	0
UGC	GUC	0	0
UGC	GUA	0	0
UGC	GUG	0	0

Cys:Ser

UGU	UCU	3	0.75
UGU	UCC	0	0
UGU	UCA	4	1
UGU	UCG	1	0.25
UGU	AGU	2	0.5
UGU	AGC	1	0.25

UGC	UCU	0	0
UGC	UCC	0	0
UGC	UCA	0	0
UGC	UCG	0	0
UGC	AGU	0	0
UGC	AGC	0	0

Cys:Pro

UGU	CCU	3	0.75
UGU	CCC	1	0.25
UGU	CCA	4	1
UGU	CCG	0	0

UGC	CCU	1	0.25
UGC	CCC	0	0
UGC	CCA	0	0
UGC	CCG	2	0.5

Cys:Thr

UGU	ACU	3	0.5
UGU	ACC	1	0.167
UGU	ACA	6	1
UGU	ACG	1	0.167

UGC	ACU	0	0
UGC	ACC	0	0
UGC	ACA	2	0.333
UGC	ACG	0	0

Cys:Ala

UGU	GCU	5	1
UGU	GCC	1	0.2
UGU	GCA	3	0.6
UGU	GCG	2	0.4

UGC	GCU	1	0.2
UGC	GCC	0	0
UGC	GCA	0	0
UGC	GCG	0	0

Cys:Tyr

UGU	UAU	3	1
UGU	UAC	2	0.667

UGC	UAU	0	0
UGC	UAC	2	0.667

Cys:STOP

UGU	UAA	0	0
UGU	UAG	0	0
UGU	UGA	0	0

Cys:His

UGU	CAU	1	0.333
UGU	CAC	3	1

UGC	UAA	0	0
UGC	UAG	0	0
UGC	UGA	0	0

UGC	CAU	0	0
UGC	CAC	0	0

Cys:Gln

UGU	CAA	6	1
UGU	CAG	1	0.167

UGC	CAA	2	0.333
UGC	CAG	0	0

Cys:Asn

UGU	AAU	9	1
UGU	AAC	3	0.333

UGC	AAU	1	0.111
UGC	AAC	0	0

Cys:Lys

UGU	AAA	8	1
UGU	AAG	0	0

UGC	AAA	2	0.25
UGC	AAG	0	0

Cys:Asp

UGU	GAU	5	1
UGU	GAC	3	0.6

UGC	GAU	1	0.2
UGC	GAC	0	0

Cys:Glu

UGU	GAA	6	1
UGU	GAG	3	0.5

UGC	GAA	1	0.167
UGC	GAG	0	0

Cys:Cys

UGU	UGU	3	1
UGU	UGC	0	0

UGC	UGU	0	0
UGC	UGC	0	0

Cys:Trp

UGU	UGG	5	1
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UGC	UGG	1	0.2
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Cys:Arg

