




Identity	1	10	20	30	40	50
B26	TAA TCCG C TG	TTTCTT G CAC	G CTAGG TTTA	AA TG TA C TTG	GAA T C GCGA T	
EBB	TAA TCCG C TG	TTTCTT G CAC	G CTAGG TTTA	AA TG TA C TTG	GAA T C GCGA T	
LPCoLN	TAA TCCG C TG	TTTCTT G CAC	G CTAGG TTTA	AA TG TA C TTG	GAA T C GCGA T	
AR39	TAA TCCG TTG	TTTCTTACAC	TCTAGG TTTA	AA TG TAA TTG	GAAA TGCGA T	
CWL029	TAA TCCG TTG	TTTCTTACAC	TCTAGG TTTA	AA TG TAA TTG	GAAA TGCGA T	
J138	TAA TCCG TTG	TTTCTTACAC	TCTAGG TTTA	AA TG TAA TTG	GAAA TGCGA T	
TW183	TAA TCCG TTG	TTTCTTACAC	TCTAGG TTTA	AA TG TAA TTG	GAAA TGCGA T	
TOR1	TAA TCCG TTG	TTTCTTACAC	TCTAGG TTTA	AA TG TAA TTG	GAAA TGCGA T	
WA97001	TAA TCCG TTG	TTTCTTACAC	TCTAGG TTTA	AA TG TAA TTG	GAAA TGCGA T	
1979	TAA TCCG TTG	TTTCTTACAC	TCTAGG TTTA	AA TG TAA TTG	GAAA TGCGA T	
SH511	TAA TCCG TTG	TTTCTTACAC	TCTAGG TTTA	AA TG TAA TTG	GAAA TGCGA T	
Identity	60	70	80	90	100	
B26	TCTCTAA T TG	AC T CAAGAGT	CCCC T C CGAC	G T T C G A C C T T	T C A T G A C T T	
EBB	TCTCTAA T TG	AC T CAAGAGT	CCCC T C CGAC	G T T C G A C C T T	T C A T G A C T T	
LPCoLN	TCTCTAA T TG	AC T CAAGAGT	CCCC T C CGAC	G T T C G A C C T T	T C A T G A C T T	
AR39	TCTCTAAGTG	ACGCAAGAGT	CCCCACGAC	G T T C A A C C T T	T C A A T G A T T T	
CWL029	TCTCTAAGTG	ACGCAAGAGT	CCCCACGAC	G T T C A A C C T T	T C A A T G A T T T	
J138	TCTCTAAGTG	ACGCAAGAGT	CCCCACGAC	G T T C A A C C T T	T C A A T G A T T T	
TW183	TCTCTAAGTG	ACGCAAGAGT	CCCCACGAC	G T T C A A C C T T	T C A A T G A T T T	
TOR1	TCTCTAAGTG	ACGCAAGAGT	CCCCACGAC	G T T C A A C C T T	T C A A T G A T T T	
WA97001	TCTCTAAGTG	ACGCAAGAGT	CCCCACGAC	G T T C A A C C T T	T C A A T G A T T T	
1979	TCTCTAAGTG	ACGCAAGAGT	CCCCACGAC	G T T C A A C C T T	T C A A T G A T T T	
SH511	TCTCTAAGTG	ACGCAAGAGT	CCCCACGAC	G T T C A A C C T T	T C A A T G A T T T	
Identity	110	120	130	140	150	
B26	T C G A C T T T T C	AA TAA TCAGG	AGAGGCT G AA	TATA TGGAAA	AA TCGGA T A T	
EBB	T C G A C T T T T C	AA TAA TCAGG	AGAGGCT G AA	TATA TGGAAA	AA TCGGA T A T	
LPCoLN	T C G A C T T T T C	AA TAA TCAGG	AGAGGCT G AA	TATA TGGAAA	AA TCGGA T A T	
AR39	CCAACTTTTC	AA TAA TCAGG	AGAGGCTAAA	TATA TGGAAA	AA TCGGAGAT	
CWL029	CCAACTTTTC	AA TAA TCAGG	AGAGGCTAAA	TATA TGGAAA	AA TCGGAGAT	
J138	CCAACTTTTC	AA TAA TCAGG	AGAGGCTAAA	TATA TGGAAA	AA TCGGAGAT	
TW183	CCAACTTTTC	AA TAA TCAGG	AGAGGCTAAA	TATA TGGAAA	AA TCGGAGAT	
TOR1	CCAACTTTTC	AA TAA TCAGG	AGAGGCTAAA	TATA TGGAAA	AA TCGGAGAT	
WA97001	CCAACTTTTC	AA TAA TCAGG	AGAGGCTAAA	TATA TGGAAA	AA TCGGAGAT	
1979	CCAACTTTTC	AA TAA TCAGG	AGAGGCTAAA	TATA TGGAAA	AA TCGGAGAT	
SH511	CCAACTTTTC	AA TAA TCAGG	AGAGGCTAAA	TATA TGGAAA	AA TCGGAGAT	
Identity	160	170	180	190	200	
B26	A TG TCTCTGG	A G TAGA C G TG	C T T G T A G C A T	CGGTCGATTA	TCTCA A A T C C	
EBB	A TG TCTCTGG	A G TAGA C G TG	C T T G T A G C A T	CGGTCGATTA	TCTCA A A T C C	
LPCoLN	A TG TCTCTGG	A G TAGA C G TG	C T T G T A G C A T	CGGTCGATTA	TCTCA A A T C C	
AR39	A TG TCTCTGG	AA TAGATG TG	C T T A T G G T G C	CGGTCGATTA	TCTCAGATCT	
CWL029	A TG TCTCTGG	AA TAGATG TG	C T T A T G G T G C	CGGTCGATTA	TCTCAGATCT	
J138	A TG TCTCTGG	AA TAGATG TG	C T T A T G G T G C	CGGTCGATTA	TCTCAGATCT	
TW183	A TG TCTCTGG	AA TAGATG TG	C T T A T G G T G C	CGGTCGATTA	TCTCAGATCT	
TOR1	A TG TCTCTGG	AA TAGATG TG	C T T A T G G T G C	CGGTCGATTA	TCTCAGATCT	
WA97001	A TG TCTCTGG	AA TAGATG TG	C T T A T G G T G C	CGGTCGATTA	TCTCAGATCT	
1979	A TG TCTCTGG	AA TAGATG TG	C T T A T G G T G C	CGGTCGATTA	TCTCAGATCT	
SH511	A TG TCTCTGG	AA TAGATG TG	C T T A T G G T G C	CGGTCGATTA	TCTCAGATCT	