UGU	CGU	7	1
UGU	CGC	0	0
UGU	CGA	0	0
UGU	CGG	0	0
UGU	AGA	0	0
UGU	AGG	0	0

UGC	CGU	0	0
UGC	CGC	0	0
UGC	CGA	0	0
UGC	CGG	0	0
UGC	AGA	0	0
UGC	AGG	0	0

Cys:Gly

UGU	GGU	13	1
UGU	GGC	3	0.231
UGU	GGA	0	0
UGU	GGG	0	0

UGC	GGU	0	0
UGC	GGC	0	0
UGC	GGA	0	0
UGC	GGG	0	0

Trp:Phe

UGG	UUU	20	1
UGG	UUC	10	0.5

Trp:Leu

UGG	UUA	38	1
UGG	UUG	0	0
UGG	CUU	7	0.184
UGG	CUC	0	0
UGG	CUA	1	0.026
UGG	CUG	1	0.026

Trp:Ile

UGG	AUU	16	1
UGG	AUC	7	0.438
UGG	AUA	3	0.188

Trp:Met

UGG	AUG	6	1
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Trp:Val

UGG	GUU	16	1
UGG	GUC	0	0
UGG	GUA	4	0.25
UGG	GUG	0	0

Trp:Ser

UGG	UCU	6	0.6
UGG	UCC	0	0
UGG	UCA	10	1
UGG	UCG	3	0.3
UGG	AGU	8	0.8
UGG	AGC	2	0.2

Trp:Pro

UGG	CCU	2	1
UGG	CCC	2	1
UGG	CCA	2	1
UGG	CCG	2	1

Trp:Thr

UGG	ACU	9	1
UGG	ACC	1	0.111
UGG	ACA	5	0.556
UGG	ACG	0	0

Trp:Ala

UGG	GCU	11	0.917
UGG	GCC	2	0.167
UGG	GCA	12	1
UGG	GCG	4	0.333

Trp:Tyr

UGG	UAU	7	1
UGG	UAC	2	0.286

Trp:STOP

UGG	UAA	2	1
UGG	UAG	0	0
UGG	UGA	0	0

Trp:His

UGG	CAU	4	0.571
UGG	CAC	7	1

Trp:Gln

UGG	CAA	12	1
UGG	CAG	1	0.083

Trp:Asn

UGG	AAU	10	1
UGG	AAC	4	0.4

Trp:Lys

UGG	AAA	14	1
UGG	AAG	2	0.143

Trp:Asp

UGG	GAU	7	1
UGG	GAC	5	0.714

Trp:Glu

UGG	GAA	12	1
UGG	GAG	0	0

Trp:Cys

UGG	UGU	3	1
UGG	UGC	0	0

Trp:Trp

UGG	UGG	9	1
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Trp:Arg

UGG	CGU	6	1
UGG	CGC	0	0
UGG	CGA	1	0.167
UGG	CGG	0	0
UGG	AGA	3	0.5
UGG	AGG	0	0

Trp:Gly

UGG	GGU	13	1
UGG	GGC	1	0.077
UGG	GGA	1	0.077
UGG	GGG	0	0

Arg:Phe

CGU	UUU	30	1
CGU	UUC	18	0.6

CGG	UUU	0	0
CGG	UUC	0	0

CGC	UUU	0	0
CGC	UUC	0	0

AGA	UUU	3	0.1
AGA	UUC	2	0.067

CGA	UUU	1	0.033
CGA	UUC	1	0.033

AGG	UUU	0	0
AGG	UUC	2	0.067

Arg:Leu

CGU	UUA	78	1
CGU	UUG	2	0.026
CGU	CUU	3	0.038
CGU	CUC	0	0
CGU	CUA	4	0.051
CGU	CUG	1	0.013

CGC	UUA	4	0.051
CGC	UUG	0	0
CGC	CUU	2	0.026
CGC	CUC	0	0
CGC	CUA	0	0
CGC	CUG	0	0

CGA	UUA	6	0.077
CGA	UUG	0	0
CGA	CUU	1	0.013
CGA	CUC	0	0
CGA	CUA	1	0.013
CGA	CUG	1	0.013

CGG	UUA	1	0.013
CGG	UUG	0	0
CGG	CUU	0	0
CGG	CUC	0	0
CGG	CUA	0	0
CGG	CUG	0	0

AGA	UUA	7	0.09
AGA	UUG	2	0.026
AGA	CUU	1	0.013
AGA	CUC	1	0.013
AGA	CUA	0	0
AGA	CUG	1	0.013

AGG	UUA	1	0.013
AGG	UUG	1	0.013
AGG	CUU	0	0
AGG	CUC	0	0
AGG	CUA	0	0
AGG	CUG	0	0

Arg:ile

CGU	AUU	38	1
CGU	AUC	4	0.105
CGU	AUA	4	0.105

CGC	AUU	8	0.211
CGC	AUC	0	0
CGC	AUA	0	0

CGA	AUU	2	0.053
CGA	AUC	0	0
CGA	AUA	0	0

CGG	AUU	1	0.026
CGG	AUC	0	0
CGG	AUA	0	0

AGA	AUU	6	0.158
AGA	AUC	0	0
AGA	AUA	0	0

AGG	AUU	0	0
AGG	AUC	0	0
AGG	AUA	0	0

Arg:Met

CGU	AUG	18	1
CGG	AUG	0	0

CGC	AUG	0	0
AGA	AUG	1	0.056

CGA	AUG	1	0.056
AGG	AUG	0	0

Arg:Val

CGU	GUU	31	1
CGU	GUC	2	0.065
CGU	GUA	25	0.806
CGU	GUG	0	0

CGC	GUU	5	0.161
CGC	GUC	0	0
CGC	GUA	1	0.032
CGC	GUG	0	0

CGA	GUU	3	0.097
CGA	GUC	0	0
CGA	GUA	1	0.032
CGA	GUG	0	0

CGG	GUU	2	0.065
CGG	GUC	0	0
CGG	GUA	0	0
CGG	GUG	0	0

AGA	GUU	3	0.097
AGA	GUC	0	0
AGA	GUA	1	0.032
AGA	GUG	1	0.032

AGG	GUU	2	0.065
AGG	GUC	0	0
AGG	GUA	0	0
AGG	GUG	0	0

Arg:Ser

CGU	UCU	10	0.357
CGU	UCC	1	0.036
CGU	UCA	28	1
CGU	UCG	3	0.107
CGU	AGU	7	0.25
CGU	AGC	7	0.25

CGC	UCU	1	0.036
CGC	UCC	0	0
CGC	UCA	1	0.036
CGC	UCG	0	0
CGC	AGU	3	0.107
CGC	AGC	0	0

CGA	UCU	1	0.036
CGA	UCC	0	0
CGA	UCA	1	0.036
CGA	UCG	0	0
CGA	AGU	1	0.036
CGA	AGC	0	0

CGG	UCU	0	0
CGG	UCC	0	0
CGG	UCA	0	0
CGG	UCG	0	0
CGG	AGU	0	0
CGG	AGC	0	0

AGA	UCU	1	0.036
AGA	UCC	0	0
AGA	UCA	1	0.036
AGA	UCG	0	0
AGA	AGU	1	0.036
AGA	AGC	0	0

AGG	UCU	1	0.036
AGG	UCC	0	0
AGG	UCA	1	0.036
AGG	UCG	0	0
AGG	AGU	0	0
AGG	AGC	0	0

Arg:Pro

CGU	CCU	13	0.65
CGU	CCC	1	0.05
CGU	CCA	20	1
CGU	CCG	2	0.1

CGG	CCU	0	0
CGG	CCC	0	0
CGG	CCA	0	0
CGG	CCG	0	0

Arg:Thr

CGU	ACU	16	0.762
CGU	ACC	0	0
CGU	ACA	21	1
CGU	ACG	3	0.143

CGG	ACU	0	0
CGG	ACC	0	0
CGG	ACA	0	0
CGG	ACG	0	0

CGC	CCU	0	0
CGC	CCC	0	0
CGC	CCA	3	0.15
CGC	CCG	0	0

AGA	CCU	3	0.15
AGA	CCC	0	0
AGA	CCA	5	0.25
AGA	CCG	0	0

CGA	CCU	3	0.15
CGA	CCC	1	0.05
CGA	CCA	3	0.15
CGA	CCG	0	0

AGG	CCU	0	0
AGG	CCC	0	0
AGG	CCA	0	0
AGG	CCG	0	0

Arg:Ala

CGU	GCU	36	1
CGU	GCC	3	0.083
CGU	GCA	17	0.472
CGU	GCG	0	0

CGG	GCU	0	0
CGG	GCC	0	0
CGG	GCA	0	0
CGG	GCG	0	0

CGC	GCU	2	0.056
CGC	GCC	0	0
CGC	GCA	2	0.056
CGC	GCG	0	0

AGA	GCU	1	0.028
AGA	GCC	1	0.028
AGA	GCA	2	0.056
AGA	GCG	1	0.028

CGA	GCU	3	0.083
CGA	GCC	0	0
CGA	GCA	5	0.139
CGA	GCG	0	0

AGG	GCU	0	0
AGG	GCC	0	0
AGG	GCA	0	0
AGG	GCG	0	0

Arg:Tyr

CGU	UAU	34	1