Identity  210 220 230 240 250


B26	CAGTTTTCCTG	GTTTTTAA CCA	CA TTCCA AA	GCTATCCGTT	GCGAAAAC TA
EBB	CAGTTTTCCTG	GTTTTTAA CCA	CA TTCCA AA	GCTATCCGTT	GCGAAAAC TA
LPCoLN	CAGTTTTCCTG	GTTTTTAA CCA	CA TTCCA AA	GCTATCCGTT	GCGAAAAC TA
AR39	CAGTTTCCCG	GTTTTTAAGGA	GATTCCAGAA	GCTATCCGTT	GCGAAAAC TA
CWL029	CAGTTTCCCG	GTTTTTAAGGA	GATTCCAGAA	GCTATCCGTT	GCGAAAAC TA
J138	CAGTTTCCCG	GTTTTTAAGGA	GATTCCAGAA	GCTATCCGTT	GCGAAAAC TA
TW183	CAGTTTCCCG	GTTTTTAAGGA	GATTCCAGAA	GCTATCCGTT	GCGAAAAC TA
TOR1	CAGTTTCCCG	GTTTTTAAGGA	GATTCCAGAA	GCTATCCGTT	GCGAAAAC TA
WA97001	CAGTTTCCCG	GTTTTTAAGGA	GATTCCAGAA	GCTATCCGTT	GCGAAAAC TA
1979	CAGTTTCC TG	GTTTTTAAGGA	GATTCCAGAA	GCTATCCGTT	GCGAAAAC TA
SH511	CAGTTTCC TG	GTTTTTAAGGA	GATTCCAGAA	GCTATCCGTT	GCGAAAAC TA