CGU	UAC	7	0.206

CGG	UAU	0	0
CGG	UAC	0	0

CGC	UAU	4	0.118
CGC	UAC	0	0

AGA	UAU	1	0.029
AGA	UAC	0	0

CGA	UAU	2	0.059
CGA	UAC	0	0

AGG	UAU	1	0.029
AGG	UAC	0	0

Arg:STOP

CGU	UAA	4	1
CGU	UAG	0	0
CGU	UGA	0	0

CGG	UAA	0	0
CGG	UAG	0	0
CGG	UGA	0	0

CGC	UAA	0	0
CGC	UAG	0	0
CGC	UGA	0	0

AGA	UAA	0	0
AGA	UAG	0	0
AGA	UGA	0	0

CGA	UAA	0	0
CGA	UAG	0	0
CGA	UGA	0	0

AGG	UAA	0	0
AGG	UAG	0	0
AGG	UGA	0	0

Arg:His

CGU	CAU	9	1
CGU	CAC	4	0.444

CGG	CAU	0	0
CGG	CAC	0	0

CGC	CAU	2	0.222
CGC	CAC	1	0.111

AGA	CAU	3	0.333
AGA	CAC	0	0

CGA	CAU	1	0.111
CGA	CAC	0	0

AGG	CAU	0	0
AGG	CAC	0	0

Arg:Gln

CGU	CAA	27	1
CGU	CAG	1	0.037

CGG	CAA	0	0
CGG	CAG	0	0

CGC	CAA	4	0.148
CGC	CAG	0	0

AGA	CAA	8	0.296
AGA	CAG	0	0

CGA	CAA	8	0.296
CGA	CAG	0	0

AGG	CAA	0	0
AGG	CAG	0	0

Arg:Asn

CGU	AAU	26	1
CGU	AAC	13	0.5

CGG	AAU	0	0
CGG	AAC	0	0

CGC	AAU	2	0.077
CGC	AAC	1	0.038

AGA	AAU	11	0.423
AGA	AAC	4	0.154

CGA	AAU	9	0.346
CGA	AAC	1	0.038

AGG	AAU	0	0
AGG	AAC	0	0

Arg:Lys

CGU	AAA	70	1
CGU	AAG	1	0.014

CGG	AAA	0	0
CGG	AAG	0	0

CGC	AAA	3	0.043
CGC	AAG	0	0

AGA	AAA	20	0.286
AGA	AAG	2	0.029

CGA	AAA	8	0.114
CGA	AAG	0	0

AGG	AAA	2	0.029
AGG	AAG	0	0

Arg:Asp

CGU	GAU	22	1
CGU	GAC	14	0.636

CGG	GAU	0	0
CGG	GAC	0	0

CGC	GAU	1	0.045
CGC	GAC	0	0

AGA	GAU	7	0.318
AGA	GAC	0	0

CGA	GAU	2	0.091
CGA	GAC	1	0.045

AGG	GAU	0	0
AGG	GAC	1	0.045

Arg:Glu

CGU	GAA	48	1
CGU	GAG	9	0.188

CGG	GAA	2	0.042
CGG	GAG	0	0

CGC	GAA	5	0.104
CGC	GAG	0	0

AGA	GAA	5	0.104
AGA	GAG	3	0.063

CGA	GAA	4	0.083
CGA	GAG	0	0

AGG	GAA	2	0.042
AGG	GAG	0	0

Arg:Cys

CGU	UGU	7	1
CGU	UGC	0	0

CGG	UGU	0	0
CGG	UGC	0	0

CGC	UGU	0	0
CGC	UGC	0	0

AGA	UGU	0	0
AGA	UGC	0	0

CGA	UGU	1	0.143
CGA	UGC	0	0

AGG	UGU	0	0
AGG	UGC	0	0

Arg:Trp

CGU	UGG	15	1
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CGG	UGG	0	0
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CGC	UGG	2	0.133
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AGA	UGG	2	0.133
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CGA	UGG	1	0.067
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AGG	UGG	0	0
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Arg:Arg

CGU	CGU	47	1
CGU	CGC	0	0
CGU	CGA	3	0.064
CGU	CGG	0	0
CGU	AGA	1	0.021
CGU	AGG	0	0

CGG	CGU	0	0
CGG	CGC	0	0
CGG	CGA	0	0
CGG	CGG	0	0
CGG	AGA	0	0
CGG	AGG	0	0

CGC	CGU	1	0.021
CGC	CGC	0	0
CGC	CGA	0	0
CGC	CGG	0	0
CGC	AGA	1	0.021
CGC	AGG	0	0

AGA	CGU	4	0.085
AGA	CGC	1	0.021
AGA	CGA	1	0.021
AGA	CGG	0	0
AGA	AGA	4	0.085
AGA	AGG	0	0

CGA	CGU	4	0.085
CGA	CGC	1	0.021
CGA	CGA	0	0
CGA	CGG	0	0
CGA	AGA	0	0
CGA	AGG	0	0

AGG	CGU	0	0
AGG	CGC	0	0
AGG	CGA	0	0
AGG	CGG	0	0
AGG	AGA	0	0
AGG	AGG	0	0

Arg:Gly

CGU	GGU	61	1
CGU	GGC	3	0.049
CGU	GGA	5	0.082
CGU	GGG	0	0

CGC	GGU	2	0.033
CGC	GGC	0	0
CGC	GGA	0	0
CGC	GGG	0	0

CGA	GGU	5	0.082
CGA	GGC	0	0
CGA	GGA	1	0.016
CGA	GGG	0	0

CGG	GGU	0	0
CGG	GGC	0	0
CGG	GGA	0	0
CGG	GGG	0	0

AGA	GGU	6	0.098
AGA	GGC	1	0.016
AGA	GGA	2	0.033
AGA	GGG	1	0.016

AGG	GGU	1	0.016
AGG	GGC	0	0
AGG	GGA	2	0.033
AGG	GGG	0	0

Gly:Phe

GGU	UUU	45	1
GGU	UUC	29	0.644

GGC	UUU	4	0.089
GGC	UUC	2	0.044

GGA	UUU	6	0.133
GGA	UUC	2	0.044

GGG	UUU	4	0.089
GGG	UUC	0	0

Gly:Leu

GGU	UUA	98	1
GGU	UUG	0	0
GGU	CUU	24	0.245
GGU	CUC	0	0
GGU	CUA	7	0.071
GGU	CUG	1	0.01

GGC	UUA	9	0.092
GGC	UUG	2	0.02
GGC	CUU	4	0.041
GGC	CUC	0	0
GGC	CUA	0	0
GGC	CUG	1	0.01

GGA	UUA	18	0.184
GGA	UUG	1	0.01
GGA	CUU	1	0.01
GGA	CUC	0	0
GGA	CUA	0	0
GGA	CUG	0	0

GGG	UUA	6	0.061
GGG	UUG	0	0
GGG	CUU	1	0.01
GGG	CUC	0	0
GGG	CUA	2	0.02
GGG	CUG	1	0.01

Gly:ile

GGU	AUU	85	1
GGU	AUC	14	0.165
GGU	AUA	8	0.094

GGC	AUU	4	0.047
GGC	AUC	0	0
GGC	AUA	3	0.035

GGA	AUU	5	0.059
GGA	AUC	1	0.012
GGA	AUA	4	0.047

GGG	AUU	7	0.082
GGG	AUC	0	0
GGG	AUA	0	0

Gly:Met

GGU	AUG	25	1
GGG	AUG	1	0.04

GGC	AUG	2	0.08
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GGA	AUG	5	0.2
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Gly:Val