Identity  260 270 280 290 300


B26	TGTAAG AA AT	GGTCAGTTTT	CTGAAGAA GG	TAAAA AGAGT	TATCTTAGAG
EBB	TGTAAG AA AT	GGTCAGTTTT	CTGAAGAA GG	TAAAA AGAGT	TATCTTAGAG
LPCoLN	TGTAAG AA AT	GGTCAGTTTT	CTGAAGAA GG	TAAAA AGAGT	TATCTTAGAG
AR39	TGTAAGTGAT	GGTCAGTTTT	CTGAAGAAAG	TAAAA CAAGC	TATCTTAGAG
CWL029	TGTAAGTGAT	GGTCAGTTTT	CTGAAGAAAG	TAAAA CAAGC	TATCTTAGAG
J138	TGTAAGTGAT	GGTCAGTTTT	CTGAAGAAAG	TAAAA CAAGC	TATCTTAGAG
TW183	TGTAAGTGAT	GGTCAGTTTT	CTGAAGAAAG	TAAAA CAAGC	TATCTTAGAG
TOR1	TGTAAGTGAT	GGTCAGTTTT	CTGAAGAAAG	TAAAA CAAGC	TATCTTAGAG
WA97001	TGTAAGTGAT	GGTCAGTTTT	CTGAAGAAAG	TAAAA CAAGC	TATCTTAGAG
1979	TGTAAGTGAT	GGTCAGTTTT	CTGAAGAAAG	TAAAA CAAGC	TATCTTAGAG
SH511	TGTAAGTGAT	GGTCAGTTTT	CTGAAGAAAG	TAAAA CAAGC	TATCTTAGAG

Identity  310 320 330 340 350


B26	G GATGCTGAC	CA CAATTGTT	GGGTATATCT	TGTCAG G TAGA	TGAGACCTAT
EBB	G GATGCTGAC	CA CAATTGTT	GGGTATATCT	TGTCAG G TAGA	TGAGACCTAT
LPCoLN	G GATGCTGAC	CA CAATTGTT	GGGTATATCT	TGTCAG G TAGA	TGAGACCTAT
AR39	CGATGCTGAC	CGACATTGTT	GGGTATATCT	TGTCATTAGA	TGAGACCTAT
CWL029	CGATGCTGAC	CGACATTGTT	GGGTATATCT	TGTCATTAGA	TGAGACCTAT
J138	CGATGCTGAC	CGACATTGTT	GGGTATATCT	TGTCATTAGA	TGAGACCTAT
TW183	CGATGCTGAC	CGACATTGTT	GGGTATATCT	TGTCATTAGA	TGAGACCTAT
TOR1	CGATGCTGAC	CGACATTGTT	GGGTATATCT	TGTCATTAGA	TGAGACCTAT
WA97001	CGATGCTGAC	CGACATTGTT	GGGTATATCT	TGTCATTAGA	TGAGACCTAT
1979	CGATGCTGAC	CGACATTGTT	GGGTATATCT	TGTCATTAGA	TGAGACCTAT
SH511	CGATGCTGAC	CGACATTGTT	GGGTATATCT	TGTCATTAGA	TGAGACCTAT

Identity  360 370 380 390 400


B26	TGG GAGG ATG	TGATCCTCAA	GATCC CTG CG	ATG AA CATC C	TTAG CGAA GC
EBB	TGG GAGG ATG	TGATCCTCAA	GATCC CTG CG	ATG AA CATC C	TTAG CGAA GC
LPCoLN	TGG GAGG ATG	TGATCCTCAA	GATCC CTG CG	ATG AA CATC C	TTAG CGAA GC
AR39	TGGACGAA TG	TGATCCTCAA	GATCCGTGCG	ATGTGCATCA	CCTTCGAAAG
CWL029	TGGACGAA TG	TGATCCTCAA	GATCCGTGCG	ATGTGCATCA	CCTTCGAAAG
J138	TGGACGAA TG	TGATCCTCAA	GATCCGTGCG	ATGTGCATCA	CCTTCGAAAG
TW183	TGGACGAA TG	TGATCCTCAA	GATCCGTGCG	ATGTGCATCA	CCTTCGAAAG
TOR1	TGGACGAA TG	TGATCCTCAA	GATCCGTGCG	ATGTGCATCA	CCTTCGAAAG
WA97001	TGGACGAA TG	TGATCCTCAA	GATCCGTGCG	ATGTGCATCA	CCTTCGAAAG
1979	TGGACGAA TG	TGATCCTCAA	GATCCGTGCG	ATGTGCATCA	CCTTCGAAAG
SH511	TGGACGAA TG	TGATCCTCAA	GATCCGTGCG	ATGTGCATCA	CCTTCGAAAG