GGU	GUU	53	1
GGU	GUC	0	0
GGU	GUA	38	0.717
GGU	GUG	2	0.038

GGC	GUU	2	0.038
GGC	GUC	0	0
GGC	GUA	4	0.075
GGC	GUG	0	0

GGA	GUU	3	0.057
GGA	GUC	0	0
GGA	GUA	6	0.113
GGA	GUG	1	0.019

GGG	GUU	3	0.057
GGG	GUC	0	0
GGG	GUA	1	0.019
GGG	GUG	0	0

Gly:Ser

GGU	UCU	17	0.895
GGU	UCC	3	0.158
GGU	UCA	19	1
GGU	UCG	4	0.211
GGU	AGU	11	0.579
GGU	AGC	1	0.053

GGC	UCU	1	0.053
GGC	UCC	0	0
GGC	UCA	1	0.053
GGC	UCG	0	0
GGC	AGU	2	0.105
GGC	AGC	1	0.053

GGA	UCU	4	0.211
GGA	UCC	0	0
GGA	UCA	4	0.211
GGA	UCG	2	0.105
GGA	AGU	3	0.158
GGA	AGC	0	0

GGG	UCU	0	0
GGG	UCC	1	0.053
GGG	UCA	3	0.158
GGG	UCG	1	0.053
GGG	AGU	0	0
GGG	AGC	0	0

Gly:Pro

GGU	CCU	17	1
GGU	CCC	1	0.059
GGU	CCA	14	0.824
GGU	CCG	0	0

GGC	CCU	3	0.176
GGC	CCC	2	0.118
GGC	CCA	2	0.118
GGC	CCG	1	0.059

GGA	CCU	2	0.118
GGA	CCC	2	0.118
GGA	CCA	5	0.294
GGA	CCG	1	0.059

GGG	CCU	0	0
GGG	CCC	0	0
GGG	CCA	0	0
GGG	CCG	0	0

Gly:Thr

GGU	ACU	32	1
GGU	ACC	0	0
GGU	ACA	24	0.75
GGU	ACG	2	0.063

GGC	ACU	1	0.031
GGC	ACC	1	0.031
GGC	ACA	5	0.156
GGC	ACG	0	0

GGA	ACU	10	0.313
GGA	ACC	1	0.031
GGA	ACA	7	0.219
GGA	ACG	2	0.063

GGG	ACU	3	0.094
GGG	ACC	1	0.031
GGG	ACA	3	0.094
GGG	ACG	2	0.063

Gly:Ala

GGU	GCU	50	1
GGU	GCC	4	0.08
GGU	GCA	11	0.22
GGU	GCG	6	0.12

GGC	GCU	2	0.04
GGC	GCC	0	0
GGC	GCA	3	0.06
GGC	GCG	0	0

GGA	GCU	7	0.14
GGA	GCC	0	0
GGA	GCA	1	0.02
GGA	GCG	1	0.02

GGG	GCU	2	0.04
GGG	GCC	0	0
GGG	GCA	0	0
GGG	GCG	0	0

Gly:Tyr

GGU	UAU	25	1
GGU	UAC	18	0.72

GGC	UAU	5	0.2
GGC	UAC	0	0

GGA	UAU	3	0.12
GGA	UAC	0	0

Gly:STOP

GGU	UAA	5	1
GGU	UAG	0	0
GGU	UGA	0	0

GGG	UAA	0	0
GGG	UAG	0	0
GGG	UGA	0	0

Gly:His

GGU	CAU	8	0.421
GGU	CAC	19	1

GGG	CAU	1	0.053
GGG	CAC	0	0

Gly:Gln

GGU	CAA	42	1
GGU	CAG	6	0.143

GGG	CAA	2	0.048
GGG	CAG	0	0

Gly:Asn

GGU	AAU	22	1
GGU	AAC	20	0.909

GGG	AAU	9	0.409
GGG	AAC	2	0.091

Gly:Lys

GGU	AAA	69	1
GGU	AAG	1	0.014

GGG	AAA	3	0.043
GGG	AAG	0	0

Gly:Asp

GGU	GAU	29	1
GGU	GAC	13	0.448

GGG	GAU	3	0.103
GGG	GAC	1	0.034

Gly:Glu

GGU	GAA	55	1
GGU	GAG	3	0.055

GGG	GAA	15	0.273
GGG	GAG	2	0.036

Gly:Cys

GGU	UGU	9	1
GGU	UGC	1	0.111

GGG	UGU	1	0.111
GGG	UGC	0	0

Gly:Trp

GGU	UGG	25	1
GGG	UGG	1	0.04

Gly:Arg

GGC	UAA	0	0
GGC	UAG	0	0
GGC	UGA	0	0

GGC	CAU	3	0.158
GGC	CAC	2	0.105

GGC	CAA	6	0.143
GGC	CAG	0	0

GGC	AAU	5	0.227
GGC	AAC	2	0.091

GGC	AAA	7	0.101
GGC	AAG	0	0

GGC	GAU	5	0.172
GGC	GAC	2	0.069

GGC	GAA	4	0.073
GGC	GAG	0	0

GGC	UGU	0	0
GGC	UGC	0	0

GGC	UGG	1	0.04
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GGA	UAA	0	0
GGA	UAG	0	0
GGA	UGA	0	0

GGA	CAU	6	0.316
GGA	CAC	1	0.053

GGA	CAA	5	0.119
GGA	CAG	0	0

GGA	AAU	15	0.682
GGA	AAC	4	0.182

GGA	AAA	14	0.203
GGA	AAG	1	0.014

GGA	GAU	6	0.207
GGA	GAC	2	0.069

GGA	GAA	11	0.2
GGA	GAG	1	0.018

GGA	UGU	1	0.111
GGA	UGC	0	0

GGA	UGG	3	0.12
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GGU	CGU	44	1
GGU	CGC	3	0.068
GGU	CGA	3	0.068
GGU	CGG	0	0
GGU	AGA	1	0.023
GGU	AGG	1	0.023

GGC	CGU	4	0.091
GGC	CGC	0	0
GGC	CGA	0	0
GGC	CGG	0	0
GGC	AGA	0	0
GGC	AGG	0	0

GGA	CGU	13	0.295
GGA	CGC	0	0
GGA	CGA	2	0.045
GGA	CGG	0	0
GGA	AGA	0	0
GGA	AGG	0	0

GGG	CGU	4	0.091
GGG	CGC	1	0.023
GGG	CGA	1	0.023
GGG	CGG	0	0
GGG	AGA	0	0
GGG	AGG	0	0

Gly:Gly

GGU	GGU	81	1
GGU	GGC	7	0.086
GGU	GGA	3	0.037
GGU	GGG	2	0.025

GGC	GGU	6	0.074
GGC	GGC	1	0.012
GGC	GGA	1	0.012
GGC	GGG	0	0

GGA	GGU	5	0.062
GGA	GGC	1	0.012
GGA	GGA	2	0.025
GGA	GGG	1	0.012

GGG	GGU	1	0.012
GGG	GGC	0	0
GGG	GGA	0	0
GGG	GGG	0	0

Codon frequency of target sequences:

[sCVN](#)

Gene analysis...

Sequence length: 309 Number of protein genes: 1 Total codons: 103

Amino acid Codon Number Frequency per thousand															
Phe	UUU	1	9.7	Ser	UCU	2	19.4	Tyr	UAU	3	29.1	Cys	UGU	4	38.8
	UUC	2	19.4		UCC	0	0.0		UAC	0	0.0		UGC	0	0.0
Leu	UUA	8	77.7		UCA	10	97.1	STOP	UAA	1	9.7	STOP	UGA	0	0.0
	UUG	0	0.0		UCG	0	0.0		UAG	0	0.0	Trp	UGG	1	9.7
Leu	CUU	0	0.0	Pro	CCU	0	0.0	His	CAU	0	0.0	Arg	CGU	3	29.1
	CUC	0	0.0		CCC	0	0.0		CAC	1	9.7		CGC	0	0.0
	CUA	0	0.0		CCA	1	9.7	Gln	CAA	6	58.3		CGA	0	0.0
	CUG	0	0.0		CCG	0	0.0		CAG	0	0.0		CGG	0	0.0
ile	AUU	7	68.0	Thr	ACU	1	9.7	Asn	AAU	9	87.4	Ser	AGU	0	0.0
	AUC	0	0.0		ACC	0	0.0		AAC	0	0.0		AGC	0	0.0
	AUA	0	0.0		ACA	9	87.4	Lys	AAA	5	48.5	Arg	AGA	0	0.0
Met	AUG	1	9.7		ACG	0	0.0		AAG	0	0.0		AGG	0	0.0
Val	GUU	4	38.8	Ala	GCU	6	58.3	Asp	GAU	5	48.5	Gly	GGU	7	68.0
	GUC	0	0.0		GCC	0	0.0		GAC	0	0.0		GGC	0	0.0
	GUA	0	0.0		GCA	0	0.0	Glu	GAA	6	58.3		GGA	0	0.0
	GUG	0	0.0		GCG	0	0.0		GAG	0	0.0		GGG	0	0.0

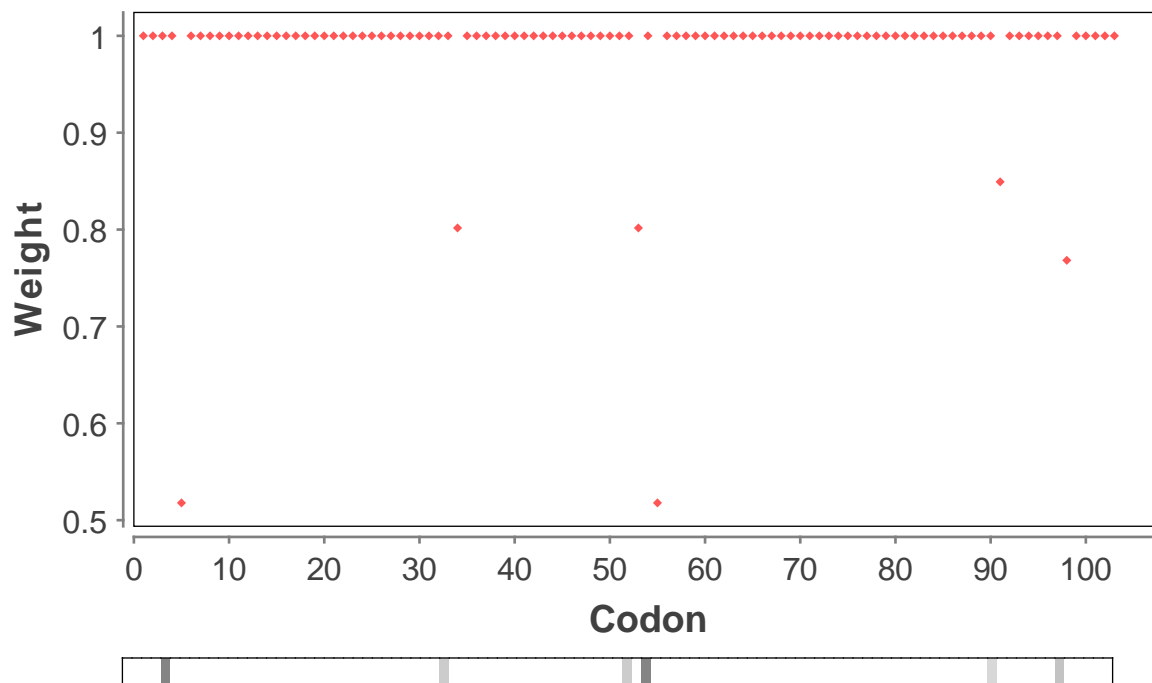
0 unidentified codons.