Identity 


	410	420	430	440	450
B26	TGCGTATTCT	CGAAGGTGTA	CAACCGACCC	TAACTATCAA	CACACCGGAG
EBB	TGCGTATTCT	CGAAGGTGTA	CAACCGACCC	TAACTATCAA	CACACCGGAG
LPCoLN	TGCGTATTCT	CGAAGGTGTA	CAACCGACCC	TAACTATCAA	CACACCGGAG
AR39	TTTCC---CT	GGAAAAGAAG	CA---GACCC	TAACTATTTCC	CCTCGCGTAA
CWL029	TTTCC---CT	GGAAAAGAAG	CA---GACCC	TAACTATTTCC	CCTCGCGTAA
J138	TTTCC---CT	GGAAAAGAAG	CA---GACCC	TAACTATTTCC	CCTCGCGTAA
TW183	TTTCC---CT	GGAAAAGAAG	CA---GACCC	TAACTATTTCC	CCTCGCGTAA
TOR1	TTTCC---CT	GGAAAAGAAG	CA---GACCC	TAACTATTTCC	CCTCGCGTAA
WA97001	TTTCC---CT	GGAAAAGAAG	CA---GACCC	TAACTATTTCC	CCTCGCGTAA
1979	TTTCC---CT	GGAAAAGAAG	CA---GACCC	TAACTATTTCC	CCTCGCGCAA
SH511	TTTCC---CT	GGAAAAGAAG	CA---GACCC	TAACTATTTCC	CCTCGCGCAA

Identity 

	460	470	480	490	500
B26	TTTACCCTT	TCTTGATAA	TCTTTCAGG	TACCTGCGCG	ACATGATTA
EBB	TTTACCCTT	TCTTGATAA	TCTTTCAGG	TACCTGCGCG	ACATGATTA
LPCoLN	TTTACCCTT	TCTTGATAA	TCTTTCAGG	TACCTGCGCG	ACATGATTA
AR39	CTCACCACTA	TTTTGATGAA	TCTTGGAAAGG	CACTTGC	ACATGATTA
CWL029	CTCACCACTA	TTTTGATGAA	TCTTGGAAAGG	CACTTGC	ACATGATTA
J138	CTCACCACTA	TTTTGATGAA	TCTTGGAAAGG	CACTTGC	ACATGATTA
TW183	CTCACCACTA	TTTTGATGAA	TCTTGGAAAGG	CACTTGC	ACATGATTA
TOR1	CTCACCACTA	TTTTGATGAA	TCTTGGAAAGG	CACTTGC	ACATGATTA
WA97001	CTCACCACTA	TTTTGATGAA	TCTTGGAAAGG	CACTTGC	ACATGATTA
1979	CTCACCACTA	TTTTGATGAA	TCTTGGAAAGG	CACTTGC	ACATGATTA
SH511	CTCACCACTA	TTTTGATGAA	TCTTGGAAAGG	CACTTGC	ACATGATTA