Nucleotide frequency: A=114 U=107 G=45 C=43 X=0

GC Content: 28.48% 1st letter GC: 37.86% 2nd letter GC: 42.72% 3rd letter GC: 4.85%

Codon Adaptation Index(CAI):

[sCVN](#)

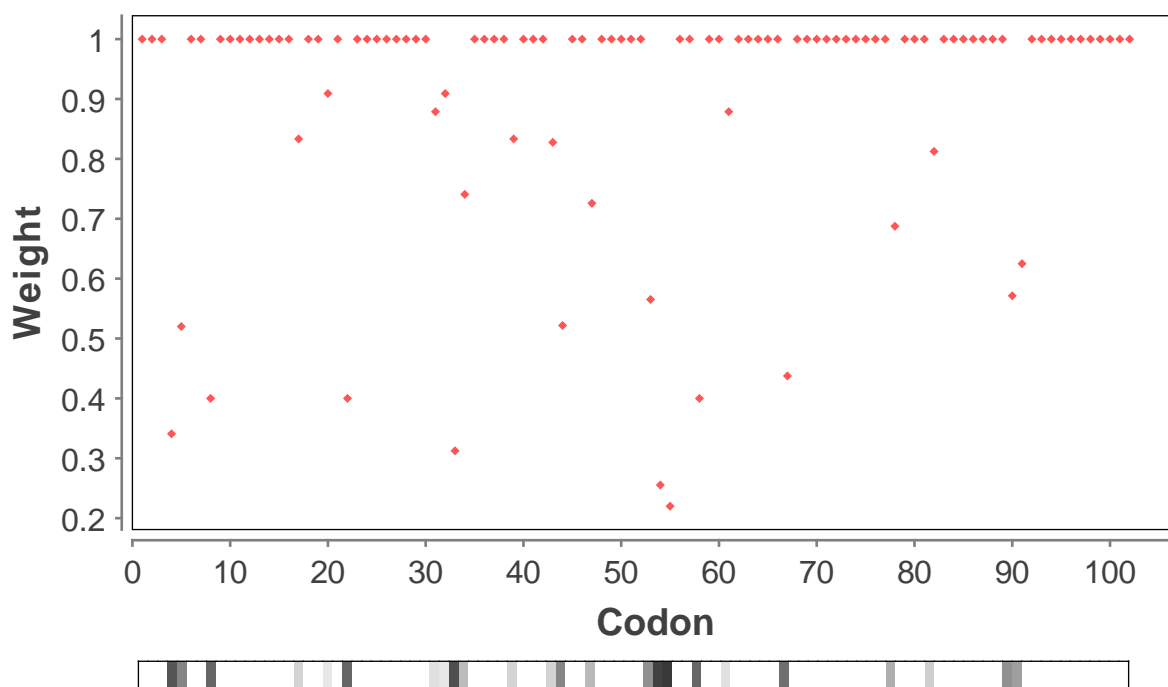


Codon Adaptation Index = 0.978

Overall CAI of all target sequences = 0.978

Codon Pair Index(CPI):

[sCVN](#)



Codon Pair Index = 0.872

Overall CPI of all target sequences = 0.872