Identity 

	510	520	530	540	550
B26	GGGGAAGGTA	ACATGCTGAA	TACAGCAAG	TGGATGCACA	TTCGTGCAGA
EBB	GGGGAAGGTA	ACATGCTGAA	TACAGCAAG	TGGATGCACA	TTCGTGCAGA
LPCoLN	GGGGAAGGTA	ACATGCTGAA	TACAGCAAG	TGGATGCACA	TTCGTGCAGA
AR39	GGAGAAGGTA	ACATGGTGAA	TAGACTAGAT	GAGGCGCTAA	TTCGTACAGA
CWL029	GGAGAAGGTA	ACATGGTGAA	TAGACTAGAT	GAGGCGCTAA	TTCGTACAGA
J138	GGAGAAGGTA	ACATGGTGAA	TAGACTAGAT	GAGGCGCTAA	TTCGTACAGA
TW183	GGAGAAGGTA	ACATGGTGAA	TAGACTAGAT	GAGGCGCTAA	TTCGTACAGA
TOR1	GGAGAAGGTA	ACATGGTGAA	TAGACTAGAT	GAGGCGCTAA	TTCGTACAGA
WA97001	GGAGAAGGTA	ACATGGTGAA	TAGACTAGAT	GAGGCGCTAA	TTCGTACAGA
1979	GGAGAAGGTA	ACATGGTGAA	TAGACTAGAT	GAGGCGCTAA	TTCGTACAGA
SH511	GGAGAAGGTA	ACATGGTGAA	TAGACTAGAT	GAGGCGCTAA	TTCGTACAGA

Identity 

	560	570	580	590	600
B26	GCGGCCGGGC	AAAGAAGGGG	AA TGTA TTGC	GAAACAGTTT	TTAAAAGATT
EBB	GCGGCCGGGC	AAAGAAGGGG	AA TGTA TTGC	GAAACAGTTT	TTAAAAGATT
LPCoLN	GCGGCCGGGC	AAAGAAGGGG	AA TGTA TTGC	GAAACAGTTT	TTAAAAGATT
AR39	GAAGCCGGGC	AAAGAAGGGG	AA TGTA TTAC	GAAACAGTTT	TTAAAAGATT
CWL029	GAAGCCGGGC	AAAGAAGGGG	AA TGTA TTAC	GAAACAGTTT	TTAAAAGATT
J138	GAAGCCGGGC	AAAGAAGGGG	AA TGTA TTAC	GAAACAGTTT	TTAAAAGATT
TW183	GAAGCCGGGC	AAAGAAGGGG	AA TGTA TTAC	GAAACAGTTT	TTAAAAGATT
TOR1	GAAGCCGGGC	AAAGAAGGGG	AA TGTA TTAC	GAAACAGTTT	TTAAAAGATT
WA97001	GAAGCCGGGC	AAAGAAGGGG	AA TGTA TTAC	GAAACAGTTT	TTAAAAGATT
1979	GAAGCCGGGC	AAAGAAGGGG	AA TGTA TTAC	GAAACAGTTT	TTAAAAGATT
SH511	GAAGCCGGGC	AAAGAAGGGG	AA TGTA TTAC	GAAACAGTTT	TTAAAAGATT

Identity	810	820	830	840	845
B26	TTCACCTATG T	GTGGT G ACCA	AGTTTTTATTT	TATACC G TCT	TTTCT
EBB	TTCACCTATG T	GTGGT G ACCA	AGTTTTTATTT	TATACC G TCT	TTTCT
LPCoLN	TTCACCTATG T	GTGGT G ACCA	AGTTTTTATTT	TATACC G TCT	TTTCT
AR39	TTCACCTATGC	GTGGTAAACCA	AGTTTTTATTT	TATACCA TCT	TTTCT
CWL029	TTCACCTATGC	GTGGTAAACCA	AGTTTTTATTT	TATACCA TCT	TTTCT
J138	TTCACCTATGC	GTGGTAAACCA	AGTTTTTATTT	TATACCA TCT	TTTCT
TW183	TTCACCTATGC	GTGGTAAACCA	AGTTTTTATTT	TATACCA TCT	TTTCT
TOR1	TTCACCTATGC	GTGGTAAACCA	AGTTTTTATTT	TATACCA TCT	TTTCT
WA97001	TTCACCTATGC	GTGGTAAACCA	AGTTTTTATTT	TATACCA TCT	TTTCT
1979	TTCACCTATGC	GTGGTAA T CA	AGTTTTTATTT	TATACCA TCT	TTTCT
SH511	TTCACCTATGC	GTGGTAA T CA	AGTTTTTATTT	TATACCA TCT	TTTCT

